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

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Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

*ISCJB **01** 00:11:23.1±0.9,53.°37N±0.°05×163.°45W±0.°06,h34km±8km, mb3.5/8,Error ellipse: s-maj=9.8km s-min=5.1km az=156.8*

*NEIC **01** 00:11:24.0,53.°46N×163.°53W,h38km,ML3.4(AEIC),After AEIC.*

*IDC **01** 00:11:27.0±1.6,54.°55N×164.°06W,h0km, mb3.5/8, mb1 3.6/10,mb1mx3.5/33,mbtmp3.4/10,ML3.2/2,Error ellipse: s-maj=39.4km s-min=19.3km az=175.0*

ISC 01 00:11:22.8±2.9,53.°46N±0.°07×163.°48W±0.°05, h17km±16km,n39,σ0ₜ77/43,mb3.6/8,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.21**	**328**	P		**Pn**	**00 11 44.5**	**-0.4**
WESE				S		**Sb**	**00 11 59.9**	**-0.7**
WESP	**Westdahl Peak**	**1.27**	**325**	P		**Pn**	**00 12 02.5**	**+0.2**
WESP				S		**Sb**	**00 12 02.5**	**+0.2**
WEBT	**Westdahl Beart**	**1.36**	**327**	P		**Pn**	**00 12 04.7**	**+0.1**
WEBT				S		**Sb**	**00 12 05.7**	**+0.8**
SSLW	**Shishaldin Wes**	**1.37**	**344**	P		**Pn**	**00 11 46.8**	**-0.3**
ISNN	**Isanotski Nort**	**1.39**	**353**	P		**Pb**	**00 11 48.3**	**+0.1**
ISNN				S		**Sg**	**00 12 07.5**	**-0.1**
SSLN	**Shishaldin Nor**	**1.39**	**348**	P		**Pn**	**00 11 47.7**	**+0.3**
FALS	**False Pass**	**1.40**	**1**	P		**Pn**	**00 11 47.4**	**-0.1**
FALS				S		**Sb**	**00 12 07.1**	**+1.1**
AKSA	**Akutan Strait**	**1.48**	**298**	P		**Pn**	**00 11 48.4**	**-0.2**
AKUT	**Akutan**	**1.52**	**297**	P		**Pn**	**00 11 49.1**	**0.0**
AKUT				S		**Sn**	**00 12 08.2**	**-0.3**
ZRO	**Akutan Zero**	**1.61**	**294**	P		**Pn**	**00 11 50.4**	**0.0**
ZRO				S		**Sn**	**00 12 10.4**	**-0.4**
AKGG	**Akutan Green G**	**1.66**	**297**	P		**Pn**	**00 11 51.2**	**+0.1**
AKGG				S		**Sn**	**00 12 12.3**	**+0.3**
DRIA	**Deer Island**	**1.67**	**25**	P		**Pn**	**00 11 50.4**	**-0.8**
DT1	**Dutton Round H**	**1.79**	**23**	P		**Pn**	**00 11 53.3**	**+0.4**
DTNA	**Dutton South F**	**1.84**	**22**	P		**Pn**	**00 11 53.9**	**+0.4**
UNV	**Unalaska Valle**	**1.84**	**283**	P		**Pn**	**00 11 53.3**	**-0.2**
UNV				S		**Sn**	**00 12 16.0**	**-0.4**
MREP	**Makushin Rep't**	**1.98**	**282**	P		**Pn**	**00 11 56.3**	**+0.8**
MSW	**Makushin Switc**	**2.02**	**284**	P		**Pn**	**00 11 56.7**	**+0.7**
MSW				S		**Sn**	**00 12 21.5**	**+0.7**
MGOD	**Makushin Gods**	**2.05**	**281**	P		**Pn**	**00 11 57.1**	**+0.7**
MCIR	**Makushin Cirqu**	**2.09**	**285**	P		**Pn**	**00 11 57.5**	**+0.6**
MSOM	**Makushin Julie**	**2.10**	**281**	P		**Pn**	**00 11 57.3**	**+0.3**
SDPT	**Sand Point**	**2.58**	**42**	P		**Pn**	**00 12 04.1**	**+0.4**
SDPT				S		**Sn**	**00 12 34.1**	**-0.6**
OKFG	**Magazine Ridge**	**2.65**	**271**	P		**Pn**	**00 12 04.9**	**+0.2**
NIKH	**Nikolski High**	**3.27**	**264**	P		**Pn**	**00 12 13.2**	**+0.1**
NIKH				S		**Sn**	**00 12 49.5**	**-2.0**
ILAR	**Eielson Array**	**14.12**	**30**	Pn		Pn	00 14 35.2	-6.5
	0.0nm,0.3s,baz=227,slow=12,SNR=3.3							
INK	**Inuvik**	**20.50**	**35**	P		**P**	**00 15 56.7**	**-2.8**
	0.1nm,0.3s,baz=240,slow=9.2,SNR=3.7							
PETK	**Petropavlovsk-**	**23.02**	**285**	P		**P**	**00 16 26.0**	**-0.6**
	2.3nm,0.7s,baz=83,slow=12,SNR=3.4							
YKA	**Yellowknife Ar**	**26.81**	**51**	P		**P**	**00 17 03.0**	**+1.4**
	0.5nm,0.7s,baz=266,slow=7.6,SNR=9.2							
H11N2	**WAKE ISLAND Hy**	**40.65**	**226**	T		T	01 02 42.5	
	baz=26,slow=75,SNR=19							
H11N3	**WAKE ISLAND Hy**	**40.66**	**226**	T		T	01 02 42.9	
	baz=26,slow=75,SNR=18							
H11N1	**WAKE ISLAND Hy**	**40.67**	**226**	T		T	01 02 45.4	
	baz=26,slow=75,SNR=20							
H11S1	**WAKE ISLAND Hy**	**41.82**	**225**	T		T	01 04 19.2	
	baz=26,slow=75,SNR=22							
H11S2	**WAKE ISLAND Hy**	**41.84**	**225**	T		T	01 04 10.5	
	baz=26,slow=75,SNR=16							
H11S3	**WAKE ISLAND Hy**	**41.84**	**225**	T		T	01 04 10.4	
	baz=26,slow=75,SNR=14							
TXAR	**Lajitas Array**	**49.22**	**95**	P		P	00 20 20.9	+11
	0.6nm,0.8s,baz=290,slow=3.7,SNR=2.9							
SONM	**Songino Array**	**53.74**	**303**	P		**P**	**00 20 43.4**	**-0.4**
	0.5nm,0.8s,baz=35,slow=8.0,SNR=3.5							
KURBB	**Kurchatov Arra**	**63.95**	**321**	P		**P**	**00 21 55.1**	**+0.6**
	0.2nm,0.6s,baz=29,slow=4.6,SNR=3.6							
BVAR	**Borovoye Array**	**64.80**	**327**	P		**P**	**00 21 59.9**	**-0.1**
	0.7nm,0.7s,baz=46,slow=8.5,SNR=6.6							
FINES	**FINESS Array B**	**65.19**	**355**	P		**P**	**00 22 03.4**	**+1.1**
	0.3nm,0.5s,baz=14,slow=7.8,SNR=3.9							
MKAR	**Makanchi Array**	**65.56**	**317**	P		**P**	**00 22 05.3**	**+0.2**
	0.1nm,0.3s,baz=35,slow=5.3,SNR=2.7							

IDC 01 00:15:39.1±2.7,52.°31N×173.°62W,h0km,mb3.7/2, mb1 3.9/4,mb1mx3.4/31,mbtmp3.7/4,ML2.7/2,Error ellipse: s-maj=57.1km s-min=37.8km az=5.0,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**17.35**	**284**	P		Pn	00 19 42.7	+0.2
	0.0nm,0.3s,baz=100,slow=16,SNR=3.5							
ILAR	**Eielson Array**	**18.53**	**37**	P		P	00 19 55.9	-0.9
	0.0nm,0.3s,baz=240,slow=10,SNR=6.9							
INK	**Inuvik**	**24.86**	**35**	P		P	00 21 03.0	+0.1
	1.9nm,0.7s,baz=236,slow=9.4,SNR=9.0							
NVAR	**Mina Array Bea**	**40.27**	**88**	P		P	00 23 17.9	-0.1
	0.2nm,0.3s,baz=270,slow=8.8,SNR=2.4							

*ISCJB **01** 00:19:48.1±0.5,2.°27N±0.°06×125.°25E±0.°07,h198km, mb3.8/11, Error ellipse: s-maj=10.3km s-min=8.4km az=173.7*

*IDC **01** 00:19:53.2±8.2,2.°18N×124.°85E,h237km±84km,mb3.5/10, mb1 3.7/10,mb1mx3.4/23,mbtmp4.1/10,Error ellipse: s-maj=39.2km s-min=13.8km az=82.0*

*DJA **01** 00:19:55.6±0.8,2.°N±9.°×12.°5E±.°,h87km±28km,M4.5/11, mb4.3/5,mB5.5/2,MLv4.5/11,Mw(mB)4.9/2*

ISC 01 00:19:49.3±0.7,2.°23N±0.°09×125.°18E±0.°08,h198km,n21, σ1ₜ61/21,mb4.2/11,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**2.04**	**216**	P		Pn	00 20 24.3	-3.8
TNTI	**Ternate**	**2.62**	**123**	P		**Pn**	**00 20 33.7**	**-0.8**
TNTI				S		Sn	00 21 02.3	-7.5
MRSI	**Marisa**	**3.67**	**242**	P		**Pn**	**00 20 47.4**	**+0.3**
LBMI	**Labuha**	**3.68**	**141**	P		**Pn**	**00 20 46.4**	**-0.7**
LBMI				S		Sn	00 21 25.6	-6.8
LUWI	**Luwuk**	**4.04**	**217**	P		**Pn**	**00 20 50.8**	**-0.8**
SANI	**Sanana**	**4.33**	**169**	P		**Pn**	**00 20 52.1**	**-3.1**
MPSI	**Mapaga**	**5.60**	**250**	P		**Pn**	**00 21 13.5**	**+2.0**
	12nm,0.7s,0.1nm							
NLAI	**Namlea**	**5.76**	**161**	P		**Pn**	**00 21 12.4**	**-1.2**
	31nm,0.6s,6µm4.1nm							
PCI	**Palu**	**6.18**	**240**	P		**Pn**	**00 21 21.4**	**+2.4**
	34nm,0.6s,0.1nm							
SWI	**Sorong**	**6.81**	**117**	P		**Pn**	**00 21 29.3**	**+2.1**
WRA	**Warramunga Arr**	**23.80**	**158**	P		**P**	**00 24 45.1**	**+0.9**
	9.6nm,0.5s,baz=334,slow=10,SNR=37							
ASAR	**Alice Springs**	**27.11**	**162**	P		**P**	**00 25 15.0**	**+0.9**
	2.1nm,0.4s,baz=341,slow=7.4,SNR=38							
MJAR	**Matsushiro Arr**	**36.20**	**18**	P		**P**	**00 26 33.0**	**-0.3**
	0.6nm,0.3s,baz=194,slow=9.3,SNR=4.1							
STKA	**Stephens Creek**	**37.33**	**157**	P		**P**	**00 26 44.0**	**+1.2**
	2.5nm,0.4s,baz=338,slow=9.8,SNR=20							
USRK	**Ussuriysk Ar.**	**42.23**	**7**	P		**P**	**00 27 23.5**	**+0.6**
	1.3nm,0.5s,baz=189,slow=7.2,SNR=3.9							
SONM	**Songino Array**	**48.24**	**343**	P		**P**	**00 28 10.1**	**-0.2**
	0.8nm,0.8s,baz=150,slow=6.0,SNR=4.9							
PETK	**Petropavlovsk-**	**57.40**	**23**	P		**P**	**00 29 19.6**	**+2.6**
	3.2nm,0.7s,baz=191,slow=5.9,SNR=2.6							
MKAR	**Makanchi Array**	**57.92**	**327**	P		**P**	**00 29 19.8**	**-1.1**
	0.2nm,0.4s,baz=124,slow=4.5,SNR=7.1							
MKAR				PcP		**PcP**	**00 30 09.1**	**-1.8**
	0.3nm,0.5s,baz=118,slow=2.5,SNR=4.3							
YAK	**Yakutsk**	**59.75**	**2**	P		**P**	**00 29 33.6**	**+0.6**
	16nm,0.5s,baz=330,slow=1.2,SNR=5.2							
ILAR	**Eielson Array**	**87.11**	**25**	P		**P**	**00 32 10.9**	**-1.6**
	0.1nm,0.5s,baz=260,slow=5.4,SNR=3.2							
FINES	**FINESS Array B**	**92.41**	**332**	P		**P**	**00 32 35.9**	**-1.4**
	2.2nm,1.1s,baz=106,slow=6.2,SNR=3.9							

*MOS **01** 00:26:21.4±1.6,53.°36N×154.°03E,h432km,mb3.9/6,Error ellipse: s-maj=16.2km s-min=10.9km az=80.9*

*KRSC **01** 00:26:21.9±1.9,53.°08N×154.°86E,h460km±17km,ML4.3*

*ISCJB **01** 00:26:22.0±0.3,53.°31N±0.°07×154.°1E±0.°2,h438km±7km, mb3.3/15,Error ellipse: s-maj=16.8km s-min=8.5km az=30.5*

*IDC **01** 00:26:23.1±0.7,53.°37N×154.°07E,h432km±10km, mb3.0/14,mb1 3.1/15,mb1mx3.0/29,mbtmp3.7/15,Error ellipse: s-maj=18.2km s-min=12.4km az=109.0*

ISC 01 00:26:22.6±0.6,53.°25N±0.°08×154.°35E±0.°09,h441km±8km, n57,σ1ₜ57/73,mb3.4/15,1D,Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
APC	**Apacha**	**1.73**	**100**	*eP*		**P**	**00 27 21.4**	**+0.6**
APC				*eS*		**S**	**00 28 06.8**	**-1.2**
MIPR	**Malaya Ipel'ka**	**1.76**	**123**	*eP*		**P**	**00 27 21.2**	**+0.2**
MIPR				*eS*		**S**	**00 28 08.1**	**-0.3**
PETK	**Petropavlovsk-**	**2.02**	**93**	P		**P**	**00 27 22.9**	**+0.5**
	3.3nm,0.3s,baz=249,slow=9.7,SNR=76							
PETK				S		**S**	**00 28 12.1**	**+1.2**
	baz=278,slow=13,SNR=2.1							
PETK	**Petropavlovsk-**	**2.02**	**93**	PN		**P**	**00 27 22.9**	**+0.5**
PETK				S		**S**	**00 28 12.1**	**+1.2**
PETK				pmax		pmax		
	comp=Z,3.0nm,0.3s							
GNL	**Ganaly**	**2.19**	**77**	*eP*		**P**	**00 27 24.0**	**+0.5**
GNL				*eS*		**S**	**00 28 12.3**	**-0.7**
ASAK	**Asacha**	**2.33**	**111**	*eP*		**P**	**00 27 24.5**	**+0.2**
PAU	**Pauzhetka**	**2.34**	**139**	*i* P		**P**	**00 27 24.8**	**+0.5**
PAU	**Pauzhetka**	**2.34**	**139**	PN		**P**	**00 27 24.8**	**+0.5**
MTVR	**Mutnovka**	**2.45**	**107**	*eP*		**P**	**00 27 25.9**	**+0.7**
MTVR				*eS*		**S**	**00 28 15.4**	**-0.6**
KOK	**Koryaka**	**2.58**	**87**	*eP*		**P**	**00 27 26.9**	**+1.0**
KRX	**Arik**	**2.58**	**86**	*eP*		**P**	**00 27 26.9**	**+0.9**
PET	**Petropavlovsk**	**2.60**	**93**	*eP*		**P**	**00 27 26.3**	**+0.3**
PET				*eS*		**S**	**00 28 16.1**	**-1.4**
PET	**Petropavlovsk**	**2.60**	**93**	*e*PN		**P**	**00 27 26.4**	**+0.4**
PET				*eS*		**S**	**00 28 17.5**	**0.0**
PET				pmax		pmax		
	comp=Z,60nm,0.6s							
PET				smax		smax		
	comp=E,30nm,0.5s							
PET				smax		smax		
	comp=N,28nm,0.6s							
AVH	**Avacha**	**2.64**	**88**	*eP*		**P**	**00 27 27.4**	**+1.1**
AVH				*eS*		**S**	**00 28 18.7**	**+0.6**
KRER	**Koryakskii**	**2.64**	**87**	*eP*		**P**	**00 27 27.3**	**+0.8**
KRER				S		**S**	**00 28 18.1**	**-0.4**
RUS	**Russkaya**	**2.66**	**106**	*eP*		**P**	**00 27 25.7**	**-0.6**
RUS				*eS*		**S**	**00 28 14.8**	**-3.4**
RUS	**Russkaya**	**2.66**	**106**	PN		**P**	**00 27 25.7**	**-0.6**
RUS				S		**S**	**00 28 14.8**	**-3.4**
SMAR	**Somma**	**2.68**	**88**	*eP*		**P**	**00 27 27.7**	**+1.0**
UGLR	**Uglovaya**	**2.69**	**89**	*eP*		**P**	**00 27 27.6**	**+0.9**
SDLR	**Sedlovina**	**2.73**	**88**	*eP*		**P**	**00 27 27.5**	**+0.5**
SKR	**Severo-Kuril's**	**2.80**	**156**	*eP*		**P**	**00 27 27.1**	**-0.3**
SKR				S		**S**	**00 28 19.1**	**-0.9**
SPN	**Mys Shipunski**	**3.42**	**90**	*eP*		**P**	**00 27 31.1**	**-1.0**
SPN				*eS*		S	00 28 22.8	-5.9
SPN	**Mys Shipunski**	**3.42**	**90**	PN		**P**	**00 27 31.1**	**-1.0**
SPN				S		S	00 28 22.8	-5.9
ESO	**Esso**	**3.69**	**42**	*eP*		**P**	**00 27 35.5**	**+1.2**
ESO	**Esso**	**3.69**	**42**	PN		**P**	**00 27 35.5**	**+1.2**
TUMR	**Tumrok**	**3.96**	**57**	*eP*		**P**	**00 27 38.4**	**+1.6**
TUMR				*eS*		**S**	**00 28 37.0**	**-0.3**
KMNR	**Kamenistaya**	**4.25**	**51**	P		**P**	**00 27 40.2**	**+0.8**
SRDR	**Sredinnyy**	**4.37**	**43**	*eP*		**P**	**00 27 41.7**	**+1.3**
KBTR	**Krutoberegovo**	**5.73**	**56**	*eP*		**P**	**00 27 51.6**	**-2.0**
KBTR				*eS*		S	00 29 01.8	-6.3
KBTR	**Krutoberegovo**	**5.73**	**56**	PN		**P**	**00 27 51.6**	**-2.0**
KBTR				S		S	00 29 01.8	-6.3
BKI	**Bering**	**7.09**	**69**	*eP*		**P**	**00 28 09.5**	**+1.6**
BKI				*eS*		**S**	**00 29 30.3**	**-3.9**
BKI	**Bering**	**7.09**	**69**	PN		**P**	**00 28 09.5**	**+1.6**
BKI				S		**S**	**00 29 30.3**	**-3.9**
OSSR	**Ossora**	**7.72**	**35**	*eP*		**P**	**00 28 16.2**	**+1.6**
BILL	**Bilibino**	**15.89**	**16**	*eP*		**P**	**00 29 46.0**	**+3.0**
BILL				pmax		pmax		
	comp=Z,1.0nm,0.4s							
VLA	**Vladivostok**	**18.01**	**245**	*i* P		**P**	**00 30 01.0**	**-4.6**
VLA				pmax		pmax		
	comp=Z,40nm,1.6s							
MJAO	**Matsu Arr-Jizo**	**20.15**	**220**	*eP*		**P**	**00 30 27.1**	**+1.3**
MJA0				pmax		pmax		
	comp=Z,2.0nm,0.5s							
MJAR	**Matsushiro Arr**	**20.16**	**220**	P		**P**	**00 30 27.6**	**+1.6**
	comp=Z,1.2nm,0.3s,baz=20,slow=10,SNR=7.6							
MJAR	**Matsushiro Arr**	**20.16**	**220**	P		**P**	**00 30 27.6**	**+1.6**
MJAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
TIXI	**Tiksi**	**21.57**	**338**	*i* P		**P**	**00 30 35.1**	**-3.1**
TIXI				pmax		pmax		
	comp=Z,5.0nm,1.2s							
BOD	**Bodaibo**	**23.02**	**298**	*eP*		**P**	**00 30 51.8**	**+0.2**
BOD				pmax		pmax		
	comp=Z,3.0nm,1.5s							
KSRS	**Korea Array**	**24.18**	**240**	P		**P**	**00 31 01.1**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=47,slow=10,SNR=4.3							
KSRS	**Korea Array**	**24.18**	**240**	*eP*		**P**	**00 30 59.2**	**-2.9**
SONM	**Songino Array**	**30.48**	**279**	P		**P**	**00 31 58.5**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=59,slow=8.6,SNR=3.1							
INK	**Inuvik**	**35.85**	**37**	P		**P**	**00 32 44.6**	**+1.8**
	comp=Z,0.6nm,0.5s,baz=294,slow=8.2,SNR=5.6							
ZALV	**Zalesovo Beam**	**39.74**	**300**	P		**P**	**00 33 14.3**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=99,slow=7.8,SNR=2.9							
MKAR	**Makanchi Array**	**44.93**	**292**	P		**P**	**00 33 56.6**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=51,slow=45,SNR=9.4							
YKA	**Yellowknife Ar**	**45.34**	**41**	P		**P**	**00 34 00.6**	**+1.5**
	comp=Z,0.1nm,0.5s,baz=308,slow=7.0,SNR=4.3							
ARU	**Arti**	**50.88**	**315**	P		**P**	**00 34 40.0**	**-0.8**
ARCES	**ARCESS Array B**	**51.99**	**340**	P		**P**	**00 34 48.1**	**-0.7**
	comp=Z,2.3nm,0.9s,baz=37,slow=9.1,SNR=5.4							
FINES	**FINESS Array B**	**58.52**	**334**	P		**P**	**00 35 34.4**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=37,slow=6.3,SNR=13							
NOA	**NORSAR Array B**	**62.33**	**341**	P		**P**	**00 35 59.8**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=24,slow=7.8,SNR=3.4							
AKASG	**Malin Array Be**	**66.61**	**325**	P		**P**	**00 36 26.2**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=36,slow=6.6,SNR=3.6							
BRTR	**Keskin Array B**	**74.21**	**316**	P		**P**	**00 37 13.1**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=94,slow=4.7,SNR=3.3							
WRA	**Warramunga Arr**	**74.92**	**199**	P		**P**	**00 37 18.1**	**+1.1**
	comp=Z,1.5nm,0.6s,baz=16,slow=6.1,SNR=6.6							
WRA	**Warramunga Arr**	**74.92**	**199**	*eP*		**P**	**00 37 17.0**	**0.0**
WRA				pmax		pmax		
	comp=Z,2.0nm,0.6s							
ASAR	**Alice Springs**	**78.63**	**199**	P		**P**	**00 37 39.2**	**+1.9**
	comp=Z,1.2nm,0.5s,baz=12,slow=5.2,SNR=20							
ASAR	**Alice Springs**	**78.63**	**199**	P		**P**	**00 37 39.3**	**+1.9**
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							

MAN 01 00:31:39,18.°36N×120.°73E,h10km,mb4.6,ML3.4,MS3.4, 2D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.11**	**252**	*i* P		Pg	00 31 42.5	+0.8
PIP				*eS*		Sg	00 31 46.4	+2.7
SIPP	**Brgy, Tapao**	**0.51**	**211**	*i* P		Pg	00 31 42.5	-6.3
SIPP				*eS*		Sg	00 31 49.3	-6.2
APYP	**Conner**	**0.69**	**135**	*eP*		Pb	00 31 53.3	+0.1
APYP				*eS*		Sn	00 32 05.2	-0.5
ABRA	**Dolores**	**0.71**	**181**	*eP*		Pg	00 31 52.0	-0.6
ABRA				*eS*		Sb	00 32 03.8	+0.6
CVP	**Callao Caves**	**1.23**	**122**	*eP*		Pn	00 32 01.2	-1.0
CVP				*eS*		Sb	00 32 18.2	0.0
SGCP	**Mt. Cagua**	**1.26**	**95**	*eP*		Pn	00 32 01.3	-1.3
SGCP				*eS*		Sn	00 32 20.2	+0.6
CAUP	**Cauayan**	**1.75**	**143**	*eP*		Pb	00 32 10.7	-0.6
BALP	**Baler**	**2.73**	**163**	*eP*		Pn	00 32 24.0	+1.1

*ISCJB **01** 00:35:26.9±0.5,32.°27N±0.°02×115.°27W±0.°02,h13km±3km, Error ellipse: s-maj=3.9km s-min=3.3km az=14.3*

*NEIC **01** 00:35:27.8,32.°28N×115.°31W,h15km,ML3.6(PAS),After PAS.*

*MEX **01** 00:35:28.9±0.4,32.°30N×115.°33W,h5km±33km,MD4.0*

*ECX **01** 00:35:28.5±0.5,32.°29N×115.°32W,h8km,MD3.6,ML3.8*

ISC 01 00:35:26.9±0.9,32.°24N±0.°03×115.°32W±0.°02,h12km±7km, n36,σ0ₜ81/54,9C-10D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.18**	**5**	*eP*		**Pg**	**00 35 30.9**	**0.0**
CPBX				*eP*		**Pg**	**00 35 30.9**	**0.0**
CPBX				*eS*		**Sg**	**00 35 33.6**	**0.0**
MBIG	**Mexicali**	**0.20**	**32**	*i* P		**Pg**	**00 35 31.8**	**+0.6**
MBIG				*eS*		**Sg**	**00 35 33.9**	**-0.2**
SGL	**Mount Signal**	**0.53**	**320**	*i* P		**Pg**	**00 35 37.3**	**0.0**
DREC	**Desert Rsrch C**	**0.57**	**349**	*e*P2		**Pg**	**00 35 38.2**	**+0.1**
EMSC	**East Mesa**	**0.57**	**30**	*i* P		**Pg**	**00 35 38.4**	**+0.3**
RDX	**Rancho Dawling**	**0.61**	**240**	*e*P		**Pb**	**00 35 40.0**	**+0.3**
RDX				*eS*		**Sb**	**00 35 48.5**	**+0.1**
RDX				AML		AML	00 35 50.9	
	comp=N,4µm,0.4s							
RDX				*e*			00 35 50.9	
WESC	**Westside Schoo**	**0.62**	**326**	*e*P2		**Pg**	**00 35 39.2**	**+0.2**
COA	**Coachella**	**0.64**	**15**	*i* P		**Pg**	**00 35 39.2**	**-0.2**
YUH	**Yuha Desert**	**0.65**	**309**	*i* P		**Pg**	**00 35 39.3**	**-0.2**
COK	**Cook Ranch**	**0.70**	**331**	*e*P2		**Pg**	**00 35 40.1**	**-0.3**
RMX	**La Rumorosa**	**0.74**	**300**	*e*P		**Pg**	**00 35 41.0**	**-0.1**
RMX				*eS*		**Sg**	**00 35 50.9**	**0.0**
RMX				*e*			00 35 52.1	
RMX				AML		AML	00 35 52.1	
	comp=N,2µm,0.2s							
ECBX	**El Chinero**	**0.80**	**163**	*e*P		**Pg**	**00 35 42.1**	**-0.3**
ECBX				*eS*		**Sb**	**00 35 53.8**	**+0.3**
ECBX				*e*			00 35 54.9	
	comp=N,2µm,0.3s							
GLA	**Glamis**	**0.91**	**27**	*e*Pb		**Pg**	**00 35 42.6**	**-1.9**
GLA				*e*Sb		**Sg**	**00 35 54.8**	**-1.6**
ZAX	**El Zacaton**	**1.09**	**228**	*e*P		**Pn**	**00 35 48.2**	**+0.1**
CBX	**Cerro Bola**	**1.14**	**274**	*e*P		**Pb**	**00 35 48.6**	**0.0**
CBX				*eS*		**Sb**	**00 36 03.8**	**+0.3**
CBX				*e*			00 36 10.2	
CBX				AML		AML	00 36 10.2	
	comp=E,3µm,0.6s							
SPIG	**San Pedro Mart**	**1.20**	**186**	*e*P		**Pn**	**00 35 49.7**	**0.0**
SPIG				*eS*		**Sb**	**00 36 05.4**	**+0.1**
SPIG	**San Pedro Mart**	**1.20**	**186**	*e*P		**Pn**	**00 35 49.7**	**0.0**
SPIG				*eS*		**Sb**	**00 36 05.4**	**+0.1**
SPIG	**San Pedro Mart**	**1.20**	**186**	*e*P		**Pn**	**00 35 49.8**	**0.0**
SPX	**San Pedro Mart**	**1.20**	**186**	*e*P		**Pn**	**00 35 49.8**	**0.0**
SPX				*e*			00 36 08.9	
SPX				AML		AML	00 36 08.9	
	comp=N,1µm,0.4s							
BAR	**Barrett**	**1.22**	**291**	*e*Pn		**Pn**	**00 35 49.2**	**-0.7**
BAR				*e*Sb		**Sb**	**00 36 05.2**	**-0.6**
BAR	**Barrett**	**1.22**	**291**	*e*P		**Pn**	**00 35 49.5**	**-0.4**
ECNX	**Esteban Cantu**	**1.23**	**242**	*e*Pn		**Pn**	**00 35 50.3**	**+0.1**
PBX	**Punta Banda**	**1.29**	**248**	*e*P		**Pb**	**00 35 51.1**	**0.0**
PFO	**Pinyon Flats O**	**1.67**	**325**	*e*Pn		**Pn**	**00 35 53.9**	**-2.2**
PFO				*e*Sn		**Sn**	**00 36 17.8**	**+0.3**
214A	**Organ Pipe Nat**	**2.15**	**97**	*e*Pn		**Pn**	**00 36 01.2**	**-1.4**
214A				*e*Pg		**Pg**	**00 36 09.2**	**+1.0**
214A				*e*Sg		**Sg**	**00 36 34.8**	**-1.2**
LDFC	**Landfair**	**2.84**	**4**	*e*Pg		**Pg**	**00 36 21.7**	**+0.4**
MWC	**Mount Wilson**	**3.03**	**312**	*e*Pb		**Pb**	**00 36 20.7**	**-0.2**
PASC	**Pasadena Art C**	**3.08**	**310**	*e*Pb		**Pb**	**00 36 22.2**	**+0.6**
PASC				*e*Sb		**Sb**	**00 37 00.5**	**+1.4**
GSC	**Goldstone, Bar**	**3.29**	**338**	*e*Pn		**Pn**	**00 36 20.3**	**+1.9**
TUC	**Tucson**	**3.84**	**88**	*e*P		**Pn**	**00 36 26.6**	**+0.6**
TUC				*e*Pb		**Pb**	**00 36 34.8**	**0.0**
TUC				*e*S		**Sn**	**00 37 11.8**	**+0.7**
TUC				*e*Sb		**Sb**	**00 37 19.9**	**-1.4**
SHPR	**Sheep Range**	**4.26**	**2**	*e*Pn		**Pn**	**00 36 33.6**	**+1.9**
ISA	**Isabella, Lake**	**4.30**	**323**	*e*Pg		**Pg**	**00 36 48.1**	**-1.3**
DAC	**Darwin (Calif)**	**4.45**	**336**	*e*Pg		**Pg**	**00 36 51.4**	**-0.6**
WUAZ	**Wupatki**	**4.63**	**44**	*e*Pn		**Pn**	**00 36 37.3**	**+0.4**
W18A	**Petrified Fore**	**5.47**	**57**	*e*Pn		**Pn**	**00 36 49.4**	**+0.9

*BJI **01** 01:12:39.6,59˚.00N×153˚.90W,h100km,mb4.8/8*
*MOS **01** 01:12:41.7±0.4,58˚.96N×153˚.92W,h108km,mb4.8/4,*
Error ellipse: s-maj=19.8km s-min=8.4km az=79.2
*ISCJB **01** 01:12:42.2±0.2,58˚.95N±0˚.02×153˚.83W±0˚.04,*
h110km±2km,mb4.0/20,Error ellipse: s-maj=4.4km
s-min=3.1km az=148.2
*NEIC **01** 01:12:44.8,58˚.92N×153˚.84W,h92km,MG4.3(AEIC),*
After AEIC.
NEIC Felt at Kodiak.
*IDC **01** 01:12:45.1±2.6,59˚.25N×154˚.19W,h103km±23km,*
mb3.7/15,mb1 3.8/20,mb1mx3.7/39,mbtmp4.1/20,Error
ellipse: s-maj=21.2km s-min=12.1km az=176.0

ISC 01 01:12:43.3±0.6,58˚.96N±0˚.04×153˚.85W±0˚.04,
h102km±4km,n149,σ1§00/174,mb4.0/20,4C-1D,Kodiak
Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MCNL	**McNeil River**	**0.34**	**313**	P			**Pn**	**01 12 58.3**	**0.0**
MCNL				S			**Sn**	**01 13 08.1**	**-1.5**
AUI	**Augustine Isla**	**0.44**	**29**	P			**Pn**	**01 12 59.3**	**+0.5**
AUI				S			**Sn**	**01 13 09.4**	**-1.1**
AUW	**Augustine West**	**0.46**	**25**	P			**Pn**	**01 12 59.6**	**+0.7**
AUH	**Augustine H**	**0.46**	**27**	P			**Pn**	**01 12 59.7**	**+0.6**
AUP	**Augustine Pinn**	**0.46**	**28**	P			**Pn**	**01 12 59.7**	**+0.6**
AUP	**Augustine Pinn**	**0.47**	**28**	P			**Pn**	**01 12 59.8**	**+0.6**
OPT	**Oil Point**	**0.77**	**24**	P			**Pn**	**01 13 02.3**	**+0.8**
PDB	**Pedro Bay**	**0.85**	**348**	P			**Pn**	**01 13 02.4**	**+0.1**
PDB				S			**Sn**	**01 13 16.6**	**0.0**
PDB	**Pedro Bay**	**0.85**	**348**	P			**Pn**	**01 13 02.4**	**+0.1**
PDB				S			**Sn**	**01 13 16.6**	**0.0**
KAKN	**Katmai Knife C**	**0.92**	**224**	P			**Pn**	**01 13 02.8**	**-0.2**
KAKN				S			**Sn**	**01 13 16.8**	**-1.1**
KVTA	**Katmai Vly 10**	**0.95**	**233**	P			**Pn**	**01 13 03.1**	**-0.2**
KCE	**Katmai Mt Cerb**	**1.00**	**225**	P			**Pn**	**01 13 04.1**	**+0.2**
KABR	**Katmai Barrier**	**1.01**	**216**	P			**Pn**	**01 13 03.8**	**-0.3**
KABU	**Katmai Buttres**	**1.02**	**228**	P			**Pn**	**01 13 04.1**	**0.0**
KABU				S			**Sn**	**01 13 19.5**	**-0.3**
ILS	**Iliamna Low So**	**1.08**	**21**	P			**Pn**	**01 13 05.4**	**+0.6**
KELA	**Mount Kelaz**	**1.11**	**243**	P			**Pn**	**01 13 04.8**	**-0.3**
ILW	**Iliamna West**	**1.17**	**18**	P			**Pn**	**01 13 06.4**	**+0.6**
ILW				S			**Sn**	**01 13 23.2**	**+0.4**
HOM	**Homer**	**1.33**	**57**	P			**Pn**	**01 13 08.9**	**+1.4**
HOM				S			**Sn**	**01 13 27.5**	**+1.8**
KDAK	**Kodiak Island**	**1.35**	**150**	*i* P			**Pn**	**01 13 07.4**	**-0.4**
KDAK	**Kodiak Island**	**1.35**	**150**	P			**Pn**	**01 13 07.9**	**+0.2**
KDAK				S			**Sn**	**01 13 25.3**	**-1.0**
RSO	**Redoubt South**	**1.61**	**20**	*e*Pn			**Pn**	**01 13 11.9**	**+0.8**
RDWB	**Redoubt West**	**1.62**	**18**	P			**Pn**	**01 13 11.9**	**+0.7**
RDN	**Redoubt North**	**1.66**	**19**	P			**Pn**	**01 13 12.7**	**+1.1**
NCT	**North Crescent**	**1.68**	**16**	P			**Pn**	**01 13 12.7**	**+0.9**
BRLK	**Bradley Lake**	**1.72**	**61**	P			**Pn**	**01 13 12.4**	**+0.1**
DFR	**Drift River**	**1.74**	**19**	P			**Pn**	**01 13 13.5**	**+0.8**
OHAK	**Old Harbor**	**1.76**	**170**	P			**Pn**	**01 13 12.7**	**-0.2**
OHAK				S			**Sn**	**01 13 34.0**	**-1.4**
PLK3	**Peulik 3**	**1.80**	**226**	P			**Pn**	**01 13 13.8**	**+0.4**
SVW2	**Sparrevohn**	**2.32**	**339**	P			**Pn**	**01 13 20.1**	**+0.1**
CKL	**Chakachamna La**	**2.37**	**18**	P			**Pn**	**01 13 21.8**	**+1.0**
SLKM	**Skilak Lake**	**2.41**	**48**	P			**Pn**	**01 13 21.5**	**+0.3**
SLKM	**Skilak Lake**	**2.41**	**48**	P			**Pn**	**01 13 21.5**	**+0.3**
CKN	**Chakachatna No**	**2.42**	**19**	P			**Pn**	**01 13 22.6**	**+1.2**
BGL	**Barrier Glacie**	**2.43**	**17**	P			**Pn**	**01 13 22.7**	**+1.2**
SPBG	**Spurr Blockage**	**2.43**	**17**	P			**Pn**	**01 13 22.7**	**+1.2**
SEW	**Seward**	**2.52**	**61**	P			**Pn**	**01 13 22.5**	**0.0**
SEW				S			**Sn**	**01 13 51.1**	**-1.7**
STLK	**Strandline Lak**	**2.74**	**21**	P			**Pn**	**01 13 26.6**	**+1.0**
FIB	**Fire Island**	**2.88**	**38**	P			**Pn**	**01 13 28.8**	**+1.4**
FIB	**Fire Island**	**2.88**	**38**	P			**Pn**	**01 13 28.8**	**+1.4**
SUA	**Susitna One**	**2.96**	**30**	P			**Pn**	**01 13 29.4**	**+1.0**
SUA				S			**Sn**	**01 14 04.2**	**+0.8**
RC01	**Rabbit Creek A**	**2.97**	**42**	P			**Pn**	**01 13 29.1**	**+0.5**
RC01				S			**Sn**	**01 14 02.8**	**-0.8**
PTE	**Portage**	**3.09**	**50**	P			**Pn**	**01 13 30.5**	**+0.4**
SKT	**Skwentna**	**3.25**	**20**	P			**Pn**	**01 13 32.9**	**+0.7**
PMR	**Palmer**	**3.54**	**40**	P			**Pn**	**01 13 35.9**	**-0.2**
PMR				S			**Sn**	**01 14 14.5**	**-2.5**
PMR	**Palmer**	**3.54**	**40**	P			**Pn**	**01 13 35.9**	**-0.2**
PMR				S			**Sn**	**01 14 14.5**	**-2.5**
MID	**Middleton Isla**	**3.89**	**80**	P			**Pn**	**01 13 41.0**	**+0.1**
MID				S			**Sn**	**01 14 23.0**	**-2.5**
MID	**Middleton Isla**	**3.89**	**80**	P			**Pn**	**01 13 41.0**	**+0.1**
MID				S			**Sn**	**01 14 23.0**	**-2.5**
GLI	**Glacier Island**	**3.91**	**58**	P			**Pn**	**01 13 40.1**	**-1.0**
PPLA	**Purkeypile**	**4.04**	**11**	P			**Pn**	**01 13 44.9**	**+1.9**
JPK	**Jack Peak**	**4.21**	**57**	P			**Pn**	**01 13 44.7**	**-0.4**
JPK				S			**Sn**	**01 14 30.9**	**-2.3**
SCM	**Sheep Creek Mo**	**4.33**	**45**	P			**Pn**	**01 13 47.0**	**+0.1**
SCM	**Sheep Creek Mo**	**4.33**	**45**	P			**Pn**	**01 13 47.0**	**+0.1**
VLZ	**Valdez**	**4.36**	**57**	P			**Pn**	**01 13 47.0**	**-0.1**
VLZ				S			**Sn**	**01 14 34.3**	**-2.4**
EYAK	**Cordova Ski Ar**	**4.40**	**65**	P			**Pn**	**01 13 48.3**	**+0.6**
CAST	**Castle Rocks**	**4.56**	**10**	P			**Pn**	**01 13 51.0**	**+1.1**
DIV	**Divide**	**4.60**	**58**	P			**Pn**	**01 13 50.2**	**-0.3**
KLU	**Klutina**	**4.70**	**54**	P			**Pn**	**01 13 51.8**	**-0.1**
KTH	**Kantishna Hill**	**4.83**	**16**	P			**Pn**	**01 13 53.9**	**+0.3**
TRF	**Thorofare Moun**	**4.83**	**19**	P			**Pn**	**01 13 53.5**	**-0.2**
RAGM	**Ragged Mountai**	**4.87**	**69**	P			**Pn**	**01 13 54.5**	**+0.4**
GOAT	**Goat Mountain**	**4.89**	**67**	P			**Pn**	**01 13 54.6**	**+0.1**
CHUM	**Lake Minchumin**	**5.00**	**8**	P			**Pn**	**01 13 56.9**	**+1.0**
PS12	**TAPS Pump St12**	**5.02**	**56**	P			**Pn**	**01 13 56.1**	**-0.1**
BMRM	**Bremner River**	**5.07**	**63**	P			**Pn**	**01 13 57.0**	**+0.2**
RND	**Reindeer**	**5.08**	**26**	P			**Pn**	**01 13 56.7**	**-0.3**
RND	**Reindeer**	**5.08**	**26**	P			**Pn**	**01 13 56.6**	**-0.3**
NICHA	**Nichawak Mount**	**5.18**	**71**	P			**Pn**	**01 13 59.0**	**+0.7**
PS11	**TAPS Pump St11**	**5.19**	**49**	P			**Pn**	**01 13 59.2**	**+0.8**
DHY	**Denali Highway**	**5.20**	**35**	P			**Pn**	**01 13 58.8**	**+0.1**
SUCK	**Suckling Hills**	**5.25**	**73**	P			**Pn**	**01 13 60.0**	**+0.7**
BERG	**Berg Lake**	**5.34**	**70**	P			**Pn**	**01 14 00.8**	**+0.3**
MCK	**McKinley**	**5.34**	**24**	P			**Pn**	**01 14 00.6**	**+0.1**
MCK	**McKinley**	**5.34**	**24**	P			**Pn**	**01 14 00.6**	**+0.1**
HARP	**HAARP**	**5.50**	**47**	P			**Pn**	**01 14 03.2**	**+0.6**
GRIN	**Grindle Hills**	**5.51**	**72**	P			**Pn**	**01 14 03.6**	**+0.8**
KHIT	**Khitrov Hills**	**5.57**	**70**	P			**Pn**	**01 14 04.0**	**+0.3**
GLB	**Gilahina Butte**	**5.59**	**59**	P			**Pn**	**01 14 03.9**	**0.0**
BWN	**Browne**	**5.64**	**20**	P			**Pn**	**01 14 04.6**	**+0.2**
VRDI	**Verde Repeater**	**5.68**	**62**	P			**Pn**	**01 14 04.9**	**-0.3**
PAX	**Paxson**	**5.73**	**42**	P			**Pn**	**01 14 05.8**	**-0.1**
PAX	**Paxson**	**5.73**	**42**	P			**Pn**	**01 14 05.8**	**-0.1**
KULT	**Kultieth River**	**5.80**	**72**	P			**Pn**	**01 14 07.4**	**+0.7**
MCARA	**McCarthy VSAT**	**5.93**	**61**	P			**Pn**	**01 14 09.0**	**+0.6**
BARK	**Barkley Ridge**	**5.93**	**71**	P			**Pn**	**01 14 09.5**	**+0.9**
PS10	**TAPS Pump St10**	**5.94**	**38**	P			**Pn**	**01 14 09.3**	**+0.6**
GCSA	**Galena City Sc**	**5.99**	**347**	P			**Pn**	**01 14 09.8**	**+0.7**
ISLE	**Juniper Island**	**6.04**	**69**	P			**Pn**	**01 14 10.6**	**+0.5**
KIAG	**Kiagna River**	**6.10**	**66**	P			**Pn**	**01 14 11.3**	**+0.4**
PTPK	**Patty Peak**	**6.12**	**64**	P			**Pn**	**01 14 11.7**	**+0.5**
BAGL	**Bagley Icefiel**	**6.14**	**70**	P			**Pn**	**01 14 12.6**	**+1.2**
MESA	**MESA**	**6.17**	**73**	P			**Pn**	**01 14 12.7**	**+0.8**
WRH	**Wood River Hil**	**6.17**	**24**	P			**Pn**	**01 14 10.7**	**-1.1**
DDM	**Donnelly Dome**	**6.18**	**35**	P			**Pn**	**01 14 13.0**	**+1.1**
MLY	**Manley**	**6.27**	**12**	P			**Pn**	**01 14 12.6**	**-0.6**
GRNC	**Granite Creek**	**6.35**	**69**	P			**Pn**	**01 14 15.3**	**+0.9**
HDA	**Harding Lake**	**6.37**	**28**	P			**Pn**	**01 14 14.0**	**+0.3**
CCB	**Clear Creek Bu**	**6.39**	**24**	P			**Pn**	**01 14 13.8**	**-0.8**
BARN	**Barnard Glacie**	**6.47**	**66**	P			**Pn**	**01 14 16.8**	**+0.9**
RKAV	**Rock Avalanche**	**6.48**	**73**	P			**Pn**	**01 14 17.2**	**+1.1**
PS08	**TAPS Pump Stn8**	**6.52**	**28**	P			**Pn**	**01 14 15.8**	**-0.6**
CHX	**Chaix Hills**	**6.58**	**75**	P			**Pn**	**01 14 18.7**	**+1.4**
COLA	**College**	**6.58**	**23**	P			**Pn**	**01 14 16.3**	**-0.9**
COLA	**College**	**6.58**	**23**	P			**Pn**	**01 14 16.3**	**-0.9**
MDM	**Murphy Dome**	**6.58**	**21**	P			**Pn**	**01 14 16.6**	**-0.7**
TABL	**Table Mountain**	**6.60**	**72**	P			**Pn**	**01 14 18.6**	**+0.8**
DOT	**Dot Lake**	**6.66**	**41**	P			**Pn**	**01 14 18.2**	**-0.2**
ILAR	**Eielson Array**	**6.70**	**26**	P			**Pn**	**01 14 17.7**	**-1.1**
	15nm,0.3s,baz=216,slow=14,SNR=447								
ILAR				S			**Sn**	**01 15 31.9**	**-1.7**
	7.3nm,0.3s,baz=213,slow=22,SNR=9.1								
SAMH	**Samovar Hills**	**6.75**	**74**	P			**Pn**	**01 14 20.9**	**+1.2**
SCRK	**Sand Creek**	**6.90**	**39**	P			**Pn**	**01 14 20.8**	**-0.9**
IM04	**Indian Mountai**	**7.05**	**0**	*e*Pn			**Pn**	**01 14 23.8**	**+0.2**
PS06	**TAPS Pump Stn6**	**7.18**	**14**	P			**Pn**	**01 14 25.6**	**+0.2**
EGAK	**Eagle**	**8.36**	**40**	*e*Pn			**Pn**	**01 14 40.4**	**-0.9**
	25nm,0.5s								
HYT	**Haines Junctio**	**8.43**	**70**	*e*Pn			**Pn**	**01 14 43.6**	**+1.1**
HYT				*e*Sn			**Sn**	**01 16 15.2**	**-0.6**
COLD	**Coldfoot**	**8.46**	**10**	*e*Pn			**Pn**	**01 14 42.1**	**-0.7**
	12nm,0.7s								
DAWY	**Dawson**	**8.59**	**47**	*e*Pn			**Pn**	**01 14 45.1**	**+0.5**
TNA	**Tin City**	**9.31**	**321**	*e*Pn			**Pn**	**01 14 57.2**	**+3.0**
	17nm,1.3s								
GAMB	**Gambell**	**9.82**	**307**	*e*Pn			**Pn**	**01 15 02.8**	**+1.6**
	17nm,1.1s								
DLBC	**Dease Lake**	**12.38**	**82**	P			**Pn**	**01 15 38.7**	**+2.9**
	2.1nm,0.3s,baz=282,slow=15,SNR=29								
DLBC				S			**Sn**	**01 17 51.1**	**-0.6**
	1.4nm,0.3s,baz=253,slow=19,SNR=6.6								
DLBC	**Dease Lake**	**12.38**	**82**	*e*Pn			**Pn**	**01 15 38.4**	**+2.6**
INK	**Inuvik**	**12.94**	**35**	P			**Pn**	**01 15 42.9**	**0.0**
	0.4nm,0.3s,baz=230,slow=16,SNR=28								
GSTR	**Great Sitkin T**	**14.29**	**251**	*e*Pn			**Pn**	**01 16 02.9**	**+2.3**
BBB	**Bella Bella**	**15.98**	**104**	P			**P**	**01 16 25.3**	**+1.9**
	0.4nm,0.3s,baz=300,slow=8.1,SNR=5.5								
YKA	**Yellowknife Ar**	**19.30**	**63**	P			**Pn**	**01 17 01.0**	**-0.7**
	0.7nm,0.3s,baz=277,slow=9.8,SNR=94								
YKA				PcP			**PcP**	**01 21 17.5**	**0.0**
	0.1nm,0.3s,baz=279,slow=1.5,SNR=8.8								
BILL	**Bilibino**	**19.61**	**314**	*ce*P			**P**	**01 17 03.3**	**+0.2**
BILL				pmax	pmax				
	comp=Z,22nm,1.7s								
BILL				MLR	MLR				
	comp=Z,972nm,19.0s								
SEY	**Seymchan**	**25.76**	**302**	P			**P**	**01 18 03.8**	**-0.1**
	comp=Z,3.4nm,0.4s,baz=77,slow=6.0,SNR=16								
SEY	**Seymchan**	**25.76**	**302**	*i* P			**P**	**01 18 03.9**	**0.0**
RES	**Resolute Bay**	**26.43**	**31**	P			**P**	**01 18 11.5**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=254,slow=16,SNR=7.2								
PETK	**Petropavlovsk-**	**27.18**	**279**	P			**P**	**01 18 16.6**	**-0.3**
	comp=Z,2.7nm,0.4s,baz=74,slow=14,SNR=21								
PDAR	**Pinedale Array**	**31.59**	**101**	P			P	01 19 01.7	+5.5
	comp=Z,0.3nm,0.6s,baz=323,slow=5.8,SNR=2.7								
TIXI	**Tiksi**	**32.08**	**324**	*ce*P			**P**	**01 18 59.7**	**-0.1**
TIXI				pmax	pmax				
	comp=Z,4.0nm,1.7s								
YAK	**Yakutsk**	**35.77**	**308**	*e*P			**P**	**01 19 30.8**	**-1.0**
YAK				pmax	pmax				
	comp=E,6.0nm,0.9s								
YAK				pmax	pmax				
	comp=N,2.0nm,0.8s								
YAK				pmax	pmax				
	comp=Z,20nm,0.9s								
SCHQ	**Schefferville**	**44.51**	**56**	P			**P**	**01 20 45.0**	**+0.9**
	comp=Z,0.9nm,0.4s,baz=287,slow=14,SNR=4.4								
BOD	**Bodaibo**	**44.60**	**310**	*i* P			**P**	**01 20 43.7**	**-1.0**
BOD				pmax	pmax				
	comp=Z,18nm,0.7s								
USRK	**Ussuriysk Ar.**	**45.90**	**286**	P			**P**	**01 20 53.6**	**-1.6**
	comp=Z,2.6nm,0.7s,baz=69,slow=6.8,SNR=7.9								
MJAR	**Matsushiro Arr**	**48.41**	**274**	P			**P**	**01 21 15.2**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=34,slow=6.9,SNR=3.8								
CN2	**Changchun**	**49.42**	**290**	*e*P			**P**	**01 21 22.2**	**-0.2**
CN2				PMZ					
	comp=Z,20nm,0.7s								
ARCES	**ARCESS Array B**	**51.81**	**0**	P			**P**	**01 21 39.8**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=7.8,slow=7.3,SNR=4.0								
ARCES				PcP			**PcP**	**01 22 51.5**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=357,slow=4.5,SNR=4.3								
KSRS	**Korea Array**	**52.99**	**283**	P			**P**	**01 21 49.5**	**+0.5**
	comp=Z,5.4nm,0.8s,baz=42,slow=7.2,SNR=15								
ULN	**Ulaanbaatar**	**54.75**	**305**	*i* P			**P**	**01 22 02.3**	**+0.3**
ULN				pmax	pmax				
	comp=Z,5.0nm,1.0s								
SONM	**Songino Array**	**55.05**	**306**	P			**P**	**01 22 04.6**	**+0.5**
	comp=Z,6.6nm,0.5s,baz=44,slow=7.8,SNR=23								
NVS	**Novosibirsk**	**57.67**	**325**	*e*P			P	01 22 16.9	-5.5
ZALV	**Zalesovo Beam**	**57.96**	**323**	P			**P**	**01 22 24.0**	**-0.4**
	comp=Z,2.4nm,0.5s,baz=33,slow=7.7,SNR=13								
ZALV	**Zalesovo Beam**	**57.96**	**323**	*i* P			**P**	**01 22 24.0**	**-0.4**
ZALV				pmax	pmax				
	comp=Z,3.0nm,0.5s								
HHC	**Hu-ho-hao-te**	**58.28**	**297**	*e*P			**P**	**01 22 26.2**	**-0.8**
HHC				pP			**pP**	**01 22 51.0**	**-0.9**
HHC				sP			**sP**	**01 23 02.5**	**-0.7**
HHC				PMZ					
	comp=Z,9.0nm,0.7s								
HHC				LN					
	comp=Z,460nm,15.3s								
HHC				LE					
	comp=Z,450nm,14.8s								
HHC				LZ					
	comp=Z,410nm,14.8s								
FINES	**FINESS Array B**	**59.93**	**0**	P			**P**	**01 22 36.5**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=352,slow=8.4,SNR=4.3								
BRVK	**Borovoye**	**62.78**	**332**	*ce*P			**P**	**01 22 56.7**	**-0.6**
BRVK				pmax	pmax				
	comp=Z,3.0nm,1.7s								
MKAR	**Makanchi Array**	**64.98**	**321**	P			**P**	**01 23 10.5**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=30,slow=6.7,SNR=9.5								
MKAR				PP			**PP**	**01 25 33.1**	**-2.1**
	comp=Z,0.2nm,0.5s,baz=23,slow=4.0,SNR=3.9								
AKASG	**Malin Array Be**	**70.67**	**358**	P			**P**	**01 23 46.7**	**-0.7**
	comp=Z,0.3nm,0.2s,baz=7.5,slow=5.6,SNR=2.7								
ESDC	**Sonseca Array**	**78.59**	**23**	P			**P**	**01 24 35.2**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=335,slow=4.7,SNR=4.2								

*IDC **01** 01:27:42.3±1.9,37˚.70S×73˚.22W,h0km,mb3.9/3,*
mb1 3.8/6,mb1mx3.7/16,mbtmp3.6/6,ML3.5/3,Error
ellipse: s-maj=39.4km s-min=31.1km az=93.0
*GUC **01** 01:27:44.8±0.5,37˚.92S×73˚.23W,h15km±3km,ML4.4*
*ISCJB **01** 01:27:45.4±0.6,37˚.87S±0˚.03×73˚.4W±0˚.1,h33km,mb4.1/8,*
Error ellipse: s-maj=11.9km s-min=4.8km az=1.8
*NEIC **01** 01:27:45.1±7.8,37˚.70S×73˚.23W,h18km±48km,mb4.4/5,*
Error ellipse: s-maj=25.7km s-min=10.8km az=90.0

ISC 01 01:27:46.8±0.7,37˚.77S±0˚.05×73˚.17W±0˚.09,h33km,n18,
σ1§37/23,mb4.2/8,1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.92**	**3**	*i* P			**Pb**	**01 28 03.8**	**-0.5**
CCSP				*i* S			**Sb**	**01 28 17.5**	**+1.4**
CCSP				AML	AML			01 28 22.5	
	comp=E,16μm,0.5s								
VLCH	**Valdivia**	**2.04**	**182**	*i* P			**Pn**	**01 28 16.6**	**-2.1**
VLCH				*i* S			**Sn**	**01 28 40.4**	**-2.6**
LNCH	**Linares**	**2.29**	**34**	*e*P			**Pb**	**01 28 24.9**	**-2.6**
LNCH				*i* S			**Sb**	**01 28 55.2**	**-0.1**
TALC	**Talca**	**2.67**	**28**	*i* P			Pb	01 28 30.3	-3.5
TALC				*i* S			**Sb**	**01 29 04.7**	**-1.4**
PLCA	**Paso Flores**	**3.59**	**146**	Pn			**Pn**	**01 28 40.9**	**+0.6**
	comp=E,1.7nm,0.3s,baz=324,slow=13,SNR=13								
PLCA				Lg	Lg			01 29 34.0	
	comp=E,12nm,0.3s,baz=44,slow=23,SNR=6.8								
PLCA	**Paso Flores**	**3.59**	**146**	*e*Pn			**Pn**	**01 28 41.3**	**+1.1**
PLCA				*e*Sn			**Sn**	**01 29 22.7**	**+1.1**
PLCA				Lg	Lg			01 29 34.0	
CFAA	**Coronel Fontan**	**7.37**	**35**	Pn			**Pn**	**01 29 30.8**	**-1.3**
	comp=E,0.3nm,0.3s,baz=223,slow=10,SNR=13								
CFAA				Sn			**Sn**	**01 30 54.8**	**+0.3**
	comp=E,0.4nm,0.3s,baz=293,slow=22,SNR=7.2								
TRQA	**Tornquist**	**8.85**	**95**	*e*Pn			**Pn**	**01 29 54.0**	**+1.6**
CPUP	**Villa Florida**	**17.59**	**54**	P			**Pn**	**01 31 47.9**	**-1.4**
	comp=E,0.0nm,0.3s,baz=253,slow=17,SNR=2.8								
CPUP	**Villa Florida**	**17.59**	**54**	*e*Pn			**Pn**	**01 31 48.2**	**-1.1**
BDFB	**Brasilia**	**31.29**	**52**	P			**P**	**01 34 05.5**	**+1.5**
	comp=E,1.6nm,0.5s,baz=186,slow=9.2,SNR=2.4								
SDV	**Santo Domingo**	**46.47**	**3**	*e*P			**P**	**01 36 11.0**	**+0.1**
	comp=E,2.7nm,0.8s								
SNAA	**Sanae**	**48.48**	**157**	*e*P			**P**	**01 36 27.0**	**+1.2**
	comp=E,4.3nm,0.9s								
QSPA	**South Pole Qui**	**52.48**	**180**	*e*P			**P**	**01 36 56.2**	**0.0**
	comp=E,4.2nm,0.9s								
TXAR	**Lajitas Array**	**72.60**	**332**	P			**P**	**01 39 11.3**	**+0.4**
	comp=E,0.4nm,0.5s,baz=162,slow=9.5,SNR=3.2								
SWET	**Sewanee**	**73.57**	**349**	*e*P			**P**	**01 39 16.3**	**-0.1**
	comp=E,2.2nm,0.7s								
ANMO	**Albuquerque**	**78.67**	**333**	*e*P			**P**	**01 39 46.8**	**+1.2**
	comp=E,1.5nm,0.9s								
TORD	**Torodi Ar. Bea**	**86.34**	**70**	P			**P**	**01 40 25.6**	**-0.3**
	comp=E,0.4nm,0.6s,baz=217,slow=5.5,SNR=7.9								

KRSC 01 01:30:43.6±1.1,52˚.85N×159˚.45E,h76km±9km,ML3.5,Off
east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NLC	**Nalytchevo**	**0.33**	**349**	*i* P			Pn	01 30 57.1	+1.5
NLC				*i* S			Sn	01 31 05.4	+1.0
SPN	**Mys Shipunski**	**0.43**	**54**	*e*P			Pn	01 30 58.0	+1.6
SPN				*i* S			Sn	01 31 07.2	+1.4
PET	**Petropavlovsk**	**0.51**	**290**	*i* P			Pn	01 30 58.2	+1.2
PET				*i* S			Sn	01 31 07.4	+0.4
UGLR	**Uglovaya**	**0.52**	**314**	*e*P			Pn	01 30 58.8	+1.5
UGLR				*i* S			Sn	01 31 08.6	+1.2
SDLR	**Sedlovina**	**0.55**	**322**	*e*P			Pn	01 30 58.8	+1.2
SDLR				*i* S			Sn	01 31 08.8	+0.9
SMAR	**Somma**	**0.57**	**317**	*e*P			Pn	01 30 59.0	+1.1
AVH	**Avacha**	**0.60**	**315**	*e*P			Pn	01 30 59.7	+1.7
AVH				*e*S			Sn	01 31 09.2	+0.5
KRER	**Koryakskii**	**0.62**	**318**	*e*P			Pn	01 30 59.9	+1.5
KRER				*e*S			Sn	01 31 10.7	+1.4
KOK	**Koryaka**	**0.66**	**313**	*e*P			Pn	01 31 00.2	+1.5
KRX	**Arik**	**0.70**	**317**	*e*P			Pn	01 31 00.5	+1.3
KRX				*e*S			Sn	01 31 11.2	+0.5
RUS	**Russkaya**	**0.70**	**234**	*e*P			Pn	01 31 00.1	+1.1
RUS				*i* S			Sn	01 31 11.0	+0.7
MTVR	**Mutnovka**	**0.85**	**245**	*i* P			Pn	01 31 02.4	+1.5
MTVR				*i* S			Sn	01 31 14.7	+1.0
GRL	**Gorelyy**	**0.89**	**251**	*e*P			Pn	01 31 03.2	+2.0
GRL				*e*S			Sn	01 31 15.6	+1.3
ASAK	**Asacha**	**1.05**	**244**	*e*P			Pn	01 31 05.0	+1.8
ASAK				*e*S			Sn	01 31 18.7	+0.9
GNL	**Ganaly**	**1.24**	**314**	*e*P			Pn	01 31 06.5	+0.9
GNL				*e*S			Sn	01 31 22.0	0.0
APC	**Apacha**	**1.39**	**274**	*i* P			Pn	01 31 08.8	+1.5
APC				*i* S			Sn	01 31 25.5	+0.4
MIPR	**Malaya Ipel'ka**	**1.74**	**252**	*e*P			Pn	01 31 13.5	+1.6
PAU	**Pauzhetka**	**2.13**	**231**	*e*P			Pn	01 31 20.5	+3.4
KZV	**Kizimen**	**2.32**	**12**	*e*P			Pn	01 31 22.9	+3.0
KZV				*e*S			Sn	01 31 50.1	+2.4
TUMR	**Tumrok**	**2.48**	**9**	*e*P			Pn	01 31 25.4	+3.5
SKR	**Severo-Kuril's**	**3.00**	**225**	*e*P			Pn	01 31 32.0	+3.2
SKR				*e*S			Sn	01 32 07.0	+3.4
ESO	**Esso**	**3.11**	**352**	*e*P		

SRU	**San Rafael Swe**	**7.91**	**29**	*e*Pn	**Pn**	**01 47 48.6**	**+0.9**
ANMO	**Albuquerque**	**7.97**	**68**	Pn	**Pn**	**01 47 49.2**	**+0.6**
	comp=E,0.2nm,0.3s,baz=257,slow=14,SNR=4.0						
ANMO	**Albuquerque**	**7.97**	**68**	*e*Pn	**Pn**	**01 47 49.0**	**+0.5**
PV10	**Paradox Valley**	**8.03**	**39**	*e*Pn	**Pn**	**01 47 50.3**	**+0.9**
	comp=E,180nm,0.7s						
PV10				*e*Pg	Pb	01 48 17.9	+6.1
MNTX	**Cornudas Mount**	**8.58**	**91**	*e*Pn	**Pn**	**01 47 56.5**	**-0.4**
TXAR	**Lajitas Array**	**10.56**	**103**	Pn	**Pn**	**01 48 25.8**	**+1.8**
	comp=E,0.5nm,0.3s,baz=280,slow=12,SNR=11						
NEW	**Newport**	**16.02**	**356**	Pn	**P**	**01 49 42.2**	**+0.9**
	comp=E,0.1nm,0.3s,baz=175,slow=12,SNR=3.5						
ULM	**Lac du Bonnet**	**23.10**	**33**	P	**P**	**01 51 00.9**	**+2.6**
	comp=E,1.9nm,0.8s,baz=221,slow=11,SNR=4.0						
ILAR	**Eielson Array**	**37.81**	**339**	P	**P**	**01 53 11.1**	**+2.4**
	comp=E,0.3nm,0.7s,baz=148,slow=8.6,SNR=4.2						

ISCJB ***01*** *02:44:39.7±0.6,59.58S±0.09×24.75W±0.2,h10km, mb4.0/11, Error ellipse: s-maj=18.8km s-min=8.4km az=143.5*

IDC ***01*** *02:44:40.6±0.8,59.33S×24.08W,h0km,mb4.0/8, mb1 4.1/9,mb1mx3.9/18,mbtmp4.0/9,ML4.4/1,MS3.1/1, Ms1 3.1/1,ms1mx3.0/16, Error ellipse: s-maj=27.4km s-min=18.7km az=57.0*

NEIC ***01*** *02:44:45.5±0.6,59.41S×24.15W,h35km, mb4.4/6, Error ellipse: s-maj=20.7km s-min=12.4km az=48.0*

AWI ***01*** *02:44:60.0,61.53S×26.29W*

ISC 01 02:44:42.0±0.7, 59.5S±0.1×24.3W±0.1, h10km, n30, σ1§50/24, mb4.2/11, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.04**	**156**	P	**Pn**	**02 47 46.5**	**-0.5**
VNA1	**Neumayer--Stat**	**13.04**	**156**	S	Sn	02 49 59.7	-12
VNA3	**Neumayer Olymp**	**13.25**	**159**	P	**Pn**	**02 47 48.6**	**-1.2**
VNA3	**Neumayer Olymp**	**13.25**	**159**	S	Sn	02 49 59.5	-18
VNA2	**Neumayer--Watz**	**13.44**	**156**	P	**Pn**	**02 47 51.8**	**-0.6**
	baz=321,slow=14						
VNA2	**Neumayer--Watz**	**13.44**	**156**	S	Sn	02 50 06.7	-15
SNAA	**Sanae**	**14.99**	**153**	Pn	**Pn**	**02 48 12.3**	**-1.3**
	1.4nm,0.3s,baz=342,slow=13,SNR=318						
SNAA				Sn	Sn	02 50 42.0	-18
	0.2nm,0.3s,baz=332,slow=18,SNR=3.9						
SNAA				LR	LR	02 53 01.5	
	comp=Z,76nm,19.9s,baz=218,slow=33						
PMSA	**Palmer Station**	**19.07**	**237**	*e*P	**P**	**02 49 00.2**	**-3.9**
	28nm,0.6s						
USHA	**Ushuaia**	**24.03**	**262**	P	**P**	**02 49 59.0**	**+2.4**
	6.4nm,0.7s,baz=114,slow=12,SNR=4.0						
QSPA	**South Pole Qui**	**30.78**	**180**	P	**P**	**02 50 59.0**	**+1.7**
	2.6nm,0.7s,baz=186,slow=2.4,SNR=13						
TRQA	**Tornquist**	**32.13**	**295**	*e*P	**P**	**02 51 08.7**	**-0.6**
	7.6nm,1.2s						
PLCA	**Paso Flores**	**34.18**	**282**	P	**P**	**02 51 27.2**	**0.0**
	3.5nm,0.8s,baz=134,slow=6.3,SNR=5.2						
PLCA	**Paso Flores**	**34.18**	**282**	*e*P	**P**	**02 51 26.8**	**-0.4**
	3.1nm,0.6s						
MAW	**Mawson**	**36.51**	**140**	P	**P**	**02 51 46.9**	**0.0**
	1.0nm,0.6s,baz=253,slow=11,SNR=3.5						
CFAA	**Coronel Fontan**	**40.34**	**294**	P	**P**	**02 52 18.6**	**-1.0**
	0.3nm,0.6s,baz=144,slow=6.5,SNR=7.6						
VNDA	**Vanda**	**43.22**	**182**	P	**P**	**02 52 44.0**	**+1.5**
	2.1nm,0.9s,baz=189,slow=4.8,SNR=6.7						
VNDA	**Vanda**	**43.22**	**182**	*e*P	**P**	**02 52 44.1**	**+1.6**
	4.2nm,1.2s						
LCO	**Las Campanas**	**43.67**	**293**	*e*P	**P**	**02 52 46.4**	**-0.6**
	3.9nm,0.7s						
BDFB	**Brasilia**	**47.09**	**328**	P	**P**	**02 53 14.5**	**+0.5**
	1.0nm,0.5s,baz=134,slow=14,SNR=3.6						
LVC	**Limon Verde**	**48.34**	**300**	*e*P	**P**	**02 53 23.6**	**-0.2**
	2.3nm,0.6s						
H10S2	**ASCENSION HYDR**	**50.92**	**12**	T	T	03 48 59.9	
	baz=186,slow=75,SNR=6.1						
H10S3	**ASCENSION HYDR**	**50.93**	**12**	T	T	03 48 59.9	
	baz=186,slow=75,SNR=7.3						
H10S1	**ASCENSION HYDR**	**50.94**	**12**	T	T	03 49 00.6	
	baz=186,slow=75,SNR=6.2						
TOA0	**Torodi Ar. Sit**	**75.36**	**26**	*e*P	**P**	**02 56 24.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**75.36**	**26**	P	**P**	**02 56 24.8**	**-0.6**
	0.2nm,0.5s,baz=196,slow=6.2,SNR=8.7						
TKM2	**Tokmak 2**	**130.39**	**72**	*e*PKPdf	**PKPdf**	**03 03 51.1**	**-0.8**
MK31	**Makanchi Array**	**136.47**	**73**	*e*PKPdf	**PKPdf**	**03 04 02.5**	**-0.4**
YKA	**Yellowknife Ar**	**139.71**	**314**	PKP	**PKPdf**	**03 04 09.8**	**+1.5**
	0.3nm,0.6s,baz=126,slow=2.1,SNR=4.8						
SONM	**Songino Array**	**149.29**	**90**	PKPbc	**PKPbc**	**03 04 27.8**	**-2.1**
	0.4nm,0.6s,baz=192,slow=5.6,SNR=2.7						
ILAR	**Eielson Array**	**153.47**	**306**	PKPbc	**PKPbc**	**03 04 41.0**	**+2.0**
	0.4nm,0.6s,baz=147,slow=1.8,SNR=10						

IDC 01 03:01:01.4±70.0, 16.27S×177.29W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/25, mbtmp4.0/3, Error ellipse: s-maj=1288.0km s-min=173.8km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.36**	**240**	P	P	03 08 41.5	+0.3
	0.6nm,0.3s,baz=86,slow=9.8,SNR=6.4						
WRA	**Warramunga Arr**	**46.00**	**258**	P	P	03 09 26.7	-0.3
	0.3nm,0.3s,baz=96,slow=7.5,SNR=5.1						
ASAR	**Alice Springs**	**46.28**	**253**	P	P	03 09 28.8	-0.4
	3.7nm,0.5s,baz=88,slow=8.0,SNR=62						

IDC 01 03:05:25.9±6.7, 4.74S×147.64E, h0km, mb3.1/1, mb1 3.5/2, mb1mx3.2/18, mbtmp3.2/2, ML3.8/1, Error ellipse: s-maj=280.1km s-min=50.4km az=109.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.91**	**219**	P	P	03 10 00.1	+0.7
	0.3nm,0.3s,baz=39,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**23.02**	**214**	P	P	03 10 32.1	-0.7
	0.5nm,0.5s,baz=46,slow=8.9,SNR=7.0						
TORD	**Torodi Ar. Bea**	**145.38**	**286**	PKPbc	PKPbc	03 25 06.1	-0.7
	0.1nm,0.5s,baz=65,slow=3.6,SNR=4.2						

SJA ***01*** *03:15:15.2±1.4,34.47S×72.99W,h19km,ML3.2,MW3.3*
GUC ***01*** *03:15:25.5±0.4,34.52S×71.93W,h31km±2km,ML3.5*

ISC 01 03:15:22.9±2.6, 34.52S±0.06×72.1W±0.1, h8km±20km, n17, σ1§14/27, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.84**	**125**	*e*P	**Pb**	**03 15 39.6**	**-0.2**
NICH				*i* S	**Sb**	**03 15 50.3**	**-1.0**
TALC	**Talca**	**0.95**	**158**	*i* P	**Pb**	**03 15 41.5**	**-0.1**
TALC				*i* S	**Sg**	**03 15 54.0**	**+0.5**
LNCH	**Linares**	**1.38**	**164**	*i* P	**Pb**	**03 15 48.7**	**-0.2**
LNCH				*i* S	**Sg**	**03 16 06.6**	**-0.6**
LNCH				*i* S	**Sg**	**03 16 06.7**	**-0.6**
RCDM	**Rinconada Maip**	**1.47**	**46**↑	*i* P	**Pn**	**03 15 49.2**	**-0.5**
RCDM				*i* S	**Sn**	**03 16 07.4**	**-1.8**
RCDM				AML	AML	03 16 12.0	
	comp=E,1μm,0.1s						
CLCH	**Cerro Calan**	**1.70**	**49**↓	*i* P	**Pn**	**03 15 53.2**	**+0.4**
CLCH				*i* S	**Sn**	**03 16 14.3**	**-0.5**
CLCH				AML	AML	03 16 21.1	
	comp=E,992nm,0.5s						
CLCH				AML	AML	03 16 21.7	
	comp=E,1μm,0.8s						
ROCH	**El Roble**	**1.78**	**30**	*e*P	**Pn**	**03 15 53.5**	**-0.6**
ROCH				*i* S	**Sn**	**03 16 15.9**	**-1.1**
ROCH				AML	AML	03 16 23.4	
	comp=N,792nm,0.6s						
PEL	**Peldehue**	**1.79**	**40**↑	*i* P	**Pn**	**03 15 55.0**	**+0.8**
PEL				*e*S	**Sn**	**03 16 17.1**	**0.0**
YECH	**El Yeso**	**1.86**	**63**	*e*P	**Pn**	**03 15 56.2**	**+0.9**
YECH				*i* S	**Sn**	**03 16 18.7**	**-0.4**
AAGR	**Agrelo**	**3.06**	**63**	*e*P	**Pb**	**03 16 16.3**	**-1.3**
ARCO	**CERRO ARCO**	**3.11**	**58**	AML	AML	03 17 11.6	
	comp=Z,39nm,0.6s						
AUSP	**Uspallata**	**3.21**	**45**	*e*P	**Pn**	**03 16 16.0**	**+2.2**
AUSP				*e*S	**Sb**	**03 17 00.4**	**+0.7**
ASAL	**Salagasta**	**3.32**	**55**	*e*S	**Sb**	**03 17 04.2**	**+1.6**
RTLS	**Leoncito**	**3.58**	**41**	*e*P	**Pn**	**03 16 21.0**	**+2.1**
RTLS				*e*S	**Sb**	**03 17 10.2**	**+0.1**
RTCV	**Cerro Valdivia**	**3.98**	**49**	*e*P	**Pn**	**03 16 26.2**	**+2.1**
CFAA	**Coronel Fontan**	**4.34**	**49**	*e*P	**Pn**	**03 16 30.5**	**+1.4**
AMOG	**MOGNA**	**4.67**	**41**	*e*P	**Pn**	**03 16 34.5**	**+0.7**
AGUA	**GUANDACOL**	**5.87**	**32**	*e*P	**Pn**	**03 16 50.8**	**+0.5**

IDC 01 04:02:44.4±2.3, 5.97S×129.75E, h0km, mb3.2/1, mb1 3.4/3, mb1mx3.3/19, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=151.0km s-min=30.8km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.59**	**163**	Pn	Pn	04 06 10.3	-2.0
	0.1nm,0.3s,baz=345,slow=13,SNR=4.2						
WRA				Sn	Sn	04 08 43.6	-11
	0.2nm,0.3s,baz=346,slow=25,SNR=2.8						
ASAR	**Alice Springs**	**18.05**	**168**	P	P	04 06 57.9	+0.6
	0.2nm,0.3s,baz=347,slow=8.2,SNR=10						
MKAR	**Makanchi Array**	**67.23**	**327**	P	P	04 13 40.6	0.0
	0.1nm,0.4s,baz=122,slow=5.2,SNR=3.5						

MEX 01 04:03:00.1±0.9, 18.24N×103.19W, h10km, MD3.7, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.15**	**289**	*i* P	Pg	04 03 03.1	-0.5
MMIG				*i* S	Sg	04 03 05.8	-0.1
R15V		**1.19**	**321**	*e*P	Pb	04 03 18.4	-4.5
R15V				*i* S	Sb	04 03 33.6	-4.9
EZ5V		**1.29**	**343**	*e*P	Pn	04 03 21.6	-3.0
ARIG	**Puente Sto Nin**	**2.70**	**89**	*e*P	Pn	04 03 46.1	+2.4

IDC 01 04:06:49.9±1.3, 21.87S×177.59W, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.6/25, mbtmp3.5/4, Error ellipse: s-maj=43.3km s-min=35.2km az=120.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.60**	**258**	P	P	04 15 04.6	+0.4
	0.5nm,0.9s,baz=92,slow=7.6,SNR=4.4						
WRA	**Warramunga Arr**	**44.81**	**263**	P	P	04 15 05.3	-0.7
	0.3nm,0.5s,baz=100,slow=8.3,SNR=3.9						
VNDA	**Vanda**	**56.58**	**185**	P	P	04 16 33.9	-0.1
	0.3nm,0.5s,baz=27,slow=4.5,SNR=5.7						
ILAR	**Eielson Array**	**89.56**	**13**	P	P	04 19 48.8	0.0
	0.2nm,0.6s,baz=218,slow=5.7,SNR=3.0						
AKASG	**Malin Array Be**	**144.40**	**330**	PKP	PKPab	04 26 25.6	-0.4
	0.2nm,0.2s,baz=45,slow=4.3,SNR=4.8						
BRTR	**Keskin Array B**	**148.04**	**311**	PKPbc	PKPbc	04 26 37.8	0.0
	0.4nm,0.7s,baz=29,slow=3.3,SNR=3.4						

NIED ***01*** *04:09:00,23.40N×123.70E,h8km,Mw4.0 Best double couple: M₀1.26000×10¹⁵ NP1:φs312.00000°, δ68.00000°, λ10.00000°. NP2:φs218.00000°, δ80.00000°, λ157.00000°.*

IDC ***01*** *04:09:03.8±0.8,23.49N×123.82E,h0km,mb3.7/13, mb1 3.9/13,mb1mx3.7/32,mbtmp3.7/13,ML2.2/1,MS3.1/3, Ms1 3.2/3,ms1mx2.7/39, Error ellipse: s-maj=27.0km s-min=18.8km az=63.0*

JMA ***01*** *04:09:07.7±0.2,23.41N×123.70E,h50km±3km,M4.1*

ISC 01 04:09:07.6±2.0, 23.40N±0.08×123.77E±0.04, h25km±13km, n37, σ1§50/53, mb3.7/14, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.66**	**3**	P	**Pb**	**04 09 20.8**	**+0.4**
HATJ				S	**Sb**	**04 09 31.9**	**+1.1**
JKRS	**Kuro-shima**	**0.86**	**15**	P	**Pn**	**04 09 24.3**	**+0.1**
JKRS				S	**Sn**	**04 09 36.5**	**+0.5**
IRIF	**Iriomote-Funau**	**0.93**	**358**	P	**Pb**	**04 09 24.7**	**-0.4**
IRIF				S	**Sb**	**04 09 37.0**	**-0.1**
JIJ	**Ishigaki jima**	**1.02**	**20**	P	**Pn**	**04 09 26.0**	**-0.3**
JIJ				S	**Sb**	**04 09 39.8**	**+0.2**
YOJ	**Yonaguni jima**	**1.27**	**327**	P	**Pn**	**04 09 28.8**	**-0.9**
YOJ				S	**Sn**	**04 09 44.2**	**-1.7**
JISG	**Ishigakijimahi**	**1.28**	**23**	P	**Pn**	**04 09 29.7**	**-0.2**
JISG				S	**Sn**	**04 09 45.4**	**-1.0**
JYNG	**Yonagunijimaku**	**1.29**	**324**	P	**Pn**	**04 09 29.1**	**-0.9**
JYNG				S	**Sn**	**04 09 44.2**	**-2.3**
JTJ	**Tarama**	**1.50**	**34**	P	**Pn**	**04 09 33.4**	**+0.4**
JTJ				S	**Sn**	**04 09 52.8**	**+1.0**
JIRB	**Irabujima**	**1.92**	**42**	P	**Pn**	**04 09 39.5**	**+0.8**
JIRB				S	**Sn**	**04 10 02.6**	**+0.6**
JMJ	**Miyako jima 2**	**1.98**	**44**	P	**Pn**	**04 09 40.1**	**+0.5**
JMJ				S	**Sn**	**04 10 01.6**	**-2.0**
JOGS	**Gusukube**	**2.02**	**48**	P	**Pn**	**04 09 40.0**	**-0.1**
JOGS				S	**Sn**	**04 10 06.3**	**+1.7**
JIKM	**Ikemajima**	**2.03**	**41**	P	**Pn**	**04 09 40.7**	**+0.5**
JIKM				S	**Sn**	**04 10 05.9**	**+1.0**
JKE	**Kume jima 2**	**4.00**	**43**	P	**Pn**	**04 10 06.7**	**-0.6**
JKE				*e*S	**Sn**	**04 10 52.2**	**-1.3**
JAGN	**Aguni-jima**	**4.48**	**44**	P	**Pn**	**04 10 13.1**	**-0.7**
JNTH	**Nagotoyohara**	**4.96**	**50**	P	**Pn**	**04 10 19.5**	**-0.9**
JNTH				*e*S	**Sn**	**04 11 14.3**	**-2.7**
JIH	**Iheya**	**5.25**	**46**	*e*S	**Sn**	**04 11 21.3**	**-3.0**
JOW	**Kunigami**	**5.33**	**49**	Pn	**Pn**	**04 10 24.0**	**-1.6**
JOW				*e*S	**Sn**	**04 11 21.9**	**-4.3**
JOW	**Kunigami**	**5.33**	**49**	Pn	**Pn**	**04 10 23.9**	**-1.6**
	0.2nm,0.3s,baz=166,slow=19,SNR=6.2						
JOW				Sn	**Sn**	**04 11 22.5**	**-3.7**
	0.3nm,0.3s,baz=313,slow=18,SNR=4.0						
JTK	**Tokunoshima**	**6.40**	**46**	P	**Pn**	**04 10 38.1**	**-2.2**
JTK				*e*S	**Sn**	**04 11 51.8**	**-0.8**
JMZ	**Minamidaito 2**	**7.20**	**69**	P	**Pn**	**04 10 48.7**	**-2.6**
JMZ				S	Sn	04 12 03.6	-8.7
KSRS	**Korea Array**	**14.46**	**13**	Pn	**Pn**	**04 12 30.6**	**0.0**
	0.2nm,0.3s,baz=192,slow=13,SNR=6.3						
KSRS				LR	LR	04 18 43.6	
	comp=Z,46nm,18.4s,baz=230,slow=40						
MJAR	**Matsushiro Arr**	**18.09**	**40**	P	**P**	**04 13 18.5**	**+1.1**
	0.2nm,0.3s,baz=215,slow=9.6,SNR=3.9						
CMAR	**Chiang Mai Arr**	**23.69**	**263**	P	**P**	**04 14 18.9**	**+1.3**
	0.8nm,0.4s,baz=58,slow=8.6,SNR=4.0						
CMAR				LR	LR	04 23 04.9	
	comp=Z,33nm,21.2s,baz=75,slow=35						
MKAR	**Makanchi Array**	**40.55**	**316**	P	**P**	**04 16 44.8**	**-0.1**
	0.5nm,0.5s,baz=100,slow=7.5,SNR=12						
ZALV	**Zalesovo Beam**	**42.20**	**326**	P	**P**	**04 16 56.8**	**-1.5**
	0.7nm,0.4s,baz=98,slow=9.1,SNR=4.6						
KURBB	**Kurchatov Arra**	**44.23**	**320**	P	**P**	**04 17 13.9**	**-0.8**
	0.4nm,0.4s,baz=111,slow=8.3,SNR=4.6						
WRA	**Warramunga Arr**	**44.29**	**166**	P	**P**	**04 17 15.2**	**-0.3**
	0.9nm,0.7s,baz=348,slow=9.2,SNR=4.6						
ASAR	**Alice Springs**	**47.81**	**167**	P	**P**	**04 17 43.9**	**+0.7**
	0.4nm,0.5s,baz=355,slow=7.0,SNR=7.6						
BVAR	**Borovoye Array**	**49.78**	**321**	P	**P**	**04 17 57.6**	**-0.5**
	0.6nm,0.5s,baz=125,slow=7.4,SNR=4.8						
AKTO	**Aktyubinsk**	**56.98**	**316**	P	**P**	**04 18 50.4**	**-0.7**
	0.8nm,0.5s,baz=37,slow=5.1,SNR=1.7						
GEYT	**Alibeck**	**57.23**	**301**	LR	LR	04 48 24.2	
	comp=Z,39nm,20.1s,baz=290,slow=41						
KBZ	**Khabaz**	**67.81**	**309**	P	**P**	**04 20 04.9**	**+1.4**
	1.8nm,0.9s,baz=146,slow=5.0						
ILAR	**Eielson Array**	**68.82**	**27**	P	**P**	**04 20 09.5**	**0.0**
	0.1nm,0.5s,baz=291,slow=6.8,SNR=3.6						
FINES	**FINESS Array B**	**73.31**	**330**	P	**P**	**04 20 36.8**	**+0.1**
	0.7nm,0.7s,baz=103,slow=6.1,SNR=6.2						
AKASG	**Malin Array Be**	**75.02**	**319**	P	**P**	**04 20 46.2**	**-0.7**
	0.1nm,0.3s,baz=63,slow=5.5,SNR=3.8						
YKA	**Yellowknife Ar**	**82.76**	**23**	P	**P**	**04 21 32.1**	**+3.0**
	0.3nm,0.7s,baz=304,slow=4.4,SNR=3.3						
GERES	**GERESS Array B**	**84.94**	**321**	P	**P**	**04 21 40.5**	**-0.3**
	0.2nm,0.5s,baz=59,slow=3.8,SNR=4.5						

GUC 01 04:10:37.0±0.4, 35.73S×72.80W, h43km±4km, ML3.5, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNCH	**Linares**	**0.98**	**97**↓	*i* P	Pn	04 10 55.0	+0.6
LNCH				*i* S	Sn	04 11 08.7	+1.5
LNCH				AML	AML	04 11 16.5	
	comp=E,2μm,0.6s						
TALC	**Talca**	**1.01**	**71**	*e*P	Pn	04 10 54.0	-0.7
TALC				*i* S	Sn	04 11 07.7	0.0
NICH	**Los Niches**	**1.48**	**61**	*e*P	Pn	04 11 01.8	+0.7
NICH				*e*S	Sn	04 11 21.0	+1.8
NICH				AML	AML	04 11 24.9	
	comp=E,2μm,0.5s						
PEL	**Peldehue**	**3.12**	**35**	AML	AML	04 12 20.0	
	comp=E,144nm,0.7s						

MAN 01 04:11:12, 11.48N×124.45E, h26km, mb4.1, ML2.9, MS2.6, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.45**	**160**	*e*P	Pn	04 11 22.9	+0.1
OCLP				*e*S	Sn	04 11 32.0	+1.9
PLP	**Palo**	**0.60**	**121**↓	*e*P	Pn	04 11 25.3	+0.4
PLP				*e*S	Sn	04 11 35.9	+2.1
CNP	**Catarman**	**1.04**	**11**	*e*P	Pn	04 11 30.6	-0.4
MSLP	**Maasin**	**1.40**	**163**	*e*P	Pb	04 11 39.3	+1.9
RCP	**Roxas**	**1.68**	**273**↑	*e*P	Pn	04 11 40.9	+1.2
RCP				*e*S	Sb	04 12 02.1	-0.8
GUIM	**Jordan**	**2.02**	**245**	*e*P	Pn	04 11 44.2	-0.2

NNC 01 04:15:03.9±6.4, 37.18N×76.69E, h0km, mb3.9, mpv3.6, 8C-4D, Error ellipse: s-maj=48.5km s-min=35.8km az=175.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.77**	**320**	⇑Pn	Pn	04 16 05.0	+1.4
	12nm,0.3s						
SFK				⇑Sn	Sn	04 16 47.7	-1.3
	30nm,0.3s						
AAK	**Ala-Archa**	**5.70**	**343**	⇓Pn	Pn	04 16 31.1	+1.1
	3.0nm,0.3s						
AAK				⇓Sn	Sn	04 17 38.6	+2.2
	30nm,0.6s						
TKM2	**Tokmak 2**	**5.79**	**352**	⇑Pn	Pn	04 16 26.4	-5.0
	2.5nm,0.3s						
TKM2				⇓Sn	Sn	04 17 38.1	-0.7
	9.0nm,0.3s						
MNAS	**Manas**	**6.20**	**330**	⇓Pn	Pn	04 16 37.6	+0.7
	2.9nm,0.6s						
MNAS				⇑Sn	Sn	04 17 53.2	+4.6
	4.9nm,0.6s						
PDGK	**Podgornoye**	**6.50**	**18**	⇑Pn	Pn	04 16 42.6	+1.9
	1.5nm,0.3s						
PDGK				⇑Sn	Sn	04 17 58.7	+3.1
	17nm,0.5s						
KK31	**Karatay Array**	**7.57**	**323**	⇑Pn	Pn	04 16 51.9	-3.6
	0.2nm,0.3s,baz=135,slow=14,SNR=7.0						
KK31				⇑Sn	Sn	04 18 26.3	+4.2
	1.1nm,0.4s,baz=134,slow=26						

SJA ***01*** *04:19:56.4±1.5,35.47S×72.72W,h49km,ML3.1,MW3.4*
ISCJB ***01*** *04:20:08.0±1.5,34.76S±0.04×71.9W±0.1,h26km±11km, Error ellipse: s-maj=17.3km s-min=6.6km az=11.4*
GUC ***01*** *04:20:09.5±0.4,34.82S×71.72W,h46km±1km,ML3.8*

ISC 01 04:20:07.7±2.0, 34.81S±0.04×72.0W±0.1, h26km±16km, n16, σ1§47/25, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.67**	**151**	*e*P	**Pn**	**04 20 22.0**	**+0.5**
TALC				*i* S	**Sn**	**04 20 31.1**	**-0.1**
NICH	**Los Niches**	**0.68**	**106**	*e*P	**Pn**	**04 20 20.2**	**-0.8**
NICH				*i* S	**Sb**	**04 20 27.9**	**-2.1**
LNCH	**Linares**	**1.09**	**161**	*e*P	**Pb**	**04 20 27.9**	**0.0**
LNCH				*e*S	**Sb**	**04 20 42.4**	**+0.7**
RCDM	**Rinconada Maip**	**1.66**	**38**	*i* P	**Pn**	**04 20 34.6**	**-0.6**
RCDM				*i* S	**Sn**	**04 20 54.2**	**-1.7**
CLCH	**Cerro Calan**	**1.88**	**42**↑	*i* P	**Pn**	**04 20 37.9**	**-0.4**
CLCH				*i* S	**Sn**	**04 20 59.4**	**-1.8**
CLCH				AML	AML	04 21 06.7	
	comp=N,1μm,0.7s						
CLCH				AML	AML	04 21 07.2	
	comp=N,2μm,0.6s						
PEL	**Peldehue**	**2.00**	**34**	*e*P	**Pn**	**04 20 39.9**	**-0.1**
PEL				*e*S	**Sn**	**04 21 03.0**	**-1.3**
PEL				AML	AML	04 21 08.1	
	comp=N,1μm,0.3s						
ROCH	**El Roble**	**2.02**	**25**	*e*P	**Pn**	**04 20 40.5**	**+0.1**
ROCH				*e*S	**Sn**	**04 21 04.5**	**-0.5**
AAGR	**Agrelo**	**3.17**	**58**	*e*P	**Pn**	**04 20 58.9**	**+2.8**
ARCO	**CERRO ARCO**	**3.24**	**54**	*e*P	Pn	04 21 00.1	+3.0
ARCO				AML	AML	04 21 53.9	
	comp=Z,23nm,0.8s						
AUSP	**Uspallata**	**3.40**	**41**	*e*P4	**Pn**	**04 21 00.9**	**+1.6**
AUSP				*e*S	**Sb**	**04 21 51.3**	**+3.0**
ASAL	**Salagasta**	**3.46**	**51**	*e*P	**Pn**	**04 21 02.4**	**+2.3**
ASAL				*e*S	**Sb**	**04 21 50.6**	**+0.5**
RTLS	**Leoncito**	**3.78**	**38**	*e*P	**Pn**	**04 21 06.1**	**+1.6**
RTLS				*e*S	**Sb**	**04 22 01.1**	**+1.9**
CFAA	**Coronel Fontan**	**4.51**	**46**	*e*P	**Pn**	**04 21 14.7**	**+0.3**
AMOG	**MOGNA**	**4.87**	**39**	*e*P	**Pn**	**04 21 19.4**	**-0.1**
LCO	**Las Campanas**	**5.89**	**11**	*e*P	**Pn**	**04 21 33.3**	**-0.3**
AGUA	**

*IDC **01** 04:40:15.0±2.2,31°.31N×140°.22E, h93km±21km, mb3.5/8, mb1 3.7/10, mb1mx3.3/48, mbtmp3.8/10, Error ellipse: s-maj=32.2km s-min=14.4km az=78.0*
*JMA **01** 04:40:17.5±0.4,31°.51N×140°.57E, h110km, M3.3*
ISC 01 04:40:15.9±0.8, 31°.36N±0°.06×140°.6E±0°.2, h97km, n21, σ1§48/24, mb3.7/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**1.82**	**340**	P			**Pn**	**04 40 46.7**	**+0.7**
JHCJ				S			**Sn**	**04 41 08.6**	**-0.3**
JHJ2	**Mitsune**	**1.85**	**341**	P			**Pn**	**04 40 47.4**	**+1.0**
JHJ2				eS			**Sn**	**04 41 11.2**	**+1.6**
BSO1	**Boso 1**	**3.30**	**6**	P			**Pn**	**04 41 06.2**	**+1.1**
BSO3	**Boso 3**	**3.43**	**359**	P			**Pn**	**04 41 07.6**	**+0.5**
BSO3				S			**Sn**	**04 41 47.2**	**+0.5**
BSO4	**Boso 4**	**3.62**	**357**	P			**Pn**	**04 41 11.7**	**+1.9**
BSO4				S			**Sn**	**04 41 51.5**	**0.0**
JCJ	**Chichijima** baz=347,slow=18	**4.49**	**161**	P			**Pn**	**04 41 22.1**	**+0.5**
JCJ	baz=255,slow=20			S			**Sn**	**04 42 12.3**	**-0.3**
JRY	**Ryogami san**	**4.84**	**344**	P			**Pn**	**04 41 27.0**	**+0.6**
JAG	**Ashikaga**	**5.13**	**350**	P			**Pn**	**04 41 29.3**	**-1.0**
JHO	**Hitachi**	**5.24**	**0**	P			**Pn**	**04 41 30.9**	**-0.8**
JHO				S			**Sn**	**04 42 26.1**	**-4.7**
MJAR	**Matsushiro Arr** 0.5nm,0.3s,baz=179,slow=19,SNR=4.1	**5.52**	**340**	P			**Pn**	**04 41 35.6**	**0.0**
H11S3	**WAKE ISLAND Hy** baz=304,slow=75,SNR=6.6	**26.86**	**112**	T			T	05 14 32.9	
H11S1	**WAKE ISLAND Hy** baz=304,slow=75,SNR=7.7	**26.87**	**112**	T			T	05 14 35.9	
H11S2	**WAKE ISLAND Hy** baz=304,slow=75,SNR=6.3	**26.88**	**112**	T			T	05 14 30.9	
WRA	**Warramunga Arr** 0.6nm,0.3s,baz=5.4,slow=7.7,SNR=8.3	**51.36**	**187**	P			**P**	**04 49 09.9**	**-0.7**
ASAR	**Alice Springs** 0.2nm,0.5s,baz=18,slow=13,SNR=4.2	**55.08**	**187**	P			**P**	**04 49 37.2**	**-0.7**
ARCES	**ARCESS Array B** 3.1nm,1.0s,baz=63,slow=8.2,SNR=3.2	**69.06**	**340**	P			**P**	**04 51 10.1**	**-0.7**
YKA	**Yellowknife Ar** 0.3nm,0.8s,baz=302,slow=6.4,SNR=3.7	**69.09**	**29**	P			**P**	**04 51 10.8**	**-0.3**
FINES	**FINESS Array B** 1.1nm,0.7s,baz=44,slow=6.2,SNR=6.6	**73.51**	**333**	P			**P**	**04 51 36.2**	**-1.5**
NVAR	**Mina Array Bea** 0.3nm,0.5s,baz=307,slow=8.9,SNR=3.2	**79.01**	**52**	P			**P**	**04 52 11.4**	**+1.9**
NOA	**NORSAR Array B** 1.0nm,1.0s,baz=53,slow=6.3,SNR=2.4	**79.13**	**337**	P			**P**	**04 52 08.1**	**-1.4**
TXAR	**Lajitas Array** 0.5nm,0.6s,baz=270,slow=1.8,SNR=2.4	**94.16**	**52**	P			**P**	**04 53 25.8**	**+1.7**

*ISCJB **01** 04:51:53.2±0.3, 63°.21N±0°.02×150°.23W±0°.05, h112km±3km, mb3.8/6, Error ellipse: s-maj=4.2km s-min=3.1km az=28.2*
*IDC **01** 04:51:54.4±4.6, 63°.31N×150°.55W, h105km±34km, mb3.4/6, mb1 3.5/9, mb1mx3.2/45, mbtmp3.7/9, Error ellipse: s-maj=50.3km s-min=21.1km az=47.0*
*NEIC **01** 04:51:54.6, 63°.20N×150°.23W, h100km, MG3.4(AEIC), After AEIC.*
NEIC Felt at Homer.
ISC 01 04:51:54.2±0.8, 63°.21N±0°.03×150°.24W±0°.03, h106km±5km, n78, σ0§94/98, mb3.8/6, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.24**	**355**	P			**Pn**	**04 52 08.8**	**-0.6**
TRF				S			**Sn**	**04 52 21.1**	**+0.3**
HUR	**Hurricane**	**0.36**	**130**	P			**Pn**	**04 52 09.7**	**-0.1**
KTH	**Kantishna Hill**	**0.46**	**318**	P			**Pn**	**04 52 10.8**	**+0.4**
KTH				S			**Sn**	**04 52 22.5**	**-0.1**
RND	**Reindeer**	**0.66**	**72**	P			**Pn**	**04 52 11.9**	**0.0**
RND				S			**Sn**	**04 52 25.0**	**-0.1**
MCK	**McKinley**	**0.79**	**48**	P			**Pn**	**04 52 13.3**	**+0.4**
MCK				S			**Sn**	**04 52 26.9**	**-0.2**
CUT	**Chulitna**	**0.81**	**181**	P			**Pn**	**04 52 13.0**	**-0.1**
CAST	**Castle Rocks**	**0.86**	**285**	P			**Pn**	**04 52 13.7**	**+0.1**
CAST				S			**Sn**	**04 52 27.6**	**-0.6**
TRAP	**Trapper Creek**	**0.88**	**180**	P			**Pn**	**04 52 13.7**	**0.0**
TRAP				S			**Sn**	**04 52 28.3**	**-0.1**
PPLA	**Purkeypile**	**0.94**	**251**	P			**Pn**	**04 52 15.1**	**+0.5**
PPLA				S			**Sn**	**04 52 29.8**	**-0.1**
BWN	**Browne**	**1.02**	**19**	P			**Pn**	**04 52 16.1**	**+0.9**
CHUM	**Lake Minchumin**	**1.15**	**307**	P			**Pn**	**04 52 17.2**	**+0.6**
CHUM				S			**Sn**	**04 52 33.6**	**+0.1**
DHY	**Denali Highway**	**1.31**	**95**	P			**Pn**	**04 52 18.6**	**0.0**
DHY				S			**Sn**	**04 52 36.6**	**-0.4**
SKT	**Skwentna**	**1.37**	**206**	P			**Pn**	**04 52 18.9**	**-0.3**
SKT				S			**Sn**	**04 52 37.0**	**-1.1**
WRH	**Wood River Hil**	**1.58**	**36**	P			**Pn**	**04 52 22.1**	**+0.3**
WRH				S			**Sn**	**04 52 42.7**	**0.0**
PMR	**Palmer**	**1.70**	**162**	P			**Pn**	**04 52 23.3**	**+0.1**
PMR				S			**Sn**	**04 52 45.5**	**+0.3**
SUA	**Susitna One**	**1.77**	**188**	P			**Pn**	**04 52 24.2**	**+0.1**
SUA				S			**Sn**	**04 52 47.9**	**+1.0**
CCB	**Clear Creek Bu**	**1.80**	**36**	P			**Pn**	**04 52 24.6**	**+0.3**
MLY	**Manley**	**1.84**	**353**	P			**Pn**	**04 52 25.4**	**+0.5**
STLK	**Strandline Lak**	**1.87**	**204**	P			**Pn**	**04 52 25.3**	**-0.1**
STLK				S			**Sn**	**04 52 48.1**	**-1.1**
HDA	**Harding Lake**	**1.89**	**49**	P			**Pn**	**04 52 25.7**	**+0.2**
HDA				S			**Sn**	**04 52 48.4**	**-1.0**
SCM	**Sheep Creek Mo**	**1.93**	**134**	P			**Pn**	**04 52 26.1**	**-0.1**
MDM	**Murphy Dome**	**1.96**	**26**	P			**Pn**	**04 52 26.9**	**+0.4**
COLA	**College**	**1.97**	**31**	P			**Pn**	**04 52 27.0**	**+0.4**
COLA				S			**Sn**	**04 52 50.3**	**-1.0**
PS08	**TAPS Pump Stn8**	**2.02**	**47**	P			**Pn**	**04 52 27.2**	**+0.1**
PS08				S			**Sn**	**04 52 51.2**	**-1.2**
PS10	**TAPS Pump St10**	**2.03**	**82**	P			**Pn**	**04 52 29.6**	**+2.2**
PS10				S			**Sn**	**04 52 55.3**	**+2.6**
DDM	**Donnelly Dome**	**2.05**	**72**	P			**Pn**	**04 52 28.1**	**+0.5**
FIB	**Fire Island**	**2.05**	**179**	P			**Pn**	**04 52 29.9**	**+2.3**
RC01	**Rabbit Creek A**	**2.14**	**173**	P			**Pn**	**04 52 28.7**	**-0.1**
ILAR	**Eielson Array** 9.9nm,0.3s,baz=224,slow=13,SNR=316	**2.15**	**42**	P			**Pn**	**04 52 28.8**	**-0.2**
ILAR	7.1nm,0.3s,baz=222,slow=18,SNR=7.9			S			**Sn**	**04 52 52.1**	**-3.4**
ILB	**Eielson Array**	**2.15**	**42**	P			**Pn**	**04 52 29.0**	**+0.1**
PAX	**Paxson**	**2.18**	**94**	P			**Pn**	**04 52 30.1**	**+0.8**
CKN	**Chakachatna No**	**2.19**	**205**	P			**Pn**	**04 52 29.9**	**+0.4**
SPBG	**Spurr Blockage**	**2.20**	**208**	P			**Pn**	**04 52 30.0**	**+0.4**
BGL	**Barrier Glacie**	**2.20**	**208**	P			**Pn**	**04 52 30.1**	**+0.5**
CKL	**Chakachamna La**	**2.25**	**207**	P			**Pn**	**04 52 31.1**	**+0.8**
HARP	**HAARP**	**2.47**	**107**	P			**Pn**	**04 52 33.7**	**+0.7**
PS11	**TAPS Pump St11**	**2.48**	**115**	P			**Pn**	**04 52 34.0**	**+0.9**
KLU	**Klutina**	**2.65**	**129**	P			**Pn**	**04 52 34.9**	**-0.6**
SLKM	**Skilak Lake**	**2.71**	**180**	P			**Pn**	**04 52 35.8**	**-0.4**
JPK	**Jack Peak**	**2.77**	**140**	P			**Pn**	**04 52 36.3**	**-0.6**
GLI	**Glacier Island**	**2.77**	**146**	P			**Pn**	**04 52 36.2**	**-0.7**
VLZ	**Valdez**	**2.78**	**137**	P			**Pn**	**04 52 36.1**	**-0.9**
DOT	**Dot Lake**	**2.81**	**78**	P			**Pn**	**04 52 37.7**	**+0.2**
DFR	**Drift River**	**2.87**	**205**	P			**Pn**	**04 52 39.5**	**+1.1**
SCRK	**Sand Creek**	**2.90**	**72**	P			**Pn**	**04 52 38.5**	**-0.2**
PS12	**TAPS Pump St12**	**2.94**	**124**	P			**Pn**	**04 52 39.0**	**-0.3**
NCT	**North Crescent**	**2.95**	**207**	P			**Pn**	**04 52 39.9**	**+0.4**
DIV	**Divide**	**2.96**	**133**	P			**Pn**	**04 52 38.4**	**-1.1**
RDWB	**Redoubt West**	**3.00**	**205**	P			**Pn**	**04 52 40.9**	**+0.8**
RSO	**Redoubt South**	**3.00**	**205**	eP			**Pn**	**04 52 37.3**	**-3.0**
SEW	**Seward**	**3.14**	**173**	P			**Pn**	**04 52 41.6**	**-0.2**
SVW2	**Sparrevohn**	**3.28**	**232**	P			**Pn**	**04 52 43.6**	**-0.2**
GCSA	**Galena City Sc**	**3.31**	**301**	P			**Pn**	**04 52 44.6**	**+0.5**
EYAK	**Cordova Ski Ar**	**3.41**	**139**	P			**Pn**	**04 52 45.2**	**-0.3**
BRLK	**Bradley Lake**	**3.47**	**185**	P			**Pn**	**04 52 46.6**	**+0.3**
BMRM	**Bremner River**	**3.48**	**128**	P			**Pn**	**04 52 45.5**	**-0.9**
PS05	**TAPS Pump Stn5**	**3.62**	**357**	P			**Pn**	**04 52 49.6**	**+1.3**
GOAT	**Goat Mountain**	**3.71**	**133**	P			**Pn**	**04 52 49.0**	**-0.5**
VRDI	**Verde Repeater**	**3.75**	**119**	P			**Pn**	**04 52 49.7**	**-0.5**
MCARA	**McCarthy VSAT**	**3.83**	**115**	P			**Pn**	**04 52 51.5**	**+0.4**
OPT	**Oil Point**	**3.85**	**203**	P			**Pn**	**04 52 50.5**	**-0.9**
RAGM	**Ragged Mountai**	**3.87**	**135**	P			**Pn**	**04 52 51.0**	**-0.7**
COLD	**Coldfoot**	**4.04**	**0**	P			**Pn**	**04 52 54.8**	**+0.9**
AUP	**Augustine Pinn**	**4.16**	**203**	P			**Pn**	**04 52 57.2**	**+1.7**
AUH	**Augustine H**	**4.16**	**203**	P			**Pn**	**04 52 57.0**	**+1.5**
PTPK	**Patty Peak**	**4.17**	**116**	P			**Pn**	**04 52 56.1**	**+0.3**
BERG	**Berg Lake**	**4.20**	**129**	P			**Pn**	**04 52 55.4**	**-0.7**
MID	**Middleton Isla**	**4.24**	**152**	P			**Pn**	**04 52 57.0**	**+0.5**
EGAK	**Eagle**	**4.30**	**65**	P			**Pn**	**04 52 57.8**	**+0.5**
KDAK	**Kodiak Island** 14nm,0.6s	**5.57**	**193**	eP			**Pn**	**04 53 13.2**	**-1.3**
INK	**Inuvik** 0.3nm,0.3s,baz=236,slow=14,SNR=16	**8.55**	**46**	P			**Pn**	**04 53 56.1**	**+1.3**
YKA	**Yellowknife Ar**	**16.15**	**77**	P			**P**	**04 55 37.6**	**+1.8**
	0.2nm,0.3s,baz=286,slow=9.5,SNR=12								
YKA				PcP			**PcP**	**05 00 22.8**	**+0.1**
	0.0nm,0.3s,baz=318,slow=2.3,SNR=4.5								
SPITS	**Spitsbergen Ar** 3.1nm,0.8s,baz=31,slow=6.7,SNR=21	**38.61**	**4**	P			**P**	**04 59 06.4**	**+0.1**
TXAR	**Lajitas Array** 0.3nm,0.4s,baz=318,slow=6.3,SNR=3.4	**45.05**	**116**	P			**P**	**05 00 00.6**	**+1.4**
ARCES	**ARCESS Array B** 0.7nm,0.5s,baz=6.8,slow=8.4,SNR=8.7	**47.50**	**2**	P			**P**	**05 00 17.1**	**-0.7**
ZALV	**Zalesovo Beam** 0.5nm,0.4s,baz=8.4,slow=6.2,SNR=2.9	**55.55**	**324**	P			**P**	**05 01 17.7**	**-0.3**
FINES	**FINESS Array B** 1.1nm,0.8s,baz=358,slow=10.0,SNR=3.6	**55.63**	**2**	P			**P**	**05 01 16.5**	**-1.9**
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=26,slow=7.4,SNR=6.4	**62.72**	**322**	P			**P**	**05 02 06.2**	**-1.2**

*ISCJB **01** 04:58:50.3±0.4, 5°.43N±0°.06×31°.79E±0°.07, h20km, mb4.2/33, MS3.5/14, Error ellipse: s-maj=10.6km s-min=9.0km az=165.7*
*IDC **01** 04:58:50.1±0.9, 5°.43N×31°.97E, h0km, mb3.9/13, mb1 4.1/15, mb1mx3.9/31, mbtmp4.0/15, ML4.2/2, MS3.5/16, Ms1 3.5/16, ms1mx3.4/32, Error ellipse: s-maj=21.0km s-min=19.9km az=86.0*
*NEIC **01** 04:58:51.1±0.4, 5°.46N×31°.83E, h10km, mb4.4/15, Error ellipse: s-maj=10.2km s-min=8.7km az=89.0*
ISC 01 04:58:52.7±0.6, 5°.42N±0°.07×31°.9E±0°.1, h20km, n59, σ1§29/51, mb4.3/33, MS3.5/14, Sudan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FURI	**Furi**	**7.59**	**63**	P			Pb	05 01 00.2	-3.8
FURI				S			Sb	05 02 50.5	+16
KMBO	**Kilima Mbogo** 1.2nm,0.3s,baz=301,slow=16,SNR=17	**8.45**	**140**	Pn			**Pn**	**05 00 53.9**	**-0.3**
KMBO	4.0nm,0.3s,baz=308,slow=18,SNR=2.7			Sn			Sn	05 02 11.1	-18
KMBO	9.9nm,0.3s,baz=305,slow=16,SNR=5.3			Lg			Lg	05 03 07.2	
KMBO	comp=Z,117nm,21.8s,baz=320,slow=39			LR			LR	05 04 19.2	
KMBO	**Kilima Mbogo** 11nm,0.4s	**8.45**	**140**	ePn			**Pn**	**05 00 54.1**	**-0.1**
KMBO				Sn			Sn	05 02 11.1	-18
KMBO				eLg			Lg	05 03 11.6	
MSKU	**Masuku** 1.5nm,0.3s,baz=84,slow=12,SNR=5.5	**19.54**	**249**	P			**Pn**	**05 03 20.2**	**-0.5**
MSKU	1.6nm,0.3s,baz=162,slow=20,SNR=4.7			S			S	05 06 45.6	-14
MSKU	0.9nm,0.3s,baz=153,slow=19,SNR=5.7			Lg			Lg	05 09 07.5	
MSKU	comp=Z,293nm,19.5s,baz=20,slow=37			LR			LR	05 11 04.8	
LSZ	**Lusaka** 1.9nm,0.6s,baz=18,slow=11,SNR=5.4	**20.89**	**190**	P			**P**	**05 03 34.8**	**+0.8**
LSZ	2.9nm,0.7s,baz=112,slow=18,SNR=2.0			S			**S**	**05 07 27.3**	**+1.1**
LSZ	19nm,0.8s,baz=119,slow=22,SNR=3.1			Lg			Lg	05 09 39.6	
LSZ	comp=Z,202nm,20.1s,baz=174,slow=37			LR			LR	05 11 49.7	
EIL	**Elat** comp=Z,123nm,18.3s,baz=236,slow=34	**24.29**	**7**	LR			LR	05 12 26.1	
TSUM	**Tsumeb** comp=Z,70nm,18.2s,baz=198,slow=35	**28.22**	**210**	LR			LR	05 15 17.4	
TSUM	**Tsumeb** 6.1nm,1.2s	**28.22**	**210**	eP			**P**	**05 04 43.6**	**-1.1**
CSS	**Prodhromos** 2.6nm,1.2s	**29.43**	**2**	eP			**P**	**05 04 55.1**	**+0.1**
TORD	**Torodi Ar. Bea** 0.9nm,0.8s,baz=94,slow=7.9,SNR=3.7	**30.72**	**287**	P			**P**	**05 05 08.8**	**+2.0**
TORD	comp=Z,75nm,18.1s,baz=90,slow=38			LR			LR	05 18 04.5	
BRTR	**Keskin Array B** 1.8nm,0.8s,baz=180,slow=10,SNR=14	**34.19**	**2**	P			**P**	**05 05 38.6**	**+1.7**
BR131	**Keskin Array S** 3.3nm,1.1s	**34.19**	**2**	eP			**P**	**05 05 38.2**	**+1.3**
DBIC	**Dimbokro** comp=Z,79nm,18.3s,baz=76,slow=35	**36.53**	**274**	LR			LR	05 20 14.0	
KEST	**Kesra** comp=Z,67nm,18.1s,baz=338,slow=38	**36.59**	**328**	LR			LR	05 21 56.6	
KBZ	**Khabaz** 2.3nm,0.9s,baz=146,slow=6.5	**39.37**	**13**	P			**P**	**05 06 22.1**	**+1.3**
GEYT	**Alibeck** comp=Z,80nm,18.8s,baz=180,slow=38	**40.22**	**33**	LR			LR	05 24 15.4	
PGF	**Pioggiola** 12nm,1.2s	**42.17**	**335**	eP			**P**	**05 06 42.1**	**-2.1**
PGF	**Pioggiola** 12nm,1.2s	**42.17**	**335**	eP			**P**	**05 06 42.1**	**-2.1**
PSZ	**Piszkesteto** 3.2nm,0.7s	**43.56**	**348**	eP			**P**	**05 06 54.4**	**-0.9**
LMR	**La Mourre** 12nm,1.1s	**43.89**	**333**	eP			**P**	**05 06 56.3**	**-1.6**
LMR	**La Mourre** 12nm,1.1s	**43.89**	**333**	eP			**P**	**05 06 56.3**	**-1.6**
MBDF	**Montbardon** 9.4nm,0.8s	**44.88**	**335**	eP			**P**	**05 07 04.2**	**-1.9**
KIEV	**Kiev** 3.6nm,0.9s	**45.17**	**358**	eP			**P**	**05 07 07.6**	**-0.4**
AKASG	**Malin Array Be** 0.9nm,0.6s,baz=182,slow=7.1,SNR=9.4	**45.18**	**358**	P			**P**	**05 07 08.0**	**-0.1**
BNI	**Bardonecchia** 7.3nm,1.3s	**45.18**	**335**	eP			**P**	**05 07 07.8**	**-0.6**
ORIF	**Oris-en-Rattie** 9.1nm,1.1s	**45.42**	**334**	eP			**P**	**05 07 08.4**	**-1.8**
ORIF	**Oris-en-Rattie** 9.1nm,1.1s	**45.42**	**334**	eP			**P**	**05 07 08.4**	**-1.8**
LPG	**La Plagne** 7.8nm,1.0s	**45.51**	**335**	eP			**P**	**05 07 09.4**	**-1.8**
LPL	**La Plagne**	**45.53**	**335**	eP			**P**	**05 07 09.8**	**-1.5**
LASF	**Ste Croix** 15nm,1.2s	**45.68**	**332**	eP			**P**	**05 07 10.7**	**-1.6**
LASF	**Ste Croix** 15nm,1.2s	**45.68**	**332**	eP			**P**	**05 07 10.7**	**-1.6**
VIVF	**Saint-Julien-l** 16nm,1.5s	**45.90**	**333**	eP			**P**	**05 07 12.0**	**-2.0**
VIVF	**Saint-Julien-l** 16nm,1.5s	**45.90**	**333**	eP			**P**	**05 07 12.0**	**-2.0**
GERES	**GERESS Array B** 0.7nm,0.6s,baz=153,slow=7.5,SNR=9.2	**45.94**	**343**	P			**P**	**05 07 15.0**	**+0.7**
GERES	comp=Z,19nm,19.4s,baz=358,slow=38			LR			LR	05 27 58.8	
ESDC	**Sonseca Array** 1.5nm,0.8s,baz=134,slow=7.7,SNR=11	**46.94**	**322**	P			**P**	**05 07 23.0**	**+0.7**
SMF	**Signal de Mont** 13nm,1.1s	**47.66**	**334**	eP			**P**	**05 07 25.4**	**-2.3**
SMF	**Signal de Mont** 13nm,1.1s	**47.66**	**334**	eP			**P**	**05 07 25.4**	**-2.3**
SSF	**Saint Saulge** 7.5nm,1.0s	**48.12**	**334**	eP			**P**	**05 07 29.1**	**-2.2**
LOR	**Lormes** 7.5nm,1.0s	**48.13**	**335**	eP			**P**	**05 07 29.9**	**-1.5**
ABKAR	**Akbulak array**	**49.73**	**24**	eP			**P**	**05 07 43.5**	**0.0**
KKAR	**Karaul Array** 4.4nm,0.8s	**50.70**	**36**	eP			**P**	**05 07 51.5**	**+0.5**
EKS2	**Erkin-Say** 2.0nm,0.8s	**52.42**	**38**	eP			**P**	**05 08 04.8**	**+0.7**
AAK	**Ala-Archa** 3.5nm,1.1s	**52.85**	**39**	eP			**P**	**05 08 08.0**	**+0.7**
TKM2	**Tokmak 2** 1.4nm,0.8s	**53.69**	**39**	eP			**P**	**05 08 13.7**	**+0.2**
ARU	**Arti** 7.9nm,1.0s	**55.10**	**18**	eP			**P**	**05 08 23.0**	**-0.2**
FINES	**FINESS Array B** 1.1nm,0.7s,baz=248,slow=2.1,SNR=5.5	**56.06**	**357**	P			**P**	**05 08 30.8**	**+0.7**
BRVK	**Borovoye**	**56.93**	**27**	eP			**P**	**05 08 36.0**	**-0.4**
NOA	**NORSAR Array B** 1.8nm,0.8s,baz=156,slow=6.9,SNR=4.5	**57.62**	**348**	P			**P**	**05 08 40.6**	**-0.7**
NOA	comp=Z,15nm,21.5s,baz=165,slow=38			LR			LR	05 35 14.6	
KURK	**Kurchatov** 5.4nm,1.3s	**59.60**	**32**	eP			**P**	**05 08 54.9**	**-0.2**
MK31	**Makanchi Array**	**59.74**	**38**	eP			**P**	**05 08 56.4**	**+0.1**
MKAR	**Makanchi Array** 2.4nm,0.9s,baz=254,slow=10,SNR=19	**59.74**	**38**	P			**P**	**05 08 56.0**	**-0.2**
MKAR	comp=Z,34nm,18.1s,baz=199,slow=38			LR			LR	05 36 36.8	
ZAA0	**Zalesovo Array**	**64.52**	**32**	eP			**P**	**05 09 27.5**	**-0.6**
ZALV	**Zalesovo Beam** 3.4nm,0.8s,baz=242,slow=6.4,SNR=14	**64.52**	**32**	P			**P**	**05 09 27.5**	**-0.6**
CMAR	**Chiang Mai Arr** 0.8nm,0.4s,baz=270,slow=7.6,SNR=11	**66.57**	**72**	P			**P**	**05 09 42.0**	**-0.1**
CMAR	comp=Z,24nm,18.0s,baz=196,slow=36			LR			LR	05 38 46.2	
SONM	**Songino Array** 1.2nm,1.0s,baz=284,slow=5.8,SNR=4.1	**75.62**	**42**	P			**P**	**05 10 37.7**	**+1.1**
BDFB	**Brasilia** comp=Z,30nm,21.9s,baz=78,slow=32	**81.75**	**253**	LR			LR	05 42 21.3	
KKM	**Kota Kinabalu** 11nm,0.9s	**83.84**	**85**	eP			**P**	**05 11 21.1**	**-0.8**
KSRS	**Korea Array** comp=Z,25nm,20.5s,baz=45,slow=38	**91.53**	**52**	LR			LR	05 56 46.4	
CPUP	**Villa Florida** comp=Z,216nm,19.7s,baz=126,slow=33	**91.65**	**244**	LR			LR	05 48 59.0	

WEL 01 05:30:03.6±1.1, 34°.86S×178°.38E, h285km±22km, ML3.6/3, Error ellipse: s-maj=25.5km s-min=15.9km az=90.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**2.93**	**189**	PN			Pn	05 30 57.7	+0.1
HAZ				SN			S	05 31 39.9	-0.7
WMGZ	**Waiomatatini S**	**2.95**	**179**	ePN			Pn	05 30 57.9	+0.1
MWZ	**Matawai**	**3.54**	**191**	ePN			Pn	05 31 04.8	+0.9
MWZ				SN			S	05 31 51.5	-0.6
URZ	**Urewera**	**3.54**	**196**	ePN			Pn	05 31 03.0	-0.9
URZ				SN			S	05 31 53.1	+0.9
KNZ	**Kokohu**	**4.19**	**188**	ePN			Pn	05 31 11.6	+0.5
KNZ				eSN			S	05 32 04.2	-0.9
WNVZ	**Wahianoa**	**4.98**	**206**	PN			Pn	05 31 21.3	+0.7
KRHZ	**Kereru**	**5.04**	**198**	ePN			Pn	05 31 21.4	+0.4
MRZ	**Mangatainoka R**	**6.20**	**200**	PN			Pn	05 31 34.0	-1.0
MRZ				eSN			S	05 32 47.6	-0.9
THZ	**Tophouse**	**8.12**	**210**	PN			Pn	05 31 58.4	-0.2

*NIED **01** 05:31:00, 31°.30N×130°.40E, h150km, Mw4.1 Best double couple: M0 1.85000×10^15 NP1:φs330.00000°, δ28.00000°, λ58.00000°. NP2:φs185.00000°, δ67.00000°, λ106.00000°.*
*ISCJB **01** 05:31:26.8±0.3, 31°.28N±0°.04×130°.37E±0°.06, h166km±2km, mb3.6/18, Error ellipse: s-maj=9.4km s-min=6.1km az=23.5*
*IDC **01** 05:31:28.6±0.8, 31°.33N×130°.36E, h167km±7km, mb3.4/18, mb1 3.6/21, mb1mx3.5/35, mbtmp3.9/21, Error ellipse: s-maj=15.4km s-min=10.7km az=76.0*
*JMA **01** 05:31:28.9±0.1, 31°.29N×130°.39E, h155km±1km, M4.1*
JMA Felt I J1.
ISC 01 05:31:27.8±0.6, 31°.27N±0°.05×130°.39E±0°.07, h162km±4km, n37, σ0§82/50, mb3.6/18, 5C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JSU	**Suzuyama**	**0.24**	**14**	⇑P			**Pn**	**05 31 49.9**	**+0.2**
JSU				S			**Sn**	**05 32 06.3**	**-0.3**
JTSR	**Tashiro 2**	**0.47**	**103**	⇑P			**Pn**	**05 31 50.7**	**+0.2**
JTSR				S			**Sn**	**05 32 06.9**	**-0.8**
JSJ	**Shimokoshiki**	**0.70**	**305**	⇑P			**Pn**	**05 31 51.4**	**-0.2**
JSJ				S			**Sn**	**05 32 09.9**	**0.0**
JNAR	**Kushima--Naru**	**0.80**	**71**	P			**Pn**	**05 31 52.7**	**+0.5**
JNAR				eS			**Sn**	**05 32 10.4**	**-0.6**
JTN	**Tanegashima 3**	**0.80**	**140**	⇓P			**Pn**	**05 31 52.8**	**+0.5**
JTN				S			**Sn**	**05 32 10.9**	**-0.1**
JTZ	**Takazaki**	**0.87**	**43**	⇑P			**Pn**	**05 31 53.0**	**+0.3**
JTZ				S			**Sn**	**05 32 10.7**	**-1.2**
JYAK	**Yakushimahirau**	**1.03**	**174**	P			**Pn**	**05 31 54.4**	**+0.3**
JYAK				S			**Sn**	**05 32 13.4**	**-0.8**
JIU2	**Izumi 2**	**1.32**	**16**	⇑P			**Pn**	**05 31 57.0**	**+0.4**
JIU2				S			**Sn**	**05 32 17.9**	**-0.9**
JNN	**Nakanoshima**	**1.49**	**197**	⇓P			**Pn**	**05 31 58.9**	**+0.6**
JNU	**Nakatsue** 42nm,0.3s,baz=220,slow=4.3,SNR=154	**1.89**	**13**	P			**Pn**	**05 32 02.8**	**+0.3**
JNU	21nm,0.3s,baz=256,slow=18,SNR=17			S			**Sn**	**05 32 28.6**	**-0.8**
JNU	comp=Z,112nm,19.1s,baz=96,slow=42			LR			LR	05 32 46.6	
JTAJ	**Takarajima** 0.6nm,0.3s,baz=164,slow=14,SNR=7.3	**2.35**	**206**	P			**Pn**	**05 32 08.5**	**+0.8**
KSRS	**Korea Array** 0.4nm,0.3s,baz=185,slow=14,SNR=4.9	**6.50**	**342**	P			**Pn**	**05 33 02.4**	**+1.3**
MAT	**Matsushiro** 1.1nm,0.3s,baz=225,slow=26,SNR=6.6	**8.36**	**49**	P			**Pn**	**05 33 26.9**	**+1.0**
MAT				S			**Sn**	**05 35 00.8**	**+1.7**
MJAR	**Matsushiro Arr** 3.2nm,0.3s,baz=241,slow=14,SNR=15	**8.36**	**49**	P			**Pn**	**05 33 27.2**	**+1.3**

s-min=18.3km az=56.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**3.25**	**143**	Pn	Pn	05 57 02.5	+1.8
	1.2nm,0.3s,baz=317,slow=12,SNR=18						
PLCA				Pg	Pb	05 57 07.6	+0.6
	4.7nm,0.3s,baz=315,slow=15,SNR=36						
PLCA				Lg	Lg	05 57 50.1	
	3.6nm,0.3s,baz=30,slow=20,SNR=3.6						
PLCA				LR	LR	05 58 35.2	
	comp=Z,319nm,21.7s,baz=345,slow=45						
TXAR	**Lajitas Array**	**72.97**	**332**	P	P	06 07 39.6	-0.1
	0.4nm,0.8s,baz=157,slow=9.4,SNR=4.7						
TORD	**Torodi Ar. Bea**	**86.47**	**70**	P	P	06 08 53.0	-0.2
	0.2nm,0.7s,baz=216,slow=6.4,SNR=3.7						

*ATH **01** 05:59:35.8, 40˚.15N×21˚.58E, h23km±2km, MD2.9/7*
*THE **01** 05:59:37.6, 40˚.17N×21˚.69E, h2km±23km, ML1.9/4, Error ellipse: s-maj=23.6km s-min=0.5km az=39.0*
CSEM 01 05:59:36.6±0.2, 40˚.16N×21˚.65E, h15km, ML1.9, Error ellipse: s-maj=6.5km s-min=4.9km az=62.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.17**	**33**	P	Pg	05 59 40.6	-0.4
KZN				S	Sg	05 59 43.4	-0.5
KZN	**Kozani**	**0.17**	**33**	*e*PB	Pg	05 59 40.6	-0.4
KZN				*e*SB	Sb	05 59 45.6	+0.6
KZN	**Kozani**	**0.17**	**33**	P	Pg	05 59 40.6	-0.4
KZN				S	Sg	05 59 43.4	-0.5
KZN				*e*Sb	Sb	05 59 45.6	+0.6
MEV	**Metsovon**	**0.50**	**221**	P	Pb	05 59 47.8	+0.5
MEV	**Metsovon**	**0.50**	**221**	P	Pb	05 59 47.8	+0.5
NEST	**Nestorio**	**0.52**	**299**	P	Pb	05 59 47.9	+0.3
NEST				S	Sb	05 59 56.1	+1.0
NEST	**Nestorio**	**0.52**	**299**	P	Pb	05 59 47.9	+0.3
NEST				S	Sb	05 59 56.1	+1.0
LIT	**Litokhoron**	**0.65**	**95**	P	Pg	05 59 48.9	-0.5
LIT				S	Sg	05 59 58.2	+0.2
LIT	**Litokhoron**	**0.65**	**95**	*e*PB	Pg	05 59 49.0	-0.4
LIT				*e*SN	Sb	05 59 59.2	+0.6
LIT	**Litokhoron**	**0.65**	**95**	*e*Pb	Pg	05 59 49.0	-0.4
LIT				S	Sg	05 59 58.2	+0.2
LIT				*e*Sn	Sb	05 59 59.2	+0.6
FNA	**Florina**	**0.65**	**342**	P	Pb	05 59 49.8	0.0
FNA				S	Sb	05 59 59.0	+0.2
FNA	**Florina**	**0.65**	**342**	*e*PN	Pg	05 59 48.7	-0.8
FNA				*e*SN	Sg	05 59 58.4	+0.1
FNA	**Florina**	**0.65**	**342**	*e*Pn	Pg	05 59 48.7	-0.8
FNA	**Florina**	**0.65**	**342**	P	Pb	05 59 49.8	0.0
FNA				*e*Sn	Sg	05 59 58.4	+0.1
FNA				S	Sb	05 59 59.0	+0.2
THL	**Klokotos Trika**	**0.66**	**155**	P	Pb	05 59 49.7	-0.1
THL				S	Sb	05 59 59.3	+0.5
THL	**Klokotos Trika**	**0.66**	**155**	*e*PN	Pg	05 59 49.0	-0.5
THL				*e*SN	Sb	05 59 59.5	+0.7
THL	**Klokotos Trika**	**0.66**	**155**	*e*Pn	Pg	05 59 49.0	-0.5
THL	**Klokotos Trika**	**0.66**	**155**	P	Pb	05 59 49.7	-0.1
THL				S	Sb	05 59 59.3	+0.5
HORT	**Hortiatis**	**1.19**	**68**	*e*PN	Pg	05 59 59.9	+0.2
HORT	**Hortiatis**	**1.19**	**68**	*e*Pn	Pg	05 59 59.9	+0.2
IGT	**Igoumenitsa**	**1.19**	**239**	*e*PN	Pn	05 59 57.3	-1.5
IGT	**Igoumenitsa**	**1.19**	**239**	*e*Pn	Pn	05 59 57.3	-1.5
EVR	**Evrytania**	**1.25**	**174**	*e*PN	Pb	06 00 00.1	0.0
EVR				*e*SN	Sg	06 00 17.0	-0.3
EVR	**Evrytania**	**1.25**	**174**	*e*Pn	Pb	06 00 00.1	0.0
EVR				*e*Sn	Sg	06 00 17.0	-0.3
AGG	**Agios Georgios**	**1.26**	**155**	*e*PN	Pg	06 00 00.6	-0.3
AGG	**Agios Georgios**	**1.26**	**155**	*e*Pn	Pg	06 00 00.6	-0.3
KNT	**Kendrikon**	**1.38**	**43**	*e*PN	Pb	06 00 01.9	-0.2
KNT	**Kendrikon**	**1.38**	**43**	*e*Pn	Pb	06 00 01.9	-0.2

IDC 01 06:16:30.4±1.0, 3.73N×126.19E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/35, mbtmp3.9/6, MS3.1/5, Ms1 3.1/5, ms1mx2.7/32, Error ellipse: s-maj=96.9km s-min=17.6km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.84**	**162**	P	P	06 21 53.8	-0.9
	3.1nm,0.7s,baz=342,slow=10,SNR=24						
PSI	**Prapat**	**27.24**	**269**	LR	LR	06 33 10.8	
	comp=Z,41nm,22.0s,baz=90,slow=37						
ASAR	**Alice Springs**	**28.24**	**165**	P	P	06 22 25.7	+0.4
	1.3nm,1.1s,baz=337,slow=8.4,SNR=6.8						
CMAR	**Chiang Mai Arr**	**30.41**	**301**	LR	LR	06 35 13.9	
	comp=Z,18nm,20.0s,baz=182,slow=37						
KSRS	**Korea Array**	**33.60**	**2**	P	P	06 23 12.4	0.0
	0.9nm,0.7s,baz=183,slow=10,SNR=4.1						
MJAR	**Matsushiro Arr**	**34.48**	**17**	LR	LR	06 37 34.6	
	comp=Z,111nm,20.3s,baz=245,slow=37						
STKA	**Stephens Creek**	**38.32**	**159**	P	P	06 23 53.4	+0.4
	2.4nm,0.7s,baz=336,slow=9.5,SNR=7.2						
STKA				LR	LR	06 40 26.5	
	comp=Z,57nm,18.0s,baz=219,slow=38						
SONM	**Songino Array**	**47.13**	**342**	P	P	06 25 04.0	-0.5
	0.6nm,0.6s,baz=156,slow=10,SNR=3.6						
MKAR	**Makanchi Array**	**57.26**	**325**	P	P	06 26 19.8	+0.1
	0.3nm,0.4s,baz=122,slow=5.9,SNR=9.7						
ARCES	**ARCESS Array B**	**90.27**	**340**	LR	LR	07 16 28.8	
	comp=Z,13nm,19.0s,baz=132,slow=40						

*SJA **01** 06:19:45.1±1.1, 35.62S×73.72W, h15km, ML3.6, MW3.7*
*ISCJB **01** 06:19:58.9±0.7, 35.75S±0.05×72.73W±0.1, h54km±9km, mb3.8/3, Error ellipse: s-maj=16.1km s-min=5.5km az=20.1*
*IDC **01** 06:19:59.7±0.9, 35.70S×72.17W, h48km±9km, mb3.5/3, mb1 3.7/6, mb1mx3.5/26, mbtmp3.7/6, ML3.7/2, MS2.9/2, Ms1 2.9/2, ms1mx2.7/15, Error ellipse: s-maj=35.6km s-min=19.4km az=91.0*
*GUC **01** 06:19:59.2±0.4, 35.75S×72.22W, h46km±1km, ML4.3*
ISC 01 06:19:59.6±0.8, 35.75S±0.05×72.29W±0.07, h44km±8km, n23, σ1°09/33, mb3.8/3, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNCH	**Linares**	**0.56**	**100**	⇓*i*P	Pn	06 20 10.4	-1.0
LNCH				*i* S	Sn	06 20 19.4	-0.4
TALC	**Talca**	**0.64**	**57**	⇓*i*P	Pn	06 20 11.8	-0.5
TALC				*i* S	Sn	06 20 20.9	-0.5
NICH	**Los Niches**	**1.14**	**49**	⇓*i*P	Pn	06 20 18.9	-0.3
NICH				*i* S	Sn	06 20 33.7	+0.1
CCSP	**San Pedro de C**	**1.28**	**211**	*i* P	Pn	06 20 20.7	-0.3
CCSP				*i* S	Sn	06 20 37.5	+0.5
CANA	**Caviahue**	**2.35**	**156**	*e*P	Pn	06 20 36.8	+0.9
CANA				AML	AML	06 21 19.0	
	comp=Z,138nm,0.6s						
CLCH	**Cerro Calan**	**2.76**	**32**	*i* P	Pn	06 20 41.5	+0.1
CLCH				*i* S	Sn	06 21 13.1	-0.4
CLCH				AML	AML	06 21 34.4	
	comp=N,1μm,0.6s						
PEL	**Peldehue**	**2.92**	**27**	*e*P	Pn	06 20 43.6	0.0
PEL				*i* S	Sn	06 21 17.3	-0.2
ROCH	**El Roble**	**2.96**	**21**	*e*P	Pn	06 20 44.4	0.0
ROCH				*i* S	Sn	06 21 19.3	+0.4
ROCH				AML	AML	06 21 37.4	
	comp=N,909nm,0.6s						
AAGR	**Agrelo**	**3.90**	**48**	*e*P	Pn	06 20 59.6	+2.4
ARCO	**CERRO ARCO**	**4.02**	**45**	*e*P	Pn	06 21 01.5	+2.7
ARCO				AML	AML	06 21 57.8	
	comp=Z,48nm,0.6s						
ASAL	**Salagasta**	**4.26**	**43**	*e*P	Pn	06 21 04.0	+2.0
AUSP	**Uspallata**	**4.26**	**35**	*e*P	Pn	06 21 04.0	+1.7
RTLS	**Leoncito**	**4.66**	**33**	*e*P	Pn	06 21 09.2	+1.5
RTCV	**Cerro Valdivia**	**4.98**	**40**	*e*P	Pn	06 21 12.3	+0.4
PLCA	**Paso Flores**	**5.16**	**165**	P	Pn	06 21 15.4	+1.1
	comp=Z,1.4nm,0.3s,baz=339,slow=11,SNR=26						
PLCA				S	Sn	06 22 24.0	+11
	comp=Z,0.8nm,0.3s,baz=2.1,slow=10,SNR=3.0						
CFAA	**Coronel Fontan**	**5.34**	**40**	P	Pn	06 21 16.7	-0.1
	comp=Z,0.4nm,0.3s,baz=214,slow=13,SNR=20						
CFAA				S	Sn	06 22 25.4	+8.4
	comp=Z,0.3nm,0.3s,baz=74,slow=15,SNR=17						
CFAA				LR	LR	06 23 38.8	
	comp=Z,15nm,19.9s,baz=238,slow=42						
CFAA	**Coronel Fontan**	**5.34**	**40**	*e*P	Pn	06 21 16.8	0.0
CFAA				*e*S	Sn	06 22 27.1	+10
ACAN	**Cantantal**	**5.47**	**52**	*e*P4	Pn	06 21 20.4	+1.7
AMOG	**MOGNA**	**5.75**	**35**	*e*P	Pn	06 21 22.4	-0.2
LVC	**Limon Verde**	**13.42**	**14**	P	Pn	06 23 08.1	+0.4
	comp=Z,9.0nm,0.3s,baz=184,slow=13,SNR=3.6						
LVC				LR	LR	06 27 55.3	
	comp=Z,460nm,21.6s,baz=210,slow=36						
QSPA	**South Pole Qui**	**54.49**	**180**	P	P	06 29 22.5	-0.1
	comp=Z,2.8nm,0.9s,baz=122,slow=1.2,SNR=6.3						
QSPA				pP	pP	06 29 36.5	+1.4
	comp=Z,1.0nm,0.6s,baz=155,slow=3.6,SNR=2.7						
TXAR	**Lajitas Array**	**71.16**	**331**	P	P	06 31 13.6	-0.2
	comp=Z,0.3nm,0.6s,baz=145,slow=6.6,SNR=3.9						
TXAR				pP	pP	06 31 26.9	+0.2
	comp=Z,0.5nm,0.5s,baz=160,slow=9.0,SNR=6.0						
TORD	**Torodi Ar. Bea**	**85.00**	**70**	P	P	06 32 29.2	-1.5
	comp=Z,0.6nm,0.8s,baz=241,slow=5.8,SNR=3.6						
TORD				pP	pP	06 32 43.0	-0.8
	comp=Z,1.1nm,0.8s,baz=251,slow=5.6,SNR=4.5						

*ISCJB **01** 06:28:28.9±0.8, 29.58S±0.07×179.0W±0.1, h350km, mb3.5/3, Error ellipse: s-maj=18.0km s-min=7.9km az=17.5*
*IDC **01** 06:28:29.9±1.2, 29.35S×179.07W, h342km±13km, mb3.5/3, mb1 3.7/4, mb1mx3.2/30, mbtmp4.3/4, Error ellipse: s-maj=34.5km s-min=23.2km az=164.0*
ISC 01 06:28:30.4±1.0, 29.7S±0.1×179.2W±0.2, h350km, n19, σ1°71/22, mb3.6/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.20**	**71**	P	Pn	06 29 15.1	-2.0
	416nm,0.3s,baz=332,slow=18,SNR=17						
RAO				S	S	06 29 50.0	-4.4
	68nm,0.3s,baz=90,slow=20,SNR=3.0						
WMGZ	**Waiomatatini S**	**8.38**	**193**	*e*PN	P	06 30 33.4	+1.6
HAZ	**Te Kaha**	**8.46**	**196**	*e*PN	P	06 30 33.0	+0.4
HAZ				SN	S	06 32 08.8	+1.3
PUZ	**Puketiti**	**8.66**	**193**	*e*SN	S	06 32 09.9	-1.9
MWZ	**Matawai**	**9.08**	**196**	*e*PN	P	06 30 40.8	+1.3
MWZ				SN	S	06 32 25.6	+4.6
URZ	**Urewera**	**9.11**	**199**	P	P	06 30 40.3	+0.4
	2.3nm,0.3s,baz=276,slow=4.4,SNR=18						
URZ				S	S	06 32 20.5	-1.3
	2.3nm,0.3s,baz=79,slow=23,SNR=16						
URZ	**Urewera**	**9.11**	**199**	PN	P	06 30 40.0	+0.2
URZ				*e*SN	S	06 32 20.5	-1.3
BKZ	**Black Stump Fm**	**10.13**	**199**	*e*PN	Pn	06 30 50.7	+0.8
BKZ				*e*SN	S	06 32 42.6	-1.7
WNVZ	**Wahianoa**	**10.56**	**202**	PN	P	06 30 55.9	-0.2
MRZ	**Mangatainoka R**	**11.78**	**200**	*e*PN	Pn	06 31 08.0	-1.5
MRZ				*e*SN	S	06 33 14.5	-6.1
THZ	**Tophouse**	**13.67**	**206**	*e*PN	Pn	06 31 30.9	-0.8
THZ				*e*SN	S	06 33 57.0	-2.5
STKA	**Stephens Creek**	**33.63**	**256**	P	P	06 34 41.9	+2.6
	1.8nm,0.6s,baz=104,slow=8.9,SNR=7.5						
ASAR	**Alice Springs**	**42.10**	**267**	P	P	06 35 50.6	+1.0
	1.9nm,0.5s,baz=97,slow=6.5,SNR=38						
WRA	**Warramunga Arr**	**43.02**	**272**	P	P	06 35 57.4	+0.4
	2.2nm,0.4s,baz=110,slow=7.5,SNR=34						
ARCES	**ARCESS Array B**	**137.63**	**347**	PKP	PKPdf	06 47 13.7	+1.4
	1.4nm,0.8s,baz=84,slow=4.0,SNR=2.6						
FINES	**FINESS Array B**	**144.08**	**340**	PKP	PKPbc	06 47 21.9	-1.1
	1.1nm,0.4s,baz=76,slow=3.8,SNR=21						
AKASG	**Malin Array Be**	**150.06**	**323**	PKPbc	**PKPbc**	**06 47 39.2**	**-0.4**
	0.4nm,0.3s,baz=48,slow=2.8,SNR=5.8						
BRTR	**Keskin Array B**	**151.31**	**299**	PKPbc	**PKPbc**	**06 47 43.8**	**+0.7**
	0.3nm,0.4s,baz=56,slow=2.6,SNR=2.8						
TORD	**Torodi Ar. Bea**	**163.56**	**183**	PKPab	**PKPab**	**06 48 47.2**	**+1.4**
	0.3nm,0.6s,baz=181,slow=1.0,SNR=5.3						

*IDC **01** 06:28:29.5±0.9, 0.64S×121.92E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/34, mbtmp3.7/7, MS2.7/1, Ms1 2.7/1, ms1mx2.4/29, Error ellipse: s-maj=184.8km s-min=16.1km az=63.0*
*DJA **01** 06:28:33.8±0.3, 1˚S±3˚×12˚2E±˚, h10km, M4.3/3, mb4.9/1, MLv4.1/3*
*ISCJB **01** 06:28:34.2±0.5, 0.66S±0.04×121.88E±0.05, h49km, mb3.7/7, MS2.7/1, Error ellipse: s-maj=6.9km s-min=6.1km az=12.3*
ISC 01 06:28:36.3±0.8, 0.70S±0.06×121.88E±0.05, h49km, n21, σ1°57/24, mb3.9/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.95**	**111**	P	Pn	06 28 51.3	-2.1
LUWI				S	Sn	06 29 07.4	+1.4
MRSI	**Marisa**	**1.17**	**3**	P	Pn	06 28 50.3	-6.0
MRSI				S	Sn	06 29 09.9	-1.3
PCI	**Palu**	**2.06**	**264**	P	Pn	06 29 08.0	-0.4
PCI				S	Sn	06 29 35.9	+3.0
MPSI	**Mapaga**	**2.23**	**297**	P	Pn	06 29 07.0	-3.9
KMSI	**Cibinong**	**2.45**	**59**	P	Pn	06 29 16.6	+2.7
KMSI				S	Sn	06 29 45.0	+2.4
TTSI	**Tana Toraja**	**3.11**	**221**	P	Pn	06 29 22.9	0.0
SPSI	**Sidrap Palu**	**3.87**	**213**	P	Pn	06 29 33.3	-0.1
SPSI				S	Sn	06 30 20.4	+2.8
BNSI	**Bone**	**4.08**	**206**	P	Pn	06 29 36.3	0.0
BKSI	**Bulukumba**	**4.92**	**201**	P	Pn	06 29 47.3	-0.4
LBMI	**Labuha**	**5.62**	**89**	P	Pn	06 29 56.0	-1.4
NLAI	**Namlea**	**5.79**	**116**	P	Pn	06 30 00.1	+0.3
SOEI	**Soe**	**9.31**	**165**	P	Pn	06 30 47.0	-1.1
TWSI	**Taliwang, Sumb**	**9.41**	**212**	P	Pn	06 30 46.6	-2.8
WRA	**Warramunga Arr**	**22.68**	**148**	P	P	06 33 32.7	-1.2
	2.1nm,0.6s,baz=326,slow=11,SNR=26						
ASAR	**Alice Springs**	**25.64**	**154**	P	P	06 34 01.5	-0.1
	0.3nm,0.5s,baz=325,slow=7.9,SNR=7.1						
ASAR				PcP	PcP	06 37 31.9	+0.3
	0.2nm,0.3s,baz=348,slow=1.8,SNR=5.3						
STKA	**Stephens Creek**	**36.18**	**151**	P	P	06 35 34.4	0.0
	0.9nm,0.5s,baz=323,slow=15,SNR=2.6						
KSRS	**Korea Array**	**38.37**	**8**	LR	LR	06 51 58.2	
	comp=Z,11nm,20.1s,baz=185,slow=37						
SONM	**Songino Array**	**50.19**	**346**	P	P	06 37 27.1	-0.2
	0.6nm,0.5s,baz=166,slow=7.6,SNR=4.0						
MKAR	**Makanchi Array**	**58.62**	**329**	P	P	06 38 28.4	0.0
	0.6nm,0.5s,baz=129,slow=8.8,SNR=12						
ZALV	**Zalesovo Beam**	**62.49**	**336**	P	P	06 38 54.0	-0.6
	0.2nm,0.3s,baz=131,slow=7.9,SNR=3.2						
KURBB	**Kurchatov Arra**	**63.01**	**331**	P	P	06 38 58.1	-0.1
	0.3nm,0.3s,baz=141,slow=5.3,SNR=2.9						

MAN 01 06:32:30, 18.56N×120.81E, h29km, mb4.6, ML3.5, MS3.4, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.29**	**218**	⇑*i*P	Pn	06 32 39.3	+0.9
PIP				*e*S	Sn	06 32 46.1	+2.3
SIPP	**Brgy, Tapao**	**0.71**	**208**	⇑*i*P	Pb	06 32 39.3	-4.7
SIPP				*e*S	Sb	06 32 48.3	-5.2
APYP	**Conner**	**0.81**	**149**	*e*P	Pb	06 32 45.7	+0.2
APYP				*e*S	Sn	06 32 57.3	+0.9
ABRA	**Dolores**	**0.91**	**186**	*e*P	Pb	06 32 47.4	+0.2
ABRA				*e*S	Sn	06 33 01.4	+2.4
SGCP	**Mt. Cagua**	**1.22**	**105**	*e*P	Pn	06 32 51.7	+0.6
SGCP				*e*S	Sb	06 33 08.0	+0.3
CAUP	**Cauayan**	**1.87**	**149**	*e*P	Pb	06 33 02.1	-1.4

IDC 01 07:00:28.2±9.2, 2.26N×126.82E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/30, mbtmp3.4/3, MS2.9/1, Ms1 2.9/1, ms1mx2.3/20, Error ellipse: s-maj=187.6km s-min=142.5km az=75.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.26**	**162**	P	P	07 05 37.6	0.0
	0.5nm,0.6s,baz=340,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**26.67**	**165**	P	P	07 06 10.2	+1.0
	0.1nm,0.4s,baz=342,slow=10,SNR=3.7						
STKA	**Stephens Creek**	**36.73**	**159**	P	P	07 07 36.0	-1.4
	1.2nm,0.7s,baz=338,slow=11,SNR=3.4						
ASAJ	**Asahikawa**	**43.97**	**16**	LR	LR	07 26 08.5	
	comp=Z,15nm,20.1s,baz=196,slow=35						

*CSEM **01** 07:05:13.7±0.6, 35.93N×31.16E, h2km, MD3.1, Error ellipse: s-maj=15.9km s-min=8.4km az=11.0*
*ISK **01** 07:05:14.2, 35.86N×31.16E, h19km, MD3.1*
DDA 01 07:05:16.1, 36.05N×31.19E, h28km, MD3.1, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAZI	**Gazipasa**	**0.93**	**78**	*i* P	Pn	07 05 32.2	-1.1
GAZI				*i* S	Sb	07 05 45.1	-0.5
GAZI	**Gazipasa**	**0.93**	**78**	*i* P	Pn	07 05 32.2	-1.1
GAZI				*i* S	Sb	07 05 45.1	-0.5
KORT	**Korkueli**	**1.16**	**325**	*i* P	Pb	07 05 38.2	+0.4
KORT	**Korkueli**	**1.16**	**325**	*i* P	Pb	07 05 38.2	+0.4
KORT				*i* S	Sb	07 06 00.4	+7.8
AKAS	**Kas**	**1.30**	**278**	*i* P	Pn	07 05 39.1	+0.6
AKAS	**Kas**	**1.30**	**278**	*i* P	Pn	07 05 39.1	+0.6
AKAS				*i* S	Sb	07 06 03.4	+7.1
ERMK	**Ermenek**	**1.51**	**67**	*i* P	Pb	07 05 43.9	+0.2
ERMK	**Ermenek**	**1.51**	**67**	*i* P	Pb	07 05 43.9	+0.2
ERMK				*i* S	Sb	07 06 07.0	+4.3
LEF	**Lefka**	**1.67**	**123**	*e*PN	Pn	07 05 41.8	-1.6
LEF	**Lefka**	**1.67**	**123**	*e*Pn	Pn	07 05 41.8	-1.6
GOLH	**Golhisar**	**1.77**	**313**	*i* P	Pn	07 05 45.5	+0.6
GOLH	**Golhisar**	**1.77**	**313**	*i* P	Pn	07 05 45.5	+0.6
GOLH				*i* S	Sb	07 06 13.5	+3.8
FETY	**Fethiye**	**1.80**	**290**	*e*PN	Pn	07 05 45.8	+0.5
KONT	**Konya--Tatoy**	**2.11**	**26**	*e*PN	Pb	07 05 52.1	-1.6
KONT				*e*SN	Sb	07 06 20.0	+0.5
KONT	**Konya--Tatoy**	**2.11**	**26**	*e*Pn	Pb	07 05 52.1	-1.6
KONT				*e*Sn	Sb	07 06 20.0	+0.5
KIZK	**Mersin**	**2.42**	**79**	*e*P	Pb	07 05 57.2	-1.8
KIZK				*i* S	Sb	07 06 27.1	-1.4
KIZK	**Mersin**	**2.42**	**79**	*e*P	Pb	07 05 57.2	-1.8
KIZK				*i* S	Sb	07 06 27.1	-1.3
KDHN	**Kadinhani**	**2.57**	**16**	*i* P	Pn	07 05 57.1	+1.1
KDHN				*i* S	Sb	07 06 30.0	-3.0
KDHN	**Kadinhani**	**2.57**	**16**	*i* P	Pn	07 05 57.1	+1.1
KDHN				*i* S	Sb	07 06 30.0	-3.0

*ISK **01** 07:21:32.6, 37.15N×27.90E, h14km, MD2.6*
*CSEM **01** 07:21:33.1±0.3, 37.10N×27.92E, h8km, MD2.6, Error ellipse: s-maj=6.9km s-min=4.9km az=179.0*
DDA 01 07:21:33.8, 37.18N×27.84E, h3km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.34**	**251**	*i* P	Pg	07 21 40.2	-0.1
BDRM				*i* S	Sb	07 21 47.1	-1.1
BDRM	**Kayabasi**	**0.34**	**251**	*i* P	Pg	07 21 40.2	-0.2
BDRM				*i* S	Sb	07 21 47.1	-1.2
YER	**Yerkesik**	**0.35**	**97**	*e*PG	Pg	07 21 39.5	-1.3
YER				*e*SG	Sg	07 21 44.9	-0.6
YER	**Yerkesik**	**0.35**	**97**	*e*Pg	Pg	07 21 39.5	-1.3
YER				*e*Sg	Sg	07 21 44.9	-0.6
BODT	**Bodrum**	**0.44**	**255**	*e*PG	Pg	07 21 42.2	-0.1
BODT				*e*SG	Sb	07 21 50.1	-1.1
BODT	**Bodrum**	**0.44**	**255**	*e*Pg	Pg	07 21 42.2	-0.1
BODT				*e*Sg	Sb	07 21 50.2	-1.0
AYDN	**Tasoluk**	**0.48**	**4**	*i* P	Pb	07 21 44.6	-0.4
AYDN				*i* S	Sb	07 21 51.9	-0.7
AYDN	**Tasoluk**	**0.48**	**4**	*i* P	Pb	07 21 44.6	-0.5
AYDN				*i* S	Sb	07 21 51.9	-0.7
DAT	**Datca**	**0.49**	**205**	*e*PG	Pg	07 21 42.2	-1.3
DAT				*e*SG	Sg	07 21 50.4	+0.4
DAT	**Datca**	**0.49**	**205**	*e*Pg	Pg	07 21 42.2	-1.3
DAT				*e*Sg	Sg	07 21 50.4	+0.4
TURN	**Turunc**	**0.68**	**116**	*i* P	Pg	07 21 42.8	-4.1
TURN				*i* S	Sg	07 21 51.1	-4.6
TURN	**Turunc**	**0.68**	**116**	*i* P	Pg	07 21 42.8	-4.0
TURN				*i* S	Sg	07 21 51.1	-4.6
DALY	**Dalyan (Mu˘la**	**0.74**	**119**	*e*PG	Pg	07 21 46.1	-2.0
DALY	**Dalyan (Mu˘la**	**0.74**	**119**	*e*Pg	Pg	07 21 46.1	-1.9
AYDB	**Zeytinkoy-Aydi**	**0.77**	**3**	*e*PG	Pg	07 21 48.3	-0.5
AYDB	**Zeytinkoy-Aydi**	**0.77**	**3**	*e*Pg	Pg	07 21 48.3	-0.5
FETY	**Fethiye**	**1.13**	**118**	*e*PN	Pg	07 21 54.2	-1.4
FETY	**Fethiye**	**1.13**	**118**	*e*Pn	Pg	07 21 54.2	-1.4
GOLH	**Golhisar**	**1.37**	**87**	*i* P	Pn	07 21 59.3	-0.7
GOLH	**Golhisar**	**1.37**	**87**	*i* P	Pn	07 21 59.3	-0.7
GOLH				*i* S	Sn	07 22 23.8	+5.0
AKAS	**Kas**	**1.70**	**123**	*i* P	Pg	07 22 06.6	0.0
AKAS	**Kas**	**1.70**	**123**	*i* P	Pg	07 22 06.6	-0.1
AKAS				*i* S	Sg	07 22 34.0	+5.1

*MEX **01** 07:23:02.8±0.3, 27.75N×106.83W, h2km±5km, MD4.3*
*NEIC **01** 07:23:02.8, 27.75N×106.83W, h2km, mb3.8/3, MD4.3(MEX), After MEX.*
**ISC 01 07:23:00.4±0.8, 27.85N±0.04×106.74W±0.05, h10km, n29, σ1°64/

Plg52.0000°, Azm285.0000°; P -4.6310, Plg23.0000°, Azm48.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
*NEIC **01** 07:26:31.2±0.6, 14.90S×167.46E, h126km±4km, mb5.0/20 Error ellipse: s-maj=9.2km s-min=6.5km az=98.0*
*ISCJB **01** 07:26:31.5±1.3, 14.92S±0.04×167.45E±0.07, h144km±12km, mb4.5/36, Error ellipse: s-maj=10.8km s-min=6.5km az=166.3*
*BJI **01** 07:26:36.1, 14.53S×167.34E, h161km, mb4.6/30, mB4.7/22*
*MOS **01** 07:26:38.0±1.6, 14.79S×167.15E, h203km, mb4.6/12, Error ellipse: s-maj=12.4km s-min=10.4km az=39.8*

ISC 01 07:26:31.1±0.7, 14.94S±0.05×167.48E±0.08, h129km±4km, n115, σ1§63/123, mb4.5/36, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.16**	**188**	*e*Pn		**Pn**		**07 28 13.8**	**+0.4**
	638nm,1.1s								
DZM				*e*Sn		**Sn**		**07 29 29.6**	**-3.8**
	2µm,0.9s								
DZM				*e*LR		LR		07 29 50.7	
	852nm,27.8s								
HNR	**Honiara**	**9.18**	**306**	*e*P		**Pn**		**07 28 42.1**	**+1.6**
HNR				*e*				07 30 22.9	
HNR	**Honiara**	**9.18**	**306**	P		**Pn**		**07 28 40.0**	**-0.5**
HNR				S		**Sn**		**07 30 22.0**	**-0.1**
HNR	**Honiara**	**9.18**	**306**	*e*Pn		**Pn**		**07 28 42.1**	**+1.6**
HNR				*e*Sn		**Sn**		**07 30 22.9**	**+0.8**
MSVF	**Nonsavu**	**10.52**	**107**	*e*P		Pn		07 29 09.8	+11
MSVF	**Nonsavu**	**10.52**	**107**	*e*Pn		Pn		07 29 09.8	+11
TARA	**Tarawa**	**17.06**	**19**	*e*P		**Pn**		**07 30 22.8**	**+0.8**
	337nm,1.4s								
EIDS	**Eidsvold**	**18.55**	**233**	P		**Pn**		**07 30 39.9**	**+0.1**
	baz=18,SNR=7.3								
EIDS	**Eidsvold**	**18.55**	**233**	*e*P		**Pn**		**07 30 39.7**	**0.0**
	24nm,1.0s								
CTA	**Charters Tower**	**20.88**	**253**	P		**P**		**07 31 03.4**	**+0.2**
	6.7nm,0.8s,baz=82,slow=13,SNR=5.7								
CTAO	**Charters Tower**	**20.88**	**253**	*e*P		**P**		**07 31 04.7**	**+1.5**
CTAO					pmax	pmax			
	comp=Z,24nm,0.9s								
CTAO	**Charters Tower**	**20.88**	**253**	*e*P		**P**		**07 31 04.7**	**+1.5**
	comp=Z,24nm,0.9s								
RMQ	**Roma**	**20.92**	**234**	P		Pn		07 31 05.9	-1.6
	baz=21,SNR=19								
OUZ	**Omahuta**	**20.93**	**166**	*e*P		**P**		**07 31 05.0**	**+1.5**
	comp=Z,154nm,1.3s								
ARMA	**Armidale**	**21.20**	**221**	P		**P**		**07 31 08.3**	**+1.6**
	baz=21,SNR=9.3								
ARMA	**Armidale**	**21.20**	**221**	*e*P		**P**		**07 31 07.7**	**+0.9**
	comp=Z,68nm,1.3s								
KUZ	**Kuaotunu**	**22.93**	**163**	*e*PN		**P**		**07 31 25.4**	**+1.3**
MKAZ	**Moumakai**	**23.12**	**164**	*e*PN		**P**		**07 31 27.6**	**+1.8**
MGCD	**Mangrove Creek**	**23.49**	**216**	P		**P**		**07 31 30.8**	**+1.4**
	baz=23,SNR=5.2								
QLP	**Quilpie**	**24.59**	**238**	P		**P**		**07 31 40.2**	**+0.9**
	baz=24,SNR=4.3								
URZ	**Urewera**	**24.74**	**162**	P		**P**		**07 31 41.0**	**+0.4**
	comp=Z,57nm,1.1s,baz=6.5,slow=7.8,SNR=6.8								
URZ	**Urewera**	**24.74**	**162**	*e*P		**P**		**07 31 43.7**	**+3.1**
	comp=Z,102nm,1.2s								
BKZ	**Black Stump Fm**	**25.41**	**164**	PN		**P**		**07 31 47.1**	**+0.4**
BKZ	**Black Stump Fm**	**25.41**	**164**	*e*P		**P**		**07 31 47.1**	**+0.4**
	comp=Z,68nm,1.5s								
CMSA	**Cobar Meteorol**	**25.88**	**227**	P		**P**		**07 31 51.2**	**+0.2**
	baz=26,SNR=10								
CNB	**Canberra Magne**	**26.01**	**215**	P		**P**		**07 31 52.9**	**+0.7**
	baz=26,SNR=5.4								
TSZ	**Takapari Road**	**26.11**	**165**	PN		**P**		**07 31 53.0**	**+0.1**
RPZ	**Rata Peaks**	**28.84**	**175**	P		**P**		**07 32 17.7**	**+0.4**
	comp=Z,5.4nm,0.4s,baz=12,slow=11,SNR=7.8								
STKA	**Stephens Creek**	**29.02**	**230**	P		**P**		**07 32 19.5**	**+0.5**
	comp=Z,11nm,0.4s,baz=55,slow=8.8,SNR=43								
STKA					ScP	**ScP**		**07 38 54.5**	**+0.2**
	comp=Z,3.5nm,0.8s,baz=127,slow=1.4,SNR=4.5								
STKA					LR	LR		07 43 04.1	
	comp=Z,164nm,20.0s,baz=54,slow=34								
STKA	**Stephens Creek**	**29.02**	**230**	*e*P		**P**		**07 32 19.9**	**+0.9**
STKA					pmax	pmax			
	comp=Z,10.0nm,1.2s								
STKA	**Stephens Creek**	**29.02**	**230**	P		**P**		**07 32 19.9**	**+0.9**
	baz=29,SNR=40								
STKA	**Stephens Creek**	**29.02**	**230**	*e*P		**P**		**07 32 19.9**	**+0.9**
	comp=Z,9.6nm,1.2s								
STKA					ScP	**ScP**		**07 38 54.5**	**+0.2**
ODZ	**Otahua Downs**	**30.13**	**176**	*e*P		**P**		**07 32 29.5**	**+0.8**
	comp=Z,40nm,1.2s								
WRAB	**Tennant Creek**	**31.96**	**256**	*e*P		**P**		**07 32 44.1**	**-1.1**
WRAB					pmax	pmax			
	comp=Z,13nm,1.4s								
WRAB	**Tennant Creek**	**31.96**	**256**	*e*P		**P**		**07 32 44.1**	**-1.1**
	comp=Z,13nm,1.4s								
WRA	**Warramunga Arr**	**31.98**	**256**	P		**P**		**07 32 43.8**	**-1.5**
	comp=Z,2.7nm,0.8s,baz=82,slow=7.1,SNR=25								
WRA					ScP	**ScP**		**07 39 04.7**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=87,slow=3.9,SNR=2.7								
WRA					LR	LR		07 45 53.3	
	comp=Z,222nm,18.1s,baz=85,slow=36								
AS31	**Alice Springs**	**32.79**	**249**	*e*P		**P**		**07 32 51.2**	**-1.2**
ASAR	**Alice Springs**	**32.79**	**249**	P		**P**		**07 32 51.2**	**-1.1**
	comp=Z,4.3nm,0.5s,baz=77,slow=8.9,SNR=71								
ASAR					ScP	**ScP**		**07 39 08.3**	**+1.4**
	comp=Z,1.3nm,0.7s,baz=88,slow=4.1,SNR=11								
ASAR					LR	LR		07 45 46.2	
	comp=Z,216nm,18.1s,baz=83,slow=35								
H11S2	**WAKE ISLAND Hy**	**33.23**	**359**	T		T		08 07 53.2	
	baz=185								
H11S3	**WAKE ISLAND Hy**	**33.23**	**359**	T		T		08 07 53.2	
	baz=185								
H11S1	**WAKE ISLAND Hy**	**33.24**	**359**	T		T		08 07 53.2	
	baz=185								
BBOO	**Buckleboo**	**33.62**	**232**	P		**P**		**07 32 59.8**	**+0.5**
	baz=33,SNR=13								
BBOO	**Buckleboo**	**33.62**	**232**	*e*P		**P**		**07 32 59.9**	**+0.5**
	comp=Z,2.9nm,1.4s								
H11N1	**WAKE ISLAND Hy**	**34.44**	**359**	T		T		08 09 34.7	
	baz=185								
H11N3	**WAKE ISLAND Hy**	**34.44**	**359**	T		T		08 09 32.8	
	baz=185								
H11N2	**WAKE ISLAND Hy**	**34.46**	**359**	T		T		08 09 37.2	
	baz=185								
WRKA	**Warakurna**	**38.05**	**248**	P		**P**		**07 33 36.6**	**-0.8**
	baz=38,SNR=21								
FORT	**Forrest**	**39.37**	**240**	*e*P		**P**		**07 33 48.3**	**+0.1**
	comp=Z,31nm,1.0s								
PPT2	**Papeete2**	**41.24**	**100**	*e*LQ		LQ		07 43 36.9	
	comp=Z,405nm,28.0s								
PPT2				*e*LR		LR		07 45 35.3	
	comp=Z,106nm,27.0s								
MEEK	**Meekatharra**	**46.90**	**247**	P		**P**		**07 34 48.4**	**-0.4**
	baz=47,SNR=6.3								
MJAR	**Matsushiro Arr**	**58.18**	**332**	P		**P**		**07 36 10.9**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=162,slow=6.0,SNR=6.5								
MAJO	**Matsushiro**	**58.19**	**332**	*e*P		**P**		**07 36 09.3**	**-2.4**
MAJO					pmax	pmax			
	comp=Z,34nm,0.9s								
VNDA	**Vanda**	**62.66**	**181**	P		**P**		**07 36 41.8**	**+0.3**
	comp=Z,3.0nm,0.5s,baz=354,slow=8.8,SNR=17								
VNDA	**Vanda**	**62.66**	**181**	*e*P		**P**		**07 36 42.0**	**+0.4**
VNDA					pmax	pmax			
	comp=Z,27nm,1.5s								
VNDA	**Vanda**	**62.66**	**181**	*e*P		**P**		**07 36 42.0**	**+0.4**
	comp=Z,27nm,1.5s								
SBA	**Scott Base**	**62.93**	**180**	*e*P		**P**		**07 36 44.3**	**+1.0**
SBA					pmax	pmax			
	comp=Z,32nm,1.1s								
SBA	**Scott Base**	**62.93**	**180**	*e*P		**P**		**07 36 44.3**	**+1.0**
	comp=Z,32nm,1.1s								
ASAJ	**Asahikawa**	**63.01**	**340**	P		**P**		**07 36 45.4**	**+1.2**
	comp=Z,6.5nm,0.7s,baz=217,slow=17,SNR=3.9								
ASAJ					LR	LR		08 02 00.9	
	comp=Z,23nm,19.6s,baz=154,slow=34								
ASAJ	**Asahikawa**	**63.01**	**340**	*e*P		**P**		**07 36 45.2**	**+1.0**
	comp=Z,11nm,1.1s								
CASY	**Casey**	**63.41**	**202**	*e*P		**P**		**07 36 46.4**	**-0.3**
	comp=Z,34nm,1.7s								
KSRS	**Korea Array**	**64.03**	**326**	pP		**pP**		**07 37 20.9**	**-1.4**
	comp=Z,2.3nm,0.8s,baz=139,slow=6.7,SNR=3.0								
KSRS					LR	LR		08 02 18.9	
	comp=Z,11nm,20.1s,baz=90,slow=34								
KSAR	**Wonju Array Be**	**64.04**	**326**	pP		pP		07 37 20.9	-1.5
YSS	**Yuzh-Sakhalins**	**65.49**	**342**	*e*P		**P**		**07 37 02.0**	**+1.6**
YSS					pmax	pmax			
	comp=Z,57nm,1.3s								
YSS	**Yuzh-Sakhalins**	**65.49**	**342**	*e*P		**P**		**07 37 02.0**	**+1.6**
	comp=Z,57nm,1.3s								
NJ2	**Nanjing**	**65.97**	**316**	*e*P		**P**		**07 37 04.8**	**+1.0**
NJ2					PMZ				
	comp=Z,30nm,0.5s								
QIZ	**Qiongzhong**	**66.02**	**299**	P		**P**		**07 37 05.4**	**+1.0**
USRK	**Ussuriysk Ar.**	**67.16**	**333**	P		**P**		**07 37 13.0**	**+1.9**
	comp=Z,7.9nm,1.0s,baz=131,slow=8.4,SNR=10								
PETK	**Petropavlovsk-**	**68.29**	**354**	P		**P**		**07 37 18.4**	**+0.4**
	comp=Z,8.8nm,1.1s,baz=146,slow=14,SNR=4.5								
PETK					LR	LR		08 02 13.7	
	comp=Z,35nm,21.9s,baz=132,slow=31								
MDJ	**Mudanjiang**	**68.56**	**332**	P		**P**		**07 37 21.9**	**+2.0**
MDJ					pP	pP		07 38 00.2	+8.8
MDJ					sP	sP		07 38 17.6	+12
MDJ					PP	**PP**		**07 39 54.9**	**+1.8**
MDJ					S	**S**		**07 46 14.4**	**+2.5**
MDJ					PMZ				
	comp=Z,11nm,0.6s								
MDJ					PMZ				
	comp=Z,30nm,3.8s								
MDJ					LN				
	comp=Z,37nm,38.2s								
MDJ					LE				
	comp=Z,23nm,34.8s								
MDJ					LZ				
	comp=Z,29nm,35.9s								
HABR	**Khabarovsk**	**69.41**	**338**	*e*P		P		07 37 21.2	-3.8
HABR				*e*				07 37 43.3	
HABR				*e*PP		pP		07 38 08.4	+12
HABR				*e*PP		**PP**		**07 39 56.7**	**-3.6**
HABR				*e*				07 41 39.5	
HABR				*e*S		S		07 46 11.5	-10
HABR				*e*				07 47 02.6	
HABR				*e*SS		SS		07 50 43.1	-8.8
HABR					pmax	pmax			
	comp=Z,12nm,1.4s								
HABR					MLR	MLR			
	comp=Z,139nm,23.0s								
KLR	**Kul'dur**	**71.28**	**336**	*e*P		P		07 37 33.2	-3.2
GYA	**Guiyang**	**72.00**	**305**	*e*P		**P**		**07 37 43.8**	**+2.4**
GYA					PcP	**PcP**		**07 38 01.2**	**+1.9**
GYA					pP	pP		07 38 24.6	+11
GYA					sP	sP		07 38 42.0	+15
GYA					PP	**PP**		**07 40 27.5**	**+4.3**
GYA					S	**S**		**07 46 50.4**	**-2.5**
GYA					SKS	SKSac		07 47 21.8	-12
GYA					PMZ				
	comp=Z,20nm,1.0s								
GYA					PMZ				
	comp=Z,120nm,5.6s								
BJI	**Beijing**	**72.56**	**321**	P		P		**07 37 45.9**	**+1.7**
BJI					PcP	**PcP**		**07 38 02.7**	**+1.6**
BJI					pP	pP		07 38 25.2	+9.1
BJI					PP	**PP**		**07 40 30.4**	**+2.9**
BJI					S	**S**		**07 46 56.1**	**-2.3**
BJI					SS	**SS**		**07 51 38.2**	**-2.3**
BJI					PMZ				
	comp=Z,9.0nm,0.6s								
BJI					LN				
	comp=Z,93nm,4.8s								
BJI					LE				
	comp=Z,94nm,5.5s								
BJI					LZ				
	comp=Z,21nm,19.4s								
KMI	**Kunming**	**74.59**	**302**	P		**P**		**07 37 59.1**	**+2.4**
KMI					PMZ				
	comp=Z,8.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**75.22**	**294**	P		**P**		**07 38 00.8**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=108,slow=2.9,SNR=5.3								
CMAR					pP	**pP**		**07 38 30.6**	**-1.7**
	comp=Z,2.1nm,0.6s,baz=124,slow=4.7,SNR=4.4								
HHC	**Hu-ho-hao-te**	**75.88**	**320**	*e*P		**P**		**07 38 03.7**	**+0.1**
HHC					pP	pP		07 38 46.0	+10
HHC					PP	**PP**		**07 40 53.4**	**-2.4**
HHC					S	S		07 47 29.1	-6.7
HHC					sS	sS		07 48 41.5	+10
HHC					PMZ				
	comp=Z,18nm,1.2s								
HHC					PMZ				
	comp=Z,95nm,7.4s								
CD2	**Chengdu**	**76.30**	**308**	*e*P		**P**		**07 38 06.8**	**+0.6**
CD2					pP	pP		07 38 47.2	+8.9
CD2					sP	sP		07 39 04.9	+13
CD2					PP	**PP**		**07 41 02.2**	**+2.7**
CD2					S	**S**		**07 47 36.9**	**-3.8**
CD2					sS	sS		07 48 47.2	+11
CD2					SS	**SS**		**07 52 37.8**	**-0.1**
CD2					PMZ				
	comp=Z,10.0nm,1.2s								
RPN	**Rapa Nui**	**77.38**	**115**	LR		LR		08 07 21.3	
	comp=Z,30nm,19.9s,baz=230,slow=32								
SEY	**Seymchan**	**78.51**	**353**	P		**P**		**07 38 18.1**	**+0.4**
	comp=Z,22nm,0.8s,baz=172,slow=8.8,SNR=7.4								
LZH	**Lanzhou**	**78.61**	**312**	*e*P		P		07 38 22.3	+3.2
LZH					pP	pP		07 39 02.6	+11
LZH					sP	sP		07 39 19.9	+15
LZH					PMZ				
	comp=Z,19nm,1.0s								
MAW	**Mawson**	**81.77**	**202**	P		**P**		**07 38 35.4**	**+0.2**
	comp=Z,6.5nm,1.1s,baz=64,slow=3.8,SNR=4.4								
MAW					LR	LR		08 09 24.9	
	comp=Z,77nm,21.9s,baz=66,slow=32								
YAK	**Yakutsk**	**82.29**	**343**	P		**P**		**07 38 37.6**	**-0.3**
	comp=Z,13nm,0.6s,baz=77,slow=0.3,SNR=8.5								
YAK	**Yakutsk**	**82.29**	**343**	*e*P		**P**		**07 38 37.6**	**-0.3**
YAK					pmax	pmax			
	comp=Z,26nm,0.9s								
YAK					pmax	pmax			
	comp=N,9.0nm,1.1s								
YAK					pmax	pmax			
	comp=E,5.0nm,1.0s								
YAK	**Yakutsk**	**82.29**	**343**	*e*P		**P**		**07 38 38.1**	**+0.2**
	comp=E,24nm,0.7s								
ULN	**Ulaanbaatar**	**82.42**	**324**	*e*P		P		07 38 35.9	-3.3
ULN					pmax	pmax			
	comp=Z,8.0nm,1.2s								
ULN	**Ulaanbaatar**	**82.42**	**324**	*e*P		**P**		**07 38 40.3**	**+1.1**
	comp=Z,18nm,1.4s								
BILL	**Bilibino**	**82.75**	**360**	*e*P		**P**		**07 38 39.4**	**-0.8**
BILL					pmax	pmax			
	comp=Z,3.0nm,1.4s								
SONM	**Songino Array**	**82.79**	**324**	P		**P**		**07 38 41.7**	**+0.7**
	comp=Z,1.9nm,0.6s,baz=140,slow=4.8,SNR=15								
GTA	**Gaotai**	**82.96**	**314**	*e*P		**P**		**07 38 44.4**	**+2.3**
GTA					pP	pP		07 39 24.5	+10
GTA					sP	sP		07 39 41.7	+13
GTA					SKS	**S**		**07 48 46.1**	**-4.6**
GTA					S	**SKSac**		**07 48 49.2**	**-2.9**
GTA					sS	sS		07 49 57.6	+11
GTA					PMZ				
	comp=Z,9.0nm,1.2s								
GTA					PMZ				
	comp=Z,79nm,6.2s								
CAST	**Castle Rocks**	**84.13**	**17**	*e*P		**P**		**07 38 46.7**	**-0.7**
	comp=Z,40nm,2.2s								
BOD	**Bodaibo**	**84.75**	**334**	*e*P		P		07 38 46.1	-4.5
BOD					pmax	pmax			
	comp=Z,7.0nm,1.5s								
ZAK	**Zakamensk**	**85.84**	**325**	*e*P		**P**		**07 38 55.7**	**-0.6**
ZAK					pmax	pmax			
	comp=Z,6.0nm,1.4s								
COLA	**College**	**86.45**	**18**	*e*P		**P**		**07 38 57.4**	**-1.4**
COLA					pmax	pmax			
	comp=Z,8.0nm,0.9s								
ILAR	**Eielson Array**	**86.66**	**18**	P		**P**		**07 38 58.5**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=240,slow=5.3,SNR=8.8								
ILAR					LR	LR		08 10 46.1	
	comp=Z,58nm,20.1s,baz=248,slow=31								
NVAR	**Mina Array Bea**	**87.25**	**49**	pP		pP		07 39 35.8	-0.7
	comp=Z,1.4nm,0.9s,baz=225,slow=6.2,SNR=4.2								
TIXI	**Tiksi**	**90.21**	**349**	*e*P		**P**		**07 39 14.5**	**-2.0**
TIXI					pmax	pmax			
	comp=Z,2.0nm,1.1s								
WMQ	**Urumqi**	**93.02**	**314**	*e*P		**P**		**07 39 30.2**	**0.0**
WMQ					pP	pP		07 40 17.0	+14
WMQ					PMZ				
	comp=Z,6.0nm,0.5s								
WMQ					PMZ				
	comp=Z,110nm,4.6s								
PDAR	**Pinedale Array**	**94.94**	**47**	LR		LR		08 12 49.9	
	comp=Z,15nm,21.5s,baz=261,slow=29								
TXAR	**Lajitas Array**	**96.19**	**61**	LR		LR		08 16 42.4	
	comp=Z,18nm,19.9s,baz=0.0,slow=31								
MKAR	**Makanchi Array**	**97.50**	**316**	P		**P**		**07 39 50.5**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=110,slow=1.4,SNR=8.3								
MKAR					pP	**pP**		**07 40 22.1**	**-1.6**
	comp=Z,0.8nm,0.8s,baz=167,slow=3.2,SNR=4.0								
ZALV	**Zalesovo Beam**	**97.68**	**324**	P		**P**		**07 39 50.5**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=124,slow=4.3,SNR=8.2								
ZALV					pP	**pP**		**07 40 22.0**	**-2.3**
	comp=Z,1.6nm,0.8s,baz=123,slow=5.5,SNR=2.9								
KSH	**Kashi**	**100.49**	**308**	*e*P		**Pdif**		**07 40 07.1**	**+2.9**
KSH					PP	PP		07 44 18.8	+6.1
KSH					SKS	**SKSac**		**07 50 29.1**	**-2.3**
KSH					S	**Sdif**		**07 51 25.9**	**-4.0**
KSH					SS	**SS**		**07 58 29.6**	**+0.5**
KSH					PMZ				
	comp=Z,59nm,4.4s								
KSH					LN				
	comp=Z,68nm,4.5s								
KSH					LE				
	comp=Z,88nm,6.1s								
KSH					LZ				
	comp=Z,130nm,6.2s								
ARCES	**ARCESS Array B**	**120.50**	**345**	PKP		**PKPdf**		**07 45 06.7**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=55,slow=2.1,SNR=9.1								
OBN	**Obninsk**	**124.99**	**328**	*e*PKIKP		PKPdf		07 45 10.5	-5.3
OBN					pmax	pmax			
	comp=Z,3.0nm,0.9s								
KIV	**Kislovodsk**	**125.14**	**314**	*e*PKIKP		**PKPdf**		**07 45 12.9**	**-3.8**
KIV					pmax	pmax			
	comp=Z,4.0nm,1.1s								
FINES	**FINESS Array B**	**125.99**	**338**	PKP		**PKPdf**		**07 45 17.5**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=132,slow=2.1,SNR=4.9								
AKASG	**Malin Array Be**	**131.02**	**326**	SKPbc		**SKPab**		**07 48 41.0**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=48,slow=4.1,SNR=5.9								
BRTR	**Keskin Array B**	**132.80**	**311**	pPKP		pPKPdf		07 46 04.8	-1.2
	comp=Z,0.3nm,0.3s,baz=128,slow=2.4,SNR=3.2								
BFO	**Black Forest**	**142.52**	**337**	*i* PKIKP		**PKPdf**		**07 45 47.3**	**-1.6**
TIP	**Timpagrande**	**144.74**	**319**	*e*PKPdf		**PKPab**		**07 45 52.2**	**0.0**
BNI	**Bardonecchia**	**145.87**	**335**	*e*PKP2		**PKPab**		**07 45 56.5**	**+0.1**
BNI	**Bardonecchia**	**145.87**	**335**	*e*PKPbc		**PKPab**		**07 45 56.5**	**+0.1**
KEST	**Kesra**	**151.50**	**321**	PKPbc		**PKPbc**		**07 46 11.0**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=0.3,slow=3.3,SNR=3.4								
ESDC	**Sonseca Array**	**154.24**	**345**	PKPab		**PKPab**		**07 46 31.3**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=15,slow=5.3,SNR=4.8								
TORD	**Torodi Ar. Bea**	**166.10**	**264**	PKP		**PKPdf**		**07 46 22.2**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=340,slow=1.6,SNR=3.7								
TORD				PKPab		**PKPab**		**07 47 21.1**	**-1.9**
	comp=Z,0.9nm,0.9s,baz=73,slow=1.9,SNR=3.7								

*NNC **01** 07:28:33.8±2.7, 36.35N×70.69E, h132km±30km, mb2.9, mpv3.8, Error ellipse: s-maj=25.4km s-min=12.5km az=167.0*

ISC 01 07:28:37.1±3.3, 36.6N±0.2×70.6E±0.1, h204km, n14, σ1§51/16, 6C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.60**	**327**	⇓P		**Pn**		07 29 17.8	-4.7
	11nm,0.5s								
DZET				⇓S		**S**		**07 29 54.5**	**-2.9**
	17nm,0.4s								
SFK	**Sufi-Kurgan**	**4.06**	**33**	⇑P		**Pn**		**07 29 37.9**	**-2.0**
	24nm,0.4s								
SFK				⇑S		**S**		**07 30 28.6**	**-0.3**
	18nm,0.3s								
AML	**Almayashu**	**5.98**	**22**	P		**Pn**		**07 30 03.2**	**-1.3**
	SNR=89								
UCH	**Uchtor**	**6.34**	**27**	P		**Pn**		**07 30 07.6**	**-1.6**
	SNR=11								
KK31	**Karatay Array**	**6.46**	**359**	⇓P		**Pn**		**07 30 09.6**	**-0.8**
	2.1nm,0.3s,baz=183,slow=13,SNR=82								
KK31				⇓S		**S**		**07 31 24.0**	**-0.1**
	2.1nm,0.4s,baz=179,slow=22,SNR=4.3								
EKS2	**Erkin-Say**	**6.49**	**21**	P		**Pn**		**07 30 10.6**	**-0.2**
	SNR=8.9								
KZA	**Kyzart**	**6.51**	**32**	P		**Pn**		**07 30 09.9**	**-1.4**
	SNR=6.2								
AAK	**Ala-Archa**	**6.69**	**25**	⇑P		**Pn**		**07 30 12.5**	**-1.0**
	2.8nm,0.5s								
AAK				⇑S		**S**		**07 31 30.0**	**+0.3**
	10nm,0.5s								
AAK	**Ala-Archa**	**6.69**	**25**	P		**Pn**		**07 30 12.3**	**-1.2**
	SNR=7.6								
TKM2	**Tokmak 2**	**7.35**	**30**	⇑P		**Pn**		**07 30 21.1**	**-0.9**
	4.4nm,0.7s								
TKM2				⇑S		**S**		**07 31 45.8**	**+0.5**
	6.8nm,0.8s								
TKM2	**Tokmak 2**	**7.35**	**30**	P		**Pn**		**07 30 21.6**	**-0.4**
	SNR=5.4								
AB31	**Akbulak array**	**14.83**	**332**	⇓P		**P**		**07 32 00.3**	**+2.6**
	0.7nm,0.3s,baz=152,slow=12,SNR=42								
BVA0	**Borovoye Array**	**16.39**	**359**	P		Pn		07 32 23.9	+8.2
	0.1nm,0.8s,baz=178,slow=7.0,SNR=5.5								
AKTO	**Aktyubinsk**	**16.52**	**331**	⇓P		Pn		07 32 23.3	+6.0
	1.4nm,0.6s								

**IDC 01 07:54:37.2±2.4, 62.34S×159.40W, h0km, mb3.7/2, mb1 3.

H11S2	**WAKE ISLAND Hy**	**28.35**	**40**	T	T	08 58 24.2		
	baz=222,slow=76,SNR=122							
H11S1	**WAKE ISLAND Hy**	**28.36**	**40**	T	T	08 58 24.9		
	baz=222,slow=76,SNR=224							
STKA	**Stephens Creek**	**29.22**	**191**	P	**P**	**08 28 55.9**	**-0.4**	
	2.1nm,1.0s,baz=15,slow=12,SNR=2.7							
H11N1	**WAKE ISLAND Hy**	**29.37**	**39**	T	T	08 59 45.4		
	baz=221,slow=76,SNR=33							
H11N3	**WAKE ISLAND Hy**	**29.39**	**39**	T	T	08 59 41.6		
	baz=221,slow=76,SNR=54							
H11N2	**WAKE ISLAND Hy**	**29.39**	**39**	T	T	08 59 46.0		
	baz=221,slow=76,SNR=73							
CMAR	**Chiang Mai Arr**	**52.75**	**296**	P	**P**	**08 32 10.4**	**+0.6**	
	0.4nm,0.2s,baz=116,slow=6.1,SNR=4.5							
VNDA	**Vanda**	**74.72**	**177**	P	**P**	**08 34 34.3**	**+0.6**	
	0.4nm,0.7s,baz=343,slow=5.7,SNR=4.2							
VNDA				LR	LR	09 04 09.6		
	comp=Z,45nm,19.4s,baz=246,slow=33							
KURBB	**Kurchatov Arra**	**79.49**	**323**	P	**P**	**08 35 00.8**	**-0.1**	
	0.4nm,0.8s,baz=111,slow=4.2,SNR=3.0							
ILAR	**Eielson Array**	**82.49**	**23**	P	**P**	**08 35 16.1**	**-0.5**	
	0.3nm,0.9s,baz=260,slow=4.4,SNR=5.8							
BVAR	**Borovoye Array**	**84.99**	**324**	P	**P**	**08 35 29.4**	**-0.3**	
	0.5nm,0.5s,baz=64,slow=6.9,SNR=3.1							
YKA	**Yellowknife Ar**	**96.21**	**28**	P	**P**	**08 36 22.7**	**+0.5**	
	0.3nm,0.6s,baz=275,slow=4.6,SNR=5.2							
TORD	**Torodi Ar. Bea**	**145.15**	**289**	PKPbc	**PKPbc**	**08 42 31.7**	**-0.8**	
	0.7nm,1.0s,baz=101,slow=2.9,SNR=3.0							

*NNC **01** 08:35:00.6±4.9, 36.°60N×71.°27E, h0km, mb5.0, mpv4.9, Error ellipse: s-maj=41.5km s-min=18.9km az=174.0*
*IDC **01** 08:35:02.2±0.6, 36.°94N×71.°54E, h0km, mb4.4/28, mb1 4.5/35, mb1mx4.4/47, mbtmp4.4/35, ML4.1/7, MS3.4/20, Ms1 3.5/20, ms1mx3.3/43, Error ellipse: s-maj=13.8km s-min=9.9km az=13.0*
*SZGRF **01** 08:35:08.5, 36.°11N×70.°97E, h33km, mb4.7, Hindu Kush, Afghanistan, region*
*ISCJB **01** 08:35:08.0±0.1, 37.°07N±0.°02×71.°58E±0.°02, h50km, mb4.6/123, MS3.5/20, Error ellipse: s-maj=2.9km s-min=2.3km az=142.3*
*BJI **01** 08:35:08.4, 37.°20N×71.°50E, h62km, mb4.7/32, mB4.6/27, ML4.4/4, Ms4.1/25, Ms7 3.9/20*
*MOS **01** 08:35:09.5±1.1, 37.°13N×71.°55E, h65km, mb4.9/65, Error ellipse: s-maj=5.1km s-min=3.5km az=104.5*
*NEIC **01** 08:35:10.7±0.6, 37.°10N×71.°54E, h60km±5km, mb4.6/37, Error ellipse: s-maj=5.7km s-min=3.9km az=173.0*
ISC 01 08:35:10.2±0.3, 37.°07N±0.°03×71.°49E±0.°03, h50km, n453, σ1°54/484, mb4.6/124, MS3.5/21, 47C-24D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
DZET	**Dzherino**	**2.73**	**310**	⇑P	**Pn**	**08 35 51.0**	**-0.6**
	471nm,0.4s						
DZET				⇓S	**Sn**	**08 36 26.4**	**+3.1**
	4μm,0.5s						
DZET	**Dzherino**	**2.73**	**310**	PN	**Pn**	**08 35 51.0**	**-0.6**
DZET				S	**Sn**	**08 36 26.4**	**+3.1**
DZET				pmax	pmax		
	comp=Z,471nm,0.4s						
DZET				smax	smax		
	comp=N,4μm,0.5s						
KBL	**Kabul**	**3.21**	**219**	*e*PN	**Pn**	**08 36 00.9**	**+2.6**
KBL				*e*		08 36 47.3	
KBL	**Kabul**	**3.21**	**219**	*e*Pn	**Pn**	**08 36 00.9**	**+2.6**
KBL				*e*Sn	Sn	08 36 47.3	+12
CEP	**Cherat**	**3.26**	**174**	⇑P	**Pn**	**08 36 01.3**	**+2.4**
CEP				S	Sn	08 36 47.0	+10
SFK	**Sufi-Kurgan**	**3.33**	**28**	⇑Pn	**Pn**	**08 36 02.7**	**+2.6**
	comp=N,301nm,0.6s						
SFK				⇓Sn	Sn	08 36 50.4	+12
	comp=N,801nm,1.0s						
SFK	**Sufi-Kurgan**	**3.33**	**28**	PN	**Pn**	**08 36 02.1**	**+2.1**
SFK				pmax	pmax		
	comp=Z,301nm,0.6s						
CHCP	**Chirak Chowk**	**3.70**	**156**	P	**Pn**	**08 36 06.8**	**+1.9**
THW	**Thamme Wali**	**4.27**	**177**	P	**Pn**	**08 36 13.6**	**+0.9**
KSH	**Kashi**	**4.29**	**54**	P	Pn	08 36 07.7	-5.3
KSH				S	Sn	08 36 51.3	-11
KSH				SMN			
	comp=Z,1μm,0.9s						
KSH				SME			
	comp=Z,950nm,0.9s						
AML	**Almayashu**	**5.33**	**18**	P	**Pn**	**08 36 27.6**	**0.0**
	SNR=136						
AML	**Almayashu**	**5.33**	**18**	*i* PN	**Pn**	**08 36 27.6**	**0.0**
UCH	**Uchtor**	**5.65**	**23**	P	**Pn**	**08 36 32.2**	**+0.1**
	SNR=34						
UCH	**Uchtor**	**5.65**	**23**	*i* PN	**Pn**	**08 36 32.1**	**+0.1**
KZA	**Kyzart**	**5.78**	**29**	P	**Pn**	**08 36 34.2**	**+0.5**
	SNR=15						
KZA	**Kyzart**	**5.78**	**29**	*i* PN	**Pn**	**08 36 34.2**	**+0.5**
DLH	**Dalhousie**	**5.83**	**140**	*e*P	**Pn**	**08 36 32.0**	**-2.3**
DLH				*e*S	**Sn**	**08 37 39.0**	**-0.9**
EKS2	**Erkin-Say**	**5.85**	**17**	P	**Pn**	**08 36 34.8**	**+0.3**
	SNR=31						
EKS2	**Erkin-Say**	**5.85**	**17**	*e*PN	**Pn**	**08 36 34.8**	**+0.3**
EKS2	**Erkin-Say**	**5.85**	**17**	*e*Pn	**Pn**	**08 36 34.8**	**+0.3**
AAK	**Ala-Archa**	**6.02**	**22**	⇑Pn	**Pn**	**08 36 37.1**	**+0.4**
	comp=Z,32nm,0.6s						
AAK				⇓Sn	Sn	08 37 56.3	+12
	comp=Z,76nm,0.8s						
AAK	**Ala-Archa**	**6.02**	**22**	P	**Pn**	**08 36 37.3**	**+0.5**
	SNR=26						
AAK	**Ala-Archa**	**6.02**	**22**	Pn	**Pn**	**08 36 37.2**	**+0.5**
	comp=Z,6.6nm,0.3s,baz=198,slow=10,SNR=33						
AAK				Sn	**Sn**	**08 37 49.1**	**+4.7**
	comp=Z,4.5nm,0.3s,baz=300,slow=20,SNR=3.1						
AAK				LR	LR	08 39 17.3	
	comp=Z,77nm,20.7s,baz=192,slow=42						
AAK	**Ala-Archa**	**6.02**	**22**	PN	**Pn**	**08 36 37.2**	**+0.4**
AAK						08 37 49.1	
AAK				pmax	pmax		
	comp=Z,7.0nm,0.3s						
AAK				smax	smax		
	comp=N,5.0nm,0.3s						
AAK				MLR	MLR		
	comp=Z,77nm,20.7s						
AAK	**Ala-Archa**	**6.02**	**22**	Pn	**Pn**	**08 36 37.2**	**+0.4**
	SNR=33						
KK31	**Karatay Array**	**6.07**	**353**	⇓Pn	**Pn**	**08 36 36.3**	**-1.0**
	comp=Z,27nm,0.5s,baz=177,slow=13,SNR=636						
KK31				⇑Sn	**Sn**	**08 37 46.0**	**+0.5**
	comp=Z,49nm,0.5s,baz=179,slow=36,SNR=4.1						
KK31	**Karatay Array**	**6.07**	**353**	*e*PN	**Pn**	**08 36 36.3**	**-1.0**
KK31						08 37 47.5	
KK31				pmax	pmax		
	comp=N,27nm,0.5s						
KK31				smax	smax		
	comp=N,49nm,0.5s						
KKAR	**Karatay Array**	**6.07**	**353**	*e*PN	**Pn**	**08 36 36.9**	**-0.5**
KKAR				*e*		08 37 48.1	
KKAR	**Karatay Array**	**6.07**	**353**	*e*Pn	**Pn**	**08 36 36.9**	**-0.5**
KKAR				*e*Sn	**Sn**	**08 37 48.1**	**+2.6**
KBK	**Karagaybulak**	**6.18**	**24**	P	**Pn**	**08 36 40.5**	**+1.5**
	SNR=12						
KBK	**Karagaybulak**	**6.18**	**24**	*i* PN	**Pn**	**08 36 40.5**	**+1.5**
DHRM	**DHARAMSHALA**	**6.23**	**139**	*e*P	**Pn**	**08 36 38.9**	**-0.9**
DHRM				*e*S	**Sn**	**08 37 50.0**	**+0.1**
DHRM				AML	AML	08 38 25.9	
	comp=N,430nm,0.4s						
DHRM				AML	AML	08 38 28.1	
	comp=E,649nm,0.5s						
FRU	**Bishkek**	**6.24**	**22**	*e*PN	**Pn**	**08 36 40.0**	**+0.4**
FRU				*i* S	**Sn**	**08 37 54.0**	**+4.4**
FRU				pmax	pmax		
	comp=Z,200nm,1.6s						
FRU				pmax	pmax		
	comp=Z,660nm,1.6s						
ULHL	**Ulahol**	**6.34**	**34**	P	**Pn**	**08 36 43.7**	**+2.5**
	SNR=6.3						
ULHL	**Ulahol**	**6.34**	**34**	*i* PN	**Pn**	**08 36 43.7**	**+2.5**
CHMS	**Chumysh**	**6.43**	**22**	P	**Pn**	**08 36 42.6**	**+0.3**
	SNR=24						
CHMS	**Chumysh**	**6.43**	**22**	*i* PN	**Pn**	**08 36 42.6**	**+0.3**
USP	**Ospenovka**	**6.60**	**19**	P	**Pn**	**08 36 44.5**	**-0.3**
	SNR=11						
USP	**Ospenovka**	**6.60**	**19**	*i* PN	**Pn**	**08 36 44.4**	**-0.3**
TKM2	**Tokmak 2**	**6.64**	**27**	⇓Pn	**Pn**	**08 36 45.2**	**-0.1**
	comp=Z,45nm,0.8s						
TKM2				⇑Sn	Sn	08 38 08.8	+9.1
	comp=Z,34nm,0.7s						
TKM2	**Tokmak 2**	**6.64**	**27**	P	**Pn**	**08 36 45.2**	**-0.1**
	SNR=44						
TKM2	**Tokmak 2**	**6.64**	**27**	*i* PN	**Pn**	**08 36 45.1**	**-0.2**
TKM2	**Tokmak 2**	**6.64**	**27**	*e*Pn	**Pn**	**08 36 45.6**	**+0.3**
BHK	**Bhakra**	**6.96**	**143**	*e*P	**Pn**	**08 36 51.2**	**+1.6**
BHK				*e*S	**Sn**	**08 38 07.5**	**+0.1**
SDNR	**Sundarnagar**	**7.17**	**139**	*e*P	**Pn**	**08 36 52.0**	**-0.5**
SDNR				*e*S	**Sn**	**08 38 10.0**	**-2.6**
AAA	**Alma-Ata**	**7.47**	**32**	*e*P	**Pn**	**08 36 57.4**	**+0.9**
AAA				*e*S	**Sn**	**08 38 17.8**	**-2.1**
AAA				pmax	pmax		
	comp=Z,200nm,1.3s						
AAA				smax	smax		
	comp=E,200nm,2.6s						
SMLA	**Simla**	**7.57**	**140**	*i* P	**Pn**	**08 36 56.5**	**-1.4**
SMLA				*i* S	**Sn**	**08 38 17.6**	**-4.8**
SMLA				*i* S	**Sn**	**08 38 19.1**	**-3.2**
SMLA				AML	AML	08 38 25.0	
	comp=E,4μm,0.3s						
SMLA				AML	AML	08 38 26.9	
	comp=N,3μm,0.5s						
SMLA	**Simla**	**7.57**	**140**	*i* P	**Pn**	**08 36 56.5**	**-1.4**
SMLA				*i* S	**Sn**	**08 38 19.1**	**-3.2**
PDGK	**Podgornoye**	**8.74**	**42**	⇓Pn	**Pn**	**08 37 13.7**	**-0.2**
	comp=N,30nm,0.9s						
PDGK				⇓Lg	Lg	08 39 47.8	
	comp=N,66nm,1.2s						
PDGK	**Podgornoye**	**8.74**	**42**	P	**Pn**	**08 37 13.7**	**-0.2**
PDGK				pmax	pmax		
	comp=Z,30nm,0.9s						
NDI	**New Delhi**	**9.65**	**148**	*e*P	**Pn**	**08 37 25.0**	**-1.4**
NDI				*e*S	**Sn**	**08 39 11.0**	**-2.4**
SONA	**Sohna**	**9.98**	**150**	*e*P	**Pn**	**08 37 29.7**	**-1.2**
SONA				*e*S	Sn	08 39 14.5	-6.9
IAKL	**Akhelmad**	**10.22**	**271**	*e*P	Pn	08 37 29.2	-5.2
LGTI	**Lohaghat**	**10.55**	**134**	*e*P	**Pn**	**08 37 36.1**	**-2.7**
LGTI				*ex*	x	08 39 50.8	
GEYT	**Alibeck**	**10.66**	**279**	Pn	Pn	08 37 35.6	-4.6
	comp=Z,5.0nm,0.3s,baz=116,slow=10,SNR=16						
GEYT				Sn	Sn	08 39 30.0	-8.1
	comp=Z,5.7nm,0.3s,baz=105,slow=17,SNR=7.3						
GEYT				LR	LR	08 43 08.7	
	comp=Z,490nm,18.1s,baz=95,slow=45						
ISFR	**Sfrayin**	**10.78**	**274**	*e*P	Pn	08 37 38.6	-3.5
AJM	**Ajmer**	**10.89**	**165**	*e*P	**Pn**	**08 37 42.0**	**-1.5**
AJM				*e*S	**Sn**	**08 39 42.0**	**-2.0**
ISHV	**Shirvan**	**10.99**	**277**	*e*P	Pn	08 37 41.6	-3.3
AGRA	**Agra**	**11.23**	**149**	*e*P	**Pn**	**08 37 46.9**	**-1.1**
AGRA				*ex*	**Sn**	**08 39 48.8**	**-3.2**
AGRA				AML	AML	08 41 10.7	
	comp=N,72nm,0.5s						
AGRA				AML	AML	08 41 11.8	
	comp=E,89nm,0.5s						
MK31	**Makanchi Array**	**12.60**	**36**	⇓Pn	**Pn**	**08 38 06.0**	**-0.6**
	comp=E,14nm,0.8s,baz=230,slow=16,SNR=12						
MK31	**Makanchi Array**	**12.60**	**36**	*e*P	**Pn**	**08 38 06.2**	**-0.4**
MK31	**Makanchi Array**	**12.60**	**36**	*e*Pn	**Pn**	**08 38 06.2**	**-0.4**
MKAR	**Makanchi Array**	**12.60**	**36**	Pn	**Pn**	**08 38 05.4**	**-1.2**
	comp=E,0.4nm,0.3s,baz=233,slow=16,SNR=17						
MKAR				LR	LR	08 42 21.6	
	comp=E,54nm,19.4s,baz=220,slow=35						
MKAR	**Makanchi Array**	**12.60**	**36**	*i* P	**Pn**	**08 38 06.0**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
WMQ	**Urumqi**	**14.05**	**56**	*e*P	**Pn**	**08 38 23.5**	**-3.0**
WMQ				pP	**P**	**08 38 34.0**	**+1.0**
WMQ				sP		08 38 40.7	
WMQ				*e*S	Sn	08 40 54.0	-6.9
WMQ				SS	**S**	**08 41 18.4**	**-1.6**
WMQ				PMZ			
	comp=Z,10.0nm,0.8s						
WMQ				PMZ			
	comp=Z,94nm,3.5s						
WMQ				LN			
	comp=Z,380nm,9.4s						
WMQ				LE			
	comp=Z,210nm,7.0s						
WMQ				LZ			
	comp=Z,320nm,9.8s						
IGLO	**Ghaloghah**	**14.17**	**273**	*e*P	Pn	08 38 25.1	-3.2
IKIA	**Kiasar**	**14.33**	**272**	*e*P	**Pn**	**08 38 28.6**	**-1.7**
KURBB	**Kurchatov Arra**	**14.46**	**18**	⇓Pn	Pn	08 38 27.6	-4.1
	comp=Z,17nm,0.9s						
KURBB	**Kurchatov Arra**	**14.46**	**18**	Pn	Pn	08 38 26.6	-5.2
	comp=Z,0.1nm,0.3s,baz=212,slow=12,SNR=24						
KURBB				Lg	Lg	08 42 45.0	
	comp=Z,0.0nm,0.3s,baz=206,slow=27,SNR=3.5						
KURK	**Kurchatov**	**14.56**	**18**	⇑Pn	Pn	08 38 28.4	-4.8
	comp=Z,7.1nm,0.8s						
KURK	**Kurchatov**	**14.56**	**18**	P	Pn	08 38 28.3	-4.8
KURK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KURK	**Kurchatov**	**14.56**	**18**	⇑Pn	Pn	08 38 28.5	-4.8
	SNR=5.2						
KURK	**Kurchatov**	**14.56**	**18**	*e*Pn	Pn	08 38 28.3	-4.9
KURK				Lg	Lg	08 42 45.0	
BHPL	**Bhopal**	**14.70**	**158**	*e*P	**Pn**	**08 38 35.4**	**+0.2**
BHPL				*ex*	Sn	08 41 08.6	-8.3
AB31	**Akbulak array**	**14.79**	**329**	⇑Pn	Pn	08 38 31.0	-5.0
	comp=Z,5.3nm,0.4s,baz=146,slow=12,SNR=264						
AB31	**Akbulak array**	**14.79**	**329**	*i* P	Pn	08 38 31.0	-5.0
AB31				pmax	pmax		
	comp=N,5.0nm,0.4s						
ABKAR	**Akbulak array**	**14.79**	**329**	*e*Pn	Pn	08 38 30.9	-5.2
ABKAR				*e*Sn	Sn	08 41 07.8	-11
BVA0	**Borovoye Array**	**15.97**	**358**	⇑Pn	Pn	08 38 46.7	-4.6
	comp=N,7.4nm,0.5s,baz=181,slow=12,SNR=16						
BVAR	**Borovoye Array**	**15.97**	**358**	Pn	**Pn**	**08 38 46.8**	**-4.6**
	comp=N,1.0nm,0.3s,baz=167,slow=14,SNR=17						
BVAR	**Borovoye Array**	**15.97**	**358**	P	**Pn**	**08 38 46.8**	**-4.6**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRVK	**Borovoye**	**16.01**	**357**	⇓Pn	**Pn**	**08 38 47.8**	**-4.0**
	comp=Z,18nm,0.7s						
BRVK	**Borovoye**	**16.01**	**357**	⇑*i*P	**Pn**	**08 38 47.8**	**-4.0**
BRVK				pmax	pmax		
	comp=Z,25nm,1.7s						
BRVK	**Borovoye**	**16.01**	**357**	⇓Pn	**Pn**	**08 38 47.9**	**-3.9**
	SNR=15						
BRVK	**Borovoye**	**16.01**	**357**	*e*Pn	**Pn**	**08 38 48.1**	**-3.7**
	comp=Z,31nm,1.2s						
AKTO	**Aktyubinsk**	**16.49**	**328**	⇑Pn	**Pn**	**08 38 55.8**	**-2.1**
	comp=Z,58nm,0.7s						
AKTO	**Aktyubinsk**	**16.49**	**328**	Pn	**Pn**	**08 38 54.3**	**-3.6**
	comp=Z,3.8nm,0.3s,baz=130,slow=9.0,SNR=36						
AKTO				Sn	Sn	08 41 52.1	-7.8
	comp=Z,0.7nm,0.3s,baz=68,slow=19,SNR=3.5						
AKTO				LR	LR	08 45 35.5	
	comp=Z,184nm,18.5s,baz=145,slow=38						
AKTO	**Aktyubinsk**	**16.49**	**328**	P	**Pn**	**08 38 54.3**	**-3.6**
AKTO						08 41 52.1	
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.3s						
AKTO				smax	smax		
	comp=N,1.0nm,0.3s						
AKTO				MLR	MLR		
	comp=Z,184nm,18.5s						
BANOM	**Banah**	**17.04**	**234**	⇑P	**Pn**	**08 39 04.9**	**-0.1**
HATD	**Hatta, Dubai**	**17.93**	**231**	⇑P	**P**	**08 39 17.9**	**+1.9**
LSA	**Lhasa**	**17.97**	**108**	*e*P	Pn	08 39 08.5	-8.4
WBK	**Wadi Bani Khal**	**18.02**	**220**	⇓Pn	**Pn**	**08 39 19.2**	**+2.2**
ASHO	**Ashiyiah**	**18.08**	**231**	⇑P	**P**	**08 39 18.6**	**+0.9**
ASHO	**Ashiyiah**	**18.08**	**231**	⇑P	**Pn**	**08 39 18.9**	**+1.2**
NAZ	**Nazwa, Dubai**	**18.11**	**233**	⇑P	**Pn**	**08 39 20.6**	**+2.5**
BOK	**Bokaro**	**18.11**	**133**	*e*P	**P**	**08 39 16.8**	**-1.2**
BOK				*ex*	x	08 41 09.8	
ASUD	**Al Ashush, Dub**	**18.58**	**233**	⇑P	**Pn**	**08 39 25.0**	**+1.2**
JMDO	**Jabal Madar**	**18.67**	**222**	⇓P	**Pn**	**08 39 25.7**	**+0.8**
	SNR=5.5						
ARQ	**Araqi**	**18.80**	**227**	⇑P	**P**	**08 39 26.9**	**+1.4**
BSY	**Bisya**	**18.87**	**225**	⇑P	**P**	**08 39 27.4**	**+1.1**
ZAA0	**Zalesovo Array**	**19.23**	**24**	*e*P	**P**	**08 39 27.8**	**-2.2**
ZALV	**Zalesovo Beam**	**19.23**	**24**	P	**P**	**08 39 27.8**	**-2.3**
	comp=Z,2.5nm,0.3s,baz=217,slow=11,SNR=71						
ZALV				LR	LR	08 47 13.4	
	comp=Z,60nm,18.0s,baz=245,slow=38						
ZALV	**Zalesovo Beam**	**19.23**	**24**	*i* P	**P**	**08 39 28.0**	**-2.0**
ZALV				pmax	pmax		
	comp=Z,15nm,0.6s						
RPR	**Rampur**	**19.39**	**157**	*e*P	**P**	**08 39 31.8**	**-0.3**
RPR				*e*S	**S**	**08 43 09.1**	**+0.3**
NVS	**Novosibirsk**	**19.51**	**21**	*e*P	**P**	**08 39 31.0**	**-2.0**
NVS				*e*S	**S**	**08 43 08.7**	**-1.9**
NVS				pmax	pmax		
	comp=Z,17nm,0.8s						
NVS				pmax	pmax		
	comp=N,9.0nm,0.7s						
NVS				smax	smax		
	comp=N,18nm,1.9s						
HYBB	**Hyderabad (bro**	**20.55**	**160**	*e*P	**P**	**08 39 44.2**	**-0.4**
HYBB				*e*S	**S**	**08 43 31.8**	**+0.1**
HYBB				IVMsBB		08 48 02.1	
	comp=Z,203nm,6.8s						
HYB	**Hyderabad**	**20.55**	**160**	*i* P	**P**	**08 39 44.0**	**-0.6**
HYB				*e*S	S	08 43 20.0	-12
DGRG	**David-gareji**	**20.66**	**290**	P	**P**	**08 39 47.1**	**+1.4**
SVE	**Sverdlovsk**	**21.06**	**343**	*e*P	**P**	**08 39 48.8**	**-1.0**
SVE				*e*S	**S**	**08 43 42.3**	**+1.1**
SVE				pmax	pmax		
	comp=Z,52nm,0.9s						
SVE				MLR	MLR		
	comp=Z,222nm,10.0s						
GNI	**Garni**	**21.10**	**287**	P	**P**	**08 39 49.6**	**-1.0**
	comp=Z,8.8nm,0.6s,baz=329,slow=10,SNR=5.5						
GNI				LR	LR	08 49 49.2	
	comp=Z,88nm,19.2s,baz=102,slow=42						
GNI	**Garni**	**21.10**	**287**	*d* iP	**P**	**08 39 52.1**	**+1.5**
GNI				pmax	pmax		
	comp=Z,28nm,1.7s						
GNI	**Garni**	**21.10**	**287**	⇑P	**P**	**08 39 50.0**	**-0.6**
GNI	**Garni**	**21.10**	**287**	⇑P	**P**	**08 39 52.2**	**+1.6**
GNI	**Garni**	**21.10**	**287**	*e*P	**P**	**08 39 52.7**	**+2.1**
	comp=Z,23nm,0.6s						
ARU	**Arti**	**21.23**	**340**	*c* iP	**P**	**08 39 49.6**	**-2.0**
ARU						08 40 22.3	
ARU				S	**S**	**08 43 38.4**	**-6.2**
ARU				SS	**SnSn**	**08 44 11.6**	**+2.2**
ARU				pmax	pmax		
	comp=Z,33nm,1.7s						
ARU	**Arti**	**21.23**	**340**	*e*P	**P**	**08 39 50.4**	**-1.2**
	comp=Z,21nm,0.7s						
CHLP	**Challavanipeta**	**21.54**	**146**	*e*P	**P**	**08 39 56.4**	**+1.1**
CHLP				*e*S	**S**	**08 43 49.6**	**-1.8**
CHLP				IVMs_BB	IVMs_BB	08 48 54.5	
	comp=Z,174nm,4.9s						
ZEI	**Tsey**	**21.86**	**294**	*e*P	**P**	**08 39 57.2**	**-1.6**
ZEI				pmax	pmax		
	comp=Z,16nm,0.7s						
ONI	**Oni**	**22.17**	**293**	P	**P**	**08 40 03.7**	**+1.8**
GTA	**Gaotai**	**22.34**	**75**	*e*P	**P**	**08 40 03.1**	**-0.7**
GTA				pP	**pP**	**08 40 17.0**	**+1.6**
GTA				sP	**sP**	**08 40 24.3**	**+2.6**
GTA				S	**S**	**08 44 02.0**	**-4.3**
GTA				sS	**sS**	**08 44 25.3**	**-0.6**
GTA				PMZ			
	comp=Z,6.0nm,1.1s						
GTA				PMZ			
	comp=Z,83nm,5.0s						
GTA				LN			
	comp=Z,180nm,16.6s						
GTA				LE			
	comp=Z,290nm,16.1s						
GTA				LZ			
	comp=Z,190nm,16.1s						
KBZ	**Khabaz**	**22.70**	**296**	P	**P**	**08 40 06.0**	**-1.4**
	comp=Z,8.9nm,0.7s,baz=56,slow=24,SNR=20						
KBZ				S	S	08 44 19.9	+7.7
	comp=Z,0.9nm,0.5s,baz=53,slow=20,SNR=2.2						
KBZ				LR	LR	08 51 12.0	
	comp=Z,135nm,19.2s,baz=148,slow=43						
KIV	**Kislovodsk**	**22.88**	**296**	*i* P	**P**	**08 40 08.5**	**-1.0**
KIV				*e*		08 40 27.3	
KIV				pmax	pmax		
	comp=Z,18nm,0.8s						
KIV				MLR	MLR		
	comp=Z,154nm,18.0s						
KIV	**Kislovodsk**	**22.88**	**296**	⇑P	**P**	**08 40 09.1**	**-0.4**
KIV	**Kislovodsk**	**22.88**	**296**	*e*P	**P**	**08 40 08.8**	**-0.7**
	comp=Z,20nm,0.7s						
CHVG	**Ch'k'valeri**	**23.19**	**293**	P	**P**	**08 40 15.9**	**+3.4**
SKHT	**Srikalahasti**	**24.37**	**160**	*e*P	**P**	**08 40 23.6**	**-0.1**
SKHT				*e*S	**S**	**08 44 39.3**	**-0.4**
SKHT				IVMs_BB	IVMs_BB	08 50 03.9	
	comp=Z,235nm,9.7s						
SOKR	**Solikamsk**	**24.45**	**342**	*c* iP	**P**	**08 40 24.7**	**+0.7**
SOKR				pmax	pmax		
	comp=Z,40nm,1.1s						
RBK	**Rabkut**	**24.74**	**223**	⇓P	**P**	**08 40 25.2**	**-1.9**
SOC	**Sochi**	**24.98**	**295**	*e*P	**P**	**08 40 30.4**	**+1.4**
SOC				*e*S	**S**	**08 44 46.9**	**-2.3**
SOC				*e*SS	**SnSn**	**08 45 50.4**	**+9.1**
SOC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
SOC				MLR	MLR		
	comp=Z,158nm,16.0s						
ABTO	**Aybut**	**25.36**	**224**	⇑P	**P**	**08 40 34.0**	**+1.3**
	SNR=7.6						
LZH	**Lanzhou**	**25.94**	**82**	*e*P	**P**	**08 40 39.4**	**+1.4**
LZH				pP	**pP**	**08 40 53.7**	**+2.9**
LZH				sP	**sP**	**08 41 01.7**	**+5.0**
LZH				PMZ			
	comp=Z,44nm,1.4s						
LZH				PMZ			
	comp=Z,150nm,5.0s						
LZH				LN			
	comp=Z,180nm,11.5s						
LZH				LE			
	comp=Z,280nm,14.4s						
LZH				LZ			
	comp=Z,270nm,15.0s						
RAYN	**Ar Rayn**	**26.09**	**246**	*e*P	**P**	**08 40 39.0**	**-0.3**
	comp=Z,18nm,1.0s						
ZAK	**Zakamensk**	**26.32**	**50**	*e*P	**P**	**08 40 41.4**	**+0.2**
ZAK				pmax	pm

comp=Z,8.0nm,1.7s
KMI Kunming 29.16 105 P P 08 41 12.7 +5.7
KMI pmax pmax
comp=Z,7.0nm,0.7s
KMI LR LR
comp=N,97nm,16.9s
KMI LR LR
comp=E,100nm,11.4s
KMI LR LR
comp=Z,150nm,14.1s
PRGR Permogore 29.42 335 *e*P **P 08 41 08.3 -0.3**
PRGR pmax pmax
comp=Z,11nm,0.7s
BR131 Keskin Array S 29.64 287 *e*P **P 08 41 11.9 +0.9**
comp=Z,1.8nm,0.6s
BRTR Keskin Array B 29.64 287 P **P 08 41 10.1 -0.9**
comp=Z,1.7nm,0.7s,baz=98,slow=9.0,SNR=8.8
BRTR LR LR 08 56 09.8
comp=Z,37nm,21.5s,baz=86,slow=43
BRTR Keskin Array B 29.64 287 *c i*P **P 08 41 12.1 +1.1**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
OBN Obninsk 29.77 319 P **P 08 41 11.0 -0.7**
comp=Z,17nm,0.7s,baz=103,slow=0.9,SNR=5.5
OBN LR LR 08 55 42.9
comp=Z,62nm,18.2s,baz=210,slow=42
OBN Obninsk 29.77 319⇓ *e*P **P 08 41 10.1 -1.6**
OBN *e* 08 44 14.0
OBN pmax pmax
comp=Z,21nm,0.8s
OBN MLR MLR
comp=Z,82nm,20.0s
OBN Obninsk 29.77 319 *e*P **P 08 41 11.7 0.0**
comp=Z,30nm,0.9s
CMAR Chiang Mai Arr 30.39 120 P **P 08 41 15.9 -1.7**
comp=Z,0.8nm,0.4s,baz=315,slow=10,SNR=5.4
CMAR LR LR 08 55 48.3
comp=Z,43nm,20.0s,baz=285,slow=41
CMAR Chiang Mai Arr 30.39 120 P **P 08 41 16.0 -1.7**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR MLR MLR
comp=Z,43nm,20.0s
KLMR Klimovskoe 31.18 330 *e*P **P 08 41 22.9 -1.2**
KLMR pmax pmax
comp=Z,14nm,1.0s
HHC Hu-ho-hao-te 31.20 71 *e*P **P 08 41 24.6 -0.1**
HHC pP **pP 08 41 37.8 +0.1**
HHC sP **sP 08 41 45.4 +1.8**
HHC PP **PnPn 08 42 30.2 +2.3**
HHC S **S 08 46 25.2 -2.2**
HHC sS **sS 08 46 51.2 +2.0**
HHC SS **SnSn 08 48 13.9 +0.8**
HHC PMZ
comp=Z,21nm,0.8s
HHC PMZ
comp=Z,67nm,5.0s
HHC LN
comp=Z,240nm,12.2s
HHC LE
comp=Z,280nm,12.1s
HHC LZ
comp=Z,220nm,11.7s
GYA Guiyang 31.56 99 *e*P **P 08 41 30.5 +2.4**
GYA pP **pP 08 41 45.6 +4.6**
GYA sP **sP 08 41 52.0 +5.1**
GYA PP **PnPn 08 42 36.3 +3.5**
GYA S **S 08 46 35.2 +1.8**
GYA sS sS 08 47 00.6 +5.4
GYA PMZ
comp=Z,10.0nm,0.8s
GYA PMZ
comp=Z,80nm,4.9s
AKASG Malin Array Be 32.90 308 P **P 08 41 39.0 -0.3**
comp=Z,4.8nm,0.5s,baz=80,slow=7.2,SNR=29
AKASG PP **PnPn 08 42 52.4 +3.0**
comp=Z,3.0nm,0.8s,baz=84,slow=11,SNR=4.7
AKASG LR LR 08 58 09.9
comp=Z,66nm,18.5s,baz=105,slow=42
AKBB Malin Array Si 32.90 308 *e*P **P 08 41 38.9 -0.4**
AKBB Malin Array Si 32.90 308 *e*P **P 08 41 38.9 -0.4**
AK01 Malin Array Si 32.90 308 *e*P **P 08 41 39.0 -0.4**
AK02 Malin Array Si 32.90 308 *e*P **P 08 41 39.2 -0.2**
KIEV Kiev 32.91 308 *e*P **P 08 41 38.5 -0.9**
KIEV Kiev 32.91 308 *e*P **P 08 41 38.8 -0.6**
comp=Z,5.8nm,0.6s
VRI Vrincioaia 34.29 299⇓ P **P 08 41 53.2 +1.7**
VRI Vrincioaia 34.29 299⇓ *i*P **P 08 41 53.2 +1.7**
TESR Tescani 34.33 300⇓ *i*P **P 08 41 52.8 +0.9**
PLOR Plostina 34.34 299⇑ P **P 08 41 53.2 +1.2**
PLOR Plostina 34.34 299⇑ *i*P **P 08 41 53.2 +1.2**
BOD Bodaibo 34.66 39 *e*P **P 08 41 52.4 -2.2**
BOD pmax pmax
comp=Z,7.0nm,1.5s
MLR Muntele Rosu 34.85 299⇑ P **P 08 41 58.5 +2.0**
MLR Muntele Rosu 34.85 299⇑ *i*P **P 08 41 58.5 +2.0**
BURAR Bucovina Array 35.31 302⇑ P **P 08 42 01.3 +0.9**
BURAR Bucovina Array 35.31 302⇑ *i*P **P 08 42 01.3 +0.9**
BUR08 Bucovina Ar. S 35.32 302 *e*P **P 08 42 00.9 +0.3**
ARR Arges 35.78 298⇑ *i*P **P 08 42 05.8 +1.4**
VSU Vasula 35.98 321 *i*P **P 08 42 05.2 -0.7**
VSU pmax pmax
comp=Z,34nm,0.9s
APE Apeiranthos 36.39 284 *e*P **P 08 42 10.2 +0.5**
APE pmax pmax
comp=Z,67nm,1.8s
DRGR 37.04 301⇑ P **P 08 42 16.6 +1.4**
DRGR 37.04 301⇑ *i*P **P 08 42 16.6 +1.4**
TRPA Tarpa 37.11 303 *i*P **P 08 42 15.5 -0.1**
FINES FINESS Array B 37.23 326 P **P 08 42 16.3 -0.2**
comp=Z,2.2nm,0.5s,baz=114,slow=8.2,SNR=26
FINES LR LR 08 58 18.4
comp=Z,124nm,18.3s,baz=64,slow=37
FINES FINESS Array B 37.23 326 P **P 08 42 16.3 -0.2**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES MLR MLR
comp=Z,124nm,18.3s
KOLS Kolonicke sedl 37.27 304 *e*P **P 08 42 17.8 +0.7**
KOLS pmax pmax
comp=Z,4.0nm,0.9s
KOLS Kolonicke sedl 37.27 304 *e*P **P 08 42 17.8 +0.7**
BZS Buzias 37.88 299⇑ P **P 08 42 22.3 +0.1**
BZS Buzias 37.88 299⇑ *i*P **P 08 42 22.3 +0.1**
STHS Stebnicka Huta 37.95 305 *e*P **P 08 42 23.1 +0.3**
STHS pmax pmax
comp=Z,3.0nm,0.7s
STHS Stebnicka Huta 37.95 305 *e*P **P 08 42 23.0 +0.3**
NIE Niedzica 38.55 305 *e*P **P 08 42 29.2 +1.4**
NIE Niedzica 38.55 305 *e*P **P 08 42 29.3 +1.4**
OJC Ojcow 38.88 307 *e*P **P 08 42 30.7 +0.2**
OJC Ojcow 38.88 307 *e*P **P 08 42 30.7 +0.2**
PSZ Piszkesteto 38.89 303⇓ P **P 08 42 31.9 +1.2**
PSZ Piszkesteto 38.89 303⇓ *i*P **P 08 42 31.9 +1.2**
PSZ Piszkesteto 38.89 303 *e*P **P 08 42 31.8 +1.0**
comp=Z,3.7nm,0.8s
NJ2 Nanjing 39.01 83 *e*P **P 08 42 33.3 +1.5**
NJ2 PMZ
comp=Z,50nm,0.8s
DIVS Divibare 39.20 297⇑ *i*P **P 08 42 34.4 +1.0**
VYHS Vyhne 39.56 304 *e*P **P 08 42 36.3 0.0**
VYHS pmax pmax
comp=Z,4.0nm,1.5s
VYHS Vyhne 39.56 304 *e*P **P 08 42 36.3 0.0**
PKSM Moragy 39.88 300⇓ P **P 08 42 39.9 +1.0**
PKSM Moragy 39.88 300⇓ *i*P **P 08 42 39.9 +1.0**
MORC Moravsky Berou 40.34 306⇑ P **P 08 42 43.7 +0.9**
MORC Moravsky Berou 40.34 306⇑ *i*P **P 08 42 43.7 +0.9**
MORC Moravsky Berou 40.34 306 *e*P **P 08 42 43.4 +0.6**
comp=Z,3.8nm,0.9s
ARCES ARCESS Array B 40.77 337 P **P 08 42 46.2 +0.2**
comp=Z,5.9nm,0.6s,baz=112,slow=7.7,SNR=40
ARCES LR LR 09 00 54.6
comp=Z,136nm,20.2s,baz=108,slow=38
ARCES ARCESS Array B 40.77 337 P **P 08 42 46.2 +0.2**
ARCES pmax pmax
comp=Z,6.0nm,0.6s
ARCES MLR MLR
comp=Z,136nm,20.2s
ARE0 ARCESS Array S 40.77 337 *e*P **P 08 42 46.3 +0.3**
ARE0 ARCESS Array S 40.77 337 *e*P **P 08 42 45.9 -0.1**
KRLC Kraliky 40.82 306 *e*P **P 08 42 47.3 +0.6**
KRLC Kraliky 40.82 306 *e*P **P 08 42 47.3 +0.6**
VRAC Vranov 40.99 305⇓ P **P 08 42 49.2 +1.1**
VRAC Vranov 40.99 305⇓ *i*P **P 08 42 49.2 +1.1**
CN2 Changchun 41.00 63 *e*P **P 08 42 50.3 +2.1**
CN2 PMZ
comp=Z,10.0nm,0.7s
DPC Dobruska-Polom 41.10 307 *e*P **P 08 42 49.6 +0.6**
DPC Dobruska-Polom 41.10 307 *e*P **P 08 42 49.6 +0.6**
DPC Dobruska-Polom 41.10 307 *e*P **P 08 42 49.8 +0.8**
KTK1 Kautokeino 41.25 336 *e*P **P 08 42 49.5 -0.5**
UPC Upice 41.29 307 *e*P P 08 42 47.6 -2.9
UPC Upice 41.29 307 *e*P P 08 42 47.6 -2.9
CONA Conrad Observa 41.59 303⇑ *i*P **P 08 42 53.6 +0.5**
comp=Z,6.5nm,0.7s
GROS Grobnik 42.01 301 *e*P **P 08 42 57.1 +0.5**
PRU Pruhonice 42.27 306 *e*P **P 08 42 59.2 +0.7**
PRU Pruhonice 42.27 306 *e*P **P 08 42 59.2 +0.7**
SOKA Soboth 42.30 302 *i*P **P 08 42 59.9 +1.0**
comp=Z,5.5nm,0.8s,SNR=5.9
PSI Prapat 42.42 137 P **P 08 42 60.0 -0.3**
comp=Z,7.0nm,0.7s,baz=181,slow=24,SNR=6.6
PSI Prapat 42.42 137 P **P 08 43 00.0 -0.3**
PSI pmax pmax
comp=Z,7.0nm,0.7s
BRG Berggiesshubel 42.58 308 *i*P **P 08 43 01.8 +0.8**
comp=Z,7.1nm,0.7s
BRG *e* 08 43 06.4
comp=Z,5.5nm,0.9s
BRG *e* 08 44 55.4
comp=Z,1.5nm,0.8s
BRG Berggiesshubel 42.58 308 *e*P **P 08 43 01.8 +0.8**
comp=Z,7.0nm,0.7s
BRG Berggiesshubel 42.58 308 *i*P **P 08 43 01.8 +0.8**
BRG *e* 08 44 55.4
BRG pmax pmax
comp=Z,7.0nm,0.7s
MOZS Mozjanca 42.76 301 *e*P **P 08 43 03.5 +0.9**
HFS Hagfors 42.86 321 P **P 08 43 03.0 -0.2**
comp=Z,29nm,0.6s,baz=98,slow=11,SNR=100
HFS Hagfors 42.86 321 P **P 08 43 03.0 -0.2**
HFS pmax pmax
comp=Z,29nm,0.6s
GEC2 GERESS Array S 42.92 305 *e*P **P 08 43 04.7 +0.7**
GEC2 GERESS Array S 42.92 305 *e*P **P 08 43 04.7 +0.7**
GERES GERESS Array B 42.92 305 P **P 08 43 04.2 +0.2**
comp=Z,1.2nm,0.6s,baz=82,slow=7.4,SNR=15
GERES PP **PP 08 44 43.1 -1.0**
comp=Z,1.9nm,1.0s,baz=64,slow=8.9,SNR=4.7
GERES LR LR 09 03 51.2
comp=Z,39nm,20.6s,baz=92,slow=40
GERES GERESS Array B 42.92 305 P **P 08 43 04.2 +0.2**
GERES 08 44 43.2
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES pmax pmax
comp=Z,2.0nm,1.0s
GERES MLR MLR
comp=Z,39nm,20.6s
CUC Castrocucco 43.05 292 *e*P **P 08 43 05.9 +0.9**
comp=Z,11nm,0.8s
CLL Collm 43.14 309 *e*P **P 08 43 05.3 -0.2**
comp=Z,4.0nm,0.8s
CLL Collm 43.14 309 *i*P **P 08 43 05.8 +0.3**
comp=Z,4.0nm,0.8s
CLL *e* 08 43 11.0
CLL *e*PP **PP 08 44 46.0 -0.3**
CLL *e*pPP 08 44 57.0
CLL Lm MLR 09 03 00.0
comp=Z,100nm,20.6s
CLL Collm 43.14 309 *i*P **P 08 43 05.8 +0.3**
CLL pmax pmax
comp=Z,4.0nm,0.8s
YAK Yakutsk 43.27 36 P **P 08 43 05.1 -1.3**
comp=Z,6.0nm,0.3s,baz=270,slow=1.8,SNR=4.0
YAK Yakutsk 43.27 36 *e*P **P 08 43 03.8 -2.6**
YAK pmax pmax
comp=Z,13nm,1.1s
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.4s
WET Wettzell 43.43 305 *e*PcP **PcP 08 44 59.3 +3.8**
MOR8 Moi Rana 43.51 330 *e*P **P 08 43 07.6 -0.8**
RJOB Jochberg 43.66 303 *e*P **P 08 43 10.2 +0.3**
comp=Z,5.0nm,0.7s
NC602 NORSAR Array S 43.98 322 *e*P **P 08 43 11.9 -0.3**
NB2 NORSAR Subarra 44.16 323 P **P 08 43 13.1 -0.6**
comp=Z,15nm,0.7s,baz=93,slow=7.9
NB2 NORSAR Subarra 44.16 323 P **P 08 43 13.1 -0.6**
baz=93,slow=7.9
NOA NORSAR Array B 44.16 323 P **P 08 43 12.9 -0.7**
comp=Z,13nm,0.6s,baz=95,slow=7.9,SNR=44
NOA LR LR 09 02 44.6
comp=Z,46nm,18.4s,baz=100,slow=38
NOA NORSAR Array B 44.16 323 P **P 08 43 13.0 -0.6**
NOA pmax pmax
comp=Z,13nm,0.6s
NOA MLR MLR
comp=Z,46nm,18.4s
KSAR Wonju Array Be 44.30 72 P **P 08 43 14.0 -1.0**
KSAR Wonju Array Be 44.30 72 P P 08 43 14.0 -1.0
NAO01 NORSAR Array S 44.31 322 *e*P **P 08 43 13.7 -1.1**
comp=Z,25nm,1.1s
KSRS Korea Array 44.33 72 P **P 08 43 14.0 -1.2**
comp=Z,2.1nm,0.8s,baz=285,slow=7.5,SNR=5.8
KSRS LR LR 09 04 29.4
comp=Z,119nm,18.5s,baz=286,slow=40
KSRS Korea Array 44.33 72 P **P 08 43 14.0 -1.2**
KSRS pmax pmax
comp=Z,2.0nm,0.8s
KSRS MLR MLR
comp=Z,119nm,18.5s
GRF Grafenberg Arr 44.44 306 *e*P **P 08 43 17.5 +1.5**
comp=Z,34nm,1.8s
KLR Kul'dur 44.49 54 *e*P P 08 43 13.2 -3.2
BSEG Bad Segeberg 44.59 312 *e*P **P 08 43 18.1 +1.0**
comp=Z,10.0nm,0.9s
NRDL Niedersach Rie 44.83 310 *e*P **P 08 43 19.7 +0.7**
comp=Z,14nm,1.5s
KONO Kongsberg 44.89 321 *e*P **P 08 43 19.3 -0.1**
KONO pmax pmax
comp=Z,15nm,0.7s
KONO Kongsberg 44.89 321 *e*P **P 08 43 19.3 -0.1**
comp=Z,15nm,0.7s
UBBA Unterbreizbach 45.07 308 *e*P **P 08 43 21.2 +0.3**
comp=Z,46nm,2.8s
TIXI Tiksi 45.10 22 *c i*P **P 08 43 20.0 -0.9**
TIXI pmax pmax
comp=Z,11nm,1.0s
TIXI Tiksi 45.10 22 *e*P **P 08 43 19.4 -1.5**
comp=Z,8.8nm,0.6s
USRK Ussuriysk Ar. 45.55 61 P **P 08 43 25.6 +0.7**
comp=Z,1.4nm,0.5s,baz=263,slow=8.3,SNR=5.6
FUORN Ofenpass-Fuorn 45.55 302 *e*P **P 08 43 25.2 0.0**
comp=Z,4.1nm,0.7s
DAVA Damuels 45.69 303⇑ *i*P **P 08 43 26.0 -0.1**
comp=Z,12nm,0.6s
MYKOM Kota Tinggi 46.06 132 *e*P **P 08 43 31.3 +2.1**
comp=Z,11nm,0.9s
BFO Black Forest 46.53 305 *e*P **P 08 43 32.6 0.0**
comp=Z,10.0nm,1.5s
LANF Langenberg 46.75 306 *e*P **P 08 43 35.5 +1.2**
SPA0 Spitsbergen Ar 47.03 347 *e*P **P 08 43 37.6 +1.6**
SPA0 IAmb IAmb 08 43 42.3
comp=Z,44nm,1.5s
CDF Champ du Feu 47.20 305 *e*P **P 08 43 37.2 -0.7**
CDF Champ du Feu 47.20 305 *e*P **P 08 43 37.2 -0.7**
CDF Champ du Feu 47.20 305 *e*P **P 08 43 37.2 -0.7**
PGF Pioggiola 47.36 297 *e*P **P 08 43 38.2 -1.0**
comp=Z,16nm,0.8s
PGF Pioggiola 47.36 297 *e*P **P 08 43 38.2 -1.0**
PGF pmax pmax
comp=Z,16nm,0.8s
PGF Pioggiola 47.36 297 *e*P **P 08 43 38.2 -1.0**
comp=Z,16nm,0.8s
HINF Hinteralfeld 47.60 304 *e*P **P 08 43 39.9 -1.0**
comp=Z,9.1nm,0.7s
HINF Hinteralfeld 47.60 304 *e*P **P 08 43 39.9 -1.0**
HINF pmax pmax
comp=Z,9.0nm,0.7s
HINF Hinteralfeld 47.60 304 *e*P **P 08 43 39.9 -1.0**
comp=Z,9.1nm,0.7s
SENIN Lac Senin/Sane 47.61 302 *e*P **P 08 43 41.2 0.0**
WLF Walferdange 47.69 307 *e*PcP **PcP 08 45 10.4 +0.2**
WLF Walferdange 47.69 307 *e*P **P 08 43 41.7 +0.1**
WLF pmax pmax
comp=Z,6.0nm,0.8s
WLF Walferdange 47.69 307 *e*P **P 08 43 41.7 +0.1**
comp=Z,6.4nm,0.8s
LOMF Lomont 47.71 304 *e*P **P 08 43 42.8 +0.9**
SAOF Saorge 48.00 299 *e*P **P 08 43 44.6 +0.5**
JNU Nakatsue 48.07 76 P **P 08 43 43.3 -1.5**
comp=Z,5.6nm,0.9s,baz=341,slow=4.3,SNR=4.7
THEF They Montfort 48.08 305 *e*P **P 08 43 45.1 +0.5**
AUTN L'Aution 48.09 299 *e*P **P 08 43 46.2 +1.2**
SBF Sospel 48.12 299 *e*P **P 08 43 44.6 -0.5**
comp=Z,40nm,1.0s
SBF Sospel 48.12 299 *e*P **P 08 43 44.6 -0.5**
SBF pmax pmax
comp=Z,40nm,1.0s
SBF Sospel 48.12 299 *e*P **P 08 43 44.6 -0.5**
comp=Z,40nm,1.0s
KBS Kingsbay 48.14 347 *e*P **P 08 43 45.3 +0.7**
KBS IAmb IAmb 08 43 46.5
comp=Z,14nm,0.7s
KBS Kingsbay 48.14 347 *e*P **P 08 43 44.5 -0.1**
KBS pmax pmax
comp=Z,3.0nm,0.7s
KBS Kingsbay 48.14 347 *e*P **P 08 43 44.5 -0.1**
comp=Z,3.2nm,0.7s
LPG La Plagne 48.18 301 *e*P **P 08 43 45.1 -0.7**
comp=Z,21nm,0.8s
LPG La Plagne 48.18 301 *e*P **P 08 43 45.1 -0.7**
LPG pmax pmax
comp=Z,21nm,0.8s
LPG La Plagne 48.18 301 *e*P **P 08 43 45.1 -0.7**
comp=Z,21nm,0.8s
PAGF Fort de Pagny 48.18 306 *e*P **P 08 43 45.2 -0.2**
comp=Z,6.4nm,0.9s
PAGF Fort de Pagny 48.18 306 *e*P **P 08 43 45.2 -0.2**
comp=Z,6.4nm,0.9s
LPL La Plagne 48.19 301 *e*P **P 08 43 45.3 -0.5**
comp=Z,13nm,0.8s
LPL La Plagne 48.19 301 *e*P **P 08 43 45.3 -0.5**
LPL pmax pmax
comp=Z,13nm,0.8s
LPL La Plagne 48.19 301 *e*P **P 08 43 45.3 -0.5**
comp=Z,13nm,0.8s
TOUF Mont Tournerai 48.21 299 *e*P **P 08 43 44.5 -1.4**
RSL Roselend 48.22 302 *e*P **P 08 43 46.3 +0.4**
BNI Bardonecchia 48.34 301 *e*P **P 08 43 46.8 -0.1**
BNI pmax pmax
comp=Z,13nm,1.3s
BNI Bardonecchia 48.34 301 *e*P **P 08 43 46.8 -0.1**
comp=Z,13nm,1.3s
MBDF Montbardon 48.36 300 *e*P **P 08 43 45.9 -1.1**
comp=Z,12nm,0.8s
MBDF Montbardon 48.36 300 *e*P **P 08 43 45.9 -1.1**
MBDF pmax pmax
comp=Z,12nm,0.8s
MBDF Montbardon 48.36 300 *e*P **P 08 43 45.9 -1.1**
comp=Z,12nm,0.8s
CABF La Chapelle 48.37 303 *e*P **P 08 43 46.6 -0.4**
comp=Z,13nm,0.8s
CABF La Chapelle 48.37 303 *e*P **P 08 43 46.6 -0.4**
CABF pmax pmax
comp=Z,13nm,0.8s
CABF La Chapelle 48.37 303 *e*P **P 08 43 46.6 -0.4**
comp=Z,13nm,0.8s
CALN Calern 48.53 299 *e*P **P 08 43 48.8 +0.5**
MEZF Maizieres J'vi 48.63 306 *e*P **P 08 43 47.8 -1.0**
comp=Z,14nm,0.6s
MEZF Maizieres J'vi 48.63 306 *e*P **P 08 43 47.8 -1.0**
comp=Z,14nm,0.6s
SFTF Sexfontaines 48.71 305 *e*P **P 08 43 48.8 -0.6**
SFTF Sexfontaines 48.71 305 *e*P **P 08 43 48.8 -0.6**
FRF La Foret Royal 48.75 299 *e*P **P 08 43 49.0 -0.8**
comp=Z,30nm,0.9s
FRF La Foret Royal 48.75 299 *e*P **P 08 43 49.0 -0.8**
FRF pmax pmax
comp=Z,30nm,0.9s
FRF La Foret Royal 48.75 299 *e*P **P 08 43 49.0 -0.8**
comp=Z,30nm,0.9s
BAIF Baives 48.85 308 *e*P **P 08 43 50.3 -0.2**
comp=Z,35nm,1.2s
BAIF Baives 48.85 308 *e*P **P 08 43 50.3 -0.2**
BAIF pmax pmax
comp=Z,35nm,1.2s
BAIF Baives 48.85 308 *e*P **P 08 43 50.3 -0.2**
comp=Z,35nm,1.2s
ORIF Oris-en-Rattie 48.92 301 *e*P **P 08 43 50.2 -1.1**
comp=Z,5.2nm,0.8s
ORIF *e*R
comp=Z,54nm,22.2s
ORIF Oris-en-Rattie 48.92 301 *e*P **P 08 43 50.2 -1.1**
ORIF pmax pmax
comp=Z,5.0nm,0.8s
ORIF Oris-en-Rattie 48.92 301 *e*P **P 08 43 50.2 -1.1**
comp=Z,5.2nm,0.8s
KEST Kesra 49.23 288 P **P 08 43 53.9 +0.2**
comp=Z,2.3nm,0.8s,baz=296,slow=7.0,SNR=4.7
SMRF Simiane la Rot 49.38 300 *e*P **P 08 43 54.2 -0.5**
comp=Z,32nm,1.3s
SMRF Simiane la Rot 49.38 300 *e*P **P 08 43 54.2 -0.5**
comp=Z,32nm,1.3s
KMBO Kilima Mbogo 49.51 228 LR LR 09 04 37.0
comp=Z,39nm,19.3s,baz=93,slow=36
LOR Lormes 49.70 304 *e*P **P 08 43 55.7 -1.3**
LOR *e*R
comp=Z,54nm,21.8s
LOR Lormes 49.70 304 *e*P **P 08 43 55.7 -1.3**
LOR Lormes 49.70 304 *e*P **P 08 43 55.7 -1.3**
SSB Saint Sauveur 49.74 302 *e*P **P 08 43 57.7 +0.2**
SSB pmax pmax
comp=Z,5.0nm,0.8s
SSB Saint Sauveur 49.74 302 *e*P **P 08 43 57.7 +0.2**
comp=Z,4.8nm,0.8s
VIVF Saint-Julien-l 49.77 301 *e*P **P 08 43 57.3 -0.3**
comp=Z,14nm,0.9s
VIVF Saint-Julien-l 49.77 301 *e*P **P 08 43 57.3 -0.3**
VIVF pmax pmax
comp=Z,14nm,0.9s
VIVF Saint-Julien-l 49.77 301 *e*P **P 08 43 57.3 -0.3**
comp=Z,14nm,0.9s
SMF Signal de Mont 49.86 304 *e*P **P 08 43 57.4 -0.9**
comp=Z,15nm,0.8s
SMF Signal de Mont 49.86 304 *e*P **P 08 43 57.4 -0.9**
SMF pmax pmax
comp=Z,15nm,0.8s
SMF Signal de Mont 49.86 304 *e*P **P 08 43 57.4 -0.9**
comp=Z,15nm,0.8s
SSF Saint Saulge 49.98 304 *e*P **P 08 43 58.1 -1.1**
SSF Saint Saulge 49.98 304 *e*P **P 08 43 58.1 -1.1**
SSF Saint Saulge 49.98 304 *e*P **P 08 43 58.1 -1.1**
AVF Avril sur Loir 50.15 304 *e*P **P 08 43 59.5 -0.9**
comp=Z,21nm,0.8s
AVF Avril sur Loir 50.15 304 *e*P **P 08 43 59.5 -0.9**
AVF pmax pmax
comp=Z,21nm,0.8s
AVF Avril sur Loir 50.15 304 *e*P **P 08 43 59.5 -0.9**
comp=Z,21nm,0.8s
PLDF La Plantade 50.19 303 *e*P **P 08 44 02.3 +1.5**
AGO Saint Agoulin 50.49 303 *e*P **P 08 44 04.6 +1.5**
LASF Ste Croix 50.55 300 *e*P **P 08 44 03.3 -0.2**
comp=Z,23nm,0.9s
LASF Ste Croix 50.55 300 *e*P **P 08 44 03.3 -0.2**
comp=Z,23nm,0.9s
LBL Lubilhac 50.64 302 *e*P **P 08 44 06.2 +1.9**
PYM Petit Puy Mans 50.66 303 *e*P **P 08 44 05.9 +1.5**
TCF Toulx Ste Croi 51.05 303 *e*P **P 08 44 06.6 -0.7**
comp=Z,33nm,1.2s
TCF Toulx Ste Croi 51.05 303 *e*P **P 08 44 06.6 -0.7**
TCF pmax pmax
comp=Z,33nm,1.2s
TCF Toulx Ste Croi 51.05 303 *e*P **P 08 44 06.6 -0.7**
comp=Z,33nm,1.2s
CAF Calviac 51.53 302 *e*P **P 08 44 10.6 -0.3**
comp=Z,14nm,0.9s
CAF Calviac 51.53 302 *e*P **P 08 44 10.6 -0.3**
CAF pmax pmax
comp=Z,14nm,0.9s
CAF Calviac 51.53 302 *e*P **P 08 44 10.6 -0.3**
comp=Z,14nm,0.9s
RJF Les Rejaudoux 51.79 302 *e*P **P 08 44 12.6 -0.2**
comp=Z,14nm,1.0s
RJF *e*R
comp=Z,69nm,22.5s
RJF Les Rejaudoux 51.79 302 *e*P **P 08 44 12.6 -0.2**
RJF pmax pmax
comp=Z,14nm,1.0s
RJF Les Rejaudoux 51.79 302 *e*P **P 08 44 12.6 -0.2**
comp=Z,14nm,1.0s
MTLF Montolieu 51.90 300 *e*P **P 08 44 13.1 -0.6**
comp=Z,10nm,0.8s

MTLF	**Montolieu**	**51.90**	**300**	*e*P		**P**	**08 44 13.1**	**-0.6**
MTLF				pmax	pmax				
	comp=Z,10.0nm,0.8s								
MTLF	**Montolieu**	**51.90**	**300**	*e*P		**P**	**08 44 13.1**	**-0.6**
	comp=Z,10nm,0.8s								
LDF	**La Druitiere**	**51.95**	**307**	*e*P		**P**	**08 44 12.7**	**-1.2**
LDF	**La Druitiere**	**51.95**	**307**	*e*P		**P**	**08 44 12.7**	**-1.2**
LDF	**La Druitiere**	**51.95**	**307**	*e*P		**P**	**08 44 12.7**	**-1.2**
FLN	**La Foliniere**	**52.13**	**307**	*e*P		**P**	**08 44 14.0**	**-1.3**
	comp=Z,28nm,1.0s								
FLN				*e*R					
	comp=Z,57nm,22.8s								
FLN	**La Foliniere**	**52.13**	**307**	*e*P		**P**	**08 44 14.0**	**-1.3**
FLN				pmax	pmax				
	comp=Z,28nm,1.0s								
FLN	**La Foliniere**	**52.13**	**307**	*e*P		**P**	**08 44 14.0**	**-1.3**
	comp=Z,28nm,1.0s								
YSS	**Yuzh-Sakhalins**	**52.18**	**55**	*e*P		**P**	**08 44 17.0**	**+1.4**
MAJO	**Matsushiro**	**52.38**	**69**	*e*P		**P**	**08 44 17.7**	**+0.4**
MAJO				pmax	pmax				
	comp=Z,31nm,0.9s								
MJAR	**Matsushiro Arr**	**52.38**	**69**	P		**P**	**08 44 17.5**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=290,slow=9.5,SNR=6.4								
MJAR	**Matsushiro Arr**	**52.38**	**69**	P		**P**	**08 44 17.5**	**+0.1**
MJAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
LFF	**La Frestale**	**52.42**	**302**	*e*P		**P**	**08 44 17.1**	**-0.4**
	comp=Z,12nm,0.7s								
LFF	**La Frestale**	**52.42**	**302**	*e*P		**P**	**08 44 17.1**	**-0.4**
LFF				pmax	pmax				
	comp=Z,12nm,0.7s								
LFF	**La Frestale**	**52.42**	**302**	*e*P		**P**	**08 44 17.1**	**-0.4**
	comp=Z,12nm,0.7s								
GRR	**Gorron**	**52.48**	**307**	*e*P		**P**	**08 44 16.6**	**-1.2**
GRR	**Gorron**	**52.48**	**307**	*e*P		**P**	**08 44 16.6**	**-1.2**
GRR	**Gorron**	**52.48**	**307**	*e*P		**P**	**08 44 16.6**	**-1.2**
MFF	**Saint Martin d**	**52.52**	**304**	*e*P		**P**	**08 44 16.9**	**-1.3**
MFF	**Saint Martin d**	**52.52**	**304**	*e*P		**P**	**08 44 16.9**	**-1.3**
MFF	**Saint Martin d**	**52.52**	**304**	*e*P		**P**	**08 44 16.9**	**-1.3**
EPF	**Esparros**	**53.30**	**300**	*e*P		**P**	**08 44 22.4**	**-1.7**
	comp=Z,6.5nm,0.7s								
EPF	**Esparros**	**53.30**	**300**	*e*P		**P**	**08 44 22.4**	**-1.7**
EPF				pmax	pmax				
	comp=Z,7.0nm,0.7s								
EPF	**Esparros**	**53.30**	**300**	*e*P		**P**	**08 44 22.4**	**-1.7**
	comp=Z,6.5nm,0.7s								
SGMF	**Saint Gilles**	**53.60**	**307**	*e*P		**P**	**08 44 25.1**	**-1.0**
SGMF	**Saint Gilles**	**53.60**	**307**	*e*P		**P**	**08 44 25.1**	**-1.0**
SGMF	**Saint Gilles**	**53.60**	**307**	*e*P		**P**	**08 44 25.1**	**-1.0**
SEY	**Seymchan**	**53.73**	**34**	*e*P		**P**	**08 44 25.8**	**-1.0**
ETSF	**Etsaut**	**53.97**	**300**	*e*P		**P**	**08 44 28.5**	**-0.5**
	comp=Z,12nm,0.7s								
ETSF	**Etsaut**	**53.97**	**300**	*e*P		**P**	**08 44 28.5**	**-0.5**
ETSF				pmax	pmax				
	comp=Z,12nm,0.7s								
ETSF	**Etsaut**	**53.97**	**300**	*e*P		**P**	**08 44 28.5**	**-0.5**
	comp=Z,12nm,0.7s								
ROSF	**Rostrenen**	**54.03**	**307**	*e*P		**P**	**08 44 28.1**	**-1.2**
	comp=Z,15nm,0.8s								
ROSF	**Rostrenen**	**54.03**	**307**	*e*P		**P**	**08 44 28.1**	**-1.2**
ROSF				pmax	pmax				
	comp=Z,15nm,0.8s								
ROSF	**Rostrenen**	**54.03**	**307**	*e*P		**P**	**08 44 28.1**	**-1.2**
	comp=Z,15nm,0.8s								
QUIF	**Quistinic**	**54.09**	**307**	*e*P		**P**	**08 44 28.4**	**-1.3**
QUIF	**Quistinic**	**54.09**	**307**	*e*P		**P**	**08 44 28.4**	**-1.3**
QUIF	**Quistinic**	**54.09**	**307**	*e*P		**P**	**08 44 28.4**	**-1.3**
SJPF	**Ste Jean**	**54.35**	**301**	*e*P		**P**	**08 44 30.6**	**-1.1**
	comp=Z,20nm,1.1s								
SJPF	**Ste Jean**	**54.35**	**301**	*e*P		**P**	**08 44 30.6**	**-1.1**
SJPF				pmax	pmax				
	comp=Z,20nm,1.1s								
SJPF	**Ste Jean**	**54.35**	**301**	*e*P		**P**	**08 44 30.6**	**-1.1**
	comp=Z,20nm,1.1s								
ESDC	**Sonseca Array**	**57.54**	**298**	P		**P**	**08 44 54.5**	**-0.1**
	comp=Z,2.3nm,0.5s,baz=60,slow=7.2,SNR=32								
ESLA	**Sonseca Array**	**57.54**	**298**	*e*P		**P**	**08 44 54.6**	**+0.1**
	comp=Z,4.7nm,1.2s								
TAM	**Tamanrasset**	**57.87**	**276**	*e*P		**P**	**08 44 57.6**	**+0.3**
TAM				pmax	pmax				
	comp=Z,5.0nm,1.0s								
TAM	**Tamanrasset**	**57.87**	**276**	*e*P		**P**	**08 44 57.6**	**+0.3**
	comp=Z,5.2nm,1.0s								
BILL	**Bilibino**	**57.92**	**26**	*i*P		**P**	**08 44 56.8**	**0.0**
BILL				*e*			08 45 15.9		
BILL				*e*			08 45 49.7		
BILL				pmax	pmax				
	comp=Z,4.0nm,0.7s								
BILL	**Bilibino**	**57.92**	**26**	*e*P		**P**	**08 44 56.6**	**-0.1**
	comp=Z,4.4nm,0.9s								
MTE	**Manteigas**	**59.75**	**300**	*e*P		**P**	**08 45 11.7**	**+1.7**
	comp=Z,28nm,1.4s								
PBAR	**Barrancos**	**60.34**	**297**	*e*P		**P**	**08 45 14.5**	**+0.5**
	comp=Z,45nm,1.3s								
SUMG	**Summit**	**60.65**	**341**	*i*P		**P**	**08 45 17.4**	**+1.4**
	comp=Z,25nm,0.9s								
SUMG	**Summit**	**60.65**	**341**	*e*P		**P**	**08 45 16.7**	**+0.7**
SUMG				pmax	pmax				
	comp=Z,22nm,0.8s								
SUMG	**Summit**	**60.65**	**341**	*e*P		**P**	**08 45 16.7**	**+0.7**
	comp=Z,22nm,0.8s								
PVAQ	**Vaqueiros**	**61.16**	**297**	*e*P		**P**	**08 45 20.2**	**+0.6**
	comp=Z,34nm,1.4s								
PNCL	**Nicolau / Gran**	**61.43**	**298**	*e*P		**P**	**08 45 23.7**	**+2.4**
	comp=Z,24nm,1.4s								
TOA0	**Torodi Ar. Sit**	**66.12**	**269**	*e*P		**P**	**08 45 50.9**	**-1.7**
TORD	**Torodi Ar. Bea**	**66.12**	**269**	P		**P**	**08 45 51.0**	**-1.6**
	comp=Z,4.1nm,0.4s,baz=51,slow=5.9,SNR=58								
RES	**Resolute Bay**	**68.16**	**356**	*e*P		**P**	**08 46 04.4**	**-0.1**
RES				pmax	pmax				
	comp=Z,4.0nm,1.3s								
RES	**Resolute Bay**	**68.16**	**356**	*e*P		**P**	**08 46 04.4**	**-0.1**
	comp=Z,3.6nm,1.3s								
COLD	**Coldfoot**	**71.31**	**16**	*e*P		**P**	**08 46 24.0**	**-0.1**
	comp=Z,17nm,1.3s								
IM04	**Indian Mountai**	**71.51**	**18**	*e*P		**P**	**08 46 24.1**	**-1.2**
INK	**Inuvik**	**73.28**	**9**	P		**P**	**08 46 35.5**	**-0.2**
	comp=Z,5.4nm,0.5s,baz=350,slow=6.4,SNR=34								
INK	**Inuvik**	**73.28**	**9**	P		**P**	**08 46 35.5**	**-0.2**
INK				pmax	pmax				
	comp=Z,5.0nm,0.5s								
INK	**Inuvik**	**73.28**	**9**	*e*P		**P**	**08 46 35.5**	**-0.2**
	comp=Z,6.9nm,0.6s								
COLA	**College**	**73.82**	**16**	*e*P		**P**	**08 46 38.3**	**-0.6**
COLA				pmax	pmax				
	comp=Z,27nm,1.0s								
COLA	**College**	**73.82**	**16**	*e*P		**P**	**08 46 38.7**	**-0.2**
	comp=Z,12nm,1.0s								
CAST	**Castle Rocks**	**74.02**	**19**	*e*P		**P**	**08 46 39.9**	**-0.3**
	comp=Z,16nm,1.4s								
ILAR	**Eielson Array**	**74.12**	**16**	P		**P**	**08 46 39.2**	**-1.5**
	comp=Z,1.6nm,0.8s,baz=338,slow=3.6,SNR=14								
ILAR				PP		**PP**	**08 49 27.9**	**+1.8**
	comp=Z,0.5nm,0.9s,baz=318,slow=7.5,SNR=4.4								
ILAR	**Eielson Array**	**74.12**	**16**	P		**P**	**08 46 39.3**	**-1.5**
ILAR							08 49 27.9		
ILAR				pmax	pmax				
	comp=Z,2.0nm,0.8s								
KTH	**Kantishna Hill**	**74.20**	**18**	*e*P		**P**	**08 46 40.5**	**-0.8**
	comp=Z,6.4nm,0.9s								
PPLA	**Purkeypile**	**74.42**	**19**	*e*P		**P**	**08 46 41.5**	**-1.2**
	comp=Z,4.7nm,0.8s								
TRF	**Thorofare Moun**	**74.44**	**18**	*e*P		**P**	**08 46 43.9**	**+1.0**
	comp=Z,2.5nm,0.8s								
MCK	**McKinley**	**74.54**	**17**	*e*P		**P**	**08 46 43.9**	**+0.7**
MCK				pmax	pmax				
	comp=Z,4.0nm,0.8s								
MCK	**McKinley**	**74.54**	**17**	*e*P		**P**	**08 46 43.9**	**+0.7**
	comp=Z,3.5nm,0.8s								
DBIC	**Dimbokro**	**75.12**	**267**	P		**P**	**08 46 46.5**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=50,slow=6.3,SNR=3.6								
DBIC				LR		LR	09 23 08.1		
	comp=Z,53nm,20.4s,baz=105,slow=38								
DBIC	**Dimbokro**	**75.12**	**267**	P		**P**	**08 46 46.5**	**-0.8**
DBIC				pmax	pmax				
	comp=Z,1.0nm,0.6s								
DBIC				MLR	MLR				
	comp=Z,53nm,20.4s								
TSUM	**Tsumeb**	**75.58**	**232**	*e*P		**P**	**08 46 49.4**	**-0.5**
	comp=Z,3.7nm,0.8s								
PAX	**Paxson**	**76.00**	**16**	*e*P		**P**	**08 46 50.9**	**-0.8**
PAX				pmax	pmax				
	comp=Z,10.0nm,1.1s								
PAX	**Paxson**	**76.00**	**16**	*e*P		**P**	**08 46 50.9**	**-0.8**
	comp=Z,9.6nm,1.1s								
DAWY	**Dawson**	**76.28**	**13**	*e*P		**P**	**08 46 54.4**	**+1.2**
PMR	**Palmer**	**76.30**	**19**	*e*P		**P**	**08 46 52.1**	**-1.2**
PMR				pmax	pmax				
	comp=Z,11nm,1.2s								
PMR	**Palmer**	**76.30**	**19**	*e*P		**P**	**08 46 52.1**	**-1.2**
	comp=Z,11nm,1.2s								
YKA	**Yellowknife Ar**	**80.66**	**3**	P		**P**	**08 47 16.7**	**-0.6**
	comp=Z,2.8nm,0.5s,baz=350,slow=5.4,SNR=52								
YKA	**Yellowknife Ar**	**80.66**	**3**	P		**P**	**08 47 16.7**	**-0.6**
YKA				pmax	pmax				
	comp=Z,3.0nm,0.5s								
SCHQ	**Schefferville**	**81.72**	**337**	LR		LR	09 23 48.9		
	comp=Z,36nm,19.4s,baz=41,slow=36								
WRA	**Warramunga Arr**	**81.96**	**122**	P		**P**	**08 47 22.5**	**-2.3**
	comp=Z,2.3nm,0.7s,baz=323,slow=5.0,SNR=15								
WRA	**Warramunga Arr**	**81.96**	**122**	P		**P**	**08 47 22.5**	**-2.3**
WRA				pmax	pmax				
	comp=Z,2.0nm,0.7s								
WRAB	**Tennant Creek**	**81.96**	**122**	*e*P		**P**	**08 47 23.2**	**-1.6**
WRAB				pmax	pmax				
	comp=Z,3.0nm,0.8s								
WRAB	**Tennant Creek**	**81.96**	**122**	*e*P		**P**	**08 47 23.2**	**-1.6**
	comp=Z,3.3nm,0.8s								
DLBC	**Dease Lake**	**83.16**	**11**	P		**P**	**08 47 30.6**	**-0.1**
	comp=Z,1.8nm,0.9s,baz=315,slow=5.7,SNR=2.5								
FCC	**Fort Churchill**	**83.77**	**352**	*e*P		**P**	**08 47 33.5**	**-0.1**
FCC				pmax	pmax				
	comp=Z,3.0nm,0.6s								
FCC	**Fort Churchill**	**83.77**	**352**	*e*P		**P**	**08 47 33.5**	**-0.1**
	comp=Z,3.3nm,0.6s								
ASAR	**Alice Springs**	**84.26**	**125**	P		**P**	**08 47 34.2**	**-2.5**
	comp=Z,1.2nm,0.8s,baz=307,slow=4.9,SNR=13								
ASAR	**Alice Springs**	**84.26**	**125**	P		**P**	**08 47 34.2**	**-2.5**
ASAR				pmax	pmax				
	comp=Z,1.0nm,0.8s								

*ISCJB **01** 08:43:05.8±0.3, 32.°73N±0.°02×115.°88W±0.°02, h13km±2km, Error ellipse: s-maj=3.9km s-min=3.2km az=157.6*
*MEX **01** 08:43:06.8±0.3, 32.°92N×115.°91W, h16km±17km, MD3.7*
*NEIC **01** 08:43:06.6, 32.°72N×115.°90W, h3km, MD3.7(MEX), ML3.5(PAS), ML3.7(ECX), After PAS.*
*ECX **01** 08:43:06.9±0.6, 32.°72N×115.°90W, h2km, MD3.4, ML3.6*
ISC 01 08:43:06.1±0.8, 32.°70N±0.°02×115.°87W±0.°02, h15km±5km, n60, σ0°76/79, 12C-9D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUH	**Yuha Desert**	**0.06**	**220**	*i* P		**Pg**	**08 43 08.5**	**-0.6**
YUH	**Yuha Desert**	**0.06**	**220**	↑*i*P		**Pg**	**08 43 08.5**	**-0.6**
SGL	**Mount Signal**	**0.13**	**110**	*i* P		**Pg**	**08 43 09.6**	**-0.2**
SGL	**Mount Signal**	**0.13**	**110**	↑*i*P		**Pg**	**08 43 09.6**	**-0.2**
WESC	**Westside Schoo**	**0.14**	**62**	*e*P		**Pg**	**08 43 09.7**	**-0.2**
WESC				*e*S		**Sg**	**08 43 12.5**	**+0.2**
WESC	**Westside Schoo**	**0.14**	**62**	↑*e*P		**Pg**	**08 43 09.7**	**-0.2**
WESC				*e*S		**Sg**	**08 43 12.5**	**+0.2**
ERPC	**Ernies Place**	**0.18**	**75**	*i* P		**Pg**	**08 43 10.8**	**+0.3**
ERPC	**Ernies Place**	**0.18**	**75**	↑*i*P		**Pg**	**08 43 10.8**	**+0.3**
IBP	**Imperial Bould**	**0.19**	**259**	*i* P		**Pg**	**08 43 10.5**	**-0.2**
IBP				*e*S		**Sg**	**08 43 13.3**	**-0.4**
RMX	**La Rumorosa**	**0.20**	**242**	*e*P		**Pg**	**08 43 10.6**	**-0.2**
RMX				*e*S		**Sg**	**08 43 13.7**	**-0.4**
RMX	**La Rumorosa**	**0.20**	**242**	↑*e*P		**Pg**	**08 43 10.6**	**-0.2**
RMX				*e*S		**Sg**	**08 43 13.7**	**-0.4**
RMX				*e*			08 43 13.9		
	comp=E,11μm,0.1s								
RMX				*e*			08 43 14.1		
RMX				AML	AML		08 43 14.1		
	comp=N,11μm,0.2s								
COK	**Cook Ranch**	**0.20**	**39**	*i* P		**Pg**	**08 43 10.6**	**-0.1**
COK	**Cook Ranch**	**0.20**	**39**	↑*i*P		**Pg**	**08 43 10.6**	**-0.1**
CRR	**Carrizo Plain**	**0.21**	**337**	*i* P		**Pg**	**08 43 10.3**	**-0.6**
CRR	**Carrizo Plain**	**0.21**	**337**	↓*i*P		**Pg**	**08 43 10.3**	**-0.6**
SWSC	**Sam W. Stewart**	**0.25**	**15**	*i* P		**Pg**	**08 43 11.2**	**-0.5**
SWSC	**Sam W. Stewart**	**0.25**	**15**	↓*i*P		**Pg**	**08 43 11.2**	**-0.5**
DREC	**Desert Rsrch C**	**0.38**	**73**	*e*P		**Pb**	**08 43 14.6**	**+0.1**
DREC	**Desert Rsrch C**	**0.38**	**73**	↓*e*P		**Pb**	**08 43 14.6**	**+0.1**
CBKC	**Canebrake**	**0.38**	**303**	*i* P		**Pg**	**08 43 13.8**	**0.0**
CBKC	**Canebrake**	**0.38**	**303**	↑*i*P		**Pg**	**08 43 13.8**	**0.0**
CLIC	**Calipatria**	**0.53**	**33**	*i* P		**Pb**	**08 43 17.0**	**-0.1**
CLIC	**Calipatria**	**0.53**	**33**	↑*i*P		**Pb**	**08 43 17.0**	**-0.1**
CPBX	**Cerro Prieto**	**0.56**	**120**	*e*P		**Pb**	**08 43 17.6**	**+0.1**
CPBX				↓*e*P		**Pb**	**08 43 17.6**	**+0.1**
CPBX				↓*e*			08 43 34.6		
	comp=N,27μm,0.4s								
MBIG	**Mexicali**	**0.64**	**117**	*e*P		**Pb**	**08 43 19.1**	**+0.2**
MBIG	**Mexicali**	**0.64**	**117**	*e*P		**Pb**	**08 43 19.2**	**+0.2**
BAR	**Barrett**	**0.67**	**269**	*e*Pg		**Pg**	**08 43 18.6**	**-0.6**
BAR				*e*Sg		**Sg**	**08 43 27.6**	**-0.6**
BAR	**Barrett**	**0.67**	**269**	↑*e*P		**Pg**	**08 43 19.0**	**-0.3**
RDX	**Rancho Dawling**	**0.77**	**184**	*e*P		**Pg**	**08 43 20.8**	**-0.3**
RDX				*e*S		**Sg**	**08 43 31.8**	**+0.5**
RDX	**Rancho Dawling**	**0.77**	**184**	↓*e*P		**Pg**	**08 43 20.8**	**-0.3**
RDX				*e*S		**Sg**	**08 43 31.8**	**+0.5**
RDX				↓*e*			08 43 32.1		
	comp=N,1μm,0.3s								
CBX	**Cerro Bola**	**0.77**	**240**	*e*P		**Pg**	**08 43 20.6**	**-0.5**
CBX				*i* S		**Sg**	**08 43 31.2**	**0.0**
CBX	**Cerro Bola**	**0.77**	**240**	*e*P		**Pg**	**08 43 21.0**	**-0.1**
CBX				*e*S		**Sg**	**08 43 31.3**	**0.0**
CBX	**Cerro Bola**	**0.77**	**240**	↑*e*P		**Pg**	**08 43 21.0**	**-0.1**
CBX				*e*S		**Sg**	**08 43 31.3**	**0.0**
SDRC	**San Diego Road**	**0.90**	**273**	↑*e*P		**Pb**	**08 43 22.7**	**-0.7**
GLA	**Glamis**	**0.95**	**68**	*e*Pg		**Pb**	**08 43 23.2**	**-1.0**
GLA				*e*Sg		**Sb**	**08 43 36.0**	**-0.7**
PFO	**Pinyon Flats O**	**1.03**	**332**	*e*Pg		**Pb**	**08 43 24.5**	**-1.3**
PFO				*e*Sg		**Sb**	**08 43 38.5**	**-0.7**
PBX	**Punta Banda**	**1.19**	**217**	*e*P		**Pn**	**08 43 28.4**	**+0.2**
PBX	**Punta Banda**	**1.19**	**217**	*e*P2		**Pn**	**08 43 28.4**	**+0.2**
ECNX	**Esteban Cantu**	**1.20**	**211**	*e*P		**Pn**	**08 43 28.6**	**+0.1**
ECNX	**Esteban Cantu**	**1.20**	**211**	↓*e*P		**Pn**	**08 43 28.6**	**+0.1**
ZAX	**El Zacaton**	**1.23**	**196**	↓*e*P		**Pn**	**08 43 29.1**	**+0.4**
ECBX	**El Chinero**	**1.41**	**150**	*e*P9		**Pn**	**08 43 30.3**	**-0.8**
ECBX				*e*S		**Sb**	**08 43 50.0**	**+0.2**
SPIG	**San Pedro Mart**	**1.68**	**168**	*e*P		**Pn**	**08 43 35.5**	**+0.3**
SPIG	**San Pedro Mart**	**1.68**	**168**	*e*P		**Pn**	**08 43 35.5**	**+0.3**
SPIG	**San Pedro Mart**	**1.68**	**168**	↓*e*P		**Pn**	**08 43 35.8**	**+0.6**
SPX	**San Pedro Mart**	**1.68**	**168**	*e*P		**Pn**	**08 43 35.6**	**+0.3**
SPX	**San Pedro Mart**	**1.68**	**168**	*e*P4		**Pn**	**08 43 35.8**	**+0.5**
MWC	**Mount Wilson**	**2.38**	**310**	*e*Pn		**Pb**	**08 43 48.4**	**-0.4**
MWC				*e*Sg		**Sb**	**08 44 18.2**	**+0.2**
PASC	**Pasadena Art C**	**2.43**	**308**	*e*Pn		**Pb**	**08 43 48.7**	**-0.8**
PASC				*e*Sg		**Sb**	**08 44 21.0**	**+1.8**
214A	**Organ Pipe Nat**	**2.70**	**105**	*e*Pn		**Pn**	**08 43 47.9**	**-1.0**
GSC	**Goldstone, Bar**	**2.71**	**344**	*e*Pn		**Pn**	**08 43 51.2**	**+2.0**
GSC				*e*Sg		**Sg**	**08 44 31.9**	**-1.4**
OSI	**Osito Audit: C**	**3.05**	**310**	*e*Pg		**Pb**	**08 44 00.3**	**+0.2**
ISA	**Isabella, Lake**	**3.66**	**325**	*e*Pn		**Pn**	**08 44 03.2**	**+1.0**
ISA				*e*Pg		**Pb**	**08 44 12.6**	**+2.0**
DAC	**Darwin (Calif)**	**3.84**	**339**	Pn		**Pn**	**08 44 07.2**	**+2.3**
DAC				*e*Pg		**Pg**	**08 44 18.8**	**-0.9**
SHPR	**Sheep Range**	**3.85**	**9**	*e*Pn		**Pn**	**08 44 06.4**	**+1.5**
TUC	**Tucson**	**4.32**	**94**	*e*Pn		**Pn**	**08 44 11.6**	**+0.3**
WUAZ	**Wupatki**	**4.67**	**52**	*e*Pn		**Pn**	**08 44 17.4**	**+1.1**
R11A	**Troy Canyon, C**	**5.64**	**2**	*e*Pg		**Pg**	**08 44 51.8**	**-2.4**
	comp=N,2.6nm,1.0s								
121A	**Cookes Peak, D**	**6.83**	**89**	*e*Pn		**Pn**	**08 44 46.0**	**+0.2**
	comp=N,6.8nm,0.5s								
MVCO	**Mesa Verde**	**7.54**	**51**	Pn		Pn	08 44 59.5	+3.8
	comp=N,4.3nm,0.6s								

*ISCJB **01** 08:57:03.1±0.2, 61.°17N±0.°02×150.°61W±0.°04, h72km±3km, mb3.8/2, Error ellipse: s-maj=3.6km s-min=3.2km az=155.2*
*NEIC **01** 08:57:04.8, 61.°18N×150.°73W, h62km, ML3.1(AEIC), After AEIC.*
NEIC Felt [II] at Anchorage. Also felt at Elmendorf AFB.
*IDC **01** 08:57:06.7±7.0, 61.°34N×150.°59W, h80km±65km, mb3.4/2, mb1 3.4/5, mb1mx3.0/37, mbtmp3.5/5, ML3.3/3, MS2.2/1, Ms1 2.3/1, ms1mx2.1/37, Error ellipse: s-maj=54.9km s-min=37.4km az=45.0*
ISC 01 08:57:04.3±0.9, 61.°17N±0.°03×150.°66W±0.°03, h63km±6km, n91, σ0°82/102, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FIB	**Fire Island**	**0.24**	**90**	P		**Pn**	**08 57 14.9**	**+0.7**
FIB				S		**Sn**	**08 57 21.4**	**-0.1**
SUA	**Susitna One**	**0.30**	**353**	P		**Pn**	**08 57 14.2**	**-0.8**
SUA				S		**Sn**	**08 57 22.1**	**-0.5**
RC01	**Rabbit Creek A**	**0.46**	**99**	P		**Pn**	**08 57 15.8**	**-0.2**
RC01				S		**Sn**	**08 57 25.2**	**+0.5**
NKA	**Nikishka**	**0.51**	**214**	P		**Pn**	**08 57 17.7**	**+1.1**
STLK	**Strandline Lak**	**0.66**	**301**	P		**Pn**	**08 57 17.8**	**-0.5**
SLKM	**Skilak Lake**	**0.70**	**162**	P		**Pn**	**08 57 18.4**	**-0.3**
CRP	**Crater Peak**	**0.73**	**279**	P		**Pn**	**08 57 18.6**	**-0.6**
CRP				S		**Sn**	**08 57 29.4**	**-0.8**
CKN	**Chakachatna No**	**0.74**	**275**	P		**Pn**	**08 57 18.8**	**-0.5**
CKL	**Chakachamna La**	**0.81**	**273**	P		**Pn**	**08 57 19.5**	**-0.7**
SPBG	**Spurr Blockage**	**0.83**	**277**	P		**Pn**	**08 57 19.7**	**-0.7**
SPBG				S		**Sn**	**08 57 31.4**	**-0.9**
BGL	**Barrier Glacie**	**0.84**	**277**	P		**Pn**	**08 57 19.9**	**-0.7**
PMR	**Palmer**	**0.85**	**59**	P		**Pn**	**08 57 20.6**	**0.0**
PMR				S		**Sn**	**08 57 33.6**	**+1.1**
PTE	**Portage**	**0.85**	**110**	P		**Pn**	**08 57 20.9**	**+0.4**
SKT	**Skwentna**	**0.92**	**333**	P		**Pn**	**08 57 21.1**	**-0.3**
SKT				S		**Sn**	**08 57 34.1**	**+0.1**
DFR	**Drift River**	**1.15**	**241**	P		**Pn**	**08 57 23.9**	**-0.5**
TRAP	**Trapper Creek**	**1.19**	**9**	P		**Pn**	**08 57 24.8**	**0.0**
RDN	**Redoubt North**	**1.22**	**238**	P		**Pn**	**08 57 24.8**	**-0.6**
SEW	**Seward**	**1.22**	**150**	P		**Pn**	**08 57 24.8**	**-0.5**
RSO	**Redoubt South**	**1.25**	**236**	*e*Pn		**Pn**	**08 57 25.4**	**-0.5**
NCT	**North Crescent**	**1.27**	**242**	P		**Pn**	**08 57 25.6**	**-0.4**
RDWB	**Redoubt West**	**1.27**	**238**	P		**Pn**	**08 57 25.6**	**-0.5**
BRLK	**Bradley Lake**	**1.41**	**185**	P		**Pn**	**08 57 28.1**	**+0.2**
BRLK				S		**Sn**	**08 57 46.6**	**+1.0**
HOM	**Homer**	**1.59**	**198**	P		**Pn**	**08 57 30.8**	**+0.6**
ILS	**Iliamna Low So**	**1.70**	**225**	P		**Pn**	**08 57 32.1**	**+0.3**
SCM	**Sheep Creek Mo**	**1.73**	**66**	P		**Pn**	**08 57 32.7**	**+0.4**
GLI	**Glacier Island**	**1.76**	**98**	P		**Pn**	**08 57 31.7**	**-0.8**
PPLA	**Purkeypile**	**1.88**	**338**	P		**Pn**	**08 57 34.6**	**+0.4**
JPK	**Jack Peak**	**1.98**	**91**	P		**Pn**	**08 57 35.3**	**-0.2**
OPI	**Oil Point**	**1.98**	**221**	P		**Pn**	**08 57 36.3**	**+0.7**
VLZ	**Valdez**	**2.10**	**89**	P		**Pn**	**08 57 37.1**	**+0.1**
AUP	**Augustine Pinn**	**2.27**	**218**	P		**Pn**	**08 57 40.5**	**+1.0**
AUH	**Augustine H**	**2.28**	**219**	P		**Pn**	**08 57 40.9**	**+1.3**
AUI	**Augustine Isla**	**2.30**	**218**	P		**Pn**	**08 57 40.5**	**+0.7**
TRF	**Thorofare Moun**	**2.30**	**4**	P		**Pn**	**08 57 40.6**	**+0.6**
KLU	**Klutina**	**2.31**	**80**	P		**Pn**	**08 57 39.5**	**-0.5**
CAST	**Castle Rocks**	**2.36**	**344**	P		**Pn**	**08 57 41.1**	**+0.5**
DIV	**Divide**	**2.37**	**89**	P		**Pn**	**08 57 40.5**	**-0.4**
SVW2	**Sparrevohn**	**2.39**	**270**	P		**Pn**	**08 57 40.4**	**-0.6**
KTH	**Kantishna Hill**	**2.40**	**357**	P		**Pn**	**08 57 41.6**	**+0.4**
RND	**Reindeer**	**2.40**	**20**	P		**Pn**	**08 57 41.5**	**+0.2**
DHY	**Denali Highway**	**2.46**	**37**	P		**Pn**	**08 57 42.9**	**+0.7**
**

470nm,14.3s

MKAR Makanchi Array 13.56 344 Pn **Pn** 09 14 19.2 -0.8
0.2nm,0.3s,baz=174,slow=12,SNR=14
MKAR LR LR 09 20 33.8
comp=Z,115nm,18.7s,baz=163,slow=42

AAK Ala-Archa 13.58 314 Pn **Pn** 09 14 20.8 +0.3
0.1nm,0.3s,baz=154,slow=19,SNR=5.8

CD2 Chengdu 13.86 98 *e*P Pn 09 14 17.8 -6.6
CD2 sP 09 14 25.2
CD2 PP **P** **09 14 30.1 -2.1**
CD2 S **Sn** **09 16 54.6 -2.4**
CD2 SS **SnSn** **09 17 10.6 +1.3**
CD2 pmax pmax
comp=Z,10.0nm,1.2s
CD2 pmax pmax
comp=Z,110nm,4.8s
CD2 LR LR
comp=N,330nm,8.4s
CD2 LR LR
comp=E,620nm,9.6s
CD2 LR LR
comp=Z,470nm,10.8s

BHPL Bhopal 13.92 223 *e*P Pn 09 14 20.6 -4.6
BHPL AMB AMB 09 14 22.0
comp=Z,21nm,0.3s

XAN Xi'an 17.58 84 P **P** **09 15 15.4 +1.9**
XAN pP **pP** **09 15 22.5 -0.1**
XAN PMZ
comp=Z,4.0nm,0.9s
XAN LN
comp=Z,650nm,16.4s
XAN LZ
comp=Z,150nm,10.3s

KURBB Kurchatov Arra 18.05 341 P **Pn** **09 15 17.4 -0.9**
comp=Z,0.3nm,0.3s,baz=154,slow=11,SNR=40

CMAR Chiang Mai Arr 18.33 144 P **P** **09 15 21.8 +0.1**
comp=Z,0.1nm,0.3s,baz=328,slow=11,SNR=16
CMAR LR LR 09 22 42.0
comp=Z,89nm,20.7s,baz=325,slow=38

SONM Songino Array 19.78 40 P **Pn** **09 15 39.6 +0.4**
comp=Z,0.1nm,0.3s,baz=228,slow=12,SNR=24

ZALV Zalesovo Beam 20.18 355 P **P** **09 15 41.9 +0.2**
comp=Z,2.8nm,0.5s,baz=170,slow=9.0,SNR=16
ZALV LR LR 09 24 47.6
comp=Z,138nm,18.4s,baz=250,slow=41

WHN Wuhan 22.74 91 P **P** **09 16 08.6 -0.8**
WHN S **S** **09 20 17.4 +1.6**
WHN LN
comp=Z,750nm,9.6s
WHN LE
comp=Z,340nm,9.8s
WHN LZ
comp=Z,500nm,10.6s

BVAR Borovoye Array 22.81 332 P **P** **09 16 09.9 0.0**
comp=Z,1.6nm,0.6s,baz=145,slow=11,SNR=9.8

GEYT Alibeck 24.28 288 P **P** **09 16 25.3 +1.0**
comp=Z,1.8nm,0.5s,baz=113,slow=3.3,SNR=3.2
GEYT LR LR 09 27 45.0
comp=Z,319nm,19.5s,baz=80,slow=41

AKTO Aktyubinsk 27.30 316 P **P** **09 16 53.1 +1.6**
comp=Z,1.6nm,0.8s,baz=142,slow=4.4,SNR=4.2

KSRS Korea Array 32.68 72 P **P** **09 17 39.6 +0.4**
comp=Z,0.8nm,0.7s,baz=269,slow=7.2,SNR=3.4

BRTR Keskin Array B 43.16 294 P **P** **09 19 08.2 +0.5**
comp=Z,0.4nm,0.4s,baz=108,slow=4.7,SNR=3.8

AKASG Malin Array Be 45.21 310 P **P** **09 19 23.4 -0.4**
comp=Z,2.7nm,0.7s,baz=79,slow=7.3,SNR=14
AKASG LR LR 09 41 32.3
comp=Z,56nm,18.3s,baz=60,slow=40

FINES FINESS Array B 47.45 325 P **P** **09 19 41.1 -0.1**
comp=Z,1.9nm,0.7s,baz=107,slow=6.4,SNR=6.3

ARCES ARCESS Array B 49.03 336 P **P** **09 19 53.4 0.0**
comp=Z,1.7nm,0.7s,baz=96,slow=8.3,SNR=3.1

NB2 NORSAR Subarra 54.62 325 P **P** **09 20 35.1 -0.1**
comp=Z,1.5nm,0.7s,baz=84,slow=7.4

NOA NORSAR Array B 54.62 325 P **P** **09 20 34.4 -0.8**
comp=Z,0.3nm,0.4s,baz=84,slow=7.4,SNR=4.9

BRG Berggiesshubel 54.81 312 *e*(P) **P** **09 20 39.5 +2.8**
comp=Z,2.3nm,0.8s

GEC2 GERESS Array S 55.41 310 *e*P P 09 20 44.4 +3.2
comp=Z,6.0nm,1.3s

GERES GERESS Array B 55.41 310 P **P** **09 20 41.1 -0.1**
comp=Z,2.7nm,0.7s,baz=77,slow=5.8,SNR=27
GERES LR LR 09 45 47.0
comp=Z,61nm,20.1s,baz=72,slow=38

ROTZ Rotzenmuhle 56.14 311 *e*P P 09 20 50.0 +3.7
comp=Z,5.0nm,1.1s

CLZ Clausthal 56.77 314 *e*P P 09 20 54.0 +3.2
comp=Z,5.0nm,0.8s

NRDL Niedersach Rie 56.77 314 *e*P P 09 20 54.3 +3.7
comp=Z,4.0nm,0.8s

GRF Grafenberg Arr 56.78 311 *e*P P 09 20 54.5 +3.7
comp=Z,11nm,1.3s

CDF Champ du Feu 59.63 310 *e*P **P** **09 21 10.1 -0.8**
comp=Z,3.5nm,0.8s

PGF Pioggiola 60.41 304 *e*P **P** **09 21 15.0 -1.3**
comp=Z,6.5nm,0.8s

LPG La Plagne 60.92 307 *e*P **P** **09 21 19.5 -0.5**
comp=Z,8.9nm,0.9s

LPL La Plagne 60.92 307 *e*P **P** **09 21 19.5 -0.4**
comp=Z,9.8nm,0.8s

SBF Sospel 61.02 305 *e*P **P** **09 21 19.6 -0.8**
comp=Z,13nm,0.8s

ORIF Oris-en-Rattie 61.70 307 *e*P **P** **09 21 24.3 -0.7**
comp=Z,3.9nm,0.7s

LOR Lormes 62.18 310 *e*P **P** **09 21 27.5 -0.6**

SMF Signal de Mont 62.41 309 *e*P **P** **09 21 28.7 -1.0**
comp=Z,4.2nm,0.8s

SSF Saint Saulge 62.48 310 *e*P **P** **09 21 29.0 -1.1**

TCF Toulx Ste Croi 63.59 309 *e*P **P** **09 21 36.9 -0.7**
comp=Z,5.2nm,0.8s

CAF Calviac 64.21 308 *e*P **P** **09 21 41.2 -0.5**

WRA Warramunga Arr 69.53 133 P **P** **09 22 15.6 -0.1**
comp=Z,2.2nm,0.5s,baz=326,slow=6.7,SNR=27

ESDC Sonseca Array 70.50 305 P **P** **09 22 22.5 +0.9**
comp=Z,0.3nm,0.4s,baz=55,slow=5.8,SNR=4.0

ASAR Alice Springs 72.13 136 P **P** **09 22 31.1 -0.3**
comp=Z,1.8nm,0.7s,baz=324,slow=6.4,SNR=26
ASAR LR LR 10 01 08.4
comp=Z,38nm,20.1s,baz=353,slow=42

ILAR Eielson Array 72.86 21 P **P** **09 22 35.1 -0.2**
comp=Z,0.8nm,0.9s,baz=297,slow=4.7,SNR=10

TORD Torodi Ar. Bea 79.55 279 P **P** **09 23 12.4 -1.7**
comp=Z,0.7nm,0.7s,baz=52,slow=3.6,SNR=7.0

YKA Yellowknife Ar 82.30 10 P **P** **09 23 27.5 -0.4**
comp=Z,0.6nm,0.8s,baz=337,slow=5.4,SNR=7.4

CPUP Villa Florida 148.96 275 PKPbc **PKPbc** **09 30 54.1 -0.7**
comp=Z,0.7nm,0.9s,baz=90,slow=20,SNR=4.9

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*ISCJB **01** 09:14:07.3±0.6,37.°33N±0.°09×78.°9E±0.°1,h33km, Error ellipse: s-maj=19.4km s-min=6.5km az=144.1*
*BJI **01** 09:14:09.1,37.°56N×78.°74E,h11km,ML3.4/7*
ISC 01 09:14:09.7±1.4**,37.°3N**±0.°1×**78.°8E**±0.°2**,h35**km**,n12,**
σ0$68/11,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**3.08**	**316**	Pn	Pn	09 14 57.4	+1.4
KSH				Sn	**Sn**	**09 15 31.5**	**-0.2**
KSH				SMN			
	120nm,0.5s						
KSH				SME			
	100nm,0.6s						
WMQ	**Urumqi**	**9.39**	**44**	*e*P	**Pn**	**09 16 22.8**	**+0.3**
WMQ				pP		09 16 29.0	
GKN	**Gorkha**	**10.54**	**150**	*e*P	**Pn**	**09 16 39.2**	**+0.7**
	18nm,0.3s						
KKN	**Kakani**	**10.99**	**148**	*e*P	**Pn**	**09 16 44.5**	**-0.2**
	7.6nm,0.6s						
DMN	**Daman**	**11.08**	**149**	*e*P	**Pn**	**09 16 46.5**	**+0.6**
	4.6nm,0.3s						
GUN	**Gumba**	**11.15**	**145**	*e*P	**Pn**	**09 16 47.3**	**+0.3**
	14nm,0.4s						
PKIN	**Phulchoki**	**11.23**	**148**	*e*P	**Pn**	**09 16 47.7**	**-0.3**
	7.5nm,0.5s						
PKI	**Pulchoki**	**11.24**	**148**	*e*P	**Pn**	**09 16 48.4**	**+0.2**
	10nm,0.5s						
JIRN	**Jiri**	**11.51**	**145**	*e*P	**Pn**	**09 16 52.3**	**+0.4**
	36nm,0.4s						
RAMN	**Ramite**	**12.30**	**145**	*e*P	**Pn**	**09 17 01.5**	**-1.1**
	15nm,0.4s						
TAPN	**Taplejung**	**12.50**	**140**	*e*P	**Pn**	**09 17 04.4**	**-1.0**
	3.6nm,0.3s						
ODAN	**Odare**	**12.75**	**143**	*e*P	Pn	09 17 06.1	-2.6

2010 MAY

*NIED **01** 09:20:00,37.°60N×139.°20E,h8km,Mw4.6 Best double couple: M0=1.00000×10^16 NP1:φ=220.00000°, δ=44.00000°, λ=95.00000°. NP2:φ=33.00000°, δ=47.00000°, λ=85.00000°.*
*BJI **01** 09:20:33.8,37.°42N×139.°73E,h41km,mb4.6/47,mB4.9/39, Ms4.4/47,Ms7 4.2/44*
*IDC **01** 09:20:34.4±0.4,37.°60N×139.°03E,h0km,mb4.5/27, mb1 4.7/29,mb1mx4.6/33,mbtmp4.6/29,ML2.6/1,MS3.7/17, Ms1 3.7/17,ms1mx3.5/37,Error ellipse: s-maj=13.2km s-min=8.6km az=113.0*
*ISCJB **01** 09:20:36.5±0.3,37.°60N±0.°02×139.°04E±0.°02,h17km±2km, mb4.8/178,MS3.8/25,Error ellipse: s-maj=3.2km s-min=2.1km az=162.4*
*JMA **01** 09:20:37.2,37.°56N×139.°19E,h9km±1km,M4.9 Broadband fault plane solution: P waves. NP1: φ=218.00000°,δ=48.00000°,λ=102.00000°. NP2: φ=21.00000°,δ=44.00000°,λ=77.00000°. Principal axes: T Plg81.0000°, Azm195.0000°; N Plg9.0000°, Azm30.0000°; P Plg2.0000°, Azm300.0000°;*
JMA Felt IV J1.
*MOS **01** 09:20:38.8±1.1,37.°61N×139.°02E,h39km,mb5.1/77 Error ellipse: s-maj=6.7km s-min=4.2km az=96.0*
*NEIC **01** 09:20:40.9±0.4,37.°55N×138.°96E,h44km±3km,mb4.9/109, MW4.6(NIED),Error ellipse: s-maj=3.5km s-min=2.6km az=152.0*
NEIC Felt at Daigo, Fujioka, Maebashi, Nagaoka, Niigata and Niitsu. Recorded [4 JMA] in Niigata; [3 JMA] in Fukushima and Gumma; [2 JMA] in Ishikawa, Nagano, Saitama, Tochigi and Yamagata; [1 JMA] in Akita, Ibaraki, Miyagi, Toyama and Yamanashi. Also recorded [2 JMA] on Sadoga-shima and [1 JMA] on Hegura-jima.
*SZGRF **01** 09:20:43.2,38.°29N×139.°66E,h33km,mb4.8,Near west coast of eastern Honshu, Japan*
ISC 01 09:20:38.7±0.4**,37.°54N**±0.°03×**139.°17E**±0.°03**,h29**km±2km**,**
h28km**:pP-P,n875,**σ1$**23**/917**,mb4.9**/181**,MS3.8**/25**,**
188C-211D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNS	**Sasagawa**	**0.31**	**23**	↑P	Pb	09 20 42.5	-3.7
JNS				S	**Sb**	**09 20 46.5**	**-4.8**
JHK	**Hiroka**	**0.31**	**203**	↓P	**Pb**	**09 20 43.7**	**-2.5**
JHK				S	**Sb**	**09 20 48.5**	**-2.8**
JIZZ	**Izumozaki**	**0.36**	**270**	↓P	**Pb**	**09 20 45.5**	**-1.5**
JFY	**Yanaizu**	**0.45**	**106**	↓P	**Pb**	**09 20 45.7**	**-2.6**
JFY				S	**Sb**	**09 20 52.1**	**-2.7**
JKT	**Katashina**	**0.77**	**175**	↓P	**Pb**	**09 20 51.8**	**-1.8**
JKT				S	**Sb**	**09 21 02.6**	**-1.2**
JSD	**Sado**	**0.88**	**305**	↓P	**Pb**	**09 20 52.5**	**-2.8**
JSD				S	**Sb**	**09 21 06.2**	**-0.5**
JAW	**Awa shima**	**0.92**	**4**	↓P	**Pn**	**09 20 53.2**	**-2.5**
JAW				S	**Sb**	**09 21 05.7**	**-2.3**
JFT	**Otama**	**0.93**	**91**	↓P	**Pn**	**09 20 54.1**	**-1.8**
JFT				S	**Sb**	**09 21 06.6**	**-1.7**
JYS	**Shirataka**	**0.99**	**46**	P	**Pn**	**09 20 54.9**	**-1.7**
JYS				S	**Sb**	**09 21 08.0**	**-1.9**
MAJO	**Matsushiro**	**1.25**	**218**	*c i*P	**Pn**	**09 20 59.8**	**-0.5**
MAJO	**Matsushiro**	**1.25**	**218**	*e*Pn	**Pn**	**09 20 59.9**	**-0.5**
MAJO				*e*Sn	**Sn**	**09 21 16.7**	**+0.5**
MAT	**Matsushiro**	**1.25**	**218**	P	**Pn**	**09 20 59.7**	**-0.6**
MAT				S	**Sn**	**09 21 16.7**	**+0.5**
MJAR	**Matsushiro Arr**	**1.25**	**218**	Pg	**Pn**	**09 20 59.8**	**-0.5**
	361nm,0.3s,baz=27,slow=16,SNR=335						
MJAR				Lg	Lg	09 21 15.4	
	1μm,0.3s,baz=23,slow=26,SNR=34						
MJAR				LR	LR	09 21 35.0	
	comp=Z,3μm,18.8s,baz=25,slow=49						
MJAR	**Matsushiro Arr**	**1.25**	**218**	P	**Pn**	**09 20 59.8**	**-0.5**
MJAR				pmax	pmax		
	comp=Z,361nm,0.3s						
MJAR				pmax	pmax		
	comp=N,1.0nm,0.3s						
I30JP	**ISUMI INFRASON**	**2.41**	**157**	Pn	**Pb**	**09 21 19.4**	**-1.9**
	baz=352,slow=14						
I30JP				Lg	Lg	09 21 55.9	
	baz=311,slow=31						
I30JP				*i*		09 34 00.0	
	baz=340,slow=326,SNR=0.4						
JHJ2	**Mitsune**	**4.45**	**173**	*e*Pn	**Pn**	**09 21 45.4**	**+1.3**
ERM	**Erimo**	**5.43**	**33**	*d*P	**Pn**	**09 21 58.6**	**+1.0**
ERM				pmax	pmax		
	comp=Z,201nm,1.2s						
ERM	**Erimo**	**5.43**	**33**	*e*Pn	**Pn**	**09 21 59.1**	**+1.5**
ASAJ	**Asahikawa**	**7.07**	**20**	Pn	Pn	09 22 23.3	+3.1
	comp=Z,1.4nm,0.3s,baz=203,slow=10,SNR=12						
ASAJ				LR	LR	09 25 35.0	
	comp=Z,490nm,18.2s,baz=224,slow=43						
ASAJ	**Asahikawa**	**7.07**	**20**	P	Pn	09 22 23.3	+3.1
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,490nm,18.3s						
KSULJ	**Ulijin**	**7.84**	**267**	P	**Pn**	**09 22 32.4**	**+1.7**
	SNR=7.4						
KSULJ	**Ulijin**	**7.84**	**267**	P	**Pn**	**09 22 32.4**	**+1.7**
	SNR=7.4						
VLA	**Vladivostok**	**7.87**	**317**	*e*P	**Pn**	**09 22 30.4**	**-0.8**
JNU	**Nakatsue**	**8.08**	**239**	Pn	**Pn**	**09 22 35.9**	**+1.8**
	comp=Z,0.8nm,0.3s,baz=50,slow=6.1,SNR=16						
JNU				LR	LR	09 25 50.1	
	comp=Z,682nm,19.4s,baz=20,slow=39						
JNU	**Nakatsue**	**8.08**	**239**	*e*Pn	**Pn**	**09 22 35.6**	**+1.5**
KSTBA	**Taebaek**	**8.15**	**270**	P	**Pn**	**09 22 37.0**	**+1.9**
	SNR=9.0						
KSTBA	**Taebaek**	**8.15**	**270**	P	**Pn**	**09 22 37.0**	**+1.9**
	SNR=9.0						
YUK	**Yuzh-Kuril'sk**	**8.24**	**36**	*c i*P	**Pn**	**09 22 35.7**	**-0.5**
YUK				*i* S	**Sn**	**09 24 05.1**	**-3.2**
YUK				pmax	pmax		
	comp=N,52nm,0.8s						
YUK				pmax	pmax		
	comp=E,91nm,0.8s						
YUK				pmax	pmax		
	comp=Z,109nm,0.8s						
YUK				smax	smax		
	comp=N,976nm,2.1s						
YUK				smax	smax		
	comp=E,1μm,2.1s						
YUK				MLR	MLR		
	comp=N,1μm,5.0s						
YUK				MLR	MLR		
	comp=E,2μm,5.0s						
YUK				MLR	MLR		
	comp=Z,685nm,5.0s						
KSSKC	**Sokcho**	**8.45**	**278**	P	**Pn**	**09 22 40.4**	**+1.3**
	SNR=6.0						
KSSKC	**Sokcho**	**8.45**	**278**	P	**Pn**	**09 22 40.4**	**+1.3**
	SNR=6.0						
KSYOW	**Yeongwol**	**8.54**	**271**	P	**Pn**	**09 22 42.5**	**+2.2**
	SNR=7.8						
KSYOW	**Yeongwol**	**8.54**	**271**	P	**Pn**	**09 22 42.5**	**+2.2**
	SNR=7.8						
USRK	**Ussuriysk Ar.**	**8.59**	**323**	Pn	**Pn**	**09 22 39.8**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=135,slow=14,SNR=16						
USRK				Sn	**Sn**	**09 24 15.6**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=123,slow=26,SNR=3.8						
SEHB	**SEOHWA**	**8.66**	**278**	P	**Pn**	**09 22 43.4**	**+1.4**
	SNR=20						
SEHB	**SEOHWA**	**8.66**	**278**	P	**Pn**	**09 22 43.4**	**+1.4**
	SNR=20						
KSIJA	**INJE**	**8.77**	**276**	P	**Pn**	**09 22 45.1**	**+1.5**
	SNR=21						
KSIJA	**INJE**	**8.77**	**276**	P	**Pn**	**09 22 45.1**	**+1.5**
	SNR=21						
KSWJU	**Wonju**	**8.84**	**273**	P	**Pn**	**09 22 46.6**	**+2.1**
	SNR=8.6						
KSWJU	**Wonju**	**8.84**	**273**	P	**Pn**	**09 22 46.6**	**+2.1**
	SNR=8.6						
KSRS	**Korea Array**	**8.94**	**273**	Pn	**Pn**	**09 22 48.1**	**+2.3**
	comp=Z,5.3nm,0.3s,baz=88,slow=14,SNR=54						
KSRS				Sn	**Sn**	**09 24 25.9**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=81,slow=25,SNR=5.1						
KSRS				LR	LR	09 25 59.4	
	comp=Z,519nm,18.2s,baz=85,slow=37						
KSRS	**Korea Array**	**8.94**	**273**	P	**Pn**	**09 22 48.1**	**+2.3**
KSRS						09 24 26.0	
KSRS				pmax	pmax		
	comp=Z,5.0nm,0.3s						
KSRS				smax	smax		
	comp=N,1.0nm,0.3s						
KSRS				MLR	MLR		
	comp=Z,519nm,18.2s						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSCHJ	**Chungju**	**8.96**	**269**	P	**Pn**	**09 22 48.4**	**+2.4**
	SNR=28						
KSCHJ	**Chungju**	**8.96**	**269**	P	**Pn**	**09 22 48.4**	**+2.4**
	SNR=28						
KSAR	**Wonju Array Be**	**8.97**	**273**	P	**Pn**	**09 22 48.1**	**+1.8**
KSAR						09 24 26.0	
KSAR	**Wonju Array Be**	**8.97**	**273**	Pn	**Pn**	**09 22 48.1**	**+1.8**
KSAR				Sn	**Sn**	**09 24 25.9**	**-0.3**
KSCHC	**Chuncheon**	**9.01**	**275**	P	**Pn**	**09 22 48.6**	**+1.8**
	SNR=12						
KSCHC	**Chuncheon**	**9.01**	**275**	P	**Pn**	**09 22 48.6**	**+1.8**
	SNR=12						
KSCPR	**CHUPUNGNYEONG**	**9.07**	**265**	P	**Pn**	**09 22 50.2**	**+2.6**
	SNR=13						
KSCPR	**CHUPUNGNYEONG**	**9.07**	**265**	P	**Pn**	**09 22 50.2**	**+2.6**
	SNR=13						
KSBON	**Boeun**	**9.15**	**267**	P	**Pn**	**09 22 51.1**	**+2.3**
	SNR=11						
KSBON	**Boeun**	**9.15**	**267**	P	**Pn**	**09 22 51.1**	**+2.3**
	SNR=11						
KSCWO	**Cheorwon**	**9.24**	**277**	P	**Pn**	**09 22 52.3**	**+2.3**
	SNR=10						
KSCWO	**Cheorwon**	**9.24**	**277**	P	**Pn**	**09 22 52.3**	**+2.3**
	SNR=10						
KSCEA	**Cheonan**	**9.53**	**269**	P	**Pn**	**09 22 56.4**	**+2.5**
	SNR=19						
KSCEA	**Cheonan**	**9.53**	**269**	P	**Pn**	**09 22 56.4**	**+2.5**
	SNR=19						
YSS	**Yuzh-Sakhalins**	**9.78**	**15**	*e*P	**Pn**	**09 23 00.0**	**+2.7**
YSS				*e*S	**Sn**	**09 24 50.0**	**+3.9**
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				MLR	MLR		
	comp=Z,400nm,15.0s						
YSS	**Yuzh-Sakhalins**	**9.78**	**15**	*e*Pn	**Pn**	**09 22 58.8**	**+1.5**
KSKOH	**Goheung**	**10.06**	**257**	P	Pn	09 23 04.4	+3.2
	SNR=156						
MDJ	**Mudanjiang**	**10.11**	**317**	P	Pn	09 23 05.3	+3.5
MDJ				S	Sn	09 25 04.0	+10
MDJ				PcP	**PcP**	**09 29 11.8**	**+1.5**
MDJ				PcS	**PcS**	**09 32 43.3**	**-0.3**
MDJ				PMZ			
	comp=Z,44nm,1.2s						
MDJ				PMZ			
	comp=Z,120nm,4.2s						
MDJ				LN			
	comp=Z,400nm,14.3s						
MDJ				LE			
	comp=Z,310nm,11.6s						
MDJ				LZ			
	comp=Z,540nm,13.0s						
MDJ	**Mudanjiang**	**10.11**	**317**	Pn	**Pn**	**09 23 01.4**	**-0.4**
	comp=Z,61nm,1.2s						
CBIJ	**Chichi jima**	**10.72**	**165**	Pn	**Pn**	**09 23 08.4**	**-1.9**
JCJ	**Chichijima**	**10.72**	**165**	Pn	**Pn**	**09 23 08.4**	**-1.9**
	comp=Z,13nm,0.3s,baz=311,slow=13,SNR=5.8						
HABR	**Khabarovsk**	**11.34**	**346**	P	**Pn**	**09 23 17.9**	**-0.7**
HABR				*e*S	**Sn**	**09 25 21.9**	**-2.3**
HABR				pmax	pmax		
	comp=N,37nm,1.4s						
HABR				pmax	pmax		
	comp=E,26nm,1.4s						
HABR				pmax	pmax		
	comp=Z,98nm,1.4s						
HABR				MLR	MLR		
	comp=Z,465nm,14.0s						
CN2	**Changchun**	**12.14**	**305**	*e*P	Pn	09 23 34.2	+4.5
CN2				*e*PP	P	09 23 45.8	+3.8
CN2				*e*S	**Sn**	**09 25 46.9**	**+2.8**
CN2				PMZ			
	comp=Z,30nm,1.1s						
CN2				PMZ			
	comp=Z,200nm,3.0s						
CN2				LN			
	comp=Z,1μm,13.0s						
CN2				LE			
	comp=Z,1μm,13.0s						
CN2				LZ			
	comp=Z,600nm,13.0s						
KLR	**Kul'dur**	**12.87**	**338**	*e*P	**Pn**	**09 23 39.2**	**-0.3**
KLR				*e*		09 26 09.5	
KLR				pmax	pmax		
	comp=E,50nm,1.6s						
KLR				pmax	pmax		
	comp=Z,100nm,1.6s						
DL2	**Dalian**	**13.86**	**281**	*e*P	**P**	**09 24 03.6**	**+2.5**
DL2				*e*S	**S**	**09 26 42.7**	**-4.8**
DL2				pmax	pmax		
	comp=Z,69nm,0.8s						
DL2				LR	LR		
	comp=E,520nm,10.8s						
JOW	**Kunigami**	**14.09**	**224**	Pn	**Pn**	**09 23 56.5**	**+0.2**
SSE	**Sheshan**	**16.17**	**252**	P	**P**	**09 24 29.5**	**+2.7**
SSE				PMZ			
	comp=E,72nm,1.3s						
SSE				PMZ			
	comp=E,160nm,3.1s						
SSE				LN			
	comp=E,690nm,15.5s						
SSE				LE			
	comp=E,210nm,15.5s						
SSE				LZ			
	comp=E,390nm,12.0s						
NJ2	**Nanjing**	**17.55**	**258**	*e*P	**Pn**	**09 24 41.4**	**+0.3**
NJ2				pP	**pP**	**09 24 50.3**	**+0.5**
NJ2				sP	sP	09 24 55.0	+1.5
NJ2				S	**Sn**	**09 27 53.0**	**-2.7**
NJ2				sS	**sS**	**09 28 16.5**	**+1.4**
NJ2				PMZ			
	comp=E,30nm,0.6s						
NJ2				PMZ			
	comp=E,440nm,7.9s						
NJ2				LN			
	comp=E,2μm,17.2s						
NJ2				LE			
	comp=E,940nm,10.6s						
NJ2				LZ			
	comp=E,2μm,18.1s						
TIA	**Tai'an**	**17.68**	**272**	↓P	**P**	**09 24 45.4**	**+1.9**
TIA				PMZ			
	comp=E,20nm,0.9s						
TIA				PMZ			
	comp=E,570nm,5.5s						
TIA				LN			
	comp=E,370nm,13.0s						
TIA				LE			
	comp=E,500nm,13.1s						
TIA				LZ			
	comp=E,690nm,12.9s						
BJI	**Beijing**	**18.09**	**285**	P	**Pn**	**09 24 47.0**	**-0.8**
BJI				pP	**pP**	**09 24 55.6**	**-0.1**
BJI				sP	**sP**	**09 24 59.7**	**+0.3**
BJI				S	**Sn**	**09 28 05.6**	**-3.1**
BJI				PMZ			
	comp=E,26nm,0.6s						
BJI				PMZ			
	comp=E,420nm,5.6s						
BJI				LN			
	comp=E,470nm,14.6s						
BJI				LE			
	comp=E,370nm,12.3s						
BJI				LZ			
	comp=E,98nm,14.0s						
BJT	**Baijiatuau**	**18.10**	**285**	*e*P	**P**	**09 24 49.4**	**+1.4**
BJT				pmax	pmax		
	comp=Z,21nm,0.6s						
BJT	**Baijiatuau**	**18.10**	**285**	*e*P	**P**	**09 24 49.4**	**+1.4**
	comp=Z,21nm,0.6s						
HIA	**Hailar**	**18.29**	**316**	*e*P	**P**	**09 24 50.0**	**-0.1**
HIA				pmax	pmax		
	comp=Z,32nm,1.3s						
HIA	**Hailar**	**18.29**	**316**	*e*P	**Pn**	**09 24 50.5**	**+0.4**
	comp=Z,19nm,0.7s						
PEA0B	**Petropavlovsk-**	**20.21**	**34**	*e*P	Pn	09 25 12.4	-0.8
PETK	**Petropavlovsk-**	**20.21**	**34**	P	**P**	**09 25 10.9**	**-0.1**
	comp=Z,12nm,0.8s,baz=182,slow=7.3,SNR=6.2						
PETK				LR	LR	09 33 47.6	
	comp=Z,82nm,18.1s,baz=183,slow=39						
PETK	**Petropavlovsk-**	**20.21**	**34**	P	**P**	**09 25 11.0**	**-0.1**
PETK				pmax	pmax		
	comp=Z,12nm,0.8s						
PETK				MLR	MLR		
	comp=Z,82nm,18.1s						
PET	**Petropavlovsk**	**20.58**	**35**	*e*P	**P**	**09 25 15.8**	**+0.7**
PET				*e*S	**S**	**09 28 59.3**	**-4.3**
PET				pmax	pmax		

comp=Z,22nm,0.7s
PET MLR MLR
comp=Z,200nm,19.0s
CLNS Chul'man 21.53 338 *e*P **P** **09 25 26.8 +1.5**
CLNS *e* 09 25 46.1
CLNS *e*S **S** **09 29 19.9 -2.4**
CLNS *e* 09 29 32.0
CLNS *e*SS **SnSn** **09 29 50.3 +3.8**
CLNS pmax pmax
comp=Z,4.0nm,0.7s
CLNS pmax pmax
comp=N,14nm,0.8s
CLNS pmax pmax
comp=E,7.0nm,1.0s
CLNS pmax pmax
comp=N,11nm,1.1s
CLNS pmax pmax
comp=E,9.0nm,0.9s
CLNS pmax pmax
comp=Z,10.0nm,1.0s
CLNS smax smax
comp=E,159nm,14.2s
CLNS smax smax
comp=N,92nm,9.2s
CLNS MLR MLR
comp=Z,170nm,13.0s
CLNS MLR MLR
comp=E,233nm,12.0s
CLNS MLR MLR
comp=N,160nm,16.0s
HHC Hu-ho-hao-te 21.61 287 *e*P **P** **09 25 23.1 -3.3**
HHC pP pP 09 25 36.8 +2.5
HHC sP sP 09 25 41.9 +3.9
HHC PP **PnPn** **09 25 50.7 +3.3**
HHC S S 09 29 13.0 -11
HHC PMZ
comp=N,23nm,0.7s
HHC PMZ
comp=N,49nm,4.5s
HHC LN
comp=N,480nm,10.6s
HHC LE
comp=N,510nm,11.0s
HHC LZ
comp=N,450nm,9.4s
WHN Wuhan 21.68 259 P **P** **09 25 25.7 -1.4**
WHN S **S** **09 29 21.6 -4.0**
WHN LN
comp=N,1μm,13.4s
WHN LE
comp=N,1μm,15.2s
WHN LZ
comp=N,1μm,14.4s
GUMO Guam 24.38 166 LR LR 09 34 23.6
comp=N,193nm,18.1s,baz=360,slow=34
XAN Xi'an 24.73 271 P **P** **09 25 55.7 -1.9**
XAN pP **pP** **09 26 04.2 -1.8**
XAN PMZ
comp=N,2.0nm,0.8s
XAN PMZ
comp=N,30nm,5.3s
XAN LN
comp=N,250nm,16.4s
XAN LE
comp=N,79nm,19.5s
XAN LZ
comp=N,120nm,13.3s
YAK Yakutsk 25.22 349 *e*P **P** **09 26 00.0 -1.7**
YAK *e**PP **pP** **09 26 07.9 -2.2**
YAK *e*PPP PPP 09 26 44.4
YAK *e* 09 29 37.1
YAK *e*S **S** **09 30 25.7 +0.7**
YAK *e**SS **sS** **09 30 39.3 +0.4**
YAK *e*SS **SnSn** **09 31 21.9 +5.2**
YAK *e*SSS SSS 09 31 40.1
YAK *e* 09 36 57.8
YAK pmax pmax
comp=Z,9.0nm,1.0s
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=Z,18nm,1.3s
YAK pmax pmax
comp=N,29nm,1.4s
YAK pmax pmax
comp=E,16nm,1.4s
YAK smax smax
comp=N,279nm,3.8s
YAK smax smax
comp=E,101nm,4.8s
YAK MLR MLR
comp=Z,295nm,14.0s
YAK MLR MLR
comp=E,70nm,14.0s
YAK MLR MLR
comp=N,216nm,14.0s
ULN Ulaanbaatar 25.59 304 *e*P **P** **09 26 03.3 -2.1**
ULN pmax pmax
comp=Z,12nm,1.2s
ULN Ulaanbaatar 25.59 304 *e*P **P** **09 26 04.5 -0.9**
comp=Z,28nm,1.5s
SONM Songino Array 26.02 304 P **P** **09 26 07.8 -1.4**
comp=Z,5.7nm,1.0s,baz=108,slow=7.9,SNR=24
SONM LR LR 09 36 30.2
comp=Z,103nm,18.2s,baz=196,slow=37
SONM Songino Array 26.02 304 P **P** **09 26 07.8 -1.4**
SONM pmax pmax
comp=Z,6.0nm,1.0s
SONM MLR MLR
comp=Z,103nm,18.2s
BOD Bodaibo 26.16 329 *e*P **P** **09 26 09.1 -1.2**
BOD pmax pmax
comp=Z,9.0nm,1.7s
SEY Seymchan 26.68 13 P **P** **09 26 14.5 -0.4**
comp=Z,5.0nm,0.9s,baz=219,slow=6.1,SNR=10
SEY Seymchan 26.68 13 P **P** **09 26 14.5 -0.4**
SEY pmax pmax
comp=Z,5.0nm,0.9s
LZH Lanzhou 28.22 278 *e*P **P** **09 26 30.4 +1.2**
LZH pP **pP** **09 26 39.3 +1.7**
LZH sP sP 09 26 44.9 +3.7
LZH *e*S **S** **09 31 14.2 +0.9**
LZH PMZ
comp=Z,13nm,1.0s
LZH PMZ
comp=Z,46nm,4.4s
LZH LN
comp=Z,490nm,13.9s
LZH LE
comp=Z,300nm,11.0s
LZH LZ
comp=Z,330nm,17.0s
ZAK Zakamensk 28.55 308 *e*P **P** **09 26 30.8 -1.1**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
TLY Talaya 28.65 311 *e*P P 09 26 28.0 -4.7
TLY *e*S S 09 31 13.9 -5.6
TLY pmax pmax
comp=Z,6.0nm,0.9s
TLY MLR MLR
comp=Z,260nm,14.0s
GYA Guiyang 29.56 258 P **P** **09 26 41.2 +0.1**
GYA pP pP 09 26 52.5 +2.9
GYA sP sP 09 26 57.4 +4.3
GYA PP **PnPn** **09 27 38.3 +2.2**
GYA S **S** **09 31 31.0 -3.4**
GYA sS sS 09 31 49.8 +1.4
GYA ScP **ScP** **09 33 24.3 -1.2**
GYA ScS **ScS** **09 37 18.0 -2.4**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,110nm,4.6s
GYA LN
comp=Z,530nm,16.5s
GYA LE
comp=Z,510nm,17.0s
GYA LZ
comp=Z,540nm,16.4s
CD2 Chengdu 29.89 268 *e*P **P** **09 26 42.4 -1.5**
CD2 pP **pP** **09 26 52.6 +0.2**
CD2 sP sP 09 26 58.1 +2.1
CD2 PP **PnPn** **09 27 40.8 +0.3**
CD2 S S 09 31 33.7 -5.7
CD2 sS sS 09 31 54.8 +1.4
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,110nm,7.2s
CD2 LN
comp=Z,450nm,12.0s
CD2 LE
comp=Z,470nm,15.6s
CD2 LZ
comp=Z,570nm,14.4s
H11N2 WAKE ISLAND Hy 29.95 119 T T 09 57 06.2
baz=313,slow=75,SNR=87
H11N1 WAKE ISLAND Hy 29.96 119 T T 09 57 04.3
baz=313,slow=75,SNR=42
H11N3 WAKE ISLAND Hy 29.97 119 T T 09 57 07.8
baz=313,slow=75,SNR=33
H11S1 WAKE ISLAND Hy 30.65 121 T T 09 57 54.6
baz=314,slow=76,SNR=63
H11S3 WAKE ISLAND Hy 30.65 121 T T 09 57 52.2
baz=314,slow=76,SNR=17
H11S2 WAKE ISLAND Hy 30.66 121 T T 09 57 55.8
baz=314,slow=76,SNR=23
GTA Gaotai 30.70 286 *e*P **P** **09 26 50.1 -1.0**
GTA pP **pP** **09 27 00.6 +1.0**
GTA sP sP 09 27 05.5 +2.3
GTA PcP **PcP** **09 29 50.0 +1.5**
GTA S **S** **09 31 47.4 -4.7**
GTA PMZ
comp=Z,5.0nm,0.7s
GTA PMZ
comp=Z,69nm,5.9s
GTA LN
comp=Z,310nm,16.6s
GTA LE
comp=Z,290nm,14.7s
GTA LZ
comp=Z,290nm,12.4s
QIZ Qiongzhong 31.54 242 P **P** **09 26 59.4 +0.9**
QIZ S **S** **09 32 06.1 +0.9**
QIZ PMZ
comp=Z,14nm,1.1s
QIZ LN
comp=Z,360nm,20.2s
QIZ LE
comp=Z,150nm,21.1s
QIZ LZ
comp=Z,320nm,13.1s
KMI Kunming 33.28 259 P **P** **09 27 13.5 -0.5**
KMI PMZ
comp=Z,5.0nm,0.9s
KMI LN
comp=Z,220nm,15.1s
KMI LE
comp=Z,250nm,19.1s
KMI LZ
comp=Z,350nm,14.4s
BILL Bilibino 34.08 18 *e*P **P** **09 27 19.4 -0.8**
BILL *e* 09 28 40.1
BILL *e* 09 29 58.7
BILL pmax pmax
comp=Z,8.0nm,1.2s
BILL MLR MLR
comp=Z,197nm,18.0s
BILL Bilibino 34.08 18 *e*P **P** **09 27 20.5 +0.3**
TIXI Tiksi 34.60 354 *e*P **P** **09 27 22.6 -2.0**
TIXI pmax pmax
comp=Z,6.0nm,1.2s
TIXI Tiksi 34.60 354 *e*P **P** **09 27 23.6 -1.0**
comp=Z,18nm,1.7s
WMQ Urumqi 39.01 296 *e*P **P** **09 28 02.8 +0.2**
WMQ pP **pP** **09 28 13.5 +2.3**
WMQ sP sP 09 28 18.4 +3.6
WMQ PP **PnPn** **09 29 38.0 +3.3**
WMQ *e*S **ScP** **09 33 59.3 +0.6**
WMQ PMZ
comp=Z,7.0nm,0.6s
WMQ PMZ
comp=Z,100nm,5.4s
WMQ LN
comp=Z,560nm,13.2s
WMQ LE
comp=Z,210nm,12.0s
WMQ LZ
comp=Z,380nm,12.6s
GAMB Gambell 39.23 32 *e*P **P** **09 28 05.7 +1.7**
comp=Z,9.0nm,1.2s
CMAR Chiang Mai Arr 39.91 253 P **P** **09 28 09.0 -1.3**
comp=Z,0.7nm,0.6s,baz=43,slow=6.8,SNR=3.0
CMAR PcP **PcP** **09 30 16.4 +0.8**
comp=Z,2.4nm,0.7s,baz=57,slow=3.3,SNR=9.1
CMAR LR LR 09 45 26.2
comp=Z,117nm,18.7s,baz=36,slow=38
CMAR Chiang Mai Arr 39.91 253 P **P** **09 28 09.0 -1.3**
CMAR 09 30 16.4
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CMAR MLR MLR
comp=Z,117nm,18.7s
ZAA0 Zalesovo Array 40.25 312 *e*P **P** **09 28 12.6 -0.1**
ZAA0 *e*PcP **PcP** **09 30 15.8 -0.3**
ZALV Zalesovo Beam 40.25 312 P **P** **09 28 11.5 -1.2**
comp=Z,1.6nm,0.8s,baz=95,slow=7.4,SNR=9.7
ZALV PcP **PcP** **09 30 15.5 -0.6**
comp=Z,2.1nm,0.7s,baz=104,slow=3.1,SNR=4.7
ZALV Zalesovo Beam 40.25 312 P **P** **09 28 11.5 -1.2**
ZALV 09 30 15.5
ZALV pmax pmax
comp=Z,2.0nm,0.8s
ZALV pmax pmax
comp=Z,2.0nm,0.7s
NVS Novosibirsk 41.20 313 *e*P **P** **09 28 18.7 -1.8**
NVS pmax pmax
comp=Z,7.0nm,1.0s
NVS pmax pmax
comp=E,6.0nm,1.2s
TNA Tin City 41.31 30 *e*P **P** **09 28 22.1 +0.8**
comp=E,29nm,1.3s
NLAI Namlea 42.09 198 P P 09 28 36.0 +7.9
AAI Ambon 42.26 196 P **P** **09 28 28.6 -1.0**
MK31 Makanchi Array 42.33 301 P P 09 28 26.9 -3.1
MK31 Makanchi Array 42.33 301 P P 09 28 26.9 -3.1
MKAR Makanchi Array 42.33 301 P **P** **09 28 28.5 -1.5**
comp=E,1.0nm,0.8s,baz=90,slow=4.3,SNR=8.6
MKAR PcP **PcP** **09 30 22.9 -0.2**
comp=E,1.1nm,1.0s,baz=119,slow=1.8,SNR=3.6
MKAR LR LR 09 45 53.0
comp=E,106nm,21.0s,baz=48,slow=36
MKAR Makanchi Array 42.33 301 P **P** **09 28 28.5 -1.5**
MKAR 09 30 22.9
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR pmax pmax
comp=Z,1.0nm,1.0s
MKAR MLR MLR
comp=Z,106nm,21.0s
MKAR Makanchi Array 42.33 301 *e*P **P** **09 28 29.2 -0.7**
MKAR PcP **PcP** **09 30 22.9 -0.2**
TAPN Taplejung 44.12 272 *e*P **P** **09 28 44.6 -0.4**
comp=Z,38nm,1.5s
KURK Kurchatov 44.21 307 *e*P **P** **09 28 43.9 -1.1**
KURK pmax pmax
comp=Z,15nm,1.0s
KURK Kurchatov 44.21 307 *e*P **P** **09 28 43.9 -1.1**
comp=Z,15nm,1.0s
ODAN Odare 44.60 272 *e*P **P** **09 28 48.4 -0.3**
RAMN Ramite 45.19 272 *e*P **P** **09 28 52.8 -0.6**
comp=Z,30nm,0.9s
JIRN Jiri 45.19 273 *e*P **P** **09 28 53.4 -0.2**
comp=Z,19nm,0.8s
GUN Gumba 45.33 274 *e*P **P** **09 28 54.4 -0.2**
comp=Z,27nm,0.9s
PKI Pulchoki 45.85 274 *e*P **P** **09 28 57.9 -0.9**
comp=Z,9.4nm,0.8s
KKN Kakani 45.86 274 *e*P **P** **09 28 58.3 -0.4**
comp=Z,23nm,0.8s
PKIN Phulchoki 45.86 274 *e*P **P** **09 28 58.1 -0.6**
comp=Z,7.2nm,0.7s
DMN Daman 46.08 274 *e*P **P** **09 29 00.0 -0.4**
SVW2 Sparrevohn 46.22 38 *e*P **P** **09 29 02.5 +1.7**
GKN Gorkha 46.27 275 *e*P **P** **09 29 01.3 -0.6**
comp=Z,40nm,1.1s
IM04 Indian Mountai 47.12 31 *e*P **P** **09 29 08.6 +0.7**
IM04 *e*PcP **PcP** **09 30 40.9 +1.7**
KOLN Koldanda 47.20 275 *e*P **P** **09 29 09.0 -0.2**
PYUN Piuthan 47.53 276 *e*P **P** **09 29 11.6 -0.2**
comp=Z,88nm,1.0s
RSO Redoubt South 47.62 38 *e*P **P** **09 29 12.8 +0.8**
comp=Z,52nm,0.9s
RSO *e*PcP **PcP** **09 30 42.3 +1.0**
PPLA Purkeypile 47.79 35 *e*P **P** **09 29 15.2 +2.0**
TKM2 Tokmak 2 47.81 297 *e*P **P** **09 29 14.5 +0.7**
TKM2 Tokmak 2 47.81 297 *e*P **P** **09 29 14.5 +0.7**
CAST Castle Rocks 47.82 34 *e*P **P** **09 29 15.2 +1.8**
KTH Kantishna Hill 48.34 34 *e*P **P** **09 29 18.7 +1.3**
KSH Kashi 48.56 293 P P 09 29 22.8 +3.3
KSH *e*pP pP 09 29 35.0 +6.7
KSH *e*PP **PP** **09 31 15.8 +3.5**
KSH PcS **PcS** **09 34 43.0 +1.9**
KSH S **S** **09 36 20.3 +1.0**
KSH sS sS 09 36 41.3 +7.5
KSH ScS **ScS** **09 39 08.5 -1.7**
KSH PMZ
comp=Z,87nm,4.5s
KSH LN
comp=Z,290nm,10.2s
KSH LE
comp=Z,270nm,13.7s
KSH LZ
comp=Z,350nm,11.9s
COLD Coldfoot 48.59 29 *e*P **P** **09 29 20.6 +1.5**
TRF Thorofare Moun 48.63 34 *e*P **P** **09 29 20.7 +1.0**
AAK Ala-Archa 48.67 297 *e*P **P** **09 29 18.8 -1.6**
AAK pmax pmax
comp=Z,3.0nm,1.3s
AAK Ala-Archa 48.67 297 *e*P **P** **09 29 20.2 -0.2**
comp=Z,4.0nm,1.3s
BRVK Borovoye 48.96 312 *e*P **P** **09 29 21.5 -0.7**
BRVK pmax pmax
comp=Z,11nm,1.2s
BRVK Borovoye 48.96 312 *e*P **P** **09 29 22.2 0.0**
RC01 Rabbit Creek A 49.05 37 *e*P **P** **09 29 23.5 +0.7**
MCK McKinley 49.22 34 *e*P **P** **09 29 24.5 +0.4**
MCK McKinley 49.22 34 *e*P **P** **09 29 24.4 +0.4**
SEW Seward 49.29 39 *e*P **P** **09 29 25.1 +0.5**
PMR Palmer 49.30 37 *e*P **P** **09 29 25.1 +0.5**
PMR Palmer 49.30 37 *e*P **P** **09 29 25.1 +0.5**
COLA College 49.61 32 *c i*P **P** **09 29 28.0 +1.1**
COLA pmax pmax
comp=Z,32nm,1.2s
COLA College 49.61 32 *e*P **P** **09 29 28.1 +1.1**
ILAR Eielson Array 50.03 33 P **P** **09 29 30.3 +0.1**
comp=Z,6.5nm,0.8s,baz=276,slow=6.5,SNR=106
ILAR pmax pmax
comp=Z,7.0nm,0.8s
PAX Paxson 50.84 35 *e*P **P** **09 29 37.5 +1.0**
PAX pmax pmax
comp=Z,9.0nm,1.3s
PAX Paxson 50.84 35 *e*P **P** **09 29 37.5 +1.0**
comp=Z,8.9nm,1.3s
DIV Divide 50.96 37 *e*P **P** **09 29 38.8 +1.4**
EYAK Cordova Ski Ar 51.06 38 *e*P **P** **09 29 39.6 +1.6**
KKAR Karatay Array 51.32 299 *e*P **P** **09 29 40.6 +0.3**
KKAR Karatay Array 51.32 299 *e*P **P** **09 29 40.6 +0.3**
DOT Dot Lake 51.38 34 *e*P **P** **09 29 40.6 +0.2**
comp=Z,6.3nm,0.8s
CHLP Challavanipeta 51.47 264 *e*P **P** **09 29 39.3 -2.4**
BMRM Bremner River 51.55 37 *e*P **P** **09 29 42.9 +1.2**
MENT Mentasta 51.64 35 *e*P **P** **09 29 43.8 +1.4**
LEM Lembang 53.05 221 P **P** **09 29 53.8 +0.2**
comp=Z,9.7nm,0.3s,baz=186,slow=22,SNR=4.5
LEM Lembang 53.05 221 P **P** **09 29 53.8 +0.2**
LEM pmax pmax
comp=Z,10.0nm,0.4s
DAWY Dawson 53.35 33 *e*P **P** **09 29 55.6 +0.5**
SVE Sverdlovsk 53.58 318 *li*P **P** **09 29 57.5 +0.7**
SVE pmax pmax
comp=Z,32nm,1.1s
SVE MLR MLR
comp=Z,236nm,15.0s
INK Inuvik 54.76 27 *e*P **P** **09 30 05.8 +0.7**
INK pmax pmax
comp=Z,36nm,1.4s
INK Inuvik 54.76 27 *e*P **P** **09 30 05.8 +0.7**
comp=Z,36nm,1.4s
ARU Arti 54.79 318 *c i*P **P** **09 30 03.5 -2.1**
ARU 09 31 06.2
ARU 09 32 06.1
ARU S **S** **09 37 42.5 -1.8**
ARU pmax pmax
comp=Z,35nm,1.7s
ARU Arti 54.79 318 *e*P **P** **09 30 05.3 -0.3**
comp=Z,28nm,1.1s
SOKR Solikamsk 54.83 322 *li*P P 09 30 09.9 +4.1
SOKR pmax pmax
comp=Z,20nm,1.3s
HYT Haines Junctio 54.96 36 *e*P **P** **09 30 09.0 +2.1**
RPR Rampur 55.06 268 *e*P **P** **09 30 08.0 -0.1**
ABKAR Akbulak array 56.24 309 *e*P **P** **09 30 15.4 -0.7**
comp=Z,3.4nm,0.6s
HYB Hyderabad 56.43 267 *i* P P **09 30 18.0 0.0**
HYBB Hyderabad (bro 56.43 267 *e*P **P** **09 30 18.0 0.0**
AKTO Aktyubinsk 57.00 311 LR LR 09 55 31.9
comp=Z,60nm,19.9s,slow=37
WRAB Tennant Creek 57.34 185 *e*P **P** **09 30 23.9 -0.2**
WRAB pmax pmax
comp=Z,55nm,1.2s
WRAB Tennant Creek 57.34 185 *e*P **P** **09 30 23.9 -0.2**
comp=Z,20nm,1.0s
WRA Warramunga Arr 57.35 185 P **P** **09 30 23.9 -0.4**
comp=Z,15nm,0.8s,baz=2.0,slow=7.6,SNR=182
WRA Warramunga Arr 57.35 185 *i* P **P** **09 30 24.0 -0.2**
WRA pmax pmax
comp=Z,15nm,0.8s
DLBC Dease Lake 59.33 38 P **P** **09 30 39.4 +1.7**
comp=Z,4.0nm,0.9s,baz=251,slow=11,SNR=5.8
PRGR Permogore 59.36 326 *e*P **P** **09 30 38.2 +0.4**
PRGR pmax pmax
comp=Z,34nm,1.4s
AS31 Alice Springs 61.08 186 *e*P **P** **09 30 49.9 -0.1**
ASAR Alice Springs 61.08 186 P **P** **09 30 50.0 0.0**
comp=Z,4.5nm,0.8s,baz=6.1,slow=5.4,SNR=38
ASAR PP **PP** **09 33 02.4 -2.6**
comp=Z,0.9nm,0.8s,baz=338,slow=9.7,SNR=5.1
ASAR Alice Springs 61.08 186 P **P** **09 30 50.0 0.0**
ASAR 09 33 02.4
ASAR pmax pmax
comp=Z,5.0nm,0.8s
ASAR pmax pmax
comp=Z,1.0nm,0.8s
APA Apatity 61.49 335 *e*P **P** **09 30 52.5 +0.3**
APA pmax pmax
comp=Z,11nm,0.8s
GEYT Alibeck 62.02 298 P **P** **09 30 56.8 +0.4**
comp=Z,8.5nm,0.8s,baz=56,slow=3.7,SNR=8.9
GEYT LR LR 09 58 06.8
comp=Z,40nm,21.7s,baz=325,slow=36
KLMR Klimovskoe 62.37 327 *e*P **P** **09 30 56.7 -1.5**
KLMR pmax pmax
comp=Z,13nm,0.9s
RES Resolute Bay 62.56 14 *e*P **P** **09 30 59.1 -0.2**
RES pmax pmax
comp=Z,15nm,0.8s
RES Resolute Bay 62.56 14 *e*P **P** **09 30 59.0 -0.2**
comp=Z,15nm,0.8s
ARCES ARCESS Array B 62.89 339 P **P** **09 31 01.1 -0.5**
comp=Z,4.1nm,0.8s,baz=37,slow=11,SNR=5.5
ARCES LR LR 10 00 26.5
comp=Z,65nm,20.5s,baz=60,slow=38
ARCES ARCESS Array B 62.89 339 P **P** **09 31 01.1 -0.5**
ARCES pmax pmax
comp=Z,4.0nm,0.8s
ARCES MLR MLR
comp=Z,65nm,20.5s
YKA Yellowknife Ar 64.27 30 P **P** **09 31 10.8 0.0**
comp=Z,2.0nm,0.8s,baz=304,slow=6.6,SNR=18
YKA Yellowknife Ar 64.27 30 P **P** **09 31 10.8 0.0**
YKA pmax pmax
comp=Z,2.0nm,0.8s
OBN Obninsk 66.61 322 *e*P **P** **09 31 24.6 -1.5**
OBN *e* 09 31 52.3
OBN pmax pmax
comp=Z,24nm,1.2s
OBN MLR MLR
comp=Z,75nm,15.0s
LPSR Galich'ya Gora 66.76 319 *e*P **P** **09 31 25.6 -1.5**
LPSR pmax pmax
comp=N,7.0nm,0.9s
LPSR pmax pmax
comp=E,6.0nm,0.9s

LPSR pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 67.37 318 *eP* **P 09 31 29.0 -1.9**
VSR pmax pmax
comp=E,10.0nm,1.1s
VSR pmax pmax
comp=Z,10.0nm,1.1s
VSR pmax pmax
comp=N,20nm,1.3s
VORD Divnogorie 67.43 318 *eP* P 09 31 27.8 -3.5
VORD pmax pmax
comp=Z,10.0nm,0.5s
VORD pmax pmax
comp=N,100nm,0.7s
VORD pmax pmax
comp=E,60nm,0.6s
FINES FINESS Array B 67.53 331 P **P 09 31 30.9 -0.8**
comp=E,9.0nm,0.8s,baz=64,slow=8.7,SNR=21
FINES LR LR 10 02 10.0
comp=E,76nm,18.7s,baz=45,slow=37
FINES FINESS Array B 67.53 331 *i* P **P 09 31 31.5 -0.3**
FINES pmax pmax
comp=Z,9.0nm,0.8s
NLWA Neilton Lookou 67.69 47 *eP* **P 09 31 35.0 +1.8**
comp=Z,36nm,1.1s
MBW Mount Baker 68.08 45 P **P 09 31 36.6 +0.9**
IGZV Ghazvin 68.28 300 *eP* **P 09 31 38.2 +0.9**
JCW Jim Creek 68.38 45 P **P 09 31 38.8 +1.4**
IRAZ Razeghan 68.99 299 *eP* **P 09 31 39.7 -2.0**
ZEI Tsey 69.09 308 *eP* P 09 31 39.3 -2.9
ZEI pmax pmax
comp=Z,15nm,1.4s
STKA Stephens Creek 69.09 178 P **P 09 31 42.1 +0.3**
comp=Z,6.3nm,0.8s,baz=345,slow=7.6,SNR=11
STKA Stephens Creek 69.09 178 P **P 09 31 42.1 +0.3**
STKA pmax pmax
comp=Z,6.0nm,0.8s
TDL Tradedollar La 69.20 47 P **P 09 31 44.6 +1.9**
KBZ Khabaz 69.21 310 P **P 09 31 42.0 -0.6**
comp=Z,5.2nm,0.9s,baz=53,slow=20,SNR=13
KBZ Khabaz 69.21 310 P **P 09 31 42.0 -0.6**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
KIV Kislovodsk 69.22 310 *c i* P **P 09 31 43.0 +0.2**
KIV *e* 09 32 08.6
KIV pmax pmax
comp=Z,29nm,1.0s
KIV MLR MLR
comp=Z,61nm,18.0s
KIV Kislovodsk 69.22 310 *eP* **P 09 31 42.9 +0.1**
comp=Z,27nm,1.0s
NLW Nelson Butte 69.33 45 P **P 09 31 44.9 +1.4**
ETW Entiat 69.60 45 P **P 09 31 46.4 +1.3**
GNI Garni 69.96 306 *eP* **P 09 31 48.4 +0.8**
GNI pmax pmax
comp=Z,16nm,1.4s
I03D Drain, OR 69.97 50 ⇑P **P 09 31 48.8 +1.5**
baz=70
EDM Edmonton 70.05 38 *eP* **P 09 31 48.1 +0.3**
EDM Edmonton 70.05 38 *eP* **P 09 31 48.0 +0.3**
SAW Saint Andrews 70.07 45 P **P 09 31 48.9 +1.0**
SUMG Summit 70.17 359 ⇑ *iP* **P 09 31 49.2 +0.6**
comp=Z,23nm,1.0s
SUMG Summit 70.17 359 ⇑ *iP* **P 09 31 49.2 +0.6**
SUMG pmax pmax
comp=Z,23nm,1.0s
SUMG Summit 70.17 359 *eP* **P 09 31 49.0 +0.4**
comp=Z,22nm,0.9s
G05D Wamic, OR 70.34 48 ⇑P **P 09 31 51.3 +1.7**
baz=70
I04A Tendick Farm, 70.48 49 ⇑P **P 09 31 51.8 +1.3**
baz=70
L02D Cave Junction, 70.65 51 ⇑P **P 09 31 52.8 +1.2**
baz=70
HAWA Hanford 70.73 46 *eP* **P 09 31 53.2 +1.2**
comp=Z,8.6nm,0.9s
I05D Terrebonne, OR 70.83 49 ⇓P **P 09 31 53.7 +1.1**
baz=71
J04D Umpqua Nationa 70.97 50 ⇓P **P 09 31 55.2 +1.5**
baz=71,SNR=5.7
NEW Newport 71.01 43 *eP* **P 09 31 54.5 +0.8**
NEW pmax pmax
comp=Z,13nm,0.8s
NEW Newport 71.01 43 *eP* **P 09 31 54.5 +0.8**
comp=Z,13nm,0.8s
NEW Newport 71.01 43 ⇓P **P 09 31 55.0 +1.3**
baz=71,SNR=13
YBH Yreka Blue Hor 71.44 51 P **P 09 31 57.3 +0.8**
comp=Z,6.7nm,0.9s,baz=307,slow=2.6,SNR=8.4
YBH Yreka Blue Hor 71.44 51 P **P 09 31 57.3 +0.8**
YBH pmax pmax
comp=Z,7.0nm,0.9s
J05D Fort Rock, OR 71.48 49 ⇓P **P 09 31 58.7 +2.0**
baz=71,SNR=8.4
K04D Chiloquin, OR 71.53 50 ⇑P **P 09 31 58.8 +1.8**
baz=71
M02C Callahan 71.54 52 ⇑P **P 09 31 59.0 +1.9**
baz=71
N02D Trinity Center 71.87 52 ⇓P **P 09 32 00.9 +1.9**
baz=72
ANN Anapa 71.88 313 *eP* P 09 32 04.3 +5.4
ANN pmax pmax
comp=Z,3.0nm,0.2s
M04C Macdoel 71.95 51 ⇓P **P 09 32 01.3 +1.7**
baz=72,SNR=13
BSMT Bassoo Peak 72.52 43 *eP* **P 09 32 04.0 +1.1**
comp=Z,3.6nm,0.9s
AKASG Malin Array Be 72.80 321 P **P 09 32 03.4 -0.8**
comp=Z,7.1nm,0.8s,baz=46,slow=6.1,SNR=46
AKASG LR LR 10 04 55.3
comp=Z,82nm,18.7s,baz=195,slow=37
AKBB Malin Array Si 72.80 321 *eP* **P 09 32 04.0 -0.2**
AKBB Malin Array Si 72.80 321 *eP* **P 09 32 04.0 -0.2**
AK01 Malin Array Si 72.81 321 *eP* **P 09 32 03.4 -0.9**
KIEV Kiev 72.81 321 *c iP* **P 09 32 03.6 -0.7**
KIEV Kiev 72.81 321 *eP* **P 09 32 03.6 -0.7**
comp=Z,11nm,0.8s
AK02 Malin Array Si 72.83 321 *eP* **P 09 32 03.9 -0.6**
JTMT Jette 72.85 43 *eP* **P 09 32 06.0 +1.2**
comp=Z,13nm,0.9s
BMO Blue Mountains 72.89 46 *eP* **P 09 32 06.2 +1.1**
comp=Z,15nm,1.0s
YBMT Yellow Bay 72.93 42 *eP* **P 09 32 06.6 +1.3**
comp=Z,11nm,1.1s
NB2 NORSAR Subarra 73.02 336 P **P 09 32 05.1 -0.4**
comp=Z,8.6nm,0.9s,baz=41,slow=6.2
NOA NORSAR Array B 73.02 336 P **P 09 32 05.1 -0.4**
comp=Z,6.1nm,0.8s,baz=40,slow=5.9,SNR=16
NOA LR LR 10 07 40.3
comp=Z,44nm,18.6s,baz=45,slow=39
NOA NORSAR Array B 73.02 336 P **P 09 32 05.1 -0.4**
NOA pmax pmax
comp=Z,6.0nm,0.8s
NOA MLR MLR
comp=Z,44nm,18.6s
NWAO Narrogin (SRO) 73.02 199 P **P 09 32 05.0 -0.6**
comp=Z,15nm,1.1s,baz=30,slow=8.1,SNR=2.6
NWAO Narrogin (SRO) 73.02 199 P **P 09 32 05.0 -0.6**
NWAO pmax pmax
comp=Z,15nm,1.1s
SWMT Swartz Lake 73.15 43 *eP* **P 09 32 07.5 +0.9**
comp=Z,15nm,1.1s
WVOR Wild Horse Val 73.53 49 *eP* **P 09 32 10.1 +1.2**
WVOR pmax pmax
comp=Z,10.0nm,0.8s
WVOR Wild Horse Val 73.53 49 *eP* **P 09 32 10.1 +1.2**
comp=Z,9.9nm,0.8s
SLMT Seeley Lake 73.58 43 *eP* **P 09 32 10.0 +0.8**
comp=Z,26nm,1.0s
MSO Missoula 73.59 43 ⇓P **P 09 32 10.5 +1.3**
baz=73,SNR=7.0
SIM Simferopol' 73.70 314 P **P 09 32 10.0 +0.3**
SIM pmax pmax
comp=Z,10.0nm,1.0s
SIM MLR MLR
comp=Z,30nm,13.0s
CHMT Chamberlain Mo 73.92 43 *eP* **P 09 32 11.9 +0.6**
comp=Z,5.6nm,1.2s
FFC Flin Flon 74.24 32 *eP* **P 09 32 12.5 -0.2**
FFC pmax pmax
comp=Z,11nm,1.0s
FFC Flin Flon 74.24 32 *eP* **P 09 32 12.5 -0.2**
comp=Z,11nm,1.0s
MFID Camas Ranch 74.60 47 *eP* **P 09 32 16.4 +1.3**
comp=Z,14nm,1.0s
A19A Klindworth Far 75.00 39 ⇑P **P 09 32 18.6 +1.3**
baz=75,SNR=10

CMB Columbia Colle 75.02 54 *eP* **P 09 32 18.8 +1.2**
CMB pmax pmax
comp=Z,15nm,1.1s
CMB Columbia Colle 75.02 54 *eP* **P 09 32 18.8 +1.2**
comp=Z,15nm,1.1s
LRM Limekiln Ridge 75.03 43 *eP* **P 09 32 18.9 +1.2**
comp=Z,235nm,1.0s
EGMT Eagleton 75.06 40 ⇓P **P 09 32 18.9 +1.2**
baz=75
B19A Brinkman Farms 75.20 40 ⇓P **P 09 32 19.6 +1.2**
baz=75,SNR=5.8
DLMT Dillon 75.23 44 *eP* **P 09 32 20.2 +1.4**
comp=Z,35nm,1.0s
HLID Hailey 75.33 46 *eP* **P 09 32 20.8 +1.3**
comp=Z,7.2nm,1.0s
HLID Hailey 75.33 46 ⇓P **P 09 32 21.2 +1.7**
baz=75,SNR=14
WAKR Walker 75.35 53 *eP* **P 09 32 20.9 +1.2**
comp=Z,12nm,1.2s
A20A Cobblestone Ra 75.44 39 ⇓P **P 09 32 21.1 +1.3**
baz=75
BMN Battle Mountai 75.58 50 *eP* **P 09 32 22.6 +1.7**
BMN pmax pmax
comp=Z,15nm,1.0s
BMN Battle Mountai 75.58 50 *eP* **P 09 32 22.6 +1.7**
comp=Z,15nm,1.0s
BOZ Bozeman (W) 75.58 43 *eP* **P 09 32 21.9 +1.0**
BOZ pmax pmax
comp=Z,15nm,0.9s
BOZ Bozeman (W) 75.58 43 *eP* **P 09 32 21.9 +1.0**
comp=Z,15nm,0.9s
C19A Slack Wire Ran 75.61 40 ⇓P **P 09 32 22.5 +1.6**
baz=75
B20A Solberg Farm, 75.68 39 ⇓P **P 09 32 22.1 +0.9**
baz=76
A21A Bergtoll Ranch 75.86 38 ⇑P **P 09 32 23.5 +1.2**
baz=76
D19A Cripps Ranch, 76.07 41 ⇓P **P 09 32 24.9 +1.4**
baz=76,SNR=9.2
NVAR Mina Array Bea 76.11 52 P **P 09 32 25.3 +1.2**
comp=Z,8.1nm,0.8s,baz=290,slow=5.9,SNR=36
C20A Veseth Ranch, 76.16 40 ⇓P **P 09 32 25.5 +1.5**
baz=76
B21A Ellsworth Farm 76.19 39 ⇑P **P 09 32 25.1 +1.0**
baz=76
NV11 Mina Array Sit 76.20 52 *eP* **P 09 32 25.8 +1.3**
QLMT Earthquake Lak 76.21 44 *eP* **P 09 32 25.8 +1.3**
comp=Z,2.8nm,1.3s
A22A Carney Farms, 76.36 38 ⇓P **P 09 32 25.9 +0.9**
baz=76
D20A Manuel Ranch, 76.50 40 ⇓P **P 09 32 26.9 +1.0**
baz=76,SNR=7.7
C21A Desert Coulee 76.55 39 ⇓P **P 09 32 26.9 +0.7**
baz=76
YMR Madison River 76.57 44 *eP* **P 09 32 27.7 +1.1**
comp=Z,11nm,0.9s
E19A Rath Farm, Rou 76.58 41 ⇑P **P 09 32 27.5 +1.1**
baz=76,SNR=13
ELK Elko 76.58 49 *eP* **P 09 32 28.3 +1.6**
ELK pmax pmax
comp=Z,7.0nm,1.1s
ELK Elko 76.58 49 *eP* **P 09 32 28.3 +1.6**
comp=Z,7.4nm,1.1s
YNR Norris Junctio 76.70 43 *eP* **P 09 32 29.3 +2.0**
comp=Z,23nm,1.2s
YFT Old Faithful 76.78 44 *eP* **P 09 32 30.9 +3.1**
comp=Z,15nm,0.9s
B22A Reddig Ranch S 76.78 38 ⇓P **P 09 32 28.3 +0.8**
baz=77
RCTC Rector, Farmer 76.78 54 ⇑P **P 09 32 29.2 +1.6**
baz=77
BUR08 Bucovina Ar. S 76.78 321 *eP* **P 09 32 27.7 +0.2**
TESR Tescani 76.79 319 ⇓ *iP* **P 09 32 27.3 -0.2**
BURAR Bucovina Array 76.80 321 ⇑ *iP* **P 09 32 27.4 -0.2**
CFR Carcaliu 76.87 317 ⇑ *iP* **P 09 32 27.6 -0.3**
A23A Redstone 76.88 37 ⇓P **P 09 32 28.9 +0.9**
baz=77
SMMC Simmler 76.89 56 ⇓P **P 09 32 29.5 +1.2**
baz=77
F19A Roth Farm, Mol 76.89 42 ⇓P **P 09 32 29.5 +1.3**
baz=77,SNR=11
E20A Meyer Farm, Mu 76.89 41 ⇑P **P 09 32 29.6 +1.4**
baz=77
BORG Borgarnes 76.90 352 LR LR 10 06 04.3
comp=Z,22nm,21.9s,baz=238,slow=36
H17A Grant Village 76.96 44 *eP* **P 09 32 31.1 +2.3**
comp=Z,32nm,1.0s
H17A Grant Village 76.96 44 ⇓P **P 09 32 31.7 +2.9**
baz=77,SNR=23
TPH Tonopah 77.00 52 *eP* **P 09 32 30.6 +1.5**
TPH pmax pmax
comp=Z,24nm,1.0s
TPH Tonopah 77.00 52 *eP* **P 09 32 30.6 +1.5**
comp=Z,24nm,1.0s
IMW Indian Meadow 77.08 44 *eP* **P 09 32 31.2 +1.7**
comp=Z,14nm,0.9s
FLWY Flagg Ranch 77.09 44 *eP* **P 09 32 31.5 +2.0**
comp=Z,46nm,1.6s
D21A La Casta Ranch 77.11 40 ⇑P **P 09 32 31.1 +1.7**
baz=77
B23A Brockton 77.17 38 ⇓P **P 09 32 30.7 +1.1**
baz=77,SNR=9.7
VES Vestal, Richgr 77.17 55 ⇓P **P 09 32 30.7 +1.0**
baz=77,SNR=6.9
BR131 Keskin Array S 77.17 310 *eP* **P 09 32 29.8 -0.1**
comp=Z,9.4nm,1.0s
BRTR Keskin Array B 77.17 310 P **P 09 32 29.8 -0.1**
comp=Z,7.2nm,0.9s,baz=95,slow=4.3,SNR=36
BRTR Keskin Array B 77.17 310 *ceP* **P 09 32 30.3 +0.4**
BRTR pmax pmax
comp=Z,7.0nm,0.9s
VRI Vrincioaia 77.17 319 ⇓ *iP* **P 09 32 30.0 +0.3**
TIRR Tirgusor 77.19 317 *eP* **P 09 32 29.5 -0.2**
TIRR pmax pmax
comp=Z,14nm,1.4s
TIRR Tirgusor 77.19 317 ⇑ *iP* **P 09 32 29.0 -0.7**
TIRR Tirgusor 77.19 317 *eP* **P 09 32 29.5 -0.2**
comp=Z,14nm,1.4s
RLMT Red Lodge 77.20 42 *eP* **P 09 32 31.4 +1.3**
comp=Z,12nm,0.9s
C22A Vida 77.21 39 ⇓P **P 09 32 30.9 +1.0**
baz=77
I17A Pilgrim Ck. 77.26 44 ⇓P **P 09 32 32.9 +2.4**
baz=77,SNR=15
H18A Shoshone NF, C 77.27 43 ⇓P **P 09 32 31.9 +1.4**
baz=77,SNR=11
MOOW Moose Ponds 77.28 44 *eP* **P 09 32 31.7 +1.2**
comp=Z,16nm,1.3s
TLB Topalu 77.31 317 ⇑ *iP* **P 09 32 30.5 +0.1**
A24A Westby 77.33 37 ⇓P **P 09 32 31.6 +1.1**
baz=77
TPAW Teton Pass 77.33 45 *eP* **P 09 32 32.6 +1.7**
comp=Z,16nm,1.0s
F20A Billings 77.35 41 ⇑P **P 09 32 31.6 +0.9**
baz=77
KOLS Kolonicke sedl 77.35 323 *eP* **P 09 32 30.6 0.0**
KOLS pmax pmax
comp=Z,10.0nm,1.5s
KOLS Kolonicke sedl 77.35 323 *eP* **P 09 32 30.6 0.0**
HVU Hansel Valley 77.39 47 *eP* **P 09 32 32.5 +1.4**
HVU pmax pmax
comp=Z,11nm,0.9s
HVU Hansel Valley 77.39 47 *eP* **P 09 32 32.5 +1.4**
comp=Z,11nm,0.9s
LOHW Long Hollow 77.45 44 *eP* **P 09 32 33.3 +1.7**
comp=Z,6.9nm,1.1s
SNOW Snow King Moun 77.46 44 *eP* **P 09 32 33.3 +1.7**
comp=Z,12nm,1.0s
D22A Cohagen 77.46 39 ⇑P **P 09 32 32.1 +0.8**
baz=77
REDW Red Top Meadow 77.47 45 *eP* **P 09 32 33.2 +1.5**
comp=Z,21nm,1.2s
STHS Stebnicka Huta 77.51 324 *eP* **P 09 32 32.7 +1.2**
STHS pmax pmax
comp=Z,5.0nm,1.2s
STHS Stebnicka Huta 77.51 324 *eP* **P 09 32 32.7 +1.2**
C23A Lambert 77.52 38 ⇓P **P 09 32 32.7 +1.1**
baz=77
DGMT Dagmar 77.55 38 ⇑P **P 09 32 32.6 +0.9**
baz=77
GRAC Grapevine Rang 77.56 53 ⇓P **P 09 32 33.8 +1.8**
baz=78,SNR=8.1
SBC Santa Barbara 77.59 56 ⇓P **P 09 32 34.7 +2.6**
baz=78
OJC Ojcow 77.61 325 *eP* **P 09 32 32.4 +0.4**
OJC Ojcow 77.61 325 *eP* **P 09 32 32.4 +0.4**
H19A Powell 77.64 43 ⇓P **P 09 32 33.9 +1.4**
baz=78,SNR=6.2
ISA Isabella, Lake 77.67 55 ⇓P **P 09 32 33.1 +0.4**
baz=78
G20A Bridger 77.70 42 ⇑P **P 09 32 33.5 +0.7**
baz=78
A25A Svangstu Ranch 77.74 37 ⇑P **P 09 32 33.7 +0.9**
baz=78
ARVC Arvin 77.76 55 ⇑P **P 09 32 33.0 -0.1**
baz=78
CRVS Cervenica-Dubn 77.76 323 *eP* **P 09 32 32.7 -0.2**
CRVS pmax pmax
comp=Z,7.0nm,1.3s
CRVS Cervenica-Dubn 77.76 323 *eP* **P 09 32 32.7 -0.2**
TRPA Tarpa 77.78 322 ⇑ *iP* **P 09 32 33.8 +0.9**
MLR Muntele Rosu 77.83 319 ⇓ *iP* **P 09 32 34.4 +0.9**
R11A Troy Canyon, C 77.85 51 *eP* **P 09 32 35.0 +1.2**
comp=Z,16nm,1.2s
R11A Troy Canyon, C 77.85 51 ⇓P **P 09 32 35.3 +1.5**
baz=78,SNR=15
DAC Darwin (Calif) 77.86 54 *eP* **P 09 32 34.8 +0.9**
DAC pmax pmax
comp=Z,23nm,1.5s
DAC Darwin (Calif) 77.86 54 *eP* **P 09 32 34.8 +0.9**
comp=Z,23nm,1.5s
F21A Absaloka Mine, 77.87 41 ⇓P **P 09 32 35.0 +1.4**
baz=78
D23A Lindsay 77.94 39 ⇑P **P 09 32 35.5 +1.5**
baz=78,SNR=6.1
NIE Niedzica 77.94 324 *eP* **P 09 32 35.1 +1.2**
NIE Niedzica 77.94 324 *eP* **P 09 32 35.2 +1.3**
I19A Meeteetse 78.06 43 ⇓P **P 09 32 36.4 +1.5**
baz=78,SNR=6.3
MPMC Manual Prospec 78.06 54 ⇓P **P 09 32 36.1 +1.1**
baz=78,SNR=7.4
C24A Savage 78.08 38 ⇑P **P 09 32 35.6 +0.9**
baz=78
B25A Knox Farm, Ray 78.18 37 ⇑P **P 09 32 35.9 +0.6**
baz=78
HWUT Hardware Ranch 78.19 46 *eP* **P 09 32 37.0 +1.3**
comp=Z,24nm,1.2s
FURC Furnace Creek, 78.21 53 ⇓P **P 09 32 37.2 +1.6**
baz=78,SNR=7.8
BLG Laguna Peak, P 78.22 56 ⇓P **P 09 32 36.9 +1.2**
baz=78
G21A Lodge Grass 78.22 41 ⇓P **P 09 32 36.5 +0.8**
baz=78
A26A Wade Farm, Ken 78.28 36 ⇑P **P 09 32 36.7 +1.0**
baz=78
H20A Greybull 78.30 42 ⇓P **P 09 32 37.3 +1.2**
baz=78,SNR=6.9
TPNV Topopah Spring 78.30 52 ⇑P **P 09 32 37.6 +1.2**
baz=78,SNR=15
E23A Ismay 78.35 40 ⇓P **P 09 32 37.2 +1.0**
baz=78,SNR=5.9
F22A Rosebud 78.35 41 ⇑P **P 09 32 36.8 +0.6**
baz=78
DUG Dugway, Tooele 78.37 48 *eP* **P 09 32 38.0 +1.4**
DUG pmax pmax
comp=Z,15nm,1.0s
DUG Dugway, Tooele 78.37 48 *eP* **P 09 32 38.0 +1.4**
comp=Z,15nm,1.0s
DUG Dugway, Tooele 78.37 48 ⇑P **P 09 32 38.1 +1.5**
baz=78,SNR=19
D24A Glendive 78.42 39 ⇑P **P 09 32 38.1 +1.5**
baz=78,SNR=6.0
EDW2 Edwards Air Fo 78.46 55 ⇑P **P 09 32 38.4 +1.3**
baz=78,SNR=6.5
C25A Freed Ranch, W 78.53 38 ⇓P **P 09 32 38.7 +1.5**
baz=78
J19A Crowheart 78.53 44 ⇓P **P 09 32 38.7 +1.2**
baz=78,SNR=16
B26A Jensen Ranch, 78.55 37 ⇑P **P 09 32 38.7 +1.4**
baz=78
BW06 Boulder Array 78.58 44 *eP* **P 09 32 38.3 +0.5**
comp=Z,9.8nm,0.9s
PDAR Pinedale Array 78.58 44 P **P 09 32 38.5 +0.6**
comp=Z,9.9nm,0.8s,baz=323,slow=2.7,SNR=49
I20A Worland 78.58 43 ⇑P **P 09 32 39.0 +1.3**
baz=78,SNR=5.4
TCUT Toone Canyon 78.60 47 *eP* **P 09 32 39.5 +1.5**
comp=Z,16nm,0.9s
ARR Arges 78.60 319 ⇑ *iP* **P 09 32 38.2 +0.5**
DRGR 78.61 321 ⇓ *iP* **P 09 32 37.4 -0.3**
A27A Ledoux Ranch, 78.61 36 ⇑P **P 09 32 38.6 +1.0**
baz=78
DECC Green Verdugo 78.62 56 ⇓P **P 09 32 39.3 +1.4**
baz=78
OKC Ostrava-Krasne 78.63 326 *eP* **P 09 32 38.4 +0.7**
OKC *ex* x 09 32 42.7
OKC AMS AMS 10 11 40.0
comp=Z,200nm,9.9s
OKC Ostrava-Krasne 78.63 326 *eP* **P 09 32 38.4 +0.7**
OKC *e* 09 32 42.7
OKC MLR MLR
comp=Z,200nm,9.9s
H21A Big Horn, Sher 78.71 42 ⇑P **P 09 32 39.0 +0.6**
baz=78
KSP Ksiaz 78.72 327 *eP* **P 09 32 38.3 +0.2**
KSP Ksiaz 78.72 327 *eP* **P 09 32 38.4 +0.3**
BSEG Bad Segeberg 78.79 332 *eP* **P 09 32 38.7 +0.3**
comp=Z,8.0nm,0.9s
RAYN Ar Rayn 78.81 291 *eP* **P 09 32 39.1 0.0**
comp=Z,15nm,1.0s
E24A Baker 78.81 39 ⇑P **P 09 32 40.0 +1.2**
baz=79
F23A Volborg 78.83 40 ⇑P **P 09 32 40.0 +1.1**
baz=79
D25A Fairfield 78.89 38 ⇓P **P 09 32 39.4 +0.2**
baz=79
MORC Moravsky Berou 78.95 326 *eP* **P 09 32 39.2 -0.3**
MORC pmax pmax
comp=Z,7.0nm,1.2s
MORC Moravsky Berou 78.95 326 ⇑ *iP* **P 09 32 39.7 +0.2**
MORC Moravsky Berou 78.95 326 *eP* **P 09 32 39.2 -0.3**
comp=Z,6.9nm,1.2s
NLU North Lily Min 78.96 48 *eP* **P 09 32 40.9 +0.9**
comp=Z,7.4nm,0.9s
GSC Goldstone, Bar 78.97 54 ⇑P **P 09 32 40.5 +0.6**
baz=79
FMP Fort Macarthur 78.97 56 ⇓P **P 09 32 41.3 +1.5**
baz=79
J20A Shoshoni 79.00 43 ⇓P **P 09 32 41.4 +1.3**
baz=79,SNR=13
C26A Wahner Farm, P 79.01 37 ⇑P **P 09 32 40.0 +0.2**
baz=79
BFSC Mount Baldy Ra 79.07 55 ⇑P **P 09 32 41.1 +0.6**
baz=79
DPC Dobruska-Polom 79.07 327 *eP* **P 09 32 40.7 +0.6**
DPC AMS AMS 10 12 00.0
DPC Dobruska-Polom 79.07 327 *eP* **P 09 32 40.7 +0.6**
KRLC Kraliky 79.07 326 *eP* **P 09 32 40.4 +0.3**
KRLC Kraliky 79.07 326 *eP* **P 09 32 40.4 +0.3**
CIS Catalina Islan 79.09 56 ⇑P **P 09 32 40.3 -0.3**
baz=79
A28A Rude Farm, Bot 79.09 35 ⇑P **P 09 32 41.4 +1.1**
baz=79
H22A Clearmont 79.10 41 ⇓P **P 09 32 40.5 0.0**
baz=79
RRX Edison Barstow 79.10 54 ⇑P **P 09 32 40.8 +0.2**
baz=79
I21A Big Trails, Te 79.12 43 ⇑P **P 09 32 42.2 +1.5**
baz=79,SNR=15
MPU Maple Canyon 79.18 48 *eP* **P 09 32 42.4 +1.2**
comp=Z,14nm,1.0s
G23A Biddle 79.19 41 ⇑P **P 09 32 41.9 +0.9**
baz=79
PSZ Piszkesteto 79.20 323 *eP* **P 09 32 41.1 +0.1**
PSZ pmax pmax
comp=Z,28nm,1.5s
PSZ Piszkesteto 79.20 323 ⇓ *iP* **P 09 32 41.0 +0.1**
PSZ Piszkesteto 79.20 323 *eP* **P 09 32 41.0 +0.1**
comp=Z,28nm,1.5s
F24A Ekalaka 79.23 40 ⇓P **P 09 32 42.3 +1.2**
baz=79
SCI San Clemente I 79.25 57 ⇑P **P 09 32 43.0 +1.6**
baz=79
SHPR Sheep Range 79.26 52 *eP* **P 09 32 43.0 +1.4**
comp=Z,12nm,1.1s
VYHS Vyhne 79.28 324 *eP* **P 09 32 41.8 +0.5**
VYHS pmax pmax
comp=Z,7.0nm,1.8s
VYHS Vyhne 79.28 324 *eP* **P 09 32 41.8 +0.5**
E25A Miller Ranch, 79.30 39 ⇓P **P 09 32 42.7 +1.2**
baz=79
J21A Lysite 79.35 43 ⇑P **P 09 32 43.3 +1.2**
baz=79,SNR=11
C27A Sayler Ranch, 79.37 37 ⇓P **P 09 32 41.9 +0.1**

baz=79
B28A **Dugan Ranch, T** 79.38 36 ⇓P P 09 32 42.3 +0.5
baz=79
D26A **Manning** 79.40 38 ⇑P P 09 32 42.6 +0.6
baz=79
TUQ **Turquoise Moun** 79.45 53 ⇓P P 09 32 44.1 +1.6
baz=79
I22A **9 Mile Ranch,** 79.50 42 ⇓P P 09 32 44.1 +1.3
baz=79,SNR=7.4
BBRC **Big Bear Solar** 79.53 55 ⇓P P 09 32 43.2 0.0
baz=79
A29A **Manning Farm,** 79.56 35 ⇓P P 09 32 43.8 +1.0
baz=79,SNR=12
HEC **Hector,Ludlow** 79.56 54 ⇓P P 09 32 44.9 +1.8
baz=80
H23A **Clabaugh Cattl** 79.62 41 ⇑P P 09 32 43.5 +0.1
baz=79
F25A **Bowman** 79.67 39 ⇓P P 09 32 44.5 +1.0
baz=80
BRG **Berggiesshubel** 79.70 328 *eP* P 09 32 43.5 0.0
comp=Z,19nm,1.7s
BRG **Berggiesshubel** 79.70 328 *eP* P 09 32 43.5 0.0
comp=Z,6.0nm,1.2s
BRG **Berggiesshubel** 79.70 328 *eP* P 09 32 43.5 0.0
BRG pmax pmax
comp=Z,19nm,1.7s
VRAC **Vranov** 79.71 326 ⇑*iP* P 09 32 43.9 +0.3
CCUT **Cedar City** 79.72 50 *eP* P 09 32 45.4 +1.3
comp=Z,6.1nm,1.0s
CLL **Collm** 79.76 329 *eP* P 09 32 43.5 -0.3
comp=Z,10.0nm,1.1s
CLL **Collm** 79.76 329 ⇑*iP* P 09 32 43.5 -0.3
comp=Z,9.0nm,1.1s
CLL *i* 09 32 46.9
CLL *i* PcP PcP 09 32 50.7 -0.7
CLL LmV 09 45 00.0
comp=Z,100nm,18.2s
CLL LmH 10 04 00.0
comp=N,100nm,19.7s
CLL LmH 10 04 00.0
comp=E,100nm,21.1s
CLL **Collm** 79.76 329 ⇑*iP* P 09 32 43.5 -0.3
CLL *i* 09 32 50.7
CLL pmax pmax
comp=Z,9.0nm,1.1s
MURC **Murrieta** 79.76 56 ⇓P P 09 32 45.2 +1.0
baz=80
E26A **Carlson Angus** 79.78 38 ⇑P P 09 32 45.1 +1.0
baz=80
D27A **Center** 79.79 37 ⇑P P 09 32 45.4 +1.3
baz=80
MVU **Marysvale** 79.81 49 *eP* P 09 32 46.4 +1.7
comp=Z,9.7nm,1.1s
MSU **Marysvale** 79.82 49 *eP* P 09 32 46.3 +1.6
MSU pmax pmax
comp=Z,25nm,1.5s
MSU **Marysvale** 79.82 49 *eP* P 09 32 46.3 +1.6
comp=Z,25nm,1.5s
J22A **Midwest** 79.83 42 ⇓P P 09 32 45.5 +0.9
baz=80,SNR=17
B29A **Wagenman Farm,** 79.83 35 ⇑P P 09 32 44.9 +0.6
baz=80
C28A **Hausauer Farms** 79.90 36 ⇓P P 09 32 45.7 +1.0
baz=80
H24A **Dirks Ranch, A** 79.93 40 ⇓P P 09 32 45.9 +0.9
baz=80
K21A **Alcova** 79.94 43 ⇑P P 09 32 46.4 +1.2
baz=80,SNR=21
A30A **Hoffart Farm,** 79.97 34 ⇓P P 09 32 45.8 +0.8
baz=80
NRDL **Niedersach Rie** 79.99 331 *eP* P 09 32 44.9 0.0
comp=Z,6.0nm,1.0s
GMRC **Granite Mounta** 80.03 54 ⇑P P 09 32 47.1 +1.4
baz=80,SNR=7.5
ULM **Lac du Bonnet** 80.05 32 P P 09 32 44.9 -0.6
comp=Z,6.4nm,0.9s,baz=319,slow=4.6,SNR=5.2
ULM **Lac du Bonnet** 80.05 32 *eP* P 09 32 44.8 -0.6
ULM pmax pmax
comp=Z,12nm,1.0s
ULM **Lac du Bonnet** 80.05 32 *eP* P 09 32 44.8 -0.6
comp=Z,12nm,1.0s
GOPC **GO Pecny, Ondr** 80.06 327 *eP* P 09 32 45.9 +0.4
GOPC AMS AMS 10 12 50.0
comp=Z,200nm,13.7s
PRU **Pruhonice** 80.11 327 *eP* P 09 32 46.4 +0.7
PRU *ex* x 09 32 49.8
PRU AMS AMS 10 12 10.0
comp=Z,100nm,14.9s
PRU **Pruhonice** 80.11 327 *eP* P 09 32 46.4 +0.7
PRU *e* 09 32 49.8
PRU MLR MLR
comp=Z,100nm,14.9s
MDND **Maddock** 80.17 36 ⇑P P 09 32 46.9 +0.8
baz=80
D28A **Regan** 80.19 37 ⇓P P 09 32 47.4 +1.2
baz=80
G25A **Newell** 80.20 40 ⇑P P 09 32 47.9 +1.5
baz=80
TREC **Trest** 80.21 326 *eP* P 09 32 43.3 -3.0
PFO **Pinyon Flats O** 80.24 55 ⇑P P 09 32 48.5 +1.6
baz=80
E27A **Carson** 80.25 38 ⇓P P 09 32 48.0 +1.3
baz=80
BELC **Belle Mtn. Jos** 80.29 55 ⇑P P 09 32 48.0 +0.8
baz=80
B30A **Myrvik Farm, E** 80.31 35 ⇓P P 09 32 48.1 +1.2
baz=80
K22A **Casper** 80.32 43 *eP* P 09 32 47.8 +0.5
comp=Z,15nm,1.0s
K22A **Casper** 80.32 43 ⇓P P 09 32 47.9 +0.7
baz=80,SNR=7.4
J23A **Dilts Ranch, B** 80.33 42 ⇑P P 09 32 47.5 +0.2
baz=80
CLZ **Clausthal** 80.40 331 *eP* P 09 32 47.6 +0.3
comp=Z,13nm,1.1s
SRU **San Rafael Swe** 80.42 48 *eP* P 09 32 48.8 +1.0
SRU pmax pmax
comp=Z,14nm,0.9s
SRU **San Rafael Swe** 80.42 48 *eP* P 09 32 48.8 +1.0
comp=Z,14nm,0.9s
I24A **Kuemmerle Ranc** 80.51 41 ⇓P P 09 32 48.4 +0.3
baz=80
G26A **Maurine** 80.54 39 ⇑P P 09 32 49.2 +0.9
baz=80
E28A **Huff** 80.57 37 ⇑P P 09 32 49.2 +0.9
baz=80
N20A **Spence Gulch,** 80.58 45 ⇓P P 09 32 50.3 +1.6
baz=80,SNR=20
RSSD **Black Hills** 80.63 41 *eP* P 09 32 49.7 +0.8
RSSD pmax pmax
comp=Z,12nm,1.0s
RSSD **Black Hills** 80.63 41 *eP* P 09 32 49.7 +0.8
comp=Z,12nm,1.0s
TANN **Tannenbergstha** 80.66 329 *eP* P 09 32 48.8 0.0
comp=Z,4.0nm,1.4s
MONP **Monument Peak,** 80.71 56 ⇓P P 09 32 50.9 +1.4
baz=81
IRM **Iron Mountain** 80.74 54 ⇓P P 09 32 51.2 +1.8
baz=81
L22A **Ellis Ranch, M** 80.79 43 ⇑P P 09 32 51.3 +1.5
baz=81
C30A **Mose, Pekin** 80.79 35 ⇑P P 09 32 49.9 +0.4
baz=81
G27A **Dupree** 80.82 39 ⇑P P 09 32 50.3 +0.7
baz=81
MOX **Moxa** 80.83 329 *eP* P 09 32 49.5 -0.1
comp=Z,7.0nm,1.2s
J24A **Dixon Ranch, L** 80.85 42 ⇓P P 09 32 50.6 +0.6
baz=81
I25A **Rochford** 80.86 41 ⇑P P 09 32 50.7 +0.6
baz=81,SNR=5.6
BC3 **Big Chuckawall** 80.86 55 ⇓P P 09 32 51.4 +1.2
baz=81
H26A **Fairpoint** 80.93 40 ⇑P P 09 32 51.7 +1.3
baz=81
W13A **Hualapai Mount** 80.95 53 ⇓P P 09 32 52.0 +1.1
baz=81,SNR=9.2
PKSM **Moragy** 81.02 323 ⇓*iP* P 09 32 50.2 -0.4
IBBN **Ibbenburen** 81.03 332 *eP* P 09 32 50.5 0.0
comp=Z,10.0nm,0.9s
F28A **McLaughlin** 81.04 38 ⇓P P 09 32 51.3 +0.5
baz=81
CONA **Conrad Observa** 81.06 325 ⇓*iP* P 09 32 51.5 +0.5
comp=Z,8.5nm,1.1s
O20A **White River Ci** 81.06 46 *eP* P 09 32 51.2 -0.1
comp=Z,12nm,0.9s
O20A **White River Ci** 81.06 46 ⇓P P 09 32 52.0 +0.7
baz=81

E29A **Napoleon** 81.08 37 ⇓P P 09 32 51.7 +0.7
baz=81
SWSC **Sam W. Stewart** 81.09 55 ⇓P P 09 32 53.1 +1.8
baz=81
U15A **North Rim** 81.09 51 ⇑P P 09 32 53.6 +1.9
baz=81,SNR=15
D30A **Buchanan** 81.10 36 ⇑P P 09 32 51.8 +0.7
baz=81
M22A **Cedar Creek Ra** 81.13 44 ⇑P P 09 32 52.9 +1.2
baz=81
L23A **Garrett** 81.13 43 ⇓P P 09 32 52.6 +0.9
baz=81,SNR=13
KHC **Kasperske Hory** 81.17 327 *eP* P 09 32 51.5 0.0
KHC **Kasperske Hory** 81.17 327 *eP* P 09 32 51.5 0.0
VTS **Vitosha** 81.25 318 ⇑*iP* P 09 32 52.7 +0.5
ROTZ **Rotzenmuhle** 81.26 328 *eP* P 09 32 52.5 +0.6
comp=Z,13nm,1.3s
J25A **Sunshine Ranch** 81.26 41 ⇑P P 09 32 52.8 +0.6
baz=81
H27A **Howes** 81.27 39 ⇑P P 09 32 53.6 +1.4
baz=81
PDMCI **Parker Dam,Lak** 81.30 53 ⇑P P 09 32 53.6 +1.2
baz=81,SNR=7.6
I26A **New Underwood** 81.30 40 ⇓P P 09 32 53.4 +1.1
baz=81
GEC2 **GERESS Array S** 81.33 327 *eP* P 09 32 52.2 -0.2
comp=Z,5.0nm,1.0s
GERES **GERESS Array B** 81.33 327 P P 09 32 52.0 -0.4
comp=Z,2.4nm,0.8s,baz=36,slow=5.0,SNR=19
GERES LR LR 10 10 11.7
comp=Z,63nm,18.4s,baz=54,slow=37
GERES **GERESS Array B** 81.33 327 P P 09 32 52.0 -0.4
GERES pmax pmax
comp=Z,2.0nm,0.9s
GERES MLR MLR
comp=Z,63nm,18.4s
Y12C **Blythe** 81.40 54 ⇑P P 09 32 54.4 +1.5
baz=81,SNR=5.5
WET **Wettzell** 81.45 328 *eP* P 09 32 53.2 +0.2
comp=Z,9.0nm,1.3s
E30A **Jud** 81.47 36 ⇓P P 09 32 53.7 +0.6
baz=81
F29A **Eureka** 81.52 37 ⇓P P 09 32 54.5 +1.1
baz=81
G28A **Parade** 81.54 38 ⇓P P 09 32 55.2 +1.7
baz=81
M23A **Laramie** 81.56 43 ⇑P P 09 32 55.1 +1.1
baz=81
L24A **Wheatland** 81.60 43 ⇑P P 09 32 55.4 +1.4
baz=81
N22A **Wattenberg Ran** 81.62 44 ⇓P P 09 32 56.1 +1.8
baz=81,SNR=8.6
GLA **Glamis** 81.65 55 *eP* P 09 32 55.5 +1.1
GLA pmax pmax
comp=Z,14nm,0.9s
GLA **Glamis** 81.65 55 *eP* P 09 32 55.5 +1.1
comp=Z,14nm,0.9s
GLA **Glamis** 81.65 55 ⇓P P 09 32 56.0 +1.7
baz=82
I27A **Quinn** 81.69 40 ⇑P P 09 32 55.9 +1.6
baz=82
GRF **Grafenberg Arr** 81.73 329 *eP* P 09 32 55.0 +0.6
comp=Z,27nm,1.3s
K25A **Mack Ranch, Ha** 81.77 42 ⇑P P 09 32 55.7 +0.8
baz=82
H28A **Mission Ridge** 81.77 39 ⇓P P 09 32 56.2 +1.4
baz=82
PHWY **Pilot Hill** 81.82 43 *eP* P 09 32 56.4 +1.0
comp=Z,20nm,1.4s
N23A **Red Feather La** 81.84 44 ⇓P P 09 32 57.3 +1.8
baz=82,SNR=7.7
DIVS **Divibare** 81.86 321 ⇑*iP* P 09 32 55.1 -0.2
BUG **Bochum--Univer** 81.90 332 *eP* P 09 32 55.0 -0.2
comp=Z,14nm,1.3s
G29A **Hoven** 81.94 38 ⇑P P 09 32 56.4 +0.8
baz=82
O22A **Kremmling** 82.00 45 ⇓P P 09 32 57.6 +1.2
baz=82,SNR=13
M24A **Cheyenne** 82.05 43 ⇑P P 09 32 57.3 +0.8
baz=82,SNR=7.7
K26A **Motz Farm, Whi** 82.07 41 ⇓P P 09 32 57.3 +0.9
baz=82
I28A **Midland** 82.18 39 ⇑P P 09 32 58.2 +1.3
baz=82
H29A **Onida** 82.21 38 ⇑P P 09 32 58.2 +1.2
baz=82
PV01 **Paradox Valley** 82.21 47 *eP* P 09 32 58.5 +1.1
comp=Z,1μm,1.2s
WUAZ **Wupatki** 82.25 51 *eP* P 09 32 58.8 +1.2
comp=Z,5.3nm,0.8s
WUAZ **Wupatki** 82.25 51 ⇓P P 09 32 59.3 +1.7
baz=82,SNR=6.6
Y14A **Wickenburg** 82.25 53 ⇑P P 09 32 59.1 +1.6
baz=82,SNR=9.0
P22A **Eagle** 82.27 45 ⇓P P 09 32 59.0 +1.3
baz=82,SNR=19
O23A **Lake Granby, G** 82.32 44 ⇑P P 09 32 58.7 +0.7
baz=82,SNR=17
G30A **Faulkton** 82.36 37 ⇑P P 09 32 59.1 +1.3
baz=82,SNR=5.5
SOKA **Soboth** 82.37 325 ⇑*iP* P 09 32 58.1 +0.2
comp=Z,12nm,1.2s
TNS **Taus Mts** 82.42 331 *eP* P 09 32 58.1 0.0
comp=Z,5.0nm,0.9s
SMCO **Snowmass** 82.43 46 *eP* P 09 32 59.4 +0.6
comp=Z,10nm,1.0s
M25A **Palm-Egli Farm** 82.49 43 ⇓P P 09 33 00.0 +1.3
baz=82
113A **Mohawk Valley,** 82.52 54 ⇓P P 09 32 59.4 +0.7
baz=82
J28A **Allard Ranch,** 82.56 40 ⇑P P 09 33 00.0 +1.1
baz=82
K27A **Flueckinger Fa** 82.56 41 ⇑P P 09 32 59.9 +0.9
baz=82
RJOB **Jochberg** 82.56 327 *eP* P 09 32 59.4 +0.5
comp=Z,9.0nm,1.1s
L26A **Underwood Farm** 82.59 42 ⇓P P 09 32 59.0 -0.2
baz=82
I29A **Vivian Onida** 82.60 39 ⇓P P 09 32 59.9 +0.8
baz=82
ISCO **Idaho Springs** 82.77 45 *eP* P 09 33 01.5 +1.1
ISCO pmax pmax
comp=Z,13nm,1.4s
ISCO **Idaho Springs** 82.77 45 *eP* P 09 33 01.5 +1.1
comp=Z,13nm,1.4s
ISCO **Idaho Springs** 82.77 45 ⇓P P 09 33 01.8 +1.4
baz=83,SNR=6.7
KBA **Koelnbreinsper** 82.83 326 ⇑*iP* P 09 33 01.1 +0.7
comp=Z,8.2nm,1.3s
O24A **Longmont** 82.85 44 ⇓P P 09 33 02.2 +1.6
baz=83,SNR=7.7
MVCO **Mesa Verde** 82.87 48 *eP* P 09 33 02.2 +1.3
comp=Z,27nm,1.5s
MVCO *eP* PcP PcP 09 33 06.1 +0.5
MVCO **Mesa Verde** 82.87 48 ⇓P P 09 33 02.5 +1.6
baz=83,SNR=6.4
FUR **Furstenfeldbru** 82.89 328 *eP* P 09 33 00.8 +0.3
comp=Z,20nm,1.1s
X16A **Lo Mia Camp, P** 82.93 52 ⇑P P 09 33 02.6 +1.5
baz=83,SNR=8.9
P23A **Jefferson** 82.94 45 ⇑P P 09 33 02.5 +1.2
baz=83
M26A **McRoberts Ranc** 82.96 42 ⇑P P 09 33 01.5 +0.4
baz=83
L27A **T5 Ranch, Ells** 82.96 41 ⇑P P 09 33 02.2 +1.1
baz=83
K28A **Ten Mile Ranch** 83.00 40 ⇓P P 09 33 02.6 +1.4
baz=83
J29A **Okreek** 83.03 39 ⇑P P 09 33 02.2 +0.8
baz=83
I30A **Oacoma** 83.11 38 ⇓P P 09 33 03.1 +1.3
baz=83
Q23A **Hartsel** 83.26 45 ⇑P P 09 33 04.6 +1.6
baz=83
STU **Stuttgart** 83.28 329 *eP* P 09 33 02.7 +0.2
comp=Z,17nm,1.0s
STU **Stuttgart** 83.28 329 *eP* P 09 33 02.2 -0.3
STU pmax pmax
comp=Z,19nm,0.9s
STU **Stuttgart** 83.28 329 *eP* P 09 33 02.2 -0.3
comp=Z,19nm,0.9s
O25A **Wiggins** 83.38 44 ⇑P P 09 33 04.7 +1.3
baz=83,SNR=5.9
ABTA **Abfaltersbach** 83.45 326 ⇑*iP* P 09 33 03.0 -0.5
comp=Z,6.9nm,1.1s
S22A **4UR Ranch, Cre** 83.48 47 ⇑P P 09 33 05.5 +1.3
baz=83,SNR=11
K29A **Lazy Trails An** 83.50 40 ⇓P P 09 33 04.8 +1.0

baz=83
J30A **Dallas** 83.51 39 ⇓P P 09 33 04.5 +0.6
baz=83
W18A **Petrified Fore** 83.52 50 ⇑P P 09 33 06.0 +1.8
baz=83
Q24A **Divide** 83.61 45 ⇓P P 09 33 05.6 +0.8
baz=83
RETA **Reutte** 83.63 328 ⇓*iP* P 09 33 04.7 +0.2
comp=Z,13nm,1.0s
214A **Organ Pipe Nat** 83.66 54 *eP* P 09 33 05.8 +1.0
comp=Z,14nm,1.1s
214A *eP* PcP PcP 09 33 09.1 +0.1
214A **Organ Pipe Nat** 83.66 54 ⇓P P 09 33 05.8 +1.0
baz=84
O26A **Horse Wrangler** 83.73 43 ⇓P P 09 33 05.9 +0.8
baz=84
N27A **Anderson Farm,** 83.75 42 ⇑P P 09 33 05.2 0.0
baz=84
R23A **Moffat** 83.76 46 ⇓P P 09 33 06.4 +0.9
baz=84
P25A **Willow Gulch B** 83.77 44 ⇑P P 09 33 07.0 +1.6
baz=84,SNR=6.5
X18A **Snowflake** 83.78 51 ⇓P P 09 33 07.3 +1.8
baz=84
OGNE **Ogallala** 83.92 42 ⇓P P 09 33 06.5 +0.4
baz=84
K30A **Basset** 83.92 39 ⇓P P 09 33 07.5 +1.5
baz=84
M28A **Bar X Bar Ranc** 83.94 41 ⇓P P 09 33 07.6 +1.4
baz=84
BFO **Black Forest** 83.98 329 *eP* P 09 33 06.0 -0.1
comp=Z,24nm,1.3s
BFO **Black Forest** 83.98 329 *eP* P 09 33 05.8 -0.3
BFO pmax pmax
comp=Z,16nm,1.1s
BFO **Black Forest** 83.98 329 *eP* P 09 33 05.8 -0.3
comp=Z,16nm,1.1s
BFO *eP* PcP PcP 09 33 09.7 -0.4
S23A **Nye Farm, Mont** 83.99 46 ⇓P P 09 33 08.7 +2.0
baz=84
FETA **Feichten** 84.01 327 ⇓*iP* PcP P 09 33 06.7 +0.3
comp=Z,7.6nm,1.1s
R24A **Sanders Place,** 84.14 45 ⇓P P 09 33 09.2 +1.9
baz=84,SNR=9.9
Q25A **Bedland, Calha** 84.15 45 ⇑P P 09 33 08.7 +1.3
baz=84
DAVA **Damuels** 84.16 328 ⇓*iP* PcP P 09 33 07.3 +0.1
comp=Z,14nm,0.9s
P26A **Davis Ranch, A** 84.19 44 ⇑P P 09 33 08.7 +1.1
baz=84
O27A **Beecher Island** 84.22 43 ⇓P P 09 33 09.1 +1.5
baz=84
SDCO **Great Sand Dun** 84.25 46 ⇓P P 09 33 09.6 +1.6
baz=84,SNR=8.0
M29A **Burnside Ranch** 84.27 41 ⇑P P 09 33 09.0 +1.2
baz=84
CDF **Champ du Feu** 84.33 330 *eP* P 09 33 07.6 -0.4
comp=Z,37nm,1.1s
CDF **Champ du Feu** 84.33 330 *eP* P 09 33 07.6 -0.4
CDF pmax pmax
comp=Z,37nm,1.1s
CDF **Champ du Feu** 84.33 330 *eP* P 09 33 07.6 -0.4
comp=Z,37nm,1.1s
N28A **Pribbeno Ranch** 84.36 42 ⇑P P 09 33 08.4 +0.1
baz=84
L30A **Spencer Herefo** 84.40 40 ⇓P P 09 33 09.5 +1.1
baz=84
ECH **Echery** 84.54 330 *eP* P 09 33 08.3 -0.6
ECH pmax pmax
comp=Z,22nm,1.4s
ECH **Echery** 84.54 330 *eP* P 09 33 08.3 -0.6
comp=Z,22nm,1.4s
Q26A **Hugo** 84.55 44 ⇓P P 09 33 10.2 +0.9
baz=84
ECSD **EROS Data Cent** 84.61 37 *eP* P 09 33 09.7 +0.3
comp=Z,10nm,1.0s
ECSD *eP* PcP PcP 09 33 13.2 +0.2
ECSD **EROS Data Cent** 84.61 37 ⇑P P 09 33 10.1 +0.7
baz=84,SNR=11
P27A **Ficken Ranch,** 84.61 43 ⇓P P 09 33 10.0 +0.4
baz=84
M30A **Dale-Ortello V** 84.62 40 ⇑P P 09 33 10.6 +1.0
baz=84
O28A **Krutsinger Ran** 84.64 42 ⇓P P 09 33 10.7 +0.9
baz=84
L31A **Butterfield Fa** 84.68 39 ⇓P P 09 33 10.4 +0.6
baz=84,SNR=9.3
TUC **Tucson** 84.72 53 *eP* P 09 33 11.2 +0.9
TUC pmax pmax
comp=Z,5.0nm,0.9s
TUC **Tucson** 84.72 53 *eP* P 09 33 11.2 +0.9
comp=Z,5.4nm,0.9s
TUC *eP* PcP PcP 09 33 15.2 +1.5
N29A **Votaw Ranch, W** 84.75 41 ⇓P P 09 33 11.0 +0.8
baz=85
PAGF **Fort de Pagny** 84.82 331 *eP* P 09 33 10.2 -0.1
comp=Z,9.1nm,0.9s
PAGF **Fort de Pagny** 84.82 331 *eP* P 09 33 10.2 -0.1
comp=Z,9.1nm,0.9s
KSCO **Kaye Shedlock'** 84.97 44 ⇑P P 09 33 12.4 +0.9
baz=85
HINF **Hinteralfeld** 84.98 330 *eP* P 09 33 10.4 -0.8
HINF **Hinteralfeld** 84.98 330 *eP* P 09 33 10.4 -0.8
HINF **Hinteralfeld** 84.98 330 *eP* P 09 33 10.4 -0.8
R26A **Arlington** 85.02 45 ⇑P P 09 33 12.6 +0.9
baz=85,SNR=8.6
HAU **Haudompre** 85.03 330 *eP* P 09 33 10.7 -0.7
comp=Z,11nm,0.8s
HAU **Haudompre** 85.03 330 *eP* P 09 33 10.7 -0.7
HAU pmax pmax
comp=Z,11nm,0.8s
HAU **Haudompre** 85.03 330 *eP* P 09 33 10.7 -0.7
comp=Z,11nm,0.8s
N30A **Hueftle Ranch,** 85.04 41 ⇑P P 09 33 13.1 +1.4
baz=85
P28A **Saint Francis** 85.05 43 ⇓P P 09 33 12.4 +0.6
baz=85,SNR=7.0
MEZF **Maizieres J'vi** 85.12 331 *eP* P 09 33 11.7 -0.1
MEZF **Maizieres J'vi** 85.12 331 *eP* P 09 33 11.7 -0.1
M31A **Lambtecht Ranc** 85.22 40 ⇑P P 09 33 13.7 +1.2
baz=85
T25A **Trinidad** 85.30 46 ⇑P P 09 33 14.2 +1.0
baz=85,SNR=8.5
Q28A **Sharon Springs** 85.37 43 ⇓P P 09 33 14.1 +0.7
baz=85
SFTF **Sexfontaines** 85.37 331 *eP* P 09 33 12.7 -0.4
comp=Z,36nm,1.0s
SFTF **Sexfontaines** 85.37 331 *eP* P 09 33 12.7 -0.4
comp=Z,36nm,1.0s
R27A **Eads** 85.39 44 ⇑P P 09 33 14.3 +0.8
baz=85
P29A **Atwood** 85.47 42 ⇓P P 09 33 14.4 +0.5
baz=85
S26A **Kim** 85.49 45 ⇓P P 09 33 14.3 +0.2
baz=85
O30A **MW Ranch, Wils** 85.51 41 ⇓P P 09 33 14.6 +0.5
baz=85
LAZ **Ladron** 85.58 49 *eP* P 09 33 15.6 +0.9
comp=Z,6.4nm,1.4s
BGNE **Belgrade** 85.59 39 *eP* P 09 33 14.6 +0.2
comp=Z,54nm,1.0s
BGNE *eP* PcP PcP 09 33 18.4 +1.2
BGNE **Belgrade** 85.59 39 ⇓P P 09 33 14.9 +0.5
baz=85
ANMO **Albuquerque** 85.62 49 ⇑*eP* P 09 33 13.3 -1.5
ANMO pmax pmax
comp=Z,44nm,1.2s
ANMO **Albuquerque** 85.62 49 *eP* P 09 33 16.1 +1.3
comp=Z,14nm,1.4s
T26A **Comanche Natio** 85.73 45 ⇑P P 09 33 16.1 +0.8
baz=86,SNR=6.9
P30A **Selden** 85.88 42 ⇓P P 09 33 16.2 +0.3
baz=86
R28A **Tribune** 85.90 44 ⇓P P 09 33 16.5 +0.4
baz=86
O31A **Woolen Ranch,** 85.92 41 ⇑P P 09 33 17.0 +1.0
baz=86
Q29A **Oakley** 85.96 43 ⇓P P 09 33 16.7 +0.4
baz=86
PMOR **Pomariorio Ree** 86.03 112 *eT* T 11 06 38.0
comp=Z,2.5nm,0.2s
CABF **La Chapelle** 86.26 330 *eP* P 09 33 17.1 -0.6
comp=Z,25nm,1.4s
CABF **La Chapelle** 86.26 330 *eP* P 09 33 17.1 -0.6
CABF pmax pmax
comp=Z,25nm,1.4s
CABF **La Chapelle** 86.26 330 *eP* P 09 33 17.1 -0.6
comp=Z,25nm,1.4s

319A	**Douglas**	**86.30**	**53**	⇓P		**P**	**09 33 19.0**	**+0.9**
	baz=86								
Q30A	**Quinter**	**86.30**	**42**	⇓P		**P**	**09 33 18.8**	**+0.9**
	baz=86								
T27A	**Campo**	**86.31**	**45**	⇑P		**P**	**09 33 19.5**	**+1.3**
	baz=86								
P31A	**Stockton**	**86.35**	**41**	⇓P		**P**	**09 33 18.6**	**+0.5**
	baz=86								
O32A	**Brockman Farm,**	**86.38**	**40**	⇑P		**P**	**09 33 18.3**	**0.0**
	baz=86								
S28A	**Manter**	**86.39**	**44**	⇑P		**P**	**09 33 19.3**	**+0.9**
	baz=86,SNR=6.9								
121A	**Cookes Peak, D**	**86.46**	**51**	⇑P		**P**	**09 33 20.0**	**+1.0**
	baz=86								
PPT	**Papeete**	**86.47**	**115**	LR		LR	10 07 14.5		
	comp=Z,57nm,20.4s,baz=10.0,slow=32								
PPT2	**Papeete2**	**86.48**	**115**	*e*LR		LR	10 00 27.7		
	comp=Z,112nm,26.0s								
LOR	**Lormes**	**86.59**	**331**	*e*P		**P**	**09 33 18.5**	**-0.7**
	comp=Z,27nm,1.0s								
LOR				*e*R					
	comp=Z,60nm,19.5s								
LOR	**Lormes**	**86.59**	**331**	*e*P		**P**	**09 33 18.5**	**-0.7**
LOR				pmax		pmax			
	comp=Z,27nm,1.0s								
LOR	**Lormes**	**86.59**	**331**	*e*P		**P**	**09 33 18.5**	**-0.7**
	comp=Z,27nm,1.0s								
T28A	**Walsh**	**86.61**	**45**	⇓P		**P**	**09 33 19.8**	**+0.2**
	baz=86								
P32A	**Huiting Farm,**	**86.68**	**41**	⇑P		**P**	**09 33 20.2**	**+0.4**
	baz=86,SNR=8.1								
U27A	**Thompson Grove**	**86.70**	**46**	⇓P		**P**	**09 33 21.3**	**+1.3**
	baz=86								
Q31A	**Ellis**	**86.72**	**42**	⇓P		**P**	**09 33 19.4**	**-0.6**
	baz=86								
R30A	**Dighton**	**86.77**	**43**	⇑P		**P**	**09 33 20.5**	**+0.2**
	baz=87								
S29A	**Ulysses**	**86.80**	**44**	⇓P		**P**	**09 33 20.3**	**-0.1**
	baz=87								
LPL	**La Plagne**	**86.89**	**329**	*e*P		**P**	**09 33 20.6**	**-0.3**
LPL	**La Plagne**	**86.89**	**329**	*e*P		**P**	**09 33 20.6**	**-0.3**
LPL	**La Plagne**	**86.89**	**329**	*e*P		**P**	**09 33 20.6**	**-0.3**
LPG	**La Plagne**	**86.90**	**329**	*e*P		**P**	**09 33 20.5**	**-0.5**
	comp=Z,15nm,1.2s								
LPG	**La Plagne**	**86.90**	**329**	*e*P		**P**	**09 33 20.5**	**-0.5**
LPG				pmax		pmax			
	comp=Z,15nm,1.2s								
LPG	**La Plagne**	**86.90**	**329**	*e*P		**P**	**09 33 20.5**	**-0.5**
	comp=Z,15nm,1.2s								
SSF	**Saint Saulge**	**86.90**	**331**	*e*P		**P**	**09 33 20.0**	**-0.7**
	comp=Z,20nm,1.0s								
SSF	**Saint Saulge**	**86.90**	**331**	*e*P		**P**	**09 33 20.0**	**-0.7**
SSF				pmax		pmax			
	comp=Z,20nm,1.0s								
SSF	**Saint Saulge**	**86.90**	**331**	*e*P		**P**	**09 33 20.0**	**-0.7**
	comp=Z,20nm,1.0s								
FLN	**La Foliniere**	**86.90**	**335**	*e*P		**P**	**09 33 19.9**	**-0.7**
	comp=Z,55nm,1.2s								
FLN				*e*R					
	comp=Z,73nm,20.8s								
FLN	**La Foliniere**	**86.90**	**335**	*e*P		**P**	**09 33 19.9**	**-0.7**
FLN				pmax		pmax			
	comp=Z,55nm,1.3s								
FLN	**La Foliniere**	**86.90**	**335**	*e*P		**P**	**09 33 19.9**	**-0.7**
	comp=Z,55nm,1.3s								
LDF	**La Druitiere**	**86.92**	**334**	*e*P		**P**	**09 33 20.0**	**-0.7**
LDF	**La Druitiere**	**86.92**	**334**	*e*P		**P**	**09 33 20.0**	**-0.7**
LDF	**La Druitiere**	**86.92**	**334**	*e*P		**P**	**09 33 20.0**	**-0.7**
T29A	**Hugoton**	**87.03**	**44**	⇓P		**P**	**09 33 21.4**	**-0.2**
	baz=87								
U28A	**Mallet**	**87.07**	**45**	⇑P		**P**	**09 33 21.9**	**0.0**
	baz=87								
SMF	**Signal de Mont**	**87.12**	**331**	*e*P		**P**	**09 33 21.0**	**-0.8**
	comp=Z,9.8nm,0.9s								
SMF	**Signal de Mont**	**87.12**	**331**	*e*P		**P**	**09 33 21.0**	**-0.8**
SMF				pmax		pmax			
	comp=Z,10.0nm,0.9s								
SMF	**Signal de Mont**	**87.12**	**331**	*e*P		**P**	**09 33 21.0**	**-0.8**
	comp=Z,9.8nm,0.9s								
S30A	**Montezuma**	**87.14**	**43**	⇓P		**P**	**09 33 23.0**	**+0.9**
	baz=87								
V27A	**Dan Oppiter Fa**	**87.17**	**46**	⇑P		**P**	**09 33 22.7**	**+0.3**
	baz=87								
Q32A	**Meitler Ranch,**	**87.17**	**41**	⇓P		**P**	**09 33 23.1**	**+1.0**
	baz=87								
R31A	**Burdett**	**87.17**	**42**	⇓P		**P**	**09 33 21.1**	**-1.1**
	baz=87								
AVF	**Avril sur Loir**	**87.19**	**331**	*e*P		**P**	**09 33 21.5**	**-0.5**
	comp=Z,17nm,0.9s								
AVF	**Avril sur Loir**	**87.19**	**331**	*e*P		**P**	**09 33 21.5**	**-0.5**
AVF				pmax		pmax			
	comp=Z,17nm,0.9s								
AVF	**Avril sur Loir**	**87.19**	**331**	*e*P		**P**	**09 33 21.5**	**-0.5**
	comp=Z,17nm,0.9s								
P33A	**Williams Farm,**	**87.29**	**40**	⇓P		**P**	**09 33 23.4**	**+0.7**
	baz=87								
GRR	**Gorron**	**87.35**	**335**	*e*P		**P**	**09 33 22.3**	**-0.5**
GRR	**Gorron**	**87.35**	**335**	*e*P		**P**	**09 33 22.3**	**-0.5**
GRR	**Gorron**	**87.35**	**335**	*e*P		**P**	**09 33 22.3**	**-0.5**
R32A	**Long Quarter,**	**87.51**	**42**	⇑P		**P**	**09 33 24.5**	**+0.6**
	baz=87								
Q33A	**Connelly Farm,**	**87.54**	**41**	⇑P		**P**	**09 33 24.7**	**+0.7**
	baz=87,SNR=7.5								
ORIF	**Oris-en-Rattie**	**87.73**	**329**	*e*P		**P**	**09 33 24.6**	**-0.2**
ORIF				*e*R					
	comp=Z,76nm,23.0s								
ORIF	**Oris-en-Rattie**	**87.73**	**329**	*e*P		**P**	**09 33 24.6**	**-0.2**
ORIF	**Oris-en-Rattie**	**87.73**	**329**	*e*P		**P**	**09 33 24.6**	**-0.2**
U30A	**WK&E Inc. Balk**	**87.84**	**44**	⇑P		**P**	**09 33 26.2**	**+0.7**
	baz=88								
S32A	**Newby Ranch, P**	**87.92**	**42**	⇓P		**P**	**09 33 27.2**	**+1.4**
	baz=88								
T31A	**Randall Ranch,**	**87.96**	**43**	⇑P		**P**	**09 33 26.8**	**+0.8**
	baz=88								
R33A	**Olander Ranch,**	**87.98**	**41**	⇓P		**P**	**09 33 27.1**	**+1.0**
	baz=88								
TCF	**Toulx Ste Croi**	**88.04**	**332**	*e*P		**P**	**09 33 26.0**	**-0.2**
TCF	**Toulx Ste Croi**	**88.04**	**332**	*e*P		**P**	**09 33 26.0**	**-0.2**
TCF	**Toulx Ste Croi**	**88.04**	**332**	*e*P		**P**	**09 33 26.0**	**-0.2**
SGMF	**Saint Gilles**	**88.04**	**336**	*e*P		**P**	**09 33 25.8**	**-0.3**
	comp=Z,44nm,1.3s								
SGMF	**Saint Gilles**	**88.04**	**336**	*e*P		**P**	**09 33 25.8**	**-0.3**
SGMF				pmax		pmax			
	comp=Z,44nm,1.3s								
SGMF	**Saint Gilles**	**88.04**	**336**	*e*P		**P**	**09 33 25.8**	**-0.3**
	comp=Z,44nm,1.3s								
KSU1	**Kansas State U**	**88.10**	**40**	*e*P		**P**	**09 33 26.8**	**+0.2**
	comp=Z,10nm,0.6s								
KSU1	**Kansas State U**	**88.10**	**40**	⇓P		**P**	**09 33 27.1**	**+0.5**
	baz=88								
ROSF	**Rostrenen**	**88.20**	**336**	*e*P		**P**	**09 33 26.6**	**-0.3**
	comp=Z,35nm,1.1s								
ROSF	**Rostrenen**	**88.20**	**336**	*e*P		**P**	**09 33 26.6**	**-0.3**
ROSF				pmax		pmax			
	comp=Z,35nm,1.1s								
ROSF	**Rostrenen**	**88.20**	**336**	*e*P		**P**	**09 33 26.6**	**-0.3**
	comp=Z,35nm,1.1s								
VIVF	**Saint-Julien-I**	**88.27**	**329**	*e*P		**P**	**09 33 26.5**	**-0.8**
	comp=Z,7.5nm,0.9s								
VIVF	**Saint-Julien-I**	**88.27**	**329**	*e*P		**P**	**09 33 26.5**	**-0.8**
VIVF				pmax		pmax			
	comp=Z,8.0nm,0.9s								
VIVF	**Saint-Julien-I**	**88.27**	**329**	*e*P		**P**	**09 33 26.5**	**-0.8**
	comp=Z,7.5nm,0.9s								
W29A	**Amarillo**	**88.30**	**46**	⇓P		**P**	**09 33 27.5**	**-0.2**
	baz=88								
T32A	**Huddler Ranch,**	**88.31**	**43**	⇓P		**P**	**09 33 28.3**	**+0.6**
	baz=88								
X28A	**Dimmitt**	**88.42**	**46**	⇓P		**P**	**09 33 29.3**	**+0.9**
	baz=88								
AMTX	**Amarillo**	**88.45**	**46**	⇑P		**P**	**09 33 29.7**	**+1.2**
	baz=88								
MSTX	**Muleshoe**	**88.47**	**47**	⇓P		**P**	**09 33 30.0**	**+1.4**
	baz=88								
S33A	**Kaszmaul Farm,**	**88.50**	**42**	⇑P		**P**	**09 33 29.8**	**+1.2**
	baz=88								
MNTX	**Cornudas Mount**	**88.51**	**50**	⇓P		**P**	**09 33 29.8**	**+1.1**
	baz=88								
MFF	**Saint Martin d**	**88.64**	**333**	*e*P		**P**	**09 33 29.1**	**+0.1**
MFF	**Saint Martin d**	**88.64**	**333**	*e*P		**P**	**09 33 29.1**	**+0.1**
MFF	**Saint Martin d**	**88.64**	**333**	*e*P		**P**	**09 33 29.1**	**+0.1**
X29A	**Tulia**	**88.75**	**46**	⇓P		**P**	**09 33 31.2**	**+1.3**
	baz=89								
Y28A	**McKinney Farm,**	**88.82**	**47**	⇑P		**P**	**09 33 30.9**	**+0.7**
	baz=89								
V31A	**Spring Creek L**	**88.84**	**44**	⇑P		**P**	**09 33 30.5**	**+0.3**
	baz=89								
S34A	**Willow Spring**	**88.89**	**41**	⇓P		**P**	**09 33 31.4**	**+1.0**
	baz=89								
RJF	**Les Rejaudoux**	**89.13**	**332**	*e*P		**P**	**09 33 31.3**	**0.0**
	comp=Z,15nm,1.2s								
RJF				*e*R					
	comp=Z,55nm,22.2s								
RJF	**Les Rejaudoux**	**89.13**	**332**	*e*P		**P**	**09 33 31.3**	**0.0**
RJF				pmax		pmax			
	comp=Z,15nm,1.2s								
RJF	**Les Rejaudoux**	**89.13**	**332**	*e*P		**P**	**09 33 31.3**	**0.0**
	comp=Z,15nm,1.2s								
Z28A	**Tucker Farm, M**	**89.18**	**47**	⇓P		**P**	**09 33 33.3**	**+1.4**
	baz=89								
Y29A	**Porterfield Fa**	**89.19**	**47**	⇑P		**P**	**09 33 33.6**	**+1.6**
	baz=89								
W31A	**Holland Ranch,**	**89.21**	**45**	⇓P		**P**	**09 33 32.3**	**+0.4**
	baz=89								
X30A	**Coker Ranch, T**	**89.23**	**46**	⇑P		**P**	**09 33 34.0**	**+1.9**
	baz=89								
CAF	**Calviac**	**89.24**	**331**	*e*P		**P**	**09 33 32.0**	**+0.1**
CAF	**Calviac**	**89.24**	**331**	*e*P		**P**	**09 33 32.0**	**+0.1**
CAF	**Calviac**	**89.24**	**331**	*e*P		**P**	**09 33 32.0**	**+0.1**
LASF	**Ste Croix**	**89.24**	**330**	*e*P		**P**	**09 33 31.4**	**-0.5**
LASF	**Ste Croix**	**89.24**	**330**	*e*P		**P**	**09 33 31.4**	**-0.5**
R36A	**Gordon, Harris**	**89.25**	**40**	⇓P		**P**	**09 33 32.1**	**+0.1**
	baz=89								
U33A	**Lingo Farm, Me**	**89.30**	**43**	⇓P		**P**	**09 33 33.1**	**+0.8**
	baz=89								
S35A	**Otter Creek Ra**	**89.32**	**41**	⇑P		**P**	**09 33 33.6**	**+1.2**
	baz=89								
V32A	**Arapaho**	**89.32**	**44**	⇓P		**P**	**09 33 33.8**	**+1.4**
	baz=89								
X31A	**McDonald Ranch**	**89.60**	**45**	⇓P		**P**	**09 33 35.2**	**+1.4**
	baz=89								
128A	**Castleberry Fa**	**89.60**	**48**	⇑P		**P**	**09 33 35.0**	**+1.1**
	baz=90								
Z29A	**Hungry Hill Ra**	**89.60**	**47**	⇑P		**P**	**09 33 35.2**	**+1.3**
	baz=89,SNR=6.8								
U34A	**Anderson Ranch**	**89.61**	**42**	⇑P		**P**	**09 33 35.7**	**+2.0**
	baz=89								
W32A	**Sentinel**	**89.65**	**44**	⇓P		**P**	**09 33 35.3**	**+1.3**
	baz=90								
S36A	**Lake Cedric, C**	**89.66**	**40**	⇓P		**P**	**09 33 33.8**	**-0.2**
	baz=90								
V33A	**Lossen Ranch,**	**89.66**	**43**	⇑P		**P**	**09 33 35.3**	**+1.3**
	baz=90								
228A	**UT Block 9, Go**	**89.90**	**48**	⇑P		**P**	**09 33 36.5**	**+1.2**
	baz=90								
Z30A	**Sanderson Ranc**	**89.92**	**47**	⇑P		**P**	**09 33 36.7**	**+1.4**
	baz=90								
Y31A	**Rekieta Farm,**	**89.93**	**46**	⇓P		**P**	**09 33 36.7**	**+1.4**
	baz=90								
W33A	**Caddo, Fort Co**	**90.06**	**44**	⇑P		**P**	**09 33 36.9**	**+1.0**
	baz=90								
V34A	**Guthrie**	**90.07**	**43**	*e*P		**P**	**09 33 36.9**	**+1.0**
	comp=Z,10.0nm,0.9s								
V34A	**Guthrie**	**90.07**	**43**	⇓P		**P**	**09 33 37.4**	**+1.5**
	baz=90								
X32A	**Elmer**	**90.14**	**45**	⇑P		**P**	**09 33 37.8**	**+1.5**
	baz=90								
TBI	**Tubuai**	**90.33**	**119**	*e*T		T	11 11 49.4		
	comp=Z,6.2nm,0.3s								
Y32A	**R-V Farms, Ver**	**90.36**	**45**	⇓P		**P**	**09 33 38.7**	**+1.4**
	baz=90								
W34A	**Bridge Creek,**	**90.38**	**43**	⇑P		**P**	**09 33 38.7**	**+1.3**
	baz=90								
Z31A	**Sharp Cattle R**	**90.46**	**46**	⇓P		**P**	**09 33 39.1**	**+1.3**
	baz=90								
229A	**Bryant Ranch,**	**90.47**	**48**	⇓P		**P**	**09 33 39.1**	**+1.2**
	baz=90								
V35A	**Meyer Ranch, C**	**90.49**	**42**	⇑P		**P**	**09 33 38.9**	**+1.1**
	baz=90								
X33A	**Lawton**	**90.49**	**44**	⇓P		**P**	**09 33 39.3**	**+1.4**
	baz=90								
130A	**Snyder**	**90.51**	**47**	⇓P		**P**	**09 33 39.0**	**+0.9**
	baz=90								
MTLF	**Montolieu**	**90.51**	**330**	*e*P		**P**	**09 33 37.7**	**-0.1**
MTLF	**Montolieu**	**90.51**	**330**	*e*P		**P**	**09 33 37.7**	**-0.1**
MTLF	**Montolieu**	**90.51**	**330**	*e*P		**P**	**09 33 37.7**	**-0.1**
329A	**Wagon Wheel Ra**	**90.71**	**48**	⇑P		**P**	**09 33 40.3**	**+1.2**
	baz=91								
131A	**Roby**	**90.79**	**47**	⇓P		**P**	**09 33 40.7**	**+1.3**
	baz=91								
X34A	**Smith Ranch, M**	**90.81**	**44**	⇑P		**P**	**09 33 40.9**	**+1.5**
	baz=91								
Y33A	**Hilltop Ranch,**	**90.81**	**45**	⇓P		**P**	**09 33 40.5**	**+1.1**
	baz=91								
Z32A	**Haskell**	**90.85**	**46**	⇑P		**P**	**09 33 40.6**	**+1.0**
	baz=91,SNR=7.7								
W35A	**Tecumseh**	**90.92**	**43**	⇑P		**P**	**09 33 41.0**	**+1.1**
	baz=91								
TUL1	**Leonard**	**90.93**	**42**	⇑P		**P**	**09 33 41.2**	**+1.3**
	baz=91								
TXAR	**Lajitas Array**	**91.22**	**51**	P		**P**	**09 33 42.1**	**+0.7**
	comp=Z,2.2nm,0.7s,baz=295,slow=3.5,SNR=34								
TXAR	**Lajitas Array**	**91.22**	**51**	P		**P**	**09 33 42.2**	**+0.7**
TXAR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
330A	**Mertzon**	**91.25**	**48**	⇓P		**P**	**09 33 42.6**	**+1.1**
	baz=91								
ABTX	**Abilene, Hawle**	**91.25**	**46**	⇓P		**P**	**09 33 42.7**	**+1.2**
	baz=91								
Z33A	**Whitaker Ranch**	**91.27**	**45**	⇓P		**P**	**09 33 42.6**	**+1.1**
	baz=91								
W36A	**Wetumka**	**91.28**	**42**	⇑P		**P**	**09 33 42.6**	**+1.1**
	baz=91								
Y34A	**Reagan Ranch,**	**91.33**	**44**	⇓P		**P**	**09 33 43.0**	**+1.2**
	baz=91								
231A	**Bronte**	**91.37**	**47**	⇑P		**P**	**09 33 43.3**	**+1.3**
	baz=91								
429A	**Davenport Ranc**	**91.38**	**49**	⇓P		**P**	**09 33 43.4**	**+1.2**
	baz=91								
X35A	**Drake**	**91.44**	**43**	⇓P		**P**	**09 33 43.3**	**+1.0**
	baz=91								
529A	**Stev Forest Ra**	**91.54**	**50**	⇑P		**P**	**09 33 44.2**	**+1.3**
	baz=91								
SFIN	**Lafayette**	**91.62**	**34**	⇓P		**P**	**09 33 43.8**	**+0.8**
	baz=91								
X36A	**Centrahoma**	**91.65**	**43**	⇑P		**P**	**09 33 44.6**	**+1.4**
	baz=92								
430A	**Baggett Ranch,**	**91.66**	**48**	⇑P		**P**	**09 33 44.3**	**+0.8**
	baz=92								
133A	**Hamilton Ranch**	**91.68**	**46**	⇓P		**P**	**09 33 44.3**	**+0.8**
	baz=92								
Z34A	**Collier Ranch,**	**91.68**	**45**	⇑P		**P**	**09 33 44.3**	**+0.8**
	baz=92								
W37A	**Quinton**	**91.71**	**42**	⇑P		**P**	**09 33 44.6**	**+1.0**
	baz=92								
331A	**San Angelo**	**91.76**	**48**	⇓P		**P**	**09 33 44.5**	**+0.6**
	baz=92								
232A	**Coleman**	**91.79**	**47**	⇑P		**P**	**09 33 45.3**	**+1.2**
	baz=92,SNR=6.2								
530A	**J-C Ranch, Com**	**92.06**	**49**	⇓P		**P**	**09 33 46.5**	**+1.2**
	baz=92								
Z35A	**Perchaven, San**	**92.08**	**44**	⇑P		**P**	**09 33 46.7**	**+1.4**
	baz=92								
332A	**Millersview**	**92.10**	**47**	⇑P		**P**	**09 33 46.6**	**+1.1**
	baz=92,SNR=7.9								
431A	**Sonora**	**92.11**	**48**	⇓P		**P**	**09 33 46.4**	**+0.9**
	baz=92								
233A	**Rising Star**	**92.13**	**46**	⇑P		**P**	**09 33 46.8**	**+1.2**
	baz=92,SNR=6.8								
134A	**White-Moore Ra**	**92.18**	**45**	⇓P		**P**	**09 33 46.5**	**+0.7**
	baz=92								
W38A	**Poteau**	**92.24**	**41**	⇓P		**P**	**09 33 46.8**	**+0.9**
	baz=92								
432A	**Menard**	**92.44**	**48**	⇓P		**P**	**09 33 47.9**	**+0.8**
	baz=92								
531A	**Rocksprings**	**92.52**	**48**	⇓P		**P**	**09 33 48.2**	**+0.7**
	baz=92								
234A	**Clarette**	**92.57**	**46**	⇑P		**P**	**09 33 48.6**	**+1.0**
	baz=92,SNR=6.3								
333A	**Richland Sprin**	**92.59**	**47**	⇑P		**P**	**09 33 48.7**	**+1.0**
	baz=92,SNR=8.8								
JCT	**Junction City**	**92.73**	**48**	*e*P		**P**	**09 33 49.1**	**+0.7**
JCT				pmax		pmax			
	comp=Z,23nm,1.5s								
JCT	**Junction City**	**92.73**	**48**	*e*P		**P**	**09 33 49.0**	**+0.7**
	comp=Z,23nm,1.5s								
JCT	**Junction City**	**92.73**	**48**	⇓P		**P**	**09 33 49.2**	**+0.7**
	baz=93								
532A	**Rocksprings**	**92.92**	**48**	⇓P		**P**	**09 33 50.3**	**+1.0**
	baz=93								
334A	**Lometa**	**93.01**	**46**	⇓P		**P**	**09 33 49.8**	**+0.2**
	baz=93								
631A	**Perdido Creek**	**93.04**	**49**	⇓P		**P**	**09 33 50.2**	**+0.4**
	baz=93								
MIAR	**Mount Ida**	**93.14**	**41**	*e*P		**P**	**09 33 51.1**	**+1.0**
MIAR				pmax		pmax			
	comp=Z,7.0nm,0.9s								
MIAR	**Mount Ida**	**93.14**	**41**	*e*P		**P**	**09 33 51.1**	**+1.0**
	comp=Z,6.6nm,0.9s								
434A	**Burnet**	**93.38**	**47**	⇑P		**P**	**09 33 51.6**	**+0.3**
	baz=93								
632A	**Uvalde**	**93.45**	**48**	⇑P		**P**	**09 33 51.6**	**-0.1**
	baz=93								
336A	**Riesel**	**93.76**	**45**	⇓P		**P**	**09 33 54.2**	**+1.2**
	baz=94								
534A	**Blanco**	**93.84**	**47**	⇑P		**P**	**09 33 54.4**	**+0.9**
	baz=94								
732A	**Laxson Ranch,**	**93.90**	**49**	⇑P		**P**	**09 33 55.5**	**+1.7**
	baz=94								
832A	**Faith Ranch, C**	**94.22**	**49**	⇓P		**P**	**09 33 56.4**	**+1.1**
	baz=94								
238A	**Jacksonville**	**94.26**	**44**	⇑P		**P**	**09 33 57.0**	**+1.7**
	baz=94								
TORD	**Torodi Ar. Bea**	**115.69**	**313**	PKP		**PKPdf**	**09 39 17.7**	**-1.1**
	comp=Z,0.1nm,0.5s,baz=328,slow=4.9,SNR=2.1								
TORD				PKKPbc		**PKKPbc**	**09 49 51.6**	**+1.8**
	comp=Z,0.9nm,0.9s,baz=207,slow=4.8,SNR=3.7								
SDV	**Santo Domingo**	**126.06**	**37**	*e*PKPdf		**PKPdf**	**09 39 39.0**	**+0.1**
QSPA	**South Pole Qui**	**127.28**	**180**	*e*PKPdf		**PKPdf**	**09 39 39.6**	**+0.2**
SAML	**Samuel**	**145.10**	**41**	*e*PKPbc		**PKPab**	**09 40 13.8**	**+0.5**
LVC	**Limon Verde**	**151.65**	**66**	PKPbc		**PKPbc**	**09 40 32.0**	**+1.1**
	comp=Z,54nm,0.9s,baz=271,slow=3.4,SNR=10								
CFAA	**Coronel Fontan**	**156.72**	**83**	PKPbc		PKPbc	09 40 42.7		
	comp=Z,0.2nm,0.5s,baz=254,slow=5.8,SNR=3.5								
CFAA				PKPab		**PKPab**	**09 41 01.4**	**+0.6**
	comp=Z,1.2nm,1.0s,baz=292,slow=3.6,SNR=9.2								
PLCA	**Paso Flores**	**156.78**	**107**	PKPab		**PKPab**	**09 41 02.0**	**+1.2**
	comp=Z,3.1nm,0.8s,baz=283,slow=1.8,SNR=6.2								

*IDC **01** 09:29:32.6±1.3, 35°.14S×72°.47W, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.7/29, mbtmp3.6/5, ML3.7/2, MS2.6/2, Ms1 2.6/2, ms1mx2.6/18, Error ellipse: s-maj=43.9km s-min=25.5km az=77.0*

*ISCJB **01** 09:29:34.6±1.5, 35°.15S±0°.04×72°.46W±0°.06, h6km±8km, mb3.7/3, Error ellipse: s-maj=9.5km s-min=5.7km az=27.2*

*GUC **01** 09:29:36.6±0.5, 35°.18S×72°.33W, h37km±3km, ML4.3*

ISC 01 09:29:35.4±2.3, 35°.13S±0°.05×72°.35W±0°.07, h16km±15km**, n15,σ1°91°22, mb3.7/3, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.64**	**115**		*e*P		**Pn**	**09 29 49.2**	**-0.7**
TALC					*e*S		**Sb**	**09 29 58.7**	**+1.7**
NICH	**Los Niches**	**0.93**	**82**		*e*P		**Pn**	**09 29 54.0**	**+0.2**
NICH					*e*S		**Sn**	**09 30 07.2**	**+0.4**
NICH					AML		AML	09 30 11.8	
	comp=N,23μm,2.6s								
LNCH	**Linares**	**0.94**	**140**		*e*P		**Pn**	**09 29 53.9**	**-0.1**
LNCH					*e*S		**Sg**	**09 30 06.4**	**+0.4**
LNCH					AML		AML	09 30 08.0	
	comp=N,22μm,0.7s								
CCSP	**San Pedro de C**	**1.82**	**200**		*e*P		**Pb**	**09 30 07.3**	**-1.1**
CCSP					*e*S		**Sb**	**09 30 30.6**	**-0.2**
STL	**Santa Lucia**	**2.20**	**40**		*e*P		**Pb**	**09 30 14.0**	**-0.9**
SJCH	**San Jose de Ma**	**2.22**	**49**		*e*P		**Pb**	**09 30 13.9**	**-1.4**
SJCH					*e*S		**Sb**	**09 30 42.7**	**+0.2**
FSR	**Penalolen**	**2.23**	**43**		*e*P		**Pb**	**09 30 14.3**	**-1.1**
FSR					*e*S		**Sb**	**09 30 43.0**	**+0.1**
CLCH	**Cerro Calan**	**2.29**	**41**		*e*P		**Pb**	**09 30 14.8**	**-1.6**
CLCH					*e*S		**Sb**	**09 30 44.3**	**-0.2**
YECH	**El Yeso**	**2.38**	**53**		*e*P		**Pb**	**09 30 16.8**	**-1.3**
YECH					*e*S		**Sb**	**09 30 47.6**	**+0.4**
CFAA	**Coronel Fontan**	**4.92**	**46**	Pn			**Pn**	**09 30 50.6**	**+1.8**
	comp=N,0.4nm,0.3s,baz=222,slow=13,SNR=34								
CFAA				Lg		Lg		09 31 58.2	
	comp=N,0.9nm,0.3s,baz=135,slow=22,SNR=6.9								
CFAA				LR		LR		09 32 47.0	
	comp=N,20nm,20.4s,baz=232,slow=39								
PLCA	**Paso Flores**	**5.77**	**166**	Pn			**Pn**	**09 31 01.6**	**+1.1**
	comp=N,1.3nm,0.3s,baz=341,slow=11

NCU	**National Centr**	**1.13 291**	*e*P		**Pn**	**09 43 58.1**	**0.0**
	baz=291						
NCU			*e*S		**Sn**	**09 44 13.8**	**+0.4**
	baz=291						
NSTT	**Nanjuang**	**1.23 273**	*e*P		**Pn**	**09 43 59.2**	**-0.2**
	baz=273						
NSTT			S		**Sn**	**09 44 15.4**	**-0.2**
	baz=273						
IRIF	**Iriomote-Funau**	**1.28 100**	P		**Pn**	**09 43 59.7**	**-0.4**
IRIF			S		**Sn**	**09 44 16.4**	**-0.4**
WDT	**Danda**	**1.37 234**	⇓P		**Pn**	**09 44 01.1**	**-0.4**
	baz=232						
WDT			*e*S		**Sn**	**09 44 18.4**	**-1.1**
	baz=232						
EHY	**Hungye**	**1.41 222**	*e*P		**Pn**	**09 44 00.6**	**-1.2**
	baz=228						
HATJ	**Hateruma jima**	**1.42 111**	P		**Pn**	**09 44 02.3**	**+0.4**
HATJ			S		**Sn**	**09 44 21.2**	**+1.1**
TWQ1	**Liyutan**	**1.45 262**	*e*P		**Pn**	**09 44 02.2**	**-0.1**
	baz=260						
TWQ1			*e*S		**Sn**	**09 44 21.3**	**+0.5**
	baz=260						
NSY	**Sanyi**	**1.45 264**	*e*P		**Pn**	**09 44 02.8**	**+0.5**
	baz=263						
NSY			*e*S		**Sn**	**09 44 21.4**	**+0.6**
	baz=263						
SMLT	**Sun Moon Lake**	**1.49 243**	*e*P		**Pn**	**09 44 03.3**	**+0.4**
	baz=234						
SMLT			*e*S		**Sn**	**09 44 22.9**	**+1.1**
	baz=234						
TYC	**Yuchr**	**1.51 244**	*e*P		**Pn**	**09 44 03.8**	**+0.7**
	baz=247						
TYC			*e*S		**Sn**	**09 44 22.4**	**+0.3**
	baz=247						
TWF1	**Yuli**	**1.55 219**	*e*P		**Pn**	**09 44 02.3**	**-1.2**
	baz=224						
JKRS	**Kuro-shima**	**1.55 102**	P		**Pn**	**09 44 03.8**	**+0.2**
JKRS			S		**Sn**	**09 44 23.5**	**+0.5**
TCU	**Taichung**	**1.58 255**	*e*P		**Pn**	**09 44 04.0**	**0.0**
	baz=254						
JIJ	**Ishigaki jima**	**1.65 97**	P		**Pn**	**09 44 04.4**	**-0.5**
JIJ			S		**Sn**	**09 44 24.5**	**-0.9**
YUS	**Yu-Shan**	**1.67 230**	P		**Pn**	**09 44 05.7**	**+0.1**
	baz=221						
YUS			*e*S		**Sn**	**09 44 26.2**	**-0.4**
	baz=221						
ALS	**Alishan**	**1.76 234**	*e*P		**Pn**	**09 44 07.2**	**+0.5**
	baz=225						
ALS			*e*S		**Sn**	**09 44 29.0**	**+0.5**
	baz=225						
JISG	**Ishigakijimahi**	**1.79 89**	P		**Pn**	**09 44 06.3**	**-0.4**
JISG			S		**Sn**	**09 44 29.1**	**+0.5**
CHN5	**Tsauling**	**1.81 238**	P		**Pn**	**09 44 07.7**	**+0.7**
	baz=247						
CHN5			*e*S		**Sn**	**09 44 30.4**	**+1.1**
	baz=247						
CHN4	**Tsaushan**	**2.01 233**	*e*P		**Pn**	**09 44 10.7**	**+0.9**
	baz=231						
CHN4			*e*S		**Sn**	**09 44 35.8**	**+1.7**
	baz=231						
WTP	**Ta-pu**	**2.06 231**	*e*P		**Pn**	**09 44 11.1**	**+0.7**
	baz=229						
WTP			*e*S		**Sn**	**09 44 35.9**	**+0.5**
	baz=229						
TWG	**Pinlang**	**2.10 214**	*e*P		**Pn**	**09 44 10.0**	**-0.9**
	baz=212						
TWG			*e*S		**Sn**	**09 44 34.0**	**-2.2**
	baz=212						
TWK	**Hsinying**	**2.14 233**	*e*P		**Pn**	**09 44 11.7**	**+0.2**
	baz=230						
TWK			*e*S		**Sn**	**09 44 37.0**	**-0.2**
	baz=230						
JTJ	**Tarama**	**2.14 88**	P		**Pn**	**09 44 11.8**	**+0.3**
JTJ			S		**Sn**	**09 44 37.5**	**+0.3**
CHN1	**Nanshi**	**2.16 231**	*e*P		**Pn**	**09 44 11.7**	**-0.1**
	baz=228						
CHN1			*e*S		**Sn**	**09 44 38.3**	**+0.6**
	baz=228						
EAST	**Anshuo**	**2.58 213**	*e*P		**Pn**	**09 44 17.5**	**+0.2**
	baz=205						
JIRB	**Irabujima**	**2.58 84**	P		**Pn**	**09 44 17.6**	**+0.2**
JIRB			S		**Sn**	**09 44 47.1**	**-0.7**

***IDC* 01 09:47:32.3±2.1, 4.°68S×125.°10E, *h*501km±32km, *mb*3.0/6, *mb*1 3.2/8, *mb*1*mx*2.8/41, *mbtmp*4.0/8, Error ellipse: *s-maj*=48.3km *s-min*=14.7km *az*=61.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.67**	**194**	P	P	09 49 06.5	+0.8
	9.1nm,0.3s,baz=0.0,slow=1.0,SNR=4.1						
BATI				S	S	09 50 21.6	-0.2
	8.5nm,0.3s,baz=114,slow=19,SNR=3.5						
WRA	**Warramunga Arr**	**17.64**	**150**	P	P	09 51 08.2	-1.2
	1.8nm,0.3s,baz=332,slow=10,SNR=137						
ASAR	**Alice Springs**	**20.70**	**157**	P	P	09 51 37.9	+0.5
	2.1nm,0.5s,baz=343,slow=16,SNR=62						
STKA	**Stephens Creek**	**31.17**	**152**	P	P	09 53 09.7	0.0
	1.1nm,0.4s,baz=344,slow=12,SNR=9.0						
USRK	**Ussuriysk Ar.**	**49.05**	**7**	P	P	09 55 32.9	+0.1
	0.9nm,0.5s,baz=186,slow=8.3,SNR=3.7						
MKAR	**Makanchi Array**	**63.67**	**329**	P	P	09 57 14.0	+0.1
	0.3nm,0.4s,baz=125,slow=5.1,SNR=5.2						
ZALV	**Zalesovo Beam**	**67.41**	**336**	P	P	09 57 36.7	-0.5
	0.5nm,0.4s,baz=126,slow=7.3,SNR=3.3						
KURBB	**Kurchatov Arra**	**68.04**	**330**	P	P	09 57 41.4	+0.3
	0.8nm,0.8s,baz=135,slow=5.3,SNR=6.2						

IDC ***01*** *09:48:54.3±2.5, 36.°70N×71.°71E, h0km, mb3.6/4, mb1 3.6/11, mb1mx3.4/57, mbtmp3.5/11, ML3.5/5, Error ellipse: s-maj=46.9km s-min=21.4km az=142.0*

NNC ***01*** *09:48:57.3±6.5, 36.°75N×71.°22E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=53.2km s-min=22.7km az=174.0*

ISC 01 09:49:01.5±2.3, 36.°8N±0.°2×71.°32E±0.°09, *h*114km, *n*16, σ1°56/17, *mb*3.4/4, 3C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.79**	**316**	⇓Pn	**Pn**	**09 49 42.8**	**-2.2**
	19nm,0.4s						
DZET				⇓Sn	**Sn**	**09 50 19.9**	**+1.5**
	231nm,0.5s						
SFK	**Sufi-Kurgan**	**3.62**	**28**	⇑Pn	**Pn**	**09 49 56.7**	**+0.8**
	8.8nm,0.5s						
SFK				⇓Sn	Sn	09 50 45.2	+7.1
	22nm,0.5s						
AAK	**Ala-Archa**	**6.29**	**22**	⇑Pn	**Pn**	**09 50 33.1**	**+1.2**
	1.1nm,0.4s						
AAK				⇓Sn	**Sn**	**09 51 42.8**	**+0.3**
	4.6nm,0.8s						
AAK	**Ala-Archa**	**6.29**	**22**	Pn	**Pn**	**09 50 31.6**	**-0.3**
	0.7nm,0.3s,baz=186,slow=12,SNR=2.8						
AAK				Sn	**Sn**	**09 51 42.7**	**+0.2**
	0.6nm,0.3s,baz=307,slow=20,SNR=3.2						
KK31	**Karatay Array**	**6.30**	**355**	⇓Pn	**Pn**	**09 50 31.6**	**-0.3**
	1.6nm,0.3s,baz=182,slow=14,SNR=11						
KK31				⇓Sn	**Sn**	**09 51 42.4**	**-0.1**
	1.5nm,0.3s,baz=175,slow=23,SNR=3.5						
TKM2	**Tokmak 2**	**6.92**	**27**	⇓Pn	**Pn**	**09 50 39.9**	**-0.5**
	2.0nm,0.5s						
TKM2				⇑Lg	Lg	09 52 43.7	
	2.0nm,0.8s						
GEYT	**Alibeck**	**10.57**	**280**	Pn	**Pn**	**09 51 30.9**	**+1.3**
	0.6nm,0.3s,baz=149,slow=6.7,SNR=2.7						
GEYT				Sn	**Sn**	**09 53 24.6**	**-1.4**
	0.5nm,0.3s,baz=78,slow=13,SNR=3.6						
MKAR	**Makanchi Array**	**12.88**	**36**	Pn	**Pn**	**09 52 00.0**	**-0.1**
	0.0nm,0.3s,baz=224,slow=12,SNR=3.0						
KURBB	**Kurchatov Arra**	**14.73**	**18**	Pn	**Pn**	**09 52 23.1**	**-0.9**
	baz=206,slow=12,SNR=2.8						
BVAR	**Borovoye Array**	**16.21**	**358**	Pn	**Pn**	**09 52 39.4**	**-3.0**
	0.1nm,0.3s,baz=193,slow=18,SNR=2.4						
AKTO	**Aktyubinsk**	**16.63**	**329**	Pn	**P**	**09 52 51.4**	**+3.3**
	0.5nm,0.3s,baz=137,slow=9.9,SNR=15						
ZALV	**Zalesovo Beam**	**19.51**	**24**	P	**Pn**	**09 53 22.1**	**+0.1**
	0.2nm,0.3s,baz=216,slow=11,SNR=6.7						
ARCES	**ARCESS Array B**	**40.94**	**337**	P	P	09 56 39.7	+7.3
	2.0nm,0.9s,baz=107,slow=8.8,SNR=3.4						
NOA	**NORSAR Array B**	**44.28**	**323**	P	P	09 57 06.7	+7.3
	0.9nm,0.8s,baz=98,slow=7.8,SNR=3.7						
TORD	**Torodi Ar. Bea**	**65.98**	**269**	P	P	09 59 45.0	+9.1
	0.2nm,0.5s,baz=48,slow=5.9,SNR=4.2						
YKA	**Yellowknife Ar**	**80.91**	**3**	P	P	10 01 11.0	+8.4
	0.1nm,0.4s,baz=350,slow=5.5,SNR=4.1						

MOS ***01*** *09:51:06.0±1.5, 7.°16S×129.°08E, h170km, mb4.4/8, Error ellipse: s-maj=12.4km s-min=7.5km az=117.7*

IDC ***01*** *09:51:08.1±0.8, 7.°07S×129.°17E, h173km±6km, mb3.9/19, mb1 3.9/20, mb1mx3.8/36, mbtmp4.4/20, MS2.7/1, Ms1 2.7/1, ms1mx2.4/26, Error ellipse: s-maj=13.4km s-min=9.2km az=75.0*

BJI ***01*** *09:51:08.1, 7.°56S×129.°12E, h195km, mb4.5/15, mB4.5/6*

ISCJB ***01*** *09:51:08.6±0.3, 7.°19S±0.°02×129.°32E±0.°03, h198km±3km, mb4.1/37, Error ellipse: s-maj=4.5km s-min=3.8km az=155.4*

NEIC ***01*** *09:51:08.1±0.3, 7.°15S×129.°20E, mb4.5/9, Error ellipse: s-maj=8.5km s-min=6.2km az=45.0*

DJA ***01*** *09:51:09.7±0.2, 7.°S±2.°×129.°9E±°, h180km±4km, M4.8/53, mb4.8/53, mB5.2/26, MLv5.5/9, Mw(mB)4.6/26*

KLM ***01*** *09:51:11.9, 6.°92S×129.°34E, h199km, mb4.7, MS6.2*

ISC 01 09:51:08.8±0.5, 7.°23S±0.°04×129.°25E±0.°04, *h*184km±4km, *h*184km: *pP*-P, *n*165, σ1°68/184, *mb*4.2/37, 2C-5D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.77**	**14**	P	**Pn**	**09 51 54.7**	**-0.2**
BNDI				S	**Sn**	**09 52 29.5**	**-1.4**
AAI	**Ambon**	**3.67**	**343**	P	**Pn**	**09 52 05.7**	**-0.2**
AAI				S	**Sn**	**09 52 52.2**	**+1.5**
MSAI	**Masohi**	**3.87**	**355**	P	**Pn**	**09 52 08.4**	**0.0**
MSAI				S	**Sn**	**09 52 56.3**	**+1.1**
NLAI	**Namlea**	**4.50**	**332**	P	**Pn**	**09 52 17.3**	**+0.8**
FAKI	**Fak Fak**	**5.22**	**35**	P	Pn	09 52 21.7	-4.1
FAKI				S	Sn	09 53 18.3	-8.0
SOEI	**Soe**	**5.53**	**243**	P	**Pn**	**09 52 29.7**	**-0.2**
SOEI				S	**Sn**	**09 53 35.9**	**+2.3**
SANI	**Sanana**	**6.08**	**328**	P	**Pn**	**09 52 37.6**	**+0.6**
SANI				S	**Sn**	**09 53 48.0**	**+1.4**
BATI	**Baumata**	**6.26**	**241**	P	**Pn**	**09 52 39.2**	**-0.1**
	492nm,0.5s,11μm2.6nm						
BATI				S	**Sn**	**09 53 48.6**	**-2.2**
	492nm,0.5s,11μm2.6nm						
BATI	**Baumata**	**6.26**	**241**	P	**Pn**	**09 52 39.3**	**-0.1**
	294nm,0.3s,baz=265,slow=1.8,SNR=108						
BATI				S	**Sn**	**09 53 47.5**	**-3.3**
	129nm,0.3s,baz=136,slow=23,SNR=15						
KDU	**Kakadu**	**6.29**	**150**	P	**Pn**	**09 52 39.0**	**-0.7**
	baz=6.3,SNR=370						
KDU				S	**Sn**	**09 53 46.0**	**-5.4**
	baz=6.3,SNR=6.5						
SWI	**Sorong**	**6.63**	**18**	P	**Pn**	**09 52 41.9**	**-2.3**
	44nm,0.6s,7μm1.6nm						
SWI				S	Sn	09 53 52.1	-7.5
	44nm,0.6s,7μm1.6nm						
LBMI	**Labuha**	**6.77**	**345**	P	**Pn**	**09 52 46.2**	**+0.1**
MMRI	**Maumere**	**7.08**	**258**	P	**Pn**	**09 52 51.6**	**+1.5**
	170nm,1.2s,3μm0.8nm						
MMRI	**Maumere**	**7.08**	**258**	*e*Pn	**Pn**	**09 52 50.1**	**0.0**
	105nm,0.5s						
KDI	**Kendari**	**7.35**	**296**	P	**Pn**	**09 52 55.4**	**+1.8**
	6.1nm,0.9s,3μm0.7nm						
RKPI	**Ransiki, Papua**	**7.51**	**41**	P	**Pn**	**09 52 55.0**	**-0.7**
	748nm,0.6s,27μm9.9nm						
EDFI	**Ende, Flores**	**7.63**	**258**	P	**Pn**	**09 52 58.2**	**+0.8**
	117nm,0.7s,2μm0.4nm						
TNTI	**Ternate**	**8.16**	**347**	P	**Pn**	**09 53 05.4**	**+1.1**
	90nm,1.1s						
KNRA	**Kununurra**	**8.41**	**183**	P	**Pn**	**09 53 06.3**	**-1.2**
	baz=8.4,SNR=49						
KNRA				S	Sn	09 54 34.3	-7.5
	baz=8.4,SNR=9.4						
SRPI	**Serui, Papua**	**8.77**	**53**	P	**Pn**	**09 53 11.8**	**-0.5**
	263nm,0.8s,1.5nm						
LUWI	**Luwuk**	**8.91**	**313**	P	**Pn**	**09 53 16.1**	**+2.0**
	54nm,1.1s,2μm						
BASI	**Baing, Sumba**	**9.07**	**250**	P	**Pn**	**09 53 15.2**	**-1.0**
	515nm,0.5s,7μm						
BKSI	**Bulukumba**	**9.27**	**281**	P	**Pn**	**09 53 19.4**	**+0.7**
	64nm,0.9s,861nm						
BNSI	**Bone**	**9.52**	**287**	P	**Pn**	**09 53 24.4**	**+2.4**
	59nm,1.4s,962nm						
KAPI	**Kappang**	**9.69**	**283**	Pn	**Pn**	**09 53 25.7**	**+1.3**
SPSI	**Sidrap Palu**	**9.97**	**288**	P	**Pn**	**09 53 30.4**	**+2.4**
	33nm,0.8s,396nm						
GTOI	**Gorontalo**	**9.99**	**321**	P	Pn	09 53 32.3	+4.1
	6.5nm,0.9s,478nm						
WAMI	**Wamena**	**9.99**	**71**	P	**Pn**	**09 53 29.6**	**+1.4**
	212nm,0.9s						
TTSI	**Tana Toraja**	**10.27**	**293**	P	**Pn**	**09 53 33.9**	**+2.1**
	42nm,1.4s						
MRSI	**Marisa**	**10.57**	**316**	P	**Pn**	**09 53 38.2**	**+2.4**
	61nm,1.3s,778nm						
SMPI	**Sarmi**	**10.77**	**62**	P	**Pn**	**09 53 37.3**	**-1.1**
	32nm,0.9s						
PCI	**Palu**	**11.29**	**303**	P	**Pn**	**09 53 47.4**	**+2.3**
	85nm,1.0s,924nm						
SGSI	**Sangihe**	**11.46**	**341**	P	**Pn**	**09 53 45.5**	**-1.8**
	544nm,1.3s						
GENI	**Genyem**	**11.81**	**68**	P	**Pn**	**09 53 51.3**	**-0.5**
	61nm,1.0s						
MPSI	**Mapaga**	**11.98**	**308**	P	**Pn**	**09 53 56.1**	**+2.2**
	14nm,1.3s						
TWSI	**Tatang, Sumb**	**12.34**	**262**	P	**P**	**09 54 01.0**	**-2.2**
	10μm,0.9s,354μm						
JAY	**Jayapura**	**12.34**	**68**	P	**Pn**	**09 53 58.1**	**-0.5**
	34nm,0.8s,6μm						
JAY	**Jayapura**	**12.34**	**68**	P	**Pn**	**09 54 00.3**	**+1.7**
	3.1nm,0.3s,baz=270,slow=11,SNR=14						
JAY				S	**Sn**	**09 56 15.7**	**-0.2**
	0.8nm,0.3s,baz=262,slow=15,SNR=2.2						
WRAB	**Tennant Creek**	**13.57**	**159**	*e*P	**Pn**	**09 54 11.3**	**-2.7**
WRAB	**Tennant Creek**	**13.57**	**159**	*e*Pn	**Pn**	**09 54 11.6**	**-2.4**
WRAB				*e*S	Sn	09 56 31.6	-14
WRA	**Warramunga Arr**	**13.57**	**159**	P	**Pn**	**09 54 11.1**	**-3.0**
	4.4nm,0.3s,baz=337,slow=13,SNR=120						
WRA				S	Sn	09 56 33.9	-11
	14nm,0.3s,baz=332,slow=22,SNR=9.1						
WRA				ScP	**ScP**	**10 02 42.2**	**+0.2**
	1.0nm,0.3s,baz=313,slow=2.1,SNR=8.3						
KBKI	**Kotabaru**	**13.59**	**286**	P	**P**	**09 54 17.3**	**+0.1**
	30nm,0.7s,3μm						
BKB	**Balikpapan**	**13.66**	**295**	P	**P**	**09 54 18.6**	**+0.6**
	141nm,1.0s,2μm						
DNP	**Denpasar**	**13.98**	**263**	P	**P**	**09 54 21.6**	**+0.1**
	253nm,0.4s						
BBKI	**Banjar Baru**	**14.82**	**284**	P	**P**	**09 54 32.5**	**+1.6**
	330nm,1.2s,18μm						
COEN	**Coen**	**15.23**	**117**	P	**P**	**09 54 36.0**	**+0.6**
	baz=15,SNR=39						
COEN				S	Sn	09 57 13.8	-11
	baz=15,SNR=4.8						
COEN	**Coen**	**15.23**	**117**	*e*Pn	**P**	**09 54 37.1**	**+1.7**
	7.0nm,0.9s						
MTKI	**Muara Teweh, K**	**15.61**	**293**	P	**P**	**09 54 41.9**	**+2.3**
TSM	**Tawau**	**16.12**	**315**	⇓P	**P**	**09 54 44.5**	**-0.8**
QIS	**Mount Isa**	**16.62**	**144**	P	**Pn**	**09 54 52.3**	**+0.8**
	baz=17,SNR=183						
MBWA	**Marble Bar**	**16.63**	**213**	*e*P	**Pn**	**09 54 51.2**	**-0.3**
	40nm,1.4s						
MBWA				*e*S	S	09 57 44.5	-10
AS31	**Alice Springs**	**16.95**	**165**	P	**Pn**	**09 54 55.4**	**0.0**
AS31				*e*S	S	09 57 52.5	-9.1
ASAR	**Alice Springs**	**16.95**	**165**	P	**Pn**	**09 54 56.1**	**+0.8**
	20nm,0.3s,baz=341,slow=10,SNR=578						
ASAR				S	**S**	**09 57 57.0**	**-4.7**
	1.6nm,0.3s,baz=318,slow=15,SNR=4.8						
ASAR				ScP	**ScP**	**10 02 48.5**	**+0.3**
	0.9nm,0.3s,baz=356,slow=1.6,SNR=8.7						
TBJI	**Tambak Boyo**	**17.27**	**270**	P	**Pn**	**09 55 02.0**	**+2.7**
	118nm,1.1s						
PWJI	**Pagerwojo**	**17.31**	**266**	P	**P**	**09 54 58.5**	**+0.2**
	56nm,0.5s						
SDKM	**Sandakan**	**17.55**	**316**	⇓P	**Pn**	**09 55 02.9**	**+0.3**
WRKA	**Warakurna**	**17.73**	**183**	P	**Pn**	**09 55 04.7**	**+0.1**
	baz=18,SNR=162						
PMG	**Port Moresby**	**17.86**	**98**	*e*P	**Pn**	**09 55 08.9**	**+2.8**
PMG				pmax	pmax		
	comp=Z,11nm,0.9s						
PMG	**Port Moresby**	**17.86**	**98**	*e*Pn	**Pn**	**09 55 08.9**	**+2.8**
	comp=Z,11nm,0.9s						
WOJI	**Wonogiri, Jawa**	**18.18**	**267**	P	**P**	**09 55 07.9**	**+0.1**
	comp=Z,92nm,0.9s						
KKM	**Kota Kinabalu**	**18.52**	**315**	P	**P**	**09 55 12.2**	**+0.6**
	baz=19,SNR=3.9						
KKM	**Kota Kinabalu**	**18.52**	**315**	*e*P	**P**	**09 55 11.9**	**+0.3**
STKI	**Sintang**	**19.15**	**291**	P	**Pn**	**09 55 19.9**	**-1.4**
BTM	**Bintulu**	**19.17**	**302**	⇓P	**Pn**	**09 55 20.5**	**-1.1**

SBUM	**Sibu**	**19.52**	**299**	*e*P	**P**	**09 55 22.6**	**+0.2**
	comp=Z,74nm,1.4s						
KSM	**Kuching**	**20.78**	**294**	P	**P**	**09 55 36.8**	**+1.0**
	baz=21,SNR=4.1						
KSM	**Kuching**	**20.78**	**294**	*e*P	**P**	**09 55 36.4**	**+0.6**
CTA	**Charters Tower**	**20.86**	**129**	P	**P**	**09 55 38.6**	**+1.9**
	comp=Z,24nm,1.0s,baz=301,slow=12,SNR=16						
CTAO	**Charters Tower**	**20.86**	**129**	*e*P	**P**	**09 55 38.6**	**+1.9**
CTAO				pmax	pmax		
	comp=Z,23nm,0.9s						
CTAO	**Charters Tower**	**20.86**	**129**	*e*P	**P**	**09 55 38.6**	**+1.9**
	comp=Z,23nm,0.9s						
CISI	**Cisompet, Garu**	**21.25**	**268**	P	**P**	**09 55 39.5**	**-1.4**
LEM	**Lembang**	**21.47**	**270**	P	**P**	**09 55 42.9**	**-0.4**
	comp=Z,61nm,0.7s						
LEM	**Lembang**	**21.47**	**270**	P	**P**	**09 55 43.2**	**-0.1**
	comp=Z,42nm,0.6s,baz=4.9,slow=14,SNR=6.0						
MEEK	**Meekatharra**	**21.79**	**206**	P	**P**	**09 55 46.8**	**+0.5**
	baz=22,SNR=3.4						
FORT	**Forrest**	**23.46**	**183**	P	**P**	**09 56 03.4**	**+1.7**
	baz=24,SNR=31						
FORT	**Forrest**	**23.46**	**183**	*e*P	**P**	**09 56 02.0**	**+0.3**
	comp=Z,104nm,0.5s						
QLP	**Quilpie**	**23.95**	**145**	P	**P**	**09 56 07.7**	**+1.4**
	baz=24,SNR=35						
KMBL	**Kambalda**	**24.98**	**195**	P	**P**	**09 56 19.2**	**+3.6**
	baz=25,SNR=5.1						
MORW	**Morawa**	**25.04**	**208**	P	**P**	**09 56 17.0**	**+0.8**
	baz=25,SNR=5.0						
DSRI	**Dabo**	**25.50**	**284**	P	**P**	**09 56 22.7**	**+2.3**
	comp=Z,120nm,0.8s,comp=Z,7μm						
TPRI	**Tanjung Pinang**	**25.95**	**287**	P	**P**	**09 56 24.1**	**-0.4**
BBOO	**Buckleboo**	**26.23**	**167**	P	**P**	**09 56 27.9**	**+1.1**
	baz=26,SNR=94						
BBOO	**Buckleboo**	**26.23**	**167**	*e*P	**P**	**09 56 27.2**	**+0.4**
	comp=Z,14nm,0.5s						
RMQ	**Roma**	**26.67**	**138**	P	**P**	**09 56 33.2**	**+2.4**
	baz=27,SNR=5.6						
STKA	**Stephens Creek**	**27.09**	**156**	P	**P**	**09 56 35.6**	**+1.1**
	comp=Z,13nm,0.5s,baz=333,slow=8.9,SNR=59						
STKA				ScP	**ScP**	**10 03 13.8**	**+0.1**
	comp=Z,2.8nm,0.4s,baz=313,slow=6.4,SNR=3.6						
STKA	**Stephens Creek**	**27.09**	**156**	P	**P**	**09 56 35.6**	**+1.1**
STKA				pmax	pmax		
	comp=Z,42nm,0.9s						
STKA	**Stephens Creek**	**27.09**	**156**	P	**P**	**09 56 35.8**	**+1.3**
	baz=27,SNR=53						
STKA	**Stephens Creek**	**27.09**	**156**	P	**P**	**09 56 35.6**	**+1.1**
	comp=Z,42nm,0.9s						
STKA				ScP	**ScP**	**10 03 13.8**	**+0.1**
KGM	**Kluang**	**27.45**	**289**	⇓P	**P**	**09 56 39.8**	**+1.9**
NWAO	**Narrogin (SRO)**	**27.90**	**202**	P	**P**	**09 56 41.9**	**+0.2**
	comp=Z,2.3nm,0.3s,baz=17,slow=14,SNR=3.1						
CMSA	**Cobar Meteorol**	**28.65**	**150**	P	**P**	**09 56 50.0**	**+1.6**
	baz=29,SNR=22						
FRIM	**Kepong**	**29.46**	**290**	⇓P	**P**	**09 56 56.2**	**+0.5**
PSI	**Prapat**	**31.86**	**287**	P	**P**	**09 57 15.4**	**-1.5**
	comp=Z,18nm,0.8s,baz=111,slow=5.8,SNR=15						
YNG	**Young**	**32.22**	**149**	P	**P**	**09 57 22.3**	**+2.6**
	baz=32,SNR=4.7						
TRTT	**Trang**	**33.05**	**296**	P	**P**	**09 57 28.9**	**+1.7**
	comp=Z,22nm,1.2s,comp=Z,586nm						
TOO	**Toolangi**	**33.62**	**156**	P	**P**	**09 57 34.9**	**+3.1**
	baz=34,SNR=15						
UTTA	**Uttaradit**	**37.67**	**312**	P	**P**	**09 58 06.4**	**-0.1**
	comp=Z,5.2nm,0.8s,comp=Z,51nm						
CM31	**Chiang Mai Arr**	**39.31**	**311**	*e*P	**P**	**09 58 20.6**	**+0.4**
	comp=Z,2.1nm,0.4s						
CMAR	**Chiang Mai Arr**	**39.31**	**311**	P	**P**	**09 58 20.1**	**-0.1**
	comp=Z,4.3nm,0.8s,baz=141,slow=7.4,SNR=27						
CMAR				ScP	**ScP**	**10 03 57.4**	**+0.9**
	comp=Z,1.8nm,0.9s,baz=159,slow=3.5,SNR=9.7						
CRAI	**Chiangrai**	**39.38**	**314**	P	P	09 58 16.8	-4.0
CMMT	**Chiang Mai**	**39.52**	**311**	P	**P**	**09 58 21.9**	**-0.1**
	comp=Z,17nm,1.4s						
CHTO	**Chiang Mai**	**39.53**	**311**	*e*P	**P**	**09 58 21.9**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,10.0nm,1.3s						
CHTO	**Chiang Mai**	**39.53**	**311**	*e*P	**P**	**09 58 21.9**	**-0.1**
	comp=Z,9.8nm,1.3s						
GYA	**Guiyang**	**40.02**	**328**	*e*P	**P**	**09 58 28.9**	**+2.8**
GYA				PMZ			
	comp=Z,10.0nm,1.0s						
CMAI	**Chiengmai2**	**40.15**	**313**	P	**P**	**09 58 26.7**	**-0.6**
JNU	**Nakatsue**	**40.16**	**2**	LR	LR	10 17 48.2	
	comp=Z,10nm,18.8s,baz=28,slow=40						
NJ2	**Nanjing**	**40.30**	**346**	*e*P	**P**	**09 58 29.6**	**+1.5**
NJ2				PMZ			
	comp=Z,40nm,0.8s						
MJAR	**Matsushiro Arr**	**44.34**	**10**	P	**P**	**09 58 58.1**	**-2.6**
	comp=Z,0.8nm,0.6s,baz=190,slow=8.8,SNR=4.5						
MJAR				pP	**pP**	**09 59 37.3**	**-3.6**
	comp=Z,0.9nm,0.9s,baz=186,slow

AAK				pmax	pmax			
	comp=Z,6.0nm,1.3s							
ZALV	**Zalesovo Beam**	**71.46**	**334**	P	**P**	**10 02 08.0**	**-1.0**
	comp=Z,1.5nm,0.5s,baz=146,slow=6.0,SNR=10							
SEY	**Seymchan**	**72.17**	**11**	P	**P**	**10 02 12.9**	**-0.2**
	comp=Z,2.9nm,0.7s,baz=204,slow=4.1,SNR=11							
KURBB	**Kurchatov Arra**	**72.31**	**329**	P	**P**	**10 02 13.6**	**-0.6**
	comp=Z,2.3nm,0.5s,baz=126,slow=5.1,SNR=28							
KURBB				pP	**pP**	**10 02 55.2**	**-3.0**
	comp=Z,0.8nm,0.8s,baz=132,slow=4.9,SNR=1.0							
VNDA	**Vanda**	**72.31**	**173**	P	**P**	**10 02 14.7**	**+0.9**
	comp=Z,2.0nm,0.6s,baz=310,slow=6.5,SNR=9.2							
KURK	**Kurchatov**	**72.32**	**329**	*eP*	**P**	**10 02 14.0**	**-0.3**
KURK				*PP	**pP**	**10 02 55.3**	**-3.0**
KURK	**Kurchatov**	**72.32**	**329**	*eP*	**P**	**10 02 14.0**	**-0.3**
KURK				pP	**pP**	**10 02 55.2**	**-3.0**
MAW	**Mawson**	**74.47**	**201**	P	**P**	**10 02 28.2**	**+1.7**
	comp=Z,3.4nm,0.6s,baz=54,slow=5.3,SNR=11							
MAW	**Mawson**	**74.47**	**201**	P	**P**	**10 02 28.6**	**+2.1**
	baz=74,SNR=8.6							
BVAR	**Borovoye Array**	**77.86**	**328**	P	**P**	**10 02 45.4**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=141,slow=9.6,SNR=5.6							
BRVK	**Borovoye**	**77.93**	**328**	*eP*	**P**	**10 02 46.3**	**0.0**
BRVK				pmax	pmax			
	comp=Z,4.0nm,1.3s							
TIXI	**Tiksi**	**78.71**	**360**	*eP*	**P**	**10 02 49.8**	**-0.4**
TIXI				pmax	pmax			
	comp=Z,1.0nm,1.1s							
BILL	**Bilibino**	**79.51**	**13**	*eP*	**P**	**10 02 56.2**	**+1.6**
BILL				*e*		10 05 57.6		
BILL				pmax	pmax			
	comp=Z,5.0nm,1.4s							
ABKAR	**Akbulak array**	**82.22**	**322**	*eP*	**P**	**10 03 09.0**	**-0.3**
	comp=Z,1.0nm,0.4s							
QSPA	**South Pole Qui**	**82.75**	**180**	*eP*	**P**	**10 03 12.2**	**+0.2**
	comp=Z,5.1nm,0.9s							
AKTO	**Aktyubinsk**	**83.80**	**322**	P	**P**	**10 03 17.1**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=143,slow=4.2,SNR=4.8							
SVE	**Sverdlovsk**	**84.58**	**329**	*eP*	**P**	**10 03 20.9**	**-0.3**
SVE				pmax	pmax			
	comp=Z,9.0nm,1.2s							
ARU	**Arti**	**85.50**	**328**	*c iP*	**P**	**10 03 24.6**	**-1.2**
ARU				*PP	pP	10 04 21.7	+10	
ARU						10 06 42.1		
ARU				S	**SKSac**	**10 13 29.6**	**-3.7**
ARU				SS	**SS**	**10 19 16.4**	**-5.2**
ARU				pmax	pmax			
	comp=Z,6.0nm,1.7s							
KIV	**Kislovodsk**	**92.49**	**314**	*eP*	**P**	**10 03 57.6**	**-1.6**
KIV				*e*		10 07 41.5		
KIV				pmax	pmax			
	comp=Z,3.0nm,0.9s							
ILAR	**Eielson Array**	**93.87**	**25**	P	**P**	**10 04 03.4**	**-1.6**
	comp=Z,0.2nm,0.6s,baz=253,slow=3.7,SNR=3.9							
OBN	**Obninsk**	**97.41**	**325**	*eP*	Pdif	10 04 22.7	+1.5	
OBN				pmax	pmax			
	comp=Z,3.0nm,0.7s							
ARCES	**ARCESS Array B**	**101.53**	**340**	P	**Pdif**	**10 04 37.1**	**-2.2**
	comp=Z,3.3nm,0.9s,baz=54,slow=6.2,SNR=6.2							
KIS	**Kishinev**	**102.36**	**316**	LRM	MLR	10 08 20.0		
	comp=Z,500nm,12.0s							
TXAR	**Lajitas Array**	**125.69**	**59**	PKP	**PKPdf**	**10 09 50.0**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=199,slow=2.6,SNR=7.3							
TOA0	**Torodi Ar. Sit**	**128.12**	**281**	*e*PKPdf	**PKPdf**	**10 09 54.8**	**+0.7**
TORD	**Torodi Ar. Bea**	**128.12**	**281**	PKP	**PKPdf**	**10 09 54.3**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=81,slow=1.9,SNR=12							
TORD				SKPbc	SKiKP	10 12 55.4	-18	
	comp=Z,1.6nm,0.9s,baz=87,slow=3.3,SNR=6.9							
PLCA	**Paso Flores**	**128.91**	**161**	PKP	**PKPdf**	**10 09 56.7**	**+1.7**
	comp=Z,1.4nm,0.7s,baz=300,slow=1.6,SNR=4.3							
DBIC	**Dimbokro**	**134.45**	**272**	SKPbc	**SKPbc**	**10 13 18.2**	**-0.6**
	comp=Z,2.7nm,0.7s,baz=63,slow=1.4,SNR=5.5							
LVC	**Limon Verde**	**145.42**	**150**	*e*PKPbc	**PKPab**	**10 10 28.7**	**+2.0**
CPUP	**Villa Florida**	**146.04**	**169**	PKPbc	**PKPab**	**10 10 28.7**	**+0.1**
	comp=Z,2.4nm,0.9s,baz=191,slow=3.5,SNR=8.9							
ATAH	**Atahualpa**	**148.96**	**117**	PKPbc	**PKPab**	**10 10 39.5**	**-1.6**
	comp=Z,13nm,0.6s,baz=330,slow=4.2,SNR=10							

ISC 01 09:55:16.2±1.1, 45.44N±0.04×15.87E±0.05, h13km, n7, σ0.32/11, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SISC	**Sisak**	**0.36**	**84**	*e*Pg	**Pg**	**09 55 23.1**	**-0.2**
SISC				Sg	**Sg**	**09 55 28.5**	**+0.3**
BOJS	**Bojanci**	**0.44**	**279**	*i* Pg	**Pg**	**09 55 25.5**	**-0.3**
GCIS	**Gornji Cirnik**	**0.46**	**339**	*i* Pg	**Pg**	**09 55 24.9**	**-0.4**
CRES	**Cresnjev**	**0.48**	**324**	*i* Pg	**Pg**	**09 55 25.8**	**+0.1**
GOLS	**Golise**	**0.60**	**344**	*i* Pg	**Pg**	**09 55 27.9**	**0.0**
GOLS				*i* Sg	**Sg**	**09 55 36.1**	**+0.3**
UDBI	**Udbina**	**0.91**	**185**	*e*Pg	**Pb**	**09 55 33.9**	**+0.1**
UDBI				*e* Sg	**Sg**	**09 55 45.5**	**-0.1**
NVLJ	**Novalja**	**1.12**	**219**	*e*Pg	**Pb**	**09 55 37.2**	**-0.2**
NVLJ				Sg	**Sn**	**09 55 53.3**	**+0.5**

IDC 01 10:05:20.7±57.0, 17.82S×176.42W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/34, mbtmp3.8/3, Error ellipse: s-maj=1053.0km s-min=169.9km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.33**	**242**	P	P	10 13 00.7	+0.5
	0.4nm,0.3s,baz=79,slow=8.7,SNR=3.8						
WRA	**Warramunga Ar**	**46.51**	**259**	P	P	10 13 49.7	-0.5
	0.3nm,0.5s,baz=96,slow=8.3,SNR=5.7						
ASAR	**Alice Springs**	**46.63**	**254**	P	P	10 13 51.0	-0.2
	1.6nm,0.5s,baz=89,slow=8.4,SNR=31						

*NIED **01** 10:11:00,36.70N×141.20E,h29km,Mw3.4 Best double couple: M0 1.39000×10^14 NP1:φs5.00000°, δ37.00000°, λ-115.00000°. NP2:φs216.00000°, δ57.00000°, λ-72.00000°.*

*IDC **01** 10:11:26.8±2.7,36.36N×141.54E,h0km,mb3.1/2, mb1 3.4/5,mb1mx3.3/29,mbtmp3.3/5,ML3.0/3,Error ellipse: s-maj=45.4km s-min=26.5km az=155.0*

*ISCJB **01** 10:11:31.3±1.4,36.67N±0.05×141.43E±0.08,h28km±6km, mb3.1/2,Error ellipse: s-maj=11.9km s-min=7.2km az=36.1*

*JMA **01** 10:11:33.7±0.1,36.67N×141.23E,h45km±2km,M3.5*

ISC 01 10:11:33.5±2.1, 36.70N±0.06×141.23E±0.10, h32km±12km, n18, σ0.97/19, 1C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.53**	**320**	⇓P	**Pb**	**10 11 45.0**	**+0.4**
ONAJ				S	**Sn**	**10 11 53.0**	**+0.2**
JHO	**Hitachi**	**0.54**	**261**	⇓P	**Pb**	**10 11 44.9**	**+0.3**
JHO				S	**Sn**	**10 11 53.0**	**+0.2**
JFK	**Kawauchi**	**0.73**	**337**	⇓P	**Pn**	**10 11 47.6**	**+0.1**
JFK				S	**Sn**	**10 11 56.8**	**-0.8**
JYT	**Yasato**	**0.95**	**241**	⇓P	**Pn**	**10 11 50.6**	**0.0**
JYT				S	**Sn**	**10 12 02.7**	**-0.4**
JFT	**Otama**	**1.09**	**319**	⇑P	**Pb**	**10 11 53.9**	**+0.1**
JFT				S	**Sb**	**10 12 07.6**	**0.0**
JMM	**Marumori**	**1.22**	**344**	P	**Pn**	**10 11 54.6**	**+0.3**
JMM				S	**Sn**	**10 12 09.9**	**+0.3**
MJAR	**Matsushiro Arr**	**2.43**	**267**	Pn	**Pn**	**10 12 12.4**	**+1.4**
	4.8nm,0.3s,baz=88,slow=14,SNR=63						
MJAR				Sn	**Sb**	**10 12 44.6**	**-1.5**
	7.9nm,0.3s,baz=94,slow=36,SNR=8.4						
MAT	**Matsushiro**	**2.43**	**267**	P	**Pn**	**10 12 13.2**	**+2.2**
MAT				S	**Sb**	**10 12 44.4**	**-1.8**
ASAJ	**Asahikawa**	**7.49**	**8**	Pn	**Pn**	**10 13 21.1**	**+0.7**
	0.4nm,0.3s,baz=206,slow=16,SNR=6.2						
USRK	**Ussuriysk Ar.**	**10.28**	**320**	Pn	Pn	10 14 02.2	+3.6
	0.1nm,0.3s,baz=133,slow=10.0,SNR=3.3						
H11N2	**WAKE ISLAND Hy**	**28.11**	**120**	T	T	10 46 48.2	
	baz=313,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**28.11**	**120**	T	T	10 46 41.1	
	baz=313,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**28.12**	**120**	T	T	10 46 41.3	
	baz=313,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**28.80**	**122**	T	T	10 47 45.3	
	baz=314,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**28.80**	**122**	T	T	10 47 45.3	
	baz=314,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**28.82**	**122**	T	T	10 47 45.3	
	baz=314,slow=76,SNR=7.9						
MKAR	**Makanchi Array**	**44.17**	**302**	P	**P**	**10 19 39.0**	**-0.2**
	0.2nm,0.6s,baz=98,slow=5.1,SNR=2.5						
ILAR	**Eielson Array**	**49.86**	**32**	P	**P**	**10 20 22.9**	**-0.4**
	0.2nm,0.8s,baz=277,slow=7.8,SNR=3.7						

IDC 01 10:12:42.4±6.9, 19.25S×178.43W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/19, mbtmp3.6/3, Error ellipse: s-maj=296.6km s-min=39.9km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.38**	**261**	P	P	10 20 55.1	0.0
	0.3nm,0.3s,baz=96,slow=7.4,SNR=34						
ASAR	**Alice Springs**	**44.42**	**256**	P	P	10 20 55.1	-0.3
	0.5nm,0.5s,baz=92,slow=8.0,SNR=21						
ILAR	**Eielson Array**	**87.19**	**13**	P	P	10 25 30.1	0.0
	0.1nm,0.5s,baz=216,slow=4.5,SNR=3.6						

IDC 01 10:16:51.7±3.3, 7.06S×148.39E, h0km, mb3.1/1, mb1 3.6/2, mb1mx3.2/34, mbtmp3.3/2, ML3.7/1, Error ellipse: s-maj=115.7km s-min=43.9km az=119.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.71**	**225**	P	P	10 21 10.3	-1.6
	0.3nm,0.3s,baz=52,slow=11,SNR=10						
ASAR	**Alice Springs**	**21.59**	**219**	P	P	10 21 44.0	+0.7
	0.6nm,0.5s,baz=50,slow=8.9,SNR=11						
TORD	**Torodi Ar. Bea**	**146.68**	**283**	PKPbc	PKPbc	10 36 35.9	-0.7
	0.5nm,0.5s,baz=82,slow=3.5,SNR=6.5						

*ISCJB **01** 10:24:29.7±1.0,38.60N±0.07×38.02E±0.05,h9km, Error ellipse: s-maj=10.1km s-min=6.1km az=178.8*

*ISK **01** 10:24:29.1,38.72N×38.01E,h13km, MD2.5*

*CSEM **01** 10:24:30.1±0.5,38.27N×37.88E,h10km,MD2.5, Error ellipse: s-maj=15.9km s-min=12.3km az=4.0*

*DDA **01** 10:24:33.2,38.33N×37.94E,h2km,MD2.6*

ISC 01 10:24:29.7±0.9, 38.48N±0.05×38.03E±0.05, h9km, n11, σ1.42/17, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKCD	**Akcadag**	**0.20**	**205**	*i* P	**Pg**	**10 24 33.3**	**-0.7**
AKCD				*i* S	**Sg**	**10 24 35.4**	**-1.5**
AKCD	**Akcadag**	**0.20**	**205**	*i* P	**Pg**	**10 24 33.3**	**-0.7**
AKCD				*i* S	**Sg**	**10 24 35.4**	**-1.5**
MALT	**Malatya**	**0.35**	**118**	*e*PG	**Pn**	**10 24 40.3**	**-0.8**
MALT				*e*SG	**Sb**	**10 24 47.5**	**+3.6**
MALT	**Malatya**	**0.35**	**118**	*e*Pg	**Pn**	**10 24 40.3**	**-0.8**
DARE	**Darende-Malaty**	**0.44**	**282**	*e*PG	**Pg**	**10 24 38.3**	**-0.1**
DARE				*e*SG	**Sg**	**10 24 44.8**	**+0.6**
DARE	**Darende-Malaty**	**0.44**	**282**	*e*Pg	**Pg**	**10 24 38.3**	**-0.1**
DARE				*e*Sg	**Sg**	**10 24 44.8**	**+0.6**
SVRC	**Sivrice-ELAZID**	**1.01**	**95**	*e*PG	**Pn**	**10 24 50.0**	**-0.2**
SVRC	**Sivrice-ELAZID**	**1.01**	**95**	*e*Pg	**Pn**	**10 24 50.0**	**-0.2**
PTK	**Pertek**	**1.14**	**69**	PN	**Pb**	**10 24 50.5**	**-1.2**
PTK	**Pertek**	**1.14**	**69**	*i* Pn	**Pb**	**10 24 50.5**	**-1.2**
GZT	**Gaziantep**	**1.18**	**198**	*i* P	Pg	**10 24 54.2**	**+1.8**
GZT				*i* S	**Sn**	**10 25 10.0**	**+1.1**

DDA 01 10:25:45.8, 37.30N×37.09E, h7km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HCB	**Kahramanmara¯**	**0.15**	**287**	*i* P	Pg	10 25 49.6	+0.6
HCB				*i* S	Sg	10 25 53.0	+1.8
GZT	**Gaziantep**	**0.38**	**81**	*i* P	Pg	10 25 53.6	+0.2
GZT				*i* S	Sg	10 25 59.1	+0.6

MAN 01 10:32:24, 13.57N×120.57E, h43km, mb4.8, ML3.7, MS3.7, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.35**	**297**	*e*P	Pn	10 32 35.3	+2.1
LUBP				*e*S	Sn	10 32 43.2	+3.7
PGP	**Puerto Galera**	**0.38**	**101**	⇓*e*P	Pn	10 32 35.4	+2.0
PGP				*i* S	Sn	10 32 43.3	+3.2
SJMP	**San Jose**	**1.23**	**154**	*e*P	Pn	10 32 46.5	+1.8
SJMP				*e*S	Sn	10 33 02.0	+2.0
BUSP	**Coron**	**1.60**	**193**	*e*P	Pn	10 32 50.1	+0.2

WEL 01 10:37:17.6±0.6, 38.92S×175.15E, h206km±5km, ML3.7/11, 8C-9D, Error ellipse: s-maj=2.5km s-min=2.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWVZ	**Taurewa**	**0.28**	**124**	PN	Pn	10 37 44.6	-0.3
VRZ	**Vera Road**	**0.37**	**235**	⇑PN	Pn	10 37 44.3	-0.7
PKVZ	**Pokaka**	**0.41**	**157**	PN	Pn	10 37 45.0	-0.1
COVZ	**Chateau Observ**	**0.42**	**133**	⇑PN	Pn	10 37 45.2	-0.1
WPVZ	**Whakapapa**	**0.42**	**133**	⇑PN	Pn	10 37 45.3	0.0
FWVZ	**Far West T-bar**	**0.46**	**137**	⇑PN	Pn	10 37 45.5	-0.1
TRVZ	**Turoa**	**0.49**	**141**	PN	Pn	10 37 45.6	-0.1
MTVZ	**Mangateitei**	**0.53**	**152**	PN	Pn	10 37 45.6	0.0
WNVZ	**Wahianoa**	**0.54**	**140**	PN	Pn	10 37 45.8	0.0
MOVZ	**Moawhango**	**0.68**	**136**	PN	Pn	10 37 46.0	-0.3
LREZ	**Lake Rotokare**	**0.79**	**227**	PN	Pn	10 37 46.4	-0.3
WAZ	**Wanganui**	**0.85**	**188**	⇑PN	Pn	10 37 47.1	+0.1
PREZ	**Palmer Road**	**0.88**	**241**	PN	Pn	10 37 46.9	-0.3
WPRZ	**Whakapapatarin**	**0.89**	**64**	PN	Pn	10 37 46.7	-0.7
BHHZ	**Black Hill Sta**	**0.91**	**129**	PN	Pn	10 37 47.2	-0.3
ALRZ	**Allen Road**	**1.00**	**70**	PN	Pn	10 37 47.3	-0.8
BKZ	**Black Stump Fm**	**1.08**	**104**	⇓PN	Pn	10 37 48.1	-0.5
BKZ				SN	S	10 38 11.2	-1.3
BKZ				AML	AML	10 38 13.8	
KRHZ	**Kereru**	**1.20**	**128**	PN	Pn	10 37 49.4	0.0
PNHZ	**Pukenui**	**1.29**	**141**	PN	Pn	10 37 50.3	+0.2
NMHZ	**Naumai**	**1.31**	**99**	PN	Pn	10 37 50.7	+0.4
MCHZ	**McNeill Hill**	**1.31**	**114**	PN	Pn	10 37 50.7	+0.4
ARHZ	**Aropaoanui**	**1.48**	**104**	PN	Pn	10 37 51.8	+0.1
RAHZ	**Arahi**	**1.51**	**91**	PN	Pn	10 37 51.7	-0.3
WPHZ	**Waipukurau**	**1.52**	**139**	⇓PN	Pn	10 37 52.1	0.0
POWZ	**Post Office Ro**	**1.55**	**162**	PN	Pn	10 37 52.0	-0.3
DVHZ	**Dannevirke**	**1.59**	**151**	PN	Pn	10 37 52.3	-0.3
KAHZ	**Kahuranaki**	**1.60**	**124**	⇓PN	Pn	10 37 53.1	+0.3
WHHZ	**Waihua**	**1.64**	**96**	ePN	Pn	10 37 52.7	-0.3
URZ	**Urewera**	**1.67**	**68**	⇓PN	Pn	10 37 51.6	-1.7
URZ				SN	S	10 38 18.1	-2.6
PXZ	**Pawanui**	**1.73**	**131**	⇓PN	Pn	10 37 53.8	-0.1
PXZ				SN	S	10 38 21.7	-0.2
PXZ				AML	AML	10 38 24.4	
PXZ				AML	AML	10 38 24.6	
PXZ				AML	AML	10 38 24.6	
PRWZ	**Pori Road**	**1.76**	**159**	PN	Pn	10 37 54.0	-0.2
PRHZ	**Porangahau**	**1.77**	**140**	PN	Pn	10 37 54.2	-0.1
MRZ	**Mangatainoka R**	**1.77**	**169**	PN	Pn	10 37 53.6	-0.7
MRZ				SN	S	10 38 21.3	-1.4
MRZ				AML	AML	10 38 22.3	
ANWZ	**Angora Road**	**1.85**	**147**	PN	Pn	10 37 55.0	-0.1
OGWZ	**Otaki Gorge**	**1.90**	**179**	⇑PN	Pn	10 37 54.9	-0.6
TIWZ	**Tintock**	**1.94**	**163**	PN	Pn	10 37 55.2	-0.8
TIWZ				AML	AML	10 38 25.3	
TIWZ				AML	AML	10 38 27.4	
KIW	**Kapiti Island**	**1.95**	**185**	PN	Pn	10 37 55.0	-1.1
MWZ	**Matawai**	**1.95**	**73**	⇓PN	Pn	10 37 54.6	-1.6
BFZ	**Birch Farm**	**1.96**	**155**	PN	Pn	10 37 55.4	-0.7
KNZ	**Kokohu**	**1.97**	**94**	PN	Pn	10 37 55.5	-0.7
HOWZ	**Holdsworth Sta**	**2.00**	**172**	PN	Pn	10 37 55.5	-1.0
RIGZ	**Rimuhau**	**2.06**	**85**	PN	Pn	10 37 56.3	-0.9
DUWZ	**D'Urville Isla**	**2.11**	**206**	PN	Pn	10 37 56.2	-1.4
MTAZ	**Motutapu**	**2.13**	**355**	PN	Pn	10 37 53.5	-4.5
MHGZ	**Mahia Peninsul**	**2.16**	**97**	PN	Pn	10 37 57.8	-0.4
TKGZ	**Te Karaka**	**2.17**	**78**	PN	Pn	10 37 57.2	-1.0
CAW	**Cannon Point**	**2.19**	**182**	PN	Pn	10 37 57.3	-1.1
CAW				AML	AML	10 38 29.1	
CAW				AML	AML	10 38 30.8	
MTW	**Mount Morrison**	**2.26**	**173**	PN	Pn	10 37 57.8	-1.4
MTW				AML	AML	10 38 31.7	
HAZ	**Te Kaha**	**2.38**	**62**	⇓PN	Pn	10 37 57.8	-2.7
WEL	**Wellington**	**2.38**	**187**	PN	Pn	10 37 59.0	-1.5
TCW	**Tory Channel**	**2.39**	**196**	PN	Pn	10 37 59.3	-1.3
TCW				AML	AML	10 38 00.5	
TCW				AML	AML	10 38 00.7	
MSWZ	**Moikau Station**	**2.50**	**178**	PN	Pn	10 38 00.2	-1.6
MSWZ				AML	AML	10 38 34.1	
MSWZ				AML	AML	10 38 37.0	
BHW	**Baring Head**	**2.50**	**185**	PN	Pn	10 38 00.2	-1.6
TRWZ	**Traveller**	**2.52**	**171**	PN	Pn	10 38 00.5	-1.4
PUZ	**Puketiti**	**2.58**	**72**	PN	Pn	10 38 00.7	-2.1
PUZ				*e*SN	S	10 38 34.2	-3.4
PLWZ	**Palliser**	**2.65**	**178**	PN	Pn	10 38 01.7	-1.8
NNZ	**Nelson**	**2.67**	**210**	⇑PN	Pn	10 38 01.5	-2.2
NNZ				SN	S	10 38 36.5	-2.8
TUWZ	**Tuamarina**	**2.67**	**200**	PN	Pn	10 38 02.1	-1.6
TUWZ				AML	AML	10 38 02.8	
TUWZ				AML	AML	10 38 03.1	
QRZ	**Quartz Range**	**2.77**	**226**	⇓PN	Pn	10 38 01.9	-3.0
WMGZ	**Waiomatatini S**	**2.79**	**68**	PN	Pn	10 38 02.9	-2.3
BSWZ	**Blackbirch Sta**	**2.96**	**199**	PN	Pn	10 38 05.4	-1.6
WCZ	**Waipu Caves**	**3.04**	**348**	PN	Pn	10 38 18.6	+11
THZ	**Tophouse**	**3.32**	**210**	⇓PN	Pn	10 38 08.5	-2.9
KHZ	**Kahutara**	**3.71**	**199**	PN	Pn	10 38 13.5	-2.3
DSZ	**Denniston Nort**	**3.81**	**221**	⇑PN	Pn	10 38 13.6	-3.7
LTZ	**Lake Taylor**	**4.44**	**209**	PN	Pn	10 38 21.6	-3.4
OXZ	**Oxford**	**4.99**	**207**	PN	Pn	10 38 27.8	-4.1
MQZ	**McQueen's Vall**	**5.14**	**201**	PN	Pn	10 38 29.4	-4.4
MQZ				SN	S	10 39 26.3	-7.5
WVZ	**Waitaha Valley**	**5.33**	**217**	PN	Pn	10 38 32.0	-4.2
RPZ	**Rata Peaks**	**5.70**	**211**	PN	Pn	10 38 36.4	-4.6
ODZ	**Otahua Downs**	**6.98**	**207**	PN	Pn	10 38 53.7	-3.8

*ISCJB **01** 10:39:33.9±0.9,36.95S±0.1×73.2W±0.2,h14km,mb3.8/4, Error ellipse: s-maj=26.2km s-min=15.0km az=177.3*

*IDC **01** 10:39:33.2±1.0,36.94S×73.48W,h0km,mb3.8/4, mb1 3.9/6,mb1mx3.8/16,mbtmp3.6/6,ML3.2/2,MS3.6/1, Ms1 3.6/1,ms1mx2.8/18, Error ellipse: s-maj=39.7km s-min=19.9km az=71.0*

ISC 01 10:39:35.2±0.9, 36.95S±0.1×73.3W±0.2, h14km, n8, σ1.12/8, mb3.8/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**4.36**	**151**	Pn	**Pn**	**10 40 41.4**	**+0.2**
	0.5nm,0.3s,baz=316,slow=12,SNR=12						
PLCA				Lg	Lg	10 41 54.9	
	1.7nm,0.3s,baz=13,slow=7.2,SNR=3.6						
PLCA				LR	LR	10 42 28.4	
	comp=Z,632nm,18.2s,baz=299,slow=40						
CFAA	**Coronel Fontan**	**6.78**	**40**	Pn	**Pn**	**10 41 13.5**	**-0.9**
	0.1nm,0.3s,baz=308,slow=23,SNR=46						
CFAA				Lg	Lg	10 43 05.7	
	0.1nm,0.3s,baz=16,slow=16,SNR=4.8						
QSPA	**South Pole Qui**	**53.31**	**180**	P	**P**	**10 48 53.1**	**-0.4**
	2.7nm,1.0s,baz=165,slow=3.5,SNR=4.3						
TXAR	**Lajitas Array**	**71.81**	**332**	P	**P**	**10 50 57.9**	**+0.4**
	0.5nm,0.7s,baz=156,slow=7.7,SNR=2.7						
NVAR	**Mina Array Bea**	**85.71**	**326**	P	**P**	**10 52 14.1**	**+0.3**
	0.3nm,0.7s,baz=158,slow=5.2,SNR=2.7						
TORD	**Torodi Ar. Bea**	**86.18**	**71**	P	**P**	**10 52 18.0**	**+1.6**
	0.9nm,0.9s,baz=240,slow=3.0,SNR=4.1						
WRA	**Warramunga Arr**	**117.70**	**210**	PKP	**PKPdf**	**10 58 19.9**	**-1.6**
	0.6nm,1.1s,baz=158,slow=1.8,SNR=2.9						
PSI	**Prapat**	**145.29**	**166**	PKPbc	**PKPbc**	**10 59 12.7**	**-0.3**
	11nm,0.9s,baz=214,slow=2.5,SNR=7.8						

*IDC **01** 10:43:25.5±1.2,37.03S×73.77W,h0km,mb3.9/4, mb1 4.0/5,mb1mx3.8/20,mbtmp3.8/5,ML2.9/2,MS4.1/3, Ms1 4.1/3,ms1mx3.4/19, Error ellipse: s-maj=33.1km s-min=20.0km az=79.0*

*ISCJB **01** 10:43:28.8±1.1,37.02S±0.09×73.7W±0.2,h33km, mb3.9/4, Error ellipse: s-maj=23.7km s-min=10.6km az=23.1*

ISC 01 10:43:30.7±1.2, 37.1S±0.1×73.7W±0.2, h35km, n9, σ0.72/7, mb3.9/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**4.43**	**147**	Pn	**Pn**	**10 44 35.5**	**-0.1**
	0.3nm,0.3s,baz=322,slow=12,SNR=2.7						
PLCA				Lg	Lg	10 45 46.8	
	2.7nm,0.3s,baz=318,slow=11,SNR=3.5						
CFAA	**Coronel Fontan**	**7.08**	**41**	Pn	**Pn**	**10 45 10.9**	**-1.0**
	0.1nm,0.3s,baz=211,slow=16,SNR=6.9						
CFAA				Sn	**Sn**	**10 46 31.9**	**+0.7**
	0.1nm,0.3s,baz=221,slow=12,SNR=2

ILAR	**Eielson Array**	**62.03**	**24**	P		P		11 40 03.0	-0.2
	0.2nm,0.7s,baz=316,slow=5.0,SNR=3.9								

IDC 01 11:29:52.9±1.8, 2°59'N×127°90'E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/22, mbtmp3.6/4, MS3.8/1, Ms1 3.8/1, ms1mx2.5/35, Error ellipse: s-maj=131.4km s-min=22.9km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.26**	**165**	P	P	11 35 02.6	+0.4
	0.9nm,0.4s,baz=344,slow=10,SNR=24						
ASAR	**Alice Springs**	**26.74**	**168**	P	P	11 35 34.3	-0.1
	0.3nm,0.4s,baz=350,slow=7.6,SNR=13						
CTA	**Charters Tower**	**28.85**	**142**	LR	LR	11 49 22.8	
	comp=Z,216nm,21.3s,baz=84,slow=41						
STKA	**Stephens Creek**	**36.66**	**160**	P	P	11 37 00.6	-0.8
	2.4nm,0.4s,baz=338,slow=7.9,SNR=12						
MKAR	**Makanchi Array**	**59.16**	**325**	P	P	11 39 56.0	+0.4
	0.1nm,0.4s,baz=133,slow=6.3,SNR=3.1						

*MOS **01** 11:47:31.9±1.9, 51°.75N×175°.24W, h33km, mb4.2/12, Error ellipse: s-maj=14.8km s-min=9.7km az=84.2*
*BJI **01** 11:47:32.4, 51°.60N×175°.40W, h58km, mb4.9/6, mB4.9/3*
*ISCJB **01** 11:47:33.8±0.5, 51°.61N±0°.07×175°.21W±0°.04, h47km, mb3.8/23, MS3.1/4, Error ellipse: s-maj=9.8km s-min=3.5km az=175.7*
*NEIC **01** 11:47:35.1, 51°.66N×175°.25W, h32km, mb4.0/13, ML3.8(AEIC), After AEIC.*
*IDC **01** 11:47:40.0±5.2, 51°.94N×175°.33W, h92km±46km, mb3.4/16, mb1 3.6/18, mb1mx3.5/33, mbtmp3.8/18, MS3.0/5, Ms1 3.0/5, ms1mx2.6/31, Error ellipse: s-maj=23.7km s-min=13.9km az=174.0*

ISC 01 11:47:35.0±0.6, 51°69'N±0°.09×175°27'W±0°.04, h47km, n88, σ1§27/84, mb3.9/23, MS3.1/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSMY	**Great Sitkin M**	**0.60**	**306**	P	**Pn**	**11 47 47.6**	**+0.3**
GSTR	**Great Sitkin T**	**0.63**	**310**	*e*Pg	**Pn**	**11 47 48.7**	**+1.0**
GSCK	**Great Sitkin C**	**0.64**	**300**	P	**Pn**	**11 47 48.1**	**+0.3**
GSTD	**Great Sitkin T**	**0.65**	**304**	P	**Pn**	**11 47 48.4**	**+0.4**
GSTD				S	**Sn**	**11 47 58.6**	**+1.2**
ETKA	**Kagalaska Isla**	**0.72**	**284**	P	**Pn**	**11 47 49.2**	**+0.3**
ADK	**Adak**	**0.90**	**283**	P	**Pn**	**11 47 51.4**	**+0.2**
ADK				S	**Sn**	**11 48 04.1**	**+1.0**
ADK	**Adak**	**0.90**	**283**	P	**Pn**	**11 47 51.4**	**+0.2**
ADK				S	**Sn**	**11 48 04.0**	**+1.0**
KOKL	**Mount Kliuchef**	**0.92**	**46**	P	**Pn**	**11 47 51.9**	**+0.4**
KOFP	**Korovin Flat P**	**0.93**	**51**	P	**Pn**	**11 47 52.0**	**+0.2**
KIRH	**Kanaga Island**	**1.15**	**281**	P	**Pn**	**11 47 55.3**	**+0.7**
KIKV	**Kanaga Island**	**1.19**	**280**	P	**Pn**	**11 47 55.8**	**+0.6**
TAFL	**Tanaga Flats**	**1.63**	**273**	P	**Pn**	**11 48 02.0**	**+0.8**
TAFP	**Tanaga Falls P**	**1.69**	**278**	P	**Pn**	**11 48 03.3**	**+1.2**
TAFP				S	**Sn**	**11 48 25.1**	**+2.5**
TASE	**Tanaga Southea**	**1.72**	**276**	P	**Pn**	**11 48 03.7**	**+1.2**
GAEA	**Gareloi East**	**2.16**	**274**	P	**Pn**	**11 48 10.1**	**+1.6**
NIKH	**Nikolski High**	**4.14**	**69**	P	**Pn**	**11 48 36.7**	**+1.1**
OKFG	**Magazine Ridge**	**4.81**	**66**	P	**Pn**	**11 48 46.8**	**+2.0**
MREP	**Makushin Rep't**	**5.60**	**64**	P	**Pn**	**11 48 57.9**	**+2.2**
UNV	**Unalaska Valle**	**5.75**	**65**	P	**Pn**	**11 48 59.6**	**+2.1**
SMY	**Shemya**	**6.61**	**283**	P	**Pn**	**11 49 09.1**	**-0.4**
SMY	**Shemya**	**6.61**	**283**	Pn	**Pn**	**11 49 09.1**	**-0.4**
GAMB	**Gambell**	**12.26**	**7**	*e*Pn	**Pn**	**11 50 28.4**	**+1.7**
KDAK	**Kodiak Island**	**14.41**	**56**	*i* P	**Pn**	**11 50 58.5**	**+2.6**
PETK	**Petropavlovsk-**	**16.52**	**286**	P	**P**	**11 51 25.4**	**+0.3**
	0.1nm,0.3s,baz=91,slow=15,SNR=3.0						
PETK				LR	LR	11 57 27.7	
	comp=Z,17nm,18.7s,baz=67,slow=36						
SEW	**Seward**	**16.66**	**50**	*e*Pn	**P**	**11 51 26.3**	**-0.2**
	5.2nm,0.5s						
CAST	**Castle Rocks**	**16.98**	**37**	*e*Pn	**P**	**11 51 32.9**	**+2.7**
KTH	**Kantishna Hill**	**17.50**	**38**	*e*Pn	**P**	**11 51 37.6**	**+1.7**
	6.3nm,0.7s						
TRF	**Thorofare Moun**	**17.69**	**39**	*e*P	**P**	**11 51 39.7**	**+1.5**
	2.7nm,0.4s						
IM04	**Indian Mountai**	**17.98**	**29**	*e*P	**P**	**11 51 43.0**	**+1.8**
MCK	**McKinley**	**18.36**	**39**	*e*P	**Pn**	**11 51 46.4**	**+0.7**
MCK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MCK	**McKinley**	**18.36**	**39**	*e*Pn	**Pn**	**11 51 46.4**	**+0.7**
	comp=Z,3.7nm,0.5s						
BILL	**Bilibino**	**18.69**	**338**	*e*P	**Pn**	**11 51 50.1**	**+0.4**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BILL	**Bilibino**	**18.69**	**338**	*e*P	**P**	**11 51 48.8**	**-0.1**
	comp=Z,4.0nm,0.4s						
COLA	**College**	**19.33**	**36**	*e*P	**Pn**	**11 51 58.5**	**+1.2**
COLA	**College**	**19.33**	**36**	*e*P	**Pn**	**11 51 58.5**	**+1.2**
PAX	**Paxson**	**19.44**	**43**	*e*P	**Pn**	**11 51 58.6**	**-0.2**
PAX				pmax	pmax		
	comp=Z,3.0nm,0.6s						
PAX	**Paxson**	**19.44**	**43**	*e*P	**Pn**	**11 51 58.6**	**-0.2**
	comp=Z,2.9nm,0.6s						
ILAR	**Eielson Array**	**19.64**	**37**	P	**P**	**11 51 57.4**	**-1.9**
	comp=Z,0.6nm,0.3s,baz=238,slow=10,SNR=43						
ILAR	**Eielson Array**	**19.64**	**37**	P	**P**	**11 51 57.4**	**-1.9**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
COLD	**Coldfoot**	**19.88**	**29**	*e*P	**Pn**	**11 52 03.9**	**0.0**
	comp=Z,5.5nm,0.8s						
DOT	**Dot Lake**	**20.29**	**42**	*e*P	**P**	**11 52 06.2**	**-0.2**
	comp=Z,8.3nm,0.8s						
SEY	**Seymchan**	**20.52**	**316**	P	**P**	**11 52 09.6**	**+0.7**
	comp=Z,4.1nm,0.8s,baz=110,slow=15,SNR=5.6						
SEY	**Seymchan**	**20.52**	**316**	P	**P**	**11 52 09.6**	**+0.7**
SEY				pmax	pmax		
	comp=Z,4.0nm,0.8s						
INK	**Inuvik**	**25.95**	**34**	P	**P**	**11 53 01.4**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=219,slow=7.7,SNR=8.5						
INK	**Inuvik**	**25.95**	**34**	P	**P**	**11 53 01.4**	**-1.0**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YAK	**Yakutsk**	**30.87**	**311**	LR	LR	12 05 31.1	
	comp=Z,42nm,21.4s,baz=92,slow=35						
TIXI	**Tiksi**	**31.46**	**330**	*e*P	**P**	**11 53 51.4**	**0.0**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.5s						
YKA	**Yellowknife Ar**	**33.41**	**47**	P	**P**	**11 54 07.8**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=274,slow=8.1,SNR=9.1						
YKA				PcP	**PcP**	**11 56 48.6**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=290,slow=2.2,SNR=5.4						
H11N2	**WAKE ISLAND Hy**	**34.83**	**210**	T	T	12 31 13.5	
	baz=18,slow=76,SNR=56						
H11N3	**WAKE ISLAND Hy**	**34.84**	**210**	T	T	12 31 09.8	
	baz=18,slow=76,SNR=60						
H11N1	**WAKE ISLAND Hy**	**34.85**	**210**	T	T	12 31 15.0	
	baz=18,slow=76,SNR=56						
H11S1	**WAKE ISLAND Hy**	**36.04**	**210**	T	T	12 32 47.8	
	baz=19,slow=76,SNR=104						
H11S2	**WAKE ISLAND Hy**	**36.05**	**210**	T	T	12 33 04.5	
	baz=19,slow=76,SNR=81						
H11S3	**WAKE ISLAND Hy**	**36.06**	**210**	T	T	12 32 46.2	
	baz=19,slow=76,SNR=50						
NEW	**Newport**	**36.70**	**72**	*e*P	**P**	**11 54 38.0**	**+0.8**
NEW				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NEW	**Newport**	**36.70**	**72**	*e*P	**P**	**11 54 38.0**	**+0.8**
	comp=Z,1.9nm,0.5s						
BSMT	**Bassoo Peak**	**38.28**	**71**	*e*P	**P**	**11 54 51.4**	**+0.7**
	comp=Z,2.2nm,0.7s						
MCMT	**McKenzie Canyo**	**40.98**	**74**	*e*P	P	11 55 09.2	-4.1
	comp=Z,2.0nm,0.7s						
NVAR	**Mina Array Bea**	**41.33**	**86**	P	**P**	**11 55 18.0**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=321,slow=8.1,SNR=2.1						
KSRS	**Korea Array**	**41.83**	**273**	P	**P**	**11 55 20.9**	**+0.9**
	comp=Z,1.3nm,0.8s,baz=52,slow=7.6,SNR=4.5						
KSRS	**Korea Array**	**41.83**	**273**	P	**P**	**11 55 20.9**	**+0.9**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.8s						
JNU	**Nakatsue**	**42.79**	**266**	LR	LR	12 14 58.6	
	comp=Z,9.7nm,19.3s,slow=38						
RLMT	**Red Lodge**	**42.95**	**72**	*e*P	**P**	**11 55 29.0**	**-0.3**
	comp=Z,5.6nm,1.1s						
PDAR	**Pinedale Array**	**44.11**	**75**	P	**P**	**11 55 38.8**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=333,slow=4.7,SNR=16						
HHC	**Hu-ho-hao-te**	**49.70**	**288**	*e*P	**P**	**11 56 19.3**	**-2.9**
HHC				PMZ			
	comp=Z,16nm,1.1s						
HHC				PMZ			
	comp=Z,93nm,6.6s						
SPITS	**Spitsbergen Ar**	**50.20**	**357**	P	**P**	**11 56 24.6**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=39,slow=9.3,SNR=5.5						
SPITS	**Spitsbergen Ar**	**50.20**	**357**	P	**P**	**11 56 24.6**	**-0.7**
SPITS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**55.39**	**315**	LR	LR	12 22 16.6	
	comp=Z,18nm,19.7s,baz=70,slow=38						
TXAR	**Lajitas Array**	**56.43**	**84**	P	**P**	**11 57 11.8**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=298,slow=6.0,SNR=4.3						
LZH	**Lanzhou**	**57.39**	**288**	*e*P	**P**	**11 57 17.2**	**-1.4**
LZH				pP	**pP**	**11 57 31.9**	**+0.1**
LZH				sP	**sP**	**11 57 39.0**	**+1.8**
LZH				PMZ			
	comp=Z,14nm,1.0s						
ARCES	**ARCESS Array B**	**58.13**	**352**	P	**P**	**11 57 21.2**	**-1.9**
	comp=Z,2.2nm,0.7s,baz=3.8,slow=7.8,SNR=7.3						
ARCES	**ARCESS Array B**	**58.13**	**352**	P	**P**	**11 57 21.2**	**-1.9**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WMQ	**Urumqi**	**60.99**	**305**	*e*P	**P**	**11 57 45.7**	**+2.4**
WMQ				PMZ			
	comp=Z,8.0nm,0.5s						
WMQ				PMZ			
	comp=Z,110nm,4.4s						
MKAR	**Makanchi Array**	**61.54**	**310**	P	**P**	**11 57 44.5**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=59,slow=8.1,SNR=5.9						
FINES	**FINESS Array B**	**65.93**	**349**	P	**P**	**11 58 13.4**	**-2.0**
	comp=Z,2.6nm,0.9s,baz=2.3,slow=7.0,SNR=2.4						
FINES	**FINESS Array B**	**65.93**	**349**	P	**P**	**11 58 13.4**	**-2.0**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NOA	**NORSAR Array B**	**67.50**	**357**	P	**P**	**11 58 24.5**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=18,slow=6.3,SNR=2.5						
ABKAR	**Akbulak array**	**68.98**	**325**	*e*P	**P**	**11 58 34.2**	**-0.8**
	comp=Z,1.0nm,0.4s						
OBN	**Obninsk**	**70.32**	**341**	P	**P**	**11 58 43.6**	**+0.6**
OBN				*e*		12 01 17.9	
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**73.16**	**278**	P	**P**	**11 59 00.8**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=26,slow=7.3,SNR=9.3						
CMAR	**Chiang Mai Arr**	**73.16**	**278**	*i* P	**P**	**11 59 01.6**	**+0.9**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**75.89**	**344**	P	**P**	**11 59 14.0**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=14,slow=6.2,SNR=3.6						
KIV	**Kislovodsk**	**79.23**	**333**	*e*P	**P**	**11 59 34.3**	**-0.6**
KIV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GEYT	**Alibeck**	**79.31**	**320**	LR	LR	12 40 48.7	
	comp=Z,25nm,18.1s,baz=120,slow=40						
WRA	**Warramunga Arr**	**83.80**	**227**	P	**P**	**11 59 58.2**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=35,slow=6.0,SNR=3.7						
ASAR	**Alice Springs**	**87.24**	**225**	P	**P**	**12 00 16.4**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=24,slow=4.8,SNR=6.7						
ASAR	**Alice Springs**	**87.24**	**225**	P	**P**	**12 00 16.4**	**+0.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**115.38**	**3**	PKP	**PKPdf**	**12 06 10.9**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=337,slow=3.2,SNR=4.4						

IDC 01 11:59:31.1±1.0, 11°58N×86°07W, h0km, mb3.4/5, mb1 3.8/6, mb1mx3.6/23, mbtmp3.5/6, ML3.2/1, Error ellipse: s-maj=59.3km s-min=11.3km az=50.0, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**1.68**	**139**	*e*Pg	Pn	12 00 02.2	+0.4
	26nm,0.3s,baz=315,slow=20,SNR=31						
JTS				Lg	Lg	12 00 24.4	
	60nm,0.3s,baz=317,slow=20,SNR=11						
CMIG	**Matias Romero**	**10.15**	**304**	Pn	Pn	12 01 56.9	-1.3
	0.2nm,0.3s,baz=104,slow=11,SNR=2.4						
TXAR	**Lajitas Array**	**24.11**	**320**	P	P	12 04 49.4	+0.6
	1.1nm,0.7s,baz=134,slow=10,SNR=18						
PDAR	**Pinedale Array**	**37.19**	**331**	P	P	12 06 44.9	+0.6
	0.3nm,0.7s,baz=122,slow=8.6,SNR=3.5						
NVAR	**Mina Array Bea**	**39.25**	**319**	P	P	12 07 03.6	+1.9
	0.5nm,0.7s,baz=130,slow=8.4,SNR=4.8						
NVAR				PcP	PcP	12 09 08.8	-2.0
	0.4nm,0.6s,baz=157,slow=4.5,SNR=4.1						
RES	**Resolute Bay**	**63.29**	**357**	P	P	12 10 01.0	-0.3
	0.4nm,0.7s,baz=165,slow=12,SNR=3.3						
ILAR	**Eielson Array**	**67.36**	**336**	P	P	12 10 27.0	-0.9
	0.2nm,0.9s,baz=113,slow=9.1,SNR=3.7						

*IDC **01** 12:32:04.3±0.9, 9°.56S×116°.78E, h0km, mb3.9/8, mb1 3.9/10, mb1mx3.7/36, mbtmp3.8/10, ML3.8/2, MS3.2/2, Ms1 3.3/2, ms1mx2.7/34, Error ellipse: s-maj=30.3km s-min=17.6km az=58.0*
*DJA **01** 12:32:08.5±0.6, 10°S±7°×11°7E±°, h10km, M4.4/12, mb4.3/1, MLv4.4/12*
*ISCJB **01** 12:32:09.7±0.5, 10°.08S±0°.08×116°.46E±0°.08, h76km, mb3.8/8, Error ellipse: s-maj=15.4km s-min=5.3km az=43.7*

ISC 01 12:32:11.1±0.7, 10°07S±0°.09×116°52E±0°.08, h76km, n27, σ1§91/27, mb3.9/8, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**1.84**	**313**	P	**Pn**	**12 32 38.6**	**-2.2**
IGBI				S	**Sn**	**12 32 59.4**	**-3.9**
DNP	**Denpasar**	**1.89**	**317**	P	**Pn**	**12 32 40.0**	**-1.5**
DNP				S	**Sn**	**12 33 04.1**	**-0.5**
SRBI	**Singaraja**	**2.36**	**327**	P	**Pn**	**12 32 47.8**	**+0.1**
JAGI	**Jajag, Banyuwa**	**2.83**	**304**	P	**Pn**	**12 32 52.7**	**-1.3**
JAGI				S	**Sn**	**12 33 25.4**	**-1.7**
ABJI	**Asem Bagus**	**3.19**	**315**	P	**Pn**	**12 32 58.7**	**-0.3**
GMJI	**Gumukmas**	**3.52**	**300**	P	**Pn**	**12 33 02.5**	**-1.0**
BLJI	**Banyuglugur**	**3.70**	**308**	P	**Pn**	**12 33 07.3**	**+1.4**
KMMI	**Kalianget**	**3.92**	**320**	P	**Pn**	**12 33 10.3**	**+1.4**
PWJI	**Pagerwojo**	**5.08**	**293**	P	**Pn**	**12 33 23.9**	**-0.9**
BATI	**Baumata**	**7.04**	**92**	Pn	Pn	12 33 45.4	-6.1
	2.3nm,0.3s,baz=264,slow=10,SNR=3.4						
BATI				Sn	**Sn**	**12 35 06.1**	**-4.0**
	4.6nm,0.3s,baz=288,slow=20,SNR=4.2						
GIRL	**Giralia**	**12.69**	**190**	P	Pn	12 35 03.6	-5.0
	baz=11,SNR=15						
MEEK	**Meekatharra**	**16.59**	**173**	P	**Pn**	**12 35 56.4**	**-2.7**
	baz=15,SNR=28						
WRKA	**Warakurna**	**18.62**	**145**	P	**Pn**	**12 36 25.4**	**+1.6**
	baz=18,SNR=3.1						
MORW	**Morawa**	**18.90**	**181**	P	**Pn**	**12 36 27.0**	**-0.1**
	baz=18,SNR=7.2						
WRA	**Warramunga Arr**	**19.79**	**122**	P	**P**	**12 36 36.3**	**+0.8**
	0.2nm,0.3s,baz=294,slow=12,SNR=11						
WRA				S	S	12 40 03.5	-11
	0.1nm,0.3s,baz=293,slow=25,SNR=3.5						
BLDU	**Balliduu**	**20.44**	**180**	P	Pn	12 36 47.9	+2.8
	baz=19,SNR=9.5						
ASAR	**Alice Springs**	**21.40**	**131**	P	**P**	**12 36 54.5**	**+1.6**
	0.9nm,0.5s,baz=306,slow=9.2,SNR=17						
ASAR				S	**S**	**12 40 44.0**	**-2.4**
	0.4nm,0.7s,baz=300,slow=22,SNR=3.4						
ASAR				LR	LR	12 45 08.6	
	comp=Z,68nm,19.7s,baz=270,slow=36						
NWAO	**Narrogin (SRO)**	**22.75**	**178**	P	P	12 37 15.5	+8.4
	5.9nm,0.6s,baz=8.1,slow=11,SNR=6.6						
CMAR	**Chiang Mai Arr**	**33.23**	**328**	LR	LR	12 53 20.9	
	comp=Z,31nm,18.4s,baz=164,slow=39						
MJAR	**Matsushiro Ar**	**50.66**	**23**	P	**P**	**12 41 01.4**	**-1.4**
	0.5nm,0.6s,baz=197,slow=9.1,SNR=4.0						
SONM	**Songino Array**	**58.35**	**352**	P	**P**	**12 41 58.0**	**-0.4**
	0.5nm,0.5s,baz=174,slow=9.1,SNR=5.8						
MKAR	**Makanchi Array**	**64.33**	**335**	P	**P**	**12 42 39.9**	**+1.2**
	0.3nm,0.4s,baz=152,slow=5.8,SNR=9.2						
ZALV	**Zalesovo Beam**	**69.20**	**341**	P	**P**	**12 43 09.0**	**-0.4**
	0.6nm,0.4s,baz=149,slow=4.1,SNR=5.9						
PETK	**Petropavlovsk-**	**72.05**	**25**	P	**P**	**12 43 27.7**	**+0.9**
	2.1nm,0.8s,baz=182,slow=4.0,SNR=2.7						
SEY	**Seymchan**	**77.84**	**16**	P	**P**	**12 44 00.9**	**+0.9**
	1.2nm,0.6s,baz=270,slow=5.1,SNR=3.2						
YKA	**Yellowknife Ar**	**116.16**	**24**	PKP	**PKPdf**	**12 50 47.6**	**+2.4**
	0.4nm,0.5s,baz=298,slow=2.0,SNR=6.6						
TORD	**Torodi Ar. Bea**	**116.23**	**280**	PKP	**PKPdf**	**12 50 49.7**	**+3.0**
	0.8nm,1.1s,baz=67,slow=0.9,SNR=2.4						

*IDC **01** 12:36:33.0±0.6, 53°.61N×163°.61W, h0km, mb4.0/30, mb1 4.2/32, mb1mx4.1/49, mbtmp4.0/32, ML3.8/2, MS3.7/10, Ms1 3.7/10, ms1mx3.3/52, Error ellipse: s-maj=17.8km s-min=10.9km az=177.0*

*MOS **01** 12:36:33.4±1.0, 53°.74N×163°.54W, h10km, mb4.7/21, Error ellipse: s-maj=11.2km s-min=6.8km az=85.3*
*BJI **01** 12:36:35.4, 53°.50N×163°.50W, h35km, mb4.6/22, mB4.8/13, Ms4.7/5, Ms7 4.4/3*
*ISCJB **01** 12:36:35.5±0.3, 53°.47N±0°.04×163°.48W±0°.03, h29km, mb4.3/60, MS3.6/9, Error ellipse: s-maj=5.3km s-min=2.8km az=171.0*
*NEIC **01** 12:36:36.0, 53°.45N×163°.46W, h36km, mb4.5/19, ML4.2(AEIC), After AEIC.*
*SZGRF **01** 12:36:39.3, 53°.29N×163°.40W, h33km, mb4.4, Unimak Island, Alaska, United States, region*

ISC 01 12:36:37.5±0.5, 53°60N±0°.06×163°55W±0°.04, h29km, n210, σ1§07/207, mb4.3/60, MS3.6/9, 4C-2D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.07**	**326**	P	**Pb**	**12 36 57.1**	**-0.3**
WESP	**Westdahl Peak**	**1.13**	**323**	P	**Pb**	**12 36 58.2**	**-0.2**
WEBT	**Westdahl Beart**	**1.22**	**325**	P	**Pb**	**12 36 59.7**	**-0.3**
SSLW	**Shishaldin Wes**	**1.22**	**344**	P	**Pb**	**12 36 59.3**	**-0.7**
SSLN	**Shishaldin Nor**	**1.24**	**348**	P	**Pb**	**12 37 00.1**	**-0.2**
FALS	**False Pass**	**1.26**	**4**	P	**Pn**	**12 36 59.6**	**+0.4**
FALS				S	**Sb**	**12 37 18.2**	**+1.7**
AKA	**Akutan**	**1.42**	**293**	P	**Pn**	**12 37 02.1**	**+0.8**
AKUT	**Akutan**	**1.42**	**293**	P	**Pn**	**12 37 01.6**	**+0.2**
AKUT				S	**Sb**	**12 37 20.9**	**0.0**
ZRO	**Akutan Zero**	**1.52**	**290**	P	**Pn**	**12 37 02.9**	**+0.1**
AKGG	**Akutan Green G**	**1.56**	**294**	P	**Pn**	**12 37 03.8**	**+0.4**
AKGG				S	**Sb**	**12 37 25.7**	**+0.6**
AKRB	**Akutan Reef Bi**	**1.58**	**291**	P	**Pn**	**12 37 03.7**	**+0.1**
DT1	**Dutton Round H**	**1.69**	**26**	P	**Pn**	**12 37 05.0**	**0.0**
DTNA	**Dutton South F**	**1.73**	**26**	P	**Pn**	**12 37 05.7**	**+0.1**
UNV	**Unalaska Valle**	**1.77**	**279**	P	**Pn**	**12 37 05.5**	**-0.6**
UNV				S	**Sb**	**12 37 29.7**	**-1.3**
MREP	**Makushin Rep't**	**1.91**	**278**	P	**Pn**	**12 37 08.5**	**+0.4**
MSW	**Makushin Switc**	**1.94**	**281**	P	**Pn**	**12 37 08.3**	**-0.3**
MCIR	**Makushin Cirqu**	**2.01**	**281**	P	**Pn**	**12 37 09.7**	**+0.2**
MSOM	**Makushin Julie**	**2.03**	**278**	P	**Pn**	**12 37 10.0**	**+0.3**
MSOM	**Makushin Julie**	**2.03**	**278**	P	**Pn**	**12 37 10.0**	**+0.3**
SDPT	**Sand Point**	**2.51**	**44**	P	**Pn**	**12 37 16.6**	**+0.3**
OKFG	**Magazine Ridge**	**2.61**	**268**	P	**Pn**	**12 37 17.5**	**-0.2**
NIKH	**Nikolski High**	**3.24**	**261**	P	**Pn**	**12 37 25.7**	**-0.7**
SPIA	**Saint Paul Isl**	**5.23**	**316**	P	**Pn**	**12 37 55.9**	**+2.2**
KOFP	**Korovin Flat P**	**6.51**	**262**	P	**Pn**	**12 38 12.7**	**+1.4**
OHAK	**Old Harbor**	**6.88**	**54**	*e*Pn	**Pn**	**12 38 14.4**	**-1.8**
KDAK	**Kodiak Island**	**7.48**	**52**	*e*P	**Pn**	**12 38 24.0**	**-0.5**
KDAK	**Kodiak Island**	**7.48**	**52**	*e*Pn	**Pn**	**12 38 23.9**	**-0.5**
GSTR	**Great Sitkin T**	**7.72**	**264**	*e*Pn	**Pn**	**12 38 29.6**	**+1.6**
	28nm,0.3s						
GSTR				*e*Sn	**Sn**	**12 39 53.2**	**-1.2**
GSMY	**Great Sitkin M**	**7.74**	**263**	P	**Pn**	**12 38 29.3**	**+1.2**
GSCK	**Great Sitkin C**	**7.81**	**263**	P	**Pn**	**12 38 29.6**	**+0.5**
ETKA	**Kagalaska Isla**	**8.00**	**263**	P	**Pn**	**12 38 31.5**	**-0.2**
ADK	**Adak**	**8.15**	**263**	P	**Pn**	**12 38 34.0**	**+0.2**
ADK	**Adak**	**8.15**	**263**	P	**Pn**	**12 38 34.0**	**+0.2**
KIKV	**Kanaga Island**	**8.44**	**264**	P	**Pn**	**12 38 37.9**	**+0.1**
SVW2	**Sparrevohn**	**8.66**	**27**	*e*Pn	**Pn**	**12 38 42.7**	**+2.1**
SEW	**Seward**	**10.09**	**44**	*e*Pn	**Pn**	**12 38 59.5**	**-0.8**
SEW				*e*Sn	**Sn**	**12 40 51.1**	**-1.2**
RC01	**Rabbit Creek A**	**10.57**	**39**	*e*Pn	**Pn**	**12 39 06.2**	**-0.6**
GAMB	**Gambell**	**11.04**	**341**	*e*Pn	**Pn**	**12 39 16.2**	**+3.0**
PPLA	**Purkeypile**	**11.06**	**28**	*e*Pn	**Pn**	**12 39 16.1**	**+2.5**
PMR	**Palmer**	**11.11**	**38**	*e*P	**Pn**	**12 39 13.4**	**-0.8**
PMR	**Palmer**	**11.11**	**38**	*e*Pn	**Pn**	**12 39 13.4**	**-0.8**
KTH	**Kantishna Hill**	**11.93**	**28**	*e*Pn	**Pn**	**12 39 27.2**	**+1.7**
DIV	**Divide**	**12.17**	**45**	*e*Pn	**Pn**	**12 39 31.6**	**+2.8**
TNA	**Tin City**	**12.20**	**351**	Pn	**Pn**	**12 39 31.9**	**+2.9**
BMRM	**Bremner River**	**12.59**	**47**	*e*Pn	**Pn**	**12 39 37.0**	**+2.5**

H11N2 WAKE ISLAND Hy 40.72 225 T T 13 27 52.9
baz=26,slow=76,SNR=88
H11N3 WAKE ISLAND Hy 40.73 225 T T 13 27 53.4
baz=26,slow=76,SNR=192
H11N1 WAKE ISLAND Hy 40.74 225 T T 13 27 54.2
baz=26,slow=76,SNR=91
H11S1 WAKE ISLAND Hy 41.89 225 T T 13 29 19.6
baz=26,slow=76,SNR=104
H11S2 WAKE ISLAND Hy 41.91 225 T T 13 29 20.5
baz=26,slow=76,SNR=105
H11S3 WAKE ISLAND Hy 41.91 225 T T 13 29 19.6
baz=26,slow=76,SNR=109
MJAR Matsushiro Arr 43.22 271 P **P** **12 44 34.8 -1.1**
comp=Z,1.4nm,0.7s,baz=39,slow=5.8,SNR=9.3
MAJO Matsushiro 43.22 271 *e*P **P** **12 44 36.3 +0.4**
MAJO pmax pmax
comp=Z,47nm,0.9s
MAT Matsushiro 43.22 271 P **P** **12 44 35.3 -0.6**
ANMO Albuquerque 43.63 92 P **P** **12 44 39.5 +0.1**
comp=Z,0.3nm,0.4s,baz=315,slow=14,SNR=2.0
ANMO PcP **PcP** **12 46 26.3 -0.1**
comp=Z,2.0nm,1.0s,baz=49,slow=1.6,SNR=5.3
BOD Bodaibo 43.92 310 *e*P **P** **12 44 40.1 -1.1**
BOD pmax pmax
comp=Z,3.0nm,1.7s
HIA Hailar 45.85 297 *e*P **P** **12 44 56.6 -0.1**
HIA pmax pmax
comp=Z,4.0nm,0.8s
SPITS Spitsbergen Ar 48.48 0 P **P** **12 45 16.3 -0.5**
comp=Z,1.9nm,0.6s,baz=359,slow=4.7,SNR=9.7
SPITS PcP **PcP** **12 46 44.6 +2.2**
comp=Z,2.9nm,0.3s,baz=328,slow=4.1,SNR=156
SPITS LR LR 13 08 02.4
comp=Z,66nm,18.2s,baz=345,slow=39
KSRS Korea Array 48.71 280 P **P** **12 45 20.0 +1.0**
comp=Z,2.7nm,0.8s,baz=44,slow=8.2,SNR=7.1
KSAR Wonju Array Be 48.74 280 P **P** **12 45 20.0 +0.7**
KSAR Wonju Array Be 48.74 280 P **P** **12 45 20.0 +0.7**
TXAR Lajitas Array 49.27 95 P **P** **12 45 23.9 +0.3**
comp=Z,1.3nm,0.6s,baz=302,slow=5.6,SNR=22
TXAR ScP **ScP** **12 50 39.6 +0.6**
comp=Z,0.7nm,1.0s,baz=197,slow=3.9,SNR=4.0
JNU Nakatsue 49.94 273 LR LR 13 06 12.1
comp=Z,66nm,20.2s,baz=39,slow=36
HDIL Hopedale 49.97 73 *e*P **P** **12 45 27.6 -1.1**
comp=Z,387nm,0.8s
SCHQ Schefferville 52.08 47 P **P** **12 45 45.0 +0.7**
comp=Z,3.1nm,0.7s,baz=285,slow=11,SNR=3.9
USIN University of 52.64 75 *e*P **P** **12 45 47.8 -0.9**
comp=Z,14nm,0.8s
ULN Ulaanbaatar 53.28 303 *c i*P **P** **12 45 53.5 0.0**
ULN pmax pmax
comp=Z,6.0nm,0.8s
ZAK Zakamensk 53.43 307 *e*P P 12 45 45.7 -8.8
ZAK pmax pmax
comp=Z,1.0nm,1.4s
SONM Songino Array 53.63 303 P **P** **12 45 56.7 +0.7**
comp=Z,2.6nm,0.7s,baz=43,slow=6.0,SNR=18
BJI Beijing 53.71 290 P **P** **12 45 56.8 +0.3**
BJI pP **pP** **12 46 06.0 +0.6**
BJI S **S** **12 53 27.5 -1.0**
BJI PMZ
comp=Z,10.0nm,0.5s
BJI LN
comp=Z,150nm,20.4s
BJI LE
HHC Hu-ho-hao-te 55.70 294 *e*P **P** **12 46 12.4 +1.3**
HHC S **S** **12 53 56.5 +1.0**
HHC PMZ
comp=Z,17nm,1.1s
HHC PMZ
comp=Z,81nm,6.8s
ARCES ARCESS Array B 57.00 356 P **P** **12 46 18.8 -1.0**
comp=Z,1.6nm,0.5s,baz=15,slow=8.3,SNR=11
ZALV Zalesovo Beam 58.81 320 P **P** **12 46 33.0 +0.3**
comp=Z,0.9nm,0.5s,baz=38,slow=8.2,SNR=4.4
XAN Xi'an 62.05 290 P P 12 47 00.4 +5.2
XAN pP pP 12 47 07.1 +3.0
XAN PMZ
comp=Z,2.0nm,1.0s
GTA Gaotai 62.97 300 *e*P **P** **12 47 01.7 +0.3**
GTA PMZ
comp=Z,3.0nm,0.9s
LZH Lanzhou 63.32 295 *e*P **P** **12 47 04.0 +0.2**
LZH pP **pP** **12 47 14.2 +1.4**
LZH sP **sP** **12 47 18.4 +2.2**
LZH PMZ
comp=Z,13nm,1.0s
KURK Kurchatov 63.71 321 P **P** **12 47 05.6 -0.3**
KURK Kurchatov 63.71 321 P **P** **12 47 05.5 -0.3**
KURBB Kurchatov Arra 63.81 321 P **P** **12 47 05.5 -1.0**
comp=Z,0.8nm,0.3s,baz=36,slow=6.7,SNR=7.8
SVE Sverdlovsk 64.16 335 *e*P **P** **12 47 09.4 +0.6**
SVE pmax pmax
comp=Z,12nm,0.9s
BRVK Borovoye 64.66 327 ⇑ *e*P **P** **12 47 13.2 +1.1**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
ARU Arti 65.04 336 *d i*P **P** **12 47 14.6 +0.1**
ARU 12 47 47.0
ARU S **S** **12 55 52.5 -1.8**
ARU pmax pmax
comp=Z,6.0nm,1.0s
FINES FINESS Array B 65.05 355 P **P** **12 47 14.3 -0.1**
comp=Z,1.4nm,0.5s,baz=5.8,slow=9.1,SNR=12
FINES FINESS Array B 65.05 355 *i*P **P** **12 47 16.3 +1.8**
FINES pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 65.43 316 P **P** **12 47 16.9 -0.3**
comp=Z,0.7nm,0.6s,baz=343,slow=3.8,SNR=9.1
MKAR Makanchi Array 65.43 316 *ce*P **P** **12 47 19.2 +2.0**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
WMQ Urumqi 65.46 311 *e*P P 12 47 22.1 +4.6
WMQ pP pP 12 47 32.5 +5.9
WMQ PMZ
comp=Z,5.0nm,0.5s
WMQ PMZ
comp=Z,67nm,4.0s
NB2 NORSAR Subarra 65.63 3 P **P** **12 47 18.6 +0.3**
comp=Z,3.5nm,0.9s,baz=357,slow=6.5
NOA NORSAR Array B 65.63 3 P **P** **12 47 17.7 -0.7**
comp=Z,2.1nm,0.8s,baz=358,slow=6.4,SNR=4.8
CD2 Chengdu 67.27 291 *e*P **P** **12 47 29.3 0.0**
CD2 PMZ
comp=Z,10.0nm,0.7s
AAK Ala-Archa 71.99 319 *i*P **P** **12 47 59.5 +1.1**
AAK pmax pmax
comp=Z,8.0nm,0.8s
AKASG Malin Array Be 75.52 352 P **P** **12 48 18.7 0.0**
comp=Z,1.0nm,0.5s,baz=11,slow=5.8,SNR=7.0
AKASG Malin Array Be 75.52 352 *ce*P **P** **12 48 21.7 +3.1**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
KIEV Kiev 75.53 352 ⇓ *i*P **P** **12 48 18.3 -0.4**
BRG Berggiesshubel 75.88 2 *e*P P 12 48 27.5 +6.8
comp=Z,2.8nm,0.9s
BRG *e* 12 48 32.2
comp=Z,4.1nm,1.2s
BAIF Baives 76.20 8 *e*P **P** **12 48 22.6 0.0**
BAIF Baives 76.20 8 *e*P **P** **12 48 22.6 0.0**
BAIF Baives 76.20 8 *e*P **P** **12 48 22.6 0.0**
GIVF Givet 76.21 8 *e*P **P** **12 48 22.3 -0.3**
GIVF Givet 76.21 8 *e*P **P** **12 48 22.3 -0.3**
GIVF Givet 76.21 8 *e*P **P** **12 48 22.3 -0.3**
GRF Grafenberg Arr 76.99 3 *e*P **P** **12 48 28.7 +1.6**
comp=Z,3.0nm,0.9s
FLN La Foliniere 77.01 11 *e*P **P** **12 48 26.8 -0.4**
comp=Z,92nm,1.7s
FLN *e*R
comp=Z,104nm,19.2s
FLN La Foliniere 77.01 11 *e*P **P** **12 48 26.8 -0.4**
FLN La Foliniere 77.01 11 *e*P **P** **12 48 26.8 -0.4**
comp=Z,92nm,1.7s
LDF La Druitiere 77.22 11 *e*P **P** **12 48 28.1 -0.2**
comp=Z,15nm,1.0s
LDF La Druitiere 77.22 11 *e*P **P** **12 48 28.1 -0.2**
LDF pmax pmax
comp=Z,15nm,1.0s
LDF La Druitiere 77.22 11 *e*P **P** **12 48 28.1 -0.2**
comp=Z,15nm,1.0s
STHS Stebnicka Huta 77.28 357 *e*P P 12 48 34.2 +5.5
STHS *e* 12 48 40.1
STHS Stebnicka Huta 77.28 357 *e* P 12 48 34.2 +5.5
STHS *e*pP **PcP** **12 48 40.1 +0.8**

KOLS Kolonicke sedl 77.72 356 *e*PCP **PcP** **12 48 38.4 -2.8**
PAGF Fort de Pagny 77.81 7 *e*P **P** **12 48 30.9 -0.8**
comp=Z,3.4nm,0.7s
PAGF Fort de Pagny 77.81 7 *e*P **P** **12 48 30.9 -0.8**
comp=Z,3.4nm,0.7s
MEZF Maizieres J'vi 77.82 8 *e*P **P** **12 48 31.8 +0.1**
MEZF Maizieres J'vi 77.82 8 *e*P **P** **12 48 31.8 +0.1**
GERES GERESS Array B 77.90 2 P **P** **12 48 30.9 -1.4**
comp=Z,0.8nm,0.9s,baz=5.5,slow=4.2,SNR=6.4
CDF Champ du Feu 78.07 6 *e*P **P** **12 48 33.0 -0.2**
CDF Champ du Feu 78.07 6 *e*P **P** **12 48 33.0 -0.2**
CDF Champ du Feu 78.07 6 *e*P **P** **12 48 33.0 -0.2**
SFTF Sexfontaines 78.11 8 *e*P **P** **12 48 33.2 -0.1**
SFTF Sexfontaines 78.11 8 *e*P **P** **12 48 33.2 -0.1**
VYHS Vyhne 78.26 358 *e*PCP **PcP** **12 48 40.9 -2.6**
VYHS *e* 12 48 46.5
HAU Haudompre 78.41 7 *e*P **P** **12 48 34.8 -0.2**
HAU *e*R
comp=Z,53nm,22.0s
HAU Haudompre 78.41 7 *e*P **P** **12 48 34.8 -0.2**
HAU Haudompre 78.41 7 *e*P **P** **12 48 34.8 -0.2**
HINF Hinteralfeld 78.63 7 *e*P **P** **12 48 35.8 -0.5**
HINF Hinteralfeld 78.63 7 *e*P **P** **12 48 35.8 -0.5**
HINF Hinteralfeld 78.63 7 *e*P **P** **12 48 35.8 -0.5**
TAPN Taplejung 78.66 301 *e*P **P** **12 48 37.8 +0.7**
comp=Z,17nm,0.8s
LOR Lormes 78.94 9 *e*P **P** **12 48 37.8 -0.1**
comp=Z,6.9nm,0.8s
LOR *e*R
comp=Z,46nm,21.5s
LOR Lormes 78.94 9 *e*P **P** **12 48 37.8 -0.1**
LOR pmax pmax
comp=Z,7.0nm,0.8s
LOR Lormes 78.94 9 *e*P **P** **12 48 37.8 -0.1**
comp=Z,6.9nm,0.8s
SSF Saint Saulge 79.11 9 *e*P **P** **12 48 38.7 -0.2**
comp=Z,6.5nm,0.7s
SSF Saint Saulge 79.11 9 *e*P **P** **12 48 38.7 -0.2**
SSF pmax pmax
comp=Z,7.0nm,0.7s
SSF Saint Saulge 79.11 9 *e*P **P** **12 48 38.7 -0.2**
comp=Z,6.5nm,0.7s
JIRN Jiri 79.18 302 *e*P **P** **12 48 41.2 +1.2**
comp=Z,44nm,0.6s
MFF Saint Martin d 79.18 12 *e*P **P** **12 48 39.1 -0.1**
MFF Saint Martin d 79.18 12 *e*P **P** **12 48 39.1 -0.1**
MFF Saint Martin d 79.18 12 *e*P **P** **12 48 39.1 -0.1**
ODAN Odare 79.22 301 *e*P **P** **12 48 40.6 +0.5**
comp=Z,4.8nm,0.3s
AVF Avril sur Loir 79.37 9 *e*P **P** **12 48 40.1 -0.1**
AVF Avril sur Loir 79.37 9 *e*P **P** **12 48 40.1 -0.1**
AVF Avril sur Loir 79.37 9 *e*P **P** **12 48 40.1 -0.1**
KKN Kakani 79.53 303 *e*P **P** **12 48 41.3 -0.4**
comp=Z,4.7nm,0.4s
RAMN Ramite 79.55 301 *e*P **P** **12 48 42.1 +0.2**
comp=Z,36nm,0.8s
SMF Signal de Mont 79.56 9 *e*P **P** **12 48 41.1 -0.2**
comp=Z,17nm,1.1s
SMF Signal de Mont 79.56 9 *e*P **P** **12 48 41.1 -0.2**
SMF pmax pmax
comp=Z,17nm,1.1s
SMF Signal de Mont 79.56 9 *e*P **P** **12 48 41.1 -0.2**
comp=Z,17nm,1.1s
PKI Pulchoki 79.64 303 *e*P **P** **12 48 42.7 +0.2**
PKIN Phulchoki 79.64 303 *e*P **P** **12 48 42.1 -0.3**
comp=Z,13nm,0.9s
GKN Geha 79.67 303 *e*P **P** **12 48 42.9 +0.4**
comp=Z,32nm,1.0s
CMAR Chiang Mai Arr 79.70 287 P **P** **12 48 41.8 -0.8**
comp=Z,1.2nm,0.6s,baz=18,slow=5.3,SNR=8.4
CMAR Chiang Mai Arr 79.70 287 *i*P **P** **12 48 42.5 0.0**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
DMN Daman 79.76 303 *e*P **P** **12 48 43.0 -0.1**
comp=Z,18nm,0.7s
KIV Kislovodsk 80.25 341 *e*P **P** **12 48 46.4 +1.2**
KIV *e* 12 51 48.2
KIV pmax pmax
comp=Z,3.0nm,0.9s
KOLN Koldanda 80.38 304 *e*P **P** **12 48 46.8 +0.5**
comp=Z,17nm,0.9s
PYUN Piuthan 80.41 305 *e*P **P** **12 48 47.1 +0.6**
KBZ Khabaz 80.43 341 P **P** **12 48 47.5 +1.5**
comp=Z,2.7nm,0.9s,baz=233,slow=20,SNR=4.2
ZEI Tsey 81.13 340 *e*P **P** **12 48 50.5 +0.4**
ZEI pmax pmax
comp=Z,13nm,1.0s
GEYT Alibeck 81.98 328 P **P** **12 48 55.8 +1.3**
comp=Z,1.8nm,0.6s,baz=297,slow=6.5,SNR=3.8
GNI Garni 83.48 339 *e*P **P** **12 49 03.6 +1.2**
GNI pmax pmax
comp=Z,2.0nm,0.8s
ESDC Sonseca Array 85.44 16 P **P** **12 49 12.5 +0.3**
comp=Z,0.1nm,0.4s,baz=348,slow=3.9,SNR=2.4
BRTR Keskin Array B 85.87 347 P **P** **12 49 14.2 -0.2**
comp=Z,1.4nm,0.7s,baz=46,slow=3.6,SNR=8.7
BRTR Keskin Array B 85.87 347 *i*P **P** **12 49 15.3 +0.9**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
WRA Warramunga Arr 90.57 236 P **P** **12 49 35.2 -1.5**
comp=Z,0.8nm,1.0s,baz=34,slow=5.8,SNR=3.5
WRA Warramunga Arr 90.57 236 *i*P P 12 49 42.4 +5.7
ASAR Alice Springs 93.93 235 P **P** **12 49 51.2 -1.0**
comp=Z,0.5nm,0.8s,baz=28,slow=5.3,SNR=3.9

NNC 01 12:39:05.0±5.4, 37°.14N×70°.76E, h0km, mb3.5, mpv3.1, 3C-1D, Error ellipse: s-maj=43.9km s-min=34.0km az=163.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.58**	**36**	⇑Pn	Pn	12 40 02.1	-0.1
	2.8nm,0.4s						
SFK				⇑Sn	Sn	12 40 47.5	+2.0
	13nm,0.4s						
KK31	**Karatay Array**	**5.96**	**358**	Pn	Pn	12 40 35.2	+0.6
	0.3nm,0.3s,baz=170,slow=12,SNR=11						
KK31				Sn	Sn	12 41 44.2	+0.7
	1.3nm,0.4s,baz=175,slow=23,SNR=12						
AAK	**Ala-Archa**	**6.19**	**26**	⇓Pn	Pn	12 40 36.6	-1.4
	1.0nm,0.3s						
AAK				⇑Sn	Sn	12 41 49.0	-0.6
	1.9nm,0.5s						

*IDC **01** 12:46:12.1±2.7, 9°.49S×120°.04E, h0km, mb3.3/1, mb1 3.6/3, mb1mx3.4/30, mbtmp3.4/3, ML3.6/2, MS3.0/1, Ms1 3.0/1, ms1mx2.7/16, Error ellipse: s-maj=233.3km s-min=29.2km az=51.0*

*ISCJB **01** 12:46:16.4±0.6, 10°.24S±0°.06×119°.56E±0°.05, h33km, mb3.2/1, MS2.9/1, Error ellipse: s-maj=8.5km s-min=6.7km az=2.9*

*DJA **01** 12:46:18.3±1.0, 10°S±5°×12°.0E±°, h30km±14km, M4.1/8, mb4.2/3, MLv4.0/8*

ISC 01 12:46:17.6±0.9, 10°.10S±0°.09×119°.58E±0°.06, h35km, n17, σ1§52/16, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**0.83**	**59**	P	**Pn**	**12 46 34.2**	**+1.4**
WSI	**Waingapu**	**0.83**	**59**	P	**Pn**	**12 46 33.9**	**+1.1**
	baz=0.9,SNR=5.4						
WSI				S	**Sn**	**12 46 43.8**	**0.0**
	baz=0.9,SNR=12						
BASI	**Baing, Sumba**	**0.99**	**97**	P	**Pn**	**12 46 36.1**	**+1.1**
MMRI	**Maumere**	**3.00**	**61**	P	**Pn**	**12 47 04.0**	**+1.3**
BATI	**Baumata**	**4.02**	**92**	P	**Pn**	**12 47 18.2**	**+1.5**
IGBI	**Denpasar**	**4.56**	**286**	P	**Pn**	**12 47 25.7**	**+1.6**
BKSI	**Bulukumba**	**4.78**	**6**	P	**Pn**	**12 47 28.4**	**+1.2**
JAGI	**Jajag, Banyuwa**	**5.60**	**286**	P	**Pn**	**12 47 39.5**	**+1.0**
	44nm,1.3s,0.2nm						
SPSI	**Sidrap Palu**	**6.10**	**2**	P	Pn	12 47 49.7	+4.4
	9.4nm,0.9s						
GMJI	**Gumukmas**	**6.33**	**286**	P	**Pn**	**12 47 49.8**	**+1.4**
KNRA	**Kununurra**	**10.52**	**123**	P	**Pn**	**12 48 47.5**	**+1.5**
	baz=10,SNR=4.8						
KDU	**Kakadu**	**12.89**	**103**	P	**Pn**	**12 49 18.9**	**+0.4**
	baz=13,SNR=5.5						
MEEK	**Meekatharra**	**16.47**	**183**	P	**Pn**	**12 50 04.7**	**-1.5**
	baz=16,SNR=7.3						
MEEK				S	Sn	12 52 51.3	-17
	baz=16,SNR=10						
WRA	**Warramunga Arr**	**17.27**	**126**	P	**Pn**	**12 50 14.1**	**-2.1**
	0.2nm,0.3s,baz=301,slow=14,SNR=20						
WRA				S	Sn	12 53 18.0	-9.5
	0.1nm,0.3s,baz=290,slow=26,SNR=3.2						
ASAR	**Alice Springs**	**19.20**	**136**	P	**Pn**	**12 50 40.2**	**+0.4**
	0.2nm,0.3s,baz=315,slow=11,SNR=12						
GUMO	**Guam**	**34.41**	**47**	LR	LR	13 08 47.0	
	comp=Z,21nm,18.0s,baz=55,slow=40						
MKAR	**Makanchi Array**	**65.69**	**333**	P	**P**	**12 56 56.2**	**-2.3**
	0.1nm,0.4s,baz=146,slow=7.1,SNR=4.5						

*ISCJB **01** 12:51:39.4±0.6, 17°.92S±0°.07×69°.4W±0°.1, h126km, mb4.0/5, Error ellipse: s-maj=15.9km s-min=8.4km az=164.0*

*IDC **01** 12:51:40.2±2.7, 17°.90S×69°.31W, h114km±29km, mb4.0/5, mb1 4.0/8, mb1mx3.7/19, mbtmp4.4/8, MS2.8/1, Ms1 2.8/1, ms1mx2.6/21, Error ellipse: s-maj=30.0km s-min=17.4km az=42.0*

ISC 01 12:51:41.0±0.7, 17°.96S±0°.09×69°.4W±0°.1, h126km, n12, σ0§94/13, mb4.3/5, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**4.64**	**175**	P	**Pn**	**12 52 50.7**	**+1.1**
	464nm,0.3s,baz=36,slow=10,SNR=173						
LVC				S	**Sn**	**12 53 43.2**	**+0.4**
	360nm,0.3s,baz=316,slow=22,SNR=14						
NNA	**Nana**	**9.35**	**308**	P	**Pn**	**12 53 51.8**	**-1.0**
	4.9nm,0.3s,baz=130,slow=11,SNR=5.5						
CFAA	**Coronel Fontan**	**13.62**	**176**	P	**Pn**	**12 54 47.8**	**-1.3**
	0.1nm,0.3s,baz=334,slow=8.4,SNR=3.7						
CFAA				LR	LR	13 00 16.5	
	comp=Z,38nm,21.4s,baz=148,slow=38						
CPUP	**Villa Florida**	**13.91**	**129**	P	**Pn**	**12 54 51.9**	**-1.0**
	0.0nm,0.3s,baz=313,slow=8.2,SNR=4.2						
BDFB	**Brasilia**	**20.59**	**87**	P	**P**	**12 56 10.5**	**+0.3**
	6.5nm,0.5s,baz=263,slow=9.8,SNR=13						
TXAR	**Lajitas Array**	**57.50**	**324**	P	**P**	**13 01 17.6**	**+0.3**
	0.2nm,0.6s,baz=148,slow=7.3,SNR=3.1						
DBIC	**Dimbokro**	**68.20**	**75**	P	**P**	**13 02 28.3**	**-0.1**
	3.2nm,0.8s,baz=247,slow=8.6,SNR=4.6						
ULM	**Lac du Bonnet**	**71.83**	**342**	P	**P**	**13 02 49.5**	**-0.3**
	3.6nm,0.7s,baz=161,slow=5.9,SNR=4.9						
TORD	**Torodi Ar. Bea**	**76.61**	**71**	P	**P**	**13 03 17.9**	**-0.4**
	1.5nm,0.6s,baz=257,slow=5.4,SNR=18						
YKA	**Yellowknife Ar**	**87.72**	**341**	P	**P**	**13 04 15.8**	**+0.7**
	1.9nm,0.5s,baz=133,slow=4.8,SNR=46						
ZALV	**Zalesovo Beam**	**138.92**	**23**	PKP	**PKPdf**	**13 10 53.5**	**+1.2**
	0.8nm,0.6s,baz=253,slow=1.5,SNR=4.5						
SONM	**Songino Array**	**150.01**	**6**	PKPbc	**PKPbc**	**13 11 18.1**	**+1.2**
	1.0nm,0.6s,baz=331,slow=1.2,SNR=7.7						

*BJI **01** 12:54:39.2, 60°.70N×177°.80W, h10km, mb4.8/22, mB4.9/16, Ms4.8/14, Ms7 4.3/12*

*ISCJB **01** 12:54:40.3±0.2, 60°.78N±0°.05×177°.80W±0°.04, h10km, mb4.3/82, MS4.1/32, Error ellipse: s-maj=6.7km s-min=3.0km az=171.8*

*IDC **01** 12:54:40.2±0.6, 60°.79N×177°.78W, h0km, mb4.1/29, mb1 4.3/31, mb1mx4.2/48, mbtmp4.1/31, ML3.6/2, MS4.0/29, Ms1 4.0/29, ms1mx3.9/49, Error ellipse: s-maj=18.1km s-min=11.2km az=179.0*

*NEIC **01** 12:54:42.0±0.2, 60°.75N×177°.80W, h10km, mb4.5/18, Error ellipse: s-maj=4.7km s-min=2.8km az=175.0*

*MOS **01** 12:54:42.2±1.0, 60°.78N×177°.79W, h23km, mb4.7/50, MS4.1/16, Error ellipse: s-maj=11.1km s-min=6.0km az=91.9*

ISC 01 12:54:42.8±0.5, 60°.75N±0°.07×177°.77W±0°.04, h15km±2km, h15km:pP-P, n259, σ1§02/268, mb4.6/82, MS4.1/33, 6C-1D, Bering Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAMB	**Gambell**	**4.16**	**40**	*e*Pn	**Pn**	**12 55 43.8**	**-1.7**
TNA	**Tin City**	**6.57**	**38**	*e*Pn	**Pn**	**12 56 16.4**	**-2.2**
GSTR	**Great Sitkin T**	**8.73**	**173**	*e*Pn	**Pn**	**12 56 47.9**	**-0.4**
	34nm,0.5s						
GSTR				*e*Sn	Sn	12 58 38.7	+12
ADK	**Adak**	**8.91**	**176**	*e*PN	Pn	12 56 48.2	-2.5
ADK				pmax	pmax		
	comp=Z,40nm,0.6s						
ADK	**Adak**	**8.91**	**176**	*e*Pn	Pn	12 56 48.2	-2.5
	comp=Z,40nm,0.6s						
BILL	**Bilibino**	**10.03**	**324**	*e*PN	**Pn**	**12 57 06.4**	**+0.4**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BILL	**Bilibino**	**10.03**	**324**	*e*Pn	**Pn**	**12 57 06.0**	**0.0**
SDPT	**Sand Point**	**10.62**	**113**	*e*Pn	Pn	12 57 21.6	+7.4
SVW2	**Sparrevohn**	**10.79**	**78**	*e*Pn	**Pn**	**12 57 17.1**	**+0.6**
IM04	**Indian Mountai**	**11.92**	**54**	*e*Pn	**Pn**	**12 57 31.9**	**+0.1**
PPLA	**Purkeypile**	**12.25**	**69**	*e*Pn	**Pn**	**12 57 36.3**	**-0.2**
CAST	**Castle Rocks**	**12.29**	**66**	*e*Pn	**Pn**	**12 57 37.2**	**+0.2**
KTH	**Kantishna Hill**	**12.81**	**66**	*e*Pn	**Pn**	**12 57 44.1**	**0.0**
TRF	**Thorofare Moun**	**13.10**	**66**	*e*Pn	**Pn**	**12 57 47.6**	**-0.6**
COLD	**Coldfoot**	**13.63**	**50**	*e*Pn	**Pn**	**12 57 55.2**	**+0.1**
MCK	**McKinley**	**13.70**	**65**	*e*P	**Pn**	**12 57 56.1**	**-0.1**
MCK	**McKinley**	**13.70**	**65**	*e*Pn	**Pn**	**12 57 56.0**	**-0.1**
PMR	**Palmer**	**13.79**	**74**	*e*P	**Pn**	**12 57 59.1**	**+1.7**
PMR	**Palmer**	**13.79**	**74**	*e*Pn	**Pn**	**12 57 59.1**	**+1.7**
SEW	**Seward**	**13.95**	**80**	Pn	**Pn**	**12 57 58.7**	**-0.9**
SEY	**Seymchan**	**14.20**	**292**	Pn	**Pn**	**12 58 02.6**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=98,slow=9.4,SNR=26						
SEY				LR	LR	13 04 24.5	
	comp=Z,1μm,18.8s,baz=106,slow=41						
COLA	**College**	**14.20**	**60**	*e*P	**Pn**	**12 58 02.8**	**-0.2**
COLA	**College**	**14.20**	**60**	*e*Pn	**Pn**	**12 58 02.8**	**-0.2**
ILAR	**Eielson Array**	**14.61**	**61**	Pn	**Pn**	**12 58 07.2**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=277,slow=14,SNR=20						
ILAR				LR	LR	13 03 36.2	
	comp=Z,165nm,19.1s,baz=272,slow=37						
PET	**Petropavlovsk**	**14.96**	**249**	*e*P	**Pn**	**12 58 14.7**	**+1.3**
PET				*e*S	**Sn**	**13 00 58.1**	**-0.5**
PET				pmax	pmax		
	comp=Z,56nm,1.1s						
PET				MLR	MLR		
	comp=Z,400nm,15.0s						
PET	**Petropavlovsk**	**14.96**	**249**	*e*Pn	**Pn**	**12 58 14.0**	**+0.7**
	comp=Z,45nm,0.9s						
PAX	**Paxson**	**15.31**	**68**	*e*P	**Pn**	**12 58 19.1**	**+1.1**
PAX	**Paxson**	**15.31**	**68**	*e*Pn	**Pn**	**12 58 19.1**	**+1.1**
PEA0B	**Petropavlovsk-**	**15.35**	**251**	Pn	**Pn**	**12 58 19.3**	**+0.8**
PETK	**Petropavlovsk-**	**15.35**	**251**	Pn	**Pn**	**12 58 18.6**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=75,slow=17,SNR=43						
PETK				LR	LR	13 04 25.7	
	comp=Z,212nm,18.2s,baz=54,slow=38						
PETK	**Petropavlovsk-**	**15.35**	**251**	P	**Pn**	**12 58 18.6**	**+0.1**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,212nm,18.3s						
DOT	**Dot Lake**	**15.87**	**65**	*e*Pn	**Pn**	**12 58 25.6**	**+0.3**
	comp=Z,7.5nm,0.8s						
BMRM	**Bremner River**	**16.06**	**75**	*e*Pn	**Pn**	**12 58 26.8**	**-1.0**
	comp=Z,3.9nm,0.6s						
EGAK	**Eagle**	**17.06**	**61**	Pn	**Pn**	**12 58 40.6**	**+0.2**
	comp=Z,9.9nm,1.0s						
INK	**Inuvik**	**20.04**	**49**	P	**P**	**12 59 14.0**	**-0.7**
	comp=Z,2.3nm,0.5s,baz=268,slow=11,SNR=17						
INK				LR	LR	13 07 04.5	
	comp=Z,222nm,20.6s,baz=249,slow=37						
INK	**Inuvik**	**20.04**	**49**	P	**P**	**12 59 14.0**	**-0.7**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
INK				MLR	MLR		
	comp=Z,223nm,20.6s						
TIXI	**Tiksi**	**23.21**	**320**	*c i*P	**P**	**12 59 49.0**	**+0.4**
TIXI				pmax	pmax		
	comp=Z,13nm,0.7s						
TIXI	**Tiksi**	**23.21**	**320**	*e*P	**P**	**12 59 49.3**	**+0.8**
	comp=Z,20nm,0.8s						
DLBC	**Dease Lake**	**23.86**	**74**	P	**P**	**12 59 56.6**	**+1.5**
	comp=Z,3.0nm,1.0s,baz=314,slow=8.9,SNR=4.3						
DLBC				LR	LR	13 10 27.1	
	comp=Z,602nm,18.5s,baz=306,slow=40						
YAK	**Yakutsk**	**24.63**	**296**	P	P	12 59 54.0	-8.1
	comp=Z,4.1nm,0.4s,baz=99,slow=4.6,SNR=1.9						
YAK				LR	LR	13 10 35.4	
	comp=Z,644nm,20.0s,baz=80,slow=39						
YAK	**Yakutsk**	**24.63**	**296**	*e*P	**P**	**13 00 00.6**	**-1.5**
YAK				*e**PP	**pP**	**13 00 10.7**	**+3.9**
YAK				*e*PPP	PPP	13 00 42.6	
YAK				*e*		13 03 36.7	
YAK				*e*S	**S**	**13 04 23.7**	**+1.2**
YAK				*e*SS	SnSn	13 05 19.8	+12

YAK eSSS SSS 13 05 38.4
YAK e 13 11 03.5
YAK pmax pmax
comp=Z,47nm,0.9s
YAK pmax pmax
comp=N,3.0nm,0.8s
YAK pmax pmax
comp=E,29nm,1.1s
YAK pmax pmax
comp=Z,46nm,1.5s
YAK pmax pmax
comp=N,23nm,1.4s
YAK pmax pmax
comp=E,40nm,1.5s
YAK smax smax
comp=N,38nm,1.7s
YAK smax smax
comp=E,57nm,1.8s
YAK MLR MLR
comp=Z,787nm,13.0s
YAK MLR MLR
comp=E,577nm,13.0s
YAK MLR MLR
comp=N,442nm,13.0s
YAK Yakutsk 24.63 296 eP **P 13 00 01.0 -1.1**
YSS Yuzh-Sakhalins 26.58 257 eP **P 13 00 19.5 -0.4**
YKA Yellowknife Ar 29.02 59 P **P 13 00 41.3 -0.3**
comp=N,0.3nm,0.5s,baz=292,slow=8.5,SNR=8.0
HABR Khabarovsk 29.27 267 eP **P 13 00 42.6 -1.3**
HABR eSP 13 00 47.1
HABR e*PP **PnPn 13 01 35.7 -1.2**
HABR e 13 03 48.7
HABR eS **S 13 05 36.5 +0.6**
HABR eSS **SnSn 13 07 04.5 +3.2**
HABR e 13 07 31.2
HABR e 13 11 24.8
HABR pmax pmax
comp=Z,16nm,1.5s
HABR MLR MLR
comp=Z,204nm,17.0s
RES Resolute Bay 31.14 31 LR LR 13 14 56.6
comp=Z,140nm,21.4s,baz=261,slow=39
BOD Bodaibo 33.56 296⇑ *i*P **P 13 01 19.7 -1.8**
BOD pmax pmax
comp=Z,10.0nm,0.9s
EDM Edmonton 34.56 73 eP **P 13 01 30.8 +0.5**
EDM Edmonton 34.56 73 eP **P 13 01 30.8 +0.5**
NEW Newport 36.01 82 eP **P 13 01 42.8 0.0**
NEW Newport 36.01 82 eP **P 13 01 42.8 0.0**
MAJO Matsushiro 36.79 249 eP **P 13 01 50.6 +1.0**
MAJO pmax pmax
comp=Z,26nm,0.9s
MAJO Matsushiro 36.79 249 eP **P 13 01 49.2 -0.4**
comp=Z,5.0nm,0.6s
MJAR Matsushiro Arr 36.79 249 P **P 13 01 48.7 -0.9**
comp=Z,1.2nm,0.7s,baz=27,slow=6.5,SNR=6.2
MJAR LR LR 13 17 11.5
comp=Z,110nm,19.0s,baz=40,slow=37
MJAR Matsushiro Arr 36.79 249 P **P 13 01 48.7 -0.9**
MJAR pmax pmax
comp=Z,1.0nm,0.7s
MJAR MLR MLR
comp=Z,110nm,19.0s
JTMT Jette 37.74 81 eP **P 13 01 58.8 +1.1**
comp=Z,2.0nm,0.8s
YBH Yreka Blue Hor 37.98 94 P **P 13 01 59.2 -0.5**
comp=Z,1.5nm,0.7s,baz=284,slow=4.5,SNR=4.7
YBH Yreka Blue Hor 37.98 94 P **P 13 01 59.2 -0.5**
YBH pmax pmax
comp=Z,2.0nm,0.7s
SWMT Swartz Lake 38.05 81 eP **P 13 02 00.5 +0.3**
comp=Z,4.9nm,1.4s
SLMT Seeley Lake 38.48 81 eP **P 13 02 04.8 +0.8**
comp=Z,3.5nm,0.7s
HRY Holter Researc 39.66 80 eP **P 13 02 14.4 +0.6**
comp=Z,4.0nm,0.7s
LRM Limekiln Ridge 39.99 81 eP **P 13 02 17.6 +0.8**
comp=Z,24nm,0.9s
MCMT McKenzie Canyo 40.52 83 eP **P 13 02 23.0 +1.9**
comp=Z,1.8nm,0.7s
KSRS Korea Array 40.93 261 P **P 13 02 23.0 -1.2**
comp=Z,2.0nm,0.9s,baz=43,slow=9.6,SNR=6.1
KSRS LR LR 13 20 28.5
comp=Z,112nm,18.5s,baz=46,slow=38
KSRS Korea Array 40.93 261 P **P 13 02 23.0 -1.2**
KSRS pmax pmax
comp=Z,2.0nm,0.9s
KSRS MLR MLR
comp=Z,112nm,18.5s
KSAR Wonju Array Be 40.96 261 P **P 13 02 23.0 -1.4**
KSAR Wonju Array Be 40.96 261 P **P 13 02 23.0 -1.4**
SPITS Spitsbergen Ar 41.05 356 P **P 13 02 23.0 -1.8**
comp=Z,6.9nm,1.1s,baz=157,slow=4.1,SNR=4.2
SPITS Spitsbergen Ar 41.05 356 P **P 13 02 23.0 -1.8**
SPITS pmax pmax
comp=Z,7.0nm,1.1s
IMW Indian Meadow 42.13 82 eP **P 13 02 35.2 +0.8**
comp=Z,10nm,1.2s
TPAW Teton Pass 42.43 83 eP **P 13 02 37.8 +1.0**
comp=Z,4.0nm,0.8s
LOHW Long Hollow 42.51 82 eP **P 13 02 38.4 +1.1**
comp=Z,5.8nm,0.9s
REDW Red Top Meadow 42.57 83 eP **P 13 02 38.7 +0.8**
comp=Z,7.1nm,1.1s
NVAR Mina Array Bea 42.68 94 P **P 13 02 37.8 -1.0**
comp=Z,1.5nm,0.9s,baz=306,slow=7.4,SNR=6.5
ZAK Zakamensk 43.16 293 eP **P 13 02 41.8 -0.6**
ZAK pmax pmax
comp=Z,3.0nm,0.9s
ULN Ulaanbaatar 43.23 288⇑ *i*P **P 13 02 42.4 -0.7**
ULN pmax pmax
comp=Z,5.0nm,1.7s
MOY Mondy 43.27 296 eP **P 13 02 43.4 +0.1**
HWUT Hardware Ranch 43.54 85 eP **P 13 02 46.5 +0.8**
comp=Z,10.0nm,1.3s
SONM Songino Array 43.56 289 P **P 13 02 44.7 -1.0**
comp=Z,1.2nm,0.8s,baz=58,slow=5.4,SNR=7.0
SONM LR LR 13 22 53.4
comp=Z,631nm,18.5s,baz=45,slow=39
SONM Songino Array 43.56 289 P **P 13 02 44.7 -1.0**
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM MLR MLR
comp=Z,631nm,18.5s
PDAR Pinedale Array 43.65 82 P **P 13 02 46.2 -0.4**
comp=Z,0.7nm,0.6s,baz=355,slow=3.8,SNR=5.9
PDAR LR LR 13 20 43.7
comp=Z,168nm,18.6s,baz=329,slow=36
ULM Lac du Bonnet 44.57 65 LR LR 13 21 57.6
comp=Z,297nm,18.5s,baz=26,slow=37
BJI Beijing 44.67 274 P **P 13 02 53.9 -0.6**
BJI PP **PcP 13 04 37.6 +0.8**
BJI S **S 13 09 29.7 -0.3**
BJI PMZ
comp=Z,12nm,0.5s
BJI PMZ
comp=Z,79nm,6.4s
BJI LN
comp=Z,150nm,15.3s
BJI LE
comp=Z,410nm,14.5s
MSU Marysvale 45.62 88 eP **P 13 03 03.4 +1.0**
MSU pmax pmax
comp=Z,17nm,1.6s
MSU Marysvale 45.62 88 eP **P 13 03 03.4 +1.0**
comp=Z,16nm,1.6s
SRU San Rafael Swe 45.97 86 eP **P 13 03 05.7 +0.6**
SRU pmax pmax
comp=Z,7.0nm,0.8s
SRU San Rafael Swe 45.97 86 eP **P 13 03 05.7 +0.6**
comp=Z,6.8nm,0.8s
HHC Hu-ho-hao-te 46.30 278 eP **P 13 03 07.3 -0.3**
HHC sP **sP 13 03 14.2 0.0**
HHC PP **PP 13 04 54.0 -2.0**
HHC S **S 13 09 54.2 +0.4**
HHC sS **sS 13 09 59.4 -2.3**
HHC PMZ
comp=Z,14nm,0.9s
HHC PMZ
comp=Z,89nm,6.5s
HHC LN
comp=Z,200nm,16.6s
HHC LE
comp=Z,140nm,16.5s
HHC LZ
comp=Z,170nm,16.8s

PV01 Paradox Valley 47.68 85 eP **P 13 03 18.2 -0.3**
NVS Novosibirsk 48.23 310 eP **P 13 03 19.4 -2.9**
ZAA0 Zalesovo Array 48.31 308 eP **P 13 03 23.3 +0.4**
ZALV Zalesovo Beam 48.31 308 P **P 13 03 22.1 -0.8**
comp=Z,2.3nm,0.5s,baz=34,slow=6.8,SNR=14
ZALV LR LR 13 25 24.1
comp=Z,259nm,18.1s,baz=70,slow=38
ZALV Zalesovo Beam 48.31 308 *i*P **P 13 03 23.7 +0.8**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ARCES ARCESS Array B 48.95 349 P **P 13 03 26.3 -1.3**
comp=Z,1.7nm,0.6s,baz=18,slow=9.3,SNR=7.0
ARCES LR LR 13 26 43.8
comp=Z,182nm,18.1s,baz=12,slow=39
ARCES ARCESS Array B 48.95 349 P **P 13 03 26.3 -1.3**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES MLR MLR
comp=Z,182nm,18.1s
SCHQ Schefferville 52.49 43 P **P 13 03 54.0 -0.5**
comp=Z,3.7nm,1.0s,baz=301,slow=13,SNR=2.9
SCHQ LR LR 13 30 16.7
comp=Z,168nm,18.8s,baz=326,slow=41
XAN Xi'an 52.95 275 P P 13 04 05.4 +7.2
XAN pP pP 13 04 10.1 +7.0
XAN pmax pmax
comp=Z,1.0nm,0.9s
XAN LR LR
comp=N,220nm,20.5s
XAN LR LR
comp=E,140nm,18.5s
GTA Gaotai 53.06 286 eP P 13 04 05.7 +6.6
GTA pP pP 13 04 10.2 +6.3
GTA sP sP 13 04 12.7 +6.9
GTA S S 13 11 39.3 +11
GTA sS sS 13 11 47.4 +11
GTA Gaotai 53.06 286 SS **SKiKP 13 15 19.7 +3.4**
GTA pmax pmax
comp=Z,3.0nm,1.1s
GTA pmax pmax
comp=Z,60nm,4.7s
GTA LR LR
comp=N,280nm,17.6s
GTA LR LR
comp=E,400nm,15.2s
GTA LR LR
comp=Z,530nm,18.1s
KURK Kurchatov 53.21 310 P **P 13 04 00.2 +0.4**
KURK pmax pmax
comp=Z,4.0nm,0.5s
KURK Kurchatov 53.21 310 P **P 13 04 00.2 +0.4**
KURBB Kurchatov Arra 53.32 309 P **P 13 04 00.2 -0.5**
comp=Z,4.3nm,0.5s,baz=42,slow=8.2,SNR=44
LZH Lanzhou 53.78 280 eP **P 13 04 05.2 +0.8**
LZH pP **pP 13 04 09.0 -0.3**
LZH sP **sP 13 04 11.8 +0.6**
LZH PMZ
comp=Z,13nm,1.0s
SVE Sverdlovsk 54.12 325 eP **P 13 04 08.0 +1.6**
BVAR Borovoye Array 54.28 316 P **P 13 04 08.3 +0.6**
comp=Z,3.2nm,0.5s,baz=43,slow=6.5,SNR=21
BVAR Borovoye Array 54.28 316 P **P 13 04 08.3 +0.6**
BVAR pmax pmax
comp=Z,3.0nm,0.5s
BRVK Borovoye 54.29 316⇑ *i*P **P 13 04 08.3 +0.6**
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BRVK Borovoye 54.29 316 eP **P 13 04 08.2 +0.5**
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 54.92 304 P **P 13 04 11.7 -0.8**
comp=Z,2.0nm,0.6s,baz=56,slow=9.0,SNR=54
MKAR LR LR 13 30 16.0
comp=Z,345nm,18.2s,baz=28,slow=39
MKAR Makanchi Array 54.92 304 P **P 13 04 11.7 -0.8**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR MLR MLR
comp=Z,345nm,18.2s
ARU Arti 55.04 326*c i*P **P 13 04 13.1 0.0**
ARU 13 05 13.4
ARU 13 06 12.7
ARU S **S 13 11 57.1 +2.7**
ARU pmax pmax
comp=Z,11nm,1.7s
ARU Arti 55.04 326 eP **P 13 04 13.3 +0.2**
comp=Z,8.9nm,1.1s
WMQ Urumqi 55.05 298 eP **P 13 04 14.2 +0.8**
WMQ pP **pP 13 04 18.8 +0.5**
WMQ sP **sP 13 04 21.0 +0.8**
WMQ PP PP 13 06 23.0 +6.8
WMQ PMZ
comp=Z,10.0nm,0.6s
WMQ PMZ
comp=Z,76nm,4.0s
WMQ LN
comp=Z,450nm,15.4s
WMQ LE
comp=Z,280nm,13.5s
WMQ LZ
comp=Z,370nm,16.5s
KLMR Klimovskoe 55.37 339 eP **P 13 04 12.5 -2.9**
KLMR pmax pmax
comp=Z,12nm,1.5s
KLMR MLR MLR
comp=Z,356nm,20.0s
ABTX Abilene, Hawle 56.45 82 eP **P 13 04 23.9 +0.4**
comp=Z,6.3nm,0.8s
FINES FINESS Array B 56.77 347 P **P 13 04 23.6 -1.8**
comp=Z,2.9nm,0.7s,baz=20,slow=7.3,SNR=13
FINES LR LR 13 32 26.4
comp=Z,232nm,18.3s,baz=14,slow=40
FINES FINESS Array B 56.77 347 P **P 13 04 23.6 -1.8**
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES MLR MLR
comp=Z,232nm,18.3s
TXAR Lajitas Array 57.18 88 P **P 13 04 28.6 -0.3**
comp=Z,0.6nm,0.7s,baz=321,slow=3.1,SNR=7.1
TXAR LR LR 13 28 47.7
comp=Z,188nm,18.9s,baz=0.0,slow=36
TXAR Lajitas Array 57.18 88 P **P 13 04 28.6 -0.3**
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR MLR MLR
comp=Z,188nm,18.9s
CD2 Chengdu 58.02 277 eP **P 13 04 34.1 -0.6**
CD2 pP **pP 13 04 39.8 +0.2**
CD2 sP **sP 13 04 41.2 -0.3**
CD2 PP **PP 13 06 45.7 +2.7**
CD2 S **S 13 12 29.4 -5.2**
CD2 PMZ
comp=Z,20nm,0.7s
CD2 PMZ
comp=Z,80nm,4.2s
CD2 LN
comp=Z,390nm,16.8s
CD2 LE
comp=Z,280nm,18.0s
CD2 LZ
comp=Z,110nm,10.8s
JCT Junction City 58.13 84 eP **P 13 04 35.7 +0.2**
JCT pmax pmax
comp=Z,9.0nm,1.0s
JCT Junction City 58.13 84 eP **P 13 04 35.7 +0.2**
comp=Z,8.9nm,1.0s
NB2 NORSAR Subarra 58.34 355 P **P 13 04 36.5 0.0**
comp=Z,1.5nm,0.7s,baz=3.6,slow=6.9
NOA NORSAR Array B 58.34 355 P **P 13 04 36.5 0.0**
comp=Z,1.7nm,0.7s,baz=5.7,slow=6.3,SNR=5.0
NOA LR LR 13 28 35.0
comp=Z,96nm,21.4s,baz=5.0,slow=35
AKTO Aktyubinsk 60.46 323 P **P 13 04 51.7 +0.4**
comp=Z,4.4nm,0.6s,baz=46,slow=8.1,SNR=20
AKTO LR LR 13 34 10.1
comp=Z,168nm,18.8s,baz=23,slow=39
AKTO Aktyubinsk 60.46 323 P **P 13 04 51.7 +0.4**
AKTO pmax pmax
comp=Z,4.0nm,0.6s
AKTO MLR MLR
comp=Z,168nm,18.8s
OBN Obninsk 61.32 338 eP **P 13 04 56.2 -0.8**
OBN *e* 13 05 36.5
OBN *e* 13 07 10.0
OBN pmax pmax
comp=Z,7.0nm,0.8s
OBN MLR MLR
comp=Z,194nm,19.0s
AAK Ala-Archa 61.48 307 P **P 13 04 59.0 +0.4**
comp=Z,3.2nm,0.5s,baz=94,slow=3.5,SNR=12
AAK LR LR 13 33 48.0
comp=Z,400nm,18.1s,baz=16,slow=38
AAK Ala-Archa 61.48 307*d i*P **P 13 04 59.9 +1.3**
AAK pmax pmax
comp=Z,13nm,1.2s
KKAR Karatay Array 62.62 310 eP **P 13 05 07.1 +1.1**
KKAR pmax pmax
comp=Z,4.0nm,0.8s
KKAR Karatay Array 62.62 310 eP **P 13 05 07.0 +1.1**
comp=Z,3.6nm,0.8s
KSH Kashi 63.53 304 P P 13 05 16.2 +3.9
KSH pP pP 13 05 20.8 +3.6
KSH PP PP 13 07 37.8 +6.3
KSH S **S 13 13 48.0 +3.1**
KSH PMZ
comp=Z,74nm,4.5s
KSH LN
comp=Z,110nm,8.6s
KSH LE
comp=Z,460nm,14.7s
KSH LZ
comp=Z,500nm,17.0s
QIZ Qiongzhong 64.98 264 P **P 13 05 21.5 -0.3**
QIZ S **S 13 14 04.9 +1.9**
QIZ PMZ
comp=Z,19nm,1.4s
QIZ LZ
comp=Z,180nm,16.7s
AKASG Malin Array Be 66.80 342 P **P 13 05 32.4 -0.7**
comp=Z,4.4nm,0.6s,baz=17,slow=6.4,SNR=8.2
AKASG LR LR 13 38 36.1
comp=Z,174nm,19.9s,baz=350,slow=40
AKASG Malin Array Be 66.80 342 P **P 13 05 32.4 -0.7**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG MLR MLR
comp=Z,174nm,19.9s
KIEV Kiev 66.81 342 eP **P 13 05 33.8 +0.7**
CLL Collm 67.96 353 eP **P 13 05 40.0 -0.4**
CLL Lm MLR 13 39 00.0
comp=Z,100nm,19.5s
CLL Lm MLR 15 46 00.0
comp=Z,200nm,19.8s
CLL LmV 17 44 00.0
comp=Z,200nm,20.9s
CLL Collm 67.96 353 eP **P 13 05 40.0 -0.4**
TAPN Taplejung 68.68 288 eP **P 13 05 43.7 -2.0**
comp=Z,5.7nm,0.5s
GUN Gumba 69.05 290 eP **P 13 05 47.7 -0.3**
comp=Z,25nm,0.6s
STHS Stebnicka Huta 69.12 347 eP **P 13 05 50.5 +2.8**
STHS pmax pmax
comp=Z,3.0nm,1.0s
STHS Stebnicka Huta 69.12 347 eP **P 13 05 50.5 +2.8**
JIRN Jiri 69.12 289 eP **P 13 05 48.5 0.0**
comp=Z,30nm,0.6s
ODAN Odare 69.24 288 eP **P 13 05 47.6 -1.5**
comp=Z,6.0nm,0.4s
KKN Kakani 69.43 290 eP **P 13 05 49.9 -0.3**
comp=Z,14nm,0.5s
KOLS Kolonicke sedl 69.48 346 eP **P 13 05 50.0 0.0**
KOLS pmax pmax
comp=Z,4.0nm,0.8s
KOLS Kolonicke sedl 69.48 346 eP **P 13 05 50.0 0.0**
RAMN Ramite 69.53 289 eP **P 13 05 50.3 -0.6**
comp=Z,20nm,0.6s
BAIF Baives 69.54 359 eP **P 13 05 50.6 +0.4**
comp=Z,5.0nm,0.8s
BAIF Baives 69.54 359 eP **P 13 05 50.6 +0.4**
BAIF pmax pmax
comp=Z,5.0nm,0.8s
BAIF Baives 69.54 359 eP **P 13 05 50.6 +0.4**
comp=Z,5.0nm,0.8s
GKN Gorkha 69.55 291 eP **P 13 05 50.7 -0.2**
comp=Z,18nm,0.5s
PKI Pulchoki 69.56 290 eP **P 13 05 50.4 -0.8**
comp=Z,12nm,0.5s
PKIN Phulchoki 69.56 290 eP **P 13 05 50.5 -0.6**
comp=Z,11nm,0.6s
CRVS Cervenica-Dubn 69.60 347 eP **P 13 05 51.5 +0.8**
CRVS pmax pmax
comp=Z,16nm,1.9s
CRVS Cervenica-Dubn 69.60 347 eP **P 13 05 51.5 +0.8**
DMN Daman 69.67 290 eP **P 13 05 51.5 -0.2**
comp=Z,12nm,0.7s
KECS Kecovo 70.13 347 eP **P 13 05 54.1 +0.2**
KECS pmax pmax
comp=Z,2.0nm,0.9s
KECS Kecovo 70.13 347 eP **P 13 05 54.1 +0.2**
PYUN Piuthan 70.22 292 eP **P 13 05 54.9 -0.2**
KOLN Koldanda 70.22 291 eP **P 13 05 55.0 -0.1**
comp=Z,12nm,0.6s
VYHS Vyhne 70.29 348 eP **P 13 05 54.7 -0.2**
VYHS pmax pmax
comp=Z,2.0nm,1.1s
VYHS Vyhne 70.29 348 eP **P 13 05 54.6 -0.3**
GERES GERESS Array B 70.37 352 P **P 13 05 55.1 -0.5**
comp=Z,1.3nm,0.6s,baz=32,slow=5.2,SNR=16
GERES GERESS Array B 70.37 352 P **P 13 05 55.1 -0.5**
GERES pmax pmax
comp=Z,1.0nm,0.6s
KIV Kislovodsk 70.57 330 eP **P 13 05 57.1 +0.2**
KIV *e* 13 06 13.8
KIV pmax pmax
comp=Z,3.0nm,0.5s
KIV MLR MLR
comp=Z,146nm,25.0s
KBZ Khabaz 70.74 330 LR LR 13 39 36.6
comp=Z,143nm,21.4s,baz=186,slow=38
JAY Jayapura 70.77 225 LR LR 13 30 41.6
comp=Z,46nm,21.1s,baz=236,slow=30
CMAR Chiang Mai Arr 70.82 274 P **P 13 05 57.9 -0.7**
comp=Z,0.9nm,0.7s,baz=18,slow=5.6,SNR=7.0
CMAR LR LR 13 39 02.0
comp=Z,60nm,19.4s,baz=36,slow=38
CMAR Chiang Mai Arr 70.82 274*ce*P **P 13 06 00.3 +1.7**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
LDF La Druitiere 71.00 2 eP **P 13 05 59.7 +0.5**
LDF La Druitiere 71.00 2 eP **P 13 05 59.7 +0.5**
LDF La Druitiere 71.00 2 eP **P 13 05 59.7 +0.5**
CDF Champ du Feu 71.12 356 eP **P 13 06 00.2 +0.1**
comp=Z,6.1nm,0.9s
CDF Champ du Feu 71.12 356 eP **P 13 06 00.2 +0.1**
CDF pmax pmax
comp=Z,6.0nm,0.9s
CDF Champ du Feu 71.12 356 eP **P 13 06 00.2 +0.1**
comp=Z,6.1nm,0.9s
ROSF Rostrenen 71.18 4 eP **P 13 06 00.5 +0.2**
comp=Z,41nm,1.2s
ROSF Rostrenen 71.18 4 eP **P 13 06 00.5 +0.2**
ROSF pmax pmax
comp=Z,41nm,1.2s
ROSF Rostrenen 71.18 4 eP **P 13 06 00.5 +0.2**
comp=Z,41nm,1.2s
SGMF Saint Gilles 71.28 3 eP **P 13 06 01.2 +0.2**
SGMF Saint Gilles 71.28 3 eP **P 13 06 01.2 +0.2**
SGMF Saint Gilles 71.28 3 eP **P 13 06 01.2 +0.2**
ZEI Tsey 71.37 329 eP **P 13 06 01.6 -0.2**
ZEI pmax pmax
comp=Z,7.0nm,0.9s
SFTF Sexfontaines 71.38 358 eP **P 13 06 02.4 +0.8**
SFTF Sexfontaines 71.38 358 eP **P 13 06 02.4 +0.8**
QUIF Quistinic 71.60 4 eP **P 13 06 03.1 +0.2**
comp=Z,31nm,1.1s
QUIF Quistinic 71.60 4 eP **P 13 06 03.1 +0.2**
QUIF pmax pmax
comp=Z,31nm,1.1s
QUIF Quistinic 71.60 4 eP **P 13 06 03.1 +0.2**
comp=Z,31nm,1.1s
GEYT Alibeck 71.62 316 P **P 13 06 03.5 +0.3**
comp=Z,8.6nm,0.6s,baz=347,slow=6.1,SNR=15
HINF Hinteralfeld 71.73 357 eP **P 13 06 04.2 +0.5**
HINF Hinteralfeld 71.73 357 eP **P 13 06 04.2 +0.5**
HINF Hinteralfeld 71.73 357 eP **P 13 06 04.2 +0.5**
LOR Lormes 72.33 359 eP **P 13 06 07.4 +0.1**
comp=Z,9.0nm,0.7s
LOR *e*R
comp=Z,111nm,19.2s
LOR Lormes 72.33 359 eP **P 13 06 07.4 +0.1**
LOR pmax pmax
comp=Z,9.0nm,0.7s
LOR Lormes 72.33 359 eP **P 13 06 07.4 +0.1**

	comp=Z,9.0nm,0.7s							
SSF	**Saint Saulge**	**72.54**	**359**	*e*P		**P**	**13 06 08.7**	**+0.1**
	comp=Z,4.0nm,0.7s							
SSF	**Saint Saulge**	**72.54**	**359**	*e*P		**P**	**13 06 08.7**	**+0.1**
SSF				pmax	pmax			
	comp=Z,4.0nm,0.6s							
SSF	**Saint Saulge**	**72.54**	**359**	*e*P		**P**	**13 06 08.7**	**+0.1**
	comp=Z,4.0nm,0.6s							
AVF	**Avril sur Loir**	**72.81**	**359**	*e*P		**P**	**13 06 10.3**	**+0.1**
	comp=Z,5.1nm,0.8s							
AVF	**Avril sur Loir**	**72.81**	**359**	*e*P		**P**	**13 06 10.3**	**+0.1**
AVF				pmax	pmax			
	comp=Z,5.0nm,0.8s							
AVF	**Avril sur Loir**	**72.81**	**359**	*e*P		**P**	**13 06 10.3**	**+0.1**
	comp=Z,5.1nm,0.8s							
CABF	**La Chapelle**	**72.95**	**357**	*e*P		**P**	**13 06 11.4**	**+0.3**
	comp=Z,16nm,1.2s							
CABF	**La Chapelle**	**72.95**	**357**	*e*P		**P**	**13 06 11.4**	**+0.3**
CABF				pmax	pmax			
	comp=Z,16nm,1.2s							
CABF	**La Chapelle**	**72.95**	**357**	*e*P		**P**	**13 06 11.4**	**+0.3**
	comp=Z,16nm,1.2s							
SMF	**Signal de Mont**	**72.96**	**359**	*e*P		**P**	**13 06 11.0**	**0.0**
	comp=Z,8.8nm,0.9s							
SMF	**Signal de Mont**	**72.96**	**359**	*e*P		**P**	**13 06 11.0**	**0.0**
SMF				pmax	pmax			
	comp=Z,9.0nm,0.9s							
SMF	**Signal de Mont**	**72.96**	**359**	*e*P		**P**	**13 06 11.0**	**0.0**
	comp=Z,8.8nm,0.9s							
MFF	**Saint Martin d**	**72.99**	**2**	*e*P		**P**	**13 06 11.4**	**+0.2**
	comp=Z,7.4nm,0.9s							
MFF	**Saint Martin d**	**72.99**	**2**	*e*P		**P**	**13 06 11.4**	**+0.2**
MFF				pmax	pmax			
	comp=Z,7.0nm,0.9s							
MFF	**Saint Martin d**	**72.99**	**2**	*e*P		**P**	**13 06 11.4**	**+0.2**
	comp=Z,7.4nm,0.9s							
TCF	**Toulx Ste Croi**	**73.32**	**0**	*e*P		**P**	**13 06 13.1**	**-0.1**
TCF	**Toulx Ste Croi**	**73.32**	**0**	*e*P		**P**	**13 06 13.1**	**-0.1**
TCF	**Toulx Ste Croi**	**73.32**	**0**	*e*P		**P**	**13 06 13.1**	**-0.1**
GNI	**Garni**	**73.62**	**327**	*e*P		**P**	**13 06 16.8**	**+1.5**
GNI				pmax	pmax			
	comp=Z,3.0nm,1.0s							
LPL	**La Plagne**	**74.03**	**357**	*e*P		**P**	**13 06 18.3**	**+0.7**
	comp=Z,7.1nm,1.0s							
LPL	**La Plagne**	**74.03**	**357**	*e*P		**P**	**13 06 18.3**	**+0.7**
LPL				pmax	pmax			
	comp=Z,7.0nm,1.0s							
LPL	**La Plagne**	**74.03**	**357**	*e*P		**P**	**13 06 18.3**	**+0.7**
	comp=Z,7.1nm,1.0s							
LPG	**La Plagne**	**74.05**	**357**	*e*P		**P**	**13 06 18.5**	**+0.7**
	comp=Z,4.6nm,0.9s							
LPG	**La Plagne**	**74.05**	**357**	*e*P		**P**	**13 06 18.5**	**+0.7**
LPG				pmax	pmax			
	comp=Z,5.0nm,0.9s							
LPG	**La Plagne**	**74.05**	**357**	*e*P		**P**	**13 06 18.5**	**+0.7**
	comp=Z,4.6nm,0.9s							
RJF	**Les Rejaudoux**	**74.30**	**1**	*e*P		**P**	**13 06 19.0**	**0.0**
RJF				*e*R				
	comp=Z,126nm,18.5s							
RJF	**Les Rejaudoux**	**74.30**	**1**	*e*P		**P**	**13 06 19.0**	**0.0**
RJF	**Les Rejaudoux**	**74.30**	**1**	*e*P		**P**	**13 06 19.0**	**0.0**
ORIF	**Oris-en-Rattie**	**74.65**	**357**	*e*P		**P**	**13 06 20.8**	**-0.3**
	comp=Z,6.7nm,0.8s							
ORIF				*e*R				
	comp=Z,150nm,21.8s							
ORIF	**Oris-en-Rattie**	**74.65**	**357**	*e*P		**P**	**13 06 20.8**	**-0.3**
ORIF				pmax	pmax			
	comp=Z,7.0nm,0.8s							
ORIF	**Oris-en-Rattie**	**74.65**	**357**	*e*P		**P**	**13 06 20.8**	**-0.3**
	comp=Z,6.7nm,0.8s							
LFF	**La Frestale**	**74.66**	**1**	*e*P		**P**	**13 06 20.6**	**-0.4**
	comp=Z,6.1nm,0.8s							
LFF	**La Frestale**	**74.66**	**1**	*e*P		**P**	**13 06 20.6**	**-0.4**
LFF				pmax	pmax			
	comp=Z,6.0nm,0.8s							
LFF	**La Frestale**	**74.66**	**1**	*e*P		**P**	**13 06 20.6**	**-0.4**
	comp=Z,6.1nm,0.8s							
CAF	**Calviac**	**74.68**	**0**	*e*P		**P**	**13 06 21.5**	**+0.3**
CAF	**Calviac**	**74.68**	**0**	*e*P		**P**	**13 06 21.5**	**+0.3**
CAF	**Calviac**	**74.68**	**0**	*e*P		**P**	**13 06 21.5**	**+0.3**
VIVF	**Saint-Julien-l**	**74.73**	**358**	*e*P		**P**	**13 06 21.9**	**+0.4**
	comp=Z,5.0nm,0.8s							
VIVF	**Saint-Julien-l**	**74.73**	**358**	*e*P		**P**	**13 06 21.9**	**+0.4**
VIVF				pmax	pmax			
	comp=Z,5.0nm,0.8s							
VIVF	**Saint-Julien-l**	**74.73**	**358**	*e*P		**P**	**13 06 21.9**	**+0.4**
	comp=Z,5.0nm,0.8s							
MBDF	**Montbardon**	**74.82**	**357**	*e*P		**P**	**13 06 23.1**	**+1.0**
	comp=Z,7.1nm,0.7s							
MBDF	**Montbardon**	**74.82**	**357**	*e*P		**P**	**13 06 23.1**	**+1.0**
MBDF				pmax	pmax			
	comp=Z,7.0nm,0.7s							
MBDF	**Montbardon**	**74.82**	**357**	*e*P		**P**	**13 06 23.1**	**+1.0**
	comp=Z,7.1nm,0.7s							
FRF	**La Foret Royal**	**75.99**	**357**	*e*P		**P**	**13 06 29.7**	**+1.0**
FRF	**La Foret Royal**	**75.99**	**357**	*e*P		**P**	**13 06 29.7**	**+1.0**
FRF	**La Foret Royal**	**75.99**	**357**	*e*P		**P**	**13 06 29.7**	**+1.0**
MTLF	**Montolieu**	**76.27**	**0**	*e*P		**P**	**13 06 30.8**	**+0.5**
	comp=Z,6.1nm,0.9s							
MTLF	**Montolieu**	**76.27**	**0**	*e*P		**P**	**13 06 30.8**	**+0.5**
MTLF				pmax	pmax			
	comp=Z,6.0nm,0.9s							
MTLF	**Montolieu**	**76.27**	**0**	*e*P		**P**	**13 06 30.8**	**+0.5**
	comp=Z,6.1nm,0.9s							
SJPF	**Ste Jean**	**76.46**	**3**	*e*P		**P**	**13 06 31.9**	**+0.5**
SJPF	**Ste Jean**	**76.46**	**3**	*e*P		**P**	**13 06 31.9**	**+0.5**
SJPF	**Ste Jean**	**76.46**	**3**	*e*P		**P**	**13 06 31.9**	**+0.5**
BRTR	**Keskin Array B**	**76.63**	**336**	P		**P**	**13 06 33.2**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=7.4,slow=2.9,SNR=6.6							
BRTR				LR		LR	13 45 43.1	
	comp=Z,91nm,19.3s,baz=13,slow=40							
ETSF	**Etsaut**	**76.69**	**2**	*e*P		**P**	**13 06 32.3**	**-0.4**
ETSF	**Etsaut**	**76.69**	**2**	*e*P		**P**	**13 06 32.3**	**-0.4**
ETSF	**Etsaut**	**76.69**	**2**	*e*P		**P**	**13 06 32.3**	**-0.4**
ESDC	**Sonseca Array**	**79.80**	**5**	P		**P**	**13 06 50.4**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=356,slow=6.0,SNR=20							
PPT	**Papeete**	**81.28**	**153**	LR		LR	13 38 01.0	
	comp=Z,65nm,20.0s,baz=330,slow=32							
PSI	**Prapat**	**84.29**	**266**	LR		LR	13 45 42.7	
	comp=Z,44nm,22.0s,baz=11,slow=36							
WRA	**Warramunga Arr**	**89.17**	**224**	P		**P**	**13 07 38.7**	**+1.3**
	comp=Z,0.8nm,0.9s,baz=18,slow=6.3,SNR=4.0							
WRA	**Warramunga Arr**	**89.17**	**224**	P		**P**	**13 07 38.7**	**+1.3**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
ASAR	**Alice Springs**	**92.77**	**223**	P		**P**	**13 07 54.1**	**0.0**
	comp=Z,0.3nm,0.6s,baz=20,slow=5.7,SNR=3.9							
STKA	**Stephens Creek**	**98.09**	**214**	LR		LR	13 48 25.3	
	comp=Z,54nm,20.2s,baz=27,slow=33							
QSPA	**South Pole Qui**	**150.53**	**180**	*e*PKPbc		**PKPbc**	**13 14 30.8**	**-1.3**

*ISCJB **01** 13:04:51.8±0.9, 4°.76S±0°.06×133°.9E±0°.1, h28km, mb3.6/2, Error ellipse: s-maj=16.0km s-min=7.5km az=162.5*
*IDC **01** 13:04:52.1±4.7, 4°.88S×132°.83E, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.4/29, mbtmp3.5/4, ML3.6/2, Error ellipse: s-maj=311.8km s-min=28.4km az=76.0*
*DJA **01** 13:04:58.1±2.4, 4°.S±9°×13°.4E±°, h24km±29km, M4.5/9, mb4.7/5, mB5.1/3, MLv4.3/9, Mw(mB)4.4/3*
ISC 01 13:04:53.0±1.1, **4°.86S**±0°.08×**133°.9E**±0°.1, **h28**km, **n12, σ2s15/13, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.55**	**319**	P	**Pn**	**13 05 30.6**	**-1.9**
RKPI	**Ransiki, Papua**	**3.33**	**4**	P	**Pn**	**13 05 43.8**	**+0.5**
BNDI	**Bandanaira**	**4.03**	**275**	P	**Pn**	**13 05 54.0**	**+1.2**
SWI	**Sorong**	**4.78**	**326**	P	Pn	13 06 00.2	-3.0
AAI	**Ambon**	**5.84**	**281**	P	**Pn**	**13 06 18.9**	**+1.2**
	75nm,0.8s,1μm0.3nm						
NLAI	**Namlea**	**7.00**	**283**	P	**Pn**	**13 06 34.6**	**+0.9**
	41nm,0.6s,1μm0.2nm						
LBMI	**Labuha**	**7.67**	**303**	P	**Pn**	**13 06 43.3**	**+0.4**
	32nm,0.9s,0.1nm						
SANI	**Sanana**	**8.40**	**289**	P	**Pn**	**13 06 50.7**	**-2.3**
WRA	**Warramunga Arr**	**15.00**	**179**	Pn	**Pn**	**13 08 24.6**	**+1.4**
	0.2nm,0.3s,baz=354,slow=13,SNR=20						
WRA				Sn	**Sn**	**13 11 04.6**	**-4.0**
	0.2nm,0.3s,baz=357,slow=24,SNR=3.6						
ASAR	**Alice Springs**	**18.70**	**180**	P	**Pn**	**13 09 13.0**	**+3.2**
	0.4nm,0.3s,baz=356,slow=13,SNR=23						
ASAR				S	**Sn**	**13 12 36.1**	**-2.2**
	0.1nm,0.3s,baz=356,slow=26,SNR=4.1						
MKAR	**Makanchi Array**	**68.67**	**325**	P	**P**	**13 15 54.3**	**+0.4**
	0.4nm,0.5s,baz=130,slow=6.4,SNR=7.4						
KURBB	**Kurchatov Arra**	**72.81**	**327**	P	**P**	**13 16 18.3**	**-0.7**
	0.5nm,0.7s,baz=128,slow=5.0,SNR=6.8						

*ISCJB **01** 13:07:45.3±0.6, 30°.75S±0°.03×71°.55W±0°.07, h77km±5km, mb4.4/11, Error ellipse: s-maj=10.6km s-min=4.4km az=0.0*
*SJA **01** 13:07:45.1±1.9, 30°.70S×71°.53W, h68km±26km, ML4.2, MW4.4*
*NEIC **01** 13:07:45.7±1.2, 30°.74S×71°.39W, h62km±10km, mb4.4/2, Error ellipse: s-maj=17.5km s-min=8.9km az=88.0*
NEIC Felt [III] at Combarbala, Monte Patria, Ovalle, Punitaqui and Rio Hurtado; [II] at Canela Baja, Illapel, La Serena, Los Vilos and Salamanca.
*GUC **01** 13:07:45.7±0.5, 30°.78S×71°.43W, h63km±8km, ML4.7*
*IDC **01** 13:07:46.1±2.7, 30°.71S×71°.42W, h64km±21km, mb4.3/5, mb1 4.1/9, mb1mx3.8/25, mbtmp4.2/9, MS3.7/1, Ms1 3.7/1, ms1mx3.0/15, Error ellipse: s-maj=21.3km s-min=16.7km az=90.0*
ISC 01 13:07:45.2±1.0, **30°.76S**±0°.04×**71°.60W**±0°.07, **h62**km±9km, **n50, σ1s32/57, mb4.5/11, 2C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSCH	**La Serena**	**0.90**	**20**	⇓*i* P	**Pn**	**13 08 02.8**	**+0.8**
LSCH				*i* S	**Sn**	**13 08 15.2**	**+0.7**
LCO	**Las Campanas**	**1.90**	**24**	⇑*i* P	**Pn**	**13 08 16.3**	**+0.6**
LCO				*i* S	**Sn**	**13 08 39.8**	**+1.0**
LCO	**Las Campanas**	**1.90**	**24**	*e*Pn	**Pn**	**13 08 16.2**	**+0.5**
LCO				*e*Sn	**Sn**	**13 08 37.4**	**-1.4**
LCO	**Las Campanas**	**1.90**	**24**	*e*P	**Pn**	**13 08 16.0**	**+0.3**
LCO				*e*S	**Sn**	**13 08 38.9**	**+0.2**
LCO				AML	AML	13 08 40.8	
	comp=Z,1μm,0.4s						
RTLS	**Leoncito**	**2.23**	**118**	*e*P	**Pn**	**13 08 21.7**	**+1.6**
IHA	**Instituto Hidr**	**2.26**	**181**	⇑*i* P	**Pn**	**13 08 20.9**	**+0.6**
ROCH	**El Roble**	**2.27**	**167**	⇓*i* P	**Pn**	**13 08 21.2**	**+0.7**
ROCH				*i* S	**Sn**	**13 08 48.4**	**+0.9**
ROCH				AML	AML	13 09 08.9	
	comp=N,5μm,0.6s						
VACH	**Vallenar**	**2.29**	**19**	*e*P	**Pn**	**13 08 21.7**	**+0.9**
VACH				*e*S	**Sn**	**13 08 48.6**	**+0.7**
AUSP	**Uspallata**	**2.39**	**128**	*e*P	**Pn**	**13 08 24.0**	**+1.7**
PEL	**Peldehue**	**2.50**	**162**	*e*P	**Pn**	**13 08 23.9**	**+0.2**
PEL				*e*S	**Sn**	**13 08 53.1**	**0.0**
AMOG	**MOGNA**	**2.67**	**95**	*e*P	**Pn**	**13 08 28.2**	**+2.2**
SJA	**San Juan**	**2.72**	**107**	*e*P	**Pn**	**13 08 27.5**	**+1.0**
RTLL	**Cerro Villicun**	**2.74**	**103**	*e*P	**Pn**	**13 08 27.3**	**+0.4**
CLCH	**Cerro Calan**	**2.78**	**161**	*e*P	**Pn**	**13 08 27.6**	**+0.1**
CLCH				*e*S	**Sn**	**13 08 59.7**	**-0.3**
LACH	**Col Las Americ**	**2.84**	**162**	AML	AML	13 09 15.4	
	comp=E,3μm,0.8s						
RTCV	**Cerro Valdivia**	**2.84**	**114**	*e*P	**Pn**	**13 08 29.8**	**+1.6**
AGUA	**GUANDACOL**	**2.97**	**66**	*e*P	**Pn**	**13 08 33.0**	**+3.0**
ASAL	**Salagasta**	**2.98**	**129**	*e*P	**Pn**	**13 08 32.5**	**+2.3**
CFAA	**Coronel Fontan**	**3.00**	**107**	P	**Pn**	**13 08 31.3**	**+0.9**
	comp=E,28nm,0.3s,baz=293,slow=11,SNR=1637						
CFAA				S	**Sn**	**13 09 03.7**	**-1.5**
	comp=E,18nm,0.3s,baz=43,slow=23,SNR=12						
CFAA	**Coronel Fontan**	**3.00**	**107**	*e*P	**Pn**	**13 08 31.6**	**+1.2**
ARCO	**CERRO ARCO**	**3.08**	**133**	*e*P	**Pn**	**13 08 34.6**	**+3.0**
YECH	**El Yeso**	**3.17**	**157**	AML	AML	13 09 38.6	
	comp=N,2μm,0.5s						
AAGR	**Agrelo**	**3.31**	**135**	*e*P	**Pn**	**13 08 37.5**	**+2.8**
ACAN	**Cantantal**	**4.06**	**113**	*e*P	**Pn**	**13 08 45.3**	**+0.5**
CYA	**Choya**	**5.55**	**67**	*e*P	**Pn**	**13 09 04.6**	**-0.7**
CYA				AML	AML	13 10 35.1	
	comp=Z,150nm,0.6s						
FSA	**Cafayete**	**6.76**	**48**	*e*P	**Pn**	**13 09 22.9**	**+0.8**
LVC	**Limon Verde**	**8.46**	**17**	P	**Pn**	**13 09 43.7**	**-1.6**
	comp=Z,12nm,0.3s,baz=170,slow=11,SNR=6.9						
LVC				LR	LR	13 13 03.9	
	comp=Z,524nm,22.0s,baz=216,slow=38						
LVC	**Limon Verde**	**8.46**	**17**	*e*Pn	**Pn**	**13 09 43.0**	**-2.4**
	comp=Z,19nm,0.6s						
LVC				*e*Sn	**Sn**	**13 11 17.7**	**-1.8**
PLCA	**Paso Flores**	**9.99**	**175**	P	**Pn**	**13 10 06.5**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=346,slow=8.4,SNR=3.7						
TRQA	**Tornquist**	**10.77**	**135**	*e*Pn	Pn	13 10 14.1	-2.6
	comp=Z,27nm,0.6s						
TRQA				*e*Sn	**Sn**	**13 12 12.3**	**-3.4**
CPUP	**Villa Florida**	**13.29**	**74**	P	Pn	13 10 48.0	-3.0
	comp=Z,0.0nm,0.3s,baz=247,slow=17,SNR=2.8						
CPUP	**Villa Florida**	**13.29**	**74**	P	Pn	13 10 48.0	-3.0
	comp=Z,4.5nm,0.7s						
USHA	**Ushuaia**	**24.17**	**176**	P	**P**	**13 12 56.0**	**+0.6**
	comp=Z,8.2nm,0.7s,baz=324,slow=11,SNR=5.2						
BDFB	**Brasilia**	**26.30**	**60**	P	**P**	**13 13 13.7**	**-1.6**
	comp=Z,12nm,0.7s,baz=229,slow=8.6,SNR=20						
SNAA	**Sanae**	**54.45**	**159**	P	**P**	**13 17 05.7**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=292,slow=8.2,SNR=12						
QSPA	**South Pole Qui**	**59.47**	**180**	*e*P	**P**	**13 17 41.4**	**-0.2**
	comp=Z,1.4nm,0.6s						
TXAR	**Lajitas Array**	**67.11**	**330**	P	**P**	**13 18 34.3**	**+2.0**
	comp=Z,0.2nm,0.7s,baz=158,slow=10,SNR=3.4						
LIC	**Lamto**	**73.41**	**72**	*e*P	**P**	**13 19 10.9**	**-0.2**
	comp=Z,29nm,1.0s						
TIC	**Toumodi**	**73.65**	**72**	*e*P	**P**	**13 19 12.6**	**0.0**
	comp=Z,15nm,0.2s						
KIC	**Kosan Boka**	**73.72**	**72**	*e*P	**P**	**13 19 13.1**	**+0.1**
	comp=Z,24nm,0.8s						
DBIC	**Dimbokro**	**73.80**	**72**	P	**P**	**13 19 13.3**	**-0.1**
	comp=Z,10nm,0.7s,baz=216,slow=6.5,SNR=20						
SMCO	**Snowmass**	**76.97**	**332**	P	**P**	**13 19 32.4**	**+0.9**
	comp=Z,6.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**82.76**	**70**	P	**P**	**13 20 02.3**	**-0.5**
	comp=Z,3.6nm,0.7s,baz=279,slow=6.2,SNR=49						
WRA	**Warramunga Arr**	**123.76**	**210**	PKP	**PKPdf**	**13 26 36.7**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=154,slow=1.9,SNR=3.6						
KURBB	**Kurchatov Arra**	**150.20**	**40**	PKPbc	**PKPbc**	**13 27 28.9**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=296,slow=3.1,SNR=17						
KURK	**Kurchatov**	**150.20**	**39**	PKPbc	**PKPbc**	**13 27 28.9**	**+0.2**
PSI	**Prapat**	**150.79**	**160**	PKPab	**PKPab**	**13 27 39.5**	**+1.0**
	comp=Z,4.3nm,0.6s,baz=258,slow=5.3,SNR=6.3						
ZALV	**Zalesovo Beam**	**151.26**	**29**	PKPbc	**PKPbc**	**13 27 32.0**	**+0.9**
	comp=Z,5.5nm,0.8s,baz=297,slow=3.3,SNR=25						
MKAR	**Makanchi Array**	**154.26**	**44**	PKPbc	**PKPbc**	**13 27 38.1**	**0.0**
	comp=Z,0.4nm,0.9s,baz=289,slow=7.6,SNR=3.7						
MKAR				PKPab	**PKPab**	**13 27 51.7**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=279,slow=8.1,SNR=8.7						
CMAR	**Chiang Mai Arr**	**165.05**	**143**	PKPab	**PKPab**	**13 28 38.9**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=226,slow=6.1,SNR=5.5						

DDA 01 13:07:49.4, 37°.32N×27°.96E, h5km, MD2.2, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AYDN	**Tasoluk**	**0.34**	**349**	*i* P	Pg	13 07 56.4	+0.2
AYDN				*i* S	Sg	13 08 01.8	+1.0
BDRM	**Kayabasi**	**0.49**	**238**	*i* P	Pg	13 07 58.2	-0.7
BDRM				*i* S	Sg	13 08 06.3	+1.1

*ISCJB **01** 13:07:59.5±0.7, 30°.7S±0°.1×71°.81W±0°.10, h35km, mb3.9/8, Error ellipse: s-maj=16.9km s-min=9.9km az=30.9*
*IDC **01** 13:08:06.6±2.9, 30°.88S×71°.53W, h89km±24km, mb3.7/8, mb1 3.9/10, mb1mx3.7/24, mbtmp4.0/10, Error ellipse: s-maj=23.6km s-min=20.4km az=98.0*
ISC 01 13:08:01.3±0.8, **30°.7S**±0°.1×**71°.8W**±0°.1, **h35**km, **n14, σ1s26/12, mb4.1/7, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**3.20**	**108**	P	**Pn**	**13 08 49.4**	**+0.2**
	53nm,0.3s,baz=290,slow=13,SNR=14						
CFAA				S	**Sn**	**13 09 26.5**	**+0.3**
	40nm,0.3s,baz=39,slow=18,SNR=3.6						
PLCA	**Paso Flores**	**10.10**	**175**	P	**Pn**	**13 10 25.0**	**+1.1**
	1.2nm,0.3s,baz=343,slow=13,SNR=13						
USHA	**Ushuaia**	**24.28**	**175**	P	**P**	**13 13 14.0**	**-1.1**
	6.2nm,0.7s,baz=337,slow=15,SNR=3.1						
SNAA	**Sanae**	**54.60**	**159**	P	P	13 17 22.7	-3.3
	1.2nm,0.6s,baz=279,slow=9.2,SNR=17						
TXAR	**Lajitas Array**	**66.94**	**330**	P	**P**	**13 18 51.5**	**+1.1**
	0.3nm,0.6s,baz=155,slow=6.5,SNR=3.8						
DBIC	**Dimbokro**	**73.95**	**72**	P	P	13 19 30.5	-2.9
	2.4nm,0.6s,baz=307,slow=1.6,SNR=4.9						
PDAR	**Pinedale Array**	**80.89**	**333**	P	**P**	**13 20 13.2**	**+1.3**
	0.9nm,1.0s,baz=104,slow=6.3,SNR=3.7						
NVAR	**Mina Array Bea**	**81.27**	**325**	P	**P**	**13 20 14.6**	**+0.6**
	0.7nm,0.8s,baz=152,slow=4.7,SNR=4.7						
TORD	**Torodi Ar. Bea**	**82.90**	**70**	P	P	13 20 20.1	-2.7
	1.2nm,0.6s,baz=280,slow=5.6,SNR=6.7						
YKA	**Yellowknife Ar**	**98.97**	**341**	P	**Pdif**	**13 21 36.4**	**-1.1**
	0.1nm,0.6s,baz=142,slow=4.7,SNR=3.1						
WRA	**Warramunga Arr**	**123.75**	**210**	PKP	**PKPdf**	**13 26 54.1**	**-1.9**
	0.4nm,0.6s,baz=163,slow=1.6,SNR=6.8						
KURBB	**Kurchatov Arra**	**150.24**	**39**	PKPbc	**PKPbc**	**13 27 47.2**	**-1.1**
	1.1nm,0.6s,baz=303,slow=3.1,SNR=17						
AAK	**Ala-Archa**	**150.63**	**57**	PKPbc	**PKPbc**	**13 27 48.5**	**-1.2**
	0.7nm,0.5s,baz=284,slow=4.3,SNR=4.4						
ZALV	**Zalesovo Beam**	**151.27**	**29**	PKPbc	**PKPbc**	**13 27 49.7**	**-0.9**
	3.2nm,0.5s,baz=305,slow=2.9,SNR=10						

IDC 01 13:20:38.6±11.0, **16°.94S×178°.81W, h638**km±159km, **mb2.6/6, mb1 2.8/6, mb1mx2.7/29, mbtmp3.6/6, Error ellipse: s-maj=86.8km s-min=25.9km az=7.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**21.54**	**189**	P	P	13 24 45.1	+0.9
	5.5nm,0.9s,baz=151,slow=19,SNR=5.2						
STKA	**Stephens Creek**	**38.77**	**240**	P	P	13 27 09.1	-1.9
	0.7nm,0.6s,baz=90,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**44.44**	**259**	P	P	13 27 55.6	0.0
	0.3nm,0.8s,baz=91,slow=7.7,SNR=3.0						
ASAR	**Alice Springs**	**44.69**	**253**	P	P	13 27 58.0	+0.4
	0.6nm,0.6s,baz=89,slow=8.9,SNR=16						
ILAR	**Eielson Array**	**85.04**	**13**	P	P	13 32 09.1	+0.9
	0.2nm,0.4s,baz=220,slow=5.1,SNR=5.1						
TXAR	**Lajitas Array**	**85.81**	**58**	P	P	13 32 11.7	-1.2
	0.2nm,0.6s,baz=203,slow=6.3,SNR=3.0						
GERES	**GERESS Array B**	**146.59**	**345**	PKPbc	PKPbc	13 39 10.4	0.0
	0.1nm,0.4s,baz=349,slow=2.1,SNR=4.9						

*IDC **01** 13:28:13.2±2.1, 30°.62N×57°.62E, h0km, mb3.4/8, mb1 3.5/9, mb1mx3.3/42, mbtmp3.4/9, ML3.2/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/37, Error ellipse: s-maj=49.5km s-min=20.3km az=161.0*
*ISCJB **01** 13:28:15.9±0.5, 30°.87N±0°.05×57°.55E±0°.04, h10km, mb3.3/8, MS3.1/1, Error ellipse: s-maj=7.7km s-min=5.4km az=172.1*
*THR **01** 13:28:16.0±0.3, 30°.85N×57°.60E, h14km±5km, ML3.7*
*CSEM **01** 13:28:16.4±0.2, 30°.84N×57°.56E, h2km, ML3.8, Error ellipse: s-maj=5.1km s-min=3.9km az=158.0*
*TEH **01** 13:28:18.5, 30°.95N×57°.54E, h8km, ML3.8*
ISC 01 13:28:16.9±0.8, **30°.86N**±0°.06×**57°.58E**±0°.04, **h10**km, **n38, σ0s86/37, mb3.4/8, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRBR	**Kerman**	**1.13**	**219**	*e*Pg	Pb	13 28 37.2	-1.4
KRBR				AML	AML	13 28 53.1	
	comp=N,2μm,0.3s						
KRBR				AML	AML	13 28 54.3	
	comp=E,1μm,0.7s						
KRBR	**Kerman**	**1.13**	**219**	*e*Pg	Pb	13 28 37.2	-1.4
	comp=E,1μm,0.7s						
IBAF	**Bafgh**	**1.87**	**293**	*e*Pn	**Pn**	**13 28 49.9**	**+0.7**
IBAF				*e*		13 28 50.8	
	comp=Z,18μm,0.1s						
IBAF				*e*Sg	**Sb**	**13 29 14.8**	**0.0**
IBAF	**Bafgh**	**1.87**	**293**	*e*Pn	**Pn**	**13 28 49.9**	**+0.7**
IBAF				*e*Sg	**Sb**	**13 29 14.8**	**0.0**
IKOO	**Kooshah**	**1.98**	**38**	*e*Pn	**Pn**	**13 28 51.4**	**+0.8**
IKOO	**Kooshah**	**1.98**	**38**	*e*Pn	**Pn**	**13 28 51.4**	**+0.8**
IMEH	**Mehriz**	**2.60**	**282**	*e*Pn	**Pn**	**13 28 59.4**	**+0.2**
IMEH				*e*		13 29 37.6	

IBAF	**Bafgh**	**1.69**	**288**	*e*Pn	Pn	13 31 18.3	+0.2
IBAF				*e*Sn	Sn	13 31 39.9	-0.4
IKOO	**Kooshah**	**1.89**	**44**	*e*Pn	Pn	13 31 20.1	-1.0
IKOO				*e*		13 31 51.6	
	comp=Z,8µm,0.1s						
IKOO	**Kooshah**	**1.89**	**44**	*e*Pn	Pn	13 31 20.1	-0.9
ITEG	**Tejag**	**2.12**	**31**	*e*Pn	Pn	13 31 23.9	-0.3
ITEG				*e*		13 32 02.7	
	comp=Z,4µm,0.2s						
ITEG	**Tejag**	**2.12**	**31**	*e*Pn	Pn	13 31 23.9	-0.3
IMEH	**Mehriz**	**2.45**	**278**	*e*Pn	Pn	13 31 27.9	-0.8
IMEH				*e*Sg	Sb	13 32 03.9	+0.6
IMEH				*e*		13 32 05.8	
	comp=Z,5µm,0.3s						
IMEH	**Mehriz**	**2.45**	**278**	*e*Pn	Pn	13 31 27.9	-0.8
IMEH				*e*Sg	Sb	13 32 03.9	+0.6
IDAH	**Dahanechah**	**2.64**	**51**	*e*Pn	Pn	13 31 31.4	0.0
IDAH				*e*		13 31 42.5	
	comp=Z,778nm,0.1s						
IDAH	**Dahanechah**	**2.64**	**51**	*e*Pn	Pn	13 31 31.4	0.0
ICHK	**Chekchek**	**2.84**	**295**	*e*Pn	Pn	13 31 34.1	0.0
ICHK				*e*		13 32 28.5	
	comp=Z,1µm,0.2s						
ICHK	**Chekchek**	**2.84**	**295**	*e*Pn	Pn	13 31 34.1	0.0

*ISCJB **01** 13:35:43.4±0.3, 6°.95S±0°.03×129°.76E±0°.03, h150km, mb3.9/6, Error ellipse: s-maj=5.1km s-min=3.4km az=157.5*
*NEIC **01** 13:35:44.6±1.7, 7°.00S×129°.60E, h143km±19km, mb4.9/3, Error ellipse: s-maj=14.7km s-min=11.9km az=203.0*
*IDC **01** 13:35:45.1±2.6, 6°.97S×129°.50E, h144km±26km, mb3.7/7, mb1 3.8/9, mb1mx3.5/30, mbtmp4.2/9, MS3.9/1, Ms1 3.9/1, ms1mx2.6/29, Error ellipse: s-maj=22.8km s-min=14.4km az=31.0*
*DJA **01** 13:35:45.6±0.3, 7°.5±4°×13°.0E±°, h109km±12km, M4.7/14, mb5.0/14, mB5.2/7, MLv4.8/13, Mw(mB)4.6/7*

ISC 01 13:35:44.1±0.5, **7°.03S**±0°.04×**129°.79E**±0°.05, **h150**km, **n57, σ2§02/66, mb3.8/6, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.49**	**3**	P	**Pn**	**13 36 25.9**	**+0.8**
BNDI				S	**Sn**	**13 36 55.3**	**-1.5**
AAI	**Ambon**	**3.68**	**334**	P	**Pn**	**13 36 39.7**	**-0.5**
MSAI	**Masohi**	**3.75**	**347**	P	**Pn**	**13 36 42.0**	**+0.8**
NLAI	**Namlea**	**4.62**	**324**	P	**Pn**	**13 36 54.4**	**+1.9**
FAKI	**Fak Fak**	**4.76**	**31**	P	**Pn**	**13 36 52.6**	**-1.8**
SOEI	**Soe**	**6.10**	**243**	P	**Pn**	**13 37 12.9**	**+0.6**
	277nm,0.7s,4µm1.4nm						
KDU	**Kakadu**	**6.22**	**155**	P	**Pn**	**13 37 15.8**	**+2.1**
KDU	baz=6.7,SNR=1000			S	**Sn**	**13 38 24.4**	**+0.4**
	baz=6.7,SNR=7.7						
SANI	**Sanana**	**6.23**	**322**	P	**Pn**	**13 37 14.1**	**+0.2**
	70nm,1.2s,817nm0.2nm						
SWI	**Sorong**	**6.29**	**14**	P	**Pn**	**13 37 12.5**	**-2.3**
SWI				S	Sn	13 38 18.1	-7.7
LBMI	**Labuha**	**6.74**	**340**	P	**Pn**	**13 37 20.7**	**-0.1**
	123nm,0.6s,2µm0.4nm						
BATI	**Baumata**	**6.83**	**242**	P	**Pn**	**13 37 22.6**	**+0.6**
	165nm,0.4s,4µm0.8nm						
BATI	**Baumata**	**6.83**	**242**	P	**Pn**	**13 37 20.6**	**-1.4**
	106nm,0.3s,baz=122,slow=3.5,SNR=119						
BATI				S	**Sn**	**13 38 32.8**	**-5.9**
	61nm,0.3s,baz=201,slow=6.9,SNR=7.2						
RKPI	**Ransiki, Papua**	**7.01**	**39**	P	**Pn**	**13 37 24.2**	**-0.2**
	196nm,0.3s,11µm2.0nm						
MMRI	**Maumere**	**7.65**	**257**	P	**Pn**	**13 37 34.0**	**+1.1**
	92nm,0.9s,0.3nm						
MMRI				S	**Sn**	**13 38 59.6**	**+1.2**
	92nm,0.9s,0.3nm						
EDFI	**Ende, Flores**	**8.20**	**257**	P	**Pn**	**13 37 41.3**	**+0.9**
	48nm,0.7s						
KNRA	**Kununurra**	**8.66**	**187**	P	**Pn**	**13 37 46.8**	**+0.5**
	baz=9.3,SNR=213						
KNRA				S	**Sn**	**13 39 18.3**	**-4.3**
	baz=9.3,SNR=17						
BASI	**Baing, Sumba**	**9.64**	**250**	P	**Pn**	**13 37 58.9**	**-0.6**
	160nm,1.3s						
WSI	**Waingapu**	**9.75**	**254**	P	**Pn**	**13 37 59.4**	**-1.5**
WSI	**Waingapu**	**9.75**	**254**	P	**Pn**	**13 37 59.9**	**-1.0**
	baz=10,SNR=3.5						
SMPI	**Sarmi**	**10.20**	**61**	P	**Pn**	**13 38 08.6**	**+1.7**
	27nm,1.6s						
MRSI	**Marisa**	**10.81**	**313**	P	**Pn**	**13 38 16.5**	**+1.6**
	57nm,0.8s,607nm						
JAY	**Jayapura**	**11.76**	**68**	P	**P**	**13 38 32.2**	**-2.3**
	1.4nm,0.3s,baz=225,slow=13,SNR=7.1						
WRAB	**Tennant Creek**	**13.57**	**161**	*e*Pn	**Pn**	**13 38 50.3**	**-0.4**
	24nm,0.6s						
WRAB				*e*Sn	**Sn**	**13 41 20.3**	**-0.8**
WRA	**Warramunga Arr**	**13.58**	**161**	P	**Pn**	**13 38 50.0**	**-0.8**
	6.2nm,0.3s,baz=334,slow=14,SNR=136						
WRA				S	**Sn**	**13 41 16.6**	**-4.6**
	11nm,0.3s,baz=333,slow=22,SNR=7.5						
COEN	**Coen**	**14.85**	**119**	P	**P**	**13 39 09.7**	**+0.9**
	baz=15,SNR=26						
COEN				S	**Sn**	**13 41 48.4**	**-3.5**
	baz=15,SNR=6.7						
COEN	**Coen**	**14.85**	**119**	*e*Pn	**P**	**13 39 10.3**	**+1.5**
	53nm,0.8s						
COEN				*e*Sn	**S**	**13 41 57.4**	**-1.3**
QIS	**Mount Isa**	**16.48**	**146**	P	**Pn**	**13 39 29.3**	**+2.6**
	baz=17,SNR=40						
QIS				S	**S**	**13 42 26.4**	**-3.5**
	baz=17,SNR=4.0						
AS31	**Alice Springs**	**17.01**	**167**	*e*P	**Pn**	**13 39 35.3**	**+2.0**
AS31				*e*S	**Sn**	**13 42 45.0**	**+1.4**
ASAR	**Alice Springs**	**17.01**	**167**	P	**Pn**	**13 39 35.7**	**+2.4**
	2.6nm,0.3s,baz=339,slow=8.6,SNR=275						
ASAR				S	**S**	**13 42 38.0**	**-4.4**
	2.1nm,0.3s,baz=320,slow=16,SNR=6.3						
MBWA	**Marble Bar**	**17.09**	**214**	*e*P	**Pn**	**13 39 34.5**	**+0.3**
	15nm,0.6s						
PMG	**Port Moresby**	**17.35**	**99**	*e*P	**Pn**	**13 39 37.2**	**-0.2**
WRKA	**Warakurna**	**17.97**	**184**	P	**Pn**	**13 39 46.9**	**+2.3**
	baz=19,SNR=56						
CTA	**Charters Tower**	**20.58**	**131**	P	Pn	13 40 15.7	+0.2
	6.6nm,0.7s,baz=311,slow=13,SNR=7.5						
MEEK	**Meekatharra**	**22.22**	**207**	P	**P**	**13 40 31.1**	**+2.5**
	baz=23,SNR=4.9						
MEEK				S	S	13 44 41.1	+19
	baz=23,SNR=4.3						
FORT	**Forrest**	**23.69**	**184**	P	P	13 40 47.0	+4.8
	baz=24,SNR=7.4						
QLP	**Quilpie**	**23.82**	**146**	P	**P**	**13 40 47.2**	**+3.8**
	baz=24,SNR=10						
MORW	**Morawa**	**25.48**	**209**	P	**P**	**13 41 00.7**	**+2.3**
	baz=26,SNR=8.4						
STKA	**Stephens Creek**	**27.07**	**158**	P	**P**	**13 41 15.7**	**+2.9**
	2.2nm,0.5s,baz=344,slow=8.3,SNR=8.7						
STKA	**Stephens Creek**	**27.07**	**158**	P	**P**	**13 41 16.3**	**+3.5**
	baz=28,SNR=6.2						
STKA	**Stephens Creek**	**27.07**	**158**	*e*P	**P**	**13 41 16.2**	**+3.5**
PSI	**Prapat**	**32.31**	**287**	P	**P**	**13 41 59.6**	**+0.2**
	7.0nm,0.6s,baz=95,slow=7.0,SNR=9.6						
CMAR	**Chiang Mai Arr**	**39.59**	**310**	P	**P**	**13 43 00.9**	**-0.2**
	0.8nm,0.5s,baz=137,slow=7.4,SNR=7.3						
RPZ	**Rata Peaks**	**51.34**	**142**	LR	LR	14 06 20.9	
	comp=Z,109nm,18.2s,baz=345,slow=36						
TAPN	**Taplejung**	**53.15**	**312**	*e*P	**P**	**13 44 46.1**	**-1.0**
	4.1nm,0.4s						
RAMN	**Ramite**	**53.76**	**311**	*e*P	**P**	**13 44 51.0**	**-0.5**
	9.2nm,0.4s						
JIRN	**Jiri**	**54.44**	**311**	*e*P	**P**	**13 44 55.9**	**-0.8**
	4.2nm,0.3s						
GUN	**Gumba**	**54.81**	**311**	*e*P	**P**	**13 44 58.5**	**-0.8**
	12nm,0.7s						
PKI	**Pulchoki**	**54.98**	**311**	*e*P	**P**	**13 45 00.2**	**-0.3**
	2.5nm,0.3s						
PKIN	**Phulchoki**	**54.99**	**311**	*e*P	**P**	**13 44 59.2**	**-1.3**
	3.4nm,0.5s						
GKN	**Gorkha**	**55.79**	**311**	*e*P	**P**	**13 45 05.2**	**-0.9**
	7.3nm,0.3s						
KOLN	**Koldanda**	**56.45**	**310**	*e*P	**P**	**13 45 10.0**	**-0.8**
	4.6nm,0.5s						
MK31	**Makanchi Array**	**68.13**	**327**	*e*P	**P**	**13 46 28.3**	**+0.3**
MKAR	**Makanchi Array**	**68.13**	**327**	P	**P**	**13 46 28.2**	**+0.3**
	0.6nm,0.3s,baz=113,slow=8.1,SNR=26						
ZALV	**Zalesovo Beam**	**71.51**	**334**	P	**P**	**13 46 47.6**	**-0.8**
	0.6nm,0.5s,baz=155,slow=7.4,SNR=3.7						
KURBB	**Kurchatov Arra**	**72.42**	**329**	P	**P**	**13 46 54.0**	**+0.2**
	0.9nm,0.5s,baz=130,slow=4.9,SNR=12						
KURK	**Kurchatov**	**72.43**	**329**	P	**P**	**13 46 54.0**	**+0.1**
TORD	**Torodi Ar. Bea**	**128.61**	**281**	PKP	**PKPdf**	**13 54 35.4**	**+1.0**
	0.4nm,0.6s,baz=84,slow=3.0,SNR=3.1						

*IDC **01** 13:47:55.7±1.5, 11°.60S×166°.21E, h0km, mb4.0/9, mb1 4.2/9, mb1mx3.9/34, mbtmp4.0/9, MS3.3/2, Ms1 3.3/2, ms1mx2.7/27, Error ellipse: s-maj=56.9km s-min=22.0km az=132.0*
*ISCJB **01** 13:47:59.9±1.5, 11°.7S±0°.3×166°.1E±0°.3, h37km, mb3.9/8, MS3.2/2, Error ellipse: s-maj=55.1km s-min=17.6km az=42.2*

ISC 01 13:48:01.4±1.5, **11°.6S**±0°.3×**166°.2E**±0°.3, **h37**km, **n10, σ0§84/11, mb4.0/8, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**20.93**	**244**	P	**P**	**13 52 42.3**	**+1.3**
	7.6nm,0.8s,baz=72,slow=12,SNR=6.7						
STKA	**Stephens Creek**	**30.33**	**225**	P	**P**	**13 54 09.8**	**+0.2**
	3.7nm,0.8s,baz=50,slow=7.8,SNR=5.7						
STKA				LR	LR	14 06 06.8	
	comp=Z,116nm,18.4s,baz=30,slow=36						
WRA	**Warramunga Arr**	**31.70**	**251**	P	**P**	**13 54 20.8**	**-1.0**
	1.7nm,0.8s,baz=86,slow=8.4,SNR=9.7						
WRA				PcP	**PcP**	**13 57 13.1**	**-0.1**
	0.7nm,1.0s,baz=80,slow=3.6,SNR=4.5						
GUMO	**Guam**	**32.78**	**319**	LR	LR	14 06 45.4	
	comp=Z,24nm,20.8s,baz=104,slow=34						
ASAR	**Alice Springs**	**32.93**	**244**	P	**P**	**13 54 31.6**	**-1.1**
	3.5nm,0.7s,baz=72,slow=9.3,SNR=43						
ASAR				PcP	**PcP**	**13 57 16.1**	**-0.5**
	1.0nm,0.9s,baz=83,slow=2.3,SNR=6.6						
CMAR	**Chiang Mai Arr**	**72.74**	**294**	P	**P**	**13 59 27.2**	**+0.9**
	1.5nm,0.8s,baz=121,slow=4.2,SNR=8.7						
SONM	**Songino Array**	**79.39**	**324**	P	**P**	**14 00 03.4**	**-0.3**
	0.2nm,0.4s,baz=145,slow=5.3,SNR=3.0						
ILAR	**Eielson Array**	**83.92**	**18**	P	**P**	**14 00 26.8**	**-0.4**
	0.3nm,0.8s,baz=240,slow=5.0,SNR=5.4						
MKAR	**Makanchi Array**	**94.24**	**317**	P	**P**	**14 01 16.5**	**-0.2**
	0.7nm,0.8s,baz=111,slow=2.1,SNR=11						
YKA	**Yellowknife Ar**	**95.28**	**27**	P	**P**	**14 01 21.8**	**+0.7**
	0.2nm,0.6s,baz=256,slow=4.8,SNR=3.0						

GUC 01 13:52:47.9±0.6, **30°.82S**×**72°.02W**, **h24**km±6km, **ML4.5, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSCH	**La Serena**	**1.13**	**37**	*e*P	Pb	13 53 08.6	-0.1
LSCH				*e*S	Sb	13 53 23.7	+0.7
VACH	**Vallenar**	**2.49**	**27**	*e*P	Pb	13 53 29.9	-2.1
VACH				*e*S	Sb	13 54 01.2	-1.0
PEL	**Peldehue**	**2.58**	**154**	*e*P	Pn	13 53 30.9	+2.5
PEL				*e*S	Sb	13 54 03.7	-1.4
PEL				AML	AML	13 54 11.5	
	comp=E,3µm,0.9s						
CLCH	**Cerro Calan**	**2.87**	**154**	*e*P	Pn	13 53 35.1	+2.9
CLCH				*e*S	Sb	13 54 11.1	-2.2
CLCH				AML	AML	13 54 22.6	
	comp=E,1µm,0.5s						
CHCH	**Chadas Angostu**	**3.32**	**160**	*e*P	Pn	13 53 40.7	+2.2
CPCH	**Copiapo**	**3.74**	**23**	*e*P	Pn	13 53 46.5	+2.2

IDC 01 13:55:46.8±50.0, **18°.98S**×**176°.79W**, **h0**km, **mb4.0/3, mb1 4.1/3, mb1mx3.6/33, mbtmp4.0/3, Error ellipse: s-maj=923.3km s-min=161.1km az=81.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.48**	**243**	P	P	14 03 19.2	+0.1
	1.3nm,0.7s,baz=83,slow=11,SNR=4.0						
WRA	**Warramunga Arr**	**45.96**	**260**	P	P	14 04 11.5	-0.4
	0.4nm,0.3s,baz=97,slow=7.5,SNR=20						
ASAR	**Alice Springs**	**45.99**	**255**	P	P	14 04 12.2	0.0
	2.7nm,0.6s,baz=92,slow=8.2,SNR=53						

*IDC **01** 14:19:41.1±0.7, 10°.26N×126°.10E, h0km, mb3.8/14, mb1 4.0/14, mb1mx3.8/41, mbtmp3.8/14, MS2.9/1, Ms1 2.9/1, ms1mx2.4/38, Error ellipse: s-maj=28.4km s-min=15.3km az=74.0*
*ISCJB **01** 14:19:45.9±0.5, 10°.39N±0°.03×126°.34E±0°.05, h44km, mb3.8/14, MS2.8/1, Error ellipse: s-maj=6.7km s-min=4.9km az=2.1*
*MAN **01** 14:19:46, 10°.40N×126°.26E, h50km, mb4.9, ML3.9, MS3.9*

ISC 01 14:19:47.6±0.6, **10°.36N**±0°.04×**126°.30E**±0°.08, **h44**km, **n34, σ1§00/37, mb3.8/14, 3C-1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**1.44**	**261**	*e*P	**Pn**	**14 20 10.2**	**-0.9**
MSLP				*e*S	**Sn**	**14 20 29.3**	**+0.5**
PLP	**Palo**	**1.53**	**302**	*e*P	**Pn**	**14 20 12.1**	**-0.3**
PLP				*e*S	**Sn**	**14 20 29.2**	**-1.8**
BUTP	**Butuan**	**1.54**	**206**	*e*P	**Pn**	**14 20 11.7**	**-0.8**
BUTP				*e*S	**Sn**	**14 20 32.0**	**+0.7**
OCLP	**Ormoc**	**1.80**	**293**	*e*P	**Pn**	**14 20 17.0**	**+0.8**
CGP	**Cagayan de Oro**	**2.47**	**220**	*e*P	**Pn**	**14 20 26.0**	**+0.6**
CGP				*e*S	**Sn**	**14 20 53.7**	**-0.6**
CNP	**Catarman**	**2.67**	**323**	*e*P	**Pn**	**14 20 27.6**	**-0.6**
BUKP	**Musuan**	**2.75**	**207**	*e*P	**Pn**	**14 20 30.7**	**+1.4**
DCPH	**Dipolog City**	**3.40**	**239**	*e*P	**Pn**	**14 20 38.4**	**+0.3**
GUIM	**Jordan**	**3.66**	**274**	*e*P	**Pn**	**14 20 42.4**	**+0.6**
RCP	**Roxas**	**3.69**	**289**	*e*P	**Pn**	**14 20 43.5**	**+1.4**
PVCP	**Virac**	**3.84**	**327**	*e*P	**Pn**	**14 20 43.7**	**-0.6**
PVCP				*e*S	**Sn**	**14 21 28.2**	**+0.1**
OTRP	**Odiongan**	**4.64**	**296**	*e*P	**Pn**	**14 20 55.3**	**+0.1**
CUYO	**Cuyo Island**	**5.22**	**276**	*e*P	**Pn**	**14 21 03.9**	**+0.7**
SJMP	**San Jose**	**5.49**	**293**	*e*P	**Pn**	**14 21 09.1**	**+2.2**
BALP	**Baler**	**7.06**	**320**	*e*P	**Pn**	**14 21 28.0**	**-0.4**
CAUP	**Cauayan**	**7.86**	**327**	*e*P	**Pn**	**14 21 39.6**	**+0.2**
CMAR	**Chiang Mai Arr**	**27.66**	**299**	P	**P**	**14 25 29.6**	**-2.0**
	1.0nm,0.7s,baz=102,slow=7.6,SNR=7.9						
MJAR	**Matsushiro Arr**	**28.21**	**21**	P	**P**	**14 25 37.3**	**+1.1**
	0.8nm,0.8s,baz=189,slow=9.5,SNR=3.9						
MJAR				LR	LR	14 34 57.7	
	comp=Z,24nm,21.6s,baz=245,slow=32						
WRA	**Warramunga Arr**	**31.13**	**165**	P	**P**	**14 26 00.6**	**-1.7**
	0.5nm,0.7s,baz=346,slow=9.0,SNR=4.7						
ASAR	**Alice Springs**	**34.62**	**168**	P	**P**	**14 26 32.1**	**-0.6**
	0.3nm,0.4s,baz=350,slow=6.9,SNR=16						
ASAR				PcP	**PcP**	**14 29 06.8**	**+0.2**
	0.3nm,0.5s,baz=346,slow=2.9,SNR=5.5						
H11N1	**WAKE ISLAND Hy**	**40.20**	**72**	T	T	15 10 40.2	
	baz=265,slow=74,SNR=14						
H11N2	**WAKE ISLAND Hy**	**40.21**	**72**	T	T	15 10 40.3	
	baz=265,slow=74,SNR=14						
H11N3	**WAKE ISLAND Hy**	**40.22**	**72**	T	T	15 10 42.3	
	baz=265,slow=74,SNR=14						
SONM	**Songino Array**	**40.95**	**340**	P	**P**	**14 27 27.1**	**+1.1**
	0.3nm,0.4s,baz=164,slow=7.7,SNR=3.6						
STKA	**Stephens Creek**	**44.48**	**161**	P	**P**	**14 27 54.8**	**+0.1**
	1.0nm,0.6s,baz=333,slow=9.2,SNR=4.4						
PETK	**Petropavlovsk-**	**49.54**	**24**	P	**P**	**14 28 36.0**	**+2.1**
	2.9nm,0.8s,baz=194,slow=6.0,SNR=12						
MKAR	**Makanchi Array**	**51.98**	**323**	P	**P**	**14 28 51.9**	**-0.6**
	0.8nm,0.9s,baz=167,slow=5.7,SNR=9.1						
ZALV	**Zalesovo Beam**	**54.56**	**331**	P	**P**	**14 29 11.3**	**+0.1**
	0.4nm,0.3s,baz=128,slow=6.9,SNR=3.2						
KURBB	**Kurchatov Arra**	**56.02**	**325**	P	**P**	**14 29 20.9**	**-0.8**
	0.6nm,0.5s,baz=124,slow=7.0,SNR=9.6						
ILAR	**Eielson Array**	**79.35**	**26**	P	**P**	**14 31 48.2**	**-0.3**
	0.3nm,0.7s,baz=236,slow=5.4,SNR=5.8						
ARCES	**ARCESS Array B**	**84.12**	**340**	P	**P**	**14 32 13.8**	**+0.2**
	2.0nm,0.8s,baz=77,slow=7.6,SNR=5.5						
FINES	**FINESS Array B**	**85.83**	**332**	P	**P**	**14 32 21.9**	**-0.4**
	2.4nm,0.9s,baz=142,slow=5.3,SNR=3.4						
YKA	**Yellowknife Ar**	**93.66**	**24**	P	**P**	**14 32 59.1**	**0.0**
	0.4nm,0.8s,baz=285,slow=3.9,SNR=4.5						
TORD	**Torodi Ar. Bea**	**120.26**	**292**	PKP	**PKPdf**	**14 38 34.2**	**-0.8**
	0.5nm,0.8s,baz=102,slow=2.9,SNR=2.9						

*TIR **01** 14:25:05.8±0.7, 42°.11N×20°.88E, h40km±14km, ML3.5*

ATH 01 14:24:45.3, 41°.61N×19°.32E, h4km±4km, **MD3.5/5, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUK	**Puka**	**0.61**	**45**	*i* PG	Sn	14 25 21.5	+10
PHP	**Peshkopia**	**0.84**	**85**	*i* PG	Sn	14 25 17.6	+0.7
BCI	**Bajram Curri**	**0.94**	**36**	*i* PG	Sn	14 25 19.8	+0.6
KBN	**Korca**	**1.48**	**131**	*i* PG	Sg	14 25 33.8	+0.6
FNA	**Florina**	**1.76**	**117**	*e*PG	Pb	14 25 17.6	-0.6
FNA				*e*SB	Sg	14 25 42.7	+0.7
KEK	**Kerkira**	**1.93**	**169**	*e*PG	Pb	14 25 21.2	+0.1
KEK				*e*SN	Sg	14 25 46.9	-0.5
IGT	**Igoumenitsa**	**2.21**	**159**	*e*PN	Pb	14 25 25.0	-0.9
IGT				*e*SN	Sb	14 25 53.6	-0.1
KZN	**Kozani**	**2.27**	**124**	*e*PN	Pb	14 25 26.2	-0.7
JAN	**Janina**	**2.27**	**149**	*e*PN	Pb	14 25 25.7	-1.2
JAN				*e*SN	Sb	14 25 55.0	-0.4
KNT	**Kendrikon**	**2.73**	**98**	*e*PB	Pb	14 25 33.7	-1.0
AGG	**Agios Georgios**	**3.46**	**137**	*e*PN	Pn	14 25 41.5	+1.5

*ISCJB **01** 14:28:24.3±0.9, 18°.85N±0°.07×147°.0E±0°.2, h37km, mb3.6/9, MS2.9/1, Error ellipse: s-maj=28.3km s-min=8.3km az=9.3*
*IDC **01** 14:28:29.9±3.7, 18°.79N×146°.84E, h73km±35km, mb3.3/9, mb1 3.5/11, mb1mx3.4/38, mbtmp3.7/11, ML4.0/2, MS2.9/1, Ms1 3.1/1, ms1mx2.4/19, Error ellipse: s-maj=32.4km s-min=16.5km az=86.0*

ISC 01 14:28:26.3±1.0, **18°.88N**±0°.09×**147°.0E**±0°.2, **h37**km, **n15, σ1§16/12, mb3.7/9, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.64**	**202**	P	**Pn**	**14 29 48.1**	**+0.5**
	10nm,0.3s,baz=356,slow=7.6,SNR=6.4						
GUMO				S	**Sn**	**14 30 52.2**	**+1.0**
	20nm,0.3s,baz=176,slow=22,SNR=6.1						
H11S3	**WAKE ISLAND Hy**	**18.66**	**88**	T	T	14 51 32.8	
	baz=275,slow=74,SNR=15						
H11S1	**WAKE ISLAND Hy**	**18.67**	**88**	T	T	14 51 35.9	
	baz=275,slow=74,SNR=9.0						
H11S2	**WAKE ISLAND Hy**	**18.68**	**88**	T	T	14 51 36.0	
	baz=275,slow=74,SNR=12						
MJAR	**Matsushiro Arr**	**19.22**	**338**	P	**Pn**	**14 32 50.1**	**+1.7**
	0.2nm,0.3s,baz=117,slow=12,SNR=4.7						
KSRS	**Korea Array**	**24.91**	**322**	P	**P**	**14 33 46.5**	**+0.7**
	1.3nm,0.6s,baz=146,slow=9.3,SNR=11						
WRA	**Warramunga Arr**	**40.53**	**198**	P	**P**	**14 36 00.8**	**-1.2**
	0.4nm,0.5s,baz=21,slow=8.1,SNR=5.3						
SONM	**Songino Array**	**43.77**	**321**	P	**P**	**14 36 28.2**	**-0.2**
	1.2nm,0.7s,baz=140,slow=9.7,SNR=8.9						
ASAR	**Alice Springs**	**44.17**	**197**	P	**P**	**14 36 31.2**	**-0.5**
	0.3nm,0.8s,baz=17,slow=13,SNR=4.2						
CMAR	**Chiang Mai Arr**	**45.41**	**278**	LR	LR	14 55 19.2	
	comp=Z,12nm,19.9s,baz=355,slow=36						
ZALV	**Zalesovo Beam**	**56.62**	**322**	P	**P**	**14 38 17.9**	**-1.6**
	1.0nm,0.5s,baz=102,slow=7.8,SNR=5.2						
MKAR	**Makanchi Array**	**59.22**	**314**	P	**P**	**14 38 23.1**	**-0.7**
	0.7nm,0.8s,baz=90,slow=6.1,SNR=10.0						
ILAR	**Eielson Array**	**62.94**	**26**	P	**P**	**14 38 48.4**	**-0.3**
	0.3nm,0.8s,baz=261,slow=5.4,SNR=3.0						
YKA	**Yellowknife Ar**	**77.25**	**28**	P	**P**	**14 40 17.8**	**+1.4**
	0.2nm,0.8s,baz=293,slow=5.6,SNR=2.8						
FINES	**FINESS Array B**	**87.23**	**336**	P	**P**	**14 41 07.9**	**-0.7**
	2.1nm,0.8s,baz=90,slow=5.1,SNR=12						

MAN 01 14:37:59, 18°.53N×121°.19E, h47km, **mb4.5, ML3.4, MS3.3, 1C, Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.58**	**249**	*i* P	Pn	14 38 14.2	+3.1
APYP	**Conner**	**0.67**	**176**	*e*P	Pn	14 38 14.1	+1.9
APYP				*e*S	Sn	14 38 25.6	+3.9
SGCP	**Mt. Cagua**	**0.86**	**109**	*e*P	Pn	14 38 16.4	+1.6
SGCP				*e*S	Sn	14 38 29.9	+3.6
ABRA	**Dolores**	**0.99**	**208**	*e*P	Pn	14 38 17.5	+1.0
CAUP	**Cauayan**	**1.69**	**159**	*e*P	Pn	14 38 28.9	+2.9

*IDC **01** 14:39:35.3±1.0, 54°.55N×162°.93W, h0km, mb3.8/14, mb1 4.0/16, mb1mx3.8/50, mbtmp3.8/16, ML3.7/2, MS2.8/1, Ms1 2.9/1, ms1mx2.3/41, Error ellipse: s-maj=29.3km s-min=15.0km az=157.0*
*ISCJB **01** 14:39:37.3±0.8, 54°.11N±0°.07×162°.39W±0°.07, h46km±5km, mb3.8/14, Error ellipse: s-maj=12.2km s-min=4.6km az=151.2*
*NEIC **01** 14:39:38.7, 54°.20N×162°.51W, h41km, ML3.5(AEIC), After AEIC.*

ISC 01 14:39:38.9±1.5, **54°.2N**±0°.1×**162°.46W**±0°.07, **h43**km±12km, **n58, σ0§79/61, mb3.8/14, Alaska Peninsula**

| Code | Station Name | Δ° | AZ°

RAMN	**Ramite**	**79.80**	**302**	*e*P	**P**	**14 51 43.2**	**+0.4**	
	4.5nm,0.5s							
PKI	**Pulchoki**	**79.88**	**303**	*e*P	**P**	**14 51 43.7**	**+0.4**	
PKIN	**Phulchoki**	**79.88**	**303**	*e*P	**P**	**14 51 42.8**	**-0.5**	
	1.8nm,0.4s							
DMN	**Daman**	**79.99**	**304**	*e*P	**P**	**14 51 44.1**	**+0.2**	
CMAR	**Chiang Mai Arr**	**80.15**	**288**	P	**P**	**14 51 45.1**	**+0.6**	
	1.0nm,0.8s,baz=14,slow=5.3,SNR=7.0							
KOLN	**Koldanda**	**80.59**	**305**	*e*P	**P**	**14 51 46.0**	**-1.0**	
PYUN	**Piuthan**	**80.61**	**305**	*e*P	**P**	**14 51 46.6**	**-0.5**	
	8.0nm,0.6s							
BRTR	**Keskin Array B**	**85.45**	**348**	P	**P**	**14 52 13.0**	**+1.1**	
	0.4nm,0.5s,baz=6.2,slow=2.3,SNR=3.0							
WRA	**Warramunga Arr**	**91.43**	**237**	P	P	14 52 44.5	+4.2	
	0.4nm,0.9s,baz=50,slow=5.5,SNR=3.2							

*IDC **01** 14:40:05.9±1.4, 1°.93S×138°.95E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.6/29, mbtmp3.8/4, ML4.1/1, MS2.9/3, Ms1 2.9/3, ms1mx2.6/27, Error ellipse: s-maj=28.7km s-min=15.7km az=20.0*

*ISCJB **01** 14:40:09.5±0.8, 2°.1S±0°.1×138°.87E±0°.06, h29km, mb3.5/3, MS2.9/2, Error ellipse: s-maj=16.6km s-min=7.2km az=18.6*

*DJA **01** 14:40:09.1±1.4, 2°.5S±20″×13°.9E±″, h21km±11km, M3.9/6, mb3.9/1, MLv4.0/6*

ISC 01 14:40:09.2±1.2, 1°.9S±0°.2×138°.98E±0°.05, h29km, n13, σ1°18/12, mb3.6/4, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.28**	**251**	P	**Pb**	**14 40 14.8**	**-1.5**
SMPI				S	**Sb**	**14 40 21.7**	**+0.5**
GENI	**Genyem**	**1.37**	**120**	P	**Pb**	**14 40 34.3**	**0.0**
JAY	**Jayapura**	**1.83**	**110**	P	**Pb**	**14 40 40.5**	**-1.6**
JAY	**Jayapura**	**1.83**	**110**	Pn	**Pb**	**14 40 40.1**	**-2.0**
	8.9nm,0.3s,baz=254,slow=9.5,SNR=43						
JAY				Lg	Lg	14 41 03.8	
	16nm,0.3s,baz=118,slow=22,SNR=9.0						
JAY				LR	LR	14 41 18.1	
	comp=Z,109nm,18.6s,baz=354,slow=39						
SRPI	**Serui, Papua**	**2.74**	**271**	P	**Pn**	**14 40 51.6**	**+0.4**
SRPI				S	**Sn**	**14 41 22.6**	**-0.8**
FAKI	**Fak Fak**	**6.80**	**261**	P	**Pn**	**14 41 46.9**	**-0.2**
GUMO	**Guam**	**16.46**	**21**	LR	LR	14 48 52.5	
	comp=Z,45nm,21.3s,baz=86,slow=32						
WRA	**Warramunga Arr**	**18.50**	**194**	Pn	**P**	**14 44 22.8**	**-0.4**
	0.6nm,0.3s,baz=17,slow=12,SNR=34						
ASAR	**Alice Springs**	**22.19**	**192**	P	**P**	**14 45 03.6**	**+0.3**
	1.9nm,0.6s,baz=20,slow=10,SNR=26						
STKA	**Stephens Creek**	**29.92**	**176**	P	**P**	**14 46 15.7**	**+0.9**
	1.1nm,0.8s,baz=338,slow=7.9,SNR=3.3						
KSRS	**Korea Array**	**40.48**	**346**	LR	LR	15 01 16.2	
	comp=Z,9.7nm,21.5s,baz=195,slow=31						
YAK	**Yakutsk**	**64.15**	**355**	LR	LR	15 15 41.7	
	comp=Z,14nm,19.7s,baz=244,slow=33						
MKAR	**Makanchi Array**	**69.32**	**322**	P	**P**	**14 51 15.2**	**+1.1**
	0.2nm,0.6s,baz=116,slow=6.2,SNR=3.7						

*SJA **01** 14:40:59.2±1.2, 33°.15S×72°.78W, h9km, ML5.0, MW5.2*

*NEIC **01** 14:41:05.0, 33°.19S×72°.31W, h35km, mb5.0/46, ML5.3(GUC), After GUC.*

NEIC Felt [III] at Casablanca, Puchuncavi, San Antonio, Santiago, Talagante, Valparaiso and Vina del Mar; [II] at Maipo, Quillota and San Felipe. Also felt at Cabildo, Curico, Lampa, Ovalle, Penaflor, Quilpue, Santa Cruz and Villa Alemana.

*ISCJB **01** 14:41:05.6±1.1, 33°.29S±0°.03×72°.31W±0°.04, h19km±7km, mb4.9/58, MS4.5/7, Error ellipse: s-maj=6.3km s-min=4.2km az=154.5*

*GUC **01** 14:41:05.2±0.6, 33°.19S×72°.31W, h35km±8km, ML5.3*

*IDC **01** 14:41:07.5±0.5, 33°.24S×72°.06W, h29km±2km, mb4.4/12, mb1 4.4/15, mb1mx4.4/24, mbtmp4.4/15, ML4.2/3, MS4.4/9, Ms1 4.4/9, ms1mx4.1/18, Error ellipse: s-maj=15.5km s-min=13.2km az=101.0*

*MOS **01** 14:41:08.0±1.8, 32°.38S×72°.19W, h33km, mb5.1/17, Error ellipse: s-maj=18.6km s-min=11.7km az=99.7*

ISC 01 14:41:07.5±0.4, 33°.25S±0°.03×72°.10W±0°.04, h31km±2km, h31km:pP-P, n404, σ1°65/370, mb5.0/58, MS4.5/7, 114C-105D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.45**	**60**	⇓*i*P	**Pb**	**14 41 17.0**	**-0.2**
IHA				*i* S	**Sn**	**14 41 25.5**	**+0.7**
ROCH	**El Roble**	**0.96**	**73**	⇑*e*P	**Pn**	**14 41 25.3**	**+0.3**
ROCH				*i* S	**Sb**	**14 41 40.6**	**+2.4**
PEL	**Peldehue**	**1.19**	**85**	⇓*i*P	**Pb**	**14 41 29.5**	**-0.1**
PEL				*i* S	**Sb**	**14 41 47.3**	**+2.6**
CLCH	**Cerro Calan**	**1.32**	**97**	⇑*i*P	**Pb**	**14 41 31.1**	**-0.6**
CLCH				*i* S	**Sb**	**14 41 51.0**	**+2.7**
CLCH				AML	AML	14 41 54.3	
	comp=E,67μm,0.8s						
CLCH				AML	AML	14 41 54.9	
	comp=E,79μm,0.8s						
LACH	**Col Las Americ**	**1.33**	**99**	⇑*i*P	**Pn**	**14 41 30.8**	**+0.8**
LACH				*i* S	**Sb**	**14 41 50.5**	**+1.8**
YECH	**El Yeso**	**1.74**	**104**	⇑*i*P	**Pb**	**14 41 39.2**	**+0.2**
YECH				*i* S	**Sb**	**14 42 04.0**	**+3.4**
YECH				AML	AML	14 42 13.1	
	comp=N,42μm,0.5s						
NICH	**Los Niches**	**1.89**	**158**	*e*P	**Pn**	**14 41 38.1**	**+0.4**
NICH				*i* S	**Sb**	**14 42 03.3**	**-1.3**
TALC	**Talca**	**2.18**	**170**	*e*P	**Pn**	**14 41 41.0**	**-0.6**
TALC				*i* S	**Sn**	**14 42 08.6**	**+1.1**
AUSP	**Uspallata**	**2.51**	**67**	*e*P	**Pb**	**14 41 49.9**	**-2.1**
LNCH	**Linares**	**2.62**	**171**	⇓*i*P	**Pn**	**14 41 47.5**	**-0.2**
LNCH				*i* S	**Sn**	**14 42 19.7**	**+1.2**
ARCO	**CERRO ARCO**	**2.69**	**82**	*e*P	**Pb**	**14 41 53.5**	**-1.6**
ARCO				*e*S	Sb	14 42 34.1	+6.3
ARCO				AML	AML	14 42 37.4	
	comp=Z,6μm,0.6s						
AAGR	**Agrelo**	**2.75**	**87**	*e*P	**Pb**	**14 41 53.6**	**-2.5**
RTLS	**Leoncito**	**2.78**	**59**	*e*P	Pn	14 41 53.5	+3.3
ASAL	**Salagasta**	**2.83**	**77**	*e*P	**Pb**	**14 41 55.1**	**-2.3**
RTCV	**Cerro Valdivia**	**3.31**	**66**	*e*P	**Pn**	**14 42 00.5**	**+3.2**
SJA	**San Juan**	**3.46**	**61**	*e*P	Pn	14 42 03.7	+4.4
RTLL	**Cerro Villicun**	**3.62**	**59**	*e*P	**Pn**	**14 42 04.5**	**+3.0**
CFAA	**Coronel Fontan**	**3.66**	**64**	Pn	**Pn**	**14 42 03.2**	**+1.2**
	comp=Z,2.7nm,0.3s,baz=238,slow=12,SNR=104						
CFAA				Lg	Lg	14 43 01.3	
	comp=Z,21nm,0.3s,baz=90,slow=11,SNR=5.4						
CFAA				LR	LR	14 43 53.6	
	comp=Z,634nm,19.6s,baz=270,slow=46						
CFAA	**Coronel Fontan**	**3.66**	**64**	*e*P	Pn	14 42 05.3	+3.3
CFAA				*e*S4		14 42 57.7	
AMOG	**MOGNA**	**3.83**	**54**	*e*P	**Pn**	**14 42 07.7**	**+3.2**
LCO	**Las Campanas**	**4.39**	**16**	*e*Pn	**Pn**	**14 42 11.3**	**-1.0**
LCO				*e*Sn	**Sn**	**14 42 59.8**	**-2.8**
LCO	**Las Campanas**	**4.39**	**16**	*e*P	**Pn**	**14 42 11.6**	**-0.8**
CANA	**Caviahue**	**4.70**	**170**	*e*P	**Pn**	**14 42 17.9**	**+1.3**
CANA				AML	AML	14 43 45.8	
	comp=Z,683nm,0.8s						
AGUA	**GUANDACOL**	**4.86**	**40**	*e*P	**Pn**	**14 42 21.6**	**+3.0**
PLCA	**Paso Flores**	**7.57**	**171**	Pn	**Pn**	**14 42 55.7**	**0.0**
	comp=Z,2.1nm,0.3s,baz=334,slow=13,SNR=44						
PLCA	**Paso Flores**	**7.57**	**171**	Pn	Pn	14 42 52.4	-3.3
PLCA				*e*Sn	**Sn**	**14 44 19.4**	**-1.2**
TRQA	**Tornquist**	**9.53**	**123**	Pn	**Pn**	**14 43 21.2**	**-1.4**
TRQA				*e*Sn	Sn	14 45 23.2	+15
SLA	**San Lorenzo**	**10.27**	**36**	*e*P4	**Pn**	**14 43 31.7**	**-1.3**
LVC	**Limon Verde**	**10.97**	**16**	Pn	Pn	14 43 37.6	-4.9
	comp=Z,103nm,0.3s,baz=178,slow=8.3,SNR=19						
LVC				LR	LR	14 48 04.0	
	comp=Z,5μm,20.2s,baz=210,slow=38						
LVC	**Limon Verde**	**10.97**	**16**	*e*Pn	Pn	14 43 37.5	-5.1
LVC				*e*Sn	**Sn**	**14 45 40.1**	**-4.3**
CPUP	**Villa Florida**	**14.55**	**66**	Pn	**Pn**	**14 44 30.3**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=243,slow=13,SNR=17						
EFI	**East Falkland**	**21.06**	**155**	P	**P**	**14 45 48.6**	**-0.2**
	comp=Z,756nm,0.6s,SNR=17						
EFI	**East Falkland**	**21.06**	**155**	*e*P	**P**	**14 45 46.7**	**-2.1**
	comp=Z,130nm,1.0s						
NNA	**Nana**	**21.61**	**347**	P	**P**	**14 45 55.5**	**+0.4**
	comp=Z,12nm,0.8s,baz=180,slow=9.6,SNR=4.9						
NNA	**Nana**	**21.61**	**347**	P	P	14 45 50.1	-4.9
NNA	**Nana**	**21.61**	**347**	P	P	14 45 50.1	-4.9
USHA	**Ushuaia**	**21.73**	**174**	P	**P**	**14 45 56.9**	**+0.9**
	comp=Z,22nm,0.9s,baz=327,slow=13,SNR=7.8						
BDFB	**Brasilia**	**27.96**	**57**	P	**P**	**14 46 54.9**	**-0.6**
	comp=Z,26nm,0.9s,baz=233,slow=6.8,SNR=29						
BDFB				LR	LR	14 59 10.7	
	comp=Z,2μm,18.3s,baz=225,slow=39						
BDFB	**Brasilia**	**27.96**	**57**	*e*P	**P**	**14 46 54.5**	**-1.0**
BDFB	**Brasilia**	**27.96**	**57**	*e*P	**P**	**14 46 54.5**	**-1.0**
OTAV	**Otavalo**	**33.84**	**349**	P	P	14 47 44.2	-3.5
	comp=Z,20nm,1.3s						
PTGA	**Pitinga**	**34.30**	**22**	*e*P	**P**	**14 47 48.8**	**-2.5**
	comp=Z,23nm,0.9s						
SDV	**Santo Domingo**	**41.93**	**2**	P	P	14 48 51.0	-4.6
	comp=Z,25nm,0.9s						
VNA3	**Neumayer Olymp**	**50.07**	**158**	P	**P**	**14 49 60.0**	**+1.0**
VNA1	**Neumayer--Stat**	**50.38**	**157**	P	**P**	**14 50 02.9**	**+1.6**
VNA2	**Neumayer--Watz**	**50.72**	**157**	P	**P**	**14 50 05.1**	**+1.2**
	baz=282,slow=8.4						
CELP	**Cerrillos**	**51.31**	**7**	P	P	14 50 05.8	-3.0
SNAA	**Sanae**	**52.30**	**158**	*e*P	**P**	**14 50 13.1**	**-2.7**
	comp=Z,37nm,0.8s						
TEIG	**Tepich**	**55.38**	**341**	*e*P	P	14 50 33.9	-4.8
	comp=Z,41nm,0.8s						
RKT	**Rikitea**	**55.61**	**263**	*e*T	T	15 50 47.8	
	comp=Z,2.2nm,0.3s						
QSPA	**South Pole Qui**	**56.98**	**180**	P	P	14 50 46.1	-3.8
	comp=Z,23nm,0.9s						
NVL	**N'lazarevskaya**	**57.03**	**157**	*e*P	**P**	**14 50 49.8**	**-0.1**
035A	**Encino**	**64.76**	**334**	⇓P	**P**	**14 51 45.4**	**+2.4**
	baz=65						
VNDA	**Vanda**	**64.82**	**191**	P	**P**	**14 51 44.0**	**+1.2**
	comp=Z,1.3nm,0.9s,baz=145,slow=6.2,SNR=3.3						
VNDA				LR	LR	15 16 03.9	
	comp=Z,191nm,20.5s,baz=134,slow=32						
VNDA	**Vanda**	**64.82**	**191**	P	**P**	**14 51 44.0**	**+1.2**
034A	**Hebbronville**	**65.09**	**334**	⇑P	**P**	**14 51 47.4**	**+2.3**
	baz=65						
933A	**Laredo**	**65.80**	**334**	⇑P	**P**	**14 51 51.2**	**+1.5**
	baz=66						
834A	**Tilden**	**66.00**	**334**	⇓P	**P**	**14 51 53.2**	**+2.3**
	baz=66						
736A	**Circle Diamond**	**66.24**	**336**	⇑P	**P**	**14 51 54.8**	**+2.3**
	baz=66						
735A	**Kenedy**	**66.40**	**335**	⇓P	**P**	**14 51 55.7**	**+2.2**
	baz=67						
833A	**Chaparral WMA,**	**66.49**	**334**	⇑P	**P**	**14 51 55.9**	**+1.8**
	baz=67,SNR=7.9						
SYO	**Syowa Base**	**66.58**	**159**	⇑*e*P	**P**	**14 51 52.4**	**-1.8**
734A	**La Parita Cree**	**66.66**	**335**	⇑P	**P**	**14 51 57.1**	**+1.9**
	baz=67						
832A	**Fan Ranch, C**	**66.67**	**333**	⇓P	**P**	**14 51 56.6**	**+1.4**
	baz=67						
636A	**Smothers Creek**	**66.72**	**336**	⇑P	**P**	**14 51 57.7**	**+2.1**
	baz=67						
733A	**Divot King Ran**	**66.81**	**334**	⇓P	**P**	**14 51 58.0**	**+1.8**
	baz=67						
635A	**Leesville**	**66.88**	**336**	⇑P	**P**	**14 51 58.3**	**+1.8**
	baz=67						
537A	**Green Hill Far**	**67.03**	**337**	⇓P	**P**	**14 51 59.2**	**+1.7**
	baz=67						
732A	**Laxson Ranch,**	**67.07**	**334**	⇓P	**P**	**14 51 59.2**	**+1.4**
	baz=67,SNR=8.2						
GOGA	**Godfrey**	**67.17**	**350**	P	P	14 51 53.6	-4.7
GOGA				*p*max	*p*max		
	comp=Z,193nm,2.8s						
GOGA	**Godfrey**	**67.17**	**350**	P	P	14 51 53.6	-4.7
	comp=Z,193nm,2.8s						
439A	**Center Grove,**	**67.21**	**339**	⇓P	**P**	**14 52 00.7**	**+2.1**
	baz=67						
536A	**Bastrop**	**67.27**	**337**	⇑P	**P**	**14 52 01.1**	**+2.1**
	baz=68						
438A	**Sam Houston St**	**67.38**	**338**	⇓P	**P**	**14 52 02.0**	**+2.3**
	baz=68						
633A	**Saathoff Ranch**	**67.44**	**335**	⇑P	**P**	**14 52 01.8**	**+1.6**
	baz=68						
TBI	**Tubuai**	**67.44**	**256**	*e*S	**S**	**15 00 55.7**	**+1.1**
	comp=Z,92nm,28.0s						
TBI	**Tubuai**	**67.44**	**256**	*e*LR	LR	15 12 23.2	
	comp=Z,435nm,27.5s						
TBI	**Tubuai**	**67.44**	**256**	*e*T	T	16 05 35.5	
	comp=Z,10.0nm,0.3s						
340A	**Bronson**	**67.53**	**340**	⇑P	**P**	**14 52 02.8**	**+2.2**
	baz=68						
339A	**Huntington**	**67.65**	**339**	⇓P	**P**	**14 52 03.6**	**+2.2**
	baz=68						
632A	**Uvalde**	**67.70**	**334**	⇑P	**P**	**14 52 03.4**	**+1.5**
	baz=68,SNR=6.7						
534A	**Blanco**	**67.71**	**335**	⇓P	**P**	**14 52 04.3**	**+2.4**
	baz=68						
338A	**Crockett**	**67.90**	**339**	⇑P	**P**	**14 52 04.9**	**+1.9**
	baz=68						
631A	**Perdido Creek**	**67.91**	**333**	⇓P	**P**	**14 52 05.2**	**+2.1**
	baz=68						
533A	**Kerrville**	**67.94**	**335**	⇑P	**P**	**14 52 04.6**	**+1.3**
	baz=68,SNR=5.3						
337A	**Centerville**	**68.04**	**338**	⇑P	**P**	**14 52 06.0**	**+2.2**
	baz=68						
532A	**Rocksprings**	**68.31**	**334**	⇑P	**P**	**14 52 07.0**	**+1.3**
	baz=68,SNR=14						
434A	**Burnet**	**68.35**	**336**	⇑P	**P**	**14 52 06.7**	**+0.8**
	baz=68,SNR=5.1						
336A	**Riesel**	**68.41**	**337**	⇑P	**P**	**14 52 07.5**	**+1.4**
	baz=69						
531A	**Rocksprings**	**68.58**	**334**	⇑P	**P**	**14 52 08.3**	**+1.0**
	baz=69,SNR=5.8						
433A	**Art**	**68.58**	**335**	⇑P	**P**	**14 52 08.3**	**+1.0**
	baz=69,SNR=8.2						
KMSC	**Kings Mountain**	**68.58**	**352**	*e*P	P	14 52 01.4	-5.8
	comp=Z,10nm,0.7s						
KMSC	**Kings Mountain**	**68.58**	**352**	⇑P	**P**	**14 52 08.6**	**+1.4**
	baz=69						
JCT	**Junction City**	**68.59**	**334**	*e*P	P	14 52 03.2	-4.2
JCT				*p*max	*p*max		
	comp=Z,18nm,0.9s						
JCT	**Junction City**	**68.59**	**334**	*e*P	P	14 52 03.2	-4.2
	comp=Z,18nm,0.9s						
JCT	**Junction City**	**68.59**	**334**	⇑P	**P**	**14 52 08.7**	**+1.4**
	baz=69						
237A	**Washetta, Mont**	**68.65**	**338**	⇓P	**P**	**14 52 09.1**	**+1.5**
	baz=69						
334A	**Lometa**	**68.82**	**336**	⇑P	**P**	**14 52 09.9**	**+1.2**
	baz=69						
530A	**J-C Ranch, Com**	**68.86**	**333**	⇑P	**P**	**14 52 10.6**	**+1.5**
	baz=69,SNR=11						
432A	**Menard**	**68.94**	**335**	⇑P	**P**	**14 52 10.9**	**+1.3**
	baz=69,SNR=6.6						
138A	**Matatall Enter**	**69.05**	**339**	⇑P	**P**	**14 52 11.4**	**+1.3**
	baz=69						
TXAR	**Lajitas Array**	**69.06**	**331**	P	**P**	**14 52 11.3**	**+0.9**
	comp=Z,2.8nm,0.8s,baz=152,slow=8.3,SNR=23						
TXAR				LR	LR	15 18 18.6	
	comp=Z,280nm,18.2s,baz=0.0,slow=32						
431A	**Sonora**	**69.07**	**334**	⇑P	**P**	**14 52 11.5**	**+1.2**
	baz=69						
333A	**Richland Sprin**	**69.07**	**336**	⇓P	**P**	**14 52 11.2**	**+0.9**
	baz=69,SNR=6.3						
WHTX	**Lake Whitney,**	**69.16**	**337**	⇑P	**P**	**14 52 12.0**	**+1.1**
	baz=69						
529A	**Stev Forest Ra**	**69.18**	**332**	⇓P	**P**	**14 52 12.3**	**+1.2**
	baz=69,SNR=14						
137A	**Heron Place, G**	**69.19**	**339**	⇓P	**P**	**14 52 12.3**	**+1.3**
	baz=69						
332A	**Millersview**	**69.39**	**335**	⇓P	**P**	**14 52 13.1**	**+0.8**
	baz=70						
430A	**Baggett Ranch,**	**69.39**	**333**	⇓P	**P**	**14 52 13.6**	**+1.1**
	baz=70,SNR=8.0						
234A	**Clairette**	**69.40**	**337**	⇑P	**P**	**14 52 13.6**	**+1.3**
	baz=70						
TKL	**Tuckaleechee C**	**69.42**	**350**	*e*P	P	14 52 08.3	-4.1
TKL	**Tuckaleechee C**	**69.42**	**350**	*e*P	P	14 52 08.3	-4.1
429A	**Davenport Ranc**	**69.50**	**333**	⇓P	**P**	**14 52 14.3**	**+1.2**
	baz=70						
331A	**San Angelo**	**69.56**	**334**	⇑P	**P**	**14 52 14.5**	**+1.1**
	baz=70,SNR=9.4						
135A	**Vickery Place,**	**69.67**	**337**	⇓P	**P**	**14 52 15.1**	**+1.1**
	baz=70						
233A	**Rising Star**	**69.67**	**336**	⇓P	**P**	**14 52 15.1**	**+1.0**
	baz=70						
232A	**Coleman**	**69.81**	**335**	⇑P	**P**	**14 52 16.1**	**+1.2**
	baz=70,SNR=6.4						
134A	**White-Moore Ra**	**69.90**	**337**	⇓P	**P**	**14 52 17.9**	**+2.5**
	baz=70						
330A	**Mertzon**	**69.93**	**334**	⇓P	**P**	**14 52 16.4**	**+0.7**
	baz=70,SNR=6.2						
231A	**Bronte**	**70.09**	**335**	⇑P	**P**	**14 52 17.4**	**+0.8**
	baz=70,SNR=6.9						
133A	**Hamilton Ranch**	**70.21**	**336**	⇓P	**P**	**14 52 18.4**	**+1.0**
	baz=70						
PPT2	**Papeete2**	**70.29**	**262**	*e*S	**S**	**15 01 28.9**	**+0.2**
	comp=Z,148nm,23.8s						
PPT2	**Papeete2**	**70.29**	**262**	*e*LR	LR	15 13 44.0	
	comp=Z,290nm,29.2s						
329A	**Wagon Wheel Ra**	**70.30**	**333**	⇓P	**P**	**14 52 19.1**	**+1.1**
	baz=70						
PPT	**Papeete**	**70.30**	**262**	LR	LR	15 15 57.3	
	comp=Z,164nm,18.5s,baz=108,slow=30						
Z35A	**Perchaven, San**	**70.33**	**338**	⇓P	**P**	**14 52 19.3**	**+1.2**
	baz=70						
230A	**Sterling City**	**70.34**	**334**	⇑P	**P**	**14 52 19.2**	**+1.0**
	baz=70						
MIAR	**Mount Ida**	**70.39**	**341**	P	P	14 52 14.1	-4.3
MIAR				*p*max	*p*max		
	comp=Z,16nm,1.3s						
MIAR	**Mount Ida**	**70.39**	**341**	P	P	14 52 14.1	-4.3
	comp=Z,16nm,1.3s						
ABTX	**Abilene, Hawle**	**70.48**	**336**	*e*P	P	14 52 14.8	-4.2
	comp=Z,18nm,0.9s						
ABTX	**Abilene, Hawle**	**70.48**	**336**	⇓P	**P**	**14 52 20.0**	**+1.0**
	baz=71,SNR=5.9						
WVT	**Waverly**	**70.57**	**347**	*e*P	P	14 52 13.7	-5.7
WVT				*p*max	*p*max		
	comp=Z,42nm,0.7s						
WVT	**Waverly**	**70.57**	**347**	*e*P	P	14 52 13.7	-5.7
	comp=Z,42nm,0.7s						
Z34A	**Collier Ranch,**	**70.58**	**337**	⇑P	**P**	**14 52 20.4**	**+0.8**
	baz=71						
229A	**Bryant Ranch,**	**70.67**	**333**	⇑P	**P**	**14 52 21.0**	**+0.8**
	baz=71						
Z33A	**Whitaker Ranch**	**70.78**	**337**	⇓P	**P**	**14 52 21.6**	**+0.8**
	baz=71,SNR=5.4						
131A	**Roby**	**70.78**	**335**	⇑P	**P**	**14 52 22.0**	**+1.1**
	baz=71,SNR=5.3						
130A	**Snyder**	**70.92**	**334**	⇑P	**P**	**14 52 22.6**	**+0.8**
	baz=71						
X37A	**Clayton**	**70.93**	**340**	⇑P	**P**	**14 52 23.0**	**+1.3**
	baz=71						
Z32A	**Haskell**	**71.04**	**336**	⇑P	**P**	**14 52 23.5**	**+1.1**
	baz=71,SNR=8.6						
Y34A	**Reagan Ranch,**	**71.07**	**338**	⇓P	**P**	**14 52 23.1**	**+0.6**
	baz=71						
228A	**UT Block 9, Go**	**71.10**	**333**	⇑P	**P**	**14 52 23.8**	**+1.0**
	baz=71,SNR=6.5						
W38A	**Poteau**	**71.14**	**341**	⇓P	**P**	**14 52 24.7**	**+1.8**
	baz=71						
X36A	**Centrahoma**	**71.20**	**339**	⇓P	**P**	**14 52 23.7**	**+0.4**
	baz=71,SNR=5.1						
129A	**Stewart Farms,**	**71.28**	**334**	⇓P	**P**	**14 52 25.4**	**+1.5**
	baz=72						
Z31A	**Sharp Cattle R**	**71.28**	**335**	⇑P	**P**	**14 52 24.9**	**+1.1**
	baz=72,SNR=7.5						
Y33A	**Hilltop Ranch,**	**71.40**	**337**	⇓P	**P**	**14 52 25.7**	**+1.2**
	baz=72						
W37A	**Quinton**	**71.46**	**340**	⇓P	**P**	**14 52 26.1**	**+1.2**
	baz=72						
128A	**Castleberry Fa**	**71.50**	**333**	⇑P	**P**	**14 52 26.2**	**+0.9**
	baz=72,SNR=6.2						
Z30A	**Sanderson Ranc**	**71.60**	**335**	⇓P	**P**	**14 52 26.5**	**+0.7**
	baz=72,SNR=7.5						
Y32A	**R-V Farms, Ver**	**71.67**	**336**	⇓P	**P**	**14 52 27.2**	**+1.1**
	baz=72						
X34A	**Smith Ranch, M**	**71.69**	**338**	⇑P	**P**	**14 52 27.5**	**+1.2**
	baz=72						
W36A	**Wetumka**	**71.69**	**339**	⇓P	**P**	**14 52 27.4**	**+1.2**
	baz=72						
PBMO	**Poplar Bluff**	**71.74**	**345**	*e*P	**P**	**14 52 26.5**	**0.0**
	comp=Z,15nm,0.8s						
Z29A	**Hungry Hill Ra**	**71.79**	**334**	⇓P	**P**	**14 52 27.9**	**+0.9**
	baz=72						
MNTX	**Cornudas Mount**	**71.83**	**331**	*e*P	P	14 52 23.5	-3.7
	comp=Z,14nm,0.9s						
MNTX	**Cornudas Mount**	**71.83**	**331**	⇑P	**P**	**14 52 27.9**	**+0.7**
	baz=72						
X33A	**Lawton**	**71.85**	**337**	⇑P	**P**	**14 52 28.8**	**+1.6**
	baz=72						
W35A	**Tecumseh**	**71.90**	**339**	⇑P	**P**	**14 52 27.9**	**+0.4**
	baz=72						
Y31A	**Rekieta Farm,**	**71.91**	**336**	⇓P	**P**	**14 52 28.9**	**+1.3**
	baz=72						
X32A	**Elmer**	**71.99**	**337**	⇓P	**P**	**14 52 30.1**	**+2.0**
	baz=72						
Y30A	**Stafford Cattl**	**72.05**	**335**	⇓P	**P**	**14 52 30.2**	**+1.6**
	baz=72						
Z28A	**Tucker Farm, M**	**72.06**	**334**	⇑P	**P**	**14 52 30.2**	**+1.6**
	baz=72						
WMOK	**Wichita Mounta**	**72.12**	**337**	*e*P	P	14 52 25.0	-3.8
WMOK				*p*max	*p*max		
	comp=Z,70nm,2.5s						
WMOK	**Wichita Mounta**	**72.12**	**337**	*e*P	P	14 52 25.0	-3.8
	comp=Z,70nm,2.5s						
TUL1	**Leonard**	**72.29**	**340**	P	P	14 52 26.2	-3.6
	comp=Z,18nm,0.6s						
Y29A	**Porterfield Fa**	**72.31**	**334**	⇑P	**P**	**14 52 32.0**	**+1.9**
	baz=72

baz=75
V27A Dan Oppiter Fa 74.43 334 ⇑P **P** **14 52 44.1 +1.5**
baz=75
R36A Gordon, Harris 74.46 341 ⇑P **P** **14 52 43.6 +1.0**
baz=75
Y22D IRIS PASSCAL I 74.53 331 ⇑P **P** **14 52 43.9 +0.6**
baz=75
SFIN Lafayette 74.56 348 ⇓P P 14 52 46.2 +3.2
baz=75
T31A Randall Ranch, 74.57 337 ⇑P **P** **14 52 44.3 +1.1**
baz=75
LIC Lamto 74.59 72 *eP* **P** **14 52 44.2 +0.3**
T30A Plains 74.80 337 ⇓P **P** **14 52 47.5 +2.8**
baz=75
TIC Toumodi 74.85 71 *eP* **P** **14 52 45.8 +0.4**
comp=Z,92nm,0.2s
S32A Newby Ranch, P 74.89 338 ⇑P P 14 52 48.4 +3.3
baz=75
KIC Kosan Boka 74.90 72 *eP* **P** **14 52 46.2 +0.5**
S31A Mullinville 74.98 338 ⇑P P 14 52 49.3 +3.6
baz=75
DBIC Dimbokro 74.99 72 P **P** **14 52 46.9 +0.7**
comp=Z,16nm,0.8s,baz=211,slow=6.3,SNR=19
DBIC pP **pP** **14 52 57.1 +1.1**
comp=Z,18nm,0.7s,baz=210,slow=6.1,SNR=11
DBIC LR LR 15 24 14.1
comp=Z,163nm,18.6s,baz=202,slow=34
DBIC Dimbokro 74.99 72 *eP* **P** **14 52 43.8 -2.4**
DBIC *PP **pP** **14 52 57.1 +1.1**
DBIC pmax pmax
comp=Z,21nm,0.8s
DBIC Dimbokro 74.99 72 *eP* **P** **14 52 43.8 -2.4**
comp=Z,21nm,0.8s
DBIC pP **pP** **14 52 57.1 +1.1**
U27A Thompson Grove 75.02 335 ⇑P **P** **14 52 48.6 +2.5**
baz=75
ANMO Albuquerque 75.10 331 *eP* P 14 52 43.0 -3.6
ANMO pmax pmax
comp=Z,10.0nm,1.2s
ANMO Albuquerque 75.10 331 *eP* P 14 52 43.0 -3.6
comp=Z,9.9nm,1.2s
T29A Hugoton 75.15 336 ⇓P **P** **14 52 48.5 +1.8**
baz=75
R33A Olander Ranch, 75.16 339 ⇑P **P** **14 52 47.8 +1.2**
baz=75
SUR Sutherland 75.24 119 P **P** **14 52 49.8 +2.1**
comp=Z,305nm,0.9s,SNR=7.3
S30A Montezuma 75.32 337 ⇑P **P** **14 52 49.6 +2.0**
baz=76
214A Organ Pipe Nat 75.38 325 ⇑P **P** **14 52 50.0 +1.9**
baz=76
T28A Walsh 75.40 336 ⇓P **P** **14 52 49.5 +1.3**
baz=76
R32A Long Quarter, 75.48 339 ⇑P **P** **14 52 49.8 +1.3**
baz=76
KSU1 Kansas State U 75.49 341 ⇓P **P** **14 52 50.1 +1.6**
baz=76
T27A Campo 75.56 335 ⇑P **P** **14 52 51.0 +1.9**
baz=76
R31A Burdett 75.61 338 ⇓P **P** **14 52 50.8 +1.5**
baz=76
Q33A Connelly Farm, 75.75 340 ⇑P **P** **14 52 51.5 +1.5**
baz=76
S28A Manter 75.75 336 ⇓P **P** **14 52 51.7 +1.5**
baz=76
R30A Dighton 75.84 337 ⇑P **P** **14 52 52.8 +2.2**
baz=76
Q32A Meitler Ranch, 75.96 339 ⇓P **P** **14 52 52.4 +1.2**
baz=76
T26A Comanche Natio 75.97 335 ⇑P **P** **14 52 53.5 +1.9**
baz=76
S27A Las Animas 76.18 335 ⇓P **P** **14 52 54.7 +2.1**
baz=76
X18A Snowflake 76.21 329 ⇑P **P** **14 52 55.2 +2.3**
baz=76
Q31A Ellis 76.22 338 ⇓P **P** **14 52 54.8 +2.1**
baz=76
T25A Trinidad 76.24 334 *eP* **P** **14 52 53.2 +0.1**
comp=Z,70nm,1.8s
T25A Trinidad 76.24 334 ⇓P **P** **14 52 54.9 +1.8**
baz=76
R29A Marienthal 76.25 337 ⇑P **P** **14 52 54.5 +1.6**
baz=76
S26A Kim 76.33 335 ⇓P **P** **14 52 55.1 +1.6**
baz=76
Q30A Quinter 76.46 338 ⇑P **P** **14 52 55.5 +1.4**
baz=77
113A Mohawk Valley, 76.50 325 ⇓P **P** **14 52 56.2 +1.8**
baz=77
P32A Huiting Farm, 76.55 339 ⇓P **P** **14 52 56.6 +2.1**
baz=77
Q29A Oakley 76.62 337 ⇓P **P** **14 52 56.2 +1.2**
baz=77
R27A Eads 76.69 336 ⇑P **P** **14 52 56.8 +1.3**
baz=77
P31A Stockton 76.69 339 ⇑P **P** **14 52 57.4 +2.1**
baz=77
X16A Lo Mia Camp, P 76.78 327 ⇑P **P** **14 52 58.1 +2.0**
baz=77
R26A Arlington 76.92 335 ⇓P **P** **14 52 58.4 +1.6**
baz=77
Q28A Sharon Springs 77.06 337 ⇑P **P** **14 52 59.7 +2.1**
baz=77
Y14A Wickenburg 77.10 326 ⇓P **P** **14 52 59.6 +1.8**
baz=77
SDCO Great Sand Dun 77.18 333 *eP* **P** **14 52 58.8 +0.3**
comp=Z,46nm,2.5s
SDCO Great Sand Dun 77.18 333 ⇑P **P** **14 52 60.0 +1.5**
baz=77
P29A Atwood 77.25 338 ⇑P **P** **14 53 00.8 +2.2**
baz=78
KSCO Kaye Shedlock' 77.28 336 ⇑P **P** **14 53 01.0 +2.2**
baz=78
R24A Sanders Place, 77.46 334 ⇓P **P** **14 53 02.4 +2.5**
baz=78
P28A Saint Francis 77.49 337 ⇓P P 14 53 03.1 +3.1
baz=78
Q26A Hugo 77.51 335 ⇓P **P** **14 53 02.2 +2.1**
baz=78
JFWS Jewell Farm 77.60 346 *eP* P 14 52 56.5 -3.8
JFWS pmax pmax
comp=Z,18nm,0.6s
JFWS Jewell Farm 77.60 346 *eP* P 14 52 56.5 -3.8
comp=Z,18nm,0.6s
WUAZ Wupatki 77.67 328 *eP* P 14 52 55.5 -5.6
comp=Z,14nm,1.4s
WUAZ Wupatki 77.67 328 ⇑P **P** **14 53 02.8 +1.7**
baz=78
O29A 4D Ranch, Culb 77.69 338 ⇓P **P** **14 53 03.0 +2.0**
baz=78
S22A 4UR Ranch, Cre 77.69 332 ⇑P **P** **14 53 03.0 +1.7**
baz=78
R23A Moffat 77.69 333 ⇑P **P** **14 53 03.7 +2.4**
baz=78
Q25A Bedland, Calha 77.75 335 ⇓P **P** **14 53 04.0 +2.4**
baz=78
N31A Bailey Ranch, 77.76 339 ⇑P **P** **14 53 03.2 +1.9**
baz=78
MVCO Mesa Verde 77.89 331 *eP* P 14 52 58.4 -4.0
comp=Z,8.7nm,1.1s
MVCO Mesa Verde 77.89 331 ⇑P **P** **14 53 03.9 +1.5**
baz=78
PDMCI Parker Dam,Lak 77.93 325 ⇑P **P** **14 53 04.1 +1.8**
baz=78
BC3 Big Chuckawall 78.04 324 ⇓P **P** **14 53 05.1 +1.9**
baz=78
Q24A Divide 78.12 334 *eP* **P** **14 53 04.7 +0.9**
comp=Z,26nm,1.4s
Q24A Divide 78.12 334 ⇓P **P** **14 53 05.6 +1.8**
baz=78
P25A Willow Gulch B 78.26 335 ⇓P **P** **14 53 06.0 +1.7**
baz=78
W13A Hualapai Mount 78.47 326 ⇑P **P** **14 53 07.8 +2.2**
baz=79
PFO Pinyon Flats O 78.50 323 ⇑P **P** **14 53 08.4 +2.7**
baz=79
O26A Horse Wrangler 78.61 336 ⇓P **P** **14 53 08.8 +2.6**
baz=79
U15A North Rim 78.84 328 ⇑P **P** **14 53 09.8 +2.1**
baz=79
N27A Anderson Farm, 78.86 337 ⇓P **P** **14 53 09.6 +2.1**
baz=79
SMCO Snowmass 78.99 333 *eP* P 14 53 04.4 -4.2
comp=Z,6.9nm,0.8s
ISCO Idaho Springs 79.03 334 *eP* **P** **14 53 09.5 +0.8**
ISCO pmax pmax
comp=Z,10.0nm,1.4s
ISCO Idaho Springs 79.03 334 *eP* **P** **14 53 09.5 +0.8**
comp=Z,9.5nm,1.4s
ISCO Idaho Springs 79.03 334 ⇑P **P** **14 53 10.4 +1.7**
baz=79
GMRC Granite Mounta 79.05 325 ⇓P **P** **14 53 10.5 +1.7**
baz=79
P22A Eagle 79.27 333 ⇓P **P** **14 53 11.8 +1.8**
baz=80
CIS Catalina Islan 79.33 322 ⇓P **P** **14 53 12.4 +2.2**
baz=80
HEC Hector,Ludlow 79.42 324 ⇓P **P** **14 53 12.4 +1.8**
baz=80
TSUM Tsumeb 79.47 106 *eP* **P** **14 53 09.9 -1.6**
comp=Z,24nm,0.9s
O23A Lake Granby, G 79.50 334 ⇑P **P** **14 53 12.9 +1.7**
baz=80
BFSC Mount Baldy Ra 79.61 323 ⇓P **P** **14 53 13.8 +2.0**
baz=80
N24A Carr 79.68 335 ⇓P **P** **14 53 14.7 +2.6**
baz=80
O22A Kremmling 79.69 334 ⇓P **P** **14 53 13.4 +1.1**
baz=80
ECSD EROS Data Cent 79.82 342 P P 14 53 08.6 -3.9
comp=Z,18nm,0.8s
ECSD EROS Data Cent 79.82 342 ⇑P **P** **14 53 14.0 +1.4**
baz=80
GSC Goldstone, Bar 80.03 324 ⇑P **P** **14 53 16.1 +2.1**
baz=80
SHPR Sheep Range 80.21 326 *eP* P 14 53 11.4 -3.6
comp=Z,25nm,1.6s
N22A Wattenberg Ran 80.22 334 ⇓P **P** **14 53 17.8 +2.7**
baz=80
K28A Ten Mile Ranch 80.22 339 ⇓P P 14 53 17.9 +3.1
baz=80
M24A Cheyenne 80.22 336 ⇓P P 14 53 18.4 +3.4
baz=80
EDW2 Edwards Air Fo 80.28 323 ⇓P **P** **14 53 17.2 +1.9**
baz=80
J29A Okreek 80.54 340 ⇓P **P** **14 53 19.2 +2.8**
baz=81
CASY Casey 80.77 181 *eP* P 14 53 14.6 -2.9
comp=Z,20nm,1.1s
M22A Cedar Creek Ra 80.79 334 ⇑P **P** **14 53 19.8 +1.6**
baz=81
ARVC Arvin 80.90 323 ⇓P **P** **14 53 21.3 +2.8**
baz=81
TPNV Topopah Spring 81.08 326 *eP* **P** **14 53 20.1 +0.4**
TPNV pmax pmax
comp=Z,6.0nm,1.0s
TPNV Topopah Spring 81.08 326 *eP* **P** **14 53 20.1 +0.4**
comp=Z,5.7nm,1.0s
TPNV Topopah Spring 81.08 326 ⇓P **P** **14 53 21.7 +2.0**
baz=81
DAC Darwin (Calif) 81.19 324 *eP* P 14 53 16.6 -3.7
DAC pmax pmax
comp=Z,10.0nm,1.3s
DAC Darwin (Calif) 81.19 324 *eP* P 14 53 16.6 -3.7
comp=Z,10nm,1.3s
VES Vestal, Richgr 81.58 323 ⇑P P 14 53 25.4 +3.2
baz=82
R11A Troy Canyon, C 81.90 327 ⇑P **P** **14 53 26.4 +2.4**
baz=82
I25A Rochford 82.14 338 ⇑P P 14 53 29.4 +4.3
baz=82
DUG Dugway, Tooele 82.20 330 P P 14 53 21.2 -4.3
DUG pmax pmax
comp=Z,23nm,1.8s
DUG Dugway, Tooele 82.20 330 P P 14 53 21.2 -4.3
comp=Z,23nm,1.8s
J21A Lysite 82.80 335 ⇑P **P** **14 53 31.3 +2.7**
baz=83
G26A Maurine 82.93 339 ⇓P **P** **14 53 31.0 +2.0**
baz=83
J20A Shoshoni 83.03 334 ⇓P **P** **14 53 32.2 +2.4**
baz=83
PDAR Pinedale Array 83.07 333 P **P** **14 53 31.8 +1.7**
comp=Z,0.5nm,0.7s,baz=134,slow=4.3,SNR=3.9
PDAR pP **pP** **14 53 41.0 +1.0**
comp=Z,1.6nm,0.7s,baz=116,slow=6.4,SNR=7.3
NVAR Mina Array Bea 83.24 325 P **P** **14 53 31.4 +0.4**
comp=Z,1.1nm,0.6s,baz=152,slow=6.0,SNR=7.5
NVAR pP **pP** **14 53 41.0 0.0**
comp=Z,2.1nm,0.7s,baz=157,slow=5.1,SNR=9.5
HVU Hansel Valley 83.51 331 *eP* P 14 53 27.3 -5.0
HVU pmax pmax
comp=Z,6.0nm,0.8s
HVU Hansel Valley 83.51 331 *eP* P 14 53 27.3 -5.0
comp=Z,6.2nm,0.8s
ELK Elko 83.70 328 *eP* P 14 53 29.0 -4.3
ELK Elko 83.70 328 *eP* P 14 53 29.0 -4.3
AGMN Agassiz Nation 83.92 344 ⇓P **P** **14 53 36.1 +2.1**
baz=84
H20A Greybull 83.99 335 ⇑P **P** **14 53 35.6 +1.1**
baz=84
C30A Mose, Pekin 83.99 342 ⇓P **P** **14 53 35.7 +1.3**
baz=84
TORD Torodi Ar. Bea 84.00 70 P **P** **14 53 35.7 +0.5**
comp=Z,25nm,0.8s,baz=257,slow=4.5,SNR=122
TORD pP **pP** **14 53 44.7 -0.4**
comp=Z,26nm,1.0s,baz=252,slow=4.7,SNR=16
TORD LR LR 15 31 05.1
comp=Z,176nm,18.9s,baz=250,slow=36
TPAW Teton Pass 84.22 333 *eP* P 14 53 32.3 -3.7
comp=Z,3.6nm,0.8s
B30A Myrvik Farm, E 84.65 343 ⇓P **P** **14 53 38.9 +1.2**
baz=85
G20A Bridger 84.70 335 ⇓P **P** **14 53 39.0 +0.8**
baz=85
H18A Shoshone NF, C 84.75 334 ⇑P **P** **14 53 40.3 +1.7**
baz=85
HLID Hailey 85.66 331 *eP* P 14 53 39.4 -3.7
comp=Z,5.6nm,1.1s
ULM Lac du Bonnet 85.76 345 P **P** **14 53 42.2 -1.0**
comp=Z,2.0nm,0.7s,baz=243,slow=4.6,SNR=3.5
ULM pP **pP** **14 53 51.3 -1.8**
comp=Z,4.4nm,0.8s,baz=159,slow=4.5,SNR=5.5
E20A Meyer Farm, Mu 85.79 336 ⇑P **P** **14 53 44.9 +1.3**
baz=86
E19A Rath Farm, Rou 85.97 336 ⇑P **P** **14 53 45.6 +1.1**
baz=86
C22A Vida 86.14 338 ⇓P **P** **14 53 47.0 +1.8**
baz=86
LSZ Lusaka 90.09 108 P **P** **14 54 03.2 -1.9**
LSZ pmax pmax
comp=Z,15nm,1.0s
LSZ Lusaka 90.09 108 P **P** **14 54 03.2 -1.9**
comp=Z,15nm,1.0s
TAM Tamanrasset 92.55 64 *eP* P 14 54 13.2 -3.0
TAM pmax pmax
comp=Z,12nm,1.3s
TAM Tamanrasset 92.55 64 *eP* P 14 54 13.2 -3.0
comp=Z,12nm,1.3s
ESDC Sonseca Array 96.10 46 P **P** **14 54 30.7 -1.3**
comp=Z,0.7nm,0.8s,baz=251,slow=2.4,SNR=6.1
ESDC pP **pP** **14 54 40.9 -1.1**
comp=Z,1.0nm,0.8s,baz=243,slow=3.9,SNR=3.6
YKA Yellowknife Ar 101.33 341 P **Pdif** **14 54 53.9 -0.8**
comp=Z,0.2nm,0.5s,baz=145,slow=4.4,SNR=5.2
YKA Yellowknife Ar 101.33 341 P **Pdif** **14 54 54.0 -0.8**
ASAR Alice Springs 118.21 207 PKP **PKPdf** **14 59 51.1 -0.9**
comp=Z,0.9nm,0.9s,baz=188,slow=3.2,SNR=6.2
ASAR PKKPbc **PKKPbc** **15 10 10.9 +0.8**
comp=Z,0.2nm,0.7s,baz=333,slow=3.7,SNR=4.9
WRA Warramunga Arr 121.39 209 PKP **PKPdf** **14 59 57.5 -0.8**
comp=Z,1.8nm,0.8s,baz=161,slow=1.7,SNR=18
WRA pPKP **pPKPdf** **15 00 07.1 -1.4**
comp=Z,2.3nm,0.7s,baz=166,slow=1.6,SNR=9.6
BRTR Keskin Array B 121.52 61 PKP **PKPdf** **14 59 57.2 -0.8**
comp=Z,0.8nm,0.7s,baz=217,slow=6.0,SNR=5.3
BRTR pPKP **pPKPdf** **15 00 06.7 -1.6**
comp=Z,0.9nm,0.7s,baz=212,slow=30,SNR=4.9
KIEV Kiev 121.71 47 *i* PKIKP **PKPdf** **14 59 56.6 -1.1**
AKASG Malin Array Be 121.72 47 PKP **PKPdf** **14 59 57.0 -0.7**
AKASG pPKP **pPKPdf** **15 00 05.7 -2.3**
comp=Z,1.0nm,0.7s,baz=256,slow=2.9,SNR=3.5
H11S2 WAKE ISLAND Hyl 25.72 270 T T 17 18 58.7
baz=118,slow=74,SNR=126
H11S1 WAKE ISLAND Hyl 25.74 270 T T 17 19 02.7
baz=118,slow=74,SNR=110
H11S3 WAKE ISLAND Hyl 25.74 270 T T 17 18 59.4
baz=118,slow=74,SNR=78
OBN Obninsk 126.93 43 *i* PKIKP **PKPdf** **15 00 07.3 -0.3**
OBN pmax pmax
comp=Z,9.0nm,1.3s
KIV Kislovodsk 129.14 58 *i* PKIKP **PKPdf** **15 00 13.5 +1.2**
KIV pmax pmax
comp=Z,4.0nm,1.0s
ZEI Tsey 129.78 59 *e*PKIKP **PKPdf** **15 00 13.8 0.0**
ZEI pmax pmax
comp=Z,4.0nm,1.3s
GNI Garni 129.83 63 *i* PKIKP **PKPdf** **15 00 13.8 -0.1**
BILL Bilibino 132.14 334 *i* PKIKP **PKPdf** **15 00 16.8 -0.4**
BILL pmax pmax
comp=Z,3.0nm,1.0s
ARU Arti 139.21 40 PKIKP **PKPdf** **15 00 30.3 -0.4**
SEY Seymchan 139.36 331 PKP **PKPdf** **15 00 28.9 -1.7**
comp=Z,5.9nm,0.9s,baz=139,slow=9.3
SEY Seymchan 139.36 331 PKIKP **PKPdf** **15 00 29.0 -1.7**
PETK Petropavlovsk- 139.59 315 PKP **PKPdf** **15 00 31.2 -0.3**
comp=Z,2.9nm,1.0s,baz=191,slow=3.0,SNR=4.5
GEYT Alibeck 139.63 69 PKP **PKPdf** **15 00 31.6 -0.5**
comp=Z,1.5nm,0.6s,baz=305,slow=5.2,SNR=4.2
ABKAR Akbulak array 141.26 51 *e*PKPdf **PKPdf** **15 00 31.6 -3.0**
BRVK Borovoye 146.69 42 *c i* PKP2 **PKPbc** **15 00 45.7 0.0**
BRVK pmax pmax
comp=Z,11nm,1.0s
BRVK Borovoye 146.69 42 *e*PKPdf **PKPdf** **15 00 40.3 -3.7**
URV Uravakonda 146.80 116 *e*PKIKP **PKPbc** **15 00 47.5 +0.4**
URV *e* 15 00 56.6
SKHT Srikalahasti 147.84 120 *e*PKPab **PKPbc** **15 00 50.5 +0.6**
SKHT *e* 15 00 53.4
SKHT *i* 15 00 59.6
YAK Yakutsk 148.01 341 *e*PKP2 **PKPbc** **15 00 48.4 -0.6**
YAK pmax pmax
comp=Z,49nm,1.1s
YAK pmax pmax
comp=N,3.0nm,1.4s
YAK pmax pmax
comp=E,4.0nm,1.3s
YAK Yakutsk 148.01 341 *e*PKPab **PKPbc** **15 00 48.9 -0.1**
KKAR Karatay Array 149.23 60 *e*PKP2 **PKPbc** **15 00 54.8 +2.0**
KKAR Karatay Array 149.23 60 *e*PKPab **PKPbc** **15 00 54.8 +2.0**
HYB Hyderabad 149.28 114 *i* PKP **PKPbc** **15 00 53.0 -0.7**
HYB *e*pPKP **pPKPdf** **15 01 02.0 +2.3**
HYBB Hyderabad (bro 149.28 114 *e*PKPab **PKPbc** **15 00 54.1 +0.4**
HYBB *e* 15 01 02.9
YSS Yuzh-Sakhalins 150.30 308 *e*PKP2 **PKPbc** **15 00 54.2 -1.0**
IPM Ipoh 150.66 166 *e*PKPbc **PKPdf** **15 00 54.8 +3.1**
KULM Kulim 151.37 165 *e*PKPdf **PKPdf** **15 00 49.0 -3.7**
EKS2 Erkin-Say 151.66 61 *e*PKIKP **PKPdf** **15 00 54.0 +1.5**
EKS2 Erkin-Say 151.66 61 *e*PKPbc **PKPdf** **15 00 54.0 +1.5**
AAK Ala-Archa 152.19 61 *e*PKIKP **PKPdf** **15 00 54.8 +1.5**
AAK Ala-Archa 152.19 61 *e*PKPbc **PKPdf** **15 00 54.8 +1.5**
FRU Bishkek 152.25 60 *e*PKPbc **PKPbc** **15 01 00.0 0.0**
FRU *e* 15 01 10.0
NVS Novosibirsk 152.33 31 *e*PKIKP **PKPdf** **15 00 52.2 -0.7**
NVS pmax pmax
comp=Z,23nm,0.9s
KURK Kurchatov 152.37 42 *e*PKIKP **PKPbc** **15 00 57.5 -2.4**
KURK Kurchatov 152.37 42 *e*PKPbc **PKPbc** **15 00 57.5 -2.4**
TKM2 Tokmak 2 152.95 60 *e*PKIKP **PKPdf** **15 00 55.2 +0.7**
TKM2 Tokmak 2 152.95 60 *e*PKPbc **PKPdf** **15 00 55.2 +0.7**
ZAA0 Zalesovo Array 153.62 31 *e*PKPab **PKPab** **15 01 11.3 -4.0**
ZALV Zalesovo Beam 153.62 31 PKP **PKPdf** **15 00 55.0 +0.2**
comp=Z,6.9nm,1.0s,baz=280,slow=2.7,SNR=17
ZALV PKPbc **PKiKP** **15 01 03.1 +0.4**
comp=Z,8.9nm,0.8s,baz=304,slow=3.1,SNR=21
ZALV pPKPbc **pPKPbc** **15 01 11.2 -1.6**
comp=Z,19nm,0.9s,baz=292,slow=3.0,SNR=12
BOD Bodaibo 155.08 352 *e*PKIKP PKPdf 15 01 03.6 +6.9
BOD *e* 15 01 20.1
BOD pmax pmax
comp=Z,8.0nm,1.1s
MK31 Makanchi Array 156.31 48 *e*PKIKP PKPdf 15 01 04.8 +6.0
MK31 Makanchi Array 156.31 48 *e*PKPbc PKPdf 15 01 04.8 +6.0
MKAR Makanchi Array 156.31 48 PKP **PKPdf** **15 00 59.0 +0.2**
comp=Z,1.6nm,1.0s,baz=282,slow=6.1,SNR=13
MKAR PKPbc PKPbc 15 01 08.8
comp=Z,1.8nm,0.9s,baz=270,slow=7.0,SNR=9.9
MKAR PKPab **PKPab** **15 01 26.2 -0.9**
comp=Z,4.0nm,0.6s,baz=279,slow=8.0,SNR=32
WMQ Urumqi 161.04 50 *e*PKP **PKPdf** **15 01 04.8 +0.2**
WMQ pPKP **pPKPdf** **15 01 15.3 +0.4**
WMQ LE
comp=Z,190nm,20.7s
WMQ LZ
comp=Z,140nm,20.8s
KSRS Korea Array 163.14 290 PKP **PKPdf** **15 01 05.8 -1.0**
comp=Z,1.4nm,0.9s,baz=129,slow=1.8,SNR=5.9
KSAR Wonju Array Be 163.17 290 PKIKP **PKPdf** **15 01 05.8 -1.0**
KSAR Wonju Array Be 163.17 290 PKP **PKPdf** **15 01 05.8 -1.0**
CMAR Chiang Mai Arr 163.22 149 PKP **PKPdf** **15 01 06.8 -0.6**
comp=Z,1.5nm,1.0s,baz=254,slow=2.8,SNR=7.6
CMAR PKPab **PKPab** **15 01 57.1 -0.6**
comp=Z,0.5nm,0.7s,baz=225,slow=6.2,SNR=4.5
SONM Songino Array 165.39 4 PKP **PKPdf** **15 01 08.2 -0.5**
comp=Z,0.6nm,0.8s,baz=203,slow=1.6,SNR=3.6
SONM PKPab **PKPab** **15 02 07.4 +0.8**
comp=Z,3.1nm,0.9s,baz=333,slow=3.8,SNR=10
NJ2 Nanjing 170.69 266 *e*PKP **PKPdf** **15 01 13.5 +0.9**
GTA Gaotai 171.04 44 *e*PKP **PKPdf** **15 01 13.4 +0.6**
GTA pPKP **pPKPdf** **15 01 24.1 +1.0**
GTA sPKP 15 01 28.0
GTA PKPab **PKPab** **15 02 33.4 +1.4**
GTA PP **PP** **15 06 25.3 +2.7**
GTA SKS **SKSdf** **15 08 12.2 -1.8**
GTA SKKS **SKKSac** **15 13 06.3 -1.0**
GTA SS **SS** **15 27 21.2 -3.7**
GTA PPMZ
comp=Z,91nm,7.4s
GTA LN
comp=Z,97nm,19.0s
GTA LE
comp=Z,52nm,17.6s
GTA LZ
comp=Z,79nm,19.9s
HHC Hu-ho-hao-te 171.87 340 *e*PKP **PKPdf** **15 01 09.4 -3.7**
HHC sPKP 15 01 23.0
HHC PKS PKSdf 15 04 39.8 -5.6
HHC PP **PP** **15 06 23.9 -2.1**
HHC SS SS 15 27 28.7 -3.1
HHC PPMZ
comp=Z,29nm,9.3s
HHC LN
comp=Z,110nm,22.4s
HHC LE
comp=Z,190nm,22.7s
HHC LZ
comp=Z,84nm,22.0s
GYA Guiyang 173.15 171 *e*PKP **PKPdf** **15 01 13.0 -1.1**
GYA sPKP 15 01 28.4
GYA PKPab **PKPab** **15 02 42.6 +1.2**
GYA PKS **PKSdf** **15 04 43.5 -3.1**
GYA PP **PP** **15 06 34.0 +1.9**
GYA PPMZ
comp=Z,120nm,8.2s
LZH Lanzhou 175.62 49 *e*PKP **PKPdf** **15 01 14.8 +0.1**
LZH pPKP **pPKPdf** **15 01 24.9 -0.1**
LZH sPKP 15 01 28.5
LZH LN
comp=Z,220nm,18.3s
LZH LE
comp=Z,200nm,18.1s
LZH LZ
comp=Z,280nm,19.8s
CD2 Chengdu 175.78 122 *e*PKP **PKPdf** **15 01 14.8 +0.1**

DDA ***01*** *14:53:21.9, 39°.68N×29°.49E, h7km, MD2.9*
CSEM ***01*** *14:53:22.1±0.1, 39°.68N×29°.48E, h8km, MD2.8, Error ellipse: s-maj=2.8km s-min=2.4km az=68.0*
ISK 01 14:53:21.1, 39°.68N×29°.47E, h5km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TVSB	**Tavsanli**	**0.23**	**181**	*e*PG	Pg	14 53 26.4	+0.7
TVSB				*e*SG	Sg	14 53 31.5	+2.8
TVSB	**Tavsanli**	**0.23**	**181**	*e*Pg	Pg	14 53 26.4	+0.7
TVSB				*e*Sg	Sg	14 53 31.5	+2.7
ULDT	**Uludag**	**0.53**	**331**	*i* P	Pg	14 53 32.1	+0.5
ULDT				*i* S	Sb	14 53 40.9	-0.5
ULDT	**Uludag**	**0.53**	**331**	*i* P	Pg	14 53 32.1	+0.5
ULDT				*i* S	Sb	14 53 40.9	-0.5
ORLT	**Orhaneli**	**0.57**	**310**	*e*PG	Pg	14 53 32.9	+0.6
ORLT	**Orhaneli**	**0.57**	**310**	*e*Pg	Pg	14 53 32.9	+0.6
GDZ	**Gediz**	**0.59**	**179**	*i* P	Pb	14 53 33.4	-0.7
GDZ				*i* S	Sb	14 53 42.4	-0.4
GDZ	**Gediz**	**0.59**	**179**	*i* P	Pb	14 53 33.4	-0.7
GDZ				*i* S	Sb	14 53 42.4	-0.4
CAVI	**Cavuskoy**	**0.60**	**29**	*e*PG	Pb	14 53 33.6	-0.6
CAVI	**Cavuskoy**	**0.60**	**29**	*e*Pg	Pb	14 53 33.6	-0.5

DST	**Dursunbey**	**0.66**	**264**	*e*PG	Pb	14 53 35.0	-0.2
DST	**Dursunbey**	**0.66**	**264**	*e*Pg	Pb	14 53 35.0	-0.2
IZI	**Iznik**	**0.66**	**0**	*e*PG	Pb	14 53 35.1	-0.2
IZI	**Iznik**	**0.66**	**0**	*e*Pg	Pb	14 53 35.1	-0.2
ADVT	**Abdulvahap**	**0.78**	**15**	*e*PG	Pb	14 53 37.0	-0.3
ADVT	**Abdulvahap**	**0.78**	**15**	*e*Pg	Pb	14 53 37.0	-0.3
BORA	**Eskisehir**	**0.79**	**75**	*i* P	Pb	14 53 36.9	-0.5
BORA				*i* S	Sn	14 53 50.1	-1.1
BORA	**Eskisehir**	**0.79**	**75**	*i* P	Pb	14 53 36.9	-0.5
BORA				*i* S	Sn	14 53 50.1	-1.1
GEMT	**Gemlik**	**0.79**	**344**	*e*PG	Pb	14 53 37.4	+0.1
GEMT	**Gemlik**	**0.79**	**344**	*e*Pg	Pb	14 53 37.4	+0.1
ALT	**Altintas**	**0.80**	**141**	*e*PG	Pg	14 53 37.0	+0.5
ALT	**Altintas**	**0.80**	**141**	*e*Pg	Pg	14 53 37.0	+0.5
MDNY	**Mudanya-Bursa**	**0.82**	**327**	*e*PG	Pb	14 53 38.5	+0.6
MDNY	**Mudanya-Bursa**	**0.82**	**327**	*e*Pg	Pb	14 53 38.5	+0.6
DEMI	**Demirci**	**0.86**	**223**	*i* P	Pb	14 53 38.5	-0.1
DEMI	**Demirci**	**0.86**	**223**	*i* P	Pb	14 53 38.5	-0.1
DEMI				*i* S	Sn	14 53 55.2	+2.2
ARMT	**Armutlu**	**1.00**	**333**	*e*PG	Pn	14 53 41.6	-0.2
ARMT	**Armutlu**	**1.00**	**333**	*e*Pg	Pn	14 53 41.6	-0.3
KCTX	**Karacabey (Bur**	**1.04**	**305**	*e*PG	Pn	14 53 42.0	-0.3
KCTX	**Karacabey (Bur**	**1.04**	**305**	*e*Pg	Pn	14 53 42.0	-0.4
ESKT	**Eskisehir**	**1.08**	**98**	*e*PG	Pn	14 53 42.8	-0.3
ESKT	**Eskisehir**	**1.08**	**98**	*e*Pg	Pn	14 53 42.8	-0.3
SEYT	**Eskypehyr**	**1.08**	**98**	*i* P	Pb	14 53 42.5	+0.1
SEYT				*i* S	Sn	14 54 00.5	+2.0
SEYT	**Eskypehyr**	**1.08**	**98**	*i* P	Pb	14 53 42.5	+0.1
SEYT				*i* S	Sn	14 54 00.5	+2.0
GULT	**Gulveren**	**1.10**	**46**	*e*PN	Pn	14 53 43.2	-0.1
GULT	**Gulveren**	**1.10**	**46**	*e*Pn	Pn	14 53 43.2	-0.1
HRT	**Hereke**	**1.16**	**8**	*e*PN	Pn	14 53 44.2	+0.2
HRT	**Hereke**	**1.16**	**8**	*e*Pn	Pn	14 53 44.2	+0.2
BALB	**Balikesir**	**1.23**	**269**	*e*PN	Pn	14 53 45.4	+0.5
BALB	**Balikesir**	**1.23**	**269**	*e*Pn	Pn	14 53 45.4	+0.5
KULA	**Kula-Manisa**	**1.32**	**209**	*e*PN	Pg	14 53 47.1	+0.5
KULA	**Kula-Manisa**	**1.32**	**209**	*e*Pn	Pg	14 53 47.1	+0.6
ISK	**Istanbul-Kandi**	**1.42**	**347**	*e*PN	Pg	14 53 48.9	+0.4
ISK	**Istanbul-Kandi**	**1.42**	**347**	*e*Pn	Pg	14 53 48.9	+0.5
AKS	**Akhisar**	**1.51**	**239**	*e*PN	Pg	14 53 50.1	-0.1
AKS	**Akhisar**	**1.51**	**239**	*e*Pn	Pg	14 53 50.1	0.0
SVRH	**Sivrihisar-ESK**	**1.60**	**98**	*e*PN	Pg	14 53 51.7	-0.3
SVRH	**Sivrihisar-ESK**	**1.60**	**98**	*e*Pn	Pg	14 53 51.7	-0.3
KLYT	**Kilyos**	**1.61**	**348**	*e*PN	Pg	14 53 51.8	-0.1
KLYT	**Kilyos**	**1.61**	**348**	*e*Pn	Pg	14 53 51.8	-0.1
MRMT	**Marmara Adasi**	**1.71**	**303**	*e*PN	Pb	14 53 52.9	-0.2
MRMT	**Marmara Adasi**	**1.71**	**303**	*e*Pn	Pb	14 53 52.9	-0.2
RKY	**Sarkoy-Tekirda**	**2.02**	**301**	*e*PN	Pb	14 53 57.6	-0.9
RKY	**Sarkoy-Tekirda**	**2.02**	**301**	*e*Pn	Pb	14 53 57.6	-0.9

*ISCJB **01** 15:14:33.7±0.3,0.˝78S±0.˝03×122.˚45E±0.˝03,h10km, mb4.3/14, MS3.1/6, Error ellipse: s-maj=4.3km s-min=3.9km az=143.4*

*IDC **01** 15:14:33.1±0.7,0.˝58S×122.˚69E,h0km,mb4.2/10, mb1 4.4/11,mb1mx4.1/31,mbtmp4.3/11,ML3.7/1,MS3.1/7, Ms1 3.2/7,ms1mx3.0/33,Error ellipse: s-maj=31.8km s-min=13.6km az=65.0*

*DJA **01** 15:14:36.5±0.5,1˚S±2˚×12˚2E±˚,h14km±4km,M4.6/5, mb4.8/1,MLv4.5/5*

*NEIC **01** 15:14:37.5±0.4,0.˝68S×122.˚66E,h35km,mb4.4/4,Error ellipse: s-maj=15.8km s-min=7.3km az=66.0*

ISC 01 15:14:33.8±0.6,0.˚70S±0.˚06×122.˚64E±0.˝05,h10km,n58, σ1§49/53,mb4.3/14,MS3.0/6,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.37**	**159**	P	**Pn**	**15 14 44.8**	**-0.3**
MRSI	**Marisa**	**1.36**	**329**	P	**Pn**	**15 14 57.1**	**-1.7**
KMSI	**Cibinong**	**1.84**	**47**	P	Pg	15 15 11.5	+2.4
PCI	**Palu**	**2.81**	**266**	P	**Pn**	**15 15 18.1**	**-0.7**
PCI				S	**Sn**	**15 15 50.9**	**-2.0**
MPSI	**Mapaga**	**2.93**	**291**	P	**Pn**	**15 15 20.3**	**-0.1**
SANI	**Sanana**	**3.60**	**112**	P	Pn	15 15 32.4	+2.7
SANI				S	Sg	15 16 46.3	+17
TTSI	**Tana Toraja**	**3.66**	**230**	P	**Pn**	**15 15 29.5**	**-1.0**
TTSI				S	**Sn**	**15 16 10.2**	**-3.6**
SPSI	**Sidrap Palu**	**4.33**	**221**	P	**Pn**	**15 15 39.1**	**-0.6**
SPSI				S	**Sn**	**15 16 27.6**	**-2.8**
BNSI	**Bone**	**4.47**	**215**	P	**Pn**	**15 15 41.1**	**-0.5**
BNSI				S	**Sn**	**15 16 31.2**	**-2.5**
LBMI	**Labuha**	**4.86**	**89**	P	Pb	15 15 52.7	-6.3
LBMI				S	**Sb**	**15 16 53.3**	**-4.3**
TNTI	**Ternate**	**4.94**	**73**	P	Pb	15 15 54.4	-6.1
NLAI	**Namlea**	**5.12**	**120**	P	Pn	15 15 55.0	+4.4
KAPI	**Kappang** 150nm,0.8s	**5.17**	**214**	*e*P	**Pn**	**15 15 50.9**	**-0.4**
KAPI				*e*Sn	**Sn**	**15 16 48.9**	**-2.1**
SGSI	**Sangihe**	**5.22**	**34**	P	Pb	15 15 57.7	-7.5
BKSI	**Bulukumba**	**5.24**	**209**	P	**Pn**	**15 15 51.8**	**-0.4**
BKB	**Balikpapan**	**5.77**	**264**	P	**Pn**	**15 15 58.3**	**-1.2**
MSAI	**Masohi**	**6.81**	**113**	P	Pn	15 16 18.5	+4.7
KBKI	**Kotabaru**	**6.97**	**248**	P	**Pn**	**15 16 14.8**	**-1.2**
MMRI	**Maumere**	**7.90**	**183**	P	**Pn**	**15 16 29.7**	**+1.0**
EDFI	**Ende, Flores**	**8.06**	**187**	P	**Pn**	**15 16 31.3**	**+0.3**
BATI	**Baumata** 0.7nm,0.3s,baz=272,slow=18,SNR=2.1	**9.50**	**174**	Pn	**Pn**	**15 16 53.4**	**+2.6**
FAKI	**Fak Fak**	**9.85**	**103**	P	Pn	15 16 58.5	+2.9
JAY	**Jayapura** comp=Z,40nm,20.1s,baz=236,slow=38	**18.14**	**96**	LR	LR	15 26 02.4	
WRAB	**Tennant Creek** 19nm,0.9s	**22.29**	**150**	*e*P	**P**	**15 19 31.5**	**+0.1**
WRA	**Warramunga Arr** 16nm,0.9s,baz=330,slow=10,SNR=52	**22.29**	**150**	P	**P**	**15 19 33.4**	**+1.9**
PSI	**Prapat** 16nm,1.0s,baz=132,slow=3.2,SNR=12	**22.96**	**272**	P	**P**	**15 19 49.4**	**+0.7**
COEN	**Coen**	**24.22**	**124**	*e*P	**P**	**15 19 49.0**	**-2.0**
AS31	**Alice Springs**	**25.31**	**155**	*e*P	**P**	**15 20 00.2**	**-0.6**
ASAR	**Alice Springs** 4.5nm,0.6s,baz=334,slow=8.8,SNR=69	**25.31**	**155**	P	**P**	**15 20 02.6**	**+1.8**
ASAR	1.2nm,0.8s,baz=343,slow=2.1,SNR=8.8			PcP	**PcP**	**15 23 35.1**	**+1.2**
ASAR	comp=Z,57nm,19.1s,baz=318,slow=42			LR	LR	15 32 14.2	
GUMO	**Guam** comp=Z,51nm,21.4s,baz=228,slow=34	**26.20**	**56**	LR	LR	15 29 13.6	
CMAR	**Chiang Mai Arr** 2.0nm,0.8s,baz=137,slow=7.5,SNR=12	**30.09**	**310**	P	**P**	**15 20 45.7**	**+2.0**
CMAR	comp=Z,37nm,20.5s,baz=140,slow=38			LR	LR	15 33 33.5	
CHTO	**Chiang Mai** 5.4nm,1.0s	**30.30**	**311**	*e*P	**P**	**15 20 45.4**	**-0.1**
STKA	**Stephens Creek** 5.1nm,1.0s,baz=338,slow=9.8,SNR=7.6	**35.81**	**152**	P	**P**	**15 21 35.5**	**+2.0**
STKA	**Stephens Creek**	**35.81**	**152**	*e*P	**P**	**15 21 34.0**	**+0.5**
KSRS	**Korea Array** comp=Z,23nm,21.7s,baz=222,slow=35	**38.27**	**7**	LR	LR	15 36 41.8	
MJAR	**Matsushiro Arr** 2.0nm,0.8s,baz=196,slow=9.9,SNR=9.4	**39.77**	**20**	P	**P**	**15 22 06.7**	**-0.3**
MJAR	comp=Z,15nm,21.6s,baz=255,slow=33			LR	LR	15 36 15.6	
LSA	**Lhasa**	**42.62**	**318**	*e*P	**P**	**15 22 31.2**	**+0.2**
ODAN	**Odare** 20nm,0.9s	**43.61**	**312**	*e*P	**P**	**15 22 40.2**	**+1.3**
RAMN	**Ramite** 48nm,1.0s	**44.25**	**311**	*e*P	**P**	**15 22 45.7**	**+1.7**
JIRN	**Jiri** 32nm,0.9s	**44.94**	**312**	*e*P	**P**	**15 22 50.9**	**+1.2**
GUN	**Gumba** 48nm,0.8s	**45.31**	**312**	*e*P	**P**	**15 22 53.7**	**+1.1**
PKI	**Pulchoki** 22nm,1.0s	**45.48**	**311**	*e*P	**P**	**15 22 54.8**	**+0.9**
PKIN	**Phulchoki** 12nm,0.7s	**45.49**	**311**	*e*P	**P**	**15 22 54.7**	**+0.8**
KKN	**Kakani** 34nm,1.2s	**45.69**	**311**	*e*P	**P**	**15 22 56.4**	**+1.0**
DMN	**Daman** 49nm,1.1s	**45.73**	**311**	*e*P	**P**	**15 22 56.8**	**+1.0**
GKN	**Gorkha** 26nm,0.8s	**46.29**	**311**	*e*P	**P**	**15 23 01.0**	**+0.9**
KOLN	**Koldanda** 15nm,0.7s	**46.95**	**310**	*e*P	**P**	**15 23 06.4**	**+1.0**
PYUN	**Piuthan** 86nm,0.8s	**47.59**	**310**	*e*P	**P**	**15 23 11.6**	**+1.3**
ULN	**Ulaanbaatar** 3.0nm,1.0s	**50.24**	**346**	*e*P	**P**	**15 23 31.1**	**+0.8**
SONM	**Songino Array** 2.9nm,0.8s,baz=162,slow=8.6,SNR=12	**50.37**	**346**	P	**P**	**15 23 31.8**	**+0.6**
MK31	**Makanchi Array**	**59.02**	**329**	*e*P	**P**	**15 24 34.1**	**+0.3**
MKAR	**Makanchi Array** 1.8nm,0.7s,baz=158,slow=5.0,SNR=24	**59.02**	**329**	P	**P**	**15 24 34.4**	**+0.6**
ZAA0	**Zalesovo Array**	**62.80**	**336**	*e*P	**P**	**15 24 58.1**	**-1.3**
ZALV	**Zalesovo Beam** 2.7nm,0.7s,baz=119,slow=6.9,SNR=12	**62.80**	**336**	P	**P**	**15 24 59.0**	**-0.4**
KURK	**Kurchatov** 8.2nm,0.8s	**63.40**	**330**	*e*P	**P**	**15 25 02.7**	**-0.7**
MAW	**Mawson** comp=Z,52nm,19.0s,baz=241,slow=32	**78.22**	**200**	LR	LR	15 57 02.4	
VNDA	**Vanda** 0.8nm,0.7s,baz=314,slow=5.5,SNR=4.3	**79.61**	**172**	P	**P**	**15 26 42.0**	**+1.2**
TORD	**Torodi Ar. Bea** 1.1nm,0.7s,baz=74,slow=1.6,SNR=6.7	**120.24**	**285**	PKP	**PKPdf**	**15 33 25.2**	**-1.0**

*IDC **01** 15:39:56.0±1.0,10.˚24N×126.˚11E,h0km±,mb3.5/7, mb1 3.7/7,mb1mx3.5/36,mbtmp3.5/7,Error ellipse: s-maj=38.8km s-min=19.9km az=71.0*

*ISCJB **01** 15:40:00.2±0.7,10.˚39N±0.˚05×126.˚38E±0.˝06,h44km, mb3.5/7,Error ellipse: s-maj=8.3km s-min=6.5km az=166.2*

*MAN **01** 15:40:01,10.˚41N×126.˚29E,h32km,mb4.9,ML3.8,MS3.9*

ISC 01 15:40:02.3±0.8,10.˚40N±0.˚05×126.˚32E±0.˝08,h44km,n21, σ1§48/25,mb3.4/7,2C-2D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**1.46**	**260**	*e*P	**Pn**	**15 40 24.6**	**-1.6**
MSLP				*e*S	**Sn**	**15 40 46.3**	**+2.1**
BESP	**Borongan**	**1.47**	**324**	*e*P	**Pn**	**15 40 25.9**	**-0.4**
PLP	**Palo**	**1.52**	**300**	*e*P	**Pn**	**15 40 26.3**	**-0.7**
PLP				*e*S	**Sn**	**15 40 43.9**	**-1.7**
BUTP	**Butuan**	**1.58**	**206**	*e*P	**Pn**	**15 40 26.3**	**-1.5**
BUTP				*e*S	**Sn**	**15 40 51.1**	**+4.0**
OCLP	**Ormoc**	**1.80**	**291**	*e*P	**Pn**	**15 40 31.5**	**+0.7**
CGP	**Cagayan de Oro**	**2.51**	**220**	*e*P	**Pn**	**15 40 40.1**	**-0.6**
CGP				*e*S	**Sn**	**15 41 10.3**	**+0.3**
CNP	**Catarman**	**2.65**	**322**	*e*P	**Pn**	**15 40 41.1**	**-1.5**
BUKP	**Musuan**	**2.80**	**206**	*e*P	**Pn**	**15 40 45.1**	**+0.5**
DCPH	**Dipolog City**	**3.44**	**239**	*e*P	**Pn**	**15 40 53.5**	**+0.1**
GUIM	**Jordan**	**3.67**	**274**	*e*P	**Pn**	**15 40 56.8**	**+0.2**
RCP	**Roxas**	**3.69**	**289**	*e*P	**Pn**	**15 40 57.9**	**+1.0**
PVCP	**Virac**	**3.82**	**327**	*e*P	**Pn**	**15 41 00.3**	**+1.7**
OTRP	**Odiongan**	**4.64**	**295**	*e*P	**Pn**	**15 41 10.2**	**+0.3**
CUYO	**Cuyo Island**	**5.23**	**275**	*e*P	**Pn**	**15 41 18.0**	**0.0**
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=105,slow=7.6,SNR=5.3	**27.66**	**290**	P	**P**	**15 45 45.0**	**-1.3**
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=345,slow=9.3,SNR=2.7	**31.17**	**165**	P	**P**	**15 46 15.6**	**-1.7**
ASAR	**Alice Springs** 0.2nm,0.4s,baz=355,slow=6.9,SNR=7.2	**34.66**	**168**	P	**P**	**15 46 46.5**	**-1.3**
STKA	**Stephens Creek** 0.9nm,0.8s,baz=299,slow=8.6,SNR=3.1	**44.51**	**161**	P	**P**	**15 48 08.9**	**-0.7**
PETK	**Petropavlovsk-** 3.3nm,1.0s,baz=197,slow=4.6,SNR=4.9	**49.50**	**24**	P	**P**	**15 48 50.1**	**+1.8**
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=160,slow=4.6,SNR=5.3	**51.95**	**323**	P	**P**	**15 49 06.3**	**-0.7**
YKA	**Yellowknife Ar** 0.2nm,0.8s,baz=297,slow=5.4,SNR=3.1	**93.62**	**24**	P	**P**	**15 53 14.9**	**+1.2**

*IDC **01** 15:43:51.8±4.2,2.˚50N×97.˚41E,h33km±30km,mb3.9/13, mb1 4.0/14,mb1mx3.8/34,mbtmp4.1/14,ML3.5/1,MS3.3/2, Ms1 3.3/2,ms1mx2.9/33,Error ellipse: s-maj=35.2km s-min=14.6km az=53.0*

*DJA **01** 15:43:54.5±1.0,2˚N±2˚×9˚7E±˚,h31km±15km,M4.5/9, mb4.9/1,MLv4.3/9*

ISC 01 15:43:51.7±0.6,2.˚44N±0.˚04×97.˚39E±0.˝05,h33km,n26, σ1§35/28,mb4.1/13,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**1.07**	**268**	P	**Pb**	**15 44 12.9**	**+1.2**
KCSI	**Kotacane, Aceh**	**1.14**	**19**	P	**Pb**	**15 44 14.1**	**+1.1**
KCSI				S	**Sb**	**15 44 28.9**	**+1.4**
GSI	**Gunungsitoli**	**1.14**	**171**	P	**Pb**	**15 44 14.1**	**+1.1**
GSI				S	**Sb**	**15 44 30.0**	**+2.5**
PSI	**Prapat** 8.6nm,0.3s,baz=272,slow=5.8,SNR=33	**1.57**	**77**	Pg	**Pb**	**15 44 20.8**	**+0.5**
PSI	comp=Z,66nm,20.5s,baz=256,slow=31			LR	LR	15 44 39.3	
TSI	**Tuntungan**	**1.57**	**48**	P	**Pb**	**15 44 21.9**	**+1.6**
TSI				S	**Sb**	**15 44 43.1**	**+3.3**
MNSI	**Mandailing Nat**	**2.73**	**127**	P	**Pb**	**15 44 37.2**	**-2.6**
LHMI	**Lhok Sumawe**	**2.81**	**351**	P	**Pb**	**15 44 38.8**	**-2.4**
BSI	**Banda Aceh**	**3.69**	**326**	P	**Pn**	**15 44 47.5**	**+1.0**
BSI				S	**Sn**	**15 45 28.5**	**-0.3**
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=198,slow=11,SNR=10	**15.99**	**5**	Pn	**Pn**	**15 47 35.3**	**+0.9**
CMAR	comp=Z,68nm,19.2s,baz=191,slow=37			LR	LR	15 53 46.3	
H08S2	**Diego Garcia H** baz=69,slow=75,SNR=32	**26.79**	**248**	T	T	16 16 48.7	
H08S3	**Diego Garcia H** baz=69,slow=75,SNR=25	**26.79**	**248**	T	T	16 16 48.0	
H08S1	**Diego Garcia H** baz=69,slow=75,SNR=5.3	**26.80**	**248**	T	T	16 16 50.0	
WRA	**Warramunga Arr** 1.4nm,0.5s,baz=301,slow=9.2,SNR=23	**42.53**	**123**	P	**P**	**15 51 44.7**	**+0.1**
ASAR	**Alice Springs** 0.4nm,0.6s,baz=301,slow=7.5,SNR=14	**43.99**	**128**	P	**P**	**15 51 56.3**	**-0.1**
KSRS	**Korea Array** 0.9nm,0.6s,baz=238,slow=8.4,SNR=5.8	**44.73**	**35**	P	**P**	**15 52 00.3**	**-1.6**
SONM	**Songino Array** 1.2nm,0.7s,baz=184,slow=9.2,SNR=10	**45.89**	**8**	P	**P**	**15 52 10.4**	**-0.7**
SONM	1.0nm,0.6s,baz=197,slow=4.0,SNR=7.3			PcP	**PcP**	**15 53 47.5**	**-0.4**
MKAR	**Makanchi Array** 1.2nm,0.7s,baz=194,slow=8.3,SNR=19	**46.10**	**346**	P	**P**	**15 52 12.0**	**-0.7**
GEYT	**Alibeck** 5.8nm,0.7s,baz=159,slow=8.9,SNR=16	**50.40**	**319**	P	**P**	**15 52 46.3**	**+0.2**
ZALV	**Zalesovo Beam** 6.6nm,0.6s,baz=179,slow=7.2,SNR=42	**52.38**	**351**	P	**P**	**15 53 00.1**	**-0.4**
STKA	**Stephens Creek** 2.6nm,0.8s,baz=357,slow=3.8,SNR=4.3	**54.05**	**133**	P	**P**	**15 53 13.3**	**+0.1**
STKA	comp=Z,35nm,18.1s,baz=207,slow=38			LR	LR	16 18 32.8	
KBZ	**Khabaz** 2.5nm,0.8s,baz=56,slow=24,SNR=8.6	**63.27**	**319**	P	**P**	**15 54 17.4**	**+0.2**
BRTR	**Keskin Array B** 1.5nm,0.7s,baz=133,slow=6.4,SNR=12	**68.43**	**312**	P	**P**	**15 54 50.0**	**-0.8**
FINES	**FINESS Array B** 1.2nm,0.5s,baz=110,slow=5.3,SNR=14	**79.00**	**332**	P	**P**	**15 55 51.8**	**-0.3**
ARCES	**ARCESS Array B** 4.5nm,1.0s,baz=91,slow=6.1,SNR=6.5	**81.44**	**340**	P	**P**	**15 56 05.2**	**+0.1**
GERES	**GERESS Array B** 0.5nm,0.8s,baz=103,slow=5.9,SNR=6.3	**84.02**	**319**	P	**P**	**15 56 18.7**	**-0.4**
CPUP	**Villa Florida** 0.8nm,1.0s,baz=86,slow=8.7,SNR=3.9	**146.04**	**223**	PKPbc	**PKPbc**	**16 03 29.0**	**0.0**

*NEIC **01** 16:06:57.5±4.3,7.˚62S×127.˚70E,h10km,mb4.5/1,Error ellipse: s-maj=66.5km s-min=21.3km az=116.0*

*IDC **01** 16:07:00.7±6.3,8.˚14S×127.˚83E,h0km,mb4.0/1, mb1 4.2/3,mb1mx3.5/23,mbtmp4.0/3,ML3.9/2,Error ellipse: s-maj=163.8km s-min=72.8km az=69.0*

ISC 01 16:07:05.8±3.1,8.˚0S±0.˚2×128.˚1E±0.˚4,h35km,n7,σ1§06/9, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**13.31**	**154**	*e*Pn	**Pn**	**16 10 13.9**	**+1.5**
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=329,slow=13,SNR=32	**13.31**	**154**	Pn	**Pn**	**16 10 13.2**	**+0.8**
WRA	0.7nm,0.3s,baz=330,slow=21,SNR=7.1			Sn	**Sn**	**16 12 38.8**	**-0.5**
AS31	**Alice Springs**	**16.53**	**161**	*e*P	**P**	**16 10 56.5**	**-1.0**
ASAR	**Alice Springs** 0.8nm,0.3s,baz=341,slow=12,SNR=103	**16.53**	**161**	Pn	**Pn**	**16 10 56.0**	**+0.8**
ASAR	0.1nm,0.3s,baz=320,slow=17,SNR=5.7			Sn	**Sn**	**16 13 57.2**	**-0.5**
PMG	**Port Moresby** 4.5nm,0.7s	**18.90**	**96**	*e*P	**P**	**16 11 23.1**	**-0.6**
STKA	**Stephens Creek** 2.0nm,0.8s,baz=314,slow=13,SNR=3.3	**26.87**	**154**	P	**P**	**16 12 42.4**	**-1.0**
ARMA	**Armidale**	**31.34**	**138**	*e*P	**P**	**16 13 23.9**	**+0.6**

*NEIC **01** 16:28:53.0±2.0,58.˚60S×26.˚36W,h96km±18km,mb5.1/13, Error ellipse: s-maj=12.6km s-min=7.5km az=46.0*

*MOS **01** 16:28:53.1±1.4,58.˚69S×26.˚72W,h108km,mb5.0/4,Error ellipse: s-maj=40.0km s-min=14.8km az=103.2*

*GCMT **01** 16:28:53.0±0.3,59.˚00S×25.˚65W,h132km±3km,MW5.0/76, Moment Tensor Solution. s44,c47; s76,c101; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.79±.20; Mθθ-0.29±.24; Mϕϕ 1.08±.24; Mrθ 1.31±.15; Mrϕ-1.93±.20; Mθϕ3.89±.14; Best double couple: M0 4.60200×10^16 NP1:ϕs191.00000°,δ85.00000°,λ-63.00000°. NP2: ϕs290.00000°,δ27.00000°,λ-170.00000°. Principal axes: T 4.2730, Plg35.0000°, Azm258.0000°; N 0.6610, Plg27.0000°, Azm8.0000°; P -4.9320, Plg43.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **01** 16:28:57.4±0.6,58.˚64S×26.˚26W,h132km±4km,mb4.7/11, mb1 4.7/12,mb1mx4.5/20,mbtmp5.0/12,MS3.5/6, Ms1 3.4/6,ms1mx3.3/15 Error ellipse: s-maj=14.0km s-min=11.3km az=61.0*

*ISCJB **01** 16:28:57.4±0.4,58.˚67S±0.˚06×26.˚2W±0.˚1,h150km, mb4.8/21,Error ellipse: s-maj=11.2km s-min=6.7km az=152.4*

*AWI **01** 16:29:00.3,58.˚62S×26.˚08W*

ISC 01 16:28:59.1±0.3,58.˚69S±0.˚07×26.˚48W±0.˚08,h150km, n127,σ1§49/131,mb5.0/21,1D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.21**	**155**	P	**P**	**16 32 14.4**	**-1.7**
VNA1	**Neumayer--Stat**	**14.21**	**155**	S	Sn	16 34 42.3	-8.2
VNA3	**Neumayer Olymp**	**14.38**	**158**	P	**P**	**16 32 16.1**	**-1.8**
VNA3	**Neumayer Olymp**	**14.38**	**158**	S	Sn	16 34 41.3	-13
VNA2	**Neumayer--Watz** baz=316,slow=14	**14.61**	**155**	P	**P**	**16 32 19.7**	**-0.8**
VNA2	**Neumayer--Watz**	**14.61**	**155**	S	Sn	16 34 47.3	-13
SNAA	**Sanae** 1.7nm,0.3s,baz=304,slow=10,SNR=186	**16.19**	**153**	P	**Pn**	**16 32 35.7**	**-2.0**
SNAA	0.5nm,0.3s,baz=322,slow=21,SNR=7.2			S	S	16 35 25.9	-11
SNAA	**Sanae**	**16.19**	**153**	P	**Pn**	**16 32 35.7**	**-2.0**
SNAA				S	S	16 35 25.9	-11
SNAA	comp=Z,3.0nm,1.0s			pmax	pmax		
SNAA	**Sanae** comp=Z,3.4nm,1.0s	**16.19**	**153**	P	**Pn**	**16 32 35.7**	**-2.0**
SNAA				S	S	16 35 25.9	-11
PMSA	**Palmer Station** comp=Z,229nm,1.1s	**18.57**	**235**	P	**Pn**	**16 33 07.9**	**+1.8**
EFI	**East Falkland** comp=Z,1µm,1.0s,SNR=25	**19.21**	**278**	P	**Pn**	**16 33 14.2**	**+0.5**
EFI	**East Falkland**	**19.21**	**278**	*e*P	**P**	**16 33 07.9**	**-3.2**
EFI	comp=Z,280nm,1.2s			pmax	pmax		
EFI	**East Falkland** comp=Z,280nm,1.2s	**19.21**	**278**	*e*P	**P**	**16 33 07.8**	**-3.2**
USHA	**Ushuaia** comp=Z,76nm,0.9s,baz=98,slow=12,SNR=22	**23.03**	**261**	P	**P**	**16 33 52.1**	**+1.5**
SYO	**Syowa Base**	**29.33**	**138**	*e*P	P	16 34 43.0	-4.0
TRQA	**Tornquist** comp=Z,36nm,1.0s	**30.78**	**296**	*e*P	**P**	**16 34 58.2**	**-2.0**
QSPA	**South Pole Qui** comp=Z,9.4nm,0.5s,baz=207,slow=1.5,SNR=103	**31.55**	**180**	P	**P**	**16 35 07.1**	**+0.3**
QSPA	comp=Z,86nm,20.2s,baz=170,slow=34			LR	LR	16 46 56.3	
QSPA	**South Pole Qui** comp=Z,10nm,0.6s	**31.55**	**180**	*e*P	**P**	**16 35 07.0**	**+0.1**
PLCA	**Paso Flores** comp=Z,45nm,0.9s,baz=147,slow=7.5,SNR=75	**32.91**	**283**	P	**P**	**16 35 20.1**	**+1.2**
PLCA	comp=Z,78nm,21.5s,baz=125,slow=34			LR	LR	16 47 31.8	
PLCA	**Paso Flores**	**32.91**	**283**	*e*P	**P**	**16 35 17.8**	**-1.1**
PLCA	comp=Z,47nm,0.8s			pmax	pmax		
PLCA	**Paso Flores** comp=Z,47nm,0.8s	**32.91**	**283**	*e*P	**P**	**16 35 17.8**	**-1.1**
MAW	**Mawson** comp=Z,23nm,0.8s,baz=229,slow=9.0,SNR=26	**37.82**	**141**	P	**P**	**16 35 59.6**	**-0.7**
MAW	comp=Z,85nm,20.8s,baz=241,slow=34			LR	LR	16 50 14.5	
CPUP	**Villa Florida** comp=Z,2.0nm,0.9s,baz=136,slow=5.4,SNR=9.0	**38.87**	**313**	P	**P**	**16 36 08.6**	**-0.9**
SUR	**Sutherland** comp=Z,18nm,0.9s,baz=213,slow=8.0,SNR=19	**41.05**	**71**	P	**P**	**16 36 26.6**	**-1.1**
LCO	**Las Campanas** comp=Z,68nm,1.3s	**42.33**	**295**	P	**P**	**16 36 37.8**	**-0.5**
SBA	**Scott Base**	**43.46**	**184**	*e*P	**P**	**16 36 45.6**	**-0.8**
SBA	comp=Z,122nm,2.7s			pmax	pmax		
SBA	**Scott Base** comp=Z,122nm,2.7s	**43.46**	**184**	*e*P	**P**	**16 36 45.6**	**-0.8**
VNDA	**Vanda** comp=Z,8.1nm,0.7s,baz=193,slow=7.0,SNR=84	**43.95**	**183**	P	**P**	**16 36 51.3**	**+1.0**
VNDA	**Vanda**	**43.95**	**183**	*e*P	**P**	**16 36 50.1**	**-0.2**
VNDA	comp=Z,8.0nm,0.6s			pmax	pmax		

	baz=122							
HWUT	**Hardware Ranch**	**122.05**	**298**	*e*PKPdf	**PKPdf**	**16 47 36.0**	**+1.0**
PDAR	**Pinedale Array**	**122.05**	**300**	PKP	**PKPdf**	**16 47 35.1**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=116,slow=3.4,SNR=6.8							
ULM	**Lac du Bonnet**	**122.40**	**315**	PKP	**PKPdf**	**16 47 35.0**	**-0.1**
	comp=Z,5.2nm,0.6s,baz=160,slow=0.6,SNR=7.5							
H20A	**Greybull**	**122.71**	**303**	P	**PKPdf**	**16 47 37.4**	**+1.3**
	baz=123							
NVAR	**Mina Array Bea**	**122.75**	**291**	PKP	**PKPdf**	**16 47 38.0**	**+1.5**
	comp=Z,1.2nm,0.6s,baz=133,slow=3.0,SNR=8.4							
NOA	**NORSAR Array B**	**122.95**	**21**	PKP	**PKPdf**	**16 47 36.8**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=204,slow=1.9,SNR=3.6							
A28A	**Rude Farm, Bot**	**123.00**	**311**	P	**PKPdf**	**16 47 36.7**	**+0.4**
	baz=123							
ELK	**Elko**	**123.08**	**295**	PKP	**PKPdf**	**16 47 38.3**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=98,slow=2.2,SNR=4.6							
D24A	**Glendive**	**123.22**	**307**	P	**PKPdf**	**16 47 38.3**	**+1.5**
	baz=124							
TPAW	**Teton Pass**	**123.25**	**300**	*e*PKPdf	**PKPdf**	**16 47 39.1**	**+1.8**
MOOW	**Moose Ponds**	**123.35**	**300**	*e*PKPdf	**PKPdf**	**16 47 38.7**	**+1.2**
G20A	**Bridger**	**123.38**	**303**	P	**PKPdf**	**16 47 38.7**	**+1.3**
	baz=124							
I17A	**Pilgrim Ck.**	**123.41**	**301**	P	**PKPdf**	**16 47 38.4**	**+0.9**
	baz=124							
C24A	**Savage**	**123.59**	**307**	P	**PKPdf**	**16 47 38.9**	**+1.4**
	baz=124							
H18A	**Shoshone NF, C**	**123.60**	**302**	P	**PKPdf**	**16 47 39.0**	**+1.0**
	baz=124							
CMAR	**Chiang Mai Arr**	**123.76**	**112**	PKP	**PKPdf**	**16 47 39.1**	**+0.4**
	comp=Z,3.1nm,0.8s,baz=228,slow=3.6,SNR=18							
C23A	**Lambert**	**124.12**	**307**	P	**PKPdf**	**16 47 40.1**	**+1.6**
	baz=124							
D20A	**Manuel Ranch,**	**124.81**	**305**	P	**PKPdf**	**16 47 41.3**	**+1.4**
	baz=125							
HLID	**Hailey**	**124.89**	**298**	P	**PKPdf**	**16 47 41.6**	**+1.3**
	baz=125							
A22A	**Carney Farms,**	**125.35**	**307**	P	**PKPdf**	**16 47 42.7**	**+1.8**
	baz=126							
C19A	**Slack Wire Ran**	**125.70**	**304**	P	**PKPdf**	**16 47 43.2**	**+1.6**
	baz=126							
FRB	**Frobisher Bay**	**126.26**	**338**	PKP	**PKPdf**	**16 47 42.1**	**+0.1**
	comp=Z,10.0nm,0.6s,baz=156,slow=3.5,SNR=18							
A19A	**Klindworth Far**	**126.49**	**306**	P	**PKPdf**	**16 47 44.2**	**+1.1**
	baz=127							
FINES	**FINESS Array B**	**126.54**	**28**	PKP	**PKPdf**	**16 47 42.4**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=182,slow=2.8,SNR=20							
FINES				SKPbc	SKiKP	16 50 46.6	-18	
	comp=Z,2.4nm,1.0s,baz=151,slow=4.4,SNR=4.3							
N02D	**Trinity Center**	**126.86**	**290**	P	**PKPdf**	**16 47 45.4**	**+1.4**
	baz=127							
CHMT	**Chamberlain Mo**	**126.92**	**301**	*e*PKPdf	**PKPdf**	**16 47 45.9**	**+1.7**
MSO	**Missoula**	**127.17**	**301**	P	**PKPdf**	**16 47 46.4**	**+1.9**
	baz=127							
M02C	**Callahan**	**127.25**	**290**	P	**PKPdf**	**16 47 47.1**	**+2.3**
	baz=128							
KSH	**Kashi**	**128.88**	**76**	*e*PKP	**PKPdf**	**16 47 50.5**	**+2.5**
KSH				sPKP		16 48 04.9		
KSH				PP	**PP**	**16 50 00.1**	**+2.5**
KSH				PKS	**PKSdf**	**16 51 25.8**	**+1.2**
KSH				SKS	SKSdf	16 54 57.0	+12	
KSH				SKKS	SKKSac	16 56 47.4	+8.5	
KSH				PPMZ				
	comp=Z,97nm,5.3s							
KSH				LN				
	comp=Z,200nm,8.0s							
KSH				LE				
	comp=Z,310nm,10.1s							
KSH				LZ				
	comp=Z,510nm,14.5s							
NEW	**Newport**	**129.67**	**300**	SKPbc	SKPbc	16 50 58.5	+1.3	
	comp=Z,1.6nm,0.5s,baz=329,slow=0.4,SNR=4.7							
AAK	**Ala-Archa**	**130.46**	**72**	SKPbc	**SKPbc**	**16 51 01.0**	**+0.6**
	comp=Z,3.0nm,0.8s,baz=190,slow=9.0,SNR=6.2							
SUMG	**Summit**	**131.25**	**355**	*i* P	**SKPbc**	**16 51 05.8**	**+3.3**
	comp=Z,64nm,1.5s							
ARCES	**ARCESS Array B**	**133.25**	**22**	PKP	**PKPdf**	**16 47 55.0**	**-0.2**
	comp=Z,3.3nm,0.7s,baz=223,slow=2.5,SNR=14							
ARCES				SKPbc	**SKPab**	**16 51 10.5**	**-0.9**	
	comp=Z,2.2nm,0.7s,baz=223,slow=3.4,SNR=12							
GYA	**Guiyang**	**134.27**	**114**	*e*Pdif	**Pdif**	**16 45 01.0**	**+1.8**
GYA				PKP	**PKiKP**	**16 48 01.8**	**+1.8**
GYA				sPKP		16 48 15.6		
GYA				PP	PP	16 50 36.4	+4.3	
GYA				PKS	**PKSdf**	**16 51 35.2**	**0.0**
GYA				SKKS		16 57 23.0		
GYA				SS	SS	17 08 21.6	+12	
GYA				PPMZ				
	comp=Z,120nm,7.8s							
GYA				LN				
	comp=Z,150nm,21.4s							
GYA				LE				
	comp=Z,130nm,22.0s							
GYA				LZ				
	comp=Z,140nm,20.6s							
CD2	**Chengdu**	**136.54**	**107**	PKP	**PKPdf**	**16 48 05.7**	**+3.0**
CD2				PP	PP	16 50 55.1	+8.8	
CD2				SS	SS	17 08 48.5	+12	
CD2				PPMZ				
	comp=Z,80nm,9.6s							
MKAR	**Makanchi Array**	**137.32**	**74**	PKP	**PKPdf**	**16 48 02.4**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=234,slow=6.9,SNR=3.0							
MKAR				SKPbc	**SKPbc**	**16 51 22.6**	**0.0**	
	comp=Z,4.1nm,1.2s,baz=260,slow=7.3,SNR=10.0							
WMQ	**Urumqi**	**138.01**	**81**	*e*PKP	**PKPdf**	**16 48 06.2**	**+1.2**
WMQ				sPKP		16 48 19.7		
WMQ				*e*PP	PP	16 51 01.7	+6.1	
WMQ				SKS	SKSdf	16 55 10.7	+10	
WMQ				PPMZ				
	comp=Z,140nm,5.2s							
WMQ				LZ				
	comp=Z,410nm,18.2s							
YKA	**Yellowknife Ar**	**138.36**	**316**	PKhKP	PKPpre	16 47 56.5		
	comp=Z,0.3nm,0.5s,baz=123,slow=3.3,SNR=11							
YKA				PKP	**PKiKP**	**16 48 04.8**	**-2.2**	
	comp=Z,11nm,0.6s,baz=129,slow=2.0,SNR=121							
YKA				SKPbc	**SKiKP**	**16 51 26.2**	**-2.4**	
	comp=Z,3.5nm,0.8s,baz=126,slow=2.6,SNR=15							
RES	**Resolute Bay**	**140.45**	**337**	*e*PKIKP	**PKPdf**	**16 48 10.5**	**+2.1**
RES	**Resolute Bay**	**140.45**	**337**	*e*PKPdf	**PKPdf**	**16 48 10.5**	**+2.1**
LZH	**Lanzhou**	**140.70**	**103**	*e*PKP	**PKPdf**	**16 48 12.0**	**+1.7**
LZH				sPKP		16 48 26.1		
GTA	**Gaotai**	**141.15**	**96**	*e*PKP	**PKPdf**	**16 48 10.0**	**-0.9**
GTA				sPKP		16 48 24.3		
GTA				PP	**PP**	**16 51 15.8**	**+0.9**
GTA				SKS	SKSdf	16 55 14.0	+7.4	
GTA				SKKS	SKKSac	16 58 01.7	+9.0	
GTA				SS	SS	17 09 38.6	+7.5	
GTA				PPMZ				
	comp=Z,56nm,7.1s							
DLBC	**Dease Lake**	**142.15**	**304**	PKhKP	PKPpre	16 48 08.4		
	comp=Z,1.7nm,0.8s,baz=172,slow=1.8,SNR=5.0							
ZALV	**Zalesovo Beam**	**143.13**	**67**	PKhKP	PKPpre	16 48 09.7		
	comp=Z,3.3nm,0.5s,baz=230,slow=3.8,SNR=10							
ZALV				SKPbc	**SKiKP**	**16 51 36.8**	**-2.0**	
	comp=Z,0.3nm,0.4s,baz=264,slow=4.5,SNR=4.1							
INK	**Inuvik**	**148.06**	**318**	PKP	**PKPdf**	**16 48 20.5**	**-1.2**
	comp=Z,1.5nm,0.8s,baz=232,slow=2.2,SNR=5.7							
INK				PKPbc	**PKiKP**	**16 48 24.9**	**-1.8**	
	comp=Z,21nm,0.9s,baz=84,slow=2.1,SNR=52							
INK				SKPbc	**SKiKP**	**16 51 50.0**	**+1.6**	
	comp=Z,2.0nm,0.8s,baz=195,slow=1.0,SNR=4.1							
HHC	**Hu-ho-hao-te**	**148.24**	**106**	*e*PKPbc	**PKPbc**	**16 48 26.3**	**-0.3**
HHC				pPKP	PKPab	16 48 33.7	+3.6	
HHC				PKS	**PKSdf**	**16 52 00.2**	**+2.1**
HHC				PP	PP	16 52 03.8	+6.8	
HHC				SKS	SKSdf	16 55 32.3	+15	
HHC				SKKS	SKKSac	16 58 48.2	+15	
HHC				SS	SS	17 11 05.7	+14	
HHC				PPMZ				
	comp=Z,61nm,10.3s							
HHC				LN				
	comp=Z,230nm,21.7s							
HHC				LE				
	comp=Z,400nm,20.9s							
HHC				LZ				
	comp=Z,160nm,21.7s							
EGAK	**Eagle**	**149.77**	**309**	*e*PKPbc	**PKPbc**	**16 48 30.0**	**+0.5**
MOY	**Mondy**	**149.90**	**80**	*e*PKIKP	**PKPbc**	**16 48 30.9**	**+0.5**
MOY				pmax	pmax			
	comp=Z,20nm,1.6s							
BJI	**Beijing**	**149.91**	**112**	PKPbc	**PKPbc**	**16 48 28.8**	**-1.8**
BJI				PP	**PP**	**16 52 07.1**	**+0.7**
BJI				SS	SS	17 11 20.3	+10	
BJI				LZ				
	comp=Z,120nm,16.6s							
ZAK	**Zakamensk**	**150.34**	**84**	*e*PKIKP	**PKPbc**	**16 48 31.3**	**-0.2**
ZAK				*e*		16 49 04.3		
ZAK				pmax	pmax			
	comp=Z,12nm,1.0s							
SONM	**Songino Array**	**150.41**	**91**	PKPbc	**PKPbc**	**16 48 31.6**	**-0.2**
	comp=Z,13nm,0.8s,baz=217,slow=3.2,SNR=37							
SONM				pPKPbc	**pPKPbc**	**16 49 07.6**	**-3.6**	
	comp=Z,6.9nm,0.9s,baz=215,slow=3.0,SNR=6.2							
ULN	**Ulaanbaatar**	**150.78**	**91**	*e*PKIKP	**PKPbc**	**16 48 32.4**	**-0.3**
ULN	**Ulaanbaatar**	**150.78**	**91**	*e*PKPbc	**PKPbc**	**16 48 32.4**	**-0.3**
TLY	**Talaya**	**151.27**	**82**	*e*PKIKP	**PKPbc**	**16 48 33.4**	**-0.1**
TLY				*e*		16 49 06.7		
TLY				pmax	pmax			
	comp=Z,13nm,1.1s							
ILAR	**Eielson Array**	**152.10**	**308**	PKP	**PKPdf**	**16 48 25.9**	**-2.3**
	comp=Z,0.6nm,0.8s,baz=225,slow=0.6,SNR=6.4							
ILAR				PKPbc	**PKiKP**	**16 48 35.3**	**+0.1**	
	comp=Z,18nm,1.0s,baz=142,slow=6.3,SNR=55							
ILAR				pPKPbc	**pPKPbc**	**16 49 10.4**	**-4.0**	
	comp=Z,3.0nm,0.9s,baz=143,slow=2.2,SNR=2.0							
RC01	**Rabbit Creek A**	**152.19**	**299**	*e*PKPdf	**PKPdf**	**16 48 29.9**	**+1.4**
KSAR	**Wonju Array Be**	**153.00**	**131**	PKIKP	**PKPbc**	**16 48 38.2**	**+0.4**
KSAR						16 48 50.5		
KSAR	**Wonju Array Be**	**153.00**	**131**	PKPbc	**PKPbc**	**16 48 38.2**	**+0.4**
KSAR				PKPab	**PKPab**	**16 48 50.5**	**+0.7**
KSRS	**Korea Array**	**153.03**	**131**	PKPbc	**PKPbc**	**16 48 38.2**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=186,slow=2.8,SNR=5.3							
KSRS				PKPab	**PKPab**	**16 48 50.5**	**+0.6**	
	comp=Z,5.4nm,0.9s,baz=217,slow=3.7,SNR=11							
MJAR	**Matsushiro Arr**	**155.67**	**149**	PKPab	**PKPab**	**16 49 00.6**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=187,slow=4.9,SNR=9.7							
USRK	**Ussuriysk Ar.**	**160.37**	**128**	PKPab	**PKPab**	**16 49 20.9**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=214,slow=6.2,SNR=4.1							
PETK	**Petropavlovsk-**	**173.93**	**205**	PKPab	**PKPab**	**16 50 21.7**	**+0.7**
	comp=Z,2.7nm,0.8s,baz=68,slow=0.8,SNR=5.2							

*IDC **01** 16:34:46.9±0.3,8.8°S×117.3°E,h0km,mb4.8/25, mb1 4.9/27,mb1mx4.9/31,mbtmp4.8/27,ML4.7/2,MS4.3/20, Ms1 4.3/20,ms1mx4.1/32,Error ellipse: s-maj=15.6km s-min=10.2km az=64.0*

*MOS **01** 16:34:49.8±1.4,8.8°S×117.4°E,h35km,mb5.3/32, MS4.2/4,Error ellipse: s-maj=10.5km s-min=6.0km az=120.4*

*NEIC **01** 16:34:52.5±0.6,8.9°S×117.4°E,h45km±5km,mb5.1/37, Error ellipse: s-maj=7.1km s-min=4.1km az=224.0*

NEIC Felt at Denpasar, Bali.

*GCMT **01** 16:34:52.5±0.2,9.0°S×117.3°E,h21km±1km,MW5.1/90, Moment Tensor Solution. s34,c49; s90,c145; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.59±.17; $M_{\theta\theta}$1.63±.12; $M_{\phi\phi}$-2.22±.15; $M_{r\theta}$-1.98±.27; $M_{r\phi}$-4.65±.11; $M_{\theta\phi}$-0.83±.25; Best double couple: M≤5.45600×10^{16} NP1:ϕs348.00000°,δ67.00000°,λ0.00000°. Principal axes: T 5.0740, Plg16.0000°, Azm211.0000°; N 0.7660, Plg67.0000°, Azm78.0000°; P -5.8380, Plg16.0000°, Azm306.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*ISCJB **01** 16:34:52.5±0.3,9.06°S×117.45°E×0.02,h62km±3km, mb5.0/85 Error ellipse: s-maj=4.4km s-min=2.8km az=17.6*

*DJA **01** 16:34:53.1±0.5,9.7°S×117.7°E±°,h14km±4km,M5.2/46, mb5.1/46,mB5.5/24,MLv5.7/4,Mw(mB)5.0/24*

*KLM **01** 16:35:00.3,8.80°S×117.06E,h48km,mb5.1,MS5.5*

ISC 01 16:34:53.1±0.3,9.04S±0.03×117.44E±0.03,h48km±2km, h47km:pP-P,n390,σ1§89/431,mb5.0/85,MS4.3/25,10C-9D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
					Op			
WBSI	**Waikabubak, Su**	**2.02**	**107**	P	P	Pn	16 35 21.5	-3.3
DNP	**Denpasar**	**2.23**	**279**	P	P	**Pn**	**16 35 28.1**	**+0.4**
DNP				S	S	**Sn**	**16 35 57.6**	**+3.6**
IGBI	**Denpasar**	**2.28**	**275**	P	P	**Pn**	**16 35 27.8**	**-0.5**
IGBI				S	S	**Sn**	**16 35 57.1**	**+2.0**
SRBI	**Singaraja**	**2.40**	**293**	P	P	**Pn**	**16 35 29.7**	**-0.2**
SRBI				S	S	**Sn**	**16 36 01.1**	**+3.0**
WSI	**Waingapu**	**2.89**	**103**	P	P	**Pn**	**16 35 35.6**	**-1.1**
WSI				S	S	**Sn**	**16 36 15.2**	**+5.0**
JAGI	**Jajag, Banyuwa**	**3.30**	**280**	P	P	**Pn**	**16 35 42.1**	**-0.2**
JAGI				S	S	**Sn**	**16 36 23.5**	**+3.2**
JAGI	**Jajag, Banyuwa**	**3.30**	**280**	*e*Pn	P	**Pn**	**16 35 41.8**	**-0.5**
JAGI				*e*Sn	S	**Sn**	**16 36 19.7**	**-0.6**
BASI	**Baing, Sumba**	**3.31**	**111**	P	P	Pn	16 35 45.7	+3.2
BASI				S	S	**Sn**	**16 36 25.1**	**+4.5**
ABJI	**Asem Bagus**	**3.40**	**291**	P	P	**Pn**	**16 35 44.1**	**+0.3**
KMMI	**Kalianget**	**3.97**	**300**	P	P	**Pn**	**16 35 52.2**	**+0.7**
BLJI	**Banyuglugur**	**4.01**	**288**	P	P	**Pn**	**16 35 52.7**	**+0.5**
BLJI				S	S	**Sn**	**16 36 41.5**	**+3.5**
GMJI	**Gumukmas**	**4.02**	**281**	P	P	**Pn**	**16 35 51.3**	**-0.9**
GMJI				S	S	**Sn**	**16 36 38.4**	**+0.3**
EDFI	**Ende, Flores**	**4.21**	**86**	P	P	**Pn**	**16 35 54.5**	**-0.5**
EDFI				S	S	**Sn**	**16 36 48.2**	**+5.2**
BKSI	**Bulukumba**	**4.56**	**36**	P	P	**Pn**	**16 35 58.1**	**-1.5**
KAPI	**Kappang**	**4.62**	**30**	Pn	Pn	**Pn**	**16 35 58.7**	**-1.7**
	1μm,0.6s,SNR=53							
KAPI	**Kappang**	**4.62**	**30**	*e*Pn	P	**Pn**	**16 35 58.1**	**-2.3**
KAPI				*e*Sn	S	**Sn**	**16 36 51.5**	**-1.3**
MMRI	**Maumere**	**4.76**	**85**	P	P	**Pn**	**16 36 02.2**	**-0.2**
MMRI				S	S	**Sn**	**16 37 00.8**	**+4.4**
BNSI	**Bone**	**5.32**	**30**	P	P	**Pn**	**16 36 09.8**	**-0.3**
GRJI	**Gresik**	**5.35**	**293**	P	P	**Pn**	**16 36 10.6**	**+0.1**
GRJI				S	S	**Sn**	**16 37 14.7**	**+3.9**
SPSI	**Sidrap Palu**	**5.55**	**25**	P	P	**Pn**	**16 36 16.3**	**+3.0**
PWJI	**Pagerwojo**	**5.66**	**280**	P	P	**Pn**	**16 36 16.9**	**+2.1**
	694nm,1.1s,7μm3.4nm							
PWJI				S	S	**Sn**	**16 37 21.7**	**+3.1**
	694nm,1.1s,7μm3.4nm							
KBKI	**Kotabaru**	**5.84**	**347**	P	P	Pn	16 36 20.5	+3.2
TBJI	**Tambak Boyo**	**5.96**	**291**	P	P	**Pn**	**16 36 20.4**	**+1.5**
BATI	**Baumata**	**6.25**	**101**	P	P	**Pn**	**16 36 23.2**	**+0.4**
BATI	**Baumata**	**6.25**	**101**	Pn	Pn	**Pn**	**16 36 23.0**	**+0.2**
	84nm,0.3s,baz=304,slow=3.7,SNR=88							
BATI				Sn		**Sn**	**16 37 34.3**	**+1.3**
	18nm,0.3s,baz=22,slow=19,SNR=3.1							
BATI				LR	LR	16 39 03.1		
	comp=Z,8μm,18.5s,baz=2.5,slow=40							
PCJI	**Pacitan**	**6.25**	**277**	P	P	**Pn**	**16 36 24.0**	**+1.2**
TTSI	**Tana Toraja**	**6.41**	**22**	P	P	**Pn**	**16 36 26.3**	**+1.2**
SOEI	**Soe**	**6.78**	**97**	P	P	**Pn**	**16 36 30.2**	**0.0**
	620nm,1.4s,8μm2.9nm							
SOEI	**Soe**	**6.78**	**97**	*e*Pn	P	**Pn**	**16 36 28.7**	**-1.5**
	388nm,0.6s							
UGM	**Wanagama**	**6.93**	**279**	P	P	**Pn**	**16 36 34.5**	**+2.3**
	621nm,1.1s,7μm4.0nm							
UWJI	**Ujung Watu**	**6.94**	**292**	P	P	**Pn**	**16 36 32.4**	**+0.1**
	505nm,1.3s,6μm1.7nm							
SMRI	**Semarang**	**7.21**	**285**	P	P	**Pn**	**16 36 37.9**	**+1.9**
BKB	**Balikpapan**	**7.75**	**356**	P	P	Pn	16 36 48.7	+5.2
PCI	**Palu**	**8.43**	**17**	P	P	Pn	16 36 56.4	+3.6
	108nm,1.0s,1μm							
MTKI	**Muara Teweh, K**	**8.44**	**342**	P	P	Pn	16 36 56.1	+3.2
PBKI	**Pangkalan Bun**	**8.52**	**317**	P	P	**Pn**	**16 36 54.4**	**+0.4**
	392nm,1.0s,3μm							
KPJI	**Karang Pucung**	**8.59**	**281**	P	P	**Pn**	**16 36 57.3**	**+2.3**
MPSI	**Mapaga**	**9.64**	**15**	P	P	**Pn**	**16 37 12.2**	**+2.9**
CISI	**Cisompet, Garu**	**9.64**	**278**	P	P	**Pn**	**16 37 10.8**	**+1.4**
	357nm,0.8s,4μm							
LEM	**Lembang**	**9.97**	**282**	P	P	**Pn**	**16 37 16.3**	**+2.2**
LEM	**Lembang**	**9.97**	**282**	Pn	Pn	**Pn**	**16 37 13.7**	**-0.4**
	2.7nm,0.3s,baz=140,slow=8.1,SNR=10							
LEM	**Lembang**	**9.97**	**282**	P	Pn	16 37 21.2	+7.1	
	baz=9.9,SNR=3.4							
MRSI	**Marisa**	**10.47**	**26**	P	Pn	16 37 24.3	+3.6	
STKI	**Sintang**	**10.82**	**326**	P	P	**Pn**	**16 37 27.5**	**+1.9**
	116nm,1.0s,11μm							
SANI	**Sanana**	**10.98**	**51**	P	P	**Pn**	**16 37 30.1**	**+2.4**
	134nm,1.1s,1μm							
NLAI	**Namlea**	**11.20**	**60**	P	P	Pn	16 37 34.7	+4.0
TPI	**Tanjungpandan**	**11.56**	**302**	P	P	**Pn**	**16 37 37.9**	**+2.3**
	74nm,1.7s,2μm							
KMSI	**Cibinong**	**11.57**	**35**	P	P	Pn	16 37 39.4	+3.7
XMI	**Christmas Isla**	**11.66**	**262**	P	P	**Pn**	**16 37 36.2**	**-0.8**
	baz=12,SNR=3.1							
XMIS	**Christmas Isla**	**11.70**	**262**	P	Pn	**Pn**	**16 37 34.7**	**-2.9**
	baz=12,SNR=5.0							
CGJI	**Cibinong**	**11.88**	**281**	P	Pn	**Pn**	**16 37 39.7**	**-0.3**
	228nm,1.6s,3μm							
MBWA	**Marble Bar**	**12.25**	**170**	*e*Pn	Pn	16 37 39.9	-5.0	
MBWA				*e*Sn	Sn	16 39 45.2	-15	
SBUM	**Sibu**	**12.55**	**335**	*e*Pn	P	**Pn**	**16 37 48.8**	**-0.3**
KSM	**Kuching**	**12.63**	**325**	P	P	**Pn**	**16 37 52.0**	**+1.7**
	baz=13,SNR=14							
KSM	**Kuching**	**12.63**	**325**	⇓P	P	**Pn**	**16 37 52.0**	**+1.7**
KSM	**Kuching**	**12.63**	**325**	*e*Pn	P	**Pn**	**16 37 49.6**	**-0.7**
BLSI	**Bandar Lampung**	**12.63**	**286**	P	P	**Pn**	**16 37 52.8**	**+2.5**
KNRA	**Kununurra**	**12.87**	**122**	P	P	Pn	16 37 50.1	-3.5
	baz=13,SNR=18							
BTM	**Bintulu**	**12.91**	**340**	⇓P	P	Pn	16 37 57.6	+3.5
LBMI	**Labuha**	**13.04**	**51**	P	P	Pn	16 37 59.9	+4.0
PPBI	**Pangkal Pinang**	**13.16**	**301**	P	P	**Pn**	**16 38 00.1**	**+2.6**
	250nm,1.3s,5μm							
KLI	**Kotabumi**	**13.16**	**288**	P	P	16 38 10.7	+4.4	
BNDI	**Bandanaira**	**13.17**	**71**	P	P	16 38 10.4	+4.0	
TSM	**Tawau**	**13.26**	**2**	⇓P	P	16 38 03.6	-3.8	
KASI	**Kota Agung**	**13.30**	**284**	P	**P**	**16 38 07.2**	**-0.7**	
LWLI	**Liwa**	**13.87**	**286**	P	P	16 38 17.5	+3.2	
GIRL	**Giralia**	**13.87**	**192**	P	P	**Pn**	**16 38 04.0**	**-3.1**
	baz=14,SNR=4.1							
GIRL				S	Sn	16 40 31.1	-8.6	
	baz=14,SNR=4.1							
TNTI	**Ternate**	**13.89**	**46**	P	P	16 38 18.6	+4.2	
MDSI	**Maura Dua**	**13.92**	**288**	P	Pn	16 38 11.0	+3.1	
	46nm,1.6s,932nm							
LHSI	**Lahat**	**14.76**	**290**	P	**P**	**16 38 25.7**	**+1.5**	
SGSI	**Sangihe**	**15.00**	**33**	P	P	16 38 35.7	+8.9	
KKM	**Kota Kinabalu**	**15.04**	**355**	P	**P**	**16 38 30.0**	**+2.7**	
	baz=15,SNR=6.6							
KKM	**Kota Kinabalu**	**15.04**	**355**	*e*Pn	**Pn**	**16 38 22.6**	**-0.2**	
	246nm,1.5s							
KDU	**Kakadu**	**15.20**	**105**	P	**Pn**	**16 38 20.8**	**-4.1**	
	baz=15,SNR=8.7							
JMBI	**JAMBI**	**15.58**	**297**	P	**P**	**16 38 37.5**	**+4.3**	
FAKI	**Fak Fak**	**15.93**	**68**	P	**P**	**16 38 36.7**	**-0.5**	
	74nm,0.8s,971nm							
MASI	**Maura Aman, Be**	**16.20**	**290**	P	P	16 38 51.6	+11	
TPRI	**Tanjung Pinang**	**16.23**	**307**	P	**P**	**16 38 42.7**	**+2.2**	
MYKOM	**Kota Tinggi**	**17.30**	**308**	⇓P	**P**	**16 38 53.7**	**+1.4**	
MYKOM	**Kota Tinggi**	**17.30**	**308**	*e*Pn	**P**	**16 38 53.1**	**+0.8**	
	90nm,1.0s							
MEEK	**Meekatharra**	**17.54**	**177**	P	**Pn**	**16 38 51.0**	**-3.3**	
	baz=18,SNR=34							
MEEK				S	Sn	16 41 50.4	-18	
	baz=18,SNR=8.0							
BKNI	**Bangkinang**	**18.80**	**299**	P	Pn	16 39 19.2	+9.5	
WRKA	**Warakurna**	**18.97**	**148**	P	**Pn**	**16 39 11.2**	**-0.6**	
	baz=19,SNR=53							
WRA	**Warramunga Arr**	**19.60**	**125**	P	**P**	**16 39 18.4**	**+0.8**	
	1.1nm,0.3s,baz=300,slow=12,SNR=57							
WRA				S	S	16 42 48.6	-7.9	
	0.3nm,0.3s,baz=304,slow=24,SNR=3.5							
WRA				ScP	**ScP**	**16 47 14.3**	**+5.8**	
	0.2nm,0.3s,baz=294,slow=2.0,SNR=9.1							
WRA				LR	LR	16 48 02.9		
	comp=Z,2μm,18.2s,baz=305,slow=40							
WRAB	**Tennant Creek**	**19.61**	**125**	Pn	**P**	**16 39 17.9**	**+0.2**	
	358nm,0.6s,SNR=11							
WRAB	**Tennant Creek**	**19.61**	**125**	⇑*i*P	**P**	**16 39 17.7**	**0.0**	
WRAB				pmax	pmax			
	comp=Z,31nm,0.7s							
WRAB	**Tennant Creek**	**19.61**	**125**	*e*Pn	**P**	**16 39 17.1**	**-0.6**	
	comp=Z,173nm,1.5s							
MORW	**Morawa**	**19.96**	**184**	P	**Pn**	**16 39 23.6**	**+0.1**	
	baz=20,SNR=19							
MORW				S	S	16 42 51.1	-12	
	baz=20,SNR=5.6							
SRPI	**Serui, Papua**	**20.02**	**70**	P	Pn	16 39 25.9	+1.7	
	comp=Z,113nm,0.9s							
KTGM	**Kuala Trenggan**	**20.18**	**315**	⇑P	Pn	16 39 28.3

comp=Z,12nm,0.8s,baz=350,slow=6.9,SNR=4.9
STKA LR LR 16 54 24.3
comp=Z,735nm,19.7s,baz=302,slow=37
STKA Stephens Creek 31.92 139 P P 16 41 15.8 +1.4
baz=32,SNR=15
LAMP Lampang 32.54 327 P P **16 41 23.0 +3.1**
comp=Z,5.1nm,0.9s
CMAR Chiang Mai Arr 32.86 326 P P **16 41 22.9 +0.1**
comp=Z,9.6nm,0.9s,baz=152,slow=6.2,SNR=30
CMAR PcP **PcP 16 44 07.3 +0.6**
comp=Z,9.8nm,1.1s,baz=183,slow=2.7,SNR=11
CMAR ScP ScP 16 47 54.3 +7.2
comp=Z,5.5nm,1.0s,baz=172,slow=3.1,SNR=13
CMAR LR LR 16 54 42.7
comp=Z,779nm,21.9s,baz=156,slow=37
CMMT Chiang Mai 33.15 327 P P **16 41 27.0 +1.8**
comp=Z,12nm,1.0s
CHTO Chiang Mai 33.15 327 P P **16 41 27.1 +1.9**
comp=Z,57nm,0.9s
CHTO Chiang Mai 33.15 327 P P **16 41 23.4 -1.9**
CHTO pmax pmax
comp=Z,12nm,1.2s
CHTO Chiang Mai 33.15 327 P P **16 41 23.4 -1.9**
comp=Z,12nm,1.2s
QZH Quanzhou 33.80 2 P P **16 41 31.9 +1.2**
QZH S S **16 46 55.3 +3.9**
QZH LN
comp=Z,550nm,13.4s
QZH LE
comp=Z,390nm,9.2s
QZH LZ
comp=Z,800nm,18.8s
RMQ Roma 34.36 124 P P 16 41 39.2 +3.4
baz=34,SNR=8.6
CMSA Cobar Meteorol 34.49 134 P P **16 41 38.3 +1.5**
baz=34,SNR=8.2
GUMO Guam 35.31 51 LR LR 16 57 11.2
comp=Z,88nm,19.4s,baz=190,slow=38
GYA Guiyang 36.81 344⇑ *i*P P **16 41 58.4 +1.6**
GYA pP **pP 16 42 12.0 +2.5**
GYA sP **sP 16 42 17.8 +2.7**
GYA PP **PnPn 16 43 25.2 +3.4**
GYA PcP **PcP 16 44 21.0 +2.8**
GYA S **S 16 47 43.1 +5.2**
GYA SS **SnSn 16 50 12.7 -0.4**
GYA PMZ
comp=Z,30nm,1.1s
GYA PMZ
comp=Z,120nm,5.3s
GYA LN
comp=Z,550nm,19.8s
GYA LE
comp=Z,530nm,18.0s
GYA LZ
comp=Z,500nm,18.0s
KMI Kunming 36.86 337 P P **16 41 59.9 +2.5**
KMI pP **pP 16 42 07.3 -2.7**
KMI S S 16 47 48.0 +9.1
KMI PMZ
comp=Z,44nm,1.0s
KMI PMZ
comp=Z,61nm,3.1s
KMI LN
comp=Z,470nm,17.6s
KMI LE
comp=Z,430nm,13.5s
KMI LZ
comp=Z,540nm,16.5s
YNG Young 37.92 136 P P 16 42 11.6 +5.4
baz=38,SNR=12
TOO Toolangi 38.05 143 P P **16 42 09.8 +2.7**
baz=38,SNR=6.4
ARMA Armidale 38.33 128 P P **16 42 12.0 +2.3**
baz=38,SNR=24
ARMA Armidale 38.33 128 P P **16 42 09.4 -0.3**
comp=Z,23nm,0.8s
MGCD Mangrove Creek 39.26 133 P P 16 42 27.2 +10
baz=39,SNR=5.0
WHN Wuhan 39.47 356 P P 16 42 23.5 +4.5
WHN S S **16 48 14.7 -3.1**
WHN LN
comp=Z,790nm,11.0s
WHN LE
comp=Z,690nm,16.9s
WHN LZ
comp=Z,920nm,17.9s
ENH Enshi 39.83 349 P P **16 42 19.1 -3.0**
comp=Z,14nm,0.9s
SSE Sheshan 40.07 5 P P 16 42 27.2 +3.2
SSE S S **16 48 31.3 +4.5**
SSE sS sS 16 48 54.4 +6.2
SSE PMZ
comp=Z,15nm,0.7s
SSE PMZ
comp=Z,30nm,2.6s
SSE LN
comp=Z,48nm,22.7s
SSE LE
comp=Z,160nm,23.1s
SSE LZ
comp=Z,160nm,21.8s
IMP Imphal 40.69 326 *e*P P **16 42 30.0 +0.7**
NJ2 Nanjing 40.89 2 *e*P P **16 42 29.8 -0.9**
NJ2 PMZ
comp=Z,120nm,1.2s
CD2 Chengdu 41.84 342 P P **16 42 39.3 +0.7**
CD2 pP **pP 16 42 53.1 +1.7**
CD2 PP **PnPn 16 44 22.8 +1.3**
CD2 PcP **PcP 16 44 31.2 -2.7**
CD2 S S **16 48 54.8 +1.6**
CD2 sS **sS 16 49 16.5 +1.8**
CD2 SS **SS 16 51 58.9 -2.2**
CD2 ScS **ScS 16 52 35.2 -2.5**
CD2 PMZ
comp=Z,70nm,8.4s
CD2 LN
comp=Z,560nm,15.7s
CD2 LE
comp=Z,720nm,12.0s
CD2 LZ
comp=Z,620nm,15.7s
HNR Honiara 41.94 94 *e*P P **16 42 38.9 -0.8**
HNR pmax pmax
comp=Z,117nm,0.9s
HNR Honiara 41.94 94 *e*P P **16 42 38.9 -0.8**
comp=Z,116nm,0.9s
CHLP Challavanipeta 42.83 310 *e*P P **16 42 46.0 -0.8**
CHLP IAMs_20 IAMs_20 17 01 52.6
comp=Z,635nm,18.1s
XAN Xi'an 43.60 350 P P **16 42 54.8 +1.9**
XAN pP **pP 16 43 05.5 -0.2**
XAN S S 16 49 11.6 -7.5
XAN ScS **SS 16 52 40.8 +5.2**
XAN PMZ
comp=Z,6.0nm,1.0s
XAN PMZ
comp=Z,18nm,5.4s
XAN LN
comp=Z,260nm,15.4s
XAN LZ
comp=Z,140nm,16.4s
SKHT Srikalahasti 43.76 301 *e*P P **16 42 52.9 -1.5**
H08S2 Diego Garcia H 44.47 268 T T 17 30 18.6
baz=95,slow=76,SNR=37
H08S3 Diego Garcia H 44.48 268 T T 17 30 22.9
baz=95,slow=76,SNR=45
H08S1 Diego Carcia H 44.49 268 T T 17 30 07.6
baz=95,slow=76,SNR=14
TIA Tai'an 45.01 360 *e*P P 16 43 08.7 +4.6
TIA S S **16 49 41.2 +1.8**
TIA PMZ
comp=Z,160nm,5.1s
TIA LN
comp=Z,180nm,30.3s
TIA LE
comp=Z,370nm,24.4s
TIA LZ
comp=Z,220nm,34.1s
ODAN Odare 46.08 322 *e*P P **16 43 11.5 -1.5**
comp=Z,65nm,0.9s
LSA Lhasa 46.09 328 *e*P P **16 43 12.0 -1.3**
LSA pmax pmax
comp=Z,29nm,0.9s
LSA Lhasa 46.09 328 *e*P P **16 43 12.0 -1.3**
comp=Z,29nm,0.9s
TAPN Taplejung 46.25 322 *e*P P **16 43 13.3 -1.0**
comp=Z,99nm,0.9s
HYB Hyderabad 46.56 304 *i* P P **16 43 14.0 -2.6**
HYBB Hyderabad (bro 46.56 304 *e*P P **16 43 15.0 -1.6**
HYBB IAMs_20 IAMs_20 17 01 32.8
comp=Z,479nm,23.8s
RAMN Ramite 46.64 321 *e*P P **16 43 16.4 -0.9**
comp=Z,36nm,0.9s
LZH Lanzhou 46.68 345 P P **16 43 20.3 +2.9**
LZH pP **pP 16 43 33.0 +2.6**
LZH sP **sP 16 43 38.1 +2.2**
LZH S S **16 50 06.1 +2.4**
LZH sS **sS 16 50 26.5 +1.0**
LZH SS ScS 16 53 19.0 +11
LZH PMZ
comp=Z,34nm,1.1s
LZH PMZ
comp=Z,110nm,4.2s
LZH LN
comp=Z,170nm,12.4s
LZH LE
comp=Z,190nm,14.0s
LZH LZ
comp=Z,150nm,13.1s
KSAR Wonju Array Be 47.27 11 P P **16 43 22.2 +0.5**
KSAR Wonju Array Be 47.27 11 P P **16 43 22.2 +0.5**
KSRS Korea Array 47.28 11 P P **16 43 22.2 +0.3**
comp=Z,39nm,1.1s,baz=191,slow=7.8,SNR=28
KSRS LR LR 17 04 55.8
comp=Z,159nm,20.3s,baz=194,slow=38
JIRN Jiri 47.40 321 *e*P P **16 43 21.9 -1.5**
comp=Z,64nm,0.8s
GUN Gumba 47.77 321 *e*P P **16 43 24.7 -1.6**
comp=Z,58nm,0.8s
PKI Pulchoki 47.82 321 *e*P P **16 43 24.7 -1.9**
comp=Z,33nm,0.9s
PKIN Phulchoki 47.83 321 *e*P P **16 43 24.4 -2.3**
comp=Z,20nm,0.8s
DMN Daman 48.04 320 *e*P P **16 43 26.3 -1.9**
comp=Z,64nm,0.9s
KKN Kakani 48.06 321 *e*P P **16 43 26.6 -1.7**
comp=Z,38nm,1.0s
GKN Gorkha 48.61 320 *e*P P **16 43 30.6 -1.9**
comp=Z,47nm,0.8s
DZM Mont Dzumac 48.75 111 *e*P P **16 43 34.8 +1.1**
comp=Z,112nm,1.1s
DZM *e*S **S 16 50 32.0 -1.5**
comp=Z,219nm,30.4s
DZM *e*LR LR 16 57 20.5
comp=Z,927nm,23.2s
BJI Beijing 48.85 359 P P 16 43 38.1 +4.2
BJI pP pP 16 43 47.3 +0.3
BJI sP sP 16 43 52.2 -0.3
BJI PMZ
comp=Z,26nm,0.9s
BJI LN
comp=Z,340nm,21.4s
BJI LE
comp=Z,110nm,16.8s
BJI LZ
comp=Z,160nm,19.8s
KOLN Koldanda 49.11 319 *e*P P **16 43 34.2 -2.2**
comp=Z,23nm,0.6s
MAJO Matsushiro 49.37 22 *e*P P **16 43 36.4 -1.6**
MAJO pmax pmax
comp=Z,58nm,1.3s
MAJO Matsushiro 49.37 22 *e*P P **16 43 36.5 -1.6**
comp=Z,15nm,1.0s
MAT Matsushiro 49.37 22 P P **16 43 37.0 -1.0**
MAT S S **16 50 40.8 -0.7**
MJAR Matsushiro Arr 49.37 22 S P **16 43 36.5 -1.5**
comp=Z,6.1nm,1.0s,baz=195,slow=7.7,SNR=11
MJAR LR LR 17 06 37.0
comp=Z,130nm,18.6s,baz=200,slow=39
PYUN Piuthan 49.73 319 *e*P P **16 43 39.0 -2.1**
comp=Z,89nm,0.9s
HHC Hu-ho-hao-te 49.94 354 *e*P P **16 43 44.2 +1.8**
HHC pP **pP 16 43 57.9 +2.4**
HHC sP **sP 16 44 03.1 +2.1**
HHC PP **PP 16 45 37.1 -0.7**
HHC S S **16 50 52.0 +2.5**
HHC sS **sS 16 51 13.1 +1.7**
HHC SS **SS 16 54 17.8 -5.4**
HHC PMZ
comp=Z,28nm,1.1s
HHC PMZ
comp=Z,71nm,6.7s
HHC LN
comp=Z,260nm,14.7s
HHC LE
comp=Z,410nm,15.2s
HHC LZ
comp=Z,190nm,15.6s
GTA Gaotai 50.91 342 *e*P P **16 43 50.4 +0.6**
GTA pP **pP 16 44 02.8 -0.1**
GTA sP **sP 16 44 08.1 -0.3**
GTA PcP **PcP 16 45 05.2 -0.5**
GTA ScP **ScP 16 48 57.1 -1.2**
GTA S S **16 51 04.2 +1.1**
GTA sS **sS 16 51 25.3 +0.2**
GTA SS **SS 16 54 38.2 -0.5**
GTA PMZ
comp=Z,7.0nm,1.4s
GTA PMZ
comp=Z,92nm,5.2s
GTA LN
comp=Z,230nm,18.5s
GTA LE
comp=Z,450nm,18.5s
GTA LZ
comp=Z,310nm,18.5s
SNY Shenyang 50.93 6⇑ P P **16 43 49.1 -0.6**
SNY PMZ
comp=Z,17nm,1.5s
CN2 Changchun 53.09 7 *e*P P **16 44 04.7 -1.1**
CN2 *e*sP **sP 16 44 22.5 -2.0**
CN2 *e*PP **PP 16 46 06.8 +0.6**
CN2 *e*S S **16 51 31.9 -0.7**
CN2 *e*SS **SS 16 55 11.4 -1.4**
CN2 PMZ
comp=Z,10.0nm,0.9s
CN2 LN
comp=Z,200nm,20.0s
CN2 LE
comp=Z,200nm,20.0s
CN2 LZ
comp=Z,1µm,22.0s
VLA Vladivostok 53.56 13 *e*P P **16 44 09.1 -0.1**
VLA pmax pmax
comp=Z,39nm,1.2s
MDJ Mudanjiang 54.53 11 P P **16 44 15.7 -0.5**
MDJ pP **pP 16 44 27.2 -2.3**
MDJ sP **sP 16 44 32.3 -2.7**
MDJ PcP **PcP 16 45 18.4 -0.7**
MDJ PP **PP 16 46 18.1 -1.0**
MDJ S S **16 51 53.4 +1.4**
MDJ sS **sS 16 52 12.5 -1.6**
MDJ ScS **ScS 16 53 59.9 -1.5**
MDJ SS **SS 16 55 36.6 +1.2**
MDJ PMZ
comp=Z,19nm,1.3s
MDJ PMZ
comp=Z,47nm,3.0s
MDJ LN
comp=Z,110nm,23.1s
MDJ LE
comp=Z,91nm,24.7s
MDJ LZ
comp=Z,200nm,23.1s
MDJ Mudanjiang 54.53 11 *e*P P **16 44 15.4 -0.8**
comp=Z,45nm,1.0s
USRK Ussuriysk Ar. 54.61 13 P P **16 44 16.4 -0.4**
comp=Z,36nm,1.0s,baz=199,slow=7.4,SNR=29
ULN Ulaanbaatar 57.40 352 *i* P P **16 44 36.7 -0.3**
ULN pmax pmax
comp=Z,16nm,1.2s
ULN Ulaanbaatar 57.40 352 *e*P P **16 44 36.6 -0.3**
comp=Z,59nm,1.9s
SONM Songino Array 57.47 351 P P **16 44 37.4 0.0**
comp=Z,11nm,0.6s,baz=170,slow=6.8,SNR=46
ASAJ Asahikawa 57.62 21 P P **16 44 38.0 -0.3**
comp=Z,9.2nm,1.1s,baz=246,slow=10.0,SNR=4.3
ASAJ LR LR 17 10 03.1
comp=Z,153nm,19.7s,baz=177,slow=37
RPZ Rata Peaks 57.83 136 *e*P P **16 44 39.3 -0.7**
comp=Z,69nm,1.2s
WMQ Urumqi 59.14 335⇑ *i*P P **16 44 51.5 +2.5**
WMQ pP **pP 16 45 01.8 -0.6**
WMQ sP **sP 16 45 05.8 -2.1**
WMQ PcS **PcS 16 49 37.2 -1.9**
WMQ *e*S **S 16 52 54.6 +1.6**
WMQ PMZ
comp=Z,11nm,0.9s
WMQ PMZ
comp=Z,140nm,4.7s
WMQ LN
comp=Z,570nm,18.0s
WMQ LE
comp=Z,480nm,16.8s
WMQ LZ
comp=Z,560nm,22.3s
HABR Khabarovsk 59.34 14 *de*P P **16 44 47.1 -3.1**
HABR *e**PP **pP 16 45 01.0 -2.6**
HABR *e* 16 45 34.2
HABR *e**PP **PP 16 46 58.7 -3.2**
HABR *e*S **S 16 52 52.8 -2.5**
HABR *e*SS x 16 53 16.9
HABR *e* 16 54 32.5
HABR *e*SS **SS 16 56 49.7 -1.3**
HABR pmax pmax
comp=Z,99nm,2.2s
HABR pmax pmax
comp=E,30nm,2.2s
HABR pmax pmax
comp=N,28nm,2.2s
HABR MLR MLR
comp=Z,112nm,19.0s
MSVF Nonsavu 59.39 105 *e*P P **16 44 49.6 -1.7**
MSVF pmax pmax
comp=Z,24nm,1.0s
MSVF Nonsavu 59.39 105 *e*P P **16 44 49.6 -1.7**
comp=Z,24nm,1.0s
YSS Yuzh-Sakhalins 60.14 20 *e*P P **16 44 55.1 -0.7**
YSS pmax pmax
comp=Z,75nm,1.7s
YSS Yuzh-Sakhalins 60.14 20 *e*P P **16 44 55.0 -0.7**
comp=Z,75nm,1.7s
RER Riviere de l'E 60.45 251 *e*P P **16 44 57.8 -0.7**
comp=Z,115nm,1.0s
ZAK Zakamensk 60.45 350 *e*P P **16 44 57.0 -1.0**
ZAK pmax pmax
comp=Z,5.0nm,1.8s
TLY Talaya 61.64 350 *e*P P **16 45 05.0 -0.9**
TLY pmax pmax
comp=Z,11nm,1.4s
TLY MLR MLR
comp=Z,232nm,17.0s
KSH Kashi 61.73 324 *e*P P **16 45 04.0 -2.9**
KSH pP **pP 16 45 16.8 -3.6**
KSH PP **PP 16 47 22.0 -1.4**
KSH S S 16 53 19.5 -7.1
KSH ScS **SKKSac 16 54 48.7 -6.2**
KSH PMZ
comp=Z,8.0nm,0.9s
KSH PMZ
comp=Z,92nm,2.8s
KSH LN
comp=Z,92nm,7.2s
KSH LE
comp=Z,68nm,5.7s
KSH LZ
comp=Z,340nm,25.5s
IRK Irkutsk 62.08 351 *e*P P 16 45 05.4 -3.4
IRK pmax pmax
comp=Z,23nm,2.0s
MOY Mondy 62.11 348 *e*P P **16 45 09.5 +0.3**
KBL Kabul 63.05 316 *e*P P **16 45 13.0 -2.9**
KBL pmax pmax
comp=Z,10.0nm,0.8s
KBL Kabul 63.05 316 *e*P P **16 45 13.0 -2.9**
comp=Z,10nm,0.8s
MK31 Makanchi Array 63.80 334 *e*P P **16 45 18.3 -2.1**
MK31 Makanchi Array 63.80 334 *e*P P **16 45 18.3 -2.1**
MKAR Makanchi Array 63.80 334 P P **16 45 18.9 -1.5**
comp=Z,3.4nm,0.5s,baz=181,slow=5.8,SNR=64
MKAR LR LR 17 17 29.9
comp=Z,184nm,18.0s,baz=144,slow=40
MKAR Makanchi Array 63.80 334 *e*P P **16 45 18.6 -1.9**
MKAR Makanchi Array 63.80 334 *e*P P **16 45 18.6 -1.9**
TKM2 Tokmak 2 64.24 327 *e*P P **16 45 22.1 -1.5**
TKM2 pmax pmax
comp=Z,12nm,1.1s
TKM2 Tokmak 2 64.24 327 *e*P P **16 45 22.1 -1.5**
comp=Z,12nm,1.1s
AAK Ala-Archa 64.65 326 P P **16 45 25.4 -0.9**
comp=Z,5.2nm,0.6s,baz=160,slow=1.4,SNR=19
AAK Ala-Archa 64.65 326⇑ *i*P P **16 45 25.3 -0.9**
AAK pmax pmax
comp=Z,46nm,1.7s
AAK Ala-Archa 64.65 326 *e*P P **16 45 25.4 -0.9**
comp=Z,7.5nm,0.8s
FRU Bishkek 64.71 326 *e*P P **16 45 26.0 -0.5**
EKS2 Erkin-Say 65.06 326 *e*P P **16 45 27.6 -1.3**
EKS2 pmax pmax
comp=Z,15nm,1.0s
EKS2 Erkin-Say 65.06 326 *e*P P **16 45 27.6 -1.3**
comp=Z,15nm,1.0s
BOD Bodaibo 66.69 358 *e*P P **16 45 37.3 -1.5**
BOD pmax pmax
comp=Z,7.0nm,1.3s
KKAR Karatay Array 67.19 325 *e*P P **16 45 40.7 -1.7**
KKAR Karatay Array 67.19 325 *e*P P **16 45 40.7 -1.7**
KURK Kurchatov 68.36 335 P P **16 45 47.1 -2.5**
comp=Z,31nm,1.2s,SNR=12
KURK Kurchatov 68.36 335 *e*P P **16 45 47.5 -2.0**
KURK pmax pmax
comp=Z,32nm,1.5s
KURK Kurchatov 68.36 335 *e*P P **16 45 47.5 -2.0**
comp=Z,32nm,1.5s
ABPO Ambohimpanom 68.47 253 P P **16 45 50.0 -1.2**
ABPO pmax pmax
comp=Z,22nm,1.2s
ABPO Ambohimpanom 68.47 253 P P **16 45 50.0 -1.2**
comp=Z,22nm,1.2s
ZAA0 Zalesovo Array 68.54 340 *e*P P **16 45 48.8 -1.8**
ZALV Zalesovo Beam 68.54 340 P P **16 45 48.8 -1.8**
comp=Z,7.4nm,0.6s,baz=142,slow=5.1,SNR=33
MAW Mawson 68.67 200 P P **16 45 52.7 +1.5**
comp=Z,13nm,0.6s,baz=90,slow=7.8,SNR=16
MAW LR LR 17 09 40.7
comp=Z,424nm,20.5s,baz=59,slow=30
MAW Mawson 68.67 200 P P **16 45 53.2 +1.9**
baz=69,SNR=19
IDAH Dahanechah 68.75 310 *e*P P **16 45 51.8 -1.0**
IKOO Kooshah 69.27 310 *e*P P **16 45 57.0 +1.1**
NVS Novosibirsk 69.81 340 *e*P P 16 45 54.7 -3.7
NVS pmax pmax
comp=N,7.0nm,1.3s
NVS pmax pmax
comp=E,9.0nm,1.3s
NVS pmax pmax
comp=Z,18nm,1.3s
IMYA Miami 70.23 314 *e*P P **16 46 01.8 +0.1**
IMOG Moghan 70.67 313 *e*P P **16 46 03.4 -1.1**
PETK Petropavlovsk- 70.74 24 P P **16 46 03.4 -0.8**
comp=Z,2.8nm,0.8s,baz=200,slow=3.8,SNR=7.1
IPAY Payeh 71.07 313 *e*P P **16 46 04.9 -2.0**
IAKL Akhelmad 71.31 313 *e*P P **16 46 07.0 -1.4**
YAK Yakutsk 71.50 6 *d*/P P **16 46 07.1 -1.4**
YAK *e**PP **pP 16 46 17.2 -5.0**
YAK *e* 16 46 28.5
YAK *e* 16 48 49.6
YAK *e*PPP PPP 16 50 22.5
YAK *e*S **S 16 55 22.0 -1.5**
YAK *e* 16 56 09.1
YAK pmax pmax
comp=Z,12nm,1.2s
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK pmax pmax
comp=Z,59nm,4.0s
YAK pmax pmax
comp=N,33nm,4.0s
YAK pmax pmax
comp=E,34nm,4.0s
YAK smax smax
comp=N,75nm,4.5s
YAK smax smax
comp=E,36nm,3.8s
YAK MLR MLR
comp=Z,1µm,12.0s
YAK MLR MLR

	comp=N,775nm,13.0s								
YAK					MLR	MLR			
	comp=E,920nm,13.0s								
YAK	**Yakutsk**	**71.50**	**6**	*e*P	**P**		**16 46 06.5**	**-2.0**	
	comp=E,10nm,0.7s								
IKRD	**Kardeh**	**71.56**	**314**	*e*P	P		16 46 03.6	-6.3	
ISFR	**Sfrayin**	**72.06**	**314**	*e*P	**P**		**16 46 14.0**	**+1.2**	
VNDA	**Vanda**	**72.19**	**171**	P	**P**		**16 46 14.3**	**+1.7**	
	comp=E,3.7nm,0.4s,baz=318,slow=7.3,SNR=16								
VNDA					LR	LR	17 16 07.5		
	comp=E,175nm,21.0s,baz=328,slow=34								
VNDA	**Vanda**	**72.19**	**171**	*e*P	**P**		**16 46 11.8**	**-0.8**	
VNDA					pmax	pmax			
	comp=Z,20nm,1.2s								
VNDA	**Vanda**	**72.19**	**171**	*e*P	**P**		**16 46 11.8**	**-0.8**	
	comp=Z,20nm,1.2s								
IMEH	**Mehriz**	**72.25**	**307**	*e*P	**P**		**16 46 11.5**	**-2.6**	
GEYT	**Alibeck**	**72.37**	**314**	P	**P**		**16 46 13.4**	**-1.0**	
	comp=Z,15nm,1.0s,baz=145,slow=3.6,SNR=22								
GEYT					LR	LR	17 22 24.4		
	comp=Z,89nm,18.8s,baz=110,slow=40								
ISRV	**Sarvestan**	**72.71**	**305**	*e*P	**P**		**16 46 14.7**	**-2.2**	
ISAD	**Sadrabad**	**73.18**	**307**	*e*P	**P**		**16 46 19.2**	**-0.5**	
SBA	**Scott Base**	**73.20**	**170**	*e*P	**P**		**16 46 17.2**	**-1.4**	
SBA					pmax	pmax			
	comp=Z,24nm,1.4s								
SBA	**Scott Base**	**73.20**	**170**	*e*P	**P**		**16 46 17.2**	**-1.4**	
	comp=Z,24nm,1.4s								
BRVK	**Borovoye**	**73.69**	**333**	⇑*i*P	**P**		**16 46 20.5**	**-1.3**	
BRVK					pmax	pmax			
	comp=Z,23nm,1.2s								
BRVK	**Borovoye**	**73.69**	**333**	⇓*e*P	**P**		**16 46 20.1**	**-1.6**	
	comp=Z,60nm,1.8s								
ISHM	**Shahmirzad**	**74.98**	**311**	*e*P	**P**		**16 46 30.6**	**+0.6**	
IPIR	**Pirpir**	**75.67**	**307**	*e*P	**P**		**16 46 33.3**	**-0.8**	
SEY	**Seymchan**	**76.61**	**16**	*i* P	**P**		**16 46 38.5**	**+0.1**	
ABKAR	**Akbulak array**	**76.72**	**325**	*e*P	**P**		**16 46 37.8**	**-1.4**	
IMHD	**Mahdasht**	**76.91**	**310**	*e*P	**P**		**16 46 42.1**	**+1.2**	
SYO	**Syowa Base**	**77.25**	**201**	⇓*e*P	**P**		**16 46 41.6**	**-0.4**	
SYO	**Syowa Base**	**77.25**	**201**	⇓*e*PcP	**PcP**		**16 46 52.3**	**-0.2**	
RAYN	**Ar Rayn**	**77.34**	**297**	*e*P	**P**		**16 46 42.3**	**-1.1**	
	comp=Z,24nm,1.1s								
IRAZ	**Razeghan**	**77.37**	**309**	*e*P	**P**		**16 46 42.8**	**-0.8**	
IDHR	**Dehrash**	**79.88**	**308**	*e*P	P		16 46 53.9	-3.5	
ISRB	**Sarab**	**79.92**	**311**	*e*P	**P**		**16 46 58.6**	**+1.0**	
KMBO	**Kilima Mbogo**	**80.13**	**270**	P	**P**		**16 47 00.2**	**+0.9**	
	comp=Z,4.9nm,0.7s,baz=49,slow=11,SNR=5.1								
KMBO					LR	LR	17 18 28.0		
	comp=Z,213nm,19.9s,baz=94,slow=33								
SVE	**Sverdlovsk**	**80.39**	**332**	⇓*e*P	**P**		**16 46 58.0**	**-1.4**	
SVE					pmax	pmax			
	comp=Z,33nm,1.5s								
IHRS	**Heris**	**80.55**	**311**	*e*P	**P**		**16 47 01.7**	**+0.8**	
TIXI	**Tiksi**	**80.88**	**4**	⇑*i*P	**P**		**16 47 00.0**	**-1.6**	
TIXI					pmax	pmax			
	comp=Z,11nm,1.2s								
TIXI	**Tiksi**	**80.88**	**4**	*e*P	**P**		**16 47 00.1**	**-1.6**	
	comp=Z,9.5nm,1.0s								
QSPA	**South Pole Qui**	**80.95**	**180**	P	**P**		**16 47 03.7**	**+1.3**	
	comp=Z,20nm,1.0s,baz=310,slow=3.8,SNR=23								
ARU	**Arti**	**81.15**	**331**	P	**P**		**16 47 02.3**	**-1.2**	
	comp=Z,70nm,1.1s,SNR=5.9								
ARU	**Arti**	**81.15**	**331**	*c i*P	**P**		**16 47 01.9**	**-1.6**	
ARU							16 50 06.5		
ARU					S	**S**	**16 57 09.3**	**-0.4**	
ARU					SS	**SS**	**17 02 20.9**	**-4.9**	
ARU					pmax	pmax			
	comp=Z,19nm,1.2s								
ARU	**Arti**	**81.15**	**331**	*e*P	**P**		**16 47 01.7**	**-1.7**	
	comp=Z,14nm,1.1s								
DGRG	**David-gareji**	**82.78**	**314**	P	**P**		**16 47 15.0**	**+2.6**	
GNI	**Garni**	**82.83**	**312**	*i* P	**P**		**16 47 11.8**	**-1.0**	
GNI					pmax	pmax			
	comp=Z,18nm,1.2s								
GNI	**Garni**	**82.83**	**312**	*e*P	**P**		**16 47 12.2**	**-0.7**	
	comp=Z,19nm,1.1s								
TBLG	**Delisi**	**83.32**	**314**	P	**P**		**16 47 17.2**	**+2.0**	
ZEI	**Tsey**	**84.24**	**315**	*e*P	**P**		**16 47 19.0**	**-1.1**	
ZEI					pmax	pmax			
	comp=Z,27nm,1.2s								
BILL	**Bilibino**	**84.27**	**17**	*e*P	**P**		**16 47 20.0**	**+0.6**	
BILL					pmax	pmax			
	comp=Z,2.0nm,1.1s								
ONI	**Oni**	**84.50**	**315**	P	**P**		**16 47 24.0**	**+2.8**	
KBZ	**Khabaz**	**85.22**	**315**	P	**P**		**16 47 24.5**	**-0.2**	
	comp=Z,9.1nm,0.9s,baz=233,slow=20								
KIV	**Kislovodsk**	**85.44**	**316**	*i* P	**P**		**16 47 24.9**	**-1.0**	
KIV				*e*			16 50 41.3		
KIV					pmax	pmax			
	comp=Z,14nm,1.2s								
KIV					MLR	MLR			
	comp=Z,123nm,22.0s								
CHVG	**Ch'k'valeri**	**85.50**	**314**	P	**P**		**16 47 26.0**	**-0.2**	
GOF	**Gofitskoye**	**85.52**	**317**	*e*P	**P**		**16 47 24.8**	**-1.4**	
GOF					pmax	pmax			
	comp=Z,32nm,1.1s								
LSZ	**Lusaka**	**86.94**	**255**	P	**P**		**16 47 34.8**	**+0.8**	
	comp=Z,22nm,0.7s,baz=72,slow=6.0,SNR=26								
EIL	**Elat**	**87.97**	**300**	P	**P**		**16 47 41.2**	**+2.8**	
	baz=88,SNR=8.2								
PRGR	**Permogore**	**89.42**	**333**	*e*P	**P**		**16 47 43.4**	**-1.2**	
PRGR					pmax	pmax			
	comp=Z,8.0nm,1.0s								
PPT2	**Papeete2**	**90.12**	**108**	*e*LR	LR	LR	17 16 40.7		
	comp=Z,269nm,25.0s								
PPT	**Papeete**	**90.13**	**108**	LR	LR	LR	17 24 51.5		
	comp=Z,83nm,21.9s,baz=285,slow=33								
SNAA	**Sanae**	**90.54**	**196**	P	**P**		**16 47 49.1**	**-0.7**	
SNAA					pmax	pmax			
	comp=Z,12nm,0.9s								
SNAA	**Sanae**	**90.54**	**196**	P	**P**		**16 47 49.1**	**-0.7**	
	comp=Z,12nm,0.9s								
BR131	**Keskin Array S**	**90.98**	**310**	*e*P	**P**		**16 47 51.4**	**-1.2**	
	comp=Z,3.5nm,0.7s								
BRTR	**Keskin Array B**	**90.98**	**310**	P	**P**		**16 47 51.6**	**-0.9**	
	comp=Z,6.1nm,0.9s,baz=138,slow=5.6,SNR=17								
BRTR					LR	LR	17 31 07.2		
	comp=Z,60nm,21.7s,baz=84,slow=37								
KLMR	**Klimovskoe**	**92.00**	**331**	*e*P	P		16 47 48.1	-8.5	
KLMR					pmax	pmax			
	comp=Z,25nm,1.4s								
OBN	**Obninsk**	**92.16**	**325**	*i* P	**P**		**16 47 56.1**	**-1.3**	
OBN					pmax	pmax			
	comp=Z,20nm,1.2s								
OBN					MLR	MLR			
	comp=Z,107nm,23.0s								
AKASG	**Malin Array Be**	**95.79**	**320**	P	**P**		**16 48 12.3**	**-1.9**	
	comp=Z,1.3nm,0.7s,baz=84,slow=4.4,SNR=8.3								
KIEV	**Kiev**	**95.80**	**320**	*e*P	**P**		**16 48 12.9**	**-1.4**	
BUR08	**Bucovina Ar. S**	**98.11**	**317**	*e*P	**P**		**16 48 23.9**	**-1.1**	
FINES	**FINESS Array B**	**98.52**	**331**	P	**P**		**16 48 24.4**	**-1.9**	
	comp=Z,3.0nm,0.7s,baz=67,slow=5.0,SNR=5.9								
FINES					LR	LR	17 40 03.3		
	comp=Z,140nm,19.9s,baz=78,slow=40								
ARCES	**ARCESS Array B**	**99.08**	**339**	LR	LR	LR	17 38 39.1		
	comp=Z,136nm,18.8s,baz=86,slow=39								
COLA	**College**	**100.13**	**26**	*e*P		**Pdif**	**16 48 32.8**	**-0.6**	
COLA					pmax	pmax			
	comp=Z,11nm,0.8s								
COLA	**College**	**100.13**	**26**	*e*Pdif	**Pdif**		**16 48 32.8**	**-0.6**	
	comp=Z,11nm,0.8s								
KOLS	**Kolonicke sedl**	**100.14**	**318**	*e*P	**Pdif**		**16 48 36.0**	**+2.1**	
KOLS	**Kolonicke sedl**	**100.14**	**318**	PDIF	**Pdif**		**16 48 36.0**	**+2.1**	
ILAR	**Eielson Array**	**100.54**	**26**	PKKPbc	PKKPbc		17 04 55.6	+2.7	
	comp=Z,0.6nm,0.7s,baz=129,slow=2.0,SNR=7.4								
CRVS	**Cervenica-Dubn**	**100.67**	**318**	*e*P	**Pdif**		**16 48 37.0**	**+0.7**	
CRVS	**Cervenica-Dubn**	**100.67**	**318**	PDIF	**Pdif**		**16 48 37.0**	**+0.7**	
STHS	**Stebnicka Huta**	**100.83**	**319**	*e*P	**Pdif**		**16 48 38.6**	**+1.6**	
STHS	**Stebnicka Huta**	**100.83**	**319**	PDIF	**Pdif**		**16 48 38.6**	**+1.6**	
VYHS	**Vyhne**	**102.41**	**318**	*e*P	**Pdif**		**16 48 41.6**	**-2.4**	
VYHS	**Vyhne**	**102.41**	**318**	*e*	**Pdif**		**16 48 41.6**	**-2.4**	
YKA	**Yellowknife Ar**	**114.86**	**24**	PKP	PKPdf		16 53 27.6	-0.6	
	comp=Z,1.2nm,0.5s,baz=307,slow=1.9,SNR=16								
TOA0	**Torodi Ar. Sit**	**116.95**	**280**	*e*PKPdf	**PKPdf**		**16 53 34.3**	**+0.6**	
TORD	**Torodi Ar. Bea**	**116.95**	**280**	PKP	**PKPdf**		**16 53 33.4**	**-0.3**	
	comp=Z,3.6nm,0.6s,baz=73,slow=1.6,SNR=23								
ESDC	**Sonseca Array**	**119.77**	**311**	PKP	**PKPdf**		**16 53 39.0**	**+0.5**	
	comp=Z,0.8nm,0.7s,baz=53,slow=2.3,SNR=8.0								
EDM	**Edmonton**	**120.02**	**33**	*e*PKIKP	**PKPdf**		**16 53 38.7**	**+0.1**	
EDM	**Edmonton**	**120.02**	**33**	*e*PKPdf	**PKPdf**		**16 53 38.7**	**+0.1**	
NVAR	**Mina Array Bea**	**122.23**	**50**	PKP	**PKPdf**		**16 53 44.4**	**+0.9**	
	comp=Z,2.9nm,0.7s,baz=235,slow=2.0,SNR=9.4								
MSO	**Missoula**	**122.47**	**39**	P	**PKPdf**		**16 53 43.3**	**-0.3**	
	baz=122								
MFID	**Camas Ranch**	**122.51**	**44**	*e*PKPdf	**PKPdf**		**16 53 44.9**	**+1.1**	
KIC	**Kosan Boka**	**122.69**	**272**	*e*PKIKP	**PKPdf**		**16 53 47.2**	**+2.4**	
	comp=Z,48nm,1.4s								
DBIC	**Dimbokro**	**122.83**	**272**	PKP	**PKPdf**		**16 53 46.5**	**+1.4**	
	comp=Z,3.7nm,0.5s,baz=45,slow=2.8,SNR=7.4								
LIC	**Lamto**	**122.95**	**272**	*e*PKIKP	**PKPdf**		**16 53 47.7**	**+2.4**	
	comp=Z,26nm,1.1s								
TIC	**Toumodi**	**122.99**	**272**	*e*PKIKP	**PKPdf**		**16 53 47.8**	**+2.4**	
	comp=Z,7.7nm,0.4s								
HLID	**Hailey**	**123.42**	**43**	*e*PKPdf	**PKPdf**		**16 53 45.9**	**+0.3**	
HLID	**Hailey**	**123.42**	**43**	P	**PKPdf**		**16 53 46.3**	**+0.7**	
	baz=123								
MPMC	**Manual Prospec**	**123.46**	**53**	P	**PKPdf**		**16 53 46.5**	**+0.6**	
	baz=123								
ELK	**Elko**	**123.82**	**47**	*e*PKIKP	**PKPdf**		**16 53 46.8**	**+0.3**	
ELK	**Elko**	**123.82**	**47**	*e*PKPdf	**PKPdf**		**16 53 46.8**	**+0.3**	
R11A	**Troy Canyon, C**	**124.31**	**50**	P	**PKPdf**		**16 53 48.0**	**+0.6**	
	baz=124								
BOZ	**Bozeman (W)**	**124.42**	**40**	*e*PKIKP	**PKPdf**		**16 53 48.1**	**+0.7**	
BOZ	**Bozeman (W)**	**124.42**	**40**	*e*PKPdf	**PKPdf**		**16 53 48.1**	**+0.7**	
BELC	**Belle Mtn. Jos**	**125.15**	**55**	P	**PKPdf**		**16 53 48.8**	**-0.3**	
	baz=125								
HVU	**Hansel Valley**	**125.20**	**45**	*e*PKIKP	**PKPdf**		**16 53 49.1**	**+0.1**	
HVU	**Hansel Valley**	**125.20**	**45**	*e*PKPdf	**PKPdf**		**16 53 49.1**	**+0.1**	
FRB	**Frobisher Bay**	**125.22**	**3**	PKP	**PKPdf**		**16 53 50.0**	**+1.9**	
	comp=Z,5.0nm,0.8s,baz=66,slow=2.3,SNR=3.9								
FRB	**Frobisher Bay**	**125.22**	**3**	PKIKP	**PKPdf**		**16 53 50.0**	**+1.9**	
REDW	**Red Top Meadow**	**125.88**	**42**	*e*PKPdf	**PKPdf**		**16 53 50.6**	**+0.2**	
LOHW	**Long Hollow**	**125.94**	**42**	*e*PKPdf	**PKPdf**		**16 53 51.5**	**+1.0**	
PDAR	**Pinedale Array**	**127.00**	**42**	PKP	**PKPdf**		**16 53 52.0**	**-0.5**	
	comp=Z,1.0nm,1.0s,baz=4.1,slow=2.1,SNR=6.2								
U15A	**North Rim**	**127.39**	**51**	P	**PKPdf**		**16 53 54.6**	**+1.1**	
	baz=127								
I20A	**Worland**	**127.41**	**40**	P	**PKPdf**		**16 53 53.4**	**+0.3**	
	baz=127								
J22A	**Midwest**	**128.71**	**40**	P	**PKPdf**		**16 53 55.9**	**+0.2**	
	baz=129								
PV01	**Paradox Valley**	**129.57**	**47**	*e*PKPdf	**PKPdf**		**16 53 56.8**	**-0.8**	
PLCA	**Paso Flores**	**129.93**	**172**	PKP	**PKPdf**		**16 54 00.1**	**+2.1**	
	comp=Z,3.1nm,0.6s,baz=114,slow=2.1,SNR=5.3								
ULM	**Lac du Bonnet**	**130.51**	**28**	PKP	**PKPdf**		**16 53 59.9**	**+1.2**	
	comp=Z,2.8nm,0.8s,baz=320,slow=5.0,SNR=3.0								
SCHQ	**Schefferville**	**134.21**	**3**	PKP	**PKPdf**		**16 54 08.2**	**+2.6**	
	comp=Z,3.8nm,0.7s,baz=344,slow=9.0,SNR=4.8								
530A	**J-C Ranch, Com**	**138.16**	**54**	P	**PKPdf**		**16 54 09.4**	**-4.3**	
	baz=138								
Z32A	**Haskell**	**138.30**	**49**	P	**PKPdf**		**16 54 10.9**	**-2.9**	
	baz=138								
531A	**Rocksprings**	**138.79**	**54**	P	**PKPdf**		**16 54 10.8**	**-4.0**	
	baz=139								
133A	**Hamilton Ranch**	**139.04**	**50**	P	**PKPdf**		**16 54 10.7**	**-4.5**	
	baz=139								
432A	**Menard**	**139.10**	**53**	P	**PKPdf**		**16 54 10.9**	**-4.5**	
	baz=139								
JCT	**Junction City**	**139.26**	**53**	*e*PKIKP	**PKPdf**		**16 54 16.0**	**+0.3**	
JCT	**Junction City**	**139.26**	**53**	*e*PKPdf	**PKPdf**		**16 54 16.0**	**+0.3**	
JCT	**Junction City**	**139.26**	**53**	P	**PKPdf**		**16 54 12.3**	**-3.3**	
	baz=139								
333A	**Richland Sprin**	**139.55**	**52**	P	**PKPdf**		**16 54 11.1**	**-5.1**	
	baz=139								
SADO	**Sadowa**	**141.62**	**19**	PKP	**PKPdf**		**16 54 21.1**	**+1.6**	
	comp=Z,2.9nm,0.5s,baz=320,slow=5.0,SNR=5.2								
MIAR	**Mount Ida**	**141.90**	**44**	*e*PKIKP	**PKPdf**		**16 54 19.2**	**-1.1**	
MIAR	**Mount Ida**	**141.90**	**44**	*e*PKPdf	**PKPdf**		**16 54 19.2**	**-1.1**	
CPUP	**Villa Florida**	**144.47**	**188**	PKP	**PKPdf**		**16 54 25.1**	**+0.1**	
	comp=Z,3.7nm,0.7s,baz=152,slow=2.8,SNR=12								
WVT	**Waverly**	**144.57**	**37**	*e*PKIKP	**PKPab**		**16 54 23.5**	**+0.1**	
WVT	**Waverly**	**144.57**	**37**	*e*PKPdf	**PKPab**		**16 54 23.5**	**+0.1**	
OXF	**Oxford**	**144.67**	**40**	*e*PKIKP	PKPbc		16 54 24.0	0.0	
OXF	**Oxford**	**144.67**	**40**	*e*PKPdf	PKPbc		16 54 24.0	0.0	
BINY	**Binghamton**	**144.92**	**17**	*e*PKPdf	**PKPab**		**16 54 24.2**	**-0.4**	
TRY	**Troy**	**145.06**	**14**	*e*PKPdf	**PKPdf**		**16 54 25.3**	**-0.2**	
SSPA	**Standing Stone**	**145.72**	**21**	*e*PKPdf	**PKPdf**		**16 54 25.9**	**-0.8**	
HRV	**Adam Dziewonsk**	**145.74**	**12**	*e*PKP2	**PKPdf**		**16 54 26.4**	**-0.3**	
HRV	**Adam Dziewonsk**	**145.74**	**12**	*e*PKPdf	**PKPdf**		**16 54 26.4**	**-0.3**	
LRAL	**Lakeview Retre**	**147.15**	**40**	*e*PKPbc	**PKPbc**		**16 54 31.2**	**-0.4**	
TKL	**Tuckaleechee C**	**147.19**	**33**	PKPbc	**PKPbc**		**16 54 31.0**	**-0.7**	
	comp=Z,28nm,0.8s,baz=156,slow=3.7,SNR=13								
CMIG	**Matias Romero**	**147.56**	**72**	PKPbc	**PKPbc**		**16 54 33.7**	**+0.5**	
	comp=Z,4.4nm,0.7s,baz=229,slow=5.8,SNR=4.3								
BLA	**Blacksburg**	**147.63**	**27**	*e*PKIKP	**PKPdf**		**16 54 29.1**	**-1.0**	
BLA				*e*			16 54 32.5		
BLA				*e*			16 54 34.3		
BLA	**Blacksburg**	**147.63**	**27**	*e*PKPdf	**PKPdf**		**16 54 29.1**	**-1.0**	
BLA				*e*PKPbc	**PKPbc**		**16 54 32.5**	**-0.3**	
BLA				*e*PKPab	**PKiKP**		**16 54 34.3**	**-0.7**	
LVC	**Limon Verde**	**147.93**	**169**	*e*PKPbc	**PKPbc**		**16 54 34.5**	**+0.1**	
KMSC	**Kings Mountain**	**148.86**	**31**	*e*PKPbc	**PKPbc**		**16 54 36.1**	**0.0**	
KMSC				*e*PKPab	**PKPab**		**16 54 39.5**	**-0.5**	
GOGA	**Godfrey**	**149.02**	**35**	*e*PKP2	**PKPbc**		**16 54 36.5**	**-0.1**	
GOGA	**Godfrey**	**149.02**	**35**	*e*PKPbc	**PKPbc**		**16 54 36.5**	**-0.1**	
GOGA				*e*PKPab	**PKPab**		**16 54 40.1**	**-0.6**	
TIGA	**Tifton**	**150.35**	**38**	*e*PKPbc	**PKPbc**		**16 54 39.9**	**0.0**	
BDFB	**Brasilia**	**151.55**	**211**	PKP	**PKPdf**		**16 54 39.3**	**+2.2**	
BDFB	comp=Z,2.8nm,0.7s,baz=188,slow=4.8,SNR=6.4				PKPbc	**PKiKP**	**16 54 46.7**	**+3.0**	
	comp=Z,14nm,0.5s,baz=111,slow=2.2,SNR=19								
OTAV	**Otavalo**	**161.92**	**118**	*e*PKPdf	**PKPdf**		**16 54 50.6**	**-0.2**	

WEL 01 16:40:28.7±0.2, 37°32S×177°68E, h96km±1km, ML3.6/8, 3C-16D, Error ellipse: s-maj=1.7km s-min=1.3km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.45**	**169**	⇓P*	Pn	16 40 43.6	-0.1
HAZ				S*	Sn	16 40 55.0	+0.2
MXZ	**Matakaoa Point**	**0.56**	**116**	⇑P*	Pn	16 40 44.4	-0.1
MXZ				*e*S*	Sn	16 40 56.0	-0.3
MXZ				AML	AML	16 40 58.3	
MXZ				AML	AML	16 40 58.3	
MXZ				AML	AML	16 40 58.8	
WMGZ	**Waiomatatini S**	**0.77**	**131**	⇑PN	Pn	16 40 46.5	+0.1
PUZ	**Puketiti**	**0.88**	**149**	PN	Pn	16 40 47.4	-0.1
PUZ				AML	AML	16 41 04.4	
PUZ				AML	AML	16 41 09.0	
TWGZ	**Tauwhareparae**	**0.89**	**165**	⇓PN	Pn	16 40 48.3	+0.6
MWZ	**Matawai**	**1.02**	**187**	⇓P*	Pn	16 40 49.0	-0.1
MWZ				S*	Sn	16 41 05.2	+0.7
MWZ				AML	AML	16 41 05.9	
MWZ				AML	AML	16 41 06.3	
MWZ				AML	AML	16 41 06.3	
OPRZ	**Ohinepanea**	**1.04**	**239**	⇓P*	Pn	16 40 49.2	0.0
URZ	**Urewera**	**1.04**	**205**	⇓P*	Pn	16 40 49.1	-0.1
URZ				S*	Sn	16 41 05.1	+0.4
URZ				AML	AML	16 41 11.7	
TKGZ	**Te Karaka**	**1.13**	**173**	⇓PN	Pn	16 40 50.2	0.0
TGRZ	**Tauranga**	**1.20**	**249**	*e*P*	Pn	16 40 51.1	+0.1
CNRZ	**Carnagh Statio**	**1.24**	**160**	PN	Pn	16 40 51.7	+0.2
TARZ	**Mount Tarawera**	**1.30**	**225**	P*	Pn	16 40 53.1	+0.7
RRRZ	**Republican Roa**	**1.38**	**222**	⇑P*	Pn	16 40 53.5	+0.3
RIGZ	**Rimuhau**	**1.39**	**177**	PN	Pn	16 40 53.1	-0.3
SNGZ	**Shannon Statio**	**1.49**	**190**	⇓PN	Pn	16 40 54.5	-0.1
HSRZ	**Hossack Road**	**1.51**	**228**	P*	Pn	16 40 55.4	+0.6
PRRZ	**Plateau Road**	**1.56**	**220**	P*	Pn	16 40 55.6	+0.1
ALRZ	**Allen Road**	**1.63**	**220**	⇓P*	Pn	16 40 56.5	+0.1
RAHZ	**Arahi**	**1.67**	**196**	⇓PN	Pn	16 40 56.7	-0.1
KUZ	**Kuaotunu**	**1.67**	**289**	⇓PN	Pn	16 40 56.4	-0.4
KNZ	**Kokohu**	**1.70**	**180**	PN	Pn	16 40 56.3	-0.9
TOZ	**Tahuroa Road**	**1.78**	**256**	⇓P*	Pn	16 40 58.6	+0.4
WHHZ	**Waihua**	**1.79**	**191**	PN	Pn	16 40 58.0	-0.4
MHGZ	**Mahia Peninsul**	**1.84**	**174**	PN	Pn	16 40 58.4	-0.6
KUTZ	**Kaahu Road**	**1.88**	**231**	⇓PN	Pn	16 41 00.1	+0.5
NMHZ	**Naumai**	**1.91**	**201**	PN	Pn	16 40 60.0	0.0
TLZ	**Tolley Road**	**1.97**	**239**	⇓PN	Pn	16 41 01.1	+0.3
HATZ	**Hinemaiaia**	**2.01**	**218**	⇓PN	Pn	16 41 01.1	-0.1
ARHZ	**Kopaoanui**	**2.02**	**195**	PN	Pn	16 41 00.8	-0.5
MKAZ	**Moumakai**	**2.02**	**275**	⇓PN	Pn	16 41 01.5	+0.2
BKZ	**Black Stump Fm**	**2.07**	**206**	PN	Pn	16 41 01.2	-0.9
BKZ				AML	AML	16 43 31.8	
MCHZ	**McNeill Hill**	**2.26**	**200**	PN	Pn	16 41 03.8	-0.7
KRVZ	**Karewarewa**	**2.39**	**221**	PN	Pn	16 41 06.7	+0.3
OTVZ	**Oturere**	**2.43**	**220**	PN	Pn	16 41 06.8	-0.1
WTVZ	**West Tongariro**	**2.44**	**222**	PN	Pn	16 41 07.0	0.0
TWVZ	**Taurewa**	**2.49**	**225**	PN	Pn	16 41 07.7	+0.1
BHHZ	**Black Hill Sta**	**2.51**	**210**	PN	Pn	16 41 07.1	-0.8
COVZ	**Chateau Observ**	**2.52**	**221**	PN	Pn	16 41 06.9	-1.2
WPVZ	**Whakapapa**	**2.52**	**221**	PN	Pn	16 41 06.8	-1.3
HIZ	**Hauiti**	**2.53**	**241**	PN	Pn	16 41 09.1	+1.0
KRHZ	**Kereru**	**2.54**	**203**	PN	Pn	16 41 06.4	-1.8
KAHZ	**Kahuranaki**	**2.55**	**194**	PN	Pn	16 41 07.0	-1.4
MOVZ	**Moawhango**	**2.58**	**215**	PN	Pn	16 41 07.7	-1.1
MTVZ	**Mangateitei**	**2.70**	**219**	PN	Pn	16 41 09.7	-0.7
PXZ	**Pawanui**	**2.79**	**193**	⇓PN	Pn	16 41 08.9	-2.5
PXZ				SN	Sn	16 41 41.4	-2.9
PXZ				AML	AML	16 41 44.5	
VRZ	**Vera Road**	**2.92**	**231**	PN	Pn	16 41 14.1	+0.8
TSZ	**Takapari Road**	**3.05**	**206**	PN	Pn	16 41 12.7	-2.3
PRHZ	**Porangahau**	**3.06**	**195**	*e*PN	Pn	16 41 12.6	-2.5
DVHZ	**Dannevirke**	**3.20**	**201**	*e*PN	Pn	16 41 14.1	-3.0
WAZ	**Wanganui**	**3.22**	**220**	PN	Pn	16 41 14.2	-3.1
POWZ	**Post Office Ro**	**3.42**	**205**	PN	Pn	16 41 17.1	-2.8
PRWZ	**Pori Road**	**3.50**	**202**	*e*PN	Pn	16 41 18.4	-2.6
BFZ	**Birch Farm**	**3.54**	**198**	PN	Pn	16 41 18.7	-2.8
MRZ	**Mangatainoka R**	**3.72**	**205**	PN	Pn	16 41 20.6	-3.4
MRZ				AML	AML	16 42 04.5	
TIWZ	**Tintock**	**3.73**	**201**	PN	Pn	16 41 20.9	-3.2
TIWZ				AML	AML	16 42 05.3	
HOWZ	**Holdsworth Sta**	**3.95**	**205**	PN	Pn	16 41 23.2	-4.0
OGWZ	**Otaki Gorge**	**4.00**	**208**	PN	Pn	16 41 24.4	-3.4
TMWZ	**Te Maipa**	**4.03**	**200**	PN	Pn	16 41 24.5	-3.7
KIW	**Kapiti Island**	**4.14**	**210**	PN	Pn	16 41 26.1	-3.6
MTW	**Mount Morrison**	**4.19**	**203**	PN	Pn	16 41 26.0	-4.3
CAW	**Cannon Point**	**4.29**	**207**	PN	Pn	16 41 27.6	-4.2
TRWZ	**Traveller**	**4.36**	**200**	PN	Pn	16 41 28.3	-4.3
PAWZ	**Paruwai Farm**	**4.42**	**203**	PN	Pn	16 41 28.9	-4.5
MSWZ	**Moikau Station**	**4.50**	**204**	PN

Code	Station Name	Δ°	AZ°	Phase Op	Phase ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.77**	**285**	P		Pb	17 23 53.0	0.0
SKR				S		Sb	17 24 03.1	0.0
PAU	**Pauzhetka**	**1.02**	**343**	P		Pb	17 23 57.3	0.0
PAU				S		Sb	17 24 11.0	+0.7
ASAK	**Asacha**	**1.93**	**11**	P		Pb	17 24 11.6	-1.3
ASAK				S		Sb	17 24 35.9	-0.8
MTVR	**Mutnovka**	**2.07**	**15**	P		Pn	17 24 13.2	+1.8
MTVR				S		Sn	17 24 38.5	+2.0
RUS	**Russkaya**	**2.09**	**21**	P		Pn	17 24 13.1	+1.6
RUS				S		Sn	17 24 38.0	+1.4
UGLR	**Uglovaya**	**2.88**	**19**	P		Pn	17 24 25.5	+3.0
AVH	**Avacha**	**2.92**	**17**	P		Pb	17 24 26.9	-2.8
KOK	**Koryaka**	**2.93**	**16**	P		Pn	17 24 26.4	+3.3
KRER	**Koryakskii**	**2.96**	**17**	P		Pn	17 24 26.4	+2.7
SDLR	**Sedlovina**	**2.96**	**19**	P		Pn	17 24 25.8	+2.2
KRX	**Arik**	**2.99**	**16**	P		Pn	17 24 27.3	+3.2
GNL	**Ganaly**	**3.23**	**7**	P		Pb	17 24 31.4	-3.7

*ISCJB **01** 17:31:02.9±0.5,34.°00N×0.°04×87.°7E±0.°1,h10km,mb3.4/3, Error ellipse: s-maj=14.0km s-min=6.3km az=5.7*

*IDC **01** 17:31:03.4±1.2,33.°91N×87.°84E,h0km,mb3.3/4, mb1 3.5/8,mb1mx3.3/32,mbtmp3.3/8,ML3.0/3,Error ellipse: s-maj=47.2km s-min=19.2km az=63.0*

ISC 01 17:31:04.8±0.8,33.°88N±0.°07×87.°72E±0.°09,h10km,n22, σ1°83/22,mb3.3/3,Xizang

Code	Station Name	Δ°	AZ°	Phase Op	Phase ID	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.08**	**144**	Pn		**Pn**	**17 32 24.0**	**+2.5**
LSA				Sn		**Sg**	**17 33 44.5**	**-3.7**
LSA	comp=N,10.0nm,1.0s			smax	smax			
LSA	comp=E,10.0nm,1.0s			smax	smax			
GUN	**Gumba**	**6.16**	**195**	*e*P		**Pn**	**17 32 38.1**	**+2.0**
	comp=E,23nm,0.8s							
JIRN	**Jiri**	**6.34**	**192**	*e*P		Pn	17 32 42.0	+3.4
	comp=E,5.4nm,0.6s							
KKN	**Kakani**	**6.42**	**200**	*e*P		**Pn**	**17 32 41.7**	**+2.0**
GKN	**Gorkha**	**6.43**	**205**	*e*P		**Pn**	**17 32 41.3**	**+1.6**
	comp=E,8.9nm,0.5s							
DANN	**Dangsing**	**6.47**	**213**	*e*P		**Pn**	**17 32 40.7**	**+0.3**
	comp=E,0.3nm,0.4s							
TAPN	**Taplejung**	**6.51**	**180**	*e*P		**Pn**	**17 32 42.6**	**+1.7**
PKIN	**Phulchoki**	**6.59**	**198**	*e*P		**Pn**	**17 32 44.0**	**+2.0**
PKI	**Pulchoki**	**6.59**	**198**	*e*P		**Pn**	**17 32 45.2**	**+3.1**
	comp=E,19nm,1.1s							
DMN	**Daman**	**6.64**	**201**	*e*P		**Pn**	**17 32 44.6**	**+1.9**
	comp=E,7.4nm,0.6s							
RAMN	**Ramite**	**6.97**	**188**	*e*P		**Pn**	**17 32 48.7**	**+1.4**
	comp=E,21nm,0.8s							
ODAN	**Odare**	**7.00**	**182**	*e*P		**Pn**	**17 32 48.6**	**+1.0**
	comp=E,16nm,0.6s							
PYUN	**Piuthan**	**7.05**	**216**	*e*P		**Pn**	**17 32 48.1**	**-0.1**
	comp=E,49nm,0.7s							
MKAR	**Makanchi Array**	**13.54**	**344**	Pn		**Pn**	**17 34 16.2**	**-0.7**
	comp=E,0.0nm,0.3s,baz=180,slow=13,SNR=8.3							
CD2	**Chengdu**	**13.87**	**98**	*e*P		**P**	**17 34 31.3**	**+1.4**
CD2				PP		PnPn	17 34 43.8	+14
CD2				S		S	17 37 06.4	-11
CD2				sS		sS	17 37 12.8	
CD2	comp=Z,10.0nm,0.6s			pmax	pmax			
CD2	comp=Z,130nm,6.0s			pmax	pmax			
CD2	comp=N,310nm,13.2s			LR	LR			
CD2	comp=Z,480nm,10.8s			LR	LR			
KURBB	**Kurchatov Arra**	**18.04**	**341**	P		**Pn**	**17 35 13.7**	**-1.8**
	comp=Z,0.0nm,0.3s,baz=156,slow=11,SNR=7.2							
CMAR	**Chiang Mai Arr**	**18.34**	**144**	P		**Pn**	**17 35 17.9**	**-1.5**
	comp=Z,0.0nm,0.3s,baz=330,slow=9.8,SNR=3.4							
SONM	**Songino Array**	**19.77**	**40**	P		**P**	**17 35 34.8**	**-0.3**
	baz=228,slow=13,SNR=5.8							
ZALV	**Zalesovo Beam**	**20.17**	**355**	P		**P**	**17 35 38.5**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=177,slow=5.8,SNR=2.6							
GERES	**GERESS Array B**	**55.40**	**310**	P		**P**	**17 40 40.1**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=77,slow=8.4,SNR=4.4							
WRA	**Warramunga Arr**	**69.55**	**133**	P		**P**	**17 42 13.4**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=323,slow=6.0,SNR=6.5							
ASAR	**Alice Springs**	**72.14**	**136**	P		**P**	**17 42 30.4**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=338,slow=7.0,SNR=4.6							

IDC 01 17:46:03.7±2.2,10.°06N×92.°47E,h0km,mb3.3/3, mb1 3.5/4,mb1mx3.2/33,mbtmp3.3/4,ML3.6/1,Error ellipse: s-maj=74.9km s-min=25.4km az=66.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.44**	**36**	Pn		Pn	17 48 34.9	+0.1
	0.1nm,0.3s,baz=226,slow=15,SNR=5.0							
MKAR	**Makanchi Array**	**37.62**	**349**	P		P	17 53 20.1	-0.2
	0.1nm,0.5s,baz=158,slow=9.8,SNR=3.2							
WRA	**Warramunga Arr**	**50.87**	**126**	P		P	17 55 06.7	-0.1
	0.4nm,0.5s,baz=301,slow=10,SNR=14							
ASAR	**Alice Springs**	**52.58**	**130**	P		P	17 55 19.4	-0.1
	0.4nm,0.5s,baz=305,slow=7.2,SNR=15							

*IDC **01** 18:04:42.5±1.3,16.°12S×173.°50W,h0km,mb3.8/5, mb1 4.0/5,mb1mx3.7/28,mbtmp3.8/5,Error ellipse: s-maj=56.8km s-min=24.7km az=126.0*

*ISCJB **01** 18:04:50.4±1.6,16.°1S±0.°2×173.°6W±0.°3,h79km,mb3.7/5, Error ellipse: s-maj=45.3km s-min=25.9km az=27.0*

ISC 01 18:04:51.9±1.5,16.°2S±0.°3×173.°4W±0.°4,h79km,n15, σ0°77/9,mb3.9/5,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase Op	Phase ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**23.50**	**199**	P		**P**	**18 09 54.5**	**-0.2**
	2.9nm,0.5s,baz=130,slow=19,SNR=4.0							
H11S2	**WAKE ISLAND Hy**	**39.63**	**330**	T		T	18 53 52.3	
	baz=149,slow=76,SNR=6.2							
H11S3	**WAKE ISLAND Hy**	**39.64**	**330**	T		T	18 54 17.9	
	baz=149,slow=76,SNR=11							
H11S1	**WAKE ISLAND Hy**	**39.65**	**330**	T		T	18 54 11.1	
	baz=149,slow=76,SNR=9.5							
H11N3	**WAKE ISLAND Hy**	**40.59**	**331**	T		T	18 55 07.4	
	baz=150,slow=76,SNR=4.4							
H11N1	**WAKE ISLAND Hy**	**40.59**	**331**	T		T	18 55 05.8	
	baz=150,slow=76,SNR=8.7							
H11N2	**WAKE ISLAND Hy**	**40.60**	**331**	T		T	18 55 08.8	
	baz=150,slow=76,SNR=7.4							
STKA	**Stephens Creek**	**43.61**	**241**	P		**P**	**18 12 48.9**	**+0.3**
	2.1nm,0.8s,baz=106,slow=14,SNR=3.8							
WRA	**Warramunga Arr**	**49.63**	**257**	P		**P**	**18 13 35.3**	**-0.5**
	0.5nm,0.7s,baz=97,slow=6.6,SNR=9.5							
ASAR	**Alice Springs**	**49.84**	**253**	P		**P**	**18 13 37.1**	**-0.2**
	1.3nm,0.7s,baz=88,slow=7.6,SNR=21							
ILAR	**Eielson Array**	**83.23**	**11**	P		**P**	**18 17 08.6**	**-0.6**
	0.4nm,0.6s,baz=223,slow=5.6,SNR=6.8							
ARCES	**ARCESS Array B**	**125.39**	**352**	PKP		**PKPdf**	**18 23 44.1**	**+1.0**
	7.8nm,1.1s,baz=72,slow=2.9,SNR=3.5							
MLR	**Muntele Rosu**	**146.58**	**335**	PKPbc		**PKPab**	**18 24 26.8**	**+1.1**
	0.4nm,0.8s,baz=112,slow=5.4,SNR=3.7							
BRTR	**Keskin Array B**	**146.75**	**320**	PKPbc		**PKPab**	**18 24 27.1**	**+0.4**
	1.1nm,0.7s,baz=119,slow=3.6,SNR=8.7							
GERES	**GERESS Array B**	**146.92**	**351**	PKPbc		**PKPab**	**18 24 26.2**	**-0.6**
	0.4nm,0.7s,baz=30,slow=6.2,SNR=5.2							

*IDC **01** 18:17:15.9±1.2,59.°54S×27.°75W,h0km,mb3.9/2, mb1 4.0/2,mb1mx3.6/17,mbtmp3.9/2,Error ellipse: s-maj=89.3km s-min=31.8km az=103.0*

*ISCJB **01** 18:17:19.9±1.6,59.°8S±0.°2×24.°9W±0.°8,h10km,mb3.8/2, Error ellipse: s-maj=57.3km s-min=15.1km az=162.8*

*AWI **01** 18:17:33.8,60.°50S×24.°70W*

ISC 01 18:17:21.8±1.3,59.°9S±0.°2×25.°2W±0.°4,h10km,n9,σ3°05/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ID	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.82**	**154**	P		Pn	18 20 27.5	+3.7
VNA3	**Neumayer Olymp**	**12.99**	**157**	P		**Pn**	**18 20 29.2**	**+3.1**
VNA3	**Neumayer Olymp**	**12.99**	**157**	S		**Sn**	**18 22 45.7**	**-4.8**
VNA2	**Neumayer--Watz**	**13.21**	**154**	P		**Pn**	**18 20 31.9**	**+2.7**
	baz=308,slow=15							
VNA2	**Neumayer--Watz**	**13.21**	**154**	S		**Sn**	**18 22 55.8**	**-0.1**
VNDA	**Vanda**	**42.74**	**182**	P		**P**	**18 25 17.4**	**-1.1**
	0.4nm,0.6s,baz=203,slow=7.3,SNR=2.6							
TORD	**Torodi Ar. Bea**	**75.97**	**27**	P		**P**	**18 29 07.0**	**-1.7**
	1.4nm,0.4s,baz=198,slow=6.3,SNR=26							
SONM	**Songino Array**	**149.72**	**92**	PKPbc		**PKPdf**	**18 37 07.9**	**+1.7**
	1.0nm,0.8s,baz=227,slow=3.5,SNR=7.2							
ILAR	**Eielson Array**	**153.37**	**306**	PKPbc		**PKPdf**	**18 37 11.0**	**0.0**
	0.4nm,0.8s,baz=126,slow=1.2,SNR=4.0							

*IDC **01** 18:27:12.2±0.9,38.°18N×20.°35E,h0km,mb3.9/10, mb1 3.9/15,mb1mx3.7/40,mbtmp3.7/15,ML3.4/5,MS2.2/1, Ms1 2.2/1,ms1mx2.0/41,Error ellipse: s-maj=19.3km s-min=15.5km az=75.0*

*ISCJB **01** 18:27:13.2±0.4,38.°20N±0.°02×20.°24E±0.°02,h11km±3km, mb3.8/11,Error ellipse: s-maj=3.4km s-min=1.8km az=40.7*

*ATH **01** 18:27:14.6,38.°18N×20.°40E,h17km,MD3.7/48,ML3.6*

*CSEM **01** 18:27:14.3±0.1,38.°19N×20.°30E,h5km,MD3.7,Error ellipse: s-maj=3.2km s-min=1.7km az=41.0*

*PDG **01** 18:27:14.5±0.7,38.°23N×20.°31E,h11km±1km,ML3.6/12, Error ellipse: s-maj=1.1km s-min=1.2km az=0.0*

*NEIC **01** 18:27:15.6±2.3,38.°10N×20.°45E,h26km±18km,mb4.0/3, Error ellipse: s-maj=9.9km s-min=8.0km az=202.0*

NEIC Felt at Argostolion.

*THE **01** 18:27:15.0,38.°17N×20.°35E,h0km±1km,ML3.7/8,Error ellipse: s-maj=1.5km s-min=0.6km az=242.0*

*TIR **01** 18:27:16.7,38.°44N×20.°15E,h21km*

*SZGRF **01** 18:27:19.0,38.°41N×20.°41E,h10km,Greece*

ISC 01 18:27:13.6±1.0,38.°16N±0.°02×20.°26E±0.°03,h10km±6km, n361,σ1°30/473,mb4.0/11,35C-28D,Greece

Code	Station Name	Δ°	AZ°	Phase Op	Phase ID	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.26**	**86**	P		**Pg**	**18 27 19.3**	**+0.3**
VLS				S		**Sg**	**18 27 22.3**	**-0.3**
VLS	**Valsamata**	**0.26**	**86**	*e*PB		**Pg**	**18 27 19.3**	**+0.3**
VLS				*e*SB		**Sg**	**18 27 22.0**	**-0.6**
VLS	**Valsamata**	**0.26**	**86**	P		**Pg**	**18 27 19.2**	**+0.3**
VLS				*e*Sb		**Sg**	**18 27 22.0**	**-0.6**
KFL	**Anninata**	**0.42**	**96**	P		**Pg**	**18 27 21.9**	**0.0**
KFL				S		**Sg**	**18 27 26.5**	**-1.0**
KFL	**Anninata**	**0.42**	**96**	P		**Pg**	**18 27 21.9**	**0.0**
KFL				S		**Sg**	**18 27 26.5**	**-1.0**
LKD2	**Lefkada island**	**0.70**	**26**	P		**Pg**	**18 27 27.3**	**0.0**
LKD2	**Lefkada island**	**0.70**	**26**	*e*PN		**Pg**	**18 27 27.3**	**0.0**
LKD2				*e*SN		**Sg**	**18 27 36.2**	**-0.3**
LKD2	**Lefkada island**	**0.70**	**26**	P		**Pg**	**18 27 27.1**	**-0.2**
LKD2				*e*Sn		**Sg**	**18 27 36.2**	**-0.3**
VTN	**Vitineika**	**0.77**	**108**	P		**Pg**	**18 27 28.6**	**+0.1**
VTN	**Vitineika**	**0.77**	**108**	P		**Pg**	**18 27 28.6**	**+0.1**
PDO	**Prodromos**	**0.85**	**59**	P		**Pg**	**18 27 29.4**	**-0.6**
PDO	**Prodromos**	**0.85**	**59**	*e*PN		**Pg**	**18 27 29.3**	**-0.7**
PDO				*e*SN		**Sg**	**18 27 39.8**	**-1.3**
PDO	**Prodromos**	**0.85**	**59**	P		**Pg**	**18 27 29.4**	**-0.6**
PDO				*e*Sn		**Sg**	**18 27 39.8**	**-1.3**
PDO				S		**Sb**	**18 27 41.0**	**-1.0**
RLS	**Riolos of Patr**	**0.96**	**96**	P		**Pg**	**18 27 31.2**	**-0.9**
RLS				S		**Sb**	**18 27 45.4**	**+0.4**
RLS	**Riolos of Patr**	**0.96**	**96**	*e*PN		**Pg**	**18 27 31.1**	**-1.0**
RLS				*e*SN		**Sg**	**18 27 43.5**	**-1.1**
RLS	**Riolos of Patr**	**0.96**	**96**	P		**Pg**	**18 27 31.2**	**-0.9**
RLS				S		**Sb**	**18 27 45.3**	**+0.3**
SFD	**Strofades**	**1.09**	**146**	P		**Pn**	**18 27 35.6**	**+0.7**
SFD				S		**Sn**	**18 27 50.3**	**+0.4**
SFD	**Strofades**	**1.09**	**146**	*e*PN		**Pn**	**18 27 35.3**	**+0.4**
SFD				*e*SN		**Sg**	**18 27 48.1**	**-0.5**
SFD	**Strofades**	**1.09**	**146**	*e*Pn		**Pn**	**18 27 35.3**	**+0.4**
SFD	**Strofades**	**1.09**	**146**	P		**Pn**	**18 27 35.6**	**+0.7**
SFD				S		**Sn**	**18 27 50.3**	**+0.4**
PVO	**Paravola**	**1.10**	**65**	P		**Pb**	**18 27 34.1**	**-0.6**
PVO				S		**Sb**	**18 27 49.2**	**+0.2**
PVO	**Paravola**	**1.10**	**65**	P		**Pb**	**18 27 34.1**	**-0.6**
PVO				S		**Sb**	**18 27 49.2**	**+0.2**
DRO	**Drossia**	**1.17**	**100**	P		**Pb**	**18 27 35.1**	**-0.8**
DRO				S		**Sn**	**18 27 51.7**	**-0.3**
DRO	**Drossia**	**1.17**	**100**	*e*PN		**Pb**	**18 27 35.0**	**-0.8**
DRO	**Drossia**	**1.17**	**100**	P		**Pb**	**18 27 35.1**	**-0.8**
DRO				S		**Sn**	**18 27 51.7**	**-0.3**
DSL	**Palaion Diasel**	**1.18**	**34**	P		**Pb**	**18 27 35.6**	**-0.5**
DSL				S		**Sn**	**18 27 52.6**	**+0.3**
DSL	**Palaion Diasel**	**1.18**	**34**	*e*PN		**Pb**	**18 27 35.7**	**-0.4**
DSL				*e*SN		**Sb**	**18 27 49.7**	**-1.6**
DSL	**Palaion Diasel**	**1.18**	**34**	P		**Pb**	**18 27 35.6**	**-0.5**
DSL				S		**Sn**	**18 27 52.6**	**+0.3**
UPR	**University Cam**	**1.21**	**84**	P		**Pn**	**18 27 39.6**	**+1.9**
UPR				S		**Sn**	**18 27 53.0**	**0.0**
UPR	**University Cam**	**1.21**	**84**	P		**Pn**	**18 27 36.6**	**0.0**
UPR				S		**Sn**	**18 27 53.0**	**0.0**
AMT	**Artemida-Makis**	**1.31**	**118**	P		**Pg**	**18 27 38.7**	**0.0**
AMT				S		**Sg**	**18 27 56.8**	**+1.1**
AMT	**Artemida-Makis**	**1.31**	**118**	*e*PN		**Pn**	**18 27 38.0**	**0.0**
AMT	**Artemida-Makis**	**1.31**	**118**	*e*Pn		**Pn**	**18 27 38.0**	**0.0**
AMT	**Artemida-Makis**	**1.31**	**118**	P		**Pg**	**18 27 38.8**	**0.0**
AMT				S		**Sg**	**18 27 56.8**	**+1.1**
EFP	**Efpalio**	**1.32**	**78**	P		**Pn**	**18 27 37.1**	**-1.1**
EFP	**Efpalio**	**1.32**	**78**	*e*PN		**Pn**	**18 27 37.1**	**-1.1**
EFP	**Efpalio**	**1.32**	**78**	P		**Pn**	**18 27 37.1**	**-1.1**
EFP				S		**Sg**	**18 27 58.2**	**+1.9**
IGT	**Igoumenitsa**	**1.37**	**2**	*e*P		**Pb**	**18 27 39.6**	**+0.2**
IGT	**Igoumenitsa**	**1.37**	**2**	P		**Pg**	**18 27 40.0**	**-0.1**
IGT				S		**Sg**	**18 28 00.6**	**+2.7**
IGT	**Igoumenitsa**	**1.37**	**2**	*e*PN		**Pg**	**18 27 39.9**	**-0.1**
IGT				*e*SN		**Sg**	**18 27 59.4**	**+1.5**
IGT	**Igoumenitsa**	**1.37**	**2**	*e*Pn		**Pg**	**18 27 39.9**	**-0.1**
IGT				*e*Sn		**Sg**	**18 27 59.4**	**+1.5**
IGT				S		**Sg**	**18 28 00.6**	**+2.7**
EVR	**Evrytania**	**1.43**	**58**	P		**Pn**	**18 27 39.8**	**0.0**
EVR				S		**Sg**	**18 28 00.8**	**+1.0**
EVR	**Evrytania**	**1.43**	**58**	*e*PN		**Pn**	**18 27 39.1**	**-0.7**
EVR	**Evrytania**	**1.43**	**58**	*e*Pn		**Pn**	**18 27 39.1**	**-0.7**
EVR	**Evrytania**	**1.43**	**58**	P		**Pn**	**18 27 39.8**	**0.0**
EVR				S		**Sb**	**18 27 59.4**	**+0.6**
KLV	**Kalavryta, Ach**	**1.50**	**94**	P		**Pn**	**18 27 40.3**	**-0.3**
KLV				S		**Sn**	**18 28 00.4**	**+0.2**
KLV	**Kalavryta, Ach**	**1.50**	**94**	*e*PN		**Pn**	**18 27 40.2**	**-0.3**
KLV	**Kalavryta, Ach**	**1.50**	**94**	P		**Pn**	**18 27 40.3**	**-0.3**
KLV				S		**Sn**	**18 28 00.4**	**+0.2**
KALE	**Kalithea**	**1.50**	**80**	P		**Pn**	**18 27 40.0**	**-0.7**
KALE	**Kalithea**	**1.50**	**80**	*e*PN		**Pn**	**18 27 39.9**	**-0.7**
KALE	**Kalithea**	**1.50**	**80**	P		**Pn**	**18 27 40.0**	**-0.7**
JAN	**Janina**	**1.57**	**17**	P		**Pb**	**18 27 43.1**	**+0.4**
JAN	**Janina**	**1.57**	**17**	*e*PN		**Pg**	**18 27 43.3**	**-0.4**
JAN				*e*SN		**Sg**	**18 28 03.6**	**-0.4**
JAN	**Janina**	**1.57**	**17**	P		**Pb**	**18 27 43.1**	**+0.4**
JAN				*e*Sn		**Sg**	**18 28 03.6**	**-0.4**
KEK	**Kerkira**	**1.59**	**347**	P		**Pb**	**18 27 43.5**	**+0.3**
KEK	**Kerkira**	**1.59**	**347**	*e*PN		**Pb**	**18 27 43.5**	**+0.3**
KEK	**Kerkira**	**1.59**	**347**	P		**Pb**	**18 27 43.5**	**+0.3**
ITM	**Ithomi**	**1.65**	**126**	P		**Pb**	**18 27 43.9**	**-0.1**
ITM				S		**Sb**	**18 28 05.8**	**+1.0**
ITM	**Ithomi**	**1.65**	**126**	*e*PN		**Pb**	**18 27 43.5**	**-0.5**
ITM				*e*SN		**Sg**	**18 28 05.9**	**-0.6**
ITM	**Ithomi**	**1.65**	**126**	*e*Pn		**Pb**	**18 27 43.5**	**-0.5**
ITM	**Ithomi**	**1.65**	**126**	P		**Pb**	**18 27 43.9**	**-0.1**
ITM				*e*Sn		**Sg**	**18 28 05.9**	**-0.6**
GUR	**Goura**	**1.66**	**97**	P		**Pn**	**18 27 43.0**	**+0.1**
GUR				S		**Sb**	**18 28 06.1**	**+0.7**
GUR	**Goura**	**1.66**	**97**	*e*PN		**Pn**	**18 27 42.8**	**-0.1**
GUR	**Goura**	**1.66**	**97**	*e*Pn		**Pn**	**18 27 42.8**	**-0.1**
GUR	**Goura**	**1.66**	**97**	P		**Pn**	**18 27 43.2**	**+0.3**
GUR				S		**Sb**	**18 28 06.1**	**+0.7**
MAKR	**Makrakomi, Fth**	**1.70**	**59**	P		**Pb**	**18 27 44.7**	**-0.3**
MAKR				S		**Sg**	**18 28 07.7**	**-0.6**
MAKR	**Makrakomi, Fth**	**1.70**	**59**	*e*PN		**Pb**	**18 27 44.3**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.70**	**59**	*e*Pn		**Pb**	**18 27 44.3**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.70**	**59**	P		**Pb**	**18 27 44.7**	**-0.3**
MAKR				S		**Sg**	**18 28 07.7**	**-0.6**
PYL	**PYLOS**	**1.73**	**136**	P		**Pn**	**18 27 44.5**	**+0.8**
PYL	**PYLOS**	**1.73**	**136**	*e*PN		**Pb**	**18 27 45.5**	**+0.1**
PYL				*e*SN		**Sb**	**18 28 07.7**	**+0.6**
PYL	**PYLOS**	**1.73**	**136**	P		**Pn**	**18 27 44.5**	**+0.8**
PYL	**PYLOS**	**1.73**	**136**	*e*Pn		**Pb**	**18 27 45.5**	**+0.1**
PYL				*e*Sn		**Sb**	**18 28 07.7**	**+0.6**
SRN	**Sarande**	**1.73**	**353**	*i* PN		**Pn**	**18 27 44.1**	**+0.3**
SRN				*i* SN		**Sn**	**18 28 03.8**	**-2.1**
SRN	**Sarande**	**1.73**	**353**	*i* Pn		**Pn**	**18 27 44.1**	**+0.3**
SRN				*i* Sn		**Sn**	**18 28 03.8**	**-2.1**
MEV	**Metsovon**	**1.79**	**25**	P		**Pb**	**18 27 47.2**	**+0.5**
MEV	**Metsovon**	**1.79**	**25**	P		**Pb**	**18 27 47.2**	**+0.5**
DSF	**Desfina**	**1.80**	**81**	P		**Pn**	**18 27 45.0**	**+0.1**
DSF	**Desfina**	**1.80**	**81**	*e*PN		**Pn**	**18 27 44.9**	**+0.1**
DSF	**Desfina**	**1.80**	**81**	P		**Pn**	**18 27 45.0**	**+0.1**
AGG	**Agios Georgios**	**1.84**	**61**	*e*P		**Pb**	**18 27 47.1**	**-0.3**
AGG	**Agios Georgios**	**1.84**	**61**	P		**Pb**	**18 27 46.9**	**-0.5**
AGG				S		**Sb**	**18 28 10.9**	**+0.4**
AGG	**Agios Georgios**	**1.84**	**61**	*e*PN		**Pb**	**18 27 47.5**	**+0.1**
AGG				*e*SN		**Sn**	**18 28 08.8**	**+0.2**
AGG	**Agios Georgios**	**1.84**	**61**	P		**Pb**	**18 27 46.9**	**-0.5**
AGG	**Agios Georgios**	**1.84**	**61**	*e*Pn		**Pb**	**18 27 47.5**	**+0.1**
AGG				*e*Sn		**Sn**	**18 28 08.8**	**+0.2**
AGG				S		**Sb**	**18 28 10.9**	**+0.4**
VLX	**Vlachokerasia**	**1.86**	**114**	P		**Pg**	**18 27 49.8**	**+0.6**
VLX	**Vlachokerasia**	**1.86**	**114**	*e*PN		**Pb**	**18 27 46.5**	**+0.9**
VLX	**Vlachokerasia**	**1.86**	**114**	*e*Pn		**Pb**	**18 27 46.5**	**+0.9**
THL	**Klokotos Trika**	**1.96**	**44**	P		**Pb**	**18 27 48.6**	**-0.9**
THL	**Klokotos Trika**	**1.96**	**44**	*e*PN		**Pb**	**18 27 49.0**	**-0.5**
THL	**Klokotos Trika**	**1.96**	**44**	P		**Pb**	**18 27 48.6**	**-0.9**
THL	**Klokotos Trika**	**1.96**	**44**	*e*Pn		**Pb**	**18 27 49.0**	**-0.5**
AXAR	**Agios Charalam**	**1.98**	**71**	P		**Pb**	**18 27 49.1**	**-0.7**
AXAR	**Agios Charalam**	**1.98**	**71**	*e*PN		**Pb**	**18 27 48.1**	**+0.9**
AXAR	**Agios Charalam**	**1.98**	**71**	*e*Pn		**Pb**	**18 27 48.1**	**+0.9**
AXAR	**Agios Charalam**	**1.98**	**71**	P		**Pb**	**18 27 49.1**	**-0.7**
LTK	**Loutraki**	**2.14**	**93**	P		**Pn**	**18 27 50.5**	**+1.0**
LTK	**Loutraki**	**2.14**	**93**	*e*PN		**Pn**	**18 27 50.4**	**+1.0**
LTK	**Loutraki**	**2.14**	**93**	P		**Pn**	**18 27 50.5**	**+1.0**
LKR	**Lokris**	**2.21**	**76**	P		**Pn**	**18 27 51.7**	**+1.4**
LKR				S		**Sb**	**18 28 19.7**	**-1.4**
LKR	**Lokris**	**2.21**	**76**	*e*PN		**Pn**	**18 27 51.7**	**+1.4**
LKR				*e*SN		**Sn**	**18 28 18.1**	**+0.4**
LKR	**Lokris**	**2.21**	**76**	P		**Pn**	**18 27 51.7**	**+1.4**
LKR				*e*Sn		**Sn**	**18 28 18.1**	**+0.4**
LKR				S		**Sb**	**18 28 19.7**	**-1.4**
NEST	**Nestorio**	**2.34**	**15**	P		**Pb**	**18 27 55.1**	**-0.8**
NEST	**Nestorio**	**2.34**	**15**	P		**Pb**	**18 27 55.1**	**-0.8**
SMIA	**Simia**	**2.42**	**72**	P		**Pn**	**18 27 54.5**	**+1.2**
SMIA	**Simia**	**2.42**	**72**	*e*PN		**Pn**	**18 27 55.0**	**+1.7**
SMIA				*e*SN		**Sn**	**18 28 23.2**	**+0.1**
SMIA	**Simia**	**2.42**	**72**	P		**Pn**	**18 27 54.5**	**+1.2**
SMIA	**Simia**	**2.42**	**72**	*e*Pn		**Pn**	**18 27 55.0**	**+1.7**
SMIA				*e*Sn		**Sn**	**18 28 23.2**	**+0.1**
KZN	**Kozani**	**2.45**	**28**	P		**Pb**	**18 27 56.1**	**-1.7**
KZN	**Kozani**	**2.45**	**28**	*e*PN		**Pb**	**18 27 55.8**	**-2.0**
KZN	**Kozani**	**2.45**	**28**	*e*Pn		**Pb**	**18 27 55.8**	**-2.0**
KZN	**Kozani**	**2.45**	**28**	P		**Pb**	**18 27 56.1**	**-1.7**
VLI	**Veliai**	**2.57**	**123**	*e*PB		**Pb**	**18 27 58.4**	**-1.4**
VLI				*e*SN		**Sn**	**18 28 27.4**	**+0.8**
NAIG	**Nisos Aigina**	**2.58**	**98**	*e*PN		**Pn**	**18 27 56.5**	**+1.0**
NAIG	**Nisos Aigina**	**2.58**	**98**	*e*Pn		**Pn**	**18 27 56.5**	**+1.0**
NEO	**Neokhori**	**2.59**	**63**	*e*PB		**Pn**	**18 27 57.0**	**+1.4**
N

THR5	Thira Island,	4.42	112	*e*P	Pn	18 28 13.6	-7.1
PVY	Plav	4.44	357⇑	*i*Pn	Pn	**18 28 22.5**	**+1.4**
PVY				eSn	Sn	**18 29 13.9**	**+1.0**
PVY	Plav	4.44	357⇑	*i*Pn	Pn	**18 28 22.5**	**+1.4**
PVY				eSn	Sn	**18 29 13.9**	**+1.0**
HCY	Herceg Novi	4.49	343⇓	*i*Pn	Pn	**18 28 21.9**	**+0.2**
HCY				eSn	Sn	**18 29 14.3**	**+0.3**
HCY	Herceg Novi	4.49	343⇓	*i*Pn	Pn	**18 28 21.9**	**+0.2**
HCY				eSn	Sn	**18 29 14.3**	**+0.3**
SIGR	SIGRI	4.50	75	*e*P	Pn	**18 28 20.3**	**-1.6**
SIGR	SIGRI	4.50	75	*e*PN	Pn	**18 28 23.1**	**+1.2**
SIGR	SIGRI	4.50	75	*e*P	Pn	**18 28 20.3**	**-1.6**
SIGR	SIGRI	4.50	75	*e*Pn	Pn	**18 28 23.1**	**+1.2**
GVD	Gavdhos	4.53	136	Pn	Pn	18 28 17.7	-4.8
CHOS	Chios island	4.57	85	*e*P	Pn	**18 28 20.2**	**-2.6**
CHOS	Chios island	4.57	85	*e*PN	Pn	**18 28 23.4**	**+0.6**
CHOS	Chios island	4.57	85	*e*P	Pn	**18 28 20.2**	**-2.6**
CHOS	Chios island	4.57	85	*e*Pn	Pn	**18 28 23.4**	**+0.6**
IDI	Anoyia	4.70	126	Pn	Pn	**18 28 25.1**	**+0.5**
	0.2nm,0.3s,baz=302,slow=15,SNR=4.1						
IDI				Sn	Sn	**18 29 19.7**	**+0.5**
	2.9nm,0.3s,baz=44,slow=20,SNR=3.9						
SMTH	Samothraki Isl	4.70	59	*e*PN	Pn	**18 28 25.0**	**+0.5**
SMTH	Samothraki Isl	4.70	59	*e*Pn	Pn	**18 28 25.0**	**+0.5**
NKME	Niksic	4.71	348⇓	*i*Pn	Pn	**18 28 25.5**	**+0.7**
NKME				eSn	Sn	**18 29 19.8**	**+0.3**
NKME	Niksic	4.71	348⇓	*i*Pn	Pn	**18 28 25.5**	**+0.7**
NKME				eSn	Sn	**18 29 19.8**	**+0.3**
BEY	Berane	4.72	357⇑	*i*Pn	Pn	**18 28 26.2**	**+1.3**
BEY				eSn	Sn	**18 29 19.9**	**+0.2**
IVA	Berane	4.72	357⇑	*i*Pn	Pn	**18 28 26.2**	**+1.3**
IVA				eSn	Sn	**18 29 19.9**	**+0.2**
NKY	Niksic	4.75	349⇑	*i*Pn	Pn	**18 28 26.4**	**+1.1**
NKY				eSn	Sn	**18 29 21.6**	**+1.1**
NKY	Niksic	4.75	349⇑	*i*Pn	Pn	**18 28 26.4**	**+1.1**
NKY				eSn	Sn	**18 29 21.6**	**+1.1**
BARS	Barje	4.80	14⇓	*i*Pn	Pn	**18 28 27.0**	**+1.0**
GADA	Gvkgeada	4.83	63	*e*P	Pn	**18 28 26.7**	**+0.3**
GADA	Gvkgeada	4.83	63	*e*P	Pn	**18 28 26.7**	**+0.3**
MS1	Monte Sant'Ang	4.85	318	*e*Pn	Pn	18 28 30.1	+3.4
BRY	Bratogost	4.92	345⇑	*i*Pn	Pn	**18 28 28.0**	**+0.3**
BRY				eSn	Sn	**18 29 25.9**	**+1.2**
BRY	Bratogost	4.92	345⇑	*i*Pn	Pn	**18 28 28.0**	**+0.3**
BRY				eSn	Sn	**18 29 25.9**	**+1.2**
VTS	Vitosha	4.97	26⇑	*i*P	Pn	**18 28 30.1**	**+1.7**
VTS	Vitosha	4.97	26⇑	*i*P	Pn	**18 28 30.1**	**+1.7**
STON	Ston	5.10	338	*i*Pn	Pn	**18 28 30.7**	**+0.7**
STON				Sn	Sn	**18 29 26.1**	**-2.8**
STON	Ston	5.10	338	*i*Pn	Pn	**18 28 30.6**	**+0.7**
STON				Sn	Sn	**18 29 26.0**	**-2.8**
UPM	Unac-Piva	5.14	349⇑	*i*Pn	Pn	**18 28 31.8**	**+1.0**
UPM				eSn	Sn	**18 29 31.1**	**+0.8**
UPM	Unac-Piva	5.14	349⇑	*i*Pn	Pn	**18 28 31.8**	**+1.0**
UPM				eSn	Sn	**18 29 31.1**	**+0.8**
LAST	Lasithi	5.15	124	*e*PN	Pn	**18 28 32.2**	**+1.3**
LAST	Lasithi	5.15	124	*e*Pn	Pn	**18 28 32.2**	**+1.3**
NPS	Neapolis	5.18	122	*e*PN	Pn	**18 28 33.0**	**+1.8**
NPS	Neapolis	5.18	122	*e*Pn	Pn	**18 28 33.0**	**+1.8**
PLE	Pljevlja	5.21	353⇑	*i*Pn	Pn	**18 28 33.1**	**+1.4**
PLE				eSn	Sn	**18 29 32.3**	**+0.5**
PLE	Pljevlja	5.21	353⇑	*i*Pn	Pn	**18 28 33.1**	**+1.4**
PLE				eSn	Sn	**18 29 32.3**	**+0.5**
SMG	Samos	5.22	93	*e*PN	Pn	**18 28 34.9**	**+3.2**
SMG	Samos	5.22	93	*e*Pn	Pn	**18 28 34.9**	**+3.2**
ENEZ	Enez	5.24	59	*e*P	Pn	**18 28 32.7**	**+0.8**
ENEZ	Enez	5.24	59	*e*P	Pn	**18 28 32.7**	**+0.8**
ALN	Alexandroupoli	5.25	57	*e*P	Pn	**18 28 32.6**	**+0.6**
ALN	Alexandroupoli	5.25	57	*e*PN	Pn	**18 28 32.8**	**+0.8**
ALN	Alexandroupoli	5.25	57	*e*Pn	Pn	**18 28 32.8**	**+0.8**
KDZ	Kurdzhali	5.28	47⇑	*i*P	Pn	**18 28 32.9**	**+0.3**
KDZ	Kurdzhali	5.28	47⇑	*i*Pn	Pn	**18 28 32.9**	**+0.3**
GELI	Tayfur-Gelibol	5.32	63	*e*P	Pn	**18 28 33.3**	**+0.3**
GELI	Tayfur-Gelibol	5.32	63	*e*P	Pn	**18 28 33.3**	**+0.3**
ERIK	Erikli-Kesan	5.46	61	*e*P	Pn	**18 28 35.3**	**+0.4**
ERIK	Erikli-Kesan	5.46	61	*e*P	Pn	**18 28 35.3**	**+0.4**
ZKR	Zakros	5.67	121	*e*PN	Pn	**18 28 39.8**	**+1.8**
ZKR	Zakros	5.67	121	*e*Pn	Pn	**18 28 39.8**	**+1.8**
BODT	Bodrum	5.71	99	*e*P	Pn	18 28 32.9	-5.5
GRUS	Gruza	5.74	3⇑	*i*Pn	Pn	**18 28 39.5**	**+0.7**
BBLS	Lazići	5.74	354⇓	*i*Pn	Pn	**18 28 39.2**	**+0.3**
BOLS	Boljevac	5.81	12	*e*Pn	Pn	**18 28 40.7**	**-1.1**
KRBG	Karabiga-Canak	5.90	66	*e*P	Pn	**18 28 40.7**	**-0.3**
KRBG	Karabiga-Canak	5.90	66	*e*P	Pn	**18 28 40.7**	**-0.3**
DIVS	Divibare	5.94	358⇓	*i*P	Pn	**18 28 41.8**	**+0.1**
DIVS	Divibare	5.94	358⇑	*i*Pn	Pn	**18 28 41.4**	**-0.3**
DIVS	Divibare	5.94	358⇓	*i*P	Pn	**18 28 41.8**	**+0.1**
TRUS	Trudelj	6.06	1	*e*Pn	Pn	**18 28 42.8**	**-0.5**
KARP	Karpathos	6.12	113	*e*PN	Pn	**18 28 46.3**	**+2.2**
KARP	Karpathos	6.12	113	*e*Pn	Pn	**18 28 46.3**	**+2.2**
BALB	Balikesir	6.13	74	*e*P	Pn	**18 28 42.7**	**-1.5**
BALB	Balikesir	6.13	74	*e*P	Pn	**18 28 42.7**	**-1.5**
MRMT	Marmara Adasi	6.19	64	*e*P	Pn	**18 28 44.2**	**-0.9**
MRMT	Marmara Adasi	6.19	64	*e*P	Pn	**18 28 44.2**	**-0.9**
EDRB	Edirne	6.19	51	*e*P	Pn	**18 28 46.1**	**+1.0**
EDRB	Edirne	6.19	51	*e*P	Pn	**18 28 46.1**	**+1.0**
TEKS	Tekeris	6.41	355⇑	*i*Pn	Pn	**18 28 47.9**	**-0.2**
KCTX	Karacabey (Bur	6.63	69	*e*P	Pn	**18 28 49.9**	**-1.2**
KCTX	Karacabey (Bur	6.63	69	*e*P	Pn	**18 28 49.9**	**-1.2**
AQU	L'Aquila	6.71	311	*e*Pn	Pn	18 28 56.5	+4.3
AQU				eSn	Sn	**18 30 13.7**	**+4.9**
FGSL	Fruska Gora	7.00	357	*e*PN	Pn	**18 28 55.3**	**-0.9**
UDBI	Udbina	7.21	333	*e*Pn	Pn	**18 29 00.8**	**+1.8**
UDBI				Sn	Sn	**18 30 19.7**	**-1.2**
UDBI	Udbina	7.21	333	*e*Pn	Pn	**18 29 00.8**	**+1.8**
UDBI				Sn	Sn	**18 30 19.7**	**-1.2**
GZR	Gura Zlata	7.47	14⇓	*i*P	Pn	**18 29 03.0**	**+0.3**
GZR	Gura Zlata	7.47	14⇓	*i*P	Pn	**18 29 03.0**	**+0.3**
NVLJ	Novalja	7.57	329	*i*Pn	Pn	**18 29 05.1**	**+1.1**
NVLJ				Sn	Sn	**18 30 26.7**	**-3.1**
NVLJ	Novalja	7.57	329	*i*Pn	Pn	**18 29 05.1**	**+1.1**
ARR	Arges	7.91	23⇑	*i*P	Pn	**18 29 09.9**	**+1.2**
ARR	Arges	7.91	23⇑	*i*P	Pn	**18 29 09.9**	**+1.2**
VOIR		8.11	25⇑	*i*P	Pn	**18 29 13.3**	**+1.9**
VOIR		8.11	25⇑	*i*P	Pn	**18 29 13.3**	**+1.9**
PKSM	Moragy	8.14	352⇓	*i*P	Pn	**18 29 11.1**	**-0.6**
PKSM	Moragy	8.14	352⇓	*i*P	Pn	**18 29 11.1**	**-0.6**
BOJS	Bojanci	8.23	335	*i*Pn	Pn	**18 29 14.2**	**+1.1**
BOJS	Bojanci	8.23	335	Pn	Pn	**18 29 14.2**	**+1.1**
GBRS	Gornja Briga	8.41	333	*i*Pn	Pn	**18 29 17.1**	**+1.5**
MLR	Muntele Rosu	8.47	28	Pn	Pn	**18 29 18.3**	**+1.9**
	0.1nm,0.3s,baz=190,slow=4.8,SNR=13						
MLR				LR	LR	18 33 54.6	
	comp=Z,15nm,18.4s,baz=214,slow=48						
MLR	Muntele Rosu	8.47	28⇓	*i*P	Pn	**18 29 18.6**	**+2.2**
MLR	Muntele Rosu	8.47	28⇓	*i*P	Pn	**18 29 18.6**	**+2.2**
TLB	Topalu	8.69	40⇓	*i*P	Pn	**18 29 20.2**	**+1.0**
TLB	Topalu	8.69	40⇓	*i*P	Pn	**18 29 20.2**	**+1.0**
SKDS	Skadanscina	8.73	330	*i*Pn	Pn	**18 29 20.5**	**+0.7**
SKDS				eSn	Sn	18 30 52.2	-6.0
SKDS	Skadanscina	8.73	330	*i*Pn	Pn	**18 29 20.5**	**+0.7**
TIRR	Tirgusor	8.79	42⇓	*i*P	Pn	**18 29 21.6**	**+1.0**
TIRR	Tirgusor	8.79	42⇓	*i*P	Pn	**18 29 21.6**	**+1.0**
TIRR	Tirgusor	8.79	42	Pn	Pn	**18 29 18.2**	**-2.4**
PDKS	Podkum	8.81	335	*e*Pn	Pn	**18 29 21.7**	**+0.7**
PDKS	Podkum	8.81	335	*e*Pn	Pn	**18 29 21.7**	**+0.7**
PLOR	Plostina	9.04	30⇑	*i*P	Pn	**18 29 26.4**	**+2.3**
PLOR	Plostina	9.04	30⇑	*i*P	Pn	**18 29 26.4**	**+2.3**
VRI	Vrincioaia	9.08	30⇓	*i*P	Pn	**18 29 26.3**	**+1.6**
VRI	Vrincioaia	9.08	30⇓	*i*P	Pn	**18 29 26.3**	**+1.6**
PERS	Pernice	9.28	337	*i*Pn	Pn	**18 29 27.8**	**+0.3**
PERS	Pernice	9.28	337	*i*Pn	Pn	**18 29 27.8**	**+0.3**
SOKA	Soboth	9.35	337	*i*Pn	Pn	**18 29 28.3**	**-0.1**
	SNR=43						
SOKA	Soboth	9.35	337	Pn	Pn	**18 29 28.3**	**-0.1**
	SNR=43						
OBKA	Obir	9.35	335	*e*Pn	Pn	**18 29 28.9**	**+0.4**
OBKA				eSn	Sn	**18 31 07.9**	**-5.8**
OBKA	Obir	9.35	335	*i*Pn	Pn	**18 29 28.3**	**-0.2**
OBKA	Obir	9.35	335	*e*Pn	Pn	**18 29 28.9**	**+0.4**
ARSA	Arzberg	9.73	341	*e*Pn	Pn	**18 29 33.9**	**+0.3**
ARSA	Arzberg	9.73	341	*i*Pn	Pn	**18 29 33.8**	**+0.3**
ARSA	Arzberg	9.73	341	*e*Pn	Pn	**18 29 33.9**	**+0.3**
KBA	Koelnbreinsper	10.26	333	*e*Pn	Pn	**18 29 41.8**	**+0.8**
KBA				eSn	Sn	**18 31 32.1**	**-4.1**
KBA	Koelnbreinsper	10.26	333	*i*Pn	Pn	**18 29 41.0**	**0.0**
	SNR=7.9						
KBA	Koelnbreinsper	10.26	333	*e*Pn	Pn	**18 29 41.8**	**+0.8**
VYHS	Vyhne	10.38	355	*e*Pn	Pn	**18 29 42.6**	**+0.1**
VYHS	Vyhne	10.38	355	*e*PN	Pn	**18 29 42.6**	**+0.1**
BRTR	Keskin Array B	10.54	77	Pn	Pn	**18 29 47.9**	**+3.0**
	0.1nm,0.3s,baz=259,slow=12,SNR=4.5						
MOA	Molln	10.63	338	*e*Pn	Pn	**18 29 46.7**	**+0.8**
MOA				eSn	Sn	18 31 38.7	-6.3
MOA	Molln	10.63	338⇓	*i*Pn	Pn	**18 29 46.7**	**+0.8**
	SNR=34						
MOA	Molln	10.63	338	*e*Pn	Pn	**18 29 46.7**	**+0.8**
CSS	Prodhromos	10.99	103	Pn	Pn	**18 29 50.1**	**-0.7**
RJOB	Jochberg	11.02	333	*e*Pn	Pn	**18 29 53.2**	**+1.9**
RJOB				eSn	Sn	**18 31 50.6**	**-4.0**
RJOB	Jochberg	11.02	333	*e*Pn	Pn	**18 29 53.2**	**+1.9**
WTTA	Wattenberg	11.09	328	*e*Pn	Pn	**18 29 55.0**	**+2.7**
WTTA				eSn	Sn	**18 31 53.4**	**-2.9**
WTTA	Wattenberg	11.09	328⇑	*i*Pn	Pn	**18 29 53.9**	**+1.6**
	SNR=15						
WTTA	Wattenberg	11.09	328	*e*Pn	Pn	**18 29 55.0**	**+2.7**
WATA	Walderalm	11.17	328	⇑*i*Pn	Pn	**18 29 54.8**	**+1.4**
	SNR=10						
WATA	Walderalm	11.17	328	Pn	Pn	**18 29 54.8**	**+1.4**
	SNR=10						
MOTA	Moosalm	11.38	327⇑	*i*Pn	Pn	**18 29 57.6**	**+1.4**
	SNR=7.1						
MOTA	Moosalm	11.38	327	Pn	Pn	**18 29 57.6**	**+1.4**
	SNR=7.1						
DAVOX	Davos/Dischmat	11.52	322	Sn	Sn	18 31 59.0	-8.0
	0.2nm,0.3s,baz=135,slow=20,SNR=2.4						
GEC2	GERESS Array S	11.69	338	*e*Pn	Pn	**18 30 00.8**	**+0.3**
GEC2	GERESS Array S	11.69	338	*e*Pn	Pn	**18 30 00.8**	**+0.3**
GERES	GERESS Array B	11.69	338	Pn	Pn	**18 30 00.1**	**-0.3**
	0.5nm,0.3s,baz=160,slow=14,SNR=19						
GERES				Sn	Sn	18 32 03.7	-7.3
	0.4nm,0.3s,baz=151,slow=23,SNR=4.8						
DAVA	Damuels	11.88	323	eSn	Sn	**18 32 10.5**	**-5.4**
KHC	Kasperske Hory	11.98	338	*e*P	Pn	**18 30 04.0**	**-0.4**
WET	Wettzell	12.21	336	*e*Pn	Pn	**18 30 08.3**	**+0.8**
WET				eSn	Sn	18 32 16.2	-7.3
WET	Wettzell	12.21	336	*e*Pn	Pn	**18 30 08.3**	**+0.8**
AKASG	Malin Array Be	14.07	24	Pn	Pn	**18 30 32.2**	**-0.6**
	0.5nm,0.3s,baz=210,slow=11,SNR=5.3						
SUW	Suwalki	15.98	6	*e*Pn	Pn	**18 30 59.3**	**+0.9**
	14nm,0.6s						
KBZ	Khabaz	17.96	65	P	P	**18 31 25.6**	**+1.7**
	0.1nm,0.3s,baz=236,slow=24,SNR=4.4						
GNI	Garni	19.08	76	P	Pn	**18 31 39.5**	**+2.3**
	baz=323,slow=5.1,SNR=3.9						
GNI	Garni	19.08	76	P	P	**18 31 34.7**	**-1.7**
	3.1nm,0.6s						
HFS	Hagfors	22.39	351	P	P	**18 32 12.5**	**+0.7**
	6.6nm,0.7s,baz=154,slow=11,SNR=27						
FINES	FINESS Array B	23.59	7	P	P	**18 32 23.1**	**-1.2**
	2.5nm,0.5s,baz=170,slow=10,SNR=32						
NB2	NORSAR Subarra	23.60	349	P	P	**18 32 24.6**	**+0.2**
	comp=Z,3.1nm,0.8s,baz=159,slow=9.3						
NB2	NORSAR Subarra	23.60	349	P	P	**18 32 24.6**	**+0.2**
	comp=Z,3.1nm,0.8s,SNR=5.2						
NOA	NORSAR Array B	23.60	349	P	P	**18 32 24.4**	**0.0**
	comp=Z,1.3nm,0.7s,baz=150,slow=9.7,SNR=8.1						
AKTO	Aktyubinsk	29.36	53	P	P	**18 33 15.6**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=221,slow=11,SNR=3.1						
TORD	Torodi Ar. Bea	29.88	218	P	P	**18 33 22.8**	**+1.3**
	comp=Z,1.1nm,0.8s,baz=29,slow=9.0,SNR=8.4						
ARCES	ARCESS Array B	31.57	4	P	P	**18 33 35.5**	**-0.3**
	comp=Z,4.0nm,0.9s,baz=184,slow=11,SNR=5.9						
DBIC	Dimbokro	38.74	222	P	P	**18 34 35.7**	**-2.4**
EKS2	Erkin-Say	40.43	66	*e*P	P	**18 34 55.3**	**+3.1**
	comp=Z,3.2nm,1.0s						
MK31	Makanchi Array	45.49	58	*e*P	P	**18 35 31.5**	**-1.5**
MKAR	Makanchi Array	45.49	58	P	P	**18 35 32.0**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=276,slow=8.8,SNR=35						
ZAA0	Zalesovo Array	45.86	48	*e*P	P	**18 35 34.1**	**-1.6**
ZALV	Zalesovo Beam	45.86	48	P	P	**18 35 34.8**	**-1.0**
	comp=Z,2.8nm,0.4s,baz=268,slow=8.6,SNR=19						
CMAR	Chiang Mai Arr	70.10	82	P	P	**18 38 25.5**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=307,slow=7.8,SNR=4.3						
YKA	Yellowknife Ar	73.34	340	P	P	**18 38 46.7**	**+1.6**
	comp=Z,0.1nm,0.5s,baz=44,slow=5.2,SNR=3.0						
WRA	Warramunga Arr	120.75	92	PKP	PKPdf	**18 46 05.3**	**-0.9**
	comp=Z,0.5nm,0.9s,baz=318,slow=1.8,SNR=2.8						
ASAR	Alice Springs	122.38	96	PKP	PKPdf	**18 46 08.9**	**-0.4**
	comp=Z,0.1nm,0.7s,baz=327,slow=1.9,SNR=2.4						

WEL 01 18:35:14.0±0.5, 36°30S×177°37E, h12km, ML3.6/3, Error ellipse: s-maj=4.4km s-min=3.0km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUZ	Kuaotunu	1.40	251	*e*PN	Pn	18 35 38.4	-1.0
KUZ				eSN	Sn	18 35 56.2	-1.7
MXZ	Matakaoa Point	1.46	150	P*	Pn	18 35 38.0	-2.2
MXZ				S*	Sn	18 35 55.6	-3.8
MXZ				AML	AML	18 35 56.3	
MXZ				T	T	18 36 58.4	
HAZ	Te Kaha	1.49	167	P*	Pn	18 35 38.8	-1.8
HAZ				eS*	Sn	18 35 56.7	-3.3
HAZ				eS*	Sb	18 35 56.8	-3.7
HAZ				T	T	18 36 59.9	
WMGZ	Waiomatatini S	1.73	151	*e*Pn	Pn	18 35 43.1	-0.8
MKAZ	Moumakai	1.95	245	*e*PN	Pn	18 35 46.9	0.0
BKZ	Black Stump Fm	2.94	193	AML	AML	18 37 16.4	

WEL 01 18:43:43.2±0.9, 36°16S×177°38E, h12km, ML3.6/3, Error ellipse: s-maj=7.8km s-min=4.8km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUZ	Kuaotunu	1.46	246	*e*PN	Pn	18 44 08.6	-0.9
KUZ				eSN	Sn	18 44 27.1	-1.4
MXZ	Matakaoa Point	1.58	152	P*	Pn	18 44 08.5	-2.6
MXZ				eS*	Sn	18 44 27.4	-4.1
MXZ				T	T	18 45 32.8	
MXZ				AML	AML	18 45 36.2	
HAZ	Te Kaha	1.62	169	P*	Pn	18 44 09.9	-1.7
HAZ				eS*	Sn	18 44 29.1	-3.4
HAZ				T	T	18 45 31.4	
WMGZ	Waiomatatini S	1.85	154	PN	Pn	18 44 14.4	-0.4
URZ	Urewera	2.10	186	*e*P*	Pn	18 44 17.9	-0.4
URZ				T	T	18 45 46.8	
HIZ	Hauiti	3.09	220	*e*PN	Pn	18 44 33.8	+1.9

DJA 01 18:49:02.0±1.1, 6°S±19°×10°7E±°, h51km±34km, M3.0/4, MLv3.0/4, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBJI	Citeko	0.56	269	P	Pn	18 49 16.4	+2.4
CNJI	Cibinong	0.94	197	P	Pn	18 49 19.0	+0.1
CNJI				S	Sn	18 49 31.7	+0.4
CISI	Cisompet, Garu	1.21	161	P	Pn	18 49 22.8	+0.1
CISI				S	Sn	18 49 39.2	+1.2
CMJI	Cimerak	1.71	143	P	Pn	18 49 29.4	0.0
CMJI				S	Sn	18 49 49.9	-0.2
CGJI	Cibinong	1.72	263	P	Pn	18 49 29.6	+0.1
CGJI				S	Sn	18 49 50.9	+0.6

ISCJB ***01*** *18:50:12.2±0.9, 1°.89N±0°.09×96°.57E±0°.09, h28km, mb3.8/7, Error ellipse: s-maj=17.3km s-min=5.4km az=136.8*

IDC ***01*** *18:50:14.1±1.3, 1°.86N×96°.71E, h24km±4km, mb3.6/7, mb1 3.7/9, mb1mx3.5/49, mbtmp3.7/9, ML3.3/2, MS2.5/1, Ms1 2.5/1, ms1mx2.3/34, Error ellipse: s-maj=46.1km s-min=14.3km az=54.0*

DJA ***01*** *18:50:14.4±1.0, 2°N±8°×9°7E±°, h45km±21km, M4.0/10, mb4.2/3, mB4.6/1, MLv4.0/10, Mw(mB)3.8/1*

ISC 01 18:50:14.2±0.9, 1°.91N±0°.09×96°.65E±0°.09, h28km, n21, σ0°.87/24, mb3.9/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	Sinabang, Aceh	0.60	327	P	Pn	**18 50 27.9**	**+1.1**
GSI	Gunungsitoli	1.10	123	P	Pn	**18 50 33.4**	**-0.4**
GSI				S	Sn	**18 50 48.0**	**0.0**
PSI	Prapat	2.44	69	Pn	Pn	**18 50 51.4**	**-0.9**
	1.2nm,0.3s,baz=265,slow=4.2,SNR=6.1						
PSI				LR	LR	18 51 43.8	
	comp=Z,98nm,21.5s,baz=284,slow=38						
TSI	Tuntungan	2.48	50	P	Pn	**18 50 53.2**	**+0.4**
MNSI	Mandailing Nat	3.13	111	P	Pn	**18 51 02.0**	**+0.3**
MNSI				S	Sn	**18 51 39.5**	**+1.4**
LHMI	Lhok Sumawe	3.31	5	P	Pn	**18 51 04.2**	**0.0**
BSI	Banda Aceh	3.81	339	P	Pn	**18 51 10.4**	**-0.8**
BSI				S	Sn	**18 51 53.4**	**-1.7**
CMAR	Chiang Mai Arr	16.60	8	Pn	Pn	**18 54 06.0**	**+0.9**
	0.2nm,0.3s,baz=197,slow=12,SNR=26						
H08S2	Diego Garcia H	25.90	248	T	T	19 22 43.5	
	baz=68,slow=75,SNR=71						
H08S3	Diego Garcia H	25.91	248	T	T	19 22 33.8	
	baz=68,slow=75,SNR=56						
H08S1	Diego Garcia H	25.92	248	T	T	19 22 34.8	
	baz=68,slow=75,SNR=54						
H01W3	Cape Leeuwin H	40.10	157	T	T	19 40 45.5	
	baz=327						
H01W2	Cape Leeuwin H	40.12	157	T	T	19 40 42.4	
	baz=327,slow=74,SNR=5.5						
H01W1	Cape Leeuwin H	40.12	157	T	T	19 40 36.1	
	baz=327,slow=74,SNR=5.2						
WRA	Warramunga Arr	42.87	122	P	P	**18 58 10.2**	**-0.3**
	0.5nm,0.8s,baz=301,slow=9.4,SNR=4.3						
WRA				pP	pP	**18 58 17.8**	**-1.2**
	0.5nm,0.6s,baz=304,slow=8.9,SNR=3.5						
ASAR	Alice Springs	44.26	127	P	P	**18 58 21.0**	**-0.6**
	0.4nm,0.8s,baz=325,slow=7.9,SNR=4.2						
ASAR				pP	pP	**18 58 28.6**	**-1.5**
	0.4nm,0.8s,baz=299,slow=7.4,SNR=2.5						
MKAR	Makanchi Array	46.43	346	P	P	**18 58 39.3**	**+0.8**
	1.2nm,0.8s,baz=186,slow=6.8,SNR=13						
MKAR				pP	pP	**18 58 47.1**	**+0.1**
	1.3nm,0.8s,baz=188,slow=7.4,SNR=8.5						
SONM	Songino Array	46.52	9	P	P	**18 58 39.7**	**+0.3**
	0.7nm,0.5s,baz=193,slow=8.9,SNR=7.7						
SONM				PcP	PcP	**19 00 14.4**	**+0.9**
	0.3nm,0.6s,baz=215,slow=2.6,SNR=3.6						
KURBB	Kurchatov Arra	50.91	345	P	P	**18 59 13.3**	**+0.5**
	0.7nm,0.6s,baz=167,slow=6.9,SNR=15						
ZALV	Zalesovo Beam	52.78	351	P	P	**18 59 27.1**	**+0.4**
	2.8nm,0.7s,baz=180,slow=7.2,SNR=18						
ZALV				pP	pP	**18 59 34.4**	**-0.9**
	2.4nm,0.6s,baz=177,slow=6.9,SNR=8.9						
BVAR	Borovoye Array	55.41	341	P	P	**18 59 46.2**	**+0.2**
	0.8nm,0.6s,baz=124,slow=7.4,SNR=5.2						
BVAR				pP	pP	**18 59 54.7**	**+0.1**
	1.8nm,1.1s,baz=155,slow=11,SNR=3.8						

DSN ***01*** *18:52:52.7±99.0, 12°.93N×59°.20E, h10km, mb4.1/5, Ms4.5/5, Error ellipse: s-maj=4513.0km s-min=37.3km az=344.0*

ISCJB ***01*** *18:52:53.5±1.2, 12°.85N±0°.04×57°.48E±0°.03, h3km±6km, mb4.8/164, MS3.9/39, Error ellipse: s-maj=6.2km s-min=4.1km az=14.7*

BJI ***01*** *18:52:53.8, 12°.80N×57°.50E, h10km, mb4.7/45, mB4.8/34, Ms4.5/33, Ms7 4.3/32*

IDC ***01*** *18:52:55.5±0.5, 12°.91N×57°.61E, h0km, mb4.3/31, mb1 4.4/31, mb1mx4.3/45, mbtmp4.3/31, MS3.9/33, Ms1 3.9/33, ms1mx3.8/45, Error ellipse: s-maj=13.2km s-min=12.2km az=10.0*

NEIC ***01*** *18:52:56.4±0.3, 12°.88N×57°.50E, h10km, mb4.9/45, Error ellipse: s-maj=7.1km s-min=4.9km az=196.0*

CSEM ***01*** *18:52:56.6±0.2, 12°.84N×57°.48E, h10km, mb5.0/90, Ms3.9, Error ellipse: s-maj=8.9km s-min=7.4km az=140.0*

GCMT ***01*** *18:52:56.4±0.2, 12°.87N×57°.51E, h12km, MW4.9/82, Moment

ISRO Mashad 23.37 4 *e*P P 18 58 08.4 +2.6
IRAZ Razeghan 23.43 344 *e*P P 18 58 06.8 +0.3
IRAZ Razeghan 23.43 344 *e*P P 18 58 06.8 +0.3
IMYA Miami 23.45 5 *e*P P 18 58 08.9 +2.2
IMYA Miami 23.45 5 *e*P P 18 58 08.9 +2.2
IALA Alasht 23.47 350 *e*P P 18 58 09.4 +2.4
IALA Alasht 23.47 350 *e*P P 18 58 09.4 +2.4
PALK Pallekele 23.48 102 *e*P P 18 58 08.1 +1.1
PALK pmax pmax
comp=Z,86nm,1.8s
PALK Pallekele 23.48 102 *e*P P 18 58 08.1 +1.1
comp=Z,86nm,1.8s
PALK Pallekele 23.48 102 *e*P P 18 58 08.1 +1.1
comp=Z,86nm,1.8s
IPAY Payeh 23.48 3 *e*P P 18 58 08.3 +1.3
IPAY Payeh 23.48 3 *e*P P 18 58 08.3 +1.3
IGHG Ghaleghazi 23.54 337 *e*P P 18 58 08.8 +1.2
IGHG Ghaleghazi 23.54 337 *e*P P 18 58 08.9 +1.2
IAKL Akhelmad 23.63 2 *e*P P 18 58 08.5 0.0
IPRN Peran 23.70 350 *e*P P 18 58 11.4 +2.3
IGLO Ghaloghah 23.73 353 *e*P P 18 58 12.4 +2.9
IKRD Kardeh 23.79 2 *e*P P 18 58 11.2 +1.2
IKRD Kardeh 23.79 2 *e*P P 18 58 11.2 +1.2
IDHR Dehrash 23.94 337 *e*P P 18 58 10.0 -1.4
IDHR Dehrash 23.94 337 *e*P P 18 58 10.0 -1.4
KBL Kabul 23.94 24 *e*P P 18 58 12.6 +1.1
KBL pmax pmax
comp=Z,36nm,1.1s
KBL Kabul 23.94 24 *e*P P 18 58 12.6 +1.1
comp=Z,36nm,1.1s
KBL Kabul 23.94 24 *e*P P 18 58 12.6 +1.1
comp=Z,36nm,1.1s
ISFR Sfrayin 24.05 1 *e*P P 18 58 13.9 +1.3
ISFR Sfrayin 24.05 1 *e*P P 18 58 13.9 +1.3
NDI New Delhi 24.13 46 *e*P P 18 58 13.5 +0.4
KMBO Kilima Mbogo 24.48 237 P P 18 58 18.1 +1.6
comp=Z,5.2nm,0.6s,baz=36,slow=10,SNR=15
KMBO LR LR 19 07 45.1
comp=Z,640nm,19.5s,baz=94,slow=36
KMBO Kilima Mbogo 24.48 237 *e*P P 18 58 18.2 +1.6
KMBO pmax pmax
comp=Z,32nm,1.9s
KMBO Kilima Mbogo 24.48 237 *e*P P 18 58 18.2 +1.6
comp=Z,32nm,1.9s
KMBO Kilima Mbogo 24.48 237 *e*P P 18 58 18.2 +1.6
comp=Z,32nm,1.9s
GEYT Alibeck 24.93 1 P P 18 58 20.6 +0.3
comp=Z,27nm,0.9s,baz=201,slow=7.9,SNR=35
GEYT LR LR 19 08 55.1
comp=Z,214nm,19.7s,baz=205,slow=38
DGAR Diego Garcia 25.04 143 *e*P P 18 58 19.4 -2.0
DGAR Diego Garcia 25.04 143 *e*P P 18 58 19.4 -2.0
CHLP Challavanipeta 26.12 74 *e*P P 18 58 31.0 -0.2
CHLP *e*S S 19 03 05.5 +3.1
CHLP IVMs_BB IVMs_BB 19 08 12.3
comp=Z,310nm,13.3s
EIL Elat 26.77 312 P P 18 58 36.5 -0.4
comp=Z,6.1nm,0.9s,baz=22,slow=5.4,SNR=3.4
EIL LR LR 19 08 42.4
comp=Z,216nm,19.8s,baz=76,slow=35
ASF Jabal al Asfar 26.94 319 P P 18 58 40.3 +1.6
comp=Z,2.3nm,0.7s,baz=157,slow=2.7,SNR=5.6
IHRS Heris 26.98 342 *e*P P 18 58 39.0 -0.1
IHRS Heris 26.98 342 *e*P P 18 58 39.0 -0.1
IMRD Marand 27.77 340 *e*P P 18 58 47.1 +1.0
IMRD Marand 27.77 340 *e*P P 18 58 47.1 +1.0
GNI Garni 29.39 340 P P 18 59 02.5 +2.1
comp=Z,3.8nm,0.7s,baz=133,slow=2.2,SNR=5.3
GNI LR LR 19 12 15.5
comp=Z,269nm,21.8s,baz=124,slow=39
GNI Garni 29.39 340 *i* P P 18 59 00.6 +0.2
GNI pmax pmax
comp=Z,26nm,2.5s
GNI Garni 29.39 340 *i* P P 18 59 00.6 +0.2
comp=Z,26nm,2.5s
GNI Garni 29.39 340 P P 18 59 02.6 +2.2
SNR=5.6
GNI Garni 29.39 340 *e*P P 18 59 02.0 +1.6
comp=Z,19nm,1.2s
KSH Kashi 31.12 28 P P 18 59 12.5 -3.2
KSH pP pP 18 59 17.0 -3.6
KSH S S 19 04 13.0 -7.8
KSH ScS **ScS** **19 09 46.7 -3.9**
KSH PMZ
comp=Z,21nm,1.2s
KSH LN
comp=Z,250nm,13.2s
KSH LE
comp=Z,220nm,12.2s
KSH LZ
comp=Z,590nm,19.9s
ZEI Tsey 32.03 341 *e*P P 18 59 23.9 +0.1
ZEI pmax pmax
comp=Z,13nm,1.6s
KKAR Karatay Array 32.12 18 *e*P P 18 59 24.9 +0.5
KKAR pmax pmax
comp=Z,14nm,1.0s
KKAR Karatay Array 32.12 18 *e*P P 18 59 24.9 +0.5
comp=Z,14nm,1.0s
KKAR Karatay Array 32.12 18 *e*P P 18 59 24.9 +0.5
comp=Z,14nm,1.0s
EKS2 Erkin-Say 32.83 22 *e*P P 18 59 32.7 +2.0
EKS2 pmax pmax
comp=Z,49nm,1.0s
EKS2 Erkin-Say 32.83 22 *e*P P 18 59 32.7 +2.0
comp=Z,49nm,1.0s
EKS2 Erkin-Say 32.83 22 *e*P P 18 59 32.6 +2.0
comp=Z,49nm,1.0s
AAK Ala-Archa 33.07 23 P P 18 59 34.8 +1.9
comp=Z,9.6nm,1.0s,baz=195,slow=9.7,SNR=23
AAK LR LR 19 14 37.4
comp=Z,313nm,21.1s,baz=184,slow=39
AAK Ala-Archa 33.07 23 *d* *i*P P 18 59 33.3 +0.4
AAK pmax pmax
comp=Z,68nm,1.7s
AAK Ala-Archa 33.07 23 *i* P P 18 59 33.3 +0.4
comp=Z,68nm,1.7s
AAK Ala-Archa 33.07 23 P P 18 59 35.4 +2.5
SNR=18
KBZ Khabaz 33.20 340 LR LR 19 14 54.5
comp=Z,267nm,21.3s,baz=126,slow=40
FRU Bishkek 33.29 23 *e*P P 18 59 34.0 -0.6
FRU pmax pmax
comp=Z,60nm,1.6s
FRU Bishkek 33.29 23 *e*P P 18 59 34.0 -0.6
comp=Z,60nm,1.6s
KIV Kislovodsk 33.47 340 *i* P P 18 59 37.3 +1.0
KIV *e* 19 00 49.9
KIV *e* 19 02 21.5
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,186nm,20.0s
KIV Kislovodsk 33.47 340 *i* P P 18 59 37.3 +1.0
comp=Z,6.0nm,1.0s
KIV Kislovodsk 33.47 340 P P 18 59 38.0 +1.8
SNR=5.2
KIV Kislovodsk 33.47 340 *e*P P 18 59 36.6 +0.4
comp=Z,10nm,1.0s
TKM2 Tokmak 2 33.75 24 *e*P P 18 59 37.5 -1.3
TKM2 pmax pmax
comp=Z,9.0nm,1.1s
TKM2 Tokmak 2 33.75 24 *e*P P 18 59 37.5 -1.3
comp=Z,9.0nm,1.1s
TKM2 Tokmak 2 33.75 24 *e*P P 18 59 37.5 -1.3
comp=Z,9.3nm,1.1s
BR131 Keskin Array S 34.02 326 *e*P P 18 59 41.7 +0.5
comp=Z,10nm,1.3s
BRTR Keskin Array B 34.02 326 P P 18 59 42.4 +1.2
comp=Z,1.4nm,0.8s,baz=139,slow=12,SNR=13
BRTR LR LR 19 15 11.9
comp=Z,186nm,21.0s,baz=108,slow=39
ISP Isparta 34.57 321 *e*P P 18 59 45.0 -0.9
ISP pmax pmax
comp=Z,15nm,1.3s
ISP Isparta 34.57 321 *e*P P 18 59 45.0 -0.9
comp=Z,15nm,1.3s
ISP Isparta 34.57 321 *e*P P 18 59 45.0 -0.9
comp=Z,15nm,1.3s
ANTO Ankara 34.59 325 *e*P P 18 59 46.8 +0.8
ANTO pmax pmax
comp=Z,20nm,1.2s
ANTO Ankara 34.59 325 *e*P P 18 59 46.8 +0.8
comp=Z,20nm,1.2s
ANTO Ankara 34.59 325 P P 18 59 48.2 +2.2
SNR=5.4
ANTO Ankara 34.59 325 *e*P P 18 59 46.8 +0.8
comp=Z,20nm,1.2s
LSA Lhasa 35.33 56 *e*P P 18 59 50.2 -2.8
LSA pmax pmax
comp=Z,5.0nm,0.9s
LSA Lhasa 35.33 56 *e*P P 18 59 50.2 -2.8
comp=Z,4.6nm,0.9s
ANN Anapa 36.13 335 *e*P P 18 59 56.7 -2.3
ANN *e**PP pP 19 00 07.9 +3.9
ANN *e* 19 02 21.7
ANN *e*S S 19 05 34.5 -3.5
ANN *e*SS SnSn 19 08 03.2 -0.6
ANN pmax pmax
comp=Z,25nm,1.2s
ABKAR Akbulak array 36.30 3 *e*P P 19 00 00.6 +0.1
IDI Anoyia 36.94 313 LR LR 19 18 15.4
comp=Z,65nm,20.0s,baz=86,slow=41
SANT Santorini 37.07 315 P P 19 00 05.5 -1.8
comp=Z,39nm,1.1s
AKTK Aktyubinsk 37.43 1 P P 19 00 10.4 +0.3
AKTO Aktyubinsk 37.43 1 P P 19 00 10.3 +0.3
comp=Z,10nm,0.9s,baz=170,slow=9.2,SNR=27
SIM Simferopol' 37.66 332 *e*P P 19 00 11.9 -0.3
SIM *e*S S 19 06 06.0 +4.5
SIM pmax pmax
comp=Z,15nm,1.2s
SIM MLR MLR
comp=Z,100nm,17.0s
SIM Simferopol' 37.66 332 *e*P P 19 00 11.9 -0.3
comp=Z,15nm,1.2s
ALN Alexandroupoli 39.19 321 P P 19 00 26.4 +1.3
ALN Alexandroupoli 39.19 321 P P 19 00 26.4 +1.3
ALN Alexandroupoli 39.19 321 P P 19 00 26.4 +1.3
ALN Alexandroupoli 39.19 321 P P 19 00 26.4 +1.3
SMTH Samothraki Isl 39.26 320 P P 19 00 25.5 -0.2
SMTH Samothraki Isl 39.26 320 P P 19 00 25.5 -0.2
SMTH Samothraki Isl 39.26 320 P P 19 00 25.5 -0.2
MK31 Makanchi Array 39.69 27 *e*P P 19 00 29.5 +0.4
MK31 Makanchi Array 39.69 27 *e*P P 19 00 29.5 +0.4
MK31 Makanchi Array 39.69 27 *e*P P 19 00 29.5 +0.4
MKAR Makanchi Array 39.69 27 P P 19 00 29.4 +0.2
comp=Z,1.2nm,0.7s,baz=236,slow=13,SNR=12
MKAR LR LR 19 18 10.8
comp=Z,302nm,21.7s,baz=206,slow=38
PSN Preselentsi 39.71 326 *i* P P 19 00 28.9 -0.4
PRD Provadia 39.82 325 *e*P P 19 00 30.4 +0.1
GUR Goura 40.01 315 P P 19 00 32.1 0.0
GUR Goura 40.01 315 P P 19 00 32.1 0.0
GUR Goura 40.01 315 P P 19 00 32.1 0.0
KDZ Kurdzhali 40.02 322 P P 19 00 33.8 +1.8
KDZ Kurdzhali 40.02 322 *i*P P 19 00 33.8 +1.8
KDZ Kurdzhali 40.02 322 *i* P P 19 00 32.7 +0.7
KDZ Kurdzhali 40.02 322 P P 19 00 33.8 +1.8
TIRR Tirgusor 40.10 327 P P 19 00 33.1 +0.5
TIRR Tirgusor 40.10 327 *i*P P 19 00 33.1 +0.5
TIRR Tirgusor 40.10 327 P P 19 00 33.1 +0.5
TIRR Tirgusor 40.10 327 *e*P P 19 00 32.8 +0.2
comp=Z,17nm,1.2s
MSAB Monastry St. A 40.17 326 *i*P P 19 00 34.5 +1.3
CM31 Chiang Mai Arr 40.19 77 *e*P P 19 00 32.2 -1.5
comp=Z,13nm,1.1s
CMAR Chiang Mai Arr 40.19 77 P P 19 00 33.8 +0.1
comp=Z,4.4nm,0.9s,baz=275,slow=8.9,SNR=33
CMAR LR LR 19 17 01.3
comp=Z,94nm,20.8s,baz=260,slow=36
CHTO Chiang Mai 40.20 76 P P 19 00 34.7 +0.9
comp=Z,29nm,1.9s
CHTO Chiang Mai 40.20 76 *e*P P 19 00 34.2 +0.4
CHTO pmax pmax
comp=Z,19nm,1.7s
CHTO Chiang Mai 40.20 76 *e*P P 19 00 34.2 +0.4
comp=Z,19nm,1.7s
CHTO Chiang Mai 40.20 76 *e*P P 19 00 34.2 +0.4
comp=Z,19nm,1.7s
CMMT Chiang Mai 40.20 76 P P 19 00 34.6 +0.8
comp=Z,10nm,1.4s
WMQ Urumqi 40.24 34 *e*P P 19 00 34.5 +0.6
WMQ pP **pP** 19 00 38.9 0.0
WMQ sP **sP** 19 00 42.6 +1.7
WMQ PP **PnPn** 19 02 11.2 +1.0
WMQ S **S** 19 06 42.0 +1.4
WMQ PMZ
comp=Z,11nm,1.2s
WMQ PMZ
comp=Z,160nm,4.6s
WMQ LN
comp=Z,750nm,17.2s
WMQ LE
comp=Z,490nm,13.7s
WMQ LZ
comp=Z,660nm,19.3s
LSZ Lusaka 40.34 227 P P 19 00 36.7 +1.6
comp=Z,2.9nm,0.7s,baz=44,slow=11,SNR=5.7
LSZ Lusaka 40.34 227 *e*P P 19 00 35.1 +0.1
LSZ pmax pmax
comp=Z,10.0nm,1.4s
LSZ Lusaka 40.34 227 *e*P P 19 00 35.1 +0.1
comp=Z,10.0nm,1.4s
LSZ Lusaka 40.34 227 *e*P P 19 00 35.1 +0.1
comp=Z,10nm,1.4s
CMAI Chiengmai2 40.35 74 P P 19 00 35.8 +0.6
comp=Z,26nm,1.0s,comp=Z,3µm
TLB Topalu 40.39 327 P P 19 00 35.5 +0.6
TLB Topalu 40.39 327 *i*P P 19 00 35.5 +0.6
TLB Topalu 40.39 327 P P 19 00 35.5 +0.6
DRO Drossia 40.46 315 P P 19 00 37.4 +1.7
DRO Drossia 40.46 315 P P 19 00 37.4 +1.7
HARR Harsova 40.51 327 P P 19 00 42.1 +6.1
HARR Harsova 40.51 327 *i*P P 19 00 42.1 +6.1
SURT Suratani 40.67 91 P P 19 00 40.1 +2.4
comp=Z,5.4nm,1.4s
SZH Strazhica 40.70 324 *i* P P 19 00 37.1 -0.4
CFR Carcaliu 40.74 328 P P 19 00 37.5 -0.3
CFR Carcaliu 40.74 328 *i*P P 19 00 37.5 -0.3
CFR Carcaliu 40.74 328 P P 19 00 37.5 -0.3
VORD Divnogorie 40.76 342 *e*P P 19 00 37.4 -0.5
VORD pmax pmax
comp=Z,9.0nm,1.0s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.8s
VORD Divnogorie 40.76 342 *e*P P 19 00 37.4 -0.5
comp=E,9.0nm,1.0s
NVR Nevrokopi 40.80 320 P P 19 00 39.5 +1.0
NVR Nevrokopi 40.80 320 P P 19 00 39.5 +1.0
NVR Nevrokopi 40.80 320 P P 19 00 39.5 +1.0
LAMP Lampang 40.84 77 P P 19 00 40.4 +1.3
comp=E,3.9nm,1.0s
VSR Storozhevoye 41.02 342 *e*P P 19 00 39.5 -0.5
VSR pmax pmax
comp=E,20nm,1.0s
VSR pmax pmax
comp=Z,20nm,1.0s
VSR pmax pmax
comp=N,30nm,0.9s
VSR Storozhevoye 41.02 342 *e*P P 19 00 39.5 -0.5
comp=N,30nm,0.9s
MMB Musomiste 41.02 321 P P 19 00 40.9 +0.6
MMB Musomiste 41.02 321 *i*P P 19 00 40.9 +0.6
MMB Musomiste 41.02 321 *i* P P 19 00 40.4 +0.1
MMB Musomiste 41.02 321 P P 19 00 40.9 +0.6
KNT Kendrikon 41.30 319 P P 19 00 43.2 +0.6
KNT Kendrikon 41.30 319 P P 19 00 43.2 +0.6
KNT Kendrikon 41.30 319 P P 19 00 43.2 +0.6
KNT Kendrikon 41.30 319 P P 19 00 43.2 +0.6
BVAR Borovoye Array 41.32 12 P P 19 00 43.2 +0.7
comp=N,3.9nm,0.8s,baz=190,slow=4.5,SNR=17
BRVK Borovoye 41.33 12 *e* *i*P P 19 00 43.4 +0.8
BRVK pmax pmax
comp=Z,27nm,2.5s
BRVK Borovoye 41.33 12 *i* P P 19 00 43.4 +0.8
comp=Z,27nm,2.5s
BRVK Borovoye 41.33 12 P P 19 00 43.9 +1.3
SNR=7.2
BRVK Borovoye 41.33 12 *e*P P 19 00 43.3 +0.7
comp=Z,54nm,2.0s
KURBB Kurchatov Arra 41.33 20 P P 19 00 43.1 +0.5
comp=Z,3.6nm,0.8s,baz=217,slow=8.3,SNR=35
KURK Kurchatov 41.44 20 P P 19 00 43.1 -0.4
KURK Kurchatov 41.44 20 P P 19 00 44.9 +1.3
SNR=8.1
KURK Kurchatov 41.44 20 P P 19 00 44.9 +1.3
SNR=8.1
KURK Kurchatov 41.44 20 P P 19 00 43.1 -0.4
KKB Krupnik 41.57 320 *i* P P 19 00 44.0 -0.8
CRAI Chiangrai 41.61 74 P P 19 00 42.1 -3.4
comp=Z,12nm,1.2s
KIS Kishinev 41.66 330 *e*P P 19 00 44.0 -1.4
KIS Kishinev 41.66 330 *e*P P 19 00 44.0 -1.4
KIS Kishinev 41.66 330 *e*P P 19 00 44.0 -1.4
TRTT Trang 41.74 93 P P 19 00 48.1 +1.6
comp=Z,22nm,1.4s,comp=Z,510nm
VTS Vitosha 41.90 321 P P 19 00 48.4 +0.7
VTS Vitosha 41.90 321 P P 19 00 49.0 +1.3
VTS Vitosha 41.90 321 *i*P P 19 00 49.0 +1.3
VTS Vitosha 41.90 321 *i* P P 19 00 48.8 +1.1
VTS Vitosha 41.90 321 P P 19 00 49.0 +1.3
VTS Vitosha 41.90 321 P P 19 00 48.4 +0.7
VRI Vrincioaia 41.93 328 P P 19 00 49.6 +1.9
VRI Vrincioaia 41.93 328 *i*P P 19 00 49.5 +1.9
VRI Vrincioaia 41.93 328 P P 19 00 49.6 +1.9
PLOR Plostina 41.96 328 P P 19 00 51.4 +3.4
PLOR Plostina 41.96 328 *i*P P 19 00 51.4 +3.4
MPEP Malo Peshtene 42.02 323 *i* P P 19 00 50.6 +2.1
MLR Muntele Rosu 42.10 327 LR LR 19 20 49.4
comp=Z,30nm,18.0s,baz=124,slow=40
MLR Muntele Rosu 42.10 327 P P 19 00 52.0 +2.8
MLR Muntele Rosu 42.10 327 *i*P P 19 00 52.0 +2.8
MLR Muntele Rosu 42.10 327 P P 19 00 52.0 +2.8
LPSR Galich'ya Gora 42.31 343 *e*P P 19 00 50.9 +0.3
LPSR pmax pmax
comp=N,9.0nm,1.0s
LPSR pmax pmax
comp=E,10.0nm,1.0s
LPSR pmax pmax
comp=Z,10.0nm,1.0s
LPSR Galich'ya Gora 42.31 343 *e*P P 19 00 50.9 +0.3
TESR Tescani 42.40 328 *i*P P 19 00 52.8 +1.3
VOIR 42.55 326 P P 19 00 54.3 +1.5
VOIR 42.55 326 *i*P P 19 00 54.3 +1.5
VOIR 42.55 326 P P 19 00 54.3 +1.5
DOPR Dopca 42.70 327 *i*P P 19 00 55.3 +1.3
ARR Arges 42.73 326 *i*P P 19 00 55.5 +1.2
LOT Lotru 43.26 325 *i*P P 19 00 59.2 +0.6
ARU Arti 43.44 1 *d* *i*P P 19 00 59.9 +0.2
ARU 19 02 40.1
ARU S **S** **19 07 29.0 +1.7**
ARU SS **SS** **19 10 39.4 -2.2**
ARU pmax pmax
comp=Z,21nm,1.7s
ARU Arti 43.44 1 *i* P P 19 00 59.9 +0.2
comp=Z,21nm,1.7s
ARU Arti 43.44 1 *e*P P 19 00 58.7 -1.0
comp=Z,47nm,1.7s
GZR Gura Zlata 43.79 325 P P 19 01 05.6 +2.8
GZR Gura Zlata 43.79 325 *i*P P 19 01 05.6 +2.8
GZR Gura Zlata 43.79 325 P P 19 01 05.6 +2.8
BURAR Bucovina Array 43.87 329 P P 19 01 05.1 +1.6
BURAR Bucovina Array 43.87 329 *i*P P 19 01 05.1 +1.6
BUR08 Bucovina Ar. S 43.90 329 *e*P P 19 01 05.0 +1.3
SVE Sverdlovsk 43.90 2 *e*P P 19 00 58.6 -4.8
SVE pmax pmax
comp=Z,20nm,1.4s
CJR Cluj-Napoca 44.14 327 P P 19 01 06.6 +1.0
CJR Cluj-Napoca 44.14 327 *i*P P 19 01 06.6 +1.0
CJR Cluj-Napoca 44.14 327 P P 19 01 06.6 +1.0
AK02 Malin Array Si 44.16 334 P P 19 01 05.9 +0.3
AKASG Malin Array Be 44.18 334 P P 19 01 05.7 -0.1
comp=Z,1.4nm,0.7s,baz=139,slow=7.4,SNR=38
AKASG PP **PP** **19 02 46.0 -2.8**
comp=Z,0.4nm,0.5s,baz=138,slow=9.3,SNR=3.0
AKASG LR LR 19 22 14.3
comp=Z,152nm,21.6s,baz=160,slow=40
AKBB Malin Array Si 44.18 334 *e*P P 19 01 06.0 +0.2
AKBB Malin Array Si 44.18 334 *e*P P 19 01 06.0 +0.2
AKBB Malin Array Si 44.18 334 *e*P P 19 01 06.0 +0.2
KIEV Kiev 44.18 334 *e*P P 19 01 06.4 +0.6
KIEV Kiev 44.18 334 *e*P P 19 01 06.4 +0.6
KIEV Kiev 44.18 334 *e*P P 19 01 06.3 +0.5
comp=Z,16nm,1.2s
KMI Kunming 44.24 67 P P 19 01 10.4 +3.4
KMI PMZ
comp=Z,8.0nm,0.8s
TIP Timpagrande 44.48 314 *e*P P 19 01 09.4 +0.9
comp=Z,7.4nm,1.1s
DRGR 44.67 326 P P 19 01 11.7 +1.9
DRGR 44.67 326 *i*P P 19 01 11.7 +1.9
DRGR 44.67 326 P P 19 01 11.7 +1.9
DIVS Divibare 44.69 321 *i*P P 19 01 10.1 0.0
CEL Celeste 44.72 312 *e*P P 19 01 08.3 -2.1
comp=Z,14nm,1.1s
SKNT Sakolnakorn 44.99 79 P P 19 01 19.0 +6.3
OBN Obninsk 45.19 343 *i* P P 19 01 14.4 +0.7
OBN *e* 19 02 53.8
OBN *e* 19 03 04.4
OBN pmax pmax
comp=Z,23nm,1.7s
OBN Obninsk 45.19 343 *i* P P 19 01 14.4 +0.7
comp=Z,23nm,1.7s
OBN Obninsk 45.19 343 P P 19 01 14.1 +0.4
MOS Moscow 45.45 344 *e*P P 19 01 15.3 -0.5
MOS *e* 19 02 48.9
MOS Moscow 45.45 344 *e*P P 19 01 15.3 -0.5
CUC Castrocucco 45.48 314 *e*P P 19 01 17.3 +0.9
comp=Z,12nm,0.9s
TRPA Tarpa 45.58 327 *i*P P 19 01 18.4 +1.4
TRPA Tarpa 45.58 327 *e*P P 19 01 17.9 +0.9
GTA Gaotai 45.64 47 *e*P P 19 01 18.0 +0.2
GTA pP **pP** **19 01 22.7 -0.1**
GTA sP **sP** **19 01 25.2 +0.4**
GTA PcP **PcP** **19 02 56.7 +0.8**
GTA PP **PP** **19 03 06.2 +1.5**
GTA S **S** **19 08 02.7 +2.6**
GTA sS **sS** **19 08 10.0 +1.6**
GTA SS **ScS** **19 11 18.4 +4.5**
GTA PMZ
comp=Z,4.0nm,1.3s
GTA PMZ
comp=Z,68nm,5.0s
GTA LN
comp=Z,96nm,22.8s
GTA LE
comp=Z,330nm,23.3s
GTA LZ
comp=Z,590nm,23.8s
MSKU Masuku 45.91 255 LR LR 19 21 22.2
comp=Z,901nm,18.7s,baz=69,slow=37
LVV L'vov 45.92 330 *e*P P 19 01 18.1 -1.5
LVV L'vov 45.92 330 *e*P P 19 01 18.1 -1.5
UZH Uzhgorod 46.02 328 *e*P P 19 01 20.8 +0.3
UZH *e* 19 01 27.0
UZH *e* 19 01 39.4
UZH Uzhgorod 46.02 328 *e*P P 19 01 20.8 +0.3
CD2 Chengdu 46.12 59 *e*P P 19 01 22.3 +0.7
CD2 sP **sP** **19 01 27.8 -0.8**
CD2 PP **PP** **19 03 10.2 +0.3**
CD2 S **S** **19 08 07.5 +0.4**
CD2 SS **SS** **19 11 27.3 -5.0**
CD2 PMZ
comp=Z,10.0nm,1.0s
CD2 PMZ
comp=Z,100nm,8.4s
CD2 LN
comp=Z,210nm,16.8s
CD2 LE
comp=Z,200nm,15.7s
CD2 LZ
comp=Z,210nm,16.8s
KOLS Kolonicke sedl 46.22 328 *e*P P 19 01 23.3 +1.2
KOLS pmax pmax
comp=Z,20nm,1.2s
KOLS Kolonicke sedl 46.22 328 *e*P P 19 01 23.3 +1.2
comp=Z,20nm,1.2s
KOLS Kolonicke sedl 46.22 328 *e*P P 19 01 23.3 +1.2
ZAA0 Zalesovo Array 46.28 22 *e*P P 19 01 22.0 -0.4
ZALV Zalesovo Beam 46.28 22 P P 19 01 22.1 -0.3
comp=Z,5.3nm,0.8s,baz=226,slow=8.1,SNR=17
ZALV LR LR 19 22 27.5
comp=Z,541nm,21.4s,baz=250,slow=38
PKSN Nyarlorinc 46.31 325 *e*P P 19 01 24.3 +1.6
PKS6 Bocsa 46.31 324 *e*P P 19 01 24.5 +1.8
NVS Novosibirsk 46.43 20 *e*P P 19 01 21.9 -1.7
NVS pmax pmax
comp=N,21nm,1.9s
NVS pmax pmax
comp=Z,38nm,1.9s
NVS Novosibirsk 46.43 20 *e*P P 19 01 21.9 -1.7

KWP **Kalwaria Pacla** 46.45 329 *e*P **P** 19 01 24.6 +0.8
KWP **Kalwaria Pacla** 46.45 329 *e*P **P** 19 01 24.3 +0.5
KWP pmax pmax
comp=Z,25nm,1.0s
KWP **Kalwaria Pacla** 46.45 329 *e*P **P** 19 01 24.3 +0.5
comp=Z,25nm,1.0s
KWP **Kalwaria Pacla** 46.45 329 *e*P **P** 19 01 24.3 +0.5
comp=Z,26nm,1.0s
PKS2 **Kecel** 46.45 324⇑*e*P **P** 19 01 25.1 +1.2
SOKR **Solikamsk** 46.61 359*c i*P **P** 19 01 25.8 +0.9
SOKR pmax pmax
comp=Z,20nm,0.8s
CRVS **Cervenica-Dubn** 46.62 328 *e*P **P** 19 01 25.9 +0.7
CRVS pmax pmax
comp=Z,23nm,1.6s
CRVS **Cervenica-Dubn** 46.62 328 *e*P **P** 19 01 25.9 +0.7
comp=Z,23nm,1.6s
CRVS **Cervenica-Dubn** 46.62 328 *e*P **P** 19 01 25.9 +0.7
PKSM **Moragy** 46.63 323 ⇓P **P** 19 01 25.7 +0.4
PKSM **Moragy** 46.63 323 ⇓*i*P **P** 19 01 25.7 +0.4
PKSM **Moragy** 46.63 323 P **P** 19 01 25.7 +0.4
PKSM **Moragy** 46.63 323 *e*P **P** 19 01 25.4 +0.1
PKS7 **Kunszentmiklos** 46.79 324⇑*e*P **P** 19 01 27.7 +1.2
PSZ **Piszkesteto** 46.88 326 *e*P **P** 19 01 27.1 -0.2
PSZ pmax pmax
comp=Z,10.0nm,1.1s
PSZ **Piszkesteto** 46.88 326 *e*P **P** 19 01 27.1 -0.2
comp=Z,9.7nm,1.1s
PSZ **Piszkesteto** 46.88 326 *e*P **P** 19 01 28.3 +1.0
PKS9 **Tamasi** 47.05 323 *e*P **P** 19 01 28.8 +0.3
STHS **Stebnicka Huta** 47.05 328 *e*P **P** 19 01 30.0 +1.4
STHS pmax pmax
comp=Z,4.0nm,1.1s
STHS **Stebnicka Huta** 47.05 328 *e*P **P** 19 01 30.0 +1.4
PKSG **Tamasi** 47.42 324⇑*e*P **P** 19 01 32.3 +0.9
CSKK **Cs^ákó** 47.48 324 *e*P **P** 19 01 30.5 -1.4
LZH **Lanzhou** 47.50 53 *e*P **P** 19 01 33.5 +1.1
LZH pP **pP** 19 01 38.0 +0.5
LZH sP **sP** 19 01 39.9 +0.4
LZH PMZ
comp=Z,13nm,1.0s
LZH PMZ
comp=Z,65nm,4.3s
LZH LN
comp=Z,360nm,16.2s
LZH LE
comp=Z,930nm,16.4s
LZH LZ
comp=Z,990nm,18.0s
NIE **Niedzica** 47.54 328 *e*P **P** 19 01 33.0 +0.7
NIE **Niedzica** 47.54 328 *e*P **P** 19 01 33.1 +0.7
VYHS **Vyhne** 47.79 326 *e*P **P** 19 01 34.2 -0.1
VYHS pmax pmax
comp=Z,11nm,1.4s
VYHS **Vyhne** 47.79 326 *e*P **P** 19 01 34.2 -0.1
GYA **Guiyang** 47.91 66⇓*i*P **P** 19 01 34.5 -1.3
GYA PP **PP** 19 03 28.7 +0.9
GYA ScP **ScP** 19 06 58.8 +0.6
GYA S **S** 19 08 33.6 +0.6
GYA SS **SS** 19 11 56.0 -5.8
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,5.0s
GYA LN
comp=Z,450nm,17.8s
GYA LE
comp=Z,370nm,18.0s
GYA LZ
comp=Z,480nm,17.6s
OJC **Ojcow** 48.28 328 *e*P **P** 19 01 37.1 -1.0
OJC **Ojcow** 48.28 328 *e*P **P** 19 01 37.1 -1.0
BOJS **Bojanci** 48.31 321 *i* P **P** 19 01 38.5 +0.2
SOP **Sopron** 48.62 324 *e*P **P** 19 01 40.9 +0.2
BEL **Belsk** 48.79 330 *e*P **P** 19 01 42.8 +0.9
BEL **Belsk** 48.79 330 *e*P **P** 19 01 42.8 +0.9
KEST **Kesra** 48.86 306 P **P** 19 01 44.6 +1.8
comp=Z,1.3nm,0.7s,baz=171,slow=11,SNR=4.9
KEST LR LR 19 23 47.5
comp=Z,48nm,18.5s,baz=298,slow=38
OKC **Ostrava-Krasne** 48.92 327 *e*P **P** 19 01 43.5 +0.5
OKC epP **pP** 19 01 48.5 +0.4
OKC AMS AMS 19 25 50.0
comp=Z,100nm,15.5s
OKC **Ostrava-Krasne** 48.92 327 *e*P **P** 19 01 43.5 +0.5
OKC *e* 19 01 48.5
OKC MLR MLR
comp=Z,100nm,15.5s
ARSA **Arzberg** 49.00 323 *i* P **P** 19 01 43.8 +0.1
SNR=9.4
ARSA **Arzberg** 49.00 323 P **P** 19 01 43.8 +0.1
SNR=9.4
SOKA **Soboth** 49.01 322⇓*i*P **P** 19 01 44.0 +0.1
comp=Z,17nm,1.3s,SNR=8.7
SOKA **Soboth** 49.01 322 P **P** 19 01 44.0 +0.1
comp=Z,17nm,1.3s,SNR=8.7
SUW **Suwalki** 49.14 334 *e*P **P** 19 01 45.0 +0.4
SUW **Suwalki** 49.14 334 *e*P **P** 19 01 44.6 0.0
SUW pmax pmax
comp=Z,46nm,1.0s
SUW **Suwalki** 49.14 334 *e*P **P** 19 01 44.6 0.0
comp=Z,46nm,1.0s
CONA **Conrad Observa** 49.15 324 *i* P **P** 19 01 44.8 -0.1
comp=Z,42nm,1.5s,SNR=20
CONA **Conrad Observa** 49.15 324 P **P** 19 01 44.8 -0.1
comp=Z,42nm,1.5s,SNR=20
MOZS **Mozjanca** 49.18 321 *e*P **P** 19 01 45.2 0.0
MORC **Moravsky Berou** 49.21 327⇑P **P** 19 01 45.6 +0.3
MORC **Moravsky Berou** 49.21 327⇑*i*P **P** 19 01 45.6 +0.3
MORC **Moravsky Berou** 49.21 327⇑*i*P **P** 19 01 45.6 +0.3
MORC **Moravsky Berou** 49.21 327 *e*P **P** 19 01 45.0 -0.3
comp=Z,34nm,1.3s
OBKA **Obir** 49.22 322⇓*i*P **P** 19 01 45.7 +0.2
comp=Z,23nm,1.3s
OBKA **Obir** 49.22 322 P **P** 19 01 45.7 +0.2
comp=Z,23nm,1.3s
PRGR **Permogore** 49.42 353 *e*P **P** 19 01 46.1 -0.5
PRGR pmax pmax
comp=Z,31nm,0.9s
MDSI **Maura Dua** 49.45 107 P **P** 19 01 49.8 +2.2
VRAC **Vranov** 49.47 326 LR LR 19 25 41.1
comp=Z,73nm,18.9s,baz=106,slow=40
VRAC **Vranov** 49.47 326⇑P **P** 19 01 46.8 -0.4
VRAC **Vranov** 49.47 326⇑*i*P **P** 19 01 46.8 -0.4
VRAC **Vranov** 49.47 326 *e*P **P** 19 01 47.5 +0.3
KLMR **Klimovskoe** 49.65 349 *e*P **P** 19 01 47.8 -0.6
KLMR pmax pmax
comp=Z,58nm,1.5s
MYKA **Terra Mystica** 49.83 321 *i* P **P** 19 01 50.5 +0.4
comp=Z,33nm,1.5s,SNR=10
MYKA **Terra Mystica** 49.83 321 P **P** 19 01 50.5 +0.4
comp=Z,33nm,1.5s,SNR=10
MOA **Molln** 50.04 323 *i* P **P** 19 01 52.0 +0.4
comp=Z,26nm,1.4s,SNR=12
MOA **Molln** 50.04 323 P **P** 19 01 52.0 +0.4
comp=Z,26nm,1.4s,SNR=12
TREC **Trest** 50.08 325 *e*P P 19 01 46.7 -5.2
KASI **Kota Agung** 50.12 109 P P 19 02 00.9 +8.2
DPC **Dobruska-Polom** 50.19 327 *e*P **P** 19 01 52.8 +0.1
DPC epP **pP** 19 01 58.4 +0.6
DPC AMS AMS 19 23 30.0
DPC **Dobruska-Polom** 50.19 327 *e*P **P** 19 01 52.8 +0.1
DPC *e* 19 01 58.4
DPC **Dobruska-Polom** 50.19 327 *e*P **P** 19 01 52.9 +0.1
KBA **Koelnbreinsper** 50.22 322⇑*i*P **P** 19 01 52.8 -0.4
comp=Z,16nm,1.2s
KBA **Koelnbreinsper** 50.22 322 P **P** 19 01 52.8 -0.4
comp=Z,16nm,1.2s
TAM **Tamanrasset** 50.25 289 *e*P **P** 19 01 54.5 +0.7
TAM pmax pmax
comp=Z,6.0nm,1.0s
TAM **Tamanrasset** 50.25 289 *e*P **P** 19 01 54.5 +0.7
comp=Z,6.2nm,1.0s
UPC **Upice** 50.44 327 *e*P **P** 19 01 54.7 +0.1
UPC epP **pP** 19 02 00.2 +0.6
UPC **Upice** 50.44 327 *e*P **P** 19 01 54.7 +0.1
UPC *e* 19 02 00.2
KSP **Ksiaz** 50.47 327 *e*P **P** 19 01 55.2 +0.4
KSP **Ksiaz** 50.47 327 *e*P **P** 19 01 55.2 +0.4
QIZ **Qiongzhong** 50.52 76 P **P** 19 01 54.9 -0.8
QIZ S **S** 19 09 08.9 -0.6
QIZ PMZ
comp=Z,7.0nm,1.2s
QIZ PMZ
comp=Z,160nm,3.7s
QIZ LZ
comp=Z,160nm,36.1s
ABTA **Abfaltersbach** 50.58 321 *i* P **P** 19 01 55.8 0.0
comp=Z,19nm,1.3s,SNR=9.2
ABTA **Abfaltersbach** 50.58 321 P **P** 19 01 55.8 0.0
comp=Z,19nm,1.3s,SNR=9.2
TSUM **Tsumeb** 50.66 232 *e*P **P** 19 01 54.0 -2.8
GOPC **GO Pecny, Ondr** 50.79 326 *e*P **P** 19 01 57.3 +0.1
GEC2 **GERESS Array S** 50.86 324 *e*P **P** 19 01 57.4 -0.5
comp=Z,14nm,1.6s
GEC2 **GERESS Array S** 50.86 324 *e*P **P** 19 01 57.4 -0.5
GEC2 **GERESS Array S** 50.86 324 *e*P **P** 19 01 57.4 -0.5
comp=Z,14nm,1.6s
GEC2 **GERESS Array S** 50.86 324 *e*P **P** 19 01 57.4 -0.5
GERES **GERESS Array B** 50.86 324 P **P** 19 01 56.8 -1.1
comp=Z,0.5nm,0.7s,baz=141,slow=4.6,SNR=7.4
GERES PcP **PcP** 19 03 14.2 -0.2
comp=Z,0.9nm,0.9s,baz=152,slow=6.4,SNR=3.9
GERES LR LR 19 25 37.0
comp=Z,64nm,21.7s,baz=105,slow=38
RJOB **Jochberg** 50.86 322 *e*P **P** 19 01 57.3 -0.6
comp=Z,54nm,2.5s
RJOB **Jochberg** 50.86 322 *e*P **P** 19 01 57.3 -0.6
comp=Z,54nm,2.5s
PRU **Pruhonice** 50.96 325 *e*P **P** 19 01 58.0 -0.5
PRU epP **pP** 19 02 03.8 +0.2
PRU **Pruhonice** 50.96 325 *e*P **P** 19 01 58.0 -0.5
PRU *e* 19 02 03.8
VSU **Vasula** 51.02 340 *e*P **P** 19 01 59.1 +0.3
VSU pmax pmax
comp=Z,41nm,1.1s
XAN **Xi'an** 51.03 57 P **P** 19 01 58.1 -1.3
XAN pP **pP** 19 02 03.8 -0.7
XAN S S 19 09 10.6 -5.8
XAN PMZ
comp=Z,2.0nm,1.1s
XAN PMZ
comp=Z,12nm,4.9s
XAN LN
comp=Z,98nm,17.4s
XAN LE
comp=Z,59nm,18.5s
XAN LZ
comp=Z,77nm,21.5s
PRA **Prague** 51.06 326 *e*P **P** 19 01 58.8 -0.5
PRA **Prague** 51.06 326 *e*P **P** 19 01 58.8 -0.5
KHC **Kasperske Hory** 51.07 324 *e*P **P** 19 01 58.5 -0.9
KHC epP **pP** 19 02 03.5 -1.0
KHC **Kasperske Hory** 51.07 324 *e*P **P** 19 01 58.5 -0.9
PGF **Pioggiola** 51.20 315 *e*P **P** 19 01 59.7 -0.9
comp=Z,60nm,1.4s
PGF **Pioggiola** 51.20 315 *e*P **P** 19 01 59.7 -0.9
PGF pmax pmax
comp=Z,61nm,1.4s
PGF **Pioggiola** 51.20 315 *e*P **P** 19 01 59.7 -0.9
comp=Z,30nm,1.4s
PGF **Pioggiola** 51.20 315 *e*P **P** 19 01 59.7 -0.9
comp=Z,60nm,1.4s
PVCC **Panska Ves** 51.23 326 *e*P **P** 19 02 00.4 -0.1
PVCC epP **pP** 19 02 05.9 +0.3
PVCC **Panska Ves** 51.23 326 *e*P **P** 19 02 00.4 -0.1
PVCC *e* 19 02 05.9
WTTA **Wattenberg** 51.34 321 *i* P **P** 19 02 01.1 -0.6
comp=Z,29nm,1.2s,SNR=10
WTTA **Wattenberg** 51.34 321 P **P** 19 02 01.1 -0.6
comp=Z,29nm,1.2s,SNR=10
WATA **Walderalm** 51.41 321⇓*i*P **P** 19 02 00.4 -1.7
comp=Z,28nm,1.2s
WATA **Walderalm** 51.41 321 P **P** 19 02 00.4 -1.7
comp=Z,28nm,1.2s
WET **Wettzell** 51.48 324 *e*P **P** 19 02 01.4 -1.0
comp=Z,40nm,2.7s
WET **Wettzell** 51.48 324 *e*P **P** 19 02 01.4 -1.0
comp=Z,40nm,2.7s
CGJI **Cibinong** 51.63 109 P P 19 02 07.4 +3.4
MOTA **Moosalm** 51.70 321 *i* P **P** 19 02 03.3 -1.0
comp=Z,18nm,1.0s,SNR=12
MOTA **Moosalm** 51.70 321 P **P** 19 02 03.3 -1.0
comp=Z,18nm,1.0s,SNR=12
BRG **Berggiesshubel** 51.75 326 *e*P **P** 19 02 04.2 -0.2
comp=Z,26nm,1.7s
BRG *e* 19 02 09.8
comp=Z,15nm,1.3s
BRG **Berggiesshubel** 51.75 326 *e*P **P** 19 02 04.4 0.0
comp=Z,25nm,1.7s
BRG **Berggiesshubel** 51.75 326 *e*P **P** 19 02 04.2 -0.2
BRG *e* 19 02 09.9
BRG pmax pmax
comp=Z,26nm,1.7s
BRG **Berggiesshubel** 51.75 326 *e*P **P** 19 02 04.4 0.0
comp=Z,25nm,1.7s
FETA **Feichten** 51.80 321⇑*i*P **P** 19 02 04.6 -0.4
comp=Z,23nm,1.5s
FETA **Feichten** 51.80 321 P **P** 19 02 04.6 -0.4
comp=Z,23nm,1.5s
FUORN **Ofenpass-Fuorn** 51.92 320 *e*P **P** 19 02 06.7 +0.6
comp=Z,26nm,1.4s
FUR **Furstenfeldbru** 51.96 322 *e*P **P** 19 02 05.6 -0.5
comp=Z,85nm,1.3s
FUR **Furstenfeldbru** 51.96 322 *e*P **P** 19 02 05.6 -0.5
comp=Z,85nm,1.3s
RETA **Reute** 51.97 321 *i* P **P** 19 02 05.2 -1.0
comp=Z,19nm,1.4s,SNR=8.6
RETA **Reutte** 51.97 321 P **P** 19 02 05.2 -1.0
comp=Z,19nm,1.4s,SNR=8.6
ROTZ **Rotzenmuhle** 52.16 324 *e*P **P** 19 02 07.3 -0.2
comp=Z,18nm,1.5s
ROTZ **Rotzenmuhle** 52.16 324 *e*P **P** 19 02 07.3 -0.2
comp=Z,18nm,1.5s
NKC **Novy Kostel** 52.25 325 *e*P **P** 19 02 08.2 0.0
NKC epP **pP** 19 02 14.4 +1.1
NKC **Novy Kostel** 52.25 325 *e*P **P** 19 02 08.2 0.0
NKC *e* 19 02 14.4
TANN **Tannenbergstha** 52.33 325 *e*P **P** 19 02 08.9 +0.1
comp=Z,42nm,1.8s
TANN **Tannenbergstha** 52.33 325 *e*P **P** 19 02 08.9 +0.1
comp=Z,42nm,1.8s
DAVA **Damuels** 52.43 321⇑*i*P **P** 19 02 08.8 -1.0
comp=Z,38nm,1.4s,SNR=11
DAVA **Damuels** 52.43 321 P **P** 19 02 08.8 -1.0
comp=Z,38nm,1.4s,SNR=11
CLL **Collm** 52.48 326 *e*P **P** 19 02 10.1 +0.3
comp=Z,50nm,1.7s
CLL **Collm** 52.48 326 *i* P **P** 19 02 09.5 -0.3
comp=Z,50nm,1.7s
CLL *i* (sP) **sP** 19 02 15.4 -1.5
CLL *e*(S) **S** 19 09 32.0 -3.6
CLL *e*SS **SS** 19 13 12.0 -1.6
CLL *e*SSS SSS 19 14 54.0
CLL Lm MLR 19 28 00.0
CLL comp=N,100nm,21.7s Lm MLR 19 28 00.0
CLL comp=E,100nm,20.6s Lm MLR 19 28 00.0
comp=Z,100nm,18.1s
CLL **Collm** 52.48 326 *i* P **P** 19 02 09.5 -0.3
CLL *i* 19 02 15.4
CLL *e*S **S** 19 09 32.0 -3.6
CLL pmax pmax
comp=Z,50nm,1.7s
CLL **Collm** 52.48 326 *e*P **P** 19 02 10.1 +0.3
comp=Z,50nm,1.7s
CLL **Collm** 52.48 326 *e*P **P** 19 02 09.8 0.0
RUE **Ruedersdorf** 52.68 328 *e*P **P** 19 02 11.4 +0.2
comp=Z,32nm,0.8s
GRA1 **Grafenberg Arr** 52.69 324 *e*P **P** 19 02 10.9 -0.5
comp=Z,40nm,1.5s
GRF **Grafenberg Arr** 52.69 324 *e*P **P** 19 02 10.9 -0.5
comp=Z,40nm,1.5s
GRF *e*L L 19 26 42.4
comp=Z,61nm,21.3s
GRFO **Grafenberg** 52.69 324 *e*P **P** 19 02 09.6 -1.8
GRFO pmax pmax
comp=Z,27nm,1.2s
GRFO **Grafenberg** 52.69 324 *e*P **P** 19 02 09.6 -1.8
comp=Z,27nm,1.2s
ZAK **Zakamensk** 52.70 35 *e*P **P** 19 02 11.4 -0.2
ZAK pmax pmax
comp=Z,3.0nm,2.2s
SBF **Sospel** 52.72 316 *e*P **P** 19 02 10.4 -1.5
SBF **Sospel** 52.72 316 *e*P **P** 19 02 10.4 -1.5
SBF **Sospel** 52.72 316 *e*P **P** 19 02 10.4 -1.5
SBF **Sospel** 52.72 316 *e*P **P** 19 02 10.4 -1.5
MOX **Moxa** 52.91 325 *e*P **P** 19 02 13.1 0.0
comp=Z,56nm,2.2s
MOX *e*L L 19 27 13.2
comp=Z,53nm,21.4s
MOX **Moxa** 52.91 325 *e*P **P** 19 02 13.1 0.0
comp=Z,56nm,2.2s
TMCR **Tamitsa** 52.97 349 *e*P **P** 19 02 12.4 -0.8
TMCR pmax pmax
comp=Z,45nm,1.2s
FRF **La Foret Royal** 53.16 315 *e*P **P** 19 02 14.4 -0.6
comp=Z,90nm,1.6s
FRF **La Foret Royal** 53.16 315 *e*P **P** 19 02 14.4 -0.6
FRF pmax pmax
comp=Z,90nm,1.6s
FRF **La Foret Royal** 53.16 315 *e*P **P** 19 02 14.4 -0.6
comp=Z,45nm,1.6s
FRF **La Foret Royal** 53.16 315 *e*P **P** 19 02 14.4 -0.6
comp=Z,90nm,1.6s
LMR **La Mourre** 53.18 315 *e*P **P** 19 02 14.0 -1.2
comp=Z,106nm,1.7s
LMR **La Mourre** 53.18 315 *e*P **P** 19 02 14.0 -1.2
LMR pmax pmax
comp=Z,106nm,1.7s
LMR **La Mourre** 53.18 315 *e*P **P** 19 02 14.0 -1.2
comp=Z,53nm,1.7s
LMR **La Mourre** 53.18 315 *e*P **P** 19 02 14.0 -1.2
comp=Z,106nm,1.7s
SONM **Songino Array** 53.41 39 P **P** 19 02 17.3 +0.4
comp=Z,2.9nm,1.1s,baz=238,slow=7.0,SNR=18
SONM LR LR 19 25 35.5
comp=Z,129nm,21.3s,baz=242,slow=37
MBDF **Montbardon** 53.47 317 *e*P **P** 19 02 15.7 -1.7
MBDF **Montbardon** 53.47 317 *e*P **P** 19 02 15.7 -1.7
MBDF **Montbardon** 53.47 317 *e*P **P** 19 02 15.7 -1.7
MBDF **Montbardon** 53.47 317 *e*P **P** 19 02 15.7 -1.7
STU **Stuttgart** 53.47 322 *e*P **P** 19 02 16.1 -1.1
comp=Z,17nm,1.3s
STU **Stuttgart** 53.47 322 *e*P **P** 19 02 16.1 -1.1
comp=Z,17nm,1.3s
LEM **Lembang** 53.48 109 P **P** 19 02 18.3 +0.3
comp=Z,15nm,0.9s,baz=260,slow=17,SNR=3.2
TLY **Talaya** 53.53 34 *e*P **P** 19 02 15.3 -2.3
TLY *e* 19 04 13.4
TLY *e*S S 19 09 39.4 -11
TLY pmax pmax
comp=Z,7.0nm,0.8s
TLY MLR MLR
comp=Z,222nm,18.0s
FINES **FINESS Array B** 53.54 342 P **P** 19 02 17.1 -0.3
comp=Z,7.8nm,0.9s,baz=142,slow=9.6,SNR=12
FINES LR LR 19 29 20.4
comp=Z,105nm,19.0s,baz=176,slow=41
SENIN **Lac Senin/Sane** 53.70 319 *e*P **P** 19 02 18.8 -0.4
LPG **La Plagne** 53.75 317 *e*P **P** 19 02 18.3 -1.3
comp=Z,101nm,1.5s
LPG **La Plagne** 53.75 317 *e*P **P** 19 02 18.3 -1.3
LPG pmax pmax
comp=Z,101nm,1.5s
LPG **La Plagne** 53.75 317 *e*P **P** 19 02 18.3 -1.3
comp=Z,50nm,1.5s
LPG **La Plagne** 53.75 317 *e*P **P** 19 02 18.3 -1.3
comp=Z,101nm,1.5s
LPL **La Plagne** 53.77 318 *e*P **P** 19 02 18.4 -1.3
comp=Z,168nm,1.6s
LPL **La Plagne** 53.77 318 *e*P **P** 19 02 18.4 -1.3
LPL pmax pmax
comp=Z,168nm,1.6s
LPL **La Plagne** 53.77 318 *e*P **P** 19 02 18.4 -1.3
comp=Z,84nm,1.6s
LPL **La Plagne** 53.77 318 *e*P **P** 19 02 18.4 -1.3
comp=Z,168nm,1.6s
BFO **Black Forest** 53.81 321 *e*P **P** 19 02 19.3 -0.5
comp=Z,25nm,1.5s
BFO **Black Forest** 53.81 321 *i* P **P** 19 02 19.7 -0.1
BFO **Black Forest** 53.81 321 *e*P **P** 19 02 19.3 -0.5
comp=Z,25nm,1.5s
BFO **Black Forest** 53.81 321 *e*P **P** 19 02 18.9 -0.9
comp=Z,22nm,1.3s
ULN **Ulaanbaatar** 53.83 39⇑*i*P **P** 19 02 20.0 0.0
ULN pmax pmax
comp=Z,12nm,2.5s
ULN **Ulaanbaatar** 53.83 39 *e*P **P** 19 02 19.6 -0.4
comp=Z,42nm,2.6s
UBBA **Unterbreizbach** 53.90 325 *e*P **P** 19 02 20.1 -0.1
comp=Z,34nm,1.9s
UBBA **Unterbreizbach** 53.90 325 *e*P **P** 19 02 20.1 -0.1
comp=Z,34nm,1.9s
SMRF **Simiane la Rot** 54.03 315 *e*P **P** 19 02 20.9 -0.5
comp=Z,89nm,1.7s
SMRF **Simiane la Rot** 54.03 315 *e*P **P** 19 02 20.9 -0.5
comp=Z,44nm,1.7s
SMRF **Simiane la Rot** 54.03 315 *e*P **P** 19 02 20.9 -0.5
comp=Z,89nm,1.7s
ORIF **Oris-en-Rattie** 54.13 317 *e*P **P** 19 02 21.3 -0.9
comp=Z,38nm,1.6s
ORIF *e*R
comp=Z,89nm,20.2s
ORIF **Oris-en-Rattie** 54.13 317 *e*P **P** 19 02 21.3 -0.9
ORIF pmax pmax
comp=Z,38nm,1.6s
ORIF **Oris-en-Rattie** 54.13 317 *e*P **P** 19 02 21.3 -0.9
comp=Z,19nm,1.6s
ORIF **Oris-en-Rattie** 54.13 317 *e*P **P** 19 02 21.3 -0.9
comp=Z,38nm,1.6s
CLZ **Clausthal** 54.17 326 *e*P **P** 19 02 22.8 +0.5
comp=Z,44nm,1.6s
CLZ **Clausthal** 54.17 326 *e*P **P** 19 02 22.8 +0.5
comp=Z,44nm,1.6s
TOA0 **Torodi Ar. Sit** 54.30 277 *e*P **P** 19 02 24.8 +1.0
TOA0 *e*PcP **PcP** 19 03 28.5 +0.6
TORD **Torodi Ar. Bea** 54.30 277 P **P** 19 02 24.7 +0.9
comp=Z,1.8nm,0.7s,baz=84,slow=7.0,SNR=13
TORD PcP **PcP** 19 03 29.1 +1.2
comp=Z,1.1nm,0.8s,baz=89,slow=3.6,SNR=3.6
TORD LR LR 19 23 38.6
comp=Z,107nm,18.9s,baz=110,slow=34
ECH **Echery** 54.49 321 *e*P **P** 19 02 23.6 -1.1
ECH pmax pmax
comp=Z,22nm,1.4s
ECH **Echery** 54.49 321 *e*P **P** 19 02 23.6 -1.1
comp=Z,22nm,1.4s
CDF **Champ du Feu** 54.49 321 *e*P **P** 19 02 23.4 -1.4
comp=Z,77nm,1.4s
CDF **Champ du Feu** 54.49 321 *e*P **P** 19 02 23.4 -1.4
CDF pmax pmax
comp=Z,77nm,1.4s
CDF **Champ du Feu** 54.49 321 *e*P **P** 19 02 23.4 -1.4
comp=Z,38nm,1.4s
CDF **Champ du Feu** 54.49 321 *e*P **P** 19 02 23.4 -1.4
comp=Z,77nm,1.4s
HINF **Hinteralfeld** 54.52 320 *e*P **P** 19 02 23.4 -1.6
comp=Z,50nm,1.6s
HINF **Hinteralfeld** 54.52 320 *e*P **P** 19 02 23.4 -1.6
HINF pmax pmax
comp=Z,51nm,1.6s
HINF **Hinteralfeld** 54.52 320 *e*P **P** 19 02 23.4 -1.6
comp=Z,25nm,1.6s
HINF **Hinteralfeld** 54.52 320 *e*P **P** 19 02 23.4 -1.6
comp=Z,50nm,1.6s
TNS **Taunus Mts** 54.53 323 *e*P **P** 19 02 24.5 -0.5
comp=Z,25nm,1.6s
TNS **Taunus Mts** 54.53 323 *e*P **P** 19 02 24.5 -0.5
comp=Z,25nm,1.6s
CABF **La Chapelle** 54.57 319 *e*P **P** 19 02 24.7 -0.7
comp=Z,187nm,1.5s
CABF **La Chapelle** 54.57 319 *e*P **P** 19 02 24.7 -0.7
CABF pmax pmax
comp=Z,187nm,1.5s
CABF **La Chapelle** 54.57 319 *e*P **P** 19 02 24.7 -0.7
CABF **La Chapelle** 54.57 319 *e*P **P** 19 02 24.7 -0.7
comp=Z,187nm,1.5s
HHC **Hu-ho-hao-te** 54.62 49 *e*P **P** 19 02 25.5 -0.4
HHC sP **sP** 19 02 31.3 -1.7
HHC PcP **PcP** 19 03 29.6 +0.8
HHC PP **PP** 19 04 30.6 +2.2
HHC S S 19 10 00.0 -5.3
HHC sS **sS** 19 10 14.7 +1.0
HHC PMZ
comp=Z,23nm,1.1s
HHC PMZ
comp=Z,89nm,6.7s
HHC LN
comp=Z,250nm,15.8s
HHC LE
comp=Z,300nm,16.1s
HHC LZ
comp=Z,240nm,16.6s
NRDL **Niedersach Rie** 54.62 326 *e*P **P** 19 02 26.2 +0.8

NRDL **Niedersach Rie** 54.62 326 *e*P P 19 02 26.2 +0.8
comp=Z,52nm,1.5s
HAU **Haudompre** 54.91 320 *e*P P 19 02 26.1 -1.6
HAU *e*R
comp=Z,65nm,18.5s
HAU **Haudompre** 54.91 320 *e*P P 19 02 26.1 -1.6
HAU **Haudompre** 54.91 320 *e*P P 19 02 26.1 -1.6
HAU **Haudompre** 54.91 320 *e*P P 19 02 26.1 -1.6
VIVF **Saint-Julien-l** 54.92 316 *e*P P 19 02 26.7 -1.2
comp=Z,66nm,1.8s
VIVF **Saint-Julien-l** 54.92 316 *e*P P 19 02 26.7 -1.2
VIVF pmax pmax
comp=Z,66nm,1.8s
VIVF **Saint-Julien-l** 54.92 316 *e*P P 19 02 26.7 -1.2
comp=Z,33nm,1.8s
VIVF **Saint-Julien-l** 54.92 316 *e*P P 19 02 26.7 -1.2
comp=Z,66nm,1.8s
WHN **Wuhan** 55.07 62 P P 19 02 26.1 -3.0
WHN S **S** 19 10 06.4 -4.9
WHN LZ
comp=Z,530nm,20.0s
SBUM **Sibu** 55.08 96 *e*P P 19 02 30.4 +1.0
BSEG **Bad Segeberg** 55.21 328 *e*P P 19 02 29.5 -0.2
comp=Z,34nm,1.8s
BSEG **Bad Segeberg** 55.21 328 *e*P P 19 02 29.5 -0.2
comp=Z,34nm,1.8s
LASF **Ste Croix** 55.24 315 *e*P P 19 02 28.7 -1.5
comp=Z,126nm,1.9s
LASF **Ste Croix** 55.24 315 *e*P P 19 02 28.7 -1.5
comp=Z,63nm,1.9s
LASF **Ste Croix** 55.24 315 *e*P P 19 02 28.7 -1.5
comp=Z,126nm,1.9s
PAGF **Fort de Pagny** 55.50 321 *e*P P 19 02 31.0 -1.0
comp=Z,27nm,1.5s
PAGF **Fort de Pagny** 55.50 321 *e*P P 19 02 31.0 -1.0
comp=Z,14nm,1.5s
PAGF **Fort de Pagny** 55.50 321 *e*P P 19 02 31.0 -1.0
comp=Z,27nm,1.5s
WLF **Walferdange** 55.66 322 P P 19 02 32.5 -0.5
comp=Z,20nm,1.7s
WLF **Walferdange** 55.66 322 *e*P P 19 02 33.2 +0.1
comp=Z,33nm,1.5s
WLF **Walferdange** 55.66 322 *e*P P 19 02 31.8 -1.3
WLF pmax pmax
comp=Z,28nm,1.2s
WLF **Walferdange** 55.66 322 *e*P P 19 02 33.2 +0.1
comp=Z,33nm,1.5s
WLF **Walferdange** 55.66 322 *e*P P 19 02 31.8 -1.3
comp=Z,28nm,1.2s
BUG **Bochum--Univer** 55.72 324 *e*P P 19 02 33.7 +0.2
comp=Z,22nm,1.4s
BUG **Bochum--Univer** 55.72 324 *e*P P 19 02 33.7 +0.2
comp=Z,22nm,1.4s
SFTF **Sexfontaines** 55.80 320 *e*P P 19 02 33.2 -0.9
comp=Z,145nm,1.4s
SFTF **Sexfontaines** 55.80 320 *e*P P 19 02 33.2 -0.9
comp=Z,73nm,1.4s
SFTF **Sexfontaines** 55.80 320 *e*P P 19 02 33.2 -0.9
comp=Z,145nm,1.4s
MEZF **Maizieres J'vi** 55.90 320 *e*P P 19 02 34.0 -0.8
comp=Z,184nm,1.4s
MEZF **Maizieres J'vi** 55.90 320 *e*P P 19 02 34.0 -0.8
comp=Z,92nm,1.4s
MEZF **Maizieres J'vi** 55.90 320 *e*P P 19 02 34.0 -0.8
comp=Z,184nm,1.4s
SMF **Signal de Mont** 56.04 318 *e*P P 19 02 34.7 -1.2
comp=Z,79nm,1.7s
SMF **Signal de Mont** 56.04 318 *e*P P 19 02 34.7 -1.2
SMF pmax pmax
comp=Z,79nm,1.7s
SMF **Signal de Mont** 56.04 318 *e*P P 19 02 34.7 -1.2
comp=Z,40nm,1.7s
SMF **Signal de Mont** 56.04 318 *e*P P 19 02 34.7 -1.2
comp=Z,79nm,1.7s
MTLF **Montolieu** 56.18 314 *e*P P 19 02 36.0 -0.9
MTLF **Montolieu** 56.18 314 *e*P P 19 02 36.0 -0.9
MTLF **Montolieu** 56.18 314 *e*P P 19 02 36.0 -0.9
MTLF **Montolieu** 56.18 314 *e*P P 19 02 36.0 -0.9
LOR **Lormes** 56.23 319 *e*P P 19 02 36.2 -1.0
comp=Z,111nm,1.4s
LOR *e*R
comp=Z,88nm,19.8s
LOR **Lormes** 56.23 319 *e*P P 19 02 36.2 -1.0
LOR pmax pmax
comp=Z,111nm,1.4s
LOR **Lormes** 56.23 319 *e*P P 19 02 36.2 -1.0
comp=Z,56nm,1.4s
LOR **Lormes** 56.23 319 *e*P P 19 02 36.2 -1.0
comp=Z,111nm,1.4s
SSF **Saint Saulge** 56.39 318 *e*P P 19 02 37.2 -1.2
comp=Z,47nm,1.3s
SSF **Saint Saulge** 56.39 318 *e*P P 19 02 37.2 -1.2
SSF pmax pmax
comp=Z,47nm,1.3s
SSF **Saint Saulge** 56.39 318 *e*P P 19 02 37.2 -1.2
comp=Z,24nm,1.3s
SSF **Saint Saulge** 56.39 318 *e*P P 19 02 37.2 -1.2
comp=Z,47nm,1.3s
AVF **Avril sur Loir** 56.41 318 *e*P P 19 02 37.0 -1.5
comp=Z,65nm,1.6s
AVF **Avril sur Loir** 56.41 318 *e*P P 19 02 37.0 -1.5
AVF pmax pmax
comp=Z,65nm,1.6s
AVF **Avril sur Loir** 56.41 318 *e*P P 19 02 37.0 -1.5
comp=Z,32nm,1.6s
AVF **Avril sur Loir** 56.41 318 *e*P P 19 02 37.0 -1.5
comp=Z,65nm,1.6s
BCLA **Clavier** 56.45 323 P P 19 02 39.2 +0.4
comp=Z,16nm,1.9s
GIVF **Givet** 56.62 322 *e*P P 19 02 39.1 -0.8
comp=Z,90nm,1.3s
GIVF **Givet** 56.62 322 *e*P P 19 02 39.1 -0.8
GIVF pmax pmax
comp=Z,90nm,1.3s
GIVF **Givet** 56.62 322 *e*P P 19 02 39.1 -0.8
comp=Z,45nm,1.3s
GIVF **Givet** 56.62 322 *e*P P 19 02 39.1 -0.8
comp=Z,90nm,1.3s
CAF **Calviac** 56.71 316 *e*P P 19 02 39.4 -1.3
comp=Z,98nm,1.9s
CAF **Calviac** 56.71 316 *e*P P 19 02 39.4 -1.3
CAF pmax pmax
comp=Z,99nm,1.9s
CAF **Calviac** 56.71 316 *e*P P 19 02 39.4 -1.3
comp=Z,49nm,1.9s
CAF **Calviac** 56.71 316 *e*P P 19 02 39.4 -1.3
comp=Z,98nm,1.9s
DOU **Dourbes** 56.76 322 P P 19 02 41.2 +0.3
comp=Z,18nm,1.7s
APA **Apatity** 56.88 349 *e*P P 19 02 46.0 +4.5
APA pmax pmax
comp=Z,29nm,1.2s
BAIF **Baives** 56.97 322 *e*P P 19 02 41.7 -0.7
comp=Z,110nm,1.3s
BAIF **Baives** 56.97 322 *e*P P 19 02 41.7 -0.7
BAIF pmax pmax
comp=Z,111nm,1.3s
BAIF **Baives** 56.97 322 *e*P P 19 02 41.7 -0.7
comp=Z,55nm,1.3s
BAIF **Baives** 56.97 322 *e*P P 19 02 41.7 -0.7
comp=Z,110nm,1.3s
TCF **Toulx Ste Croi** 57.00 317 *e*P P 19 02 41.7 -1.1
comp=Z,43nm,1.4s
TCF **Toulx Ste Croi** 57.00 317 *e*P P 19 02 41.7 -1.1
TCF pmax pmax
comp=Z,43nm,1.4s
TCF **Toulx Ste Croi** 57.00 317 *e*P P 19 02 41.7 -1.1
comp=Z,22nm,1.4s
TCF **Toulx Ste Croi** 57.00 317 *e*P P 19 02 41.7 -1.1
comp=Z,43nm,1.4s
HYF **Humbligny** 57.02 318 *e*P P 19 02 42.0 -0.8
HYF **Humbligny** 57.02 318 *e*P P 19 02 42.0 -0.8
HYF **Humbligny** 57.02 318 *e*P P 19 02 42.0 -0.8
HFS **Hagfors** 57.04 336 LR LR 19 29 50.6
comp=Z,126nm,21.7s,baz=121,slow=39
SNF **Seneffe** 57.09 322 P P 19 02 43.4 +0.2
SUR **Sutherland** 57.10 217 P P 19 02 43.7 -0.1
comp=Z,6.8nm,1.1s
RJF **Les Rejaudoux** 57.19 316 *e*P P 19 02 43.1 -1.0
comp=Z,87nm,1.8s
RJF *e*R
comp=Z,87nm,22.2s
RJF **Les Rejaudoux** 57.19 316 *e*P P 19 02 43.1 -1.0
RJF pmax pmax
comp=Z,87nm,1.8s
RJF **Les Rejaudoux** 57.19 316 *e*P P 19 02 43.1 -1.0
comp=Z,43nm,1.8s
RJF **Les Rejaudoux** 57.19 316 *e*P P 19 02 43.1 -1.0
comp=Z,87nm,1.8s
LFF **La Frestale** 57.62 315 *e*P P 19 02 46.3 -0.8
comp=Z,99nm,1.5s
LFF **La Frestale** 57.62 315 *e*P P 19 02 46.3 -0.8
LFF pmax pmax
comp=Z,99nm,1.5s
LFF **La Frestale** 57.62 315 *e*P P 19 02 46.3 -0.8
comp=Z,49nm,1.5s
LFF **La Frestale** 57.62 315 *e*P P 19 02 46.3 -0.8
comp=Z,99nm,1.5s
BJI **Beijing** 57.88 51 P P 19 02 49.4 +0.4
BJI PP **PP** 19 04 57.9 +0.6
BJI S **S** 19 10 50.8 +2.5
BJI SS **SS** 19 14 43.9 +4.7
BJI PMZ
comp=Z,9.0nm,0.8s
BJI LN
comp=Z,230nm,18.3s
BJI LE
comp=Z,540nm,19.0s
BJI LZ
comp=Z,620nm,22.9s
ETSF **Etsaut** 58.05 313 *e*P P 19 02 49.7 -0.5
comp=Z,88nm,1.7s
ETSF **Etsaut** 58.05 313 *e*P P 19 02 49.7 -0.5
ETSF pmax pmax
comp=Z,88nm,1.7s
ETSF **Etsaut** 58.05 313 *e*P P 19 02 49.7 -0.5
comp=Z,44nm,1.7s
ETSF **Etsaut** 58.05 313 *e*P P 19 02 49.7 -0.5
comp=Z,88nm,1.7s
NB2 **NORSAR Subarra** 58.56 336 P P 19 02 52.1 -1.4
comp=Z,1.3nm,0.7s,baz=120,slow=7.4
NOA **NORSAR Array B** 58.56 336 P P 19 02 52.5 -1.0
comp=Z,2.9nm,0.9s,baz=118,slow=7.6,SNR=5.8
NOA LR LR 19 30 47.3
comp=Z,88nm,20.5s,baz=95,slow=39
SJPF **Ste Jean** 58.57 313 *e*P P 19 02 53.1 -0.7
comp=Z,35nm,1.4s
SJPF **Ste Jean** 58.57 313 *e*P P 19 02 53.1 -0.7
SJPF pmax pmax
comp=Z,35nm,1.4s
SJPF **Ste Jean** 58.57 313 *e*P P 19 02 53.1 -0.7
comp=Z,17nm,1.4s
SJPF **Ste Jean** 58.57 313 *e*P P 19 02 53.1 -0.7
comp=Z,35nm,1.4s
MFF **Saint Martin d** 58.66 317 *e*P P 19 02 52.9 -1.4
comp=Z,84nm,1.7s
MFF **Saint Martin d** 58.66 317 *e*P P 19 02 52.9 -1.4
MFF pmax pmax
comp=Z,85nm,1.7s
MFF **Saint Martin d** 58.66 317 *e*P P 19 02 52.9 -1.4
comp=Z,42nm,1.7s
MFF **Saint Martin d** 58.66 317 *e*P P 19 02 52.9 -1.4
comp=Z,84nm,1.7s
NJ2 **Nanjing** 59.04 60 *e*P P 19 02 56.8 -0.4
NJ2 pP **pP** 19 03 01.4 -1.0
NJ2 S **S** 19 11 04.5 +0.9
NJ2 sS **sS** 19 11 12.0 -0.1
NJ2 SS **SS** 19 15 01.0 +3.3
NJ2 PMZ
comp=Z,30nm,0.6s
NJ2 PMZ
comp=Z,120nm,5.0s
NJ2 LN
comp=Z,480nm,20.8s
NJ2 LE
comp=Z,560nm,27.4s
NJ2 LZ
comp=Z,430nm,19.6s
LDF **La Druitiere** 59.18 319 *e*P P 19 02 56.4 -1.6
comp=Z,126nm,1.4s
LDF **La Druitiere** 59.18 319 *e*P P 19 02 56.4 -1.6
LDF pmax pmax
comp=Z,126nm,1.4s
LDF **La Druitiere** 59.18 319 *e*P P 19 02 56.4 -1.6
comp=Z,33nm,1.4s
LDF **La Druitiere** 59.18 319 *e*P P 19 02 56.4 -1.6
comp=Z,126nm,1.4s
FLN **La Foliniere** 59.46 319 *e*P P 19 02 58.4 -1.5
comp=Z,152nm,1.5s
FLN *e*R
comp=Z,100nm,22.5s
FLN **La Foliniere** 59.46 319 *e*P P 19 02 58.4 -1.5
FLN pmax pmax
comp=Z,152nm,1.5s
FLN **La Foliniere** 59.46 319 *e*P P 19 02 58.4 -1.5
comp=Z,76nm,1.5s
FLN **La Foliniere** 59.46 319 *e*P P 19 02 58.4 -1.5
comp=Z,152nm,1.5s
ESDC **Sonseca Array** 59.98 308 P P 19 03 03.8 0.0
comp=Z,0.9nm,0.6s,baz=80,slow=6.6,SNR=10
ESLA **Sonseca Array** 59.98 308 P P 19 03 01.8 -1.9
comp=Z,6.7nm,1.5s
ARCES **ARCESS Array B** 60.10 348 P P 19 03 03.3 -0.7
comp=Z,6.2nm,0.8s,baz=116,slow=5.5,SNR=10
ARCES LR LR 19 32 18.1
comp=Z,75nm,20.1s,baz=140,slow=39
ARE0 **ARCESS Array S** 60.10 348 P P 19 03 03.3 -0.7
PAB **San Pablo** 60.26 308 *e*P P 19 03 05.8 +0.1
PAB pmax pmax
comp=Z,20nm,1.4s
PAB **San Pablo** 60.26 308 *e*P P 19 03 05.8 +0.1
comp=Z,20nm,1.4s
SGMF **Saint Gilles** 60.66 318 *e*P P 19 03 06.3 -1.8
SGMF **Saint Gilles** 60.66 318 *e*P P 19 03 06.3 -1.8
SGMF **Saint Gilles** 60.66 318 *e*P P 19 03 06.3 -1.8
SGMF **Saint Gilles** 60.66 318 *e*P P 19 03 06.3 -1.8
ROSF **Rostrenen** 61.14 318 *e*P P 19 03 09.3 -2.1
comp=Z,47nm,1.3s
ROSF **Rostrenen** 61.14 318 *e*P P 19 03 09.3 -2.1
ROSF pmax pmax
comp=Z,47nm,1.3s
ROSF **Rostrenen** 61.14 318 *e*P P 19 03 09.3 -2.1
comp=Z,23nm,1.3s
ROSF **Rostrenen** 61.14 318 *e*P P 19 03 09.3 -2.1
comp=Z,47nm,1.3s
BOD **Bodaibo** 61.60 30 *e*P P 19 03 12.6 -1.7
BOD pmax pmax
comp=Z,5.0nm,1.6s
DBIC **Dimbokro** 61.67 271 LR LR 19 31 22.5
comp=Z,137nm,18.5s,baz=72,slow=37
LIC **Lamto** 61.92 270 *e*P P 19 03 18.7 +1.5
comp=Z,52nm,1.5s
LIC *e*R
comp=Z,135nm,20.2s
LIC **Lamto** 61.92 270 *e*P P 19 03 18.7 +1.5
comp=Z,26nm,1.5s
LIC **Lamto** 61.92 270 *e*P P 19 03 18.7 +1.5
comp=Z,52nm,1.5s
HIA **Hailar** 62.26 41 *e*P P 19 03 19.1 +0.1
HIA pmax pmax
comp=Z,29nm,1.8s
HIA **Hailar** 62.26 41 *e*P P 19 03 19.1 +0.1
comp=Z,29nm,1.8s
EVO **Evora** 62.98 307 *e*P P 19 03 24.0 +0.1
comp=Z,46nm,1.4s
EVO *e*R
comp=Z,83nm,19.2s
EVOP **Sao Brissos** 63.07 307 *e*P P 19 03 24.0 -0.5
EVOP pmax pmax
comp=Z,46nm,1.4s
EVOP **Sao Brissos** 63.07 307 *e*P P 19 03 24.0 -0.5
comp=Z,23nm,1.4s
EVOP **Sao Brissos** 63.07 307 *e*P P 19 03 24.0 -0.5
comp=Z,46nm,1.4s
KAPI **Kappang** 64.31 102 *e*P P 19 03 32.6 -0.5
CN2 **Changchun** 65.26 48 *e*P P 19 03 36.2 -2.6
CN2 *es*P **sP** 19 03 43.2 -2.8
CN2 PMZ
comp=Z,10.0nm,1.2s
KSAR **Wonju Array Be** 66.72 55 P P 19 03 47.8 -0.5
KSAR **Wonju Array Be** 66.72 55 P P 19 03 47.8 -0.5
KSRS **Korea Array** 66.75 55 P P 19 03 47.8 -0.7
comp=Z,1.1nm,0.9s,baz=263,slow=7.2,SNR=3.4
KSRS LR LR 19 34 59.3
comp=Z,112nm,18.9s,baz=284,slow=38
BATI **Baumata** 69.56 106 LR LR 19 32 56.8
comp=Z,106nm,20.9s,slow=35
USRK **Ussuriysk Ar.** 70.00 48 P P 19 04 08.8 +0.1
comp=Z,2.2nm,0.8s,baz=291,slow=6.9,SNR=4.2
USRK LR LR 19 36 21.0
comp=Z,155nm,20.4s,baz=258,slow=37
YAK **Yakutsk** 70.33 28 P P 19 04 08.7 -1.6
comp=Z,7.5nm,0.7s,baz=358,slow=1.0,SNR=12
YAK **Yakutsk** 70.33 28 *e*P P 19 04 08.8 -1.6
YAK *e**PP **pP** 19 04 17.4 +1.8
YAK *e* 19 04 26.7
YAK *e* 19 06 45.4
YAK *e*PPP PPP 19 08 26.7
YAK *e*S **S** 19 13 21.2 -0.7
YAK *e* 19 14 08.3
YAK *e*SS **SS** 19 17 50.3 -1.9
YAK pmax pmax
comp=Z,17nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.3s
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=Z,80nm,4.8s
YAK pmax pmax
comp=N,28nm,4.2s
YAK pmax pmax
comp=E,40nm,4.2s
YAK smax smax
comp=N,57nm,4.8s
YAK smax smax
comp=E,46nm,4.7s
YAK MLR MLR
comp=Z,221nm,21.0s
YAK MLR MLR
comp=E,141nm,23.0s
YAK MLR MLR
comp=N,132nm,21.0s
H01W3 **Cape Leeuwin H** 71.65 134 T T 20 22 21.4
baz=302,slow=75,SNR=86
H01W2 **Cape Leeuwin H** 71.65 134 T T 20 22 22.1
baz=302,slow=75,SNR=103
H01W1 **Cape Leeuwin H** 71.66 134 T T 20 22 22.5
baz=302,slow=75,SNR=90
TIXI **Tiksi** 71.98 18 *i*P P 19 04 18.7 -1.5
TIXI pmax pmax
comp=Z,21nm,1.7s
TIXI **Tiksi** 71.98 18 *e*P P 19 04 18.9 -1.4
TIXI *e* 19 04 25.3
MJAR **Matsushiro Arr** 75.01 55 P P 19 04 40.1 +1.3
comp=Z,0.8nm,0.8s,baz=270,slow=6.1,SNR=3.8
MJAR LR LR 19 39 24.1
comp=Z,118nm,21.1s,baz=270,slow=37
YSS **Yuzh-Sakhalins** 77.45 44 *e*P P 19 04 52.0 -0.4
YSS **Yuzh-Sakhalins** 77.45 44 P P 19 04 51.9 -0.4
ASAJ **Asahikawa** 77.63 47 LR LR 19 39 44.0
comp=Z,119nm,21.9s,baz=336,slow=36
SUMG **Summit** 79.58 342 *e*P P 19 05 05.1 +0.9
SUMG pmax pmax
comp=Z,27nm,1.4s
SUMG **Summit** 79.58 342 *e*P P 19 05 05.1 +0.9
comp=Z,27nm,1.4s
MAW **Mawson** 80.38 178 P P 19 05 08.5 +0.6
comp=Z,6.3nm,1.1s,baz=239,slow=4.4,SNR=4.5
MAW LR LR 19 34 22.4
comp=Z,151nm,18.4s,baz=242,slow=31
SEY **Seymchan** 80.82 27 *i*P P 19 05 09.3 -1.2
WRA **Warramunga Arr** 82.29 112 P P 19 05 18.1 -1.1
comp=Z,2.5nm,0.5s,baz=299,slow=4.3,SNR=61
WRAB **Tennant Creek** 82.30 112 *i*P P 19 05 18.0 -1.2
WRAB pmax pmax
comp=Z,70nm,2.5s
WRAB **Tennant Creek** 82.30 112 *e*P P 19 05 17.8 -1.4
comp=Z,9.1nm,0.9s
ASAR **Alice Springs** 82.99 116 P P 19 05 21.6 -1.1
comp=Z,3.8nm,0.8s,baz=293,slow=5.0,SNR=43
AS31 **Alice Springs** 82.99 116 *e*P P 19 05 20.7 -2.0
BILL **Bilibino** 84.97 21 *i*P P 19 05 30.7 -1.3
BILL *e* 19 05 38.0
BILL *e* 19 08 50.7
BILL pmax pmax
comp=Z,9.0nm,1.7s
BILL MLR MLR
comp=Z,239nm,22.0s
BILL **Bilibino** 84.97 21 *e*P P 19 05 31.4 -0.5
comp=Z,6.8nm,1.0s
PETK **Petropavlovsk-** 85.80 37 LR LR 19 46 45.0
comp=Z,88nm,21.0s,baz=273,slow=38
STKA **Stephens Creek** 91.77 122 LR LR 19 48 02.4
comp=Z,11nm,19.0s,baz=210,slow=36
SNAA **Sanae** 93.32 196 LR LR 19 40 04.0
comp=Z,38nm,21.5s,baz=64,slow=30
ILAR **Eielson Array** 100.37 10 PP PP 19 10 45.1 -4.1
comp=Z,0.5nm,1.0s,baz=327,slow=6.5,SNR=2.9
YKA **Yellowknife Ar** 104.59 356 PP PP 19 11 16.1 -4.6
comp=Z,0.4nm,1.0s,baz=1.1,slow=7.0,SNR=6.3
PLCA **Paso Flores** 126.96 228 PKP **PKPdf** 19 12 02.7 +1.3
comp=Z,5.6nm,1.2s,baz=255,slow=9.7,SNR=2.9
NVAR **Mina Array Bea** 128.79 356 PKP **PKPdf** 19 12 05.2 0.0
comp=Z,0.4nm,0.5s,baz=318,slow=2.0,SNR=3.6
TXAR **Lajitas Array** 134.25 337 PKP **PKPdf** 19 12 16.4 +0.8
comp=Z,0.3nm,0.8s,baz=46,slow=2.6,SNR=2.7

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*ISCJB **01** 19:02:21.7±0.6, 7.82N±0.07×93.39E±0.09, h46km, mb3.9/18, Error ellipse: s-maj=14.6km s-min=8.3km az=148.1*
*IDC **01** 19:02:26.5±3.8, 7.95N×93.59E, h70km±33km, mb3.5/13, mb1 3.7/15, mb1mx3.4/50, mbtmp3.9/15, ML3.9/2, MS2.8/1, Ms1 2.8/1, ms1mx2.5/29, Error ellipse: s-maj=43.3km s-min=13.5km az=57.0*
*NEIC **01** 19:02:26.8±1.9, 7.88N×93.53E, h82km±17km, mb4.1/5, Error ellipse: s-maj=24.6km s-min=9.2km az=67.0*
ISC 01 19:02:23.7±0.7, 7.8N±0.1×93.4E±0.1, h46km, n42, σ1s23/43, mb4.0/18, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	7.45	132	P		**Pn**	19 04 11.6		+1.6
	0.5nm,0.3s,baz=162,slow=20,SNR=2.1								
PSI				LR		LR	19 06 59.3		
	comp=Z,72nm,18.4s,baz=254,slow=37								
CM31	**Chiang Mai Arr**	11.87	27	*e*Pn		**Pn**	19 05 13.5		+3.1
	1.7nm,0.4s								
CMAR	**Chiang Mai Arr**	11.87	27	P		**Pn**	19 05 11.3		+0.9
	0.5nm,0.3s,baz=212,slow=15,SNR=44								
CHTO	**Chiang Mai**	12.18	26	*e*Pn		**Pn**	19 05 16.9		+2.2
	2.1nm,0.8s								
ODAN	**Odare**	19.76	344	*e*P		**P**	19 06 50.3		+0.1
RAMN	**Ramite**	20.07	342	*e*P		**P**	19 06 54.3		+0.6
	16nm,0.7s								
TAPN	**Taplejung**	20.14	345	*e*P		**P**	19 06 54.9		+0.4
	24nm,0.5s								
JIRN	**Jiri**	20.86	342	*e*P		**P**	19 07 02.3		0.0
	6.3nm,0.3s								
PKI	**Pulchoki**	21.03	340	*e*P		**P**	19 07 04.2		+0.1
	8.1nm,0.6s								
PKIN	**Phulchoki**	21.04	340	*e*P		**P**	19 07 04.2		0.0
	3.1nm,0.3s								
DMN	**Daman**	21.17	339	*e*P		**P**	19 07 06.0		+0.4
	9.4nm,0.6s								
KKN	**Kakani**	21.28	340	*e*P		**P**	19 07 06.1		-0.5
	7.9nm,0.5s								
GKN	**Gorkha**	21.70	339	*e*P		**P**	19 07 10.4		-0.7
	8.3nm,0.4s								
LSA	**Lhasa**	21.85	355	*e*P		**P**	19 07 11.6		-1.5
	5.1nm,0.7s								
KOLN	**Koldanda**	21.88	336	*e*P		**P**	19 07 13.8		+0.7
	13nm,0.7s								
PYUN	**Piuthan**	22.43	335	*e*P		**P**	19 07 19.7		+0.8
	10nm,0.2s								
H08S3	**Diego Garcia H**	25.88	234	T		T	19 34 46.0		
	baz=53,slow=75,SNR=28								
H08S2	**Diego Garcia H**	25.89	234	T		T	19 34 44.3		
	baz=53,slow=75,SNR=37								
H08S1	**Diego Carcia H**	25.90	234	T		T	19 34 45.8		
	baz=53,slow=75,SNR=25								
TKM2	**Tokmak 2**	38.29	339	P		P	19 09 37.9		-2.1
AAK	**Ala-Archa**	38.45	337	P		P	19 09 42.4		+1.1
	0.6nm,0.3s,baz=200,slow=6.7,SNR=3.6								
AAK	**Ala-Archa**	38.45	337	P		P	19 09 41.7		+0.4
EKS2	**Erkin-Say**	38.75	337	P		P	19 09 44.2		+0.4
MK31	**Makanchi Array**	39.97	348	*e*P		P	19 09 50.7		-3.1
MKAR	**Makanchi Array**	39.97	348	P		P	19 09 52.9		-0.9
	0.4nm,0.6s,baz=185,slow=7.0,SNR=7.3								
SONM	**Songino Array**	41.37	13	P		P	19 10 04.3		-1.2
	0.6nm,0.7s,baz=198,slow=8.9,SNR=4.0								
GEYT	**Alibeck**	43.73	319	P		P	19 10 26.7		+2.0
	2.3nm,0.6s,baz=140,slow=9.5,SNR=7.4								
KURBB	**Kurchatov Arra**	44.41	347	P		P	19 10 29.4		-0.4
	1.1nm,0.8s,baz=174,slow=7.5,SNR=13								
KURBB				PcP		**PcP**	19 12 13.2		+0.2
	0.1nm,0.5s,baz=162,slow=2.6,SNR=6.9								
KURK	**Kurchatov**	44.47	347	*e*P		P	19 10 29.1		-1.2

	1.9nm,0.9s						
KURK				PcP	PcP	19 12 13.2	0.0
ZAA0	Zalesovo Array	46.50	353	eP	P	19 10 45.7	-0.6
ZALV	Zalesovo Beam	46.50	353	P	P	19 10 45.8	-0.6
	2.3nm,0.4s,baz=182,slow=8.6,SNR=19						
BVAR	Borovoye Array	48.79	342	P	P	19 11 03.4	-0.7
	0.3nm,0.5s,baz=134,slow=10,SNR=4.6						
BVAR				PcP	PcP	19 12 28.0	-0.4
	0.4nm,0.6s,baz=159,slow=4.5,SNR=3.7						
WRA	Warramunga Arr	48.85	125	P	P	19 11 04.8	-0.3
	0.7nm,0.6s,baz=304,slow=8.5,SNR=19						
WRAB	Tennant Creek	48.85	125	P	P	19 11 02.7	-2.4
ABKAR	Akbulak array	49.91	332	eP	P	19 11 13.0	+0.2
	0.5nm,0.3s						
ASAR	Alice Springs	50.47	129	P	P	19 11 17.2	-0.2
	1.1nm,0.7s,baz=304,slow=7.2,SNR=18						
ASAR				PcP	PcP	19 12 33.7	-1.4
	0.5nm,0.8s,baz=302,slow=3.4,SNR=4.2						
BRTR	Keskin Array B	61.89	311	P	P	19 12 38.6	-0.2
	0.4nm,0.7s,baz=108,slow=5.2,SNR=3.6						
TIXI	Tiksi	67.42	11	eP	P	19 13 12.1	-2.0
	1.6nm,0.6s						
FINES	FINESS Array B	72.40	332	P	P	19 13 44.6	-0.3
	2.2nm,1.0s,baz=100,slow=7.5,SNR=4.7						
ARCES	ARCESS Array B	75.05	340	P	P	19 14 00.6	+0.3
	3.8nm,0.9s,baz=102,slow=6.9,SNR=8.1						
HFS	Hagfors	78.11	330	P	P	19 14 17.9	+0.2
	1.4nm,0.9s,baz=79,slow=7.5,SNR=5.2						
TSUM	Tsumeb	79.31	249	P	P	19 14 26.2	+0.9
	12nm,1.3s						

*ISCJB **01** 19:25:33.9±0.4,3.45S±0.04×127.23E±0.04,h66km±4km, mb3.8/11,Error ellipse: s-maj=7.5km s-min=4.4km az=42.9*

*DJA **01** 19:25:36.5±0.3,3.5S±3.2×12.7E±.7,h38km±3km,M4.6/17, mb4.8/8,mB5.1/5,MLv4.5/17,Mw(mB)4.5/5*

*IDC **01** 19:25:37.2±3.2,3.54S×127.17E,h84km±28km,mb3.7/11, mb1 3.9/12,mb1mx3.6/32,mbtmp4.1/12,Error ellipse: s-maj=33.4km s-min=13.9km az=73.0*

ISC 01 19:25:35.1±0.7,3.46S±0.06×127.24E±0.05,h64km±7km, n40,σ1§18/49,mb3.9/11,Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NLAI	Namlea	0.26	327	P			Pn	19 25 44.9	-0.5
NLAI				S			Sn	19 25 52.0	-0.8
MSAI	Masohi	1.69	86	P			Pn	19 26 02.1	-0.3
MSAI				S			Sn	19 26 21.9	-1.2
SANI	Sanana	1.88	318	P			Pn	19 26 03.9	-1.1
SANI				S			Sn	19 26 25.6	-2.1
LBMI	Labuha	2.81	5	P			Pn	19 26 18.5	+0.7
LBMI				S			Sn	19 26 50.7	+0.1
BNDI	Bandanaira	2.86	112	P			Pn	19 26 19.1	+0.8
BNDI				S			Sn	19 26 51.8	+0.2
TNTI	Ternate	4.21	2	P			Pn	19 26 37.0	+0.2
TNTI				S			Sn	19 27 25.2	+0.6
FAKI	Fak Fak	5.03	84	P			Pn	19 26 48.5	+0.5
FAKI				S			Sn	19 27 41.7	-3.2
LUWI	Luwuk	5.07	298	P			Pn	19 26 49.7	+1.1
	158nm,0.7s,2μm0.8nm								
LUWI				S			Sn	19 27 46.0	0.0
	158nm,0.7s,2μm0.8nm								
KMSI	Cibinong	5.17	321	P			Pn	19 26 50.6	+0.7
	289nm,0.7s,4μm1.2nm								
MRSI	Marisa	6.59	306	P			Pn	19 27 10.3	+0.9
	75nm,0.5s,1μm0.4nm								
MRSI				S			Sn	19 28 21.5	-1.6
	75nm,0.5s,1μm0.4nm								
RKPI	Ransiki, Papua	7.19	75	P			Pn	19 27 18.9	+1.2
	41nm,0.5s,2μm0.7nm								
RKPI				S			Sn	19 28 35.1	-2.9
	41nm,0.5s,2μm0.7nm								
SPSI	Sidrap Palu	7.47	266	P			Pn	19 27 26.0	+4.4
	24nm,0.7s,0.1nm								
BATI	Baumata	7.59	208	P			Pn	19 27 29.2	+6.1
	3.8nm,0.3s,baz=90,slow=3.0,SNR=8.6								
KDU	Kakadu	10.53	151	P			Pn	19 28 04.8	+1.4
	baz=9.9,SNR=19								
KNRA	Kununurra	12.23	173	P			Pn	19 28 27.3	+0.7
	baz=12,SNR=13								
WRA	Warramunga Arr	17.79	158	P			P	19 29 38.5	0.0
	1.7nm,0.3s,baz=340,slow=11,SNR=63								
COEN	Coen	18.87	125	P			Pn	19 29 51.4	-0.2
	baz=18,SNR=4.4								
QIS	Mount Isa	20.83	146	P			P	19 30 13.1	+1.4
	baz=20,SNR=8.0								
ASAR	Alice Springs	21.09	163	P			P	19 30 15.8	+1.3
	5.9nm,0.6s,baz=345,slow=12,SNR=114								
ASAR				ScP			ScP	19 37 48.7	-1.8
	0.4nm,0.6s,baz=352,slow=2.3,SNR=6.6								
WRKA	Warakurna	21.48	177	P			P	19 30 20.1	+1.5
	baz=21,SNR=12								
MEEK	Meekatharra	24.49	199	P			P	19 30 48.1	-0.4
	baz=24,SNR=29								
FORT	Forrest	27.18	178	P			P	19 31 13.4	+0.6
	baz=26,SNR=11								
PSI	Prapat	28.98	282	P			P	19 31 29.9	+0.7
	1.3nm,0.5s,baz=80,slow=12,SNR=4.8								
BBOO	Buckleboo	30.34	165	P			P	19 31 41.8	+0.9
	baz=30,SNR=9.0								
NWAO	Narrogin (SRO)	30.78	197	P			P	19 31 43.0	-1.7
	9.2nm,0.8s,baz=45,slow=8.6,SNR=3.7								
STKA	Stephens Creek	31.32	156	P			P	19 31 50.1	+0.6
	2.0nm,0.6s,baz=312,slow=4.7,SNR=7.4								
STKA	Stephens Creek	31.32	156	P			P	19 31 50.1	+0.6
	baz=31,SNR=6.3								
USRK	Ussuriysk Ar.	47.63	5	P			P	19 34 05.8	+0.9
	0.8nm,0.5s,baz=177,slow=5.8,SNR=4.1								
ODAN	Odare	48.88	311	eP			P	19 34 16.0	+0.9
	9.9nm,1.0s								
RAMN	Ramite	49.53	310	eP			P	19 34 21.3	+1.2
	12nm,0.6s								
JIRN	Jiri	50.21	311	eP			P	19 34 26.3	+0.9
GKN	Gorkha	51.56	310	eP			P	19 34 35.9	+0.6
	6.4nm,0.6s								
KOLN	Koldanda	52.24	309	eP			P	19 34 41.2	+0.8
	7.5nm,0.5s								
PYUN	Piuthan	52.88	309	eP			P	19 34 46.0	+0.9
	8.5nm,0.7s								
SONM	Songino Array	54.25	343	P			P	19 34 54.9	+0.2
	0.5nm,0.6s,baz=155,slow=7.9,SNR=3.9								
MKAR	Makanchi Array	63.78	327	P			P	19 36 00.7	+0.1
	0.7nm,0.6s,baz=162,slow=5.1,SNR=14								
ZALV	Zalesovo Beam	67.22	334	P			P	19 36 21.8	-0.8
	0.6nm,0.6s,baz=108,slow=4.8,SNR=3.8								
VNDA	Vanda	76.28	173	P			P	19 37 15.4	-1.2
	0.7nm,0.6s,baz=316,slow=6.6,SNR=6.5								
QSPA	South Pole Qui	86.50	180	P			P	19 38 09.3	-1.6
	1.5nm,0.8s,baz=271,slow=2.3,SNR=6.0								
ILAR	Eielson Array	91.34	25	P			P	19 38 33.3	-0.3
	0.2nm,0.6s,baz=279,slow=6.0,SNR=3.0								

*MEX **01** 19:43:27.9±0.3,32.64N×114.97W,h8km±5km,MD4.0*

*ISCJB **01** 19:43:30.2±0.4,32.34N±0.02×115.36W±0.02,h11km±3km, Error ellipse: s-maj=3.8km s-min=3.4km az=150.1*

*NEIC **01** 19:43:31.8,32.34N×115.38W,h5km,ML3.2(PAS), ML3.3(ECX),After ECX.*

*ECX **01** 19:43:31.8±0.5,32.33N×115.38W,h5km,MD3.1,ML3.3*

ISC 01 19:43:30.1±0.8,32.33N±0.02×115.36W±0.02,h16km±5km, n40,σ0§88/59,9C-16D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.10	29	eP			Pg	19 43 33.9	+0.3
CPBX				eP			Pg	19 43 33.9	+0.3
CPBX				eS			Sg	19 43 35.9	+0.1
CPBX				↑e				19 43 47.8	
	comp=N,48μm,0.6s								
CPBX				↑e				19 43 51.8	
	comp=E,59μm,0.4s								
MBIG	Mexicali	0.16	61	eP			Pg	19 43 33.5	-0.8
MBIG				eS			Sb	19 43 37.8	+0.1
SGL	Mount Signal	0.44	316	↓iP			Pg	19 43 39.5	-0.1
YUH	Yuha Desert	0.57	304	↓iP			Pg	19 43 41.4	0.0
COK	Cook Ranch	0.60	329	eP2			Pg	19 43 42.8	+0.7
RDX	Rancho Dawling	0.64	231	eP			Pg	19 43 42.6	-0.1
RDX				eS			Sg	19 43 51.5	+0.2
RDX				↓e				19 43 54.0	
	comp=E,1μm,0.4s								
RDX				↑e				19 43 54.2	
	comp=N,770nm,0.4s								
RMX	La Rumorosa	0.67	294	eP			Pg	19 43 43.0	-0.2
RMX				eS			Sg	19 43 51.9	-0.2
IBP	Imperial Bould	0.70	298	↓P			Pg	19 43 44.0	+0.1
	baz=0.7,SNR=96								
IBP				↓S			Sg	19 43 53.0	-0.3
	baz=0.7								
SWSC	Sam W. Stewart	0.71	329	↑P			Pb	19 43 44.3	+0.1
	baz=0.7,SNR=37								
SWSC	Sam W. Stewart	0.71	329	eP2			Pg	19 43 44.4	+0.4
YMD	Yuma Desert	0.72	72	↑iP			Pb	19 43 45.0	+0.7
GLA	Glamis	0.85	32	ePg			Pb	19 43 46.3	-0.2
GLA				eSg			Sg	19 43 58.4	+0.5
GLA	Glamis	0.85	32	↓P			Pb	19 43 46.5	0.0
	baz=0.9,SNR=20								
GLA				↓S			Sg	19 43 58.3	+0.5
	baz=0.9								
ECBX	El Chinero	0.90	163	ePg			Pg	19 43 47.1	-0.5
ECBX				eS			Sg	19 43 59.5	+0.2
ECBX				↓e				19 44 05.7	
	comp=N,516nm,1.0s								
MONP	Monument Peak,	1.05	302	↓P			Pb	19 43 50.0	-0.2
	baz=1.0,SNR=69								
MONP				↓S			Sb	19 44 04.0	+0.2
	baz=1.0								
CBX	Cerro Bola	1.10	269	iP			Pb	19 43 50.7	-0.2
CBX				eP			Pb	19 43 50.9	0.0
CBX	Cerro Bola	1.10	269	eP			Pb	19 43 50.9	0.0
CBX	Cerro Bola	1.10	269	eP			Pb	19 43 51.0	0.0
CBX				eS			Sb	19 44 05.3	+0.1
ZAX	El Zacaton	1.13	224	eP			Pn	19 43 51.5	+0.2
ZAX				eS			Sn	19 44 06.3	-0.2
BAR	Barrett	1.16	288	eP			Pn	19 43 51.7	-0.1
ECNX	Esteban Cantu	1.25	238	eS			Sn	19 44 09.6	+0.1
SPIG	San Pedro Mart	1.28	184	eP			Pn	19 43 53.7	-0.1
SPIG	San Pedro Mart	1.28	184	eP			Pn	19 43 53.7	-0.1
SPX	San Pedro Mart	1.29	184	eP			Pn	19 43 53.5	-0.2
SPX	San Pedro Mart	1.29	184	↓P			Pn	19 43 53.7	-0.1
PBX	Punta Banda	1.30	243	eP			Pb	19 43 53.9	-0.3
PBX				eS			Sn	19 44 11.2	+0.5
BC3	Big Chuckawall	1.32	357	↓P			Pn	19 43 53.6	-0.4
	baz=1.3								
BC3				↑S			Sn	19 44 10.0	-1.4
	baz=1.3								
SDRC	San Diego Road	1.40	287	eP			Pb	19 43 55.7	-0.1
113A	Mohawk Valley,	1.41	72	↑Pb			Pn	19 43 55.5	+0.3
	baz=1.4								
113A				↓S			Sn	19 44 13.9	+0.4
	baz=1.4								
PFO	Pinyon Flats O	1.57	324	ePn			Pn	19 43 56.6	-0.9
PFO				eSn			Sn	19 44 14.1	-3.5
PFO	Pinyon Flats O	1.57	324	↓P			Pn	19 43 57.1	-0.4
	baz=1.6,SNR=11								
PFO				↓Sb			Sg	19 44 20.3	-0.6
	baz=1.6								
109C	Camp Elliot, M	1.57	291	↓Pb			Pn	19 43 57.9	+0.5
	baz=1.6,SNR=23								
109C				↓S			Sb	19 44 18.2	-0.3
	baz=1.6								
MURC	Murrieta	2.00	310	↑Sb			Sb	19 44 32.5	+1.7
	baz=2.0								
214A	Organ Pipe Nat	2.19	99	ePn			Pn	19 44 05.2	-0.7
LDFC	Landfair	2.75	4	ePn			Pb	19 44 16.7	-2.3
MWC	Mount Wilson	2.94	311	ePg			Pb	19 44 22.6	+0.2
MWC				eSg			Sb	19 45 01.1	+2.9
GSC	Goldstone, Bar	3.20	338	ePg			Pg	19 44 31.5	0.0
TUC	Tucson	3.87	89	eP			Pn	19 44 33.2	+4.1
SHPR	Sheep Range	4.17	2	ePg			Pg	19 44 52.1	+2.1
DAC	Darwin (Calif)	4.35	335	ePg			Pg	19 44 54.0	+0.6

*JMA **01** 20:06:19.0±0.2,23.86N×142.87E,h203km,M4.8*

*IDC **01** 20:06:23.1±1.8,23.87N×141.80E,h112km±15km, mb3.7/17,mb1 3.9/19,mb1mx3.8/30,mbtmp4.0/19,MS3.3/1, Ms1 3.3/1,ms1mx2.3/33,Error ellipse: s-maj=18.5km s-min=12.2km az=98.0*

ISC 01 20:06:22.1±0.7,23.90N±0.07×141.8E±0.1,h100km,n44, σ1§48/43,mb4.0/17,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHHJ	Haha-jima-NKT	2.75	8	P			Pn	20 07 07.1	+2.6
JHHJ				S			Sn	20 07 44.4	+7.3
JCJ	Chichijima	3.21	7	P			Pn	20 07 13.2	+2.6
	106nm,0.3s,baz=56,slow=5.3,SNR=135								
JCJ				S			Sn	20 07 50.2	+2.0
	43nm,0.3s,baz=285,slow=20,SNR=3.6								
CBIJ	Chichi jima	3.21	7	P			Pn	20 07 12.4	+1.7
BSO1	Boso 1	10.74	357	P			Pn	20 08 50.4	-1.9
BSO3	Boso 3	10.92	355	P			Pn	20 08 51.7	-3.3
BSO3				S			Sn	20 10 51.2	-3.9
JWZ	Kozaga	10.96	332	P			Pn	20 08 57.5	+1.6
BSO4	Boso 4	11.12	354	S			Sn	20 10 57.3	-2.9
JHU	Hanno	12.11	350	P			Pn	20 09 08.9	-2.2
JHU				S			Sn	20 11 19.0	-5.2
JRY	Ryogami san	12.33	349	P			Pn	20 09 12.6	-1.5
JYT	Yasato	12.37	354	P			Pn	20 09 11.9	-2.6
JYT				S			Sn	20 11 25.2	-5.2
JOW	Kunigami	12.54	286	LR			LR	20 13 13.1	
	comp=Z,138nm,19.2s,baz=312,slow=33								
JAG	Ashikaga	12.65	351	P			Pn	20 09 16.8	-1.5
JHO	Hitachi	12.71	356	P			Pn	20 09 15.4	-3.8
MJAR	Matsushiro Arr	12.97	347	P			Pn	20 09 21.8	-0.8
	0.3nm,0.3s,baz=141,slow=7.9,SNR=5.6								
USRK	Ussuriysk Ar.	21.78	341	P			P	20 11 06.7	+0.9
	0.7nm,0.4s,baz=146,slow=9.7,SNR=6.0								
SONM	Songino Array	36.82	319	PcP			PcP	20 15 41.0	+0.6
	0.2nm,0.4s,baz=130,slow=5.8,SNR=2.8								
CMAR	Chiang Mai Arr	40.18	271	P			P	20 13 50.3	+1.5
	0.7nm,0.6s,baz=62,slow=7.4,SNR=11								
WRA	Warramunga Arr	44.17	190	P			P	20 14 20.6	-0.5
	1.7nm,0.4s,baz=9.0,slow=8.5,SNR=58								
ASAR	Alice Springs	47.89	190	P			P	20 14 49.1	-1.2
	0.3nm,0.6s,baz=12,slow=6.5,SNR=16								
TAPN	Taplejung	48.54	286	eP			P	20 14 57.2	+1.5
	11nm,0.6s								
ODAN	Odare	48.90	286	eP			P	20 14 59.8	+1.4
	23nm,0.8s								
RAMN	Ramite	49.58	286	eP			P	20 15 04.8	+1.2
	9.3nm,0.5s								
JIRN	Jiri	49.83	287	eP			P	20 15 07.4	+1.8
	32nm,0.6s								
GUN	Gumba	50.06	287	eP			P	20 15 09.1	+1.7
PKI	Pulchoki	50.53	287	eP			P	20 15 11.8	+0.9
	7.8nm,0.6s								
PKIN	Phulchoki	50.54	287	eP			P	20 15 11.7	+0.8
	2.6nm,0.2s								
KKN	Kakani	50.61	287	eP			P	20 15 12.7	+1.4
GKN	Gorkha	51.13	288	eP			P	20 15 16.5	+1.3
	6.8nm,0.4s								
ZALV	Zalesovo Beam	51.68	321	P			P	20 15 17.8	-0.8
	0.7nm,0.3s,baz=111,slow=7.2,SNR=5.0								
ZALV				PcP			PcP	20 16 29.7	-1.1
	0.5nm,0.4s,baz=127,slow=4.1,SNR=3.3								
KOLN	Koldanda	52.08	287	eP			P	20 15 23.5	+1.2
	9.0nm,0.6s								
MKAR	Makanchi Array	52.25	312	P			P	20 15 23.4	+0.3
	1.1nm,0.6s,baz=91,slow=5.4,SNR=22								
MKAR				PcP			PcP	20 16 32.9	-0.3
	0.4nm,0.6s,baz=64,slow=2.8,SNR=4.8								
PYUN	Piuthan	52.55	288	eP			P	20 15 27.2	+1.4
	36nm,0.5s								
STKA	Stephens Creek	55.46	180	P			P	20 15 45.6	-0.8
	0.7nm,0.4s,baz=47,slow=11,SNR=3.8								
BVAR	Borovoye Array	60.16	319	P			P	20 16 18.9	-0.2
	2.0nm,0.5s,baz=95,slow=8.2,SNR=16								
BVAR				PcP			PcP	20 17 03.2	-0.6
	0.6nm,0.5s,baz=104,slow=4.6,SNR=2.9								
ILAR	Eielson Array	60.70	28	P			P	20 16 22.1	-0.6
	1.5nm,0.8s,baz=258,slow=5.5,SNR=16								
INK	Inuvik	66.09	24	P			P	20 16 58.4	+0.3
	1.3nm,0.3s,baz=313,slow=3.9,SNR=4.9								
YKA	Yellowknife Ar	75.14	28	P			P	20 17 53.0	-0.1
	0.8nm,0.3s,baz=293,slow=5.9,SNR=25								
ARCES	ARCESS Array B	76.43	341	P			P	20 17 59.9	-0.4
	1.9nm,0.7s,baz=79,slow=8.5,SNR=8.6								
KBZ	Khabaz	79.91	313	P			P	20 18 20.9	+0.9
	4.2nm,0.9s,baz=56,slow=24,SNR=13								
FINES	FINESS Array B	80.64	334	P			P	20 18 22.4	-1.2
	1.2nm,0.3s,baz=85,slow=4.6,SNR=34								
NVAR	Mina Array Bea	82.81	51	P			P	20 18 36.3	+0.5
	1.0nm,0.6s,baz=250,slow=2.0,SNR=3.9								
PDAR	Pinedale Array	86.76	44	P			P	20 18 55.9	+0.4
	0.4nm,0.5s,baz=11,slow=3.2,SNR=4.9								
BRTR	Keskin Array B	87.89	313	P			P	20 18 59.1	-1.8
	0.7nm,0.7s,baz=101,slow=3.9,SNR=5.9								
TORD	Torodi Ar. Bea	126.34	309	PKP			PKPdf	20 25 13.2	-0.8
	0.3nm,0.5s,baz=77,slow=0.8,SNR=8.3								

PDA 01 20:50:01.1±1.2,37.54N×25.68W,h8km±7km,MD4.1, ML3.4,Error ellipse: s-maj=3.2km s-min=2.4km az=19.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PDA	Ponta Delgada	0.21	3	eP			Pg	20 50 04.8	-0.6
PDA				eS			Sg	20 50 08.2	-0.1
PDA				A			A	20 50 15.0	
	2μm,0.4s								
GRON	Grota Negra	0.26	26	eP			Pg	20 50 07.0	+0.6
GRON				eS			Sb	20 50 11.4	-1.4
GRON				A			A	20 50 14.1	
	902nm,0.2s								
PSET	Sete Cidades	0.29	353	eP			Pg	20 50 06.0	-0.9
PSET				eS			Sg	20 50 09.9	-1.0
PSET				A			A	20 50 13.0	
	4μm,0.3s								
BART	Pico Bartolome	0.47	59	eP			Pg	20 50 09.3	-1.1
BART				eS			Sg	20 50 14.8	-1.9
BART				A			A	20 50 19.0	
	1μm,0.4s								
PSMN	Pico do Norte,	0.72	137	iP			Pg	20 50 12.6	-2.4
PSMN				eS			Sg	20 50 21.4	-3.0
PSMN				A			A	20 50 25.7	
	1μm,0.4s								
ADH	Angra Heroismo	1.66	313	eP			Pn	20 50 25.9	-4.6
ADH				eS			Sn	20 50 44.3	-7.7
ADH				A			A	20 50 46.6	
	78nm,0.2s								
PMAN	Manadas	2.20	301	eP			Pn	20 50 33.4	-4.5
PMAN				eS			Sn	20 50 57.2	-8.0
PMAN				A			A	20 51 03.4	
	52nm,0.3s								
ROSA	Rosais	2.34	301	eP			Pn	20 50 35.3	-4.6
ROSA				eS			Sn	20 51 00.5	-8.4
ROSA				A			A	20 51 12.3	
	60nm,0.5s								
PGRA	Graciosa	2.35	310	eP			Pn	20 50 35.4	-4.6
PGRA				eS			Sn	20 51 01.1	-7.9
PGRA				A			A	20 51 12.4	
	40nm,0.5s								
PICO	Pico	2.38	295	eP			Pn	20 50 35.9	-4.5
PICO				eS			Sn	20 51 01.1	-8.7
PCAN	Candelaria	2.40	294	eP			Pn	20 50 36.0	-4.8
PCAN				A			A	20 51 05.3	
	45nm,0.3s								
CALA	Caldeira	2.61	295	eS			Sn	20 51 07.6	-8.0
PCED	Cedros	2.62	295	eP			Pn	20 50 39.2	-4.6
PCED				eS			Sn	20 51 07.6	-8.2
PCED				A			A	20 51 09.8	
	41nm,0.5s								

PDA 01 20:50:54.3±0.5,37.51N×25.75W,h6km±3km,ML2.3, Error ellipse: s-maj=3.2km s-min=1.9km az=89.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PDA	Ponta Delgada	0.25	17	eP			Pg	20 50 58.8	-0.4
PDA				eS			Sg	20 51 02.4	-0.1
PDA				A			A	20 51 06.2	
	151nm,0.2s								
GRON	Grota Negra	0.31	34	eP			Pg	20 51 01.3	+0.8
GRON				eS			Sb	20 51 06.4	-1.5
GRON				A			A	20 51 08.9	
	57nm,0.2s								
PSET	Sete Cidades	0.32	5	eP			Pg	20 51 00.1	-0.4
PSET				eS			Sg	20 51 04.3	-0.5
PSET				A			A	20 51 06.2	
	235nm,0.2s								
BART	Pico Bartolome	0.54	60	eP			Pg	20 51 03.3	-1.5
BART				eS			Sg	20 51 10.5	-1.4
BART				A			A	20 51 11.9	
	154nm,0.3s								
PSMN	Pico do Norte,	0.74	132	eS			Sg	20 51 15.6	-2.7
PSMN				A			A	20 51 16.5	
	72nm,0.2s								

*SJA **01** 20:55:46.9±1.2,38.14S×74.35W,h20km,ML4.0,MW4.6*

*ISCJB **01** 20:55:51.8±0.8,38.03S±0.03×74.0W±0.1,h18km,mb4.3/5, MS3.7/3,Error ellipse: s-maj=15.1km s-min=5.0km az=178.7*

*IDC **01** 20:55:53.7±1.3,38.14S×73.19W,h0km,mb4.2/4, mb1 4.3/5,mb1mx3.9/28,mbtmp4.2/5,ML4.4/1,MS3.7/4, Ms1 3.7/4,ms1mx3.4/15,Error ellipse: s-maj=38.3km s-min=25.3km az=89.0*

*NEIC **01** 20:55:53.0,38.10S×74.26W,h26km,mb4.6/2, ML4.5(GUC),After GUC.*

NEIC Felt [III] at Angol, Puerto Saavedra and Renaico.

*GUC **01** 20:55:53.5±0.6,38.10S×74.26W,h26km±3km,ML4.5*

ISC 01 20:55:54.5±0.9,38.10S±0.04×73.8W±0.1,h18km,n37, σ1§59/38,mb4.4/5,MS3.8/3,1C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CCSP	San Pedro de C	1.38	25	eP			Pn	20 56 19.7	+1.0
CCSP				iS			Sg	20 56 40.0	+1.0
CCSP				AML			AML	20 56 49.8	
	comp=N,7μm,0.4s								
VLCH	Valdivia	1.77	165	eP			Pn	20 56 22.4	-1.7
VLCH				iS			Sn	20 56 46.6	+0.5
CANA	Caviahue	2.20	85	eP		

comp=Z,5.3nm,1.0s
TXAR Lajitas Array 72.66 333 P P 21 07 25.3 +4.3
comp=Z,0.6nm,0.7s,baz=160,slow=11,SNR=6.2
TXAR LR LR 21 33 43.7
comp=Z,52nm,20.1s,baz=0.0,slow=31
DBIC Dimbokro 77.86 72 P **P 21 07 50.5 -0.7**
comp=Z,4.9nm,1.1s,baz=210,slow=4.7,SNR=4.1
PDAR Pinedale Array 86.79 334 LR LR 21 43 51.8
comp=Z,43nm,18.8s,baz=118,slow=33
TORD Torodi Ar. Bea 86.95 71 P **P 21 08 38.0 -0.7**
comp=Z,0.9nm,0.5s,baz=219,slow=4.7,SNR=16
TIXI Tiksi 144.43 348 *e*PKPdf **PKPab 21 15 27.5 +0.9**
ABKAR Akbulak array 145.27 56 *e*PKPdf **PKPbc 21 15 30.3 +0.1**

SJA ***01*** *21:01:12.8±0.6, 19.˙90S×69.˙32W, h318km±141km, ML4.6, MW4.3*
ISCJB ***01*** *21:01:32.8±0.3, 21.˙10S±0.˙03×68.˙51W±0.˙04, h109km±2km, mb4.8/71, Error ellipse: s-maj=6.6km s-min=3.6km az=150.8*
MOS ***01*** *21:01:33.5±1.2, 20.˙97S×68.˙51W, h112km, mb4.9/18, Error ellipse: s-maj=16.8km s-min=7.2km az=116.7*
BJI ***01*** *21:01:34.6, 21.˙58S×67.˙53W, h111km, mB5.1/12*
NEIC ***01*** *21:01:34.2±2.2, 21.˙08S×68.˙59W, h109km±4km, mb4.9/110, Error ellipse: s-maj=15.2km s-min=10.6km az=87.0*
NEIC Felt [II] at Iquique. Also felt at Arica.
GCMT ***01*** *21:01:34.2±0.4, 21.˙31S×68.˙81W, h128km±3km, MW5.0/77, Moment Tensor Solution. s23,c25; s77,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.16±.13; $M_{\theta\theta}$-0.62±.15; $M_{\phi\phi}$2.77±.21; $M_{r\theta}$1.10±.08; $M_{r\phi}$1.21±.17; $M_{\theta\phi}$-2.16±.13; Best double couple: $M_0$3.70100×10^{16} NP1:ϕ_s349.00000°, δ69.00000°, λ-121.00000°. NP2: ϕ_s227.00000°, δ37.00000°, λ-38.00000°. Principal axes: T 3.7210, Plg18.0000°, Azm101.0000°; N -0.0460, Plg28.0000°, Azm1.0000°; P -3.6820, Plg56.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
GUC ***01*** *21:01:34.7±0.6, 21.˙23S×68.˙82W, h118km±4km, ML5.1*
IDC ***01*** *21:01:35.4±0.3, 21.˙17S×68.˙57W, h114km±2km, mb4.5/25, mb1 4.6/27, mb1mx4.4/43, mbtmp4.9/27, MS3.4/2, Ms1 3.4/2, ms1mx3.0/18, Error ellipse: s-maj=11.7km s-min=6.4km az=93.0*
ISC 01 21:01:34.8±0.3, 21.˙15S±0.˙03×68.˙62W±0.˙05, h115km±2km, h115km; pP-P, n683, σ1s30/1023, mb4.8/71, 312C-297D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.81**	**277**	*i*P		**Pn**	**21 01 53.6**	**-1.2**
PB01				*i* S		**Sn**	**21 02 08.2**	**-1.6**
PB01				AML		AML	21 02 09.3	
	comp=N,48μm,0.5s							
PB09	**IPOC Station P**	**0.87**	**222**	⇑*i*P		**Pn**	**21 01 54.6**	**-0.8**
PB09				*i* S		**Sn**	**21 02 09.6**	**-1.3**
PB07	**IPOC Station P**	**1.31**	**244**	⇑*i*P		**Pn**	**21 01 58.6**	**-1.4**
PB07				*i* S		**Sn**	**21 02 16.5**	**-2.6**
PB07				AML		AML	21 02 18.6	
	comp=N,45μm,0.5s							
PB04	**IPOC Station P**	**1.38**	**216**	⇑*i*P		Pn	21 02 04.4	+3.9
PB04				*i* S		Sn	21 02 27.6	+7.6
PB04				AML		AML	21 02 29.5	
	comp=E,17μm,0.6s							
PATCX	**Punta Patache**	**1.47**	**282**	⇑*i*P		**Pn**	**21 02 00.8**	**-0.9**
PATCX				*i* S		**Sn**	**21 02 20.4**	**-1.7**
PATCX				AML		AML	21 02 22.7	
	comp=E,57μm,0.4s							
LVC	**Limon Verde**	**1.48**	**190**	P		**Pn**	**21 02 01.5**	**-0.5**
	comp=E,20μm,0.3s,baz=14,slow=11,SNR=4012							
LVC				S		**Sn**	**21 02 21.6**	**-1.2**
	comp=E,33μm,0.3s,baz=125,slow=19,SNR=49							
LVC				LR		LR	21 02 37.9	
	comp=E,5μm,18.3s,baz=336,slow=43							
PB11	**IPOC Station P**	**1.68**	**325**	⇑*i*P		**Pn**	**21 02 03.8**	**-0.5**
PB11				*i* S		**Sn**	**21 02 26.6**	**-0.2**
PB06	**IPOC Station P**	**1.79**	**209**	⇑*i*P		**Pn**	**21 02 04.4**	**-1.2**
PB06				*i* S		**Sn**	**21 02 27.1**	**-1.9**
PB06				AML		AML	21 02 28.2	
	comp=E,26μm,0.5s							
PSGC	**Pisagua**	**2.09**	**317**	⇑*i*P		**Pn**	**21 02 08.0**	**-1.3**
PSGC				*e*S		**Sn**	**21 02 34.4**	**-1.2**
MNMC	**Minimini**	**2.20**	**335**	⇑*i*P		**Pn**	**21 02 10.9**	**0.0**
MNMC				*e*S		**Sn**	**21 02 39.4**	**+0.9**
YJA	**Yavi**	**3.07**	**110**	*e*P		**Pn**	**21 02 24.2**	**+1.9**
HJA	**Humahuaca**	**3.62**	**125**	*e*P		**Pn**	**21 02 31.0**	**+1.5**
AZAP	**Zapla**	**4.49**	**134**	*e*P		**Pn**	**21 02 41.5**	**+0.3**
SLA	**San Lorenzo**	**4.58**	**142**	*e*P		**Pn**	**21 02 43.7**	**+1.5**
ASTB	**Santa Barbara**	**4.74**	**127**	*e*P		**Pn**	**21 02 44.8**	**+0.5**
LPAZ	**La Paz**	**4.85**	**6**	LR		LR	21 04 54.2	
	comp=E,183nm,20.1s,baz=31,slow=41							
ALOL	**LOMAS DE OLMED**	**5.05**	**123**	*e*P		**Pn**	**21 02 47.1**	**-1.4**
FSA	**Cafayete**	**5.47**	**155**	*e*P		**Pn**	**21 02 55.2**	**+0.9**
CYA	**Choya**	**7.70**	**161**	*e*P		**Pn**	**21 03 23.7**	**-0.6**
CYA				*e*S		Sn	21 04 36.4	-14
CYA				AML		AML	21 04 49.8	
	comp=Z,20nm,0.7s							
LCO	**Las Campanas**	**8.06**	**193**	*e*Pn		Pn	21 03 23.4	-5.9
LCO				*e*Sn		Sn	21 04 49.3	-10
AMOG	**MOGNA**	**9.76**	**179**	*e*P		Pn	21 03 47.4	-4.7
RTLL	**Cerro Villicun**	**10.14**	**179**	*e*P		Pn	21 03 52.3	-5.1
CFAA	**Coronel Fontan**	**10.42**	**178**	P		Pn	21 03 56.0	-5.1
	comp=Z,0.6nm,0.3s,baz=1.6,slow=13,SNR=16							
CFAA				S		Sn	21 05 43.5	-13
	comp=Z,0.5nm,0.3s,baz=37,slow=20,SNR=7.7							
RTLS	**Leoncito**	**10.63**	**183**	*e*P		Pn	21 03 59.4	-4.7
RTCV	**Cerro Valdivia**	**10.67**	**180**	*e*P		Pn	21 03 59.3	-5.2
AUSP	**Uspallata**	**11.06**	**183**	*e*P		Pn	21 04 05.4	-4.4
ACAN	**Cantantal**	**11.16**	**174**	*e*P		Pn	21 04 06.4	-4.6
CPUP	**Villa Florida**	**11.56**	**119**	P		**Pn**	**21 04 13.6**	**-2.7**
	comp=Z,1.4nm,0.3s,baz=298,slow=10,SNR=42							
NNA	**Nana**	**12.04**	**318**	P		**Pn**	**21 04 20.9**	**-1.9**
	comp=Z,2.2nm,0.3s,baz=160,slow=7.2,SNR=5.2							
NNA				S		Sn	21 06 28.1	-7.3
	comp=Z,1.5nm,0.3s,baz=24,slow=20,SNR=3.4							
NNA	**Nana**	**12.04**	**318**	*e*P		**Pn**	**21 04 20.3**	**-2.5**
NNA				*e*			21 06 28.9	
NNA	**Nana**	**12.04**	**318**	*e*Pn		**Pn**	**21 04 20.3**	**-2.5**
NNA				*e*Sn		Sn	21 06 28.9	-6.4
SAML	**Samuel**	**13.21**	**24**	*e*Pn		**Pn**	**21 04 35.5**	**-2.6**
CANA	**Caviahue**	**16.82**	**187**	*e*P		**Pn**	**21 05 21.3**	**-2.2**
ATAH	**Atahualpa**	**16.83**	**324**	P		**Pn**	**21 05 24.2**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=142,slow=16,SNR=2.8							
TRQA	**Tornquist**	**17.81**	**163**	*e*P		**P**	**21 05 34.3**	**-0.1**
	comp=Z,36nm,0.8s							
PLCA	**Paso Flores**	**19.60**	**184**	P		**P**	**21 05 54.1**	**+0.2**
	comp=Z,3.0nm,0.3s,baz=357,slow=11,SNR=74							
PLCA				PcP		**PcP**	**21 10 10.3**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=9.3,slow=5.5,SNR=3.6							
PLCA	**Paso Flores**	**19.60**	**184**	*e*P		**P**	**21 05 54.2**	**+0.2**
PLCA				pmax		pmax		
	comp=Z,105nm,0.8s							
PLCA	**Paso Flores**	**19.60**	**184**	*e*P		**P**	**21 05 54.2**	**+0.2**
	comp=Z,106nm,0.8s							
BDFB	**Brasilia**	**20.30**	**78**	P		**P**	**21 06 00.6**	**-1.2**
	comp=Z,59nm,0.5s,baz=256,slow=12,SNR=97							
BDFB	**Brasilia**	**20.30**	**78**	*e*P		**P**	**21 06 00.8**	**-1.1**
BDFB	**Brasilia**	**20.30**	**78**	*e*P		**P**	**21 06 00.8**	**-1.1**
PTGA	**Pitinga**	**21.98**	**24**	P		**P**	**21 06 17.8**	**-1.9**
	comp=Z,11nm,0.5s,baz=192,slow=14,SNR=14							
PTGA	**Pitinga**	**21.98**	**24**	*e*P		**P**	**21 06 17.8**	**-1.9**
	comp=Z,27nm,1.1s							
OTAV	**Otavalo**	**23.32**	**334**	*e*P		**P**	**21 06 34.0**	**+0.6**
	comp=Z,56nm,1.3s							
SDV	**Santo Domingo**	**29.91**	**356**	*e*P		**P**	**21 07 30.5**	**-1.6**
	comp=Z,8.5nm,0.8s							
PCRV	**Puerto La Cruz**	**31.37**	**8**	LR		LR	21 20 50.5	
	comp=Z,129nm,18.3s,baz=180,slow=37							
EFI	**East Falkland**	**31.57**	**167**	*e*P		**P**	**21 07 44.2**	**-2.0**
EFI				pmax		pmax		
	comp=Z,63nm,1.1s							
EFI	**East Falkland**	**31.57**	**167**	*e*P		**P**	**21 07 45.6**	**-0.6**
	comp=Z,329nm,2.2s							
USHA	**Ushuaia**	**33.63**	**180**	P		**P**	**21 08 04.7**	**+0.5**
	comp=Z,18nm,0.8s,baz=342,slow=5.6,SNR=5.8							
JTS	**JuntasAbangare**	**35.12**	**331**	*e*P		**P**	**21 08 16.1**	**-1.4**
JTS				pmax		pmax		
	comp=Z,16nm,1.2s							
RCBR	**Riachuelo**	**35.16**	**69**	P		**P**	**21 08 17.0**	**-0.9**
	comp=Z,40nm,0.8s,baz=237,slow=8.4,SNR=27							
RCBR	**Riachuelo**	**35.16**	**69**	*e*P		**P**	**21 08 17.1**	**-0.8**
CRPR	**Cabo Rojo, PR**	**38.94**	**2**	*e*P		**P**	**21 08 47.7**	**-1.9**
	comp=Z,49nm,0.9s							

OBIP	**Obispado Ponce**	**38.99**	**3**	*e*P		**P**	**21 08 50.0**	**-0.1**
	comp=Z,70nm,0.8s							
CELP	**Cerrullos**	**39.03**	**3**	*e*P		**P**	**21 08 49.6**	**-0.8**
CELP				*e*pP		**pP**	**21 09 15.5**	**-1.0**
CELP				*e*sP		**sP**	**21 09 29.0**	**-0.5**
SJG	**San Juan**	**39.09**	**4**	*e*P		**P**	**21 08 48.9**	**-2.0**
SJG				*e**PP		**pP**	**21 09 15.7**	**-1.2**
SJG				*e**SP		**sP**	**21 09 29.2**	**-0.8**
SJG	**San Juan**	**39.09**	**4**	*e*P		**P**	**21 08 48.9**	**-2.0**
SJG				*e*pP		**pP**	**21 09 15.7**	**-1.2**
SJG				*e*sP		**sP**	**21 09 29.2**	**-0.8**
MTP	**Monte Pirata**	**39.12**	**5**	*e*P		**P**	**21 08 50.0**	**-0.9**
MTP				*e*pP		**pP**	**21 09 15.5**	**-1.7**
MTP				*e*sP		**sP**	**21 09 28.1**	**-2.2**
MPR	**Mayaguez**	**39.14**	**2**	*e*P		**P**	**21 08 50.0**	**-1.3**
	comp=Z,27nm,0.9s							
LRS	**Lares**	**39.23**	**3**	*e*P		**P**	**21 08 50.8**	**-1.4**
LRS				*e*pP		**pP**	**21 09 16.6**	**-1.6**
LRS				*e*sP		**sP**	**21 09 30.4**	**-0.9**
TEIG	**Tepich**	**45.39**	**334**	*e*P		**P**	**21 09 40.5**	**-1.5**
	comp=Z,40nm,0.9s							
RGRS	**Roger Stewart**	**54.87**	**348**	*e*P		**P**	**21 10 52.8**	**-0.6**
034A	**Hebbronville**	**56.07**	**327**	⇓P		**P**	**21 11 03.6**	**+1.5**
	baz=56							
034A				⇑P		**pP**	**21 11 31.2**	**+1.5**
	baz=56							
934A	**Benavides**	**56.43**	**328**	⇓P		pP	21 11 34.0	+1.8
	baz=57							
LRAL	**Lakeview Retre**	**56.66**	**342**	*e*P		**P**	**21 11 04.9**	**-1.2**
LRAL				*e*pP		**pP**	**21 11 33.3**	**-0.5**
LRAL				*e*sP		**pP**	**21 11 33.8**	**0.0**
835A	**Beeville**	**56.67**	**329**	⇓P		pP	21 11 36.0	+2.1
	baz=57							
539A	**Cross D Ranch,**	**56.81**	**333**	⇑P		pP	21 11 36.5	+1.6
	baz=57							
933A	**Laredo**	**56.82**	**327**	⇓P		**P**	**21 11 08.7**	**+1.3**
	baz=57							
933A				⇑P		**pP**	**21 11 36.5**	**+1.4**
	baz=57,SNR=6.0							
736A	**Circle Diamond**	**56.87**	**330**	⇓P		**P**	**21 11 09.4**	**+1.8**
	baz=57							
736A				⇓P		**pP**	**21 11 37.6**	**+2.3**
	baz=57							
834A	**Tilden**	**56.88**	**328**	⇑P		**P**	**21 11 09.4**	**+1.6**
	baz=57							
834A				⇑P		**pP**	**21 11 37.1**	**+1.6**
	baz=57,SNR=5.9							
735A	**Kenedy**	**57.13**	**329**	⇑P		pP	21 11 38.7	+1.5
	baz=57							
HKT	**Hockley**	**57.16**	**332**	*e*P		**P**	**21 11 09.0**	**-0.6**
HKT				*e**PP		**pP**	**21 11 36.9**	**-0.4**
HKT	**Hockley**	**57.16**	**332**	*e*P		**P**	**21 11 08.9**	**-0.6**
HKT				*e*pP		**pP**	**21 11 36.9**	**-0.4**
HKT				*e*sP		**pP**	**21 11 37.2**	**-0.1**
538A	**Harpers Horsep**	**57.24**	**332**	⇑P		pP	21 11 39.6	+1.6
	baz=58							
KMSC	**Kings Mountain**	**57.26**	**348**	*e*P		**P**	**21 11 10.3**	**-0.1**
KMSC				*e*pP		**pP**	**21 11 37.1**	**-1.0**
KMSC				*e*sP		**sP**	**21 11 51.7**	**+1.0**
KMSC	**Kings Mountain**	**57.26**	**348**	⇓P		**P**	**21 11 11.4**	**+1.1**
	baz=58							
KMSC				⇑P		**pP**	**21 11 39.7**	**+1.6**
	baz=58							
636A	**Smothers Creek**	**57.31**	**330**	⇑P		**P**	**21 11 12.5**	**+1.8**
	baz=58							
636A				⇑P		**pP**	**21 11 40.3**	**+1.8**
	baz=58							
439A	**Center Grove,**	**57.42**	**333**	⇑P		pP	21 11 41.2	+1.9
	baz=58							
833A	**Chaparral WMA,**	**57.46**	**328**	⇑P		**P**	**21 11 12.9**	**+1.0**
	baz=58							
833A				⇑P		**pP**	**21 11 41.0**	**+1.4**
	baz=58,SNR=8.4							
537A	**Green Hill Far**	**57.48**	**331**	⇑P		pP	21 11 41.5	+1.9
	baz=58							
734A	**La Parita Cree**	**57.48**	**329**	⇓P		pP	21 11 41.5	+1.8
	baz=58							
635A	**Leesville**	**57.56**	**330**	⇓P		**P**	**21 11 13.2**	**+0.6**
	baz=58							
635A				⇓P		**pP**	**21 11 41.8**	**+1.5**
	baz=58							
340A	**Bronson**	**57.61**	**334**	⇓P		**P**	**21 11 13.8**	**+1.0**
	baz=58							
340A				⇓P		**pP**	**21 11 42.2**	**+1.6**
	baz=58							
832A	**Faith Ranch, C**	**57.72**	**327**	⇑P		**P**	**21 11 14.5**	**+0.8**
	baz=58							
832A				⇓P		**pP**	**21 11 42.2**	**+0.8**
	baz=58,SNR=7.9							
733A	**Divot King Ran**	**57.74**	**328**	⇓P		**P**	**21 11 14.5**	**+0.7**
	baz=58							
733A				⇓P		**pP**	**21 11 42.0**	**+0.5**
	baz=58,SNR=7.5							
732A	**Laxson Ranch,**	**58.09**	**327**	⇓P		pP	21 11 45.6	+1.6
	baz=58							
338A	**Crockett**	**58.14**	**333**	⇑P		**P**	**21 11 18.1**	**+1.5**
	baz=58							
338A				⇓P		**pP**	**21 11 45.9**	**+1.5**
	baz=58							
436A	**Wall Ranch, Ga**	**58.28**	**331**	⇓P		**P**	**21 11 18.2**	**+0.7**
	baz=58							
436A				⇓P		**pP**	**21 11 46.8**	**+1.4**
	baz=58							
TKL	**Tuckaleechee C**	**58.29**	**346**	*e*P		**P**	**21 11 16.6**	**-0.9**
TKL				*e**PP		**pP**	**21 11 44.3**	**-1.0**
TKL				*e*			21 11 58.2	
TKL	**Tuckaleechee C**	**58.29**	**346**	*e*P		**P**	**21 11 16.6**	**-0.9**
TKL				*e*pP		**pP**	**21 11 44.2**	**-1.0**
TKL				*e*sP		**pP**	**21 11 45.1**	**-0.2**
TKL				*e*PcP		PcP	21 11 58.1	-9.3
633A	**Saathoff Ranch**	**58.29**	**329**	⇓P		**P**	**21 11 18.4**	**+0.7**
	baz=58							
633A				⇓P		**pP**	**21 11 46.2**	**+0.8**
	baz=58,SNR=8.0							
337A	**Centerville**	**58.35**	**333**	⇓P		**P**	**21 11 19.4**	**+1.4**
	baz=59							
337A				⇑P		**pP**	**21 11 46.4**	**+0.6**
	baz=59							
239A	**Gary**	**58.37**	**334**	⇓P		pP	21 11 46.9	+1.0
	baz=59							
SWET	**Sewanee**	**58.41**	**343**	*e*P		**P**	**21 11 17.4**	**-1.1**
SWET				*e*pP		**pP**	**21 11 45.9**	**-0.3**
SWET				*e*sP		**pP**	**21 11 46.1**	**-0.1**
SWET				*e*PcP		PcP	21 11 58.4	-10
534A	**Blanco**	**58.43**	**330**	⇑P		**P**	**21 11 18.8**	**+0.2**
	baz=59							
534A				⇑P		**pP**	**21 11 46.3**	**-0.1**
	baz=59							
238A	**Jacksonville**	**58.62**	**334**	⇑P		**P**	**21 11 21.5**	**+1.6**
	baz=59							
238A				⇑P		**pP**	**21 11 49.6**	**+1.9**
	baz=59							
632A	**Uvalde**	**58.63**	**328**	⇓P		pP	21 11 49.2	+1.3
	baz=59,SNR=5.8							
OXF	**Oxford**	**58.77**	**340**	*e*P		**P**	**21 11 19.9**	**-1.0**
OXF				*e**PP		**pP**	**21 11 47.8**	**-0.9**
OXF	**Oxford**	**58.77**	**340**	*e*P		**P**	**21 11 19.9**	**-1.0**
OXF				*e*pP		**pP**	**21 11 47.8**	**-0.9**
237A	**Washetta, Mont**	**58.91**	**333**	⇑P		**P**	**21 11 23.6**	**+1.7**
	baz=59							
237A				⇓P		**pP**	**21 11 51.5**	**+1.7**
	baz=59							
631A	**Perdido Creek**	**58.95**	**327**	⇑P		**P**	**21 11 22.9**	**+0.7**
	baz=59							
631A				⇑P		**pP**	**21 11 51.3**	**+1.3**
	baz=59,SNR=5.3							
434A	**Burnet**	**58.99**	**330**	⇑P		**P**	**21 11 24.4**	**+1.9**
	baz=59							
434A				⇓P		**pP**	**21 11 51.5**	**+1.1**
	baz=59							
335A	**Moody**	**59.00**	**331**	⇑P		**P**	**21 11 23.7**	**+1.1**
	baz=59							
335A				⇑P		**pP**	**21 11 51.6**	**+1.2**
	baz=59							
VWCC	**Virginia Weste**	**59.06**	**349**	*e*P		**P**	**21 11 22.5**	**-0.3**
VWCC				*e*pP		**pP**	**21 11 51.0**	**+0.3**
BLA	**Blacksburg**	**59.10**	**349**	*e*P		**P**	**21 11 23.3**	**+0.2**
BLA				*e**PP		**pP**	**21 11 51.4**	**+0.4**
BLA				*e**SP		**sP**	**21 12 05.7**	**+2.0**
BLA	**Blacksburg**	**59.10**	**349**	*e*P		**P**	**21 11 23.3**	**+0.2**
BLA				*e*pP		**pP**	**21 11 51.4**	**+0.4**
BLA				*e*sP		**sP**	**21 12 05.7**	**+2.0**
138A	**Matatall Enter**	**59.18**	**334**	⇑P		**P**	**21 11 25.5**	**+1.7**
	baz=59							
138A				⇑P		**pP**	**21 11 54.1**	**+2.5**
	baz=59							
532A	**Rocksprings**	**59.20**	**328**	⇓P		**P**	**21 11 24.9**	**+0.9**
	baz=59							
532A				⇓P		**pP**	**21 11 54.0**	**+2.2**
	baz=59							
433A	**Art**	**59.33**	**330**	⇑P		**P**	**21 11 25.6**	**+0.8**
	baz=60							
433A				⇑P		**pP**	**21 11 54.0**	**+1.3**
	baz=60,SNR=6.7							
137A	**Heron Place, G**	**59.41**	**333**	⇓P		**P**	**21 11 27.2**	**+2.0**
	baz=60							
137A				⇑P		**pP**	**21 11 55.3**	**+2.1**
	baz=60							
334A	**Lometa**	**59.41**	**331**	⇑P		**P**	**21 11 26.1**	**+0.7**
	baz=60							
334A				⇑P		**pP**	**21 11 55.6**	**+2.3**
	baz=60							
JCT	**Junction City**	**59.44**	**329**	*e*P		**P**	**21 11 25.0**	**-0.6**
JCT				*e**PP		**pP**	**21 11 53.5**	**0.0**
JCT	**Junction City**	**59.44**	**329**	*e*P		**P**	**21 11 25.0**	**-0.6**
JCT				*e*pP		**pP**	**21 11 53.5**	**0.0**
JCT				*e*sP		**pP**	**21 11 53.7**	**+0.2**
JCT	**Junction City**	**59.44**	**329**	⇑P		**P**	**21 11 26.6**	**+0.9**
	baz=60							
JCT				⇑P		**pP**	**21 11 54.9**	**+1.3**
	baz=60							
531A	**Rocksprings**	**59.55**	**328**	⇑P		**P**	**21 11 27.2**	**+0.8**
	baz=60,SNR=7.1							
531A				⇑P		**pP**	**21 11 55.2**	**+0.9**
	baz=60,SNR=7.6							
WHTX	**Lake Whitney,**	**59.62**	**332**	*e*P		**P**	**21 11 26.5**	**-0.2**
WHTX				*e*pP		**pP**	**21 11 54.8**	**+0.1**
WHTX				*e*sP		**pP**	**21 11 55.2**	**+0.5**
WHTX				*e*PcP		**PcP**	**21 12 08.2**	**-4.5**
WHTX	**Lake Whitney,**	**59.62**	**332**	⇑P		**P**	**21 11 27.8**	**+1.0**
	baz=60							
WHTX				⇑P		**pP**	**21 11 56.1**	**+1.4**
	baz=60							
Z38A	**Mt. Pleasant**	**59.66**	**334**	⇑P		**P**	**21 11 28.0**	**+1.0**
	baz=60							
Z38A				⇑P		**pP**	**21 11 57.0**	**+2.1**
	baz=60							
333A	**Richland Sprin**	**59.75**	**330**	⇓P		**P**	**21 11 28.0**	**+0.3**
	baz=60							
333A				⇓P		**pP**	**21 11 55.8**	**+0.1**
	baz=60,SNR=6.7							
432A	**Menard**	**59.76**	**329**	⇓P		**P**	**21 11 27.8**	**0.0**
	baz=60,SNR=6.8							
432A				⇓P		**pP**	**21 11 56.4**	**+0.6**
	baz=60,SNR=8.4							
WVT	**Waverly**	**59.79**	**342**	*e*P		**P**	**21 11 26.5**	**-1.3**
WVT				*e**PP		**pP**	**21 11 55.1**	**-0.7**
WVT				*e**SP		**sP**	**21 12 08.2**	**-0.2**
WVT				*e*			21 12 08.5	
WVT				pmax		pmax		
	comp=Z,22nm,0.7s							
WVT	**Waverly**	**59.79**	**342**	*e*P		**P**	**21 11 26.5**	**-1.3**
	comp=Z,22nm,0.7s							
WVT				*e*pP		**pP**	**21 11 55.1**	**-0.7**
WVT				*e*sP		**sP**	**21 12 08.2**	**-0.2**
WVT				*e*PcP		**PcP**	**21 12 08.5**	**-4.8**
530A	**J-C Ranch, Com**	**59.93**	**327**	⇑P		**P**	**21 11 29.6**	**+0.6**
	baz=60,SNR=7.0							
530A				⇓P		**pP**	**21 11 57.8**	**+0.9**
	baz=60,SNR=6.2							
234A	**Clairette**	**59.93**	**331**	⇓P		**P**	**21 11 29.3**	**+0.4**
	baz=60							
234A				⇑P		**pP**	**21 11 59.2**	**+2.3**
	baz=60							
431A	**Sonora**	**60.00**	**328**	⇓P		**P**	**21 11 29.7**	**+0.2**
	baz=60							
431A				⇑P		**pP**	**21 11 58.0**	**+0.6**
	baz=60,SNR=8.0							
UALR	**University of**	**60.01**	**338**	*e*P		**P**	**21 11 28.4**	**-1.0**
	comp=Z,11nm,0.8s							
UALR				*e*pP		**pP**	**21 11 55.7**	**-1.6**
UALR				*e*sP		**pP**	**21 11 57.1**	**-0.2**
135A	**Vickery Place,**	**60.08**	**332**	⇓P		pP	21 11 59.4	+1.6
	baz=60							
332A	**Millersview**	**60.16**	**329**	⇓P		**P**	**21 11 30.9**	**+0.4**
	baz=60,SNR=6.8							
332A				⇓P		**pP**	**21 11 59.4**	**+1.0**
	baz=60,SNR=7.3							
MIAR	**Mount Ida**	**60.25**	**336**	*e*P		**P**	**21 11 30.5**	**-0.5**
MIAR				*e**PP		**pP**	**21 11 59.4**	**+0.4**
MIAR	**Mount Ida**	**60.25**	**336**	*e*P		**P**	**21 11 30.5**	**-0.5**
MIAR				*e*pP		**pP**	**21 11 59.4**	**+0.4**
MIAR				*e*sP		**pP**	**21 11 59.5**	**+0.5**
233A	**Rising Star**	**60.29**	**330**	⇓P		**P**	**21 11 32.0**	**+0.6**
	baz=60							
233A				⇓P		**pP**	**21 12 00.3**	**+0.9**
	baz=60							
VNA3	**Neumayer Olymp**	**60.33**	**161**	P		**P**	**21 11 31.6**	**+0.5**
VNA3	**Neumayer Olymp**	**60.33**	**161**	S		**S**	**21 19 40.4**	**+4.1**
529A	**Stev Forest Ra**	**60.36**	**327**	⇑P		**P**	**21 11 32.6**	**+0.6**
	baz=61,SNR=15							
529A				⇓P		**pP**	**21 12 01.0**	**+1.1**
	ba

baz=62
Z33A ⇑P **pP** **21 12 07.2 +1.0**
baz=62,SNR=5.6
329A **Wagon Wheel Ra** **61.33 328** ⇓P **P** **21 11 38.9 +0.4**
baz=62
329A ⇓P **pP** **21 12 07.1 +0.5**
baz=62,SNR=7.0
X36A **Centrahoma** **61.36 334** ⇓P pP 21 12 07.7 +1.1
baz=62
Y34A **Reagan Ranch,** **61.42 333** ⇑P **P** **21 11 39.3 +0.3**
baz=62,SNR=5.3
Y34A ⇑P **pP** **21 12 08.1 +1.1**
baz=62,SNR=7.9
USIN **University of** **61.46 343** *e*P **P** **21 11 38.0 -1.2**
comp=Z,18nm,0.8s
USIN *ep*P **pP** **21 12 06.0 -1.2**
USIN *es*P **sP** **21 12 19.2 -0.6**
X35A **Drake** **61.47 333** ⇓P **P** **21 11 39.2 -0.1**
baz=62
X35A ⇑P **pP** **21 12 07.8 +0.5**
baz=62
W37A **Quinton** **61.49 335** ⇑P **P** **21 11 40.1 +0.8**
baz=62
W37A ⇑P **pP** **21 12 08.9 +1.4**
baz=62
131A **Roby** **61.53 330** ⇑P **P** **21 11 40.2 +0.4**
baz=62
131A ⇓P **pP** **21 12 08.9 +1.1**
baz=62
Z32A **Haskell** **61.64 331** ⇑P **P** **21 11 41.0 +0.6**
baz=62
Z32A ⇓P **pP** **21 12 09.2 +0.7**
baz=62
229A **Bryant Ranch,** **61.64 328** ⇑P **P** **21 11 40.9 +0.3**
baz=62
229A ⇑P **pP** **21 12 09.0 +0.3**
baz=62
130A **Snyder** **61.74 329** ⇑P **P** **21 11 41.6 +0.4**
baz=62
130A ⇑P **pP** **21 12 10.1 +0.8**
baz=62,SNR=5.0
W36A **Wetumka** **61.80 334** ⇓P **P** **21 11 41.4 -0.2**
baz=62
W36A ⇑P **pP** **21 12 10.1 +0.5**
baz=62,SNR=6.5
Y33A **Hilltop Ranch,** **61.84 332** ⇓P **P** **21 11 42.3 +0.5**
baz=62
Y33A ⇑P **pP** **21 12 10.6 +0.7**
baz=62
Z31A **Sharp Cattle R** **61.95 330** ⇓P **P** **21 11 42.5 -0.1**
baz=62
Z31A ⇑P **pP** **21 12 11.9 +1.2**
baz=62,SNR=6.3
X34A **Smith Ranch, M** **62.01 333** ⇓P **P** **21 11 42.8 -0.1**
baz=62
X34A ⇓P **pP** **21 12 11.4 +0.4**
baz=62,SNR=5.5
W35A **Tecumseh** **62.08 334** ⇓P **P** **21 11 44.1 +0.8**
baz=62
W35A ⇑P **pP** **21 12 12.4 +1.0**
baz=62
228A **UT Block 9, Go** **62.15 328** ⇓P **P** **21 11 44.8 +0.8**
baz=62
228A ⇓P **pP** **21 12 13.2 +1.0**
baz=62
Y32A **R-V Farms, Ver** **62.20 331** ⇑P **P** **21 11 45.0 +0.7**
baz=62
Y32A ⇓P **pP** **21 12 13.3 +1.0**
baz=62
129A **Stewart Farms,** **62.20 328** ⇓P pP 21 12 13.2 +0.7
baz=62
X33A **Lawton** **62.24 332** ⇑P pP 21 12 12.5 -0.1
baz=62
BBTS **Babate** **62.29 60** P **P** **21 11 44.4 -0.8**
comp=Z,38nm,0.9s,baz=294,slow=2.8,SNR=5.9
BLO **Bloomington** **62.30 344** *e*P **P** **21 11 43.6 -1.1**
BLO *e**PP **pP** **21 12 12.1 -0.7**
BLO *e**SP **sP** **21 12 25.6 +0.2**
BLO **Bloomington** **62.30 344** *e*P **P** **21 11 43.6 -1.1**
BLO *ep*P **pP** **21 12 12.1 -0.7**
BLO *es*P **sP** **21 12 25.6 +0.2**
TUL1 **Leonard** **62.30 335** *e*P **P** **21 11 44.3 -0.6**
TUL1 *ep*P **pP** **21 12 13.1 +0.2**
TUL1 **Leonard** **62.30 335** ⇓P **P** **21 11 45.6 +0.8**
baz=62
TUL1 ⇓P **pP** **21 12 13.5 +0.5**
baz=62
Z30A **Sanderson Ranc** **62.39 329** ⇓P **P** **21 11 45.9 +0.4**
baz=63,SNR=6.0
Z30A ⇓P **pP** **21 12 14.5 +0.8**
baz=63,SNR=7.9
X32A **Elmer** **62.48 332** ⇓P pP 21 12 14.9 +0.6
baz=63
128A **Castleberry Fa** **62.50 328** ⇓P pP 21 12 14.9 +0.4
baz=63
ACSO **Alum Creek Sta** **62.51 348** *e*P **P** **21 11 45.5 -0.6**
ACSO *ep*P **pP** **21 12 12.2 -2.1**
ACSO *e*PcP **PcP** **21 12 27.3 +3.0**
W34A **Bridge Creek,** **62.52 333** ⇑P pP 21 12 15.5 +1.1
baz=63
SNAA **Sanae** **62.53 161** P **P** **21 11 46.3 +0.3**
comp=Z,7.8nm,0.6s,baz=285,slow=7.3,SNR=68
WMOK **Wichita Mounta** **62.53 332** *e*P **P** **21 11 45.6 -0.8**
WMOK *e**PP **pP** **21 12 13.3 -1.2**
WMOK **Wichita Mounta** **62.53 332** *e*P **P** **21 11 45.5 -0.8**
WMOK *ep*P **pP** **21 12 13.3 -1.2**
Y31A **Rekieta Farm,** **62.54 331** ⇓P **P** **21 11 47.3 +0.8**
baz=63
Y31A ⇑P **pP** **21 12 15.8 +1.2**
baz=63
V35A **Meyer Ranch, C** **62.59 334** ⇓P **P** **21 11 47.9 +1.2**
baz=63
V35A ⇑P **pP** **21 12 15.5 +0.5**
baz=63
Z29A **Hungry Hill Ra** **62.64 329** ⇑P **P** **21 11 48.3 +1.1**
baz=63
Z29A ⇑P **pP** **21 12 16.2 +0.8**
baz=63
W33A **Caddo, Fort Co** **62.75 333** ⇑P **P** **21 11 48.8 +1.0**
baz=63
W33A ⇓P **pP** **21 12 17.3 +1.3**
baz=63,SNR=6.2
Y30A **Stafford Cattl** **62.76 330** ⇓P **P** **21 11 48.7 +0.6**
baz=63
BRYW **Bryant College** **62.80 358** *e*P **P** **21 11 47.7 -0.4**
BRYW *ep*P **pP** **21 12 17.4 +1.3**
V34A **Guthrie** **62.93 334** ⇓P **P** **21 11 49.9 +0.9**
baz=63
V34A ⇑P **pP** **21 12 17.8 +0.6**
baz=63
X31A **McDonald Ranch** **62.97 331** ⇓P **P** **21 11 49.6 +0.3**
baz=63,SNR=5.0
X31A ⇓P **pP** **21 12 18.7 +1.1**
baz=63,SNR=7.2
Z28A **Tucker Farm, M** **62.99 328** ⇓P **P** **21 11 49.6 0.0**
baz=63
Z28A ⇓P **pP** **21 12 18.5 +0.7**
baz=63
W32A **Sentinel** **63.06 332** ⇓P **P** **21 11 50.4 +0.4**
baz=63,SNR=6.9
W32A ⇓P **pP** **21 12 19.0 +0.9**
baz=63,SNR=8.0
Y29A **Porterfield Fa** **63.12 329** ⇑P **P** **21 11 50.4 0.0**
baz=63
Y29A ⇓P **pP** **21 12 19.3 +0.7**
baz=63
X30A **Coker Ranch, T** **63.22 330** ⇓P **P** **21 11 51.6 +0.6**
baz=63
X30A ⇑P **pP** **21 12 19.9 +0.7**
baz=63
V33A **Lossen Ranch,** **63.24 333** ⇑P **P** **21 11 51.7 +0.6**
baz=64
V33A ⇓P **pP** **21 12 19.9 +0.7**
baz=64,SNR=5.1
MNTX **Cornudas Mount** **63.26 325** ⇓P **P** **21 11 51.7 +0.4**
baz=64
MNTX ⇑P **pP** **21 12 19.8 +0.3**
baz=64,SNR=8.6
ALLY **Alegheny Colle** **63.38 350** *e*P **P** **21 11 51.7 -0.2**
ALLY *ep*P **pP** **21 12 20.7 +0.6**
ALLY *es*P **sP** **21 12 31.4 -1.3**
BINY **Binghamton** **63.39 354** *e*P **P** **21 11 51.7 -0.2**
BINY *ep*P **pP** **21 12 21.0 +0.8**
U34A **Anderson Ranch** **63.46 334** ⇑P **P** **21 11 53.4 +0.9**
baz=64
U34A ⇓P **pP** **21 12 21.6 +0.9**
baz=64
SFIN **Lafayette** **63.58 344** *e*P **P** **21 11 51.7 -1.5**
SFIN *ep*P **pP** **21 12 20.1 -1.3**
SFIN *es*P **sP** **21 12 32.9 -1.1**
SFIN **Lafayette** **63.58 344** ⇓P **P** **21 11 52.7 -0.5**
baz=64,SNR=5.6
SFIN ⇓P **pP** **21 12 21.8 +0.4**
baz=64,SNR=5.6
X29A **Tulia** **63.61 330** ⇓P **P** **21 11 53.2 -0.4**
baz=64
X29A ⇓P **pP** **21 12 22.3 +0.5**
baz=64
U33A **Lingo Farm, Me** **63.69 334** ⇓P **P** **21 11 53.7 -0.3**
baz=64
U33A ⇓P **pP** **21 12 23.9 +1.6**
baz=64
TRY **Troy** **63.73 356** *e*P **P** **21 11 53.7 -0.3**
TRY *ep*P **pP** **21 12 22.4 +0.1**
MSTX **Muleshoe** **63.73 329** *e*P **P** **21 11 53.9 -0.6**
MSTX *ep*P **pP** **21 12 22.4 -0.3**
MSTX **Muleshoe** **63.73 329** ⇓P **P** **21 11 54.6 +0.1**
baz=64
MSTX ⇑P **pP** **21 12 23.7 +1.0**
baz=64,SNR=7.5
ERPA **Erie** **63.81 351** *e*P **P** **21 11 54.1 -0.6**
ERPA *ep*P **pP** **21 12 23.3 +0.4**
ERPA *es*P **sP** **21 12 35.5 0.0**
S36A **Lake Cedric, C** **63.82 336** ⇓P **P** **21 11 55.0 +0.2**
baz=64,SNR=6.7
S36A ⇓P **pP** **21 12 24.2 +1.1**
baz=64,SNR=12
V31A **Spring Creek L** **63.87 332** ⇓P **P** **21 11 55.9 +0.7**
baz=64
V31A ⇓P **pP** **21 12 25.3 +1.8**
baz=64
X28A **Dimmitt** **63.90 329** ⇓P **P** **21 11 55.9 +0.3**
baz=64
AMTX **Amarillo** **63.96 330** *e*P **P** **21 11 55.3 -0.6**
AMTX *ep*P **pP** **21 12 23.7 -0.5**
AMTX **Amarillo** **63.96 330** ⇑P **P** **21 11 55.9 0.0**
baz=64
AMTX ⇓P **pP** **21 12 24.8 +0.6**
baz=64
U32A **Winter Ranch,** **64.02 333** ⇑P pP 21 12 26.3 +1.8
baz=64
S35A **Otter Creek Ra** **64.06 336** ⇑P **P** **21 11 56.6 +0.2**
baz=64,SNR=7.6
S35A ⇑P **pP** **21 12 25.2 +0.6**
baz=64,SNR=7.9
R37A **Teagarden Farm** **64.06 337** ⇑P **P** **21 11 56.4 0.0**
baz=64,SNR=10
R37A ⇓P **pP** **21 12 25.1 +0.5**
baz=64,SNR=8.5
MMNY **Mt. Morris Dam** **64.13 352** *e*P **P** **21 11 56.0 -0.8**
MMNY *ep*P **pP** **21 12 23.9 -1.2**
W29A **Amarillo** **64.14 330** ⇑P **P** **21 11 57.3 +0.2**
baz=64
W29A ⇓P **pP** **21 12 25.5 +0.1**
baz=64
V30A **Spur Ranch, Mi** **64.23 331** ⇓P pP 21 12 24.8 -1.1
baz=64
T33A **Patterson Ranc** **64.30 334** ⇑P **P** **21 11 58.0 0.0**
baz=64
T33A ⇓P **pP** **21 12 27.5 +1.2**
baz=64
R36A **Gordon, Harris** **64.31 337** ⇓P **P** **21 11 58.5 +0.5**
baz=64
R36A ⇓P **pP** **21 12 27.3 +1.0**
baz=64
U31A **Nine Bar Ranch** **64.37 332** ⇓P pP 21 12 27.8 +1.0
baz=65
ACCN **Adirondack Com** **64.38 356** *e*P **P** **21 11 58.5 +0.2**
ACCN *ep*P **pP** **21 12 26.9 +0.3**
S34A **Willow Spring** **64.38 335** ⇓P pP 21 12 27.5 +0.7
baz=65
Q37A **Longview Farm,** **64.43 338** ⇑P **P** **21 11 58.7 -0.1**
baz=65
Q37A ⇓P **pP** **21 12 27.8 +0.8**
baz=65
W28A **Vega** **64.51 330** ⇑P **P** **21 11 59.9 +0.3**
baz=65
W28A ⇑P **pP** **21 12 28.8 +1.0**
baz=65
S33A **Kaszmaul Farm,** **64.64 334** ⇑P pP 21 12 29.5 +1.0
baz=65
T32A **Huddler Ranch,** **64.67 334** ⇑P pP 21 12 30.2 +1.5
baz=65
U30A **WK&E Inc. Balk** **64.86 332** ⇑P pP 21 12 31.7 +1.7
baz=65
T31A **Randall Ranch,** **64.91 333** ⇓P pP 21 12 31.7 +1.3
baz=65
V28A **Channing** **64.92 330** ⇑P **P** **21 12 03.3 +1.1**
baz=65
V28A ⇓P **pP** **21 12 31.5 +1.0**
baz=65
319A **Douglas** **65.17 322** ⇓P **P** **21 12 05.5 +1.6**
baz=65,SNR=7.0
319A ⇓P **PcP** **21 12 34.4 -1.2**
baz=65,SNR=5.9
121A **Cookes Peak, D** **65.20 324** ⇑P **P** **21 12 05.5 +1.3**
baz=65
121A ⇑P **PcP** **21 12 34.7 -1.1**
baz=65
V27A **Dan Oppiter Fa** **65.21 330** ⇓P **P** **21 12 05.0 +0.9**
baz=65
V27A ⇑P **pP** **21 12 33.7 +1.2**
baz=65
R33A **Olander Ranch,** **65.25 335** ⇓P **P** **21 12 05.3 +1.1**
baz=66
R33A ⇑P **pP** **21 12 33.5 +1.0**
baz=66
S31A **Mullinville** **65.27 333** ⇓P **P** **21 12 05.2 +0.9**
baz=66
S31A ⇓P **pP** **21 12 33.4 +0.7**
baz=66
KSU1 **Kansas State U** **65.41 336** ⇑P pP 21 12 33.9 +0.4
baz=66
U28A **Mallet** **65.44 331** ⇑P pP 21 12 34.5 +0.6
baz=66
R32A **Long Quarter,** **65.64 334** ⇓P **P** **21 12 07.0 +0.3**
baz=66
R32A ⇑P **pP** **21 12 36.2 +1.1**
baz=66
PTN **Potsdam (NY)** **65.65 355** *e*P **P** **21 12 07.5 +1.0**
PTN *e**PP **pP** **21 12 35.2 +0.3**
PTN **Potsdam (NY)** **65.65 355** *e*P **P** **21 12 07.5 +1.0**
PTN *ep*P **pP** **21 12 35.2 +0.3**
T29A **Hugoton** **65.66 332** ⇑P **P** **21 12 07.7 +0.7**
baz=66
T29A ⇑P **PcP** **21 12 36.4 -1.0**
baz=66
LONY **Lake Ozonia** **65.67 355** *e*P **P** **21 12 06.8 +0.1**
LONY *ep*P **pP** **21 12 35.6 +0.5**
S30A **Montezuma** **65.71 333** ⇑P **P** **21 12 07.6 +0.4**
baz=66
S30A ⇓P **PcP** **21 12 37.7 +0.1**
baz=66
Q33A **Connelly Farm,** **65.79 335** ⇑P **P** **21 12 08.6 +1.0**
baz=66
Q33A ⇓P **PcP** **21 12 37.2 -0.6**
baz=66
BNM **Barren Site** **65.82 326** *e*P **P** **21 12 08.6 +0.3**
BNM *ep*P **PcP** **21 12 38.1 -0.3**
R31A **Burdett** **65.86 334** ⇑P **P** **21 12 09.7 +1.6**
baz=66
R31A ⇓P **PcP** **21 12 37.8 -0.3**
baz=66
LPM **Los Pinos Moun** **65.95 326** *e*P **P** **21 12 08.8 -0.2**
LPM *ep*P **PcP** **21 12 38.8 0.0**
S29A **Ulysses** **65.97 332** ⇓P **P** **21 12 09.9 +1.0**
baz=66
S29A ⇑P **PcP** **21 12 38.8 +0.1**
baz=66
T28A **Walsh** **66.00 331** ⇑P **P** **21 12 09.4 +0.2**
baz=66
T28A ⇓P **PcP** **21 12 39.4 +0.5**
baz=66
Q32A **Meitler Ranch,** **66.07 335** ⇓P **P** **21 12 09.8 +0.4**
baz=66,SNR=5.9
Q32A ⇓P **PcP** **21 12 38.9 -0.1**
baz=66,SNR=6.7
R30A **Dighton** **66.17 333** ⇓P **P** **21 12 10.8 +0.7**
baz=66
R30A ⇓P **PcP** **21 12 40.5 +1.0**
baz=66
T27A **Campo** **66.23 331** ⇑P **P** **21 12 11.1 +0.5**
baz=66
T27A ⇑P **PcP** **21 12 40.8 +1.0**
baz=66
LAZ **Ladron** **66.28 326** *e*P **P** **21 12 09.2 -1.9**
LAZ *ep*P **PcP** **21 12 40.2 0.0**
S28A **Manter** **66.29 332** ⇑P **P** **21 12 11.7 +0.8**
baz=66,SNR=5.9
S28A ⇓P **PcP** **21 12 40.3 +0.3**
baz=66,SNR=5.8
ANMO **Albuquerque** **66.35 327** ⇑*i*P **P** **21 12 10.8 -0.7**
ANMO pmax pmax
comp=Z,40nm,1.7s
ANMO **Albuquerque** **66.35 327** *e*P **P** **21 12 11.1 -0.5**
ANMO *ep*P **PcP** **21 12 40.7 +0.2**
Q31A **Ellis** **66.41 334** ⇓P **P** **21 12 13.0 +1.3**
baz=67
Q31A ⇓P **PcP** **21 12 41.6 +1.2**
baz=67
R29A **Marienthal** **66.65 333** ⇓P pP 21 12 42.8 +1.1
baz=67
T26A **Comanche Natio** **66.72 330** ⇑P **P** **21 12 15.0 +1.2**
baz=67,SNR=7.6
T26A ⇓P **pP** **21 12 43.3 +1.1**
baz=67,SNR=9.3
TUC **Tucson** **66.72 322** *e*P **P** **21 12 14.4 +0.6**
TUC *e**PP **pP** **21 12 42.6 +0.3**
TUC pmax pmax
comp=Z,22nm,1.5s
TUC **Tucson** **66.72 322** *e*P **P** **21 12 14.4 +0.6**
comp=Z,22nm,1.5s
TUC *ep*P **pP** **21 12 42.6 +0.3**
Q30A **Quinter** **66.73 334** ⇓P **P** **21 12 15.0 +1.3**
baz=67
Q30A ⇑P **pP** **21 12 43.2 +1.0**
baz=67,SNR=8.3
JFWS **Jewell Farm** **66.78 343** *e*P **P** **21 12 13.0 -0.9**
JFWS *e**PP **PcP** **21 12 41.6 -0.2**
JFWS **Jewell Farm** **66.78 343** *e*P **P** **21 12 13.0 -0.9**
JFWS *ep*P **PcP** **21 12 41.6 -0.2**
P31A **Stockton** **66.85 335** ⇑P **P** **21 12 14.7 +0.3**
baz=67
P31A ⇓P **pP** **21 12 43.3 +0.5**
baz=67,SNR=7.6
R28A **Tribune** **66.88 332** ⇓P pP 21 12 44.0 +0.9
baz=67
Q29A **Oakley** **66.97 333** ⇓P **P** **21 12 16.1 +0.8**
baz=67
Q29A ⇑P **pP** **21 12 44.9 +1.2**
baz=67
S26A **Kim** **67.03 330** ⇓P **P** **21 12 16.7 +1.0**
baz=67,SNR=13
S26A ⇓P **pP** **21 12 44.9 +0.7**
baz=67,SNR=9.6
O32A **Brockman Farm,** **67.05 336** ⇑P pP 21 12 45.4 +1.3
baz=67
NVL **N'lazarevskaya** **67.07 159** ⇓*i*P **P** **21 12 15.7 +0.4**
NVL pmax pmax
comp=Z,32nm,1.1s
T25A **Trinidad** **67.08 330** *e*P **P** **21 12 15.6 -0.5**
T25A *ep*P **PcP** **21 12 43.6 +0.1**
T25A **Trinidad** **67.08 330** ⇑P **P** **21 12 17.5 +1.4**
baz=67
T25A ⇓P **pP** **21 12 45.7 +1.1**
baz=67
P30A **Selden** **67.22 334** ⇑P pP 21 12 46.6 +1.3
baz=67
R27A **Eads** **67.27 331** ⇓P **P** **21 12 18.6 +1.4**
baz=68
R27A ⇓P **pP** **21 12 47.3 +1.7**
baz=68
O31A **Woolen Ranch,** **67.37 335** ⇓P **P** **21 12 18.9 +1.2**
baz=68
Q28A **Sharon Springs** **67.48 333** ⇑P **P** **21 12 19.9 +1.5**
baz=68
Q28A ⇑P **pP** **21 12 49.1 +2.1**
baz=68
P29A **Atwood** **67.55 333** ⇓P **P** **21 12 20.7 +1.8**
baz=68
P29A ⇑P **pP** **21 12 49.2 +1.8**
baz=68
R26A **Arlington** **67.57 331** ⇑P **P** **21 12 20.4 +1.3**
baz=68
R26A ⇓P **pP** **21 12 48.7 +1.1**
baz=68,SNR=6.0
214A **Organ Pipe Nat** **67.66 320** ⇓P **P** **21 12 21.4 +1.7**
baz=68
214A ⇓P **pP** **21 12 50.3 +2.0**
baz=68
KSCO **Kaye Shedlock'** **67.79 332** ⇓P **P** **21 12 21.9 +1.5**
baz=68
KSCO ⇓P **pP** **21 12 50.7 +1.7**
baz=68
N31A **Bailey Ranch,** **67.80 336** ⇓P pP 21 12 50.3 +1.5
baz=68
P28A **Saint Francis** **67.88 333** ⇓P **P** **21 12 22.1 +1.2**
baz=68
P28A ⇑P **pP** **21 12 51.4 +1.9**
baz=68
X18A **Snowflake** **67.89 324** ⇓P **P** **21 12 23.4 +2.1**
baz=68
X18A ⇓P **pP** **21 12 51.8 +2.0**
baz=68
O29A **4D Ranch, Culb** **67.94 334** ⇓P **P** **21 12 22.9 +1.7**
baz=68
O29A ⇓P **pP** **21 12 51.2 +1.4**
baz=68
BGNE **Belgrade** **68.00 336** *e*P **P** **21 12 21.1 -0.4**
BGNE *ep*P **pP** **21 12 50.6 +0.5**
BGNE **Belgrade** **68.00 336** ⇑P **P** **21 12 22.0 +0.4**
baz=68
LIC **Lamto** **68.03 74** *e*P **P** **21 12 21.3 -1.0**
comp=Z,75nm,1.2s
SDCO **Great Sand Dun** **68.08 329** ⇓P **P** **21 12 23.9 +1.4**
baz=68,SNR=15
SDCO ⇓P **pP** **21 12 52.8 +1.7**
baz=68,SNR=9.5
Q26A **Hugo** **68.11 331** ⇓P **P** **21 12 23.8 +1.3**
baz=68
Q26A ⇓P **pP** **21 12 52.7 +1.7**
baz=68
W18A **Petrified Fore** **68.21 325** ⇑P **P** **21 12 25.3 +2.0**
baz=68
W18A ⇓P **pP** **21 12 53.9 +2.1**
baz=68
P27A **Ficken Ranch,** **68.21 332** ⇑P pP 21 12 53.2 +1.6
baz=68
TIC **Toumodi** **68.22 73** *e*P **P** **21 12 22.8 -0.7**
comp=Z,6.9nm,0.2s
M31A **Lambtecht Ranc** **68.25 336** ⇓P pP 21 12 53.3 +1.6
baz=68
R24A **Sanders Place,** **68.28 330** ⇑P **P** **21 12 25.2 +1.5**
baz=68,SNR=5.8
R24A ⇑P **pP** **21 12 54.1 +1.8**
baz=68
O28A **Krutsinger Ran** **68.34 333** ⇑P **P** **21 12 25.1 +1.2**
baz=69
O28A ⇓P **pP** **21 12 54.2 +1.8**
baz=69
KIC **Kosan Boka** **68.35 74** *e*P **P** **21 12 23.8 -0.5**
comp=Z,78nm,0.7s
DBIC **Dimbokro** **68.38 73** P **P** **21 12 24.1 -0.4**
comp=Z,42nm,0.7s,baz=221,slow=6.7,SNR=52
DBIC **Dimbokro** **68.38 73** *e*P **P** **21 12 23.3 -1.2**
DBIC pmax pmax
comp=Z,49nm,0.8s
DBIC **Dimbokro** **68.38 73** *e*P **P** **21 12 23.3 -1.2**
comp=Z,50nm,0.8s
N29A **Votaw Ranch, W** **68.45 334** ⇓P pP 21 12 54.6 +1.5
baz=69
P26A **Davis Ranch, A** **68.55 332** ⇑P **P** **21 12 26.0 +0.7**
baz=69
P26A ⇑P **pP** **21 12 55.5 +1.7**
baz=69
R23A **Moffat** **68.59 329** ⇑P **P** **21 12 27.1 +1.4**
baz=69
R23A ⇓P **pP** **21 12 55.7 +1.4**
baz=69
X16A **Lo Mia Camp, P** **68.64 323** ⇑P **P** **21 12 27.8 +1.9**
baz=69,SNR=5.5
X16A ⇑P **pP** **21 12 56.4 +1.9**
baz=69
O27A **Beecher Island** **68.70 333** ⇓P **P** **21 12 27.8 +1.7**
baz=69
O27A ⇑P **pP** **21 12 56.7 +2.0**
baz=69
N28A **Pribbeno Ranch** **68.72 334** ⇑P **P** **21 12 28.2 +2.0**
baz=69
N28A ⇑P **pP** **21 12 56.5 +1.7**
baz=69

S22A	**4UR Ranch, Cre**	**68.72**	**328**	⇑P	**P**	**21 12 27.6 +1.1**
	baz=69					
S22A				⇑P	**pP**	**21 12 56.7 +1.6**
	baz=69					
Z14A	**Wintersburg**	**68.74**	**321**	⇑P	pP	21 12 57.2 +2.2
	baz=69					
113A	**Mohawk Valley,**	**68.81**	**320**	⇑P	**P**	**21 12 28.9 +2.1**
	baz=69					
P25A	**Willow Gulch B**	**68.88**	**331**	⇓P	**P**	**21 12 28.9 +1.6**
	baz=69					
P25A				⇓P	**pP**	**21 12 57.8 +1.9**
	baz=69,SNR=5.7					
Q24A	**Divide**	**68.89**	**330**	*e*P	**P**	**21 12 27.9 +0.4**
Q24A				*ep*P	**pP**	**21 12 56.3 +0.1**
Q24A	**Divide**	**68.89**	**330**	⇑P	**P**	**21 12 28.9 +1.4**
	baz=69,SNR=9.1					
Q24A				⇑P	**pP**	**21 12 58.5 +2.3**
	baz=69,SNR=6.0					
L31A	**Butterfield Fa**	**68.92**	**336**	⇑P	**P**	**21 12 28.1 +0.8**
	baz=69					
L31A				⇓P	**pP**	**21 12 57.5 +1.6**
	baz=69					
QSPA	**South Pole Qui**	**69.05**	**180**	P	**P**	**21 12 29.0 +1.0**
	comp=Z,39nm,0.9s,baz=171,slow=0.9,SNR=136					
O26A	**Horse Wrangler**	**69.10**	**332**	⇓P	pP	21 12 59.0 +1.8
	baz=69					
OGNE	**Ogallala**	**69.14**	**333**	⇑P	pP	21 12 59.1 +1.7
	baz=69					
MVCO	**Mesa Verde**	**69.15**	**327**	*e*P	**P**	**21 12 28.7 -0.4**
	comp=Z,11nm,0.9s					
MVCO				*ep*P	**pP**	**21 12 58.4 +0.6**
MVCO	**Mesa Verde**	**69.15**	**327**	⇑P	**P**	**21 12 30.0 +0.9**
	baz=69					
MVCO				⇑P	**pP**	**21 12 59.7 +2.0**
	baz=69					
Q23A	**Hartsel**	**69.16**	**330**	⇑P	**P**	**21 12 30.2 +1.0**
	baz=69					
Q23A				⇑P	**pP**	**21 13 00.4 +2.6**
	baz=69					
P24A	**Kohler Place,**	**69.22**	**331**	⇓P	**P**	**21 12 31.8 +2.4**
	baz=69					
P24A				⇑P	**pP**	**21 13 00.5 +2.5**
	baz=69					
N27A	**Anderson Farm,**	**69.23**	**333**	⇓P	**P**	**21 12 31.0 +1.6**
	baz=70					
N27A				⇓P	**pP**	**21 13 00.7 +2.7**
	baz=70					
M28A	**Bar X Bar Ranc**	**69.24**	**334**	⇓P	**P**	**21 12 30.2 +0.9**
	baz=70					
M28A				⇓P	**pP**	**21 12 60.0 +2.0**
	baz=70					
O25A	**Wiggins**	**69.35**	**332**	⇑P	**P**	**21 12 30.9 +0.8**
	baz=70					
O25A				⇑P	**pP**	**21 13 00.7 +1.9**
	baz=70					
WUAZ	**Wupatki**	**69.40**	**324**	*e*P	**P**	**21 12 31.0 +0.4**
	comp=Z,15nm,0.9s					
WUAZ				*e*PcP	**PcP**	**21 12 53.4 +0.1**
WUAZ				*ep*P	**pP**	**21 13 00.0 +0.8**
WUAZ	**Wupatki**	**69.40**	**324**	⇓P	**P**	**21 12 32.3 +1.7**
	baz=70,SNR=5.8					
WUAZ				⇑P	**pP**	**21 13 00.9 +1.6**
	baz=70					
ECSD	**EROS Data Cent**	**69.48**	**339**	*e*P	**P**	**21 12 29.8 -0.9**
ECSD				*e*PcP	**PcP**	**21 12 53.0 -0.2**
ECSD	**EROS Data Cent**	**69.48**	**339**	⇑P	**P**	**21 12 30.9 +0.2**
	baz=70,SNR=6.0					
ECSD				⇑P	**pP**	**21 12 60.0 +0.6**
	baz=70					
N26A	**Koester Ranch,**	**69.54**	**333**	⇓P	**P**	**21 12 32.1 +0.8**
	baz=70					
K30A	**Basset**	**69.64**	**336**	⇑P	pP	21 13 01.7 +1.3
	baz=70					
M27A	**Reverse DX Ran**	**69.77**	**334**	⇑P	pP	21 13 03.0 +1.6
	baz=70					
ISCO	**Idaho Springs**	**69.77**	**330**	*e*P	**P**	**21 12 33.0 +0.1**
ISCO				*e**PP	**pP**	**21 13 02.7 +1.0**
ISCO	**Idaho Springs**	**69.77**	**330**	*e*P	**P**	**21 12 33.0 +0.1**
ISCO				*ep*P	**pP**	**21 13 02.6 +1.0**
ISCO	**Idaho Springs**	**69.77**	**330**	⇑P	**P**	**21 12 34.2 +1.3**
	baz=70,SNR=6.9					
ISCO				⇑P	**pP**	**21 13 03.6 +2.0**
	baz=70					
O24A	**Longmont**	**69.78**	**331**	⇑P	pP	21 13 03.2 +1.7
	baz=70					
PV01	**Paradox Valley**	**69.89**	**327**	*e*P	**P**	**21 12 34.6 +1.0**
PV01				*ep*P	**pP**	**21 13 01.6 -0.7**
SMCO	**Snowmass**	**69.92**	**329**	*e*P	**P**	**21 12 34.3 +0.3**
SMCO				*ep*P	**pP**	**21 13 03.5 +0.9**
Y12C	**Blythe**	**69.94**	**320**	⇓P	**P**	**21 12 36.2 +2.4**
	baz=70					
Y12C				⇓P	**pP**	**21 13 05.3 +2.8**
	baz=70					
K29A	**Lazy Trails An**	**69.98**	**336**	⇓P	**P**	**21 12 35.1 +1.3**
	baz=70					
K29A				⇑P	**pP**	**21 13 04.4 +1.8**
	baz=70					
M26A	**McRoberts Ranc**	**70.03**	**333**	⇑P	pP	21 13 05.5 +2.5
	baz=70					
P22A	**Eagle**	**70.14**	**330**	⇓P	**P**	**21 12 36.6 +1.4**
	baz=70					
P22A				⇑P	**pP**	**21 13 06.0 +2.1**
	baz=70					
J30A	**Dallas**	**70.15**	**337**	⇑P	pP	21 13 05.3 +1.7
	baz=70					
SWSC	**Sam W. Stewart**	**70.15**	**319**	⇑P	**P**	**21 12 37.0 +1.9**
	baz=70					
O23A	**Lake Granby, G**	**70.24**	**330**	⇓P	**P**	**21 12 37.2 +1.4**
	baz=70,SNR=9.3					
O23A				⇑P	**pP**	**21 13 06.9 +2.4**
	baz=70					
N24A	**Carr**	**70.27**	**332**	⇓P	**P**	**21 12 37.1 +1.3**
	baz=70					
N24A				⇑P	**pP**	**21 13 07.4 +2.9**
	baz=70					
K28A	**Ten Mile Ranch**	**70.35**	**335**	⇑P	**P**	**21 12 37.9 +1.8**
	baz=71					
M25A	**Palm-Egli Farm**	**70.40**	**332**	⇑P	pP	21 13 07.6 +2.3
	baz=71					
BC3	**Big Chuckawall**	**70.44**	**320**	⇑P	**P**	**21 12 38.7 +1.8**
	baz=71,SNR=7.2					
BC3				⇑P	**pP**	**21 13 07.7 +2.1**
	baz=71					
O22A	**Kremmling**	**70.49**	**330**	⇓P	**P**	**21 12 38.6 +1.2**
	baz=71,SNR=8.8					
O22A				⇑P	**pP**	**21 13 07.4 +1.3**
	baz=71,SNR=7.4					
MONP	**Monument Peak,**	**70.50**	**319**	⇓P	**P**	**21 12 38.7 +1.2**
	baz=71					
MONP				⇑P	**pP**	**21 13 09.2 +3.0**
	baz=71					
W13A	**Hualapai Mount**	**70.52**	**322**	⇑P	**P**	**21 12 39.6 +2.1**
	baz=71					
W13A				⇑P	**pP**	**21 13 09.0 +2.7**
	baz=71					
J29A	**Okreek**	**70.53**	**336**	⇑P	**P**	**21 12 38.5 +1.3**
	baz=71					
U15A	**North Rim**	**70.58**	**324**	⇓P	**P**	**21 12 39.8 +1.9**
	baz=71,SNR=12					
U15A				⇑P	**pP**	**21 13 09.1 +2.4**
	baz=71,SNR=6.0					
IRM	**Iron Mountain**	**70.60**	**320**	⇓P	**P**	**21 12 39.1 +1.3**
	baz=71,SNR=7.5					
IRM				⇑P	**pP**	**21 13 08.7 +2.2**
	baz=71					
M24A	**Cheyenne**	**70.76**	**332**	⇓P	**P**	**21 12 40.7 +1.9**
	baz=71					
M24A				⇑P	**pP**	**21 13 09.5 +2.0**
	baz=71,SNR=8.5					
N23A	**Red Feather La**	**70.80**	**331**	*e*P	**P**	**21 12 39.8 +0.7**
N23A				*ep*P	**pP**	**21 13 06.0 -1.9**
N23A	**Red Feather La**	**70.80**	**331**	⇑P	**P**	**21 12 40.6 +1.4**
	baz=71					
N23A				⇓P	**pP**	**21 13 10.3 +2.4**
	baz=71					
J28A	**Allard Ranch,**	**70.90**	**335**	⇓P	**P**	**21 12 40.7 +1.3**
	baz=71,SNR=5.6					
J28A				⇑P	**pP**	**21 13 09.6 +1.5**
	baz=71,SNR=9.0					
N22A	**Wattenberg Ran**	**70.96**	**330**	⇓P	**P**	**21 12 41.5 +1.4**
	baz=71,SNR=5.2					
N22A				⇑P	**pP**	**21 13 10.8 +1.9**
	baz=71					
BELC	**Belle Mtn. Jos**	**71.00**	**320**	⇑P	**P**	**21 12 42.1 +1.8**
	baz=71					
BELC				⇑P	**pP**	**21 13 11.1 +2.0**
	baz=71					
PFO	**Pinyon Flats O**	**71.01**	**319**	*e*P	**P**	**21 12 41.1 +0.7**
PFO				pmax	pmax	
	comp=Z,18nm,1.3s					
PFO	**Pinyon Flats O**	**71.01**	**319**	*e*P	**P**	**21 12 41.1 +0.7**
	comp=Z,18nm,1.3s					
PFO	**Pinyon Flats O**	**71.01**	**319**	⇑P	**P**	**21 12 42.8 +2.4**
	baz=71					
J27A	**Elkhorn Farm,**	**71.06**	**335**	⇑P	**P**	**21 12 42.1 +1.6**
	baz=71					
J27A				⇑P	**pP**	**21 13 11.5 +2.3**
	baz=71					
K26A	**Motz Farm, Whi**	**71.07**	**334**	⇑P	**P**	**21 12 41.3 +0.8**
	baz=71					
K26A				⇑P	**pP**	**21 13 11.6 +2.4**
	baz=71					
M23A	**Laramie**	**71.16**	**331**	⇓P	pP	21 13 11.9 +1.9
	baz=71					
LDFC	**Landfair**	**71.22**	**321**	*e*P	**P**	**21 12 41.4 -0.2**
	comp=Z,27nm,1.0s					
L24A	**Wheatland**	**71.28**	**332**	⇑P	pP	21 13 12.9 +2.3
	baz=72					
O20A	**White River Ci**	**71.28**	**329**	⇑P	**P**	**21 12 43.7 +1.8**
	baz=72					
O20A				⇑P	**pP**	**21 13 12.5 +1.8**
	baz=72					
KNB	**Kanab**	**71.30**	**324**	*e*P	**P**	**21 12 42.7 +0.6**
KNB				*e**PP	**pP**	**21 13 11.0 +0.1**
KNB				pmax	pmax	
	comp=Z,39nm,1.1s					
KNB	**Kanab**	**71.30**	**324**	*e*P	**P**	**21 12 42.7 +0.6**
	comp=Z,39nm,1.1s					
KNB				*ep*P	**pP**	**21 13 11.0 +0.1**
GMRC	**Granite Mounta**	**71.34**	**321**	⇓P	**P**	**21 12 44.5 +2.1**
	baz=72,SNR=9.8					
GMRC				⇑P	**pP**	**21 13 13.0 +1.9**
	baz=72,SNR=5.6					
MURC	**Murrieta**	**71.46**	**319**	⇓P	**P**	**21 12 45.0 +2.0**
	baz=72					
MURC				⇓P	**pP**	**21 13 13.6 +1.8**
	baz=72					
M22A	**Cedar Creek Ra**	**71.50**	**331**	⇓P	pP	21 13 14.5 +2.4
	baz=72					
J26A	**Sides Ranch, S**	**71.54**	**334**	⇑P	**P**	**21 12 45.4 +2.1**
	baz=72					
J26A				⇓P	**pP**	**21 13 14.5 +2.4**
	baz=72					
SRU	**San Rafael Swe**	**71.63**	**327**	*e*P	**P**	**21 12 44.7 +0.6**
SRU				*e**PP	**pP**	**21 13 13.5 +0.6**
SRU				pmax	pmax	
	comp=Z,17nm,0.8s					
SRU	**San Rafael Swe**	**71.63**	**327**	*e*P	**P**	**21 12 44.7 +0.6**
	comp=Z,18nm,0.8s					
SRU				*ep*P	**pP**	**21 13 13.5 +0.6**
L23A	**Garrett**	**71.67**	**332**	⇓P	pP	21 13 15.6 +2.5
	baz=72					
HEC	**Hector,Ludlow**	**71.77**	**320**	⇑P	**P**	**21 12 46.2 +1.3**
	baz=72,SNR=6.5					
HEC				⇓P	**pP**	**21 13 16.3 +2.7**
	baz=72					
N20A	**Spence Gulch,**	**71.83**	**329**	⇑P	**P**	**21 12 46.7 +1.4**
	baz=72					
N20A				⇓P	**pP**	**21 13 16.3 +2.2**
	baz=72					
H28A	**Mission Ridge**	**71.88**	**336**	⇑P	**P**	**21 12 46.1 +0.9**
	baz=72					
H28A				⇓P	**pP**	**21 13 16.3 +2.2**
	baz=72					
J25A	**Sunshine Ranch**	**71.90**	**334**	⇑P	**P**	**21 12 46.9 +1.4**
	baz=72					
J25A				⇑P	**pP**	**21 13 17.1 +2.8**
	baz=72					
L22A	**Ellis Ranch, M**	**71.93**	**331**	⇓P	**P**	**21 12 47.2 +1.4**
	baz=72					
TUQ	**Turquoise Moun**	**71.94**	**321**	⇑P	pP	21 13 17.3 +2.4
	baz=72					
MSU	**Marysvale**	**72.04**	**325**	*e*P	**P**	**21 12 47.8 +1.2**
MSU				*e*		21 13 05.9
MSU				*e**PP	**pP**	**21 13 16.3 +0.9**
MSU	**Marysvale**	**72.04**	**325**	*e*P	**P**	**21 12 47.8 +1.2**
MSU				*e*PcP	**PcP**	**21 13 05.9 +1.4**
MSU				*ep*P	**pP**	**21 13 16.3 +0.9**
I26A	**New Underwood**	**72.05**	**335**	⇓P	**P**	**21 12 47.7 +1.4**
	baz=72					
MVU	**Marysvale**	**72.05**	**325**	*e*P	**P**	**21 12 48.1 +1.3**
	comp=Z,15nm,0.9s					
MVU				*e*PcP	**PcP**	**21 13 06.4 +1.8**
MVU				*ep*P	**pP**	**21 13 16.7 +1.1**
K23A	**Bowen Ranch, D**	**72.15**	**332**	⇓P	**P**	**21 12 48.1 +1.0**
	baz=72					
K23A				⇑P	**pP**	**21 13 18.6 +2.7**
	baz=72					
F30A	**Leola**	**72.15**	**338**	⇑P	pP	21 13 18.6 +2.9
	baz=72					
BFSC	**Mount Baldy Ra**	**72.17**	**319**	⇑P	**P**	**21 12 49.4 +2.1**
	baz=72					
J24A	**Dixon Ranch, L**	**72.21**	**333**	⇓P	pP	21 13 18.0 +1.8
	baz=72					
FMP	**Fort Macarthur**	**72.22**	**318**	⇑P	**P**	**21 12 48.8 +1.4**
	baz=72					
FMP				⇑P	**pP**	**21 13 18.8 +2.5**
	baz=72					
H27A	**Howes**	**72.24**	**336**	⇑P	**P**	**21 12 49.6 +2.2**
	baz=72					
H27A				⇑P	**pP**	**21 13 18.0 +1.7**
	baz=72					
SHPR	**Sheep Range**	**72.25**	**322**	*ep*P	pP	21 13 18.1 +1.5
GSC	**Goldstone, Bar**	**72.38**	**320**	*e*P	**P**	**21 12 49.7 +1.2**
GSC				*e**PP	**pP**	**21 13 16.2 -1.1**
GSC	**Goldstone, Bar**	**72.38**	**320**	*e*P	**P**	**21 12 49.7 +1.2**
GSC				*ep*P	**pP**	**21 13 16.2 -1.1**
GSC	**Goldstone, Bar**	**72.38**	**320**	⇓P	**P**	**21 12 50.5 +2.0**
	baz=73,SNR=5.1					
GSC				⇑P	**pP**	**21 13 20.5 +3.2**
	baz=73					
I25A	**Rochford**	**72.39**	**334**	⇓P	**P**	**21 12 50.0 +1.5**
	baz=73,SNR=12					
I25A				⇓P	**pP**	**21 13 19.6 +2.2**
	baz=73,SNR=9.6					
F29A	**Eureka**	**72.43**	**338**	⇑P	pP	21 13 19.3 +1.9
	baz=73					
K22A	**Casper**	**72.46**	**332**	⇓P	pP	21 13 19.4 +1.6
	baz=73					
SHOC	**Shoshone, Teco**	**72.47**	**321**	⇑P	pP	21 13 21.1 +3.3
	baz=73					
RSSD	**Black Hills**	**72.60**	**334**	*e*P	**P**	**21 12 50.0 +0.2**
RSSD				*e**PP	**pP**	**21 13 18.9 +0.2**
RSSD	**Black Hills**	**72.60**	**334**	*e*P	**P**	**21 12 50.0 +0.2**
RSSD				*ep*P	**pP**	**21 13 18.9 +0.2**
I24A	**Kuemmerle Ranc**	**72.62**	**334**	⇓P	**P**	**21 12 51.7 +1.9**
	baz=73					
I24A				⇑P	**pP**	**21 13 21.0 +2.3**
	baz=73					
J23A	**Dilts Ranch, B**	**72.64**	**333**	⇑P	pP	21 13 19.3 +0.4
	baz=73					
E30A	**Jud**	**72.69**	**339**	⇓P	**P**	**21 12 51.8 +1.7**
	baz=73					
K21A	**Alcova**	**72.77**	**331**	⇑P	**P**	**21 12 52.5 +1.7**
	baz=73,SNR=6.8					
K21A				⇓P	**pP**	**21 13 21.8 +2.1**
	baz=73					
EDW2	**Edwards Air Fo**	**72.81**	**319**	⇓P	**P**	**21 12 52.9 +1.9**
	baz=73					
EDW2				⇓P	**pP**	**21 13 22.5 +2.6**
	baz=73					
G27A	**Dupree**	**72.82**	**336**	⇓P	pP	21 13 21.3 +1.5
	baz=73					
MPU	**Maple Canyon**	**72.87**	**327**	*e*P	**P**	**21 12 52.0 +0.6**
	comp=Z,14nm,1.0s					
MPU				*ep*P	**pP**	**21 13 21.0 +0.6**
BLG	**Laguna Peak, P**	**72.96**	**318**	⇓P	pP	21 13 22.5 +1.7
	baz=73					
G26A	**Maurine**	**73.00**	**336**	⇓P	pP	21 13 22.8 +1.9
	baz=73					
J22A	**Midwest**	**73.05**	**332**	⇓P	**P**	**21 12 53.9 +1.5**
	baz=73					
J22A				⇑P	**pP**	**21 13 23.5 +2.2**
	baz=73					
OSI	**Osito Audit: C**	**73.08**	**319**	⇑P	**P**	**21 12 53.9 +1.3**
	baz=73					
TPNV	**Topopah Spring**	**73.18**	**322**	*e*P	**P**	**21 12 54.5 +1.2**
TPNV				*e**PP	**pP**	**21 13 22.1 -0.1**
TPNV	**Topopah Spring**	**73.18**	**322**	*e*P	**P**	**21 12 54.5 +1.2**
TPNV				*ep*P	**pP**	**21 13 22.1 -0.1**
TPNV	**Topopah Spring**	**73.18**	**322**	⇓P	**P**	**21 12 55.6 +2.3**
	baz=73,SNR=9.1					
TPNV				⇑P	**pP**	**21 13 25.0 +2.8**
	baz=73					
FURC	**Furnace Creek,**	**73.21**	**321**	⇓P	**P**	**21 12 55.3 +2.1**
	baz=73,SNR=6.2					
FURC				⇑P	**pP**	**21 13 24.6 +2.5**
	baz=73					
JLU	**Jordanelle**	**73.22**	**327**	*e*P	**P**	**21 12 53.6 +0.1**
	comp=Z,12nm,0.9s					
JLU				*ep*P	**pP**	**21 13 18.5 -4.0**
G25A	**Newell**	**73.23**	**335**	⇓P	**P**	**21 12 55.0 +1.7**
	baz=74					
BSC	**Santa Cruz Isl**	**73.24**	**318**	⇓P	**P**	**21 12 55.7 +2.2**
	baz=73					
F27A	**Lemmon**	**73.27**	**336**	⇓P	pP	21 13 24.0 +1.6
	baz=74					
MPMC	**Manual Prospec**	**73.30**	**320**	⇑P	**P**	**21 12 55.1 +1.0**
	baz=74,SNR=6.0					
MPMC				⇑P	**pP**	**21 13 25.1 +2.1**
	baz=74					
AGMN	**Agassiz Nation**	**73.31**	**341**	*e*P	**P**	**21 12 52.8 -0.8**
AGMN				*ep*P	**pP**	**21 13 22.4 -0.1**
AGMN	**Agassiz Nation**	**73.31**	**341**	⇓P	**P**	**21 12 53.8 +0.2**
	baz=74					
AGMN				⇑P	**pP**	**21 13 23.6 +1.1**
	baz=74					
H24A	**Dirks Ranch, A**	**73.32**	**334**	⇑P	**P**	**21 12 55.2 +1.3**
	baz=74					
H24A				⇓P	**pP**	**21 13 24.2 +1.4**
	baz=74					
E28A	**Huff**	**73.38**	**338**	⇑P	**P**	**21 12 56.2 +2.1**
	baz=74					
E28A				⇑P	**pP**	**21 13 24.4 +1.4**
	baz=74					
J21A	**Lysite**	**73.42**	**331**	⇓P	**P**	**21 12 56.4 +1.7**
	baz=74					
J21A				⇓P	**pP**	**21 13 25.3 +1.8**
	baz=74					
I22A	**9 Mile Ranch,**	**73.44**	**332**	⇑P	**P**	**21 12 56.0 +1.4**
	baz=74					
I22A				⇑P	**pP**	**21 13 25.0 +1.4**
	baz=74					
ARVC	**Arvin**	**73.48**	**319**	⇑P	**P**	**21 12 56.0 +1.1**
	baz=74					
F26A	**Lodgepole**	**73.49**	**336**	⇓P	**P**	**21 12 56.2 +1.3**
	baz=74					
F26A				⇓P	**pP**	**21 13 25.3 +1.6**
	baz=74					
DAC	**Darwin (Calif)**	**73.51**	**321**	*e*P	**P**	**21 12 56.2 +0.9**
DAC				*e**PP	**pP**	**21 13 24.7 +0.5**
DAC				pmax	pmax	
	comp=Z,10.0nm,0.9s					
DAC	**Darwin (Calif)**	**73.51**	**321**	*e*P	**P**	**21 12 56.2 +0.9**
	comp=Z,10nm,0.9s					
DAC				*ep*P	**pP**	**21 13 24.7 +0.5**
H23A	**Clabaugh Cattl**	**73.52**	**333**	⇓P	pP	21 13 25.9 +1.9
	baz=74					
E27A	**Carson**	**73.57**	**337**	⇑P	pP	21 13 26.7 +2.6
	baz=74					
SBC	**Santa Barbara**	**73.58**	**318**	⇑P	**P**	**21 12 56.6 +1.2**
	baz=74					
SBC				⇓P	**pP**	**21 13 25.7 +1.3**
	baz=74					
C30A	**Mose, Pekin**	**73.60**	**339**	⇑P	**P**	**21 12 56.3 +1.0**
	baz=74					
C30A				⇓P	**pP**	**21 13 25.5 +1.2**
	baz=74					
DUG	**Dugway, Tooele**	**73.61**	**326**	*e*P	**P**	**21 12 56.8 +1.0**
DUG				*e**PP	**pP**	**21 13 23.8 -0.9**
DUG	**Dugway, Tooele**	**73.61**	**326**	*e*P	**P**	**21 12 56.8 +1.0**
DUG				*ep*P	**pP**	**21 13 23.8 -0.9**
DUG	**Dugway, Tooele**	**73.61**	**326**	⇑P	**P**	**21 12 56.9 +1.2**
	baz=74,SNR=9.5					
DUG				⇑P	**pP**	**21 13 26.5 +1.8**
	baz=74					
ISA	**Isabella, Lake**	**73.62**	**320**	*e*P	**P**	**21 12 56.0 +0.2**
ISA				*e**PP	**pP**	**21 13 24.0 -0.8**
ISA	**Isabella, Lake**	**73.62**	**320**	*e*P	**P**	**21 12 56.0 +0.2**
ISA				*ep*P	**pP**	**21 13 24.0 -0.8**
ISA	**Isabella, Lake**	**73.62**	**320**	⇑P	**P**	**21 12 57.0 +1.1**
	baz=74,SNR=7.5					
ISA				⇑P	**pP**	**21 13 26.5 +1.8**
	baz=74,SNR=5.3					
I21A	**Big Trails, Te**	**73.73**	**332**	⇓P	**P**	**21 12 57.4 +1.0**
	baz=74					
I21A				⇓P	**pP**	**21 13 26.6 +1.3**
	baz=74					
R11A	**Troy Canyon, C**	**73.78**	**323**	*e*P	**P**	**21 12 57.5 +0.7**
	comp=Z,12nm,1.3s					
R11A				*ep*P	**pP**	**21 13 24.6 -1.2**
R11A	**Troy Canyon, C**	**73.78**	**323**	⇓P	**P**	**21 12 58.0 +1.2**
	baz=74,SNR=13					
R11A				⇑P	**pP**	**21 13 28.1 +2.4**
	baz=74					
F25A	**Bowman**	**73.86**	**335**	⇓P	**P**	**21 12 59.1 +2.1**
	baz=74					
F25A				⇑P	**pP**	**21 13 28.1 +2.2**
	baz=74					
E26A	**Carlson Angus**	**73.94**	**336**	⇓P	pP	21 13 28.4 +2.1
	baz=74					
PD31	**Pinedale Array**	**73.94**	**330**	*e*P	**P**	**21 12 57.5 -0.2**
PD31				*ep*P	**pP**	**21 13 25.4 -1.3**
PDAR	**Pinedale Array**	**73.94**	**330**	P	**P**	**21 12 58.1 +0.4**
	comp=Z,1.6nm,0.8s,baz=145,slow=5.4,SNR=10					
PDAR				pP	**pP**	**21 13 27.1 +0.4**
	comp=Z,1.4nm,0.5s,baz=133,slow=6.3,SNR=3.6					
H22A	**Clearmont**	**73.95**	**333**	⇓P	**P**	**21 12 58.6 +1.0**
	baz=74					
HWUT	**Hardware Ranch**	**74.03**	**328**	*e*P	**P**	**21 12 57.6 -0.6**
HWUT				*ep*P	**pP**	**21 13 24.3 -2.9**
G23A	**Biddle**	**74.03**	**334**	⇑P	pP	21 13 29.1 +2.1
	baz=74					
J19A	**Crowheart**	**74.09**	**330**	⇓P	**P**	**21 12 59.9 +1.4**
	baz=74					
J19A				⇑P	**pP**	**21 13 29.5 +2.0**
	baz=74					
MDND	**Maddock**	**74.10**	**339**	*e*P	**P**	**21 12 58.1 -0.1**
MDND				*ep*P	**pP**	**21 13 27.2 0.0**
MDND	**Maddock**	**74.10**	**339**	⇑P	**P**	**21 12 59.4 +1.1**
	baz=74					
MDND				⇑P	**pP**	**21 13 28.9 +1.7**
	baz=74					
VES	**Vestal, Richgr**	**74.11**	**319**	⇓P	**P**	**21 12 60.0 +1.4**
	baz=74					
VES				⇑P	**pP**	**21 13 29.8 +2.3**
	baz=74					
D27A	**Center**	**74.13**	**337**	⇓P	pP	21 13 29.9 +2.4
	baz=74					
F24A	**Ekalaka**	**74.18**	**335**	⇓P	pP	21 13 29.9 +2.1
	baz=74					
B30A	**Myrvik Farm, E**	**74.20**	**340**	⇑P	**P**	**21 12 59.4 +0.5**
	baz=74,SNR=7.9					
B30A				⇑P	**pP**	**21 13 29.3 +1.5**
	baz=74,SNR=5.1					
I20A	**Worland**	**74.21**	**331**	⇑P	pP	21 13 30.0 +1.9
	baz=74					
BGU	**Big Grassy Mou**	**74.26**	**327**	*e*P	**P**	**21 12 59.7 +0.1**
BGU				*ep*P	**pP**	**21 13 27.7 -0.8**
SMMC	**Simmler**	**74.33**	**318**	⇑P	**P**	**21 13 01.3 +1.5**
	baz=74					
SMMC				⇓P	**pP**	**21 13 31.5 +2.6**
	baz=74					
F23A	**Volborg**	**74.46**	**334**	⇓P	**P**	**21 13 01.6 +1.1**
	baz=75					
F23A				⇓P	**pP**	**21 13 31.1 +1.7**
	baz=75					
TPH	**Tonopah**	**74.52**	**322**	*e*P	**P**	**21 13 02.6 +1.4**
TPH				pmax	pmax	
	comp=Z,10.0nm,1.0s					
TPH	**Tonopah**	**74.52**	**322**	*e*P	**P**	**21 13 02.5 +1.4**
	comp=Z,10nm,1.0s					
B29A	**Wagenman Farm,**	**74.55**	**339**	⇑P	**P**	**21 13 01.5 +0.6**
	baz=75,SNR=5.7					
B29A				⇓P	**pP**	**21 13 31.4 +1.6**
	baz

baz=75
E24A ⇑P pP 21 13 32.6 +1.7
baz=75
HVU Hansel Valley 74.76 327 *e*P P 21 13 02.5 +0.1
HVU pmax pmax
comp=Z,91nm,2.7s
HVU Hansel Valley 74.76 327 *e*P P 21 13 02.5 +0.1
comp=Z,91nm,2.7s
G21A Lodge Grass 74.81 333 ⇑P pP 21 13 33.2 +1.6
baz=75
D25A Fairfield 74.83 336 ⇑P P 21 13 04.0 +1.5
baz=75
D25A ⇑P pP 21 13 33.4 +1.9
baz=75
F22A Rosebud 74.86 334 ⇑P P 21 13 03.8 +1.1
baz=75
F22A ⇑P pP 21 13 32.7 +0.9
baz=75
B28A Dugan Ranch, T 74.87 339 ⇑P P 21 13 03.8 +1.2
baz=75
B28A ⇑P pP 21 13 33.0 +1.2
baz=75
A29A Manning Farm, 74.91 340 ⇑P P 21 13 03.4 +0.5
baz=75,SNR=8.3
A29A ⇓P pP 21 13 32.9 +1.0
baz=75,SNR=10.0
REDW Red Top Meadow 75.00 330 *e*P P 21 13 04.5 +0.6
comp=Z,13nm,1.0s
SNOW Snow King Moun 75.03 330 *e*P P 21 13 04.0 -0.1
comp=Z,10nm,0.8s
ULM Lac du Bonnet 75.06 342 P P 21 13 03.2 -0.5
comp=Z,6.2nm,0.5s,baz=160,slow=5.1,SNR=17
ULM pP pP 21 13 32.5 -0.3
comp=Z,6.0nm,0.7s,baz=143,slow=6.3,SNR=5.0
ULM Lac du Bonnet 75.06 342 *e*P P 21 13 03.0 -0.7
ULM *e**PP pP 21 13 32.1 -0.7
ULM Lac du Bonnet 75.06 342 *e*P P 21 13 03.0 -0.7
ULM epP pP 21 13 32.1 -0.7
LOHW Long Hollow 75.08 330 *e*P P 21 13 04.2 0.0
comp=Z,8.6nm,1.0s
B27A Peters Farms, 75.14 338 ⇑P pP 21 13 35.2 +1.9
baz=75
TPAW Teton Pass 75.15 330 *e*P P 21 13 04.3 -0.4
comp=Z,9.7nm,0.8s
TPAW epP pP 21 13 33.5 -0.3
MLAC Mammoth, Mammo 75.15 321 ⇑P pP 21 13 35.0 +1.1
baz=75
D24A Glendive 75.18 336 ⇓P P 21 13 06.6 +2.1
baz=75
D24A ⇓P pP 21 13 35.9 +2.3
baz=75
A28A Rude Farm, Bot 75.24 339 ⇓P P 21 13 05.9 +1.1
baz=76
A28A ⇑P pP 21 13 35.2 +1.3
baz=76
G20A Bridger 75.24 332 ⇓P pP 21 13 35.7 +1.6
baz=76
MOOW Moose Ponds 75.25 330 *e*P P 21 13 05.3 0.0
MOOW epP pP 21 13 33.7 -0.5
F21A Absaloka Mine, 75.26 333 ⇓P P 21 13 06.7 +1.6
baz=76
F21A ⇓P pP 21 13 36.1 +2.0
baz=76
C25A Freed Ranch, W 75.27 337 ⇑P P 21 13 06.8 +1.8
baz=76
C25A ⇑P pP 21 13 36.6 +2.5
baz=76
ELK Elko 75.29 325 P P 21 13 06.0 +0.5
comp=Z,3.5nm,0.9s,baz=214,slow=2.1,SNR=8.2
ELK pP pP 21 13 36.1 +1.5
comp=Z,1.8nm,0.6s,baz=113,slow=1.3,SNR=3.0
ELK Elko 75.29 325 *e*P P 21 13 05.8 +0.3
ELK *e**PP pP 21 13 32.4 -2.2
ELK pmax pmax
comp=Z,4.0nm,1.0s
ELK Elko 75.29 325 *e*P P 21 13 05.8 +0.3
comp=Z,4.4nm,1.0s
ELK epP pP 21 13 32.4 -2.2
I17A Pilgrim Ck. 75.30 330 ⇓P P 21 13 07.0 +1.5
baz=76,SNR=9.2
I17A ⇑P pP 21 13 36.7 +2.2
baz=76
NV01 Mina Array Sit 75.38 322 *e*P P 21 13 07.9 +1.8
NV01 epP pP 21 13 36.8 +1.6
NVAR Mina Array Bea 75.38 322 P P 21 13 07.9 +1.8
comp=Z,5.6nm,0.9s,baz=156,slow=7.4,SNR=10
NVAR pP pP 21 13 36.8 +1.6
comp=Z,3.8nm,0.8s,baz=150,slow=6.8,SNR=4.1
B26A Jensen Ranch, 75.46 338 ⇑P pP 21 13 38.5 +3.3
baz=76
H18A Shoshone NF, C 75.46 331 ⇑P P 21 13 07.7 +1.2
baz=76,SNR=5.3
H18A ⇓P pP 21 13 37.0 +1.4
baz=76
FLWY Flagg Ranch 75.48 330 *e*P P 21 13 06.2 -0.4
comp=Z,22nm,0.9s
FLWY epP pP 21 13 36.6 +0.9
C24A Savage 75.56 336 ⇓P P 21 13 08.5 +1.8
baz=76
C24A ⇑P pP 21 13 37.8 +2.0
baz=76
D23A Lindsay 75.57 335 ⇑P pP 21 13 37.8 +1.9
baz=76
H17A Grant Village 75.66 330 ⇓P P 21 13 09.4 +1.8
baz=76
H17A ⇑P pP 21 13 38.7 +2.0
baz=76
F20A Billings 75.67 333 ⇓P pP 21 13 38.3 +1.8
baz=76
SCHQ Schefferville 75.68 1 P P 21 13 07.3 +0.2
comp=Z,7.7nm,0.8s,baz=215,slow=4.8,SNR=10
SCHQ pP pP 21 13 37.8 +1.5
comp=Z,12nm,0.9s,baz=184,slow=4.1,SNR=6.9
SCHQ Schefferville 75.68 1 *e*P P 21 13 06.8 -0.4
comp=Z,152nm,2.5s
SCHQ epP pP 21 13 37.5 +1.3
B25A Knox Farm, Ray 75.71 337 ⇓P pP 21 13 38.1 +1.6
baz=76
LKWY Lake 75.71 331 *e*P P 21 13 08.2 +0.3
LKWY pmax pmax
comp=Z,14nm,0.9s
LKWY Lake 75.71 331 *e*P P 21 13 08.2 +0.3
comp=Z,14nm,0.9s
E21A Keefer Ranch, 75.81 334 ⇑P pP 21 13 39.0 +1.7
baz=76
A26A Wade Farm, Ken 75.83 338 ⇓P P 21 13 10.2 +2.0
baz=76
A26A ⇓P pP 21 13 38.6 +1.3
baz=76
D22A Cohagen 75.94 335 ⇑P P 21 13 10.3 +1.4
baz=76
D22A ⇓P pP 21 13 39.4 +1.5
baz=76
F19A Roth Farm, Mol 76.06 332 ⇓P P 21 13 11.1 +1.4
baz=76
F19A ⇑P pP 21 13 40.6 +1.8
baz=76
C23A Lambert 76.08 336 ⇓P pP 21 13 40.5 +1.8
baz=76
D21A La Casta Ranch 76.20 334 ⇑P P 21 13 12.2 +1.8
baz=76
D21A ⇑P pP 21 13 41.6 +2.1
baz=76
SBA Scott Base 76.22 190 *e*P P 21 13 11.6 +1.5
SBA pmax pmax
comp=Z,22nm,1.1s
SBA Scott Base 76.22 190 *e*P P 21 13 11.6 +1.5
comp=Z,22nm,1.1s
A25A Svangstu Ranch 76.25 337 ⇑P pP 21 13 41.6 +1.9
baz=76
DGMT Dagmar 76.25 337 ⇓P P 21 13 12.1 +1.5
baz=76
DGMT ⇑P pP 21 13 42.0 +2.3
baz=76
GCMT Greycliff 76.33 332 *e*P P 21 13 11.3 0.0
CMB Columbia Colle 76.34 320 *e*P P 21 13 10.4 -1.0
CMB pmax pmax
comp=Z,16nm,1.5s
CMB Columbia Colle 76.34 320 *e*P P 21 13 10.4 -1.0
comp=Z,16nm,1.5s
E19A Rath Farm, Rou 76.47 333 ⇑P P 21 13 13.3 +1.3
baz=77,SNR=10
E19A ⇓P pP 21 13 42.9 +1.8
baz=77,SNR=11
B23A Brockton 76.55 336 ⇑P P 21 13 13.9 +1.6
baz=77
B23A ⇑P pP 21 13 43.2 +1.8
baz=77
A24A Westby 76.56 337 ⇓P P 21 13 14.0 +1.7
baz=77
A24A ⇓P pP 21 13 43.7 +2.2
baz=77
D20A Manuel Ranch, 76.69 333 ⇑P pP 21 13 43.9 +1.7
baz=77,SNR=6.5
SYO Syowa Base 76.74 159 ⇑*e*P P 21 13 12.3 -0.8
C21A Desert Coulee 76.85 334 ⇑P pP 21 13 45.9 +2.7
baz=77
HLID Hailey 76.89 328 ⇓P P 21 13 16.6 +2.1
baz=77,SNR=9.6
HLID ⇓P pP 21 13 46.5 +2.8
baz=77
TOA0 Torodi Ar. Sit 76.98 70 *e*P P 21 13 14.9 -0.5
TORD Torodi Ar. Bea 76.98 70 P P 21 13 14.9 -0.5
comp=Z,22nm,0.6s,baz=253,slow=5.3,SNR=270
D19A Cripps Ranch, 77.06 333 ⇑P pP 21 13 46.1 +1.6
baz=77
C20A Veseth Ranch, 77.13 334 ⇓P pP 21 13 46.4 +1.7
baz=77
VNDA Vanda 77.24 190 P P 21 13 17.5 +1.6
comp=Z,6.2nm,0.9s,baz=123,slow=4.7,SNR=27
VNDA pP pP 21 13 46.2 +1.2
comp=Z,2.5nm,0.8s,baz=116,slow=5.5,SNR=2.8
VNDA Vanda 77.24 190 *e*P P 21 13 16.8 +1.0
VNDA *e**PP pP 21 13 46.2 +1.2
VNDA pmax pmax
comp=Z,7.0nm,0.9s
VNDA Vanda 77.24 190 *e*P P 21 13 16.8 +1.0
comp=Z,7.1nm,0.9s
VNDA epP pP 21 13 46.2 +1.2
B21A Ellsworth Farm 77.30 335 ⇑P pP 21 13 47.8 +2.1
baz=78
A22A Carney Farms, 77.33 336 ⇓P P 21 13 18.3 +1.6
baz=78
A22A ⇓P pP 21 13 47.9 +2.0
baz=78,SNR=5.4
C19A Slack Wire Ran 77.58 333 ⇑P pP 21 13 48.5 +1.2
baz=78
B20A Solberg Farm, 77.71 334 ⇓P pP 21 13 49.3 +1.2
baz=78
B19A Brinkman Farms 78.10 334 ⇓P pP 21 13 52.8 +2.6
baz=78
A19A Klindworth Far 78.39 334 ⇓P pP 21 13 53.7 +1.9
baz=79
SUR Sutherland 78.53 120 P P 21 13 25.2 +1.2
comp=Z,9.2nm,1.0s,baz=260,slow=2.6,SNR=3.5
SUR Sutherland 78.53 120 *e*P P 21 13 25.2 +1.2
comp=Z,204nm,2.0s
SLMT Seeley Lake 79.15 331 *e*P P 21 13 27.5 +0.6
SLMT epP pP 21 13 57.4 +1.3
WDC Whiskeytown Da 79.26 321 *e*P P 21 13 26.7 -0.8
WDC pmax pmax
comp=Z,9.0nm,0.7s
WDC Whiskeytown Da 79.26 321 *e*P P 21 13 26.6 -0.8
comp=Z,8.6nm,0.7s
N02D Trinity Center 79.61 321 ⇑P P 21 13 30.4 +1.0
baz=80,SNR=5.5
N02D ⇓P pP 21 14 00.8 +2.1
baz=80
M04C Macdoel 79.63 322 ⇓P P 21 13 30.7 +1.1
baz=80,SNR=8.5
K05A Summer Lake 79.72 324 *e*P P 21 13 31.4 +1.2
YBMT Yellow Bay 79.84 331 *e*P P 21 13 31.7 +1.1
YBMT epP pP 21 13 59.9 -0.1
I07A Izee 79.87 325 *e*P P 21 13 31.4 +0.6
comp=Z,24nm,1.3s
I07A epP pP 21 14 00.5 +0.4
TSUM Tsumeb 79.89 107 *e*P P 21 13 31.4 -0.1
comp=Z,9.8nm,0.8s
M02C Callahan 79.96 322 ⇓P P 21 13 32.4 +1.1
baz=80
M02C ⇑P pP 21 14 01.6 +0.9
baz=80
YBH Yreka Blue Hor 80.10 322 P P 21 13 32.2 +0.2
comp=Z,6.0nm,0.8s,baz=77,slow=2.7,SNR=14
YBH Yreka Blue Hor 80.10 322 *e*P P 21 13 31.3 -0.8
YBH pmax pmax
comp=Z,9.0nm,1.0s
YBH Yreka Blue Hor 80.10 322 *e*P P 21 13 31.3 -0.8
comp=Z,9.1nm,1.0s
K04D Chiloquin, OR 80.13 323 ⇑P P 21 13 34.1 +1.8
baz=80
KHMM Horse Mountain 80.15 321 *e*P P 21 13 32.1 -0.3
comp=Z,20nm,1.0s
BSMT Bassoo Peak 80.19 330 *e*P P 21 13 32.8 +0.2
BSMT epP pP 21 14 01.2 -0.7
J05D Fort Rock, OR 80.28 324 ⇓P P 21 13 35.0 +2.0
baz=80
J05D ⇓P pP 21 14 05.4 +3.0
baz=80
G08A Pilot Rock 80.41 327 *e*P P 21 13 33.4 -0.3
comp=Z,5.4nm,0.6s
WALA Waterton Lakes 80.68 332 *e*P P 21 13 34.2 -0.9
WALA epP pP 21 14 04.6 +0.2
J04D Umpqua Nationa 80.73 323 ⇑P P 21 13 37.4 +1.9
baz=81
L02D Cave Junction, 80.88 322 ⇓P P 21 13 37.9 +1.8
baz=81
L02D ⇓P pP 21 14 07.9 +2.3
baz=81
I05D Terrebonne, OR 81.03 325 ⇑P P 21 13 38.6 +1.7
baz=81,SNR=6.0
I05D ⇑P pP 21 14 08.4 +2.1
baz=81
I04A Tendick Farm, 81.26 324 ⇑P P 21 13 39.5 +1.4
baz=81
I04A ⇓P pP 21 14 09.2 +1.6
baz=81
MDT Midelt 81.31 50 P P 21 13 39.6 +0.8
comp=Z,2.8nm,1.0s,baz=216,slow=2.1,SNR=4.1
MDT pP pP 21 14 09.0 +0.8
comp=Z,3.5nm,0.9s,baz=230,slow=2.3,SNR=3.5
HAWA Hanford 81.46 327 *e*P P 21 13 38.9 -0.2
comp=Z,24nm,1.3s
HAWA epP pP 21 14 08.0 -0.5
NEW Newport 81.58 330 P P 21 13 40.1 +0.4
comp=Z,2.8nm,0.7s,baz=135,slow=4.3,SNR=3.6
NEW pP pP 21 14 10.1 +0.9
comp=Z,2.4nm,0.7s,baz=124,slow=18,SNR=2.4
NEW Newport 81.58 330 *e*P P 21 13 38.7 -1.0
NEW *e**PP pP 21 14 08.3 -0.9
NEW Newport 81.58 330 *e*P P 21 13 38.6 -1.0
NEW epP pP 21 14 08.2 -0.9
NEW Newport 81.58 330 ⇓P P 21 13 41.1 +1.4
baz=82
NEW ⇓P pP 21 14 11.7 +2.5
baz=82
D08A Wollman Farm, 81.61 328 *e*P P 21 13 39.7 -0.2
D08A epP pP 21 14 09.7 +0.4
G05D Wamic, OR 81.61 325 ⇑P P 21 13 41.1 +1.1
baz=82
G05D ⇑P pP 21 14 11.5 +2.1
baz=82
C09A Chrisman Ranch 81.80 329 *e*P P 21 13 39.5 -1.4
C09A epP pP 21 14 11.0 +0.6
MSKU Masuku 82.16 89 P P 21 13 44.0 +0.4
comp=Z,13nm,0.6s,baz=256,slow=3.2,SNR=4.4
FCC Fort Churchill 82.35 347 *e*P P 21 13 42.7 -0.6
FCC *e**PP pP 21 14 13.2 +0.3
FCC Fort Churchill 82.35 347 *e*P P 21 13 42.7 -0.6
FCC epP pP 21 14 13.2 +0.3
F04A Amboy 82.65 325 *e*P P 21 13 45.2 -0.1
B08A Colville Reser 82.70 329 *e*P P 21 13 45.0 -0.6
B08A epP pP 21 14 12.4 -2.7
D05A Enumclaw 83.24 327 *e*P P 21 13 48.7 +0.4
comp=Z,28nm,1.1s
EDM Edmonton 83.56 335 *e*P P 21 13 49.0 -0.8
EDM *e**PP pP 21 14 19.1 -0.3
EDM Edmonton 83.56 335 *e*P P 21 13 49.0 -0.8
EDM epP pP 21 14 19.1 -0.3
B06A Marblemount 83.87 328 *e*P P 21 13 50.5 -1.0
A05A Maple Falls 84.48 328 *e*P P 21 13 54.1 -0.5
comp=Z,21nm,0.9s
A05A epP pP 21 14 23.3 -0.8
MAW Mawson 84.59 163 P P 21 13 55.8 +0.9
comp=Z,17nm,0.6s,baz=208,slow=6.3,SNR=52
MAW Mawson 84.59 163 *e*P P 21 13 55.1 +0.1
MAW pmax pmax
comp=Z,4.0nm,0.7s
MAW Mawson 84.59 163 *e*P P 21 13 55.1 +0.1
comp=Z,4.0nm,0.7s
FRB Frobisher Bay 84.61 0 P P 21 13 54.6 -0.2
comp=Z,4.4nm,0.9s,baz=164,slow=6.7,SNR=3.7
ESDC Sonseca Array 85.39 44 P P 21 14 00.4 +0.9
comp=Z,2.2nm,1.0s,baz=243,slow=4.1,SNR=7.9
ESDC pP pP 21 14 30.2 +1.1
comp=Z,1.9nm,0.9s,baz=237,slow=5.1,SNR=3.6
YKA Yellowknife Ar 90.94 340 P P 21 14 25.4 +0.2
comp=Z,8.3nm,0.8s,baz=134,slow=4.6,SNR=152
YKA pP pP 21 14 56.0 +0.8
comp=Z,8.4nm,0.9s,baz=135,slow=4.7,SNR=9.3
YKB5 Yellowknife Ar 90.94 340 *e*P P 21 14 25.4 +0.2
YKB5 epP pP 21 14 56.0 +0.8
CASY Casey 92.84 180 *e*P P 21 14 33.9 -0.3
comp=Z,22nm,0.9s
DLBC Dease Lake 94.01 332 P P 21 14 40.6 +0.9
comp=Z,3.8nm,1.0s,baz=145,slow=10,SNR=5.1
DLBC Dease Lake 94.01 332 *e*P P 21 14 40.6 +0.9
DLBC epP pP 21 15 10.6 +1.0
VYHS Vyhne 103.90 43 *e*P Pdif 21 15 26.8 +2.6
VYHS Vyhne 103.90 43 PDIF Pdif 21 15 26.8 +2.6
STHS Stebnicka Huta 105.67 43 *e*P Pdif 21 15 33.0 +0.9
STHS Stebnicka Huta 105.67 43 PDIF Pdif 21 15 33.0 +0.9
BR101 Keskin Array S 112.41 55 *e*PKIKP PKiKP 21 19 57.4 -0.2
BRTR Keskin Array B 112.41 55 PKIKP PKiKP 21 19 57.4 -0.2
comp=Z,0.5nm,0.7s,baz=160,slow=2.4,SNR=4.7
KIV Kislovodsk 119.54 51 *i* PKIKP PKPdf 21 20 09.4 -1.7
KIV pmax pmax
comp=Z,4.0nm,1.4s
KBZ Khabaz 119.69 51 PKP PKPdf 21 20 11.4 +0.1
comp=Z,2.7nm,0.8s,baz=56,slow=24,SNR=9.6
STKA Stephens Creek 119.86 210 PKP PKPdf 21 20 12.3 +0.2
comp=Z,0.9nm,0.7s,baz=68,slow=3.8,SNR=5.2
STKA Stephens Creek 119.86 210 *e*PKIKP PKPdf 21 20 11.6 -0.6
STKA Stephens Creek 119.86 210 *e*PKPdf PKPdf 21 20 11.6 -0.6
GNI Garni 120.94 55 *i* PKIKP PKPdf 21 20 12.2 -1.8
BILL Bilibino 122.29 339 *e*PKIKP PKPdf 21 20 15.8 +0.2
BILL pmax pmax
comp=Z,1.0nm,1.0s
ARU Arti 127.71 34 *i* PKIKP PKPdf 21 20 25.1 -1.2
ARU 21 22 28.8
ARU 21 27 24.8
ARU SS SS 21 39 33.2 +1.5
ARU Arti 127.71 34 *e*PKPdf PKPdf 21 20 24.8 -1.4
TIXI Tiksi 128.47 353 *e*PKIKP PKPdf 21 20 26.4 -0.9
TIXI Tiksi 128.47 353 *e*PKPdf PKPdf 21 20 26.4 -0.9
AKTO Aktyubinsk 129.19 41 PKP PKPdf 21 20 30.3 +1.0
comp=Z,2.1nm,0.9s,baz=308,slow=4.2,SNR=7.0
SEY Seymchan 129.88 337 *i* PKIKP PKPdf 21 20 29.9 -0.3
AS12 Alice Springs 130.35 207 *e*PKPdf PKPdf 21 20 32.3 -0.2
ASAR Alice Springs 130.35 207 PKP PKPdf 21 20 32.3 -0.2
comp=Z,5.4nm,0.8s,baz=152,slow=2.4,SNR=36
ABKAR Akbulak array 130.71 43 *e*PKPdf PKPdf 21 20 32.3 +0.1
GEYT Alibeck 131.38 58 PKP PKPdf 21 20 34.6 +0.7
comp=Z,1.0nm,0.5s,baz=256,slow=5.8,SNR=4.2
PEA2 Petropavlovsk- 132.43 324 *e*PKPdf PKPdf 21 20 36.6 +1.2
PETK Petropavlovsk- 132.44 324 PKP PKPdf 21 20 36.6 +1.2
comp=Z,0.9nm,0.6s,baz=116,slow=3.4,SNR=3.9
WRA Warramunga Arr 133.39 210 PKP PKPdf 21 20 38.4 +0.1
comp=Z,5.4nm,0.6s,baz=157,slow=1.7,SNR=61
BRVK Borovoye 135.28 34 *i* PKIKP PKPdf 21 20 41.2 +0.5
BVAR Borovoye Array 135.35 34 PKP PKPdf 21 20 42.2 +1.4
comp=Z,2.5nm,0.7s,baz=262,slow=4.5,SNR=13
YAK Yakutsk 137.23 347 *i* PKIKP PKPdf 21 20 51.8 +7.8
NVS Novosibirsk 140.23 25 *e*PKIKP PKPdf 21 20 50.2 +0.5
NVS *e* 21 21 21.4
KURK Kurchatov 140.88 33 *e*PKPpre PKPpre 21 20 46.5
KURK *e*PKPdf PKPdf 21 20 50.8 -0.2
KURK *e*PKPdf PKiKP 21 20 52.4 -1.4
KURBB Kurchatov Arra 140.90 33 PKhKP PKPpre 21 20 46.5
comp=Z,2.3nm,0.8s,baz=298,slow=3.1,SNR=9.0
KURBB PKP PKPdf 21 20 52.4 +1.3
comp=Z,2.0nm,0.6s,baz=302,slow=2.6,SNR=20
ZAA1 Zalesovo Array 141.52 25 *e*PKPpre PKPpre 21 20 47.4
ZAA1 *e*PKPdf PKPdf 21 20 53.1 +1.0
ZALV Zalesovo Beam 141.52 25 PKhKP PKPpre 21 20 47.4
comp=Z,6.0nm,0.6s,baz=321,slow=4.9,SNR=12
ZALV PKP PKPdf 21 20 53.1 +1.0
comp=Z,9.0nm,0.5s,baz=285,slow=3.0,SNR=26
ZALV SKP 21 24 19.8
comp=Z,0.9nm,0.7s,baz=319,slow=5.7,SNR=4.0
AAK Ala-Archa 142.47 47 PKP PKPdf 21 20 55.0 +0.6
comp=Z,2.9nm,0.7s,baz=218,slow=2.1,SNR=10
AAK Ala-Archa 142.47 47 *i* PKIKP PKPdf 21 20 53.1 -1.3
AAK Ala-Archa 142.47 47 *e*PKPdf PKPdf 21 20 54.0 -0.4
TKM2 Tokmak 2 143.09 46 *e*PKIKP PKPbc 21 20 53.7 +0.9
TKM2 Tokmak 2 143.09 46 *e*PKPdf PKPbc 21 20 53.7 +0.9
BOD Bodaibo 143.32 358 *e*PKIKP PKPab 21 20 51.6 +0.3
BOD pmax pmax
comp=Z,4.0nm,1.0s
YSS Yuzh-Sakhalins 143.82 323 *e*PKIKP PKPbc 21 20 54.0 -0.4
KSH Kashi 144.67 51 ⇓ *i* PKP PKPdf 21 20 58.0 -0.3
KSH sPKP 21 21 35.3
KSH PKS PKSdf 21 24 32.1 -1.9
KSH SKS SKSdf 21 27 55.5 -1.8
KSH PPMZ
comp=Z,89nm,4.2s
KSH LN
comp=Z,73nm,7.0s
KSH LE
comp=Z,68nm,5.9s
KSH LZ
comp=Z,140nm,8.4s
MK32 Makanchi Array 145.19 36 *e*PKPbc PKPab 21 20 59.3 +0.4
MKAR Makanchi Array 145.19 36 PKPbc PKPab 21 20 59.3 +0.4
comp=Z,17nm,0.8s,baz=305,slow=5.1,SNR=184
MKAR pPKPbc pPKPbc 21 21 30.6 +1.0
comp=Z,8.8nm,0.8s,baz=282,slow=7.3,SNR=6.3
MKAR Makanchi Array 145.19 36 *e*PKIKP PKPab 21 20 58.9 0.0
MKAR Makanchi Array 145.19 36 *e*PKPbc PKPab 21 20 58.9 0.0
ASAJ Asahikawa 145.46 319 PKPbc PKPab 21 21 00.4 +0.5
comp=Z,27nm,0.9s,baz=252,slow=2.0,SNR=9.8
ASAJ pPKPbc pPKPbc 21 21 32.7 +2.2
comp=Z,22nm,0.8s,baz=90,slow=6.1,SNR=5.3
ASAJ Asahikawa 145.46 319 *e*PKPdf PKPdf 21 20 59.1 -0.3
BATI Baumata 146.59 202 PKPbc PKPab 21 21 05.1 +0.1
comp=Z,45nm,1.0s,baz=277,slow=8.1,SNR=3.9
URV Uravakonda 147.03 95 *e*PKPdf PKPdf 21 21 01.8 -1.0
URV *e*PKPab PKPbc 21 21 05.3 +0.2
GUMO Guam 147.22 262 PKPbc PKPbc 21 21 05.6 0.0
comp=Z,76nm,0.7s,baz=185,slow=14,SNR=4.2
MOY Mondy 148.48 12 *e*PKP2 PKPbc 21 21 09.2 +1.2
MOY pmax pmax
comp=Z,22nm,1.9s
HYBB Hyderabad (bro 148.83 91 *e*P PKPdf 21 21 04.8 -1.0
HYBB *e*PKiKP PKPbc 21 21 10.0 +0.2
HYBB *e*PKPab PKPab 21 21 13.3 -0.7
HYBB *ep*PKPdf pPKPdf 21 21 34.6 -2.5
HYBB *ep*PKPab pPKPab 21 21 40.9 -3.4
HYB Hyderabad 148.83 91 *i* PKP PKPdf 21 21 05.0 -0.8
TLY Talaya 148.93 9 *i* PKP2 PKPbc 21 21 08.8 -0.2
RPR Rampur 149.79 89 *e*PKPdf PKPdf 21 21 05.3 -2.0
RPR *e*PKPbc PKPbc 21 21 10.3 -1.8
WMQ Urumqi 150.02 36 *e*PKPbc PKPdf 21 21 08.2 +1.2
WMQ LZ
comp=Z,110nm,22.2s
ZAK Zakamensk 150.13 10 *e*PKHKP PKPpre 21 21 07.5
ZAK pmax pmax
comp=Z,5.0nm,1.1s
USRK Ussuriysk Ar. 151.35 328 PKP PKPdf 21 21 10.1 +1.2
comp=Z,1.6nm,0.9s,baz=11,slow=3.9,SNR=5.6
USRK PKPbc PKiKP 21 21 15.4 -0.1
comp=Z,17nm,0.9s,baz=22,slow=0.9,SNR=52
USRK pPKPbc pPKPbc 21 21 47.1 +1.0
comp=Z,9.6nm,0.8s,baz=41,slow=1.1,SNR=10
LEM Lembang 151.96 172 PKP PKPdf 21 21 11.6 +0.6
comp=Z,13nm,0.9s,baz=136,slow=4.1,SNR=3.9
LEM PKPbc PKiKP 21 21 18.8 +0.9
comp=Z,64nm,0.7s,baz=120,slow=8.1,SNR=17
MJAR Matsushiro Arr 152.06 309 PKPbc PKPbc 21 21 17.2 +0.3
comp=Z,8.3nm,0.9s,baz=98,slow=1.5,SNR=33
MJAR pPKPbc pPKPbc 21 21 48.2 +0.1
comp=Z,4.7nm,1.0s,baz=88,slow=1.8,SNR=3.7
MAJO Matsushiro 152.06 309 *e*PKIKP PKPbc 21 21 16.0 -1.0
MAJO Matsushiro 152.06 309 *e*PKPbc PKPbc 21 21 16.0 -1.0
MAT Matsushiro 152.06 309 PKP PKPbc 21 21 17.1 +0.2
SONA0 Songino Array 153.07 7 *e*PKPdf PKPdf 21 21 12.7 +1.1
SONA0 *e*PKPbc PKiKP 21 21 19.6 +0.5
SONM Songino Array 153.07 7 PKP PKPdf 21 21 12.7 +1.1
comp=Z,2.8nm,0.8s,baz=315,slow=0.6,SNR=23
SONM PKPbc PKiKP 21 21 19.6 +0.5
comp=Z,4.3nm,0.7s,baz=218,slow=1.2,SNR=20
SONM pPKPbc pPKPbc 21 21 50.2 +0.1
comp=Z,3.1nm,0.8s,baz=225,slow=0.5,SNR=4.8
ULN Ulaanbaatar 153.11 6 *e*PKIKP PKPdf 21 21 11.8 +0.2
ULN Ulaanbaatar 153.11 6 *e*PKPdf PKPdf 21 21 11.8 +0.2
CHLP Challavanipeta 154.18 91 *e*PKPdf PKPdf 21 21 12.2 -1.6
CHLP *e* 21 21 33.5

CHLP	**Challavanipeta**	**154.18**	**91**	*e*P		**PKPdf**	**21 21 12.2**	**-1.6**
CHLP				*e*			21 21 17.5	
CHLP				*e*			21 22 49.1	
PSI	**Prapat**	**158.10**	**145**	PKP		**PKPdf**	**21 21 19.8**	**+0.5**
	comp=Z,2.5nm,0.4s,baz=194,slow=2.2,SNR=4.0							
KSRS	**Korea Array**	**158.32**	**322**	PKP		**PKPdf**	**21 21 19.7**	**+1.1**
	comp=Z,2.8nm,0.9s,baz=56,slow=1.8,SNR=8.5							
KSRS				PKPab		**PKPab**	**21 21 54.4**	**+1.0**
	comp=Z,3.4nm,0.7s,baz=58,slow=4.7,SNR=10							
KS15	**Wonju Array Si**	**158.35**	**322**	*e*PKPdf		**PKPdf**	**21 21 19.7**	**+1.0**
KS15				*e*PKPab		**PKPab**	**21 21 54.4**	**+0.8**
GTA	**Gaotai**	**159.27**	**26**	*e*PKP		**PKPdf**	**21 21 21.2**	**+1.3**
GTA				PKPab		**PKPab**	**21 22 00.9**	**+3.3**
LSA	**Lhasa**	**159.86**	**61**	*e*PKIKP		**PKPdf**	**21 21 22.0**	**+0.7**
LSA	**Lhasa**	**159.86**	**61**	*e*PKPdf		**PKPdf**	**21 21 22.0**	**+0.7**
HHC	**Hu-ho-hao-te**	**160.36**	**360**	*e*PKP		**PKPdf**	**21 21 20.7**	**-0.4**
HHC				pPKP		**pPKPdf**	**21 21 48.8**	**-3.7**
HHC				PKS		**PKSdf**	**21 24 52.9**	**-1.6**
HHC				PP		**PP**	**21 25 47.2**	**+3.4**
HHC				SKS		**SKSdf**	**21 28 12.4**	**-3.5**
HHC				SS		**SS**	**21 45 47.0**	**+2.4**
HHC				PPMZ				
	comp=Z,33nm,9.4s							
HHC				LN				
	comp=Z,84nm,21.5s							
HHC				LE				
	comp=Z,150nm,21.6s							
HHC				LZ				
	comp=Z,69nm,21.5s							
LZH	**Lanzhou**	**163.72**	**22**	*e*PKP		**PKPdf**	**21 21 22.3**	**-2.4**
GYA	**Guiyang**	**173.17**	**38**	*e*PKP		**PKPdf**	**21 21 31.2**	**0.0**
GYA				PKPab		**PKPab**	**21 23 01.0**	**+1.7**
GYA				PKS		**PKSdf**	**21 25 01.8**	**-1.9**
GYA				PP		**PP**	**21 26 52.3**	**+1.8**
GYA				PPMZ				
	comp=Z,120nm,8.3s							

JMA 01 21:04:50.0±0.1, 37.57N×139.19E, h11km±1km, M1.1, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNS	**Sasagawa**	**0.27**	**22**	P	Pg	21 04 55.5	0.0
JHK	**Hiroka**	**0.35**	**203**	P	Pg	21 04 56.9	-0.1
JHK				S	Sg	21 05 01.5	-0.2

IDC 01 21:04:50.5±4.4, 17.00S×66.73E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.4/60, mbtmp3.6/4, Error ellipse: s-maj=123.9km s-min=35.4km az=61.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Garcia H**	**10.86**	**32**	T	T	21 18 32.8	
	baz=208,slow=76,SNR=100						
H08S2	**Diego Garcia H**	**10.87**	**32**	T	T	21 18 30.5	
	baz=208,slow=76,SNR=58						
H08S3	**Diego Garcia H**	**10.88**	**32**	T	T	21 18 31.3	
	baz=208,slow=76,SNR=78						
H08N3	**Diego Garcia H**	**11.38**	**22**	T	T	21 19 14.3	
	baz=200,slow=76,SNR=87						
H08N1	**Diego Garcia H**	**11.39**	**22**	T	T	21 19 15.0	
	baz=200,slow=76,SNR=82						
H08N2	**Diego Garcia H**	**11.40**	**22**	T	T	21 19 10.2	
	baz=200,slow=76,SNR=81						
H01W3	**Cape Leeuwin H**	**45.74**	**122**	T	T	22 01 50.2	
	baz=280,slow=75,SNR=104						
H01W2	**Cape Leeuwin H**	**45.75**	**122**	T	T	22 02 04.1	
	baz=280,slow=75,SNR=93						
H01W1	**Cape Leeuwin H**	**45.76**	**122**	T	T	22 01 54.2	
	baz=280,slow=75,SNR=84						
CMAR	**Chiang Mai Arr**	**47.39**	**43**	P	P	21 13 26.5	-0.2
	0.2nm,0.3s,baz=229,slow=6.9,SNR=5.1						
ASAR	**Alice Springs**	**62.85**	**108**	P	P	21 15 18.4	-0.3
	0.8nm,0.7s,baz=272,slow=5.6,SNR=7.4						
WRA	**Warramunga Arr**	**63.80**	**104**	P	P	21 15 25.4	+0.3
	2.0nm,1.1s,baz=264,slow=6.1,SNR=6.6						
KURBB	**Kurchatov Arra**	**68.12**	**8**	P	P	21 15 52.1	+0.1
	0.2nm,0.8s,baz=206,slow=6.1,SNR=2.8						

*BJI **01** 21:18:52.4, 13.45N×92.61E, h26km, mb4.6/42, mB4.7/36, Ms4.2/45, Ms7 3.9/41*

*ISCJB **01** 21:18:53.6±0.7, 13.67N±0.02×92.73E±0.02, h22km±5km, mb4.9/185, MS4.1/27, Error ellipse: s-maj=4.0km s-min=3.2km az=23.9*

*MOS **01** 21:18:54.5±0.8, 13.63N×92.78E, h33km, mb5.3/66, MS4.1/6, Error ellipse: s-maj=7.8km s-min=4.3km az=120.3*

*SZGRF **01** 21:18:55.9, 12.76N×92.91E, h56km, mb5.1, Andaman Islands, India, region*

*BKK **01** 21:18:56.3±0.3, 14.3°×9.3°E±°, h10km, M4.5/26, mB5.0/14, mb4.7/26, MLv4.8/11, Mw(mB)4.3/14*

*IDC **01** 21:18:56.9±0.6, 13.59N×92.91E, h35km±3km, mb4.4/36, mb1 4.5/38, mb1mx4.4/47, mbtmp4.6/38, ML3.9/2, MS4.0/22, Ms1 4.0/22, ms1mx3.8/39, Error ellipse: s-maj=12.9km s-min=7.8km az=44.0*

*NEIC **01** 21:18:56.6±0.1, 13.62N×92.78E, mb5.0/89, Error ellipse: s-maj=4.4km s-min=3.3km az=217.0*

*DJA **01** 21:19:00.7±0.5, 14°N±2°×9.3°E±°, h56km±6km, M4.5/25, mb4.7/25, mB5.0/10, MLv4.7/1, Mw(mB)4.3/10*

ISC 01 21:18:56.6±0.3, 13.56N±0.03×92.72E±0.03, h33km±1km, h33km:pP-P, n589, σ1.9s34/677, mb5.0/185, MS4.0/27, 44C-27D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DGPR	**DIGLIPUR**	**0.43**	**151**	*e*P	**Pn**	**21 19 08.9**	**+2.5**
DGPR				*e*S	**Sn**	**21 19 16.9**	**+3.8**
PBA	**Port Blair**	**1.89**	**179**	*e*P	Pb	21 19 29.4	-1.1
KHLT	**Khaolaem Dam**	**5.83**	**77**	P	**Pn**	**21 20 20.6**	**-0.2**
	113nm,0.7s,821nm0.4nm						
SRDT	**SRDT**	**6.27**	**82**	P	**Pn**	**21 20 26.9**	**+0.1**
	340nm,0.8s,7μm1.0nm						
CMBY	**CAMPBELL BAY**	**6.61**	**170**	*e*P	**Pn**	**21 20 32.8**	**+1.3**
CMBY				AMB	AMB	21 20 45.5	
	comp=Z,69nm,1.2s						
CMBY				*e*S	**Sn**	**21 21 44.0**	**-1.8**
SURT	**Suratani**	**7.51**	**127**	P	**Pn**	**21 20 47.0**	**+3.1**
	comp=Z,35nm,1.0s,comp=Z,302nmcomp=Z,0.1nm						
CM31	**Chiang Mai Arr**	**7.72**	**50**	*e*Pn	**Pn**	**21 20 45.6**	**-1.1**
CM31				*e*Sn	Sn	21 22 06.3	-6.8
CMAR	**Chiang Mai Arr**	**7.72**	**50**	Pn	**Pn**	**21 20 45.6**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=241,slow=15,SNR=27						
CMAR				Sn	Sn	21 22 06.3	-6.8
	comp=Z,0.9nm,0.3s,baz=238,slow=26,SNR=9.4						
CMAR				LR	LR	21 24 32.6	
	comp=Z,1μm,18.8s,baz=244,slow=44						
PKDT	**Phuket**	**7.88**	**135**	P	Pn	21 20 52.8	+3.8
	comp=Z,160nm,0.8s,comp=Z,1μmcomp=Z,0.5nm						
CHTO	**Chiang Mai**	**7.95**	**48**	P	**Pn**	**21 20 50.3**	**+0.5**
	comp=Z,78nm,0.8s,comp=Z,2μmcomp=Z,0.6nm						
CHTO	**Chiang Mai**	**7.95**	**48**	*e*P	Pn	21 20 46.3	-3.5
CHTO	**Chiang Mai**	**7.95**	**48**	*e*Pn	Pn	21 20 46.3	-3.5
CMMT	**Chiang Mai**	**7.95**	**48**	P	**Pn**	**21 20 50.3**	**+0.4**
	comp=Z,55nm,0.9s,comp=Z,481nmcomp=Z,0.2nm						
LAMP	**Lampang**	**8.28**	**52**	P	**Pn**	**21 20 55.8**	**+1.3**
	comp=Z,16nm,0.7s,comp=Z,198nmcomp=Z,0.1nm						
PBKT	**Sadao Pong**	**8.52**	**68**	P	**Pn**	**21 20 57.3**	**-0.4**
	comp=Z,53nm,0.8s,comp=Z,0.2nm						
UTTA	**Uttaradit**	**8.62**	**60**	P	Pn	21 21 02.5	+3.4
	comp=Z,7.5nm,0.9s,comp=Z,71nmcomp=Z,0.0nm						
CMAI	**Chiengmai2**	**8.77**	**43**	P	Pn	21 21 06.3	+5.0
	comp=Z,46nm,1.4s,comp=Z,0.2nm						
TRTT	**Trang**	**8.90**	**129**	P	Pn	21 21 08.1	+5.1
	comp=Z,27nm,0.9s						
LHMI	**Lhok Sumawe**	**9.27**	**153**	P	Pn	21 21 13.1	+5.1
CRAI	**Chiangrai**	**9.88**	**47**	P	**Pn**	**21 21 15.9**	**-0.6**
	comp=Z,7.6nm,0.8s						
VIS	**Vishakhapatnam**	**9.95**	**296**	*i* P	**Pn**	**21 21 16.3**	**-1.0**
VIS				AMB	AMB	21 21 27.3	
	comp=Z,128nm,0.2s						
VIS				*i* x	x	21 22 57.5	
KHON	**Khomkaen**	**10.15**	**73**	P	**Pn**	**21 21 22.7**	**+2.6**
	comp=Z,29nm,0.8s,comp=Z,1μm						
IMP	**Imphal**	**11.23**	**6**	*ex*	**Pn**	**21 21 34.0**	**-0.9**
IMP				*ex*	x	21 25 20.0	
KULM	**Kulim**	**11.34**	**136**	*e*Pn	**Pn**	**21 21 36.5**	**+0.1**
TSI	**Tuntungan**	**11.54**	**149**	P	Pn	21 21 44.4	+5.3
SHL	**Shillong**	**11.97**	**356**	*e*P	**Pn**	**21 21 44.4**	**-0.8**
SHL				AMB	AMB	21 21 50.7	
	comp=Z,17nm,2.1s						
SHL				*ex*	Sn	21 23 50.0	-7.8
BOK	**Bokaro**	**12.06**	**329**	*e*P	**Pn**	**21 21 45.0**	**-1.2**
BOK				AMB	AMB	21 22 11.2	
	comp=Z,42nm,1.1s						
IPM	**Ipoh**	**12.19**	**137**	*e*Pn	**Pn**	**21 21 48.0**	**0.0**
PSI	**Prapat**	**12.32**	**150**	Pn	**Pn**	**21 21 52.0**	**+2.1**
	comp=Z,0.6nm,0.3s,baz=336,slow=14,SNR=8.0						
PSI				Sn	**Sn**	**21 24 11.5**	**+5.2**
	comp=Z,0.6nm,0.3s,baz=24,slow=20,SNR=4.5						
SKHT	**Srikalahasti**	**12.64**	**272**	*e*Pn	**Pn**	**21 21 54.0**	**-0.2**
SKHT				*e*		21 24 00.7	
PALK	**Pallekele**	**13.36**	**243**	*e*P	**Pn**	**21 22 04.6**	**+0.6**
PALK	**Pallekele**	**13.36**	**243**	*e*Pn	**Pn**	**21 22 04.6**	**+0.6**
PALK				*e*Sn	Sn	21 24 21.3	-10
RPR	**Rampur**	**13.93**	**294**	*e*Pn	**Pn**	**21 22 11.9**	**+0.2**
ODAN	**Odare**	**14.15**	**340**	*e*P	Pn	21 22 11.2	-3.7
	comp=Z,42nm,0.4s						
HYB	**Hyderabad**	**14.18**	**288**	*i* P	**P**	**21 22 20.0**	**-2.3**
HYB				*e*S	**Sn**	**21 24 54.0**	**+2.5**
HYB	**Hyderabad**	**14.18**	**288**	*e*P	**Pn**	**21 22 16.2**	**+1.0**
HYB				AMB	AMB	21 22 25.7	
	comp=Z,12nm,0.0s						
HYB	**Hyderabad**	**14.18**	**288**	*e*P	**P**	**21 22 20.0**	**-2.3**
HYB	**Hyderabad**	**14.18**	**288**	*e*P	**P**	**21 22 20.0**	**-2.3**
HYB				*e*S	**S**	**21 25 16.0**	**+4.4**
HYBB	**Hyderabad (bro**	**14.18**	**288**	*e*Pn	**Pn**	**21 22 16.6**	**+1.4**
HYBB				*e*		21 24 33.0	
TAPN	**Taplejung**	**14.50**	**342**	*e*P	Pn	21 22 16.5	-3.3
RAMN	**Ramite**	**14.51**	**338**	*e*P	**Pn**	**21 22 16.8**	**-3.0**
	comp=Z,74nm,0.5s						
KMI	**Kunming**	**14.89**	**38**	P	**Pn**	**21 22 22.4**	**-2.6**
KMI				S	**Sn**	**21 25 10.9**	**+2.0**
KMI				PMZ			
	comp=Z,110nm,5.8s						
KMI				LN			
	comp=Z,530nm,15.2s						
KMI				LE			
	comp=Z,520nm,19.4s						
KMI				LZ			
	comp=Z,640nm,16.3s						
URV	**Uravakonda**	**15.05**	**277**	*e*Pn	**Pn**	**21 22 26.8**	**-0.1**
NGP	**Nagpur**	**15.07**	**302**	*e*P	**Pn**	**21 22 27.3**	**+0.1**
NGP				*ex*	x	21 22 44.2	
	comp=Z,84nm,1.0s						
NGP				*ex*	x	21 25 02.7	
JIRN	**Jiri**	**15.30**	**338**	*e*P	**Pn**	**21 22 28.1**	**-2.5**
	comp=Z,141nm,1.1s						
PKI	**Pulchoki**	**15.53**	**335**	*e*P	**Pn**	**21 22 30.5**	**-3.0**
PKIN	**Phulchoki**	**15.54**	**335**	*e*P	**Pn**	**21 22 30.3**	**-3.2**
	comp=Z,70nm,0.7s						
GUN	**Gumba**	**15.64**	**337**	*e*P	**Pn**	**21 22 32.6**	**-2.4**
DMN	**Daman**	**15.69**	**334**	*e*P	**Pn**	**21 22 32.5**	**-3.0**
	comp=Z,154nm,0.8s						
KKN	**Kakani**	**15.77**	**335**	*e*P	**Pn**	**21 22 35.2**	**-1.3**
MYKOM	**Kota Tinggi**	**16.06**	**136**	*e*Pn	**Pn**	**21 22 39.8**	**-0.3**
	comp=Z,56nm,1.1s						
LSA	**Lhasa**	**16.13**	**355**	*e*P	**Pn**	**21 22 38.5**	**-2.9**
LSA				*e*		21 25 29.5	
LSA				pmax	pmax		
	comp=Z,53nm,1.1s						
LSA	**Lhasa**	**16.13**	**355**	*e*Pn	**Pn**	**21 22 38.5**	**-2.9**
	comp=Z,53nm,1.1s						
LSA				*e*Sn	Sn	21 25 29.5	-10
GKN	**Gorkha**	**16.23**	**334**	*e*P	**Pn**	**21 22 40.6**	**-1.7**
TRD	**Trivandrum**	**16.26**	**254**	*e*P	**Pn**	**21 22 43.1**	**+0.5**
KOLN	**Koldanda**	**16.50**	**330**	*e*P	**Pn**	**21 22 45.0**	**-0.9**
	comp=Z,175nm,0.8s						
AKL	**Akola**	**16.60**	**297**	*e*P	**Pn**	**21 22 47.4**	**+0.5**
AKL				AMB	AMB	21 23 02.1	
	comp=Z,48nm,1.0s						
TPRI	**Tanjung Pinang**	**17.16**	**136**	P	**P**	**21 22 55.6**	**+0.3**
	comp=Z,75nm,0.9s,comp=Z,852nm						
QIZ	**Qiongzhong**	**17.31**	**69**	P	**Pn**	**21 22 56.4**	**+0.5**
QIZ				S	**Sn**	**21 26 08.3**	**+0.6**
QIZ				PMZ			
	comp=Z,15nm,1.5s						
QIZ				PMZ			
	comp=Z,71nm,4.6s						
QIZ				LN			
	comp=Z,340nm,28.7s						
QIZ				LZ			
	comp=Z,960nm,15.9s						
BHPL	**Bhopal**	**17.40**	**306**	*e*P	**Pn**	**21 22 55.6**	**-1.4**
BHPL				AMB	AMB	21 23 10.4	
	comp=Z,53nm,0.6s						
GYA	**Guiyang**	**18.32**	**43**	*i* P	**Pn**	**21 23 08.5**	**+0.1**
GYA				pP	**pP**	**21 23 18.4**	**+1.4**
GYA				PP	**PnPn**	**21 23 26.2**	**+6.0**
GYA				S	**Sn**	**21 26 28.0**	**-4.2**
GYA				sS	**S**	**21 26 41.8**	**+5.6**
GYA				PMZ			
	comp=Z,20nm,0.8s						
GYA				PMZ			
	comp=Z,120nm,4.6s						
GYA				LN			
	comp=Z,550nm,14.5s						
GYA				LE			
	comp=Z,470nm,15.0s						
GYA				LZ			
	comp=Z,520nm,14.2s						
GOA	**Goa**	**18.39**	**278**	*e*P	**Pn**	**21 23 10.2**	**+1.0**
GOA				AMB	AMB	21 23 21.4	
	comp=Z,21nm,0.3s						
JMBI	**JAMBI**	**18.58**	**144**	P	**Pn**	**21 23 13.8**	**+2.4**
	comp=Z,278nm,0.8s						
POO	**Poona**	**18.79**	**288**	*e*P	**Pn**	**21 23 14.0**	**-0.1**
	comp=Z,20nm,1.0s						
POO				*e*P	**pP**	**21 23 20.1**	**-2.0**
POO				AMB	AMB	21 23 28.6	
	comp=Z,15nm,0.7s						
CD2	**Chengdu**	**20.05**	**29**	P	Pn	21 23 28.3	-0.7
CD2				pP	pP	21 23 36.3	+0.6
CD2				PP	**PnPn**	**21 23 47.9**	**+4.1**
CD2				sS	Sn	21 27 22.1	+8.4
CD2				SS	**SnSn**	**21 27 36.0**	**+7.5**
CD2				PMZ			
	comp=Z,30nm,0.7s						
CD2				PMZ			
	comp=Z,100nm,6.0s						
CD2				LN			
	comp=Z,310nm,13.2s						
CD2				LE			
	comp=Z,390nm,14.4s						
CD2				LZ			
	comp=Z,310nm,16.8s						
PPBI	**Pangkal Pinang**	**20.52**	**139**	P	Pn	21 23 33.8	-0.8
	comp=Z,31nm,1.1s,comp=Z,458nm						
KSM	**Kuching**	**21.15**	**123**	*e*P	**P**	**21 23 39.4**	**+0.3**
	comp=Z,44nm,1.2s						
MDSI	**Maura Dua**	**21.23**	**147**	P	**P**	**21 23 38.5**	**-1.4**
AJM	**Ajmer**	**21.26**	**310**	*ex*	**P**	**21 23 42.0**	**+1.8**
DDI	**Dehra Dun**	**21.49**	**323**	*e*P	**P**	**21 23 44.3**	**+1.7**
DDI				AMB	AMB	21 24 15.4	
	comp=Z,111nm,0.8s						
LWLI	**Liwa**	**21.62**	**148**	P	**P**	**21 23 47.2**	**+3.0**
	comp=Z,47nm,0.7s						
TPI	**Tanjungpandan**	**21.96**	**136**	P	**P**	**21 23 48.7**	**+1.0**
	comp=Z,38nm,1.2s						
SBUM	**Sibu**	**22.22**	**118**	*e*P	**P**	**21 23 48.6**	**-1.9**
	comp=Z,19nm,1.1s						
SMLA	**Simla**	**22.59**	**323**	*i* P	**P**	**21 23 55.2**	**+0.8**
SMLA				AMB	AMB	21 23 57.7	
	comp=Z,98nm,0.5s						
SMLA				*i* S	**S**	**21 28 02.4**	**+2.4**
ENH	**Enshi**	**22.73**	**40**	*e*P	**P**	**21 23 53.4**	**-2.5**
	comp=Z,17nm,0.8s						
DHRM	**DHARAMSHALA**	**23.92**	**324**	*e*P	**P**	**21 24 08.0**	**+0.2**
DHRM				AMB	AMB	21 24 18.5	
	comp=Z,76nm,0.7s						
LZH	**Lanzhou**	**24.56**	**22**	*e*P	**P**	**21 24 13.6**	**-0.1**
LZH				pP	**pP**	**21 24 22.2**	**-1.0**
LZH				sP	**sP**	**21 24 28.6**	**+1.4**
LZH				S	**S**	**21 28 36.1**	**+3.5**
LZH				sS	**sS**	**21 28 43.5**	**-4.7**
LZH				SS	**SnSn**	**21 29 24.1**	**+4.8**
LZH				PMZ			
	comp=Z,22nm,1.0s						
LZH				PMZ			
	comp=Z,110nm,4.0s						
LZH				LN			
	comp=Z,790nm,13.8s						
LZH				LE			
	comp=Z,360nm,14.2s						
LZH				LZ			
	comp=Z,660nm,15.7s						
XAN	**Xi'an**	**25.14**	**33**	P	**P**	**21 24 17.2**	**-1.6**
XAN				pP	**pP**	**21 24 26.3**	**-2.0**
XAN				S	**S**	**21 28 44.0**	**+2.2**
XAN				PMZ			
	comp=Z,5.0nm,0.8s						
XAN				LN			
	comp=Z,220nm,17.4s						
XAN				LE			
	comp=Z,81nm,16.4s						
XAN				LZ			
	comp=Z,67nm,14.4s						
GTA	**Gaotai**	**26.51**	**12**	⇑P	**P**	**21 24 31.6**	**+0.4**
GTA				pP	**pP**	**21 24 40.9**	**+0.2**
GTA				sP	**sP**	**21 24 45.1**	**+0.4**
GTA				PcP	**PcP**	**21 27 56.3**	**+0.7**
GTA				S	**S**	**21 29 02.1**	**-1.2**
GTA				sS	**sS**	**21 29 18.3**	**-0.7**
GTA				SS	**SnSn**	**21 30 13.6**	**+7.0**
GTA				ScP	**ScP**	**21 31 33.9**	**+0.6**
GTA				PcS	**PcS**	**21 31 37.7**	**+0.9**
GTA				PMZ			
	comp=Z,8.0nm,1.1s						
GTA				PMZ			
	comp=Z,70nm,7.8s						
GTA				LN			
	comp=Z,250nm,19.5s						
GTA				LE			
	comp=Z,160nm,19.0s						
GTA				LZ			
	comp=Z,200nm,19.5s						
CHCP	**Chirah Chowk**	**26.71**	**322**	P	**P**	**21 24 33.3**	**+0.3**
QZH	**Quanzhou**	**26.87**	**61**	*e*P	**P**	**21 24 37.2**	**+2.7**
QZH				S	**S**	**21 29 11.0**	**+1.8**
QZH				LN			
	comp=Z,320nm,8.5s						
QZH				LE			
	comp=Z,640nm,15.6s						
QZH				LZ			
	comp=Z,650nm,20.7s						
THW	**Thamme Wali**	**27.08**	**319**	P	**P**	**21 24 36.4**	**+0.1**
CEP	**Cherat**	**27.65**	**320**	⇑P	**P**	**21 24 42.1**	**+0.6**
CEP				S	**S**	**21 29 20.0**	**-1.5**
SSLB	**Suanglung**	**28.57**	**65**	*e*P	**P**	**21 24 47.7**	**-2.0**
	comp=Z,21nm,1.1s						
SSLB				*e*pP	**pP**	**21 24 59.3**	**0.0**
H08S3	**Diego Garcia H**	**29.09**	**225**	T	T	21 54 59.6	
	baz=42,slow=75,SNR=32						
H08S2	**Diego Garcia H**	**29.10**	**225**	T	T	21 55 19.3	
	baz=42,slow=75,SNR=29						
H08S1	**Diego Garcia H**	**29.11**	**225**	T	T	21 54 58.1	
	baz=42,slow=75,SNR=32						
H08N2	**Diego Garcia H**	**29.24**	**229**	T	T	21 55 59.8	
	baz=36,slow=78,SNR=4.0						
H08N1	**Diego Garcia H**	**29.24**	**229**	T	T	21 55 58.9	
	baz=36,slow=78,SNR=3.2						
H08N3	**Diego Garcia H**	**29.26**	**229**	T	T	21 55 56.8	
	baz=36,slow=78,SNR=3.4						
KSH	**Kashi**	**29.78**	**333**	P	**P**	**21 24 59.1**	**-1.3**
KSH				pP	**pP**	**21 25 11.0**	**+1.1**
KSH				PP	**PnPn**	**21 25 55.6**	**-1.1**
KSH				S	S	21 29 48.7	-6.1
KSH				sS	**sS**	**21 30 08.8**	**-1.8**
KSH				PcS	**PcS**	**21 31 46.4**	**-0.5**
KSH				PMZ			
	comp=Z,5.0nm,0.7s						
KSH				PMZ			
	comp=Z,130nm,5.5s						
KSH				LN			
	comp=Z,97nm,5.5s						
KSH				LE			
	comp=Z,120nm,5.1s						
KSH				LZ			
	comp=Z,170nm,12.0s						
KBL	**Kabul**	**29.92**	**318**	*e*P	**P**	**21 25 01.9**	**0.0**
KBL				pmax	pmax		
	comp=Z,14nm,1.0s						
KBL	**Kabul**	**29.92**	**318**	*e*P	**P**	**21 25 01.9**	**0.0**
	comp=Z,14nm,1.0s						
NJ2	**Nanjing**	**30.19**	**48**	*e*P	**P**	**21 25 05.4**	**+1.4**
NJ2				pP	**pP**	**21 25 14.1**	**+0.6**
NJ2				sP	**sP**	**21 25 17.7**	**+0.2**
NJ2				S	**S**	**21 30 00.0**	**-1.2**
NJ2				sS	**sS**	**21 30 15.0**	**-1.9**
NJ2				PMZ			
	comp=Z,20nm,0.7s						
NJ2				PMZ			
	comp=Z,220nm,10.0s						
NJ2				LN			
	comp=Z,610nm,25.4s						
NJ2				LE			
	comp=Z,810nm,26.3s						
NJ2				LZ			
	comp=Z,1μm,21.9s						
WMQ	**Urumqi**	**30.47**	**353**	*e*P	P	21 25 09.8	+3.4
WMQ				*e*S	**S**	**21 30 10.0**	**+4.5**
WMQ				PMZ			
	comp=Z,8.0nm,0.6s						
WMQ				PMZ			
	comp=Z,78nm,5.0s						
WMQ				LN			
	comp=Z,500nm,16.2s						
WMQ				LE			
	comp=Z,350nm,13.9s						
WMQ				LZ			
	comp=Z,490nm,21.9s						
TIA	**Tai'an**	**31.44**	**40**	*e*P	P	21 25 24.1	+9.1
TIA				pmax	pmax		
	comp=Z,120nm,4.3s						
SSE	**Sheshan**	**31.46**	**52**	P	**P**	**21 25 16.7**	**+1.5**
SSE				S	**S**	**21 30 23.7**	**+2.6**
SSE				PMZ			
	comp=Z,15nm,0.9s						
SSE				PMZ			
	comp=Z,33nm,3.7s						
SSE				LN			
	comp=Z,170nm,19.5s						
SSE				LE			
	comp=Z,97nm,19.5s						
SSE				LZ			
	comp=Z,200nm,24.7s						
TTSI	**Tana Toraja**	**31.55**	**120**	P	P	21 25 21.5	+5.4
HHC	**Hu-ho-hao-te**	**31.80**	**28**	*e*P	**P**	**21 25 18.2**	**0.0**
HHC				pP	**pP**	**21 25 26.1**	**-1.6**
HHC				PP	**PnPn**	**21 26 23.9**	**+0.7**
HHC				S	**S**	**21 30 24.9**	**-1.5**
HHC				sS	**sS**	**21 30 44.3**	**+2.1**
HHC				PMZ			
	comp=Z,18nm,0.9s						
HHC				PMZ			
	comp=Z,85nm,5.4s						
HHC				LN			
	comp=Z,340nm,12.6s						
HHC				LE			
	comp=Z,440nm,13.8s						
HHC				LZ			
	comp=Z,340nm,13.5s						
AAK	**Ala-Archa**	**32.98**	**335**	P	**P**	**21 25 29.8**	**+1.2**
	comp=Z,1.7nm,0.5s,baz=156,slow=7.5,SNR=8.5						
AAK				PcP	**PcP**	**21 28 13.0**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=191,slow=5.2,SNR=3.7						
AAK				LR	LR	21 40 45.7	
	comp=Z,275nm,19.1s,baz=134,slow=40						
AAK	**Ala-Archa**	**32.98**	**335**	⇑*e*P	**P**	**21 25 26.9**	**-

BJI PMZ
comp=Z,120nm,6.1s
BJI LN
comp=Z,240nm,15.1s
BJI LE
comp=Z,110nm,18.2s
BJI LZ
comp=Z,190nm,22.7s
MK32 Makanchi Array 34.27 347 *e*P **P** **21 25 39.9 +0.3**
MK32 *e*PcP **PcP** **21 28 15.0 -0.6**
MKAR Makanchi Array 34.27 347 P **P** **21 25 39.9 +0.3**
comp=Z,10nm,1.0s,baz=193,slow=8.5,SNR=38
MKAR PcP **PcP** **21 28 15.0 -0.6**
comp=Z,1.2nm,0.8s,baz=191,slow=4.4,SNR=3.5
MKAR LR LR 21 43 04.3
comp=Z,157nm,20.2s,baz=162,slow=42
MKAR Makanchi Array 34.27 347 *e*P **P** **21 25 39.5 -0.1**
MKAR Makanchi Array 34.27 347 *e*P **P** **21 25 39.5 -0.1**
KKAR Karatay Array 35.11 331 *e*P **P** **21 25 46.8 -0.2**
KKAR Karatay Array 35.11 331 *e*P **P** **21 25 46.8 -0.2**
SONA0 Songino Array 36.03 16 *e*P **P** **21 25 54.9 +0.1**
SONA0 *e*pP **pP** **21 26 04.2 -0.2**
SONA0 *e*PcP **PcP** **21 28 21.3 +0.5**
SONA0 *e*ScP **ScP** **21 32 06.3 +1.5**
SONM Songino Array 36.03 16 P **P** **21 25 54.9 +0.1**
comp=Z,4.8nm,1.0s,baz=198,slow=9.5,SNR=19
SONM pP **pP** **21 26 04.2 -0.2**
comp=Z,11nm,1.2s,baz=198,slow=8.8,SNR=12
SONM PcP **PcP** **21 28 21.3 +0.5**
comp=Z,2.9nm,0.8s,baz=205,slow=3.3,SNR=7.4
SONM ScP **ScP** **21 32 06.3 +1.5**
comp=Z,0.4nm,0.8s,baz=194,slow=3.0,SNR=3.1
SONM LR LR 21 43 39.0
comp=Z,86nm,19.4s,baz=205,slow=41
ULN Ulaanbaatar 36.23 16*c* *i*P **P** **21 25 56.0 -0.6**
ULN pmax pmax
comp=Z,5.0nm,1.2s
ULN Ulaanbaatar 36.23 16 *e*P **P** **21 25 56.4 -0.3**
comp=Z,12nm,1.2s
ZAK Zakamensk 37.73 11 *e*P **P** **21 26 09.5 +0.3**
ZAK *e* 21 28 26.2
ZAK pmax pmax
comp=Z,3.0nm,1.5s
IAKL Akhelmad 38.06 313 *e*P **P** **21 26 13.0 +0.5**
KURBB Kurchatov Arra 38.73 346 P **P** **21 26 17.4 -0.1**
comp=Z,14nm,0.9s,baz=163,slow=7.9,SNR=80
KURBB pP **pP** **21 26 27.1 -0.2**
comp=Z,10nm,1.1s,baz=160,slow=7.7,SNR=8.9
KURBB PcP **PcP** **21 28 28.9 +0.1**
comp=Z,1.4nm,0.5s,baz=158,slow=2.4,SNR=5.5
BATI Baumata 38.74 126 P **P** **21 26 15.6 -2.5**
comp=Z,20nm,0.6s,baz=287,slow=3.1,SNR=7.2
KURK Kurchatov 38.80 346 *e*P **P** **21 26 17.5 -0.6**
KURK *e**PP **pP** **21 26 27.1 -0.7**
KURK *e* 21 28 28.9
KURK pmax pmax
comp=Z,25nm,1.1s
KURK Kurchatov 38.80 346 *e*P **P** **21 26 17.5 -0.6**
comp=Z,25nm,1.1s
KURK *e*pP **pP** **21 26 27.1 -0.7**
KURK *e*PcP **PcP** **21 28 28.9 -0.1**
ISFR Sfrayin 38.81 313 *e*P **P** **21 26 20.2 +1.4**
TLY Talaya 39.04 11 *e*P **P** **21 26 21.2 +1.1**
TLY *e*S S 21 32 09.9 -7.2
TLY *e*SS **SS** **21 35 06.4 -3.6**
TLY pmax pmax
comp=Z,8.0nm,1.5s
TLY MLR MLR
comp=Z,171nm,18.0s
TLY Talaya 39.04 11 *e*P **P** **21 26 19.5 -0.6**
comp=Z,5.4nm,1.0s
TLY *e*pP **pP** **21 26 31.4 +1.6**
TLY *e*ScP **ScP** **21 32 14.3 -1.6**
GEYT Alibeck 39.14 315 P **P** **21 26 22.7 +1.4**
comp=Z,12nm,0.8s,baz=141,slow=7.6,SNR=29
GEYT PcP **PcP** **21 28 31.5 +1.0**
comp=Z,7.3nm,0.7s,baz=150,slow=3.3,SNR=6.6
GEYT LR LR 21 44 43.5
comp=Z,246nm,18.9s,baz=75,slow=39
IMEH Mehriz 39.18 303 *e*P **P** **21 26 23.4 +1.4**
KS15 Wonju Array Si 39.31 46 *e*P **P** **21 26 21.8 -0.8**
KS15 *e*pP **pP** **21 26 30.9 -1.3**
KSAR Wonju Array Be 39.31 46 P **P** **21 26 21.8 -0.8**
KSAR *e**PP **pP** **21 26 31.0 -1.3**
KSAR Wonju Array Be 39.31 46 P **P** **21 26 21.8 -0.8**
KSAR pP **pP** **21 26 30.9 -1.3**
KSRS Korea Array 39.34 46 P **P** **21 26 21.8 -1.0**
comp=Z,1.6nm,0.7s,baz=242,slow=8.3,SNR=4.7
KSRS pP **pP** **21 26 30.9 -1.6**
comp=Z,3.7nm,0.9s,baz=246,slow=9.1,SNR=5.8
KSRS LR LR 21 45 11.7
comp=Z,382nm,18.4s,baz=225,slow=40
ZALV Zalesovo Beam 40.78 353 P **P** **21 26 33.9 -0.6**
comp=Z,9.1nm,0.6s,baz=176,slow=9.0,SNR=46
ZALV pP **pP** **21 26 43.1 -1.1**
comp=Z,7.1nm,0.6s,baz=180,slow=9.2,SNR=12
ZALV LR LR 21 46 56.7
comp=Z,119nm,19.8s,baz=248,slow=41
ZAA1 Zalesovo Array 40.78 353 *e*P **P** **21 26 33.9 -0.7**
ZAA1 *e*pP **pP** **21 26 43.1 -1.1**
CN2 Changchun 41.15 37 *e*P **P** **21 26 37.1 -0.7**
CN2 *e*pP **pP** **21 26 46.9 -0.6**
CN2 *e*S **S** **21 32 48.3 -0.6**
CN2 PMZ
comp=Z,10.0nm,0.8s
CN2 PMZ
comp=Z,200nm,8.0s
IZEF Zefreh 41.49 305 *e*P **P** **21 26 41.7 +0.6**
ISHM Shahmirzad 41.73 309 *e*P **P** **21 26 43.1 +0.1**
NVS Novosibirsk 41.86 352 *e*P **P** **21 26 40.7 -2.6**
IPIR Pirpir 42.58 304 *e*P **P** **21 26 50.0 0.0**
IDMV Damavand 42.60 308 *e*P **P** **21 26 51.8 +1.7**
BVAR Borovoye Array 43.20 340 P **P** **21 26 54.2 -0.2**
comp=Z,6.7nm,1.0s,baz=148,slow=8.7,SNR=16
BRVK Borovoye 43.26 340*ce*P **P** **21 26 53.5 -1.3**
BRVK pmax pmax
comp=Z,13nm,1.2s
BRVK Borovoye 43.26 340 *e*P **P** **21 26 53.7 -1.1**
comp=Z,8.3nm,0.9s
IRAZ Razeghan 44.16 307 *e*P **P** **21 27 03.8 +1.2**
ABKAR Akbulak array 44.63 330 *e*P **P** **21 27 05.9 +0.1**
USRK Ussuriysk Ar. 45.31 40 P **P** **21 27 10.5 -0.8**
comp=Z,1.6nm,0.7s,baz=248,slow=6.5,SNR=7.2
RAYN Ar Rayn 45.67 290 *e*P **P** **21 27 14.8 +0.2**
comp=Z,4.8nm,1.1s
AKTO Aktyubinsk 46.34 330 P **P** **21 27 19.4 0.0**
comp=Z,6.0nm,0.6s,baz=129,slow=7.1,SNR=18
AKTO LR LR 21 49 57.4
comp=Z,133nm,19.1s,slow=40
MAJO Matsushiro 46.60 52 *e*P **P** **21 27 21.5 -0.2**
MAJO *e**PP **pP** **21 27 31.1 -0.4**
MAJO *e* 21 28 55.7
MAJO pmax pmax
comp=Z,10.0nm,0.8s
MAJO Matsushiro 46.60 52 *e*P **P** **21 27 21.4 -0.2**
comp=Z,10.0nm,0.8s
MAJO *e*pP **pP** **21 27 31.1 -0.4**
MAJO *e*PcP **PcP** **21 28 55.7 +0.3**
MJAR Matsushiro Arr 46.60 52 P **P** **21 27 22.3 +0.6**
comp=Z,2.7nm,1.0s,baz=270,slow=9.6,SNR=7.2
MJAR pP **pP** **21 27 31.3 -0.3**
comp=Z,4.2nm,0.9s,baz=266,slow=11,SNR=10
MJAR PcP **PcP** **21 28 55.7 +0.3**
comp=Z,1.8nm,0.7s,baz=236,slow=3.9,SNR=6.8
MJAR LR LR 21 49 01.0
comp=Z,219nm,19.3s,baz=255,slow=39
IDHR Dehrash 46.74 305 *e*P **P** **21 27 23.1 0.0**
DAMY Dhamar 46.82 277 *e*P **P** **21 27 24.1 +0.1**
comp=Z,25nm,0.9s
BOD Bodaibo 47.03 15 *e*P **P** **21 27 23.7 -0.9**
BOD pmax pmax
comp=Z,8.0nm,1.5s
GNI Garni 49.56 312 P **P** **21 27 47.2 +2.5**
comp=Z,3.1nm,0.4s,baz=73,slow=1.9,SNR=20
GNI Garni 49.56 312⇑ *i*P **P** **21 27 43.6 -1.1**
GNI pmax pmax
comp=Z,37nm,1.2s
GNI Garni 49.56 312 *e*P **P** **21 27 44.7 0.0**
comp=Z,55nm,1.4s
SVE Sverdlovsk 49.64 337*ce*P **P** **21 27 45.1 +0.3**
SVE pmax pmax
comp=Z,41nm,1.1s
ARU Arti 50.15 336*d* *i*P **P** **21 27 47.9 -0.8**
ARU 21 29 42.2
ARU S **S** **21 34 59.7 +1.5**
ARU SS **SS** **21 38 26.0 -5.6**
ARU pmax pmax
comp=Z,14nm,1.0s
ARU Arti 50.15 336 *e*P **P** **21 27 47.9 -0.8**
comp=Z,10nm,0.8s
ZEI Tsey 51.02 315 *e*P P 21 27 51.7 -4.1
ZEI pmax pmax
comp=Z,20nm,1.5s
NWAO Narrogin (SRO) 51.82 154 P **P** **21 28 01.4 -0.1**
comp=Z,9.7nm,0.9s,baz=314,slow=4.2,SNR=7.4
KBZ Khabaz 52.03 315 P **P** **21 28 04.2 +1.2**
comp=Z,3.9nm,0.8s,baz=53,slow=20,SNR=13
ASAJ Asahikawa 52.20 44 LR LR 21 52 35.1
comp=Z,129nm,18.4s,baz=110,slow=39
KIV Kislovodsk 52.25 316⇓ *e*P **P** **21 28 05.4 +0.6**
KIV pmax pmax
comp=Z,31nm,1.0s
KIV MLR MLR
comp=Z,127nm,18.0s
KIV Kislovodsk 52.25 316 *e*P **P** **21 28 04.8 0.0**
comp=Z,25nm,0.9s
GOF Gofitskoye 52.38 317 *e*P **P** **21 28 03.0 -2.7**
WRA Warramunga Arr 52.77 128 P **P** **21 28 08.2 -0.7**
comp=Z,17nm,0.8s,baz=307,slow=8.2,SNR=81
WRA PcP **PcP** **21 29 18.3 +0.1**
comp=Z,2.4nm,0.6s,baz=320,slow=3.6,SNR=4.6
WRA S **S** **21 35 30.7 -4.6**
comp=Z,6.6nm,1.1s,baz=305,slow=15,SNR=9.8
WRAB Tennant Creek 52.78 128 *i* P **P** **21 28 08.1 -0.8**
WRAB pmax pmax
comp=Z,60nm,1.2s
WRAB Tennant Creek 52.78 128 *e*P **P** **21 28 07.8 -1.1**
comp=Z,18nm,0.7s
SOKR Solikamsk 53.05 338*c* *i*P **P** **21 28 10.6 +0.3**
SOKR pmax pmax
comp=Z,20nm,0.9s
YSS Yuzh-Sakhalins 53.31 41 *e*P P 21 28 21.9 +9.5
MALT Malatya 53.82 308⇓ *i*P **P** **21 28 17.5 +1.0**
ASF Jabal al Asfar 54.07 300 P **P** **21 28 19.2 +0.8**
comp=Z,0.9nm,0.4s,baz=110,slow=5.0,SNR=3.2
ASF PcP **PcP** **21 29 25.0 +1.9**
comp=Z,2.2nm,0.7s,baz=310,slow=0.6,SNR=4.0
AS12 Alice Springs 54.69 132 *e*P **P** **21 28 22.4 -0.5**
AS12 *e*S **S** **21 35 57.0 -4.2**
ASAR Alice Springs 54.69 132 P **P** **21 28 22.4 -0.5**
comp=Z,6.3nm,0.5s,baz=309,slow=6.7,SNR=100
ASAR S **S** **21 35 57.0 -4.2**
comp=Z,0.8nm,0.8s,baz=299,slow=14,SNR=7.2
YAK Yakutsk 55.13 20 P **P** **21 28 24.5 -0.9**
comp=Z,12nm,0.5s,baz=258,slow=1.4,SNR=9.1
YAK Yakutsk 55.13 20 *e*P **P** **21 28 23.8 -1.6**
YAK *e**PP **pP** **21 28 32.8 -2.6**
YAK *e* 21 29 24.2
YAK *e* 21 30 24.6
YAK *e*S **S** **21 36 03.0 -2.9**
YAK *e**SS **sS** **21 36 23.4 +1.0**
YAK *e* 21 38 09.6
YAK *e*SS **SS** **21 39 51.2 +1.2**
YAK *e*SSS SSS 21 41 46.1
YAK pmax pmax
comp=Z,17nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=Z,67nm,4.5s
YAK pmax pmax
comp=E,29nm,3.4s
YAK pmax pmax
comp=N,34nm,3.2s
YAK smax smax
comp=E,27nm,2.5s
YAK MLR MLR
comp=Z,124nm,18.0s
YAK MLR MLR
comp=N,110nm,17.0s
VORD Divnogorie 56.85 323 *e*P **P** **21 28 35.6 -2.3**
VORD pmax pmax
comp=N,10.0nm,0.5s
VORD pmax pmax
comp=Z,10.0nm,0.5s
VORD pmax pmax
comp=E,40nm,0.6s
KMBO Kilima Mbogo 56.86 260 P **P** **21 28 41.3 +2.4**
comp=E,3.9nm,0.8s,baz=50,slow=11,SNR=7.9
KMBO LR LR 21 50 17.7
comp=E,174nm,21.6s,baz=93,slow=33
KMBO Kilima Mbogo 56.86 260 *e*P **P** **21 28 39.6 +0.7**
KMBO pmax pmax
comp=Z,31nm,1.2s
KMBO Kilima Mbogo 56.86 260 *e*P **P** **21 28 39.6 +0.7**
comp=Z,30nm,1.2s
VSR Storozhevoye 57.01 323 *e*P **P** **21 28 38.1 -1.0**
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR pmax pmax
comp=N,5.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,1.3s
LPSR Galich'ya Gora 57.66 324 *e*P **P** **21 28 43.3 -0.3**
LPSR pmax pmax
comp=N,5.0nm,0.7s
LPSR pmax pmax
comp=E,9.0nm,0.7s
LPSR pmax pmax
comp=Z,9.0nm,0.7s
BR101 Keskin Array S 57.75 309 *e*P **P** **21 28 44.2 -0.5**
BR101 *e*pP **pP** **21 28 56.5 +1.8**
BRTR Keskin Array B 57.75 309 P **P** **21 28 44.2 -0.5**
comp=Z,12nm,0.8s,baz=118,slow=7.1,SNR=75
BRTR pP **pP** **21 28 56.5 +1.8**
comp=Z,8.5nm,0.8s,baz=110,slow=5.9,SNR=15
BRTR LR LR 21 57 02.8
comp=Z,113nm,19.7s,baz=104,slow=40
ANTO Ankara 58.41 309 *e*P **P** **21 28 48.4 -0.9**
ANTO pmax pmax
comp=Z,13nm,1.0s
ANTO Ankara 58.41 309 *e*P **P** **21 28 48.4 -0.9**
comp=Z,12nm,1.0s
SIM Simferopol' **58.41 315***de*P **P** **21 28 49.4 +0.3**
SIM *e**PP **pP** **21 29 00.0 +0.9**
SIM *e*S **S** **21 36 53.0 +3.0**
SIM pmax pmax
comp=Z,15μm,1.1s
SIM MLR MLR
comp=Z,300nm,15.0s
PRGR Permogore 58.61 336 *e*P **P** **21 28 49.6 -0.5**
PRGR pmax pmax
comp=Z,19nm,0.6s
OBN Obninsk 59.88 327 P **P** **21 28 58.7 -0.3**
comp=Z,4.9nm,0.5s,baz=122,slow=22,SNR=5.4
OBN LR LR 21 59 13.6
comp=Z,125nm,18.4s,baz=94,slow=40
OBN Obninsk 59.88 327⇓ *e*P **P** **21 28 57.9 -1.1**
OBN *e* 21 29 44.6
OBN *e* 21 31 09.3
OBN pmax pmax
comp=Z,17nm,1.3s
OBN MLR MLR
comp=Z,148nm,20.0s
ISP Isparta 59.90 306 *e*P **P** **21 28 58.3 -1.4**
ISP pmax pmax
comp=Z,24nm,1.2s
ISP Isparta 59.90 306 *e*P **P** **21 28 58.3 -1.4**
comp=Z,24nm,1.2s
KLMR Klimovskoe 60.77 333 *e*P **P** **21 29 02.6 -2.4**
KLMR pmax pmax
comp=Z,25nm,1.2s
KLMR MLR MLR
comp=Z,177nm,16.0s
TIXI Tiksi 61.99 12⇓ *i*P **P** **21 29 11.8 -1.2**
TIXI pmax pmax
comp=Z,27nm,1.7s
TIXI Tiksi 61.99 12 *e*P **P** **21 29 11.2 -1.9**
comp=Z,33nm,1.5s
TIRR Tirgusor 62.32 313 *e*P **P** **21 29 15.2 -0.5**
TIRR pmax pmax
comp=Z,14nm,0.9s
TIRR Tirgusor 62.32 313⇑ *i*P **P** **21 29 16.4 +0.6**
TIRR Tirgusor 62.32 313 *e*P **P** **21 29 15.2 -0.5**
comp=Z,14nm,0.9s
PSN Preselentsi 62.38 312⇑ *i*P **P** **21 29 17.0 +0.8**
PSN Preselentsi 62.38 312 *i* P **P** **21 29 16.6 +0.4**
TLB Topalu 62.60 313⇑ *i*P **P** **21 29 18.0 +0.4**
CFR Carcaliu 62.62 314⇑ *i*P **P** **21 29 18.2 +0.5**
MSAB Monastry St. A 62.69 313⇑ *i*P **P** **21 29 18.5 +0.3**
HARR Harsova 62.69 313⇑ *i*P **P** **21 29 18.9 +0.6**
AKASG Malin Array Be 62.89 320 P **P** **21 29 18.7 -0.7**
comp=Z,2.2nm,0.7s,baz=88,slow=4.7,SNR=30
AKASG pP **pP** **21 29 31.2 +1.7**
comp=Z,2.8nm,0.8s,baz=89,slow=4.8,SNR=4.4
AKBB Malin Array Si 62.89 320 *e*P **P** **21 29 18.7 -0.7**
AKBB *e**PP **pP** **21 29 31.3 +1.7**
AKBB Malin Array Si 62.89 320 *e*P **P** **21 29 18.7 -0.7**
AKBB *e*pP **pP** **21 29 31.2 +1.7**
KIEV Kiev 62.90 320 *e*P **P** **21 29 18.2 -1.3**
KIEV pmax pmax
comp=Z,6.0nm,0.9s
KIEV Kiev 62.90 320 *e*P **P** **21 29 18.2 -1.3**
comp=Z,6.2nm,0.9s
MBAR Mbarara 62.97 262 *e*P **P** **21 29 22.6 +1.8**
MBAR pmax pmax
comp=Z,15nm,1.1s
MBAR Mbarara 62.97 262 *e*P **P** **21 29 22.6 +1.8**
comp=Z,15nm,1.1s
VRI Vrincioaia 63.70 315⇑ *i*P **P** **21 29 26.4 +1.5**
ISR Istrita 63.73 314⇑ *i*P **P** **21 29 27.0 +1.8**
PLOR Plostina 63.75 315⇑ *i*P **P** **21 29 26.7 +1.4**
TESR Tescani 63.84 315⇑ *i*P **P** **21 29 26.4 +0.6**
SZH Strazhica 63.95 312 *i* P **P** **21 29 26.3 -0.4**
KDZ Kurdzhali 64.19 310⇑ *i*P **P** **21 29 29.0 +0.8**
KDZ Kurdzhali 64.19 310 *i* P **P** **21 29 28.6 +0.4**
MLR Muntele Rosu 64.19 314⇓ *i*P **P** **21 29 29.4 +1.0**
IDI Anoyia 64.27 303 P **P** **21 29 29.0 +0.1**
comp=Z,9.6nm,0.6s,baz=107,slow=7.7,SNR=14
PETK Petropavlovsk- 64.29 37 LR LR 21 59 07.6
comp=Z,74nm,20.4s,baz=250,slow=38
VOIR 64.81 314⇑ *i*P **P** **21 29 32.4 +0.1**
BURAR Bucovina Array 64.96 316⇑ *i*P **P** **21 29 34.1 +0.8**
STKA Stephens Creek 65.06 135 P **P** **21 29 34.1 +0.2**
comp=Z,3.3nm,0.6s,baz=298,slow=6.7,SNR=8.2
STKA LR LR 22 00 46.2
comp=Z,99nm,18.2s,baz=245,slow=39
STKA Stephens Creek 65.06 135 *e*P **P** **21 29 33.7 -0.3**
STKA pmax pmax
comp=Z,19nm,2.5s
STKA Stephens Creek 65.06 135 *e*P **P** **21 29 33.7 -0.3**
comp=Z,19nm,2.5s
ARR Arges 65.10 314⇑ *i*P **P** **21 29 34.4 +0.2**
PGB Panagyurishte 65.18 311 *i* P **P** **21 29 34.9 +0.1**
MMB Musomiste 65.44 310⇑ *i*P **P** **21 29 35.9 -0.6**
MMB Musomiste 65.44 310 *i* P **P** **21 29 35.9 -0.6**
MPEP Malo Peshtene 65.56 312 *i* P **P** **21 29 37.6 +0.5**
VTS Vitosha 65.89 311⇑ *i*P **P** **21 29 39.3 -0.2**
VTS Vitosha 65.89 311 *i* P **P** **21 29 39.3 -0.2**
KKB Krupnik 65.94 310 *i* P **P** **21 29 39.2 -0.4**
CJR Cluj-Napoca 65.95 315⇑ *i*P **P** **21 29 40.8 +1.1**
APA Apatity 66.08 339⇓ *i*P P 21 29 32.5 -7.5
APA pmax pmax
comp=Z,12nm,0.8s
APA MLR MLR
comp=Z,600nm,11.0s
GZR Gura Zlata 66.40 314⇓ *i*P **P** **21 29 42.0 -0.6**
KWP Kalwaria Pacla 66.85 318 *e*P **P** **21 29 45.4 +0.1**
KWP Kalwaria Pacla 66.85 318 *e*P **P** **21 29 45.4 +0.1**
KWP Kalwaria Pacla 66.85 318⇑ *i*P **P** **21 29 45.9 +0.6**
UZH Uzhgorod 67.02 317 *e*P **P** **21 29 46.2 -0.1**
UZH *e* 21 29 54.9
UZH *e* 21 29 58.9
UZH *e* 21 30 20.4
KOLS Kolonicke sedl 67.06 318 *e*P **P** **21 29 47.2 +0.5**
KOLS pmax pmax
comp=Z,8.0nm,1.5s
KOLS Kolonicke sedl 67.06 318 *e*P **P** **21 29 47.2 +0.5**
FIA0 FINESS Array S 67.07 331 *e*P **P** **21 29 46.0 -0.5**
FIA0 FINESS Array S 67.07 331 *e*P **P** **21 29 46.0 -0.5**
FINES FINESS Array B 67.07 331 P **P** **21 29 46.0 -0.5**
comp=Z,8.0nm,0.7s,baz=110,slow=7.0,SNR=34
FINES LR LR 22 01 27.8
comp=Z,91nm,20.0s,baz=122,slow=38
FINES FINESS Array B 67.07 331 P **P** **21 29 46.0 -0.5**
SUW Suwalki 67.13 323 *e*P **P** **21 29 46.6 -0.3**
SUW Suwalki 67.13 323 *e*P **P** **21 29 46.3 -0.6**
SUW pmax pmax
comp=Z,50nm,1.0s
SUW Suwalki 67.13 323 *e*P **P** **21 29 46.3 -0.6**
comp=Z,50nm,1.0s
BZS Buzias 67.23 314⇑ *i*P **P** **21 29 48.2 +0.4**
CRVS Cervenica-Dubn 67.59 317 *e*P **P** **21 29 50.7 +0.7**
CRVS pmax pmax
comp=Z,19nm,1.1s
CRVS Cervenica-Dubn 67.59 317 *e*P **P** **21 29 50.7 +0.7**
STHS Stebnicka Huta 67.78 318 *e*P **P** **21 29 51.7 +0.5**
STHS pmax pmax
comp=Z,5.0nm,0.9s
STHS Stebnicka Huta 67.78 318 *e*P **P** **21 29 51.7 +0.5**
KECS Kecovo 68.20 317 *e*P **P** **21 29 53.9 0.0**
KECS pmax pmax
comp=Z,5.0nm,0.9s
KECS Kecovo 68.20 317 *e*P **P** **21 29 53.9 0.0**
BEL Belsk 68.29 321 *e*P **P** **21 29 54.4 +0.1**
BEL Belsk 68.29 321 *e*P **P** **21 29 54.5 +0.1**
DIVS Divibare 68.31 312⇑ *i*P **P** **21 29 54.8 +0.1**
NIE Niedzica 68.39 318 *e*P **P** **21 29 55.5 +0.5**
NIE Niedzica 68.39 318 *e*P **P** **21 29 55.5 +0.5**
PKSN Nyarlorinc 68.52 315 *e*P **P** **21 29 56.5 +0.7**
PSZ Piszkesteto 68.56 316 *e*P **P** **21 29 55.8 -0.4**
PSZ pmax pmax
comp=Z,11nm,0.9s
PSZ Piszkesteto 68.56 316⇑ *i*P **P** **21 29 56.8 +0.6**
PSZ Piszkesteto 68.56 316 *e*P **P** **21 29 55.8 -0.4**
comp=Z,11nm,0.9s
PSZ Piszkesteto 68.56 316⇓ *e*P **P** **21 29 56.5 +0.3**
PKS6 Bocsa 68.71 315 *e*P **P** **21 29 57.1 0.0**
OJC Ojcow 68.78 319 *e*P **P** **21 29 57.4 0.0**
OJC Ojcow 68.78 319 *e*P **P** **21 29 56.6 -0.8**
OJC pmax pmax
comp=Z,15nm,0.8s
OJC Ojcow 68.78 319 *e*P **P** **21 29 56.6 -0.8**
comp=Z,15nm,0.8s
PKS2 Kecel 68.95 315 *e*P **P** **21 29 59.1 +0.6**
PKS7 Kunszentmiklos 69.01 315 *e*P **P** **21 29 59.4 +0.5**
VYHS Vyhne 69.30 317 *e*P **P** **21 30 00.7 0.0**
VYHS pmax pmax
comp=Z,5.0nm,1.1s
VYHS Vyhne 69.30 317 *e*P **P** **21 30 00.7 0.0**
PKSM Moragy 69.34 314⇑ *i*P **P** **21 30 01.2 +0.3**
PKSM Moragy 69.34 314⇓ *e*P **P** **21 30 01.5 +0.1**
ARA0 ARCESS Array S 69.48 340 *e*P **P** **21 30 01.6 +0.1**
ARCES ARCESS Array B 69.48 340 P **P** **21 30 01.6 +0.1**
comp=Z,8.0nm,0.7s,baz=80,slow=7.6,SNR=25
ARCES LR LR 22 03 53.6
comp=Z,162nm,18.6s,baz=105,slow=39
PKSG 69.55 316 *e*P **P** **21 30 02.8 +0.6**
PKS9 Tamasi 69.60 315 *e*P **P** **21 30 02.6 0.0**
CSKK Cs̈ẗkako 69.64 316 *e*P **P** **21 30 02.6 -0.2**
PKST T¨s 69.79 316 *e*P **P** **21 30 03.4 -0.3**
OKC Ostrava-Krasne 69.82 318⇓ *i*P **P** **21 30 04.4 +0.6**
OKC Ostrava-Krasne 69.82 318⇓ *i*P **P** **21 30 04.4 +0.6**
LSZ Lusaka 69.96 248 *e*P **P** **21 30 05.7 +0.3**
LSZ pmax pmax
comp=Z,12nm,0.9s
LSZ Lusaka 69.96 248 *e*P **P** **21 30 05.7 +0.3**
comp=Z,12nm,0.9s
MORC Moravsky Berou 70.20 318 *e*P **P** **21 30 06.5 +0.2**
MORC pmax pmax
comp=Z,17nm,0.9s
MORC Moravsky Berou 70.20 318⇑ *i*P **P** **21 30 07.2 +0.9**
MORC Moravsky Berou 70.20 318 *e*P **P** **21 30 06.5 +0.2**
comp=Z,17nm,0.9s
TIP Timpagrande 70.73 307 *e*P **P** **21 30 09.1 -0.7**
comp=Z,4.1nm,0.8s
SOP Sopron 70.80 316⇑ *e*P **P** **21 30 10.2 +0.3**
VRAC Vranov 70.81 318⇑ *i*P **P** **21 30 10.3 +0.4**
DPC Dobruska-Polom 71.01 319⇓ *i*P **P** **21 30 11.8 +0.6**
DPC *e**PP **pP** **21 30 21.4 -0.1**
DPC Dobruska-Polom 71.01 319⇓ *i*P **P** **21 30 11.8 +0.6**
DPC *e* 21 30 21.4
DPC Dobruska-Polom 71.01 319 *e*P **P** **21 30 11.1 -0.2**
comp=Z,63nm,1.0s
KSP Ksiaz 71.04 319 *e*P **P** **21 30 11.7 +0.4**
KSP Ksiaz 71.04 319 *e*P **P** **21 30 11.8 +0.4**
UPC Upice 71.21 319⇓ *e*P **P** **21 30 13.0 +0.6**
UPC Upice 71.21 319 *e*P **P** **21 30 13.0 +0.6**
CONA Conrad Observa 71.27 316⇓ *i*P **P** **21 30 12.6 -0.3**
comp=Z,4.9nm,0.8s
BILL Bilibino 71.38 22 *i* P **P** **21 30 12.2 -0.8**
BILL *e* 21 30 35.1

BILL *e* 21 32 49.3
BILL pmax pmax
comp=Z,8.0nm,1.7s
GCIS Gornji Cirnik 71.43 314 *e*P **P 21 30 13.9 +0.2**
CUC Castrocucco 71.43 308 *e*P **P 21 30 12.7 -1.2**
comp=Z,4.7nm,0.8s
CEL Celeste 71.45 306 *e*P **P 21 30 13.8 -0.3**
comp=Z,34nm,0.9s
CEL *e*pP **pP 21 30 27.9 +3.6**
ARSA Arzberg 71.50 316 ⇓*i*P **P 21 30 14.0 -0.2**
comp=Z,5.7nm,0.8s,SNR=5.0
ARMA Armidale 71.55 129 *e*P **P 21 30 14.8 0.0**
comp=Z,13nm,0.9s
ARMA *e*pP **PcP 21 30 30.9 -3.2**
BOJS Bojanci 71.70 314 *i* P **P 21 30 15.3 -0.1**
SOKA Soboth 71.84 315 ⇑*i*P **P 21 30 16.4 +0.1**
comp=Z,13nm,1.1s,SNR=12
GOPC GO Pecny, Ondr 71.99 318 ⇓*e*P **P 21 30 17.6 +0.5**
PVCC Panska Ves 72.14 319 ⇓*e*P **P 21 30 18.1 +0.2**
PVCC Panska Ves 72.14 319 *e*P **P 21 30 18.1 +0.2**
PRU Pruhonice 72.15 318 ⇓*i*P **P 21 30 18.4 +0.4**
PRU *e*pP **pP 21 30 28.3 0.0**
PRU Pruhonice 72.15 318 ⇓*i*P **P 21 30 18.4 +0.4**
PRU *e* 21 30 28.3
OBKA Obir 72.17 315 *i* P **P 21 30 18.8 +0.5**
comp=Z,14nm,0.7s,SNR=6.4
LJU Ljubljana 72.20 314 *e*P **P 21 30 18.8 +0.4**
PRA Prague 72.22 319 ⇓*e*P **P 21 30 19.3 +0.9**
PRA Prague 72.22 319 *e*P **P 21 30 19.3 +0.9**
MOA Molln 72.34 316 ⇑*i*P **P 21 30 18.8 -0.4**
comp=Z,9.6nm,0.9s,SNR=7.4
BRG Berggiesshubel 72.53 319 ⇓*i*P **P 21 30 20.8 +0.5**
comp=Z,16nm,0.9s
BRG *e* 21 30 35.7
comp=Z,8.7nm,1.2s
BRG Berggiesshubel 72.53 319 *e*P **P 21 30 20.8 +0.5**
comp=Z,17nm,0.9s
BRG Berggiesshubel 72.53 319 ⇓*i*P **P 21 30 20.8 +0.5**
BRG *e* 21 30 35.7
BRG pmax pmax
comp=Z,17nm,0.9s
RUE Ruedersdorf 72.64 321 *e*P **P 21 30 21.2 +0.4**
comp=Z,44nm,1.0s
RUE Ruedersdorf 72.64 321 *e*P **P 21 30 20.2 -0.6**
comp=Z,36nm,0.8s
GEC2 GERESS Array S 72.71 317 *e*P **P 21 30 21.8 +0.3**
comp=Z,19nm,0.8s
GEC2 GERESS Array S 72.71 317 *e*P **P 21 30 21.4 -0.1**
GEC2 GERESS Array S 72.71 317 *e*P **P 21 30 21.4 -0.1**
GERES GERESS Array B 72.71 317 P **P 21 30 21.6 +0.2**
comp=Z,16nm,0.8s,baz=86,slow=5.8,SNR=125
GERES LR LR 22 08 31.0
comp=Z,50nm,18.5s,baz=102,slow=41
KHC Kasperske Hory 72.78 318 ⇓*e*P **P 21 30 22.0 +0.1**
KHC Kasperske Hory 72.78 318 P **P 21 30 22.0 +0.1**
FBE Freiberg 72.91 319 *e*P **P 21 30 23.2 +0.7**
comp=Z,31nm,0.9s
KBA Koelnbreinsper 72.99 315 ⇑*i*P **P 21 30 23.1 -0.2**
comp=Z,4.9nm,0.7s
CLL Collm 73.12 320 *e*P **P 21 30 23.8 0.0**
comp=Z,11nm,1.0s
CLL Collm 73.12 320 ⇓*i*P **P 21 30 23.7 0.0**
comp=Z,11nm,1.0s
CLL *i* pP **pP 21 30 33.8 -0.2**
CLL *e*PcP **PcP 21 30 40.0 -0.3**
CLL LmH 22 07 00.0
comp=Z,100nm,20.3s
CLL Collm 73.12 320 ⇓*i*P **P 21 30 23.7 0.0**
CLL *i* 21 30 33.8
CLL pmax pmax
comp=Z,11nm,1.0s
CLL Collm 73.12 320 *e*P **P 21 30 23.5 -0.3**
comp=Z,12nm,0.9s
WET Wettzell 73.24 318 *e*P **P 21 30 25.0 +0.4**
comp=Z,17nm,1.2s
RJOB Jochberg 73.34 316 *e*P **P 21 30 24.8 -0.4**
comp=Z,12nm,0.9s
TANN Tannenbergstha 73.48 319 *e*P **P 21 30 26.2 +0.2**
comp=Z,13nm,1.2s
NKC Novy Kostel 73.50 319 ⇓*i*P **P 21 30 26.4 +0.4**
NKC AMS AMS 22 07 50.0
NKC Novy Kostel 73.50 319 ⇓*i*P **P 21 30 26.4 +0.4**
WERD Werda 73.58 319 *e*pP pP 21 30 42.4 +5.6
ROTZ Rotzenmuhle 73.66 318 *e*P **P 21 30 28.0 +1.0**
comp=Z,22nm,1.1s
ROTZ *e*pP **PcP 21 30 43.6 +0.9**
PLN Plauen 73.67 319 *e*P **P 21 30 27.4 +0.3**
comp=Z,10.0nm,0.9s
MANZ Manzenberg 73.72 318 *e*P **P 21 30 28.2 +0.8**
comp=Z,24nm,1.2s
NEUB Neuenburg 73.90 320 *e*P **P 21 30 28.5 +0.2**
comp=Z,20nm,1.1s
MOX Moxa 74.02 319 *e*P **P 21 30 29.4 +0.4**
comp=Z,13nm,0.9s
SPA0 Spitsbergen Ar 74.03 348 *e*P **P 21 30 28.6 0.0**
SPITS Spitsbergen Ar 74.03 348 P **P 21 30 28.6 0.0**
comp=Z,19nm,1.0s,baz=108,slow=11,SNR=7.1
NB2 NORSAR Subarra 74.13 330 P **P 21 30 28.7 -0.9**
comp=Z,7.0nm,0.7s,baz=90,slow=5.9
NB200 NORSAR Array S 74.13 330 *e*P **P 21 30 28.6 -0.9**
NOA NORSAR Array B 74.13 330 P **P 21 30 28.6 -0.9**
comp=Z,6.6nm,0.7s,baz=90,slow=5.8,SNR=18
NOA LR LR 22 08 24.7
comp=Z,56nm,18.3s,baz=115,slow=40
WTTA Wattenberg 74.14 316 *i* P **P 21 30 29.3 -0.8**
comp=Z,13nm,0.6s,SNR=9.0
WATA Walderalm 74.18 316 ⇓*i*P **P 21 30 29.3 -1.0**
comp=Z,5.0nm,0.6s,SNR=10
GRF Grafenberg Arr 74.31 318 *e*P **P 21 30 31.6 +0.8**
comp=Z,16nm,0.8s
GRFO Grafenberg 74.31 318 *e*P **P 21 30 30.1 -0.6**
GRFO pmax pmax
comp=Z,13nm,0.8s
GRFO Grafenberg 74.31 318 *e*P **P 21 30 30.1 -0.6**
comp=Z,13nm,0.8s
FUR Furstenfeldbru 74.34 317 *e*P **P 21 30 31.1 +0.1**
comp=Z,15nm,0.7s
MOTA Moosalm 74.50 316 ⇓*i*P **P 21 30 31.2 -0.9**
comp=Z,11nm,0.7s,SNR=14
BSEG Bad Segeberg 74.70 323 *e*P **P 21 30 33.6 +0.7**
comp=Z,34nm,1.1s
RETA Reutte 74.72 316 *i* P **P 21 30 32.9 -0.5**
comp=Z,13nm,0.6s,SNR=10
CLZ Clausthal 74.75 320 *e*P **P 21 30 33.7 +0.4**
comp=Z,16nm,0.7s
FETA Feichten 74.78 315 ⇑*i*P **P 21 30 33.1 -0.6**
comp=Z,8.9nm,0.8s,SNR=8.0
NRDL Niedersach Rie 74.88 321 *e*P **P 21 30 34.6 +0.7**
comp=Z,26nm,1.5s
FUORN Ofenpass-Fuorn 75.12 315 *e*P **P 21 30 35.1 -0.8**
comp=Z,6.3nm,0.8s
DAVA Damuels 75.34 316 *i* P **P 21 30 36.8 -0.2**
comp=Z,21nm,0.7s,SNR=9.4
STU Stuttgart 75.69 317 *e*P **P 21 30 38.2 -0.5**
STU pmax pmax
comp=Z,9.0nm,0.6s
STU Stuttgart 75.69 317 *e*P **P 21 30 38.2 -0.5**
comp=Z,9.4nm,0.6s
TNS Taunus Mts 76.06 319 *e*P **P 21 30 41.1 +0.2**
comp=Z,12nm,0.9s
BFO Black Forest 76.30 317 *ce*P **P 21 30 42.5 +0.3**
BFO Black Forest 76.30 317 *e*P **P 21 30 41.2 -1.0**
comp=Z,3.7nm,0.8s
IBBN Ibbenburen 76.33 321 *e*P **P 21 30 43.0 +0.7**
comp=Z,50nm,1.4s
PGF Pioggiola 76.38 311 *e*P **P 21 30 41.9 -1.0**
comp=Z,21nm,0.9s
PGF Pioggiola 76.38 311 *e*P **P 21 30 41.9 -1.0**
PGF pmax pmax
comp=Z,21nm,0.9s
PGF Pioggiola 76.38 311 *e*P **P 21 30 41.9 -1.0**
comp=Z,21nm,0.9s
LANF Langenberg 76.58 318 *e*P **P 21 30 44.4 +0.5**
BUG Bochum-Univer 76.71 320 *e*P **P 21 30 44.9 +0.5**
comp=Z,15nm,0.8s
KEST Kesra 76.89 304 P **P 21 30 45.7 -0.3**
comp=Z,6.3nm,0.8s,baz=261,slow=2.2,SNR=15
CDF Champ du Feu 76.99 317 *e*P **P 21 30 45.2 -1.0**
comp=Z,8.5nm,0.8s
CDF Champ du Feu 76.99 317 *e*P **P 21 30 45.2 -1.0**
CDF pmax pmax
comp=Z,9.0nm,0.8s
CDF Champ du Feu 76.99 317 *e*P **P 21 30 45.2 -1.0**
comp=Z,8.5nm,0.8s
MOF Molkenrain 77.14 316 *e*P **P 21 30 47.0 -0.1**
SENIN Lac Senin/Sane 77.18 315 *e*P **P 21 30 46.6 -0.9**

SAOF Saorge 77.27 312 *e*P **P 21 30 47.9 +0.1**
HINF Hinteralfeld 77.33 316 *e*P **P 21 30 47.0 -1.1**
comp=Z,8.1nm,0.6s
HINF Hinteralfeld 77.33 316 *e*P **P 21 30 47.0 -1.1**
HINF pmax pmax
comp=Z,8.0nm,0.6s
HINF Hinteralfeld 77.33 316 *e*P **P 21 30 47.0 -1.1**
comp=Z,8.1nm,0.6s
SBF Sospel 77.37 312 *e*P **P 21 30 47.5 -0.9**
comp=Z,28nm,0.8s
SBF Sospel 77.37 312 *e*P **P 21 30 47.5 -0.9**
SBF pmax pmax
comp=Z,28nm,0.8s
SBF Sospel 77.37 312 *e*P **P 21 30 47.5 -0.9**
comp=Z,28nm,0.8s
LOMF Lomont 77.40 316 *e*P **P 21 30 48.5 -0.1**
TOUF Mont Tournerai 77.48 313 *e*P **P 21 30 49.3 0.0**
MEM Membach 77.58 319 P **P 21 30 49.6 +0.2**
comp=Z,5.9nm,1.2s
WLF Walferdange 77.59 318 P **P 21 30 49.9 +0.4**
WLF Walferdange 77.59 318 *e*P **P 21 30 49.9 +0.4**
comp=Z,20nm,1.4s
HAU Haudompre 77.65 317 *e*P **P 21 30 48.8 -1.1**
comp=Z,22nm,0.8s
HAU *e*R
comp=Z,83nm,19.5s
HAU Haudompre 77.65 317 *e*P **P 21 30 48.8 -1.1**
HAU pmax pmax
comp=Z,22nm,0.8s
HAU Haudompre 77.65 317 *e*P **P 21 30 48.8 -1.1**
comp=Z,22nm,0.8s
LPG La Plagne 77.66 314 *e*P **P 21 30 49.9 -0.4**
comp=Z,49nm,0.7s
LPG La Plagne 77.66 314 *e*P **P 21 30 49.9 -0.4**
LPG pmax pmax
comp=Z,49nm,0.7s
LPG La Plagne 77.66 314 *e*P **P 21 30 49.9 -0.4**
comp=Z,49nm,0.7s
LPL La Plagne 77.67 314 *e*P **P 21 30 49.8 -0.5**
comp=Z,61nm,0.7s
LPL La Plagne 77.67 314 *e*P **P 21 30 49.8 -0.5**
LPL pmax pmax
comp=Z,61nm,0.7s
LPL La Plagne 77.67 314 *e*P **P 21 30 49.8 -0.5**
comp=Z,61nm,0.7s
RSL Roselend 77.73 314 *e*P **P 21 30 50.6 +0.1**
MBDF Montbardon 77.74 313 *e*P **P 21 30 49.2 -1.4**
comp=Z,23nm,0.8s
MBDF Montbardon 77.74 313 *e*P **P 21 30 49.2 -1.4**
MBDF pmax pmax
comp=Z,23nm,0.8s
MBDF Montbardon 77.74 313 *e*P **P 21 30 49.2 -1.4**
comp=Z,23nm,0.8s
BNI Bardonecchia 77.77 314 *e*P **P 21 30 50.0 -0.7**
BNI pmax pmax
comp=Z,11nm,0.7s
BNI Bardonecchia 77.77 314 *e*P **P 21 30 50.0 -0.7**
comp=Z,11nm,0.7s
THEF They Montfort 77.86 317 *e*P **P 21 30 51.1 +0.1**
FRF La Foret Royal 77.97 312 *e*P **P 21 30 51.0 -0.7**
comp=Z,85nm,1.3s
FRF La Foret Royal 77.97 312 *e*P **P 21 30 51.0 -0.7**
FRF pmax pmax
comp=Z,85nm,1.3s
FRF La Foret Royal 77.97 312 *e*P **P 21 30 51.0 -0.7**
comp=Z,85nm,1.3s
CABF La Chapelle 77.99 315 *e*P **P 21 30 51.3 -0.6**
comp=Z,30nm,0.9s
CABF La Chapelle 77.99 315 *e*P **P 21 30 51.3 -0.6**
CABF pmax pmax
comp=Z,30nm,0.9s
CABF La Chapelle 77.99 315 *e*P **P 21 30 51.3 -0.6**
comp=Z,30nm,0.9s
PAGF Fort de Pagny 78.00 317 *e*P **P 21 30 51.0 -0.8**
comp=Z,5.6nm,1.0s
PAGF Fort de Pagny 78.00 317 *e*P **P 21 30 51.0 -0.8**
comp=Z,5.6nm,1.0s
BCLA Clavier 78.05 319 P **P 21 30 52.4 +0.4**
LMR La Mourre 78.10 312 *e*P **P 21 30 51.7 -0.7**
comp=Z,10nm,0.6s
LMR La Mourre 78.10 312 *e*P **P 21 30 51.7 -0.7**
LMR pmax pmax
comp=Z,11nm,0.6s
LMR La Mourre 78.10 312 *e*P **P 21 30 51.7 -0.7**
comp=Z,10nm,0.6s
ORIF Oris-en-Rattie 78.34 314 *e*P **P 21 30 52.7 -1.2**
comp=Z,9.8nm,0.7s
ORIF *e*R
comp=Z,78nm,23.0s
ORIF Oris-en-Rattie 78.34 314 *e*P **P 21 30 52.7 -1.2**
ORIF pmax pmax
comp=Z,10.0nm,0.7s
ORIF Oris-en-Rattie 78.34 314 *e*P **P 21 30 52.7 -1.2**
comp=Z,9.8nm,0.7s
GIVF Givet 78.39 319 *e*P **P 21 30 53.2 -0.7**
GIVF Givet 78.39 319 *e*P **P 21 30 53.2 -0.7**
GIVF Givet 78.39 319 *e*P **P 21 30 53.2 -0.7**
MEZF Maizieres J'vi 78.45 317 *e*P **P 21 30 53.5 -0.7**
comp=Z,36nm,1.3s
MEZF Maizieres J'vi 78.45 317 *e*P **P 21 30 53.5 -0.7**
comp=Z,36nm,1.3s
SFTF Sexfontaines 78.49 317 *e*P **P 21 30 53.7 -0.8**
comp=Z,42nm,1.1s
SFTF Sexfontaines 78.49 317 *e*P **P 21 30 53.7 -0.8**
comp=Z,42nm,1.1s
DOU Dourbes 78.54 319 P **P 21 30 55.0 +0.3**
comp=Z,4.4nm,1.6s
SNF Seneffe 78.68 319 P **P 21 30 55.8 +0.3**
SMRF Simiane la Rot 78.69 313 *e*P **P 21 30 55.6 -0.1**
comp=Z,14nm,0.7s
SMRF Simiane la Rot 78.69 313 *e*P **P 21 30 55.6 -0.1**
comp=Z,14nm,0.7s
BAIF Baives 78.79 319 *e*P **P 21 30 55.7 -0.4**
comp=Z,34nm,1.0s
BAIF Baives 78.79 319 *e*P **P 21 30 55.7 -0.4**
BAIF pmax pmax
comp=Z,34nm,1.0s
BAIF Baives 78.79 319 *e*P **P 21 30 55.7 -0.4**
comp=Z,34nm,1.0s
VIVF Saint-Julien-l 79.20 314 *e*P **P 21 30 57.8 -0.7**
comp=Z,27nm,1.0s
VIVF Saint-Julien-l 79.20 314 *e*P **P 21 30 57.8 -0.7**
VIVF pmax pmax
comp=Z,27nm,1.0s
VIVF Saint-Julien-l 79.20 314 *e*P **P 21 30 57.8 -0.7**
comp=Z,27nm,1.0s
LOR Lormes 79.41 316 *e*P **P 21 30 58.6 -1.0**
comp=Z,28nm,1.0s
LOR *e*R
comp=Z,71nm,23.0s
LOR Lormes 79.41 316 *e*P **P 21 30 58.6 -1.0**
LOR pmax pmax
comp=Z,28nm,1.0s
LOR Lormes 79.41 316 *e*P **P 21 30 58.6 -1.0**
comp=Z,28nm,1.0s
SMF Signal de Mont 79.52 316 *e*P **P 21 30 59.0 -1.2**
comp=Z,25nm,0.7s
SMF Signal de Mont 79.52 316 *e*P **P 21 30 59.0 -1.2**
SMF pmax pmax
comp=Z,25nm,0.7s
SMF Signal de Mont 79.52 316 *e*P **P 21 30 59.0 -1.2**
comp=Z,25nm,0.7s
SSF Saint Saulge 79.68 316 *e*P **P 21 31 00.2 -0.8**
comp=Z,16nm,0.9s
SSF Saint Saulge 79.68 316 *e*P **P 21 31 00.2 -0.8**
SSF pmax pmax
comp=Z,16nm,0.9s
SSF Saint Saulge 79.68 316 *e*P **P 21 31 00.2 -0.8**
comp=Z,16nm,0.9s
PLDF La Plantade 79.77 315 *e*P **P 21 31 02.0 +0.4**
AVF Avril sur Loir 79.83 316 *e*P **P 21 31 00.9 -0.9**
comp=Z,20nm,0.8s
AVF Avril sur Loir 79.83 316 *e*P **P 21 31 00.9 -0.9**
AVF pmax pmax
comp=Z,20nm,0.8s
AVF Avril sur Loir 79.83 316 *e*P **P 21 31 00.9 -0.9**
comp=Z,20nm,0.8s
LASF Ste Croix 79.90 313 *e*P **P 21 31 02.1 -0.2**
comp=Z,70nm,1.3s
LASF Ste Croix 79.90 313 *e*P **P 21 31 02.1 -0.2**
comp=Z,70nm,1.3s
AGO Saint Agoulin 80.09 315 *e*P **P 21 31 03.6 +0.3**
LBL Lubilhac 80.14 314 *e*P **P 21 31 04.4 +0.7**
PYM Petit Puy Mans 80.23 315 *e*P **P 21 31 04.5 +0.4**
HYF Humbligny 80.23 316 *e*P **P 21 31 03.6 -0.4**
HYF Humbligny 80.23 316 *e*P **P 21 31 03.6 -0.4**

TCF Toulx Ste Croi 80.69 315 *e*P **P 21 31 06.0 -0.5**
comp=Z,30nm,1.0s
CASY Casey 80.70 173 *e*P **P 21 31 06.4 +0.5**
comp=Z,149nm,2.8s
TSUM Tsumeb 80.81 248 *e*P **P 21 31 08.6 +0.8**
comp=Z,5.4nm,0.9s
CAF Calviac 81.02 314 *e*P **P 21 31 07.9 -0.5**
comp=Z,22nm,1.1s
CAF Calviac 81.02 314 *e*P **P 21 31 07.9 -0.5**
CAF pmax pmax
comp=Z,22nm,1.1s
CAF Calviac 81.02 314 *e*P **P 21 31 07.9 -0.5**
comp=Z,22nm,1.1s
MTLF Montolieu 81.19 312 *e*P **P 21 31 08.7 -0.6**
comp=Z,21nm,0.9s
MTLF Montolieu 81.19 312 *e*P **P 21 31 08.7 -0.6**
MTLF pmax pmax
comp=Z,21nm,0.9s
MTLF Montolieu 81.19 312 *e*P **P 21 31 08.7 -0.6**
comp=Z,21nm,0.9s
RJF Les Rejaudoux 81.34 314 *e*P **P 21 31 09.8 -0.2**
comp=Z,31nm,1.0s
RJF *e*R
comp=Z,58nm,19.5s
LDF La Druitiere 81.83 318 *e*P **P 21 31 11.6 -0.9**
comp=Z,21nm,0.7s
LDF La Druitiere 81.83 318 *e*P **P 21 31 11.6 -0.9**
LDF pmax pmax
comp=Z,21nm,0.7s
LDF La Druitiere 81.83 318 *e*P **P 21 31 11.6 -0.9**
comp=Z,21nm,0.7s
LFF La Frestale 81.94 314 *e*P **P 21 31 12.9 -0.3**
comp=Z,12nm,0.8s
FLN La Foliniere 82.03 318 *e*P **P 21 31 12.7 -0.8**
comp=Z,39nm,0.9s
FLN *e*R
comp=Z,82nm,20.8s
FLN La Foliniere 82.03 318 *e*P **P 21 31 12.7 -0.8**
FLN pmax pmax
comp=Z,39nm,0.9s
FLN La Foliniere 82.03 318 *e*P **P 21 31 12.7 -0.8**
comp=Z,39nm,0.9s
MFF Saint Martin d 82.23 316 *e*P **P 21 31 13.9 -0.7**
comp=Z,24nm,0.9s
GRR Gorron 82.35 318 *e*P **P 21 31 14.3 -0.9**
GRR Gorron 82.35 318 *e*P **P 21 31 14.3 -0.9**
GRR Gorron 82.35 318 *e*P **P 21 31 14.3 -0.9**
EPF Esparros 82.60 312 *e*P **P 21 31 15.4 -1.3**
comp=Z,6.3nm,0.9s
EPF Esparros 82.60 312 *e*P **P 21 31 15.4 -1.3**
EPF pmax pmax
comp=Z,6.0nm,0.9s
EPF Esparros 82.60 312 *e*P **P 21 31 15.4 -1.3**
comp=Z,6.3nm,0.9s
ETSF Etsaut 83.27 312 *e*P **P 21 31 20.0 -0.3**
comp=Z,15nm,1.0s
ETSF Etsaut 83.27 312 *e*P **P 21 31 20.0 -0.3**
ETSF pmax pmax
comp=Z,15nm,1.0s
ETSF Etsaut 83.27 312 *e*P **P 21 31 20.0 -0.3**
comp=Z,15nm,1.0s
SGMF Saint Gilles 83.48 318 *e*P **P 21 31 20.4 -0.7**
comp=Z,24nm,1.0s
SGMF Saint Gilles 83.48 318 *e*P **P 21 31 20.4 -0.7**
SGMF pmax pmax
comp=Z,24nm,1.0s
SGMF Saint Gilles 83.48 318 *e*P **P 21 31 20.4 -0.7**
comp=Z,24nm,1.0s
SJPF Ste Jean 83.70 313 *e*P **P 21 31 22.2 -0.2**
comp=Z,18nm,1.2s
SJPF Ste Jean 83.70 313 *e*P **P 21 31 22.2 -0.2**
SJPF pmax pmax
comp=Z,18nm,1.2s
SJPF Ste Jean 83.70 313 *e*P **P 21 31 22.2 -0.2**
comp=Z,18nm,1.2s
MAW Mawson 83.79 191 P **P 21 31 23.5 +1.5**
comp=Z,1.1nm,0.4s,baz=17,slow=11,SNR=3.5
MAW LR LR 22 02 48.9
comp=Z,49nm,19.5s,baz=244,slow=31
MAW Mawson 83.79 191 *e*P **P 21 31 23.1 +1.0**
MAW Mawson 83.79 191 *e*P **P 21 31 23.1 +1.0**
ROSF Rostrenen 83.93 318 *e*P **P 21 31 22.6 -0.8**
comp=Z,28nm,1.1s
ROSF Rostrenen 83.93 318 *e*P **P 21 31 22.6 -0.8**
ROSF pmax pmax
comp=Z,28nm,1.1s
ROSF Rostrenen 83.93 318 *e*P **P 21 31 22.6 -0.8**
comp=Z,28nm,1.1s
ESDC Sonseca Array 86.52 310 P **P 21 31 36.8 +0.1**
comp=Z,5.3nm,0.8s,baz=55,slow=4.7,SNR=28
PAB San Pablo 86.83 310 *e*P **P 21 31 36.8 -1.4**
PAB pmax pmax
comp=Z,6.0nm,0.9s
PAB San Pablo 86.83 310 *e*P **P 21 31 36.8 -1.4**
comp=Z,6.1nm,0.9s
IM04 Indian Mountai 86.92 22 *e*P **P 21 31 37.4 -0.6**
TOA0 Torodi Ar. Sit 87.95 283 *e*P **P 21 31 44.5 +0.6**
TORD Torodi Ar. Bea 87.95 283 P **P 21 31 44.5 +0.6**
comp=Z,8.6nm,0.9s,baz=83,slow=4.6,SNR=49
TORD LR LR 22 14 11.7
comp=Z,110nm,18.3s,baz=160,slow=38
SUMG Summit 88.33 347 *i* P **P 21 31 44.7 -0.4**
comp=Z,8.2nm,1.0s
SUMG *i* 21 31 54.0
SUMG Summit 88.33 347 *i* P **P 21 31 44.7 -0.4**
SUMG *i* 21 31 54.0
SUMG pmax pmax
comp=Z,8.0nm,1.0s
SUMG Summit 88.33 347 *e*P **P 21 31 43.4 -1.7**
comp=Z,11nm,1.1s
MVO Moncorvo 88.37 312 *e*P **P 21 31 45.6 +0.1**
comp=Z,15nm,1.6s
CAST Castle Rocks 88.76 24 *e*P **P 21 31 46.6 -0.2**
comp=Z,14nm,0.8s
PPLA Purkeypile 88.96 25 *e*P **P 21 31 47.8 -0.1**
comp=Z,7.8nm,1.0s
PBAR Barrancos 89.23 309 *e*P **P 21 31 50.2 +0.7**
comp=Z,42nm,1.8s
TRF Thorofare Moun 89.45 24 *e*P **P 21 31 49.0 -1.3**
comp=Z,4.8nm,0.8s
MCK McKinley 89.82 23 *e*P **P 21 31 50.6 -1.2**
MCK pmax pmax
comp=Z,9.0nm,0.9s
MCK McKinley 89.82 23 *e*P **P 21 31 50.6 -1.2**
comp=Z,9.3nm,0.9s
ILAR Eielson Array 90.03 22 P **P 21 31 51.7 -1.0**
comp=Z,1.7nm,0.7s,baz=299,slow=4.2,SNR=18
ILB Eielson Array 90.03 22 *e*P **P 21 31 51.7 -1.0**
KULLO Kullorsuaq 90.05 352 *i* P **P 21 31 52.5 -0.1**
comp=Z,24nm,0.9s
KULLO *i* 21 32 01.2
PCVE Castro Verde 90.14 309 *e*P **P 21 31 52.0 -1.8**
comp=Z,9.4nm,1.7s
PBDV Barranco-do-Ve 90.17 308 *e*P **P 21 31 55.5 +1.5**
comp=Z,35nm,1.2s
PNCL Nicolau / Gran 90.37 309 *e*P **P 21 31 56.2 +1.4**
comp=Z,22nm,1.4s
PMR Palmer 90.85 25 *e*P **P 21 31 55.4 -1.1**
PMR Palmer 90.85 25 *e*P **P 21 31 55.4 -1.1**
RC01 Rabbit Creek A 90.86 26 *e*P **P 21 31 55.8 -0.9**
comp=Z,20nm,0.8s
RC01 *e*pP **pP 21 32 10.3 +3.1**
RES Resolute Bay 91.81 2 *e*P **P 21 32 00.5 -0.3**
RES Resolute Bay 91.81 2 *e*P **P 21 32 00.5 -0.3**
INK Inuvik 91.94 16 P **P 21 32 01.6 +0.1**
comp=Z,4.9nm,1.1s,baz=303,slow=7.3,SNR=6.6
INK Inuvik 91.94 16 *e*P **P 21 32 01.1 -0.4**
INK pmax pmax
comp=Z,9.0nm,1.3s
INK Inuvik 91.94 16 *e*P **P 21 32 01.1 -0.4**
comp=Z,9.0nm,1.3s
BMRM Bremner River 93.03 24 *e*P **P 21 32 05.8 -1.0**
comp=Z,9.1nm,1.0s
BMRM *e*pP **pP 21 32 21.4 +4.1**
DAWY Dawson 93.06 20 *e*P **P 21 32 05.9 -0.9**
comp=Z,7.9nm,1.2s
DAWY *e*pP **pP 21 32 20.5 +3.1**
VNDA Vanda 98.74 168 LR LR 22 12 30.3
comp=Z,57nm,18.9s,baz=230,slow=32
YKA Yellowknife Ar 101.24 13 P **Pdif 21 32 43.1 -0.6**
comp=Z,0.2nm,0.7s,baz=322,slow=3.2,SNR=5.1
YKB5 Yellowknife Ar 101.24 13 *e*Pdif **Pdif 21 32 43.1 -0.6**
H24A Dirks Ranch, A 119.89 14 P **PKPdf 21 37 43.0 -1.1**
baz=120
I21A Big Trails, Te 120.06 17 P **PKPdf 21 37 43.8 -0.6**
baz=120
J20A Shoshoni 120.25 17 P **PKPdf 21 37 44.0 -0.8**

	baz=120							
PD31	**Pinedale Array**	**120.34**	**19**	*e*PKPdf	**PKPdf**	**21 37 44.6**	**-0.5**
PDAR	**Pinedale Array**	**120.34**	**19**	PKP	**PKPdf**	**21 37 44.6**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=41,slow=2.3,SNR=9.6						
J22A	**Midwest**	**120.65**	**16**	P	**PKPdf**	**21 37 44.7**	**-0.9**
	baz=120						
NV01	**Mina Array Sit**	**120.69**	**28**	*e*PKPdf	**PKPdf**	**21 37 47.1**	**+1.2**
NVAR	**Mina Array Bea**	**120.69**	**28**	PKP	**PKPdf**	**21 37 47.1**	**+1.2**
	comp=Z,1.4nm,0.5s,baz=319,slow=1.5,SNR=5.6						
K23A	**Bowen Ranch, D**	**121.49**	**16**	P	**PKPdf**	**21 37 47.0**	**-0.2**
	baz=121						
DUG	**Dugway, Tooele**	**121.50**	**23**	P	**PKPdf**	**21 37 48.0**	**+0.7**
	baz=121						
R11A	**Troy Canyon, C**	**121.96**	**26**	*e*PKPdf	**PKPdf**	**21 37 47.2**	**-1.1**
R11A	**Troy Canyon, C**	**121.96**	**26**	P	**PKPdf**	**21 37 48.7**	**+0.4**
	baz=122						
L23A	**Garrett**	**122.07**	**16**	P	**PKPdf**	**21 37 48.0**	**-0.4**
	baz=122						
ECSD	**EROS Data Cent**	**122.36**	**8**	*e*PKPdf	**PKPdf**	**21 37 47.5**	**-1.2**
ECSD	**EROS Data Cent**	**122.36**	**8**	P	**PKPdf**	**21 37 48.2**	**-0.5**
	baz=122						
GMRC	**Granite Mounta**	**124.89**	**28**	P	**PKPdf**	**21 37 55.0**	**+1.0**
	baz=124						
U15A	**North Rim**	**124.97**	**25**	P	**PKPdf**	**21 37 55.3**	**+1.1**
	baz=125						
R27A	**Eads**	**126.42**	**15**	P	**PKPdf**	**21 37 56.9**	**+0.1**
	baz=126						
Q33A	**Connelly Farm,**	**126.80**	**10**	P	**PKPdf**	**21 37 56.8**	**-0.5**
	baz=126						
S26A	**Kim**	**126.87**	**16**	P	**PKPdf**	**21 37 57.7**	**0.0**
	baz=126						
X16A	**Lo Mia Camp, P**	**127.05**	**25**	P	**PKPdf**	**21 37 59.5**	**+1.4**
	baz=127						
T25A	**Trinidad**	**127.06**	**17**	P	**PKPdf**	**21 37 58.2**	**0.0**
	baz=127						
R32A	**Long Quarter,**	**127.20**	**11**	P	**PKPdf**	**21 37 58.6**	**+0.5**
	baz=127						
T26A	**Comanche Natio**	**127.26**	**16**	P	**PKPdf**	**21 37 58.7**	**+0.2**
	baz=127						
S28A	**Manter**	**127.31**	**15**	P	**PKPdf**	**21 37 58.6**	**+0.2**
	baz=127						
ANMO	**Albuquerque**	**128.45**	**20**	*e*PKIKP	**PKPdf**	**21 38 00.4**	**-0.4**
ANMO	**Albuquerque**	**128.45**	**20**	*e*PKPdf	**PKPdf**	**21 38 00.4**	**-0.4**
128A	**Castleberry Fa**	**131.84**	**17**	P	**PKPdf**	**21 38 05.3**	**-1.9**
	baz=132						
530A	**J-C Ranch, Com**	**134.49**	**17**	P	**PKPdf**	**21 38 11.5**	**-0.7**
	baz=134						
LTX	**Lajitas**	**134.52**	**20**	*e*PKIKP	**PKPdf**	**21 38 13.8**	**+1.5**
LTX	**Lajitas**	**134.52**	**20**	*e*PKPdf	**PKPdf**	**21 38 13.8**	**+1.5**
TXAR	**Lajitas Array**	**134.52**	**20**	PKP	**PKPdf**	**21 38 13.8**	**+1.5**
	comp=Z,0.8nm,0.6s,baz=168,slow=1.4,SNR=7.7						
JCT	**Junction City**	**134.59**	**15**	*e*PKIKP	**PKPdf**	**21 38 11.7**	**-0.7**
JCT	**Junction City**	**134.59**	**15**	*e*PKPdf	**PKPdf**	**21 38 11.7**	**-0.7**
JCT	**Junction City**	**134.59**	**15**	P	**PKPdf**	**21 38 11.9**	**-0.4**
	baz=134						
434A	**Burnet**	**134.64**	**13**	P	**PKPdf**	**21 38 12.2**	**-0.2**
	baz=134						
531A	**Rocksprings**	**134.69**	**16**	P	**PKPdf**	**21 38 12.4**	**-0.1**
	baz=134						
BDFB	**Brasilia**	**141.98**	**262**	PKP	**PKPdf**	**21 38 24.4**	**-1.9**
	comp=Z,4.5nm,0.8s,baz=177,slow=4.8,SNR=5.7						
BDFB	**Brasilia**	**141.98**	**262**	*e*PKIKP	**PKPdf**	**21 38 23.8**	**-2.5**
BDFB	**Brasilia**	**141.98**	**262**	*e*PKPdf	**PKPdf**	**21 38 23.8**	**-2.5**
TRQA	**Tornquist**	**146.82**	**218**	*e*PKPdf	**PKPbc**	**21 38 34.9**	**-0.9**
CPUP	**Villa Florida**	**149.19**	**241**	PKPbc	**PKPbc**	**21 38 42.5**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=102,slow=2.1,SNR=14						
CPUP	**Villa Florida**	**149.19**	**241**	*e*PKP2	**PKPbc**	**21 38 41.6**	**-0.8**
CPUP	**Villa Florida**	**149.19**	**241**	*e*PKPbc	**PKPbc**	**21 38 41.6**	**-0.8**
PLCA	**Paso Flores**	**149.22**	**205**	PKPbc	**PKPbc**	**21 38 43.5**	**+1.3**
	comp=Z,3.6nm,0.8s,baz=241,slow=1.2,SNR=8.1						
PLCA	**Paso Flores**	**149.22**	**205**	*e*PKP2	**PKPbc**	**21 38 42.3**	**+0.1**
PLCA	**Paso Flores**	**149.22**	**205**	*e*PKPbc	**PKPbc**	**21 38 42.3**	**+0.1**
PTGA	**Pitinga**	**150.10**	**293**	*e*PKPdf	**PKPdf**	**21 38 37.0**	**-3.0**
PTGA				*e*PKPbc	**PKPbc**	**21 38 45.0**	**0.0**
SDV	**Santo Domingo**	**152.25**	**323**	*e*PKPdf	**PKPdf**	**21 38 40.1**	**-3.4**
SDV				*e*PKPbc	**PKPbc**	**21 38 47.6**	**-2.6**
SDV				*e*PKPab	**PKPab**	**21 38 59.1**	**-0.9**
ROSC	**El Rosal**	**157.64**	**324**	PKPab	**PKPab**	**21 39 24.0**	**+0.8**
	comp=Z,7.2nm,0.6s,baz=90,slow=20,SNR=5.4						
ROSC	**El Rosal**	**157.64**	**324**	*e*PKPdf	**PKPdf**	**21 38 47.7**	**-3.5**
ROSC				*e*PKPab	**PKPab**	**21 39 23.2**	**0.0**

*ISCJB **01** 21:39:13.5±0.4, 0.°04S±0.°05×123.°32E±0.°04, h157km, mb3.8/10, Error ellipse: s-maj=7.8km s-min=5.4km az=172.3*
*DJA **01** 21:39:15.8±0.4, 0.°3S±3.°×12.°3E±°, h120km±6km, M4.2/17, mb4.1/5, mB4.8/2, MLv4.2/17, Mw(mB)4.0/2*
*IDC **01** 21:39:17.0±5.5, 0.°01N×123.°42E, h168km±54km, mb3.4/9, mb1 3.6/9, mb1mx3.2/36, mbtmp3.9/9, Error ellipse: s-maj=26.0km s-min=12.5km az=77.0*
ISC 01 21:39:15.0±0.6, 0.°07S±0.°06×123.°32E±0.°04, h157km, n24, σ1§74/31, mb3.8/10, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KMSI	**Cibinong**	**0.92**	**46**	P		**Pn**	**21 39 39.7**	**-0.1**
LUWI	**Luwuk**	**1.11**	**210**	P		**Pn**	**21 39 39.5**	**-1.8**
LUWI				S		**Sn**	**21 39 58.1**	**-3.4**
MRSI	**Marisa**	**1.48**	**292**	P		**Pn**	**21 39 42.7**	**-2.2**
MRSI				S		**Sn**	**21 40 03.3**	**-4.5**
SANI	**Sanana**	**3.31**	**126**	P		**Pn**	**21 40 04.9**	**-1.7**
SANI				S		**Sn**	**21 40 42.2**	**-4.4**
MPSI	**Mapaga**	**3.45**	**277**	P		**Pn**	**21 40 08.0**	**-0.3**
PCI	**Palu**	**3.58**	**257**	P		**Pn**	**21 40 09.2**	**-0.8**
PCI				S		**Sn**	**21 40 51.7**	**-1.0**
TNTI	**Ternate**	**4.13**	**78**	P		**Pn**	**21 40 16.6**	**-0.6**
LBMI	**Labuha**	**4.22**	**98**	P		**Pn**	**21 40 17.8**	**-0.5**
LBMI				S		**Sn**	**21 41 05.3**	**-2.3**
TTSI	**Tana Toraja**	**4.58**	**230**	P		**Pn**	**21 40 22.8**	**-0.2**
NLAI	**Namlea**	**4.92**	**130**	P		**Pn**	**21 40 28.3**	**+0.9**
SPSI	**Sidrap Palu**	**5.25**	**223**	P		**Pn**	**21 40 32.1**	**+0.3**
	32nm,0.6s,849nm0.1nm							
BNSI	**Bone**	**5.36**	**217**	P		**Pn**	**21 40 33.8**	**+0.5**
	32nm,0.9s,0.1nm							
WRA	**Warramunga Arr**	**22.50**	**152**	P		**P**	**21 44 02.6**	**+1.0**
	2.5nm,0.5s,baz=330,slow=10,SNR=82							
ASAR	**Alice Springs**	**25.61**	**157**	P		**P**	**21 44 32.0**	**+2.1**
	1.1nm,0.8s,baz=348,slow=12,SNR=11							
ASAR					PcP	**PcP**	**21 47 58.0**	**+1.2**
	0.3nm,0.3s,baz=339,slow=2.2,SNR=5.2							
CMAR	**Chiang Mai Arr**	**30.21**	**309**	P		**P**	**21 45 12.9**	**+2.0**
	0.5nm,0.7s,baz=137,slow=6.8,SNR=7.1							
JCJ	**Chichijima**	**32.54**	**32**	P		**P**	**21 45 30.8**	**-0.5**
	28nm,0.4s,baz=279,slow=18,SNR=8.3							
STKA	**Stephens Creek**	**36.05**	**153**	P		**P**	**21 46 01.6**	**+0.2**
	1.8nm,0.6s,baz=328,slow=11,SNR=3.6							
MAT	**Matsushiro**	**38.97**	**19**	P		**P**	**21 46 25.2**	**-0.7**
MJAR	**Matsushiro Arr**	**38.97**	**19**	P		**P**	**21 46 25.2**	**-0.6**
	2.8nm,0.7s,baz=190,slow=9.7,SNR=14							
USRK	**Ussuriysk Ar.**	**44.75**	**9**	P		**P**	**21 47 13.4**	**+0.7**
	0.5nm,0.4s,baz=149,slow=4.4,SNR=4.6							
SONM	**Songino Array**	**49.94**	**345**	P		**P**	**21 47 53.1**	**+0.2**
	0.8nm,0.4s,baz=160,slow=8.8,SNR=12							
SONM					PcP	**PcP**	**21 49 10.8**	**0.0**
	0.2nm,0.5s,baz=198,slow=4.2,SNR=2.5							
MKAR	**Makanchi Array**	**58.84**	**328**	P		**P**	**21 48 57.1**	**0.0**
	0.3nm,0.5s,baz=127,slow=9.4,SNR=5.1							
PETK	**Petropavlovsk-**	**60.23**	**23**	P		**P**	**21 49 07.5**	**+1.1**
	0.9nm,0.6s,baz=359,slow=2.7,SNR=6.0							
TORD	**Torodi Ar. Bea**	**120.74**	**285**	PKP		**PKPdf**	**21 57 49.0**	**-0.3**
	0.3nm,0.7s,baz=74,slow=2.1,SNR=4.4							

*KRNET **01** 21:43:24.0±0.1, 40.°90N×74.°84E, h2km, mb3.6*
*NNC **01** 21:43:26.9±1.0, 40.°85N×74.°87E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=15.8km s-min=3.7km az=124.0*
ISC 01 21:43:24.7±1.3, 40.°91N±0.°03×74.°87E±0.°03, h3km±15km, n38, σ1§10/54, 22C-12D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SALK	**Salom-Alik**	**0.80**	**269**	*i* P		**Pg**	**21 43 38.8**	**-1.2**
	baz=268							
SALK				*e*S		**Sg**	**21 43 50.0**	**-0.4**
	baz=268							
NRN	**Naryn**	**1.00**	**58**	*e*P		**Pg**	**21 43 43.7**	**-0.2**
	baz=59							
NRN				*e*S		**Sg**	**21 43 57.9**	**+1.0**
	baz=59							
KZA	**Kyzart**	**1.21**	**13**	P		**Pb**	**21 43 48.4**	**-0.1**
	SNR=38							
KZA	**Kyzart**	**1.21**	**13**	⇓*i*P		**Pb**	**21 43 48.1**	**-0.3**
	baz=15							
KZA				⇓*i*S		**Sg**	**21 44 04.2**	**+0.8**
	baz=15							
UCH	**Uchtor**	**1.35**	**349**	P		**Pb**	**21 43 51.1**	**+0.2**
	SNR=67							
UCH	**Uchtor**	**1.35**	**349**	*e*P		**Pb**	**21 43 50.9**	**0.0**
	baz=350							
UCH				*i* S		**Sg**	**21 44 08.6**	**+0.6**
	baz=350							
SFK	**Sufi-Kurgan**	**1.37**	**230**	⇓P		**Pb**	**21 43 51.1**	**-0.1**
	12nm,0.4s							
SFK				⇑S		**Sn**	**21 44 10.7**	**+0.8**
	125nm,0.5s							
AML	**Almayashu**	**1.51**	**325**	P		**Pg**	**21 43 54.0**	**+0.3**
	SNR=29							
AML	**Almayashu**	**1.51**	**325**	*e*P		**Pg**	**21 43 53.8**	**+0.1**
	baz=325							
AML				*i* S		**Sg**	**21 44 13.5**	**+0.2**
	baz=325							
ULHL	**Ulahol**	**1.69**	**37**	P		**Pb**	**21 43 56.6**	**+0.1**
	SNR=33							
ULHL	**Ulahol**	**1.69**	**37**	⇑*i*P		**Pb**	**21 43 56.6**	**+0.1**
	baz=38							
ULHL				⇑*i*S		**Sb**	**21 44 18.4**	**+0.1**
	baz=38							
AAK	**Ala-Archa**	**1.75**	**351**	⇓Pn		**Pg**	**21 43 57.7**	**-0.5**
	31nm,0.4s							
AAK				⇑Sn		**Sg**	**21 44 24.3**	**+3.4**
	112nm,0.7s							
AAK	**Ala-Archa**	**1.75**	**351**	P		**Pg**	**21 43 58.4**	**+0.2**
	SNR=69							
AAK	**Ala-Archa**	**1.75**	**351**	⇑*i*P		**Pg**	**21 43 58.0**	**-0.2**
	baz=352							
AAK				⇑*i*S		**Sg**	**21 44 21.3**	**+0.4**
	baz=352							
KBK	**Karagaybulak**	**1.75**	**2**	P		**Pg**	**21 43 58.3**	**+0.1**
	SNR=82							
KBK	**Karagaybulak**	**1.75**	**2**	⇑*i*P		**Pg**	**21 43 58.2**	**0.0**
	baz=3.0							
KBK				⇑*i*S		**Sg**	**21 44 21.0**	**+0.1**
	baz=3.0							
BOOM	**Boomskoye usch**	**1.77**	**26**	*e*P		**Pb**	**21 43 57.7**	**-0.3**
	baz=27							
BOOM				*e*S		**Sg**	**21 44 21.5**	**-0.2**
	baz=27							
FRU	**Bishkek**	**1.94**	**354**	*e*P		**Pg**	**21 44 03.0**	**+1.2**
	baz=355							
FRU				*e*S		**Sg**	**21 44 30.0**	**+3.1**
	baz=355							
EKS2	**Erkin-Say**	**1.94**	**335**	P		**Pg**	**21 44 01.6**	**-0.2**
	SNR=41							
EKS2	**Erkin-Say**	**1.94**	**335**	⇑*i*P		**Pg**	**21 44 01.4**	**-0.4**
	baz=336							
EKS2				⇑*i*S		**Sg**	**21 44 27.8**	**+0.9**
	baz=336							
EKS	**Erkin-Say**	**1.94**	**336**	⇓*i*P		**Pg**	**21 44 02.0**	**+0.1**
	baz=336							
TKM2	**Tokmak 2**	**2.08**	**15**	⇑Pn		**Pg**	**21 44 04.3**	**-0.4**
	27nm,0.5s							
TKM2				⇑Sn		**Sg**	**21 44 32.6**	**+0.9**
	101nm,0.3s							
TKM2	**Tokmak 2**	**2.08**	**15**	P		**Pg**	**21 44 04.2**	**-0.4**
	SNR=83							
TKM2	**Tokmak 2**	**2.08**	**15**	⇓*i*P		**Pg**	**21 44 04.0**	**-0.6**
	baz=15							
TKM2				⇓*i*S		**Sg**	**21 44 31.7**	**0.0**
	baz=15							
CHMS	**Chumysh**	**2.09**	**358**	P		**Pg**	**21 44 04.5**	**-0.3**
	SNR=39							
CHMS	**Chumysh**	**2.09**	**358**	⇑*i*P		**Pg**	**21 44 04.3**	**-0.5**
	baz=358							
CHMS				⇑*i*S		**Sg**	**21 44 31.2**	**-0.7**
	baz=358							
KDJ	**Kajisay**	**2.12**	**54**	*e*P		**Pb**	**21 44 03.8**	**-0.1**
	baz=55							
KDJ				*e*S		**Sg**	**21 44 34.0**	**+1.2**
	baz=55							
CHVK	**Chauvay**	**2.17**	**250**	*e*P		**Pg**	**21 44 06.8**	**+0.6**
	baz=250							
CHVK				*e*S		**Sg**	**21 44 37.5**	**+3.2**
	baz=250							
USP	**Ospenovka**	**2.38**	**353**	P		**Pg**	**21 44 09.1**	**-1.1**
	SNR=142							
KNDC	**Almaty**	**2.79**	**33**	⇓Pn		**Pb**	**21 44 14.7**	**-0.4**
	19nm,0.3s							
KNDC				⇑Lg		Lg	21 44 55.8	
	137nm,0.6s							
ANVS	**Anan'yevo**	**2.81**	**47**	⇓*i*P		**Pg**	**21 44 17.5**	**-1.0**
	baz=47							
ANVS				⇓*e*S		**Sg**	**21 44 55.6**	**+0.8**
	baz=47							
BTK	**Batken**	**3.21**	**256**	*e*P		**Pg**	**21 44 25.6**	**-0.5**
	baz=256							
BTK				*e*S		**Sg**	**21 45 07.6**	**-0.1**
	baz=256							
KK31	**Karatay Array**	**3.92**	**305**	⇑Pn		**Pb**	**21 44 31.3**	**-3.2**
	1.1nm,0.3s,baz=125,slow=13,SNR=38							
KK31				⇓Lg		Lg	21 45 28.0	
	5.4nm,0.3s,baz=126,slow=29,SNR=10.0							
PDGK	**Podgornoye**	**4.20**	**53**	⇑Pg		**Pg**	**21 44 43.2**	**-1.9**
	6.0nm,0.6s							
PDGK				⇑Lg		Lg	21 45 38.2	
	38nm,0.8s							
OTUK	**Ortayu**	**7.56**	**347**	⇑Lg		Lg	21 47 33.5	
	14nm,1.0s							
MK31	**Makanchi Array**	**7.96**	**40**	⇑Pn		Pn	21 45 27.9	+6.6
	0.4nm,0.5s,baz=220,slow=15,SNR=9.9							
MK31				⇓Lg		Lg	21 47 38.3	
	1.2nm,0.6s,baz=122,slow=9.2,SNR=5.3							
KURBB	**Kurchatov Arra**	**10.05**	**13**	⇑Lg		Lg	21 48 46.6	
	8.3nm,0.8s							
KURK	**Kurchatov**	**10.15**	**14**	⇑Lg		Lg	21 48 51.4	
	4.4nm,0.8s							

*CSEM **01** 22:12:48.4±0.5, 38.°55N×20.°36E, h20km, ML2.1, Error ellipse: s-maj=10.5km s-min=4.3km az=90.0*
*ATH **01** 22:12:48.1, 38.°57N×20.°39E, h14km±4km, MD3.1/6*
*THE **01** 22:12:50.6, 38.°53N×20.°56E, h9km±4km, ML2.1/2, Error ellipse: s-maj=4.8km s-min=0.5km az=286.0*
ISC 01 22:12:48.4±1.8, 38.°56N±0.°03×20.°41E±0.°09, h15km±9km, n24, σ0§54/40, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LKD2	**Lefkada island**	**0.30**	**40**	P		**Pb**	**22 12 56.2**	**+0.5**
LKD2				S		**Sb**	**22 13 00.4**	**-0.1**
LKD2	**Lefkada island**	**0.30**	**40**	P		**Pb**	**22 12 56.2**	**+0.5**
LKD2				S		**Sb**	**22 13 00.4**	**-0.1**
VLS	**Valsamata**	**0.41**	**159**	P		**Pb**	**22 12 57.0**	**-0.3**
VLS				*S*		**Sg**	**22 13 02.7**	**+0.5**
VLS	**Valsamata**	**0.41**	**159**	*e*PB		**Pb**	**22 12 57.0**	**-0.3**
VLS				*e*SB		**Sb**	**22 13 03.0**	**-0.4**
VLS	**Valsamata**	**0.41**	**159**	P		**Pb**	**22 12 57.0**	**-0.3**
VLS				S		**Sg**	**22 13 02.7**	**+0.5**
VLS				*e*Sb		**Sg**	**22 13 03.0**	**-0.4**
KFL	**Anninata**	**0.54**	**146**	P		**Pg**	**22 12 59.1**	**0.0**
KFL				S		**Sg**	**22 13 06.5**	**+0.2**
KFL	**Anninata**	**0.54**	**146**	P		**Pg**	**22 12 59.1**	**0.0**
KFL				S		**Sg**	**22 13 06.5**	**+0.2**
PDO	**Prodromos**	**0.61**	**86**	P		**Pg**	**22 12 59.9**	**-0.5**
PDO				S		**Sg**	**22 13 07.2**	**-1.4**
PDO	**Prodromos**	**0.61**	**86**	*e*PB		**Pg**	**22 13 00.0**	**-0.5**
PDO	**Prodromos**	**0.61**	**86**	*e*Pb		**Pg**	**22 13 00.0**	**-0.5**
PDO				S		**Sg**	**22 13 07.2**	**-1.4**
DSL	**Palaion Diesel**	**0.79**	**43**	P		**Pb**	**22 13 04.4**	**+0.5**
DSL	**Palaion Diesel**	**0.79**	**43**	P		**Pb**	**22 13 04.4**	**+0.5**
RLS	**Riolos of Patr**	**0.97**	**120**	*e*PN		**Pg**	**22 13 07.4**	**+0.2**
RLS				*e*SB		**Sg**	**22 13 20.4**	**+0.4**
RLS	**Riolos of Patr**	**0.97**	**120**	*e*Pn		**Pg**	**22 13 07.4**	**+0.2**
RLS				*e*Sb		**Sg**	**22 13 20.4**	**+0.4**
EVR	**Evrytania**	**1.16**	**71**	*e*PG		**Pn**	**22 13 09.6**	**-0.6**
EVR	**Evrytania**	**1.16**	**71**	*e*Pg		**Pn**	**22 13 09.6**	**-0.6**
DRO	**Drossia**	**1.19**	**120**	P		**Pn**	**22 13 10.5**	**-0.1**
DRO				S		**Sn**	**22 13 26.7**	**+0.1**
DRO	**Drossia**	**1.19**	**120**	P		**Pn**	**22 13 10.5**	**-0.1**
DRO				S		**Sn**	**22 13 26.7**	**+0.1**
KLV	**Kalavryta, Ach**	**1.47**	**110**	*e*PN		**Pn**	**22 13 14.6**	**+0.2**
KLV				*e*SB		**Sg**	**22 13 36.5**	**+0.8**
KLV	**Kalavryta, Ach**	**1.47**	**110**	*e*Pn		**Pn**	**22 13 14.6**	**+0.2**
KLV				*e*Sb		**Sg**	**22 13 36.5**	**+0.8**
AGG	**Agios Georgios**	**1.57**	**72**	*e*PB		**Pb**	**22 13 18.1**	**+0.8**
AGG	**Agios Georgios**	**1.57**	**72**	*e*Pb		**Pb**	**22 13 18.1**	**+0.8**
THL	**Klokotos Trika**	**1.61**	**51**	*e*PG		**Pb**	**22 13 18.0**	**+0.2**
THL	**Klokotos Trika**	**1.61**	**51**	*e*Pb		**Pb**	**22 13 18.0**	**+0.2**

*CSEM **01** 22:13:12.5, 42.°34N×13.°54E, h9km, MD2.2/11*
ROM 01 22:13:12.5±0.1, 42.°34N×13.°54E, h9km, Md2.2/11, Ml1.3/6, 1D, Error ellipse: s-maj=1.4km s-min=1.1km az=50.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FAGN	**Fagnano**	**0.08**	**153**	Pg		Pg	22 13 14.9	+0.1
FAGN				Sg		Sg	22 13 16.5	0.0
	406nm,0.4s							
FAGN	**Fagnano**	**0.08**	**153**	Pg		Pg	22 13 14.9	+0.1
FAGN				Sg		Sg	22 13 16.5	0.0
	406nm,0.4s							
AQU	**L'Aquila**	**0.10**	**280**	Pg		Pg	22 13 15.4	+0.3
AQU				Sg		Sg	22 13 17.5	+0.5
	176nm,0.4s							
AQU	**L'Aquila**	**0.10**	**280**	Pg		Pg	22 13 15.4	+0.3
AQU				Sg		Sg	22 13 17.5	+0.5
	176nm,0.4s							
T0106	**Roio Piano**	**0.12**	**256**	⇓*i*Pg		Pg	22 13 15.8	+0.4
T0106				Sg		Sg	22 13 18.5	+1.0
	126nm,0.5s							
T0104	**Madonna delle**	**0.15**	**279**	Pg		Pg	22 13 16.4	+0.5
VCEL	**Villa Celiera**	**0.23**	**75**	Pg		Pg	22 13 18.3	+0.8
	43nm,0.3s							
VCEL	**Villa Celiera**	**0.23**	**75**	Pg		Pg	22 13 18.3	+0.8
	43nm,0.3s							
TERO	**Teramo**	**0.29**	**10**	Pg		Pg	22 13 18.9	+0.5
TERO				Sg		Sb	22 13 23.9	-1.1
	21nm,0.2s							
TERO	**Teramo**	**0.29**	**10**	Pg		Pg	22 13 18.9	+0.5
TERO				Sg		Sb	22 13 23.9	-1.1
	21nm,0.2s							
FIAM	**Fiamignano**	**0.32**	**258**	Pg		Pg	22 13 19.3	+0.3
FIAM				Sg		Sb	22 13 24.7	-1.1
	68nm,1.4s							
FIAM	**Fiamignano**	**0.32**	**258**	Pg		Pg	22 13 19.3	+0.3
FIAM				Sg		Sb	22 13 24.7	-1.1
	68nm,1.4s							
PTQR	**Pietraquaria**	**0.33**	**198**	Pg		Pg	22 13 19.4	+0.2
PTQR				Sg		Sg	22 13 24.6	+0.9
	6.0nm,0.5s							
PTQR	**Pietraquaria**	**0.33**	**198**	Pg		Pg	22 13 19.4	+0.2
PTQR				Sg		Sg	22 13 24.6	+0.9
	6.0nm,0.5s							
INTR	**Introdacqua**	**0.42**	**140**	Pg		Pg	22 13 21.5	+0.5
INTR				Sg		Sb	22 13 28.3	-0.6
INTR	**Introdacqua**	**0.42**	**140**	Pg		Pg	22 13 21.5	+0.5
INTR				Sg		Sb	22 13 28.3	-0.6
VVLD	**Villa Vallelon**	**0.47**	**172**	Pg		Pb	22 13 23.0	-0.1
VVLD				Sg		Sb	22 13 29.6	-0.6
VVLD	**Villa Vallelon**	**0.47**	**172**	Pg		Pb	22 13 23.0	-0.1
VVLD				Sg		Sb	22 13 29.6	-0.6
NRCA	**Norcia**	**0.59**	**328**	Pg		Pg	22 13 23.9	-0.1
NRCA				Sg		Sb	22 13 33.1	-0.5
	14nm,0.1s							
NRCA	**Norcia**	**0.59**	**328**	Pg		Pg	22 13 23.9	-0.1
NRCA				Sg		Sb	22 13 33.1	-0.5
	14nm,0.1s							

*MEX **01** 22:30:50.4±0.4, 32.°62N×114.°86W, h12km, MD3.9*
*ISCJB **01** 22:30:52.2±0.6, 32.°25N±0.°03×115.°22W±0.°03, h12km±5km, Error ellipse: s-maj=5.3km s-min=4.4km az=12.9*
*NEIC **01** 22:30:52.9, 32.°20N×115.°29W, h7km, ML3.3(PAS), After PAS.*
*ECX **01** 22:30:54.0±0.5, 32.°23N×115.°28W, h7km, MD3.1, ML3.3*
ISC 01 22:30:52.6±0.9, 32.°24N±0.°03×115.°30W±0.°02, h13km±7km, n29, σ0§81/40, 5C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CPBX	**Cerro Prieto**	**0.17**	**358**	⇓*e*P		**Pg**	**22 30 56.3**	**-0.4**
CPBX				*e*S		**Sg**	**22 30 59.4**	**-0.1**
CPBX				⇑*e*			22 31 05.2	
CPBX					AML	AML	22 31 05.2	
	comp=E,21μm,0.3s							
MBIG	**Mexicali**	**0.18**	**27**	*e*P		**Pg**	**22 30 57.6**	**+0.7**
MBIG				*i* S		**Sb**	**22 31 02.3**	**+0.9**
SGL	**Mount Signal**	**0.54**	**318**	⇑*i*P		**Pg**	**22 31 03.6**	**+0.3**
EMSC	**East Mesa**	**0.56**	**28**	⇓*i*P		**Pb**	**22 31 04.2**	**-0

mb1 4.3/34,mb1mx4.2/52,mbtmp4.3/34,ML4.3/3,MS3.6/14, Ms1 3.6/14,ms1mx3.3/33,Error ellipse: s-maj=13.4km s-min=9.3km az=47.0

*NEIC **01** 22:36:29.4±0.8,30.10N×80.03E,h36km±7km,mb4.5/23, Error ellipse: s-maj=7.0km s-min=4.6km az=217.0*

NEIC Minor damage in Chamoli, India. Felt at Gopeshwar and in Bageshwar and Rudraprayag.

*BJI **01** 22:36:30.5,30.23N×80.15E,h55km,mb4.6/42,mB4.4/31, ML4.2/2,Ms4.1/33,Ms7 3.9/32*

*NNC **01** 22:36:32.6±3.9,30.71N×79.60E,h0km,mb4.6,Error ellipse: s-maj=55.1km s-min=42.2km az=81.0*

*SZGRF **01** 22:36:39.1,30.50N×79.54E,h33km,mb4.4,Western Xizang-India border region*

ISC 01 22:36:30.8±0.4,30.08N±0.03×80.02E±0.03,h50km±3km, n330,σ1§64/350,mb4.4/96,MS3.6/13,38C-13D,Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res	ISC
PTH	**Pithoragarh**	**0.55**	**162**	*e*P			Pn	22 36 33.8	-9.0	
PTH				*e*S			Sn	22 36 40.5	-11	
LGTI	**Lohaghat**	**0.66**	**162**	*e*P			**Pn**	**22 36 42.3**	**-1.6**	
LGTI				*e*S			**Sn**	**22 36 52.1**	**-1.3**	
DDI	**Dehra Dun**	**1.72**	**279**	*e*P			**Pn**	**22 36 58.0**	**-0.4**	
DDI				*e*S			**Sn**	**22 37 20.0**	**+0.9**	
DDI					AML		AML	22 37 22.5		
	comp=N,25μm,0.4s									
DDI					AML		AML	22 37 23.3		
	comp=E,26μm,0.1s									
SMLA	**Simla**	**2.67**	**294**	*i* P			**Pn**	**22 37 11.3**	**-0.1**	
SMLA				*i* S			**Sn**	**22 37 44.5**	**+2.0**	
SMLA					AML		AML	22 37 56.0		
	comp=E,9μm,1.0s									
SMLA					AML		AML	22 37 56.4		
	comp=N,4μm,0.5s									
KKR	**Kurukshetra**	**2.78**	**268**	*e*P			**Pn**	**22 37 11.8**	**-1.0**	
KKR				*ex*			**Sn**	**22 37 46.2**	**+1.1**	
KKR					AML		AML	22 37 54.4		
	comp=Z,24μm,0.2s									
NDI	**New Delhi**	**2.81**	**241**	*e*P			**Pn**	**22 37 11.0**	**-2.3**	
NDI				*ex*			Sn	22 37 39.0	-7.0	
SONA	**Sohna**	**3.15**	**235**	*e*P			**Pn**	**22 37 15.1**	**-2.8**	
SONA				*e*S			**Sn**	**22 37 50.2**	**-4.0**	
SONA					AML		AML	22 38 08.0		
	comp=N,2μm,0.8s									
SONA					AML		AML	22 38 09.7		
	comp=E,1μm,0.5s									
AGRA	**Agra**	**3.37**	**213**	*e*P			Pn	22 37 16.5	-4.4	
AGRA				*e*S			**Sn**	**22 37 54.5**	**-5.2**	
AGRA					AML		AML	22 38 17.3		
	comp=N,2μm,0.4s									
AGRA					AML		AML	22 38 17.4		
	comp=E,3μm,0.4s									
BHK	**Bhakra**	**3.38**	**294**	*e*P			**Pn**	**22 37 21.2**	**+0.2**	
BHK				*ex*			x	22 38 10.4		
KUDL	**Kundal**	**3.64**	**239**	*e*P			**Pn**	**22 37 21.8**	**-2.9**	
KUDL				*e*S			**Sn**	**22 38 03.5**	**-2.8**	
KUDL					AML		AML	22 38 24.3		
	comp=N,927nm,0.5s									
KUDL					AML		AML	22 38 27.0		
	comp=E,1μm,0.1s									
DHRM	**DHARAMSHALA**	**3.85**	**305**	*e*P			**Pn**	**22 37 28.2**	**+0.4**	
DHRM				*e*S			**Sn**	**22 38 12.5**	**+0.6**	
DHRM					AML		AML	22 38 31.1		
	comp=N,2μm,0.0s									
DHRM					AML		AML	22 38 43.0		
	comp=E,2μm,0.4s									
KOLN	**Koldanda**	**3.89**	**125**	*e*Pn			**Pn**	**22 37 28.4**	**+0.1**	
KOLN				*e*Sn			**Sn**	**22 38 13.2**	**+0.4**	
	comp=E,522nm,0.5s									
PONG	**Pong**	**3.96**	**299**	*e*P			**Pn**	**22 37 30.0**	**+1.0**	
PONG				*ex*			x	22 38 35.5		
DLH	**Dalhousie**	**4.25**	**306**	*e*P			**Pn**	**22 37 31.0**	**-2.2**	
DLH				*e*S			**Sn**	**22 38 20.0**	**-1.7**	
GKN	**Gorkha**	**4.54**	**116**	*e*Pn			**Pn**	**22 37 37.2**	**+0.1**	
GKN				*e*Sn			**Sn**	**22 38 28.2**	**-0.5**	
	comp=E,759nm,0.4s									
DMN	**Daman**	**5.09**	**118**	*e*Pn			**Pn**	**22 37 44.3**	**-0.5**	
DMN				*e*Sn			**Sn**	**22 38 41.7**	**-0.8**	
	comp=E,245nm,0.3s									
KKN	**Kakani**	**5.14**	**115**	*e*Pn			**Pn**	**22 37 45.1**	**-0.4**	
KKN				*e*Sn			**Sn**	**22 38 42.6**	**-1.0**	
	comp=E,537nm,0.5s									
PKIN	**Phulchoki**	**5.33**	**117**	*e*Pn			**Pn**	**22 37 47.4**	**-0.7**	
PKIN				*e*Sn			**Sn**	**22 38 47.1**	**-1.3**	
	comp=E,160nm,0.2s									
PKI	**Pulchoki**	**5.35**	**117**	*e*Pn			**Pn**	**22 37 47.7**	**-0.7**	
PKI				*e*Sn			**Sn**	**22 38 47.2**	**-1.6**	
	comp=E,372nm,0.4s									
GUN	**Gumba**	**5.57**	**111**	*e*Pn			**Pn**	**22 37 50.9**	**-0.5**	
GUN				*e*Sn			**Sn**	**22 38 52.6**	**-1.7**	
	comp=E,606nm,0.6s									
JIRN	**Jiri**	**5.92**	**112**	*e*Pn			**Pn**	**22 37 56.1**	**-0.2**	
JIRN				*e*Sn			**Sn**	**22 39 01.3**	**-1.7**	
	comp=E,213nm,0.2s									
AJM	**Ajmer**	**5.94**	**234**	*ex*			**Pn**	**22 37 54.0**	**-2.3**	
AJM				*ex*			x	22 39 31.0		
RAMN	**Ramite**	**6.57**	**117**	*e*Pn			**Pn**	**22 38 04.2**	**-0.9**	
RAMN				*e*Sn			**Sn**	**22 39 16.3**	**-2.6**	
	comp=E,351nm,0.3s									
CHCP	**Chirah Chowk**	**6.76**	**304**	P			**Pn**	**22 38 07.1**	**-0.4**	
ODAN	**Odare**	**7.24**	**115**	*e*Pn			**Pn**	**22 38 13.9**	**-0.3**	
ODAN				*e*Sn			**Sn**	**22 39 32.3**	**-2.8**	
	comp=E,258nm,0.4s									
TAPN	**Taplejung**	**7.28**	**110**	*e*Pn			**Pn**	**22 38 14.4**	**-0.4**	
TAPN				*e*Sn			**Sn**	**22 39 33.2**	**-3.1**	
	comp=E,310nm,0.6s									
THW	**Thamme Wali**	**7.57**	**293**	P			**Pn**	**22 38 17.1**	**-1.5**	
CEP	**Cherat**	**7.84**	**301**	P			**Pn**	**22 38 20.8**	**-1.5**	
CEP				S			**Sn**	**22 39 47.0**	**-2.8**	
BOK	**Bokaro**	**8.16**	**139**	*e*P			**Pn**	**22 38 25.4**	**-1.2**	
BOK				*e*S			Sn	22 39 48.9	-8.5	
NGP	**Nagpur**	**8.93**	**186**	*e*P			Pn	22 38 32.9	-4.3	
NGP				*ex*			x	22 38 34.9		
	comp=Z,318nm,0.4s									
NGP				*ex*			x	22 44 05.6		
LSA	**Lhasa**	**9.67**	**89**	*e*P			**Pn**	**22 38 47.9**	**+0.2**	
LSA	**Lhasa**	**9.67**	**89**	*e*Pn			**Pn**	**22 38 47.9**	**+0.2**	
KSH	**Kashi**	**9.99**	**342**	P			Pn	22 38 47.4	-4.3	
KSH				*es*P				22 39 05.3		
KSH				S			Sn	22 40 32.6	-10	
KSH				pmax			pmax			
	comp=Z,39nm,0.5s									
KSH				LR			LR			
	comp=N,440nm,10.4s									
KSH				LR			LR			
	comp=E,660nm,6.1s									
KSH				LR			LR			
	comp=Z,680nm,8.9s									
KBL	**Kabul**	**10.30**	**298**	*e*P			**Pn**	**22 38 54.0**	**-2.1**	
KBL				*e*				22 40 48.9		
KBL	**Kabul**	**10.30**	**298**	*e*Pn			**Pn**	**22 38 54.0**	**-2.1**	
KBL				*e*Sn			**Sn**	**22 40 48.9**	**-1.3**	
SFK	**Sufi-Kurgan**	**11.26**	**333**	⇓Pn			**Pn**	**22 39 07.9**	**-1.2**	
	comp=Z,13nm,0.4s									
SFK				⇓Sn			Sn	22 41 06.3	-7.3	
	comp=Z,80nm,0.5s									
SHL	**Shillong**	**11.42**	**110**	*e*P			Pn	22 39 07.0	-4.4	
SHL				*ex*			**Sn**	**22 41 13.5**	**-4.2**	
KZA	**Kyzart**	**12.58**	**343**	P			**Pn**	**22 39 25.9**	**-1.5**	
	SNR=7.3									
KZA	**Kyzart**	**12.58**	**343**	*i* P			**Pn**	**22 39 25.8**	**-1.5**	
VIS	**Vishakhapatnam**	**12.67**	**165**	*i* P			Pn	22 39 22.5	-5.8	
VIS				*i* x			x	22 41 35.5		
VIS				*ex*			x	22 41 39.5		
	comp=E,49nm,0.5s									
VIS				*ex*			**Sn**	**22 41 44.3**	**-3.6**	
	comp=N,36nm,0.5s									
HYB	**Hyderabad**	**12.68**	**186**	*i* P			Pn	22 39 21.0	-7.4	
HYB				*e*S			Sn	22 41 34.5	-14	
HYB	**Hyderabad**	**12.68**	**186**	*e*P			Pn	22 39 21.0	-7.4	
HYB	**Hyderabad**	**12.68**	**186**	*e*P			Pn	22 39 21.0	-7.4	
HYB				*e*S			Sn	22 41 34.5	-14	
DZET	**Dzherino**	**12.69**	**316**	⇑Pn			Pn	22 39 24.4	-4.1	
	comp=N,18nm,0.4s									
DZET				⇑Sn			Sn	22 41 36.9	-11	
	comp=N,39nm,0.6s									
POO	**Poona**	**12.79**	**207**	*e*P			Pn	22 39 24.1	-6.0	
POO				*e*S			Sn	22 41 35.9	-15	
UCH	**Uchtor**	**12.91**	**341**	P			Pn	22 39 28.9	-3.1	
	SNR=16									
UCH	**Uchtor**	**12.91**	**341**	*i* P			Pn	22 39 28.8	-3.1	
AML	**Almayashu**	**13.06**	**339**	P			**Pn**	**22 39 31.4**	**-2.6**	
	SNR=29									
AML	**Almayashu**	**13.06**	**339**	*i* P			**Pn**	**22 39 31.4**	**-2.6**	
KBK	**Karagaybulak**	**13.20**	**343**	P			**Pn**	**22 39 37.0**	**+1.4**	
	SNR=15									
KBK	**Karagaybulak**	**13.20**	**343**	*i* P			**Pn**	**22 39 37.0**	**+1.4**	
PDGK	**Podgornoye**	**13.23**	**358**	⇓Pn			**Pn**	**22 39 33.4**	**-2.4**	
	comp=N,14nm,0.5s									
PDGK				⇑Sn			**Sn**	**22 41 56.5**	**-4.9**	
	comp=N,45nm,0.7s									
AAK	**Ala-Archa**	**13.29**	**342**	⇓Pn			**Pn**	**22 39 34.8**	**-2.1**	
	comp=N,8.3nm,0.6s									
AAK				Sn			**Sn**	**22 41 59.6**	**-3.6**	
	comp=N,9.0nm,0.8s									
AAK	**Ala-Archa**	**13.29**	**342**	P			**Pn**	**22 39 38.5**	**+1.6**	
	SNR=8.4									
AAK	**Ala-Archa**	**13.29**	**342**	Pn			**Pn**	**22 39 34.8**	**-2.1**	
	comp=N,1.9nm,0.3s,baz=146,slow=14,SNR=15									
AAK				Sn			**Sn**	**22 41 58.5**	**-4.7**	
	comp=N,0.7nm,0.3s,baz=277,slow=10,SNR=3.6									
AAK				LR			LR	22 45 30.6		
	comp=N,235nm,19.5s,baz=148,slow=41									
AAK	**Ala-Archa**	**13.29**	**342**	P			**Pn**	**22 39 34.8**	**-2.1**	
AAK								22 41 58.5		
AAK				pmax			pmax			
	comp=Z,2.0nm,0.3s									
AAK				smax			smax			
	comp=N,1.0nm,0.3s									
AAK				MLR			MLR			
	comp=Z,235nm,19.5s									
AAK	**Ala-Archa**	**13.29**	**342**	*e*Pn			**Pn**	**22 39 34.3**	**-2.6**	
AAK				*e*Sn			**Sn**	**22 41 58.5**	**-4.7**	
TKM2	**Tokmak 2**	**13.30**	**346**	⇑Pn			**Pn**	**22 39 35.7**	**-1.3**	
	comp=Z,13nm,1.4s									
TKM2				⇑Sn			Sn	22 41 54.9	-8.5	
	comp=Z,7.1nm,0.7s									
TKM2	**Tokmak 2**	**13.30**	**346**	P			**Pn**	**22 39 39.1**	**+2.1**	
	SNR=8.2									
TKM2	**Tokmak 2**	**13.30**	**346**	*i* P			**Pn**	**22 39 39.1**	**+2.1**	
TKM2	**Tokmak 2**	**13.30**	**346**	*e*Pn			**Pn**	**22 39 36.3**	**-0.7**	
IMP	**Imphal**	**13.43**	**110**	*ex*			**Sn**	**22 42 03.0**	**-3.6**	
FRU	**Bishkek**	**13.45**	**343**	*e*P			**Pn**	**22 39 36.0**	**-2.9**	
EKS2	**Erkin-Say**	**13.52**	**340**	*e*P			**Pn**	**22 39 39.2**	**-0.8**	
EKS2	**Erkin-Say**	**13.52**	**340**	*e*Pn			**Pn**	**22 39 39.2**	**-0.8**	
CHMS	**Chumysh**	**13.57**	**343**	P			**Pn**	**22 39 40.2**	**-0.4**	
	SNR=6.5									
CHMS	**Chumysh**	**13.57**	**343**	*i* P			**Pn**	**22 39 40.1**	**-0.4**	
WMQ	**Urumqi**	**15.02**	**22**	*e*P			**Pn**	**22 39 59.6**	**-0.2**	
WMQ				pP			P	22 40 09.2	+4.9	
WMQ				PP			**PnPn**	**22 40 14.1**	**+5.6**	
WMQ				*e*S			**Sn**	**22 42 49.0**	**+4.0**	
WMQ				PMZ						
	comp=Z,29nm,0.5s									
WMQ				PMZ						
	comp=Z,180nm,5.5s									
WMQ				LN						
	comp=Z,740nm,13.8s									
WMQ				LE						
	comp=Z,330nm,16.0s									
WMQ				LZ						
	comp=Z,740nm,17.4s									
KK31	**Karatay Array**	**15.06**	**332**	⇑Pn			Pn	22 39 55.4	-5.0	
	comp=Z,14nm,0.6s,baz=142,slow=11,SNR=129									
KK31				⇑Sn			Sn	22 42 36.5	-10	
	comp=Z,9.8nm,0.5s,baz=164,slow=25,SNR=8.5									
MK31	**Makanchi Array**	**16.78**	**5**	⇓Pn			**Pn**	**22 40 20.4**	**-1.9**	
	comp=Z,8.5nm,0.7s,baz=193,slow=11,SNR=6.4									
MK31				⇑Sn			Sn	22 43 19.0	-8.8	
	comp=Z,10nm,0.8s,baz=193,slow=21,SNR=4.9									
MK32	**Makanchi Array**	**16.78**	**5**	*e*Pn			**Pn**	**22 40 19.2**	**-3.1**	
MK32				*e*Sn			Sn	22 43 20.5	-7.3	
MKAR	**Makanchi Array**	**16.78**	**5**	Pn			**Pn**	**22 40 19.2**	**-3.1**	
	comp=Z,0.6nm,0.3s,baz=206,slow=13,SNR=28									
MKAR				Sn			Sn	22 43 20.5	-7.3	
	comp=Z,0.8nm,0.3s,baz=78,slow=40,SNR=8.7									
MKAR				LR			LR	22 47 14.9		
	comp=Z,57nm,18.7s,baz=182,slow=38									
MKAR	**Makanchi Array**	**16.78**	**5**	P			**Pn**	**22 40 19.2**	**-3.1**	
MKAR								22 43 20.5		
MKAR				pmax			pmax			
	comp=Z,1.0nm,0.3s									
MKAR				smax			smax			
	comp=N,1.0nm,0.3s									
MKAR				MLR			MLR			
	comp=Z,57nm,18.7s									
MKAR	**Makanchi Array**	**16.78**	**5**	*e*Pn			**Pn**	**22 40 19.9**	**-2.4**	
GTA	**Gaotai**	**18.71**	**55**	*e*P			**P**	**22 40 44.6**	**-0.7**	
GTA				pP			**pP**	**22 40 55.8**	**-0.8**	
GTA				sP			**sP**	**22 41 04.2**	**+1.3**	
GTA				S			**Sn**	**22 44 13.7**	**-0.9**	
GTA				PMZ						
	comp=Z,6.0nm,1.2s									
GTA				PMZ						
	comp=Z,110nm,6.7s									
GTA				LN						
	comp=Z,270nm,10.9s									
GTA				LE						
	comp=Z,300nm,12.4s									
GTA				LZ						
	comp=Z,430nm,12.8s									
OTUK	**Ortayu**	**19.08**	**344**	⇑Pn			**P**	**22 40 48.9**	**-0.2**	
	comp=Z,8.0nm,0.6s									
GEYT	**Alibeck**	**19.75**	**299**	P			**P**	**22 40 57.0**	**+0.4**	
	comp=Z,0.9nm,0.3s,baz=129,slow=12,SNR=12									
GEYT				LR			LR	22 49 47.4		
	comp=Z,198nm,18.0s,baz=100,slow=40									
CMAI	**Chiengmai2**	**19.96**	**116**	P			**Pn**	**22 41 00.2**	**-0.9**	
	comp=Z,21nm,1.1s,comp=Z,7μm									
CD2	**Chengdu**	**20.47**	**82**	P			**P**	**22 41 04.8**	**+0.4**	
CD2				pP			**pP**	**22 41 18.4**	**+2.5**	
CD2				sP			sP	22 41 26.2	+4.1	
CD2				PP			**PnPn**	**22 41 27.5**	**+4.3**	
CD2				S			S	22 44 44.2	-6.7	
CD2				SS			**SnSn**	**22 45 16.5**	**+4.5**	
CD2				PMZ						
	comp=Z,20nm,1.3s									
CD2				PMZ						
	comp=Z,150nm,8.2s									
CD2				LN						
	comp=Z,250nm,9.6s									
CD2				LE						
	comp=Z,160nm,12.0s									
CD2				LZ						
	comp=Z,150nm,12.0s									
CHTO	**Chiang Mai**	**20.52**	**119**	P			**P**	**22 41 05.5**	**+0.5**	
	comp=Z,74nm,0.9s									
CHTO	**Chiang Mai**	**20.52**	**119**	*e*P			**P**	**22 41 03.5**	**-1.5**	
CHTO				pmax			pmax			
	comp=Z,19nm,1.3s									
CHTO	**Chiang Mai**	**20.52**	**119**	*e*P			**P**	**22 41 03.5**	**-1.5**	
	comp=Z,19nm,1.3s									
CMMT	**Chiang Mai**	**20.53**	**119**	P			**P**	**22 41 05.4**	**+0.3**	
	comp=Z,18nm,1.1s									
KURBB	**Kurchatov Arra**	**20.55**	**357**	⇑Pn			**P**	**22 41 04.0**	**-1.1**	
	comp=Z,5.0nm,0.9s									
KURBB	**Kurchatov Arra**	**20.55**	**357**	P			**P**	**22 41 04.5**	**-0.5**	
	comp=Z,2.9nm,0.5s,baz=182,slow=11,SNR=71									
KURBB				S			**S**	**22 44 54.3**	**+2.2**	
	comp=Z,0.8nm,1.0s,baz=180,slow=18,SNR=4.9									
KURBB				ScP			**ScP**	**22 48 50.6**	**+3.7**	
	comp=Z,0.6nm,0.8s,baz=208,slow=2.2,SNR=4.6									
KURK	**Kurchatov**	**20.64**	**357**	⇓Pn			**P**	**22 41 05.2**	**-0.8**	
	comp=Z,5.3nm,0.7s									
KURK	**Kurchatov**	**20.64**	**357**	P			**P**	**22 41 04.6**	**-1.5**	
KURK				S			**S**	**22 44 54.3**	**+0.5**	
KURK				pmax			pmax			
	comp=Z,3.0nm,0.5s									
KURK				smax			smax			
	comp=N,1.0nm,1.0s									
KURK	**Kurchatov**	**20.64**	**357**	*e*P			**P**	**22 41 04.6**	**-1.5**	
	comp=N,21nm,1.0s									
KURK				*e*S			**S**	**22 44 54.3**	**+0.5**	
KURK				*e*ScP			**ScP**	**22 48 50.6**	**+3.5**	
KMI	**Kunming**	**20.72**	**98**	P			**P**	**22 41 07.6**	**+0.2**	
KMI				PMZ						
	comp=N,20nm,0.8s									
KMI				LN						
	comp=N,57nm,7.4s									
KMI				LE						
	comp=N,80nm,9.0s									
KMI				LZ						
	comp=N,120nm,9.6s									
CM31	**Chiang Mai Arr**	**20.74**	**120**	*e*P			**P**	**22 41 07.2**	**-0.1**	
CM31				*e*PcP			**PcP**	**22 45 17.4**	**+2.0**	
CM31				*e*ScP			**ScP**	**22 48 51.2**	**+3.2**	
CMAR	**Chiang Mai Arr**	**20.74**	**120**	P			**P**	**22 41 07.2**	**-0.1**	
	comp=N,6.4nm,0.7s,baz=313,slow=12,SNR=62									
CMAR				PcP			**PcP**	**22 45 17.4**	**+2.0**	
	comp=N,1.1nm,0.6s,baz=285,slow=2.7,SNR=5.9									
CMAR				ScP			**ScP**	**22 48 51.2**	**+3.2**	
	comp=N,0.5nm,0.3s,baz=301,slow=3.2,SNR=6.0									
LZH	**Lanzhou**	**20.82**	**67**	⇓P			Pn	22 41 09.9	-1.4	
LZH				pP			pP	22 41 24.1	+4.3	
LZH				sP			sP	22 41 30.8	+4.8	
LZH				*es*			**S**	**22 44 54.6**	**-3.3**	
LZH				sS			sS	22 45 13.6	-3.0	
LZH				SS			**SnSn**	**22 45 27.0**	**+6.3**	
LZH				PMZ						
	comp=N,90nm,1.3s									
LZH				PMZ						
	comp=N,67nm,6.4s									
LZH				LN						
	comp=N,260nm,11.8s									
LZH				LE						
	comp=N,460nm,11.4s									
LZH				LZ						
	comp=N,490nm,11.7s									
CRAI	**Chiangrai**	**20.84**	**113**	P			**P**	**22 41 07.1**	**-1.4**	
	comp=N,20nm,1.0s,comp=N,2μm									
LAMP	**Lampang**	**21.22**	**118**	P			**P**	**22 41 15.8**	**+3.3**	
	comp=N,5.9nm,0.9s									
UTTA	**Uttaradit**	**22.39**	**119**	P			**P**	**22 41 27.4**	**+2.4**	
	comp=N,8.3nm,1.3s,comp=N,76nm									
PALK	**Pallekele**	**22.70**	**178**	*e*P			**P**	**22 41 28.0**	**-0.4**	
PALK				pmax			pmax			
	comp=Z,18nm,1.4s									
PALK	**Pallekele**	**22.70**	**178**	*e*P			**P**	**22 41 28.0**	**-0.4**	
	comp=Z,18nm,1.4s									
PBKT	**Sadao Pong**	**23.42**	**120**	P			**P**	**22 41 37.0**	**+1.5**	
	comp=Z,14nm,1.1s									
SRDT	**SRDT**	**23.56**	**127**	P			P	22 41 42.1	+5.2	
	comp=Z,30nm,1.0s,comp=Z,5μm									
GYA	**Guiyang**	**23.72**	**92**	⇑*i*P			**P**	**22 41 38.2**	**-0.3**	
GYA				pP			**pP**	**22 41 52.8**	**+1.9**	
GYA				PP			**PnPn**	**22 42 12.0**	**+4.2**	
GYA				S			**S**	**22 45 45.7**	**-4.7**	
GYA				sS			**sS**	**22 46 10.0**	**-1.7**	
GYA				SS			**SnSn**	**22 46 36.5**	**+4.7**	
GYA				ScP			**ScP**	**22 48 54.8**	**-0.9**	
GYA				PMZ						
	comp=Z,30nm,0.8s									
GYA				PMZ						
	comp=Z,90nm,7.1s									
GYA				LN						
	comp=Z,180nm,10.5s									
GYA				LE						
	comp=Z,190nm,10.5s									
GYA				LZ						
	comp=Z,150nm,10.5s									
BVA0	**Borovoye Array**	**23.99**	**346**	⇑P			P	22 41 47.5	+6.9	
	comp=Z,4.5nm,0.7s,baz=168,slow=13,SNR=4.6									
BVAR	**Borovoye Array**	**23.99**	**346**	P			**P**	**22 41 40.7**	**+0.1**	
	comp=Z,1.0nm,0.4s,baz=162,slow=13,SNR=13									
BVAR				LR			LR	22 51 50.9		
	comp=Z,253nm,20.5s,baz=93,slow=38									
BVAR	**Borovoye Array**	**23.99**	**346**	P			**P**	**22 41 40.7**	**+0.1**	
BVAR				pmax			pmax			
	comp=Z,1.0nm,0.4s									
BVAR				MLR			MLR			
	comp=Z,253nm,20.5s									
BRVK	**Borovoye**	**24.05**	**345**	*i* P			**P**	**22 41 37.9**	**-3.2**	
BRVK				pmax			pmax			
	comp=Z,2.0nm,0.7s									
BRVK	**Borovoye**	**24.05**	**345**	*e*P			**P**	**22 41 41.1**	**0.0**	
	comp=Z,6.3nm,0.7s									
ZALV	**Zalesovo Beam**	**24.11**	**7**	P			**P**	**22 41 41.9**	**+0.3**	
	comp=Z,6.4nm,0.8s,baz=195,slow=9.7,SNR=34									
ZALV				LR			LR	22 51 50.4		
	comp=Z,44nm,18.8s,baz=250,slow=38									
ZALV	**Zalesovo Beam**	**24.11**	**7**	P			**P**	**22 41 41.9**	**+0.3**	
ZALV				pmax			pmax			
	comp=Z,6.0nm,0.8s									
ZALV				MLR			MLR			
	comp=Z,44nm,18.8s									
ZAA1	**Zalesovo Array**	**24.11**	**7**	*e*P			**P**	**22 41 41.9**	**+0.3**	
AB31	**Akbulak array**	**24.48**	**327**	⇓P			**P**	**22 41 46.2**	**+1.1**	
	comp=Z,8.8nm,0.6s,baz=120,slow=9.3,SNR=161									
ABKAR	**Akbulak array**	**24.48**	**327**	*e*P			**P**	**22 41 45.9**	**+0.8**	
XAN	**Xi'an**	**24.77**	**73**	P			**P**	**22 41 48.2**	**+0.2**	
XAN				pP			**pP**	**22 42 01.8**	**+1.1**	
XAN				PMZ						
	comp=Z,14nm,0.9s									
XAN				PMZ						
	comp=Z,15nm,6.5s									
NVS	**Novosibirsk**	**24.86**	**4**	*e*P			**P**	**22 41 47.5**	**-0.9**	
NVS				*e*				22 46 10.6		
KHON	**Khomkaen**	**24.96**	**118**	P			**P**	**22 41 52.5**	**+2.8**	
	comp=Z,8.1nm,0.8s									
ENH	**Enshi**	**25.45**	**82**	*e*P			**P**	**22 41 53.3**	**-0.8**	
	comp=Z,6.7nm,0.6s									
AKTO	**Aktyubinsk**	**26.20**	**327**

comp=Z,14nm,1.2s
GNI Garni 30.39 299 *e*P **P 22 42 38.2 -0.1**
comp=Z,8.2nm,0.8s
BJI Beijing 31.04 61 P **P 22 42 43.0 -0.8**
BJI pP **pP 22 42 58.0 +1.3**
BJI sP sP 22 43 05.3 +2.7
BJI S S 22 47 40.9 -4.5
BJI ScS **ScS 22 53 12.8 -1.6**
BJI PMZ
comp=Z,4.0nm,0.6s
BJI PMZ
comp=Z,74nm,4.6s
BJI LN
comp=Z,120nm,13.4s
BJI LE
comp=Z,190nm,16.9s
BJI LZ
comp=Z,110nm,18.7s
RAYN Ar Rayn 31.41 266 *e*P **P 22 42 47.2 -0.2**
comp=Z,3.8nm,1.0s
ZEI Tsey 31.47 304 *e*P **P 22 42 49.7 +1.8**
ZEI pmax pmax
comp=Z,9.0nm,1.3s
IPM Ipoh 32.28 138 *e*P **P 22 42 54.4 -0.6**
comp=Z,5.5nm,0.7s
KBZ Khabaz 32.38 305 P **P 22 42 56.4 +0.8**
comp=Z,3.7nm,1.0s,baz=236,slow=24,SNR=9.9
KBZ Khabaz 32.38 305 P **P 22 42 56.4 +0.8**
KBZ pmax pmax
comp=Z,4.0nm,1.0s
PSI Prapat 32.51 143 P **P 22 42 59.0 +1.9**
comp=Z,2.8nm,0.6s,baz=318,slow=22,SNR=4.6
PSI Prapat 32.51 143 P **P 22 42 59.0 +1.9**
PSI pmax pmax
comp=Z,3.0nm,0.6s
KIV Kislovodsk 32.58 306 *e*P **P 22 42 57.9 +0.4**
KIV pmax pmax
comp=Z,5.0nm,0.7s
KIV Kislovodsk 32.58 306 *e*P **P 22 42 57.9 +0.4**
comp=Z,5.2nm,0.7s
HIA Hailar 35.56 46 *e*P **P 22 43 21.0 -2.2**
HIA pmax pmax
comp=Z,3.0nm,0.8s
BOD Bodaibo 36.30 30 *e*P **P 22 43 29.3 -0.1**
BOD pmax pmax
comp=Z,4.0nm,1.5s
VSR Storozhevoye 36.87 317 *e*P **P 22 43 34.8 +0.6**
VSR pmax pmax
comp=Z,4.0nm,0.5s
VSR pmax pmax
comp=N,4.0nm,0.6s
VSR pmax pmax
comp=E,10.0nm,1.2s
LPSR Galich'ya Gora 37.48 319 *e*P **P 22 43 39.8 +0.4**
LPSR pmax pmax
comp=N,5.0nm,0.9s
LPSR pmax pmax
comp=E,7.0nm,0.9s
LPSR pmax pmax
comp=Z,10.0nm,0.9s
CN2 Changchun 38.33 56 *e*P **P 22 43 46.7 -0.1**
CN2 PMZ
comp=Z,10.0nm,1.1s
PRGR Permogore 38.77 334 *e*P **P 22 43 51.6 +1.5**
PRGR pmax pmax
comp=Z,17nm,1.2s
BR101 Keskin Array S 38.87 297 *e*P **P 22 43 52.1 +0.7**
BRTR Keskin Array B 38.87 297 P **P 22 43 52.1 +0.7**
comp=Z,1.5nm,0.8s,baz=125,slow=6.5,SNR=13
BRTR Keskin Array B 38.87 297 P **P 22 43 52.2 +0.7**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
OBN Obninsk 39.68 322 ⇓*i*P **P 22 43 57.4 -0.4**
OBN pmax pmax
comp=Z,13nm,1.0s
OBN MLR MLR
comp=Z,69nm,15.0s
OBN Obninsk 39.68 322 *e*P **P 22 43 57.9 +0.2**
comp=Z,14nm,0.7s
KS15 Wonju Array Si 40.12 66 *e*P **P 22 44 01.9 +0.2**
KSRS Korea Array 40.15 66 P **P 22 44 01.9 0.0**
comp=Z,2.3nm,0.7s,baz=274,slow=8.3,SNR=7.8
KSRS LR LR 23 02 18.3
comp=Z,83nm,20.2s,baz=290,slow=39
KSRS Korea Array 40.15 66 P **P 22 44 02.0 0.0**
KSRS pmax pmax
comp=Z,2.0nm,0.7s
KSRS MLR MLR
comp=Z,83nm,20.2s
KLMR Klimovskoe 40.76 331 *e*P **P 22 44 06.1 -0.6**
KLMR pmax pmax
comp=Z,18nm,1.5s
AKASG Malin Array Be 42.84 314 P **P 22 44 24.1 +0.2**
comp=Z,4.0nm,0.7s,baz=79,slow=6.8,SNR=23
AKASG Malin Array Be 42.84 314 P **P 22 44 24.1 +0.2**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKBB Malin Array Si 42.84 314 *e*P **P 22 44 24.0 +0.2**
AKBB Malin Array Si 42.84 314 *e*P **P 22 44 24.0 +0.2**
KIEV Kiev 42.85 314 *e*P **P 22 44 23.6 -0.3**
KIEV pmax pmax
comp=Z,8.0nm,0.6s
KIEV Kiev 42.85 314 *e*P **P 22 44 23.6 -0.3**
comp=Z,8.1nm,0.6s
CFR Carcaliu 43.03 305 ⇑P **P 22 44 24.9 -0.6**
CFR Carcaliu 43.03 305 ⇑*i*P **P 22 44 24.9 -0.6**
USRK Ussuriysk Ar. 43.07 56 P **P 22 44 26.4 +0.6**
comp=Z,1.4nm,0.6s,baz=264,slow=13,SNR=3.9
TLB Topalu 43.08 305 ⇓P **P 22 44 26.0 +0.1**
MSAB Monastry St. A 43.23 304 ⇑*i*P **P 22 44 26.3 -0.8**
VRI Vrincioaia 44.05 306 ⇑P **P 22 44 35.3 +1.6**
VRI Vrincioaia 44.05 306 ⇑*i*P **P 22 44 35.3 +1.6**
PLOR Plostina 44.10 306 ⇓P **P 22 44 36.0 +1.9**
PLOR Plostina 44.10 306 ⇓*i*P **P 22 44 36.0 +1.9**
MLR Muntele Rosu 44.59 306 ⇑P **P 22 44 39.1 +1.0**
MLR Muntele Rosu 44.59 306 ⇑*i*P **P 22 44 39.1 +1.0**
IDID Didziasalis 45.14 320 *e*P **P 22 44 42.4 +0.2**
IDID AMB AMB 22 44 46.0
comp=Z,3.7nm,1.2s
BURAR Bucovina Array 45.15 309 ⇑P **P 22 44 44.1 +1.8**
BURAR Bucovina Array 45.15 309 ⇑*i*P **P 22 44 44.1 +1.8**
VOIR 45.22 306 ⇑P **P 22 44 44.7 +1.6**
VOIR 45.22 306 ⇑*i*P **P 22 44 44.7 +1.6**
YAK Yakutsk 45.23 30 *e*P **P 22 44 41.0 -1.8**
IIGN Ignalina 45.43 320 *e*P **P 22 44 44.7 +0.1**
IIGN AMB AMB 22 44 50.1
comp=Z,8.5nm,1.1s
ARR Arges 45.51 306 ⇑*i*P **P 22 44 46.4 +1.0**
ISAL Salakas 45.53 320 *e*P **P 22 44 45.4 +0.1**
ISAL AMB AMB 22 44 49.9
comp=Z,6.2nm,1.1s
VSU Vasula 45.85 324 *e*P **P 22 44 46.1 -1.6**
VSU pmax pmax
comp=Z,27nm,0.8s
CJR Cluj-Napoca 46.23 307 ⇓P **P 22 44 53.5 +2.4**
VTS Vitosha 46.64 302 ⇑P P 22 44 50.4 -4.0
VTS Vitosha 46.64 302 ⇑*i*P P 22 44 50.4 -4.0
DEV Deva 46.72 306 ⇑P **P 22 44 56.5 +1.7**
DRGR 46.84 308 ⇑P **P 22 44 56.1 +0.2**
DRGR 46.84 308 ⇑*i*P **P 22 44 56.1 +0.2**
KWP Kalwaria Pacla 46.90 311 ⇑P **P 22 44 57.8 +1.6**
KWP Kalwaria Pacla 46.90 311 ⇑*i*P **P 22 44 57.8 +1.6**
FIA0 FINESS Array S 46.96 328 *e*P **P 22 44 57.1 +0.7**
FIA0 FINESS Array S 46.96 328 *e*P **P 22 44 57.1 +0.7**
FINES FINESS Array B 46.96 328 P **P 22 44 57.1 +0.7**
comp=Z,9.3nm,0.6s,baz=118,slow=9.1,SNR=86
FINES LR LR 23 05 51.5
comp=Z,82nm,19.0s,baz=48,slow=38
FINES FINESS Array B 46.96 328 P **P 22 44 57.1 +0.7**
FINES pmax pmax
comp=Z,9.0nm,0.6s
FINES MLR MLR
comp=Z,83nm,19.0s
SUW Suwalki 46.97 317 *e*P **P 22 44 55.9 -0.7**
SUW pmax pmax
comp=Z,31nm,1.0s
SUW Suwalki 46.97 317 *e*P **P 22 44 55.9 -0.7**
comp=Z,31nm,1.0s
KOLS Kolonicke sedl 47.16 310 *e*P P 22 45 02.9 +4.7
KOLS *e* 22 46 49.8
KOLS Kolonicke sedl 47.16 310 *e* P 22 45 02.9 +4.7
KOLS *e*PP **PP 22 46 49.8 +0.4**
CRVS Cervenica-Dubn 47.70 310 *e*P P 22 45 07.9 +5.5
CRVS Cervenica-Dubn 47.70 310 *e* P 22 45 07.9 +5.5
STHS Stebnicka Huta 47.85 311 *e*P P 22 45 08.2 +4.6
STHS Stebnicka Huta 47.85 311 *e* P 22 45 08.2 +4.6
KECS Kecovo 48.34 310 *e*P P 22 45 11.5 +4.1
KECS Kecovo 48.34 310 *e* P 22 45 11.5 +4.1
MJAR Matsushiro Arr 48.43 66 LR LR 23 07 31.5
comp=Z,55nm,19.1s,baz=265,slow=38
TIXI Tiksi 49.18 18 *e*P **P 22 45 12.4 -1.0**
TIXI pmax pmax
comp=Z,4.0nm,1.1s
TIXI Tiksi 49.18 18 *e*P **P 22 45 12.4 -1.0**
comp=Z,4.3nm,1.1s
VYHS Vyhne 49.44 310 *e*P P 22 45 20.0 +4.2
VYHS pmax pmax
comp=Z,69nm,3.9s
VYHS Vyhne 49.44 310 *e* P 22 45 20.0 +4.2
VYHS *e*PP **PP 22 47 12.3 +2.2**
KEV Kevo 49.53 339 *e*P **P 22 45 17.1 +1.0**
KEV pmax pmax
comp=Z,14nm,0.9s
KEV Kevo 49.53 339 *e*P **P 22 45 17.1 +1.0**
comp=Z,14nm,0.9s
PKSM Moragy 49.67 307 ⇑P **P 22 45 17.7 +0.1**
ARA0 ARCESS Array S 49.93 338 *e*P **P 22 45 20.3 +1.1**
ARCES ARCESS Array B 49.93 338 P **P 22 45 20.3 +1.1**
comp=Z,5.5nm,0.7s,baz=113,slow=8.0,SNR=21
ARCES LR LR 23 08 47.8
comp=Z,28nm,18.0s,baz=134,slow=39
ARCES ARCESS Array B 49.93 338 P **P 22 45 20.3 +1.1**
ARCES pmax pmax
comp=Z,6.0nm,0.7s
ARCES MLR MLR
comp=Z,28nm,18.0s
MORC Moravsky Berou 50.26 312 ⇑P **P 22 45 22.9 +0.9**
MORC Moravsky Berou 50.26 312 *e*P **P 22 45 21.4 -0.6**
comp=Z,2.3nm,0.7s
VRAC Vranov 50.89 311 P P 22 45 30.9 +4.2
comp=Z,2.8nm,0.8s,baz=90,slow=7.8,SNR=5.5
VRAC Vranov 50.89 311 P P 22 45 30.9 +4.2
VRAC pmax pmax
comp=Z,3.0nm,0.8s
DPC Dobruska-Polom 51.03 312 *e*P P 22 45 32.0 +4.2
DPC Dobruska-Polom 51.03 312 *e*P P 22 45 32.0 +4.2
DPC Dobruska-Polom 51.03 312 *e*P **P 22 45 27.1 -0.7**
comp=Z,150nm,2.3s
KMBO Kilima Mbogo 51.21 241 P **P 22 45 30.1 +0.3**
comp=Z,1.7nm,0.6s,baz=34,slow=11,SNR=3.8
KMBO Kilima Mbogo 51.21 241 P **P 22 45 30.1 +0.3**
KMBO pmax pmax
comp=Z,2.0nm,0.6s
KMBO Kilima Mbogo 51.21 241 *e*P **P 22 45 30.1 +0.3**
comp=Z,203nm,2.7s
UPC Upice 51.22 313 *e*P P 22 45 34.2 +5.0
UPC Upice 51.22 313 *e*P P 22 45 34.2 +5.0
SOKA Soboth 52.12 308 ⇑*i*P P 22 45 39.1 +3.0
comp=Z,4.0nm,0.8s
PRU Pruhonice 52.19 312 *e*P P 22 45 41.3 +4.9
PRU Pruhonice 52.19 312 *e*P P 22 45 41.3 +4.9
BRG Berggiesshubel 52.52 313 *e*P P 22 45 43.8 +4.9
comp=Z,3.2nm,0.8s
BRG Berggiesshubel 52.52 313 *e*P P 22 45 43.8 +4.9
BRG pmax pmax
comp=Z,3.0nm,0.8s
HFS Hagfors 52.71 325 P **P 22 45 40.4 +0.3**
comp=Z,7.0nm,0.7s,baz=98,slow=9.1,SNR=15
HFS Hagfors 52.71 325 P **P 22 45 40.4 +0.3**
HFS pmax pmax
comp=Z,7.0nm,0.7s
GEC2 GERESS Array S 52.82 311 *e*P **P 22 45 41.9 +0.7**
GEC2 GERESS Array S 52.82 311 *e*P **P 22 45 41.9 +0.7**
GERES GERESS Array B 52.82 311 P **P 22 45 41.9 +0.7**
comp=Z,0.9nm,0.7s,baz=69,slow=5.4,SNR=6.1
GERES GERESS Array B 52.82 311 P **P 22 45 41.9 +0.7**
GERES pmax pmax
comp=Z,1.0nm,0.7s
NB2 NORSAR Subarra 53.98 326 P **P 22 45 49.3 -0.1**
comp=Z,1.9nm,0.7s,baz=96,slow=6.9
NB200 NORSAR Array S 53.98 326 *e*P **P 22 45 49.4 0.0**
NOA NORSAR Array B 53.98 326 P **P 22 45 49.4 0.0**
comp=Z,4.0nm,0.9s,baz=94,slow=7.2,SNR=9.2
NOA NORSAR Array B 53.98 326 P **P 22 45 49.4 0.0**
NOA pmax pmax
comp=Z,4.0nm,0.9s
GRF Grafenberg Arr 54.35 312 *e*P P 22 45 57.6 +5.2
comp=Z,4.0nm,1.0s
FETA Feichten 55.01 309 ⇑*i*P **P 22 46 00.2 +2.9**
comp=Z,3.9nm,0.9s
SPA0 Spitsbergen Ar 55.44 347 *e*P **P 22 46 00.2 +0.5**
SPITS Spitsbergen Ar 55.44 347 P **P 22 46 00.2 +0.5**
comp=Z,3.4nm,0.6s,baz=120,slow=9.9,SNR=12
SPITS Spitsbergen Ar 55.44 347 P **P 22 46 00.2 +0.5**
SPITS pmax pmax
comp=Z,3.0nm,0.6s
DAVOX Davos/Dischmat 55.62 308 P **P 22 46 03.3 +1.5**
comp=Z,3.3nm,0.7s,baz=95,slow=9.8,SNR=7.7
DAVOX Davos/Dischmat 55.62 308 P **P 22 46 03.3 +1.5**
DAVOX pmax pmax
comp=Z,3.0nm,0.7s
SEY Seymchan 55.70 32 *e*P **P 22 46 00.0 -1.8**
PGF Pioggiola 57.02 304 *e*P **P 22 46 11.7 0.0**
CDF Champ du Feu 57.10 311 *e*P **P 22 46 12.2 +0.1**
comp=Z,2.4nm,0.6s
SENIN Lac Senin/Sane 57.45 308 *e*P **P 22 46 14.2 -0.7**
HINF Hinteralfeld 57.48 310 *e*P **P 22 46 14.8 0.0**
comp=Z,9.2nm,0.8s
HAU Haudompre 57.78 310 *e*P **P 22 46 17.0 +0.1**
comp=Z,12nm,0.7s
SBF Sospel 57.86 305 *e*P **P 22 46 17.6 0.0**
LPG La Plagne 58.00 307 *e*P **P 22 46 19.2 +0.5**
comp=Z,24nm,0.8s
LPL La Plagne 58.01 307 *e*P **P 22 46 19.2 +0.5**
comp=Z,19nm,0.6s
PAGF Fort de Pagny 58.09 311 *e*P **P 22 46 19.6 +0.6**
MBDF Montbardon 58.14 307 *e*P **P 22 46 19.4 -0.2**
CABF La Chapelle 58.22 309 *e*P **P 22 46 19.9 -0.2**
comp=Z,16nm,1.2s
GIVF Givet 58.39 313 *e*P **P 22 46 21.7 +0.6**
comp=Z,12nm,0.7s
KEST Kesra 58.45 296 P P 22 46 25.2 +3.4
comp=Z,1.5nm,0.6s,baz=298,slow=5.8,SNR=4.6
KEST Kesra 58.45 296 *e*P **P 22 46 20.9 -0.9**
FRF La Foret Royal 58.48 305 *e*P **P 22 46 21.6 -0.2**
comp=Z,13nm,0.9s
MEZF Maizieres J'vi 58.54 311 *e*P **P 22 46 22.5 +0.4**
comp=Z,21nm,1.1s
SFTF Sexfontaines 58.61 311 *e*P **P 22 46 22.8 +0.2**
BAIF Baives 58.79 313 *e*P **P 22 46 24.4 +0.6**
PETK Petropavlovsk- 59.38 43 P **P 22 46 27.8 -0.1**
comp=Z,1.9nm,0.6s,baz=253,slow=4.1,SNR=5.9
PETK LR LR 23 14 01.3
comp=Z,42nm,19.8s,baz=246,slow=38
PETK Petropavlovsk- 59.38 43 P **P 22 46 27.8 -0.1**
PETK pmax pmax
comp=Z,2.0nm,0.6s
PETK MLR MLR
comp=Z,42nm,19.8s
PEA2 Petropavlovsk- 59.38 43 *e*P **P 22 46 27.8 -0.1**
VIVF Saint-Julien-l 59.57 307 *e*P **P 22 46 29.5 +0.1**
LOR Lormes 59.58 310 *e*P **P 22 46 30.0 +0.6**
SMF Signal de Mont 59.73 309 *e*P **P 22 46 30.4 0.0**
comp=Z,13nm,0.9s
SSF Saint Saulge 59.86 310 *e*P **P 22 46 30.5 -0.8**
comp=Z,10nm,0.9s
AVF Avril sur Loir 60.02 309 *e*P **P 22 46 32.5 +0.1**
comp=Z,5.1nm,0.7s
TCF Toulx Ste Croi 60.91 309 *e*P **P 22 46 38.3 -0.2**
comp=Z,7.2nm,0.8s
BILL Bilibino 61.10 25 *e*P P 22 46 35.6 -3.7
BILL *e* 22 47 17.7
BILL *e* 22 48 50.4
BILL pmax pmax
comp=Z,2.0nm,0.9s
BILL MLR MLR
comp=Z,248nm,24.0s
CAF Calviac 61.35 308 *e*P **P 22 46 41.4 -0.1**
RJF Les Rejaudoux 61.63 308 *e*P **P 22 46 43.3 0.0**
comp=Z,7.4nm,0.9s
LDF La Druitiere 61.87 312 *e*P **P 22 46 44.8 -0.1**
comp=Z,24nm,0.9s
EKA Eskdalemuir Ar 62.09 320 P **P 22 46 46.5 +0.2**
comp=Z,2.2nm,0.7s,baz=93,slow=7.1,SNR=9.4
EKA Eskdalemuir Ar 62.09 320 P **P 22 46 46.5 +0.2**
EKA pmax pmax
comp=Z,2.0nm,0.7s
LFF La Frestale 62.25 308 *e*P **P 22 46 47.3 -0.2**
GRR Gorron 62.40 312 *e*P **P 22 46 48.4 0.0**
comp=Z,15nm,0.9s
MFF Saint Martin d 62.40 310 *e*P **P 22 46 48.3 -0.2**
comp=Z,10nm,0.8s
EPF Esparros 63.07 306 *e*P **P 22 46 53.1 0.0**
SGMF Saint Gilles 63.53 312 *e*P **P 22 46 56.0 +0.1**
ETSF Etsaut 63.74 306 *e*P **P 22 46 57.5 0.0**
QUIF Quistinic 64.01 312 *e*P **P 22 46 59.3 +0.2**
comp=Z,5.8nm,0.6s
SJPF Ste Jean 64.14 306 *e*P **P 22 47 00.0 -0.1**
ESDC Sonseca Array 67.22 304 P **P 22 47 20.6 +0.6**
comp=Z,1.5nm,0.8s,baz=53,slow=6.9,SNR=11
SUMG Summit 69.45 344 *i*P **P 22 47 34.8 +0.9**
comp=Z,3.0nm,1.0s
SUMG Summit 69.45 344 *i*P **P 22 47 34.8 +0.9**
SUMG pmax pmax
comp=Z,3.0nm,1.0s
SUMG Summit 69.45 344 *e*P **P 22 47 33.6 -0.3**
comp=Z,9.9nm,1.2s
WRA Warramunga Arr 72.15 127 P **P 22 47 50.5 0.0**
comp=Z,1.7nm,0.7s,baz=322,slow=5.9,SNR=15
WRA Warramunga Arr 72.15 127 P **P 22 47 50.5 0.0**
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRAB Tennant Creek 72.15 127 *e*P P 22 48 00.9 +10
WRAB pmax pmax
comp=Z,18nm,1.3s
TOA0 Torodi Ar. Sit 73.53 276 *e*P **P 22 47 58.8 0.0**
TORD Torodi Ar. Bea 73.53 276 P **P 22 47 58.8 0.0**
comp=Z,2.3nm,0.8s,baz=57,slow=4.4,SNR=13
AS12 Alice Springs 74.37 130 *e*P **P 22 48 03.6 0.0**
ASAR Alice Springs 74.37 130 P **P 22 48 03.6 0.0**
comp=Z,1.7nm,0.6s,baz=315,slow=6.1,SNR=15
ASAR Alice Springs 74.37 130 P **P 22 48 03.6 0.0**
ASAR pmax pmax
comp=Z,2.0nm,0.6s
COLD Coldfoot 75.91 18 *e*P **P 22 48 11.0 -0.8**
comp=Z,4.7nm,0.9s
CAST Castle Rocks 78.12 21 *e*P **P 22 48 24.0 -0.3**
comp=Z,5.7nm,0.8s
ILAR Eielson Array 78.65 19 P **P 22 48 27.2 +0.1**
comp=Z,2.5nm,0.8s,baz=309,slow=4.6,SNR=30
ILAR LR LR 23 28 20.9
comp=Z,82nm,18.8s,baz=285,slow=40
ILAR Eielson Array 78.65 19 P **P 22 48 27.3 +0.1**
ILAR pmax pmax
comp=Z,3.0nm,0.8s
ILAR MLR MLR
comp=Z,82nm,18.8s
ILB Eielson Array 78.65 19 *e*P **P 22 48 27.2 +0.1**
INK Inuvik 78.80 12 *e*P **P 22 48 26.9 -0.9**
INK Inuvik 78.80 12 *e*P **P 22 48 26.9 -0.9**
DOT Dot Lake 80.31 18 *e*P **P 22 48 35.3 -0.9**
comp=Z,3.9nm,0.8s
CTA Charters Tower 80.91 119 P **P 22 48 40.9 +0.9**
comp=Z,2.3nm,0.5s,baz=326,slow=3.6,SNR=4.8
CTA Charters Tower 80.91 119 P **P 22 48 40.9 +0.9**
CTA pmax pmax
comp=Z,2.0nm,0.5s
KDAK Kodiak Island 82.01 25 *i*P **P 22 48 47.7 +2.4**
DBIC Dimbokro 82.28 273 P **P 22 48 47.8 +0.3**
comp=Z,6.9nm,0.9s,baz=82,slow=13,SNR=3.3
DBIC Dimbokro 82.28 273 P **P 22 48 47.8 +0.3**
DBIC pmax pmax
comp=Z,7.0nm,0.9s
DBIC Dimbokro 82.28 273 *e*P **P 22 48 46.5 -0.9**
comp=Z,26nm,1.5s
LIC Lamto 82.64 273 *e*P **P 22 48 49.7 +0.3**
comp=Z,61nm,1.5s
HYT Haines Junctio 84.38 17 *e*P **P 22 48 57.1 -0.6**
STKA Stephens Creek 84.90 131 P **P 22 49 00.7 +0.3**
comp=Z,1.7nm,0.8s,baz=326,slow=11,SNR=4.6
STKA Stephens Creek 84.90 131 P **P 22 49 00.7 +0.3**
STKA pmax pmax
comp=Z,2.0nm,0.8s
STKA Stephens Creek 84.90 131 *e*P **P 22 48 59.5 -0.9**
comp=Z,17nm,2.5s
YKA Yellowknife Ar 87.01 7 P **P 22 49 10.1 -0.3**
comp=Z,0.8nm,0.7s,baz=344,slow=5.1,SNR=12
YKA Yellowknife Ar 87.01 7 P **P 22 49 10.1 -0.3**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKB5 Yellowknife Ar 87.01 7 *e*P **P 22 49 10.2 -0.3**
ULM Lac du Bonnet 99.95 357 LR LR 23 39 50.6
comp=Z,31nm,19.3s,baz=334,slow=38

IDC 01 22:45:12.8±14.0, 4°53S×136°62E, h0km, mb3.4/1, mb1 3.8/3, mb1mx3.4/26, mbtmp3.6/3, ML3.4/2, Error ellipse: s-maj=693.7km s-min=33.1km az=83.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.48**	**188**	Pn	Pn	22 48 54.9	+2.1
	0.2nm,0.3s,baz=356,slow=12,SNR=11						
ASAR	**Alice Springs**	**19.21**	**188**	P	P	22 49 37.6	-0.9
	0.1nm,0.3s,baz=3.5,slow=10,SNR=9.9						
MKAR	**Makanchi Array**	**69.98**	**324**	P	P	22 56 26.4	+0.1
	0.4nm,0.8s,baz=116,slow=6.6,SNR=4.0						

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*ISCJB **01** 22:54:28.0±0.6, 11°.46S±0°.09×165°.10E±0°.07, h34km, mb4.3/17, MS3.5/6, Error ellipse: s-maj=12.7km s-min=10.3km az=2.2*
*IDC **01** 22:54:30.0±1.0, 11°.34S×165°.20E, h33km±6km, mb4.1/11, mb1 4.2/11, mb1mx4.0/31, mbtmp4.2/11, MS3.5/6, Ms1 3.5/6, ms1mx3.2/18, Error ellipse: s-maj=30.9km s-min=19.0km az=118.0*
*NEIC **01** 22:54:30.0±0.6, 11°.38S×165°.12E, h35km, mb4.6/7, Error ellipse: s-maj=17.4km s-min=10.7km az=132.0*
ISC 01 22:54:29.5±0.6, 11°.4S±0°.1×165°.16E±0°.09, h34km, n32, σ0s99/33, mb4.3/17, MS3.5/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.50**	**290**	P	**Pn**	**22 55 49.0**	**0.0**
HNR				S	**Sn**	**22 56 52.0**	**+0.9**
HNR	**Honiara**	**5.50**	**290**	*e*Pn	**Pn**	**22 55 48.8**	**-0.2**
HNR				*e*Sn	**Sn**	**22 56 51.6**	**+0.5**
CTA	**Charters Tower**	**20.12**	**242**	P	Pn	22 59 02.2	-0.6
	19nm,0.8s,baz=78,slow=13,SNR=9.9						
CTAO	**Charters Tower**	**20.12**	**242**	*e*P	Pn	22 59 02.3	-0.5
	24nm,1.1s						
COEN	**Coen**	**21.60**	**261**	*e*P	**P**	**22 59 14.5**	**-2.2**
	6.7nm,0.5s						
JAY	**Jayapura**	**25.81**	**288**	LR	LR	23 11 05.2	
	comp=Z,59nm,18.8s,baz=227,slow=38						
STKA	**Stephens Creek**	**29.79**	**223**	P	**P**	**23 00 34.1**	**+0.9**
	1.1nm,0.6s,baz=48,slow=14,SNR=4.0						
STKA				LR	LR	23 10 38.4	
	comp=Z,180nm,20.8s,baz=51,slow=32						
STKA	**Stephens Creek**	**29.79**	**223**	*e*P	**P**	**23 00 33.8**	**+0.6**
WRAB	**Tennant Creek**	**30.81**	**250**	*e*P	**P**	**23 00 42.1**	**-0.4**
WRA	**Warramunga Arr**	**30.82**	**250**	P	**P**	**23 00 40.2**	**-2.3**
	1.1nm,0.8s,baz=83,slow=9.5,SNR=5.0						
WRA				PcP	**PcP**	**23 03 38.3**	**-1.1**
	1.6nm,1.2s,baz=78,slow=3.0,SNR=7.3						
ASAR	**Alice Springs**	**32.12**	**243**	P	**P**	**23 00 53.9**	**-0.1**
	2.4nm,0.8s,baz=74,slow=9.9,SNR=15						
ASAR				PcP	**PcP**	**23 03 42.8**	**-0.1**
	1.0nm,0.7s,baz=62,slow=2.6,SNR=7.8						
ASAR				LR	LR	23 12 25.2	
	comp=Z,90nm,18.8s,baz=131,slow=33						
PPT	**Papeete**	**44.16**	**103**	LR	LR	23 16 45.1	
	comp=Z,73nm,21.2s,baz=279,slow=30						
MJAR	**Matsushiro Arr**	**54.03**	**333**	P	**P**	**23 03 50.5**	**-0.2**
	1.9nm,0.8s,baz=168,slow=8.7,SNR=8.9						
MJAR				pP	**pP**	**23 04 00.7**	**-0.2**
	1.5nm,0.9s,baz=174,slow=9.5,SNR=3.1						
ASAJ	**Asahikawa**	**58.95**	**341**	LR	LR	23 25 46.9	
	comp=Z,27nm,21.6s,baz=162,slow=32						
CASY	**Casey**	**65.83**	**201**	*e*P	**P**	**23 05 10.1**	**-1.1**
	11nm,0.5s						
VNDA	**Vanda**	**66.12**	**181**	P	**P**	**23 05 14.9**	**+2.0**
	1.7nm,1.1s,baz=338,slow=7.0,SNR=3.9						
CMAR	**Chiang Mai Arr**	**71.73**	**294**	P	**P**	**23 05 50.5**	**+1.7**
	1.8nm,0.9s,baz=108,slow=4.1,SNR=9.0						
ULN	**Ulaanbaatar**	**78.26**	**324**	*e*P	**P**	**23 06 27.2**	**+1.1**
	6.2nm,0.8s						
SONM	**Songino Array**	**78.62**	**324**	P	**P**	**23 06 28.1**	**0.0**
	2.1nm,0.7s,baz=147,slow=7.8,SNR=13						
BILL	**Bilibino**	**79.25**	**0**	*e*P	**P**	**23 06 30.8**	**-0.1**
	4.9nm,0.8s						
ILAR	**Eielson Array**	**84.04**	**19**	P	**P**	**23 06 56.5**	**+0.2**
	1.6nm,0.5s,baz=236,slow=5.0,SNR=30						
ILAR				pP	**pP**	**23 07 07.5**	**+0.5**
	1.0nm,0.6s,baz=230,slow=5.2,SNR=6.5						

EGAK	**Eagle**	**85.92**	**20**	*e*P		**P**	**23 07 05.9**	**+0.3**
	3.8nm,0.8s								
TIXI	**Tiksi**	**86.34**	**349**	*e*P		**P**	**23 07 07.5**	**-0.1**
	2.1nm,0.8s								
MK31	**Makanchi Array**	**93.40**	**317**	*e*P		**P**	**23 07 41.9**	**+0.5**
MKAR	**Makanchi Array**	**93.40**	**317**	P		**P**	**23 07 42.3**	**+0.9**
	2.3nm,0.8s,baz=121,slow=2.1,SNR=26								
ZALV	**Zalesovo Beam**	**93.52**	**324**	P		**P**	**23 07 41.2**	**-0.5**
	2.0nm,0.8s,baz=108,slow=4.8,SNR=9.2								
YKA	**Yellowknife Ar**	**95.56**	**27**	P		**P**	**23 07 49.7**	**-1.1**
	0.4nm,0.7s,baz=258,slow=4.7,SNR=6.8								
YKA				pP		**pP**	**23 08 00.9**	**-0.8**
	0.3nm,0.7s,baz=255,slow=4.9,SNR=3.5								
TXAR	**Lajitas Array**	**96.50**	**61**	LR		LR	23 43 58.9		
	comp=Z,30nm,19.9s,baz=0.0,slow=31								
ARCES	**ARCESS Array B**	**116.54**	**345**	PKP		**PKPdf**	**23 13 09.4**	**0.0**
	3.4nm,0.9s,baz=78,slow=2.1,SNR=4.3								
FINES	**FINESS Array B**	**121.90**	**338**	PKP		**PKPdf**	**23 13 19.1**	**-0.8**
	1.2nm,0.8s,baz=234,slow=4.7,SNR=3.2								
KEST	**Kesra**	**147.35**	**322**	PKPbc		**PKPab**	**23 14 11.5**	**-0.7**
	1.5nm,0.8s,baz=227,slow=19,SNR=4.3								
ESDC	**Sonseca Array**	**150.24**	**343**	PKPab		**PKPab**	**23 14 24.8**	**+1.2**
	0.5nm,0.6s,baz=9.8,slow=4.5,SNR=5.9								

IDC 01 23:16:22.5±2.7, 55.94S×35.80W, h0km, mb4.0/1, mb1 4.0/1, mb1mx3.5/13, mbtmp4.0/1, Error ellipse: s-maj=143.2km s-min=70.4km az=158.0, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
H10S2	**ASCENSION HYDR**	**49.73**	**28**	T	T		00 17 51.8	
	baz=196,slow=75,SNR=15							
H10S3	**ASCENSION HYDR**	**49.73**	**28**	T	T		00 17 51.9	
	baz=196,slow=75,SNR=11							
H10S1	**ASCENSION HYDR**	**49.75**	**28**	T	T		00 17 53.0	
	baz=196,slow=75,SNR=10							
H10N3	**ASCENSION HYDR**	**50.84**	**28**	T	T		00 19 18.4	
	baz=194,slow=75,SNR=13							
H10N1	**ASCENSION HYDR**	**50.84**	**28**	T	T		00 19 18.2	
	baz=194,slow=75,SNR=11							
H10N2	**ASCENSION HYDR**	**50.86**	**28**	T	T		00 19 19.7	
	baz=194,slow=75,SNR=12							
TORD	**Torodi Ar. Bea**	**75.64**	**38**	P	P		23 28 09.2	0.0
	0.7nm,0.5s,baz=201,slow=6.6,SNR=16							
ILAR	**Eielson Array**	**146.47**	**314**	PKPbc	PKPdf		23 36 03.1	+0.6
	0.8nm,0.8s,baz=130,slow=1.6,SNR=8.6							
ZALV	**Zalesovo Beam**	**146.74**	**68**	PKPbc	PKPbc		23 36 04.3	-0.8
	0.3nm,0.3s,baz=256,slow=5.8,SNR=3.2							

IDC 01 23:47:49.2±6.8, 23.99S×175.07W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/30, mbtmp3.7/3, MS3.7/1, Ms1 3.7/1, ms1mx2.9/23, Error ellipse: s-maj=287.5km s-min=39.8km az=147.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
CTA	**Charters Tower**	**35.98**	**268**	LR	LR		00 07 28.9	
	comp=Z,110nm,18.4s,baz=32,slow=33							
ASAR	**Alice Springs**	**46.46**	**260**	P	P		23 56 16.9	-1.4
	0.3nm,0.5s,baz=93,slow=7.4,SNR=8.2							
WRA	**Warramunga Arr**	**46.89**	**265**	P	P		23 56 22.6	+0.9
	0.9nm,0.3s,baz=103,slow=6.9,SNR=8.1							
ILAR	**Eielson Array**	**91.14**	**12**	P	P		00 00 55.5	+0.1
	0.2nm,0.7s,baz=205,slow=1.9,SNR=2.8							

IDC 01 23:50:51.6±4.6, 3.64S×151.98E, h0km, mb3.1/2, mb1 3.4/2, mb1mx3.1/35, mbtmp3.2/2, MS3.8/1, Ms1 4.0/1, ms1mx3.1/11, Error ellipse: s-maj=228.7km s-min=47.2km az=118.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**23.63**	**225**	P	P		23 56 03.6	-1.1
	0.4nm,0.5s,baz=52,slow=10,SNR=2.9							
ASAR	**Alice Springs**	**26.48**	**220**	P	P		23 56 32.2	+1.3
	0.3nm,0.8s,baz=65,slow=8.6,SNR=3.4							
CMAR	**Chiang Mai Arr**	**56.65**	**295**	LR	LR		00 22 30.1	
	comp=Z,99nm,21.9s,baz=90,slow=34							
TORD	**Torodi Ar. Bea**	**149.16**	**290**	PKPbc	PKPbc		00 10 42.2	-1.0
	0.3nm,0.6s,baz=79,slow=1.8,SNR=6.6							

MOS ***01*** *23:57:12.8±1.1, 15.02N×145.37E, h127km, mb5.5/74, Error ellipse: s-maj=7.7km s-min=5.3km az=107.5*

ISCJB ***01*** *23:57:12.7±0.6, 15.02N±0.03×145.43E±0.02, h119km±5km, mb5.4/256, Error ellipse: s-maj=4.8km s-min=2.9km az=178.9*

IDC ***01*** *23:57:14.0±0.6, 14.90N×145.43E, h126km±5km, mb4.9/35, mb1 5.0/36, mb1mx5.0/41, mbtmp5.3/36, MS4.0/19, Ms1 4.0/19, ms1mx3.9/26, Error ellipse: s-maj=12.2km s-min=6.8km az=98.0*

BJI ***01*** *23:57:14.9, 14.99N×145.75E, h157km, mb5.2/69, mB5.3/43*

GCMT ***01*** *23:57:15.0±0.1, 14.84N×145.52E, h123km±1km, MW5.3/109, Moment Tensor Solution. s96,c155; s109,c188; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr=0.24±.02; Mθθ=0.12±.02; Mφφ=0.12±.03; Mrθ=0.42±.01; Mrφ=0.25±.03; Mθφ=1.23±.02; Best double couple: M0 1.32000×10^17 NP1:φs15.00000°, δ87.00000°, λ-81.00000°. NP2:φs122.00000°, δ10.00000°, λ-163.00000°. Principal axes: T 1.1940, Plg41.0000°, Azm97.0000°; N 0.2530, Plg9.0000°, Azm195.0000°; P -1.4470, Plg47.0000°, Azm295.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***01*** *23:57:15.4±0.8, 14.95N×145.45E, h138km±7km, mb5.4/179 Error ellipse: s-maj=4.1km s-min=3.8km az=155.0*

NEIC Felt [III] on Saipan. Felt on Tinian and at Andersen AFB, Barrigada, Tamuning and Yigo, Guam.

ISC 01 23:57:17.9±0.3, 14.97N±0.03×145.51E±0.04, h159km±2km, h159km: pP-P, n955, σ1s54/1040, mb5.3/255, 158C-191D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
GUMO	**Guam**	**1.51**	**204**	P	Pn		23 57 41.2	-7.1
	2μm,0.3s,baz=103,slow=2.9,SNR=907							
GUMO				S	Sn		23 58 00.7	-11
	5μm,0.3s,baz=98,slow=20,SNR=32							
GUMO	**Guam**	**1.51**	**204**	*e*P	Pn		23 57 40.9	-7.4
GUMO				*e*			23 58 01.5	
GUMO	**Guam**	**1.51**	**204**	*e*Pn	Pn		23 57 40.9	-7.4
GUMO				*e*Sn	Sn		23 58 01.5	-10
JAY	**Jayapura**	**18.01**	**196**	P	**Pn**		**00 01 17.9**	**-0.6**
	4μm45nm,1.1s							
JAY	**Jayapura**	**18.01**	**196**	P	**P**		**00 01 16.2**	**-0.7**
	0.9nm,0.3s,baz=357,slow=5.7,SNR=13							
SMPI	**Sarmi**	**18.15**	**202**	P	**Pn**		**00 01 19.6**	**-0.4**
	84nm,1.4s							
GENI	**Genyem**	**18.23**	**197**	P	**Pn**		**00 01 24.5**	**+3.4**
	3μm103nm,1.4s							
SRPI	**Serui, Papua**	**19.08**	**209**	P	**P**		**00 01 29.4**	**+0.9**
	183nm,0.9s							
RKPI	**Ransiki, Papua**	**19.85**	**215**	P	**P**		**00 01 36.4**	**-0.3**
	141nm,1.3s							
JOW	**Kunigami**	**19.93**	**309**	P	**P**		**00 01 38.9**	**+1.4**
	baz=137,slow=8.2							
JOW	**Kunigami**	**19.93**	**309**	*e*P	**P**		**00 01 38.4**	**+0.8**
	2μm,1.9s							
PLP	**Palo**	**20.35**	**262**	⇓*e*P	**P**		**00 01 43.2**	**+1.1**
H11S3	**WAKE ISLAND Hy**	**20.58**	**77**	T	T		00 23 05.4	
	baz=263,slow=74,SNR=20							
H11S1	**WAKE ISLAND Hy**	**20.60**	**77**	T	T		00 23 03.6	
	baz=263,slow=74,SNR=33							
H11S2	**WAKE ISLAND Hy**	**20.60**	**77**	T	T		00 23 03.4	
	baz=263,slow=74,SNR=25							
MSLP	**Maasin**	**20.71**	**259**	*e*P	**P**		**00 01 47.0**	**+1.1**
MSLP				*e*S	Px		00 02 24.0	
OCLP	**Ormoc**	**20.73**	**262**	*e*P	**P**		**00 01 47.8**	**+1.7**
PVCP	**Virac**	**20.74**	**269**	⇓*e*P	**P**		**00 01 46.9**	**+0.6**
H11N1	**WAKE ISLAND Hy**	**20.95**	**74**	T	T		00 23 31.7	
	baz=260,slow=75,SNR=39							
H11N2	**WAKE ISLAND Hy**	**20.95**	**74**	T	T		00 23 31.6	
	baz=260,slow=75,SNR=32							
H11N3	**WAKE ISLAND Hy**	**20.96**	**74**	T	T		00 23 32.2	
	baz=260,slow=75,SNR=22							
DAV	**Davao City (W)**	**21.06**	**250**	P	**P**		**00 01 52.3**	**+2.6**
	SNR=11							
DAV	**Davao City (W)**	**21.06**	**250**	*e*P	**P**		**00 01 50.8**	**+1.1**
	841nm,1.7s							
FAKI	**Fak Fak**	**22.10**	**217**	P	**P**		**00 02 00.3**	**-0.3**
	3μm222nm,0.8s							
AUQP	**San Andres**	**22.20**	**269**	*e*P	**P**		**00 02 03.0**	**+1.5**
RCP	**Roxas**	**22.41**	**264**	⇓*e*P	**P**		**00 02 03.0**	**-0.6**
JNU	**Nakatsue**	**22.42**	**326**	P	**P**		**00 02 04.2**	**+0.6**
	24nm,0.8s,baz=131,slow=6.8,SNR=14							
JNU	**Nakatsue**	**22.42**	**326**	*e*P	**P**		**00 02 02.5**	**-1.0**
	455nm,2.0s							
MJAR	**Matsushiro Arr**	**22.45**	**344**	ScP	**ScP**		**00 09 16.8**	**+1.6**
	1.1nm,0.7s,baz=165,slow=2.8,SNR=4.1							
MJAR				LR	LR		00 10 00.1	
	comp=Z,407nm,20.8s,baz=185,slow=34							
KWAJ	**Kwajalein Atol**	**22.48**	**103**	*e*P	**P**		**00 02 05.3**	**+1.1**
KWAJ				pmax	pmax			
	comp=Z,486nm,1.4s							
KWAJ	**Kwajalein Atol**	**22.48**	**103**	*e*P	**P**		**00 02 05.3**	**+1.1**
	comp=Z,486nm,1.4s							
GUIM	**Jordan**	**22.75**	**262**	*e*P	**P**		**00 02 06.7**	**-0.1**
TNTI	**Ternate**	**22.81**	**233**	P	**P**		**00 02 04.6**	**-2.7**
	comp=Z,105nm,1.2s							
OTRP	**Odiongan**	**22.96**	**266**	*e*P	**P**		**00 02 09.0**	**+0.3**
YOJ	**Yonaguni jima**	**23.15**	**298**	*e*P	**P**		**00 02 09.9**	**-0.4**
YOJ				pmax	pmax			
	comp=Z,554nm,1.3s							
YOJ	**Yonaguni jima**	**23.15**	**298**	*e*P	**P**		**00 02 09.9**	**-0.4**
	comp=Z,554nm,1.3s							
LBMI	**Labuha**	**23.61**	**230**	P	**P**		**00 02 12.7**	**-1.9**
	comp=Z,63nm,0.9s							
SJMP	**San Jose**	**23.82**	**267**	*e*P	**P**		**00 02 17.1**	**+0.6**
SZP	**Santa**	**24.18**	**280**	*e*P	**P**		**00 02 17.8**	**-2.0**
	comp=Z,262nm,1.3s							
PMG	**Port Moresby**	**24.28**	**176**	*e*P	**P**		**00 02 19.5**	**-1.1**
PMG				pmax	pmax			
	comp=Z,76nm,1.0s							
PMG	**Port Moresby**	**24.28**	**176**	*e*P	**P**		**00 02 19.5**	**-1.1**
	comp=Z,76nm,1.0s							
NACB	**Ninganchiao**	**24.29**	**296**	*e*P	**P**		**00 02 20.6**	**-0.1**
	comp=Z,147nm,1.5s							
YULB	**Yu-li**	**24.32**	**294**	*e*P	**P**		**00 02 20.8**	**-0.3**
	comp=Z,199nm,1.2s							
TWG	**Pinlang**	**24.37**	**292**	*e*P	**P**		**00 02 20.7**	**-0.8**
	comp=Z,876nm,1.3s							
LUBP	**Lubang**	**24.50**	**270**	*e*P	**P**		**00 02 22.8**	**+0.1**
MSAI	**Masohi**	**24.51**	**223**	P	**P**		**00 02 23.0**	**+0.2**
	comp=Z,50nm,1.2s							
YHNB	**Yeheng**	**24.63**	**297**	*e*P	**P**		**00 02 23.0**	**-0.9**
	comp=Z,59nm,0.8s							
SSLB	**Suanglung**	**24.73**	**295**	*e*P	**P**		**00 02 24.3**	**-0.5**
	comp=Z,386nm,1.1s							
BUSP	**Coron**	**24.78**	**266**	*e*P	**P**		**00 02 24.9**	**-0.3**
TPUB	**Ta-pu**	**24.89**	**293**	*e*P	**P**		**00 02 25.4**	**-0.8**
	comp=Z,181nm,1.3s							
KMSI	**Cibinong**	**25.63**	**238**	P	**P**		**00 02 33.6**	**+0.7**
	comp=Z,6μmcomp=Z,364nm,1.1s							
SANI	**Sanana**	**25.68**	**230**	P	**P**		**00 02 30.2**	**-3.1**
	comp=Z,550nmcomp=Z,53nm,1.1s							
NLAI	**Namlea**	**25.68**	**227**	P	**P**		**00 02 36.2**	**+2.8**
	comp=Z,38nm,1.2s							
QZH	**Quanzhou**	**27.12**	**296**	⇓*i*P	**P**		**00 02 45.7**	**-0.5**
QZH				S	**S**		**00 07 09.0**	**-3.9**
QZH				PMZ				
	comp=Z,80nm,0.8s							
QZH				PMZ				
	comp=Z,750nm,4.2s							
QZH				LN				
	comp=Z,580nm,13.7s							
QZH				LE				
	comp=Z,540nm,12.9s							
QZH				LZ				
	comp=Z,1μm,14.2s							
KSRS	**Korea Array**	**27.29**	**328**	P	**P**		**00 02 47.3**	**-0.3**
	comp=Z,16nm,0.6s,baz=142,slow=8.6,SNR=21							
KSRS				ScP	**ScP**		**00 09 31.5**	**+2.7**
	comp=Z,4.1nm,1.1s,baz=122,slow=1.6,SNR=4.1							
KS15	**Wonju Array Si**	**27.30**	**328**	*e*P	**P**		**00 02 47.3**	**-0.4**
KS15				*e*ScP	**ScP**		**00 09 31.5**	**+2.7**
MRSI	**Marisa**	**27.38**	**240**	P	**P**		**00 02 47.5**	**-1.1**
	comp=Z,93μmcomp=Z,1μmcomp=Z,44nm,1.4s							
LUWI	**Luwuk**	**27.55**	**237**	P	**P**		**00 02 48.6**	**-1.5**
	comp=Z,2μmcomp=Z,149nm,1.2s							
COEN	**Coen**	**28.84**	**185**	*e*P	**P**		**00 03 01.5**	**+0.1**
	comp=Z,20nm,1.0s							
ASAJ	**Asahikawa**	**29.15**	**356**	LR	LR		00 13 47.7	
	comp=Z,170nm,20.8s,baz=332,slow=34							
NJ2	**Nanjing**	**29.65**	**310**	*e*P	**P**		**00 03 08.6**	**+0.1**
NJ2				S	**S**		**00 07 53.0**	**+0.6**
NJ2				LN				
	comp=Z,2μm,17.2s							
NJ2				LE				
	comp=Z,4μm,21.5s							
NJ2				LZ				
	comp=Z,2μm,21.1s							
KKM	**Kota Kinabalu**	**30.10**	**256**	*e*P	**P**		**00 03 11.9**	**-1.0**
	comp=Z,104nm,1.6s							
VLA	**Vladivostok**	**30.39**	**340**	*e*P	**P**		**00 03 12.1**	**-2.8**
USRK	**Ussuriysk Ar.**	**31.32**	**341**	P	**P**		**00 03 23.4**	**+0.3**
	comp=Z,2.8nm,0.6s,baz=158,slow=12,SNR=2.9							
USRK				LR	LR		00 14 36.7	
	comp=Z,236nm,21.8s,baz=140,slow=33							
GZH	**Guangzhou**	**31.40**	**290**	P	**P**		**00 03 22.7**	**-1.4**
GZH				S	**S**		**00 08 23.0**	**+3.0**
GZH				LN				
	comp=Z,710nm,14.2s							
GZH				LE				
	comp=Z,630nm,15.4s							
BNSI	**Bone**	**31.68**	**235**	P	**P**		**00 03 26.8**	**+0.2**
	comp=Z,736nmcomp=Z,64nm,1.4s							
BKSI	**Bulukumba**	**32.24**	**233**	P	**P**		**00 03 30.3**	**-1.2**
	comp=Z,23nm,1.5s							
KAPI	**Kappang**	**32.34**	**234**	*e*P	**P**		**00 03 30.1**	**-2.2**
	comp=Z,42nm,1.1s							
MDJ	**Mudanjiang**	**32.49**	**339**	P	**P**		**00 03 33.1**	**-0.2**
MDJ				pP	**pP**		**00 04 07.0**	**0.0**
MDJ				sP	**sP**		**00 04 24.8**	**-0.5**
MDJ				PP	**PP**		**00 04 49.3**	**-0.7**
MDJ				S	**S**		**00 08 35.8**	**-0.6**
MDJ				sS	**sS**		**00 09 35.8**	**+0.2**
MDJ				PMZ				
	comp=Z,12nm,1.1s							
MDJ				PMZ				
	comp=Z,140nm,6.3s							
WHN	**Wuhan**	**32.50**	**304**	⇑P	**P**		**00 03 34.8**	**+1.2**
WHN				pP	**pP**		**00 04 07.6**	**+0.3**
WHN				PMZ				
	comp=Z,200nm,1.3s							
WHN				LN				
	comp=Z,910nm,13.0s							
WHN				LE				
	comp=Z,370nm,11.4s							
WHN				LZ				
	comp=Z,790nm,18.2s							
TIA	**Tai'an**	**33.00**	**315**	⇓P	**P**		**00 03 37.8**	**-0.1**
TIA				S	**S**		**00 08 45.9**	**+1.3**
TIA				PMZ				
	comp=Z,20nm,1.3s							
TIA				PMZ				
	comp=Z,310nm,7.0s							
TIA				LN				
	comp=Z,590nm,21.4s							
TIA				LE				
	comp=Z,670nm,20.2s							
TIA				LZ				
	comp=Z,800nm,32.1s							
BATI	**Baumata**	**33.08**	**222**	P	**P**		**00 03 36.5**	**-2.3**
	comp=Z,85nm,1.0s							
BATI	**Baumata**	**33.08**	**222**	P	**P**		**00 03 36.5**	**-2.3**
	comp=Z,790nm,0.6s,baz=152,slow=1.8,SNR=14							
EDFI	**Ende, Flores**	**33.36**	**227**	P	**P**		**00 03 39.6**	**-1.7**
	comp=Z,35nm,1.1s							
QIZ	**Qiongzhong**	**34.30**	**282**	P	**P**		**00 03 49.3**	**-0.1**
QIZ				PP	**PP**		**00 05 14.3**	**+3.9**
QIZ				S	**S**		**00 09 04.3**	**-0.8**
QIZ				sS	**sS**		**00 10 06.1**	**+1.5**
QIZ				PMZ				
	comp=Z,38nm,1.7s							
QIZ				PMZ				
	comp=Z,280nm,5.9s							
QIZ	**Qiongzhong**	**34.30**	**282**	*e*P	**P**		**00 03 50.2**	**+0.8**
	comp=Z,88nm,1.4s							
HABR	**Khabarovsk**	**34.50**	**348**	*c*eP	P		00 03 46.3	-4.3
HABR				*e**PP	pP		00 04 18.4	-6.1
HABR				*e**PP	**PP**		**00 05 06.4**	**-5.7**
HABR				*e*			00 06 19.3	
HABR				*e*S	**S**		**00 09 02.8**	**-4.5**
HABR				*e*SS	**SnSn**		**00 11 30.8**	**-7.3**
HABR				*e*			00 13 52.9	
HABR				pmax	pmax			
	comp=E,10.0nm,0.9s							
HABR				pmax	pmax			
	comp=Z,7.0nm,0.9s							
HABR				pmax	pmax			
	comp=N,9.0nm,1.1s							
HABR				MLR	MLR			
	comp=Z,139nm,19.0s							
CTA	**Charters Tower**	**34.85**	**179**	P	**P**		**00 03 53.6**	**-0.5**
	comp=Z,7.6nm,0.6s,baz=359,slow=10,SNR=14							
CTAO	**Charters Tower**	**34.85**	**179**	*e*P	**P**		**00 03 53.5**	**-0.5**
CTAO				pmax	pmax			
	comp=Z,75nm,1.7s							
CTAO	**Charters Tower**	**34.85**	**179**	*e*P	**P**		**00 03 53.5**	**-0.5**
	comp=Z,75nm,1.7s							
SBUM	**Sibu**	**35.10**	**252**	*e*P	**P**		**00 03 55.1**	**-1.2**
	comp=Z,100nm,1.9s							
BJI	**Beijing**	**35.77**	**320**	P	**P**		**00 04 02.2**	**+0.6**
BJI				PP	**PP**		**00 05 24.7**	**-1.5**
BJI				PcP	**PcP**		**00 06 26.2**	**+0.2**
BJI				S	**S**		**00 09 27.1**	**+0.1**
BJI				PMZ				
	comp=Z,15nm,0.8s							
BJI				PMZ				
	comp=Z,290nm,8.0s							
BJI				LN				
	comp=Z,490nm,28.1s							
BJI				LE				
	comp=Z,320nm,29.7s							
BJI				LZ				
	comp=Z,640nm,43.2s							
DLV	**T Lat**	**36.10**	**270**	*e*P	**P**		**00 04 04.4**	**-0.6**
WRAB	**Tennant Creek**	**36.38**	**198**	P	**P**		**00 04 06.5**	**-0.5**
	comp=Z,282nm,0.9s,SNR=56							
WRAB	**Tennant Creek**	**36.38**	**198**	*c i*P	**P**		**00 04 05.7**	**-1.3**
WRAB				pmax	pmax			
	comp=Z,81nm,0.8s							
WRAB	**Tennant Creek**	**36.38**	**198**	*e*P	**P**		**00 04 05.4**	**-1.7**
	comp=Z,55nm,1.0s							
ENH	**Enshi**	**36.38**	**301**	*e*P	**P**		**00 04 07.6**	**+0.5**
	comp=Z,30nm,1.0s							
WRA	**Warramunga Arr**	**36.39**	**198**	P	**P**		**00 04 06.3**	**-0.8**
	comp=Z,30nm,0.8s,baz=19,slow=9.3,SNR=80							
WRA				ScP	**ScP**		**00 10 02.8**	**+3.0**
	comp=Z,15nm,1.1s,baz=22,slow=3.9,SNR=8.5							
WRA				LR	LR		00 20 04.6	
	comp=Z,189nm,18.9s,baz=45,slow=38							
KSM	**Kuching**	**37.24**	**252**	*e*P	**P**		**00 04 13.4**	**-1.1**
	comp=Z,37nm,1.1s							
GYA	**Guiyang**	**37.95**	**294**	⇓*i*P	**P**		**00 04 21.9**	**+1.5**
GYA				pP	**pP**		**00 04 57.2**	**+2.4**
GYA				sP	**sP**		**00 05 15.0**	**+2.1**
GYA				PP	**PnPn**		**00 05 55.6**	**+1.9**
GYA				PcP	**PcP**		**00 06 33.9**	**+0.8**
GYA				S	**ScP**		**00 10 05.0**	**-0.9**
GYA				PcS	**PcS**		**00 10 22.4**	**0.0**
GYA				SS	**SS**		**00 12 46.5**	**-7.7**
GYA				PMZ				
	comp=Z,70nm,1.0s							
GYA				PMZ				
	comp=Z,350nm,7.1s							
GYA				LN				
	comp=Z,340nm,17.6s							
GYA				LE				
	comp=Z,320nm,18.3s							
GYA				LZ				
	comp=Z,560nm,19.8s							
XAN	**Xi'an**	**38.05**	**307**	P	**P**		**00 04 21.4**	**+0.3**
XAN				pP	**pP**		**00 04 55.0**	**-0.4**
XAN				S	**S**		**00 09 59.3**	**-2.6**
XAN				PMZ				
	comp=Z,11nm,1.3s							
XAN				PMZ				
	comp=Z,84nm,7.2s							
XAN				LN				
	comp=Z,280nm,19.4s							
XAN				LE				
	comp=Z,95nm,20.4s							
XAN				LZ				
	comp=Z,140nm,22.4s							
HHC	**Hu-ho-hao-te**	**39.15**	**318**	*e*P	**P**		**00 04 31.1**	**+0.9**
HHC				pP	**pP**		**00 05 09.0**	**+4.3**
HHC				sP	**sP**		**00 05 22.5**	**-0.3**
HHC				PP	**PnPn**		**00 06 09.9**	**+2.3**
HHC				S	**S**		**00 10 22.3**	**+4.0**
HHC				sS	**sS**		**00 11 16.5**	**-2.2**
HHC				SS	**SS**		**00 13 13.9**	**-3.9**
HHC				PMZ				
	comp=Z,37nm,1.1s							
HHC				PMZ				
	comp=Z,460nm,5.7s							
PETK	**Petropavlovsk-**	**39.25**	**12**	P	**P**		**00 04 30.0**	**-0.8**
	comp=Z,7.9nm,0.6s,baz=182,slow=8.8,SNR=17							
PETK				LR	LR		00 18 37.1	
	comp=Z,115nm,21.0s,baz=200,slow=33							
PEA2	**Petropavlovsk-**	**39.25**	**12**	*e*P	**P**		**00 04 30.0**	**-0.8**
PET	**Petropavlovsk**	**39.37**	**13**	⇑*i*P	**P**		**00 04 31.3**	**-0.3**
PET				*e*S	**S**		**00 10 22.8**	**+1.9**
PET				pmax	pmax			
	comp=Z,46nm,1.3s							
BTO	**Baotou**	**40.04**	**317**	*e*P	**P**		**00 04 37.7**	**+0.1**
BTO				PMZ				
	comp=Z,24nm,1.3s							
AS12	**Alice Springs**	**40.04**	**197**	*e*P	**P**		**00 04 36.9**	**-0.8**
AS12				*e*PcP	**PcP**		**00 06 37.8**	**-1.7**
AS12				*e*ScP	**ScP**		**00 10 15.6**	**+1.9**
AS12				*e*S	**S**		**00 10 29.9**	**-1.8**
ASAR	**Alice Springs**	**40.04**	**197**	P	**P**		**00 04 36.9**	**-0.8**
	comp=Z,6.5nm,0.5s,baz=18,slow=13,SNR=129							
ASAR				PcP	**PcP**		**00 06 37.8**	**-1.7**
	comp=Z,3.7nm,0.8s,baz=20,slow=8.6,SNR=4.0							
ASAR				ScP	**ScP**		**00 10 15.6**	**+1.9**
	comp=Z,8.5nm,1.0s,baz=11,slow=4.9,SNR=9.5							
ASAR				S	**S**		**00 10 29.9**	**-1.8**
	comp=Z,6.2nm,0.9s,baz=16,slow=20,SNR=12							
ASAR				LR	LR		00 22 20.4	
	comp=Z,171nm,19.7s,baz=16,slow=38							
HIA	**Hailar**	**40.17**	**334**	*e*P	**P**		**00 04 38.0**	**-0.4**
HIA				pmax	pmax			
	comp=Z,62nm,1.5s							
HIA	**Hailar**	**40.17**	**334**	*e*P	**P**		**00 04 38.0**	**-0.4**
	comp=Z,62nm,1.5s							
KMI	**Kunming**	**41.27**	**291**	P	**P**		**00 04 49.7**	**+1.6**
KMI				pP	**pP**		**00 05 20.3**	**-2.6**
KMI				S	**S**		**00 10 49.1**	**-1.4**
KMI				PMZ				
	comp=Z,26nm,1.6s							
KMI				PMZ				
	comp=Z,420nm,6.2s							
KMI				LN				
	comp=Z

CHTO Chiang Mai 44.62 282 *e*P P 00 05 14.7 -0.1
comp=Z,123nm,2.3s
CM31 Chiang Mai Arr 44.64 281 *e*P P 00 05 15.7 +0.7
CM31 *e*PcP PcP 00 06 56.0 +0.9
CM31 *e*ScP ScP 00 10 35.0 +2.6
CMAR Chiang Mai Arr 44.64 281 P P 00 05 15.7 +0.7
comp=Z,14nm,0.9s,baz=79,slow=6.1,SNR=89
CMAR PcP PcP 00 06 56.0 +0.9
comp=Z,5.0nm,0.6s,baz=102,slow=1.7,SNR=6.1
CMAR ScP ScP 00 10 35.0 +2.6
comp=Z,0.6nm,0.4s,baz=111,slow=2.5,SNR=4.2
IPM Ipoh 44.97 261 *e*P P 00 05 16.6 -1.0
comp=Z,38nm,1.2s
KULM Kulim 45.11 262 *e*P P 00 05 18.2 -0.5
comp=Z,65nm,1.2s
ARMA Armidale 45.51 173 *e*P P 00 05 21.2 -0.5
comp=Z,101nm,2.3s
ULN Ulaanbaatar 45.62 324 *e*P P 00 05 22.4 0.0
ULN *e* 00 06 57.2
ULN Ulaanbaatar 45.62 324 P P 00 05 23.4 +1.0
SNR=7.8
ULN Ulaanbaatar 45.62 324 *e*P P 00 05 22.4 0.0
ULN *e*PcP PcP 00 06 57.2 -0.8
MSVF Nonsavu 45.67 134 P P 00 05 24.9 +1.8
comp=Z,249nm,0.7s,SNR=11
MSVF Nonsavu 45.67 134 *e*P P 00 05 24.1 +1.0
MSVF pmax pmax
comp=Z,131nm,1.7s
MSVF Nonsavu 45.67 134 *e*P P 00 05 24.1 +1.0
comp=Z,131nm,1.7s
SONA0 Songino Array 45.97 324 *e*P P 00 05 26.1 +0.9
SONA0 *e*PcP PcP 00 06 59.7 +0.4
SONA0 *e*ScP ScP 00 10 40.6 +3.0
SONM Songino Array 45.97 324 P P 00 05 26.1 +0.9
comp=Z,8.9nm,0.6s,baz=134,slow=8.4,SNR=31
SONM PcP PcP 00 06 59.7 +0.4
comp=Z,6.5nm,0.5s,baz=145,slow=2.9,SNR=7.3
SONM ScP ScP 00 10 40.6 +3.0
comp=Z,1.0nm,0.7s,baz=145,slow=5.4,SNR=4.7
SONM LR LR 00 24 36.6
comp=Z,189nm,18.8s,baz=116,slow=36
STKA Stephens Creek 46.73 185 P P 00 05 30.5 -0.6
comp=Z,8.4nm,0.5s,baz=1.0,slow=7.5,SNR=28
STKA S S 00 12 06.7 -2.2
comp=Z,14nm,1.1s,baz=168,slow=19,SNR=7.1
STKA LR LR 00 25 37.4
comp=Z,315nm,19.5s,baz=4.7,slow=36
STKA Stephens Creek 46.73 185 *e*P P 00 05 29.8 -1.2
STKA *e*S S 00 12 05.9 -2.9
STKA Stephens Creek 46.73 185 *e*P P 00 05 29.8 -1.2
comp=Z,6.9nm,1.4s
STKA *e*S S 00 12 05.8 -2.9
GTA Gaotai 46.74 310 ⇓*i*P P 00 05 32.4 +1.1
GTA pP pP 00 06 03.9 -3.0
GTA sP sP 00 06 20.0 -4.7
GTA PcP PcP 00 07 03.5 +1.4
GTA PP PP 00 07 24.5 +1.4
GTA ScP ScP 00 10 44.1 +3.2
GTA S S 00 12 12.8 +3.6
GTA sS sS 00 13 07.4 -3.7
GTA ScS ScS 00 15 11.8 +2.2
GTA SS SS 00 15 35.0 -2.6
GTA PMZ
comp=Z,35nm,1.6s
GTA PMZ
comp=Z,380nm,6.9s
GTA LN
comp=Z,500nm,19.5s
GTA LE
comp=Z,260nm,18.5s
GTA LZ
comp=Z,370nm,19.0s
SEY Seymchan 48.15 4 *i*P P 00 05 38.2 -3.4
YAK Yakutsk 48.33 350 P P 00 05 42.6 -0.4
comp=Z,32nm,0.5s,baz=3.1,slow=3.5,SNR=11
YAK Yakutsk 48.33 350 *e*P P 00 05 40.2 -2.8
YAK *e* 00 07 10.0
YAK *e*S S 00 12 29.1 -1.6
YAK *e*SS ScS 00 15 14.7 -4.3
YAK pmax pmax
comp=Z,71nm,1.1s
YAK pmax pmax
comp=N,24nm,1.3s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK pmax pmax
comp=Z,14nm,0.8s
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.4s
YAK smax smax
comp=N,35nm,2.3s
YAK smax smax
comp=E,45nm,1.9s
YAK MLR MLR
comp=Z,118nm,17.0s
YAK Yakutsk 48.33 350 *e*P P 00 05 42.0 -1.0
comp=Z,64nm,0.9s
BBOO Buckleboo 48.36 191 *e*P P 00 05 42.6 -1.0
comp=Z,23nm,1.1s
FORT Forrest 48.48 200 *e*P P 00 05 43.9 -0.7
comp=Z,73nm,1.0s
BOD Bodaibo 48.86 338 *e*P P 00 05 45.9 -1.2
BOD pmax pmax
comp=Z,20nm,1.3s
ZAK Zakamensk 49.05 325 *e*P P 00 05 48.7 -0.1
ZAK *e* 00 06 20.9
ZAK *e* 00 07 10.3
ZAK pmax pmax
comp=Z,19nm,1.5s
TLY Talaya 49.53 327 P P 00 05 52.9 +0.5
comp=Z,136nm,0.6s,SNR=7.7
TLY Talaya 49.53 327 *i*P P 00 05 52.8 +0.4
TLY *e* 00 06 24.8
TLY *e* 00 07 44.1
TLY *e*S S 00 12 50.8 +3.0
TLY *e* 00 13 42.1
TLY *e* 00 15 28.1
TLY *e*SS SS 00 16 19.6 -2.2
TLY pmax pmax
comp=Z,46nm,1.6s
TLY Talaya 49.53 327 P P 00 05 53.4 +1.0
SNR=17
TLY Talaya 49.53 327 *e*P P 00 05 52.5 +0.1
comp=Z,24nm,1.0s
MOY Mondy 50.94 326 *e*P P 00 06 03.1 0.0
MOY pmax pmax
comp=Z,77nm,2.7s
AFI Afiamalu 51.08 122 *e*P P 00 06 05.2 +0.6
AFI pmax pmax
comp=Z,9.0nm,0.8s
AFI Afiamalu 51.08 122 *e*P P 00 06 05.2 +0.6
comp=Z,8.7nm,0.8s
LSA Lhasa 51.93 296 P P 00 06 12.4 +1.1
LSA PMZ
comp=Z,40nm,0.8s
LSA Lhasa 51.93 296 *e*P P 00 06 12.3 +1.0
LSA pmax pmax
comp=Z,48nm,0.6s
LSA Lhasa 51.93 296 *e*P P 00 06 12.3 +1.0
comp=Z,48nm,0.6s
NIKH Nikolski High 52.19 33 *e*P P 00 06 12.2 +0.1
comp=Z,98nm,1.3s
UNV Unalaska Valle 53.84 33 *e*P P 00 06 24.0 -0.2
comp=Z,42nm,0.6s
AKUT Akutan 54.35 33 *e*P P 00 06 27.9 -0.1
BILL Bilibino 54.70 9 *d*/P P 00 06 28.8 -1.5
BILL *e* 00 07 27.7
BILL *e* 00 08 33.2
BILL *e*S S 00 14 11.5 +14
BILL pmax pmax
comp=Z,84nm,1.7s
BILL Bilibino 54.70 9 *e*P P 00 06 29.2 -1.0
comp=Z,86nm,1.4s
TAPN Taplejung 54.87 293 *e*P P 00 06 32.9 +0.4
comp=Z,80nm,0.5s
ODAN Odare 55.15 292 *e*P P 00 06 34.8 +0.3
comp=Z,70nm,0.7s
RAMN Ramite 55.85 293 *e*P P 00 06 39.8 +0.3
comp=Z,33nm,0.5s
FALS False Pass 55.91 33 *e*P P 00 06 39.3 +0.3
JIRN Jiri 56.22 293 *e*P P 00 06 42.8 +0.6
comp=Z,63nm,0.6s
GUN Gumba 56.49 294 *e*P P 00 06 44.8 +0.6
comp=Z,136nm,0.7s

WMQ Urumqi 56.65 313 ⇑*i*P P 00 06 46.5 +1.9
WMQ pP pP 00 07 27.7 +6.2
WMQ sP sP 00 07 40.2 +1.2
WMQ PP PP 00 08 52.3 0.0
WMQ S S 00 14 29.5 +5.0
WMQ ScS ScS 00 16 18.9 +0.7
WMQ PMZ
comp=Z,85nm,1.2s
WMQ PMZ
comp=Z,320nm,3.6s
WMQ LN
comp=Z,270nm,18.0s
WMQ LE
comp=Z,260nm,13.4s
WMQ LZ
comp=Z,370nm,22.0s
PKI Pulchoki 56.91 293 *e*P P 00 06 47.0 -0.1
comp=Z,49nm,0.5s
PKIN Phulchoki 56.92 293 *e*P P 00 06 46.9 -0.2
comp=Z,16nm,0.4s
GAMB Gambell 56.97 21 *e*P P 00 06 46.5 +0.1
comp=Z,55nm,1.3s
KKN Kakani 57.02 294 *e*P P 00 06 48.0 +0.3
comp=Z,31nm,0.4s
DMN Daman 57.18 293 *e*P P 00 06 49.2 +0.3
comp=Z,70nm,0.6s
KRAR Krasnoyarsk 57.19 328 *e*P P 00 06 46.0 -2.1
KRAR pmax pmax
comp=Z,44nm,1.3s
TIXI Tiksi 57.53 354 *e*P P 00 06 48.5 -1.7
TIXI pmax pmax
comp=Z,20nm,1.2s
TIXI Tiksi 57.53 354 *e*P P 00 06 48.5 -1.7
comp=Z,20nm,1.2s
GKN Gorkha 57.59 294 *e*P P 00 06 51.9 +0.2
comp=Z,89nm,0.4s
KOLN Koldanda 58.51 294 *e*P P 00 06 58.4 +0.3
comp=Z,65nm,0.6s
CHLP Challavanipeta 58.71 283 *e*P P 00 07 00.1 +0.8
CHLP epP pP 00 07 32.6 -3.9
CHLP eS S 00 14 53.7 +1.8
TNA Tin City 59.34 21 *e*P P 00 07 02.2 -0.6
comp=Z,33nm,1.1s
ZALV Zalesovo Beam 60.87 324 P P 00 07 14.2 +0.7
comp=Z,30nm,0.6s,baz=102,slow=6.5,SNR=53
ZALV LR LR 00 32 32.5
comp=Z,157nm,21.7s,baz=70,slow=35
ZAA1 Zalesovo Array 60.87 324 *e*P P 00 07 14.2 +0.7
MK31 Makanchi Array 60.94 315 P P 00 07 14.9 +0.8
MK31 pmax pmax
comp=Z,35nm,0.4s
MK32 Makanchi Array 60.94 315 *e*P P 00 07 15.1 +1.0
MK32 *e*ScP ScP 00 11 44.9 +2.4
MK32 *e*S S 00 15 26.5 +6.8
MKAR Makanchi Array 60.94 315 P P 00 07 15.1 +1.0
comp=Z,34nm,0.4s,baz=89,slow=6.0,SNR=341
MKAR ScP ScP 00 11 44.9 +2.4
comp=Z,2.6nm,0.9s,baz=116,slow=2.8,SNR=3.8
MKAR S S 00 15 26.5 +6.8
comp=Z,1.5nm,0.9s,baz=91,slow=8.7,SNR=7.0
MKAR LR LR 00 35 59.2
comp=Z,93nm,18.3s,baz=98,slow=38
MKAR Makanchi Array 60.94 315 *e*P P 00 07 14.6 +0.4
MKAR Makanchi Array 60.94 315 *e*P P 00 07 14.6 +0.4
NVS Novosibirsk 61.99 325 ⇓*i*P P 00 07 21.3 +0.3
NVS *e**PP pP 00 07 50.1 -8.4
NVS *e*S S 00 15 33.9 +1.3
NVS *e* 00 16 52.1
NVS pmax pmax
comp=E,186nm,1.5s
NVS pmax pmax
comp=Z,250nm,1.5s
NVS pmax pmax
comp=N,52nm,1.4s
NVS smax smax
comp=N,171nm,3.4s
NVS smax smax
comp=E,91nm,3.4s
OHAK Old Harbor 62.05 33 *e*P P 00 07 21.8 +0.4
comp=E,103nm,0.8s
SVW2 Sparrevohn 62.17 28 *e*P P 00 07 22.4 +0.2
comp=E,145nm,1.6s
KDAK Kodiak Island 62.58 32 P P 00 07 25.0 +0.2
comp=E,453nm,0.5s,SNR=34
KDAK Kodiak Island 62.58 32 *ce*P P 00 07 26.1 +1.3
KDAK Kodiak Island 62.58 32 *e*P P 00 07 26.0 +1.3
comp=E,52nm,0.6s
KHZ Kahutara 62.67 157 *e*P P 00 07 24.5 -1.0
comp=E,130nm,1.8s
RSO Redoubt South 63.27 29 *e*P P 00 07 28.9 -0.7
SKHT Srikalahasti 63.53 278 *e*P P 00 07 32.3 +0.4
SKHT *e*PcP PcP 00 08 06.0 -1.1
SKHT *e*sP sP 00 08 18.8 -8.0
SKHT *e*S S 00 15 48.1 -5.0
SKHT *e*SS SS 00 20 05.1 +1.8
KURK Kurchatov 63.94 319 P P 00 07 34.9 +1.0
KURK Kurchatov 63.94 319 *e*P P 00 07 34.3 +0.4
KURK pmax pmax
comp=Z,463nm,1.2s
KURK Kurchatov 63.94 319 P P 00 07 34.4 +0.4
SNR=145
KURK Kurchatov 63.94 319 *e*P P 00 07 34.3 +0.4
comp=Z,463nm,1.2s
HYBB Hyderabad (bro 64.05 282 *e*P P 00 07 35.0 -0.3
HYBB *e*PcP PcP 00 08 08.5 -0.8
HYBB *e*S S 00 16 02.7 +3.2
HYBB *e* 00 16 55.6
HYBB *e* 00 18 11.7
NDI New Delhi 64.10 295 *ex* P 00 07 35.0 -0.4
PPLA Purkeypile 64.28 27 *e*P P 00 07 36.4 +0.3
comp=Z,272nm,1.8s
CAST Castle Rocks 64.49 26 *e*P P 00 07 37.4 0.0
comp=Z,46nm,0.7s
IM04 Indian Mountai 64.67 23 *e*P P 00 07 37.9 -0.6
SEW Seward 64.76 30 *e*P P 00 07 39.0 -0.1
comp=Z,104nm,0.8s
ULHL Ulahol 64.78 310 P P 00 07 42.2 +2.3
SNR=9.1
RC01 Rabbit Creek A 64.87 29 *e*P P 00 07 39.1 -0.7
comp=Z,86nm,0.7s
KSH Kashi 64.90 307 P P 00 07 43.7 +3.1
KSH PcP PcP 00 08 15.3 +2.8
KSH pP pP 00 08 21.9 +3.5
KSH sP sP 00 08 39.4 +3.7
KSH PP PP 00 10 10.3 +5.0
KSH ScP 00 12 01.0
KSH PcS 00 12 17.8
KSH S S 00 16 10.9 +1.3
KSH PMZ
comp=Z,48nm,1.2s
KSH PMZ
comp=Z,200nm,2.7s
KSH LN
comp=Z,99nm,4.5s
KSH LE
comp=Z,91nm,6.0s
KSH LZ
comp=Z,150nm,13.5s
KTH Kantishna Hill 65.03 26 *e*P P 00 07 40.1 -0.8
comp=Z,136nm,1.3s
TRF Thorofare Moun 65.27 26 *e*P P 00 07 41.6 -1.0
comp=Z,304nm,1.9s
PMR Palmer 65.28 29 *e*P P 00 07 41.9 -0.5
PMR pmax pmax
comp=Z,55nm,0.7s
PMR Palmer 65.28 29 *e*P P 00 07 41.9 -0.5
comp=Z,55nm,0.7s
TKM2 Tokmak 2 65.29 311 P P 00 07 43.9 +0.8
SNR=42
TKM2 Tokmak 2 65.29 311 *e*P P 00 07 43.3 +0.2
TKM2 pmax pmax
comp=Z,30nm,0.8s
TKM2 Tokmak 2 65.29 311 *e*P P 00 07 43.3 +0.2
comp=Z,30nm,0.8s
KZA Kyzart 65.51 310 P P 00 07 46.4 +1.5
SNR=52
URV Uravakonda 65.67 280 *e*P P 00 07 44.6 -1.1
URV *e*PcP PcP 00 08 16.0 0.0
URV *e*S S 00 16 19.2 -0.2
URV *e*SKSac SKSac 00 17 24.4 -2.2
KBK Karagaybulak 65.75 310 P P 00 07 48.3 +2.2
SNR=38
CHMS Chumysh 65.91 311 P P 00 07 48.8 +1.9
SNR=16

MCK McKinley 65.93 26 *e*P P 00 07 46.2 -0.4
MCK pmax pmax
comp=Z,122nm,1.6s
MCK McKinley 65.93 26 *e*P P 00 07 46.2 -0.4
comp=Z,122nm,1.6s
FRU Bishkek 66.00 310 ⇑*i*P P 00 07 48.0 +0.5
FRU *e* 00 08 16.0
FRU pmax pmax
comp=Z,150nm,2.0s
UCH Uchtor 66.06 310 P P 00 07 49.4 +1.0
SNR=71
AAK Ala-Archa 66.09 310 P P 00 07 49.8 +1.6
comp=Z,129nm,0.6s,SNR=10
AAK Ala-Archa 66.09 310 P P 00 07 50.2 +2.0
SNR=21
AAK Ala-Archa 66.09 310 *d*/P P 00 07 46.3 -1.9
AAK pmax pmax
comp=Z,111nm,1.7s
AAK Ala-Archa 66.09 310 P P 00 07 48.9 +0.7
SNR=23
AAK Ala-Archa 66.09 310 *e*P P 00 07 48.5 +0.3
comp=Z,18nm,0.8s
USP Ospenovka 66.10 311 P P 00 07 48.6 +0.5
SNR=28
COLD Coldfoot 66.44 22 *e*P P 00 07 50.0 +0.2
comp=Z,152nm,1.6s
EKS2 Erkin-Say 66.62 310 P P 00 07 52.9 +1.3
SNR=30
EKS2 Erkin-Say 66.62 310 *e*P P 00 07 51.4 -0.1
EKS2 pmax pmax
comp=Z,45nm,1.3s
EKS2 Erkin-Say 66.62 310 *e*P P 00 07 51.4 -0.1
comp=Z,45nm,1.3s
AML Almayashu 66.67 310 P P 00 07 53.3 +1.1
SNR=45
COLA College 66.69 25 *d*/P P 00 07 50.2 -1.1
COLA College 66.69 25 *e*P P 00 07 50.4 -0.9
comp=Z,29nm,0.7s
DIV Divide 66.75 29 *e*P P 00 07 51.8 -0.1
comp=Z,658nm,2.4s
ILAR Eielson Array 67.06 25 P P 00 07 52.2 -1.5
comp=Z,22nm,0.5s,baz=249,slow=5.9,SNR=395
ILAR LR LR 00 36 34.1
comp=Z,68nm,20.1s,baz=266,slow=35
ILB Eielson Array 67.06 25 *e*P P 00 07 52.2 -1.5
RAGM Ragged Mountai 67.14 30 *e*P P 00 07 54.7 +0.3
comp=Z,46nm,0.9s
PAX Paxson 67.27 28 *e*P P 00 07 54.7 -0.5
PAX pmax pmax
comp=Z,197nm,1.7s
PAX Paxson 67.27 28 *e*P P 00 07 54.7 -0.5
comp=Z,197nm,1.7s
BMRM Bremner River 67.28 30 *e*P P 00 07 55.4 +0.2
comp=Z,199nm,1.5s
DOT Dot Lake 68.03 27 *e*P P 00 07 59.4 -0.4
comp=Z,39nm,0.6s
KK31 Karatay Array 69.02 311 *i*P P 00 08 07.0 +0.6
KK31 pmax pmax
comp=N,34nm,0.6s
KKAR Karatay Array 69.02 311 *e*P P 00 08 06.4 0.0
KKAR Karatay Array 69.02 311 *e*P P 00 08 06.4 0.0
BVA0 Borovoye Array 69.23 321 *i*P P 00 08 07.5 0.0
BVA0 pmax pmax
comp=N,137nm,1.0s
BVAR Borovoye Array 69.23 321 P P 00 08 08.3 +0.8
comp=N,72nm,0.6s,baz=103,slow=7.6,SNR=456
BVAR S S 00 17 01.8 +1.1
comp=N,7.1nm,1.1s,baz=97,slow=6.0,SNR=16
BVAR LR LR 00 38 40.5
comp=N,206nm,21.0s,baz=99,slow=36
BRVK Borovoye 69.30 321 P P 00 08 08.3 +0.4
comp=N,760nm,0.9s
BRVK Borovoye 69.30 321 *d*/P P 00 08 08.1 +0.2
BRVK pmax pmax
comp=Z,200nm,1.2s
BRVK Borovoye 69.30 321 P P 00 08 08.5 +0.6
SNR=58
BRVK Borovoye 69.30 321 *e*P P 00 08 08.0 +0.1
comp=Z,144nm,1.0s
EGAK Eagle 69.47 26 *e*P P 00 08 08.5 -0.2
comp=Z,154nm,1.6s
DAWY Dawson 70.13 27 *e*P P 00 08 13.1 +0.2
DZET Dzherino 70.47 306 P P 00 08 15.8 +0.3
DZET pmax pmax
comp=Z,91nm,0.6s
KBL Kabul 70.63 302 *e*P P 00 08 16.6 -0.1
KBL pmax pmax
comp=Z,62nm,1.2s
KBL Kabul 70.63 302 *e*P P 00 08 16.6 -0.1
comp=Z,62nm,1.2s
HYT Haines Junctio 70.71 30 *e*P P 00 08 17.2 +0.7
PPT Papeete 71.71 115 P P 00 08 26.3 +3.2
comp=Z,36nm,0.7s,baz=349,slow=5.5,SNR=6.5
PPT LR LR 00 34 15.0
comp=Z,270nm,20.0s,baz=316,slow=31
PPT Papeete 71.71 115 *e*P P 00 08 24.5 +1.4
PPT Papeete 71.71 115 *e*P P 00 08 24.5 +1.4
PPT2 Papeete2 71.72 115 *e*P P 00 08 26.0 +2.8
comp=Z,41nm,1.0s
PPT2 *e*S S 00 17 26.6 -4.1
comp=Z,128nm,24.8s
PPT2 Papeete2 71.72 115 *e*LR LR 00 30 03.3
comp=Z,1μm,34.8s
SKAG Skagway 71.73 32 *e*P P 00 08 22.3 -0.1
PAE Paea 71.75 115 *e*P P 00 08 25.9 +2.7
comp=Z,4.1nm,0.7s
TIAR Tiarei 71.91 114 *e*P P 00 08 27.2 +2.9
comp=Z,8.4nm,0.8s
TVO Taravao 72.08 115 *e*P P 00 08 28.1 +2.8
comp=Z,13nm,0.7s
PMOR Pomariorio Ree 72.25 111 *e*P P 00 08 29.4 +3.1
comp=Z,137nm,1.2s
VAH Vaihoa 72.58 112 *e*P P 00 08 30.8 +2.6
comp=Z,29nm,0.9s
VAH *e*pP pP 00 09 08.8 +2.0
comp=Z,53nm,0.9s
INK Inuvik 72.86 23 P P 00 08 28.6 -0.4
comp=Z,18nm,0.6s,baz=280,slow=5.7,SNR=44
WRAK Wrangell Islan 73.33 35 *e*P P 00 08 32.9 +0.9
comp=Z,53nm,0.8s
TBI Tubuai 74.11 120 *e*LR LR 00 31 18.5
comp=Z,507nm,32.2s
DLBC Dease Lake 74.49 33 P P 00 08 40.2 +1.3
comp=Z,56nm,0.7s,baz=282,slow=4.8,SNR=115
DLBC Dease Lake 74.49 33 *e*P P 00 08 39.3 +0.4
SVE Sverdlovsk 74.81 325 *c*/P P 00 08 41.0 +0.4
SVE pmax pmax
comp=Z,152nm,1.3s
AB31 Akbulak array 75.94 318 P P 00 08 46.9 -0.3
AB31 pmax pmax
comp=Z,27nm,0.6s
ABKAR Akbulak array 75.94 318 *e*P P 00 08 46.9 -0.2
ARU Arti 75.99 325 P P 00 08 47.8 +0.5
comp=Z,625nm,0.7s,SNR=44
ARU Arti 75.99 325 *d*/P P 00 08 47.1 -0.2
ARU *PP pP 00 09 22.0 -4.2
ARU *SP sP 00 09 36.4 -6.8
ARU 00 11 36.3
ARU PPP PPP 00 13 24.7
ARU S S 00 18 16.9 -0.2
ARU pmax pmax
comp=Z,181nm,1.7s
ARU Arti 75.99 325 *e*P P 00 08 47.1 -0.2
comp=Z,76nm,0.8s
SOKR Solikamsk 76.58 328 *d*/P P 00 08 50.6 +0.1
SOKR pmax pmax
comp=Z,80nm,1.1s
AKTO Aktyubinsk 77.03 319 S S 00 18 29.5 +0.8
comp=Z,0.4nm,0.4s,baz=199,slow=18,SNR=4.9
IMYA Miami 77.64 305 *e*P P 00 08 58.5 +1.3
IMOG Moghan 78.29 304 *e*P P 00 09 03.3 +2.4
IPAY Payeh 78.50 305 *e*P P 00 09 03.8 +1.7
IAKL Akhelmad 78.67 305 *e*P P 00 09 04.2 +1.2
IKRD Kardeh 78.83 305 *e*P P 00 09 01.0 -2.8
GEYT Alibeck 78.93 306 P P 00 09 04.8 +0.6
comp=Z,28nm,0.8s,baz=45,slow=2.3,SNR=72
GEYT LR LR 00 45 50.4
comp=Z,101nm,21.3s,baz=100,slow=37
ISFR Sfrayin 79.18 306 *e*P P 00 09 06.6 +0.8
NLWA Neilton Lookou 79.56 44 *e*P P 00 09 08.7 +1.4
comp=Z,106nm,0.9s
PGC Sidney 79.60 42 *e*P P 00 09 08.2 +0.8
comp=Z,1μm,0.8s
E03A Lebam 79.92 45 *e*P P 00 09 10.6 +1.4
comp=Z,140nm,0.8s
F03A Seaside 80.05 45 *e*P P 00 09 11.2 +1.3

comp=Z,192nm,0.8s
KEBM Edson Butte 80.09 48 *e*P P 00 09 10.3 0.0
comp=Z,112nm,0.9s
G03D McMinnville, O 80.39 46 ⇓P P 00 09 13.3 +1.6
baz=80,SNR=5.3
A05A Maple Falls 80.42 42 *e*P P 00 09 12.1 +0.2
comp=Z,86nm,1.2s
COR Corvallis 80.49 46 *e*P P 00 09 13.8 +1.5
COR pmax pmax
comp=Z,70nm,0.8s
COR Corvallis 80.49 46 *e*P P 00 09 13.8 +1.5
comp=Z,70nm,0.8s
I03D Drain, OR 80.64 47 ⇓P P 00 09 14.6 +1.5
baz=81,SNR=16
L02D Cave Junction, 80.76 49 ⇓P P 00 09 15.3 +1.4
baz=81,SNR=9.7
F04A Amboy 80.83 45 *e*P P 00 09 14.0 0.0
comp=Z,93nm,0.9s
D05A Enumclaw 80.86 44 *e*P P 00 09 15.1 +0.9
comp=Z,92nm,0.9s
B06A Marblemount 80.91 42 *e*P P 00 09 14.2 -0.2
comp=Z,88nm,1.2s
KHMM Horse Mountain 80.93 50 *e*P P 00 09 15.4 +0.4
comp=Z,81nm,0.7s
LON Longmire 81.07 44 *e*P P 00 09 16.0 +0.6
LON pmax pmax
comp=Z,36nm,1.3s
LON Longmire 81.07 44 *e*P P 00 09 16.0 +0.6
comp=Z,36nm,1.3s
KMRM Mail Ridge 81.08 51 *e*P P 00 09 16.0 +0.3
comp=Z,62nm,0.9s
HUMO Hull Mountain 81.14 48 *e*P P 00 09 16.8 +0.9
comp=Z,43nm,0.8s
H04A Detroit Lake 81.25 46 *e*P P 00 09 16.6 +0.2
comp=Z,79nm,0.9s
WBK Wadi Bani Khal 81.25 291 P P 00 09 18.0 +1.2
SNR=6.6
KCPM Cahto Peak 81.29 51 *e*P P 00 09 17.6 +0.8
comp=Z,67nm,0.7s
KIPM Iron Peak 81.34 51 *e*P P 00 09 17.4 +0.3
YKA Yellowknife Ar 81.36 28 P P 00 09 16.2 -0.3
comp=Z,15nm,0.5s,baz=286,slow=5.2,SNR=404
YKB5 Yellowknife Ar 81.36 28 *e*P P 00 09 16.2 -0.3
M02C Callahan 81.47 50 ⇑P P 00 09 19.6 +1.9
baz=82,SNR=24
YBH Yreka Blue Hor 81.50 49 P P 00 09 19.7 +1.8
comp=Z,63nm,0.8s,baz=341,slow=3.1,SNR=132
YBH Yreka Blue Hor 81.50 49 *e*P P 00 09 19.2 +1.3
YBH pmax pmax
comp=Z,62nm,0.8s
YBH Yreka Blue Hor 81.50 49 *e*P P 00 09 19.2 +1.3
comp=Z,62nm,0.8s
PRGR Permogore 81.58 332 ⇓*i*P P 00 09 17.4 -0.3
PRGR pmax pmax
comp=Z,81nm,0.6s
J04D Umpqua Nationa 81.61 48 ⇓P P 00 09 20.1 +1.5
baz=82,SNR=15
N02D Trinity Center 81.67 50 ⇑P P 00 09 20.8 +2.0
baz=82,SNR=23
G05D Wamic, OR 81.73 45 ⇓P P 00 09 20.1 +1.2
baz=82
ALE Alert 81.82 4 P P 00 09 18.6 -0.1
comp=Z,275nm,0.9s,SNR=13
HOPS Hopland Field 81.83 52 *e*P P 00 09 19.8 +0.3
comp=Z,117nm,2.5s
WDC Whiskeytown Da 81.88 50 *e*P P 00 09 20.1 +0.3
WDC pmax pmax
comp=Z,33nm,0.8s
WDC Whiskeytown Da 81.88 50 *e*P P 00 09 20.1 +0.3
comp=Z,33nm,0.8s
I05D Terrebonne, OR 81.92 46 ⇓P P 00 09 21.3 +1.4
baz=82,SNR=10.0
SMDO Samad 81.98 292 P P 00 09 21.9 +1.2
SNR=6.7
K04D Chiloquin, OR 82.00 48 ⇓P P 00 09 21.7 +1.2
baz=82,SNR=13
JMDO Jabal Madar 82.08 291 P P 00 09 21.5 +0.4
SNR=6.5
M04C Macdoel 82.13 49 ⇑P P 00 09 22.8 +1.6
baz=82,SNR=38
G06A Carlson Farm, 82.20 45 *e*P P 00 09 21.2 -0.2
J05D Fort Rock, OR 82.23 47 ⇑P P 00 09 23.1 +1.4
baz=82,SNR=12
IBAF Bafgh 82.26 301 *e*P P 00 09 22.4 +0.3
B08A Colville Reser 82.34 42 *e*P P 00 09 21.9 -0.1
comp=Z,89nm,0.8s
IBND Bandar-abas 82.34 296 *e*P P 00 09 24.1 +1.8
E07A Sunnyside 82.42 44 *e*P P 00 09 23.5 +1.1
comp=Z,51nm,0.9s
HOQ Hoqain 82.53 292 P P 00 09 23.8 +0.3
SNR=24
IGLO Ghaloghah 82.57 306 *e*P P 00 09 24.3 +0.6
K05A Summer Lake 82.60 48 *e*P P 00 09 24.5 +0.8
comp=Z,142nm,1.0s
HAWA Hanford 82.68 44 *e*P P 00 09 24.4 +0.6
comp=Z,42nm,0.9s
SPA0 Spitsbergen Ar 82.79 351 *e*P P 00 09 23.3 -0.4
SPITS Spitsbergen Ar 82.79 351 P P 00 09 23.3 -0.4
comp=Z,25nm,0.9s,baz=88,slow=5.3,SNR=21
BSY Bisya 82.81 292 P P 00 09 25.6 +0.7
SNR=9.5
D08A Wollman Farm, 82.92 43 *e*P P 00 09 25.1 +0.1
comp=Z,75nm,1.2s
RES Resolute Bay 83.07 13 P P 00 09 24.8 -0.4
comp=Z,19nm,0.7s,baz=331,slow=3.2,SNR=117
ICHK Chekchek 83.07 301 *e*P P 00 09 26.9 +0.5
IMEH Mehriz 83.10 301 *e*P P 00 09 26.5 -0.1
C09A Chrisman Ranch 83.17 42 *e*P P 00 09 26.4 +0.2
comp=Z,41nm,0.7s
I07A Izee 83.26 46 *e*P P 00 09 26.7 -0.3
comp=Z,35nm,1.1s
ARQ Araqi 83.29 292 P P 00 09 28.6 +1.2
SNR=6.6
HATD Hatta, Dubai 83.29 294 ⇑*i*P P 00 09 27.9 +0.5
SNR=5.3
G08A Pilot Rock 83.34 45 *e*P P 00 09 27.7 +0.4
comp=Z,28nm,0.9s
ASHO Ashiyiah 83.39 294 P P 00 09 28.6 +0.6
SNR=7.2
ASHO Ashiyiah 83.39 294 ⇓*i*P P 00 09 28.1 +0.2
SNR=12
IALA Alasht 83.47 305 *e*P P 00 09 29.5 +1.0
E09A Wood Farm, Sta 83.58 44 *e*P P 00 09 28.0 -0.4
comp=Z,46nm,0.8s
SAO San Andreas Ge 83.58 54 *e*P P 00 09 28.1 -0.5
SAO pmax pmax
comp=Z,11nm,1.0s
SAO San Andreas Ge 83.58 54 *e*P P 00 09 28.1 -0.5
comp=Z,11nm,1.0s
IFIR Firoozkooh 83.62 305 *e*P P 00 09 30.0 +0.8
NAZ Nazwa, Dubai 83.67 294 ⇑*i*P P 00 09 29.7 +0.5
SNR=6.0
ISAD Sadrabad 83.74 301 *e*P P 00 09 29.2 -0.7
NEW Newport 83.79 42 P P 00 09 30.4 +0.9
comp=Z,52nm,0.6s,baz=287,slow=4.3,SNR=118
NEW Newport 83.79 42 *e*P P 00 09 29.8 +0.3
NEW pmax pmax
comp=Z,55nm,0.6s
NEW Newport 83.79 42 *e*P P 00 09 29.8 +0.3
comp=Z,55nm,0.6s
NEW Newport 83.79 42 ⇓P P 00 09 30.2 +0.7
baz=84
IPRN Peran 83.80 306 *e*P P 00 09 30.3 +0.4
LVZ Lovozero 83.83 339 *i*P P 00 09 27.4 -1.9
LVZ pmax pmax
comp=Z,39nm,1.2s
ASUD Al Ashush, Dub 84.05 294 ⇑*i*P P 00 09 31.7 +0.5
SNR=7.2
TMCR Tamitsa 84.05 335 *e*P P 00 09 29.3 -1.1
TMCR pmax pmax
comp=Z,87nm,0.7s
CMB Columbia Colle 84.10 52 *e*P P 00 09 31.3 0.0
CMB pmax pmax
comp=Z,47nm,0.8s
CMB Columbia Colle 84.10 52 *e*P P 00 09 31.3 0.0
comp=Z,47nm,0.8s
IDMV Damavand 84.20 305 *e*P P 00 09 32.6 +0.4
WVOR Wild Horse Val 84.28 48 *e*P P 00 09 31.7 -0.5
WVOR pmax pmax
comp=Z,51nm,0.8s
WVOR Wild Horse Val 84.28 48 *e*P P 00 09 31.7 -0.5
comp=Z,51nm,0.8s
F10A Beach Ranch, E 84.33 44 *e*P P 00 09 32.5 +0.2
comp=Z,20nm,0.9s
APA Apatity 84.40 339 ⇑*i*P P 00 09 31.0 -1.1
APA pmax pmax
comp=Z,40nm,0.8s
APA MLR MLR
comp=Z,300nm,19.0s
BMO Blue Mountains 84.58 45 *e*P P 00 09 34.3 +0.6
comp=Z,106nm,1.1s
IVRN Varamin 84.59 305 *e*P P 00 09 34.9 +1.0
IZEF Zefreh 84.62 302 *e*P P 00 09 34.2 -0.1
KLMR Klimovskoe 84.63 332 *e*P P 00 09 32.0 -1.4
KLMR pmax pmax
comp=Z,129nm,1.3s
EDM Edmonton 84.67 36 *e*P P 00 09 33.8 -0.1
EDM Edmonton 84.67 36 *e*P P 00 09 33.8 -0.1
WAKR Walker 84.70 52 *e*P P 00 09 34.9 +0.4
ISRV Sarvestan 84.83 299 *e*P P 00 09 35.3 -0.1
SMMC Simmler 85.08 55 ⇑P P 00 09 37.9 +1.6
baz=85
CASY Casey 85.09 193 *e*P P 00 09 34.8 -0.5
comp=Z,29nm,1.3s
IKLH Kolahrood 85.13 303 *e*P P 00 09 37.0 +0.2
MLAC Mammoth, Mammo 85.39 52 ⇑P P 00 09 39.2 +1.2
baz=85
KEV Kevo 85.40 342 *e*P P 00 09 36.1 -0.9
KEV pmax pmax
comp=Z,68nm,1.3s
KEV Kevo 85.40 342 *e*P P 00 09 36.1 -0.9
comp=Z,68nm,1.3s
BSMT Bassoo Peak 85.41 42 *e*P P 00 09 38.7 +0.8
RCTC Rector, Farmer 85.42 54 ⇓P P 00 09 39.0 +1.2
baz=85
SBC Santa Barbara 85.53 56 ⇓P P 00 09 38.7 +0.3
baz=86
NV01 Mina Array Sit 85.58 52 *e*P P 00 09 40.4 +1.5
NVAR Mina Array Bea 85.58 52 P P 00 09 40.4 +1.4
comp=Z,50nm,0.7s,baz=267,slow=5.9,SNR=128
WALA Waterton Lakes 85.61 40 *e*P P 00 09 39.2 +0.6
comp=Z,6μm,1.6s
BLMT Blacktail Moun 85.64 42 *e*P P 00 09 39.4 +0.4
VES Vestal, Richgr 85.66 54 ⇓P P 00 09 39.5 +0.5
baz=86,SNR=12
BSC Santa Cruz Isl 85.71 56 ⇓P P 00 09 39.7 +0.4
baz=86
JTMT Jette 85.77 42 *e*P P 00 09 39.1 -0.4
IKAZ Kazeroun 85.80 300 *e*P P 00 09 40.5 +0.2
BMN Battle Mountai 85.84 49 *e*P P 00 09 40.9 +0.8
BMN pmax pmax
comp=Z,37nm,0.9s
BMN Battle Mountai 85.84 49 *e*P P 00 09 40.9 +0.8
comp=Z,37nm,0.9s
IPIR Pirpir 85.85 303 *e*P P 00 09 39.0 -1.5
YBMT Yellow Bay 85.91 42 *e*P P 00 09 40.7 +0.5
IRAZ Razeghan 85.91 305 *e*P P 00 09 39.8 -0.8
ARA0 ARCESS Array S 85.96 342 *e*P P 00 09 39.2 -0.7
ARCES ARCESS Array B 85.96 342 P P 00 09 39.2 -0.7
comp=Z,16nm,0.5s,baz=69,slow=6.5,SNR=138
ARCES LR LR 00 50 14.2
comp=Z,92nm,21.2s,baz=60,slow=37
MFID Camas Ranch 86.00 46 *e*P P 00 09 41.3 +0.5
comp=Z,144nm,1.0s
TIN Tinemaha, Big 86.01 53 ⇑P P 00 09 41.3 +0.4
baz=86
SWMT Swartz Lake 86.02 42 *e*P P 00 09 40.3 -0.4
ARVC Arvin 86.05 55 ⇑P P 00 09 42.0 +1.0
baz=86
BLG Laguna Peak, P 86.14 56 ⇓P P 00 09 42.7 +1.2
baz=86
ISA Isabella, Lake 86.19 54 *e*P P 00 09 41.8 0.0
ISA pmax pmax
comp=Z,16nm,1.0s
ISA Isabella, Lake 86.19 54 *e*P P 00 09 41.8 0.0
comp=Z,16nm,1.0s
ISA Isabella, Lake 86.19 54 ⇓P P 00 09 42.2 +0.5
baz=86,SNR=9.4
MSO Missoula 86.27 43 *e*P P 00 09 40.8 -1.2
comp=Z,30nm,1.3s
MSO Missoula 86.27 43 ⇑P P 00 09 42.5 +0.5
baz=86
OSI Osito Audit: C 86.27 55 *e*P P 00 09 42.5 +0.4
comp=Z,7.2nm,0.8s
OSI Osito Audit: C 86.27 55 ⇓P P 00 09 43.3 +1.1
baz=86
SLMT Seeley Lake 86.43 42 *e*P P 00 09 42.2 -0.6
RKT Rikitea 86.47 115 *e*LR LR 00 36 56.2
comp=Z,478nm,34.8s
TPH Tonopah 86.50 52 *e*P P 00 09 43.3 -0.1
TPH pmax pmax
comp=Z,46nm,0.8s
TPH Tonopah 86.50 52 *e*P P 00 09 43.3 -0.1
comp=Z,46nm,0.8s
GRAC Grapevine Rang 86.68 53 ⇓P P 00 09 45.6 +1.5
baz=87,SNR=6.7
DECC Green Verdugo 86.68 56 ⇑P P 00 09 45.6 +1.5
baz=87,SNR=7.0
CHMT Chamberlain Mo 86.69 42 *e*P P 00 09 43.5 -0.7
DAC Darwin (Calif) 86.71 53 *e*P P 00 09 45.0 +0.6
DAC pmax pmax
comp=Z,31nm,1.1s
DAC Darwin (Calif) 86.71 53 *e*P P 00 09 45.0 +0.6
comp=Z,31nm,1.1s
EDW2 Edwards Air Fo 86.78 55 ⇑P P 00 09 46.1 +1.4
baz=87,SNR=14
RBK Rabkut 86.80 287 P P 00 09 44.8 -0.2
SNR=10.0
PASC Pasadena Art C 86.82 56 *e*P P 00 09 45.3 +0.6
comp=Z,26nm,0.8s
MPMC Manual Prospec 86.85 54 ⇑P P 00 09 46.2 +1.1
baz=87,SNR=40
CIS Catalina Islan 86.85 56 ⇓P P 00 09 46.3 +1.3
baz=87
FMP Fort Macarthur 86.86 56 ⇓P P 00 09 46.4 +1.5
baz=87
MWC Mount Wilson 86.91 56 *e*P P 00 09 44.7 -0.8
MWC Mount Wilson 86.91 56 *e*P P 00 09 44.6 -0.8
HLID Hailey 86.94 46 *e*P P 00 09 46.0 +0.6
comp=Z,84nm,1.0s
HLID Hailey 86.94 46 ⇑P P 00 09 47.0 +1.6
baz=87
ELK Elko 87.20 49 *e*P P 00 09 47.3 +0.5
ELK pmax pmax
comp=Z,83nm,0.8s
ELK Elko 87.20 49 *e*P P 00 09 47.3 +0.5
comp=Z,82nm,0.8s
BFSC Mount Baldy Ra 87.22 55 ⇑P P 00 09 48.0 +1.2
baz=87
FURC Furnace Creek, 87.22 53 ⇑P P 00 09 48.8 +2.2
baz=87,SNR=16
IHRS Heris 87.33 309 *e*P P 00 09 46.5 -0.9
MOS Moscow 87.48 327 *e*P P 00 09 44.5 -2.9
MOS *e* 00 10 30.1
MOS *e* 00 13 13.9
MOS pmax pmax
comp=Z,64nm,1.3s
MOS pmax pmax
comp=Z,100nm,1.5s
TPNV Topopah Spring 87.56 53 *e*P P 00 09 49.3 +0.8
TPNV pmax pmax
comp=Z,61nm,0.8s
TPNV Topopah Spring 87.56 53 *e*P P 00 09 49.3 +0.8
comp=Z,60nm,0.8s
TPNV Topopah Spring 87.56 53 ⇓P P 00 09 50.1 +1.6
baz=88,SNR=63
LRM Limekiln Ridge 87.56 43 *e*P P 00 09 48.4 0.0
RRX Edison Barstow 87.56 55 ⇓P P 00 09 50.2 +1.9
baz=88
GSC Goldstone, Bar 87.60 54 *e*P P 00 09 48.8 +0.2
GSC pmax pmax
comp=Z,51nm,0.9s
GSC Goldstone, Bar 87.60 54 *e*P P 00 09 48.8 +0.2
comp=Z,51nm,0.9s
GSC Goldstone, Bar 87.60 54 ⇓P P 00 09 50.2 +1.6
baz=88,SNR=30
DLMT Dillon 87.62 44 *e*P P 00 09 48.8 +0.3
comp=Z,57nm,1.4s
MCMT McKenzie Canyo 87.62 44 *e*P P 00 09 49.0 +0.3
R11A Troy Canyon, C 87.65 51 *e*P P 00 09 48.3 -0.6
comp=Z,44nm,1.2s
R11A Troy Canyon, C 87.65 51 ⇓P P 00 09 50.5 +1.6
baz=88,SNR=56
ABTO Aybut 87.68 287 P P 00 09 48.9 -0.3
SNR=7.7
HRY Holter Researc 87.68 42 *e*P P 00 09 49.1 +0.3
MURC Murrieta 87.77 56 ⇑P P 00 09 50.9 +1.5
baz=88
SHOC Shoshone, Teco 87.84 54 ⇑P P 00 09 51.2 +1.6
baz=88,SNR=15
TBLG Delisi 87.99 313 P P 00 09 49.2 -1.0
109C Camp Elliot, M 88.04 57 ⇑P P 00 09 51.6 +1.0
baz=88,SNR=9.4
GOF Gofitskoye 88.09 316 ⇓*i*P P 00 09 50.0 -0.6
GOF pmax pmax
comp=Z,35nm,1.4s
HEC Hector,Ludlow 88.11 55 ⇓P P 00 09 52.4 +1.4
baz=88,SNR=17
BOZ Bozeman (W) 88.17 43 *e*P P 00 09 51.0 -0.1
BOZ pmax pmax
comp=Z,26nm,1.1s
BOZ Bozeman (W) 88.17 43 *e*P P 00 09 51.0 -0.1
comp=Z,26nm,1.1s
TUQ Turquoise Moun 88.25 54 ⇓P P 00 09 53.4 +1.6
baz=88,SNR=14
OBN Obninsk 88.28 327 P P 00 09 49.2 -2.0
comp=Z,247nm,1.3s,SNR=5.1
OBN Obninsk 88.28 327 P P 00 09 49.8 -1.4
comp=Z,32nm,1.0s,baz=68,slow=14,SNR=17
OBN Obninsk 88.28 327 ⇓*i*P P 00 09 49.3 -2.0
OBN *e* 00 13 19.1
OBN *i*S **SKSac** 00 20 05.6 +0.6
OBN *i*SS **SS** 00 26 15.2 +0.4
OBN pmax pmax
comp=Z,97nm,1.7s
OBN MLR MLR
comp=Z,165nm,21.0s
OBN Obninsk 88.28 327 *e*P P 00 09 49.5 -1.7
comp=Z,66nm,1.2s
PFO Pinyon Flats O 88.36 56 P P 00 09 53.2 +0.9
comp=Z,178nm,0.9s,SNR=12
PFO Pinyon Flats O 88.36 56 *e*P P 00 09 52.8 +0.5
PFO pmax pmax
comp=Z,36nm,1.0s
PFO Pinyon Flats O 88.36 56 *e*P P 00 09 52.8 +0.5
comp=Z,36nm,1.0s
PFO Pinyon Flats O 88.36 56 ⇓P P 00 09 53.1 +0.8
baz=88,SNR=14
BAR Barrett 88.45 57 *e*P P 00 09 53.0 +0.4
comp=Z,6.5nm,0.8s
GNI Garni 88.48 311 *i*P P 00 09 51.8 -1.0
GNI pmax pmax
comp=Z,51nm,1.7s
GNI Garni 88.48 311 P P 00 09 53.1 +0.4
SNR=11
GNI Garni 88.48 311 ⇓*i*P P 00 09 53.0 +0.2
SNR=10
GNI Garni 88.48 311 *e*P P 00 09 51.8 -1.0
comp=Z,58nm,1.5s
SHPR Sheep Range 88.52 53 *e*P P 00 09 54.1 +1.0
QLMT Earthquake Lak 88.57 44 *e*P P 00 09 54.2 +1.1
MONP Monument Peak, 88.59 56 ⇓P P 00 09 54.9 +1.4
baz=89,SNR=21
BELC Belle Mtn. Jos 88.61 55 ⇓P P 00 09 54.5 +1.0
baz=89,SNR=28
ONI Oni 88.62 314 P P 00 09 52.4 -0.8
KBZ Khabaz 88.63 315 P P 00 09 52.1 -1.0
comp=Z,14nm,0.9s,baz=236,slow=24,SNR=31
KBZ LR LR 00 53 50.9
comp=Z,82nm,19.8s,baz=116,slow=38
GMRC Granite Mounta 88.65 54 ⇑P P 00 09 54.8 +1.2
baz=89,SNR=42
HVU Hansel Valley 88.65 47 *e*P P 00 09 54.4 +0.9
HVU pmax pmax
comp=Z,66nm,1.0s
HVU Hansel Valley 88.65 47 *e*P P 00 09 54.4 +0.9
comp=Z,66nm,1.0s
KIV Kislovodsk 88.70 315 P P 00 09 52.5 -1.1
comp=Z,143nm,0.8s,SNR=9.9
KIV Kislovodsk 88.70 315 ⇓*i*P P 00 09 52.1 -1.5
KIV *e* 00 13 24.6
KIV *i*S **SKSac** 00 20 09.8 +1.6
KIV *i*SS **SS** 00 26 22.3 +0.6
KIV pmax pmax
comp=Z,31nm,1.2s
KIV Kislovodsk 88.70 315 P P 00 09 52.9 -0.7
SNR=11
KIV Kislovodsk 88.70 315 ⇓*i*P P 00 09 52.7 -0.9
SNR=5.2
KIV Kislovodsk 88.70 315 *e*P P 00 09 52.0 -1.5
comp=Z,21nm,0.9s
BGU Big Grassy Mou 88.74 48 *e*P P 00 09 54.4 +0.4
comp=Z,59nm,1.0s
A19A Klindworth Far 88.86 39 ⇑P P 00 09 55.3 +1.1
baz=89,SNR=11
IDHR Dehrash 88.89 306 *e*P P 00 09 52.2 -2.6
B19A Brinkman Farms 88.91 40 ⇑P P 00 09 55.4 +1.0
baz=89,SNR=6.2
IBP Imperial Bould 88.92 57 ⇓P P 00 09 56.1 +1.2
baz=89,SNR=5.6
YMR Madison River 88.94 44 *e*P P 00 09 56.2 +1.4
comp=Z,83nm,1.2s
AKH Akhalkalaki 88.97 313 P P 00 09 55.4 +0.4
LDFC Landfair 88.99 54 *e*P P 00 09 56.2 +1.0
comp=Z,162nm,0.7s
SWSC Sam W. Stewart 89.08 56 ⇑P P 00 09 57.3 +1.8
baz=89,SNR=9.0
YFT Old Faithful 89.10 44 *e*P P 00 09 56.2 +0.6
comp=Z,88nm,1.4s
C19A Slack Wire Ran 89.10 41 ⇑P P 00 09 56.6 +1.2
baz=89,SNR=7.7
YNR Norris Junctio 89.11 44 *e*P P 00 09 57.8 +2.0
comp=Z,81nm,1.3s
DUG Dugway, Tooele 89.13 49 *e*P P 00 09 55.7 -0.1
DUG pmax pmax
comp=Z,65nm,0.8s
DUG Dugway, Tooele 89.13 49 *e*P P 00 09 55.6 -0.1
comp=Z,65nm,0.8s
DUG Dugway, Tooele 89.13 49 ⇑P P 00 09 57.4 +1.6
baz=89,SNR=90
BC3 Big Chuckawall 89.14 55 ⇓P P 00 09 58.0 +2.0
baz=89,SNR=38
IMW Indian Meadow 89.22 45 *e*P P 00 09 57.1 +0.8
comp=Z,75nm,1.4s
IRM Iron Mountain 89.23 55 ⇓P P 00 09 58.2 +2.0
baz=89,SNR=39
PUL Pulkovo 89.24 333 ⇑*e*P P 00 09 54.2 -1.4
PUL pmax pmax
comp=Z,58nm,0.7s
FXWY Fox Creek 89.25 45 *e*P P 00 09 57.4 +1.0
comp=Z,54nm,1.4s
H17A Grant Village 89.29 44 *e*P P 00 09 58.8 +2.2
comp=Z,37nm,1.0s
FLWY Flagg Ranch 89.32 44 *e*P P 00 09 58.2 +1.6
comp=Z,124nm,1.4s
TPAW Teton Pass 89.35 45 *e*P P 00 09 57.0 +0.1
comp=Z,57nm,1.4s
A20A Cobblestone Ra 89.38 39 ⇓P P 00 09 57.3 +0.7
baz=89
MOOW Moose Ponds 89.40 45 *e*P P 00 09 57.6 +0.5
comp=Z,26nm,1.0s
GCMT Greycliff 89.41 43 *e*P P 00 09 54.0 -2.9
D19A Cripps Ranch, 89.42 41 ⇑P P 00 09 57.9 +1.0
baz=89,SNR=7.0
I17A Pilgrim Ck. 89.46 45 ⇓P P 00 09 59.3 +1.9
baz=89
REDW Red Top Meadow 89.46 45 *e*P P 00 09 56.6 -0.8
comp=Z,116nm,2.0s
B20A Solberg Farm, 89.48 40 ⇑P P 00 09 58.4 +1.3
baz=89
KULLO Kullorsuaq 89.49 6 ⇓*i*P P 00 09 55.4 -1.1
comp=Z,29nm,1.1s
SNOW Snow King Moun 89.49 45 *e*P P 00 09 57.9 +0.3
comp=Z,45nm,1.5s
AHID Auburn Hatcher 89.50 46 *e*P P 00 09 58.2 +0.7
comp=Z,103nm,1.3s
CHVG Ch'k'valeri 89.53 314 P P 00 09 56.8 -0.6
LOHW Long Hollow 89.55 45 *e*P P 00 09 57.8 0.0
comp=Z,48nm,1.5s
HWUT Hardware Ranch 89.56 47 *e*P P 00 09 57.8 0.0
comp=Z,83nm,1.1s
CTU Camp Tracy 89.73 48 *e*P P 00 09 59.5 +0.8
comp=Z,46nm,1.0s
E19A Rath Farm, Rou 89.73 42 ⇓P P 00 09 59.4 +1.0
baz=90,SNR=8.4
NLU North Lily Min 89.75 49 *e*P P 00 09 59.2 +0.5
comp=Z,38nm,1.0s
C20A Veseth Ranch, 89.77 40 ⇓P P 00 09 59.7 +1.2
baz=90,SNR=6.4
H18A Shoshone NF, C 89.81 44 ⇓P P 00 10 00.6 +1.6
baz=90
GLA Glamis 89.83 56 *e*P P 00 10 00.8 +1.8
GLA pmax pmax
comp=Z,63nm,0.8s
GLA Glamis 89.83 56 *e*P P 00 10 00.8 +1.8
comp=Z,63nm,0.8s
GLA Glamis 89.83 56 ⇓P P 00 10 00.9 +1.9
baz=90,SNR=18
Y12C Blythe 89.85 55 ⇓P P 00 10 01.2 +2.1
baz=90,SNR=36

F19A Roth Farm, Mol 89.86 42 ⇑P P 00 09 59.5 +0.6
baz=90
RLMT Red Lodge 89.91 43 eP P 00 09 60.0 +0.6
D20A Manuel Ranch, 89.92 41 ⇑P P 00 10 00.4 +1.2
baz=90,SNR=11
W13A Hualapai Mount 89.94 54 ⇓P P 00 10 01.0 +1.2
baz=90
A21A Bergtoll Ranch 89.94 39 ⇑P P 00 09 59.9 +0.7
baz=90
JLU Jordanelle 89.98 48 eP P 00 09 60.0 +0.1
comp=Z,75nm,1.1s
PDMCI Parker Dam,Lak 89.99 55 ⇓P P 00 10 00.7 +1.0
baz=90,SNR=24
MPU Maple Canyon 90.05 48 eP P 00 10 00.8 +0.7
comp=Z,68nm,1.3s
B21A Ellsworth Farm 90.11 39 ⇓P P 00 10 00.9 +0.9
baz=90
MVU Marysvale 90.12 50 eP P 00 10 01.3 +0.7
comp=Z,25nm,1.0s
E20A Meyer Farm, Mu 90.14 42 ⇑P P 00 10 01.1 +0.8
baz=90
MSU Marysvale 90.15 50 eP P 00 10 01.1 +0.4
MSU Marysvale 90.15 50 eP P 00 10 01.1 +0.4
KNB Kanab 90.15 52 eP P 00 10 01.7 +1.0
KNB pmax pmax
comp=Z,66nm,0.9s
KNB Kanab 90.15 52 eP P 00 10 01.7 +1.0
comp=Z,66nm,0.9s
FIA0 FINESS Array S 90.17 335 eP P 00 09 58.2 -1.8
FIA0 FINESS Array S 90.17 335 eP P 00 09 58.2 -1.8
FINES FINESS Array B 90.17 335 P P 00 09 58.2 -1.8
comp=Z,22nm,0.4s,baz=90,slow=4.5,SNR=297
FINES PKKP PKKPbc 00 27 29.7 -1.5
comp=Z,3.4nm,1.1s,baz=250,slow=5.7,SNR=4.9
FINES LR LR 00 52 25.6
comp=Z,119nm,20.0s,baz=46,slow=37
H19A Powell 90.26 43 ⇓P P 00 10 01.8 +0.9
baz=90,SNR=6.1
C21A Desert Coulee 90.29 40 ⇑P P 00 10 01.8 +0.9
baz=90
FFC Flin Flon 90.32 32 eP P 00 10 00.5 -0.3
FFC pmax pmax
comp=Z,72nm,1.9s
FFC Flin Flon 90.32 32 eP P 00 10 00.5 -0.3
comp=Z,72nm,1.9s
F20A Billings 90.39 42 ⇑P P 00 10 02.0 +0.5
baz=90
I19A Meeteetse 90.48 44 ⇓P P 00 10 02.6 +0.5
baz=90
A22A Carney Farms, 90.55 39 ⇑P P 00 10 03.0 +0.8
baz=90
BW06 Boulder Array 90.56 45 eP P 00 10 02.2 -0.3
comp=Z,43nm,1.7s
PD31 Pinedale Array 90.56 45 eP P 00 10 03.0 +0.4
PDAR Pinedale Array 90.56 45 P P 00 10 03.0 +0.4
comp=Z,7.3nm,0.6s,baz=282,slow=1.2,SNR=73
G20A Bridger 90.56 43 ⇓P P 00 10 03.5 +1.2
baz=90,SNR=12
TMUT Trail Mountain 90.60 49 eP P 00 10 03.0 +0.2
comp=Z,26nm,1.1s
D21A La Casta Ranch 90.65 41 ⇓P P 00 10 03.5 +0.9
baz=91
J19A Crowheart 90.72 45 ⇓P P 00 10 04.6 +1.4
baz=91,SNR=51
U15A North Rim 90.74 52 ⇓P P 00 10 04.9 +1.3
baz=91,SNR=37
113A Mohawk Valley, 90.76 56 ⇓P P 00 10 04.7 +1.4
baz=91,SNR=14
B22A Reddig Ranch S 90.78 39 ⇓P P 00 10 04.0 +0.8
baz=91
E21A Keefer Ranch, 90.80 41 ⇓P P 00 10 04.2 +0.9
baz=91
SOC Sochi 90.84 316 eP P 00 10 02.0 -1.5
SOC e 00 13 39.3
SOC ePPP PPP 00 15 35.7
SOC eS SKSac 00 20 17.9 -2.6
SOC eSS SS 00 26 50.7 -1.8
SOC pmax pmax
comp=Z,16nm,0.6s
H20A Greybull 90.98 43 ⇓P P 00 10 05.1 +0.8
baz=91,SNR=12
Y14A Wickenburg 91.00 55 ⇑P P 00 10 06.0 +1.5
baz=91,SNR=28
F21A Absaloka Mine, 91.05 42 ⇓P P 00 10 05.5 +1.0
baz=91
I20A Worland 91.10 44 ⇑P P 00 10 06.0 +1.1
baz=91,SNR=15
D22A Cohagen 91.13 40 ⇓P P 00 10 05.7 +0.9
baz=91
SRU San Rafael Swe 91.16 49 eP P 00 10 06.3 +1.0
SRU pmax pmax
comp=Z,36nm,0.7s
SRU San Rafael Swe 91.16 49 eP P 00 10 06.2 +1.0
comp=Z,36nm,0.7s
A23A Redstone 91.19 38 ⇑P P 00 10 05.8 +0.7
baz=91
G21A Lodge Grass 91.22 42 ⇓P P 00 10 06.2 +0.8
baz=91,SNR=8.2
LAO LASA Array 91.28 41 eP P 00 10 05.3 -0.2
comp=Z,66nm,1.2s
B23A Brockton 91.33 39 ⇑P P 00 10 06.5 +0.8
baz=91
J20A Shoshoni 91.35 44 ⇓P P 00 10 07.0 +1.0
baz=91,SNR=15
C23A Lambert 91.48 40 ⇓P P 00 10 07.2 +0.8
baz=91,SNR=15
VSU Vasula 91.50 333 iP P 00 10 04.2 -1.9
E22A Miles City 91.56 41 ⇑P P 00 10 07.6 +0.8
baz=92
H21A Big Horn, Sher 91.56 43 ⇓P P 00 10 08.5 +1.5
baz=92,SNR=10
F22A Rosebud 91.62 42 ⇓P P 00 10 07.9 +0.7
baz=92,SNR=6.6
I21A Big Trails, Te 91.71 44 ⇓P P 00 10 08.8 +1.1
baz=92,SNR=26
D23A Lindsay 91.72 40 ⇓P P 00 10 08.8 +1.2
baz=92,SNR=12
A24A Westby 91.73 38 ⇑P P 00 10 08.1 +0.6
baz=92
WUAZ Wupatki 91.75 53 eP P 00 10 07.4 -0.6
comp=Z,46nm,0.8s
WUAZ Wupatki 91.75 53 ⇑P P 00 10 08.3 +0.2
baz=92,SNR=13
J21A Lysite 91.78 44 ⇑P P 00 10 09.5 +1.4
baz=92,SNR=26
214A Organ Pipe Nat 91.78 56 ⇓P P 00 10 10.1 +1.9
baz=92,SNR=31
DGMT Dagmar 91.81 39 ⇑P P 00 10 09.0 +1.1
baz=92
G22A Birney 91.82 42 ⇓P P 00 10 09.2 +1.1
baz=92,SNR=7.2
E23A Ismay 91.94 41 ⇑P P 00 10 09.8 +1.2
baz=92
H22A Clearmont 92.03 43 ⇑P P 00 10 10.3 +1.2
baz=92,SNR=7.9
FCC Fort Churchill 92.05 27 eP P 00 10 07.7 -1.0
FCC pmax pmax
comp=Z,461nm,1.0s
FCC Fort Churchill 92.05 27 eP P 00 10 07.7 -1.0
comp=Z,461nm,1.0s
C24A Savage 92.06 40 ⇑P P 00 10 10.7 +1.6
baz=92,SNR=5.6
X16A Lo Mia Camp, P 92.06 54 ⇓P P 00 10 10.2 +0.6
baz=92,SNR=14
N20A Spence Gulch, 92.16 47 ⇑P P 00 10 10.8 +0.9
baz=92,SNR=26
K21A Alcova 92.19 45 ⇑P P 00 10 11.3 +1.3
baz=92,SNR=40
F23A Volborg 92.19 41 ⇑P P 00 10 10.5 +0.7
baz=92,SNR=6.8
I22A 9 Mile Ranch, 92.22 43 ⇑P P 00 10 11.2 +1.2
baz=92,SNR=9.7
A25A Swangstu Ranch 92.25 38 ⇓P P 00 10 10.9 +1.0
baz=92
D24A Glendive 92.30 40 ⇓P P 00 10 11.3 +1.1
baz=92
PV09 Paradox Valley 92.39 49 eP P 00 10 11.6 +0.4
J22A Midwest 92.41 44 ⇓P P 00 10 11.7 +0.8
baz=92,SNR=15
G23A Biddle 92.41 42 ⇓P P 00 10 11.8 +1.0
baz=92,SNR=11
O20A White River Ci 92.44 47 eP P 00 10 10.9 -0.3
comp=Z,47nm,1.0s
O20A White River Ci 92.44 47 ⇑P P 00 10 12.3 +1.1
baz=92,SNR=25
PV10 Paradox Valley 92.50 49 eP P 00 10 11.5 -0.2
B25A Knox Farm, Ray 92.51 39 ⇓P P 00 10 12.4 +1.2
baz=92
E24A Baker 92.54 40 ⇑P P 00 10 12.2 +0.8
baz=92
PV05 Paradox Valley 92.57 50 eP P 00 10 11.9 0.0
SUMG Summit 92.62 1 ⇓iP P 00 10 10.7 -0.9
comp=Z,8.6nm,0.9s
SUMG Summit 92.62 1 ⇓iP P 00 10 10.7 -0.9
SUMG pmax pmax
comp=Z,9.0nm,0.9s
SUMG Summit 92.62 1 eP P 00 10 09.8 -1.8
comp=Z,189nm,2.9s
H23A Clabaugh Cattl 92.66 43 ⇓P P 00 10 12.6 +0.5
baz=93
C25A Freed Ranch, W 92.70 39 ⇑P P 00 10 12.6 +0.6
baz=93
F24A Ekalaka 92.75 41 ⇑P P 00 10 13.1 +0.7
baz=93
VNDA Vanda 92.80 176 P P 00 10 13.2 +1.5
comp=Z,7.8nm,0.9s,baz=317,slow=5.3,SNR=26
VNDA Vanda 92.80 176 eP P 00 10 12.5 +0.9
VNDA pmax pmax
comp=Z,10.0nm,0.9s
VNDA Vanda 92.80 176 eP P 00 10 12.5 +0.9
comp=Z,9.6nm,0.9s
D25A Fairfield 92.90 40 ⇓P P 00 10 13.7 +0.7
baz=93
A26A Wade Farm, Ken 92.91 38 ⇓P P 00 10 13.5 +0.6
baz=93
PV01 Paradox Valley 92.94 49 eP P 00 10 13.8 +0.2
L22A Ellis Ranch, M 92.98 45 ⇓P P 00 10 14.6 +0.9
baz=93,SNR=8.4
G24A Alzada 92.99 42 ⇑P P 00 10 13.9 +0.4
baz=93
RAYN Ar Rayn 92.99 295 P P 00 10 12.5 -1.4
comp=Z,39nm,1.2s,SNR=6.4
RAYN Ar Rayn 92.99 295 eP P 00 10 12.0 -1.9
comp=Z,8.8nm,0.8s
B26A Jensen Ranch, 93.02 38 ⇑P P 00 10 14.0 +0.5
baz=93
J23A Dilts Ranch, B 93.03 44 ⇓P P 00 10 14.1 +0.3
baz=93
M22A Cedar Creek Ra 93.11 46 ⇓P P 00 10 15.3 +0.9
baz=93,SNR=22
E25A Miller Ranch, 93.13 40 ⇑P P 00 10 14.4 +0.3
baz=93
H24A Dirks Ranch, A 93.14 42 ⇓P P 00 10 14.8 +0.5
baz=93,SNR=8.8
W18A Petrified Fore 93.14 53 eP P 00 10 15.4 +0.9
comp=Z,21nm,0.7s
W18A Petrified Fore 93.14 53 ⇓P P 00 10 15.4 +0.9
baz=93
X18A Snowflake 93.18 53 ⇑P P 00 10 15.4 +0.6
baz=93,SNR=9.4
K23A Bowen Ranch, D 93.24 44 ⇓P P 00 10 15.4 +0.6
baz=93,SNR=11
TUC Tucson 93.29 55 eP P 00 10 14.9 -0.3
TUC pmax pmax
comp=Z,19nm,0.9s
TUC Tucson 93.29 55 eP P 00 10 14.8 -0.3
comp=Z,19nm,0.9s
MVCO Mesa Verde 93.33 50 eP P 00 10 14.9 -0.5
comp=Z,23nm,1.1s
MVCO Mesa Verde 93.33 50 ⇑P P 00 10 16.4 +0.9
baz=93,SNR=7.7
F25A Bowman 93.34 41 ⇑P P 00 10 15.4 +0.3
baz=93
A27A Ledoux Ranch, 93.35 37 ⇓P P 00 10 15.6 +0.6
baz=93
C26A Wahner Farm, P 93.35 39 ⇓P P 00 10 15.8 +0.7
baz=93
N22A Wattenberg Ran 93.44 46 ⇑P P 00 10 16.5 +0.6
baz=93,SNR=17
SBA Scott Base 93.45 176 eP P 00 10 16.5 +1.9
SBA pmax pmax
comp=Z,151nm,2.8s
SBA Scott Base 93.45 176 eP P 00 10 16.5 +1.9
comp=Z,151nm,2.8s
L23A Garrett 93.45 45 ⇑P P 00 10 16.8 +0.9
baz=93,SNR=14
I24A Kuemmerle Ranc 93.46 43 ⇑P P 00 10 16.0 +0.3
baz=93,SNR=10
D26A Manning 93.50 39 ⇑P P 00 10 16.0 +0.3
baz=93
B27A Pete Farms, 93.59 38 ⇑P P 00 10 16.9 +0.8
baz=94
O22A Kremmling 93.63 47 ⇓P P 00 10 17.6 +0.7
baz=94,SNR=22
J24A Dixon Ranch, L 93.65 43 ⇑P P 00 10 17.4 +0.8
baz=94
M23A Laramie 93.69 45 ⇑P P 00 10 17.4 +0.4
baz=94,SNR=18
P22A Eagle 93.70 48 ⇓P P 00 10 17.9 +0.8
baz=94,SNR=32
SMCO Snowmass 93.70 48 eP P 00 10 16.1 -1.2
comp=Z,31nm,1.0s
MALT Malatya 93.71 311 ⇓iP P 00 10 17.2 +0.2
E26A Carlson Angus 93.73 40 ⇑P P 00 10 17.7 +0.9
baz=94
RSSD Black Hills 93.74 43 eP P 00 10 16.3 -0.8
RSSD pmax pmax
comp=Z,74nm,1.6s
RSSD Black Hills 93.74 43 eP P 00 10 16.3 -0.8
comp=Z,74nm,1.6s
N23A Red Feather La 93.77 46 eP P 00 10 18.2 +0.8
comp=Z,105nm,1.4s
N23A Red Feather La 93.77 46 ⇑P P 00 10 18.1 +0.8
baz=94,SNR=35
H25A Fruitdale 93.81 42 ⇓P P 00 10 18.4 +1.1
baz=94
F26A Lodgepole 93.87 41 ⇑P P 00 10 18.2 +0.7
baz=94
PHWY Pilot Hill 93.94 46 eP P 00 10 16.8 -1.5
comp=Z,34nm,1.4s
A28A Rude Farm, Bot 93.94 37 ⇓P P 00 10 18.6 +0.9
baz=94
I25A Rochford 93.98 43 ⇑P P 00 10 18.4 +0.2
baz=94,SNR=18
L24A Wheatland 94.00 45 ⇑P P 00 10 18.8 +0.5
baz=94
D27A Center 94.02 39 ⇓P P 00 10 18.8 +0.6
baz=94
O23A Lake Granby, G 94.05 47 ⇑P P 00 10 19.4 +0.7
baz=94,SNR=9.4
B28A Dugan Ranch, T 94.10 38 ⇓P P 00 10 18.9 +0.5
baz=94
G26A Maurine 94.16 41 ⇓P P 00 10 19.5 +0.7
baz=94,SNR=9.2
J25A Sunshine Ranch 94.20 43 ⇑P P 00 10 19.8 +0.7
baz=94
AKASG Malin Array Be 94.24 325 P P 00 10 15.9 -3.1
comp=Z,0.9nm,0.5s,baz=49,slow=4.5,SNR=9.0
AKASG LR LR 00 54 14.2
comp=Z,94nm,20.0s,baz=60,slow=36
AKBB Malin Array Si 94.24 325 eP P 00 10 15.9 -3.1
AKBB Malin Array Si 94.24 325 eP P 00 10 15.9 -3.1
KIEV Kiev 94.25 325 eP P 00 10 16.9 -2.1
E27A Carson 94.30 40 ⇑P P 00 10 20.4 +1.0
baz=94,SNR=8.8
M24A Cheyenne 94.31 45 ⇓P P 00 10 20.2 +0.4
baz=94,SNR=5.1
S22A 4UR Ranch, Cre 94.36 49 eP P 00 10 20.2 -0.1
comp=Z,15nm,1.0s
S22A 4UR Ranch, Cre 94.36 49 ⇓P P 00 10 20.7 +0.5
baz=94,SNR=16
C28A Hausauer Farms 94.43 38 ⇓P P 00 10 20.5 +0.5
baz=94
ISCO Idaho Springs 94.43 47 eP P 00 10 19.7 -0.8
ISCO pmax pmax
comp=Z,25nm,1.6s
ISCO Idaho Springs 94.43 47 eP P 00 10 19.7 -0.8
comp=Z,25nm,1.6s
ISCO Idaho Springs 94.43 47 ⇓P P 00 10 21.0 +0.5
baz=94,SNR=11
P23A Jefferson 94.44 47 ⇓P P 00 10 20.9 +0.3
baz=94,SNR=10
K25A Mack Ranch, Ha 94.48 44 ⇓P P 00 10 21.1 +0.6
baz=94
N24A Carr 94.53 46 ⇑P P 00 10 21.4 +0.7
baz=94,SNR=5.5
A29A Manning Farm, 94.54 37 ⇑P P 00 10 20.7 +0.3
baz=94,SNR=7.4
I26A New Underwood 94.54 42 ⇑P P 00 10 21.2 +0.6
baz=94
G27A Dupree 94.55 41 ⇑P P 00 10 21.1 +0.6
baz=94,SNR=8.4
D28A Regan 94.56 39 ⇑P P 00 10 21.7 +1.1
baz=94
L25A Engebretsen Ra 94.61 44 ⇑P P 00 10 22.0 +0.9
baz=94
Q23A Hartsel 94.63 48 ⇑P P 00 10 22.1 +0.7
baz=95,SNR=9.0
O24A Longmont 94.68 47 ⇑P P 00 10 22.4 +0.9
baz=95
B29A Wagenman Farm, 94.69 37 ⇓P P 00 10 21.6 +0.5
baz=95
E28A Huff 94.77 39 ⇑P P 00 10 22.4 +0.8
baz=95
H27A Howes 94.78 41 ⇓P P 00 10 21.6 0.0
baz=95
319A Douglas 94.81 56 ⇑P P 00 10 22.9 +0.7
baz=95
MDND Maddock 94.83 38 ⇓P P 00 10 22.5 +0.7
baz=95
K26A Motz Farm, Whi 94.91 44 ⇓P P 00 10 23.2 +0.9
baz=95
R23A Moffat 94.92 49 ⇓P P 00 10 23.4 +0.6
baz=95
F28A McLaughlin 95.04 40 ⇑P P 00 10 23.7 +0.8
baz=95
I27A Quinn 95.05 42 ⇓P P 00 10 23.8 +0.9
baz=95
A30A Hoffart Farm, 95.06 36 ⇑P P 00 10 23.5 +0.7
baz=95,SNR=12
Q24A Divide 95.09 48 eP P 00 10 22.9 -0.7
comp=Z,4.9nm,0.8s
Q24A Divide 95.09 48 ⇑P P 00 10 24.2 +0.7
baz=95
D29A Pettibone, Tap 95.21 39 ⇑P P 00 10 24.3 +0.8
baz=95
B30A Myrvik Farm, E 95.29 37 ⇓P P 00 10 24.1 +0.3
baz=95,SNR=10.0
SDCO Great Sand Dun 95.33 49 ⇑P P 00 10 24.8 +0.1
baz=95,SNR=6.8
O25A Wiggins 95.35 46 ⇓P P 00 10 25.2 +0.7
baz=95
LAZ Ladron 95.39 52 eP P 00 10 25.8 +0.9
E29A Napoleon 95.42 39 ⇓P P 00 10 24.6 +0.1
baz=95
R24A Sanders Place, 95.42 48 ⇑P P 00 10 25.8 +0.8
baz=95
H28A Mission Ridge 95.44 41 ⇓P P 00 10 25.2 +0.5
baz=95
J27A Elkhorn Farm, 95.44 43 ⇓P P 00 10 25.3 +0.5
baz=95
K27A Flueckinger Fa 95.53 43 ⇑P P 00 10 25.7 +0.5
baz=96
C30A Mose, Pekin 95.57 38 ⇑P P 00 10 25.4 +0.3
baz=96
P25A Willow Gulch B 95.57 47 ⇑P P 00 10 26.3 +0.7
baz=96
121A Cookes Peak, D 95.58 54 ⇑P P 00 10 25.8 0.0
baz=96
F29A Eureka 95.65 40 ⇑P P 00 10 25.4 -0.2
baz=96
I28A Midland 95.65 42 ⇑P P 00 10 25.5 -0.1
baz=96
D30A Buchanan 95.69 38 ⇓P P 00 10 25.8 +0.1
baz=96
ANMO Albuquerque 95.71 52 iP P 00 10 26.6 +0.3
ANMO pmax pmax
comp=Z,42nm,1.7s
ANMO Albuquerque 95.71 52 eP P 00 10 25.0 -1.3
comp=Z,6.4nm,1.0s
HFS Hagfors 95.75 338 P P 00 10 24.1 -1.6
comp=Z,5.3nm,0.5s,baz=90,slow=4.7,SNR=55
Q25A Bedland, Calha 95.76 47 ⇓P P 00 10 27.0 +0.5
baz=96,SNR=7.6
ULM Lac du Bonnet 95.76 34 P P 00 10 25.5 -0.4
comp=Z,3.9nm,0.7s,baz=269,slow=3.9,SNR=7.4
ULM Lac du Bonnet 95.76 34 eP P 00 10 24.7 -1.2
ULM pmax pmax
comp=Z,5.0nm,0.9s
ULM Lac du Bonnet 95.76 34 eP P 00 10 24.7 -1.2
comp=Z,5.2nm,0.9s
O26A Horse Wrangler 95.86 46 ⇓P P 00 10 27.1 +0.3
baz=96
E30A Jud 95.89 39 ⇑P P 00 10 27.6 +0.9
baz=96
M27A Reverse DX Ran 95.94 44 ⇑P P 00 10 26.7 -0.4
baz=96
NB2 NORSAR Subarra 95.98 339 P P 00 10 25.1 -1.7
comp=Z,3.3nm,0.6s,baz=45,slow=5.1
NB200 NORSAR Array S 95.98 339 eP P 00 10 24.8 -1.9
NOA NORSAR Array B 95.98 339 P P 00 10 24.8 -1.9
comp=Z,2.5nm,0.7s,baz=53,slow=6.6,SNR=15
NOA LR LR 00 56 48.5
comp=Z,64nm,20.5s,baz=55,slow=37
P26A Davis Ranch, A 96.12 46 ⇓P P 00 10 28.4 +0.3
baz=96
N27A Anderson Farm, 96.15 45 ⇓P P 00 10 28.6 +0.5
baz=96
Q26A Hugo 96.27 47 ⇓P P 00 10 29.1 +0.4
baz=96
T25A Trinidad 96.37 49 eP P 00 10 28.0 -1.3
comp=Z,11nm,1.0s
T25A Trinidad 96.37 49 ⇓P P 00 10 29.6 +0.3
baz=96,SNR=6.2
J29A Okreek 96.47 42 ⇑P P 00 10 30.1 +0.8
baz=96
BR101 Keskin Array S 96.56 314 eP P 00 10 28.6 -1.3
BR101 ePP PP 00 14 29.2 +3.4
BRTR Keskin Array B 96.56 314 P P 00 10 28.6 -1.3
comp=Z,9.1nm,0.9s,baz=83,slow=3.9,SNR=56
BRTR PP PP 00 14 29.2 +3.4
comp=Z,2.3nm,1.1s,baz=77,slow=5.5,SNR=4.1
BRTR PKKP PKKPdf 00 27 14.9 +0.4
comp=Z,0.5nm,0.6s,baz=196,slow=4.3,SNR=5.1
R26A Arlington 96.58 48 ⇓P P 00 10 30.4 +0.3
baz=96,SNR=9.1
K29A Lazy Trails An 96.77 43 ⇓P P 00 10 30.7 -0.1
baz=97
AGMN Agassiz Nation 96.78 36 ⇓P P 00 10 30.9 +0.3
baz=97
I30A Oacoma 96.81 41 ⇑P P 00 10 31.1 +0.3
baz=97
S26A Kim 96.85 48 ⇓P P 00 10 31.8 +0.5
baz=97
KSCO Kaye Shedlock' 96.86 47 eP P 00 10 31.0 -0.3
comp=Z,24nm,1.1s
KSCO Kaye Shedlock' 96.86 47 ⇓P P 00 10 31.5 +0.1
baz=97
N28A Pribbeno Ranch 96.89 45 ⇑P P 00 10 32.2 +0.9
baz=97
T26A Comanche Natio 96.95 49 ⇓P P 00 10 32.5 +0.6
baz=97
J30A Dallas 97.04 42 ⇑P P 00 10 31.9 -0.1
baz=97
R27A Eads 97.05 47 ⇑P Pdif 00 10 32.4 +0.2
baz=97
ANTO Ankara 97.08 314 eP P 00 10 29.6 -2.7
ANTO pmax pmax
comp=Z,12nm,1.0s
ANTO Ankara 97.08 314 P P 00 10 31.8 -0.5
SNR=5.3
ANTO Ankara 97.08 314 eP P 00 10 29.6 -2.7
comp=Z,12nm,1.0s
K30A Basset 97.27 42 ⇑P Pdif 00 10 33.8 +0.8
baz=97
Q28A Sharon Springs 97.40 46 ⇓P P 00 10 33.6 -0.1
baz=97
L30A Spencer Herefo 97.54 43 ⇑P Pdif 00 10 34.7 +0.4
baz=98
M30A Dale-Ortello V 97.63 44 ⇑P Pdif 00 10 35.4 +0.7
baz=98
T27A Campo 97.63 49 ⇓P Pdif 00 10 35.3 +0.4
baz=98
CFR Carcaliu 97.63 321 ⇓iP P 00 10 33.6 -0.9
O29A 4D Ranch, Culb 97.64 45 ⇓P Pdif 00 10 35.4 +0.6
baz=98
R28A Tribune 97.73 47 ⇑P Pdif 00 10 35.8 +0.6
baz=98
MNTX Cornudas Mount 97.79 54 ⇓P Pdif 00 10 36.4 +0.8
baz=98
U27A Thompson Grove 97.82 49 ⇓P P 00 10 35.1 -0.7
baz=98
TESR Tescani 97.84 322 ⇓iP P 00 10 34.5 -0.9
TLB Topalu 97.98 320 ⇑iP P 00 10 35.4 -0.7
S28A Manter 97.99 48 ⇓P Pdif 00 10 36.7 +0.2
baz=98
T28A Walsh 98.04 48 ⇓P Pdif 00 10 37.4 +0.7
baz=98
Q29A Oakley 98.07 46 ⇓P Pdif 00 10 36.9 +0.1
baz=98
BURAR Bucovina Array 98.09 324 ⇓iP P 00 10 35.6 -1.0
VRI Vrincioaia 98.13 322 ⇑iP P 00 10 35.9 -0.9
PLOR Plostina 98.19 322 ⇓iP P 00 10 36.5 -0.5

U28A	**Mallet**	**98.28**	**49**	⇓P	Pdif	00 10 38.5	+0.7
	baz=98						
P30A	**Selden**	**98.29**	**45**	⇑P	Pdif	00 10 38.1	+0.4
	baz=98						
S29A	**Ulysses**	**98.54**	**47**	⇑P	Pdif	00 10 39.3	+0.5
	baz=98						
ISR	**Istrita**	**98.63**	**321**	⇑*iP*	**P**	**00 10 37.9**	**-1.1**
ECSD	**EROS Data Cent**	**98.67**	**40**	*eP*	**P**	**00 10 38.4**	**-0.8**
	comp=Z,15nm,1.5s						
ECSD	**EROS Data Cent**	**98.67**	**40**	⇓P	Pdif	00 10 39.3	+0.1
	baz=99						
W28A	**Vega**	**98.77**	**50**	⇓P	**P**	**00 10 39.1**	**-0.9**
	baz=99						
MLR	**Muntele Rosu**	**98.80**	**322**	P	**P**	**00 10 38.6**	**-1.3**
	comp=Z,0.9nm,0.9s,baz=355,slow=12						
MLR	**Muntele Rosu**	**98.80**	**322**	⇑*iP*	**P**	**00 10 39.0**	**-0.9**
DOPR	**Dopca**	**98.87**	**322**	⇓*iP*	**P**	**00 10 39.2**	**-0.9**
P31A	**Stockton**	**98.89**	**45**	⇑P	Pdif	00 10 40.7	+0.4
	baz=99						
KOLS	**Kolonicke sedl**	**98.99**	**326**	*eP*	**P**	**00 10 39.5**	**-1.0**
SULR		**99.03**	**321**	⇑*iP*	**Pdif**	**00 10 40.2**	**-0.6**
STHS	**Stebnicka Huta**	**99.26**	**327**	*eP*	**Pdif**	**00 10 40.5**	**-1.2**
STHS				*e*		00 11 29.3	
STHS				pmax	pmax		
	comp=Z,4.0nm,1.5s						
AMTX	**Amarillo**	**99.32**	**50**	*e*Pdif	**Pdif**	**00 10 42.9**	**+0.4**
	comp=Z,11nm,1.0s						
AMTX	**Amarillo**	**99.32**	**50**	⇓P	**Pdif**	**00 10 42.8**	**+0.4**
	baz=99						
VOIR		**99.36**	**322**	⇑*iP*	**Pdif**	**00 10 41.3**	**-1.0**
CRVS	**Cervenica-Dubn**	**99.44**	**326**	*eP*	**Pdif**	**00 10 42.0**	**-0.6**
CRVS				*e*		00 11 27.9	
CRVS				pmax	pmax		
	comp=Z,7.0nm,1.3s						
Z28A	**Tucker Farm, M**	**99.46**	**52**	⇑P	**Pdif**	**00 10 43.0**	**-0.1**
	baz=99						
X29A	**Tulia**	**99.49**	**51**	⇓P	**Pdif**	**00 10 43.6**	**+0.4**
	baz=99						
CJR	**Cluj-Napoca**	**99.51**	**324**	⇑*iP*	**Pdif**	**00 10 41.8**	**-1.1**
OJC	**Ojcow**	**99.53**	**328**	*eP*	**Pdif**	**00 10 40.4**	**-2.5**
OJC				pmax	pmax		
	comp=Z,11nm,1.1s						
OJC	**Ojcow**	**99.53**	**328**	*e*Pdif	**Pdif**	**00 10 40.4**	**-2.5**
	comp=Z,11nm,1.1s						
ARR	**Arges**	**99.64**	**322**	⇓*iP*	**Pdif**	**00 10 42.7**	**-0.9**
128A	**Castleberry Fa**	**99.67**	**53**	⇑P	**Pdif**	**00 10 43.9**	**-0.1**
	baz=100						
Q32A	**Meitler Ranch,**	**99.70**	**45**	⇓P	**Pdif**	**00 10 44.0**	**+0.1**
	baz=100						
Y29A	**Porterfield Fa**	**99.76**	**51**	⇓P	**Pdif**	**00 10 44.4**	**0.0**
	baz=100						
228A	**UT Block 9, Go**	**99.79**	**53**	⇓P	**Pdif**	**00 10 44.8**	**+0.2**
	baz=100						
R32A	**Long Quarter,**	**99.86**	**46**	⇑P	**Pdif**	**00 10 45.2**	**+0.5**
	baz=100						
DRGR		**99.97**	**324**	⇑*iP*	**Pdif**	**00 10 44.0**	**-1.0**
Z29A	**Hungry Hill Ra**	**99.99**	**52**	⇓P	**Pdif**	**00 10 45.7**	**+0.2**
	baz=100						
LTX	**Lajitas**	**100.08**	**56**	*eP*	**Pdif**	**00 10 44.4**	**-1.5**
LTX	**Lajitas**	**100.08**	**56**	*e*Pdif	**Pdif**	**00 10 44.4**	**-1.5**
TXAR	**Lajitas Array**	**100.08**	**56**	P	**Pdif**	**00 10 44.4**	**-1.5**
	comp=Z,1.8nm,0.9s,baz=264,slow=4.5,SNR=11						
Q33A	**Connelly Farm,**	**100.20**	**45**	⇑P	**Pdif**	**00 10 46.4**	**+0.2**
	baz=100						
KECS	**Kecovo**	**100.22**	**326**	*eP*	**Pdif**	**00 10 45.8**	**-0.2**
KECS				pmax	pmax		
	comp=Z,2.0nm,0.9s						
V31A	**Spring Creek L**	**100.28**	**49**	⇓P	**Pdif**	**00 10 47.2**	**+0.6**
	baz=100						
T32A	**Huddler Ranch,**	**100.29**	**47**	⇑P	**Pdif**	**00 10 46.9**	**+0.3**
	baz=100						
Y30A	**Stafford Cattl**	**100.34**	**51**	⇑P	**Pdif**	**00 10 47.1**	**+0.1**
	baz=100						
Z30A	**Sanderson Ranc**	**100.42**	**51**	⇓P	**Pdif**	**00 10 47.4**	**+0.1**
	baz=100						
329A	**Wagon Wheel Ra**	**100.53**	**53**	⇑P	**Pdif**	**00 10 48.1**	**+0.3**
	baz=100						
OKC	**Ostrava-Krasne**	**100.61**	**328**	*es*P	pP	00 11 34.5	+6.5
OKC				AMS	AMS	00 56 50.0	
	comp=Z,100nm,15.1s						
U32A	**Winter Ranch,**	**100.61**	**48**	⇓P	**Pdif**	**00 10 48.1**	**+0.1**
	baz=100						
X31A	**McDonald Ranch**	**100.69**	**50**	⇑P	**Pdif**	**00 10 48.9**	**+0.5**
	baz=101						
S33A	**Kaszmaul Farm,**	**100.75**	**46**	⇑P	**Pdif**	**00 10 49.1**	**+0.5**
	baz=101						
Y31A	**Rekieta Farm,**	**100.78**	**50**	⇑P	**Pdif**	**00 10 49.1**	**+0.3**
	baz=101						
529A	**Stev Forest Ra**	**100.91**	**55**	⇑P	**Pdif**	**00 10 50.1**	**+0.6**
	baz=101						
429A	**Davenport Ranc**	**100.95**	**54**	⇓P	**Pdif**	**00 10 50.1**	**+0.3**
	baz=101						
KSU1	**Kansas State U**	**100.98**	**44**	⇓P	**Pdif**	**00 10 50.1**	**+0.6**
	baz=101						
W32A	**Sentinel**	**101.00**	**49**	⇑P	**Pdif**	**00 10 50.5**	**+0.7**
	baz=101						
VYHS	**Vyhne**	**101.08**	**327**	*eP*	**Pdif**	**00 10 49.2**	**-0.6**
VYHS				pmax	pmax		
	comp=Z,6.0nm,1.4s						
Z31A	**Sharp Cattle R**	**101.15**	**51**	⇓P	**Pdif**	**00 10 50.9**	**+0.4**
	baz=101						
330A	**Mertzon**	**101.19**	**53**	⇑P	**Pdif**	**00 10 51.0**	**+0.3**
	baz=101						
DPC	**Dobruska-Polom**	**101.19**	**330**	*e*PDIFF	**Pdif**	**00 10 52.3**	**+2.0**
DPC				*ex*	x	00 11 35.4	
DPC				*ex*	x	00 14 13.7	
DPC				*e*PP	**PP**	**00 14 56.6**	**-3.9**
DPC				AMS	AMS	00 58 50.0	
DPC	**Dobruska-Polom**	**101.19**	**330**	*i* P	**Pdif**	**00 10 52.3**	**+2.0**
DPC				*e*		00 14 56.6	
U33A	**Lingo Farm, Me**	**101.22**	**47**	⇓P	**Pdif**	**00 10 51.1**	**+0.3**
	baz=101						
UPC	**Upice**	**101.24**	**330**	*e*PDIFF	**Pdif**	**00 10 54.2**	**+3.7**
UPC				*ex*	x	00 11 35.3	
UPC	**Upice**	**101.24**	**330**	*i* P	**Pdif**	**00 10 54.2**	**+3.7**
131A	**Roby**	**101.24**	**52**	⇓P	**Pdif**	**00 10 51.6**	**+0.6**
	baz=101						
X32A	**Elmer**	**101.29**	**50**	⇑P	**Pdif**	**00 10 50.2**	**-0.9**
	baz=101						
S34A	**Willow Spring**	**101.32**	**46**	⇑P	**Pdif**	**00 10 51.5**	**+0.4**
	baz=101						
Y32A	**R-V Farms, Ver**	**101.37**	**50**	⇓P	**Pdif**	**00 10 52.1**	**+0.7**
	baz=101						
V33A	**Lossen Ranch,**	**101.38**	**48**	⇓P	**Pdif**	**00 10 52.1**	**+0.6**
	baz=101						
430A	**Baggett Ranch,**	**101.40**	**54**	⇑P	**Pdif**	**00 10 52.4**	**+0.7**
	baz=101						
WMOK	**Wichita Mounta**	**101.52**	**49**	*eP*	**Pdif**	**00 10 51.8**	**-0.3**
WMOK	**Wichita Mounta**	**101.52**	**49**	*e*Pdif	**Pdif**	**00 10 51.8**	**-0.3**
W33A	**Caddo, Fort Co**	**101.56**	**49**	⇑P	**Pdif**	**00 10 52.9**	**+0.6**
	baz=102						
530A	**J-C Ranch, Com**	**101.59**	**54**	⇓P	**Pdif**	**00 10 52.8**	**+0.2**
	baz=102						
231A	**Bronte**	**101.62**	**52**	⇑P	**Pdif**	**00 10 52.8**	**+0.2**
	baz=102						
U34A	**Anderson Ranch**	**101.63**	**47**	⇓P	**Pdif**	**00 10 53.2**	**+0.7**
	baz=102						
Z32A	**Haskell**	**101.65**	**51**	⇓P	**Pdif**	**00 10 53.5**	**+0.7**
	baz=102						
X33A	**Lawton**	**101.82**	**49**	⇓P	**Pdif**	**00 10 54.2**	**+0.8**
	baz=102						
ABTX	**Abilene, Hawle**	**101.83**	**51**	⇑P	**Pdif**	**00 10 53.6**	**+0.1**
	baz=102						
S35A	**Otter Creek Ra**	**101.88**	**46**	⇓P	**Pdif**	**00 10 53.8**	**+0.2**
	baz=102						
V34A	**Guthrie**	**101.92**	**48**	⇓P	**Pdif**	**00 10 54.2**	**+0.4**
	baz=102						
431A	**Sonora**	**101.94**	**54**	⇓P	**Pdif**	**00 10 54.1**	**+0.1**
	baz=102						
VTS	**Vitosha**	**102.02**	**320**	⇑*iP*	**Pdif**	**00 10 53.8**	**-0.5**
CLL	**Collm**	**102.12**	**332**	*e*pPdiff	**pPdif**	**00 11 39.9**	**+5.3**
CLL				*e*PP	**PP**	**00 15 07.2**	**-0.1**
CLL	**Collm**	**102.12**	**332**	*e*PcP	**pPdif**	**00 11 36.0**	**+1.4**
CLL				*i* pP	pPdif	00 11 39.8	+5.2
	comp=Z,10.0nm,1.0s						
CLL	**Collm**	**102.12**	**332**	*e*Pdif	**Pdif**	**00 10 53.0**	**-1.4**
CLL				*e*PP	**PP**	**00 15 06.0**	**-1.3**
CLL				*e*pPP		00 15 42.0	
CLL				*e*		00 20 52.0	
CLL				*e*Sdif	Sdif	00 22 22.0	-1.4
CLL				*e*SP	**SP**	**00 23 59.0**	**+2.4**
CLL				*e*SPP	SPP	00 24 50.0	
CLL				*e*		00 27 42.0	
CLL				*e*SS	**SS**	**00 29 30.0**	**-0.5**
CLL				*es*SS		00 30 25.0	
CLL				*e*SSS	SSS	00 33 24.0	
CLL				LmV		00 59 00.0	
	comp=Z,200nm,19.3s						
CLL	**Collm**	**102.12**	**332**	*e*P	**Pdif**	**00 10 53.0**	**-1.4**
CLL				*e*		00 15 06.0	
CLL				*e*S	**Sdif**	**00 22 20.0**	**-1.4**
232A	**Coleman**	**102.15**	**52**	⇑P	**Pdif**	**00 10 54.9**	**-0.1**
	baz=102						
531A	**Rocksprings**	**102.20**	**54**	⇑P	**Pdif**	**00 10 55.3**	**+0.1**
	baz=102						
GOPC	**GO Pecny, Ondr**	**102.22**	**330**	*es*P	pPdif	00 11 41.1	+6.0
MMB	**Musomiste**	**102.24**	**319**	⇓*i*P	**Pdif**	**00 10 54.7**	**-0.5**
TREC	**Trest**	**102.29**	**329**	AMS	AMS	01 01 40.0	
	comp=Z,200nm,23.3s						
PRA	**Prague**	**102.29**	**330**	*e*PDIFF	**Pdif**	**00 10 54.2**	**-0.9**
PRA				*es*P		00 11 42.1	
PRA	**Prague**	**102.29**	**330**	*i* P	**Pdif**	**00 10 54.2**	**-0.9**
PRU	**Pruhonice**	**102.29**	**330**	*e*PDIFF	**Pdif**	**00 10 53.5**	**-1.7**
PRU				*es*P		00 11 42.5	
PRU	**Pruhonice**	**102.29**	**330**	*i* P	**Pdif**	**00 10 53.5**	**-1.7**
332A	**Millersview**	**102.30**	**53**	⇓P	**Pdif**	**00 10 55.9**	**+0.2**
	baz=102						
R37A	**Teagarden Farm**	**102.58**	**44**	⇓P	**Pdif**	**00 10 56.9**	**+0.2**
	baz=102						
532A	**Rocksprings**	**102.72**	**54**	⇑P	**Pdif**	**00 10 58.1**	**+0.6**
	baz=103						
CLZ	**Clausthal**	**102.92**	**333**	*e*pPdiff	**pPdif**	**00 11 43.8**	**+5.6**
CLZ				*e*PP	**PP**	**00 15 13.7**	**+0.4**
TANN	**Tannenbergstha**	**102.99**	**331**	*e*PP	PP	00 15 14.5	+0.6
433A	**Art**	**103.08**	**53**	⇓P	**Pdif**	**00 10 59.5**	**+0.4**
	baz=103						
632A	**Uvalde**	**103.08**	**54**	⇓P	**Pdif**	**00 10 59.2**	**0.0**
	baz=103						
DIVS	**Divibare**	**103.09**	**323**	⇑*iP*	**Pdif**	**00 10 58.2**	**-0.8**
TUL1	**Lenard**	**103.11**	**47**	⇓P	**Pdif**	**00 10 59.5**	**+0.3**
	baz=103						
NKC	**Novy Kostel**	**103.12**	**331**	*es*P	**pPdif**	**00 11 45.7**	**+6.6**
NKC				*e*PP	**PP**	**00 15 12.3**	**-2.5**
W36A	**Wetumka**	**103.18**	**48**	⇓P	**Pdif**	**00 10 59.3**	**-0.2**
	baz=103						
MOX	**Moxa**	**103.22**	**332**	*e*pPdiff	pPdif	00 11 45.9	+6.4
Z35A	**Perchaven, San**	**103.30**	**50**	⇓P	**Pdif**	**00 11 00.4**	**+0.4**
	baz=103						
KHC	**Kasperske Hory**	**103.33**	**330**	*ex*	**pPdif**	**00 11 43.5**	**+3.4**
KHC				*ex*	PP	00 15 04.5	-12
X36A	**Centrahoma**	**103.37**	**48**	⇓P	**Pdif**	**00 11 00.7**	**+0.4**
	baz=103						
832A	**Faith Ranch, C**	**103.46**	**56**	⇑P	**Pdif**	**00 11 00.9**	**+0.1**
	baz=103						
GEC2	**GERESS Array S**	**103.46**	**330**	*e*pPdiff	**pPdif**	**00 11 48.6**	**+7.8**
GEC2				*e*PP	**PP**	**00 15 17.9**	**+0.4**
GEC2	**GERESS Array S**	**103.46**	**330**	*e*P	**Pdif**	**00 10 58.2**	**-2.4**
GEC2	**GERESS Array S**	**103.46**	**330**	*e*Pdif	**Pdif**	**00 10 58.1**	**-2.4**
GERES	**GERESS Array B**	**103.46**	**330**	Pdiff	**Pdif**	**00 10 58.1**	**-2.4**
	comp=Z,0.2nm,0.4s,baz=30,slow=6.2,SNR=4.4						
ROTZ	**Rotzenmuhle**	**103.55**	**331**	*e*Pdiff	**Pdif**	**00 10 59.8**	**-1.0**
ROTZ				*e*pPdiff	**pPdif**	**00 11 49.4**	**+8.4**
WET	**Wettzell**	**103.66**	**330**	*e*PP	PP	00 15 19.8	+0.9
IBBN	**Ibbenburen**	**103.69**	**335**	*e*pPdiff	pPdif	00 11 46.3	+4.8
UBBA	**Unterbreizbach**	**103.82**	**333**	*e*PP	PP	00 15 20.0	+0.2
534A	**Blanco**	**103.88**	**53**	⇑P	**Pdif**	**00 11 02.6**	**-0.1**
	baz=104						
833A	**Chaparral WMA,**	**103.90**	**55**	⇓P	**Pdif**	**00 11 02.9**	**+0.1**
	baz=104						
GRF	**Grafenberg Arr**	**104.06**	**331**	*e*pPdiff	**pPdif**	**00 11 51.1**	**+7.8**
GRF				*e*PP	**PP**	**00 15 23.1**	**+1.3**
GRFO	**Grafenberg**	**104.06**	**331**	*e*PKiKP	**PKiKP**	**00 15 22.4**	**+2.9**
BUG	**Bochum--Univer**	**104.53**	**334**	*e*PP	PP	00 15 24.9	-0.3
RJOB	**Jochberg**	**104.66**	**329**	*e*pPdiff	**pPdif**	**00 11 55.6**	**+10**
RJOB				*e*PP	**PP**	**00 15 27.8**	**+1.4**
TNS	**Taunus Mts**	**104.93**	**333**	*e*PP	PP	00 15 28.9	+0.6
FUR	**Furstenfeldbru**	**105.11**	**330**	*e*Pdiff	**Pdif**	**00 11 04.7**	**-3.1**
FUR				*e*pPdiff	**pPdif**	**00 11 56.9**	**+8.9**
FUR				*e*PP	**PP**	**00 15 30.8**	**+1.2**
EKA	**Eskdalemuir Ar**	**105.13**	**342**	Pdiff	**Pdif**	**00 11 09.8**	**+2.2**
	comp=Z,0.4nm,0.5s,baz=39,slow=4.6,SNR=5.5						
STU	**Stuttgart**	**105.65**	**332**	*e*pPdiff	**pPdif**	**00 11 58.6**	**+8.2**
STU				*e*PP	**PP**	**00 15 34.0**	**+0.4**
STU	**Stuttgart**	**105.65**	**332**	*e*PKiKP	**PKiKP**	**00 15 22.4**	**0.0**
STU				*e*PP	**PP**	**00 15 32.1**	**-1.4**
WLF	**Walferdange**	**106.34**	**334**	*e*PP	PP	00 15 38.3	-0.2
BFO	**Black Forest**	**106.37**	**332**	*e*pPdiff	**pPdif**	**00 12 01.8**	**+8.2**
BFO				*e*PP	**PP**	**00 15 39.3**	**+0.4**
BFO	**Black Forest**	**106.37**	**332**	*e*PP	PP	00 15 37.5	-1.3
FUORN	**Ofenpass-Fuorn**	**106.68**	**330**	*e*PP	PP	00 15 37.5	-4.0
HINF	**Hinteralfeld**	**107.42**	**332**	*e*PKiKP	**PKiKP**	**00 15 25.7**	**-0.1**
LPL	**La Plagne**	**109.18**	**331**	*e*PKiKP	**PKiKP**	**00 15 29.0**	**-0.4**
LPG	**La Plagne**	**109.18**	**331**	*e*PKiKP	**PKiKP**	**00 15 29.0**	**-0.5**
	comp=Z,3.1nm,0.7s						
BNI	**Bardonecchia**	**109.55**	**330**	*e*PP	PP	00 16 00.1	-2.1
SYO	**Syowa Base**	**109.57**	**202**	*e*PP	PP	00 16 04.5	+2.2
FLN	**La Foliniere**	**109.73**	**337**	*e*PKiKP	**PKiKP**	**00 15 30.1**	**+0.1**
ESDC	**Sonseca Array**	**118.64**	**333**	PP	PP	00 17 04.8	-1.3
	comp=Z,4.5nm,1.1s,baz=31,slow=6.9,SNR=10						
SNAA	**Sanae**	**120.25**	**191**	P	**PKPdf**	**00 15 49.4**	**-0.2**
SNAA	**Sanae**	**120.25**	**191**	*e*PKiKP	**PKPdf**	**00 15 49.3**	**-0.2**
SNAA	**Sanae**	**120.25**	**191**	*e*PKPdf	**PKPdf**	**00 15 49.3**	**-0.2**
VNA2	**Neumayer--Watz**	**121.69**	**190**	P	**PKPdf**	**00 15 52.6**	**+0.4**
	baz=136,slow=0.5						
VNA3	**Neumayer Olymp**	**121.78**	**189**	P	**PKPdf**	**00 15 52.3**	**-0.1**
MSKU	**Masuku**	**130.73**	**281**	*e*PKPdf	**PKPdf**	**00 16 10.5**	**-0.7**
MSKU				*e*SKPbc	**SKPab**	**00 19 22.0**	**+1.3**
OTAV	**Otavalo**	**134.00**	**75**	*e*PKPdf	**PKPdf**	**00 16 16.0**	**-1.9**
OTAV				*e*SKPbc	**SKPab**	**00 19 36.8**	**+1.4**
TOA0	**Torodi Ar. Sit**	**134.57**	**306**	*e*PKPpre	PKPpre	00 16 03.9	
TOA0				*e*PKPdf	**PKPdf**	**00 16 17.7**	**-0.6**
TOA0				*e*SKPbc	**SKPbc**	**00 19 33.6**	**-0.1**
TORD	**Torodi Ar. Bea**	**134.57**	**306**	PKhKP	PKPpre	00 16 03.9	
	comp=Z,0.4nm,0.7s,baz=26,slow=3.4,SNR=4.7						
TORD				PKP	**PKPdf**	**00 16 17.7**	**-0.6**
	comp=Z,3.9nm,0.6s,baz=36,slow=2.1,SNR=28						
TORD				SKPbc	**SKPbc**	**00 19 33.6**	**-0.1**
	comp=Z,7.2nm,0.9s,baz=46,slow=3.0,SNR=9.3						
SDV	**Santo Domingo**	**137.04**	**59**	*e*PKPdf	**PKPdf**	**00 16 20.4**	**-2.8**
SDV				*e*SKPbc	**SKiKP**	**00 19 44.4**	**-2.0**
PLCA	**Paso Flores**	**139.52**	**136**	PKhKP	PKPpre	00 16 19.4	
	comp=Z,1.0nm,0.4s,baz=244,slow=2.5,SNR=4.8						
PLCA				PKP	**PKPdf**	**00 16 27.9**	**+1.1**
	comp=Z,4.8nm,0.5s,baz=238,slow=1.3,SNR=11						
PLCA				SKPbc	**SKiKP**	**00 19 52.4**	**+1.8**
	comp=Z,17nm,1.1s,baz=224,slow=4.7,SNR=7.8						
PLCA	**Paso Flores**	**139.52**	**136**	*e*PKiKP	**PKPdf**	**00 16 26.0**	**-0.8**
PLCA	**Paso Flores**	**139.52**	**136**	*e*PKPdf	**PKPdf**	**00 16 26.0**	**-0.8**
PLCA				*e*SKPbc	**SKiKP**	**00 19 52.4**	**+1.8**
DBIC	**Dimbokro**	**143.59**	**304**	PKP	PKPbc	00 16 32.3	-0.3
	comp=Z,23nm,0.4s,baz=30,slow=3.2,SNR=114						
DBIC	**Dimbokro**	**143.59**	**304**	*e*PKiKP	PKPab	00 16 32.0	+0.4
DBIC	**Dimbokro**	**143.59**	**304**	*e*PKPdf	PKPab	00 16 32.0	+0.4
KIC	**Kosan Boka**	**143.68**	**304**	*e*PKP2	PKPab	00 16 32.1	+0.1
	comp=Z,206nm,1.3s						
TIC	**Toumodi**	**143.74**	**304**	*e*PKP2	PKPab	00 16 31.8	-0.5
	comp=Z,50nm,0.6s						
LCO	**Las Campanas**	**143.80**	**119**	*e*PKPdf	PKPbc	00 16 33.7	+0.5
AUSP	**Uspallata**	**143.92**	**125**	*e*P	**PKPdf**	**00 16 35.5**	**+0.2**
LIC	**Lamto**	**143.99**	**304**	⇓*i*PKiKP	PKPab	00 16 33.2	0.0
	comp=Z,116nm,0.5s						
LIC	**Lamto**	**143.99**	**304**	*e*PKP2	PKPab	00 16 33.2	0.0
	comp=Z,204nm,0.5s						
AAGR	**Agrelo**	**144.05**	**126**	*e*P	**PKPdf**	**00 16 35.2**	**0.0**
ARCO	**CERRO ARCO**	**144.06**	**126**	*e*P	**PKPdf**	**00 16 35.0**	**-0.4**
ARCO				*i* S	Px	00 17 05.3	
ARCO				IAML		00 17 10.3	
	comp=Z,12nm,0.6s						
ARCO				AML	AML	00 17 10.4	
	comp=Z,16nm,0.6s						
RTLS	**Leoncito**	**144.13**	**124**	*i* P	**PKPdf**	**00 16 36.8**	**+1.2**
RTLS				*i* S		00 17 07.5	
ASAL	**Salagasta**	**144.22**	**125**	*e*P	**PKPdf**	**00 16 35.6**	**+0.1**
RTCV	**Cerro Valdivia**	**144.72**	**124**	*i* P	**PKPab**	**00 16 35.2**	**-0.4**
RTCV				*i* S	Px	00 17 05.6	
RTLL	**Cerro Villicun**	**144.95**	**124**	*e*P	**PKPdf**	**00 16 37.3**	**+0.5**
CFAA	**Coronel Fontan**	**145.05**	**124**	*i* P	**PKPdf**	**00 16 36.9**	**0.0**
CFAA				*i* S	Px	00 17 07.1	
CFAA				IAML		00 17 13.9	
	comp=Z,5μm,0.7s						
AMOG	**MOGNA**	**145.07**	**123**	*i* P	**PKPdf**	**00 16 38.9**	**+1.9**
ACAN	**Cantantal**	**145.63**	**126**	*e*P	**PKPab**	**00 16 38.7**	**-0.3**
ACAN				*e*S		00 17 10.3	
TRQA	**Tornquist**	**146.56**	**139**	*e*PKPdf	**PKPdf**	**00 16 39.2**	**0.0**
LVC	**Limon Verde**	**146.60**	**108**	*e*PKPbc	**PKPbc**	**00 16 42.1**	**+0.3**
PTGA	**Pitinga**	**151.13**	**63**	*e*PKPdf	**PKPdf**	**00 16 47.5**	**+0.2**
PTGA				*e*PKPbc	**PKiKP**	**00 16 53.8**	**0.0**
SAML	**Samuel**	**151.32**	**81**	*e*PKPdf	**PKPdf**	**00 16 48.1**	**+0.6**
SAML				*e*PKPbc	**PKiKP**	**00 16 54.4**	**+0.3**
CPUP	**Villa Florida**	**155.87**	**122**	PKP	**PKPdf**	**00 16 54.3**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=225,slow=1.4,SNR=3.6						
CPUP	**Villa Florida**	**155.87**	**122**	*e*PKIKP	**PKPdf**	**00 16 53.8**	**+0.6**
CPUP	**Villa Florida**	**155.87**	**122**	*e*PKPdf	**PKPdf**	**00 16 53.8**	**+0.1**

NIED ***01*** *23:59:00,36°.70N×141°.30E,h32km,Mw4.3 Best double couple: M0 2.81000×10¹⁵ NP1:φs=34.00000°,δ 16.00000°, λ-99.00000°. NP2:φs=223.00000°,δ74.00000°, λ-87.00000°.*

ISCJB ***01*** *23:59:11.5±0.5,36°.67N±0°.03×141°.49E±0°.04,h26km, mb4.5/19,Error ellipse: s-maj=5.1km s-min=4.4km az=143.3*

JMA ***01*** *23:59:14.6±0.1,36°.67N×141°.24E,h46km±1km,M4.4*

JMA Felt II J1.

NEIC ***01*** *23:59:14.7±0.5,36°.65N×141°.44E,h40km±4km,mb4.7/3, MW4.2(NIED),Error ellipse: s-maj=9.4km s-min=6.1km az=128.0*

NEIC Felt at Fukushima. Recorded [2 JMA] in Fukushima and Ibaraki; [1 JMA] in Chiba, Miyagi and Tochigi.

IDC ***01*** *23:59:14.8±0.6,36°.69N×141°.40E,h40km±5km,mb4.3/10, mb1 4.4/14,mb1mx4.1/48,mbtmp4.4/14,ML4.0/3,MS3.4/3, Ms1 3.4/3,ms1mx3.1/30,Error ellipse: s-maj=15.3km s-min=9.8km az=160.0*

ISC 01 23:59:14.0±0.6,36.71N±0°.04×141°38E±0°.05, h26km,n56, σ1§42/53,mb4.5/19,1C-5D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.61**	**310**	⇓P	**Pb**	**23 59 26.1**	**0.0**
ONAJ				S	**Sb**	**23 59 34.2**	**-0.1**
JHO	**Hitachi**	**0.66**	**261**	⇓P	**Pb**	**23 59 26.0**	**-0.9**
JHO				S	**Sb**	**23 59 34.3**	**-1.4**
JFK	**Kawauchi**	**0.77**	**328**	⇓P	**Pb**	**23 59 28.7**	**-0.1**
JFK				S	**Sb**	**23 59 38.8**	**0.0**
JFT	**Otama**	**1.16**	**314**	⇓P	**Pn**	**23 59 34.9**	**+0.4**
JFT				S	**Sn**	**23 59 49.4**	**-0.1**
JMM	**Marumori**	**1.24**	**338**	⇓P	**Pn**	**23 59 35.5**	**-0.2**
JMM				S	**Sn**	**23 59 51.0**	**-0.6**
JFY	**Yanaizu**	**1.51**	**298**	P	**Pn**	**23 59 39.3**	**-0.1**
JAG	**Ashikaga**	**1.58**	**260**	P	**Pn**	**23 59 39.1**	**-1.2**
JAG				S	**Sn**	**23 59 57.3**	**-2.6**
I30JP	**ISUMI INFRASON**	**1.65**	**212**	P	**Pn**	**23 59 41.2**	**0.0**
I30JP				S	**Sb**	**00 00 05.0**	**+1.0**
JKT	**Katashina**	**1.71**	**272**	⇑P	**Pn**	**23 59 42.0**	**-0.2**
MJAR	**Matsushiro Arr**	**2.56**	**267**	P	**Pn**	**23 59 54.0**	**+0.2**
	35nm,0.3s,baz=136,slow=9.0,SNR=372						
MJAR				S	**Sn**	**00 00 23.7**	**-0.3**
	42nm,0.3s,baz=99,slow=16,SNR=10						
MJAR				LR	LR	00 01 14.4	
	comp=Z,909nm,20.0s,baz=105,slow=47						
MAJO	**Matsushiro**	**2.56**	**267**	*e*Pn	**Pn**	**23 59 54.2**	**+0.4**
MAT	**Matsushiro**	**2.56**	**267**	P	**Pn**	**23 59 54.4**	**+0.6**
MAT				S	**Sn**	**00 00 25.2**	**+1.1**

ISC 02 00:51:32.2±0.5, 5.76S±0.07×110.28E±0.06, h557km±5km, n135, σ1s14/143, mb4.0/33, 7C-4D, Java Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWJI	**Ujung Watu**	**0.93**	**135**	**P**	**P**	**00 52 39.8**	**+0.8**
SMRI	**Semarang**	**1.29**	**173**	**P**	**P**	**00 52 40.9**	**+1.0**
TBJI	**Tambak Boyo**	**1.88**	**124**	**P**	**P**	**00 52 43.1**	**+1.1**
KPJI	**Karang Pucung**	**2.06**	**221**	**P**	**P**	**00 52 43.4**	**+0.7**
UGM	**Wanagama**	**2.15**	**174**	**P**	**P**	**00 52 43.3**	**+0.1**
GRJI	**Gresik**	**2.47**	**118**	**P**	**P**	**00 52 45.6**	**+0.9**
PCJI	**Pacitan**	**2.58**	**160**	**P**	**P**	**00 52 45.0**	**-0.3**
PWJI	**Pagerwojo**	**2.71**	**146**	**P**	**P**	**00 52 45.8**	**-0.2**
LEM	**Lembang**	**2.85**	**248**	**P**	**P**	**00 52 48.3**	**+1.2**
LEM	**Lembang**	**2.85**	**248**	**P**	**P**	**00 52 48.2**	**+1.1**
	9.6nm,0.3s,baz=142,slow=21,SNR=11						
LEM				S	**S**	**00 53 47.1**	**-0.9**
	14nm,0.3s,baz=164,slow=23,SNR=12						
LEM	**Lembang**	**2.85**	**248**	**P**	**P**	**00 52 48.2**	**+1.1**
LEM				S	**S**	**00 53 47.1**	**-0.9**
LEM				pmax	pmax		
	comp=Z,10.0nm,0.3s						
LEM				smax	smax		
	comp=Z,14nm,0.3s						
CISI	**Cisompet, Garu**	**3.03**	**234**	**P**	**P**	**00 52 47.9**	**-0.1**
CBJI	**Citeko**	**3.48**	**259**	**P**	**P**	**00 52 52.3**	**+1.5**
BLJI	**Banyuglugur**	**3.83**	**121**	**P**	**P**	**00 52 54.1**	**+0.8**
KMMI	**Kalianget**	**3.88**	**109**	**P**	**P**	**00 52 54.7**	**+1.1**
SKJI	**Sukabumi**	**3.90**	**251**	**P**	**P**	**00 52 53.9**	**+0.1**
GMJI	**Gumukmas**	**4.01**	**129**	**P**	**P**	**00 52 54.0**	**-0.6**
ABJI	**Asem Bagus**	**4.41**	**117**	**P**	**P**	**00 52 58.7**	**+1.0**
CGJI	**Cibinong**	**4.64**	**259**	**P**	**P**	**00 52 58.9**	**-0.6**
BBKI	**Banjar Baru**	**5.08**	**64**	**P**	**P**	**00 53 04.6**	**+1.4**
	comp=Z,59nm,0.8s,comp=Z,0.6nm						
SRBI	**Singaraja**	**5.41**	**116**	**P**	**P**	**00 53 06.4**	**+0.5**
	comp=Z,259nm,0.7s,comp=Z,3µmcomp=Z,0.8nm						
KASI	**Kota Agung**	**5.76**	**272**	**P**	**P**	**00 53 08.9**	**-0.1**
	comp=Z,176nm,0.6s,comp=Z,2µmcomp=Z,0.7nm						
STKI	**Sintang**	**5.91**	**12**	**P**	**P**	**00 53 11.8**	**+1.4**
	comp=Z,43nm,0.9s,comp=Z,9µmcomp=Z,1.0nm						
MDSI	**Maura Dua**	**6.21**	**281**	**P**	**P**	**00 53 13.8**	**+0.7**
	comp=Z,32nm,0.9s						
LWLI	**Liwa**	**6.24**	**276**	**P**	**P**	**00 53 14.7**	**+1.2**
	comp=Z,128nm,0.6s,comp=Z,13µm						
XMIS	**Christmas Isla**	**6.56**	**224**	**P**	**P**	**00 53 16.9**	**+0.7**
	baz=6.7,SNR=9.6						
LHSI	**Lahat**	**7.00**	**286**	**P**	**P**	**00 53 21.9**	**+1.4**
	comp=Z,115nm,0.9s						
SBUM	**Sibu**	**8.38**	**13**	**↑P**	**P**	**00 53 33.5**	**-0.4**
KGM	**Kluang**	**10.39**	**318**	**↑P**	**P**	**00 53 52.5**	**-1.8**
PCI	**Palu**	**10.69**	**64**	**P**	**P**	**00 53 58.6**	**+1.3**
	comp=Z,103nm,1.1s,comp=Z,2µm						
MPSI	**Mapaga**	**11.35**	**58**	**P**	**P**	**00 54 05.1**	**+1.0**
	comp=Z,35nm,1.0s,comp=Z,551nm						
FRIM	**Kepong**	**12.44**	**316**	**↑P**	**P**	**00 54 12.9**	**-2.4**
KTGM	**Kuala Trenggan**	**13.12**	**327**	**↑P**	**P**	**00 54 21.5**	**-0.9**
KKM	**Kota Kinabalu**	**13.14**	**27**	**P**	**P**	**00 54 22.1**	**-0.5**
	baz=13,SNR=4.2						
LUWI	**Luwuk**	**13.32**	**70**	**P**	**P**	**00 54 24.5**	**+0.1**
	comp=Z,66nm,0.9s,comp=Z,3µm						
IPM	**Ipoh**	**13.74**	**318**	**↑P**	**P**	**00 54 28.2**	**-0.6**
BATI	**Baumata**	**13.97**	**109**	**P**	**P**	**00 54 28.6**	**-2.5**
	comp=Z,5.3nm,0.3s,baz=44,slow=1.5,SNR=3.5						
BATI				S	S	00 56 49.2	-9.1
	comp=Z,4.9nm,0.3s,baz=71,slow=22,SNR=6.1						
PSI	**Prapat**	**14.18**	**307**	**P**	**P**	**00 54 33.4**	**0.0**
	comp=Z,1.7nm,0.3s,baz=61,slow=3.0,SNR=5.7						
PSI	**Prapat**	**14.18**	**307**	**P**	**P**	**00 54 33.4**	**0.0**
PSI				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KULM	**Kulim**	**14.60**	**319**	**↑P**	**P**	**00 54 35.9**	**-1.6**
SANI	**Sanana**	**16.09**	**77**	**P**	**P**	**00 54 52.9**	**+0.4**
	comp=Z,26nm,1.1s						
TRTT	**Trang**	**17.15**	**322**	**P**	**P**	**00 55 03.0**	**+1.0**
	comp=Z,48nm,0.7s						
LHMI	**Lhok Sumawe**	**17.22**	**309**	**P**	**P**	**00 55 04.0**	**+1.3**
	comp=Z,182nm,0.8s,comp=Z,2µm						
LBMI	**Labuha**	**17.92**	**74**	**P**	**P**	**00 55 10.8**	**+1.6**
	comp=Z,77nm,0.9s						
TNTI	**Ternate**	**18.25**	**70**	**P**	**P**	**00 55 13.3**	**+1.1**
	comp=Z,98nm,0.6s						
SURT	**Suratani**	**18.57**	**322**	**P**	**P**	**00 55 16.5**	**+1.4**
	comp=Z,5.4nm,0.8s						
KNRA	**Kununurra**	**20.64**	**120**	**P**	**P**	**00 55 33.5**	**-0.3**
	baz=21,SNR=6.8						
MEEK	**Meekatharra**	**22.23**	**160**	**P**	**P**	**00 55 49.3**	**+1.3**
	baz=22,SNR=4.2						
KDU	**Kakadu**	**22.95**	**109**	**P**	**P**	**00 55 53.8**	**-0.8**
	baz=23,SNR=8.3						
UTTA	**Uttaradit**	**25.25**	**338**	**P**	**P**	**00 56 16.2**	**+1.3**
	comp=Z,4.3nm,0.6s						
LAMP	**Lampang**	**26.32**	**337**	**P**	**P**	**00 56 27.3**	**+3.0**
	comp=Z,4.9nm,0.6s,comp=Z,56nm						
CMAR	**Chiang Mai Arr**	**26.54**	**335**	**P**	**P**	**00 56 27.4**	**+1.2**
	comp=Z,5.9nm,0.8s,baz=171,slow=8.1,SNR=43						
CMAR	**Chiang Mai Arr**	**26.54**	**335**	**P**	**P**	**00 56 27.5**	**+1.2**
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WRA	**Warramunga Arr**	**27.30**	**123**	**P**	**P**	**00 56 33.1**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=299,slow=9.9,SNR=5.8						
WRA				PcP	**PcP**	**00 59 34.2**	**0.0**
	comp=Z,0.8nm,0.6s,baz=317,slow=2.2,SNR=4.1						
WRA	**Warramunga Arr**	**27.30**	**123**	**P**	**P**	**00 56 33.1**	**+0.1**
WRA						00 59 34.2	
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAI	**Chiengmai2**	**27.82**	**337**	**P**	**P**	**00 56 39.4**	**+1.7**
	comp=Z,8.0nm,1.2s						
ASAR	**Alice Springs**	**28.88**	**130**	**P**	**P**	**00 56 47.1**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=307,slow=8.0,SNR=8.7						
ASAR				PcP	**PcP**	**00 59 38.5**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=322,slow=2.4,SNR=7.3						
ASAR				ScP	**ScP**	**01 02 27.6**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=306,slow=3.2,SNR=4.4						
COEN	**Coen**	**33.38**	**107**	**P**	**P**	**00 57 25.2**	**-0.1**
	baz=33,SNR=6.0						
STKA	**Stephens Creek**	**39.14**	**136**	**P**	**P**	**00 58 13.3**	**+0.9**
	comp=Z,1.0nm,0.4s,baz=326,slow=9.7,SNR=5.9						
STKA	**Stephens Creek**	**39.14**	**136**	**P**	**P**	**00 58 13.4**	**+0.9**
STKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
STKA	**Stephens Creek**	**39.14**	**136**	**P**	**P**	**00 58 13.4**	**+0.9**
	baz=39,SNR=5.5						
ODAN	**Odare**	**39.28**	**327**	***eP***	**P**	**00 58 14.1**	**+0.2**
	comp=Z,50nm,0.8s						
TAPN	**Taplejung**	**39.50**	**328**	***eP***	**P**	**00 58 16.4**	**+0.7**
	comp=Z,38nm,0.7s						
XAN	**Xi'an**	**39.60**	**358**	**P**	**P**	**00 58 16.3**	**+0.1**
XAN				PMZ			
	comp=Z,3.0nm,0.6s						
RAMN	**Ramite**	**39.79**	**326**	***eP***	**P**	**00 58 18.4**	**+0.4**
	comp=Z,10nm,0.6s						
JIRN	**Jiri**	**40.57**	**326**	***eP***	**P**	**00 58 24.7**	**+0.3**
	comp=Z,40nm,0.6s						
GUN	**Gumba**	**40.93**	**326**	***eP***	**P**	**00 58 27.5**	**+0.2**
	comp=Z,56nm,0.8s						
PKI	**Pulchoki**	**40.94**	**325**	***eP***	**P**	**00 58 27.0**	**-0.3**
	comp=Z,18nm,0.9s						
PKIN	**Phulchoki**	**40.95**	**325**	***eP***	**P**	**00 58 27.1**	**-0.2**
DMN	**Daman**	**41.14**	**325**	***eP***	**P**	**00 58 28.7**	**-0.1**
	comp=Z,25nm,0.6s						
KKN	**Kakani**	**41.18**	**325**	***eP***	**P**	**00 58 28.9**	**-0.1**
	comp=Z,11nm,0.7s						
GKN	**Gorkha**	**41.70**	**325**	***eP***	**P**	**00 58 33.0**	**-0.1**
	comp=Z,20nm,0.4s						
KOLN	**Koldanda**	**42.13**	**324**	***eP***	**P**	**00 58 36.4**	**-0.2**
	comp=Z,32nm,0.5s						
HHC	**Hu-ho-hao-te**	**46.40**	**1**	***eP***	P	00 59 13.8	+4.7
HHC				pP	pP	01 00 57.6	+7.0
HHC				PP	PP	01 01 12.4	+6.1
HHC				sP	sP	01 01 54.3	+1.9
HHC				S	S	01 05 24.0	+7.7
HHC				sS	sS	01 08 24.0	+3.7
HHC				PMZ			
	comp=Z,23nm,0.6s						
HHC				PMZ			
	comp=Z,90nm,4.9s						
ULN	**Ulaanbaatar**	**53.47**	**357**	***d iP***	**P**	**01 00 00.6**	**-0.2**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM	**Songino Array**	**53.48**	**357**	P	**P**	**01 00 00.8**	**0.0**
	comp=Z,1.8nm,0.5s,baz=176,slow=8.1,SNR=23						
SONM				PcP	**PcP**	**01 00 58.4**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=183,slow=3.4,SNR=6.1						
SONM	**Songino Array**	**53.48**	**357**	P	**P**	**01 00 00.8**	**0.0**
SONM						01 00 58.4	
SONM				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KZA	**Kyzart**	**57.32**	**329**	P	**P**	**01 00 28.3**	**+0.3**
	SNR=6.5						
KZA	**Kyzart**	**57.32**	**329**	*i* P	**P**	**01 00 28.3**	**+0.3**
TKM2	**Tokmak 2**	**57.77**	**330**	P	**P**	**01 00 30.8**	**0.0**
	SNR=9.7						
TKM2	**Tokmak 2**	**57.77**	**330**	*i* P	**P**	**01 00 30.7**	**0.0**
UCH	**Uchtor**	**57.80**	**329**	P	**P**	**01 00 31.2**	**-0.2**
	SNR=5.9						
UCH	**Uchtor**	**57.80**	**329**	*i* P	**P**	**01 00 31.1**	**-0.2**
KBK	**Karagaybulak**	**57.89**	**330**	P	**P**	**01 00 32.2**	**+0.6**
	SNR=8.1						
KBK	**Karagaybulak**	**57.89**	**330**	*i* P	**P**	**01 00 32.2**	**+0.6**
MKAR	**Makanchi Array**	**57.91**	**338**	P	**P**	**01 00 31.4**	**0.0**
	comp=Z,5.6nm,0.4s,baz=154,slow=7.0,SNR=143						
MKAR	**Makanchi Array**	**57.91**	**338**	P	**P**	**01 00 31.4**	**0.0**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.4s						
AAK	**Ala-Archa**	**58.11**	**329**	*i* P	**P**	**01 00 33.2**	**+0.2**
AAK				pmax	pmax		
	comp=Z,12nm,1.3s						
AML	**Almayashu**	**58.15**	**329**	P	**P**	**01 00 33.7**	**+0.1**
	SNR=9.3						
AML	**Almayashu**	**58.15**	**329**	*i* P	**P**	**01 00 33.7**	**+0.1**
EKS2	**Erkin-Say**	**58.49**	**329**	P	**P**	**01 00 35.9**	**+0.4**
	SNR=7.8						
EKS2	**Erkin-Say**	**58.49**	**329**	*i* P	**P**	**01 00 35.9**	**+0.4**
USP	**Ospenovka**	**58.56**	**330**	P	**P**	**01 00 35.8**	**-0.1**
	SNR=5.1						
USP	**Ospenovka**	**58.56**	**330**	*i* P	**P**	**01 00 35.8**	**-0.1**
KURK	**Kurchatov**	**62.52**	**338**	*i* P	**P**	**01 01 01.3**	**-0.4**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ZALV	**Zalesovo Beam**	**63.22**	**343**	P	**P**	**01 01 05.3**	**-0.8**
	comp=Z,5.5nm,0.4s,baz=159,slow=5.0,SNR=41						
ZALV	**Zalesovo Beam**	**63.22**	**343**	P	**P**	**01 01 05.4**	**-0.8**
ZALV				pmax	pmax		
	comp=Z,6.0nm,0.4s						
GEYT	**Alibeck**	**65.06**	**316**	P	**P**	**01 01 18.0**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=139,slow=7.7,SNR=8.6						
BRVK	**Borovoye**	**67.63**	**335**	***eP***	**P**	**01 01 33.1**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YAK	**Yakutsk**	**69.23**	**10**	***eP***	**P**	**01 01 42.3**	**-1.0**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MAW	**Mawson**	**69.50**	**198**	P	**P**	**01 01 45.7**	**+0.9**
	comp=Z,3.1nm,0.7s,baz=55,slow=6.1,SNR=5.3						
MAW	**Mawson**	**69.50**	**198**	P	**P**	**01 01 45.7**	**+0.9**
MAW				pmax	pmax		
	comp=Z,3.0nm,0.7s						
PETK	**Petropavlovsk-**	**70.95**	**28**	P	**P**	**01 01 53.4**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=194,slow=5.1,SNR=10						
PETK	**Petropavlovsk-**	**70.95**	**28**	P	**P**	**01 01 53.4**	**-0.3**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KMBO	**Kilima Mbogo**	**73.00**	**271**	P	**P**	**01 02 06.7**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=162,slow=6.4,SNR=4.1						
KMBO	**Kilima Mbogo**	**73.00**	**271**	P	**P**	**01 02 06.7**	**-0.1**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARU	**Arti**	**74.96**	**333**	***d iP***	**P**	**01 02 16.2**	**-0.3**
ARU				S	**S**	**01 11 11.5**	**+2.3**
ARU				SS	**SS**	**01 16 17.9**	**+4.2**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.7s						
VNDA	**Vanda**	**76.59**	**170**	P	**P**	**01 02 26.1**	**+0.9**
	comp=Z,1.1nm,0.4s,baz=319,slow=7.5,SNR=7.1						
VNDA	**Vanda**	**76.59**	**170**	P	**P**	**01 02 26.2**	**+0.9**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KBZ	**Khabaz**	**77.95**	**317**	P	**P**	**01 02 33.4**	**+0.2**
	comp=Z,4.3nm,0.9s,baz=133,slow=6.4						
KBZ	**Khabaz**	**77.95**	**317**	P	**P**	**01 02 33.4**	**+0.2**
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KIV	**Kislovodsk**	**78.17**	**317**	***eP***	**P**	**01 02 33.3**	**-1.3**
KIV				*e*SS	SS	01 17 03.3	+0.8
KIV				pmax	pmax		
	comp=Z,6.0nm,1.2s						
TIXI	**Tiksi**	**78.22**	**6**	*i* P	**P**	**01 02 32.0**	**-2.1**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
VSR	**Storozhevoye**	**82.82**	**323**	***eP***	**P**	**01 02 57.7**	**-0.6**
VSR				pmax	pmax		
	comp=N,3.0nm,0.9s						
VSR				pmax	pmax		
	comp=E,5.0nm,0.9s						
VSR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BILL	**Bilibino**	**83.28**	**18**	***eP***	P	01 02 55.7	-4.6
BILL				*e**PP	pP	01 05 02.2	+2.1
BILL				*e*		01 06 19.1	
BILL				pmax	pmax		
	comp=Z,6.0nm,1.6s						
PRGR	**Permogore**	**83.35**	**334**	***eP***	**P**	**01 03 00.2**	**-0.5**
PRGR				pmax	pmax		
	comp=Z,12nm,0.7s						
BRTR	**Keskin Array B**	**83.47**	**311**	P	**P**	**01 03 01.6**	**-0.5**
	comp=Z,3.4nm,0.8s,baz=131,slow=5.9,SNR=27						
BRTR	**Keskin Array B**	**83.47**	**311**	P	**P**	**01 03 01.6**	**-0.5**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
OBN	**Obninsk**	**85.49**	**326**	***eP***	**P**	**01 03 10.2**	**-1.1**
OBN				*e**PP	**pP**	**01 05 13.0**	**+1.1**
OBN				*e*		01 06 40.3	
OBN				*e*S	**SKSac**	**01 12 36.9**	**-6.5**
OBN				pmax	pmax		
	comp=Z,17nm,1.0s						
KLMR	**Klimovskoe**	**85.78**	**332**	***eP***	**P**	**01 03 11.6**	**-1.0**
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
AKASG	**Malin Array Be**	**88.77**	**321**	P	**P**	**01 03 25.6**	**-1.2**
	comp=Z,1.6nm,0.4s,baz=85,slow=4.7,SNR=14						
AKASG	**Malin Array Be**	**88.77**	**321**	P	**P**	**01 03 25.7**	**-1.2**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES	**FINESS Array B**	**92.25**	**331**	P	**P**	**01 03 41.8**	**-0.9**
	comp=Z,2.1nm,0.8s,baz=106,slow=5.1,SNR=9.4						
FINES	**FINESS Array B**	**92.25**	**331**	P	**P**	**01 03 41.8**	**-0.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES	**ARCESS Array B**	**93.53**	**339**	P	**P**	**01 03 46.4**	**-2.0**
	comp=Z,3.9nm,0.9s,baz=81,slow=5.6,SNR=2.7						
ARCES	**ARCESS Array B**	**93.53**	**339**	P	**P**	**01 03 46.4**	**-2.0**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**109.36**	**282**	PKiKP	**PKiKP**	**01 08 59.9**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=74,slow=2.6,SNR=8.4						
ESDC	**Sonseca Array**	**112.26**	**311**	PKiKP	**PKiKP**	**01 09 05.4**	**0.0**
	comp=Z,0.1nm,0.4s,baz=44,slow=3.4,SNR=3.0						
YKA	**Yellowknife Ar**	**114.56**	**21**	PKP	PKPdf	01 09 08.5	-0.5
	comp=Z,0.5nm,0.6s,baz=332,slow=1.9,SNR=16						
YKA	**Yellowknife Ar**	**114.56**	**21**	PKIKP	PKPdf	01 09 08.5	-0.5
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
PDAR	**Pinedale Array**	**129.06**	**37**	PKP	**PKPdf**	**01 09 38.5**	**+0.8**
	comp=Z,0.2nm,0.8s,baz=295,slow=2.8,SNR=2.4						
PDAR				SKPbc	SKPab	01 12 07.0	0.0
	comp=Z,0.8nm,0.8s,baz=318,slow=2.4,SNR=6.5						
SCHQ	**Schefferville**	**131.02**	**358**	PKP	**PKPdf**	**01 09 41.4**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=315,slow=4.3,SNR=4.1						
SCHQ				SKPbc	**SKPbc**	**01 12 13.5**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=25,slow=6.0,SNR=4.5						
TXAR	**Lajitas Array**	**140.29**	**50**	PKhKP	PKPpre	01 09 52.9	
	comp=Z,0.2nm,0.5s,baz=222,slow=1.2,SNR=2.4						
TXAR				PKP	**PKPdf**	**01 10 00.1**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=222,slow=1.2						
TXAR				SKPbc	**SKPbc**	**01 12 43.9**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=300,slow=2.0,SNR=3.8						
CPUP	**Villa Florida**	**145.91**	**200**	PKPbc	**PKPbc**	**01 10 11.1**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=186,slow=3.6,SNR=11						
BDFB	**Brasilia**	**149.76**	**225**	PKPbc	**PKPbc**	**01 10 21.4**	**+0.6**
	comp=Z,4.7nm,0.5s,baz=121,slow=2.6,SNR=11						

*ISCJB **02** 01:05:21.4±0.8, 28.15N±0.06×138.8E±0.2, h500km, mb3.1/3, Error ellipse: s-maj=19.6km s-min=7.8km az=178.1*
*JMA **02** 01:05:22.9±0.3, 28.30N×139.33E, h533km, M3.5*
*IDC **02** 01:05:23.6±3.3, 28.25N×138.89E, h525km±50km, mb2.7/3, mb1 2.9/5, mb1mx2.5/36, mbtmp3.6/5, Error ellipse: s-maj=105.7km s-min=19.5km az=100.0*

ISC 02 01:05:22.5±1.1, 28.19N±0.08×138.9E±0.2, h500km, n12, σ1s22/14, mb2.9/3, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.13**	**110**	P	**P**	**01 06 35.9**	**+1.5**
CBIJ				*e*S	**S**	**01 07 32.5**	**-0.3**
BSO1	**Boso 1**	**6.69**	**15**	*e*S	**S**	**01 08 29.6**	**+0.8**
BSO3	**Boso 3**	**6.74**	**12**	*e*S	**S**	**01 08 30.0**	**-0.2**
BSO4	**Boso 4**	**6.89**	**10**	*e*S	**S**	**01 08 33.1**	**-0.2**
JRY	**Ryogami san**	**7.80**	**0**	P	**P**	**01 07 18.1**	**+1.3**
JAG	**Ashikaga**	**8.22**	**3**	P	**P**	**01 07 21.2**	**+0.1**
MJAR	**Matsushiro Arr**	**8.35**	**356**	P	**P**	**01 07 22.9**	**+0.5**
	0.5nm,0.3s,baz=167,slow=1.1,SNR=8.2						
JHO	**Hitachi**	**8.52**	**9**	P	**P**	**01 07 25.1**	**+1.0**
JHO				*e*S	**S**	**01 09 01.3**	**-2.7**
USRK	**Ussuriysk Ar.**	**16.90**	**343**	P	**P**	**01 08 52.9**	**+0.6**
	0.1nm,0.3s,baz=156,slow=14,SNR=4.3						
WRA	**Warramunga Arr**	**48.05**	**186**	P	**P**	**01 13 15.7**	**-0.3**
	0.7nm,0.3s,baz=1.3,slow=7.6,SNR=9.4						
ASAR	**Alice Springs**	**51.78**	**186**	P	**P**	**01 13 42.9**	**-0.5**
	0.5nm,1.0s,baz=0.0,slow=4.9,SNR=3.9						
YKA	**Yellowknife Ar**	**72.56**	**28**	P	**P**	**01 15 56.5**	**-1.5**
	0.2nm,0.5s,baz=299,slow=6.2,SNR=4.8						

*THE **02** 01:06:20.5, 40.17N×21.63E, h2km±23km, ML1.6/5, Error ellipse: s-maj=23.6km s-min=0.5km az=52.0*
*ATH **02** 01:06:21.1, 40.20N×21.71E, h12km±4km, MD2.8/13*

CSEM 02 01:06:20.7±0.2, 40.18N×21.68E, h5km, MD2.8, Error ellipse: s-maj=4.9km s-min=3.9km az=97.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.14**	**29**	P	Pg	01 06 24.1	+0.4
KZN				S	Sg	01 06 26.6	+0.8
KZN	**Kozani**	**0.14**	**29**	*e*PG	Pg	01 06 24.0	+0.3
KZN				*e*SG	Sg	01 06 27.1	+1.3
KZN	**Kozani**	**0.14**	**29**	*e*Pg	Pg	01 06 24.0	+0.3
KZN				S	Sg	01 06 26.6	+0.8
KZN				*e*Sg	Sg	01 06 27.1	+1.3
NEST	**Nestorio**	**0.54**	**296**	P	Pg	01 06 30.0	-1.2
NEST	**Nestorio**	**0.54**	**296**	P	Pg	01 06 30.0	-1.2
LIT	**Litokhoron**	**0.63**	**97**	P	Pg	01 06 32.8	0.0
LIT				S	Sb	01 06 42.8	-0.5
LIT	**Litokhoron**	**0.63**	**97**	*e*PB	Pg	01 06 32.9	+0.1
LIT				*e*SB	Sg	01 06 41.9	+0.9
LIT	**Litokhoron**	**0.63**	**97**	*e*Pb	Pg	01 06 32.9	+0.1
LIT				*e*Sb	Sg	01 06 41.9	+0.9
LIT				S	Sb	01 06 42.8	-0.5
FNA	**Florina**	**0.64**	**339**	P	Pg	01 06 32.9	-0.3
FNA				S	Sg	01 06 41.5	-0.2
FNA	**Florina**	**0.64**	**339**	*e*PG	Pg	01 06 33.0	-0.2
FNA	**Florina**	**0.64**	**339**	*e*Pg	Pg	01 06 33.0	-0.2
FNA				S	Sg	01 06 41.5	-0.2
THL	**Klokotos Trika**	**0.67**	**157**	P	Pg	01 06 32.7	-0.8
THL				S	Sg	01 06 42.9	+0.7
THL	**Klokotos Trika**	**0.67**	**157**	*e*PB	Pg	01 06 32.7	-0.8
THL	**Klokotos Trika**	**0.67**	**157**	P	Pg	01 06 32.7	-0.8
THL				S	Sg	01 06 42.9	+0.7
DSL	**Palaion Diasel**	**1.14**	**203**	*e*PB	Pn	01 06 43.8	+0.4
DSL	**Palaion Diasel**	**1.14**	**203**	*e*Pb	Pn	01 06 43.8	+0.4
HORT	**Hortiatis**	**1.16**	**69**	*e*PB	Pb	01 06 43.4	0.0
HORT	**Hortiatis**	**1.16**	**69**	*e*Pb	Pb	01 06 43.4	0.0
MAKR	**Makrakomi, Fth**	**1.22**	**163**	P	Pg	01 06 43.5	-0.7
MAKR				S	Sb	01 07 00.6	+0.2
MAKR	**Makrakomi, Fth**	**1.22**	**163**	*e*PN	Pg	01 06 43.6	-0.6
MAKR	**Makrakomi, Fth**	**1.22**	**163**	*e*Pn	Pg	01 06 43.6	-0.6
MAKR				S	Sb	01 07 00.6	+0.2
IGT	**Igoumenitsa**	**1.22**	**238**	*e*PB	Pn	01 06 45.7	+1.2
IGT	**Igoumenitsa**	**1.22**	**238**	*e*Pb	Pn	01 06 45.7	+1.2
AGG	**Agios Georgios**	**1.26**	**156**	P	Pg	01 06 44.5

mb1 4.0/11,mb1mx3.7/28,mbtmp3.8/11,ML4.0/2,MS3.6/10, Ms1 3.6/10,ms1mx3.3/38,Error ellipse: s-maj=36.6km s-min=16.6km az=55.0

*ISCJB **02** 01:31:44.7±0.5, 10°.99N±0°.08×94°.9E±0°.1, h22km, mb3.9/14,MS3.6/8,Error ellipse: s-maj=16.8km s-min=9.0km az=154.2*

*NEIC **02** 01:31:48.1±0.5, 10°.96N×94°.82E, h35km,mb4.2/5,Error ellipse: s-maj=15.2km s-min=7.8km az=66.0*

ISC 02 01:31:46.5±0.8, **11°.0N**±0°.1×**94°.8E**±0°.2, **h22**km, **n24,** σ0**s72**/19, **mb4.0**/14, **MS3.6**/8, **Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.45**	**28**	Pn			**Pn**	**01 33 47.3**	**-0.4**
	0.6nm,0.3s,baz=215,slow=15,SNR=28								
CMAR				LR			LR	01 37 07.3	
	comp=Z,202nm,19.4s,baz=224,slow=38								
CHTO	**Chiang Mai**	**8.76**	**27**	*e*Pn			**Pn**	**01 33 51.6**	**-0.4**
PSI	**Prapat**	**9.08**	**153**	Pn			**Pn**	**01 33 56.0**	**-0.5**
	1.5nm,0.3s,baz=64,slow=19,SNR=5.2								
PSI				LR			LR	01 37 38.5	
	comp=Z,235nm,21.0s,baz=284,slow=39								
LEM	**Lembang**	**21.79**	**144**	LR			LR	01 46 17.3	
	comp=Z,158nm,20.3s,baz=276,slow=40								
TKM2	**Tokmak 2**	**35.96**	**336**	*e*P			**P**	**01 38 46.7**	**+0.8**
	1.7nm,1.0s								
EKS2	**Erkin-Say**	**36.52**	**334**	*e*P			**P**	**01 38 50.5**	**0.0**
	2.0nm,0.8s								
MK31	**Makanchi Array**	**37.25**	**346**	*e*P			**P**	**01 38 56.6**	**0.0**
MKAR	**Makanchi Array**	**37.25**	**346**	P			**P**	**01 38 57.0**	**+0.4**
	0.6nm,0.7s,baz=165,slow=8.8,SNR=8.3								
MKAR				LR			LR	01 56 27.6	
	comp=Z,41nm,21.1s,baz=162,slow=40								
SONM	**Songino Array**	**38.02**	**13**	P			**P**	**01 39 03.3**	**+0.1**
	0.6nm,0.9s,baz=188,slow=8.7,SNR=5.1								
SONM				LR			LR	01 56 17.4	
	comp=Z,90nm,18.2s,baz=241,slow=39								
KSRS	**Korea Array**	**39.73**	**43**	LR			LR	01 56 00.2	
	comp=Z,48nm,20.2s,baz=241,slow=37								
KURK	**Kurchatov**	**41.81**	**345**	*e*P			**P**	**01 39 34.3**	**-0.2**
	3.3nm,1.1s								
GEYT	**Alibeck**	**42.41**	**316**	P			**P**	**01 39 41.0**	**+1.4**
	7.0nm,0.7s,baz=142,slow=7.4,SNR=24								
GEYT				LR			LR	01 58 00.5	
	comp=Z,79nm,21.3s,baz=305,slow=37								
ZALV	**Zalesovo Beam**	**43.61**	**351**	P			**P**	**01 39 49.8**	**+0.8**
	0.6nm,0.7s,baz=170,slow=8.8,SNR=3.0								
WRA	**Warramunga Arr**	**49.57**	**128**	P			**P**	**01 40 36.9**	**+0.5**
	1.7nm,0.8s,baz=306,slow=8.6,SNR=9.9								
WRAB	**Tennant Creek**	**49.58**	**128**	*e*P			**P**	**01 40 37.3**	**+1.0**
	6.5nm,0.8s								
AS31	**Alice Springs**	**51.44**	**132**	*e*P			**P**	**01 40 51.0**	**+0.6**
ASAR	**Alice Springs**	**51.44**	**132**	P			**P**	**01 40 50.7**	**+0.3**
	0.9nm,0.7s,baz=309,slow=6.7,SNR=14								
GNI	**Garni**	**52.81**	**312**	*e*P			**P**	**01 40 59.6**	**-1.0**
	2.2nm,0.3s								
BRTR	**Keskin Array B**	**60.96**	**309**	P			**P**	**01 41 57.1**	**-1.3**
	0.3nm,0.6s,baz=116,slow=8.4,SNR=4.0								
SEY	**Seymchan**	**65.86**	**25**	LR			LR	02 12 12.8	
	comp=Z,60nm,19.3s,baz=344,slow=37								
FINES	**FINESS Array B**	**70.31**	**332**	P			**P**	**01 42 58.0**	**-0.1**
	1.8nm,0.7s,baz=110,slow=8.0,SNR=4.7								
ARCES	**ARCESS Array B**	**72.61**	**340**	LR			LR	02 17 33.7	
	comp=Z,54nm,20.9s,baz=124,slow=38								
GERES	**GERESS Array B**	**75.99**	**318**	P			**P**	**01 43 32.0**	**-0.1**
	0.4nm,0.7s,baz=96,slow=4.2,SNR=5.8								
URZ	**Urewera**	**90.74**	**129**	LR			LR	02 28 22.1	
	comp=Z,82nm,18.2s,baz=108,slow=38								

*SJA **02** 01:43:26.5±1.8, 33°.24S×72°.47W, h13km±110km, ML4.1, MW4.6*

*IDC **02** 01:43:28.8±0.7, 33°.25S×71°.79W, h0km, mb4.0/8, mb1 4.1/10,mb1mx4.1/16,mbtmp3.9/10,ML3.7/2,MS4.0/4, Ms1 4.0/4,ms1mx3.5/19,Error ellipse: s-maj=25.4km s-min=20.2km az=96.0*

*ISCJB **02** 01:43:31.5±1.6, 33°.31S±0°.05×72°.09W±0°.08, h31km±11km, mb4.2/24,MS3.9/1,Error ellipse: s-maj=11.8km s-min=8.5km az=166.2*

*NEIC **02** 01:43:32.0, 33°.27S×71°.97W, h30km, mb4.4/17, ML4.4(GUC),After GUC.*

NEIC Felt [III] at El Quisco, Pichilemu, San Antonio, Valparaiso and Zapallar; [II] at Puchuncavi, Quintero and Villa Alemana.

*GUC **02** 01:43:32.0±0.8, 33°.27S×71°.97W, h30km±17km, ML4.4*

ISC 02 01:43:32.8±1.2, **33°.25S**±0°.04×**71°.94W**±0°.05, **h28**km±8km, **n78,** σ1**s36**/87, **mb4.2**/24, **1C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.34**	**48**	⇓*i*P			**Pb**	**01 43 40.5**	**-0.1**
IHA				*i* S			**Sb**	**01 43 46.0**	**0.0**
ROCH	**El Roble**	**0.83**	**71**	⇓*i*P			**Pb**	**01 43 47.9**	**-0.9**
ROCH				*i* S			**Sb**	**01 44 00.2**	**+0.5**
ROCH					AML		AML	01 44 04.4	
	comp=N,14μm,0.4s								
PEL	**Peldehue**	**1.06**	**84**	⇑*i*P			**Pn**	**01 43 51.8**	**0.0**
PEL				*i* S			**Sb**	**01 44 06.2**	**+0.1**
PEL					AML		AML	01 44 10.6	
	comp=N,27μm,0.6s								
CLCH	**Cerro Calan**	**1.19**	**97**	⇓*i*P			**Pn**	**01 43 53.5**	**0.0**
CLCH				*e*S			**Sb**	**01 44 10.0**	**+0.3**
CLCH					AML		AML	01 44 16.1	
	comp=E,12μm,0.6s								
CLCH					AML		AML	01 44 16.7	
	comp=E,15μm,0.7s								
LACH	**Col Las Americ**	**1.20**	**100**	*e*P			**Pn**	**01 43 53.1**	**-0.6**
LACH				*i* S			**Sn**	**01 44 09.3**	**+0.3**
TALC	**Talca**	**2.15**	**173**	*e*P			**Pn**	**01 44 07.0**	**+0.3**
TALC				*i* S			**Sn**	**01 44 33.3**	**+0.8**
AUSP	**Uspallata**	**2.39**	**65**	*e*P			**Pb**	**01 44 13.8**	**-1.5**
ARCO	**CERRO ARCO**	**2.56**	**82**	*e*P			**Pb**	**01 44 17.0**	**-1.2**
ARCO				*e*S			**Sb**	**01 44 53.6**	**+4.3**
ARCO					AML		AML	01 44 56.6	
	comp=Z,634nm,0.5s								
AAGR	**Agrelo**	**2.62**	**87**	*e*P			**Pb**	**01 44 16.9**	**-2.1**
AAGR				*e*S			**Sb**	**01 44 54.7**	**+3.9**
RTLS	**Leoncito**	**2.67**	**58**	*e*P			**Pb**	**01 44 17.3**	**-2.7**
ASAL	**Salagasta**	**2.70**	**77**	*e*P			**Pb**	**01 44 19.9**	**-0.5**
RTCV	**Cerro Valdivia**	**3.19**	**65**	*e*P			**Pn**	**01 44 24.2**	**+3.1**
RTLL	**Cerro Villicun**	**3.51**	**58**	*e*P			**Pn**	**01 44 28.0**	**+2.5**
CFAA	**Coronel Fontan**	**3.54**	**63**	Pn			**Pn**	**01 44 27.7**	**+1.8**
	comp=Z,1.3nm,0.3s,baz=211,slow=7.9,SNR=46								
CFAA					Lg		Lg	01 45 16.2	
	comp=Z,8.6nm,0.3s,baz=93,slow=14,SNR=5.3								
CFAA					LR		LR	01 46 03.9	
	comp=Z,101nm,22.0s,baz=254,slow=45								
CFAA	**Coronel Fontan**	**3.54**	**63**	*e*P			Pb	01 44 31.2	-3.5
CFAA				*e*S			**Sb**	**01 45 17.3**	**0.0**
AMOG	**MOGNA**	**3.73**	**53**	*e*P			**Pn**	**01 44 31.2**	**+2.7**
LCO	**Las Campanas**	**4.36**	**14**	*e*Pn			**Pn**	**01 44 36.6**	**-0.7**
LCO				*e*Sg			**Sb**	**01 45 45.7**	**+4.5**
AGUA	**GUANDACOL**	**4.78**	**39**	*e*P			**Pn**	**01 44 46.0**	**+3.0**
PLCA	**Paso Flores**	**7.55**	**172**	Pn			**Pn**	**01 45 21.9**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=334,slow=10,SNR=6.8								
PLCA					Lg		Lg	01 47 22.6	
	comp=Z,0.1nm,0.3s,baz=56,slow=18,SNR=3.0								
PLCA					LR		LR	01 48 42.1	
	comp=Z,324nm,20.9s,baz=323,slow=42								
PLCA	**Paso Flores**	**7.55**	**172**	*e*Pn			**Pn**	**01 45 21.4**	**+0.5**
PLCA					Lg		Lg	01 47 22.6	
TRQA	**Tornquist**	**9.42**	**123**	*e*Pn			**Pn**	**01 45 47.3**	**+0.7**
	comp=Z,12nm,0.9s								
TRQA				*e*Lg			Lg	01 48 19.6	
LVC	**Limon Verde**	**10.93**	**15**	LR			LR	01 50 20.1	
	comp=Z,1μm,20.8s,baz=202,slow=38								
LVC	**Limon Verde**	**10.93**	**15**	*e*Pn			Pn	01 46 03.4	-4.2
	comp=Z,9.8nm,0.5s								
LVC				*e*Sn			**Sn**	**01 48 09.1**	**0.0**
CPUP	**Villa Florida**	**14.44**	**65**	Pn			**Pn**	**01 46 54.1**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=241,slow=10,SNR=5.6								
CPUP					Sn		**Sn**	**01 49 34.9**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=90,slow=20,SNR=2.1								
CPUP					LR		LR	01 52 55.8	
	comp=Z,2μm,18.5s,baz=226,slow=40								
CPUP	**Villa Florida**	**14.44**	**65**	*e*Pn			**Pn**	**01 46 52.9**	**-2.3**
CPUP					Sn		**Sn**	**01 49 34.9**	**+0.6**
SAML	**Samuel**	**25.50**	**20**	*e*P			**P**	**01 48 58.6**	**-0.2**
	comp=Z,10nm,0.8s								
BDFB	**Brasilia**	**27.85**	**57**	P			**P**	**01 49 19.0**	**-1.2**
	comp=Z,2.8nm,0.6s,baz=218,slow=8.6,SNR=7.9								
BDFB					LR		LR	02 01 45.1	
	comp=Z,324nm,19.7s,baz=224,slow=40								
OTAV	**Otavalo**	**33.87**	**348**	*e*P			**P**	**01 50 11.7**	**-1.9**
	comp=Z,1.7nm,0.9s								
SDV	**Santo Domingo**	**41.92**	**2**	*e*P			**P**	**01 51 19.1**	**-2.1**
	comp=Z,3.9nm,0.8s								
BCIP	**Isla Barro Col**	**42.85**	**348**	*e*P			**P**	**01 51 28.6**	**+0.1**
VNA3	**Neumayer Olymp**	**50.02**	**158**	P			**P**	**01 52 24.8**	**+0.6**
VNA2	**Neumayer--Watz**	**50.67**	**157**	P			**P**	**01 52 30.1**	**+0.9**
	baz=288,slow=9.1								
OBIP	**Obispado Ponce**	**51.26**	**7**	*e*P			**P**	**01 52 33.6**	**-0.5**
SDDR	**Presa de Saban**	**51.95**	**1**	*e*P			**P**	**01 52 38.7**	**-0.5**
SNAA	**Sanae**	**52.24**	**158**	P			**P**	**01 52 41.5**	**+0.5**
SNAA	**Sanae**	**52.24**	**158**	P			**P**	**01 52 41.2**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=301,slow=7.5,SNR=6.4								
SNAA	**Sanae**	**52.24**	**158**	*e*P			**P**	**01 52 41.2**	**+0.2**
	comp=Z,7.8nm,1.2s								
QSPA	**South Pole Qui**	**56.98**	**180**	*e*P			**P**	**01 53 15.8**	**+0.3**
	comp=Z,4.4nm,0.8s								
VNDA	**Vanda**	**64.85**	**191**	P			**P**	**01 54 09.4**	**+0.8**
	comp=Z,0.8nm,0.9s,baz=140,slow=5.4,SNR=6.0								
JCT	**Junction City**	**68.65**	**334**	*e*P			**P**	**01 54 33.9**	**+0.5**
	comp=Z,3.5nm,0.7s								
TXAR	**Lajitas Array**	**69.12**	**331**	P			**P**	**01 54 37.8**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=154,slow=8.7,SNR=9.0								
ABTX	**Abilene, Hawle**	**70.53**	**335**	*e*P			**P**	**01 54 45.7**	**+0.7**
	comp=Z,2.5nm,0.5s								
WVT	**Waverly**	**70.61**	**346**	*e*P			**P**	**01 54 44.9**	**-0.3**
	comp=Z,12nm,1.0s								
DBIC	**Dimbokro**	**74.87**	**71**	P			**P**	**01 55 11.1**	**0.0**
	comp=Z,5.8nm,1.0s,baz=164,slow=7.4,SNR=3.6								
DBIC	**Dimbokro**	**74.87**	**71**	*e*P			**P**	**01 55 11.2**	**0.0**
	comp=Z,21nm,1.4s								
SUR	**Sutherland**	**75.12**	**119**	*e*P			**P**	**01 55 11.1**	**-1.6**
	comp=Z,26nm,1.7s								
ANMO	**Albuquerque**	**75.17**	**331**	*e*P			**P**	**01 55 13.0**	**+0.4**
	comp=Z,1.2nm,0.9s								
WUAZ	**Wupatki**	**77.74**	**328**	*e*P			**P**	**01 55 27.7**	**+0.6**
	comp=Z,5.7nm,0.9s								
TSUM	**Tsumeb**	**79.34**	**106**	*e*P			**P**	**01 55 35.6**	**-0.9**
	comp=Z,6.3nm,1.2s								
ECSD	**EROS Data Cent**	**79.86**	**342**	*e*P			**P**	**01 55 38.5**	**+0.1**
	comp=Z,1.9nm,0.7s								
DUG	**Dugway, Tooele**	**82.27**	**330**	*e*P			**P**	**01 55 52.5**	**+1.0**
	comp=Z,1.1nm,0.7s								
HWUT	**Hardware Ranch**	**82.94**	**331**	*e*P			**P**	**01 55 55.5**	**+0.6**
	comp=Z,1.9nm,0.9s								
PDAR	**Pinedale Array**	**83.13**	**333**	P			**P**	**01 55 57.4**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=147,slow=5.1,SNR=3.7								
NVAR	**Mina Array Bea**	**83.32**	**325**	P			**P**	**01 55 58.9**	**+1.8**
	comp=Z,1.9nm,0.9s,baz=142,slow=4.6,SNR=2.7								
TOA0	**Torodi Ar. Sit**	**83.88**	**70**	*e*P			**P**	**01 56 00.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**83.88**	**70**	P			**P**	**01 56 00.2**	**0.0**
	comp=Z,2.8nm,0.7s,baz=253,slow=5.0,SNR=18								
YMR	**Madison River**	**85.29**	**333**	*e*P			**P**	**01 56 07.9**	**+1.0**
	comp=Z,5.1nm,0.9s								
MCMT	**McKenzie Canyo**	**86.15**	**332**	*e*P			**P**	**01 56 13.0**	**+1.7**
	comp=Z,1.3nm,0.8s								
FCC	**Fort Churchill**	**93.52**	**349**	*e*P			**P**	**01 56 45.7**	**+0.5**
YKA	**Yellowknife Ar**	**101.38**	**341**	P			**Pdif**	**01 57 19.9**	**-0.8**
	comp=Z,0.1nm,0.6s,baz=147,slow=4.5,SNR=4.0								
BRTR	**Keskin Array B**	**121.40**	**60**	PKP			**PKPdf**	**02 02 23.3**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=197,slow=1.5,SNR=4.5								
WRA	**Warramunga Arr**	**121.45**	**209**	PKP			**PKPdf**	**02 02 23.1**	**-0.9**
	comp=Z,1.4nm,1.2s,baz=172,slow=1.7,SNR=4.7								
AKASG	**Malin Array Be**	**121.63**	**47**	PKP			**PKPdf**	**02 02 22.0**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=253,slow=2.4,SNR=3.9								
H11S2	**WAKE ISLAND Hyd**	**125.86**	**270**	T			T	04 21 20.1	
	baz=118,slow=74,SNR=64								
H11S1	**WAKE ISLAND Hyd**	**125.87**	**270**	T			T	04 21 17.6	
	baz=118,slow=74,SNR=53								
H11S3	**WAKE ISLAND Hyd**	**125.88**	**270**	T			T	04 21 19.6	
	baz=118,slow=74,SNR=46								
H11N3	**WAKE ISLAND Hyd**	**126.25**	**271**	T			T	04 21 48.5	
	baz=127,slow=72,SNR=4.4								
H11N1	**WAKE ISLAND Hyd**	**126.27**	**271**	T			T	04 21 51.0	
	baz=127,slow=72,SNR=4.5								
H11N2	**WAKE ISLAND Hyd**	**126.27**	**271**	T			T	04 21 49.8	
	baz=127,slow=72,SNR=8.6								
KKAR	**Karatay Array**	**149.11**	**60**	*e*PKPbc			**PKPbc**	**02 03 18.4**	**+0.2**
KKAR				*e*PKPab			**PKPab**	**02 03 22.8**	**+0.2**
EKS2	**Erkin-Say**	**151.55**	**61**	*e*PKPbc			**PKPbc**	**02 03 24.9**	**+0.7**
KURK	**Kurchatov**	**152.28**	**42**	*e*PKPbc			**PKPbc**	**02 03 26.0**	**+0.6**
TKM2	**Tokmak 2**	**152.83**	**60**	*e*PKPdf			**PKPdf**	**02 03 19.4**	**-0.6**
TKM2				*e*PKPbc			**PKiKP**	**02 03 27.5**	**+0.1**
ZAA0	**Zalesovo Array**	**153.55**	**32**	*e*PKPbc			**PKPbc**	**02 03 28.4**	**+0.3**
ZALV	**Zalesovo Beam**	**153.55**	**32**	PKP			**PKPdf**	**02 03 20.7**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=323,slow=2.2,SNR=4.3								
ZALV					PKPbc		**PKPbc**	**02 03 27.9**	**-0.1**
	comp=Z,3.2nm,0.8s,baz=309,slow=3.9,SNR=14								
ZALV					PKPab		**PKPab**	**02 03 41.3**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=301,slow=5.1,SNR=5.5								
MKAR	**Makanchi Array**	**156.21**	**48**	PKP			**PKPdf**	**02 03 24.2**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=289,slow=4.4,SNR=4.0								
MKAR					PKPab		**PKPab**	**02 03 52.4**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=278,slow=8.2,SNR=19								
SONM	**Songino Array**	**165.38**	**4**	PKPab			**PKPab**	**02 04 33.6**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=345,slow=5.1,SNR=2.9								
ULN	**Ulaanbaatar**	**165.38**	**3**	*e*PKPab			**PKPab**	**02 04 33.2**	**+1.0**

*BJI **02** 01:44:38.7, 6°.03N×92°.63E, h15km, mb4.7/40, mB4.7/22, Ms4.2/31,Ms7 4.0/27*

*IDC **02** 01:44:43.0±0.6, 6°.59N×92°.86E, h0km, mb4.3/23, mb1 4.4/25,mb1mx4.3/33,mbtmp4.3/25,ML4.3/2,MS3.4/8, Ms1 3.4/8,ms1mx3.2/36,Error ellipse: s-maj=20.4km s-min=13.8km az=40.0*

*ISCJB **02** 01:44:43.8±1.0, 6°.46N±0°.03×92°.78E±0°.03, h19km±7km, mb4.5/80,MS3.7/9,Error ellipse: s-maj=6.4km s-min=3.8km az=31.2*

*NEIC **02** 01:44:46.4±1.3, 6°.57N×92°.80E, h22km±9km, mb4.7/38, Error ellipse: s-maj=6.0km s-min=3.6km az=215.0*

*MOS **02** 01:44:46.0±0.9, 6°.54N×92°.84E, h33km, mb4.9/28,Error ellipse: s-maj=9.3km s-min=4.9km az=120.0*

*SZGRF **02** 01:44:51.6, 6°.73N×92°.21E, h33km, mb4.6,Nicobar Islands, India, region*

*DJA **02** 01:44:52.2±0.8, 6°.N±4°.×9°.3E±°, h57km±14km, M4.6/8, mb4.4/8,mB6.2/1,MLv4.7/4,Mw(mB)5.8/1*

ISC 02 01:44:46.1±0.5, **6°.52N**±0°.04×**92°.79E**±0°.04, **h20**km±2km, **h20**km**:pP-P, n301,** σ1**s46**/333, **mb4.6**/80, **MS3.6**/9, **35C-13D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**1.23**	**67**	*e*P			**Pb**	**01 45 08.7**	**0.0**
CMBY				*e*S			**Sn**	**01 45 24.4**	**+0.2**
BSI	**Banda Aceh**	**2.69**	**112**	P			**Pn**	**01 45 27.9**	**-0.5**
BSI				S			**Sn**	**01 45 58.5**	**-2.0**
LHMI	**Lhok Sumawe**	**4.33**	**107**	P			Pn	01 45 54.2	+3.3
LHMI				S			**Sn**	**01 46 39.0**	**-1.9**
SNSI	**Sinabang, Aceh**	**5.40**	**139**	P			Pn	01 46 02.1	-3.5
PKDT	**Phuket**	**5.67**	**76**	P			Pb	01 46 19.9	-4.5
	82nm,0.9s,4μm								
DGPR	**DIGLIPUR**	**6.61**	**1**	*e*P			**Pn**	**01 46 22.7**	**+0.4**
DGPR					AMB		AMB	01 46 41.6	
	comp=Z,30nm,3.3s								
DGPR				*e*S			**Sn**	**01 47 35.0**	**-2.1**
TRTT	**Trang**	**6.97**	**79**	P			Pb	01 46 38.3	-8.3
	comp=Z,39nm,0.7s								
GSI	**Gunungsitoli**	**7.05**	**137**	P			**Pn**	**01 46 25.6**	**-2.7**
	comp=Z,25nm,0.9s,comp=Z,0.2nm								
GSI				S			**Sn**	**01 47 43.0**	**-4.9**
	comp=Z,25nm,0.9s,comp=Z,0.2nm								
PSI	**Prapat**	**7.14**	**121**	Pn			**Pn**	**01 46 29.8**	**+0.1**
	comp=Z,1.9nm,0.3s,baz=307,slow=12,SNR=17								
PSI					Sn		**Sn**	**01 47 48.2**	**-2.2**
	comp=Z,3.5nm,0.3s,baz=128,slow=18,SNR=5.7								
PSI					LR		LR	01 49 31.1	
	comp=Z,148nm,19.7s,baz=319,slow=40								
KULM	**Kulim**	**7.92**	**98**	*e*Pn			**Pn**	**01 46 40.0**	**-0.1**
IPM	**Ipoh**	**8.45**	**103**	*e*Pn			**Pn**	**01 46 46.7**	**-0.8**
IPM				*e*Sn			**Sn**	**01 48 18.0**	**-4.4**
MNSI	**Mandailing Nat**	**8.85**	**130**	P			**Pn**	**01 46 50.5**	**-2.5**
	comp=Z,17nm,1.1s								
MNSI				S			Sn	01 48 25.5	-6.7
	comp=Z,17nm,1.1s								
PALK	**Pallekele**	**12.02**	**274**	*e*P			**Pn**	**01 47 36.2**	**-0.3**
PALK	**Pallekele**	**12.02**	**274**	*e*Pn			**Pn**	**01 47 36.2**	**-0.3**
PALK				*e*Sn			Sn	01 49 38.4	-12
MHMT	**Maesarieng**	**12.62**	**23**	P			Pn	01 47 48.1	+3.4
	comp=Z,12nm,0.8s								
CMAR	**Chiang Mai Arr**	**13.29**	**26**	Pn			**Pn**	**01 47 53.3**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=230,slow=14,SNR=7.0								
CMAR					LR		LR	01 51 51.3	
	comp=Z,73nm,21.4s,baz=216,slow=32								
UTTA	**Uttaradit**	**13.48**	**34**	P			**P**	**01 48 06.3**	**+0.7**
	comp=Z,5.7nm,0.9s								
CHTO	**Chiang Mai**	**13.61**	**26**	P			Pn	01 48 02.1	+4.0
	comp=Z,67nm,1.1s								
CHTO	**Chiang Mai**	**13.61**	**26**	*e*P			**Pn**	**01 47 59.0**	**+0.9**
CHTO	**Chiang Mai**	**13.61**	**26**	*e*Pn			**Pn**	**01 47 59.0**	**+0.9**
CMMT	**Chiang Mai**	**13.61**	**26**	P			Pn	01 48 02.0	+3.8
	comp=Z,20nm,1.1s								
LAMP	**Lampang**	**13.66**	**29**	P			**P**	**01 48 08.0**	**+0.4**
	comp=Z,6.6nm,0.7s								
VIS	**Vishakhapatnam**	**14.46**	**321**	*i* P			**Pn**	**01 48 09.2**	**-0.7**
VIS					AMB		AMB	01 48 10.1	
	comp=Z,16nm,0.8s								
VIS				*i* x			x	01 50 33.5	
CHLP	**Challavanipeta**	**14.64**	**325**	*e*Pn			**Pn**	**01 48 10.9**	**-1.3**
CHLP				*e*Sn			Sn	01 50 39.5	-14
CMAI	**Chiengmai2**	**14.65**	**24**	P			**P**	**01 48 15.8**	**-2.9**
	comp=Z,10nm,1.0s								
SKHT	**Srikalahasti**	**14.73**	**300**	*e*P			**Pn**	**01 48 13.9**	**+0.4**
SKHT				*e*Sn			Sn	01 50 42.5	-14
LHSI	**Lahat**	**14.85**	**134**	P			P	01 48 24.2	+3.4
SKNT	**Sakolnakorn**	**15.09**	**46**	P			**P**	**01 48 23.0**	**-0.4**
	comp=Z,28nm,1.4s								
CRAI	**Chiangrai**	**15.48**	**28**	P			**Pn**	**01 48 20.2**	**-3.3**
MDSI	**Maura Dua**	**15.78**	**134**	P			**P**	**01 48 32.0**	**+0.9**
KASI	**Kota Agung**	**16.73**	**135**	P			**P**	**01 48 43.4**	**+1.8**
HYB	**Hyderabad**	**17.62**	**309**	*i* P			**P**	**01 48 51.5**	**-0.1**
HYB				*e*S			**Sn**	**01 52 06.0**	**-0.7**
HYB	**Hyderabad**	**17.62**	**309**	*e*Pn			**Pn**	**01 48 50.5**	**-0.3**
HYB	**Hyderabad**	**17.62**	**309**	*e*P			**P**	**01 48 51.5**	**-0.1**
HYB				*e*S			**S**	**01 52 14.0**	**0.0**
HYB	**Hyderabad**	**17.62**	**309**	*e*P			**P**	**01 48 51.5**	**-0.1**
HYB				*e*S			**S**	**01 52 14.0**	**0.0**
HYBB	**Hyderabad (bro**	**17.62**	**309**	*e*P			**Pn**	**01 48 50.7**	**0.0**
HYBB				*e*Sn			**Sn**	**01 52 02.0**	**-4.7**
KSM	**Kuching**	**18.18**	**105**	P			**P**	**01 48 59.2**	**+1.5**
	baz=18,SNR=5.3								
KSM	**Kuching**	**18.18**	**105**	*e*P			**P**	**01 48 58.0**	**+0.3**
	comp=Z,23nm,0.7s								
IMP	**Imphal**	**18.19**	**3**	*e*P			**Pn**	**01 48 55.0**	**-2.7**
IMP				*e*S			**Sn**	**01 52 14.0**	**-6.3**
BOK	**Bokaro**	**18.41**	**340**	*e*P			**P**	**01 49 00.1**	**-0.1**
SHL	**Shillong**	**18.96**	**357**	*e*P			**P**	**01 49 04.6**	**-1.8**
SHL					AMB		AMB	01 49 07.6	
	comp=Z,11nm,0.4s								
LEM	**Lembang**	**19.87**	**132**	LR			LR	01 58 24.2	
	comp=Z,261nm,19.3s,baz=242,slow=41								
GOA	**Goa**	**20.62**	**297**	*e*P			**P**	**01 49 24.8**	**+0.3**
QIZ	**Qiongzhong**

comp=Z,5.0nm,1.0s
GTA PMZ
comp=Z,87nm,5.0s
GTA LN
comp=Z,110nm,14.7s
GTA LE
comp=Z,91nm,16.2s
GTA LZ
comp=Z,81nm,16.6s
NJ2 Nanjing 35.16 40 *e*P **P 01 51 37.9 -0.8**
NJ2 PMZ
comp=Z,30nm,0.5s
KSH Kashi 36.17 338 P **P 01 51 46.2 -1.3**
KSH sP **sP 01 51 53.3 -2.8**
KSH PP **PnPn 01 53 07.3 -1.9**
KSH S **S 01 57 22.2 -4.4**
KSH PcS **PcS 01 58 00.2 -0.4**
KSH PMZ
comp=Z,8.0nm,0.9s
KSH PMZ
comp=Z,52nm,4.0s
KSH LN
comp=Z,150nm,9.9s
KSH LE
comp=Z,130nm,5.9s
KSH LZ
comp=Z,150nm,5.7s
WMQ Urumqi 37.42 354 *e*P **P 01 52 00.8 +2.8**
WMQ pP **pP 01 52 07.7 +3.6**
WMQ PMZ
comp=Z,8.0nm,0.5s
WMQ PMZ
comp=Z,99nm,4.6s
WMQ LE
comp=Z,130nm,22.0s
WMQ LZ
comp=Z,140nm,20.8s
HHC Hu-ho-hao-te 38.08 23 *e*P **P 01 52 05.7 +2.1**
HHC PP **PnPn 01 53 36.6 +4.3**
HHC S **S 01 57 55.0 -0.5**
HHC SS **SnSn 02 00 36.0 -3.0**
HHC PMZ
comp=Z,25nm,0.7s
HHC PMZ
comp=Z,110nm,4.3s
HHC LN
comp=Z,350nm,17.3s
HHC LE
comp=Z,360nm,18.5s
HHC LZ
comp=Z,280nm,17.3s
KZA Kyzart 38.68 339 P **P 01 52 09.8 +0.8**
SNR=8.6
KZA Kyzart 38.68 339 *i* P **P 01 52 09.8 +0.8**
UCH Uchtor 39.07 338 P **P 01 52 13.1 +0.7**
SNR=18
UCH Uchtor 39.07 338 *i* P **P 01 52 13.1 +0.7**
KBK Karagaybulak 39.29 339 P **P 01 52 15.1 +1.2**
SNR=18
KBK Karagaybulak 39.29 339 *i* P **P 01 52 15.1 +1.2**
AML Almayashu 39.30 337 P **P 01 52 15.2 +1.0**
SNR=20
AML Almayashu 39.30 337 *i* P **P 01 52 15.2 +1.0**
TKM2 Tokmak 2 39.30 340 P **P 01 52 14.4 +0.4**
SNR=6.5
TKM2 Tokmak 2 39.30 340 *i* P **P 01 52 14.4 +0.4**
TKM2 Tokmak 2 39.30 340 *e*P **P 01 52 14.0 0.0**
comp=Z,4.8nm,0.8s
BJI Beijing 39.42 29 P **P 01 52 16.3 +1.5**
BJI PcP **PcP 01 54 23.7 +1.0**
BJI S **S 01 58 15.1 -0.5**
BJI SS **SS 02 01 09.2 -0.9**
BJI PMZ
comp=Z,12nm,0.5s
BJI PMZ
comp=Z,63nm,5.5s
BJI LN
comp=Z,170nm,14.0s
BJI LE
comp=Z,120nm,17.5s
BJI LZ
comp=Z,42nm,17.5s
AAK Ala-Archa 39.43 339 P **P 01 52 16.1 +1.0**
SNR=11
AAK Ala-Archa 39.43 339 P **P 01 52 16.3 +1.2**
comp=Z,9.9nm,0.9s,baz=131,slow=5.5,SNR=30
AAK Ala-Archa 39.43 339 *i* P **P 01 52 16.0 +1.0**
AAK pmax pmax
comp=Z,27nm,1.0s
AAK Ala-Archa 39.43 339 *e*P **P 01 52 16.3 +1.2**
comp=Z,14nm,1.0s
EKS2 Erkin-Say 39.72 338 P **P 01 52 18.5 +1.0**
SNR=9.1
EKS2 Erkin-Say 39.72 338 *i* P **P 01 52 18.4 +1.0**
EKS2 Erkin-Say 39.72 338 *e*P **P 01 52 17.9 +0.5**
comp=Z,12nm,0.9s
USP Ospenovka 39.98 339 P **P 01 52 19.9 +0.3**
SNR=14
USP Ospenovka 39.98 339 *i* P **P 01 52 19.8 +0.3**
MK31 Makanchi Array 41.13 349 *e*P **P 01 52 28.2 -0.7**
MK31 Makanchi Array 41.13 349 *e*P **P 01 52 28.2 -0.7**
MKAR Makanchi Array 41.13 349 P **P 01 52 28.1 -0.8**
comp=Z,1.4nm,0.6s,baz=177,slow=8.1,SNR=28
MKAR LR LR 02 13 41.3
comp=Z,37nm,18.5s,baz=180,slow=42
MKAR Makanchi Array 41.13 349 *e*P **P 01 52 28.6 -0.3**
MKAR Makanchi Array 41.13 349 *e*P **P 01 52 28.6 -0.3**
KKAR Karatay Array 41.39 335 *e*P **P 01 52 30.9 -0.2**
KKAR pmax pmax
comp=Z,5.0nm,0.8s
KKAR Karatay Array 41.39 335 *e*P **P 01 52 30.9 -0.2**
comp=Z,5.4nm,0.8s
SONM Songino Array 42.77 13 P **P 01 52 41.3 -1.1**
comp=Z,1.7nm,0.8s,baz=199,slow=8.2,SNR=12
SONM PcP **PcP 01 54 34.0 +0.3**
comp=Z,2.4nm,0.8s,baz=180,slow=3.7,SNR=6.7
ULN Ulaanbaatar 42.96 14 *e*P **P 01 52 43.5 -0.5**
ULN Ulaanbaatar 42.96 14 *e*P **P 01 52 43.5 -0.5**
JNU Nakatsue 44.14 48 P **P 01 52 51.5 -2.1**
comp=Z,8.1nm,0.9s,baz=121,slow=2.3,SNR=4.8
JNU LR LR 02 12 17.1
comp=Z,79nm,19.4s,slow=38
JNU Nakatsue 44.14 48 *e*P **P 01 52 53.0 -0.6**
comp=Z,6.2nm,0.9s
KSAR Wonju Array Be 44.32 41 P **P 01 52 54.7 -0.2**
KSAR Wonju Array Be 44.32 41 P **P 01 52 54.7 -0.2**
GEYT Alibeck 44.33 320 P **P 01 52 56.3 +1.2**
comp=Z,19nm,0.8s,baz=142,slow=7.5,SNR=56
GEYT LR LR 02 14 46.9
comp=Z,79nm,18.5s,baz=355,slow=41
KSRS Korea Array 44.36 41 P **P 01 52 54.7 -0.5**
comp=Z,0.5nm,0.3s,baz=232,slow=6.3,SNR=3.5
KSRS LR LR 02 13 34.3
comp=Z,28nm,18.6s,baz=230,slow=39
SNY Shenyang 44.53 33 ⇑P P 01 53 04.3 +7.8
SNY pmax pmax
comp=Z,8.0nm,0.4s
ZAK Zakamensk 44.59 10 *e*P **P 01 52 56.7 -0.3**
ZAK *e* 01 54 39.4
ZAK pmax pmax
comp=Z,2.0nm,1.6s
KURBB Kurchatov Arra 45.54 347 P **P 01 53 04.3 -0.1**
comp=Z,5.2nm,0.9s,baz=170,slow=7.0,SNR=42
KURBB PcP **PcP 01 54 43.1 +0.2**
comp=Z,1.8nm,0.8s,baz=159,slow=2.8,SNR=7.1
KURK Kurchatov 45.61 347 *e*P **P 01 53 04.6 -0.3**
KURK 01 54 43.1
KURK pmax pmax
comp=Z,9.0nm,1.1s
KURK Kurchatov 45.61 347 *e*P **P 01 53 04.6 -0.3**
comp=Z,9.4nm,1.1s
KURK PcP **PcP 01 54 43.1 0.0**
TLY Talaya 45.90 9 *e*P **P 01 53 07.8 +0.5**
TLY pmax pmax
comp=Z,4.0nm,1.4s
WRKA Warakurna 46.67 134 P **P 01 53 14.2 +0.4**
baz=47,SNR=4.5
ZAA0 Zalesovo Array 47.73 354 *e*P **P 01 53 21.1 -0.4**
ZALV Zalesovo Beam 47.73 354 P **P 01 53 21.1 -0.4**
comp=Z,7.0nm,0.8s,baz=168,slow=7.6,SNR=37
RAYN Ar Rayn 48.44 296 *e*P **P 01 53 28.7 +1.1**
comp=Z,24nm,2.3s
WRA Warramunga Arr 48.60 124 P **P 01 53 28.4 -0.5**
comp=Z,9.1nm,0.8s,baz=304,slow=9.0,SNR=38
WRAB Tennant Creek 48.61 124 *c i*P **P 01 53 28.6 -0.2**
WRAB pmax pmax
comp=Z,66nm,1.2s
WRAB Tennant Creek 48.61 124 *e*P **P 01 53 28.8 0.0**
comp=Z,17nm,0.9s
NVS Novosibirsk 48.79 353 *e*P **P 01 53 26.7 -2.9**
BVAR Borovoye Array 49.85 342 P **P 01 53 37.2 -0.7**
comp=Z,4.5nm,0.8s,baz=154,slow=8.2,SNR=20
BRVK Borovoye 49.91 342 *e*P **P 01 53 37.9 -0.3**
BRVK pmax pmax
comp=Z,5.0nm,0.9s
BRVK Borovoye 49.91 342 *e*P **P 01 53 37.9 -0.3**
comp=Z,5.3nm,0.9s
ASAR Alice Springs 50.11 128 P **P 01 53 39.9 -0.4**
comp=Z,7.2nm,0.8s,baz=300,slow=7.4,SNR=80
AS31 Alice Springs 50.11 128 *e*P **P 01 53 39.9 -0.5**
FORT Forrest 50.16 140 P **P 01 53 41.9 +1.4**
baz=50,SNR=8.6
FORT Forrest 50.16 140 *e*P **P 01 53 41.7 +1.3**
comp=Z,42nm,0.8s
ABKAR Akbulak array 50.79 333 *e*P **P 01 53 45.0 0.0**
comp=Z,2.1nm,0.6s
MJAR Matsushiro Arr 51.05 48 P **P 01 53 47.0 -0.3**
comp=Z,0.7nm,0.6s,baz=239,slow=7.3,SNR=4.5
AKTO Aktyubinsk 52.50 333 P **P 01 53 57.1 -0.7**
comp=Z,2.5nm,0.9s,baz=122,slow=7.4,SNR=4.9
QIS Mount Isa 53.29 122 P **P 01 54 03.8 -0.3**
baz=40,SNR=3.2
BOD Bodaibo 53.77 14 *e*P **P 01 54 06.6 -0.4**
BOD pmax pmax
comp=Z,11nm,0.9s
GNI Garni 54.44 316 *c i*P **P 01 54 13.1 +0.7**
GNI pmax pmax
comp=Z,8.0nm,1.0s
GNI Garni 54.44 316 *e*P **P 01 54 13.2 +0.8**
comp=Z,27nm,1.6s
KMBO Kilima Mbogo 55.95 264 P **P 01 54 25.6 +1.7**
comp=Z,0.7nm,0.4s,baz=64,slow=6.8,SNR=3.0
KMBO Kilima Mbogo 55.95 264 *e*P **P 01 54 25.1 +1.2**
KMBO pmax pmax
comp=Z,4.0nm,1.1s
KMBO Kilima Mbogo 55.95 264 *e*P **P 01 54 25.1 +1.2**
comp=Z,4.4nm,1.1s
ZEI Tsey 56.13 318 *e*P **P 01 54 24.1 -0.5**
ZEI pmax pmax
comp=Z,5.0nm,0.9s
SVE Sverdlovsk 56.17 339 *e*P **P 01 54 24.0 -0.4**
SVE pmax pmax
comp=Z,18nm,1.0s
SVE MLR MLR
comp=Z,188nm,21.0s
ARU Arti 56.62 338 *d i*P **P 01 54 27.0 -0.6**
ARU 01 56 28.6
ARU S **S 02 02 20.6 +2.1**
ARU SS **SS 02 06 04.3 -1.9**
ARU pmax pmax
comp=Z,8.0nm,1.0s
ARU Arti 56.62 338 *e*P **P 01 54 26.6 -0.9**
comp=Z,5.9nm,1.0s
KBZ Khabaz 57.19 319 P **P 01 54 31.9 +0.1**
comp=Z,4.5nm,0.9s,baz=56,slow=24,SNR=14
KBZ Khabaz 57.19 319 P **P 01 54 32.0 +0.1**
KIV Kislovodsk 57.43 319 ⇓*i*P **P 01 54 34.4 +0.7**
KIV *e* 01 55 24.2
KIV *e*SS **SS 02 06 21.8 +2.1**
KIV pmax pmax
comp=Z,6.0nm,0.7s
KIV MLR MLR
comp=Z,29nm,18.0s
YSS Yuzh-Sakhalins 58.66 38 *i* P **P 01 54 41.7 -0.4**
CTAO Charters Tower 58.84 118 *e*P **P 01 54 43.9 0.0**
CTAO pmax pmax
comp=Z,9.0nm,0.9s
CTAO Charters Tower 58.84 118 *e*P **P 01 54 43.9 0.0**
comp=Z,9.3nm,0.9s
SOC Sochi 59.25 317 *e*P **P 01 54 46.2 -0.1**
SOC *e* 01 56 58.3
SOC *e*S **S 02 02 53.3 -0.1**
SOC *e*SS **SS 02 06 53.7 +5.6**
SOC pmax pmax
comp=Z,10.0nm,0.6s
CSS Prodhromos 61.37 306 *e*P **P 01 55 01.5 +0.4**
comp=Z,2.5nm,1.1s
YAK Yakutsk 61.69 19 *e*P P 01 54 58.8 -3.8
YAK *e* 01 55 11.6
YAK pmax pmax
comp=Z,22nm,1.2s
YAK pmax pmax
comp=N,9.0nm,1.3s
YAK pmax pmax
comp=E,8.0nm,1.3s
YAK Yakutsk 61.69 19 *e*P **P 01 55 01.6 -1.0**
comp=E,14nm,0.5s
BR131 Keskin Array S 62.30 312 *e*P **P 01 55 06.2 -1.2**
comp=E,2.8nm,0.8s
BRTR Keskin Array B 62.30 312 P **P 01 55 06.5 -0.9**
comp=E,3.3nm,0.8s,baz=122,slow=7.4,SNR=35
BRTR LR LR 02 23 43.9
comp=E,32nm,19.3s,baz=139,slow=38
VORD Divnogorie 62.54 325 *e*P **P 01 55 07.5 -1.0**
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,10.0nm,0.7s
VORD pmax pmax
comp=Z,6.0nm,0.7s
VSR Storozhevoye 62.72 325 *e*P **P 01 55 08.8 -0.9**
VSR pmax pmax
comp=N,5.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,5.0nm,0.9s
CMSA Cobar Meteorol 63.06 130 P **P 01 55 13.5 +1.2**
baz=63,SNR=9.8
OBN Obninsk 65.81 328⇑*e*P **P 01 55 28.9 -1.0**
OBN *e* 01 56 00.4
OBN *e* 01 57 54.3
OBN *e*S S 02 04 05.6 -10
OBN pmax pmax
comp=Z,6.0nm,0.7s
OBN MLR MLR
comp=Z,58nm,17.0s
ARMA Armidale 67.22 127 P **P 01 55 41.8 +2.3**
baz=67,SNR=4.7
ARMA Armidale 67.22 127 *e*P **P 01 55 40.6 +1.1**
comp=Z,19nm,0.9s
TIRR Tirgusor 67.26 316 ⇑P **P 01 55 39.2 -0.2**
TIRR Tirgusor 67.26 316 ⇑*i*P **P 01 55 39.2 -0.2**
CFR Carcaliu 67.63 316 ⇑P **P 01 55 41.3 -0.4**
CFR Carcaliu 67.63 316 ⇑*i*P **P 01 55 41.3 -0.4**
LEOM Leova 67.87 318 ⇑P **P 01 55 43.2 0.0**
LEOM Leova 67.87 318 ⇑*i*P **P 01 55 43.2 0.0**
AKASG Malin Array Be 68.38 322 P **P 01 55 44.5 -1.8**
comp=Z,0.5nm,0.5s,baz=88,slow=4.9,SNR=13
KIEV Kiev 68.39 322 *e*P **P 01 55 44.8 -1.6**
KIEV Kiev 68.39 322 *e*P **P 01 55 44.6 -1.8**
comp=Z,1.8nm,0.8s
VRI Vrincioaia 68.75 317 ⇑P **P 01 55 49.2 +0.4**
VRI Vrincioaia 68.75 317 ⇑*i*P **P 01 55 49.2 +0.4**
PLOR Plostina 68.80 317 ⇑P **P 01 55 49.6 +0.5**
PLOR Plostina 68.80 317 ⇑*i*P **P 01 55 49.6 +0.5**
TIXI Tiksi 68.81 12 ⇓*i*P **P 01 55 47.8 -0.8**
TIXI pmax pmax
comp=Z,21nm,1.2s
TIXI Tiksi 68.81 12 *e*P **P 01 55 47.4 -1.2**
comp=Z,18nm,0.9s
KDZ Kurdzhali 68.83 312 ⇓P **P 01 55 50.0 +0.7**
KDZ Kurdzhali 68.83 312 ⇓*i*P **P 01 55 50.0 +0.7**
TESR Tescani 68.95 317 ⇓*i*P **P 01 55 49.9 -0.1**
MLR Muntele Rosu 69.20 316 ⇑P **P 01 55 52.3 +0.5**
MLR Muntele Rosu 69.20 316 ⇑*i*P **P 01 55 52.3 +0.5**
DOPR Dopca 69.68 317 ⇑*i*P **P 01 55 53.6 -1.0**
VOIR 69.81 316 ⇑P **P 01 55 56.6 +1.2**
VOIR 69.81 316 ⇑*i*P **P 01 55 56.6 +1.2**
MMB Musomiste 70.06 312 ⇓P **P 01 55 56.5 -0.5**
MMB Musomiste 70.06 312 ⇓*i*P **P 01 55 56.5 -0.5**
ARR Arges 70.08 316 ⇑*i*P **P 01 55 56.8 -0.3**
BURAR Bucovina Array 70.15 318 ⇓P **P 01 55 56.8 -0.7**
BUR08 Bucovina Ar. S 70.17 318 *e*P **P 01 55 57.3 -0.3**
VTS Vitosha 70.60 313 ⇑P **P 01 56 00.2 -0.3**
VTS Vitosha 70.60 313 ⇑*i*P **P 01 56 00.2 -0.3**
SEY Seymchan 70.70 25 *i* P **P 01 55 59.2 -1.2**
CJR Cluj-Napoca 71.05 317 ⇑P **P 01 56 03.5 +0.6**
CJR Cluj-Napoca 71.05 317 ⇑*i*P **P 01 56 03.5 +0.6**
DEV Deva 71.37 316 ⇑P **P 01 56 06.0 +1.2**
DEV Deva 71.37 316 ⇑*i*P **P 01 56 06.0 +1.2**
DRGR 71.66 317 ⇑P **P 01 56 06.6 -0.1**
DRGR 71.66 317 ⇑*i*P **P 01 56 06.6 -0.1**
KOLS Kolonicke sedl 72.34 319 *e*P **P 01 56 11.0 +0.4**
KOLS pmax pmax
comp=Z,13nm,2.2s
KOLS Kolonicke sedl 72.34 319 *e*P **P 01 56 11.0 +0.4**
SUW Suwalki 72.82 325 *e*P **P 01 56 12.7 -0.6**
SUW Suwalki 72.82 325 *e*P **P 01 56 12.7 -0.6**
CRVS Cervenica-Dubn 72.86 319 *e*P **P 01 56 15.1 +1.3**
CRVS pmax pmax
comp=Z,4.0nm,1.1s
CRVS Cervenica-Dubn 72.86 319 *e*P **P 01 56 15.0 +1.3**
DIVS Divibare 73.14 314 ⇓*i*P **P 01 56 15.4 -0.2**
FINES FINESS Array B 73.28 333 P **P 01 56 15.0 -0.8**
comp=Z,3.8nm,0.8s,baz=116,slow=6.3,SNR=7.9
KECS Kecovo 73.43 319 *e*P **P 01 56 16.3 -0.8**
KECS Kecovo 73.43 319 *e*P **P 01 56 16.3 -0.8**
PSZ Piszkesteto 73.73 318 *e*P **P 01 56 18.7 -0.3**
PSZ pmax pmax
comp=Z,2.0nm,0.8s
PSZ Piszkesteto 73.73 318 *e*P **P 01 56 18.7 -0.3**
comp=Z,2.0nm,0.8s
PKSM Moragy 74.35 316 ⇑P **P 01 56 22.1 -0.4**
PKSM Moragy 74.35 316 ⇑*i*P **P 01 56 22.1 -0.4**
VYHS Vyhne 74.52 318 *e*P **P 01 56 20.8 -2.7**
VYHS Vyhne 74.52 318 *e*P **P 01 56 20.8 -2.7**
TIP Timpagrande 75.08 309 *e*P **P 01 56 26.1 -0.9**
comp=Z,3.2nm,1.0s
MORC Moravsky Berou 75.52 320 *e*P **P 01 56 29.0 -0.3**
MORC pmax pmax
comp=Z,5.0nm,1.2s
MORC Moravsky Berou 75.52 320 *e*P **P 01 56 29.0 -0.3**
comp=Z,4.6nm,1.2s
ARCES ARCESS Array B 76.08 340 P **P 01 56 32.5 +0.5**
comp=Z,5.4nm,0.9s,baz=96,slow=5.5,SNR=3.6
DPC Dobruska-Polom 76.37 320 *e*P **P 01 56 34.8 +0.7**
DPC *e*pP **pP 01 56 41.3 +0.6**
DPC Dobruska-Polom 76.37 320 *e*P **P 01 56 34.8 +0.7**
DPC *e* 01 56 41.3
DPC Dobruska-Polom 76.37 320 *e*P **P 01 56 35.0 +0.8**
SOKA Soboth 76.88 316 ⇑*i*P **P 01 56 37.5 +0.3**
comp=Z,7.0nm,1.0s
PRU Pruhonice 77.48 320 *e*P **P 01 56 40.7 +0.4**
PRU *e*pP **pP 01 56 43.9 -3.0**
PRU Pruhonice 77.48 320 *e*P **P 01 56 40.7 +0.4**
PRU *e* 01 56 43.9
BILL Bilibino 77.83 22⇑*e*P **P 01 56 41.6 -0.3**
BILL *e* 01 56 52.7
BILL *e* 01 59 33.6
BILL pmax pmax
comp=Z,6.0nm,1.7s
BILL MLR MLR
comp=Z,292nm,22.0s
BILL Bilibino 77.83 22 *e*P **P 01 56 40.6 -1.3**
comp=Z,4.0nm,0.8s
BRG Berggiesshubel 77.93 321 *e*P **P 01 56 43.1 +0.3**
GEC2 GERESS Array S 77.94 318 *e*P **P 01 56 43.5 +0.4**
comp=Z,5.0nm,1.0s
GEC2 GERESS Array S 77.94 318 *e*P **P 01 56 43.4 +0.4**
GEC2 GERESS Array S 77.94 318 *e*P **P 01 56 43.4 +0.3**
GERES GERESS Array B 77.94 318 P **P 01 56 42.9 -0.1**
comp=Z,3.3nm,0.9s,baz=91,slow=5.3,SNR=30
FBE Freiberg 78.31 321 *e*P **P 01 56 45.8 +0.9**
comp=Z,7.0nm,1.2s
RJOB Jochberg 78.47 317 *e*P **P 01 56 45.8 -0.2**
comp=Z,5.0nm,1.0s
WET Wettzell 78.50 319 *e*P **P 01 56 46.5 +0.5**
comp=Z,4.0nm,1.0s
CLL Collm 78.55 321 *e*P **P 01 56 46.0 -0.2**
CLL Collm 78.55 321 *e*P **P 01 56 46.0 -0.2**
ROTZ Rotzenmuhle 78.97 319 *e*P **P 01 56 49.5 +0.9**
comp=Z,8.0nm,1.3s
MANZ Manzenberg 79.04 320 *e*P **P 01 56 49.8 +0.8**
comp=Z,10.0nm,1.2s
WATA Walderalm 79.28 317 ⇓*i*P **P 01 56 49.9 -0.6**
comp=Z,3.8nm,0.9s
MOTA Moosalm 79.60 317 ⇑*i*P **P 01 56 51.7 -0.6**
comp=Z,7.1nm,0.9s
GRF Grafenberg Arr 79.60 319 *e*P **P 01 56 52.8 +0.7**
comp=Z,10.0nm,1.3s
CLZ Clausthal 80.22 321 *e*P **P 01 56 55.5 +0.1**
comp=Z,6.0nm,1.2s
DAVA Damuels 80.43 317 ⇓*i*P **P 01 56 56.7 -0.1**
comp=Z,6.0nm,1.1s
SBF Sospel 82.17 313 *e*P **P 01 57 05.8 -0.2**
SBF pmax pmax
comp=Z,38nm,1.0s
SBF Sospel 82.17 313 *e*P **P 01 57 05.8 -0.2**
comp=Z,38nm,1.0s
SBF Sospel 82.17 313 *e*P **P 01 57 05.8 -0.2**
comp=Z,38nm,1.0s
LPG La Plagne 82.62 315 *e*P **P 01 57 07.8 -0.7**
comp=Z,8.5nm,0.9s
LPG La Plagne 82.62 315 *e*P **P 01 57 07.8 -0.7**
LPG pmax pmax
comp=Z,9.0nm,0.9s
LPG La Plagne 82.62 315 *e*P **P 01 57 07.8 -0.7**
comp=Z,8.5nm,0.9s
MBDF Montbardon 82.63 314 *e*P **P 01 57 07.8 -0.6**
MBDF Montbardon 82.63 314 *e*P **P 01 57 07.8 -0.6**
MBDF Montbardon 82.63 314 *e*P **P 01 57 07.8 -0.6**
LPL La Plagne 82.63 315 *e*P **P 01 57 07.8 -0.7**
comp=Z,15nm,1.0s
LPL La Plagne 82.63 315 *e*P **P 01 57 07.8 -0.7**
LPL pmax pmax
comp=Z,15nm,1.0s
LPL La Plagne 82.63 315 *e*P **P 01 57 07.8 -0.7**
comp=Z,15nm,1.0s
BNI Bardonecchia 82.68 315 *e*P **P 01 57 08.3 -0.4**
BNI pmax pmax
comp=Z,4.0nm,0.9s
BNI Bardonecchia 82.68 315 *e*P **P 01 57 08.2 -0.4**
comp=Z,4.3nm,0.9s
HAU Haudompre 82.82 318 *e*P **P 01 57 07.9 -1.3**
HAU Haudompre 82.82 318 *e*P **P 01 57 07.9 -1.3**
HAU Haudompre 82.82 318 *e*P **P 01 57 07.9 -1.3**
SFTF Sexfontaines 83.69 318 *e*P **P 01 57 12.6 -1.1**
comp=Z,16nm,1.1s
SFTF Sexfontaines 83.69 318 *e*P **P 01 57 12.6 -1.1**
comp=Z,16nm,1.1s
LOR Lormes 84.53 317 *e*P **P 01 57 16.8 -1.2**
comp=Z,6.9nm,1.0s
LOR Lormes 84.53 317 *e*P **P 01 57 16.8 -1.2**
LOR pmax pmax
comp=Z,7.0nm,1.0s
LOR Lormes 84.53 317 *e*P **P 01 57 16.8 -1.2**
comp=Z,6.9nm,1.0s
AVF Avril sur Loir 84.91 316 *e*P **P 01 57 19.5 -0.4**
comp=Z,9.2nm,1.2s
AVF Avril sur Loir 84.91 316 *e*P **P 01 57 19.5 -0.4**
AVF pmax pmax
comp=Z,9.0nm,1.2s
AVF Avril sur Loir 84.91 316 *e*P **P 01 57 19.5 -0.4**
comp=Z,9.2nm,1.2s
TAM Tamanrasset 85.00 292 *e*P **P 01 57 21.1 +0.1**
TAM pmax pmax
comp=Z,4.0nm,1.0s
TAM Tamanrasset 85.00 292 *e*P **P 01 57 21.1 +0.1**
comp=Z,3.6nm,1.0s
TORD Torodi Ar. Bea 89.60 283 P **P 01 57 43.9 +0.7**
comp=Z,0.9nm,0.7s,baz=87,slow=3.6,SNR=5.1
ESDC Sonseca Array 91.05 310 P **P 01 57 49.8 +0.2**
comp=Z,1.0nm,0.7s,baz=68,slow=4.8,SNR=7.1
IM04 Indian Mountai 93.37 22 *e*P **P 01 57 59.6 -0.1**
ILAR Eielson Array 96.49 22 P **P 01 58 14.0 0.0**
comp=Z,0.3nm,0.7s,baz=304,slow=4.0,SNR=3.9
ILAR Eielson Array 96.49 22 P **P 01 58 14.0 0.0**
RES Resolute Bay 98.79 2 *e*P **P 01 58 24.1 0.0**
RES pmax pmax
comp=Z,7.0nm,1.6s
RES Resolute Bay 98.79 2 *e*P Pdif 01 58 24.1 0.0
comp=Z,6.6nm,1.6s
LOHW Long Hollow 125.79 21 *e*PKPdf **PKPdf 02 03 47.2 +0.1**
SNOW Snow King Moun 125.86 21 *e*PKPdf **PKPdf 02 03 47.5 +0.2**
REDW Red Top Meadow 125.92 21 *e*PKPdf **PKPdf 02 03 47.4 0.0**
NVAR Mina Array Bea 126.75 30 PKP **PKPdf 02 03 50.2 +1.0**
comp=Z,1.2nm,0.5s,baz=321,slow=1.3,SNR=6.7
PDAR Pinedale Array 126.90 20 PKP **PKPdf 02 03 49.2 -0.1**
comp=Z,2.0nm,0.8s,baz=28,slow=2.5,SNR=14
MSU Marysvale 129.54 25 *e*PKIKP **PKPdf 02 03 55.3 +0.8**
MSU Marysvale 129.54 25 *e*PKPdf **PKPdf 02 03 55.3 +0.8**
ANMO Albuquerque 134.93 22 *i* PKIKP **PKPdf 02 04 03.8 -0.9**
ANMO Albuquerque 134.93 22 *e*PKPdf **PKPdf 02 04 05.4 +0.7**
TXAR Lajitas Array 140.99 23 PKP **PKPdf 02 04 16.4 +0.6**
comp=Z,2.0nm,0.9s,baz=208,slow=1.2,SNR=14

JCT	Junction City	141.28	18	*e*PKIKP	PKPdf	02 04 17.1	+0.8
JCT	Junction City	141.28	18	*e*PKPdf	PKPdf	02 04 17.1	+0.8
CPUP	Villa Florida	145.38	232	PKPbc	PKPbc	02 04 23.3	0.0
	comp=Z,1.5nm,0.9s,baz=99,slow=3.9,SNR=5.6						
CPUP	Villa Florida	145.38	232	*e*PKIKP	PKPab	02 04 23.7	+0.2
CPUP	Villa Florida	145.38	232	*e*PKPbc	PKPab	02 04 23.6	+0.2
SAML	Samuel	156.07	263	*e*PKPab	PKPab	02 05 08.4	+0.7
LVC	Limon Verde	156.19	226	*e*PKPdf	PKPdf	02 04 40.3	-0.2
LVC				*e*PKPab	PKPab	02 05 09.3	+1.1

SZGRF **02** *01:46:40.4, 17.°79S×178.°88W, h33km, Fiji Islands region*
ISCJB **02** *01:47:40.3±0.1, 17.°87S±0.°05×178.°61W±0.°03, h579km, mb4.6/109, Error ellipse: s-maj=7.1km s-min=3.0km az=154.7*
IDC **02** *01:47:41.2±1.3, 17.°96S×178.°56W, h581km±14km, mb4.0/22, mb1 4.2/22, mb1mx4.2/25, mbtmp4.9/22, Error ellipse: s-maj=11.2km s-min=9.0km az=136.0*
BJI **02** *01:47:41.6, 17.°93S×179.°32W, h566km, mb4.6/20, mB4.8/9*
MOS **02** *01:47:41.2±1.4, 17.°75S×178.°58W, h583km, mb4.6/27, Error ellipse: s-maj=11.4km s-min=8.4km az=138.1*
NEIC **02** *01:47:41.4±0.7, 17.°80S×178.°60W, h582km±8km, mb4.5/79, Error ellipse: s-maj=8.1km s-min=4.0km az=151.0*
ISC 02 01:47:40.8±0.3, 17.92S±0.06×178.49W±0.06, h579km, n661, σ0.97/662, mb4.5/110, 173C-152D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.31**	**273**	*e*P	**P**	**01 49 02.3**	**+2.1**
MSVF	**Nonsavu**	**3.31**	**273**	*e*Pn	**P**	**01 49 02.3**	**+2.1**
AFI	**Afiamalu**	**7.58**	**59**	*e*P	**P**	**01 49 33.7**	**-2.0**
AFI	**Afiamalu**	**7.58**	**59**	*e*P	**P**	**01 49 33.6**	**-2.0**
NIUE	**Niue**	**8.20**	**99**	P	**P**	**01 49 41.6**	**+0.2**
	baz=8.2,SNR=12						
DZM	**Mont Dzumac**	**14.76**	**251**	*e*P	**P**	**01 50 47.2**	**-0.2**
OUZ	**Omahuta**	**18.62**	**201**	*e*P	**P**	**01 51 25.9**	**+3.0**
	36nm,0.7s						
URZ	**Urewera**	**20.63**	**190**	P	**P**	**01 51 38.9**	**-2.2**
	16nm,0.7s,baz=19,slow=5.3,SNR=11						
URZ				S	S	01 54 47.5	-7.6
	5.4nm,0.7s,baz=30,slow=9.8,SNR=3.1						
URZ	**Urewera**	**20.63**	**190**	*e*P	**P**	**01 51 38.7**	**-2.4**
	31nm,1.0s						
URZ				S	S	01 54 47.5	-7.6
LHI	**Lord Howe Isla**	**24.42**	**232**	P	**P**	**01 52 11.6**	**-3.3**
	baz=24,SNR=3.1						
EIDS	**Eidsvold**	**29.20**	**250**	P	**P**	**01 52 56.5**	**-0.3**
	baz=29,SNR=17						
EIDS	**Eidsvold**	**29.20**	**250**	*e*P	**P**	**01 52 56.5**	**-0.3**
	46nm,0.7s						
ARMA	**Armidale**	**29.87**	**240**	P	**P**	**01 53 03.6**	**+0.8**
	baz=30,SNR=59						
ARMA	**Armidale**	**29.87**	**240**	*e*P	**P**	**01 53 03.6**	**+0.8**
	50nm,0.7s						
MGCD	**Mangrove Creek**	**31.23**	**235**	P	**P**	**01 53 15.2**	**+1.0**
	baz=31,SNR=26						
RMQ	**Roma**	**31.43**	**248**	P	**P**	**01 53 16.4**	**+0.4**
	baz=32,SNR=34						
CNB	**Canberra Magne**	**33.36**	**232**	P	**P**	**01 53 33.1**	**+0.8**
	baz=33,SNR=155						
CTA	**Charters Tower**	**33.37**	**261**	P	**P**	**01 53 32.4**	**-0.1**
	44nm,0.6s,baz=96,slow=12						
CTAO	**Charters Tower**	**33.37**	**261**	*e*P	**P**	**01 53 31.8**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,53nm,0.7s						
CTAO	**Charters Tower**	**33.37**	**261**	*e*P	**P**	**01 53 31.8**	**-0.8**
	comp=Z,53nm,0.7s						
YNG	**Young**	**33.73**	**235**	P	**P**	**01 53 36.3**	**+1.0**
	baz=34,SNR=5.5						
MILA	**Mila**	**34.22**	**230**	P	**P**	**01 53 40.1**	**+0.6**
	baz=34,SNR=12						
PMG	**Port Moresby**	**34.39**	**280**	*e*P	**P**	**01 53 41.8**	**+0.7**
PMG				pmax	pmax		
	comp=Z,44nm,0.9s						
PMG	**Port Moresby**	**34.39**	**280**	*e*P	**P**	**01 53 41.8**	**+0.7**
	comp=Z,44nm,0.9s						
CMSA	**Cobar Meteorol**	**35.08**	**240**	P	**P**	**01 53 47.0**	**+0.3**
	baz=35,SNR=87						
QLP	**Quilpie**	**35.46**	**249**	P	**P**	**01 53 49.8**	**-0.1**
	baz=36,SNR=54						
COEN	**Coen**	**37.03**	**270**	P	**P**	**01 54 03.4**	**+0.5**
	baz=37,SNR=55						
COEN	**Coen**	**37.03**	**270**	*e*P	**P**	**01 54 03.5**	**+0.5**
TOO	**Toolangi**	**37.11**	**231**	P	**P**	**01 54 03.9**	**+0.6**
	baz=37,SNR=25						
STKA	**Stephens Creek**	**38.56**	**241**	P	**P**	**01 54 15.8**	**+0.7**
	comp=Z,61nm,0.5s,baz=92,slow=9.6,SNR=214						
STKA	**Stephens Creek**	**38.56**	**241**	*e*P	**P**	**01 54 15.9**	**+0.7**
STKA				pmax	pmax		
	comp=Z,19nm,0.9s						
STKA	**Stephens Creek**	**38.56**	**241**	P	**P**	**01 54 15.8**	**+0.7**
	baz=39,SNR=190						
STKA	**Stephens Creek**	**38.56**	**241**	*e*P	**P**	**01 54 15.9**	**+0.7**
	comp=Z,19nm,0.9s						
JAY	**Jayapura**	**42.84**	**286**	P	**P**	**01 54 49.6**	**+0.3**
	comp=Z,119nm,0.7s						
GENI	**Genyem**	**43.30**	**286**	P	**P**	**01 54 53.7**	**+0.9**
	comp=Z,180nm,1.1s,comp=Z,2um						
BBOO	**Buckleboo**	**43.34**	**241**	P	**P**	**01 54 53.0**	**+0.1**
	baz=43,SNR=46						
BBOO	**Buckleboo**	**43.34**	**241**	*e*P	**P**	**01 54 52.7**	**-0.2**
	comp=Z,86nm,0.8s						
KIP	**Kipapa**	**43.94**	**28**	*e*P	**P**	**01 54 56.9**	**-0.7**
KIP				pmax	pmax		
	comp=Z,78nm,1.4s						
WRAB	**Tennant Creek**	**44.55**	**260**	*d iP*	**P**	**01 55 01.3**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,151nm,1.2s						
WRAB	**Tennant Creek**	**44.55**	**260**	*e*P	**P**	**01 55 01.4**	**-1.0**
	comp=Z,59nm,0.7s						
WRA	**Warramunga Arr**	**44.56**	**260**	P	**P**	**01 55 01.4**	**-1.1**
	comp=Z,52nm,0.7s,baz=95,slow=7.1,SNR=227						
WRA				PcP	**PcP**	**01 56 32.2**	**-0.7**
	comp=Z,3.9nm,0.4s,baz=90,slow=3.7,SNR=4.9						
WRA				ScP	**ScP**	**01 59 31.1**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=93,slow=4.6,SNR=4.5						
WRA				S	**S**	**02 00 53.0**	**-4.0**
	comp=Z,1.2nm,0.7s,baz=102,slow=13,SNR=4.1						
AS31	**Alice Springs**	**44.72**	**254**	*e*P	**P**	**01 55 03.3**	**-0.4**
ASAR	**Alice Springs**	**44.72**	**254**	P	**P**	**01 55 03.5**	**-0.2**
	comp=Z,329nm,0.6s,baz=88,slow=8.5,SNR=1674						
ASAR				PcP	**PcP**	**01 56 33.0**	**-0.4**
	comp=Z,7.5nm,0.5s,baz=106,slow=3.6,SNR=4.8						
ASAR				ScP	**ScP**	**01 59 32.5**	**+1.4**
	comp=Z,2.3nm,0.8s,baz=92,slow=4.9,SNR=5.8						
ASAR				S	**S**	**02 00 57.0**	**-2.2**
	comp=Z,4.0nm,1.1s,baz=86,slow=16,SNR=13						
SMPI	**Sarmi**	**44.87**	**286**	P	**P**	**01 55 05.1**	**+0.1**
	comp=Z,78nm,0.9s						
KDU	**Kakadu**	**47.48**	**269**	P	**P**	**01 55 24.3**	**-0.4**
	baz=48,SNR=27						
GUMO	**Guam**	**47.82**	**308**	P	**P**	**01 55 27.3**	**+0.2**
	comp=Z,106nm,0.7s,baz=183,slow=12,SNR=6.5						
WRKA	**Warakurna**	**49.77**	**252**	P	**P**	**01 55 41.4**	**-0.2**
	baz=50,SNR=106						
WRKA				S	S	02 02 18.1	+9.1
	baz=50,SNR=3.6						
FORT	**Forrest**	**49.94**	**245**	P	**P**	**01 55 41.9**	**-0.8**
	baz=50,SNR=75						
FORT	**Forrest**	**49.94**	**245**	*e*P	**P**	**01 55 41.5**	**-1.1**
	comp=Z,118nm,0.6s						
KNRA	**Kununurra**	**50.41**	**264**	P	**P**	**01 55 45.7**	**-0.6**
	baz=50,SNR=32						
FAKI	**Fak Fak**	**50.51**	**281**	P	**P**	**01 55 46.7**	**-0.3**
NLAI	**Namlea**	**55.23**	**279**	P	**P**	**01 56 20.4**	**-0.1**
KMBL	**Kambalda**	**55.24**	**244**	P	**P**	**01 56 19.3**	**-1.1**
	baz=55,SNR=8.8						
BATI	**Baumata**	**56.46**	**269**	P	**P**	**01 56 30.2**	**+1.1**
	comp=Z,57nm,0.7s,baz=194,slow=1.2,SNR=7.7						
SANI	**Sanana**	**56.67**	**280**	P	**P**	**01 56 29.8**	**-0.7**
MBWA	**Marble Bar**	**58.00**	**256**	*e*P	**P**	**01 56 38.8**	**-0.6**
	comp=Z,41nm,0.8s						
MEEK	**Meekatharra**	**58.36**	**249**	P	**P**	**01 56 40.8**	**-1.0**
	baz=58,SNR=21						
NWAO	**Narrogin (SRO)**	**59.14**	**242**	P	**P**	**01 56 46.4**	**-0.5**
	comp=Z,20nm,0.6s,baz=104,slow=5.9,SNR=24						
NWAO	**Narrogin (SRO)**	**59.14**	**242**	P	**P**	**01 56 46.5**	**-0.5**
	baz=59,SNR=13						
RKGY	**Rocky Gully**	**59.30**	**240**	P	**P**	**01 56 48.0**	**+0.1**
	baz=59,SNR=7.1						
BLDU	**Ballidu**	**59.71**	**245**	P	**P**	**01 56 49.9**	**-0.8**
	baz=60,SNR=45						
SBA	**Scott Base**	**60.41**	**184**	*e*P	**P**	**01 56 56.6**	**+2.1**
SBA				pmax	pmax		
	comp=Z,104nm,3.0s						
SBA	**Scott Base**	**60.41**	**184**	*e*P	**P**	**01 56 56.6**	**+2.1**
	comp=Z,104nm,3.0s						
MORW	**Morawa**	**60.41**	**246**	P	**P**	**01 56 54.6**	**-0.8**
	baz=60,SNR=12						
VNDA	**Vanda**	**60.43**	**185**	P	**P**	**01 56 55.2**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=352,slow=6.2,SNR=13						
KAPI	**Kappang**	**61.62**	**274**	*e*P	**P**	**01 57 03.2**	**-0.3**
	comp=Z,14nm,0.8s						
GIRL	**Giralia**	**62.82**	**253**	P	**P**	**01 57 11.6**	**+0.4**
	baz=63,SNR=5.6						
CASY	**Casey**	**66.10**	**205**	*e*P	**P**	**01 57 30.9**	**-0.1**
	comp=Z,7.3nm,0.6s						
MJAR	**Matsushiro Arr**	**67.87**	**323**	P	**P**	**01 57 41.8**	**-0.6**
	comp=Z,7.6nm,0.6s,baz=153,slow=6.0,SNR=28						
MAJO	**Matsushiro**	**67.87**	**323**	*d iP*	**P**	**01 57 41.6**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,30nm,0.8s						
MAJO	**Matsushiro**	**67.87**	**323**	*e*P	**P**	**01 57 41.9**	**-0.5**
	comp=Z,9.0nm,0.5s						
MAT	**Matsushiro**	**67.87**	**323**	P	**P**	**01 57 41.8**	**-0.6**
KKM	**Kota Kinabalu**	**68.67**	**284**	P	**P**	**01 57 48.0**	**+0.1**
	baz=69,SNR=6.2						
KKM	**Kota Kinabalu**	**68.67**	**284**	*e*P	**P**	**01 57 47.3**	**-0.5**
	comp=Z,25nm,0.7s						
SBUM	**Sibu**	**71.14**	**279**	*e*P	**P**	**01 58 03.0**	**+0.6**
QSPA	**South Pole Qui**	**72.14**	**180**	P	**P**	**01 58 07.8**	**+0.5**
	comp=Z,12nm,0.8s,baz=16,slow=0.6,SNR=44						
QSPA	**South Pole Qui**	**72.14**	**180**	*e*P	**P**	**01 58 07.8**	**+0.5**
	comp=Z,18nm,1.1s						
TPUB	**Ta-pu**	**72.20**	**302**	*e*P	**P**	**01 58 07.0**	**-1.4**
	comp=Z,26nm,0.7s						
KSM	**Kuching**	**72.61**	**277**	P	**P**	**01 58 11.4**	**+0.5**
	baz=73,SNR=14						
KSM	**Kuching**	**72.61**	**277**	*e*P	**P**	**01 58 11.2**	**+0.4**
	comp=Z,92nm,0.9s						
LEM	**Lembang**	**72.64**	**268**	P	**P**	**01 58 11.3**	**0.0**
	comp=Z,103nm,0.6s,baz=69,slow=8.6,SNR=20						
PETK	**Petropavlovsk-**	**73.67**	**345**	P	**P**	**01 58 16.0**	**0.0**
	comp=Z,5.2nm,0.6s,baz=139,slow=8.8,SNR=9.7						
PETK	**Petropavlovsk-**	**73.67**	**345**	P	**P**	**01 58 16.0**	**0.0**
KSRS	**Korea Array**	**74.66**	**318**	P	**P**	**01 58 22.5**	**+0.6**
	comp=Z,2.2nm,0.7s,baz=126,slow=6.2,SNR=7.5						
KSAR	**Wonju Array Be**	**74.68**	**318**	P	**P**	**01 58 22.6**	**+0.5**
KSAR	**Wonju Array Be**	**74.68**	**318**	P	**P**	**01 58 22.6**	**+0.5**
USRK	**Ussuriysk Ar.**	**76.58**	**326**	P	**P**	**01 58 34.1**	**+1.7**
	comp=Z,19nm,0.6s,baz=116,slow=6.6,SNR=6.2						
KMRM	**Mail Ridge**	**77.07**	**40**	*e*P	**P**	**01 58 36.9**	**+1.6**
	comp=Z,37nm,0.8s						
ARVC	**Arvin**	**77.34**	**46**	⇓P	**P**	**01 58 37.7**	**+0.9**
	baz=78						
109C	**Camp Elliot, M**	**77.38**	**49**	⇓P	**P**	**01 58 37.9**	**+0.9**
	baz=78						
VES	**Vestal, Richgr**	**77.55**	**46**	⇓P	**P**	**01 58 38.2**	**+0.3**
	baz=78						
MURC	**Murrieta**	**77.68**	**49**	⇓P	**P**	**01 58 39.7**	**+1.0**
	baz=78						
BFSC	**Mount Baldy Ra**	**77.69**	**48**	⇑P	**P**	**01 58 39.5**	**+0.6**
	baz=78						
EDW2	**Edwards Air Fo**	**77.79**	**47**	⇑P	**P**	**01 58 40.0**	**+0.7**
	baz=78						
ISA	**Isabella, Lake**	**77.88**	**46**	*e*P	**P**	**01 58 40.6**	**+0.9**
ISA				pmax	pmax		
	comp=Z,19nm,0.9s						
ISA	**Isabella, Lake**	**77.88**	**46**	*e*P	**P**	**01 58 40.6**	**+0.9**
	comp=Z,18nm,0.9s						
ISA	**Isabella, Lake**	**77.88**	**46**	⇓P	**P**	**01 58 41.0**	**+1.2**
	baz=78						
MONP	**Monument Peak,**	**77.88**	**49**	⇑P	**P**	**01 58 40.8**	**+0.8**
	baz=78						
NJ2	**Nanjing**	**77.89**	**310**	*e*P	**P**	**01 58 38.1**	**-1.7**
NJ2				PMZ			
	comp=Z,30nm,1.0s						
CMB	**Columbia Colle**	**77.90**	**43**	*e*P	**P**	**01 58 40.3**	**+0.5**
CMB				pmax	pmax		
	comp=Z,14nm,0.9s						
CMB	**Columbia Colle**	**77.90**	**43**	*e*P	**P**	**01 58 40.3**	**+0.5**
	comp=Z,14nm,0.9s						
OHCM	**Honcut**	**77.93**	**42**	*e*P	**P**	**01 58 41.1**	**+1.3**
WDC	**Whiskeytown Da**	**78.00**	**40**	*e*P	**P**	**01 58 40.0**	**-0.2**
WDC				pmax	pmax		
	comp=Z,16nm,1.2s						
WDC	**Whiskeytown Da**	**78.00**	**40**	*e*P	**P**	**01 58 40.0**	**-0.2**
	comp=Z,16nm,1.2s						
N02D	**Trinity Center**	**78.13**	**40**	⇓P	**P**	**01 58 42.5**	**+1.5**
	baz=78						
M02C	**Callahan**	**78.29**	**39**	⇓P	**P**	**01 58 42.8**	**+1.0**
	baz=78						
L02D	**Cave Junction,**	**78.30**	**38**	⇑P	**P**	**01 58 43.0**	**+1.2**
	baz=78						
SWSC	**Sam W. Stewart**	**78.36**	**50**	⇑P	**P**	**01 58 43.3**	**+1.0**
	baz=78						
RRX	**Edison Barstow**	**78.49**	**47**	⇓P	**P**	**01 58 43.5**	**+0.5**
	baz=79						
YBH	**Yreka Blue Hor**	**78.58**	**39**	*e*P	**P**	**01 58 43.9**	**+0.5**
YBH				pmax	pmax		
	comp=Z,12nm,0.8s						
YBH	**Yreka Blue Hor**	**78.58**	**39**	*e*P	**P**	**01 58 43.9**	**+0.5**
	comp=Z,12nm,0.8s						
MLAC	**Mammoth, Mammo**	**78.69**	**44**	⇓P	**P**	**01 58 44.7**	**+0.4**
	baz=79						
BELC	**Belle Mtn. Jos**	**78.74**	**49**	⇑P	**P**	**01 58 45.6**	**+1.1**
	baz=79						
MPMC	**Manual Prospec**	**78.76**	**46**	⇑P	**P**	**01 58 45.4**	**+0.8**
	baz=79						
WAKR	**Walker**	**78.78**	**43**	*e*P	**P**	**01 58 45.6**	**+0.9**
DAC	**Darwin (Calif)**	**78.81**	**46**	*e*P	**P**	**01 58 45.6**	**+0.8**
DAC	**Darwin (Calif)**	**78.81**	**46**	*e*P	**P**	**01 58 45.6**	**+0.8**
GSC	**Goldstone, Bar**	**78.84**	**47**	*e*P	**P**	**01 58 45.8**	**+0.9**
GSC	**Goldstone, Bar**	**78.84**	**47**	*e*P	**P**	**01 58 45.8**	**+0.9**
GSC	**Goldstone, Bar**	**78.84**	**47**	⇓P	**P**	**01 58 45.6**	**+0.7**
	baz=79						
HEC	**Hector,Ludlow**	**78.93**	**48**	⇓P	**P**	**01 58 46.3**	**+0.9**
	baz=79						
HUMO	**Hull Mountain**	**78.95**	**38**	*e*P	**P**	**01 58 45.9**	**+0.6**
	comp=Z,16nm,1.0s						
BC3	**Big Chuckawall**	**78.96**	**49**	⇓P	**P**	**01 58 46.6**	**+1.0**
	baz=79						
GLA	**Glamis**	**79.12**	**50**	⇑P	**P**	**01 58 48.0**	**+1.6**
	baz=79						
M04C	**Macdoel**	**79.13**	**40**	⇓P	**P**	**01 58 47.5**	**+1.1**
	baz=79						
GRAC	**Grapevine Rang**	**79.34**	**46**	⇓P	**P**	**01 58 48.9**	**+1.4**
	baz=80						
GMRC	**Granite Mounta**	**79.38**	**48**	⇓P	**P**	**01 58 48.8**	**+1.0**
	baz=80						
I03D	**Drain, OR**	**79.38**	**37**	⇓P	**P**	**01 58 48.4**	**+0.9**
	baz=80						
FURC	**Furnace Creek,**	**79.41**	**46**	⇓P	**P**	**01 58 48.8**	**+1.1**
	baz=80						
IRM	**Iron Mountain**	**79.43**	**49**	⇑P	**P**	**01 58 49.5**	**+1.4**
	baz=80						
NVAR	**Mina Array Bea**	**79.48**	**44**	P	**P**	**01 58 49.0**	**+0.6**
	comp=Z,14nm,0.8s,baz=225,slow=8.9,SNR=28						
SHOC	**Shoshone, Teco**	**79.52**	**47**	⇑P	**P**	**01 58 49.7**	**+1.3**
	baz=80						
TUQ	**Turquoise Moun**	**79.53**	**47**	⇑P	**P**	**01 58 49.9**	**+1.3**
	baz=80						
K04D	**Chiloquin, OR**	**79.68**	**39**	⇑P	**P**	**01 58 50.3**	**+1.0**
	baz=80						
Y12C	**Blythe**	**79.68**	**50**	⇓P	**P**	**01 58 50.5**	**+1.2**
	baz=80						
113A	**Mohawk Valley,**	**79.75**	**51**	⇓P	**P**	**01 58 50.9**	**+1.2**
	baz=80						
J04D	**Umpqua Nationa**	**79.83**	**38**	⇓P	**P**	**01 58 51.4**	**+1.3**
	baz=80						
I04A	**Tendick Farm,**	**79.98**	**38**	⇓P	**P**	**01 58 51.2**	**+0.6**
	baz=80						
TPH	**Tonopah**	**80.01**	**45**	*e*P	**P**	**01 58 52.1**	**+0.9**
TPH	**Tonopah**	**80.01**	**45**	*e*P	**P**	**01 58 52.1**	**+0.9**
214A	**Organ Pipe Nat**	**80.08**	**52**	*e*P	**P**	**01 58 51.9**	**+0.5**
	comp=Z,6.3nm,1.0s						
214A	**Organ Pipe Nat**	**80.08**	**52**	⇓P	**P**	**01 58 53.0**	**+1.6**
	baz=80						
TPNV	**Topopah Spring**	**80.08**	**46**	*e*P	**P**	**01 58 52.6**	**+1.1**
TPNV				pmax	pmax		
	comp=Z,9.0nm,0.8s						
TPNV	**Topopah Spring**	**80.08**	**46**	*e*P	**P**	**01 58 52.5**	**+1.1**
	comp=Z,8.9nm,0.8s						
TPNV	**Topopah Spring**	**80.08**	**46**	⇑P	**P**	**01 58 52.5**	**+1.0**
	baz=80						
PDMCI	**Parker Dam,Lak**	**80.23**	**49**	⇓P	**P**	**01 58 53.2**	**+1.1**
	baz=80						
K05A	**Summer Lake**	**80.25**	**39**	*e*P	**P**	**01 58 53.3**	**+1.0**
G03D	**McMinnville, O**	**80.35**	**36**	⇑P	**P**	**01 58 53.6**	**+1.1**
	baz=80						
J05D	**Fort Rock, OR**	**80.37**	**39**	⇓P	**P**	**01 58 54.2**	**+1.4**
	baz=80						
SHPR	**Sheep Range**	**80.60**	**47**	*e*P	**P**	**01 58 54.7**	**+0.5**
H04A	**Detroit Lake**	**80.64**	**37**	*e*P	**P**	**01 58 54.5**	**+0.4**
Z14A	**Wintersburg**	**80.64**	**51**	⇑P	**P**	**01 58 56.1**	**+1.8**
	baz=81						
W13A	**Hualapai Mount**	**80.80**	**49**	⇓P	**P**	**01 58 56.7**	**+1.3**
	baz=81						
Y14A	**Wickenburg**	**80.88**	**50**	⇑P	**P**	**01 58 56.7**	**+1.1**
	baz=81						
I05D	**Terrebonne, OR**	**80.93**	**38**	⇑P	**P**	**01 58 56.6**	**+1.0**
	baz=81						
F04D	**Rainier, OR**	**81.02**	**35**	⇑P	**P**	**01 58 56.8**	**+0.9**
	baz=81						
R11A	**Troy Canyon, C**	**81.25**	**45**	*e*P	**P**	**01 58 58.2**	**+0.7**
R11A	**Troy Canyon, C**	**81.25**	**45**	⇓P	**P**	**01 58 58.3**	**+0.7**
	baz=81						
BMN	**Battle Mountai**	**81.26**	**43**	*e*P	**P**	**01 58 57.9**	**+0.4**
BMN				pmax	pmax		
	comp=Z,12nm,0.8s						
BMN	**Battle Mountai**	**81.26**	**43**	*e*P	**P**	**01 58 57.9**	**+0.4**
	comp=Z,12nm,0.8s						
LVP	**Lakeview Peak**	**81.35**	**36**	P	**P**	**01 58 58.2**	**+0.4**
FL2	**Flat Top 2**	**81.46**	**36**	P	**P**	**01 58 59.3**	**+1.0**
G05D	**Wamic, OR**	**81.47**	**37**	⇑P	**P**	**01 58 59.1**	**+0.8**
	baz=82						
TDL	**Tradedollar La**	**81.62**	**36**	P	**P**	**01 58 60.0**	**+0.8**
TUC	**Tucson**	**81.76**	**52**	*e*P	**P**	**01 59 01.6**	**+1.4**
TUC				pmax	pmax		
	comp=Z,14nm,1.0s						
TUC	**Tucson**	**81.76**	**52**	*e*P	**P**	**01 59 01.6**	**+1.4**
	comp=Z,14nm,1.0s						
I07A	**Izee**	**81.86**	**39**	*e*P	**P**	**01 59 01.2**	**+0.8**
X16A	**Lo Mia Camp, P**	**82.24**	**50**	⇓P	**P**	**01 59 04.1**	**+1.4**
	baz=82						
IPM	**Ipoh**	**82.35**	**277**	*e*P	**P**	**01 59 03.8**	**+0.3**
319A	**Douglas**	**82.49**	**54**	⇑P	**P**	**01 59 05.7**	**+1.8**
	baz=83						
U15A	**North Rim**	**82.58**	**48**	⇓P	**P**	**01 59 06.2**	**+1.7**
	baz=83						
PMR	**Palmer**	**82.63**	**14**	*e*P	**P**	**01 59 02.9**	**-0.8**
PMR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
PMR	**Palmer**	**82.63**	**14**	*e*P	**P**	**01 59 02.9**	**-0.8**
	comp=Z,8.9nm,0.5s						
ELK	**Elko**	**82.71**	**43**	*e*P	**P**	**01 59 05.5**	**+0.5**
ELK				pmax	pmax		
	comp=Z,11nm,1.0s						
ELK	**Elko**	**82.71**	**43**	*e*P	**P**	**01 59 05.5**	**+0.5**
	comp=Z,11nm,1.0s						
WUAZ	**Wupatki**	**82.81**	**49**	*e*P	**P**	**01 59 06.8**	**+1.3**
	comp=Z,22nm,1.1s						
WUAZ	**Wupatki**	**82.81**	**49**	⇓P	**P**	**01 59 07.3**	**+1.8**
	baz=83						
KULM	**Kulim**	**82.96**	**278**	*e*P	**P**	**01 59 06.5**	**0.0**
	comp=Z,17nm,1.3s						
LTY	**Liberty**	**83.02**	**36**	*e*P	**P**	**01 59 06.5**	**+0.3**
DIV	**Divide**	**83.03**	**15**	*e*P	**P**	**01 59 04.9**	**-0.9**
	comp=Z,13nm,0.6s						
RSW	**Rattlesnake Hi**	**83.12**	**37**	P	**P**	**01 59 07.6**	**+0.9**
HAWA	**Hanford**	**83.16**	**37**	*e*P	**P**	**01 59 07.4**	**+0.6**
	comp=Z,19nm,0.8s						
PPLA	**Purkeypile**	**83.16**	**12**	*e*P	**P**	**01 59 04.8**	**-1.7**
	comp=Z,2.9nm,0.6s						
BMRM	**Bremner River**	**83.19**	**16**	*e*P	**P**	**01 59 05.9**	**-0.7**
	comp=Z,4.8nm,0.4s						
X18A	**Snowflake**	**83.39**	**51**	⇓P	**P**	**01 59 09.3**	**+0.9**
	baz=84						
SKLT	**Songkhla**	**83.59**	**280**	P	**P**	**01 59 11.3**	**+1.7**
	comp=Z,36nm,0.8s						
BMO	**Blue Mountains**	**83.60**	**39**	*e*P	**P**	**01 59 09.2**	**+0.1**
	comp=Z,4.9nm,0.8s						
MVU	**Marysvale**	**83.63**	**46**	*e*P	**P**	**01 59 11.0**	**+1.4**
MSU	**Marysvale**	**83.66**	**46**	*e*P	**P**	**01 59 10.4**	**+0.7**
MSU				pmax	pmax		
	comp=Z,11nm,1.1s						
MSU	**Marysvale**	**83.66**	**46**	*e*P	**P**	**01 59 10.4**	**+0.7**
	comp=Z,11nm,1.1s						
MFID	**Camas Ranch**	**83.73**	**41**	*e*P	**P**	**01 59 10.3**	**+0.5**
	comp=Z,11nm,0.9s						
BJI	**Beijing**	**83.74**	**315**	P	**P**	**01 59 10.3**	**+0.6**
BJI				PMZ			
	comp=Z,17nm,0.9s						
BJI				PMZ			
	comp=Z,95nm,4.8s						
SEY	**Seymchan**	**83.77**	**347**	*e*P	**P**	**01 59 08.3**	**-1.0**
SKNT	**Sakolnakorn**	**83.80

SURT	Suratani	85.88	281	P		P		01 59 23.0	+2.3
	comp=Z,6.2nm,1.2s								
ILAR	Eielson Array	85.91	13	P		P		01 59 18.4	-1.3
	comp=Z,3.3nm,0.4s,baz=223,slow=5.1,SNR=71								
PV01	Paradox Valley	86.00	48	eP		P		01 59 20.6	-0.4
TXAR	Lajitas Array	86.06	58	P		P		01 59 22.9	+1.5
	comp=Z,12nm,0.8s,baz=220,slow=6.0,SNR=132								
ANMO	Albuquerque	86.16	52	c iP		P		01 59 21.6	-0.3
ANMO				pmax		pmax			
	comp=Z,26nm,1.1s								
ANMO	Albuquerque	86.16	52	eP		P		01 59 22.4	+0.5
	comp=Z,8.7nm,1.1s								
XAN	Xi'an	86.21	307	P		P		01 59 22.5	+0.6
XAN				PMZ					
	comp=Z,6.0nm,0.9s								
MCMT	McKenzie Canyo	86.29	41	eP		P		01 59 22.6	+0.3
	comp=Z,11nm,1.1s								
HIA	Hailar	86.33	325	eP		P		01 59 21.8	-0.3
HIA				pmax		pmax			
	comp=Z,3.0nm,0.9s								
AHID	Auburn Hatcher	86.40	43	eP		P		01 59 22.9	+0.1
	comp=Z,4.3nm,0.8s								
BILL	Bilibino	86.43	354	eP		P		01 59 21.9	-0.2
BILL				pmax		pmax			
	comp=Z,4.0nm,0.8s								
BILL	Bilibino	86.43	354	eP		P		01 59 21.9	-0.2
	comp=Z,4.3nm,0.8s								
MSO	Missoula	86.64	38	eP		P		01 59 23.4	-0.3
MSO	Missoula	86.64	38	⇑P		P		01 59 23.7	0.0
	baz=87,SNR=8.1								
BSMT	Bassoo Peak	86.67	37	eP		P		01 59 23.7	-0.2
TPAW	Teton Pass	86.84	42	eP		P		01 59 25.7	+0.7
	comp=Z,9.0nm,0.9s								
REDW	Red Top Meadow	86.84	42	eP		P		01 59 25.4	+0.5
	comp=Z,18nm,1.0s								
JTMT	Jette	86.91	37	eP		P		01 59 24.9	-0.1
SNOW	Snow King Moun	86.95	42	eP		P		01 59 26.1	+0.6
	comp=Z,18nm,0.9s								
LRM	Limekiln Ridge	87.03	40	eP		P		01 59 25.4	-0.4
IMW	Indian Meadow	87.04	42	eP		P		01 59 26.8	+0.8
	comp=Z,16nm,0.8s								
S22A	4UR Ranch, Cre	87.07	49	⇑P		P		01 59 27.1	+0.9
	baz=87								
MOOW	Moose Ponds	87.09	42	eP		P		01 59 25.9	-0.2
	comp=Z,3.6nm,0.8s								
O20A	White River Ci	87.11	46	eP		P		01 59 26.4	+0.2
	comp=Z,6.7nm,0.9s								
O20A	White River Ci	87.11	46	⇑P		P		01 59 26.9	+0.7
	baz=87								
DAWY	Dawson	87.12	16	eP		P		01 59 25.0	-0.5
LOHW	Long Hollow	87.12	42	eP		P		01 59 26.4	+0.2
	comp=Z,3.3nm,0.6s								
QLMT	Earthquake Lak	87.18	41	eP		P		01 59 27.0	+0.6
HHC	Hu-ho-hao-te	87.23	314	eP		P		01 59 29.6	+3.0
HHC				PP		PP		02 03 05.8	+3.9
HHC				S		S		02 09 23.0	+4.3
HHC				sS		sS		02 12 52.9	-8.8
HHC				PMZ					
	comp=Z,28nm,1.3s								
HHC				PMZ					
	comp=Z,48nm,5.3s								
FLWY	Flagg Ranch	87.28	42	eP		P		01 59 27.5	+0.5
	comp=Z,14nm,1.0s								
I17A	Pilgrim Ck.	87.28	42	⇑P		P		01 59 28.6	+1.6
	baz=87,SNR=10								
SRDT	SRDT	87.31	286	P		P		01 59 29.8	+2.4
	comp=Z,33nm,1.8s								
YFT	Old Faithful	87.37	42	eP		P		01 59 29.8	+2.4
LCCM	Lewis and Clar	87.38	40	P		P		01 59 27.7	+0.4
YMR	Madison River	87.39	41	eP		P		01 59 29.1	+1.6
	comp=Z,16nm,0.9s								
N20A	Spence Gulch,	87.41	46	⇓P		P		01 59 28.3	+0.7
	baz=88								
BW06	Boulder Array	87.41	43	eP		P		01 59 27.4	-0.2
	comp=Z,4.7nm,0.6s								
PDAR	Pinedale Array	87.41	43	P		P		01 59 27.6	0.0
	comp=Z,7.5nm,0.6s,baz=233,slow=1.4,SNR=69								
PDAR				PP		PP		02 03 00.8	-2.7
	comp=Z,1.6nm,1.0s,baz=256,slow=5.6,SNR=8.0								
COLD	Coldfoot	87.44	11	eP		P		01 59 26.6	-0.3
	comp=Z,8.1nm,1.0s								
BOZ	Bozeman (W)	87.44	40	eP		P		01 59 28.0	+0.4
BOZ				pmax		pmax			
	comp=Z,3.0nm,0.7s								
BOZ	Bozeman (W)	87.44	40	eP		P		01 59 28.0	+0.4
	comp=Z,3.3nm,0.7s								
H17A	Grant Village	87.51	42	eP		P		01 59 29.3	+1.3
	comp=Z,13nm,0.9s								
H17A	Grant Village	87.51	42	⇑P		P		01 59 30.2	+2.1
	baz=88,SNR=10								
529A	Stev Forest Ra	87.53	57	⇑P		P		01 59 29.5	+1.2
	baz=88,SNR=8.5								
SMCO	Snowmass	87.58	48	eP		P		01 59 28.9	+0.2
	comp=Z,2.7nm,0.7s								
HRY	Holter Researc	87.84	39	eP		P		01 59 29.4	+0.1
	comp=Z,5.5nm,0.8s								
P22A	Eagle	87.91	47	⇓P		P		01 59 30.6	+0.6
	baz=88								
J19A	Crowheart	87.96	43	⇓P		P		01 59 30.5	+0.4
	baz=88,SNR=5.3								
R23A	Moffat	87.97	49	⇓P		P		01 59 31.4	+1.0
	baz=88								
429A	Davenport Ranc	87.97	57	⇓P		P		01 59 31.3	+1.0
	baz=88,SNR=27								
228A	UT Block 9, Go	87.99	55	⇑P		P		01 59 30.9	+0.5
	baz=88								
SDCO	Great Sand Dun	88.02	49	⇓P		P		01 59 30.8	+0.1
	baz=88								
H18A	Shoshone NF, C	88.22	42	⇑P		P		01 59 32.0	+0.7
	baz=88								
LAMP	Lampang	88.22	290	P		P		01 59 33.5	+1.9
329A	Wagon Wheel Ra	88.23	56	⇓P		P		01 59 32.4	+0.9
	baz=88,SNR=7.6								
530A	J-C Ranch, Com	88.24	58	⇑P		P		01 59 32.3	+0.8
	baz=88,SNR=7.5								
128A	Castleberry Fa	88.26	55	⇑P		P		01 59 32.3	+0.6
	baz=88,SNR=9.4								
Q23A	Hartsel	88.27	48	⇓P		P		01 59 32.7	+0.8
	baz=88								
O22A	Kremmling	88.29	47	⇓P		P		01 59 32.7	+0.8
	baz=88,SNR=8.3								
I19A	Meeteetse	88.35	43	⇓P		P		01 59 32.7	+0.7
	baz=88,SNR=6.8								
P23A	Jefferson	88.46	48	⇑P		P		01 59 32.8	+0.1
	baz=89								
R24A	Sanders Place,	88.51	49	⇑P		P		01 59 34.3	+1.4
	baz=89								
229A	Bryant Ranch,	88.54	56	⇑P		P		01 59 33.6	+0.7
	baz=89								
MSTX	Muleshoe	88.56	54	eP		P		01 59 32.9	-0.1
	comp=Z,11nm,0.9s								
MSTX	Muleshoe	88.56	54	⇓P		P		01 59 33.4	+0.4
	baz=89,SNR=5.1								
430A	Baggett Ranch,	88.56	57	⇓P		P		01 59 33.8	+0.8
	baz=89,SNR=6.1								
T25A	Trinidad	88.57	50	⇑P		P		01 59 33.5	+0.3
	baz=89								
631A	Perdido Creek	88.59	59	⇑P		P		01 59 34.3	+1.2
	baz=89,SNR=21								
Z28A	Tucker Farm, M	88.59	54	⇓P		P		01 59 33.8	+0.6
	baz=89								
N22A	Wattenberg Ran	88.63	46	⇓P		P		01 59 34.1	+0.7
	baz=89,SNR=14								
J20A	Shoshoni	88.64	43	⇓P		P		01 59 34.0	+0.8
	baz=89,SNR=16								
H19A	Powell	88.64	42	⇑P		P		01 59 34.3	+1.1
	baz=89,SNR=6.2								
RLMT	Red Lodge	88.67	41	eP		P		01 59 33.7	+0.3
	comp=Z,5.9nm,0.9s								
832A	Faith Ranch, C	88.68	60	⇑P		P		01 59 34.5	+0.9
	baz=89,SNR=5.8								
129A	Stewart Farms,	88.75	55	⇑P		P		01 59 34.7	+0.8
	baz=89,SNR=7.0								
O23A	Lake Granby, G	88.75	47	⇓P		P		01 59 35.0	+1.0
	baz=89								
Q24A	Divide	88.78	48	⇓P		P		01 59 35.4	+1.2
	baz=89								
M22A	Cedar Creek Ra	88.79	46	⇓P		P		01 59 35.1	+1.0
	baz=89,SNR=7.5								
ISCO	Idaho Springs	88.79	47	eP		P		01 59 34.9	+0.7
ISCO	Idaho Springs	88.79	47	eP		P		01 59 34.9	+0.7
ISCO	Idaho Springs	88.79	47	⇓P		P		01 59 35.6	+1.3
	baz=89								
CMAR	Chiang Mai Arr	88.82	290	P		P		01 59 35.7	+1.3
	comp=Z,4.1nm,0.5s,baz=106,slow=2.9,SNR=28								
330A	Mertzon	88.84	57	⇓P		P		01 59 34.7	+0.4
	baz=89								
732A	Laxson Ranch,	88.84	59	⇓P		P		01 59 34.5	+0.2
	baz=89								
I20A	Worland	88.87	43	⇓P		P		01 59 34.8	+0.6
	baz=89,SNR=7.4								
K21A	Alcova	88.87	44	⇓P		P		01 59 34.7	+0.3
	baz=89,SNR=6.5								
531A	Rocksprings	88.89	58	⇑P		P		01 59 35.8	+1.2
	baz=89,SNR=11								
CHTO	Chiang Mai	88.93	290	eP		P		01 59 35.2	+0.2
CHTO				pmax		pmax			
	comp=Z,7.0nm,0.9s								
CHTO	Chiang Mai	88.93	290	eP		P		01 59 35.2	+0.2
	comp=Z,7.2nm,0.9s								
CD2	Chengdu	89.01	303	eP		P		01 59 36.0	+0.9
CD2				PMZ					
	comp=Z,10.0nm,1.0s								
933A	Laredo	89.02	61	⇓P		P		01 59 35.9	+0.8
	baz=89								
N23A	Red Feather La	89.02	46	⇓P		P		01 59 35.9	+0.7
	baz=89,SNR=7.0								
431A	Sonora	89.03	57	⇓P		P		01 59 35.6	+0.4
	baz=89								
J21A	Lysite	89.05	44	⇓P		P		01 59 35.7	+0.5
	baz=89,SNR=17								
230A	Sterling City	89.07	56	⇓P		P		01 59 36.0	+0.7
	baz=89								
Z29A	Hungry Hill Ra	89.11	55	⇑P		P		01 59 35.7	+0.2
	baz=89								
SYO	Syowa Base	89.13	193	‖eX				01 59 32.6	
L22A	Ellis Ranch, M	89.16	45	⇓P		P		01 59 36.3	+0.5
	baz=89,SNR=6.3								
833A	Chaparral WMA,	89.17	60	⇑P		P		01 59 37.0	+1.1
	baz=89								
T26A	Comanche Natio	89.18	50	⇑P		P		01 59 37.2	+1.2
	baz=89								
H20A	Greybull	89.19	42	⇓P		P		01 59 36.0	+0.3
	baz=89								
F19A	Roth Farm, Mol	89.20	41	⇓P		P		01 59 36.5	+0.8
	baz=89								
X28A	Dimmitt	89.20	53	⇓P		P		01 59 36.3	+0.3
	baz=89								
632A	Uvalde	89.27	59	⇓P		P		01 59 37.8	+1.5
	baz=89,SNR=11								
O24A	Longmont	89.30	47	⇑P		P		01 59 37.2	+0.8
	baz=90								
I21A	Big Trails, Te	89.36	43	⇓P		P		01 59 37.0	+0.4
	baz=90,SNR=11								
Y29A	Porterfield Fa	89.36	54	⇓P		P		01 59 37.1	+0.4
	baz=90,SNR=10								
K22A	Casper	89.36	45	⇓P		P		01 59 37.1	+0.5
	baz=90								
G20A	Bridger	89.38	42	⇑P		P		01 59 37.3	+0.7
	baz=90								
733A	Divot King Ran	89.39	60	⇑P		P		01 59 36.7	-0.2
	baz=90								
532A	Rocksprings	89.39	58	⇑P		P		01 59 37.8	+0.9
	baz=90,SNR=5.3								
331A	San Angelo	89.40	57	⇑P		P		01 59 37.5	+0.6
	baz=90,SNR=6.9								
M23A	Laramie	89.41	46	⇓P		P		01 59 37.6	+0.6
	baz=90								
130A	Snyder	89.44	56	⇑P		P		01 59 37.5	+0.4
	baz=90								
S26A	Kim	89.45	50	⇓P		P		01 59 37.5	+0.4
	baz=90								
U27A	Thompson Grove	89.46	51	⇓P		P		01 59 37.3	+0.2
	baz=90								
W28A	Vega	89.48	53	⇓P		P		01 59 37.2	-0.1
	baz=90								
PHWY	Pilot Hill	89.52	46	eP		P		01 59 37.4	-0.2
	comp=Z,6.4nm,1.0s								
X29A	Tulia	89.56	54	⇓P		P		01 59 37.8	+0.2
	baz=90								
Z30A	Sanderson Ranc	89.57	55	⇓P		P		01 59 38.0	+0.3
	baz=90								
E19A	Rath Farm, Rou	89.58	40	⇑P		P		01 59 38.0	+0.6
	baz=90								
JCT	Junction City	89.60	58	eP		P		01 59 37.5	-0.3
JCT				pmax		pmax			
	comp=Z,9.0nm,0.8s								
JCT	Junction City	89.60	58	eP		P		01 59 37.5	-0.3
	comp=Z,8.9nm,0.8s								
JCT	Junction City	89.60	58	⇑P		P		01 59 38.1	+0.3
	baz=90								
035Z	Hargill	89.62	62	⇑P		P		01 59 38.7	+0.8
	baz=90								
V28A	Channing	89.65	52	⇓P		P		01 59 38.0	-0.1
	baz=90								
F20A	Billings	89.68	41	⇓P		P		01 59 38.4	+0.5
	baz=90								
L23A	Garrett	89.69	45	⇑P		P		01 59 38.9	+0.6
	baz=90,SNR=12								
P25A	WW Gulch B	89.69	48	⇓P		P		01 59 38.8	+0.5
	baz=90								
231A	Bronte	89.71	56	⇑P		P		01 59 38.4	+0.1
	baz=90,SNR=16								
J22A	Midwest	89.72	44	⇑P		P		01 59 38.6	+0.4
	baz=90,SNR=8.8								
N24A	Carr	89.72	47	⇓P		P		01 59 39.6	+1.3
	baz=90,SNR=5.5								
R26A	Arlington	89.73	49	⇓P		P		01 59 38.6	+0.2
	baz=90								
AMTX	Amarillo	89.74	53	eP		P		01 59 38.9	+0.4
AMTX	Amarillo	89.74	53	⇑P		P		01 59 38.9	+0.4
	baz=90								
633A	Saathoff Ranch	89.75	59	⇑P		P		01 59 40.1	+1.6
	baz=90,SNR=6.7								
432A	Menard	89.75	57	⇓P		P		01 59 39.0	+0.5
	baz=90,SNR=14								
035A	Encino	89.76	62	⇑P		P		01 59 38.9	+0.3
	baz=90								
T27A	Campo	89.78	51	⇑P		P		01 59 39.1	+0.4
	baz=90								
834A	Tilden	89.79	60	⇑P		P		01 59 38.9	+0.2
	baz=90								
W29A	Amarillo	89.85	53	⇓P		P		01 59 39.3	+0.3
	baz=90								
H21A	Big Horn, Sher	89.87	43	⇑P		P		01 59 39.2	+0.3
	baz=90								
U28A	Mallet	89.89	52	⇓P		P		01 59 39.8	+0.7
	baz=90								
I22A	9 Mile Ranch,	89.92	43	⇓P		P		01 59 39.8	+0.7
	baz=90,SNR=7.5								
131A	Roby	89.92	56	⇑P		P		01 59 39.7	+0.4
	baz=90								
Q26A	Hugo	89.92	49	⇓P		P		01 59 40.0	+0.7
	baz=90								
Y30A	Stafford Cattl	89.97	54	⇑P		P		01 59 39.8	+0.3
	baz=90								
O25A	Wiggins	89.97	48	⇓P		P		01 59 40.0	+0.6
	baz=90								
332A	Millersview	89.97	57	⇑P		P		01 59 40.2	+0.7
	baz=90,SNR=19								
C19A	Slack Wire Ran	89.99	39	⇑P		P		01 59 40.0	+0.7
	baz=90								
E20A	Meyer Farm, Mu	90.00	41	⇑P		P		01 59 40.2	+0.8
	baz=90								
K23A	Bowen Ranch, D	90.01	45	⇑P		P		01 59 40.0	+0.4
	baz=90								
G21A	Lodge Grass	90.02	42	⇓P		P		01 59 40.3	+0.7
	baz=90								
M24A	Cheyenne	90.02	46	⇑P		P		01 59 40.2	+0.4
	baz=90								
734A	La Parita Cree	90.04	60	⇓P		P		01 59 40.0	+0.2
	baz=90								
533A	Kerrville	90.08	58	⇑P		P		01 59 40.9	+0.9
	baz=90,SNR=7.4								
L24A	Wheatland	90.18	46	⇑P		P		01 59 41.4	+1.0
	baz=90								
X30A	Coker Ranch, T	90.19	54	⇑P		P		01 59 40.5	0.0
	baz=90								
R27A	Eads	90.20	50	⇓P		P		01 59 40.9	+0.3
	baz=90								
232A	Coleman	90.23	57	⇑P		P		01 59 41.3	+0.5
	baz=90,SNR=8.6								
V29A	Stinnett	90.23	52	⇓P		P		01 59 40.9	+0.2
	baz=90								
T28A	Wash	90.25	51	⇓P		P		01 59 41.5	+0.7
	baz=90								
D20A	Manuel Ranch,	90.26	40	⇑P		P		01 59 41.1	+0.6
	baz=90								
433A	Art	90.27	58	⇑P		P		01 59 41.5	+0.5
	baz=90,SNR=14								
P26A	Davis Ranch, A	90.30	48	⇑P		P		01 59 42.4	+1.4
	baz=90								
H22A	Clearmont	90.30	43	⇑P		P		01 59 42.8	+2.0
	baz=90								
F21A	Absaloka Mine,	90.33	42	⇑P		P		01 59 42.5	+1.6
	baz=90								
Z31A	Sharp Cattle R	90.35	55	⇑P		P		01 59 41.7	+0.4
	baz=90,SNR=5.8								
B19A	Brinkman Farms	90.38	39	⇑P		P		01 59 41.7	+0.6
	baz=90								
835A	Beeville	90.45	60	⇑P		P		01 59 42.4	+0.7
	baz=91								
Y31A	Rekieta Farm,	90.49	54	⇓P		P		01 59 42.0	+0.1
	baz=91								
ABTX	Abilene, Hawle	90.49	56	eP		P		01 59 41.7	-0.2
	comp=Z,28nm,1.2s								
ABTX	Abilene, Hawle	90.49	56	⇓P		P		01 59 42.3	+0.4
	baz=91,SNR=9.2								
534A	Blanco	90.52	59	⇓P		P		01 59 42.8	+0.7
	baz=91,SNR=13								
M25A	Palm-Egli Farm	90.54	46	⇓P		P		01 59 43.0	+0.9
	baz=91								
333A	Richland Sprin	90.56	57	⇓P		P		01 59 42.9	+0.7
	baz=91								
O26A	Horse Wrangler	90.59	48	⇑P		P		01 59 43.8	+1.5
	baz=91								
S28A	Manter	90.59	51	⇑P		P		01 59 43.7	+1.4
	baz=91								
SNAA	Sanae	90.59	179	P		P		01 59 41.0	-0.7
SNAA	Sanae	90.59	179	P		P		01 59 40.8	-0.9
	comp=Z,1.4nm,0.6s,baz=199,slow=7.2,SNR=11								
C20A	Veseth Ranch,	90.61	40	⇑P		P		01 59 43.1	+1.0
	baz=91								
I23A	Meade Ranch, G	90.62	44	⇓P		P		01 59 43.4	+1.0
	baz=91								
U29A	Oasis Ranch, S	90.63	52	⇓P		P		01 59 42.9	+0.3
	baz=91								
735A	Kenedy	90.66	60	⇓P		P		01 59 44.2	+1.5
	baz=91								
A19A	Klindworth Far	90.71	38	⇑P		P		01 59 43.2	+0.6
	baz=91								
VNA3	Neumayer Olymp	90.73	176	P		P		01 59 42.0	-0.3
V30A	Spur Ranch, Mi	90.81	53	⇓P		P		01 59 44.7	+1.3
	baz=91								
LZH	Lanzhou	90.84	308	eP		P		01 59 44.2	+0.6
LZH				pP		pP		02 01 43.6	-6.0
LZH				PMZ					
	comp=Z,17nm,1.0s								
F22A	Rosebud	90.86	42	⇓P		P		01 59 44.1	+0.8
	baz=91								
Z32A	Haskell	90.86	55	⇑P		P		01 59 44.4	+0.8
	baz=91,SNR=9.1								
233A	Rising Star	90.87	57	⇓P		P		01 59 44.1	+0.4
	baz=91								
635A	Leesville	90.87	59	⇓P		P		01 59 44.8	+1.1
	baz=91								
T29A	Hugoton	90.87	51	⇑P		P		01 59 43.5	-0.1
	baz=91								
N26A	Koester Ranch,	90.88	47	⇓P		P		01 59 44.1	+0.5
	baz=91								
L25A	Engebretsen Ra	90.89	46	⇓P		P		01 59 44.9	+1.2
	baz=91								
J24A	Dixon Ranch, L	90.89	44	⇓P		P		01 59 44.3	+0.6
	baz=91								
H23A	Clabaugh Cattl	90.91	43	⇓P		P		01 59 44.3	+0.7
	baz=91								
B20A	Solberg Farm,	90.92	39	⇓P		P		01 59 43.8	+0.2
	baz=91								
R28A	Tribune	90.94	50	⇑P		P		01 59 44.3	+0.3
	baz=91,SNR=5.4								
X31A	McDonald Ranch	90.95	54	⇓P		P		01 59 44.0	0.0
	baz=91								
D21A	La Casta Ranch	90.95	40	⇓P		P		01 59 44.4	+0.7
	baz=91								
434A	Burnet	90.95	58	⇑P		P		01 59 44.5	+0.4
	baz=91,SNR=9.3								
133A	Hamilton Ranch	91.06	56	⇓P		P		01 59 45.2	+0.7
	baz=91,SNR=6.0								
U30A	WK&E Inc. Balk	91.12	52	⇑P		P		01 59 44.8	0.0
	baz=91								
I24A	Kuemmerle Ranc	91.13	44	⇑P		P		01 59 44.4	-0.3
	baz=91								
K25A	Mack Ranch, Ha	91.13	45	⇓P		P		01 59 44.9	+0.1
	baz=91								
Y32A	R-V Farms, Ver	91.14	55	⇑P		P		01 59 45.1	+0.2
	baz=91								
334A	Lometa	91.16	58	⇑P		P		01 59 45.6	+0.7
	baz=91,SNR=6.9								
VNA2	Neumayer--Watz	91.17	177	P		P		01 59 46.3	+2.0
	baz=194,slow=3.0								
W31A	Holland Ranch,	91.17	53	⇑P		P		01 59 45.3	+0.3
	baz=91								
S29A	Ulysses	91.18	51	⇑P		P		01 59 45.4	+0.3
	baz=91								
M26A	McRoberts Ranc	91.18	47	⇑P		P		01 59 45.8	+0.8
	baz=91								
C21A	Desert Coulee	91.21	40	⇓P		P		01 59 45.4	+0.5
	baz=91								
E22A	Miles City	91.33	41	⇓P		P		01 59 45.9	+0.4
	baz=92								
N27A	Anderson Farm,	91.35	47	⇓P		P		01 59 46.1	+0.4
	baz=92								
F23A	Volborg	91.38	42	⇓P		P		01 59 46.2	+0.5
	baz=92								
VNA1	Neumayer--Stat	91.40	177	P		P		01 59 45.5	+0.2
Z33A	Whitaker Ranch	91.42	56	⇓P		P		01 59 46.5	+0.3
	baz=92								
V31A	Spring Creek L	91.46	53	⇑P		P		01 59 47.6	+1.3
	baz=92								
234A	Clairette	91.47	57	⇓P		P		01 59 46.8	+0.4
	baz=92								
D22A	Cohagen	91.49	41	⇑P		P		01 59 46.9	+0.7
	baz=92								
J25A	Sunshine Ranch	91.49	45	⇓P		P		01 59 46.9	+0.5
	baz=92								
636A	Smothers Creek	91.49	60	⇓P		P		01 59 47.2	+0.7
	baz=92								
435B	Jarrell	91.50	58	⇓P		P		01 59 47.0	+0.4
	baz=92								
B21A	Ellsworth Farm	91.52	39	⇑P		P		01 59 46.9	+0.6
	baz=92								
H24A	Dirks Ranch, A	91.

X34A	Smith Ranch, M	92.59	55	⇓P		P		01 59 51.6	+0.1
	baz=93								
J27A	Elkhorn Farm,	92.64	45	⇑P		P		01 59 52.1	+0.5
	baz=93								
V33A	Lossen Ranch,	92.66	53	⇑P		P		01 59 52.9	+1.1
	baz=93								
F25A	Bowman	92.71	42	⇓P		P		01 59 53.4	+1.5
	baz=93								
C24A	Savage	92.73	41	⇑P		P		01 59 53.2	+1.4
	baz=93								
B23A	Brockton	92.76	40	⇑P		P		01 59 52.9	+0.9
	baz=93								
S32A	Newby Ranch, P	92.82	51	⇑P		P		01 59 53.2	+0.7
	baz=93								
ULN	Ulaanbaatar	93.11	319	*e*P		P		01 59 53.4	-0.4
ULN				pmax	pmax				
	comp=Z,4.0nm,1.1s								
ULN	Ulaanbaatar	93.11	319	*e*P		P		01 59 53.4	-0.4
	comp=Z,3.6nm,1.1s								
T33A	Patterson Ranc	93.12	52	⇓P		P		01 59 54.5	+0.6
	baz=93								
R32A	Long Quarter,	93.24	51	⇓P		P		01 59 55.6	+1.2
	baz=93,SNR=6.3								
DGMT	Dagmar	93.25	40	*e*P		P		01 59 54.6	+0.4
	comp=Z,22nm,0.3s								
D25A	Fairfield	93.27	41	⇓P		P		01 59 55.6	+1.2
	baz=93								
SONM	Songino Array	93.51	319	P		P		01 59 55.8	+0.3
	comp=Z,0.6nm,0.6s,baz=139,slow=5.1,SNR=6.3								
W35A	Tecumseh	93.52	54	⇑P		P		01 59 56.9	+1.1
	baz=94								
Q32A	Meitler Ranch,	93.54	50	⇓P		P		01 59 56.7	+0.9
	baz=94								
A24A	Westby	93.55	40	⇑P		P		01 59 56.6	+1.0
	baz=94								
R33A	Olander Ranch,	93.73	51	⇓P		P		01 59 57.4	+0.7
	baz=94								
D26A	Manning	93.78	42	⇓P		P		01 59 57.4	+0.7
	baz=94								
B25A	Knox Farm, Ray	93.81	40	⇑P		P		01 59 57.6	+0.9
	baz=94								
Q33A	Connelly Farm,	94.08	50	⇓P		P		01 59 59.0	+0.8
	baz=94								
P33A	Williams Farm,	94.33	50	⇑P		P		02 00 00.0	+0.7
	baz=94								
YKA	Yellowknife Ar	94.37	25	P		P		01 59 58.2	-0.7
	comp=Z,1.3nm,0.5s,baz=236,slow=4.6,SNR=39								
YKA				PP	PP				
	comp=Z,0.5nm,0.9s,baz=238,slow=7.7,SNR=4.4								
YKA				PKKP		PKKPdf		02 16 54.6	-2.4
	comp=Z,0.1nm,0.4s,baz=48,slow=1.9,SNR=8.1								
JTS	JuntasAbangare	96.43	81	*e*P		P		02 00 09.4	0.0
JTS				pmax	pmax				
	comp=Z,23nm,1.4s								
JTS	JuntasAbangare	96.43	81	*e*P		P		02 00 09.4	0.0
	comp=Z,23nm,1.4s								
A29A	Manning Farm,	96.47	41	⇓P		P		02 00 08.6	-0.2
	baz=97								
ECSD	EROS Data Cent	96.49	46	⇓P		P		02 00 09.0	+0.1
	baz=97								
ZALV	Zalesovo Beam	108.19	322	PKiKP		PKiKP		02 05 01.9	-1.5
	comp=Z,0.9nm,0.6s,baz=135,slow=0.8,SNR=3.0								
MK31	Makanchi Array	109.09	314	*e*PKP		PKiKP		02 05 03.7	-1.7
MKAR	Makanchi Array	109.09	314	PKiKP		PKiKP		02 05 03.8	-1.6
	comp=Z,0.6nm,0.5s,baz=51,slow=35,SNR=10								
KURK	Kurchatov	111.78	318	*e*PKIKP		PKiKP		02 05 07.9	-2.4
KURK	Kurchatov	111.78	318	*e*PKP		PKiKP		02 05 07.9	-2.4
KSH	Kashi	113.02	306	*e*PKP		PKiKP		02 05 15.2	+1.9
KSH				PP		PP		02 06 18.3	+4.4
KSH				sPKP				02 08 13.8	
KSH				SKS		SKSdf		02 11 36.2	+5.1
KSH				PPMZ					
	comp=Z,78nm,4.5s								
TKM2	Tokmak 2	113.53	310	*e*PKIKP		PKiKP		02 05 12.5	-1.7
TKM2	Tokmak 2	113.53	310	*e*PKP		PKiKP		02 05 12.5	-1.7
EKS2	Erkin-Say	114.86	309	*e*PKIKP		PKPdf		02 05 15.6	-1.1
EKS2	Erkin-Say	114.86	309	*e*PKP		PKPdf		02 05 15.6	-1.1
BRVK	Borovoye	116.87	321	*i* PKiKP		PKPdf		02 05 18.7	-1.3
KBL	Kabul	118.23	300	*e*PKIKP		PKPdf		02 05 22.2	-1.4
KBL	Kabul	118.23	300	*e*PKPdf		PKPdf		02 05 22.2	-1.4
ARU	Arti	122.82	326	*e*PKIKP		PKPdf		02 05 30.4	-1.0
ARU	Arti	122.82	326	*e*PKPdf		PKPdf		02 05 30.4	-1.0
ABKAR	Akbulak array	123.89	318	*e*PKPdf		PKPdf		02 05 32.6	-1.1
ARCES	ARCESS Array B	126.31	350	PKP		PKPdf		02 05 37.3	-0.4
	comp=Z,4.0nm,0.9s,baz=23,slow=2.9,SNR=6.3								
GEYT	Alibeck	126.98	304	PKP		PKPdf		02 05 39.6	-0.4
	comp=Z,2.7nm,0.8s,baz=232,slow=1.7,SNR=7.1								
FINES	FINESS Array B	133.18	344	PKhKP		PKPpre		02 05 46.2	
	comp=Z,1.2nm,0.6s,baz=17,slow=8.0,SNR=4.8								
FINES				PKP		PKPdf		02 05 51.3	+0.4
	comp=Z,2.7nm,0.9s,baz=64,slow=3.2,SNR=5.0								
FINES				SKPbc		SKPbc		02 08 25.7	+0.3
	comp=Z,3.3nm,0.9s,baz=50,slow=4.3,SNR=7.2								
LSZ	Lusaka	137.82	220	*e*PKIKP		PKPdf		02 06 02.3	+1.2
LSZ	Lusaka	137.82	220	*e*PKPdf		PKPdf		02 06 02.3	+1.2
AKASG	Malin Array Be	140.53	332	PKhKP		PKPpre		02 05 58.2	
	comp=Z,0.4nm,0.3s,baz=48,slow=3.9,SNR=8.6								
MALT	Malatya	141.96	310	⇑PKHKP		PKPpre		02 06 03.5	
MALT	Malatya	141.96	310	⇑*i*P		PKPpre		02 06 03.5	
BSEG	Bad Segeberg	143.41	351	*e*PKPbc		PKPab		02 06 07.7	-0.6
LEOM	Leova	143.97	328	⇑PKIKP		PKPab		02 06 10.7	0.0
LEOM	Leova	143.97	328	⇑*i*P		PKPbc		02 06 10.7	0.0
KWP	Kalwaria Pacla	144.05	336	⇑PKIKP		PKPbc		02 06 10.0	-0.6
KWP	Kalwaria Pacla	144.05	336	⇑*i*P		PKPbc		02 06 10.0	-0.6
TLCR		144.54	326	⇑PKIKP		PKPdf		02 06 12.0	0.0
TLCR		144.54	326	⇑*i*P		PKPdf		02 06 12.0	0.0
BUR08	Bucovina Ar. S	144.57	332	*e*PKPdf		PKPbc		02 06 12.4	-0.1
BURAR	Bucovina Array	144.59	332	⇑PKIKP		PKPdf		02 06 12.2	0.0
BURAR	Bucovina Array	144.59	332	⇑*i*P		PKPdf		02 06 12.2	0.0
TESR	Tescani	144.73	329	⇑*i*P		PKPdf		02 06 12.5	+0.1
BR131	Keskin Array S	144.74	315	*e*PKPdf		PKPdf		02 06 12.4	-0.4
BRTR	Keskin Array B	144.74	315	PKP		PKPdf		02 06 12.6	-0.2
	comp=Z,5.0nm,0.5s,baz=123,slow=4.3,SNR=54								
STHS	Stebnicka Huta	144.77	338	*e*PKIKP		PKPab		02 06 13.3	-0.4
STHS	Stebnicka Huta	144.77	338	*e*PKP		PKPab		02 06 13.3	-0.4
KOLS	Kolonicke sedl	144.78	336	*e*PKIKP		PKPbc		02 06 13.2	+0.3
KOLS	Kolonicke sedl	144.78	336	*e*PKP		PKPbc		02 06 13.2	+0.3
CFR	Carcaliu	144.90	327	⇑PKIKP		PKPbc		02 06 13.3	-0.1
CFR	Carcaliu	144.90	327	⇑*i*P		PKPbc		02 06 13.3	-0.1
UZH	Uzhgorod	145.02	336	⇓*i*PKIKP		PKPbc		02 06 13.6	0.0
KSP	Ksiaz	145.10	344	*e*PKP		PKPbc		02 06 14.1	+0.3
KSP	Ksiaz	145.10	344	*e*PKIKP		PKPbc		02 06 14.1	+0.3
NIE	Niedzica	145.10	338	*e*PKP		PKPbc		02 06 14.0	+0.1
NIE	Niedzica	145.10	338	*e*PKIKP		PKPbc		02 06 14.0	+0.1
CRVS	Cervenica-Dubn	145.12	337	*e*PKIKP		PKPbc		02 06 14.1	+0.2
CRVS	Cervenica-Dubn	145.12	337	*e*PKP		PKPbc		02 06 14.1	+0.2
VRI	Vrincioaia	145.15	329	⇑PKIKP		PKPbc		02 06 14.3	+0.2
VRI	Vrincioaia	145.15	329	⇑*i*P		PKPbc		02 06 14.3	+0.2
TIRR	Tirgusor	145.23	325	⇑PKIKP		PKPbc		02 06 14.0	-0.4
TIRR	Tirgusor	145.23	325	⇑*i*P		PKPbc		02 06 13.9	-0.4
ANTO	Ankara	145.23	316	⇑PKP2		PKPbc		02 06 14.9	+0.2
ANTO	Ankara	145.23	316	⇑*i*P		PKPbc		02 06 14.9	+0.2
ANTO	Ankara	145.23	316	*e*PKPdf		PKPbc		02 06 14.2	-0.4
BMR	Baia Mare	145.29	334	⇓PKP2		PKPbc		02 06 14.7	+0.2
BMR	Baia Mare	145.29	334	⇓*i*P		PKPbc		02 06 14.7	+0.2
IBBN	Ibbenburen	145.33	353	*e*PKPbc		PKPbc		02 06 15.0	+0.6
HARR	Harsova	145.34	326	⇑PKP2		PKPbc		02 06 15.1	+0.4
HARR	Harsova	145.34	326	⇑*i*P		PKPbc		02 06 15.1	+0.4
TLB	Topalu	145.35	326	⇑PKP2		PKPbc		02 06 15.0	+0.3
TLB	Topalu	145.35	326	⇑*i*P		PKPbc		02 06 15.0	+0.3
CLZ	Clausthal	145.43	350	*e*PKPbc		PKPbc		02 06 14.8	0.0
CLL	Collm	145.46	347	*e*PKPbc		PKPbc		02 06 14.5	-0.3
CLL	Collm	145.46	347	⇓*i*PKPbc		PKPbc		02 06 14.5	-0.3
	comp=Z,5.0nm,0.7s								
CLL				*i* PKPab		PKPab		02 06 15.7	-0.5
	comp=Z,6.0nm,1.0s								
CLL				*i*				02 06 24.1	
CLL	Collm	145.46	347	⇓*i*PKIKP		PKPbc		02 06 14.5	-0.3
CLL				*i*				02 06 15.7	
CLL				pmax	pmax				
	comp=Z,5.0nm,0.7s								
OKC	Ostrava-Krasne	145.46	341	*e*PKP		PKPbc		02 06 14.9	0.0
OKC				*ex*	x			02 06 16.5	
OKC	Ostrava-Krasne	145.46	341	*e*PKP2		PKPbc		02 06 14.9	0.0
UPC	Upice	145.48	344	*e*PKP		PKPbc		02 06 14.5	-0.4
UPC				*ex*	x			02 06 17.0	
UPC	Upice	145.48	344	*e*PKIKP		PKPbc		02 06 14.5	-0.4
UPC				*e*				02 06 17.0	
DPC	Dobruska-Polom	145.53	343	*e*PKP		PKPbc		02 06 15.4	+0.3
DPC				*ex*	x			02 06 17.3	
DPC				*ex*	x			02 07 13.9	
DPC	Dobruska-Polom	145.53	343	*e*PKP2		PKPbc		02 06 15.4	+0.3
BRG	Berggiesshubel	145.66	346	*e*PKP		PKPbc		02 06 15.6	+0.2
	comp=Z,3.9nm,1.0s								
BRG	Berggiesshubel	145.66	346	*e*PKP2		PKPbc		02 06 15.6	+0.2
BRG				pmax	pmax				
	comp=Z,4.0nm,1.0s								
MORC	Moravsky Berou	145.70	341	⇑PKP2		PKPbc		02 06 15.9	+0.3
MORC	Moravsky Berou	145.70	341	⇑*i*P		PKPbc		02 06 15.9	+0.3
MORC	Moravsky Berou	145.70	341	*e*PKPbc		PKPbc		02 06 14.9	-0.7
DOPR	Dopca	145.73	330	⇑*i*P		PKPbc		02 06 16.5	+0.7
ISR	Istrita	145.76	328	⇑PKP2		PKPbc		02 06 16.2	+0.2
ISR	Istrita	145.76	328	⇑*i*P		PKPbc		02 06 16.2	+0.2
MSAB	Monastry St. A	145.79	325	⇑*i*P		PKPbc		02 06 16.2	+0.2
MLR	Muntele Rosu	145.80	329	⇑PKIKP		PKPdf		02 06 15.2	+0.8
MLR	Muntele Rosu	145.80	329	⇑*i*P		PKPdf		02 06 15.2	+0.8
KECS	Kecovo	145.82	337	*e*PKP2		PKPbc		02 06 16.2	+0.2
KECS	Kecovo	145.82	337	*e*PKP		PKPbc		02 06 16.2	+0.2
PVCC	Panska Ves	145.83	345	*e*PKP		PKPbc		02 06 16.2	+0.3
PVCC	Panska Ves	145.83	345	*e*PKP2		PKPbc		02 06 16.2	+0.3
CJR	Cluj-Napoca	145.99	332	⇑PKP2		PKPbc		02 06 17.0	+0.4
CJR	Cluj-Napoca	145.99	332	⇑*i*P		PKPbc		02 06 17.0	+0.4
VOIR		146.28	330	⇑PKHKP		PKPpre		02 06 11.3	
VOIR		146.28	330	⇑*i*P		PKPpre		02 06 11.3	
DRGR		146.31	333	⇑PKP2		PKPbc		02 06 17.5	0.0
DRGR		146.31	333	⇑*i*P		PKPbc		02 06 17.5	0.0
PRU	Pruhonice	146.33	345	*e*PKP		PKPbc		02 06 17.2	-0.1
PRU				*ex*	x			02 06 19.3	
PRU	Pruhonice	146.33	345	*e*PKP2		PKPbc		02 06 17.2	-0.1
GOPC	GO Pecny, Ondr	146.34	344	*e*PKP		PKPbc		02 06 17.2	-0.2
VRAC	Vranov	146.40	342	⇑PKIKP		PKPbc		02 06 17.2	-0.3
VRAC	Vranov	146.40	342	⇑*i*P		PKPbc		02 06 17.2	-0.3
VYHS	Vyhne	146.40	339	*e*PKP2		PKPbc		02 06 17.9	+0.3
VYHS	Vyhne	146.40	339	*e*PKP		PKPbc		02 06 17.9	+0.3
PSZ	Piszkesteto	146.51	337	*e*PKIKP		PKPbc		02 06 17.2	-0.8
PSZ	Piszkesteto	146.51	337	*e*PKPbc		PKPbc		02 06 17.2	-0.8
ARR	Arges	146.53	330	⇑*i*P		PKPbc		02 06 18.9	+0.8
CSS	Prodhromos	147.03	307	*e*PKPbc		PKPbc		02 06 19.1	-0.6
CSS				*e*PKPab		PKiKP		02 06 21.9	+0.5
ROTZ	Rotzenmuhle	147.08	347	*e*PKPbc		PKPbc		02 06 19.5	+0.2
MEM	Membach	147.19	355	PKPab		PKPab		02 06 22.0	-1.2
TNS	Taunus Mts	147.29	352	*e*PKPbc		PKPbc		02 06 19.8	-0.1
GRF	Grafenberg Arr	147.35	348	*e*PKPbc		PKPbc		02 06 19.5	-0.6
SZH	Strazhica	147.36	326	*i* P		PKPbc		02 06 19.8	-0.5
GZR	Gura Zlata	147.37	332	⇑*i*P		PKPbc		02 06 20.0	-0.3
JMB	Yambol	147.54	324	⇑PKHKP		PKPpre		02 06 03.9	
JMB	Yambol	147.54	324	⇑*i*P		PKPpre		02 06 03.9	
GEC2	GERESS Array S	147.60	345	*e*PKPbc		PKPbc		02 06 20.7	-0.1
GERES	GERESS Array B	147.60	345	PKPbc		PKPbc		02 06 20.5	-0.3
	comp=Z,3.0nm,0.5s,baz=21,slow=3.0,SNR=44								
BZS	Buzias	147.71	333	⇓PKIKP		PKPbc		02 06 20.6	-0.5
BZS	Buzias	147.71	333	⇓*i*P		PKPbc		02 06 20.6	-0.5
ISP	Isparta	147.79	314	⇑PKIKP		PKPdf		02 06 19.7	+1.8
ISP	Isparta	147.79	314	⇑*i*P		PKPdf		02 06 19.6	+1.7
DOU	Dourbes	147.80	356	PKPbc		PKPbc		02 06 21.2	0.0
CONA	Conrad Observa	147.85	342	⇓*i*PKiKP		PKPbc		02 06 21.7	+0.2
	comp=Z,3.4nm,0.6s								
WLF	Walferdange	148.11	354	PKPbc		PKPbc		02 06 22.3	+0.4
WLF	Walferdange	148.11	354	*e*PKPbc		PKPbc		02 06 22.4	+0.4
WLF	Walferdange	148.11	354	*e*PKP2		PKPbc		02 06 22.0	0.0
WLF	Walferdange	148.11	354	*e*PKPbc		PKPbc		02 06 22.0	0.0
KDZ	Kurdzhali	148.74	324	⇑*i*P		PKPbc		02 06 23.7	-0.1
KDZ	Kurdzhali	148.74	324	*i* P		PKPbc		02 06 23.3	-0.5
FUR	Furstenfeldbru	148.79	347	*e*PKPbc		PKPbc		02 06 23.6	-0.1
RZN	Rozhen	149.10	325	*i* P		PKPbc		02 06 24.2	-0.7
SOKA	Soboth	149.22	342	⇑*i*PKPbc		PKPbc		02 06 23.9	-1.0
	comp=Z,4.7nm,1.1s,SNR=4.3								
PERS	Pernice	149.23	342	*e*PKPbc		PKPbc		02 06 23.9	-1.0
VTS	Vitosha	149.26	328	⇑*i*P		PKPbc		02 06 25.2	0.0
VTS	Vitosha	149.26	328	*i* P		PKPbc		02 06 24.8	-0.4
WATA	Walderalm	149.52	346	*i* PKPbc		PKPbc		02 06 25.1	-0.5
	comp=Z,2.3nm,0.6s,SNR=4.7								
WTTA	Wattenberg	149.57	346	*i* PKPbc		PKPbc		02 06 25.4	-0.4
	comp=Z,5.6nm,0.6s,SNR=9.6								
MOTA	Moosalm	149.61	347	⇑*i* PKPbc		PKPbc		02 06 25.3	-0.6
	comp=Z,2.0nm,0.6s								
DIVS	Divbare	149.62	333	⇑*i*P		PKPbc		02 06 26.1	+0.2
MMB	Musomiste	149.70	326	⇓*i*P		PKPbc		02 06 25.7	-0.4
MMB	Musomiste	149.70	326	*i* P		PKPbc		02 06 25.3	-0.8
KKB	Krupnik	149.84	327	*i* P		PKPbc		02 06 25.9	-0.5
ABTA	Abfaltersbach	149.85	345	*i* PKPbc		PKPbc		02 06 25.5	-0.8
	comp=Z,6.2nm,0.6s,SNR=7.9								
LJU	Ljubljana	149.94	342	*i* PKPbc		PKPbc		02 06 25.3	-1.2
VISS	Visnje	150.06	341	*i* PKPbc		PKPbc		02 06 26.5	-0.3
BOJS	Bojanci	150.20	340	*i* PKPbc		PKPbc		02 06 26.8	-0.3
BNI	Bardonecchia	152.60	352	*e*PKIKP		PKPbc		02 06 33.0	+0.3
BNI	Bardonecchia	152.60	352	*e*PKPbc		PKPbc		02 06 33.0	+0.3
AQU	L'Aquila	153.62	340	*e*PKIKP		PKPbc		02 06 34.6	-0.3
AQU	L'Aquila	153.62	340	*e*PKPbc		PKPbc		02 06 34.6	-0.3
ESDC	Sonseca Array	157.80	11	PKPab		PKPab		02 07 07.9	-0.7
	comp=Z,0.9nm,0.6s,baz=344,slow=4.5,SNR=8.2								
TORD	Torodi Ar. Bea	175.25	182	PKP		PKPdf		02 06 44.2	-1.6
	comp=Z,0.6nm,0.8s,baz=222,slow=1.9,SNR=3.2								
TORD				PKPab		PKPab		02 08 25.3	-0.6
	comp=Z,0.3nm,0.6s,baz=226,slow=3.8,SNR=3.9								
TORD				PP		PP		02 12 17.7	+0.2
	comp=Z,0.4nm,0.7s,baz=168,slow=5.2,SNR=2.7								

IDC ***02*** *01:52:47.4±0.5, 54.°60S×28.°53W, h32km±3km, mb4.1/8, mb1 4.2/8, mb1mx4.0/15, mbtmp4.3/8, MS3.9/5, Ms1 3.9/5, ms1mx3.6/14, Error ellipse: s-maj=23.5km s-min=11.9km az=78.0*

NEIC ***02*** *01:52:47.1±0.3, 54.°66S×28.°53W, mb4.7/16, Error ellipse: s-maj=9.9km s-min=8.2km az=47.0*

ISC 02 01:52:47.1±0.5, **54.°62S**±0.°07×**28.°55W**±0.°09, **h35**km±3km, **h35**km**:pP-P, n52**, σ0**°87**/64, **mb4.5**/19, **MS3.8**/5, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
VNA3	Neumayer Olymp	18.60	161	P		P	01 56 59.5		-1.5
VNA2	Neumayer--Watz	18.81	158	P		P	01 57 02.1		-1.2
	baz=315,slow=14								
PMSA	Palmer Station	20.30	226	*e*P		P	01 57 18.6		-0.9
	103nm,1.4s								
SNAA	Sanae	20.37	157	P		P	01 57 19.2		-1.0
SNAA	Sanae	20.37	157	P		P	01 57 19.1		-1.2
	6.0nm,0.4s,baz=297,slow=14,SNR=277								
SNAA				pP		pP	01 57 29.8		+0.3
	5.2nm,0.6s,baz=300,slow=7.9,SNR=8.7								
SNAA	Sanae	20.37	157	*e*P		P	01 57 18.8		-1.4
	16nm,0.6s								
SNAA				pP		pP	01 57 29.8		+0.3
TRQA	Tornquist	28.05	292	*e*P		P	01 58 34.9		0.0
	13nm,1.3s								
PLCA	Paso Flores	30.99	279	LR		LR	02 11 10.5		
	comp=Z,126nm,18.2s,baz=173,slow=36								
CPUP	Villa Florida	35.28	312	P		P	01 59 37.9		-0.4
	3.0nm,0.9s,baz=148,slow=8.4,SNR=14								
CPUP				pP		pP	01 59 47.8		-0.7
	1.3nm,0.7s,baz=152,slow=9.8,SNR=5.9								
CPUP				LR		LR	02 15 21.7		
	comp=Z,875nm,18.2s,baz=186,slow=38								
CPUP	Villa Florida	35.28	312	*e*P		P	01 59 37.6		-0.8
	0.6nm,1.1s								
CPUP				pP		pP	01 59 47.8		-0.7
QSPA	South Pole Qui	35.64	180	P		P	01 59 41.6		+0.3
	6.7nm,0.6s,baz=55,slow=1.5,SNR=16								
QSPA				pP		pP	01 59 52.6		+1.2
	13nm,0.7s,baz=215,slow=1.8,SNR=12								
QSPA	South Pole Qui	35.64	180	*e*P		P	01 59 41.4		+0.2
	24nm,1.0s								
QSPA				pP		pP	01 59 52.6		+1.2
LCO	Las Campanas	39.63	293	*e*P		P	02 00 14.9		-0.6
	6.7nm,0.8s								
SUR	Sutherland	41.06	78	*e*P		P	02 00 28.3		+1.1
	8.1nm,1.4s								
BDFB	Brasilia	41.73	331	P		P	02 00 33.6		+0.9
	3.4nm,0.7s,baz=146,slow=9.5,SNR=6.1								
BDFB				pP		pP	02 00 43.6		+0.6
	3.4nm,0.7s,baz=73,slow=4.0,SNR=4.2								
MAW	Mawson	41.77	145	P		P	02 00 32.7		+0.4
	2.1nm,0.7s,baz=243,slow=6.2,SNR=2.6								
MAW				LR		LR	02 15 16.5		
	comp=Z,103nm,21.8s,baz=244,slow=32								
LVC	Limon Verde	43.90	300	*e*P		P	02 00 50.7		+0.3
	15nm,1.2s								
VNDA	Vanda	47.97	183	P		P	02 01 22.5		+1.0
	1.8nm,0.7s,baz=192,slow=5.2,SNR=13								
VNDA				pP		pP	02 01 33.1		+1.1
	4.7nm,0.7s,baz=177,slow=5.4,SNR=12								
RCBR	Riachuelo	49.01	350	*e*P		P	02 01 30.1		-0.2
	28nm,1.3s								
TSUM	Tsumeb	49.70	63	*e*P		P	02 01 33.2		-2.5
	10nm,1.4s								
SAML	Samuel	53.24	316	*e*P		P	02 02 01.2		-0.8
	6.5nm,0.8s								
SAML				*ep*P		pP	02 02 11.6		-0.9
LSZ	Lusaka	58.61	71	*e*P		P	02 02 40.4		-0.2
	2.8nm,0.8s								
RPN	Rapa Nui	63.13	260	LR		LR	02 27 55.2		
	comp=Z,97nm,20.1s,baz=316,slow=33								
DBIC	Dimbokro	64.20	26	P		P	02 03 19.1		+1.0
	5.0nm,1.0s,baz=199,slow=7.0,SNR=2.7								
DBIC				pP		pP	02 03 29.2		+0.4
	4.5nm,0.8s,baz=189,slow=10,SNR=3.1								
OTAV	Otavalo	68.21	305	*e*P		P	02 03 45.1		+0.7
	7.8nm,1.3s								
ROSC	El Rosal	70.38	311	*e*P		P	02 03 57.7		-0.1
TOA0	Torodi Ar. Sit	72.21	31	*e*P		P	02 04 09.1		+0.8
TORD	Torodi Ar. Bea	72.21	31	P		P	02 04 08.9		+0.7
	3.1nm,0.8s,baz=202,slow=4.9,SNR=15								
TORD				pP		pP	02 04 18.4		-0.7
	2.6nm,0.7s,baz=198,slow=5.3,SNR=7.2								
SDV	Santo Domingo	72.44	316	*e*P		P	02 04 10.3		+0.4
	7.6nm,1.0s								
KMBO	Kilima Mbogo	75.27	71	*e*P		P	02 04 26.0		-0.7
TAM	Tamanrasset	82.46	31	*e*P		P	02 05 07.2		+1.5
	0.6nm,0.8s								
PPT	Papeete	92.40	235	LR		LR	02 39 46.2		
	comp=Z,35nm,18.5s,baz=130,slow=30								
FORT	Forrest	92.59	160	*e*P		P	02 05 54.0		-0.8
	25nm,1.0s								
KKM	Kota Kinabalu	123.89	136	*e*PKPdf		PKPdf	02 11 41.9		+0.4
FCC	Fort Churchill	124.66	325	*e*PKPdf		PKPdf	02 11 41.0		-0.4
CHTO	Chiang Mai	126.59	111	*e*P

comp=E,0.9nm,0.3s,baz=74,slow=18,SNR=5.1
ASAJ Asahikawa 4.29 276 PN **Pn 02 01 33.8 +0.9**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ERM Erimo 4.33 247 *e*PN **Pn 02 01 34.1 +0.7**
ERM Erimo 4.33 247 *e*P **Pn 02 01 34.1 +0.7**
JNBK Urakawa-nobuka 4.50 252 P **Pn 02 01 35.1 -0.6**
JNBK *e*S **Sn 02 02 26.3 -0.4**
YSS Yuzh-Sakhalins 5.14 310 *e*P **Pn 02 01 45.3 +0.8**
YSS AMB AMB 02 01 45.9
comp=Z,20nm,0.4s
YSS *e*S **Sn 02 02 44.0 +1.5**
YSS A A 02 02 50.0
comp=Z,20nm,0.6s
JKB Kayabe 5.83 253 P **Pn 02 01 53.4 -0.6**
JANG Nango 6.24 239 P **Pn 02 01 57.3 -2.4**
TYV Tymovskoe 8.10 333 *e*P **Pn 02 02 25.7 +0.6**
MAJO Matsushiro 10.71 231 *e*PN Pn 02 03 04.9 +3.9
EKMR Ekimchan 13.86 317 *e*P **Pn 02 03 40.7 -3.1**
EKMR AMB AMB 02 03 41.1
comp=Z,4.0nm,0.5s
YAK Yakutsk 21.35 335 *e*P **P 02 05 11.3 -1.8**
YAK pmax pmax
comp=Z,10.0nm,1.0s
YAK Yakutsk 21.35 335 *e*P **P 02 05 11.3 -1.8**
BILL Bilibino 26.04 15⇑*e*P P 02 06 08.2 +10
BILL *e* 02 06 40.5
BILL *e*S S 02 10 12.9 -13
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL MLR MLR
comp=Z,244nm,22.0s
H11N2 WAKE ISLAND Hy 28.51 142 T T 02 37 13.5
baz=331,slow=75
H11N1 WAKE ISLAND Hy 28.52 142 T T 02 37 09.4
baz=331,slow=75
H11N3 WAKE ISLAND Hy 28.53 142 T T 02 37 14.8
baz=331,slow=75
SONM Songino Array 29.37 293 P **P 02 06 28.7 0.0**
comp=Z,0.4nm,0.3s,baz=90,slow=9.0,SNR=5.9
SONM Songino Array 29.37 293 *e*P **P 02 06 29.2 +0.5**
H11S1 WAKE ISLAND Hy 29.50 143 T T 02 38 33.9
baz=333,slow=74
H11S3 WAKE ISLAND Hy 29.50 143 T T 02 38 32.7
baz=333
H11S2 WAKE ISLAND Hy 29.52 143 T T 02 38 36.5
baz=333,slow=74
ILAR Eielson Array 40.85 36 P **P 02 08 07.3 +0.3**
comp=Z,0.2nm,0.5s,baz=264,slow=7.9,SNR=3.5
MKAR Makanchi Array 45.44 298 P **P 02 08 44.5 +0.2**
comp=Z,0.6nm,0.5s,baz=67,slow=4.8,SNR=9.2
MKAR Makanchi Array 45.44 298 P **P 02 08 44.5 +0.2**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 45.85 30 P **P 02 08 48.2 +1.1**
comp=Z,1.0nm,0.6s,baz=298,slow=8.6,SNR=7.0
INK Inuvik 45.85 30 P **P 02 08 48.2 +1.1**
INK pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 55.20 34 P **P 02 09 58.3 +0.5**
comp=Z,0.3nm,0.9s,baz=300,slow=7.0,SNR=3.6
ARCES ARCESS Array B 59.54 340 P **P 02 10 27.6 -0.6**
comp=Z,6.7nm,1.1s,baz=46,slow=7.7,SNR=2.6
ARCES ARCESS Array B 59.54 340 P **P 02 10 27.6 -0.6**
ARCES pmax pmax
comp=Z,7.0nm,1.1s
WRA Warramunga Arr 64.76 195 P P 02 11 15.0 +11
comp=Z,0.3nm,0.3s,baz=11,slow=4.9,SNR=5.5
FINES FINESS Array B 65.27 333 P **P 02 11 06.1 -0.5**
comp=Z,1.1nm,0.8s,baz=31,slow=8.9,SNR=7.2
FINES FINESS Array B 65.27 333 *e*P **P 02 11 04.5 -2.1**
FINES pmax pmax
comp=Z,1.0nm,0.8s
FINES FINESS Array B 65.27 333 *e*P **P 02 11 04.5 -2.1**
GEYT Alibeck 65.28 299 P **P 02 11 07.8 +0.7**
comp=Z,0.7nm,0.5s,baz=72,slow=4.7,SNR=2.7
NOA NORSAR Array B 69.90 339 P **P 02 11 36.0 +0.1**
comp=Z,0.6nm,0.6s,baz=31,slow=6.7,SNR=4.0
NOA NORSAR Array B 69.90 339 P **P 02 11 36.0 +0.1**
NOA pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 72.12 324 P **P 02 11 49.2 -0.2**
comp=Z,0.1nm,0.3s,baz=34,slow=5.5,SNR=8.4
BRTR Keskin Array B 78.22 314 P **P 02 12 25.8 +0.9**
comp=Z,0.2nm,0.8s,baz=15,slow=6.3,SNR=2.5
GERES GERESS Array B 79.59 332 P **P 02 12 32.2 0.0**
comp=Z,0.3nm,0.6s,baz=41,slow=6.5,SNR=3.4

NIED ***02*** *02:06:00,36°.70N×141°.30E,h41km,Mw3.6 Best double couple: M₀3.24000×10¹⁴ NP1:φs312.00000°,δ16.00000°, λ-142.00000°. NP2:φs185.00000°,δ80.00000°, λ-77.00000°.*
JMA ***02*** *02:06:42.8±0.1,36°.67N×141°.23E,h46km±1km,M3.7*
JMA Felt I J1.
ISC 02 02:06:40.1±4.3,36°.63N±0°.09×141°.4E±0°.2,h24km±21km, n10,σ1§11/18,6D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.69**	**269**	⇓P	**Pn**	**02 06 54.0**	**-0.3**
JHO				*e*S	**Sb**	**02 07 02.1**	**-0.3**
ONAJ	**Iwakimizuishiy**	**0.69**	**314**	⇓P	**Pn**	**02 06 54.2**	**-0.2**
ONAJ				*e*S	**Sb**	**02 07 02.2**	**-0.3**
JFK	**Kawauchi**	**0.86**	**329**	⇓P	**Pn**	**02 06 56.8**	**+0.1**
JYT	**Yasato**	**1.07**	**248**	⇓P	**Pn**	**02 06 59.7**	**+0.2**
JYT				*e*S	**Sn**	**02 07 11.8**	**-1.8**
JFT	**Otama**	**1.24**	**316**	⇓P	**Pn**	**02 07 03.0**	**+1.1**
JFT				*e*S	**Sn**	**02 07 17.3**	**-0.6**
JMM	**Marumori**	**1.33**	**338**	⇓P	**Pn**	**02 07 03.7**	**+0.5**
JMM				*e*S	**Sn**	**02 07 19.3**	**-0.9**
JFY	**Yanaizu**	**1.58**	**300**	P	**Pn**	**02 07 07.6**	**+1.0**
JAG	**Ashikaga**	**1.60**	**263**	P	**Pn**	**02 07 07.4**	**+0.6**
JAG				*e*S	**Sn**	**02 07 25.2**	**-1.5**
JKT	**Katashina**	**1.75**	**275**	P	**Pn**	**02 07 10.1**	**+1.1**
JKT				*e*S	**Sn**	**02 07 30.0**	**-0.6**
MAT	**Matsushiro**	**2.59**	**269**	P	**Pn**	**02 07 22.2**	**+1.7**
MAT				S	**Sn**	**02 07 52.9**	**+1.7**

MEX ***02*** *02:06:45.4±0.8,32°.57N×115°.19W,h2km,MD4.4*
NEIC ***02*** *02:06:48.4,32°.41N×115°.47W,h7km,ML3.2(PAS), ML3.3(ECX),After ECX.*
ECX ***02*** *02:06:48.4±0.5,32°.41N×115°.48W,h7km,MD3.1,ML3.3*
ISC 02 02:06:46.1±0.8,32°.39N±0°.02×115°.40W±0°.02,h14km±5km, n31,σ1§33/55,4C-1D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.09**	**70**⇑*e*P		**Pg**	**02 06 49.6**	**+0.5**
CPBX				*e*S	**Sb**	**02 06 52.4**	**+1.2**
CPBX				AML	AML	02 06 54.5	
	comp=E,36μm,0.3s						
CPBX				⇑*e*		02 06 54.5	
MBIG	**Mexicali**	**0.17**	**84**	*e*P	Pg	02 06 45.3	-4.9
MBIG				*i*S	**Sg**	**02 06 50.9**	**-2.0**
DREC	**Desert Rsrch C**	**0.42**	**355**	*e*P	**Pb**	**02 06 55.7**	**+0.5**
WESC	**Westside Schoo**	**0.46**	**323**	*e*P	**Pb**	**02 06 56.0**	**-0.1**
RMX	**La Rumorosa**	**0.61**	**291**	*e*P	**Pg**	**02 06 57.8**	**-0.3**
RMX				*e*S	**Sg**	**02 07 05.4**	**-0.9**
RMX	**La Rumorosa**	**0.61**	**291**	*e*P	**Pg**	**02 06 57.8**	**-0.3**
RMX				*e*S	**Sg**	**02 07 05.4**	**-0.9**
RMX				⇑*e*		02 07 06.3	
	comp=E,609nm,0.2s						
RDX	**Rancho Dawling**	**0.65**	**225**	*e*P	**Pb**	**02 06 59.4**	**+0.1**
RDX				*e*S	**Sg**	**02 07 07.7**	**+0.3**
RDX	**Rancho Dawling**	**0.65**	**225**	*e*P	**Pb**	**02 06 59.4**	**+0.1**
RDX				*e*S	**Sg**	**02 07 07.7**	**+0.3**
RDX				⇓*e*		02 07 09.6	
	comp=N,2μm,0.5s						
GLA	**Glamis**	**0.82**	**36**	*e*Pg	**Pg**	**02 07 02.2**	**+0.2**
GLA				*e*Sg	**Sg**	**02 07 12.4**	**-0.4**
ECBX	**El Chinero**	**0.96**	**162**	*e*P9	**Pn**	**02 07 05.5**	**+0.4**
ECBX				*e*S	**Sn**	**02 07 18.8**	**+0.2**
ECBX				*e*		02 07 22.5	
	comp=N,739nm,0.9s						
CBX	**Cerro Bola**	**1.07**	**266**	*e*P	**Pb**	**02 07 06.3**	**-0.2**
CBX	**Cerro Bola**	**1.07**	**266**	*e*P	**Pb**	**02 07 06.3**	**-0.2**
CBX	**Cerro Bola**	**1.07**	**266**⇑	*e*P	**Pb**	**02 07 06.3**	**-0.2**
CBX				*e*S	**Sb**	**02 07 19.4**	**-1.0**
BAR	**Barrett**	**1.11**	**286**	*e*Pg	**Pb**	**02 07 06.0**	**-1.1**
BAR				*e*Sg	**Sb**	**02 07 19.9**	**-1.6**
BAR	**Barrett**	**1.11**	**286**	*e*P	**Pb**	**02 07 06.7**	**-0.4**
ZAX	**El Zacaton**	**1.14**	**221**	*e*P	**Pb**	**02 07 07.6**	**-0.1**
ZAX				*e*S	**Sg**	**02 07 22.9**	**-0.2**
ECNX	**Esteban Cantu**	**1.25**	**235**	*e*P	**Pb**	**02 07 09.6**	**+0.1**
ECNX				*e*S	**Sn**	**02 07 25.9**	**-0.1**
SPIG	**San Pedro Mart**	**1.34**	**182**	*e*P	**Pn**	**02 07 10.8**	**+0.1**
SPIG	**San Pedro Mart**	**1.34**	**182**	*e*P	**Pn**	**02 07 10.8**	**+0.1**
SPX	**San Pedro Mart**	**1.34**	**182**	*e*P	**Pn**	**02 07 10.8**	**+0.1**
SDRC	**San Diego Road**	**1.35**	**285**	*e*P	**Pn**	**02 07 10.5**	**+0.1**
PFO	**Pinyon Flats O**	**1.51**	**324**	*e*Pn	**Pn**	**02 07 11.3**	**-1.5**
PFO				*e*Sn	**Sn**	**02 07 32.6**	**+0.3**
214A	**Organ Pipe Nat**	**2.24**	**100**	*e*Pn	**Pn**	**02 07 21.9**	**-0.8**
214A				*e*Pg	**Pg**	**02 07 28.5**	**-0.5**
214A				*e*Sn	**Sn**	**02 07 52.6**	**+2.4**
MWC	**Mount Wilson**	**2.88**	**310**	*e*Pg	**Pb**	**02 07 37.1**	**-0.3**
MWC				*e*Sg	**Sb**	**02 08 14.4**	**+1.8**
PASC	**Pasadena Art C**	**2.93**	**308**	*e*Pg	**Pb**	**02 07 39.8**	**+1.7**
PASC				*e*Sg	**Sb**	**02 08 14.9**	**+1.0**
GSC	**Goldstone, Bar**	**3.13**	**338**	*e*Pn	**Pn**	**02 07 36.0**	**+0.9**
GSC				*e*Pg	**Pg**	**02 07 45.0**	**-1.1**
GSC				*e*Sg	**Sg**	**02 08 24.9**	**-1.9**
TUC	**Tucson**	**3.91**	**90**	*e*Pn	**Pn**	**02 07 46.6**	**+0.9**
TUC				*e*Pg	**Pg**	**02 07 59.1**	**-1.8**
TUC				*e*Sg	**Sg**	**02 08 48.8**	**-2.8**
SHPR	**Sheep Range**	**4.11**	**3**	*e*Pn	**Pn**	**02 07 50.7**	**+2.1**
SHPR				*e*Pg	**Pg**	**02 08 02.9**	**-2.0**
SHPR				*e*Sg	**Sg**	**02 08 56.2**	**-2.0**
ISA	**Isabella, Lake**	**4.14**	**323**	*e*Pn	**Pn**	**02 07 46.6**	**-2.4**
ISA				*e*Sn	**Sn**	**02 08 39.0**	**+1.7**
ISA				*e*Sg	**Sb**	**02 08 53.3**	**+4.5**
121A	**Cookes Peak, D**	**6.44**	**87**	*e*Pn	**Pn**	**02 08 21.8**	**+1.2**
CMB	**Columbia Colle**	**6.96**	**325**	*e*Pn	**Pn**	**02 08 28.0**	**+0.5**

IGQ 02 02:19:07±0.7,3°.86S×77°.59W,h2km±160km,Mb4.0,1C, Error ellipse: s-maj=28.3km s-min=2.5km az=14.4, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAT1	**Patacocha**	**2.48**	**340**	P	Pn	02 19 50.8	+1.7
BPAT	**Tungurahua Vol**	**2.48**	**340**	P	Pn	02 19 50.8	+1.8
ARRY	**Arrayan**	**2.49**	**340**	P	Pb	02 19 51.7	-1.2
ARRY	**Arrayan**	**2.49**	**340**	S	Sn	02 20 21.9	+1.6
BMAS	**Trigal station**	**2.50**	**339**	P	Pn	02 19 50.2	+1.0
BMAS	**Trigal station**	**2.50**	**339**	S	Sn	02 20 21.0	+0.5
ULBA	**Ulba**	**2.52**	**341**	P	Pn	02 19 51.1	+1.6
ULBA	**Ulba**	**2.52**	**341**	S	Sn	02 20 22.6	+1.4
BULB	**Ulba Tungurahu**	**2.54**	**341**	P	Pn	02 19 51.0	+1.3
BULB	**Ulba Tungurahu**	**2.54**	**341**	S	Sn	02 20 21.4	-0.1
BRUN	**Tungurahua Vol**	**2.55**	**341**	⇑P	Pb	02 19 52.5	-1.4
PISA	**Pisayambo**	**2.89**	**344**	P	Pn	02 19 56.8	+2.1
BMOR	**Cotopaxi Volca**	**3.22**	**344**	P	Pn	02 20 01.4	+2.1
VC1	**Cotopaxi 1**	**3.29**	**346**	P	Pn	02 20 02.5	+2.3

IDC ***02*** *02:21:11.0±1.7,23°.27S×116°.79W,h0km,mb3.4/3, mb1 3.9/3,mb1mx3.7/17,mbtmp3.4/3,MS4.1/3,Ms1 4.1/3, ms1mx3.7/9,Error ellipse: s-maj=99.1km s-min=47.9km az=118.0,PKPbc on CMAR has not a clear onset*
GCMT ***02*** *02:21:12.0±0.4,24°.37S×115°.67W,h14km±2km,MW4.9/67, Moment Tensor Solution. s13,c14; s67,c83; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.00±.13; Mθθ-2.10±.13; Mφφ2.09±.14; Mrθ-0.03±.27; Mrφ0.33±.11; Mθφ-0.00±.28; Best double couple: Mo2.48200×10¹⁶ NP1:φ61.00000°,δ90.00000°,λ-1.00000°. NP2: φs151.00000°,δ89.00000°,λ-180.00000°. Principal axes: T 2.4770, Plg0.0000°, Azm106.0000°; N 0.0040, Plg89.0000°, Azm219.0000°; P -2.4870, Plg1.0000°, Azm16.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 02 02:21:11.4±1.5,23°.6S±0°.4×115°.7W±0°.2,h10km,n21, σ1§46/13,mb3.8/3,MS4.1/3,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**17.71**	**268**	*e*LR	LR	02 29 02.2	
	1μm,27.0s						
RKT	**Rikitea**	**17.71**	**268**	*e*T	T	02 42 52.7	
	2.2nm,0.3s						
TBI	**Tubuai**	**30.94**	**264**	*e*LR	LR	02 35 14.5	
	378nm,29.0s						
PPT2	**Papeete2**	**32.22**	**274**	*e*S	**S**	**02 32 54.5**	**+1.0**
	65nm,25.0s						
PPT2				*e*LR	LR	02 35 49.0	
	506nm,28.2s,baz=111						
PLCA	**Paso Flores**	**41.38**	**125**	LR	LR	02 41 30.4	
	comp=Z,352nm,20.3s,baz=228,slow=29						
TXAR	**Lajitas Array**	**53.87**	**13**	P	**P**	**02 30 36.2**	**+1.3**
	0.1nm,0.7s,baz=185,slow=6.3,SNR=2.8						
BDFB	**Brasilia**	**63.75**	**96**	LR	LR	02 57 07.0	
	comp=Z,112nm,18.3s,baz=209,slow=33						
VNDA	**Vanda**	**65.52**	**194**	LR	LR	02 55 07.7	
	comp=Z,108nm,18.1s,baz=94,slow=31						
PDAR	**Pinedale Array**	**66.26**	**5**	P	**P**	**02 31 59.5**	**-0.3**
	0.6nm,0.8s,baz=187,slow=5.9,SNR=2.8						
YKA	**Yellowknife Ar**	**85.78**	**1**	P	**P**	**02 33 50.3**	**-0.1**
	0.9nm,1.1s,baz=178,slow=4.9,SNR=7.5						
H11S2	**WAKE ISLAND Hy 86.47**	**292**		T	T	04 09 52.0	
	baz=118,slow=75,SNR=62						
H11S1	**WAKE ISLAND Hy 86.48**	**292**		T	T	04 09 38.5	
	baz=118,slow=75,SNR=40						
H11S3	**WAKE ISLAND Hy 86.49**	**292**		T	T	04 09 36.1	
	baz=118,slow=75,SNR=39						
H11N3	**WAKE ISLAND Hy 86.84**	**293**		T	T	04 10 16.3	
	baz=122,slow=74,SNR=6.4						
H11N2	**WAKE ISLAND Hy 86.85**	**293**		T	T	04 10 12.0	
	baz=152,slow=74,SNR=9.2						
ZALV	**Zalesovo Beam**	**145.97**	**338**	PKPbc	**PKPdf**	**02 40 49.5**	**-0.8**
	0.5nm,0.5s,baz=48,slow=4.3,SNR=3.1						
CMAR	**Chiang Mai Arr**	**147.32**	**268**	PKPbc	**PKPdf**	**02 40 53.7**	**+0.1**
	0.6nm,0.3s,baz=72,slow=3.1,SNR=3.1						
BRTR	**Keskin Array B**	**149.52**	**51**	PKPbc	**PKPbc**	**02 41 02.4**	**+1.0**
	0.6nm,0.8s,baz=302,slow=1.8,SNR=4.7						
BVAR	**Borovoye Array**	**150.24**	**353**	PKP	**PKPdf**	**02 40 58.0**	**+0.6**
	0.2nm,0.4s,baz=306,slow=3.2,SNR=2.5						
BVAR				PKPbc	**PKiKP**	**02 41 04.6**	**+1.4**
	1.1nm,0.8s,baz=151,slow=3.3,SNR=4.5						
KURBB	**Kurchatov Arra**	**150.82**	**341**	PKP	**PKPdf**	**02 40 58.3**	**0.0**
	0.2nm,0.4s,baz=29,slow=4.5,SNR=2.5						
KURBB				PKPbc	**PKPbc**	**02 41 03.1**	**-0.8**
	0.3nm,0.4s,baz=12,slow=4.8,SNR=2.7						
MKAR	**Makanchi Array**	**152.70**	**332**	PKPbc	**PKPbc**	**02 41 08.0**	**-0.4**
	0.4nm,0.9s,baz=40,slow=1.6,SNR=2.6						
MKAR				PKPab	**PKPab**	**02 41 15.3**	**-3.7**
	0.2nm,0.9s,baz=235,slow=5.1,SNR=2.4						

DJA 02 02:22:30.1±0.7,6°.5±4°.,×10°.5E±°,h16km±8km,M3.6/7, MLv3.6/7,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**0.72**	**357**	P	Pg	02 22 43.9	-0.4
KASI				S	Sg	02 22 53.7	-0.1
BLSI	**Bandar Lampung**	**1.13**	**39**	S	Sb	02 23 05.8	0.0
CGJI	**Cibinong**	**1.21**	**107**	P	Pn	02 22 51.4	-1.0
LWLI	**Liwa**	**1.31**	**339**	P	Pn	02 22 53.4	-0.5
LWLI				S	Sn	02 23 10.8	-0.4
KLI	**Kotabumi**	**1.42**	**13**	P	Pn	02 22 53.9	-1.3
MDSI	**Maura Dua**	**1.79**	**349**	P	Pn	02 22 59.9	-0.4
MNAI	**Manna**	**2.45**	**320**	P	Pn	02 23 09.0	-0.4
CNJI	**Cibinong**	**2.79**	**112**	P	Pn	02 23 13.8	-0.3
PMBI	**Palembang**	**3.31**	**4**	P	Pn	02 23 12.3	-9.0

NNC 02 02:36:56.9±8.3,37°.92N×71°.72E,h0km,mb3.6,mpv3.2, 5C-4D,Error ellipse: s-maj=83.0km s-min=24.0km az=161.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.44**	**292**	⇑P	Pn	02 37 37.8	-0.4
	2.7nm,0.3s						
DZET				⇓S	Sb	02 38 11.5	-1.0
	47nm,0.5s						
SFK	**Sufi-Kurgan**	**2.51**	**33**	⇓P	Pn	02 37 38.5	-0.9
	10nm,0.3s						
SFK				⇑S	Sb	02 38 13.6	-1.4
	8.1nm,0.3s						
AAK	**Ala-Archa**	**5.17**	**23**	⇑P	Pn	02 38 13.0	-2.8
	2.9nm,0.5s						
AAK				⇓S	Sn	02 39 15.8	-0.5
	3.0nm,0.7s						
KK31	**Karatay Array**	**5.26**	**350**	⇑P	Pn	02 38 15.9	-0.9
	0.4nm,0.2s,baz=160,slow=11,SNR=40						
KK31				⇑S	Sn	02 39 16.6	-1.6
	4.7nm,0.7s,baz=183,slow=26,SNR=13						
AB31	**Akbulak array**	**14.17**	**327**	⇓P	Pn	02 40 14.2	-4.5
	0.2nm,0.3s,baz=169,slow=9.7,SNR=19						

NEIC ***02*** *03:05:36.4,31°.84N×114°.97W,h2km,ML3.3(PAS), ML3.6(ECX),After ECX.*
ECX ***02*** *03:05:36.4±0.4,31°.84N×114°.97W,h12km,MD3.3,ML3.5*
MEX ***02*** *03:05:37.6±0.5,31°.81N×115°.02W,h3km,MD3.9*
ISC 02 03:05:35.1±1.1,31°.86N±0°.02×114°.95W±0°.02,h3km±11km, n38,σ1§63/62,2C-4D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBX	**El Chinero**	**0.39**	**193**⇓*e*P		**Pg**	**03 05 42.7**	**0.0**
ECBX				*e*S	**Sg**	**03 05 48.0**	**+0.3**
MBIG	**Mexicali**	**0.59**	**339**	*e*P	**Pn**	**03 05 50.2**	**-0.2**
CPBX	**Cerro Prieto**	**0.64**	**332**	*e*P	**Pg**	**03 05 48.1**	**+0.7**
CPBX				*e*S	**Sg**	**03 05 56.8**	**+1.2**
CPBX				⇓*e*		03 06 05.5	
CPBX				AML	AML	03 06 05.5	
	comp=E,6μm,0.2s						
YMD	**Yuma Desert**	**0.78**	**26**⇑*i*P		**Pg**	**03 05 50.1**	**+0.1**
RDX	**Rancho Dawling**	**0.85**	**275**	*e*P	**Pg**	**03 05 51.1**	**-0.3**
RDX				*e*S	**Sg**	**03 06 02.6**	**+0.2**
RDX	**Rancho Dawling**	**0.85**	**275**	*e*P	**Pg**	**03 05 51.1**	**-0.3**
RDX				*e*S	**Sg**	**03 06 02.6**	**+0.2**
RDX				⇓*e*		03 06 03.8	
RDX				AML	AML	03 06 03.8	
	comp=N,1μm,0.4s						
EMSC	**East Mesa**	**0.88**	**358**	*e*P2		03 05 52.0	
SPIG	**San Pedro Mart**	**0.92**	**209**	*i*P	**Pg**	**03 05 52.6**	**-0.2**
SPIG				*i*S	**Sg**	**03 06 04.7**	**0.0**
SPIG	**San Pedro Mart**	**0.92**	**209**	*i*P	**Pg**	**03 05 52.6**	**-0.2**
SPIG				*i*S	**Sg**	**03 06 04.7**	**0.0**
SPX	**San Pedro Mart**	**0.92**	**209**	*e*P	**Pg**	**03 05 52.5**	**-0.3**
SPX				*e*S	**Sg**	**03 06 04.6**	**-0.2**
SPX	**San Pedro Mart**	**0.92**	**209**⇓*e*P		**Pg**	**03 05 52.6**	**-0.2**
SPX				*e*S	**Sg**	**03 06 04.6**	**-0.2**
SGL	**Mount Signal**	**1.03**	**320**	*e*P2		03 05 54.6	
GLA	**Glamis**	**1.20**	**5**	*e*Pg	**Pg**	**03 05 56.1**	**-2.0**
GLA				*e*Sg	**Sg**	**03 06 13.7**	**+0.1**
RMX	**La Rumorosa**	**1.21**	**308**	*e*P	**Pg**	**03 05 57.1**	**-1.3**
RMX	**La Rumorosa**	**1.21**	**308**	*e*P	**Pg**	**03 05 57.1**	**-1.3**
ECNX	**Esteban Cantu**	**1.42**	**262**	*e*P	**Pn**	**03 06 00.5**	**-1.4**
PBX	**Punta Banda**	**1.52**	**266**	*e*P	**Pn**	**03 06 01.9**	**-1.2**
PBX	**Punta Banda**	**1.52**	**266**	*e*P	**Pn**	**03 06 01.9**	**-1.2**
CBX	**Cerro Bola**	**1.53**	**288**	*e*P	**Pn**	**03 06 01.3**	**-2.1**
CBX	**Cerro Bola**	**1.53**	**288**	*e*P	**Pn**	**03 06 01.3**	**-2.1**
CBX	**Cerro Bola**	**1.53**	**288**	*e*P	**Pn**	**03 06 02.0**	**-1.3**
CBX				AML	AML	03 06 27.6	
	comp=N,974nm,0.3s						
CBX				⇑*e*		03 06 27.6	
BAR	**Barrett**	**1.68**	**300**	*e*Pn	**Pn**	**03 06 03.2**	**-2.1**
BAR				*e*Sn	**Sn**	**03 06 23.9**	**-3.5**
BAR				*e*Sg	**Sb**	**03 06 26.7**	**-1.4**
214A	**Organ Pipe Nat**	**1.82**	**86**	*e*Pn	**Pn**	**03 06 05.1**	**-2.2**
214A				*e*Pg	**Pb**	**03 06 09.6**	**+0.5**
PFO	**Pinyon Flats O**	**2.16**	**324**	*e*Pn	**Pn**	**03 06 09.7**	**-2.4**
PFO				*e*Sn	**Sn**	**03 06 39.9**	**+0.4**
LDFC	**Landfair**	**3.22**	**358**	*e*Pn	Pn	03 06 23.1	-3.5
LDFC				*e*Pg	**Pg**	**03 06 37.5**	**+0.7**
MWC	**Mount Wilson**	**3.52**	**313**	*e*Pn	**Pn**	**03 06 30.2**	**-0.7**
MWC				*e*Pg	**Pb**	**03 06 38.4**	**+0.2**
MWC				*e*Sg	**Sb**	**03 07 23.8**	**+2.4**
TUC	**Tucson**	**3.56**	**82**	*e*Pn	**Pn**	**03 06 30.9**	**-0.4**
TUC				*e*Pg	**Pg**	**03 06 44.0**	**+0.6**
TUC				*e*Sg	**Sg**	**03 07 26.5**	**-3.1**
PASC	**Pasadena Art C**	**3.57**	**311**	*e*Pn	**Pn**	**03 06 31.8**	**+0.5**
PASC				*e*Pg	**Pb**	**03 06 40.9**	**+2.1**
PASC				*e*Sg	**Sb**	**03 07 24.3**	**+1.8**
GSC	**Goldstone, Bar**	**3.77**	**336**	*e*Pn	**Pn**	**03 06 35.3**	**+1.1**
GSC				*e*Pg	Pg	03 06 50.8	+3.4
GSC				*e*Sn	**Sn**	**03 07 20.5**	**+1.4**
SHPR	**Sheep Range**	**4.64**	**358**	*e*Pn	**Pn**	**03 06 45.7**	**-0.5**
SHPR				*e*Pg	**Pb**	**03 07 00.2**	**+3.0**
SHPR				*e*Sg	**Sg**	**03 08 00.3**	**-3.9**
WUAZ	**Wupatki**	**4.71**	**38**	*e*Pn	**Pn**	**03 06 47.2**	**0.0**
WUAZ				*e*Pg	**Pg**	**03 07 05.8**	**+0.4**
WUAZ				*e*Sg	**Sg**	**03 08 04.5**	**-2.0**
ISA	**Isabella, Lake**	**4.80**	**323**	*e*Pg	**Pg**	**03 07 06.6**	**-0.5**
ISA				*e*Sg	**Sg**	**03 08 06.8**	**-2.5**
W18A	**Petrified Fore**	**5.44**	**52**	*e*Pn	**Pn**	**03 06 57.5**	**+0.3**
121A	**Cookes Peak, D**	**6.11**	**87**	*e*Pn	**Pn**	**03 07 05.7**	**-0.7**
	comp=N,8.6nm,0.3s						
MVU	**Marysvale**	**7.00**	**18**	*e*Pn	**Pn**	**03 07 20.1**	**+1.4**
MVCO	**Mesa Verde**	**7.54**	**43**	*e*Pn	**Pn**	**03 07 27.2**	**+1.1**
MVCO				*e*Pg	Pg	03 07 56.0	-3.5
MVCO				*e*Sg	**Sg**	**03 09 32.5**	**-4.6**
ANMO	**Albuquerque**	**7.74**	**64**	*e*Pg	**Pg**	**03 08 05.0**	**+1.6**
PV10	**Paradox Valley**	**8.11**	**35**	*e*Pn	**Pn**	**03 07 36.8**	**+2.9**
	comp=N,169nm,0.8s						

IDC 02 03:22:31.6±0.8,13°.33S×75°.20W,h0km,mb3.6/6, mb1 3.8/10,mb1mx3.6/36,mbtmp3.7/10,ML3.4/3, MS3.1/5,Ms1 3.2/5,ms1mx2.9/26,Error ellipse: s-maj=39.6km s-min=14.0km az=57.0,Central Peru

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ILAR	**Eielson Array**	**147.03**	**17**	PKPbc	PKPbc	03 42 17.6	-0.8		
	0.2nm,0.7s,baz=315,slow=3.0,SNR=4.6								

*ISCJB **02** 03:27:43.0±1.3, 18°.8S±0°.6×177°.9W±0°.3, h532km, mb3.3/7, Error ellipse: s-maj=86.3km s-min=14.9km az=152.7*
*IDC **02** 03:27:45.3±3.5, 19°.04S×177°.81W, h552km±44km, mb2.9/7, mb1 3.2/7, mb1mx3.0/19, mbtmp3.8/7, Error ellipse: s-maj=88.5km s-min=14.7km az=154.0*
ISC 02 03:27:43.7±1.5, 18°.9S±0°.6×177°.9W±0°.3, h532km, n10, σ0s66/11, mb3.4/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.62**	**242**	P	**P**	**03 34 21.2**	**-0.1**
	1.3nm,0.7s,baz=76,slow=8.3,SNR=2.5						
WRA	**Warramunga Arr**	**44.96**	**260**	P	**P**	**03 35 12.2**	**+0.6**
	1.0nm,0.7s,baz=98,slow=8.0,SNR=14						
ASAR	**Alice Springs**	**45.02**	**255**	P	**P**	**03 35 12.5**	**+0.5**
	1.4nm,0.7s,baz=84,slow=8.4,SNR=17						
ASAR				S	**S**	**03 41 11.7**	**-0.4**
	0.6nm,1.1s,baz=96,slow=14,SNR=4.1						
NVAR	**Mina Array Bea**	**79.76**	**43**	P	**P**	**03 38 57.6**	**+0.7**
	0.9nm,0.7s,baz=245,slow=7.7,SNR=3.0						
TXAR	**Lajitas Array**	**86.08**	**57**	P	**P**	**03 39 28.9**	**+0.4**
	0.5nm,0.6s,baz=219,slow=7.9,SNR=8.3						
ILAR	**Eielson Array**	**86.70**	**13**	P	**P**	**03 39 30.5**	**0.0**
	0.3nm,0.7s,baz=224,slow=5.4,SNR=6.0						
PDAR	**Pinedale Array**	**87.70**	**43**	P	**P**	**03 39 34.7**	**-1.3**
	0.4nm,0.8s,baz=345,slow=3.4,SNR=3.2						
ARCES	**ARCESS Array B**	**127.33**	**350**	PKP	**PKPdf**	**03 45 46.8**	**-0.3**
	3.6nm,0.9s,baz=29,slow=2.1,SNR=4.3						
BRTR	**Keskin Array B**	**145.80**	**314**	PKPbc	**PKPbc**	**03 46 23.5**	**-0.2**
	0.6nm,0.6s,baz=134,slow=4.2,SNR=4.2						
GERES	**GERESS Array B**	**148.65**	**345**	PKPbc	**PKPbc**	**03 46 31.1**	**+0.2**
	0.7nm,0.7s,baz=29,slow=2.2,SNR=8.5						

IDC 02 03:40:00.6±1.5, 19°.47N×116°.96W, h0km, Error ellipse: s-maj=29.3km s-min=1.8km az=2.0, Eastcentral Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06S1	**SOCORRO T**	**5.72**	**96**	H	H	03 47 11.3	
	SNR=6.9						
H02S1	**DAWSON INLET T**	**35.75**	**344**	H	H	04 24 40.7	
	SNR=212						
H02N1	**VAN INLET T-PH**	**35.81**	**344**	H	H	04 24 39.4	
	SNR=744						

*IDC **02** 04:20:36.0±5.0, 42°.87N×145°.12E, h76km±34km, mb3.4/5, mb1 3.4/7, mb1mx3.2/28, mbtmp3.6/7, Error ellipse: s-maj=55.1km s-min=26.7km az=71.0*
*ISCJB **02** 04:20:37.3±0.7, 42°.72N±0°.06×144°.74E±0°.07, h95km±4km, mb3.4/5, Error ellipse: s-maj=10.5km s-min=6.4km az=141.5*
*JMA **02** 04:20:39.0±0.1, 42°.78N×144°.69E, h90km±1km, M3.3*
ISC 02 04:20:38.2±1.1, 42°.72N±0°.07×144°.73E±0°.06, h91km±7km, n27, σ0s90/31, mb3.4/5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.27**	**354**	P	**Pn**	**04 20 52.0**	**+0.4**
JAK				eS	**Sn**	**04 21 01.7**	**+0.1**
JOB	**Onbets**	**0.69**	**285**	P	**Pn**	**04 20 55.1**	**+0.5**
JOB				eS	**Sn**	**04 21 07.1**	**+0.2**
JNK	**Nakash**	**0.86**	**359**	P	**Pn**	**04 20 56.1**	**-0.4**
JNK				eS	**Sn**	**04 21 09.0**	**-1.1**
JAR	**Ashorobuto**	**0.91**	**309**	P	**Pn**	**04 20 57.1**	**+0.1**
JAR				eS	**Sn**	**04 21 10.4**	**-0.6**
NEM2	**Nemuro 2**	**0.98**	**49**	P	**Pn**	**04 20 57.9**	**+0.2**
NEM2				eS	**Sn**	**04 21 11.6**	**-0.7**
JCH	**Churui**	**1.02**	**264**	P	**Pn**	**04 20 58.5**	**+0.3**
JCH				eS	**Sn**	**04 21 12.3**	**-0.8**
JRA	**Rausu**	**1.25**	**13**	P	**Pn**	**04 21 01.4**	**+0.6**
JRA				eS	**Sn**	**04 21 17.9**	**0.0**
JEM	**Erimo**	**1.37**	**239**	P	**Pn**	**04 21 03.4**	**+1.1**
JTKR	**Abashiri--Toko**	**1.38**	**334**	P	**Pn**	**04 21 02.9**	**+0.4**
JTKR				eS	**Sn**	**04 21 20.6**	**-0.3**
JNBK	**Urakawa-nobuka**	**1.53**	**254**	P	**Pn**	**04 21 04.1**	**-0.3**
JNBK				eS	**Sn**	**04 21 22.4**	**-1.8**
JMP	**Maruseppu**	**1.63**	**322**	P	**Pn**	**04 21 05.6**	**0.0**
JFR	**Furan**	**1.63**	**286**	P	**Pn**	**04 21 05.4**	**-0.3**
JBT2	**Biratori 2**	**1.75**	**273**	P	**Pn**	**04 21 06.6**	**-0.5**
JKK2	**Kamakawa 2**	**1.85**	**309**	P	**Pn**	**04 21 08.7**	**+0.2**
ASAJ	**Asahikawa**	**2.09**	**313**	P	**Pn**	**04 21 12.3**	**+0.8**
	19nm,0.3s,baz=170,slow=12,SNR=118						
ASAJ				S	**Sn**	**04 21 37.6**	**+0.5**
	4.5nm,0.3s,baz=232,slow=18,SNR=7.8						
MJAR	**Matsushiro Arr**	**7.96**	**221**	P	**Pn**	**04 22 31.8**	**+0.6**
	0.2nm,0.3s,baz=34,slow=13,SNR=4.2						
SONM	**Songino Array**	**27.26**	**294**	P	**P**	**04 26 16.4**	**+2.6**
	0.7nm,0.6s,baz=80,slow=8.1,SNR=6.5						
H11N2	**WAKE ISLAND Hy**	**29.57**	**134**	T	T	04 57 52.6	
	baz=328,slow=75,SNR=28						
H11N1	**WAKE ISLAND Hy**	**29.58**	**134**	T	T	04 57 53.3	
	baz=328,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	**29.59**	**134**	T	T	04 57 53.8	
	baz=328,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy**	**30.48**	**136**	T	T	04 59 01.2	
	baz=328,slow=76,SNR=47						
H11S3	**WAKE ISLAND Hy**	**30.49**	**136**	T	T	04 59 05.8	
	baz=328,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**30.50**	**136**	T	T	04 59 02.5	
	baz=328,slow=76,SNR=32						
MKAR	**Makanchi Array**	**43.50**	**298**	P	**P**	**04 28 32.4**	**0.0**
	0.2nm,0.7s,baz=27,slow=3.0,SNR=3.7						
KURBB	**Kurchatov Arra**	**44.72**	**304**	P	**P**	**04 28 42.1**	**+0.1**
	0.5nm,0.5s,baz=74,slow=9.3,SNR=6.5						
FINES	**FINESS Array B**	**64.97**	**332**	P	**P**	**04 31 07.6**	**-0.2**
	0.8nm,0.5s,baz=52,slow=5.6,SNR=12						
NOA	**NORSAR Array B**	**69.91**	**338**	P	**P**	**04 31 36.8**	**-2.1**
	0.4nm,0.6s,baz=34,slow=6.3,SNR=2.5						

*NIED **02** 04:22:00, 25°.00N×122°.40E, h5km, Mw3.9 Best double couple: M0 9.40000×10^14 NP1:φs236.00000°, δ22.00000°, λ-125.00000°. NP2:φs92.00000°, δ72.00000°, λ-77.00000°.*
*ISCJB **02** 04:22:08.8±0.3, 25°.05N±0°.03×122°.43E±0°.02, h16km, mb3.8/10, MS3.5/3, Error ellipse: s-maj=3.8km s-min=2.3km az=9.7*
*TAP **02** 04:22:08.5, 24°.97N×122°.33E, h4km, ML4.0, D*
*JMA **02** 04:22:09.1±0.1, 25°.02N×122°.37E, h40km±4km, M3.9*
*IDC **02** 04:22:17.6±5.4, 25°.00N×122°.24E, h85km±51km, mb3.6/11, mb1 3.6/13, mb1mx3.5/40, mbtmp3.8/13, ML3.4/2, MS3.2/5, Ms1 3.2/5, ms1mx2.8/31, Error ellipse: s-maj=31.9km s-min=14.2km az=63.0*
ISC 02 04:22:08.8±0.5, 24°.99N±0°.03×122°.36E±0°.02, h16km, n65, σ0s98/88, mb3.8/11, MS3.6/3, 2C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.34**	**273**	⇓*i*P	**Pg**	**04 22 15.6**	**-0.3**
	baz=276						
TWB1				eS	**Sg**	**04 22 20.3**	**-0.5**
	baz=276						
NWF	**Wu-fen Shan**	**0.53**	**278**	⇓*i*P	**Pb**	**04 22 19.6**	**-0.3**
	baz=281						
NWF				eS	**Sb**	**04 22 27.8**	**+0.4**
	baz=281						
ILA	**Ilan**	**0.60**	**248**	*e*P	**Pn**	**04 22 22.0**	**-0.8**
	baz=248						
TWC	**Suao**	**0.60**	**231**	P	**Pg**	**04 22 20.3**	**-0.4**
	baz=229						
PCYT	**Pengchaiyu**	**0.69**	**337**	⇑*i*P	**Pb**	**04 22 22.8**	**+0.4**
	baz=340						
PCYT				eS	**Sn**	**04 22 33.7**	**-0.6**
	baz=340						
TWA	**Mucha**	**0.71**	**269**	P	**Pb**	**04 22 22.8**	**0.0**
	baz=270						
TWA				eS	**Sn**	**04 22 34.4**	**-0.4**
	baz=270						
TWY	**Chenhua**	**0.75**	**292**	⇑P	**Pb**	**04 22 23.7**	**+0.2**
	baz=294						
TWY				eS	**Sn**	**04 22 34.8**	**-0.9**
	baz=294						
JYNG	**Yonagunijimaku**	**0.76**	**135**	P	**Pg**	**04 22 23.4**	**-0.2**
JYNG				eS	**Sb**	**04 22 34.7**	**+1.0**
TAP1	**Taipei**	**0.76**	**274**	P	**Pn**	**04 22 24.4**	**-0.6**
	baz=274						
TAP1				eS	**Sn**	**04 22 35.2**	**-0.9**
	baz=274						
TAP	**Taipei**	**0.78**	**274**	*e*P	**Pn**	**04 22 24.5**	**-0.7**
	baz=274						
TAP				eS	**Sn**	**04 22 35.5**	**-1.0**
	baz=274						
YOJ	**Yonaguni jima**	**0.79**	**132**	P	**Pb**	**04 22 23.9**	**-0.3**
YOJ				eS	**Sg**	**04 22 34.9**	**+0.2**
ENA	**Nanau**	**0.80**	**225**	P	**Pg**	**04 22 24.3**	**-0.1**
	baz=223						
ENA				eS	**Sn**	**04 22 35.8**	**-1.2**
	baz=223						
ENTT	**Nioudou**	**0.81**	**244**	P	**Pg**	**04 22 24.4**	**-0.1**
	baz=243						
ENTT				eS	**Sn**	**04 22 36.5**	**-0.8**
	baz=243						
TWS1	**Kuangyinshan**	**0.86**	**277**	*e*P	**Pn**	**04 22 25.9**	**-0.4**
	baz=278						
TWS1				eS	**Sn**	**04 22 38.2**	**-0.4**
	baz=278						
NSK	**Sanguang**	**0.97**	**251**	P	**Pb**	**04 22 27.1**	**-0.1**
	baz=251						
NSK				eS	**Sg**	**04 22 40.3**	**0.0**
	baz=251						
NNS	**Nan Shan**	**1.06**	**239**	P	**Pn**	**04 22 28.9**	**-0.2**
	baz=238						
NNS				eS	**Sn**	**04 22 43.2**	**-0.4**
	baz=238						
NCU	**National Centr**	**1.07**	**269**	*e*P	**Pg**	**04 22 29.2**	**-0.3**
	baz=269						
TWD	**Chiawan**	**1.15**	**218**	*e*P	**Pg**	**04 22 30.6**	**-0.4**
	baz=216						
TWD				eS	**Sn**	**04 22 45.5**	**-0.1**
	baz=216						
HWA	**Hwalien**	**1.23**	**215**	*e*P	**Pg**	**04 22 33.5**	**+1.0**
	baz=213						
HSN	**Hsinchu**	**1.28**	**262**	eS	**Sg**	**04 22 50.3**	**0.0**
	baz=263						
NSTT	**Nanjuang**	**1.29**	**254**	*e*P	**Pn**	**04 22 32.2**	**0.0**
	baz=254						
TWT	**Tachien**	**1.31**	**236**	P	**Pb**	**04 22 33.4**	**+0.3**
	baz=235						
TWT				eS	**Sg**	**04 22 50.8**	**-0.4**
	baz=235						
WHF	**Hehuan Shan**	**1.31**	**230**	*e*P	**Pb**	**04 22 33.3**	**0.0**
	baz=229						
WHF				eS	**Sn**	**04 22 50.3**	**+0.1**
	baz=229						
IRIF	**Iriomote-Funau**	**1.41**	**118**	P	**Pn**	**04 22 32.6**	**-1.2**
IRIF				eS	**Sn**	**04 22 49.6**	**-2.4**
ESL	**Shilin**	**1.45**	**216**	*e*P	**Pn**	**04 22 34.7**	**+0.3**
	baz=214						
NSY	**Sanyi**	**1.57**	**249**	*e*P	**Pg**	**04 22 39.8**	**+0.8**
	baz=248						
TWQ1	**Liyutan**	**1.58**	**246**	*e*P	**Pg**	**04 22 40.1**	**+0.8**
	baz=246						
HATJ	**Hateruma jima**	**1.61**	**125**	P	**Pn**	**04 22 36.3**	**-0.3**
HATJ				eS	**Sn**	**04 22 56.4**	**-0.7**
WDT	**Danda**	**1.67**	**223**	*e*P	**Pb**	**04 22 38.9**	**-0.4**
	baz=221						
WDT				eS	**Sb**	**04 23 00.5**	**+0.3**
	baz=221						
JKRS	**Kuro-shima**	**1.68**	**116**	P	**Pn**	**04 22 37.0**	**-0.5**
SMLT	**Sun Moon Lake**	**1.73**	**231**	*e*P	**Pg**	**04 22 41.6**	**-0.6**
	baz=229						
JIJ	**Ishigaki jima**	**1.74**	**111**	P	**Pn**	**04 22 38.2**	**-0.1**
JIJ				eS	**Sn**	**04 23 00.6**	**+0.4**
TYC	**Yuchr**	**1.75**	**232**	*e*P	**Pb**	**04 22 40.9**	**+0.3**
	baz=231						
TYC				eS	**Sg**	**04 23 04.3**	**-0.9**
	baz=231						
TCU	**Taichung**	**1.75**	**242**	*e*P	**Pg**	**04 22 44.3**	**+1.8**
	baz=241						
EHY	**Hungye**	**1.76**	**213**	*e*P	**Pb**	**04 22 40.4**	**-0.3**
	baz=211						
WNT	**Mingjian**	**1.89**	**234**	*e*P	**Pg**	**04 22 45.6**	**+0.4**
	baz=233						
TWF1	**Yuli**	**1.90**	**211**	*e*P	**Pn**	**04 22 40.6**	**0.0**
	baz=210						
YUS	**Yu-Shan**	**1.98**	**221**	*e*P	**Pb**	**04 22 43.8**	**-0.9**
	baz=220						
ALS	**Alishan**	**2.05**	**224**	*e*P	**Pb**	**04 22 45.7**	**-0.2**
	baz=223						
CHN5	**Tsauling**	**2.07**	**228**	*e*P	**Pb**	**04 22 45.9**	**-0.3**
	baz=227						
CHKT	**Chengkung**	**2.10**	**206**	*e*P	**Pn**	**04 22 42.6**	**-0.7**
	baz=205						
ELDTW	**Lidau**	**2.18**	**215**	*e*P	**Pn**	**04 22 45.8**	**+1.3**
	baz=213						
CHN4	**Tsaushan**	**2.30**	**225**	*e*P	**Pb**	**04 22 49.5**	**-0.5**
	baz=224						
STYT	**Tauyuan**	**2.34**	**219**	*e*P	**Pn**	**04 22 48.5**	**+1.8**
	baz=218						
WTP	**Ta-pu**	**2.36**	**223**	*e*P	**Pb**	**04 22 50.1**	**-1.0**
	baz=222						
TWK	**Hsinying**	**2.43**	**225**	*e*P	**Pb**	**04 22 51.0**	**-1.2**
	baz=224						
CHN1	**Nanshi**	**2.46**	**223**	*e*P	**Pb**	**04 22 51.9**	**-0.9**
	baz=222						
SSD	**Sandimen**	**2.74**	**216**	*e*P	**Pb**	**04 22 55.6**	**-1.9**
	baz=214						
EAST	**Anshuo**	**2.95**	**208**	*e*P	**Pb**	**04 22 59.5**	**-1.5**
	baz=207						
SCZT	**Fangliau**	**3.06**	**212**	*e*P	**Pb**	**04 23 00.1**	**-2.8**
	baz=211						
QZH	**Quanzhou**	**3.42**	**270**	Pn	**Pg**	**04 23 11.9**	**-2.6**
QZH				Sn	**Sb**	**04 23 51.3**	**+0.8**
QZH				smax	smax		
	comp=N,170nm,0.6s						
QZH				smax	smax		
	comp=E,120nm,0.7s						
KSRS	**Korea Array**	**13.30**	**20**	P	**P**	**04 25 24.1**	**-2.5**
	comp=E,0.2nm,0.3s,baz=198,slow=11,SNR=2.6						
KSRS				LR	LR	04 31 15.6	
	comp=E,38nm,19.1s,baz=174,slow=40						
MJAR	**Matsushiro Arr**	**17.80**	**46**	P	**P**	**04 26 20.3**	**+3.6**
	comp=E,0.1nm,0.3s,baz=245,slow=11,SNR=3.1						
MJAR				LR	LR	04 33 53.8	
	comp=E,22nm,18.2s,baz=170,slow=39						
USRK	**Ussuriysk Ar.**	**20.71**	**20**	P	Pn	04 26 51.7	+1.0
	comp=E,2.8nm,0.8s,baz=193,slow=10,SNR=7.3						
SONM	**Songino Array**	**26.07**	**335**	P	**P**	**04 27 42.3**	**+0.6**
	comp=E,1.1nm,0.8s,baz=147,slow=8.6,SNR=5.9						
SONM				LR	LR	04 38 53.6	
	comp=E,52nm,19.8s,baz=112,slow=38						
MKAR	**Makanchi Array**	**38.52**	**315**	P	**P**	**04 29 31.0**	**+0.5**
	comp=E,1.1nm,0.7s,baz=105,slow=9.3,SNR=13						
ZALV	**Zalesovo Beam**	**40.16**	**326**	P	**P**	**04 29 43.5**	**-0.5**
	comp=E,1.0nm,0.6s,baz=120,slow=8.7,SNR=7.8						
KURBB	**Kurchatov Arra**	**42.20**	**319**	P	**P**	**04 30 00.8**	**0.0**
	comp=E,0.7nm,0.6s,baz=114,slow=9.8,SNR=8.1						
WRA	**Warramunga Arr**	**46.16**	**164**	P	**P**	**04 30 33.0**	**+0.2**
	comp=E,1.4nm,0.6s,baz=346,slow=8.4,SNR=13						
WRA				PcP	**PcP**	**04 32 08.2**	**-0.5**
	comp=E,0.3nm,0.7s,baz=350,slow=3.4,SNR=3.5						
ASAR	**Alice Springs**	**49.65**	**166**	P	**P**	**04 31 01.9**	**+2.0**
	comp=E,1.1nm,0.8s,baz=343,slow=9.2,SNR=10						
ASAR				PcP	**PcP**	**04 32 20.9**	**-0.3**
	comp=E,0.3nm,0.7s,baz=352,slow=3.7,SNR=3.0						
ARCES	**ARCESS Array B**	**69.19**	**338**	P	**P**	**04 33 14.7**	**+0.3**
	comp=E,5.5nm,0.9s,baz=70,slow=5.8,SNR=3.7						
FINES	**FINESS Array B**	**71.29**	**330**	P	**P**	**04 33 27.5**	**+0.2**
	comp=E,4.3nm,0.9s,baz=89,slow=5.7,SNR=11						
FINES				LR	LR	05 07 26.6	
	comp=E,32nm,19.3s,baz=36,slow=38						
BRTR	**Keskin Array B**	**73.56**	**306**	P	**P**	**04 33 42.4**	**+0.9**
	comp=E,0.8nm,0.9s,baz=102,slow=6.1,SNR=5.7						
HFS	**Hagfors**	**77.39**	**331**	LR	LR	05 11 17.4	
	comp=E,38nm,20.6s,baz=117,slow=38						
YKA	**Yellowknife Ar**	**81.81**	**23**	P	**P**	**04 34 26.8**	**0.0**
	comp=E,0.1nm,0.5s,baz=304,slow=5.5,SNR=4.3						

*ISCJB **02** 04:36:13.7±0.6, 6°.88N±0°.06×73°.10W±0°.06, h161km, mb3.5/4, Error ellipse: s-maj=9.8km s-min=5.6km az=137.8*
*FUNV **02** 04:36:13.1, 6°.69N×73°.26W, h158km, MW3.8*
*IDC **02** 04:36:14.2±1.2, 6°.71N×73°.01W, h162km±14km, mb3.3/4, mb1 3.7/6, mb1mx3.3/25, mbtmp3.9/6, Error ellipse: s-maj=27.1km s-min=15.1km az=139.0*
ISC 02 04:36:14.4±0.9, 6°.84N±0°.07×73°.08W±0°.07, h161km, n24, σ0s86/30, mb3.5/4, 4C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.27**	**37**	*e*P	**Pn**	**04 36 42.8**	**-0.1**
CAPV				eS	**Sn**	**04 37 04.7**	**0.0**
ROSC	**El Rosal**	**2.33**	**212**	P	**Pn**	**04 36 55.6**	**+1.1**
	baz=90,slow=15						
ROSC				S	**Sn**	**04 37 24.1**	**-1.3**
	47nm,0.3s,baz=97,slow=15,SNR=10.0						
VIGV	**El Vigia**	**2.62**	**40**	*e*P	**Pn**	**04 36 57.7**	**+0.2**
VIGV				eS	**Sn**	**04 37 31.7**	**+0.7**
SOCV	**Socops**	**2.63**	**57**	⇓*e*P	**Pn**	**04 36 58.2**	**+0.5**
SOCV				eS	**Sn**	**04 37 30.5**	**-0.7**
ELOV	**Elorza**	**3.57**	**87**	⇓*e*P	**Pn**	**04 37 09.7**	**+0.2**
VIRV	**Villa del Rosa**	**3.70**	**10**	⇓*e*P	**Pn**	**04 37 10.2**	**-1.0**
VIRV				eS	**Sn**	**04 37 53.4**	**-2.0**
QARV	**Quebrada Arrib**	**4.19**	**37**	⇑*i*P	**Pn**	**04 37 18.2**	**+0.6**
SANV	**Sanarito**	**4.39**	**53**	*e*P	**Pn**	**04 37 20.0**	**-0.2**
CURV	**Curarigua**	**4.41**	**44**	*e*P	**Pn**	**04 37 19.6**	**-0.8**
DABV	**Dabajuro**	**4.72**	**31**	*e*P	**Pn**	**04 37 24.6**	**+0.2**
TEPV	**Terepaima**	**4.94**	**51**	⇑*i*P	**Pn**	**04 37 27.4**	**0.0**
SIQV	**Siquisique**	**4.98**	**40**	⇑*i*P	**Pn**	**04 37 27.6**	**-0.2**
BAUV	**El Baul**	**5.41**	**67**	*e*P	**Pn**	**04 37 32.6**	**-0.9**
MAPV	**Macapo**	**5.45**	**57**	⇑*i*P	**Pn**	**04 37 33.7**	**-0.4**
MONV	**Montecano**	**5.94**	**31**	⇓*e*P	**Pn**	**04 37 39.9**	**-0.5**
TURV	**Turiamo**	**6.30**	**55**	*e*P	**Pn**	**04 37 45.8**	**+0.5**
BIRV	**Birongo**	**7.64**	**61**	*e*P	**Pn**	**04 38 02.3**	**-0.8**
PCRV	**Puerto La Cruz**	**8.98**	**68**	P	**Pn**	**04 38 22.4**	**+1.4**
	0.4nm,0.3s,baz=22,slow=11,SNR=2.6						
PCRV				S	**Sn**	**04 39 59.5**	**-1.4**
	0.4nm,0.3s,baz=270,slow=20,SNR=2.9						
TXAR	**Lajitas Array**	**36.48**	**312**	P	**P**	**04 43 05.5**	**+1.1**
	0.5nm,0.6s,baz=127,slow=9.4,SNR=7.0						
ULM	**Lac du Bonnet**	**47.28**	**340**	P	**P**	**04 44 31.4**	**-0.1**
	0.7nm,0.5s,baz=148,slow=9.1,SNR=3.6						
PDAR	**Pinedale Array**	**48.09**	**324**	P	**P**	**04 44 38.8**	**+0.6**
	0.4nm,0.5s,baz=110,slow=9.7,SNR=4.2						
YKA	**Yellowknife Ar**	**63.26**	**340**	P	**P**	**04 46 26.0**	**+0.4**
	0.8nm,0.5s,baz=133,slow=6.6,SNR=31						
ASAR	**Alice Springs**	**149.16**	**234**	PKPbc	**PKPbc**	**04 55 43.7**	**-1.0**
	0.4nm,0.5s,baz=115,slow=3.5,SNR=7.0						
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc	**PKPbc**	**04 55 47.1**	**-0.6**
	0.3nm,0.4s,baz=108,slow=2.6,SNR=13						

*IDC **02** 04:49:21.9±0.7, 15°.08S×173°.73W, h0km, mb4.1/13, mb1 4.3/13, mb1mx4.1/46, mbtmp4.1/13, Error ellipse: s-maj=34.1km s-min=16.4km az=137.0*
*NEIC **02** 04:49:23.1±0.3, 15°.11S×173°.67W, h10km, mb4.4/15, Error ellipse: s-maj=15.5km s-min=7.3km az=142.0*
*ISCJB **02** 04:49:24.6±0.4, 15°.1S±0°.1×173°.74W±0°.10, h30km, mb4.2/26, Error ellipse: s-maj=18.5km s-min=8.9km az=141.6*
ISC 02 04:49:26.1±0.5, 15°.1S±0°.1×173°.6W±0°.1, h30km, n49, σ0s98/44, mb4.3/26, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.14**	**57**	*e*Pn	**Pn**	**04 49 57.5**	**-2.4**
AFI				*e*Sn	Sn	04 50 7.9	-7.6
CTAO	**Charters Tower**	**38.50**	**257**	*e*P	**P**	**04 56 45.6**	**-0.3**
	32nm,1.5s						
H11S2	**WAKE ISLAND Hy**	**38.59**	**329**	T	T	05 37 30.0	
	baz=147						
H11S3	**WAKE ISLAND Hy**	**38.60**	**329**	T	T	05 37 32.2	
	baz=147						
H11S1	**WAKE ISLAND Hy**	**38.60**	**329**	T	T	05 37 31.4	
	baz=147						
H11N3	**WAKE ISLAND Hy**	**39.53**	**330**	T	T	05 38 41.9	
	baz=146,slow=75						
H11N1	**WAKE ISLAND Hy**	**39.54**	**330**	T	T	05 39 21.5	
	baz=146						
H11N2	**WAKE ISLAND Hy**	**39.55**	**330**	T	T	05 38 48.0	
	baz=146,slow=75						
COEN	**Coen**	**41.78**	**266**	*e*P	**P**	**04 57 14.3**	**+1.0**
STKA	**Stephens Creek**	**44.00**	**240**	P	**P**	**04 57 30.9**	**-0.1**
	3.4nm,1.1s,baz=90,slow=6.1,SNR=2.5						
WRAB	**Tennant Creek**	**49.69**	**257**	*e*P	**P**	**04 58 14.6**	**-1.1**
	2.4nm,0.7s						
WRA	**Warramunga Arr**	**49.70**	**257**	P	**P**	**04 58 15.0**	**-0.8**
	1.0nm,0.6s,baz=89,slow=6.9,SNR=20						
AS31	**Alice Springs**	**49.99**	**252**	*e*P	**P**	**04 58 16.5**	**-1.5**
ASAR	**Alice Springs**	**50.00**	**252**	P	**P**	**04 58 17.0**	**-1.0**
	6.5nm,0.7s,baz=85,slow=8.1,SNR=84						
FORT	**Forrest**	**55.36**	**243**	*e*P	**P**	**04 58 54.9**	**-2.7**
	22nm,0.9s						
VNDA	**Vanda**	**63.66**	**186**	P	**P**	**04 59 54.9**	**+0.9**
	1.9nm,0.8s,baz=6.7,slow=6.9,SNR=7.7						
VNDA	**Vanda**	**63.66**	**186**	*e*P	**P**	**04 59 54.5**	**+0.5**
	3.0nm,1.0s						
PETK	**Petropavlovsk-**	**72.27**	**342**	P	**P**	**05 00 49.7**	**+1.3**
	2.8nm,0.8s,baz=132,slow=8.4,SNR=4.2						
YBH	**Yreka Blue Hor**	**73.49**	**37**	P	**P**	**05 00 56.2**	**+0.2**
	2.9nm,0.8s,baz=284,slow=1.6,SNR=4.6						
NVAR	**Mina Array Bea**	**74.25**	**42**	P	**P**	**05 01 01.9**	**+1.2**
	2.5nm,0.8s,baz=231,slow=9.8,SNR=6.1						
QSPA	**South Pole Qui**	**74.95**	**180**	*e*P	**P**	**05 01 04.3**	**+0.1**
	5.3nm,1.0s						
DUG	**Dugway, Tooele**	**78.79**	**43**	*e*P	**P**	**05 01 26.6**	**+0.3**
	1.5nm,0.9s						
HLID	**Hailey**	**79.53**	**39**	*e*P	**P**	**05 01 31.0**	**+0.7**
	2.1nm,1.0s						
HWUT	**Hardware Ranch**	**80.31**	**42**	*e*P	**P**	**05 01 34.1**	**-0.5**
	2.8nm,1.0s						
TXAR	**

	9.2nm,0.5s,baz=186,slow=17,SNR=5.3							
AAK	**Ala-Archa**	**6.88**	**22**	⇑P		**Pn**	**04 54 43.6**	**+1.9**
	4.4nm,0.3s							
AAK				⇓S		**Sn**	**04 55 56.9**	**-2.0**
	33nm,0.6s							
AAK	**Ala-Archa**	**6.88**	**22**	P		**Pn**	**04 54 44.1**	**+2.5**
	SNR=10							
KBK	**Karagaybulak**	**7.04**	**25**	P		Pn	04 54 48.9	+5.0
	SNR=5.9							
CHMS	**Chumysh**	**7.29**	**23**	P		**Pn**	**04 54 48.5**	**+1.5**
	SNR=9.9							
USP	**Ospenovka**	**7.46**	**20**	P		**Pn**	**04 54 49.8**	**+0.5**
	SNR=12							
TKM2	**Tokmak 2**	**7.51**	**27**	⇑P		**Pn**	**04 54 52.0**	**+1.9**
	10nm,0.6s							
TKM2				⇑S		**Sn**	**04 56 13.2**	**-0.8**
	12nm,1.0s							
TKM2	**Tokmak 2**	**7.51**	**27**	P		Pn	04 54 54.3	+4.3
	SNR=22							
PYUN	**Piuthan**	**13.08**	**125**	*e*P		Pn	04 56 00.0	-3.6
	9.2nm,0.3s							
MKAR	**Makanchi Array**	**13.46**	**36**	P		**P**	**04 56 11.1**	**-1.1**
	0.1nm,0.3s,baz=241,slow=15,SNR=18							
MK31	**Makanchi Array**	**13.47**	**36**	⇓P		**Pn**	**04 56 10.6**	**+2.4**
	3.8nm,1.1s,baz=234,slow=18,SNR=16							
KOLN	**Koldanda**	**13.70**	**125**	*e*P		Pn	04 56 08.4	-3.1
	7.7nm,0.4s							
GKN	**Gorkha**	**14.25**	**122**	*e*P		Pn	04 56 15.6	-2.8
	7.3nm,0.3s							
DMN	**Daman**	**14.82**	**122**	*e*P		Pn	04 56 23.0	-2.6
	12nm,0.5s							
KKN	**Kakani**	**14.83**	**121**	*e*P		Pn	04 56 24.2	-1.5
	6.0nm,0.4s							
PKIN	**Phulchoki**	**15.04**	**121**	*e*P		**Pn**	**04 56 27.0**	**-1.4**
	4.6nm,0.3s							
PKI	**Pulchoki**	**15.05**	**121**	*e*P		**Pn**	**04 56 27.4**	**-1.2**
	5.8nm,0.3s							
GUN	**Gumba**	**15.17**	**119**	*e*P		**Pn**	**04 56 28.9**	**-1.2**
	4.7nm,0.3s							
AB31	**Akbulak array**	**15.21**	**332**	P		**Pn**	**04 56 29.6**	**-0.5**
	7.3nm,0.4s,baz=158,slow=12,SNR=409							
AB31				S		Sn	04 59 09.1	-10
	1.3nm,0.5s,baz=149,slow=23,SNR=5.8							
JIRN	**Jiri**	**15.54**	**119**	*e*P		**Pn**	**04 56 33.3**	**-1.4**
	9.7nm,0.4s							
RAMN	**Ramite**	**16.27**	**121**	*e*P		**Pn**	**04 56 41.2**	**-2.2**
	5.7nm,0.4s							
TAPN	**Taplejung**	**16.81**	**117**	*e*P		**P**	**04 56 50.2**	**+0.5**
	8.6nm,0.4s							
ODAN	**Odare**	**16.88**	**119**	*e*P		**P**	**04 56 49.2**	**-1.2**
	5.5nm,0.5s							
AKTO	**Aktyubinsk**	**16.91**	**331**	⇓P		**P**	**04 56 51.7**	**+1.5**
	7.9nm,1.1s							
AKTO				⇓S		S	04 59 49.3	-9.3
	5.6nm,1.2s							
ZALV	**Zalesovo Beam**	**20.10**	**24**	P		**Pn**	**04 57 29.3**	**+1.0**
	14nm,0.5s,baz=218,slow=11,SNR=68							
TORD	**Torodi Ar. Bea**	**65.66**	**269**	P		**P**	**05 03 31.0**	**-0.7**
	0.5nm,1.0s,baz=50,slow=6.7,SNR=4.2							
YKA	**Yellowknife Ar**	**81.42**	**3**	P		**P**	**05 05 05.9**	**+3.0**
	0.2nm,0.6s,baz=350,slow=5.1,SNR=3.9							

*IDC **02** 04:54:46.2±0.8, 14°.57S×167°.27E, h0km, mb4.3/14, mb1 4.4/14, mb1mx4.3/24, mbtmp4.4/14, MS3.7/4, Ms1 3.7/4, ms1mx3.2/23, Error ellipse: s-maj=26.6km s-min=16.7km az=90.0*

*ISCJB **02** 04:54:53.2±0.4, 14°.66S±0°.07×167°.20E±0°.08, h67km, mb4.4/23, Error ellipse: s-maj=11.8km s-min=9.1km az=139.8*

*NEIC **02** 04:54:56.4±1.2, 14°.64S×167°.22E, h81km±11km, mb4.7/13, Error ellipse: s-maj=8.2km s-min=6.8km az=193.0*

NEIC Felt at Luganville.

ISC 02 04:54:54.9±0.5, **14°.7S**±0°.1×**167°.22E**±0°.09, **h67**km, **n52, σ0s81/52, mb4.4/23, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
MSVF	**Nonsavu**	**10.85**	**108**	*e*Pn	**Pn**	**04**	**57 28.6**	**+1.1**
	47nm,1.3s							
PMG	**Port Moresby**	**20.29**	**283**	*e*P	**P**	**04**	**59 25.8**	**+0.4**
	51nm,1.2s							
CTA	**Charters Tower**	**20.71**	**252**	P	**P**	**04**	**59 30.8**	**+0.9**
	7.8nm,0.9s,baz=81,slow=12,SNR=3.5							
CTAO	**Charters Tower**	**20.71**	**252**	*e*P	**P**	**04**	**59 30.8**	**+0.9**
	20nm,1.0s							
COEN	**Coen**	**23.30**	**269**	*e*P	**P**	**04**	**59 57.7**	**+0.4**
URZ	**Urewera**	**25.09**	**161**	P	**P**	**05**	**00 14.9**	**+1.6**
	7.6nm,1.0s,baz=326,slow=11,SNR=2.2							
STKA	**Stephens Creek**	**29.00**	**229**	P	**P**	**05**	**00 49.1**	**+0.6**
	4.8nm,1.0s,baz=66,slow=8.6,SNR=7.9							
RPZ	**Rata Peaks**	**29.14**	**174**	P	**P**	**05**	**00 49.6**	**0.0**
	9.0nm,0.9s,baz=334,slow=6.3,SNR=3.1							
WRAB	**Tennant Creek**	**31.78**	**256**	*e*P	P	05	01 08.9	-4.3
	10.0nm,0.8s							
WRA	**Warramunga Arr**	**31.79**	**256**	LR	LR	05	13 20.0	
	comp=Z,174nm,18.5s,baz=75,slow=35							
AS31	**Alice Springs**	**32.65**	**249**	*e*P	**P**	**05**	**01 19.9**	**-0.9**
ASAR	**Alice Springs**	**32.65**	**249**	P	**P**	**05**	**01 19.7**	**-1.1**
	2.9nm,0.7s,baz=79,slow=9.2,SNR=16							
ASAR				LR	LR	05	12 58.6	
	comp=Z,207nm,20.8s,baz=146,slow=33							
GUMO	**Guam**	**35.74**	**321**	LR	LR	05	18 03.2	
	comp=Z,67nm,18.0s,baz=104,slow=39							
FORT	**Forrest**	**39.29**	**239**	*e*P	**P**	**05**	**02 17.2**	**-0.2**
	20nm,0.8s							
MBWA	**Marble Bar**	**45.51**	**255**	*e*P	**P**	**05**	**03 08.0**	**-0.1**
	45nm,1.4s							
KAPI	**Kappang**	**47.65**	**277**	*e*P	**P**	**05**	**03 25.0**	**+0.1**
	26nm,1.3s							
NWAO	**Narrogin (SRO)**	**48.74**	**239**	P	**P**	**05**	**03 32.5**	**-0.6**
	12nm,0.9s,baz=84,slow=9.4,SNR=4.2							
KKM	**Kota Kinabalu**	**54.59**	**289**	*e*P	**P**	**05**	**04 17.9**	**+0.9**
MJAR	**Matsushiro Arr**	**57.82**	**333**	P	**P**	**05**	**04 38.4**	**-1.1**
	1.9nm,0.9s,baz=162,slow=9.1,SNR=7.0							
MAJO	**Matsushiro**	**57.82**	**333**	*e*P	**P**	**05**	**04 39.0**	**-0.6**
	4.6nm,0.9s							
JNU	**Nakatsue**	**58.84**	**324**	P	**P**	**05**	**04 46.6**	**-0.1**
	15nm,0.9s,baz=120,slow=4.1,SNR=5.8							
VNDA	**Vanda**	**62.93**	**181**	P	**P**	**05**	**05 14.4**	**+0.6**
	1.6nm,1.1s,baz=353,slow=6.8,SNR=4.6							
VNDA	**Vanda**	**62.93**	**181**	*e*P	**P**	**05**	**05 14.4**	**+0.6**
	18nm,1.8s							
SBA	**Scott Base**	**63.20**	**180**	*e*P	**P**	**05**	**05 16.2**	**+0.6**
	11nm,1.0s							
KSRS	**Korea Array**	**63.65**	**326**	P	**P**	**05**	**05 19.6**	**+0.5**
	1.1nm,0.3s,baz=140,slow=6.4,SNR=4.4							
KSAR	**Wonju Array Be**	**63.66**	**326**	P	**P**	**05**	**05 19.6**	**+0.4**
USRK	**Ussuriysk Ar.**	**66.80**	**333**	P	**P**	**05**	**05 40.5**	**+1.1**
	2.9nm,0.8s,baz=123,slow=7.0,SNR=7.5							
USRK				LR	LR	05	37 19.7	
	comp=Z,23nm,18.0s,baz=104,slow=38							
ENH	**Enshi**	**71.28**	**309**	*e*P	**P**	**05**	**06 07.8**	**+0.2**
	5.8nm,0.6s							
CMAR	**Chiang Mai Arr**	**74.87**	**294**	P	**P**	**05**	**06 30.7**	**+1.8**
	2.5nm,0.4s,baz=120,slow=4.4,SNR=17							
CHTO	**Chiang Mai**	**75.00**	**294**	*e*P	**P**	**05**	**06 30.8**	**+1.1**
	3.3nm,0.8s							
QSPA	**South Pole Qui**	**75.37**	**180**	*e*P	**P**	**05**	**06 30.7**	**-0.4**
	14nm,0.9s							
ULN	**Ulaanbaatar**	**82.05**	**324**	*e*P	**P**	**05**	**07 07.8**	**-0.3**
	4.0nm,0.9s							
SONM	**Songino Array**	**82.41**	**324**	P	**P**	**05**	**07 10.0**	**0.0**
	1.2nm,0.9s,baz=142,slow=5.6,SNR=5.6							
ILAR	**Eielson Array**	**86.48**	**18**	P	**P**	**05**	**07 29.6**	**-0.4**
	0.9nm,0.8s,baz=229,slow=6.1,SNR=11							
SNAA	**Sanae**	**93.61**	**183**	P	**P**	**05**	**08 01.5**	**-2.1**
VNA3	**Neumayer Olymp**	**94.28**	**181**	P	**P**	**05**	**08 05.1**	**-1.5**
VNA2	**Neumayer--Wakz**	**94.55**	**182**	P	**P**	**05**	**08 06.6**	**-1.2**
	baz=184,slow=2.2							
ARCES	**ARCESS Array B**	**120.17**	**345**	PKP	**PKPdf**	**05**	**13 37.1**	**-0.5**
	3.1nm,0.7s,baz=67,slow=1.7,SNR=9.5							
SAML	**Samuel**	**124.80**	**112**	*e*PKPdf	**PKPdf**	**05**	**13 47.9**	**-0.2**
AKASG	**Malin Array Be**	**130.65**	**326**	PKP	**PKPdf**	**05**	**13 57.8**	**-0.4**
	0.1nm,0.3s,baz=46,slow=2.7,SNR=3.8							
NAO01	**NORSAR Array S**	**130.79**	**345**	*e*PKPdf	**PKPdf**	**05**	**13 57.6**	**-0.6**
MORC	**Moravsky Berou**	**137.15**	**331**	*e*PKPdf	**PKPdf**	**05**	**14 10.0**	**-0.5**
PSZ	**Piszkesteto**	**137.23**	**328**	*e*PKPdf	**PKPdf**	**05**	**14 09.3**	**-1.4**
ESK	**Eskdalemuir**	**138.75**	**352**	*e*PKPdf	**PKPdf**	**05**	**14 12.9**	**-0.3**
GERES	**GERESS Array B**	**139.56**	**333**	PKhKP	PKPpre	05	14 08.4	
	0.4nm,0.8s,baz=54,slow=2.6,SNR=3.0							
GERES				PKP	**PKiKP**	**05**	**14 16.8**	**-0.6**
	0.1nm,0.4s,baz=59,slow=0.6,SNR=5.4							
AQU	**L'Aquila**	**144.35**	**326**	*e*PKPdf	**PKPdf**	**05**	**14 23.2**	**-0.5**
TIP	**Timpagrande**	**144.36**	**319**	*e*PKPdf	PKPbc	05	14 22.8	+0.5
BNI	**Bardonecchia**	**145.51**	**335**	*e*PKPbc	**PKPab**	**05**	**14 27.2**	**+1.0**
KEST	**Kesra**	**151.12**	**321**	PKPbc	**PKPbc**	**05**	**14 41.4**	**+0.4**
	2.8nm,0.9s,baz=50,slow=3.8,SNR=6.1							
KEST				PKPab	**PKPab**	**05**	**14 48.8**	**-0.1**
	1.5nm,0.9s,baz=278,slow=5.9,SNR=4.8							
KEST	**Kesra**	**151.12**	**321**	*e*PKPdf	**PKPdf**	**05**	**14 35.2**	**0.0**
KEST				*e*PKPbc	**PKPbc**	**05**	**14 40.4**	**-0.6**
KEST				PKPab	**PKPab**	**05**	**14 48.8**	**-0.1**
TOA0	**Torodi Ar. Sit**	**165.86**	**266**	*e*PKPdf	**PKPdf**	**05**	**14 52.4**	**-0.7**
TOA0				*e*PKPab	**PKPab**	**05**	**15 52.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**165.86**	**266**	PKPab	**PKPab**	**05**	**15 52.6**	**-0.5**
	1.9nm,0.9s,baz=87,slow=3.2,SNR=10							

*IDC **02** 04:55:18.8±1.1, 16°.83S×174°.12W, h0km, mb4.1/6, mb1 4.3/6, mb1mx4.0/20, mbtmp4.1/6, Error ellipse: s-maj=48.2km s-min=23.7km az=150.0*

*ISCJB **02** 04:55:32.5±0.7, 16°.69S±0°.2×174°.24W±0°.2, h124km, mb4.2/9, Error ellipse: s-maj=30.5km s-min=8.2km az=138.0*

*NEIC **02** 04:55:33.3±1.6, 17°.05S×174°.16W, h119km±16km, mb4.6/3, Error ellipse: s-maj=23.8km s-min=12.6km az=150.0*

ISC 02 04:55:33.9±0.8, **17°.0S**±0°.2×**174°.1W**±0°.2, **h124**km, **n15, σ1s44/14, mb4.3/9, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
AFI	**Afiamalu**	**3.79**	**37**	*e*Pn	**Pn**	**04**	**56 31.3**	**+0.4**
AFI				*e*Sn	**Sn**	**04**	**57 13.1**	**-1.9**
URZ	**Urewera**	**22.57**	**198**	P	**P**	**05**	**00 22.6**	**-1.3**
	16nm,1.2s,baz=44,slow=12,SNR=3.2							
CTAO	**Charters Tower**	**37.62**	**259**	*e*P	**P**	**05**	**02 38.5**	**+1.4**
	8.5nm,0.8s							
QLP	**Quilpie**	**39.67**	**249**	P	P	05	02 58.4	+4.3
	baz=26,SNR=3.5							
COEN	**Coen**	**41.19**	**268**	*e*P	**P**	**05**	**03 04.9**	**-1.8**
STKA	**Stephens Creek**	**42.65**	**241**	P	**P**	**05**	**03 18.5**	**+0.1**
	1.6nm,0.6s,baz=82,slow=9.9,SNR=3.7							
WRAB	**Tennant Creek**	**48.80**	**258**	*e*P	**P**	**05**	**04 07.1**	**+0.2**
	9.2nm,0.9s							
WRA	**Warramunga Arr**	**48.81**	**258**	P	**P**	**05**	**04 06.1**	**-0.8**
	0.8nm,0.5s,baz=91,slow=8.2,SNR=5.5							
AS31	**Alice Springs**	**48.96**	**253**	*e*P	**P**	**05**	**04 07.1**	**-1.1**
ASAR	**Alice Springs**	**48.96**	**253**	P	**P**	**05**	**04 07.5**	**-0.7**
	9.6nm,0.6s,baz=88,slow=8.6,SNR=30							
VNDA	**Vanda**	**61.76**	**186**	*e*P	P	05	05 34.2	-4.6
	4.8nm,1.1s							
TXAR	**Lajitas Array**	**82.07**	**56**	P	**P**	**05**	**07 41.7**	**+0.8**
	0.5nm,1.0s,baz=218,slow=6.9,SNR=4.0							
PDAR	**Pinedale Array**	**83.90**	**42**	P	**P**	**05**	**07 50.2**	**0.0**
	0.5nm,0.8s,baz=291,slow=2.5,SNR=4.5							
CLL	**Collm**	**145.26**	**352**	*e*PKPbc	**PKPab**	**05**	**15 00.0**	**+3.0**
TORD	**Torodi Ar. Bea**	**174.48**	**133**	PKPab	**PKPab**	**05**	**17 03.1**	**-0.2**
	1.3nm,1.1s,baz=242,slow=3.7,SNR=3.6							

*ISCJB **02** 04:57:01.3±0.4, 62°.17N±0°.02×151°.97W±0°.08, h114km±4km, mb3.2/1, Error ellipse: s-maj=6.1km s-min=3.8km az=5.9*

*NEIC **02** 04:57:03.2, 62°.16N×152°.04W, h105km, MG3.0(AEIC), After AEIC.*

*IDC **02** 04:57:04.6±5.2, 62°.46N×151°.71W, h106km±48km, mb3.0/1, mb1 3.3/5, mb1mx3.0/29, mbtmp3.4/5, Error ellipse: s-maj=45.2km s-min=26.0km az=48.0*

ISC 02 04:57:02.2±1.0, **62°.18N**±0°.03×**152°.04W**±0°.05, **h109**km±7km, **n81, σ0s99/89, Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
SKT	**Skwentna**	**0.31**	**130**	P	**Pn**	**04**	**57 17.7**	**-0.2**
SKT				S	**Sn**	**04**	**57 29.3**	**-0.4**
STLK	**Strandline Lak**	**0.69**	**172**	P	**Pn**	**04**	**57 19.9**	**-0.5**
PPLA	**Purkeypile**	**0.72**	**354**	P	**Pn**	**04**	**57 20.9**	**+0.2**
PPLA				S	**Sn**	**04**	**57 35.1**	**+0.3**
TRAP	**Trapper Creek**	**0.85**	**79**	P	**Pn**	**04**	**57 22.1**	**+0.3**
BGL	**Barrier Glacie**	**0.94**	**191**	P	**Pn**	**04**	**57 22.5**	**-0.2**
SPBG	**Spurr Blockage**	**0.94**	**190**	P	**Pn**	**04**	**57 22.5**	**-0.3**
SPBG				S	**Sn**	**04**	**57 37.9**	**-0.4**
SUA	**Susitna One**	**0.95**	**139**	P	**Pn**	**04**	**57 22.7**	**-0.1**
SUA				S	**Sn**	**04**	**57 38.4**	**0.0**
CKN	**Chakachatna No**	**0.97**	**184**	P	**Pn**	**04**	**57 22.8**	**-0.2**
CKL	**Chakachamna La**	**1.00**	**188**	P	**Pn**	**04**	**57 23.1**	**-0.3**
CAST	**Castle Rocks**	**1.24**	**359**	P	**Pn**	**04**	**57 25.9**	**0.0**
CAST				S	**Sn**	**04**	**57 43.0**	**-0.9**
FIB	**Fire Island**	**1.35**	**138**	P	**Pn**	**04**	**57 28.6**	**+1.5**
HUR	**Hurricane**	**1.37**	**53**	P	**Pn**	**04**	**57 28.0**	**+0.7**
KTH	**Kantishna Hill**	**1.47**	**20**	P	**Pn**	**04**	**57 28.8**	**+0.3**
KTH				S	**Sn**	**04**	**57 48.4**	**-0.2**
PMR	**Palmer**	**1.50**	**112**	P	**Pn**	**04**	**57 28.2**	**-0.7**
TRF	**Thorofare Moun**	**1.50**	**31**	P	**Pn**	**04**	**57 29.6**	**+0.5**
RC01	**Rabbit Creek A**	**1.55**	**134**	P	**Pn**	**04**	**57 29.2**	**-0.4**
RC01				S	**Sn**	**04**	**57 49.8**	**-0.5**
DFR	**Drift River**	**1.63**	**191**	P	**Pn**	**04**	**57 31.0**	**+0.5**
NCT	**North Crescent**	**1.68**	**195**	P	**Pn**	**04**	**57 31.0**	**-0.2**
CHUM	**Lake Minchumin**	**1.71**	**356**	P	**Pn**	**04**	**57 31.6**	**+0.2**
RDN	**Redoubt North**	**1.71**	**192**	P	**Pn**	**04**	**57 32.1**	**+0.4**
RDWB	**Redoubt West**	**1.75**	**193**	P	**Pn**	**04**	**57 31.8**	**-0.3**
RSO	**Redoubt South**	**1.76**	**192**	*e*Pn	**Pn**	**04**	**57 32.0**	**-0.3**
SLKM	**Skilak Lake**	**1.90**	**152**	P	**Pn**	**04**	**57 33.9**	**0.0**
RND	**Reindeer**	**1.91**	**49**	P	**Pn**	**04**	**57 34.5**	**+0.5**
PTE	**Portage**	**1.96**	**131**	P	**Pn**	**04**	**57 33.7**	**-0.8**
SVW2	**Sparrevohn**	**2.01**	**239**	P	**Pn**	**04**	**57 34.4**	**-0.9**
MCK	**McKinley**	**2.10**	**41**	P	**Pn**	**04**	**57 37.1**	**+0.7**
SCM	**Sheep Creek Mo**	**2.25**	**97**	P	**Pn**	**04**	**57 37.9**	**-0.5**
BWN	**Browne**	**2.31**	**29**	P	**Pn**	**04**	**57 40.1**	**+1.0**
DHY	**Denali Highway**	**2.33**	**65**	P	**Pn**	**04**	**57 39.9**	**+0.4**
SEW	**Seward**	**2.44**	**148**	P	**Pn**	**04**	**57 39.9**	**-0.7**
BRLK	**Bradley Lake**	**2.49**	**166**	P	**Pn**	**04**	**57 40.5**	**-1.0**
OPT	**Oil Point**	**2.61**	**193**	P	**Pn**	**04**	**57 43.4**	**+0.4**
GLI	**Glacier Island**	**2.71**	**117**	P	**Pn**	**04**	**57 42.5**	**-1.7**
JPK	**Jack Peak**	**2.83**	**111**	P	**Pn**	**04**	**57 44.8**	**-1.2**
WRH	**Wood River Hil**	**2.91**	**36**	P	**Pn**	**04**	**57 46.9**	**+0.1**
AUP	**Augustine Pinn**	**2.91**	**194**	P	**Pn**	**04**	**57 47.8**	**+0.7**
MLY	**Manley**	**2.92**	**11**	P	**Pn**	**04**	**57 47.2**	**+0.2**
VLZ	**Valdez**	**2.92**	**109**	P	**Pn**	**04**	**57 45.7**	**-1.3**
KLU	**Klutina**	**2.98**	**101**	P	**Pn**	**04**	**57 47.0**	**-0.9**
PS11	**TAPS Pump St11**	**3.08**	**89**	P	**Pn**	**04**	**57 49.9**	**+0.7**
CCB	**Clear Creek Bu**	**3.12**	**36**	P	**Pn**	**04**	**57 49.8**	**+0.1**
PS10	**TAPS Pump St10**	**3.14**	**64**	P	**Pn**	**04**	**57 51.5**	**+1.6**
PAX	**Paxson**	**3.14**	**73**	P	**Pn**	**04**	**57 50.4**	**+0.4**
DIV	**Divide**	**3.17**	**107**	P	**Pn**	**04**	**57 49.3**	**-1.1**
HARP	**HAARP**	**3.22**	**83**	P	**Pn**	**04**	**57 51.5**	**+0.5**
DDM	**Donnelly Dome**	**3.24**	**58**	P	**Pn**	**04**	**57 51.7**	**+1.7**
MDM	**Murphy Dome**	**3.26**	**30**	P	**Pn**	**04**	**57 51.9**	**+0.2**
COLA	**College**	**3.29**	**33**	P	**Pn**	**04**	**57 52.3**	**+0.4**
EYAK	**Cordova Ski Ar**	**3.44**	**116**	P	**Pn**	**04**	**57 53.5**	**-0.4**
ILAR	**Eielson Array**	**3.48**	**39**	P	**Pn**	**04**	**57 54.2**	**-0.2**
	2.3nm,0.3s,baz=225,slow=14,SNR=125							
ILAR				S	**Sn**	**04**	**58 29.0**	**-5.7**
	1.1nm,0.3s,baz=219,slow=17,SNR=10							
ILB	**Eielson Array**	**3.48**	**39**	P	**Pn**	**04**	**57 54.5**	**+0.1**
BMRM	**Bremner River**	**3.76**	**106**	P	**Pn**	**04**	**57 57.1**	**-1.1**
IM04	**Indian Mountai**	**3.88**	**349**	*e*Pn	**Pn**	**04**	**57 59.8**	**0.0**
MENT	**Mentasta**	**3.92**	**75**	*e*Pn	**Pn**	**04**	**58 00.2**	**-0.2**
DOT	**Dot Lake**	**3.93**	**65**	P	**Pn**	**04**	**58 00.6**	**+0.1**
RAGM	**Ragged Mountai**	**3.98**	**114**	P	**Pn**	**04**	**58 00.9**	**-0.3**
SCRK	**Sand Creek**	**4.08**	**60**	P	**Pn**	**04**	**58 02.5**	**0.0**
VRDI	**Verde Repeater**	**4.20**	**99**	P	**Pn**	**04**	**58 03.4**	**-0.8**
MCARA	**McCarthy VSAT**	**4.36**	**97**	P	**Pn**	**04**	**58 06.0**	**-0.2**
BERG	**Berg Lake**	**4.40**	**110**	P	**Pn**	**04**	**58 05.5**	**-1.4**
KDAK	**Kodiak Island**	**4.42**	**184**	P	**Pn**	**04**	**58 06.6**	**-0.5**
KHIT	**Khitrov Hills**	**4.58**	**108**	P	**Pn**	**04**	**58 09.0**	**-0.3**
GRIN	**Grindle Hills**	**4.62**	**111**	P	**Pn**	**04**	**58 10.9**	**+1.1**
PTPK	**Patty Peak**	**4.67**	**98**	P	**Pn**	**04**	**58 10.5**	**-0.1**
KIAG	**Kiagna River**	**4.80**	**101**	P	**Pn**	**04**	**58 11.3**	**-1.1**
KULT	**Kultieth River**	**4.90**	**109**	P	**Pn**	**04**	**58 14.3**	**+0.7**
ISLE	**Juniper Island**	**4.92**	**104**	P	**Pn**	**04**	**58 13.7**	**-0.3**
BARK	**Barkley Ridge**	**4.94**	**107**	P	**Pn**	**04**	**58 13.7**	**-0.4**
BARN	**Barnard Glacie**	**5.08**	**98**	P	**Pn**	**04**	**58 16.2**	**+0.1**
BAGL	**Bagley Icefiel**	**5.08**	**105**	P	**Pn**	**04**	**58 15.9**	**-0.1**
COLD	**Coldfoot**	**5.13**	**8**	*e*Pn	**Pn**	**04**	**58 14.4**	**-2.1**
	6.0nm,0.9s							
GRNC	**Granite Creek**	**5.14**	**102**	P	**Pn**	**04**	**58 16.7**	**-0.3**
MESA	**MESA**	**5.28**	**108**	P	**Pn**	**04**	**58 18.6**	**-0.3**
RKAV	**Rock Avalanche**	**5.50**	**105**	P	**Pn**	**04**	**58 21.8**	**0.0**
EGAK	**Eagle**	**5.52**	**57**	P	**Pn**	**04**	**58 21.7**	**-0.2**
DAWY	**Dawson**	**6.04**	**66**	P	**Pn**	**04**	**58 29.4**	**+0.4**
INK	**Inuvik**	**9.86**	**44**	P	**Pn**	**04**	**59 20.4**	**-0.3**
	0.2nm,0.3s,baz=239,slow=12,SNR=10							
DLBC	**Dease Lake**	**11.52**	**99**	P	**Pn**	**04**	**59 45.9**	**+2.8**
	0.1nm,0.3s,baz=320,slow=16,SNR=3.6							
YKA	**Yellowknife Ar**	**17.23**	**72**	P	**P**	**05**	**00 55.6**	**+0.1**
	0.2nm,0.3s,baz=287,slow=10,SNR=18							
TXAR	**Lajitas Array**	**45.37**	**113**	P	**P**	**05**	**05 11.0**	**+1.5**
	0.3nm,0.5s,baz=344,slow=5.6,SNR=3.5							

*IDC **02** 04:57:12.2±1.1, 3°.46S×130°.28E, h0km, mb4.1/8, mb1 4.3/8, mb1mx4.0/23, mbtmp4.2/8, MS3.5/4, Ms1 3.5/4, ms1mx3.1/27, Error ellipse: s-maj=47.8km s-min=17.8km az=71.0*

*ISCJB **02** 04:57:14.7±0.4, 3°.50S±0°.05×130°.28E±0°.06, h31km, mb4.2/14, MS3.5/4, Error ellipse: s-maj=9.2km s-min=6.0km az=144.4*

*DJA **02** 04:57:16.9±1.0, 3°.3S±11°×13°0E±°, h74km±30km, M4.2/9, MLv4.2/9*

*NEIC **02** 04:57:19.4±2.0, 3°.50S×130°.28E, h56km±19km, mb4.3/8, Error ellipse: s-maj=12.7km s-min=6.9km az=48.0*

ISC 02 04:57:16.6±0.5, **3°.48S**±0°.06×**130°.31E**±0°.05, **h31**km, **n41, σ1s25/36, mb4.3/14, MS3.5/4, Seram**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
BNDI	**Bandanaira**	**1.11**	**201**	P	**Pb**	**04**	**57 37.3**	**0.0**
MSAI	**Masohi**	**1.39**	**276**	P	**Pb**	**04**	**57 41.1**	**-0.8**
FAKI	**Fak Fak**	**2.02**	**74**	P	**Pn**	**04**	**57 48.7**	**+0.2**
NLAI	**Namlea**	**3.21**	**274**	P	**Pn**	**04**	**58 07.5**	**+2.5**
LBMI	**Labuha**	**3.98**	**315**	P	**Pn**	**04**	**58 15.8**	**+0.2**
RKPI	**Ransiki, Papua**	**4.33**	**63**	P	**Pn**	**04**	**58 19.9**	**-0.5**
SANI	**Sanana**	**4.54**	**288**	P	**Pn**	**04**	**58 20.9**	**-2.4**
KDU	**Kakadu**	**9.39**	**167**	P	**Pn**	**04**	**59 29.8**	**-0.2**
	baz=9.0,SNR=9.2							
KDU				S	**Sn**	**05**	**01 13.3**	**-1.3**
	baz=9.0,SNR=4.1							
KNRA	**Kununurra**	**12.21**	**187**	P	Pn	05	00 14.1	+5.5
	baz=12,SNR=4.7							
COEN	**Coen**	**16.42**	**130**	P	**P**	**05**	**01 07.4**	**0.0**
	baz=16,SNR=5.9							
COEN	**Coen**	**16.42**	**130**	*e*Pn	**Pn**	**05**	**01 06.3**	**+1.4**
WRA	**Warramunga Arr**	**16.83**	**167**	Pn	Pn	05	01 05.4	-4.7
	0.4nm,0.3s,baz=348,slow=12,SNR=14							
WRA				Sn	**Sn**	**05**	**04 11.2**	**-5.0**
	0.3nm,0.3s,baz=352,slow=23,SNR=4.6							
QIS	**Mount Isa**	**19.24**	**153**	P	**Pn**	**05**	**01 40.2**

KHZ	**Kahutara**	**13.81**	**208**	*e*Pn		**Pn**	**05**	**15**	**08.4 +0.7**
	15nm,0.4s								
MQZ	**McQueen's Vall**	**15.25**	**207**	*e*SN		Sn	05	17	58.7 -16
RPZ	**Rata Peaks**	**15.93**	**211**	P		**Pn**	**05**	**15**	**36.3 +1.0**
	1.8nm,0.3s,baz=18,slow=4.2,SNR=7.0								
RPZ				S		Sn	05	18	23.0 -7.8
	0.5nm,0.3s,baz=21,slow=14,SNR=2.3								
RPZ				LR		LR	05	21	27.9
	comp=Z,234nm,22.0s,baz=42,slow=35								
DZM	**Mont Dzumac**	**16.39**	**297**	*e*LR		LR	05	19	12.3
	912nm,29.4s								
WHZ	**Wether Hill Ro**	**19.01**	**212**	P		**P**	**05**	**16**	**12.3 +0.1**
	178nm,2.3s								
TBI	**Tubuai**	**26.21**	**81**	*e*LR		LR	05	23	56.3
	256nm,28.5s								
TBI	**Tubuai**	**26.21**	**81**	*e*T		T	05	44	50.3
	23nm,0.3s								
ARMA	**Armidale**	**26.31**	**262**	P		**P**	**05**	**17**	**29.1 +3.2**
	baz=27,SNR=4.7								
MGCD	**Mangrove Creek**	**26.50**	**256**	P		**P**	**05**	**17**	**30.8 +3.4**
	baz=27,SNR=6.4								
EIDS	**Eidsvold**	**27.90**	**273**	P		**P**	**05**	**17**	**42.0 +2.0**
	baz=29,SNR=5.0								
PAE	**Paea**	**28.66**	**70**	*e*T		T	05	47	55.6
	5.6nm,0.2s								
PPT2	**Papeete2**	**28.70**	**70**	*e*LR		LR	05	25	12.9
	206nm,25.5s								
PPT2	**Papeete2**	**28.70**	**70**	*e*T		T	05	47	50.4
	5.4nm,0.3s								
TVO	**Taravao**	**28.87**	**71**	*e*T		T	05	48	10.8
	2.2nm,0.3s								
TOO	**Toolangi**	**31.09**	**247**	P		**P**	**05**	**18**	**10.3 +2.1**
	baz=32,SNR=4.9								
CMSA	**Cobar Meteorol**	**31.21**	**258**	P		**P**	**05**	**18**	**11.0 +1.7**
	baz=32,SNR=14								
PMOR	**Pomariorio Ree**	**31.46**	**67**	*e*T		T	05	51	15.7
	2.5nm,0.2s								
VAH	**Vaihoa**	**31.55**	**68**	*e*T		T	05	51	31.1
	34nm,0.2s								
QLP	**Quilpie**	**33.47**	**267**	P		**P**	**05**	**18**	**30.1 +1.0**
	baz=34,SNR=15								
CTA	**Charters Tower**	**33.96**	**279**	P		**P**	**05**	**18**	**34.5 +1.0**
	10nm,0.4s,baz=104,slow=10,SNR=32								
CTAO	**Charters Tower**	**33.96**	**279**	*e*P		**P**	**05**	**18**	**33.3 -0.2**
	9.4nm,0.4s								
STKA	**Stephens Creek**	**34.62**	**257**	P		**P**	**05**	**18**	**40.6 +1.5**
	10nm,0.5s,baz=101,slow=11,SNR=42								
STKA				LR		LR	05	30	52.5
	comp=Z,418nm,18.0s,baz=200,slow=33								
STKA	**Stephens Creek**	**34.62**	**257**	P		**P**	**05**	**18**	**40.8 +1.7**
	baz=36,SNR=21								
STKA	**Stephens Creek**	**34.62**	**257**	*e*P		**P**	**05**	**18**	**40.3 +1.2**
	1.9nm,0.6s								
RKT	**Rikitea**	**38.76**	**90**	*e*T		T	06	00	28.7
	1.5nm,0.3s								
QIS	**Mount Isa**	**39.48**	**274**	P		**P**	**05**	**19**	**20.8 +0.3**
	baz=40,SNR=3.3								
AS31	**Alice Springs**	**43.27**	**267**	*e*P		**P**	**05**	**19**	**50.5 -1.1**
ASAR	**Alice Springs**	**43.27**	**267**	P		**P**	**05**	**19**	**50.5 -1.0**
	2.9nm,0.4s,baz=104,slow=7.5,SNR=72								
ASAR				ScP		**ScP**	**05**	**25**	**33.8 +6.6**
	0.6nm,0.7s,baz=118,slow=4.3,SNR=4.9								
ASAR				LR		LR	05	37	17.0
	comp=Z,127nm,18.2s,baz=155,slow=35								
WRAB	**Tennant Creek**	**44.25**	**272**	*e*P		**P**	**05**	**19**	**58.2 -1.2**
	11nm,0.6s								
WRA	**Warramunga Arr**	**44.26**	**272**	P		**P**	**05**	**19**	**58.5 -1.0**
	10nm,0.3s,baz=111,slow=8.0,SNR=284								
WRA				PKiKP		**PKiKP**	**05**	**28**	**42.6 -1.3**
	0.2nm,0.7s,baz=102,slow=0.7,SNR=4.7								
FORT	**Forrest**	**46.19**	**255**	P		**P**	**05**	**20**	**14.4 -0.3**
	baz=47,SNR=8.6								
WRKA	**Warakurna**	**47.63**	**263**	P		**P**	**05**	**20**	**25.3 -0.8**
	baz=49,SNR=4.3								
JAY	**Jayapura**	**48.06**	**297**	LR		LR	05	39	02.4
	comp=Z,83nm,18.6s,baz=236,slow=34								
VNDA	**Vanda**	**48.06**	**186**	P		P	05	20	32.5 +3.9
	0.6nm,0.5s,baz=0.8,slow=7.7,SNR=10								
KNRA	**Kununurra**	**50.87**	**274**	P		**P**	**05**	**20**	**49.9 -0.8**
	baz=52,SNR=9.0								
CASY	**Casey**	**55.17**	**208**	*e*P		**P**	**05**	**21**	**22.1 +0.4**
	4.7nm,0.6s								
MEEK	**Meekatharra**	**55.33**	**257**	P		**P**	**05**	**21**	**23.0 -0.6**
	baz=56,SNR=3.6								
MORW	**Morawa**	**56.67**	**253**	P		**P**	**05**	**21**	**31.8 -1.3**
	baz=58,SNR=3.3								
BATI	**Baumata**	**57.81**	**277**	LR		LR	05	45	08.3
	comp=Z,213nm,19.4s,baz=126,slow=34								
QSPA	**South Pole Qui**	**59.66**	**180**	P		P	05	21	56.7 +3.2
	2.3nm,0.5s,baz=314,slow=0.5,SNR=24								
QSPA	**South Pole Qui**	**59.66**	**180**	*e*P		P	05	21	56.5 +2.9
	6.4nm,0.5s								
MAW	**Mawson**	**72.32**	**201**	P		**P**	**05**	**23**	**16.2 +1.6**
	2.0nm,0.7s,baz=95,slow=4.4,SNR=3.8								
SNAA	**Sanae**	**78.10**	**178**	P		**P**	**05**	**23**	**49.2 +1.3**
VNA3	**Neumayer Olymp**	**78.25**	**176**	P		**P**	**05**	**23**	**49.8 +1.2**
VNA2	**Neumayer--Watz**	**78.68**	**177**	P		**P**	**05**	**23**	**52.8 +1.7**
	baz=180,slow=4.9								
PETK	**Petropavlovsk-**	**85.90**	**345**	P		**P**	**05**	**24**	**27.4 -1.2**
	2.9nm,0.8s,baz=121,slow=9.8,SNR=4.4								
NVAR	**Mina Array Bea**	**88.17**	**43**	P		**P**	**05**	**24**	**40.6 +0.3**
	0.4nm,0.3s,baz=220,slow=8.3,SNR=4.3								
ILAR	**Eielson Array**	**97.94**	**13**	P		**P**	**05**	**25**	**23.2 -1.3**
	0.4nm,0.9s,baz=211,slow=6.8,SNR=4.2								
MKAR	**Makanchi Array**	**117.92**	**310**	PKP		**PKPdf**	**05**	**30**	**34.5 -1.0**
	0.3nm,0.5s,baz=228,slow=32,SNR=7.5								
KKAR	**Karatay Array**	**125.23**	**304**	*e*PKPdf		**PKPdf**	**05**	**30**	**48.6 -0.9**
H10S2	**ASCENSION HYDR**	**137.61**	**155**	T		T	08	05	47.7
	baz=204,slow=75,SNR=68								
H10S3	**ASCENSION HYDR**	**137.61**	**155**	T		T	08	05	47.1
	baz=204,slow=75,SNR=66								
H10S1	**ASCENSION HYDR**	**137.63**	**155**	T		T	08	05	45.2
	baz=204,slow=75,SNR=84								
ARCES	**ARCESS Array B**	**138.67**	**348**	PKhKP		PKPpre	05	31	05.6
	3.6nm,0.9s,baz=48,slow=2.8,SNR=6.8								
ARCES				PKP		**PKPdf**	**05**	**31**	**14.0 -0.1**
	2.6nm,0.8s,baz=46,slow=1.7,SNR=6.8								
H10N3	**ASCENSION HYDR**	**138.70**	**154**	T		T	08	07	11.9
	baz=202,slow=75,SNR=36								
H10N1	**ASCENSION HYDR**	**138.70**	**154**	T		T	08	07	05.9
	baz=202,slow=75,SNR=34								
H10N2	**ASCENSION HYDR**	**138.72**	**154**	T		T	08	07	06.2
	baz=202,slow=75,SNR=36								
FINES	**FINESS Array B**	**145.25**	**340**	PKP		**PKPbc**	**05**	**31**	**24.4 -1.4**
	7.3nm,0.4s,baz=71,slow=3.5,SNR=156								
KBZ	**Khabaz**	**145.27**	**304**	PKPbc		**PKPbc**	**05**	**31**	**26.1 -0.3**
	1.5nm,0.6s,baz=56,slow=24,SNR=5.2								
NB2	**NORSAR Subarra**	**148.82**	**352**	PKP		**PKPbc**	**05**	**31**	**35.1 -0.9**
	comp=Z,1.1nm,0.5s,baz=12,slow=2.6								
NOA	**NORSAR Array B**	**148.82**	**352**	PKPbc		**PKPbc**	**05**	**31**	**35.3 -0.7**
	comp=Z,0.5nm,0.4s,baz=57,slow=1.4,SNR=10.0								
HFS	**Hagfors**	**149.32**	**349**	PKPbc		**PKPbc**	**05**	**31**	**36.1 -1.1**
	comp=Z,2.8nm,0.5s,baz=46,slow=4.3,SNR=14								
AKASG	**Malin Array Be**	**151.44**	**323**	PKPbc		**PKPbc**	**05**	**31**	**41.5 -1.0**
	comp=Z,2.2nm,0.5s,baz=48,slow=2.6,SNR=17								
AK01	**Malin Array Si**	**151.45**	**323**	*e*PKPbc		**PKPbc**	**05**	**31**	**41.9 -0.7**
KIEV	**Kiev**	**151.45**	**323**	*e*PKPbc		**PKPbc**	**05**	**31**	**41.7 -0.9**
AK02	**Malin Array Si**	**151.47**	**323**	*e*PKPbc		**PKPbc**	**05**	**31**	**41.7 -0.9**
BR131	**Keskin Array S**	**152.76**	**298**	*e*PKPbc		**PKPbc**	**05**	**31**	**45.6 -0.5**
BR131				*e*PKPab		**PKPab**	**05**	**31**	**57.0 -0.2**
BRTR	**Keskin Array B**	**152.76**	**298**	PKPbc		**PKPbc**	**05**	**31**	**45.1 -1.0**
	comp=Z,1.2nm,0.5s,baz=154,slow=7.8,SNR=8.6								
BRTR				PKPab		**PKPab**	**05**	**31**	**56.5 -0.6**
	comp=Z,1.1nm,0.6s,baz=188,slow=2.5,SNR=4.3								
CLL	**Collm**	**157.66**	**342**	*e*PKPab		**PKPab**	**05**	**32**	**19.0 +1.6**
TOA0	**Torodi Ar. Sit**	**162.78**	**178**	*e*PKPab		**PKPab**	**05**	**32**	**42.3 +1.7**
TORD	**Torodi Ar. Bea**	**162.78**	**178**	PKP		**PKPdf**	**05**	**31**	**53.4 +1.6**
	comp=Z,0.5nm,0.8s,baz=158,slow=0.8,SNR=3.1								
TORD				PKPab		**PKPab**	**05**	**32**	**41.9 +1.4**
	comp=Z,1.0nm,0.5s,baz=174,slow=2.6,SNR=13								

MAN 02 05:34:33,13°26N×120°75E,h29km,mb4.1,ML2.9,MS2.6, 1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.31**	**40**	⇑*i*P		*i*	Pn	05 34 42.8	+1.1
PGP				*e*S		*e*	Sn	05 34 49.8	+2.5
LUBP	**Lubang**	**0.68**	**314**	*e*P		*e*	Pn	05 34 47.1	+0.4
LUBP				*e*S		*e*	Sn	05 34 58.0	+1.7
SJMP	**San Jose**	**0.88**	**156**	*e*P		*e*	Pb	05 34 49.8	+0.1
SJMP				*e*S		*e*	Sn	05 35 02.5	+1.3

WEL 02 05:35:20.6±1.0,36°18S×177°44E,h12km,ML4.0/5,1C, Error ellipse: s-maj=8.8km s-min=5.7km az=0.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUZ	**Kuaotunu**	**1.50**	**247**	PN		Pn	Pn	05 35 46.2	-1.1
KUZ				*e*SN		Sn	Sn	05 36 04.5	-2.2
KUZ				AML		AML	AML	05 36 07.1	
MXZ	**Matakaoa Point**	**1.55**	**154**	⇑P*		Pn	Pn	05 35 45.7	-2.3
MXZ				*e*S*		Sn	Sn	05 36 03.9	-4.1
MXZ				AML		AML	AML	05 36 10.4	
MXZ				T		T	T	05 37 08.7	
HAZ	**Te Kaha**	**1.60**	**170**	P*		Pn	Pn	05 35 47.1	-1.6
HAZ				*e*S*		Sn	Sn	05 36 05.8	-3.5
HAZ				T		T	T	05 37 07.4	
WMGZ	**Waiomatatini S**	**1.82**	**155**	*e*PN		Pn	Pn	05 35 51.1	-0.6
PUZ	**Puketiti**	**2.00**	**161**	PN		Pn	Pn	05 35 54.7	+0.4
PUZ				AML		AML	AML	05 36 22.5	
PUZ				AML		AML	AML	05 36 27.3	
PUZ				T		T	T	05 37 20.8	
MKAZ	**Moumakai**	**2.05**	**242**	PN		Pn	Pn	05 35 54.7	-0.2
URZ	**Urewera**	**2.10**	**187**	*e*P*		Pn	Pn	05 35 55.6	+0.1
URZ				AML		AML	AML	05 36 27.3	
URZ				AML		AML	AML	05 36 38.4	
URZ				T		T	T	05 37 24.8	
MWZ	**Matawai**	**2.16**	**178**	P*		Pn	Pn	05 35 56.0	-0.4
MWZ				AML		AML	AML	05 36 29.9	
MWZ				AML		AML	AML	05 36 43.9	
MWZ				T		T	T	05 37 22.1	
HIZ	**Hauiti**	**3.11**	**221**	*e*PN		Pn	Pn	05 36 10.1	+0.6

*SJA **02** 05:35:55.3±0.4,36°.20S×66°.97W,h18km,ML3.4,MW3.7*
*ISCJB **02** 05:36:03.6±0.9,34°.94S±0°.04×72°.0W±0°.1,h56km±10km, mb4.2/2,Error ellipse: s-maj=16.7km s-min=6.1km az=12.1*
*GUC **02** 05:36:04.0±0.7,34°.88S×71°.91W,h36km±2km,ML4.0*
*NEIC **02** 05:36:04.0,34°.87S×71°.90W,h36km,mb4.3/2,After GUC.*
NEIC Felt [III] at Curico, Linares and Santa Cruz; [II] at Parral, Rancagua, San Fernando, San Javier and Talca.

ISC 02 05:36:04.2±1.4,34°.91S±0°.04×72°.0W±0°.1,h48km±13km, n26,σ1°.41/34,7C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.55**	**152**	⇑*i*P		**Pn**	**Pn**	**05 36 15.8**	**-0.1**
TALC				*i*	S	**Sn**	**Sn**	**05 36 24.0**	**-0.4**
NICH	**Los Niches**	**0.60**	**99**	⇓*i*P		**Pn**	**Pn**	**05 36 15.7**	**-0.9**
NICH				*i*	S	**Sn**	**Sn**	**05 36 24.2**	**-1.3**
LNCH	**Linares**	**0.97**	**163**	*e*P		**Pn**	**Pn**	**05 36 23.1**	**+1.6**
LNCH				*e*	S	**Sn**	**Sn**	**05 36 36.2**	**+1.9**
TACH	**Talagante**	**1.51**	**34**	⇑*i*P		**Pn**	**Pn**	**05 36 29.2**	**+0.3**
TACH				*i*	S	**Sn**	**Sn**	**05 36 48.5**	**+1.0**
PCH	**Pirque**	**1.75**	**43**	⇑*i*P		**Pn**	**Pn**	**05 36 32.7**	**+0.4**
PCH				*i*	S	**Sn**	**Sn**	**05 36 54.3**	**+0.8**
SAN	**Santiago**	**1.81**	**37**	*e*P		**Pn**	**Pn**	**05 36 33.3**	**+0.4**
SAN				*i*	S	**Sn**	**Sn**	**05 36 55.6**	**+0.9**
LACH	**Col Las Americ**	**1.87**	**39**	*i*P		**Pn**	**Pn**	**05 36 33.3**	**-0.6**
LACH				*i*	S	**Sn**	**Sn**	**05 36 54.4**	**0.0**
IHA	**Instituto Hidr**	**1.90**	**8**	⇓*i*P		**Pn**	**Pn**	**05 36 34.4**	**+0.2**
CLCH	**Cerro Calan**	**1.92**	**38**	⇑*i*P		**Pn**	**Pn**	**05 36 34.9**	**+0.4**
CLCH				*i*	S	**Sn**	**Sn**	**05 36 58.7**	**+1.3**
CLCH				AML		AML	AML	05 37 02.1	
	comp=N,3μm,0.4s								
CLCH				AML		AML	AML	05 37 02.6	
	comp=N,3μm,0.2s								
YECH	**El Yeso**	**1.99**	**52**	⇑*i*P		**Pn**	**Pn**	**05 36 36.2**	**+0.6**
YECH				*i*	S	**Sn**	**Sn**	**05 37 00.9**	**+1.5**
YECH				AML		AML	AML	05 37 05.2	
	comp=N,1μm,0.3s								
PEL	**Peldehue**	**2.06**	**31**	⇑*i*P		**Pn**	**Pn**	**05 36 37.1**	**+0.8**
PEL				*i*	S	**Sn**	**Sn**	**05 37 02.2**	**+1.4**
PEL				AML		AML	AML	05 37 10.8	
	comp=E,2μm,0.5s								
ROCH	**El Roble**	**2.09**	**22**	⇑*i*P		**Pn**	**Pn**	**05 36 37.3**	**+0.3**
ROCH				*i*	S	**Sn**	**Sn**	**05 37 03.6**	**+1.7**
ROCH				AML		AML	AML	05 37 11.2	
	comp=E,1μm,0.4s								
CANA	**Caviahue**	**3.05**	**167**	*e*P		Pn	Pn	05 36 54.7	+4.5
ARCO	**CERRO ARCO**	**3.25**	**51**	*e*P4		Pn	Pn	05 36 56.9	+4.0
ARCO				AML		AML	AML	05 37 49.2	
	comp=Z,62nm,0.3s								
ASAL	**Salagasta**	**3.48**	**49**	*e*P		**Pn**	**Pn**	**05 36 58.1**	**+2.1**
RTCV	**Cerro Valdivia**	**4.17**	**44**	*e*P		**Pn**	**Pn**	**05 37 06.3**	**+0.9**
RTLL	**Cerro Villicun**	**4.61**	**40**	*e*P4		**Pn**	**Pn**	**05 37 12.2**	**+0.8**
RTLL				*e*S		Sn	Sn	05 38 11.5	+7.7
AMOG	**MOGNA**	**4.92**	**37**	*e*S		Sn	Sn	05 38 19.9	+8.6
PLCA	**Paso Flores**	**5.91**	**170**	*e*Pn		**Pn**	**Pn**	**05 37 31.4**	**+2.1**
LCO	**Las Campanas**	**5.98**	**11**	Pn		**Pn**	**Pn**	**05 37 28.5**	**-1.9**
TRQA	**Tornquist**	**8.62**	**114**	*e*Pn		**Pn**	**Pn**	**05 38 07.7**	**+1.4**
PTGA	**Pitinga**	**35.80**	**21**	*e*P		**P**	**P**	**05 42 58.8**	**-0.2**
	comp=Z,1.1nm,0.4s								
SDV	**Santo Domingo**	**43.58**	**2**	*e*P		**P**	**P**	**05 44 03.7**	**-0.2**
	comp=Z,11nm,1.6s								
BRVK	**Borovoye**	**147.82**	**44**	*e*PKPdf		**PKPdf**	**PKPdf**	**05 55 38.9**	**-1.4**
KKAR	**Karatay Array**	**149.91**	**63**	*e*PKPdf		**PKPdf**	**PKPdf**	**05 55 40.1**	**-4.0**
EKS2	**Erkin-Say**	**152.33**	**63**	*e*PKPbc		**PKPbc**	**PKPbc**	**05 55 56.7**	**+2.0**

*ATH **02** 05:45:48.2,40°.18N×21°.67E,h11km±3km,MD2.8/7*
*THE **02** 05:45:48.1,40°.17N×21°.69E,h13km±2km,ML1.9/3,Error ellipse: s-maj=2.7km s-min=0.5km az=59.0*

CSEM 02 05:45:47.8±0.2,40°.16N×21°.67E,h5km,ML1.9,Error ellipse: s-maj=5.5km s-min=2.7km az=65.0,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.16**	**29**	P		Pg	Pg	05 45 51.6	+0.4
KZN				S		Sg	Sg	05 45 54.6	+1.1
KZN	**Kozani**	**0.16**	**29**	*e*PG		Pg	Pg	05 45 51.6	+0.4
KZN				*e*SG		Sg	Sg	05 45 54.6	+1.1
KZN	**Kozani**	**0.16**	**29**	P		Pg	Pg	05 45 51.6	+0.4
KZN				S		Sg	Sg	05 45 54.6	+1.1
NEST	**Nestorio**	**0.54**	**298**	P		Pg	Pg	05 45 58.5	+0.2
NEST	**Nestorio**	**0.54**	**298**	P		Pg	Pg	05 45 58.5	+0.2
LIT	**Litokhoron**	**0.63**	**95**	P		Pg	Pg	05 45 59.9	-0.1
LIT	**Litokhoron**	**0.63**	**95**	*e*PG		Pg	Pg	05 46 00.0	0.0
LIT				*e*SB		Sb	Sb	05 46 09.6	-1.0
LIT	**Litokhoron**	**0.63**	**95**	*e*Pg		Pg	Pg	05 46 00.0	0.0
LIT				*e*Sb		Sb	Sb	05 46 09.6	-1.0
THL	**Klokotos Trika**	**0.66**	**156**	P		Pg	Pg	05 46 00.2	-0.2
THL				S		Sb	Sb	05 46 10.6	-0.5
THL	**Klokotos Trika**	**0.66**	**156**	*e*PB		Pg	Pg	05 46 00.3	-0.1
THL				*e*SB		Sb	Sb	05 46 10.1	-1.0
THL	**Klokotos Trika**	**0.66**	**156**	*e*Pb		Pg	Pg	05 46 00.3	-0.1
THL				*e*Sb		Sb	Sb	05 46 10.1	-1.0
FNA	**Florina**	**0.66**	**340**	P		Pg	Pg	05 46 00.6	0.0
FNA				S		Sb	Sb	05 46 10.5	-0.9
FNA	**Florina**	**0.66**	**340**	*e*PB		Pg	Pg	05 46 00.6	0.0
FNA				*e*SB		Sg	Sg	05 46 09.7	+0.5
FNA	**Florina**	**0.66**	**340**	P		Pg	Pg	05 46 00.6	0.0
FNA				*e*Sb		Sg	Sg	05 46 09.7	+0.5
FNA				S		Sb	Sb	05 46 10.5	-0.9
MAKR	**Makrakomi, Fth**	**1.20**	**163**	*e*PB		Pb	Pb	05 46 11.1	0.0
MAKR				*e*SB		Sn	Sn	05 46 28.4	+0.3
MAKR	**Makrakomi, Fth**	**1.20**	**163**	*e*Pb		Pb	Pb	05 46 11.1	0.0
MAKR				*e*Sb		Sn	Sn	05 46 28.4	+0.3
AGG	**Agios Georgios**	**1.25**	**156**	*e*PB		Pg	Pg	05 46 11.8	0.0
AGG	**Agios Georgios**	**1.25**	**156**	*e*Pb		Pg	Pg	05 46 11.8	0.0
EVR	**Evrytania**	**1.25**	**175**	*e*PG		Pg	Pg	05 46 11.6	-0.3
EVR				*e*SB		Sn	Sn	05 46 29.8	+0.4
EVR	**Evrytania**	**1.25**	**175**	*e*Pg		Pg	Pg	05 46 11.6	-0.3
EVR				*e*Sb		Sn	Sn	05 46 29.8	+0.4

*MOS **02** 05:53:40.8±0.7,13°.61N×92°.84E,h34km,mb4.8/18,Error ellipse: s-maj=9.7km s-min=5.4km az=124.5*
*ISCJB **02** 05:53:42.0±0.5,13°.65N±0°.03×92°.66E±0°.03,h36km±4km, mb4.4/65,MS3.5/6,Error ellipse: s-maj=4.8km s-min=3.8km az=35.9*
*IDC **02** 05:53:43.0±0.5,13°.55N×92°.78E,h35km±2km,mb4.0/26, mb1 4.1/28,mb1mx4.1/33,mbtmp4.2/28,ML4.1/2,MS3.5/6, Ms1 3.5/6,ms1mx3.2/43,Error ellipse: s-maj=15.8km s-min=9.2km az=48.0*
*NEIC **02** 05:53:43.1±0.2,13°.63N×92°.75E,h35km,mb4.5/6,Error ellipse: s-maj=6.3km s-min=4.2km az=225.0*
*SZGRF **02** 05:53:44.1,13°.76N×93°.33E,h44km,mb4.7,Andaman Islands, India, region*
*BJI **02** 05:53:44.1,13°.68N×92°.81E,h36km,mb4.2/25,mB4.4/16, Ms3.8/15,Ms7 3.6/13*
*DJA **02** 05:53:46.9±0.7,14°N±6°×9°3E±°,h100km±17km,M4.8/9, mb4.7/9,mB5.9/2,MLv4.9/2,Mw(mB)5.5/2*
*BKK **02** 05:53:48.0±0.5,14°N±4°×9°3E±°,h10km,M4.5/13,mB5.0/9, mb4.6/13,MLv4.7/9,Mw(mB)4.4/9*

ISC 02 05:53:43.3±0.4,13°55N±0°.04×92°70E±0°.04,h33km±1km, h33km:pP-P,n236,σ1°42/281,mb4.5/65,MS3.6/6,21C-19D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.43**	**149**	*e*P		**Pn**	**Pn**	**05 55 06.7**	**-1.0**
	comp=E,59nm,0.8s,comp=E,655nmcomp=E,0.2nm								
DGPR				*e*S		**Sn**	**Sn**	**05 54 03.0**	**+3.1**
PBA	**Port Blair**	**1.88**	**179**	*e*P		Pb	Pb	05 54 15.8	-1.3
PBA				*e*S		Sb	Sb	05 54 39.7	-0.6
PBA				AML		AML	AML	05 54 44.4	
	comp=N,8μm,0.6s								
PBA				AML		AML	AML	05 54 45.1	
	comp=E,6μm,0.4s								
KHLT	**Khaolaem Dam**	**5.84**	**77**	P		**Pn**	**Pn**	**05 55 06.7**	**-1.0**
	comp=E,59nm,0.8s,comp=E,655nmcomp=E,0.2nm								
SRDT	**SRDT**	**6.28**	**82**	P		**Pn**	**Pn**	**05 55 13.1**	**-0.6**
	comp=E,213nm,0.7s,comp=E,11μmcomp=E,0.7nm								
CMBY	**CAMPBELL BAY**	**6.61**	**169**	*e*P		**Pn**	**Pn**	**05 55 19.9**	**+1.6**
CMBY				*e*S		**Sn**	**Sn**	**05 56 31.1**	**-1.3**
CMBY				AML		AML	AML	05 56 38.9	
	comp=E,480nm,0.5s								
CMBY				AML		AML	AML	05 56 41.0	
	comp=N,443nm,0.5s								
MHMT	**Maesarieng**	**6.81**	**47**	P		**Pn**	**Pn**	**05 55 21.5**	**+0.4**
	comp=N,34nm,0.9s,comp=N,537nmcomp=N,0.2nm								
SURT	**Suratani**	**7.52**	**127**	P		**Pn**	**Pn**	**05 55 33.1**	**+2.4**
	comp=N,20nm,1.2s,comp=N,285nmcomp=N,0.1nm								
CMAR	**Chiang Mai Arr**	**7.73**	**50**	Pn		**Pn**	**Pn**	**05 55 31.5**	**-2.2**
	comp=N,0.7nm,0.3s,baz=241,slow=15,SNR=13								
CMAR				Sn		Sn	Sn	05 56 51.4	-8.8
	comp=N,4.4nm,0.3s,baz=239,slow=27,SNR=13								
CMAR				LR		LR	LR	05 58 44.5	
	comp=N,269nm,21.8s,baz=258,slow=39								
PKDT	**Phuket**	**7.89**	**135**	P		Pn	Pn	05 55 39.3	+3.5
	comp=N,36nm,1.0s,comp=N,4μmcomp=N,0.2nm								
CHTO	**Chiang Mai**	**7.96**	**48**	*e*P		**Pn**	**Pn**	**05 55 34.5**	**-2.3**
CHTO				*e*				05 56 54.2	
CHTO	**Chiang Mai**	**7.96**	**48**	*e*Pn		**Pn**	**Pn**	**05 55 34.5**	**-2.3**
CHTO				*e*Sn		Sn	Sn	05 56 54.2	-12
CMMT	**Chiang Mai**	**7.96**	**48**	P		**Pn**	**Pn**	**05 55 38.4**	**+1.6**
	comp=N,33nm,0.8s,comp=N,538nmcomp=N,0.2nm								
LAMP	**Lampang**	**8.29**	**53**	P		Pn	Pn	05 55 49.2	+7.8
BSI	**Banda Aceh**	**8.40**	**162**	P		Pn	Pn	05 55 47.8	+4.9
UTTA	**Uttaradit**	**8.63**	**60**	P		Pn	Pn	05 56 01.9	+16
CMAI	**Chiengmai2**	**8.78**	**43**	P		**Pn**	**Pn**	**05 55 50.2**	**+1

CD2					LZ						
	comp=Z,110nm,10.8s										
NDI	**New Delhi**	**20.83**	**319**	*eP*		**Pn**	05 58 32.0	+7.1			
NDI				*eS*		S	06 02 02.0	-11			
KSM	**Kuching**	**21.15**	**123**	*eP*		**P**	**05 58 27.6**	**+1.7**			
	comp=Z,15nm,0.7s										
SMLA	**Simla**	**22.59**	**323**	*eP*		**P**	**05 58 40.1**	**-1.0**			
ENH	**Enshi**	**22.74**	**40**	*eP*		**P**	**05 58 41.8**	**-1.0**			
	comp=Z,13nm,0.8s										
DHRM	**DHARAMSHALA**	**23.91**	**324**	*eP*		**P**	**05 58 54.6**	**0.0**			
LZH	**Lanzhou**	**24.57**	**22**	*eP*		**P**	**05 59 01.1**	**+0.6**			
LZH					pP	**pP**	**05 59 10.1**	**+0.1**			
LZH					sP	**sP**	**05 59 13.2**	**-0.8**			
LZH				*eS*		**S**	**06 03 17.4**	**-2.1**			
LZH					sS	**sS**	**06 03 32.2**	**-2.9**			
LZH					SS	**SnSn**	**06 04 13.8**	**+7.5**			
LZH					PMZ						
	comp=Z,28nm,1.0s										
LZH					PMZ						
	comp=Z,84nm,4.1s										
LZH					LN						
	comp=Z,280nm,11.1s										
LZH					LE						
	comp=Z,350nm,12.8s										
LZH					LZ						
	comp=Z,490nm,13.6s										
XAN	**Xi'an**	**25.16**	**33**	P		**P**	**05 59 06.1**	**+0.4**			
XAN					pP	**pP**	**05 59 13.3**	**-1.8**			
XAN					PMZ						
	comp=Z,2.0nm,0.9s										
XAN					LN						
	comp=Z,62nm,11.2s										
GTA	**Gaotai**	**26.51**	**12**	*eP*		**P**	**05 59 20.9**	**+2.9**			
GTA					pP	**pP**	**05 59 30.3**	**+2.8**			
GTA					sP	**sP**	**05 59 34.2**	**+2.7**			
GTA					PMZ						
	comp=Z,5.0nm,0.9s										
H08S3	**Diego Garcia H**	**29.08**	**225**	T		T	06 29 59.7				
	baz=42,slow=75,SNR=31										
H08S2	**Diego Garcia H**	**29.09**	**225**	T		T	06 29 52.8				
	baz=42,slow=75,SNR=43										
H08S1	**Diego Garcia H**	**29.10**	**225**	T		T	06 29 50.9				
	baz=42,slow=75,SNR=20										
H08N2	**Diego Garcia H**	**29.23**	**229**	T		T	06 30 52.9				
	baz=32										
H08N1	**Diego Garcia H**	**29.23**	**229**	T		T	06 30 48.9				
	baz=32,SNR=2.7										
H08N3	**Diego Garcia H**	**29.25**	**229**	T		T	06 30 52.7				
	baz=32										
KSH	**Kashi**	**29.77**	**333**	*eP*		P	05 59 55.6	+8.4			
KSH				*es*P		sP	06 00 09.2	+8.5			
KSH					PP	**PP**	**06 00 55.7**	**+1.0**			
KSH					S	S	06 04 52.8	+11			
KSH					SS	**ScP**	**06 06 34.0**	**+3.9**			
KSH					pmax	pmax					
	comp=Z,42nm,4.6s										
KSH					LR	LR					
	comp=N,90nm,5.6s										
KSH					LR	LR					
	comp=E,85nm,5.2s										
KSH					LR	LR					
	comp=Z,120nm,8.4s										
WMQ	**Urumqi**	**30.47**	**353**	*eP*		**P**	**05 59 53.9**	**+0.7**			
WMQ					pP	**pP**	**06 00 05.3**	**+2.6**			
WMQ					PMZ						
	comp=Z,7.0nm,0.6s										
WMQ					PMZ						
	comp=Z,87nm,5.2s										
WMQ					LE						
	comp=Z,210nm,22.4s										
WMQ					LZ						
	comp=Z,170nm,23.2s										
HHC	**Hu-ho-hao-te**	**31.81**	**28**	*eP*		**P**	**06 00 06.2**	**+1.1**			
HHC					pP	**pP**	**06 00 16.1**	**+1.5**			
HHC					sP	**sP**	**06 00 19.7**	**+1.1**			
HHC					PP	**PnPn**	**06 01 12.8**	**+2.7**			
HHC					S	**S**	**06 05 13.4**	**+0.1**			
HHC					sS	**sS**	**06 05 29.0**	**-0.1**			
HHC					PMZ						
	comp=Z,20nm,0.6s										
HHC					PMZ						
	comp=Z,69nm,5.7s										
HHC					LN						
	comp=Z,370nm,13.6s										
HHC					LE						
	comp=Z,370nm,14.8s										
HHC					LZ						
	comp=Z,340nm,14.0s										
AAK	**Ala-Archa**	**32.98**	**335**	P		**P**	**06 00 16.0**	**+0.6**			
	comp=Z,0.9nm,0.4s,baz=215,slow=10,SNR=4.3										
AAK					pP	**pP**	**06 00 26.8**	**+1.9**			
	comp=Z,1.4nm,0.6s,baz=112,slow=22,SNR=2.8										
BJI	**Beijing**	**33.48**	**34**	P		**P**	**06 00 20.4**	**+0.8**			
BJI					pP	**pP**	**06 00 29.1**	**-0.1**			
BJI					PP	**PP**	**06 01 34.7**	**-1.0**			
BJI					S	**S**	**06 05 41.6**	**+2.4**			
BJI					PMZ						
	comp=Z,13nm,0.6s										
BJI					LN						
	comp=Z,100nm,13.2s										
BJI					LE						
	comp=Z,150nm,19.0s										
BJI					LZ						
	comp=Z,63nm,24.7s										
MK31	**Makanchi Array**	**34.27**	**347**	*eP*		**P**	**06 00 26.0**	**-0.5**			
MK31	**Makanchi Array**	**34.27**	**347**	*eP*		**P**	**06 00 26.0**	**-0.5**			
MKAR	**Makanchi Array**	**34.27**	**347**	P		**P**	**06 00 25.9**	**-0.5**			
	comp=Z,1.3nm,0.6s,baz=195,slow=7.5,SNR=18										
MKAR					pP	**pP**	**06 00 37.2**	**+1.3**			
	comp=Z,2.2nm,0.5s,baz=184,slow=8.1,SNR=20										
MKAR					LR	LR	06 17 53.3				
	comp=Z,52nm,18.5s,baz=166,slow=42										
MKAR	**Makanchi Array**	**34.27**	**347**	P		**P**	**06 00 25.9**	**-0.5**			
MKAR				*e**PP		**pP**	**06 00 36.8**	**+0.8**			
MKAR				*PP		**pP**	**06 00 37.3**	**+1.3**			
MKAR	**Makanchi Array**	**34.27**	**347**	P		**P**	**06 00 25.9**	**-0.5**			
MKAR				*ep*P		**pP**	**06 00 36.8**	**+0.8**			
MKAR					pP	**pP**	**06 00 37.2**	**+1.3**			
KKAR	**Karatay Array**	**35.11**	**331**	*eP*		**P**	**06 00 33.8**	**+0.1**			
KKAR	**Karatay Array**	**35.11**	**331**	*eP*		**P**	**06 00 33.8**	**+0.1**			
SONM	**Songino Array**	**36.03**	**16**	P		**P**	**06 00 41.1**	**-0.6**			
	comp=Z,0.2nm,0.3s,baz=191,slow=12,SNR=3.3										
SONM					pP	**pP**	**06 00 51.4**	**+0.1**			
	comp=Z,4.2nm,0.9s,baz=200,slow=8.9,SNR=19										
ULN	**Ulaanbaatar**	**36.24**	**16**	*eP*		**P**	**06 00 45.7**	**+2.2**			
ULN					pmax	pmax					
	comp=Z,4.0nm,1.2s										
ZAK	**Zakamensk**	**37.73**	**11**	*eP*		P	06 01 05.7	+10			
ZAK					pmax	pmax					
	comp=Z,1.0nm,1.0s										
KURBB	**Kurchatov Arra**	**38.73**	**346**	P		**P**	**06 01 03.7**	**-0.6**			
	comp=Z,2.8nm,0.7s,baz=163,slow=7.9,SNR=27										
KURBB					pP	**pP**	**06 01 14.5**	**+0.5**			
	comp=Z,6.7nm,0.8s,baz=165,slow=8.0,SNR=20										
BATI	**Baumata**	**38.74**	**126**	P		P	06 01 01.1	-3.8			
	comp=Z,34nm,0.6s,baz=278,slow=2.4,SNR=6.2										
KURK	**Kurchatov**	**38.80**	**346**	P		**P**	**06 01 03.7**	**-1.2**			
KURK				*PP		**pP**	**06 01 14.5**	**0.0**			
KURK	**Kurchatov**	**38.80**	**346**	P		**P**	**06 01 03.7**	**-1.2**			
KURK					pP	**pP**	**06 01 14.5**	**0.0**			
TLY	**Talaya**	**39.04**	**11**	*eP*		P	06 01 14.8	+7.8			
TLY					pmax	pmax					
	comp=Z,3.0nm,0.9s										
GEYT	**Alibeck**	**39.14**	**315**	P		**P**	**06 01 09.0**	**+1.0**			
	comp=Z,4.7nm,0.6s,baz=142,slow=7.5,SNR=9.0										
GEYT					pP	**pP**	**06 01 17.8**	**+0.1**			
	comp=Z,9.5nm,0.7s,baz=134,slow=6.4,SNR=8.3										
GEYT					LR	LR	06 19 23.6				
	comp=Z,64nm,18.6s,baz=230,slow=39										
KSAR	**Wonju Array Be**	**39.32**	**46**	P		**P**	**06 01 07.7**	**-1.8**			
KSAR				*PP		**pP**	**06 01 18.1**	**-1.0**			
KSAR	**Wonju Array Be**	**39.32**	**46**	P		**P**	**06 01 07.7**	**-1.8**			
KSAR					pP	**pP**	**06 01 18.1**	**-1.0**			
KSRS	**Korea Array**	**39.35**	**46**	P		**P**	**06 01 07.7**	**-2.0**			
	comp=Z,1.1nm,0.6s,baz=234,slow=8.1,SNR=4.3										
KSRS					pP	**pP**	**06 01 18.1**	**-1.2**			
	comp=Z,2.4nm,0.7s,baz=240,slow=8.4,SNR=5.3										
KSRS					LR	LR	06 17 59.2				
	comp=Z,101nm,19.2s,baz=238,slow=37										
ISRV	**Sarvestan**	**39.85**	**300**	*eP*		P	06 01 20.0	+5.6			
ZAA0	**Zalesovo Array**	**40.78**	**353**	*eP*		**P**	**06 01 20.3**	**-1.1**			
ZALV	**Zalesovo Beam**	**40.78**	**353**	P		**P**	**06 01 20.0**	**-1.3**			
	comp=Z,3.1nm,0.5s,baz=180,slow=9.1,SNR=19										
ZALV					pP	**pP**	**06 01 30.3**	**-0.7**			
	comp=Z,5.6nm,0.7s,baz=175,slow=8.0,SNR=12										
NVS	**Novosibirsk**	**41.86**	**352**	*eP*		P	06 01 37.0	+6.9			
IVRN	**Varamin**	**42.63**	**307**	*eP*		**P**	**06 01 36.0**	**-0.9**			
BVAR	**Borovoye Array**	**43.20**	**340**	P		**P**	**06 01 40.1**	**-1.0**			
	comp=Z,0.7nm,0.4s,baz=148,slow=9.4,SNR=5.6										
BVAR					pP	**pP**	**06 01 51.2**	**+0.3**			
	comp=Z,1.3nm,0.6s,baz=152,slow=7.8,SNR=6.3										
BRVK	**Borovoye**	**43.26**	**340**	*i* P		**P**	**06 01 40.3**	**-1.3**			
AKTO	**Aktyubinsk**	**46.34**	**330**	P		**P**	**06 02 05.5**	**-0.7**			
	comp=Z,3.6nm,0.5s,baz=112,slow=7.7,SNR=12										
AKTO					pP	**pP**	**06 02 16.7**	**+0.7**			
	comp=Z,4.6nm,0.5s,baz=138,slow=14,SNR=8.2										
MJAR	**Matsushiro Arr**	**46.61**	**52**	P		**P**	**06 02 07.8**	**-0.8**			
	comp=Z,0.8nm,0.6s,baz=264,slow=9.3,SNR=5.1										
MJAR					pP	**pP**	**06 02 18.0**	**-0.4**			
	comp=Z,1.6nm,0.8s,baz=276,slow=12,SNR=4.2										
GNI	**Garni**	**49.56**	**312**	P		**P**	**06 02 33.1**	**+1.6**			
	comp=Z,2.6nm,0.3s,baz=308,slow=4.1,SNR=5.4										
GNI					pP	**pP**	**06 02 42.7**	**+1.3**			
	comp=Z,3.6nm,0.3s,baz=160,slow=12,SNR=2.2										
SVE	**Sverdlovsk**	**49.64**	**337**	*i*P		**P**	**06 02 31.6**	**0.0**			
SVE				*e*S		S	06 09 30.4	-7.4			
SVE					pmax	pmax					
	comp=Z,14nm,1.1s										
ARU	**Arti**	**50.15**	**336**	*d i*P		**P**	**06 02 34.5**	**-1.0**			
ARU							06 04 26.2				
ARU					S	**S**	**06 09 46.5**	**+1.6**			
ARU					SS	**SS**	**06 13 19.9**	**+1.5**			
ARU					pmax	pmax					
	comp=Z,13nm,2.5s										
ZEI	**Tsey**	**51.02**	**315**	*eP*		**P**	**06 02 42.2**	**-0.3**			
ZEI					pmax	pmax					
	comp=Z,11nm,1.3s										
NWAO	**Narrogin (SRO)**	**51.82**	**154**	P		**P**	**06 02 47.4**	**-0.9**			
	comp=Z,8.0nm,0.5s,baz=307,slow=6.5,SNR=15										
KBZ	**Khabaz**	**52.02**	**315**	P		**P**	**06 02 50.3**	**+0.6**			
	comp=Z,0.8nm,0.5s,baz=56,slow=24,SNR=4.5										
KIV	**Kislovodsk**	**52.24**	**316**	*eP*		**P**	**06 02 51.8**	**+0.3**			
KIV				*e*			06 04 01.5				
KIV				*e*			06 04 51.7				
KIV				*e*PPP		PPP	06 05 53.9				
KIV					pmax	pmax					
	comp=Z,13nm,1.0s										
KIV					MLR	MLR					
	comp=Z,44nm,18.0s										
WRA	**Warramunga Arr**	**52.78**	**128**	P		**P**	**06 02 54.2**	**-1.5**			
	comp=Z,13nm,0.6s,baz=303,slow=10,SNR=203										
WRA					PcP	**PcP**	**06 04 04.3**	**-0.7**			
	comp=Z,2.0nm,0.5s,baz=321,slow=3.2,SNR=11										
WRAB	**Tennant Creek**	**52.78**	**128**	*c i*P		**P**	**06 02 54.1**	**-1.6**			
WRAB					pmax	pmax					
	comp=Z,116nm,2.5s										
WRAB	**Tennant Creek**	**52.78**	**128**	*eP*		**P**	**06 02 54.4**	**-1.4**			
	comp=Z,15nm,0.5s										
WRAB					*ep*P	**pP**	**06 03 05.3**	**-0.3**			
WRAB					*ep*PcP	**PcP**	**06 04 06.7**	**+1.7**			
AS31	**Alice Springs**	**54.69**	**132**	*eP*		**P**	**06 03 08.3**	**-1.4**			
AS31					*ep*P	**pP**	**06 03 19.6**	**0.0**			
ASAR	**Alice Springs**	**54.69**	**132**	P		**P**	**06 03 08.3**	**-1.3**			
	comp=Z,6.1nm,0.5s,baz=306,slow=6.6,SNR=161										
ASAR					PcP	**PcP**	**06 04 11.7**	**-0.5**			
	comp=Z,1.2nm,0.6s,baz=289,slow=2.9,SNR=4.1										
ASAR					ScP	**ScP**	**06 08 05.8**	**-2.6**			
	comp=Z,0.2nm,0.5s,baz=310,slow=4.3,SNR=4.4										
KMBO	**Kilima Mbogo**	**56.85**	**260**	LR		LR	06 25 35.8				
	comp=Z,57nm,19.0s,baz=90,slow=34										
BR131	**Keskin Array S**	**57.74**	**309**	*eP*		**P**	**06 03 30.5**	**-0.9**			
	comp=Z,4.1nm,0.7s										
BRTR	**Keskin Array B**	**57.74**	**309**	P		**P**	**06 03 30.2**	**-1.2**			
	comp=Z,5.0nm,0.8s,baz=121,slow=7.2,SNR=35										
BRTR					pP	**pP**	**06 03 41.6**	**+0.2**			
	comp=Z,3.0nm,0.9s,baz=122,slow=6.0,SNR=6.8										
PMG	**Port Moresby**	**58.66**	**110**	*eP*		**P**	**06 03 37.6**	**-0.4**			
PMG	**Port Moresby**	**58.66**	**110**	*eP*		**P**	**06 03 37.6**	**-0.4**			
OBN	**Obninsk**	**59.87**	**327**	*eP*		**P**	**06 03 45.1**	**-0.6**			
OBN				*e*			06 04 31.8				
OBN				*e*			06 05 57.5				
OBN				*e*PPP		PPP	06 07 20.7				
OBN					pmax	pmax					
	comp=Z,15nm,0.6s										
OBN					MLR	MLR					
	comp=Z,42nm,19.0s										
TLCR		**62.14**	**314**	*i*P		**P**	**06 04 01.2**	**-0.1**			
TLCR		**62.14**	**314**	*i*P		**P**	**06 04 01.2**	**-0.1**			
TIRR	**Tirgusor**	**62.31**	**313**	*i*P		**P**	**06 04 02.0**	**-0.5**			
TIRR	**Tirgusor**	**62.31**	**313**	*i*P		**P**	**06 04 02.0**	**-0.5**			
TLB	**Topalu**	**62.60**	**313**	*i*P		**P**	**06 04 03.9**	**-0.5**			
TLB	**Topalu**	**62.60**	**313**	*i*P		**P**	**06 04 03.9**	**-0.5**			
CFR	**Carcaliu**	**62.61**	**314**	*i*P		**P**	**06 04 04.4**	**-0.1**			
CFR	**Carcaliu**	**62.61**	**314**	*i*P		**P**	**06 04 04.4**	**-0.1**			
AKASG	**Malin Array Be**	**62.88**	**320**	P		**P**	**06 04 04.7**	**-1.5**			
	comp=Z,0.2nm,0.3s,baz=90,slow=4.4,SNR=8.6										
AKASG					pP	**pP**	**06 04 15.6**	**-0.7**			
	comp=Z,1.0nm,0.6s,baz=82,slow=6.1,SNR=3.2										
KIEV	**Kiev**	**62.89**	**320**	*eP*		**P**	**06 04 05.3**	**-0.9**			
VRI	**Vrincioaia**	**63.69**	**315**	*i*P		**P**	**06 04 12.4**	**+0.7**			
VRI	**Vrincioaia**	**63.69**	**315**	*i*P		**P**	**06 04 12.4**	**+0.7**			
PLOR	**Plostina**	**63.74**	**315**	*i*P		**P**	**06 04 12.9**	**+0.8**			
PLOR	**Plostina**	**63.74**	**315**	*i*P		**P**	**06 04 12.9**	**+0.8**			
TESR	**Tescani**	**63.83**	**315**	*i*P		**P**	**06 04 12.4**	**-0.2**			
KDZ	**Kurdzhali**	**64.18**	**310**	*i*P		**P**	**06 04 15.1**	**+0.1**			
KDZ	**Kurdzhali**	**64.18**	**310**	*i*P		**P**	**06 04 15.1**	**+0.1**			
MLR	**Muntele Rosu**	**64.19**	**314**	*i*P		**P**	**06 04 15.7**	**+0.6**			
MLR	**Muntele Rosu**	**64.19**	**314**	*i*P		**P**	**06 04 15.7**	**+0.6**			
PETK	**Petropavlovsk-**	**64.31**	**37**	pP		pP	06 04 25.6	-0.1			
	comp=Z,2.1nm,0.9s,baz=199,slow=2.8,SNR=2.4										
VOIR		**64.81**	**314**	*i*P		**P**	**06 04 19.5**	**+0.4**			
VOIR		**64.81**	**314**	*i*P		**P**	**06 04 19.5**	**+0.4**			
BURAR	**Bucovina Array**	**64.95**	**316**	*i*P		**P**	**06 04 20.2**	**+0.2**			
BURAR	**Bucovina Array**	**64.95**	**316**	*i*P		**P**	**06 04 20.2**	**+0.2**			
BUR08	**Bucovina Ar. S**	**64.97**	**316**	*eP*		**P**	**06 04 20.0**	**-0.1**			
STKA	**Stephens Creek**	**65.06**	**135**	P		**P**	**06 04 19.9**	**-0.9**			
	comp=Z,6.9nm,0.7s,baz=307,slow=6.5,SNR=13										
STKA					pP	**pP**	**06 04 29.9**	**-1.1**			
	comp=Z,1.7nm,0.4s,baz=320,slow=5.2,SNR=2.9										
ARR	**Arges**	**65.09**	**314**	*i*P		**P**	**06 04 20.5**	**-0.4**			
DRGR		**66.56**	**315**	*i*P		**P**	**06 04 30.7**	**+0.3**			
DRGR		**66.56**	**315**	*i*P		**P**	**06 04 30.7**	**+0.3**			
KOLS	**Kolonicke sedl**	**67.06**	**318**	*eP*		**P**	**06 04 34.6**	**+1.2**			
KOLS					pmax	pmax					
	comp=Z,3.0nm,1.3s										
KOLS	**Kolonicke sedl**	**67.06**	**318**	*eP*		**P**	**06 04 34.6**	**+1.2**			
FINES	**FINESS Array B**	**67.07**	**331**	P		**P**	**06 04 32.3**	**-0.9**			
	comp=Z,4.2nm,0.9s,baz=114,slow=6.3,SNR=14										
FINES					pP	**pP**	**06 04 42.6**	**-0.8**			
	comp=Z,2.9nm,0.6s,baz=115,slow=8.6,SNR=4.0										
CRVS	**Cervenica-Dubn**	**67.59**	**317**	*eP*		**P**	**06 04 37.1**	**+0.3**			
CRVS					pmax	pmax					
	comp=Z,5.0nm,1.0s										
CRVS	**Cervenica-Dubn**	**67.59**	**317**	*eP*		**P**	**06 04 37.1**	**+0.3**			
KECS	**Kecovo**	**68.20**	**317**	*eP*		**P**	**06 04 40.4**	**-0.2**			
KECS					pmax	pmax					
	comp=Z,2.0nm,0.9s										
KECS	**Kecovo**	**68.20**	**317**	*eP*		**P**	**06 04 40.4**	**-0.2**			
DIVS	**Divibare**	**68.30**	**312**	*i*P		**P**	**06 04 40.5**	**-1.0**			
VYHS	**Vyhne**	**69.29**	**317**	*eP*		**P**	**06 04 47.1**	**-0.3**			
VYHS					pmax	pmax					
	comp=Z,2.0nm,1.3s										
VYHS	**Vyhne**	**69.29**	**317**	*eP*		**P**	**06 04 47.1**	**-0.3**			
PKSM	**Moragy**	**69.33**	**314**	*i*P		**P**	**06 04 46.7**	**-1.0**			
PKSM	**Moragy**	**69.33**	**314**	*i*P		**P**	**06 04 46.7**	**-1.0**			
ARCES	**ARCESS Array B**	**69.48**	**340**	P		**P**	**06 04 47.7**	**-0.5**			
	comp=Z,2.2nm,0.6s,baz=86,slow=6.4,SNR=11										
ARCES					pP	**pP**	**06 04 58.6**	**+0.1**			
	comp=Z,2.0nm,0.5s,baz=98,slow=7.1,SNR=1.5										
MORC	**Moravsky Berou**	**70.20**	**318**	*i*P		**P**	**06 04 52.9**	**-0.2**			
MORC	**Moravsky Berou**	**70.20**	**318**	*i*P		**P**	**06 04 52.9**	**-0.2**			
DPC	**Dobruska-Polom**	**71.01**	**319**	*eP*		**P**	**06 04 56.5**	**-1.5**			
DPC				*ex*		x	06 05 18.4				
DPC	**Dobruska-Polom**	**71.01**	**319**	*eP*		**P**	**06 04 56.5**	**-1.5**			
DPC				*e*			06 05 18.4				
BILL	**Bilibino**	**71.39**	**22**	*de*P		P	06 05 08.4	+8.6			
BILL				*e*			06 05 19.9				
BILL				*e*			06 07 34.2				
BILL				*e*S		S	06 14 07.6	-7.9			
BILL					pmax	pmax					
	comp=Z,4.0nm,1.7s										
GOPC	**GO Pecny, Ondr**	**71.99**	**318**	*eP*		**P**	**06 05 03.6**	**-0.2**			
BRG	**Berggiesshubel**	**72.53**	**319**	*i* P		**P**	**06 05 06.8**	**-0.2**			
	comp=Z,4.2nm,0.8s										
BRG				*e*			06 05 20.0				
	comp=Z,3.3nm,0.9s										
BRG	**Berggiesshubel**	**72.53**	**319**	*eP*		**P**	**06 05 06.8**	**-0.2**			
	comp=Z,4.0nm,0.8s										
BRG	**Berggiesshubel**	**72.53**	**319**	*i* P		**P**	**06 05 06.8**	**-0.2**			
BRG				*e*			06 05 20.0				
BRG					pmax	pmax					
	comp=Z,4.0nm,0.8s										
GEC2	**GERESS Array S**	**72.70**	**317**	*eP*		**P**	**06 05 08.0**	**-0.2**			
	comp=Z,7.0nm,1.1s										
GEC2				*ep*P		**pP**	**06 05 20.7**	**+2.2**			
GERES	**GERESS Array B**	**72.70**	**317**	P		**P**	**06 05 07.8**	**-0.4**			
	comp=Z,3.8nm,0.7s,baz=88,slow=5.8,SNR=42										
GERES					pP	**pP**	**06 05 18.8**	**+0.3**			
	comp=Z,2.2nm,0.8s,baz=88,slow=5.0,SNR=7.8										
CLL	**Collm**	**73.12**	**320**	*eP*		**P**	**06 05 09.0**	**-1.5**			
CLL				*es*P		**sP**	**06 05 23.0**	**-1.6**			
CLL	**Collm**	**73.12**	**320**	*eP*		**P**	**06 05 09.0**	**-1.5**			
CLL				*e*			06 05 23.0				
WET	**Wettzell**	**73.24**	**318**	*eP*		**P**	**06 05 11.0**	**-0.3**			
	comp=Z,96nm,3.6s										
RJOB	**Jochberg**	**73.33**	**316**	*eP*		**P**	**06 05 12.0**	**+0.1**			
	comp=Z,3.0nm,0.9s										
MOX	**Moxa**	**74.01**	**319**	*eP*		**P**	**06 05 15.6**	**-0.2**			
	comp=Z,14nm,1.8s										
SPITS	**Spitsbergen Ar**	**74.03**	**348**	P		**P**	**06 05 14.4**	**-1.0**			
	comp=Z,2.9nm,0.9s,baz=126,slow=8.3,SNR=5.8										
SPITS					pP	**pP**	**06 05 25.7**	**0.0**			
	comp=Z,2.0nm,0.7s,baz=117,slow=6.8,SNR=1.1										
NB2	**NORSAR Subarra**	**74.13**	**330**	P		**P**	**06 05 14.8**	**-1.5**			
	comp=Z,1.1nm,0.6s,baz=89,slow=6.2										
NOA	**NORSAR Array B**	**74.13**	**330**	P		**P**	**06 05 15.1**	**-1.2**			
	comp=Z,1.0nm,0.5s,baz=90,slow=5.8,SNR=5.8										
NOA					pP	**pP**	**06 05 25.1**	**-1.6**			
	comp=Z,1.2nm,0.7s,baz=90,slow=6.0,SNR=3.2										
WTTA	**Wattenberg**	**74.14**	**316**	*i*P		**P**	**06 05 15.5**	**-1.3**			
	comp=Z,4.1nm,0.5s										
WATA	**Walderalm**	**74.18**	**316**	*i*P		**P**	**06 05 15.6**	**-1.4**			
	comp=Z,2.1nm,0.5s										
GRF	**Grafenberg Arr**	**74.30**	**318**	*eP*		**P**	**06 05 17.3**	**-0.2**			
	comp=Z,30nm,2.1s										
GRF				*ep*P		**pP**	**06 05 29.5**	**+1.7**			
MOTA	**Moosalm**	**74.50**	**316**	*i*P		**P**	**06 05 17.2**	**-1.7**			
	comp=Z,3.0nm,0.7s										
RETA	**Reutte**	**74.72**	**316**	*i*P		**P**	**06 05 18.7**	**-1.4**			
	comp=Z,3.6nm,0.5s										
CLZ	**Clausthal**	**74.75**	**320**	*eP*		**P**	**06 05 19.8**	**-0.3**			
	comp=Z,5.0nm,1.1s										
FETA	**Feichten**	**74.77**	**315**	*i*P		**P**	**06 05 19.6**	**-0.9**			
	comp=Z,1.4nm,0.6s										
DAVA	**Damuels**	**75.33**	**316**	*i*P		**P**	**06 05 23.1**	**-0.6**			
	comp=Z,6.0nm,0.6s										
TNS	**Taunus Mts**	**76.06**	**319**	*eP*		**P**	**06 05 27.4**	**-0.3**			
	comp=Z,6.0nm,

az=72.0
*ISCJB **02** 06:09:05.1±0.5, 32.97N±0.05×142.10E±0.07, h40km, mb3.8/17, Error ellipse: s-maj=9.6km s-min=5.0km az=147.1*

ISC 02 06:09:07.0±0.6, 32.97N±0.05×142.14E±0.08, h40km, n35, σ1°72/45, mb3.7/17, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.94**	**330**	P			**Pn**	**06 09 35.3**	**-1.6**
BSO1				S			**Sn**	**06 09 59.1**	**-0.7**
JHJ2	**Mitsune**	**1.95**	**275**	P			**Pn**	**06 09 36.8**	**-0.8**
JHJ2				S			**Sn**	**06 10 01.7**	**+0.8**
JHJ2	**Mitsune**	**1.95**	**275**	*e*Pn			**Pn**	**06 09 36.3**	**-1.3**
JHJ2				Sn			**Sn**	**06 10 01.9**	**+1.0**
JHCJ	**Hachijoimakas**	**1.97**	**274**	P			**Pn**	**06 09 37.0**	**-0.8**
BSO3	**Boso 3**	**2.27**	**324**	P			**Pn**	**06 09 40.2**	**-1.6**
BSO3				S			**Sn**	**06 10 08.0**	**-0.5**
BSO4	**Boso 4**	**2.51**	**324**	P			**Pn**	**06 09 44.5**	**-0.7**
JOD2	**Odawara 2**	**3.41**	**313**	P			**Pn**	**06 09 55.7**	**-2.0**
JRY	**Ryogami san**	**4.05**	**320**	P			**Pn**	**06 10 05.7**	**-0.7**
JRY				S			**Sn**	**06 10 52.0**	**-0.6**
JAG	**Ashikaga**	**4.10**	**328**	P			**Pn**	**06 10 06.0**	**-1.1**
JFT	**Otama**	**4.77**	**343**	P			**Pn**	**06 10 14.8**	**-1.6**
JFT				S			**Sn**	**06 11 06.2**	**-4.2**
MJAR	**Matsushiro Arr**	**4.81**	**319**	Pn			**Pn**	**06 10 16.5**	**-0.4**
	2.2nm,0.3s,baz=146,slow=12,SNR=20								
MJAR				Sn			**Sn**	**06 11 09.6**	**-1.8**
	1.5nm,0.3s,baz=140,slow=20,SNR=7.2								
MAJO	**Matsushiro**	**4.81**	**319**	*e*Pn			**Pn**	**06 10 17.1**	**+0.1**
MAJO				*e*Sn			**Sn**	**06 11 10.9**	**-0.6**
MAT	**Matsushiro**	**4.81**	**319**	P			**Pn**	**06 10 16.4**	**-0.6**
MAT				S			**Sn**	**06 11 06.9**	**-4.6**
CBIJ	**Chichi jima**	**5.85**	**180**	Pn			**Pn**	**06 10 28.9**	**-2.3**
CBIJ				Sn			**Sn**	**06 11 32.5**	**-4.6**
JCJ	**Chichijima**	**5.85**	**180**	Pn			**Pn**	**06 10 28.9**	**-2.3**
	38nm,0.3s,baz=74,slow=23,SNR=124								
JCJ				Sn			**Sn**	**06 11 32.5**	**-4.6**
	29nm,0.3s,baz=103,slow=17,SNR=6.8								
ASAJ	**Asahikawa**	**11.14**	**2**	Pn			Pn	06 11 40.1	-3.5
	0.9nm,0.3s,baz=213,slow=15,SNR=8.3								
ASAJ				Sn			Sn	06 13 37.1	-10
	0.3nm,0.3s,baz=302,slow=28,SNR=2.3								
SONM	**Songino Array**	**30.69**	**310**	P			**P**	**06 15 19.0**	**+1.1**
	1.1nm,0.9s,baz=113,slow=9.6,SNR=6.0								
ZALV	**Zalesovo Beam**	**45.16**	**315**	P			**P**	**06 17 18.8**	**-0.7**
	0.4nm,0.5s,baz=88,slow=4.8,SNR=3.5								
MKAR	**Makanchi Array**	**46.87**	**306**	P			**P**	**06 17 33.6**	**+0.4**
	0.7nm,0.8s,baz=116,slow=2.8,SNR=7.9								
ILAR	**Eielson Array**	**52.64**	**31**	P			**P**	**06 18 16.8**	**+0.1**
	0.5nm,0.9s,baz=261,slow=5.9,SNR=5.8								
WRAB	**Tennant Creek**	**53.13**	**189**	*e*P			**P**	**06 18 20.1**	**-0.7**
	23nm,1.8s								
WRA	**Warramunga Arr**	**53.14**	**189**	P			**P**	**06 18 20.8**	**0.0**
	2.5nm,0.5s,baz=6.2,slow=7.6,SNR=33								
EKS2	**Erkin-Say**	**53.53**	**302**	*e*P			**P**	**06 18 23.9**	**+0.1**
	1.6nm,0.3s								
BVAR	**Borovoye Array**	**53.80**	**315**	P			**P**	**06 18 25.8**	**+0.4**
	0.6nm,0.7s,baz=81,slow=9.2,SNR=3.6								
ASAR	**Alice Springs**	**56.86**	**189**	P			**P**	**06 18 48.1**	**+0.3**
	0.4nm,0.6s,baz=17,slow=13,SNR=7.4								
INK	**Inuvik**	**57.75**	**26**	P			**P**	**06 18 54.3**	**+0.9**
	1.1nm,1.0s,baz=259,slow=7.9,SNR=4.4								
YKA	**Yellowknife Ar**	**67.03**	**29**	P			**P**	**06 19 55.7**	**+0.2**
	0.7nm,0.9s,baz=301,slow=6.3,SNR=7.1								
KBZ	**Khabaz**	**74.03**	**312**	P			**P**	**06 20 39.6**	**+1.1**
	1.1nm,0.8s,baz=56,slow=24,SNR=5.0								
AKASG	**Malin Array Be**	**77.89**	**323**	P			**P**	**06 21 00.5**	**+0.1**
	0.1nm,0.3s,baz=54,slow=6.9,SNR=4.6								
NOA	**NORSAR Array B**	**78.16**	**338**	P			**P**	**06 21 02.6**	**+0.7**
	1.3nm,0.8s,baz=48,slow=5.3,SNR=4.0								
PDAR	**Pinedale Array**	**80.10**	**45**	P			**P**	**06 21 13.9**	**+0.9**
	0.5nm,0.8s,baz=225,slow=6.1,SNR=4.1								
BRTR	**Keskin Array B**	**82.01**	**312**	P			**P**	**06 21 23.0**	**-0.1**
	0.8nm,0.8s,baz=107,slow=4.7,SNR=5.1								
CLL	**Collm**	**84.92**	**331**	*e*P			**P**	**06 21 38.0**	**+0.4**
TXAR	**Lajitas Array**	**92.11**	**53**	P			**P**	**06 22 13.5**	**+1.0**
	0.2nm,0.8s,baz=312,slow=6.8,SNR=2.5								
PMSA	**Palmer Station**	**144.35**	**161**	*e*PKPdf			**PKPdf**	**06 28 37.9**	**0.0**

*KRSC **02** 06:23:16.1±1.1, 57.39N×162.39E, h8km±5km, ML5.5*
*ISCJB **02** 06:23:18.0±0.6, 57.38N±0.02×162.23E±0.02, h11km±4km, mb5.3/352, MS5.0/58, Error ellipse: s-maj=2.8km s-min=1.7km az=162.4*
*MOS **02** 06:23:17.2±0.8, 57.36N×162.23E, h8km, mb5.7/111, MS5.1/49, Error ellipse: s-maj=6.6km s-min=3.4km az=91.2*
*BJI **02** 06:23:21.8, 57.48N×161.96E, h37km, mb5.3/67, mB5.4/43, Ms5.5/73, Ms7 5.3/65*
*IDC **02** 06:23:22.5±3.3, 57.33N×162.18E, h33km±25km, mb4.6/37, mb1 4.7/41, mb1mx4.7/43, mbtmp4.8/41, ML4.0/4, MS4.8/28, Ms1 4.8/28, ms1mx4.8/34, Error ellipse: s-maj=11.8km s-min=8.3km az=152.0*
*GCMT **02** 06:23:23.4±0.1, 57.50N×162.20E, h12km, MW5.4/121, Moment Tensor Solution. s99,c157; s121,c248; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr=1.33±.02; Mθθ 1.37±.02; Mφφ=0.03±.02; Mrθ 0.13±.04; Mθφ=0.63±.02; Mφr 0.61±.05; Best double couple: M0 1.61500×10^17 NP1:φs 134.00000°, δ 52.00000°, λ=-58.00000°. NP2:φs 268.00000°, δ 48.00000°, λ=-124.00000°. Principal axes: T 1.6160, Plg2.0000°, Azm202.0000°; N 0.0040, Plg25.0000°, Azm293.0000°; P =1.6140, Plg65.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **02** 06:23:23.4±0.4, 57.36N×162.20E, h40km±3km, mb5.3/181 Error ellipse: s-maj=3.1km s-min=1.7km az=172.0*
*SZGRF **02** 06:23:28.3, 57.85N×161.76E, h33km, mb5.9, MS5.1, Kamchatka Peninsula, Russia*

ISC 02 06:23:19.6±0.8, 57.32N±0.02×162.23E±0.03, h14km±4km, n1474, σ1°18/1465, mb5.4/355, MS5.1/65, 283C-191D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SMKR	**Semkarok**	**0.85**	**210**	*e*P			**Pg**	**06 23 34.0**	**-2.1**
SRKR	**Sorokina**	**0.89**	**222**	*e*P			**Pg**	**06 23 33.7**	**-3.1**
BDK	**Baidarnaya**	**0.94**	**217**	*e*P			**Pg**	**06 23 35.1**	**-2.7**
KBG	**Krutoberegovo**	**1.10**	**166**	*e*P			**Pg**	**06 23 39.0**	**-1.8**
KBG				*e*S			**Sn**	**06 23 56.0**	**+0.6**
KBG	**Krutoberegovo**	**1.10**	**166**	PN			**Pg**	**06 23 39.0**	**-1.8**
KBG				S			**Sn**	**06 23 56.0**	**+0.6**
KLY	**Klyuchi**	**1.33**	**221**	*e*P			**Pn**	**06 23 40.6**	**-3.1**
KLY				*e*S			**Sb**	**06 23 58.3**	**-2.9**
KLY	**Klyuchi**	**1.33**	**221**	PN			**Pn**	**06 23 40.6**	**-3.1**
KLY				S			**Sb**	**06 23 58.3**	**-2.9**
KRSR	**Krestovskiy**	**1.44**	**220**	*e*P			**Pn**	**06 23 43.6**	**-1.7**
CIRR	**Tsirk**	**1.46**	**215**	*e*P			**Pn**	**06 23 44.4**	**-1.2**
ZLN	**Zelenaya**	**1.53**	**212**	*e*P			**Pn**	**06 23 45.5**	**-1.0**
BZGR	**Bezymyannyi-Gr**	**1.62**	**212**	*e*P			**Pn**	**06 23 47.4**	**-0.4**
BZWR	**Bezymyannyi-We**	**1.66**	**216**	*e*P			**Pn**	**06 23 47.5**	**-1.0**
BZMR	**Bezymyannaya**	**1.69**	**216**	*e*P			**Pn**	**06 23 47.8**	**-1.0**
SRDR	**Sredinnyy**	**1.71**	**235**	*e*P			**Pn**	**06 23 46.9**	**-2.1**
KIRR	**Kirishev**	**1.72**	**218**	*e*P			**Pn**	**06 23 47.5**	**-1.8**
KPT	**Kopyto**	**1.75**	**220**	*e*P			**Pn**	**06 23 48.9**	**-0.7**
KOZR	**Kozyr**	**1.80**	**227**	PN			**Pn**	**06 23 49.7**	**-0.5**
KOZ	**Kozyrevsk**	**1.81**	**227**	*e*P			**Pn**	**06 23 49.7**	**-0.7**
KMNR	**Kamenistaya**	**1.92**	**216**	*e*P			**Pn**	**06 23 51.3**	**-0.6**
OSSR	**Ossora**	**1.98**	**12**	*i* P			**Pn**	**06 23 50.3**	**-2.4**
OSSR				*i* S			**Sn**	**06 24 16.0**	**-1.3**
PALN	**Palana**	**2.14**	**327**	*e*P			**Pn**	**06 23 53.1**	**-1.8**
PALN				*e*S			**Sb**	**06 24 20.6**	**-3.9**
TUMR	**Tumrok**	**2.35**	**211**	*e*P			**Pb**	**06 23 59.9**	**-1.8**
ESO	**Esso**	**2.40**	**236**	*e*P			**Pn**	**06 23 58.7**	**+0.2**
ESO				*e*S			**Sb**	**06 24 31.1**	**-0.9**
ESO	**Esso**	**2.40**	**236**	PN			**Pn**	**06 23 58.7**	**+0.2**
ESO				S			**Sb**	**06 24 31.1**	**-0.9**
KZV	**Kizimen**	**2.46**	**207**	*e*P			**Pb**	**06 24 01.8**	**-1.9**
MKZ	**Mys Kozlova**	**2.78**	**186**	*e*P			**Pn**	**06 24 04.1**	**+0.4**
MKZ	**Mys Kozlova**	**2.78**	**186**	PN			**Pn**	**06 24 04.1**	**+0.4**
BKI	**Bering**	**2.97**	**134**	*e*P			**Pn**	**06 24 04.9**	**-1.4**
BKI				*e*S			**Sn**	**06 24 39.7**	**-2.0**
BKI	**Bering**	**2.97**	**134**	PN			**Pn**	**06 24 04.9**	**-1.4**
KII	**Karymskiy**	**3.65**	**207**	*e*P			Pn	06 24 18.2	+2.5
TILK	**Tilichiki**	**3.73**	**31**	*e*P			**Pn**	**06 24 14.2**	**-2.5**
GNL	**Ganaly**	**4.38**	**216**	*e*P			Pn	06 24 28.4	+2.7
SPN	**Mys Shipunski**	**4.42**	**198**	*e*P			**Pn**	**06 24 27.2**	**+1.1**
SPN				*e*S			**Sn**	**06 25 19.7**	**+2.5**
SPN	**Mys Shipunski**	**4.42**	**198**	PN			**Pn**	**06 24 27.2**	**+1.1**
SPN				S			**Sn**	**06 25 19.7**	**+2.5**
KRX	**Arik**	**4.46**	**209**	*e*P			Pn	06 24 30.7	+3.8
SDLR	**Sedlovina**	**4.48**	**207**	*e*P			Pn	06 24 29.7	+2.6
KRER	**Koryakskii**	**4.49**	**208**	*e*P			Pn	06 24 31.1	+3.8
SMAR	**Somma**	**4.51**	**207**	*e*P			Pn	06 24 30.2	+2.5
AVH	**Avacha**	**4.53**	**208**	*e*P			Pn	06 24 31.7	+4.0
KOK	**Koryaka**	**4.53**	**208**	*e*P			Pn	06 24 31.4	+3.6
UGLR	**Uglovaya**	**4.56**	**207**	*e*P			Pn	06 24 31.7	+3.5
PET	**Petropavlovsk**	**4.77**	**207**	*e*P			Pn	06 24 34.6	+3.7
PET	**Petropavlovsk**	**4.77**	**207**	*e*PN			Pn	06 24 33.7	+2.8
PET				*e*S			**Sb**	**06 25 38.5**	**-1.5**
PET				pmax	pmax				
	comp=Z,6μm,3.8s								
PET				pmax	pmax				
	comp=Z,3μm,6.5s								
PET				pmax	pmax				
	comp=Z,685nm,0.7s								
PET				smax	smax				
	comp=N,826nm,0.9s								
PET				MLR	MLR				
	comp=Z,87μm,15.0s								
PET				MLR	MLR				
	comp=Z,89μm,15.0s								
PET	**Petropavlovsk**	**4.77**	**207**	*e*Pn			Pn	06 24 34.0	+3.0
PEA0B	**Petropavlovsk-**	**4.95**	**214**	*e*Pn			Pn	06 24 36.4	+2.9
PETK	**Petropavlovsk-**	**4.95**	**214**	Pn			Pn	06 24 36.0	+2.5
	comp=Z,12nm,0.3s,baz=59,slow=13,SNR=128								
PETK				LR	LR			06 26 59.5	
	comp=Z,29μm,20.8s,baz=31,slow=44								
PETK	**Petropavlovsk-**	**4.95**	**214**	PN			Pn	06 24 36.0	+2.5
PETK				pmax	pmax				
	comp=Z,12nm,0.3s								
PETK				MLR	MLR				
	comp=Z,29μm,20.8s								
APC	**Apacha**	**5.28**	**216**	*e*P			Pn	06 24 41.0	+3.1
GRL	**Gorelyy**	**5.34**	**208**	P			Pn	06 24 42.8	+3.8
RUS	**Russkaya**	**5.35**	**205**	*e*P			Pn	06 24 41.8	+2.9
RUS	**Russkaya**	**5.35**	**205**	PN			Pn	06 24 41.8	+2.9
MTVR	**Mutnovka**	**5.38**	**207**	*e*P			Pn	06 24 42.3	+2.8
ASAK	**Asacha**	**5.54**	**209**	*e*P			Pn	06 24 46.4	+4.7
MIPR	**Malaya Ipel'ka**	**5.96**	**214**	*e*P			Pn	06 24 50.2	+2.8
PAU	**Pauzhetka**	**6.66**	**211**	*e*P			Pn	06 25 00.8	+3.9
PAU	**Pauzhetka**	**6.66**	**211**	PN			Pn	06 25 00.8	+3.9
SEY	**Seymchan**	**7.47**	**323**	Pn			**Pn**	**06 25 08.8**	**+0.8**
	comp=Z,1.6nm,0.3s,baz=151,slow=14,SNR=20								
SEY	**Seymchan**	**7.47**	**323**	PN			**Pn**	**06 25 08.8**	**+0.8**
SEY				pmax	pmax				
	comp=Z,2.0nm,0.3s								
SKR	**Severo-Kuril's**	**7.56**	**211**	*e*P			Pn	06 25 13.2	+4.0
SKR	**Severo-Kuril's**	**7.56**	**211**	*e*PN			Pn	06 24 59.0	-10
SKR				pmax	pmax				
	comp=Z,450nm,1.0s								
SKR				pmax	pmax				
	comp=N,4μm,5.0s								
SKR				pmax	pmax				
	comp=E,3μm,5.0s								
SKR				pmax	pmax				
	comp=Z,4μm,5.0s								
SKR				MLR	MLR				
	comp=N,35μm,14.0s								
SKR				MLR	MLR				
	comp=Z,56μm,14.0s								
SKR				MLR	MLR				
	comp=E,50μm,12.0s								
SMY	**Shemya**	**8.22**	**119**	*e*PN			**Pn**	**06 25 19.3**	**+1.0**
SMY	**Shemya**	**8.22**	**119**	*e*Pn			**Pn**	**06 25 19.3**	**+1.0**
BILL	**Bilibino**	**10.92**	**8**	PN			Pn	06 25 56.8	+1.7
BILL				*e*S			Sn	06 28 02.1	+5.3
BILL				pmax	pmax				
	comp=Z,133nm,1.8s								
BILL				MLR	MLR				
	comp=Z,16μm,17.0s								
BILL	**Bilibino**	**10.92**	**8**	*e*Pn			Pn	06 25 56.7	+1.5
OKH	**Okha**	**11.58**	**259**	*e*PN			**Pn**	**06 26 04.2**	**-0.1**
OKH				pmax	pmax				
	comp=Z,600nm,7.0s								
OKH				MLR	MLR				
	comp=Z,6μm,12.0s								
GSTR	**Great Sitkin T**	**13.57**	**103**	*e*Pn			**Pn**	**06 26 32.3**	**+0.9**
	comp=Z,30nm,0.6s								
GAMB	**Gambell**	**14.28**	**52**	*e*Pn			P	06 26 42.9	-5.4
UGL	**Uglegorsk**	**14.59**	**244**	*e*P			**Pn**	**06 26 45.1**	**-0.2**
UGL				*e*S			**Sn**	**06 29 26.5**	**-0.1**
KUR	**Kuril'sk**	**15.03**	**223**	*e* iP			Pn	06 26 44.9	-6.5
KUR				*e*S			**Sn**	**06 29 31.7**	**-5.8**
KUR				pmax	pmax				
	comp=Z,1μm,4.7s								
KUR				pmax	pmax				
	comp=N,64nm,0.1s								
KUR				pmax	pmax				
	comp=E,86nm,0.1s								
KUR				pmax	pmax				
	comp=Z,61nm,0.7s								
KUR				pmax	pmax				
	comp=E,5μm,9.8s								
KUR				pmax	pmax				
	comp=N,5μm,9.8s								
KUR				MLR	MLR				
	comp=E,5μm,16.0s								
KUR				MLR	MLR				
	comp=Z,4μm,16.0s								
KUR				MLR	MLR				
	comp=N,12μm,16.0s								
YSS	**Yuzh-Sakhalins**	**15.77**	**237**	*e*P			**P**	**06 27 06.0**	**+1.1**
YSS				*e*S			Sn	06 30 02.0	+6.6
YSS				pmax	pmax				
	comp=Z,70nm,1.0s								
YSS				pmax	pmax				
	comp=Z,2μm,6.0s								
YSS				MLR	MLR				
	comp=Z,8μm,15.0s								
YSS				MLR	MLR				
	comp=N,8μm,14.0s								
YSS	**Yuzh-Sakhalins**	**15.77**	**237**	Pn			**P**	**06 27 01.9**	**-3.0**
	comp=N,88nm,1.0s								
TNA	**Tin City**	**16.33**	**47**	*e*Pn			**P**	**06 27 08.9**	**-2.0**
YUK	**Yuzh-Kuril'sk**	**16.80**	**225**	*c* iP			Pn	06 27 06.2	-8.0
YUK				pmax	pmax				
	comp=N,99nm,1.3s								
YUK				pmax	pmax				
	comp=E,178nm,1.3s								
YUK				pmax	pmax				
	comp=Z,258nm,1.3s								
YUK				MLR	MLR				
	comp=N,5μm,15.0s								
YUK				MLR	MLR				
	comp=E,7μm,15.0s								
YUK				MLR	MLR				
	comp=Z,9μm,15.0s								
YAK	**Yakutsk**	**16.98**	**300**	Pn			**P**	**06 27 17.1**	**-1.1**
	comp=Z,0.0nm,0.3s,baz=93,slow=6.0,SNR=26								
YAK				LR	LR			06 33 58.1	
	comp=Z,1μm,19.0s,baz=100,slow=38								
YAK	**Yakutsk**	**16.98**	**300**	*e*P			**P**	**06 27 16.9**	**-1.3**
YAK				*e*S			**Sn**	**06 30 26.1**	**+1.6**
YAK				pmax	pmax				
	comp=Z,96nm,1.3s								
YAK				pmax	pmax				
	comp=E,90nm,1.5s								
YAK				pmax	pmax				
	comp=N,17nm,1.3s								
YAK				pmax	pmax				
	comp=Z,234nm,1.5s								
YAK				pmax	pmax				
	comp=N,133nm,1.7s								
YAK				pmax	pmax				
	comp=E,313nm,1.8s								
YAK				smax	smax				
	comp=N,1μm,4.4s								
YAK				smax	smax				
	comp=E,661nm,4.4s								
YAK				MLR	MLR				
	comp=Z,3μm,9.0s								
YAK				MLR	MLR				
	comp=E,3μm,9.0s								
YAK				MLR	MLR				
	comp=N,2μm,9.0s								
YAK	**Yakutsk**	**16.98**	**300**	Pn			**P**	**06 27 17.1**	**-1.1**
YAK				*e*S			**S**	**06 30 29.0**	**-5.5**
NIKH	**Nikolski High**	**17.02**	**92**	*e*Pn			**P**	**06 27 18.6**	**-0.1**
UNV	**Unalaska Valle**	**17.92**	**88**	*e*P			**P**	**06 27 29.9**	**+1.2**
ASAJ	**Asahikawa**	**18.05**	**231**	P			**P**	**06 27 31.9**	**+1.7**
	comp=N,0.9nm,0.3s,baz=80,slow=6.6,SNR=8.6								
ASAJ				LR	LR			06 34 27.3	
	comp=N,7μm,20.1s,baz=52,slow=37								
ASAJ	**Asahikawa**	**18.05**	**231**	P			**P**	**06 27 31.9**	**+1.7**
ASAJ				pmax	pmax				
	comp=Z,1.0nm,0.3s								
ASAJ				MLR	MLR				
	comp=Z,7μm,20.1s								
HABR	**Khabarovsk**	**18.52**	**253**	*c e*P			**Pn**	**06 27 34.6**	**-0.9**
HABR				S			**Sn**	**06 31 01.7**	**-0.4**
HABR				pmax	pmax				
	comp=E,112nm,2.5s								
HABR				pmax	pmax				
	comp=Z,257nm,2.5s								
HABR				pmax	pmax				
	comp=N,26nm,1.2s								
HABR				MLR	MLR				
	comp=N,7μm,15.0s								
HABR				MLR	MLR				
	comp=E,6μm,14.0s								
HABR				MLR	MLR				
	comp=Z,5μm,15.0s								
ERM	**Erimo**	**19.57**	**227**	*e*P			**Pn**	**06 27 48.9**	**+0.8**
ERM				pmax	pmax				
	comp=Z,49nm,1.2s								
ERM	**Erimo**	**19.57**	**227**	*e*P			**Pn**	**06 27 47.6**	**-0.4**
	comp=Z,26nm,0.6s								
TIXI	**Tiksi**	**19.90**	**329**	*e*P			**Pn**	**06 27 50.4**	**-1.4**
TIXI				pmax	pmax				
	comp=Z,188nm,1.7s								
TIXI				MLR	MLR				
	comp=Z,7μm,14.0s								
TIXI	**Tiksi**	**19.90**	**329**	*e*P			**Pn**	**06 27 51.1**	**-0.8**
TIXI				*e*S			**Sn**	**06 31 36.8**	**+1.9**
CLNS	**Chul'man**	**20.14**	**284**	*e*P			Pn	06 27 53.7	-1.2
CLNS				*e*				06 28 08.8	
CLNS				*e*S			Sn	06 31 38.5	-2.6
CLNS				*e*				06 32 03.4	
CLNS				*e*SS			SnSn	06 32 12.1	+17
CLNS				pmax	pmax				
	comp=Z,35nm,1.0s								
CLNS				pmax	pmax				
	comp=N,18nm,0.8s								
CLNS				pmax	pmax				
	comp=E,23nm,0.8s								
CLNS				pmax	pmax				
	comp=E,47nm,1.0s								
CLNS				pmax	pmax				
	comp=Z,76nm,1.5s								
CLNS				pmax	pmax				
	comp=N,39nm,1.1s								
CLNS				smax	smax				
	comp=N,775nm,11.5s								
CLNS				smax	smax				
	comp=E,750nm,10.1s								
CLNS				MLR	MLR				
	comp=Z,2μm,9.0s								
CLNS				MLR	MLR				
	comp=E,1μm,11.0s								
CLNS				MLR	MLR				
	comp=N,4μm,11.0s								
SDPT	**Sand Point**	**20.60**	**80**	*e*P			**P**	**06 27 57.2**	**-0.7**
SVW2	**Sparrevohn**	**21.64**	**62**	*e*P			**P**	**06 28 10.5**	**+1.5**
IM04	**Indian Mountai**	**22.14**	**49**	*e*P			**P**	**06 28 15.1**	**+0.6**
CAST	**Castle Rocks**	**22.96**	**56**	*e*P			**P**	**06 28 23.4**	**+0.2**
USRK	**Ussuriysk Ar.**	**22.97**	**248**	P			**P**	**06 28 23.0**	**-0.4**
	comp=N,36nm,0.8s,baz=50,slow=12,SNR=52								
USRK				LR	LR			06 37 44.1	
	comp=N,5μm,18.3s,baz=41,slow=38								
PPLA	**Purkeypile**	**22.98**	**57**	*e*P			**P**	**06 28 24.2**	**+0.8**
	comp=N,368nm,1.6s								
RSO	**Redoubt South**	**23.12**	**63**	*e*P			**P**	**06 28 26.3**	**+1.3**
KTH	**Kantishna Hill**	**23.47**	**55**	*e*P			**P**	**06 28 28.8**	**+0.4**
	comp=N,234nm,1.6s								
COLD	**Coldfoot**	**23.61**	**46**	*e*P			**P**	**06 28 29.8**	**+0.2**
	comp=N,261nm,1.9s								
COLD				*e*S			**S**	**06 32 42.6**	**-0.6**
TRF	**Thorofare Moun**	**23.76**	**55**	*e*P			**P**	**06 28 31.6**	**+0.2**
	comp=N,15nm,0.9s								
VLA	**Vladivostok**	**23.80**	**246**	*d* iP			**P**	**06 28 31.7**	**0.0**
VLA				pmax	pmax				
	comp=Z,71nm,1.7s								
VLA				MLR	MLR				
	comp=Z,5μm,18.0s								
MDJ	**Mudanjiang**	**23.90**	**252**	P			**P**	**06 28 32.2**	**-0.4**
MDJ				pP	pP			06 28 40.8	+3.9
MDJ				sP	sP			06 28 43.6	+4.9
MDJ				S	**S**			**06 32 50.3**	**+2.1**
MDJ				PcS	**PcS**			**06 35 50.1**	**-4.2**
MDJ				PMZ					
	comp=Z,66nm,1.0s								
MDJ				PMZ					
	comp=Z,520nm,5.3s								
MDJ				LN					
	comp=Z,5μm,19.6s								
MDJ				LE					
	comp=Z,5μm,15.4s								
MDJ				LZ					
	comp=Z,5μm,14.0s								
MDJ	**Mudanjiang**	**23.90**	**252**	*e*P			**P**	**06 28 32.0**	**-0.6**
	comp=Z,53nm,0.8s								
MDJ				*e*S			**S**	**06 32 54.1**	**+5.9**
KDAK	**Kodiak Island**	**23.91**	**70**	*c e*P			**P**	**06 28 33.0**	**+0.5**
KDAK	**Kodiak Island**	**23.91**	**70**	*e*P			**P**	**06 28 33.4**	**+0.8**
MCK	**McKinley**	**24.33**	**54**	*e*P			**P**	**06 28 36.2**	**-0.3**
MCK				*e*S			S	06 33 01.3	+6.5
MCK				pmax	pmax				
	comp=Z,98nm,1.2s								
MCK	**McKin

	comp=Z,34nm,0.9s								
DOT	**Dot Lake**	**26.48**	**54**	*e*P		**P**	**06 28 54.9**	**-1.1**	
	comp=Z,32nm,1.0s								
DOT				*e*PcP		**PcP**	**06 32 18.1**	**-2.2**	
CN2	**Changchun**	**26.62**	**255**	*e*P		**P**	**06 28 58.0**	**+0.7**	
CN2				PMZ					
	comp=Z,40nm,1.4s								
BMRM	**Bremner River**	**26.88**	**60**	*e*P		**P**	**06 28 59.2**	**-0.3**	
	comp=Z,83nm,0.9s								
EGAK	**Eagle**	**27.51**	**51**	*e*P		**P**	**06 29 04.1**	**-1.0**	
	comp=Z,45nm,0.9s								
CIT	**Chita**	**28.14**	**280**	*e*P		**P**	**06 29 11.7**	**+0.7**	
CIT				*e*			06 30 13.1		
CIT				pmax	pmax				
	comp=Z,239nm,2.1s								
DAWY	**Dawson**	**28.41**	**52**	*e*P		**P**	**06 29 11.7**	**-1.5**	
SNY	**Shenyang**	**28.98**	**254**	⇓P		**P**	**06 29 19.4**	**+1.0**	
SNY				S		**S**	**06 34 12.7**	**+4.0**	
SNY				PMZ					
	comp=Z,38nm,2.4s								
SNY				PMZ					
	comp=Z,360nm,3.5s								
SNY				LN					
	comp=Z,5μm,18.5s								
SNY				LE					
	comp=Z,4μm,17.0s								
SNY				LZ					
	comp=Z,5μm,13.2s								
INK	**Inuvik**	**29.84**	**42**	P		**P**	**06 29 25.9**	**+0.1**	
	comp=Z,7.5nm,0.7s,baz=343,slow=32,SNR=5.6								
INK				LR		LR	06 42 42.3		
	comp=Z,3μm,21.0s,baz=284,slow=39								
INK	**Inuvik**	**29.84**	**42**	*e*P		**P**	**06 29 25.8**	**+0.1**	
INK				*e*			06 32 29.8		
INK				pmax	pmax				
	comp=Z,65nm,1.3s								
INK	**Inuvik**	**29.84**	**42**	*e*P		**P**	**06 29 25.8**	**+0.1**	
	comp=Z,65nm,1.3s								
INK				*e*PcP		**PcP**	**06 32 29.8**	**+1.4**	
KSRS	**Korea Array**	**30.08**	**244**	P		**P**	**06 29 27.6**	**-0.6**	
	comp=Z,9.2nm,0.9s,baz=33,slow=9.5,SNR=20								
KSRS				PcP		**PcP**	**06 32 30.8**	**+1.2**	
	comp=Z,4.9nm,0.8s,baz=18,slow=2.4,SNR=13								
KSRS	**Korea Array**	**30.08**	**244**	P		**P**	**06 29 27.6**	**-0.6**	
KSRS							06 32 30.8		
KSRS				pmax	pmax				
	comp=Z,9.0nm,0.9s								
KSAR	**Wonju Array Be**	**30.11**	**244**	P		**P**	**06 29 27.6**	**-0.9**	
KSAR							06 32 30.8		
KSAR	**Wonju Array Be**	**30.11**	**244**	P		**P**	**06 29 27.6**	**-0.9**	
KSAR				PcP		**PcP**	**06 32 30.8**	**+1.1**	
JNU	**Nakatsue**	**32.26**	**235**	P		**P**	**06 29 49.2**	**+1.7**	
	comp=Z,4.5nm,0.8s,baz=117,slow=9.0,SNR=3.0								
IRK	**Irkutsk**	**32.92**	**286**	*e*P		**P**	**06 29 53.7**	**+0.6**	
IRK				pmax	pmax				
	comp=Z,335nm,1.9s								
TLY	**Talaya**	**33.55**	**286**	P		P	06 30 01.0	+2.4	
	comp=Z,207nm,1.5s,SNR=18								
TLY	**Talaya**	**33.55**	**286**	*i* P		P	06 30 00.5	+1.9	
TLY				*e*			06 31 13.4		
TLY				*e*PPP		PPP	06 31 30.1		
TLY				*e*S		S	06 35 25.6	+5.6	
TLY				*e*SS		**SnSn**	**06 37 30.1**	**+7.6**	
TLY				pmax	pmax				
	comp=Z,138nm,2.3s								
TLY				MLR		MLR			
	comp=Z,1μm,17.0s								
TLY	**Talaya**	**33.55**	**286**	P		P	06 30 01.5	+2.9	
	SNR=30								
ULN	**Ulaanbaatar**	**33.94**	**278**	*c* *i*P		**P**	**06 30 03.1**	**+0.9**	
ULN				pmax	pmax				
	comp=Z,75nm,1.7s								
ULN	**Ulaanbaatar**	**33.94**	**278**	P		P	06 30 03.9	+1.7	
	SNR=34								
ULN	**Ulaanbaatar**	**33.94**	**278**	*e*P		**P**	**06 30 03.0**	**+0.9**	
	comp=Z,114nm,1.6s								
ULN				*e*PcP		**PcP**	**06 32 39.0**	**-1.2**	
BJI	**Beijing**	**34.18**	**260**	P		**P**	**06 30 05.7**	**+1.6**	
BJI				pP		pP	06 30 13.5	+5.0	
BJI				sP		sP	06 30 17.4	+7.1	
BJI				PcP		**PcP**	**06 32 41.3**	**+0.6**	
BJI				S		**S**	**06 35 29.3**	**-0.5**	
BJI				ScS		**ScS**	**06 40 23.3**	**-3.7**	
BJI				PMZ					
	comp=Z,80nm,1.4s								
BJI				LN					
	comp=Z,10μm,17.3s								
BJI				LE					
	comp=Z,6μm,16.8s								
BJI				LZ					
	comp=Z,2μm,16.8s								
BJT	**Baijiatuau**	**34.20**	**260**	*e*P		**P**	**06 30 05.6**	**+1.3**	
BJT				pmax	pmax				
	comp=Z,115nm,1.1s								
BJT	**Baijiatuau**	**34.20**	**260**	*e*P		**P**	**06 30 05.5**	**+1.3**	
	comp=Z,115nm,1.1s								
SONM	**Songino Array**	**34.31**	**278**	P		**P**	**06 30 05.5**	**+0.1**	
	comp=Z,7.3nm,0.6s,baz=55,slow=9.2,SNR=64								
SONM				PcP		**PcP**	**06 32 41.2**	**0.0**	
	comp=Z,3.4nm,0.7s,baz=79,slow=1.3,SNR=7.8								
SONM				LR		LR	06 46 41.0		
	comp=Z,769nm,18.4s,baz=56,slow=41								
SONM	**Songino Array**	**34.31**	**278**	P		**P**	**06 30 05.5**	**+0.1**	
SONM							06 32 41.2		
SONM				pmax	pmax				
	comp=Z,7.0nm,0.6s								
SONM				MLR		MLR			
	comp=Z,769nm,18.4s								
ZAK	**Zakamensk**	**34.47**	**284**	*e*P		**P**	**06 30 07.2**	**+0.5**	
ZAK				pmax	pmax				
	comp=Z,28nm,1.7s								
DLBC	**Dease Lake**	**34.66**	**59**	P		P	06 30 09.9	+1.7	
	comp=Z,34nm,0.8s,baz=300,slow=8.3,SNR=34								
DLBC	**Dease Lake**	**34.66**	**59**	*e*P		**P**	**06 30 09.2**	**+1.0**	
MOY	**Mondy**	**34.94**	**288**	*e*P		**P**	**06 30 11.9**	**+1.2**	
MOY				pmax	pmax				
	comp=Z,250nm,2.0s								
HHC	**Hu-ho-hao-te**	**36.08**	**265**	*e*P		P	06 30 22.8	+2.1	
HHC				PP		**PP**	**06 31 45.0**	**+2.4**	
HHC				S		**S**	**06 35 58.6**	**-0.8**	
HHC				sS		sS	06 36 14.6	+8.0	
HHC				SS		**SnSn**	**06 38 22.0**	**-2.2**	
HHC				ScS		**ScS**	**06 40 35.7**	**-1.9**	
HHC				PMZ					
	comp=Z,37nm,1.3s								
HHC				PMZ					
	comp=Z,130nm,5.5s								
HHC				LN					
	comp=Z,3μm,17.7s								
HHC				LE					
	comp=Z,4μm,15.9s								
HHC				LZ					
	comp=Z,1μm,18.0s								
BTO	**Baotou**	**37.09**	**266**	*e*P		**P**	**06 30 29.0**	**-0.2**	
H11N2	**WAKE ISLAND Hy**	**37.69**	**173**	T		T	07 09 31.7		
	baz=357,slow=76,SNR=22								
H11N3	**WAKE ISLAND Hy**	**37.71**	**173**	T		T	07 09 32.4		
	baz=357,slow=76,SNR=19								
H11N1	**WAKE ISLAND Hy**	**37.71**	**173**	T		T	07 09 32.7		
	baz=357,slow=76,SNR=13								
TIY	**Taiyuan**	**37.87**	**261**	*e*P		P	06 30 37.9	+2.0	
TIY				pP		pP	06 30 52.0	+12	
TIY				sP		sP	06 30 56.3	+14	
TIY				S		**S**	**06 36 31.2**	**+4.6**	
TIY				PMZ					
	comp=Z,100nm,1.2s								
TIY				LN					
	comp=Z,1μm,11.2s								
TIY				LE					
	comp=Z,3μm,15.1s								
TIY				LZ					
	comp=Z,3μm,15.2s								
SSE	**Sheshan**	**38.49**	**245**	P		**P**	**06 30 39.9**	**-1.1**	
SSE				S		**S**	**06 36 34.4**	**-1.4**	
SSE				sS		ScP	06 36 49.8	+8.9	
SSE				PMZ					
	comp=Z,33nm,0.7s								
SSE				PMZ					
	comp=Z,100nm,11.2s								
SSE				LN					
	comp=Z,1μm,14.0s								
SSE				LE					
	comp=Z,1μm,14.0s								
SSE				LZ					
	comp=Z,2μm,19.0s								
ALE	**Alert**	**38.55**	**9**	P		**P**	**06 30 41.0**	**-0.1**	
	comp=Z,101nm,1.2s,SNR=14								
NJ2	**Nanjing**	**38.88**	**248**	*e*P		**P**	**06 30 46.1**	**+1.8**	
NJ2				S		**S**	**06 36 42.0**	**+0.3**	
NJ2				PMZ					
	comp=Z,50nm,0.9s								
NJ2				LN					
	comp=Z,6μm,20.6s								
NJ2				LE					
	comp=Z,5μm,21.8s								
NJ2				LZ					
	comp=Z,5μm,17.7s								
H11S1	**WAKE ISLAND Hy**	**38.89**	**173**	T		T	07 11 05.8		
	baz=357,slow=76,SNR=4.4								
H11S3	**WAKE ISLAND Hy**	**38.91**	**173**	T		T	07 11 04.1		
	baz=357,slow=76,SNR=5.7								
H11S2	**WAKE ISLAND Hy**	**38.91**	**173**	T		T	07 11 08.4		
	baz=357,slow=76,SNR=4.4								
RES	**Resolute Bay**	**38.95**	**24**	P		**P**	**06 30 44.5**	**+0.1**	
	comp=Z,8.3nm,0.9s,baz=279,slow=6.6,SNR=20								
RES	**Resolute Bay**	**38.95**	**24**	P		**P**	**06 30 44.5**	**+0.1**	
RES				pmax	pmax				
	comp=Z,8.0nm,1.0s								
RES	**Resolute Bay**	**38.95**	**24**	P		**P**	**06 30 44.5**	**+0.1**	
	comp=Z,3.1nm,0.8s								
YKA	**Yellowknife Ar**	**39.29**	**47**	P		**P**	**06 30 46.8**	**-0.6**	
	comp=Z,20nm,0.8s,baz=302,slow=8.0,SNR=117								
YKA				PcP		**PcP**	**06 32 55.9**	**+0.2**	
	comp=Z,1.8nm,0.7s,baz=308,slow=3.7,SNR=5.2								
YKA	**Yellowknife Ar**	**39.29**	**47**	P		**P**	**06 30 46.8**	**-0.6**	
YKA							06 32 55.9		
YKA				pmax	pmax				
	comp=Z,20nm,0.8s								
ZAA0	**Zalesovo Array**	**41.63**	**300**	*e*P		**P**	**06 31 06.5**	**-0.4**	
ZALV	**Zalesovo Beam**	**41.63**	**300**	P		**P**	**06 31 06.1**	**-0.8**	
	comp=Z,3.5nm,0.9s,baz=54,slow=7.5,SNR=17								
ZALV				PP		PnPn	06 32 53.5	+5.8	
	comp=Z,7.0nm,1.1s,baz=52,slow=9.6,SNR=5.2								
ZALV	**Zalesovo Beam**	**41.63**	**300**	P		**P**	**06 31 06.1**	**-0.8**	
ZALV							06 32 53.5		
ZALV				pmax	pmax				
	comp=Z,4.0nm,0.9s								
ZALV				pmax	pmax				
	comp=Z,7.0nm,1.1s								
NVS	**Novosibirsk**	**41.83**	**302**	*e*P		**P**	**06 31 08.5**	**0.0**	
NVS				*e*			06 32 49.1		
NVS				*e*S		**S**	**06 37 26.6**	**+1.3**	
NVS				pmax	pmax				
	comp=Z,320nm,1.7s								
NVS				pmax	pmax				
	comp=N,85nm,1.5s								
NVS				pmax	pmax				
	comp=E,163nm,1.6s								
NVS				pmax	pmax				
	comp=Z,63nm,2.0s								
NVS				smax	smax				
	comp=N,72nm,2.6s								
WHN	**Wuhan**	**42.38**	**252**	⇓P		**P**	**06 31 14.8**	**+1.6**	
WHN				S		**S**	**06 37 36.1**	**+2.2**	
WHN				LN					
	comp=N,8μm,15.0s								
WHN				LE					
	comp=N,5μm,13.0s								
WHN				LZ					
	comp=N,7μm,19.3s								
XAN	**Xi'an**	**42.51**	**260**	P		**P**	**06 31 14.6**	**+0.3**	
XAN				pP		pP	06 31 24.7	+6.0	
XAN				S		**S**	**06 37 32.9**	**-2.9**	
XAN				PMZ					
	comp=N,11nm,1.8s								
XAN				PMZ					
	comp=N,59nm,7.2s								
XAN				LN					
	comp=N,4μm,18.4s								
XAN				LE					
	comp=N,2μm,18.4s								
XAN				LZ					
	comp=N,2μm,13.3s								
KBS	**Kingsbay**	**42.85**	**352**	*e*P		**P**	**06 31 17.9**	**+1.4**	
KBS				IAmb		IAmb	06 31 20.1		
	comp=Z,170nm,1.8s								
KBS				*e*S		**S**	**06 37 39.7**	**-0.2**	
KBS				IAMs_20		IAMs_20	06 48 04.2		
	comp=Z,2μm,18.9s								
SPA0	**Spitsbergen Ar**	**43.16**	**350**	*e*P		**P**	**06 31 19.3**	**+0.2**	
SPA0				IAmb		IAmb	06 31 23.5		
	comp=Z,247nm,1.3s								
SPA0				*e*S		**S**	**06 37 40.6**	**-3.9**	
SPA0				IAMs_20		IAMs_20	06 48 35.9		
	comp=Z,3μm,21.8s								
GTA	**Gaotai**	**43.47**	**273**	⇑P		**P**	**06 31 22.9**	**+0.8**	
GTA				pP		pP	06 31 33.0	+6.4	
GTA				sP		sP	06 31 36.7	+8.4	
GTA				PP		**PcP**	**06 33 05.4**	**-4.6**	
GTA				PcP		PP	06 33 12.4	+9.4	
GTA				PcS		**PcS**	**06 37 03.7**	**+0.9**	
GTA				S		**S**	**06 37 52.5**	**+2.5**	
GTA				sS		sS	06 38 08.7	+11	
GTA				PMZ					
	comp=Z,41nm,1.5s								
GTA				PMZ					
	comp=Z,370nm,6.2s								
GTA				LN					
	comp=Z,3μm,14.7s								
GTA				LE					
	comp=Z,3μm,13.3s								
GTA				LZ					
	comp=Z,3μm,12.8s								
HOPEN	**Hopen**	**43.69**	**347**	*e*		**S**	**06 37 54.9**	**+2.7**	
HOPEN				IAMs_20		IAMs_20	06 50 05.5		
	comp=Z,3μm,21.7s								
LZH	**Lanzhou**	**43.70**	**267**	⇑P		P	06 31 27.0	+2.9	
LZH				pP		pP	06 31 37.4	+8.9	
LZH				sP		sP	06 31 40.4	+10	
LZH				PP		**PcP**	**06 33 08.2**	**-2.7**	
LZH				S		**S**	**06 37 58.2**	**+4.6**	
LZH				sS		sS	06 38 09.5	+8.6	
LZH				SS		SS	06 41 01.2	-7.5	
LZH				PMZ					
	comp=Z,66nm,1.0s								
LZH				PMZ					
	comp=Z,230nm,4.3s								
LZH				LN					
	comp=Z,5μm,16.5s								
LZH				LE					
	comp=Z,4μm,15.4s								
LZH				LZ					
	comp=Z,6μm,17.0s								
NLWA	**Neilton Lookou**	**44.06**	**70**	*e*P		**P**	**06 31 27.3**	**+0.7**	
MBW	**Mount Baker**	**44.14**	**67**	P		**P**	**06 31 28.3**	**+0.9**	
HSPB	**Hornsund (broa**	**44.31**	**350**	*e*P		**P**	**06 31 29.5**	**+1.3**	
HSPB				IAmb		IAmb	06 31 32.3		
	comp=Z,148nm,1.4s								
HSPB				IAMs_20		IAMs_20	06 49 23.6		
	comp=Z,2μm,18.1s								
JCW	**Jim Creek**	**44.51**	**68**	P		**P**	**06 31 31.3**	**+1.0**	
RPW	**Rockport**	**44.55**	**67**	P		**P**	**06 31 30.9**	**+0.3**	
QZH	**Quanzhou**	**44.87**	**243**	*i*P		**P**	**06 31 33.7**	**+0.4**	
QZH				S		**S**	**06 38 06.9**	**-3.5**	
QZH				LN					
	comp=Z,3μm,20.6s								
QZH				LE					
	comp=Z,4μm,13.6s								
QZH				LZ					
	comp=Z,3μm,13.3s								
ENH	**Enshi**	**45.13**	**256**	*e*P		**P**	**06 31 36.3**	**+0.9**	
	comp=Z,109nm,1.5s								
EDM	**Edmonton**	**45.34**	**57**	*e*P		**P**	**06 31 36.4**	**-0.4**	
EDM	**Edmonton**	**45.34**	**57**	*e*P		**P**	**06 31 36.4**	**-0.4**	
GUMO	**Guam**	**45.60**	**204**	LR		LR	06 49 15.6		
	comp=Z,816nm,21.1s,baz=33,slow=34								
KULLO	**Kullorsuaq**	**45.79**	**14**	*i* P		**P**	**06 31 40.5**	**+0.5**	
KULLO	comp=Z,99nm,0.9s								
				i S		**S**	**06 38 23.2**	**+0.6**	
	comp=Z,3μm,17.0s								
MTMW	**Mount Mitchell**	**45.82**	**70**	P		**P**	**06 31 42.0**	**+1.2**	
WTV	**Waterville**	**45.83**	**67**	P		**P**	**06 31 41.1**	**+0.3**	
SAW	**Saint Andrews**	**46.10**	**67**	P		**P**	**06 31 43.3**	**+0.3**	
TRW	**Toppenish Ridg**	**46.49**	**69**	P		**P**	**06 31 46.8**	**+0.8**	
KURK	**Kurchatov**	**46.62**	**300**	P		**P**	**06 31 46.1**	**-0.8**	
	comp=Z,353nm,1.8s,SNR=46								
KURK	**Kurchatov**	**46.62**	**300**	*e*P		**P**	**06 31 46.0**	**-0.8**	
KURK				pmax	pmax				
	comp=Z,86nm,1.3s								
KURK	**Kurchatov**	**46.62**	**300**	P		**P**	**06 31 46.8**	**-0.1**	
	comp=Z,14nm,1.7s								
KURK				*e*PcP		**PcP**	**06 33 21.7**	**+1.2**	
OD2	**Odessa Site #2**	**46.66**	**67**	P		**P**	**06 31 47.4**	**+0.2**	
KURBB	**Kurchatov Arra**	**46.73**	**300**	P		**P**	**06 31 46.8**	**-0.9**	
	comp=Z,29nm,0.7s,baz=54,slow=7.8,SNR=206								
WMQ	**Urumqi**	**46.82**	**287**	⇑*i*P		P	06 31 50.6	+2.0	
WMQ				pP		pP	06 32 04.2	+11	
WMQ				PcP		**PcP**	**06 33 24.3**	**+2.8**	
WMQ				S		**S**	**06 38 40.6**	**+2.3**	
WMQ				ScS		ScS	06 41 34.4	-8.1	
WMQ				PMZ					
	comp=Z,77nm,1.6s								
WMQ				PMZ					
	comp=Z,710nm,3.6s								
WMQ				LN					
	comp=Z,4μm,15.2s								
WMQ				LE					
	comp=Z,1μm,13.5s								
WMQ				LZ					
	comp=Z,2μm,16.3s								
NEW	**Newport**	**46.85**	**65**	P		**P**	**06 31 48.7**	**-0.1**	
	comp=Z,8.1nm,1.0s,baz=311,slow=7.5,SNR=10.0								
NEW	**Newport**	**46.85**	**65**	P		**P**	**06 31 48.7**	**-0.1**	
NEW				pmax	pmax				
	comp=Z,8.0nm,1.0s								
NEW	**Newport**	**46.85**	**65**	*e*P		**P**	**06 31 48.7**	**-0.1**	
	comp=Z,23nm,1.3s								
NEW	**Newport**	**46.85**	**65**	⇓P		**P**	**06 31 49.3**	**+0.5**	
	baz=47,SNR=14								
HAWA	**Hanford**	**46.93**	**68**	*e*P		**P**	**06 31 49.3**	**-0.1**	
	comp=Z,47nm,1.5s								
CROR	**Criterion Ridg**	**47.16**	**70**	P		**P**	**06 31 52.0**	**+0.7**	
I04A	**Tendick Farm,**	**47.26**	**73**	⇑P		**P**	**06 31 52.7**	**+0.7**	
	baz=47								
I05D	**Terrebonne, OR**	**47.43**	**71**	⇓P		**P**	**06 31 52.9**	**-0.5**	
	baz=47								
MK31	**Makanchi Array**	**47.51**	**293**	*e*P		**P**	**06 31 53.4**	**-0.5**	
MK31	**Makanchi Array**	**47.51**	**293**	*e*P		**P**	**06 31 53.4**	**-0.5**	
MKAR	**Makanchi Array**	**47.51**	**293**	P		**P**	**06 31 52.5**	**-1.5**	
	comp=Z,1.6nm,0.5s,baz=20,slow=4.6,SNR=25								
MKAR				LR		LR	06 55 09.5		
	comp=Z,374nm,21.1s,baz=34,slow=40								
CD2	**Chengdu**	**47.69**	**262**	P		**P**	**06 31 56.4**	**+0.9**	
CD2				pP		pP	06 32 04.9	+4.9	
CD2				sP		sP	06 32 11.3	+10	
CD2				PcP		**PcP**	**06 33 25.9**	**+1.2**	
CD2				PP		**PP**	**06 33 46.4**	**-0.6**	
CD2				S		**S**	**06 38 46.4**	**-4.4**	
CD2				sS		sS	06 39 08.6	+10	
CD2				ScS		**ScS**	**06 41 47.7**	**-0.8**	
CD2				SS		SS	06 42 11.5	-7.2	
CD2				PMZ					
	comp=Z,220nm,1.0s								
CD2				PMZ					
	comp=Z,390nm,4.2s								
CD2				LN					
	comp=Z,3μm,19.3s								
CD2				LE					
	comp=Z,3μm,20.5s								
CD2				LZ					
	comp=Z,4μm,15.6s								
BBOR	**Butler Butte**	**47.76**	**74**	P		**P**	**06 31 57.3**	**+1.3**	
J04D	**Umpqua Nationa**	**47.81**	**73**	⇑P		**P**	**06 31 56.7**	**+0.2**	
	baz=48								
WALA	**Waterton Lakes**	**47.86**	**62**	*e*P		**P**	**06 31 57.1**	**+0.3**	
	comp=Z,51nm,1.1s								
J05D	**Fort Rock, OR**	**48.23**	**72**	⇓P		**P**	**06 32 00.5**	**+0.8**	
	baz=48								
BSMT	**Bassoo Peak**	**48.27**	**64**	*e*P		**P**	**06 32 00.5**	**+0.5**	
	comp=Z,48nm,1.2s								
BLMT	**Blacktail Moun**	**48.37**	**63**	*e*P		**P**	**06 32 00.8**	**+0.1**	
	comp=Z,48nm,1.4s								
YBH	**Yreka Blue Hor**	**48.56**	**75**	P		**P**	**06 32 03.7**	**+1.4**	
	comp=Z,8.6nm,1.1s,baz=346,slow=3.5,SNR=9.0								
YBH	**Yreka Blue Hor**	**48.56**	**75**	*e*P		**P**	**06 32 03.6**	**+1.4**	
YBH				pmax	pmax				
	comp=Z,25nm,1.4s								
YBH	**Yreka Blue Hor**	**48.56**	**75**	*e*P		**P**	**06 32 03.6**	**+1.4**	
	comp=Z,26nm,1.4s								
JTMT	**Jette**	**48.59**	**63**	*e*P		**P**	**06 32 02.9**	**+0.5**	
	comp=Z,42nm,1.3s								
YBMT	**Yellow Bay**	**48.64**	**63**	*e*P		**P**	**06 32 03.0**	**+0.3**	
	comp=Z,25nm,1.2s								
M02C	**Callahan**	**48.73**	**75**	⇓P		**P**	**06 32 04.5**	**+1.0**	
	baz=49								
BVA0	**Borovoye Array**	**48.78**	**307**	*i* P		**P**	**06 32 03.3**	**-0.3**	
BVA0				pmax	pmax				
	comp=N,88nm,1.5s								
BVAR	**Borovoye Array**	**48.78**	**307**	P		**P**	**06 32 02.8**	**-0.9**	
	comp=N,8.4nm,0.6s,baz=57,slow=8.3,SNR=54								
BVAR				LR		LR	06 55 59.4		
	comp=N,2μm,18.1s,baz=44,slow=40								
BVAR	**Borovoye Array**	**48.78**	**307**	P		**P**	**06 32 02.8**	**-0.9**	
BVAR				pmax	pmax				
	comp=Z,8.0nm,0.6s								
BVAR				MLR		MLR			
	comp=Z,2μm,18.1s								
BRVK	**Borovoye**	**48.81**	**307**	P		**P**	**06 32 03.3**	**-0.5**	
	comp=Z,279nm,1.4s,SNR=14								
BRVK	**Borovoye**	**48.81**	**307**	*e*P		**P**	**06 32 03.4**	**-0.4**	
BRVK				*e*			06 33 54.6		
BRVK				pmax	pmax				
	comp=Z,258nm,1.8s								
BRVK	**Borovoye**	**48.81**	**307**	*e*P		**P**	**06 32 03.4**	**-0.4**	
	comp=Z,258nm,1.8s								
BRVK				*e*PP		**PP**	**06 33 54.6**	**-2.0**	
SWMT	**Swartz Lake**	**48.89**	**63**	*e*P		**P**	**06 32 05.0**	**+0.3**	
	comp=Z,32nm,1.3s								
M04C	**Macdoel**	**48.98**	**74**	⇓P		**P**	**06 32 05.5**	**+0.1**	
	baz=49								
N02D	**Trinity Center**	**49.11**	**75**	⇑P		**P**	**06 32 07.4**	**+1.0**	
	baz=49								
BMO	**Blue Mountains**	**49.12**	**68**	*e*P		**P**	**06 32 06.8**	**+0.3**	
	comp=Z,37nm,1.4s								
FFC	**Flin Flon**	**49.27**	**50**	P		**P**	**06 32 07.6**	**+0.3**	
	comp=Z,93nm,1.1s,SNR=6.4								
FFC	**Flin Flon**	**49.27**	**50**	*e*P		**P**	**06 32 07.3**	**0.0**	
FFC				*e*			06 33 30.8		
FFC				pmax	pmax				
	comp=Z,47nm,1.4s								
FFC	**Flin Flon**	**49.27**	**50**	*e*P		**P**	**06 32 07.3**	**0.0**	
	comp=Z,47nm,1.4s								
FFC				*e*PcP		**PcP**	**06 33 30.8**	**+0.9**	
SLMT	**Seeley Lake**	**49.33**	**63**	*e*P		**P**	**06 32 08.6**	**+0.5**	
	comp=Z,38nm,1.1s								
SLMT				*e*PcP		**PcP**	**06 33 33.6**	**+3.0**	
MSO	**Missoula**	**49.40**	**64**	⇑P		**P**	**06 32 09.0**	**+0.4**	
	baz=49,SNR=16								
FCC	**Fort Churchill**	**49.45**	**42**	*e*P		**P**	**06 32 08.2**	**-0.4**	
FCC				pmax	pmax				
	comp=Z,46nm,1.1s								
FCC	**Fort Churchill**	**49.45**	**42**	*e*P		**P**	**06 32 08.2**	**-0.4**	
	comp=Z,46nm,1.1

GYA PP **PP** **06 34 07.4 +2.2**
GYA ScP **ScP** **06 37 25.5 -1.2**
GYA S **S** **06 39 15.9 -3.1**
GYA sS sS 06 39 34.0 +7.6
GYA PMZ
comp=Z,80nm,1.0s
GYA PMZ
comp=Z,270nm,5.0s
GYA LN
comp=Z,3µm,21.6s
GYA LE
comp=Z,2µm,19.5s
GYA LZ
comp=Z,4µm,20.6s
SVE Sverdlovsk 50.08 315 ⇓ *e*P **P** **06 32 14.1 +0.7**
SVE *e* 06 34 11.1
SVE *e*PPP PPP 06 35 02.1
SVE *e*S **S** **06 39 27.2 +3.4**
SVE *e* 06 42 00.6
SVE pmax pmax
comp=Z,66nm,4.1s
SVE pmax pmax
comp=Z,219nm,1.6s
SVE MLR MLR
comp=Z,2µm,19.0s
A19A Klindworth Far 50.39 59 ⇑ P **P** **06 32 16.3 +0.3**
baz=50,SNR=24
HRY Holter Researc 50.51 63 *e*P **P** **06 32 17.3 +0.3**
comp=Z,51nm,1.3s
EGMT Eagleton 50.56 60 *e*P **P** **06 32 17.5 +0.2**
comp=Z,53nm,1.1s
EGMT Eagleton 50.56 60 ⇑ P **P** **06 32 17.7 +0.3**
baz=50,SNR=18
TRO Tromso 50.61 344 *e*P **P** **06 32 18.2 +0.9**
TRO *e*S **S** **06 39 26.4 -4.5**
B19A Brinkman Farms 50.63 59 ⇑ P **P** **06 32 18.5 +0.6**
baz=50,SNR=15
A20A Cobblestone Ra 50.80 58 ⇓ P **P** **06 32 20.0 +0.9**
baz=51,SNR=36
LRM Limekiln Ridge 50.84 64 *e*P **P** **06 32 19.6 -0.1**
comp=Z,295nm,1.7s
MFID Camas Ranch 50.90 68 *e*P **P** **06 32 20.5 +0.5**
comp=Z,23nm,1.2s
B20A Solberg Farm, 51.08 59 ⇑ P **P** **06 32 21.5 +0.3**
baz=51,SNR=15
C19A Slack Wire Ran 51.10 60 ⇓ P **P** **06 32 22.0 +0.6**
baz=51,SNR=40
ARU Arti 51.15 316 P **P** **06 32 21.9 +0.3**
comp=Z,511nm,1.4s,SNR=33
ARU Arti 51.15 316 *d i*P **P** **06 32 21.7 +0.1**
ARU 06 33 34.7
ARU 06 34 17.0
ARU PPP PPP 06 35 15.4
ARU S **S** **06 39 38.6 -0.1**
ARU 06 42 05.5
ARU SS **SS** **06 43 14.2 +1.0**
ARU pmax pmax
comp=Z,209nm,1.7s
ARU MLR MLR
comp=Z,2µm,17.0s
ARU Arti 51.15 316 *e*P **P** **06 32 21.3 -0.3**
comp=Z,148nm,1.2s
A21A Bergtoll Ranch 51.18 58 ⇓ P **P** **06 32 22.6 +0.6**
baz=51,SNR=15
MCMT McKenzie Canyo 51.36 65 *e*P **P** **06 32 23.8 +0.2**
comp=Z,6.3nm,1.1s
BOZ Bozeman (W) 51.37 64 *e*P **P** **06 32 24.1 +0.6**
BOZ pmax pmax
comp=Z,66nm,1.8s
BOZ Bozeman (W) 51.37 64 *e*P **P** **06 32 24.1 +0.6**
comp=Z,66nm,1.8s
ILULI Ilulissat 51.47 15 *i*P **P** **06 32 22.9 -0.9**
comp=Z,18nm,0.8s
ILULI *i*S **S** **06 39 44.4 +1.6**
comp=Z,2µm,16.0s
HLID Hailey 51.50 67 *e*P **P** **06 32 25.2 +0.6**
comp=Z,15nm,1.4s
HLID Hailey 51.50 67 ⇓ P **P** **06 32 25.2 +0.6**
baz=51,SNR=9.1
PRGR Permogore 51.54 327 *e*P **P** **06 32 25.5 +1.2**
PRGR pmax pmax
comp=Z,90nm,1.0s
B21A Ellsworth Farm 51.55 58 ⇓ P **P** **06 32 25.0 +0.3**
baz=51
TMCR Tamitsa 51.58 332 *e*P **P** **06 32 23.8 -0.8**
TMCR pmax pmax
comp=Z,48nm,1.2s
D19A Cripps Ranch, 51.59 61 ⇓ P **P** **06 32 25.4 +0.3**
baz=51,SNR=17
C20A Veseth Ranch, 51.60 60 ⇑ P **P** **06 32 25.8 +0.6**
baz=51,SNR=30
A22A Carney Farms, 51.65 57 ⇓ P **P** **06 32 25.4 0.0**
baz=51,SNR=13
JMIC Jan Mayen 51.82 356 *e*S S 06 39 52.1 +4.6
JMIC Jan Mayen 51.82 356 LR LR 06 53 14.9
comp=Z,618nm,21.4s,baz=44,slow=35
C21A Desert Coulee 51.95 59 ⇓ P **P** **06 32 28.0 +0.3**
baz=52
D20A Manuel Ranch, 51.99 60 ⇑ P **P** **06 32 28.7 +0.6**
baz=52,SNR=20
QLMT Earthquake Lak 52.05 64 *e*P **P** **06 32 29.4 +0.6**
comp=Z,2.0nm,1.0s
B22A Reddig Ranch S 52.11 58 ⇑ P **P** **06 32 29.6 +0.7**
baz=52
A23A Redstone 52.14 56 ⇑ P **P** **06 32 28.8 -0.3**
baz=52
E19A Rath Farm, Rou 52.14 61 ⇓ P **P** **06 32 29.6 +0.3**
baz=52,SNR=21
GCMT Greycliff 52.21 62 *e*P **P** **06 32 30.7 +0.9**
comp=Z,31nm,1.3s
BMN Battle Mountai 52.36 72 *e*P **P** **06 32 31.7 +0.7**
BMN pmax pmax
comp=Z,35nm,1.7s
BMN Battle Mountai 52.36 72 *e*P **P** **06 32 31.7 +0.7**
comp=Z,35nm,1.7s
YMR Madison River 52.40 64 *e*P **P** **06 32 32.1 +0.8**
comp=Z,39nm,1.2s
E20A Meyer Farm, Mu 52.42 61 ⇑ P **P** **06 32 31.6 +0.3**
baz=52,SNR=11
B23A Brockton 52.45 57 ⇓ P **P** **06 32 32.0 +0.6**
baz=52,SNR=7.5
YNR Norris Junctio 52.51 64 *e*P **P** **06 32 33.2 +1.1**
comp=Z,39nm,1.3s
F19A Roth Farm, Mol 52.51 62 ⇑ P **P** **06 32 32.3 +0.3**
baz=52,SNR=24
D21A La Casta Ranch 52.55 59 ⇑ P **P** **06 32 33.1 +0.9**
baz=52,SNR=14
A24A Westby 52.56 56 ⇑ P **P** **06 32 33.1 +0.9**
baz=52,SNR=9.8
C22A Vida 52.57 58 ⇑ P **P** **06 32 32.9 +0.6**
baz=52
YFT Old Faithful 52.62 64 *e*P P 06 32 35.0 +2.0
comp=Z,27nm,1.0s
WAKR Walker 52.63 75 *e*P **P** **06 32 33.7 +0.6**
comp=Z,50nm,1.8s
LKWY Lake 52.75 64 *e*P P 06 32 36.0 +2.1
LKWY pmax pmax
comp=Z,33nm,1.1s
LKWY Lake 52.75 64 *e*P P 06 32 36.0 +2.1
comp=Z,33nm,1.1s
H17A Grant Village 52.79 64 *e*P P 06 32 36.4 +2.1
comp=Z,43nm,1.2s
H17A Grant Village 52.79 64 ⇓ P P 06 32 36.7 +2.5
baz=53,SNR=28
DGMT Dagmar 52.81 56 *e*P **P** **06 32 33.4 -0.6**
comp=Z,28nm,1.1s
DGMT Dagmar 52.81 56 ⇓ P **P** **06 32 34.7 +0.7**
baz=53
KMI Kunming 52.82 259 P **P** **06 32 36.4 +1.8**
KMI sP sP 06 32 52.7 +12
KMI S **S** **06 40 00.6 -2.1**
KMI sS sS 06 40 20.1 +10
KMI SS **SS** **06 43 38.4 -2.8**
KMI PMZ
comp=Z,79nm,1.9s
KMI PMZ
comp=Z,730nm,3.1s
KMI LN
comp=Z,2µm,14.7s
KMI LE
comp=Z,2µm,13.4s
KMI LZ
comp=Z,3µm,14.0s
C23A Lambert 52.85 58 ⇓ P **P** **06 32 35.5 +1.2**
baz=53,SNR=12
D22A Cohagen 52.87 59 ⇑ P **P** **06 32 35.5 +0.9**
baz=53,SNR=13
RLMT Red Lodge 52.89 63 *e*P **P** **06 32 36.1 +1.2**
comp=Z,46nm,1.2s
E21A Keefer Ranch, 52.89 60 ⇑ P **P** **06 32 36.2 +1.4**
baz=53
F20A Billings 52.93 61 ⇓ P **P** **06 32 36.5 +1.4**
baz=53,SNR=15
A25A Svangstu Ranch 52.95 55 ⇓ P **P** **06 32 36.2 +1.1**
baz=53
FLWY Flagg Ranch 52.96 64 *e*P **P** **06 32 36.9 +1.4**
comp=Z,50nm,1.2s
IMW Indian Meadow 52.98 65 *e*P **P** **06 32 36.9 +1.2**
comp=Z,54nm,1.4s
IMW *e*PcP **PcP** **06 33 44.8 +0.5**
H18A Shoshone NF, C 53.03 63 ⇑ P **P** **06 32 37.1 +1.2**
baz=53
I17A Pilgrim Ck. 53.14 64 ⇓ P P 06 32 39.0 +2.2
baz=53,SNR=5.4
ELK Elko 53.15 70 *e*P **P** **06 32 37.2 +0.3**
ELK pmax pmax
comp=Z,16nm,1.3s
ELK Elko 53.15 70 *e*P **P** **06 32 37.1 +0.3**
comp=Z,16nm,1.3s
MOOW Moose Ponds 53.18 65 *e*P **P** **06 32 38.1 +1.0**
comp=Z,23nm,1.3s
LAO LASA Array 53.18 59 *e*P **P** **06 32 37.7 +0.8**
comp=Z,66nm,1.3s
TPAW Teton Pass 53.27 65 *e*P **P** **06 32 38.8 +0.9**
comp=Z,45nm,1.3s
NVAR Mina Array Bea 53.28 74 P **P** **06 32 38.1 +0.2**
comp=Z,3.7nm,0.6s,baz=296,slow=6.1,SNR=7.6
D23A Lindsay 53.30 58 ⇑ P **P** **06 32 38.9 +1.1**
baz=53,SNR=8.0
G20A Bridger 53.32 62 ⇑ P **P** **06 32 38.5 +0.4**
baz=53,SNR=26
LOHW Long Hollow 53.35 65 *e*P **P** **06 32 38.7 +0.4**
comp=Z,36nm,1.3s
H19A Powell 53.36 63 ⇑ P **P** **06 32 39.6 +1.3**
baz=53,SNR=9.9
SNOW Snow King Moun 53.39 65 *e*P **P** **06 32 39.7 +1.0**
comp=Z,26nm,1.3s
C24A Savage 53.39 57 ⇑ P **P** **06 32 39.5 +1.2**
baz=53
F21A Absaloka Mine, 53.40 61 ⇑ P **P** **06 32 39.9 +1.4**
baz=53
REDW Red Top Meadow 53.41 65 *e*P **P** **06 32 39.8 +1.0**
comp=Z,40nm,1.4s
B25A Knox Farm, Ray 53.42 56 ⇑ P **P** **06 32 39.3 +0.8**
baz=53
A26A Wade Farm, Ken 53.46 55 ⇑ P **P** **06 32 39.6 +0.8**
baz=53
E22A Miles City 53.50 59 ⇑ P **P** **06 32 39.6 +0.5**
baz=53,SNR=14
TKM2 Tokmak 2 53.60 294 P **P** **06 32 40.1 -0.1**
SNR=16
TKM2 Tokmak 2 53.60 294 *e*P **P** **06 32 39.4 -0.8**
TKM2 *e* 06 33 46.4
TKM2 pmax pmax
comp=Z,94nm,1.9s
TKM2 Tokmak 2 53.60 294 *e*P **P** **06 32 39.4 -0.8**
comp=Z,94nm,1.9s
TKM2 *e*PcP **PcP** **06 33 46.4 -0.2**
SFJD Kangerlussuaq 53.61 15 *i*P **P** **06 32 40.5 +0.9**
comp=Z,7.2nm,0.8s
SFJD *i*S **S** **06 40 14.8 +2.8**
comp=Z,2µm,18.0s
SFJD Kangerlussuaq 53.61 15 *i*P **P** **06 32 40.5 +0.9**
SFJD *i*S **S** **06 40 14.8 +2.8**
SFJD pmax pmax
comp=Z,7.0nm,0.8s
SFJD MLR MLR
comp=Z,2µm,18.0s
HVU Hansel Valley 53.63 68 *e*P **P** **06 32 41.1 +0.7**
HVU pmax pmax
comp=Z,26nm,1.4s
HVU Hansel Valley 53.63 68 *e*P **P** **06 32 41.0 +0.7**
comp=Z,26nm,1.4s
AHID Auburn Hatcher 53.73 66 *e*P **P** **06 32 41.6 +0.4**
comp=Z,31nm,1.4s
D24A Glendive 53.75 58 ⇓ P **P** **06 32 41.5 +0.6**
baz=54
B26A Jensen Ranch, 53.76 55 ⇑ P **P** **06 32 40.4 -0.7**
baz=54
G21A Lodge Grass 53.80 61 ⇑ P **P** **06 32 42.3 +0.8**
baz=54,SNR=11
I19A Meeteetse 53.82 63 ⇑ P **P** **06 32 42.6 +0.8**
baz=54
F22A Rosebud 53.84 60 ⇑ P **P** **06 32 42.7 +0.9**
baz=54
USP Ospenovka 53.89 295 P **P** **06 32 42.1 0.0**
SNR=23
KLMR Klimovskoe 53.92 329 *e*P **P** **06 32 42.9 +1.0**
KLMR S S 06 40 26.3 +10
KLMR pmax pmax
comp=Z,172nm,1.9s
KLMR MLR MLR
comp=Z,1µm,14.0s
CHMS Chumysh 53.96 295 P **P** **06 32 43.1 +0.5**
SNR=15
H20A Greybull 53.97 62 ⇓ P **P** **06 32 43.3 +0.6**
baz=54
TPH Tonopah 54.11 74 *e*P **P** **06 32 45.2 +1.3**
TPH pmax pmax
comp=Z,74nm,1.8s
TPH Tonopah 54.11 74 *e*P **P** **06 32 45.2 +1.3**
comp=Z,74nm,1.8s
KBK Karagaybulak 54.12 295 P **P** **06 32 43.9 -0.1**
SNR=23
BGU Big Grassy Mou 54.13 69 *e*P **P** **06 32 44.9 +0.9**
comp=Z,16nm,1.4s
FRU Bishkek 54.15 295 *i*P **P** **06 32 44.0 0.0**
FRU *e*S **S** **06 40 19.5 -0.6**
FRU *e* 06 42 35.5
FRU pmax pmax
comp=Z,270nm,2.0s
QIZ Qiongzhong 54.16 248 P **P** **06 32 45.1 +0.8**
QIZ pP pP 06 32 54.1 +5.3
QIZ sP sP 06 32 58.3 +7.8
QIZ S **S** **06 40 20.5 -0.1**
QIZ sS sS 06 40 38.4 +10
QIZ PMZ
comp=Z,9.0nm,1.0s
QIZ PMZ
comp=Z,280nm,4.5s
QIZ LN
comp=Z,1µm,15.8s
QIZ LE
comp=Z,330nm,16.7s
QIZ LZ
comp=Z,2µm,19.3s
E24A Baker 54.17 58 ⇓ P **P** **06 32 44.6 +0.5**
baz=54
D25A Fairfield 54.18 57 ⇓ P **P** **06 32 44.8 +0.6**
baz=54
A28A Rude Farm, Bot 54.23 54 ⇑ P **P** **06 32 45.7 +1.2**
baz=54
G22A Birney 54.24 61 ⇑ P **P** **06 32 45.3 +0.7**
baz=54
F23A Volborg 54.28 60 ⇑ P **P** **06 32 45.9 +0.9**
baz=54,SNR=16
I20A Worland 54.31 63 ⇓ P **P** **06 32 46.6 +1.4**
baz=54,SNR=13
H21A Big Horn, Sher 54.32 62 ⇑ P **P** **06 32 46.5 +1.1**
baz=54,SNR=11
TIN Tinemaha, Big 54.35 75 ⇑ P P 06 32 47.6 +2.0
baz=54
AAK Ala-Archa 54.36 295 P **P** **06 32 45.5 -0.2**
comp=Z,244nm,0.8s,SNR=18
AAK Ala-Archa 54.36 295 P **P** **06 32 46.0 +0.3**
SNR=28
AAK Ala-Archa 54.36 295 P **P** **06 32 45.7 0.0**
comp=Z,17nm,0.8s,baz=78,slow=3.4,SNR=51
AAK PP **PP** **06 34 49.8 +2.5**
comp=Z,3.8nm,0.8s,baz=35,slow=7.5,SNR=2.8
AAK Ala-Archa 54.36 295 *c e*P **P** **06 32 46.0 +0.3**
AAK pmax pmax
comp=Z,207nm,1.7s
AAK Ala-Archa 54.36 295 P **P** **06 32 46.4 +0.7**
SNR=53
AAK Ala-Archa 54.36 295 P **P** **06 32 45.7 0.0**
comp=Z,4.6nm,0.8s
AAK *e*PP **PP** **06 34 48.1 +0.8**
AAK PP PP 06 34 49.8 +2.5
HWUT Hardware Ranch 54.36 67 *e*P **P** **06 32 46.5 +0.7**
comp=Z,76nm,0.6s
J19A Crowheart 54.37 64 ⇓ P **P** **06 32 47.2 +1.5**
baz=54,SNR=16
RCTC Rector, Farmer 54.38 77 ⇓ P **P** **06 32 46.6 +0.9**
baz=54
KZA Kyzart 54.40 294 P **P** **06 32 46.0 -0.3**
SNR=20
BW06 Boulder Array 54.49 65 *e*P **P** **06 32 46.5 -0.2**
comp=Z,150nm,1.2s
PDAR Pinedale Array 54.49 65 P **P** **06 32 46.8 +0.1**
comp=Z,9.9nm,0.8s,baz=348,slow=4.1,SNR=44
PDAR LR LR 06 58 06.3
comp=Z,619nm,18.9s,baz=344,slow=38
B28A Dugan Ranch, T 54.53 54 ⇓ P **P** **06 32 47.3 +0.6**
baz=54
E25A Miller Ranch, 54.63 58 ⇑ P **P** **06 32 48.1 +0.7**
baz=54
F24A Ekalaka 54.64 59 ⇓ P **P** **06 32 48.5 +1.0**
baz=54
UCH Uchtor 54.65 295 P P **P** **06 32 48.7 +0.6**
SNR=22
A29A Manning Farm, 54.67 53 ⇓ P **P** **06 32 48.9 +1.2**
baz=54,SNR=19
D26A Manning 54.67 57 ⇑ P **P** **06 32 48.9 +1.1**
baz=54
H22A Clearmont 54.68 61 ⇑ P **P** **06 32 49.1 +1.3**
baz=54
G23A Biddle 54.68 60 ⇑ P **P** **06 32 48.8 +0.9**
baz=54
EKS2 Erkin-Say 54.69 295 P P **P** **06 32 48.4 +0.4**
SNR=30
EKS2 Erkin-Say 54.69 295 *e*P **P** **06 32 48.3 +0.2**
EKS2 *e* 06 33 51.2
EKS2 pmax pmax
comp=Z,69nm,1.2s
EKS2 Erkin-Say 54.69 295 *e*P **P** **06 32 48.2 +0.2**
comp=Z,69nm,1.2s
EKS2 *e*PcP **PcP** **06 33 51.2 +0.5**
SMMC Simmler 54.73 78 ⇓ P **P** **06 32 49.7 +1.4**
baz=55
R11A Troy Canyon, C 54.75 73 *e*P **P** **06 32 49.0 +0.3**
comp=Z,20nm,1.4s
R11A Troy Canyon, C 54.75 73 ⇑ P **P** **06 32 49.5 +0.9**
baz=55
J20A Shoshoni 54.77 63 ⇑ P **P** **06 32 49.7 +1.0**
baz=55,SNR=12
DUG Dugway, Tooele 54.79 69 *e*P **P** **06 32 49.0 +0.2**
DUG pmax pmax
comp=Z,27nm,1.4s
DUG Dugway, Tooele 54.79 69 *e*P **P** **06 32 49.0 +0.2**
comp=Z,26nm,1.4s
DUG Dugway, Tooele 54.79 69 ⇓ P **P** **06 32 50.2 +1.4**
baz=55
TCUT Toone Canyon 54.81 67 *e*P **P** **06 32 49.8 +0.7**
comp=Z,29nm,1.1s
I21A Big Trails, Te 54.81 62 ⇑ P **P** **06 32 49.1 +0.2**
baz=55
VES Vestal, Richgr 54.81 77 ⇑ P **P** **06 32 49.4 +0.6**
baz=55
GRAC Grapevine Rang 54.84 75 ⇓ P P 06 32 50.9 +1.8
baz=55
B29A Wagenman Farm, 54.96 54 ⇓ P **P** **06 32 50.5 +0.7**
baz=55
F25A Bowman 55.03 58 ⇑ P **P** **06 32 51.2 +0.8**
baz=55
G24A Alzada 55.04 59 ⇓ P **P** **06 32 50.9 +0.4**
baz=55
A30A Hoffart Farm, 55.06 53 ⇑ P **P** **06 32 51.3 +0.8**
baz=55,SNR=12
C28A Hausauer Farms 55.07 55 ⇑ P **P** **06 32 52.2 +1.6**
baz=55
E26A Carlson Angus 55.08 57 ⇓ P **P** **06 32 51.5 +0.8**
baz=55,SNR=11
J21A Lysite 55.09 63 ⇑ P **P** **06 32 51.8 +0.8**
baz=55,SNR=14
ULM Lac du Bonnet 55.09 50 P **P** **06 32 50.8 +0.2**
comp=Z,7.7nm,0.8s,baz=317,slow=7.3,SNR=11
ULM LR LR 06 56 47.4
comp=Z,883nm,19.9s,baz=336,slow=36
ULM Lac du Bonnet 55.09 50 P **P** **06 32 50.8 +0.2**
ULM pmax pmax
comp=Z,8.0nm,0.8s
ULM MLR MLR
comp=Z,883nm,19.9s
ULM Lac du Bonnet 55.09 50 P **P** **06 32 50.8 +0.2**
comp=Z,14nm,1.4s
AML Almayashu 55.13 295 P **P** **06 32 52.4 +0.8**
SNR=15
I22A 9 Mile Ranch, 55.14 62 ⇑ P **P** **06 32 52.0 +0.8**
baz=55,SNR=9.5
H23A Clabaugh Cattl 55.15 60 ⇑ P **P** **06 32 52.0 +0.7**
baz=55
JLU Jordanelle 55.17 68 *e*P **P** **06 32 52.7 +1.0**
comp=Z,48nm,1.8s
DAC Darwin (Calif) 55.27 76 *e*P **P** **06 32 53.3 +0.9**
DAC pmax pmax
comp=Z,12nm,1.2s
DAC Darwin (Calif) 55.27 76 *e*P **P** **06 32 53.3 +0.9**
comp=Z,12nm,1.2s
ISA Isabella, Lake 55.27 77 *e*P **P** **06 32 51.9 -0.4**
ISA pmax pmax
comp=Z,9.0nm,0.8s
ISA Isabella, Lake 55.27 77 *e*P **P** **06 32 51.9 -0.4**
comp=Z,9.1nm,0.8s
ISA Isabella, Lake 55.27 77 ⇓ P **P** **06 32 53.5 +1.3**
baz=55
MDND Maddock 55.32 54 *e*P **P** **06 32 53.4 +1.0**
comp=Z,121nm,1.3s
MDND Maddock 55.32 54 ⇓ P **P** **06 32 53.6 +1.2**
baz=55
NLU North Lily Min 55.34 69 *e*P P 06 32 49.6 -3.3
comp=Z,26nm,1.4s
NLU *e*PcP **PcP** **06 33 53.4 +0.1**
D28A Regan 55.39 55 ⇑ P **P** **06 32 54.5 +1.6**
baz=55
H24A Dirks Ranch, A 55.41 60 ⇑ P **P** **06 32 53.2 +0.1**
baz=55,SNR=13
B30A Myrvik Farm, E 55.42 53 ⇑ P **P** **06 32 54.0 +1.0**
baz=55,SNR=11
LSA Lhasa 55.45 272 *e*P **P** **06 32 54.7 +0.6**
LSA pmax pmax
comp=Z,29nm,0.9s
LSA Lhasa 55.45 272 *e*P **P** **06 32 54.7 +0.6**
comp=Z,30nm,0.9s
F26A Lodgepole 55.45 58 ⇓ P **P** **06 32 54.9 +1.5**
baz=55
TPNV Topopah Spring 55.47 74 ⇑ P P 06 32 55.7 +1.9
baz=55
J22A Midwest 55.50 62 ⇓ P **P** **06 32 55.3 +1.4**
baz=55,SNR=7.9
FURC Furnace Creek, 55.51 75 ⇓ P P 06 32 55.7 +1.9
baz=55
E27A Carson 55.52 57 ⇑ P P 06 32 55.7 +1.8
baz=55
MPU Maple Canyon 55.52 68 *e*P **P** **06 32 54.8 +0.7**
comp=Z,64nm,1.5s
SBC Santa Barbara 55.55 79 ⇓ P **P** **06 32 55.2 +1.1**
baz=55
G25A Newell 55.60 59 ⇓ P **P** **06 32 55.3 +0.8**
baz=55
K21A Alcova 55.72 63 ⇑ P **P** **06 32 56.0 +0.5**
baz=56,SNR=10.0
F27A Lemmon 55.73 57 ⇓ P **P** **06 32 56.2 +0.8**
baz=56
E28A Huff 55.80 56 ⇑ P **P** **06 32 56.6 +0.8**
baz=56
LRMC Laurel Mtn Rad 55.83 76 ⇓ P **P** **06 32 57.7 +1.4**
baz=56
AKTO Aktyubinsk 55.90 312 P **P** **06 32 56.3 -0.2**
AKTO pmax pmax
comp=Z,141nm,1.4s
G26A Maurine 55.91 58 ⇑ P **P** **06 32 56.6 0.0**
baz=56,SNR=16
D29A Pettibone, Tap 55.92 55 ⇑ P **P** **06 32 57.2 +0.5**
baz=56
C30A Mose, Pekin 55.92 54 ⇑ P **P** **06 32 57.3 +0.6**
baz=56
BSC Santa Cruz Isl 55.93 79 ⇓ P **P** **06 32 57.9 +0.9**
baz=56
OSI Osito Audit: C 55.94 78 ⇓ P **P** **06 32 57.4 +0.4**
baz=56
KK31 Karatay Array 55.94 298 *i*P **P** **06 32 55.7 -1.2**
KK31 pmax pmax
comp=N,77nm,1.3s
KKAR Karatay Array 55.94 298 *e*P **P** **06 32 56.2 -0.7**
KKAR *e* 06 35 01.7
KKAR pmax pmax
comp=Z,15nm,0.8s
KKAR Karatay Array 55.94 298 *e*P **P** **06 32 56.2 -0.7**
comp=Z,15nm,0.8s
KKAR *e*PP **PP** **06 35 01.7 +0.4**
J23A Dilts Ranch, B 55.95 62 ⇓ P **P** **06 32 57.4 +0.3**

baz=56
H25A Fruitdale 55.95 59 ⇑P P 06 32 57.7 +0.7
baz=56
KSH Kashi 55.96 291 P P 06 33 00.9 +3.7
KSH esP sP 06 33 14.8 +11
KSH PP PP 06 35 07.2 +5.5
KSH S S **06 40 45.3 +0.7**
KSH ScS ScS **06 42 44.0 -1.8**
KSH PMZ
comp=Z,180nm,1.7s
KSH LN
comp=Z,2µm,13.4s
KSH LE
comp=Z,2µm,10.8s
KSH LZ
comp=Z,2µm,12.8s
AB31 Akbulak array 56.02 309 *i* P P 06 32 56.7 -0.6
AB31 pmax pmax
comp=N,102nm,1.5s
ABKAR Akbulak array 56.02 309 *e*P P 06 32 57.4 +0.1
comp=N,174nm,1.6s
ABKAR *e*PcP PcP **06 33 55.3 -0.1**
K22A Casper 56.05 63 *e*P P 06 32 58.5 +0.6
comp=N,31nm,1.3s
K22A Casper 56.05 63 ⇓P P 06 32 58.8 +0.9
baz=56,SNR=9.5
RSSD Black Hills 56.13 60 *e*P P 06 32 57.8 -0.7
RSSD pmax pmax
comp=Z,36nm,1.3s
RSSD Black Hills 56.13 60 *e*P P 06 32 57.8 -0.7
comp=Z,36nm,1.3s
BLG Laguna Peak, P 56.15 78 ⇓P P 06 32 59.6 +1.2
baz=56
G27A Dupree 56.15 58 ⇓P P 06 32 59.2 +0.8
baz=56
D30A Buchanan 56.26 54 ⇑P P 06 32 59.8 +0.8
baz=56,SNR=9.4
TMUT Trail Mountain 56.28 69 *e*P P 06 33 00.7 +1.0
comp=Z,34nm,1.2s
I25A Rochford 56.35 60 ⇑P P 06 33 03.8 +3.8
baz=56,SNR=6.3
MVU Marysvale 56.37 70 *e*P P 06 33 01.6 +1.3
comp=Z,39nm,1.6s
SHPR Sheep Range 56.37 74 *e*P P 06 33 00.5 +0.2
comp=Z,46nm,1.9s
MSU Marysvale 56.38 70 *e*P P 06 33 01.4 +1.0
MSU pmax pmax
comp=Z,54nm,1.5s
MSU Marysvale 56.38 70 *e*P P 06 33 01.4 +1.0
comp=Z,54nm,1.5s
K23A Bowen Ranch, D 56.41 62 ⇑P P 06 33 04.5 +4.1
baz=56
GSC Goldstone, Bar 56.43 76 *e*P P 06 32 57.9 -2.7
GSC pmax pmax
comp=Z,75nm,1.6s
GSC Goldstone, Bar 56.43 76 *e*P P 06 32 57.9 -2.7
comp=Z,75nm,1.6s
GSC Goldstone, Bar 56.43 76 ⇑P P 06 33 02.5 +2.0
baz=56
J24A Dixon Ranch, L 56.43 61 ⇑P P 06 33 02.6 +2.1
baz=56
L22A Ellis Ranch, M 56.57 63 ⇑P P 06 33 02.8 +1.2
baz=56
N20A Spence Gulch, 56.58 65 ⇑P P 06 33 03.5 +1.7
baz=56,SNR=25
AGMN Agassiz Nation 56.59 52 *e*P P 06 33 01.6 +0.2
comp=Z,59nm,1.5s
AGMN Agassiz Nation 56.59 52 ⇓P P 06 33 01.8 +0.4
baz=56,SNR=13
H27A Howes 56.65 58 ⇑P P 06 33 02.5 +0.6
baz=56,SNR=10
E30A Jud 56.65 55 ⇑P P 06 33 03.2 +1.2
baz=56
FIA1 FINESS Array S 56.72 337 *e*P P 06 33 02.8 +0.7
FINES FINESS Array B 56.72 337 P P 06 33 01.8 -0.3
comp=Z,7.9nm,0.7s,baz=63,slow=8.8,SNR=13
FINES PcP PcP **06 33 57.2 -0.7**
comp=Z,3.9nm,0.7s,baz=38,slow=3.3,SNR=4.1
FINES LR LR 07 02 17.4
comp=Z,850nm,18.4s,baz=26,slow=41
FINES FINESS Array B 56.72 337 P P 06 33 01.8 -0.3
FINES 06 33 57.2
FINES pmax pmax
comp=Z,8.0nm,0.7s
FINES MLR MLR
comp=Z,850nm,18.4s
I26A New Underwood 56.74 59 ⇓P P 06 33 03.5 +0.8
baz=56
F29A Eureka 56.76 56 ⇓P P 06 33 03.7 +1.0
baz=56
SRU San Rafael Swe 56.77 68 *e*P P 06 33 04.0 +1.0
SRU pmax pmax
comp=Z,66nm,1.3s
SRU San Rafael Swe 56.77 68 *e*P P 06 33 04.0 +1.0
comp=Z,66nm,1.3s
TUQ Turquoise Moun 56.79 75 ⇓P P 06 33 05.1 +1.9
baz=57
J25A Sunshine Ranch 56.79 60 ⇓P P 06 33 04.1 +1.0
baz=57
G28A Parade 56.84 57 ⇑P P 06 33 07.3 +4.0
baz=57
L23A Garrett 56.86 63 ⇑P P 06 33 04.3 +0.6
baz=57,SNR=22
M22A Cedar Creek Ra 56.97 64 ⇑P P 06 33 05.4 +0.9
baz=57
I27A Quinn 57.09 59 ⇓P P 06 33 05.7 +0.6
baz=57,SNR=16
H28A Mission Ridge 57.10 58 ⇑P P 06 33 06.2 +1.0
baz=57
O20A White River Ci 57.12 66 *e*P P 06 33 06.0 +0.4
comp=Z,69nm,1.2s
O20A White River Ci 57.12 66 ⇓P P 06 33 06.4 +0.8
baz=57,SNR=27
J26A Sides Ranch, S 57.19 60 ⇓P P 06 33 06.3 +0.5
baz=57,SNR=11
G29A Hoven 57.20 56 ⇑P P 06 33 06.5 +0.7
baz=57
L24A Wheatland 57.28 62 ⇑P P 06 33 07.5 +0.9
baz=57
M23A Laramie 57.34 63 ⇓P P 06 33 08.0 +0.8
baz=57
K25A Mack Ranch, Ha 57.35 61 ⇑P P 06 33 07.7 +0.6
baz=57
GMRC Granite Mounta 57.43 75 ⇓P P 06 33 09.0 +1.3
baz=57
N22A Wattenberg Ran 57.49 64 ⇑P P 06 33 09.4 +1.2
baz=57,SNR=14
H29A Onida 57.51 57 ⇑P P 06 33 08.3 +0.3
baz=57
I28A Midland 57.55 58 ⇑P P 06 33 08.6 +0.2
baz=57,SNR=11
G30A Faulkton 57.60 56 ⇑P P 06 33 09.2 +0.6
baz=57,SNR=10
K26A Motz Farm, Whi 57.61 60 ⇓P P 06 33 10.0 +1.2
baz=57
L25A Engebretsen Ra 57.66 61 ⇑P P 06 33 10.4 +1.1
baz=57
N23A Red Feather La 57.67 64 ⇑P P 06 33 10.9 +1.4
baz=58,SNR=10
J27A Elkhorn Farm, 57.74 59 ⇑P P 06 33 11.0 +1.3
baz=58
M24A Cheyenne 57.77 63 ⇓P P 06 33 11.7 +1.6
baz=58,SNR=13
U15A North Rim 57.91 72 ⇓P P 06 33 13.4 +2.1
baz=58
I29A Vivian Onida 57.93 58 ⇑P P 06 33 12.2 +1.2
baz=58
O22A Kremmling 57.94 65 ⇑P P 06 33 13.1 +1.6
baz=58,SNR=7.2
J28A Allard Ranch, 57.97 59 ⇑P P 06 33 12.2 +0.9
baz=58,SNR=22
K27A Fleckinger Fa 58.05 60 ⇓P P 06 33 12.5 +0.6
baz=58
CRAI Chiangrai 58.06 257 P P 06 33 08.9 -3.2
W13A Hualapai Mount 58.11 74 ⇓P P 06 33 14.0 +1.4
baz=58
M25A Palm-Egli Farm 58.17 62 ⇓P P 06 33 14.6 +1.7
baz=58
L26A Underwood Farm 58.17 61 ⇓P P 06 33 12.9 +0.1
baz=58
IRM Iron Mountain 58.17 75 ⇓P P 06 33 14.3 +1.5
baz=58
O23A Lake Granby, G 58.21 64 ⇓P P 06 33 15.2 +1.9
baz=58,SNR=38
N24A Carr 58.24 63 ⇓P P 06 33 14.9 +1.5
baz=58
P22A Eagle 58.27 65 ⇓P P 06 33 15.2 +1.5
baz=58,SNR=11

J29A Okreek 58.40 58 ⇓P P 06 33 14.3 0.0
baz=58,SNR=17
BC3 Big Chuckawall 58.41 76 ⇓P P 06 33 15.6 +1.0
baz=58
I30A Oacoma 58.42 57 ⇑P P 06 33 14.6 +0.2
baz=58
K28A Ten Mile Ranch 58.45 59 ⇑P P 06 33 15.9 +1.2
baz=58
SMCO Snowmass 58.49 66 *e*P P 06 33 15.3 -0.1
comp=Z,17nm,1.0s
MONP Monument Peak, 58.49 77 ⇑P P 06 33 16.2 +0.9
baz=58
PV01 Paradox Valley 58.49 68 *e*P P 06 33 16.0 +0.7
comp=Z,2µm,1.4s
M26A McRoberts Ranc 58.58 61 ⇓P P 06 33 16.5 +0.8
baz=58
PDMCI Parker Dam,Lak 58.60 75 ⇑P P 06 33 16.9 +1.2
baz=58
ISCO Idaho Springs 58.68 64 *e*P P 06 33 17.6 +1.0
ISCO pmax pmax
comp=Z,28nm,1.2s
ISCO Idaho Springs 58.68 64 *e*P P 06 33 17.6 +1.0
comp=Z,28nm,1.2s
ISCO Idaho Springs 58.68 64 ⇑P P 06 33 18.0 +1.4
baz=58,SNR=28
EYMN Ely 58.69 49 *e*P P 06 33 15.9 -0.3
comp=Z,84nm,1.4s
O24A Longmont 58.69 64 ⇑P P 06 33 18.3 +1.8
baz=58,SNR=12
MOS Moscow 58.77 327 *e*P P 06 33 15.0 -1.6
MOS *e* 06 35 24.5
MOS *e*S S **06 41 16.6 -4.1**
MOS pmax pmax
comp=Z,700nm,2.7s
MOS pmax pmax
comp=Z,187nm,1.8s
MOS MLR MLR
comp=Z,1µm,18.0s
SWSC Sam W. Stewart 58.78 77 ⇑P P 06 33 18.6 +1.6
baz=59
Y12C Blythe 58.82 75 ⇓P P 06 33 18.8 +1.5
baz=59
J30A Dallas 58.84 58 ⇓P P 06 33 18.1 +0.7
baz=59
SKNT Sakolnakorn 58.87 252 P P 06 33 18.6 +0.8
comp=Z,37nm,0.8s
M27A Reverse DX Ran 58.89 61 ⇓P P 06 33 18.6 +0.8
baz=59
P23A Jefferson 58.89 65 ⇓P P 06 33 20.2 +2.1
baz=59,SNR=20
K29A Lazy Trails An 58.90 59 ⇓P P 06 33 19.2 +1.4
baz=59
L28A Connealy Angus 58.93 60 ⇓P P 06 33 18.9 +0.8
baz=59
CMAI Chiengmai2 59.01 258 P P 06 33 19.5 +0.6
comp=Z,55nm,1.4s,comp=Z,994nm
N26A Koester Ranch, 59.04 62 ⇑P P 06 33 20.0 +1.2
baz=59
WUAZ Wupatki 59.09 72 *e*P P 06 33 20.1 +0.7
comp=Z,76nm,1.9s
WUAZ Wupatki 59.09 72 ⇑P P 06 33 21.0 +1.6
baz=59
O25A Wiggins 59.16 63 ⇑P P 06 33 21.1 +1.3
baz=59
GLA Glamis 59.20 76 *e*P P 06 33 20.9 +0.9
GLA Glamis 59.20 76 *e*P P 06 33 20.9 +0.9
GLA Glamis 59.20 76 ⇓P P 06 33 21.4 +1.3
baz=59
P24A Kohler Place, 59.24 64 ⇑P P 06 33 22.3 +1.9
baz=59
MVCO Mesa Verde 59.24 68 *e*P P 06 33 21.2 +0.7
comp=Z,38nm,1.5s
MVCO Mesa Verde 59.24 68 ⇓P P 06 33 22.0 +1.5
baz=59
Q23A Hartsel 59.26 65 ⇓P P 06 33 22.3 +1.6
baz=59
K30A Basset 59.30 58 ⇓P P 06 33 21.6 +1.1
baz=59
L29A Maesberg Ranch 59.37 59 ⇓P P 06 33 21.8 +0.7
baz=59
N27A Anderson Farm, 59.38 61 ⇑P P 06 33 22.1 +0.8
baz=59
Y14A Wickenburg 59.47 74 ⇑P P 06 33 23.4 +1.5
baz=59
OGNE Ogallala 59.51 61 ⇑P P 06 33 23.0 +0.8
baz=59
Q24A Divide 59.55 65 ⇑P P 06 33 24.3 +1.6
baz=59
P25A Willow Gulch B 59.60 64 ⇑P P 06 33 24.6 +1.7
baz=59,SNR=17
OBN Obninsk 59.62 327 P P 06 33 23.5 +1.1
comp=Z,360nm,1.3s,SNR=6.7
OBN Obninsk 59.62 327 *ce*P P 06 33 22.6 +0.2
OBN *e* 06 34 10.5
OBN *e* 06 35 37.3
OBN *i*S S **06 41 26.4 -5.3**
OBN pmax pmax
comp=Z,164nm,1.7s
OBN MLR MLR
comp=Z,1µm,16.0s
OBN Obninsk 59.62 327 *e*P P 06 33 22.7 +0.3
comp=Z,158nm,1.5s
S22A 4UR Ranch, Cre 59.66 67 ⇓P P 06 33 25.2 +1.7
baz=60,SNR=17
M29A Burnside Ranch 59.76 60 ⇑P P 06 33 23.9 +0.1
baz=60
NB2 NORSAR Subarra 59.81 344 P P 06 33 22.8 -1.0
comp=Z,212nm,1.7s,baz=19,slow=6.9
NB2 NORSAR Subarra 59.81 344 P P 06 33 22.8 -1.0
baz=19,slow=6.9
NOA NORSAR Array B 59.81 344 P P 06 33 23.1 -0.7
comp=Z,20nm,0.9s,baz=18,slow=6.9,SNR=39
NOA LR LR 07 00 16.9
comp=Z,642nm,19.8s,baz=30,slow=37
NOA NORSAR Array B 59.81 344 P P 06 33 23.1 -0.7
NOA pmax pmax
comp=Z,20nm,0.9s
NOA MLR MLR
comp=Z,642nm,19.8s
L30A Spencer Herefo 59.81 59 ⇓P P 06 33 24.3 +0.1
baz=60
R23A Moffat 59.82 66 ⇓P P 06 33 24.8 +0.3
baz=60
ECSD EROS Data Cent 59.83 55 *e*P P 06 33 24.1 0.0
comp=Z,70nm,1.5s
ECSD EROS Data Cent 59.83 55 ⇑P P 06 33 24.2 +0.1
baz=60,SNR=19
LAMP Lampang 59.86 257 P P 06 33 25.4 +0.8
comp=Z,31nm,0.8s,comp=Z,239nm
O27A Beecher Island 59.89 62 ⇓P P 06 33 25.4 +0.6
baz=60
X16A Lo Mia Camp, P 59.91 72 ⇑P P 06 33 26.3 +1.3
baz=60,SNR=8.5
Z14A Wintersburg 59.95 74 ⇑P P 06 33 26.2 +1.1
baz=60
N28A Pribbeno Ranch 59.95 61 ⇑P P 06 33 26.0 +0.8
baz=60
P26A Davis Ranch, A 59.96 63 ⇑P P 06 33 26.5 +1.2
baz=60
113A Mohawk Valley, 59.98 75 ⇓P P 06 33 26.6 +1.3
baz=60
CMMT Chiang Mai 59.98 258 P P 06 33 25.6 +0.1
comp=Z,96nm,1.2s
CHTO Chiang Mai 59.98 258 P P 06 33 25.7 +0.2
comp=Z,335nm,1.2s
CHTO Chiang Mai 59.98 258 *e*P P 06 33 25.7 +0.2
CHTO pmax pmax
comp=Z,54nm,1.0s
CHTO Chiang Mai 59.98 258 P P 06 33 26.3 +0.8
SNR=48
CHTO Chiang Mai 59.98 258 *e*P P 06 33 25.7 +0.2
comp=Z,54nm,1.0s
KHON Khomkaen 60.01 253 P P 06 33 26.8 +1.2
comp=Z,10nm,0.8s,comp=Z,2µm
UTTA Uttaradit 60.02 256 P P 06 33 26.2 +0.5
comp=Z,14nm,0.9s,comp=Z,127nm
Q25A Bedland, Calha 60.03 64 ⇓P P 06 33 26.8 +0.9
baz=60
L31A Butterfield Fa 60.04 58 ⇑P P 06 33 26.5 +0.8
baz=60,SNR=13
NAO01 NORSAR Array S 60.05 344 *e*P P 06 33 25.6 +0.2
comp=Z,30nm,1.2s
NC602 NORSAR Array S 60.05 344 *e*P P 06 33 25.1 -0.3
NC602 *e* 06 41 35.7
M30A Dale-Ortello V 60.07 59 ⇑P P 06 33 27.0 +1.1
baz=60
FOO Floro 60.09 348 *e*S S **06 41 33.8 -3.8**
S23A Nye Farm, Mont 60.11 66 ⇓P P 06 33 27.5 +1.0

baz=60
R24A Sanders Place, 60.14 65 ⇓P P 06 33 27.7 +1.0
baz=60,SNR=10
W18A Petrified Fore 60.24 71 *e*P P 06 33 27.8 +0.5
comp=Z,4.6nm,0.7s
W18A Petrified Fore 60.24 71 ⇓P P 06 33 28.7 +1.4
baz=60
N29A Votaw Ranch, W 60.28 60 ⇑P P 06 33 28.2 +0.9
baz=60
O28A Krutsinger Ran 60.28 61 ⇑P P 06 33 28.2 +0.9
baz=60
CM31 Chiang Mai Arr 60.28 258 *e*P P 06 33 28.0 +0.5
comp=Z,24nm,0.7s
CM31 *e*PcP PcP **06 34 13.7 +1.0**
CMAR Chiang Mai Arr 60.28 258 P P 06 33 28.1 +0.6
comp=Z,25nm,0.8s,baz=16,slow=6.5,SNR=65
CMAR PcP PcP 06 34 13.6 +0.9
comp=Z,7.9nm,0.7s,baz=14,slow=3.1,SNR=5.4
CMAR LR LR 07 02 17.7
comp=Z,2µm,19.1s,baz=45,slow=39
CMAR Chiang Mai Arr 60.28 258 P P 06 33 28.1 +0.6
CMAR 06 34 13.6
CMAR pmax pmax
comp=Z,25nm,0.8s
CMAR MLR MLR
comp=Z,2µm,19.1s
SPMN Marine on St. 60.31 52 *e*P P 06 33 27.4 0.0
comp=Z,49nm,1.4s
SPMN Marine on St. 60.31 52 ⇑P P 06 33 27.6 +0.2
baz=60,SNR=7.1
SDCO Great Sand Dun 60.33 66 ⇓P P 06 33 29.3 +1.3
baz=60,SNR=14
P27A Ficken Ranch, 60.34 62 ⇑P P 06 33 28.6 +0.7
baz=60
Q26A Hugo 60.38 63 ⇓P P 06 33 29.2 +1.1
baz=60
N30A Hueftle Ranch, 60.54 60 ⇑P P 06 33 29.6 +0.5
baz=60
X18A Snowflake 60.59 71 ⇓P P 06 33 31.7 +2.0
baz=60,SNR=7.7
M31A Lambtecht Ranc 60.63 59 ⇑P P 06 33 30.0 +0.3
baz=60
P28A Saint Francis 60.72 62 ⇑P P 06 33 31.2 +0.7
baz=60
KSCO Kaye Shedlock' 60.74 63 *e*P P 06 33 31.5 +0.9
comp=Z,111nm,1.6s
KSCO Kaye Shedlock' 60.74 63 ⇑P P 06 33 31.5 +0.9
baz=60
O29A 4D Ranch, Culb 60.74 61 ⇑P P 06 33 31.2 +0.6
baz=60,SNR=9.5
R26A Arlington 60.90 64 ⇑P P 06 33 32.7 +1.0
baz=61,SNR=14
MHMT Maesarieng 61.05 258 P P 06 33 33.9 +1.2
comp=Z,44nm,1.1s,comp=Z,601nm
O30A MW Ranch, Wils 61.05 60 ⇑P P 06 33 33.1 +0.5
baz=61,SNR=10
LPSR Galich'ya Gora 61.05 324 *e*P P 06 33 32.1 -0.2
LPSR pmax pmax
comp=Z,80nm,0.9s
LPSR pmax pmax
comp=N,60nm,1.7s
LPSR pmax pmax
comp=E,50nm,1.6s
LPSR MLR MLR
comp=Z,1µm,17.0s
LPSR MLR MLR
comp=N,1µm,16.0s
LPSR MLR MLR
comp=E,1µm,11.0s
N31A Bailey Ranch, 61.05 59 ⇑P P 06 33 33.1 +0.5
baz=61
Q28A Sharon Springs 61.08 62 ⇓P P 06 33 33.4 +0.5
baz=61
P29A Atwood 61.09 61 ⇑P P 06 33 33.7 +0.8
baz=61
214A Organ Pipe Nat 61.12 75 ⇑P P 06 33 34.6 +1.5
baz=61
COWI Conover 61.13 49 *e*P P 06 33 32.7 -0.4
comp=E,44nm,1.3s
ASK Askoy 61.16 347 *e*P P 06 33 33.6 +0.7
R27A Eads 61.23 63 ⇓P P 06 33 34.4 +0.5
baz=61
BER Bergen 61.23 347 *e*P P 06 33 33.7 +0.3
BER *e*S S **06 41 48.1 -4.2**
T25A Trinidad 61.34 65 ⇓P P 06 33 35.3 +0.5
baz=61
SCHQ Schefferville 61.35 30 P P 06 33 33.6 -0.7
comp=E,8.5nm,0.9s,baz=1.7,slow=6.1,SNR=10.0
SCHQ LR LR 07 02 46.3
comp=E,1µm,19.7s,baz=332,slow=38
SCHQ Schefferville 61.35 30 *e*P P 06 33 33.9 -0.5
comp=E,86nm,1.8s
KONO Kongsberg 61.38 345 *e*P P 06 33 34.8 +0.3
KONO *e*S S **06 41 52.8 -1.4**
KONO Kongsberg 61.38 345 *e*P P 06 33 34.2 -0.2
KONO pmax pmax
comp=Z,148nm,1.7s
KONO Kongsberg 61.38 345 *e*P P 06 33 34.2 -0.2
comp=Z,148nm,1.7s
N32A Stulken Farm, 61.41 59 ⇓P P 06 33 35.1 +0.2
baz=61
O31A Woolen Ranch, 61.41 60 ⇓P P 06 33 35.2 +0.2
baz=61
S26A Kim 61.42 64 ⇑P P 06 33 36.6 +1.4
baz=61
P30A Selden 61.46 61 ⇑P P 06 33 35.7 +0.3
baz=61
Q29A Oakley 61.63 62 ⇑P P 06 33 37.0 +0.4
baz=61
R28A Tribune 61.66 63 ⇓P P 06 33 38.1 +1.3
baz=61
T26A Comanche Natio 61.71 65 ⇓P P 06 33 37.7 +0.4
baz=62
O32A Brockman Farm, 61.81 59 ⇑P P 06 33 38.2 +0.4
baz=62
P31A Stockton 61.89 60 ⇑P P 06 33 38.3 +0.1
baz=62,SNR=8.1
TUC Tucson 61.90 73 *e*P P 06 33 39.8 +1.3
TUC pmax pmax
comp=Z,20nm,1.7s
TUC Tucson 61.90 73 *e*P P 06 33 39.8 +1.3
comp=Z,20nm,1.7s
R29A Marienthal 61.92 62 ⇓P P 06 33 39.1 +0.6
baz=62
Q30A Quinter 61.92 61 ⇑P P 06 33 39.2 +0.7
baz=62
ANMO Albuquerque 62.04 68 *ce*P P 06 33 40.6 +1.1
ANMO pmax pmax
comp=Z,80nm,2.5s
ANMO Albuquerque 62.04 68 *e*P P 06 33 40.2 +0.6
comp=Z,24nm,1.5s
JAY Jayapura 62.12 205 P P 06 33 40.3 +0.3
comp=Z,22nm,0.7s,baz=36,slow=2.2,SNR=4.8
JAY Jayapura 62.12 205 P P 06 33 40.3 +0.3
JAY pmax pmax
comp=Z,22nm,0.7s
LAZ Ladron 62.12 69 *e*P P 06 33 41.4 +1.3
comp=Z,32nm,1.9s
LAZ *e*PcP PcP **06 34 20.8 +0.5**
VSR Storozhevoye 62.17 323 *e*P P 06 33 39.4 -0.5
VSR *e*S S **06 42 05.9 +1.5**
VSR pmax pmax
comp=N,160nm,1.4s
VSR pmax pmax
comp=E,80nm,1.4s
VSR pmax pmax
comp=Z,170nm,1.4s
VSR smax smax
comp=N,300nm,3.4s
VSR smax smax
comp=E,190nm,3.4s
VSR smax smax
comp=Z,110nm,3.4s
VSR MLR MLR
comp=N,2µm,19.0s
VSR MLR MLR
comp=E,1µm,19.0s
VSR MLR MLR
comp=Z,2µm,19.0s
P32A Huiting Farm, 62.17 60 ⇑P P 06 33 40.1 0.0
baz=62,SNR=11
S28A Manter 62.21 63 ⇑P P 06 33 41.0 +0.5
baz=62
T27A Campo 62.23 64 ⇓P P 06 33 41.8 +1.1
baz=62
Q31A Ellis 62.29 61 ⇑P P 06 33 41.2 +0.2
baz=62
VORD Divnogorie 62.34 323 *e*P P 06 33 40.7 -0.3

VORD pmax pmax
comp=N,80nm,1.1s
VORD pmax pmax
comp=E,100nm,1.1s
VORD pmax pmax
comp=Z,80nm,1.1s
R30A Dighton 62.44 62 ⇓P **P 06 33 42.6 +0.6**
baz=62,SNR=9.0
NACGM Naroch 62.45 333 *e*P **P 06 33 40.0 -1.7**
LPM Los Pinos Moun 62.45 69 *e*P **P 06 33 42.6 +0.3**
comp=Z,13nm,1.4s
T28A Walsh 62.48 64 ⇓P **P 06 33 42.4 +0.1**
baz=62
MICGM Minsk 62.54 332⇑ *e*P **P 06 33 42.0 -0.3**
MNK Minsk 62.55 332⇑ *e*P **P 06 33 42.0 -0.4**
MNK *e*S **S 06 42 08.0 -1.2**
MNK pmax pmax
comp=Z,160nm,1.5s
MNK MLR MLR
comp=Z,5µm,16.0s
MNK MLR MLR
comp=N,3µm,14.0s
S29A Ulysses 62.56 63 ⇑P **P 06 33 43.5 +0.6**
baz=62
U27A Thompson Grove 62.69 65 ⇓P **P 06 33 44.2 +0.5**
baz=62,SNR=17
Q32A Meitler Ranch, 62.69 60 ⇑P **P 06 33 43.9 +0.2**
baz=62,SNR=8.7
P33A Williams Farm, 62.74 59 ⇓P **P 06 33 44.2 +0.2**
baz=62
SCIA State Center 62.79 54 *e*P **P 06 33 44.2 0.0**
comp=N,77nm,1.3s
R31A Burdett 62.80 61 ⇑P **P 06 33 44.5 +0.1**
baz=63
T29A Hugoton 62.85 63 ⇑P **P 06 33 45.1 +0.4**
baz=63
S30A Montezuma 62.86 62 ⇑P **P 06 33 44.7 -0.1**
baz=63
U28A Mallet 63.01 64 ⇑P **P 06 33 46.3 +0.4**
baz=63
Q33A Connelly Farm, 63.03 59 ⇓P **P 06 33 46.0 +0.1**
baz=63,SNR=12
R32A Long Quarter, 63.08 60 ⇑P **P 06 33 46.3 +0.1**
baz=63
JFWS Jewell Farm 63.26 52 *e*P **P 06 33 46.2 -1.1**
JFWS pmax pmax
comp=Z,28nm,1.4s
JFWS Jewell Farm 63.26 52 *e*P **P 06 33 46.2 -1.1**
comp=Z,28nm,1.4s
121A Cookes Peak, D 63.27 71 *e*P **P 06 33 49.0 +1.2**
comp=Z,111nm,2.0s
121A Cookes Peak, D 63.27 71 ⇑P P 06 33 50.0 +2.3
baz=63
CHBT CHBT 63.28 251 P **P 06 33 48.7 +1.0**
comp=Z,51nm,1.5s
KBL Kabul 63.31 293 *e*P **P 06 33 46.8 -1.2**
KBL pmax pmax
comp=Z,14nm,0.8s
KBL Kabul 63.31 293 *e*P **P 06 33 46.8 -1.2**
comp=Z,14nm,0.8s
319A Douglas 63.42 73 ⇑P **P 06 33 49.9 +1.2**
baz=63
U29A Oasis Ranch, S 63.42 64 ⇓P **P 06 33 49.1 +0.5**
baz=63
KHLT Khaolaem Dam 63.50 256 P P 06 33 51.9 +2.7
comp=Z,16nm,2.0s,comp=Z,354nm
R33A Olander Ranch, 63.51 60 ⇑P **P 06 33 48.9 -0.1**
baz=63
V28A Channing 63.51 65 ⇑P **P 06 33 50.2 +1.0**
baz=63
KSU1 Kansas State U 63.51 59 *e*P **P 06 33 48.0 -1.0**
comp=Z,6.2nm,0.5s
KSU1 Kansas State U 63.51 59 ⇑P **P 06 33 49.3 +0.2**
baz=63
S32A Newby Ranch, P 63.55 61 ⇓P **P 06 33 50.4 +1.1**
baz=63
SRDT SRDT 63.60 255 P P 06 33 52.4 +2.6
comp=Z,187nm,1.4s,comp=Z,6µm
U30A WK&E Inc. Balk 63.66 63 ⇑P **P 06 33 49.8 -0.3**
baz=63
T31A Randall Ranch, 63.67 62 ⇑P **P 06 33 50.8 +0.6**
baz=63
NDI New Delhi 63.74 283 *e*P **P 06 33 50.0 -0.6**
V29A Stinnett 63.76 64 ⇑P P 06 33 52.5 +1.7
baz=64
W28A Vega 63.91 65 ⇑P **P 06 33 53.0 +1.1**
baz=64
T32A Huddler Ranch, 63.97 61 ⇑P **P 06 33 53.0 +0.9**
baz=64
GLMI Grayling 64.00 47 *e*P **P 06 33 51.3 -0.9**
comp=Z,69nm,0.9s
S33A Kaszmaul Farm, 64.07 61 ⇓P **P 06 33 53.8 +1.0**
baz=64
SUW Suwalki 64.13 335 *e*P **P 06 33 53.9 +1.0**
SUW Suwalki 64.13 335 *e*P **P 06 33 52.9 0.0**
SUW pmax pmax
comp=Z,190nm,1.6s
SUW Suwalki 64.13 335 *e*P **P 06 33 52.9 0.0**
comp=Z,190nm,1.6s
U31A Nine Bar Ranch 64.17 63 ⇓P P 06 33 55.6 +2.1
baz=64
V30A Spur Ranch, Mi 64.25 64 ⇑P P 06 33 55.9 +1.8
baz=64
W29A Amarillo 64.30 65 ⇑P **P 06 33 55.6 +1.2**
baz=64
T33A Patterson Ranc 64.37 61 ⇑P **P 06 33 55.7 +1.0**
baz=64
S34A Willow Spring 64.41 60 ⇑P **P 06 33 55.8 +0.9**
baz=64
AMTX Amarillo 64.47 65 ⇑P P 06 33 57.7 +2.2
baz=64
X28A Dimmitt 64.51 66 ⇑P **P 06 33 57.4 +1.6**
baz=64
MUD Monsted U'grnd 64.52 344 *i* P P 06 33 57.4 +2.1
comp=Z,214nm,1.6s
MUD Monsted U'grnd 64.52 344 *i* P P 06 33 57.4 +2.1
MUD pmax pmax
comp=Z,210nm,1.6s
U32A Winter Ranch, 64.57 62 ⇓P **P 06 33 57.6 +1.5**
baz=64
R36A Gordon, Harris 64.65 58 ⇑P **P 06 33 57.7 +1.2**
baz=64
V31A Spring Creek L 64.65 63 ⇓P **P 06 33 57.5 +0.9**
baz=64
MSTX Muleshoe 64.66 66 *e*P **P 06 33 57.0 +0.1**
comp=Z,37nm,1.5s
MSTX Muleshoe 64.66 66 ⇑P **P 06 33 57.1 +0.3**
baz=64
Q37A Longview Farm, 64.69 57 ⇑P **P 06 33 57.8 +1.0**
baz=64
COP Copenhagen 64.74 342⇑ *i*P P 06 33 58.4 +1.7
comp=Z,46nm,1.2s
COP Copenhagen 64.74 342⇑ *e*P P 06 33 58.4 +1.7
COP pmax pmax
comp=Z,46nm,1.2s
W30A Crocket Farms 64.77 64 ⇓P **P 06 33 58.4 +0.9**
baz=65
S35A Otter Creek Ra 64.79 59 ⇑P **P 06 33 58.1 +0.6**
baz=64
X29A Tulia 64.81 65 ⇑P **P 06 33 58.3 +0.6**
baz=65
U33A Lingo Farm, Me 64.95 61 ⇑P **P 06 33 58.1 -0.4**
baz=65
R37A Teagarden Farm 64.97 58 ⇑P **P 06 33 58.6 0.0**
baz=65
Y28A McKinney Farm, 64.97 66 ⇑P **P 06 33 59.6 +0.8**
baz=65
W31A Holland Ranch, 65.08 63 ⇑P **P 06 33 59.8 +0.4**
baz=65
V32A Arapaho 65.08 62 ⇑P **P 06 34 01.0 +1.6**
baz=65
S36A Lake Cedric, C 65.10 59 ⇑P **P 06 33 58.6 -0.8**
baz=65,SNR=8.8
LLD Lille Linde 65.11 342 *i* P **P 06 33 59.8 +0.6**
LLD Lille Linde 65.11 342 *e*P **P 06 33 59.8 +0.6**
MNTX Cornudas Mount 65.16 70 *e*P **P 06 34 00.8 +0.8**
comp=Z,39nm,1.5s
MNTX Cornudas Mount 65.16 70 ⇓P **P 06 34 01.4 +1.4**
baz=65,SNR=16
X30A Coker Ranch, T 65.22 65 ⇓P **P 06 34 01.2 +0.8**
baz=65
U34A Anderson Ranch 65.22 61 *e*P **P 06 33 59.8 -0.5**
comp=Z,30nm,1.5s
U34A Anderson Ranch 65.22 61 ⇓P **P 06 34 00.8 +0.5**
baz=65
Y29A Porterfield Fa 65.30 66 ⇓P **P 06 34 01.7 +0.8**
baz=65
V33A Lossen Ranch, 65.36 62 ⇓P **P 06 34 01.4 +0.2**
baz=65
Z28A Tucker Farm, M 65.40 67 ⇑P **P 06 34 01.8 +0.2**
baz=65
W32A Sentinel 65.47 63 ⇑P **P 06 34 02.7 +0.8**
baz=65,SNR=13
X31A McDonald Ranch 65.51 64 ⇑P **P 06 34 03.3 +1.1**
baz=65,SNR=8.0
AKASG Malin Array Be 65.61 329 P **P 06 34 02.2 -0.2**
comp=Z,19nm,1.0s,baz=26,slow=6.3,SNR=51
AKASG PP **PP 06 36 28.2 +1.9**
comp=Z,0.1nm,0.3s,baz=22,slow=9.7,SNR=5.0
AKASG LR LR 07 06 36.4
comp=Z,2µm,18.0s,baz=25,slow=40
AKASG Malin Array Be 65.61 329 P **P 06 34 02.3 -0.2**
AKASG 06 36 28.2
AKASG pmax pmax
comp=Z,19nm,1.0s
AKASG MLR MLR
comp=Z,2µm,18.0s
AKBB Malin Array Si 65.61 329 *e*P **P 06 34 02.3 -0.2**
AKBB Malin Array Si 65.61 329 *e*P **P 06 34 02.3 -0.2**
KIEV Kiev 65.62 329 *c i*P **P 06 34 02.3 -0.3**
KIEV Kiev 65.62 329 *e*P **P 06 34 02.3 -0.3**
comp=Z,123nm,1.6s
AK01 Malin Array Si 65.62 329 *e*P **P 06 34 02.2 -0.4**
AK02 Malin Array Si 65.65 329 *e*P **P 06 34 02.4 -0.4**
V34A Guthrie 65.72 61 *e*P **P 06 34 03.2 -0.3**
comp=Z,52nm,1.5s
V34A *e*PP **PP 06 36 27.9 +0.2**
V34A Guthrie 65.72 61 ⇑P **P 06 34 03.7 +0.2**
baz=66
Z29A Hungry Hill Ra 65.76 66 ⇑P **P 06 34 04.9 +1.0**
baz=66,SNR=9.4
W33A Caddo, Fort Co 65.82 62 ⇓P **P 06 34 05.0 +0.8**
baz=66
GEYT Alibeck 65.82 303 P **P 06 34 04.0 -0.2**
comp=Z,7.9nm,0.6s,baz=343,slow=3.1,SNR=15
GEYT LR LR 07 05 58.9
comp=Z,1µm,19.0s,baz=15,slow=39
128A Castleberry Fa 65.89 67 ⇓P **P 06 34 05.2 +0.5**
baz=66,SNR=8.0
Y31A Rekieta Farm, 65.91 65 ⇑P **P 06 34 05.9 +1.1**
baz=66
WMOK Wichita Mounta 66.00 63 *e*P **P 06 34 05.1 -0.2**
WMOK pmax pmax
comp=Z,39nm,1.3s
WMOK Wichita Mounta 66.00 63 *e*P **P 06 34 05.1 -0.2**
comp=Z,39nm,1.3s
X32A Elmer 66.01 63 ⇓P **P 06 34 06.3 +0.9**
baz=66
Z30A Sanderson Ranc 66.03 66 ⇑P **P 06 34 05.8 +0.3**
baz=66
W34A Bridge Creek, 66.08 62 *e*P **P 06 34 06.0 +0.1**
comp=Z,88nm,1.7s
W34A Bridge Creek, 66.08 62 ⇓P **P 06 34 06.7 +0.8**
baz=66
V35A Meyer Ranch, C 66.10 61 ⇑P **P 06 34 05.8 -0.1**
baz=66
GOF Gofitskoye 66.11 317 *e*P **P 06 34 06.5 +0.7**
GOF pmax pmax
comp=Z,142nm,1.3s
GKP Gorka Klasztor 66.13 338 *e*P **P 06 34 06.3 +0.5**
GKP Gorka Klasztor 66.13 338 *e*P **P 06 34 06.3 +0.5**
MAK Makhachkala 66.18 313 *e*P **P 06 34 05.2 -1.1**
MAK *e* 06 34 34.3
MAK *e* 06 36 33.2
MAK *e*PPP PPP 06 38 07.9
MAK *e*S **S 06 42 50.9 -3.4**
MAK *e* 06 44 05.4
MAK *e*SS **SS 06 47 13.3 +4.1**
MAK pmax pmax
comp=Z,217nm,1.7s
MAK MLR MLR
comp=Z,3µm,18.0s
228A UT Block 9, Go 66.24 67 ⇑P **P 06 34 08.2 +1.2**
baz=66
Y32A R-V Farms, Ver 66.27 64 ⇑P **P 06 34 07.7 +0.6**
baz=66,SNR=10
X33A Lawton 66.30 63 ⇑P **P 06 34 08.1 +0.9**
baz=66
TUL1 Leonard 66.47 60 *e*P **P 06 34 08.1 -0.3**
comp=Z,51nm,1.4s
TUL1 Leonard 66.47 60 ⇓P **P 06 34 09.0 +0.7**
baz=66
Z31A Sharp Cattle R 66.48 65 ⇓P **P 06 34 09.1 +0.6**
baz=66
AAM Ann Arbor 66.49 48 *e*P **P 06 34 08.1 -0.3**
AAM pmax pmax
comp=Z,89nm,1.4s
AAM Ann Arbor 66.49 48 *e*P **P 06 34 08.1 -0.3**
comp=Z,89nm,1.4s
X34A Smith Ranch, M 66.57 62 ⇑P **P 06 34 10.1 +1.1**
baz=66
W35A Tecumseh 66.58 61 ⇑P **P 06 34 09.6 +0.6**
baz=66
130A Snyder 66.66 66 ⇑P P 06 34 11.6 +2.0
baz=66
Y33A Hilltop Ranch, 66.67 63 ⇓P **P 06 34 10.1 +0.5**
baz=66
SFIN Lafayette 66.68 51 *e*P **P 06 34 08.6 -1.0**
comp=Z,26nm,1.4s
SFIN Lafayette 66.68 51 ⇑P **P 06 34 09.0 -0.6**
baz=66
BEL Belsk 66.70 335 *e*P **P 06 34 10.5 +1.0**
BEL Belsk 66.70 335 *e*P **P 06 34 10.5 +1.0**
229A Bryant Ranch, 66.75 67 ⇓P **P 06 34 11.7 +1.5**
baz=66
BSEG Bad Segeberg 66.77 342 *e*P **P 06 34 11.0 +1.1**
comp=Z,162nm,1.8s
Z32A Haskell 66.82 64 ⇑P **P 06 34 10.7 +0.1**
baz=67,SNR=9.2
131A Roby 66.88 65 ⇓P **P 06 34 12.2 +1.1**
baz=67
W36A Wetumka 66.90 61 ⇓P **P 06 34 11.7 +0.7**
baz=67,SNR=12
HLG Helgoland 66.91 344 *e*P P 06 34 12.6 +1.8
comp=Z,292nm,1.4s
329A Wagon Wheel Ra 67.05 67 ⇑P **P 06 34 12.9 +0.7**
baz=67
ESK Eskdalemuir 67.10 351 *e*P **P 06 34 12.2 +0.2**
ESK pmax pmax
comp=Z,161nm,1.9s
ESK Eskdalemuir 67.10 351 *e*P **P 06 34 12.2 +0.2**
comp=Z,161nm,1.9s
Y34A Reagan Ranch, 67.13 63 ⇓P **P 06 34 13.4 +0.9**
baz=67
X35A Drake 67.14 62 ⇑P **P 06 34 12.4 -0.2**
baz=67,SNR=12
230A Sterling City 67.16 66 ⇓P **P 06 34 13.2 +0.3**
baz=67
KIV Kislovodsk 67.18 317 P P 06 34 14.7 +1.9
comp=Z,228nm,1.9s,SNR=21
KIV Kislovodsk 67.18 317 *c i*P **P 06 34 13.6 +0.8**
KIV *e* 06 34 43.4
KIV *i* 06 36 43.2
KIV *i* S **S 06 43 07.8 +1.1**
KIV *e*SS **SS 06 47 24.2 -0.7**
KIV pmax pmax
comp=Z,144nm,2.0s
KIV MLR MLR
comp=Z,1µm,19.0s
KIV Kislovodsk 67.18 317 P **P 06 34 14.1 +1.2**
SNR=36
KIV Kislovodsk 67.18 317⇑ *i*P P 06 34 14.5 +1.7
SNR=32
KIV Kislovodsk 67.18 317 *e*P **P 06 34 13.4 +0.6**
comp=Z,454nm,2.3s
KIV *e*PP **PP 06 36 43.3 +3.0**
Z33A Whitaker Ranch 67.18 64 ⇓P **P 06 34 12.6 -0.3**
baz=67
W37A Quinton 67.28 60 ⇓P **P 06 34 14.4 +0.9**
baz=67
ABTX Abilene, Hawle 67.29 65 *e*P **P 06 34 13.6 -0.1**
comp=Z,95nm,1.7s
ABTX Abilene, Hawle 67.29 65 ⇓P **P 06 34 14.2 +0.5**
baz=67,SNR=6.8
KBZ Khabaz 67.30 317 P **P 06 34 14.2 +0.8**
comp=Z,28nm,1.0s,baz=56,slow=24,SNR=42
KBZ LR LR 07 08 07.3
comp=Z,2µm,18.1s,baz=338,slow=40
KBZ Khabaz 67.30 317 P **P 06 34 14.2 +0.8**
KBZ pmax pmax
comp=Z,28nm,1.0s
KBZ MLR MLR
comp=Z,2µm,18.1s
X36A Centrahoma 67.30 61 ⇑P **P 06 34 14.2 +0.6**
baz=67,SNR=8.4
231A Bronte 67.52 66 ⇓P **P 06 34 15.4 +0.3**
baz=67
330A Mertzon 67.52 67 ⇑P **P 06 34 15.5 +0.3**
baz=67
Z34A Collier Ranch, 67.53 63 ⇓P **P 06 34 15.1 0.0**
baz=67
RUE Ruedersdorf 67.55 340 *e*P **P 06 34 15.7 +0.8**
comp=Z,154nm,1.6s
RUE Ruedersdorf 67.55 340 *e*P **P 06 34 15.4 +0.6**
comp=Z,93nm,1.5s
OLIL Olney 67.62 53 *e*P **P 06 34 15.0 -0.6**
comp=Z,22nm,0.2s
133A Hamilton Ranch 67.66 64 ⇑P **P 06 34 15.9 0.0**
baz=67
ZEI Tsey 67.73 316 *e*P **P 06 34 13.8 -2.7**
ZEI pmax pmax
comp=Z,74nm,1.5s
X37A Clayton 67.75 61 ⇑P **P 06 34 17.5 +1.1**
baz=68
W38A Poteau 67.76 60 ⇑P **P 06 34 16.9 +0.5**
baz=68,SNR=17
LVV L'vov 67.79 332 *e*P **P 06 34 16.1 -0.4**
LVV *e* 06 36 46.3
LVV *e*PPP PPP 06 38 26.5
LVV *e*S **S 06 43 08.1 -5.5**
LVV MLR MLR
comp=N,900nm,16.0s
LVV MLR MLR
comp=E,2µm,16.0s
LVV MLR MLR
comp=Z,2µm,16.0s
429A Davenport Ranc 67.79 68 ⇑P **P 06 34 17.2 +0.4**
baz=68
Z35A Perchaven, San 67.88 63 ⇓P **P 06 34 17.1 -0.2**
baz=68
232A Coleman 67.89 65 ⇑P **P 06 34 18.0 +0.5**
baz=68
LONY Lake Ozonia 67.92 40 P **P 06 34 15.3 -2.1**
comp=Z,12nm,1.1s
TXAR Lajitas Array 67.94 70 P **P 06 34 18.0 +0.2**
comp=Z,8.1nm,0.8s,baz=293,slow=4.8,SNR=82
TXAR Lajitas Array 67.94 70 P **P 06 34 18.0 +0.2**
TXAR pmax pmax
comp=Z,8.0nm,0.8s
331A San Angelo 67.97 66 ⇓P **P 06 34 18.4 +0.5**
baz=68,SNR=10
430A Baggett Ranch, 67.99 67 ⇑P **P 06 34 18.6 +0.5**
baz=68,SNR=7.4
529A Stev Forest Ra 68.03 68 ⇓P **P 06 34 19.1 +0.7**
baz=68,SNR=17
ONI Oni 68.07 316 P **P 06 34 17.5 -0.9**
ERPA Erie 68.09 45 *e*P **P 06 34 17.8 -0.7**
comp=Z,74nm,1.3s
134A White-Moore Ra 68.10 64 ⇓P **P 06 34 19.2 +0.6**
baz=68
233A Rising Star 68.15 65 ⇑P **P 06 34 19.2 +0.2**
baz=68,SNR=6.1
NRDL Niedersach Rie 68.19 342 *e*P **P 06 34 19.5 +0.7**
comp=Z,117nm,1.9s
332A Millersview 68.25 66 ⇓P **P 06 34 19.9 +0.2**
baz=68,SNR=7.0
CHLP Challavanipeta 68.25 270 *e*P **P 06 34 20.9 +1.2**
CHLP *e*S **S 06 43 18.9 -1.0**
CHLP *e*SKSac **SKSac 06 44 16.9 -1.1**
KWP Kalwaria Pacla 68.29 333 *e*P P 06 34 21.2 +1.5
KWP Kalwaria Pacla 68.29 333 *e*P **P 06 34 20.9 +1.3**
KWP pmax pmax
comp=Z,405nm,1.4s
KWP Kalwaria Pacla 68.29 333⇑ *i*P **P 06 34 21.0 +1.3**
KWP Kalwaria Pacla 68.29 333 *e*P **P 06 34 20.9 +1.3**
comp=Z,405nm,1.4s
DGRG David-gareji 68.30 314 P **P 06 34 19.6 -0.3**
SURT Suratani 68.31 252 P **P 06 34 21.8 +1.7**
comp=Z,21nm,1.3s,comp=Z,222nm
TBLG Delisi 68.31 314 P **P 06 34 20.0 +0.1**
ANN Anapa 68.32 321 *c i*P **P 06 34 19.7 -0.1**
ANN *e* 06 36 48.8
ANN *e*PPP PPP 06 38 26.3
ANN *e*S **S 06 43 19.5 -0.4**
ANN *e* 06 44 13.2
ANN pmax pmax
comp=Z,128nm,2.0s
ANN MLR MLR
comp=Z,959nm,13.0s
431A Sonora 68.39 67 ⇓P **P 06 34 20.7 +0.1**
baz=68,SNR=11
ALLY Alegheny Colle 68.43 46 *e*P **P 06 34 19.9 -0.7**
comp=Z,81nm,1.3s
135A Vickery Place, 68.44 63 ⇑P **P 06 34 20.9 +0.1**
baz=68
OJC Ojcow 68.44 335 *e*P **P 06 34 21.4 +0.9**
OJC Ojcow 68.44 335 *e*P **P 06 34 21.4 +0.9**
USIN University of 68.45 53 *e*P **P 06 34 20.3 -0.5**
comp=Z,74nm,1.3s
530A J-C Ranch, Com 68.46 68 ⇑P **P 06 34 21.7 +0.6**
baz=68,SNR=13
ACSO Alum Creek Sta 68.51 48 *e*P **P 06 34 20.6 -0.5**
comp=Z,73nm,1.3s
234A Clairette 68.53 64 ⇑P **P 06 34 21.5 +0.1**
baz=68
SOC Sochi 68.58 319 *c i*P **P 06 34 22.6 +1.1**
SOC *e**PP pP 06 34 30.7 +4.5
SOC *e* 06 36 52.0
SOC *e*PPP PPP 06 38 33.0
SOC *e*S **S 06 43 23.9 +0.7**
SOC *e*SS **SS 06 47 44.1 -2.2**
SOC *e*SSS SSS 06 50 50.8
SOC pmax pmax
comp=Z,98nm,1.5s
SOC MLR MLR
comp=Z,1µm,14.0s
KSP Ksiaz 68.61 338 *e*P **P 06 34 22.2 +0.6**
KSP Ksiaz 68.61 338 *e*P **P 06 34 22.2 +0.6**
MIAR Mount Ida 68.63 59 *e*P **P 06 34 22.0 0.0**
MIAR pmax pmax
comp=Z,50nm,1.4s
MIAR Mount Ida 68.63 59 *e*P **P 06 34 22.0 0.0**
comp=Z,50nm,1.4s
432A Menard 68.64 66 ⇓P **P 06 34 22.2 +0.1**
baz=68
333A Richland Sprin 68.67 65 ⇓P **P 06 34 22.5 +0.2**
baz=68
IBBN Ibbenburen 68.75 344 *e*P **P 06 34 23.2 +0.8**
comp=Z,215nm,1.9s
Z37A Pogue Cattle C 68.77 62 ⇓P **P 06 34 23.1 +0.3**
baz=68
CLZ Clausthal 68.78 342 *e*P **P 06 34 23.7 +1.0**
comp=Z,227nm,1.9s
TRTT Trang 68.80 251 P P 06 34 27.3 +4.1
comp=Z,25nm,1.4s
CLL Collm 68.82 340 *e*P **P 06 34 23.2 +0.3**
comp=Z,186nm,1.9s
CLL Collm 68.82 340 *i* P **P 06 34 22.9 0.0**
comp=Z,185nm,1.9s
CLL *e*PP **PP 06 36 56.0 +1.9**
CLL *e*PPP PPP 06 38 42.0
CLL *e*S **S 06 43 26.0 +0.3**
CLL *e*PPS PPS 06 44 01.0
CLL *e*SS **SS 06 47 48.0 -1.5**
CLL *e*SSS SSS 06 51 06.0
CLL Lm MLR 07 06 00.0
comp=Z,1µm,20.5s
CLL Collm 68.82 340 *i* P **P 06 34 22.9 0.0**
CLL *e*S **S 06 43 26.0 +0.3**
CLL pmax pmax
comp=Z,185nm,1.9s
CLL MLR MLR
comp=Z,1µm,20.5s
531A Rocksprings 68.84 67 ⇑P **P 06 34 23.9 +0.5**
baz=69
STHS Stebnicka Huta 68.85 334 *e*P P 06 34 24.7 +1.6
STHS pmax pmax
comp=Z,31nm,1.0s
STHS Stebnicka Huta 68.85 334 *e*P P 06 34 24.7 +1.6
WHTX Lake Whitney, 68.88 64 *e*P **P 06 34 23.4 -0.1**
comp=Z,81nm,1.8s
WHTX Lake Whitney, 68.88 64 ⇑P **P 06 34 23.6 +0.1**
baz=69
SKLT Songkhla 68.89 249 P P 06 34 28.5 +4.7
comp=Z,30nm,2.3s,comp=Z,9µm
RAC Raciborz 68.92 336 *e*P **P 06 34 24.2 +0.7**
RAC *e*S **S 06 43 22.9 -4.1**
RAC MLR MLR
comp=Z,2µm,16.5s
JCT Junction City 68.96 66 *e*P **P 06 34 24.1 0.0**
JCT pmax pmax

comp=Z,20nm,1.0s
JCT Junction City 68.96 66 *e*P **P 06 34 24.1 0.0**
comp=Z,20nm,1.0s
JCT Junction City 68.96 66 ⇑P **P 06 34 24.6 +0.5**
baz=69,SNR=5.3
UPC Upice 68.99 338 *e*P **P 06 34 24.9 +0.9**
UPC *e*pP PcP 06 34 35.8 -12
UPC Upice 68.99 338 *e*P **P 06 34 24.9 +0.9**
UALR University of 69.01 58 *e*P **P 06 34 24.3 0.0**
comp=Z,35nm,1.5s
Z38A Mt. Pleasant 69.03 61 ⇑P **P 06 34 24.9 +0.4**
baz=69
334A Lometa 69.03 65 ⇑P **P 06 34 25.0 +0.5**
baz=69
KOLS Kolonicke sedl 69.05 333 *e*P **P 06 34 25.4 +1.0**
KOLS pmax pmax
comp=Z,116nm,1.8s
KOLS Kolonicke sedl 69.05 333 *e*P **P 06 34 25.4 +1.0**
BRG Berggiesshubel 69.06 339 *i*P **P 06 34 24.8 +0.4**
comp=Z,126nm,1.9s
BRG *e* 06 34 50.9
comp=Z,21nm,1.5s
BRG *e* 06 36 58.2
comp=Z,24nm,1.7s
comp=Z,953nm,13.3s
comp=N,1μm,13.2s
comp=E,803nm,13.2s
BRG Berggiesshubel 69.06 339 *e*P **P 06 34 24.9 +0.5**
comp=Z,126nm,2.0s
BRG *e*PP **PP 06 36 58.6 +2.4**
BRG Berggiesshubel 69.06 339 *i*P **P 06 34 24.8 +0.4**
BRG *e* 06 34 50.9
BRG *e* 06 36 58.2
BRG pmax pmax
comp=Z,126nm,2.0s
BRG MLR MLR
comp=Z,953nm,13.3s
BRG MLR MLR
comp=N,1μm,13.2s
BRG MLR MLR
comp=E,803nm,13.2s
AKH Akhalkalaki 69.06 315 P **P 06 34 26.1 +1.2**
NIE Niedzica 69.07 334 *e*P **P 06 34 25.7 +1.2**
NIE Niedzica 69.07 334 *e*P **P 06 34 25.7 +1.2**
KIS Kishinev 69.07 328 ⇑*i*P **P 06 34 25.0 +0.5**
comp=E,600nm,2.0s
KIS Kishinev 69.07 328 *e*PcP **PcP 06 34 46.0 -2.5**
KIS *e*S **S 06 43 32.0 +3.1**
KIS Kishinev 69.07 328 *e*PS 06 44 07.0
KIS *e*SS SS 06 47 52.0 -1.7
KIS LRM MLR 07 05 14.0
comp=E,2μm,18.0s
KIS Kishinev 69.07 328 *α i*P **P 06 34 25.0 +0.5**
KIS *e* 06 34 46.0
KIS *e*S **S 06 43 32.0 +3.1**
KIS *e*PS PnS 06 44 07.0 +13
KIS *e*SS **SS 06 47 52.0 -1.7**
KIS pmax pmax
comp=Z,600nm,2.0s
KIS pmax pmax
comp=N,300nm,1.6s
KIS pmax pmax
comp=Z,500nm,2.0s
KIS pmax pmax
comp=N,500nm,1.8s
KIS MLR MLR
comp=Z,2μm,16.0s
KIS MLR MLR
comp=N,800nm,15.0s
KIS MLR MLR
comp=Z,2μm,18.0s
DPC Dobruska-Polom 69.07 337 *e*P **P 06 34 24.8 +0.3**
DPC *e*pP pP 06 34 35.6 +6.4
DPC *e*PP **PP 06 36 58.8 +2.4**
DPC *ex* x 06 38 44.0
DPC *e*S **S 06 43 30.5 +1.6**
DPC *e*SS **SS 06 47 53.9 +0.3**
DPC AMS AMS 07 08 30.0
DPC Dobruska-Polom 69.07 337 *e*P **P 06 34 24.8 +0.3**
DPC *e* 06 36 58.8
DPC *e* 06 38 44.0
DPC *e*S **S 06 43 30.5 +1.6**
DPC *e*SS **SS 06 47 53.9 +0.3**
433A Art 69.08 66 ⇓P **P 06 34 25.0 +0.1**
baz=69,SNR=11
FBE Freiberg 69.12 340 *e*P **P 06 34 25.5 +0.7**
comp=Z,222nm,2.0s
LBNH Lisbon 69.16 39 *e*P **P 06 34 24.7 -0.5**
LBNH pmax pmax
comp=Z,44nm,1.4s
LBNH Lisbon 69.16 39 *e*P **P 06 34 24.7 -0.5**
comp=Z,44nm,1.4s
OKC Ostrava-Krasne 69.17 336 *e*P **P 06 34 26.0 +0.9**
OKC *e*pP pP 06 34 36.0 +6.3
OKC *e*PP PP 06 37 01.3 +4.1
OKC *e*S S 06 43 35.5 +5.6
OKC *e*SS **SS 06 47 54.9 -0.1**
OKC AMS AMS 07 09 30.0
comp=Z,1μm,15.6s
OKC Ostrava-Krasne 69.17 336 *e*P **P 06 34 26.0 +0.9**
OKC *e* 06 37 01.3
OKC *e*S S 06 43 35.5 +5.6
OKC *e*SS **SS 06 47 54.9 -0.1**
OKC MLR MLR
comp=Z,1μm,15.6s
532A Rocksprings 69.19 67 ⇑P **P 06 34 25.6 0.0**
baz=69
137A Heron Place, G 69.20 62 ⇑P **P 06 34 26.1 +0.5**
baz=69
WTSB Winterswijk 69.23 344 *e*P **P 06 34 26.0 +0.7**
comp=Z,141nm,1.6s
PVCC Panska Ves 69.26 339 *e*P P 06 34 27.7 +2.1
PVCC *e*PP **PP 06 37 00.5 +2.5**
PVCC *e*S **S 06 43 33.9 +2.9**
PVCC AMS AMS 07 07 00.0
comp=Z,1μm,14.9s
PVCC Panska Ves 69.26 339 *e*P P 06 34 27.7 +2.1
PVCC *e* 06 37 00.5
PVCC *e*S **S 06 43 33.9 +2.9**
PVCC MLR MLR
comp=Z,1μm,14.9s
CRVS Cervenica-Dubn 69.28 334 *e*P **P 06 34 26.9 +1.1**
CRVS pmax pmax
comp=Z,218nm,2.4s
CRVS Cervenica-Dubn 69.28 334 *e*P **P 06 34 26.9 +1.1**
SIM Simferopol' 69.29 323 *e*P **P 06 34 26.6 +0.7**
SIM *e* 06 37 03.0
SIM *e*PPP PPP 06 38 38.0
SIM *e*S **S 06 43 35.6 +4.1**
SIM *e*SS SS 06 48 04.0 +6.9
SIM pmax pmax
comp=Z,32nm,1.2s
SIM pmax pmax
comp=Z,20nm,6.5s
SIM MLR MLR
comp=Z,1μm,11.4s
ACCN Adirondack Com 69.32 40 *e*P **P 06 34 25.3 -0.8**
comp=Z,15nm,1.0s
UZH Uzhgorod 69.32 333 *e*P **P 06 34 25.9 -0.1**
UZH *i* 06 34 28.9
UZH *e* 06 34 49.1
UZH *e* 06 36 59.4
UZH *e* 06 38 44.5
UZH *e*S **S 06 43 26.3 -5.5**
UZH *e* 06 44 09.9
UZH MLR MLR
comp=N,2μm,13.0s
UZH MLR MLR
comp=E,550nm,13.0s
UZH MLR MLR
comp=Z,850nm,13.0s
MORC Moravsky Berou 69.36 336 *e*P **P 06 34 26.7 +0.4**
MORC pmax pmax
comp=Z,152nm,1.6s
MORC Moravsky Berou 69.36 336 ⇑*i*P P 06 34 28.5 +2.2
MORC Moravsky Berou 69.36 336 *e*P **P 06 34 26.7 +0.4**
comp=Z,152nm,1.6s
Z39A Irene McRaven, 69.42 60 ⇑P **P 06 34 27.1 +0.3**
baz=69
631A Perdido Creek 69.44 68 ⇑P **P 06 34 27.4 +0.3**
baz=69,SNR=16
434A Burnet 69.44 65 ⇓P **P 06 34 27.3 +0.2**
baz=69,SNR=8.0
138A Matatall Enter 69.47 61 ⇑P **P 06 34 28.1 +0.9**
baz=69

BUR08 Bucovina Ar. S 69.49 331 *e*P **P 06 34 26.7 -0.5**
BURAR Bucovina Array 69.51 330 ⇑*i*P **P 06 34 27.8 +0.4**
GNI Garni 69.66 314 *ce*P P 06 34 30.5 +2.0
GNI pmax pmax
comp=Z,212nm,1.7s
GNI Garni 69.66 314 P P 06 34 30.6 +2.0
SNR=56
GNI Garni 69.66 314 ⇑*i*P P 06 34 31.0 +2.5
SNR=25
GNI Garni 69.66 314 *e*P **P 06 34 29.6 +1.1**
comp=Z,328nm,1.7s
BUG Bochum--Univer 69.67 344 *e*P **P 06 34 28.7 +0.6**
comp=Z,175nm,1.9s
533A Kerrville 69.67 66 ⇓P **P 06 34 28.8 +0.2**
baz=70,SNR=8.6
MOX Moxa 69.71 341 *e*P **P 06 34 29.1 +0.7**
comp=Z,161nm,2.0s
MOX *eL* L 07 06 27.7
comp=Z,924nm,21.3s
PRA Prague 69.72 339 *e*P **P 06 34 28.7 +0.2**
PRA *e*S S 06 43 41.3 +4.8
PRA *e*SS **SS 06 48 02.5 -1.0**
PRA AMS AMS 07 09 10.0
comp=Z,2μm,17.0s
PRA Prague 69.72 339 *e*P **P 06 34 28.7 +0.2**
PRA *e*S S 06 43 41.3 +4.8
PRA *e*SS **SS 06 48 02.5 -1.0**
PRA MLR MLR
comp=Z,2μm,17.0s
TRPA Tarpa 69.73 332 ⇑*i*P **P 06 34 29.8 +1.2**
TRPA Tarpa 69.73 332 *e*P **P 06 34 29.7 +1.2**
632A Uvalde 69.76 67 ⇑P **P 06 34 29.1 +0.1**
baz=70,SNR=6.8
PLN Plauen 69.76 340 *e*P **P 06 34 29.6 +0.8**
comp=Z,147nm,1.8s
TANN Tannenbergstha 69.77 340 *e*P **P 06 34 29.7 +0.8**
comp=Z,176nm,2.0s
PRU Pruhonice 69.78 338 *e*P **P 06 34 29.8 +0.9**
PRU *e*pP PcP 06 34 41.9 -10
PRU *ex* x 06 38 47.3
PRU *e*S **S 06 43 39.5 +2.4**
PRU *e*SS **SS 06 48 03.7 -0.7**
PRU AMS AMS 07 09 00.0
comp=Z,2μm,16.8s
PRU Pruhonice 69.78 338 *e*P **P 06 34 29.8 +0.9**
PRU *e* 06 38 47.3
PRU *e*S **S 06 43 39.5 +2.4**
PRU *e*SS **SS 06 48 03.7 -0.7**
PRU MLR MLR
comp=Z,2μm,16.8s
GOPC GO Pecny, Ondr 69.80 338 *e*P **P 06 34 29.7 +0.7**
GOPC *e*pP PcP 06 34 40.9 -11
GOPC *e*PP **PP 06 37 03.2 +0.5**
GOPC *ex* x 06 38 49.2
GOPC *e*S **S 06 43 39.4 +1.9**
GOPC *e*SS **SS 06 48 00.9 -3.9**
GOPC AMS AMS 07 09 00.0
comp=Z,2μm,15.9s
435B Jarrell 69.80 64 ⇑P **P 06 34 29.1 -0.2**
baz=70
UBBA Unterbreizbach 69.83 342 *e*P **P 06 34 29.5 +0.5**
comp=Z,128nm,1.9s
KECS Kecovo 69.90 334 *e*P **P 06 34 30.5 +0.9**
KECS pmax pmax
comp=Z,14nm,1.1s
KECS Kecovo 69.90 334 *e*P **P 06 34 30.5 +0.9**
NKC Novy Kostel 69.95 340 *e*P **P 06 34 29.7 -0.2**
NKC *ex* x 06 34 37.8
NKC *e*pP PcP 06 34 42.3 -10
NKC *e*PP **PP 06 37 06.0 +2.0**
NKC *e*S **S 06 43 41.5 +2.3**
NKC *e*SS **SS 06 48 01.5 -5.6**
NKC AMS AMS 07 08 20.0
comp=Z,700nm,16.1s
NKC Novy Kostel 69.95 340 *e*P **P 06 34 29.7 -0.2**
NKC *e* 06 34 37.8
NKC *e* 06 37 06.0
NKC *e*S **S 06 43 41.5 +2.3**
NKC MLR MLR
comp=Z,700nm,16.1s
534A Blanco 69.98 66 ⇓P **P 06 34 30.7 +0.3**
baz=70,SNR=10.0
238A Jacksonville 69.99 62 ⇑P **P 06 34 30.4 0.0**
baz=70
VRAC Vranov 70.00 337 ⇑*i*P **P 06 34 31.0 +0.7**
633A Saathoff Ranch 70.10 67 ⇓P **P 06 34 31.4 +0.2**
baz=70
TESR Tescani 70.13 329 ⇑*i*P **P 06 34 31.5 +0.4**
SSPA Standing Stone 70.17 45 *e*P **P 06 34 30.3 -1.0**
comp=Z,39nm,1.4s
436A Wall Ranch, Ga 70.20 64 ⇓P **P 06 34 32.3 +0.6**
baz=70
TREC Trest 70.25 338 AMS AMS 07 09 00.0
comp=Z,1μm,17.4s
MANZ Manzenberg 70.25 340 *e*P **P 06 34 32.6 +0.8**
comp=Z,142nm,2.1s
VYHS Vyhne 70.28 335 *e*P **P 06 34 33.1 +1.2**
VYHS pmax pmax
comp=Z,116nm,1.9s
VYHS Vyhne 70.28 335 *e*P **P 06 34 33.1 +1.2**
732A Laxson Ranch, 70.30 68 ⇑P **P 06 34 32.9 +0.5**
baz=70,SNR=11
ROTZ Rotzenmuhle 70.44 340 *e*P **P 06 34 34.1 +1.2**
comp=Z,148nm,1.8s
KULM Kulim 70.49 248 *e*P **P 06 34 33.2 -0.4**
comp=Z,80nm,1.8s
IDMV Damavand 70.50 306 *e*P **P 06 34 33.7 -0.2**
HGN Heimansgroeve 70.53 344 *i*P **P 06 34 34.0 +0.6**
comp=Z,217nm,1.9s
HGN *e*S S 06 43 36.7 -9.1
BEBN Eben Emael 70.53 344 P P 06 34 35.6 +2.2
OXF Oxford 70.57 56 *e*P **P 06 34 33.8 -0.1**
OXF pmax pmax
comp=Z,124nm,1.2s
OXF Oxford 70.57 56 *e*P **P 06 34 33.8 -0.1**
comp=Z,124nm,1.2s
PSZ Piszkesteto 70.57 334 *e*P **P 06 34 33.8 0.0**
PSZ pmax pmax
comp=Z,233nm,1.8s
PSZ Piszkesteto 70.57 334 ⇑*i*P P 06 34 35.4 +1.6
PSZ Piszkesteto 70.57 334 *e*P **P 06 34 33.8 0.0**
comp=Z,233nm,1.8s
PSZ Piszkesteto 70.57 334 *e*P P 06 34 35.7 +1.9
SMOL Smolenice 70.57 336 *e*P P 06 34 35.5 +1.8
SMOL Smolenice 70.57 336 *e*P P 06 34 35.5 +1.8
IGZV Ghazvin 70.61 308 *e*P **P 06 34 35.6 +1.1**
TNS Taunus Mts 70.66 342 *e*P **P 06 34 35.1 +0.8**
comp=Z,89nm,1.7s
832A Faith Ranch, C 70.66 68 ⇑P **P 06 34 36.0 +1.4**
baz=70
MEM Membach 70.66 344 P **P 06 34 34.0 -0.2**
comp=Z,47nm,1.9s
MEM AP pP 06 34 43.6 +4.7
GRF Grafenberg Arr 70.69 341 *e*P **P 06 34 35.6 +1.1**
comp=Z,88nm,1.1s
GRF *eL* L 07 07 08.2
comp=Z,1μm,20.9s
GRFO Grafenberg 70.70 341 *e*P **P 06 34 34.6 +0.1**
GRFO pmax pmax
comp=Z,201nm,1.8s
GRFO Grafenberg 70.70 341 *e*P **P 06 34 34.6 +0.1**
comp=Z,201nm,1.8s
VRI Vrincioaia 70.70 329 ⇑*i*P P 06 34 36.4 +1.8
UCC Uccle 70.72 345 P **P 06 34 35.6 +1.1**
TLCR 70.72 327 ⇑*i*P **P 06 34 35.2 +0.6**
PLOR Plostina 70.73 329 ⇑*i*P **P 06 34 36.0 +1.2**
CJR Cluj-Napoca 70.77 331 ⇓*i*P **P 06 34 36.3 +1.3**
KHC Kasperske Hory 70.79 339 *e*P **P 06 34 35.0 -0.1**
KHC *ep*P PcP 06 34 45.5 -10
KHC Kasperske Hory 70.79 339 *e*P **P 06 34 35.0 -0.1**
339A Huntington 70.82 62 ⇑P **P 06 34 36.3 +0.8**
baz=71
438A Sam Houston St 70.86 63 ⇓P **P 06 34 37.0 +1.3**
baz=71
734A La Parita Cree 70.91 66 ⇑P **P 06 34 37.0 +0.9**
baz=71
WET Wettzell 70.91 339 *e*P **P 06 34 37.1 +1.3**
comp=Z,199nm,1.9s
833A Chaparral WMA, 70.92 67 ⇓P **P 06 34 37.0 +0.9**
baz=71
CFR Carcaliu 70.92 327 ⇑*i*P **P 06 34 36.5 +0.6**
DRGR 70.93 332 ⇑*i*P P 06 34 37.8 +1.8
BCLA Clavier 70.95 345 P **P 06 34 36.2 +0.2**
comp=Z,28nm,2.1s
DOPR Dopca 70.98 330 ⇓*i*P **P 06 34 37.5 +1.2**

IPM Ipoh 70.99 248 *e*P **P 06 34 35.9 -0.9**
comp=Z,11nm,0.8s
537A Green Hill Far 71.00 64 ⇑P **P 06 34 37.1 +0.5**
baz=71
IMHD Mahdasht 71.00 307 *e*P **P 06 34 36.8 +0.1**
SNF Seneffe 71.01 345 P **P 06 34 36.2 -0.1**
IR3 Iran Long-Peri 71.03 306 *e*P **P 06 34 37.5 +0.7**
GEC2 GERESS Array S 71.04 339 *e*P **P 06 34 37.5 +0.8**
comp=Z,154nm,2.0s
GERES GERESS Array B 71.04 339 P **P 06 34 36.9 +0.2**
comp=Z,7.7nm,0.9s,baz=35,slow=4.9,SNR=37
GERES PP **PP 06 37 14.8 +1.4**
comp=Z,2.0nm,1.0s,baz=32,slow=7.8,SNR=4.3
GERES LR LR 07 10 13.1
comp=Z,1μm,18.4s,baz=20,slow=40
GERES GERESS Array B 71.04 339 P **P 06 34 36.9 +0.2**
GERES 06 37 14.9
GERES pmax pmax
comp=Z,8.0nm,0.9s
GERES pmax pmax
comp=Z,2.0nm,1.0s
GERES MLR MLR
comp=Z,1μm,18.4s
340A Bronson 71.06 61 ⇓P **P 06 34 37.9 +0.9**
baz=71
IVRN Varamin 71.12 306 *e*P **P 06 34 37.6 +0.2**
636A Smothers Creek 71.13 65 ⇓P **P 06 34 38.6 +1.1**
baz=71
BUD Budapest 71.18 335 *e*P P 06 34 39.5 +2.1
MLR Muntele Rosu 71.26 329 ⇑*i*P P 06 34 39.9 +1.8
735A Kenedy 71.28 66 ⇓P P 06 34 40.7 +2.4
baz=71
GIVF Givet 71.33 345 *e*P **P 06 34 38.1 -0.2**
comp=Z,231nm,1.8s
GIVF Givet 71.33 345 *e*P **P 06 34 38.1 -0.2**
GIVF pmax pmax
comp=Z,231nm,1.8s
GIVF Givet 71.33 345 *e*P **P 06 34 38.1 -0.2**
comp=Z,231nm,1.8s
HKT Hockley 71.34 64 *e*P **P 06 34 38.7 +0.1**
HKT pmax pmax
comp=Z,65nm,1.8s
HKT Hockley 71.34 64 *e*P **P 06 34 38.7 +0.1**
comp=Z,66nm,1.8s
DOU Dourbes 71.37 345 P **P 06 34 38.5 0.0**
comp=Z,17nm,2.2s
PKSG 71.41 335 *e*P P 06 34 40.4 +1.6
HARR Harsova 71.43 327 ⇓*i*P **P 06 34 39.9 +0.9**
ISR Istrita 71.44 329 ⇑*i*P P 06 34 41.1 +2.0
BAIF Baives 71.46 345 *e*P **P 06 34 39.0 -0.1**
comp=Z,200nm,1.9s
BAIF Baives 71.46 345 *e*P **P 06 34 39.0 -0.1**
BAIF pmax pmax
comp=Z,200nm,1.9s
BAIF Baives 71.46 345 *e*P **P 06 34 39.0 -0.1**
comp=Z,200nm,1.9s
CONA Conrad Observa 71.47 337 ⇓*i*P **P 06 34 40.0 +0.8**
comp=Z,85nm,1.3s,SNR=45
CSKK Cs˙‡kako 71.47 335 *e*P **P 06 34 40.4 +1.2**
TLB Topalu 71.49 327 ⇓*i*P **P 06 34 40.0 +0.7**
TIRR Tirgusor 71.50 327 *e*P **P 06 34 39.2 -0.2**
TIRR pmax pmax
comp=Z,148nm,1.5s
TIRR Tirgusor 71.50 327 ⇓*i*P **P 06 34 40.1 +0.7**
TIRR Tirgusor 71.50 327 *e*P **P 06 34 39.2 -0.2**
comp=Z,148nm,1.5s
834A Tilden 71.51 67 ⇓P P 06 34 41.5 +1.8
baz=71,SNR=6.0
SWET Sewanee 71.52 53 *e*P **P 06 34 38.8 -1.0**
comp=Z,12nm,0.7s
PKSN Nyarlorinc 71.53 334 *e*P P 06 34 43.0 +3.5
SOP Sopron 71.55 336 *e*P P 06 34 41.5 +1.8
736A Circle Diamond 71.56 65 ⇓P **P 06 34 41.3 +1.3**
baz=71
PKS7 Kunszentmiklos 71.56 334 *e*P P 06 34 43.3 +3.6
VOIR 71.56 330 ⇑*i*P **P 06 34 41.4 +1.5**
IRAZ Razeghan 71.56 307 *e*P **P 06 34 40.5 +0.2**
WLF Walferdange 71.56 344 P **P 06 34 40.1 +0.4**
comp=Z,23nm,1.9s
WLF Walferdange 71.56 344 *e*P **P 06 34 40.6 +0.9**
comp=Z,107nm,2.0s
933A Laredo 71.56 68 ⇓P **P 06 34 41.8 +1.7**
baz=71,SNR=7.9
PKST T˙s 71.62 335 *e*P **P 06 34 41.5 +1.4**
SDMD Soldier's Deli 71.63 44 *e*P **P 06 34 41.0 +0.8**
comp=Z,68nm,1.2s
DEV Deva 71.72 331 ⇓*i*P **P 06 34 42.1 +1.4**
835A Beeville 71.73 66 ⇓P P 06 34 43.1 +2.0
baz=72
ARR Arges 71.74 330 ⇑*i*P P 06 34 42.6 +1.7
MOA Molln 71.87 338 ⇑*i*P **P 06 34 42.0 +0.3**
comp=Z,48nm,1.4s,SNR=20
PKS6 Bocsa 71.88 334 *e*P P 06 34 44.8 +3.1
STU Stuttgart 71.94 342 *e*P **P 06 34 42.5 +0.4**
comp=Z,76nm,1.6s
STU Stuttgart 71.94 342 *e*P **P 06 34 42.4 +0.4**
STU pmax pmax
comp=Z,6.0nm,0.8s
STU Stuttgart 71.94 342 *e*P **P 06 34 42.4 +0.4**
comp=Z,5.9nm,0.8s
LANF Langenberg 71.97 343 *e*P **P 06 34 42.9 +0.7**
MSAB Monastry St. A 72.01 327 ⇓*i*P **P 06 34 43.7 +1.2**
PKS2 Kecel 72.07 334 *e*P P 06 34 45.6 +2.8
TKL Tuckaleechee C 72.07 51 *e*P **P 06 34 42.9 -0.1**
TKL Tuckaleechee C 72.07 51 *e*P **P 06 34 42.9 -0.1**
HYBB Hyderabad (bro 72.13 274 *e*P **P 06 34 43.9 +0.3**
HYBB *e*S **S 06 44 04.6 -0.7**
HYBB *e*SKSac **SKSac 06 44 46.7 -0.7**
HYB Hyderabad 72.13 274 *i*P **P 06 34 42.0 -1.6**
BLA Blacksburg 72.13 48 *e*P **P 06 34 42.0 -1.4**
BLA pmax pmax
comp=Z,48nm,1.4s
BLA Blacksburg 72.13 48 *e*P **P 06 34 42.0 -1.4**
comp=Z,48nm,1.4s
FUR Furstenfeldbru 72.15 340 *e*P **P 06 34 44.1 +0.8**
comp=Z,186nm,1.9s
ARSA Arzberg 72.18 337 *i*P P 06 34 45.1 +1.6
comp=Z,51nm,1.6s,SNR=30
PKS9 Tamasi 72.20 335 *e*P P 06 34 46.7 +3.1
GZR Gura Zlata 72.21 331 ⇓*i*P **P 06 34 44.3 +0.5**
ICHK Chekchek 72.22 302 *e*P **P 06 34 44.6 +0.3**
IBAF Bafgh 72.23 301 *e*P **P 06 34 43.8 -0.4**
PSN Preselentsi 72.27 327 ⇑*i*P **P 06 34 45.5 +1.4**
PSN Preselentsi 72.27 327 *e*P P 06 34 45.7 +1.6
RJOB Jochberg 72.28 339 *e*P **P 06 34 45.4 +1.3**
comp=Z,141nm,2.0s
BZS Buzias 72.30 332 ⇑*i*P **P 06 34 44.5 +0.3**
034A Hebbronville 72.31 68 ⇑P P 06 34 46.8 +2.2
baz=72
TPRI Tanjung Pinang 72.35 242 P P 06 34 47.0 +2.1
comp=Z,291nm,0.6s,comp=Z,35μm
PKSM Moragy 72.47 334 ⇑*i*P **P 06 34 45.8 +0.6**
PKSM Moragy 72.47 334 *e*P **P 06 34 46.4 +1.2**
BFO Black Forest 72.51 342 *e*P **P 06 34 45.8 +0.3**
comp=Z,120nm,2.0s
BFO Black Forest 72.51 342 *ce*P **P 06 34 46.8 +1.3**
BFO Black Forest 72.51 342 *e*P **P 06 34 45.2 -0.3**
comp=Z,76nm,1.8s
IKLH Kolahrood 72.60 305 *e*P **P 06 34 47.0 +0.5**
CDF Champ du Feu 72.61 343 *e*P **P 06 34 45.9 -0.2**
comp=Z,228nm,1.9s
CDF Champ du Feu 72.61 343 *e*P **P 06 34 45.9 -0.2**
CDF pmax pmax
comp=Z,228nm,1.9s
CDF Champ du Feu 72.61 343 *e*P **P 06 34 45.9 -0.2**
comp=Z,228nm,1.9s
IZEF Zefreh 72.62 304 *e*P **P 06 34 47.2 +0.5**
BEHE Becsehely 72.65 336 *e*P P 06 34 48.0 +1.7
PAGF Fort de Pagny 72.71 344 *e*P **P 06 34 46.8 +0.2**
comp=Z,105nm,1.9s
PAGF Fort de Pagny 72.71 344 *e*P **P 06 34 46.8 +0.2**
comp=Z,105nm,1.9s
035A Encino 72.71 67 ⇑P **P 06 34 48.0 +1.1**
baz=72
COEN Coen 72.75 199 P P **P 06 34 47.1 0.0**
baz=37,SNR=11
COEN Coen 72.75 199 *e*P **P 06 34 46.9 -0.2**
comp=Z,25nm,0.8s
KBA Koelnbreinsper 72.80 338 ⇑*i*P **P 06 34 48.6 +1.2**
comp=Z,121nm,1.6s,SNR=40
ECH Echery 72.81 343 *e*P **P 06 34 47.7 +0.4**
ECH Echery 72.81 343 *e*P **P 06 34 47.1 -0.2**
ECH pmax pmax
comp=Z,120nm,1.9s
ECH Echery 72.81 343 *e*P **P 06 34 47.1 -0.2**

comp=Z,120nm,1.9s
SOKA Soboth 72.83 337⇑ *i*P P 06 34 47.8 +0.3
comp=Z,65nm,1.8s,SNR=31
IMEH Mehriz 72.84 301 *e*P P 06 34 47.2 -0.8
PERS Pernice 72.85 337 *i* P P 06 34 48.3 +0.8
MEZF Maizieres J'vi 72.86 344 *e*P P 06 34 47.5 0.0
comp=Z,244nm,1.8s
MEZF Maizieres J'vi 72.86 344 *e*P P 06 34 47.5 0.0
comp=Z,244nm,1.8s
WATA Walderalm 72.89 340⇑ *i*P P 06 34 48.7 +0.8
comp=Z,40nm,1.3s,SNR=14
RETA Reutte 72.90 340⇑ *i*P P 06 34 47.3 -0.6
comp=Z,16nm,1.5s,SNR=5.5
PRD Provadia 72.95 327 *e*P P 06 34 49.3 +1.2
WTTA Wattenberg 72.95 340 *i* P P 06 34 49.5 +1.2
comp=Z,61nm,1.2s,SNR=28
MOTA Moosalm 72.97 340⇑ *i*P P 06 34 48.4 0.0
comp=Z,17nm,0.9s,SNR=15
THEF They Montfort 72.99 344 *e*P P 06 34 48.5 +0.2
OBKA Obir 73.09 337⇓ *i*P P 06 34 49.7 +0.7
comp=Z,118nm,1.1s,SNR=39
HAU Haudompre 73.15 343 *e*P P 06 34 48.9 -0.3
comp=Z,193nm,1.9s
HAU *e*R
comp=Z,1µm,21.8s
HAU Haudompre 73.15 343 *e*P P 06 34 48.9 -0.3
HAU pmax pmax
comp=Z,193nm,1.9s
HAU Haudompre 73.15 343 *e*P P 06 34 48.9 -0.3
comp=Z,193nm,1.9s
SFTF Sexfontaines 73.15 344 *e*P P 06 34 49.0 -0.2
comp=Z,306nm,1.8s
SFTF Sexfontaines 73.15 344 *e*P P 06 34 49.0 -0.2
comp=Z,306nm,1.8s
MYKA Terra Mystica 73.17 338 *i* P P 06 34 50.4 +1.0
comp=Z,63nm,1.5s,SNR=17
MOF Molkenrain 73.17 343 *e*P P 06 34 49.7 +0.2
HINF Hinteralfeld 73.25 343 *e*P P 06 34 49.4 -0.5
comp=Z,124nm,1.7s
HINF Hinteralfeld 73.25 343 *e*P P 06 34 49.4 -0.5
HINF pmax pmax
comp=Z,124nm,1.7s
HINF Hinteralfeld 73.25 343 *e*P P 06 34 49.4 -0.5
comp=Z,124nm,1.7s
DAVA Damuels 73.25 341⇑ *i*P P 06 34 50.5 +0.5
comp=Z,27nm,1.4s,SNR=7.2
ABTA Abfaltersbach 73.28 339⇑ *i*P P 06 34 50.5 +0.4
comp=Z,41nm,0.9s,SNR=28
SZH Strazhica 73.31 328 *e*P P 06 34 50.3 +0.1
FLN La Foliniere 73.32 348 *e*P P 06 34 49.5 -0.7
FLN *e*R
comp=Z,1µm,22.2s
FLN La Foliniere 73.32 348 *e*P P 06 34 49.5 -0.7
FLN La Foliniere 73.32 348 *e*P P 06 34 49.5 -0.7
FETA Feichten 73.36 340⇑ *i*P P 06 34 51.1 +0.4
comp=Z,47nm,1.2s,SNR=19
LDF La Druitiere 73.44 348 *e*P P 06 34 50.2 -0.7
comp=Z,239nm,1.9s
LDF La Druitiere 73.44 348 *e*P P 06 34 50.2 -0.7
LDF pmax pmax
comp=Z,239nm,1.9s
LDF La Druitiere 73.44 348 *e*P P 06 34 50.2 -0.7
comp=Z,239nm,1.9s
IPIR Pirpir 73.44 305 *e*P P 06 34 50.2 -1.3
KMSC Kings Mountain 73.53 50 *e*P P 06 34 51.0 -0.7
comp=Z,58nm,1.4s
KMSC Kings Mountain 73.53 50⇓ P P 06 34 51.9 +0.2
baz=73
MALT Malatya 73.67 317⇑ *i*P P 06 34 54.0 +1.4
IDHR Dehrash 73.67 309 *e*P P 06 34 51.5 -1.3
VISS Visnje 73.70 337 *e*P P 06 34 52.6 +0.1
LOMF Lomont 73.71 343 *e*P P 06 34 53.2 +0.6
GRR Gorron 73.73 348 *e*P P 06 34 52.1 -0.5
comp=Z,45nm,0.8s
GRR Gorron 73.73 348 *e*P P 06 34 52.1 -0.5
GRR pmax pmax
comp=Z,45nm,0.8s
GRR Gorron 73.73 348 *e*P P 06 34 52.1 -0.5
comp=Z,45nm,0.8s
JAVS Javornik 73.78 337 *i* P P 06 34 52.6 -0.5
MPEP Malo Peshtene 73.84 330 *e*P P 06 34 54.1 +0.7
BOJS Bojanci 73.90 336 *e*P P 06 34 54.2 +0.6
ROSF Rostrenen 74.03 350 *e*P P 06 34 53.9 -0.4
comp=Z,79nm,1.4s
ROSF Rostrenen 74.03 350 *e*P P 06 34 53.9 -0.4
ROSF pmax pmax
comp=Z,79nm,1.4s
ROSF Rostrenen 74.03 350 *e*P P 06 34 53.9 -0.4
comp=Z,79nm,1.4s
SGMF Saint Gilles 74.04 349 *e*P P 06 34 54.1 -0.3
comp=Z,159nm,1.6s
SGMF Saint Gilles 74.04 349 *e*P P 06 34 54.1 -0.3
SGMF pmax pmax
comp=Z,159nm,1.6s
SGMF Saint Gilles 74.04 349 *e*P P 06 34 54.1 -0.3
comp=Z,159nm,1.6s
BR131 Keskin Array S 74.11 321 *e*P P 06 34 55.5 +0.3
comp=Z,118nm,1.6s
BRTR Keskin Array B 74.11 321 P P 06 34 55.1 -0.1
comp=Z.7.2nm,0.7s,baz=46,slow=3.9,SNR=44
BRTR PP PP 06 37 41.8 +1.8
comp=Z,12nm,1.3s,baz=29,slow=2.8,SNR=7.4
BRTR LR LR 07 12 54.2
comp=Z,548nm,18.7s,baz=14,slow=40
BRTR Keskin Array B 74.11 321 P P 06 34 55.1 -0.1
BRTR 06 37 41.8
BRTR pmax pmax
comp=Z,7.0nm,0.7s
BRTR pmax pmax
comp=Z,12nm,1.3s
DIVS Divibare 74.13 333 P P 06 34 55.2 +0.1
DIVS Divibare 74.13 333⇑ *i*P P 06 34 55.2 +0.1
LOR Lormes 74.24 345 *e*P P 06 34 55.2 -0.4
comp=Z,210nm,1.8s
LOR *e*R
comp=Z,1µm,20.2s
LOR Lormes 74.24 345 *e*P P 06 34 55.2 -0.4
LOR pmax pmax
comp=Z,210nm,1.8s
LOR Lormes 74.24 345 *e*P P 06 34 55.2 -0.4
comp=Z,210nm,1.8s
ANTO Ankara 74.27 322 *e*P P 06 34 57.3 +1.2
ANTO pmax pmax
comp=Z,182nm,1.7s
ANTO Ankara 74.27 322⇓ *i*P P 06 34 57.2 +1.2
ANTO Ankara 74.27 322 P P 06 34 57.6 +1.6
SNR=26
ANTO Ankara 74.27 322 *e*P P 06 34 57.3 +1.2
comp=Z,182nm,1.7s
EDRB Edirne 74.38 327 P P 06 34 57.0 +0.5
EDRB Edirne 74.38 327 P P 06 34 57.0 +0.5
QUIF Quistinic 74.43 350 *e*P P 06 34 56.4 -0.3
comp=Z,109nm,1.6s
QUIF Quistinic 74.43 350 *e*P P 06 34 56.4 -0.3
QUIF pmax pmax
comp=Z,109nm,1.6s
QUIF Quistinic 74.43 350 *e*P P 06 34 56.4 -0.3
comp=Z,109nm,1.6s
PGB Panagyurishte 74.47 329 *e*P P 06 34 57.9 +0.8
SSF Saint Saulge 74.49 345 *e*P P 06 34 56.8 -0.3
comp=Z,144nm,1.9s
SSF Saint Saulge 74.49 345 *e*P P 06 34 56.8 -0.3
SSF pmax pmax
comp=Z,144nm,1.9s
SSF Saint Saulge 74.49 345 *e*P P 06 34 56.8 -0.3
comp=Z,144nm,1.9s
SKHT Srikalahasti 74.52 271 *e*P P 06 34 58.9 +1.2
CABF La Chapelle 74.55 343 *e*P P 06 34 57.6 +0.1
comp=Z,221nm,1.8s
CABF La Chapelle 74.55 343 *e*P P 06 34 57.6 +0.1
CABF pmax pmax
comp=Z,221nm,1.8s
CABF La Chapelle 74.55 343 *e*P P 06 34 57.6 +0.1
comp=Z,221nm,1.8s
VTS Vitosha 74.69 330 P P 06 34 58.3 -0.3
VTS Vitosha 74.69 330 P P 06 34 58.3 -0.3
VTS Vitosha 74.69 330⇑ *i*P P 06 34 58.9 +0.3
VTS Vitosha 74.69 330 *e*P P 06 34 58.5 -0.1
VTS Vitosha 74.69 330 P P 06 34 58.3 -0.3
PLD Plovdiv 74.73 329 *e*P P 06 34 59.0 +0.4
AVF Avril sur Loir 74.78 345 *e*P P 06 34 58.3 -0.4
comp=Z,152nm,1.9s
AVF Avril sur Loir 74.78 345 *e*P P 06 34 58.3 -0.4
AVF pmax pmax
comp=Z,152nm,1.9s
AVF Avril sur Loir 74.78 345 *e*P P 06 34 58.3 -0.4
comp=Z,152nm,1.9s
MDRS Chennai 74.79 270 *ex* P 06 34 54.2 -5.0
MDRS *ex* x 06 36 37.2
MDRS *ex* x 06 38 32.2
SMF Signal de Mont 74.85 345 *e*P P 06 34 58.7 -0.5
comp=Z,85nm,1.6s
SMF Signal de Mont 74.85 345 *e*P P 06 34 58.7 -0.5
SMF pmax pmax
comp=Z,85nm,1.6s
SMF Signal de Mont 74.85 345 *e*P P 06 34 58.7 -0.5
comp=Z,85nm,1.6s
URV Uravakonda 74.86 274 *e*P P 06 35 00.2 +0.5
URV *e*S S 06 44 34.5 -1.7
KDZ Kurdzhali 74.95 328⇓ *i*P P 06 35 01.6 +1.7
KDZ Kurdzhali 74.95 328 *e*P P 06 35 00.5 +0.6
RSL Roselend 75.36 343 *e*P P 06 35 02.9 +0.6
KKB Krupnik 75.40 330 *e*P P 06 35 03.9 +1.4
MFF Saint Martin d 75.41 348 *e*P P 06 35 02.2 -0.2
MFF Saint Martin d 75.41 348 *e*P P 06 35 02.2 -0.2
MFF Saint Martin d 75.41 348 *e*P P 06 35 02.2 -0.2
TCF Toulx Ste Croi 75.42 346 *e*P P 06 35 02.3 -0.2
comp=Z,115nm,1.9s
TCF Toulx Ste Croi 75.42 346 *e*P P 06 35 02.3 -0.2
TCF pmax pmax
comp=Z,115nm,1.9s
TCF Toulx Ste Croi 75.42 346 *e*P P 06 35 02.3 -0.2
comp=Z,115nm,1.9s
ALN Alexandroupoli 75.46 327 P P 06 35 02.2 -0.6
ALN Alexandroupoli 75.46 327 *e*P P 06 35 02.2 -0.6
ALN Alexandroupoli 75.46 327 P P 06 35 02.2 -0.6
ALN Alexandroupoli 75.46 327 P P 06 35 02.2 -0.6
MMB Musomiste 75.48 329⇑ *i*P P 06 35 04.1 +1.1
MMB Musomiste 75.48 329 *e*P P 06 35 03.8 +0.8
LPL La Plagne 75.51 342 *e*P P 06 35 03.9 +0.6
comp=Z,84nm,1.2s
LPL La Plagne 75.51 342 *e*P P 06 35 03.9 +0.6
LPL pmax pmax
comp=Z,84nm,1.2s
LPL La Plagne 75.51 342 *e*P P 06 35 03.9 +0.6
comp=Z,84nm,1.2s
LPG La Plagne 75.52 342 *e*P P 06 35 04.2 +0.7
comp=Z,152nm,1.3s
LPG La Plagne 75.52 342 *e*P P 06 35 04.2 +0.7
LPG pmax pmax
comp=Z,152nm,1.3s
LPG La Plagne 75.52 342 *e*P P 06 35 04.2 +0.7
comp=Z,152nm,1.3s
AGO Saint Agoulin 75.53 345 *e*P P 06 35 03.9 +0.8
PLDF La Plantade 75.54 345 *e*P P 06 35 05.1 +1.8
NVR Nevrokopi 75.67 329 P P 06 35 03.9 -0.1
NVR Nevrokopi 75.67 329 *e*P P 06 35 04.5 +0.5
NVR Nevrokopi 75.67 329 P P 06 35 03.9 -0.1
TIGA Tifton 75.75 54 *e*P P 06 35 04.7 +0.1
comp=Z,128nm,1.4s
KAVA Kavala 75.81 328 P P 06 35 05.2 +0.4
KAVA Kavala 75.81 328 P P 06 35 05.2 +0.4
PYM Petit Puy Mans 75.84 345 *e*P P 06 35 05.7 +0.7
SRS Serrai 75.96 329 P P 06 35 05.8 +0.1
SRS Serrai 75.96 329 *e*P P 06 35 05.8 +0.3
SRS Serrai 75.96 329 P P 06 35 05.8 +0.1
SRS Serrai 75.96 329 P P 06 35 05.8 +0.1
BNI Bardonecchia 75.97 342 *e*P P 06 35 05.6 -0.2
BNI pmax pmax
comp=Z,100nm,1.8s
BNI Bardonecchia 75.97 342 *e*P P 06 35 05.6 -0.2
comp=Z,100nm,1.8s
SSB Saint Sauveur 76.08 344 *e*P P 06 35 08.3 +2.0
SSB Saint Sauveur 76.08 344 *e*P P 06 35 06.0 -0.3
SSB pmax pmax
comp=Z,67nm,1.8s
SSB Saint Sauveur 76.08 344 *e*P P 06 35 06.0 -0.3
comp=Z,67nm,1.8s
KNT Kendrikon 76.11 330 P P 06 35 06.1 -0.4
KNT Kendrikon 76.11 330 *e*P P 06 35 07.3 +0.8
KNT Kendrikon 76.11 330 P P 06 35 06.1 -0.4
KNT Kendrikon 76.11 330 P P 06 35 06.1 -0.4
ORIF Oris-en-Rattie 76.23 343 *e*P P 06 35 07.8 +0.6
comp=Z,176nm,1.8s
ORIF *e*R
comp=Z,1µm,20.2s
ORIF Oris-en-Rattie 76.23 343 *e*P P 06 35 07.8 +0.6
ORIF pmax pmax
comp=Z,176nm,1.8s
ORIF Oris-en-Rattie 76.23 343 *e*P P 06 35 07.8 +0.6
comp=Z,176nm,1.8s
VIVF Saint-Julien-l 76.48 344 *e*P P 06 35 08.8 +0.2
VIVF Saint-Julien-l 76.48 344 *e*P P 06 35 08.8 +0.2
VIVF Saint-Julien-l 76.48 344 *e*P P 06 35 08.8 +0.2
RJF Les Rejaudoux 76.48 346 *e*P P 06 35 08.3 -0.3
RJF *e*R
comp=Z,2µm,21.0s
RJF Les Rejaudoux 76.48 346 *e*P P 06 35 08.3 -0.3
RJF Les Rejaudoux 76.48 346 *e*P P 06 35 08.3 -0.3
OUR Ouranopolis 76.58 328 P P 06 35 09.2 +0.1
OUR Ouranopolis 76.58 328 *e*P P 06 35 08.9 -0.2
OUR Ouranopolis 76.58 328 P P 06 35 09.2 +0.1
OUR Ouranopolis 76.58 328 P P 06 35 09.2 +0.1
HORT Hortiatis 76.58 329 *e*P P 06 35 08.8 -0.5
LIA Limnos Island 76.63 327 P P 06 35 09.7 +0.2
LIA Limnos Island 76.63 327 *e*P P 06 35 08.8 -0.7
LIA Limnos Island 76.63 327 P P 06 35 09.7 +0.2
PLG Polygyros 76.69 329 P P 06 35 09.7 -0.2
PLG Polygyros 76.69 329 *e*P P 06 35 09.5 -0.4
PLG Polygyros 76.69 329 P P 06 35 09.7 -0.2
PLG Polygyros 76.69 329 P P 06 35 09.7 -0.2
CAF Calviac 76.78 346 *e*P P 06 35 10.4 +0.1
CAF Calviac 76.78 346 *e*P P 06 35 10.4 +0.1
CAF Calviac 76.78 346 *e*P P 06 35 10.4 +0.1
KULA Kula-Manisa 76.84 324 P P 06 35 10.8 0.0
KULA Kula-Manisa 76.84 324 P P 06 35 10.8 0.0
SAOF Saorge 76.86 342 *e*P P 06 35 13.5 +2.8
AUTN L'Aution 76.87 342 *e*P P 06 35 11.0 -0.1
FNA Florina 76.87 331 P P 06 35 11.0 +0.1
FNA Florina 76.87 331 *e*P P 06 35 10.9 +0.1
FNA Florina 76.87 331 P P 06 35 11.0 +0.1
FNA Florina 76.87 331 P P 06 35 11.0 +0.1
ISP Isparta 76.87 323 P P 06 35 10.0 -1.0
ISP pmax pmax
comp=Z,160nm,1.7s
ISP Isparta 76.87 323⇓ *i*P P 06 35 11.1 +0.1
ISP Isparta 76.87 323 P P 06 35 10.0 -1.0
comp=Z,160nm,1.7s
TOUF Mont Tournerai 76.88 342 *e*P P 06 35 13.7 +2.6
PRK Paraskevi 76.91 326 *e*P P 06 35 09.0 -2.0
LFF La Frestale 76.94 347 *e*P P 06 35 11.3 +0.2
LFF La Frestale 76.94 347 *e*P P 06 35 11.3 +0.2
LFF La Frestale 76.94 347 *e*P P 06 35 11.3 +0.2
SBF Sospel 77.00 342 *e*P P 06 35 11.3 -0.3
comp=Z,312nm,1.7s
SBF Sospel 77.00 342 *e*P P 06 35 11.3 -0.3
SBF pmax pmax
comp=Z,312nm,1.7s
SBF Sospel 77.00 342 *e*P P 06 35 11.3 -0.3
comp=Z,312nm,1.7s
PAIG Paliouri 77.04 329 P P 06 35 11.6 -0.2
PAIG Paliouri 77.04 329 P P 06 35 11.6 -0.2
PAIG Paliouri 77.04 329 P P 06 35 11.6 -0.2
REVF Revere 77.13 342 *e*P P 06 35 12.8 +0.5
SMRF Simiane la Rot 77.20 343 *e*P P 06 35 13.5 +0.9
comp=Z,192nm,1.7s
SMRF Simiane la Rot 77.20 343 *e*P P 06 35 13.5 +0.9
comp=Z,192nm,1.7s
CALN Calern 77.20 342 *e*P P 06 35 14.8 +2.0
LIT Litokhoron 77.21 329 *e*P P 06 35 11.5 -1.3
KZN Kozani 77.21 330 *e*P P 06 35 11.4 -1.5
AQU L'Aquila 77.31 337 P P 06 35 13.8 +0.5
AQU pmax pmax
comp=Z,224nm,1.6s
AQU L'Aquila 77.31 337 P P 06 35 13.8 +0.5
comp=Z,224nm,1.6s
FRF La Foret Royal 77.42 342 *e*P P 06 35 13.8 -0.1
comp=Z,95nm,1.4s
FRF La Foret Royal 77.42 342 *e*P P 06 35 13.8 -0.1
FRF pmax pmax
comp=Z,95nm,1.4s
FRF La Foret Royal 77.42 342 *e*P P 06 35 13.8 -0.1
comp=Z,95nm,1.4s
HATD Hatta, Dubai 77.64 297 P P 06 35 16.7 +1.3
SNR=5.8
HATD Hatta, Dubai 77.64 297⇓ *i*P P 06 35 16.5 +1.1
SNR=7.5
LMR La Mourre 77.67 342 *e*P P 06 35 15.3 +0.1
comp=Z,134nm,1.7s
LMR La Mourre 77.67 342 *e*P P 06 35 15.3 +0.1
LMR pmax pmax
comp=Z,134nm,1.7s
LMR La Mourre 77.67 342 *e*P P 06 35 15.3 +0.1
comp=Z,134nm,1.7s
AOS Alonnisos 77.68 328 P P 06 35 15.1 -0.3
AOS Alonnisos 77.68 328 P P 06 35 15.1 -0.3
XOR Xorichti 77.70 329 P P 06 35 14.8 -0.7
XOR Xorichti 77.70 329 P P 06 35 14.8 -0.7
NAZ Nazwa, Dubai 77.73 297 *i* P P 06 35 17.3 +1.5
SNR=5.3
NEO Neokhori 77.74 329 *e*P P 06 35 15.4 -0.4
CHOS Chios island 77.77 326 P P 06 35 15.3 -0.7
CHOS Chios island 77.77 326 *e*P P 06 35 15.1 -0.9
CHOS Chios island 77.77 326 P P 06 35 15.3 -0.7
ASHO Ashiyiah 77.80 297 P P 06 35 17.5 +1.2
SNR=8.1
ASHO Ashiyiah 77.80 297⇓ *i*P P 06 35 16.6 +0.3
SNR=5.7
SKIA Skiathos 77.81 328 P P 06 35 15.1 -1.0
SKIA Skiathos 77.81 328 *e*P P 06 35 15.5 -0.6
THL Klokotos Trika 77.84 330 P P 06 35 15.0 -1.2
THL Klokotos Trika 77.84 330 *e*P P 06 35 14.8 -1.4
FAQ Al Faqa, Dubai 77.97 297⇓ *i*P P 06 35 17.4 +0.2
SNR=5.7
PGF Pioggiola 77.99 340 *e*P P 06 35 17.3 +0.1
comp=Z,237nm,1.8s
PGF Pioggiola 77.99 340 *e*P P 06 35 17.3 +0.1
PGF pmax pmax
comp=Z,237nm,1.8s
PGF Pioggiola 77.99 340 *e*P P 06 35 17.3 +0.1
comp=Z,237nm,1.8s
JAN Janina 78.07 330 *e*P P 06 35 18.1 +0.5
WBK Wadi Bani Khal 78.11 293 P P 06 35 19.8 +1.8
SNR=6.9
ASUD Al Ashush, Dub 78.20 297 P P 06 35 18.8 +0.3
SNR=5.6
MRKA Markates 78.20 328 *e*P P 06 35 17.5 -0.8
AGG Agios Georgios 78.26 329 P P 06 35 17.5 -1.1
AGG Agios Georgios 78.26 329 *e*P P 06 35 17.3 -1.4
AGG Agios Georgios 78.26 329 P P 06 35 17.5 -1.1
AGG Agios Georgios 78.26 329 P P 06 35 17.5 -1.1
CTA Charters Tower 78.26 195 P P 06 35 18.4 -0.2
comp=Z,18nm,0.8s,baz=6.6,slow=7.0,SNR=3.9
CTA Charters Tower 78.26 195 P P 06 35 18.4 -0.2
CTA pmax pmax
comp=Z,18nm,0.8s
KEK Kerkira 78.30 331 *e*P P 06 35 16.1 -2.7
MTLF Montolieu 78.32 345 *e*P P 06 35 18.7 -0.2
comp=Z,27nm,1.2s
MTLF Montolieu 78.32 345 *e*P P 06 35 18.7 -0.2
MTLF pmax pmax
comp=Z,27nm,1.3s
MTLF Montolieu 78.32 345 *e*P P 06 35 18.7 -0.2
comp=Z,27nm,1.3s
IGT Igoumenitsa 78.32 331 P P 06 35 19.1 +0.1
IGT Igoumenitsa 78.32 331 *e*P P 06 35 18.6 -0.4
IGT Igoumenitsa 78.32 331 P P 06 35 19.1 +0.1
IGT Igoumenitsa 78.32 331 P P 06 35 19.1 +0.1
LKR Lokris 78.42 329 *e*P P 06 35 17.9 -1.6
DSL Palaion Diesel 78.49 330 P P 06 35 20.2 +0.3
DSL Palaion Diesel 78.49 330 *e*P P 06 35 20.3 +0.3
DSL Palaion Diesel 78.49 330 P P 06 35 20.2 +0.3
CSS Prodhromos 78.50 319 P P 06 35 19.8 -0.2
CSS Prodhromos 78.50 319 *e*P P 06 35 19.4 -0.7
comp=Z,59nm,1.6s
EVR Evrytania 78.50 330 *e*P P 06 35 19.7 -0.4
ARQ Araqi 78.71 296 P P 06 35 23.4 +2.1
SNR=9.4
PTL Penteli 78.73 328 P P 06 35 20.4 -0.9
PTL Penteli 78.73 328 *e*P P 06 35 20.3 -1.0
PTL Penteli 78.73 328 P P 06 35 20.4 -0.9
JMDO Jabal Madar 78.74 294 P P 06 35 21.6 +0.1
SNR=12
DSF Desfina 78.78 329 *e*P P 06 35 19.8 -1.7
ATHU Athens Univers 78.83 328 P P 06 35 20.8 -1.0
ATHU Athens Univers 78.83 328 P P 06 35 20.8 -1.0
ATH Athens Observa 78.84 328 *e*P P 06 35 19.3 -2.5
EPF Esparros 78.87 347 *e*P P 06 35 21.6 -0.4
comp=Z,63nm,1.8s
EPF Esparros 78.87 347 *e*P P 06 35 21.6 -0.4
EPF pmax pmax
comp=Z,63nm,1.8s
EPF Esparros 78.87 347 *e*P P 06 35 21.6 -0.4
comp=Z,63nm,1.8s
BSY Bisya 78.87 295 P P 06 35 22.2 0.0
SNR=17
KALE Kalithea 78.90 329 *e*P P 06 35 20.8 -1.4
EFP Efpalio 78.93 329 P P 06 35 21.5 -0.8
EFP Efpalio 78.93 329 *e*P P 06 35 22.6 +0.3
LKD2 Lefkada island 78.94 330 P P 06 35 21.8 -0.6
LKD2 Lefkada island 78.94 330 *e*P P 06 35 20.8 -1.6
LKD2 Lefkada island 78.94 330 P P 06 35 21.8 -0.6
PDO Prodromos 78.97 330 P P 06 35 22.2 -0.3
PDO Prodromos 78.97 330 *e*P P 06 35 22.4 -0.1
SJPF Ste Jean 78.98 348 *e*P P 06 35 22.3 -0.2
SJPF Ste Jean 78.98 348 *e*P P 06 35 22.3 -0.2
SJPF Ste Jean 78.98 348 *e*P P 06 35 22.3 -0.2
LTK Loutraki 79.01 328 P P 06 35 20.9 -1.9
LTK Loutraki 79.01 328 *e*P P 06 35 21.3 -1.5
LTK Loutraki 79.01 328 P P 06 35 20.9 -1.9
CUC Castrocucco 79.02 334 *e*P P 06 35 22.6 -0.2
comp=Z,17nm,1.2s
ETSF Etsaut 79.11 347 *e*P P 06 35 23.7 +0.4
ETSF Etsaut 79.11 347 *e*P P 06 35 23.7 +0.4
ETSF Etsaut 79.11 347 *e*P P 06 35 23.7 +0.4
ARG Arkhangelos 79.12 324 *e*P P 06 35 20.2 -3.2
APE Apeiranthos 79.14 326 *e*P P 06 35 22.4 -1.2
APE Apeiranthos 79.14 326⇓ *i*P P 06 35 22.8 -0.8
DZM Mont Dzumac 79.16 176 *e*LR LR 06 59 58.9
comp=Z,1µm,27.2s
KLV Kalavryta, Ach 79.22 329 P P 06 35 23.3 -0.7
KLV Kalavryta, Ach 79.22 329 *e*P P 06 35 23.1 -0.9
KLV Kalavryta, Ach 79.22 329 P P 06 35 23.3 -0.7
GUR Goura 79.27 329 P P 06 35 22.4 -1.9
GUR Goura 79.27 329 *e*P P 06 35 22.5 -1.9
GUR Goura 79.27 329 P P 06 35 22.4 -1.9
PALK Pallekele 79.34 267 *e*P P 06 35 24.7 -0.2
PALK pmax pmax
comp=Z,26nm,1.2s
PALK Pallekele 79.34 267 *e*P P 06 35 24.6 -0.2
comp=Z,26nm,1.2s
RLS Riolos of Patr 79.40 329 P P 06 35 25.0 +0.1
RLS Riolos of Patr 79.40 329 *e*P P 06 35 23.6 -1.3
RLS Riolos of Patr 79.40 329 P P 06 35 25.0 +0.1
DRO Drossia 79.43 329 *e*P P 06 35 25.1 0.0
VLS Valsamata 79.53 330 P P 06 35 25.4 -0.2
VLS Valsamata 79.53 330 *e*P P 06 35 25.1 -0.5
VLS Valsamata 79.53 330 P P 06 35 25.4 -0.2
VLS Valsamata 79.53 330 P P 06 35 25.4 -0.2
KFL Anninata 79.54 330 P P 06 35 25.5 -0.1
TIP Timpagrande 79.56 333 P P 06 35 26.4 +0.5
TIP Timpagrande 79.56 333 *e*P P 06 35 25.7 -0.2
comp=Z,173nm,1.8s
VLX Vlachokerasia 79.79 329 *e*P P 06 35 26.2 -0.9
AMT Artemida-Makis 79.82 329 P P 06 35 26.9 -0.3
AMT Artemida-Makis 79.82 329 *e*P P 06 35 26.7 -0.5
KARP Karpathos 80.04 324 *e*P P 06 35 23.1 -5.3
ITM Ithomi 80.09 329 P P 06 35 27.9 -0.8
ITM Ithomi 80.09 329 *e*P P 06 35 27.6 -1.1
ITM Ithomi 80.09 329 P P 06 35 27.9 -0.8
PYL PYLOS 80.41 329 *e*P P 06 35 28.4 -2.0
WRAB Tennant Creek 80.42 207 *ce*P P 06 35 31.1 +0.7
WRAB pmax pmax
comp=Z,75nm,1.2s
WRAB Tennant Creek 80.42 207 *e*P P 06 35 29.7 -0.7
comp=Z,20nm,0.6s
WRA Warramunga Arr 80.43 207 P P 06 35 29.5 -0.9
comp=Z,12nm,1.0s,baz=16,slow=5.7,SNR=33
WRA LR LR 07 09 31.3
comp=Z,330nm,21.8s,baz=160,slow=34
CEL Celeste 80.65 334 *e*P P 06 35 33.3 +1.6
comp=Z,14nm,0.9s
PGAV Gavieira, Arco 80.76 353 *e*P P 06 35 31.2 -1.1
comp=Z,60nm,1.6s
PGAV Gavieira, Arco 80.76 353 *e*PP PP 06 38 39.1 +3.6
PGAV *e*S S 06 45 46.8 +7.3
PGAV Gavieira, Arco 80.76 353 *e*LR LR 07 02 24.0
comp=Z,592nm,20.0s
PBRG Braganca 80.81 352 *e*P P 06 35 33.3 +0.8
comp=Z,39nm,1.6s
PBRG Braganca 80.81 352 *e*LR LR 07 04 59.5
ANKY Antikythira Is 80.92 327 *e*P P 06 35 31.6 -1.5

VAM	Vamos	81.08	326	*e*P		P	06 35 31.9	-2.1
KARN	Karanos	81.17	327	P		P	06 35 33.6	-0.9
KARN	Karanos	81.17	327	P		P	06 35 33.6	-0.9
POLO	Lamas de Olo	81.32	352	*e*P		P	06 35 36.5	+1.2
	comp=Z,22nm,1.6s							
POLO	Lamas de Olo	81.32	352	*e*S		S	06 45 42.2	-3.1
POLO	Lamas de Olo	81.32	352	*e*LQ	LQ		07 02 56.6	
POLO				*e*LR	LR		07 07 11.1	
PVRL	Vila Real	81.41	352	*e*P		P	06 35 37.2	+1.5
	comp=Z,56nm,1.5s							
MVO	Moncorvo	81.47	352	*e*P		P	06 35 36.2	+0.2
	comp=Z,42nm,2.0s							
MVO	Moncorvo	81.47	352	*e*S		S	06 45 50.6	+3.8
MVO	Moncorvo	81.47	352	*e*LQ	LQ		06 58 37.5	
MVO				*e*LR	LR		07 02 37.5	
	comp=Z,643nm,18.0s							
PVIS	Viseu	81.98	352	*e*P		P	06 35 39.3	+0.6
MTE	Manteigas	82.27	352	*e*P		P	06 35 38.9	-1.3
	comp=Z,38nm,2.5s							
MTE	Manteigas	82.27	352	*e*S		S	06 45 58.7	+3.6
MTE	Manteigas	82.27	352	*e*LQ	LQ		06 59 24.4	
MTE				*e*LR	LR		07 02 49.1	
	comp=Z,612nm,18.0s							
ESDC	Sonseca Array	82.67	349	P		P	06 35 42.5	+0.1
	comp=Z,4.3nm,0.7s,baz=2.0,slow=5.3,SNR=26							
ESLA	Sonseca Array	82.67	349	*e*P		P	06 35 42.4	0.0
	comp=Z,22nm,1.7s							
PCAS	Casmilo, Conde	82.68	353	*e*P		P	06 35 41.4	-0.9
	comp=Z,66nm,1.7s							
PCAS	Casmilo, Conde	82.68	353	*e*S		S	06 46 04.5	+5.3
PCAS	Casmilo, Conde	82.68	353	*e*LR	LR		07 03 02.7	
PCBR	Castelo Branco	82.82	352	*e*P		P	06 35 43.5	+0.5
	comp=Z,37nm,2.0s							
PMRV	Marv??o	83.22	352	*e*S		S	06 46 08.9	+4.2
PMRV	Marv??o	83.22	352	*e*LQ	LQ		06 59 43.5	
PMRV				*e*LR	LR		07 03 45.5	
	comp=Z,453nm,20.0s							
WDD	Wield Dalam	83.25	334	P		P	06 35 46.8	+1.5
PMTG	Montargil	83.64	353	*e*P		P	06 35 46.9	-0.4
	comp=Z,50nm,1.7s							
PMTG	Montargil	83.64	353	*e*LR	LR		07 03 52.3	
	comp=Z,466nm,18.0s							
RAYN	Ar Rayn	83.72	304	P		P	06 35 47.1	-0.9
	comp=Z,181nm,1.7s,SNR=7.8							
RAYN	Ar Rayn	83.72	304	*e*P		P	06 35 47.6	-0.4
	comp=Z,167nm,1.8s							
PESTR	Estremoz	83.79	352	*e*P		P	06 35 49.4	+1.3
	comp=Z,32nm,2.0s							
PESTR	Estremoz	83.79	352	*e*S		S	06 46 17.9	+7.4
PESTR	Estremoz	83.79	352	*e*LR	LR		07 03 33.2	
	comp=Z,608nm,20.0s							
CMAH	Djebel Manchou	84.03	340	P		P	06 35 49.9	+0.5
AS31	Alice Springs	84.11	206	*e*P		P	06 35 49.6	-0.1
ASAR	Alice Springs	84.11	206	P		P	06 35 49.0	-0.7
	comp=Z,7.3nm,0.8s,baz=9.1,slow=4.3,SNR=34							
ASAR				LR	LR		07 12 45.4	
	comp=Z,243nm,20.0s,baz=16,slow=35							
ASAR	Alice Springs	84.11	206	P		P	06 35 49.0	-0.7
ASAR				pmax	pmax			
	comp=Z,7.0nm,0.8s							
ASAR				MLR	MLR			
	comp=Z,243nm,20.0s							
EVO	Evora	84.16	352	*e*P		P	06 35 49.7	-0.3
	comp=Z,55nm,1.3s							
EVO				*e*R				
	comp=Z,802nm,21.5s							
EVO	Evora	84.16	352	*e*P		P	06 35 50.5	+0.5
	comp=Z,47nm,1.8s							
EVOP	Sao Brissos	84.17	352	*e*P		P	06 35 49.7	-0.3
EVOP				pmax	pmax			
	comp=Z,55nm,1.3s							
EVOP	Sao Brissos	84.17	352	*e*P		P	06 35 49.7	-0.3
	comp=Z,55nm,1.3s							
ABSA	Djebel Ababsia	84.36	340	P		P	06 35 50.8	-0.4
CKFL	Kef-Lekhel	84.38	340	P		P	06 35 51.6	+0.3
PBAR	Barrancos	84.44	352	*e*P		P	06 35 52.4	+1.0
	comp=Z,161nm,1.9s							
PBAR	Barrancos	84.44	352	*e*S		S	06 46 18.6	+1.7
PBAR	Barrancos	84.44	352	*e*LQ	LQ		06 59 25.5	
PBAR				*e*LR	LR		07 04 22.5	
	comp=Z,1µm,18.0s							
KEST	Kesra	84.52	338	P		P	06 35 52.2	+0.2
	comp=Z,4.4nm,0.6s,baz=103,slow=0.4,SNR=22							
KEST				LR	LR		07 18 31.6	
	comp=Z,261nm,18.1s,baz=311,slow=39							
KEST	Kesra	84.52	338	*e*P		P	06 35 51.9	0.0
PNCL	Nicolau / Gran	84.61	353	*e*LQ	LQ		07 00 01.6	
PNCL				*e*LR	LR		07 03 47.9	
	comp=Z,524nm,22.0s							
PPT	Papeete	84.66	134	LR	LR		07 06 04.8	
	comp=Z,205nm,20.7s,baz=323,slow=30							
PPT2	Papeete2	84.68	134	*e*S		S	06 46 17.3	-2.4
	comp=Z,52nm,22.0s							
PPT2	Papeete2	84.68	134	*e*LR	LR		07 02 30.6	
	comp=Z,862nm,25.0s,baz=337							
RBK	Rabkut	84.79	294	P		P	06 35 54.6	+1.2
	SNR=5.4							
MESJ	Messejana	84.86	352	*e*P		P	06 35 54.0	+0.4
MESJ				AMS	AMS		07 17 38.0	
	comp=Z,559nm,21.0s							
MESJ	Messejana	84.86	352	*e*P		P	06 35 55.0	+1.5
	comp=Z,56nm,2.0s							
MESJ	Messejana	84.86	352	*e*P		P	06 35 53.9	+0.4
PCVE	Castro Verde	85.05	352	*e*P		P	06 35 54.0	-0.5
	comp=Z,24nm,1.9s							
PCVE	Castro Verde	85.05	352	*e*LQ	LQ		07 00 38.1	
PCVE				*e*LR	LR		07 03 56.0	
	comp=Z,2µm,18.0s							
PVAQ	Vaqueiros	85.26	352	*e*P		P	06 35 56.2	+0.7
PVAQ	Vaqueiros	85.26	352	*e*PP	PP		06 39 14.9	+2.7
PVAQ				*e*S	S		06 46 19.9	-5.2
PVAQ	Vaqueiros	85.26	352	*e*LQ	LQ		07 00 14.4	
PVAQ				*e*LR	LR		07 04 18.5	
	comp=Z,817nm,18.0s							
ABTO	Aybut	85.36	295	P		P	06 35 55.7	-0.7
	SNR=8.1							
MORF	Marmelete	85.42	353	*e*P		P	06 35 56.7	+0.3
MORF				AMS	AMS		07 18 34.2	
	comp=N,826nm,19.4s							
MORF	Marmelete	85.42	353	*e*P		P	06 35 56.8	+0.3
	comp=N,68nm,1.9s							
MORF	Marmelete	85.42	353	*e*P		P	06 35 56.7	+0.3
PBDV	Barranco-do-Ve	85.43	352	*e*P		P	06 35 58.9	+2.5
	comp=N,92nm,1.7s							
PBDV	Barranco-do-Ve	85.43	352	*e*S		S	06 46 19.2	-7.7
PBDV	Barranco-do-Ve	85.43	352	*e*LQ	LQ		07 00 10.7	
PBDV				*e*LR	LR		07 04 59.5	
	comp=N,706nm,18.0s							
PFVI	Vila Bisbo	85.61	353	*e*LR	LR		07 04 27.9	
	comp=N,639nm,20.0s							
TBI	Tubuai	89.96	137	*e*LR	LR		07 04 26.7	
	comp=N,473nm,36.8s							
PMOZ	Porto Moniz, M	90.21	360	*e*LR	LR		07 06 09.2	
	comp=N,334nm,18.0s							
STKA	Stephens Creek	90.55	197	LR	LR		07 12 00.9	
	comp=N,381nm,20.3s,baz=0.2,slow=32							
DAMY	Dhamar	92.02	301	*e*P		P	06 36 28.4	0.0
DAMY				*e*PP	PP		06 40 09.1	+1.6
TORD	Torodi Ar. Bea	107.97	340	Pdiff	Pdif		06 37 40.7	+1.0
	comp=N,0.7nm,1.1s,baz=292,slow=3.9,SNR=2.5							
TORD				PKiKP	PKiKP		06 41 45.6	-1.1
	comp=N,0.3nm,0.6s,baz=322,slow=1.7,SNR=2.2							
TORD				PP	PP		06 42 01.5	-6.3
	comp=N,0.9nm,1.0s,baz=24,slow=8.5,SNR=3.0							
VNDA	Vanda	134.58	180	PKP	PKPdf		06 42 35.1	-0.4
	comp=N,1.2nm,0.9s,baz=324,slow=4.6,SNR=5.1							
VNDA	Vanda	134.58	180	PKiKP	PKPdf		06 42 35.1	-0.4
VNDA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
PLCA	Paso Flores	142.69	87	PKP	PKPdf		06 42 51.0	-0.5
	comp=Z,6.0nm,1.1s,baz=248,slow=3.8,SNR=6.3							
PLCA	Paso Flores	142.69	87	PKiKP	PKPdf		06 42 51.0	-0.5
PLCA				pmax	pmax			
	comp=Z,6.0nm,1.1s							
MAW	Mawson	144.07	220	PKP	PKPdf		06 42 51.7	-1.2
	comp=Z,7.1nm,0.7s,baz=165,slow=4.8,SNR=9.0							
MAW	Mawson	144.07	220	PKiKP	PKPdf		06 42 51.7	-1.2
MAW				pmax	pmax			
	comp=Z,7.0nm,0.7s							
TRQA	Tornquist	145.35	76	*e*PKPbc	PKPab		06 42 56.0	-0.3
QSPA	South Pole Qui	147.07	180	*e*PKPbc	PKPab		06 43 00.5	-1.5

*ISCJB **02** 06:28:43.9±0.3, 17.°95S±0.°07×178.°57W±0.°06, h579km, mb4.3/29, Error ellipse: s-maj=10.7km s-min=5.5km az=149.4*

*IDC **02** 06:28:43.5±3.1, 17.°89S×178.°51W, h563km±35km, mb3.7/16, mb1 3.9/16, mb1mx3.7/29, mbtmp4.5/16, Error ellipse: s-maj=17.0km s-min=14.8km az=86.0*

*BJI **02** 06:28:44.4, 18.°53S×179.°07W, h592km, mb4.5/13, mB5.1/6*

*NEIC **02** 06:28:46.2±0.7, 17.°90S×178.°66W, h590km±7km, mb4.7/15, Error ellipse: s-maj=17.9km s-min=6.5km az=149.0*

ISC 02 06:28:44.5±0.4, 18.°00S±0.°08×178.°36W±0.°07, h579km, n115, σ1°91°31/128, mb4.3/29, 8C-11D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MSVF	Nonsavu	3.43	274	*e*P		P	06 30 05.4	+0.7
MSVF				*e*S		S	06 31 12.6	+2.6
AFI	Afiamalu	7.52	58	*e*P		P	06 30 37.2	-1.5
AFI				*e*S		S	06 32 09.2	-3.0
NIUE	Niue	8.07	99	P		P	06 30 45.2	+1.4
	baz=8.1,SNR=5.1							
URZ	Urewera	20.58	190	P		P	06 32 43.2	-1.0
	5.7nm,0.6s,baz=336,slow=14,SNR=3.5							
EIDS	Eidsvold	29.28	250	*e*P		P	06 34 00.3	-1.0
	14nm,0.7s							
ARMA	Armidale	29.94	240	P		P	06 34 07.2	+0.2
	baz=30,SNR=25							
ARMA	Armidale	29.94	240	*e*P		P	06 34 06.6	-0.4
	23nm,0.7s							
MGCD	Mangrove Creek	31.28	235	P		P	06 34 18.9	+0.5
	baz=32,SNR=16							
RMQ	Roma	31.52	249	P		P	06 34 20.4	-0.1
	baz=32,SNR=7.2							
CNB	Canberra Magne	33.41	232	P		P	06 34 36.9	+0.4
	baz=34,SNR=66							
CTA	Charters Tower	33.48	261	P		P	06 34 36.0	-1.1
	16nm,0.6s,baz=92,slow=12,SNR=3.5							
CTAO	Charters Tower	33.48	261	*e*P		P	06 34 35.9	-1.3
	11nm,0.6s							
PMG	Port Moresby	34.52	280	*e*P		P	06 34 45.0	-0.9
	13nm,0.9s							
CMSA	Cobar Meteorol	35.15	241	P		P	06 34 50.7	-0.2
	baz=35,SNR=58							
QLP	Quilpie	35.55	249	P		P	06 34 53.5	-0.8
	baz=36,SNR=6.4							
TOO	Toolangi	37.15	231	P		P	06 35 07.6	+0.2
	baz=37,SNR=17							
COEN	Coen	37.16	271	*e*P		P	06 35 06.5	-1.1
	14nm,0.5s							
STKA	Stephens Creek	38.63	241	P		P	06 35 19.5	+0.1
	32nm,0.5s,baz=91,slow=9.8,SNR=116							
STKA	Stephens Creek	38.63	241	P		P	06 35 19.6	+0.2
	baz=39,SNR=84							
STKA	Stephens Creek	38.63	241	*e*P		P	06 35 19.4	0.0
	11nm,1.1s							
QIS	Mount Isa	39.69	259	P		P	06 35 27.2	-0.8
	baz=40,SNR=4.5							
JAY	Jayapura	42.98	286	P		P	06 35 53.5	-0.5
	25nm,0.6s,baz=179,slow=8.8,SNR=17							
BBOO	Buckleboo	43.41	241	P		P	06 35 56.8	-0.4
	baz=44,SNR=34							
BBOO	Buckleboo	43.41	241	*e*P		P	06 35 56.8	-0.4
	48nm,0.9s							
WRAB	Tennant Creek	44.66	260	*e*P		P	06 36 05.2	-1.8
	22nm,0.6s							
WRA	Warramunga Arr	44.66	260	P		P	06 36 05.2	-1.9
	12nm,0.3s,baz=92,slow=8.0,SNR=394							
WRA				PcP		PcP	06 37 36.3	-0.7
	2.0nm,0.4s,baz=97,slow=3.1,SNR=4.7							
AS31	Alice Springs	44.81	254	*e*P		P	06 36 07.2	-0.9
ASAR	Alice Springs	44.81	254	P		P	06 36 07.1	-1.1
	142nm,0.6s,baz=88,slow=8.4,SNR=960							
ASAR				PcP		PcP	06 37 37.2	-0.3
	3.0nm,0.4s,baz=100,slow=3.7,SNR=5.2							
KDU	Kakadu	47.60	269	P		P	06 36 27.9	-1.4
	baz=48,SNR=12							
WRKA	Warakurna	49.86	252	P		P	06 36 45.1	-0.8
	baz=50,SNR=27							
FORT	Forrest	50.01	245	P		P	06 36 45.7	-1.2
	baz=50,SNR=17							
FORT	Forrest	50.01	245	*e*P		P	06 36 45.7	-1.1
	59nm,0.7s							
KNRA	Kununurra	50.53	264	P		P	06 36 49.5	-1.3
	baz=50,SNR=15							
MEEK	Meekatharra	58.45	249	P		P	06 37 44.6	-1.6
	baz=58,SNR=11							
NWAO	Narrogin (SRO)	59.21	242	P		P	06 37 50.4	-0.8
	baz=59,SNR=8.9							
BLDU	Ballidu	59.79	245	P		P	06 37 53.7	-1.3
	baz=60,SNR=27							
VNDA	Vanda	60.36	185	P		P	06 37 59.5	+1.6
	0.6nm,0.5s,baz=1.0,slow=7.6,SNR=7.8							
MORW	Morawa	60.49	246	P		P	06 37 58.4	-1.3
	baz=60,SNR=5.3							
GIRL	Giralia	62.92	253	P		P	06 38 15.6	+0.2
	baz=63,SNR=9.3							
MJAR	Matsushiro Arr	68.00	323	P		P	06 38 45.7	-1.2
	2.1nm,0.6s,baz=165,slow=6.5,SNR=8.9							
QSPA	South Pole Qui	72.06	180	*e*P		P	06 39 11.6	+1.0
	9.4nm,1.1s							
KSM	Kuching	72.74	277	*e*P		P	06 39 15.0	-0.4
	23nm,0.8s							
PETK	Petropavlovsk-	73.78	345	P		P	06 39 19.1	-1.2
	1.2nm,0.6s,baz=140,slow=9.6,SNR=4.4							
NJ2	Nanjing	78.03	309	*e*P		P	06 39 42.3	-1.9
NJ2				PMZ				
	30nm,0.6s							
NVAR	Mina Array Bea	79.45	44	P		P	06 39 53.3	+1.3
	3.6nm,0.7s,baz=226,slow=9.5,SNR=7.0							
TUC	Tucson	81.71	52	*e*P		P	06 40 05.5	+1.8
I07A	Izee	81.84	39	*e*P		P	06 40 05.6	+1.5
IPM	Ipoh	82.48	277	*e*P		P	06 40 06.5	-1.4
MSU	Marysvale	83.62	46	*e*P		P	06 40 14.9	+1.7
	0.7nm,0.8s							
MAW	Mawson	83.80	200	P		P	06 40 13.7	+0.4
	2.6nm,0.5s,baz=130,slow=8.9,SNR=5.2							
TRF	Thorofare Moun	84.08	12	*e*P		P	06 40 14.0	-0.9
	6.5nm,0.7s							
F10A	Beach Ranch, E	84.24	38	*e*P		P	06 40 16.7	+0.7
HLID	Hailey	84.66	41	*e*P		P	06 40 19.6	+1.5
	2.7nm,0.8s							
PAX	Paxson	84.72	14	*e*P		P	06 40 19.1	+1.2
SRU	San Rafael Swe	85.04	46	*e*P		P	06 40 21.7	+1.6
	2.7nm,0.8s							
GYA	Guiyang	85.12	300	*e*P		P	06 40 20.0	-0.7
GYA				pP		pP	06 42 27.3	+2.3
GYA				sP		sP	06 43 25.0	+1.7
GYA				PP		PP	06 43 50.2	+1.0
GYA				SKS		SKSac	06 49 47.7	-3.3
GYA				S		SKKSac	06 50 00.1	+0.6
GYA				PMZ				
	10.0nm,1.0s							
ILAR	Eielson Array	85.96	13	P		P	06 40 22.6	-1.0
	0.9nm,0.4s,baz=222,slow=5.3,SNR=30							
TXAR	Lajitas Array	86.00	58	P		P	06 40 27.1	+2.3
	2.5nm,0.8s,baz=219,slow=5.9,SNR=25							
XAN	Xi'an	86.35	307	P		P	06 40 26.9	+0.6
XAN				PMZ				
	2.0nm,0.9s							
GDL2	Guadalupe Moun	86.58	55	*e*P		P	06 40 35.0	+7.5
BSMT	Bassoo Peak	86.66	37	*e*P		P	06 40 28.0	+0.4
REDW	Red Top Meadow	86.82	42	*e*P		P	06 40 30.0	+1.4
FXWY	Fox Creek	86.84	42	*e*P		P	06 40 30.0	+1.4
IMW	Indian Meadow	87.02	42	*e*P		P	06 40 30.6	+1.1
CHMT	Chamberlain Mo	87.07	39	*e*P		P	06 40 28.3	-1.3
LOHW	Long Hollow	87.10	42	*e*P		P	06 40 31.2	+1.3
HHC	Hu-ho-hao-te	87.37	314	*e*P		P	06 40 31.7	+0.7
HHC				PP		PP	06 44 09.7	+3.0
HHC				SKS		SKSac	06 50 01.6	-2.4
HHC				S		S	06 50 21.1	-2.6
HHC				sS		sS	06 54 10.4	+3.6
HHC				SS		SS	06 56 28.3	+1.4
HHC				PMZ				
	10.0nm,1.2s							
HHC				PMZ				
	110nm,5.2s							
PDAR	Pinedale Array	87.38	43	P		P	06 40 31.7	+0.5
	1.9nm,0.7s,baz=226,slow=1.5,SNR=18							
KMI	Kunming	87.91	297	P		P	06 40 29.0	-5.1
KMI				PMZ				
	14nm,1.5s							
CMAR	Chiang Mai Arr	88.96	290	P		P	06 40 39.6	+0.8
	1.5nm,0.3s,baz=112,slow=3.2,SNR=8.7							
CD2	Chengdu	89.16	303	*e*P		P	06 40 38.8	-0.7
CD2				PMZ				
	10.0nm,1.2s							
SNAA	Sanae	90.51	179	P		P	06 40 46.4	+1.4
VNA3	Neumayer Olymp	90.65	176	P		P	06 40 45.8	+0.2
LZH	Lanzhou	90.98	308	*e*P		P	06 40 47.2	-0.8
LZH				pP		pP	06 42 57.6	+3.6
LZH				PMZ				
	18nm,1.0s							
VNA2	Neumayer--Watz	91.09	177	P		P	06 40 45.8	-1.8
	baz=176,slow=3.0							
INK	Inuvik	91.96	15	P		P	06 40 51.0	-0.5
	1.7nm,0.8s,baz=203,slow=0.7,SNR=7.0							
YKA	Yellowknife Ar	94.39	25	P		P	06 41 02.2	-0.5
	0.2nm,0.5s,baz=234,slow=4.5,SNR=8.6							
KSH	Kashi	113.17	306	*e*PKP		PKiKP	06 46 15.9	-1.3
KSH				*e*PP		PP	06 47 23.0	+4.4
KSH				sPKP			06 49 31.5	
KSH				PKS		PKSdf	06 49 51.4	-2.6
KSH				PPMZ				
	74nm,4.5s							
TKM2	Tokmak 2	113.68	310	*e*PKPdf		PKiKP	06 46 17.7	-0.6
BVAR	Borovoye Array	116.94	321	PKP		PKPdf	06 46 22.9	-1.0
	1.1nm,0.4s,baz=81,slow=0.6,SNR=6.6							
AKTO	Aktyubinsk	124.97	319	PKP		PKPdf	06 46 38.9	-0.6
	0.8nm,0.6s,baz=111,slow=4.9,SNR=4.1							
AKASG	Malin Array Be	140.66	332	PKP		PKPdf	06 47 10.5	+1.8
	0.4nm,0.4s,baz=44,slow=2.8,SNR=3.9							
BUR08	Bucovina Ar. S	144.70	332	*e*PKPdf		PKPab	06 47 17.2	-0.1
BURAR	Bucovina Array	144.71	332	⇓*i*P		PKPab	06 47 17.3	0.0
TESR	Tescani	144.86	330	⇓*i*P		PKPbc	06 47 16.6	-0.3
BRTR	Keskin Array B	144.88	315	PKP		PKPdf	06 47 16.9	+0.2
	1.8nm,0.5s,baz=153,slow=3.6,SNR=7.5							
STHS	Stebnicka Huta	144.89	338	*e*PKP		PKPbc	06 47 16.6	-0.4
KOLS	Kolonicke sedl	144.90	336	*e*PKP		PKPdf	06 47 16.5	+0.2
CFR	Carcaliu	145.03	327	⇓*i*P		PKPbc	06 47 17.8	+0.4
NIE	Niedzica	145.22	339	*e*PKP		PKPbc	06 47 18.2	+0.3
CRVS	Cervenica-Dubn	145.24	337	*e*PKP		PKPbc	06 47 18.1	+0.1
VRI	Vrincioaia	145.28	329	⇓*i*P		PKPbc	06 47 18.1	-0.1
TIRR	Tirgusor	145.37	325	⇓*i*P		PKPbc	06 47 18.2	-0.2
TRPA	Tarpa	145.45	335	⇑*i*P		PKPbc	06 47 18.8	+0.2
TLB	Topalu	145.48	326	⇓*i*P		PKPbc	06 47 19.2	+0.4
CLL	Collm	145.56	347	⇑*i*PKPbc		PKPbc	06 47 18.8	0.0
DOPR	Dopca	145.86	330	⇓*i*P		PKPbc	06 47 20.4	+0.5
MLR	Muntele Rosu	145.93	329	PKPbc		PKPbc	06 47 19.7	-0.5
	0.4nm,0.6s,baz=119,slow=3.8,SNR=5.7							
MLR	Muntele Rosu	145.93	329	⇑*i*P		PKPbc	06 47 19.7	-0.5
DRGR		146.44	333	⇓*i*P		PKPbc	06 47 21.6	+0.1
VYHS	Vyhne	146.52	339	*e*PKP		PKPbc	06 47 21.8	+0.2
PSZ	Piszkesteto	146.63	337	⇑*i*P		PKPab	06 47 33.4	+8.5
ARR	Arges	146.66	330	⇑*i*P		PKPbc	06 47 22.8	+0.7
GERES	GERESS Array B	147.71	345	PKPbc		PKPbc	06 47 24.6	-0.2
	1.9nm,0.5s,baz=17,slow=2.9,SNR=25							
CONA	Conrad Observa	147.96	342	⇓*i*PKPbc		PKPbc	06 47 25.5	0.0
	1.9nm,0.6s							
KBA	Koelnbreinsper	149.44	344	⇑*i*PKPbc		PKPbc	06 47 27.9	-1.3
	2.3nm,0.6s							
WTTA	Wattenberg	149.68	346	⇓*i*PKPbc		PKPbc	06 47 29.5	-0.3
	4.2nm,0.7s							
DIVS	Divibare	149.74	333	⇑*i*P		PKPbc	06 47 29.9	0.0
MMB	Musomiste	149.83	326	⇓*i*P		PKPbc	06 47 29.5	-0.7
ABTA	Abfaltersbach	149.96	345	⇑*i*PKPbc		PKPbc	06 47 29.2	-1.1
	3.4nm,0.6s							
VISS	Visnje	150.18	341	*e*PKPbc		PKPbc	06 47 30.6	-0.2
BOJS	Bojanci	150.32	340	*i*PKPbc		PKPbc	06 47 31.1	0.0
JAVS	Javornik	150.33	342	*i*PKPbc		PKPbc	06 47 30.7	-0.5
DAVOX	Davos/Dischmat	150.50	348	PKPbc		PKPbc	06 47 31.7	0.0
	4.2nm,0.6s,baz=311,slow=9.3,SNR=11							
TORD	Torodi Ar. Bea	175.18	181	PKP		PKPdf	06 47 48.7	-0.8
	0.5nm,0.8s,baz=216,slow=3.9,SNR=3.3							
TORD				PKPab		PKPab	06 49 29.8	+0.5
	0.4nm,0.6s,baz=167,slow=3.8,SNR=3.5							

*NEIC **02** 06:53:46.7, 60.°53N×177.°30W, h15km, ML4.0(AEIC), After AEIC.*

*ISCJB **02** 06:53:50.5±0.5, 60.°52N±0.°06×177.°4W±0.°1, h33km, mb3.7/14, Error ellipse: s-maj=9.5km s-min=6.2km az=44.9*

*IDC **02** 06:53:54.3±4.3, 60.°56N×177.°69W, h45km±42km, mb3.5/15, mb1 3.8/17, mb1mx3.7/32, mbtmp3.8/17, ML3.4/2, Error ellipse: s-maj=28.4km s-min=15.2km az=173.0*

ISC 02 06:53:52.9±0.6, 60.°56N±0.°08×177.°51W±0.°08, h35km, n26, σ1°35/28, mb3.7/14, Bering Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GAMB	Gambell	4.22	38	P		Pn	06 54 52.4	-2.2
GAMB				S		Sn	06 55 42.4	-0.2
SPIA	Saint Paul Isl	5.07	129	P		Pn	06 55 04.0	-2.3
TNA	Tin City	6.64	37	P		Pn	06 55 24.9	-2.9
TNA				S		Sn	06 56 40.5	-1.6
KOFP	Korovin Flat P	8.52	166	P		Pn	06

ASAK	**Asacha**	**3.85**	**52**	*e*P		**Pn**	07 08 02.9	**+0.5**
MTVR	**Mutnovka**	**4.05**	**52**	P		**Pn**	07 08 05.4	**+0.7**
MTVR				S		**S**	07 08 55.0	**-0.9**
RUS	**Russkaya**	**4.19**	**54**	*e*P		**Pn**	07 08 06.5	**+0.2**
RUS				*e*S		**S**	07 08 55.1	**-3.6**
RUS	**Russkaya**	**4.19**	**54**	PN		**Pn**	07 08 06.5	**+0.2**
RUS				S		**S**	07 08 55.1	**-3.6**
PETK	**Petropavlovsk-**	**4.21**	**43**	P		**Pn**	07 08 07.7	**+1.2**
	comp=Z,1.6nm,0.3s,baz=216,slow=11,SNR=36							
PETK	**Petropavlovsk-**	**4.21**	**43**	PN		**Pn**	07 08 07.7	**+1.2**
PETK				pmax	pmax			
	comp=Z,2.0nm,0.3s							
PET	**Petropavlovsk**	**4.60**	**48**	*e*PN		**Pn**	07 08 13.2	**+2.1**
GNL	**Ganaly**	**4.73**	**39**	*e*P		**Pn**	07 08 14.0	**+1.2**
KOK	**Koryaka**	**4.76**	**46**	*e*P		**Pn**	07 08 14.8	**+1.7**
AVH	**Avacha**	**4.79**	**47**	*e*P		**Pn**	07 08 15.3	**+1.8**
AVH				S		**S**	07 09 13.1	**+1.4**
UGLR	**Uglovaya**	**4.79**	**47**	*e*P		**Pn**	07 08 14.9	**+1.3**
UGLR				*e*S		**S**	07 09 11.5	**-0.4**
KRX	**Arik**	**4.81**	**45**	*i* P		**Pn**	07 08 14.7	**+0.9**
SMAR	**Somma**	**4.81**	**47**	*e*P		**Pn**	07 08 15.2	**+1.3**
KRER	**Koryakskii**	**4.82**	**46**	*e*P		**Pn**	07 08 15.2	**+1.3**
KRER				*e*S		**S**	07 09 12.3	**-0.3**
SDLR	**Sedlovina**	**4.86**	**47**	*e*P		**Pn**	07 08 15.6	**+1.2**
SDLR				*e*S		**S**	07 09 11.9	**-1.6**
MKZ	**Mys Kozlova**	**6.98**	**47**	*i* P		**Pn**	07 08 38.9	**-1.6**
MKZ				S		S	07 09 51.5	-9.4
MKZ	**Mys Kozlova**	**6.98**	**47**	PN		**Pn**	07 08 38.9	**-1.6**
YUK	**Yuzh-Kuril'sk**	**7.77**	**221**	*c i* PN		**Pn**	07 08 51.5	**+0.9**
YUK				S		**S**	07 10 17.9	**-1.5**
YUK				pmax	pmax			
	comp=N,27nm,0.3s							
YUK				pmax	pmax			
	comp=E,47nm,0.3s							
YUK				pmax	pmax			
	comp=Z,187nm,0.3s							
KBTR	**Krutoberegovo**	**8.50**	**40**	P		**Pn**	07 08 59.3	**-0.5**
KBTR				S		S	07 10 28.8	-7.4
KBTR	**Krutoberegovo**	**8.50**	**40**	PN		**Pn**	07 08 59.3	**-0.5**
KBTR				S		S	07 10 28.8	-7.4
ASAJ	**Asahikawa**	**9.26**	**234**	P		**Pn**	07 09 12.2	**+2.7**
	comp=Z,1.8nm,0.3s,baz=74,slow=12,SNR=14							
ASAJ	**Asahikawa**	**9.26**	**234**	PN		**Pn**	07 09 12.2	**+2.7**
ASAJ				pmax	pmax			
	comp=Z,2.0nm,0.3s							
ERM	**Erimo**	**10.57**	**224**	*e*PN		**Pn**	07 09 23.9	**-2.1**
SEY	**Seymchan**	**12.86**	**359**	P		**P**	07 09 56.6	**+0.6**
	comp=Z,0.2nm,0.3s,baz=243,slow=11,SNR=4.5							
USRK	**Ussuriysk Ar.**	**15.41**	**255**	P		**Pn**	07 10 28.6	**+3.3**
	comp=Z,0.2nm,0.3s,baz=51,slow=14,SNR=2.6							
MAJO	**Matsushiro**	**17.25**	**224**	*e*P		**P**	07 10 45.7	**+1.0**
MAT	**Matsushiro**	**17.25**	**224**	P		**P**	07 10 44.8	**+0.1**
MJAR	**Matsushiro Arr**	**17.25**	**224**	P		**P**	07 10 45.4	**+0.7**
	comp=Z,1.0nm,0.3s,baz=10,slow=12,SNR=12							
MJAR	**Matsushiro Arr**	**17.25**	**224**	P		**P**	07 10 45.4	**+0.7**
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KSRS	**Korea Array**	**21.94**	**244**	P		**P**	07 11 33.6	**+0.1**
	comp=Z,1.3nm,0.6s,baz=46,slow=10,SNR=3.5							
JNU	**Nakatsue**	**23.53**	**232**	P		**P**	07 11 48.9	**+0.6**
	comp=Z,6.0nm,0.8s,baz=35,slow=6.5,SNR=5.0							
TIXI	**Tiksi**	**24.22**	**342**	P		**P**	07 11 53.1	**-0.8**
ULN	**Ulaanbaatar**	**29.84**	**284**	*e*P		**P**	07 12 42.1	**-2.3**
SONM	**Songino Array**	**30.26**	**284**	P		**P**	07 12 47.1	**-1.0**
	comp=Z,0.2nm,0.4s,baz=73,slow=11,SNR=3.0							
ZAK	**Zakamensk**	**31.29**	**290**	*e*P		**P**	07 12 57.6	**+0.6**
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.0s							
COLA	**College**	**33.62**	**41**	*e*P		**P**	07 13 16.7	**-0.2**
COLA				pmax	pmax			
	comp=Z,8.0nm,0.8s							
ILAR	**Eielson Array**	**34.04**	**42**	P		**P**	07 13 19.9	**-0.6**
	comp=Z,0.5nm,0.5s,baz=262,slow=5.5,SNR=17							
ILAR				pP		**pP**	07 14 13.6	**+3.1**
	comp=Z,0.2nm,0.7s,baz=268,slow=6.8,SNR=2.1							
ILAR	**Eielson Array**	**34.04**	**42**	*e*P		**P**	07 13 20.3	**-0.2**
INK	**Inuvik**	**38.90**	**35**	P		**P**	07 14 01.5	**+0.1**
	comp=Z,0.8nm,0.4s,baz=291,slow=6.0,SNR=9.5							
INK	**Inuvik**	**38.90**	**35**	P		**P**	07 14 01.5	**+0.1**
INK				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ZALV	**Zalesovo Beam**	**40.63**	**303**	P		**P**	07 14 15.4	**-0.3**
	comp=Z,1.7nm,0.4s,baz=61,slow=6.3,SNR=9.3							
ZALV	**Zalesovo Beam**	**40.63**	**303**	*e*P		**P**	07 14 15.5	**-0.3**
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.4s							
MKAR	**Makanchi Array**	**45.37**	**294**	P		**P**	07 14 53.9	**+0.2**
	comp=Z,1.0nm,0.8s,baz=25,slow=4.8,SNR=10							
YKA	**Yellowknife Ar**	**48.32**	**38**	P		**P**	07 15 16.0	**-0.2**
	comp=Z,0.7nm,0.6s,baz=300,slow=7.0,SNR=9.0							
YKA	**Yellowknife Ar**	**48.32**	**38**	P		**P**	07 15 16.0	**-0.2**
ARU	**Arti**	**52.49**	**316**	*d i* P		**P**	07 15 46.8	**-0.6**
ARU							07 17 43.9	
ARU				S		**S**	07 22 54.0	**+0.3**
ARU				SS		**SS**	07 26 31.6	**-3.0**
ARU				pmax	pmax			
	comp=Z,11nm,1.7s							
CMAR	**Chiang Mai Arr**	**53.13**	**254**	P		**P**	07 15 53.4	**+0.8**
	comp=Z,1.1nm,0.4s,baz=39,slow=7.3,SNR=2.7							
CMAR	**Chiang Mai Arr**	**53.13**	**254**	P		**P**	07 15 53.4	**+0.8**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ARCES	**ARCESS Array B**	**54.64**	**340**	P		**P**	07 16 02.9	**+0.1**
	comp=Z,2.7nm,0.9s,baz=50,slow=8.4,SNR=2.6							
ARCES	**ARCESS Array B**	**54.64**	**340**	P		**P**	07 16 02.9	**+0.1**
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.9s							
FINES	**FINESS Array B**	**60.96**	**334**	P		**P**	07 16 46.3	**-0.3**
	comp=Z,0.7nm,0.4s,baz=33,slow=6.3,SNR=7.6							
FINES	**FINESS Array B**	**60.96**	**334**	*e*P		**P**	07 16 45.2	**-1.4**
NVAR	**Mina Array Bea**	**61.01**	**64**	P		**P**	07 16 47.1	**-0.5**
	comp=Z,0.4nm,0.4s,baz=320,slow=6.3,SNR=2.1							
PDAR	**Pinedale Array**	**62.88**	**55**	P		**P**	07 16 59.8	**-0.3**
	comp=Z,0.4nm,0.6s,baz=338,slow=3.4,SNR=4.5							
GEYT	**Allbeck**	**64.82**	**299**	P		**P**	07 17 12.6	**+0.2**
	comp=Z,1.3nm,0.3s,baz=97,slow=12,SNR=3.1							
NOA	**NORSAR Array B**	**65.01**	**341**	P		**P**	07 17 13.4	**+0.1**
	comp=Z,0.9nm,0.9s,baz=28,slow=6.7,SNR=3.4							
AKASG	**Malin Array Be**	**68.70**	**325**	P		**P**	07 17 35.8	**-0.7**
	comp=Z,0.3nm,0.3s,baz=33,slow=7.2,SNR=2.4							
SCHQ	**Schefferville**	**70.25**	**23**	P		**P**	07 17 45.1	**-0.8**
	comp=Z,0.5nm,0.3s,baz=11,slow=10,SNR=3.9							
WRA	**Warramunga Arr**	**71.67**	**198**	P		**P**	07 17 53.5	**-1.3**
	comp=Z,0.7nm,0.5s,baz=12,slow=6.3,SNR=12							
ASAR	**Alice Springs**	**75.37**	**198**	P		**P**	07 18 15.9	**-0.4**
	comp=Z,0.8nm,0.6s,baz=13,slow=5.1,SNR=11							
TXAR	**Lajitas Array**	**75.95**	**61**	P		**P**	07 18 19.4	**-0.4**
	comp=Z,0.2nm,0.5s,baz=300,slow=5.1,SNR=5.9							
TXAR				pP		**pP**	07 19 20.4	**+2.1**
	comp=Z,0.3nm,1.0s,baz=290,slow=6.4,SNR=2.1							

IDC ***02*** *07:31:00.6±1.3, 7.°92S×158.°09E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/21, mbtmp3.8/8, Error ellipse: s-maj=45.9km s-min=22.6km az=108.0*

ISCJB ***02*** *07:31:06.5±0.8, 7.°8S±0.°1×157.°45E±0.°09, h33km, mb3.7/8, Error ellipse: s-maj=20.4km s-min=10.0km az=28.6*

ISC 02 07:31:07.6±0.9, 7.°7S±0.°1×157.°5E±0.°1, h35km, n15, σ2§15/10, mb3.8/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**2.94**	**125**	P		**Pn**	07 31 51.0	**-0.9**
HNR				S		**Sn**	07 32 29.0	**+3.0**
WRA	**Warramunga Arr**	**25.52**	**239**	P		**P**	07 36 34.8	**+1.6**
	2.1nm,0.7s,baz=63,slow=9.3,SNR=21							
H11S3	**WAKE ISLAND Hy**	**27.59**	**19**	T		T	08 05 27.9	
	baz=196,slow=76,SNR=30							
H11S2	**WAKE ISLAND Hy**	**27.59**	**19**	T		T	08 05 27.1	
	baz=196,slow=76,SNR=34							
H11S1	**WAKE ISLAND Hy**	**27.61**	**19**	T		T	08 05 25.2	
	baz=196,slow=76,SNR=20							
ASAR	**Alice Springs**	**27.63**	**232**	P		**P**	07 36 52.2	**0.0**
	0.4nm,0.5s,baz=64,slow=9.0,SNR=8.6							
STKA	**Stephens Creek**	**28.23**	**210**	P		**P**	07 36 57.4	**0.0**
	1.0nm,0.5s,baz=34,slow=15,SNR=3.4							
H11N1	**WAKE ISLAND Hy**	**28.79**	**19**	T		T	08 07 23.6	
	baz=194							
H11N3	**WAKE ISLAND Hy**	**28.80**	**19**	T		T	08 07 24.8	
	baz=194							
H11N2	**WAKE ISLAND Hy**	**28.81**	**19**	T		T	08 07 24.4	
	baz=194							
VNDA	**Vanda**	**69.79**	**179**	P		**P**	07 42 11.5	**-2.4**
	0.9nm,0.9s,baz=27,slow=6.8,SNR=3.8							
SONM	**Songino Array**	**71.32**	**326**	P		**P**	07 42 26.7	**+2.8**
	1.1nm,0.7s,baz=126,slow=5.2,SNR=8.2							
ILAR	**Eielson Array**	**83.15**	**21**	P		**P**	07 43 27.4	**-2.3**
	0.4nm,0.9s,baz=248,slow=3.3,SNR=4.0							
MKAR	**Makanchi Array**	**85.61**	**318**	P		**P**	07 43 43.6	**+0.9**
	0.5nm,0.7s,baz=108,slow=2.8,SNR=5.7							
ZALV	**Zalesovo Beam**	**86.19**	**326**	P		**P**	07 43 45.0	**-0.2**
	0.4nm,0.4s,baz=90,slow=7.2,SNR=3.4							

KRSC 02 07:40:02.7±2.0, 57.°42N×162.°39E, h0km±13km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SMKR	**Semkarok**	**0.98**	**211**	*e*P		**Pg**	07 40 21.6	**-0.1**
SMKR				*e*S		Sb	07 40 36.3	0.0
SRKR	**Sorokina**	**1.02**	**221**	*e*P		Pg	07 40 21.9	-0.5
BDR	**Baidarnaya**	**1.07**	**218**	*e*P		Pg	07 40 23.5	+0.1
KBTR	**Krutoberegovo**	**1.24**	**169**	*e*P		Pb	07 40 26.8	-0.2
KBTR				*e*S		Sn	07 40 46.3	+1.6
KLY	**Klyuchi**	**1.47**	**221**	*e*P		Pg	07 40 30.6	-0.2
KLY				*e*S		Sb	07 40 50.1	+0.1
SRDR	**Sredinnyy**	**1.84**	**234**	*e*P		Pn	07 40 35.8	+0.2
SRDR				*e*S		Sn	07 41 00.1	+0.4
OSSR	**Ossora**	**1.87**	**11**	*e*P		Pb	07 40 37.2	-0.5
OSSR				*e*S		Sg	07 41 03.5	+0.8
KOZ	**Kozyrevsk**	**1.95**	**226**	*e*P		Pb	07 40 39.3	+0.2
KMNR	**Kamenistaya**	**2.05**	**216**	*e*P		Pb	07 40 41.5	+0.5
KMNR				*e*S		Sg	07 41 09.2	+0.3
PALN	**Palana**	**2.11**	**324**	*e*P		Pb	07 40 40.8	-1.0
PALN				*e*S		Sg	07 41 09.9	-0.5
TUMR	**Tumrok**	**2.48**	**211**	*e*P		Pb	07 40 47.9	-0.4
TUMR				*e*S		Sg	07 41 21.6	-1.1
KZV	**Kizimen**	**2.59**	**208**	*i* P		Pb	07 40 49.0	-1.3
MKZ	**Mys Kozlova**	**2.90**	**188**	*e*P		Pn	07 40 50.5	+0.5
GNL	**Ganaly**	**4.51**	**216**	*e*P		Pn	07 41 15.3	+2.9

TRN ***02*** *07:46:39.7, 11.°00N×59.°26W, h9km, MD3.9*

FUNV ***02*** *07:46:50.5, 10.°23N×59.°84W, h36km, MW3.4*

ISC 02 07:46:38.1±3.1, 10.°84N±0.°08×59.°2W±0.°1, h9km±12km, n23, σ1§12/27, 1C-2D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
TOSP	**Speyside**	**1.42**	**289**	*e*P		**Pg**	**07 47 05.2**	**-0.1**
TOSP				*e*S		**Sg**	**07 47 23.8**	**0.0**
BOT	**Bacolet**	**1.56**	**282**	*e*P		**Pg**	**07 47 07.8**	**-0.1**
TPR	**Prospect**	**1.62**	**283**	*e*P		**Pg**	**07 47 08.7**	**-0.4**
TPR				*e*S		**Sg**	**07 47 29.9**	**-0.2**
TBH	**Brigand Hill**	**1.90**	**260**	*e*P		**Pb**	**07 47 13.3**	**+0.4**
TBH				*e*S		**Sb**	**07 47 37.7**	**+0.9**
TRN	**Trinidad (W)**	**2.20**	**265**	*e*P		**Pn**	**07 47 16.7**	**+1.8**
TRN				*e*S		**Sn**	**07 47 43.6**	**+1.4**
TCE	**Chacachacare**	**2.54**	**267**	*e*P		**Pn**	**07 47 21.9**	**+2.3**
GRGR	**Grenville**	**2.75**	**298**	*e*P		**Pn**	**07 47 23.0**	**+0.6**
GRGR				*e*S		**Sn**	**07 47 55.1**	**-0.8**
GRW	**Mount Saint Ca**	**2.77**	**299**	*e*P		**Pn**	**07 47 23.9**	**+1.1**
GRW				*e*S		**Sn**	**07 47 56.5**	**0.0**
GRHS	**Sauteurs**	**2.79**	**300**	*e*S		**Sn**	**07 47 56.6**	**-0.1**
GRSS	**Sisters**	**2.80**	**301**	*e*P		**Pn**	**07 47 23.3**	**+0.2**
GRSS				*e*S		**Sn**	**07 47 56.4**	**-0.6**
GUIV	**Guiria**	**3.01**	**267**	*e*P		**Pn**	**07 47 25.7**	**-0.2**
GUIV				*e*S		Sn	07 47 51.5	-11
SVB	**Belmont**	**3.16**	**320**	*e*P		**Pn**	**07 47 28.5**	**+0.4**
SVB				*e*S		**Sn**	**07 48 04.4**	**-1.6**
MCLT	**Moule a Chique**	**3.34**	**329**	*e*P		**Pn**	**07 47 31.8**	**+1.3**
MCLT				*e*S		**Sn**	**07 48 09.4**	**-0.9**
GUNV	**Guanoco**	**3.77**	**260**	*e*P		**Pn**	**07 47 36.1**	**-0.3**
GUNV				*e*S		Sn	07 48 09.1	-12
CRUV	**Carupano**	**4.00**	**268**	*e*P		**Pn**	**07 47 38.1**	**-1.4**
CRUV				*e*S		Sn	07 48 14.1	-13
PCRV	**Puerto La Cruz**	**5.42**	**264**	*e*P		**Pn**	**07 47 57.5**	**-1.6**
LUEV	**Luepa**	**5.46**	**205**	*e*P		Pn	07 47 56.0	-3.7
PRGV	**PARIAGUAN**	**5.78**	**250**	*e*P		Pn	07 48 01.2	-2.8
CUPV	**Cepira**	**6.56**	**264**	*e*P		**Pn**	**07 48 12.9**	**-1.9**
BIRV	**Birongo**	**6.99**	**268**	*e*P		**Pn**	**07 48 19.7**	**-1.0**
MERV	**Las Mercedes**	**7.20**	**258**	*e*P		Pn	07 48 20.6	-3.0
BAUV	**El Baul**	**8.94**	**259**	*e*P		Pn	07 48 44.9	-2.7
MAPV	**Macapo**	**9.19**	**265**	*e*P		Pn	07 48 47.8	-3.2

KRSC 02 07:56:32.2±1.9, 57.°45N×162.°34E, h0km±13km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SMKR	**Semkarok**	**0.99**	**209**	*e*P		Pb	07 56 52.0	-0.4
SMKR				*e*S		Sn	07 57 08.1	-0.2
SRKR	**Sorokina**	**1.02**	**219**	*e*P		Pg	07 56 51.4	-0.5
BDR	**Baidarnaya**	**1.08**	**215**	*e*P		Pg	07 56 52.4	-0.6
BDR				*e*S		Sg	07 57 07.8	+0.7
KBTR	**Krutoberegovo**	**1.27**	**168**	*e*P		Pb	07 56 57.0	0.0
KBTR				*e*S		Sn	07 57 15.4	+0.4
KLY	**Klyuchi**	**1.47**	**220**	*e*P		Pb	07 57 00.4	+0.1
KLY				*e*S		Sn	07 57 21.7	+1.9
SRDR	**Sredinnyy**	**1.84**	**233**	*e*P		Pn	07 57 04.5	-0.5
SRDR				*e*S		Sb	07 57 30.5	+0.2
OSSR	**Ossora**	**1.84**	**12**	*e*P		Pg	07 57 07.5	+0.1
KOZ	**Kozyrevsk**	**1.95**	**225**	*e*P		Pg	07 57 09.9	+0.3
KMNR	**Kamenistaya**	**2.06**	**215**	*e*P		Pb	07 57 09.5	-1.1
KMNR				*e*S		Sb	07 57 37.5	+0.7
TUMR	**Tumrok**	**2.49**	**210**	*e*P		Pb	07 57 17.8	-0.2
MKZ	**Mys Kozlova**	**2.92**	**187**	*e*P		Pn	07 57 22.3	+2.5
GNL	**Ganaly**	**4.52**	**215**	*e*P		Pn	07 57 45.9	+4.0

MAN 02 08:13:08, 13.°42N×120.°52E, h35km, mb4.2, ML3.0, MS2.7, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
LUBP	**Lubang**	**0.41**	**319**	*e*P		Pn	08 13 19.9	**+2.5**
LUBP				*e*S		Sn	08 13 26.6	+2.7
PGP	**Puerto Galera**	**0.42**	**79**	*e*P		Pn	08 13 19.9	+2.3
PGP				*i* S		Sn	08 13 32.2	+7.9
SJMP	**San Jose**	**1.12**	**149**	*e*P		Pn	08 13 29.1	+1.9
SJMP				*e*S		Sn	08 13 41.2	-0.1
BUSP	**Coron**	**1.45**	**193**	*e*P		Pn	08 13 33.1	+1.4

NIED ***02*** *08:13:00, 29.°30N×142.°30E, h5km, Mw5.0 Best double couple: M0 3.85000×10^16 NP1:φ0=3.00000°, δ24.00000°, λ134.00000°. NP2:φ0=136.00000°, δ73.00000°, λ73.00000°.*

IDC ***02*** *08:13:12.3±0.5, 29.°25N×142.°27E, h0km, mb4.4/23, mb1 4.5/29, mb1mx4.4/33, mbtmp4.3/29, ML3.6/6, MS4.1/26, Ms1 4.1/26, ms1mx3.9/41, Error ellipse: s-maj=15.8km s-min=11.9km az=84.0*

BJI ***02*** *08:13:12.0, 29.°17N×142.°14E, h15km, mb4.6/44, mB4.9/31, Ms4.6/43, Ms7 4.4/43*

ISCJB ***02*** *08:13:14.3±0.9, 29.°34N±0.°02×141.°98E±0.°03, h13km±5km, mb4.7/96, MS4.2/32, Error ellipse: s-maj=4.8km s-min=3.5km az=172.5*

JMA ***02*** *08:13:15.2±0.2, 29.°34N×142.°29E, h46km, M4.6*

MOS ***02*** *08:13:16.2±1.1, 29.°27N×142.°10E, h33km, mb4.9/39, MS4.1/19, Error ellipse: s-maj=11.0km s-min=5.4km az=114.9*

NEIC ***02*** *08:13:17.9±2.3, 29.°21N×141.°98E, h31km±15km, mb4.7/51, MW5.0(NIED), Error ellipse: s-maj=7.1km s-min=6.2km az=136.0*

ISC 02 08:13:16.4±0.4, 29.°27N±0.°03×142.°02E±0.°05, h22km±3km, h22km:pP-P, n239, σ1§65/283, mb4.7/96, MS4.2/32, 3C-9D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.17**	**176**	P		**Pn**	**08 13 51.3**	**0.0**
CBIJ				S		**Sn**	**08 14 16.7**	**-0.8**
CBIJ	**Chichi jima**	**2.17**	**176**	*e*Pn		**Pn**	**08 13 50.6**	**-0.7**
CBIJ				Sn		**Sn**	**08 14 16.2**	**-1.3**
JCJ	**Chichijima**	**2.17**	**176**	Pn		**Pn**	**08 13 50.4**	**-0.8**
	53nm,0.3s,baz=94,slow=21,SNR=24							
JCJ				Sn		**Sn**	**08 14 16.2**	**-1.3**
	122nm,0.3s,baz=90,slow=20,SNR=10							
JHHJ	**Haha-jima-NKT**	**2.64**	**177**	P		**Pn**	**08 13 57.7**	**+0.1**
JHHJ				S		**Sn**	**08 14 28.3**	**-0.7**
JHCJ	**Hachijojimakas**	**4.24**	**334**	P		**Pn**	**08 14 19.3**	**-0.3**
JHCJ				S		**Sn**	**08 15 07.2**	**-1.3**
JHJ2	**Mitsune**	**4.26**	**334**	P		**Pn**	**08 14 20.4**	**+0.4**
JHJ2				S		**Sn**	**08 15 08.8**	**-0.3**
BSO1	**Boso 1**	**5.44**	**351**	P		**Pn**	**08 14 34.4**	**-1.2**
BSO1				S		**Sn**	**08 15 35.6**	**-1.6**
JKO	**Kozu shima**	**5.48**	**334**	S		**Sn**	**08 15 38.9**	**-0.1**
BSO3	**Boso 3**	**5.66**	**347**	P		**Pn**	**08 14 38.6**	**-0.3**
BSO3				*e*S		**Sn**	**08 15 42.2**	**-0.9**
BSO4	**Boso 4**	**5.88**	**346**	P		**Pn**	**08 14 42.3**	**+0.3**
BSO4				S		**Sn**	**08 15 48.3**	**-0.4**
JOD2	**Odawara 2**	**6.47**	**338**	P		**Pn**	**08 14 51.6**	**+1.3**
JHMK	**Hamakita**	**6.60**	**328**	P		**Pn**	**08 14 53.6**	**+1.6**
JYT	**Yasato**	**7.10**	**348**	P		**Pn**	**08 14 59.3**	**+0.3**
JYT				S		**Sn**	**08 16 17.5**	**-1.5**
JHO	**Hitachi**	**7.42**	**351**	P		**Pn**	**08 15 01.0**	**-2.3**
MJAR	**Matsushiro Arr**	**7.92**	**337**	Pn		**Pn**	**08 15 10.6**	**+0.3**
	6.6nm,0.3s,baz=173,slow=5.6,SNR=44							
MJAR				Sn		**Sn**	**08 16 40.5**	**+1.3**
	2.2nm,0.3s,baz=134,slow=42,SNR=3.2							
MJAR				LR		LR	08 18 27.7	
	comp=Z,828nm,18.8s,baz=165,slow=39							
MJAR	**Matsushiro Arr**	**7.92**	**337**	P		**Pn**	**08 15 10.6**	**+0.3**
MJAR							08 16 40.5	
MJAR				pmax	pmax			
	comp=Z,7.0nm,0.3s							
MJAR				smax	smax			
	comp=N,2.0nm,0.3s							
MJAR				MLR	MLR			
	comp=Z,828nm,18.8s							
MAJO	**Matsushiro**	**7.92**	**337**	*d* P		**Pn**	**08 15 11.4**	**+1.1**
MAJO	**Matsushiro**	**7.92**	**337**	*e*Pn		**Pn**	**08 15 11.5**	**+1.1**
MAJO				*e*Sn		**Sn**	**08 16 38.4**	**-0.9**
MAT	**Matsushiro**	**7.92**	**337**	P		**Pn**	**08 15 10.6**	**+0.3**
MAT				S		**Sn**	**08 16 35.5**	**-3.8**
JNU	**Nakatsue**	**10.28**	**295**	Pn		**Pn**	**08 15 45.0**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=127,slow=8.6,SNR=2.4							
JNU				LR		LR	08 19 40.6	
	comp=Z,2μm,18.5s,baz=98,slow=37							
JNU	**Nakatsue**	**10.28**	**295**	*e*Pn		**Pn**	**08 15 43.0**	**+0.4**
ERM	**Erimo**	**12.75**	**4**	*e*P		Pn	08 16 12.2	-4.1
KSRS	**Korea Array**	**14.32**	**308**	Pn		**Pn**	**08 16 40.4**	**+2.7**
	comp=Z,0.2nm,0.3s,baz=112,slow=14,SNR=3.2							
KSRS				LR		LR	08 22 15.7	
	comp=Z,786nm,18.0s,baz=125,slow=37							
KSAR	**Wonju Array Be**	**14.34**	**308**	P		**Pn**	**08 16 40.4**	**+2.4**
KSAR	**Wonju Array Be**	**14.34**	**308**	Pn		**Pn**	**08 16 40.4**	**+2.4**
ASAJ	**Asahikawa**	**14.82**	**2**	Pn		**Pn**	**08 16 41.4**	**-3.2**
	comp=Z,1.4nm,0.3s,baz=237,slow=11,SNR=7.9							
ASAJ				Sn		Sn	08 19 18.5	-10
	comp=Z,0.5nm,0.3s,baz=232,slow=18,SNR=4.7							
ASAJ				LR		LR	08 24 12.5	
	comp=Z,307nm,20.9s,baz=175,slow=44							
YUK	**Yuzh-Kuril'sk**	**15.05**	**11**	P		Pn	08 16 36.3	-11
YUK				pmax	pmax			
	comp=N,36nm,0.2s							
YUK				pmax	pmax			
	comp=E,20nm,0.2s							
YUK				pmax	pmax			
	comp=Z,54nm,0.2s							
YUK				MLR	MLR			
	comp=Z,359nm,20.0s							
GUMO	**Guam**	**15.83**	**170**	LR		LR	08 21 54.1	
	comp=Z,238nm,20.7s,baz=1.5,slow=33							
USRK	**Ussuriysk Ar.**	**16.91**	**334**	P		**Pn**	**08 17 10.0**	**-1.5**
	comp=Z,0.3nm,0.3

baz=304
HIA Hailar 26.21 326 *e*P **P 08 18 50.1 +0.6**
HIA pmax pmax
comp=Z,22nm,0.9s
HIA Hailar 26.21 326 *e*P **P 08 18 50.1 +0.6**
comp=Z,22nm,0.9s
PETK Petropavlovsk- 26.46 21 LR LR 08 31 53.8
comp=Z,98nm,18.7s,baz=205,slow=42
HHC Hu-ho-hao-te 27.34 303 *e*P **P 08 19 01.4 +1.5**
HHC PP **PnPn 08 19 48.5 +4.4**
HHC S **S 08 23 38.2 -0.3**
HHC sS **sS 08 23 47.4 -2.0**
HHC SS **SnSn 08 24 54.6 +6.8**
HHC ScS **ScS 08 29 49.2 -0.4**
HHC PMZ
comp=Z,21nm,1.2s
HHC PMZ
comp=Z,85nm,5.5s
HHC LN
comp=Z,440nm,14.5s
HHC LE
comp=Z,730nm,16.1s
HHC LZ
comp=Z,950nm,16.1s
XAN Xi'an 28.50 288 P **P 08 19 09.5 -0.7**
XAN pP **pP 08 19 15.4 -1.4**
XAN PMZ
comp=Z,3.0nm,1.0s
XAN PMZ
comp=Z,18nm,7.8s
XAN LN
comp=Z,170nm,15.3s
XAN LE
comp=Z,170nm,18.4s
XAN LZ
comp=Z,180nm,17.3s
QIZ Qiongzhong 30.99 258 P **P 08 19 32.2 -0.2**
QIZ sP **sP 08 19 40.8 -0.9**
QIZ S **S 08 24 36.7 +0.6**
QIZ PMZ
comp=Z,6.0nm,1.1s
QIZ LN
comp=Z,240nm,21.7s
QIZ LE
comp=Z,110nm,24.0s
QIZ LZ
comp=Z,350nm,18.1s
GYA Guiyang 31.31 273 *e*P **P 08 19 37.2 +1.9**
GYA PMZ
comp=Z,10.0nm,0.8s
ULN Ulaanbaatar 32.67 314 *e*P **P 08 19 47.8 +0.8**
ULN pmax pmax
comp=Z,17nm,1.2s
ULN Ulaanbaatar 32.67 314 *e*P **P 08 19 47.9 +0.8**
comp=Z,12nm,1.0s
LZH Lanzhou 32.69 292 *e*P **P 08 19 46.8 -0.6**
LZH pP **pP 08 19 51.0 -3.0**
LZH sP **sP 08 19 53.5 -3.2**
LZH PP **PnPn 08 20 51.3 -4.2**
LZH *e*S **S 08 24 59.1 -3.5**
LZH sS **sS 08 25 10.0 -3.6**
LZH PMZ
comp=Z,21nm,1.0s
LZH PMZ
comp=Z,92nm,4.3s
LZH LN
comp=Z,380nm,11.1s
LZH LE
comp=Z,540nm,14.0s
LZH LZ
comp=Z,640nm,14.5s
CD2 Chengdu 33.04 283 *e*P **P 08 19 51.0 +0.7**
CD2 pP **pP 08 19 57.6 +0.6**
CD2 PP **PnPn 08 20 59.6 -0.3**
CD2 S **S 08 25 06.9 -1.1**
CD2 sS **sS 08 25 16.9 -2.0**
CD2 PMZ
comp=Z,10.0nm,0.8s
CD2 PMZ
comp=Z,80nm,7.2s
CD2 LN
comp=Z,380nm,16.9s
CD2 LE
comp=Z,560nm,14.5s
CD2 LZ
comp=Z,630nm,13.2s
SONM Songino Array 33.07 314 P **P 08 19 51.1 +0.6**
comp=Z,6.0nm,0.9s,baz=116,slow=8.1,SNR=32
SONM LR LR 08 34 08.2
comp=Z,319nm,18.3s,baz=96,slow=38
SONM Songino Array 33.07 314 P **P 08 19 51.2 +0.6**
SONM pmax pmax
comp=Z,6.0nm,0.9s
SONM MLR MLR
comp=Z,319nm,18.3s
YAK Yakutsk 33.76 350 *e*P **P 08 19 55.1 -1.0**
YAK *e**PP **pP 08 20 07.1 +4.4**
YAK *e* 08 21 04.5
YAK *e* 08 22 32.8
YAK *e*S S 08 25 11.3 -6.9
YAK pmax pmax
comp=Z,9.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.4s
YAK pmax pmax
comp=N,4.0nm,1.3s
YAK pmax pmax
comp=Z,10.0nm,0.6s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK smax smax
comp=N,29nm,2.5s
YAK smax smax
comp=E,22nm,2.4s
YAK MLR MLR
comp=Z,194nm,20.0s
YAK MLR MLR
comp=N,185nm,19.0s
YAK MLR MLR
comp=E,95nm,15.0s
SEY Seymchan 34.34 8 *e*P **P 08 20 01.1 0.0**
BOD Bodaibo 34.54 334 *e*P **P 08 20 02.5 -0.5**
BOD pmax pmax
comp=Z,8.0nm,1.4s
KMI Kunming 35.07 273 P **P 08 20 09.7 +1.5**
KMI PMZ
comp=Z,9.0nm,1.1s
KMI LN
comp=Z,160nm,16.0s
KMI LE
comp=Z,320nm,18.8s
KMI LZ
comp=Z,390nm,18.8s
ZAK Zakamensk 35.90 317⇑ *i*P **P 08 20 15.8 +0.8**
ZAK pmax pmax
comp=Z,10.0nm,1.4s
GTA Gaotai 36.00 298 *e*P **P 08 20 16.3 +0.3**
GTA pP **pP 08 20 22.3 -0.3**
GTA sP **sP 08 20 25.2 -0.2**
GTA S **S 08 25 54.6 +0.9**
GTA sS **sS 08 26 04.1 -0.6**
GTA SS **SnSn 08 28 18.3 -0.2**
GTA PMZ
comp=Z,3.0nm,0.8s
GTA PMZ
comp=Z,71nm,4.5s
GTA LN
comp=Z,370nm,14.2s
GTA LE
comp=Z,380nm,15.7s
GTA LZ
comp=Z,500nm,15.7s
TLY Talaya 36.18 319 *e*P **P 08 20 19.3 +2.1**
TLY *e* 08 21 35.9
TLY *e*S **S 08 25 56.1 +0.2**
TLY pmax pmax
comp=Z,24nm,1.4s
TLY MLR MLR
comp=Z,676nm,17.0s
TLY Talaya 36.18 319 *e*P **P 08 20 18.4 +1.2**
comp=Z,21nm,1.2s
SKNT Sakolnakorn 36.90 259 P **P 08 20 25.1 +1.4**
comp=Z,32nm,1.1s
MOY Mondy 37.71 318 *e*P **P 08 20 31.7 +1.4**
MOY pmax pmax
comp=Z,28nm,1.4s
CRAI Chiangrai 38.71 266 P **P 08 20 36.1 -2.9**
comp=Z,14nm,1.2s
UTTA Uttaradit 39.53 263 P **P 08 20 46.7 +0.9**
comp=Z,6.9nm,1.1s,comp=Z,61nm
PBKT Sadao Pong 39.67 261 P **P 08 20 47.9 +0.9**
comp=Z,24nm,1.0s
CMAI Chiengmai2 39.98 267 P **P 08 20 51.1 +1.3**
comp=Z,7.2nm,1.4s,comp=Z,394nm
CHBT CHBT 40.30 254 P **P 08 20 54.1 +1.8**
comp=Z,11nm,0.7s
CMMT Chiang Mai 40.49 265 P **P 08 20 54.6 +0.7**
comp=Z,33nm,1.0s
CHTO Chiang Mai 40.49 265 P **P 08 20 54.7 +0.8**
comp=Z,114nm,1.1s,comp=Z,1µm
CHTO Chiang Mai 40.49 265 *e*P **P 08 20 54.4 +0.5**
CHTO pmax pmax
comp=Z,27nm,1.1s
CHTO Chiang Mai 40.49 265 *e*P **P 08 20 54.4 +0.5**
comp=Z,27nm,1.1s
CM31 Chiang Mai Arr 40.63 265 *e*P **P 08 20 55.6 +0.6**
comp=Z,5.4nm,0.8s
CMAR Chiang Mai Arr 40.63 265 P **P 08 20 55.9 +0.8**
comp=Z,2.1nm,0.4s,baz=48,slow=8.7,SNR=30
CMAR LR LR 08 39 54.7
comp=Z,314nm,18.1s,baz=84,slow=39
CMAR Chiang Mai Arr 40.63 265 P **P 08 20 55.9 +0.8**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
CMAR MLR MLR
comp=Z,314nm,18.1s
BILL Bilibino 41.38 14⇓ *e*P **P 08 21 01.9 +1.4**
BILL *e* 08 22 40.4
BILL pmax pmax
comp=Z,8.0nm,1.0s
BILL MLR MLR
comp=Z,321nm,20.0s
BILL Bilibino 41.38 14 *e*P **P 08 21 01.7 +1.1**
comp=Z,8.1nm,0.9s
MHMT Maesarieng 41.63 265 P **P 08 21 04.6 +1.4**
comp=Z,10nm,1.2s
HVS Khovu-Aksy 41.94 315 *e*P **P 08 21 07.2 +1.7**
HVS pmax pmax
comp=Z,303nm,1.2s
SRDT SRDT 42.26 259 P **P 08 21 11.0 +2.6**
comp=Z,41nm,1.2s
TIXI Tiksi 43.04 354 *e*P **P 08 21 13.4 -0.6**
TIXI pmax pmax
comp=Z,16nm,5.0s
TIXI MLR MLR
comp=Z,98nm,17.0s
TIXI Tiksi 43.04 354 *e*P **P 08 21 13.1 -0.9**
comp=Z,8.2nm,1.4s
TRTT Trang 45.10 250 P **P 08 21 33.0 +1.7**
comp=Z,16nm,1.2s
WMQ Urumqi 45.21 304 *e*P **P 08 21 32.3 +0.4**
WMQ pP **pP 08 21 38.5 -0.2**
WMQ sP **sP 08 21 41.3 -0.1**
WMQ *e*S S 08 28 04.3 -6.4
WMQ ScS **ScS 08 31 21.0 -6.7**
WMQ PMZ
comp=Z,13nm,0.8s
WMQ PMZ
comp=Z,130nm,4.9s
WMQ LN
comp=Z,250nm,13.0s
WMQ LE
comp=Z,260nm,13.0s
WMQ LZ
comp=Z,220nm,19.5s
SURT Suratani 45.23 252 P **P 08 21 34.5 +2.2**
comp=Z,5.0nm,1.4s
KULM Kulim 45.77 247 *e*P **P 08 21 37.2 +0.6**
comp=Z,6.9nm,0.8s
IPM Ipoh 45.95 245 *e*P **P 08 21 38.6 +0.5**
comp=Z,5.5nm,0.3s
ZAA0 Zalesovo Array 47.77 318 *e*P **P 08 21 51.6 -0.1**
ZALV Zalesovo Beam 47.77 318 P **P 08 21 52.4 +0.7**
comp=Z,14nm,1.0s,baz=104,slow=6.3,SNR=46
ZALV LR LR 08 42 48.9
comp=Z,375nm,18.1s,baz=70,slow=37
ZALV Zalesovo Beam 47.77 318 P **P 08 21 52.4 +0.7**
ZALV pmax pmax
comp=Z,14nm,1.0s
ZALV MLR MLR
comp=Z,375nm,18.1s
PSI Prapat 48.63 245 P **P 08 22 01.6 +2.5**
comp=Z,5.1nm,0.6s,baz=274,slow=9.6,SNR=2.9
PSI LR LR 08 40 53.9
comp=Z,161nm,18.7s,baz=38,slow=34
NVS Novosibirsk 48.79 319 *e*P **P 08 21 58.3 -1.3**
NVS pmax pmax
comp=Z,47nm,1.6s
NVS pmax pmax
comp=N,6.0nm,1.2s
NVS pmax pmax
comp=E,28nm,1.4s
LEM Lembang 48.82 228 LR LR 08 41 23.7
comp=E,105nm,21.6s,baz=187,slow=34
MK31 Makanchi Array 49.00 308 *e*P **P 08 22 01.6 +0.2**
MK31 Makanchi Array 49.00 308 *e*P **P 08 22 01.6 +0.2**
MKAR Makanchi Array 49.00 308 P **P 08 22 01.7 +0.3**
comp=E,4.6nm,0.8s,baz=96,slow=4.9,SNR=37
MKAR LR LR 08 43 47.9
comp=E,284nm,18.2s,baz=90,slow=37
MKAR Makanchi Array 49.00 308 *e*P **P 08 22 02.0 +0.6**
MKAR Makanchi Array 49.00 308 *e*P **P 08 22 02.0 +0.6**
WRAB Tennant Creek 49.48 190 *d i*P **P 08 22 04.8 -0.4**
WRAB pmax pmax
comp=Z,42nm,1.0s
WRAB Tennant Creek 49.48 190 *e*P **P 08 22 04.4 -0.8**
comp=Z,29nm,1.0s
WRAB *e*PcP **PcP 08 23 28.3 +1.2**
WRA Warramunga Arr 49.49 190 P **P 08 22 04.2 -1.0**
comp=Z,13nm,0.8s,baz=9.2,slow=8.0,SNR=68
WRA LR LR 08 43 17.3
comp=Z,149nm,18.7s,baz=170,slow=36
WRA Warramunga Arr 49.49 190 P **P 08 22 04.3 -1.0**
WRA pmax pmax
comp=Z,13nm,0.8s
WRA MLR MLR
comp=Z,149nm,18.7s
KURK Kurchatov 51.37 313 *e*P **P 08 22 19.4 +0.1**
KURK pmax pmax
comp=Z,47nm,0.9s
KURK Kurchatov 51.37 313 *e*P **P 08 22 19.4 +0.1**
comp=Z,47nm,0.9s
KDAK Kodiak Island 52.73 38 *ce*P **P 08 22 30.5 +1.3**
ASAR Alice Springs 53.21 189 P **P 08 22 32.4 -0.8**
comp=Z,1.5nm,0.5s,baz=1.9,slow=5.2,SNR=36
ASAR LR LR 08 42 31.3
comp=Z,180nm,21.9s,baz=82,slow=33
CAST Castle Rocks 53.49 31 *e*P **P 08 22 38.0 +3.2**
comp=Z,4.0nm,0.8s
TKM2 Tokmak 2 54.07 304 *e*P **P 08 22 40.0 +0.4**
TKM2 pmax pmax
comp=Z,7.0nm,1.1s
TKM2 Tokmak 2 54.07 304 *e*P **P 08 22 40.0 +0.4**
comp=Z,7.1nm,1.1s
KSH Kashi 54.36 300 P P 08 22 45.6 +3.9
KSH sP sP 08 22 54.5 +3.3
KSH PP PP 08 24 49.0 +5.4
KSH PcS **PcS 08 27 47.3 +2.2**
KSH S **S 08 30 20.7 +1.9**
KSH PMZ
comp=Z,7.0nm,1.1s
KSH PMZ
comp=Z,120nm,4.7s
KSH LN
comp=Z,680nm,11.9s
KSH LE
comp=Z,410nm,10.2s
KSH LZ
comp=Z,200nm,12.7s
COLD Coldfoot 54.78 26 *e*P **P 08 22 45.2 +1.1**
comp=Z,4.4nm,1.1s
AAK Ala-Archa 54.91 304 *e*P **P 08 22 46.3 +0.6**
AAK pmax pmax
comp=Z,5.0nm,0.8s
AAK Ala-Archa 54.91 304 *e*P **P 08 22 46.3 +0.6**
comp=Z,3.3nm,0.7s
EKS2 Erkin-Say 55.43 304 *e*P **P 08 22 49.9 +0.5**
EKS2 pmax pmax
comp=Z,3.0nm,0.8s
EKS2 Erkin-Say 55.43 304 *e*P **P 08 22 49.9 +0.5**
comp=Z,3.1nm,0.8s
COLA College 55.48 29 *e*P **P 08 22 51.8 +2.6**
ILAR Eielson Array 55.89 29 P **P 08 22 50.8 -1.3**
comp=Z,2.7nm,1.1s,baz=260,slow=4.9,SNR=14
ILAR Eielson Array 55.89 29 P **P 08 22 50.8 -1.3**
ILAR pmax pmax
comp=Z,3.0nm,1.1s
BRVK Borovoye 56.42 317 *c i*P **P 08 22 56.4 +0.3**
BRVK pmax pmax
comp=Z,35nm,1.2s
BRVK Borovoye 56.42 317 *e*P **P 08 22 56.6 +0.5**
comp=Z,35nm,1.2s
BMRM Bremner River 56.87 34 *e*P **P 08 23 01.7 +2.4**
comp=Z,9.7nm,0.9s
KKAR Karatay Array 57.71 305 *e*P **P 08 23 06.3 +0.8**
KKAR Karatay Array 57.71 305 *e*P **P 08 23 06.2 +0.8**
EGAK Eagle 58.34 29 *e*P **P 08 23 11.8 +2.3**
comp=Z,2.9nm,0.8s
STKA Stephens Creek 60.81 180 P **P 08 23 25.7 -1.1**
comp=Z,2.5nm,0.9s,baz=351,slow=12,SNR=4.5
STKA LR LR 08 50 12.9
comp=Z,286nm,19.9s,baz=197,slow=36
STKA Stephens Creek 60.81 180 P **P 08 23 25.7 -1.1**
STKA pmax pmax
comp=Z,3.0nm,0.9s
STKA MLR MLR
comp=Z,286nm,19.9s
KBL Kabul 60.94 295 *e*P **P 08 23 28.0 -0.2**
KBL pmax pmax
comp=Z,8.0nm,0.9s
KBL Kabul 60.94 295 *e*P **P 08 23 28.0 -0.2**
comp=Z,8.3nm,0.9s
INK Inuvik 61.12 25 P **P 08 23 27.8 -0.7**
comp=Z,1.3nm,0.7s,baz=284,slow=9.8,SNR=4.1
INK Inuvik 61.12 25 P **P 08 23 27.8 -0.7**
INK pmax pmax
comp=Z,1.0nm,0.7s
SVE Sverdlovsk 61.42 322⇓ *e*P **P 08 23 31.5 +0.7**
SVE pmax pmax
comp=Z,30nm,1.5s
ARU Arti 62.62 322 *d i*P **P 08 23 39.0 +0.1**
ARU 08 24 17.4
ARU S **S 08 32 08.1 +2.5**
ARU SS **SS 08 36 03.6 -6.0**
ARU pmax pmax
comp=Z,29nm,1.2s
ARU Arti 62.62 322 *e*P **P 08 23 39.5 +0.7**
comp=Z,25nm,1.1s
ABKAR Akbulak array 63.48 314 *e*P **P 08 23 45.2 +0.5**
AKTO Aktyubinsk 64.38 315 LR LR 08 53 15.5
comp=Z,228nm,18.7s,slow=37
PRGR Permogore 67.61 329 *e*P **P 08 24 12.4 +1.3**
PRGR pmax pmax
comp=Z,10.0nm,0.5s
IMOG Moghan 67.94 300 *e*P P 08 24 08.8 -5.3
GEYT Alibeck 68.21 302 P **P 08 24 16.4 +0.9**
comp=Z,5.1nm,0.9s,baz=29,slow=3.4,SNR=10
GEYT LR LR 08 57 01.8
comp=Z,218nm,18.3s,baz=35,slow=38
RES Resolute Bay 69.99 14 P **P 08 24 23.9 -1.8**
comp=Z,1.4nm,1.0s,baz=299,slow=5.2,SNR=3.9
RES Resolute Bay 69.99 14 P **P 08 24 23.9 -1.8**
RES pmax pmax
comp=Z,1.0nm,1.0s
YKA Yellowknife Ar 70.31 29 P **P 08 24 26.6 -1.2**
comp=Z,1.5nm,0.8s,baz=294,slow=6.2,SNR=9.8
YKA Yellowknife Ar 70.31 29 P **P 08 24 26.6 -1.2**
YKA pmax pmax
comp=Z,2.0nm,0.8s
KLMR Klimovskoe 70.63 330 *e*P **P 08 24 29.2 -0.7**
KLMR pmax pmax
comp=Z,14nm,1.5s
ARCES ARCESS Array B 71.44 341 P **P 08 24 35.3 +0.6**
comp=Z,4.5nm,0.9s,baz=87,slow=6.4,SNR=5.1
ARCES ARCESS Array B 71.44 341 P **P 08 24 35.3 +0.6**
ARCES pmax pmax
comp=Z,5.0nm,0.9s
IANJ Anjilo 72.26 301 *e*P **P 08 24 40.7 +0.1**
ILAS Lasjerd 73.01 301 *e*P **P 08 24 45.4 +0.4**
OBN Obninsk 74.67 325⇓ *e*P **P 08 24 54.3 +0.4**
OBN *e* 08 25 07.6
OBN *e* 08 27 43.5
OBN *e*S **S 08 34 33.6 +5.1**
OBN pmax pmax
comp=Z,25nm,1.7s
OBN MLR MLR
comp=Z,358nm,15.0s
VSR Storozhevoye 75.17 321 *e*P **P 08 24 56.4 -0.5**
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
EDM Edmonton 75.17 37 *e*P **P 08 24 57.2 +0.2**
EDM Edmonton 75.17 37 *e*P **P 08 24 57.2 +0.2**
VORD Divnogorie 75.22 320 *e*P **P 08 24 57.1 -0.1**
VORD pmax pmax
comp=N,7.0nm,0.5s
VORD pmax pmax
comp=E,6.0nm,0.5s
VORD pmax pmax
comp=Z,8.0nm,0.5s
FINES FINESS Array B 75.94 334 P **P 08 25 01.2 +0.1**
comp=Z,2.0nm,0.4s,baz=81,slow=4.1,SNR=20
FINES LR LR 09 02 25.3
comp=Z,71nm,18.4s,baz=7.0,slow=39
FINES FINESS Array B 75.94 334 P **P 08 25 01.2 +0.1**
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES MLR MLR
comp=Z,71nm,18.4s
ZEI Tsey 76.20 311 *e*P **P 08 25 02.8 -0.5**
ZEI pmax pmax
comp=Z,7.0nm,1.0s
KBZ Khabaz 76.43 313 P **P 08 25 05.6 +1.3**
comp=Z,13nm,0.8s,baz=236,slow=24,SNR=36
KBZ LR LR 09 01 50.4
comp=Z,101nm,19.1s,baz=140,slow=38
KBZ Khabaz 76.43 313 P **P 08 25 05.6 +1.3**
KBZ pmax pmax
comp=Z,13nm,0.8s
KBZ MLR MLR
comp=Z,101nm,19.1s
KIV Kislovodsk 76.46 313⇓ *e*P **P 08 25 06.2 +1.6**
KIV *e* 08 25 15.8
KIV *e* 08 27 56.8
KIV *e*S x 08 35 27.3
KIV pmax pmax
comp=Z,24nm,1.7s
KIV MLR MLR
comp=Z,146nm,19.0s
GNI Garni 76.84 309 *d i*P **P 08 25 09.2 +2.2**
GNI pmax pmax
comp=Z,14nm,1.2s
WALA Waterton Lakes 76.90 41 *e*P **P 08 25 09.1 +2.1**
JTMT Jette 77.33 42 *e*P **P 08 25 09.7 +0.2**
SWMT Swartz Lake 77.61 42 *e*P **P 08 25 12.3 +1.2**
SLMT Seeley Lake 78.05 42 *e*P **P 08 25 13.6 +0.1**
SUMG Summit 78.42 0 *e*P **P 08 25 15.9 +0.4**
SUMG pmax pmax
comp=Z,9.0nm,1.1s
SUMG Summit 78.42 0 *e*P **P 08 25 15.9 +0.4**
comp=Z,8.5nm,1.1s
MFID Camas Ranch 78.52 47 *e*P **P 08 25 17.6 +1.4**
comp=Z,3.8nm,0.8s
SOC Sochi 78.53 314 *e*P **P 08 25 16.0 0.0**
SOC *e* 08 28 14.9
SOC *e*PPP PPP 08 30 03.6
SOC *e*S **S 08 35 07.5 -3.7**
SOC *e*SS **SS 08 40 11.5 -2.6**
SOC pmax pmax
comp=Z,10.0nm,0.5s
SOC MLR MLR
comp=Z,197nm,19.0s
NVAR Mina Array Bea 79.30 52 P **P 08 25 20.9 +0.2**
comp=Z,3.0nm,0.9s,baz=267,slow=5.4,SNR=7.2
HLID Hailey 79.34 46 *e*P **P 08 25 23.3 +2.5**
comp=Z,17nm,1.8s
ANN Anapa 79.34 315 P **P 08 25 22.5 +2.0**
ANN *e*S **S 08 35 24.1 +4.3**
ANN pmax pmax
comp=Z,23nm,1.1s
ANN MLR MLR
comp=Z,207nm,18.0s
LRM Limekiln Ridge 79.39 43 *e*P **P 08 25 21.1 0.0**

EGMT	Eagleton	79.80	40	*eP*		P		08 25 24.9	+1.8
	comp=Z,86nm,2.8s								
BOZ	Bozeman (W)	79.97	43	*eP*		P		08 25 27.3	+3.2
BOZ					pmax	pmax			
	comp=Z,9.0nm,1.5s								
BOZ	Bozeman (W)	79.97	43	*eP*		P		08 25 27.3	+3.2
	comp=Z,9.3nm,1.5s								
TPH	Tonopah	80.21	52	*eP*		P		08 25 26.9	+1.3
TPH					pmax	pmax			
	comp=Z,8.0nm,1.4s								
TPH	Tonopah	80.21	52	*eP*		P		08 25 26.9	+1.3
	comp=Z,8.1nm,1.4s								
PMOR	Pomariorio Ree	80.65	113	*eT*		T		09 54 01.0	
	comp=Z,2.8nm,0.2s								
FCC	Fort Churchill	80.72	26	*eP*		P		08 25 26.8	-0.9
FCC	Fort Churchill	80.72	26	*eP*		P		08 25 26.8	-0.9
PPT2	Papeete2	80.76	116	*eLR*		LR		08 50 32.7	
	comp=Z,140nm,24.2s								
AKASG	Malin Array Be	80.78	324		P	P		08 25 27.8	-0.4
	comp=Z,1.5nm,0.7s,baz=44,slow=6.1,SNR=13								
AKASG					LR	LR		09 03 51.6	
	comp=Z,311nm,19.6s,baz=65,slow=38								
AKASG	Malin Array Be	80.78	324		P	P		08 25 27.8	-0.4
AKASG					pmax	pmax			
	comp=Z,2.0nm,0.7s								
AKASG					MLR	MLR			
	comp=Z,311nm,19.6s								
AK01	Malin Array Si	80.79	324	*eP*		P		08 25 27.4	-0.8
AK02	Malin Array Si	80.82	324	*eP*		P		08 25 27.1	-1.2
R11A	Troy Canyon, C	81.19	51	*eP*		P		08 25 33.2	+2.4
	comp=Z,24nm,1.9s								
H17A	Grant Village	81.27	44	*eP*		P		08 25 33.6	+2.3
	comp=Z,10nm,1.3s								
LKWY	Lake	81.28	44	*eP*		P		08 25 32.6	+1.3
LKWY					pmax	pmax			
	comp=Z,5.0nm,1.0s								
LKWY	Lake	81.28	44	*eP*		P		08 25 32.6	+1.3
	comp=Z,5.3nm,1.0s								
IMW	Indian Meadow	81.31	44	*eP*		P		08 25 32.2	+0.7
	comp=Z,2.9nm,0.8s								
FLWY	Flagg Ranch	81.36	44	*eP*		P		08 25 33.0	+1.3
	comp=Z,9.0nm,1.1s								
FXWY	Fox Creek	81.40	45	*eP*		P		08 25 33.0	+1.1
	comp=Z,4.3nm,1.2s								
TPAW	Teton Pass	81.53	45	*eP*		P		08 25 33.2	+0.6
	comp=Z,3.1nm,0.8s								
NB2	NORSAR Subarra	81.54	338		P	P		08 25 31.2	-0.9
	comp=Z,4.2nm,1.0s,baz=42,slow=5.3								
NOA	NORSAR Array B	81.54	338		P	P		08 25 31.1	-1.0
	comp=Z,2.5nm,0.9s,baz=46,slow=5.1,SNR=4.9								
NOA					LR	LR		09 06 13.5	
	comp=Z,74nm,19.8s,baz=60,slow=39								
NOA	NORSAR Array B	81.54	338		P	P		08 25 31.1	-1.0
NOA					pmax	pmax			
	comp=Z,3.0nm,1.0s								
NOA					MLR	MLR			
	comp=Z,74nm,19.8s								
HWUT	Hardware Ranch	82.15	47	*eP*		P		08 25 37.3	+1.4
	comp=Z,5.3nm,1.1s								
SHPR	Sheep Range	82.42	52	*eP*		P		08 25 38.8	+1.4
LAO	LASA Array	82.54	40	*eP*		P		08 25 42.1	+4.5
	comp=Z,7.8nm,0.8s								
JLU	Jordanelle	82.76	47	*eP*		P		08 25 40.8	+1.6
	comp=Z,65nm,2.8s								
BW06	Boulder Array	82.77	45	*eP*		P		08 25 41.6	+2.5
	comp=Z,1.2nm,0.8s								
PDAR	Pinedale Array	82.77	45	P		P		08 25 38.8	-0.4
	comp=Z,1.3nm,0.9s,baz=341,slow=5.2,SNR=9.4								
PDAR					LR	LR		08 57 45.6	
	comp=Z,39nm,19.6s,baz=258,slow=32								
TBI	Tubuai	84.13	121	*eLR*		LR		08 52 14.6	
	comp=Z,133nm,26.0s								
RAYN	Ar Rayn	84.14	294	*eP*		P		08 25 47.1	+0.8
	comp=Z,14nm,0.9s								
BR131	Keskin Array S	84.42	313	*eP*		P		08 25 48.0	+0.4
	comp=Z,9.1nm,0.9s								
BRTR	Keskin Array B	84.42	313		P	P		08 25 48.1	+0.6
	comp=Z,7.3nm,1.0s,baz=99,slow=3.9,SNR=32								
BRTR					LR	LR		09 07 46.3	
	comp=Z,78nm,18.2s,baz=82,slow=39								
BRTR	Keskin Array B	84.42	313		P	P		08 25 48.2	+0.6
BRTR					pmax	pmax			
	comp=Z,7.0nm,1.0s								
BRTR					MLR	MLR			
	comp=Z,78nm,18.2s								
K22A	Casper	84.69	44	*eP*		P		08 25 48.7	-0.2
	comp=Z,4.2nm,0.8s								
KOLS	Kolonicke sedl	85.42	325	*eP*		P		08 25 52.7	+0.5
KOLS	Kolonicke sedl	85.42	325	*eP*		P		08 25 52.7	+0.5
ULM	Lac du Bonnet	85.71	33	LR		LR		09 02 18.4	
	comp=Z,80nm,21.7s,baz=352,slow=34								
CRVS	Cervenica-Dubn	85.84	325	*eP*		P		08 25 54.0	-0.3
CRVS	Cervenica-Dubn	85.84	325	*eP*		P		08 25 54.0	-0.3
PV01	Paradox Valley	85.98	48	*eP*		P		08 25 55.2	-0.3
	comp=Z,220nm,0.7s								
N23A	Red Feather La	86.06	45	*eP*		P		08 25 56.9	+1.0
	comp=Z,7.1nm,1.0s								
SMCO	Snowmass	86.41	47	*eP*		P		08 25 59.1	+1.3
	comp=Z,4.1nm,1.0s								
OKC	Ostrava-Krasne	86.82	327		AMS	AMS		09 08 10.0	
	comp=Z,200nm,18.0s								
AGMN	Agassiz Nation	87.02	34	*eP*		P		08 25 59.8	-0.3
	comp=Z,6.1nm,1.0s								
DPC	Dobruska-Polom	87.31	329	*eP*		P		08 26 01.5	0.0
DPC				*epP*		pP		08 26 10.2	+1.5
DPC				*esP*		sP		08 26 16.0	+4.7
DPC				*ex*		x		08 26 24.1	
DPC					AMS	AMS		09 09 00.0	
DPC	Dobruska-Polom	87.31	329	*eP*		P		08 26 01.5	0.0
DPC				*e*				08 26 10.2	
DPC				*e*				08 26 16.0	
VYHS	Vyhne	87.41	326	*eP*		P		08 26 02.6	+0.6
VYHS	Vyhne	87.41	326	*eP*		P		08 26 02.6	+0.6
GOPC	GO Pecny, Ondr	88.31	329		AMS	AMS		09 09 50.0	
	comp=Z,300nm,16.7s								
PRU	Pruhonice	88.37	329		AMS	AMS		09 10 00.0	
	comp=Z,200nm,16.5s								
TREC	Trest	88.44	328		AMS	AMS		09 09 40.0	
	comp=Z,300nm,14.5s								
GERES	GERESS Array B	89.58	329		P	P		08 26 10.8	-1.5
	comp=Z,0.4nm,0.6s,baz=15,slow=8.1,SNR=5.1								
GERES					LR	LR		09 10 37.8	
	comp=Z,193nm,18.3s,baz=60,slow=38								
FUORN	Ofenpass-Fuorn	92.78	329	*eP*		P		08 26 27.6	+0.1
	comp=Z,4.7nm,0.9s								
TXAR	Lajitas Array	94.42	53	P		P		08 26 34.1	-1.0
	comp=Z,0.3nm,0.6s,baz=297,slow=0.8,SNR=5.7								
TORD	Torodi Ar. Bea	123.03	312	PKP		PKPdf		08 32 11.2	-0.6
	comp=Z,0.4nm,0.8s,baz=60,slow=1.3,SNR=3.9								
SAML	Samuel	148.90	55	*ePKPbc*		PKPbc		08 33 02.7	-0.5
CFAA	Coronel Fontan	153.85	103	PKPbc		PKPbc		08 33 12.4	-1.9
	comp=Z,0.1nm,0.4s,baz=284,slow=5.1,SNR=3.3								
CFAA					PKPab	PKPab		08 33 24.8	-2.6
	comp=Z,0.1nm,0.3s,baz=287,slow=1.8,SNR=3.7								

ISCJB ***02*** *08:18:17.6±0.7,6.56S±0.10×155.9E±0.1,h173km, mb3.9/14, Error ellipse: s-maj=19.7km s-min=12.4km az=24.9*

IDC ***02*** *08:18:22.8±6.2,6.66S×155.87E,h210km±56km, mb3.7/14, mb1 3.9/16,mb1mx3.8/20,mbtmp4.2/16,MS3.7/1, Ms1 3.7/1,ms1mx2.8/31,Error ellipse: s-maj=29.8km s-min=14.2km az=93.0*

ISC 02 08:18:18.7±0.8,6.6S±0.1×156.0E±0.2,h173km,n20, σ0.87/18,mb4.1/13,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	Jayapura	15.78	284	P	Pn	08 21 51.2	-0.7
	1.3nm,0.3s,baz=184,slow=2.7,SNR=6.5						
CTA	Charters Tower	16.42	214	P	Pn	08 22 01.1	+1.6
	0.1nm,0.3s,baz=24,slow=12,SNR=1.9						
WRA	Warramunga Arr	24.87	236	P	P	08 23 25.1	-0.5
	3.9nm,0.7s,baz=57,slow=10,SNR=7.9						
ASAR	Alice Springs	27.19	229	P	P	08 23 45.4	-1.0
	3.3nm,0.7s,baz=62,slow=8.7,SNR=12						
RPZ	Rata Peaks	39.27	163	LR	LR	08 43 00.9	
	comp=Z,94nm,18.2s,baz=212,slow=38						
MJAR	Matsushiro Arr	46.04	340	P	P	08 26 24.7	-0.4
	0.6nm,0.4s,baz=151,slow=7.4,SNR=4.1						
KSRS	Korea Array	51.06	331	P	P	08 27 03.8	+0.4
	0.6nm,0.3s,baz=120,slow=5.7,SNR=5.2						
USRK	Ussuriysk Ar.	55.01	339	P	P	08 27 33.1	+1.0
	1.8nm,0.9s,baz=122,slow=10,SNR=4.6						
PETK	Petropavlovsk-	59.49	1	P	P	08 28 04.4	+1.0
	3.0nm,0.7s,baz=168,slow=8.6,SNR=7.5						
CMAR	Chiang Mai Arr	61.52	295	P	P	08 28 17.9	+0.1
	0.5nm,0.3s,baz=104,slow=7.5,SNR=3.4						
SONM	Songino Array	69.55	327	P	P	08 29 09.8	+0.9
	4.7nm,0.8s,baz=141,slow=6.6,SNR=23						
VNDA	Vanda	70.95	179	P	P	08 29 17.0	+0.2
	1.6nm,0.9s,baz=326,slow=4.8,SNR=6.0						
ILAR	Eielson Array	82.64	21	P	P	08 30 21.9	-0.4
	1.1nm,0.8s,baz=258,slow=5.5,SNR=11						
MKAR	Makanchi Array	83.77	318	P	P	08 30 28.6	0.0
	3.4nm,0.8s,baz=165,slow=1.9,SNR=37						
ZALV	Zalesovo Beam	84.41	326	P	P	08 30 31.0	-0.6
	2.8nm,0.6s,baz=118,slow=5.6,SNR=14						
YKA	Yellowknife Ar	95.51	28	P	P	08 31 23.6	0.0
	0.7nm,0.8s,baz=267,slow=4.7,SNR=9.7						
PDAR	Pinedale Array	97.69	48	P	Pdif	08 31 36.0	+1.7
	0.3nm,0.8s,baz=246,slow=8.7,SNR=2.3						
GERES	GERESS Array B	127.22	330	PKP	PKPdf	08 37 01.5	-1.3
	0.4nm,0.6s,baz=112,slow=1.1,SNR=5.8						
BDFB	Brasilia	147.53	133	PKPbc	PKPbc	08 37 43.3	-0.3
	1.2nm,0.6s,baz=173,slow=19,SNR=3.1						
TORD	Torodi Ar. Bea	153.88	286	PKPbc	PKPbc	08 37 57.3	-1.3
	0.8nm,0.7s,baz=52,slow=2.1,SNR=5.5						

FUNV ***02*** *08:25:06.9, 10.59N×59.35W, h12km, MW3.2*
TRN ***02*** *08:25:14.4, 10.93N×59.83W, h41km, MD3.7*

ISC 02 08:25:11.2±3.0, 10.76N±0.07×59.7W±0.1, h30km±15km, n22, σ1.9≥35/31, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOSP	Speyside	0.98	303	*eP*	Pb	08 25 30.3	+0.6
TOSP				*eS*	Sn	08 25 41.9	+0.1
BOT	Bacolet	1.08	292	*eP*	Pb	08 25 32.3	+0.9
BOT				*eS*	Sn	08 25 44.0	-0.3
TPR	Prospect	1.14	292	*eP*	Pb	08 25 33.2	+0.8
TPR				*eS*	Sn	08 25 45.6	-0.3
TBH	Brigand Hill	1.38	259	*eP*	Pb	08 25 37.4	+1.0
TRN	Trinidad (W)	1.68	266	*eP*	Pb	08 25 40.8	-0.7
TRN				*eS*	Sn	08 26 00.2	+1.1
TCE	Chacachacare	2.02	268	*eP*	Pb	08 25 46.0	-1.3
GRGR	Grenville	2.36	306	*eP*	Pn	08 25 48.4	+0.5
GRGR				*eS*	Sn	08 26 15.1	-0.7
GRW	Mount Saint Ca	2.38	306	*eP*	Pn	08 25 50.2	+2.0
GRW				*eS*	Sn	08 26 16.1	-0.4
GRSS	Sisters	2.42	309	*eP*	Pn	08 25 51.0	+2.2
GUIV	Guiria	2.49	268	*eP*	Pn	08 25 51.0	+1.4
GUIV				*eS*	Sb	08 26 23.6	-1.8
SVB	Belmont	2.93	329	*eP*	Pn	08 25 56.8	+1.1
SVB				*eS*	Sn	08 26 28.6	-1.3
MCLT	Moule a Chique	3.18	338	*eS*	Sn	08 26 34.2	-1.8
GUNV	Guanoco	3.25	260	*eP*	Pn	08 26 01.7	+1.6
GUNV				*eS*	Sn	08 26 40.4	+2.6
CRUV	Carupano	3.48	269	*eP*	Pn	08 26 03.4	0.0
CRUV				*eS*	Sn	08 26 45.7	+2.2
ORIV	Oritupano	4.03	246	*eS*	Sn	08 26 57.9	+0.9
PCRV	Puerto La Cruz	4.89	264	*eP*	Pn	08 26 22.6	-0.2
LUEV	Luepa	5.19	200	*eP*	Pn	08 26 22.4	-4.5
PRGV	PARIAGUAN	5.27	248	*eS*	Sn	08 27 26.5	-1.2
CUPV	Cœpira	6.03	264	*eP*	Pn	08 26 38.9	+0.4
BIRV	Birongo	6.47	268	*eP*	Pn	08 26 44.4	-0.1
BAUV	El Baul	8.42	258	*eP*	Pn	08 27 09.5	-1.7
MAPV	Macapo	8.67	265	*eP*	Pn	08 27 13.2	-1.5

IDC 02 08:33:40.0±1.4,4.33N×126.56E,h0km,mb3.6/7, mb1 3.7/7,mb1mx3.6/42,mbtmp3.6/7,Error ellipse: s-maj=202.2km s-min=17.0km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	25.30	163	P	P	08 39 08.2	-0.2
	1.6nm,0.7s,baz=343,slow=10,SNR=17						
ASAR	Alice Springs	28.73	166	P	P	08 39 39.6	+0.3
	0.3nm,0.6s,baz=352,slow=8.2,SNR=5.0						
STKA	Stephens Creek	38.75	159	P	P	08 41 06.1	-0.1
	2.1nm,0.9s,baz=339,slow=8.6,SNR=3.7						
SONM	Songino Array	46.68	341	P	P	08 42 10.4	-0.1
	0.2nm,0.4s,baz=180,slow=7.2,SNR=2.8						
MKAR	Makanchi Array	56.97	325	P	P	08 43 27.9	+0.5
	0.3nm,0.6s,baz=108,slow=4.7,SNR=4.1						
ZALV	Zalesovo Beam	59.98	333	P	P	08 43 48.4	+0.3
	0.4nm,0.3s,baz=111,slow=7.9,SNR=2.7						
KURBB	Kurchatov Arra	61.15	327	P	P	08 43 55.2	-1.0
	0.5nm,0.5s,baz=133,slow=6.7,SNR=5.0						

IDC ***02*** *08:35:57.9±2.0, 1.55N×95.92E, h0km, mb3.4/5, mb1 3.6/7, mb1mx3.5/27, mbtmp3.5/7, ML2.9/1, MS3.7/1, Ms1 3.7/1, ms1mx2.8/34, Error ellipse: s-maj=56.0km s-min=23.3km az=57.0*

ISCJB ***02*** *08:36:01.8±1.1, 1.7N±0.1×96.10E±0.09, h33km, mb3.5/5, MS3.7/1, Error ellipse: s-maj=17.2km s-min=12.8km az=4.3*

ISC 02 08:36:03.9±1.5, 1.7N±0.2×96.1E±0.1, h35km, n14, σ1.06/8, mb3.5/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	Prapat	3.02	69	Pn	Pn	08 36 50.9	+1.5
	1.3nm,0.3s,baz=208,slow=11,SNR=6.0						
PSI				Sn	Sn	08 37 23.5	-1.0
	1.7nm,0.3s,baz=222,slow=9.7,SNR=4.3						
CMAR	Chiang Mai Arr	16.89	9	P	Pn	08 39 57.0	-0.7
	baz=192,slow=12,SNR=6.4						
H08S2	Diego Garcia H	25.32	248	T	T	09 08 24.3	
	baz=68,slow=75,SNR=70						
H08S3	Diego Garcia H	25.32	248	T	T	09 08 22.9	
	baz=68,slow=75,SNR=82						
H08S1	Diego Garcia H	25.33	248	T	T	09 08 25.8	
	baz=68,slow=75,SNR=15						
H01W3	Cape Leeuwin H	40.12	157	T	T	09 26 12.0	
	baz=330,slow=76						
H01W2	Cape Leeuwin H	40.14	157	T	T	09 26 22.5	
	baz=330,slow=76						
H01W1	Cape Leeuwin H	40.14	157	T	T	09 26 23.2	
	baz=330,slow=76						
WRA	Warramunga Arr	43.23	122	P	P	08 44 01.2	-0.9
	0.6nm,0.6s,baz=300,slow=9.3,SNR=5.0						
ASAR	Alice Springs	44.57	127	P	P	08 44 12.9	0.0
	0.1nm,0.5s,baz=303,slow=8.1,SNR=3.3						
MKAR	Makanchi Array	46.51	347	P	P	08 44 28.6	+0.8
	0.4nm,0.5s,baz=186,slow=7.2,SNR=4.6						
SONM	Songino Array	46.81	10	P	P	08 44 29.8	-0.6
	0.2nm,0.3s,baz=182,slow=5.2,SNR=2.7						
ZALV	Zalesovo Beam	52.91	352	P	P	08 45 16.6	+0.3
	0.5nm,0.3s,baz=155,slow=4.9,SNR=4.4						
AKTO	Aktyubinsk	58.28	332	LR	LR	09 11 56.6	
	comp=Z,58nm,18.2s,slow=37						

IDC ***02*** *08:45:30.7±0.9, 35.59N×67.68E, h0km, mb3.9/14, mb1 4.0/20,mb1mx3.8/33,mbtmp3.9/20, ML3.7/6, Error ellipse: s-maj=18.8km s-min=15.0km az=164.0*

NNC ***02*** *08:45:36.5±2.9, 36.24N×67.22E, h0km, mb4.2,mpv4.3, Error ellipse: s-maj=23.8km s-min=20.1km az=141.0*

ISC 02 08:45:32.9±0.9, 35.8N±0.1×67.60E±0.07, h10km, n40, σ1.54/43, mb3.8/14, 15C-8D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	Dzherino	3.20	17	↑Pn	Pn	08 46 25.1	+1.7
	59nm,0.4s						
DZET				↑Sn	Sn	08 47 01.9	+0.2
	75nm,0.4s						
DZET				↓Lg	Lg	08 47 09.6	
	128nm,0.4s						
SFK	Sufi-Kurgan	6.32	46	↑Pn	Pn	08 47 10.6	+4.3
	8.6nm,0.4s						
SFK				↑Sn	Sn	08 48 22.1	+3.5
	37nm,0.4s						
KK31	Karatay Array	7.68	16	↑Pn	Pn	08 47 25.3	+0.5
	11nm,0.7s,baz=204,slow=14,SNR=97						
KK31				↑Sn	Sn	08 48 46.6	-5.3
	3.6nm,0.4s,baz=202,slow=22,SNR=5.8						
KK31				↓Lg	Lg	08 49 28.6	
	2.4nm,0.6s,baz=205,slow=31,SNR=3.6						
GEYT	Alibeck	7.91	289	Pn	Pn	08 47 27.7	-0.2
	3.1nm,0.3s,baz=114,slow=7.2,SNR=8.3						
GEYT				Sn	Sn	08 48 58.6	+1.1
	2.1nm,0.3s,baz=159,slow=20,SNR=4.4						
AML	Almayashu	7.94	35	P	Pn	08 47 29.7	+0.9
	SNR=12						
UCH	Uchtor	8.41	38	P	Pn	08 47 37.1	+1.9
	SNR=40						
KZA	Kyzart	8.68	41	P	Pn	08 47 40.9	+2.0
	SNR=11						
AAK	Ala-Archa	8.71	36	↓Pn	Pn	08 47 39.6	+0.6
	8.3nm,0.5s						
AAK				↑Sn	Sn	08 49 16.2	-1.2
	14nm,1.1s						
AAK	Ala-Archa	8.71	36	P	Pn	08 47 40.1	+1.0
	SNR=21						
AAK	Ala-Archa	8.71	36	Pn	Pn	08 47 40.0	+1.0
	3.4nm,0.3s,baz=208,slow=8.4,SNR=38						
AAK				Sn	Sn	08 49 17.7	+0.4
	0.7nm,0.3s,baz=312,slow=23,SNR=7.8						
KBK	Karagaybulak	8.95	37	P	Pn	08 47 45.9	+3.6
	SNR=7.6						
CHMS	Chumysh	9.11	35	P	Pn	08 47 45.3	+0.9
	SNR=8.3						
TKM2	Tokmak 2	9.46	38	↓Pn	Pn	08 47 48.7	-0.7
	6.0nm,0.6s						
TKM2				↑Sn	Sn	08 49 34.1	-1.9
	9.5nm,0.7s						
TKM2	Tokmak 2	9.46	38	P	Pn	08 47 52.2	+2.8
	SNR=14						
AB31	Akbulak array	14.62	340	↑Pn	Pn	08 48 57.8	-1.9
	1.1nm,0.5s,baz=157,slow=13,SNR=27						
AB31				↓Sn	Sn	08 51 32.9	-8.9
	0.8nm,0.5s,baz=157,slow=23,SNR=3.2						
MK31	Makanchi Array	15.58	40	↓Pn	Pn	08 49 12.8	+0.2
	0.9nm,0.6s,baz=54,slow=26,SNR=5.8						
MKAR	Makanchi Array	15.58	40	Pn	Pn	08 49 10.4	-2.1
	0.1nm,0.3s,baz=236,slow=17,SNR=5.0						
AKTO	Aktyubinsk	16.24	338	↑Pn	Pn	08 49 19.7	-1.3
	4.4nm,0.9s						
AKTO				↓Sn	Sn	08 52 15.1	-6.0
	1.9nm,0.8s						
AKTO	Aktyubinsk	16.24	338	Pn	Pn	08 49 18.3	-2.7
	0.3nm,0.3s,baz=152,slow=13,SNR=7.6						
AKTO				Sn	Sn	08 52 13.8	-7.3
	0.3nm,0.3s,baz=214,slow=14,SNR=2.8						
KURBB	Kurchatov Arra	16.84	25	↑Pn	P	08 49 29.5	-1.2
	4.6nm,0.9s						
KURBB	Kurchatov Arra	16.84	25	Pn	Pn	08 49 25.8	-2.7
	0.0nm,0.3s,baz=215,slow=11,SNR=4.0						
KURK	Kurchatov	16.95	25	↓Pn	P	08 49 31.8	-0.1
	2.5nm,0.9s						
BVA0	Borovoye Array	17.38	6	↑Pn	Pn	08 49 32.9	-2.6
	2.1nm,0.6s,baz=184,slow=13,SNR=11						
BVA0				↑Sn	Sn	08 52 39.5	-9.4
	2.3nm,0.8s						
BVAR	Borovoye Array	17.38	6	Pn	Pn	08 49 32.7	-2.8
	0.3nm,0.3s,baz=186,slow=13,SNR=9.1						
BRVK	Borovoye	17.41	5	↑Pn	Pn	08 49 33.6	-2.1
	5.3nm,0.8s						
BRVK				↑Sn	Sn	08 52 41.7	-7.7
	3.1nm,0.6s						
ZALV	Zalesovo Beam	21.81	28	P	P	08 50 24.3	-0.6
	4.4nm,0.7s,baz=221,slow=10,SNR=23						
BRTR	Keskin Array B	27.05	289	P	P	08 51 17.0	+1.5
	1.6nm,1.0s,baz=111,slow=6.9,SNR=6.3						
SONM	Songino Array	31.02	55	P	P	08 51 51.6	+0.8
	1.0nm,0.9s,baz=263,slow=10,SNR=7.2						
AKASG	Malin Array Be	31.30	311	P	P	08 51 54.5	+1.5
	0.3nm,0.4s,baz=105,slow=8.7,SNR=3.0						
FINES	FINESS Array B	36.61	328	P	P	08 52 40.7	+1.8
	2.0nm,0.6s,baz=134,slow=11,SNR=9.0						
ARCES	ARCESS Array B	40.82	339	P	P	08 53 15.6	+1.4
	4.8nm,0.9s,baz=118,slow=7.6,SNR=3.5						
NB2	NORSAR Subarra	43.34	324	P	P	08 53 35.7	+0.8
	comp=Z,0.8nm,0.8s,baz=99,slow=8.6						
NOA	NORSAR Array B	43.34	324	P	P	08 53 35.1	+0.2
	comp=Z,0.7nm,0.7s,baz=101,slow=8.0,SNR=3.5						
TORD	Torodi Ar. Bea	52.94	267	P	P	08 55 58.5	-1.3
	comp=Z,1.1nm,0.9s,baz=46,slow=5.9,SNR=6.6						
INK	Inuvik	75.06	8	P	P	08 57 14.7	+0.4
	comp=Z,1.0nm,0.6s,baz=340,slow=8.3,SNR=5.3						
ILAR	Eielson Array	76.22	14	P	P	08 57 20.9	-0.2
	comp=Z,0.5nm,0.9s,baz=316,slow=2.5,SNR=5.9						
SCHQ	Schefferville	81.67	335	P	P	08 57 51.6	+0.4
	comp=Z,1.3nm,0.8s,baz=260,slow=17,SNR=2.7						
YKA	Yellowknife Ar	82.08	1	P	P	08 57 53.1	0.0
	comp=Z,0.8nm,0.8s,baz=351,slow=5.5,SNR=13						
WRA	Warramunga Arr	83.97	120	P	P	08 58 02.4	-1.2
	comp=Z,0.4nm,0.7s,baz=322,slow=4.9,SNR=5.3						
ASAR	Alice Springs	86.12	123	P	P	08 58 13.5	-0.8
	comp=Z,0.5nm,0.8s,baz=302,slow=4.2,SNR=4.5						

ISCJB ***02*** *08:46:05.0±0.4, 32.42N±0.02×115.50W±0.02, h14km±3km, mb3.3/1,MS3.4/1, Error ellipse: s-maj=3.7km s-min=3.4km az=15.3*

NEIC ***02*** *08:46:05.9, 32.39N×115.52W, h14km, ML3.9(PAS), ML4.1(ECX), After PAS.*

*NEIC Felt [II] at Mexicali. Felt [II] at Calexico, California. Also felt at El Centro and Hol

MWC					*e*Sn		**Sb**	**08 47 31.4**	**+1.2**
GSC	**Goldstone, Bar**	**3.13**	**340**		*e*Pn		**Pn**	**08 46 52.4**	**-1.9**
OSI	**Osito Audit: C**	**3.50**	**311**		*e*Pn		**Pn**	**08 46 58.8**	**-0.5**
TUC	**Tucson**	**4.00**	**89**		*e*P		**Pn**	**08 47 04.9**	**-1.4**
TUC					*e*S		**Sn**	**08 47 48.3**	**-4.9**
SHPR	**Sheep Range**	**4.15**	**4**		*e*Pn		**Pn**	**08 47 08.2**	**-0.1**
SHPR					*e*Sg		**Sg**	**08 48 20.4**	**+2.1**
WUAZ	**Wupatki**	**4.67**	**46**		*e*Pn		**Pn**	**08 47 16.9**	**+1.4**
W18A	**Petrified Fore**	**5.55**	**59**		*e*Pn		**Pn**	**08 47 28.8**	**+1.2**
	comp=N,25nm,0.5s								
121A	**Cookes Peak, D**	**6.54**	**86**		*e*Pn		**Pn**	**08 47 41.9**	**+0.7**
	comp=N,11nm,0.6s								
121A					*e*Sg		**Sg**	**08 49 35.4**	**+0.5**
MVCO	**Mesa Verde**	**7.53**	**48**		*e*Pn		**Pn**	**08 47 57.8**	**+2.8**
	comp=N,14nm,0.7s								
ANMO	**Albuquerque**	**7.98**	**69**		Pn		**Pn**	**08 48 01.8**	**+0.7**
	comp=N,0.1nm,0.3s,baz=256,slow=14,SNR=5.5								
ANMO					LR	LR		08 51 11.9	
	comp=N,163nm,20.9s,baz=256,slow=39								
PV01	**Paradox Valley**	**8.09**	**43**		Pn		**Pn**	**08 48 04.7**	**+2.2**
	comp=N,1µm,0.8s								
ELK	**Elko**	**8.38**	**1**		Pn		**Pn**	**08 48 06.8**	**+0.4**
	comp=N,0.1nm,0.3s,baz=187,slow=16,SNR=2.5								
ELK					Lg	Lg		08 50 27.0	
	comp=N,0.1nm,0.3s,baz=202,slow=5.4,SNR=2.0								
LPIG	**La Paz**	**9.42**	**150**		LR	LR		08 51 18.3	
	comp=N,72nm,20.4s,baz=356,slow=33								
TXAR	**Lajitas Array**	**10.62**	**103**		Pn		Pn	08 48 40.8	+3.6
	comp=N,0.2nm,0.3s,baz=277,slow=12,SNR=21								
TXAR					Lg	Lg		08 51 39.9	
	comp=N,0.0nm,0.3s,baz=290,slow=32,SNR=3.6								
TXAR					LR	LR		08 52 43.2	
	comp=N,55nm,21.7s,baz=0.0,slow=38								
PDAR	**Pinedale Array**	**11.41**	**23**		Pn		Pn	08 48 52.3	+4.2
	comp=N,0.1nm,0.3s,baz=216,slow=5.6,SNR=2.9								
DLBC	**Dease Lake**	**27.88**	**344**		LR	LR		09 03 34.4	
	comp=N,97nm,18.2s,baz=127,slow=38								
ILAR	**Eielson Array**	**37.73**	**339**		P		**P**	**08 53 22.6**	**+2.3**
	comp=N,0.5nm,0.8s,baz=152,slow=7.9,SNR=2.4								

IDC 02 08:53:51.7±13.0**, 11°86.8S**×**166°77.7E, h159**km±124km**, mb3.5/8, mb1 3.7/8, mb1mx3.5/20, mbtmp3.9/8, Error ellipse: s-maj=66.1km s-min=41.9km az=132.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
CTA	**Charters Tower**	**21.34**	**245**	P		P	08	58	26.7	+0.3
	8.5nm,0.9s,baz=82,slow=9.2,SNR=5.4									
STKA	**Stephens Creek**	**30.57**	**225**	P		P	08	59	51.4	+1.0
	1.8nm,0.6s,baz=40,slow=9.1,SNR=6.0									
WRA	**Warramunga Arr**	**32.16**	**251**	P		P	09	00	04.0	-0.6
	1.1nm,0.7s,baz=74,slow=9.6,SNR=13									
ASAR	**Alice Springs**	**33.34**	**245**	P		P	09	00	14.2	-0.7
	1.1nm,0.3s,baz=67,slow=10,SNR=30									
SONM	**Songino Array**	**79.91**	**323**	P		P	09	05	43.7	+0.8
	0.3nm,0.5s,baz=138,slow=8.8,SNR=3.6									
ILAR	**Eielson Array**	**83.96**	**18**	P		P	09	06	03.7	+0.2
	1.2nm,0.6s,baz=241,slow=4.9,SNR=17									
MKAR	**Makanchi Array**	**94.80**	**317**	P		P	09	06	55.5	+0.2
	0.2nm,0.5s,baz=71,slow=6.1,SNR=3.4									
YKA	**Yellowknife Ar**	**95.23**	**27**	P		P	09	06	55.7	-1.1
	0.1nm,0.6s,baz=257,slow=4.7,SNR=3.6									
ARCES	**ARCESS Array B**	**117.36**	**346**	PKP		PKPdf	09	12	17.1	-0.6
	5.5nm,1.0s,baz=66,slow=2.3,SNR=8.9									

IDC 02 09:02:39.8±1.9**, 4°80S**×**152°01E, h0**km**, mb3.5/3, mb1 3.9/3, mb1mx3.5/19, mbtmp3.6/3, Error ellipse: s-maj=130.4km s-min=26.5km az=126.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
WRA	**Warramunga Arr**	**22.86**	**227**	P		P	09	07	45.2	+0.2
	0.7nm,0.4s,baz=52,slow=10,SNR=13									
ASAR	**Alice Springs**	**25.62**	**221**	P		P	09	08	10.9	-0.3
	0.9nm,0.5s,baz=57,slow=9.2,SNR=24									
ILAR	**Eielson Array**	**82.46**	**22**	P		P	09	15	03.8	0.0
	0.3nm,0.8s,baz=239,slow=5.2,SNR=3.4									
TORD	**Torodi Ar. Bea**	**149.56**	**288**	PKPbc		PKPbc	09	22	32.1	-0.3
	0.3nm,0.8s,baz=61,slow=2.1,SNR=2.6									

*BJI **02** 09:17:24.6, 73°.80N×8°.70E, h10km, mb4.6/16, mB5.0/11, Ms4.6/5, Ms7 4.3/4*
*MOS **02** 09:17:25.9±1.2, 73°.82N×8°.54E, h10km, mb4.3/36, Error ellipse: s-maj=23.7km s-min=4.6km az=94.3*
*CSEM **02** 09:17:25.8±0.1, 73°.83N×8°.72E, h2km, mb4.2/45, Error ellipse: s-maj=6.4km s-min=4.4km az=84.0*
*IDC **02** 09:17:25.7±0.4, 73°.76N×8°.29E, h0km, mb3.9/26, mb1 4.1/32, mb1mx4.0/41, mbtmp3.9/32, ML3.7/5, MS3.4/27, Ms1 3.4/27, ms1mx3.2/54, Error ellipse: s-maj=12.3km s-min=8.6km az=59.0*
*NAO **02** 09:17:26.8±2.7, 73°.79N×9°.64E, ML3.6*
*NEIC **02** 09:17:27.5±0.2, 73°.80N×8°.57E, h10km, mb4.5/39, Error ellipse: s-maj=5.1km s-min=3.3km az=58.0*
*BER **02** 09:17:27.7±2.4, 73°.80N×8°.85E, h10km, MD2.2, ML2.5, ML3.6(NAO)*

ISC 02 09:17:28.7±0.4**, 73°78N**±0°.04×**8°53E**±0°.03**, h17**km±2km**, h16**km**:pP-P, n296,** σ1**29/299, mb4.2/77, MS3.4/24, 9C-1D, Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
BJO	**Bjornoya**	**3.02**	**71**	Pn		Pn	09	18	11.2	-4.3
BJO	**Bjornoya**	**3.02**	**71**	P		Pn	09	18	11.2	-4.3
BJO	**Bjornoya**	**3.02**	**71**	P		Pn	09	18	11.2	-4.3
	SNR=50									
HSPB	**Hornsund (broa**	**3.69**	**25**	Pn		Pn	09	18	21.4	-3.4
HSPB	**Hornsund (broa**	**3.69**	**25**	Pn		Pn	09	18	21.4	-3.4
	SNR=50									
HSP	**Hornsund**	**3.70**	**25**	Pn		Pn	09	18	21.4	-3.5
HSP	**Hornsund**	**3.70**	**25**	*e*P		**Pn**	**09**	**18**	**22.0**	**-2.9**
SPA0	**Spitsbergen Ar**	**4.81**	**20**	Pn		**Pn**	**09**	**18**	**37.4**	**-2.8**
	baz=191,slow=14									
SPA0	**Spitsbergen Ar**	**4.81**	**20**	*e*P		**Pn**	**09**	**18**	**38.0**	**-2.2**
SPA0	**Spitsbergen Ar**	**4.81**	**20**	Pn		**Pn**	**09**	**18**	**37.4**	**-2.8**
	baz=191,slow=13,SNR=814									
SPA0	**Spitsbergen Ar**	**4.81**	**20**	*e*P		**Pn**	**09**	**18**	**38.0**	**-2.2**
	SNR=49									
SPITS	**Spitsbergen Ar**	**4.81**	**20**	Pn		**Pn**	**09**	**18**	**38.0**	**-2.2**
	baz=189,slow=15,SNR=510									
SPITS				LR		LR	09	20	21.7	
	comp=Z,162nm,18.9s,baz=205,slow=36									
SPITS	**Spitsbergen Ar**	**4.81**	**20**	P		**Pn**	**09**	**18**	**38.0**	**-2.2**
SPITS				MLR		MLR				
	comp=Z,163nm,18.9s									
SPITS	**Spitsbergen Ar**	**4.81**	**20**	P		**Pn**	**09**	**18**	**38.0**	**-2.2**
	comp=Z,163nm,18.9s									
HOPEN	**Hopen**	**5.04**	**49**	*e*P		Pn	09	18	39.9	-3.3
HOPEN				*e*S		Sn	09	19	34.1	-6.8
HOPEN	**Hopen**	**5.04**	**49**	*e*P		Pn	09	18	39.9	-3.3
	SNR=49									
KBS	**Kingsbay**	**5.24**	**7**	*e*P		**Pn**	**09**	**18**	**43.1**	**-2.9**
KBS				*e*			09	18	50.4	
KBS	**Kingsbay**	**5.24**	**7**	*e*P		**Pn**	**09**	**18**	**43.5**	**-2.5**
KBS	**Kingsbay**	**5.24**	**7**	*e*P		**Pn**	**09**	**18**	**43.5**	**-2.5**
KBS	**Kingsbay**	**5.24**	**7**	*e*Pn		**Pn**	**09**	**18**	**43.5**	**-2.5**
KBS				*e*			09	18	50.0	
TRO	**Tromso**	**5.29**	**137**	*e*P		Pn	09	18	44.0	-2.8
TRO				*e*S		Sn	09	19	39.4	-7.8
TRO	**Tromso**	**5.29**	**137**	*e*P		Pn	09	18	44.0	-2.8
	SNR=49									
JNE	**Jan Mayen East**	**5.81**	**250**	*e*P		**Pn**	**09**	**18**	**51.8**	**-2.1**
JMIC	**Jan Mayen**	**5.87**	**250**	Pn		Pn	09	18	49.3	-5.4
	comp=Z,5.7nm,0.3s,baz=127,slow=5.1,SNR=2.9									
KTK1	**Kautokeino**	**6.69**	**128**	*e*P		**Pn**	**09**	**19**	**05.5**	**-0.5**
KTK1	**Kautokeino**	**6.69**	**128**	*e*P		**Pn**	**09**	**19**	**05.5**	**-0.5**
	SNR=47									
ARA0	**ARCESS Array S**	**6.82**	**120**	Pn		Pn	09	19	04.7	-3.1
	baz=317,slow=12									
ARA0				Sn		Sn	09	20	16.2	-8.7
	baz=310,slow=22									
ARA0	**ARCESS Array S**	**6.82**	**120**	Pn		Pn	09	19	04.7	-3.1
	baz=317,slow=12									
ARA0				Sn		Sn	09	20	16.2	-8.7
	baz=310,slow=22									
ARA0	**ARCESS Array S**	**6.82**	**120**	Pn		Pn	09	19	04.7	-3.1
	baz=317,slow=11,SNR=212									
ARCES	**ARCESS Array B**	**6.82**	**120**	Pn		**Pn**	**09**	**19**	**05.8**	**-1.9**
	comp=Z,2.3nm,0.3s,baz=323,slow=11,SNR=94									
ARCES				Sn		Sn	09	20	16.2	-8.7
	comp=Z,1.3nm,0.3s,baz=319,slow=20,SNR=2.9									
ARCES				LR		LR	09	22	11.2	
	comp=Z,202nm,18.3s,baz=321,slow=42									
KEV	**Kevo**	**7.04**	**116**	*e*P		**Pn**	**09**	**19**	**09.4**	**-1.3**
KEV				*e*			09	20	27.1	
KEV	**Kevo**	**7.04**	**116**	*e*P		**Pn**	**09**	**19**	**09.4**	**-1.3**
KEV				*e*S		**Sn**	**09**	**20**	**27.1**	**-3.0**
KEV	**Kevo**	**7.04**	**116**	*e*Pn		**Pn**	**09**	**19**	**09.4**	**-1.3**
KEV				*e*Sn		**Sn**	**09**	**20**	**27.1**	**-3.0**
MOR8	**Moi Rana**	**7.90**	**162**	*e*Pn		**Pn**	**09**	**19**	**21.6**	**-1.1**
MOR8				IAML			09	20	50.0	
	comp=Z,5.1nm,0.4s									
MOR8	**Moi Rana**	**7.90**	**162**	*e*Pn		**Pn**	**09**	**19**	**21.5**	**-1.1**
	SNR=50									
APA0	**Apatity Array**	**10.11**	**115**	Pn		Pn	09	19	49.6	-3.1
	baz=321,slow=14									
APA0	**Apatity Array**	**10.11**	**115**	Pn		Pn	09	19	49.6	-3.1
	baz=321,slow=14									
APA0	**Apatity Array**	**10.11**	**115**	Pn		Pn	09	19	49.7	-3.1
	baz=321,slow=12,SNR=6.3									
NB2	**NORSAR Subarra**	**12.84**	**174**	Pn		**Pn**	**09**	**20**	**28.9**	**-1.2**
	baz=355,slow=14									
NB2	**NORSAR Subarra**	**12.84**	**174**	Pn		**Pn**	**09**	**20**	**28.9**	**-1.2**
	baz=355,slow=14									
NB2	**NORSAR Subarra**	**12.84**	**174**	Pn		**Pn**	**09**	**20**	**28.9**	**-1.2**
	baz=355,slow=13									
NOA	**NORSAR Array B**	**12.84**	**174**	Pn		**Pn**	**09**	**20**	**29.2**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=354,slow=13,SNR=5.4									
NOA				LR		LR	09	25	04.1	
	comp=Z,59nm,19.6s,baz=40,slow=36									
SUMG	**Summit**	**13.38**	**288**	*i* P		**P**	**09**	**20**	**45.0**	**-2.3**
	comp=Z,2.8nm,1.1s									
SUMG	**Summit**	**13.38**	**288**	*e*P		**Pn**	**09**	**20**	**38.2**	**+0.5**
SUMG	**Summit**	**13.38**	**288**	*e*P		**Pn**	**09**	**20**	**38.2**	**+0.5**
SUMG	**Summit**	**13.38**	**288**	*e*Pn		**Pn**	**09**	**20**	**38.2**	**+0.5**
SUMG				*e*			09	20	44.9	
BORG	**Borgarnes**	**13.72**	**244**	LR		LR	09	24	27.2	
	comp=Z,107nm,19.4s,baz=297,slow=31									
HFS	**Hagfors**	**13.85**	**169**	Pn		**Pn**	**09**	**20**	**42.3**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=7.0,slow=13,SNR=4.5									
HFS				LR			09	25	45.1	
	comp=Z,125nm,18.1s,baz=329,slow=36									
FINES	**FINESS Array B**	**13.97**	**143**	Pn		**Pn**	**09**	**20**	**42.9**	**-2.6**
	comp=Z,0.4nm,0.3s,baz=339,slow=9.5,SNR=18									
FINES				LR		LR	09	26	09.7	
	comp=Z,78nm,19.1s,baz=0.5,slow=37									
KLMR	**Klimovskoe**	**17.30**	**122**	*e*P		**P**	**09**	**21**	**30.1**	**-0.2**
KLMR				pmax		pmax				
	comp=Z,55nm,1.1s									
KLMR	**Klimovskoe**	**17.30**	**122**	*e*P		**P**	**09**	**21**	**30.1**	**-0.2**
	comp=Z,55nm,1.1s									
PRGR	**Permogore**	**18.15**	**112**	*e*P		**Pn**	**09**	**21**	**37.9**	**-1.5**
PRGR				pmax		pmax				
	comp=Z,11nm,0.6s									
PRGR	**Permogore**	**18.15**	**112**	*e*P		**Pn**	**09**	**21**	**37.9**	**-1.5**
	comp=Z,11nm,0.6s									
EKA	**Eskdalemuir Ar**	**19.11**	**201**	P		**P**	**09**	**21**	**48.1**	**-2.2**
	baz=6.9,slow=9.9,SNR=4.6									
ESK	**Eskdalemuir**	**19.13**	**201**	*e*P		**Pn**	**09**	**21**	**52.1**	**+0.7**
ESK				pmax		pmax				
	comp=Z,17nm,1.0s									
ESK	**Eskdalemuir**	**19.13**	**201**	*e*P		**Pn**	**09**	**21**	**52.1**	**+0.7**
	comp=Z,17nm,1.0s									
ESK	**Eskdalemuir**	**19.13**	**201**	*e*P		**Pn**	**09**	**21**	**52.1**	**+0.7**
	comp=Z,17nm,1.0s									
SFJD	**Kangerlussuaq**	**20.10**	**281**	LR		LR	09	28	46.1	
	comp=Z,132nm,18.6s,baz=30,slow=34									
SUW	**Suwalki**	**20.74**	**155**	*e*P		**P**	**09**	**22**	**07.3**	**-0.7**
SUW	**Suwalki**	**20.74**	**155**	*e*P		**P**	**09**	**22**	**07.5**	**-0.5**
SUW				pmax		pmax				
	comp=Z,31nm,0.9s									
SUW	**Suwalki**	**20.74**	**155**	*e*P		**P**	**09**	**22**	**07.5**	**-0.5**
	comp=Z,31nm,0.9s									
SUW	**Suwalki**	**20.74**	**155**	*e*P		**P**	**09**	**22**	**07.5**	**-0.5**
	comp=Z,31nm,0.9s									
SUW				*e*			09	22	16.7	
MNK	**Minsk**	**20.89**	**147**	*e*P		**P**	**09**	**22**	**09.0**	**-0.6**
MNK	**Minsk**	**20.89**	**147**	*e*P		**P**	**09**	**22**	**09.0**	**-0.6**
MICGM	**Minsk**	**20.90**	**147**	*e*		**P**	**09**	**22**	**09.0**	**-0.7**
MOS	**Moscow**	**21.51**	**131**	*e*P		P	09	22	24.1	+7.9
MOS				pmax		pmax				
	comp=Z,57nm,0.8s									
OBN	**Obninsk**	**21.87**	**134**	P		**P**	**09**	**22**	**20.9**	**+0.8**
	comp=Z,6.5nm,0.3s,baz=168,slow=15,SNR=5.2									
OBN				LR		LR	09	31	00.2	
	comp=Z,96nm,18.5s,baz=242,slow=37									
OBN	**Obninsk**	**21.87**	**134**	*e*P		**P**	**09**	**22**	**22.4**	**+2.3**
OBN				*i*			09	22	44.6	
OBN				*e*S		**S**	**09**	**26**	**24.3**	**+3.5**
OBN				pmax		pmax				
	comp=Z,47nm,2.5s									
OBN				MLR		MLR				
	comp=Z,116nm,24.0s									
OBN	**Obninsk**	**21.87**	**134**	*e*P		**P**	**09**	**22**	**22.4**	**+2.3**
	comp=Z,47nm,2.5s									
OBN				*e*S		**S**	**09**	**26**	**24.3**	**+3.5**
OBN	**Obninsk**	**21.87**	**134**	*e*P		**P**	**09**	**22**	**20.1**	**0.0**
	comp=Z,12nm,0.7s									
CLL	**Collm**	**22.64**	**173**	*e*P		**P**	**09**	**22**	**28.0**	**-0.4**
CLL				*e*(sP)		**sP**	**09**	**22**	**33.0**	**-2.4**
CLL				*e*			09	22	37.0	
CLL				*e*			09	22	42.0	
CLL				*e*PPP		PPP	09	23	02.0	
CLL				Lm		MLR	09	30	00.0	
	comp=Z,100nm,19.5s									
CLL	**Collm**	**22.64**	**173**	*e*P		**P**	**09**	**22**	**28.0**	**-0.4**
CLL				*e*			09	22	33.0	
CLL	**Collm**	**22.64**	**173**	*e*P		**P**	**09**	**22**	**28.0**	**-0.4**
CLL	**Collm**	**22.64**	**173**	*e*P		**P**	**09**	**22**	**28.3**	**0.0**
	comp=Z,20nm,1.4s									
SOKR	**Solikamsk**	**22.86**	**102**	*i*P		**P**	**09**	**22**	**34.3**	**+3.7**
SOKR				pmax		pmax				
	comp=Z,20nm,0.9s									
MOX	**Moxa**	**23.26**	**175**	*e*P		**P**	**09**	**22**	**35.1**	**+0.3**
	comp=Z,8.0nm,1.0s									
MOX	**Moxa**	**23.26**	**175**	*e*P		**P**	**09**	**22**	**35.1**	**+0.3**
	comp=Z,8.0nm,1.0s									
UPC	**Upice**	**23.58**	**168**	*e*P		**P**	**09**	**22**	**40.8**	**+2.8**
UPC				*e*x		x	09	22	48.3	
UPC	**Upice**	**23.58**	**168**	*e*P		**P**	**09**	**22**	**40.8**	**+2.8**
UPC				*e*			09	22	48.3	
UPC	**Upice**	**23.58**	**168**	*e*P		**P**	**09**	**22**	**40.8**	**+2.8**
NKC	**Novy Kostel**	**23.69**	**174**	*e*P		**P**	**09**	**22**	**36.8**	**-2.3**
NKC				*e*pP		**pP**	**09**	**22**	**45.5**	**+1.3**
NKC				*e*x		x	09	22	50.0	
NKC	**Novy Kostel**	**23.69**	**174**	*e*P		**P**	**09**	**22**	**36.8**	**-2.3**
NKC				*e*			09	22	45.5	
NKC	**Novy Kostel**	**23.69**	**174**	*e*P		**P**	**09**	**22**	**36.8**	**-2.3**
DPC	**Dobruska-Polom**	**23.75**	**168**	*e*P		**P**	**09**	**22**	**40.1**	**+0.4**
DPC				*e*x		x	09	22	49.0	
DPC				*e*x		x	09	22	51.3	
DPC	**Dobruska-Polom**	**23.75**	**168**	*e*P		**P**	**09**	**22**	**40.1**	**+0.4**
DPC				*e*			09	22	49.0	
DPC	**Dobruska-Polom**	**23.75**	**168**	P		**P**	**09**	**22**	**40.1**	**+0.4**
BAIF	**Baives**	**23.88**	**187**	*e*P		**P**	**09**	**22**	**41.3**	**+0.5**
BAIF	**Baives**	**23.88**	**187**	*e*P		**P**	**09**	**22**	**41.3**	**+0.5**
BAIF	**Baives**	**23.88**	**187**	*e*P		**P**	**09**	**22**	**41.3**	**+0.5**
BAIF	**Baives**	**23.88**	**187**	*e*P		**P**	**09**	**22**	**41.3**	**+0.5**
PRA	**Prague**	**23.93**	**171**	*e*P		**P**	**09**	**22**	**43.3**	**+2.0**
PRA	**Prague**	**23.93**	**171**	*e*P		**P**	**09**	**22**	**43.3**	**+2.0**
PRA	**Prague**	**23.93**	**171**	P		**P**	**09**	**22**	**43.3**	**+2.0**
PRU	**Pruhonice**	**24.02**	**170**	*e*P		**P**	**09**	**22**	**42.7**	**+0.5**
PRU	**Pruhonice**	**24.02**	**170**	*e*P		**P**	**09**	**22**	**42.7**	**+0.5**
PRU	**Pruhonice**	**24.02**	**170**	P		**P**	**09**	**22**	**42.7**	**+0.5**
KRLC	**Kraliky**	**24.05**	**167**	*e*P		**P**	**09**	**22**	**41.0**	**-1.6**
KRLC				*e*x		x	09	22	52.2	
KRLC	**Kraliky**	**24.05**	**167**	*e*P		**P**	**09**	**22**	**41.0**	**-1.6**
KRLC	**Kraliky**	**24.05**	**167**	P		**P**	**09**	**22**	**41.0**	**-1.6**
GQPC	**GO Pecny, Ondr**	**24.10**	**170**	*e*P		**P**	**09**	**22**	**43.6**	**+0.6**
GQPC				*e*x		x	09	22	54.3	
OJC	**Ojcow**	**24.14**	**162**	*e*P		**P**	**09**	**22**	**42.8**	**-0.5**
OJC	**Ojcow**	**24.14**	**162**	*e*P		**P**	**09**	**22**	**42.9**	**-0.4**
OJC	**Ojcow**	**24.14**	**162**	*e*P		**P**	**09**	**22**	**42.9**	**-0.4**
GRA1	**Grafenberg Arr**	**24.20**	**176**	*e*P		**P**	**09**	**22**	**43.9**	**0.0**
	comp=Z,15nm,1.3s									
GRF	**Grafenberg Arr**	**24.20**	**176**	*e*P		**P**	**09**	**22**	**43.9**	**0.0**
	comp=Z,15nm,1.3s									
OKC	**Ostrava-Krasne**	**24.38**	**165**	*e*P		**P**	**09**	**22**	**45.7**	**+0.1**
OKC	**Ostrava-Krasne**	**24.38**	**165**	*e*P		**P**	**09**	**22**	**45.7**	**+0.1**
OKC	**Ostrava-Krasne**	**24.38**	**165**	P		**P**	**09**	**22**	**45.7**	**+0.1**
MORC	**Moravsky Berou**	**24.40**	**166**	*e*P		**P**	**09**	**22**	**45.3**	**-0.5**
MORC				pmax		pmax				
	comp=Z,4.0nm,0.8s									
MORC	**Moravsky Berou**	**24.40**	**166**	*e*P		**P**	**09**	**22**	**45.9**	**+0.1**
	comp=Z,4.2nm,0.8s									
AKASG	**Malin Array Be**	**24.79**	**148**	P		**P**	**09**	**22**	**48.2**	**-1.0**
	comp=Z,2.2nm,0.6s,baz=344,slow=9.6,SNR=8.7									
AKASG				LR		LR	09	32	15.8	
	comp=Z,115nm,20.6s,baz=350,slow=36									
AKASG	**Malin Array Be**	**24.79**	**148**	*ce*P		**P**	**09**	**22**	**50.7**	**+1.5**
AKASG				pmax		pmax				
	comp=Z,1.0nm,0.5s									
AKASG	**Malin Array Be**	**24.79**	**148**	*e*P		**P**	**09**	**22**	**50.7**	**+1.5**
	comp=Z,1.0nm,0.5s									
KIEV	**Kiev**	**24.79**	**148**	*e*P		**P**	**09**	**22**	**48.6**	**-0.6**
KIEV				pmax		pmax				
	comp=Z,123nm,2.9s									
KIEV	**Kiev**	**24.79**	**148**	*e*P		**P**	**09**	**22**	**48.6**	**-0.6**
	comp=Z,123nm,2.9s									
KIEV	**Kiev**	**24.79**	**148**	*e*P		**P**	**09**	**22**	**48.6**	**-0.6**
	comp=Z,122nm,2.9s									
AK01	**Malin Array Si**	**24.80**	**148**	*e*P		**P**	**09**	**22**	**48.5**	**-0.7**
VRAC	**Vranov**	**24.81**	**167**	P		**P**	**09**	**22**	**49.4**	**0.0**
	comp=Z,4.2nm,0.7s,baz=8.6,slow=13,SNR=5.4									
VRAC				LR		LR	09	32	37.4	
	comp=Z,56nm,19.1s,baz=343,slow=37									
VRAC	**Vranov**	**24.81**	**167**	P		**P**	**09**	**22**	**49.4**	**0.0**
VRAC				pmax		pmax				
	comp=Z,4.0nm,0.7s									
VRAC				MLR		MLR				
	comp=Z,56nm,19.1s									
AK02	**Malin Array Si**	**24.83**	**148**	*e*P		**P**	**09**	**22**	**48.8**	**-0.8**
NIE	**Niedzica**	**24.98**	**162**	*e*P		**P**	**09**	**22**	**51.8**	**+0.8**
NIE	**Niedzica**	**24.98**	**162**	*e*P		**P**	**09**	**22**	**51.9**	**+0.9**
NIE	**Niedzica**	**24.98**	**162**	*e*P		**P**	**09**	**22**	**51.9**	**+0.9**
STHS	**Stebnicka Huta**	**25.06**	**160**	*e*P		**P**	**09**	**22**	**53.5**	**+1.8**
STHS				pmax		pmax				
	comp=Z,4.0nm,0.9s									
STHS	**Stebnicka Huta**	**25.06**	**160**	*e*P		**P**	**09**	**22**	**53.5**	**+1.8**
	comp=Z,4.0nm,0.9s									
STHS	**Stebnicka Huta**	**25.06**	**160**	*e*P		**P**	**09**	**22**	**53.5**	**+1.8**
STU	**Stuttgart**	**25.09**	**179**	*e*P		**P**	**09**	**22**	**53.2**	**+1.2**
STU				pmax		pmax				
	comp=Z,7.0nm,0.3s									
STU	**Stuttgart**	**25.09**	**179**	*e*P		**P**	**09**	**22**	**53.2**	**+1.2**
	comp=Z,7.0nm,0.3s									
STU	**Stuttgart**	**25.09**	**179**	*e*P		**P**	**09**	**22**	**53.2**	**+1.2**
	comp=Z,6.6nm,0.3s									
GEC2	**GERESS Array S**	**25.12**	**172**	*e*P		**P**	**09**	**22**	**53.1**

AKTO pmax pmax
comp=Z,3.0nm,0.6s
AKTO MLR MLR
comp=Z,108nm,18.8s
BRVK Borovoye 32.28 95 *e*P **P 09 23 56.7 +0.8**
BRVK pmax pmax
comp=Z,7.0nm,2.5s
BRVK Borovoye 32.28 95 *e*P **P 09 23 56.7 +0.8**
comp=Z,7.0nm,2.5s
BRVK Borovoye 32.28 95 *e*P **P 09 23 56.4 +0.5**
comp=Z,2.0nm,0.8s
BVAR Borovoye Array 32.34 95 P **P 09 23 56.9 +0.4**
comp=Z,2.1nm,0.8s,baz=331,slow=8.5,SNR=12
BVAR PcP **PcP 09 26 44.0 +0.3**
comp=Z,0.9nm,0.8s,baz=304,slow=3.3,SNR=3.0
BVAR Borovoye Array 32.34 95 P **P 09 23 56.9 +0.4**
BVAR 09 26 44.0
BVAR pmax pmax
comp=Z,2.0nm,0.8s
BVAR pmax pmax
comp=Z,1.0nm,0.8s
ABKAR Akbulak array 32.87 109 *e*P **P 09 24 01.5 +0.3**
comp=Z,4.2nm,0.7s
ABKAR *e* 09 24 10.6
KIV Kislovodsk 33.72 133 *e*P **P 09 24 09.2 +0.5**
KIV *i* 09 25 21.4
KIV *e*S S 09 29 23.8 -7.2
KIV pmax pmax
comp=Z,3.0nm,0.7s
KIV MLR MLR
comp=Z,90nm,23.0s
KIV Kislovodsk 33.72 133 *e*P **P 09 24 09.2 +0.5**
comp=Z,3.0nm,0.7s
KBZ Khabaz 33.98 133 P **P 09 24 11.7 +0.9**
comp=Z,1.0nm,0.6s,baz=236,slow=24,SNR=3.7
KBZ LR LR 09 38 41.1
comp=Z,83nm,18.7s,baz=130,slow=38
KBZ Khabaz 33.98 133 P **P 09 24 11.7 +0.9**
KBZ pmax pmax
comp=Z,1.0nm,0.6s
KBZ MLR MLR
comp=Z,83nm,18.7s
SCHQ Schefferville 34.53 279 P **P 09 24 13.2 -2.3**
comp=Z,0.6nm,0.5s,baz=30,slow=15,SNR=3.7
SCHQ LR LR 09 36 47.4
comp=Z,96nm,19.5s,baz=54,slow=34
ESDC Sonseca Array 34.71 197 P **P 09 24 17.4 +0.1**
comp=Z,0.1nm,0.3s,baz=7.8,slow=12,SNR=4.7
ZALV Zalesovo Beam 35.56 81 P **P 09 24 24.4 0.0**
comp=Z,1.0nm,0.8s,baz=331,slow=12,SNR=5.2
ZALV PcP **PcP 09 26 52.6 -0.3**
comp=Z,0.6nm,0.5s,baz=348,slow=3.5,SNR=2.9
ZALV LR LR 09 42 14.9
comp=Z,59nm,19.2s,baz=68,slow=42
ZALV Zalesovo Beam 35.56 81 P **P 09 24 24.4 0.0**
ZALV 09 26 52.6
ZALV pmax pmax
comp=Z,1.0nm,0.8s
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV MLR MLR
comp=Z,59nm,19.2s
INK Inuvik 36.05 337 P **P 09 24 26.8 -1.6**
comp=Z,2.0nm,1.1s,baz=0.2,slow=7.1,SNR=2.4
INK Inuvik 36.05 337 P **P 09 24 26.8 -1.6**
INK pmax pmax
comp=Z,2.0nm,1.1s
BR131 Keskin Array S 36.18 146 *e*P **P 09 24 31.0 +1.0**
comp=Z,1.5nm,0.3s
BR131 *e* 09 24 40.0
BRTR Keskin Array B 36.18 146 P **P 09 24 31.2 +1.2**
comp=Z,0.8nm,0.5s,baz=353,slow=6.5,SNR=8.3
BRTR LR LR 09 39 51.0
comp=Z,35nm,19.1s,baz=338,slow=37
BRTR Keskin Array B 36.18 146 P **P 09 24 31.2 +1.2**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
BRTR MLR MLR
comp=Z,35nm,19.1s
KURK Kurchatov 36.71 89 P **P 09 24 34.9 +0.6**
KURK 09 26 56.1
KURK pmax pmax
comp=Z,1.0nm,0.7s
KURK pmax pmax
comp=Z,1.0nm,0.7s
KURK Kurchatov 36.71 89 P **P 09 24 34.9 +0.6**
comp=Z,1.0nm,0.7s
KURK Kurchatov 36.71 89 PcP **PcP 09 26 56.1 -0.2**
comp=Z,1.0nm,0.7s
KURK Kurchatov 36.71 89 P **P 09 24 34.9 +0.6**
KURK PcP **PcP 09 26 56.1 -0.2**
KURBB Kurchatov Arra 36.77 89 P **P 09 24 34.9 +0.2**
comp=Z,1.4nm,0.7s,baz=333,slow=7.2,SNR=6.9
KURBB PcP **PcP 09 26 56.1 -0.4**
comp=Z,0.6nm,0.7s,baz=322,slow=3.6,SNR=4.2
BILL Bilibino 37.69 13*c i*P **P 09 24 42.7 +0.3**
BILL *i* 09 26 11.7
BILL pmax pmax
comp=Z,8.0nm,1.7s
BILL MLR MLR
comp=Z,128nm,17.0s
BILL Bilibino 37.69 13 *i*P **P 09 24 42.7 +0.3**
comp=Z,8.0nm,1.7s
BILL Bilibino 37.69 13 *e*P **P 09 24 41.7 -0.7**
comp=Z,6.8nm,1.0s
BILL *e* 09 24 48.4
KEST Kesra 38.13 179 P **P 09 24 45.5 -1.0**
comp=Z,0.8nm,0.7s,baz=135,slow=2.9,SNR=3.3
YKA Yellowknife Ar 38.87 322 P **P 09 24 51.6 -0.7**
comp=Z,1.4nm,0.7s,baz=17,slow=8.5,SNR=17
YKA PcP **PcP 09 27 02.4 -0.4**
comp=Z,0.4nm,0.7s,baz=11,slow=3.2,SNR=7.0
YKA Yellowknife Ar 38.87 322 P **P 09 24 51.6 -0.7**
YKA 09 27 02.4
YKA pmax pmax
comp=Z,1.0nm,0.7s
YAK Yakutsk 38.94 40 *e*P **P 09 24 54.3 +1.4**
YAK pmax pmax
comp=Z,5.0nm,0.7s
YAK Yakutsk 38.94 40 *e*P **P 09 24 54.3 +1.4**
comp=Z,5.0nm,0.7s
COLA College 40.73 345 *e*P **P 09 25 09.4 +1.7**
COLA pmax pmax
comp=Z,10.0nm,1.2s
COLA College 40.73 345 *e*P **P 09 25 09.4 +1.7**
comp=Z,10.0nm,1.2s
ILAR Eielson Array 40.75 344 P **P 09 25 08.5 +0.5**
comp=Z,1.6nm,0.8s,baz=3.1,slow=6.5,SNR=29
ILAR PcP **PcP 09 27 08.8 0.0**
comp=Z,1.0nm,1.1s,baz=342,slow=4.6,SNR=4.4
ILAR Eielson Array 40.75 344 P **P 09 25 08.5 +0.5**
ILAR 09 27 08.8
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILAR pmax pmax
comp=Z,1.0nm,1.1s
MK31 Makanchi Array 41.30 88 *e*P **P 09 25 13.0 +0.3**
MK31 Makanchi Array 41.30 88 *e*P **P 09 25 13.0 +0.3**
MK31 Makanchi Array 41.30 88 *e*P **P 09 25 13.0 +0.3**
MKAR Makanchi Array 41.30 88 P **P 09 25 12.6 -0.1**
comp=Z,0.2nm,0.4s,baz=316,slow=10,SNR=5.9
MKAR LR LR 09 46 14.8
comp=Z,39nm,18.6s,baz=342,slow=42
MKAR Makanchi Array 41.30 88*c e*P **P 09 25 13.1 +0.4**
MKAR Makanchi Array 41.30 88 *e*P **P 09 25 13.1 +0.4**
MKAR Makanchi Array 41.30 88 *e*P **P 09 25 13.2 +0.4**
SEY Seymchan 41.45 24 P **P 09 25 14.1 +0.4**
comp=Z,1.5nm,0.7s,baz=180,slow=19,SNR=3.7
SEY Seymchan 41.45 24 P **P 09 25 14.1 +0.4**
SEY pmax pmax
comp=Z,2.0nm,0.7s
KTH Kantishna Hill 42.25 346 *e*P **P 09 25 18.8 -1.5**
comp=Z,11nm,1.4s
KTH *e* 09 25 28.2
CAST Castle Rocks 42.45 347 *e*P **P 09 25 23.2 +1.3**
comp=Z,4.7nm,1.1s
AAK Ala-Archa 42.94 98 P **P 09 25 27.0 +0.7**
comp=Z,0.4nm,0.3s,baz=101,slow=5.2,SNR=2.8
AAK LR LR 09 44 15.2
comp=Z,50nm,18.0s,baz=330,slow=37
AAK Ala-Archa 42.94 98 P **P 09 25 27.0 +0.7**
AAK MLR MLR
comp=Z,51nm,18.0s
AAK Ala-Archa 42.94 98 P **P 09 25 27.0 +0.7**
comp=Z,51nm,18.0s
AAK Ala-Archa 42.94 98 P **P 09 25 27.0 +0.7**

GEYT Alibeck 42.98 118 P **P 09 25 27.1 +0.6**
comp=Z,1.4nm,0.4s,baz=306,slow=10,SNR=5.6
GEYT LR LR 09 45 33.2
comp=Z,99nm,19.1s,baz=250,slow=39
ZAK Zakamensk 43.75 67 *e*P **P 09 25 33.6 +0.9**
ZAK pmax pmax
comp=Z,2.0nm,1.7s
ZAK Zakamensk 43.75 67 *e*P **P 09 25 33.6 +0.9**
comp=Z,2.0nm,1.7s
WMQ Urumqi 45.54 85 *e*P **P 09 25 47.0 0.0**
WMQ pP **pP 09 25 53.3 +1.0**
WMQ PMZ
comp=Z,6.0nm,0.6s
WMQ PMZ
comp=Z,55nm,5.1s
WMQ LE
comp=Z,210nm,25.2s
KSH Kashi 46.24 98 *e*P **P 09 25 55.3 +2.7**
KSH pP **pP 09 25 59.7 +1.7**
KSH PcS **PcS 09 31 23.8 +1.3**
KSH S **S 09 32 41.9 +3.7**
KSH sS **sS 09 32 49.4 +2.4**
KSH PMZ
comp=Z,96nm,4.4s
KSH LN
comp=Z,150nm,8.7s
KSH LE
comp=Z,120nm,5.3s
KSH LZ
comp=Z,170nm,6.3s
SONM Songino Array 46.90 66 P **P 09 25 58.0 +0.3**
comp=Z,2.0nm,1.0s,baz=332,slow=5.5,SNR=13
SONM PcP **PcP 09 27 30.6 +0.5**
comp=Z,0.4nm,0.6s,baz=354,slow=1.4,SNR=3.4
SONM Songino Array 46.90 66 P **P 09 25 58.0 +0.3**
SONM 09 27 30.6
SONM pmax pmax
comp=Z,2.0nm,1.0s
SONM Songino Array 46.90 66 P **P 09 25 58.0 +0.3**
comp=Z,2.0nm,1.0s
ULN Ulaanbaatar 47.04 65*c i*P **P 09 26 00.0 +1.2**
ULN pmax pmax
comp=Z,7.0nm,1.2s
ULN Ulaanbaatar 47.04 65 *i*P **P 09 26 00.0 +1.2**
comp=Z,7.0nm,1.2s
ULN Ulaanbaatar 47.04 65 *e*P **P 09 25 59.5 +0.7**
comp=Z,9.7nm,1.3s
EDM Edmonton 47.35 316 *e*P **P 09 26 00.2 -0.8**
EDM *e* 09 26 05.3
EDM Edmonton 47.35 316 *e*P **P 09 26 00.2 -0.8**
EDM Edmonton 47.35 316 *e*P **P 09 26 00.2 -0.8**
EDM *e* 09 26 05.3
TRY Troy 47.39 277 *e*P **P 09 26 03.0 +1.5**
comp=Z,22nm,1.3s
WALA Waterton Lakes 51.42 315 *e*P **P 09 26 31.1 -1.1**
comp=Z,5.4nm,1.2s
BSMT Bassoo Peak 52.74 315 *e*P **P 09 26 42.3 +0.1**
NEW Newport 52.80 317 LR LR 09 49 44.0
comp=Z,100nm,18.6s,baz=18,slow=37
NEW Newport 52.80 317 *e*P **P 09 26 42.4 -0.1**
NEW pmax pmax
comp=Z,4.0nm,1.1s
NEW Newport 52.80 317 *e*P **P 09 26 42.4 -0.1**
comp=Z,4.0nm,1.1s
NEW Newport 52.80 317 *e*P **P 09 26 42.4 -0.1**
comp=Z,3.8nm,1.1s
SWMT Swartz Lake 52.91 314 *e*P **P 09 26 43.0 -0.3**
SWMT *e* 09 26 48.0
GTA Gaotai 52.99 76 *e*P **P 09 26 45.1 +1.1**
GTA pP **pP 09 26 49.6 +0.2**
GTA sP **sP 09 26 52.2 +0.7**
GTA PMZ
comp=Z,4.0nm,0.9s
MSO Missoula 53.55 314 *e*P **P 09 26 48.5 +0.4**
comp=Z,18nm,1.5s
HHC Hu-ho-hao-te 54.75 65 *e*P **P 09 26 56.5 -0.3**
HHC PP **PP 09 29 00.3 +1.2**
HHC S **S 09 34 33.4 -2.9**
HHC sS **sS 09 34 41.0 -4.2**
HHC ScS **ScS 09 36 41.9 -2.9**
HHC SS **SS 09 38 15.4 -3.2**
HHC PMZ
comp=Z,10.0nm,1.3s
HHC PMZ
comp=Z,110nm,5.2s
HHC LN
comp=Z,160nm,16.9s
HHC LE
comp=Z,200nm,17.5s
HHC LZ
comp=Z,170nm,17.6s
H17A Grant Village 55.17 310 *e*P **P 09 27 00.9 +0.9**
comp=Z,13nm,1.5s
MCMT McKenzie Canyo 55.24 312 *e*P **P 09 27 00.2 -0.3**
comp=Z,2.8nm,1.0s
IMW Indian Meadow 55.73 310 *e*P **P 09 27 04.9 +0.8**
comp=Z,5.1nm,0.9s
IMW *e* 09 27 09.7
MOOW Moose Ponds 55.83 310 *e*P **P 09 27 04.9 +0.2**
comp=Z,6.4nm,1.5s
LOHW Long Hollow 55.93 310 *e*P **P 09 27 05.5 0.0**
comp=Z,5.8nm,1.7s
FXWY Fox Creek 55.99 310 *e*P **P 09 27 06.5 +0.5**
comp=Z,7.9nm,1.6s
PDAR Pinedale Array 56.51 309 P **P 09 27 08.8 -0.8**
comp=Z,0.7nm,0.8s,baz=38,slow=6.0,SNR=5.1
PDAR LR LR 09 50 50.3
comp=Z,49nm,19.0s,baz=38,slow=36
HLID Hailey 56.78 313 *e*P **P 09 27 11.3 -0.2**
comp=Z,2.4nm,0.8s
HLID *e* 09 27 15.6
LZH Lanzhou 57.20 74 *e*P **P 09 27 16.6 +2.1**
LZH pP **pP 09 27 20.3 +0.4**
LZH sP **sP 09 27 22.6 +0.6**
LZH PMZ
comp=Z,13nm,1.0s
PBMO Poplar Bluff 57.52 290 *e*P **P 09 27 15.8 -0.8**
comp=Z,6.8nm,1.0s
ISCO Idaho Springs 58.45 304 *e*P **P 09 27 23.1 -0.3**
ISCO pmax pmax
comp=Z,3.0nm,1.2s
ISCO Idaho Springs 58.45 304 *e*P **P 09 27 23.1 -0.3**
comp=Z,3.0nm,1.2s
ISCO Idaho Springs 58.45 304 *e*P **P 09 27 23.1 -0.3**
comp=Z,3.3nm,1.2s
O20A White River Ci 58.73 307 *e*P **P 09 27 25.6 +0.4**
comp=Z,8.9nm,1.1s
SMCO Snowmass 59.35 305 *e*P **P 09 27 30.5 +0.7**
comp=Z,12nm,1.8s
YBH Yreka Blue Hor 60.15 320 LR LR 09 53 06.4
comp=Z,54nm,18.7s,baz=354,slow=36
PV01 Paradox Valley 60.71 306 *e*P **P 09 27 38.6 -0.4**
comp=Z,400nm,1.0s
TORD Torodi Ar. Bea 60.74 188 P **P 09 27 39.1 +0.1**
comp=Z,3.5nm,0.8s,baz=357,slow=6.4,SNR=21
MVCO Mesa Verde 61.58 306 *e*P **P 09 27 45.2 +0.3**
comp=Z,11nm,1.3s
MVCO *e* 09 27 54.0
WMOK Wichita Mounta 61.61 297 *e*P **P 09 27 44.4 -0.4**
WMOK *e* 09 27 49.6
WMOK pmax pmax
comp=Z,18nm,1.7s
WMOK Wichita Mounta 61.61 297 *e*P **P 09 27 44.4 -0.4**
comp=Z,18nm,1.7s
WMOK Wichita Mounta 61.61 297 *e*P **P 09 27 44.4 -0.4**
comp=Z,18nm,1.7s
WMOK *e* 09 27 49.6
CD2 Chengdu 62.06 76 *e*P **P 09 27 47.9 0.0**
NVAR Mina Array Bea 62.50 315 P **P 09 27 50.9 -0.2**
comp=Z,0.9nm,0.7s,baz=27,slow=7.2,SNR=3.7
ANMO Albuquerque 63.28 304 *e*P **P 09 27 56.3 +0.1**
ANMO pmax pmax
comp=Z,11nm,1.2s
ANMO Albuquerque 63.28 304 *e*P **P 09 27 56.3 +0.1**
comp=Z,11nm,1.2s
ANMO Albuquerque 63.28 304 *e*P **P 09 27 55.8 -0.4**
comp=Z,3.2nm,1.1s
NJ2 Nanjing 64.92 62 *e*P **P 09 28 05.7 -1.0**
NJ2 PMZ
comp=Z,30nm,0.5s
KMI Kunming 67.26 79 P **P 09 28 24.4 +2.3**
KMI PMZ
comp=Z,16nm,0.5s
TXAR Lajitas Array 67.97 299 P **P 09 28 25.4 -1.0**
comp=Z,1.0nm,1.0s,baz=37,slow=5.8,SNR=7.2
TXAR LR LR 09 57 45.2
comp=Z,52nm,18.7s,baz=0.0,slow=36
TXAR Lajitas Array 67.97 299 P **P 09 28 25.4 -1.0**
TXAR pmax pmax
comp=Z,1.0nm,1.0s
TXAR MLR MLR
comp=Z,52nm,18.7s
CMAR Chiang Mai Arr 72.54 84 P **P 09 28 54.6 +0.3**
comp=Z,0.5nm,0.4s,baz=332,slow=7.5,SNR=4.4
CMAR LR LR 10 05 53.8
comp=Z,12nm,19.4s,baz=190,slow=40
ASAR Alice Springs 122.16 62 PKP **PKPdf 09 36 20.5 -1.2**
comp=Z,0.7nm,0.7s,baz=353,slow=1.7,SNR=11
VNA1 Neumayer--Stat 144.60 190 P PKPbc 09 37 01.3 +0.5
VNA2 Neumayer--Watz 144.83 189 P **PKPab 09 37 00.7 -0.9**
baz=352,slow=5.5
VNA3 Neumayer Olymp 145.25 190 P **PKPbc 09 37 02.8 -0.2**
SNAA Sanae 145.41 186 P **PKPab 09 37 03.9 +0.2**

ISCJB ***02*** *09:36:49.2±0.3,59.°62N±0.°03×152.°91W±0.°05, h112km±3km, mb3.7/6, Error ellipse: s-maj=4.7km s-min=3.6km az=135.7*
NEIC ***02*** *09:36:51.5,59.°61N×152.°94W, h97km, MG3.6(AEIC), After AEIC.*
IDC ***02*** *09:36:54.3±3.7,60.°02N×152.°75W, h126km±35km, mb3.3/6, mb1 3.6/11, mb1mx3.3/33, mbtmp3.9/11, Error ellipse: s-maj=29.6km s-min=17.5km az=33.0*
ISC 02 09:36:50.7±0.7, 59.°64N±0.°04×152.°93W±0.°04, h103km±6km, n108, σ0.°93/119, mb3.8/6, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPT	**Oil Point**	**0.15**	**275**	P	**Pn**	**09 37 04.8**	**-0.3**
ILS	**Iliamna Low So**	**0.33**	**348**	P	**Pn**	**09 37 05.4**	**-0.4**
AUP	**Augustine Pinn**	**0.38**	**222**	P	**Pn**	**09 37 05.7**	**-0.3**
IVE	**Iliamna Volcan**	**0.38**	**353**	P	**Pn**	**09 37 06.0**	**-0.1**
AUH	**Augustine H**	**0.38**	**223**	P	**Pn**	**09 37 05.9**	**-0.2**
AUI	**Augustine Isla**	**0.40**	**220**	P	**Pn**	**09 37 05.6**	**-0.5**
AUI				S	**Sn**	**09 37 17.1**	**-0.5**
HOM	**Homer**	**0.65**	**88**	P	**Pn**	**09 37 08.5**	**+0.7**
HOM				S	**Sn**	**09 37 22.0**	**+1.2**
PDB	**Pedro Bay**	**0.66**	**283**	P	**Pn**	**09 37 07.5**	**-0.4**
RSO	**Redoubt South**	**0.83**	**6**	*e*Pg	**Pn**	**09 37 09.6**	**-0.1**
RDWB	**Redoubt West**	**0.85**	**3**	P	**Pn**	**09 37 09.8**	**-0.1**
RDWB				S	**Sn**	**09 37 24.1**	**-0.2**
MCNL	**McNeil River**	**0.85**	**238**	P	**Pn**	**09 37 09.2**	**-0.6**
RDN	**Redoubt North**	**0.88**	**5**	P	**Pn**	**09 37 10.3**	**+0.1**
NCT	**North Crescent**	**0.92**	**360**	P	**Pn**	**09 37 10.7**	**+0.1**
DFR	**Drift River**	**0.96**	**7**	P	**Pn**	**09 37 11.1**	**+0.1**
BRLK	**Bradley Lake**	**1.04**	**82**	P	**Pn**	**09 37 11.4**	**-0.3**
BRLK				S	**Sn**	**09 37 27.2**	**-0.5**
CKL	**Chakachamna La**	**1.59**	**10**	P	**Pn**	**09 37 18.6**	**+0.4**
SLKM	**Skilak Lake**	**1.61**	**56**	P	**Pn**	**09 37 18.2**	**-0.3**
CKN	**Chakachatna No**	**1.63**	**13**	P	**Pn**	**09 37 19.1**	**+0.4**
SPBG	**Spurr Blockage**	**1.65**	**9**	P	**Pn**	**09 37 19.4**	**+0.5**
SPBG				S	**Sn**	**09 37 41.8**	**+1.4**
BGL	**Barrier Glacie**	**1.65**	**9**	P	**Pn**	**09 37 19.5**	**+0.5**
KAKN	**Katmai Knife C**	**1.74**	**220**	P	**Pn**	**09 37 19.6**	**-0.5**
KAKN				S	**Sn**	**09 37 41.1**	**-1.4**
KVTA	**Katmai Vly 10**	**1.76**	**225**	P	**Pn**	**09 37 19.7**	**-0.5**
SEW	**Seward**	**1.82**	**74**	P	**Pn**	**09 37 20.5**	**-0.4**
KCE	**Katmai Mt Cerb**	**1.82**	**221**	P	**Pn**	**09 37 21.1**	**-0.1**
KABR	**Katmai Barrier**	**1.85**	**216**	P	**Pn**	**09 37 20.9**	**-0.6**
KDAK	**Kodiak Island**	**1.87**	**174**	P	**Pn**	**09 37 20.4**	**-1.2**
KDAK				S	**Sn**	**09 37 43.9**	**-1.3**
KELA	**Mount Kelaz**	**1.89**	**232**	P	**Pn**	**09 37 21.4**	**-0.5**
STLK	**Strandline Lak**	**1.94**	**16**	P	**Pn**	**09 37 23.0**	**+0.4**
SVW2	**Sparrevohn**	**1.97**	**319**	P	**Pn**	**09 37 22.5**	**-0.4**
FIB	**Fire Island**	**2.05**	**41**	P	**Pn**	**09 37 25.3**	**+1.3**
SUA	**Susitna One**	**2.12**	**30**	P	**Pn**	**09 37 25.6**	**+0.6**
RC01	**Rabbit Creek A**	**2.15**	**46**	P	**Pn**	**09 37 25.4**	**+0.2**
PTE	**Portage**	**2.30**	**56**	P	**Pn**	**09 37 27.5**	**+0.4**
OHAK	**Old Harbor**	**2.43**	**185**	P	**Pn**	**09 37 27.2**	**-1.7**
SKT	**Skwentna**	**2.44**	**16**	P	**Pn**	**09 37 29.3**	**+0.2**
PMR	**Palmer**	**2.71**	**42**	P	**Pn**	**09 37 32.0**	**-0.5**
PMR				S	**Sn**	**09 38 02.8**	**-1.9**
TRAP	**Trapper Creek**	**3.00**	**25**	P	**Pn**	**09 37 36.7**	**+0.3**
GLI	**Glacier Island**	**3.16**	**64**	P	**Pn**	**09 37 37.8**	**-0.7**
PPLA	**Purkeypile**	**3.29**	**6**	P	**Pn**	**09 37 41.3**	**+0.9**
MID	**Middleton Isla**	**3.36**	**91**	P	**Pn**	**09 37 41.1**	**-0.1**
JPK	**Jack Peak**	**3.45**	**63**	P	**Pn**	**09 37 41.8**	**-0.7**
SCM	**Sheep Creek Mo**	**3.52**	**49**	P	**Pn**	**09 37 43.2**	**-0.2**
VLZ	**Valdez**	**3.60**	**63**	P	**Pn**	**09 37 43.9**	**-0.5**
EYAK	**Cordova Ski Ar**	**3.71**	**73**	P	**Pn**	**09 37 44.9**	**-1.0**
CAST	**Castle Rocks**	**3.81**	**6**	P	**Pn**	**09 37 47.4**	**+0.1**
DIV	**Divide**	**3.85**	**64**	P	**Pn**	**09 37 47.6**	**-0.2**
KLU	**Klutina**	**3.93**	**59**	P	**Pn**	**09 37 48.5**	**-0.3**
TRF	**Thorofare Moun**	**4.03**	**17**	P	**Pn**	**09 37 50.4**	**+0.1**
KTH	**Kantishna Hill**	**4.04**	**13**	P	**Pn**	**09 37 50.2**	**-0.2**
RAGM	**Ragged Mountai**	**4.21**	**76**	P	**Pn**	**09 37 52.0**	**-0.7**
GOAT	**Goat Mountain**	**4.21**	**74**	P	**Pn**	**09 37 52.1**	**-0.6**
RND	**Reindeer**	**4.25**	**26**	P	**Pn**	**09 37 53.1**	**-0.2**
BMRM	**Bremner River**	**4.35**	**69**	P	**Pn**	**09 37 53.8**	**-0.7**
DHY	**Denali Highway**	**4.36**	**35**	P	**Pn**	**09 37 55.0**	**+0.2**
PS11	**TAPS Pump St11**	**4.39**	**53**	P	**Pn**	**09 37 55.7**	**+0.7**
MCK	**McKinley**	**4.52**	**23**	P	**Pn**	**09 37 57.0**	**+0.2**
NICHA	**Nichawak Mount**	**4.55**	**79**	P	**Pn**	**09 37 56.8**	**-0.4**
HARP	**HAARP**	**4.69**	**50**	P	**Pn**	**09 37 59.5**	**+0.4**
BERG	**Berg Lake**	**4.69**	**77**	P	**Pn**	**09 37 58.9**	**-0.3**
BWN	**Browne**	**4.83**	**18**	P	**Pn**	**09 38 01.4**	**+0.4**
GRIN	**Grindle Hills**	**4.87**	**78**	P	**Pn**	**09 38 01.8**	**+0.2**
PAX	**Paxson**	**4.91**	**44**	P	**Pn**	**09 38 02.0**	**-0.1**
KHIT	**Khitrov Hills**	**4.92**	**76**	P	**Pn**	**09 38 01.7**	**-0.6**
VRDI	**Verde Repeater**	**4.96**	**67**	P	**Pn**	**09 38 02.6**	**-0.3**
PS10	**TAPS Pump St10**	**5.11**	**39**	P	**Pn**	**09 38 05.5**	**+0.7**
KULT	**Kultieth River**	**5.17**	**79**	P	**Pn**	**09 38 05.4**	**-0.2**
MCARA	**McCarthy VSAT**	**5.20**	**66**	P	**Pn**	**09 38 05.9**	**-0.1**
BARK	**Barkley Ridge**	**5.29**	**77**	P	**Pn**	**09 38 07.5**	**+0.1**
DDM	**Donnelly Dome**	**5.35**	**36**	P	**Pn**	**09 38 08.9**	**+0.9**
WRH	**Wood River Hil**	**5.35**	**23**	P	**Pn**	**09 38 07.2**	**-0.8**
ISLE	**Juniper Island**	**5.38**	**75**	P	**Pn**	**09 38 08.2**	**-0.4**
PTPK	**Patty Peak**	**5.41**	**69**	P	**Pn**	**09 38 09.4**	**+0.4**
KIAG	**Kiagna River**	**5.42**	**72**	P	**Pn**	**09 38 09.1**	**+0.1**
BAGL	**Bagley Icefiel**	**5.50**	**76**	P	**Pn**	**09 38 10.4**	**+0.4**
MLY	**Manley**	**5.50**	**10**	P	**Pn**	**09 38 10.4**	**+0.3**
HDA	**Harding Lake**	**5.55**	**28**	P	**Pn**	**09 38 10.4**	**-0.3**
MESA	**MESA**	**5.55**	**80**	P	**Pn**	**09 38 11.1**	**+0.1**
CCB	**Clear Creek Bu**	**5.57**	**23**	P	**Pn**	**09 38 10.2**	**-0.8**
GRNC	**Granite Creek**	**5.68**	**74**	P	**Pn**	**09 38 12.4**	**-0.4**
PS08	**TAPS Pump Stn8**	**5.69**	**28**	P	**Pn**	**09 38 12.2**	**-0.4**
COLA	**College**	**5.76**	**22**	P	**Pn**	**09 38 13.1**	**-0.4**
MDM	**Murphy Dome**	**5.77**	**20**	P	**Pn**	**09 38 13.3**	**-0.4**
BARN	**Barnard Glacie**	**5.77**	**71**	P	**Pn**	**09 38 14.2**	**+0.3**
DOT	**Dot Lake**	**5.83**	**43**	P	**Pn**	**09 38 14.8**	**+0.2**
RKAV	**Rock Avalanche**	**5.86**	**79**	P	**Pn**	**09 38 15.4**	**+0.4**
ILAR	**Eielson Array**	**5.87**	**26**	P	**Pn**	**09 38 14.1**	**-1.0**
	3.4nm,0.3s,baz=216,slow=14,SNR=158						
ILAR				S	**Sn**	**09 39 15.2**	**-5.7**
	2.1nm,0.3s,baz=195,slow=17,SNR=6.1						
ILB	**Eielson Array**	**5.87**	**26**	P	**Pn**	**09 38 14.1**	**-1.0**
TABL	**Table Mountain**	**5.96**	**77**	P	**Pn**	**09 38 16.5**	**0.0**
CHX	**Chaix Hills**	**5.97**	**81**	P	**Pn**	**09 38 17.4**	**+0.9**
SCRK	**Sand Creek**	**6.07**	**40**	P	**Pn**	**09 38 16.9**	**-1.0**
IM04	**Indian Mountai**	**6.37**	**357**	*e*Pn	**Pn**	**09 38 21.9**	**0.0**
DTNA	**Dutton South F**	**6.75**	**232**	P	**Pn**	**09 38 27.3**	**+0.2**
EGAK	**Eagle**	**7.53**	**42**	P	**Pn**	**09 38 37.1**	**-0.5**
COLD	**Coldfoot**	**7.71**	**8**	P	**Pn**	**09 38 40.0**	**0.0**
HYT	**Haines Junctio**	**7.77**	**75**	P	**Pn**	**09 38 41.5**	**+0.5**
DAWY	**Dawson**	**7.78**	**49**	*e*Pn	**Pn**	**09 38 42.1**	**+1.1**
SKAG	**Skagway**	**8.94**	**84**	*e*Pn	**Pn**	**09 38 57.8**	**+1.1**
	19nm,0.6s						
DLBC	**Dease Lake**	**11.84**	**86**	P	**Pn**	**09 39 37.4**	**+1.3**
	3.4nm,0.3s,baz=269,slow=7.4,SNR=47						
DLBC				S	**Sn**	**09 41 44.6**	**-1.5**
	0.3nm,0.3s,baz=300,slow=20,SNR=3.6						
INK	**Inuvik**	**12.11**	**36**	P	**Pn**	**09 39 39.3**	**-0.1**
	0.4nm,0.3s,baz=242,slow=17,SNR=5.3						
INK				S	**Sn**	**09 41 49.6**	**-2.6**
	0.1nm,0.3s,baz=51,slow=28,SNR=5.4						
BBB	**Bella Bella**	**15.71**	**107**	P	**P**	**09 40 30.2**	**+2.4**
	0.2nm,0.3s,baz=295,slow=17,SNR=4.7						
YKA	**Yellowknife Ar**	**18.57**	**65**	P	**P**	**09 40 59.2**	**+0.1**
	0.4nm,0.3s,baz=276,slow=9.9,SNR=60						
PETK	**Petropavlovsk-**	**27.55**	**278**	P	**P**	**09 42 28.8**	**+1.4**
	3.1nm,1.0s,baz=76,slow=14,SNR=3.2						
TXAR	**Lajitas Array**	**44.82**	**110**	P	**P**	**09 44 55.4**	**+1.1**
	0.4nm,0.9s,baz=264,slow=1.3,SNR=3.4						
SONM	**Songino Array**	**55.03**	**306**	P	**P**	**09 46 12.3**	**+1.0**
	0.5nm,0.6s,baz=46,slow=4.4,SNR=3.5						
ZALV	**Zalesovo Beam**	**57.69**	**324**	P	**P**	**09 46 29.3**	**-0.6**
	0.7nm,0.5s,baz=36,slow=7.1,SNR=3.3						

KURK	**Kurchatov**	**62.35**	**326**	P	**P**	**09 47 00.4**	**-1.3**
BVAR	**Borovoye Array**	**62.40**	**332**	P	**P**	**09 47 01.6**	**-0.5**
	0.7nm,0.5s,baz=33,slow=5.5,SNR=5.4						
KURBB	**Kurchatov Arra**	**62.45**	**326**	P	**P**	**09 47 00.4**	**-2.0**
	0.3nm,0.4s,baz=32,slow=6.8,SNR=5.0						

IDC 02 09:45:06.6±6.4, 0.80S×100.70E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.1/34, mbtmp3.2/3, 1C, Error ellipse: s-maj=343.2km s-min=27.2km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**27.29**	**58**	⇑*i*P	P	09 50 44.9	-8.2
WRA	**Warramunga Arr**	**38.01**	**122**	P	P	09 52 26.9	+0.1
	0.3nm,0.7s,baz=299,slow=8.5,SNR=3.4						
ASAR	**Alice Springs**	**39.41**	**128**	P	P	09 52 38.2	-0.3
	0.1nm,0.4s,baz=303,slow=8.4,SNR=3.0						
MKAR	**Makanchi Array**	**50.08**	**344**	P	P	09 54 03.2	-0.1
	0.1nm,0.4s,baz=157,slow=7.8,SNR=3.3						

*ISCJB **02** 10:05:41.3±0.5, 60.44N±0.04×177.06W±0.09, h10km, mb3.4/6, MS3.4/8, Error ellipse: s-maj=6.9km s-min=6.1km az=36.8*
*NEIC **02** 10:05:43.9±0.7, 60.38N×177.15W, h10km, ML4.0(AEIC), Error ellipse: s-maj=12.7km s-min=8.1km az=115.0*
*IDC **02** 10:05:44.2±1.9, 60.47N×177.69W, h0km, mb3.4/6, mb1 3.7/8, mb1mx3.4/42, mbtmp3.5/8, ML3.2/1, MS3.3/9, Ms1 3.3/9, ms1mx3.0/30, Error ellipse: s-maj=66.2km s-min=20.8km az=3.0*
ISC 02 10:05:43.4±0.7, 60.42N±0.06×177.19W±0.06, h10km, n24, σ1§17/20, mb3.4/6, MS3.4/8, Bering Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAMB	**Gambell**	**4.24**	**35**	P	**Pn**	**10 06 48.0**	**+0.1**
GAMB				*e*Pg	**Pg**	**10 07 02.3**	**-2.2**
GAMB				S	**Sn**	**10 07 35.0**	**-2.3**
SPIA	**Saint Paul Isl**	**4.86**	**129**	P	**Pn**	**10 06 56.6**	**+0.3**
SPIA				S	**Sn**	**10 07 51.9**	**-0.7**
TNA	**Tin City**	**6.66**	**35**	*e*Pn	**Pn**	**10 07 21.6**	**+0.5**
TNA				*e*Pg	**Pg**	**10 07 52.7**	**+2.0**
TNA				*e*Sg	**Sg**	**10 09 17.9**	**+1.0**
KOKL	**Mount Kliuchef**	**8.28**	**167**	P	**Pn**	**10 07 42.9**	**-0.5**
KOFP	**Korovin Flat P**	**8.34**	**167**	P	**Pn**	**10 07 43.8**	**-0.5**
ILAR	**Eielson Array**	**14.52**	**60**	Pn	**P**	**10 09 15.2**	**-0.1**
	0.1nm,0.3s,baz=271,slow=12,SNR=7.2						
SEY	**Seymchan**	**14.59**	**293**	Pn	**Pn**	**10 09 08.4**	**-1.1**
	baz=162,slow=20						
PEA0B	**Petropavlovsk-**	**15.52**	**253**	*e*P	**Pn**	**10 09 22.9**	**+0.9**
PETK	**Petropavlovsk-**	**15.52**	**253**	Pn	**Pn**	**10 09 22.7**	**+0.7**
	0.4nm,0.3s,baz=72,slow=19,SNR=18						
PETK				LR	LR	10 15 21.1	
	comp=Z,28nm,19.6s,baz=43,slow=38						
DAWY	**Dawson**	**17.79**	**62**	*e*P	**Pn**	**10 09 51.2**	**+0.5**
HYT	**Haines Junctio**	**19.27**	**71**	*e*P	**Pn**	**10 10 09.5**	**+0.6**
YAK	**Yakutsk**	**25.04**	**297**	LR	LR	10 21 55.5	
	comp=Z,85nm,19.7s,baz=90,slow=39						
YKA	**Yellowknife Ar**	**28.95**	**58**	P	P	10 11 45.9	+3.5
	0.3nm,0.8s,baz=292,slow=8.2,SNR=3.2						
PDAR	**Pinedale Array**	**43.41**	**82**	LR	LR	10 33 23.8	
	comp=Z,33nm,18.2s,baz=208,slow=38						
SONM	**Songino Array**	**43.94**	**289**	P	**P**	**10 13 49.5**	**-0.7**
	0.2nm,0.7s,baz=60,slow=8.5,SNR=2.4						
SONM				LR	LR	10 34 13.8	
	comp=Z,76nm,18.5s,baz=93,slow=39						
ULM	**Lac du Bonnet**	**44.45**	**65**	LR	LR	10 34 32.4	
	comp=Z,44nm,18.2s,baz=256,slow=39						
ZALV	**Zalesovo Beam**	**48.74**	**309**	LR	LR	10 36 45.7	
	comp=Z,44nm,18.4s,baz=70,slow=38						
ARCES	**ARCESS Array B**	**49.32**	**350**	LR	LR	10 38 01.7	
	comp=Z,41nm,18.3s,baz=17,slow=39						
KURBB	**Kurchatov Arra**	**53.75**	**310**	P	**P**	**10 15 06.3**	**+1.1**
	0.6nm,0.4s,baz=44,slow=7.9,SNR=4.0						
BVAR	**Borovoye Array**	**54.72**	**317**	P	**P**	**10 15 13.6**	**+1.3**
	0.5nm,0.6s,baz=19,slow=9.2,SNR=2.8						
MKAR	**Makanchi Array**	**55.35**	**305**	P	**P**	**10 15 17.1**	**+0.1**
	0.3nm,0.7s,baz=32,slow=6.0,SNR=3.3						
TXAR	**Lajitas Array**	**56.90**	**88**	P	P	10 15 33.2	+4.8
	0.2nm,0.7s,baz=324,slow=9.0,SNR=3.6						
NOA	**NORSAR Array B**	**58.70**	**355**	LR	LR	10 40 15.0	
	comp=Z,14nm,20.8s,baz=205,slow=35						
AKASG	**Malin Array Be**	**67.20**	**342**	LR	LR	10 49 16.0	
	comp=Z,32nm,20.1s,baz=340,slow=39						

*IDC **02** 10:15:16.1±1.6, 4.12N×127.23E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/25, mbtmp3.6/7, MS3.0/2, Ms1 3.0/2, ms1mx2.6/34, Error ellipse: s-maj=212.1km s-min=16.8km az=68.0*
ISC 02 10:15:21.2±1.4, 4.3N±0.4×12.8E±°, h36km, n9, σ1§32/7, mb3.6/7, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**14.64**	**117**	LR	LR	10 24 43.8	
	comp=Z,103nm,19.0s,baz=222,slow=38						
WRA	**Warramunga Arr**	**24.94**	**165**	P	**P**	**10 20 40.5**	**-0.8**
	1.7nm,0.6s,baz=341,slow=10,SNR=26						
ASAR	**Alice Springs**	**28.43**	**168**	P	**P**	**10 21 12.1**	**-0.6**
	0.3nm,0.4s,baz=342,slow=8.0,SNR=8.5						
MJAR	**Matsushiro Arr**	**33.53**	**15**	LR	LR	10 34 05.9	
	comp=Z,12nm,21.8s,baz=20,slow=33						
STKA	**Stephens Creek**	**38.31**	**161**	P	**P**	**10 22 39.3**	**+0.8**
	0.9nm,0.5s,baz=343,slow=10,SNR=4.4						
SONM	**Songino Array**	**47.09**	**340**	P	**P**	**10 23 50.1**	**+0.4**
	0.4nm,0.6s,baz=168,slow=6.5,SNR=4.1						
MKAR	**Makanchi Array**	**57.66**	**325**	P	**P**	**10 25 06.7**	**-1.3**
	0.2nm,0.4s,baz=119,slow=7.0,SNR=4.6						
ZALV	**Zalesovo Beam**	**60.54**	**332**	P	**P**	**10 25 26.3**	**-1.4**
	0.3nm,0.4s,baz=99,slow=4.5,SNR=2.4						
BVAR	**Borovoye Array**	**67.39**	**327**	P	**P**	**10 26 14.1**	**+1.2**
	0.3nm,0.5s,baz=148,slow=8.5,SNR=3.0						

IDC 02 10:33:57.4±2.2, 2.74N×128.17E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/35, mbtmp3.4/3, Error ellipse: s-maj=150.9km s-min=25.4km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.34**	**165**	P	P	10 39 07.1	-0.4
	0.9nm,0.9s,baz=345,slow=10,SNR=6.7						
ASAR	**Alice Springs**	**26.83**	**168**	P	P	10 39 39.5	-0.1
	0.4nm,0.8s,baz=355,slow=7.5,SNR=4.8						
H11S3	**WAKE ISLAND Hy**	**40.83**	**65**	T	T	11 24 28.2	
	baz=261,slow=74						
H11S2	**WAKE ISLAND Hy**	**40.85**	**65**	T	T	11 24 28.4	
	baz=261,slow=74						
H11S1	**WAKE ISLAND Hy**	**40.85**	**65**	T	T	11 24 30.2	
	baz=261						
H11N1	**WAKE ISLAND Hy**	**41.40**	**63**	T	T	11 25 10.2	
	baz=247,slow=75						
H11N2	**WAKE ISLAND Hy**	**41.41**	**63**	T	T	11 25 05.4	
	baz=247						
H11N3	**WAKE ISLAND Hy**	**41.42**	**63**	T	T	11 25 08.3	
	baz=247,slow=75						
MKAR	**Makanchi Array**	**59.19**	**325**	P	P	10 44 00.5	+0.2
	0.3nm,0.6s,baz=139,slow=5.5,SNR=5.4						

*IDC **02** 10:39:19.1±0.8, 17.00S×173.43W, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.1/22, mbtmp4.1/10, MS3.5/10, Ms1 3.5/10, ms1mx3.3/23, Error ellipse: s-maj=34.1km s-min=19.1km az=128.0*
*ISCJB **02** 10:39:24.7±0.5, 16.97S±0.10×173.6W±0.1, h52km, mb4.3/17, MS3.6/10, Error ellipse: s-maj=20.3km s-min=11.5km az=30.1*
*NEIC **02** 10:39:24.7±0.5, 16.92S×173.54W, h35km, mb4.6/8, Error ellipse: s-maj=19.3km s-min=9.8km az=121.0*
ISC 02 10:39:26.0±0.6, 17.00S±0.1×173.5W±0.2, h52km, n42, σ1§02/32, mb4.3/17, MS3.5/10, 3C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.48**	**28**	*e*Pn	Pn	10 40 08.6	-9.1
MSVF	**Nonsavu**	**8.12**	**264**	*e*Pn	Pn	10 41 31.7	+10
OUZ	**Omahuta**	**21.51**	**210**	*e*P	**P**	**10 44 11.4**	**+0.8**
	146nm,2.2s						
URZ	**Urewera**	**22.74**	**199**	P	**P**	**10 44 23.7**	**0.0**
	8.6nm,0.6s,baz=274,slow=8.0,SNR=8.5						
URZ				LR	LR	10 51 18.0	
	comp=Z,87nm,21.4s,baz=3.0,slow=32						
URZ	**Urewera**	**22.74**	**199**	*e*P	**P**	**10 44 23.2**	**-0.6**
	7.3nm,0.5s						
PPT	**Papeete**	**22.83**	**95**	LR	LR	10 50 31.1	
	comp=Z,126nm,20.2s,baz=274,slow=30						
CTA	**Charters Tower**	**38.24**	**259**	P	**P**	**10 46 41.1**	**-0.3**
	1.1nm,0.4s,baz=324,slow=18,SNR=2.1						
STKA	**Stephens Creek**	**43.20**	**241**	P	**P**	**10 47 22.1**	**0.0**
	1.8nm,0.7s,baz=8.8,slow=6.5,SNR=3.5						
STKA	**Stephens Creek**	**43.20**	**241**	*e*P	**P**	**10 47 23.7**	**+1.6**
	4.4nm,1.6s						
WRAB	**Tennant Creek**	**49.42**	**258**	*e*P	**P**	**10 48 10.7**	**-0.5**
	12nm,1.5s						
WRA	**Warramunga Arr**	**49.43**	**258**	P	**P**	**10 48 10.7**	**-0.5**
	1.1nm,0.5s,baz=97,slow=7.0,SNR=33						
WRA				LR	LR	11 07 00.2	
	comp=Z,122nm,21.3s,baz=195,slow=34						
AS31	**Alice Springs**	**49.56**	**253**	*e*P	**P**	**10 48 11.7**	**-0.5**
ASAR	**Alice Springs**	**49.56**	**253**	P	**P**	**10 48 12.0**	**-0.3**
	4.1nm,0.6s,baz=89,slow=8.4,SNR=96						
GUMO	**Guam**	**51.14**	**304**	LR	LR	11 05 12.6	
	comp=Z,22nm,20.8s,baz=113,slow=30						
SBA	**Scott Base**	**61.67**	**185**	*e*P	**P**	**10 49 39.7**	**+1.6**
	5.4nm,1.1s						
VNDA	**Vanda**	**61.79**	**186**	*e*P	**P**	**10 49 39.9**	**+0.9**
	1.9nm,1.0s						
CASY	**Casey**	**68.94**	**205**	*e*P	**P**	**10 50 22.6**	**-2.7**
	3.2nm,0.5s						
MJAR	**Matsushiro Arr**	**70.11**	**320**	LR	LR	11 16 19.7	
	comp=Z,30nm,21.5s,baz=160,slow=32						
ASAJ	**Asahikawa**	**72.85**	**328**	LR	LR	11 19 10.0	
	comp=Z,14nm,19.2s,baz=156,slow=33						
QSPA	**South Pole Qui**	**73.06**	**180**	P	**P**	**10 50 50.7**	**+0.1**
	1.7nm,0.7s,baz=10,slow=4.4,SNR=6.0						
PETK	**Petropavlovsk-**	**74.12**	**342**	P	**P**	**10 50 58.2**	**+1.6**
	3.8nm,1.0s,baz=134,slow=10,SNR=2.8						
KSRS	**Korea Array**	**77.24**	**316**	LR	LR	11 18 46.1	
	comp=Z,22nm,21.8s,baz=146,slow=31						
USRK	**Ussuriysk Ar.**	**78.61**	**323**	LR	LR	11 19 26.0	
	comp=Z,40nm,20.5s,baz=96,slow=31						
MCK	**McKinley**	**82.69**	**11**	*e*P	**P**	**10 51 43.4**	**-0.3**
	8.2nm,1.0s						
PDAR	**Pinedale Array**	**83.50**	**42**	P	**P**	**10 51 47.9**	**-0.7**
	0.7nm,0.8s,baz=150,slow=1.2,SNR=5.5						
COLA	**College**	**83.93**	**11**	*e*P	**P**	**10 51 50.2**	**+0.2**
	4.9nm,0.9s						
ILAR	**Eielson Array**	**84.01**	**11**	P	**P**	**10 51 50.1**	**-0.3**
	0.7nm,0.8s,baz=228,slow=6.1,SNR=12						
DAWY	**Dawson**	**84.97**	**14**	*e*P	**P**	**10 51 55.9**	**+0.5**
MAW	**Mawson**	**86.27**	**199**	LR	LR	11 27 49.0	
	comp=Z,91nm,19.7s,baz=246,slow=34						
YKA	**Yellowknife Ar**	**91.58**	**23**	P	**P**	**10 52 26.4**	**-0.5**
	0.8nm,0.9s,baz=245,slow=4.2,SNR=8.6						
ULM	**Lac du Bonnet**	**95.21**	**39**	LR	LR	11 29 22.4	
	comp=Z,44nm,18.3s,baz=301,slow=32						
KMBO	**Kilima Mbogo**	**144.76**	**242**	PKP	**PKPdf**	**10 59 00.1**	**+1.6**
	6.0nm,0.8s,baz=52,slow=5.6,SNR=11						
KMBO	**Kilima Mbogo**	**144.76**	**242**	*e*PKPdf	**PKPdf**	**10 58 59.9**	**+1.4**
CLL	**Collm**	**145.38**	**353**	*e*PKPdf	**PKPdf**	**10 58 58.0**	**0.0**
BUR08	**Bucovina Ar. S**	**145.79**	**337**	*e*PKPdf	**PKPab**	**10 59 00.1**	**+0.1**
BR131	**Keskin Array S**	**147.33**	**319**	*e*PKPbc	**PKPab**	**10 59 05.9**	**-0.4**
BRTR	**Keskin Array B**	**147.33**	**319**	PKPbc	**PKPab**	**10 59 06.0**	**-0.3**
	2.4nm,0.7s,baz=116,slow=2.9,SNR=17						
GERES	**GERESS Array B**	**147.70**	**351**	PKPbc	**PKPab**	**10 59 06.6**	**-0.7**
	0.7nm,0.8s,baz=20,slow=3.1,SNR=8.5						
CONA	**Conrad Observa**	**148.21**	**348**	⇑*i*PKiKP	**PKPab**	**10 59 08.0**	**-1.4**
	3.8nm,1.1s						
MOTA	**Moosalm**	**149.50**	**354**	⇑*i*PKiKP	**PKPbc**	**10 59 10.5**	**+0.7**
	6.9nm,1.2s						
DAVA	**Damuels**	**149.66**	**355**	⇑*i*PKiKP	**PKPbc**	**10 59 10.6**	**+0.5**
	6.2nm,0.9s						
CSS	**Prodhromos**	**150.13**	**312**	*e*PKPab	**PKPab**	**10 59 15.9**	**-1.7**

JMA 02 10:59:20.1±0.6, 22.17N×123.64E, h50km, M3.5, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**1.88**	**5**	P	Pn	10 59 51.1	+1.2
HATJ				S	Sn	11 00 12.3	-0.1
JKRS	**Kuro-shima**	**2.09**	**9**	P	Pn	10 59 54.0	+1.4
JKRS				S	Sn	11 00 17.7	+0.3
IRIF	**Iriomote-Funau**	**2.16**	**2**	P	Pn	10 59 55.1	+1.5
IRIF				S	Sn	11 00 20.5	+1.4
JIJ	**Ishigaki jima**	**2.23**	**12**	P	Pn	10 59 55.2	+0.6
JIJ				S	Sn	11 00 19.6	-1.4
YOJ	**Yonaguni jima**	**2.35**	**346**	P	Pn	10 59 58.3	+2.0
YOJ				S	Sn	11 00 25.3	+1.3
JYNG	**Yonagunijimaku**	**2.36**	**344**	P	Pn	10 59 58.2	+1.8
JYNG				S	Sn	11 00 23.9	-0.2
JISG	**Ishigakijimahi**	**2.48**	**14**	P	Pn	10 59 58.2	+0.1
JISG				S	Sn	11 00 26.4	-0.8
JTJ	**Tarama**	**2.65**	**21**	P	Pn	11 00 01.8	+1.5
JTJ				*e*S	Sn	11 00 30.3	-0.9
JIRB	**Irabujima**	**3.00**	**28**	P	Pn	11 00 05.9	+0.8
JIRB				S	Sn	11 00 38.3	-1.5
JOGS	**Gusukube**	**3.05**	**32**	*e*S	Sn	11 00 40.9	-0.1
JKE	**Kume jima 2**	**5.04**	**34**	*e*S	Sn	11 01 25.4	-4.6

*IDC **02** 11:35:30.4±0.8, 39.27N×74.92E, h0km, mb3.6/11, mb1 3.8/16, mb1mx3.7/29, mbtmp3.6/16, ML3.0/4, MS2.9/2, Ms1 2.9/2, ms1mx2.4/29, Error ellipse: s-maj=18.2km s-min=14.7km az=77.0*
*BJI **02** 11:35:31.3, 39.52N×74.77E, h7km, ML3.5/7*
*KRNET **02** 11:35:33.4±0.1, 39.47N×74.92E, h2km, mb3.9*
*NNC **02** 11:35:35.4±1.3, 39.55N×74.84E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=10.9km s-min=4.2km az=169.0*
ISC 02 11:35:34.2±1.5, 39.57N±0.05×74.89E±0.04, h9km±9km, n64, σ2§16/72, mb3.8/14, 23C-18D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**0.84**	**93**	⇓*i*Pg	Pg	11 35 44.4	-6.0
KSH				Sg	Sg	11 35 52.1	-9.2
KSH				SMN			
	3μm,0.8s						
KSH				SME			
	2μm,0.9s						
SFK	**Sufi-Kurgan**	**1.16**	**293**	⇓P	**Pb**	**11 35 56.5**	**0.0**
	115nm,0.3s						
SFK				⇓S	**Sg**	**11 36 12.8**	**+1.4**
	484nm,0.3s						
SALK	**Salom-Alik**	**1.54**	**328**	*e*P	**Pn**	**11 36 02.1**	**+0.1**
	baz=329						
SALK				*e*S	**Sg**	**11 36 26.9**	**+3.1**
	baz=329						
NRN	**Naryn**	**2.04**	**24**	*e*P	**Pb**	**11 36 11.8**	**+0.1**
	baz=22						
NRN				*e*S	**Sg**	**11 36 42.8**	**+2.9**
	baz=22						
CHVK	**Chauvay**	**2.13**	**286**	*e*P	**Pb**	**11 36 13.0**	**-0.1**
	baz=289						
CHVK				*e*S	**Sg**	**11 36 45.0**	**+2.3**
	baz=289						
KZA	**Kyzart**	**2.52**	**6**	P	**Pb**	**11 36 18.6**	**-1.3**
	SNR=13						
KZA	**Kyzart**	**2.52**	**6**	⇓*i*P	**Pb**	**11 36 18.5**	**-1.3**
	baz=5.0						
KZA				⇓*i*S	**Sg**	**11 36 55.2**	**0.0**
	baz=5.0						
UCH	**Uchtor**	**2.67**	**354**	P	**Pb**	**11 36 21.0**	**-1.4**
	SNR=116						
UCH	**Uchtor**	**2.67**	**354**	⇑*i*P	**Pb**	**11 36 20.9**	**-1.5**
	baz=354						
UCH				⇑*i*S	**Sg**	**11 37 00.9**	**+0.9**
	baz=354						
AML	**Almayashu**	**2.71**	**341**	P	**Pb**	**11 36 21.7**	**-1.4**
	SNR=98						
AML	**Almayashu**	**2.71**	**341**	⇓*i*P	**Pb**	**11 36 21.9**	**-1.2**
	baz=341						
AML				⇓*i*S	**Sg**	**11 37 03.8**	**+2.4**
	baz=341						
ULHL	**Ulahol**	**2.86**	**21**	P	**Pb**	**11 36 25.9**	**+0.4**
	SNR=7.2						
ULHL	**Ulahol**	**2.86**	**21**	⇓*i*P	**Pb**	**11 36 23.4**	**-2.2**
	baz=19						
ULHL				⇓*i*S	**Sb**	**11 37 03.2**	**+2.4**
	baz=19						
BOOM	**Boomskoye usch**	**3.02**	**15**	*e*P	**Pn**	**11 36 25.5**	**+3.1**
	baz=14						
BOOM				*e*S	**Sg**	**11 37 12.9**	**+1.6**
	baz=14						
AAK	**Ala-Archa**	**3.07**	**355**	⇑Pn	**Pb**	**11 36 27.1**	**-2.0**
	15nm,0.7s						
AAK				⇓Pg	**Pg**	**11 36 30.8**	**-2.3**
	77nm,0.7s						
AAK				⇑Lg	Lg	11 37 13.1	
	100nm,0.9s						
AAK	**Ala-Archa**	**3.07**	**355**	P	**Pb**	**11 36 27.2**	**-2.0**
	SNR=25						
AAK	**Ala-Archa**	**3.07**	**355**	Pn	**Pb**	**11 36 27.3**	**-1.8**
	4.3nm,0.3s,baz=162,slow=8.2,SNR=62						
AAK				Pg	**Pg**	**11 36 32.2**	**-0.9**
	20nm,0.3s,baz=162,slow=13,SNR=60						
AAK				Lg	Lg	11 37 13.6	
	8.0nm,0.3s,baz=48,slow=20,SNR=7.0						
AAK				LR	LR	11 37 59.8	
	comp=Z,110nm,20.8s,baz=154,slow=44						
AAK	**Ala-Archa**	**3.07**	**355**	⇓*i*P	**Pb**	**11 36 27.2**	**-1.9**
	baz=354						
AAK				⇓*i*S	**Sb**	**11 37 10.8**	**+4.0**
	baz=354						
KBK	**Karagaybulak**	**3.08**	**1**	P	**Pb**	**11 36 27.6**	**-1.8**
	SNR=30						
KBK	**Karagaybulak**	**3.08**	**1**	⇑*i*P	**Pb**	**11 36 27.5**	**-1.8**
	baz=0.0						
KBK				⇑*i*S	**Sb**	**11 37 07.4**	**+0.3**
	baz=0.0						
KDJ	**Kajisay**	**3.09**	**33**	*e*P	**Pb**	**11 36 28.6**	**-0.8**
	baz=32						
BTK	**Batken**	**3.17**	**280**	*e*P	**Pb**	**11 36 31.1**	**+0.3**
	baz=282						
EKS2	**Erkin-Say**	**3.20**	**345**	P	**Pb**	**11 36 29.4**	**-1.8**
	SNR=14						
EKS2	**Erkin-Say**	**3.20**	**345**	⇑*i*P	**Pb**	**11 36 29.1**	**-2.2**
	baz=345						
EKS2				⇑*i*S	**Sg**	**11 37 15.3**	**-1.7**
	baz=345						
EKS	**Erkin-Say**	**3.20**	**345**	*e*P	**Pb**	**11 36 29.4**	**-1.9**
	baz=345						
FRU	**Bishkek**	**3.27**	**356**	*e*P	**Pb**	**11 36 29.5**	**-2.8**
	baz=356						
TKM2	**Tokmak 2**	**3.39**	**9**	⇓Pn	Pn	11 36 31.1	+3.6
	62nm,0.5s						
TKM2				⇓Sn	**Sb**	**11 37 13.2**	**-2.8**
	90nm,0.6s						
TKM2	**Tokmak 2**	**3.39**	**9**	P	Pn	11 36 31.3	+3.8
	SNR=47						
TKM2	**Tokmak 2**	**3.39**	**9**	⇑*i*P	Pn	11 36 31.1	+3.6
	baz=8.0						
TKM2				⇑*i*S	**Sn**	**11 37 12.4**	**+4.5**
	baz=8.0						
CHMS	**Chumysh**	**3.43**	**358**	P	Pb	11 36 31.9	-3.2
	SNR=17						
CHMS	**Chumysh**	**3.43**	**358**	⇑*i*P	Pn	11 36 31.5	+3.7
	baz=358						
CHMS				⇑*i*S	**Sb**	**11 37 16.9**	**+0.1**
	baz=358						
USP	**Ospenovka**	**3.70**	**356**	P	Pn	11 36 35.4	+3.7
	SNR=12						
KNDC	**Almaty**	**3.96**	**23**	⇑Pn	Pn	11 36 39.8	+4.6
	9.6nm,0.5s						
KNDC				⇑Pg	**Pg**	**11 36 48.0**	**-2.1**
	47nm,0.7s						
KNDC				⇑Lg	Lg	11 37 41.5	
	127nm,1.1s						
DZET	**Dzherino**	**4.77**	**263**	⇑Sn	**Sn**	**11 37 45.9**	**+4.0**
	55nm,0.5s						
DZET				⇓Lg	Lg	11 38 08.5	
	199nm,0.9s						
KK31	**Karatay Array**	**4.83**	**318**	⇑Pn	**Pn**	**11 36 49.8**	**+2.7**
	1.3nm,0.5s,baz=127,slow=13,SNR=98						
KK31				Pg	Pb	11 37 02.7	+3.8
	40nm,0.8s,baz=138,slow=16,SNR=36						
KK31				⇓Sn	**Sn**	**11 37 46.4**	**+3.3**
	14nm,0.5s,baz=295,slow=60,SNR=4.5						
KK31				⇑Lg	Lg	11 38 08.1	
	16nm,0.5s,baz=132,slow=29,SNR=4.4						
PDGK	**Podgornoye**	**5.10**	**41**	⇓Pn	**Pn**	**11 36 52.3**	**+1.6**
	8.4nm,0.9s						
PDGK				⇑Pg	**Pb**	**11 37 05.0**	**+1.5**
	27nm,0.7s						
PDGK				⇑Lg	Lg	11 38 18.2	
	46nm,1.1s						
CHCP	**Chirah Chowk**	**6.04**	**193**	P	Pn	11 37 06.6	+2.8
CEP	**Cherat**	**6.21**	**204**	P	**Pn**	**11 37 08.8**	**+2.6**
THW	**Thamme Wali**	**7.22**	**202**	P	**Pn**	**11 37 22.4**	**+2.4**
WMQ	**Urumqi**	**10.47**	**62**	*e*P	**Pn**	**11 38 05.6**	**+1.1**
KURBB	**Kurchatov Arra**	**11.35**	**12**	Pn	**Pn**	**11 38 18.7**	**+2.4**
	0.0nm,0.3s,baz=200,slow=12,SNR=2.8						
GEYT	**Alibeck**	**13.20**	**268**	Pn	**Pn**	**11 38 40.7**	**-1.1**
	baz=82,slow=13,SNR=2.0						
BVA0	**Borovoye Array**	**13.81**	**349**	⇓Pn	P	11 38 54.5	-4.1
	4.7nm,1.4s,baz=157,slow=10,SNR=7.0						
BVAR	**Borovoye Array**	**13.81**	**349**	Pn	P	11 38 55.2	-3.3
	baz=160,slow=11,SNR=5.1						
BVAR				Lg	Lg	11 42 59.3	
	0.1nm,0.3s,baz=147,slow=25,SNR=4.5						
BRVK	**Borovoye**	**13.86**	**348**	⇑Pn	**Pn**	**11 38 54.2**	**+3.6**
	11nm,1.4s						
AB31	**Akbulak array**	**14.39**	**317**	⇑Pn	**Pn**	**11 38 57.5**	**-0.5**
	2.9nm,0.7s,baz=128,slow=13,SNR=8.3						
ZALV	**Zalesovo Beam**	**15.88**	**22**	Pn	**P**	**11 39 20.4**	**-1.2**
	0.2nm,0.3s,baz=208,slow=12,SNR=8.5						
AKTO	**Aktyubinsk**	**16.10**	**318**	⇑Pn	**Pn**	**11 39

IDC 02 11:42:52.9±2.6, 28°96N×141°46E, h0km, mb3.3/4, mb1 3.5/5, mb1mx3.3/29, mbtmp3.3/5, ML3.5/1, Error ellipse: s-maj=109.1km s-min=17.3km az=67.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.96**	**161**	Pn	Pn	11 43 28.1	+0.6
	2.7nm,0.3s,baz=292,slow=19,SNR=3.0						
JCJ				Sn	Sn	11 43 53.7	+0.8
	6.2nm,0.3s,baz=288,slow=20,SNR=4.4						
MJAR	**Matsushiro Arr**	**8.04**	**341**	Pn	Pn	11 44 48.9	-2.1
	0.6nm,0.3s,baz=154,slow=9.7,SNR=9.7						
SONM	**Songino Array**	**32.94**	**315**	P	P	11 49 30.0	+0.7
	0.1nm,0.4s,baz=120,slow=8.5,SNR=2.5						
MKAR	**Makanchi Array**	**48.81**	**308**	P	P	11 51 39.9	0.0
	0.2nm,0.5s,baz=98,slow=7.0,SNR=3.4						
WRA	**Warramunga Arr**	**49.10**	**189**	P	P	11 51 41.9	-0.3
	0.4nm,0.6s,baz=7.7,slow=8.4,SNR=6.9						
ASAR	**Alice Springs**	**52.83**	**189**	P	P	11 52 09.8	-0.5
	0.3nm,1.0s,baz=359,slow=5.3,SNR=7.2						

IDC 02 11:44:08.0±5.5, 20°92S×175°50W, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.4/18, mbtmp3.4/2, Error ellipse: s-maj=330.9km s-min=77.8km az=156.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**46.70**	**257**	P	P	11 52 38.8	-0.2
	0.3nm,0.7s,baz=90,slow=6.5,SNR=6.9						
WRA	**Warramunga Arr**	**46.86**	**262**	P	P	11 52 40.1	-0.1
	0.4nm,0.7s,baz=100,slow=8.6,SNR=6.2						
AKASG	**Malin Array Be**	**144.49**	**333**	PKP	PKPdf	12 03 45.5	-0.7
	0.6nm,0.5s,baz=36,slow=3.1,SNR=5.9						

*IDC **02** 11:48:57.1±3.1, 30°72S×177°54W, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.8/19, mbtmp3.9/5, ML3.1/1, Error ellipse: s-maj=65.1km s-min=24.6km az=108.0*

ISC 02 11:49:01.0±2.7, 30°67S±0°09×177°5W±0°4, h33km, n7, σ1§43/9, mb4.0/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.45**	**346**	Pn	**Pn**	**11 49 25.2**	**+0.3**
	88nm,0.3s,baz=44,slow=14,SNR=6.6						
RAO				Sn	**Sn**	**11 49 40.6**	**-2.2**
	262nm,0.3s,baz=26,slow=22,SNR=8.1						
URZ	**Urewera**	**8.78**	**209**	Pn	**Pn**	**11 51 04.0**	**-1.5**
	0.2nm,0.3s,baz=25,slow=17,SNR=6.2						
URZ				Sn	**Sn**	**11 52 42.5**	**-0.7**
	0.8nm,0.3s,baz=91,slow=20,SNR=7.7						
CTA	**Charters Tower**	**34.25**	**279**	P	**P**	**11 55 43.7**	**-0.4**
	4.4nm,0.8s,baz=119,slow=10,SNR=3.8						
STKA	**Stephens Creek**	**34.82**	**257**	P	**P**	**11 55 50.1**	**+1.2**
	2.2nm,0.8s,baz=98,slow=9.2,SNR=4.0						
ASAR	**Alice Springs**	**43.51**	**267**	P	**P**	**11 57 02.9**	**+1.3**
	0.1nm,0.3s,baz=104,slow=7.4,SNR=9.2						
WRA	**Warramunga Arr**	**44.52**	**272**	P	**P**	**11 57 10.8**	**+1.1**
	0.8nm,0.5s,baz=110,slow=8.1,SNR=38						
FINES	**FINESS Array B**	**145.53**	**340**	PKPbc	**PKPab**	**12 08 35.9**	**+0.4**
	3.6nm,1.0s,baz=29,slow=3.2,SNR=4.6						

*ISCJB **02** 12:20:31.4±0.5, 31°92N±0°02×114°97W±0°03, h7km±5km, Error ellipse: s-maj=4.3km s-min=3.6km az=11.8*
*NEIC **02** 12:20:33.6, 31°89N×115°01W, h8km, MD3.7(MEX), ML3.5(PAS), ML3.6(ECX), After ECX.*
*ECX **02** 12:20:33.6±0.6, 31°89N×115°00W, h8km, MD3.4, ML3.6*
*MEX **02** 12:20:34.6±0.6, 32°02N×115°18W, h15km, MD3.7*

ISC 02 12:20:32.1±1.1, 31°90N±0°02×115°01W±0°03, h8km±10km, n33, σ1§00/52, 8D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECBX	**El Chinero**	**0.42**	**185**	⇓*e*P	**Pg**	**12 20 40.6**	**+0.3**
ECBX				*e*S	**Sg**	**12 20 46.3**	**+0.4**
ECBX				⇓*e*		12 20 46.8	
	comp=N,2μm,0.4s						
MBIG	**Mexicali**	**0.53**	**342**	*i* P	**Pg**	**12 20 41.7**	**-0.7**
MBIG				*i* S	**Sg**	**12 20 47.1**	**-2.4**
CPBX	**Cerro Prieto**	**0.58**	**334**	*e*P	**Pb**	**12 20 44.5**	**+0.1**
CPBX				*e*S	**Sb**	**12 20 52.1**	**-0.7**
CPBX	**Cerro Prieto**	**0.58**	**334**	*e*P	**Pb**	**12 20 44.4**	**-0.1**
CPBX				*e*S	**Sb**	**12 20 52.1**	**-0.7**
CPBX				⇓*e*		12 20 55.3	
	comp=E,24μm,0.2s						
YMD	**Yuma Desert**	**0.77**	**31**	*i* P	**Pg**	**12 20 46.8**	**0.0**
YMD	**Yuma Desert**	**0.77**	**31**	⇓*i* P	**Pg**	**12 20 46.8**	**0.0**
YMD				⇓*i* P	**Pg**	**12 20 46.8**	**0.0**
RDX	**Rancho Dawling**	**0.80**	**273**	*e*P	**Pg**	**12 20 47.6**	**+0.2**
RDX				*e*S	**Sg**	**12 20 58.5**	**+0.8**
RDX	**Rancho Dawling**	**0.80**	**273**	*e*P	**Pg**	**12 20 47.6**	**+0.2**
RDX				*e*S	**Sg**	**12 20 58.5**	**+0.8**
RDX				⇓*e*		12 20 59.1	
	comp=N,1μm,0.6s						
EMSC	**East Mesa**	**0.84**	**1**	*i* P	**Pg**	**12 20 48.2**	**0.0**
EMSC	**East Mesa**	**0.84**	**1**	⇓*i* P	**Pg**	**12 20 48.2**	**0.0**
EMSC				⇓*i* P	**Pg**	**12 20 48.2**	**0.0**
SPIG	**San Pedro Mart**	**0.93**	**205**	*e*P	**Pg**	**12 20 50.0**	**-0.1**
SPIG				*i* S	**Sb**	**12 21 03.6**	**+0.3**
SPIG	**San Pedro Mart**	**0.93**	**205**	*e*P	**Pg**	**12 20 50.0**	**-0.1**
SPIG				*i* S	**Sb**	**12 21 03.6**	**+0.3**
SPX	**San Pedro Mart**	**0.93**	**205**	*e*P	**Pg**	**12 20 50.2**	**+0.2**
SPX				*e*S	**Sb**	**12 21 03.1**	**-0.3**
SPX	**San Pedro Mart**	**0.93**	**205**	*e*P	**Pg**	**12 20 50.2**	**+0.2**
SPX				*e*S	**Sb**	**12 21 03.1**	**-0.3**
ZAX	**El Zacaton**	**1.14**	**251**	*e*P	**Pb**	**12 20 53.2**	**-0.9**
ZAX				*e*S	**Sb**	**12 21 08.6**	**-0.6**
RMX	**La Rumorosa**	**1.15**	**308**	*e*P	**Pb**	**12 20 53.5**	**-0.8**
RMX	**La Rumorosa**	**1.15**	**308**	*e*P	**Pb**	**12 20 53.5**	**-0.8**
GLA	**Glamis**	**1.16**	**8**	*e*Pg	**Pb**	**12 20 52.5**	**-1.9**
GLA				*e*Sg	**Sb**	**12 21 09.9**	**+0.1**
ECNX	**Esteban Cantu**	**1.38**	**260**	*e*P	**Pn**	**12 20 57.1**	**-0.6**
ECNX	**Esteban Cantu**	**1.38**	**260**	*e*P	**Pn**	**12 20 57.1**	**-0.6**
CBX	**Cerro Bola**	**1.47**	**287**	*e*P	Pn	12 20 54.0	-4.9
CBX				*i* S	Sn	12 21 10.1	-8.3
CBX	**Cerro Bola**	**1.47**	**287**	*e*P	**Pb**	**12 20 59.4**	**-0.2**
CBX				*e*S	**Sb**	**12 21 18.7**	**+0.2**
CBX	**Cerro Bola**	**1.47**	**287**	*e*P	**Pb**	**12 20 59.4**	**-0.2**
CBX				*e*S	**Sb**	**12 21 18.7**	**+0.2**
PBX	**Punta Banda**	**1.47**	**264**	*e*P	**Pb**	**12 20 59.2**	**-0.4**
PBX	**Punta Banda**	**1.47**	**264**	*e*P	**Pb**	**12 20 59.2**	**-0.4**
BAR	**Barrett**	**1.61**	**299**	*e*Pn	**Pn**	**12 20 59.6**	**-1.3**
BAR				*e*Sn	**Sb**	**12 21 22.6**	**0.0**
214A	**Organ Pipe Nat**	**1.87**	**88**	*e*Pn	**Pn**	**12 21 02.2**	**-2.2**
214A				*e*Sg	**Sg**	**12 21 35.3**	**+3.1**
PFO	**Pinyon Flats O**	**2.10**	**325**	*e*Pn	**Pn**	**12 21 09.0**	**+1.3**
TUC	**Tucson**	**3.61**	**82**	*e*Pn	**Pn**	**12 21 27.8**	**-0.6**
TUC				*i* S	**Sn**	**12 22 12.2**	**+1.0**
GSC	**Goldstone, Bar**	**3.71**	**337**	*e*Pg	**Pg**	**12 21 43.8**	**+0.6**
SHPR	**Sheep Range**	**4.60**	**358**	*e*Pn	**Pn**	**12 21 42.6**	**+0.5**
SHPR				*e*Sg	**Sg**	**12 23 02.8**	**+3.0**
WUAZ	**Wupatki**	**4.71**	**39**	*e*Pn	**Pn**	**12 21 44.2**	**+0.6**
121A	**Cookes Peak, D**	**6.15**	**82**	*e*Pn	**Pn**	**12 22 02.0**	**-1.4**
	comp=N,3.8nm,0.4s						

*BJI **02** 12:24:30.2, 35°49N×24°25E, h45km, mb4.7/17, mB4.8/9, Ms4.7/5, Ms7 4.4/2*
*DDA **02** 12:24:32.7, 35°86N×24°30E, h27km, ML4.6*
*MOS **02** 12:24:36.0±1.2, 35°67N×24°68E, h78km, mb4.7/37, Error ellipse: s-maj=5.4km s-min=3.1km az=112.2*
*ISCJB **02** 12:24:36.9±0.2, 35°74N±0°02×24°70E±0°02, h87km±1km, mb4.3/54, Error ellipse: s-maj=2.8km s-min=2.1km az=13.0*
*NEIC **02** 12:24:37.7, 35°86N×24°75E, h39km, mb4.3/26, After ATH.*
NEIC Felt at Chania and Irakleion.
*IDC **02** 12:24:37.1±0.8, 35°84N×24°77E, h70km±7km, mb4.1/25, mb1 4.2/35, mb1mx4.1/49, mbtmp4.3/35, MS2.9/9, Ms1 2.9/9, ms1mx2.7/43, Error ellipse: s-maj=11.3km s-min=9.5km az=157.0*
*ATH **02** 12:24:37.8, 35°85N×24°75E, h39km±1km, ML4.2*
*CSEM **02** 12:24:37.7±0.1, 35°71N×24°68E, h80km, mb4.4/29, Ms2.6, Error ellipse: s-maj=3.5km s-min=2.1km az=11.0*
*THE **02** 12:24:39.1, 35°78N×24°68E, h57km±3km, ML4.4/5, Error ellipse: s-maj=3.1km s-min=0.7km az=169.0*
*NIC **02** 12:24:43.8, 35°76N×25°44E, h40km, mb4.7, ML4.2*

ISC 02 12:24:37.7±0.3, 35°77N±0°02×24°68E±0°02, h75km±3km, h74km; pP-P, n858, σ1§28/914, mb4.4/54, 23C-22D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDI	**Anoyia**	**0.51**	**160**	P	**Pn**	**12 24 51.3**	**+0.1**
	838nm,0.3s,baz=340,slow=10,SNR=5165						
IDI				S	**Sn**	**12 25 00.9**	**-0.1**
	4μm,0.3s,baz=330,slow=20,SNR=97						
IDI				LR	LR	12 25 17.6	
	comp=Z,1μm,18.0s,baz=54,slow=72						
VAM	**Vamos**	**0.53**	**228**	P	**Pn**	**12 24 50.6**	**-0.7**
VAM				S	**Sn**	**12 24 59.6**	**-1.7**
VAM	**Vamos**	**0.53**	**228**	*e*PN	**Pn**	**12 24 50.6**	**-0.7**
VAM				*e*SN	**Sn**	**12 25 00.4**	**-0.9**
VAM	**Vamos**	**0.53**	**228**	P	**Pn**	**12 24 50.6**	**-0.7**
VAM				S	**Sn**	**12 24 59.6**	**-1.7**
VAM	**Vamos**	**0.53**	**228**	P	**Pn**	**12 24 50.6**	**-0.7**
VAM				S	**Sn**	**12 24 59.6**	**-1.7**
VAM				*e*Sn	Sn	12 25 00.4	-0.9
VAM	**Vamos**	**0.53**	**228**	P	**Pn**	**12 24 50.6**	**-0.7**
VAM				S	**Sn**	**12 24 59.6**	**-1.7**
KARN	**Karanos**	**0.72**	**240**	*e*PN	**Pn**	**12 24 54.4**	**+1.1**
KARN				*e*SN	**Sn**	**12 25 05.9**	**+1.1**
KARN	**Karanos**	**0.72**	**240**	*e*Pn	**Pn**	**12 24 54.4**	**+1.1**
KARN				*e*Sn	**Sn**	**12 25 05.9**	**+1.1**
SIVA	**Sivas**	**0.76**	**172**	*e*PN	**Pn**	**12 24 54.8**	**+1.2**
SIVA	**Sivas**	**0.76**	**172**	*e*Pn	**Pn**	**12 24 54.8**	**+1.2**
THR6	**Thira Island,**	**0.83**	**44**	P	**Pn**	**12 24 55.0**	**+0.6**
THR6	**Thira Island,**	**0.83**	**44**	P	**Pn**	**12 24 55.0**	**+0.6**
THR6	**Thira Island,**	**0.83**	**44**	P	**Pn**	**12 24 55.0**	**+0.6**
THR1	**Thera Island**	**0.87**	**46**	P	**Pn**	**12 24 55.4**	**+0.4**
THR1	**Thera Island**	**0.87**	**46**	P	**Pn**	**12 24 55.4**	**+0.4**
SANT	**Santorini**	**0.87**	**46**	P	**Pn**	**12 24 55.0**	**0.0**
SANT				S	**Sn**	**12 25 07.4**	**-0.4**
SANT	**Santorini**	**0.87**	**46**	P	**Pn**	**12 24 55.0**	**0.0**
SANT				S	**Sn**	**12 25 07.4**	**-0.4**
SANT	**Santorini**	**0.87**	**46**	*e*Pn	**Pn**	**12 24 55.3**	**+0.3**
SANT				*e*Sn	**Sn**	**12 25 07.2**	**-0.6**
LAST	**Lasithi**	**0.89**	**133**	P	**Pn**	**12 24 55.7**	**+0.5**
LAST	**Lasithi**	**0.89**	**133**	*e*PN	**Pn**	**12 24 55.7**	**+0.5**
LAST				*e*SN	**Sn**	**12 25 08.5**	**+0.3**
LAST	**Lasithi**	**0.89**	**133**	P	**Pn**	**12 24 55.7**	**+0.5**
LAST				*e*Sn	**Sn**	**12 25 08.5**	**+0.3**
LAST	**Lasithi**	**0.89**	**133**	P	**Pn**	**12 24 55.7**	**+0.5**
NPS	**Neapolis**	**0.91**	**123**	P	**Pn**	**12 24 55.1**	**-0.3**
NPS	**Neapolis**	**0.91**	**123**	*e*PN	**Pn**	**12 24 55.4**	**0.0**
NPS				*e*SN	**Sn**	**12 25 08.2**	**-0.4**
NPS	**Neapolis**	**0.91**	**123**	P	**Pn**	**12 24 55.1**	**-0.3**
NPS	**Neapolis**	**0.91**	**123**	P	**Pn**	**12 24 55.1**	**-0.3**
NPS	**Neapolis**	**0.91**	**123**	*e*PN	**Pn**	**12 24 55.4**	**0.0**
NPS				*e*Sn	**Sn**	**12 25 08.2**	**-0.4**
NPS	**Neapolis**	**0.91**	**123**	P	**Pn**	**12 24 55.1**	**-0.3**
THR2	**Thira island,**	**0.91**	**42**	P	**Pn**	**12 24 56.2**	**+0.8**
THR2	**Thira island,**	**0.91**	**42**	P	**Pn**	**12 24 56.2**	**+0.8**
THR2	**Thira island,**	**0.91**	**42**	P	**Pn**	**12 24 56.3**	**+0.8**
GVD	**Gavdhos**	**1.05**	**208**	P	**Pn**	**12 24 58.4**	**+1.4**
GVD	**Gavdhos**	**1.05**	**208**	*e*PB	**Pn**	**12 24 58.5**	**+1.4**
GVD				*e*SN	**Sn**	**12 25 15.2**	**+3.7**
GVD	**Gavdhos**	**1.05**	**208**	*e*Pb	**Pn**	**12 24 58.5**	**+1.4**
GVD				*e*Sn	**Sn**	**12 25 15.2**	**+3.7**
GVD	**Gavdhos**	**1.05**	**208**	*e*Pn	**Pn**	**12 24 58.3**	**+1.2**
GVD				*e*Sn	**Sn**	**12 25 14.4**	**+3.0**
ANKY	**Antikythira Is**	**1.13**	**276**	P	**Pn**	**12 24 58.8**	**+0.8**
ANKY				S	**Sn**	**12 25 13.1**	**-0.2**
ANKY	**Antikythira Is**	**1.13**	**276**	*e*PB	**Pn**	**12 24 59.0**	**+0.9**
ANKY				*e*SN	**Sn**	**12 25 13.1**	**+0.8**
ANKY	**Antikythira Is**	**1.13**	**276**	P	**Pn**	**12 24 58.8**	**+0.8**
ANKY				S	**Sn**	**12 25 13.1**	**-0.2**
ANKY				*e*Sn	Sn	12 25 14.1	+0.8
ANKY	**Antikythira Is**	**1.13**	**276**	P	**Pn**	**12 24 58.8**	**+0.8**
ANKY				S	**Sn**	**12 25 13.1**	**-0.2**
ZKR	**Zakros**	**1.41**	**117**	P	**Pn**	**12 25 02.5**	**+0.8**
ZKR	**Zakros**	**1.41**	**117**	*e*PN	**Pn**	**12 25 02.6**	**+0.8**
ZKR				*e*SN	**Sn**	**12 25 19.9**	**+0.1**
ZKR	**Zakros**	**1.41**	**117**	P	**Pn**	**12 25 02.5**	**+0.8**
ZKR				*e*Sn	**Sn**	**12 25 19.9**	**+0.1**
ZKR	**Zakros**	**1.41**	**117**	P	**Pn**	**12 25 02.5**	**+0.8**
KYTH	**Kithira**	**1.43**	**292**	P	**Pn**	**12 25 02.3**	**+0.3**
KYTH	**Kithira**	**1.43**	**292**	*e*PN	**Pn**	**12 25 02.3**	**+0.3**
KYTH	**Kithira**	**1.43**	**292**	P	**Pn**	**12 25 02.3**	**+0.3**
KYTH	**Kithira**	**1.43**	**292**	P	**Pn**	**12 25 02.3**	**+0.3**
APE	**Apeiranthos**	**1.47**	**28**	*e*PN	**Pn**	**12 25 02.9**	**+0.4**
APE				*e*SN	**Sn**	**12 25 20.6**	**-0.2**
APE	**Apeiranthos**	**1.47**	**28**	P	**Pn**	**12 25 02.6**	**+0.1**
APE				S	**Sn**	**12 25 21.0**	**-0.2**
APE	**Apeiranthos**	**1.47**	**28**	*e*PN	**Pn**	**12 25 02.7**	**+0.2**
APE	**Apeiranthos**	**1.47**	**28**	*d* iP	**Pn**	**12 25 02.3**	**-0.2**
APE	**Apeiranthos**	**1.47**	**28**	⇓*i* P	**Pn**	**12 25 02.6**	**+0.1**
APE				S	**Sn**	**12 25 20.9**	**-0.2**
APE	**Apeiranthos**	**1.47**	**28**	P	**Pn**	**12 25 02.6**	**+0.1**
APE				S	**Sn**	**12 25 21.0**	**-0.2**
APE	**Apeiranthos**	**1.47**	**28**	P	**Pn**	**12 25 02.6**	**+0.1**
APE				S	**Sn**	**12 25 21.0**	**-0.2**
VLI	**Veliai**	**1.70**	**304**	P	**Pn**	**12 25 06.1**	**+0.6**
VLI				S	**Sn**	**12 25 26.2**	**-0.4**
VLI	**Veliai**	**1.70**	**304**	*e*PN	**Pn**	**12 25 06.1**	**+0.6**
VLI	**Veliai**	**1.70**	**304**	P	**Pn**	**12 25 06.1**	**+0.6**
VLI				S	**Sn**	**12 25 26.2**	**-0.4**
VLI	**Veliai**	**1.70**	**304**	P	**Pn**	**12 25 06.1**	**+0.6**
VLI				S	**Sn**	**12 25 26.2**	**-0.4**
KARP	**Karpathos**	**2.03**	**95**	P	**Pn**	**12 25 10.3**	**+0.1**
KARP				S	**Sn**	**12 25 33.5**	**-1.0**
KARP	**Karpathos**	**2.03**	**95**	*e*PN	**Pn**	**12 25 10.1**	**+0.1**
KARP				*e*SN	**Sn**	**12 25 34.5**	**0.0**
KARP	**Karpathos**	**2.03**	**95**	P	**Pn**	**12 25 10.0**	**+0.1**
KARP				S	**Sn**	**12 25 33.5**	**-1.0**
KARP				*e*Sn	Sn	12 25 34.5	0.0
KARP	**Karpathos**	**2.03**	**95**	P	**Pn**	**12 25 10.3**	**+0.4**
KARP				S	**Sn**	**12 25 33.0**	**-1.5**
NAIG	**Nisos Aigina**	**2.21**	**335**	*e*PN	**Pn**	**12 25 13.4**	**+1.1**
NAIG	**Nisos Aigina**	**2.21**	**335**	*e*Pn	**Pn**	**12 25 13.4**	**+1.1**
ATHU	**Athens Univers**	**2.31**	**342**	P	**Pn**	**12 25 14.8**	**+1.1**
ATHU				S	**Sn**	**12 25 41.8**	**+0.6**
ATHU	**Athens Univers**	**2.31**	**342**	P	**Pn**	**12 25 14.8**	**+1.1**
ATHU				S	**Sn**	**12 25 41.8**	**+0.6**
ATHU	**Athens Univers**	**2.31**	**342**	P	**Pn**	**12 25 14.8**	**+1.1**
ATHU				S	**Sn**	**12 25 41.8**	**+0.6**
ATH	**Athens Observa**	**2.33**	**341**	P	**Pn**	**12 25 15.1**	**+1.1**
ATH	**Athens Observa**	**2.33**	**341**	*e*PN	**Pn**	**12 25 15.3**	**+1.3**
ATH	**Athens Observa**	**2.33**	**341**	P	**Pn**	**12 25 15.3**	**+1.3**
ATH	**Athens Observa**	**2.33**	**341**	P	**Pn**	**12 25 15.1**	**+1.1**
ATH	**Athens Observa**	**2.33**	**341**	P	**Pn**	**12 25 15.3**	**+1.3**
PTL	**Penteli**	**2.37**	**344**	P	**Pn**	**12 25 15.9**	**+1.4**
PTL	**Penteli**	**2.37**	**344**	*e*PB	**Pn**	**12 25 15.9**	**+1.4**
PTL				*e*SN	**Sn**	**12 25 42.3**	**-0.3**
PTL	**Penteli**	**2.37**	**344**	P	**Pn**	**12 25 15.9**	**+1.4**
PTL				*e*Sn	**Sn**	**12 25 42.3**	**-0.3**
PTL	**Penteli**	**2.37**	**344**	P	**Pn**	**12 25 16.0**	**+1.4**
VLX	**Vlachokerasia**	**2.45**	**311**	P	**Pn**	**12 25 16.8**	**+1.2**
VLX	**Vlachokerasia**	**2.45**	**311**	*e*PN	**Pn**	**12 25 16.9**	**+1.3**
VLX	**Vlachokerasia**	**2.45**	**311**	P	**Pn**	**12 25 16.8**	**+1.2**
VLX	**Vlachokerasia**	**2.45**	**311**	P	**Pn**	**12 25 16.8**	**+1.2**
BODT	**Bodrum**	**2.48**	**58**	*e*PN	**Pn**	**12 25 16.7**	**+0.7**
BODT	**Bodrum**	**2.48**	**58**	*e*Pn	**Pn**	**12 25 16.7**	**+0.7**
DAT	**Datca**	**2.53**	**67**	*e*PN	**Pn**	**12 25 17.5**	**+0.8**
DAT	**Datca**	**2.53**	**67**	*e*Pn	**Pn**	**12 25 17.5**	**+0.8**
BDRM	**Kayabasi**	**2.58**	**59**	*i* P	**Pn**	**12 25 17.6**	**+0.3**
BDRM				*i* S	**Sn**	**12 25 47.0**	**-0.6**
BDRM	**Kayabasi**	**2.58**	**59**	*i* P	**Pn**	**12 25 17.6**	**+0.3**
BDRM				*i* S	**Sn**	**12 25 47.0**	**-0.6**
SMG	**Samos**	**2.60**	**41**	P	**Pn**	**12 25 18.2**	**+0.6**
SMG	**Samos**	**2.60**	**41**	*e*PN	**Pn**	**12 25 18.2**	**+0.6**
SMG	**Samos**	**2.60**	**41**	P	**Pn**	**12 25 18.2**	**+0.6**
SMG	**Samos**	**2.60**	**41**	P	**Pn**	**12 25 18.2**	**+0.6**
PYL	**PYLOS**	**2.63**	**296**	P	**Pn**	**12 25 18.2**	**+0.3**
PYL	**PYLOS**	**2.63**	**296**	*e*PN	**Pn**	**12 25 18.2**	**+0.3**
PYL	**PYLOS**	**2.63**	**296**	P	**Pn**	**12 25 18.2**	**+0.3**
PYL	**PYLOS**	**2.63**	**296**	P	**Pn**	**12 25 18.2**	**+0.3**
ITM	**Ithomi**	**2.63**	**303**	P	**Pn**	**12 25 19.4**	**+1.4**
ITM	**Ithomi**	**2.63**	**303**	*e*PN	**Pn**	**12 25 19.6**	**+1.6**
ITM	**Ithomi**	**2.63**	**303**	P	**Pn**	**12 25 19.4**	**+1.4**
ITM	**Ithomi**	**2.63**	**303**	P	**Pn**	**12 25 19.6**	**+1.6**
LTK	**Loutraki**	**2.64**	**329**	P	**Pn**	**12 25 19.2**	**+1.1**
LTK	**Loutraki**	**2.64**	**329**	*e*PN	**Pn**	**12 25 19.3**	**+1.1**
LTK				*e*SN	**Sn**	**12 25 50.1**	**+1.0**
LTK	**Loutraki**	**2.64**	**329**	P	**Pn**	**12 25 19.2**	**+1.1**
LTK				*e*Sn	**Sn**	**12 25 50.1**	**+1.0**
LTK	**Loutraki**	**2.64**	**329**	P	**Pn**	**12 25 19.2**	**+1.1**
GCAM	**G?zelcami?**	**2.81**	**46**	*i* P	**Pn**	**12 25 20.6**	**+0.2**
GCAM				*i* S	**Sn**	**12 25 54.8**	**+1.5**
GCAM	**G?zelcami?**	**2.81**	**46**	*i* P	**Pn**	**12 25 20.6**	**+0.2**
GCAM				*i* S	**Sn**	**12 25 54.8**	**+1.5**
ARG	**Arkhangelos**	**2.83**	**80**	P	**Pn**	**12 25 21.7**	**+1.1**
ARG	**Arkhangelos**	**2.83**	**80**	*e*PN	**Pn**	**12 25 21.8**	**+1.1**
ARG				*e*SN	**Sn**	**12 25 53.3**	**-0.4**
ARG	**Arkhangelos**	**2.83**	**80**	P	**Pn**	**12 25 21.7**	**+1.1**
ARG	**Arkhangelos**	**2.83**	**80**	P	**Pn**	**12 25 21.7**	**+1.1**
ARG				*e*Sn	**Sn**	**12 25 53.3**	**-0.4**
ARG	**Arkhangelos**	**2.83**	**80**	P	**Pn**	**12 25 21.7**	**+1.1**
CHOS	**Chios island**	**2.84**	**22**	*e*PN	**Pn**	**12 25 21.8**	**+1.0**
CHOS	**Chios island**	**2.84**	**22**	P	**Pn**	**12 25 21.4**	**+0.6**
CHOS				S	**Sn**	**12 25 55.1**	**+1.1**
CHOS	**Chios island**	**2.84**	**22**	*e*PN	**Pn**	**12 25 21.2**	**+0.4**
CHOS	**Chios island**	**2.84**	**22**	P	**Pn**	**12 25 21.4**	**+0.6**
CHOS				S	**Sn**	**12 25 55.1**	**+1.1**
CHOS	**Chios island**	**2.84**	**22**	P	**Pn**	**12 25 21.4**	**+0.6**
CHOS				S	**Sn**	**12 25 55.1**	**+1.1**
GUR	**Goura**	**2.87**	**320**	P	**Pn**	**12 25 22.1**	**+0.8**
GUR	**Goura**	**2.87**	**320**	*e*PN	**Pn**	**12 25 22.1**	**+0.8**
GUR				*e*SN	**Sn**	**12 25 56.2**	**+1.4**
GUR	**Goura**	**2.87**	**320**	P	**Pn**	**12 25 22.1**	**+0.8**
GUR				*e*Sn	**Sn**	**12 25 56.2**	**+1.4**
GUR	**Goura**	**2.87**	**320**	P	**Pn**	**12 25 22.1**	**+0.8**
ZEY	**˙zmir**	**2.87**	**30**	*i* P	**Pn**	**12 25 21.0**	**-0.2**
ZEY				*i* S	**Sn**	**12 25 55.0**	**+0.4**
AMT	**Artemida-Makis**	**2.97**	**307**	P	**Pn**	**12 25 23.9**	**+1.3**
AMT	**Artemida-Makis**	**2.97**	**307**	*e*PN	**Pn**	**12 25 24.1**	**+1.5**
AMT	**Artemida-Makis**	**2.97**	**307**	P	**Pn**	**12 25 23.9**	**+1.3**
URLA	**Izmir**	**3.01**	**30**	*i* P	**Pn**	**12 25 23.1**	**0.0**
URLA				*i* S	**Sn**	**12 25 55.8**	**-2.3**
URLA	**Izmir**	**3.01**	**30**	*i* P	**Pn**	**12 25 23.1**	**0.0**
URLA				*i* S	**Sn**	**12 25 55.8**	**-2.3**
KLV	**Kalavryta, Ach**	**3.05**	**319**	P	**Pn**	**12 25 24.5**	**+0.8**
KLV	**Kalavryta, Ach**	**3.05**	**319**	*e*PN	**Pn**	**12 25 24.8**	**+1.1**
KLV	**Kalavryta, Ach**	**3.05**	**319**	P	**Pn**	**12 25 24.5**	**+0.8**
KLV	**Kalavryta, Ach**	**3.05**	**319**	*e*Pn	**Pn**	**12 25 24.8**	**+1.1**
KLV	**Kalavryta, Ach**	**3.05**	**319**	P	**Pn**	**12 25 24.5**	**+0.8**
MRKA	**Markates**	**3.06**	**344**	P	**Pn**	**12 25 25.2**	**+1.4**
MRKA	**Markates**	**3.06**	**344**	*e*PN	**Pn**	**12 25 25.1**	**+1.3**
MRKA	**Markates**	**3.06**	**344**	*e*Pn	**Pn**	**12 25 25.1**	**+1.3**
DSF	**Desfina**	**3.15**	**328**	P	**Pn**	**12 25 25.6**	**+0.5**
DSF	**Desfina**	**3.15**	**328**	*e*PN	**Pn**	**12 25 25.7**	**+0.6**
DSF	**Desfina**	**3.15**	**328**	*e*Pn	**Pn**	**12 25 25.7**	**+0.6**
DSF	**Desfina**	**3.15**	**328**	P

GOLH Golhisar 4.20 68 *i* P **Pn** 12 25 41.0 +1.7
GOLH *i* S **Sn** 12 26 26.2 -1.0
GOLH Golhisar 4.20 68 *i* P **Pn** 12 25 41.0 +1.7
GOLH *i* S **Sn** 12 26 26.2 -1.0
KULA Kula-Manisa 4.20 48 *e*PN **Pn** 12 25 41.5 +2.1
KULA Kula-Manisa 4.20 48 P **Pn** 12 25 40.9 +1.5
KULA Kula-Manisa 4.20 48 P **Pn** 12 25 40.9 +1.5
KULA Kula-Manisa 4.20 48 *e*Pn **Pn** 12 25 41.5 +2.1
KULA Kula-Manisa 4.20 48 P **Pn** 12 25 40.9 +1.5
BOZC Bozcaada 4.21 15 *i* P **Pn** 12 25 39.3 -0.2
PAIG Paliouri 4.23 349 P **Pn** 12 25 40.6 +0.9
PAIG Paliouri 4.23 349 P **Pn** 12 25 41.2 +1.5
PAIG Paliouri 4.23 349 P **Pn** 12 25 40.6 +0.9
PAIG Paliouri 4.23 349 P **Pn** 12 25 41.2 +1.5
EZN Ezine 4.26 17 *e*PN **Pn** 12 25 41.5 +1.4
EZN Ezine 4.26 17 *e*Pn **Pn** 12 25 41.5 +1.4
ELL Elmali 4.34 75 *e*PN **Pn** 12 25 43.3 +2.0
ELL Elmali 4.34 75 *e*Pn **Pn** 12 25 43.3 +2.0
THL Klokotos Trika 4.34 332 P **Pn** 12 25 41.6 +0.4
THL Klokotos Trika 4.34 332 *e*PN **Pn** 12 25 42.0 +0.8
THL Klokotos Trika 4.34 332 P **Pn** 12 25 41.6 +0.4
THL Klokotos Trika 4.34 332 *e*Pn **Pn** 12 25 42.0 +0.8
LKD2 Lefkada island 4.41 314 P **Pn** 12 25 42.7 +0.6
LKD2 Lefkada island 4.41 314 *e*PN **Pn** 12 25 42.7 +0.6
LKD2 Lefkada island 4.41 314 P **Pn** 12 25 42.7 +0.6
LKD2 Lefkada island 4.41 314 P **Pn** 12 25 42.7 +0.6
DSL Palaion Diasel 4.41 321 P **Pn** 12 25 43.3 +1.1
DSL Palaion Diasel 4.41 321 P **Pn** 12 25 43.3 +1.1
DSL Palaion Diasel 4.41 321 P **Pn** 12 25 43.3 +1.1
GADA Gvkgeada 4.52 12 *e*PN **Pn** 12 25 44.6 +1.0
GADA Gvkgeada 4.52 12 *e*Pn **Pn** 12 25 44.7 +1.0
DEMI Demirci 4.58 43 *i* P **Pn** 12 25 46.2 +1.6
DEMI Demirci 4.58 43 *i* P **Pn** 12 25 46.2 +1.6
OUR Ouranopolis 4.59 353 *e*PN **Pn** 12 25 46.0 +1.3
OUR Ouranopolis 4.59 353 P **Pn** 12 25 45.5 +0.8
OUR Ouranopolis 4.59 353 *e*PN **Pn** 12 25 45.9 +1.3
OUR Ouranopolis 4.59 353 P **Pn** 12 25 46.5 +1.8
OUR Ouranopolis 4.59 353 P **Pn** 12 25 45.5 +0.8
OUR Ouranopolis 4.59 353 *e*Pn **Pn** 12 25 45.9 +1.3
OUR Ouranopolis 4.59 353 P **Pn** 12 25 46.5 +1.8
KHL Karahalli 4.64 55 *e*PN **Pn** 12 25 47.8 +2.4
KHL Karahalli 4.64 55 *e*Pn **Pn** 12 25 47.8 +2.4
LIT Litokhoron 4.66 339 P **Pn** 12 25 45.9 +0.3
LIT Litokhoron 4.66 339 *e*PN **Pn** 12 25 46.5 +0.9
LIT Litokhoron 4.66 339 P **Pn** 12 25 47.0 +1.4
LIT Litokhoron 4.66 339 *e*Pn **Pn** 12 25 46.5 +0.9
LIT Litokhoron 4.66 339 P **Pn** 12 25 47.0 +1.4
LIT Litokhoron 4.66 339 P **Pn** 12 25 47.0 +1.4
PLG Polygyros 4.70 348 P **Pn** 12 25 47.2 +0.9
PLG Polygyros 4.70 348 *e*PN **Pn** 12 25 47.2 +1.0
PLG Polygyros 4.70 348 P **Pn** 12 25 48.0 +1.8
PLG Polygyros 4.70 348 P **Pn** 12 25 47.1 +0.9
PLG Polygyros 4.70 348 P **Pn** 12 25 48.0 +1.8
SMTH Samothraki Isl 4.74 8 P **Pn** 12 25 47.2 +0.5
SMTH Samothraki Isl 4.74 8 *e*PN **Pn** 12 25 47.0 +0.3
SMTH Samothraki Isl 4.74 8 P **Pn** 12 25 47.2 +0.5
SMTH Samothraki Isl 4.74 8 P Pn 12 25 49.6 +2.9
GELI Tayfur-Gelibol 4.83 16 *e*PN **Pn** 12 25 49.6 +1.6
GELI Tayfur-Gelibol 4.83 16 *e*Pn **Pn** 12 25 49.6 +1.6
LPK Lapseki 4.88 19 *e*PN **Pn** 12 25 50.1 +1.5
LPK Lapseki 4.88 19 *e*Pn **Pn** 12 25 50.1 +1.5
JAN Janina 4.93 323 *e*PN **Pn** 12 25 50.2 +0.9
JAN Janina 4.93 323 *e*Pn **Pn** 12 25 50.2 +0.9
HORT Hortiatis 4.98 346 *e*PN **Pn** 12 25 51.6 +1.6
HORT Hortiatis 4.98 346 *e*PN **Pn** 12 25 51.7 +1.6
HORT Hortiatis 4.98 346 *e*Pn **Pn** 12 25 51.7 +1.6
THE Thessaloniki 5.04 345 *e*PN **Pn** 12 25 51.8 +1.0
THE Thessaloniki 5.04 345 *e*Pn **Pn** 12 25 51.8 +1.0
KRBG Karabiga-Canak 5.06 23 *e*PN **Pn** 12 25 52.1 +1.1
KRBG Karabiga-Canak 5.06 23 *e*Pn **Pn** 12 25 52.1 +1.1
KZN Kozani 5.08 334 *e*PN **Pn** 12 25 52.7 +1.3
KZN Kozani 5.08 334 *e*Pn **Pn** 12 25 52.7 +1.3
IGT Igoumenitsa 5.10 319 *e*PN **Pn** 12 25 53.5 +1.8
IGT Igoumenitsa 5.10 319 *e*PN **Pn** 12 25 52.2 +0.6
IGT Igoumenitsa 5.10 319 P **Pn** 12 25 51.6 0.0
IGT Igoumenitsa 5.10 319 P **Pn** 12 25 51.6 0.0
IGT Igoumenitsa 5.10 319 *e*Pn **Pn** 12 25 52.2 +0.6
IGT Igoumenitsa 5.10 319 P **Pn** 12 25 51.6 0.0
ERIK Erikli-Kesan 5.10 16 *e*PN **Pn** 12 25 52.8 +1.2
ERIK Erikli-Kesan 5.10 16 *e*Pn **Pn** 12 25 52.8 +1.2
ISP Isparta 5.12 65 *e*P **Pn** 12 25 52.1 +0.1
ISP Isparta 5.12 65 ǁ *i*P **Pn** 12 25 52.0 +0.1
ISP Isparta 5.12 65 *e*P **Pn** 12 25 52.1 +0.1
ISP Isparta 5.12 65 *e*Pn **Pn** 12 25 52.1 +0.1
SOH Sokhos 5.15 349 P **Pn** 12 25 53.8 +1.4
SOH Sokhos 5.15 349 P **Pn** 12 25 53.8 +1.4
ALN Alexandroupoli 5.23 11 *e*PN **Pn** 12 25 55.4 +2.0
ALN Alexandroupoli 5.23 11 P **Pn** 12 25 53.9 +0.5
ALN Alexandroupoli 5.23 11 *e*PN **Pn** 12 25 54.1 +0.7
ALN Alexandroupoli 5.23 11 *e*Pn **Pn** 12 25 54.1 +0.7
RKY Sarkoy-Tekirda 5.29 21 *e*PN **Pn** 12 25 55.5 +1.3
RKY Sarkoy-Tekirda 5.29 21 *e*Pn **Pn** 12 25 55.5 +1.3
SART Tekirdag 5.29 21 *i* P **Pn** 12 25 55.1 +0.8
SART *i* S **Sn** 12 26 54.0 +0.1
SART Tekirdag 5.29 21 *i* P **Pn** 12 25 55.1 +0.8
SART *i* S **Sn** 12 26 54.0 +0.1
MRMT Marmara Adasi 5.35 25 *e*PN **Pn** 12 25 57.0 +2.0
MRMT Marmara Adasi 5.35 25 *e*Pn **Pn** 12 25 57.0 +2.0
SRS Serrai 5.41 351 *e*PN **Pn** 12 25 57.1 +1.3
SRS Serrai 5.41 351 *e*Pn **Pn** 12 25 57.1 +1.3
GRG Griva 5.48 342 *e*PN **Pn** 12 25 58.6 +1.7
KEK Kerkira 5.52 317 P **Pn** 12 25 56.5 -0.9
KNT Kendrikon 5.57 346 *e*PN **Pn** 12 25 59.8 +1.8
KNT Kendrikon 5.57 346 *e*PN **Pn** 12 25 59.8 +1.8
KNT Kendrikon 5.57 346 *e*Pn **Pn** 12 25 59.8 +1.8
NVR Nevrokopi 5.61 354 *e*PN **Pn** 12 25 59.8 +1.2
NVR Nevrokopi 5.61 354 *e*Pn **Pn** 12 25 59.8 +1.2
FNA Florina 5.64 334 *e*PN **Pn** 12 26 00.7 +1.6
FNA Florina 5.64 334 *e*PN **Pn** 12 25 59.9 +0.8
FNA Florina 5.64 334 *e*Pn **Pn** 12 25 59.9 +0.8
VAY Valandovo 5.79 344 *i* Pn **Pn** 12 26 01.9 +1.0
MMB Musomiste 5.86 353 ⇑ *i*P **Pn** 12 26 02.8 +0.8
MMB Musomiste 5.86 353 *i* P **Pn** 12 26 02.8 +0.8
MMB Musomiste 5.86 353 ⇑ *i*P **Pn** 12 26 02.8 +0.8
KDZ Kurdzhali 5.90 5 ǁ *i*P **Pn** 12 26 03.4 +0.8
KDZ Kurdzhali 5.90 5 *i* P **Pn** 12 26 03.3 +0.7
KDZ Kurdzhali 5.90 5 ǁ *i*P **Pn** 12 26 03.4 +0.8
RZN Rozhen 5.91 0 *i* P **Pn** 12 26 04.6 +1.7
OHR Ohrid 6.14 331 *i* Pn **Pn** 12 26 04.9 -1.0
GAZI Gazipasa 6.21 83 *i* P **Pn** 12 26 04.5 -2.2
GAZI Gazipasa 6.21 83 *i* P **Pn** 12 26 04.5 -2.2
GAZI *i* S Sn 12 27 08.5 -7.7
KKB Krupnik 6.22 349 *i* P **Pn** 12 26 08.7 +1.8
AKMC Akamas 6.29 95 P **Pn** 12 26 05.5 -2.4
baz=279
AKMC Akamas 6.29 95 P **Pn** 12 26 05.5 -2.4
PPCY Paphos 6.33 96 P **Pn** 12 26 05.9 -2.4
baz=280
PPCY Paphos 6.33 96 P **Pn** 12 26 05.9 -2.4
PLD Plovdiv 6.33 0 *i* P **Pn** 12 26 09.9 +1.5
ALFC Alevga 6.49 93 P **Pn** 12 26 07.9 -2.7
baz=277
ALFC S Sn 12 27 14.4 -8.8
SKO Skopje 6.69 339 *i* Pn **Pn** 12 26 11.4 -1.9
SZAC Souni-Zanaja 6.78 96 P **Pn** 12 26 11.9 -2.8
baz=281
SZAC S Sn 12 27 22.9 -7.6
PGB Panagyurishte 6.79 357 *i* P **Pn** 12 26 16.4 +1.7
VTS Vitosha 6.91 351 ⇑ *i*P **Pn** 12 26 17.9 +1.4
VTS Vitosha 6.91 351 *i* P Pn 12 26 19.2 +2.7
VTS Vitosha 6.91 351 *i* P Pn 12 26 19.2 +2.7
MAMC Mammari 6.99 92 P **Pn** 12 26 15.9 -1.5
baz=277
MAMC Mammari 6.99 92 P **Pn** 12 26 15.9 -1.5
CSS Prodhromos 7.11 94 P **Pn** 12 26 16.8 -2.3
baz=279
CSS Prodhromos 7.11 94 P **Pn** 12 26 16.8 -2.3
CSS Prodhromos 7.11 94 *e*Pn **Pn** 12 26 16.7 -2.4
CSS *e*Sn Sn 12 27 23.9 -15
TIP Timpagrande 7.16 301 *e*Pn **Pn** 12 26 18.9 -0.9
TIP *e*Sn Sn 12 27 32.2 -7.5
CEL Celeste 7.46 292 *e*Pn **Pn** 12 26 22.2 -1.7
CEL *e*Sn Sn 12 27 36.3 -11
SZH Strazhica 7.55 7 *i* P **Pn** 12 26 26.3 +1.2
ANTO Ankara 7.61 55 *e*P Pn 12 26 28.8 +2.8
ANTO Ankara 7.61 55 ⇑ *i*P Pn 12 26 28.8 +2.8
ANTO Ankara 7.61 55 *e*P Pn 12 26 28.8 +2.8
ANTO Ankara 7.61 55 *e*Pn Pn 12 26 28.8 +2.8
MPEP Malo Peshtene 7.62 355 *i* P Pn 12 26 28.7 +2.8
PRD Provadia 7.71 15 *i* P **Pn** 12 26 27.8 +0.5

SG1 Sgolgore (BA) 8.07 311 *e*Pn **Pn** 12 26 30.6 -1.7
BAI Bari 8.12 313 *e*Pn **Pn** 12 26 31.1 -1.7
BR131 Keskin Array S 8.12 58 *e*Pn **Pn** 12 26 35.0 +2.1
15nm,0.7s
BRTR Keskin Array B 8.12 58 P **Pn** 12 26 31.9 -1.1
1.6nm,0.3s,baz=236,slow=13,SNR=73
BRTR Keskin Array B 8.12 58 *i* P **Pn** 12 26 34.9 +1.9
BRTR pmax pmax
comp=Z,23nm,0.8s
BRTR Keskin Array B 8.12 58 *i* P **Pn** 12 26 34.9 +1.9
comp=Z,23nm,0.8s
CUC Castrocucco 8.18 304 *e*Pn **Pn** 12 26 32.8 -1.0
CUC *e*Sn **Sn** 12 27 59.2 -5.3
PSN Preselentsi 8.35 18 ⇑ *i*P **Pn** 12 26 37.2 +1.2
STON Ston 8.92 325 *e*Pn Pn 12 26 38.7 -5.0
STON Sn Sn 12 28 11.0 -12
DIVS Divibare 9.07 338 ǁ *i*P **Pn** 12 26 46.5 +0.7
TIRR Tirgusor 9.14 17 *e*P **Pn** 12 26 46.7 0.0
TIRR Tirgusor 9.14 17 ǁ *i*P **Pn** 12 26 47.1 +0.4
TIRR Tirgusor 9.14 17 *e*P **Pn** 12 26 46.7 0.0
TIRR Tirgusor 9.14 17 *e*Pn **Pn** 12 26 46.7 0.0
TLB Topalu 9.18 15 ⇑ *i*P **Pn** 12 26 49.4 +2.2
DQRL Deir Qamar 9.19 100 *e*P Pn 12 26 44.3 -3.3
BHL Bhannes 9.21 98 *e*P Pn 12 26 44.5 -3.4
MMAI Mount Meron Ar 9.28 104 P Pn 12 26 44.2 -4.5
comp=Z,9.7nm,0.3s,baz=302,slow=13,SNR=13
MMAI S Sn 12 28 23.6 -7.8
comp=Z,56nm,0.3s,baz=304,slow=27,SNR=14
HWQ Hawqa 9.36 96 *e*P **Pn** 12 26 47.2 -2.6
RCY Rachaya 9.47 101 *e*P Pn 12 26 47.8 -3.6
ARR Arges 9.59 360 ⇑ *i*P **Pn** 12 26 55.0 +2.1
VOIR 9.66 2 ⇑ *i*P **Pn** 12 26 55.8 +1.8
LOT Lotru 9.70 356 ⇑ *i*P **Pn** 12 26 56.2 +1.8
GZR Gura Zlata 9.72 352 ǁ *i*P **Pn** 12 26 55.7 +0.9
CFR Carcaliu 9.76 15 ǁ *i*P **Pn** 12 26 56.0 +0.8
MLR Muntele Rosu 9.76 5 P **Pn** 12 26 54.4 -0.9
comp=Z,0.4nm,0.3s,baz=176,slow=10,SNR=50
MLR LR LR 12 31 23.9
comp=Z,20nm,20.6s,baz=198,slow=42
MLR Muntele Rosu 9.76 5 ǁ *i*P **Pn** 12 26 56.6 +1.3
BZS Buzias 10.11 348 ⇑ *i*P **Pn** 12 27 01.8 +1.8
PLOR Plostina 10.18 8 ǁ *i*P Pn 12 27 04.1 +3.1
DEV Deva 10.20 353 ⇑ *i*P **Pn** 12 27 02.4 +1.3
VRI Vrincioaia 10.21 8 ǁ *i*P Pn 12 27 04.5 +3.2
EIL Elat 10.57 122 P **Pn** 12 27 03.6 -2.7
comp=Z,12nm,0.3s,baz=313,slow=5.9,SNR=44
EIL S Sn 12 28 51.1 -12
comp=Z,22nm,0.3s,baz=282,slow=20,SNR=13
ASF Jabal al Asfar 10.76 106 P **Pn** 12 27 06.1 -2.9
comp=Z,1.0nm,0.3s,baz=244,slow=6.8,SNR=7.3
ASF S Sn 12 28 59.7 -7.9
comp=Z,3.0nm,0.3s,baz=121,slow=21,SNR=6.6
ASF Jabal al Asfar 10.76 106 P **Pn** 12 27 06.1 -2.9
ASF S Sn 12 28 59.7 -7.9
ASF pmax pmax
comp=Z,1.0nm,0.3s
ASF smax smax
comp=N,3.0nm,0.3s
TESR Tescani 10.84 7 ǁ *i*P Pn 12 27 12.6 +2.7
AQU L'Aquila 10.96 310 *e*P **Pn** 12 27 12.4 +0.8
AQU *e* 12 29 10.7
AQU pmax pmax
comp=Z,21nm,0.8s
AQU L'Aquila 10.96 310 *e*P **Pn** 12 27 12.4 +0.8
comp=Z,21nm,0.8s
AQU L'Aquila 10.96 310 *e*Pn **Pn** 12 27 12.3 +0.8
comp=Z,21nm,0.8s
AQU *e*Sn **Sn** 12 29 10.7 -1.7
DRGR 11.11 353 ⇑ *i*P **Pn** 12 27 13.9 +0.2
PKSM Moragy 11.38 338 ǁ *i*P **Pn** 12 27 14.3 -3.0
PKS6 Bocsa 11.49 342 *e*PN Pn 12 27 22.5 +3.8
NVLJ Novalja 11.55 323 *e*Pn Pn 12 27 14.4 -5.1
PKS9 Tamasi 11.83 338 *e*Pn Pn 12 27 27.9 +4.5
BURAR Bucovina Array 11.85 2 ǁ *i*P **Pn** 12 27 26.4 +2.7
BUR08 Bucovina Ar. S 11.87 2 *e*Pn Pn 12 27 27.2 +3.1
BOJS Bojanci 12.07 327 *i* Pn Pn 12 27 23.2 -3.4
BOJS *i* Sn Sn 12 29 29.4 -10
CRES Cresnjev 12.23 328 *i* Pn Pn 12 27 24.7 -4.1
CRES *i* Sn Sn 12 29 33.9 -9.4
KEST Kesra 12.46 274 P **Pn** 12 27 33.2 +1.0
comp=Z,0.1nm,0.3s,baz=50,slow=16,SNR=3.6
KEST S Sn 12 29 41.4 -7.8
comp=Z,0.2nm,0.3s,baz=43,slow=21,SNR=6.2
VSL Villasalto 12.69 292 *e*Pn **Pn** 12 27 34.0 -1.2
JAVS Javornik 12.91 325 *i* Pn Pn 12 27 33.7 -4.5
JAVS *i* Sn Sn 12 29 47.8 -12
UZH Uzhgorod 12.98 353 *e*P Pn 12 27 42.5 +3.6
PERS Pernice 13.02 329 *i* Pn Pn 12 27 34.0 -5.5
PERS *i* Sn Sn 12 29 50.6 -12
KECS Kecovo 13.08 348 *e*P **Pn** 12 27 40.1 -0.2
KECS Kecovo 13.08 348 *e*P **Pn** 12 27 40.1 -0.2
KECS Kecovo 13.08 348 *e*PN **Pn** 12 27 40.1 -0.2
SOKA Soboth 13.09 329 ⇑ *i*Pn Pn 12 27 36.9 -3.6
KOLS Kolonicke sedl 13.28 353 *e*P **P** 12 27 47.6 -2.4
KOLS Kolonicke sedl 13.28 353 *e*P **P** 12 27 47.6 -2.4
KOLS Kolonicke sedl 13.28 353 *e* **P** 12 27 47.5 -2.4
VYHS Vyhne 13.43 343 *e*P **P** 12 27 49.3 -2.4
VYHS Vyhne 13.43 343 *e*P **P** 12 27 49.3 -2.4
VYHS Vyhne 13.43 343 *e* **P** 12 27 49.3 -2.4
STHS Stebnicka Huta 13.87 351 *e*P **P** 12 27 56.9 +0.3
STHS Stebnicka Huta 13.87 351 *e*P **P** 12 27 56.9 +0.3
STHS Stebnicka Huta 13.87 351 *e* **P** 12 27 56.9 +0.3
PGF Pioggiola 13.92 304 *e*P **Pn** 12 27 52.3 +0.8
comp=Z,21nm,0.8s
PGF Pioggiola 13.92 304 *e*P **Pn** 12 27 52.3 +0.8
PGF pmax pmax
comp=Z,21nm,0.8s
PGF Pioggiola 13.92 304 *e*P **Pn** 12 27 52.3 +0.8
comp=Z,21nm,0.8s
MOA Molln 14.34 331 ⇑ *i*Pn **Pn** 12 27 55.1 -1.8
MOA Molln 14.34 331 Pn **Pn** 12 27 55.1 -1.8
VRAC Vranov 14.78 339 P **Pn** 12 28 02.3 -0.2
comp=Z,0.9nm,0.3s,baz=141,slow=10,SNR=14
VRAC LR LR 12 34 11.9
comp=Z,41nm,21.9s,baz=150,slow=39
VRAC Vranov 14.78 339 P **Pn** 12 28 02.3 -0.2
VRAC pmax pmax
comp=Z,1.0nm,0.3s
VRAC MLR MLR
comp=Z,41nm,21.9s
VRAC Vranov 14.78 339 ǁ *i*P **P** 12 28 05.1 -1.5
VRAC Vranov 14.78 339 ǁ *i*P **P** 12 28 05.1 -1.5
OKC Ostrava-Krasne 14.85 343 *e*P **P** 12 28 06.3 -1.1
OKC *e*pP pP 12 28 19.7
OKC Ostrava-Krasne 14.85 343 *e*P **P** 12 28 06.3 -1.1
OKC Ostrava-Krasne 14.85 343 *e*P **P** 12 28 06.3 -1.1
MORC Moravsky Berou 14.94 342 *e*P **P** 12 28 07.1 -1.4
MORC pmax pmax
comp=Z,6.0nm,0.8s
MORC Moravsky Berou 14.94 342 ǁ *i*P **P** 12 28 07.1 -1.4
MORC Moravsky Berou 14.94 342 *e*P **P** 12 28 07.1 -1.4
comp=Z,6.0nm,0.8s
MORC Moravsky Berou 14.94 342 *e*Pn **P** 12 28 07.1 -1.4
comp=Z,5.6nm,0.8s
WATA Walderalm 15.14 324 ⇑ *i*Pn **Pn** 12 28 05.6 -1.7
SNR=7.8
WATA Walderalm 15.14 324 Pn **Pn** 12 28 05.6 -1.7
SNR=7.8
AK02 Malin Array Si 15.24 11 *e*P **P** 12 28 10.2 -1.5
AK01 Malin Array Si 15.27 11 *e*P **P** 12 28 10.6 -1.6
KIEV Kiev 15.28 11 *c i*P **P** 12 28 11.0 -1.1
KIEV Kiev 15.28 11 *i* P **P** 12 28 11.0 -1.1
KIEV Kiev 15.28 11 *e*P **Pn** 12 28 10.3 +1.4
comp=Z,12nm,0.6s
AKASG Malin Array Be 15.29 11 P **Pn** 12 28 07.0 -2.0
comp=Z,3.3nm,0.3s,baz=204,slow=10,SNR=27
AKASG S **Sn** 12 31 02.1 +4.8
comp=Z,0.2nm,0.3s,baz=197,slow=22,SNR=26
AKASG Malin Array Be 15.29 11 P **Pn** 12 28 07.0 -2.0
AKASG S **Sn** 12 31 02.1 +4.8
AKASG pmax pmax
comp=Z,3.0nm,0.3s
AKBB Malin Array Si 15.29 11 *e*P **P** 12 28 10.8 -1.4
AKBB Malin Array Si 15.29 11 *e*P **P** 12 28 10.8 -1.4
AKBB Malin Array Si 15.29 11 *e*P **P** 12 28 10.8 -1.4
FUORN Ofenpass-Fuorn 15.31 319 *e*Pn **Pn** 12 28 09.2 -0.5
comp=Z,30nm,0.8s
FETA Feichten 15.34 321 ⇑ *i*Pn **Pn** 12 28 09.1 -0.8
FETA Feichten 15.34 321 Pn **Pn** 12 28 09.1 -0.8
GEC2 GERESS Array S 15.37 332 *e*P **P** 12 28 13.1 -0.2
comp=Z,5.0nm,0.7s
GEC2 pmax pmax

comp=Z,1μm,0.7s
GEC2 GERESS Array S 15.37 332 *e*P **P** 12 28 13.1 -0.2
comp=Z,5.0nm,0.7s
GEC2 GERESS Array S 15.37 332 *e*P **P** 12 28 12.9 -0.4
comp=Z,1μm,0.7s
GERES GERESS Array B 15.37 332 P **Pn** 12 28 09.5 -0.7
comp=Z,0.5nm,0.3s,baz=153,slow=12,SNR=28
GERES LR LR 12 35 57.7
comp=Z,43nm,18.8s,baz=148,slow=44
GERES GERESS Array B 15.37 332 P **Pn** 12 28 09.5 -0.7
GERES pmax pmax
comp=Z,1.0nm,0.3s
GERES MLR MLR
comp=Z,43nm,18.8s
MOTA Moosalm 15.37 323 ǁ *i*Pn **Pn** 12 28 09.4 -0.9
SNR=5.6
MOTA Moosalm 15.37 323 Pn **Pn** 12 28 09.4 -0.9
SNR=5.6
KRLC Kraliky 15.41 341 *e*P **P** 12 28 13.4 -0.4
KRLC *e*pP **pP** 12 28 30.4 +1.7
KRLC Kraliky 15.41 341 *e*P **P** 12 28 13.4 -0.4
KRLC Kraliky 15.41 341 *e*P **P** 12 28 13.4 -0.4
SBF Sospel 15.51 307 *e*P **Pn** 12 28 12.3 +0.3
comp=Z,51nm,1.0s
SBF Sospel 15.51 307 *e*P **Pn** 12 28 12.3 +0.3
SBF pmax pmax
comp=Z,51nm,1.0s
SBF Sospel 15.51 307 *e*P **Pn** 12 28 12.3 +0.3
comp=Z,51nm,1.0s
DAVOX Davos/Dischmat 15.62 319 P **Pn** 12 28 13.7 +0.2
comp=Z,0.5nm,0.3s,baz=332,slow=22,SNR=7.0
DAVOX LR LR 12 36 07.4
comp=Z,29nm,21.5s,baz=94,slow=44
DAVOX Davos/Dischmat 15.62 319 P **Pn** 12 28 13.7 +0.2
DAVOX pmax pmax
comp=Z,1.0nm,0.3s
DAVOX MLR MLR
comp=Z,29nm,21.5s
KHC Kasperske Hory 15.64 332 *e*P **Pn** 12 28 14.0 +0.3
KHC *ex* x 12 28 16.5
KHC Kasperske Hory 15.64 332 *e*P **Pn** 12 28 14.0 +0.3
TUE Stuetta 15.72 318 *e*P **Pn** 12 28 15.4 +0.7
comp=Z,15nm,0.8s
DPC Dobruska-Polom 15.79 340 *e*P **P** 12 28 17.5 -0.4
DPC *ex* x 12 28 21.2
DPC *e*pP **pP** 12 28 32.6 -0.2
DPC Dobruska-Polom 15.79 340 *e*P **P** 12 28 17.5 -0.4
DPC Dobruska-Polom 15.79 340 *e*P **P** 12 28 17.5 -0.4
DPC Dobruska-Polom 15.79 340 *e*Pn **P** 12 28 17.6 -0.3
GOPC GO Pecny, Ondr 15.87 336 *e*P **P** 12 28 18.0 -0.8
GOPC *e*pP **pP** 12 28 31.1 -2.6
FUR Furstenfeldbru 15.87 325 *e*P **P** 12 28 18.9 +0.1
comp=Z,18nm,1.1s
FUR Furstenfeldbru 15.87 325 *e*P **P** 12 28 18.9 +0.1
comp=Z,18nm,1.1s
FRF La Foret Royal 15.90 305 *e*P **P** 12 28 19.1 -0.1
FRF La Foret Royal 15.90 305 *e*P **P** 12 28 19.1 -0.1
FRF La Foret Royal 15.90 305 *e*P **P** 12 28 19.1 -0.1
FRF La Foret Royal 15.90 305 *e*P **P** 12 28 19.1 -0.1
LMR La Mourre 15.91 304 *e*P **P** 12 28 19.2 0.0
comp=Z,13nm,0.7s
LMR La Mourre 15.91 304 *e*P **P** 12 28 19.2 0.0
LMR pmax pmax
comp=Z,13nm,0.7s
LMR La Mourre 15.91 304 *e*P **P** 12 28 19.2 0.0
comp=Z,6.4nm,0.7s
LMR La Mourre 15.91 304 *e*P **P** 12 28 19.2 0.0
comp=Z,13nm,0.7s
WET Wettzell 15.93 331 *e*P **P** 12 28 19.0 -0.5
comp=Z,4.0nm,0.7s
WET Wettzell 15.93 331 *e*P **P** 12 28 19.0 -0.5
comp=Z,4.0nm,0.7s
PRU Pruhonice 16.02 336 *e*P **P** 12 28 19.6 -0.8
PRU Pruhonice 16.02 336 *e*P **P** 12 28 19.6 -0.8
PRU Pruhonice 16.02 336 *e*P **P** 12 28 19.6 -0.8
UPC Upice 16.02 340 *e*P **Pn** 12 28 18.2 -0.1
UPC *ex* x 12 28 20.0
UPC *e*pP **pP** 12 28 32.4 -2.9
UPC Upice 16.02 340 *e*P **Pn** 12 28 18.2 -0.1
KIV Kislovodsk 16.04 54 *d i*P **P** 12 28 21.7 +0.9
KIV pmax pmax
comp=Z,11nm,0.8s
KIV MLR MLR
comp=Z,25nm,20.0s
KIV Kislovodsk 16.04 54 *i* P **P** 12 28 21.7 +0.9
comp=Z,25nm,20.0s
KIV Kislovodsk 16.04 54 *e*P **P** 12 28 21.8 +1.0
comp=Z,11nm,0.7s
KBZ Khabaz 16.09 55 P **Pn** 12 28 18.8 -0.4
comp=Z,0.2nm,0.3s,baz=53,slow=20,SNR=3.3
PRA Prague 16.12 336 *e*P **P** 12 28 21.7 +0.2
PRA Prague 16.12 336 *e*P **P** 12 28 21.7 +0.2
PRA Prague 16.12 336 *e*P **P** 12 28 21.7 +0.2
MBDF Montbardon 16.32 309 *e*P **Pn** 12 28 22.4 +0.2
comp=Z,18nm,0.7s
MBDF Montbardon 16.32 309 *e*P **Pn** 12 28 22.4 +0.2
MBDF pmax pmax
comp=Z,18nm,0.7s
MBDF Montbardon 16.32 309 *e*P **Pn** 12 28 22.4 +0.2
comp=Z,8.8nm,0.7s
MBDF Montbardon 16.32 309 *e*P **Pn** 12 28 22.4 +0.2
comp=Z,18nm,0.7s
GNI Garni 16.41 69 LR LR 12 34 38.1
comp=Z,27nm,18.8s,baz=284,slow=37
ZEI Tsey 16.43 59 *e*P **Pn** 12 28 24.0 +0.2
ZEI pmax pmax
comp=Z,4.0nm,0.6s
ZEI Tsey 16.43 59 *e*P **Pn** 12 28 24.0 +0.2
comp=Z,4.0nm,0.6s
PVCC Panska Ves 16.47 337 *e*P **Pn** 12 28 24.0 0.0
PVCC Panska Ves 16.47 337 *e*P **Pn** 12 28 24.0 0.0
PVCC Panska Ves 16.47 337 *e*P **Pn** 12 28 24.0 0.0
LEPF PUYLOUBIER 16.52 304 *e*P **P** 12 28 26.7 +0.7
LEPF PUYLOUBIER 16.52 304 *e*P **P** 12 28 26.7 +0.7
LPG La Plagne 16.69 311 *e*P **P** 12 28 28.8 +0.6
comp=Z,7.3nm,0.5s
LPG La Plagne 16.69 311 *e*P **P** 12 28 28.8 +0.6
LPG pmax pmax
comp=Z,7.0nm,0.5s
LPG La Plagne 16.69 311 *e*P **P** 12 28 28.8 +0.6
comp=Z,3.7nm,0.5s
LPG La Plagne 16.69 311 *e*P **P** 12 28 28.8 +0.6
comp=Z,7.3nm,0.5s
LPL La Plagne 16.71 311 *e*P **Pn** 12 28 27.2 0.0
comp=Z,11nm,0.5s
LPL La Plagne 16.71 311 *e*P **Pn** 12 28 27.2 0.0
LPL pmax pmax
comp=Z,11nm,0.5s
LPL La Plagne 16.71 311 *e*P **Pn** 12 28 27.2 0.0
comp=Z,5.6nm,0.5s
LPL La Plagne 16.71 311 *e*P **Pn** 12 28 27.2 0.0
comp=Z,11nm,0.5s
SMRF Simiane la Rot 16.78 305 *e*P **Pn** 12 28 28.3 +0.4
comp=Z,31nm,0.9s
SMRF Simiane la Rot 16.78 305 *e*P **Pn** 12 28 28.3 +0.4
comp=Z,16nm,0.9s
SMRF Simiane la Rot 16.78 305 *e*P **Pn** 12 28 28.3 +0.4
comp=Z,31nm,0.9s
SENIN Lac Senin/Sane 16.81 314 *e*Pn **P** 12 28 29.7 +0.3
RSL Roselend 16.86 311 *e*P **P** 12 28 30.7 +0.7
RSL Roselend 16.86 311 *e*P **P** 12 28 30.7 +0.7
NKC Novy Kostel 16.97 332 *e*P **Pn** 12 28 27.6 -2.6
NKC Novy Kostel 16.97 332 *e*P **Pn** 12 28 27.6 -2.6
ORIF Oris-en-Rattie 16.97 308 *e*P **Pn** 12 28 30.2 -0.1
comp=Z,5.6nm,0.6s
ORIF *e*R
comp=Z,83nm,20.8s
ORIF Oris-en-Rattie 16.97 308 *e*P **Pn** 12 28 30.2 -0.1
ORIF pmax pmax
comp=Z,6.0nm,0.6s
ORIF Oris-en-Rattie 16.97 308 *e*P **Pn** 12 28 30.2 -0.1
comp=Z,2.8nm,0.6s
ORIF Oris-en-Rattie 16.97 308 *e*P **Pn** 12 28 30.2 -0.1
comp=Z,5.6nm,0.6s
GRA1 Grafenberg Arr

comp=Z,8.0nm,1.0s
BFO Black Forest 17.42 321 *e*P **P** 12 28 37.2 **+1.2**
comp=Z,5.0nm,0.6s
BFO Black Forest 17.42 321 *e*P **Pn** 12 28 35.4 **-0.3**
comp=Z,7.9nm,1.0s
LOMF Lomont 17.63 317 *e*P **P** 12 28 37.8 **-0.5**
LOMF Lomont 17.63 317 *e*P **P** 12 28 37.8 **-0.5**
CABF La Chapelle 17.65 314 *e*P **P** 12 28 35.7 **-2.9**
comp=Z,16nm,0.6s
CABF La Chapelle 17.65 314 *e*P **P** 12 28 35.7 **-2.9**
CABF pmax pmax
comp=Z,17nm,0.6s
CABF La Chapelle 17.65 314 *e*P **P** 12 28 35.7 **-2.9**
comp=Z,16nm,0.6s
CLL Collm 17.66 335 *e*P **P** 12 28 38.0 **-0.5**
comp=Z,4.0nm,0.6s
CLL *e*(PP) 12 28 49.0
CLL *e* 12 28 58.0
CLL *e*S **Sn** 12 31 53.0 **-1.6**
CLL Collm 17.66 335 *e*P **P** 12 28 38.0 **-0.5**
CLL Collm 17.66 335 *e*P **P** 12 28 38.0 **-0.5**
VIVF Saint-Julien-l 17.72 307 *e*P **P** 12 28 38.2 **-1.1**
comp=Z,12nm,0.8s
VIVF Saint-Julien-l 17.72 307 *e*P **P** 12 28 38.2 **-1.1**
VIVF pmax pmax
comp=Z,12nm,0.8s
VIVF Saint-Julien-l 17.72 307 *e*P **P** 12 28 38.2 **-1.1**
comp=Z,5.8nm,0.8s
VIVF Saint-Julien-l 17.72 307 *e*P **P** 12 28 38.2 **-1.1**
comp=Z,12nm,0.8s
MOF Molkenrain 17.75 318 *e*P **P** 12 28 38.9 **-0.8**
MOF Molkenrain 17.75 318 *e*P **P** 12 28 38.9 **-0.8**
HINF Hinteralfeld 17.89 318 *e*P **P** 12 28 40.4 **-0.7**
comp=Z,13nm,0.7s
HINF Hinteralfeld 17.89 318 *e*P **P** 12 28 40.4 **-0.7**
HINF pmax pmax
comp=Z,13nm,0.7s
HINF Hinteralfeld 17.89 318 *e*P **P** 12 28 40.4 **-0.7**
comp=Z,6.5nm,0.7s
HINF Hinteralfeld 17.89 318 *e*P **P** 12 28 40.4 **-0.7**
comp=Z,13nm,0.7s
ECH Echery 17.96 319 *e*P **P** 12 28 41.1 **-0.8**
ECH Echery 17.96 319 *e*P **P** 12 28 41.6 **-0.3**
ECH pmax pmax
comp=Z,5.0nm,0.7s
ECH Echery 17.96 319 *e*P **P** 12 28 41.6 **-0.3**
comp=Z,5.0nm,0.7s
ECH Echery 17.96 319 *e*P **P** 12 28 41.6 **-0.3**
comp=Z,4.7nm,0.7s
LASF Ste Croix 17.97 304 *e*P **Pn** 12 28 42.3 **-0.1**
comp=Z,19nm,0.9s
LASF Ste Croix 17.97 304 *e*P **Pn** 12 28 42.3 **-0.1**
comp=Z,9.3nm,0.9s
LASF Ste Croix 17.97 304 *e*P **Pn** 12 28 42.3 **-0.1**
comp=Z,19nm,0.9s
CDF Champ du Feu 18.02 320 *e*P **Pn** 12 28 43.0 **0.0**
comp=Z,10nm,0.6s
CDF Champ du Feu 18.02 320 *e*P **Pn** 12 28 43.0 **0.0**
CDF pmax pmax
comp=Z,10.0nm,0.6s
CDF Champ du Feu 18.02 320 *e*P **Pn** 12 28 43.0 **0.0**
comp=Z,5.1nm,0.6s
CDF Champ du Feu 18.02 320 *e*P **Pn** 12 28 43.0 **0.0**
comp=Z,10nm,0.6s
TOD Tromm 18.05 325 *e*P **P** 12 28 43.0 **+0.2**
LANF Langenberg 18.11 322 *e*P **Pn** 12 28 44.8 **+0.8**
LANF Langenberg 18.11 322 *e*P **Pn** 12 28 44.8 **+0.8**
HAU Haudompre 18.27 318 *e*P **P** 12 28 44.6 **-0.7**
comp=Z,16nm,0.6s
HAU *e*R
comp=Z,37nm,19.8s
HAU Haudompre 18.27 318 *e*P **P** 12 28 44.6 **-0.7**
HAU pmax pmax
comp=Z,16nm,0.6s
HAU Haudompre 18.27 318 *e*P **P** 12 28 44.6 **-0.7**
comp=Z,7.9nm,0.6s
HAU Haudompre 18.27 318 *e*P **P** 12 28 44.6 **-0.7**
comp=Z,16nm,0.6s
THEF They Montfort 18.60 318 *e*P **Pn** 12 28 49.6 **-0.3**
THEF They Montfort 18.60 318 *e*P **Pn** 12 28 49.6 **-0.3**
LBL Lubilhac 18.80 307 *e*P **Pn** 12 28 53.4 **+1.0**
LBL Lubilhac 18.80 307 *e*P **Pn** 12 28 53.4 **+1.0**
PLDF La Plantade 18.86 309 *e*P **P** 12 28 51.8 **0.0**
PLDF La Plantade 18.86 309 *e*P **P** 12 28 51.8 **0.0**
MTLF Montolieu 18.87 300 *e*P **P** 12 28 52.5 **+0.6**
MTLF Montolieu 18.87 300 *e*P **P** 12 28 52.5 **+0.6**
MTLF Montolieu 18.87 300 *e*P **P** 12 28 52.5 **+0.6**
MTLF Montolieu 18.87 300 *e*P **P** 12 28 52.5 **+0.6**
PAGF Fort de Pagny 18.93 318 *e*P **P** 12 28 52.4 **-0.1**
comp=Z,6.3nm,0.9s
PAGF Fort de Pagny 18.93 318 *e*P **P** 12 28 52.4 **-0.1**
comp=Z,3.2nm,0.9s
PAGF Fort de Pagny 18.93 318 *e*P **P** 12 28 52.4 **-0.1**
comp=Z,6.3nm,0.9s
RUP Ruppelstein 18.95 323 *e*P **P** 12 28 52.4 **-0.3**
SMF Signal de Mont 19.02 311 *e*P **P** 12 28 52.8 **-0.7**
comp=Z,20nm,0.6s
SMF Signal de Mont 19.02 311 *e*P **P** 12 28 52.8 **-0.7**
SMF pmax pmax
comp=Z,20nm,0.6s
SMF Signal de Mont 19.02 311 *e*P **P** 12 28 52.8 **-0.7**
comp=Z,10.0nm,0.6s
SMF Signal de Mont 19.02 311 *e*P **P** 12 28 52.8 **-0.7**
comp=Z,20nm,0.6s
SFTF Sexfontaines 19.11 317 *e*P **P** 12 28 54.7 **+0.2**
comp=Z,27nm,0.7s
SFTF Sexfontaines 19.11 317 *e*P **P** 12 28 54.7 **+0.2**
comp=Z,14nm,0.7s
SFTF Sexfontaines 19.11 317 *e*P **P** 12 28 54.7 **+0.2**
comp=Z,27nm,0.7s
PYM Petit Puy Mans 19.16 308 *e*P **P** 12 28 55.5 **+0.4**
PYM Petit Puy Mans 19.16 308 *e*P **P** 12 28 55.5 **+0.4**
NACGM Naroch 19.19 4 *e* **P** 12 28 51.0 **-4.3**
AGO Saint Agoulin 19.20 309 *e*P **P** 12 28 56.1 **+0.6**
AGO Saint Agoulin 19.20 309 *e*P **P** 12 28 56.1 **+0.6**
MEZF Maizieres J'vi 19.27 317 *e*P **P** 12 28 57.0 **+0.9**
comp=Z,52nm,1.0s
MEZF Maizieres J'vi 19.27 317 *e*P **P** 12 28 57.0 **+0.9**
comp=Z,26nm,1.0s
MEZF Maizieres J'vi 19.27 317 *e*P **P** 12 28 57.0 **+0.9**
comp=Z,52nm,1.0s
LOR Lormes 19.30 313 *e*P **P** 12 28 56.7 **+0.1**
comp=Z,39nm,0.6s
LOR *e*R
comp=Z,45nm,17.0s
LOR Lormes 19.30 313 *e*P **P** 12 28 56.7 **+0.1**
LOR pmax pmax
comp=Z,39nm,0.6s
LOR Lormes 19.30 313 *e*P **P** 12 28 56.7 **+0.1**
comp=Z,20nm,0.6s
LOR Lormes 19.30 313 *e*P **P** 12 28 56.7 **+0.1**
comp=Z,39nm,0.6s
WLF Walferdange 19.38 322 *e*P **P** 12 28 57.2 **-0.1**
WLF pmax pmax
comp=Z,11nm,0.8s
WLF Walferdange 19.38 322 *e*P **P** 12 28 57.2 **-0.1**
comp=Z,11nm,0.8s
WLF Walferdange 19.38 322 *e*P **P** 12 28 57.2 **-0.1**
comp=Z,12nm,0.8s
AVF Avril sur Loir 19.39 311 *e*P **P** 12 28 57.6 **+0.1**
comp=Z,16nm,0.8s
AVF Avril sur Loir 19.39 311 *e*P **P** 12 28 57.6 **+0.1**
AVF pmax pmax
comp=Z,16nm,0.8s
AVF Avril sur Loir 19.39 311 *e*P **P** 12 28 57.6 **+0.1**
comp=Z,8.1nm,0.8s
AVF Avril sur Loir 19.39 311 *e*P **P** 12 28 57.6 **+0.1**
comp=Z,16nm,0.8s
SSF Saint Saulge 19.42 312 *e*P **P** 12 28 57.4 **-0.4**
comp=Z,18nm,0.5s
SSF Saint Saulge 19.42 312 *e*P **P** 12 28 57.4 **-0.4**
SSF pmax pmax
comp=Z,18nm,0.5s
SSF Saint Saulge 19.42 312 *e*P **P** 12 28 57.4 **-0.4**
comp=Z,8.8nm,0.5s
SSF Saint Saulge 19.42 312 *e*P **P** 12 28 57.4 **-0.4**
comp=Z,18nm,0.5s
CAF Calviac 19.46 305 *e*P **P** 12 28 59.2 **+0.8**
comp=Z,5.6nm,0.6s
CAF Calviac 19.46 305 *e*P **P** 12 28 59.2 **+0.8**
CAF pmax pmax
comp=Z,6.0nm,0.6s
CAF Calviac 19.46 305 *e*P **P** 12 28 59.2 **+0.8**
comp=Z,2.8nm,0.6s
CAF Calviac 19.46 305 *e*P **P** 12 28 59.2 **+0.8**
comp=Z,5.6nm,0.6s

IDID Didziasalis 19.60 4 *e*P **P** 12 28 51.1 -8.6
IDID AMB AMB 12 28 51.7
comp=Z,3.1nm,0.4s
IIGN Ignalina 19.61 3 *e*P **P** 12 28 58.5 **-1.4**
IIGN AMB AMB 12 28 59.0
comp=Z,10nm,0.7s
IIGN Ignalina 19.61 3 *e*P **P** 12 28 58.5 **-1.4**
ISAL Salakas 19.83 2 *e*P **P** 12 29 00.7 **-1.6**
ISAL AMB AMB 12 29 02.0
comp=Z,11nm,0.9s
ISAL Salakas 19.83 2 *e*P **P** 12 29 00.6 **-1.6**
comp=Z,11nm,0.9s
TCF Toulx Ste Croi 19.88 309 *e*P **P** 12 29 03.0 **+0.1**
TCF Toulx Ste Croi 19.88 309 *e*P **P** 12 29 03.0 **+0.1**
TCF Toulx Ste Croi 19.88 309 *e*P **P** 12 29 03.0 **+0.1**
TCF Toulx Ste Croi 19.88 309 *e*P **P** 12 29 03.0 **+0.1**
RJF Les Rejaudoux 19.96 306 *e*P **P** 12 29 04.4 **+0.6**
comp=Z,16nm,0.9s
RJF *e*R
comp=Z,31nm,22.0s
RJF Les Rejaudoux 19.96 306 *e*P **P** 12 29 04.4 **+0.6**
RJF pmax pmax
comp=Z,16nm,0.9s
RJF Les Rejaudoux 19.96 306 *e*P **P** 12 29 04.4 **+0.6**
comp=Z,8.2nm,0.9s
RJF Les Rejaudoux 19.96 306 *e*P **P** 12 29 04.4 **+0.6**
comp=Z,16nm,0.9s
MEM Membach 20.05 323 P **P** 12 29 05.1 **+0.4**
comp=Z,8.8nm,1.1s
MEM Membach 20.05 323 *e*P Pn 12 29 06.0 -1.1
MEM pmax pmax
comp=Z,17nm,0.8s
MEM Membach 20.05 323 *e*P Pn 12 29 06.0 -1.1
comp=Z,17nm,0.8s
MEM Membach 20.05 323 *e*P Pn 12 29 06.0 -1.1
comp=Z,17nm,0.8s
EPF Esparros 20.12 299 *e*P **P** 12 29 06.6 **+1.1**
EPF Esparros 20.12 299 *e*P **P** 12 29 06.6 **+1.1**
EPF Esparros 20.12 299 *e*P **P** 12 29 06.6 **+1.1**
EPF Esparros 20.12 299 *e*P **P** 12 29 06.6 **+1.1**
BCLA Clavier 20.28 322 P **P** 12 29 07.5 **+0.4**
comp=Z,11nm,2.1s
BCLA AP **pP** 12 29 19.6 **-2.7**
GIVF Givet 20.32 321 *e*P **P** 12 29 07.9 **+0.3**
comp=Z,23nm,0.6s
GIVF Givet 20.32 321 *e*P **P** 12 29 07.9 **+0.3**
GIVF pmax pmax
comp=Z,23nm,0.6s
GIVF Givet 20.32 321 *e*P **P** 12 29 07.9 **+0.3**
comp=Z,12nm,0.6s
GIVF Givet 20.32 321 *e*P **P** 12 29 07.9 **+0.3**
comp=Z,23nm,0.6s
LFF La Frestale 20.36 304 *e*P **P** 12 29 08.1 **+0.1**
comp=Z,10.0nm,0.6s
LFF La Frestale 20.36 304 *e*P **P** 12 29 08.1 **+0.1**
LFF pmax pmax
comp=Z,10.0nm,0.6s
LFF La Frestale 20.36 304 *e*P **P** 12 29 08.1 **+0.1**
comp=Z,5.0nm,0.6s
LFF La Frestale 20.36 304 *e*P **P** 12 29 08.1 **+0.1**
comp=Z,10.0nm,0.6s
DOU Dourbes 20.44 321 P **P** 12 29 09.0 **+0.2**
comp=Z,15nm,1.2s
BSD Bornholm Skovb 20.49 344 *i* P **P** 12 29 06.8 **-2.5**
BSD Bornholm Skovb 20.49 344 *i* P **P** 12 29 06.8 **-2.5**
BAIF Baives 20.61 320 *e*P **P** 12 29 10.3 **-0.4**
comp=Z,80nm,0.7s
BAIF Baives 20.61 320 *e*P **P** 12 29 10.3 **-0.4**
BAIF pmax pmax
comp=Z,80nm,0.7s
BAIF Baives 20.61 320 *e*P **P** 12 29 10.3 **-0.4**
comp=Z,40nm,0.7s
BAIF Baives 20.61 320 *e*P **P** 12 29 10.3 **-0.4**
comp=Z,80nm,0.7s
ETSF Etsaut 20.74 298 *e*P **P** 12 29 13.5 **+1.3**
comp=Z,18nm,1.0s
ETSF Etsaut 20.74 298 *e*P **P** 12 29 13.5 **+1.3**
ETSF pmax pmax
comp=Z,18nm,1.0s
ETSF Etsaut 20.74 298 *e*P **P** 12 29 13.5 **+1.3**
comp=Z,9.0nm,1.0s
ETSF Etsaut 20.74 298 *e*P **P** 12 29 13.5 **+1.3**
comp=Z,18nm,1.0s
BSEG Bad Segeberg 20.75 336 *e*P **P** 12 29 10.4 **-1.8**
comp=Z,10.0nm,1.0s
BSEG Bad Segeberg 20.75 336 *e*P **P** 12 29 10.4 **-1.8**
comp=Z,10.0nm,1.0s
SNF Seneffe 20.84 321 P **P** 12 29 13.5 **+0.3**
UCC Uccle 20.98 322 P **P** 12 29 15.2 **+0.5**
OBN Obninsk 21.01 19 ‖*e*P **P** 12 29 14.4 **-0.5**
OBN *i* 12 29 38.0
OBN *e*S **S** 12 33 05.0 **+0.4**
OBN pmax pmax
comp=Z,3.0nm,0.8s
OBN MLR MLR
comp=Z,25nm,23.0s
OBN Obninsk 21.01 19 *e*P **P** 12 29 14.4 **-0.5**
comp=Z,3.0nm,0.8s
OBN *e*S **S** 12 33 05.0 **+0.4**
TAM Tamanrasset 21.08 237 *e*P **P** 12 29 18.3 **+2.1**
comp=Z,7.3nm,0.8s
SJPF Ste Jean 21.26 298 *e*P **P** 12 29 18.6 **+0.9**
comp=Z,17nm,0.8s
SJPF Ste Jean 21.26 298 *e*P **P** 12 29 18.6 **+0.9**
SJPF pmax pmax
comp=Z,17nm,0.8s
SJPF Ste Jean 21.26 298 *e*P **P** 12 29 18.6 **+0.9**
comp=Z,8.6nm,0.8s
SJPF Ste Jean 21.26 298 *e*P **P** 12 29 18.6 **+0.9**
comp=Z,17nm,0.8s
MFF Saint Martin d 21.51 308 *e*P **P** 12 29 20.7 **+0.4**
comp=Z,31nm,0.7s
MFF Saint Martin d 21.51 308 *e*P **P** 12 29 20.7 **+0.4**
MFF pmax pmax
comp=Z,31nm,0.7s
MFF Saint Martin d 21.51 308 *e*P **P** 12 29 20.7 **+0.4**
comp=Z,15nm,0.7s
MFF Saint Martin d 21.51 308 *e*P **P** 12 29 20.7 **+0.4**
comp=Z,31nm,0.7s
RAYN Ar Rayn 21.77 118 *e*P **P** 12 29 26.6 **+3.2**
comp=Z,16nm,2.0s
MENF Mencas 21.98 319 *e*P **P** 12 29 26.7 **+1.4**
MENF Mencas 21.98 319 *e*P **P** 12 29 26.7 **+1.4**
LDF La Druitiere 22.29 313 *e*P **P** 12 29 27.0 **-1.7**
comp=Z,11nm,0.5s
LDF La Druitiere 22.29 313 *e*P **P** 12 29 27.0 **-1.7**
LDF pmax pmax
comp=Z,11nm,0.5s
LDF La Druitiere 22.29 313 *e*P **P** 12 29 27.0 **-1.7**
comp=Z,5.7nm,0.5s
LDF La Druitiere 22.29 313 *e*P **P** 12 29 27.0 **-1.7**
comp=Z,11nm,0.5s
FLN La Foliniere 22.58 313 *e*P **P** 12 29 30.1 **-1.7**
comp=Z,14nm,0.5s
FLN *e*R
comp=Z,59nm,19.0s
FLN La Foliniere 22.58 313 *e*P **P** 12 29 30.1 **-1.7**
FLN pmax pmax
comp=Z,15nm,0.4s
FLN La Foliniere 22.58 313 *e*P **P** 12 29 30.1 **-1.7**
comp=Z,7.2nm,0.5s
FLN La Foliniere 22.58 313 *e*P **P** 12 29 30.1 **-1.7**
comp=Z,14nm,0.4s
GRR Gorron 22.65 312 *e*P **P** 12 29 30.9 **-1.6**
comp=Z,12nm,0.5s
GRR Gorron 22.65 312 *e*P **P** 12 29 30.9 **-1.6**
GRR pmax pmax
comp=Z,12nm,0.5s
GRR Gorron 22.65 312 *e*P **P** 12 29 30.9 **-1.6**
comp=Z,6.0nm,0.5s
GRR Gorron 22.65 312 *e*P **P** 12 29 30.9 **-1.6**
comp=Z,12nm,0.5s
ESDC Soneca Array 22.95 288 P **P** 12 29 36.1 **+0.3**
comp=Z,1.3nm,0.5s,baz=85,slow=9.9,SNR=15
ESLA Sonseca Array 22.95 288 *e*P **P** 12 29 37.2 **+1.4**
comp=Z,2.0nm,1.1s
SGMF Saint Gilles 23.64 310 *e*P **P** 12 29 41.7 **-0.4**
SGMF Saint Gilles 23.64 310 *e*P **P** 12 29 41.7 **-0.4**
SGMF Saint Gilles 23.64 310 *e*P **P** 12 29 41.7 **-0.4**
SGMF Saint Gilles 23.64 310 *e*P **P** 12 29 41.7 **-0.4**
QUIF Quistinic 23.90 309 *e*P **P** 12 29 44.2 **-0.2**
QUIF Quistinic 23.90 309 *e*P **P** 12 29 44.2 **-0.2**
QUIF Quistinic 23.90 309 *e*P **P** 12 29 44.2 **-0.2**
QUIF Quistinic 23.90 309 *e*P **P** 12 29 44.2 **-0.2**
ROSF Rostrenen 24.11 310 *e*P **P** 12 29 46.1 **-0.2**
comp=Z,36nm,0.9s

ROSF Rostrenen 24.11 310 *e*P **P** 12 29 46.1 **-0.2**
ROSF pmax pmax
comp=Z,36nm,0.9s
ROSF Rostrenen 24.11 310 *e*P **P** 12 29 46.1 **-0.2**
comp=Z,18nm,0.9s
ROSF Rostrenen 24.11 310 *e*P **P** 12 29 46.1 **-0.2**
comp=Z,36nm,0.9s
MDT Midelt 24.34 272 P **P** 12 29 50.7 **+2.0**
comp=Z,3.0nm,0.9s,baz=82,slow=9.6,SNR=4.1
HFS Hagfors 25.40 347 P **P** 12 29 55.5 **-2.4**
comp=Z,1.5nm,0.4s,baz=155,slow=11,SNR=14
HFS LR LR 12 40 33.7
comp=Z,55nm,18.6s,baz=143,slow=38
HFS Hagfors 25.40 347 P **P** 12 29 55.5 **-2.4**
HFS pmax pmax
comp=Z,2.0nm,0.4s
HFS MLR MLR
comp=Z,55nm,18.6s
FINES FINESS Array B 25.71 2 P **P** 12 29 58.6 **-2.0**
comp=Z,2.7nm,0.4s,baz=168,slow=12,SNR=30
FINES PcP **PcP** 12 33 28.7 **-0.1**
comp=Z,1.5nm,0.5s,baz=166,slow=3.7,SNR=7.4
FINES ScP **ScP** 12 36 59.3 **-2.3**
comp=Z,1.8nm,0.9s,baz=198,slow=3.8,SNR=4.6
FINES LR LR 12 41 29.4
comp=Z,35nm,18.3s,baz=176,slow=40
FINES FINESS Array B 25.71 2*c* P **P** 12 29 58.5 **-2.2**
FINES pmax pmax
comp=Z,3.0nm,0.4s
NB2 NORSAR Subarra 26.71 345 P **P** 12 30 08.2 **-1.6**
comp=Z,0.5nm,0.5s,baz=156,slow=9.3
NOA NORSAR Array B 26.71 345 P **P** 12 30 09.2 **-0.6**
comp=Z,0.3nm,0.5s,baz=156,slow=10,SNR=10
NOA LR LR 12 40 59.8
comp=Z,16nm,19.3s,baz=230,slow=37
GEYT Alibeck 26.76 75 P **P** 12 30 10.6 **+0.1**
comp=Z,6.3nm,0.5s,baz=268,slow=8.3,SNR=15
EKA Eskdalemuir Ar 27.32 324 P **P** 12 30 14.7 **-0.5**
comp=Z,3.9nm,0.4s,baz=125,slow=10,SNR=28
EKA Eskdalemuir Ar 27.32 324 P **P** 12 30 14.7 **-0.5**
EKA pmax pmax
comp=Z,4.0nm,0.4s
ESK Eskdalemuir 27.33 324 *e*P **P** 12 30 16.9 **+1.6**
ESK pmax pmax
comp=Z,12nm,0.6s
ESK Eskdalemuir 27.33 324 *e*P **P** 12 30 16.9 **+1.6**
comp=Z,12nm,0.6s
ESK Eskdalemuir 27.33 324 *e*P **P** 12 30 16.9 **+1.6**
comp=Z,12nm,0.6s
AKTO Aktyubinsk 28.13 48 P **P** 12 30 20.6 **-1.9**
comp=Z,1.0nm,0.3s,baz=243,slow=9.4,SNR=5.9
AKTO Aktyubinsk 28.13 48 P **P** 12 30 20.6 **-1.9**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
ABKAR Akbulak array 28.99 51 *e*P **P** 12 30 29.0 **-1.2**
comp=Z,3.2nm,0.7s
TOA0 Torodi Ar. Sit 30.59 228 *e*P **P** 12 30 44.7 **+0.1**
TORD Torodi Ar. Bea 30.59 228 P **P** 12 30 44.9 **+0.3**
comp=Z,6.9nm,0.6s,baz=33,slow=8.6,SNR=75
TORD PcP **PcP** 12 33 42.0 **+0.3**
comp=Z,0.5nm,0.6s,baz=29,slow=3.5,SNR=4.7
ARU Arti 30.80 37*d i* P **P** 12 30 46.3 **+0.2**
ARU 12 31 47.7
ARU S **S** 12 35 49.7 **+5.8**
ARU SS **SnSn** 12 37 33.5 **+3.7**
ARU pmax pmax
comp=Z,5.0nm,1.2s
ARU Arti 30.80 37 *i* P **P** 12 30 46.3 **+0.2**
comp=Z,5.0nm,1.2s
ARCES ARCESS Array B 33.83 1 P **P** 12 31 10.2 **-2.2**
comp=Z,5.7nm,0.5s,baz=173,slow=9.2,SNR=45
ARCES PcP **PcP** 12 33 48.9 **-0.7**
comp=Z,7.9nm,1.1s,baz=184,slow=1.9,SNR=4.5
ARCES LR LR 12 47 40.8
comp=Z,45nm,18.8s,baz=200,slow=41
ARCES ARCESS Array B 33.83 1 P **P** 12 31 10.2 **-2.2**
ARCES 12 33 48.9
ARCES pmax pmax
comp=Z,6.0nm,0.5s
ARCES pmax pmax
comp=Z,8.0nm,1.1s
ARCES MLR MLR
comp=Z,45nm,18.8s
KKAR Karatay Array 35.78 64 *e*P **P** 12 31 29.5 **-0.1**
KKAR pmax pmax
comp=Z,14nm,0.9s
KKAR Karatay Array 35.78 64 *e*P **P** 12 31 29.5 **-0.1**
comp=Z,14nm,0.9s
KKAR Karatay Array 35.78 64 *e*P **P** 12 31 29.5 **-0.1**
comp=Z,14nm,0.9s
BRVK Borovoye 36.16 47*c e*P **P** 12 31 33.0 **+0.4**
BRVK pmax pmax
comp=Z,3.0nm,1.7s
BRVK Borovoye 36.16 47 *e*P **P** 12 31 33.0 **+0.4**
comp=Z,3.0nm,1.7s
BRVK Borovoye 36.16 47 *e*P **P** 12 31 32.8 **+0.1**
comp=Z,4.8nm,1.1s
EKS2 Erkin-Say 38.21 64 *e*P **P** 12 31 50.0 **-0.4**
EKS2 pmax pmax
comp=Z,8.0nm,1.1s
EKS2 Erkin-Say 38.21 64 *e*P **P** 12 31 50.0 **-0.4**
comp=Z,8.0nm,1.1s
EKS2 Erkin-Say 38.21 64 *e*P **P** 12 31 50.0 **-0.4**
comp=Z,8.2nm,1.1s
MSKU Masuku 38.64 198 P **P** 12 31 53.9 **-0.1**
comp=Z,12nm,0.5s,baz=332,slow=12,SNR=4.2
AAK Ala-Archa 38.74 64 P **P** 12 31 55.0 **+0.2**
comp=Z,2.6nm,0.5s,baz=209,slow=5.3,SNR=10.0
AAK Ala-Archa 38.74 64 *e*P **P** 12 31 55.1 **+0.3**
AAK pmax pmax
comp=Z,3.0nm,0.7s
AAK Ala-Archa 38.74 64 *e*P **P** 12 31 55.1 **+0.3**
comp=Z,3.0nm,0.7s
AAK Ala-Archa 38.74 64 *e*P **P** 12 31 55.1 **+0.3**
comp=Z,3.2nm,0.7s
TKM2 Tokmak 2 39.51 64 *e*P **P** 12 32 01.2 **-0.1**
TKM2 pmax pmax
comp=Z,1.0nm,0.4s
TKM2 Tokmak 2 39.51 64 *e*P **P** 12 32 01.2 **-0.1**
comp=Z,1.0nm,0.4s
TKM2 Tokmak 2 39.51 64 *e*P **P** 12 32 01.2 **-0.1**
comp=Z,1.4nm,0.4s
DBIC Dimbokro 39.65 230 P **P** 12 32 02.4 **0.0**
comp=Z,8.8nm,0.8s,baz=14,slow=9.5,SNR=9.0
DBIC Dimbokro 39.65 230 *e*P **P** 12 32 02.2 **-0.2**
DBIC pmax pmax
comp=Z,27nm,1.3s
DBIC Dimbokro 39.65 230 *e*P **P** 12 32 02.2 **-0.2**
comp=Z,27nm,1.3s
DBIC Dimbokro 39.65 230 *e*P **P** 12 32 02.2 **-0.2**
comp=Z,27nm,1.3s
TIC Toumodi 39.77 230 *e*P **P** 12 32 03.3 **-0.2**
comp=Z,6.9nm,0.2s
KIC Kosan Boka 39.82 230 *e*P **P** 12 32 03.8 **0.0**
comp=Z,4.5nm,0.4s
LIC Lamto 40.10 230 *e*P **P** 12 32 05.6 **-0.6**
comp=Z,6.6nm,0.5s
LIC Lamto 40.10 230 *e*P **P** 12 32 06.1 **-0.1**
comp=Z,31nm,1.0s
LIC Lamto 40.10 230 *e*P **P** 12 32 05.6 **-0.6**
comp=Z,3.3nm,0.5s
LIC Lamto 40.10 230 *e*P **P** 12 32 05.6 **-0.6**
comp=Z,6.6nm,0.5s
KURBB Kurchatov Arra 41.05 52 P **P** 12 32 12.9 **-0.6**
comp=Z,5.9nm,0.6s,baz=278,slow=8.6,SNR=49
KURK Kurchatov 41.10 51 *e*P **P** 12 32 13.3 **-0.8**
KURK pmax pmax
comp=Z,6.0nm,0.9s
KURK Kurchatov 41.10 51 *e*P **P** 12 32 13.3 **-0.8**
comp=Z,6.0nm,0.9s
KURK Kurchatov 41.10 51 *e*P **P** 12 32 13.3 **-0.8**
comp=Z,6.1nm,0.9s
MK31 Makanchi Array 43.77 57 *e*P **P** 12 32 35.3 **-0.5**
MK31 Makanchi Array 43.77 57 *e*P **P** 12 32 35.3 **-0.5**
MK31 Makanchi Array 43.77 57 *e*P **P** 12 32 35.3 **-0.5**
MKAR Makanchi Array 43.77 57 P **P** 12 32 35.4 **-0.4**
comp=Z,2.5nm,0.4s,baz=264,slow=12,SNR=101
MKAR ScP **ScP** 12 38 04.8 **-1.5**
comp=Z,0.3nm,0.6s,baz=251,slow=4.4,SNR=3.7
NVS Novosibirsk 43.94 45 ‖*i* P **P** 12 32 36.6 **-0.3**
NVS pmax pmax
comp=N,3.0nm,0.8s
NVS pmax pmax
comp=E,6.0nm,0.8s
NVS pmax pmax
comp=Z,12nm,0.8s
NVS Novosibirsk 43.94 45 *i* P **P** 12 32 36.6 **-0.3**

ZAA0	**Zalesovo Array**	**44.87**	**47**	*eP*		**P**		**12 32 42.9**	**-1.5**
ZALV	**Zalesovo Beam**	**44.87**	**47**	P		**P**		**12 32 43.2**	**-1.2**
	comp=Z,5.3nm,0.4s,baz=267,slow=9.2,SNR=40								
ZALV	**Zalesovo Beam**	**44.87**	**47**	P		**P**		**12 32 43.2**	**-1.2**
ZALV				pmax	pmax				
	comp=Z,5.0nm,0.4s								
WMQ	**Urumqi**	**48.04**	**60**	*eP*		P		12 33 14.4	+4.9
WMQ				pP		pP		12 33 26.6	-1.5
WMQ				PMZ					
	comp=Z,6.0nm,0.5s								
WMQ				PMZ					
	comp=Z,80nm,5.8s								
SUMG	**Summit**	**48.27**	**339**	*i* P		**P**		**12 33 11.0**	**-0.2**
	comp=Z,2.7nm,0.7s								
SUMG	**Summit**	**48.27**	**339**	*eP*		**P**		**12 33 11.0**	**-0.2**
SUMG				pmax	pmax				
	comp=Z,3.0nm,0.7s								
SUMG	**Summit**	**48.27**	**339**	*eP*		**P**		**12 33 11.0**	**-0.2**
	comp=Z,3.0nm,0.7s								
SUMG	**Summit**	**48.27**	**339**	*eP*		**P**		**12 33 11.2**	**0.0**
	comp=Z,5.1nm,1.0s								
PYUN	**Piuthan**	**49.45**	**82**	*eP*		**P**		**12 33 20.8**	**+0.1**
	comp=Z,47nm,0.7s								
KOLN	**Koldanda**	**50.08**	**82**	*eP*		**P**		**12 33 25.2**	**-0.2**
	comp=Z,6.5nm,0.5s								
GKN	**Gorkha**	**50.81**	**81**	*eP*		**P**		**12 33 30.6**	**-0.3**
	comp=Z,25nm,0.7s								
DMN	**Daman**	**51.36**	**81**	*eP*		**P**		**12 33 35.0**	**-0.1**
	comp=Z,33nm,0.7s								
KKN	**Kakani**	**51.42**	**81**	*eP*		**P**		**12 33 34.9**	**-0.6**
	comp=Z,15nm,0.6s								
PKIN	**Phulchoki**	**51.60**	**81**	*eP*		**P**		**12 33 36.4**	**-0.6**
	comp=Z,10nm,0.8s								
PKI	**Pulchoki**	**51.62**	**81**	*eP*		**P**		**12 33 36.5**	**-0.6**
	comp=Z,28nm,0.9s								
GUN	**Gumba**	**51.85**	**80**	*eP*		**P**		**12 33 38.6**	**-0.3**
	comp=Z,18nm,0.6s								
JIRN	**Jiri**	**52.21**	**81**	*eP*		**P**		**12 33 41.4**	**-0.2**
	comp=Z,12nm,0.4s								
RAMN	**Ramite**	**52.84**	**81**	*eP*		**P**		**12 33 45.1**	**-1.0**
	comp=Z,13nm,0.6s								
ODAN	**Odare**	**53.51**	**81**	*eP*		**P**		**12 33 50.0**	**-1.0**
	comp=Z,6.9nm,0.5s								
TAPN	**Taplejung**	**53.56**	**80**	*eP*		**P**		**12 33 50.8**	**-0.6**
	comp=Z,6.3nm,0.5s								
LSA	**Lhasa**	**55.29**	**76**	*eP*		**P**		**12 34 04.4**	**+0.2**
LSA				pmax	pmax				
	comp=Z,6.0nm,0.6s								
LSA	**Lhasa**	**55.29**	**76**	*eP*		**P**		**12 34 04.4**	**+0.2**
	comp=Z,6.0nm,0.6s								
LSA	**Lhasa**	**55.29**	**76**	*eP*		**P**		**12 34 04.4**	**+0.2**
	comp=Z,5.8nm,0.6s								
ZAK	**Zakamensk**	**56.64**	**49**	*eP*		**P**		**12 34 12.0**	**-1.0**
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.0s								
ZAK	**Zakamensk**	**56.64**	**49**	*eP*		**P**		**12 34 12.0**	**-1.0**
	comp=Z,3.0nm,1.0s								
GTA	**Gaotai**	**58.02**	**62**	*eP*		**P**		**12 34 22.9**	**-0.1**
GTA				PMZ					
	comp=Z,4.0nm,0.9s								
SONM	**Songino Array**	**59.40**	**51**	P		**P**		**12 34 31.9**	**-0.5**
	comp=Z,2.7nm,0.6s,baz=291,slow=7.3,SNR=20								
SONM	**Songino Array**	**59.40**	**51**	P		**P**		**12 34 31.9**	**-0.5**
SONM				pmax	pmax				
	comp=Z,3.0nm,0.6s								
ULN	**Ulaanbaatar**	**59.81**	**51**	*eP*		**P**		**12 34 34.0**	**-1.3**
ULN				pmax	pmax				
	comp=Z,6.0nm,0.9s								
ULN	**Ulaanbaatar**	**59.81**	**51**	*eP*		**P**		**12 34 34.0**	**-1.3**
	comp=Z,6.0nm,0.9s								
ULN	**Ulaanbaatar**	**59.81**	**51**	*eP*		**P**		**12 34 34.0**	**-1.3**
	comp=Z,5.7nm,0.9s								
BOD	**Bodaibo**	**60.22**	**38**	*eP*		**P**		**12 34 35.4**	**-2.3**
BOD				pmax	pmax				
	comp=Z,4.0nm,0.8s								
LZH	**Lanzhou**	**62.28**	**64**	*eP*		P		12 34 57.3	+5.1
LZH				pP		pP		12 35 10.4	-1.2
LZH				PMZ					
	comp=Z,12nm,1.0s								
SCHQ	**Schefferville**	**62.47**	**319**	P		**P**		**12 34 53.3**	**+0.3**
	comp=Z,2.0nm,0.5s,baz=61,slow=5.0,SNR=12								
SCHQ	**Schefferville**	**62.47**	**319**	*eP*		**P**		**12 34 52.9**	**-0.1**
	comp=Z,2.7nm,0.6s								
HHC	**Hu-ho-hao-te**	**65.62**	**56**	*eP*		P		12 35 18.8	+4.8
HHC				PP		PP		12 37 45.4	+6.5
HHC				S		**S**		**12 43 59.3**	**+5.4**
HHC				sS		sS		12 44 20.6	-6.5
HHC				ScS		**ScS**		**12 45 06.7**	**+3.6**
HHC				SS		**SS**		**12 48 14.5**	**+6.0**
HHC				PMZ					
	comp=Z,17nm,1.2s								
HHC				PMZ					
	comp=Z,56nm,5.2s								
HHC				LN					
	comp=Z,59nm,17.1s								
HHC				LE					
	comp=Z,73nm,16.7s								
CMAR	**Chiang Mai Arr**	**66.89**	**83**	P		**P**		**12 35 21.6**	**-0.7**
	comp=Z,3.4nm,0.8s,baz=300,slow=7.7,SNR=19								
CMAR	**Chiang Mai Arr**	**66.89**	**83**	P		**P**		**12 35 21.6**	**-0.7**
CMAR				pmax	pmax				
	comp=Z,3.0nm,0.8s								
BJI	**Beijing**	**69.11**	**55**	P		P		12 35 39.9	+4.1
BJI				pP		pP		12 35 51.3	-4.2
BJI				PcP		**PcP**		**12 36 03.4**	**+4.0**
BJI				PP		**PP**		**12 38 12.0**	**+3.0**
BJI				S		**S**		**12 44 40.0**	**+4.6**
BJI				SS		**SS**		**12 49 04.6**	**+2.5**
BJI				PMZ					
	comp=Z,11nm,0.6s								
BJI				LN					
	comp=Z,82nm,5.0s								
BJI				LE					
	comp=Z,97nm,5.2s								
BILL	**Bilibino**	**72.57**	**14**↑	*eP*		P		12 35 49.6	-6.8
BILL				*e*				12 36 11.1	
BILL				*e*				12 38 38.4	
BILL				pmax	pmax				
	comp=Z,3.0nm,1.6s								
USRK	**Ussuriysk Ar.**	**76.69**	**45**	P		**P**		**12 36 19.6**	**-1.0**
	comp=Z,3.0nm,0.6s,baz=292,slow=5.4,SNR=7.5								
YKA	**Yellowknife Ar**	**76.75**	**342**	P		**P**		**12 36 20.2**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=32,slow=5.2,SNR=13								
KSAR	**Wonju Array Be**	**78.20**	**52**	P		**P**		**12 36 28.9**	**-0.3**
KSAR	**Wonju Array Be**	**78.20**	**52**	P		**P**		**12 36 28.9**	**-0.3**
KSAR	**Wonju Array Be**	**78.20**	**52**	P		**P**		**12 36 28.9**	**-0.3**
KSRS	**Korea Array**	**78.22**	**52**	P		**P**		**12 36 28.9**	**-0.4**
	comp=Z,3.7nm,0.5s,baz=307,slow=4.6,SNR=20								
KSRS	**Korea Array**	**78.22**	**52**	P		**P**		**12 36 28.9**	**-0.4**
KSRS				pmax	pmax				
	comp=Z,4.0nm,0.5s								
ILAR	**Eielson Array**	**79.57**	**356**	P		**P**		**12 36 36.3**	**+0.1**
	comp=Z,0.2nm,0.8s,baz=342,slow=2.3,SNR=4.2								
MCK	**McKinley**	**80.71**	**357**	*eP*		**P**		**12 36 43.3**	**+1.0**
MCK				pmax	pmax				
	comp=Z,3.0nm,1.0s								
MCK	**McKinley**	**80.71**	**357**	*eP*		**P**		**12 36 43.3**	**+1.0**
	comp=Z,3.0nm,1.0s								
MCK	**McKinley**	**80.71**	**357**	*eP*		**P**		**12 36 43.3**	**+1.0**
	comp=Z,3.3nm,1.0s								
MJAR	**Matsushiro Arr**	**85.21**	**48**	P		**P**		**12 37 05.7**	**-0.4**
	comp=Z,2.2nm,0.9s,baz=299,slow=5.0,SNR=10								
MJAR	**Matsushiro Arr**	**85.21**	**48**	P		**P**		**12 37 05.7**	**-0.4**
MJAR				pmax	pmax				
	comp=Z,2.0nm,0.9s								
BDFB	**Brasilia**	**85.58**	**247**	P		**P**		**12 37 09.9**	**+1.7**
	comp=Z,3.8nm,0.6s,baz=66,slow=6.2,SNR=5.8								
WRA	**Warramunga Arr**	**117.04**	**96**	PKP		**PKPdf**		**12 43 13.4**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=296,slow=1.7,SNR=6.7								
WRA	**Warramunga Arr**	**117.04**	**96**	PKIKP		**PKPdf**		**12 43 13.4**	**-1.0**
WRA				pmax	pmax				
	comp=Z,1.0nm,0.7s								
WRAB	**Tennant Creek**	**117.05**	**96**	*e*PKIKP		**PKPdf**		**12 43 13.6**	**-0.8**
WRAB	**Tennant Creek**	**117.05**	**96**	*e*PKPdf		**PKPdf**		**12 43 13.6**	**-0.8**
ASAR	**Alice Springs**	**118.54**	**100**	PKP		**PKPdf**		**12 43 16.6**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=303,slow=1.2,SNR=17								
ASAR	**Alice Springs**	**118.54**	**100**	PKIKP		**PKPdf**		**12 43 16.7**	**-0.5**
ASAR				pmax	pmax				
	comp=Z,1.0nm,0.5s								

NEIC ***02*** *12:30:30.2, 15°.65N×92°.59W, h20km, MD4.0(MEX), After MEX.*

MEX 02 12:30:30.2±1.2, 15°.65N×92°.59W, h20km±50km, MD4.0, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PCIG		**0.61**	**275**	*i* P		Pb	12 30 39.9	-2.3
PCIG				*i* S		Sb	12 30 47.9	-2.5
PCIG		**0.61**	**275**	*i* P		Pb	12 30 39.9	-2.3
PCIG				*i* S		Sb	12 30 47.9	-2.5
CCIG	**Comitan**	**0.76**	**35**	*i* P		Pb	12 30 42.5	-2.5
CCIG				*e*S		Sb	12 30 51.8	-3.3
CCIG	**Comitan**	**0.76**	**35**	*i* P		Pb	12 30 42.5	-2.5
CCIG				*e*S		Sb	12 30 51.8	-3.3
TGIG		**1.23**	**335**	*i* P		Pn	12 30 49.2	-3.2
TGIG				*e*S		Sb	12 31 03.7	-4.8
TGIG		**1.23**	**335**	*i* P		Pn	12 30 49.2	-3.2
TGIG				*e*S		Sb	12 31 03.7	-4.8
CMIG	**Matias Romero**	**2.63**	**303**	*e*P		Pn	12 31 10.6	-0.9
CMIG				*e*S		Sn	12 31 42.4	-0.5
CMIG	**Matias Romero**	**2.63**	**303**	*e*P		Pn	12 31 10.6	-0.9
CMIG				*e*S		Sn	12 31 42.4	-0.5
HUIG	**Huatulco**	**3.39**	**272**	*e*P		Pn	12 31 22.6	+0.5
HUIG	**Huatulco**	**3.39**	**272**	*e*P		Pn	12 31 22.6	+0.5
VHO	**Vista Hermosa**	**4.22**	**290**	*e*P		Pb	12 31 39.2	-4.9
VHO	**Vista Hermosa**	**4.22**	**290**	*e*P		Pb	12 31 39.2	-4.9

ISCJB ***02*** *12:45:40.7±1.6, 33°.78S±0°.04×72°.62W±0°.08, h17km±12km, mb4.4/7, MS3.5/1, Error ellipse: s-maj=10.9km s-min=6.5km az=7.3*

IDC ***02*** *12:45:40.1±1.2, 33°.78S×72°.51W, h0km, mb4.0/5, mb1 4.0/6, mb1mx3.8/27, mbtmp3.9/6, ML4.2/1, MS3.8/4, Ms1 3.8/4, ms1mx3.3/20, Error ellipse: s-maj=34.1km s-min=16.9km az=114.0*

GUC ***02*** *12:45:42.2±0.6, 33°.82S×72°.53W, h22km±4km, ML4.0*

NEIC ***02*** *12:45:43.0±4.4, 33°.77S×72°.49W, h18km±26km, mb4.9/5, Error ellipse: s-maj=20.4km s-min=9.3km az=95.0*

ISC 02 12:45:41.3±2.3, 33°.78S±0°.05×72°.49W±0°.08, h8km±13km, n26, σ0°.58/32, mb4.3/7, 5C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**1.04**	**43**↓	*i*P		**Pg**	**12 46 01.1**	**-0.1**
ROCH	**El Roble**	**1.48**	**57**↑	*i*P		**Pn**	**12 46 07.9**	**-0.5**
ROCH				*e*S		**Sn**	**12 46 28.0**	**-0.1**
ROCH				AML		AML	12 46 40.5	
	comp=N,3μm,0.7s							
NICH	**Los Niches**	**1.60**	**140**↑	*i*P		**Pn**	**12 46 09.6**	**-0.3**
NICH				*i* S		**Sn**	**12 46 30.2**	**-0.6**
PEL	**Peldehue**	**1.64**	**68**↓	*i*P		**Pn**	**12 46 10.8**	**+0.3**
PEL				*i* S		**Sb**	**12 46 32.7**	**+0.1**
PEL				AML		AML	12 46 44.7	
	comp=N,6μm,0.5s							
LACH	**Col Las Americ**	**1.67**	**79**	*e*P		**Pn**	**12 46 11.1**	**+0.3**
CLCH	**Cerro Calan**	**1.68**	**77**↑	*i*P		**Pn**	**12 46 10.9**	**-0.1**
CLCH				*i* S		**Sb**	**12 46 33.7**	**0.0**
CLCH				AML		AML	12 46 39.9	
	comp=E,2μm,0.3s							
CLCH				AML		AML	12 46 40.5	
	comp=E,2μm,0.4s							
TALC	**Talca**	**1.76**	**157**↑	*i*P		**Pn**	**12 46 12.0**	**-0.1**
TALC				*i* S		**Sn**	**12 46 33.9**	**-0.8**
LNCH	**Linares**	**2.19**	**161**↑	*i*P		**Pn**	**12 46 18.3**	**+0.4**
LNCH				*i* S		**Sn**	**12 46 45.2**	**0.0**
CFAA	**Coronel Fontan**	**4.19**	**60**	Pn		**Pn**	**12 46 47.6**	**+2.0**
	comp=E,0.4nm,0.3s,baz=227,slow=12,SNR=19							
CFAA				LR		LR	12 47 53.5	
	comp=E,22nm,20.1s,baz=316,slow=32							
CFAA				Lg		Lg	12 47 54.0	
	comp=E,1.1nm,0.3s,baz=323,slow=9.8,SNR=7.6							
LCO	**Las Campanas**	**5.00**	**18**	*e*Pn		**Pn**	**12 46 56.7**	**-0.1**
PLCA	**Paso Flores**	**7.11**	**168**	Pn		**Pn**	**12 47 26.4**	**+0.7**
	comp=E,1.0nm,0.3s,baz=342,slow=11,SNR=6.8							
PLCA				Lg		Lg	12 49 24.8	
	comp=E,0.2nm,0.3s,baz=206,slow=17,SNR=2.3							
PLCA				LR		LR	12 50 23.9	
	comp=E,399nm,18.6s,baz=350,slow=40							
TRQA	**Tornquist**	**9.53**	**120**	*e*Pn		**Pn**	**12 47 58.9**	**+0.1**
LVC	**Limon Verde**	**11.57**	**17**	LR		LR	12 53 23.6	
	comp=E,856nm,21.8s,baz=296,slow=40							
CPUP	**Villa Florida**	**15.07**	**64**	LR		LR	12 55 29.4	
	comp=E,1μm,20.8s,baz=237,slow=39							
BDFB	**Brasilia**	**28.53**	**57**	P		**P**	**12 51 36.7**	**-0.9**
	comp=E,0.7nm,0.3s,baz=311,slow=18,SNR=2.9							
SNAA	**Sanae**	**51.93**	**158**	P		**P**	**12 54 50.4**	**+0.2**
	comp=E,0.7nm,0.7s,baz=296,slow=7.4,SNR=9.6							
SNAA	**Sanae**	**51.93**	**158**	*e*P		**P**	**12 54 51.1**	**+0.9**
	comp=E,24nm,1.8s							
QSPA	**South Pole Qui**	**56.45**	**180**	P		**P**	**12 55 23.3**	**-0.1**
	comp=E,1.3nm,0.9s,baz=122,slow=3.1,SNR=3.4							
QSPA	**South Pole Qui**	**56.45**	**180**	*e*P		**P**	**12 55 23.7**	**+0.3**
	comp=E,5.3nm,1.2s							
DBIC	**Dimbokro**	**75.47**	**72**	P		**P**	**12 57 26.6**	**+0.3**
	comp=E,2.0nm,0.8s,baz=146,slow=3.6,SNR=4.0							
DBIC				LR		LR	13 28 52.6	
	comp=E,21nm,18.1s,baz=133,slow=34							
DBIC	**Dimbokro**	**75.47**	**72**	*e*P		**P**	**12 57 26.6**	**+0.3**
	comp=E,27nm,1.8s							
ECSD	**EROS Data Cent**	**80.23**	**343**	*e*P		**P**	**12 57 52.1**	**0.0**
	comp=E,21nm,2.0s							
LBTB	**Lobatse**	**82.73**	**115**	*e*P		**P**	**12 58 05.8**	**-0.4**
	comp=E,34nm,2.0s							
TORD	**Torodi Ar. Bea**	**84.49**	**70**	P		**P**	**12 58 15.0**	**-0.1**
	comp=E,1.0nm,0.8s,baz=278,slow=5.8,SNR=5.3							
ZALV	**Zalesovo Beam**	**154.24**	**32**	PKPbc		**PKPbc**	**13 05 41.4**	**0.0**
	comp=E,0.8nm,0.5s,baz=316,slow=2.8,SNR=6.4							
ZALV				PKPab		**PKPab**	**13 05 55.2**	**-0.1**
	comp=E,0.6nm,0.6s,baz=308,slow=3.9,SNR=3.1							
MKAR	**Makanchi Array**	**156.90**	**48**	PKP		**PKPdf**	**13 05 37.9**	**+0.8**
	comp=E,0.2nm,0.7s,baz=250,slow=2.9,SNR=3.2							
MKAR				PKPab		**PKPab**	**13 06 06.7**	**-0.4**
	comp=E,0.2nm,0.6s,baz=276,slow=4.1,SNR=4.0							

IDC ***02*** *13:15:56.5±3.0, 36°.42N×71°.36E, h74km±27km, mb3.4/13, mb1 3.6/20, mb1mx3.5/42, mbtmp3.8/20, MS3.2/1, Ms1 3.2/1, ms1mx2.2/32, Error ellipse: s-maj=22.2km s-min=13.7km az=16.0*

ISCJB ***02*** *13:15:58.3±0.4, 36°.55N±0°.04×71°.72E±0°.06, h114km, mb3.5/13, Error ellipse: s-maj=8.1km s-min=3.9km az=149.8*

ISC 02 13:15:59.8±0.6, 36°.55N±0°.06×71°.67E±0°.08, h114km, n43, σ1°65/42, mb3.5/13, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CEP	**Cherat**	**2.73**	**176**	P		**Pn**	**13 16 43.0**	**+0.6**
CHCP	**Chirah Chowk**	**3.16**	**155**	P		Pn	13 16 50.4	+2.3
THW	**Thamme Wali**	**3.74**	**179**	P		**Pn**	**13 16 55.6**	**-0.2**
SARP	**Sargodha**	**4.69**	**170**	P		**Pn**	**13 17 07.9**	**-0.5**
DLH	**Dalhousie**	**5.34**	**137**	*e*P		**Pn**	**13 17 19.0**	**+1.6**
DLH				*e*S		**Sn**	**13 18 19.0**	**+1.1**
AAK	**Ala-Archa**	**6.46**	**19**	P		**Pn**	**13 17 33.1**	**+0.7**
	2.4nm,0.3s,baz=167,slow=6.2,SNR=17							
AAK				S		**Sn**	**13 18 43.7**	**-1.1**
	1.6nm,0.3s,baz=319,slow=19,SNR=6.6							
SDNR	**Sundarnagar**	**6.68**	**137**	*e*P		**Pn**	**13 17 36.0**	**+0.6**
SDNR				*e*S		**Sn**	**13 18 48.0**	**-2.2**
SMLA	**Simla**	**7.08**	**138**	*i* P		**Pn**	**13 17 40.9**	**+0.2**
SMLA				*e*S		**Sn**	**13 18 57.3**	**-2.3**
SMLA				AML		AML	13 20 04.5	
	comp=N,73nm,0.4s							
SMLA				AML		AML	13 20 04.9	
	comp=E,70nm,0.3s							
NDI	**New Delhi**	**9.13**	**148**	*e*S		**Sn**	**13 19 52.0**	**+2.5**
SONA	**Sohna**	**9.45**	**150**	*e*S		Sn	13 20 03.2	+5.9
SONA				AML		AML	13 21 05.4	
	comp=N,12nm,0.1s							
SONA				AML		AML	13 21 08.9	
	comp=E,24nm,0.4s							
GEYT	**Alibeck**	**10.89**	**281**	P		Pn	13 18 24.8	-7.6
	comp=E,1.5nm,0.3s,baz=102,slow=8.9,SNR=11							
GEYT				S		Sn	13 20 15.4	-17
	comp=E,3.7nm,0.3s,baz=112,slow=21,SNR=13							
PYUN	**Piuthan**	**12.74**	**128**	*e*P		**Pn**	**13 18 54.8**	**-2.2**
	comp=E,57nm,0.5s							
MKAR	**Makanchi Array**	**12.94**	**34**	P		**Pn**	**13 19 00.0**	**+0.7**
	comp=E,0.1nm,0.3s,baz=229,slow=13,SNR=3.3							
KOLN	**Koldanda**	**13.36**	**128**	*e*P		**Pn**	**13 19 02.4**	**-2.6**
	comp=E,9.3nm,0.3s							
GKN	**Gorkha**	**13.88**	**124**	*e*P		**Pn**	**13 19 10.0**	**-1.7**
	comp=E,52nm,0.8s							
KKN	**Kakani**	**14.45**	**123**	*e*P		**Pn**	**13 19 17.1**	**-1.9**
	comp=E,15nm,0.5s							
DMN	**Daman**	**14.45**	**124**	*e*P		**Pn**	**13 19 17.0**	**-2.1**
	comp=E,9.5nm,0.4s							
PKIN	**Phulchoki**	**14.66**	**124**	*e*P		**Pn**	**13 19 19.5**	**-2.3**
	comp=E,11nm,0.3s							
PKI	**Pulchoki**	**14.68**	**124**	*e*P		**Pn**	**13 19 19.7**	**-2.4**
	comp=E,10nm,0.4s							
GUN	**Gumba**	**14.78**	**122**	*e*P		**Pn**	**13 19 21.3**	**-2.1**
	comp=E,7.1nm,1.0s							
KURBB	**Kurchatov Arra**	**14.91**	**17**	P		**P**	**13 19 27.5**	**+0.2**
	comp=E,0.0nm,0.3s,baz=207,slow=10,SNR=4.3							
JIRN	**Jiri**	**15.15**	**122**	*e*P		**Pn**	**13 19 25.7**	**-2.4**
	comp=E,26nm,0.4s							
RAMN	**Ramite**	**15.88**	**123**	*e*P		**Pn**	**13 19 35.0**	**-2.1**
	comp=E,18nm,0.5s							
TAPN	**Taplejung**	**16.39**	**119**	*e*P		**Pn**	**13 19 42.1**	**-1.4**
	comp=E,23nm,0.7s							
ODAN	**Odare**	**16.48**	**121**	*e*P		**Pn**	**13 19 42.4**	**-2.0**
	comp=E,26nm,1.0s							
BVAR	**Borovoye Array**	**16.50**	**357**	P		**P**	**13 19 43.6**	**-1.3**
	comp=E,0.2nm,0.3s,baz=175,slow=7.6,SNR=3.5							
AKTO	**Aktyubinsk**	**17.01**	**329**	P		**Pn**	**13 19 48.9**	**-1.6**
	comp=E,0.4nm,0.3s,baz=153,slow=11,SNR=11							
AKTO				S		Sn	13 22 42.8	-17
	comp=E,0.2nm,0.3s,baz=12,slow=19,SNR=3.7							
ZALV	**Zalesovo Beam**	**19.65**	**24**	P		**Pn**	**13 20 20.4**	**-1.4**
	comp=E,0.5nm,0.3s,baz=220,slow=9.5,SNR=8.0							
KBZ	**Khabaz**	**23.06**	**297**	P		**P**	**13 20 54.1**	**-1.0**
	comp=E,1.2nm,0.6s,baz=56,slow=24,SNR=5.1							
SONM	**Songino Array**	**27.86**	**55**	P		**P**	**13 21 40.9**	**+2.2**
	comp=E,0.2nm,0.5s,baz=274,slow=8.6,SNR=4.0							
BRTR	**Keskin Array B**	**29.93**	**288**	P		**P**	**13 21 57.1**	**0.0**
	comp=E,0.8nm,0.7s,baz=98,slow=7.6,SNR=5.0							
CMAR	**Chiang Mai Arr**	**30.00**	**120**	P		P	13 22 00.9	+3.1
	comp=E,0.3nm,0.3s,baz=185,slow=13,SNR=4.8							
AKASG	**Malin Array Be**	**33.34**	**309**	P		**P**	**13 22 25.0**	**-1.6**
	comp=E,0.3nm,0.2s,baz=80,slow=7.5,SNR=2.8							
FINES	**FINESS Array B**	**37.75**	**326**	P		**P**	**13 23 05.2**	**+1.1**
	comp=E,1.4nm,0.3s,baz=126,slow=10,SNR=16							
ARCES	**ARCESS Array B**	**41.31**	**337**	P		**P**	**13 23 34.8**	**+1.1**
	comp=E,0.9nm,0.4s,baz=108,slow=7.8,SNR=10							
YAK	**Yakutsk**	**43.61**	**35**	LR		LR	13 45 14.6	
	comp=E,27nm,18.3s,baz=42,slow=40							
NB2	**NORSAR Subarra**	**44.67**	**323**	P		**P**	**13 24 01.2**	**+0.4**
	comp=Z,1.9nm,0.5s,baz=93,slow=7.9							
NOA	**NORSAR Array B**	**44.67**	**323**	P		**P**	**13 24 01.4**	**+0.6**
	comp=Z,2.7nm,0.6s,baz=96,slow=7.8,SNR=17							
ESDC	**Sonseca Array**	**57.91**	**298**	P		**P**	**13 25 40.7**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=57,slow=6.4,SNR=5.6							
TORD	**Torodi Ar. Bea**	**66.26**	**269**	P		**P**	**13 26 34.9**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=50,slow=5.5,SNR=18							
YKA	**Yellowknife Ar**	**81.17**	**3**	P		**P**	**13 28 03.6**	**+1.3**
	comp=Z,0.1nm,0.4s,baz=354,slow=5.3,SNR=4.5							
WRA	**Warramunga Arr**	**81.56**	**122**	P		**P**	**13 28 06.6**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=325,slow=4.5,SNR=3.8							
ASAR	**Alice Springs**	**83.84**	**125**	P		**P**	**13 28 18.8**	**+2.1**
	comp=Z,0.3nm,0.9s,baz=296,slow=4.8,SNR=3.2							

DJA 02 13:17:57.3±0.7, 8°S±5°×107°E±°, h33km±4km, M3.6/9, MLv3.6/9, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CNJI	**Cibinong**	**0.53**	**57**	P		Pn	13 18 09.1	+0.6
CNJI				S		Sn	13 18 17.6	+1.2
SKJI	**Sukabumi**	**0.60**	**348**	P		Pb	13 18 10.3	+0.7
SKJI				S		Sn	13 18 18.9	+0.7
CISI	**Cisompet, Garu**	**1.13**	**88**	P		Pn	13 18 16.7	-0.2
CISI				S		Sn	13 18 30.1	-1.2
LEM	**Lembang**	**1.21**	**51**	P		Pb	13 18 20.1	+0.2
LEM				S		Sn	13 18 34.3	+0.8
CGJI	**Cibinong**	**1.39**	**315**	P		Pn	13 18 21.2	+0.9
CGJI				S		Sn	13 18 36.5	-1.0
SBJI	**Serang**	**1.57**	**340**	P		Pn

Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKH	**Okha**	**0.17**	**11**	*i* Pg	Pg	13 34 12.5	+2.5
OKH				AMB	AMB	13 34 12.9	
	700nm,0.5s						
OKH				*i* Sg	Sg	13 34 17.0	+4.4
OKH				A	A	13 34 18.1	
	2μm,0.5s						
OKH				A	A	13 34 18.1	
	3μm,0.5s						
NKL	**Nikolayevsk**	**1.34**	**261**	*i* Pg	Pg	13 34 32.8	+0.8
NKL				AMB	AMB	13 34 33.4	
	20nm,0.3s						
NKL				AMB	AMB	13 34 33.4	
	30nm,0.3s						
NKL				*e*Sg	Sg	13 34 51.2	+1.8
NKL				A	A	13 34 54.3	
	130nm,0.3s						
NKL				A	A	13 34 54.3	
	150nm,0.3s						
TYV	**Tymovskoe**	**2.52**	**183**	*e*Pg	Pg	13 34 57.0	+2.3
TYV				*e*Sg	Sg	13 35 31.3	+3.9
EKMR	**Ekimchan**	**5.97**	**271**	*e*Pg	Pg	13 36 04.5	+3.8
EKMR				AMB	AMB	13 36 09.5	
	1.0nm,0.2s						
EKMR				*e*Sg	Sg	13 37 27.5	+9.4
EKMR				A	A	13 37 28.5	
	4.0nm,0.7s						

ISCJB ***02*** *13:36:22.7±0.4,26°.92N±0°.06×127°.11E±0°.06, h107km±5km, mb3.5/11, Error ellipse: s-maj=12.8km s-min=4.9km az=141.9*

JMA ***02*** *13:36:24.8±0.2,26°.91N×127°.14E, h96km±3km, M3.3*

IDC ***02*** *13:36:43.6±6.5,26°.77N×126°.72E, h290km±65km, mb3.0/11, mb1 3.2/11, mb1mx3.0/38, mbtmp3.7/11, Error ellipse: s-maj=39.8km s-min=13.3km az=67.0*

ISC 02 13:36:23.8±0.7, 26°.92N±0°.07×127°.12E±0°.06, h105km±7km, n25, σ1°.907/36, mb3.5/11, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.35**	**161**	P	**Pn**	**13 36 39.2**	**0.0**
JAGN				S	**Sn**	**13 36 50.1**	**-0.6**
JKE	**Kume jima 2**	**0.66**	**207**	P	**Pn**	**13 36 41.5**	**+0.1**
JKE				S	**Sn**	**13 36 54.0**	**-0.5**
JIH	**Iheya**	**0.77**	**81**	P	**Pn**	**13 36 42.6**	**+0.4**
JIH				S	**Sn**	**13 36 55.4**	**-0.7**
JNTH	**Nagotoyohara**	**0.90**	**116**	P	**Pn**	**13 36 43.9**	**+0.3**
JNTH				S	**Sn**	**13 36 57.4**	**-1.0**
JJT2	**Tamagusuku 2**	**0.96**	**144**	P	**Pn**	**13 36 44.8**	**+0.6**
JJT2				*e*S	**Sn**	**13 36 59.9**	**+0.4**
JOW	**Kunigami**	**1.04**	**95**	P	**Pn**	**13 36 45.2**	**+0.2**
JOW				S	**Sn**	**13 36 59.6**	**-1.3**
JOKE	**Okinoerabujima**	**1.37**	**71**	P	**Pn**	**13 36 49.1**	**+0.4**
JOKE				S	**Sn**	**13 37 06.9**	**-0.7**
JTK	**Tokunoshima**	**1.84**	**62**	P	**Pn**	**13 36 55.0**	**+0.4**
JTK				S	**Sn**	**13 37 17.3**	**-0.7**
JAMN	**Amaminishikomi**	**2.25**	**54**	P	**Pn**	**13 36 59.8**	**0.0**
JAMN				S	**Sn**	**13 37 26.0**	**-1.3**
JIRB	**Irabujima**	**2.72**	**220**	P	**Pn**	**13 37 07.1**	**+1.1**
JIRB				*e*S	**Sn**	**13 37 38.0**	**-0.4**
JISG	**Ishigakijimahi**	**3.44**	**228**	P	**Pn**	**13 37 15.1**	**-0.4**
JIJ	**Ishigaki jima**	**3.70**	**227**	P	**Pn**	**13 37 18.3**	**-0.7**
JIJ				*e*S	**Sn**	**13 38 00.9**	**-0.9**
JMZ	**Minamidaito 2**	**3.84**	**106**	P	**Pn**	**13 37 20.3**	**-0.6**
IRIF	**Iriomote-Funau**	**4.00**	**231**	P	**Pn**	**13 37 22.6**	**-0.4**
SONM	**Songino Array**	**26.43**	**328**	P	**P**	**13 41 54.5**	**+3.6**
	1.1nm,0.6s,baz=141,slow=11,SNR=9.3						
MKAR	**Makanchi Array**	**40.33**	**312**	P	**P**	**13 43 51.3**	**+0.3**
	0.2nm,0.5s,baz=206,slow=8.6,SNR=5.9						
ZALV	**Zalesovo Beam**	**41.09**	**323**	P	**P**	**13 43 58.0**	**+0.9**
	0.3nm,0.3s,baz=120,slow=8.5,SNR=2.8						
WRA	**Warramunga Arr**	**47.11**	**171**	P	**P**	**13 44 45.9**	**+0.4**
	0.6nm,1.0s,baz=351,slow=8.6,SNR=3.3						
ASAR	**Alice Springs**	**50.72**	**172**	P	**P**	**13 45 14.1**	**+1.2**
	0.2nm,0.7s,baz=356,slow=12,SNR=3.6						
FINES	**FINESS Array B**	**71.77**	**330**	P	**P**	**13 47 34.0**	**-0.5**
	1.5nm,0.9s,baz=64,slow=9.4,SNR=4.5						
AKASG	**Malin Array Be**	**74.36**	**319**	P	**P**	**13 47 49.2**	**-0.8**
	0.2nm,0.4s,baz=82,slow=4.6,SNR=3.9						
BRTR	**Keskin Array B**	**75.82**	**307**	P	**P**	**13 47 59.0**	**+0.2**
	0.8nm,0.7s,baz=95,slow=6.2,SNR=5.4						
NOA	**NORSAR Array B**	**78.25**	**333**	P	**P**	**13 48 11.6**	**-0.3**
	0.6nm,0.8s,baz=52,slow=5.7,SNR=2.9						
YKA	**Yellowknife Ar**	**78.32**	**25**	P	**P**	**13 48 12.8**	**+0.7**
	0.2nm,0.6s,baz=302,slow=5.4,SNR=5.2						
EIL	**Elat**	**78.91**	**298**	P	**P**	**13 48 13.1**	**-2.9**
	2.2nm,0.4s,baz=3.4,slow=17,SNR=2.8						

IDC 02 13:45:49.7±5.4, 7°.03N×93°.95E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.2/39, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=160.9km s-min=27.2km az=76.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.36**	**23**	Pn	Pn	13 48 47.2	+0.2
	0.1nm,0.3s,baz=233,slow=14,SNR=7.3						
SONM	**Songino Array**	**42.02**	**13**	P	P	13 53 42.9	-0.2
	0.3nm,0.6s,baz=190,slow=7.2,SNR=2.2						
WRA	**Warramunga Arr**	**47.94**	**125**	P	P	13 54 30.6	+0.3
	0.7nm,0.7s,baz=306,slow=8.3,SNR=9.8						
ASAR	**Alice Springs**	**49.53**	**129**	P	P	13 54 42.1	-0.5
	0.3nm,0.4s,baz=301,slow=8.0,SNR=11						

IDC 02 13:46:13.1±2.6, 6°.95N×93°.22E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/39, mbtmp3.5/5, ML3.9/1, Error ellipse: s-maj=87.7km s-min=22.6km az=67.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.73**	**25**	Pn	Pn	13 49 14.6	-1.0
	0.2nm,0.3s,baz=236,slow=14,SNR=5.8						
MKAR	**Makanchi Array**	**40.80**	**349**	P	P	13 53 55.6	-0.7
	0.6nm,0.9s,baz=196,slow=8.5,SNR=4.5						
SONM	**Songino Array**	**42.27**	**13**	P	P	13 54 09.2	+0.7
	0.3nm,0.5s,baz=206,slow=9.5,SNR=3.3						
WRA	**Warramunga Arr**	**48.49**	**124**	P	P	13 54 58.0	-0.1
	1.0nm,0.6s,baz=306,slow=8.3,SNR=13						
ASAR	**Alice Springs**	**50.04**	**129**	P	P	13 55 09.7	-0.3
	0.4nm,0.4s,baz=301,slow=7.8,SNR=11						

IDC 02 13:48:44.7±4.0, 28°.98N×141°.42E, h0km, mb3.4/5, mb1 3.5/6, mb1mx3.4/31, mbtmp3.4/6, ML3.2/1, MS2.3/1, Ms1 2.3/1, ms1mx2.0/21, Error ellipse: s-maj=162.7km s-min=22.1km az=74.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**8.01**	**341**	Pn	Pn	13 50 41.5	-0.9
	0.4nm,0.3s,baz=157,slow=9.5,SNR=8.2						
KSRS	**Korea Array**	**14.10**	**310**	LR	LR	13 57 25.5	
	comp=Z,14nm,21.7s,baz=120,slow=37						
MKAR	**Makanchi Array**	**48.77**	**308**	P	P	13 57 31.1	-0.2
	0.2nm,0.7s,baz=94,slow=15,SNR=2.8						
WRA	**Warramunga Arr**	**49.11**	**189**	P	P	13 57 34.2	+0.1
	0.6nm,0.9s,baz=8.5,slow=8.1,SNR=6.1						
KURBB	**Kurchatov Arra**	**51.25**	**313**	P	P	13 57 50.3	+0.2
	0.3nm,0.3s,baz=88,slow=6.3,SNR=5.5						
ASAR	**Alice Springs**	**52.84**	**189**	P	P	13 58 01.6	-0.5
	0.2nm,0.8s,baz=0.7,slow=5.5,SNR=4.3						
BVAR	**Borovoye Array**	**56.21**	**317**	P	P	13 58 26.4	0.0
	0.3nm,0.5s,baz=101,slow=7.5,SNR=2.7						

WEL 02 13:59:25.3±0.1, 38°.54S×177°.92E, h25km, ML3.7/18, 5C-7D, Error ellipse: s-maj=1.2km s-min=0.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKGZ	**Te Karaka**	**0.11**	**331**	⇓P*	Pb	13 59 29.3	-0.7
TKGZ				*e*S*	Sb	13 59 32.9	-0.3
RIGZ	**Rimuhau**	**0.21**	**216**	⇓P*	Pb	13 59 30.8	-0.4
RIGZ				S*	Sb	13 59 35.5	+0.4
CNGZ	**Carnagh Statio**	**0.23**	**77**	⇑P*	Pb	13 59 31.4	+0.1
TWGZ	**Tauwhareparae**	**0.36**	**8**	⇑P*	Pb	13 59 33.7	+0.3
MWZ	**Matawai**	**0.37**	**303**	P*	Pb	13 59 33.3	-0.2
MWZ				*e*S*	Sb	13 59 38.8	-0.2
MWZ				AML	AML	13 59 40.2	
MWZ				AML	AML	13 59 40.3	
MWZ				AML	AML	13 59 40.3	
PRGZ	**Paritu Road**	**0.39**	**184**	P*	Pb	13 59 33.7	0.0
RAGZ	**Rawiri**	**0.40**	**276**	⇓P*	Pb	13 59 34.0	0.0
SNGZ	**Shannon Statio**	**0.51**	**242**	⇓P*	Pb	13 59 36.3	+0.4
KNZ	**Kokohu**	**0.52**	**202**	P*	Pb	13 59 35.8	0.0
PUZ	**Puketiti**	**0.54**	**30**	⇑P*	Pb	13 59 36.2	0.0
PUZ				AML	AML	13 59 47.6	
PUZ				AML	AML	13 59 49.3	
MHGZ	**Mahia Peninsul**	**0.62**	**181**	⇓P*	Pb	13 59 37.3	-0.2
URZ	**Urewera**	**0.69**	**293**	⇑P*	Pb	13 59 38.6	-0.1
URZ				AML	AML	13 59 50.3	
URZ				AML	AML	13 59 54.5	
RAHZ	**Arahi**	**0.75**	**240**	P*	Pb	13 59 39.9	+0.1
WHHZ	**Waihua**	**0.76**	**225**	P*	Pb	13 59 40.2	+0.2
HAZ	**Te Kaha**	**0.79**	**352**	⇓P*	Pb	13 59 39.8	-0.6
WMGZ	**Waiomatatini S**	**0.82**	**29**	P*	Pb	13 59 40.7	-0.2
MXZ	**Matakaoa Point**	**1.02**	**18**	⇓PN	Pn	13 59 43.7	-0.3
MXZ				AML	AML	14 00 00.8	
MXZ				AML	AML	14 00 00.8	
MXZ				AML	AML	14 00 02.2	
MXZ				AML	AML	14 00 02.6	
ARHZ	**Aropaoanui**	**1.02**	**225**	PN	Pn	13 59 43.9	-0.2
EDRZ	**Edgecumbe**	**1.02**	**294**	PN	Pb	13 59 44.8	+0.3
EDRZ				AML	AML	14 00 04.3	
EDRZ				AML	AML	14 00 10.0	
NMHZ	**Naumai**	**1.03**	**237**	PN	Pn	13 59 43.9	-0.4
MKRZ	**Makatiti**	**1.21**	**289**	AML	AML	13 59 57.6	
MKRZ				AML	AML	13 59 58.7	
OPRZ	**Ohinepanea**	**1.28**	**302**	PN	Pn	13 59 47.2	-0.4
BKZ	**Black Stump Fm**	**1.28**	**240**	⇑PN	Pn	13 59 47.0	-0.7
BKZ				AML	AML	14 00 17.0	
BKZ				AML	AML	14 00 19.6	
CKHZ	**Cape Kidnapper**	**1.30**	**210**	PN	Pn	13 59 46.3	-1.6
MCHZ	**McNeill Hill**	**1.31**	**226**	PN	Pn	13 59 47.4	-0.7
HATZ	**Hinemaiaia**	**1.47**	**256**	AML	AML	14 00 22.1	
HATZ				AML	AML	14 00 22.6	
KAHZ	**Kahuranaki**	**1.50**	**212**	PN	Pn	13 59 49.0	-1.7
TGRZ	**Tauranga**	**1.54**	**301**	AML	AML	14 00 20.7	
PXZ	**Pawanui**	**1.70**	**208**	PN	Pn	13 59 51.0	-2.4
PXZ				AML	AML	14 00 46.4	
PXZ				AML	AML	14 00 46.6	
BHHZ	**Black Hill Sta**	**1.73**	**236**	PN	Pn	13 59 53.2	-0.7
KRVZ	**Karewarewa**	**1.86**	**252**	AML	AML	14 00 37.2	
KRVZ				AML	AML	14 00 38.6	
OTVZ	**Oturere**	**1.87**	**250**	AML	AML	14 00 38.9	
OTVZ				AML	AML	14 00 47.2	
NGZ	**Ngauruhoe**	**1.92**	**250**	AML	AML	14 00 39.2	
NGZ				AML	AML	14 00 39.4	
WPVZ	**Whakapapa**	**1.97**	**249**	AML	AML	14 00 37.4	
WPVZ				AML	AML	14 00 38.2	
WNVZ	**Wahianoa**	**1.98**	**246**	*e*PN	Pn	13 59 56.8	-0.6
FWVZ	**Far West T-bar**	**1.98**	**248**	AML	AML	14 00 37.0	
FWVZ				AML	AML	14 00 37.2	
TRVZ	**Turoa**	**2.00**	**247**	AML	AML	14 00 40.4	
TRVZ				AML	AML	14 00 50.0	
MTVZ	**Mangateitei**	**2.09**	**245**	AML	AML	14 00 42.9	
MTVZ				AML	AML	14 00 43.5	
TSZ	**Takapari Road**	**2.15**	**224**	PN	Pn	13 59 57.3	-2.3
KUZ	**Kuaotunu**	**2.50**	**315**	PN	Pn	14 00 04.1	-0.2
BFZ	**Birch Farm**	**2.50**	**211**	PN	Pn	14 00 00.9	-3.5
MRZ	**Mangatainoka R**	**2.79**	**220**	PN	Pn	14 00 05.4	-3.0
MRZ				AML	AML	14 00 39.5	
MRZ				AML	AML	14 00 40.0	
HOWZ	**Holdsworth Sta**	**3.00**	**217**	PN	Pn	14 00 08.6	-2.7

CSEM ***02*** *14:02:40.8±0.3, 37°.23N×28°.24E, h2km, MD2.6, Error ellipse: s-maj=7.7km s-min=5.6km az=57.0*

ISK ***02*** *14:02:40.2, 37°.25N×28°.23E, h12km, MD2.6*

DDA ***02*** *14:02:41.2, 37°.24N×28°.22E, h7km, MD2.7*

ISC 02 14:02:40.8±0.9, 37°.23N±0°.04×28°.21E±0°.03, h10km±7km, n18, σ0°.957/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.12**	**150**	*e*PG	**Pg**	**14 02 43.1**	**-0.6**
YER				*e*SG	**Sg**	**14 02 46.4**	**+0.6**
YER	**Yerkesik**	**0.12**	**150**	*e*Pg	**Pg**	**14 02 43.1**	**-0.6**
YER				*e*Sg	**Sg**	**14 02 46.4**	**+0.6**
TURN	**Turunc**	**0.48**	**139**	*i* P	**Pg**	**14 02 49.3**	**-0.9**
TURN				*i* S	**Sb**	**14 02 58.8**	**+0.4**
TURN	**Turunc**	**0.48**	**139**	*i* P	**Pg**	**14 02 49.3**	**-0.9**
TURN				*i* S	**Sb**	**14 02 58.8**	**+0.4**
AYDN	**Tasoluk**	**0.50**	**328**	*i* P	**Pb**	**14 02 52.1**	**+0.3**
AYDN				*i* S	**Sb**	**14 02 59.6**	**+0.4**
AYDN	**Tasoluk**	**0.50**	**328**	*i* P	**Pb**	**14 02 52.1**	**+0.3**
AYDN				*i* S	**Sb**	**14 02 59.6**	**+0.4**
DALY	**Dalyan (Mu˘la**	**0.55**	**140**	*e*PG	**Pg**	**14 02 51.8**	**+0.4**
DALY	**Dalyan (Mu˘la**	**0.55**	**140**	*e*Pg	**Pg**	**14 02 51.8**	**+0.4**
BDRM	**Kayabasi**	**0.64**	**255**	*i* P	**Pg**	**14 02 52.6**	**-0.6**
BDRM				*i* S	**Sb**	**14 03 03.0**	**0.0**
BDRM	**Kayabasi**	**0.64**	**255**	*i* P	**Pg**	**14 02 52.6**	**-0.6**
BDRM				*i* S	**Sb**	**14 03 03.0**	**0.0**
DAT	**Datca**	**0.72**	**225**	*e*PG	**Pg**	**14 02 54.1**	**-0.6**
DAT	**Datca**	**0.72**	**225**	*e*Pg	**Pg**	**14 02 54.1**	**-0.6**
BODT	**Bodrum**	**0.74**	**257**	*e*PG	**Pg**	**14 02 55.0**	**-0.1**
BODT				*e*SG	**Sb**	**14 03 06.8**	**+0.8**
BODT	**Bodrum**	**0.74**	**257**	*e*Pg	**Pg**	**14 02 55.0**	**-0.1**
BODT				*e*Sg	**Sb**	**14 03 06.8**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**0.76**	**340**	*e*PG	**Pg**	**14 02 55.2**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.76**	**340**	*e*Pg	**Pg**	**14 02 55.2**	**-0.3**
MANT	**Manisa**	**1.28**	**12**	*i* P	**Pn**	**14 03 04.4**	**-0.7**
MANT	**Manisa**	**1.28**	**12**	*i* P	**Pn**	**14 03 04.4**	**-0.7**

CNRM ***02*** *14:08:42.9, 36°.65N×9°.56W, h30km, MD3.5*

ISCJB ***02*** *14:08:43.5±0.5, 36°.98N±0°.02×9°.10W±0°.04, h10km, Error ellipse: s-maj=4.5km s-min=2.9km az=146.4*

IGIL ***02*** *14:08:44.7, 36°.76N×9°.42W, h24km, ML2.7*

MDD ***02*** *14:08:44.2±0.9, 36°.80N×9°.46W, h27km±6km, mbLg3.1/46, Error ellipse: s-maj=8.2km s-min=5.4km az=47.0, PRXIMO*

INMG ***02*** *14:08:45.0±1.7, 36°.77N×9°.41W, h28km±6km, MD3.1, ML2.9, Error ellipse: s-maj=4.5km s-min=4.1km az=97.0*

SFS ***02*** *14:08:45.0, 36°.94N×9°.45W, h32km, ML2.8*

LDG ***02*** *14:08:45.7±0.5, 36°.74N×9°.12W, h30km, Ml3.4/4, Error ellipse: s-maj=10.7km s-min=6.0km az=41.0*

CSEM ***02*** *14:08:46.3±0.3, 36°.96N×9°.23W, h30km, ML3.6/8, Error ellipse: s-maj=5.5km s-min=3.4km az=52.0*

ISC 02 14:08:43.7±1.4, 36°.90N±0°.05×9°.28W±0°.05, h10km, n187, σ1°.990/291, 12C-1D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.43**	**57**	*e*Pg	**Pb**	**14 08 56.1**	**+2.6**
PFVI				*e*Sg	**Sb**	**14 09 04.3**	**+4.2**
PFVI				A	A	14 09 05.4	
	383nm,0.1s						
PFVI	**Vila Bisbo**	**0.43**	**57**	⇑P	**Pb**	**14 08 56.1**	**+2.6**
	498nm,0.1s,SNR=18						
PFVI				S	**Sb**	**14 09 04.3**	**+4.2**
	455nm,0.1s,SNR=23						
PFVI	**Vila Bisbo**	**0.43**	**57**	P	**Pb**	**14 08 56.1**	**+2.6**
	498nm,0.1s,SNR=18						
PFVI				S	**Sb**	**14 09 04.3**	**+4.2**
	455nm,0.1s,SNR=23						
MORF	**Marmelete**	**0.65**	**51**	*e*P	**Pb**	**14 08 59.2**	**+2.0**
MORF				*e*S	**Sn**	**14 09 09.7**	**+0.3**
MORF				AML	AML	14 09 10.0	
	comp=N,248nm,0.1s						
MORF	**Marmelete**	**0.65**	**51**	*e*Pg	**Pb**	**14 08 59.2**	**+2.0**
MORF				*e*Sg	**Sn**	**14 09 09.5**	**+0.1**
MORF				A	A	14 09 10.7	
	comp=N,386nm,0.1s						
MORF	**Marmelete**	**0.65**	**51**	⇑P	**Pb**	**14 08 59.2**	**+2.0**
MORF				S	**Sn**	**14 09 09.5**	**+0.1**
	comp=N,386nm,0.1s						
MORF	**Marmelete**	**0.65**	**51**	P	**Pb**	**14 08 59.2**	**+2.0**
MORF				S	**Sn**	**14 09 09.5**	**+0.1**
	comp=N,386nm,0.1s						
PTEO	**Sao Teotonio**	**0.79**	**34**	*e*P	**Pb**	**14 09 01.0**	**+1.5**
PTEO				*e*S	**Sn**	**14 09 13.3**	**+0.6**
PTEO				A	A	14 09 29.5	
	comp=N,114nm,0.8s						
PTEO	**Sao Teotonio**	**0.79**	**34**	⇑P	**Pb**	**14 09 01.0**	**+1.5**
PTEO				S	**Sn**	**14 09 13.3**	**+0.6**
	comp=N,57nm,0.8s						
PTEO	**Sao Teotonio**	**0.79**	**34**	P	**Pb**	**14 09 01.0**	**+1.5**
PTEO				S	**Sn**	**14 09 13.3**	**+0.6**
	comp=N,57nm,0.8s						
PBDV	**Barranco-do-Ve**	**1.14**	**72**	*i* P	**Pg**	**14 09 05.8**	**+0.3**
PBDV				*e*S	**Sg**	**14 09 20.9**	**+0.6**
PBDV				A	A	14 09 23.4	
	comp=N,105nm,0.5s						
PBDV	**Barranco-do-Ve**	**1.14**	**72**	⇑P	**Pg**	**14 09 05.8**	**+0.3**
PBDV				S	**Sg**	**14 09 20.9**	**+0.6**
	comp=N,105nm,0.5s						
PBDV	**Barranco-do-Ve**	**1.14**	**72**	P	**Pg**	**14 09 05.8**	**+0.3**
PBDV				S	**Sg**	**14 09 20.9**	**+0.6**
	comp=N,105nm,0.5s						
PCVE	**Castro Verde**	**1.23**	**53**	*e*P	**Pb**	**14 09 07.5**	**+0.4**
PCVE				*e*S	**Sg**	**14 09 24.1**	**+0.6**
PCVE				A	A	14 09 39.5	
	comp=N,5.2nm,0.5s						
PCVE	**Castro Verde**	**1.23**	**53**	⇑P	**Pb**	**14 09 07.5**	**+0.4**
PCVE				S	**Sg**	**14 09 24.1**	**+0.6**
	comp=N,5.2nm,0.5s						
PCVE	**Castro Verde**	**1.23**	**53**	P	**Pb**	**14 09 07.5**	**+0.4**
PCVE				S	**Sg**	**14 09 24.1**	**+0.6**
	comp=N,5.2nm,0.5s						
MESJ	**Messejana**	**1.27**	**42**	*e*P	**Pb**	**14 09 07.7**	**0.0**
MESJ				*e*S	**Sg**	**14 09 24.7**	**+0.2**
MESJ				AML	AML	14 09 26.7	
	comp=E,66nm,0.1s						
MESJ	**Messejana**	**1.27**	**42**	*e*P	**Pb**	**14 09 07.7**	**0.0**
MESJ				A	A	14 09 38.1	
	comp=E,89nm,0.3s						
MESJ	**Messejana**	**1.27**	**42**	⇑P	**Pb**	**14 09 07.7**	**0.0**
MESJ				S	**Sg**	**14 09 24.7**	**+0.2**
	comp=E,66nm,0.1s						
MESJ	**Messejana**	**1.27**	**42**	P	**Pb**	**14 09 07.7**	**0.0**
MESJ				S	**Sg**	**14 09 24.7**	**+0.2**
	comp=E,66nm,0.1s						
PVAQ	**Vaqueiros**	**1.35**	**68**	*i* P	**Pn**	**14 09 08.8**	**+0.2**
PVAQ				*e*S	**Sb**	**14 09 25.8**	**-0.6**
PVAQ				*e*S	**Sb**	**14 09 26.3**	**-0.1**
PVAQ				A	A	14 09 35.8	
	comp=E,99nm,0.3s						
PVAQ	**Vaqueiros**	**1.35**	**68**	⇑P	**Pn**	**14 09 08.8**	**+0.2**
PVAQ				S	**Sb**	**14 09 25.8**	**-0.6**
PVAQ	**Vaqueiros**	**1.35**	**68**	P	**Pn**	**14 09 08.8**	**+0.2**
PVAQ				*e*S	**Sb**	**14 09 26.3**	**-0.1**
	comp=E,99nm,0.3s						
PNCL	**Nicolau / Gran**	**1.35**	**26**	*i* P	**Pn**	**14 09 08.5**	**-0.2**
PNCL				*e*S	**Sb**	**14 09 26.6**	**+0.1**
PNCL				A	A	14 09 28.5	
	comp=E,76nm,0.1s						
EGRO	**El Granado**	**1.57**	**66**	⇑P	**Pn**	**14 09 11.7**	**0.0**
	comp=E,13nm,0.1s,SNR=18						
EGRO				S	**Sn**	**14 09 31.9**	**-0.1**
	comp=E,76nm,0.1s,SNR=11						
EGRO	**El Granado**	**1.57**	**66**	P	**Pn**	**14 09 11.7**	**0.0**
	comp=E,13nm,0.1s,SNR=18						
EGRO				S	**Sn**	**14 09 31.9**	**-0.1**
	comp=E,76nm,0.1s,SNR=11						
PMST	**Lisbon--Monsan**	**1.84**	**2**	*e*Pn	**Pn**	**14 09 14.9**	**-0.4**
PMST				*e*S	**Sn**	**14 09 37.1**	**-1.6**
PMST				A	A	14 09 40.5	
	comp=E,62nm,0.2s						
PMST	**Lisbon--Monsan**	**1.84**	**2**	*e*Pn	**Pn**	**14 09 14.9**	**-0.4**
PMST				*e*S	**Sn**	**14 09 37.1**	**-1.6**
	comp=E,62nm,0.2s						
EVOP	**Sao Brissos**	**1.87**	**29**	*e*Pn	**Pn**	**14 09 15.2**	**-0.6**
EVOP				*e*Sn	**Sn**	**14 09 37.8**	**-1.6**
	comp=E,22nm,0.3s						
INMG	**Instituto de M**	**1.88**	**4**	*e*Pn	**Pn**	**14 09 15.9**	**0.0**
INMG				*e*Sn	**Sn**	**14 09 39.7**	**+0.1**
INMG	**Instituto de M**	**1.88**	**4**	P	**Pn**	**14 09 15.9**	**0.0**
INMG				S	**Sn**	**14 09 39.7**	**+0.1**
INMG	**Instituto de M**	**1.88**	**4**	P	**Pn**	**14 09 15.9**	**0.0**
INMG				S	**Sn**	**14 09 39.7**	**+0.1**
PACT	**Alcochete**	**1.90**	**11**	*e*Pn	**Pn**	**14 09 16.9**	**+0.7**
PACT				*e*Sn	**Sn**	**14 09 41.0**	**+0.8**
PACT				A	A	14 09 44.3	
	comp=E,48nm,0.2s						
PACT	**Alcochete**	**1.90**	**11**	*e*Pn	**Pn**	**14 09 16.9**	**+0.7**
PACT				*e*Sn	**Sn**	**14 09 41.0**	**+0.8**
	comp=E,48nm,0.2s						
EVO	**Evora**	**1.92**	**31**	*e*Pn	**Pn**	**14 09 15.2**	**-1.2**
EVO				*e*Sn	**Sn**	**14 09 37.8**	**-2.8**
	comp=E,44nm,0.3s						
EVO	**Evora**	**1.92**	**31**	*e*Pn	**Pn**	**14 09 16.3**	**-0.1**
EVO				*e*S	**Sn**	**14 09 40.1**	**-0.5**
EVO				A	A	14 09 41.8	
	comp=E,63nm,0.1s						
EVO	**Evora**	**1.92**	**31**	⇓P	**Pn**	**14 09 16.3**	**-0.1**
EVO				S	**Sn**	**14 09 40.1**	**-0.5**
	comp=E,63nm,0.1s						
EVO	**Evora**	**1.92**	**31**	P	**Pn**	**14 09 16.3**	**-0.1**
EVO				S	**Sn**	**14 09 40.1**	**-0.5**
	comp=E,63nm,0.1s						
PBAR	**Barrancos**	**2.19**	**54**	*e*Pn	**Pn**	**14 09 20.2**	**0.0**
PBAR				*e*Sn	**Sn**	**14 09 47.0**	**-0.4**
PBAR				A	A	14 09 49.1	
	comp=E,80nm,0.4s			

PCBR	**Castelo Branco**	**3.26**	**25**	P		**Pn**	**14 09 34.7**	**-0.2**
PCBR				S		**Sn**	**14 10 12.3**	**-1.5**
PCBR	**Castelo Branco**	**3.26**	**25**	P		**Pn**	**14 09 34.7**	**-0.2**
PCBR				S		**Sn**	**14 10 12.3**	**-1.5**
ECAB	**El Cabril**	**3.29**	**68**	P		**Pn**	**14 09 34.9**	**-0.4**
	comp=E,46nm,0.2s,SNR=412							
ECAB				S		**Sn**	**14 10 12.8**	**-1.8**
	comp=E,50nm,0.3s,SNR=18							
ECAB	**El Cabril**	**3.29**	**68**	P		**Pn**	**14 09 34.9**	**-0.4**
	comp=E,46nm,0.2s,SNR=412							
ECAB				S		**Sn**	**14 10 12.8**	**-1.8**
	comp=E,50nm,0.3s,SNR=18							
EMIJ	**Mijas**	**3.64**	**94**	P		**Pn**	**14 09 39.6**	**-0.5**
	comp=E,0.6nm,0.1s,SNR=6.5							
EMIJ				S		**Sn**	**14 10 20.1**	**-3.0**
	comp=E,8.1nm,0.3s,SNR=4.7							
EMIJ	**Mijas**	**3.64**	**94**	P		**Pn**	**14 09 39.6**	**-0.5**
	comp=E,0.6nm,0.1s,SNR=6.5							
EMIJ				S		**Sn**	**14 10 20.1**	**-3.0**
	comp=E,8.1nm,0.3s,SNR=4.7							
MTE	**Manteigas**	**3.75**	**21**	*e*Pn		**Pn**	**14 09 41.4**	**-0.3**
MTE				*e*Sn		**Sn**	**14 10 23.8**	**-2.2**
MTE				A		A	14 10 27.8	
	comp=E,14nm,0.3s							
MTE	**Manteigas**	**3.75**	**21**	P		**Pn**	**14 09 41.4**	**-0.3**
MTE				S		**Sn**	**14 10 23.8**	**-2.2**
	comp=E,7.2nm,0.3s							
MTE	**Manteigas**	**3.75**	**21**	P		**Pn**	**14 09 41.4**	**-0.3**
MTE				S		**Sn**	**14 10 23.8**	**-2.2**
	comp=E,7.2nm,0.3s							
EADA	**Adamuz**	**3.95**	**70**	P		**Pn**	**14 09 44.3**	**-0.1**
	comp=E,5.9nm,0.1s,SNR=86							
EADA				S		**Sn**	**14 10 27.7**	**-3.1**
	comp=E,12nm,0.1s							
EADA	**Adamuz**	**3.95**	**70**	P		**Pn**	**14 09 44.3**	**-0.1**
	comp=E,5.9nm,0.1s,SNR=86							
EADA				S		**Sn**	**14 10 27.7**	**-3.1**
	comp=E,12nm,0.1s							
PVIS	**Viseu**	**3.96**	**15**	*e*Pn		**Pn**	**14 09 44.5**	**-0.1**
PVIS				A		A	14 10 32.1	
	comp=E,18nm,0.3s							
PVIS	**Viseu**	**3.96**	**15**	P		**Pn**	**14 09 44.5**	**-0.1**
PVIS	**Viseu**	**3.96**	**15**	P		**Pn**	**14 09 44.5**	**-0.1**
EPLA	**Plasencia**	**4.04**	**38**	⇑P		**Pn**	**14 09 45.2**	**-0.4**
	comp=E,8.6nm,0.1s,SNR=18							
EPLA				S		**Sn**	**14 10 31.5**	**-1.5**
	comp=E,34nm,0.1s,SNR=7.9							
EPLA	**Plasencia**	**4.04**	**38**	P		**Pn**	**14 09 45.2**	**-0.4**
	comp=E,8.6nm,0.1s,SNR=18							
EPLA				S		**Sn**	**14 10 31.5**	**-1.5**
	comp=E,34nm,0.1s,SNR=7.9							
PTO	**Porto**	**4.27**	**7**	*e*Pn		**Pn**	**14 09 48.3**	**-0.4**
PTO	**Porto**	**4.27**	**7**	P		**Pn**	**14 09 48.3**	**-0.4**
PTO	**Porto**	**4.27**	**7**	P		**Pn**	**14 09 48.3**	**-0.4**
SELV	**Sierra Elvira**	**4.46**	**84**	P		**Pn**	**14 09 51.5**	**+0.1**
	comp=E,0.7nm,0.2s,SNR=7.9							
SELV				S		**Sn**	**14 10 40.5**	**-2.8**
	comp=E,2.5nm,0.2s,SNR=7.9							
SELV	**Sierra Elvira**	**4.46**	**84**	P		**Pn**	**14 09 51.5**	**+0.1**
	comp=E,0.7nm,0.2s,SNR=7.9							
SELV				S		**Sn**	**14 10 40.5**	**-2.8**
	comp=E,2.5nm,0.2s,SNR=7.9							
PVRL	**Vila Real**	**4.54**	**15**	*e*Pn		**Pn**	**14 09 52.3**	**-0.2**
PVRL				*e*Sn		**Sn**	**14 10 41.6**	**-3.8**
PVRL				A		A	14 10 45.6	
	comp=E,27nm,0.2s							
PVRL	**Vila Real**	**4.54**	**15**	P		**Pn**	**14 09 52.3**	**-0.2**
PVRL				S		**Sn**	**14 10 41.6**	**-3.8**
	comp=E,14nm,0.2s							
PVRL	**Vila Real**	**4.54**	**15**	P		**Pn**	**14 09 52.3**	**-0.2**
PVRL				S		**Sn**	**14 10 41.6**	**-3.8**
	comp=E,14nm,0.2s							
EBAN	**Banos Encina**	**4.55**	**72**	P		**Pn**	**14 09 52.5**	**-0.1**
	comp=E,5.2nm,0.1s,SNR=13							
EBAN				S		**Sn**	**14 10 41.5**	**-4.1**
	comp=E,8.4nm,0.1s							
EBAN	**Banos Encina**	**4.55**	**72**	P		**Pn**	**14 09 52.5**	**-0.1**
	comp=E,5.2nm,0.1s,SNR=13							
EBAN				S		**Sn**	**14 10 41.5**	**-4.1**
	comp=E,8.4nm,0.1s							
EGUA	**Guajares**	**4.58**	**89**	P		**Pn**	**14 09 53.1**	**0.0**
	comp=E,2.0nm,0.2s,SNR=7.9							
EGUA				S		**Sn**	**14 10 44.0**	**-2.5**
	comp=E,5.4nm,0.2s,SNR=7.9							
EGUA	**Guajares**	**4.58**	**89**	P		**Pn**	**14 09 53.1**	**0.0**
	comp=E,2.0nm,0.2s,SNR=7.9							
EGUA				S		**Sn**	**14 10 44.0**	**-2.5**
	comp=E,5.4nm,0.2s,SNR=7.9							
MVO	**Moncorvo**	**4.61**	**22**	*e*Pn		**Pn**	**14 09 53.0**	**-0.5**
MVO				*e*Sn		**Sn**	**14 10 44.2**	**-2.9**
MVO				A		A	14 10 47.1	
	comp=E,11nm,0.3s							
MVO	**Moncorvo**	**4.61**	**22**	P		**Pn**	**14 09 52.9**	**-0.5**
	comp=E,9.8nm,0.1s,SNR=48							
MVO				S		**Sn**	**14 10 43.9**	**-3.2**
	comp=E,8.2nm,0.1s							
MVO	**Moncorvo**	**4.61**	**22**	*e*Pn		**Pn**	**14 09 53.0**	**-0.5**
MVO				S		**Sn**	**14 10 43.9**	**-3.2**
	comp=E,8.2nm,0.1s							
MVO				*e*Sn		**Sn**	**14 10 44.2**	**-2.9**
	comp=E,11nm,0.3s							
POLO	**Lamas de Olo**	**4.62**	**14**	*e*Pn		**Pn**	**14 09 53.2**	**-0.4**
POLO				*e*Sn		**Sn**	**14 10 44.2**	**-3.2**
POLO				A		A	14 10 47.9	
	comp=E,5.7nm,0.3s							
POLO	**Lamas de Olo**	**4.62**	**14**	*e*Pn		**Pn**	**14 09 53.2**	**-0.4**
POLO				*e*Sn		**Sn**	**14 10 44.2**	**-3.2**
	comp=E,5.7nm,0.3s							
EQUE	**Quentar**	**4.68**	**84**	P		**Pn**	**14 09 54.4**	**-0.2**
	comp=E,2.3nm,0.3s,SNR=5.5							
EQUE				S		**Sn**	**14 10 46.6**	**-2.5**
	comp=E,5.4nm,0.3s							
EQUE	**Quentar**	**4.68**	**84**	P		**Pn**	**14 09 54.4**	**-0.2**
	comp=E,2.3nm,0.3s,SNR=5.5							
EQUE				S		**Sn**	**14 10 46.6**	**-2.5**
	comp=E,5.4nm,0.3s							
PAB	**San Pablo**	**4.70**	**54**	P		**Pn**	**14 09 54.6**	**-0.2**
	comp=E,7.9nm,0.1s,SNR=7.9							
PAB				S		**Sn**	**14 10 46.2**	**-3.2**
	comp=E,7.7nm,0.2s,SNR=7.9							
PAB	**San Pablo**	**4.70**	**54**	P		**Pn**	**14 09 54.6**	**-0.2**
	comp=E,7.9nm,0.1s,SNR=7.9							
PAB				S		**Sn**	**14 10 46.2**	**-3.2**
	comp=E,7.7nm,0.2s,SNR=7.9							
PCAB	**Cabril**	**4.90**	**11**	*e*Pn		**Pn**	**14 09 57.1**	**-0.4**
PCAB				*e*Sn		**Sn**	**14 10 50.7**	**-3.6**
PCAB				A		A	14 10 55.5	
	comp=E,12nm,0.5s							
PCAB	**Cabril**	**4.90**	**11**	P		**Pn**	**14 09 57.1**	**-0.4**
PCAB				S		**Sn**	**14 10 50.7**	**-3.6**
	comp=E,6.1nm,0.5s							
PCAB	**Cabril**	**4.90**	**11**	P		**Pn**	**14 09 57.1**	**-0.4**
PCAB				S		**Sn**	**14 10 50.7**	**-3.6**
	comp=E,6.1nm,0.5s							
ESDC	**Sonseca Array**	**5.02**	**55**	P		**Pn**	**14 09 58.8**	**-0.3**
	comp=E,8.2nm,0.3s,baz=240,slow=13,SNR=176							
ESDC				S		**Sn**	**14 10 53.7**	**-3.5**
	comp=E,4.6nm,0.2s,baz=241,slow=23,SNR=39							
ESDC	**Sonseca Array**	**5.02**	**55**	S		**Sn**	**14 10 53.7**	**-3.5**
	comp=E,4.6nm,0.2s,SNR=39							
EQES	**Quesada**	**5.03**	**78**	P		**Pn**	**14 09 58.9**	**-0.5**
	comp=E,1.6nm,0.1s,SNR=20							
EQES				S		**Sn**	**14 10 54.4**	**-3.2**
	comp=E,14nm,0.1s							
EQES	**Quesada**	**5.03**	**78**	P		**Pn**	**14 09 58.9**	**-0.5**
	comp=E,1.6nm,0.1s,SNR=20							
EQES				S		**Sn**	**14 10 54.4**	**-3.2**
	comp=E,14nm,0.1s							
ELOB	**Lobios**	**5.05**	**10**	P		**Pn**	**14 09 58.9**	**-0.7**
	comp=E,7.9nm,0.1s,SNR=69							
ELOB				S		**Sn**	**14 10 53.6**	**-4.5**
	comp=E,9.2nm,0.1s,SNR=5.9							
ELOB	**Lobios**	**5.05**	**10**	P		**Pn**	**14 09 58.9**	**-0.7**
	comp=E,7.9nm,0.1s,SNR=69							
ELOB				S		**Sn**	**14 10 53.6**	**-4.5**
	comp=E,9.2nm,0.1s,SNR=5.9							
KIB	**El Ksiba**	**5.07**	**147**	P		Pn	14 09 56.0	-3.9
KIB				S		Sn	14 10 49.0	-10
KIB	**El Ksiba**	**5.07**	**147**	P		Pn	14 09 56.0	-3.9
PGAV	**Gavieira, Arco**	**5.12**	**8**	*e*Pn		**Pn**	**14 10 00.1**	**-0.5**
PGAV				*e*Sn		**Sn**	**14 10 55.1**	**-4.7**
PGAV				A		A	14 10 59.7	
	comp=E,6.8nm,0.2s							
PGAV	**Gavieira, Arco**	**5.12**	**8**	*e*Pn		**Pn**	**14 10 00.1**	**-0.5**
PGAV				*e*Sn		**Sn**	**14 10 55.1**	**-4.7**
	comp=E,6.8nm,0.2s							
EBER	**Berja**	**5.12**	**88**	P		**Pn**	**14 10 00.8**	**+0.1**
	comp=E,0.6nm,0.2s,SNR=7.9							
EBER				S		**Sn**	**14 10 56.3**	**-3.7**
	comp=E,7.1nm,0.3s,SNR=7.9							
EBER	**Berja**	**5.12**	**88**	P		**Pn**	**14 10 00.8**	**+0.1**
	comp=E,0.6nm,0.2s,SNR=7.9							
EBER				S		**Sn**	**14 10 56.3**	**-3.7**
	comp=E,7.1nm,0.3s,SNR=7.9							
TZC	**Tazercounte**	**5.27**	**153**	P		Pn	14 09 58.0	-4.7
TZC				S		Sn	14 10 52.0	-12
TZC	**Tazercounte**	**5.27**	**153**	P		Pn	14 09 58.0	-4.7
PBRG	**Braganca**	**5.28**	**21**	*e*Pn		**Pn**	**14 10 02.5**	**-0.2**
PBRG				*e*Sn		**Sn**	**14 11 00.2**	**-3.5**
PBRG				A		A	14 11 03.0	
	comp=E,7.0nm,0.4s							
PBRG	**Braganca**	**5.28**	**21**	P		**Pn**	**14 10 02.5**	**-0.2**
PBRG				S		**Sn**	**14 11 00.2**	**-3.5**
	comp=E,3.5nm,0.4s							
PBRG	**Braganca**	**5.28**	**21**	P		**Pn**	**14 10 02.5**	**-0.2**
PBRG				S		**Sn**	**14 11 00.2**	**-3.5**
	comp=E,3.5nm,0.4s							
EHUE	**Huescar**	**5.41**	**78**	P		**Pn**	**14 10 03.9**	**-0.6**
	comp=E,0.8nm,0.1s,SNR=7.9							
EHUE				S		**Sn**	**14 11 02.1**	**-4.7**
	comp=E,4.7nm,0.1s,SNR=7.9							
ECAL	**Calabor**	**5.41**	**21**	P		**Pn**	**14 10 04.2**	**-0.3**
	comp=E,17nm,0.3s,SNR=33							
ECAL				S		**Sn**	**14 11 03.3**	**-3.5**
	comp=E,8.7nm,0.2s,SNR=5.3							
GUD	**Guadarrama**	**5.48**	**45**	P		**Pn**	**14 10 04.8**	**-0.7**
	comp=E,8.0nm,0.2s,SNR=6.3							
GUD				S		**Sn**	**14 11 05.5**	**-3.2**
	comp=E,8.3nm,0.3s,SNR=7.9							
GUD	**Guadarrama**	**5.48**	**45**	P		**Pn**	**14 10 04.8**	**-0.7**
	comp=E,8.0nm,0.2s,SNR=6.3							
GUD				S		**Sn**	**14 11 05.5**	**-3.2**
	comp=E,8.3nm,0.3s,SNR=7.9							
SESP	**Santiago Espad**	**5.49**	**75**	P		**Pn**	**14 10 05.1**	**-0.6**
	comp=E,2.0nm,0.1s,SNR=7.9							
SESP				S		**Sn**	**14 11 05.5**	**-3.6**
	comp=E,14nm,0.2s,SNR=7.9							
SESP	**Santiago Espad**	**5.49**	**75**	P		**Pn**	**14 10 05.1**	**-0.6**
	comp=E,2.0nm,0.1s,SNR=7.9							
SESP				S		**Sn**	**14 11 05.5**	**-3.6**
	comp=E,14nm,0.2s,SNR=7.9							
EVIA	**Vianos**	**5.65**	**70**	P		**Pn**	**14 10 07.1**	**-0.7**
	comp=E,7.8nm,0.1s,SNR=12							
EVIA				S		Sn	14 11 07.2	-5.5
	comp=E,9.3nm,0.2s							
EVIA	**Vianos**	**5.65**	**70**	P		**Pn**	**14 10 07.1**	**-0.7**
	comp=E,7.8nm,0.1s,SNR=12							
OUK	**Oukaimeden**	**5.79**	**168**	P		**Pn**	**14 10 12.0**	**+2.0**
OUK				S		**Sn**	**14 11 21.0**	**+4.3**
OUK	**Oukaimeden**	**5.79**	**168**	P		**Pn**	**14 10 12.0**	**+2.0**
EAGO	**Agolada(Pontev**	**5.97**	**8**	P		**Pn**	**14 10 11.0**	**-1.2**
	comp=E,6.5nm,0.1s,SNR=7.9							
EAGO				S		Sn	14 11 15.1	-5.5
	comp=E,5.5nm,0.1s,SNR=7.9							
STS	**Santiago**	**6.01**	**5**	P		**Pn**	**14 10 11.2**	**-1.4**
	comp=E,2.9nm,0.1s,SNR=7.9							
STS				S		Sn	14 11 16.0	-5.5
	comp=E,3.3nm,0.2s,SNR=7.9							
EMAZ	**Mazaricos**	**6.05**	**2**	P		**Pn**	**14 10 12.0**	**-1.2**
	comp=E,7.3nm,0.3s,SNR=14							
EMAZ				S		Sn	14 11 15.5	-7.1
	comp=E,13nm,0.1s,SNR=6.5							
EMAZ	**Mazaricos**	**6.05**	**2**	P		**Pn**	**14 10 12.0**	**-1.2**
	comp=E,7.3nm,0.3s,SNR=14							
ETOB	**Tobarra**	**6.37**	**72**	P		**Pn**	**14 10 17.0**	**-0.7**
	comp=E,4.4nm,0.3s,SNR=17							
ETOB				S		**Sn**	**14 11 26.7**	**-3.9**
	comp=E,2.9nm,0.2s,SNR=8.0							
ETOB	**Tobarra**	**6.37**	**72**	P		**Pn**	**14 10 17.0**	**-0.7**
	comp=E,4.4nm,0.3s,SNR=17							
ETOB				S		**Sn**	**14 11 26.7**	**-3.9**
	comp=E,2.9nm,0.2s,SNR=8.0							
EMUR	**La Murta**	**6.47**	**79**	P		**Pn**	**14 10 18.1**	**-1.0**
	comp=E,2.0nm,0.4s,SNR=7.9							
EMUR				S		Sn	14 11 28.2	-4.9
	comp=E,6.0nm,0.4s,SNR=5.3							
EMUR	**La Murta**	**6.47**	**79**	P		**Pn**	**14 10 18.1**	**-1.0**
	comp=E,2.0nm,0.4s,SNR=7.9							
EMUR				S		Sn	14 11 28.2	-4.9
	comp=E,6.0nm,0.4s,SNR=5.3							
EPON	**Pontenova**	**6.63**	**14**	P		**Pn**	**14 10 20.5**	**-0.7**
	comp=E,1.3nm,0.1s,SNR=7.9							
EPON				S		Sn	14 11 31.2	-5.5
	comp=E,1.4nm,0.2s,SNR=7.9							
EPON	**Pontenova**	**6.63**	**14**	P		**Pn**	**14 10 20.5**	**-0.7**
	comp=E,1.3nm,0.1s,SNR=7.9							
ETOR	**Torete**	**6.87**	**53**	P		**Pn**	**14 10 24.5**	**0.0**
	comp=E,27nm,0.3s,SNR=38							
ETOR				S		**Sn**	**14 11 38.3**	**-4.5**
	comp=E,16nm,0.3s,SNR=7.7							
ETOR	**Torete**	**6.87**	**53**	P		**Pn**	**14 10 24.5**	**0.0**
	comp=E,27nm,0.3s,SNR=38							
ETOR				S		**Sn**	**14 11 38.3**	**-4.5**
	comp=E,16nm,0.3s,SNR=7.7							
EARI	**Arriondas**	**7.12**	**25**	P		**Pn**	**14 10 28.5**	**+0.6**
	comp=E,1.6nm,0.2s,SNR=20							
EARI				S		**Sn**	**14 11 43.6**	**-5.2**
	comp=E,0.4nm,0.1s,SNR=5.7							
EARI	**Arriondas**	**7.12**	**25**	P		**Pn**	**14 10 28.5**	**+0.6**
	comp=E,1.6nm,0.2s,SNR=20							
EARI				S		**Sn**	**14 11 43.7**	**-5.2**
	comp=E,0.4nm,0.1s,SNR=5.7							
EBEN	**Beniarda**	**7.39**	**73**	P		**Pn**	**14 10 31.1**	**-0.6**
	comp=E,0.1nm,0.1s,SNR=7.9							
EBEN				S		**Sn**	**14 11 50.9**	**-4.8**
	comp=E,1.9nm,0.3s,SNR=7.9							
EBEN	**Beniarda**	**7.39**	**73**	P		**Pn**	**14 10 31.1**	**-0.6**
	comp=E,0.1nm,0.1s,SNR=7.9							
EBEN	**Beniarda**	**7.39**	**73**	S		**Sn**	**14 11 50.9**	**-4.8**
	comp=E,1.9nm,0.3s,SNR=7.9							
EMOS	**Mosqueruela**	**7.71**	**61**	P		**Pn**	**14 10 37.4**	**+1.1**
	comp=E,0.9nm,0.1s,SNR=12							
EMOS				S		**Sn**	**14 11 58.9**	**-4.9**
	comp=E,7.6nm,0.3s,SNR=7.9							
EMOS	**Mosqueruela**	**7.71**	**61**	P		**Pn**	**14 10 37.4**	**+1.1**
	comp=E,0.9nm,0.1s,SNR=12							
EMOS				S		**Sn**	**14 11 58.9**	**-4.9**
	comp=E,7.6nm,0.3s,SNR=7.9							
ELAN	**Lanestosa**	**7.75**	**34**	P		**Pn**	**14 10 36.4**	**-0.2**
	comp=E,0.8nm,0.1s,SNR=11							
ELAN				S		Sn	14 11 58.5	-5.8
	comp=E,1.4nm,0.5s,SNR=7.9							
ELAN	**Lanestosa**	**7.75**	**34**	P		**Pn**	**14 10 36.4**	**-0.2**
	comp=E,0.8nm,0.1s,SNR=11							
EARA	**Aranguren**	**8.34**	**43**	P		**Pn**	**14 10 44.8**	**+0.2**
	comp=E,1.5nm,0.2s,SNR=7.9							
EARA	**Aranguren**	**8.34**	**43**	P		**Pn**	**14 10 44.8**	**+0.2**
	comp=E,1.5nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**8.52**	**59**	P		**Pn**	**14 10 47.8**	**+0.6**
	comp=E,0.8nm,0.1s,SNR=7.9							
ERTA	**Horta de San J**	**8.52**	**59**	P		**Pn**	**14 10 47.8**	**+0.6**
	comp=E,0.8nm,0.1s,SNR=7.9							
EALK	**Alkurruntz**	**8.68**	**41**	P		**Pn**	**14 10 49.4**	**+0.1**
	comp=E,2.5nm,0.4s,SNR=5.1							
EALK				S		**Sn**	**14 12 23.3**	**-3.9**
	comp=E,0.7nm,0.2s,SNR=7.9							
EALK	**Alkurruntz**	**8.68**	**41**	P		**Pn**	**14 10 49.4**	**+0.1**
	comp=E,2.5nm,0.4s,SNR=5.1							
EALK				S		**Sn**	**14 12 23.3**	**-3.9**
	comp=E,0.7nm,0.2s,SNR=7.9							
SJPF	**Ste Jean**	**8.76**	**42**	*e*Pn		**Pn**	**14 10 50.2**	**-0.2**
SJPF				*e*Sn		Sn	14 12 21.4	-7.8
	comp=E,1.7nm,0.3s							
SJPF	**Ste Jean**	**8.76**	**42**	*e*Pn		**Pn**	**14 10 50.2**	**-0.2**
ETSF	**Etsaut**	**8.99**	**46**	*e*Pn		**Pn**	**14 10 53.4**	**-0.2**
ETSF				*e*Sn		Sn	14 12 26.0	-8.9
	comp=E,1.2nm,0.3s							
ETSF	**Etsaut**	**8.99**	**46**	*e*Pn		**Pn**	**14 10 53.4**	**-0.2**
ATE	**Arette**	**9.03**	**44**	P		**Pn**	**14 10 54.7**	**+0.6**
	comp=E,1.2nm,0.1s,SNR=7.9							
ATE				S		Sn	14 12 29.0	-6.8
	comp=E,0.2nm,0.1s,SNR=7.9							
ATE	**Arette**	**9.03**	**44**	P		**Pn**	**14 10 54.7**	**+0.6**
	comp=E,1.2nm,0.1s,SNR=7.9							
EPOB	**Poblet**	**9.20**	**58**	P		**Pn**	**14 10 55.7**	**-0.8**
	comp=E,0.5nm,0.2s,SNR=7.9							
EPOB	**Poblet**	**9.20**	**58**	P		**Pn**	**14 10 55.7**	**-0.8**
	comp=E,0.5nm,0.2s,SNR=7.9							
EPF	**Esparros**	**9.59**	**47**	*e*Pn		**Pn**	**14 11 02.1**	**+0.2**
EPF				*e*Sn		Sn	14 12 41.9	-7.8
	comp=E,3.9nm,0.4s							
EPF	**Esparros**	**9.59**	**47**	*e*Pn		**Pn**	**14 11 02.1**	**+0.2**
CSOR	**Sort**	**9.72**	**53**	P		**Pn**	**14 11 03.1**	**-0.5**
	comp=E,0.5nm,0.1s,SNR=7.9							
CSOR	**Sort**	**9.72**	**53**	P		**Pn**	**14 11 03.1**	**-0.5**
	comp=E,0.5nm,0.1s,SNR=7.9							
CFON	**Fontmartina**	**10.29**	**58**	P		**Pn**	**14 11 11.4**	**-0.1**
	comp=E,0.3nm,0.1s,SNR=7.9							
CFON	**Fontmartina**	**10.29**	**58**	P		**Pn**	**14 11 11.4**	**-0.1**
	comp=E,0.3nm,0.1s,SNR=7.9							
LFF	**La Frestale**	**11.04**	**40**	*e*Pn		**Pn**	**14 11 20.3**	**-1.3**
LFF	**La Frestale**	**11.04**	**40**	*e*Pn		**Pn**	**14 11 20.3**	**-1.3**
RJF	**Les Rejaudoux**	**11.69**	**41**	*e*Pn		Pn	14 11 28.7	-1.9
RJF	**Les Rejaudoux**	**11.69**	**41**	*e*Pn		Pn	14 11 28.7	-1.9
CAF	**Calviac**	**11.74**	**43**	*e*Pn		**Pn**	**14 11 29.6**	**-1.6**
CAF	**Calviac**	**11.74**	**43**	*e*Pn		**Pn**	**14 11 29.6**	**-1.6**
MFF	**Saint Martin d**	**11.85**	**32**	*e*Pn		Pn	14 11 30.8	-1.9
MFF	**Saint Martin d**	**11.85**	**32**	*e*Pn		Pn	14 11 30.8	-1.9
QUIF	**Quistinic**	**11.90**	**20**	*e*Pn		Pn	14 11 31.2	-2.1
QUIF	**Quistinic**	**11.90**	**20**	*e*Pn		Pn	14 11 31.2	-2.1
ROSF	**Rostrenen**	**12.25**	**19**	*e*Pn		**Pn**	**14 11 36.8**	**-1.4**
ROSF	**Rostrenen**	**12.25**	**19**	*e*Pn		**Pn**	**14 11 36.8**	**-1.4**
SGMF	**Saint Gilles**	**12.38**	**21**	*e*Pn		Pn	14 11 37.9	-2.0
SGMF	**Saint Gilles**	**12.38**	**21**	*e*Pn		Pn	14 11 37.9	-2.0
GRR	**Gorron**	**13.04**	**26**	*e*Pn		Pn	14 11 46.9	-2.0
GRR	**Gorron**	**13.04**	**26**	*e*Pn		Pn	14 11 46.9	-2.0
LDF	**La Druitiere**	**13.47**	**27**	*e*Pn		Pn	14 11 53.2	-1.7
LDF	**La Druitiere**	**13.47**	**27**	*e*Pn		Pn	14 11 53.2	-1.7
FLN	**La Foliniere**	**13.49**	**26**	*e*Pn		Pn	14 11 53.1	-2.0
	baz=205							
FLN	**La Foliniere**	**13.49**	**26**	*e*Pn		Pn	14 11 53.1	-2.0

SZGRF ***02*** *14:08:21.9,23°.24S×178°.49W,h33km, South of Fiji Islands*
BJI ***02*** *14:09:16.0,24°.17S×179°.65W,h541km,mb4.5/12, mB4.9/7*
IDC ***02*** *14:09:19.1±1.2,23°.25S×179°.82W,h528km±12km, mb3.9/14,mb1 4.2/15,mb1mx3.9/25,mbtmp4.8/15,Error ellipse: s-maj=14.8km s-min=12.9km az=125.0*
ISCJB ***02*** *14:09:19.5±0.6,23°.49S±0°.03×179°.85W±0°.05, h544km±7km,mb4.5/43,Error ellipse: s-maj=7.1km s-min=4.9km az=15.3*
NEIC ***02*** *14:09:19.7±0.6,23°.34S×179°.83W,h534km±7km,mb4.6/29, Error ellipse: s-maj=9.8km s-min=6.8km az=146.0*
MOS ***02*** *14:09:21.4±1.2,23°.26S×179°.99W,h557km,mb4.7/8, Error ellipse: s-maj=16.9km s-min=14.5km az=155.8*
ISC 02 14:09:20.1±0.4,**23°.57S**±0°.05×**179°.84W**±0°.06, **h547**km±4km,**h547**km**:pP-P,n167,**σ1**45**/192**,mb4.5**/43**, 8C-4D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.92**	**164**	P	**P**	**14 10 56.8**	**-0.8**
	91nm,0.3s,baz=90,slow=20,SNR=3.6						
RAO				S	**S**	**14 12 19.1**	**+1.6**
	64nm,0.3s,baz=72,slow=20,SNR=4.0						
MSVF	**Nonsavu**	**6.13**	**341**	*e*P	**P**	**14 10 58.2**	**-1.8**
	30nm,0.5s						
NIUE	**Niue**	**10.26**	**66**	P	**P**	**14 11 39.4**	**-1.3**
	baz=10.0,SNR=6.0						
NIUE				S	**S**	**14 13 39.6**	**+3.4**
	baz=10.0,SNR=5.3						
AFI	**Afiamalu**	**12.27**	**40**	*e*P	P	14 11 55.9	-5.7
AFI				pmax	pmax		
	comp=Z,83nm,1.0s						
AFI	**Afiamalu**	**12.27**	**40**	*e*P	P	14 11 55.9	-5.7
	comp=Z,83nm,1.0s						
HAZ	**Te Kaha**	**14.29**	**188**	*e*PN	**P**	**14 12 22.3**	**+0.3**
HAZ				*e*SN	**S**	**14 14 48.0**	**-4.0**
URZ	**Urewera**	**14.88

baz=46,SNR=14
FORT Forrest 46.57 249 P P 14 16 59.5 +0.5
baz=47,SNR=27
FORT Forrest 46.57 249 eP P 14 16 59.4 +0.4
comp=Z,106nm,0.7s
WRKA Warakurna 47.06 257 P P 14 17 03.4 +0.5
baz=47,SNR=126
KNRA Kununurra 48.84 269 P P 14 17 16.5 +0.4
baz=49,SNR=37
SBA Scott Base 54.72 183 eP P 14 18 01.7 +4.2
SBA pmax pmax
comp=Z,26nm,1.1s
SBA Scott Base 54.72 183 eP P 14 18 01.6 +4.2
comp=Z,26nm,1.1s
VNDA Vanda 54.72 185 P P 14 18 01.2 +3.6
comp=Z,3.8nm,0.6s,baz=8.0,slow=6.0,SNR=28
MEEK Meekatharra 55.35 253 P P 14 18 02.8 0.0
baz=56,SNR=6.1
NWAO Narrogin (SRO) 55.51 245 P P 14 18 04.8 +1.0
baz=56,SNR=15
RKGY Rocky Gully 55.52 243 P P 14 18 05.2 +1.4
baz=56,SNR=4.7
MBWA Marble Bar 55.58 260 eP P **14 18 04.5 +0.1**
comp=Z,44nm,1.0s
BLDU Ballidu 56.29 248 P P 14 18 09.8 +0.6
baz=56,SNR=58
MORW Morawa 57.13 250 P P 14 18 15.6 +0.6
baz=57,SNR=25
GIRL Giralia 60.14 257 P P 14 18 37.3 +1.9
baz=60,SNR=4.6
MJAR Matsushiro Arr 71.71 325 P P 14 19 45.2 -1.9
comp=Z,0.6nm,0.5s,baz=158,slow=5.0,SNR=5.0
KSM Kuching 72.20 280 P P 14 19 51.0 +0.7
baz=72,SNR=6.1
MAW Mawson 78.11 200 P P 14 20 24.6 +2.3
comp=Z,9.7nm,0.8s,baz=113,slow=6.1,SNR=10
MAW Mawson 78.11 200 P P 14 20 24.8 +2.5
baz=78,SNR=5.3
PETK Petropavlovsk- 78.81 346 P P 14 20 25.9 -0.3
comp=Z,1.7nm,0.7s,baz=125,slow=9.0,SNR=5.2
NJ2 Nanjing 80.56 311 eP **P 14 20 33.5 -2.3**
NJ2 PMZ
comp=Z,20nm,1.0s
QIZ Qiongzhong 80.59 295 P P 14 20 36.7 +0.4
IPM Ipoh 81.86 278 eP P 14 20 43.4 +0.4
comp=Z,16nm,1.0s
CMB Columbia Colle 82.86 43 eP **P 14 20 47.9 +0.4**
CMB pmax pmax
comp=Z,25nm,1.4s
CMB Columbia Colle 82.86 43 eP **P 14 20 47.9 +0.4**
comp=Z,25nm,1.4s
SYO Syowa Base 83.37 193|| eP **P 14 20 49.4 -0.1**
WAKR Walker 83.74 43 eP **P 14 20 52.7 +0.6**
comp=Z,22nm,1.4s
NVAR Mina Array Bea 84.41 44 P P 14 20 56.0 +0.6
comp=Z,4.4nm,1.0s,baz=226,slow=8.7,SNR=11
TPH Tonopah 84.90 45 eP **P 14 20 58.0 +0.2**
TPH pmax pmax
comp=Z,10.0nm,1.1s
TPH Tonopah 84.90 45 eP **P 14 20 58.0 +0.2**
comp=Z,10nm,1.1s
SNAA Sanae 84.99 179 P P 14 20 58.5 +1.0
VNA3 Neumayer Olymp 85.20 177 P P 14 20 59.5 +1.0
VNA2 Neumayer--Watz 85.62 178 P P 14 21 02.3 +1.8
baz=180,slow=3.6
WVOR Wild Horse Val 86.56 41 eP **P 14 21 05.9 +0.4**
WVOR pmax pmax
comp=Z,2.0nm,0.8s
WVOR Wild Horse Val 86.56 41 eP **P 14 21 05.9 +0.4**
comp=Z,2.2nm,0.8s
GYA Guiyang 86.71 301 eP **P 14 21 07.0 +0.4**
GYA pP **pP 14 23 06.2 +0.4**
GYA sP **sP 14 24 01.8 +0.7**
GYA PP **PP 14 24 41.0 +1.6**
GYA SKS **SKSac 14 30 41.1 -0.5**
GYA S **S 14 30 58.6 -0.1**
GYA PMZ
comp=Z,10.0nm,1.0s
XAN Xi'an 88.65 308 P P 14 21 16.3 +0.9
XAN PMZ
comp=Z,2.0nm,0.9s
MFID Camas Ranch 88.81 41 eP **P 14 21 16.3 +0.3**
comp=Z,9.9nm,1.0s
SEY Seymchan 88.98 348 eP **P 14 21 15.4 -0.7**
TMUT Trail Mountain 89.50 46 eP **P 14 21 20.5 +1.0**
comp=Z,20nm,1.0s
CMAR Chiang Mai Arr 89.55 290 P P 14 21 21.3 +1.4
comp=Z,4.4nm,0.9s,baz=130,slow=3.0,SNR=31
CM31 Chiang Mai Arr 89.55 290 eP **P 14 21 21.9 +2.1**
comp=Z,3.1nm,0.8s
CHTO Chiang Mai 89.70 291 eP **P 14 21 21.9 +1.4**
CHTO pmax pmax
comp=Z,11nm,1.2s
CHTO Chiang Mai 89.70 291 eP **P 14 21 21.9 +1.4**
comp=Z,11nm,1.2s
HLID Hailey 89.75 41 eP **P 14 21 21.0 +0.6**
comp=Z,6.6nm,1.1s
TRF Thorofare Moun 89.80 13 eP **P 14 21 18.7 -1.4**
comp=Z,6.7nm,0.9s
SRU San Rafael Swe 89.86 47 eP **P 14 21 21.3 +0.2**
SRU pmax pmax
comp=Z,12nm,0.9s
SRU San Rafael Swe 89.86 47 eP **P 14 21 21.3 +0.2**
comp=Z,12nm,0.9s
MNTX Cornudas Mount 89.90 55 eP **P 14 21 22.0 +0.8**
comp=Z,2.7nm,0.8s
TXAR Lajitas Array 90.13 58 P P 14 21 23.4 +1.0
comp=Z,3.5nm,0.8s,baz=214,slow=6.5,SNR=46
TCUT Toone Canyon 90.32 45 eP **P 14 21 23.2 0.0**
comp=Z,12nm,0.8s
HWUT Hardware Ranch 90.47 44 eP **P 14 21 23.9 +0.1**
comp=Z,3.2nm,0.4s
ANMO Albuquerque 90.64 52 eP **P 14 21 24.9 +0.1**
ANMO pmax pmax
comp=Z,7.0nm,1.3s
ANMO Albuquerque 90.64 52 eP **P 14 21 24.9 +0.1**
comp=Z,6.5nm,1.3s
PV01 Paradox Valley 90.69 48 eP **P 14 21 24.8 -0.3**
comp=Z,189nm,1.0s
CD2 Chengdu 91.02 303 eP **P 14 21 26.5 0.0**
CD2 PMZ
comp=Z,10.0nm,1.4s
AHID Auburn Hatcher 91.37 43 eP **P 14 21 29.1 +1.1**
comp=Z,5.8nm,1.2s
ILAR Eielson Array 91.67 13 P P 14 21 27.2 -1.3
comp=Z,0.6nm,0.6s,baz=243,slow=6.6,SNR=9.3
BILL Bilibino 91.91 355|| iP **P 14 21 29.4 -0.2**
BILL e*PP **pP 14 23 30.6 +0.6**
BILL pmax pmax
comp=Z,3.0nm,1.2s
SMCO Snowmass 92.29 48 eP **P 14 21 32.3 -0.2**
comp=Z,4.9nm,1.2s
PDAR Pinedale Array 92.35 44 P P 14 21 32.5 0.0
comp=Z,2.1nm,0.8s,baz=213,slow=1.6,SNR=18
EGAK Eagle 93.00 16 eP **P 14 21 33.7 -0.9**
comp=Z,2.6nm,0.7s
LZH Lanzhou 93.29 308 eP **P 14 21 38.5 +1.6**
LZH pP **pP 14 23 38.2 +0.9**
LZH sP **sP 14 24 31.6 -0.6**
LZH PMZ
comp=Z,18nm,1.0s
YAK Yakutsk 94.32 339 P P 14 21 39.9 -0.8
YAK pmax pmax
comp=Z,3.0nm,0.8s
KURK Kurchatov 115.06 317 PKIKP **PKPdf 14 26 58.4 -0.5**
KURK Kurchatov 115.06 317 PKP **PKPdf 14 26 58.4 -0.5**
KURBB Kurchatov Arra 115.11 316 PKP **PKPdf 14 26 58.3 -0.7**
comp=Z,0.5nm,0.2s,baz=96,slow=1.4,SNR=4.7
KSH Kashi 115.21 304 ePKP **PKPdf 14 26 57.9 -1.9**
KSH sPKP 14 29 56.5
KSH PKS **PKSdf 14 30 33.2 -3.3**
KSH PPMZ
comp=Z,35nm,5.7s
MSEY Mahe Island 119.23 250 *i* PKIKP **PKPdf 14 27 03.3 -4.9**
BVAR Borovoye Array 120.29 319 PKP **PKPdf 14 27 08.6 -0.4**
comp=Z,0.4nm,0.3s,baz=107,slow=3.6,SNR=5.3
AKTO Aktyubinsk 128.16 316 PKP **PKPdf 14 27 25.1 +1.0**
comp=Z,0.8nm,0.6s,baz=124,slow=7.9,SNR=3.9
ARCES ARCESS Array B 131.59 348 PKP **PKPdf 14 27 30.1 0.0**
comp=Z,10nm,1.1s,baz=358,slow=2.9,SNR=5.4
ARCES SKPbc **SKPbc 14 30 04.5 -0.3**
comp=Z,2.8nm,0.7s,baz=39,slow=4.7,SNR=6.8
KMBO Kilima Mbogo 136.39 241 SKPbc **SKiKP 14 30 25.1 -2.2**
comp=Z,3.2nm,0.9s,baz=68,slow=9.2,SNR=4.9
FINES FINESS Array B 138.18 342 PKP **PKPdf 14 27 43.7 +1.2**
comp=Z,3.4nm,0.9s,baz=11,slow=1.9,SNR=4.0
FINES SKPbc **SKPbc 14 30 25.8 +0.3**
comp=Z,1.8nm,0.8s,baz=43,slow=3.6,SNR=6.7
OBN Obninsk 138.56 329|| *i* PKIKP **PKPdf 14 27 42.4 -1.0**
OBN *e* 14 30 39.5
OBN pmax pmax
comp=Z,4.0nm,0.5s
VSR Storozhevoye 139.25 323 *e*PKIKP **PKPdf 14 27 42.3 -2.5**
VSR pmax pmax
comp=N,7.0nm,0.6s
VSR pmax pmax
comp=Z,8.0nm,0.6s
VSR pmax pmax
comp=E,7.0nm,0.5s
NB2 NORSAR Subarra 141.78 351 PKP PKPpre 14 27 44.5
comp=Z,0.4nm,0.5s,baz=16,slow=3.2
NOA NORSAR Array B 141.78 351 PKhKP PKPpre 14 27 44.6
comp=Z,1.8nm,0.7s,baz=16,slow=4.6,SNR=7.2
NOA SKPbc **SKPbc 14 30 34.8 -0.3**
comp=Z,1.3nm,0.8s,baz=15,slow=4.2,SNR=4.5
AKASG Malin Array Be 144.77 328 PKP **PKPdf 14 27 54.2 -0.4**
comp=Z,2.3nm,0.6s,baz=42,slow=4.0,SNR=23
AKASG SKPbc **SKiKP 14 30 42.9 0.0**
comp=Z,1.5nm,0.6s,baz=45,slow=2.6,SNR=7.9
AK02 Malin Array Si 144.81 328 *e*PKP **PKPdf 14 27 54.4 -0.2**
BR131 Keskin Array S 147.50 308 *e*PKPdf **PKPdf 14 28 01.3 +1.6**
BRTR Keskin Array B 147.50 308 PKPbc **PKPbc 14 28 02.1 -1.0**
comp=Z,1.3nm,0.8s,baz=129,slow=2.0,SNR=9.9
BRTR PKPab **PKPab 14 28 06.9 -0.3**
comp=Z,1.3nm,0.8s,baz=149,slow=2.9,SNR=9.7
KWP Kalwaria Pacla 148.55 331 *e*PKP **PKPbc 14 28 06.1 +0.8**
KWP Kalwaria Pacla 148.55 331 *e*PKP2 **PKPbc 14 28 06.1 +0.8**
BSEG Bad Segeberg 148.72 348 *e*PKPbc **PKPbc 14 28 06.0 +0.4**
KOLS Kolonicke sedl 149.26 331 *e*PKP2 **PKPbc 14 28 08.0 +0.9**
KOLS Kolonicke sedl 149.26 331 *e*PKP **PKPbc 14 28 08.0 +0.9**
CRVS Cervenica-Dubn 149.64 332 *e* **PKPbc 14 28 05.7 -2.3**
CRVS Cervenica-Dubn 149.64 332 *e*PKP **PKPab 14 28 15.5 0.0**
NIE Niedzica 149.73 333 *e*PKP **PKPbc 14 28 09.0 +0.8**
KSP Ksiaz 150.03 339 *e*PKP **PKPbc 14 28 09.8 +1.0**
NRDL Niedersach Rie 150.13 348 *e*PKPbc **PKPbc 14 28 09.3 +0.4**
OKC Ostrava-Krasne 150.24 336|| *e*PKP **PKPbc 14 28 09.9 +0.6**
UPC Upice 150.41 339|| *e*PKP **PKPbc 14 28 09.8 +0.1**
UPC Upice 150.41 339 *e*PKIKP **PKPbc 14 28 09.8 +0.1**
DPC Dobruska-Polom 150.44 339|| *e*PKP **PKPbc 14 28 10.6 +0.7**
DPC *ex* x 14 30 22.5
DPC Dobruska-Polom 150.44 339 *e*PKIKP **PKPbc 14 28 10.6 +0.7**
DPC *e* 14 30 22.5
KRLC Kraliky 150.52 338|| *e*PKP **PKPbc 14 28 10.6 +0.5**
KRLC *ex* x 14 30 22.5
KRLC Kraliky 150.52 338 *e*PKIKP **PKPbc 14 28 10.6 +0.5**
KRLC *e* 14 30 22.5
CLL Collm 150.58 344 *e*PKPbc **PKPbc 14 28 10.4 +0.3**
CLL Collm 150.58 344|| *i* PKPbc **PKPbc 14 28 10.4 +0.3**
comp=Z,9.0nm,0.8s
CLL Collm 150.58 344|| *i* PKIKP **PKPbc 14 28 10.4 +0.3**
CLL pmax pmax
comp=Z,9.0nm,0.8s
CLZ Clausthal 150.70 347 *e*PKPbc **PKPbc 14 28 11.0 +0.6**
BRG Berggiesshubel 150.72 342 *i* PKP **PKPbc 14 28 10.9 +0.5**
comp=Z,5.9nm,0.7s
BRG pPKP pPKPdf 14 30 23.1 +10
comp=Z,17nm,1.8s
BRG Berggiesshubel 150.72 342 *e*PKPbc **PKPbc 14 28 10.9 +0.5**
BRG Berggiesshubel 150.72 342 *i* PKIKP **PKPbc 14 28 10.9 +0.5**
BRG 14 30 23.1
BRG pmax pmax
comp=Z,6.0nm,0.7s
FBE Freiberg 150.84 343 *e*PKPbc **PKPbc 14 28 11.5 +0.8**
PVCC Panska Ves 150.84 341|| *e*PKP **PKPbc 14 28 11.6 +0.9**
PVCC *ep*PKP pPKPdf 14 30 22.5 +9.4
PVCC Panska Ves 150.84 341 *e*PKIKP **PKPbc 14 28 11.6 +0.9**
PVCC *e* 14 30 22.5
VYHS Vyhne 151.06 334 *e*PKPbc **PKPbc 14 28 11.8 +0.5**
VYHS Vyhne 151.06 334 *e*PKP **PKPbc 14 28 11.8 +0.5**
PRU Pruhonice 151.33 340|| *e*PKP **PKPbc 14 28 12.5 +0.7**
PRU *ep*PKP pPKPdf 14 30 24.0 +10
PRU Pruhonice 151.33 340 *e*PKIKP **PKPbc 14 28 12.5 +0.7**
PRU *e* 14 30 24.0
WERD Werda 151.55 344 *e*PKPbc **PKPbc 14 28 12.7 +0.3**
PLN Plauen 151.55 344 *e*PKPbc **PKPbc 14 28 12.8 +0.5**
MANZ Manzenberg 152.02 343 *e*PKPbc **PKPbc 14 28 13.6 +0.2**
GERES GERESS Array B 152.60 340 PKPbc **PKPbc 14 28 14.5 -0.3**
comp=Z,0.5nm,0.7s,baz=48,slow=2.0,SNR=7.8
ESDC Sonseca Array 163.57 11 PKPab **PKPab 14 29 14.3 -1.6**
comp=Z,0.1nm,0.3s,baz=40,slow=2.5,SNR=4.5
TORD Torodi Ar. Bea 169.53 188 PKP **PKPdf 14 28 24.8 -0.9**
comp=Z,1.8nm,1.1s,baz=94,slow=0.5,SNR=4.4
TORD PKPab **PKPab 14 29 43.5 +0.8**
comp=Z,2.5nm,0.9s,baz=181,slow=3.2,SNR=9.8
QSPA South Pole Qui 82.63 180 P P 14 51 54.9 +1.6
1.5nm,1.0s,baz=215,slow=1.3,SNR=6.0
TORD Torodi Ar. Bea 128.63 281 PKP **PKPdf 14 58 38.5 +1.2**
0.4nm,0.6s,baz=79,slow=1.6,SNR=3.8

*IDC **02** 14:44:56.3±1.9, 1.°09N×85.°31W, h0km, mb3.5/4, mb1 4.1/7, mb1mx3.7/33, mbtmp3.9/7, ML4.3/2, MS4.2/10, Ms1 4.2/10, ms1mx3.9/31, Error ellipse: s-maj=53.6km s-min=29.0km az=44.0*
*ISCJB **02** 14:44:59.2±1.0, 1.°1N±0.°1×85.°1W±0.°1, h38km, mb3.6/4, MS4.2/5, Error ellipse: s-maj=23.7km s-min=12.9km az=139.7*
ISC 02 14:45:01.4±1.2, 1.°1N±0.°1×85.°2W±0.°2, h38km, n14, σ0s75/7, mb3.6/4, MS4.2/5, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**9.12**	**1**	Pn		**Pn**	**Pn**	**14 47 10.3**	**-0.1**
	3.0nm,0.3s,baz=264,slow=11,SNR=17								
JTS				Sn		Sn	Sn	14 48 44.8	-7.1
	0.4nm,0.3s,baz=218,slow=18,SNR=2.7								
JTS				LR		LR	LR	14 49 54.5	
	comp=Z,750nm,19.4s,baz=184,slow=33								
ATAH	**Atahualpa**	**10.63**	**141**	Pn		**Pn**	**Pn**	**14 47 31.6**	**0.0**
	2.1nm,0.3s,baz=323,slow=7.8,SNR=10								
ATAH				LR		LR	LR	14 51 14.8	
	comp=Z,2μm,20.1s,baz=308,slow=35								
ROSC	**El Rosal**	**11.45**	**71**	Pn		**Pn**	**Pn**	**14 47 42.6**	**-0.2**
	baz=264,slow=14,SNR=3.6								
ROSC				LR		LR	LR	14 51 44.8	
	comp=Z,832nm,20.4s,baz=220,slow=35								
CMIG	**Matias Romero**	**18.52**	**330**	LR		LR	LR	14 54 53.8	
	comp=Z,655nm,21.2s,baz=182,slow=32								
TEIG	**Tepich**	**19.23**	**351**	LR		LR	LR	14 56 21.4	
	comp=Z,540nm,18.2s,baz=122,slow=36								
TXAR	**Lajitas Array**	**33.13**	**330**	P		**P**	**14 51 33.9**		**-0.3**
	0.3nm,0.8s,baz=137,slow=8.3,SNR=3.5								
ANMO	**Albuquerque**	**39.07**	**332**	LR		LR	LR	15 07 33.7	
	comp=Z,265nm,19.3s,baz=140,slow=35								
PDAR	**Pinedale Array**	**46.86**	**335**	P		**P**	**14 53 28.8**		**+0.7**
	0.7nm,1.0s,baz=134,slow=9.0,SNR=3.2								
NVAR	**Mina Array Bea**	**47.96**	**325**	P		**P**	**14 53 35.7**		**-0.9**
	0.3nm,0.4s,baz=138,slow=8.5,SNR=2.8								
ULM	**Lac du Bonnet**	**49.79**	**351**	LR		LR	LR	15 16 25.2	
	comp=Z,313nm,20.4s,baz=166,slow=38								
YBH	**Yreka Blue Hor**	**52.68**	**325**	LR		LR	LR	15 15 43.4	
	comp=Z,200nm,21.4s,baz=126,slow=35								
NEW	**Newport**	**54.46**	**334**	LR		LR	LR	15 18 23.7	
	comp=Z,398nm,19.3s,baz=161,slow=37								
BBB	**Bella Bella**	**62.23**	**332**	LR		LR	LR	15 22 17.7	
	comp=Z,149nm,18.6s,baz=78,slow=36								
YKA	**Yellowknife Ar**	**65.07**	**345**	P		**P**	**14 55 38.5**		**+0.9**
	1.0nm,0.8s,baz=140,slow=6.3,SNR=13								

MAN 02 14:46:54, 8.°89N×124.°30E, h74km, mb4.6, ML3.5, MS3.5, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**1.26**	**143**	*e*P		Pn	Pn	14 47 17.0	+0.9
BUKP				*e*S		Sn	Sn	14 47 35.0	+2.4
MSLP	**Maasin**	**1.35**	**24**	*e*P		Pn	Pn	14 47 18.4	+1.2
PAGZ	**Pagadian**	**1.38**	**221**	*e*P		Pn	Pn	14 47 19.3	+1.8
PAGZ				*e*S		Sn	Sn	14 47 37.1	+1.8

*DDA **02** 14:51:44.3, 37.°91N×29.°14E, h7km, MD2.6*
*ISK **02** 14:51:48.8, 37.°94N×28.°87E, h11km, MD2.4*
CSEM 02 14:51:41.6±0.7, 38.°09N×29.°70E, h10km, MD2.4, Error ellipse: s-maj=18.3km s-min=15.4km az=17.0, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KHL	**Karahalli**	**0.27**	**329**	*e*PG		Pn	Pn	14 52 01.9	+10
DENT	**Denizli**	**0.63**	**238**	*e*PG		Pg	Pg	14 51 54.1	+0.2
DENT				*e*SG		Sg	Sg	14 51 57.6	-4.5
DENT	**Denizli**	**0.63**	**238**	*e*Pg		Pg	Pg	14 51 54.1	+0.3
GOLH	**Golhisar**	**0.86**	**188**	*i* P		Pb	Pb	14 51 58.6	-0.1
GOLH	**Golhisar**	**0.86**	**188**	*i* P		Pb	Pb	14 51 58.6	-0.2
GOLH				*i* S		Sn	Sn	14 52 20.7	+8.1
KULA	**Kula-Manisa**	**0.92**	**298**	*e*PG		Pn	Pn	14 52 00.8	0.0
KULA				*e*SG		Sg	Sg	14 52 09.9	-1.8
KULA	**Kula-Manisa**	**0.92**	**298**	*e*Pg		Pn	Pn	14 52 00.8	0.0
KULA				*e*Sg		Sg	Sg	14 52 09.9	-1.8
AYDN	**Tasoluk**	**1.51**	**254**	*i* P		Pn	Pn	14 52 07.4	-1.3
AYDN	**Tasoluk**	**1.51**	**254**	*i* P		Pn	Pn	14 52 07.4	-1.4
AYDN				*i* S		Sn	Sn	14 52 18.9	-10

*SJA **02** 14:52:35.3±1.3, 33.°83S×72.°91W, h12km, ML5.7, MW5.6, Fault plane solution: NP1:φs26.00000°, δ5.00000°, λ36.00000°.*
*IDC **02** 14:52:38.0±0.3, 34.°23S×71.°93W, h0km, mb5.5/29, mb1 5.6/30, mb1mx5.6/32, mbtmp5.5/30, ML5.5/1, MS5.7/15, Ms1 5.7/15, ms1mx5.6/19, Error ellipse: s-maj=15.9km s-min=10.0km az=79.0*
*GCMT **02** 14:52:39.5±0.1, 34.°48S×72.°22W, h15km, MW5.9/122, Moment Tensor Solution. s104,c213; s122,c318; Duration: 2s2 Moment tensor: Scale 10^18Nm; Mrr-0.42±.01; Mθθ-0.19±.01; Mφφ0.61±.01; Mrθ-0.47±.02; Mθφ-0.04±.00; Mφr0.66±.03; Best double couple: M0 0.97400×10^18 NP1:φs149.00000°, δ76.00000°, λ-110.00000°. NP2:φs26.00000°, δ25.00000°, λ-36.00000°. Principal axes: T 0.9880, Plg28.0000°, Azm255.0000°; N -0.0270, Plg20.0000°, Azm154.0000°; P -0.9600, Plg54.0000°, Azm34.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*GUC **02** 14:52:39.9±0.5, 34.°30S×72.°07W, h33km±16km, ML5.8*
*NEIC **02** 14:52:40.0±0.1, 34.°23S×71.°88W, h13km, mb5.8/136, ME5.7, MS5.6/152, MW5.8, MW5.9, ML5.8(GUC), Error ellipse: s-maj=5.4km s-min=3.2km az=72.0, Moment Tensor Solution. s66 Moment tensor: Scale 10^17Nm; Mrr-6.10; Mθθ-0.05; Mφφ6.15; Mrθ-4.42; Mθφ-1.46; Mφr4.79; Best double couple: M0 9.10000×10^17 NP1:φs5.00000°, δ26.00000°, λ-55.00000°. NP2:φs147.00000°, δ69.00000°, λ-106.00000°. Principal axes: T 8.7900, Plg22.0000°, Azm249.0000°; N 0.5200, Plg14.0000°, Azm152.0000°; P -9.3100, Plg62.0000°, Azm31.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Felt [VI] at Curico, Pichilemu, Romeral and Talca; [V] at Cauquenes, Chanco, Colbun, Constitucion, Hualane, Linares, Longavi, Machali, Molina, Parral, Rancagua, San Fernando and Santa Cruz; [IV] at Graneros, Rengo, San Antonio, Santo Domingo, Talagante and Valparaiso. Felt in much of central Chile from La Ligua to Temuco.
*ISCJB **02** 14:52:41.7±1.0, 34.°25S±0.°02×71.°85W±0.°04, h31km±7km, mb5.7/187, MS5.6/181 Error ellipse: s-maj=6.1km s-min=3.7km az=167.4*
*MOS **02** 14:52:43.3±0.9, 33.°86S×71.°92W, h33km, mb5.8/65, MS5.5/43, Error ellipse: s-maj=13.9km s-min=7.7km az=94.2*
*NEIC **02** 14:52:48.8±0.0, 34.°02S×71.°82W, h10km, Moment Tensor Solution. s103 Moment tensor: Scale 10^17Nm; Mrr-3.81; Mθθ-1.07; Mφφ4.88; Mrθ0.39; Mθφ-0.40; Mφr5.45; Best double couple: M0 7.00000×10^17 NP1:φs183.00000°, δ71.00000°, λ-83.00000°. NP2:φs346.00000°, δ20.00000°, λ-105.00000°. Principal axes: T 7.5100, Plg25.0000°, Azm268.0000°; N -1.0200, Plg5.0000°, Azm1.0000°; P -6.4900, Plg63.0000°, Azm102.0000°;*
ISC 02 14:52:42.7±0.5, 34.°22S±0.°03×71.°90W±0.°04, h30km±3km, n1346, σ1s40/1347, mb5.7/187, MS5.6/183, 297C-234D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.48**	**58**	*i* P		**Pb**	**14 52 52.3**		**-0.6**
NICH	**Los Niches**	**0.96**	**145**	*i* P		**Pn**	**14 52 57.5**		**-2.6**
NICH				*i* S		**Sn**	**14 53 11.3**		**-1.5**
TACH	**Talagante**	**0.98**	**55**	*i* P		**Pn**	**14 53 00.1**		**-0.4**
CHCH	**Chadas Angostu**	**1.07**	**75**	*i* P		**Pn**	**14 53 01.4**		**-0.3**
CACH	**El Canelo**	**1.08**	**85**	*i* P		**Pn**	**14 53 01.9**		**0.0**
TALC	**Talca**	**1.20**	**170**	*i* P		Pn	14 53 00.1		-3.4
TALC				*i* S		**Sn**	**14 53 15.7**		**-3.0**

IHA Instituto Hidr 1.21 10 *e*P **Pn 14 53 02.8 -0.8**
SAN Santiago 1.28 54⇑ *i*P **Pn 14 53 05.0 +0.4**
PCH Pirque 1.30 63 *e*P **Pn 14 53 05.4 +0.5**
CLCH Cerro Calan 1.40 55⇑ *i*P **Pn 14 53 06.8 +0.5**
CLCH AML AML 14 53 37.4
comp=E,201μm,0.5s
CLCH AML AML 14 53 38.7
comp=E,240μm,0.8s
ROCH El Roble 1.45 31 AML AML 14 53 36.9
comp=E,147μm,0.5s
PEL Peldehue 1.47 44⇑ *i*P **Pn 14 53 07.7 +0.5**
PEL AML AML 14 53 36.5
comp=N,334μm,0.4s
YECH El Yeso 1.61 71⇑ *i*P **Pb 14 53 11.2 -0.8**
YECH *i* S **Sb 14 53 36.2 +4.3**
YECH AML AML 14 53 46.1
comp=N,107μm,0.4s
LNCH Linares 1.65 172⇑ *i*P **Pn 14 53 07.5 -2.1**
ARCO CERRO ARCO 2.83 62 *e*P **Pb 14 53 32.2 -0.5**
ARCO *e*S Sb 14 54 14.5 +7.5
AUSP Uspallata 2.90 47 *e*P **Pb 14 53 31.4 -2.4**
ASAL Salagasta 3.03 59 *e*P **Pb 14 53 33.9 -2.2**
RTLS Leoncito 3.25 43 *e*P Pb 14 53 36.3 -3.6
RTCV Cerro Valdivia 3.67 51 *e*P Pn 14 53 41.6 +4.1
CANA Caviahue 3.73 170 *e*P4 **Pn 14 53 39.5 +1.2**
CANA *e*S **Sb 14 54 35.5 +2.7**
CANA AML AML 14 54 45.6
comp=Z,7μm,0.7s
SJA San Juan 3.88 47 *e*P Pn 14 53 45.1 +4.6
CFAA Coronel Fontan 4.03 51 Pn **Pn 14 53 45.2 +2.7**
comp=Z,8.6nm,0.3s,baz=229,slow=12,SNR=184
CFAA Lg Lg 14 54 46.3
comp=Z,70nm,0.3s,baz=140,slow=24,SNR=7.3
CFAA LR LR 14 55 35.2
comp=Z,22μm,18.1s,baz=229,slow=44
CFAA Coronel Fontan 4.03 51 *e*P **Pn 14 53 45.6 +3.1**
RTLL Cerro Villicun 4.08 46 *e*P **Pn 14 53 46.1 +3.1**
AMOG MOGNA 4.35 42 *e*P Pn 14 53 50.4 +3.5
LCO Las Campanas 5.29 11 *e*Pn **Pn 14 53 59.1 -0.8**
comp=Z,1μm,0.8s
LCO Las Campanas 5.29 11 *e*P4 **Pn 14 53 58.9 -1.1**
LCO *e*S4 Sn 14 55 06.4 +6.4
AGUA GUANDACOL 5.53 33 *e*P4 **Pn 14 54 05.8 +2.6**
PLCA Paso Flores 6.59 171 Pn **Pn 14 54 17.2 -0.4**
comp=Z,26nm,0.3s,baz=337,slow=12,SNR=554
PLCA Sn **Sn 14 55 34.9 +3.1**
baz=43,slow=19,SNR=1.4
PLCA Lg Lg 14 55 58.9
comp=Z,8.1nm,0.3s,baz=69,slow=17,SNR=6.1
PLCA LR LR 14 56 58.2
comp=Z,112μm,19.3s,baz=355,slow=40
PLCA Paso Flores 6.59 171 P **Pn 14 54 17.2 -0.4**
PLCA 14 55 34.9
PLCA pmax pmax
comp=Z,26nm,0.3s
PLCA MLR MLR
comp=Z,112μm,19.3s
PLCA Paso Flores 6.59 171 *e*Pn **Pn 14 54 17.1 -0.6**
comp=Z,15nm,0.8s
PLCA Sn **Sn 14 55 34.9 +3.1**
PLCA Lg Lg 14 55 58.9
TRQA Tornquist 8.89 118 *e*Pn **Pn 14 54 50.6 +1.4**
comp=Z,466nm,1.0s
LVC Limon Verde 11.85 14 Pn Pn 14 55 25.5 -4.5
comp=Z,191nm,0.3s,baz=199,slow=8.5,SNR=40
LVC Sn Sn 14 57 48.5 +7.1
comp=Z,183nm,0.3s,baz=190,slow=18,SNR=1.7
LVC Lg Lg 14 58 48.8
comp=Z,412nm,0.3s,baz=92,slow=16,SNR=6.3
LVC LR LR 15 00 22.4
comp=Z,290μm,19.1s,baz=213,slow=39
LVC Limon Verde 11.85 14 *e*Pn Pn 14 55 24.7 -5.3
comp=Z,125nm,0.8s
LVC Sn Sn 14 57 48.5 +7.1
LVC Lg Lg 14 58 48.8
CPUP Villa Florida 14.83 62 Pn **Pn 14 56 07.6 -2.6**
comp=Z,0.1nm,0.3s,baz=233,slow=11,SNR=12
CPUP Sn Sn 14 59 01.6 +8.1
comp=Z,0.7nm,0.3s,baz=158,slow=19,SNR=2.5
CPUP Lg Lg 15 00 35.9
comp=Z,0.5nm,0.3s,baz=156,slow=20,SNR=3.3
CPUP LR LR 15 02 27.4
comp=Z,415μm,18.2s,baz=240,slow=40
CPUP Villa Florida 14.83 62 *e*P **Pn 14 56 07.7 -2.6**
CPUP 14 59 01.7
CPUP pmax pmax
comp=Z,4.0nm,1.0s
CPUP Villa Florida 14.83 62 *e*Pn **Pn 14 56 07.7 -2.6**
comp=Z,3.6nm,1.0s
CPUP Sn Sn 14 59 01.6 +8.1
CPUP Lg Lg 15 00 35.9
EFI East Falkland 20.11 154 P **P 14 57 12.0 -1.9**
comp=Z,921nm,0.9s,SNR=15
EFI East Falkland 20.11 154 *e*P **P 14 57 13.0 -0.9**
EFI pmax pmax
comp=Z,319nm,1.2s
EFI East Falkland 20.11 154 *e*P **P 14 57 12.5 -1.4**
comp=Z,159nm,0.8s
EFI LR LR
comp=Z,25μm,20.0s
USHA Ushuaia 20.76 174 P **P 14 57 19.8 -1.0**
comp=Z,178nm,0.9s,baz=325,slow=8.5,SNR=31
USHA LR LR 15 06 00.2
comp=Z,58μm,18.1s,baz=326,slow=39
NNA Nana 22.58 347 P **P 14 57 42.9 +2.1**
comp=Z,2μm,0.8s,SNR=20
NNA Nana 22.58 347 P **P 14 57 40.8 -0.1**
comp=Z,271nm,0.8s,baz=188,slow=11,SNR=85
NNA Nana 22.58 347 *e*P **P 14 57 40.9 +0.1**
NNA Nana 22.58 347 *e*P **P 14 57 40.9 +0.1**
NNA LR LR
comp=Z,12μm,19.0s
SAML Samuel 26.39 20 *e*P **P 14 58 16.3 -0.3**
comp=Z,27nm,0.5s
SAML LR LR
comp=Z,21μm,21.0s
ATAH Atahualpa 27.61 346 P **P 14 58 27.9 -0.1**
comp=Z,47nm,1.1s,baz=168,slow=6.8,SNR=20
ATAH PcP **PcP 15 01 47.0 +1.8**
comp=Z,15nm,0.9s,baz=153,slow=6.9,SNR=4.4
BDFB Brasilia 28.36 55 P **P 14 58 34.0 -0.4**
comp=Z,61nm,0.7s,baz=231,slow=8.6,SNR=74
BDFB LR LR 15 10 02.5
comp=Z,17μm,20.6s,baz=224,slow=37
BDFB Brasilia 28.36 55 P **P 14 58 34.0 -0.4**
BDFB pmax pmax
comp=Z,61nm,0.7s
BDFB MLR MLR
comp=Z,17μm,20.6s
PMSA Palmer Station 30.96 173 *e*P **P 14 58 56.9 +0.1**
comp=Z,69nm,1.3s
PMSA LR LR
comp=Z,31μm,20.0s
HOPE Hope Point 31.85 140 P **P 14 59 05.2 +0.4**
comp=Z,1μm,1.0s,SNR=12
HOPE Hope Point 31.85 140 *e*P **P 14 59 05.1 +0.4**
comp=Z,161nm,0.9s
HOPE LR LR
comp=Z,9μm,19.0s
RPN Rapa Nui 32.83 272 LR LR 15 08 55.9
comp=Z,14μm,18.9s,baz=98,slow=30
OTAV Otavalo 34.82 348 *e*P **P 14 59 32.6 +1.1**
comp=Z,81nm,0.7s
OTAV LR LR
comp=Z,5μm,19.0s
PTGA Pitinga 35.13 21 P **P 14 59 33.2 -0.6**
comp=Z,129nm,0.8s,baz=201,slow=9.8,SNR=160
PTGA PcP **PcP 15 02 05.5 +0.7**
comp=Z,18nm,0.8s,baz=18,slow=6.4,SNR=3.3
PTGA Pitinga 35.13 21 *e*P **P 14 59 33.6 -0.1**
PTGA PcP **PcP 15 02 05.5 +0.7**
PTGA LR LR
comp=Z,16μm,20.0s
ROSC El Rosal 38.93 356 P **P 15 00 07.2 +0.8**
comp=Z,74nm,0.7s,baz=146,slow=3.0,SNR=40
ROSC PcP **PcP 15 02 17.4 +0.6**
comp=Z,15nm,0.7s,baz=142,slow=12,SNR=2.9
ROSC LR LR 15 16 07.1
comp=Z,8μm,20.9s,baz=190,slow=36
ROSC El Rosal 38.93 356 *e*P **P 15 00 08.3 +1.9**
ROSC PcP **PcP 15 02 17.4 +0.6**
SDV Santo Domingo 42.88 2 *e*P **P 15 00 37.8 -0.9**
comp=Z,154nm,0.9s
SDV LR LR
comp=Z,9μm,19.0s
RCBR Riachuelo 43.66 58 *e*P **P 15 00 45.4 +0.5**
comp=Z,72nm,1.1s
RCBR LR LR
comp=Z,29μm,19.0s
BCIP Isla Barro Col 43.80 349 PFAKE 15 01 00.0 +14
BCIP LR LR
comp=Z,5μm,21.0s
PCRV Puerto La Cruz 44.68 10 P **P 15 00 53.1 +0.1**
comp=Z,82nm,0.7s,baz=177,slow=8.2,SNR=22
JTS JuntasAbangare 45.96 342 P **P 15 01 04.9 +1.7**
comp=Z,585nm,0.9s,SNR=11
JTS JuntasAbangare 45.96 342 LR LR 15 14 21.6
comp=Z,1μm,21.8s,baz=166,slow=28
JTS JuntasAbangare 45.96 342 *d i*P **P 15 01 04.1 +0.9**
JTS pmax pmax
comp=Z,533nm,2.5s
JTS JuntasAbangare 45.96 342 *e*P **P 15 01 03.9 +0.8**
comp=Z,95nm,0.9s
GRGR Grenville 47.11 14 *e*P **P 15 01 11.9 -0.2**
comp=Z,413nm,0.8s
GRGR LR LR
comp=Z,10μm,19.0s
TRIS Tristan da Cun 47.82 111 PFAKE 15 01 30.0 +13
TRIS LR LR
comp=Z,3μm,19.0s
BBGH Gun Hill 48.54 16 PFAKE 15 01 30.0 +6.8
BBGH LR LR
comp=Z,10μm,21.0s
VNA3 Neumayer Olymp 49.12 158 P **P 15 01 27.8 +0.7**
VNA1 Neumayer--Stat 49.43 157 P **P 15 01 30.4 +1.1**
BIM Bigot 49.55 14 *e*P **P 15 01 30.5 -0.4**
LPMF Morne Lapointe 49.62 14 *e*P **P 15 01 31.3 -0.2**
FDF Fort de France 49.74 14 *e*P **P 15 01 31.5 -1.0**
FDF Fort de France 49.74 14 *e*P **P 15 01 31.4 -1.0**
FDF pmax pmax
comp=Z,72nm,0.5s
FDF MLR MLR
comp=Z,7μm,20.0s
FDF Fort de France 49.74 14 *e*P **P 15 01 31.4 -1.0**
comp=Z,72nm,0.5s
FDF LR LR
comp=Z,7μm,20.0s
VNA2 Neumayer--Watz 49.77 157 P **P 15 01 32.6 +0.6**
baz=290,slow=9.3
PTCN Pitcairn Islan 50.81 264 PFAKE 15 01 50.0 +9.5
PTCN LR LR
comp=Z,9μm,19.0s
SNAA Sanae 51.34 158 P **P 15 01 44.6 +0.7**
SNAA Sanae 51.34 158 P **P 15 01 43.9 0.0**
comp=Z,91nm,0.9s,baz=284,slow=6.4,SNR=303
SNAA Sanae 51.34 158 P **P 15 01 43.9 0.0**
SNAA pmax pmax
comp=Z,91nm,0.9s
YHJ Yallahs 52.00 354 *i* P **P 15 01 49.5 +0.1**
ICMP Isla Caja de M 52.06 6 *e*P **P 15 01 48.7 -1.0**
CDVI St. Croix 52.12 9 P **P 15 01 50.2 0.0**
CRPR Cabo Rojo, PR 52.13 6 *e*P **P 15 01 49.3 -0.9**
comp=Z,154nm,0.7s
HOJ Hope 52.13 354 *i* P **P 15 01 51.4 +1.1**
GWJ Greenwich 52.20 354 *i* P **P 15 01 51.3 +0.3**
STH Stony Hill 52.21 354 *i* P **P 15 01 51.1 +0.1**
OBIP Obispado Ponce 52.21 6 *e*P **P 15 01 50.2 -0.7**
comp=Z,114nm,0.7s
CELP Cerillos 52.24 6 *e*P **P 15 01 50.4 -0.8**
LSP Las Mesas 52.30 6 *e*P **P 15 01 51.2 -0.4**
SJG San Juan 52.32 7 *e*P **P 15 01 49.5 -2.2**
SJG pmax pmax
comp=Z,161nm,1.1s
SJG MLR MLR
comp=Z,5μm,19.0s
SJG San Juan 52.32 7 *e*P **P 15 01 49.5 -2.2**
comp=Z,161nm,1.1s
SJG LR LR
comp=Z,5μm,19.0s
MTP Monte Pirata 52.37 8 *e*P **P 15 01 50.8 -1.3**
comp=Z,54nm,0.9s
CVJ Coleyville 52.42 353 *i* P **P 15 01 53.1 +0.5**
MTDJ Mount Denham 52.42 353 *e*P **P 15 01 52.8 +0.2**
comp=Z,106nm,0.8s
MTDJ LR LR
comp=Z,4μm,20.0s
LRS Lares 52.44 6 *e*P **P 15 01 51.7 -0.9**
ANWB Willy Bob 52.49 12 *e*P **P 15 01 50.8 -2.1**
comp=Z,278nm,0.6s
ANWB LR LR
comp=Z,8μm,19.0s
SDDR Presa de Saban 52.90 1 *e*P **P 15 01 56.7 +0.7**
comp=Z,42nm,0.8s
SDDR LR LR
comp=Z,5μm,19.0s
GTBY Guantanamo Bay 53.93 356 *e*P **P 15 02 03.4 -0.1**
comp=Z,139nm,0.9s
GTBY LR LR
comp=Z,3μm,19.0s
GRTK Grand Turk 55.42 1 *e*P **P 15 02 15.3 +1.0**
GRTK LR LR
comp=Z,5μm,20.0s
CMIG Matias Romero 55.52 333 P **P 15 02 15.1 0.0**
comp=Z,24nm,0.8s,baz=125,slow=3.9,SNR=24
RKT Rikitea 55.67 264 *e*S **S 15 09 58.5 -2.2**
comp=Z,4μm,27.0s
RKT *e*SS **SS 15 13 45.5 -0.5**
comp=Z,1μm,29.5s
RKT *e*LQ LQ 15 16 11.2
comp=Z,2μm,27.2s
RKT *e*LR LR 15 18 34.4
comp=Z,5μm,31.2s,baz=115
RKT Rikitea 55.67 264 *e*T T 16 02 04.4
comp=Z,8.4nm,0.2s
QSPA South Pole Qui 56.02 180 P **P 15 02 18.4 0.0**
comp=Z,269nm,1.0s,baz=156,slow=1.2,SNR=307
QSPA South Pole Qui 56.02 180 P **P 15 02 18.4 0.0**
QSPA LR LR
comp=Z,4μm,22.0s
NVL N'lazarevskaya 56.08 157 *e*P **P 15 02 16.5 -2.0**
NVL pmax pmax
comp=Z,157nm,0.8s
TEIG Tepich 56.34 341 P **P 15 02 20.5 -0.4**
comp=Z,317nm,0.8s,baz=160,slow=4.0,SNR=74
TEIG Tepich 56.34 341 *e*P **P 15 02 20.8 -0.1**
TEIG LR LR
comp=Z,2μm,22.0s
ASCN Ascension 58.85 78 PFAKE 15 02 50.0 +11
ASCN LR LR
comp=Z,8μm,19.0s
SHEL Horse Pasture 61.63 91 PFAKE 15 03 10.0 +12
SHEL LR LR
comp=Z,6μm,19.0s
SBA Scott Base 62.89 192 *e*P **P 15 03 06.4 +1.0**
SBA pmax pmax
comp=Z,57nm,1.1s
SBA MLR MLR
comp=Z,3μm,19.0s
SBA Scott Base 62.89 192 *e*P **P 15 03 06.3 +1.0**
comp=Z,57nm,1.1s
SBA LR LR
comp=Z,3μm,19.0s
VNDA Vanda 63.91 191 P **P 15 03 12.7 +0.5**
comp=Z,17nm,1.1s,baz=136,slow=5.4,SNR=40
VNDA LR LR 15 27 47.4
comp=Z,3μm,19.1s,baz=126,slow=33
VNDA PKPPKP P'P'df 15 32 05.4 -5.8
comp=Z,2.5nm,0.9s,baz=280,slow=5.3,SNR=7.2
VNDA Vanda 63.91 191 *e*P **P 15 03 13.1 +0.9**
VNDA Vanda 63.91 191 *e*P **P 15 03 13.1 +0.9**
VNDA P'P' 15 32 05.4
035Z Hargill 65.25 334 ⇓P **P 15 03 23.2 +1.7**
baz=66
SYO Syowa Base 65.62 158 ⇓ *i*P **P 15 03 22.0 -1.4**
SYO Syowa Base 65.62 158 ⇓ *e*pP pP 15 03 29.8 -3.0
035A Encino 65.70 334 ⇓P **P 15 03 26.5 +2.2**
baz=66,SNR=10
034A Hebbronville 66.02 334 ⇑P **P 15 03 28.3 +1.8**
baz=66,SNR=10.0
KVTX Kingsville 66.18 335 *e*P **P 15 03 29.1 +1.7**
KVTX LR LR
comp=Z,2μm,20.0s
TIGA Tifton 66.23 349 *e*P **P 15 03 26.9 -0.7**
comp=Z,148nm,0.9s
TIGA Tifton 66.23 349 ⇑P **P 15 03 28.1 +0.4**
baz=67,SNR=15
BRAL Brewton 66.44 346 PFAKE 15 03 40.0 +11
BRAL LR LR
comp=Z,2μm,19.0s
934A Benavides 66.45 334 ⇑P **P 15 03 31.7 +2.5**
baz=67,SNR=8.7
BBSR BB Station 66.58 7 PFAKE 15 03 40.0 +10
BBSR LR LR
comp=Z,2μm,20.0s
738A Farr-Stevens R 66.62 337 ⇑P **P 15 03 32.5 +2.3**
baz=67
933A Laredo 66.74 334 ⇓P **P 15 03 32.4 +1.4**
baz=67,SNR=22
835A Beeville 66.83 335 ⇑P **P 15 03 34.4 +2.8**
baz=67,SNR=11
834A Tilden 66.94 334 ⇑P **P 15 03 34.1 +1.8**
baz=67,SNR=30
SACV Santiago Islan 67.09 52 PFAKE 15 03 40.0 +6.4
SACV LR LR
comp=Z,5μm,20.0s
736A Circle Diamond 67.19 336 ⇑P **P 15 03 36.0 +2.1**
baz=68,SNR=14
CSU Charleston Sou 67.29 353 *e*P **P 15 03 34.5 +0.1**
735A Kenedy 67.35 335 ⇓P **P 15 03 36.5 +1.7**
baz=68,SNR=18
TBI Tubuai 67.38 256 *e*P **P 15 03 36.6 +1.2**
comp=Z,239nm,1.0s
TBI *e*S **S 15 12 27.1 -2.1**
TBI comp=Z,4μm,26.8s
TBI *e*LQ LQ 15 21 03.5
TBI comp=Z,2μm,30.2s
TBI *e*LR LR 15 23 53.0
comp=Z,11μm,29.0s,baz=119
TBI Tubuai 67.38 256 *e*T T 16 16 43.4
comp=Z,22nm,0.2s
833A Chaparral WMA, 67.43 334 ⇑P **P 15 03 36.8 +1.4**
baz=68,SNR=63
539A Cross D Ranch, 67.51 339 ⇑P **P 15 03 38.1 +2.3**
baz=68,SNR=5.0
734A La Parita Cree 67.60 335 ⇓P **P 15 03 37.7 +1.3**
baz=68,SNR=12
832A Faith Ranch, C 67.61 333 ⇓P **P 15 03 37.2 +0.7**
baz=68,SNR=32
636A Smoke Creek 67.67 336 ⇓P **P 15 03 38.1 +1.2**
baz=68,SNR=28
733A Divot King Ran 67.75 334 ⇓P **P 15 03 38.9 +1.5**
baz=68,SNR=11
635A Leesville 67.83 336 ⇓P **P 15 03 39.1 +1.3**
baz=68,SNR=9.4
538A Harpers Horsep 67.85 338 ⇓P **P 15 03 40.2 +2.2**
baz=68
537A Green Hill Far 67.98 337 ⇑P **P 15 03 40.8 +2.0**
baz=68,SNR=5.3
732A Laxson Ranch, 68.00 334 ⇓P **P 15 03 39.9 +0.9**
baz=68,SNR=59
634A China Grove, S 68.02 335 ⇓P **P 15 03 40.1 +1.1**
baz=68
GOGA Godfrey 68.14 350 *e*P **P 15 03 39.1 -0.7**
GOGA pmax pmax
comp=Z,76nm,1.0s
GOGA MLR MLR
comp=Z,2μm,19.0s
GOGA Godfrey 68.14 350 *e*P **P 15 03 39.0 -0.7**
comp=Z,76nm,1.0s
GOGA LR LR
comp=Z,2μm,19.0s
439A Center Grove, 68.17 339 ⇓P **P 15 03 42.2 +2.2**
baz=68,SNR=7.4
536A Bastrop 68.22 337 ⇓P **P 15 03 41.4 +1.1**
baz=69,SNR=8.1
438A Sam Houston St 68.34 338 ⇑P **P 15 03 42.9 +1.9**
baz=69,SNR=7.4
535A Dale 68.34 336 ⇓P **P 15 03 42.2 +1.1**
baz=69,SNR=14
633A Saathoff Ranch 68.38 335 ⇑P **P 15 03 42.2 +0.8**
baz=69,SNR=37
LRAL Lakeview Retre 68.39 346 *e*P **P 15 03 40.7 -0.6**
comp=Z,74nm,1.0s
340A Bronson 68.49 340 ⇑P **P 15 03 43.6 +1.6**
baz=69,SNR=7.2
LPIG La Paz 68.52 322 P **P 15 03 42.9 +0.5**
comp=Z,41nm,1.0s,baz=94,slow=20,SNR=3.6
339A Huntington 68.61 339 ⇓P **P 15 03 44.5 +1.8**
baz=69,SNR=9.6
437A Phantom Ranch, 68.62 338 ⇑P **P 15 03 44.4 +1.6**
baz=69
632A Uvalde 68.64 334 ⇑P **P 15 03 43.6 +0.6**
baz=69,SNR=47
534A Blanco 68.65 335 ⇑P **P 15 03 43.6 +0.5**
baz=69,SNR=12
436A Wall Ranch, Ga 68.77 337 ⇓P **P 15 03 45.1 +1.3**
baz=69,SNR=5.7
631A Perdido Creek 68.85 333 ⇓P **P 15 03 44.9 +0.6**
baz=69,SNR=29
338A Crockett 68.86 339 ⇓P **P 15 03 46.0 +1.8**
baz=69,SNR=14
533A Kerrville 68.89 335 ⇓P **P 15 03 45.6 +1.0**
baz=69,SNR=27
MEH Mehetia 68.93 262 *e*P **P 15 03 45.7 +0.5**
comp=Z,71nm,1.1s
MEH Mehetia 68.93 262 *e*T T 16 18 39.3
comp=Z,199nm,0.2s
337A Centerville 68.99 338 ⇓P **P 15 03 47.0 +1.9**
baz=69
NATX Nacogdoches 69.04 339 *e*P **P 15 03 46.1 +0.7**
comp=Z,294nm,1.3s
NATX LR LR
comp=Z,945nm,19.0s
435B Jarrell 69.04 336 ⇑P **P 15 03 46.7 +1.2**
baz=69,SNR=14
239A Gary 69.22 340 ⇑P **P 15 03 48.0 +1.5**
baz=70,SNR=7.5
532A Rocksprings 69.25 334 ⇑P **P 15 03 47.8 +1.0**
baz=70,SNR=74
434A Burnet 69.30 336 ⇓P **P 15 03 47.8 +0.7**
baz=70,SNR=67
CNNC Cliffs of the 69.32 355 *e*P **P 15 03 47.5 +0.5**
comp=Z,158nm,0.8s
CNNC LR LR
comp=Z,3μm,19.0s
336A Riesel 69.36 337 ⇓P **P 15 03 48.3 +0.9**
baz=70,SNR=23
238A Jacksonville 69.40 339 ⇑P **P 15 03 48.9 +1.3**
baz=70
335A Moody 69.45 337 ⇓P **P 15 03 48.8 +0.8**
baz=70,SNR=28
531A Rocksprings 69.51 334 ⇑P **P 15 03 49.5 +1.0**
baz=70,SNR=42
433A Art 69.53 335 ⇓P **P 15 03 49.2 +0.7**
baz=70,SNR=68
JCT Junction City 69.53 334 *e*P **P 15 03 47.2 -1.3**
JCT pmax pmax
comp=Z,266nm,1.4s
JCT MLR MLR
comp=Z,690nm,22.0s
JCT Junction City 69.53 334 *e*P **P 15 03 47.2 -1.3**
comp=Z,266nm,1.4s
JCT LR LR
comp=Z,690nm,22.0s
JCT Junction City 69.53 334 ⇓P **P 15 03 49.3 +0.7**
baz=70,SNR=40
KMSC Kings Mountain 69.56 352 *e*P **P 15 03 48.2 -0.4**
comp=Z,76nm,0.9s
KMSC Kings Mountain 69.56 352 ⇓P **P 15 03 49.4 +0.9**
baz=70,SNR=26
237A Washetta, Mont 69.61 338 ⇑P **P 15 03 49.9 +1.0**
baz=70,SNR=11
334A Lometa 69.77 336 ⇓P **P 15 03 50.5 +0.6**
baz=70,SNR=61
530A J-C Ranch, Com 69.79 333 ⇑P **P 15 03 50.8 +0.6**
baz=70,SNR=56
139A Bunkhouse Ranc 69.82 340 ⇓P **P 15 03 51.7 +1.5**
baz=70
236A Katherine and 69.83 338 ⇑P **P 15 03 51.2 +1.0**
baz=70
432A Menard 69.89 335 ⇑P **P 15 03 51.3 +0.6**
baz=70,SNR=17
VAH Vaihoa 69.92 265 *e*P **P 15 03 52.7 +1.4**
comp=Z,122nm,1.0s
TVO Taravao 69.95 262 *e*P **P 15 03 52.3 +0.7**
comp=Z,15nm,0.9s
TVO Taravao 69.95 262 *e*T T 16 19 51.4
comp=Z,7.7nm,0.2s
TXAR Lajitas Array 69.98 331 P **P 15 03 51.7 +0.3**
comp=Z,15nm,0.7s,baz=152,slow=8.2,SNR=115
TXAR PKKP **PKKPdf 15 23 38.5 -2.6**
comp=Z,0.2nm,0.7s,baz=333,slow=4.5,SNR=3.5
TXAR PKP2bc 15 31 53.0
comp=Z,1.3nm,1.1s,baz=278,slow=3.7,SNR=5.6
TXAR Lajitas Array 69.98 331 P **P 15 03 51.7 +0.3**
TXAR pmax pmax
comp=Z,15nm,0.7s
431A Sonora 70.00 334 ⇓P **P 15 03 52.1 +0.6**
baz=70,SNR=20
138A Matatall Enter 70.01 339 ⇓P **P 15 03 52.7 +1.3**

baz=70
333A Richland Sprin 70.01 336 ⇓P P 15 03 52.1 +0.7
baz=70,SNR=46
529A Stev Forest Ra 70.11 332 ⇑P P 15 03 52.7 +0.5
baz=70,SNR=32
WHTX Lake Whitney, 70.11 337 ⇓P P 15 03 53.0 +0.9
baz=70
TIAR Tiarei 70.14 262 *e*P P 15 03 53.1 +0.4
comp=Z,27nm,1.0s
TIAR Tiarei 70.14 262 *e*T T 16 20 10.0
comp=Z,37nm,0.2s
137A Heron Place, G 70.15 339 ⇑P P 15 03 53.3 +1.1
baz=70,SNR=15
PMOR Pomariorio Ree 70.26 265 *e*P P 15 03 54.8 +1.4
comp=Z,78nm,1.1s
PAE Paea 70.28 262 *e*P P 15 03 54.2 +0.7
comp=Z,34nm,1.1s
PAE Paea 70.28 262 *e*T T 16 20 10.2
comp=Z,3.2nm,0.2s
Z39A Irene McRaven, 70.29 340 ⇑P P 15 03 54.6 +1.5
baz=71
PPT2 Papeete2 70.32 262 *e*P P 15 03 54.6 +0.8
comp=Z,161nm,1.1s
PPT2 *e*S S 15 13 01.8 -2.6
comp=Z,3µm,24.2s
PPT2 Papeete2 70.32 262 *e*LR LR 15 25 15.1
comp=Z,8µm,27.8s,baz=118
PPT2 Papeete2 70.32 262 *e*T T 16 19 58.1
comp=Z,6.6nm,0.3s
332A Millersview 70.33 335 ⇑P P 15 03 54.3 +0.9
baz=71
PPT Papeete 70.33 262 P P 15 03 54.1 +0.3
comp=Z,65nm,0.9s,baz=56,slow=1.3,SNR=10
PPT LR LR 15 27 21.4
comp=Z,3µm,18.2s,baz=140,slow=90
PPT Papeete 70.33 262 P P 15 03 54.1 +0.3
PPT pmax pmax
comp=Z,65nm,0.9s
430A Baggett Ranch, 70.33 333 ⇑P P 15 03 54.3 +0.8
baz=71,SNR=31
234A Clairette 70.35 336 ⇓P P 15 03 54.2 +0.7
baz=71,SNR=26
TKL Tuckaleechee C 70.39 350 P P 15 03 53.1 -0.6
comp=Z,57nm,0.8s,baz=169,slow=7.2,SNR=63
TKL Tuckaleechee C 70.39 350 *e*P P 15 03 52.9 -0.8
TKL Tuckaleechee C 70.39 350 *e*P P 15 03 52.9 -0.8
429A Davenport Ranc 70.43 333 ⇓P P 15 03 54.8 +0.7
baz=71,SNR=26
331A San Angelo 70.50 334 ⇑P P 15 03 55.2 +0.7
baz=71,SNR=34
Z38A Mt. Pleasant 70.53 340 ⇑P P 15 03 55.7 +1.2
baz=71
233A Rising Star 70.62 336 ⇑P P 15 03 55.9 +0.8
baz=71,SNR=21
135A Vickery Place, 70.62 337 ⇑P P 15 03 55.9 +0.8
baz=71,SNR=9.9
Z37A Pogue Cattle C 70.67 339 ⇑P P 15 03 56.3 +0.9
baz=71
232A Coleman 70.75 335 ⇓P P 15 03 56.8 +0.7
baz=71,SNR=21
134A White-Moore Ra 70.85 337 ⇑P P 15 03 57.5 +1.0
baz=71,SNR=17
330A Mertzon 70.86 334 ⇑P P 15 03 57.7 +1.0
baz=71,SNR=22
231A Bronte 71.03 335 ⇑P P 15 03 58.7 +1.0
baz=71,SNR=36
133A Hamilton Ranch 71.16 336 ⇑P P 15 03 59.4 +0.9
baz=72,SNR=17
329A Wagon Wheel Ra 71.23 333 ⇑P P 15 03 59.8 +0.8
baz=72,SNR=15
230A Sterling City 71.28 334 ⇓P P 15 04 00.0 +0.8
baz=72,SNR=12
Z35A Perchaven, San 71.29 338 ⇑P P 15 04 00.1 +1.0
baz=72,SNR=25
MIAR Mount Ida 71.35 341 *e*P P 15 03 59.4 -0.1
MIAR pmax pmax
comp=Z,151nm,1.5s
MIAR MLR MLR
comp=Z,1µm,19.0s
MIAR Mount Ida 71.35 341 *e*P P 15 03 59.4 -0.1
comp=Z,150nm,1.5s
MIAR LR LR
comp=Z,1µm,19.0s
ABTX Abilene, Hawle 71.42 336 *e*P P 15 04 00.0 0.0
comp=Z,122nm,0.9s
ABTX Abilene, Hawle 71.42 336 ⇑P P 15 04 00.6 +0.6
baz=72,SNR=32
VWCC Virginia Weste 71.49 353 *e*P P 15 04 00.5 +0.2
BLA Blacksburg 71.50 353 *e*P P 15 04 00.5 +0.1
BLA pmax pmax
comp=Z,49nm,0.9s
BLA MLR MLR
comp=Z,1µm,20.0s
BLA Blacksburg 71.50 353 *e*P P 15 04 00.5 +0.1
comp=Z,49nm,0.9s
BLA LR LR
comp=Z,1µm,20.0s
Z34A Collier Ranch, 71.53 337 ⇓P P 15 04 01.4 +0.7
baz=72,SNR=17
229A Bryant Ranch, 71.60 333 ⇑P P 15 04 02.0 +0.8
baz=72,SNR=13
131A Roby 71.73 335 ⇓P P 15 04 02.5 +0.7
baz=72,SNR=26
Z33A Whitaker Ranch 71.73 337 ⇑P P 15 04 02.6 +0.7
baz=72,SNR=23
JSRW J. Sargeant Re 71.76 355 *e*P P 15 04 02.3 +0.4
GNAR Gosnell 71.84 345 *e*P P 15 04 02.6 +0.2
comp=Z,5µm,1.6s
130A Snyder 71.86 334 ⇑P P 15 04 03.7 +1.0
baz=72,SNR=23
X37A Clayton 71.89 340 ⇑P P 15 04 03.6 +0.9
baz=72,SNR=20
Z32A Haskell 71.99 336 ⇓P P 15 04 03.9 +0.5
baz=72,SNR=26
Y34A Reagan Ranch, 72.02 338 ⇑P P 15 04 04.2 +0.6
baz=72,SNR=15
228A UT Block 9, Go 72.03 333 ⇓P P 15 04 04.5 +0.7
baz=72,SNR=28
W38A Poteau 72.10 341 ⇓P P 15 04 05.5 +1.4
baz=72,SNR=38
X36A Centrahoma 72.16 339 ⇓P P 15 04 04.8 +0.4
baz=72,SNR=36
X35A Drake 72.19 338 ⇑P P 15 04 05.5 +0.9
baz=72,SNR=14
129A Stewart Farms, 72.22 334 ⇑P P 15 04 05.5 +0.6
baz=73,SNR=10
Z31A Sharp Cattle R 72.23 335 ⇓P P 15 04 05.7 +0.9
baz=73,SNR=24
CBN Corbin Frederi 72.23 355 *e*P P 15 04 04.7 0.0
comp=Z,83nm,0.9s
CBN LR LR
comp=Z,2µm,20.0s
Y33A Hilltop Ranch, 72.35 337 ⇑P P 15 04 06.5 +1.0
baz=73,SNR=20
W37A Quinton 72.42 340 ⇓P P 15 04 06.4 +0.5
baz=73
128A Castleberry Fa 72.44 333 ⇑P P 15 04 06.7 +0.5
baz=73,SNR=17
PARMO Parma 72.45 345 *e*P P 15 04 05.8 -0.3
Z30A Sanderson Ranc 72.54 335 ⇓P P 15 04 07.0 +0.2
baz=73,SNR=20
Y32A R-V Farms, Ver 72.61 336 ⇑P P 15 04 07.6 +0.5
baz=73,SNR=13
X34A Smith Ranch, M 72.64 338 ⇓P P 15 04 07.7 +0.5
baz=73,SNR=24
W36A Wetumka 72.65 339 ⇑P P 15 04 07.6 +0.2
baz=73,SNR=14
Z29A Hungry Hill Ra 72.73 334 ⇓P P 15 04 08.3 +0.4
baz=73,SNR=22
MNTX Cornudas Mount 72.75 331 *e*P P 15 04 05.3 -2.7
comp=Z,58nm,0.9s
MNTX LR LR
comp=Z,3µm,19.0s
MNTX Cornudas Mount 72.75 331 ⇑P P 15 04 08.4 +0.3
baz=73,SNR=18
X33A Lawton 72.80 337 ⇑P P 15 04 08.7 +0.5
baz=73,SNR=8.2
Y31A Rekieta Farm, 72.85 336 ⇑P P 15 04 09.4 +0.8
baz=73,SNR=25
W35A Tecumseh 72.86 339 ⇑P P 15 04 08.9 +0.3
baz=73,SNR=14
MAW Mawson 72.94 163 P P 15 04 08.6 -0.1
comp=Z,56nm,0.9s,baz=225,slow=6.8,SNR=41
MAW LR LR 15 38 57.9
comp=Z,9µm,18.9s,baz=228,slow=38
MAW Mawson 72.94 163 P P 15 04 08.6 -0.1
MAW pmax pmax
comp=Z,57nm,0.9s
MAW MLR MLR
comp=Z,9µm,18.9s
MAW Mawson 72.94 163 *e*P P 15 04 08.8 +0.1
X32A Elmer 72.94 337 ⇑P P 15 04 09.8 +0.7
baz=73,SNR=11
Y30A Stafford Cattl 73.00 335 ⇑P P 15 04 10.0 +0.5
baz=73,SNR=8.3
Z28A Tucker Farm, M 73.00 334 ⇓P P 15 04 09.9 +0.4
baz=73,SNR=11
WMOK Wichita Mounta 73.07 337 *e*P P 15 04 08.7 -1.1
WMOK pmax pmax
comp=Z,205nm,1.8s
WMOK MLR MLR
comp=Z,1µm,20.0s
WMOK Wichita Mounta 73.07 337 *e*P P 15 04 08.7 -1.1
comp=Z,205nm,1.8s
WMOK LR LR
comp=Z,1µm,20.0s
W34A Bridge Creek, 73.21 338 *e*P P 15 04 10.4 -0.2
comp=Z,99nm,1.1s
W34A Bridge Creek, 73.21 338 ⇓P P 15 04 11.2 +0.6
baz=74,SNR=9.1
TUL1 Leonard 73.25 340 *e*P P 15 04 10.3 -0.5
comp=Z,132nm,1.1s
TUL1 Leonard 73.25 340 ⇑P P 15 04 11.5 +0.7
baz=74,SNR=28
Y29A Porterfield Fa 73.25 334 ⇑P P 15 04 12.0 +1.0
baz=74,SNR=19
USIN University of 73.30 347 *e*P P 15 04 10.1 -0.9
comp=Z,223nm,1.1s
W33A Caddo, Fort Co 73.35 338 ⇓P P 15 04 12.5 +1.1
baz=74,SNR=42
X31A McDonald Ranch 73.37 336 ⇓P P 15 04 12.2 +0.6
baz=74,SNR=17
V35A Meyer Ranch, C 73.41 339 ⇑P P 15 04 12.4 +0.6
baz=74,SNR=27
X30A Coker Ranch, T 73.50 335 ⇑P P 15 04 13.3 +0.9
baz=74
Y28A McKinney Farm, 73.50 334 ⇓P P 15 04 13.8 +1.3
baz=74
W32A Sentinel 73.57 337 ⇑P P 15 04 13.6 +0.8
baz=74,SNR=70
V34A Guthrie 73.69 339 *e*P P 15 04 13.4 0.0
comp=Z,239nm,1.3s
V34A Guthrie 73.69 339 ⇑P P 15 04 14.5 +1.1
baz=74
MSTX Muleshoe 73.75 334 *e*P P 15 04 14.0 0.0
comp=Z,97nm,0.8s
MSTX Muleshoe 73.75 334 ⇑P P 15 04 15.1 +1.1
baz=74,SNR=9.5
X29A Tulia 73.79 335 ⇑P P 15 04 14.7 +0.5
baz=74,SNR=19
W31A Holland Ranch, 73.86 336 ⇑P P 15 04 15.2 +0.7
baz=74,SNR=10
V33A Lossen Ranch, 73.91 338 ⇓P P 15 04 15.5 +0.8
baz=74,SNR=30
X28A Dimmitt 74.03 334 ⇑P P 15 04 16.0 +0.4
baz=74
V32A Arapaho 74.06 337 ⇓P P 15 04 16.5 +0.9
baz=74,SNR=10
W30A Crocket Farms 74.07 336 ⇓P P 15 04 16.6 +0.9
baz=74
OLIL Olney 74.12 347 *e*P P 15 04 15.2 -0.7
comp=Z,87nm,1.1s
319A Douglas 74.14 327 ⇑P P 15 04 17.7 +1.3
baz=74
AMTX Amarillo 74.18 335 *e*P P 15 04 16.4 -0.1
AMTX Amarillo 74.18 335 ⇓P P 15 04 17.5 +1.0
baz=74
U34A Anderson Ranch 74.25 339 *e*P P 15 04 16.1 -0.6
comp=Z,103nm,1.0s
U34A Anderson Ranch 74.25 339 ⇓P P 15 04 17.7 +1.0
baz=75,SNR=21
BLO Bloomington 74.27 348 *e*P P 15 04 15.6 -1.1
BLO pmax pmax
comp=Z,60nm,0.8s
BLO Bloomington 74.27 348 *e*P P 15 04 15.6 -1.1
comp=Z,60nm,0.8s
V31A Spring Creek L 74.36 337 ⇓P P 15 04 18.7 +1.2
baz=75,SNR=11
W29A Amarillo 74.38 335 ⇓P P 15 04 18.4 +0.8
baz=75,SNR=19
U33A Lingo Farm, Me 74.42 338 ⇓P P 15 04 18.3 +0.6
baz=75,SNR=8.9
121A Cookes Peak, D 74.48 329 ⇑P P 15 04 20.6 +2.2
baz=75,SNR=9.8
SUR Sutherland 74.62 119 P P 15 04 21.1 +1.6
comp=Z,955nm,0.8s,SNR=19
SUR Sutherland 74.62 119 P P 15 04 22.1 +2.6
SNR=5.7
SUR Sutherland 74.62 119 *e*P P 15 04 21.5 +2.0
comp=Z,32nm,0.8s
SUR LR LR
comp=Z,3µm,19.0s
V30A Spur Ranch, Mi 74.63 336 ⇑P P 15 04 20.7 +1.7
baz=75
U32A Winter Ranch, 74.65 338 ⇑P P 15 04 20.3 +1.3
baz=75,SNR=30
CPNY Central Park 74.66 358 *e*P P 15 04 19.7 +0.8
comp=Z,16nm,0.8s
SSPA Standing Stone 74.69 355 *e*P P 15 04 19.0 -0.1
comp=Z,62nm,1.2s
W28A Vega 74.70 335 ⇓P P 15 04 20.8 +1.3
baz=75
LIC Lamto 74.73 71 ⇓*i*P P 15 04 20.3 +0.3
baz=240
LIC Lamto 74.73 71 *e*PKP1 P 15 04 20.8 +0.8
LIC Lamto 74.73 71 ⇓*i*P P 15 04 20.3 +0.3
ACSO Alum Creek Sta 74.78 351 *e*P P 15 04 19.3 -0.4
comp=Z,144nm,0.7s
ACSO LR LR
comp=Z,2µm,20.0s
S36A Lake Cedric, C 74.89 341 ⇑P P 15 04 20.7 +0.3
baz=75,SNR=29
U31A Nine Bar Ranch 74.91 337 ⇓P P 15 04 21.7 +1.1
baz=75
TIC Toumodi 75.00 71 *e*PKP1 P 15 04 21.7 +0.1
comp=Z,74nm,0.8s
V29A Stinnett 75.02 335 ⇑P P 15 04 22.2 +1.0
baz=75
KIC Kosan Boka 75.04 71 *e*PKP1 P 15 04 21.7 -0.1
comp=Z,262nm,0.8s
S35A Otter Creek Ra 75.05 340 ⇑P P 15 04 22.3 +1.0
baz=75,SNR=36
T33A Patterson Ranc 75.06 338 ⇑P P 15 04 22.0 +0.6
baz=75,SNR=28
DBIC Dimbokro 75.14 71 P P 15 04 22.9 +0.5
comp=Z,96nm,0.7s,baz=208,slow=6.3,SNR=114
DBIC LR LR 15 35 32.7
comp=Z,4µm,19.5s,baz=219,slow=34
DBIC Dimbokro 75.14 71 *e*P P 15 04 23.0 +0.6
DBIC pmax pmax
comp=Z,97nm,0.7s
DBIC Dimbokro 75.14 71 *e*P P 15 04 22.9 +0.6
comp=Z,97nm,0.7s
V28A Channing 75.15 335 ⇓P P 15 04 23.2 +1.1
baz=76,SNR=6.6
YLE Yale 75.17 359 *e*P P 15 04 23.0 +1.1
comp=Z,126nm,0.9s
R37A Teagarden Farm 75.24 342 ⇑P P 15 04 22.9 +0.5
baz=76,SNR=28
S34A Willow Spring 75.30 340 ⇓P P 15 04 23.3 +0.6
baz=76,SNR=7.2
U30A WK&E Inc. Balk 75.32 336 ⇑P P 15 04 24.1 +1.1
baz=76,SNR=11
T32A Huddler Ranch, 75.36 338 ⇑P P 15 04 24.0 +0.9
baz=76,SNR=13
V27A Dan Oppiter Fa 75.38 334 ⇓P P 15 04 24.5 +1.1
baz=76
R36A Gordon, Harris 75.43 341 ⇑P P 15 04 24.3 +0.8
baz=76,SNR=12
Y22D IRIS PASSCAL I 75.45 331 ⇓P P 15 04 26.3 +2.4
baz=76
U29A Oasis Ranch, S 75.45 336 ⇓P P 15 04 24.5 +0.8
baz=76
S33A Kaszmaul Farm, 75.46 339 ⇑P P 15 04 24.5 +0.8
baz=76,SNR=8.5
T31A Randall Ranch, 75.52 337 ⇑P P 15 04 25.2 +1.2
baz=76,SNR=9.2
SFIN Lafayette 75.54 348 ⇓P P 15 04 23.8 -0.2
baz=76,SNR=25
LPM Los Pinos Moun 75.54 331 *e*P P 15 04 25.0 +0.5
TUC Tucson 75.61 327 PFAKE 15 04 30.0 +5.2
TUC LR LR
comp=Z,1µm,19.0s
Q37A Longview Farm, 75.67 342 ⇓P P 15 04 24.9 0.0
baz=76,SNR=12
U28A Mallet 75.72 335 ⇓P P 15 04 26.0 +0.7
baz=76
T30A Plains 75.75 337 ⇓P P 15 04 26.3 +0.8
baz=76,SNR=5.4
BRYW Bryant College 75.76 0 *e*P P 15 04 26.2 +1.0
comp=Z,82nm,1.0s
LAZ Ladron 75.83 331 *e*P P 15 04 27.1 +1.0
comp=Z,33nm,1.1s
S32A Newby Ranch, P 75.84 338 ⇓P P 15 04 27.0 +1.1
baz=76,SNR=21
ALLY Alegheny Colle 75.88 354 *e*P P 15 04 25.5 -0.4
comp=Z,379nm,1.8s
S31A Mullinville 75.94 338 ⇑P P 15 04 27.3 +0.9
baz=76,SNR=10
U27A Thompson Grove 75.97 335 ⇑P P 15 04 28.3 +1.5
baz=76,SNR=5.3
ANMO Albuquerque 76.03 331 P P 15 04 28.1 +0.9
comp=Z,40nm,0.9s,baz=156,slow=8.0,SNR=14
ANMO Albuquerque 76.03 331 *d*/P P 15 04 27.6 +0.4
ANMO pmax pmax
comp=Z,519nm,1.7s
ANMO Albuquerque 76.03 331 P P 15 04 28.1 +0.9
ANMO LR LR
comp=Z,3µm,20.0s
T29A Hugoton 76.10 336 ⇓P P 15 04 28.6 +1.2
baz=76,SNR=8.1
HDIL Hopedale 76.11 346 *e*P P 15 04 26.8 -0.5
comp=Z,2µm,1.0s
HDIL LR LR
comp=Z,23µm,19.0s
R33A Olander Ranch, 76.11 339 ⇑P P 15 04 28.5 +1.1
baz=76,SNR=15
QUA2 Belchertown 76.12 360 *e*P P 15 04 27.9 +0.6
comp=Z,64nm,0.9s
BINY Binghamton 76.14 357 *e*P P 15 04 27.7 +0.2
comp=Z,53nm,1.0s
BINY LR LR
comp=Z,2µm,19.0s
214A Organ Pipe Nat 76.26 325 *e*P P 15 04 29.4 +1.0
comp=Z,67nm,1.0s
214A Organ Pipe Nat 76.26 325 ⇓P P 15 04 29.7 +1.3
baz=77,SNR=7.2
S30A Montezuma 76.27 337 ⇑P P 15 04 29.2 +0.8
baz=77,SNR=18
ERPA Erie 76.33 354 *e*P P 15 04 28.0 -0.5
comp=Z,89nm,1.0s
ERPA LR LR
comp=Z,2µm,20.0s
T28A Walsh 76.35 336 ⇑P P 15 04 29.4 +0.5
baz=77,SNR=11
HRV Adam Dziewonsk 76.35 0 *e*P P 15 04 29.7 +1.1
HRV pmax pmax
comp=Z,60nm,0.9s
HRV Adam Dziewonsk 76.35 0 *e*P P 15 04 29.7 +1.1
comp=Z,60nm,0.9s
R32A Long Quarter, 76.44 339 ⇑P P 15 04 29.9 +0.7
baz=77,SNR=28
KSU1 Kansas State U 76.46 340 *e*P P 15 04 28.9 -0.4
comp=Z,68nm,0.8s
KSU1 LR LR
comp=Z,988nm,19.0s
KSU1 Kansas State U 76.46 340 ⇓P P 15 04 29.9 +0.6
baz=77,SNR=6.6
S29A Ulysses 76.46 337 ⇑P P 15 04 30.7 +1.2
baz=77,SNR=6.3
T27A Campo 76.50 335 ⇓P P 15 04 30.8 +1.0
baz=77,SNR=11
DRV Dumont d'Urvil 76.52 193 S SKiKP 15 13 50.0 +5.3
DRV SS SS 15 19 11.0 +4.2
DRV L L 15 24 00.0
DRV R 15 28 00.0
R31A Burdett 76.56 338 ⇑P P 15 04 30.6 +0.6
baz=77,SNR=19
TRY Troy 76.59 359 *e*P P 15 04 31.2 +1.2
comp=Z,122nm,1.1s
S28A Manter 76.70 336 ⇑P P 15 04 31.8 +1.0
baz=77,SNR=12
Q33A Connelly Farm, 76.71 340 ⇑P P 15 04 31.4 +0.6
baz=77,SNR=13
R30A Dighton 76.80 337 ⇓P P 15 04 32.1 +0.7
baz=77,SNR=6.2
AAM Ann Arbor 76.91 351 *e*P P 15 04 30.9 -0.8
AAM pmax pmax
comp=Z,52nm,0.7s
AAM MLR MLR
comp=Z,2µm,21.0s
AAM Ann Arbor 76.91 351 *e*P P 15 04 30.9 -0.8
comp=Z,52nm,0.7s
AAM LR LR
comp=Z,2µm,21.0s
T26A Comanche Natio 76.91 334 ⇑P P 15 04 33.4 +1.2
baz=77,SNR=11
Q32A Meitler Ranch, 76.92 339 ⇑P P 15 04 32.9 +0.9
baz=77,SNR=30
P33A Williams Farm, 77.08 340 ⇑P P 15 04 33.4 +0.6
baz=77,SNR=11
X18A Snowflake 77.12 329 ⇓P P 15 04 35.1 +1.7
baz=77,SNR=9.3
S27A Las Animas 77.12 335 ⇑P P 15 04 34.5 +1.2
baz=78,SNR=6.9
T25A Trinidad 77.18 334 ⇑P P 15 04 35.3 +1.6
baz=78,SNR=42
Q31A Ellis 77.18 338 ⇑P P 15 04 34.5 +1.1
baz=78,SNR=31
R29A Marienthal 77.20 337 ⇓P P 15 04 34.4 +0.8
baz=78,SNR=12
ACCN Adirondack Com 77.25 359 *e*P P 15 04 34.0 +0.3
comp=Z,74nm,1.1s
S26A Kim 77.27 335 ⇑P P 15 04 35.2 +1.1
baz=78,SNR=28
FFD Franklin Falls 77.31 0 P P 15 04 33.5 -0.4
comp=Z,128nm,0.3s
R28A Tribune 77.35 336 ⇓P P 15 04 35.4 +0.9
baz=78,SNR=15
113A Mohawk Valley, 77.38 325 ⇑P P 15 04 36.2 +1.6
baz=78,SNR=6.7
Q30A Quinter 77.41 338 ⇑P P 15 04 35.7 +1.0
baz=78,SNR=31
Z14A Wintersburg 77.49 326 ⇓P P 15 04 37.1 +1.9
baz=78
P32A Huiting Farm, 77.51 339 ⇓P P 15 04 36.1 +0.8
baz=78,SNR=6.2
W18A Petrified Fore 77.53 329 *e*P P 15 04 36.7 +1.1
W18A Petrified Fore 77.53 329 ⇓P P 15 04 37.3 +1.6
baz=78,SNR=5.9
HNH Hanover 77.55 360 *e*P P 15 04 36.4 +1.1
comp=Z,61nm,0.8s
Q29A Oakley 77.57 337 ⇑P P 15 04 36.5 +0.8
baz=78,SNR=11
R27A Eads 77.63 336 ⇓P P 15 04 36.9 +0.8
baz=78,SNR=32
P31A Stockton 77.65 339 ⇓P P 15 04 37.2 +1.1
baz=78,SNR=25
X16A Lo Mia Camp, P 77.68 327 ⇑P P 15 04 38.2 +1.7
baz=78,SNR=14
NCB Newcomb 77.84 358 *e*P P 15 04 37.3 +0.3
comp=Z,40nm,0.9s
NCB LR LR
comp=Z,2µm,21.0s
MDV Middlebury 77.85 359 *e*P P 15 04 37.4 +0.4
R26A Arlington 77.87 335 ⇑P P 15 04 38.7 +1.2
baz=78,SNR=13
P30A Selden 77.94 338 ⇑P P 15 04 38.6 +1.0
baz=78,SNR=8.6
Y14A Wickenburg 77.99 326 ⇑P P 15 04 39.7 +1.6
baz=78,SNR=9.8
O32A Brockman Farm, 78.01 340 ⇑P P 15 04 39.1 +1.1
baz=78,SNR=12
Q28A Sharon Springs 78.01 337 ⇑P P 15 04 39.4 +1.3
baz=78,SNR=6.0
LBNH Lisbon 78.08 360 *e*P P 15 04 39.1 +0.8
LBNH pmax pmax
comp=Z,85nm,0.8s
LBNH MLR MLR
comp=Z,2µm,19.0s
LBNH Lisbon 78.08 360 *e*P P 15 04 39.1 +0.8
comp=Z,85nm,0.8s
LBNH LR LR
comp=Z,2µm,19.0s
SDCO Great Sand Dun 78.11 333 ⇑P P 15 04 40.1 +1.1
baz=78,SNR=36
GLA Glamis 78.13 324 *e*P P 15 04 40.2 +1.3
GLA Glamis 78.13 324 *e*P P 15 04 40.1 +1.3
GLA Glamis 78.13 324 ⇑P P 15 04 40.1 +1.3
baz=78,SNR=6.1
GRM Grahamstown 78.20 122 *i* P P 15 04 40.5 +1.0
P29A Atwood 78.20 337 ⇓P P 15 04 40.6 +1.4
baz=79,SNR=18
O31A Woolen Ranch, 78.21 339 ⇑P P 15 04 40.5 +1.3

baz=79
KSCO **Kaye Shedlock'** 78.22 336 *e*P P 15 04 40.0 +0.6
comp=Z,108nm,0.9s
KSCO **Kaye Shedlock'** 78.22 336 ⇓P P 15 04 41.0 +1.7
baz=79,SNR=10
SCIA **State Center** 78.24 344 *e*P P 15 04 39.1 -0.1
comp=Z,141nm,0.9s
SCIA LR LR
comp=Z,2µm,19.0s
S23A **Nye Farm, Mont** 78.27 333 ⇓P P 15 04 41.6 +1.7
baz=79
KUK **Kukurantumi** 78.40 74 *i* P P 15 04 37.6 -3.2
R24A **Sanders Place,** 78.40 334 ⇑P P 15 04 41.9 +1.4
baz=79,SNR=32
WVL **Waterville** 78.44 2 *e*P P 15 04 41.2 +1.0
comp=Z,61nm,0.9s
P28A **Saint Francis** 78.44 337 ⇓P P 15 04 42.1 +1.5
baz=79,SNR=11
Q26A **Hugo** 78.45 335 ⇑P P 15 04 42.5 +1.8
baz=79,SNR=9.1
O30A **MW Ranch, Wils** 78.46 338 ⇓P P 15 04 42.1 +1.5
baz=79,SNR=8.8
N32A **Stulken Farm,** 78.48 340 ⇓P P 15 04 41.7 +1.1
baz=79
LONY **Lake Ozonia** 78.50 358 *e*P P 15 04 40.6 0.0
comp=Z,63nm,0.9s
LONY LR LR
comp=Z,2µm,20.0s
SWSC **Sam W. Stewart** 78.51 323 ⇑P P 15 04 42.9 +1.9
baz=79
Y12C **Blythe** 78.55 325 ⇓P P 15 04 43.2 +2.1
baz=79,SNR=12
WUAZ **Wupatki** 78.57 328 PFAKE 15 04 50.0 +8.5
WUAZ LR LR
comp=Z,1µm,22.0s
WUAZ **Wupatki** 78.57 328 ⇑P P 15 04 43.3 +1.8
baz=79,SNR=6.2
JFWS **Jewell Farm** 78.58 346 *e*P P 15 04 40.5 -0.6
JFWS pmax pmax
comp=Z,83nm,0.8s
JFWS MLR MLR
comp=Z,3µm,22.0s
JFWS **Jewell Farm** 78.58 346 *e*P P 15 04 40.5 -0.6
comp=Z,84nm,0.8s
JFWS LR LR
comp=Z,3µm,22.0s
S22A **4UR Ranch, Cre** 78.62 332 ⇓P P 15 04 43.2 +1.4
baz=79,SNR=16
R23A **Moffat** 78.63 333 ⇑P P 15 04 43.0 +1.2
baz=79,SNR=17
O29A **4D Ranch, Culb** 78.64 338 ⇑P P 15 04 42.9 +1.4
baz=79
EMMW **East Machias** 78.66 3 *e*P P 15 04 42.1 +0.7
comp=Z,116nm,0.8s
Q25A **Bedland, Calha** 78.70 335 ⇑P P 15 04 43.4 +1.3
baz=79,SNR=12
P27A **Ficken Ranch,** 78.70 336 ⇑P P 15 04 43.3 +1.4
baz=79,SNR=5.2
N31A **Bailey Ranch,** 78.72 339 ⇓P P 15 04 43.4 +1.4
baz=79,SNR=5.9
MONP **Monument Peak,** 78.78 323 ⇑P P 15 04 44.7 +2.0
baz=79,SNR=10
MVCO **Mesa Verde** 78.81 331 PFAKE 15 04 50.0 +7.2
MVCO LR LR
comp=Z,5µm,19.0s
MVCO **Mesa Verde** 78.81 331 ⇑P P 15 04 44.5 +1.7
baz=79,SNR=6.7
PDMCI **Parker Dam,Lak** 78.82 325 ⇑P P 15 04 44.5 +1.9
baz=79
SADO **Sadowa** 78.89 355 P P 15 04 42.4 -0.3
comp=Z,37nm,0.7s,baz=194,slow=5.2,SNR=52
BC3 **Big Chuckawall** 78.92 324 ⇓P P 15 04 45.2 +1.9
baz=79,SNR=21
O28A **Krutsinger Ran** 78.95 337 ⇑P P 15 04 45.0 +1.7
baz=79,SNR=5.5
P26A **Davis Ranch, A** 78.96 336 ⇑P P 15 04 45.0 +1.5
baz=79,SNR=11
BGNE **Belgrade** 79.03 340 *e*P P 15 04 43.5 -0.1
comp=Z,204nm,1.0s
BGNE **Belgrade** 79.03 340 ⇑P P 15 04 45.3 +1.7
baz=79
N30A **Hueftle Ranch,** 79.04 339 ⇓P P 15 04 45.4 +1.7
baz=79
TSUM **Tsumeb** 79.04 106 *e*P P 15 04 45.1 +0.6
comp=Z,68nm,0.9s
TSUM LR LR
comp=Z,4µm,20.0s
Q24A **Divide** 79.06 334 ⇑P P 15 04 45.7 +1.5
baz=79,SNR=32
109C **Camp Elliot, M** 79.12 323 ⇓P P 15 04 46.3 +2.0
baz=79
PKME **Peaks-Kenny Pk** 79.14 2 *e*P P 15 04 45.1 +1.1
comp=Z,41nm,0.8s
PKME LR LR
comp=Z,2µm,19.0s
IRM **Iron Mountain** 79.18 325 ⇓P P 15 04 46.3 +1.7
baz=80,SNR=11
P25A **Willow Gulch B** 79.20 335 ⇓P P 15 04 46.9 +2.1
baz=80,SNR=30
M31A **Lambtecht Ranc** 79.21 340 ⇓P P 15 04 46.1 +1.4
baz=80,SNR=8.6
N29A **Votaw Ranch, W** 79.22 338 ⇑P P 15 04 46.3 +1.6
baz=80
O27A **Beecher Island** 79.24 337 ⇓P P 15 04 46.6 +1.7
baz=80,SNR=10
Q23A **Hartsel** 79.26 334 ⇑P P 15 04 47.0 +1.7
baz=80
W13A **Hualapai Mount** 79.36 326 ⇑P P 15 04 47.3 +1.5
baz=80,SNR=16
PFO **Pinyon Flats O** 79.37 323 P P 15 04 47.0 +1.2
comp=Z,499nm,0.9s,SNR=19
PFO **Pinyon Flats O** 79.37 323 *e*P P 15 04 47.2 +1.3
PFO pmax pmax
comp=Z,77nm,0.9s
PFO MLR MLR
comp=Z,927nm,20.0s
PFO **Pinyon Flats O** 79.37 323 *e*P P 15 04 47.1 +1.3
comp=Z,77nm,0.9s
PFO LR LR
comp=Z,927nm,20.0s
PFO **Pinyon Flats O** 79.37 323 ⇓P P 15 04 47.8 +2.0
baz=80,SNR=31
N28A **Pribbeno Ranch** 79.39 338 ⇑P P 15 04 47.2 +1.5
baz=80,SNR=5.7
P24A **Kohler Place,** 79.46 335 ⇑P P 15 04 48.6 +2.4
baz=80,SNR=8.1
BELC **Belle Mtn. Jos** 79.47 324 ⇑P P 15 04 47.7 +1.3
baz=80,SNR=11
GLMI **Grayling** 79.51 351 *e*P P 15 04 45.6 -0.5
comp=Z,60nm,0.8s
GLMI LR LR
comp=Z,3µm,21.0s
O26A **Horse Wrangler** 79.56 336 ⇓P P 15 04 48.7 +2.0
baz=80,SNR=14
M30A **Dale-Ortello V** 79.65 339 ⇓P P 15 04 48.5 +1.4
baz=80,SNR=5.6
P23A **Jefferson** 79.67 334 ⇑P P 15 04 49.3 +1.7
baz=80,SNR=9.4
O25A **Wiggins** 79.72 335 ⇑P P 15 04 49.3 +1.7
baz=80,SNR=5.9
MURC **Murrieta** 79.74 323 ⇑P P 15 04 49.3 +1.6
baz=80,SNR=17
U15A **North Rim** 79.74 328 ⇓P P 15 04 50.0 +2.0
baz=80,SNR=12
OGNE **Ogallala** 79.78 337 P P 15 04 48.2 +0.5
comp=Z,258nm,1.7s
OGNE LR LR
comp=Z,1µm,22.0s
OGNE **Ogallala** 79.78 337 ⇑P P 15 04 50.0 +2.3
baz=80
CASY **Casey** 79.81 181 *e*P P 15 04 47.5 -0.2
comp=Z,149nm,1.1s
CASY LR LR
comp=Z,5µm,19.0s
M29A **Burnside Ranch** 79.81 338 ⇓P P 15 04 50.1 +2.2
baz=80
N27A **Anderson Farm,** 79.81 337 ⇓P P 15 04 49.7 +1.7
baz=80,SNR=10
GMRC **Granite Mounta** 79.93 325 ⇓P P 15 04 50.6 +1.8
baz=80,SNR=32
L31A **Butterfield Fa** 79.94 340 ⇑P P 15 04 49.9 +1.3
baz=80,SNR=15
ISCO **Idaho Springs** 79.97 334 PFAKE 15 05 00.0 +11
ISCO LR LR
comp=Z,1µm,20.0s
ISCO **Idaho Springs** 79.97 334 ⇓P P 15 04 49.9 +0.8
baz=80,SNR=17
M28A **Bar X Bar Ranc** 79.98 338 ⇑P P 15 04 51.1 +2.3
baz=80
L30A **Spencer Herefo** 79.98 339 ⇑P P 15 04 50.5 +1.7
baz=80,SNR=7.9
N26A **Koester Ranch,** 80.06 336 ⇓P P 15 04 51.0 +1.7
baz=80,SNR=12
O24A **Longmont** 80.06 335 ⇑P P 15 04 51.0 +1.6
baz=80,SNR=5.9
BBRC **Big Bear Solar** 80.13 324 ⇑P P 15 04 51.8 +1.7
baz=80
CIS **Catalina Islan** 80.19 322 ⇓P P 15 04 52.4 +2.3
baz=80
P22A **Eagle** 80.21 333 ⇑P P 15 04 52.4 +2.1
baz=81,SNR=9.3
HEC **Hector,Ludlow** 80.30 324 ⇓P P 15 04 52.3 +1.5
baz=81,SNR=16
L29A **Maesberg Ranch** 80.31 339 ⇑P P 15 04 52.5 +1.9
baz=81
N25A **Grover** 80.33 336 ⇓P P 15 04 52.9 +2.0
baz=81
FMP **Fort Macarthur** 80.38 322 ⇓P P 15 04 53.4 +2.3
baz=81
M27A **Reverse DX Ran** 80.42 337 ⇑P P 15 04 52.9 +1.6
baz=81
O23A **Lake Granby, G** 80.44 334 ⇑P P 15 04 53.3 +1.6
baz=81,SNR=16
BFSC **Mount Baldy Ra** 80.47 323 ⇓P P 15 04 53.5 +1.7
baz=81,SNR=14
L28A **Connealy Angus** 80.58 338 ⇑P P 15 04 54.7 +2.6
baz=81
TUQ **Turquoise Moun** 80.59 325 ⇓P P 15 04 54.8 +2.4
baz=81
PQI **Presque Isle** 80.59 3 *e*P P 15 04 52.8 +0.9
comp=Z,80nm,1.0s
M26A **McRoberts Ranc** 80.61 337 ⇓P P 15 04 54.5 +2.2
baz=81
K30A **Basset** 80.62 340 ⇑P P 15 04 53.9 +1.6
baz=81,SNR=26
N24A **Carr** 80.62 335 ⇑P P 15 04 54.7 +2.2
baz=81
O22A **Kremmling** 80.63 334 ⇓P P 15 04 54.3 +1.6
baz=81,SNR=20
RRX **Edison Barstow** 80.66 324 ⇑P P 15 04 54.5 +1.9
baz=81,SNR=5.4
ECSD **EROS Data Cent** 80.79 342 *e*P P 15 04 52.6 -0.5
comp=Z,158nm,0.9s
ECSD LR LR
comp=Z,2µm,19.0s
ECSD **EROS Data Cent** 80.79 342 ⇑P P 15 04 53.6 +0.6
baz=81,SNR=129
DECC **Green Verdugo** 80.82 323 ⇓P P 15 04 55.6 +2.1
baz=81,SNR=7.1
M25A **Palm-Egli Farm** 80.88 336 ⇑P P 15 04 55.3 +1.5
baz=81,SNR=5.2
L27A **T5 Ranch, Ells** 80.90 338 ⇑P P 15 04 55.3 +1.5
baz=81,SNR=7.7
K29A **Lazy Trails An** 80.90 339 ⇑P P 15 04 55.1 +1.3
baz=81,SNR=17
GSC **Goldstone, Bar** 80.91 324 *e*P P 15 04 55.3 +1.3
GSC **Goldstone, Bar** 80.91 324 *e*P P 15 04 55.3 +1.3
GSC **Goldstone, Bar** 80.91 324 ⇓P P 15 04 55.5 +1.5
baz=81,SNR=17
N23A **Red Feather La** 81.05 335 ⇑P P 15 04 56.6 +1.8
baz=81,SNR=11
BLG **Laguna Peak, P** 81.08 322 ⇑P P 15 04 56.8 +2.0
baz=81
L26A **Underwood Farm** 81.10 337 ⇑P P 15 04 57.5 +2.6
baz=82
SHPR **Sheep Range** 81.10 326 *e*P P 15 04 56.2 +1.1
SHOC **Shoshone, Teco** 81.14 325 ⇓P P 15 04 57.7 +2.5
baz=82
EDW2 **Edwards Air Fo** 81.15 323 ⇓P P 15 04 56.6 +1.3
baz=82,SNR=21
N22A **Wattenberg Ran** 81.16 334 ⇑P P 15 04 57.0 +1.5
baz=82,SNR=14
M24A **Cheyenne** 81.17 336 ⇑P P 15 04 57.2 +1.8
baz=82,SNR=5.6
K28A **Ten Mile Ranch** 81.17 338 ⇓P P 15 04 56.9 +1.7
baz=82,SNR=13
J30A **Dallas** 81.18 340 ⇑P P 15 04 56.3 +1.1
baz=82,SNR=14
O20A **White River Ci** 81.24 333 ⇑P P 15 04 56.7 +0.9
baz=82,SNR=5.7
PHWY **Pilot Hill** 81.24 335 *e*P P 15 04 56.3 +0.4
BSC **Santa Cruz Isl** 81.28 322 ⇓P P 15 04 57.9 +1.9
baz=82
OSI **Osito Audit: C** 81.31 323 *e*P P 15 04 56.9 +0.8
comp=Z,122nm,1.0s
OSI **Osito Audit: C** 81.31 323 ⇓P P 15 04 57.6 +1.5
baz=82,SNR=21
SPMN **Marine on St.** 81.31 345 *e*P P 15 04 55.0 -0.8
comp=Z,70nm,0.8s
SPMN **Marine on St.** 81.31 345 ⇑P P 15 04 56.1 +0.3
baz=82,SNR=23
K27A **Flueckinger Fa** 81.43 338 ⇓P P 15 04 58.3 +1.6
baz=82
MVU **Marysvale** 81.45 329 *e*P P 15 04 57.0 0.0
COWI **Conover** 81.45 348 *e*P P 15 04 55.6 -0.9
comp=Z,44nm,0.9s
COWI LR LR
comp=Z,2µm,19.0s
LRMC **Laurel Mtn Rad** 81.48 324 ⇑P P 15 04 59.1 +2.1
baz=82
M23A **Laramie** 81.48 335 ⇓P P 15 04 59.1 +2.0
baz=82,SNR=6.2
L25A **Engebretsen Ra** 81.49 336 ⇑P P 15 04 59.4 +2.4
baz=82
J29A **Okreek** 81.50 339 ⇓P P 15 04 58.3 +1.4
baz=82,SNR=48
TMUT **Trail Mountain** 81.69 330 *e*P P 15 04 58.5 +0.1
comp=Z,65nm,1.2s
I30A **Oacoma** 81.71 340 ⇑P P 15 04 58.9 +0.9
baz=82,SNR=8.1
L24A **Wheatland** 81.72 336 ⇑P P 15 04 59.6 +1.4
baz=82
K26A **Motz Farm, Whi** 81.73 337 ⇓P P 15 04 59.4 +1.2
baz=82
M22A **Cedar Creek Ra** 81.73 334 ⇓P P 15 05 00.6 +2.2
baz=82
ARVC **Arvin** 81.77 323 ⇑P P 15 05 00.1 +1.7
baz=82
J28A **Allard Ranch,** 81.78 339 ⇓P P 15 04 59.5 +1.1
baz=82,SNR=12
MPMC **Manual Prospec** 81.84 324 ⇑P P 15 05 00.5 +1.4
baz=82,SNR=13
N20A **Spence Gulch,** 81.85 333 ⇓P P 15 05 00.3 +1.2
baz=82,SNR=9.2
J27A **Elkhorn Farm,** 81.86 338 ⇑P P 15 05 00.6 +1.7
baz=82,SNR=6.1
FURC **Furnace Creek,** 81.87 325 ⇑P P 15 05 00.6 +1.7
baz=82,SNR=7.3
K25A **Mack Ranch, Ha** 81.87 337 ⇑P P 15 05 00.9 +1.9
baz=82
TPNV **Topopah Spring** 81.97 326 ⇓P P 15 05 01.3 +1.6
baz=82,SNR=18
ISA **Isabella, Lake** 82.01 323 *e*P P 15 05 00.9 +1.1
ISA pmax pmax
comp=Z,5.0nm,0.9s
ISA **Isabella, Lake** 82.01 323 *e*P P 15 05 00.9 +1.1
comp=Z,5.0nm,0.9s
ISA **Isabella, Lake** 82.01 323 ⇓P P 15 05 01.7 +1.9
baz=82,SNR=36
L23A **Garrett** 82.05 335 ⇑P P 15 05 01.2 +1.2
baz=82
I29A **Vivian Onida** 82.06 340 ⇑P P 15 05 00.8 +1.0
baz=82,SNR=13
BRSD **Miller** 82.07 341 *e*P P 15 04 59.3 -0.5
comp=Z,156nm,0.8s
BRSD **Miller** 82.07 341 ⇑P P 15 05 00.7 +0.8
baz=82,SNR=11
DAC **Darwin (Calif)** 82.07 324 *e*P P 15 05 00.0 -0.3
DAC **Darwin (Calif)** 82.07 324 *e*P P 15 04 60.0 -0.3
LBTB **Lobatse** 82.11 115 *e*P P 15 05 01.1 +0.3
LBTB pmax pmax
comp=Z,138nm,0.9s
LBTB **Lobatse** 82.11 115 *e*P P 15 05 01.1 +0.3
comp=Z,138nm,0.9s
L22A **Ellis Ranch, M** 82.23 335 ⇑P P 15 05 02.5 +1.5
baz=83
J26A **Sides Ranch, S** 82.25 338 ⇑P P 15 05 02.7 +1.8
baz=83
K24A **Anderson Ranch** 82.28 336 ⇑P P 15 05 02.7 +1.5
baz=83
I28A **Midland** 82.29 339 ⇓P P 15 05 02.4 +1.4
baz=83,SNR=25
VES **Vestal, Richgr** 82.45 323 ⇑P P 15 05 03.5 +1.5
baz=83,SNR=18
SMMC **Simmler** 82.50 322 ⇓P P 15 05 04.3 +1.9
baz=83
GRAC **Grapevine Rang** 82.54 325 ⇓P P 15 05 04.4 +1.9
baz=83,SNR=8.4
J25A **Sunshine Ranch** 82.55 337 ⇑P P 15 05 04.1 +1.6
baz=83
H29A **Onida** 82.58 340 ⇑P P 15 05 03.6 +1.0
baz=83,SNR=14
K23A **Bowen Ranch, D** 82.59 336 ⇑P P 15 05 03.7 +1.0
baz=83
NLU **North Lily Min** 82.61 330 P P 15 05 03.4 +0.4
I27A **Quinn** 82.61 339 ⇑P P 15 05 03.8 +1.1
baz=83,SNR=5.5
G30A **Faulkton** 82.75 341 ⇓P P 15 05 04.5 +1.1
baz=83
PCAN **Candelaria** 82.77 33 *e*P P 15 05 05.4 +1.8
comp=Z,126nm,1.0s
J24A **Dixon Ranch, L** 82.77 337 ⇓P P 15 05 05.7 +2.0
baz=83
R11A **Troy Canyon, C** 82.80 327 *e*P P 15 05 04.7 +0.7
R11A **Troy Canyon, C** 82.80 327 ⇑P P 15 05 05.5 +1.5
baz=83,SNR=40
K22A **Casper** 82.81 335 *e*P P 15 05 04.6 +0.7
comp=Z,99nm,1.1s
K22A **Casper** 82.81 335 ⇓P P 15 05 05.5 +1.6
baz=83,SNR=5.6
PCED **Cedros** 82.81 33 *e*P P 15 05 05.9 +2.1
comp=Z,159nm,1.3s
I26A **New Underwood** 82.83 338 ⇓P P 15 05 05.2 +1.3
baz=83
PICO **Pico** 82.83 33 *e*P P 15 05 06.3 +2.3
H28A **Mission Ridge** 82.86 340 ⇓P P 15 05 05.1 +1.2
baz=83,SNR=9.6
JLU **Jordanelle** 82.90 331 *e*P P 15 05 05.0 +0.4
RCTC **Rector, Farmer** 82.90 323 ⇓P P 15 05 06.0 +1.6
baz=83
TIN **Tinemaha, Big** 83.00 324 ⇑P P 15 05 06.9 +1.9
baz=83
G29A **Hoven** 83.02 340 ⇑P P 15 05 05.8 +1.0
baz=83,SNR=7.3
K21A **Alcova** 83.05 335 ⇑P P 15 05 06.2 +1.0
baz=83,SNR=13
PMAN **Manadas** 83.09 33 *e*P P 15 05 07.5 +2.2
comp=Z,245nm,1.9s
I25A **Rochford** 83.09 337 ⇑P P 15 05 06.5 +1.1
baz=83,SNR=6.2
ROSA **Rosais** 83.09 33 *e*P P 15 05 06.5 +1.2
comp=Z,224nm,1.4s
SNZO **South Karori** 83.10 224 PFAKE 15 05 20.0 +14
SNZO LR LR
comp=Z,4µm,19.0s
DUG **Dugway, Tooele** 83.12 330 *e*P P 15 05 06.1 +0.5
DUG MLR MLR
comp=Z,2µm,20.0s
DUG **Dugway, Tooele** 83.12 330 *e*P P 15 05 06.1 +0.5
DUG LR LR
comp=Z,2µm,20.0s
DUG **Dugway, Tooele** 83.12 330 ⇓P P 15 05 06.4 +0.9
baz=84,SNR=22
H27A **Howes** 83.13 339 ⇑P P 15 05 06.5 +1.1
baz=84,SNR=12
J23A **Dilts Ranch, B** 83.14 336 ⇓P P 15 05 06.9 +1.3
baz=84
PSMA **Santa Maria** 83.16 36 *e*P P 15 05 05.1 -0.6
comp=Z,89nm,2.2s
G28A **Parade** 83.19 340 ⇓P P 15 05 07.0 +1.2
baz=84,SNR=21
PSMN **Pico do Norte,** 83.20 36 *e*P P 15 05 05.5 -0.4
comp=Z,119nm,1.6s
I24A **Kuemmerle Ranc** 83.23 337 ⇑P P 15 05 07.4 +1.4
baz=84
TCUT **Toone Canyon** 83.32 331 *e*P P 15 05 06.7 -0.1
TPH **Tonopah** 83.33 326 *e*P P 15 05 07.6 +0.8
TPH **Tonopah** 83.33 326 *e*P P 15 05 07.6 +0.8
F30A **Leola** 83.37 341 ⇑P P 15 05 07.7 +1.1
baz=84,SNR=6.9
J22A **Midwest** 83.46 335 ⇓P P 15 05 08.0 +0.8
baz=84
PGRA **Graciosa** 83.46 33 *e*P P 15 05 07.5 +0.3
comp=Z,141nm,1.1s
PSET **Sete Cidades** 83.54 35 *e*P P 15 05 07.5 -0.1
comp=Z,120nm,0.8s
RPZ **Rata Peaks** 83.56 221 *e*P P 15 05 06.8 -1.1
comp=Z,147nm,1.1s
F29A **Eureka** 83.59 341 ⇑P P 15 05 08.8 +1.1
baz=84,SNR=15
H25A **Fruitdale** 83.59 338 ⇓P P 15 05 09.1 +1.3
baz=84
URZ **Urewera** 83.60 228 *e*P P 15 05 08.7 +0.5
comp=Z,38nm,1.1s
I23A **Meade Ranch, G** 83.60 336 ⇓P P 15 05 09.0 +1.0
baz=84
EYMN **Ely** 83.66 347 *e*P P 15 05 07.3 -0.7
comp=Z,387nm,1.8s
EYMN LR LR
comp=Z,2µm,20.0s
J21A **Lysite** 83.74 335 ⇑P P 15 05 10.1 +1.3
baz=84
MLAC **Mammoth, Mammo** 83.75 324 ⇓P P 15 05 10.7 +1.7
baz=84,SNR=8.2
BART **Pico Bartolome** 83.76 35 *e*P P 15 05 10.0 +1.1
comp=Z,207nm,1.3s
G27A **Dupree** 83.77 339 ⇑P P 15 05 09.7 +1.0
baz=84,SNR=16
HWUT **Hardware Ranch** 83.79 331 *e*P P 15 05 08.9 -0.2
HWUT LR LR
comp=Z,3µm,19.0s
BGU **Big Grassy Mou** 83.82 330 *e*P P 15 05 09.0 -0.2
F28A **McLaughlin** 83.87 340 ⇑P P 15 05 10.4 +1.3
baz=84,SNR=14
I22A **9 Mile Ranch,** 83.89 336 ⇑P P 15 05 10.3 +0.9
baz=84
G26A **Maurine** 83.89 339 ⇓P P 15 05 10.2 +0.9
baz=84,SNR=7.3
E30A **Jud** 83.96 342 ⇓P P 15 05 10.6 +1.0
baz=84,SNR=7.1
J20A **Shoshoni** 83.97 334 ⇑P P 15 05 11.5 +1.6
baz=84,SNR=18
H24A **Dirks Ranch, A** 84.00 337 ⇑P P 15 05 10.8 +0.8
baz=84
PDAR **Pinedale Array** 84.01 333 P P 15 05 10.0 -0.2
comp=Z,23nm,0.9s,baz=117,slow=5.2,SNR=18
PDAR PKKPbc **PKKPbc** 15 23 24.5 -1.8
comp=Z,1.6nm,0.7s,baz=31,slow=1.5,SNR=15
BW06 **Boulder Array** 84.01 333 PFAKE 15 05 20.0 +10
BW06 LR LR
comp=Z,3µm,19.0s
G25A **Newell** 84.05 338 ⇑P P 15 05 11.1 +1.0
baz=84,SNR=7.9
I21A **Big Trails, Te** 84.09 335 ⇑P P 15 05 11.1 +0.6
baz=84,SNR=6.8
H23A **Clabaugh Cattl** 84.11 337 ⇑P P 15 05 11.1 +0.6
baz=84
NVAR **Mina Array Bea** 84.13 325 P P 15 05 11.7 +0.8
comp=Z,27nm,0.8s,baz=156,slow=6.1,SNR=42
NVAR PKKPbc **PKKPbc** 15 23 26.3 +0.6
comp=Z,1.3nm,0.6s,baz=295,slow=2.4,SNR=4.8
TOA0 **Torodi Ar. Sit** 84.17 70 *e*P P 15 05 11.7 +0.3
TORD **Torodi Ar. Bea** 84.17 70 P P 15 05 11.7 +0.3
comp=Z,77nm,0.8s,baz=250,slow=3.9,SNR=221
TORD PKKPbc **PKKPbc** 15 23 23.6 -0.3
comp=Z,0.6nm,0.7s,baz=40,slow=3.2,SNR=4.1
TORD LR LR 15 41 26.2
comp=Z,5µm,18.0s,baz=230,slow=35
PMOZ **Porto Moniz, M** 84.19 44 *e*P P 15 05 12.7 +1.5
comp=Z,162nm,1.8s
PMOZ **Porto Moniz, M** 84.19 44 *e*SKSac **SKSac** 15 15 31.4 -1.1
PMOZ **Porto Moniz, M** 84.19 44 *e*LR LR 15 32 30.8
comp=Z,2µm,16.0s
E29A **Napoleon** 84.21 341 ⇑P P 15 05 11.8 +0.9
baz=85
F27A **Lemmon** 84.24 339 ⇑P P 15 05 12.3 +1.2
baz=85,SNR=26
J19A **Crowheart** 84.25 334 ⇓P P 15 05 11.9 +0.6
baz=85,SNR=6.9
F26A **Lodgepole** 84.41 339 ⇓P P 15 05 12.7 +0.8
baz=85,SNR=9.1
HVU **Hansel Valley** 84.43 331 *e*P P 15 05 12.5 +0.2
HVU **Hansel Valley** 84.43 331 *e*P P 15 05 12.5 +0.2
H22A **Clearmont** 84.46 336 ⇑P P 15 05 12.9 +0.6
baz=85
G24A **Alzada** 84.48 338 ⇓P P 15 05 13.7 +1.3
baz=85
D30A **Buchanan** 84.48 342 ⇓P P 15 05 13.0 +0.8
baz=85,SNR=22
E28A **Huff** 84.50 340 ⇓P P 15 05 13.2 +0.8
baz=85,SNR=14
I20A **Worland** 84.51 335 ⇑P P 15 05 13.1 +0.6
baz=85,SNR=9.6

AHID **Auburn Hatcher** 84.59 332 eP P 15 05 12.4 -0.7
AHID LR LR
comp=Z,2µm,19.0s
ELK Elko 84.61 328 P P 15 05 13.3 0.0
comp=Z,26nm,0.8s,baz=180,slow=3.6,SNR=36
ELK Elko 84.61 328 P P 15 05 13.3 0.0
ELK pmax pmax
comp=Z,27nm,0.8s
ELK Elko 84.61 328 eP P 15 05 13.7 +0.4
E27A Carson 84.62 340 ⇓P P 15 05 14.0 +1.1
baz=85,SNR=12
D29A Pettibone, Tap 84.66 341 ⇑P P 15 05 14.1 +1.0
baz=85
G23A Biddle 84.68 337 ⇓P P 15 05 13.9 +0.6
baz=85
F25A Bowman 84.72 338 ⇑P P 15 05 14.3 +0.8
baz=85,SNR=8.3
H21A Big Horn, Sher 84.72 336 ⇑P P 15 05 14.1 +0.5
baz=85
WAKR Walker 84.73 324 eP P 15 05 15.1 +1.2
comp=Z,58nm,1.1s
CMB Columbia Colle 84.82 324 eP P 15 05 14.8 +0.6
CMB pmax pmax
comp=Z,27nm,0.9s
CMB Columbia Colle 84.82 324 eP P 15 05 14.8 +0.6
comp=Z,27nm,0.9s
AGMN Agassiz Nation 84.89 344 eP P 15 05 13.6 -0.6
comp=Z,68nm,0.7s
AGMN LR LR
comp=Z,2µm,20.0s
AGMN Agassiz Nation 84.89 344 ⇑P P 15 05 15.0 +0.7
baz=85,SNR=43
I19A Meeteetse 84.89 334 ⇑P P 15 05 15.7 +1.1
baz=85,SNR=7.2
E26A Carlson Angus 84.91 339 ⇑P P 15 05 15.4 +1.0
baz=85,SNR=7.1
H20A Greybull 84.93 335 ⇓P P 15 05 15.4 +0.8
baz=85,SNR=22
F24A Ekalaka 84.95 338 ⇓P P 15 05 15.6 +0.9
baz=85
C30A Mose, Pekin 84.96 342 ⇑P P 15 05 15.9 +1.3
baz=85,SNR=37
G22A Birney 84.99 336 ⇓P P 15 05 15.6 +0.7
baz=85
D28A Regan 85.04 341 ⇓P P 15 05 16.2 +1.2
baz=85,SNR=15
SNOW Snow King Moun 85.05 333 eP P 15 05 15.3 -0.2
CRZF Crozet Islands 85.08 145 P P 15 04 52.0 -24
CRZF Crozet Islands 85.08 145 S S 15 15 07.0 -36
CRZF R 15 33 00.0
F23A Volborg 85.14 337 ⇓P P 15 05 16.3 +0.6
baz=86,SNR=7.1
E25A Miller Ranch, 85.22 339 ⇓P P 15 05 17.1 +1.1
baz=86,SNR=5.9
D27A Center 85.22 340 ⇑P P 15 05 17.1 +1.2
baz=86,SNR=11
BMN Battle Mountai 85.23 327 eP P 15 05 16.9 +0.6
BMN pmax pmax
comp=Z,7.0nm,0.8s
BMN Battle Mountai 85.23 327 eP P 15 05 16.9 +0.6
comp=Z,7.3nm,0.8s
MOOW Moose Ponds 85.29 333 eP P 15 05 16.4 -0.3
G21A Lodge Grass 85.30 336 ⇑P P 15 05 17.4 +0.9
baz=86,SNR=12
I17A Pilgrim Ck. 85.38 333 ⇑P P 15 05 18.2 +1.1
baz=86,SNR=22
MDND Maddock 85.38 342 eP P 15 05 16.9 +0.2
comp=Z,220nm,0.7s
MDND Maddock 85.38 342 ⇑P P 15 05 18.0 +1.3
baz=86,SNR=20
D26A Manning 85.41 340 ⇓P P 15 05 17.9 +1.0
baz=86,SNR=20
H19A Powell 85.44 334 ⇓P P 15 05 17.9 +0.7
baz=86,SNR=10
C28A Hausauer Farms 85.47 341 ⇑P P 15 05 17.7 +0.6
baz=86,SNR=6.9
F22A Rosebud 85.47 337 ⇓P P 15 05 18.0 +0.8
baz=86,SNR=8.2
IMW Indian Meadow 85.49 333 eP P 15 05 17.9 +0.2
E24A Baker 85.55 338 ⇑P P 15 05 18.9 +1.2
baz=86
FLWY Flagg Ranch 85.56 333 eP P 15 05 18.6 +0.6
B30A Myrvik Farm, E 85.62 343 ⇓P P 15 05 18.7 +0.8
baz=86,SNR=80
G20A Bridger 85.64 335 ⇓P P 15 05 18.5 +0.3
baz=86,SNR=11
H18A Shoshone NF, C 85.69 334 ⇓P P 15 05 19.4 +0.8
baz=86,SNR=32
C27A Sayler Ranch, 85.77 340 ⇑P P 15 05 20.0 +1.3
baz=86,SNR=12
D25A Fairfield 85.78 339 ⇓P P 15 05 20.0 +1.2
baz=86,SNR=17
H17A Grant Village 85.78 333 P P 15 05 19.2 +0.1
H17A Grant Village 85.78 333 ⇓P P 15 05 20.5 +1.4
baz=86,SNR=11
F21A Absaloka Mine, 85.80 336 ⇓P P 15 05 19.9 +0.9
baz=86,SNR=7.4
E23A Ismay 85.80 338 ⇓P P 15 05 19.6 +0.7
baz=86
RAO Raoul Island 85.86 237 PFAKE 15 05 30.0 +10
RAO LR LR
comp=Z,2µm,19.0s
B29A Wagenman Farm, 85.89 342 ⇑P P 15 05 20.3 +1.1
baz=86,SNR=8.8
YFT Old Faithful 85.93 333 eP P 15 05 21.1 +1.3
comp=Z,43nm,0.7s
RLMT Red Lodge 85.93 334 eP P 15 05 20.0 +0.3
comp=Z,56nm,0.7s
RLMT LR LR
comp=Z,1µm,21.0s
E22A Miles City 85.96 337 ⇑P P 15 05 20.0 +0.4
baz=86,SNR=6.1
C26A Wahner Farm, P 86.04 340 ⇓P P 15 05 21.0 +1.0
baz=86
D24A Glendive 86.05 338 ⇓P P 15 05 21.1 +1.0
baz=86,SNR=5.4
A30A Hoffart Farm, 86.07 343 ⇑P P 15 05 20.9 +0.8
baz=86,SNR=19
YNR Norris Junctio 86.09 333 eP P 15 05 21.0 +0.4
comp=Z,26nm,1.0s
F20A Billings 86.13 336 ⇑P P 15 05 21.3 +0.7
baz=86,SNR=8.2
B28A Dugan Ranch, T 86.14 341 ⇑P P 15 05 21.3 +0.9
baz=86,SNR=8.8
YMR Madison River 86.16 333 eP P 15 05 21.8 +0.9
comp=Z,124nm,0.8s
LAO LASA Array 86.27 337 eP P 15 05 21.0 -0.2
comp=Z,126nm,1.1s
LAO LR LR
comp=Z,1µm,20.0s
C25A Freed Ranch, W 86.27 339 ⇑P P 15 05 22.3 +1.1
baz=87,SNR=5.2
A29A Manning Farm, 86.28 342 ⇑P P 15 05 21.9 +0.8
baz=87,SNR=31
B27A Peters Farms, 86.33 341 ⇑P P 15 05 22.2 +0.8
baz=87
D23A Lindsay 86.37 338 ⇑P P 15 05 22.7 +1.0
baz=87,SNR=50
E21A Keefer Ranch, 86.41 337 ⇑P P 15 05 23.0 +1.1
baz=87,SNR=12
F19A Roth Farm, Mol 86.45 335 ⇓P P 15 05 22.7 +0.6
baz=87,SNR=11
C24A Savage 86.45 339 ⇑P P 15 05 23.1 +1.0
baz=87,SNR=57
QLMT Earthquake Lak 86.47 333 eP P 15 05 23.1 +0.7
comp=Z,17nm,1.4s
A28A Rude Farm, Bot 86.53 342 ⇑P P 15 05 23.9 +1.5
baz=87,SNR=6.6
B26A Jensen Ranch, 86.58 340 ⇑P P 15 05 23.9 +1.3
baz=87,SNR=6.2
HLID Hailey 86.58 331 eP P 15 05 23.7 +0.7
comp=Z,82nm,1.2s
HLID LR LR
comp=Z,961nm,19.0s
HLID Hailey 86.58 331 ⇓P P 15 05 23.9 +0.9
baz=87,SNR=47
GCMT Greycliff 86.65 335 eP P 15 05 23.0 -0.2
comp=Z,24nm,0.8s
D22A Cohagen 86.66 337 ⇓P P 15 05 24.4 +1.3
baz=87,SNR=16
E20A Meyer Farm, Mu 86.73 336 ⇑P P 15 05 24.6 +1.1
baz=87,SNR=22
ULM Lac du Bonnet 86.74 345 P P 15 05 22.6 -0.7
comp=Z,48nm,0.9s,baz=165,slow=4.1,SNR=59
ULM PKKPbc **PKKPdf** 15 23 16.8 +2.6
comp=Z,1.8nm,0.8s,baz=34,slow=3.8,SNR=3.4
ULM Lac du Bonnet 86.74 345 P P 15 05 22.6 -0.7
ULM pmax pmax
comp=Z,48nm,0.9s
ULM Lac du Bonnet 86.74 345 eP P 15 05 22.5 -0.8
comp=Z,73nm,1.0s
ULM PKKPbc **PKKPdf** 15 23 16.8 +2.6
B25A Knox Farm, Ray 86.75 340 ⇑P P 15 05 24.8 +1.4
baz=87,SNR=7.6
A27A Ledoux Ranch, 86.83 341 ⇑P P 15 05 24.7 +0.9
baz=87,SNR=14
D21A La Casta Ranch 86.85 337 ⇓P P 15 05 24.8 +0.8
baz=87,SNR=11
E19A Rath Farm, Rou 86.92 335 ⇑P P 15 05 24.9 +0.5
baz=87,SNR=30
C23A Lambert 86.93 338 ⇓P P 15 05 25.1 +0.7
baz=87,SNR=34
A26A Wade Farm, Ken 87.00 341 ⇑P P 15 05 25.3 +0.7
baz=87,SNR=17
MCMT McKenzie Canyo 87.01 332 eP P 15 05 25.3 +0.2
comp=Z,59nm,1.2s
MFID Camas Ranch 87.04 330 eP P 15 05 25.3 +0.2
comp=Z,69nm,1.3s
C22A Vida 87.09 338 ⇓P P 15 05 25.7 +0.5
baz=87,SNR=17
DGMT Dagmar 87.23 339 eP P 15 05 26.1 +0.3
comp=Z,226nm,0.8s
DGMT LR LR
comp=Z,1µm,19.0s
DGMT Dagmar 87.23 339 ⇑P P 15 05 26.6 +0.8
baz=88,SNR=28
BOZ Bozeman (W) 87.24 333 eP P 15 05 25.9 -0.2
BOZ pmax pmax
comp=Z,30nm,1.0s
BOZ MLR MLR
comp=Z,1µm,19.0s
BOZ Bozeman (W) 87.24 333 eP P 15 05 25.9 -0.2
comp=Z,30nm,1.0s
BOZ LR LR
comp=Z,1µm,19.0s
D20A Manuel Ranch, 87.25 336 ⇓P P 15 05 26.5 +0.5
baz=88,SNR=29
A25A Svangstu Ranch 87.33 340 ⇓P P 15 05 26.9 +0.6
baz=88,SNR=17
DLMT Dillon 87.36 333 eP P 15 05 27.4 +0.8
comp=Z,156nm,1.5s
B23A Brockton 87.46 339 ⇑P P 15 05 27.5 +0.6
baz=88,SNR=13
WVOR Wild Horse Val 87.47 327 eP P 15 05 27.5 +0.3
WVOR pmax pmax
comp=Z,207nm,1.9s
WVOR MLR MLR
comp=Z,1µm,19.0s
WVOR Wild Horse Val 87.47 327 eP P 15 05 27.5 +0.3
comp=Z,207nm,1.9s
WVOR LR LR
comp=Z,1µm,19.0s
LCCM Lewis and Clar 87.50 333 P P 15 05 27.6 +0.3
C21A Desert Coulee 87.55 337 ⇓P P 15 05 27.8 +0.4
baz=88,SNR=26
D19A Cripps Ranch, 87.56 336 ⇑P P 15 05 28.1 +0.6
baz=88,SNR=7.8
A24A Westby 87.58 339 ⇑P P 15 05 28.3 +0.8
baz=88,SNR=18
B22A Reddig Ranch S 87.62 338 ⇑P P 15 05 28.6 +0.9
baz=88,SNR=24
LRM Limekiln Ridge 87.70 333 eP P 15 05 28.1 -0.3
comp=Z,308nm,0.9s
KIPM Iron Peak 87.72 323 eP P 15 05 30.2 +1.7
C20A Veseth Ranch, 87.75 337 ⇓P P 15 05 29.0 +0.6
baz=88,SNR=16
WDC Whiskeytown Da 87.85 324 eP P 15 05 28.6 -0.3
WDC pmax pmax
comp=Z,49nm,0.8s
WDC Whiskeytown Da 87.85 324 eP P 15 05 28.6 -0.3
comp=Z,49nm,0.8s
A23A Redstone 87.87 339 ⇑P P 15 05 29.8 +0.9
baz=88
B21A Ellsworth Farm 88.05 337 ⇑P P 15 05 30.6 +0.9
baz=88,SNR=6.1
C19A Slack Wire Ran 88.11 336 ⇓P P 15 05 30.9 +0.8
baz=88,SNR=14
A22A Carney Farms, 88.21 338 ⇑P P 15 05 31.5 +1.0
baz=89,SNR=34
HRY Holter Researc 88.22 334 eP P 15 05 30.8 +0.1
comp=Z,28nm,1.1s
N02D Trilty Center 88.23 324 ⇓P P 15 05 31.9 +1.0
baz=88,SNR=8.9
B20A Solberg Farm, 88.39 337 ⇑P P 15 05 31.9 +0.5
baz=89,SNR=22
M04C Macdoel 88.43 325 ⇓P P 15 05 32.4 +0.6
baz=89,SNR=13
A21A Bergtoll Ranch 88.52 338 ⇑P P 15 05 32.7 +0.8
baz=89,SNR=13
EGMT Eagleton 88.60 336 eP P 15 05 31.7 -0.7
comp=Z,60nm,1.2s
EGMT LR LR
comp=Z,972nm,21.0s
EGMT Eagleton 88.60 336 ⇓P P 15 05 33.3 +0.9
baz=89
M02C Callahan 88.62 324 ⇓P P 15 05 33.5 +0.8
baz=89,SNR=14
KHMM Horse Mountain 88.66 323 eP P 15 05 34.4 +1.4
comp=Z,165nm,1.6s
LAMM Antelope Mount 88.68 325 P P 15 05 33.1 0.0
B19A Brinkman Farms 88.70 336 ⇑P P 15 05 33.7 +0.8
baz=89,SNR=28
HOG Hogback Mounta 88.73 325 P P 15 05 34.2 +0.9
A20A Cobblestone Ra 88.74 337 ⇓P P 15 05 33.9 +0.9
baz=89,SNR=21
SCHQ Schefferville 88.80 3 P P 15 05 32.6 -0.5
comp=Z,18nm,0.8s,baz=176,slow=3.9,SNR=26
SCHQ PP PP 15 09 08.6 +5.7
comp=Z,5.5nm,0.9s,baz=197,slow=6.6,SNR=3.8
SCHQ LR LR 15 48 18.6
comp=Z,2µm,19.5s,baz=178,slow=38
SCHQ Schefferville 88.80 3 eP P 15 05 32.6 -0.5
comp=Z,175nm,1.8s
SCHQ PP PP 15 09 08.6 +5.7
YBH Yreka Blue Hor 88.81 325 P P 15 05 33.2 -0.4
comp=Z,18nm,0.8s,baz=104,slow=3.9,SNR=39
YBH Yreka Blue Hor 88.81 325 P P 15 05 33.2 -0.4
YBH pmax pmax
comp=Z,18nm,0.8s
YBH Yreka Blue Hor 88.81 325 eP P 15 05 33.2 -0.4
comp=Z,26nm,1.0s
BMO Blue Mountains 88.83 330 eP P 15 05 33.1 -0.5
comp=Z,45nm,1.4s
BMO LR LR
comp=Z,1µm,20.0s
CHMT Chamberlain Mo 88.92 333 eP P 15 05 34.2 +0.1
comp=Z,41nm,1.6s
VSP Spence Mountai 88.92 325 P P 15 05 35.7 +1.6
K04D Chiloquin, OR 89.05 326 ⇑P P 15 05 35.7 +1.0
baz=89,SNR=7.4
A19A Klindworth Far 89.05 337 ⇑P P 15 05 35.2 +0.8
baz=89,SNR=22
MSO Missoula 89.11 333 ⇓P P 15 05 36.1 +1.3
baz=89,SNR=12
SLMT Seeley Lake 89.28 333 eP P 15 05 35.9 +0.2
comp=Z,24nm,1.0s
J05D Fort Rock, OR 89.32 326 ⇑P P 15 05 37.7 +1.7
baz=90,SNR=25
L02D Cave Junction, 89.57 324 ⇑P P 15 05 38.5 +1.5
baz=90
HUMO Hull Mountain 89.60 325 eP P 15 05 37.4 +0.2
comp=Z,31nm,1.4s
J04D Umpqua Nationa 89.69 326 ⇓P P 15 05 39.2 +1.4
baz=90,SNR=11
SWMT Swartz Lake 89.69 333 eP P 15 05 37.4 -0.2
comp=Z,15nm,0.9s
G08A Pilot Rock 89.88 329 P P 15 05 39.0 +0.4
YBMT Yellow Bay 89.99 333 eP P 15 05 39.1 +0.1
comp=Z,13nm,0.9s
JTMT Jette 90.00 333 eP P 15 05 39.3 +0.2
comp=Z,17nm,0.8s
I05D Terrebonne, OR 90.18 327 ⇑P P 15 05 41.8 +1.8
baz=90,SNR=12
PAF Port-aux-Franc 90.24 156 S S 15 16 10.0 -22
PAF SS SS 15 22 08.0 -22
PAF L L 15 30 00.0
PAF R 15 33 00.0
PAF Port-aux-Franc 90.24 156 PFAKE 15 05 50.0 +10
PAF LR LR
comp=Z,4µm,20.0s
BLMT Blacktail Moun 90.25 333 eP P 15 05 40.5 +0.2
comp=Z,36nm,0.9s
AFI Afiamalu 90.25 253 PFAKE 15 05 50.0 +9.0
AFI LR LR
comp=Z,4µm,20.0s
I04A Tendick Farm, 90.25 326 ⇑P P 15 05 41.3 +1.0
baz=91,SNR=6.0
BSMT Bassoo Peak 90.27 333 eP P 15 05 40.2 -0.2
comp=Z,15nm,0.9s
I03D Drain, OR 90.62 325 ⇓P P 15 05 43.2 +1.4
baz=91
G05D Wamic, OR 90.88 328 ⇓P P 15 05 44.7 +1.6
baz=91
WALA Waterton Lakes 90.95 334 eP P 15 05 43.1 -0.3
comp=Z,211nm,1.8s
VFP Flag Point 91.00 328 P P 15 05 45.3 +1.5
HAWA Hanford 91.00 329 eP P 15 05 44.2 +0.6
comp=Z,179nm,1.7s
HAWA LR LR
comp=Z,1µm,19.0s
COR Corvallis 91.27 326 P P 15 05 45.4 +0.6
COR Corvallis 91.27 326 P P 15 05 45.4 +0.6
NEW Newport 91.52 332 P P 15 05 45.2 -0.7
comp=Z,9.1nm,0.9s,baz=122,slow=4.9,SNR=13
NEW Newport 91.52 332 eP P 15 05 44.4 -1.6
NEW pmax pmax
comp=Z,23nm,1.3s
NEW MLR MLR
comp=Z,1µm,19.0s
NEW Newport 91.52 332 eP P 15 05 44.4 -1.6
comp=Z,23nm,1.3s
NEW LR LR
comp=Z,1µm,19.0s
NEW Newport 91.52 332 ⇑P P 15 05 46.9 +0.9
baz=92,SNR=13
G03D McMinnville, O 91.73 326 ⇓P P 15 05 48.2 +1.2
baz=92
NAC Naches 91.82 329 P P 15 05 48.8 +1.4
LVP Lakeview Peak 92.00 327 P P 15 05 49.3 +0.9
PFVI Vila Bisbo 92.09 45 ePP PP 15 09 33.1 +3.6
PFVI eSKSac **SKSac** 15 16 24.1 +4.4
PFVI Vila Bisbo 92.09 45 eLR LR 15 35 37.6
comp=Z,4µm,18.0s
TDL Tradedollar La 92.13 328 P P 15 05 49.9 +0.9
FFC Flin Flon 92.29 343 P P 15 05 48.1 -1.2
FFC pmax pmax
comp=Z,126nm,1.9s
FFC MLR MLR
comp=Z,2µm,19.0s
FFC Flin Flon 92.29 343 P P 15 05 48.1 -1.2
comp=Z,126nm,1.9s
FFC LR LR
comp=Z,2µm,19.0s
ETW Entiat 92.29 330 P P 15 05 49.9 +0.2
MORF Marmelete 92.31 45 eP P 15 05 49.3 -0.7
MORF AMS AMS 15 46 49.8
comp=Z,4µm,17.9s
MORF Marmelete 92.31 45 eSKSac **SKSac** 15 16 22.8 +1.8
MORF Marmelete 92.31 45 eLQ LQ 15 32 00.6
MORF eLR LR 15 36 23.0
comp=Z,4µm,18.0s
MORF Marmelete 92.31 45 eP P 15 05 49.3 -0.7
PBDV Barranco-do-Ve 92.70 46 ePP PP 15 09 36.3 +2.0
PBDV eSKSac **SKSac** 15 16 27.1 +4.0
PBDV Barranco-do-Ve 92.70 46 eLQ LQ 15 30 33.3
PBDV eLR LR 15 36 03.3
comp=Z,3µm,18.0s
TAM Tamanrasset 92.81 64 eP P 15 05 53.2 +0.4
TAM pmax pmax
comp=Z,10.0nm,0.8s
TAM MLR MLR
comp=Z,4µm,19.0s
TAM Tamanrasset 92.81 64 eP P 15 05 53.2 +0.4
comp=Z,10.0nm,0.8s
TAM LR LR
comp=Z,4µm,19.0s
PCVE Castro Verde 92.89 46 ePP PP 15 09 32.8 -3.0
PCVE Castro Verde 92.89 46 eLQ LQ 15 32 50.1
PCVE eLR LR 15 36 38.8
comp=Z,14µm,20.0s
MESJ Messejana 92.92 45 eP P 15 05 52.2 -0.5
MESJ eS **SKSac** 15 16 22.7 -1.6
MESJ AMS AMS 15 47 16.6
comp=Z,5µm,17.5s
MESJ Messejana 92.92 45 eP P 15 05 53.1 +0.4
comp=Z,31nm,1.8s
MESJ Messejana 92.92 45 eP P 15 05 52.2 -0.5
MESJ eS **SKSac** 15 16 22.6 -1.6
PNCL Nicolau / Gran 92.92 45 eP P 15 05 53.9 +1.2
comp=Z,50nm,1.8s
PNCL Nicolau / Gran 92.92 45 ePP PP 15 09 35.5 -0.5
PNCL eSKSac SKSac 15 16 34.3 +10
PNCL Nicolau / Gran 92.92 45 eLQ LQ 15 32 59.2
PNCL eLR LR 15 36 38.4
comp=Z,5µm,18.0s
PVAQ Vaqueiros 92.93 46 ePP PP 15 09 37.8 +1.7
PVAQ eSKSac **SKSac** 15 16 29.1 +4.8
PVAQ Vaqueiros 92.93 46 eLR LR 15 36 49.5
comp=Z,3µm,18.0s
LIS Lisbon 92.97 44 eP P 15 05 52.4 -0.5
LIS eS **SKSac** 15 16 23.0 -1.5
LIS AMS AMS 15 46 21.7
comp=Z,4µm,17.4s
LIS Lisbon 92.97 44 eP P 15 05 52.3 -0.5
LIS eS **SKSac** 15 16 22.9 -1.5
EVOP Sao Brissos 93.44 45 eP P 15 05 54.5 -0.5
EVOP pmax pmax
comp=Z,17nm,0.8s
EVOP Sao Brissos 93.44 45 eP P 15 05 54.5 -0.5
comp=Z,16nm,0.8s
RPW Rockport 93.45 329 P P 15 05 55.0 0.0
EVO Evora 93.51 45 eP P 15 05 54.5 -0.9
comp=Z,16nm,0.8s
EVO Evora 93.51 45 eP P 15 05 55.7 +0.3
comp=Z,27nm,2.2s
NLWA Neilton Lookou 93.66 328 PFAKE 15 06 10.0 +14
NLWA LR LR
comp=Z,1µm,19.0s
PMTG Montargil 93.74 44 eP P 15 05 57.7 +1.3
comp=Z,41nm,1.6s
PMTG Montargil 93.74 44 ePP PP 15 09 42.1 -0.3
PMTG eSKSac **SKSac** 15 16 35.6 +6.9
PMTG Montargil 93.74 44 eLQ LQ 15 32 05.0
PMTG eLR LR 15 35 59.8
PBAR Barrancos 93.84 46 eP P 15 05 56.3 -0.6
comp=Z,41nm,1.8s
PBAR Barrancos 93.84 46 ePP PP 15 09 44.0 +0.8
PBAR eSKSac **SKSac** 15 16 31.1 +1.8
PBAR Barrancos 93.84 46 eLR LR 15 36 37.1
comp=Z,9µm,18.0s
PESTR Estremoz 93.98 45 eP P 15 05 57.5 -0.1
comp=Z,28nm,2.0s
PESTR Estremoz 93.98 45 ePP PP 15 09 45.1 +0.8
PESTR eSKSac **SKSac** 15 16 33.5 +3.4
PESTR Estremoz 93.98 45 eLR LR 15 36 27.3
comp=Z,4µm,20.0s
EDM Edmonton 94.23 336 eP P 15 05 56.8 -1.6
EDM pmax pmax
comp=Z,62nm,1.1s
EDM Edmonton 94.23 336 eP P 15 05 56.8 -1.6
comp=Z,62nm,1.1s
PCAS Casmilo, Conde 94.24 43 eP P 15 05 58.9 +0.2
comp=Z,71nm,2.1s
PCAS Casmilo, Conde 94.24 43 ePP PP 15 09 47.9 +1.6
PCAS eSKSac **SKSac** 15 16 34.1 +2.7
PCAS Casmilo, Conde 94.24 43 eLR LR 15 36 38.5
comp=Z,5µm,18.0s
FCC Fort Churchill 94.46 349 eP P 15 05 58.7 -0.5
FCC pmax pmax
comp=Z,51nm,0.7s
FCC Fort Churchill 94.46 349 eP P 15 05 58.7 -0.5
comp=Z,51nm,0.7s
PMRV Marv??o 94.46 45 ePP PP 15 09 49.4 +1.3
PMRV eSKSac **SKSac** 15 16 34.0 +1.3
PMRV Marv??o 94.46 45 eLR LR 15 36 38.8
comp=Z,3µm,20.0s
MTE Manteigas 95.02 44 ePP PP 15 09 54.1 +1.7
MTE eSKSac **SKSac** 15 16 36.4 +0.7
MTE Manteigas 95.02 44 eLR LR 15 36 07.8
comp=Z,6µm,20.0s
MTE Manteigas 95.02 44 PFAKE 15 06 10.0 +7.6
MTE LR LR
comp=Z,6µm,20.0s
TAU Tasmania Unive 95.28 208 PFAKE 15 06 10.0 +6.3
TAU LR LR
comp=Z,3µm,19.0s
PVRL Vila Real 95.50 43 eP P 15 06 05.5 +1.0
comp=Z,30nm,1.3s
POLO Lamas de Olo 95.52 43 eP P 15 06 04.6 -0.1
comp=Z,16nm,2.2s

POLO	**Lamas de Olo**	**95.52**	**43**	*e*PP	PP	15 09 56.5	+0.1	
POLO	**Lamas de Olo**	**95.52**	**43**	*e*LR	LR	15 37 50.5		
	comp=Z,2µm,20.0s							
PGAV	**Gavieira, Arco**	**95.65**	**42**	*e*PP	PP	15 10 00.2	+2.9	
PGAV				*e*SKSac	**SKSac**	**15 16 42.8**	**+3.8**	
PGAV	**Gavieira, Arco**	**95.65**	**42**	*e*LR	LR	15 37 48.9		
	comp=Z,5µm,20.0s							
MVO	**Moncorvo**	**95.81**	**43**	*e*P	**P**	**15 06 06.1**	**+0.1**	
	comp=Z,23nm,1.2s							
MVO	**Moncorvo**	**95.81**	**43**	*e*PP	PP	15 10 00.7	+2.1	
MVO				*e*SKSac	**SKSac**	**15 16 42.6**	**+2.7**	
MVO	**Moncorvo**	**95.81**	**43**	*e*LQ	LQ	15 32 41.5		
MVO				*e*LR	LR	15 38 03.4		
	comp=Z,4µm,20.0s							
MSVF	**Nonsavu**	**95.82**	**244**	PFAKE		15 06 20.0	+13	
MSVF				LR	LR			
	comp=Z,2µm,19.0s							
PAB	**San Pablo**	**96.33**	**46**	PFAKE		15 06 20.0	+12	
PAB				LR	LR			
	comp=Z,4µm,19.0s							
PBRG	**Braganca**	**96.40**	**43**	*e*PP	PP	15 10 02.5	-0.6	
PBRG	**Braganca**	**96.40**	**43**	*e*LR	LR	15 38 04.1		
	comp=Z,4µm,20.0s							
ESDC	**Sonseca Array**	**96.64**	**46**	P	**P**	**15 06 09.7**	**-0.1**	
	comp=Z,3.7nm,0.8s,baz=241,slow=4.1,SNR=20							
ESDC				PP	PP	15 10 10.8	+5.8	
	comp=Z,0.2nm,0.3s,baz=229,slow=6.1,SNR=4.6							
ESDC				LR	LR	15 49 34.9		
	comp=Z,3µm,18.6s,baz=235,slow=35							
MBAR	**Mbarara**	**100.11**	**98**	PFAKE		15 06 40.0	+14	
MBAR				LR	LR			
	comp=Z,548nm,22.0s							
SJPF	**Ste Jean**	**100.39**	**45**	*e*P	**Pdif**	**15 06 25.7**	**-0.7**	
	comp=Z,20nm,0.9s							
SJPF	**Ste Jean**	**100.39**	**45**	*e*P	**Pdif**	**15 06 25.7**	**-0.7**	
SJPF				pmax	pmax			
	comp=Z,20nm,0.9s							
SJPF	**Ste Jean**	**100.39**	**45**	*e*P	**Pdif**	**15 06 25.7**	**-0.7**	
	comp=Z,20nm,0.9s							
ETSF	**Etsaut**	**100.65**	**45**	*e*P	**Pdif**	**15 06 27.4**	**-0.3**	
	comp=Z,12nm,0.7s							
ETSF	**Etsaut**	**100.65**	**45**	*e*P	**Pdif**	**15 06 27.4**	**-0.3**	
ETSF				pmax	pmax			
	comp=Z,12nm,0.7s							
ETSF	**Etsaut**	**100.65**	**45**	*e*P	**Pdif**	**15 06 27.4**	**-0.3**	
	comp=Z,12nm,0.7s							
DZM	**Mont Dzumac**	**101.20**	**234**	*e*SS	SS	15 25 15.7	+8.2	
	comp=Z,3µm,26.8s							
DZM	**Mont Dzumac**	**101.20**	**234**	*e*LR	LR	15 39 35.4		
	comp=Z,6µm,29.9s							
EPF	**Esparros**	**101.26**	**45**	*e*P	**Pdif**	**15 06 30.3**	**0.0**	
	comp=Z,13nm,1.0s							
EPF	**Esparros**	**101.26**	**45**	*e*P	**Pdif**	**15 06 30.3**	**0.0**	
EPF				pmax	pmax			
	comp=Z,13nm,1.0s							
EPF	**Esparros**	**101.26**	**45**	*e*P	**Pdif**	**15 06 30.3**	**0.0**	
	comp=Z,13nm,1.0s							
ABPO	**Ambohimpanom**	**101.56**	**122**	PFAKE		15 06 40.0	+7.5	
ABPO				LR	LR			
	comp=Z,2µm,20.0s							
SFJD	**Kangerlussuaq**	**102.19**	**8**	*i* P	**Pdif**	**15 06 28.1**	**-5.7**	
	comp=Z,2µm,20.0s							
SFJD	**Kangerlussuaq**	**102.19**	**8**	*e*P	**Pdif**	**15 06 28.1**	**-5.7**	
SFJD				MLR	MLR			
	comp=Z,2µm,20.0s							
SFJD	**Kangerlussuaq**	**102.19**	**8**	PFAKE		15 06 40.0	+6.2	
SFJD				LR	LR			
	comp=Z,2µm,21.0s							
YKA	**Yellowknife Ar**	**102.30**	**341**	P	**Pdif**	**15 06 33.8**	**-0.6**	
	comp=Z,5.8nm,0.7s,baz=140,slow=4.4,SNR=80							
YKA				PP	**PP**	**15 10 46.8**	**-0.6**	
	comp=Z,7.1nm,1.2s,baz=142,slow=7.9,SNR=6.3							
YKA				PKKPbc	**PKKPbc**	**15 22 35.5**	**-2.7**	
	comp=Z,0.7nm,0.7s,baz=336,slow=3.1,SNR=8.1							
YKA	**Yellowknife Ar**	**102.30**	**341**	P	**Pdif**	**15 06 33.8**	**-0.6**	
YKA						15 10 46.8		
YKA				pmax	pmax			
	comp=Z,6.0nm,0.7s							
YKA				pmax	pmax			
	comp=Z,7.0nm,1.2s							
YKA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
MTLF	**Montolieu**	**102.55**	**46**	*e*P	**Pdif**	**15 06 35.2**	**-0.8**	
MTLF	**Montolieu**	**102.55**	**46**	*e*P	**Pdif**	**15 06 35.2**	**-0.8**	
MTLF	**Montolieu**	**102.55**	**46**	*e*P	**Pdif**	**15 06 35.2**	**-0.8**	
LFF	**La Frestale**	**102.62**	**44**	*e*P	**Pdif**	**15 06 37.3**	**+1.1**	
	comp=Z,21nm,0.7s							
LFF	**La Frestale**	**102.62**	**44**	*e*P	**Pdif**	**15 06 37.3**	**+1.1**	
LFF				pmax	pmax			
	comp=Z,21nm,0.7s							
LFF	**La Frestale**	**102.62**	**44**	*e*P	**Pdif**	**15 06 37.3**	**+1.1**	
	comp=Z,21nm,0.7s							
CAF	**Calviac**	**103.38**	**45**	*e*P	**Pdif**	**15 06 40.7**	**+1.0**	
	comp=Z,9.8nm,0.8s							
CAF	**Calviac**	**103.38**	**45**	*e*P	**Pdif**	**15 06 40.7**	**+1.0**	
CAF				pmax	pmax			
	comp=Z,10.0nm,0.8s							
CAF	**Calviac**	**103.38**	**45**	*e*P	**Pdif**	**15 06 40.7**	**+1.0**	
	comp=Z,9.8nm,0.8s							
WRAK	**Wrangell Islan**	**103.78**	**330**	PFAKE		15 06 50.0	+8.9	
WRAK				LR	LR			
	comp=Z,1µm,19.0s							
ILULI	**Ilulissat**	**104.26**	**8**	*i* P	Pdif	15 06 32.7	-10	
	comp=Z,2µm,19.0s							
VIVF	**Saint-Julien-l**	**104.87**	**46**	*e*P	**Pdif**	**15 06 45.1**	**-1.2**	
VIVF	**Saint-Julien-l**	**104.87**	**46**	*e*P	**Pdif**	**15 06 45.1**	**-1.2**	
VIVF	**Saint-Julien-l**	**104.87**	**46**	*e*P	**Pdif**	**15 06 45.1**	**-1.2**	
VSL	**Villasalto**	**104.91**	**52**	PFAKE		15 07 00.0	+13	
VSL				LR	LR			
	comp=Z,2µm,19.0s							
SSB	**Saint Sauveur**	**105.02**	**45**	PFAKE		15 11 10.0		
SSB				LR	LR			
	comp=Z,3µm,19.0s							
KMBO	**Kilima Mbogo**	**105.12**	**102**	PFAKE		15 11 10.0		
KMBO				LR	LR			
	comp=Z,2µm,20.0s							
SMF	**Signal de Mont**	**105.37**	**44**	*e*P	**Pdif**	**15 06 48.6**	**+0.1**	
SMF	**Signal de Mont**	**105.37**	**44**	*e*P	**Pdif**	**15 06 48.6**	**+0.1**	
SMF	**Signal de Mont**	**105.37**	**44**	*e*P	**Pdif**	**15 06 48.6**	**+0.1**	
BNI	**Bardonecchia**	**106.17**	**46**	PFAKE		15 11 10.0		
BNI				LR	LR			
	comp=Z,6µm,22.0s							
BORG	**Borgarnes**	**106.25**	**20**	PFAKE		15 11 10.0		
BORG				LR	LR			
	comp=Z,2µm,20.0s							
CLTB	**Caltabellotta**	**106.49**	**56**	PFAKE		15 11 10.0		
CLTB				LR	LR			
	comp=Z,5µm,20.0s							
WDD	**Wield Dalam**	**106.53**	**58**	PFAKE		15 11 10.0		
WDD				LR	LR			
	comp=Z,10µm,20.0s							
ESK	**Eskdalemuir**	**106.69**	**34**	PFAKE		15 11 10.0		
ESK				LR	LR			
	comp=Z,2µm,19.0s							
VLC	**Villacollemand**	**107.97**	**49**	PFAKE		15 11 20.0		
VLC				LR	LR			
	comp=Z,2µm,19.0s							
ECH	**Echery**	**108.11**	**44**	PFAKE		15 11 20.0		
ECH				LR	LR			
	comp=Z,4µm,20.0s							
WLF	**Walferdange**	**108.30**	**42**	PFAKE		15 11 20.0		
WLF				LR	LR			
	comp=Z,5µm,20.0s							
TUE	**Stuetta**	**108.50**	**46**	PFAKE		15 11 20.0		
TUE				LR	LR			
	comp=Z,3µm,21.0s							
CEL	**Celeste**	**108.67**	**56**	PFAKE		15 11 20.0		
CEL				LR	LR			
	comp=Z,7µm,20.0s							
BFO	**Black Forest**	**108.84**	**44**	*e*PP	PP	15 11 35.4	-0.9	
BFO	**Black Forest**	**108.84**	**44**	PFAKE		15 11 20.0		
BFO				LR	LR			
	comp=Z,3µm,20.0s							
SUMG	**Summit**	**108.99**	**10**	*i* P	**Pdif**	**15 06 59.9**	**-4.6**	
	comp=Z,2µm,18.0s							
SUMG	**Summit**	**108.99**	**10**	*e*P	**Pdif**	**15 06 59.9**	**-4.6**	
SUMG				MLR	MLR			
	comp=Z,2µm,18.0s							
CUC	**Castrocucco**	**109.45**	**54**	PFAKE		15 11 20.0		
CUC				LR	LR			
	comp=Z,3µm,19.0s							
FETA	**Feichten**	**109.60**	**46**	⇓pPKiKP	**PKiKP**	**15 11 12.4**	**+2.2**	
	comp=Z,5.6nm,1.0s							
TIP	**Timpagrande**	**109.70**	**56**	PFAKE		15 11 20.0		
TIP				LR	LR			
	comp=Z,6µm,20.0s							

UBBA	**Unterbreizbach**	**111.02**	**42**	*e*PP	PP	15 11 51.8	0.0	
GRF	**Grafenberg Arr**	**111.17**	**44**	*e*PP	PP	15 11 53.8	+0.7	
GRF				*e*L	L	15 57 00.1		
	comp=Z,2µm,20.3s							
RJOB	**Jochberg**	**111.18**	**46**	*e*PP	PP	15 11 51.5	-1.7	
MOX	**Moxa**	**111.84**	**43**	*e*L	L	15 56 10.5		
	comp=Z,3µm,21.5s							
INK	**Inuvik**	**111.91**	**339**	Pdiff	**Pdif**	**15 07 17.8**	**+0.8**	
	comp=Z,1.2nm,0.9s,baz=41,slow=10,SNR=3.9							
INK				PKiKP	**PKiKP**	**15 11 12.8**	**-0.9**	
	comp=Z,1.7nm,0.7s,baz=46,slow=0.5,SNR=8.0							
INK	**Inuvik**	**111.91**	**339**	*i* PKiKP	**PKiKP**	**15 11 12.8**	**-0.9**	
INK				pmax	pmax			
	comp=Z,2.0nm,0.7s							
NKC	**Novy Kostel**	**112.12**	**44**	*e*PDIFF	**Pdif**	**15 07 23.2**	**+4.8**	
NKC				*e*PKP	**PKiKP**	**15 11 16.2**	**+1.5**	
NKC				*e*PP	**PP**	**15 11 58.0**	**-1.9**	
NKC				*e*SKS	**SKSac**	**15 17 57.2**	**+2.5**	
NKC				*e*SP	**SP**	**15 21 25.5**	**-3.5**	
NKC				*ex*	x	15 22 44.4		
NKC				AMS	AMS	15 57 10.0		
	comp=Z,2µm,18.9s							
NKC	**Novy Kostel**	**112.12**	**44**	*i* P	**Pdif**	**15 07 23.2**	**+4.8**	
NKC				*e*		15 11 16.2		
NKC				*e*		15 11 58.0		
NKC				*e*		15 17 57.2		
NKC				*e*SP	SP	15 21 25.5	-3.5	
NKC				*e*		15 22 44.4		
NKC				MLR	MLR			
	comp=Z,2µm,18.9s							
TANN	**Tannenbergstha**	**112.22**	**43**	*e*PKiKP	**PKiKP**	**15 11 16.0**	**+1.1**	
TANN				*e*PP	**PP**	**15 12 00.0**	**-0.6**	
GEC2	**GERESS Array S**	**112.22**	**45**	*e*PKiKP	**PKiKP**	**15 11 15.7**	**+0.6**	
GERES	**GERESS Array B**	**112.22**	**45**	PKiKP	**PKiKP**	**15 11 15.0**	**-0.1**	
	comp=Z,2.4nm,0.9s,baz=180,slow=0.9,SNR=14							
GERES				PKKPbc	**PKKPbc**	**15 22 05.9**	**-0.6**	
	comp=Z,0.7nm,0.9s,baz=28,slow=3.2,SNR=5.5							
GERES	**GERESS Array B**	**112.22**	**45**	*i* PKiKP	**PKiKP**	**15 11 15.0**	**-0.1**	
GERES				pmax	pmax			
	comp=Z,2.0nm,0.9s							
GERES				pmax	pmax			
	comp=Z,1.0nm,0.9s							
EGAK	**Eagle**	**112.33**	**334**	PFAKE		15 11 20.0		
EGAK				LR	LR			
	comp=Z,1µm,20.0s							
BSEG	**Bad Segeberg**	**112.65**	**39**	*e*PKiKP	**PKiKP**	**15 11 16.9**	**+1.4**	
BSEG				*e*PP	**PP**	**15 12 00.4**	**-3.0**	
CLL	**Collm**	**112.92**	**43**	*e*PKiKP	**PKiKP**	**15 11 17.1**	**+0.9**	
CLL				*e*PP	**PP**	**15 12 03.1**	**-2.4**	
CLL	**Collm**	**112.92**	**43**	*e*Pdif	**Pdif**	**15 07 24.0**	**+2.1**	
CLL				*e*PKiKP	**PKiKP**	**15 11 17.0**	**+0.9**	
CLL				*e*PP	**PP**	**15 12 05.0**	**-0.5**	
CLL				*e*PPP	PPP	15 14 24.0		
CLL				*e*SKSac	**SKSac**	**15 18 02.0**	**+4.3**	
CLL				*e*SKKSac	SKKSac	15 19 12.0	+7.4	
CLL				*e*PS	**PS**	**15 21 43.0**	**+2.7**	
CLL				*e*(PKKPab)	PKKPab	15 22 16.0	+7.0	
CLL				*e*PPS	PPS	15 22 50.0		
CLL				*e*		15 23 16.0		
CLL				*e*SS	**SS**	**15 27 48.0**	**+1.1**	
CLL				*e*SSS	SSS	15 32 01.0		
CLL				*e*		15 32 54.0		
CLL				*e*SSSS		15 35 36.0		
CLL				Lm	MLR	15 57 00.0		
	comp=N,1µm,21.8s							
CLL				Lm	MLR	15 57 00.0		
	comp=E,2µm,20.0s							
CLL				Lm	MLR	15 57 00.0		
	comp=Z,4µm,20.8s							
CLL	**Collm**	**112.92**	**43**	*e*PKiKP	**PKiKP**	**15 11 17.0**	**+0.9**	
CLL				*e*		15 12 05.0		
CLL				*e*		15 18 02.0		
CLL				MLR	MLR			
	comp=Z,4µm,20.8s							
CONA	**Conrad Observa**	**113.11**	**47**	⇑*i*PKiKP	**PKiKP**	**15 11 17.2**	**+0.4**	
	comp=Z,6.5nm,1.1s							
PRA	**Prague**	**113.19**	**44**	*e*PP	PP	15 12 06.2	-1.3	
PRA				*e*SP	SP	15 21 37.5	-1.3	
PRA				*ex*	x	15 23 01.3		
PRA				AMS	AMS	15 58 50.0		
	comp=Z,2µm,19.1s							
PRU	**Pruhonice**	**113.22**	**45**	*e*PDIFF	**Pdif**	**15 07 27.0**	**+3.7**	
PRU				*e*PP	**PP**	**15 12 02.6**	**-5.1**	
PRU				*e*SKS	**SKSac**	**15 18 00.6**	**+1.6**	
PRU				*e*SKKS	**SKKSac**	**15 19 01.6**	**-5.1**	
PRU				*e*SP	**SP**	**15 21 36.4**	**-2.7**	
PRU				*ex*	x	15 22 57.2		
PRU				AMS	AMS	15 58 40.0		
	comp=Z,2µm,20.0s							
PRU	**Pruhonice**	**113.22**	**45**	*i* P	**Pdif**	**15 07 27.0**	**+3.7**	
PRU				*e*		15 18 00.6		
PRU				*e*SP	SP	15 21 36.4	-2.7	
PRU				*e*		15 22 57.2		
PRU				MLR	MLR			
	comp=Z,2µm,20.0s							
BER	**Bergen**	**113.26**	**32**	*e*PP	PP	15 12 06.6	-1.0	
BER				*e*		15 21 34.3		
BRG	**Berggiesshubel**	**113.26**	**43**	PDIF	**Pdif**	**15 07 28.0**	**+4.5**	
BRG	**Berggiesshubel**	**113.26**	**43**	PKP	**PKiKP**	**15 11 17.7**	**+0.9**	
	comp=Z,6.7nm,1.0s							
BRG				PP	**PP**	**15 12 08.0**	**0.0**	
BRG				SKS	**SKSac**	**15 18 03.0**	**+3.9**	
BRG				*e*		15 21 45.0		
BRG				PKKP	**PKKPab**	**15 22 09.4**	**+1.8**	
	comp=Z,5.7nm,1.2s							
BRG				*e*		15 22 58.0		
BRG				SS	SS	15 28 02.0	+11	
	comp=Z,3µm,18.0s							
	comp=N,2µm,17.5s							
	comp=E,2µm,17.5s							
BRG	**Berggiesshubel**	**113.26**	**43**	*e*PKiKP	**PKiKP**	**15 11 17.9**	**+1.1**	
BRG				*e*PP	**PP**	**15 12 07.6**	**-0.4**	
BRG	**Berggiesshubel**	**113.26**	**43**	P	**Pdif**	**15 07 28.0**	**+4.5**	
BRG						15 11 17.7		
BRG						15 12 08.0		
BRG						15 18 03.0		
BRG				*e*		15 21 45.0		
BRG				*e*		15 22 58.0		
BRG				SS	SS	15 28 02.0	+11	
BRG				pmax	pmax			
	comp=Z,7.0nm,1.0s							
BRG				MLR	MLR			
	comp=Z,3µm,18.0s							
BRG				MLR	MLR			
	comp=N,2µm,17.5s							
BRG				MLR	MLR			
	comp=E,2µm,17.5s							
GOPC	**GO Pecny, Ondr**	**113.33**	**45**	*e*PDIFF	**Pdif**	**15 07 26.3**	**+2.5**	
GOPC				*e*PKP	**PKiKP**	**15 11 17.7**	**+0.7**	
GOPC				*e*PP	**PP**	**15 12 07.3**	**-1.2**	
GOPC				*e*SKS	**SKSac**	**15 18 01.8**	**+2.3**	
GOPC				*e*SKKS	**SKKSac**	**15 19 07.5**	**0.0**	
GOPC				*e*SP	**SP**	**15 21 36.5**	**-3.6**	
GOPC				*ex*	x	15 22 59.8		
GOPC				AMS	AMS	15 59 00.0		
	comp=E,2µm,21.2s							
PVCC	**Panska Ves**	**113.47**	**44**	*e*PKP	**PKiKP**	**15 11 18.6**	**+1.4**	
PVCC				*e*PP	**PP**	**15 12 08.0**	**-1.5**	
PVCC				*e*SP	SP	15 21 40.5	-0.8	
PVCC				*ex*	x	15 23 00.0		
PVCC				AMS	AMS	16 05 10.0		
	comp=E,2µm,18.8s							
PVCC	**Panska Ves**	**113.47**	**44**	*e*PKIKP	**PKiKP**	**15 11 18.6**	**+1.4**	
PVCC				*e*		15 12 08.0		
PVCC				*e*SP	SP	15 21 40.5	-0.8	
PVCC				*e*		15 23 00.0		
PVCC				MLR	MLR			
	comp=Z,2µm,18.8s							
TREC	**Trest**	**113.48**	**45**	AMS	AMS	16 07 40.0		
	comp=Z,2µm,16.8s							
KDAK	**Kodiak Island**	**113.63**	**325**	PFAKE		15 11 30.0		
KDAK				LR	LR			
	comp=Z,1µm,20.0s							
FOO	**Floro**	**113.71**	**31**	*e*PP	PP	15 12 08.5	-2.3	
FOO				*e*		15 21 34.2		
JMIC	**Jan Mayen**	**114.03**	**19**	*e*PP	**PP**	**15 12 10.8**	**-2.0**	
DIVS	**Divibare**	**114.07**	**52**	⇓*i*P	PKPdf	15 11 13.9	-4.8	
PKSM	**Moragy**	**114.09**	**50**	⇑PKIKP	PKPdf	15 11 18.3	-0.2	
PKSM	**Moragy**	**114.09**	**50**	⇑*i*P	PKPdf	15 11 18.3	-0.2	
UPC	**Upice**	**114.30**	**44**	*e*PP	**PP**	**15 12 14.5**	**-0.8**	
DPC	**Dobruska-Polom**	**114.41**	**45**	*e*PKP	PKPdf	15 11 20.2	+1.1	
DPC				*e*PP	**PP**	**15 12 15.2**	**-1.0**	
DPC				*e*SKS	**SKSac**	**15 18 05.7**	**+1.9**	

DPC				*e*SKKS	**SKKSac**	**15 19 09.5**	**-5.4**	
DPC				*e*SP	**SP**	**15 21 46.1**	**-3.9**	
DPC				*ex*	x	15 23 14.6		
DPC				AMS	AMS	16 00 00.0		
DPC	**Dobruska-Polom**	**114.41**	**45**	*e*PKIKP	PKPdf	15 11 20.2	+1.1	
DPC				*e*		15 12 15.2		
DPC				*e*		15 18 05.7		
DPC				*e*SP	SP	15 21 46.1	-3.9	
DPC				*e*		15 23 14.6		
ILAR	**Eielson Array**	**114.44**	**333**	PKP	PKPdf	15 11 18.2	-0.5	
	comp=Z,3.2nm,0.7s,baz=154,slow=2.2,SNR=34							
ILAR				PP	**PP**	**15 12 15.9**	**0.0**	
	comp=Z,3.0nm,0.9s,baz=117,slow=5.0,SNR=8.1							
ILAR				PKKPbc	**PKKPbc**	**15 21 57.2**	**-2.1**	
	comp=Z,0.9nm,0.8s,baz=287,slow=4.7,SNR=6.6							
ILAR	**Eielson Array**	**114.44**	**333**	PKIKP	**PKiKP**	**15 11 18.2**	**-0.5**	
ILAR						15 12 15.9		
ILAR						15 21 57.2		
ILAR				pmax	pmax			
	comp=Z,3.0nm,0.7s							
ILAR				pmax	pmax			
	comp=Z,3.0nm,0.9s							
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
HNR	**Honiara**	**114.45**	**238**	PFAKE		15 11 30.0	+10	
HNR				LR	LR			
	comp=Z,1µm,19.0s							
COP	**Copenhagen**	**114.52**	**38**	*i* P	**Pdif**	**15 07 26.4**	**-2.5**	
	comp=Z,930nm,18.0s							
COP	**Copenhagen**	**114.52**	**38**	*e*P	**Pdif**	**15 07 26.4**	**-2.5**	
COP				MLR	MLR			
	comp=Z,940nm,18.0s							
KRLC	**Kraliky**	**114.57**	**45**	*e*PKP	PKPdf	15 11 20.2	+0.8	
KRLC				*ex*	x	15 11 28.2		
KRLC				*e*PP	**PP**	**15 12 15.2**	**-2.1**	
KRLC	**Kraliky**	**114.57**	**45**	*e*PKIKP	PKPdf	15 11 20.2	+0.8	
KRLC				*e*		15 11 28.2		
KRLC				*e*		15 12 15.2		
SANT	**Santorini**	**114.59**	**62**	PFAKE		15 11 30.0	+10	
SANT				LR	LR			
	comp=Z,2µm,20.0s							
KSP	**Ksiaz**	**114.60**	**44**	*e*PKP	PKPdf	15 11 20.5	+1.1	
KSP				*e*PP	PP	15 12 11.7	-5.8	
KSP	**Ksiaz**	**114.60**	**44**	*e*PKIKP	PKPdf	15 11 20.5	+1.1	
MCK	**McKinley**	**114.74**	**331**	*e*PKIKP	PKPdf	15 11 19.7	+0.4	
MCK	**McKinley**	**114.74**	**331**	*e*PKIKP	**PKiKP**	**15 11 19.7**	**+0.3**	
KONO	**Kongsberg**	**114.83**	**34**	*e*PP	**PP**	**15 12 15.2**	**-3.6**	
KONO	**Kongsberg**	**114.83**	**34**	PFAKE		15 11 30.0	+10	
KONO				LR	LR			
	comp=Z,2µm,20.0s							
COLA	**College**	**114.85**	**333**	*e*PKIKP	PKPdf	15 11 18.5	-0.9	
COLA				MLR	MLR			
	comp=Z,2µm,19.0s							
COLA	**College**	**114.85**	**333**	*e*PKiKP	PKPdf	15 11 18.5	-0.9	
COLA				LR	LR			
	comp=Z,2µm,19.0s							
MORC	**Moravsky Berou**	**114.89**	**46**	⇑PKIKP	PKPdf	15 11 20.5	+0.4	
MORC	**Moravsky Berou**	**114.89**	**46**	⇑*i*P	PKPdf	15 11 20.5	+0.4	
CTAO	**Charters Tower**	**114.92**	**220**	PFAKE		15 11 30.0	+8.9	
CTAO				LR	LR			
	comp=Z,2µm,20.0s							
VYHS	**Vyhne**	**115.15**	**47**	*e*PKIKP	**PKPdf**	**15 11 20.7**	**+0.1**	
VYHS	**Vyhne**	**115.15**	**47**	*e*PKP	**PKPdf**	**15 11 20.7**	**+0.1**	
TRF	**Thorofare Moun**	**115.16**	**331**	*e*PKPdf	**PKPdf**	**15 11 19.7**	**-0.6**	
KKB	**Krupnik**	**115.21**	**55**	*e*P	**PP**	**15 12 19.6**	**-2.4**	
OKC	**Ostrava-Krasne**	**115.28**	**46**	*e*PKP	**PKPdf**	**15 11 21.3**	**+0.6**	
OKC				*ep*PKP	PKiKP	15 11 27.2	+6.5	
OKC				*ex*	x	15 12 14.0		
OKC				*e*SKS	**SKSac**	**15 18 10.4**	**+3.4**	
OKC				*e*SP	**SP**	**15 21 52.4**	**-5.4**	
OKC				*ex*	x	15 23 19.6		
OKC				AMS	AMS	16 04 40.0		
	comp=Z,2µm,17.6s							
OKC	**Ostrava-Krasne**	**115.28**	**46**	*e*PKIKP	**PKPdf**	**15 11 21.3**	**+0.6**	
OKC				*e*		15 11 27.2		
OKC				*e*		15 18 10.4		
OKC				*e*SP	SP	15 21 52.4	-5.4	
OKC				*e*		15 23 19.6		
OKC				MLR	MLR			
	comp=Z,2µm,17.6s							
MMB	**Musomiste**	**115.54**	**56**	⇑PKIKP	**PKPdf**	**15 11 21.8**	**+0.2**	
MMB	**Musomiste**	**115.54**	**56**	⇑*i*P	**PKPdf**	**15 11 21.8**	**+0.2**	
MMB	**Musomiste**	**115.54**	**56**	*e*P	**PP**	**15 12 24.1**	**-0.3**	
PSZ	**Piszkesteto**	**115.57**	**48**	PFAKE		15 11 30.0	+8.5	
PSZ				LR	LR			
	comp=Z,3µm,20.0s							
BSD	**Bornholm Skovb**	**115.57**	**39**	*i* P	**Pdif**	**15 07 31.7**	**-1.9**	
	comp=Z,2µm,20.0s							
BSD	**Bornholm Skovb**	**115.57**	**39**	*e*P	**Pdif**	**15 07 31.7**	**-1.9**	
BSD				MLR	MLR			
	comp=Z,2µm,20.0s							
VTS	**Vitosha**	**115.59**	**55**	*e*P	**PP**	**15 12 24.8**	**0.0**	
PPLA	**Purkeypile**	**115.69**	**330**	*e*PKPdf	**PKPdf**	**15 11 21.1**	**-0.2**	
NB2	**NORSAR Subarra**	**116.14**	**33**	PKPdf	**PKPdf**	**15 11 22.3**	**+0.2**	
	comp=Z,4.7nm,1.2s,baz=248,slow=1.9							
NB2	**NORSAR Subarra**	**116.14**	**33**	PKPdf	**PKPdf**	**15 11 22.3**	**+0.2**	
	baz=248,slow=1.9							
NOA	**NORSAR Array B**	**116.14**	**33**	PKP	**PKPdf**	**

KWP *e*PP **PP** 15 12 39.0 -1.9
KWP Kalwaria Pacla 117.94 47 *e*PKIKP **PKPdf** 15 11 26.6 +0.7
KWP *e* 15 12 39.0
KWP Kalwaria Pacla 117.94 47 PFAKE 15 11 40.0 +14
KWP LR LR
comp=Z,2µm,20.0s
MLR Muntele Rosu 118.52 52 ⇓PKIKP **PKPdf** 15 11 27.7 +0.4
MLR Muntele Rosu 118.52 52 ⇓*i*P **PKPdf** 15 11 27.7 +0.4
PRD Provadia 118.67 55 *e*P **PP** 15 12 43.5 -2.6
BUR08 Bucovina Ar. S 118.79 50 *e*PKPdf **PKPdf** 15 11 27.7 0.0
BURAR Bucovina Array 118.79 50 ⇑PKIKP **PKPdf** 15 11 28.6 +0.8
BURAR Bucovina Array 118.79 50 ⇑*i*P **PKPdf** 15 11 28.5 +0.8
LVV L'vov 118.81 47 *i* PKIKP **PKPdf** 15 11 26.3 -1.2
LVV *e* 15 12 44.7
LVV *e*PPP PPP 15 15 18.7
LVV *e* 15 18 16.5
LVV *e*PS **PS** 15 22 28.5 -5.6
LVV *e*SS SS 15 29 09.3 +5.2
ISP Isparta 118.88 62 PFAKE 15 11 40.0 +12
ISP LR LR
comp=Z,3µm,21.0s
AKUT Akutan 119.04 318 *e*PKPdf **PKPdf** 15 11 27.6 -0.2
PLOR Plostina 119.11 52 ⇓PKIKP **PKPdf** 15 11 27.9 -0.4
PLOR Plostina 119.11 52 ⇓*i*P **PKPdf** 15 11 27.9 -0.4
VRI Vrincioaia 119.16 52 ⇓PKIKP **PKPdf** 15 11 28.5 +0.1
VRI Vrincioaia 119.16 52 ⇓*i*P **PKPdf** 15 11 28.5 +0.1
TESR Tescani 119.33 52 ⇓*i*P **PKPdf** 15 11 28.8 +0.1
PSN Preselentsi 119.37 55 *e*P **PP** 15 12 48.6 -2.3
TLB Topalu 119.59 54 ⇓PKIKP **PKPdf** 15 11 29.6 +0.4
TLB Topalu 119.59 54 ⇓*i*P **PKPdf** 15 11 29.6 +0.4
SUW Suwalki 119.68 43 *e*PKP **PKPdf** 15 11 28.9 -0.1
SUW *e*PP PP 15 12 37.7 -15
SUW Suwalki 119.68 43 *e*PKIKP **PKPdf** 15 11 28.9 -0.1
SUW Suwalki 119.68 43 *e*PKPdf **PKPdf** 15 11 28.7 -0.3
TIRR Tirgusor 119.80 54 ⇑PKIKP **PKPdf** 15 11 29.5 -0.1
TIRR Tirgusor 119.80 54 ⇑*i*P **PKPdf** 15 11 29.5 -0.1
TIRR Tirgusor 119.80 54 *e*PKPdf **PKPdf** 15 11 29.2 -0.3
CFR Carcaliu 119.86 53 ⇑PKIKP **PKPdf** 15 11 29.7 0.0
CFR Carcaliu 119.86 53 ⇑*i*P **PKPdf** 15 11 29.7 0.0
CSS Prodhromos 119.87 66 *e*PKPdf **PKPdf** 15 11 30.6 +0.5
CSS LR LR
comp=Z,506nm,21.0s
TLCR 120.31 54 ⇑PKIKP **PKPdf** 15 11 31.1 +0.6
TLCR 120.31 54 ⇑*i*P **PKPdf** 15 11 31.1 +0.6
WRA Warramunga Arr 120.63 209 PKP **PKPdf** 15 11 30.6 -1.5
comp=Z,10nm,0.7s,baz=161,slow=1.7,SNR=86
WRA PKKPbc **PKKPbc** 15 21 37.1 +0.7
comp=Z,2.4nm,0.8s,baz=344,slow=4.6,SNR=13
WRA Warramunga Arr 120.63 209 PKIKP **PKPdf** 15 11 30.6 -1.5
WRA pmax pmax
comp=Z,11nm,0.7s
WRAB Tennant Creek 120.63 209 ⇑*i*PKIKP **PKPdf** 15 11 31.5 -0.6
WRAB pmax pmax
comp=Z,39nm,1.2s
WRAB Tennant Creek 120.63 209 *e*PKPdf **PKPdf** 15 11 30.7 -1.4
WRAB LR LR
comp=Z,4µm,20.0s
KIS Kishinev 120.90 52 *e*PKP **PKPdf** 15 11 30.0 -1.6
KIS Kishinev 120.90 52 *e*PP PP 15 12 54.0 -7.3
KIS Kishinev 120.90 52 *e*PPP PPP 15 15 16.0
KIS *e*SKS SKSdf 15 18 50.0 +8.8
KIS *e*SKKS **SKKSac** 15 20 05.0 +7.0
KIS Kishinev 120.90 52 *e*PS PS 15 23 04.0 +11
KIS Kishinev 120.90 52 *e*PKIKP **PKPdf** 15 11 30.0 -1.6
ANTO Ankara 121.28 61 ⇑PKIKP **PKPdf** 15 11 32.9 +0.2
ANTO Ankara 121.28 61 ⇑*i*P **PKPdf** 15 11 32.9 +0.2
ANTO Ankara 121.28 61 *e*PKPdf **PKPdf** 15 11 32.9 +0.2
ANTO LR LR
comp=Z,2µm,21.0s
BR131 Keskin Array S 121.84 61 *e*PKPdf **PKPdf** 15 11 33.3 -0.6
BRTR Keskin Array B 121.84 61 PKP **PKPdf** 15 11 33.9 0.0
comp=Z,8.2nm,0.7s,baz=184,slow=3.2,SNR=46
BRTR Keskin Array B 121.84 61 PKIKP **PKPdf** 15 11 33.9 0.0
BRTR pmax pmax
comp=Z,8.0nm,0.7s
TRO Tromso 121.90 24 *e*PP PP 15 13 09.3 +1.9
NACGM Naroch 121.95 42 *e* **PKPdf** 15 11 31.0 -2.4
KBS Kingsbay 122.14 13 *e*PP PP 15 13 07.9 -1.0
KBS Kingsbay 122.14 13 PFAKE 15 11 40.0 +6.8
KBS LR LR
comp=Z,1µm,20.0s
AK02 Malin Array Si 122.23 48 *e*PKPdf **PKPdf** 15 11 32.5 -1.5
KIEV Kiev 122.24 48*c i*PKIKP **PKPdf** 15 11 33.8 -0.3
KIEV Kiev 122.24 48 *e*PKPdf **PKPdf** 15 11 33.1 -1.0
KIEV LR LR
comp=Z,2µm,19.0s
AK01 Malin Array Si 122.24 48 *e*PKPdf **PKPdf** 15 11 33.0 -1.1
AKASG Malin Array Be 122.25 48 PKP **PKPdf** 15 11 33.0 -1.1
comp=Z,7.9nm,0.8s,baz=262,slow=2.7,SNR=42
AKASG PP **PP** 15 13 12.7 +2.3
comp=Z,2.0nm,0.8s,baz=251,slow=7.5,SNR=5.1
AKASG Malin Array Be 122.25 48 PKIKP **PKPdf** 15 11 33.0 -1.1
AKASG 15 13 12.7
AKASG pmax pmax
comp=Z,8.0nm,0.8s
AKASG pmax pmax
comp=Z,2.0nm,0.9s
AKBB Malin Array Si 122.25 48 *e*PKIKP **PKPdf** 15 11 33.1 -1.0
AKBB Malin Array Si 122.25 48 *e*PKPdf **PKPdf** 15 11 33.1 -1.0
VSU Vasula 122.79 38 *e*PKIKP **PKPdf** 15 11 35.7 +0.8
PMG Port Moresby 122.96 228 PFAKE 15 11 50.0 +13
PMG LR LR
comp=Z,2µm,20.0s
TNA Tin City 123.04 330 *e*PKPdf **PKPdf** 15 11 35.1 0.0
FINES FINESS Array B 123.10 35 PKP **PKPdf** 15 11 35.2 -0.2
comp=Z,10nm,0.9s,baz=147,slow=3.9,SNR=13
FINES FINESS Array B 123.10 35 PKIKP **PKPdf** 15 11 35.2 -0.2
FINES pmax pmax
comp=Z,10.0nm,0.9s
SIM Simferopol' 123.81 55*c i*PKIKP **PKPdf** 15 11 38.2 +0.9
SIM *i* 15 13 18.0
SIM *e* 15 18 44.0
SIM *e*SS SS 15 30 24.0 +16
SIM pmax pmax
comp=Z,15nm,0.8s
SIM pmax pmax
comp=Z,400nm,10.0s
MBWA Marble Bar 123.83 193 PFAKE 15 11 50.0 +12
MBWA LR LR
comp=Z,3µm,20.0s
ARCES ARCESS Array B 124.16 25 PKP **PKPdf** 15 11 37.0 -0.3
comp=Z,7.0nm,0.6s,baz=257,slow=2.6,SNR=20
ARCES ARCESS Array B 124.16 25 PKIKP **PKPdf** 15 11 37.0 -0.3
ARCES pmax pmax
comp=Z,7.0nm,0.6s
ARE0 ARCESS Array S 124.16 25 *e*PP PP 15 13 22.0 -0.8
KEV Kevo 124.71 25 PFAKE 15 11 50.0 +12
KEV LR LR
comp=Z,1µm,20.0s
PUL Pulkovo 124.86 37 *i* PKIKP **PKPdf** 15 11 40.1 +1.3
PUL pmax pmax
comp=Z,41nm,0.4s
MALT Malatya 124.89 64 ⇓PKIKP **PKPdf** 15 11 40.2 +0.5
MALT Malatya 124.89 64 ⇓*i*P **PKPdf** 15 11 40.2 +0.5
RAYN Ar Rayn 124.90 84 *e*PKPdf **PKPdf** 15 11 40.4 +0.3
H11S2 WAKE ISLAND Hyl 125.88 269 T T 17 30 03.3
baz=119,slow=74,SNR=114
H11S1 WAKE ISLAND Hyl 125.89 269 T T 17 30 04.0
baz=119,slow=74,SNR=110
H11S3 WAKE ISLAND Hyl 125.90 269 T T 17 29 59.0
baz=119,slow=74,SNR=106
ANN Anapa 126.04 56 *i* PKIKP **PKPdf** 15 11 41.0 -0.5
ANN *i* 15 13 31.9
ANN *e*PPP PPP 15 16 17.5
ANN *e* 15 18 46.2
ANN pmax pmax
comp=Z,135nm,2.5s
ANN pmax pmax
comp=Z,44nm,1.4s
H11N3 WAKE ISLAND Hyl 126.30 270 T T 17 30 34.0
baz=115,slow=78,SNR=136
H11N1 WAKE ISLAND Hyl 126.31 270 T T 17 30 30.4
baz=115,slow=78,SNR=286
H11N2 WAKE ISLAND Hyl 126.32 270 T T 17 30 35.1
baz=115,slow=78,SNR=197
DGAR Diego Garcia 126.59 134 PFAKE 15 11 50.0 +6.4
DGAR LR LR
comp=Z,1µm,20.0s
APA Apatity 126.93 28 ⇓*i*PKIKP **PKPdf** 15 11 43.0 +0.4
APA pmax pmax
comp=Z,23nm,0.6s
SOC Sochi 127.33 58*d i*P **Pdif** 15 08 26.8 +0.6
SOC *i* 15 11 44.1

SOC *i* 15 13 40.4
SOC *e* 15 18 46.3
SOC *e*PS **PS** 15 23 42.6 -7.2
SOC pmax pmax
comp=Z,18nm,0.7s
LVZ Lovozero 127.40 27 *e*PKIKP **PKPdf** 15 11 42.9 -0.7
LVZ MLR MLR
comp=Z,2µm,22.0s
LVZ Lovozero 127.40 27 *e*PKPdf **PKPdf** 15 11 42.9 -0.7
LVZ LR LR
comp=Z,2µm,22.0s
OBN Obninsk 127.51 43 PKP **PKPdf** 15 11 44.2 +0.2
comp=Z,11nm,0.6s
OBN Obninsk 127.51 43 ⇑*i*PKIKP **PKPdf** 15 11 43.9 -0.1
OBN *e* 15 13 43.6
OBN *i* SS SS 15 30 49.6 -4.5
OBN pmax pmax
comp=Z,73nm,1.7s
OBN MLR MLR
comp=Z,1µm,25.0s
OBN Obninsk 127.51 43 PKP **PKPdf** 15 11 44.2 +0.2
OBN *e*PKPdf **PKiKP** 15 11 44.7 +0.2
OBN LR LR
comp=Z,4µm,20.0s
MOS Moscow 128.19 43 *i* PKIKP **PKPdf** 15 11 42.9 -2.4
MOS *e* 15 13 47.2
MOS *e*PS PS 15 23 46.5 -10
MOS pmax pmax
comp=Z,62nm,1.2s
VSR Storozhevoye 128.50 49 *e*PKIKP **PKPdf** 15 11 45.8 -0.2
VSR *e* 15 13 52.2
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR pmax pmax
comp=N,3.0nm,0.6s
VSR pmax pmax
comp=E,5.0nm,0.6s
VSR pmax pmax
comp=N,160nm,9.4s
VSR pmax pmax
comp=Z,280nm,9.4s
VSR pmax pmax
comp=E,50nm,8.3s
VORD Divnogorie 128.54 49 *e*PKIKP **PKPdf** 15 11 45.8 -0.3
VORD MLR MLR
comp=N,2µm,26.0s
VORD MLR MLR
comp=E,1µm,26.0s
VORD MLR MLR
comp=Z,2µm,26.0s
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=Z,10.0nm,0.7s
VORD pmax pmax
comp=E,3.0nm,0.6s
LPSR Galich'ya Gora 128.56 47 *e*PKIKP **PKPdf** 15 11 46.3 +0.2
LPSR pmax pmax
comp=Z,30nm,0.9s
LPSR pmax pmax
comp=N,7.0nm,0.6s
LPSR pmax pmax
comp=E,10.0nm,1.6s
CHVG Ch'k'valeri 128.80 60 P **PKPdf** 15 11 48.0 +1.0
TMCR Tamitsa 128.82 32 *e*PKIKP **PKPdf** 15 11 47.1 +0.9
TMCR pmax pmax
comp=Z,27nm,0.6s
AKH Akhalkalaki 129.50 62 P **PKPdf** 15 11 49.9 +1.3
KIV Kislovodsk 129.50 58*c i*PKIKP **PKPdf** 15 11 49.0 +0.6
KIV *e* 15 13 55.9
KIV *i* 15 18 53.5
KIV pmax pmax
comp=Z,43nm,1.3s
KIV Kislovodsk 129.50 58 PKPdf **PKPdf** 15 11 49.4 +1.0
SNR=9.3
KIV Kislovodsk 129.50 58 *e*PKPdf **PKPdf** 15 11 49.0 +0.6
KIV LR LR
comp=Z,1µm,21.0s
KLMR Klimovskoe 129.51 36 *e*PKIKP **PKPdf** 15 11 47.6 -0.1
KLMR pmax pmax
comp=Z,88nm,1.1s
KBZ Khabaz 129.61 59 PKP **PKPdf** 15 11 49.0 +0.7
comp=Z,9.0nm,0.9s,baz=56,slow=24,SNR=19
KBZ Khabaz 129.61 59 PKIKP **PKPdf** 15 11 49.1 +0.7
KBZ pmax pmax
comp=Z,9.0nm,0.9s
ONI Oni 129.75 60 P PKPpre 15 11 44.8
GOF Gofitskoye 129.98 57 *e*PKIKP **PKPdf** 15 11 50.2 +1.1
GOF pmax pmax
comp=Z,42nm,1.0s
GNI Garni 130.11 64 PKP **PKPdf** 15 11 51.2 +1.5
comp=Z,1.9nm,0.4s,baz=29,slow=11,SNR=4.1
GNI Garni 130.11 64 PKIKP **PKPdf** 15 11 51.2 +1.5
GNI pmax pmax
comp=Z,2.0nm,0.4s
GNI Garni 130.11 64 PKP **PKPdf** 15 11 51.2 +1.5
GNI LR LR
comp=Z,1µm,21.0s
ZEI Tsey 130.12 60 *i* PKIKP **PKPdf** 15 11 49.8 +0.1
ZEI pmax pmax
comp=Z,16nm,1.1s
TBLG Delisi 130.49 62 P **PKPdf** 15 11 50.2 0.0
PRGR Permogore 132.43 35 *e*PKIKP **PKPdf** 15 11 54.0 +0.8
PRGR pmax pmax
comp=Z,29nm,0.8s
COCO West Island 132.62 165 PFAKE 15 12 10.0 +15
COCO LR LR
comp=Z,2µm,21.0s
MAK Makhachkala 132.75 61 *i* PKIKP **PKPdf** 15 11 54.4 0.0
MAK *e* 15 14 17.9
MAK *e*SS SS 15 32 00.4 +1.3
MAK *e*SSS SSS 15 36 57.9
MAK pmax pmax
comp=Z,94nm,1.4s
BILL Bilibino 133.08 334 ⇓*i*PKIKP **PKPdf** 15 11 54.4 +0.2
BILL *e* 15 14 18.1
BILL *e*PPP PPP 15 17 14.1
BILL *i* 15 18 55.5
BILL *i* SS SS 15 32 00.2 -1.4
BILL pmax pmax
comp=Z,55nm,2.0s
BILL Bilibino 133.08 334 *e*PKPdf **PKPdf** 15 11 54.4 +0.2
BILL LR LR
comp=Z,2µm,21.0s
BSY Bisya 134.24 91 PKPdf PKPpre 15 11 50.2
SNR=6.2
WBK Wadi Bani Khal 135.64 92 PKPdf **PKPdf** 15 12 02.2 +1.8
SNR=6.3
SOKR Solikamsk 138.19 37*c i*PKIKP **PKPdf** 15 12 05.2 +1.3
SOKR pmax pmax
comp=Z,10.0nm,1.1s
KAPI Kappang 139.46 198 *e*PKPpre PKPpre 15 12 04.4
KAPI LR LR
comp=Z,2µm,21.0s
GEYT Alibeck 139.82 70 PKhKP PKPpre 15 11 59.3
comp=Z,3.8nm,0.7s,baz=280,slow=8.7,SNR=7.6
GEYT PKP **PKPdf** 15 12 06.5 -1.3
comp=Z,13nm,0.8s,baz=285,slow=5.7,SNR=12
PET Petropavlovsk 139.83 314 *e*PKHKP PKPpre 15 12 01.6
PET *i* 15 12 07.7
PET *e* 15 15 02.9
PET *e*PPS PPS 15 27 20.2
PET *e*SS SS 15 33 22.7 -0.2
PET *e*SSS SSS 15 38 40.6
PET pmax pmax
comp=Z,400nm,23.6s
PET MLR MLR
comp=Z,1µm,18.0s
PET Petropavlovsk 139.83 314 PFAKE 15 12 20.0 +13
PET LR LR
comp=Z,1µm,19.0s
ARU Arti 139.83 41 *i* PKIKP **PKPdf** 15 12 07.5 +0.4
ARU 15 15 01.9
ARU MLR MLR
comp=Z,3µm,20.0s
ARU Arti 139.83 41 *e*PKPpre PKPpre 15 11 56.0
ARU LR LR
comp=Z,3µm,20.0s
SEY Seymchan 140.28 330 *e*PKIKP **PKPdf** 15 12 06.9 -0.8
AKTO Aktyubinsk 140.39 50 PKhKP PKPpre 15 12 00.8
comp=Z,5.2nm,0.7s,baz=251,slow=2.2,SNR=22
AKTO PKP **PKPdf** 15 12 08.3 0.0
comp=Z,6.9nm,0.7s,baz=280,slow=0.6,SNR=13
AKTO Aktyubinsk 140.39 50 *i* PKHKP PKPpre 15 12 00.8
AKTO 15 12 08.3

AKTO pmax pmax
comp=Z,5.0nm,0.7s
AKTO pmax pmax
comp=Z,7.0nm,0.7s
PETK Petropavlovsk- 140.39 314 PKhKP PKPpre 15 12 00.1
comp=Z,5.5nm,0.7s,baz=103,slow=8.0,SNR=11
PETK PKP **PKPdf** 15 12 08.8 +0.6
comp=Z,11nm,0.8s,baz=107,slow=7.7,SNR=11
PETK Petropavlovsk- 140.39 314 *i* PKHKP PKPpre 15 12 00.1
PETK 15 12 08.9
PETK pmax pmax
comp=Z,6.0nm,0.7s
PETK pmax pmax
comp=Z,11nm,0.8s
SVE Sverdlovsk 140.85 40 *i* PKIKP PKPpre 15 12 04.8
SVE pmax pmax
comp=Z,12nm,0.8s
SVE MLR MLR
comp=N,1µm,19.0s
SVE MLR MLR
comp=Z,2µm,19.0s
SVE MLR MLR
comp=E,2µm,19.0s
GUMO Guam 140.91 247 PFAKE 15 12 20.0 +10
GUMO LR LR
comp=Z,119nm,19.0s
TIXI Tiksi 140.93 350*d i*PKHKP PKPpre 15 12 01.7
TIXI *i* 15 12 08.1
TIXI pmax pmax
comp=Z,12nm,1.0s
TIXI Tiksi 140.93 350 *e*PKPpre PKPpre 15 11 59.7
TIXI LR LR
comp=Z,1µm,21.0s
ABKAR Akbulak array 141.72 52 *e*PKPpre PKPpre 15 12 04.5
PALK Pallekele 143.16 130 *e*PKHKP PKPpre 15 12 10.5
PALK Pallekele 143.16 130 *e*PKPpre PKPpre 15 12 10.5
POO Poona 145.76 108 ⇓*i*PN **PKPdf** 15 12 19.0 +0.2
comp=Z,300nm,1.0s
MNSI Mandailing Nat 145.81 165 PKP **PKPdf** 15 12 18.7 -0.3
MNSI PKP **PKPbc** 15 12 19.1 -0.4
GSI Gunungsitoli 145.81 161 PKP **PKPab** 15 12 20.0 +0.1
URV Uravakonda 146.22 117 *e*PKPab **PKPdf** 15 12 20.1 +0.5
URV *e* 15 19 45.6
URV *e* 15 28 47.4
SKHT Srikalahasti 147.19 121 *e*PKPbc **PKPdf** 15 12 22.0 +0.7
SKHT *e*PKPab **PKPbc** 15 12 23.8 +0.3
SKHT *es*PKPbc sPKPbc 15 12 26.2 -11
BRVK Borovoye 147.29 43 *e*PKIKP **PKPdf** 15 12 20.9 +0.6
BRVK *e* 15 12 23.8
BRVK MLR MLR
comp=Z,3µm,20.0s
BRVK Borovoye 147.29 43 PKPdf **PKPdf** 15 12 21.2 +1.0
SNR=47
BRVK Borovoye 147.29 43 *e*PKPdf **PKPdf** 15 12 20.9 +0.6
BRVK *e*PKPbc **PKPab** 15 12 23.8 -0.7
BRVK LR LR
comp=Z,3µm,20.0s
BVAR Borovoye Array 147.36 43 PKPbc **PKPbc** 15 12 21.9 -1.0
comp=Z,72nm,0.7s,baz=300,slow=2.1,SNR=72
BVAR Borovoye Array 147.36 43 PKP2 **PKPbc** 15 12 21.9 -1.0
BVAR pmax pmax
comp=Z,72nm,0.7s
KSM Kuching 147.36 184 *e*PKPdf **PKPdf** 15 12 21.4 -0.3
KSM *e*PKPbc **PKPbc** 15 12 23.9 -0.1
KUR Kuril'sk 147.80 302 *i* PKHKP PKPpre 15 12 18.8
KUR *i* 15 19 29.3
KUR *i* SS SS 15 34 55.9 +0.8
KBL Kabul 147.90 78 *e*PKIKP **PKPdf** 15 12 22.8 +0.6
KBL Kabul 147.90 78 *e*PKPdf **PKPdf** 15 12 22.8 +0.6
SBUM Sibu 148.16 188 ⇓P **PKPdf** 15 12 23.4 +0.4
DAV Davao City (W) 148.53 215 PFAKE 15 12 30.0 -0.5
DAV LR LR
comp=Z,1µm,20.0s
HYB Hyderabad 148.74 115 *i* PKP **PKPdf** 15 12 23.0 -0.8
HYB *e* 15 12 28.0
HYB *e*PP **PP** 15 15 56.0 -1.7
HYB *e*PPP PPP 15 26 24.0
HYB *e*SS SS 15 35 16.0 +10
HYBB Hyderabad (bro 148.74 115 *e*PKPdf **PKPdf** 15 12 23.6 -0.3
HYBB *es*PKPdf sPKPdf 15 12 27.4 -10
HYBB ⇓*e*PKiK 15 12 28.4
HYBB *e*pPKiKP **PKPab** 15 12 31.9 +0.5
HYBB *e*SKPdf **SKPdf** 15 15 55.2 -0.2
HYBB *e* 15 22 45.0
BTM Bintulu 148.79 190 ⇓P **PKPbc** 15 12 28.9 +1.1
TSM Tawau 148.87 199 ⇓P **PKPbc** 15 12 27.6 -0.5
YAK Yakutsk 148.97 340 *e*PKIKP **PKPdf** 15 12 22.8 +0.1
YAK *e* 15 15 58.2
YAK pmax pmax
comp=Z,166nm,1.1s
YAK pmax pmax
comp=N,15nm,1.5s
YAK pmax pmax
comp=E,16nm,1.6s
YAK pmax pmax
comp=Z,214nm,4.6s
YAK pmax pmax
comp=E,105nm,3.8s
YAK pmax pmax
comp=N,197nm,4.5s
YAK Yakutsk 148.97 340 *e*PKPdf **PKPdf** 15 12 22.3 -0.4
YAK *e*PKPbc **PKPbc** 15 12 26.6 -0.2
YAK LR LR
comp=Z,1µm,21.0s
CTBH Cotabato--PC H 149.28 213 *e*P **PKPbc** 15 12 28.8 -0.3
YUK Yuzh-Kuril'sk 149.34 300*d i*PKHKP PKPpre 15 12 17.5
YUK *i* SS SS 15 35 14.6 +2.1
YUK *i* SSS SSS 15 40 49.7
LHMI Lhok Sumawe 149.36 158 PKP **PKPbc** 15 12 28.1 -1.2
KKAR Karatay Array 149.55 62 *e*PKHKP PKPpre 15 12 24.4
KKAR Karatay Array 149.55 62 *e*PKPdf **PKPdf** 15 12 24.4 +0.1
KKAR *e*PKPbc **PKPbc** 15 12 29.1 +0.1
IPM Ipoh 149.69 166 *e*PKPdf **PKPdf** 15 12 24.9 -0.6
IPM *e*PKPbc **PKPbc** 15 12 29.8 -0.3
CBIJ Chichi jima 149.93 266 *e*PKPbc **PKPbc** 15 12 29.6 -0.7
CGP Cagayan de Oro 150.16 215⇑*e*P **PKPbc** 15 12 31.1 -0.1
KULM Kulim 150.40 165 *e*PKPdf **PKPdf** 15 12 25.9 -0.6
KULM *e*PKPbc **PKPbc** 15 12 31.6 -0.2
KKM Kota Kinabalu 150.98 197 *e*PKPbc **PKPbc** 15 12 32.4 -1.0
YSS Yuzh-Sakhalins 151.01 307⇑*i*PKIKP **PKPdf** 15 12 25.0 -1.4
YSS *e* 15 12 30.8
YSS *e* 15 16 14.0
YSS *e*SS SS 15 35 29.0 -1.8
YSS pmax pmax
comp=Z,60nm,1.4s
YSS pmax pmax
comp=Z,70nm,0.9s
YSS Yuzh-Sakhalins 151.01 307 PKPdf **PKPdf** 15 12 25.2 -1.2
YSS *e*PKPbc **PKPbc** 15 12 31.8 -0.5
YSS LR LR
comp=Z,571nm,20.0s
ERM Erimo 151.49 296*c i*PKIKP **PKPbc** 15 12 35.0 +1.5
ERM pmax pmax
comp=Z,150nm,1.7s
ERM Erimo 151.49 296 *e*PKPbc **PKPbc** 15 12 34.4 +0.9
ERM LR LR
comp=Z,1µm,19.0s
ASAJ Asahikawa 151.67 301 PKPbc **PKPbc** 15 12 33.0 -0.9
comp=Z,62nm,0.9s,baz=221,slow=6.0,SNR=28
ASAJ Asahikawa 151.67 301 PKIKP **PKPbc** 15 12 33.0 -0.9
ASAJ pmax pmax
comp=Z,62nm,0.9s
ASAJ Asahikawa 151.67 301 *e*PKPbc **PKPbc** 15 12 33.7 -0.1
AML Almayashu 151.97 63 P **PKPdf** 15 12 28.8 +0.2
SNR=6.1
AML Almayashu 151.97 63 *i* PKIKP **PKPdf** 15 12 28.8 +0.2
EKS2 Erkin-Say 151.98 62 P **PKPdf** 15 12 29.9 +1.6
SNR=9.2
EKS2 Erkin-Say 151.98 62 *e*PKIKP **PKPdf** 15 12 28.9 +0.6
EKS2 *e* 15 12 35.6
EKS2 MLR MLR
comp=Z,2µm,20.0s
EKS2 Erkin-Say 151.98 62 *e*PKPdf **PKPdf** 15 12 28.9 +0.6
EKS2 *e*PKPbc **PKiKP** 15 12 35.6 +0.5
EKS2 LR LR
comp=Z,2µm,20.0s
SKLT Songkhla 152.21 164 P **PKPbc** 15 12 35.8 -0.2
comp=Z,100nm,1.1s
PKDT Phuket 152.30 159 P **PKPbc** 15 12 35.8 -0.4
comp=Z,120nm,0.9s
KUDL Kundal 152.36 94 *i* P **PKPdf** 15 12 29.0 -0.1
KUDL *e*S **PKPbc** 15 12 35.5 -0.4
KUDL *e*S **PKPbc** 15 12 35.7 -0.2
USP Ospenovka 152.43 61 P **PKPdf** 15 12 29.9 +1.1

SNR=8.0
AAK Ala-Archa 152.50 62 P **PKPdf 15 12 30.7 +1.6**
SNR=5.4
AAK Ala-Archa 152.50 62 PKP **PKPdf 15 12 29.3 +0.2**
comp=Z,3.2nm,0.7s,baz=231,slow=2.2,SNR=13
AAK PKPbc **PKiKP 15 12 37.0 +0.7**
comp=Z,52nm,0.8s,baz=180,slow=2.1,SNR=86
AAK Ala-Archa 152.50 62 PKIKP **PKPdf 15 12 29.3 +0.2**
AAK 15 12 37.0
AAK pmax pmax
comp=Z,3.0nm,0.7s
AAK pmax pmax
comp=Z,52nm,0.8s
AAK Ala-Archa 152.50 62 PKPdf **PKPdf 15 12 30.8 +1.6**
SNR=39
AAK Ala-Archa 152.50 62 PKP **PKPdf 15 12 29.3 +0.2**
AAK *e*PKPdf **PKPdf 15 12 29.8 +0.6**
AAK *e*PKPbc **PKiKP 15 12 36.8 +0.5**
AAK PKPbc **PKiKP 15 12 37.0 +0.7**
AAK LR LR
comp=Z,2μm,22.0s
UCH Uchtor 152.56 63 P **PKPdf 15 12 30.4 +0.9**
SNR=11
FRU Bishkek 152.57 62 *e*PKIKP **PKPdf 15 12 28.0 -1.0**
FRU *i* 15 12 36.0
FRU *i* 15 12 45.0
FRU *i* 15 16 19.0
FRU *e*PPP PPP 15 19 52.0
FRU pmax pmax
comp=Z,270nm,2.1s
FRU pmax pmax
comp=Z,280nm,2.1s
TRTT Trang 152.63 162 P **PKPbc 15 12 36.2 -0.7**
comp=Z,49nm,1.3s
CHMS Chumysh 152.65 61 P **PKPbc 15 12 36.6 +0.4**
SNR=12
CHMS Chumysh 152.65 61 *i* PKIKP **PKPbc 15 12 36.6 +0.4**
KBK Karagaybulak 152.83 62 P **PKPbc 15 12 38.4 +1.6**
SNR=8.3
KBK Karagaybulak 152.83 62 *i* PKIKP **PKPbc 15 12 38.4 +1.6**
KURBB Kurchatov Arra 152.95 44 PKP **PKPdf 15 12 29.5 +0.3**
comp=Z,6.1nm,0.8s,baz=302,slow=1.9,SNR=52
KURBB PKPbc **PKPbc 15 12 36.6 +0.1**
comp=Z,26nm,0.7s,baz=298,slow=3.0,SNR=76
KURK Kurchatov 152.96 43 *e*PKIKP **PKPdf 15 12 29.1 -0.1**
KURK 15 12 36.6
KURK *e* 15 12 36.7
KURK MLR MLR
comp=Z,2μm,20.0s
KURK Kurchatov 152.96 43 PKPdf **PKPdf 15 12 30.3 +1.1**
SNR=19
KURK Kurchatov 152.96 43 *e*PKPdf **PKPdf 15 12 29.1 -0.1**
KURK PKP **PKPdf 15 12 29.5 +0.3**
KURK PKPbc **PKPbc 15 12 36.6 +0.1**
KURK *e*PKPbc **PKPbc 15 12 36.7 +0.2**
KURK LR LR
comp=Z,2μm,20.0s
NVS Novosibirsk 153.06 32⇑ *i*PKIKP **PKPdf 15 12 29.4 +0.2**
NVS *e* 15 16 18.3
NVS pmax pmax
comp=Z,365nm,1.9s
NVS pmax pmax
comp=N,11nm,0.8s
NVS pmax pmax
comp=E,28nm,1.0s
KZA Kyzart 153.12 63 P **PKPbc 15 12 38.6 +0.9**
SNR=7.3
KZA Kyzart 153.12 63 *i* PKIKP **PKPbc 15 12 38.6 +0.9**
TKM2 Tokmak 2 153.27 61 P **PKPdf 15 12 30.1 -0.1**
SNR=11
TKM2 Tokmak 2 153.27 61 *e*PKIKP **PKPdf 15 12 30.2 -0.1**
TKM2 *e* 15 12 38.6
TKM2 MLR MLR
comp=Z,1μm,19.0s
TKM2 Tokmak 2 153.27 61 *e*PKPdf **PKPdf 15 12 30.2 -0.1**
TKM2 *e*PKPbc **PKiKP 15 12 38.5 +0.6**
TKM2 LR LR
comp=Z,1μm,19.0s
SURT Suratani 153.45 159 P **PKPdf 15 12 31.7 +0.6**
comp=Z,16nm,1.1s
CHLP Challavanipeta 153.47 120 *e*P **PKPdf 15 12 30.3 -0.6**
CHLP *e*PKiKP **PKPbc 15 12 38.4 -0.2**
CHLP *e*PKPab **PKPab 15 12 50.7 -0.2**
CHLP *e*PP **PP 15 16 26.6 +1.9**
KSH Kashi 153.84 69 *e*PKPbc **PKPdf 15 12 32.1 +1.0**
KSH pPKP **pPKPdf 15 12 42.8 +1.7**
KSH sPKP 15 12 46.4
KSH PKS **PKSdf 15 16 05.0 -0.4**
KSH PP PP 15 16 32.9 +5.7
KSH SKS **SKSdf 15 19 33.8 -2.0**
KSH PPMZ
comp=Z,730nm,6.1s
KSH LN
comp=Z,880nm,17.2s
KSH LE
comp=Z,750nm,16.0s
KSH LZ
comp=Z,1μm,21.0s
ZAA0 Zalesovo Array 154.34 33 *e*PKPdf **PKPdf 15 12 30.3 -0.8**
ZAA0 *e*PKPbc **PKiKP 15 12 39.6 +0.1**
ZALV Zalesovo Beam 154.34 33 PKP **PKPdf 15 12 30.4 -0.7**
comp=Z,11nm,0.7s,baz=274,slow=2.5,SNR=67
ZALV PKPbc **PKiKP 15 12 40.3 +0.8**
comp=Z,64nm,0.7s,baz=299,slow=3.2,SNR=77
ZALV Zalesovo Beam 154.34 33 PKIKP **PKPdf 15 12 30.4 -0.7**
ZALV 15 12 40.3
ZALV pmax pmax
comp=Z,11nm,0.7s
ZALV pmax pmax
comp=Z,64nm,0.7s
CLNS Chul'man 154.64 338 *e*PKIKP **PKPbc 15 12 39.5 -0.5**
CLNS pmax pmax
comp=Z,25nm,1.1s
CLNS pmax pmax
comp=N,6.0nm,0.8s
CLNS pmax pmax
comp=E,7.0nm,0.8s
MJAR Matsushiro Arr 155.39 284 PKP **PKPdf 15 12 31.2 -2.0**
comp=E,3.2nm,1.1s,baz=187,slow=0.7,SNR=11
MJAR PKPab **PKPab 15 12 57.2 -1.6**
comp=E,5.4nm,0.7s,baz=118,slow=2.5,SNR=14
MJAR Matsushiro Arr 155.39 284 PKIKP **PKPdf 15 12 31.2 -2.0**
MJAR 15 12 57.2
MJAR pmax pmax
comp=Z,3.0nm,1.1s
MJAR pmax pmax
comp=Z,5.0nm,0.7s
MAJO Matsushiro 155.39 284 PKIKP **PKPdf 15 12 33.3 +0.1**
MAJO MLR MLR
comp=Z,868nm,20.0s
MAJO Matsushiro 155.39 284 PKPdf **PKPdf 15 12 33.3 +0.1**
MAJO LR LR
comp=Z,868nm,20.0s
MAT Matsushiro 155.39 284 PKP **PKPdf 15 12 31.2 -2.0**
HABR Khabarovsk 155.42 314 *de*PKP2 **PKPab 15 12 57.4 -1.0**
HABR *e**PP **PP 15 16 34.1 -1.1**
HABR *e* 15 19 38.4
HABR SS SS 15 36 20.7 +2.1
HABR *e*SSS SSS 15 42 18.1
BOD Bodaibo 156.06 352 *e*PKIKP **PKPdf 15 12 32.0 -1.3**
BOD pmax pmax
comp=Z,47nm,0.1s
MK31 Makanchi Array 156.82 49 *e*PKIKP **PKPdf 15 12 34.1 -0.6**
MK31 Makanchi Array 156.82 49 *e*PKPdf **PKPdf 15 12 34.1 -0.6**
MKAR Makanchi Array 156.82 49 PKP **PKPdf 15 12 34.3 -0.4**
comp=Z,4.2nm,0.8s,baz=270,slow=6.1,SNR=36
MKAR PKPab **PKPab 15 13 05.2 +0.6**
comp=Z,2.6nm,0.5s,baz=43,slow=29,SNR=7.1
MKAR Makanchi Array 156.82 49 PKIKP **PKPdf 15 12 34.3 -0.4**
MKAR pmax pmax
comp=Z,4.0nm,0.9s
PYUN Piuthan 157.69 99 *e*P **PKPdf 15 12 36.8 +0.1**
comp=Z,73nm,0.9s
KOLN Koldanda 158.06 100 *e*P **PKPdf 15 12 36.5 -0.6**
comp=Z,50nm,1.0s
GKN Gorkha 159.00 101 *e*P **PKPdf 15 12 37.4 -0.8**
comp=Z,102nm,1.2s
USRK Ussuriysk Ar. 159.04 305 PKP **PKPdf 15 12 36.0 -1.5**
comp=Z,1.1nm,0.7s,baz=287,slow=2.6,SNR=5.1
USRK PKPab **PKPab 15 13 13.4 -0.8**
comp=Z,6.9nm,0.8s,baz=60,slow=4.6,SNR=12
DMN Daman 159.22 102 *e*P **PKPdf 15 12 38.0 -0.6**
comp=Z,49nm,1.3s
KKN Kakani 159.44 102 *e*P **PKPdf 15 12 38.0 -0.8**
comp=Z,36nm,1.0s
PKIN Phulchoki 159.44 103 *e*P **PKPdf 15 12 38.9 0.0**
PKI Pulchoki 159.45 103 *e*P **PKPdf 15 12 38.2 -0.8**
comp=Z,67nm,1.1s
GUN Gumba 159.97 102 *e*P **PKPdf 15 12 39.0 -0.6**
comp=Z,171nm,1.6s
JIRN Jiri 160.12 103 *e*P **PKPdf 15 12 39.1 -0.7**
comp=Z,59nm,1.1s
RAMN Ramite 160.14 106 *e*P **PKPdf 15 12 39.4 -0.3**
comp=Z,72nm,0.9s
MDJ Mudanjiang 160.47 308 PKP **PKPdf 15 12 38.2 -0.9**
MDJ pPKP **pPKPdf 15 12 48.5 -0.7**
MDJ sPKP 15 12 53.0
MDJ SKS **SKSdf 15 19 41.8 -0.2**
MDJ PPMZ
comp=Z,380nm,8.9s
MDJ LN
comp=Z,750nm,23.6s
MDJ LE
comp=Z,480nm,21.7s
MDJ LZ
comp=Z,780nm,21.7s
MDJ Mudanjiang 160.47 308 *e*PKPdf **PKPdf 15 12 38.1 -0.9**
ODAN Odare 160.73 107 *e*P **PKPdf 15 12 39.8 -0.5**
comp=Z,56nm,0.8s
TAPN Taplejung 161.21 106 *e*P **PKPdf 15 12 40.3 -0.6**
comp=Z,68nm,1.4s
WMQ Urumqi 161.51 53 PKP **PKPdf 15 12 40.6 +0.2**
WMQ sPKP 15 12 54.6
WMQ PKPab **PKPab 15 13 24.7 -0.4**
WMQ PP **PP 15 17 07.6 -1.2**
WMQ SKKS 15 23 53.3
WMQ PPMZ
comp=Z,600nm,11.6s
WMQ LN
comp=Z,1μm,17.8s
WMQ LE
comp=Z,2μm,20.0s
WMQ LZ
comp=Z,2μm,20.0s
IRK Irkutsk 161.77 8 *e*PKIKP **PKPdf 15 12 39.8 -0.5**
IRK *e* 15 13 25.5
IRK pmax pmax
comp=Z,48nm,2.0s
CIT Chita 161.77 349 *e*PKP2 **PKPab 15 13 26.1 +0.3**
CIT pmax pmax
comp=Z,206nm,2.3s
MOY Mondy 161.81 14 *e*PKIKP **PKPdf 15 12 39.9 -0.6**
MOY pmax pmax
comp=Z,89nm,3.2s
TLY Talaya 162.25 9 *e*PKIKP **PKPdf 15 12 40.3 -0.5**
TLY *e*SS SS 15 37 20.0 -10
TLY pmax pmax
comp=Z,19nm,2.0s
TLY Talaya 162.25 9 PKPdf **PKPdf 15 12 41.5 +0.7**
SNR=8.4
TLY Talaya 162.25 9 *e*PKPdf **PKPdf 15 12 40.2 -0.5**
UTTA Uttaradit 162.26 156 P **PKPab 15 13 28.7 0.0**
CM31 Chiang Mai Arr 162.31 150 *e*PKPdf **PKPdf 15 12 40.9 -0.9**
CMAR Chiang Mai Arr 162.31 150 PKP **PKPdf 15 12 42.0 +0.1**
comp=Z,7.9nm,0.9s,baz=246,slow=2.8,SNR=51
CMAR PKPab **PKPab 15 13 28.6 -0.3**
comp=Z,5.6nm,1.0s,baz=220,slow=5.3,SNR=7.7
CMAR PP PP 15 17 17.9 +5.6
comp=Z,2.1nm,1.0s,baz=222,slow=5.8,SNR=4.5
CMAR Chiang Mai Arr 162.31 150 PKIKP **PKPdf 15 12 42.0 +0.1**
CMAR 15 13 28.7
CMAR 15 17 17.9
CMAR pmax pmax
comp=Z,8.0nm,0.9s
CMAR pmax pmax
comp=Z,6.0nm,1.0s
CMAR pmax pmax
comp=Z,2.0nm,1.0s
CHTO Chiang Mai 162.62 150 *e*PKIKP **PKPdf 15 12 41.5 -0.7**
CHTO MLR MLR
comp=Z,2μm,20.0s
CHTO Chiang Mai 162.62 150 PKPdf **PKPdf 15 12 41.9 -0.2**
SNR=8.5
CHTO Chiang Mai 162.62 150 *e*PKPdf **PKPdf 15 12 41.5 -0.7**
CHTO LR LR
comp=Z,2μm,20.0s
CN2 Changchun 163.49 311 *e*PKP **PKPdf 15 12 41.0 -1.2**
CN2 *e*PP **PP 15 17 21.6 +2.4**
CN2 *e*SS SS 15 37 43.6 -0.6
CN2 LN
comp=Z,500nm,20.0s
CN2 LE
comp=Z,800nm,20.0s
CN2 LZ
comp=Z,500nm,20.0s
KSRS Korea Array 163.60 287 PKP **PKPdf 15 12 42.4 -0.1**
comp=Z,3.4nm,0.8s,baz=181,slow=0.2,SNR=13
KSRS PKPab **PKPab 15 13 35.0 +0.6**
comp=Z,10nm,0.9s,baz=89,slow=4.0,SNR=14
KSRS Korea Array 163.60 287 PKIKP **PKPdf 15 12 42.4 -0.1**
KSRS 15 13 35.1
KSRS pmax pmax
comp=Z,3.0nm,0.8s
KSRS pmax pmax
comp=Z,10.0nm,0.9s
KSAR Wonju Array Be 163.64 287 PKIKP **PKPdf 15 12 42.4 -0.2**
KSAR 15 13 35.1
KSAR Wonju Array Be 163.64 287 PKP **PKPdf 15 12 42.4 -0.2**
KSAR PKPab **PKPab 15 13 35.0 +0.5**
QIZ Qiongzhong 164.79 186 PKPbc PKPab 15 13 31.3 -8.5
QIZ PP PP 15 18 06.9 +42
QIZ Qiongzhong 164.79 186 PKP **PKPdf 15 12 46.7 +2.6**
QIZ PP **PP 15 17 26.4 +1.4**
QIZ SKS **SKSdf 15 19 44.4 -2.1**
QIZ SS **SS 15 37 58.3 +2.6**
QIZ PPMZ
comp=Z,520nm,8.0s
QIZ LN
comp=Z,580nm,24.7s
QIZ LZ
comp=Z,960nm,22.4s
LSA Lhasa 164.93 103 *e*PKIKP **PKPdf 15 12 45.3 +0.7**
LSA Lhasa 164.93 103 *e*PKPdf **PKPdf 15 12 45.3 +0.7**
SNY Shenyang 165.64 306‖ PKP **PKPdf 15 12 43.1 -1.0**
SNY PKPab **PKPab 15 13 44.9 +1.7**
SNY SS SS 15 38 09.0 +2.6
SNY PPMZ
comp=Z,670nm,8.5s
SNY LN
comp=Z,840nm,18.4s
SNY LE
comp=Z,880nm,17.4s
SNY LZ
comp=Z,1μm,20.2s
SONM Songino Array 166.33 5 PKP **PKPdf 15 12 43.7 -1.0**
comp=Z,3.6nm,0.8s,baz=205,slow=1.0,SNR=19
SONM PKPab **PKPab 15 13 47.2 +1.1**
comp=Z,13nm,0.8s,baz=336,slow=3.2,SNR=22
SONM Songino Array 166.33 5 PKIKP **PKPdf 15 12 43.7 -1.0**
SONM pmax pmax
comp=Z,4.0nm,0.9s
ULN Ulaanbaatar 166.34 3 *e*PKIKP **PKPdf 15 12 44.2 -0.5**
ULN Ulaanbaatar 166.34 3 PKPdf **PKPdf 15 12 44.3 -0.5**
SNR=9.9
ULN Ulaanbaatar 166.34 3 *e*PKPdf **PKPdf 15 12 44.2 -0.5**
QZH Quanzhou 167.02 227 *i* PKP **PKPdf 15 12 46.0 +0.2**
QZH PKPab **PKPab 15 13 52.8 +3.2**
QZH PP **PP 15 17 40.7 +3.3**
QZH SKKS 15 24 23.1
QZH PPMZ
comp=Z,2μm,8.3s
QZH LN
comp=Z,740nm,15.6s
QZH LE
comp=Z,2μm,16.2s
QZH LZ
comp=Z,3μm,19.8s
GZH Guangzhou 168.00 204 PKP **PKPdf 15 12 42.7 -3.8**
GZH PKPab **PKPab 15 13 56.6 +2.7**
GZH PP **PP 15 17 46.8 +5.1**
GZH SKKS 15 24 25.7
GZH LN
comp=Z,1μm,18.9s
GZH LE
comp=Z,810nm,18.4s
DL2 Dalian 168.16 297 PKP **PKPdf 15 12 43.7 -2.4**
DL2 PP **PP 15 17 43.5 -0.2**
DL2 LN
comp=Z,580nm,18.9s
DL2 LZ
comp=Z,770nm,18.5s
SSE Sheshan 168.54 258 PKP **PKPdf 15 12 45.6 -1.0**
SSE PP **PP 15 17 47.1 +1.1**
SSE SS SS 15 38 34.6 -2.1
SSE PPMZ
comp=Z,640nm,9.6s
SSE LN
comp=Z,810nm,20.7s
SSE LE
comp=Z,860nm,20.7s
SSE LZ
comp=Z,1μm,18.4s
KMI Kunming 169.81 151 PKP **PKPdf 15 12 46.6 -1.3**
NJ2 Nanjing 170.73 260 *e*PKP **PKPdf 15 12 47.2 -0.7**
NJ2 PKPab **PKPab 15 14 07.0 +0.9**
NJ2 PP **PP 15 17 55.0 -2.0**
NJ2 PPMZ
comp=Z,3μm,7.8s
NJ2 LN
comp=Z,3μm,25.1s
NJ2 LE
comp=Z,1μm,26.7s
NJ2 LZ
comp=Z,1μm,26.8s
BJI Beijing 171.32 314 PKP **PKPdf 15 12 48.3 +0.3**
BJI PP **PP 15 17 57.2 -1.9**
BJI SKS **SKSdf 15 19 47.7 -1.3**
BJI SS **SS 15 39 03.8 +1.0**
BJI PPMZ
comp=Z,530nm,9.2s
BJI LN
comp=Z,440nm,19.9s
BJI LE
comp=Z,1μm,20.8s
BJI LZ
comp=Z,1μm,23.2s
GTA Gaotai 171.57 50‖ PKP **PKPdf 15 12 48.5 +0.2**
GTA pPKP **pPKPdf 15 12 59.3 +0.9**
GTA sPKP 15 13 03.0
GTA PKPab **PKPab 15 14 10.8 +1.1**
GTA PP **PP 15 18 04.4 +3.7**
GTA SKS **SKSdf 15 19 47.0 -2.6**
GTA SKKS **SKKSac 15 24 46.7 +1.4**
GTA SS **SS 15 39 04.0 -1.9**
GTA PPMZ
comp=Z,2μm,11.2s
GTA LN
comp=Z,1μm,21.9s
GTA LE
comp=Z,1μm,20.4s
GTA LZ
comp=Z,2μm,20.9s
GYA Guiyang 172.17 171 *i* PKP **PKPdf 15 12 47.0 -2.0**
GYA sPKP 15 13 03.6
GYA PKPab **PKPab 15 14 13.4 +1.0**
GYA PKS **PKSdf 15 16 18.8 -2.7**
GYA PP **PP 15 18 05.0 +2.4**
GYA SKKS 15 24 47.6
GYA SS **SS 15 39 07.8 -2.0**
GYA PPMZ
comp=Z,560nm,11.0s
GYA LN
comp=Z,1μm,21.9s
GYA LE
comp=Z,880nm,20.7s
GYA LZ
comp=Z,1μm,18.6s
TIA Tai'an 172.35 288 PKP **PKPdf 15 12 47.8 -0.8**
TIA PP **PP 15 18 04.5 -0.5**
TIA SS SS 15 39 16.7 +2.4
TIA PPMZ
comp=Z,1μm,7.4s
TIA LN
comp=Z,670nm,21.4s
TIA LE
comp=Z,800nm,19.0s
TIA LZ
comp=Z,860nm,17.8s
HHC Hu-ho-hao-te 172.83 338 *e*PKP **PKPdf 15 12 48.4 -0.4**
HHC PKS **PKSdf 15 16 19.2 -1.9**
HHC PP **PP 15 18 09.0 +2.9**
HHC SKS **SKSdf 15 19 46.3 -3.6**
HHC SKKS **SKKSac 15 24 50.9 0.0**
HHC SS **SS 15 39 16.0 -0.6**
HHC PPMZ
comp=Z,260nm,5.9s
HHC LN
comp=Z,580nm,25.1s
HHC LE
comp=Z,390nm,21.2s
HHC LZ
comp=Z,1μm,25.9s
BTO Baotou 173.44 347 *e*PKP **PKPdf 15 12 47.9 -1.2**
WHN Wuhan 173.57 237 PKP **PKPdf 15 12 49.2 0.0**
WHN pPKP **pPKPdf 15 12 56.7 -2.6**
WHN PP **PP 15 18 11.1 +0.5**
WHN SKKS 15 24 56.3
WHN PPMZ
comp=Z,2μm,7.3s
TIY Taiyuan 175.05 316 *e*PKP **PKPdf 15 12 49.7 +0.1**
TIY PKPab **PKPab 15 14 25.3 +0.2**
TIY SS SS 15 39 39.8 +0.7
TIY PPMZ
comp=Z,580nm,11.6s
TIY LN
comp=Z,1μm,18.2s
TIY LE
comp=Z,2μm,20.3s
TIY LZ
comp=Z,1μm,16.6s
CD2 Chengdu 175.07 131 *e*PKP **PKPdf 15 12 50.3 +0.5**
CD2 pPKP **pPKPdf 15 13 00.9 +1.0**
CD2 PKPab **PKPab 15 14 24.5 -0.8**
CD2 PKS **PKSdf 15 16 22.5 +0.4**
CD2 PP **PP 15 18 15.6 -2.1**
CD2 SKS **SKSdf 15 19 51.9 +1.1**
CD2 SKKS **SKKSac 15 25 06.1 +4.0**
CD2 SS **SS 15 39 39.6 0.0**
CD2 PPMZ
comp=Z,670nm,7.2s
CD2 LN
comp=Z,1μm,22.9s
CD2 LE
comp=Z,960nm,18.1s
CD2 LZ
comp=Z,2μm,21.7s
ENH Enshi 175.90 197 *e*PKPdf **PKPdf 15 12 49.4 -0.6**
LZH Lanzhou 176.04 61 PKP **PKPdf 15 12 50.2 +0.1**
LZH pPKP **pPKPdf 15 12 58.8 -1.3**
LZH sPKP 15 13 03.8
LZH PKPab **PKPab 15 14 32.1 +2.3**
LZH PP **PP 15 18 23.0 +0.1**
LZH SKKS 15 25 06.0
LZH SS **SS 15 39 44.2 -5.6**
LZH PPMZ
comp=Z,930nm,8.4s
LZH LN
comp=Z,1μm,18.4s
LZH LE
comp=Z,820nm,16.4s
LZH LZ
comp=Z,1μm,20.2s
XAN Xi'an 179.30 256 PKP **PKPdf 15 12 49.8 -0.6**
XAN pPKP **pPKPdf 15 13 01.3 +0.8**
XAN PKPab 15 14 42.4
XAN PP **PP 15 18 36.0 -2.4**
XAN LN
comp=Z,700nm,19.4s

ISK ***02*** *14:53:05.7,38.78N×39.96E,h8km,MD2.5*
DDA ***02*** *14:53:06.0,38.78N×40.00E,h7km,MD2.8*
CSEM ***02*** *14:53:07.7±0.3,38.65N×39.90E,h10km,MD2.5, Error ellipse: s-maj=8.1km s-min=6.5km az=144.0*
ISC 02 14:53:06.5±1.2,**38.76N**±0.03×**39.97E**±0.03,**h7**km±12km, **n18,**σ1.9**11/24,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.42**	**75**	*e*Pg		**Pn**	**14 53 17.6**	**-1.6**
BINT				*e*Sg		**Sb**	**14 53 26.6**	**+3.5**
BNGB	**Bing˜¶ł**	**0.60**	**68**	*e*PG		**Pg**	**14 53 17.6**	**-0.5**
BNGB				*e*SG		**Sg**	**14 53 26.6**	**+0.6**
SVRC	**Sivrice-ELAZID**	**0.65**	**234**	*e*PG		**Pg**	**14 53 18.8**	**-0.1**

SVRC	**Sivrice-ELAZID**	**0.65**	**234**	*e*Pg	**Pg**	**14 53 18.8**	**-0.1**
DYBB	**Diyarbakir**	**0.82**	**170**	*e*PG	**Pg**	**14 53 22.3**	**0.0**
ERZN	**Erzincan**	**0.84**	**347**	*e*PG	**Pg**	**14 53 22.0**	**-0.8**
DIYA	**Diyarbakir**	**0.85**	**172**	*i* P	**Pg**	**14 53 22.6**	**-0.2**
DIYA				*i* S	**Sb**	**14 53 36.1**	**+0.9**
DIYA	**Diyarbakir**	**0.85**	**172**	*i* P	**Pg**	**14 53 22.6**	**-0.2**
DIYA				*i* S	**Sb**	**14 53 36.1**	**+0.9**
DIY	**Diyarbakir**	**0.89**	**167**	*e*Pg	**Pg**	**14 53 22.3**	**-1.3**
MALT	**Malatya**	**1.29**	**250**	*e*PN	**Pn**	**14 53 30.6**	**-0.4**
MALT	**Malatya**	**1.29**	**250**	*e*Pn	**Pn**	**14 53 30.6**	**-0.4**
BEST	**Besiri**	**1.35**	**130**	*i* P	Pn	14 53 27.1	-4.7
BEST				*i* S	**Sg**	**14 53 50.2**	**+0.5**
MAZI	**Mazidag**	**1.36**	**164**	*e*PN	**Pn**	**14 53 31.5**	**-0.5**
MAZI	**Mazidag**	**1.36**	**164**	*e*Pn	**Pn**	**14 53 31.5**	**-0.5**
KELT	**Kelkit**	**1.49**	**339**	*i* S	**Sg**	**14 53 55.6**	**+1.2**
KELT	**Kelkit**	**1.49**	**339**	*i* P	**Pb**	**14 53 33.9**	**-0.7**
KELT				*i* S	**Sg**	**14 53 55.6**	**+1.2**
MARD	**Mardin**	**1.58**	**156**	*i* P	**Pn**	**14 53 35.0**	**-0.1**
MARD				*i* S	**Sn**	**14 53 55.6**	**-0.3**

GUC 02 14:56:00.5±0.7, 34.29S×72.12W, h19km±8km, ML4.6, 6C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.67**	**61** ⇓	*i*P	Pb	14 56 13.0	-0.6
NICH	**Los Niches**	**1.02**	**135** ⇑	*i*P	Pb	14 56 18.4	-1.2
NICH				*i* S	Sb	14 56 32.2	-0.5
TALC	**Talca**	**1.18**	**160** ⇑	*i*P	Pn	14 56 20.8	-1.2
TALC				*i* S	Sb	14 56 36.1	-1.0
CHCH	**Chadas Angostu**	**1.26**	**74** ⇑	*i*P	Pn	14 56 22.4	-0.9
LACH	**Col Las Americ**	**1.56**	**58** ⇑	*i*P	Pn	14 56 26.9	-0.4
LACH				*i* S	Sn	14 56 47.3	+0.2
CLCH	**Cerro Calan**	**1.59**	**56**	*e*S	Sn	14 56 48.4	+0.6
CLCH	comp=E,9μm,0.6s			AML	AML	14 56 58.9	
CLCH	comp=E,11μm,0.6s			AML	AML	14 56 59.6	
LNCH	**Linares**	**1.61**	**165** ⇑	*i*P	Pn	14 56 28.1	+0.1
LNCH				*i* S	Sb	14 56 49.0	-0.7
PEL	**Peldehue**	**1.65**	**47**	AML	AML	14 56 57.1	
YECH	comp=E,15μm,0.8s **El Yeso**	**1.80**	**70** ⇑	*i*P	Pn	14 56 30.3	-0.7
YECH				*i* S	Sn	14 56 54.5	+0.9

*ISCJB **02** 15:00:00.4±0.3, 38.06N±0.02×111.14W±0.03, h10km, mb3.5/1, Error ellipse: s-maj=3.4km s-min=2.4km az=177.8*
*IDC **02** 15:00:00.8±1.1, 38.17N×110.97W, h0km, mb3.5/1, mb1 3.5/5, mb1mx3.4/47, mbtmp3.2/5, ML3.5/3, MS3.5/1, Ms1 3.5/1, ms1mx2.6/33, Error ellipse: s-maj=14.4km s-min=10.6km az=50.0*
*NEIC **02** 15:00:00.0, 38.04N×111.10W, h5km, ML3.6(SLC), After SLC.*
NEIC Felt [II] at Teasdale and Torrey. Also felt at Boulder, Hanksville and Loa.

ISC 02 15:00:00.9±0.6, 38.06N±0.02×111.07W±0.02, h10km, n65, σ1s65/82, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSU	**Marysvale**	**0.98**	**298**	*e*Pg	**Pg**	**15 00 18.4**	**-1.4**
MVU	**Marysvale**	**1.00**	**297**	*e*Pg	**Pg**	**15 00 19.2**	**-1.0**
MVU				*e*Pn	**Pn**	**15 00 21.6**	**+0.4**
MVU				*e*Sg	**Sg**	**15 00 31.7**	**-1.6**
SRU	**San Rafael Swe**	**1.14**	**22**	*e*Pg	**Pg**	**15 00 22.0**	**-0.7**
SRU				*e*Sg	**Sg**	**15 00 37.1**	**-0.4**
TMUT	**Trail Mountain**	**1.24**	**355**	*e*Pg	**Pg**	**15 00 24.2**	**-0.6**
TMUT				*e*Sg	**Sn**	**15 00 42.0**	**+0.4**
U15A	**North Rim** baz=1.9	**1.90**	**211**	P	**Pn**	**15 00 33.3**	**-0.2**
U15A	baz=1.9			S	**Sn**	**15 00 57.3**	**-0.3**
PV01	**Paradox Valley**	**1.97**	**87**	*e*Pn	**Pb**	**15 00 35.4**	**-1.7**
MPU	**Maple Canyon**	**2.00**	**348**	*e*Pn	**Pb**	**15 00 37.3**	**-0.3**
MPU				*e*Sn	**Sb**	**15 01 02.1**	**-0.5**
NLU	**North Lily Min**	**2.05**	**338**	*e*Pg	**Pb**	**15 00 38.2**	**-0.1**
NLU				*e*Sg	**Sg**	**15 01 05.6**	**-1.2**
MVCO	**Mesa Verde**	**2.21**	**112**	*e*Pn	**Pb**	**15 00 38.6**	**-2.5**
MVCO				*e*Pg	**Pg**	**15 00 41.8**	**-1.4**
MVCO				*e*Sg	**Sg**	**15 01 09.6**	**-2.3**
MVCO	**Mesa Verde** baz=2.2	**2.21**	**112**	P	**Pb**	**15 00 38.5**	**-2.5**
MVCO	baz=2.2			Sb	**Sg**	**15 01 09.5**	**-2.4**
DUG	**Dugway, Tooele**	**2.53**	**328**	*e*Pn	**Pb**	**15 00 44.4**	**-2.0**
DUG	**Dugway, Tooele** baz=2.5	**2.53**	**328**	Sb	**Sb**	**15 01 19.3**	**+1.7**
WUAZ	**Wupatki**	**2.55**	**186**	*e*Pn	**Pn**	**15 00 42.8**	**+0.4**
WUAZ				*e*Sn	**Sn**	**15 01 13.4**	**-0.2**
JLU	**Jordanelle**	**2.56**	**354**	*e*Pn	**Pb**	**15 00 44.6**	**-2.4**
CTU	**Camp Tracy**	**2.68**	**349**	*e*Pn	**Pb**	**15 00 46.4**	**-2.7**
O20A	**White River Ci**	**3.02**	**46**	*e*Pn	**Pn**	**15 00 50.8**	**+1.8**
O20A	**White River Ci** baz=3.1	**3.02**	**46**	Sb	**Sb**	**15 01 33.4**	**+1.4**
TCUT	**Toone Canyon**	**3.07**	**355**	*e*Pn	**Pn**	**15 00 51.6**	**+1.9**
W18A	**Petrified Fore**	**3.12**	**159**	*e*Pn	**Pn**	**15 00 50.5**	**+0.2**
W18A				*e*Pg	**Pg**	**15 00 59.2**	**-1.5**
W18A	**Petrified Fore** baz=3.1	**3.12**	**159**	Sb	**Sb**	**15 01 34.9**	**+0.1**
BGU	**Big Grassy Mou**	**3.24**	**333**	*e*Pn	**Pn**	**15 00 54.1**	**+2.1**
SMCO	**Snowmass**	**3.40**	**70**	*e*Pn	**Pn**	**15 00 56.4**	**+2.1**
SMCO				*e*Pg	**Pb**	**15 01 02.5**	**+1.1**
N20A	**Spence Gulch,** baz=3.5	**3.52**	**37**	P	Pb	15 00 59.4	-4.0
HWUT	**Hardware Ranch**	**3.57**	**354**	Pn	**Pn**	**15 00 58.5**	**+2.1**
R11A	**Troy Canyon, C**	**3.57**	**276**	*e*Pn	**Pn**	**15 00 55.6**	**-0.9**
R11A				*e*Pg	**Pb**	**15 01 04.9**	**+0.7**
R11A				*e*Sg	**Sb**	**15 01 50.9**	**+3.2**
R11A	**Troy Canyon, C** baz=3.5	**3.57**	**276**	P	**Pn**	**15 00 55.7**	**-0.8**
SHPR	**Sheep Range**	**3.61**	**246**	*e*Pn	**Pn**	**15 00 56.9**	**-0.1**
X18A	**Snowflake** baz=3.6	**3.63**	**165**	P	**Pn**	**15 00 57.1**	**-0.3**
X18A	baz=3.6			Sb	**Sb**	**15 01 51.2**	**+1.6**
X16A	**Lo Mia Camp, P** baz=3.6	**3.64**	**185**	Pb	**Pb**	**15 01 04.2**	**-1.3**
HVU	**Hansel Valley**	**3.94**	**341**	*e*Pn	**Pn**	**15 01 02.5**	**+0.9**
ELK	**Elko** 0.1nm,0.3s,baz=158,slow=19,SNR=2.3	**4.20**	**311**	Pn	**Pn**	**15 01 06.5**	**+1.4**
ELK	2.9nm,0.3s,baz=2.0,slow=21,SNR=15			Lg	Lg	15 02 12.6	
ELK	**Elko**	**4.20**	**311**	Pn	**Pn**	**15 01 06.5**	**+1.4**
ELK				Pg	**Pb**	**15 01 16.5**	**+1.6**
ELK				Lg	Lg	15 02 12.6	
TPNV	**Topopah Spring** baz=4.2	**4.26**	**257**	P	**Pn**	**15 01 05.9**	**-0.1**
ISCO	**Idaho Springs**	**4.60**	**66**	*e*Pn	**Pn**	**15 01 12.7**	**+2.0**
ISCO				*e*Pg	Pg	15 01 24.9	-4.0
ISCO				*e*Sg	**Sb**	**15 02 19.1**	**+1.8**
AHID	**Auburn Hatcher**	**4.70**	**360**	*e*Pn	**Pn**	**15 01 12.2**	**+0.2**
ANMO	**Albuquerque** 1.9nm,0.3s,baz=319,slow=13,SNR=35	**4.84**	**128**	Pn	**Pn**	**15 01 14.7**	**+0.8**
ANMO	6.6nm,0.3s,baz=234,slow=19,SNR=9.8			Lg	Lg	15 02 29.2	
ANMO	**Albuquerque**	**4.84**	**128**	*e*Pn	**Pn**	**15 01 14.3**	**+0.3**
ANMO				Lg	Lg	15 02 29.2	
BW06	**Boulder Array**	**4.84**	**13**	*e*Pn	**Pn**	**15 01 15.5**	**+1.5**
BW06				*e*Pb	**Pb**	**15 01 25.4**	**-0.6**
BW06				*e*Pg	**Pg**	**15 01 31.6**	**-2.0**
BW06				*e*Sn	**Sn**	**15 02 11.1**	**+0.8**
BW06				*e*Sg	**Sg**	**15 02 30.5**	**-5.9**
PDAR	**Pinedale Array** 0.5nm,0.3s,baz=174,slow=11,SNR=15	**4.84**	**13**	Pn	**Pn**	**15 01 15.9**	**+1.9**
PDAR	4.0nm,0.3s,baz=169,slow=12,SNR=6.6			Lg	Lg	15 02 29.5	
TPH	**Tonopah**	**4.86**	**272**	*e*Pn	**Pn**	**15 01 13.9**	**-0.2**
TPH				*e*Pg	**Pb**	**15 01 28.7**	**+2.6**
TPH				*e*Sg	**Sg**	**15 02 31.6**	**-5.2**
GMRC	**Granite Mounta** baz=4.9	**4.94**	**230**	P	**Pn**	**15 01 14.5**	**-0.7**
LENM	**Lemitar** 14nm,0.6s	**5.11**	**138**	*e*Pn	**Pn**	**15 01 17.4**	**-0.2**
LPM	**Los Pinos Moun** 9.5nm,0.4s	**5.18**	**135**	*e*Pg	Pg	15 01 35.6	-4.6
REDW	**Red Top Meadow** 12nm,0.8s	**5.30**	**2**	*e*Pn	**Pn**	**15 01 21.9**	**+1.5**
GSC	**Goldstone, Bar**	**5.37**	**241**	Pn	**Pn**	**15 01 19.6**	**-1.5**
	22nm,0.4s						
PHWY	**Pilot Hill** 15nm,0.6s	**5.41**	**51**	Pn	**Pn**	**15 01 21.2**	**-0.6**
PHWY				*e*Pg	Pg	15 01 39.4	-5.0
TPAW	**Teton Pass** 5.9nm,0.5s	**5.43**	**1**	*e*Pn	**Pn**	**15 01 22.3**	**+0.2**
DAC	**Darwin (Calif)** 7.4nm,0.8s	**5.50**	**253**	Pn	**Pn**	**15 01 23.9**	**+0.8**
DAC				*e*Pg	Pb	15 01 40.6	+3.5
LOHW	**Long Hollow** 12nm,0.6s	**5.56**	**3**	*e*Pn	**Pn**	**15 01 24.7**	**+0.8**
MOOW	**Moose Ponds** 3.5nm,0.6s	**5.69**	**2**	*e*Pn	**Pn**	**15 01 26.9**	**+1.2**
NVAR	**Mina Array Bea** 0.8nm,0.3s,baz=100,slow=15,SNR=8.1	**5.71**	**276**	Pg	**Pb**	**15 01 41.6**	**+1.0**
NVAR	baz=101,slow=30,SNR=1.7			Lg	Lg	15 02 54.0	
TUC	**Tucson** 8.9nm,0.6s	**5.74**	**178**	*e*Pg	**Pb**	**15 01 43.0**	**+1.9**
K22A	**Casper** 27nm,0.5s	**5.75**	**36**	Pn	**Pn**	**15 01 28.0**	**+1.5**
IMW	**Indian Meadow** 11nm,0.4s	**5.83**	**1**	*e*Pn	**Pn**	**15 01 29.0**	**+1.3**
IMW				*e*Pg	**Pg**	**15 01 51.3**	**-1.3**
GLA	**Glamis** 10nm,0.4s	**5.86**	**213**	Pn	**Pn**	**15 01 27.6**	**-0.2**
GLA				*e*Pg	Pb	15 01 45.9	+2.8
FLWY	**Flagg Ranch** 5.1nm,0.6s	**6.03**	**3**	Pn	Pn	15 01 34.7	+4.4
121A	**Cookes Peak, D** 30nm,0.9s	**6.13**	**153**	*e*Pg	Pb	15 01 52.1	+4.2
H17A	**Grant Village** 4.4nm,0.7s	**6.34**	**3**	Pn	**Pn**	**15 01 36.0**	**+1.3**
H17A				*e*Pg	**Pg**	**15 02 01.6**	**-0.7**
ISA	**Isabella, Lake** 4.7nm,0.6s	**6.40**	**250**	Pg	Pb	15 01 57.1	+4.8
WAKR	**Walker** 3.5nm,0.6s	**6.60**	**276**	*e*Pg	Pb	15 02 00.8	+4.9
RLMT	**Red Lodge** 2.4nm,0.5s	**7.19**	**10**	Pn	Pn	15 01 49.5	+3.3
RSSD	**Black Hills** 7.5nm,0.5s	**8.05**	**39**	*e*Pn	**Pn**	**15 01 58.1**	**0.0**
YBH	**Yreka Blue Hor** comp=Z,265nm,20.7s,baz=116,slow=37	**9.67**	**296**	LR	LR	15 05 57.7	
TXAR	**Lajitas Array** 0.0nm,0.3s,baz=332,slow=9.2,SNR=4.6	**10.66**	**143**	Pn	Pn	15 02 38.5	+4.8
YKA	**Yellowknife Ar** 1.1nm,0.7s,baz=172,slow=9.8,SNR=20	**24.56**	**356**	P	**P**	**15 05 21.2**	**+0.6**

*MOS **02** 15:15:26.4±0.8, 55.72N×110.11E, h3km, mb4.2/1, Error ellipse: s-maj=14.3km s-min=9.7km az=58.6*
*BYKL **02** 15:15:27.6±0.2, 55.70N×110.12E, h7km±3km*
*IDC **02** 15:15:40.4±7.3, 55.13N×108.24E, h0km, mb3.3/1, mb1 3.4/5, mb1mx3.1/52, mbtmp3.4/5, ML3.0/4, Error ellipse: s-maj=99.1km s-min=29.1km az=70.0*

ISC 02 15:15:27.4±1.1, 55.69N±0.02×110.16E±0.02, h4km±9km, n46, σ1s91/89, 5C-3D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.36**	**284** ⇓	*i*Pg	**Pg**	**15 15 34.9**	**+0.6**
NIZ				*e*Sg	**Sg**	**15 15 39.3**	**+0.3**
NIZ	**Nizh Angarsk**	**0.36**	**284**	*e*PG	**Pg**	**15 15 34.9**	**+0.6**
NIZ				*e*		15 15 40.8	
NIZ	comp=Z,89nm,0.1s			pmax	pmax		
NIZ	comp=N,718nm,0.3s			smax	smax		
KMO	**Kumora**	**0.62**	**71** ⇑	*i*Pg	**Pg**	**15 15 39.1**	**-0.2**
KMO				*e*Sg	**Sg**	**15 15 47.3**	**0.0**
KMO	comp=N,265nm,0.2s			Pmax			
KMO	comp=N,573nm,0.4s			Smax			
KMO	**Kumora**	**0.62**	**71**	*e*PG	**Pg**	**15 15 38.9**	**-0.4**
KMO				*e*		15 15 46.5	
KMO	comp=Z,265nm,0.2s			pmax	pmax		
KMO	comp=E,557nm,0.3s			smax	smax		
YOA	**Uoyan**	**0.99**	**63** ⇑	*i*Pg	**Pg**	**15 15 45.8**	**-0.5**
YOA				*e*Sg	**Sg**	**15 15 59.6**	**+0.6**
YOA	comp=E,154nm,0.2s			Pmax			
YOA	comp=E,1μm,0.4s			Smax			
YOA	**Uoyan**	**0.99**	**63** ⇓	*i*PG *i*	**Pg**	**15 15 46.0**	**-0.3**
YOA				*e*		15 16 00.4	
YOA	comp=Z,154nm,0.2s			pmax	pmax		
YOA	comp=E,1μm,0.4s			smax	smax		
YLYR	**Ulyunkhan**	**1.00**	**145** ⇑	*i*Pg	**Pg**	**15 15 46.3**	**-0.2**
YLYR				*e*Sg	**Sg**	**15 15 59.6**	**+0.1**
YLYR				*e*Sb	**Sn**	**15 16 04.2**	**+1.5**
YLYR	comp=E,61nm,0.2s			Pmax			
YLYR	comp=E,289nm,0.2s			max			
YLYR	**Ulyunkhan**	**1.00**	**145** ⇑	*i*PG *e*	**Pg**	**15 15 46.3**	**-0.2**
YLYR				*e*		15 15 59.2	
YLYR	comp=Z,61nm,0.2s			pmax	pmax		
YLYR	comp=E,288nm,0.2s			smax	smax		
SVKR	**Severomuysk**	**1.96**	**76**	*e*Pg	**Pn**	**15 16 02.8**	**+1.4**
SVKR				*e*		15 16 08.2	
SVKR				*e*Sg	**Sb**	**15 16 29.2**	**+0.8**
SVKR				*e*		15 16 31.8	
SVKR	comp=E,186nm,0.2s			max			
SVKR	comp=E,682nm,0.7s			max			
SVKR	**Severomuysk**	**1.96**	**76**	*e*PN *e*	**Pb**	**15 16 03.6**	**0.0**
SVKR				*e*		15 16 29.0	
SVKR	comp=Z,187nm,0.3s			pmax	pmax		
SVKR	comp=E,677nm,0.7s			smax	smax		
UKT	**Uakit**	**1.98**	**94** ⇓	*i*Pg	**Pn**	**15 16 03.1**	**+1.4**
UKT				*e*		15 16 05.5	
UKT				*e*Sg	**Sb**	**15 16 29.5**	**+0.5**
UKT				*e*		15 16 33.2	
UKT	comp=E,100nm,0.5s			max			
UKT	comp=E,188nm,0.5s			max			
UKT	**Uakit**	**1.98**	**94**	*e*PN *e*	**Pn**	**15 16 02.9**	**+1.2**
UKT				*e*		15 16 29.3	
UKT	comp=Z,100nm,0.4s			pmax	pmax		
UKT	comp=N,185nm,0.4s			smax	smax		
SYVR	**Suvo**	**2.04**	**183** ⇑	*i*Pg	**Pb**	**15 16 04.6**	**-0.3**
SYVR				*e*Sg	**Sg**	**15 16 32.8**	**-0.1**
SYVR	comp=N,190nm,0.6s			Pmax			
SYVR	comp=N,390nm,0.5s			Smax			
SYVR	**Suvo**	**2.04**	**183**	*e*PN *e*	**Pb**	**15 16 04.1**	**-0.8**
SYVR				*e*		15 16 32.6	
SYVR	comp=Z,193nm,0.5s			pmax	pmax		
SYVR	comp=N,515nm,0.8s			smax	smax		
OGRR	**Ongureny**	**2.54**	**217**	*e*Pn	**Pn**	**15 16 10.6**	**+1.4**
OGRR				*e*Pg	**Pb**	**15 16 13.6**	**+0.2**
OGRR				*e*Sn	**Sn**	**15 16 39.7**	**-0.8**
OGRR				*e*Sg	**Sb**	**15 16 46.0**	**+1.1**
OGRR	comp=N,36nm,0.1s			Pmax			
OGRR	comp=N,326nm,0.8s			Smax			
OGRR	**Ongureny**	**2.54**	**217**	*e*PN *e*	**Pn**	**15 16 10.6**	**+1.4**
OGRR				*e*		15 16 14.1	
OGRR				*e*		15 16 45.4	
OGRR	comp=Z,66nm,0.8s			pmax	pmax		
OGRR	comp=E,363nm,1.4s			smax	smax		
MXMB	**Maximikha**	**2.57**	**199**	*e*Pn	**Pn**	**15 16 08.6**	**-1.1**
MXMB				*e*Pg	**Pb**	**15 16 13.7**	**-0.3**
MXMB				*e*PgPg	**Pg**	**15 16 16.9**	**+0.3**
MXMB				*e*		15 16 38.3	
MXMB				*e*Sg	**Sg**	**15 16 48.4**	**-1.4**
MXMB	comp=E,76nm,0.4s			max			
MXMB	comp=E,350nm,0.9s			Smax			
BOD	**Bodaibo**	**3.00**	**43**	*e*Pn	**Pn**	**15 16 16.7**	**+1.0**
BOD				*e*Pg	**Pb**	**15 16 21.2**	**-0.1**
BOD				*e*PgPg	**PnPn**	**15 16 23.6**	**+0.8**
BOD				*e*Sn	**Sn**	**15 16 50.0**	**-2.0**
BOD				*e*Sg	**Sb**	**15 17 00.5**	**+2.2**
BOD	comp=E,24nm,0.4s			Pmax			
BOD	comp=E,120nm,0.4s			Smax			
NLYR	**Nelyaty**	**3.21**	**73**	*e*Pn	**Pn**	**15 16 17.5**	**-1.0**
NLYR				*e*Pg	**Pb**	**15 16 25.4**	**+0.6**
NLYR				*e*		15 16 31.7	
NLYR				*e*Sg	**Sb**	**15 17 07.8**	**+3.6**
NLYR	comp=E,18nm,0.3s			Pmax			
NLYR	comp=E,141nm,1.0s			Smax			
NLYR	**Nelyaty**	**3.21**	**73**	*e*PN	**Pn**	**15 16 18.7**	**+0.2**
NLYR				*e*		15 16 24.5	
NLYR				*e*		15 17 06.8	
NLYR	comp=Z,95nm,0.5s			pmax	pmax		
NLYR	comp=N,148nm,1.8s			smax	smax		
ZRHB	**Zarechye**	**3.61**	**211**	*e*Pn	**Pn**	**15 16 23.8**	**-0.2**
ZRHB				*e*Pg	**Pb**	**15 16 32.1**	**+0.5**
ZRHB				*e*Sg	**Sb**	**15 17 19.4**	**+3.7**
ZRHB	comp=N,62nm,0.8s			Pmax			
ZRHB	comp=N,325nm,0.9s			Smax			
TRG	**Tyrgan**	**3.69**	**219**	*e*Pn	**Pn**	**15 16 26.4**	**+1.3**
TRG				*e*Sn	**Sn**	**15 17 09.1**	**0.0**
TRG				*e*Sg	**Sb**	**15 17 21.4**	**+3.2**
TRG	comp=N,132nm,0.3s			Smax			
TRG	**Tyrgan**	**3.69**	**219**	*e*PN	**Pn**	**15 16 26.5**	**+1.3**
TRG				*e*		15 16 35.1	
TRG				*e*S	**Sn**	**15 17 09.0**	**0.0**
TRG				*e*		15 17 21.5	
TRG	comp=Z,28nm,0.5s			pmax	pmax		
TRG	comp=E,133nm,0.4s			smax	smax		
VTMR	**Vitim**	**3.97**	**18**	*e*Pn	**Pn**	**15 16 30.0**	**+1.1**
VTMR				*e*Pg	**Pb**	**15 16 39.3**	**+1.5**
VTMR				*e*Sn	**Sn**	**15 17 12.6**	**-3.3**
VTMR				*e*Sg	**Sg**	**15 17 30.9**	**-3.9**
UUDB	**Ulan-Yde**	**4.11**	**202**	*e*Pn	**Pn**	**15 16 31.5**	**+0.6**
UUDB				*e*Pg	**Pb**	**15 16 40.7**	**+0.5**
UUDB				*e*Sn	**Sn**	**15 17 17.7**	**-1.6**
UUDB				*e*Sg	**Sg**	**15 17 35.4**	**-3.8**
UUDB				*e*		15 17 44.5	
UUDB	comp=E,35nm,0.5s			Pmax			
UUDB	comp=E,105nm,1.2s			max			
CIT	**Chita**	**4.19**	**150**	*e*	**Sb**	**15 17 35.0**	**+2.4**
CIT				*e*Sg	**Sg**	**15 17 38.1**	**-3.8**
CIT	comp=E,89nm,0.3s			Smax			
KAB	**Kabansk**	**4.20**	**211**	*e*Sg	**Sb**	**15 17 37.2**	**+4.5**
KAB	comp=E,255nm,0.9s			Smax			
HRMR	**Khuramsha**	**4.50**	**206**	*e*Pn	**Pn**	**15 16 37.5**	**+1.3**
HRMR				*e*Pg	**Pb**	**15 16 47.5**	**+0.7**
HRMR				*e*Sg	**Sb**	**15 17 46.2**	**+4.9**
HRMR	comp=E,34nm,0.5s			Pmax			
HRMR	comp=E,146nm,0.7s			Smax			
CRS	**Chara**	**4.68**	**72**	*e*PN	**Pb**	**15 16 51.5**	**+1.6**
CRS				*e*		15 17 53.6	
CRS	comp=Z,53nm,0.9s			pmax	pmax		
CRS	comp=E,114nm,1.0s			smax	smax		
LSTR	**Listvyanka**	**4.96**	**222**	*e*Pn	**Pn**	**15 16 43.8**	**+1.2**
LSTR				*e*Pg	**Pb**	**15 16 57.5**	**+2.8**
LSTR				*e*		15 17 12.2	
LSTR				*e*Sn	**Sn**	**15 17 37.2**	**-3.2**
LSTR				*e*Sg	**Sg**	**15 18 01.3**	**-5.4**
LSTR	comp=E,11nm,0.5s			Pmax			
LSTR	comp=E,137nm,1.4s			Smax			
TLY	**Talaya**	**5.58**	**227**	*e*Pn	**Pn**	**15 16 51.4**	**+0.4**
TLY				*e*		15 17 09.1	
TLY				*e*Sn	**Sn**	**15 17 52.1**	**-3.4**
TLY				*e*Sg	Sb	15 18 19.0	+6.6
TLY	comp=E,39nm,0.5s			Smax			
TLY	**Talaya**	**5.58**	**227**	*e*PN	**Pn**	**15 16 49.9**	**-1.1**
TLY				*e*		15 17 06.6	
TLY				*e*S	**Sn**	**15 17 53.5**	**-2.0**
TLY				*e*		15 18 19.0	
TLY	comp=Z,6.0nm,0.6s			pmax	pmax		
TLY	comp=E,39nm,0.6s			smax	smax		
KHNR	**Khani**	**5.61**	**73**	*e*Sg	Sg	15 18 21.1	-6.1
TUP	**Tupik**	**5.77**	**99**	*e*Pn	**Pn**	**15 16 55.6**	**+1.8**
TUP				*e*Sn	**Sn**	**15 17 58.5**	**-1.8**
TUP				*e*Sg	Sg	15 18 27.2	-5.4
TUP	comp=E,65nm,1.4s			Smax			
TUP	**Tupik**	**5.77**	**99**	*e*PN	**Pn**	**15 16 55.5**	**+1.8**
TUP				*e*		15 17 12.7	
TUP				*e*S	**Sn**	**15 18 00.3**	**0.0**
TUP				*e*		15 18 26.8	
TUP	comp=Z,19nm,0.8s			pmax	pmax		
TUP	comp=N,49nm,0.9s			smax	smax		
ARS	**Arshan**	**5.94**	**234**	*e*Pn	**Pn**	**15 16 56.8**	**+0.8**
ARS				*e*Pg	**Pb**	**15 17 13.7**	**+2.3**
ARS				*e*Sn	**Sn**	**15 18 01.0**	**-3.5**
ARS				*e*Sg	Sb	15 18 29.7	+6.9
ARS	comp=N,20nm,0.6s			Pmax			
ARS	comp=N,264nm,0.7s			Smax			
ZAK	**Zakamensk**	**6.74**	**221**	*e*PN	Pb	15 17 17.9	-7.2
ZAK	comp=Z,14nm,2.2s			pmax	pmax		
MOY	**Mondy**	**6.77**	**237**	*e*Pn	**Pn**	**15 17 09.0**	**+1.5**
MOY				*e*Sn	**Sn**	**15 18 23.3**	**-1.8**
MOY				*e*Sg	Sg	15 18 56.2	-8.5
MOY	comp=Z,69nm,1.6s			Smax			
ORL	**Orlik**	**6.85**	**247**	*e*Pn	**Pn**	**15 17 08.2**	**-0.4**
ORL				*e*Sn	**Sn**	**15 18 25.0**	**-2.1**
ORL				*e*Sg	Sg	15 18 58.6	-8.6
ORL	comp=Z,45nm,1.2s			Smax			
ORL	**Orlik**	**6.85**	**247**	*e*PN	**Pn**	**15 17 10.3**	**+1.7**
ORL				*e*		15 17 31.3	
ORL				*e*S	**Sn**	**15 18 26.2**	**-0.9**
ORL				*e*		15 18 59.4	
ORL	comp=Z,7.0nm,1.0s			pmax	pmax		
ORL	comp=N,45nm,1.5s			smax	smax		
SONM	**Songino Array** comp=N,0.2nm,0.3s,baz=9.7,slow=14,SNR=5.7	**8.21**	**198**	Pn	**Pn**	**15 17 29.7**	**+2.5**
SONM	comp=N,0.2nm,0.3s,baz=13,slow=28,SNR=2.8			Lg	Lg	15 19 36.0	
ZALV	**Zalesovo Beam** comp=N,0.1nm,0.3s,baz=74,slow=11,SNR=2.5	**14.69**	**274**	Pn	**Pn**	**15 18 53.0**	**-2.6**
KURK	**Kurchatov**	**19.43**	**268**	P	**Pn**	**15 19 55.5**	**0.0**
MKAR	**Makanchi Array** comp=N,0.2nm,0.3s,baz=8.3,slow=16,SNR=7.2	**19.47**	**254**	P	**P**	**15 19 54.3**	**-0.6**
KURBB	**Kurchatov Arra** comp=N,0.1nm,0.3s,baz=68,slow=12,SNR=4.1	**19.52**	**268**	P	**P**	**15 19 55.5**	**+0.1**
BVAR	**Borovoye Array** comp=N,0.6nm,0.5s,baz=70,slow=12,SNR=4.2	**23.11**	**280**	P	P	15 20 38.5	+4.6

*ISCJB **02** 15:19:19.6±0.3,4°.55N±0°.05×122°.99E±0°.08, h582km, mb3.9/20, Error ellipse: s-maj=10.8km s-min=4.7km az=154.3*

*DJA **02** 15:19:21.9±0.9,5°N±1°×12°3E±°, h549km±15km, M4.5/11, mb4.6/11, mB4.8/7, MLv4.7/7, MLv4.7/9, Mw(mB)4.0/7*

*IDC **02** 15:19:22.0±1.4,4°.46N×123°.01E, h605km±17km, mb3.3/18, mb1 3.3/18, mb1mx3.2/36, mbtmp4.3/18, Error ellipse: s-maj=18.1km s-min=7.1km az=70.0*

ISC 02 15:19:20.6±0.5,4°.50N±0°.06×122°.9E±0°.1, h582km, n53, σ1§12/59, mb3.8/19, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**4.03**	**165**	P		**P**		**15 20 45.9**	**+0.9**
KMSI				S		S		15 21 57.4	+3.6
MRSI	**Marisa**	**4.11**	**194**	P		**P**		**15 20 46.3**	**+0.7**
LUWI	**Luwuk**	**5.50**	**182**	P		**P**		**15 20 56.4**	**-0.2**
	85nm,0.7s,1µm0.4nm								
LUWI				S		S		15 22 13.3	-1.6
	85nm,0.7s,1µm0.4nm								
APSI	**Ampana**	**5.52**	**194**	P		**P**		**15 20 57.1**	**+0.4**
	71nm,0.6s,0.3nm								
TNTI	**Ternate**	**5.76**	**130**	P		**P**		**15 20 58.6**	**-0.2**
	138nm,0.7s,3µm0.6nm								
LBMI	**Labuha**	**6.84**	**138**	P		**P**		**15 21 08.7**	**+0.3**
	104nm,0.6s,1µm0.4nm								
KKM	**Kota Kinabalu**	**6.87**	**283**	P		**P**		**15 21 09.2**	**+0.4**
	baz=6.5,SNR=38								
SANI	**Sanana**	**7.18**	**155**	P		**P**		**15 21 09.7**	**-1.9**
	77nm,0.7s,1µm0.3nm0.3nm								
NLAI	**Namlea**	**8.73**	**152**	P		**P**		**15 21 28.6**	**+2.1**
	70nm,0.7s,1µm								
AAI	**Ambon**	**9.68**	**147**	P		**P**		**15 21 37.4**	**+1.5**
KDU	**Kakadu**	**19.52**	**151**	P		**P**		**15 23 11.2**	**+0.3**
	baz=20,SNR=7.3								
KNRA	**Kununurra**	**20.86**	**164**	P		**P**		**15 23 23.4**	**+0.4**
	baz=21,SNR=3.8								
WRA	**Warramunga Apr**	**26.75**	**156**	P		**P**		**15 24 14.7**	**-0.5**
	7.2nm,0.4s,baz=335,slow=9.7,SNR=132								
WRA				S		**S**		**15 28 07.0**	**-4.1**
	0.4nm,0.6s,baz=336,slow=16,SNR=4.7								
WRA				ScP		**ScP**		**15 30 02.6**	**-1.8**
	0.7nm,0.8s,baz=342,slow=3.2,SNR=6.6								
CMAR	**Chiang Mai Arr**	**27.25**	**303**	P		**P**		**15 24 20.4**	**+0.8**
	1.8nm,0.9s,baz=116,slow=7.1,SNR=10								
QIS	**Mount Isa**	**29.79**	**147**	P		**P**		**15 24 42.2**	**+0.5**
	baz=30,SNR=11								
WRKA	**Warakurna**	**29.81**	**170**	P		**P**		**15 24 42.4**	**+0.6**
	baz=30,SNR=5.7								
ASAR	**Alice Springs**	**29.96**	**160**	P		**P**		**15 24 43.5**	**+0.4**
	4.0nm,0.4s,baz=339,slow=7.1,SNR=121								
ASAR				S		**S**		**15 28 59.5**	**-1.5**
	0.6nm,0.5s,baz=330,slow=13,SNR=10								
ASAR				ScP		**ScP**		**15 30 12.8**	**-1.7**
	1.6nm,0.6s,baz=341,slow=2.8,SNR=19								
MEEK	**Meekatharra**	**31.23**	**187**	P		**P**		**15 24 53.8**	**-0.1**
	baz=31,SNR=5.6								
KSRS	**Korea Array**	**33.12**	**7**	P		**P**		**15 25 10.3**	**+0.6**
	0.8nm,0.5s,baz=185,slow=8.9,SNR=5.0								
MORW	**Morawa**	**34.02**	**191**	P		**P**		**15 25 17.4**	**0.0**
	baz=34,SNR=4.2								
MJAR	**Matsushiro Arr**	**34.85**	**22**	P		**P**		**15 25 23.1**	**-1.0**
	0.9nm,0.6s,baz=192,slow=9.1,SNR=7.0								
QLP	**Quilpie**	**37.14**	**147**	P		**P**		**15 25 44.1**	**+1.0**
	baz=37,SNR=4.7								
BBOO	**Buckleboo**	**39.13**	**162**	P		**P**		**15 26 00.1**	**+0.8**
	baz=39,SNR=9.5								
STKA	**Stephens Creek**	**40.30**	**155**	P		**P**		**15 26 09.0**	**+0.5**
	3.8nm,0.3s,baz=332,slow=7.6,SNR=23								
STKA	**Stephens Creek**	**40.30**	**155**	P		**P**		**15 26 09.2**	**+0.7**
	baz=40,SNR=7.8								
USRK	**Uusuriysk Ar.**	**40.34**	**10**	P		**P**		**15 26 09.1**	**+0.4**
	2.0nm,0.6s,baz=190,slow=8.6,SNR=6.7								
TAPN	**Taplejung**	**40.54**	**308**	*eP*		**P**		**15 26 11.5**	**+0.5**
	3.6nm,0.3s								
ODAN	**Odare**	**40.57**	**307**	*eP*		**P**		**15 26 11.5**	**+0.4**
	12nm,0.8s								
RAMN	**Ramite**	**41.24**	**307**	*eP*		**P**		**15 26 17.1**	**+0.7**
	17nm,1.0s								
JIRN	**Jiri**	**41.88**	**307**	*eP*		**P**		**15 26 22.2**	**+0.6**
	8.0nm,0.3s								
CMSA	**Cobar Meteorol**	**41.88**	**150**	P		**P**		**15 26 22.6**	**+1.5**
	baz=42,SNR=11								
GUN	**Gumba**	**42.24**	**308**	*eP*		**P**		**15 26 24.9**	**+0.5**
	16nm,0.4s								
PKI	**Pulchoki**	**42.47**	**307**	*eP*		**P**		**15 26 26.1**	**0.0**
	5.2nm,0.3s								
PKIN	**Phulchoki**	**42.48**	**307**	*eP*		**P**		**15 26 26.4**	**+0.2**
	1.8nm,0.2s								
KKN	**Kakani**	**42.66**	**307**	*eP*		**P**		**15 26 27.7**	**+0.1**
	6.0nm,0.4s								
DMN	**Daman**	**42.72**	**307**	*eP*		**P**		**15 26 28.3**	**+0.2**
	8.1nm,0.7s								
ASAJ	**Asahikawa**	**43.09**	**21**	P		**P**		**15 26 30.6**	**+0.3**
	4.1nm,0.7s,baz=220,slow=9.4,SNR=7.4								
GKN	**Gorkha**	**43.27**	**307**	*eP*		**P**		**15 26 32.4**	**+0.2**
	5.6nm,0.4s								
KOLN	**Koldanda**	**44.00**	**306**	*eP*		**P**		**15 26 38.6**	**+0.7**
	48nm,0.7s								
PYUN	**Piuthan**	**44.63**	**306**	*eP*		**P**		**15 26 43.5**	**+0.8**
	36nm,0.5s								
SONM	**Songino Array**	**45.46**	**344**	P		**P**		**15 26 49.0**	**+0.3**
	2.3nm,0.7s,baz=158,slow=8.9,SNR=19								
MKAR	**Makanchi Array**	**54.81**	**327**	P		**P**		**15 27 57.1**	**+0.4**
	3.4nm,0.3s,baz=120,slow=7.2,SNR=130								
MKAR				PcP		**PcP**		**15 28 49.7**	**-0.3**
	0.6nm,0.6s,baz=144,slow=5.2,SNR=4.5								
PETK	**Petropavlovsk-**	**56.23**	**24**	P		**P**		**15 28 06.7**	**+0.4**
	1.9nm,1.0s,baz=208,slow=1.9,SNR=5.3								
AAK	**Ala-Archa**	**57.28**	**319**	P		**P**		**15 28 14.8**	**+0.9**
	1.2nm,0.5s,baz=110,slow=0.6,SNR=4.9								
YAK	**Yakutsk**	**57.63**	**4**	P		**P**		**15 28 15.2**	**-0.4**
	3.5nm,0.3s,baz=42,slow=0.3,SNR=6.3								
ZALV	**Zalesovo Beam**	**58.24**	**335**	P		**P**		**15 28 19.0**	**-0.9**
	1.3nm,0.4s,baz=129,slow=4.3,SNR=9.0								
GEYT	**Alibeck**	**67.48**	**309**	P		**P**		**15 29 19.8**	**+0.1**
	0.8nm,0.4s,baz=136,slow=11,SNR=3.3								
AKTO	**Aktyubinsk**	**70.73**	**322**	P		**P**		**15 29 38.5**	**-0.3**
	2.1nm,0.3s,baz=110,slow=6.8,SNR=11								
VNDA	**Vanda**	**84.68**	**172**	P		**P**		**15 30 52.8**	**-0.4**
	0.3nm,0.5s,baz=313,slow=6.3,SNR=4.2								
SPITS	**Spitsbergen Ar**	**88.99**	**349**	P		**P**		**15 31 12.9**	**-0.8**
	18nm,1.1s,baz=106,slow=8.9,SNR=12								
FINES	**FINESS Array B**	**89.37**	**332**	P		**P**		**15 31 14.2**	**-1.4**
	5.4nm,1.0s,baz=108,slow=4.2,SNR=8.7								
VRAC	**Vranov**	**97.17**	**321**	P			Pdif	15 31 49.8	-1.7
	1.5nm,0.3s,baz=291,slow=22,SNR=3.7								
TORD	**Torodi Ar. Bea**	**119.09**	**288**	PKP		**PKPdf**		**15 37 04.1**	**-1.0**
	0.2nm,0.5s,baz=48,slow=2.7,SNR=3.9								

*SJA **02** 15:30:22.7±0.7,34°.17S×71°.48W, h10km, ML2.6, MW2.7*

*GUC **02** 15:30:28.1±0.4,33°.90S×71°.22W, h66km±8km, ML3.5*

ISC 02 15:30:28.3±2.0,34°.0S±0°.1×71°.3W±0°.2, h6km±14km, n9, σ0§60/14, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**0.65**	**35**	*eP*		**Pg**		**15 30 41.0**	**+0.2**
RCDM				*eS*		**Sb**		**15 30 50.8**	**-0.6**
RCDM					AML	AML		15 30 51.6	
	comp=E,5µm,0.0s								
STL	**Santa Lucia**	**0.78**	**41**	*eP*		**Pg**		**15 30 42.3**	**-0.8**
STL				*eS*		**Sg**		**15 30 53.7**	**+0.4**
NICH	**Los Niches**	**0.98**	**179**	*eP*		**Pb**		**15 30 48.1**	**+0.5**
NICH				*eS*		**Sn**		**15 31 03.1**	**+0.3**
NICH					AML	AML		15 31 03.8	
	comp=E,1µm,0.3s								
TALC	**Talca**	**1.41**	**193**	*eP*		**Pn**		**15 30 54.0**	**-0.4**
TALC				*eS*		**Sn**		**15 31 13.3**	**0.0**
AAGR	**Agrelo**	**2.23**	**66**	*eP*		**Pn**		**15 31 05.6**	**-0.3**
ARCO	**CERRO ARCO**	**2.27**	**59**	*eP*		**Pn**		**15 31 05.4**	**-1.1**
ARCO					AML	AML		15 32 11.3	
	comp=Z,31nm,0.6s								
AUSP	**Uspallata**	**2.38**	**42**	*eP*		**Pn**		**15 31 08.4**	**+0.2**
AUSP				*i* S		**Sb**		**15 31 41.7**	**+0.2**
RTLS	**Leoncito**	**2.76**	**37**	*i*P		**Pn**		**15 31 13.4**	**0.0**
ACAN	**Cantantal**	**3.83**	**64**	*i*P		**Pn**		**15 31 28.5**	**+0.6**

*ISCJB **02** 15:34:42.0±0.5,31°.55N±0°.04×49°.47E±0°.06, h25km, mb3.5/7, Error ellipse: s-maj=7.4km s-min=5.7km az=147.3*

*CSEM **02** 15:34:42.5±0.2,31°.65N×49°.58E, h2km, ML3.6, Ms4.0, Error ellipse: s-maj=6.7km s-min=4.3km az=51.0*

*TEH **02** 15:34:43.5,31°.68N×49°.55E, h2km, ML3.6*

*IDC **02** 15:34:48.5±5.5,31°.78N×49°.49E, h65km±51km, mb3.3/7, mb1 3.4/9, mb1mx3.2/35, mbtmp3.6/9, ML3.9/2, Error ellipse: s-maj=46.7km s-min=22.5km az=157.0*

*DSN **02** 15:34:58.9±1.7,31°.06N×50°.82E, h15km, mb3.7/6, Ms4.0/6, Error ellipse: s-maj=49.8km s-min=11.1km az=36.0*

*ISN **02** 15:35:01.1±2.4,31°.54N×48°.42E, h0km±9km, ML3.6*

ISC 02 15:34:43.7±0.8,31°.62N±0°.07×49°.49E±0°.06, h25km, n58, σ1§12/56, mb3.4/7, 4C-2D, Western Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IPIR	**Pirpir**	**1.60**	**48**	*e*Sg		**Sn**		**15 35 30.7**	**+0.1**
IPIR				*e*Pn		**Pn**		**15 35 09.4**	**-1.2**
IPIR				*e*				15 35 32.3	
	comp=Z,22µm,0.2s								
IPIR	**Pirpir**	**1.60**	**48**	*e*Pn		**Pn**		**15 35 09.4**	**-1.2**
IPIR				*e*Sg		**Sn**		**15 35 30.7**	**+0.1**
IGAR	**Gharneh**	**2.31**	**69**	*e*Pn		**Pn**		**15 35 21.4**	**+1.1**
IGAR				*e*				15 36 00.1	
	comp=E,487nm,0.2s								
IKFM	**Kafar-mosalman**	**2.35**	**324**	*e*Pn		**Pn**		**15 35 22.8**	**+2.1**
IKFM				*e*				15 36 05.6	
	comp=Z,99nm,0.3s								
IKFM	**Kafar-mosalman**	**2.35**	**324**	*e*Pn		**Pn**		**15 35 22.8**	**+2.1**
IKLH	**Kolahrood**	**2.45**	**46**	*e*Pn		**Pn**		**15 35 23.5**	**+1.2**
IKLH				*e*				15 36 01.8	
	comp=Z,5µm,0.3s								
IKLH	**Kolahrood**	**2.45**	**46**	*e*Pn		**Pn**		**15 35 23.5**	**+1.2**
IZEF	**Zefreh**	**2.72**	**61**	*e*Pn		**Pn**		**15 35 27.1**	**+1.0**
IZEF				*e*				15 36 12.8	
	comp=Z,1µm,0.2s								
IZEF	**Zefreh**	**2.72**	**61**	*e*Pn		**Pn**		**15 35 27.1**	**+1.0**
IKAZ	**Kazeroun**	**2.73**	**132**	*e*Pn		**Pn**		**15 35 28.5**	**+2.2**
IKAZ				*e*				15 36 28.3	
	comp=N,15µm,0.3s								
IKAZ	**Kazeroun**	**2.73**	**132**	*e*Pn		**Pn**		**15 35 28.5**	**+2.2**
NSR	**Nassriya**	**2.93**	**259**	*e*PN		x		15 35 34.3	
NSR				*e*SN		x		15 35 59.9	
NSR	**Nassriya**	**2.93**	**259**	*e*Pn		**Pb**		**15 35 34.3**	**-0.9**
	SNR=39								
IKOM	**Komasi**	**3.04**	**327**	*e*Pn		**Pn**		**15 35 32.0**	**+1.6**
IKOM				*e*				15 36 28.8	
	comp=Z,1µm,0.3s								
IKOM	**Komasi**	**3.04**	**327**	*e*Pn		**Pn**		**15 35 32.0**	**+1.6**
IBDR	**Badra**	**3.36**	**297**	*e*PG		x		15 35 57.8	
IBDR				*e*SG		x		15 36 39.7	
ISAD	**Sadrabad**	**3.59**	**84**	*e*Pn		**Pn**		**15 35 39.2**	**+1.3**
ISAD				*e*				15 36 32.6	
	comp=Z,1µm,0.1s								
ISAD	**Sadrabad**	**3.59**	**84**	*e*Pn		**Pn**		**15 35 39.3**	**+1.3**
IRAZ	**Razeghan**	**3.79**	**5**	*e*Pn		**Pn**		**15 35 41.7**	**+0.9**
IRAZ				*e*				15 36 49.9	
	comp=Z,1µm,0.4s								
IRAZ	**Razeghan**	**3.79**	**5**	*e*Pn		**Pn**		**15 35 41.7**	**+0.9**
IVRN	**Varamin**	**3.85**	**29**	*e*Pn		**Pn**		**15 35 42.4**	**+0.9**
IVRN	**Varamin**	**3.85**	**29**	*e*Pn		**Pn**		**15 35 42.4**	**+0.9**
IDHR	**Dehrash**	**4.03**	**321**	*e*Pn		**Pn**		**15 35 45.4**	**+1.4**
IDHR				*e*				15 36 36.2	
	comp=Z,1µm,0.1s								
IDHR	**Dehrash**	**4.03**	**321**	*e*Pn		**Pn**		**15 35 45.4**	**+1.4**
ICHK	**Chekchek**	**4.23**	**80**	*e*Pn		**Pn**		**15 35 47.5**	**+0.7**
ICHK				*e*				15 36 39.0	
	comp=Z,714nm,0.2s								
ICHK	**Chekchek**	**4.23**	**80**	*e*Pn		**Pn**		**15 35 47.5**	**+0.7**
IMEH	**Mehriz**	**4.38**	**92**	*e*Pn		**Pn**		**15 35 49.5**	**+0.6**
IMEH				*e*				15 36 44.1	
	comp=Z,634nm,0.2s								
IMEH	**Mehriz**	**4.38**	**92**	*e*Pn		**Pn**		**15 35 49.5**	**+0.6**
IDMV	**Damavand**	**4.48**	**28**	*e*Pn		**Pn**		**15 35 50.7**	**+0.4**
IDMV				*e*				15 36 16.6	
	comp=Z,531nm,0.3s								
IDMV	**Damavand**	**4.48**	**28**	*e*Pn		**Pn**		**15 35 50.7**	**+0.4**
BHD	**Baghdad**	**4.62**	**292**	*e*PN		x		15 36 02.1	
BHD				*e*SN		x		15 36 45.5	
ILAS	**Lasjerd**	**4.74**	**37**	*e*Pn		**Pn**		**15 35 54.1**	**+0.3**
ILAS				*e*				15 36 21.4	
	comp=Z,368nm,0.3s								
ILAS	**Lasjerd**	**4.74**	**37**	*e*Pn		**Pn**		**15 35 54.1**	**+0.3**
IFIR	**Firoozkooh**	**4.85**	**33**	*e*Pn		**Pn**		**15 35 56.0**	**+0.7**
IFIR				*e*				15 37 27.6	
	comp=E,465nm,0.3s								
IFIR	**Firoozkooh**	**4.85**	**33**	*e*Pn		**Pn**		**15 35 56.0**	**+0.7**
IBAF	**Bafgh**	**5.19**	**89**	*e*Pn		**Pn**		**15 36 00.3**	**+0.4**
IBAF				*e*				15 36 01.5	
	comp=Z,312nm,0.1s								
IBAF	**Bafgh**	**5.19**	**89**	*e*Pn		**Pn**		**15 36 00.3**	**+0.4**
IKRK	**Kirkuk**	**5.72**	**313**	*e*PN		x		15 36 20.7	
IKRK				*e*SN		x		15 37 1.7	
BANOM	**Banah**	**8.24**	**132**	P		**Pn**		**15 36 40.7**	**-1.0**
BANOM	**Banah**	**8.24**	**132**	⇓P		**Pn**		**15 36 40.7**	**-1.0**
BANOM				⇑S		Sn		15 38 02.2	-12
NAZ	**Nazwa, Dubai**	**8.55**	**139**	P		**Pn**		**15 36 47.2**	**+1.2**
NAZ	**Nazwa, Dubai**	**8.55**	**139**	⇓P		**Pn**		**15 36 47.2**	**+1.2**
ASUD	**Al Ashush, Dub**	**8.66**	**142**	P		**Pn**		**15 36 48.4**	**+0.9**
ASUD	**Al Ashush, Dub**	**8.66**	**142**	⇑P		**Pn**		**15 36 48.4**	**+0.9**
HATD	**Hatta, Dubai**	**8.95**	**137**	P		**Pn**		**15 36 51.8**	**+0.4**
HATD	**Hatta, Dubai**	**8.95**	**137**	⇑P		**Pn**		**15 36 51.8**	**+0.4**
ASHO	**Ashiyiah**	**9.02**	**138**	P		**Pn**		**15 36 53.5**	**+1.2**
ASHO	**Ashiyiah**	**9.02**	**138**	⇑P		**Pn**		**15 36 53.5**	**+1.2**
GEYT	**Alibeck**	**9.48**	**46**	P		**Pn**		**15 37 00.7**	**+1.9**
	comp=Z,1.4nm,0.3s,baz=242,slow=13,SNR=23								
BRTR	**Keskin Array B**	**15.20**	**307**	P		**P**		**15 38 21.7**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=130,slow=13,SNR=2.2								
AKTO	**Aktyubinsk**	**19.84**	**16**	P		**P**		**15 39 12.9**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=198,slow=6.4,SNR=5.4								
AKASG	**Malin Array Be**	**24.28**	**328**	P		**P**		**15 39 57.9**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=134,slow=9.1,SNR=4.4								
BVAR	**Borovoye Array**	**26.21**	**29**	P		**P**		**15 40 14.6**	**-1.7**
	comp=Z,0.5nm,0.5s,baz=218,slow=7.0,SNR=4.0								
KURBB	**Kurchatov Arra**	**28.69**	**40**	P		**P**		**15 40 37.4**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=240,slow=9.3,SNR=3.1								
MKAR	**Makanchi Array**	**29.34**	**49**	P		**P**		**15 40 44.5**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=289,slow=14,SNR=5.1								
FINES	**FINESS Array B**	**33.52**	**340**	P		**P**		**15 41 20.4**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=145,slow=11,SNR=5.9								
ZALV	**Zalesovo Beam**	**33.67**	**38**	P		**P**		**15 41 22.4**	**0.0**
	comp=Z,0.3nm,0.3s,baz=248,slow=10.0,SNR=3.0								
TORD	**Torodi Ar. Bea**	**47.45**	**258**	P		**P**		**15 43 17.1**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=54,slow=7.7,SNR=7.4								

IDC 02 15:57:58.2±63.0,20°.89S×177°.68W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/28, mbtmp4.1/3, Error ellipse: s-maj=1147.0km s-min=161.5km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.89**	**245**	P		**P**		16 05 16.4	-0.8
	3.4nm,0.9s,baz=97,slow=10,SNR=5.0								
ASAR	**Alice Springs**	**44.72**	**257**	P		**P**		16 06 13.3	-0.2
	1.6nm,0.6s,baz=91,slow=7.1,SNR=20								
WRA	**Warramunga Arr**	**44.84**	**262**	P		**P**		16 06 14.9	+0.5
	1.0nm,0.3s,baz=96,slow=8.3,SNR=82								

*SJA **02** 15:57:48.4±1.0,33°.50S×73°.94W, h30km, ML3.9, MW4.4*

*IDC **02** 15:57:58.0±1.0,34°.14S×72°.16W, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.7/23, mbtmp3.6/5, ML3.8/1, Error ellipse: s-maj=27.5km s-min=18.8km az=99.0*

*ISCJB **02** 15:57:59.6±0.7,34°.18S±0°.03×72°.31W±0°.06, h19km, mb3.6/4, Error ellipse: s-maj=7.7km s-min=4.2km az=15.0*

*GUC **02** 15:58:00.4±0.5,34°.19S×72°.23W, h62km±4km, ML4.1*

ISC 02 15:58:00.9±0.9,34°.22S±0°.04×72°.20W±0°.07, h19km, n23, σ0§93/33, mb3.6/4, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.11**	**135**	*eP*		**Pn**		**15 58 21.6**	**+0.1**
NICH				*eS*		**Sg**		**15 58 37.6**	**+0.4**
NICH					AML	AML		15 58 43.0	
	comp=E,17µm,3.3s								
TALC	**Talca**	**1.26**	**159**	*eP*		**Pn**		**15 58 23.8**	**+0.2**
TALC				*eS*		**Sb**		**15 58 40.9**	**+0.9**
RCDM	**Rinconada Maip**	**1.37**	**58**	*eP*		**Pn**		**15 58 24.5**	**-0.4**
RCDM				*eS*		**Sb**		**15 58 42.7**	**-0.2**
SAN	**Santiago**	**1.49**	**59**	*eP*		**Pn**		**15 58 26.4**	**-0.3**
SAN				*eS*		**Sb**		**15 58 46.1**	**-0.3**
STL	**Santa Lucia**	**1.51**	**59**	*eP*		**Pn**		**15 58 26.2**	**-0.7**
STL				*eS*		**Sn**		**15 58 46.1**	**0.0**
ROCH	**El Roble**	**1.59**	**39**	*eP*		**Pn**		**15 58 27.7**	**-0.5**
ROCH				*eS*		**Sb**		**15 58 49.2**	**-0.3**
ROCH					AML	AML		15 58 59.5	
	comp=E,2µm,0.5s								
CLCH	**Cerro Calan**	**1.61**	**60**	*eP*		**Pn**		**15 58 28.2**	**-0.1**
CLCH				*eS*		**Sb**		**15 58 49.5**	**-0.5**
CLCH					AML	AML		15 59 04.3	
	comp=E,2µm,0.0s								
SJCH	**San Jose de Ma**	**1.64**	**70**	*eP*		**Pn**		**15 58 28.3**	**-0.5**
SJCH				*eS*		**Sn**		**15 58 50.0**	**+0.7**
PEL	**Peldehue**	**1.65**	**50**	*eP*		**Pn**		**15 58 28.6**	**-0.3**
PEL					AML	AML		15 59 01.3	
	comp=N,3µm,0.7s								
LNCH	**Linares**	**1.69**	**163**	*eP*		**Pn**		**15 58 29.5**	**0.0**
LNCH				*eS*		**Sn**		**15 58 51.4**	**+0.8**
ARCO	**CERRO ARCO**	**3.05**	**64**	*eP*		**Pb**		**15 58 54.0**	**-0.7**
ARCO					AML	AML		15 59 43.2	
	comp=Z,145nm,0.6s								
RTLS	**Leoncito**	**3.43**	**46**	*i* P		**Pn**		**15 58 54.8**	**+1.2**
RTLS				*eS*		**Sb**		**15 59 45.5**	**+3.0**
CANA	**Caviahue**	**3.77**	**166**	*eP*		**Pb**		**15 59 05.2**	**-1.8**
CANA					AML	AML		16 00 19.3	
	comp=Z,81nm,0.7s								
RTCV	**Cerro Valdivia**	**3.87**	**54**	*i* P		Pn		15 59 03.2	+3.8
CFAA	**Coronel Fontan**	**4.23**	**53**	Pn		**Pn**		**15 59 04.5**	**+0.1**
	baz=314,slow=0.0								
CFAA					Lg	Lg		16 00 09.8	
	baz=322,slow=18								
RTLL	**Cerro Villicun**	**4.26**	**48**	⇓*i*P		**Pn**		**15 59 06.4**	**+1.7**
AMOG	**MOGNA**	**4.52**	**45**	*eP*		**Pn**		**15 59 09.8**	**+1.4**
PLCA	**Paso Flores**	**6.63**	**169**	Pn		**Pn**		**15 59 38.8**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=343,slow=14,SNR=8.4								
PLCA					Lg	Lg		16 01 30.7	
	comp=Z,0.5nm,0.3s,baz=257,slow=16,SNR=3.0								
SNAA	**Sanae**	**51.43**	**158**	P		**P**		**16 07 05.0**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=252,slow=6.4,SNR=4.6								
TXAR	**Lajitas Array**	**69.86**	**331**	P		**P**		**16 09 10.6**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=152,slow=8.5,SNR=3.9								
PDAR	**Pinedale Array**	**83.90**	**333**	P		**P**		**16 10 29.6**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=104,slow=6.3,SNR=3.6								
TORD	**Torodi Ar. Bea**	**84.41**	**70**	P		**P**		**16 10 31.6**	**-0.8**
	comp=Z,1.4nm,0.9s,baz=249,slow=4.0,SNR=5.7								
ZALV	**Zalesovo Beam**	**154.48**	**32**	PKPbc		**PKPbc**		**16 17 59.2**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=294,slow=3.5,SNR=6.4								
ZALV				PKPab		**PKPab**		**16 18 13.8**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=284,slow=5.8,SNR=5.9								

*IDC **02** 16:21:44.4±0.9,35°.73N×140°.99E, h0km, mb3.6/9, mb1 3.8/13, mb1mx3.6/30, mbtmp3.7/13, ML3.2/4, Error ellipse: s-maj=25.5km s-min=16.4km az=72.0*

*ISCJB **02** 16:21:47.9±0.6,35°.83N±0°.04×141°.01E±0°.06, h33km, mb3.5/9, Error ellipse: s-maj=7.5km s-min=5.5km az=23.0*

*JMA **02** 16:21:52.2±0.1,35°.75N×140°.61E, h47km±1km, M3.2 Broadband fault plane solution: P waves. NP1: φs19.00000°, δ84.00000°, λ98.00000°. NP2:φs144.00000°, δ10.00000°, λ35.00000°. Principal axes: T Plg50.0000°, Azm298.0000°; N Plg8.0000°, Azm198.0000°; P Plg39.0000°, Azm102.0000°;*

JMA Felt I J1.

**ISC 02 16:21:48.9±0.7,35°.74N±0°.04×140°.96E±0°.06, h33km, n28, σ1§40/28,

IDC ***02*** *16:51:08.9±3.7, 6.°69S×125.°30E, h525km±46km, mb3.0/7, mb1 2.9/9, mb1mx2.7/31, mbtmp3.8/9, Error ellipse: s-maj=35.4km s-min=15.0km az=78.0*

ISCJB ***02*** *16:51:09.3±0.5, 6.°71S±0.°08×125.°26E±0.°08, h544km, mb3.4/7, Error ellipse: s-maj=10.8km s-min=9.2km az=40.4*

DJA ***02*** *16:51:40.6±1.2, 3.°S±13.°×12.°7E±.°, h416km±15km, M3.6/9, mb4.3/3, mB4.7/2, MLv3.2/9, Mw(mB)3.9/2*

ISC 02 16:51:10.3±0.7, 6.7S±0.1×125.4E±0.1, h544km, n27, σ0§88/28, mb3.4/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**3.81**	**26**	P	P		**P**	**16 52 30.7**	**+0.4**
AAI	**Ambon**	**4.06**	**43**	P	P		**P**	**16 52 33.0**	**+0.8**
SANI	**Sanana**	**4.64**	**7**	P	P		**P**	**16 52 36.9**	**+0.1**
MSAI	**Masohi**	**4.81**	**47**	P	P		**P**	**16 52 40.3**	**+2.1**
BNDI	**Bandanaira**	**4.95**	**64**	P	P		P	16 52 43.6	+4.3
KMSI	**Cibinong**	**7.35**	**349**	P	P		**P**	**16 53 02.7**	**+1.2**
	80nm,0.6s,1µm0.4nm								
FAKI	**Fak Fak**	**7.76**	**61**	P	P		**P**	**16 53 06.7**	**+1.2**
	134nm,0.7s,2µm0.5nm								
FAKI				S	S		**S**	**16 54 37.6**	**-2.3**
	134nm,0.7s,2µm0.5nm								
WRA	**Warramunga Arr**	**15.77**	**148**	P	P		**P**	**16 54 26.8**	**-1.0**
	0.2nm,0.3s,baz=336,slow=8.8,SNR=14								
ASAR	**Alice Springs**	**18.75**	**155**	P	P		**P**	**16 54 56.1**	**+0.8**
	0.1nm,0.3s,baz=347,slow=15,SNR=14								
ASAR				PcP	PcP		**PcP**	**16 58 55.2**	**0.0**
	0.0nm,0.3s,baz=357,slow=1.8,SNR=2.8								
NWAO	**Narrogin (SRO)**	**27.20**	**195**	P	P		**P**	**16 56 09.4**	**-1.3**
	2.5nm,0.4s,baz=37,slow=10,SNR=3.9								
ODAN	**Odare**	**49.69**	**314**	*eP*	P		**P**	**16 59 12.8**	**-0.3**
	6.9nm,0.5s								
TAPN	**Taplejung**	**49.76**	**315**	*eP*	P		**P**	**16 59 13.5**	**-0.1**
	4.6nm,0.3s								
RAMN	**Ramite**	**50.31**	**313**	*eP*	P		**P**	**16 59 17.9**	**+0.3**
	16nm,0.6s								
JIRN	**Jiri**	**51.02**	**314**	*eP*	P		**P**	**16 59 22.5**	**-0.4**
	3.8nm,0.4s								
GUN	**Gumba**	**51.39**	**314**	*eP*	P		**P**	**16 59 25.3**	**-0.3**
	9.3nm,0.4s								
PKI	**Pulchoki**	**51.54**	**313**	*eP*	P		**P**	**16 59 26.1**	**-0.5**
	7.6nm,0.4s								
PKIN	**Phulchoki**	**51.55**	**313**	*eP*	P		**P**	**16 59 26.3**	**-0.3**
	3.2nm,0.5s								
KKN	**Kakani**	**51.76**	**313**	*eP*	P		**P**	**16 59 27.5**	**-0.5**
	3.5nm,0.4s								
DMN	**Daman**	**51.78**	**313**	*eP*	P		**P**	**16 59 27.8**	**-0.5**
	3.5nm,0.5s								
GKN	**Gorkha**	**52.34**	**313**	*eP*	P		**P**	**16 59 31.8**	**-0.4**
	12nm,0.3s								
KOLN	**Koldanda**	**52.97**	**312**	*eP*	P		**P**	**16 59 36.2**	**-0.5**
	9.1nm,0.5s								
SONM	**Songino Array**	**56.83**	**345**	P	P		**P**	**17 00 03.6**	**+0.5**
	0.5nm,0.6s,baz=159,slow=8.8,SNR=4.0								
PETK	**Petropavlovsk-**	**65.54**	**21**	P	P		**P**	**17 01 00.1**	**+0.1**
	1.0nm,0.8s,baz=161,slow=14,SNR=3.1								
MKAR	**Makanchi Array**	**65.55**	**329**	P	P		**P**	**17 01 00.5**	**+0.2**
	0.7nm,0.5s,baz=120,slow=6.3,SNR=17								
ZALV	**Zalesovo Beam**	**69.36**	**336**	P	P		**P**	**17 01 22.9**	**-0.4**
	1.0nm,0.5s,baz=128,slow=6.5,SNR=6.8								
VNDA	**Vanda**	**73.34**	**172**	P	P		**P**	**17 01 47.1**	**+0.9**
	0.3nm,0.5s,baz=323,slow=5.1,SNR=3.3								
BVAR	**Borovoye Array**	**75.42**	**329**	P	P		**P**	**17 01 58.0**	**-0.5**
	0.7nm,0.6s,baz=119,slow=12,SNR=4.6								

IDC ***02*** *17:01:14.9±1.9, 1.°32S×12.°93W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/32, mbtmp3.7/4, ML3.7/1, MS3.8/7, Ms1 3.8/7, ms1mx3.6/23, Error ellipse: s-maj=106.2km s-min=15.3km az=113.0*

ISC 02 17:01:17.3±1.4, 1.°5S±0.°3×12.°4W±0.°4, h10km, n18, σ1§91/13, MS3.6/6, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**6.61**	**198**	Pn	Pn		**Pn**	**17 02 53.3**	**-0.9**
H10N2				T	T		T	17 09 55.0	
	baz=4.9,slow=74,SNR=33								
H10N1	**ASCENSION HYDR**	**6.62**	**198**	Pn	Pn		**Pn**	**17 02 53.6**	**-0.9**
H10N1				T	T		T	17 09 54.7	
	baz=4.9,slow=74,SNR=26								
H10N3	**ASCENSION HYDR**	**6.62**	**199**	Pn	Pn		**Pn**	**17 02 54.1**	**-0.4**
H10N3				T	T		T	17 10 02.6	
	baz=4.9,slow=74,SNR=87								
H10S1	**ASCENSION HYDR**	**7.71**	**197**	Pn	Pn		**Pn**	**17 03 08.7**	**-0.7**
H10S1				T	T		T	17 11 19.1	
	baz=6.2,slow=75,SNR=45								
H10S3	**ASCENSION HYDR**	**7.72**	**197**	Pn	Pn		**Pn**	**17 03 08.9**	**-0.7**
H10S3				T	T		T	17 11 07.9	
	baz=6.2,slow=75,SNR=67								
H10S2	**ASCENSION HYDR**	**7.72**	**197**	Pn	Pn		**Pn**	**17 03 09.5**	**-0.1**
H10S2				T	T		T	17 11 11.6	
	baz=6.2,slow=75,SNR=37								
LIC	**Lamto**	**10.63**	**44**	*eP*	Pn		Pn	17 03 54.3	+4.5
	77nm,1.8s								
KIC	**Kosan Boka**	**10.93**	**44**	*eP*	Pn		**Pn**	**17 03 56.9**	**+3.0**
	145nm,2.1s								
TIC	**Toumodi**	**10.94**	**42**	*eP*	Pn		**Pn**	**17 03 53.9**	**-0.2**
	7.7nm,0.3s								
DBIC	**Dimbokro**	**11.07**	**43**	Pn	Pn		**Pn**	**17 03 57.6**	**+1.8**
	0.5nm,0.3s,baz=234,slow=14,SNR=6.6								
DBIC				Sn	Sn		**Sn**	**17 05 56.2**	**-3.6**
	0.4nm,0.3s,baz=305,slow=19,SNR=1.9								
DBIC				LR	LR			17 07 05.4	
	comp=Z,333nm,20.9s,baz=215,slow=31								
TORD	**Torodi Ar. Bea**	**20.18**	**43**	P	P		**P**	**17 05 52.0**	**-0.3**
	2.7nm,0.6s,baz=230,slow=11,SNR=20								
TORD				LR	LR			17 12 54.9	
	comp=Z,297nm,21.9s,baz=145,slow=34								
RCBR	**Riachuelo**	**23.86**	**259**	LR	LR			17 14 36.1	
	comp=Z,208nm,18.9s,baz=74,slow=34								
MSKU	**Masuku**	**25.98**	**91**	LR	LR			17 16 31.9	
	comp=Z,184nm,18.4s,baz=308,slow=35								
BDFB	**Brasilia**	**37.83**	**246**	LR	LR			17 22 53.7	
	comp=Z,90nm,18.1s,baz=56,slow=35								
KMBO	**Kilima Mbogo**	**49.62**	**90**	LR	LR			17 30 37.7	
	comp=Z,257nm,18.2s,baz=278,slow=35								
GERES	**GERESS Array B**	**55.02**	**21**	P	P		**P**	**17 10 47.5**	**-1.5**
	0.6nm,0.8s,baz=206,slow=5.8,SNR=6.2								
BRTR	**Keskin Array B**	**58.76**	**40**	P	P		**P**	**17 11 18.3**	**+2.4**
	0.1nm,0.3s,baz=230,slow=6.8,SNR=2.7								
GEYT	**Alibeck**	**75.65**	**50**	LR	LR			17 48 25.7	
	comp=Z,87nm,18.4s,baz=295,slow=37								

ISCJB ***02*** *17:12:06.5±0.2, 43.°95N±0.°02×105.°30W±0.°02, h0km, Error ellipse: s-maj=2.2km s-min=2.1km az=179.8*

NEIC ***02*** *17:12:06.2±0.6, 43.°86N×105.°17W, h0km, ML3.2, Error ellipse: s-maj=8.6km s-min=7.3km az=148.0, Suspected Mining explosion.*

NEIC 55 km [35 miles] SSE of Gillette.

IDC ***02*** *17:12:07.7±1.9, 44.°01N×105.°45W, h0km, mb1 3.4/3, mb1mx3.2/29, mbtmp3.2/3, ML3.1/3, Error ellipse: s-maj=48.6km s-min=8.9km az=147.0*

ISC 02 17:12:06.2±0.7, 43.°92N±0.°02×105.°31W±0.°02, h0km, n79, σ1§31/113, 27C-18D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.12**	**290**	P	P		**Pg**	**17 12 10.2**	**+1.8**
	baz=0.2,SNR=1000								
I24A	**Kuemmerle Ranc**	**0.50**	**97**	P	Pg			**17 12 16.6**	**+0.9**
	baz=0.4,SNR=47								
J23A	**Dilts Ranch, B**	**0.55**	**199**	P	Pb			**17 12 18.6**	**-0.1**
	baz=0.5,SNR=38								
H23A	**Clabaugh Cattl**	**0.64**	**354**	⇑P	Pg			**17 12 18.7**	**+0.2**
	baz=0.7,SNR=18								
J24A	**Dixon Ranch, L**	**0.76**	**141**	P	Pb			**17 12 21.9**	**-0.4**
	baz=0.6,SNR=180								
I22A	**9 Mile Ranch,**	**0.85**	**269**	P	Pb			**17 12 23.5**	**-0.4**
	baz=0.9,SNR=79								
I22A				⇑S	Sb			**17 12 35.5**	**-0.3**
	baz=0.9								
RSSD	**Black Hills**	**0.94**	**77**	*e*Pg	Pg			**17 12 24.2**	**-0.1**
RSSD				*e*Sg	Sg			**17 12 32.7**	**-3.8**
J22A	**Midwest**	**0.99**	**239**	P	Pg			**17 12 25.7**	**+0.6**
	baz=1.0,SNR=137								
J22A				⇓S	Sb			**17 12 40.7**	**+0.8**
	baz=1.0								
H24A	**Dirks Ranch, A**	**0.99**	**33**	P	Pg			**17 12 24.6**	**-0.6**
	baz=1.0,SNR=197								
H24A				⇓S	Sg			**17 12 38.6**	**+0.5**
	baz=1.0								
H22A	**Clearmont**	**1.01**	**312**	⇑P	Pb			**17 12 26.2**	**-0.4**
	baz=1.1,SNR=32								
I25A	**Rochford**	**1.15**	**84**	P	Pg			**17 12 28.1**	**-0.1**
	baz=1.0,SNR=260								
I25A				⇑S	Sb			**17 12 44.3**	**-0.2**
	baz=1.0								
K23A	**Bowen Ranch, D**	**1.19**	**191**	⇑P	Pn			**17 12 30.4**	**+0.1**
	baz=1.2,SNR=17								
K23A				⇓S	Sn			**17 12 47.5**	**+0.4**
	baz=1.2								
J25A	**Sunshine Ranch**	**1.22**	**115**	P	Pg			**17 12 29.8**	**+0.3**
	baz=1.1,SNR=117								
J25A				⇑S	Sb			**17 12 47.4**	**+0.9**
	baz=1.1								
K24A	**Anderson Ranch**	**1.25**	**163**	P	Pn			**17 12 31.1**	**0.0**
	baz=1.2,SNR=24								
K24A				⇑S	Sn			**17 12 49.4**	**+0.7**
	baz=1.2								
G23A	**Biddle**	**1.28**	**358**	P	Pg			**17 12 30.7**	**-0.1**
	baz=1.4,SNR=83								
H25A	**Fruitdale**	**1.42**	**60**	P	Pn			**17 12 33.2**	**-0.1**
	baz=1.4,SNR=29								
H25A				⇓S	Sb			**17 12 52.5**	**+0.3**
	baz=1.4								
H21A	**Big Horn, Sher**	**1.43**	**300**	⇑P	Pn			**17 12 33.7**	**+0.2**
	baz=1.5								
H21A				⇑S	Sn			**17 12 53.6**	**+0.4**
	baz=1.5								
I21A	**Big Trails, Te**	**1.44**	**266**	P	Pn			**17 12 33.6**	**0.0**
	baz=1.5,SNR=210								
I21A				⇓S	Sn			**17 12 54.2**	**+0.9**
	baz=1.5								
G22A	**Birney**	**1.48**	**332**	⇑P	Pn			**17 12 34.0**	**-0.1**
	baz=1.6,SNR=30								
G22A				⇑S	Sn			**17 12 54.7**	**+0.5**
	baz=1.6								
G24A	**Alzada**	**1.55**	**24**	⇓P	Pn			**17 12 35.0**	**-0.1**
	baz=1.6,SNR=24								
G24A				⇑S	Sn			**17 12 56.2**	**+0.2**
	baz=1.6								
K22A	**Casper**	**1.55**	**215**	*e*Pn	Pn			**17 12 35.7**	**+0.5**
K22A				*e*Sn	Sn			**17 12 56.2**	**+0.1**
K22A	**Casper**	**1.55**	**215**	P	Pb			**17 12 36.0**	**+0.2**
	baz=1.6,SNR=122								
K22A				⇓S	Sg			**17 12 58.3**	**+2.4**
	baz=1.6								
J21A	**Lysite**	**1.65**	**250**	⇓P	Pn			**17 12 37.2**	**+0.5**
	baz=1.7,SNR=38								
J21A				⇓S	Sg			**17 13 00.1**	**+0.8**
	baz=1.7								
K25A	**Mack Ranch, Ha**	**1.68**	**141**	⇑Pb	Pb			**17 12 38.1**	**+0.1**
	baz=1.6,SNR=39								
J26A	**Sides Ranch, S**	**1.73**	**110**	⇑Pb	Pb			**17 12 38.9**	**-0.1**
	baz=1.6,SNR=16								
I26A	**New Underwood**	**1.77**	**86**	⇑Pb	Pn			**17 12 39.2**	**+0.9**
	baz=1.7,SNR=33								
F23A	**Volborg**	**1.80**	**358**	⇑Pb	Pn			**17 12 39.3**	**+0.7**
	baz=1.9,SNR=40								
L23A	**Garrett**	**1.83**	**189**	⇓P	Pb			**17 12 40.3**	**-0.4**
	baz=1.8,SNR=174								
G25A	**Newell**	**1.86**	**46**	⇑P	Pn			**17 12 39.7**	**+0.3**
	baz=1.8,SNR=8.0								
G21A	**Lodge Grass**	**1.88**	**315**	⇓P	Pn			**17 12 39.7**	**0.0**
	baz=2.0,SNR=27								
L24A	**Wheatland**	**1.90**	**171**	⇑P	Pn			**17 12 41.5**	**-0.3**
	baz=1.8,SNR=19								
K21A	**Alcova**	**1.91**	**228**	⇓P	Pb			**17 12 41.9**	**-0.2**
	baz=1.9,SNR=73								
F22A	**Rosebud**	**1.98**	**340**	⇑P	Pn			**17 12 41.7**	**+0.7**
	baz=2.1,SNR=87								
F24A	**Ekalaka**	**2.02**	**17**	⇑P	Pn			**17 12 42.3**	**+0.7**
	baz=2.1,SNR=16								
L25A	**Engebretsen Ra**	**2.02**	**150**	⇓Pb	Pb			**17 12 44.1**	**+0.2**
	baz=1.9,SNR=51								
I20A	**Worland**	**2.03**	**272**	⇑P	Pn			**17 12 43.2**	**+1.3**
	baz=2.1,SNR=174								
L22A	**Ellis Ranch, M**	**2.06**	**204**	⇓P	Pb			**17 12 44.4**	**-0.2**
	baz=2.0,SNR=42								
G20A	**Bridger**	**2.45**	**303**	P	Pn			**17 12 47.9**	**+0.3**
	baz=2.6,SNR=77								
M24A	**Cheyenne**	**2.48**	**171**	P	Pb			**17 12 50.6**	**-1.1**
	baz=2.4,SNR=72								
E23A	**Ismay**	**2.58**	**0**	⇑P	Pn			**17 12 49.4**	**+0.2**
	baz=2.6,SNR=18								
E24A	**Baker**	**2.73**	**15**	⇑P	Pn			**17 12 52.1**	**+0.7**
	baz=2.8,SNR=29								
H19A	**Powell**	**2.74**	**287**	⇓P	Pn			**17 12 52.9**	**+1.3**
	baz=2.9,SNR=14								
F20A	**Billings**	**2.76**	**314**	⇓P	Pn			**17 12 51.9**	**+0.2**
	baz=2.9,SNR=9.8								
LAO	**LASA Array**	**2.84**	**347**	*e*Pn	Pn			**17 12 52.9**	**0.0**
LAO				*e*Sn	Sn			**17 13 29.9**	**+2.0**
N23A	**Red Feather La**	**3.06**	**189**	P	Pn			**17 12 58.5**	**+2.4**
	baz=3.0,SNR=42								
RLMT	**Red Lodge**	**3.07**	**294**	*e*Pn	Pn			**17 12 57.5**	**+1.2**
RLMT				*e*Pg	Pg			**17 13 08.1**	**+3.0**
RLMT				*e*Sn	Sn			**17 13 36.9**	**+3.2**
F19A	**Roth Farm, Mol**	**3.22**	**308**	⇓P	Pn			**17 12 59.2**	**+1.0**
	baz=3.3,SNR=19								
PDAR	**Pinedale Array**	**3.30**	**251**	Pn	Pb			**17 13 03.3**	**-2.5**
	1.9nm,0.3s,baz=62,slow=17,SNR=41								
PDAR				Lg	Lg			17 13 48.7	
	9.4nm,0.3s,baz=70,slow=31,SNR=16								
BW06	**Boulder Array**	**3.31**	**251**	*e*Pn	Pn			**17 13 01.4**	**+2.0**
H17A	**Grant Village**	**3.82**	**279**	*e*Pn	Pn			**17 13 08.0**	**+1.5**
OGNE	**Ogallala**	**3.84**	**140**	Pn	Pn			**17 13 04.4**	**-2.2**
OGNE				*e*Pg	Pb			**17 13 17.7**	**+2.8**
LOHW	**Long Hollow**	**3.84**	**267**	*eP*	Pb			17 13 11.8	-3.2
M28A	**Bar X Bar Ranc**	**3.85**	**130**	P	Pn			**17 13 08.6**	**+1.8**
	baz=3.7,SNR=8.5								
FLWY	**Flagg Ranch**	**3.89**	**274**	*eP*	Pn			17 13 10.8	+3.4
MOOW	**Moose Ponds**	**3.93**	**269**	*e*Pn	Pn			**17 13 08.1**	**+0.1**
MOOW				*e*Pg	Pg			**17 13 20.7**	**-0.9**
MOOW				*e*Sn	Sn			**17 13 53.0**	**-2.0**
SNOW	**Snow King Moun**	**3.97**	**265**	Pn	Pn			**17 13 08.6**	**-0.1**
SNOW				*e*Pg	Pg			**17 13 22.1**	**-0.3**
SNOW				*e*Sn	Sn			**17 13 54.9**	**-1.1**
REDW	**Red Top Meadow**	**4.06**	**264**	*e*Pn	Pn			**17 13 08.8**	**-0.9**
REDW				*e*Pg	Pg			**17 13 23.4**	**-0.6**
REDW				*e*Sn	Sn			**17 13 55.7**	**-2.4**
REDW				*e*Sg	Sg			**17 14 15.3**	**-1.3**
IMW	**Indian Meadow**	**4.07**	**272**	*eP*	Pn			**17 13 11.7**	**+1.7**
TPAW	**Teton Pass**	**4.11**	**266**	Pn	Pn			**17 13 11.1**	**+0.5**
TPAW				*e*Pg	Pg			**17 13 24.1**	**-0.9**
TPAW				*e*Sn	Sn			**17 13 57.7**	**-1.8**
TPAW				*e*Sg	Sg			**17 14 16.4**	**-1.9**
ISCO	**Idaho Springs**	**4.12**	**183**	Pn	Pn			**17 13 08.8**	**-1.9**
O20A	**White River Ci**	**4.37**	**211**	*e*Pn	Pn			**17 13 12.8**	**-1.2**
P26A	**Davis Ranch, A**	**4.60**	**161**	P	Pn			**17 13 19.5**	**+2.4**
	baz=4.5,SNR=14								
B25A	**Knox Farm, Ray**	**4.60**	**18**	P	Pn			**17 13 18.7**	**+1.6**
	baz=4.6,SNR=11								
DGMT	**Dagmar**	**4.62**	**9**	*e*Pn	Pn			**17 13 18.3**	**+1.1**
DGMT				*e*Pg	Pg			**17 13 33.6**	**-1.0**
DGMT				*e*Sg	Sg			**17 14 32.7**	**-1.8**
BOZ	**Bozeman (W)**	**4.82**	**293**	*e*Pn	Pn			**17 13 20.9**	**+0.8**
P27A	**Ficken Ranch,**	**4.82**	**154**	⇑P	Pn			**17 13 22.3**	**+2.2**
	baz=4.7,SNR=7.5								
SMCO	**Snowmass**	**4.90**	**195**	Pn	Pn			**17 13 21.0**	**-0.5**
SMCO				*e*Pg	Pg			**17 13 38.2**	**-1.9**
SMCO				*e*Sn	Sn			**17 14 18.0**	**-1.1**
P28A	**Saint Francis**	**5.09**	**147**	⇑P	Pn			**17 13 25.2**	**+1.3**
	baz=5.0,SNR=11								
HWUT	**Hardware Ranch**	**5.15**	**245**	*e*Pn	Pn			**17 13 25.7**	**+1.0**
	9.6nm,0.5s								
HWUT				*e*Sg	Sg			**17 14 49.8**	**-1.8**
KSCO	**Kaye Shedlock'**	**5.30**	**157**	⇑P	Pn			**17 13 28.3**	**+1.5**
	baz=5.2,SNR=8.6								
TCUT	**Toone Canyon**	**5.30**	**240**	Pn	Pn			**17 13 26.4**	**-0.5**
	16nm,0.5s								
TCUT				*e*Sn	Sn			**17 14 28.1**	**-0.7**
R24A	**Sanders Place,**	**5.69**	**178**	⇑P	Pn			**17 13 34.6**	**+2.5**
	baz=5.6,SNR=7.8								
R26A	**Arlington**	**5.79**	**165**	⇓P	Pn			**17 13 34.8**	**+1.4**
	baz=5.7,SNR=24								
R28A	**Tribune**	**6.17**	**153**	P	Pn			**17 13 39.5**	**+0.9**
	baz=6.1,SNR=11								
SWMT	**Swartz Lake**	**7.06**	**304**	*e*Pn	Pn			**17 13 51.8**	**+0.9**
	2.8nm,0.5s								
SWMT				*e*Sn	Sn			**17 15 15.1**	**+3.3**
YBMT	**Yellow Bay**	**7.24**	**306**	*e*Pn	Pn			**17 13 55.0**	**+1.7**
	7.0nm,0.6s								
I10CA	**LAC DU BONNET**	**8.92**	**42**	*i*				18 06 30.0	
	baz=223,slow=331,SNR=1.5								
ULM	**Lac du Bonnet**	**9.03**	**42**	Pn	Pn			**17 14 17.2**	**-0.5**
	0.6nm,0.3s,baz=225,slow=12,SNR=6.2								
ULM				Lg	Lg			17 16 45.6	
	0.3nm,0.3s,baz=239,slow=3.0,SNR=3.4								
YKA	**Yellowknife Ar**	**19.38**	**347**	P	P			**17 16 32.6**	**-0.7**
	0.1nm,0.3s,baz=161,slow=11,SNR=4.5								

IDC ***02*** *17:14:39.8±0.8, 2.°20S×139.°75E, h0km, mb4.0/15, mb1 4.2/16, mb1mx4.1/24, mbtmp4.1/16, ML4.3/1, MS3.5/4, Ms1 3.5/4, ms1mx3.2/26, Error ellipse: s-maj=28.4km s-min=15.2km az=89.0*

ISCJB ***02*** *17:14:43.3±0.3, 2.°19S±0.°04×139.°71E±0.°04, h33km, mb4.2/22, MS3.6/4, Error ellipse: s-maj=6.2km s-min=5.1km az=34.6*

DJA ***02*** *17:14:43.1±0.7, 2.°S±7.°×14.°0E±.°, h10km, M4.9/9, mb4.9/9, mB5.0/3, MLv5.0/8, Mw(mB)4.3/3*

NEIC ***02*** *17:14:44.9±0.4, 2.°19S×139.°72E, h35km, mb4.6/7, Error ellipse: s-maj=13.7km s-min=7.4km az=87.0*

BJI ***02*** *17:14:47.2, 2.°20S×139.°70E, h43km, mb4.2/13, mB4.8/7, Ms4.5/2, Ms7 4.0/1*

ISC 02 17:14:45.7±0.4, 2.°29S±0.°05×139.°63E±0.°04, h35km, n62, σ1§97/60, mb4.2/21, MS3.5/4, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.61**	**119**	P	Pn			**17 14 57.6**	**-0.3**
GENI				S	Sn			**17 15 09.3**	**+2.8**
SMPI	**Sarmi**	**0.97**	**288**	P	Pn			**17 15 01.4**	**-1.4**
SMPI				S	Sn			**17 15 16.6**	**+1.2**
JAY	**Jayapura**	**1.09**	**102**	P	Pn			**17 15 02.9**	**-1.6**
SRPI	**Serui, Papua**	**3.42**	**277**	P	Pn			**17 15 36.9**	**+0.4**
SRPI				S	Sn			**17 16 18.2**	**+2.3**
RKPI	**Ransiki, Papua**	**5.51**	**278**	P	Pn			**17 16 06.0**	**+0.7**
	118nm,0.7s,1µm0.6nm								
MMPI	**Merauke**	**6.18**	**173**	P	Pn			17 16 20.0	+5.5
	411nm,0.6s,1.9nm								
FAKI	**Fak Fak**	**7.40**	**265**	P	Pn			**17 16 33.8**	**+2.5**
	53nm,0.7s,629nm0.2nm								
FAKI				S	Sn			**17 17 50.2**	**-4.0**
	53nm,0.7s,629nm0.2nm								
BNDI	**Bandanaira**	**9.96**	**257**	P	Pn			**17 17 08.7**	**+2.3**
	93nm,1.3s								
MSAI	**Masohi**	**10.74**	**264**	P	Pn			17 17 20.4	+3.2
	9.7nm,0.7s								
KDU	**Kakadu**	**12.53**	**214**	P	Pn			**17 17 41.5**	**0.0**
	baz=11,SNR=32								
NLAI	**Namlea**	**12.55**	**265**	P	Pn			**17 17 41.0**	**-0.9**
	36nm,1.0s								
SANI	**Sanana**	**13.64**	**271**	P	P			**17 18 05.7**	**+0.6**
KMSI	**Cibinong**	**15.91**	**280**	P	P			17 18 49.3	+19
KNRA	**Kununurra**	**17.08**	**218**	P	Pn			**17 18 42.2**	**+0.4**
	baz=16,SNR=22								
KNRA				S	Sn			**17 21 47.5**	**-3.3**
	baz=16,SNR=4.4								
BATI	**Baumata**	**17.70**	**243**	P	P			**17 18 54.6**	**+4.3**
QIS	**Mount Isa**	**18.15**	**180**	P	P			**17 18 57.4**	**+2.2**
	baz=17,SNR=5.7								
WRAB	**Tennant Creek**	**18.28**	**196**	*eP*	Pn			**17 18 58.9**	**+2.2**
	34nm,0.9s								
WRA	**Warramunga Arr**	**18.29**	**196**	P	P			**17 18 56.6**	**-0.1**
	1.0nm,0.3s,baz=18,slow=12,SNR=48								
WRA				S	Sn			**17 22 14.4**	**-5.8**
	0.5nm,0.3s,baz=6.9,slow=22,SNR=8.1								
HNR	**Honiara**	**21.40**	**110**	P	P			**17 19 29.0**	**-1.7**
	125nm,0.7s								
AS31	**Alice Springs**	**21.96**	**194**	*eP*	P			**17 19 37.2**	**+0.7**
ASAR	**Alice Springs**	**21.96**	**194**	P	P			**17 19 37.0**	**+0.4**
	4.9nm,0.6s,baz=30,slow=11,SNR=60								
ASAR				S	S			**17 23 37.5**	**+0.3**
	4.0nm,0.8s,baz=19,slow=24,SNR=5.9								
QLP	**Quilpie**	**24.55**	**170**	P	P			**17 20 03.7**	**+1.4**
	baz=23,SNR=5.7								
WRKA	**Warakurna**	**25.12**	**205**	P	P			**17 20 08.2**	**+0.7**
	baz=24,SNR=24								
EIDS	**Eidsvold**	**25.46**	**155**	P	P			**17 20 13.5**	**+2.9**
	baz=24,

1.2nm,0.9s,baz=234,slow=4.7,SNR=8.9
YKA Yellowknife Ar 99.28 27 P **Pdif 17 28 23.6 -0.2**
0.3nm,0.9s,baz=279,slow=4.9,SNR=3.7
TORD Torodi Ar. Bea 137.02 287 PKP **PKPdf 17 34 06.7 +0.6**
0.4nm,0.7s,baz=46,slow=4.2,SNR=3.5
DBIC Dimbokro 144.34 278 PKP **PKPab 17 34 17.7 +0.4**
4.1nm,0.7s,baz=88,slow=5.0,SNR=4.5

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*SJA **02** 17:19:20.3±1.0,33˚.80S×73˚.12W,h11km,ML3.4,MW3.9*
*GUC **02** 17:19:26.9±0.6,34˚.29S×71˚.96W,h53km±8km,ML3.6*
ISC 02 17:19:23.6±2.4,34˚22S±0˚.04×72˚.2W±0˚.1,h9km±12km,n18,
σ0s79/22,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.10**	**136**	*eP*		**Pb**		**17 19 45.0**	**+0.1**
NICH				*eS*		**Sg**		**17 19 58.5**	**-0.6**
NICH					AML	AML		17 20 06.1	
	comp=N,3μm,0.4s								
TACH	**Talagante**	**1.17**	**62**	*eP*		**Pg**		**17 19 46.7**	**+0.7**
TALC	**Talca**	**1.26**	**160**	*eP*		**Pg**		**17 19 47.8**	**0.0**
TALC				*eS*		**Sb**		**17 20 03.8**	**-0.1**
RCDM	**Rinconada Maip**	**1.34**	**58**	AML		AML		17 20 05.4	
	comp=E,1μm,0.1s								
SAN	**Santiago**	**1.46**	**59**	*eS*		**Sn**		**17 20 09.5**	**-0.2**
STL	**Santa Lucia**	**1.49**	**59**	*eP*		**Pb**		**17 19 51.4**	**-0.1**
STL				*eS*		**Sn**		**17 20 10.1**	**-0.1**
ROCH	**El Roble**	**1.57**	**38**	*eP*		**Pg**		**17 19 53.8**	**0.0**
ROCH					AML	AML		17 20 20.6	
	comp=N,1μm,0.3s								
CLCH	**Cerro Calan**	**1.58**	**59**	*eP*		**Pb**		**17 19 53.3**	**+0.2**
CLCH				*eS*		**Sn**		**17 20 12.8**	**+0.2**
CLCH					AML	AML		17 20 22.1	
	comp=E,1μm,2.3s								
SJCH	**San Jose de Ma**	**1.61**	**70**	*eP*		**Pn**		**17 19 53.0**	**+0.6**
SJCH				*eS*		**Sn**		**17 20 12.3**	**-1.1**
PEL	**Peldehue**	**1.63**	**50**	*eP*		**Pb**		**17 19 54.6**	**+0.7**
PEL				*eS*		**Sb**		**17 20 15.4**	**+0.8**
PEL					AML	AML		17 20 19.4	
	comp=N,3μm,0.4s								
AAGR	**Agrelo**	**3.00**	**69**	*eP*		**Pg**		**17 20 20.6**	**-0.5**
ARCO	**CERRO ARCO**	**3.03**	**64**	*eP*		**Pb**		**17 20 19.8**	**+2.0**
ARCO					AML	AML		17 21 10.9	
	comp=Z,66nm,0.5s								
AUSP	**Uspallata**	**3.06**	**50**	*eP*		**Pb**		**17 20 18.2**	**-0.3**
AUSP				*eS*		**Sg**		**17 21 01.7**	**-0.2**
ASAL	**Salagasta**	**3.22**	**61**	*eP4*		Pg		17 20 22.3	-3.1
ASAL				*eS*		**Sg**		**17 21 06.7**	**-0.4**
RTLS	**Leoncito**	**3.41**	**46**	*eP*		**Pb**		**17 20 23.2**	**-1.2**
RTCV	**Cerro Valdivia**	**3.84**	**53**	*eP*		Pb		17 20 28.5	-3.2
RTLL	**Cerro Villicun**	**4.24**	**48**	*eP*		Pn		17 20 33.2	+4.8
RTLL				*eS*		**Sb**		**17 21 28.3**	**-1.3**
AMOG	**MOGNA**	**4.50**	**45**	*eP*		Pn		17 20 36.4	+4.3

DJA 02 17:24:19.5±0.9,6˚S±4˚×13˚9E±1˚1,h10km,M4.4/4,
MLv4.4/4,Near south coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MMPI	**Merauke**	**3.35**	**149**	P		Pn		17 25 13.2	+1.2
GENI	**Genyem**	**3.35**	**27**	P		Pn		17 25 10.6	-1.4
GENI				S		Sn		17 25 53.9	+2.0
SMPI	**Sarmi**	**3.58**	**1**	P		Pn		17 25 14.5	-0.6
SMPI				S		Sn		17 26 00.2	+2.8
JAY	**Jayapura**	**3.69**	**34**	P		Pn		17 25 16.7	-0.1

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*ISCJB **02** 17:26:20.5±0.8,54˚.6S±0˚.1×28˚.6W±0˚.5,h10km,mb3.9/4,*
Error ellipse: s-maj=42.6km s-min=12.8km az=157.7
*IDC **02** 17:26:21.4±0.9,54˚.55S×28˚.62W,h0km,mb3.9/4,*
mb1 4.1/4,mb1mx3.9/16,mbtmp3.9/4,Error ellipse:
s-maj=40.3km s-min=26.1km az=66.0
*AWI **02** 17:26:24.6,54˚.32S×27˚.56W*
ISC 02 17:26:22.6±0.8,54˚.6S±0˚.2×28˚.6W±0˚.3,h10km,n10,
σ0s71/11,mb4.0/4,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**18.62**	**161**	P		**P**		**17 30 39.7**	**-0.2**
VNA2	**Neumayer--Watz**	**18.83**	**158**	P		**P**		**17 30 41.5**	**-0.7**
	baz=312,slow=13								
SNAA	**Sanae**	**20.39**	**157**	P		**P**		**17 30 58.3**	**-0.9**
CPUP	**Villa Florida**	**35.24**	**312**	P		**P**		**17 33 16.5**	**-0.6**
	1.8nm,0.9s,baz=151,slow=8.7,SNR=7.8								
BDFB	**Brasilia**	**41.71**	**331**	P		**P**		**17 34 11.9**	**+0.3**
	2.0nm,0.6s,baz=131,slow=8.4,SNR=4.9								
VNDA	**Vanda**	**47.97**	**183**	P		**P**		**17 35 01.7**	**+0.9**
	1.0nm,0.7s,baz=186,slow=4.2,SNR=9.5								
TORD	**Torodi Ar. Bea**	**72.23**	**31**	P		**P**		**17 37 48.0**	**+0.2**
	0.8nm,0.7s,baz=208,slow=7.5,SNR=5.1								
YKA	**Yellowknife Ar**	**134.55**	**319**	PKP		**PKPdf**		**17 45 39.5**	**0.0**
	0.4nm,0.7s,baz=124,slow=2.3,SNR=6.9								
ILAR	**Eielson Array**	**148.53**	**314**	PKPbc		**PKPbc**		**17 46 08.3**	**+0.2**
	3.4nm,0.8s,baz=121,slow=1.8,SNR=36								
SONM	**Songino Array**	**151.44**	**85**	PKPbc		**PKPbc**		**17 46 15.0**	**-0.9**
	1.1nm,0.6s,baz=223,slow=3.1,SNR=8.2								
SONM				PKPab		**PKPab**		**17 46 25.0**	**+0.6**
	0.7nm,0.8s,baz=230,slow=4.5,SNR=3.9								

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*IDC **02** 17:48:12.3±0.5,33˚.99S×72˚.66W,h0km,mb4.4/12,*
mb1 4.5/14,mb1mx4.3/29,mbtmp4.3/14,ML3.7/3,MS4.1/10,
Ms1 4.1/10,ms1mx3.9/17,Error ellipse: s-maj=19.3km
s-min=15.1km az=78.0
*ISCJB **02** 17:48:14.4±0.2,33˚.98S±0˚.03×72˚.66W±0˚.04,h17km,*
mb4.7/48,MS4.0/6,Error ellipse: s-maj=4.9km
s-min=4.0km az=28.6
*GUC **02** 17:48:14.2±0.6,33˚.90S×72˚.76W,h32km±7km,ML4.5*
*NEIC **02** 17:48:15.8±2.7,33˚.94S×72˚.65W,h22km±18km,mb4.9/36,*
Error ellipse: s-maj=11.5km s-min=6.7km az=76.0
NEIC Felt at Santiago, Valparaiso and Vina del Mar.
ISC 02 17:48:15.4±0.4,33˚.95S±0˚.04×72˚.58W±0˚.05,h17km,n361,
σ1s11/374,mb4.8/48,MS4.0/6,136C-135D,Off coast of
central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**1.21**	**41**	*eP*		**Pn**		**17 48 36.3**	**-1.2**
NICH	**Los Niches**	**1.53**	**134**	*eP*		**Pb**		**17 48 43.0**	**-0.3**
NICH				*eS*		**Sg**		**17 49 04.0**	**-0.7**
ROCH	**El Roble**	**1.63**	**54**	⇑*iP*		**Pn**		**17 48 43.1**	**-0.5**
ROCH				*i* S		**Sb**		**17 49 06.2**	**+0.6**
ROCH					AML	AML		17 49 22.6	
	comp=N,6μm,0.7s								
TALC	**Talca**	**1.64**	**152**	⇑*iP*		**Pn**		**17 48 43.7**	**+0.2**
PEL	**Peldehue**	**1.77**	**64**	⇑*iP*		**Pn**		**17 48 45.8**	**+0.4**
PEL				*i* S		**Sb**		**17 49 09.6**	**+0.1**
PEL					AML	AML		17 49 25.8	
	comp=E,10μm,0.8s								
CLCH	**Cerro Calan**	**1.79**	**73**	⇑*iP*		**Pn**		**17 48 46.2**	**+0.6**
CLCH				*eS*		**Sb**		**17 49 10.3**	**+0.3**
CLCH					AML	AML		17 49 33.2	
	comp=N,7μm,0.7s								
CLCH					AML	AML		17 49 33.9	
	comp=N,8μm,0.6s								
LNCH	**Linares**	**2.06**	**157**	⇑*iP*		**Pn**		**17 48 49.4**	**+0.2**
CFAA	**Coronel Fontan**	**4.34**	**59**	Pn		**Pn**		**17 49 22.6**	**+1.9**
	comp=N,0.6nm,0.3s,baz=235,slow=11,SNR=62								
CFAA					Lg	Lg		17 50 33.4	
	comp=N,0.9nm,0.3s,baz=22,slow=19,SNR=4.3								
LCO	**Las Campanas**	**5.18**	**19**	*ePn*		**Pn**		**17 49 30.6**	**-1.8**
LCO				*eSn*		**Sn**		**17 50 30.9**	**-1.0**
PLCA	**Paso Flores**	**6.96**	**167**	Pn		**Pn**		**17 49 56.4**	**-0.3**
	comp=N,1.6nm,0.3s,baz=326,slow=10,SNR=25								
PLCA					Lg	Lg		17 51 53.5	
	comp=N,0.7nm,0.3s,baz=264,slow=18,SNR=2.1								
PLCA					LR	LR		17 52 48.1	
	comp=N,932nm,19.7s,baz=357,slow=40								
PLCA	**Paso Flores**	**6.96**	**167**	*ePn*		**Pn**		**17 49 56.6**	**0.0**
PLCA				*eSn*		**Sn**		**17 51 15.4**	**0.0**
PLCA				Lg		Lg		17 51 53.5	
TRQA	**Tornquist**	**9.51**	**119**	*ePn*		**Pn**		**17 50 32.1**	**+0.5**
TRQA				*eSn*		**Sn**		**17 52 15.7**	**-2.4**
LVC	**Limon Verde**	**11.75**	**17**	LR		LR		17 55 58.7	
	comp=N,5μm,18.3s,baz=219,slow=40								
CPUP	**Villa Florida**	**15.21**	**64**	Pn		**Pn**		**17 51 50.0**	**+0.6**
	comp=N,0.0nm,0.3s,baz=358,slow=3.1,SNR=2.3								
CPUP					Lg	Lg		17 56 05.8	
	comp=N,0.0nm,0.3s,baz=144,slow=20,SNR=3.9								
CPUP					LR	LR		17 58 15.0	
	comp=N,3μm,19.4s,baz=200,slow=39								

LPAZ	**La Paz**	**18.04**	**14**	LR		LR		18 00 16.3	
	comp=N,415nm,19.5s,baz=329,slow=40								
SAML	**Samuel**	**26.34**	**21**	*eP*		**P**		**17 53 49.4**	**-1.2**
	comp=N,3.5nm,0.9s								
ATAH	**Atahualpa**	**27.22**	**347**	LR		LR		18 02 37.5	
	comp=N,258nm,18.8s,baz=89,slow=32								
BDFB	**Brasilia**	**28.68**	**57**	P		P		17 54 08.2	-3.5
	comp=N,2.1nm,0.7s,baz=240,slow=8.1,SNR=3.0								
BDFB						LR		LR	18 06 27.8
	comp=N,410nm,19.2s,baz=226,slow=38								
BDFB	**Brasilia**	**28.68**	**57**	*eP*		**P**		**17 54 13.3**	**+1.6**
OTAV	**Otavalo**	**34.45**	**350**	*eP*		**P**		**17 55 02.4**	**-0.4**
	comp=N,10.0nm,1.3s								
VNA3	**Neumayer Olymp**	**49.57**	**158**	P		**P**		**17 57 06.2**	**+1.1**
VNA2	**Neumayer--Watz**	**50.23**	**157**	P		**P**		**17 57 10.8**	**+0.7**
	baz=275,slow=9.1								
SNAA	**Sanae**	**51.80**	**158**	P		**P**		**17 57 22.7**	**+0.8**
SNAA	**Sanae**	**51.80**	**158**	P		**P**		**17 57 22.2**	**+0.3**
	comp=N,4.4nm,1.0s,baz=277,slow=6.4,SNR=13								
QSPA	**South Pole Qui**	**56.28**	**180**	*eP*		**P**		**17 57 55.3**	**+0.5**
VNDA	**Vanda**	**64.06**	**191**	P		**P**		**17 58 47.7**	**-0.1**
	comp=N,1.1nm,1.0s,baz=156,slow=4.5,SNR=3.7								
933A	**Laredo**	**66.25**	**334**	⇑P		**P**		**17 59 04.3**	**+1.8**
	baz=66								
736A	**Circle Diamond**	**66.72**	**337**	⇑P		**P**		**17 59 07.6**	**+2.1**
	baz=67								
735A	**Kenedy**	**66.88**	**336**	⇓P		**P**		**17 59 07.7**	**+1.3**
	baz=67								
833A	**Chaparral WMA,**	**66.94**	**334**	⇑P		**P**		**17 59 08.2**	**+1.3**
	baz=67								
832A	**Faith Ranch, C**	**67.12**	**334**	⇓P		**P**		**17 59 09.1**	**+1.0**
	baz=67								
636A	**Smothers Creek**	**67.20**	**337**	⇑P		**P**		**17 59 09.8**	**+1.3**
	baz=68								
733A	**Divot King Ran**	**67.27**	**335**	⇓P		**P**		**17 59 10.3**	**+1.3**
	baz=68								
732A	**Laxson Ranch,**	**67.52**	**334**	⇑P		**P**		**17 59 10.7**	**+0.1**
	baz=68,SNR=7.3								
536A	**Bastrop**	**67.76**	**337**	⇓P		**P**		**17 59 13.2**	**+1.2**
	baz=68								
633A	**Saathoff Ranch**	**67.90**	**335**	⇑P		**P**		**17 59 14.5**	**+1.5**
	baz=68								
632A	**Uvalde**	**68.16**	**335**	⇑P		**P**		**17 59 15.4**	**+0.8**
	baz=68,SNR=6.8								
338A	**Crockett**	**68.41**	**339**	⇑P		**P**		**17 59 18.3**	**+2.2**
	baz=69								
533A	**Kerrville**	**68.41**	**335**	⇑P		**P**		**17 59 17.0**	**+0.8**
	baz=69,SNR=6.4								
337A	**Centerville**	**68.54**	**339**	⇓P		**P**		**17 59 18.6**	**+1.7**
	baz=69								
435B	**Jarrell**	**68.58**	**337**	⇑P		**P**		**17 59 18.7**	**+1.5**
	baz=69								
532A	**Rocksprings**	**68.77**	**335**	⇓P		**P**		**17 59 19.0**	**+0.5**
	baz=69,SNR=16								
239A	**Gary**	**68.78**	**340**	⇓P		**P**		**17 59 19.9**	**+1.4**
	baz=69								
434A	**Burnet**	**68.83**	**336**	⇑P		**P**		**17 59 19.4**	**+0.6**
	baz=69,SNR=6.4								
336A	**Riesel**	**68.90**	**338**	⇑P		**P**		**17 59 20.7**	**+1.6**
	baz=69								
335A	**Moody**	**68.99**	**337**	⇓P		**P**		**17 59 21.0**	**+1.2**
	baz=69								
531A	**Rocksprings**	**69.03**	**334**	⇓P		**P**		**17 59 20.9**	**+0.8**
	baz=69								
JCT	**Junction City**	**69.05**	**335**	*eP*		**P**		**17 59 19.2**	**-0.9**
	comp=N,16nm,1.0s								
JCT	**Junction City**	**69.05**	**335**	⇓P		**P**		**17 59 21.5**	**+1.3**
	baz=69,SNR=5.4								
433A	**Art**	**69.06**	**336**	⇓P		**P**		**17 59 20.8**	**+0.6**
	baz=69,SNR=13								
237A	**Washetta, Mont**	**69.16**	**339**	⇑P		**P**		**17 59 22.1**	**+1.3**
	baz=70								
KMSC	**Kings Mountain**	**69.22**	**352**	⇑P		**P**		**17 59 21.6**	**+0.5**
	baz=70								
334A	**Lometa**	**69.30**	**337**	⇓P		**P**		**17 59 22.7**	**+1.0**
	baz=70								
530A	**J-C Ranch, Com**	**69.31**	**334**	⇓P		**P**		**17 59 22.7**	**+0.9**
	baz=70								
139A	**Bunkhouse Ranc**	**69.38**	**340**	⇓P		**P**		**17 59 24.3**	**+2.2**
	baz=70								
432A	**Menard**	**69.41**	**335**	⇑P		**P**		**17 59 22.6**	**+0.2**
	baz=70								
TXAR	**Lajitas Array**	**69.47**	**331**	P		**P**		**17 59 23.0**	**0.0**
	comp=N,2.8nm,1.0s,baz=149,slow=8.5,SNR=18								
TXAR						LR		LR	18 24 37.9
	comp=N,110nm,19.1s,baz=0.0,slow=32								
431A	**Sonora**	**69.52**	**334**	⇑P		**P**		**17 59 23.3**	**+0.1**
	baz=70								
333A	**Richland Sprin**	**69.54**	**336**	⇑P		**P**		**17 59 23.6**	**+0.4**
	baz=70,SNR=6.4								
529A	**Stev Forest Ra**	**69.61**	**333**	⇑P		**P**		**17 59 24.4**	**+0.6**
	baz=70								
WHTX	**Lake Whitney,**	**69.65**	**338**	*eP*		**P**		**17 59 24.3**	**+0.5**
	comp=N,24nm,1.0s								
WHTX	**Lake Whitney,**	**69.65**	**338**	⇓P		**P**		**17 59 25.0**	**+1.2**
	baz=70								
137A	**Heron Place, G**	**69.70**	**339**	⇓P		**P**		**17 59 25.7**	**+1.6**
	baz=70								
PPT	**Papeete**	**69.81**	**262**	LR		LR		18 23 33.5	
	comp=N,87nm,18.1s,baz=160,slow=30								
430A	**Baggett Ranch,**	**69.84**	**334**	⇑P		**P**		**17 59 25.4**	**+0.2**
	baz=70,SNR=7.9								
332A	**Millersview**	**69.85**	**335**	⇓P		**P**		**17 59 25.9**	**+0.8**
	baz=70								
234A	**Clairette**	**69.88**	**337**	⇑P		**P**		**17 59 26.1**	**+0.8**
	baz=70								
OXF	**Oxford**	**69.91**	**345**	*eP*		**P**		**17 59 24.6**	**-0.7**
	comp=N,32nm,1.0s								
429A	**Davenport Ranc**	**69.94**	**333**	⇓P		**P**		**17 59 27.3**	**+1.6**
	baz=70								
CPCT	**Copper Cave**	**69.94**	**350**	*eP*		**P**		**17 59 25.8**	**+0.3**
331A	**San Angelo**	**70.02**	**335**	⇑P		**P**		**17 59 26.6**	**+0.4**
	baz=70,SNR=6.1								
TKL	**Tuckaleechee C**	**70.04**	**350**	P		**P**		**17 59 25.8**	**-0.3**
	comp=N,2.4nm,0.7s,baz=221,slow=9.1,SNR=3.6								
233A	**Rising Star**	**70.15**	**336**	⇑P		**P**		**17 59 27.7**	**+0.8**
	baz=70								
232A	**Coleman**	**70.28**	**336**	⇑P		**P**		**17 59 28.4**	**+0.6**
	baz=71,SNR=5.4								
330A	**Mertzon**	**70.38**	**334**	⇓P		**P**		**17 59 28.6**	**+0.2**
	baz=71								
231A	**Bronte**	**70.56**	**335**	⇑P		**P**		**17 59 30.2**	**+0.8**
	baz=71								
133A	**Hamilton Ranch**	**70.69**	**337**	⇓P		**P**		**17 59 30.9**	**+0.7**
	baz=71								
329A	**Wagon Wheel Ra**	**70.75**	**334**	⇑P		**P**		**17 59 31.5**	**+0.8**
	baz=71								
Z35A	**Perchaven, San**	**70.83**	**338**	⇑P		**P**		**17 59 31.2**	**+0.2**
	baz=71								
MIAR	**Mount Ida**	**70.92**	**342**	*eP*		**P**		**17 59 31.5**	**-0.1**
	comp=N,13nm,1.3s								
ABTX	**Abilene, Hawle**	**70.95**	**336**	*eP*		**P**		**17 59 32.6**	**+0.8**
	comp=N,27nm,1.2s								
ABTX	**Abilene, Hawle**	**70.95**	**336**	⇑P		**P**		**17 59 32.4**	**+0.6**
	baz=71								
Z34A	**Collier Ranch,**	**71.08**	**338**	⇑P		**P**		**17 59 33.2**	**+0.7**
	baz=71								
WVT	**Waverly**	**71.16**	**347**	*eP*		**P**		**17 59 30.8**	**-2.2**
131A	**Roby**	**71.25**	**335**	⇑P		**P**		**17 59 34.7**	**+1.0**
	baz=72								
Z33A	**Whitaker Ranch**	**71.27**	**337**	⇑P		**P**		**17 59 34.1**	**+0.4**
	baz=72								
130A	**Snyder**	**71.38**	**335**	⇑P		**P**		**17 59 35.2**	**+0.7**
	baz=72								
JSRW	**J. Sargeant Re**	**71.45**	**356**	*eP*		**P**		**17 59 34.7**	**+0.1**
X37A	**Clayton**	**71.45**	**340**	⇓P		**P**		**17 59 35.7**	**+1.0**
	baz=72								
Z32A	**Haskell**	**71.52**	**336**	⇓P		**P**		**17 59 35.8**	**+0.5**
	baz=72,SNR=8.0								
228A	**UT Block 9, Go**	**71.54**	**333**	⇓P		**P**		**17 59 35.9**	**+0.5**
	baz=72								
Y34A	**Reagan Ranch,**	**71.57**	**338**	⇓P		**P**		**17 59 35.8**	**+0.4**
	baz=72								
W38A	**Poteau**	**71.67**	**341**	⇑P		**P**		**17 59 36.6**	**+0.6**
	baz=72								
X36A	**Centrahoma**	**71.72**	**339**	⇑P		**P**		**17 59 36.7**	**+0.3**
	baz=72								
129A	**Stewart Farms,**	**71.73**	**334**	⇓P		**P**		**17 59 36.7**	**+0.1**
	baz=72								
X35A	**Drake**	**71.74**	**339**	⇓P		**P**		**17 59 37.1**	**+0.6**
	baz=72								
Z31A	**Sharp Cattle R**	**71.75**	**336**	⇑P		**P**		**17 59 37.0**	**+0.3**
	baz=72,SNR=6.3								
Y33A	**Hilltop Ranch,**	**71.89**	**337**	⇓P		**P**		**17 59 38.0**	**+0.6**
	baz=72								
128A	**Castleberry Fa**	**71.95**	**334**	⇓P		**P**		**17 59 38.4**	**+0.5**
	baz=72								
W37A	**Quinton**	**71.98**	**340**	⇓P		**P**		**17 59 38.9**	**+1.0**
	baz=72								
Z30A	**Sanderson Ranc**	**72.06**	**335**	⇑P		**P**		**17 59 38.5**	**0.0**
	baz=72,SNR=5.2								
Y32A	**R-V Farms, Ver**	**72.15**	**337**	⇓P		**P**		**17 59 39.5**	**+0.5**
	baz=72								
X34A	**Smith Ranch, M**	**72.19**	**338**	⇑P		**P**		**17 59 39.7**	**+0.5**
	baz=72								
Z29A	**Hungry Hill Ra**	**72.25**	**335**	⇓P		**P**		**17 59 39.8**	**+0.1**
	baz=72,SNR=6.5								
MNTX	**Cornudas Mount**	**72.25**	**331**	*eP*		**P**		**17 59 38.8**	**-0.9**
	comp=N,13nm,1.4s								
MNTX	**Cornudas Mount**	**72.25**	**331**	⇓P		**P**		**17 59 39.7**	**+0.1**
	baz=72								
PBMO	**Poplar Bluff**	**72.31**	**345**	*eP*		**P**		**17 59 39.0**	**-0.8**
	comp=N,12nm,1.0s								
Y31A	**Rekieta Farm,**	**72.38**	**336**	⇑P		**P**		**17 59 41.0**	**+0.6**
	baz=73								
X32A	**Elmer**	**72.48**	**337**	⇓P		**P**		**17 59 41.7**	**+0.8**
	baz=73								
Z28A	**Tucker Farm, M**	**72.52**	**334**	⇑P		**P**		**17 59 41.8**	**+0.5**
	baz=73								
WMOK	**Wichita Mounta**	**72.61**	**338**	*eP*		**P**		**17 59 39.7**	**-2.0**
	comp=N,6.4nm,1.1s								
W34A	**Bridge Creek,**	**72.76**	**339**	⇑P		**P**		**17 59 43.1**	**+0.5**
	baz=73								
Y29A	**Portersfield Fa**	**72.78**	**335**	⇑P		**P**		**17 59 43.2**	**+0.4**
	baz=73								
TUL1	**Leonard**	**72.81**	**340**	*eP*		**P**		**17 59 41.9**	**-1.0**
	comp=N,19nm,1.1s								
TUL1	**Leonard**	**72.81**	**340**	⇑P		**P**		**17 59 43.1**	**+0.2**
	baz=73								
W33A	**Caddo, Fort Co**	**72.89**	**338**	⇑P		**P**		**17 59 44.3**	**+0.9**
	baz=73								
X31A	**McDonald Ranch**	**72.90**	**337**	⇑P		**P**		**17 59 43.9**	**+0.4**
	baz=73								
V35A	**Meyer Ranch, C**	**72.97**	**340**	⇑P		**P**		**17 59 44.5**	**+0.7**
	baz=73								
W32A	**Sentinel**	**73.11**	**337**	⇓P		**P**		**17 59 45.6**	**+0.9**
	baz=73								
MSTX	**Muleshoe**	**73.27**	**334**	*eP*		**P**		**17 59 45.6**	**-0.1**
	comp=N,20nm,1.0s								
MSTX	**Muleshoe**	**73.27**	**334**	⇓P		**P**		**17 59 46.3**	**+0.5**
	baz=74								
X29A	**Tulia**	**73.31**	**335**	⇑P		**P**		**17 59 46.3**	**+0.3**
	baz=74								
W31A	**Holland Ranch,**	**73.39**	**337**	⇓P		**P**		**17 59 46.8**	**+0.4**
	baz=74								
V33A	**Lossen Ranch,**	**73.45**	**338**	⇑P		**P**		**17 59 47.6**	**+0.9**
	baz=74								
X28A	**Dimmitt**	**73.56**	**335**	⇑P		**P**		**17 59 48.2**	**+0.8**
	baz=74								
319A	**Douglas**	**73.62**	**328**	⇑P		**P**		**17 59 48.6**	**+0.7**
	baz=74								
AMTX	**Amarillo**	**73.70**	**335**	*eP*		**P**		**17 59 47.0**	**-1.3**
	comp=N,15nm,1.0s								
AMTX	**Amarillo**	**73.70**	**335**	⇑P		**P**		**17 59 48.7**	**+0.4**
	baz=74								
U34A	**Anderson Ranch**	**73.80**	**339**	*eP*		**P**		**17 59 48.4**	**-0.3**
	comp=N,21nm,1.1s								
U34A	**Anderson Ranch**	**73.80**	**339**	⇓P		**P**		**17 59 49.5**	**+0.8**
	baz=74								
V31A	**Spring Creek L**	**73.90**	**337**	⇑P		**P**		**17 59 50.5**	**+1.1**
	baz=74								
W29A	**Amarillo**	**73.91**	**336**	⇑P		**P**		**17 59 50.1**	**+0.6**
	baz=74								
121A	**Cookes Peak, D**	**73.97**	**330**	P		**P**		**17 59 48.2**	**-1.8**
	comp=N,4.6nm,0.9s								
121A	**Cookes Peak, D**	**73.97**	**330**	⇓P		**P**		**17 59 51.5**	**+1.5**
	baz=74								
U33A	**Lingo Farm, Me**	**73.97**	**339**	⇑P		**P**		**17 59 50.9**	**+1.2**
	baz=74								
V30A	**Spur Ranch, Mi**	**74.17**	**337**	⇓P		**P**		**17 59 51.6**	**+0.7**
	baz=74								
U32A	**Winter Ranch,**	**74.19**	**338**	⇓P		**P**		**17 59 52.1**	**+1.1**
	baz=74								
W28A	**Vega**	**74.22**	**335**	⇑P		**P**		**17 59 51.9**	**+0.6**
	baz=74								
ACSO	**Alum Creek Sta**	**74.44**	**352**	*eP*	

R28A	**Tribune** baz=77,SNR=5.2	**76.88**	**337**	⇓P	**P**	**18 00 07.3 +0.8**
Q30A	**Quinter** baz=77	**76.95**	**338**	⇓P	**P**	**18 00 07.9 +1.1**
W18A	**Petrified Fore** baz=77	**77.01**	**329**	⇑P	**P**	**18 00 08.1 +0.7**
X16A	**Lo Mia Camp, P** baz=77	**77.16**	**328**	⇑P	**P**	**18 00 08.8 +0.5**
R27A	**Eads** baz=78,SNR=8.2	**77.16**	**336**	⇓P	**P**	**18 00 09.1 +1.1**
P31A	**Stockton** baz=78	**77.20**	**339**	⇑P	**P**	**18 00 09.5 +1.3**
R26A	**Arlington** baz=78,SNR=6.0	**77.39**	**336**	⇓P	**P**	**18 00 10.6 +1.1**
Q28A	**Sharon Springs** baz=78	**77.54**	**337**	⇓P	**P**	**18 00 11.2 +1.0**
O32A	**Brockman Farm,** baz=78	**77.56**	**340**	⇑P	**P**	**18 00 11.0 +0.8**
SDCO	**Great Sand Dun** comp=N,6.3nm,1.1s	**77.63**	**334**	*e*P	**P**	**18 00 10.4 -0.6**
SDCO	**Great Sand Dun** baz=78,SNR=7.8	**77.63**	**334**	⇑P	**P**	**18 00 11.6 +0.7**
R24A	**Sanders Place,** baz=78,SNR=9.5	**77.92**	**334**	⇑P	**P**	**18 00 13.7 +1.3**
Q26A	**Hugo** baz=78	**77.98**	**336**	⇓P	**P**	**18 00 13.9 +1.2**
P28A	**Saint Francis** baz=78	**77.98**	**337**	⇓P	**P**	**18 00 14.1 +1.5**
WUAZ	**Wupatki** comp=N,9.9nm,0.8s	**78.05**	**329**	*e*P	**P**	**18 00 13.1 -0.2**
WUAZ	**Wupatki** baz=78	**78.05**	**329**	⇑P	**P**	**18 00 13.7 +0.5**
R23A	**Moffat** baz=78	**78.14**	**334**	⇓P	**P**	**18 00 14.7 +0.9**
O29A	**4D Ranch, Culb** baz=78	**78.19**	**338**	⇓P	**P**	**18 00 15.1 +1.4**
Q25A	**Bedland, Calha** baz=78	**78.22**	**335**	⇑P	**P**	**18 00 14.8 +0.7**
MONP	**Monument Peak,** baz=78	**78.23**	**323**	⇓P	**P**	**18 00 14.9 +0.5**
P27A	**Ficken Ranch,** baz=78	**78.23**	**337**	⇓P	**P**	**18 00 15.2 +1.2**
N31A	**Bailey Ranch,** baz=79	**78.28**	**340**	⇓P	**P**	**18 00 15.0 +0.8**
MVCO	**Mesa Verde** comp=N,11nm,1.1s	**78.31**	**331**	*e*P	**P**	**18 00 14.0 -0.6**
MVCO	**Mesa Verde** baz=79	**78.31**	**331**	⇓P	**P**	**18 00 15.3 +0.7**
BC3	**Big Chuckawall** baz=79	**78.38**	**325**	⇓P	**P**	**18 00 15.4 +0.4**
O28A	**Krutsinger Ran** baz=79	**78.49**	**338**	⇓P	**P**	**18 00 16.3 +0.9**
P26A	**Davis Ranch, A** baz=79	**78.49**	**336**	⇓P	**P**	**18 00 16.3 +0.8**
Q24A	**Divide** baz=79	**78.58**	**335**	⇓P	**P**	**18 00 16.6 +0.3**
P25A	**Willow Gulch B** baz=79,SNR=5.2	**78.73**	**336**	⇑P	**P**	**18 00 18.3 +1.5**
N29A	**Votaw Ranch, W** baz=79	**78.77**	**339**	⇓P	**P**	**18 00 18.1 +1.2**
O27A	**Beecher Island** baz=79	**78.78**	**337**	⇑P	**P**	**18 00 18.1 +1.0**
Q23A	**Hartsel** baz=79	**78.78**	**334**	⇓P	**P**	**18 00 18.0 +0.7**
W13A	**Hualapai Mount** baz=79	**78.83**	**327**	⇓P	**P**	**18 00 18.1 +0.6**
PFO	**Pinyon Flats O** baz=79	**78.83**	**324**	⇓P	**P**	**18 00 17.9 +0.4**
N28A	**Pribbeno Ranch** baz=79	**78.93**	**338**	⇓P	**P**	**18 00 18.9 +1.1**
P24A	**Kohler Place,** baz=79	**78.99**	**335**	⇑P	**P**	**18 00 19.2 +0.9**
O26A	**Horse Wrangler** baz=79	**79.09**	**337**	⇓P	**P**	**18 00 19.9 +1.1**
PV01	**Paradox Valley** comp=N,203nm,0.9s	**79.13**	**332**	*e*P	**P**	**18 00 19.0 -0.2**
MURC	**Murrieta** baz=79	**79.19**	**323**	⇓P	**P**	**18 00 19.9 +0.5**
P23A	**Jefferson** baz=80	**79.19**	**334**	⇑P	**P**	**18 00 20.4 +0.8**
O25A	**Wiggins** baz=80	**79.25**	**336**	⇑P	**P**	**18 00 20.6 +1.0**
OGNE	**Ogallala** baz=80	**79.32**	**338**	⇓P	**P**	**18 00 21.0 +1.0**
N27A	**Anderson Farm,** baz=80	**79.35**	**337**	⇑P	**P**	**18 00 21.1 +1.0**
SMCO	**Snowmass** comp=N,12nm,1.2s	**79.43**	**333**	P	**P**	**18 00 20.2 -0.8**
ISCO	**Idaho Springs** comp=N,6.5nm,1.3s	**79.49**	**335**	*e*P	**P**	**18 00 20.6 -0.6**
ISCO	**Idaho Springs** baz=80	**79.49**	**335**	⇓P	**P**	**18 00 21.9 +0.7**
L31A	**Butterfield Fa** baz=80	**79.50**	**340**	⇓P	**P**	**18 00 22.0 +1.2**
M28A	**Bar X Bar Ranc** baz=80	**79.52**	**338**	⇓P	**P**	**18 00 22.5 +1.5**
L30A	**Spencer Herefo** baz=80	**79.54**	**340**	⇓P	**P**	**18 00 22.2 +1.1**
BBRC	**Big Bear Solar** baz=80	**79.58**	**324**	⇑P	**P**	**18 00 21.9 +0.1**
O24A	**Longmont** baz=80	**79.59**	**335**	⇑P	**P**	**18 00 22.4 +0.8**
N26A	**Koester Ranch,** baz=80	**79.59**	**337**	⇑P	**P**	**18 00 22.3 +0.8**
P22A	**Eagle** baz=80	**79.72**	**334**	⇓P	**P**	**18 00 23.1 +0.7**
HEC	**Hector,Ludlow** baz=80	**79.75**	**325**	⇓P	**P**	**18 00 22.8 +0.4**
FMP	**Fort Macarthur** baz=80	**79.82**	**323**	⇓P	**P**	**18 00 23.5 +0.7**
L29A	**Maesberg Ranch** baz=80	**79.86**	**339**	⇓P	**P**	**18 00 24.3 +1.4**
M27A	**Reverse DX Ran** baz=80	**79.96**	**338**	⇑P	**P**	**18 00 24.3 +0.9**
O22A	**Kremmling** baz=80,SNR=8.5	**80.14**	**334**	⇓P	**P**	**18 00 25.7 +1.0**
N24A	**Carr** baz=80	**80.15**	**336**	⇓P	**P**	**18 00 25.1 +0.5**
K30A	**Basset** baz=80	**80.18**	**340**	⇓P	**P**	**18 00 25.5 +1.0**
ECSD	**EROS Data Cent** comp=N,15nm,1.1s	**80.37**	**343**	*e*P	**P**	**18 00 24.2 -1.3**
ECSD	**EROS Data Cent** baz=81	**80.37**	**343**	⇓P	**P**	**18 00 26.0 +0.6**
M25A	**Palm-Egli Farm** baz=81	**80.41**	**337**	⇓P	**P**	**18 00 25.7 -0.3**
K29A	**Lazy Trails An** baz=81	**80.46**	**340**	⇑P	**P**	**18 00 27.6 +1.6**
SHPR	**Sheep Range**	**80.57**	**326**	*e*P	**P**	**18 00 25.2 -1.7**
N23A	**Red Feather La** comp=N,8.6nm,1.3s	**80.58**	**335**	*e*P	**P**	**18 00 28.4 +1.4**
N23A	**Red Feather La** baz=81	**80.58**	**335**	⇑P	**P**	**18 00 28.5 +1.5**
N22A	**Wattenberg Ran** baz=81	**80.67**	**335**	⇑P	**P**	**18 00 28.5 +1.0**
M24A	**Cheyenne** baz=81	**80.70**	**336**	⇑P	**P**	**18 00 28.4 +0.8**
K28A	**Ten Mile Ranch** baz=81	**80.72**	**339**	⇑P	**P**	**18 00 28.5 +1.0**
BSC	**Santa Cruz Isl** baz=81	**80.73**	**322**	⇑P	**P**	**18 00 28.5 +0.9**
J30A	**Dallas** baz=81	**80.74**	**340**	⇓P	**P**	**18 00 28.2 +0.7**
O20A	**White River Ci** comp=N,22nm,1.7s	**80.75**	**333**	*e*P	**P**	**18 00 29.0 +1.1**
O20A	**White River Ci** baz=81	**80.75**	**333**	⇓P	**P**	**18 00 28.4 +0.6**
SRU	**San Rafael Swe** comp=N,8.5nm,1.2s	**80.75**	**331**	*e*P	**P**	**18 00 27.5 -0.4**
PHWY	**Pilot Hill** comp=N,7.1nm,1.1s	**80.77**	**336**	*e*P	**P**	**18 00 27.6 -0.5**
K27A	**Flueckinger Fa** baz=81	**80.98**	**338**	⇓P	**P**	**18 00 29.4 +0.6**
M23A	**Laramie** baz=81	**81.01**	**335**	⇓P	**P**	**18 00 29.6 +0.4**
L25A	**Engebretsen Ra** baz=81	**81.03**	**337**	⇑P	**P**	**18 00 29.7 +0.5**
J29A	**Okreek** baz=81	**81.05**	**340**	⇓P	**P**	**18 00 30.0 +0.8**
SBC	**Santa Barbara** baz=81	**81.12**	**322**	⇓P	**P**	**18 00 29.8 +0.2**
M22A	**Cedar Creek Ra** baz=82	**81.25**	**335**	⇑P	**P**	**18 00 32.2 +1.6**
MPMC	**Manual Prospec** baz=82	**81.30**	**325**	⇓P	**P**	**18 00 31.6 +0.7**
J28A	**Allard Ranch,** baz=82	**81.33**	**339**	⇓P	**P**	**18 00 31.3 +0.6**
N20A	**Spence Gulch,** baz=82	**81.36**	**333**	⇓P	**P**	**18 00 31.6 +0.5**
J27A	**Elkhorn Farm,** baz=82	**81.41**	**339**	⇓P	**P**	**18 00 32.2 +1.1**
K25A	**Mack Ranch, Ha** baz=82	**81.41**	**337**	⇓P	**P**	**18 00 32.3 +1.1**
ISA	**Isabella, Lake** baz=82	**81.47**	**324**	⇑P	**P**	**18 00 32.4 +0.8**
L23A	**Garrett** baz=82	**81.57**	**336**	⇓P	**P**	**18 00 33.1 +0.9**
I29A	**Vivian Onida** baz=82	**81.61**	**340**	⇑P	**P**	**18 00 34.0 +1.8**
L22A	**Ellis Ranch, M** baz=82	**81.75**	**335**	⇑P	**P**	**18 00 34.3 +1.2**
I28A	**Midland** baz=82	**81.84**	**340**	⇑P	**P**	**18 00 34.5 +1.1**
VES	**Vestal, Richgr** baz=82	**81.91**	**323**	⇓P	**P**	**18 00 35.2 +1.4**
J25A	**Sunshine Ranch** baz=82	**82.09**	**338**	⇑P	**P**	**18 00 36.1 +1.3**
K23A	**Bowen Ranch, D** baz=82	**82.11**	**336**	⇑P	**P**	**18 00 36.5 +1.5**
R11A	**Troy Canyon, C** baz=82	**82.27**	**327**	⇑P	**P**	**18 00 37.0 +1.1**
K22A	**Casper** comp=N,29nm,1.6s	**82.33**	**335**	*e*P	**P**	**18 00 36.8 +0.7**
K22A	**Casper** baz=83	**82.33**	**335**	⇑P	**P**	**18 00 37.3 +1.2**
K21A	**Alcova** baz=83	**82.57**	**335**	⇑P	**P**	**18 00 38.5 +1.1**
DUG	**Dugway, Tooele** comp=N,16nm,1.4s	**82.61**	**330**	*e*P	**P**	**18 00 37.5 -0.1**
DUG	**Dugway, Tooele** baz=83	**82.61**	**330**	⇓P	**P**	**18 00 38.5 +0.9**
I25A	**Rochford** baz=83	**82.63**	**338**	⇓P	**P**	**18 00 39.0 +1.3**
H27A	**Howes** baz=83	**82.69**	**339**	⇑P	**P**	**18 00 38.5 +0.8**
LBTB	**Lobatse** comp=N,18nm,1.4s	**82.73**	**115**	*e*P	**P**	**18 00 39.5 +0.7**
TPH	**Tonopah**	**82.80**	**326**	*e*P	**P**	**18 00 37.0 -1.7**
H25A	**Fruitdale** baz=83	**83.13**	**338**	⇑P	**P**	**18 00 41.1 +0.9**
F29A	**Eureka** baz=84	**83.15**	**341**	⇑P	**P**	**18 00 41.1 +1.0**
J21A	**Lysite** baz=84	**83.26**	**335**	⇑P	**P**	**18 00 41.7 +0.7**
I22A	**9 Mile Ranch,** baz=84	**83.41**	**336**	⇓P	**P**	**18 00 42.1 +0.4**
G26A	**Maurine** baz=84	**83.44**	**339**	⇓P	**P**	**18 00 42.3 +0.6**
J20A	**Shoshoni** baz=84	**83.49**	**335**	⇑P	**P**	**18 00 42.7 +0.6**
PDAR	**Pinedale Array** comp=N,1.4nm,1.0s,baz=116,slow=3.4,SNR=8.6	**83.52**	**334**	P	**P**	**18 00 42.0 -0.3**
PDAR				LR	LR	18 34 08.6
	comp=N,48nm,19.2s,baz=171,slow=33					
H24A	**Dirks Ranch, A** baz=84	**83.54**	**338**	⇑P	**P**	**18 00 42.6 +0.3**
NVAR	**Mina Array Bea** comp=N,1.9nm,0.9s,baz=180,slow=4.4,SNR=7.0	**83.59**	**326**	P	**P**	**18 00 43.3 +0.5**
J19A	**Crowheart** baz=84,SNR=5.4	**83.76**	**334**	⇑P	**P**	**18 00 43.8 +0.3**
ELK	**Elko** comp=N,3.6nm,0.9s,baz=173,slow=3.4,SNR=10	**84.09**	**329**	P	**P**	**18 00 45.4 0.0**
AGMN	**Agassiz Nation** comp=N,5.8nm,1.0s	**84.49**	**345**	*e*P	**P**	**18 00 46.5 -0.3**
AGMN	**Agassiz Nation** baz=85	**84.49**	**345**	⇓P	**P**	**18 00 47.6 +0.7**
C30A	**Mose, Pekin** baz=85	**84.54**	**343**	⇓P	**P**	**18 00 48.1 +0.9**
D28A	**Regan** baz=85	**84.61**	**341**	⇑P	**P**	**18 00 48.5 +1.0**
TOA0	**Torodi Ar. Sit**	**84.61**	**70**	*e*P	**P**	**18 00 47.3 -1.0**
TORD	**Torodi Ar. Bea** comp=N,4.6nm,0.9s,baz=243,slow=4.4,SNR=17	**84.61**	**70**	P	**P**	**18 00 48.0 -0.3**
TORD				LR	LR	18 37 26.1
	comp=N,64nm,19.0s,baz=140,slow=35					
G21A	**Lodge Grass** baz=85	**84.83**	**336**	⇑P	**P**	**18 00 49.5 +0.6**
I17A	**Pilgrim Ck.** baz=85	**84.89**	**333**	⇓P	**P**	**18 00 49.8 +0.5**
MDND	**Maddock** baz=85	**84.96**	**342**	⇓P	**P**	**18 00 50.1 +0.8**
H19A	**Powell** baz=85	**84.96**	**335**	⇑P	**P**	**18 00 50.2 +0.7**
D26A	**Manning** baz=85	**84.97**	**340**	⇓P	**P**	**18 00 50.3 +0.9**
F22A	**Rosebud** baz=85	**85.01**	**337**	⇓P	**P**	**18 00 50.2 +0.6**
C28A	**Hausauer Farms** baz=85	**85.04**	**342**	⇓P	**P**	**18 00 50.9 +1.2**
E24A	**Baker** baz=85	**85.10**	**339**	⇓P	**P**	**18 00 50.7 +0.6**
B30A	**Myrvik Farm, E** baz=86	**85.20**	**343**	⇑P	**P**	**18 00 50.9 +0.4**
H18A	**Shoshone NF, C** baz=86,SNR=7.0	**85.21**	**334**	⇓P	**P**	**18 00 51.3 +0.4**
D25A	**Fairfield** baz=86	**85.33**	**340**	⇓P	**P**	**18 00 53.7 +2.5**
C27A	**Sayler Ranch,** baz=86	**85.34**	**341**	⇓P	**P**	**18 00 53.7 +2.6**
E22A	**Miles City** baz=86	**85.50**	**338**	⇓P	**P**	**18 00 53.9 +1.9**
D24A	**Glendive** baz=86	**85.60**	**339**	⇑P	**P**	**18 00 53.9 +1.4**
C26A	**Wahner Farm, P** baz=86	**85.60**	**341**	⇑P	**P**	**18 00 54.0 +1.5**
C25A	**Freed Ranch, W** baz=86	**85.83**	**340**	⇓P	**P**	**18 00 55.7 +2.0**
QLMT	**Earthquake Lak**	**85.98**	**333**	*e*P	**P**	**18 00 52.5 -2.2**
C24A	**Savage** baz=86	**86.00**	**339**	⇓P	**P**	**18 00 56.0 +1.5**
HLID	**Hailey** comp=N,4.9nm,1.1s	**86.08**	**331**	*e*P	**P**	**18 00 56.1 +0.9**
D22A	**Cohagen** baz=86	**86.20**	**338**	⇓P	**P**	**18 00 56.7 +1.2**
E20A	**Meyer Farm, Mu** baz=87	**86.26**	**336**	⇓P	**P**	**18 00 56.6 +0.7**
B25A	**Knox Farm, Ray** baz=87	**86.31**	**340**	⇑P	**P**	**18 00 57.3 +1.3**
ULM	**Lac du Bonnet** comp=N,6.3nm,1.1s,baz=182,slow=3.2,SNR=5.7	**86.34**	**345**	P	**P**	**18 00 55.0 -1.0**
ULM	**Lac du Bonnet** comp=N,11nm,1.3s	**86.34**	**345**	*e*P	**P**	**18 00 55.1 -0.9**
E19A	**Rath Farm, Rou** baz=87	**86.45**	**336**	⇓P	**P**	**18 00 57.3 +0.5**
C23A	**Lambert** baz=87	**86.47**	**339**	⇓P	**P**	**18 00 57.7 +0.9**
D20A	**Manuel Ranch,** baz=87	**86.78**	**337**	⇓P	**P**	**18 00 59.2 +0.8**
DGMT	**Dagmar** baz=87	**86.78**	**340**	⇓P	**P**	**18 00 59.3 +1.0**
B23A	**Brockton** baz=87	**87.01**	**339**	⇑P	**P**	**18 01 00.5 +1.1**
A24A	**Westby** baz=87	**87.13**	**340**	⇑P	**P**	**18 01 01.0 +1.0**
B22A	**Bldg Ranch S** baz=88	**87.17**	**338**	⇓P	**P**	**18 01 00.6 +0.4**
B21A	**Ellsworth Farm** baz=88	**87.59**	**338**	⇓P	**P**	**18 01 02.9 +0.7**
N02D	**Trinity Center** baz=88	**87.69**	**324**	⇑P	**P**	**18 01 03.2 +0.3**
A22A	**Carney Farms,** baz=88	**87.76**	**339**	⇑P	**P**	**18 01 03.8 +0.8**
M04C	**Macdoel** baz=88	**87.90**	**325**	⇑P	**P**	**18 01 04.8 +0.8**
B20A	**Solberg Farm,** baz=88	**87.92**	**337**	⇑P	**P**	**18 01 04.4 +0.5**
K05A	**Summer Lake** comp=N,18nm,1.1s	**88.19**	**327**	*e*P	**P**	**18 01 06.7 +1.2**
YBH	**Yreka Blue Hor** comp=N,4.6nm,0.9s,baz=337,slow=12,SNR=6.8	**88.27**	**325**	P	**P**	**18 01 05.3 -0.5**
J05D	**Fort Rock, OR** baz=89	**88.79**	**327**	⇑P	**P**	**18 01 09.3 +1.2**
ASAR	**Alice Springs** comp=N,0.3nm,1.0s,baz=141,slow=1.8,SNR=3.5	**117.41**	**207**	PKP	**PKPdf**	**18 06 59.0 -1.6**
WRA	**Warramunga Arr** comp=N,0.4nm,0.8s,baz=156,slow=1.8,SNR=7.1	**120.58**	**210**	PKP	**PKPdf**	**18 07 05.6 -1.2**
BVAR	**Borovoye Array** comp=N,1.1nm,0.6s,baz=267,slow=5.6,SNR=9.3	**147.55**	**43**	PKPbc	**PKPbc**	**18 07 58.8 +0.7**
SKHT	**Srikalahasti**	**147.81**	**122**	*e*PKPdf	**PKPdf**	**18 07 55.8 -1.2**
PSI	**Prapat** comp=N,1.7nm,0.3s,baz=189,slow=3.4,SNR=5.5	**148.01**	**164**	PKPbc	**PKPdf**	**18 07 58.9 +1.2**
YAK	**Yakutsk** comp=N,6.4nm,0.8s,baz=292,slow=1.6,SNR=9.0	**148.53**	**340**	PKPbc	**PKPbc**	**18 07 59.8 -0.6**
HYB	**Hyderabad**	**149.36**	**115**	*i* PKP	**PKPbc**	**18 08 02.0 -1.9**
HYBB	**Hyderabad (bro**	**149.36**	**115**	*e*PKiKP	**PKPbc**	**18 08 04.1 +0.2**
KURBB	**Kurchatov Arra** comp=N,2.3nm,1.2s,baz=286,slow=2.8,SNR=8.6	**153.14**	**43**	PKPbc	**PKPbc**	**18 08 09.2 -2.4**
KURBB				PKPab	**PKPab**	**18 08 21.6 -1.7**
KURK	**Kurchatov** comp=N,2.9nm,1.1s,baz=295,slow=4.8,SNR=12	**153.15**	**43**	PKPbc	**PKPbc**	**18 08 09.2 -2.4**
KURK				PKPab	**PKPab**	**18 08 21.6 -1.8**
KSH	**Kashi**	**154.27**	**68**	*e*PKPbc	**PKPdf**	**18 08 07.4 +1.0**
KSH				pPKP	**PKiKP**	**18 08 18.2 +3.5**
KSH				PKS	**PKSdf**	**18 11 40.3 -0.4**
KSH				SKS	**SKSdf**	**18 15 08.8 -3.7**
KSH				PPMZ		
	comp=N,50nm,3.8s					
KSH				LN		
	comp=N,39nm,5.2s					
KSH				LE		
	comp=N,49nm,4.9s					
KSH				LZ		
	comp=N,140nm,8.4s					
NJ2	**Nanjing**	**170.22**	**262**	*e*PKP	**PKPdf**	**18 08 20.2 -2.2**
GTA	**Gaotai**	**171.81**	**46**	*e*PKP	**PKPdf**	**18 08 24.2 +1.0**
GTA				pPKP	**pPKPdf**	**18 08 35.0 +5.9**
GTA				sPKP		18 08 38.5
GTA				PKPab	**PKPab**	**18 09 46.6 +1.2**
HHC	**Hu-ho-hao-te**	**172.37**	**336**	*e*PKP	**PKPdf**	**18 08 23.2 -0.2**
HHC				PKS	**PKSdf**	**18 11 54.4 -1.3**
HHC				SKS	**SKSdf**	**18 15 21.7 -4.2**
HHC				PPMZ		
	comp=N,90nm,5.5s					
HHC				LN		
	comp=N,45nm,17.3s					
HHC				LE		
	comp=N,78nm,17.6s					
HHC				LZ		
	comp=N,48nm,18.6s					
CD2	**Chengdu**	**175.66**	**133**	*e*PKP	**PKPdf**	**18 08 24.8 0.0**
LZH	**Lanzhou**	**176.37**	**53**	*e*PKP	**PKPdf**	**18 08 24.5 -0.4**
LZH				pPKP	**pPKPdf**	**18 08 35.3 +4.5**
LZH				sPKP		18 08 38.8
LZH				PKPab	**PKPab**	**18 10 05.0 -0.9**

IDC 02 17:52:34.8±3.7, 28.34N×115.15W, h0km, mb3.2/2, mb1 3.7/7, mb1mx3.6/40, mbtmp3.3/7, ML3.4/5, MS3.1/3, Ms1 3.1/3, ms1mx2.8/14, Error ellipse: s-maj=57.6km s-min=17.7km az=30.0, Off west coast of Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz** comp=Z,226nm,18.7s,baz=13,slow=39	**6.06**	**133**	LR	LR	17 56 28.6	
ANMO	**Albuquerque** 0.1nm,0.3s,baz=204,slow=9.8,SNR=6.5	**9.91**	**46**	Pn	Pn	17 55 00.6	+1.9
ANMO				LR	LR	17 57 58.9	
	comp=Z,44nm,20.4s,baz=249,slow=33						
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=265,slow=12,SNR=8.6	**10.12**	**82**	Pn	Pn	17 55 03.1	+1.5
TXAR				LR	LR	17 58 56.1	
	comp=Z,135nm,19.0s,baz=0.0,slow=38						
NVAR	**Mina Array Bea** 0.2nm,0.3s,baz=173,slow=15,SNR=2.8	**10.40**	**346**	Pn	Pn	17 55 07.8	+2.3
PDAR	**Pinedale Array** 0.0nm,0.3s,baz=185,slow=6.3,SNR=3.9	**15.09**	**16**	Pn	P	17 56 13.1	-2.0
NEW	**Newport** 0.1nm,0.3s,baz=213,slow=17,SNR=3.0	**19.95**	**356**	P	P	17 57 08.4	-0.1
YKA	**Yellowknife Ar** 0.2nm,0.6s,baz=175,slow=8.1,SNR=4.2	**34.16**	**0**	P	P	17 59 19.7	-1.7
ILAR	**Eielson Array** 0.5nm,0.8s,baz=153,slow=7.8,SNR=7.5	**41.59**	**340**	P	P	18 00 24.1	-0.1

ECX 02 17:52:44.3±0.5, 32.34N×115.32W, h5km, MD2.4, ML2.6, 4C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.08**	**12**	*e*P9	Pg	17 52 43.8	-2.3
CPBX				*e*S	Sg	17 52 45.0	-2.4
EMX	**El Mayor**	**0.36**	**169**	⇓*e*P	Pg	17 52 49.3	-1.9
EMX				*e*S	Sg	17 52 54.5	-1.4
SGL	**Mount Signal**	**0.46**	**312**	⇓*i*P	Pg	17 52 52.5	-0.6
ERPC	**Ernies Place**	**0.49**	**325**	⇓*i*P	Pg	17 52 53.6	-0.3
WESC	**Westside Schoo**	**0.54**	**321**	*e*P	Pg	17 52 54.2	-0.5
COA	**Coachella**	**0.55**	**18**	⇑*i*P	Pg	17 52 54.2	-0.7
YUH	**Yuha Desert**	**0.59**	**301**	⇓*i*P	Pg	17 52 54.7	-1.0
COK	**Cook Ranch**	**0.61**	**326**	⇑*e*P	Pg	17 52 55.2	-0.9
RDX	**Rancho Dawling**	**0.67**	**232**	*e*P	Pg	17 52 56.2	-1.2
RDX				*e*S	Sg	17 53 05.2	-1.0
RDX				AML	AML	17 53 07.2	
	comp=N,192nm,0.4s						
RDX				⇑*e*		17 53 07.2	
RMX	**La Rumorosa**	**0.69**	**293**	*e*P	Pg	17 52 56.5	-1.3
RMX				*e*S	Sg	17 53 05.9	-1.1
RMX				AML	AML	17 53 08.0	
	comp=N,356nm,0.1s						
RMX				⇓*e*		17 53 08.0	
ECBX	**El Chinero**	**0.90**	**165**	*e*P9	Pg	17 52 59.5	-2.0
ECBX				*e*S	Sg	17 53 11.5	-1.6
CBX	**Cerro Bola**	**1.14**	**269**	*e*P	Pg	17 53 04.1	-2.2
CBX				*e*S	Sg	17 53 19.4	-1.7
CBX				AML	AML	17 53 21.4	
	comp=E,171nm,0.3s						
CBX				⇑*e*		17 53 21.4	
ZAX	**El Zacaton**	**1.15**	**225**	*e*P	Pg	17 53 04.5	-2.0
ZAX				*e*S	Sg	17 53 20.3	-1.3
ZAX				AML	AML	17 53 21.7	
	comp=N,107nm,0.3s						
ZAX				⇓*e*		17 53 21.7	
BAR	**Barrett**	**1.19**	**287**	*e*P	Pg	17 53 04.5	-2.7
ECNX	**Esteban Cantu**	**1.28**	**238**	*e*P	Pn	17 53 06.6	-2.4
SPX	**San Pedro Mart**	**1.30**	**185**	*e*P	Pn	17 53 06.4	-3.1
SPX				*i* P	Pn	17 53 06.4	-3.1

NIED ***02*** *18:00:00, 23.00N×120.40E, h32km, Mw4.6 Best double couple: M0 1.04000×10^16 NP1:φ288.00000°, δ60.00000°, λ21.00000°. NP2:φ187.00000°, δ72.00000°, λ148.00000°.*
IDC ***02*** *18:00:10.2±0.6, 22.87N×120.74E, h0km, mb3.9/21, mb1 4.0/23, mb1mx4.0/32, mbtmp3.9/23, ML3.1/2, MS3.8/16, Ms1 3.8/16, ms1mx3.6/33, Error ellipse: s-maj=18.6km s-min=13.5km az=82.0*
JMA ***02*** *18:00:10.7±0.2, 22.97N×120.40E, h0km, M4.9*
NEIC ***02*** *18:00:13.8±1.0, 22.88N×120.61E, h23km±7km, mb4.4/10, ML4.6(TAP), Error ellipse: s-maj=8.1km s-min=6.6km az=129.0*
NEIC Felt at Kao-hsiung, P'ing-tung, T'ai-nan and Yung-k'ang. Recorded [4 TAP] in T'ai-nan; [3 TAP] in Kao-hsiung; [2 TAP] in Chia-i, P'ing-tung and Yun-lin; [1 TAP] in T'ai-tung.
MOS ***02*** *18:00:13.3±1.4, 22.86N×120.67E, h33km, mb4.7/18, Error ellipse: s-maj=11.6km s-min=8.4km az=92.0*
TAP ***02*** *18:00:13.5, 22.96N×120.54E, h18km, ML4.6, B*
ISCJB ***02*** *18:00:13.9±0.2, 22.94N±0.01×120.49E±0.01, h16km, mb4.2/46, MS3.8/19, Error ellipse: s-maj=1.8km s-min=1.6km az=0.7*
BJI ***02*** *18:00:14.5, 22.96N×120.47E, h11km, mb4.2/24, mB4.4/18, ML4.6/7, Ms4.3/22, Ms7 4.2/23*

ISC 02 18:00:13.8±0.3, 22.96N±0.01×120.55E±0.02, h16km, n198, σ1 51/239, mb4.3/46, MS3.8/19, 28C-24D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGST	**Jiashian** baz=21	**0.12**	**15**	⇑*i*P	**Pb**	**18 00 18.3**	**+0.5**
TWM1	**Shoushan** baz=217	**0.18**	**220**	⇑*i*P	**Pb**	**18 00 19.4**	**+0.5**
CHN3	**Shinhua** baz=306	**0.20**	**304**	⇓*i*P	**Pb**	**18 00 20.0**	**+0.8**
CHN1	**Nanshi** baz=7.0	**0.22**	**355**	⇑*i*P	**Pb**	**18 00 19.7**	**+0.2**
SSD	**Sandimen** baz=151	**0.23**	**160**	⇓*i*P	**Pg**	**18 00 19.5**	**+0.5**
SGLT	**Jiouru** baz=184	**0.24**	**193**	⇑*i*P	**Pb**	**18 00 20.6**	**+0.8**
SGLT				*e*S	**Sb**	**18 00 26.1**	**+2.2**
	baz=184						
STYT	**Tauyuan** baz=46	**0.28**	**44**	⇑*i*P	**Pb**	**18 00 20.7**	**+0.3**
STYT				S	**Sb**	**18 00 25.6**	**+0.7**
	baz=46						
WTP	**Ta-pu** baz=15	**0.29**	**12**	⇑*i*P	**Pb**	**18 00 20.8**	**+0.2**
TAI1	**Yung-k'ang** baz=286	**0.30**

| | | |

H11N1	**WAKE ISLAND Hy 43.15**	**85**	T		T		18 53 29.9		
	baz=283,slow=74,SNR=4.1								
H11N2	**WAKE ISLAND Hy 43.16**	**85**	T		T		18 53 29.9		
	baz=283,slow=74,SNR=6.5								
H11N3	**WAKE ISLAND Hy 43.17**	**85**	T		T		18 53 31.1		
	baz=283,slow=74,SNR=6.1								
H11S3	**WAKE ISLAND Hy 43.25**	**87**	T		T		18 53 39.4		
	baz=284,slow=74,SNR=21								
H11S1	**WAKE ISLAND Hy 43.26**	**87**	T		T		18 53 40.1		
	baz=284,slow=74,SNR=8.2								
H11S2	**WAKE ISLAND Hy 43.27**	**87**	T		T		18 53 40.8		
	baz=284,slow=74,SNR=7.3								
WRAB	**Tennant Creek**	**44.71**	**161**	*ce*	**P**		**18 08 25.0**	**-1.4**	
WRAB					pmax	pmax			
	comp=Z,56nm,2.5s								
WRA	**Warramunga Arr**	**44.72**	**161**	P		**P**	**18 08 23.8**	**-2.6**	
	comp=Z,6.4nm,0.7s,baz=344,slow=8.7,SNR=40								
WRA					PcP		**PcP**	**18 10 07.2**	**-1.6**
	comp=Z,1.0nm,0.9s,baz=337,slow=4.3,SNR=3.7								
AS31	**Alice Springs**	**48.13**	**163**	*e*	P		18 08 50.0	-3.3	
ASAR	**Alice Springs**	**48.13**	**163**	P		**P**	**18 08 51.5**	**-1.8**	
	comp=Z,2.9nm,0.9s,baz=353,slow=6.5,SNR=39								
ASAR					PcP		**PcP**	**18 10 19.1**	**-1.6**
	comp=Z,1.0nm,0.7s,baz=348,slow=2.8,SNR=4.2								
ASAR					LR		LR	18 29 49.6	
	comp=Z,101nm,18.1s,baz=160,slow=37								
BVAR	**Borovoye Array**	**48.25**	**322**	P		**P**	**18 08 55.0**	**+1.1**	
	comp=Z,0.5nm,0.5s,baz=101,slow=7.5,SNR=2.6								
BRVK	**Borovoye**	**48.33**	**322**	*ce*	P		18 09 03.5	+9.1	
BRVK					pmax	pmax			
	comp=Z,11nm,1.2s								
TIXI	**Tiksi**	**48.94**	**3**	*ce*	**P**		**18 08 57.3**	**-1.6**	
TIXI					pmax	pmax			
	comp=Z,4.0nm,1.0s								
TIXI	**Tiksi**	**48.94**	**3**	*e*	**P**		**18 08 57.3**	**-1.6**	
	comp=Z,5.1nm,0.9s								
BILL	**Bilibino**	**53.02**	**20**⇑	*e*	**P**		**18 09 27.2**	**-2.4**	
BILL				*e*			18 10 39.0		
BILL				*e*			18 11 39.8		
BILL				*e*	S		**S**	**18 16 56.2**	**-2.4**
BILL					pmax	pmax			
	comp=Z,2.0nm,1.2s								
BILL					MLR	MLR			
	comp=Z,189nm,16.0s								
SVE	**Sverdlovsk**	**54.69**	**324**	*e*	**P**		**18 09 43.2**	**+1.2**	
SVE					pmax	pmax			
	comp=Z,27nm,1.4s								
GEYT	**Alibeck**	**54.92**	**301**	P		**P**	**18 09 44.7**	**+0.7**	
	comp=Z,1.0nm,0.4s,baz=108,slow=4.8,SNR=4.4								
GEYT					LR		LR	18 36 47.7	
	comp=Z,133nm,18.3s,baz=40,slow=40								
ARU	**Arti**	**55.73**	**324**	*d*	P		18 09 58.2	+8.7	
ARU					S		S	18 17 51.3	+16
ARU					SS		**SS**	**18 21 22.9**	**+2.3**
ARU					pmax	pmax			
	comp=Z,19nm,1.2s								
ARU	**Arti**	**55.73**	**324**	*e*	**P**		**18 09 48.2**	**-1.3**	
	comp=Z,20nm,1.3s								
STKA	**Stephens Creek**	**58.13**	**159**	P		**P**	**18 10 04.8**	**-2.0**	
	comp=Z,1.5nm,0.8s,baz=353,slow=9.1,SNR=3.6								
KBZ	**Khabaz**	**65.79**	**309**	P		**P**	**18 10 58.9**	**+0.7**	
	comp=Z,0.6nm,0.6s,baz=53,slow=20,SNR=2.9								
KBZ					LR		LR	18 44 24.6	
	comp=Z,52nm,18.7s,baz=143,slow=40								
KLMR	**Klimovskoe**	**65.88**	**328**	*e*	P		18 11 07.9	+9.4	
KLMR					pmax	pmax			
	comp=Z,29nm,2.2s								
KIV	**Kislovodsk**	**65.90**	**309**⇓	*e*	P		18 11 07.3	+8.2	
KIV				*e*			18 11 36.6		
KIV				*e*	S		18 20 12.4	+27	
KIV					pmax	pmax			
	comp=Z,10.0nm,1.0s								
KIV					MLR	MLR			
	comp=Z,64nm,18.0s								
OBN	**Obninsk**	**68.10**	**322**⇑	*e*	P		18 11 21.2	+8.5	
OBN				*e*	SKiKP		18 20 49.3	-18	
OBN					pmax	pmax			
	comp=Z,16nm,1.7s								
OBN					MLR	MLR			
	comp=Z,55nm,16.0s								
ARCES	**ARCESS Array B**	**70.45**	**338**		LR		LR	18 45 22.6	
	comp=Z,59nm,18.3s,baz=50,slow=38								
ILAR	**Eielson Array**	**70.56**	**27**	P		**P**	**18 11 26.0**	**-1.8**	
	comp=Z,0.6nm,0.7s,baz=283,slow=7.9,SNR=9.0								
FINES	**FINESS Array B**	**72.20**	**330**	P		**P**	**18 11 39.1**	**+1.4**	
	comp=Z,1.5nm,0.8s,baz=38,slow=7.2,SNR=3.9								
AKASG	**Malin Array Be**	**73.39**	**318**	P		**P**	**18 11 45.7**	**+0.7**	
	comp=Z,0.1nm,0.3s,baz=61,slow=5.6,SNR=3.1								
AKASG	**Malin Array Be**	**73.39**	**318**	*ce*	P		18 11 53.7	+8.7	
AKASG					pmax	pmax			
	comp=Z,2.0nm,0.8s								
BRTR	**Keskin Array B**	**73.42**	**307**	P		**P**	**18 11 44.8**	**-0.8**	
	comp=Z,0.2nm,0.4s,baz=106,slow=9.2,SNR=3.1								
BRTR					LR		LR	18 49 05.2	
	comp=Z,42nm,18.4s,baz=308,slow=40								
BRTR	**Keskin Array B**	**73.42**	**307**	*ce*	P		18 11 53.2	+7.5	
BRTR					pmax	pmax			
	comp=Z,1.0nm,0.7s								
NB2	**NORSAR Subarra**	**79.03**	**332**	P		P	18 12 22.0	+5.0	
	comp=Z,2.0nm,0.9s,baz=55,slow=5.3								
NOA	**NORSAR Array B**	**79.03**	**332**	P		**P**	**18 12 18.2**	**+1.2**	
	comp=Z,1.3nm,1.0s,baz=64,slow=5.4,SNR=2.9								
NOA					LR		LR	18 53 02.7	
	comp=Z,33nm,18.6s,baz=45,slow=40								
OKC	**Ostrava-Krasne**	**80.36**	**320**	*ep*	P		18 12 33.3	+3.6	
OKC	**Ostrava-Krasne**	**80.36**	**320**	*e*	P		18 12 33.3	+3.6	
VYHS	**Vyhne**	**80.49**	**319**	*ep*	**P**		**18 12 26.1**	**+1.0**	
VYHS				*e*			18 12 33.5		
VYHS	**Vyhne**	**80.49**	**319**	*e*	**P**		**18 12 26.1**	**+1.0**	
VYHS				*ep*	**PcP**		**18 12 33.5**	**+1.4**	
DPC	**Dobruska-Polom**	**81.21**	**321**	*ep*	**pP**		**18 12 34.3**	**0.0**	
DPC				*es*	sP		18 12 38.8	+2.6	
DPC				*ex*	x		18 12 48.7		
DPC	**Dobruska-Polom**	**81.21**	**321**	*e*	**pP**		**18 12 34.3**	**0.0**	
DPC				*e*			18 12 48.7		
CLL	**Collm**	**82.67**	**323**	*es*	sP		18 12 46.0	+2.2	
CLL	**Collm**	**82.67**	**323**	*e*	sP		18 12 46.0	+2.2	
GERES	**GERESS Array B**	**83.41**	**320**	P		**P**	**18 12 41.0**	**+0.4**	
	comp=Z,0.1nm,0.3s,baz=39,slow=7.9,SNR=2.8								
GERES	**GERESS Array B**	**83.41**	**320**	P		**P**	**18 12 41.0**	**+0.4**	
SUMG	**Summit**	**83.65**	**354**	*i*	P		**P**	**18 12 41.6**	**-0.1**
	comp=Z,4.2nm,0.9s								
SUMG	**Summit**	**83.65**	**354**	*i*	**P**		**18 12 41.6**	**-0.1**	
SUMG					pmax	pmax			
	comp=Z,4.0nm,0.9s								
YKA	**Yellowknife Ar**	**84.31**	**23**	P		**P**	**18 12 43.6**	**-1.1**	
	comp=Z,1.3nm,0.8s,baz=314,slow=4.9,SNR=14								

JMA 02 18:00:29.7, 24.49N×124.25E, h16km±1km, M2.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JISG	**Ishigakijimahi**	**0.11**	**30**	P	Pg	18 00 33.2	0.0
JISG				*es*	Sg	18 00 35.5	-0.1
JIJ	**Ishigaki jima**	**0.16**	**218**	P	Pg	18 00 33.6	-0.2
JIJ				S	Sg	18 00 36.5	-0.1
JKRS	**Kuro-shima**	**0.33**	**221**	P	Pg	18 00 36.6	-0.1
JKRS				S	Sb	18 00 42.0	-0.4
JTJ	**Tarama**	**0.44**	**70**	P	Pg	18 00 38.5	0.0
JTJ				*es*	Sb	18 00 45.0	-0.4
IRIF	**Iriomote-Funau**	**0.50**	**252**	P	Pg	18 00 39.3	-0.3
IRIF				S	Sg	18 00 46.5	+0.1
HATJ	**Hateruma jima**	**0.59**	**223**	P	Pg	18 00 41.0	-0.4
HATJ				*es*	Sg	18 00 49.4	+0.1
JIRB	**Irabujima**	**0.91**	**68**	P	Pb	18 00 45.7	-1.3
JIRB				*es*	Sb	18 00 58.2	-0.6
JIKM	**Ikemajima**	**1.00**	**64**	P	Pb	18 00 47.9	-0.8
JIKM				*es*	Sb	18 01 01.1	-0.6

IDC 02 18:33:53.0±7.2, 19.13S×177.15W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.5/28, mbtmp3.6/2, Error ellipse: s-maj=291.6km s-min=115.6km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.60**	**261**	P	P	18 42 15.5	+0.2
	0.5nm,0.7s,baz=96,slow=7.4,SNR=14						
ASAR	**Alice Springs**	**45.62**	**255**	P	P	18 42 15.1	-0.5
	0.7nm,0.8s,baz=91,slow=8.0,SNR=16						
AKASG	**Malin Array Be**	**142.19**	**333**	PKP	PKPdf	18 53 26.8	-0.4
	0.3nm,0.5s,baz=43,slow=4.2,SNR=7.2						

*IDC **02** 18:43:21.2±0.9, 16.84S×69.68W, h0km, mb3.8/7, mb1 4.1/8, mb1mx3.9/19, mbtmp3.9/8, ML5.7/1, MS3.7/3, Ms1 3.7/3, ms1mx3.1/24, Error ellipse: s-maj=35.1km s-min=22.6km az=63.0, Peru-Bolivia border region*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**5.79**	**173**	Pn	Pn	18 44 48.9	+0.3
	189nm,0.3s,baz=352,slow=7.6,SNR=18						
LVC					Sn	18 46 01.5	+5.6
	33nm,0.3s,baz=286,slow=19,SNR=2.9						
ATAH	**Atahualpa**	**12.87**	**318**	LR	LR	18 51 11.7	
	comp=Z,84nm,19.4s,baz=287,slow=37						
BDFB	**Brasilia**	**20.84**	**90**	P	P	18 48 04.9	+0.1
	1.6nm,0.5s,baz=265,slow=12,SNR=2.6						
PLCA	**Paso Flores**	**23.82**	**182**	P	P	18 48 35.1	-0.9
	2.2nm,1.0s,baz=14,slow=11,SNR=2.9						
TXAR	**Lajitas Array**	**56.42**	**324**	P	P	18 53 04.7	-0.3
	0.4nm,0.7s,baz=138,slow=5.9,SNR=4.7						
PDAR	**Pinedale Array**	**69.73**	**330**	P	P	18 54 34.5	+1.2
	0.4nm,1.0s,baz=110,slow=7.8,SNR=2.5						
ULM	**Lac du Bonnet**	**70.68**	**343**	P	P	18 54 36.7	-1.9
	2.0nm,0.6s,baz=150,slow=4.5,SNR=4.7						
TORD	**Torodi Ar. Bea**	**76.53**	**72**	P	P	18 55 13.9	0.0
	1.2nm,0.8s,baz=231,slow=4.0,SNR=5.3						
YKA	**Yellowknife Ar**	**86.57**	**341**	P	P	18 56 06.0	+0.1
	1.8nm,0.8s,baz=133,slow=4.8,SNR=22						
DLBC	**Dease Lake**	**89.75**	**333**	LR	LR	19 41 14.2	
	comp=Z,36nm,19.1s,baz=22,slow=39						
RAO	**Raoul Island**	**97.00**	**237**	LR	LR	19 32 26.0	
	comp=Z,170nm,21.5s,baz=160,slow=30						
ZALV	**Zalesovo Beam**	**138.00**	**22**	PKP	PKPdf	19 02 47.6	-0.1
	0.5nm,0.6s,baz=298,slow=3.2,SNR=3.9						
MJAR	**Matsushiro Ar**	**148.47**	**314**	PKPbc	PKPbc	19 03 10.6	+0.3
	0.9nm,0.8s,baz=96,slow=2.5,SNR=5.8						
SONM	**Songino Array**	**148.92**	**5**	PKPbc	PKPbc	19 03 11.5	+0.3
	0.4nm,0.4s,baz=356,slow=2.5,SNR=3.8						

*IDC **02** 18:44:38.0±2.0, 5.50S×131.49E, h0km, mb3.9/2, mb1 4.1/4, mb1mx3.6/24, mbtmp3.9/4, ML4.0/2, Error ellipse: s-maj=151.7km s-min=25.5km az=69.0*

ISC 02 18:44:45.1±1.4, 5.9S±0.1×130.6E±0.2, h35km, n9, σ1°42/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDU	**Kakadu**	**6.97**	**165**	P	Pn	18 46 29.1	+4.3
	baz=6.7,SNR=61						
KDU				S	**Sn**	**18 47 41.9**	**-1.0**
	baz=6.7,SNR=11						
KNRA	**Kununurra**	**9.85**	**190**	P	**Pn**	**18 47 05.5**	**+1.2**
	baz=9.3,SNR=61						
KNRA				S	Sn	18 48 45.2	-8.4
	baz=9.3,SNR=9.3						
WRA	**Warramunga Arr**	**14.40**	**166**	Pn	**Pn**	**18 48 05.3**	**-1.3**
	0.5nm,0.3s,baz=349,slow=25,SNR=28						
WRA					Sn	18 50 34.7	-11
	1.4nm,0.3s,baz=340,slow=22,SNR=11						
COEN	**Coen**	**14.75**	**124**	P	**P**	**18 48 18.4**	**+1.5**
	baz=15,SNR=5.6						
QIS	**Mount Isa**	**16.98**	**150**	P	**P**	**18 48 43.5**	**+1.8**
	baz=17,SNR=3.8						
ASAR	**Alice Springs**	**17.92**	**170**	P	**Pn**	**18 48 52.4**	**+0.6**
	0.8nm,0.3s,baz=349,slow=10,SNR=96						
ASAR				S	Sn	18 51 58.5	-12
	0.4nm,0.3s,baz=352,slow=29,SNR=7.0						
WRKA	**Warakurna**	**19.12**	**186**	P	**P**	**18 49 04.6**	**-0.7**
	baz=19,SNR=16						
STKA	**Stephens Creek**	**27.80**	**160**	P	**P**	**18 50 30.0**	**-1.0**
	0.8nm,0.4s,baz=344,slow=7.4,SNR=7.3						
MKAR	**Makanchi Array**	**67.65**	**326**	P	**P**	**18 55 38.0**	**-0.7**
	0.6nm,0.8s,baz=145,slow=4.4,SNR=6.8						

*IDC **02** 18:48:16.5±1.8, 3.74S×100.33E, h0km, mb3.5/7, mb1 3.6/7, mb1mx3.4/24, mbtmp3.5/7, Error ellipse: s-maj=72.3km s-min=21.2km az=59.0*

*ISCJB **02** 18:48:20.1±2.4, 3.65S±0.3×100.6E±0.5, h29km, mb3.4/7, Error ellipse: s-maj=81.8km s-min=16.6km az=148.2*

ISC 02 18:48:21.0±1.8, 3.7S±0.3×100.4E±0.4, h29km, n15, σ0°82/11, mb3.4/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**22.06**	**356**	P	**P**	**18 53 13.8**	**+0.1**
	0.8nm,0.9s,baz=181,slow=8.5,SNR=5.7						
H08S2	**Diego Garcia H**	**28.05**	**261**	T	T	19 23 43.8	
	baz=83,slow=75,SNR=148						
H08S3	**Diego Garcia H**	**28.06**	**261**	T	T	19 23 42.2	
	baz=83,slow=75,SNR=266						
H08S1	**Diego Garcia H**	**28.07**	**261**	T	T	19 23 42.4	
	baz=83,slow=75,SNR=17						
H08N1	**Diego Garcia H**	**29.40**	**264**	T	T	19 26 01.9	
	baz=168						
H08N2	**Diego Garcia H**	**29.41**	**264**	T	T	19 25 57.6	
	baz=168						
H08N3	**Diego Garcia H**	**29.42**	**264**	T	T	19 25 58.0	
	baz=168						
WRA	**Warramunga Arr**	**36.80**	**119**	P	**P**	**18 55 26.2**	**-0.5**
	0.3nm,0.6s,baz=304,slow=9.1,SNR=2.8						
ASAR	**Alice Springs**	**37.94**	**125**	P	**P**	**18 55 37.6**	**+1.3**
	0.1nm,0.3s,baz=294,slow=7.0,SNR=4.5						
ASAR					PcP	**PcP**	**18 57 51.7**	**-0.3**
	0.5nm,1.1s,baz=300,slow=2.8,SNR=2.8						
SONM	**Songino Array**	**51.58**	**5**	P	**P**	**18 57 25.0**	**+0.3**
	0.2nm,0.4s,baz=192,slow=9.1,SNR=4.2						
MKAR	**Makanchi Array**	**52.76**	**344**	P	**P**	**18 57 34.5**	**+1.1**
	0.5nm,0.8s,baz=184,slow=6.9,SNR=7.0						
MKAR					PcP	**PcP**	**18 58 42.3**	**-0.4**
	0.3nm,0.8s,baz=58,slow=5.4,SNR=2.9						
USRK	**Ussuriysk Ar.**	**55.46**	**27**	P	**P**	**18 57 52.8**	**-0.2**
	0.5nm,0.6s,baz=214,slow=7.2,SNR=4.9						
ZALV	**Zalesovo Beam**	**58.90**	**349**	P	**P**	**18 58 16.9**	**-0.3**
	0.9nm,0.7s,baz=177,slow=7.4,SNR=5.4						
YKA	**Yellowknife Ar**	**115.86**	**17**	PKP	**PKPdf**	**19 06 59.2**	**-1.3**
	0.1nm,0.7s,baz=309,slow=4.5,SNR=3.5						
TXAR	**Lajitas Array**	**145.77**	**39**	PKPbc	**PKPab**	**19 07 58.6**	**+0.1**
	0.4nm,0.5s,baz=188,slow=0.3,SNR=6.2						

*SJA **02** 18:52:17.2±0.7, 34.01S×73.81W, h25km, ML3.2, MW3.6*

*ISCJB **02** 18:52:30.5±1.3, 34.38S±0.03×72.1W±0.1, h16km, Error ellipse: s-maj=16.0km s-min=4.7km az=178.9*

*GUC **02** 18:52:31.1±0.6, 34.36S×72.04W, h15km±6km, ML3.3*

ISC 02 18:52:31.4±1.5, 34.44S±0.04×72.1W±0.1, h16km, n17, σ1°77/21, 5C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.74**	**49**⇑	*i* P	**Pg**	**18 52 43.2**	**-2.6**
LNV				*i* S	**Sg**	**18 52 52.4**	**-3.1**
NICH	**Los Niches**	**0.90**	**129**⇑	*i* P	**Pb**	**18 52 47.8**	**-0.9**
NICH				*i* S	**Sb**	**18 53 00.3**	**-0.2**
TALC	**Talca**	**1.02**	**159**⇑	*i* P	**Pb**	**18 52 49.9**	**-0.9**
TALC				*i* S	**Sb**	**18 53 04.3**	**+0.2**
CHCH	**Chadas Angostu**	**1.29**	**67**⇓	*i* P	**Pn**	**18 52 52.3**	**-2.5**
IHA	**Instituto Hidr**	**1.46**	**15**⇑	*i* P	**Pn**	**18 52 54.8**	**-2.3**
LNCH	**Linares**	**1.46**	**164**⇑	*i* P	**Pn**	**18 52 57.4**	**+0.3**
LNCH				*i* S	**Sn**	**18 53 16.7**	**+0.8**
CLCH	**Cerro Calan**	**1.65**	**51**⇓	*i* P	**Pn**	**18 52 58.1**	**-1.7**
CLCH				AML	AML	18 53 27.1	
	comp=E,479nm,0.7s						
ROCH	**El Roble**	**1.71**	**32**	*e* P	**Pn**	**18 52 59.0**	**-1.8**
ROCH				AML	AML	18 53 27.5	
	comp=N,600nm,0.6s						
PEL	**Peldehue**	**1.74**	**42**	*e* P	**Pn**	**18 52 59.6**	**-1.5**
PEL				AML	AML	18 53 27.0	
	comp=E,842nm,0.4s						
AAGR	**Agrelo**	**3.03**	**64**	*e* P	**Pb**	**18 53 24.5**	**-0.6**
ARCO	**CERRO ARCO**	**3.07**	**60**	*e* P	**Pb**	**18 53 24.1**	**-1.8**
ARCO				AML	AML	18 54 11.4	
	comp=Z,27nm,0.5s						
AUSP	**Uspallata**	**3.16**	**46**	*e* P	**Pn**	**18 53 22.8**	**+2.0**
ASAL	**Salagasta**	**3.28**	**57**	*e* P	Pn	18 53 25.6	+3.4
RTLS	**Leoncito**	**3.52**	**42**	*e* P4	Pn	18 53 28.0	+2.3
RTLS				*es*	**Sb**	**18 54 18.1**	**+2.0**
RTCV	**Cerro Valdivia**	**3.93**	**50**	*e* P	**Pn**	**18 53 32.9**	**+1.7**
RTCV				*es*	**Sb**	**18 54 29.2**	**+1.5**
RTLL	**Cerro Villicun**	**4.34**	**45**	*e* P	**Pn**	**18 53 37.2**	**+0.4**
AMOG	**MOGNA**	**4.62**	**42**	*e* P	**Pn**	**18 53 40.7**	**+0.1**

*IDC **02** 18:59:37.9±1.8, 6.94S×155.28E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/22, mbtmp3.6/6, Error ellipse: s-maj=71.4km s-min=24.2km az=116.0*

*ISCJB **02** 18:59:43.4±0.8, 7.05S±0.1×155.3E±0.1, h50km, mb3.5/6, Error ellipse: s-maj=20.4km s-min=17.1km az=177.4*

ISC 02 18:59:44.9±1.0, 7.0S±0.2×155.2E±0.1, h50km, n10, σ1°00/7, mb3.6/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.25**	**118**	P	**Pn**	**19 01 01.0**	**+0.1**
HNR				S	Sn	19 01 50.0	-10
WRA	**Warramunga Arr**	**24.02**	**236**	P	**P**	**19 04 55.8**	**+0.4**
	1.5nm,0.9s,baz=61,slow=9.5,SNR=7.2						
ASAR	**Alice Springs**	**26.36**	**229**	P	**P**	**19 05 15.8**	**-0.9**
	0.2nm,0.5s,baz=60,slow=9.8,SNR=6.3						
H11S3	**WAKE ISLAND Hy 27.72**	**24**		T	T	19 33 59.7	
	baz=202,slow=75,SNR=19						
H11S2	**WAKE ISLAND Hy 27.73**	**24**		T	T	19 33 59.2	
	baz=202,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy 27.74**	**24**		T	T	19 34 01.5	
	baz=202,slow=75,SNR=10						
STKA	**Stephens Creek**	**27.85**	**205**	P	**P**	**19 05 30.1**	**+0.2**
	1.7nm,0.7s,baz=26,slow=12,SNR=4.2						
ILAR	**Eielson Array**	**83.28**	**21**	P	**P**	**19 12 05.9**	**-0.1**
	0.2nm,0.5s,baz=249,slow=4.6,SNR=2.9						
MKAR	**Makanchi Array**	**83.56**	**319**	P	**P**	**19 12 09.2**	**+1.3**
	0.4nm,0.7s,baz=151,slow=1.5,SNR=6.4						
ZALV	**Zalesovo Beam**	**84.31**	**326**	P	**P**	**19 12 10.4**	**-1.1**
	0.2nm,0.3s,baz=104,slow=6.1,SNR=2.8						

*IDC **02** 19:22:56.5±0.7, 34.26S×72.03W, h0km, mb4.1/8, mb1 4.2/10, mb1mx4.1/18, mbtmp4.0/10, ML3.6/3, MS4.0/7, Ms1 4.0/7, ms1mx3.6/25, Error ellipse: s-maj=24.0km s-min=16.5km az=109.0*

*ISCJB **02** 19:22:57.2±1.7, 34.25S±0.03×72.18W±0.06, h15km±10km, mb4.2/10, MS3.7/4, Error ellipse: s-maj=9.0km s-min=4.9km az=10.2*

*NEIC **02** 19:22:57.0, 34.24S×72.12W, h33km, mb4.5/4, ML4.3(GUC), After GUC.*

NEIC Felt [III] at Pichilemu and [II] at Navidad, Paredones and San Antonio.

*GUC **02** 19:22:57.9±0.6, 34.24S×72.13W, h33km±3km, ML4.3*

*SJA **02** 19:22:58.2±0.5, 33.85S×72.49W, h20km±25km, ML3.8, MW4.3*

ISC 02 19:22:55.6±1.8, 34.22S±0.03×72.12W±0.07, h0km±11km, n49, σ1°43/46, mb4.4/10, MS3.8/4, 8C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.64**	**66**⇑	*i* P	**Pn**	**19 23 10.7**	**-1.2**
NICH	**Los Niches**	**1.07**	**137**⇑	*i* P	**Pb**	**19 23 16.7**	**-0.3**
NICH				*i* S	**Sg**	**19 23 31.1**	**+1.1**
TALC	**Talca**	**1.24**	**161**⇑	*i* P	**Pn**	**19 23 19.3**	**-0.9**
TALC				*i* S	**Sb**	**19 23 35.5**	**-1.0**
CHCH	**Chadas Angostu**	**1.25**	**77**⇑	*i* P	**Pg**	**19 23 20.1**	**+0.6**
IHA	**Instituto Hidr**	**1.25**	**19**	*e* P	**Pg**	**19 23 20.6**	**+0.9**
CACH	**El Canelo**	**1.26**	**86**⇑	*i* P	**Pg**	**19 23 20.8**	**+1.0**
ROCH	**El Roble**	**1.55**	**37**⇑	*i* P	**Pb**	**19 23 24.9**	**-0.4**
ROCH				*i* S	**Sg**	**19 23 45.7**	**+0.3**
ROCH				AML	AML	19 23 51.8	
	comp=N,4µm,0.5s						
CLCH	**Cerro Calan**	**1.55**	**58**⇑	*i* P	**Pb**	**19 23 25.2**	**-0.1**
CLCH				*i* S	**Sg**	**19 23 45.6**	**+0.1**
CLCH				AML	AML	19 23 53.8	
	comp=E,5µm,0.4s						
PEL	**Peldehue**	**1.61**	**48**⇓	*i* P	**Pb**	**19 23 26.0**	**-0.1**
PEL				*e* S	**Sg**	**19 23 47.0**	**-0.2**
PEL				AML	AML	19 23 52.5	
	comp=E,11µm,0.3s						
LNCH	**Linares**	**1.68**	**166**⇑	*i* P	**Pb**	**19 23 27.2**	**-0.2**
LNCH				*i* S	**Sb**	**19 23 48.3**	**-0.7**
FCH	**Farellones**	**1.76**	**60**	AML	AML	19 23 60.0	
	comp=N,7µm,0.4s						
ARCO	**CERRO ARCO**	**3.00**	**64**	*e* P	**Pb**	**19 23 49.8**	**-0.1**
ARCO				*e* S	**Sb**	**19 24 27.8**	**+0.7**
ARCO				AML	AML	19 24 40.8	
	comp=Z,260nm,0.6s						
CANA	**Caviahue**	**3.76**	**167**	*e* S	**Sg**	**19 24 53.8**	**-2.6**
RTCV	**Cerro Valdivia**	**3.81**	**53**	*e* P	Pb	19 24 00.1	-3.7
CFAA	**Coronel Fontan**	**4.18**	**52**	Pn	**Pn**	**19 24 02.9**	**+2.3**
	comp=Z,1.1nm,0.3s,baz=229,slow=10,SNR=24						
CFAA				Lg	Lg	19 25 08.8	
	comp=Z,3.1nm,0.3s,baz=138,slow=22,SNR=4.2						
CFAA				LR	LR	19 25 37.1	
	comp=Z,83nm,18.0s,baz=230,slow=39						
CFAA	**Coronel Fontan**	**4.18**	**52**	*e* P	Pn	19 24 04.4	+3.8
RTLL	**Cerro Villicun**

*ISCJB **02** 19:27:29.2±0.4,7.47S±0.05×75.63W±0.05,h10km, mb4.0/11,MS3.8/2,Error ellipse: s-maj=7.2km s-min=6.8km az=19.6*

*IDC **02** 19:27:29.7±0.7,7.44S×75.71W,h0km,mb4.0/12, mb1 4.2/16,mb1mx4.0/39,mbtmp4.1/16,ML4.3/3,MS3.6/6, Ms1 3.6/6,ms1mx3.2/30,Error ellipse: s-maj=20.1km s-min=14.9km az=39.0*

*NEIC **02** 19:27:34.3±0.4,7.47S×75.69W,h35km,mb4.1/2,Error ellipse: s-maj=10.0km s-min=9.1km az=220.0*

ISC 02 19:27:30.8±0.5,7.44S±0.05×75.70W±0.06,h10km,n26, σ0s81/28,mb4.0/11,Northern Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.69**	**276**	Pn	**Pn**	**Pn**	**19 28 14.5**	**0.0**
	59nm,0.3s,baz=90,slow=12,SNR=104							
ATAH				Sn		**Sb**	**19 28 52.1**	**-0.5**
	61nm,0.3s,baz=58,slow=4.8,SNR=4.8							
ATAH				LR	LR	LR	19 28 59.9	
	comp=Z,350nm,18.3s,baz=63,slow=34							
NNA	**Nana**	**4.66**	**194**	Pn		**Pn**	**19 28 42.0**	**+0.7**
	10nm,0.3s,baz=354,slow=11,SNR=21							
NNA				Sn		**Sn**	**19 29 36.0**	**+0.4**
	12nm,0.3s,baz=322,slow=12,SNR=3.6							
NNA				LR		LR	19 31 04.4	
	comp=Z,494nm,18.6s,baz=16,slow=46							
NNA	**Nana**	**4.66**	**194**	P		**Pn**	**19 28 41.1**	**-0.3**
NNA				*e*Pg		**Pg**	**19 28 59.0**	**-1.1**
NNA				*e*Sn		**Sn**	**19 29 35.5**	**-0.1**
ROSC	**El Rosal**	**12.29**	**6**	Pn		**Pn**	**19 30 26.0**	**-0.3**
	1.0nm,0.3s,baz=99,slow=18,SNR=2.6							
ROSC				Sn		Sn	19 33 02.0	+18
	0.3nm,0.3s,baz=114,slow=19,SNR=2.3							
SAML	**Samuel**	**12.48**	**98**	*e*Pn		**Pn**	**19 30 28.2**	**-0.4**
	0.2nm,0.5s							
SAML				*e*Sn		**Sn**	**19 32 47.9**	**0.0**
SDV	**Santo Domingo**	**16.98**	**17**	*e*Pn		**P**	**19 31 29.4**	**-1.3**
	7.2nm,0.5s							
PTGA	**Pitinga**	**17.04**	**68**	P		**Pn**	**19 31 27.9**	**-1.5**
	2.0nm,0.3s,baz=247,slow=23,SNR=11							
PTGA				Lg		Lg	19 36 30.9	
	0.9nm,0.3s,baz=239,slow=14,SNR=2.7							
PTGA				LR		LR	19 38 40.2	
	comp=Z,259nm,18.2s,baz=222,slow=39							
PTGA	**Pitinga**	**17.04**	**68**	*e*P		**Pn**	**19 31 28.1**	**-1.3**
	15nm,0.7s							
PTGA				Lg		Lg	19 36 30.9	
JTS	**JuntasAbangare**	**19.87**	**332**	LR		LR	19 39 03.3	
	comp=Z,74nm,18.4s,baz=170,slow=35							
PCRV	**Puerto La Cruz**	**20.68**	**32**	P		Pn	19 32 13.4	-0.1
	8.5nm,0.6s,baz=198,slow=6.4,SNR=3.5							
PCRV				LR		LR	19 41 00.3	
	comp=Z,102nm,21.6s,baz=210,slow=39							
CPUP	**Villa Florida**	**25.66**	**139**	P		**P**	**19 33 01.4**	**+0.4**
	0.7nm,0.8s,baz=253,slow=19,SNR=2.9							
CPUP				LR		LR	19 44 48.2	
	comp=Z,1μm,19.8s,baz=304,slow=40							
BDFB	**Brasilia**	**28.30**	**109**	P		**P**	**19 33 24.8**	**-0.1**
	1.6nm,0.5s,baz=243,slow=11,SNR=2.7							
TXAR	**Lajitas Array**	**45.40**	**325**	P		**P**	**19 35 50.8**	**+0.8**
	1.1nm,0.6s,baz=146,slow=9.1,SNR=10							
ANMO	**Albuquerque**	**51.19**	**327**	P		**P**	**19 36 35.5**	**+0.9**
	1.5nm,0.8s,baz=140,slow=11,SNR=3.1							
PDAR	**Pinedale Array**	**58.70**	**331**	P		**P**	**19 37 28.9**	**-0.1**
	0.3nm,0.7s,baz=123,slow=6.6,SNR=2.5							
ULM	**Lac du Bonnet**	**60.06**	**345**	P		**P**	**19 37 36.9**	**-1.1**
	2.2nm,0.8s,baz=163,slow=9.6,SNR=3.1							
NVAR	**Mina Array Bea**	**60.41**	**322**	P		**P**	**19 37 42.0**	**+1.1**
	0.8nm,0.6s,baz=124,slow=11,SNR=3.8							
DBIC	**Dimbokro**	**72.03**	**81**	P		**P**	**19 38 56.7**	**+1.0**
	5.4nm,0.7s,baz=226,slow=2.0,SNR=10							
YKA	**Yellowknife Ar**	**75.85**	**342**	P		**P**	**19 39 17.3**	**+0.3**
	0.7nm,0.6s,baz=140,slow=6.1,SNR=17							
TORD	**Torodi Ar. Bea**	**79.53**	**75**	P		**P**	**19 39 39.3**	**+0.7**
	3.6nm,0.6s,baz=281,slow=4.8,SNR=45							
ILAR	**Eielson Array**	**88.80**	**336**	P		**P**	**19 40 24.8**	**+0.1**
	0.7nm,0.8s,baz=124,slow=2.8,SNR=8.1							
ZALV	**Zalesovo Beam**	**131.02**	**15**	PKP		**PKPdf**	**19 46 44.2**	**+1.5**
	0.2nm,0.3s,baz=333,slow=2.3,SNR=5.6							
MKAR	**Makanchi Array**	**136.48**	**22**	PKP		**PKPdf**	**19 46 53.6**	**+0.3**
	0.1nm,0.5s,baz=348,slow=3.5,SNR=2.8							
ASAR	**Alice Springs**	**137.67**	**222**	PKP		**PKPdf**	**19 46 55.7**	**-0.6**
	0.4nm,0.8s,baz=126,slow=1.8,SNR=4.7							
SONM	**Songino Array**	**139.70**	**358**	PKhKP		PKPpre	19 46 52.5	
	0.2nm,0.4s,baz=0.0,slow=2.9,SNR=2.7							
WRA	**Warramunga Arr**	**139.82**	**227**	PKP		**PKPdf**	**19 47 00.0**	**-0.2**
	0.8nm,0.8s,baz=123,slow=2.0,SNR=9.2							

*IDC **02** 19:33:06.0±1.3,33.33S×179.02W,h0km,mb3.9/3, mb1 4.2/5,mb1mx3.9/19,mbtmp4.1/5,ML4.5/2,Error ellipse: s-maj=35.5km s-min=24.4km az=103.0*

*ISCJB **02** 19:33:09.3±0.8,33.42S±0.06×178.8W±0.1,h48km, mb3.8/3,Error ellipse: s-maj=13.6km s-min=7.2km az=19.5*

ISC 02 19:33:11.0±1.1,33.40S±0.08×178.7W±0.1,h48km,n24, σ1s45/28,mb3.8/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.20**	**10**	Pn		**Pn**	**19 34 12.4**	**0.0**
	51nm,0.3s,baz=218,slow=20,SNR=2.0							
MXZ	**Matakaoa Point**	**4.81**	**209**	*e*PN		**Pn**	**19 34 20.3**	**-0.5**
WMGZ	**Waiomatatini S**	**4.99**	**207**	*e*PN		**Pn**	**19 34 23.8**	**+0.6**
HAZ	**Te Kaha**	**5.19**	**212**	PN		**Pn**	**19 34 26.7**	**+0.6**
HAZ				*e*SN		**Sn**	**19 35 27.2**	**+2.5**
PUZ	**Puketiti**	**5.27**	**207**	PN		**Pn**	**19 34 26.7**	**-0.5**
PUZ				*e*SN		**Sn**	**19 35 26.8**	**+0.2**
CNGZ	**Carnagh Statio**	**5.65**	**205**	*e*PN		**Pn**	**19 34 32.3**	**0.0**
TKGZ	**Te Karaka**	**5.74**	**208**	*e*PN		**Pn**	**19 34 33.1**	**-0.5**
MWZ	**Matawai**	**5.79**	**211**	*e*PN		**Pn**	**19 34 33.3**	**-1.0**
URZ	**Urewera**	**5.91**	**214**	Pn		**Pn**	**19 34 35.3**	**-0.6**
	6.1nm,0.3s,baz=42,slow=12,SNR=21							
URZ				Sn		**Sn**	**19 35 42.9**	**+0.5**
	4.6nm,0.3s,baz=90,slow=20,SNR=4.6							
URZ	**Urewera**	**5.91**	**214**	*e*PN		**Pn**	**19 34 34.8**	**-1.1**
URZ				*e*SN		**Sn**	**19 35 42.5**	**+0.2**
RIGZ	**Rimuhau**	**6.01**	**207**	*e*PN		**Pn**	**19 34 38.0**	**+0.7**
OUZ	**Omahuta**	**6.61**	**252**	PN		**Pn**	**19 34 47.2**	**+1.6**
OUZ				*e*SN		**Sn**	**19 35 58.3**	**-1.3**
NMHZ	**Naumai**	**6.73**	**211**	*e*PN		**Pn**	**19 34 47.5**	**+0.2**
ARHZ	**Aropaoanui**	**6.79**	**209**	*e*PN		**Pn**	**19 34 47.7**	**-0.4**
BKZ	**Black Stump Fm**	**6.93**	**213**	*e*PN		**Pn**	**19 34 48.5**	**-1.5**
PXZ	**Pawanui**	**7.50**	**207**	*e*PN		**Pn**	**19 34 56.1**	**-1.7**
PXZ				*e*SN		**Sn**	**19 36 19.6**	**-1.9**
MRZ	**Mangatainoka R**	**8.56**	**211**	*e*PN		**Pn**	**19 35 09.6**	**-2.6**
MRZ				*e*SN		Sn	19 36 41.6	-5.8
THZ	**Tophouse**	**10.66**	**216**	*e*PN		Pn	19 35 36.9	-4.1
MQZ	**McQueen's Vall**	**12.30**	**211**	*e*SN		Sn	19 38 05.9	-13
ASAR	**Alice Springs**	**42.43**	**271**	P		**P**	**19 41 00.8**	**-0.5**
	0.5nm,0.5s,baz=109,slow=7.5,SNR=23							
WRA	**Warramunga Arr**	**43.69**	**276**	P		**P**	**19 41 10.3**	**-1.1**
	1.5nm,0.8s,baz=117,slow=7.8,SNR=26							
QSPA	**South Pole Qui**	**56.71**	**180**	P		**P**	**19 42 51.5**	**+1.9**
	3.0nm,1.0s,baz=351,slow=1.1,SNR=10							
FINES	**FINESS Array B**	**147.72**	**338**	PKPbc		**PKPab**	**19 52 49.3**	**-2.7**
	0.9nm,0.5s,baz=38,slow=3.4,SNR=9.1							
AKASG	**Malin Array Be**	**153.23**	**319**	PKPbc		**PKPbc**	**19 53 06.1**	**+3.0**
	0.1nm,0.2s,baz=92,slow=0.8,SNR=3.4							

NNC 02 19:38:43.5±8.8,36.93N×70.90E,h0km,mb3.6,mpv3.2, 5C-2D,Error ellipse: s-maj=73.2km s-min=29.2km az=176.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.49**	**319**	⇓P		Pn	19 39 25.0	-0.4
	2.1nm,0.2s							
DZET				⇑S		Sb	19 39 58.9	-1.6
	29nm,0.5s							
SFK	**Sufi-Kurgan**	**3.69**	**33**	⇑P		Pn	19 39 42.5	+0.3
	3.2nm,0.3s							
SFK				⇑S		Sn	19 40 29.1	+2.5
	7.3nm,0.4s							
KK31	**Karatay Array**	**6.17**	**357**	P		Pn	19 40 13.8	-2.1
	1.0nm,0.5s,baz=179,slow=12,SNR=20							
KK31				⇑S		Sn	19 41 23.6	-3.5
	1.0nm,0.5s,baz=189,slow=23,SNR=9.4							
AAK	**Ala-Archa**	**6.33**	**25**	⇑P		Pn	19 40 16.4	-1.9
	1.9nm,0.7s							
AAK				⇓S		Sn	19 41 30.8	-0.7
	1.7nm,0.6s							

IDC 02 19:44:13.3±4.1,33.98S×56.34E,h0km,mb3.4/3, mb1 3.7/3,mb1mx3.3/33,mbtmp3.4/3,Error ellipse: s-maj=120.7km s-min=51.3km az=60.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**30.15**	**33**	T		T	20 24 01.3	
	baz=208,slow=76,SNR=3.9							
H08S2	**Diego Garcia H**	**30.16**	**33**	T		T	20 24 02.5	
	baz=208,slow=76,SNR=4.5							
H08S3	**Diego Garcia H**	**30.17**	**33**	T		T	20 24 03.0	
	baz=208,slow=76,SNR=10							
H08N3	**Diego Garcia H**	**30.67**	**30**	T		T	20 24 28.0	
	baz=206							
H08N1	**Diego Garcia H**	**30.68**	**30**	T		T	20 24 36.1	
	baz=206							
H08N2	**Diego Garcia H**	**30.69**	**30**	T		T	20 24 35.6	
	baz=206							
H01W2	**Cape Leeuwin H**	**47.09**	**108**	T		T	20 44 37.8	
	baz=251,slow=75,SNR=4.0							
H01W3	**Cape Leeuwin H**	**47.09**	**108**	T		T	20 44 33.5	
	baz=251,slow=75,SNR=5.1							
H01W1	**Cape Leeuwin H**	**47.11**	**108**	T		T	20 44 37.2	
	baz=251,slow=75,SNR=3.5							
CMAR	**Chiang Mai Arr**	**66.08**	**45**	P		P	19 55 02.4	0.0
	0.4nm,0.8s,baz=226,slow=6.2,SNR=3.0							
ASAR	**Alice Springs**	**67.29**	**104**	P		P	19 55 09.6	-0.6
	0.2nm,0.9s,baz=237,slow=6.1,SNR=2.8							
WRA	**Warramunga Arr**	**69.44**	**101**	P		P	19 55 24.5	+0.7
	0.5nm,0.9s,baz=238,slow=5.9,SNR=3.7							
ILAR	**Eielson Array**	**146.09**	**18**	PKPbc		PKPdf	20 03 53.5	-0.1
	0.3nm,0.8s,baz=325,slow=3.7,SNR=4.8							

*SJA **02** 19:46:21.6±1.3,34.02S×72.95W,h5km,ML4.5,MW4.5*

*IDC **02** 19:46:26.5±0.6,34.24S×71.96W,h0km,mb4.4/13, mb1 4.5/14,mb1mx4.4/20,mbtmp4.4/14,ML3.8/2,MS3.9/6, Ms1 3.8/6,ms1mx3.5/22,Error ellipse: s-maj=24.6km s-min=16.2km az=69.0*

*ISCJB **02** 19:46:27.2±1.1,34.28S±0.03×72.28W±0.05,h18km±7km, mb4.5/29,MS3.8/3,Error ellipse: s-maj=7.6km s-min=4.9km az=15.0*

*NEIC **02** 19:46:29.0,34.29S×72.12W,h30km,mb4.7/18, ML4.7(GUC),After GUC.*

NEIC Felt [III] at Navidad, Paredones, Pichilemu and San Antonio; [II] at El Quisco, El Tabo and Santiago. Also felt at Santa Cruz and Valparaiso.

*GUC **02** 19:46:29.0±0.6,34.30S×72.13W,h30km±3km,ML4.7*

*BJI **02** 19:46:34.5,33.90S×71.90W,h35km,mB4.9/3,Ms5.1/3, Ms7 4.8/3*

ISC 02 19:46:31.1±0.9,34.28S±0.03×72.03W±0.06,h32km±6km, n95,σ1s62/109,mb4.5/29,MS3.7/3,7C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.60**	**58**	⇑*i*P		**Pb**	**19 46 42.0**	**-1.3**
NICH	**Los Niches**	**0.98**	**138**	*e*P		**Pn**	**19 46 47.2**	**-1.4**
NICH				*i* S		**Sn**	**19 47 01.4**	**-0.1**
TALC	**Talca**	**1.17**	**164**	⇑*i*P		**Pn**	**19 46 49.5**	**-1.7**
TALC				*i* S		**Sn**	**19 47 05.2**	**-0.8**
CHCH	**Chadas Angostu**	**1.19**	**74**	⇓*i*P		**Pn**	**19 46 51.3**	**-0.4**
CACH	**El Canelo**	**1.20**	**83**	⇑*i*P		**Pn**	**19 46 51.8**	**0.0**
RCDM	**Rinconada Maip**	**1.28**	**53**	⇑*i*P		**Pn**	**19 46 51.9**	**-1.0**
RCDM				*i* S		**Sn**	**19 47 09.3**	**+0.3**
IHA	**Instituto Hidr**	**1.29**	**15**	⇑*i*P		**Pn**	**19 46 52.0**	**-0.8**
IHA				*i* S		**Sn**	**19 47 09.8**	**+0.8**
FSR	**Penalolen**	**1.48**	**58**	*e*P		**Pb**	**19 46 57.1**	**-1.0**
FSR				*i* S		**Sb**	**19 47 17.4**	**+0.8**
CLCH	**Cerro Calan**	**1.52**	**55**	⇑*i*P		**Pn**	**19 46 56.4**	**+0.2**
CLCH				*i* S		**Sb**	**19 47 17.3**	**-0.4**
CLCH				AML	AML		19 47 23.6	
	comp=E,11μm,0.7s							
CLCH				AML	AML		19 47 24.2	
	comp=E,12μm,0.5s							
ROCH	**El Roble**	**1.55**	**33**	⇑*i*P		**Pn**	**19 46 56.0**	**-0.7**
PEL	**Peldehue**	**1.59**	**45**	⇓*i*P		**Pn**	**19 46 57.3**	**+0.2**
PEL				*e*S		**Sb**	**19 47 18.9**	**-0.8**
PEL				AML	AML		19 47 23.6	
	comp=N,28μm,0.6s							
LNCH	**Linares**	**1.61**	**168**	⇓*i*P		**Pn**	**19 46 56.6**	**-0.7**
LNCH				*i* S		**Sn**	**19 47 16.9**	**0.0**
YECH	**El Yeso**	**1.73**	**70**	⇓*i*P		**Pn**	**19 46 59.9**	**+0.7**
YECH				*e*S		**Sb**	**19 47 24.3**	**+0.5**
YECH				AML	AML		19 47 34.3	
	comp=N,10μm,0.4s							
FCH	**Farellones**	**1.73**	**57**	*e*P		Pb	19 47 09.3	+6.9
FCH				*e*S		Sb	19 47 32.7	+8.8
FCH				AML	AML		19 47 41.4	
	comp=N,8μm,0.5s							
AAGR	**Agrelo**	**2.92**	**67**	*e*P		**Pb**	**19 47 20.5**	**-2.0**
ARCO	**CERRO ARCO**	**2.96**	**62**	*e*P		**Pb**	**19 47 22.3**	**-0.9**
ARCO				AML	AML		19 48 11.8	
	comp=Z,862nm,0.7s							
AUSP	**Uspallata**	**3.02**	**48**	*e*P		Pn	19 47 20.4	+3.5
ASAL	**Salagasta**	**3.16**	**59**	*e*P4		Pn	19 47 24.7	+6.0
ASAL				*e*S		**Sb**	**19 48 08.4**	**+3.8**
RTLS	**Leoncito**	**3.37**	**44**	*e*P		**Pn**	**19 47 24.7**	**+2.9**
CANA	**Caviahue**	**3.69**	**168**	*e*P		**Pn**	**19 47 29.0**	**+2.9**
RTCV	**Cerro Valdivia**	**3.79**	**52**	*e*P		**Pn**	**19 47 30.4**	**+3.0**
CFAA	**Coronel Fontan**	**4.15**	**51**	Pn		**Pn**	**19 47 34.8**	**+2.4**
	comp=Z,1.1nm,0.3s,baz=219,slow=9.4,SNR=30							
CFAA				Lg	Lg		19 48 35.8	
	comp=Z,5.9nm,0.3s,baz=136,slow=23,SNR=6.4							
CFAA				LR	LR		19 49 07.7	
	comp=Z,47nm,18.1s,baz=164,slow=40							
CFAA	**Coronel Fontan**	**4.15**	**51**	*e*P4		**Pn**	**19 47 34.9**	**+2.5**
RTLL	**Cerro Villicun**	**4.19**	**46**	*e*P4		**Pn**	**19 47 34.9**	**+2.0**
AMOG	**MOGNA**	**4.47**	**43**	*e*P		**Pn**	**19 47 38.5**	**+1.8**
LCO	**Las Campanas**	**5.37**	**13**	*e*Pn		**Pn**	**19 47 47.8**	**-1.5**
LCO				*e*Sn		**Sn**	**19 48 49.1**	**-1.0**
AGUA	**GUANDACOL**	**5.64**	**33**	*e*P4		**Pn**	**19 47 54.7**	**+1.8**
PLCA	**Paso Flores**	**6.55**	**170**	Pn		**Pn**	**19 48 05.9**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=338,slow=11,SNR=13							
PLCA				Lg	Lg		19 49 53.0	
	comp=Z,1.0nm,0.3s,baz=272,slow=19,SNR=5.0							
PLCA				LR	LR		19 50 37.1	
	comp=Z,230nm,20.6s,baz=356,slow=38							
TRQA	**Tornquist**	**8.96**	**118**	*e*Pn		**Pn**	**19 48 37.9**	**-0.4**
TRQA				*e*Sn		**Sn**	**19 50 17.4**	**-0.7**
LVC	**Limon Verde**	**11.94**	**14**	Pn		Pn	19 49 13.8	-5.6
	comp=Z,13nm,0.3s,baz=156,slow=20,SNR=4.5							
LVC				LR		LR	19 54 09.8	
	comp=Z,2μm,19.2s,baz=223,slow=39							
LVC	**Limon Verde**	**11.94**	**14**	Pn		Pn	19 49 15.9	-3.4
CPUP	**Villa Florida**	**14.95**	**62**	Pn		**Pn**	**19 49 57.0**	**-3.1**
	comp=Z,0.0nm,0.3s,baz=270,slow=20,SNR=1.9							
CPUP				LR		LR	19 56 06.8	
	comp=Z,1μm,21.4s,baz=239,slow=39							
NNA	**Nana**	**22.62**	**348**	P		**P**	**19 51 29.2**	**-0.1**
	comp=Z,2.8nm,0.3s,baz=137,slow=14,SNR=2.7							
SAML	**Samuel**	**26.49**	**20**	*e*P		**P**	**19 52 03.5**	**-2.1**
	comp=Z,4.7nm,0.8s							
BDFB	**Brasilia**	**28.48**	**55**	P		**P**	**19 52 23.2**	**-0.5**
	comp=Z,3.7nm,0.7s,baz=190,slow=5.2,SNR=8.1							
BDFB				LR		LR	20 04 51.6	
	comp=Z,168nm,19.2s,baz=220,slow=39							
BDFB	**Brasilia**	**28.48**	**55**	*e*P		**P**	**19 52 23.0**	**-0.6**
OTAV	**Otavalo**	**34.86**	**349**	P		**P**	**19 53 18.3**	**-1.7**
	comp=Z,18nm,1.5s							
SDV	**Santo Domingo**	**42.95**	**2**	*e*P		**P**	**19 54 25.0**	**-2.3**
	comp=Z,10nm,1.1s							
VNA3	**Neumayer Olymp**	**49.10**	**158**	P		**P**	**19 55 15.7**	**+0.6**
VNA2	**Neumayer--Watz**	**49.76**	**157**	P		**P**	**19 55 20.9**	**+0.8**
	baz=295,slow=9.1							
SNAA	**Sanae**	**51.33**	**158**	P		**P**	**19 55 33.0**	**+1.0**
SNAA	**Sanae**	**51.33**	**158**	P		**P**	**19 55 32.7**	**+0.7**
	comp=Z,1.8nm,0.9s,baz=274,slow=8.0,SNR=11							
QSPA	**South Pole Qui**	**55.96**	**180**	P		**P**	**19 56 06.9**	**+0.8**
	comp=Z,3.0nm,0.8s,baz=133,slow=1.1,SNR=8.5							
QSPA	**South Pole Qui**	**55.96**	**180**	*e*P		**P**	**19 56 04.3**	**-1.7**
	comp=Z,6.7nm,1.1s							
TXAR	**Lajitas Array**	**69.98**	**331**	P		**P**	**19 57 40.3**	**+0.8**
	comp=Z,1.4nm,0.5s,baz=156,slow=7.7,SNR=4.9							
TXAR				LR		LR	20 23 28.0	
	comp=Z,33nm,19.7s,baz=0.0,slow=32							
CPCT	**Cooper Cave**	**70.34**	**349**	*e*P		**P**	**19 57 41.8**	**+0.3**
TKL	**Tuckaleechee C**	**70.43**	**350**	*e*P		**P**	**19 57 39.6**	**-2.5**
WVT	**Waverly**	**71.58**	**347**	*e*P		**P**	**19 57 46.9**	**-2.1**
	comp=Z,30nm,0.9s							
MAW	**Mawson**	**72.91**	**164**	LR		LR	20 29 52.7	
	comp=Z,150nm,19.3s,baz=245,slow=36							

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TUL1	**Leonard**	**73.27**	**340**	*e*P		**P**	**19 57 58.8**	**-0.2**
	comp=Z,6.8nm,0.6s							
SUR	**Sutherland**	**74.69**	**119**	P		**P**	**19 58 08.3**	**+0.3**
	comp=Z,15nm,1.1s,baz=82,slow=1.1,SNR=4.2							
ACSO	**Alum Creek Sta**	**74.83**	**351**	*e*P		**P**	**19 58 08.0**	**-0.1**
	comp=Z,15nm,0.8s							
DBIC	**Dimbokro**	**75.26**	**71**	P		**P**	**19 58 11.5**	**+0.3**
	comp=Z,4.7nm,0.7s,baz=214,slow=5.5,SNR=6.5							
ANMO	**Albuquerque**	**76.03**	**331**	P		**P**	**19 58 16.9**	**+1.6**
	comp=Z,2.7nm,0.9s,baz=185,slow=11,SNR=6.3							
ANMO	**Albuquerque**	**76.03**	**331**	P		**P**	**19 58 13.7**	**-1.7**
	comp=Z,3.3nm,1.0s							
T25A	**Trinidad**	**77.18**	**334**	*e*P		**P**	**19 58 23.3**	**+1.4**
	comp=Z,11nm,1.0s							
SMCO	**Snowmass**	**79.93**	**333**	P		**P**	**19 58 35.4**	**-1.8**
	comp=Z,5.8nm,1.1s							
ECSD	**EROS Data Cent**	**80.81**	**342**	*e*P		**P**	**19 58 38.2**	**-3.1**
	comp=Z,11nm,0.9s							
DAC	**Darwin (Calif)**	**82.06**	**324**	*e*P		**P**	**19 58 49.6**	**+1.3**
	comp=Z,3.8nm,0.9s							
LBTB	**Lobatse**	**82.18**	**115**	P		**P**	**19 58 49.4**	**0.0**
	comp=Z,3.4nm,0.6s,baz=279,slow=4.5,SNR=5.7							
DUG	**Dugway, Tooele**	**83.11**	**330**	*e*P		**P**	**19 58 54.7**	**+1.0**
	comp=Z,10nm,1.5s							
RSSD	**Black Hills**	**83.29**	**337**	P		**P**	**19 58 52.3**	**-2.3**
	comp=Z,2.5nm,0.7s							
HWUT	**Hardware Ranch**	**83.80**	**331**	*e*P		**P**	**19 58 54.4**	**-2.8**
	comp=Z,3.6nm,0.9s							
PDAR	**Pinedale Array**	**84.01**	**333**	P		**P**	**19 58 58.2**	**-0.1**
	comp=Z,1.2nm,1.0s,baz=123,slow=5.5,SNR=8.8							
NVAR	**Mina Array Bea**	**84.11**	**325**	P		**P**	**19 58 59.9**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=151,slow=5.6,SNR=7.6							
TORD	**Torodi Ar. Bea**	**84.30**	**70**	P		**P**	**19 59 00.5**	**+0.3**
	comp=Z,5.2nm,0.9s,baz=260,slow=4.7,SNR=21							
FLWY	**Flagg Ranch**	**85.57**	**333**	*e*P		**P**	**19 59 04.2**	**-1.9**
	comp=Z,5.7nm,0.8s							
YMR	**Madison River**	**86.17**	**333**	*e*P		**P**	**19 59 09.6**	**+0.5**
	comp=Z,6.8nm,0.7s							
HLID	**Hailey**	**86.58**	**331**	*e*P		**P**	**19 59 09.7**	**-1.4**
	comp=Z,2.7nm,0.9s							
ULM	**Lac du Bonnet**	**86.77**	**345**	P		**P**	**19 59 11.1**	**-0.4**
	comp=Z,5.1nm,0.9s,baz=168,slow=5.5,SNR=5.0							
FCC	**Fort Churchill**	**94.50**	**349**	*e*P		**P**	**19 59 47.9**	**+0.4**
YKA	**Yellowknife Ar**	**102.32**	**341**	P		**Pdif**	**20 00 22.0**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=142,slow=4.4,SNR=6.0							
WRA	**Warramunga Arr**	**120.52**	**209**	PKP		**PKPdf**	**20 05 19.1**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=158,slow=1.7,SNR=14							
BRTR	**Keskin Array B**	**121.96**	**61**	PKP		**PKPdf**	**20 05 22.4**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=200,slow=3.8,SNR=4.0							
AKASG	**Malin Array Be**	**122.37**	**48**	PKP		**PKPdf**	**20 05 21.5**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=253,slow=1.9,SNR=4.2							
H11S2	**WAKE ISLAND Hyl**	**125.77**	**269**	T		T	22 23 51.7	
	baz=120,slow=75,SNR=9.2							
H11S1	**WAKE ISLAND Hyl**	**125.79**	**269**	T		T	22 23 51.1	
	baz=120,slow=75,SNR=11							
H11S3	**WAKE ISLAND Hyl**	**125.79**	**269**	T		T	22 23 51.7	
	baz=120,slow=75,SNR=8.5							
H11N3	**WAKE ISLAND Hyl**	**126.19**	**270**	T		T	22 24 20.0	
	baz=121							
H11N1	**WAKE ISLAND Hyl**	**126.21**	**270**	T		T	22 24 24.0	
	baz=121,slow=74,SNR=6.9							
H11N2	**W

RTLS	**Leoncito**	**3.57**	**45**	*eP*	**Pn**	**20 03 43.2**	**+2.6**
RTLS				*eS*	**Sb**	**20 04 34.5**	**+2.7**
RTCV	**Cerro Valdivia**	**4.00**	**52**	*eP*	**Pn**	**20 03 48.6**	**+2.4**
RTCV				*eS*	**Sb**	**20 04 43.9**	**0.0**
AMOG	**MOGNA**	**4.67**	**44**	*eP*	**Pn**	**20 03 56.8**	**+1.4**
ACAN	**Cantantal**	**4.73**	**65**	*eP*	Pn	20 04 00.1	+3.9

NIED ***02*** *20:13:00,29.˚30N× 128.˚20E, h240km, Mw4.2 Best double couple: M0=2.17000×10^15 NP1:φ=152.00000°, δ=42.00000°, λ=-130.00000°. NP2:φ=21.00000°, δ=59.00000°, λ=-60.00000°.*

ISCJB ***02*** *20:13:18.4±0.2, 29.˚33N±0.˚04× 128.˚15E±0.˚06, h242km±3km, mb3.8/23, Error ellipse: s-maj=9.7km s-min=4.2km az=29.9*

JMA ***02*** *20:13:19.9±0.3, 29.˚32N× 128.˚24E, h239km±5km, M4.2*

IDC ***02*** *20:13:21.6±1.3, 29.˚47N× 128.˚22E, h255km±13km, mb3.5/22, mb1 3.6/28, mb1mx3.6/39, mbtmp4.2/28, Error ellipse: s-maj=12.4km s-min=9.4km az=69.0*

ISC 02 20:13:19.4±0.6, 29.˚35N±0.˚05× 128.˚18E±0.˚07, h237km±6km, n60, σ1=10/81, mb3.9/23, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTAJ	**Takarajima**	**0.92**	**102**	P	**Pn**	**20 13 53.6**	**+1.1**
JTAJ				S	**S**	**20 14 19.1**	**+0.7**
JAMN	**Amaminishikomi**	**1.41**	**141**	P	**Pn**	**20 13 56.2**	**+0.4**
JAMN				S	**S**	**20 14 23.6**	**-0.6**
JNN	**Nakanoshima**	**1.56**	**71**	P	**Pn**	**20 13 57.4**	**+0.5**
JNN				S	**S**	**20 14 27.6**	**+1.3**
JAM	**Amami Oshima**	**1.56**	**126**	P	**Pn**	**20 13 57.3**	**+0.3**
JAM				S	**S**	**20 14 24.5**	**-1.8**
JTK	**Tokunoshima**	**1.70**	**156**	P	**Pn**	**20 13 58.6**	**+0.4**
JTK				S	**S**	**20 14 27.4**	**-1.1**
JZK	**Kikaishima**	**1.88**	**123**	P	**Pn**	**20 14 01.4**	**+1.7**
JZK				S	**S**	**20 14 31.6**	**+0.3**
JOKE	**Okinoerabujima**	**2.01**	**170**	P	**Pn**	**20 14 01.3**	**+0.4**
JOKE				S	**S**	**20 14 32.3**	**-1.2**
JKC	**Kuchinoerabu**	**2.08**	**57**	P	**Pn**	**20 14 01.9**	**+0.5**
JKC				S	**S**	**20 14 34.0**	**-0.4**
JYAK	**Yakushimahirau**	**2.21**	**66**	P	**Pn**	**20 14 02.5**	**-0.3**
JYAK				S	**S**	**20 14 34.0**	**-2.8**
JIH	**Iheya**	**2.31**	**185**	P	**Pn**	**20 14 04.5**	**+0.6**
JIH				S	**S**	**20 14 37.4**	**-1.3**
JOW	**Kunigami**	**2.51**	**178**	P	**Pn**	**20 14 06.2**	**+0.3**
JOW				S	**S**	**20 14 40.6**	**-1.8**
JSJ	**Shimokoshiki**	**2.68**	**29**	P	**Pn**	**20 14 08.4**	**+0.9**
JSJ				S	**S**	**20 14 45.5**	**0.0**
JTN	**Tanegashima 3**	**2.76**	**61**	P	**Pn**	**20 14 07.7**	**-0.7**
JAGN	**Aguni-jima**	**2.87**	**197**	P	**Pn**	**20 14 10.0**	**+0.3**
JAGN				S	**S**	**20 14 47.9**	**-1.4**
JJT2	**Tamagusuku 2**	**3.22**	**187**	S	**S**	**20 14 55.4**	**-0.9**
JKE	**Kume jima 2**	**3.25**	**203**	P	**Pn**	**20 14 14.4**	**+0.4**
JKE				S	**S**	**20 14 55.9**	**-1.0**
JNU	**Nakatsue**	**4.42**	**31**	P	**Pn**	**20 14 29.1**	**+1.4**
	5.1nm,0.3s,baz=219,slow=8.6,SNR=59						
JNU				S	**S**	**20 15 22.6**	**+0.8**
	1.8nm,0.3s,baz=245,slow=12,SNR=4.3						
KSRS	**Korea Array**	**8.09**	**359**	P	**Pn**	**20 15 15.4**	**+1.7**
	0.8nm,0.3s,baz=178,slow=13,SNR=22						
MAT	**Matsushiro**	**11.06**	**47**	P	**Pn**	**20 15 50.6**	**-0.9**
MAT				*eS*	**S**	**20 17 52.1**	**-2.3**
MJAR	**Matsushiro Arr**	**11.06**	**47**	P	**Pn**	**20 15 51.8**	**+0.3**
	0.2nm,0.3s,baz=237,slow=14,SNR=13						
JCJ	**Chichijima**	**12.55**	**97**	P	**P**	**20 16 13.3**	**+0.4**
	6.0nm,0.3s,baz=269,slow=21,SNR=5.1						
USRK	**Ussuriysk Ar.**	**15.13**	**11**	P	**Pn**	**20 16 42.1**	**+0.6**
	1.9nm,0.3s,baz=187,slow=8.8,SNR=35						
ASAJ	**Asahikawa**	**18.69**	**34**	P	**P**	**20 17 18.8**	**-1.3**
	0.9nm,0.3s,baz=234,slow=11,SNR=12						
SONM	**Songino Array**	**24.97**	**324**	P	**P**	**20 18 21.8**	**+0.3**
	4.4nm,0.4s,baz=137,slow=10,SNR=28						
CMAR	**Chiang Mai Arr**	**28.77**	**254**	PcP	**PcP**	**20 22 00.2**	**+1.0**
	0.9nm,0.6s,baz=44,slow=0.8,SNR=8.5						
PETK	**Petropavlovsk-**	**32.11**	**34**	P	**P**	**20 19 23.9**	**-0.5**
	2.3nm,0.7s,baz=235,slow=5.2,SNR=3.8						
TAPN	**Taplejung**	**35.55**	**277**	*eP*	**P**	**20 19 52.4**	**-2.2**
ODAN	**Odare**	**35.94**	**276**	*eP*	**P**	**20 19 59.1**	**+1.2**
	9.7nm,0.6s						
RAMN	**Ramite**	**36.60**	**277**	*eP*	**P**	**20 20 04.6**	**+1.1**
	2.8nm,0.5s						
JIRN	**Jiri**	**36.80**	**278**	*eP*	**P**	**20 20 04.3**	**-1.0**
	5.0nm,0.5s						
GUN	**Gumba**	**37.01**	**278**	*eP*	**P**	**20 20 05.7**	**-1.3**
	6.7nm,0.4s						
PKIN	**Phulchoki**	**37.50**	**278**	*eP*	**P**	**20 20 10.1**	**-1.0**
	2.9nm,0.6s						
KKN	**Kakani**	**37.55**	**278**	*eP*	**P**	**20 20 09.9**	**-1.5**
	2.7nm,0.4s						
DMN	**Daman**	**37.74**	**278**	*eP*	**P**	**20 20 12.4**	**-0.7**
GKN	**Gorkha**	**38.06**	**279**	*eP*	**P**	**20 20 13.7**	**-1.9**
	1.7nm,0.3s						
PSI	**Prapat**	**38.33**	**232**	P	**P**	**20 20 19.9**	**+2.1**
	2.5nm,0.3s,baz=29,slow=6.7,SNR=3.8						
DANN	**Dangsing**	**38.74**	**280**	*eP*	**P**	**20 20 18.7**	**-2.7**
KOLN	**Koldanda**	**39.01**	**279**	*eP*	**P**	**20 20 22.8**	**-0.7**
	1.3nm,0.3s						
MKAR	**Makanchi Array**	**39.48**	**309**	P	**P**	**20 20 26.9**	**-0.1**
	0.9nm,0.6s,baz=92,slow=8.5,SNR=17						
MKAR				PcP	**PcP**	**20 22 29.5**	**-0.1**
	0.7nm,0.4s,baz=70,slow=6.6,SNR=17						
ZALV	**Zalesovo Beam**	**39.78**	**321**	P	**P**	**20 20 28.7**	**-0.5**
	2.1nm,0.5s,baz=113,slow=8.9,SNR=17						
ZALV				PcP	**PcP**	**20 22 30.0**	**-0.4**
	1.0nm,0.4s,baz=128,slow=4.2,SNR=8.2						
KURBB	**Kurchatov Arra**	**42.61**	**314**	P	**P**	**20 20 52.1**	**-0.1**
	4.0nm,0.5s,baz=100,slow=9.1,SNR=64						
KURBB				PcP	**PcP**	**20 22 39.5**	**-0.2**
	1.2nm,0.8s,baz=103,slow=3.7,SNR=8.5						
WRA	**Warramunga Arr**	**49.36**	**172**	P	**P**	**20 21 45.8**	**+0.6**
	1.0nm,1.0s,baz=353,slow=8.1,SNR=4.4						
WRA				PcP	**PcP**	**20 23 04.7**	**+0.8**
	0.3nm,0.5s,baz=348,slow=4.2,SNR=4.2						
ASAR	**Alice Springs**	**52.99**	**173**	P	**P**	**20 22 14.1**	**+2.0**
	0.3nm,0.5s,baz=2.8,slow=14,SNR=9.5						
ASAR				PcP	**PcP**	**20 23 17.6**	**+0.1**
	0.4nm,0.7s,baz=356,slow=3.8,SNR=4.1						
AKTO	**Aktyubinsk**	**55.64**	**313**	P	**P**	**20 22 32.2**	**+1.4**
	0.7nm,0.5s,baz=76,slow=7.4,SNR=4.2						
GEYT	**Alibeck**	**57.73**	**298**	P	**P**	**20 22 46.9**	**+1.2**
	0.9nm,0.5s,baz=124,slow=1.0,SNR=3.5						
ILAR	**Eielson Array**	**61.73**	**29**	P	**P**	**20 23 11.8**	**-0.7**
	1.8nm,0.7s,baz=266,slow=4.4,SNR=40						
STKA	**Stephens Creek**	**62.21**	**167**	P	**P**	**20 23 16.0**	**+0.1**
	1.9nm,0.7s,baz=340,slow=15,SNR=3.0						
INK	**Inuvik**	**66.06**	**24**	P	**P**	**20 23 40.4**	**-0.1**
	1.3nm,0.2s,baz=298,slow=6.3,SNR=5.8						
ARCES	**ARCESS Array B**	**67.10**	**338**	P	**P**	**20 23 46.2**	**-0.8**
	2.3nm,0.8s,baz=69,slow=6.6,SNR=8.4						
FINES	**FINESS Array B**	**70.14**	**330**	P	**P**	**20 24 05.2**	**-0.7**
	2.1nm,0.5s,baz=75,slow=5.2,SNR=35						
AKASG	**Malin Array Be**	**73.15**	**319**	P	**P**	**20 24 22.8**	**-1.2**
	0.5nm,0.4s,baz=62,slow=6.2,SNR=3.4						
BRTR	**Keskin Array B**	**75.10**	**307**	P	**P**	**20 24 35.8**	**0.0**
	0.8nm,0.6s,baz=95,slow=4.6,SNR=9.6						
YKA	**Yellowknife Ar**	**75.73**	**25**	P	**P**	**20 24 38.9**	**+0.3**
	4.8nm,0.9s,baz=302,slow=5.7,SNR=45						
NB2	**NORSAR Subarra**	**76.51**	**334**	P	**P**	**20 24 42.4**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=52,slow=5.9						
NOA	**NORSAR Array B**	**76.51**	**334**	P	**P**	**20 24 42.3**	**-0.8**
	comp=Z,1.6nm,0.9s,baz=56,slow=6.9,SNR=8.7						
SUMG	**Summit**	**77.93**	**356**	*i* P	**P**	**20 24 51.1**	**-0.2**
	comp=Z,3.0nm,0.6s						
GERES	**GERESS Array B**	**82.70**	**323**	P	**P**	**20 25 16.0**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=93,slow=4.9,SNR=2.3						
PDAR	**Pinedale Array**	**90.76**	**39**	P	**P**	**20 25 56.2**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=42,slow=2.5,SNR=6.9						
ULM	**Lac du Bonnet**	**91.66**	**27**	P	**P**	**20 25 59.4**	**-0.2**
	comp=Z,3.1nm,0.7s,baz=265,slow=5.3,SNR=6.7						
TORD	**Torodi Ar. Bea**	**113.30**	**301**	PKiKP	**PKiKP**	**20 31 28.9**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=31,slow=1.7,SNR=4.1						

IDC 02 20:14:12.3±1.6, 3.˚04N× 127.˚31E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/35, mbtmp3.6/5, MS2.7/1, Ms1 2.7/1, ms1mx2.3/28, Error ellipse: s-maj=135.0km s-min=19.4km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.86**	**163**	P	P	20 19 27.1	-0.5
	1.3nm,0.4s,baz=344,slow=10,SNR=23						
ASAR	**Alice Springs**	**27.31**	**167**	P	P	20 19 58.9	-0.1
	0.3nm,0.4s,baz=344,slow=7.4,SNR=15						

JCJ	**Chichijima**	**27.84**	**29**	LR	LR	20 32 07.7	
	comp=Z,13nm,18.8s,baz=74,slow=39						
STKA	**Stephens Creek**	**37.29**	**160**	P	P	20 21 26.6	+0.5
	0.9nm,0.6s,baz=338,slow=7.4,SNR=3.6						
MKAR	**Makanchi Array**	**58.45**	**325**	P	P	20 24 08.6	-1.5
	0.1nm,0.6s,baz=124,slow=6.4,SNR=2.5						
KURBB	**Kurchatov Arra**	**62.63**	**327**	P	P	20 24 40.2	+1.7
	0.3nm,0.5s,baz=128,slow=6.2,SNR=4.4						

ISCJB ***02*** *20:45:25.9±0.2, 51.˚52N±0.˚02× 7.˚75E±0.˚02, h0km, Error ellipse: s-maj=2.4km s-min=1.7km az=156.6*

BUG ***02*** *20:45:26.7, 51.˚63N× 7.˚69E, h1km, ML2.3*

BUG Felt in Bergkamen.

BNS ***02*** *20:45:27.6±0.5, 51.˚66N× 7.˚56E, h1km, ML2.3*

CSEM ***02*** *20:45:27.1±0.1, 51.˚56N× 7.˚66E, h1km, ML2.9/18, Error ellipse: s-maj=3.5km s-min=2.4km az=145.0*

LDG ***02*** *20:45:27.4±0.1, 51.˚65N× 7.˚58E, h1km, Md3.5/1, Ml2.7/22, Error ellipse: s-maj=2.4km s-min=1.6km az=117.0, Suspected Mining induced.*

BGR ***02*** *20:45:28.4±0.2, 51.˚60N× 7.˚70E, h1km, ML2.4/11, Error ellipse: s-maj=2.2km s-min=2.2km az=159.0*

PRU ***02*** *20:45:28.9, 51.˚53N× 7.˚62E, h10km*

ISC 02 20:45:26.7±0.7, 51.˚57N±0.˚02× 7.˚61E±0.˚02, h0km, n135, σ1=11/209, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAHL	**Ahlen**	**0.22**	**37**	Pg	**Pg**	**20 45 30.8**	**0.0**
BAHL				Sg	**Sg**	**20 45 33.6**	**0.0**
BAHL	**Ahlen**	**0.22**	**37**	Pg	**Pg**	**20 45 30.8**	**0.0**
BAHL				Sg	**Sg**	**20 45 33.6**	**0.0**
BUG	**Bochum--Univer**	**0.25**	**240**	*eP*g	**Pb**	**20 45 33.7**	**+2.3**
BUG				Sg	**Sb**	**20 45 38.9**	**+4.3**
ENTS	**Ennepetalsperr**	**0.35**	**201**	*eP*g	**Pb**	**20 45 35.7**	**0.0**
ENTS				*eS*g	**Sb**	**20 45 41.2**	**-0.5**
ENTS	**Ennepetalsperr**	**0.35**	**201**	Pg	**Pb**	**20 45 35.7**	**0.0**
ENTS				Sg	**Sb**	**20 45 41.2**	**-0.5**
LAUG	**Laupendahl**	**0.47**	**243**	*eP*g	**Pg**	**20 45 37.0**	**+1.4**
LAUG	**Laupendahl**	**0.47**	**243**	Pg	**Pg**	**20 45 37.0**	**+1.4**
HOBG	**Hohbusch**	**0.61**	**197**	*eP*g	**Pb**	**20 45 40.6**	**+0.5**
HOBG	**Hohbusch**	**0.61**	**197**	Pg	**Pb**	**20 45 40.6**	**+0.5**
WTSB	**Winterswijk**	**0.65**	**309**	*eP*g	**Pb**	**20 45 40.2**	**-0.6**
WTSB				*eS*g	**Sb**	**20 45 49.8**	**-0.5**
WTSB	**Winterswijk**	**0.65**	**309**	*eP*g	**Pb**	**20 45 40.3**	**-0.6**
	19nm,0.5s						
WTSB				*eS*g	**Sb**	**20 45 49.5**	**-0.8**
WTSB	**Winterswijk**	**0.65**	**309**	Pg	**Pb**	**20 45 40.2**	**-0.6**
WTSB				Sg	**Sb**	**20 45 49.8**	**-0.5**
IBBN	**Ibbenburen**	**0.75**	**7**	*eP*g	**Pg**	**20 45 41.5**	**+0.5**
IBBN				*eS*g	**Sg**	**20 45 51.0**	**+0.3**
IBBN	**Ibbenburen**	**0.75**	**7**	Pg	**Pg**	**20 45 41.5**	**+0.5**
IBBN				Sg	**Sg**	**20 45 51.0**	**+0.3**
PLH	**Pulheim**	**0.75**	**222**	*eP*g	**Pb**	**20 45 43.1**	**+0.5**
PLH				*eS*g	**Sb**	**20 45 53.9**	**+0.6**
	178nm,0.3s						
PLH	**Pulheim**	**0.75**	**222**	Pg	**Pb**	**20 45 43.1**	**+0.5**
PLH				Sg	**Sb**	**20 45 53.9**	**+0.6**
	178nm,0.3s						
WBS	**Wahnbachtalspe**	**0.79**	**195**	*eP*g	**Pb**	**20 45 43.5**	**+0.3**
WBS				*eS*g	**Sb**	**20 45 54.6**	**+0.2**
	47nm,0.2s						
JCK	**Jackerath**	**0.91**	**235**	*eP*g	**Pb**	**20 45 46.4**	**+1.1**
JCK				*eS*g	**Sb**	**20 45 59.5**	**+1.6**
	416nm,0.2s						
JCK	**Jackerath**	**0.91**	**235**	Pg	**Pb**	**20 45 46.4**	**+1.1**
JCK				Sg	**Sb**	**20 45 59.5**	**+1.6**
	416nm,0.2s						
RWB	**Wassenberg**	**1.02**	**244**	*eS*g	**Sn**	**20 46 03.0**	**-0.3**
RWB	**Wassenberg**	**1.02**	**244**	Sg	**Sn**	**20 46 03.0**	**-0.3**
TDN	**Todenfeld**	**1.08**	**203**	*eP*g	**Pn**	**20 45 49.5**	**+0.5**
TDN				*eS*g	**Sb**	**20 46 03.9**	**+1.2**
	11nm,0.2s						
TDN	**Todenfeld**	**1.08**	**203**	Pg	**Pn**	**20 45 49.5**	**+0.5**
TDN				Sg	**Sb**	**20 46 03.9**	**+1.2**
	11nm,0.2s						
STB	**Steinbach**	**1.09**	**207**	*eP*g	**Pb**	**20 45 48.8**	**+0.5**
STB				*eS*g	**Sn**	**20 46 05.2**	**+0.3**
	67nm,0.3s						
STB	**Steinbach**	**1.09**	**207**	Pg	**Pb**	**20 45 48.8**	**+0.5**
STB				Sg	**Sn**	**20 46 05.2**	**+0.3**
	67nm,0.3s						
GSH	**Grosshau**	**1.14**	**224**	*eP*g	**Pn**	**20 45 50.3**	**+0.5**
GSH				*eS*g	**Sn**	**20 46 06.1**	**0.0**
	46nm,0.3s						
GSH	**Grosshau**	**1.14**	**224**	Pg	**Pn**	**20 45 50.3**	**+0.5**
GSH				Sg	**Sn**	**20 46 06.1**	**0.0**
	46nm,0.3s						
KLL	**Kalltalsperre**	**1.23**	**222**	*eP*g	**Pg**	**20 45 51.0**	**+0.7**
KLL	**Kalltalsperre**	**1.23**	**222**	Pg	**Pg**	**20 45 51.0**	**+0.7**
DREG	**Dreilaegerbach**	**1.25**	**224**	*eP*g	**Pb**	**20 45 51.5**	**+0.3**
DREG	**Dreilaegerbach**	**1.25**	**224**	Pg	**Pb**	**20 45 51.5**	**+0.3**
OLFT	**Oleftalsperre**	**1.31**	**216**	*eP*g	**Pn**	**20 45 53.1**	**+0.9**
OLFT				*eS*g	**Sn**	**20 46 11.1**	**+0.7**
OLFT	**Oleftalsperre**	**1.31**	**216**	Pg	**Pn**	**20 45 53.1**	**+0.9**
OLFT				Sg	**Sn**	**20 46 11.1**	**+0.7**
HGN	**Heimansgroeve**	**1.33**	**233**	*eP*n	**Pg**	**20 45 52.7**	**+0.6**
HGN				*eS*g	**Sn**	**20 46 11.8**	**+1.0**
HGN	**Heimansgroeve**	**1.33**	**233**	*eP*g	**Pg**	**20 45 52.5**	**+0.4**
	8.0nm,0.4s						
HGN				*eS*g	**Sn**	**20 46 11.7**	**+1.0**
HGN	**Heimansgroeve**	**1.33**	**233**	Pn	**Pg**	**20 45 52.7**	**+0.6**
HGN				Sg	**Sn**	**20 46 11.8**	**+1.0**
BGG	**Burgeitz**	**1.37**	**187**	*eP*g	**Pb**	**20 45 53.6**	**+0.4**
BGG	**Burgeitz**	**1.37**	**187**	Pg	**Pb**	**20 45 53.6**	**+0.4**
WIT	**Witteveen**	**1.38**	**335**	*eP*g	**Pb**	**20 45 54.1**	**+0.8**
WIT				*eS*g	**Sn**	**20 46 13.0**	**+1.0**
WIT	**Witteveen**	**1.38**	**335**	Pg	**Pb**	**20 45 54.1**	**+0.8**
WIT				Sg	**Sn**	**20 46 13.0**	**+1.0**
MEM	**Membach**	**1.39**	**227**	P	**Pn**	**20 45 53.5**	**+0.1**
MEM	**Membach**	**1.39**	**227**	*eP*n	**Pb**	**20 45 54.2**	**+0.7**
MEM				*eS*g	**Sn**	**20 46 13.9**	**+1.5**
MEM	**Membach**	**1.39**	**227**	P	**Pn**	**20 45 53.4**	**+0.1**
MEM	**Membach**	**1.39**	**227**	Pn	**Pb**	**20 45 54.2**	**+0.7**
MEM				Sg	**Sn**	**20 46 13.9**	**+1.5**
HILG	**Hillesheim**	**1.41**	**205**	*eP*g	**Pb**	**20 45 54.4**	**+0.6**
HILG	**Hillesheim**	**1.41**	**205**	Pg	**Pb**	**20 45 54.4**	**+0.6**
TNS	**Taunus Mts**	**1.44**	**158**	*eP*n	**Pn**	**20 45 54.3**	**+0.2**
TNS	**Taunus Mts**	**1.44**	**158**	Pn	**Pn**	**20 45 54.3**	**+0.2**
GTTG	**Gvttingen**	**1.47**	**90**	*eP*n	**Pn**	**20 45 54.5**	**+0.1**
GTTG				*eS*g	**Sg**	**20 46 13.6**	**-0.2**
GTTG	**Gvttingen**	**1.47**	**90**	Pn	**Pn**	**20 45 54.5**	**+0.1**
GTTG				Sg	**Sg**	**20 46 13.6**	**-0.2**
UBBA	**Unterbreizbach**	**1.68**	**115**	*eP*n	**Pb**	**20 45 58.5**	**+0.2**
UBBA				*eS*g	**Sb**	**20 46 20.1**	**+0.1**
UBBA	**Unterbreizbach**	**1.68**	**115**	Pn	**Pb**	**20 45 58.5**	**+0.2**
UBBA				Sg	**Sb**	**20 46 20.1**	**+0.1**
CLZ	**Clausthal**	**1.74**	**80**	*eP*n	**Pn**	**20 45 57.2**	**-1.0**
CLZ				*eS*g	**Sn**	**20 46 20.8**	**-0.3**
CLZ	**Clausthal**	**1.74**	**80**	Pn	**Pn**	**20 45 57.2**	**-1.0**
CLZ				Sg	**Sn**	**20 46 20.8**	**-0.3**
NRDL	**Niedersach Rie**	**1.80**	**58**	*eP*g	**Pg**	**20 46 01.6**	**+0.5**
NRDL	**Niedersach Rie**	**1.80**	**58**	Pg	**Pg**	**20 46 01.6**	**+0.5**
BCLA	**Clavier**	**1.85**	**233**	P	**Pn**	**20 46 00.2**	**+0.5**
BCLA	**Clavier**	**1.85**	**233**	P	**Pn**	**20 46 00.2**	**+0.5**
WLF	**Walferdange**	**2.12**	**207**	P	**Pn**	**20 46 04.7**	**+1.4**
WLF	**Walferdange**	**2.12**	**207**	*eP*n	**Pn**	**20 46 05.0**	**+1.7**
WLF	**Walferdange**	**2.12**	**207**	P	**Pn**	**20 46 04.7**	**+1.4**
WLF	**Walferdange**	**2.12**	**207**	Pn	**Pn**	**20 46 05.0**	**+1.7**
GIVF	**Givet**	**2.29**	**231**	*eP*n	**Pn**	**20 46 05.0**	**-0.7**
GIVF				*eS*g	**Sg**	**20 46 40.6**	**+0.2**
	20nm,0.3s						
GIVF	**Givet**	**2.29**	**231**	*eP*n	**Pn**	**20 46 05.0**	**-0.7**
GIVF				*eS*g	**Sg**	**20 46 40.6**	**+0.2**
	10.0nm,0.3s						
SNF	**Seneffe**	**2.35**	**245**	P	**Pn**	**20 46 08.3**	**+1.7**
SNF	**Seneffe**	**2.35**	**245**	P	**Pn**	**20 46 08.2**	**+1.7**
DOU	**Dourbes**	**2.41**	**234**	P	**Pn**	**20 46 07.9**	**+0.5**
DOU	**Dourbes**	**2.41**	**234**	P	**Pn**	**20 46 07.8**	**+0.5**
BAIF	**Baives**	**2.63**	**236**	*eP*n	**Pn**	**20 46 10.3**	**-0.1**
BAIF				*eS*g	**Sg**	**20 46 50.8**	**-0.4**
	20nm,0.6s						
BAIF	**Baives**	**2.63**	**236**	*eP*n	**Pn**	**20 46 10.3**	**-0.1**
BAIF				*eS*g	**Sg**	**20 46 50.8**	**-0.4**
	9.9nm,0.6s						
MOX	**Moxa**	**2.69**	**108**	*eP*n	**Pn**	**20 46 11.9**	**+0.7**
MOX				*eP*g	**Pg**	**20 46 18.7**	**+0.6**
MOX	**Moxa**	**2.69**	**108**	Pn	**Pn**	**20 46 11.9**	**+0.7**
CDF	**Champ du Feu**	**3.16**	**184**	*eP*n	**Pn**	**20 46 18.0**	**+0.2**
CDF	**Champ du Feu**	**3.16**	**184**	*eP*g	**Pg**	**20 46 27.8**	**+0.5**
CDF				*eS*g	**Sg**	**20 47 09.6**	**+1.4**
	15nm,0.6s						
CDF	**Champ du Feu**	**3.16**	**184**	*eP*n	**Pn**	**20 46 18.0**	**+0.2**
CDF	**Champ du Feu**	**3.16**	**184**	*eP*g	**Pg**	**20 46 27.8**	**+0.5**
CDF				*eS*g	**Sg**	**20 47 09.6**	**+1.4**
	7.3nm,0.6s						
PAGF	**Fort de Pagny**	**3.25**	**203**	*eP*n	**Pn**	**20 46 18.6**	**-0.3**
	baz=31						
PAGF	**Fort de Pagny**	**3.25**	**203**	*eP*g	**Pg**	**20 46 28.9**	**0.0**
PAGF				*eS*g	**Sg**	**20 47 11.5**	**+0.5**
	8.4nm,1.1s						
PAGF	**Fort de Pagny**	**3.25**	**203**	*eP*n	**Pn**	**20 46 18.6**	**-0.3**
PAGF	**Fort de Pagny**	**3.25**	**203**	*eP*g	**Pg**	**20 46 28.9**	**0.0**
PAGF				*eS*g	**Sg**	**20 47 11.5**	**+0.5**
	4.2nm,1.1s						
BFO	**Black Forest**	**3.27**	**172**	*eP*n	**Pn**	**20 46 19.6**	**+0.4**
BFO	**Black Forest**	**3.27**	**172**	Pn	**Pn**	**20 46 19.6**	**+0.4**
TANN	**Tannenbergstha**	**3.27**	**109**	*eP*n	**Pn**	**20 46 20.2**	**+1.0**
TANN	**Tannenbergstha**	**3.27**	**109**	Pn	**Pn**	**20 46 20.2**	**+1.0**
NKC	**Novy Kostel**	**3.34**	**112**	*eP*N	**Pn**	**20 46 21.0**	**+0.9**
NKC				*eP*G	**Pb**	**20 46 28.2**	**+1.5**
NKC				*eS*G	**Sg**	**20 47 14.3**	**+0.4**
	comp=Z,7.8nm,0.6s						
NKC	**Novy Kostel**	**3.34**	**112**	Pn	**Pn**	**20 46 21.0**	**+0.9**
ECH	**Echery**	**3.37**	**185**	*eP*n	**Pn**	**20 46 20.5**	**0.0**
ECH	**Echery**	**3.37**	**185**	Pn	**Pn**	**20 46 20.5**	**0.0**
CLL	**Collm**	**3.38**	**92**	*eP*g	**Pg**	**20 46 31.0**	**-0.5**
CLL				*eS*g	**Sg**	**20 47 17.0**	**+1.7**
	comp=Z,8.0nm,0.8s						
MEZF	**Maizieres J'vi**	**3.48**	**209**	*eP*n	**Pn**	**20 46 21.9**	**-0.1**
MEZF				*eS*g	**Sg**	**20 47 18.5**	**0.0**
	comp=Z,9.9nm,0.6s						
MEZF	**Maizieres J'vi**	**3.48**	**209**	*eP*n	**Pn**	**20 46 21.9**	**-0.1**
MEZF				*eS*g	**Sg**	**20 47 18.5**	**0.0**
	comp=Z,4.9nm,0.6s						
HAU	**Haudompre**	**3.66**	**193**	*eP*n	**Pn**	**20 46 24.1**	**-0.4**
HAU				*eS*g	**Sg**	**20 47 24.7**	**+0.7**
	comp=Z,4.8nm,0.5s						
HAU	**Haudompre**	**3.66**	**193**	*eP*n	**Pn**	**20 46 24.1**	**-0.4**
HAU				*eS*g	**Sg**	**20 47 24.7**	**+0.7**
	comp=Z,2.4nm,0.5s						
SFTF	**Sexfontaines**	**3.75**	**207**	*eP*n	**Pn**	**20 46 25.3**	**-0.5**
SFTF				*eS*g	**Sg**	**20 47 27.1**	**0.0**
	comp=Z,22nm,0.6s						
SFTF	**Sexfontaines**	**3.75**	**207**	*eP*n	**Pn**	**20 46 25.3**	**-0.5**
SFTF				*eS*g	**Sg**	**20 47 27.1**	**0.0**
	comp=Z,11nm,0.6s						
HINF	**Hinteralfeld**	**3.78**	**188**	*eP*n	**Pn**	**20 46 26.1**	**-0.2**
HINF				*eS*g	**Sg**	**20 47 28.9**	**+0.7**
	comp=Z,13nm,0.7s						
HINF	**Hinteralfeld**	**3.78**	**188

ENA	**Nanau**	**0.76 250**	P	**Pb**	**20 47 45.3**	**-0.3**
	baz=242					
ENA			*eS*	**Sb**	**20 47 55.4**	**-0.8**
	baz=242					
NWF	**Wu-fen Shan**	**0.78 299**	P	**Pb**	**20 47 45.7**	**-0.1**
	baz=300					
NWF			*eS*	**Sg**	**20 47 54.9**	**0.0**
	baz=300					
ENTT	**Nioudou**	**0.88 267**	*eP*	**Pb**	**20 47 47.5**	**0.0**
	baz=262					
ENTT			*eS*	**Sb**	**20 47 59.4**	**-0.1**
	baz=262					
TWA	**Mucha**	**0.91 289**	*eP*	**Pb**	**20 47 47.7**	**-0.3**
	baz=288					
TWA			*eS*	**Sb**	**20 47 59.8**	**-0.6**
	baz=288					
PCYT	**Pengchaiyu**	**1.02 336**	*eP*	**Pn**	**20 47 51.3**	**+0.5**
	baz=341					
TWY	**Chenhua**	**1.03 305**	*eP*	**Pn**	**20 47 50.1**	**-0.7**
	baz=306					
TWY			*eS*	**Sg**	**20 48 02.2**	**-0.7**
	baz=306					
TWD	**Chiawan**	**1.04 235**	*eP*	**Pn**	**20 47 51.3**	**+0.2**
	baz=228					
TWD			*eS*	**Sn**	**20 48 06.9**	**+0.9**
	baz=228					
NSK	**Sanguang**	**1.06 270**	P	**Pb**	**20 47 50.7**	**-0.1**
	baz=266					
NSK			*eS*	**Sb**	**20 48 04.2**	**-0.8**
	baz=266					
NNS	**Nan Shan**	**1.08 257**	*eP*	**Pn**	**20 47 51.5**	**-0.2**
	baz=252					
NNS			*eS*	**Sb**	**20 48 05.7**	**+0.2**
	baz=252					
IRIF	**Iriomote-Funau**	**1.15 108**	P	**Pg**	**20 47 51.3**	**-0.6**
WHF	**Hehuan Shan**	**1.27 245**	P	**Pb**	**20 47 54.9**	**+0.4**
	baz=240					
WHF			*eS*	**Sb**	**20 48 11.5**	**+0.1**
	baz=240					
TWT	**Tachien**	**1.31 251**	P	**Pg**	**20 47 56.4**	**+1.6**
	baz=246					
TWT			*eS*	**Sn**	**20 48 13.3**	**+0.6**
	baz=246					
HATJ	**Hateruma jima**	**1.32 118**	*eS*	**Sb**	**20 48 11.7**	**-0.6**
ESL	**Shilin**	**1.33 229**	*eP*	**Pg**	**20 47 55.7**	**+0.4**
	baz=223					
ESL			*eS*	**Sn**	**20 48 12.8**	**-0.2**
	baz=223					
NSTT	**Nanjuang**	**1.39 268**	*eP*	**Pg**	**20 47 56.2**	**-0.3**
	baz=265					
NSTT			*eS*	**Sn**	**20 48 15.7**	**+1.1**
	baz=265					
JKRS	**Kuro-shima**	**1.42 108**	P	**Pn**	**20 47 55.8**	**-0.5**
JKRS			*eS*	**Sb**	**20 48 13.6**	**-1.6**
JIJ	**Ishigaki jima**	**1.51 102**	P	**Pn**	**20 47 58.1**	**+0.7**
JIJ			*eS*	**Sn**	**20 48 16.2**	**-1.2**
WDT	**Danda**	**1.58 234**	*eP*	**Pg**	**20 48 01.1**	**+1.0**
	baz=229					
WDT			*eS*	**Sg**	**20 48 20.3**	**-0.2**
	baz=229					
EHY	**Hungye**	**1.61 223**	*eP*	**Pb**	**20 48 00.1**	**0.0**
	baz=218					
EHY			*eS*	**Sb**	**20 48 20.4**	**-0.3**
	baz=218					
JISG	**Ishigakijimahi**	**1.62 93**	P	**Pn**	**20 47 58.6**	**-0.5**
NSY	**Sanyi**	**1.63 261**	*eP*	**Pg**	**20 48 01.6**	**+0.5**
	baz=257					
NSY			*eS*	**Sg**	**20 48 22.7**	**+0.4**
	baz=257					
TWQ1	**Liyutan**	**1.63 258**	*eP*	**Pg**	**20 48 02.2**	**+1.0**
	baz=255					
TWQ1			*eS*	**Sg**	**20 48 22.0**	**-0.4**
	baz=255					
SMLT	**Sun Moon Lake**	**1.69 242**	*eP*	**Pg**	**20 48 02.4**	**+0.2**
	baz=238					
SMLT			*eS*	**Sn**	**20 48 19.5**	**-2.6**
	baz=238					
TYC	**Yuchr**	**1.71 243**	*eP*	**Pg**	**20 48 02.4**	**-0.2**
	baz=239					
TYC			*eS*	**Sg**	**20 48 24.1**	**-0.8**
	baz=239					
TWF1	**Yuli**	**1.74 220**	*eP*	**Pb**	**20 48 01.9**	**-0.4**
	baz=216					
TWF1			*eS*	**Sg**	**20 48 25.2**	**-0.6**
	baz=216					
TCU	**Taichung**	**1.77 253**	*eS*	**Sg**	**20 48 26.1**	**-0.7**
	baz=249					
YUS	**Yu-Shan**	**1.87 231**	*eP*	**Pb**	**20 48 04.3**	**-0.4**
	baz=226					
YUS			*eS*	**Sn**	**20 48 26.6**	**-0.5**
	baz=226					
ALS	**Alishan**	**1.96 234**	*eP*	**Pb**	**20 48 06.7**	**+0.5**
	baz=229					
ALS			*eS*	**Sg**	**20 48 31.7**	**-1.3**
	baz=229					
JTJ	**Tarama**	**1.98 91**	P	**Pn**	**20 48 04.7**	**+0.8**
CHN5	**Tsauling**	**2.01 238**	*eP*	**Pb**	**20 48 07.3**	**+0.4**
	baz=234					
CHN5			*eS*	**Sb**	**20 48 32.2**	**0.0**
	baz=234					
ELDTW	**Lidau**	**2.04 223**	*eP*	**Pn**	**20 48 05.8**	**+1.0**
	baz=219					
ELDTW			*eS*	**Sn**	**20 48 30.5**	**-0.2**
	baz=219					
CHN4	**Tsaushan**	**2.21 233**	*eP*	**Pb**	**20 48 09.8**	**-0.5**
	baz=230					
CHN4			*eS*	**Sb**	**20 48 38.2**	**+0.2**
	baz=230					
STYT	**Tauyuan**	**2.22 227**	*eP*	**Pb**	**20 48 09.8**	**-0.6**
	baz=223					
STYT			*eS*	**Sb**	**20 48 36.8**	**-1.5**
	baz=223					
WTP	**Ta-pu**	**2.27 231**	*eP*	**Pb**	**20 48 10.2**	**-1.0**
	baz=227					
WTP			*eS*	**Sb**	**20 48 39.2**	**-0.3**
	baz=227					
TWG	**Pinlang**	**2.29 216**	*eP*	**Pb**	**20 48 12.1**	**+0.5**
	baz=212					
TWG			*eS*	**Sn**	**20 48 37.6**	**+0.8**
	baz=212					
TWK	**Hsinying**	**2.34 233**	*eP*	**Pb**	**20 48 13.4**	**+0.9**
	baz=229					
TWK			*eS*	**Sb**	**20 48 40.7**	**-1.0**
	baz=229					
CHN1	**Nanshi**	**2.36 231**	*eP*	**Pb**	**20 48 12.1**	**-0.8**
	baz=228					
CHN1			*eS*	**Sb**	**20 48 40.5**	**-1.8**
	baz=228					
SGST	**Jiashian**	**2.39 228**	*eS*	**Sn**	**20 48 40.0**	**+0.6**
	baz=225					
SSD	**Sandimen**	**2.60 222**	*eP*	**Pb**	**20 48 15.6**	**-1.3**
	baz=219					
EAST	**Anshuo**	**2.77 214**	*eP*	**Pb**	**20 48 19.1**	**-0.7**
	baz=211					
EAST			*eS*	**Sn**	**20 48 49.9**	**+1.3**
	baz=211					
SCZT	**Fangliau**	**2.90 218**	*eS*	**Sb**	**20 48 55.4**	**-2.3**
	baz=214					
KSRS	**Korea Array**	**13.53 19**	Pn	**P**	**20 50 53.9**	**+2.2**
	0.1nm,0.3s,baz=202,slow=12,SNR=6.0					
GUMO	**Guam**	**23.78 114**	LR	LR	21 03 39.9	
	comp=Z,16nm,18.0s,baz=105,slow=39					
SONM	**Songino Array**	**26.40 335**	P	**P**	**20 53 07.6**	**+0.2**
	2.4nm,0.8s,baz=144,slow=9.5,SNR=12					
MKAR	**Makanchi Array**	**38.84 315**	P	P	20 54 51.6	-4.2
	0.4nm,0.9s,baz=132,slow=2.1,SNR=2.9					
ZALV	**Zalesovo Beam**	**40.50 326**	P	**P**	**20 55 08.0**	**-1.5**
	0.6nm,0.7s,baz=119,slow=8.9,SNR=4.0					
KURBB	**Kurchatov Arra**	**42.52 319**	P	**P**	**20 55 25.4**	**-0.7**
	0.3nm,0.8s,baz=112,slow=9.3,SNR=3.2					
WRA	**Warramunga Arr**	**45.83 164**	P	**P**	**20 55 52.7**	**-0.2**
	0.8nm,0.7s,baz=346,slow=8.4,SNR=3.5					
BVAR	**Borovoye Array**	**48.07 320**	P	**P**	**20 56 09.3**	**-0.8**
	0.2nm,0.4s,baz=100,slow=7.9,SNR=2.5					
ASAR	**Alice Springs**	**49.32 166**	P	**P**	**20 56 21.0**	**+0.9**
	0.2nm,0.5s,baz=347,slow=7.7,SNR=4.2					

CSEM ***02*** *20:50:45.8, 40.27N×15.86E, h10km, MD2.0/6*

ROM 02 20:50:45.8±0.1, 40.27N×15.86E, h10km, Md2.0/6, MI1.2/2, Error ellipse: s-maj=1.7km s-min=0.8km az=32.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCEL	**Monticello**	**0.07**	**324**	Pg	Pg	20 50 48.4	+0.2
MCEL				Sg	Sg	20 50 50.3	+0.3
MCEL	**Monticello**	**0.07**	**324**	Pg	Pg	20 50 48.4	+0.2
MCEL				Sg	Sg	20 50 50.3	+0.3
MTSN	**Montesano sull**	**0.08**	**271**	Pg	Pg	20 50 48.6	+0.3
MTSN				Sg	Sg	20 50 50.6	+0.4
MTSN	**Montesano sull**	**0.08**	**271**	Pg	Pg	20 50 48.6	+0.3
MTSN				Sg	Sg	20 50 50.6	+0.4
SIRI	**Monte Sirino -**	**0.08**	**176**	Pg	Pg	20 50 48.7	+0.4
SIRI				Sg	Sg	20 50 50.6	+0.5
SIRI	**Monte Sirino -**	**0.08**	**176**	Pg	Pg	20 50 48.7	+0.4
SIRI				Sg	Sg	20 50 50.6	+0.5
SCHR	**S. Chirico Rap**	**0.18**	**112**	Pg	Pg	20 50 50.2	+0.4
SCHR				Sg	Sg	20 50 53.6	+1.1
CUC	**Castrocucco**	**0.27**	**187**	Pg	Pg	20 50 52.1	+0.7
CUC				Sg	Sb	20 50 56.9	-0.7
CUC	**Castrocucco**	**0.27**	**187**	Pg	Pg	20 50 52.1	+0.7
CUC				Sg	Sb	20 50 56.9	-0.7
BULG	**Bulgheria - Ca**	**0.41**	**243**	Pg	Pb	20 50 55.2	-0.1
BULG				Sg	Sg	20 51 00.0	+0.4
BULG	**Bulgheria - Ca**	**0.41**	**243**	Pg	Pb	20 50 55.2	-0.1
BULG				Sg	Sg	20 51 00.0	+0.4
CMPR	**Campora**	**0.43**	**277**	Pg	Pg	20 50 54.6	+0.3
CMPR				Sg	Sb	20 51 01.4	-0.8
	20nm,0.4s						
CMPR	**Campora**	**0.43**	**277**	Pg	Pg	20 50 54.6	+0.3
CMPR				Sg	Sb	20 51 01.4	-0.8
	20nm,0.4s						
CDRU	**Civita di Ruta**	**0.48**	**298**	Pg	Pg	20 50 55.6	+0.3
CDRU				Sg	Sb	20 51 02.8	-0.9
	12nm,0.2s						
CDRU	**Civita di Ruta**	**0.48**	**298**	Pg	Pg	20 50 55.6	+0.3
CDRU				Sg	Sb	20 51 02.8	-0.9
	12nm,0.2s						
SALB	**San Lorenzo Be**	**0.54**	**136**	Pg	Pg	20 50 56.4	-0.1
SALB				Sg	Sg	20 51 04.5	+0.8
SALB	**San Lorenzo Be**	**0.54**	**136**	Pg	Pg	20 50 56.4	-0.1
SALB				Sg	Sg	20 51 04.5	+0.8

CSEM ***02*** *20:50:48.3, 39.11N×29.04E, h7km, MD2.5*

DDA 02 20:50:48.3, 39.11N×29.04E, h7km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**255**	*i* P	Pg	20 50 53.9	+0.3
DEMI				*i* S	Sg	20 50 57.3	+0.2
DEMI	**Demirci**	**0.26**	**255**	*i* P	Pg	20 50 53.9	+0.4
DEMI				*i* S	Sg	20 50 57.3	+0.1
GDZ	**Gediz**	**0.34**	**94**	*i* P	Pg	20 50 55.7	+0.5
GDZ				*i* S	Sg	20 51 00.9	+1.0
GDZ	**Gediz**	**0.34**	**94**	*i* P	Pg	20 50 55.7	+0.5
GDZ				*i* S	Sg	20 51 00.9	+1.0
BALY	**Balya**	**1.27**	**300**	*i* P	Pn	20 51 08.0	-4.5
BALY				*i* S	Sn	20 51 30.4	+0.6
BALY	**Balya**	**1.27**	**300**	*i* P	Pn	20 51 08.0	-4.4
BALY				*i* S	Sn	20 51 30.4	+0.6
BORA	**Eskisehir**	**1.34**	**54**	*i* P	Pb	20 51 13.7	-0.1
BORA				*i* S	Sn	20 51 31.9	+0.3
BORA	**Eskisehir**	**1.34**	**54**	*i* P	Pb	20 51 13.7	-0.1
BORA				*i* S	Sn	20 51 31.9	+0.2

ISCJB ***02*** *20:55:52.8±0.4, 38.17N±0.04×75.22E±0.07, h135km, mb3.4/4, Error ellipse: s-maj=8.5km s-min=3.9km az=152.5*

IDC ***02*** *20:55:52.3±6.1, 38.07N×75.47E, h127km±41km, mb3.3/4, mb1 3.3/10, mb1mx3.0/52, mbtmp3.6/10, MS3.0/1, Ms1 3.0/1, ms1mx2.2/28, Error ellipse: s-maj=65.6km s-min=28.8km az=151.0*

NNC ***02*** *20:55:57.3±1.9, 38.51N×74.88E, h168km±16km, mb2.9, mpv3.8, Error ellipse: s-maj=21.8km s-min=10.6km az=140.0*

ISC 02 20:55:53.4±0.7, 38.18N±0.07×75.23E±0.07, h135km, n43, σ1s45/46, mb3.5/4, 7C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.27**	**324**	⇑Pn	**Pn**	**20 56 32.3**	**+1.1**
	31nm,0.3s						
SFK				⇓Sn	**Sn**	**20 56 59.7**	**-0.4**
	227nm,0.3s						
KZA	**Kyzart**	**3.89**	**0**	P	**Pn**	**20 56 53.1**	**+1.0**
	SNR=43						
UCH	**Uchtor**	**4.08**	**353**	P	**Pn**	**20 56 55.5**	**+0.8**
	SNR=46						
AML	**Almayashu**	**4.11**	**344**	P	**Pn**	**20 56 56.0**	**+0.8**
	SNR=73						
ULHL	**Ulahol**	**4.13**	**10**	P	**Pn**	**20 56 56.5**	**+1.3**
	SNR=15						
KBK	**Karagaybulak**	**4.47**	**357**	P	**Pn**	**20 57 01.2**	**+1.5**
	SNR=13						
AAK	**Ala-Archa**	**4.48**	**353**	⇑Pn	**Pn**	**20 57 01.0**	**+1.2**
	4.6nm,0.3s						
AAK				⇓Sn	**Sn**	**20 57 47.7**	**-3.6**
	14nm,0.8s						
AAK	**Ala-Archa**	**4.48**	**353**	P	**Pn**	**20 57 01.3**	**+1.5**
	SNR=16						
AAK	**Ala-Archa**	**4.48**	**353**	P	**Pn**	**20 57 00.9**	**+1.2**
	4.9nm,0.3s,baz=144,slow=7.3,SNR=58						
AAK				S	Sn	20 57 42.1	-9.2
	2.9nm,0.3s,baz=134,slow=13,SNR=4.7						
EKS2	**Erkin-Say**	**4.61**	**347**	P	**Pn**	**20 57 02.8**	**+1.4**
	SNR=30						
TKM2	**Tokmak 2**	**4.74**	**3**	⇓Pn	**Pn**	**20 57 04.6**	**+1.3**
	8.0nm,0.3s						
TKM2				⇓Sn	**Sn**	**20 57 56.7**	**-0.9**
	13nm,0.8s						
TKM2	**Tokmak 2**	**4.74**	**3**	P	**Pn**	**20 57 04.6**	**+1.3**
	SNR=26						
CHMS	**Chumysh**	**4.82**	**356**	P	**Pn**	**20 57 05.5**	**+1.3**
	SNR=11						
DZET	**Dzherino**	**5.06**	**279**	⇓Pn	**Pn**	**20 57 07.2**	**-0.3**
	4.5nm,0.3s						
DZET				⇓Sn	**Sn**	**20 58 01.7**	**-3.4**
	4.8nm,0.4s						
USP	**Ospenovka**	**5.11**	**354**	P	**Pn**	**20 57 08.9**	**+0.9**
	SNR=8.8						
DLH	**Dalhousie**	**5.66**	**174**	*eP*	Pn	20 57 21.0	+5.3
PDGK	**Podgornoye**	**6.07**	**31**	⇓Pn	**Pn**	**20 57 21.9**	**+1.1**
	6.7nm,0.9s						
KK31	**Karatay Array**	**6.08**	**325**	⇑Pn	**Pn**	**20 57 21.1**	**0.0**
	4.5nm,0.3s,baz=139,slow=13						
KK31				⇑Sn	**Sn**	**20 58 25.1**	**-4.4**
	7.2nm,0.3s,baz=141,slow=23						
MK31	**Makanchi Array**	**10.06**	**29**	Pn	**Pn**	**20 58 14.4**	**+0.1**
	0.3nm,0.4s,baz=213,slow=14,SNR=6.6						
MKAR	**Makanchi Array**	**10.06**	**29**	P	**Pn**	**20 58 14.2**	**-0.1**
	0.1nm,0.3s,baz=211,slow=10,SNR=7.6						
KOLN	**Koldanda**	**12.53**	**144**	*eP*	**Pn**	**20 58 48.0**	**+0.7**
	17nm,0.3s						
KURBB	**Kurchatov Arra**	**12.66**	**10**	P	**Pn**	**20 58 47.0**	**-1.5**
	0.0nm,0.3s,baz=198,slow=12,SNR=6.7						
GKN	**Gorkha**	**12.85**	**139**	*eP*	**Pn**	**20 58 51.2**	**-0.1**
	13nm,0.3s						
KKN	**Kakani**	**13.35**	**138**	*eP*	**Pn**	**20 58 58.1**	**+0.2**
	24nm,0.5s						
DMN	**Daman**	**13.41**	**139**	*eP*	**Pn**	**20 58 58.7**	**0.0**
	10nm,0.4s						
GUN	**Gumba**	**13.58**	**136**	*eP*	**Pn**	**20 59 01.0**	**0.0**
	9.3nm,0.3s						
PKIN	**Phulchoki**	**13.59**	**138**	*eP*	**Pn**	**20 59 01.1**	**+0.2**
	11nm,0.5s						
PKI	**Pulchoki**	**13.60**	**138**	*eP*	**Pn**	**20 59 01.2**	**+0.1**
	12nm,0.6s						
JIRN	**Jiri**	**13.95**	**136**	*eP*	**Pn**	**20 59 05.5**	**-0.2**
	15nm,0.3s						
RAMN	**Ramite**	**14.73**	**136**	*eP*	**Pn**	**20 59 14.0**	**-1.4**
	8.6nm,0.4s						
TAPN	**Taplejung**	**15.05**	**132**	*eP*	**P**	**20 59 19.2**	**-2.3**
	6.0nm,0.3s						
BVA0	**Borovoye Array**	**15.22**	**349**	⇑Pn	**Pn**	**20 59 20.4**	**-0.6**
	1.8nm,0.6s,baz=161,slow=13,SNR=12						
BVAR	**Borovoye Array**	**15.22**	**349**	P	**Pn**	**20 59 20.6**	**-0.4**
	0.6nm,0.3s,baz=149,slow=12,SNR=14						
ODAN	**Odare**	**15.24**	**134**	*eP*	**Pn**	**20 59 20.6**	**-1.1**
	6.4nm,0.6s						
BRVK	**Borovoye**	**15.27**	**349**	⇑Pn	**Pn**	**20 59 22.1**	**+0.4**
	4.7nm,0.6s						
AB31	**Akbulak array**	**15.61**	**320**	⇑Pn	**Pn**	**20 59 24.6**	**-1.3**
	1.4nm,0.5s,baz=123,slow=12,SNR=28						
ZALV	**Zalesovo Beam**	**17.09**	**20**	P	**P**	**20 59 43.2**	**-0.2**
	0.3nm,0.3s,baz=214,slow=12,SNR=7.4						
AKTO	**Aktyubinsk**	**17.32**	**321**	P	**Pn**	**20 59 47.9**	**+1.2**
	0.2nm,0.3s,baz=117,slow=12,SNR=4.1						
BRTR	**Keskin Array B**	**32.17**	**286**	P	**P**	**21 02 10.4**	**+1.9**
	0.4nm,0.8s,baz=67,slow=13,SNR=3.3						
EIL	**Elat**	**34.27**	**268**	LR	LR	21 17 45.4	
	comp=Z,28nm,21.9s,baz=69,slow=38						
FINES	**FINESS Array B**	**38.04**	**324**	P	**P**	**21 02 59.8**	**+1.5**
	2.6nm,1.1s,baz=113,slow=11,SNR=4.2						
TORD	**Torodi Ar. Bea**	**69.10**	**270**	P	**P**	**21 06 45.8**	**+0.6**
	0.7nm,0.6s,baz=48,slow=4.9,SNR=11						
YKA	**Yellowknife Ar**	**79.36**	**5**	P	**P**	**21 07 44.5**	**+0.7**
	0.2nm,0.5s,baz=351,slow=5.4,SNR=4.3						

GUC 02 21:04:00.6±1.3, 34.77S×72.58W, h19km±12km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.00**	**129**	*eP*	Pn	21 04 19.5	-0.1
TALC				*eS*	Sg	21 04 33.5	+0.2
NICH	**Los Niches**	**1.14**	**102**	*eP*	Pb	21 04 21.9	+0.2
NICH				*eS*	Sg	21 04 37.2	-0.4
LNCH	**Linares**	**1.34**	**144**	*eP*	Pg	21 04 26.6	0.0
LNCH				*eS*	Sg	21 04 43.9	-0.3
COCH	**Cobquecura**	**1.37**	**187**	*eP*	Pn	21 04 24.7	0.0
COCH				*eS*	Sn	21 04 41.6	-0.8
CLCH	**Cerro Calan**	**2.18**	**52**	*eP*	Pn	21 04 35.8	-0.2
CLCH				*eS*	Sb	21 05 05.4	-0.9
CLCH				AML	AML	21 05 15.6	
	comp=N,511nm,0.5s						
PEL	**Peldehue**	**2.26**	**45**	*eP*	Pn	21 04 37.1	0.0
PEL				*eS*	Sb	21 05 09.2	+0.6
PEL				AML	AML	21 05 17.1	
	comp=N,616nm,0.5s						

CSEM ***02*** *21:05:51.3, 42.93N×1.33W, h0km, ML0.9*

MDD 02 21:05:51.3±0.3, 42.93N×1.33W, h0km, mbLg0.9/7, 2C, Error ellipse: s-maj=3.5km s-min=1.5km az=7.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IELO	**Elcoad**	**0.11**	**139**	⇑Pg	Pg	21 05 53.3	-0.2
	4.9nm,0.1s,SNR=18						
IELO				Lg	Lg	21 05 54.9	
	8.0nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.11**	**139**	Pg	Pg	21 05 53.3	-0.2
	4.9nm,0.1s,SNR=18						
IELO				Lg	Lg	21 05 54.9	
	8.0nm,0.1s,SNR=7.9						
IZUN	**Zunzarren**	**0.11**	**235**	⇑Pg	Pg	21 05 53.2	-0.3
	4.6nm,0.0s,SNR=18						
IZUN				Lg	Lg	21 05 54.7	
	6.4nm,0.1s,SNR=7.9						
IZUN	**Zunzarren**	**0.11**	**235**	Pg	Pg	21 05 53.2	-0.3
	4.6nm,0.0s,SNR=18						
IZUN				Lg	Lg	21 05 54.7	
	6.4nm,0.1s,SNR=7.9						
IPRE	**Itoiz**	**0.12**	**188**	Lg	Lg	21 05 55.5	
	3.9nm,0.1s,SNR=7.9						
IPRE	**Itoiz**	**0.12**	**188**	Lg	Lg	21 05 55.5	
	3.9nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.15**	**161**	Pg	Pg	21 05 54.0	-0.3
	1.3nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	21 05 56.0	
	4.4nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.15**	**161**	Pg	Pg	21 05 54.0	-0.3
	1.3nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	21 05 56.0	
	4.4nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.16**	**278**	Pg	Pg	21 05 54.5	+0.1
	0.5nm,0.0s,SNR=7.9						
IUSE				Lg	Lg	21 05 57.0	
	1.4nm,0.0s,SNR=7.9						
IUSE	**Utxeti**	**0.16**	**278**	Pg	Pg	21 05 54.5	0.0
	0.5nm,0.0s,SNR=7.9						
IUSE				Lg	Lg	21 05 57.0	
	1.4nm,0.0s,SNR=7.9						
IUNC	**Uncitti**	**0.21**	**216**	Pg	Pg	21 05 55.3	-0.1
	1.6nm,0.1s,SNR=7.9						
IUNC				Lg	Lg	21 05 58.7	
	2.7nm,0.1s,SNR=7.9						
IUNC	**Uncitti**	**0.21**	**216**	Pg	Pg	21 05 55.3	-0.1
	1.6nm,0.1s,SNR=7.9						
IUNC				Lg	Lg	21 05 58.7	
	2.7nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.24**	**230**	Lg	Lg	21 05 59.4	
	2.4nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.24**	**230**	Lg	Lg	21 05 59.4	
	2.4nm,0.1s,SNR=7.9						
ATE	**Arette**	**0.49**	**71**	Pg	Pg	21 05 59.9	-0.9
	0.5nm,0.7s,SNR=7.9						
ATE				Lg	Lg	21 06 08.1	
	0.8nm,0.2s,SNR=7.9						
ATE	**Arette**	**0.49**	**71**	Pg	Pg	21 05 59.9	-0.9
	0.5nm,0.7s,SNR=7.9						
ATE				Lg	Lg	21 06 08.1	
	0.8nm,0.2s,SNR=7.9						

MAN 02 21:10:30, 9.15N×125.45E, h1km, mb4.6, ML3.4, MS3.3, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.25**	**136**	*eP*	Pg	21 10 35.0	+0.2
CGP	**Cagayan de Oro**	**1.01**	**227**	⇑*iP*	Pg	21 10 50.7	+0.3
CGP				*i* S	Sn	21 11 07.1	+0.8
BUKP	**Musuan**	**1.32**	**197**	*eP*	Pn	21 10 55.6	0.0
BUKP				*eS*	Sn	21 11 15.2	+1.2
PAGZ	**Pagadian**	**2.42**	**238**	*eP*	Pn	21 11 12.3	+1.6

NEIC ***02*** *21:10:33.5, 51.59N×175.22W, h32km, mb5.2/264, ML5.2(AEIC), After AEIC.*

NEIC Felt on Adak.

GCMT ***02*** *21:10:33.5±0.2, 51.61N×175.19W, h41km±1km, MW5.1/93, Moment Tensor Solution. s69,c99; s93,c134; Duration: 0 Moment tensor: Scale 10^16Nm; Mw4.19±.15; Mrr=4.19±.12; Mθθ=0.00±.11; Mff=2.15±.12; Mrθ=-1.81±.08; Mθf=2.21±.10; Best double couple: Mo5.50000×10^16 NP1:ϕs=266.00000°, δ31.00000°, λ117.00000°. NP2: ϕs=66.00000°, δ63.00000°, λ74.00000°. Principal axes: T 5.3280, Plg68.0000°, Azm293.0000°; N 0.3520, Plg14.0000°, Azm62.0000°; P -5.6720, Plg16.0000°, Azm156.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB ***02*** *21:10:34.9±0.3, 51.82N±0.03×175.30W±0.02, h64km±2km, mb5.2/356 Error ellipse: s-maj=4.4km s-min=1.7km az=179.9*

MOS ***02*** *21:10:34.6±0.9, 51.87N×175.29W, h60km, mb5.3/109, MS4.3/28, Error ellipse: s-maj=6.6km s-min=4.4km az=84.5*

IDC ***02*** *21:10:35.8±1.6, 51.86N×175.29W, h61km±13km, mb4.7/32, mb1 4.8/34, mb1mx4.7/37, mbtmp5.0/34, MS4.2/21, Ms1 4.2/21, ms1mx4.1/34, Error ellipse: s-maj=13.0km s-min=7.9km az=158.0*

SZGRF ***02*** *21:10:36.4, 52.09N×177.

MREP Makushin Rep't 5.63 65 P **Pn** **21 11 57.0 -0.5**
MSW Makushin Switc 5.64 64 P **Pn** **21 11 57.3 -0.2**
UNV Unalaska Valle 5.78 65 *e*Pn **Pn** **21 11 59.3 -0.1**
AKRB Akutan Reef Bi 6.11 64 P **Pn** **21 12 03.9 -0.1**
ZRO Akutan Zero 6.14 64 P **Pn** **21 12 04.4 -0.1**
AKGG Akutan Green G 6.17 63 P **Pn** **21 12 04.2 -0.7**
SPIA Saint Paul Isl 6.19 27 P **Pn** **21 12 06.7 +1.7**
SPIA S **Sn** **21 13 18.5 +4.3**
AKUT Akutan 6.27 64 *e*Pn **Pn** **21 12 06.7 +0.5**
SMY Shemya 6.53 283 *e*P **Pn** **21 12 09.5 -0.2**
SMY Shemya 6.53 283 *e*Pn **Pn** **21 12 09.5 -0.2**
WEBT Westdahl Beart 6.99 62 P Pn 21 12 17.6 +1.6
WESE West Dahl East 7.04 63 P **Pn** **21 12 16.8 0.0**
SSLW Shishaldin Wes 7.39 62 P **Pn** **21 12 21.5 -0.1**
SSLN Shishaldin Nor 7.47 62 P **Pn** **21 12 23.9 +1.2**
FALS False Pass 7.81 62 *e*Pn **Pn** **21 12 27.9 +0.8**
DTNA Dutton South F 8.54 62 P **Pn** **21 12 36.0 -1.2**
SDPT Sand Point 9.57 62 P **Pn** **21 12 50.0 -1.2**
GAMB Gambell 12.19 8 *e*Pn **Pn** **21 13 27.4 +0.5**
OHAK Old Harbor 13.92 58 *e*Pn **P** **21 13 54.4 -1.9**
TNA Tin City 14.34 13 *e*Pn **Pn** **21 13 57.6 +1.8**
KDAK Kodiak Island 14.43 56 P **P** **21 14 00.5 -1.4**
2µm,0.6s,SNR=12
KDAK Kodiak Island 14.43 56*ce*P Pn 21 13 53.5 -3.4
KDAK Kodiak Island 14.43 56 *e*Pn **Pn** **21 13 56.2 -0.6**
RSO Redoubt South 15.26 46 *e*Pn **P** **21 14 09.8 -1.5**
BRLK Bradley Lake 15.86 50 *e*Pn **Pn** **21 14 12.2 -3.1**
82nm,0.7s
PET Petropavlovsk 15.87 285 *e*P **P** **21 14 18.1 +0.2**
PET *e*S **Sn** **21 17 10.4 +0.2**
PET pmax pmax
comp=Z,300nm,13.6s
PET pmax pmax
comp=Z,37nm,1.1s
PET MLR MLR
comp=Z,1µm,20.0s
PET MLR MLR
comp=Z,1µm,17.0s
PET Petropavlovsk 15.87 285 *e*Pn **P** **21 14 20.4 +2.5**
PET *ep*P pP 21 14 34.4 +2.8
PEA2 Petropavlovsk- 16.43 285 *e*Pn **P** **21 14 23.6 -0.5**
PETK Petropavlovsk- 16.43 285 P **P** **21 14 23.6 -0.5**
comp=Z,2.0nm,0.3s,baz=95,slow=14,SNR=24
PETK PcP **PcP** **21 19 10.5 -0.1**
comp=Z,0.5nm,0.3s,baz=93,slow=1.6,SNR=3.8
PETK LR LR 21 20 09.3
comp=Z,726nm,22.0s,baz=95,slow=35
PPLA Purkeypile 16.64 39 *e*Pn **P** **21 14 28.3 +1.7**
comp=Z,106nm,1.0s
SEW Seward 16.66 50 *e*Pn **Pn** **21 14 22.1 -3.0**
comp=Z,96nm,0.8s
RC01 Rabbit Creek A 16.86 46 *e*Pn **Pn** **21 14 27.1 -0.7**
comp=Z,46nm,1.1s
CAST Castle Rocks 16.96 38 *e*Pn **P** **21 14 30.2 +0.3**
comp=Z,55nm,0.9s
KTH Kantishna Hill 17.48 38 *e*Pn **P** **21 14 36.1 +0.4**
comp=Z,363nm,1.0s
TRF Thorofare Moun 17.67 39 *e*Pn **P** **21 14 38.0 +0.1**
comp=Z,162nm,1.1s
SKR Severo-Kuril's 17.83 278 *e*P **Pn** **21 14 36.2 -3.5**
SKR pmax pmax
comp=Z,80nm,0.6s
SKR MLR MLR
comp=Z,3µm,22.0s
IM04 Indian Mountai 17.94 29 *e*P **Pn** **21 14 42.3 +1.3**
MID Middleton Isla 17.99 53 *e*P **P** **21 14 39.9 -1.4**
MID pmax pmax
comp=Z,107nm,0.8s
MID Middleton Isla 17.99 53 *e*P **P** **21 14 39.9 -1.4**
comp=Z,107nm,0.8s
RND Reindeer 18.21 40 *e*P **P** **21 14 42.9 -0.9**
RND pmax pmax
comp=Z,104nm,0.9s
RND Reindeer 18.21 40 *e*P **P** **21 14 42.9 -0.9**
comp=Z,104nm,0.9s
SCM Sheep Creek Mo 18.21 46 *e*P **P** **21 14 42.7 -1.1**
SCM pmax pmax
comp=Z,51nm,0.8s
SCM Sheep Creek Mo 18.21 46 *e*P **P** **21 14 42.7 -1.1**
comp=Z,51nm,0.8s
MCK McKinley 18.34 39 *e*P **P** **21 14 44.0 -1.1**
MCK pmax pmax
comp=Z,96nm,0.8s
MCK McKinley 18.34 39 *e*P **P** **21 14 44.0 -1.1**
comp=Z,96nm,0.8s
BWN Browne 18.35 37 *e*P **Pn** **21 14 45.5 -0.3**
comp=Z,268nm,1.0s
MLY Manley 18.35 34 *e*P **Pn** **21 14 46.8 +0.8**
comp=Z,123nm,1.0s
BILL Bilibino 18.58 338*c i*P **Pn** **21 14 50.2 +1.5**
BILL pmax pmax
comp=Z,194nm,1.0s
BILL MLR MLR
comp=Z,1µm,18.0s
BILL Bilibino 18.58 338 *e*P **Pn** **21 14 50.4 +1.8**
DIV Divide 18.70 48 *e*P **P** **21 14 47.8 -1.3**
comp=Z,31nm,0.6s
KLU Klutina 18.73 47 *e*P **P** **21 14 48.4 -1.1**
comp=Z,55nm,1.2s
WRH Wood River Hil 19.02 38 *e*P **P** **21 14 51.5 -1.0**
comp=Z,82nm,1.0s
RAGM Ragged Mountai 19.02 51 *e*P **P** **21 14 52.3 -0.3**
comp=Z,37nm,0.6s
BMRM Bremner River 19.20 49 *e*P **P** **21 14 54.4 -0.2**
comp=Z,38nm,0.7s
MDM Murphy Dome 19.21 36 *e*P **P** **21 14 54.1 -0.6**
comp=Z,113nm,0.8s
CCB Clear Creek Bu 19.21 37 *e*P **P** **21 14 53.2 -1.4**
comp=Z,79nm,0.7s
COLA College 19.30 37 *e*P **Pn** **21 14 56.3 -1.0**
COLA pmax pmax
comp=Z,86nm,0.8s
COLA College 19.30 37 *e*P **Pn** **21 14 56.3 -1.0**
comp=Z,86nm,0.8s
HDA Harding Lake 19.42 38 *e*P **P** **21 14 55.8 -1.2**
comp=Z,95nm,0.8s
PAX Paxson 19.43 43 *e*P **Pn** **21 14 57.7 -1.2**
PAX pmax pmax
comp=Z,49nm,0.8s
PAX Paxson 19.43 43 *e*P **Pn** **21 14 57.7 -1.2**
comp=Z,49nm,0.8s
ILAR Eielson Array 19.62 38 P **P** **21 14 56.8 -2.2**
comp=Z,2.7nm,0.3s,baz=244,slow=11,SNR=80
ILAR S **S** **21 18 33.9 -2.7**
comp=Z,0.1nm,0.3s,baz=245,slow=17,SNR=2.7
ILAR PcP **PcP** **21 19 15.1 -0.6**
comp=Z,0.1nm,0.3s,baz=274,slow=3.5,SNR=3.7
ILAR ScP **ScP** **21 22 45.7 +0.1**
comp=Z,0.0nm,0.3s,baz=254,slow=3.4,SNR=7.2
ILAR LR LR 21 23 51.0
comp=Z,603nm,18.7s,baz=248,slow=41
ILB Eielson Array 19.62 38 *e*P **P** **21 14 56.8 -2.2**
COLD Coldfoot 19.84 29 *e*P **Pn** **21 15 02.8 -0.8**
comp=Z,201nm,0.9s
DOT Dot Lake 20.27 42 *e*P **P** **21 15 05.1 -1.1**
comp=Z,145nm,0.7s
SEY Seymchan 20.41 316 P Pn 21 15 08.7 -1.6
comp=Z,94nm,0.8s,baz=110,slow=12,SNR=35
SEY PcP **PcP** **21 19 16.8 -0.4**
comp=Z,5.4nm,0.6s,baz=130,slow=4.0,SNR=5.7
SEY Seymchan 20.41 316 P Pn 21 15 08.7 -1.6
SEY 21 19 16.8
SEY pmax pmax
comp=Z,94nm,0.8s
SEY pmax pmax
comp=Z,5.0nm,0.6s
SCRK Sand Creek 20.42 41 *e*P **P** **21 15 07.0 -1.0**
comp=Z,344nm,0.8s
EGAK Eagle 21.86 40 *e*P **P** **21 15 22.2 -0.9**
comp=Z,138nm,1.1s
DAWY Dawson 22.36 43 *e*P **P** **21 15 27.6 -1.1**
HYT Haines Junctio 22.58 52 *e*P **P** **21 15 30.0 -1.1**
SKAG Skagway 23.58 55 *e*P **P** **21 15 40.2 -0.5**
comp=Z,27nm,0.9s
CRAG Craig 25.05 65 *e*P **P** **21 15 55.9 +1.9**
comp=Z,74nm,0.7s
INK Inuvik 25.92 35 P **P** **21 16 00.9 -0.9**
comp=Z,17nm,0.6s,baz=255,slow=8.3,SNR=26
INK PcP **PcP** **21 19 28.3 -0.3**
comp=Z,2.9nm,0.3s,baz=279,slow=2.2,SNR=3.9
INK Inuvik 25.92 35 P **P** **21 16 00.9 -0.9**
INK 21 19 28.3
INK pmax pmax
comp=Z,17nm,0.6s
INK pmax pmax
comp=Z,3.0nm,0.3s

DLBC Dease Lake 26.36 57 P **P** **21 16 05.9 -0.1**
comp=Z,12nm,0.8s,baz=265,slow=8.3,SNR=13
DLBC Dease Lake 26.36 57 *e*P **P** **21 16 07.6 +1.6**
YUK Yuzh-Kuril'sk 26.84 269*c i*P P 21 16 03.8 -6.5
YUK *i* *PP pP 21 16 23.6 -2.7
YUK *i* S **S** **21 20 37.6 -4.1**
YUK pmax pmax
comp=E,219nm,1.5s
YUK pmax pmax
comp=Z,309nm,1.5s
YUK pmax pmax
comp=N,24nm,0.4s
YUK MLR MLR
comp=N,403nm,20.0s
YUK MLR MLR
comp=Z,267nm,20.0s
YSS Yuzh-Sakhalins 27.39 277 *e*P **P** **21 16 16.6 +1.3**
YSS pmax pmax
comp=E,65nm,0.8s
YSS Yuzh-Sakhalins 27.39 277 *e*P **P** **21 16 16.6 +1.3**
comp=E,65nm,0.8s
BBB Bella Bella 28.72 70 P **P** **21 16 27.4 +0.4**
comp=Z,22nm,0.9s,baz=297,slow=9.7,SNR=4.8
ASAJ Asahikawa 28.83 271 P **P** **21 16 29.4 +1.3**
comp=Z,57nm,0.8s,baz=67,slow=7.7,SNR=43
ASAJ LR LR 21 27 39.8
comp=Z,215nm,20.6s,baz=86,slow=35
ASAJ Asahikawa 28.83 271 P **P** **21 16 29.4 +1.3**
ASAJ pmax pmax
comp=Z,57nm,0.8s
ASAJ MLR MLR
comp=Z,215nm,20.7s
ASAJ Asahikawa 28.83 271 *e*P **P** **21 16 29.6 +1.5**
comp=Z,42nm,0.7s
ERM Erimo 29.60 267 P **P** **21 16 36.8 +1.9**
comp=Z,236nm,0.5s,SNR=13
ERM Erimo 29.60 267 *e*P **P** **21 16 35.6 +0.7**
ERM pmax pmax
comp=Z,40nm,1.2s
ERM Erimo 29.60 267 *e*P **P** **21 16 36.3 +1.4**
comp=Z,50nm,1.3s
YAK Yakutsk 30.76 311 *e*P **P** **21 16 43.5 -1.4**
YAK *e**PP **pP** **21 16 56.1 -5.0**
YAK *e* 21 17 42.4
YAK *e* 21 19 40.8
YAK *e*S **S** **21 21 40.7 -2.2**
YAK *e* 21 23 26.1
YAK pmax pmax
comp=Z,25nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=Z,8.0nm,0.6s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK smax smax
comp=N,54nm,2.5s
YAK smax smax
comp=E,22nm,2.0s
YAK MLR MLR
comp=Z,892nm,21.0s
YAK MLR MLR
comp=E,748nm,24.0s
YAK MLR MLR
comp=N,413nm,22.0s
YAK Yakutsk 30.76 311 *e*P **P** **21 16 44.2 -0.7**
comp=N,57nm,0.7s
TIXI Tiksi 31.35 330 *e*P **P** **21 16 50.3 +0.3**
TIXI pmax pmax
comp=Z,6.0nm,1.2s
TIXI Tiksi 31.35 330 *e*P **P** **21 16 50.1 0.0**
comp=Z,18nm,1.3s
KLR Kul'dur 33.11 287 *e*P P 21 17 01.6 -4.1
NLWA Neilton Lookou 33.11 77 *e*P **P** **21 17 07.3 +1.5**
comp=Z,42nm,1.1s
YKA Yellowknife Ar 33.41 47 P **P** **21 17 07.0 -1.1**
comp=Z,4.9nm,0.6s,baz=278,slow=9.2,SNR=69
YKA PcP **PcP** **21 19 47.7 -0.2**
comp=Z,3.4nm,0.4s,baz=284,slow=3.1,SNR=20
YKA Yellowknife Ar 33.41 47 P **P** **21 17 07.0 -1.1**
YKA 21 19 47.7
YKA pmax pmax
comp=Z,5.0nm,0.6s
YKA pmax pmax
comp=Z,3.0nm,0.4s
YKB5 Yellowknife Ar 33.41 47 *e*P **P** **21 17 07.0 -1.1**
VDB Vedder Mountai 33.45 73 P **P** **21 17 09.0 +0.3**
A05A Maple Falls 33.47 73 *e*P **P** **21 17 09.5 +0.6**
comp=Z,49nm,1.0s
MBW Mount Baker 33.68 73 P **P** **21 17 11.4 +0.6**
E03A Lebam 33.69 78 *e*P **P** **21 17 12.9 +2.1**
comp=Z,49nm,1.1s
JCW Jim Creek 33.92 74 P **P** **21 17 13.5 +0.7**
RPW Rockport 34.05 74 P **P** **21 17 14.4 +0.4**
F04D Rainier, OR 34.25 78 ⇓P **P** **21 17 17.1 +1.5**
baz=34
D05A Enumclaw 34.34 76 *e*P **P** **21 17 17.9 +1.5**
comp=Z,83nm,1.1s
G03D McMinnville, O 34.52 80 ⇓P **P** **21 17 19.2 +1.2**
baz=34
FL2 Flat Top 2 34.60 78 P **P** **21 17 19.7 +0.9**
TDL Tradedollar La 34.60 78 P **P** **21 17 19.9 +1.0**
LON Longmire 34.66 77 *e*P **P** **21 17 20.2 +1.0**
LON pmax pmax
comp=Z,12nm,0.7s
LON Longmire 34.66 77 *e*P **P** **21 17 20.2 +1.0**
comp=Z,12nm,0.7s
F04A Amboy 34.68 78 *e*P **P** **21 17 20.3 +0.9**
comp=Z,25nm,0.6s
PNT Penticton 34.80 71 P **P** **21 17 20.8 +0.5**
PNT Penticton 34.80 71 P **P** **21 17 20.8 +0.5**
H11N2 WAKE ISLAND Hy 34.87 210 T T 21 54 31.6
baz=19,slow=76,SNR=2743
H11N3 WAKE ISLAND Hy 34.88 210 T T 21 54 32.4
baz=19,slow=76,SNR=3662
H11N1 WAKE ISLAND Hy 34.88 210 T T 21 54 33.0
baz=19,slow=76,SNR=3741
KEBM Edson Butte 35.09 84 *e*P **P** **21 17 23.6 +0.6**
comp=Z,282nm,2.0s
LTY Liberty 35.10 75 *e*P **P** **21 17 23.4 +0.3**
comp=Z,14nm,0.7s
ETW Entiat 35.14 75 P **P** **21 17 24.0 +0.5**
I03D Drain, OR 35.25 82 ⇓P **P** **21 17 25.2 +0.9**
baz=35
USRK Ussuriysk Ar. 35.35 279 P **P** **21 17 25.2 +0.1**
comp=Z,22nm,0.7s,baz=58,slow=9.2,SNR=64
USRK PcP **PcP** **21 19 54.5 +0.7**
comp=Z,14nm,0.8s,baz=60,slow=2.4,SNR=14
USRK LR LR 21 31 04.3
comp=Z,498nm,21.7s,baz=46,slow=35
B08A Colville Reser 35.39 73 P **P** **21 17 26.0 +0.5**
H04A Detroit Lake 35.45 80 *e*P **P** **21 17 26.9 +0.8**
comp=Z,34nm,0.8s
VFP Flag Point 35.57 79 P **P** **21 17 28.0 +0.7**
SAW Saint Andrews 35.66 74 P **P** **21 17 27.9 +0.1**
G05D Wamic, OR 35.70 79 ⇓P **P** **21 17 29.5 +1.4**
baz=36
I04A Tendick Farm, 35.78 81 ⇓P **P** **21 17 29.7 +0.9**
baz=36
E07A Sunnyside 35.93 76 *e*P **P** **21 17 28.4 -1.8**
L02D Cave Junction, 35.93 85 ⇓P **P** **21 17 31.0 +0.9**
baz=36
MJAR Matsushiro Arr 35.95 263 P **P** **21 17 31.1 +0.8**
comp=Z,12nm,0.7s,baz=50,slow=7.5,SNR=41
MJAR PcP **PcP** **21 19 55.9 +0.1**
comp=Z,5.2nm,0.8s,baz=49,slow=1.5,SNR=11
MJAR LR LR 21 30 11.1
comp=Z,291nm,21.6s,baz=70,slow=33
MJAR Matsushiro Arr 35.95 263 P **P** **21 17 31.1 +0.8**
MJAR 21 19 55.9
MJAR pmax pmax
comp=Z,12nm,0.7s
MJAR pmax pmax
comp=Z,5.0nm,0.8s
MJAR MLR MLR
comp=Z,291nm,21.6s
MAJO Matsushiro 35.95 263*c i*P **P** **21 17 31.4 +1.0**
MAJO Matsushiro 35.95 263 *e*P **P** **21 17 31.3 +1.0**
comp=Z,38nm,0.8s
MAT Matsushiro 35.95 263 P **P** **21 17 30.9 +0.6**
MAT *e*S S 21 23 11.4 +7.6
H11S1 WAKE ISLAND Hy 36.08 210 T T 21 56 03.7
baz=18,SNR=5048
HUMO Hull Mountain 36.08 84 *e*P **P** **21 17 34.2 +2.7**
comp=Z,77nm,2.3s
H11S2 WAKE ISLAND Hy 36.09 210 T T 21 56 03.4
baz=18,slow=74,SNR=2444
H11S3 WAKE ISLAND Hy 36.09 210 T T 21 56 02.4
baz=18,slow=74,SNR=1222
G06A Carlson Farm, 36.12 78 *e*P **P** **21 17 32.4 +0.6**
comp=Z,41nm,1.6s
I05D Terrebonne, OR 36.15 80 ⇓P **P** **21 17 33.0 +0.9**
baz=36
HAWA Hanford 36.20 76 *e*P **P** **21 17 33.0 +0.5**
comp=Z,45nm,0.6s
OD2 Odessa Site #2 36.21 74 P **P** **21 17 32.5 0.0**
WRD Warden 36.24 75 P **P** **21 17 32.3 -0.4**
D08A Wollman Farm, 36.25 75 *e*P **P** **21 17 32.9 +0.1**
comp=Z,18nm,0.8s
J04D Umpqua Nationa 36.26 82 ⇓P **P** **21 17 34.2 +1.0**
baz=36
H2OWA Water 36.27 76 P **P** **21 17 33.5 +0.6**
C09A Chrisman Ranch 36.28 73 *e*P **P** **21 17 33.4 +0.3**
comp=Z,45nm,1.1s
KHMM Horse Mountain 36.58 86 *e*P P 21 17 41.8 +6.0
comp=Z,74nm,1.6s
MDJ Mudanjiang 36.59 281 P **P** **21 17 35.8 0.0**
MDJ pP pP 21 17 56.4 +4.3
MDJ sP sP 21 18 07.2 +7.3
MDJ PP **PnPn** **21 19 05.6 +5.2**
MDJ S **S** **21 23 12.4 -1.1**
MDJ PMZ
comp=Z,11nm,1.0s
MDJ PMZ
comp=Z,52nm,5.2s
MDJ LN
comp=Z,150nm,15.9s
MDJ LE
comp=Z,510nm,24.7s
MDJ LZ
comp=Z,660nm,19.1s
MDJ Mudanjiang 36.59 281 *e*P **P** **21 17 38.4 +2.6**
comp=Z,8.7nm,0.6s
YBH Yreka Blue Hor 36.72 85 *e*P **P** **21 17 38.3 +1.3**
YBH pmax pmax
comp=Z,10.0nm,0.8s
YBH Yreka Blue Hor 36.72 85 *e*P **P** **21 17 38.3 +1.3**
comp=Z,10nm,0.8s
NEW Newport 36.74 72 *e*P **P** **21 17 37.2 +0.1**
NEW pmax pmax
comp=Z,56nm,0.9s
NEW Newport 36.74 72 *e*P **P** **21 17 37.2 +0.1**
comp=Z,56nm,0.9s
NEW Newport 36.74 72 ⇑P **P** **21 17 37.3 +0.3**
baz=37,SNR=42
EDM Edmonton 36.75 63 *e*P **P** **21 17 37.0 0.0**
EDM Edmonton 36.75 63 *e*P **P** **21 17 37.0 0.0**
J05D Fort Rock, OR 36.77 81 ⇑P **P** **21 17 38.5 +1.0**
baz=37,SNR=15
K04D Chiloquin, OR 36.81 83 ⇑P **P** **21 17 38.7 +0.9**
baz=37
E09A Wood Farm, Sta 36.98 75 *e*P **P** **21 17 39.5 +0.4**
G08A Pilot Rock 37.11 77 *e*P **P** **21 17 40.3 0.0**
comp=Z,25nm,1.5s
N02D Trinity Center 37.16 86 ⇓P **P** **21 17 41.5 +0.8**
baz=37
M04C Macdoel 37.23 84 ⇓P **P** **21 17 42.1 +0.8**
baz=37
K05A Summer Lake 37.29 82 *e*P **P** **21 17 43.0 +1.0**
comp=Z,29nm,0.8s
I07A Izee 37.41 79 *e*P **P** **21 17 43.3 +0.5**
comp=Z,18nm,0.8s
WDC Whiskeytown Da 37.48 86 *e*P **P** **21 17 44.1 +0.7**
WDC pmax pmax
comp=Z,9.0nm,0.9s
WDC Whiskeytown Da 37.48 86 *e*P **P** **21 17 44.1 +0.7**
comp=Z,9.1nm,0.9s
F10A Beach Ranch, E 37.80 75 *e*P **P** **21 17 46.1 0.0**
comp=Z,21nm,1.0s
WALA Waterton Lakes 38.25 69 *e*P **P** **21 17 50.1 +0.2**
comp=Z,2µm,1.0s
BSMT Bassoo Peak 38.32 71 *e*P **P** **21 17 50.7 +0.2**
BMO Blue Mountains 38.33 77 *e*P **P** **21 17 50.7 +0.1**
comp=Z,12nm,1.0s
BLMT Blacktail Moun 38.49 71 *e*P **P** **21 17 52.3 +0.4**
RES Resolute Bay 38.49 25 *e*P **P** **21 17 50.7 -0.7**
RES pmax pmax
comp=Z,11nm,1.1s
RES Resolute Bay 38.49 25 *e*P **P** **21 17 50.7 -0.7**
comp=Z,11nm,1.1s
JTMT Jette 38.66 71 *e*P **P** **21 17 53.5 +0.2**
YBMT Yellow Bay 38.77 71 *e*P **P** **21 17 54.6 +0.4**
WVOR Wild Horse Val 38.84 81 *e*P **P** **21 17 55.3 +0.4**
WVOR pmax pmax
comp=Z,32nm,0.8s
WVOR Wild Horse Val 38.84 81 *e*P **P** **21 17 55.3 +0.4**
comp=Z,32nm,0.8s
SWMT Swartz Lake 38.95 71 *e*P **P** **21 17 55.5 -0.3**
MSO Missoula 39.33 72 *e*P **P** **21 17 58.8 -0.1**
comp=Z,66nm,1.2s
MSO Missoula 39.33 72 ⇑P **P** **21 17 59.0 +0.1**
baz=39,SNR=42
SLMT Seeley Lake 39.38 71 *e*P **P** **21 17 59.0 -0.4**
BOD Bodaibo 39.44 307 *e*P **P** **21 17 58.2 -1.3**
BOD pmax pmax
comp=Z,10.0nm,1.1s
CN2 Changchun 39.55 282 ⇓P **P** **21 18 01.2 +0.6**
CN2 *ep*P pP 21 18 23.9 +6.7
CN2 *e*S **S** **21 23 55.3 -2.8**
CN2 PMZ
comp=Z,20nm,0.5s
CN2 LN
comp=Z,500nm,20.0s
CN2 LE
comp=Z,500nm,20.0s
CN2 LZ
comp=Z,500nm,17.0s
CHMT Chamberlain Mo 39.69 72 *e*P **P** **21 17 59.3 -2.7**
MFID Camas Ranch 40.01 78 *e*P **P** **21 18 04.8 +0.3**
comp=Z,9.7nm,0.8s
HIA Hailar 40.10 293 *e*P **P** **21 18 04.8 -0.4**
HIA pmax pmax
comp=Z,12nm,0.6s
HIA Hailar 40.10 293 *e*P **P** **21 18 04.8 -0.4**
comp=Z,12nm,0.6s
CBIJ Chichi jima 40.20 249 *e*P **P** **21 18 07.0 +0.9**
comp=Z,208nm,0.8s
HRY Holter Researc 40.63 71 *e*P **P** **21 18 10.0 +0.3**
WAKR Walker 40.65 86 *e*P **P** **21 18 11.2 +1.2**
LRM Limekiln Ridge 40.73 73 *e*P **P** **21 18 10.2 -0.4**
HLID Hailey 40.78 77 *e*P **P** **21 18 10.8 -0.3**
comp=Z,15nm,0.8s
HLID Hailey 40.78 77 ⇓P **P** **21 18 11.0 0.0**
baz=41,SNR=39
BMN Battle Mountai 40.86 82 *e*P **P** **21 18 10.8 -0.9**
BMN pmax pmax
comp=Z,12nm,0.6s
BMN Battle Mountai 40.86 82 *e*P **P** **21 18 10.8 -0.9**
comp=Z,12nm,0.6s
KSSKC Sokcho 40.86 273 P **P** **21 18 13.5 +2.0**
SNR=11
KSSKC Sokcho 40.86 273 P **P** **21 18 13.5 +2.0**
SNR=11
DLMT Dillon 40.89 73 *e*P **P** **21 18 11.4 -0.5**
comp=Z,19nm,1.0s
KSJMJ Jumunjin 40.97 273 P **P** **21 18 14.1 +1.8**
SNR=8.7
KSJMJ Jumunjin 40.97 273 P **P** **21 18 14.1 +1.8**
SNR=8.7
MCMT McKenzie Canyo 41.03 74 *e*P **P** **21 18 13.0 -0.1**
SEHB SEOHWA 41.04 274 P **P** **21 18 14.9 +1.9**
SNR=7.7
SEHB SEOHWA 41.04 274 P **P** **21 18 14.8 +1.9**
SNR=14
EGMT Eagleton 41.16 68 *e*P **P** **21 18 13.8 -0.2**
comp=Z,39nm,0.8s
EGMT Eagleton 41.16 68 ⇑P **P** **21 18 14.0 0.0**
baz=41,SNR=9.3
A19A Klindworth Far 41.28 67 ⇑P **P** **21 18 14.8 -0.2**
baz=41,SNR=49
KSIJA INJE 41.30 273 P **P** **21 18 17.0 +1.9**
SNR=13
KSIJA INJE 41.30 273 P **P** **21 18 17.0 +1.9**
SNR=13
BOZ Bozeman (W) 41.31 72 *e*P **P** **21 18 15.4 +0.1**
BOZ pmax pmax
comp=Z,48nm,1.3s
BOZ Bozeman (W) 41.31 72 *e*P **P** **21 18 15.4 +0.1**
comp=Z,48nm,1.3s

KSTBA **Taebaek** 41.32 272 P P 21 18 17.4 +2.0
SNR=16
KSTBA **Taebaek** 41.32 272 P P 21 18 17.4 +2.0
SNR=16
NV01 **Mina Array Sit** 41.40 86 eP P 21 18 15.7 -0.5
NVAR **Mina Array Bea** 41.40 86 P P 21 18 15.6 -0.5
comp=Z,4.0nm,0.7s,baz=298,slow=7.9,SNR=12
NVAR PcP PcP 21 20 12.9 -0.2
comp=Z,5.5nm,0.8s,baz=287,slow=3.0,SNR=6.1
NVAR ScP ScP 21 23 57.2 +0.3
comp=Z,2.2nm,0.9s,baz=320,slow=2.7,SNR=5.8
B19A **Brinkman Farms** 41.41 67 ⇓P P 21 18 16.1 +0.1
baz=41,SNR=57
KSCWO **Cheorwon** 41.61 274 P P 21 18 19.7 +2.0
SNR=39
KSCWO **Cheorwon** 41.61 274 P P 21 18 19.7 +2.0
SNR=39
KSCHC **Chuncheon** 41.62 273 P P 21 18 19.3 +1.6
SNR=19
KSCHC **Chuncheon** 41.62 273 P P 21 18 19.3 +1.6
SNR=19
C19A **Slack Wire Ran** 41.72 68 ⇑P P 21 18 19.2 +0.7
baz=42,SNR=98
KSRS **Korea Array** 41.75 273 P P 21 18 20.2 +1.4
comp=Z,25nm,0.7s,baz=54,slow=8.1,SNR=54
KSRS PcP PcP 21 20 14.6 +0.7
comp=Z,4.4nm,0.7s,baz=53,slow=4.3,SNR=7.2
KSRS LR LR 21 35 06.6
comp=Z,145nm,20.4s,baz=52,slow=35
KSRS **Korea Array** 41.75 273 P P 21 18 20.2 +1.4
KSRS 21 20 14.6
KSRS pmax pmax
comp=Z,25nm,0.7s
KSRS pmax pmax
comp=Z,4.0nm,0.7s
KSRS MLR MLR
comp=Z,145nm,20.4s
A20A **Cobblestone Ra** 41.77 66 ⇓P P 21 18 19.0 0.0
baz=42,SNR=53
KS15 **Wonju Array Si** 41.78 273 eP P 21 18 20.2 +1.1
KSAR **Wonju Array Be** 41.78 273 P P 21 18 20.2 +1.1
KSAR 21 20 14.6
KSAR **Wonju Array Be** 41.78 273 P P 21 18 20.2 +1.1
KSAR PcP PcP 21 20 14.6 +0.5
QLMT **Earthquake Lak** 41.87 73 eP P 21 18 20.1 +0.1
ELK **Elko** 41.89 81 eP P 21 18 20.5 +0.2
ELK pmax pmax
comp=Z,14nm,0.8s
ELK **Elko** 41.89 81 eP P 21 18 20.4 +0.2
comp=Z,14nm,0.8s
B20A **Solberg Farm,** 41.95 67 ⇓P P 21 18 20.2 -0.2
baz=42,SNR=14
YNCB **YEONCHEON** 42.01 274 P P 21 18 23.1 +2.2
SNR=9.8
YNCB **YEONCHEON** 42.01 274 P P 21 18 22.4 +1.6
SNR=10
KSCHJ **Chungju** 42.08 272 P P 21 18 23.3 +1.8
SNR=7.9
D19A **Cripps Ranch,** 42.12 69 ⇓P P 21 18 22.3 +0.5
baz=42,SNR=30
RCTC **Rector, Farmer** 42.14 89 ⇓P P 21 18 22.5 +0.5
baz=42
YMC **Maple Creek** 42.16 73 eP P 21 18 22.6 +0.2
KSICN **Icheon** 42.17 273 P P 21 18 24.0 +1.8
SNR=8.2
KSICN **Icheon** 42.17 273 P P 21 18 24.0 +1.8
SNR=8.2
FFC **Flin Flon** 42.17 56 P P 21 18 21.9 -0.1
comp=Z,66nm,0.7s,SNR=5.2
FFC **Flin Flon** 42.17 56 eP P 21 18 21.9 -0.1
FFC pmax pmax
comp=Z,7.0nm,0.7s
FFC **Flin Flon** 42.17 56 eP P 21 18 21.9 -0.1
comp=Z,6.5nm,0.7s
KSMUS **Musan** 42.20 274 P P 21 18 24.8 +2.4
SNR=14
KSMUS **Musan** 42.20 274 P P 21 18 24.8 +2.4
SNR=14
KSSAJ **Sangju** 42.27 272 P P 21 18 24.6 +1.6
SNR=6.2
TPH **Tonopah** 42.28 85 eP P 21 18 26.6 +3.2
TPH pmax pmax
comp=Z,18nm,1.0s
TPH **Tonopah** 42.28 85 eP P 21 18 26.6 +3.2
comp=Z,18nm,1.0s
A21A **Bergtoll Ranch** 42.29 66 ⇑P P 21 18 23.5 +0.4
baz=42,SNR=9.9
C20A **Veseth Ranch,** 42.33 68 ⇓P P 21 18 23.4 -0.1
baz=42,SNR=36
KSSEO **Seoul** 42.35 274 P P 21 18 25.6 +1.9
SNR=9.0
KSSEO **Seoul** 42.35 274 P P 21 18 25.6 +1.9
SNR=9.0
YNR **Norris Junctio** 42.38 73 eP P 21 18 25.2 +1.0
comp=Z,42nm,1.0s
KSBON **Boeun** 42.43 272 P P 21 18 26.1 +1.7
SNR=5.9
YFT **Old Faithful** 42.44 73 eP P 21 18 26.1 +1.5
comp=Z,24nm,0.9s
KSCPR **CHUPUNGNYEONG** 42.50 271 P P 21 18 26.2 +1.3
SNR=10
KSCPR **CHUPUNGNYEONG** 42.50 271 P P 21 18 26.2 +1.3
SNR=10
KSGAH **Ganghwa** 42.51 274 P P 21 18 26.7 +1.8
SNR=9.5
INCN **Inchon** 42.53 274 eP P 21 18 26.9 +1.7
comp=Z,91nm,1.0s
VES **Vestal, Richgr** 42.54 89 ⇑P P 21 18 25.5 +0.3
baz=42,SNR=5.3
E19A **Rath Farm, Rou** 42.55 70 ⇓P P 21 18 25.9 +0.6
baz=42,SNR=30
D20A **Manuel Ranch,** 42.59 69 ⇓P P 21 18 26.1 +0.5
baz=42,SNR=10
YLT **Little Thumb C** 42.59 73 eP P 21 18 27.5 +1.6
H17A **Grant Village** 42.62 73 eP P 21 18 27.0 +0.9
comp=Z,63nm,1.3s
H17A **Grant Village** 42.62 73 ⇑P P 21 18 27.0 +0.9
baz=42,SNR=27
LKWY **Lake** 42.63 73 eP P 21 18 27.6 +1.4
LKWY pmax pmax
comp=Z,38nm,1.0s
LKWY **Lake** 42.63 73 eP P 21 18 27.6 +1.4
comp=Z,38nm,1.0s
IMW **Indian Meadow** 42.68 74 eP P 21 18 27.1 +0.4
comp=Z,22nm,0.9s
FLWY **Flagg Ranch** 42.72 74 eP P 21 18 27.5 +0.6
comp=Z,28nm,1.0s
JNU **Nakatsue** 42.73 266 eP P 21 18 28.0 +1.2
comp=Z,38nm,0.8s
FXWY **Fox Creek** 42.78 75 eP P 21 18 27.7 +0.3
comp=Z,10nm,1.1s
F19A **Roth Farm, Mol** 42.78 71 ⇓P P 21 18 27.3 0.0
baz=43,SNR=18
HVU **Hansel Valley** 42.79 78 eP P 21 18 28.0 +0.6
HVU pmax pmax
comp=Z,22nm,0.8s
HVU **Hansel Valley** 42.79 78 eP P 21 18 28.0 +0.6
comp=Z,22nm,0.8s
C21A **Desert Coulee** 42.80 67 ⇑P P 21 18 27.6 +0.3
baz=43,SNR=7.0
A22A **Carney Farms,** 42.85 65 ⇓P P 21 18 27.9 +0.2
baz=43,SNR=48
MOOW **Moose Ponds** 42.88 74 eP P 21 18 28.3 +0.1
comp=Z,5.7nm,0.8s
I17A **Pilgrim Ck.** 42.89 74 ⇓P P 21 18 29.1 +0.8
baz=43
E20A **Meyer Farm, Mu** 42.90 69 ⇓P P 21 18 28.6 +0.5
baz=43,SNR=8.6
TPAW **Teton Pass** 42.91 75 eP P 21 18 29.0 +0.5
comp=Z,9.8nm,0.6s
H18A **Shoshone NF, C** 43.01 72 ⇑P P 21 18 29.9 +0.7
baz=43,SNR=16
ISA **Isabella, Lake** 43.03 89 ⇓P P 21 18 30.0 +0.7
baz=43
REDW **Red Top Meadow** 43.04 75 eP P 21 18 30.2 +0.7
comp=Z,16nm,0.9s
SNOW **Snow King Moun** 43.04 75 eP P 21 18 27.6 -1.9
comp=Z,14nm,0.9s
LOHW **Long Hollow** 43.04 74 eP P 21 18 29.8 +0.3
comp=Z,8.2nm,0.8s
R11A **Troy Canyon, C** 43.13 84 eP P 21 18 30.2 0.0
comp=Z,17nm,0.9s
R11A **Troy Canyon, C** 43.13 84 ⇓P P 21 18 30.4 +0.2
baz=43,SNR=21
BGU **Big Grassy Mou** 43.14 79 eP P 21 18 30.7 +0.4
comp=Z,23nm,1.1s
KSJIN **Jinju** 43.15 270 P P 21 18 32.2 +2.0
SNR=7.6

ARVC **Arvin** 43.16 90 ⇓P P 21 18 30.9 +0.6
baz=43
B22A **Reddig Ranch S** 43.17 66 ⇓P P 21 18 31.1 +0.9
baz=43,SNR=6.4
DAC **Darwin (Calif)** 43.18 88 eP P 21 18 30.7 0.0
DAC pmax pmax
comp=Z,8.0nm,0.8s
DAC **Darwin (Calif)** 43.18 88 eP P 21 18 30.7 0.0
comp=Z,8.2nm,0.8s
D21A **La Casta Ranch** 43.26 68 ⇑P P 21 18 31.5 +0.4
baz=43,SNR=8.8
F20A **Billings** 43.28 70 ⇓P P 21 18 31.4 +0.2
baz=43,SNR=11
MPMC **Manual Prospec** 43.39 88 ⇓P P 21 18 33.2 +0.9
baz=43
BSC **Santa Cruz Isl** 43.40 92 ⇑P P 21 18 33.2 +1.0
baz=43
H19A **Powell** 43.41 72 ⇓P P 21 18 33.3 +0.9
baz=43,SNR=21
KSBAR **Backryungdo** 43.41 276 P P 21 18 33.6 +1.4
SNR=10.0
KSNAH **Namhae** 43.44 270 P P 21 18 35.0 +2.5
SNR=9.3
A23A **Redstone** 43.46 65 ⇑P P 21 18 32.7 +0.2
baz=43,SNR=14
E21A **Keefer Ranch,** 43.50 69 ⇓P P 21 18 34.2 +1.2
baz=43
FURC **Furnace Creek,** 43.52 87 ⇑P P 21 18 34.3 +1.2
baz=43,SNR=6.6
C22A **Vida** 43.53 67 ⇓P P 21 18 33.4 +0.2
baz=43,SNR=18
G20A **Bridger** 43.56 71 ⇓P P 21 18 33.3 -0.2
baz=43,SNR=67
OSI **Osito Audit: C** 43.56 90 ⇑P P 21 18 34.5 +0.9
baz=43
TPNV **Topopah Spring** 43.59 86 eP P 21 18 34.1 +0.2
TPNV pmax pmax
comp=Z,28nm,0.7s
TPNV **Topopah Spring** 43.59 86 eP P 21 18 34.1 +0.2
comp=Z,28nm,0.7s
TPNV **Topopah Spring** 43.59 86 ⇓P P 21 18 33.9 -0.1
baz=43,SNR=27
KSJEU **Jeongeup** 43.62 271 P P 21 18 35.1 +1.2
SNR=7.7
HWUT **Hardware Ranch** 43.62 77 eP P 21 18 34.2 0.0
comp=Z,15nm,0.9s
B23A **Brockton** 43.65 65 ⇓P P 21 18 34.3 +0.2
baz=44,SNR=94
D22A **Cohagen** 43.68 68 ⇓P P 21 18 35.0 +0.6
baz=44,SNR=15
DUG **Dugway, Tooele** 43.70 80 eP P 21 18 35.0 +0.2
DUG pmax pmax
comp=Z,51nm,1.1s
DUG **Dugway, Tooele** 43.70 80 eP P 21 18 35.0 +0.2
comp=Z,52nm,1.1s
DUG **Dugway, Tooele** 43.70 80 ⇓P P 21 18 35.0 +0.2
baz=44,SNR=22
I19A **Meeteetse** 43.76 73 ⇑P P 21 18 35.5 +0.3
baz=44,SNR=9.0
F21A **Absaloka Mine,** 43.86 70 ⇓P P 21 18 36.1 +0.2
baz=44,SNR=7.3
C23A **Lambert** 43.90 66 ⇓P P 21 18 36.5 +0.4
baz=44,SNR=96
LAO **LASA Array** 43.91 68 eP P 21 18 36.9 +0.7
comp=Z,41nm,0.8s
A24A **Westby** 43.97 64 ⇑P P 21 18 36.5 -0.2
baz=44,SNR=72
H20A **Greybull** 44.10 72 ⇓P P 21 18 37.2 -0.7
baz=44,SNR=14
DGMT **Dagmar** 44.10 65 eP P 21 18 37.5 -0.2
comp=Z,119nm,1.2s
DGMT **Dagmar** 44.10 65 ⇑P P 21 18 37.3 -0.4
baz=44,SNR=9.7
FCC **Fort Churchill** 44.13 48 eP P 21 18 36.6 -1.1
FCC **Fort Churchill** 44.13 48 eP P 21 18 36.6 -1.1
comp=Z,445nm,0.8s
G21A **Lodge Grass** 44.15 70 ⇓P P 21 18 38.1 -0.1
baz=44
BW06 **Boulder Array** 44.16 75 eP P 21 18 38.5 0.0
comp=Z,40nm,0.8s
PD31 **Pinedale Array** 44.16 75 eP P 21 18 38.1 -0.4
PDAR **Pinedale Array** 44.16 75 P P 21 18 38.1 -0.4
comp=Z,42nm,0.7s,baz=332,slow=4.3,SNR=246
PDAR ScP ScP 21 24 08.9 +0.9
comp=Z,1.1nm,1.0s,baz=35,slow=3.3,SNR=3.5
PDAR LR LR 21 34 33.2
comp=Z,274nm,21.6s,baz=314,slow=33
J19A **Crowheart** 44.17 74 ⇑P P 21 18 38.8 +0.3
baz=44,SNR=11
E22A **Miles City** 44.20 68 ⇓P P 21 18 39.0 +0.4
baz=44,SNR=30
D23A **Lindsay** 44.23 67 ⇑P P 21 18 39.4 +0.6
baz=44
MWC **Mount Wilson** 44.23 90 eP P 21 18 39.2 +0.1
MWC **Mount Wilson** 44.23 90 eP P 21 18 39.2 +0.1
JLU **Jordanelle** 44.29 78 eP P 21 18 40.0 +0.4
comp=Z,20nm,0.8s
GSC **Goldstone, Bar** 44.30 88 eP P 21 18 39.6 +0.1
GSC pmax pmax
comp=Z,18nm,0.8s
GSC **Goldstone, Bar** 44.30 88 eP P 21 18 39.6 +0.1
comp=Z,18nm,0.8s
GSC **Goldstone, Bar** 44.30 88 ⇑P P 21 18 40.0 +0.4
baz=44,SNR=5.6
NLU **North Lily Min** 44.30 80 eP P 21 18 40.0 +0.3
comp=Z,19nm,1.0s
I20A **Worland** 44.33 72 ⇑P P 21 18 39.9 +0.2
baz=44,SNR=15
F22A **Rosebud** 44.39 69 ⇓P P 21 18 39.9 -0.2
baz=44,SNR=18
A25A **Svangstu Ranch** 44.45 64 ⇑P P 21 18 40.2 -0.3
baz=44,SNR=79
BFSC **Mount Baldy Ra** 44.47 90 ⇑P P 21 18 41.2 +0.2
baz=44
C24A **Savage** 44.48 66 ⇓P P 21 18 41.2 +0.4
baz=44,SNR=42
MPU **Maple Canyon** 44.53 79 eP P 21 18 41.8 +0.3
comp=Z,16nm,0.8s
E23A **Ismay** 44.54 68 ⇓P P 21 18 41.6 +0.3
baz=44,SNR=11
H21A **Big Horn, Sher** 44.58 71 ⇓P P 21 18 41.8 +0.1
baz=44,SNR=13
G22A **Birney** 44.68 70 ⇑P P 21 18 42.6 +0.1
baz=44,SNR=7.6
J20A **Shoshoni** 44.70 73 ⇑P P 21 18 42.9 +0.2
baz=44,SNR=18
D24A **Glendive** 44.76 67 ⇑P P 21 18 43.8 +0.7
baz=45,SNR=38
B25A **Knox Farm, Ray** 44.79 65 ⇑P P 21 18 43.2 0.0
baz=45,SNR=18
I21A **Big Trails, Te** 44.90 72 ⇓P P 21 18 43.8 -0.5
baz=45,SNR=26
HEC **Hector,Ludlow** 44.90 88 ⇑P P 21 18 45.2 +0.9
baz=45
F23A **Volborg** 44.92 69 ⇑P P 21 18 44.2 -0.1
baz=45,SNR=50
H22A **Clearmont** 45.00 71 ⇑P P 21 18 45.0 0.0
baz=45,SNR=7.8
C25A **Freed Ranch, W** 45.04 65 ⇑P P 21 18 45.4 +0.2
baz=45,SNR=8.4
A26A **Wade Farm, Ken** 45.07 63 ⇓P P 21 18 45.4 -0.1
baz=45,SNR=29
E24A **Baker** 45.08 67 ⇓P P 21 18 46.1 +0.5
baz=45,SNR=17
J21A **Lysite** 45.08 73 ⇑P P 21 18 45.6 -0.2
baz=45,SNR=11
MVU **Marysvale** 45.11 81 eP P 21 18 50.9 +4.8
comp=Z,9.5nm,0.8s
MSU **Marysvale** 45.12 81 eP P 21 18 46.8 +0.6
MSU **Marysvale** 45.12 81 eP P 21 18 46.8 +0.6
MURC **Murieta** 45.18 90 ⇓P P 21 18 46.8 +0.4
baz=45
G23A **Biddle** 45.22 69 ⇓P P 21 18 46.5 -0.3
baz=45,SNR=15
TMUT **Trail Mountain** 45.23 80 eP P 21 18 47.9 +0.7
comp=Z,43nm,0.8s
B26A **Jensen Ranch,** 45.25 64 ⇑P P 21 18 46.9 0.0
baz=45,SNR=15
D25A **Fairfield** 45.31 66 ⇓P P 21 18 47.6 +0.1
baz=45,SNR=7.2
I22A **9 Mile Ranch,** 45.33 72 ⇑P P 21 18 48.0 +0.3
baz=45,SNR=18
GMRC **Granite Mounta** 45.35 88 ⇑P P 21 18 48.5 +0.6
baz=45,SNR=5.3
F24A **Ekalaka** 45.40 68 ⇑P P 21 18 48.5 +0.4
baz=45,SNR=12
A27A **Ledoux Ranch,** 45.48 63 ⇓P P 21 18 48.6 -0.1
baz=45,SNR=8.0

J22A **Midwest** 45.61 72 ⇑P P 21 18 50.1 +0.2
baz=45,SNR=23
K21A **Alcova** 45.61 73 ⇓P P 21 18 49.6 -0.4
baz=45,SNR=21
C26A **Wahner Farm, P** 45.63 65 ⇓P P 21 18 49.8 -0.1
baz=45,SNR=13
E25A **Miller Ranch,** 45.63 67 ⇓P P 21 18 50.5 +0.6
baz=45,SNR=13
PFO **Pinyon Flats O** 45.63 90 eP P 21 18 51.4 +1.2
PFO **Pinyon Flats O** 45.63 90 eP P 21 18 51.4 +1.2
KNB **Kanab** 45.67 83 eP P 21 18 55.4 +4.9
KNB pmax pmax
comp=Z,19nm,1.1s
KNB **Kanab** 45.67 83 eP P 21 18 55.4 +4.9
comp=Z,19nm,1.1s
G24A **Alzada** 45.71 69 ⇓P P 21 18 50.8 +0.2
baz=46
SRU **San Rafael Swe** 45.77 79 eP P 21 18 51.5 +0.3
SRU pmax pmax
comp=Z,28nm,0.8s
SRU **San Rafael Swe** 45.77 79 eP P 21 18 51.5 +0.3
comp=Z,28nm,0.8s
B27A **Peters Farms,** 45.78 63 ⇓P P 21 18 50.8 -0.2
baz=46,SNR=8.0
D26A **Manning** 45.88 66 ⇓P P 21 18 51.7 -0.2
baz=46,SNR=12
F25A **Bowman** 45.92 67 ⇓P P 21 18 52.6 +0.4
baz=46,SNR=6.3
H24A **Dirks Ranch, A** 45.97 69 ⇑P P 21 18 52.0 -0.6
baz=46,SNR=16
C27A **Sayler Ranch,** 46.02 64 ⇑P P 21 18 53.0 0.0
baz=46,SNR=8.8
K22A **Casper** 46.03 73 eP P 21 18 52.8 -0.5
comp=Z,28nm,0.4s
K22A **Casper** 46.03 73 ⇓P P 21 18 53.0 -0.3
baz=46,SNR=6.7
A28A **Rude Farm, Bot** 46.05 62 ⇑P P 21 18 52.8 -0.4
baz=46,SNR=20
N20A **Spence Gulch,** 46.08 76 ⇑P P 21 18 53.9 +0.2
baz=46,SNR=16
MONP **Monument Peak,** 46.14 90 ⇓P P 21 18 54.6 +0.3
baz=46
J23A **Dilts Ranch, B** 46.16 72 ⇓P P 21 18 55.2 +0.9
baz=46
E26A **Carlson Angus** 46.18 66 ⇑P P 21 18 54.4 +0.2
baz=46,SNR=19
BC3 **Big Chuckawall** 46.22 89 ⇓P P 21 18 55.3 +0.5
baz=46
W13A **Hualapai Mount** 46.24 86 ⇓P P 21 18 55.5 +0.4
baz=46
B28A **Dugan Ranch, T** 46.25 63 ⇓P P 21 18 54.7 0.0
baz=46,SNR=28
D27A **Center** 46.35 65 ⇑P P 21 18 55.8 +0.3
baz=46,SNR=10
G25A **Newell** 46.37 68 ⇓P P 21 18 55.7 0.0
baz=46
U15A **North Rim** 46.37 84 ⇑P P 21 18 56.6 +0.5
baz=46,SNR=22
F26A **Lodgepole** 46.42 67 ⇓P P 21 18 56.3 +0.2
baz=46,SNR=7.0
I24A **Kuemmerle Ranc** 46.44 70 ⇑P P 21 18 56.2 -0.2
baz=46
L22A **Ellis Ranch, M** 46.46 74 ⇓P P 21 18 56.8 +0.1
baz=46,SNR=7.6
SWSC **Sam W. Stewart** 46.49 90 ⇑P P 21 18 56.8 +0.1
baz=46
IBP **Imperial Bould** 46.49 90 ⇑P P 21 18 57.2 +0.3
baz=46
K23A **Bowen Ranch, D** 46.51 72 ⇑P P 21 18 56.7 -0.3
baz=46,SNR=5.9
O20A **White River Ci** 46.52 77 eP P 21 18 57.0 -0.2
comp=Z,48nm,0.6s
O20A **White River Ci** 46.52 77 ⇓P P 21 18 57.2 0.0
baz=46,SNR=35
H25A **Fruitdale** 46.59 69 ⇑P P 21 18 57.2 -0.4
baz=46,SNR=8.4
A29A **Manning Farm,** 46.61 62 ⇓P P 21 18 57.4 -0.1
baz=46,SNR=10
PDMCI **Parker Dam,Lak** 46.61 87 ⇑P P 21 18 57.8 +0.2
baz=46
RSSD **Black Hills** 46.63 70 eP P 21 18 57.3 -0.7
RSSD pmax pmax
comp=Z,23nm,1.1s
RSSD **Black Hills** 46.63 70 eP P 21 18 57.3 -0.7
comp=Z,23nm,1.1s
C28A **Hausauer Farms** 46.65 64 ⇑P P 21 18 58.1 +0.2
baz=46
E27A **Carson** 46.72 66 ⇓P P 21 18 58.7 +0.3
baz=46,SNR=15
J24A **Dixon Ranch, L** 46.73 71 ⇓P P 21 18 58.3 -0.4
baz=46,SNR=9.8
Y12C **Blythe** 46.74 88 ⇓P P 21 18 59.2 +0.5
baz=46,SNR=5.2
M22A **Cedar Creek Ra** 46.74 74 ⇑P P 21 18 58.7 -0.2
baz=46,SNR=21
F27A **Lemmon** 46.78 67 ⇓P P 21 18 59.1 +0.2
baz=47,SNR=9.1
G26A **Maurine** 46.78 68 ⇓P P 21 18 59.0 +0.1
baz=47,SNR=12
B29A **Wagenman Farm,** 46.80 62 ⇓P P 21 18 58.5 -0.4
baz=47,SNR=9.5
D28A **Regan** 46.84 64 ⇓P P 21 18 59.4 0.0
baz=47,SNR=30
L23A **Garrett** 46.84 73 ⇓P P 21 18 59.6 -0.1
baz=47,SNR=30
I25A **Rochford** 46.87 70 ⇑P P 21 18 59.3 -0.5
baz=47,SNR=8.7
PV09 **Paradox Valley** 47.00 79 eP P 21 19 00.9 -0.1
K24A **Anderson Ranch** 47.00 72 ⇑P P 21 19 00.2 -0.6
baz=47
MDND **Maddock** 47.01 63 eP P 21 19 01.0 +0.4
comp=Z,266nm,0.9s
MDND **Maddock** 47.01 63 ⇑P P 21 19 00.8 +0.1
baz=47,SNR=18
A30A **Hoffart Farm,** 47.11 61 ⇓P P 21 19 01.3 -0.1
baz=47,SNR=17
G27A **Dupree** 47.11 67 ⇓P P 21 19 01.8 +0.3
baz=47,SNR=18
E28A **Huff** 47.12 65 ⇑P P 21 19 01.3 -0.3
baz=47,SNR=6.0
PV10 **Paradox Valley** 47.13 79 eP P 21 19 02.1 +0.1
N22A **Wattenberg Ran** 47.19 75 ⇓P P 21 19 02.6 +0.1
baz=47,SNR=27
J25A **Sunshine Ranch** 47.20 71 ⇓P P 21 19 01.7 -0.6
baz=47
M23A **Laramie** 47.22 74 ⇓P P 21 19 02.3 -0.3
baz=47
PV05 **Paradox Valley** 47.28 80 eP P 21 19 03.1 -0.1
L24A **Wheatland** 47.34 73 ⇓P P 21 19 02.9 -0.6
baz=47
BJI **Beijing** 47.36 284 P P 21 19 04.5 +1.1
BJI sP sP 21 19 35.7 +7.7
BJI PcP PcP 21 20 33.3 +0.2
BJI S S 21 25 51.1 -1.0
BJI ScS ScS 21 28 49.1 -1.5
BJI PMZ
comp=Z,39nm,0.6s
BJI LN
comp=Z,520nm,19.4s
BJI LE
comp=Z,390nm,22.3s
BJI LZ
comp=Z,590nm,23.2s
B30A **Myrvik Farm, E** 47.37 62 ⇓P P 21 19 03.1 -0.3
baz=47,SNR=30
I26A **New Underwood** 47.37 69 ⇓P P 21 19 03.1 -0.5
baz=47,SNR=5.6
N23A **Red Feather La** 47.44 75 eP P 21 19 04.5 0.0
comp=Z,32nm,1.0s
N23A **Red Feather La** 47.44 75 ⇓P P 21 19 03.9 -0.5
baz=47,SNR=18
D29A **Pettibone, Tap** 47.46 64 ⇑P P 21 19 04.0 -0.2
baz=47
H27A **Howes** 47.47 68 ⇓P P 21 19 03.7 -0.6
baz=47
PHWY **Pilot Hill** 47.48 74 eP P 21 19 04.4 -0.4
comp=Z,6.9nm,0.6s
F28A **McLaughlin** 47.49 66 ⇓P P 21 19 04.0 -0.4
baz=47,SNR=9.0
WUAZ **Wupatki** 47.53 84 eP P 21 19 09.8 +4.7
comp=Z,21nm,0.8s
WUAZ **Wupatki** 47.53 84 ⇓P P 21 19 05.7 +0.7
baz=47
O22A **Kremmling** 47.53 76 ⇓P P 21 19 04.9 -0.3
baz=47,SNR=13
Y14A **Wickenburg** 47.56 87 ⇓P P 21 19 05.0 -0.2
baz=47
PV01 **Paradox Valley** 47.57 79 eP P 21 19 04.9 -0.5

K25A	**Mack Ranch, Ha**	**47.63**	**71**	⇓P		**P**		**21 19 05.6**	**-0.1**
	baz=47									
TLY	**Talaya**	**47.63**	**304**	*e*P		P		21 19 12.0	+6.6
TLY				*e*S		S		21 26 03.9	+8.1
TLY				pmax		pmax				
	comp=Z,8.0nm,0.9s									
TLY				MLR		MLR				
	comp=Z,325nm,21.0s									
J26A	**Sides Ranch, S**	**47.67**	**70**	⇓P		**P**		**21 19 05.6**	**-0.4**
	baz=48									
ULM	**Lac du Bonnet**	**47.67**	**59**	P		**P**		**21 19 04.8**	**-0.9**
	comp=Z,7.5nm,0.4s,baz=303,slow=7.6,SNR=19									
ULM				LR		LR		21 40 27.9		
	comp=Z,202nm,19.7s,baz=280,slow=38									
ULM	**Lac du Bonnet**	**47.67**	**59**	*e*P		**P**		**21 19 05.0**	**-0.8**
ULM				pmax		pmax				
	comp=Z,14nm,1.0s									
ULM	**Lac du Bonnet**	**47.67**	**59**	*e*P		**P**		**21 19 05.0**	**-0.8**
	comp=Z,14nm,1.0s									
C30A	**Mose, Pekin**	**47.71**	**63**	⇑P		**P**		**21 19 05.3**	**-0.8**
	baz=48,SNR=9.6									
E29A	**Napoleon**	**47.72**	**65**	⇓P		**P**		**21 19 05.9**	**-0.3**
	baz=48									
P22A	**Eagle**	**47.75**	**76**	⇓P		**P**		**21 19 06.5**	**-0.3**
	baz=48,SNR=13									
M24A	**Cheyenne**	**47.76**	**73**	⇑P		**P**		**21 19 06.1**	**-0.6**
	baz=48									
I27A	**Quinn**	**47.82**	**69**	⇓P		**P**		**21 19 07.1**	**+0.1**
	baz=48,SNR=7.6									
L25A	**Engebretsen Ra**	**47.85**	**72**	⇑P		**P**		**21 19 07.9**	**+0.5**
	baz=48									
G28A	**Parade**	**47.87**	**67**	⇑P		**P**		**21 19 07.6**	**+0.2**
	baz=48,SNR=5.5									
O23A	**Lake Granby, G**	**47.88**	**75**	⇑P		**P**		**21 19 08.6**	**+0.7**
	baz=48,SNR=58									
SMCO	**Snowmass**	**47.88**	**77**	*e*P		**P**		**21 19 07.5**	**-0.6**
	comp=Z,11nm,0.8s									
D30A	**Buchanan**	**47.90**	**64**	⇑P		**P**		**21 19 07.4**	**-0.2**
	baz=48,SNR=17									
ULN	**Ulaanbaatar**	**47.98**	**298**	*e*P		**P**		**21 19 08.3**	**0.0**
ULN				pmax		pmax				
	comp=Z,4.0nm,1.0s									
ULN	**Ulaanbaatar**	**47.98**	**298**	*e*P		**P**		**21 19 08.0**	**-0.3**
Z14A	**Wintersburg**	**47.98**	**87**	⇑P		**P**		**21 19 10.5**	**+2.1**
	baz=48									
K26A	**Motz Farm, Whi**	**47.98**	**71**	⇓P		**P**		**21 19 08.6**	**+0.3**
	baz=48									
F29A	**Eureka**	**48.05**	**66**	⇓P		**P**		**21 19 08.4**	**-0.3**
	baz=48,SNR=12									
H28A	**Mission Ridge**	**48.05**	**67**	⇓P		**P**		**21 19 09.6**	**+0.8**
	baz=48									
N24A	**Carr**	**48.12**	**74**	⇑P		**P**		**21 19 10.5**	**+0.9**
	baz=48									
E30A	**Jud**	**48.17**	**64**	⇑P		**P**		**21 19 09.2**	**-0.4**
	baz=48									
MVCO	**Mesa Verde**	**48.20**	**80**	*e*P		**P**		**21 19 10.2**	**-0.1**
	comp=Z,90nm,2.0s									
MVCO	**Mesa Verde**	**48.20**	**80**	⇓P		**P**		**21 19 10.2**	**-0.1**
	baz=48									
X16A	**Lo Mia Camp, P**	**48.21**	**85**	⇑P		**P**		**21 19 10.7**	**+0.4**
	baz=48									
M25A	**Palm-Egli Farm**	**48.23**	**73**	⇑P		**P**		**21 19 11.1**	**+0.7**
	baz=48,SNR=7.3									
ISCO	**Idaho Springs**	**48.31**	**75**	*e*P		**P**		**21 19 11.2**	**0.0**
ISCO				pmax		pmax				
	comp=Z,12nm,0.9s									
ISCO	**Idaho Springs**	**48.31**	**75**	*e*P		**P**		**21 19 11.2**	**0.0**
	comp=Z,12nm,0.9s									
ISCO	**Idaho Springs**	**48.31**	**75**	⇑P		**P**		**21 19 11.6**	**+0.4**
	baz=48,SNR=14									
J27A	**Elkhorn Farm,**	**48.33**	**70**	⇓P		**P**		**21 19 11.2**	**+0.2**
	baz=48									
SONA0	**Songino Array**	**48.35**	**298**	*e*P		**P**		**21 19 11.3**	**+0.1**
SONM	**Songino Array**	**48.35**	**298**	P		**P**		**21 19 11.3**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=55,slow=7.8,SNR=8.8									
SONM				PcP		**PcP**		**21 20 36.6**	**-0.2**
	comp=Z,16nm,0.9s,baz=61,slow=2.2,SNR=16									
SONM				ScP		**ScP**		**21 24 25.6**	**+0.3**
	comp=Z,5.8nm,1.0s,baz=69,slow=3.3,SNR=12									
SONM				LR		LR		21 39 52.7		
	comp=Z,437nm,20.7s,baz=72,slow=36									
SONM	**Songino Array**	**48.35**	**298**	P		**P**		**21 19 11.3**	**+0.1**
SONM								21 20 36.6		
SONM				pmax		pmax				
	comp=Z,2.0nm,0.6s									
SONM				pmax		pmax				
	comp=Z,16nm,0.9s									
SONM				pmax		pmax				
	comp=N,6.0nm,1.0s									
SONM				MLR		MLR				
	comp=Z,437nm,20.7s									
I28A	**Midland**	**48.37**	**68**	⇑P		**P**		**21 19 11.2**	**0.0**
	baz=48,SNR=27									
G29A	**Hoven**	**48.37**	**66**	⇓P		**P**		**21 19 11.2**	**-0.1**
	baz=48									
O24A	**Longmont**	**48.44**	**75**	⇑P		**P**		**21 19 12.8**	**+0.8**
	baz=48									
L26A	**Underwood Farm**	**48.44**	**72**	⇑P		**P**		**21 19 12.2**	**+0.3**
	baz=48									
P23A	**Jefferson**	**48.45**	**76**	⇓P		**P**		**21 19 12.9**	**+0.6**
	baz=48,SNR=14									
K27A	**Flueckinger Fa**	**48.53**	**70**	⇓P		**P**		**21 19 12.1**	**-0.5**
	baz=48									
H29A	**Onida**	**48.54**	**67**	⇑P		**P**		**21 19 12.6**	**+0.1**
	baz=48,SNR=6.5									
ZAK	**Zakamensk**	**48.55**	**302**	*e*P		**P**		**21 19 11.2**	**-1.5**
ZAK				*e*				21 20 38.5		
ZAK				pmax		pmax				
	comp=Z,6.0nm,1.3s									
J28A	**Allard Ranch,**	**48.68**	**69**	⇑P		**P**		**21 19 13.4**	**-0.3**
	baz=48,SNR=20									
Q23A	**Hartsel**	**48.74**	**77**	⇑P		**P**		**21 19 14.8**	**+0.3**
	baz=48,SNR=49									
W18A	**Petrified Fore**	**48.80**	**83**	⇑P		**P**		**21 19 15.5**	**+0.7**
	baz=49									
AGMN	**Agassiz Nation**	**48.80**	**61**	*e*P		**P**		**21 19 13.4**	**-1.0**
	comp=Z,58nm,0.9s									
AGMN	**Agassiz Nation**	**48.80**	**61**	⇓P		**P**		**21 19 13.8**	**-0.7**
	baz=49,SNR=32									
G30A	**Faulkton**	**48.85**	**66**	⇑P		**P**		**21 19 14.6**	**-0.3**
	baz=49,SNR=15									
I29A	**Vivian Onida**	**48.85**	**68**	⇑P		**P**		**21 19 14.8**	**-0.1**
	baz=49,SNR=7.1									
L27A	**T5 Ranch, Ells**	**48.86**	**71**	⇓P		**P**		**21 19 14.8**	**-0.4**
	baz=49									
S22A	**4UR Ranch, Cre**	**48.88**	**78**	*e*P		**P**		**21 19 15.8**	**+0.3**
	comp=Z,13nm,1.0s									
S22A	**4UR Ranch, Cre**	**48.88**	**78**	⇓P		**P**		**21 19 15.8**	**+0.3**
	baz=49,SNR=17									
P24A	**Kohler Place,**	**48.92**	**75**	⇓P		**P**		**21 19 17.2**	**+1.5**
	baz=49									
MOY	**Mondy**	**49.00**	**305**	*e*P		**P**		**21 19 16.2**	**+0.1**
214A	**Organ Pipe Nat**	**49.01**	**88**	⇓P		**P**		**21 19 16.6**	**+0.3**
	baz=49									
O25A	**Wiggins**	**49.01**	**74**	⇓P		**P**		**21 19 16.9**	**+0.5**
	baz=49,SNR=5.5									
K28A	**Ten Mile Ranch**	**49.03**	**70**	⇑P		**P**		**21 19 16.8**	**+0.4**
	baz=49									
X18A	**Snowflake**	**49.05**	**84**	⇑P		**P**		**21 19 17.5**	**+0.7**
	baz=49									
N26A	**Koester Ranch,**	**49.10**	**73**	⇓P		**P**		**21 19 16.6**	**-0.5**
	baz=49									
Q24A	**Divide**	**49.12**	**76**	*e*P		**P**		**21 19 17.5**	**+0.1**
	comp=Z,9.7nm,0.7s									
Q24A	**Divide**	**49.12**	**76**	⇑P		**P**		**21 19 17.7**	**+0.3**
	baz=49									
R23A	**Moffat**	**49.20**	**77**	⇓P		**P**		**21 19 18.3**	**+0.2**
	baz=49,SNR=19									
TIA	**Tai'an**	**49.21**	**279**	⇑P		**P**		**21 19 18.6**	**+0.8**
TIA				PMZ						
	comp=Z,130nm,0.7s									
TIA				LN						
	comp=Z,320nm,21.4s									
TIA				LE						
	comp=Z,420nm,22.6s									
TIA				LZ						
	comp=Z,210nm,14.3s									
J29A	**Okreek**	**49.21**	**68**	⇑P		**P**		**21 19 17.4**	**-0.4**
	baz=49,SNR=35									
P25A	**Willow Gulch B**	**49.36**	**75**	⇑P		**P**		**21 19 19.4**	**+0.3**
	baz=49,SNR=42									
BRSD	**Miller**	**49.37**	**67**	*e*P		**P**		**21 19 18.4**	**-0.5**
	comp=Z,227nm,0.8s									
BRSD	**Miller**	**49.37**	**67**	⇓P		**P**		**21 19 18.6**	**-0.3**
	baz=49,SNR=11									
S23A	**Nye Farm, Mont**	**49.41**	**78**	⇑P		**P**		**21 19 20.2**	**+0.6**
	baz=49									
O26A	**Horse Wrangler**	**49.41**	**74**	⇑P		**P**		**21 19 19.6**	**+0.2**
	baz=49									
I30A	**Oacoma**	**49.42**	**67**	⇓P		**P**		**21 19 19.5**	**+0.2**
	baz=49									
KBS	**Kingsbay**	**49.48**	**358**	*e*P		**P**		**21 19 20.6**	**+1.3**
KBS				pmax		pmax				
	comp=Z,41nm,0.8s									
KBS	**Kingsbay**	**49.48**	**358**	*e*P		**P**		**21 19 20.6**	**+1.3**
	comp=Z,41nm,0.8s									
N27A	**Anderson Farm,**	**49.52**	**72**	⇑P		**P**		**21 19 20.4**	**+0.2**
	baz=49									
HHC	**Hu-ho-hao-te**	**49.61**	**288**	*e*P		**P**		**21 19 21.6**	**+0.7**
HHC				PP		**PP**		**21 21 18.1**	**+2.6**
HHC				S		**S**		**21 26 20.4**	**-3.7**
HHC				sS		sS		21 27 01.1	+8.1
HHC				SS		SS		21 29 49.7	-6.8
HHC				PMZ						
	comp=Z,16nm,1.1s									
HHC				PMZ						
	comp=Z,66nm,5.3s									
HHC				LN						
	comp=Z,400nm,18.6s									
HHC				LE						
	comp=Z,280nm,17.3s									
HHC				LZ						
	comp=Z,380nm,16.7s									
R24A	**Sanders Place,**	**49.61**	**77**	⇑P		**P**		**21 19 21.5**	**+0.4**
	baz=49,SNR=18									
K29A	**Lazy Trails An**	**49.61**	**69**	⇓P		**P**		**21 19 20.8**	**0.0**
	baz=49									
GUMO	**Guam**	**49.65**	**235**	P		**P**		**21 19 20.0**	**-1.2**
	comp=Z,30nm,0.3s,baz=320,slow=7.9,SNR=5.8									
GUMO	**Guam**	**49.65**	**235**	*e*P		**P**		**21 19 20.2**	**-1.1**
GUMO	**Guam**	**49.65**	**235**	*e*P		**P**		**21 19 20.1**	**-1.1**
SDCO	**Great Sand Dun**	**49.68**	**77**	*e*P		**P**		**21 19 21.7**	**0.0**
	comp=Z,17nm,0.9s									
SDCO	**Great Sand Dun**	**49.68**	**77**	⇓P		**P**		**21 19 22.0**	**+0.4**
	baz=50,SNR=38									
Q25A	**Bedland, Calha**	**49.69**	**75**	⇓P		**P**		**21 19 22.2**	**+0.5**
	baz=50,SNR=9.0									
OGNE	**Ogallala**	**49.73**	**72**	⇑P		**P**		**21 19 21.8**	**0.0**
	baz=50,SNR=5.9									
P26A	**Davis Ranch, A**	**49.83**	**74**	⇑P		**P**		**21 19 23.4**	**+0.9**
	baz=50,SNR=11									
M28A	**Bar X Bar Ranc**	**49.84**	**71**	⇓P		**P**		**21 19 22.7**	**+0.1**
	baz=50									
O27A	**Beecher Island**	**49.94**	**73**	⇓P		**P**		**21 19 23.9**	**+0.4**
	baz=50,SNR=7.5									
L29A	**Maesberg Ranch**	**49.95**	**70**	⇓P		**P**		**21 19 23.8**	**+0.4**
	baz=50									
TUC	**Tucson**	**50.03**	**87**	*e*P		**P**		**21 19 24.1**	**0.0**
TUC				pmax		pmax				
	comp=Z,12nm,0.9s									
TUC	**Tucson**	**50.03**	**87**	*e*P		**P**		**21 19 24.1**	**0.0**
	comp=Z,12nm,0.9s									
K30A	**Basset**	**50.08**	**69**	⇑P		**P**		**21 19 24.7**	**+0.4**
	baz=50,SNR=9.9									
SSE	**Sheshan**	**50.12**	**271**	P		**P**		**21 19 25.4**	**+0.7**
SSE				pP		pP		21 19 47.7	+5.9
SSE				S		**S**		**21 26 29.6**	**-1.6**
SSE				sS		sS		21 27 08.7	+8.6
SSE				PMZ						
	comp=Z,80nm,0.8s									
SSE				PMZ						
	comp=Z,91nm,6.8s									
SSE				LN						
	comp=Z,160nm,30.4s									
SSE				LE						
	comp=Z,130nm,30.4s									
SSE				LZ						
	comp=Z,210nm,32.3s									
Q26A	**Hugo**	**50.13**	**75**	⇓P		**P**		**21 19 25.4**	**+0.6**
	baz=50,SNR=7.5									
N28A	**Pribbeno Ranch**	**50.19**	**72**	⇓P		**P**		**21 19 25.6**	**+0.3**
	baz=50									
M29A	**Burnside Ranch**	**50.21**	**71**	⇑P		**P**		**21 19 25.5**	**+0.1**
	baz=50,SNR=5.2									
P27A	**Ficken Ranch,**	**50.29**	**74**	⇓P		**P**		**21 19 26.6**	**+0.6**
	baz=50									
O28A	**Krutsinger Ran**	**50.40**	**73**	⇑P		**P**		**21 19 27.1**	**+0.2**
	baz=50									
L30A	**Spencer Herefo**	**50.47**	**70**	⇑P		**P**		**21 19 27.0**	**-0.3**
	baz=50									
R26A	**Arlington**	**50.57**	**76**	⇑P		**P**		**21 19 26.6**	**-1.6**
	baz=50									
KSCO	**Kaye Shedlock'**	**50.60**	**74**	*e*P		**P**		**21 19 28.9**	**+0.5**
	comp=Z,42nm,0.6s									
KSCO	**Kaye Shedlock'**	**50.60**	**74**	⇑P		**P**		**21 19 28.9**	**+0.5**
	baz=50									
N29A	**Votaw Ranch, W**	**50.64**	**71**	⇑P		**P**		**21 19 28.7**	**+0.1**
	baz=50,SNR=7.3									
T25A	**Trinidad**	**50.74**	**77**	*e*P		**P**		**21 19 30.2**	**+0.7**
	comp=Z,55nm,0.9s									
T25A	**Trinidad**	**50.74**	**77**	⇑P		**P**		**21 19 30.3**	**+0.7**
	baz=50,SNR=45									
P28A	**Saint Francis**	**50.77**	**73**	⇓P		**P**		**21 19 30.2**	**+0.6**
	baz=50									
L31A	**Butterfield Fa**	**50.83**	**69**	⇓P		**P**		**21 19 30.2**	**+0.2**
	baz=51,SNR=9.9									
LAZ	**Ladron**	**50.87**	**82**	*e*P		**P**		**21 19 31.4**	**+0.8**
NJ2	**Nanjing**	**50.91**	**274**	*e*P		**P**		**21 19 31.3**	**+0.6**
NJ2				S		**S**		**21 26 43.0**	**+0.9**
NJ2				PMZ						
	comp=Z,140nm,1.3s									
NJ2				PMZ						
	comp=Z,570nm,8.8s									
NJ2				LN						
	comp=Z,2μm,24.1s									
NJ2				LE						
	comp=Z,3μm,18.5s									
NJ2				LZ						
	comp=Z,3μm,24.4s									
ANMO	**Albuquerque**	**50.93**	**81**	*e*P		**P**		**21 19 31.0**	**0.0**
ANMO				pmax		pmax				
	comp=Z,13nm,1.2s									
ANMO	**Albuquerque**	**50.93**	**81**	*e*P		**P**		**21 19 31.0**	**0.0**
	comp=Z,13nm,1.2s									
R27A	**Eads**	**50.97**	**75**	⇓P		**P**		**21 19 31.6**	**+0.4**
	baz=51,SNR=16									
O29A	**4D Ranch, Culb**	**50.98**	**72**	⇓P		**P**		**21 19 31.5**	**+0.4**
	baz=51,SNR=9.3									
S26A	**Kim**	**50.99**	**76**	⇓P		**P**		**21 19 31.3**	**-0.1**
	baz=51,SNR=39									
Q28A	**Sharon Springs**	**51.05**	**74**	⇓P		**P**		**21 19 32.1**	**+0.4**
	baz=51,SNR=10									
ECSD	**EROS Data Cent**	**51.14**	**66**	*e*P		**P**		**21 19 31.1**	**-1.2**
	comp=Z,47nm,0.9s									
ECSD	**EROS Data Cent**	**51.14**	**66**	⇑P		**P**		**21 19 31.3**	**-1.0**
	baz=51,SNR=38									
T26A	**Comanche Natio**	**51.21**	**77**	⇓P		**P**		**21 19 32.6**	**-0.4**
	baz=51,SNR=12									
P29A	**Atwood**	**51.24**	**73**	⇓P		**P**		**21 19 33.7**	**+0.6**
	baz=51,SNR=15									
LPM	**Los Pinos Moun**	**51.24**	**82**	*e*P		**P**		**21 19 33.9**	**+0.5**
M31A	**Lambtecht Ranc**	**51.28**	**70**	⇓P		**P**		**21 19 33.5**	**+0.1**
	baz=51									
S27A	**Las Animas**	**51.30**	**76**	⇓P		**P**		**21 19 33.8**	**+0.1**
	baz=51									
BNM	**Barren Site**	**51.35**	**82**	*e*P		**P**		**21 19 34.4**	**+0.2**
EYMN	**Ely**	**51.36**	**59**	*e*P		**P**		**21 19 33.1**	**-0.7**
	comp=Z,42nm,1.0s									
O30A	**MW Ranch, Wils**	**51.38**	**72**	⇑P		**P**		**21 19 34.6**	**+0.5**
	baz=51,SNR=6.1									
R28A	**Tribune**	**51.52**	**74**	⇓P		**P**		**21 19 35.6**	**+0.3**
	baz=51,SNR=11									
N31A	**Bailey Ranch,**	**51.62**	**70**	⇑P		**P**		**21 19 35.9**	**0.0**
	baz=51									
Q29A	**Oakley**	**51.67**	**73**	⇓P		**P**		**21 19 36.4**	**+0.1**
	baz=51,SNR=7.5									
P30A	**Selden**	**51.68**	**72**	⇓P		**P**		**21 19 36.8**	**+0.4**
	baz=52,SNR=9.5									
BGNE	**Belgrade**	**51.72**	**69**	*e*P		**P**		**21 19 36.5**	**-0.1**
	comp=Z,128nm,0.9s									
BGNE	**Belgrade**	**51.72**	**69**	⇑P		**P**		**21 19 36.9**	**+0.3**
	baz=52,SNR=5.8									
121A	**Cookes Peak, D**	**51.73**	**84**	⇓P		**P**		**21 19 37.3**	**+0.3**
	baz=52									
T27A	**Campo**	**51.81**	**76**	⇓P		**P**		**21 19 37.4**	**-0.1**
	baz=52,SNR=6.1									
O31A	**Woolen Ranch,**	**51.83**	**71**	⇓P		**P**		**21 19 37.5**	**0.0**
	baz=52									
R29A	**Marienthal**	**51.87**	**74**	⇑P		**P**		**21 19 38.4**	**+0.5**
	baz=52,SNR=13									
S28A	**Manter**	**51.96**	**75**	⇑P		**P**		**21 19 38.9**	**+0.3**
	baz=52,SNR=55									
T28A	**Walsh**	**52.14**	**76**	⇓P		**P**		**21 19 40.1**	**+0.2**
	baz=52,SNR=21									
U27A	**Thompson Grove**	**52.17**	**77**	⇓P		**P**		**21 19 40.0**	**-0.1**
	baz=52,SNR=28									
P31A	**Stockton**	**52.21**	**72**	⇑P		**P**		**21 19 40.5**	**+0.2**
	baz=52,SNR=7.3									
SPMN	**Marine on St.**	**52.34**	**62**	*e*P		**P**		**21 19 40.4**	**-0.7**
	comp=Z,82nm,1.2s									
SPMN	**Marine on St.**	**52.34**	**62**	⇑P		**P**		**21 19 40.6**	**-0.5**
	baz=52,SNR=13									
SUMG	**Summit**	**52.38**	**15**	⇑*i*P		**P**		**21 19 41.6**	**0.0**
	comp=Z,11nm,0.9s									
SUMG	**Summit**	**52.38**	**15**	⇑*i*P		**P**		**21 19 41.6**	**0.0**
SUMG				pmax		pmax				
	comp=Z,11nm,0.9s									
SUMG	**Summit**	**52.38**	**15**	*e*P		**P**		**21 19 41.5**	**0.0**
	comp=Z,9.6nm,0.8s									
R30A	**Dighton**	**52.48**	**74**	⇓P		**P**		**21 19 42.7**	**+0.4**
	baz=52,SNR=8.2									
Q31A	**Ellis**	**52.53**	**72**	⇓P		**P**		**21 19 42.4**	**-0.3**
	baz=52,SNR=6.8									
U28A	**Mallet**	**52.56**	**77**	⇑P		**P**		**21 19 42.9**	**-0.1**
	baz=52,SNR=14									
P32A	**Huiting Farm,**	**52.60**	**71**	⇓P		**P**		**21 19 42.8**	**-0.4**
	baz=52,SNR=5.4									
T29A	**Hugoton**	**52.61**	**75**	⇑P		**P**		**21 19 43.8**	**+0.4**
	baz=52									
S30A	**Montezuma**	**52.79**	**74**	⇑P		**P**		**21 19 44.8**	**+0.2**
	baz=53,SNR=21									
R31A	**Burdett**	**52.92**	**73**	⇓P		**P**		**21 19 45.2**	**-0.4**
	baz=53,SNR=13									
V28A	**Channing**	**52.98**	**77**	⇑P		**P**		**21 19 45.5**	**-0.7**
	baz=53									
Q32A	**Meitler Ranch,**	**53.03**	**72**	⇓P		**P**		**21 19 46.5**	**+0.1**
	baz=53,SNR=32									
U29A	**Oasis Ranch, S**	**53.09**	**76**	⇓P		**P**		**21 19 46.9**	**0.0**
	baz=53,SNR=28									
T30A	**Plains**	**53.14**	**75**	⇓P		**P**		**21 19 47.2**	**0.0**
	baz=53,SNR=10									
P33A	**Williams Farm,**	**53.25**	**71**	⇑P		**P**		**21 19 47.7**	**-0.3**
	baz=53,SNR=6.4									
R32A	**Long Quarter,**	**53.32**	**72**	⇑P		**P**		**21 19 47.8**	**-0.7**
	baz=53,SNR=15									
W28A	**Vega**	**53.32**	**78**	⇓P		**P**		**21 19 48.3**	**-0.3**
	baz=53									
S31A	**Mullinville**	**53.39**	**74**	⇓P		**P**		**21 19 49.0**	**0.0**
	baz=53,SNR=13									
U30A	**WK&E Inc. Balk**	**53.41**	**75**	⇓P		**P**		**21 19 48.9**	**-0.3**
	baz=53,SNR=36									
Q33A	**Connelly Farm,**	**53.46**	**71**	⇓P		**P**		**21 19 48.8**	**-0.7**
	baz=53,SNR=15									
T31A	**Randall Ranch,**	**53.62**	**74**	⇓P		**P**		**21 19 50.5**	**-0.2**
	baz=53,SNR=21									
S32A	**Newby Ranch, P**	**53.66**	**73**	⇓P		**P**		**21 19 50.9**	**-0.1**
	baz=53,SNR=6.6									
COWI	**Conover**	**53.77**	**59**	*e*P		**P**		**21 19 50.7**	**-1.0**
	comp=Z,28nm,0.7s									
MNTX	**Cornudas Mount**	**53.79**	**83**	⇓P		**P**		**21 19 52.1**	**+0.1**
	baz=54,SNR=7.3									
X28A	**Dimmitt**	**53.82**	**78**	⇑P		**P**		**21 19 52.0**	**-0.3**
	baz=54									
R33A	**Olander Ranch,**	**53.82**	**72**	⇓P		**P**		**21 19 51.2**	**-0.9**
	baz=54									
MSTX	**Muleshoe**	**53.84**	**79**	*e*P		**P**		**21 19 51.8**	**-0.7**
	comp=Z,54nm,1.3s									
MSTX	**Muleshoe**	**53.84**	**79**	⇑P		**P**		**21 19 52.0**	**-0.5**
	baz=54,SNR=15									
AMTX	**Amarillo**	**53.89**	**78**	*e*P		**P**		**21 19 52.8**	**0.0**
	comp=Z,26nm,1.0s									
AMTX	**Amarillo**	**53.89**	**78**	⇑P		**P**		**21 19 52.6**	**-0.2**
	baz=54									
V30A	**Spur Ranch, Mi**	**53.90**	**76**	⇓P		**P**		**21 19 52.6**	**-0.2**
	baz=54									
U31A	**Nine Bar Ranch**	**54.00**	**75**	⇓P		**P**		**21 19 53.5**	**0.0**
	baz=54,SNR=9.3									
T32A	**Huddler Ranch,**	**54.01**	**74**	⇑P		**P**		**21 19 53.0**	**-0.6**
	baz=54,SNR=10.0									
KSU1	**Kansas State U**	**54.11**	**70**	*e*P		**P**		**21 19 53.6**	**-0.7**
	comp=Z,35nm,1.0s									
KSU1	**Kansas State U**	**54.11**	**70**	⇑P		**P**		**21 19 53.4**	**-0.8**
	baz=54									
X29A	**Tulia**	**54.17**	**78**	⇓P		**P**		**21 19 54.5**	**-0.4**
	baz=54									
SCIA	**State Center**	**54.23**	**66**	*e*P		**P**		**21 19 54.6**	**-0.5**
	comp=Z,92nm,0.8s									
S33A	**Kaszmaul Farm,**	**54.28**	**73**	⇓P		**P**		**21 19 55.0**	**-0.6**
	baz=54,SNR=9.0									
W30A	**Crocket Farms

NVS **Novosibirsk** 55.37 316 ⇓*i*P **P** 21 20 03.5 +0.5
NVS pmax pmax
comp=N,4.0nm,0.9s
NVS pmax pmax
comp=E,6.0nm,0.9s
NVS pmax pmax
comp=Z,13nm,0.9s
Y31A Rekieta Farm, 55.37 77 ⇑P **P** 21 20 03.2 -0.2
baz=55
SSLB Suanglung 55.47 265 *e*P **P** 21 20 04.7 +0.4
comp=Z,78nm,1.0s
Q37A Longview Farm, 55.52 69 ⇑P **P** 21 20 03.0 -1.4
baz=55
YULB Yu-li 55.55 265 *e*P P 21 20 09.5 +4.7
comp=Z,30nm,1.1s
S36A Lake Cedric, C 55.62 71 ⇓P **P** 21 20 04.1 -1.0
baz=55,SNR=7.0
W33A Caddo, Fort Co 55.65 75 ⇑P **P** 21 20 05.1 -0.3
baz=55
X32A Elmer 55.65 76 ⇓P **P** 21 20 05.5 +0.1
baz=55,SNR=20
XAN Xi'an 55.66 283 P **P** 21 20 06.3 +0.8
XAN pP pP 21 20 30.7 +7.8
XAN PcP **PcP** 21 21 05.6 +1.3
XAN PMZ
comp=Z,9.0nm,1.1s
XAN LN
comp=Z,170nm,28.6s
XAN LE
comp=Z,130nm,25.5s
XAN LZ
comp=Z,140nm,23.5s
R37A Teagarden Farm 55.67 70 ⇓P **P** 21 20 04.1 -1.4
baz=55
WMOK Wichita Mounta 55.74 76 *e*P **P** 21 20 05.8 -0.3
WMOK pmax pmax
comp=Z,33nm,0.8s
WMOK Wichita Mounta 55.74 76 *e*P **P** 21 20 05.8 -0.3
comp=Z,33nm,0.8s
V34A Guthrie 55.75 74 *e*P **P** 21 20 05.5 -0.6
comp=Z,39nm,0.8s
V34A Guthrie 55.75 74 ⇑P **P** 21 20 05.7 -0.4
baz=56,SNR=7.7
229A Bryant Ranch, 55.80 80 ⇓P **P** 21 20 06.0 -0.6
baz=56
Y32A R-V Farms, Ver 55.84 77 ⇓P **P** 21 20 06.7 -0.1
baz=56,SNR=18
130A Snyder 55.88 79 ⇓P **P** 21 20 06.9 -0.3
baz=56
Z31A Sharp Cattle R 55.88 78 ⇑P **P** 21 20 06.4 -0.7
baz=56,SNR=7.6
W34A Bridge Creek, 56.01 75 *e*P **P** 21 20 08.0 0.0
comp=Z,20nm,0.8s
W34A Bridge Creek, 56.01 75 ⇑P **P** 21 20 08.1 +0.2
baz=56
329A Wagon Wheel Ra 56.03 81 ⇓P **P** 21 20 08.0 -0.2
baz=56
TPUB Ta-pu 56.03 265 *e*P **P** 21 20 10.8 +2.5
comp=Z,37nm,1.0s
X33A Lawton 56.04 76 ⇓P **P** 21 20 08.2 0.0
baz=56,SNR=6.3
131A Roby 56.18 79 ⇑P **P** 21 20 08.9 -0.4
baz=56,SNR=5.6
V35A Meyer Ranch, C 56.21 74 ⇓P **P** 21 20 09.0 -0.4
baz=56,SNR=8.0
230A Sterling City 56.28 80 ⇑P **P** 21 20 09.6 -0.4
baz=56,SNR=16
Z32A Haskell 56.30 78 ⇓P **P** 21 20 10.0 -0.1
baz=56,SNR=31
Y33A Hilltop Ranch, 56.33 76 ⇓P **P** 21 20 10.0 -0.3
baz=56,SNR=14
X34A Smith Ranch, M 56.40 75 ⇓P **P** 21 20 11.1 +0.3
baz=56,SNR=7.5
LTX Lajitas 56.49 84 *e*P **P** 21 20 10.9 -0.7
LTX Lajitas 56.49 84 *e*P **P** 21 20 10.9 -0.7
TXAR Lajitas Array 56.49 84 P **P** 21 20 10.9 -0.7
comp=Z,5.8nm,0.8s,baz=298,slow=5.4,SNR=46
TXAR LR LR 21 41 41.8
comp=Z,137nm,21.0s,baz=0.0,slow=33
TXAR Lajitas Array 56.49 84 P **P** 21 20 10.9 -0.7
TXAR pmax pmax
comp=Z,6.0nm,0.8s
TXAR MLR MLR
comp=Z,137nm,21.0s
330A Mertzon 56.58 80 ⇑P **P** 21 20 11.2 -0.9
baz=56,SNR=11
W35A Tecumseh 56.60 74 ⇑P **P** 21 20 11.8 -0.4
baz=56,SNR=22
ABTX Abilene, Hawle 56.67 78 *e*P **P** 21 20 12.3 -0.4
comp=Z,45nm,0.9s
ABTX Abilene, Hawle 56.67 78 ⇓P **P** 21 20 12.5 -0.2
baz=56,SNR=9.6
429A Davenport Ranc 56.68 82 ⇑P **P** 21 20 12.1 -0.8
baz=56
TUL1 Leonard 56.73 73 *e*P **P** 21 20 12.3 -0.8
comp=Z,23nm,0.8s
TUL1 Leonard 56.73 73 ⇑P **P** 21 20 12.5 -0.5
baz=56,SNR=11
231A Bronte 56.73 79 ⇓P **P** 21 20 12.6 -0.6
baz=56
Z33A Whitaker Ranch 56.74 77 ⇓P **P** 21 20 12.6 -0.6
baz=56,SNR=11
529A Stev Forest Ra 56.83 82 ⇑P **P** 21 20 13.4 -0.5
baz=57,SNR=11
Y34A Reagan Ranch, 56.89 76 ⇓P **P** 21 20 14.6 +0.3
baz=57,SNR=17
430A Baggett Ranch, 56.97 81 ⇑P **P** 21 20 14.6 -0.3
baz=57,SNR=12
W36A Wetumka 57.00 74 ⇑P **P** 21 20 14.9 0.0
baz=57,SNR=11
GLMI Grayling 57.01 58 *e*P **P** 21 20 14.8 -0.1
comp=Z,119nm,0.8s
X35A Drake 57.06 75 ⇓P **P** 21 20 15.2 -0.2
baz=57,SNR=17
331A San Angelo 57.10 80 ⇑P **P** 21 20 15.1 -0.7
baz=57,SNR=12
133A Hamilton Ranch 57.12 78 ⇓P **P** 21 20 15.7 -0.2
baz=57,SNR=26
232A Coleman 57.17 79 ⇓P **P** 21 20 16.2 -0.2
baz=57,SNR=13
Z34A Collier Ranch, 57.20 76 ⇑P **P** 21 20 16.2 -0.2
baz=57,SNR=14
LZH Lanzhou 57.30 288 *e*P **P** 21 20 18.5 +1.2
LZH pP pP 21 20 38.6 +3.9
LZH sP sP 21 20 49.4 +7.1
LZH PcP **PcP** **21 21 11.8 +1.0**
LZH *e*S S 21 28 02.5 -5.9
LZH sS sS 21 28 40.1 +2.2
LZH PMZ
comp=Z,28nm,1.0s
LZH PMZ
comp=Z,95nm,4.6s
LZH LN
comp=Z,410nm,13.1s
LZH LE
comp=Z,480nm,14.8s
LZH LZ
comp=Z,550nm,15.5s
X36A Centrahoma 57.31 74 ⇑P **P** 21 20 17.2 0.0
baz=57,SNR=20
HDIL Hopedale 57.34 65 *e*P **P** 21 20 16.4 -0.9
comp=Z,2µm,0.9s
530A J-C Ranch, Com 57.35 82 ⇑P **P** 21 20 17.1 -0.5
baz=57,SNR=34
GTA Gaotai 57.38 294 *e*P **P** 21 20 17.3 -0.4
GTA pP pP 21 20 41.2 +6.0
GTA sP sP 21 20 52.3 +10
GTA PcP **PcP** **21 21 11.8 +0.8**
GTA S **S** **21 28 05.0 -4.3**
GTA sS sS 21 28 44.5 +5.7
GTA ScS ScS 21 29 55.2 -5.7
GTA SS **SS** **21 31 57.1 -1.9**
GTA PMZ
comp=Z,4.0nm,1.1s
GTA PMZ
comp=Z,93nm,5.0s
GTA LN
comp=Z,320nm,17.6s
GTA LE
comp=Z,310nm,20.4s
GTA LZ
comp=Z,410nm,19.5s
431A Sonora 57.43 81 ⇑P **P** 21 20 17.4 -0.8
baz=57,SNR=24
332A Millersview 57.47 79 ⇓P **P** 21 20 17.5 -0.9
baz=57,SNR=16
W37A Quinton 57.47 73 ⇓P **P** 21 20 18.4 0.0
baz=57
233A Rising Star 57.54 78 ⇑P **P** 21 20 18.0 -0.8
baz=57,SNR=11
Z35A Perchaven, San 57.62 76 ⇑P **P** 21 20 19.1 -0.3
baz=57,SNR=6.3
134A White-Moore Ra 57.65 77 ⇓P **P** 21 20 19.2 -0.4
baz=57,SNR=22
KEV Kevo 57.68 351 *e*P **P** 21 20 19.3 +0.1
KEV pmax pmax
comp=Z,190nm,1.8s
KEV Kevo 57.68 351 *e*P **P** 21 20 19.3 +0.1
comp=Z,190nm,1.8s
432A Menard 57.79 80 ⇑P **P** 21 20 19.6 -1.1
baz=58,SNR=9.1
531A Rocksprings 57.83 81 ⇓P **P** 21 20 20.1 -0.9
baz=58,SNR=12
X37A Clayton 57.88 74 ⇑P **P** 21 20 21.3 +0.1
baz=58,SNR=29
ENH Enshi 57.92 279 *e*P **P** 21 20 22.2 +0.6
comp=Z,25nm,0.8s
333A Richland Sprin 57.97 79 ⇑P **P** 21 20 21.0 -0.9
baz=58,SNR=17
234A Clairette 58.01 78 ⇑P **P** 21 20 21.7 -0.5
baz=58,SNR=16
ARA0 ARCESS Array S 58.04 351 *e*P **P** 21 20 21.2 -0.6
ARCES ARCESS Array B 58.04 351 P **P** 21 20 21.2 -0.6
comp=Z,7.3nm,0.6s,baz=25,slow=7.5,SNR=16
ARCES PcP **PcP** 21 21 12.9 0.0
comp=Z,3.0nm,0.4s,baz=23,slow=6.0,SNR=6.3
ARCES LR LR 21 49 25.7
comp=Z,135nm,18.1s,baz=0.5,slow=40
ARCES ARCESS Array B 58.04 351 P **P** 21 20 21.2 -0.6
ARCES 21 21 13.0
ARCES pmax pmax
comp=Z,7.0nm,0.6s
ARCES pmax pmax
comp=Z,3.0nm,0.4s
ARCES MLR MLR
comp=Z,135nm,18.1s
W38A Poteau 58.06 73 ⇑P **P** 21 20 22.1 -0.3
baz=58,SNR=32
JCT Junction City 58.06 80 *e*P **P** 21 20 21.6 -1.0
JCT pmax pmax
comp=Z,17nm,0.6s
JCT Junction City 58.06 80 *e*P **P** 21 20 21.6 -1.0
comp=Z,17nm,0.6s
JCT Junction City 58.06 80 ⇓P **P** 21 20 22.4 -0.2
baz=58
135A Vickery Place, 58.07 77 ⇑P **P** 21 20 22.7 +0.2
baz=58,SNR=7.7
SLM Saint Louis 58.11 67 *e*P **P** 21 20 22.0 -0.7
SLM pmax pmax
comp=Z,35nm,0.9s
SLM Saint Louis 58.11 67 *e*P **P** 21 20 22.0 -0.7
comp=Z,35nm,0.9s
532A Rocksprings 58.25 81 ⇓P **P** 21 20 22.5 -1.4
baz=58,SNR=6.3
433A Art 58.31 79 ⇓P **P** 21 20 23.3 -0.9
baz=58,SNR=10
631A Perdido Creek 58.34 82 ⇓P **P** 21 20 23.5 -1.0
baz=58,SNR=12
SCHQ Schefferville 58.35 40 P **P** 21 20 23.2 -1.0
comp=Z,18nm,0.7s,baz=316,slow=8.0,SNR=34
SCHQ PcP **PcP** 21 21 13.8 -0.7
comp=Z,7.8nm,0.8s,baz=329,slow=4.2,SNR=3.9
334A Lometa 58.42 78 ⇑P **P** 21 20 24.7 -0.4
baz=58,SNR=33
WHTX Lake Whitney, 58.43 77 *e*P **P** 21 20 25.2 +0.1
comp=Z,53nm,0.6s
WHTX Lake Whitney, 58.43 77 ⇑P **P** 21 20 24.9 -0.1
baz=58,SNR=6.5
SFIN Lafayette 58.68 63 *e*P **P** 21 20 26.1 -0.6
comp=Z,138nm,0.9s
SFIN Lafayette 58.68 63 ⇓P **P** 21 20 25.9 -0.8
baz=58,SNR=79
Z37A Pogue Cattle C 58.70 75 ⇓P **P** 21 20 26.8 -0.1
baz=58
632A Uvalde 58.76 81 ⇑P **P** 21 20 26.9 -0.5
baz=58
434A Burnet 58.77 79 ⇑P **P** 21 20 26.9 -0.6
baz=58,SNR=19
533A Kerrville 58.82 80 ⇑P **P** 21 20 27.2 -0.7
baz=59,SNR=7.0
335A Moody 58.95 78 ⇑P **P** 21 20 28.6 -0.1
baz=59
MIAR Mount Ida 58.98 72 *e*P **P** 21 20 28.4 -0.5
MIAR pmax pmax
comp=Z,46nm,0.9s
MIAR Mount Ida 58.98 72 *e*P **P** 21 20 28.4 -0.5
comp=Z,46nm,0.9s
236A Katherine and 58.99 77 ⇓P **P** 21 20 29.1 +0.2
baz=59
137A Heron Place, G 59.04 76 ⇑P **P** 21 20 29.4 +0.2
baz=59
Z38A Mt. Pleasant 59.04 74 ⇓P **P** 21 20 29.4 +0.1
baz=59
534A Blanco 59.19 80 ⇑P **P** 21 20 29.7 -0.8
baz=59,SNR=8.1
732A Laxson Ranch, 59.20 82 ⇑P **P** 21 20 30.0 -0.4
baz=59,SNR=10.0
435B Jarrell 59.20 78 ⇓P **P** 21 20 30.2 -0.2
baz=59
336A Riesel 59.23 77 ⇓P **P** 21 20 30.7 +0.1
baz=59,SNR=11
AAM Ann Arbor 59.24 60 *e*P **P** 21 20 30.3 -0.2
AAM pmax pmax
comp=Z,40nm,0.9s
AAM Ann Arbor 59.24 60 *e*P **P** 21 20 30.2 -0.2
comp=Z,40nm,0.9s
OLIL Olney 59.25 65 *e*P **P** 21 20 30.0 -0.6
comp=Z,130nm,0.9s
PBMO Poplar Bluff 59.27 68 *e*P **P** 21 20 29.3 -1.5
comp=Z,45nm,1.1s
138A Matatall Enter 59.39 75 ⇑P **P** 21 20 32.0 +0.3
baz=59
237A Washetta, Mont 59.42 76 ⇑P **P** 21 20 31.9 0.0
baz=59
832A Faith Ranch, C 59.51 82 ⇑P **P** 21 20 32.3 -0.3
baz=59,SNR=12
733A Divot King Ran 59.62 81 ⇓P **P** 21 20 33.0 -0.3
baz=59,SNR=7.8
436A Wall Ranch, Ga 59.69 78 ⇓P **P** 21 20 34.5 +0.7
baz=60,SNR=8.7
634A China Grove, S 59.73 80 ⇑P **P** 21 20 33.6 -0.5
baz=60
535A Dale 59.74 79 ⇑P **P** 21 20 33.8 -0.4
baz=60
PARMO Parma 59.74 68 *e*P **P** 21 20 33.5 -0.5
139A Bunkhouse Ranc 59.80 75 ⇓P **P** 21 20 34.6 +0.1
baz=60
BLO Bloomington 59.84 64 *e*P **P** 21 20 34.0 -0.7
BLO pmax pmax
comp=Z,80nm,0.9s
BLO Bloomington 59.84 64 *e*P **P** 21 20 34.0 -0.7
comp=Z,80nm,0.9s
238A Jacksonville 59.84 76 ⇑P **P** 21 20 35.0 +0.3
baz=60
833A Chaparral WMA, 59.84 82 ⇑P **P** 21 20 34.8 -0.1
baz=60,SNR=12
USIN University of 60.03 66 *e*P **P** 21 20 35.3 -0.7
comp=Z,120nm,0.8s
635A Leesville 60.08 80 ⇑P **P** 21 20 36.8 +0.3
baz=60,SNR=9.8
239A Gary 60.22 75 ⇓P **P** 21 20 37.2 -0.2
baz=60
KURK Kurchatov 60.26 315 P **P** 21 20 37.3 -0.1
comp=Z,109nm,0.5s,SNR=27
KURK Kurchatov 60.26 315 *e*P **P** 21 20 37.0 -0.4
KURK pmax pmax
comp=Z,22nm,0.5s
KURK Kurchatov 60.26 315 *e*P **P** 21 20 37.0 -0.4
comp=Z,22nm,0.5s
933A Laredo 60.42 82 ⇓P **P** 21 20 38.8 -0.1
baz=60
735A Kenedy 60.44 80 ⇑P **P** 21 20 39.6 +0.7
baz=60
SZP Santa 60.45 261 *e*P **P** 21 20 40.4 +1.4
comp=Z,127nm,0.9s
636A Smothers Creek 60.45 79 ⇓P **P** 21 20 39.5 +0.5
baz=60
537A Green Hill Far 60.47 78 ⇑P **P** 21 20 39.5 +0.4
baz=60
834A Tilden 60.50 81 ⇓P **P** 21 20 40.1 +0.7
baz=60
438A Sam Houston St 60.51 77 ⇓P **P** 21 20 40.1 +0.8
baz=60
736A Circle Diamond 60.82 79 ⇓P **P** 21 20 42.4 +0.9
baz=61,SNR=5.9
835A Beeville 60.83 81 ⇓P **P** 21 20 42.8 +1.3
baz=61
HKT Hockley 60.86 78 *e*P **P** 21 20 41.4 -0.3
HKT pmax pmax
comp=Z,16nm,1.1s
HKT Hockley 60.86 78 *e*P **P** 21 20 41.4 -0.3
comp=Z,16nm,1.1s
WMQ Urumqi 60.89 305 P **P** 21 20 41.9 0.0
WMQ pP pP 21 21 06.5 +7.0
WMQ PcP **PcP** **21 21 26.3 +1.5**
WMQ S **S** **21 28 54.4 0.0**
WMQ PMZ
comp=Z,10.0nm,0.7s
WMQ PMZ
comp=Z,90nm,4.6s
WMQ LN
comp=Z,450nm,17.6s
WMQ LE
comp=Z,290nm,17.6s
WMQ LZ
comp=Z,370nm,23.2s
934A Benavides 60.90 82 ⇓P **P** 21 20 43.1 +1.1
baz=61
439A Center Grove, 60.91 76 ⇓P **P** 21 20 42.7 +0.7
baz=61
CD2 Chengdu 60.96 284 *e*P **P** 21 20 43.6 +1.1
CD2 pP pP 21 21 06.9 +6.8
CD2 sP sP 21 21 17.5 +10
CD2 PP **PP** **21 22 58.5 +1.4**
CD2 S **S** **21 28 55.8 +0.2**
CD2 sS sS 21 29 30.8 +5.4
CD2 ScS SKKSac 21 30 21.8 -5.6
CD2 PMZ
comp=Z,50nm,0.8s
CD2 PMZ
comp=Z,170nm,7.2s
CD2 LN
comp=Z,300nm,18.1s
CD2 LE
comp=Z,290nm,20.5s
CD2 LZ
comp=Z,330nm,25.3s
340A Bronson 60.99 75 ⇓P **P** 21 20 42.9 +0.3
baz=61,SNR=6.7
ACSO Alum Creek Sta 61.05 61 *e*P **P** 21 20 42.5 -0.4
comp=Z,49nm,0.8s
034A Hebbronville 61.18 82 ⇑P **P** 21 20 45.4 +1.4
baz=61
WVT Waverly 61.22 67 *e*P **P** 21 20 43.5 -0.7
WVT pmax pmax
comp=Z,13nm,0.9s
WVT Waverly 61.22 67 *e*P **P** 21 20 43.5 -0.7
comp=Z,13nm,0.9s
ERPA Erie 61.31 58 *e*P **P** 21 20 45.0 +0.3
comp=Z,139nm,0.8s
MK32 Makanchi Array 61.43 310 *e*P **P** 21 20 44.5 -1.0
MKAR Makanchi Array 61.43 310 P **P** 21 20 44.5 -0.9
comp=Z,3.0nm,0.3s,baz=61,slow=8.2,SNR=58
MKAR LR LR 21 48 00.0
comp=Z,315nm,21.2s,baz=29,slow=36
MKAR Makanchi Array 61.43 310 P **P** 21 20 44.5 -0.9
MKAR pmax pmax
comp=Z,3.0nm,0.4s
MKAR MLR MLR
comp=Z,315nm,21.2s
OXF Oxford 61.45 70 *e*P **P** 21 20 45.0 -0.7
OXF pmax pmax
comp=Z,70nm,0.8s
OXF Oxford 61.45 70 *e*P **P** 21 20 45.0 -0.7
comp=Z,70nm,0.8s
ALLY Allegheny Colle 61.56 58 *e*P **P** 21 20 46.5 +0.1
comp=Z,341nm,0.9s
035A Encino 61.63 82 ⇓P **P** 21 20 47.8 +0.8
baz=61
936A North Padre Is 61.77 81 ⇓P **P** 21 20 48.7 +0.7
baz=62
BVAR Borovoye Array 61.93 321 PKP2bc **P'P'bc** 21 50 06.1 -3.6
comp=Z,0.6nm,0.7s,baz=222,slow=2.0,SNR=5.3
BRVK Borovoye 61.95 321 P **P** 21 20 48.8 0.0
comp=Z,110nm,1.1s,SNR=9.5
BRVK Borovoye 61.95 321 *ce*P **P** 21 20 49.0 +0.2
BRVK pmax pmax
comp=Z,23nm,1.2s
BRVK Borovoye 61.95 321 *e*P **P** 21 20 48.1 -0.7
comp=Z,21nm,1.1s
MMNY Mt. Morris Dam 61.95 56 *e*P **P** 21 20 48.9 -0.1
comp=Z,184nm,0.8s
035Z Hargill 62.00 82 ⇓P **P** 21 20 50.1 +0.7
baz=62
PTN Potsdam (NY) 62.11 53 *e*P **P** 21 20 48.8 -1.2
PTN pmax pmax
comp=Z,24nm,0.6s
PTN Potsdam (NY) 62.11 53 *e*P **P** 21 20 48.8 -1.2
comp=Z,24nm,0.6s
LONY Lake Ozonia 62.27 52 *e*P **P** 21 20 50.0 -1.1
comp=Z,19nm,1.3s
PRGR Permogore 62.32 339 *e*P **P** 21 20 51.5 +0.4
PRGR pmax pmax
comp=Z,19nm,0.9s
SVE Sverdlovsk 62.38 329 ⇑*i*P **P** 21 20 52.2 +0.6
SVE pmax pmax
comp=Z,18nm,0.9s
SVE MLR MLR
comp=Z,445nm,20.0s
GYA Guiyang 62.38 278 ⇑*i*P **P** 21 20 52.8 +0.6
GYA pP pP 21 21 16.0 +6.1
GYA sP sP 21 21 28.2 +11
GYA PcP **PcP** **21 21 34.0 +2.8**
GYA PP **PP** **21 23 14.4 +4.5**
GYA ScP **ScP** **21 25 24.5 -2.5**
GYA S **S** **21 29 11.0 -2.9**
GYA sS sS 21 29 50.8 +7.0
GYA SKS **ScS** **21 30 33.3 -5.2**
GYA SS **SS** **21 33 17.0 -1.0**
GYA PMZ
comp=Z,80nm,1.0s
GYA PMZ
comp=Z,130nm,5.9s
GYA LN
comp=Z,590nm,19.5s
GYA LE
comp=Z,530nm,20.2s
GYA LZ
comp=Z,510nm,19.4s
VBMS Vicksburg 62.43 72 *e*P **P** 21 20 52.3 0.0
comp=Z,73nm,1.1s
SWET Sewanee 62.96 67 *e*P **P** 21 20 55.0 -0.9
BINY Binghamton 63.32 55 *e*P **P** 21 20 58.2 0.0
comp=Z,129nm,1.1s
TZTN Tazewell 63.35 64 *e*P **P** 21 20 57.6 -0.8
comp=Z,40nm,0.8s
MDV Middlebury 63.41 52 *e*P **P** 21 20 56.5 -2.1
SSPA Standing Stone 63.48 57 *e*P **P** 21 20 58.9 -0.2
comp=Z,100nm,0.8s
CPCT Cooper Cave 63.59 66 *e*P **P** 21 20 59.2 -0.8
ACCN Adirondack Com 63.62 53 *e*P **P** 21 20 59.6 -0.4
comp=Z,22nm,1.0s
LBNH Lisbon 63.84 51 *e*P **P** 21 21 01.0 -0.5
LBNH pmax pmax
comp=Z,145nm,2.5s
LBNH Lisbon 63.84 51 *e*P **P** 21 21 00.9 -0.5
comp=Z,145nm,2.5s
TKL Tuckaleechee C 63.87 65 *e*P **P** 21 21 01.2 -0.6
TKL Tuckaleechee C 63.87 65 *e*P **P** 21 21 01.2 -0.6
KSPA Keystone Colle 63.90 55 *e*P **P** 21 21 01.9 0.0
comp=Z,50nm,0.9s
LRAL Lakeview Retre 63.91 69 *e*P **P** 21 20 00.9 -1.2
comp=Z,9.5nm,0.6s
TRY Troy 64.10 53 *e*P **P** 21 21 02.8 -0.4
comp=Z,9.9nm,0.7s
KLMR Klimovskoe 64.29 342 *e*P **P** 21 21 03.9 -0.2
KLMR pmax pmax
comp=Z,13nm,0.9s
KLMR MLR MLR
comp=Z,570nm,21.0s
PKME Peaks-Kenny Pk 64.33 49 *e*P **P** 21 21 03.5 -1.1
comp=Z,94nm,2.3s
BLA Blacksburg 64.60 62 *e*P **P** 21 21 06.8 +0.2
BLA pmax pmax
comp=Z,126nm,0.9s
BLA Blacksburg 64.60 62 *e*P **P** 21 21 06.8 +0.2
comp=Z,126nm,0.9s
WVL Waterville 64.69 50 *e*P **P** 21 21 06.2 -0.8
comp=Z,13nm,0.8s
MVL Millersville 64.74 57 *e*P **P** 21 21 07.3 -0.1
comp=Z,53nm,0.9s

LUPA **Lehigh Univers** 64.81 56 *e*P P 21 21 08.0 +0.1
comp=Z,14nm,0.8s
VWCC **Virginia Weste** 64.82 61 *e*P P 21 21 07.7 -0.4
ODNJ **Ogdensburg** 64.84 55 *e*P P 21 21 07.8 -0.3
comp=Z,43nm,0.9s
SDMD **Soldier's Deli** 64.92 58 *e*P P 21 21 08.5 -0.1
PAL **Palisades** 65.26 55 *e*P P 21 21 10.7 0.0
PAL pmax pmax
comp=Z,79nm,1.1s
PAL **Palisades** 65.26 55 *e*P P 21 21 10.7 0.0
comp=Z,79nm,1.1s
HRV **Adam Dziewonsk** 65.31 52 *e*P P 21 21 10.7 -0.4
HRV pmax pmax
comp=Z,16nm,0.8s
HRV **Adam Dziewonsk** 65.31 52 *e*P P 21 21 10.7 -0.4
comp=Z,16nm,0.8s
CPNY **Central Park** 65.39 55 *e*P P 21 21 11.5 -0.1
comp=Z,57nm,0.7s
EMMW **East Machias** 65.61 48 *e*P P 21 21 12.3 -0.7
comp=Z,20nm,0.6s
KMSC **Kings Mountain** 65.61 64 *e*P P 21 21 13.0 -0.1
comp=Z,69nm,0.8s
KMSC **Kings Mountain** 65.61 64 ⇑P P 21 21 13.3 +0.2
baz=65,SNR=35
JSRW **J. Sargeant Re** 65.63 60 *e*P P 21 21 13.2 0.0
GOGA **Godfrey** 65.67 67 *e*P P 21 21 12.2 -1.3
GOGA pmax pmax
comp=Z,21nm,0.6s
GOGA **Godfrey** 65.67 67 *e*P P 21 21 12.2 -1.3
comp=Z,21nm,0.6s
KMI **Kunming** 65.76 280 P P 21 21 15.6 +1.1
KMI pP PcP 21 21 39.1 -6.2
KMI sP sP 21 21 50.2 +10
KMI PMZ
comp=Z,70nm,0.9s
KMI PMZ
comp=Z,200nm,4.1s
KMI LN
comp=Z,210nm,23.2s
KMI LE
comp=Z,170nm,27.2s
KMI LZ
comp=Z,260nm,28.5s
FIA0 **FINESS Array S** 65.83 349 *e*P P 21 21 13.7 -0.4
FIA0 **FINESS Array S** 65.83 349 *e*P P 21 21 13.7 -0.4
FINES **FINESS Array B** 65.83 349 P P 21 21 13.7 -0.4
comp=Z,6.9nm,0.8s,baz=24,slow=7.6,SNR=17
FINES PKP2bc 21 49 53.5
comp=Z,2.5nm,0.8s,baz=191,slow=1.9,SNR=4.2
FINES LR LR 21 53 24.8
comp=Z,236nm,19.7s,baz=26,slow=39
QIZ **Qiongzhong** 65.90 270 P P 21 21 16.2 +1.0
QIZ sP sP 21 21 47.7 +7.3
QIZ PP PP 21 23 41.8 +1.1
QIZ S S 21 29 56.6 -0.6
QIZ PMZ
comp=Z,26nm,0.7s
QIZ PMZ
comp=Z,86nm,6.1s
QIZ LN
comp=Z,230nm,14.0s
QIZ LZ
comp=Z,200nm,12.9s
QIZ **Qiongzhong** 65.90 270 *e*P P 21 21 16.2 +1.0
comp=Z,22nm,0.9s
URVA **University of** 65.90 60 *e*P P 21 21 14.8 -0.1
JSC **Jenkinsville** 66.28 64 *e*P P 21 21 17.1 -0.3
JSC pmax pmax
comp=Z,37nm,0.6s
JSC **Jenkinsville** 66.28 64 *e*P P 21 21 17.1 -0.3
comp=Z,36nm,0.6s
DRLN **Deer Lake** 66.32 39 *e*P P 21 21 16.9 -0.5
comp=Z,32nm,0.9s
NB201 **NORSAR Array S** 67.40 356 *e*P P 21 21 24.1 0.0
NB2 **NORSAR Subarra** 67.41 357 P P 21 21 23.8 -0.4
comp=Z,0.8nm,0.7s,baz=6.1,slow=6.5
NB200 **NORSAR Array S** 67.41 357 *e*P P 21 21 24.0 -0.3
NOA **NORSAR Array B** 67.41 357 P P 21 21 24.0 -0.3
comp=Z,13nm,0.9s,baz=3.7,slow=6.3,SNR=33
NOA PKP2bc 21 49 49.7
comp=Z,1.0nm,0.8s,baz=109,slow=2.8,SNR=3.7
NOA LR LR 21 50 55.2
comp=Z,122nm,20.6s,baz=355,slow=36
NOA **NORSAR Array B** 67.41 357 P P 21 21 24.0 -0.3
NOA pmax pmax
comp=Z,13nm,0.9s
NOA MLR MLR
comp=Z,122nm,20.6s
TKM2 **Tokmak 2** 67.48 311 *e*P P 21 21 25.4 +0.2
TKM2 pmax pmax
comp=Z,7.0nm,0.9s
TKM2 **Tokmak 2** 67.48 311 *e*P P 21 21 25.4 +0.2
comp=Z,6.5nm,0.9s
TAOE **Nuku Hiva Isla** 67.57 142 *e*T T 22 34 59.5
comp=Z,236nm,0.3s
RGRS **Roger Stewart** 67.89 65 *e*P P 21 21 28.1 +0.4
AAK **Ala-Archa** 68.22 312 P P 21 21 30.3 +0.5
comp=Z,85nm,0.5s,SNR=9.2
AAK **Ala-Archa** 68.22 312 *ce*P P 21 21 30.5 +0.7
AAK pmax pmax
comp=Z,14nm,0.5s
AAK **Ala-Archa** 68.22 312 *e*P P 21 21 30.1 +0.3
comp=Z,8.8nm,0.5s
EKS2 **Erkin-Say** 68.53 312 *e*P P 21 21 32.5 +0.8
EKS2 pmax pmax
comp=Z,11nm,0.6s
EKS2 **Erkin-Say** 68.53 312 *e*P P 21 21 32.5 +0.8
comp=Z,11nm,0.6s
KONO **Kongsberg** 68.86 357 *e*P P 21 21 34.0 +0.8
KONO pmax pmax
comp=Z,18nm,1.0s
KONO **Kongsberg** 68.86 357 *e*P P 21 21 34.0 +0.8
comp=Z,18nm,1.0s
ABKAR **Akbulak array** 68.87 325 *e*P P 21 21 33.6 +0.1
LSA **Lhasa** 69.29 292 *e*P P 21 21 38.4 +1.4
LSA pmax pmax
comp=Z,18nm,0.6s
LSA **Lhasa** 69.29 292 *e*P P 21 21 38.4 +1.4
comp=Z,18nm,0.6s
KKAR **Karatay Array** 69.65 315 *e*P P 21 21 38.4 -0.1
KKAR **Karatay Array** 69.65 315 *e*P P 21 21 38.4 -0.1
TNTI **Ternate** 69.72 244 *e*P P 21 21 39.9 +0.7
BIGH **Upper Bighouse** 69.87 5 *e*P P 21 21 39.5 0.0
BIGH AMB AMB 21 21 39.9
comp=Z,142nm,1.5s
KSH **Kashi** 69.94 309 ⇑*i*P P 21 21 44.0 +3.6
KSH PcP **PcP** 21 22 05.3 +2.9
KSH pP pP 21 22 08.8 +10
KSH sP sP 21 22 19.6 +14
KSH S **S** 21 30 46.4 +1.2
KSH SKS **SKSac** 21 31 31.9 -3.6
KSH ScS **SKKSac** 21 31 33.7 -1.8
KSH PMZ
comp=Z,9.0nm,0.7s
KSH PMZ
comp=Z,92nm,3.5s
KSH LN
comp=Z,100nm,5.5s
KSH LE
comp=Z,210nm,13.0s
KSH LZ
comp=Z,470nm,23.0s
MLA1 **Latheron** 70.08 4⇑ *e*P P 21 21 40.5 -0.3
OBN **Obninsk** 70.22 341⇓ *e*P P 21 21 41.3 -0.3
OBN *e* 21 22 04.1
OBN *e* 21 24 17.6
OBN pmax pmax
comp=Z,16nm,1.0s
OBN MLR MLR
comp=Z,295nm,22.0s
OBN **Obninsk** 70.22 341 *e*P P 21 21 41.9 +0.2
comp=Z,16nm,1.0s
MVH1 **Achvaich** 70.42 5⇑ *e*P P 21 21 42.6 -0.3
PMOR **Pomariorio Ree** 70.67 152 *e*T T 22 38 48.5
comp=Z,22nm,0.3s
KAC **Achnashellach** 70.78 6 *e*P P 21 21 45.0 -0.1
MCD **Coleburn Disti** 70.81 4⇑ *e*P P 21 21 45.3 0.0
CRAI **Chiangrai** 70.86 279 P P 21 21 43.0 -3.1
comp=Z,70nm,1.2s,comp=Z,4μm
MDO **Dochfour** 70.89 5 *e*P P 21 21 45.7 -0.1
KPL **Plockton** 70.92 6 *e*P P 21 21 46.2 +0.3
KSB **Sheil Bridge** 71.06 6 *e*P P 21 21 46.3 -0.5
IMP **Imphal** 71.34 286 *ex* P 21 21 49.0 -0.1
IMP *ex* x 21 26 33.0
DRUM **Mains of Drumt** 71.52 4 *e*P P 21 21 49.1 -0.4
DRUM AMB AMB 21 21 50.8
comp=Z,28nm,1.2s
ISAL **Salakas** 71.54 347 *e*P P 21 21 50.0 +0.3
ISAL AMB AMB 21 21 51.8
comp=Z,14nm,1.1s
SDKM **Sandakan** 71.70 255 ⇑P P 21 21 50.8 -0.5
IDID **Didziasalis** 71.70 347 *e*P P 21 21 51.0 +0.3
IDID AMB AMB 21 21 52.1
comp=Z,3.6nm,1.1s
IIGN **Ignalina** 71.74 347 *e*P P 21 21 51.0 0.0
IIGN AMB AMB 21 21 51.9
comp=Z,6.9nm,0.9s
CMAI **Chiengmai2** 71.89 279 P P 21 21 53.5 +0.9
comp=Z,152nm,1.2s,comp=Z,7μm
SHL **Shillong** 71.96 288 *e*P P 21 21 55.6 +2.6
KKM **Kota Kinabalu** 71.97 257 *e*P P 21 21 54.1 +1.1
comp=Z,88nm,1.2s
LPSR **Galich'ya Gora** 72.06 339 *e*P P 21 21 52.5 -0.4
LPSR pmax pmax
comp=Z,10.0nm,0.8s
LPSR pmax pmax
comp=N,6.0nm,1.0s
LPSR pmax pmax
comp=E,10.0nm,1.5s
MUD **Monsted U'grnd** 72.07 357 *i* P P 21 21 53.4 +0.6
comp=E,7.4nm,0.8s
MUD **Monsted U'grnd** 72.07 357 *i* P P 21 21 53.4 +0.6
MUD pmax pmax
comp=Z,7.0nm,0.8s
EAB **Aberfoyle** 72.15 5 *e*P P 21 21 53.5 +0.2
KHON **Khomkaen** 72.28 274 P P 21 21 55.7 +1.0
comp=Z,42nm,0.9s
TSM **Tawau** 72.36 254 ⇑P P 21 21 54.8 -0.4
ESY **Stoneypath** 72.50 4 *e*P P 21 21 55.4 -0.1
PGBU **Glenifferbraes** 72.51 5 *e*P P 21 21 55.5 0.0
PGBU AMB AMB 21 21 57.0
comp=Z,50nm,1.3s
LAMP **Lampang** 72.60 278 P P 21 21 57.7 +1.1
comp=Z,10nm,0.9s,comp=Z,76nm
UTTA **Uttaradit** 72.62 277 P P 21 21 57.4 +0.7
comp=Z,33nm,0.9s,comp=Z,259nm
PPT **Papeete** 72.64 154 LR LR 21 46 27.8
comp=Z,329nm,19.8s,baz=354,slow=30
PPT2 **Papeete2** 72.66 154 *e*S S 21 31 13.2 -3.4
comp=Z,396nm,29.5s
PPT2 **Papeete2** 72.66 154 *e*LR LR 21 44 12.9
comp=Z,496nm,21.8s,baz=347
PPT2 **Papeete2** 72.66 154 *e*T T 22 41 16.8
comp=Z,23nm,0.3s
TIAR **Tiarei** 72.69 154 *e*T T 22 41 19.2
comp=Z,6.2nm,0.3s
PAE **Paea** 72.72 154 *e*T T 22 41 21.7
comp=Z,3.8nm,0.3s
CMMT **Chiang Mai** 72.80 279 P P 21 21 58.4 +0.6
comp=Z,43nm,1.1s,comp=Z,695nm
CHTO **Chiang Mai** 72.80 279 P P 21 21 58.4 +0.6
comp=Z,148nm,1.1s,comp=Z,2μm
CHTO **Chiang Mai** 72.80 279 *e*P P 21 21 58.5 +0.6
CHTO pmax pmax
comp=Z,48nm,1.2s
CHTO **Chiang Mai** 72.80 279 *e*P P 21 21 58.5 +0.7
comp=Z,48nm,1.2s
TAPN **Taplejung** 73.04 293 *e*P P 21 22 00.1 +0.6
comp=Z,84nm,0.8s
LLD **Lille Linde** 73.07 355 *i* P P 21 22 00.6 +1.8
LLD *i* 21 22 13.7
LLD **Lille Linde** 73.07 355 *e*P P 21 22 00.6 +1.8
LLD *i* 21 22 13.7
CM31 **Chiang Mai Arr** 73.07 278 *e*P P 21 22 00.3 +0.9
CMAR **Chiang Mai Arr** 73.07 278 P P 21 22 00.3 +0.9
comp=Z,32nm,0.9s,baz=26,slow=7.2,SNR=157
CMAR LR LR 21 56 49.6
comp=Z,138nm,19.1s,baz=48,slow=38
CMAR **Chiang Mai Arr** 73.07 278 P P 21 22 00.3 +0.9
comp=Z,32nm,0.9s
CMAR MLR MLR
comp=Z,138nm,19.1s
ESK **Eskdalemuir** 73.08 5 P P 21 21 58.8 -0.1
comp=Z,107nm,1.2s,SNR=5.5
ESK **Eskdalemuir** 73.08 5⇑ *e*P P 21 21 58.6 -0.2
ESK AMB AMB 21 22 02.9
comp=Z,31nm,1.5s
ESK **Eskdalemuir** 73.08 5 *e*P P 21 21 59.3 +0.4
ESK pmax pmax
comp=Z,296nm,2.8s
ESK **Eskdalemuir** 73.08 5 *e*P P 21 21 59.3 +0.4
comp=Z,296nm,2.8s
BSD **Bornholm Skovb** 73.13 354 *i* P P 21 21 59.0 -0.2
comp=Z,4.8nm,0.4s
BSD **Bornholm Skovb** 73.13 354 *i* P P 21 21 59.0 -0.2
BSD pmax pmax
comp=Z,5.0nm,0.4s
ECK **Cauldkaine Hil** 73.22 5 *e*P P 21 21 59.6 0.0
PBKT **Sadao Pong** 73.26 276 P P 21 22 01.2 +0.7
comp=Z,37nm,1.0s
VSR **Storozhevoye** 73.30 338 *e*P P 21 22 00.2 0.0
VSR pmax pmax
comp=N,20nm,0.8s
VSR pmax pmax
comp=E,9.0nm,0.8s
VSR pmax pmax
comp=Z,20nm,0.8s
GAL1 **Galloway** 73.44 6 *e*P P 21 22 00.1 -0.9
GAL1 AMB AMB 21 22 01.5
comp=Z,35nm,1.8s
SUW **Suwalki** 73.44 349 *e*P P 21 22 00.3 -0.7
SUW **Suwalki** 73.44 349 *e*P P 21 22 00.4 -0.6
SUW **Suwalki** 73.44 349 *e*P P 21 22 00.5 -0.6
comp=Z,34nm,1.0s
ODAN **Odare** 73.60 293 *e*P P 21 22 03.2 +0.5
comp=Z,39nm,0.8s
GUN **Gumba** 73.66 294 *e*P P 21 22 03.9 +0.7
comp=Z,133nm,0.5s
JIRN **Jiri** 73.67 294 *e*P P 21 22 04.1 +0.8
comp=Z,101nm,0.5s
MHMT **Maesarieng** 73.91 279 P P 21 22 05.5 +1.2
comp=Z,60nm,1.1s,comp=Z,453nm
RAMN **Ramite** 73.98 293 *e*P P 21 22 05.5 +0.5
comp=Z,114nm,0.5s
GMM **Mts of Mourne** 73.99 6 *e*P P 21 22 03.9 -0.3
KKN **Kakani** 74.09 295 *e*P P 21 22 06.0 +0.5
comp=Z,33nm,0.5s
PKI **Pulchoki** 74.18 294 *e*P P 21 22 06.5 +0.3
comp=Z,65nm,0.9s
PKIN **Phulchoki** 74.19 294 *e*P P 21 22 06.6 +0.4
comp=Z,31nm,0.7s
GKN **Gorkha** 74.29 295 *e*P P 21 22 07.0 +0.4
comp=Z,48nm,0.5s
DMN **Daman** 74.32 295 *e*P P 21 22 07.5 +0.5
comp=Z,34nm,0.6s
HPK **Haverah Park** 74.51 4 *e*P P 21 22 07.2 0.0
BSEG **Bad Segeberg** 74.55 357 *e*P P 21 22 08.1 +0.6
comp=Z,16nm,0.9s
LHO **Holmfirth** 74.91 4 *e*P P 21 22 09.5 -0.2
DSB **Dublin** 74.94 7 *e*P P 21 22 10.2 +0.4
comp=Z,82nm,1.7s
KOLN **Koldanda** 75.05 296 *e*P P 21 22 11.4 +0.3
comp=Z,30nm,0.5s
YRC **Rhoscolyn** 75.06 6 *e*P P 21 22 10.5 +0.1
DHRM **DHARAMSHALA** 75.48 304 *e*P P 21 22 15.9 +2.4
DHRM AMB AMB 21 22 53.6
comp=Z,13nm,1.5s
FOEL **Foel Wylfa** 75.50 5 *e*P P 21 22 13.2 +0.2
FOEL AMB AMB 21 22 13.9
comp=Z,38nm,0.7s
AKASG **Malin Array Be** 75.79 344 P P 21 22 13.8 -0.8
comp=Z,9.9nm,0.6s,baz=17,slow=6.0,SNR=41
AKASG LR LR 22 02 03.2
comp=Z,246nm,18.3s,baz=5.0,slow=41
AKASG **Malin Array Be** 75.79 344 P P 21 22 13.8 -0.8
AKASG pmax pmax
comp=Z,10.0nm,0.6s
AKASG MLR MLR
comp=Z,246nm,18.3s
AKBB **Malin Array Si** 75.79 344 *e*P P 21 22 13.8 -0.8
AKBB **Malin Array Si** 75.79 344 *e*P P 21 22 13.8 -0.8
KIEV **Kiev** 75.80 344 *d*P P 21 22 14.0 -0.7
KIEV **Kiev** 75.80 344 *e*P P 21 22 13.1 -1.6
comp=Z,9.3nm,0.6s
AK11 **Malin Array Si** 75.82 344 *e*P P 21 22 14.5 -0.3
HLM1 **Long Mynd** 75.89 5 *e*P P 21 22 14.8 -0.5
SMLA **Simla** 75.91 302 *e*P P 21 22 16.1 +0.4
SMLA AMB AMB 21 22 19.8
comp=Z,17nm,0.7s
NRDL **Niedersach Rie** 76.00 357 *e*P P 21 22 16.0 +0.3
comp=Z,8.0nm,0.9s
KHLT **Khaolaem Dam** 76.08 276 P P 21 22 18.7 +1.9
comp=Z,13nm,1.2s
DDI **Dehra Dun** 76.08 301 *e*P P 21 22 17.1 +0.3
DDI AMB AMB 21 22 37.8
comp=Z,11nm,0.7s
SRDT **SRDT** 76.09 276 P P 21 22 17.9 +1.0
comp=Z,118nm,1.1s,comp=Z,7μm
IBBN **Ibbenburen** 76.26 358 *e*P P 21 22 17.8 +0.5
comp=Z,38nm,1.1s
MCH1 **Michaelchurch** 76.40 5 *e*P P 21 22 17.9 -0.2
MCH1 AMB AMB 21 22 18.8
comp=Z,29nm,1.2s
BBSR **BB Station** 76.60 54 *e*P P 21 22 19.9 +0.3
comp=Z,46nm,0.8s
CLZ **Clausthal** 76.64 356 *e*P P 21 22 20.1 +0.5
comp=Z,19nm,0.9s
BOK **Bokaro** 76.82 292 *e*P P 21 22 22.5 +1.5
BOK AMB AMB 21 22 24.2
comp=Z,26nm,0.6s
CLL **Collm** 77.05 355 *e*P P 21 22 21.5 -0.3
comp=Z,11nm,0.7s
CLL **Collm** 77.05 355 *i* P P 21 22 21.4 -0.3
comp=Z,11nm,0.7s
CLL *es*P pP 21 22 39.0 -0.9
CLL *e* 21 22 47.0
CLL *e*S S 21 32 06.0 +1.3
CLL *e*PS PnS 21 32 52.0 +1.0
CLL *e*SS SS 21 37 15.0 +14
CLL *e*(SSS) 21 40 18.0
CLL LmV 21 56 00.0
comp=Z,200nm,20.5s
CLL **Collm** 77.05 355 *i* P P 21 22 21.4 -0.3
CLL *e**PP pP 21 22 39.0 -0.9
CLL *e*S S 21 32 04.0 -0.7
CLL pmax pmax
comp=Z,11nm,0.7s
CLL MLR MLR
comp=Z,200nm,20.5s
CLL **Collm** 77.05 355 *e*P P 21 22 21.5 -0.3
comp=Z,11nm,0.7s
BUG **Bochum--Univer** 77.13 358 *e*P P 21 22 22.5 +0.3
comp=Z,13nm,0.9s
SBUM **Sibu** 77.23 258 *e*P P 21 22 24.5 +1.2
comp=Z,12nm,0.7s
KBL **Kabul** 77.24 310 *e*P P 21 22 22.5 -0.9
KBL pmax pmax
comp=Z,8.0nm,0.8s
KBL **Kabul** 77.24 310 *e*P P 21 22 22.4 -0.9
comp=Z,8.0nm,0.8s
KSP **Ksiaz** 77.28 352 *e*P P 21 22 23.2 +0.1
KSP **Ksiaz** 77.28 352 *e*P P 21 22 23.2 +0.1
HEX **Exmoor** 77.28 5 *e*P P 21 22 23.1 0.0
BRG **Berggiesshubel** 77.42 354 *i* P P 21 22 23.8 -0.1
comp=Z,10nm,0.7s
BRG *e* 21 23 23.0
comp=Z,5.6nm,1.0s
BRG **Berggiesshubel** 77.42 354 *e*P P 21 22 23.8 -0.1
comp=Z,10.0nm,0.7s
BRG **Berggiesshubel** 77.42 354 *i* P P 21 22 23.8 -0.1
BRG pmax pmax
comp=Z,10.0nm,0.7s
OJC **Ojcow** 77.56 350 *e*P P 21 22 24.3 -0.4
OJC pmax pmax
comp=Z,4.0nm,0.7s
OJC **Ojcow** 77.56 350 *e*P P 21 22 24.3 -0.4
comp=Z,4.3nm,0.7s
UPC **Upice** 77.63 353 *e*P P 21 22 24.4 -0.7
UPC *ex* x 21 22 34.1
UPC **Upice** 77.63 353 *e*P P 21 22 24.4 -0.7
UPC *e* 21 22 34.1
UBBA **Unterbreizbach** 77.68 357 *e*P P 21 22 25.2 0.0
comp=Z,17nm,1.7s
PVCC **Panska Ves** 77.72 354 *e*P P 21 22 25.3 -0.3
PVCC *ex* x 21 22 30.1
PVCC **Panska Ves** 77.72 354 *e*P P 21 22 25.3 -0.3
PVCC *e* 21 22 30.1
DPC **Dobruska-Polom** 77.76 352 *e*P P 21 22 25.5 -0.4
DPC *ex* x 21 22 32.0
DPC *ex* x 21 22 34.6
DPC **Dobruska-Polom** 77.76 352 *e*P P 21 22 25.5 -0.4
DPC *e* 21 22 34.6
DPC **Dobruska-Polom** 77.76 352 *e*P P 21 22 25.6 -0.4
comp=Z,52nm,0.7s
MOX **Moxa** 77.78 355 *e*P P 21 22 26.0 +0.1
comp=Z,11nm,1.0s
KWP **Kalwaria Pacla** 77.80 348 *e*P P 21 22 25.9 -0.1
KWP **Kalwaria Pacla** 77.80 348 *e*P P 21 22 25.6 -0.5
KWP pmax pmax
comp=Z,20nm,0.6s
KWP **Kalwaria Pacla** 77.80 348 ⇑*i*P P 21 22 26.8 +0.8
KWP **Kalwaria Pacla** 77.80 348 *e*P P 21 22 25.6 -0.5
comp=Z,20nm,0.6s
TANN **Tannenbergstha** 77.97 355 *e*P P 21 22 27.0 0.0
comp=Z,5.0nm,0.9s
MEM **Membach** 77.98 359 P P 21 22 27.1 +0.1
comp=Z,9.4nm,1.3s
KRLC **Kraliky** 78.00 352 *e*P P 21 22 26.8 -0.4
KRLC **Kraliky** 78.00 352 *e*P P 21 22 26.8 -0.4
GOF **Gofitskoye** 78.00 333 *e*P P 21 22 27.9 +0.7
GOF pmax pmax
comp=Z,21nm,0.9s
SNF **Seneffe** 78.09 0 P P 21 22 27.4 -0.2
OKC **Ostrava-Krasne** 78.11 351 *e*P P 21 22 28.1 +0.4
OKC AMS AMS 21 55 40.0
comp=Z,400nm,17.7s
OKC **Ostrava-Krasne** 78.11 351 *e*P P 21 22 28.1 +0.4
OKC MLR MLR
comp=Z,400nm,17.7s
NKC **Novy Kostel** 78.15 355 *e*P P 21 22 28.2 +0.2
NKC *ex* x 21 22 31.9
NKC AMS AMS 21 51 50.0
comp=Z,200nm,19.7s
NKC **Novy Kostel** 78.15 355 *e*P P 21 22 28.2 +0.2
NKC *e* 21 22 31.9
NKC MLR MLR
comp=Z,200nm,19.7s
BCLA **Clavier** 78.18 360 P P 21 22 28.5 +0.4
comp=Z,16nm,1.9s
TBI **Tubuai** 78.19 156 *e*LR LR 21 46 52.0
comp=Z,521nm,25.8s,baz=340
TBI **Tubuai** 78.19 156 *e*T T 22 48 10.4
comp=Z,12nm,0.3s
STHS **Stebnicka Huta** 78.19 349 *e*P P 21 22 29.2 +1.0
STHS pmax pmax
comp=Z,3.0nm,0.7s
STHS **Stebnicka Huta** 78.19 349 *e*P P 21 22 29.2 +1.0
MORC **Moravsky Berou** 78.23 351 *e*P P 21 22 27.9 -0.6
MORC pmax pmax
comp=Z,64nm,2.8s
MORC **Moravsky Berou** 78.23 351 *e*P P 21 22 27.9 -0.6
comp=Z,64nm,2.8s
PRU **Pruhonice** 78.26 353 *e*P P 21 22 28.8 +0.2
PRU *ex* x 21 22 35.7
PRU AMS AMS 21 57 30.0
comp=Z,200nm,16.9s
PRU **Pruhonice** 78.26 353 *e*P P 21 22 28.8 +0.2
PRU *e* 21 22 35.7
PRU MLR MLR
comp=Z,200nm,16.9s
GOPC **GO Pecny, Ondr** 78.32 353 *e*P P 21 22 28.6 -0.3
GOPC *ex* x 21 22 32.5
GOPC AMS AMS 22 01 30.0
comp=Z,200nm,18.3s
TNS **Taunus Mts** 78.33 357 *e*P P 21 22 29.2 +0.2
comp=Z,12nm,0.9s
GIVF **Givet** 78.50 360 ⇑*i*P P 21 22 30.0 +0.1
comp=Z,44nm,1.2s
GIVF **Givet** 78.50 360 ⇑*i*P P 21 22 30.0 +0.1
GIVF pmax pmax
comp=Z,44nm,1.2s
GIVF **Givet** 78.50 360 ⇑*i*P P 21 22 30.0 +0.1
comp=Z,44nm,1.2s
DOU **Dourbes** 78.50 0 P P 21 22 30.3 +0.4
BAIF **Baives** 78.54 0 ⇑*i*P P 21 22 30.4 +0.3
comp=Z,37nm,1.0s
BAIF **Baives** 78.54 0 ⇑*i*P P 21 22 30.4 +0.3
BAIF pmax pmax
comp=Z,37nm,1.0s
BAIF **Baives** 78.54 0 ⇑*i*P P 21 22 30.4 +0.3
comp=Z,37nm,1.0s
KOLS **Kolonicke sedl** 78.54 348 *e*P P 21 22 30.5 +0.3
KOLS pmax pmax
comp=Z,4.0nm,1.1s
KOLS **Kolonicke sedl** 78.54 348 *e*P P 21 22 30.5 +0.3

ROTZ Rotzenmuhle 78.63 355 *e*P P 21 22 30.9 +0.3
comp=Z,7.0nm,1.0s
CRVS Cervenica-Dubn 78.67 349 *e*P P 21 22 31.1 +0.2
CRVS pmax pmax
comp=Z,7.0nm,1.5s
CRVS Cervenica-Dubn 78.67 349 *e*P P 21 22 31.1 +0.2
GRF Grafenberg Arr 78.75 356 *e*P P 21 22 31.8 +0.5
comp=Z,13nm,0.8s
GRFO Grafenberg 78.75 356 *e*P P 21 22 31.9 +0.6
GRFO pmax pmax
comp=Z,11nm,0.8s
GRFO Grafenberg 78.75 356 *e*P P 21 22 31.9 +0.6
comp=Z,11nm,0.8s
VRAC Vranov 78.78 352⇑*i*P P 21 22 32.2 +0.8
UZH Uzhgorod 78.83 348 *e*P P 21 22 31.0 -0.7
UZH *e* 21 22 41.0
WLF Walferdange 78.93 359 P P 21 22 32.9 +0.6
WLF Walferdange 78.93 359 *e*P P 21 22 32.9 +0.6
comp=Z,11nm,1.0s
CTA Charters Tower 79.03 216 P P 21 22 33.4 +0.4
comp=Z,23nm,1.0s,baz=22,slow=7.0,SNR=7.9
CTA Charters Tower 79.03 216 P P 21 22 33.4 +0.4
CTA pmax pmax
comp=Z,23nm,1.0s
KIV Kislovodsk 79.12 333⇓*e*P P 21 22 33.8 +0.3
KIV *e* 21 22 42.5
KIV *e* 21 25 28.8
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,234nm,24.0s
KIV Kislovodsk 79.12 333 *e*P P 21 22 34.5 +1.0
comp=Z,13nm,1.2s
KSM Kuching 79.16 258 *e*P P 21 22 35.1 +1.1
comp=Z,36nm,1.2s
KHC Kasperske Hory 79.18 354 *e*P P 21 22 34.0 +0.3
KHC Kasperske Hory 79.18 354 *e*P P 21 22 34.0 +0.3
GEYT Alibeck 79.19 320 P P 21 22 34.0 0.0
comp=Z,8.4nm,0.8s,baz=344,slow=4.9,SNR=20
GEYT LR LR 22 02 16.0
comp=Z,250nm,20.4s,baz=35,slow=39
KECS Kecovo 79.20 349 *e*P P 21 22 33.7 -0.1
KECS pmax pmax
comp=Z,2.0nm,0.7s
KECS Kecovo 79.20 349 *e*P P 21 22 33.7 -0.1
WET Wettzell 79.21 354 *e*P P 21 22 34.0 +0.2
comp=Z,3.0nm,0.8s
KBZ Khabaz 79.27 333 P P 21 22 34.5 +0.3
comp=Z,5.3nm,0.8s,baz=53,slow=20,SNR=14
KBZ Khabaz 79.27 333 P P 21 22 34.5 +0.3
KBZ pmax pmax
comp=Z,5.0nm,0.8s
VYHS Vyhne 79.37 350 *e*P P 21 22 35.0 +0.3
VYHS pmax pmax
comp=Z,15nm,2.3s
VYHS Vyhne 79.37 350 *e*P P 21 22 35.0 +0.3
VYHS *e* 21 36 53.1
BURAR Bucovina Array 79.42 346⇓*i*P P 21 22 35.1 0.0
GEC2 GERESS Array S 79.46 354 *e*P P 21 22 35.2 -0.1
comp=Z,4.0nm,0.9s
GEC2 GERESS Array S 79.46 354 *e*P P 21 22 35.5 +0.2
GEC2 GERESS Array S 79.46 354 *e*P P 21 22 35.5 +0.2
GERES GERESS Array B 79.46 354 P P 21 22 35.1 -0.2
comp=Z,2.7nm,0.8s,baz=23,slow=5.1,SNR=24
GERES GERESS Array B 79.46 354 P P 21 22 35.1 -0.2
GERES pmax pmax
comp=Z,3.0nm,0.8s
LANF Langenberg 79.58 358 *e*P P 21 22 36.2 +0.3
FLN La Foliniere 79.75 3 *e*P P 21 22 36.5 -0.2
comp=Z,67nm,1.3s
FLN *e*R
comp=Z,169nm,22.2s
FLN La Foliniere 79.75 3 *e*P P 21 22 36.5 -0.2
FLN pmax pmax
comp=Z,67nm,1.3s
FLN La Foliniere 79.75 3 *e*P P 21 22 36.5 -0.2
comp=Z,67nm,1.3s
STU Stuttgart 79.75 357 *e*P P 21 22 36.8 +0.1
comp=Z,6.0nm,0.8s
ZEI Tsey 79.84 332 *e*P P 21 22 37.8 +0.2
ZEI pmax pmax
comp=Z,7.0nm,0.9s
LDF La Druitiere 79.93 3 *e*P P 21 22 37.3 -0.4
comp=Z,17nm,0.6s
LDF La Druitiere 79.93 3 *e*P P 21 22 37.3 -0.4
LDF pmax pmax
comp=Z,17nm,0.6s
LDF La Druitiere 79.93 3 *e*P P 21 22 37.3 -0.4
comp=Z,17nm,0.6s
ROSF Rostrenen 80.04 5 *e*P P 21 22 38.3 0.0
comp=Z,14nm,0.8s
ROSF Rostrenen 80.04 5 *e*P P 21 22 38.3 0.0
ROSF pmax pmax
comp=Z,15nm,0.8s
ROSF Rostrenen 80.04 5 *e*P P 21 22 38.3 0.0
comp=Z,14nm,0.8s
PAGF Fort de Pagny 80.04 359⇑*i*P P 21 22 38.8 +0.5
comp=Z,18nm,0.9s
PAGF Fort de Pagny 80.04 359⇑*i*P P 21 22 38.8 +0.5
comp=Z,18nm,0.9s
MEZF Maizieres J'vi 80.10 360⇑*i*P P 21 22 39.0 +0.4
comp=Z,85nm,1.2s
MEZF Maizieres J'vi 80.10 360⇑*i*P P 21 22 39.0 +0.4
comp=Z,85nm,1.2s
GRR Gorron 80.10 4 *e*P P 21 22 38.6 0.0
comp=Z,56nm,1.0s
GRR Gorron 80.10 4 *e*P P 21 22 38.6 0.0
GRR pmax pmax
comp=Z,57nm,1.0s
GRR Gorron 80.10 4 *e*P P 21 22 38.6 0.0
comp=Z,56nm,1.0s
SGMF Saint Gilles 80.16 5 *e*P P 21 22 38.9 0.0
comp=Z,32nm,0.8s
SGMF Saint Gilles 80.16 5 *e*P P 21 22 38.9 0.0
SGMF pmax pmax
comp=Z,32nm,0.8s
SGMF Saint Gilles 80.16 5 *e*P P 21 22 38.9 0.0
comp=Z,32nm,0.8s
WLS Welschbruch 80.16 358 *e*P P 21 22 38.9 -0.1
CDF Champ du Feu 80.16 358⇑*i*P P 21 22 39.0 -0.1
comp=Z,16nm,1.0s
CDF Champ du Feu 80.16 358⇑*i*P P 21 22 39.0 -0.1
CDF pmax pmax
comp=Z,16nm,1.0s
CDF Champ du Feu 80.16 358⇑*i*P P 21 22 39.0 -0.1
comp=Z,16nm,1.0s
CONA Conrad Observa 80.21 352⇑*i*P P 21 22 39.5 +0.2
comp=Z,5.5nm,0.7s
BFO Black Forest 80.22 357 *e*P P 21 22 39.4 +0.1
comp=Z,17nm,1.5s
BFO Black Forest 80.22 357*ce*P P 21 22 40.1 +0.8
BFO Black Forest 80.22 357 *e*P P 21 22 39.7 +0.3
comp=Z,30nm,1.9s
FUR Furstenfeldbru 80.27 355 *e*P P 21 22 39.7 +0.1
comp=Z,9.0nm,0.9s
TESR Tescani 80.27 345⇑*i*P P 21 22 40.0 +0.4
ECH Echery 80.36 358 *e*P P 21 22 39.4 -0.7
THEF They Montfort 80.37 359 *e*P P 21 22 40.5 +0.4
SFTF Sexfontaines 80.40 360⇑*i*P P 21 22 40.4 +0.2
comp=Z,74nm,1.1s
SFTF Sexfontaines 80.40 360⇑*i*P P 21 22 40.4 +0.2
comp=Z,74nm,1.0s
SURT Suratani 80.44 272 P P 21 22 42.2 +1.3
comp=Z,19nm,0.8s,comp=Z,181nm
HAU Haudompre 80.58 359⇑*i*P P 21 22 41.2 -0.1
comp=Z,22nm,1.0s
HAU *e*R
comp=Z,258nm,20.8s
HAU Haudompre 80.58 359⇑*i*P P 21 22 41.2 -0.1
HAU pmax pmax
comp=Z,22nm,1.0s
HAU Haudompre 80.58 359⇑*i*P P 21 22 41.2 -0.1
comp=Z,22nm,1.0s
DRGR 80.59 348⇑*i*P P 21 22 41.4 0.0
RJOB Jochberg 80.62 354 *e*P P 21 22 41.7 +0.2
comp=Z,4.0nm,0.8s
MTDJ Mount Denham 80.63 73 *e*P P 21 22 41.5 -0.5
comp=Z,404nm,2.3s
TRTT Trang 80.75 271 P P 21 22 44.0 +1.4
comp=Z,40nm,0.9s,comp=Z,462nm
HINF Hinteralfeld 80.77 358⇑*i*P P 21 22 42.0 -0.3
comp=Z,11nm,0.8s
HINF Hinteralfeld 80.77 358⇑*i*P P 21 22 42.0 -0.3
HINF pmax pmax
comp=Z,11nm,0.8s
HINF Hinteralfeld 80.77 358⇑*i*P P 21 22 42.0 -0.3
comp=Z,11nm,0.8s
DGPR DIGLIPUR 80.81 280 *e*P P 21 22 43.9 +1.1
DGPR AMB AMB 21 22 44.8
comp=Z,230nm,0.0s
BATI Baumata 80.85 241 P P 21 22 43.6 +0.6
comp=Z,67nm,0.9s
VRI Vrincioaia 80.89 345⇑*i*P P 21 22 43.3 +0.4
PLOR Plostina 80.92 345⇓*i*P P 21 22 43.8 +0.7
PETR Petresti 80.94 344⇑*i*P P 21 22 44.6 +1.5
DOPR Dopca 81.00 345⇓*i*P P 21 22 44.9 +1.4
MOTA Mosoalm 81.10 356⇑*i*P P 21 22 44.3 +0.1
comp=Z,10nm,1.3s
TLCR 81.18 343⇑*i*P P 21 22 45.2 +0.8
DAVA Damuels 81.21 356⇓*i*P P 21 22 45.0 +0.2
comp=Z,11nm,1.4s
KBA Koelnbreinsper 81.24 354⇑*i*P P 21 22 45.4 +0.4
comp=Z,14nm,0.8s
CFR Carcaliu 81.31 343⇑*i*P P 21 22 46.5 +1.4
GRER 81.32 344⇓*i*P P 21 22 46.9 +1.7
HYF Humbligny 81.32 1 *e*P P 21 22 45.5 +0.3
HYF Humbligny 81.32 1 *e*P P 21 22 45.5 +0.3
LOR Lormes 81.33 1⇑*i*P P 21 22 45.3 0.0
comp=Z,34nm,1.1s
LOR *e*R
comp=Z,276nm,20.2s
LOR Lormes 81.33 1⇑*i*P P 21 22 45.3 0.0
LOR pmax pmax
comp=Z,35nm,1.1s
LOR Lormes 81.33 1⇑*i*P P 21 22 45.3 0.0
comp=Z,34nm,1.1s
MLR Muntele Rosu 81.38 345⇓*i*P P 21 22 46.9 +1.2
FETA Feichten 81.44 356⇓*i*P P 21 22 46.6 +0.6
comp=Z,11nm,1.1s
SOKA Soboth 81.52 353⇑*i*P P 21 22 46.4 +0.1
comp=Z,12nm,1.2s
SSF Saint Saulge 81.54 1⇑*i*P P 21 22 46.4 +0.1
comp=Z,31nm,1.0s
SSF Saint Saulge 81.54 1⇑*i*P P 21 22 46.4 +0.1
SSF pmax pmax
comp=Z,31nm,1.0s
SSF Saint Saulge 81.54 1⇑*i*P P 21 22 46.4 +0.1
comp=Z,31nm,1.0s
PERS Pernice 81.55 353 *i*P P 21 22 46.5 0.0
PKDT Phuket 81.55 272 P P 21 22 48.8 +1.9
comp=Z,51nm,0.9s,comp=Z,2µm
VOIR 81.57 346⇑*i*P P 21 22 47.7 +1.1
ABTA Abfaltersbach 81.62 355⇑*i*P P 21 22 47.0 +0.2
comp=Z,7.4nm,1.2s
ISR Istrita 81.64 344⇓*i*P P 21 22 47.5 +0.5
ARR Arges 81.70 346⇑*i*P P 21 22 48.5 +1.2
MTUR Matau 81.78 346⇓*i*P P 21 22 48.6 +0.9
AVF Avril sur Loir 81.81 1⇑*i*P P 21 22 47.7 0.0
comp=Z,38nm,1.1s
AVF Avril sur Loir 81.81 1⇑*i*P P 21 22 47.7 0.0
AVF pmax pmax
comp=Z,38nm,1.1s
AVF Avril sur Loir 81.81 1⇑*i*P P 21 22 47.7 0.0
comp=Z,38nm,1.1s
HARR Harsova 81.82 343⇓*i*P P 21 22 48.5 +0.7
FUORN Ofenpass-Fuorn 81.86 356 *e*P P 21 22 48.2 -0.2
comp=Z,44nm,2.1s
BZS Buzias 81.88 348⇑*i*P P 21 22 47.9 -0.3
TLB Topalu 81.90 343⇑*i*P P 21 22 48.7 +0.5
MFF Saint Martin d 81.92 3 *e*P P 21 22 48.5 +0.2
comp=Z,56nm,1.0s
MFF Saint Martin d 81.92 3 *e*P P 21 22 48.5 +0.2
MFF pmax pmax
comp=Z,56nm,1.0s
MFF Saint Martin d 81.92 3 *e*P P 21 22 48.5 +0.2
comp=Z,56nm,1.0s
GZR Gura Zlata 81.95 347⇓*i*P P 21 22 49.2 +0.6
SMF Signal de Mont 81.95 1⇑*i*P P 21 22 48.5 0.0
comp=Z,45nm,1.1s
SMF Signal de Mont 81.95 1⇑*i*P P 21 22 48.5 0.0
SMF pmax pmax
comp=Z,45nm,1.1s
SMF Signal de Mont 81.95 1⇑*i*P P 21 22 48.5 0.0
comp=Z,45nm,1.1s
TIRR Tirgusor 81.96 343 *e*P P 21 22 48.6 0.0
TIRR pmax pmax
comp=Z,14nm,0.7s
TIRR Tirgusor 81.96 343⇓*i*P P 21 22 48.9 +0.4
TIRR Tirgusor 81.96 343 *e*P P 21 22 48.6 0.0
comp=Z,14nm,0.7s
CABF La Chapelle 81.98 359 *e*P P 21 22 49.1 +0.3
comp=Z,59nm,1.3s
CABF La Chapelle 81.98 359 *e*P P 21 22 49.1 +0.3
CABF pmax pmax
comp=Z,59nm,1.3s
CABF La Chapelle 81.98 359 *e*P P 21 22 49.1 +0.3
comp=Z,59nm,1.3s
CHLP Challavanipeta 82.00 290 *e*P P 21 22 49.9 +0.8
CHLP *e*pP pP 21 23 01.4 -6.1
CHLP *e*sP sP 21 23 04.2 -11
CHLP *e*S **SKSac 21 33 03.8 +0.2**
CHLP *e*SKSac **SKKSac 21 33 08.8 +1.8**
BHPL Bhopal 82.03 297 *e*P P 21 22 49.7 +0.3
BHPL AMB AMB 21 22 50.6
comp=Z,39nm,1.1s
PBA Port Blair 82.10 279 *e*P P 21 22 50.1 +0.4
PBA AMB AMB 21 22 50.6
comp=Z,50nm,0.8s
SULR 82.12 345⇓*i*P P 21 22 49.9 +0.5
KULM Kulim 82.13 269 *e*P P 21 22 50.7 +0.8
comp=Z,20nm,0.7s
EIDS Eidsvold 82.26 210 *e*P P 21 22 50.0 -0.2
comp=Z,103nm,2.3s
TCF Toulx Ste Croi 82.29 2⇑*i*P P 21 22 50.3 0.0
comp=Z,27nm,1.1s
TCF Toulx Ste Croi 82.29 2⇑*i*P P 21 22 50.3 0.0
TCF pmax pmax
comp=Z,27nm,1.1s
TCF Toulx Ste Croi 82.29 2⇑*i*P P 21 22 50.3 0.0
comp=Z,27nm,1.1s
JAVS Javornik 82.37 353 *i*P P 21 22 52.9 +2.1
VISS Visnje 82.40 353 *e*P P 21 22 50.5 -0.4
MSAB Monastry St. A 82.42 343⇓*i*P P 21 22 52.2 +1.2
IPM Ipoh 82.53 268 *e*P P 21 22 52.4 +0.4
comp=Z,22nm,0.9s
AGO Saint Agoulin 82.54 1 *e*P P 21 22 52.4 +0.8
RKT Rikitea 82.56 143 *e*LR LR 21 48 52.8
comp=Z,447nm,29.0s,baz=338
RKT Rikitea 82.56 143 *e*T T 22 53 42.4
comp=Z,5.8nm,0.2s
PLDF La Plantade 82.63 1 *e*P P 21 22 52.8 +0.6
BOJS Bojanci 82.67 352 *i*P P 21 22 52.3 +0.1
PSN Preselentsi 82.75 343⇑*i*P P 21 22 54.2 +1.5
PSN Preselentsi 82.75 343 *e*P P 21 22 53.5 +0.8
NGP Nagpur 82.79 295 *e*P P 21 22 53.0 -0.3
NGP AMB AMB 21 22 54.0
comp=Z,32nm,1.7s
PYM Petit Puy Mans 82.84 1 *e*P P 21 22 54.4 +1.1
MYKOM Kota Tinggi 82.88 264 *e*P P 21 22 54.2 +0.5
comp=Z,15nm,0.9s
VIS Vishakhapatnam 83.04 290 *e*P P 21 22 55.2 +0.6
VIS *i*x x 21 26 12.5
LPL La Plagne 83.07 358 *e*P P 21 22 55.4 +0.8
LPL La Plagne 83.07 358 *e*P P 21 22 55.4 +0.8
LPL La Plagne 83.07 358 *e*P P 21 22 55.4 +0.8
LPG La Plagne 83.09 358 *e*P P 21 22 55.7 +0.9
LPG La Plagne 83.09 358 *e*P P 21 22 55.7 +0.9
LPG La Plagne 83.09 358 *e*P P 21 22 55.7 +0.9
RJF Les Rejaudoux 83.26 2 *e*P P 21 22 55.4 +0.1
RJF *e*R
comp=Z,224nm,19.5s
RJF Les Rejaudoux 83.26 2 *e*P P 21 22 55.4 +0.1
RJF Les Rejaudoux 83.26 2 *e*P P 21 22 55.4 +0.1
PRD Provadia 83.36 343 *e*P P 21 22 57.1 +1.3
LBL Lubilhac 83.36 1 *e*P P 21 22 56.6 +0.6
BNI Bardonecchia 83.53 359 *e*P P 21 22 58.5 +1.6
BNI pmax pmax
comp=Z,14nm,1.3s
BNI Bardonecchia 83.53 359 *e*P P 21 22 58.5 +1.6
comp=Z,14nm,1.3s
SZH Strazhica 83.55 344 *e*P P 21 22 56.4 -0.4
DIVS Divibare 83.58 349⇑*i*P P 21 22 57.3 +0.2
LFF La Frestale 83.61 3 *e*P P 21 22 57.4 +0.3
LFF La Frestale 83.61 3 *e*P P 21 22 57.4 +0.3
LFF La Frestale 83.61 3 *e*P P 21 22 57.4 +0.3
CAF Calviac 83.65 2 *e*P P 21 22 57.7 +0.3
comp=Z,24nm,1.1s
CAF Calviac 83.65 2 *e*P P 21 22 57.7 +0.3
CAF pmax pmax
comp=Z,24nm,1.1s
CAF Calviac 83.65 2 *e*P P 21 22 57.7 +0.3
comp=Z,24nm,1.1s
VIVF Saint-Julien-l 83.75 360 *e*P P 21 22 58.2 +0.3
comp=Z,9.7nm,0.7s
VIVF Saint-Julien-l 83.75 360 *e*P P 21 22 58.2 +0.3
VIVF pmax pmax
comp=Z,10.0nm,0.7s
VIVF Saint-Julien-l 83.75 360 *e*P P 21 22 58.2 +0.3
comp=Z,9.7nm,0.7s
WRAB Tennant Creek 83.79 227 P P 21 22 57.5 -0.7
comp=Z,112nm,0.7s,SNR=9.2
WRA Warramunga Arr 83.81 227 P P 21 22 57.9 -0.4
comp=Z,7.8nm,0.6s,baz=34,slow=6.0,SNR=83
WRA Warramunga Arr 83.81 227 P P 21 22 57.9 -0.4
WRA pmax pmax
comp=Z,8.0nm,0.6s
MPEP Malo Peshtene 83.81 346 *e*P P 21 22 57.6 -0.6
TPI Tanjungpandan 84.11 258 P P 21 23 00.6 +0.6
comp=Z,35nm,0.9s
AKL Akola 84.29 296 *e*P P 21 23 02.7 +1.7
LHMI Lhok Sumawe 84.48 271 *e*P P 21 23 03.5 +1.5
comp=Z,69nm,0.7s
LASF Ste Croix 84.53 1 *e*P P 21 23 02.3 +0.5
comp=Z,25nm,1.1s
LASF Ste Croix 84.53 1 *e*P P 21 23 02.3 +0.5
comp=Z,25nm,1.1s
PPBI Pangkal Pinang 84.57 260 P P 21 23 05.1 +2.7
comp=Z,14nm,1.7s,comp=Z,554nm
VTS Vitosha 84.63 346⇓*i*P P 21 23 02.7 +0.1
VTS Vitosha 84.63 346 *e*P P 21 23 02.0 -0.6
LEPF PUYLOUBIER 85.08 359 *e*P P 21 23 05.2 +0.6
PSI Prapat 85.14 268 P P 21 23 06.1 +0.7
comp=Z,40nm,0.8s,baz=14,slow=5.4,SNR=39
PSI Prapat 85.14 268 P P 21 23 06.1 +0.7
PSI pmax pmax
comp=Z,40nm,0.8s
PSI Prapat 85.14 268 P P 21 23 06.1 +0.7
comp=Z,48nm,1.0s
MTLF Montolieu 85.24 2 *e*P P 21 23 05.6 +0.2
comp=Z,39nm,1.2s
MTLF Montolieu 85.24 2 *e*P P 21 23 05.6 +0.2
MTLF pmax pmax
comp=Z,39nm,1.2s
MTLF Montolieu 85.24 2 *e*P P 21 23 05.6 +0.2
comp=Z,39nm,1.2s
LMR La Mourre 85.25 359 *e*P P 21 23 05.6 +0.2
LMR La Mourre 85.25 359 *e*P P 21 23 05.6 +0.2
LMR La Mourre 85.25 359 *e*P P 21 23 05.6 +0.2
SJPF Ste Jean 85.35 4 *e*P P 21 23 06.6 +0.6
SJPF Ste Jean 85.35 4 *e*P P 21 23 06.6 +0.6
SJPF Ste Jean 85.35 4 *e*P P 21 23 06.6 +0.6
KKB Krupnik 85.36 346 *e*P P 21 23 06.4 +0.4
BR101 Keskin Array S 85.42 338 *e*P P 21 23 06.3 -0.3
BRTR Keskin Array B 85.42 338 P P 21 23 06.3 -0.3
comp=Z,5.5nm,0.9s,baz=33,slow=3.2,SNR=23
BRTR PKKPbc **PKKPbc 21 41 08.2 +0.2**
comp=Z,0.6nm,0.8s,baz=201,slow=6.6,SNR=4.5
BRTR Keskin Array B 85.42 338*ce*P P 21 23 07.3 +0.8
BRTR pmax pmax
comp=Z,6.0nm,0.9s
EPF Esparros 85.50 3 *e*P P 21 23 06.3 -0.5
comp=Z,26nm,1.3s
EPF Esparros 85.50 3 *e*P P 21 23 06.3 -0.5
EPF pmax pmax
comp=Z,26nm,1.3s
EPF Esparros 85.50 3 *e*P P 21 23 06.3 -0.5
comp=Z,26nm,1.3s
MMB Musomiste 85.54 346 *e*P P 21 23 07.5 +0.6
MALT Malatya 85.54 334⇑*i*P P 21 23 08.6 +1.5
ETSF Etsaut 85.60 4 *e*P P 21 23 07.0 -0.3
comp=Z,18nm,1.0s
ETSF Etsaut 85.60 4 *e*P P 21 23 07.0 -0.3
ETSF pmax pmax
comp=Z,18nm,1.0s
ETSF Etsaut 85.60 4 *e*P P 21 23 07.0 -0.3
comp=Z,18nm,1.0s
NVR Nevrokopi 85.75 346 *e*P P 21 23 08.6 +0.6
PWJI Pagerwojo 85.80 252 P P 21 23 07.4 -1.1
comp=Z,47nm,1.6s
PGF Pioggiola 85.98 357 *e*P P 21 23 08.8 -0.4
PGF Pioggiola 85.98 357 *e*P P 21 23 08.8 -0.4
PGF Pioggiola 85.98 357 *e*P P 21 23 08.8 -0.4
SRS Serrai 86.02 346 *e*P P 21 23 09.5 +0.2
HYBB Hyderabad (bro 86.04 293 *e*P P 21 23 09.6 -0.2
HYBB *e*PcP **PcP 21 23 14.0 +1.6**
HYBB *e*pP pP 21 23 21.3 -7.0
HYBB *e*sP sP 21 23 26.3 -9.3
HYB Hyderabad 86.04 293 *i*P P 21 23 09.0 -0.8
HYB *e*sP sP 21 23 26.0 -10
HYB Hyderabad 86.04 293 *e*P P 21 23 09.7 -0.1
HYB AMB AMB 21 23 10.1
comp=Z,23nm,1.1s
KNT Kendrikon 86.08 346 *e*P P 21 23 10.1 +0.5
HORT Hortiatis 86.60 346 *e*P P 21 23 11.8 -0.5
FNA Florina 86.67 347 *e*P P 21 23 12.1 -0.5
OUR Ouranopolis 86.72 345 *e*P P 21 23 12.0 -0.7
LRS Lares 86.75 64 *e*P P 21 23 13.6 +0.3
PLG Polygyros 86.77 346 *e*P P 21 23 12.4 -0.6
ARMA Armidale 86.82 208 *e*P P 21 23 14.6 +1.4
comp=Z,25nm,1.1s
LIA Limnos Island 86.95 344 *e*P P 21 23 12.9 -1.0
GSI Gunungsitoli 87.14 268 P P 21 23 17.5 +2.4
comp=Z,38nm,0.9s
AS12 Alice Springs 87.25 225 *e*P P 21 23 15.9 +0.5
ASAR Alice Springs 87.25 225 P P 21 23 15.9 +0.5
comp=Z,18nm,0.8s,baz=24,slow=5.5,SNR=112
ASAR LR LR 21 58 42.2
comp=Z,121nm,20.6s,baz=15,slow=33
ASAR Alice Springs 87.25 225 P P 21 23 15.9 +0.5
ASAR pmax pmax
comp=Z,18nm,0.8s
ASAR MLR MLR
comp=Z,121nm,20.6s
PRK Paraskevi 87.40 343 *e*P P 21 23 16.6 +0.6
MDSI Maura Dua 87.59 260 P P 21 23 13.9 -3.3
MTP Monte Pirata 87.63 64 *e*P P 21 23 18.1 +0.7
comp=Z,46nm,0.8s
THL Klokotos Trika 87.77 347 *e*P P 21 23 15.7 -2.1
POO Poona 87.79 297 *e*P P 21 23 19.2 +0.9
POO AMB AMB 21 23 19.8
comp=Z,38nm,1.1s
NEO Neokhori 87.85 346 *e*P P 21 23 16.8 -1.4
KEK Kerkira 87.93 348 *e*P P 21 23 12.0 -6.6
IGT Igoumenitsa 88.04 348 *e*P P 21 23 17.0 -2.1
AGG Agios Georgios 88.26 346 *e*P P 21 23 18.6 -1.6
AGG Agios Georgios 88.26 346 *e*P P 21 23 18.8 -1.4
AGG pmax pmax
comp=Z,12nm,1.4s
AGG Agios Georgios 88.26 346 *e*P P 21 23 18.8 -1.4
comp=Z,12nm,1.4s
SKHT Srikalahasti 88.30 290 *e*P P 21 23 20.9 +0.3
SKHT *e*SKSac SKSac 21 33 52.5 +8.9
SKHT *e*SS **SS 21 39 51.2 +1.0**
DSL Palaion Diasel 88.33 347 *e*P P 21 23 13.0 -7.5
EVR Evrytania 88.44 347 *e*P P 21 23 20.9 -0.2
LKR Lokris 88.52 346 *e*P P 21 23 18.5 -2.9
ESDC Sonseca Array 88.62 7 P P 21 23 21.1 -0.8
comp=Z,3.0nm,0.9s,baz=348,slow=4.0,SNR=12
LKD2 Lefkada island 88.72 348 *e*P P 21 23 19.8 -2.6
URV Uravakonda 88.75 293 *e*P P 21 23 21.9 -0.9
PDO Prodromos 88.84 347 *e*P P 21 23 22.8 -0.1
PTL Penteli 88.98 345 *e*P P 21 23 22.2 -1.4
SMRT St. Maarten 89.03 62 *e*P P 21 23 24.5 +0.4
comp=Z,506nm,0.6s
LTK Loutraki 89.14 346 *e*P P 21 23 22.1 -2.3
KLV Kalavryta, Ach 89.25 346 *e*P P 21 23 23.9 -1.0
SABA Saba 89.29 62 *e*P P 21 23 28.7 +3.4
comp=Z,257nm,0.8s
GUR Goura 89.32 346 *e*P P 21 23 23.4 -1.9
RLS Riolos of Patr 89.33 347 *e*P P 21 23 26.0 +0.8
VLS Valsamata 89.34 347 *e*P P 21 23 23.5 -1.7
EVOP Sao Brissos 89.38 10⇑*i*P P 21 23 27.7 +2.3
EVOP pmax pmax
comp=Z,37nm,1.1s
EVOP Sao Brissos 89.38 10⇑*i*P P 21 23 27.7 +2.3
comp=Z,37nm,1.1s
EVO Evora 89.39 10⇑*i*P P 21 23 27.7 +2.2
comp=Z,37nm,1.1s
EVO *e*R
comp=Z,122nm,22.8s
DRO Drossia 89.40 347 *e*P P 21 23 24.1 -1.5
AMT Artemida-Makis 89.81 346 *e*P P 21 23 25.3 -2.2
VLX Vlachokerasia 89.87 346 *e*P P 21 23 26.2 -1.7
ITM Ithomi 90.13 346 *e*P P 21 23 27.8 -1.2
VLI Veliai 90.43 345 *e*P P 21 23 28.0 -2.3

ANKY	**Antikythira Is**	**91.20**	**345**	*eP*		**P**		**21 23 31.7**	**-2.2**
STKA	**Stephens Creek**	**91.45**	**215**	P		**P**		**21 23 35.4**	**+0.6**
	comp=Z,19nm,0.8s,baz=18,slow=6.1,SNR=16								
STKA	**Stephens Creek**	**91.45**	**215**	P		**P**		**21 23 35.4**	**+0.6**
STKA				pmax	pmax				
	comp=Z,19nm,0.8s								
VAM	**Vamos**	**91.50**	**344**	*eP*		**P**		**21 23 33.3**	**-2.0**
MBWA	**Marble Bar**	**92.00**	**238**	*eP*		**P**		**21 23 37.9**	**+0.2**
	comp=Z,24nm,0.8s								
PALK	**Pallekele**	**92.84**	**285**	*i* P		**P**		**21 23 43.5**	**+1.6**
PALK	**Pallekele**	**92.84**	**285**	*eP*		**P**		**21 23 43.0**	**+1.1**
	comp=Z,7.6nm,0.6s								
ROSC	**El Rosal**	**93.03**	**78**	LR		LR		22 07 35.0	
	comp=Z,46nm,19.2s,baz=327,slow=37								
TRD	**Trivandrum**	**94.08**	**289**	*eP*		**P**		**21 23 49.0**	**+1.5**
OTAV	**Otavalo**	**94.12**	**84**	*e*PcP		PcP		21 23 55.6	+6.9
TOA0	**Torodi Ar. Sit**	**115.30**	**3**	*e*PKPdf		**PKPdf**		**21 29 10.1**	**-0.3**
TORD	**Torodi Ar. Bea**	**115.30**	**3**	PKP		**PKPdf**		**21 29 10.1**	**-0.3**
	comp=Z,2.2nm,0.5s,baz=348,slow=2.3,SNR=46								
TORD				PKKPbc		**PKKPbc**		**21 39 42.1**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=178,slow=2.4,SNR=15								
DBIC	**Dimbokro**	**121.22**	**11**	PKP		**PKPdf**		**21 29 21.5**	**-0.3**
	comp=Z,3.8nm,0.3s,baz=350,slow=2.2,SNR=22								
DBIC	**Dimbokro**	**121.22**	**11**	PKIKP		**PKPdf**		**21 29 21.5**	**-0.3**
DBIC				pmax	pmax				
	comp=Z,4.0nm,0.4s								
TIC	**Toumodi**	**121.23**	**11**	*e*P		**PKPdf**		**21 29 20.6**	**-1.3**
	comp=Z,62nm,0.2s								
KIC	**Kosan Boka**	**121.54**	**11**	*e*P		**PKPdf**		**21 29 22.1**	**-0.4**
	comp=Z,30nm,1.1s								
LIC	**Lamto**	**121.64**	**11**	*e*PKIKP		**PKPdf**		**21 29 22.2**	**-0.4**
	comp=Z,5.9nm,0.4s								
LIC				*e*R					
	comp=Z,144nm,20.0s								
LIC	**Lamto**	**121.64**	**11**	*e*P		**PKPdf**		**21 29 20.9**	**-1.7**
	comp=Z,92nm,1.9s								
LIC	**Lamto**	**121.64**	**11**	*e*PKPdf		**PKPdf**		**21 29 22.2**	**-0.4**
KMBO	**Kilima Mbogo**	**122.57**	**320**	PKP		**PKPdf**		**21 29 24.4**	**-0.3**
	comp=Z,9.6nm,0.9s,baz=5.0,slow=3.4,SNR=16								
KMBO	**Kilima Mbogo**	**122.57**	**320**	*c i*PKIKP		**PKPdf**		**21 29 25.7**	**+0.9**
KMBO				pmax	pmax				
	comp=Z,10.0nm,0.9s								
KMBO	**Kilima Mbogo**	**122.57**	**320**	*e*PKPdf		**PKPdf**		**21 29 25.6**	**+0.9**
CFAA	**Coronel Fontan**	**124.40**	**99**	PKP		**PKPdf**		**21 29 26.7**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=298,slow=3.6,SNR=10								
CPUP	**Villa Florida**	**127.44**	**86**	PKP		**PKPdf**		**21 29 32.3**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=355,slow=4.8,SNR=4.2								
CPUP	**Villa Florida**	**127.44**	**86**	PKIKP		**PKPdf**		**21 29 32.3**	**-1.0**
CPUP				pmax	pmax				
	comp=Z,1.0nm,0.8s								
PLCA	**Paso Flores**	**129.07**	**109**	PKP		**PKPdf**		**21 29 35.5**	**-0.6**
	comp=Z,8.3nm,0.8s,baz=287,slow=0.6,SNR=13								
PLCA	**Paso Flores**	**129.07**	**109**	PKIKP		**PKPdf**		**21 29 35.5**	**-0.6**
PLCA				pmax	pmax				
	comp=Z,8.0nm,0.8s								
PLCA	**Paso Flores**	**129.07**	**109**	PKP		**PKPdf**		**21 29 35.5**	**-0.6**
PLCA				*e*PKPdf		**PKiKP**		**21 29 36.2**	**-0.6**
MSKU	**Masuku**	**129.49**	**348**	*e*PKPdf		**PKPdf**		**21 29 38.2**	**+0.6**
VNDA	**Vanda**	**129.81**	**186**	PKP		**PKPdf**		**21 29 35.8**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=17,slow=2.9,SNR=3.4								
VNDA	**Vanda**	**129.81**	**186**	PKIKP		**PKPdf**		**21 29 35.8**	**-0.5**
VNDA				pmax	pmax				
	comp=Z,1.0nm,0.8s								
SBA	**Scott Base**	**129.83**	**185**	*e*PKIKP		**PKPdf**		**21 29 37.5**	**+1.2**
SBA	**Scott Base**	**129.83**	**185**	*e*PKPdf		**PKPdf**		**21 29 37.5**	**+1.2**
LSZ	**Lusaka**	**139.00**	**324**	*e*PKIKP		**PKPdf**		**21 29 54.1**	**-1.3**
LSZ	**Lusaka**	**139.00**	**324**	*e*PKPdf		**PKPdf**		**21 29 54.1**	**-1.3**
QSPA	**South Pole Qui**	**141.53**	**180**	PKhKP		PKPpre		21 29 51.9	
	comp=Z,5.3nm,0.6s,baz=132,slow=1.0,SNR=7.3								
QSPA				PKP		**PKPdf**		**21 29 58.9**	**+0.5**
	comp=Z,10nm,0.8s,baz=333,slow=2.0,SNR=11								
TSUM	**Tsumeb**	**145.93**	**338**	*e*PKPdf		**PKPbc**		**21 30 08.5**	**+0.1**
MAW	**Mawson**	**148.10**	**218**	PKPbc		**PKPbc**		**21 30 12.9**	**0.0**
	comp=Z,39nm,0.8s,baz=98,slow=2.3,SNR=38								
MAW	**Mawson**	**148.10**	**218**	PKP2		**PKPbc**		**21 30 12.9**	**0.0**
MAW				pmax	pmax				
	comp=Z,39nm,0.8s								
MAW	**Mawson**	**148.10**	**218**	*e*PKPbc		**PKPbc**		**21 30 13.6**	**+0.7**
LBTB	**Lobatse**	**148.85**	**321**	*e*PKIKP		**PKPdf**		**21 30 12.2**	**-0.1**
LBTB	**Lobatse**	**148.85**	**321**	*e*PKPdf		**PKPdf**		**21 30 12.2**	**-0.1**
SYO	**Syowa Base**	**156.12**	**211**⇑	*ep*PKPdf		**PKPab**		**21 30 47.3**	**-2.2**

*ISCJB **02** 21:17:13.8±0.4,23.°04S±0.°06×169.°47E±0.°06,h23km, mb4.6/21,MS3.8/9,Error ellipse: s-maj=9.3km s-min=7.3km az=36.9*

*IDC **02** 21:17:18.6±5.9,23.°05S×169.°53E,h49km±54km,mb4.1/15, mb1 4.3/16,mb1mx4.2/21,mbtmp4.4/16,ML3.7/1,MS3.8/10, Ms1 3.8/10,ms1mx3.6/23,Error ellipse: s-maj=25.7km s-min=19.9km az=72.0*

*GCMT **02** 21:17:18.0±0.4,23.°11S×168.°95E,h18km±1km,MW5.0/68, Moment Tensor Solution. s25,c27; s68,c87; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=3.02±.24; Mθθ=3.26±.17; Mφφ=-0.24±.15; Mrθ=0.11±.32; Mrφ=-0.08±.10; Mθφ=2.28±.43; Best double couple: M₀3.78300×10¹⁶ NP1:φs245.00000°,δ53.00000°,λ-128.00000°. NP2: φs117.00000°,δ51.00000°,λ-51.00000°. Principal axes: T 3.2620, Plg1.0000°, Azm1.0000°; N 1.0370, Plg29.0000°, Azm270.0000°; P -4.3040, Plg61.0000°, Azm92.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **02** 21:17:18.0±1.9,23.°07S×169.°43E,h40km±18km,mb4.7/10 Error ellipse: s-maj=13.4km s-min=9.5km az=197.0*

*SZGRF **02** 21:17:18.1,23.°54S×168.°47E,h33km,New Caledonia*

ISC 02 21:17:16.0±0.4,23.°08S±0.°08×169.°40E±0.°08,h23km,n123, σ1§17/122,mb4.6/21,MS3.8/9,12C-6D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**2.50**	**291**	*eP*	**Pn**	**21 17 54.3**	**-0.9**
BAYA				*eS*	**Sn**	**21 18 25.7**	**+0.7**
OUZ	**Omahuta**	**12.64**	**164**	*e*Pn	**Pn**	**21 20 14.7**	**+0.3**
URZ	**Urewera**	**16.51**	**158**	P	**Pn**	**21 21 07.7**	**+1.6**
	0.3nm,0.3s,baz=329,slow=12,SNR=3.6						
URZ				LR	LR	21 26 34.8	
	comp=Z,797nm,18.4s,baz=349,slow=34						
EIDS	**Eidsvold**	**16.87**	**259**	*e*Pn	**Pn**	**21 21 11.2**	**+0.5**
	25nm,1.1s						
ARMA	**Armidale**	**17.46**	**241**	*e*Pn	**Pn**	**21 21 18.4**	**+0.2**
	28nm,1.6s						
RPZ	**Rata Peaks**	**20.63**	**177**	LR	LR	21 28 58.0	
	comp=Z,662nm,20.0s,baz=2.5,slow=34						
CTA	**Charters Tower**	**21.72**	**273**	P	**P**	**21 22 07.1**	**+1.3**
	6.9nm,0.8s,baz=96,slow=11,SNR=3.2						
CTAO	**Charters Tower**	**21.72**	**273**	*eP*	**P**	**21 22 06.9**	**+1.1**
	40nm,1.2s						
STKA	**Stephens Creek**	**26.12**	**244**	P	**P**	**21 22 49.1**	**+0.7**
	4.0nm,0.8s,baz=90,slow=10,SNR=6.6						
STKA				LR	LR	21 31 31.2	
	comp=Z,62nm,19.5s,baz=313,slow=32						
KWAJ	**Kwajalein Atol**	**31.73**	**357**	*eP*	**P**	**21 23 37.9**	**-0.4**
	470nm,1.4s						
ASAR	**Alice Springs**	**32.54**	**262**	PcP	**PcP**	**21 26 31.0**	**-1.0**
	1.3nm,0.8s,baz=110,slow=2.9,SNR=4.6						
ASAR				LR	LR	21 36 02.8	
	comp=Z,102nm,19.4s,baz=96,slow=34						
WRA	**Warramunga Arr**	**32.72**	**269**	P	**P**	**21 23 48.0**	**+0.9**
	2.3nm,0.8s,baz=102,slow=8.5,SNR=3.0						
WRA				PcP	**PcP**	**21 26 31.8**	**-0.7**
	1.2nm,0.9s,baz=104,slow=2.7,SNR=5.7						
GUMO	**Guam**	**43.64**	**324**	LR	LR	21 40 44.4	
	comp=Z,140nm,21.6s,baz=90,slow=32						
MBWA	**Marble Bar**	**45.88**	**262**	*eP*	**P**	**21 25 35.9**	**-1.0**
	24nm,0.8s						
VNDA	**Vanda**	**54.62**	**182**	P	**P**	**21 26 41.8**	**-0.5**
	1.1nm,0.8s,baz=355,slow=6.4,SNR=3.5						
VNDA				LR	LR	21 48 21.3	
	comp=Z,99nm,18.5s,baz=354,slow=34						
VNDA	**Vanda**	**54.62**	**182**	*eP*	**P**	**21 26 42.1**	**-0.2**
	51nm,2.6s						
LEM	**Lembang**	**61.42**	**275**	P	**P**	**21 27 30.9**	**-0.2**
	22nm,0.8s,baz=239,slow=10,SNR=4.7						
MJAR	**Matsushiro Arr**	**66.21**	**333**	P	**P**	**21 28 01.5**	**-0.5**
	4.3nm,0.8s,baz=169,slow=7.5,SNR=24						
MAJO	**Matsushiro**	**66.21**	**333**	*eP*	**P**	**21 28 02.3**	**+0.3**
	4.7nm,0.8s						
MAT	**Matsushiro**	**66.21**	**333**	P	**P**	**21 28 01.3**	**-0.7**
QSPA	**South Pole Qui**	**67.00**	**180**	P	**P**	**21 28 06.3**	**-0.5**
	1.7nm,0.7s,baz=56,slow=3.8,SNR=4.1						
ASAJ	**Asahikawa**	**71.24**	**340**	LR	LR	21 56 26.0	
	comp=Z,84nm,19.6s,baz=174,slow=33						
KSRS	**Korea Array**	**71.75**	**326**	P	**P**	**21 28 35.6**	**-0.7**
	1.6nm,0.6s,baz=147,slow=6.6,SNR=3.8						
KSRS				LR	LR	21 57 26.8	
	comp=Z,31nm,19.5s,baz=135,slow=34						
KS15	**Wonju Array Si**	**71.77**	**326**	*eP*	**P**	**21 28 35.6**	**-0.8**
KSAR	**Wonju Array Be**	**71.77**	**326**	*eP*	**P**	**21 28 35.6**	**-0.8**
PSI	**Prapat**	**73.23**	**281**	P	**P**	**21 28 44.0**	**-1.9**
	3.0nm,0.4s,baz=206,slow=3.5,SNR=3.8						
USRK	**Ussuriysk Ar.**	**75.21**	**333**	P	**P**	**21 28 56.0**	**-0.6**
	3.9nm,0.9s,baz=143,slow=3.1,SNR=9.9						
PEA2	**Petropavlovsk-**	**76.54**	**353**	*eP*	**P**	**21 29 03.1**	**-0.9**
PETK	**Petropavlovsk-**	**76.54**	**353**	P	**P**	**21 29 03.1**	**-0.9**
	2.1nm,0.7s,baz=142,slow=7.4,SNR=4.0						
PETK				LR	LR	21 55 29.6	
	comp=Z,74nm,21.3s,baz=148,slow=30						
CM31	**Chiang Mai Arr**	**80.23**	**295**	*eP*	**P**	**21 29 25.8**	**+0.7**
CMAR	**Chiang Mai Arr**	**80.23**	**295**	P	**P**	**21 29 25.9**	**+0.7**
	5.7nm,0.8s,baz=133,slow=4.2,SNR=26						
CHTO	**Chiang Mai**	**80.39**	**295**	*eP*	**P**	**21 29 27.1**	**+1.1**
	9.7nm,0.8s						
SNAA	**Sanae**	**85.35**	**182**	P	**P**	**21 29 49.7**	**-1.3**
VNA3	**Neumayer Olymp**	**85.93**	**180**	P	**P**	**21 29 52.3**	**-1.6**
VNA2	**Neumayer--Watz**	**86.23**	**181**	P	**P**	**21 29 53.5**	**-1.8**
	baz=141,slow=3.7						
ULN	**Ulaanbaatar**	**90.02**	**323**	*eP*	**P**	**21 30 14.9**	**+1.1**
	4.3nm,1.0s						
SONA0	**Songino Array**	**90.36**	**323**	*eP*	**P**	**21 30 15.4**	**+0.1**
SONM	**Songino Array**	**90.36**	**323**	P	**P**	**21 30 15.4**	**+0.1**
	2.8nm,1.0s,baz=133,slow=4.8,SNR=7.5						
CLC	**China Lake**	**90.47**	**51**	*eP*	**P**	**21 30 18.1**	**+2.1**
NV01	**Mina Array Sit**	**91.22**	**48**	*eP*	**P**	**21 30 17.4**	**-2.3**
NVAR	**Mina Array Bea**	**91.22**	**48**	P	**P**	**21 30 17.4**	**-2.3**
	2.7nm,0.7s,baz=240,slow=4.7,SNR=7.3						
TPNV	**Topopah Spring**	**91.96**	**51**	*eP*	**P**	**21 30 25.1**	**+2.0**
	8.8nm,1.0s						
ILAR	**Eielson Array**	**93.83**	**17**	P	**P**	**21 30 29.6**	**-1.2**
	1.2nm,0.9s,baz=240,slow=6.0,SNR=7.4						
ILB	**Eielson Array**	**93.83**	**17**	*eP*	**P**	**21 30 29.6**	**-1.2**
CHMT	**Chamberlain Mo**	**98.36**	**43**	*eP*	**P**	**21 30 52.7**	**+0.6**
TXAR	**Lajitas Array**	**98.45**	**62**	LR	LR	22 08 46.4	
	comp=Z,28nm,18.8s,baz=0.0,slow=31						
ARR	**Arges**	**143.78**	**317**⇑	*i*P	PKPbc	21 36 47.4	+0.5
LOT	**Lotru**	**144.28**	**317**⇑	*i*P	**PKPab**	**21 36 48.7**	**+0.5**
DRGR		**144.29**	**320**	*i*P	PKPbc	21 36 48.9	+0.4
ALN	**Alexandroupoli**	**144.52**	**309**	*e*P	**PKPab**	**21 36 48.3**	**-0.7**
KECS	**Kecovo**	**144.66**	**324**	*e*PKP	PKPbc	21 36 50.4	+0.9
KDZ	**Kurdzhali**	**144.71**	**310**	*i*P	**PKPab**	**21 36 50.3**	**+0.5**
SMG	**Samos**	**144.82**	**303**	*e*P	PKPbc	21 36 51.3	+0.9
PRK	**Paraskevi**	**144.85**	**306**	*e*P	**PKPab**	**21 36 49.3**	**-1.0**
GZR	**Gura Zlata**	**144.93**	**318**	*i*P	**PKPab**	**21 36 50.8**	**+0.3**
KARP	**Karpathos**	**145.01**	**299**	*e*P	**PKPab**	**21 36 50.6**	**-0.5**
SMTH	**Samothraki Isl**	**145.03**	**308**	*e*P	**PKPab**	**21 36 49.5**	**-1.5**
OKC	**Ostrava-Krasne**	**145.06**	**327**	*e*PKP	**PKPab**	**21 36 51.3**	**+0.5**
SIGR	**SIGRI**	**145.17**	**306**	*e*P	**PKPbc**	**21 36 50.2**	**-1.2**
CHOS	**Chios island**	**145.25**	**305**	*e*P	**PKPbc**	**21 36 50.5**	**-1.3**
BSEG	**Bad Segeberg**	**145.38**	**338**	*e*PKPbc	**PKPdf**	**21 36 52.7**	**+1.0**
MORC	**Moravsky Berou**	**145.41**	**327**⇑	*i*P	**PKPbc**	**21 36 52.4**	**+0.5**
LIA	**Limnos Island**	**145.46**	**307**	*e*P	**PKPbc**	**21 36 51.5**	**-0.8**
BZS	**Buzias**	**145.53**	**319**⇑	*i*P	**PKPbc**	**21 36 51.9**	**-0.3**
KRLC	**Kraliky**	**145.58**	**328**	*e*PKP	**PKPbc**	**21 36 53.0**	**+0.5**
KRLC				*ex*	x	21 36 59.6	
DPC	**Dobruska-Polom**	**145.62**	**329**	*e*PKP	**PKPdf**	**21 36 52.8**	**+0.5**
DPC				*ex*	x	21 36 55.9	
DPC				*ex*	x	21 36 59.6	
DPC				*ep*PKP	**pPKPdf**	**21 37 05.0**	**+4.9**
UPC	**Upice**	**145.66**	**330**	*e*PKP	**PKPbc**	**21 36 53.3**	**+0.7**
UPC				*ex*	x	21 36 57.5	
VTS	**Vitosha**	**145.88**	**313**	*i*P	**PKPdf**	**21 36 53.8**	**+0.6**
NVR	**Nevrokopi**	**145.91**	**311**	*e*P	**PKPdf**	**21 36 52.9**	**-0.2**
MMB	**Musomiste**	**145.92**	**311**	*i*P	**PKPdf**	**21 36 53.3**	**+0.2**
VRAC	**Vranov**	**146.18**	**327**⇑	*i*P	**PKPbc**	**21 36 55.1**	**+0.8**
SRS	**Serrai**	**146.19**	**310**	*e*P	**PKPdf**	**21 36 53.4**	**-0.1**
OUR	**Ouranopolis**	**146.19**	**309**	*e*P	**PKPdf**	**21 36 53.2**	**-0.3**
PVCC	**Panska Ves**	**146.31**	**331**	*e*PKP	**PKPbc**	**21 36 55.5**	**+0.9**
PVCC				*ep*PKP	**pPKPdf**	**21 37 02.5**	**+1.3**
BRG	**Berggiesshubel**	**146.34**	**332**	*i* P	**PKPbc**	**21 36 55.1**	**+0.5**
BRG	**Berggiesshubel**	**146.34**	**332**	*e*PKPbc	**PKPbc**	**21 36 55.5**	**+0.8**
CLL	**Collm**	**146.42**	**333**	*e*PKPbc	**PKPbc**	**21 36 55.5**	**+0.6**
CLL	**Collm**	**146.42**	**333**	*i* PKPbc	**PKPbc**	**21 36 55.0**	**+0.1**
	comp=Z,15nm,0.9s						
CLL				*ep*PKPbc	pPKPbc	21 37 08.0	+5.4
GOPC	**GO Pecny, Ondr**	**146.64**	**330**	*e*PKP	**PKPbc**	**21 36 56.2**	**+0.6**
KNT	**Kendrikon**	**146.66**	**311**	*e*P	**PKPdf**	**21 36 54.0**	**-0.3**
PRU	**Pruhonice**	**146.70**	**330**	*e*PKP	**PKPbc**	**21 36 56.1**	**+0.3**
PRU				*ep*PKP	**pPKPdf**	**21 37 03.1**	**+1.2**
HORT	**Hortiatis**	**146.72**	**310**	*e*P	**PKPdf**	**21 36 52.5**	**-2.1**
PKSM	**Moragy**	**146.98**	**322**⇑	*i*P	**PKPbc**	**21 36 56.7**	**0.0**
PTL	**Penteli**	**147.00**	**305**	*e*P	**PKPdf**	**21 36 55.7**	**+0.7**
CLZ	**Clausthal**	**147.05**	**336**	*e*PKPbc	**PKPbc**	**21 36 57.2**	**+0.4**
DIVS	**Divibare**	**147.29**	**317**⇑	*i*P	**PKPdf**	**21 36 57.0**	**+1.6**
TANN	**Tannenbergstha**	**147.31**	**332**	*e*PKPbc	**PKPbc**	**21 36 57.9**	**+0.3**
LIT	**Litokhoron**	**147.34**	**309**	*e*P	**PKPdf**	**21 36 56.7**	**+1.2**
VAM	**Vamos**	**147.41**	**300**	*e*P	**PKPdf**	**21 36 56.4**	**+0.6**
CSNA	**Conrad Observa**	**147.45**	**326**⇑	*i*PKPab	**PKPbc**	**21 36 58.3**	**+0.3**
	comp=Z,4.1nm,0.8s						
NKC	**Novy Kostel**	**147.45**	**332**	*e*PKP	**PKPbc**	**21 36 58.6**	**+0.7**
IBBN	**Ibbenburen**	**147.60**	**339**	*e*PKPbc	**PKPbc**	**21 36 58.9**	**+0.7**
IBBN				*e*PKPab	**PKiKP**	**21 37 01.9**	**+1.6**
KHC	**Kasperske Hory**	**147.75**	**330**	*e*PKP	**PKPbc**	**21 36 59.0**	**+0.2**
AGG	**Agios Georgios**	**147.83**	**307**	*e*P	**PKPdf**	**21 36 56.7**	**+0.3**
FNA	**Florina**	**147.87**	**311**	*e*P	**PKPdf**	**21 36 57.6**	**+1.2**
GEC2	**GERESS Array S**	**147.89**	**329**	*e*PKPbc	**PKPbc**	**21 36 59.8**	**+0.5**
GERES	**GERESS Array B**	**147.89**	**329**	PKPbc	**PKPdf**	**21 36 58.3**	**+2.1**
	comp=Z,2.9nm,0.8s,baz=48,slow=2.0,SNR=13						
MAKR	**Makrakomi, Fth**	**147.98**	**307**	*e*P	**PKPdf**	**21 36 58.3**	**+1.7**
ANKY	**Antikythira Is**	**148.02**	**301**	*e*P	**PKPdf**	**21 36 58.6**	**+1.9**
GUR	**Goura**	**148.18**	**305**	*e*P	**PKPdf**	**21 36 58.8**	**+1.7**
EVR	**Evrytania**	**148.25**	**307**	*e*P	**PKPbc**	**21 36 59.9**	**-0.6**
KLV	**Kalavryta, Ach**	**148.29**	**306**	*e*P	**PKPdf**	**21 36 59.0**	**+1.8**
VLX	**Vlachokerasia**	**148.32**	**304**	*e*P	**PKPdf**	**21 36 59.5**	**+2.2**
EFP	**Efpalio**	**148.35**	**306**	*e*P	**PKPbc**	**21 37 00.6**	**0.0**
BUG	**Bochum--Univer**	**148.49**	**338**	*e*PKPab	**PKPab**	**21 37 05.0**	**+1.1**
DRO	**Drossia**	**148.65**	**306**	*e*P	**PKPbc**	**21 37 03.0**	**+1.5**
SOKA	**Soboth**	**148.69**	**325**	*i*PKPbc	**PKPbc**	**21 37 01.2**	**-0.2**
	comp=Z,3.0nm,0.8s						
DSL	**Palaion Diasel**	**148.69**	**308**	*e*P	**PKPbc**	**21 37 01.6**	**0.0**
AMT	**Artemida-Makis**	**148.78**	**305**	*e*P	**PKPbc**	**21 37 04.1**	**+2.3**
RLS	**Riolos of Patr**	**148.79**	**306**	*e*P	PKPdf	21 36 49.9	-8.0
PDO	**Prodromos**	**148.82**	**307**	*e*P	**PKPbc**	**21 37 01.4**	**-0.5**
PYL	**PYLOS**	**148.95**	**304**	*e*P	**PKPdf**	**21 37 00.2**	**+2.0**
IGT	**Igoumenitsa**	**149.09**	**309**	*e*P	**PKPbc**	**21 37 01.4**	**-1.1**
PJOB	**Joubeg**	**149.10**	**329**	*e*PKPbc	**PKPbc**	**21 37 02.4**	**0.0**
LKD2	**Lefkada island**	**149.14**	**308**	*e*P	**PKPbc**	**21 37 01.2**	**-1.5**
KBA	**Koelnbreinsper**	**149.29**	**327**⇑	*i*PKPbc	**PKPbc**	**21 37 02.5**	**-0.5**
	comp=Z,6.3nm,0.8s						
KEK	**Kerkira**	**149.40**	**310**	*e*P	**PKPdf**	**21 37 01.1**	**+2.2**
ABTA	**Abfaltersbach**	**149.93**	**327**⇑	*i*PKPbc	**PKPdf**	**21 37 02.0**	**+2.4**
	comp=Z,5.4nm,0.8s						
STU	**Stuttgart**	**149.94**	**333**	*e*PKPbc	**PKPbc**	**21 37 04.8**	**+0.5**
STU				*e*PKPab	**PKPab**	**21 37 09.8**	**-0.2**
MOTA	**Moosalm**	**150.18**	**330**⇑	*i*PKPbc	**PKPbc**	**21 37 04.3**	**-0.9**
	comp=Z,5.9nm,0.8s						
FETA	**Feichten**	**150.59**	**330**⇑	*i*PKiKP	**PKPbc**	**21 37 06.5**	**+0.3**
	comp=Z,7.1nm,0.8s						
BFO	**Black Forest**	**150.64**	**334**	*e*PKPbc	**PKPbc**	**21 37 06.1**	**0.0**
TORD	**Torodi Ar. Bea**	**164.71**	**232**	PKP	**PKPdf**	**21 37 18.1**	**-0.7**
	comp=Z,0.7nm,0.9s,baz=79,slow=0.3,SNR=3.7						
TORD				PKPab	**PKPab**	**21 38 13.3**	**-1.0**
	comp=Z,0.7nm,0.9s,baz=134,slow=4.2,SNR=2.7						

*LDG **02** 21:21:47.1±0.2,11.°03N×62.°77W,h90km,Mb4.5/23, Ms3.3/1,Error ellipse: s-maj=13.4km s-min=6.2km az=111.0*

*MOS **02** 21:21:49.4±0.8,11.°03N×62.°44W,h98km,mb4.9/55,Error ellipse: s-maj=6.5km s-min=5.5km az=81.5*

*ISCJB **02** 21:21:50.0±0.2,10.°99N±0.°02×62.°40W±0.°02,h105km±1km, mb4.7/145,Error ellipse: s-maj=3.2km s-min=2.2km az=150.7*

*IDC **02** 21:21:51.6±0.5,11.°08N×62.°44W,h107km±4km,mb4.2/23, mb1 4.4/25,mb1mx4.3/29,mbtmp4.6/25,MS3.5/4, Ms1 3.6/4,ms1mx3.2/22,Error ellipse: s-maj=11.3km s-min=6.7km az=147.0*

*FUNV **02** 21:21:51.3,10.°89N×62.°19W,h93km,MW4.6*

*NEIC **02** 21:21:51.2,10.°91N×62.°17W,h92km,mb4.8/112, MW4.6(CAR),After CAR.*

NEIC Felt at Caracas and Marabal. Felt [III] at Arima and Mucurapo; [II] at Chaguanas, Port-of-Spain, San Juan and Tunapuna, Trinidad. Also felt at Arouca, Biche, Ellerslie Park, Saint Augustine, Saint Joseph, San Fernando and Tacarigua. Felt [II] at Saint George's, Grenada.

*TRN **02** 21:21:52.5,10.°95N×62.°12W,h98km,MD4.3*

TRN Felt widely throughout Trinidad. MMI II, III, IV, V.

ISC 02 21:21:51.2±0.4,10.°93N±0.°03×62.°31W±0.°03,h104km±3km, h103km:pP-P,n800,σ1§14/864,mb4.8/145,242C-200D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.30**	**163**⇑	*i*P	**Pn**	**21 22 04.8**	**-1.4**
GUIV				*eS*	**Sn**	**21 22 14.1**	**-3.3**
TCE	**Chacachacare**	**0.60**	**113**	*eP*	**Pn**	**21 22 06.8**	**-1.3**
TCE				*eS*	**Sn**	**21 22 18.8**	**-2.0**
TCE	**Chacachacare**	**0.60**	**113**	*eP*	**Pn**	**21 22 06.8**	**-1.3**
TCE				*eS*	**Sn**	**21 22 18.8**	**-2.0**
CRUV	**Carupano**	**0.94**	**254**⇑	*i*P	**Pn**	**21 22 11.0**	**-0.2**
CRUV				*eS*	**Sn**	**21 22 25.1**	**-1.3**
ALNG	**Atlantic LNG**	**0.97**	**141**	*i*P	**Pn**	**21 22 12.3**	**+0.8**
ALNG				*eS*	**Sn**	**21 22 25.5**	**-1.3**
ALNG	**Atlantic LNG**	**0.97**	**141**	*i*P	**Pn**	**21 22 12.6**	**+1.1**
ALNG				*eS*	**Sn**	**21 22 25.5**	**-1.3**
GUNV	**Guanoco**	**0.99**	**219**	*eP*	**Pn**	**21 22 11.7**	**-0.1**
GUNV				*eS*	**Sn**	**21 22 26.3**	**-0.9**
TPP	**Pointe-a-Pierr**	**1.04**	**126**⇑	*i*P	**Pn**	**21 22 11.7**	**-0.7**
TPP	**Pointe-a-Pierr**	**1.04**	**126**⇑	*i*P	**Pn**	**21 22 11.7**	**-0.7**
TPP	**Pointe-a-Pierr**	**1.04**	**126**⇑	*i*P	**Pn**	**21 22 11.7**	**-0.7**
SIPA	**Siparia**	**1.11**	**135**⇑	*e*P	**Pn**	**21 22 13.9**	**+0.8**
SIPA	**Siparia**	**1.11**	**135**⇑	*e*P	**Pn**	**21 22 13.9**	**+0.8**
TBH	**Brigand Hill**	**1.30**	**110**⇑	*i*P	**Pn**	**21 22 14.4**	**-0.9**
TBH				*eS*	**Sn**	**21 22 30.0**	**-3.5**
TBH	**Brigand Hill**	**1.30**	**110**⇑

59nm,0.9s
JTS JuntasAbangare 22.26 270 P P 21 26 38.0 -1.9
2.8nm,0.6s,baz=284,slow=19,SNR=3.2
JTS JuntasAbangare 22.26 270 eP P 21 26 42.3 +2.4
JTS pmax pmax
comp=Z,14nm,1.0s
JTS JuntasAbangare 22.26 270 eP P 21 26 38.4 -1.5
comp=Z,12nm,0.9s
ATAH Atahualpa 24.05 222 P P 21 26 59.3 +1.9
comp=Z,33nm,0.6s,baz=44,slow=5.2,SNR=24
TEIG Tepich 26.63 293 P P 21 27 20.3 +0.1
TEIG PcP PcP 21 30 41.0 -0.9
comp=Z,6.1nm,0.5s,baz=12,slow=2.9,SNR=6.9
TEIG Tepich 26.63 293 eP P 21 27 20.3 +0.1
comp=Z,81nm,1.5s
TEIG ePcP PcP 21 30 41.0 -0.9
NNA Nana 26.96 213 P P 21 27 24.4 +1.1
comp=Z,29nm,0.8s,baz=1.8,slow=8.8,SNR=13
NNA Nana 26.96 213 eP P 21 27 24.6 +1.4
NNA Nana 26.96 213 eP P 21 27 24.7 +1.4
comp=Z,30nm,0.8s
JSC Jenkinsville 28.98 326 eP P 21 27 38.7 -2.3
JSC pmax pmax
comp=Z,12nm,0.8s
JSC Jenkinsville 28.98 326 eP P 21 27 38.7 -2.3
comp=Z,12nm,0.8s
KMSC Kings Mountain 29.67 327 ⇓P P 21 27 48.0 +0.8
baz=30
BDFB Brasilia 29.96 152 P P 21 27 51.7 +1.7
comp=Z,2.0nm,0.6s,baz=296,slow=18,SNR=3.7
BDFB LR LR 21 40 00.3
comp=Z,141nm,20.3s,baz=332,slow=36
JSRW J. Sargeant Re 30.09 335 eP P 21 27 50.4 -0.4
BLA Blacksburg 30.83 331 eP P 21 27 55.4 -2.0
BLA pmax pmax
comp=Z,19nm,0.8s
BLA Blacksburg 30.83 331 eP P 21 27 55.4 -2.0
comp=Z,19nm,0.8s
TKL Tuckaleechee C 31.39 325 eP P 21 27 56.7 -5.6
TKL Tuckaleechee C 31.39 325 eP P 21 27 56.7 -5.6
LRAL Lakeview Retre 31.59 318 eP P 21 28 04.9 +0.8
comp=Z,19nm,1.2s
TZTN Tazewell 31.91 327 eP P 21 28 07.2 +0.3
comp=Z,22nm,1.3s
SWET Sewanee 32.34 322 eP P 21 28 10.5 -0.2
SSPA Standing Stone 32.63 338 eP P 21 28 13.6 +0.6
comp=Z,34nm,1.9s
LVC Limon Verde 33.96 191 P P 21 28 25.8 +0.7
comp=Z,7.5nm,0.6s,baz=33,slow=7.9,SNR=3.4
OXF Oxford 34.08 318 eP P 21 28 26.0 +0.2
OXF pmax pmax
comp=Z,38nm,1.0s
OXF Oxford 34.08 318 eP P 21 28 26.0 +0.2
comp=Z,38nm,1.0s
WVT Waverly 34.09 322 eP P 21 28 25.9 0.0
WVT pmax pmax
comp=Z,9.0nm,0.9s
WVT Waverly 34.09 322 eP P 21 28 25.9 0.0
comp=Z,8.7nm,0.9s
BLO Bloomington 35.43 327 eP P 21 28 38.6 +1.2
BLO pmax pmax
comp=Z,13nm,0.6s
BLO Bloomington 35.43 327 eP P 21 28 38.6 +1.2
comp=Z,13nm,0.6s
340A Bronson 35.60 310 ⇑P P 21 28 39.2 +0.3
baz=36,SNR=7.1
439A Center Grove, 35.99 308 ⇓P P 21 28 42.9 +0.6
baz=36
OLIL Olney 36.00 325 eP P 21 28 42.7 +0.5
comp=Z,81nm,1.6s
339A Huntington 36.07 309 ⇑P P 21 28 43.3 +0.3
baz=36
PBMO Poplar Bluff 36.12 320 eP P 21 28 43.0 -0.2
comp=Z,18nm,1.0s
HKT Hockley 36.47 306 eP P 21 28 46.0 -0.3
HKT pmax pmax
comp=Z,13nm,1.0s
HKT Hockley 36.47 306 eP P 21 28 46.0 -0.3
comp=Z,13nm,1.0s
438A Sam Houston St 36.52 308 ⇑P P 21 28 47.0 +0.2
baz=37
139A Bunkhouse Ranc 36.58 311 ⇑P P 21 28 47.3 +0.1
baz=37
SFIN Lafayette 36.61 328 eP P 21 28 46.2 -1.1
comp=Z,10nm,1.1s
SFIN Lafayette 36.61 328 ⇑P P 21 28 47.9 +0.6
baz=37
338A Crockett 36.66 309 ⇓P P 21 28 48.4 +0.5
baz=37,SNR=13
238A Jacksonville 36.80 310 ⇓P P 21 28 49.8 +0.6
baz=37
537A Green Hill Far 36.90 306 ⇓P P 21 28 50.4 +0.4
baz=37
MIAR Mount Ida 36.93 315 eP P 21 28 49.6 -0.6
MIAR pmax pmax
comp=Z,16nm,1.7s
MIAR Mount Ida 36.93 315 eP P 21 28 49.6 -0.6
comp=Z,16nm,1.7s
736A Circle Diamond 37.07 304 ⇑P P 21 28 52.7 +1.3
baz=37,SNR=6.4
138A Matatall Enter 37.09 311 ⇓P P 21 28 52.1 +0.6
baz=37
035A Encino 37.24 300 ⇓P P 21 28 53.3 +0.4
baz=37
636A Smothers Creek 37.26 305 ⇓P P 21 28 53.8 +0.8
baz=37,SNR=7.4
Z38A Mt. Pleasant 37.29 312 ⇓P P 21 28 53.6 +0.3
baz=38
237A Washetta, Mont 37.33 309 ⇑P P 21 28 53.8 +0.2
baz=38
CPUP Villa Florida 37.35 173 P P 21 28 55.7 +2.0
comp=Z,0.4nm,0.7s,baz=350,slow=10,SNR=3.5
CPUP LR LR 21 44 32.6
comp=Z,581nm,18.6s,baz=7.5,slow=36
536A Bastrop 37.50 306 ⇑P P 21 28 55.7 +0.6
baz=38
137A Heron Place, G 37.56 310 ⇓P P 21 28 55.8 +0.3
baz=38
436A Wall Ranch, Ga 37.56 307 ⇑P P 21 28 55.8 +0.3
baz=38
735A Kenedy 37.64 303 ⇑P P 21 28 56.8 +0.5
baz=38
034A Hebbronville 37.77 300 ⇑P P 21 28 57.9 +0.4
baz=38,SNR=8.2
635A Leesville 37.80 304 ⇑P P 21 28 57.8 +0.1
baz=38
934A Benavides 37.80 301 ⇓P P 21 28 57.6 0.0
baz=38
336A Riesel 37.85 308 ⇓P P 21 28 58.0 0.0
baz=38
W38A Poteau 37.87 315 ⇓P P 21 28 57.9 -0.2
baz=38
236A Katherine and 37.88 309 ⇓P P 21 28 58.3 +0.1
baz=38
535A Dale 37.88 305 ⇑P P 21 28 58.1 -0.2
baz=38
HDIL Hopedale 37.92 326 eP P 21 28 58.1 -0.3
comp=Z,199nm,0.5s
834A Tilden 38.00 302 ⇓P P 21 29 00.1 +0.7
baz=38,SNR=5.7
435B Jarrell 38.19 306 ⇓P P 21 29 00.9 +0.1
baz=38,SNR=6.7
X37A Clayton 38.23 313 ⇓P P 21 29 00.7 -0.4
baz=38
734A La Parita Cree 38.25 303 ⇑P P 21 29 01.3 -0.1
baz=38
335A Moody 38.27 307 ⇑P P 21 29 01.2 -0.3
baz=38
634A China Grove, S 38.27 304 ⇓P P 21 29 01.0 -0.6
baz=38
DRLN Deer Lake 38.41 5 eP P 21 29 02.3 -0.1
comp=Z,124nm,2.0s
933A Laredo 38.45 301 ⇓P P 21 29 03.2 +0.1
baz=39
W37A Quinton 38.54 314 ⇓P P 21 29 03.4 -0.4
baz=39
WHTX Lake Whitney, 38.58 308 eP P 21 29 02.8 -1.3
comp=Z,36nm,0.8s
WHTX Lake Whitney, 38.58 308 ⇓P P 21 29 03.8 -0.4
baz=39
534A Blanco 38.61 305 ⇓P P 21 29 03.5 -0.9
baz=39,SNR=5.0
434A Burnet 38.74 306 ⇑P P 21 29 04.7 -0.9
baz=39,SNR=10
833A Chaparral WMA, 38.77 302 ⇓P P 21 29 05.5 -0.3
baz=39,SNR=16
135A Vickery Place, 38.79 309 ⇓P P 21 29 05.6 -0.3
baz=39
733A Divot King Ran 38.82 303 ⇑P P 21 29 05.9 -0.3
baz=39
334A Lometa 38.92 307 ⇑P P 21 29 06.5 -0.5
baz=39,SNR=5.5
X36A Centrahoma 38.92 313 ⇓P P 21 29 06.4 -0.6
baz=39,SNR=7.0
633A Saathoff Ranch 38.97 304 ⇑P P 21 29 07.1 -0.3
baz=39,SNR=9.0
Z35A Perchaven, San 39.01 310 ⇑P P 21 29 07.7 0.0
baz=39
533A Kerrville 39.08 305 ⇑P P 21 29 08.3 0.0
baz=39
W36A Wetumka 39.11 314 ⇓P P 21 29 07.8 -0.7
baz=39
234A Clairette 39.11 308 ⇑P P 21 29 07.9 -0.7
baz=39,SNR=5.0
TUL1 Leonard 39.20 315 eP P 21 29 08.4 -0.8
comp=Z,20nm,0.9s
TUL1 Leonard 39.20 315 ⇑P P 21 29 08.3 -0.8
baz=39,SNR=6.2
832A Faith Ranch, C 39.24 302 ⇑P P 21 29 09.3 -0.4
baz=39,SNR=8.5
134A White-Moore Ra 39.30 309 ⇑P P 21 29 09.7 -0.5
baz=40,SNR=12
433A Art 39.37 306 ⇓P P 21 29 10.5 -0.3
baz=40,SNR=29
732A Laxson Ranch, 39.38 302 ⇓P P 21 29 10.6 -0.3
baz=40,SNR=6.8
333A Richland Sprin 39.50 307 ⇑P P 21 29 11.3 -0.5
baz=40,SNR=35
Z34A Collier Ranch, 39.52 310 ⇓P P 21 29 11.6 -0.4
baz=40
W35A Tecumseh 39.58 313 ⇑P P 21 29 11.7 -0.8
baz=40,SNR=5.0
Y34A Reagan Ranch, 39.67 311 ⇓P P 21 29 12.5 -0.6
baz=40,SNR=8.1
233A Rising Star 39.71 308 ⇑P P 21 29 12.9 -0.7
baz=40,SNR=18
532A Rocksprings 39.80 304 ⇓P P 21 29 14.4 0.0
baz=40,SNR=17
JCT Junction City 39.84 305 eP P 21 29 14.0 -0.7
JCT pmax pmax
comp=Z,20nm,0.7s
JCT Junction City 39.84 305 eP P 21 29 14.0 -0.7
comp=Z,20nm,0.7s
JCT Junction City 39.84 305 ⇓P P 21 29 14.1 -0.7
baz=40,SNR=10.0
R37A Teagarden Farm 39.84 319 ⇑P P 21 29 14.1 -0.5
baz=40
V35A Meyer Ranch, C 39.85 314 ⇓P P 21 29 13.7 -1.0
baz=40
133A Hamilton Ranch 39.96 308 ⇓P P 21 29 15.3 -0.3
baz=40,SNR=7.7
432A Menard 39.98 305 ⇑P P 21 29 15.5 -0.4
baz=40,SNR=11
X34A Smith Ranch, M 40.01 312 ⇑P P 21 29 15.6 -0.5
baz=40,SNR=23
S36A Lake Cedric, C 40.02 317 ⇓P P 21 29 15.8 -0.2
baz=40
JFWS Jewell Farm 40.07 328 eP P 21 29 16.1 -0.3
JFWS pmax pmax
comp=Z,15nm,0.4s
JFWS Jewell Farm 40.07 328 eP P 21 29 16.1 -0.3
comp=Z,16nm,0.4s
631A Perdido Creek 40.10 303 ⇑P P 21 29 16.3 -0.6
baz=40,SNR=8.5
332A Millersview 40.13 306 ⇓P P 21 29 16.7 -0.3
baz=40,SNR=12
Z33A Whitaker Ranch 40.13 309 ⇓P P 21 29 16.5 -0.5
baz=40,SNR=6.9
232A Coleman 40.24 307 ⇑P P 21 29 17.4 -0.6
baz=40,SNR=19
W34A Bridge Creek, 40.27 313 eP P 21 29 17.3 -0.8
comp=Z,27nm,0.8s
W34A Bridge Creek, 40.27 313 ⇓P P 21 29 17.8 -0.3
baz=40
R36A Gordon, Harris 40.29 318 ⇓P P 21 29 18.0 -0.3
baz=40
531A Rocksprings 40.33 304 ⇑P P 21 29 18.5 -0.3
baz=40,SNR=6.9
Y33A Hilltop Ranch, 40.34 311 ⇓P P 21 29 18.3 -0.3
baz=40
V34A Guthrie 40.37 314 ⇑P P 21 29 18.5 -0.4
baz=40
X33A Lawton 40.48 311 ⇓P P 21 29 19.5 -0.4
baz=41
S35A Otter Creek Ra 40.48 317 ⇑P P 21 29 19.7 -0.2
baz=41
ABTX Abilene, Hawle 40.53 308 eP P 21 29 19.8 -0.6
comp=Z,34nm,0.8s
ABTX Abilene, Hawle 40.53 308 ⇓P P 21 29 19.8 -0.6
baz=41,SNR=8.7
431A Sonora 40.56 305 ⇓P P 21 29 20.5 -0.1
baz=41,SNR=18
331A San Angelo 40.64 306 ⇓P P 21 29 21.0 -0.3
baz=41
Z32A Haskell 40.68 309 ⇓P P 21 29 21.0 -0.6
baz=41,SNR=8.6
W33A Caddo, Fort Co 40.73 312 ⇓P P 21 29 22.1 +0.2
baz=41
WMOK Wichita Mounta 40.77 311 eP P 21 29 21.1 -1.2
WMOK pmax pmax
comp=Z,11nm,0.9s
WMOK Wichita Mounta 40.77 311 eP P 21 29 21.1 -1.2
comp=Z,11nm,0.9s
231A Bronte 40.79 307 ⇑P P 21 29 21.7 -0.8
baz=41,SNR=6.4
V33A Lossen Ranch, 40.91 313 ⇑P P 21 29 22.6 -0.9
baz=41,SNR=5.1
Y32A R-V Farms, Ver 40.94 310 ⇓P P 21 29 22.8 -0.9
baz=41
530A J-C Ranch, Com 40.97 304 ⇓P P 21 29 24.0 -0.1
baz=41,SNR=9.5
S34A Willow Spring 41.02 316 ⇑P P 21 29 23.3 -1.0
baz=41
SCIA State Center 41.03 324 eP P 21 29 24.2 0.0
comp=Z,41nm,1.4s
U33A Lingo Farm, Me 41.08 314 ⇓P P 21 29 23.9 -0.9
baz=41
430A Baggett Ranch, 41.11 305 ⇓P P 21 29 24.5 -0.7
baz=41,SNR=5.2
131A Roby 41.13 308 ⇓P P 21 29 24.7 -0.6
baz=41
Z31A Sharp Cattle R 41.19 309 ⇓P P 21 29 25.2 -0.6
baz=41,SNR=20
330A Mertzon 41.27 306 ⇓P P 21 29 25.6 -0.9
baz=41,SNR=6.2
W32A Sentinel 41.29 312 ⇓P P 21 29 25.7 -0.8
baz=41,SNR=8.2
230A Sterling City 41.40 306 ⇓P P 21 29 26.7 -0.8
baz=42
KSU1 Kansas State U 41.44 319 ⇓P P 21 29 26.8 -0.9
baz=42
T33A Patterson Ranc 41.49 315 ⇓P P 21 29 27.3 -0.8
baz=42
130A Snyder 41.55 307 ⇓P P 21 29 28.3 -0.4
baz=42
Y31A Rekieta Farm, 41.55 310 ⇑P P 21 29 27.8 -0.9
baz=42,SNR=8.7
S33A Kaszmaul Farm, 41.58 316 ⇑P P 21 29 28.1 -0.7
baz=42
429A Davenport Ranc 41.58 304 ⇓P P 21 29 28.2 -0.8
baz=42,SNR=6.4
X31A McDonald Ranch 41.61 311 ⇑P P 21 29 27.7 -1.5
baz=42,SNR=11
U32A Winter Ranch, 41.69 314 ⇓P P 21 29 28.8 -0.9
baz=42,SNR=5.3
529A Stev Forest Ra 41.69 303 ⇑P P 21 29 29.6 -0.4
baz=42,SNR=9.4
W31A Holland Ranch, 41.83 311 ⇑P P 21 29 29.8 -1.2
baz=42
R33A Olander Ranch, 41.93 317 ⇑P P 21 29 31.2 -0.5
baz=42
Z30A Sanderson Ranc 41.94 308 ⇑P P 21 29 31.4 -0.5
baz=42,SNR=23
329A Wagon Wheel Ra 41.95 305 ⇓P P 21 29 31.2 -0.8
baz=42
229A Bryant Ranch, 41.98 306 ⇓P P 21 29 32.0 -0.3
baz=42
Y30A Stafford Cattl 41.99 309 ⇑P P 21 29 31.8 -0.5
baz=42
T32A Huddler Ranch, 42.01 315 ⇑P P 21 29 31.9 -0.5
baz=42
V31A Spring Creek L 42.01 312 ⇓P P 21 29 31.9 -0.6
baz=42
Q33A Connelly Farm, 42.19 318 ⇑P P 21 29 33.2 -0.6
baz=42,SNR=6.6
X30A Coker Ranch, T 42.21 310 ⇑P P 21 29 33.5 -0.6
baz=42
129A Stewart Farms, 42.26 307 ⇓P P 21 29 34.3 -0.3
baz=42,SNR=10.0
S32A Newby Ranch, P 42.27 315 ⇓P P 21 29 33.8 -0.7
baz=42
U31A Nine Bar Ranch 42.29 313 ⇓P P 21 29 34.5 -0.2
baz=42
P33A Williams Farm, 42.33 318 ⇑P P 21 29 34.2 -0.7
baz=42
Z29A Hungry Hill Ra 42.37 308 ⇓P P 21 29 34.6 -0.8
baz=42,SNR=12
R32A Long Quarter, 42.48 316 ⇑P P 21 29 35.7 -0.5
baz=43
T31A Randall Ranch, 42.50 314 ⇓P P 21 29 35.8 -0.6
baz=43,SNR=13
Y29A Porterfield Fa 42.58 309 ⇓P P 21 29 36.9 -0.2
baz=43,SNR=18
S31A Mullinville 42.62 315 ⇓P P 21 29 36.8 -0.5
baz=43,SNR=7.2
V30A Spur Ranch, Mi 42.62 312 ⇑P P 21 29 37.1 -0.3
baz=43,SNR=8.4
LTX Lajitas 42.65 302 eP P 21 29 36.5 -1.3
LTX e 21 31 27.2
LTX Lajitas 42.65 302 eP P 21 29 36.5 -1.3
LTX ePcP PcP 21 31 27.2 -0.9
TXAR Lajitas Array 42.65 302 P P 21 29 36.5 -1.3
comp=Z,2.3nm,0.3s,baz=120,slow=9.3,SNR=98
TXAR PcP PcP 21 31 27.2 -0.9
comp=Z,3.2nm,0.6s,baz=121,slow=5.3,SNR=16
228A UT Block 9, Go 42.65 306 ⇑P P 21 29 36.9 -0.8
baz=43
Q32A Meitler Ranch, 42.67 317 ⇓P P 21 29 36.9 -0.8
baz=43
128A Castleberry Fa 42.75 307 ⇑P P 21 29 37.8 -0.7
baz=43,SNR=5.9
X29A Tulia 42.83 310 ⇓P P 21 29 38.4 -0.8
baz=43
Z28A Tucker Farm, M 42.91 308 ⇑P P 21 29 39.0 -0.9
baz=43,SNR=5.8
U30A WK&E Inc. Balk 42.94 313 ⇓P P 21 29 39.5 -0.5
baz=43,SNR=15
R31A Burdett 42.97 316 ⇓P P 21 29 39.8 -0.3
baz=43
AMTX Amarillo 42.99 310 ⇑P P 21 29 40.1 -0.4
baz=43
SPMN Marine on St. 43.00 328 ⇑P P 21 29 40.8 +0.6
baz=43
P32A Huiting Farm, 43.02 318 ⇓P P 21 29 40.1 -0.4
baz=43
Y28A McKinney Farm, 43.04 309 ⇓P P 21 29 40.3 -0.6
baz=43,SNR=5.6
W29A Amarillo 43.06 310 ⇑P P 21 29 40.4 -0.6
baz=43
T30A Plains 43.08 314 ⇓P P 21 29 40.6 -0.5
baz=43,SNR=5.8
O32A Brockman Farm, 43.15 319 ⇑P P 21 29 41.7 +0.1
baz=43
Q31A Ellis 43.23 317 ⇓P P 21 29 41.9 -0.4
baz=43
X28A Dimmitt 43.24 309 ⇓P P 21 29 42.5 +0.1
baz=43
V29A Stinnett 43.28 312 ⇑P P 21 29 42.8 +0.1
baz=43
S30A Montezuma 43.31 314 ⇓P P 21 29 42.5 -0.5
baz=44,SNR=5.2
U29A Oasis Ranch, S 43.35 312 ⇑P P 21 29 42.7 -0.6
baz=44
MSTX Muleshoe 43.47 308 eP P 21 29 43.6 -0.7
comp=Z,43nm,0.9s
MSTX Muleshoe 43.47 308 ⇓P P 21 29 43.8 -0.5
baz=44,SNR=14
P31A Stockton 43.48 317 ⇓P P 21 29 42.9 -1.4
baz=44
T29A Hugoton 43.68 313 ⇑P P 21 29 45.4 -0.5
baz=44
SCHQ Schefferville 43.94 356 P P 21 29 47.2 -0.4
comp=Z,6.3nm,0.4s,baz=178,slow=7.4,SNR=50
SCHQ pP pP 21 30 12.8 +1.0
comp=Z,4.3nm,0.6s,baz=189,slow=8.8,SNR=3.6
SCHQ Schefferville 43.94 356 eP P 21 29 48.5 +0.9
comp=Z,112nm,2.5s
SCHQ pP pP 21 30 12.8 +1.0
U28A Mallet 44.01 312 ⇓P P 21 29 48.3 -0.4
baz=44,SNR=7.0
P30A Selden 44.08 317 ⇑P P 21 29 48.2 -0.8
baz=44
ECSD EROS Data Cent 44.12 324 eP P 21 29 48.5 -0.8
comp=Z,7.4nm,0.5s
ECSD EROS Data Cent 44.12 324 ⇑P P 21 29 49.8 +0.5
baz=44
R29A Marienthal 44.15 315 ⇑P P 21 29 49.2 -0.5
baz=44
V27A Dan Oppiter Fa 44.21 311 ⇑P P 21 29 49.7 -0.6
baz=44,SNR=7.3
T28A Walsh 44.25 313 ⇓P P 21 29 49.5 -1.0
baz=44,SNR=5.3
Q29A Oakley 44.26 316 ⇓P P 21 29 49.5 -1.0
baz=44
EYMN Ely 44.28 332 eP P 21 29 49.2 -1.2
comp=Z,30nm,1.9s
S28A Manter 44.30 314 ⇑P P 21 29 50.0 -0.9
baz=44,SNR=8.1
U27A Thompson Grove 44.47 312 ⇓P P 21 29 51.4 -0.9
baz=45,SNR=28
R28A Tribune 44.58 315 ⇑P P 21 29 52.3 -0.9
baz=45
N30A Hueftle Ranch, 44.61 319 ⇑P P 21 29 52.7 -0.6
baz=45
T27A Campo 44.66 312 ⇑P P 21 29 52.7 -1.1
baz=45,SNR=7.6
O29A 4D Ranch, Culb 44.73 317 ⇑P P 21 29 53.6 -0.6
baz=45
MNTX Cornudas Mount 44.76 304 eP P 21 29 52.8 -1.8
comp=Z,7.4nm,1.0s
MNTX Cornudas Mount 44.76 304 ⇓P P 21 29 54.2 -0.4
baz=45,SNR=7.9
Q28A Sharon Springs 44.92 315 ⇓P P 21 29 54.6 -1.2
baz=45
N29A Votaw Ranch, W 44.97 318 ⇓P P 21 29 55.1 -1.0
baz=45
L30A Spencer Herefo 44.97 320 ⇓P P 21 29 55.3 -0.9
baz=45
S27A Las Animas 45.05 313 ⇓P P 21 29 55.9 -1.1
baz=45
P28A Saint Francis 45.11 316 ⇑P P 21 29 56.3 -1.1
baz=45
R27A Eads 45.25 314 ⇑P P 21 29 57.1 -1.4
baz=45,SNR=5.3
K30A Basset 45.30 321 ⇑P P 21 29 57.7 -1.0
baz=46
T26A Comanche Natio 45.34 312 ⇑P P 21 29 58.3 -1.0
baz=46,SNR=6.1
S26A Kim 45.44 313 ⇓P P 21 29 59.2 -0.8
baz=46,SNR=5.8
N28A Pribbeno Ranch 45.50 318 ⇓P P 21 29 59.3 -1.1
baz=46
J30A Dallas 45.59 322 ⇑P P 21 30 00.2 -0.7
baz=46
P27A Ficken Ranch, 45.66 316 ⇓P P 21 30 00.5 -1.2
baz=46
M28A Bar X Bar Ranc 45.74 319 ⇑P P 21 30 01.8 -0.5
baz=46
I30A Oacoma 45.88 323 ⇓P P 21 30 02.7 -0.5
baz=46
O27A Beecher Island 45.89 317 ⇑P P 21 30 02.8 -0.7
baz=46
BRSD Miller 45.90 323 ⇑P P 21 30 03.0 -0.4
baz=46
T25A Trinidad 45.92 312 eP P 21 30 03.6 -0.3
comp=Z,25nm,1.5s
T25A Trinidad 45.92 312 ⇑P P 21 30 03.6 -0.3
baz=46,SNR=6.5
Q26A Hugo 46.03 314 ⇓P P 21 30 04.2 -0.4
baz=46
J29A Okreek 46.14 322 ⇑P P 21 30 05.3 0.0
baz=46
P26A Davis Ranch, A 46.20 315 ⇓P P 21 30 05.0 -0.9
baz=46
N27A Anderson Farm, 46.22 317 ⇑P P 21 30 05.0 -1.0
baz=46
K28A Ten Mile Ranch 46.41 320 ⇑P P 21 30 06.4 -1.1
baz=47
M27A Reverse DX Ran 46.47 318 ⇑P P 21 30 06.8 -1.2
baz=47
O26A Horse Wrangler 46.48 316 ⇑P P 21 30 07.4 -0.8
baz=47
BNM Barren Site 46.52 307 eP P 21 30 09.3 +0.6

Q25A	Bedland, Calha	46.54	314	⇓P		P	21 30 07.5	-1.2
	baz=47							
LPM	Los Pinos Moun	46.58	307	*eP*		P	21 30 09.6	+0.6
AGMN	Agassiz Nation	46.62	329	*eP*		P	21 30 07.8	-1.2
	comp=Z,7.5nm,0.9s							
AGMN	Agassiz Nation	46.62	329	⇓P		P	21 30 08.3	-0.7
	baz=47,SNR=5.2							
ANMO	Albuquerque	46.66	308	*c iP*		P	21 30 09.6	-0.1
ANMO				pmax		pmax		
	comp=Z,45nm,1.2s							
ANMO	Albuquerque	46.66	308	*eP*		P	21 30 09.8	+0.1
	comp=Z,14nm,1.1s							
N26A	Koester Ranch,	46.69	317	⇑P		P	21 30 09.0	-0.7
	baz=47							
J28A	Allard Ranch,	46.71	321	⇓P		P	21 30 09.1	-0.7
	baz=47							
H29A	Onida	46.74	323	⇓P		P	21 30 09.4	-0.6
	baz=47							
F30A	Leola	46.75	325	⇑P		P	21 30 09.4	-0.6
	baz=47							
LENM	Lemitar	46.80	307	*eP*		P	21 30 06.8	-4.0
R24A	Sanders Place,	46.87	313	⇑P		P	21 30 11.1	-0.2
	baz=47							
121A	Cookes Peak, D	46.95	305	*eP*		P	21 30 12.4	+0.4
	comp=Z,5.8nm,0.8s							
121A	Cookes Peak, D	46.95	305	⇑P		P	21 30 11.4	-0.6
	baz=47,SNR=5.5							
SDCO	Great Sand Dun	46.96	312	*eP*		P	21 30 11.5	-0.7
	comp=Z,7.7nm,0.8s							
SDCO	Great Sand Dun	46.96	312	⇓P		P	21 30 11.4	-0.8
	baz=47,SNR=16							
I28A	Midland	46.97	322	⇑P		P	21 30 11.5	-0.3
	baz=47							
E30A	Jud	47.09	326	⇑P		P	21 30 12.3	-0.3
	baz=47							
Q24A	Divide	47.20	314	⇓P		P	21 30 13.7	-0.3
	baz=47							
F29A	Eureka	47.21	325	⇑P		P	21 30 13.1	-0.5
	baz=47							
P24A	Kohler Place,	47.26	315	⇓P		P	21 30 13.5	-0.8
	baz=47							
D30A	Buchanan	47.37	327	⇑P		P	21 30 14.2	-0.5
	baz=48							
R23A	Moffat	47.37	312	⇓P		P	21 30 14.7	-0.6
	baz=48,SNR=8.1							
G28A	Parade	47.41	323	⇑P		P	21 30 14.8	-0.4
	baz=48							
M25A	Palm-Egli Farm	47.53	317	⇓P		P	21 30 15.4	-0.9
	baz=48							
E29A	Napoleon	47.53	325	⇑P		P	21 30 15.7	-0.4
	baz=48							
I27A	Quinn	47.55	321	⇓P		P	21 30 15.6	-0.7
	baz=48							
C30A	Mose, Pekin	47.59	327	⇓P		P	21 30 17.2	+0.7
	baz=48							
O24A	Longmont	47.64	315	⇑P		P	21 30 16.9	-0.3
	baz=48							
Q23A	Hartsel	47.66	313	⇓P		P	21 30 16.6	-1.0
	baz=48							
F28A	McLaughlin	47.77	324	⇓P		P	21 30 17.7	-0.2
	baz=48							
J26A	Sides Ranch, S	47.80	320	⇓P		P	21 30 18.1	-0.2
	baz=48							
D29A	Pettibone, Tap	47.80	326	⇑P		P	21 30 18.0	-0.1
	baz=48							
N24A	Carr	47.81	316	⇑P		P	21 30 17.9	-0.7
	baz=48							
P23A	Jefferson	47.86	314	⇓P		P	21 30 18.7	-0.4
	baz=48							
H27A	Howes	47.86	322	⇓P		P	21 30 17.6	-1.1
	baz=48							
319A	Douglas	47.87	303	⇑P		P	21 30 18.2	-0.8
	baz=48							
ISCO	Idaho Springs	47.88	315	*eP*		P	21 30 18.4	-0.8
ISCO				pmax		pmax		
	comp=Z,8.0nm,0.9s							
ISCO	Idaho Springs	47.88	315	*eP*		P	21 30 18.4	-0.8
	comp=Z,7.8nm,0.9s							
ISCO	Idaho Springs	47.88	315	⇓P		P	21 30 18.6	-0.6
	baz=48,SNR=12							
S22A	4UR Ranch, Cre	47.94	312	*eP*		P	21 30 19.3	-0.4
	comp=Z,4.1nm,0.6s							
S22A	4UR Ranch, Cre	47.94	312	⇑P		P	21 30 19.6	-0.1
	baz=48,SNR=6.6							
ULM	Lac du Bonnet	47.95	331	P		P	21 30 17.0	-2.1
	comp=Z,5.3nm,0.3s,baz=133,slow=8.2,SNR=18							
ULM				PcP		PcP	21 31 44.2	-1.7
	comp=Z,4.2nm,0.4s,baz=109,slow=3.3,SNR=6.6							
ULM	Lac du Bonnet	47.95	331	*eP*		P	21 30 17.2	-2.0
ULM				*e*			21 31 44.2	
ULM				pmax		pmax		
	comp=Z,11nm,1.1s							
ULM	Lac du Bonnet	47.95	331	*eP*		P	21 30 17.2	-2.0
	comp=Z,11nm,1.1s							
ULM				*eP*cP		PcP	21 31 44.2	-1.7
K25A	Mack Ranch, Ha	47.96	319	⇓P		P	21 30 19.3	-0.3
	baz=48							
B30A	Myrvik Farm, E	47.98	328	⇓P		P	21 30 18.9	-0.6
	baz=48							
M24A	Cheyenne	48.06	317	⇑P		P	21 30 19.6	-0.8
	baz=48							
E28A	Huff	48.13	325	⇑P		P	21 30 20.2	-0.5
	baz=48							
G27A	Dupree	48.17	323	⇑P		P	21 30 20.9	-0.1
	baz=48,SNR=5.8							
O23A	Lake Granby, G	48.26	315	⇓P		P	21 30 22.0	-0.1
	baz=48,SNR=6.1							
A30A	Hoffart Farm,	48.27	329	⇓P		P	21 30 21.1	-0.6
	baz=48							
D28A	Regan	48.41	326	⇓P		P	21 30 22.7	-0.2
	baz=49							
F27A	Lemmon	48.50	323	⇓P		P	21 30 23.4	-0.1
	baz=49,SNR=5.6							
B29A	Wagenman Farm,	48.52	328	⇑P		P	21 30 23.2	-0.4
	baz=49							
G26A	Maurine	48.53	322	⇓P		P	21 30 23.2	-0.6
	baz=49							
E27A	Carson	48.54	324	⇓P		P	21 30 23.8	0.0
	baz=49							
I25A	Rochford	48.56	320	⇓P		P	21 30 23.5	-0.8
	baz=49,SNR=5.9							
SMCO	Snowmass	48.59	313	*eP*		P	21 30 24.1	-0.7
	comp=Z,6.9nm,1.0s							
P22A	Eagle	48.60	314	⇓P		P	21 30 23.9	-0.7
	baz=49							
M23A	Laramie	48.66	317	⇓P		P	21 30 24.6	-0.5
	baz=49							
O22A	Kremmling	48.68	315	⇑P		P	21 30 24.4	-1.0
	baz=49,SNR=7.4							
A29A	Manning Farm,	48.74	328	⇓P		P	21 30 24.5	-0.7
	baz=49							
F26A	Lodgepole	48.87	323	⇑P		P	21 30 26.4	0.0
	baz=49							
N22A	Wattenberg Ran	48.88	315	⇓P		P	21 30 26.6	-0.2
	baz=49							
L23A	Garrett	48.94	317	⇑P		P	21 30 26.6	-0.6
	baz=49							
MVCO	Mesa Verde	48.98	310	⇓P		P	21 30 27.6	0.0
	baz=49							
E26A	Carlson Angus	49.08	324	⇓P		P	21 30 28.0	0.0
	baz=49							
K23A	Bowen Ranch, D	49.17	318	⇓P		P	21 30 28.3	-0.6
	baz=49							
M22A	Cedar Creek Ra	49.23	316	⇑P		P	21 30 28.6	-0.9
	baz=49							
C27A	Sayler Ranch,	49.23	326	⇓P		P	21 30 28.8	-0.4
	baz=49							
X18A	Snowflake	49.26	306	⇓P		P	21 30 29.8	+0.1
	baz=49							
PV01	Paradox Valley	49.36	311	*eP*		P	21 30 30.7	+0.2
D26A	Manning	49.37	324	⇓P		P	21 30 30.2	0.0
	baz=50,SNR=6.2							
L22A	Ellis Ranch, M	49.39	317	⇓P		P	21 30 30.0	-0.6
	baz=50							
H24A	Dirks Ranch, A	49.44	321	⇓P		P	21 30 29.7	-1.1
	baz=50							
C26A	Wahner Farm, P	49.62	326	⇑P		P	21 30 31.5	-0.6
	baz=50							
E25A	Miller Ranch,	49.64	323	⇑P		P	21 30 32.3	0.0
	baz=50							
K22A	Casper	49.72	318	*eP*		P	21 30 32.4	-0.7
	comp=Z,10nm,0.8s							
K22A	Casper	49.72	318	⇓P		P	21 30 32.6	-0.5
	baz=50							
PV05	Paradox Valley	49.73	311	*eP*		P	21 30 32.0	-1.3
PV10	Paradox Valley	49.79	311	*eP*		P	21 30 33.5	-0.2
A27A	Ledoux Ranch,	49.81	327	⇓P		P	21 30 33.3	-0.1
	baz=50							
O20A	White River Ci	49.86	314	*eP*		P	21 30 33.7	-0.5
	comp=Z,32nm,1.9s							
O20A	White River Ci	49.86	314	⇑P		P	21 30 33.4	-0.8
	baz=50							
D25A	Fairfield	49.94	324	⇑P		P	21 30 34.1	-0.4
	baz=50							
J22A	Midwest	50.03	319	⇓P		P	21 30 34.3	-1.1
	baz=50,SNR=5.7							
N20A	Spence Gulch,	50.15	315	⇓P		P	21 30 35.6	-0.8
	baz=50							
G23A	Biddle	50.18	321	⇑P		P	21 30 36.0	-0.4
	baz=50							
K21A	Alcova	50.20	317	⇓P		P	21 30 36.0	-0.7
	baz=50,SNR=11							
A26A	Wade Farm, Ken	50.21	327	⇑P		P	21 30 36.4	-0.1
	baz=50							
E24A	Baker	50.21	323	⇓P		P	21 30 36.6	0.0
	baz=50							
C25A	Freed Ranch, W	50.21	325	⇓P		P	21 30 36.2	-0.3
	baz=50,SNR=6.3							
I22A	9 Mile Ranch,	50.25	319	⇑P		P	21 30 36.0	-1.0
	baz=50							
F23A	Volborg	50.44	322	⇑P		P	21 30 38.1	-0.3
	baz=51							
H22A	Clearmont	50.49	320	⇓P		P	21 30 38.2	-0.6
	baz=51							
J21A	Lysite	50.63	318	⇑P		P	21 30 39.3	-0.6
	baz=51							
WUAZ	Wupatki	50.66	307	*eP*		P	21 30 40.9	+0.6
	comp=Z,7.3nm,0.9s							
WUAZ	Wupatki	50.66	307	⇓P		P	21 30 39.5	-0.7
	baz=51							
I21A	Big Trails, Te	50.74	319	⇓P		P	21 30 39.7	-1.0
	baz=51,SNR=7.9							
G22A	Birney	50.74	321	⇓P		P	21 30 40.1	-0.6
	baz=51							
A25A	Svangstu Ranch	50.81	326	⇓P		P	21 30 40.8	-0.3
	baz=51							
214A	Organ Pipe Nat	50.93	302	⇑P		P	21 30 41.2	-1.0
	baz=51							
H21A	Big Horn, Sher	50.94	320	⇓P		P	21 30 41.2	-1.0
	baz=51							
F22A	Rosebud	50.99	321	⇑P		P	21 30 41.8	-0.6
	baz=51							
D23A	Lindsay	51.05	323	⇓P		P	21 30 43.5	+0.6
	baz=51							
J20A	Shoshoni	51.05	318	⇓P		P	21 30 42.7	-0.4
	baz=51,SNR=14							
E22A	Miles City	51.12	322	⇑P		P	21 30 42.5	-0.9
	baz=51							
SRU	San Rafael Swe	51.13	312	*eP*		P	21 30 43.7	-0.1
SRU				pmax		pmax		
	comp=Z,10.0nm,0.9s							
SRU	San Rafael Swe	51.13	312	*eP*		P	21 30 43.7	-0.1
	comp=Z,10nm,0.9s							
DGMT	Dagmar	51.15	325	*eP*		P	21 30 44.2	+0.6
	comp=Z,43nm,1.0s							
DGMT	Dagmar	51.15	325	⇓P		P	21 30 44.2	+0.6
	baz=51,SNR=6.6							
A24A	Westby	51.29	326	⇓P		P	21 30 44.8	+0.2
	baz=51							
I20A	Worland	51.34	318	⇓P		P	21 30 44.2	-1.0
	baz=52,SNR=6.9							
C23A	Lambert	51.36	324	⇑P		P	21 30 45.7	+0.5
	baz=52,SNR=6.5							
LAO	LASA Array	51.41	322	*eP*		P	21 30 45.0	-0.6
	comp=Z,19nm,0.7s							
H20A	Greybull	51.49	319	⇓P		P	21 30 45.2	-1.1
	baz=52,SNR=8.8							
B23A	Brockton	51.60	325	⇑P		P	21 30 47.7	+0.7
	baz=52,SNR=11							
D22A	Cohagen	51.61	323	⇑P		P	21 30 47.4	+0.3
	baz=52							
U15A	North Rim	51.63	308	⇓P		P	21 30 47.6	0.0
	baz=52							
J19A	Crowheart	51.66	317	⇑P		P	21 30 46.9	-0.7
	baz=52,SNR=13							
TMUT	Trail Mountain	51.69	312	*eP*		P	21 30 48.1	0.0
	comp=Z,14nm,1.0s							
C22A	Vida	51.74	324	⇓P		P	21 30 47.8	-0.2
	baz=52							
PD31	Pinedale Array	51.80	317	*eP*		P	21 30 47.4	-1.4
PD31				*e*PcP		PcP	21 31 59.0	-1.5
PDAR	Pinedale Array	51.80	317	P		P	21 30 47.4	-1.4
	comp=Z,8.8nm,0.6s,baz=109,slow=9.9,SNR=71							
PDAR				pP		pP	21 31 13.5	-0.1
	comp=Z,2.3nm,0.8s,baz=110,slow=10,SNR=3.6							
PDAR				PcP		PcP	21 31 59.0	-1.5
	comp=Z,1.8nm,0.8s,baz=98,slow=6.1,SNR=4.1							
BW06	Boulder Array	51.80	317	*eP*		P	21 30 47.5	-1.2
	comp=Z,16nm,1.0s							
I19A	Meeteetse	51.94	318	⇓P		P	21 30 48.8	-1.0
	baz=52,SNR=6.9							
G20A	Bridger	51.95	320	⇓P		P	21 30 48.5	-1.3
	baz=52,SNR=8.4							
PLCA	Paso Flores	51.97	188	P		P	21 30 50.5	+0.9
	comp=Z,4.4nm,0.9s,baz=12,slow=7.8,SNR=3.4							
PLCA	Paso Flores	51.97	188	*eP*		P	21 30 50.6	+0.9
PLCA				pmax		pmax		
	comp=Z,163nm,2.9s							
PLCA	Paso Flores	51.97	188	*eP*		P	21 30 50.5	+0.9
	comp=Z,163nm,2.9s							
D21A	La Casta Ranch	52.06	322	⇑P		P	21 30 50.7	+0.3
	baz=52							
B22A	Reddig Ranch S	52.09	324	⇑P		P	21 30 50.5	-0.1
	baz=52							
MSU	Marysvale	52.16	311	*eP*		P	21 30 47.9	-3.6
MSU	Marysvale	52.16	311	*eP*		P	21 30 47.9	-3.6
F20A	Billings	52.17	321	⇑P		P	21 30 51.0	-0.3
	baz=52							
H19A	Powell	52.20	319	⇓P		P	21 30 51.3	-0.3
	baz=52							
JLU	Jordanelle	52.31	313	*eP*		P	21 30 53.0	+0.4
	comp=Z,6.0nm,0.7s							
A22A	Carney Farms,	52.40	325	⇑P		P	21 30 53.5	+0.6
	baz=52,SNR=5.5							
E20A	Meyer Farm, Mu	52.48	321	⇓P		P	21 30 53.4	-0.1
	baz=53							
C21A	Desert Coulee	52.49	323	⇑P		P	21 30 53.4	-0.1
	baz=53							
W13A	Hualapai Mount	52.53	306	⇓P		P	21 30 53.8	-0.5
	baz=53							
RLMT	Red Lodge	52.58	319	*eP*		P	21 30 53.6	-0.9
	comp=Z,9.3nm,0.9s							
H18A	Shoshone NF, C	52.65	319	⇑P		P	21 30 54.2	-0.8
	baz=53,SNR=6.7							
F19A	Roth Farm, Mol	52.69	320	⇑P		P	21 30 54.9	-0.2
	baz=53							
B21A	Ellsworth Farm	52.74	324	⇑P		P	21 30 56.2	+0.8
	baz=53,SNR=5.7							
HWUT	Hardwee Ranch	52.74	314	*eP*		P	21 30 54.5	-1.2
	comp=Z,12nm,1.0s							
D20A	Manuel Ranch,	52.76	322	⇑P		P	21 30 55.5	0.0
	baz=53,SNR=10							
LOHW	Long Hollow	52.84	317	*eP*		P	21 30 55.3	-1.1
	comp=Z,7.3nm,0.9s							
AHID	Auburn Hatcher	52.84	316	*eP*		P	21 30 55.5	-1.0
	comp=Z,22nm,1.1s							
E19A	Rath Farm, Rou	52.87	321	⇑P		P	21 30 56.4	0.0
	baz=53,SNR=7.6							
SNOW	Snow King Moun	52.88	317	*eP*		P	21 30 57.0	+0.2
	comp=Z,9.9nm,1.0s							
REDW	Red Top Meadow	52.90	317	*eP*		P	21 30 56.4	-0.5
	comp=Z,13nm,1.0s							
I17A	Pilgrim Ck.	52.94	317	⇑P		P	21 30 56.9	-0.2
	baz=53							
A21A	Bergtoll Ranch	52.97	325	⇓P		P	21 30 57.5	+0.5
	baz=53,SNR=6.5							
C20A	Veseth Ranch,	52.97	323	⇑P		P	21 30 57.4	+0.3
	baz=53,SNR=7.4							
MOOW	Moose Ponds	52.98	317	*eP*		P	21 30 55.9	-1.6
	comp=Z,18nm,2.3s							
TPAW	Teton Pass	53.02	317	*eP*		P	21 30 57.1	-0.7
	comp=Z,11nm,1.3s							
H17A	Grant Village	53.13	318	⇑P		P	21 30 58.7	+0.2
	baz=53							
FXWY	Fox Creek	53.13	317	*eP*		P	21 30 57.7	-0.9
	comp=Z,6.9nm,1.1s							
DUG	Dugway, Tooele	53.16	312	*eP*		P	21 30 58.4	-0.3
DUG				pmax		pmax		
	comp=Z,9.0nm,0.8s							
DUG	Dugway, Tooele	53.16	312	*eP*		P	21 30 58.4	-0.3
	comp=Z,9.1nm,0.8s							
DUG	Dugway, Tooele	53.16	312	⇓P		P	21 30 58.4	-0.3
	baz=53,SNR=10.0							
IMW	Indian Meadow	53.17	317	*eP*		P	21 30 58.0	-1.0
	comp=Z,3.2nm,0.8s							
D19A	Cripps Ranch,	53.24	322	⇑P		P	21 30 59.6	+0.5
	baz=53,SNR=5.9							
B20A	Solberg Farm,	53.33	324	⇓P		P	21 31 00.3	+0.6
	baz=54,SNR=16							
IRM	Iron Mountain	53.33	305	⇓P		P	21 31 00.1	+0.1
	baz=53,SNR=5.2							
FCC	Fort Churchill	53.42	340	*eP*		P	21 30 58.5	-1.6
FCC	Fort Churchill	53.42	340	*eP*		P	21 30 58.5	-1.6
	comp=Z,3µm,2.6s							
BC3	Big Chuckawall	53.47	304	⇓P		P	21 31 01.0	-0.1
	baz=54							
A20A	Cobblestone Ra	53.48	324	⇑P		P	21 31 01.0	+0.1
	baz=54,SNR=6.0							
BGU	Big Grassy Mou	53.55	313	*eP*		P	21 31 01.1	-0.5
	comp=Z,6.6nm,1.0s							
SWSC	Sam W. Stewart	53.60	303	⇓P		P	21 31 01.5	-0.5
	baz=54							
C19A	Slack Wire Ran	53.60	322	⇑P		P	21 31 01.8	0.0
	baz=54,SNR=6.2							
HVU	Hansel Valley	53.65	314	*eP*		P	21 31 01.3	-1.0
HVU				pmax		pmax		
	comp=Z,9.0nm,1.0s							
HVU	Hansel Valley	53.65	314	*eP*		P	21 31 01.3	-1.0
	comp=Z,8.7nm,1.0s							
IBP	Imperial Bould	53.79	303	⇓P		P	21 31 02.9	-0.6
	baz=54							
QLMT	Earthquake Lak	53.86	318	*eP*		P	21 31 05.0	+1.1
B19A	Brinkman Farms	53.88	323	⇓P		P	21 31 03.7	0.0
	baz=54							
A19A	Klindworth Far	53.98	324	⇑P		P	21 31 04.9	+0.4
	baz=54,SNR=20							
TPC	Twentynine Pal	54.04	304	*eP*		P	21 31 06.8	+1.6
EGMT	Eagleton	54.16	322	⇑P		P	21 31 06.4	+0.6
	baz=54							
BOZ	Bozeman (W)	54.31	319	*eP*		P	21 31 06.2	-0.9
BOZ				pmax		pmax		
	comp=Z,7.0nm,1.1s							
BOZ	Bozeman (W)	54.31	319	*eP*		P	21 31 06.2	-0.9
	comp=Z,7.3nm,1.1s							
HEC	Hector,Ludlow	54.42	305	⇑P		P	21 31 08.0	0.0
	baz=55							
SHOC	Shoshone, Teco	54.62	306	⇑P		P	21 31 10.0	+0.7
	baz=55							
109C	Camp Elliot, M	54.67	303	⇑P		P	21 31 09.6	-0.1
	baz=55							
R11A	Troy Canyon, C	54.68	309	*eP*		P	21 31 10.1	+0.2
	comp=Z,8.0nm,1.5s							
R11A	Troy Canyon, C	54.68	309	⇓P		P	21 31 09.7	-0.1
	baz=55							
MCMT	McKenzie Canyo	54.79	318	*eP*		P	21 31 10.4	-0.2
DLMT	Dillon	54.83	318	*eP*		P	21 31 10.1	-0.7
	comp=Z,16nm,1.5s							
TPNV	Topopah Spring	54.84	308	*eP*		P	21 31 12.1	+1.1
TPNV				pmax		pmax		
	comp=Z,9.0nm,1.0s							
TPNV	Topopah Spring	54.84	308	*eP*		P	21 31 12.1	+1.1
	comp=Z,8.8nm,1.0s							
TPNV	Topopah Spring	54.84	308	⇑P		P	21 31 11.4	+0.4
	baz=55							
MURC	Murrieta	54.88	303	⇓P		P	21 31 11.5	+0.3
	baz=55							
FURC	Furnace Creek,	55.20	307	⇑P		P	21 31 13.8	+0.4
	baz=55							
HLID	Hailey	55.39	316	*eP*		P	21 31 14.2	-0.7
	comp=Z,9.1nm,1.0s							
HLID	Hailey	55.39	316	⇑P		P	21 31 14.2	-0.7
	baz=56,SNR=15							
EVOP	Sao Brissos	55.42	51	*eP*		P	21 31 16.4	+1.5
EVOP				pmax		pmax		
	comp=Z,34nm,1.1s							
EVOP	Sao Brissos	55.42	51	*eP*		P	21 31 16.4	+1.5
	comp=Z,34nm,1.1s							
EVO	Evora	55.50	51	*eP*		P	21 31 16.4	+0.8
	comp=Z,34nm,1.1s							
LRMC	Laurel Mtn Rad	55.65	306	⇓P		P	21 31 16.9	0.0
	baz=56							
DAC	Darwin (Calif)	55.74	307	*eP*		P	21 31 17.6	0.0
DAC				pmax		pmax		
	comp=Z,5.0nm,1.2s							
DAC	Darwin (Calif)	55.74	307	*eP*		P	21 31 17.6	0.0
	comp=Z,5.3nm,1.2s							
SLMT	Seeley Lake	56.12	320	*eP*		P	21 31 19.5	-0.5
NV01	Mina Array Sit	56.77	309	*eP*		P	21 31 23.5	-1.3
NVAR	Mina Array Bea	56.77	309	P		P	21 31 23.5	-1.3
	comp=Z,1.5nm,0.8s,baz=104,slow=6.6,SNR=6.1							
LIC	Lamto	56.77	90	*eP*		P	21 31 26.9	+1.9
	comp=Z,2.9nm,0.5s							
LIC	Lamto	56.77	90	*eP*		P	21 31 26.9	+1.9
	comp=Z,2.9nm,0.5s							
SBC	Santa Barbara	57.09	304	⇑P		P	21 31 27.3	+0.4
	baz=57							
BMO	Blue Mountains	57.78	316	*eP*		P	21 31 30.3	-1.4
	comp=Z,8.0nm,1.3s							
PAB	San Pablo	58.51	50	*eP*		P	21 31 37.3	+0.4
PAB				pmax		pmax		
	comp=Z,22nm,1.5s							
PAB	San Pablo	58.51	50	*eP*		P	21 31 37.3	+0.4
	comp=Z,22nm,1.5s							
EDM	Edmonton	58.54	327	*eP*		P	21 31 35.4	-1.4
EDM				pmax		pmax		
	comp=Z,21nm,1.1s							
EDM	Edmonton	58.54	327	*eP*		P	21 31 35.4	-1.4
	comp=Z,21nm,1.1s							
NEW	Newport	58.78	320	*eP*		P	21 31 37.0	-1.5
NEW				pmax		pmax		
	comp=Z,8.0nm,0.9s							
NEW	Newport	58.78	320	*eP*		P	21 31 37.0	-1.5
	comp=Z,8.2nm,0.9s							
NEW	Newport	58.78	320	⇓P		P	21 31 37.4	-1.2
	baz=59,SNR=7.7							
ESDC	Sonseca Array	58.83	50	P		P	21 31 39.7	+0.6
	comp=Z,1.6nm,0.5s,baz=259,slow=7.0,SNR=24							
ESDC				pP		pP	21 32 05.8	+1.4
	comp=Z,1.8nm,0.8s,baz=265,slow=7.3,SNR=3.8							
G08A	Pilot Rock	59.03	317	*eP*		P	21 31 37.5	-3.0
	comp=Z,23nm,2.1s							
I07A	Izee	59.06	315	*eP*		P	21 31 39.6	-1.0
	comp=Z,13nm,1.0s							
K05A	Summer Lake	59.69	313	*eP*		P	21 31 45.1	0.0
	comp=Z,18nm,1.0s							
J05D	Fort Rock, OR	60.07	314	⇑P		P	21 31 47

LFF	La Frestale	63.34	45	*e*P	P	21 32 10.7	+1.4	
	comp=Z,9.1nm,0.6s							
LFF	La Frestale	63.34	45	*e*P	P	21 32 10.7	+1.4	
LFF				pmax	pmax			
	comp=Z,9.0nm,0.6s							
LFF	La Frestale	63.34	45	*e*P	P	21 32 10.7	+1.4	
	comp=Z,9.1nm,0.6s							
FLN	La Foliniere	63.38	41⇑	*i*P	P	21 32 10.8	+1.3	
	comp=Z,16nm,0.5s							
FLN	La Foliniere	63.38	41⇑	*i*P	P	21 32 10.8	+1.3	
FLN				pmax	pmax			
	comp=Z,16nm,0.5s							
FLN	La Foliniere	63.38	41⇑	*i*P	P	21 32 10.8	+1.3	
	comp=Z,16nm,0.5s							
YKA	Yellowknife Ar	63.53	336	P	P	21 32 08.0	-2.2	
	comp=Z,2.0nm,0.3s,baz=106,slow=7.2,SNR=43							
YKA	Yellowknife Ar	63.53	336	P	P	21 32 08.0	-2.2	
YKA	Yellowknife Ar	63.53	336	P	P	21 32 08.0	-2.2	
YKB5	Yellowknife Ar	63.53	336	*e*P	P	21 32 08.0	-2.2	
LDF	La Druitiere	63.57	41	*e*P	P	21 32 11.7	+0.9	
LDF	La Druitiere	63.57	41	*e*P	P	21 32 11.7	+0.9	
LDF	La Druitiere	63.57	41	*e*P	P	21 32 11.7	+0.9	
RJF	Les Rejaudoux	63.95	45	*e*P	P	21 32 14.2	+0.8	
RJF	Les Rejaudoux	63.95	45	*e*P	P	21 32 14.2	+0.8	
RJF	Les Rejaudoux	63.95	45	*e*P	P	21 32 14.2	+0.8	
MTLF	Montolieu	64.09	47⇑	*i*P	P	21 32 15.5	+1.2	
	comp=Z,12nm,0.8s							
MTLF	Montolieu	64.09	47⇑	*i*P	P	21 32 15.5	+1.2	
MTLF				pmax	pmax			
	comp=Z,12nm,0.8s							
MTLF	Montolieu	64.09	47⇑	*i*P	P	21 32 15.5	+1.2	
	comp=Z,12nm,0.8s							
CAF	Calviac	64.26	45⇑	*i*P	P	21 32 16.5	+1.1	
	comp=Z,6.7nm,0.4s							
CAF	Calviac	64.26	45⇑	*i*P	P	21 32 16.5	+1.1	
CAF				pmax	pmax			
	comp=Z,7.0nm,0.4s							
CAF	Calviac	64.26	45⇑	*i*P	P	21 32 16.5	+1.1	
	comp=Z,6.7nm,0.4s							
TCF	Toulx Ste Croi	64.61	44⇑	*i*P	P	21 32 18.7	+1.0	
	comp=Z,4.9nm,0.5s							
TCF	Toulx Ste Croi	64.61	44⇑	*i*P	P	21 32 18.7	+1.0	
TCF				pmax	pmax			
	comp=Z,5.0nm,0.5s							
TCF	Toulx Ste Croi	64.61	44⇑	*i*P	P	21 32 18.7	+1.0	
	comp=Z,4.9nm,0.5s							
AVF	Avril sur Loir	65.48	43⇑	*i*P	P	21 32 23.9	+0.6	
	comp=Z,4.7nm,0.4s							
AVF	Avril sur Loir	65.48	43⇑	*i*P	P	21 32 23.9	+0.6	
AVF				pmax	pmax			
	comp=Z,5.0nm,0.4s							
AVF	Avril sur Loir	65.48	43⇑	*i*P	P	21 32 23.9	+0.6	
	comp=Z,4.7nm,0.4s							
TAM	Tamanrasset	65.51	70	*e*P	P	21 32 26.4	+2.3	
TAM				pmax	pmax			
	comp=Z,8.0nm,1.3s							
TAM	Tamanrasset	65.51	70	*e*P	P	21 32 26.4	+2.3	
	comp=Z,8.4nm,1.3s							
SMF	Signal de Mont	65.79	44⇑	*i*P	P	21 32 26.0	+0.7	
	comp=Z,5.9nm,0.5s							
SMF	Signal de Mont	65.79	44⇑	*i*P	P	21 32 26.0	+0.7	
SMF				pmax	pmax			
	comp=Z,6.0nm,0.4s							
SMF	Signal de Mont	65.79	44⇑	*i*P	P	21 32 26.0	+0.7	
	comp=Z,5.9nm,0.4s							
LOR	Lormes	65.91	43⇑	*i*P	P	21 32 26.6	+0.5	
	comp=Z,6.2nm,0.5s							
LOR	Lormes	65.91	43⇑	*i*P	P	21 32 26.6	+0.5	
LOR				pmax	pmax			
	comp=Z,6.0nm,0.5s							
LOR	Lormes	65.91	43⇑	*i*P	P	21 32 26.6	+0.5	
	comp=Z,6.2nm,0.5s							
VIVF	Saint-Julien-l	66.07	46⇑	*i*P	P	21 32 28.7	+1.5	
	comp=Z,8.3nm,0.9s							
VIVF	Saint-Julien-l	66.07	46⇑	*i*P	P	21 32 28.7	+1.5	
VIVF				pmax	pmax			
	comp=Z,8.0nm,0.9s							
VIVF	Saint-Julien-l	66.07	46⇑	*i*P	P	21 32 28.7	+1.5	
	comp=Z,8.3nm,0.9s							
BAIF	Baives	66.66	40	*e*P	P	21 32 31.0	+0.3	
BAIF	Baives	66.66	40	*e*P	P	21 32 31.0	+0.3	
BAIF	Baives	66.66	40	*e*P	P	21 32 31.0	+0.3	
SFTF	Sexfontaines	66.86	42	*e*P	P	21 32 32.7	+0.6	
SFTF	Sexfontaines	66.86	42	*e*P	P	21 32 32.7	+0.6	
MEZF	Maizieres J'vi	66.91	42⇑	*i*P	P	21 32 33.2	+0.8	
	comp=Z,19nm,0.6s							
MEZF	Maizieres J'vi	66.91	42⇑	*i*P	P	21 32 33.2	+0.8	
	comp=Z,19nm,0.6s							
GIVF	Givet	67.05	40	*e*P	P	21 32 34.0	+0.7	
GIVF	Givet	67.05	40	*e*P	P	21 32 34.0	+0.7	
GIVF	Givet	67.05	40	*e*P	P	21 32 34.0	+0.7	
LMR	La Mourre	67.19	48	*e*P	P	21 32 35.2	+1.0	
LMR	La Mourre	67.19	48	*e*P	P	21 32 35.2	+1.0	
LMR	La Mourre	67.19	48	*e*P	P	21 32 35.2	+1.0	
CABF	La Chapelle	67.31	44⇑	*i*P	P	21 32 35.9	+0.8	
	comp=Z,5.5nm,0.6s							
CABF	La Chapelle	67.31	44⇑	*i*P	P	21 32 35.9	+0.8	
CABF				pmax	pmax			
	comp=Z,6.0nm,0.6s							
CABF	La Chapelle	67.31	44⇑	*i*P	P	21 32 35.9	+0.8	
	comp=Z,5.5nm,0.6s							
FRF	La Foret Royal	67.31	47	*e*P	P	21 32 36.0	+1.0	
FRF	La Foret Royal	67.31	47	*e*P	P	21 32 36.0	+1.0	
FRF	La Foret Royal	67.31	47	*e*P	P	21 32 36.0	+1.0	
PAGF	Fort de Pagny	67.36	42⇑	*i*P	P	21 32 36.0	+0.7	
	comp=Z,3.2nm,0.6s							
PAGF	Fort de Pagny	67.36	42⇑	*i*P	P	21 32 36.0	+0.7	
	comp=Z,3.2nm,0.6s							
LPL	La Plagne	67.61	45⇑	*i*P	P	21 32 38.8	+1.7	
	comp=Z,4.8nm,0.5s							
LPL	La Plagne	67.61	45⇑	*i*P	P	21 32 38.8	+1.7	
LPL				pmax	pmax			
	comp=Z,5.0nm,0.5s							
LPL	La Plagne	67.61	45⇑	*i*P	P	21 32 38.8	+1.7	
	comp=Z,4.8nm,0.5s							
LPG	La Plagne	67.62	45⇑	*i*P	P	21 32 39.0	+1.7	
	comp=Z,5.4nm,0.5s							
LPG	La Plagne	67.62	45⇑	*i*P	P	21 32 39.0	+1.7	
LPG				pmax	pmax			
	comp=Z,5.0nm,0.5s							
LPG	La Plagne	67.62	45⇑	*i*P	P	21 32 39.0	+1.7	
	comp=Z,5.4nm,0.5s							
HAU	Haudompre	67.69	43	*e*P	P	21 32 37.1	-0.3	
HAU	Haudompre	67.69	43	*e*P	P	21 32 37.1	-0.3	
HAU	Haudompre	67.69	43	*e*P	P	21 32 37.1	-0.3	
WLF	Walferdange	67.82	41	P	P	21 32 39.2	+1.1	
	comp=Z,12nm,1.2s							
SBF	Sospel	67.91	47	*e*P	P	21 32 39.2	+0.3	
SBF	Sospel	67.91	47	*e*P	P	21 32 39.2	+0.3	
SBF	Sospel	67.91	47	*e*P	P	21 32 39.2	+0.3	
HINF	Hinteralfeld	68.00	43⇑	*i*P	P	21 32 39.5	+0.2	
	comp=Z,5.7nm,0.4s							
HINF	Hinteralfeld	68.00	43⇑	*i*P	P	21 32 39.5	+0.2	
HINF				pmax	pmax			
	comp=Z,6.0nm,0.4s							
HINF	Hinteralfeld	68.00	43⇑	*i*P	P	21 32 39.5	+0.2	
	comp=Z,5.7nm,0.4s							
CDF	Champ du Feu	68.36	42⇑	*i*P	P	21 32 42.0	+0.3	
	comp=Z,6.0nm,0.5s							
CDF	Champ du Feu	68.36	42⇑	*i*P	P	21 32 42.0	+0.3	
CDF				pmax	pmax			
	comp=Z,6.0nm,0.5s							
CDF	Champ du Feu	68.36	42⇑	*i*P	P	21 32 42.0	+0.3	
	comp=Z,6.0nm,0.5s							
KEST	Kesra	68.84	56	P	P	21 32 45.9	+1.1	
	comp=Z,1.7nm,0.8s,baz=180,slow=4.0,SNR=12							
PGF	Pioggiola	68.93	49	*e*P	P	21 32 46.1	+0.8	
PGF	Pioggiola	68.93	49	*e*P	P	21 32 46.1	+0.8	
PGF	Pioggiola	68.93	49	*e*P	P	21 32 46.1	+0.8	
DAVA	Damuels	69.97	44⇑	*i*P	P	21 32 52.5	+0.8	
	comp=Z,12nm,1.0s							
FETA	Feichten	70.52	44⇑	*i*P	P	21 32 56.1	+1.0	
	comp=Z,12nm,1.2s							
MOTA	Moosalm	70.81	44⇓	*i*P	P	21 32 57.5	+0.7	
	comp=Z,2.1nm,0.4s							
NKC	Novy Kostel	71.93	41	*e*P	P	21 33 04.5	+1.2	
NKC	Novy Kostel	71.93	41	*e*P	P	21 33 04.5	+1.2	
CLL	Collm	72.36	40	*i*P	P	21 33 06.8	+1.0	
	comp=Z,9.0nm,1.4s							
CLL	Collm	72.36	40⇓	*i*P	P	21 33 06.8	+1.0	
	comp=Z,9.0nm,1.4s							
CLL	Collm	72.36	40	*i*P	P	21 33 06.8	+1.0	
CLL				pmax	pmax			
	comp=Z,9.0nm,1.4s							
NB2	NORSAR Subarra	72.53	29	P	P	21 33 08.2	+1.5	
	comp=Z,1.0nm,0.7s,baz=262,slow=6.2							
NB200	NORSAR Array S	72.53	29	*e*P	P	21 33 07.5	+0.8	
NOA	NORSAR Array B	72.53	29	P	P	21 33 07.5	+0.8	
	comp=Z,8.3nm,0.8s,baz=262,slow=5.9,SNR=33							
GEC2	GERESS Array S	72.65	42	*e*P	P	21 33 08.6	+0.9	
GEC2	GERESS Array S	72.65	42	*e*P	P	21 33 08.6	+0.9	
GERES	GERESS Array B	72.65	42	P	P	21 33 07.9	+0.2	
	comp=Z,2.7nm,0.7s,baz=255,slow=5.1,SNR=17							
GERES				pP	pP	21 33 34.1	+0.1	
	comp=Z,1.4nm,0.8s,baz=254,slow=3.8,SNR=4.1							
JAVS	Javornik	72.76	45	*i*P	P	21 33 09.3	+0.9	
BRG	Berggiesshubel	72.92	40	*e*P	P	21 33 10.1	+1.0	
	comp=Z,4.4nm,1.2s							
BRG	Berggiesshubel	72.92	40	*e*P	P	21 33 10.1	+1.0	
BRG				pmax	pmax			
	comp=Z,4.0nm,1.2s							
INK	Inuvik	72.99	338	*e*P	P	21 33 07.6	-1.6	
INK				pmax	pmax			
	comp=Z,4.0nm,0.9s							
INK	Inuvik	72.99	338	*e*P	P	21 33 07.5	-1.6	
	comp=Z,4.1nm,0.9s							
PRU	Pruhonice	73.26	41	*e*P	P	21 33 12.1	+1.0	
PRU				*ex*	x	21 33 23.6		
PRU				*ep*P	pP	21 33 37.6	+0.1	
PRU	Pruhonice	73.26	41	*e*P	P	21 33 12.1	+1.0	
PRU				*e*		21 33 23.6		
PRU				*e**PP	pP	21 33 37.6	+0.1	
VISS	Visnje	73.30	45	*i* P	P	21 33 11.2	-0.2	
PVCC	Panska Ves	73.30	40	*e*P	P	21 33 10.6	-0.8	
PVCC				*ex*	x	21 33 32.4		
PVCC	Panska Ves	73.30	40	*e*P	P	21 33 10.6	-0.8	
PVCC				*e**PP	PcP	21 33 32.4	+5.1	
PERS	Pernice	73.51	45	*i* P	P	21 33 13.1	+0.3	
BOJS	Bojanci	73.58	46	*i* P	P	21 33 09.1	-4.0	
UPC	Upice	74.22	41	*e*P	P	21 33 17.9	+1.1	
UPC	Upice	74.22	41	*e*P	P	21 33 17.9	+1.1	
DPC	Dobruska-Polom	74.41	41	*e*P	P	21 33 19.1	+1.1	
DPC				*ep*P	pP	21 33 44.0	-0.4	
DPC	Dobruska-Polom	74.41	41	*e*P	P	21 33 19.1	+1.1	
DPC				*e**PP	pP	21 33 44.0	-0.4	
DPC	Dobruska-Polom	74.41	41	*e*P	P	21 33 18.7	+0.8	
	comp=Z,193nm,2.2s							
VRAC	Vranov	74.56	42⇑	*i*P	P	21 33 19.9	+1.1	
DAWY	Dawson	74.58	334	*e*P	P	21 33 18.1	-0.5	
KRLC	Kraliky	74.70	41	*e*P	P	21 33 21.1	+1.5	
KRLC				*ep*P	pP	21 33 46.6	+0.5	
KRLC				*es*P	sP	21 33 56.9	-0.4	
KRLC	Kraliky	74.70	41	*e*P	P	21 33 21.1	+1.5	
KRLC				*e**PP	pP	21 33 46.6	+0.5	
KRLC				*e*		21 33 56.9		
EGAK	Eagle	75.42	334	*e*P	P	21 33 22.7	-0.7	
	comp=Z,13nm,1.2s							
PKSM	Moragy	75.95	45⇑	*i*P	P	21 33 28.0	+1.3	
VYHS	Vyhne	76.04	43	*e*P	P	21 33 28.2	+0.9	
VYHS				pmax	pmax			
	comp=Z,1.0nm,1.2s							
VYHS	Vyhne	76.04	43	*e*P	P	21 33 28.2	+0.9	
DIVS	Divibare	76.97	47⇓	*i*P	P	21 33 34.8	+2.1	
KECS	Kecovo	77.14	43	*e*P	P	21 33 34.2	+0.8	
KECS	Kecovo	77.14	43	*e*P	P	21 33 34.2	+0.8	
STHS	Stebnicka Huta	77.60	42	*e*P	P	21 33 39.0	+3.0	
STHS				pmax	pmax			
	comp=Z,3.0nm,0.9s							
STHS	Stebnicka Huta	77.60	42	*e*P	P	21 33 39.0	+3.0	
CRVS	Cervenica-Dubn	77.77	42	*e*P	P	21 33 38.7	+1.7	
CRVS				pmax	pmax			
	comp=Z,13nm,1.7s							
CRVS	Cervenica-Dubn	77.77	42	*e*P	P	21 33 38.7	+1.7	
ILAR	Eielson Array	77.88	334	P	P	21 33 35.5	-1.7	
	comp=Z,0.8nm,0.4s,baz=95,slow=4.6,SNR=16							
ILB	Eielson Array	77.88	334	*e*P	P	21 33 35.5	-1.7	
BZS	Buzias	78.05	46⇑	*i*P	P	21 33 39.4	+0.9	
COLA	College	78.29	334	*e*P	P	21 33 38.5	-0.9	
COLA				pmax	pmax			
	comp=Z,11nm,1.0s							
KWP	Kalwaria Pacla	78.55	41	*e*P	P	21 33 42.4	+1.1	
KWP				pmax	pmax			
	comp=Z,26nm,1.3s							
KWP	Kalwaria Pacla	78.55	41⇑	*i*P	P	21 33 43.4	+2.2	
KWP	Kalwaria Pacla	78.55	41	*e*P	P	21 33 42.4	+1.1	
	comp=Z,26nm,1.3s							
DRGR		78.73	44⇓	*i*P	P	21 33 43.7	+1.3	
GZR	Gura Zlata	78.88	46⇓	*i*P	P	21 33 44.0	+0.8	
ARA0	ARCESS Array S	79.07	21	*e*P	P	21 33 42.9	-0.8	
ARCES	ARCESS Array B	79.07	21	P	P	21 33 42.9	-0.8	
	comp=Z,4.7nm,0.7s,baz=270,slow=5.4,SNR=25							
ARCES	ARCESS Array B	79.07	21	*e*P	P	21 33 43.9	+0.2	
TRF	Thorofare Moun	79.40	333	*e*P	P	21 33 45.3	-0.5	
	comp=Z,8.7nm,1.0s							
VTS	Vitosha	79.41	48⇓	*i*P	P	21 33 48.2	+1.9	
KTH	Kantishna Hill	79.68	333	*e*P	P	21 33 46.7	-0.5	
	comp=Z,8.8nm,1.1s							
FIA0	FINESS Array S	79.72	29	*e*P	P	21 33 47.7	+0.4	
FIA0	FINESS Array S	79.72	29	*e*P	P	21 33 47.7	+0.4	
FINES	FINESS Array B	79.72	29	P	P	21 33 47.7	+0.4	
	comp=Z,11nm,0.4s,baz=256,slow=4.7,SNR=244							
MMB	Musomiste	79.89	49⇓	*i*P	P	21 33 50.9	+2.1	
ARR	Arges	80.18	46⇑	*i*P	P	21 33 51.6	+1.3	
BUR08	Bucovina Ar. S	80.35	43	*e*P	P	21 33 53.1	+1.9	
BUR08				*e*		21 34 18.3		
BURAR	Bucovina Array	80.36	43⇑	*i*P	P	21 33 53.4	+2.1	
VOIR		80.47	45⇓	*i*P	P	21 33 55.5	+3.7	
HUMR	Humele	80.51	46⇓	*i*P	P	21 33 54.4	+2.4	
DOPR	Dopca	80.65	45⇓	*i*P	P	21 33 54.0	+1.3	
RSO	Redoubt South	80.80	330	*e*P	P	21 33 52.8	-0.7	
	comp=Z,20nm,0.9s							
KDAK	Kodiak Island	80.99	327	*i* P	P	21 33 53.7	-0.5	
MLR	Muntele Rosu	81.09	45⇑	*i*P	P	21 33 56.8	+1.6	
KDZ	Kurdzhali	81.14	49⇓	*i*P	pP	21 34 22.3	+0.1	
TESR	Tescani	81.46	44⇓	*i*P	P	21 33 58.4	+1.4	
PLOR	Plostina	81.53	45⇑	*i*P	P	21 33 58.8	+1.3	
VRI	Vrincioaia	81.59	45⇑	*i*P	P	21 33 59.3	+1.6	
MSAB	Monastry St. A	82.59	47⇓	*i*P	P	21 34 04.1	+1.2	
AKASG	Malin Array Be	82.61	40	P	P	21 34 03.1	+0.2	
	comp=Z,1.0nm,0.6s,baz=264,slow=4.9,SNR=13							
AKASG				*i* P	P	21 34 03.5	+0.6	
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.7s							
AKBB	Malin Array Si	82.61	40	*e*P	P	21 34 03.1	+0.2	
AKBB	Malin Array Si	82.61	40	*e*P	P	21 34 03.1	+0.2	
TLB	Topalu	82.67	46⇓	*i*P	P	21 34 05.3	+2.0	
TIRR	Tirgusor	82.96	46⇓	*i*P	P	21 34 05.1	+0.3	
OBN	Obninsk	86.15	35	*c* *i*P	P	21 34 21.4	+0.8	
OBN				*e**PP	pP	21 34 47.4	-0.3	
OBN				*e*		21 37 36.6		
OBN				pmax	pmax			
	comp=Z,36nm,1.2s							
OBN				MLR	MLR			
	comp=Z,40nm,18.0s							
OBN	Obninsk	86.15	35	*e*P	P	21 34 21.7	+1.1	
	comp=Z,29nm,0.9s							
OBN	Obninsk	86.15	35	*e*P	P	21 34 21.7	+1.1	
KLMR	Klimovskoe	86.23	29	*e*P	P	21 34 21.8	+0.9	
KLMR				*e**PP	pP	21 34 47.3	-0.7	
KLMR				pmax	pmax			
	comp=Z,35nm,1.5s							
TNA	Tin City	86.48	336	*e*P	P	21 34 22.4	+0.3	
	comp=Z,11nm,0.9s							
BR101	Keskin Array S	87.63	50	*e*P	P	21 34 28.9	+0.5	
BR131	Keskin Array S	87.63	50	*e*P	P	21 34 28.9	+0.6	
	comp=Z,4.9nm,0.8s							
BR131				*ep*P	pP	21 34 53.8	-1.7	
BRTR	Keskin Array B	87.63	50	P	P	21 34 28.9	+0.5	
	comp=Z,5.4nm,0.8s,baz=257,slow=4.1,SNR=41							
BRTR				pP	pP	21 34 55.1	-0.4	
	comp=Z,2.2nm,0.8s,baz=258,slow=4.8,SNR=4.8							
BRTR	Keskin Array B	87.63	50	*i* P	P	21 34 29.3	+0.9	
BRTR				pmax	pmax			
	comp=Z,6.0nm,0.7s							
LPSR	Galich'ya Gora	88.13	37	*e*P	P	21 34 30.3	0.0	
LPSR				pmax	pmax			
	comp=Z,10.0nm,0.9s							
LPSR				pmax	pmax			
	comp=N,5.0nm,0.8s							
LPSR				pmax	pmax			
	comp=E,10.0nm,1.9s							
VSR	Storozhevoye	88.65	38	*e*P	P	21 34 33.0	+0.3	
VSR				pmax	pmax			
	comp=N,7.0nm,1.0s							
VSR				pmax	pmax			
	comp=E,10.0nm,1.0s							
VSR				pmax	pmax			
	comp=Z,10.0nm,1.0s							
PRGR	Permogore	88.79	27	*e*P	P	21 34 34.3	+1.1	
PRGR				*e**PP	pP	21 34 59.4	-1.0	
PRGR				pmax	pmax			
	comp=Z,11nm,0.6s							
VORD	Divnogorie	88.79	38	*e*P	P	21 34 33.8	+0.4	
VORD				pmax	pmax			
	comp=N,10.0nm,0.8s							
VORD				pmax	pmax			
	comp=E,10.0nm,0.8s							
VORD				pmax	pmax			
	comp=Z,9.0nm,0.8s							
SNAA	Sanae	91.20	164	*e*P	P	21 34 46.4	+2.2	
SNAA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
MALT	Malatya	91.58	51⇑	*i*P	P	21 34 48.9	+2.0	
BILL	Bilibino	94.00	344⇑	*i*P	P	21 34 55.4	-1.8	
BILL				*e**PP	pP	21 35 25.9	+1.4	
BILL				pmax	pmax			
	comp=Z,3.0nm,1.2s							
KSH	Kashi	116.59	35	*e*PKP	PKPdf	21 40 24.5	+0.8	
KSH				sPKP		21 41 01.8		
KSH				*e*PP	PP	21 41 36.8	+5.3	
KSH				PKS	PKSdf	21 44 00.0	-0.5	
KSH				SKS	SKSdf	21 47 25.5	-1.2	
KSH				SKKS	SKKSac	21 48 19.2	-4.3	
KSH				PPMZ				
	comp=Z,57nm,4.5s							
KSH				LN				
	comp=Z,80nm,8.1s							
KSH				LE				
	comp=Z,95nm,5.2s							
KSH				LZ				
	comp=Z,200nm,6.9s							
WMQ	Urumqi	119.06	24	*e*PKP	PKPdf	21 40 28.7	+0.5	
WMQ				LE				
	comp=Z,110nm,21.0s							
WMQ				LZ				
	comp=Z,140nm,21.0s							
SONA0	Songino Array	120.64	9	*e*PKPdf	PKPdf	21 40 30.5	-0.7	
SONM	Songino Array	120.64	9	PKP	PKPdf	21 40 30.5	-0.7	
	comp=Z,0.7nm,0.3s,baz=268,slow=1.3,SNR=3.7							
USRK	Ussuriysk Ar.	123.61	348	PKP	PKPdf	21 40 35.3	-1.5	
	comp=Z,0.4nm,0.4s,baz=11,slow=1.5,SNR=4.8							
GTA	Gaotai	127.22	17	*e*PKP	PKPdf	21 40 44.1	0.0	
GTA				sPKP		21 41 22.7		
HHC	Hu-ho-hao-te	128.17	6	*e*PKP	PKPdf	21 40 46.4	+0.6	
HHC				PP	PP	21 42 53.6	+4.5	
HHC				PKS	PKSdf	21 44 21.6	-0.9	
HHC				SKS	SKSdf	21 47 46.6	-1.8	
HHC				SKKS	SKKSac	21 49 34.7	-3.4	
HHC				SS	SS	21 59 54.6	0.0	
HHC				PPMZ				
	comp=Z,67nm,5.1s							
MAJO	Matsushiro	128.98	339	*e*PKIKP	PKPdf	21 40 46.0	-1.3	
MAJO	Matsushiro	128.98	339	*e*PKPdf	PKPdf	21 40 46.0	-1.3	
MJAR	Matsushiro Arr	128.98	339	PKP	PKPdf	21 40 46.0	-1.3	
	comp=Z,1.0nm,0.8s,baz=62,slow=1.1,SNR=9.4							
LZH	Lanzhou	131.44	15	*e*PKP	PKPdf	21 40 52.5	+0.2	
LZH				sPKP		21 41 29.2		
CD2	Chengdu	136.30	17	*e*PKP	PKPdf	21 41 00.7	-0.7	
NJ2	Nanjing	137.25	359	*e*PKP	PKPdf	21 41 01.3	-1.7	
GYA	Guiyang	141.32	16	*e*PKP	PKPdf	21 41 09.0	-1.7	
GYA				sPKP		21 41 51.2		
GYA				PP	PP	21 44 15.5	+3.1	
GYA				PPMZ				
	comp=Z,90nm,7.8s							
CHTO	Chiang Mai	145.14	32	*e*PKIKP	PKPbc	21 41 16.9	-0.3	
CHTO	Chiang Mai	145.14	32	*e*PKPbc	PKPbc	21 41 16.9	-0.3	
CM31	Chiang Mai Arr	145.43	33	*e*PKPdf	PKPdf	21 41 17.9	-0.1	
CMAR	Chiang Mai Arr	145.43	33	PKPbc	PKPdf	21 41 17.9	-0.1	
	comp=Z,5.3nm,1.0s,baz=306,slow=4.2,SNR=30							
CMAR				pPKPbc	pPKPbc	21 41 44.4	-1.7	
	comp=Z,3.5nm,0.6s,baz=312,slow=5.2,SNR=7.6							
STKA	Stephens Creek	149.64	223	PKP	PKPdf	21 41 24.3	-0.3	
	comp=Z,2.3nm,0.3s,baz=97,slow=3.4,SNR=4.6							
STKA				PKPbc	PKPbc	21 41 28.6	-0.6	
	comp=Z,2.3nm,0.3s,baz=87,slow=3.5,SNR=11							
CTA	Charters Tower	151.05	248	PKPbc	PKPbc	21 41 31.7	-1.3	
	comp=Z,10nm,0.8s,baz=157,slow=3.5,SNR=5.2							
AS12	Alice Springs	160.03	229	*e*PKPdf	PKPdf	21 41 38.2	-0.9	
AS12				*e*PKPab	PKPab	21 42 17.1	-2.1	
ASAR	Alice Springs	160.03	229	PKP	PKPdf	21 41 38.2	-0.9	
	comp=Z,0.4nm,0.5s,baz=130,slow=1.5,SNR=4.9							
ASAR				PKPab	PKPab	21 42 17.1	-2.1	
	comp=Z,0.5nm,0.7s

MK32	**Makanchi Array**	**40.34**	**349**	*eP*	**P**	**21**	**30**	**59.1**	**-1.2**
MKAR	**Makanchi Array**	**40.34**	**349**	P	**P**	**21**	**30**	**59.1**	**-1.2**
	0.7nm,0.5s,baz=177,slow=8.0,SNR=16								
MKAR	**Makanchi Array**	**40.34**	**349**	*eP*	**P**	**21**	**30**	**59.8**	**-0.5**
SONA0	**Songino Array**	**42.19**	**14**	*eP*	**P**	**21**	**31**	**14.3**	**-1.3**
SONM	**Songino Array**	**42.19**	**14**	P	**P**	**21**	**31**	**14.3**	**-1.3**
	1.5nm,0.8s,baz=189,slow=9.2,SNR=6.2								
GEYT	**Alibeck**	**43.50**	**320**	P	**P**	**21**	**31**	**25.5**	**-0.8**
	1.5nm,0.7s,baz=134,slow=8.5,SNR=5.2								
KURK	**Kurchatov**	**44.81**	**348**	*eP*	**P**	**21**	**31**	**36.4**	**-0.1**
	16nm,1.4s								
ZALV	**Zalesovo Beam**	**46.97**	**354**	P	**P**	**21**	**31**	**52.4**	**-1.0**
	0.5nm,0.4s,baz=180,slow=8.2,SNR=6.3								
ZAA1	**Zalesovo Array**	**46.97**	**354**	*eP*	**P**	**21**	**31**	**52.4**	**-1.1**
WRA	**Warramunga Arr**	**49.38**	**124**	P	**P**	**21**	**32**	**12.3**	**-0.4**
	4.8nm,0.6s,baz=306,slow=8.3,SNR=36								
WRA				PcP	**PcP**	**21**	**33**	**35.0**	**-0.1**
	0.7nm,0.6s,baz=311,slow=3.0,SNR=6.0								
ABKAR	**Akbulak array**	**49.95**	**333**	*eP*	**P**	**21**	**32**	**16.7**	**+0.2**
AS12	**Alice Springs**	**50.91**	**128**	*eP*	**P**	**21**	**32**	**24.1**	**-0.2**
ASAR	**Alice Springs**	**50.91**	**128**	P	**P**	**21**	**32**	**24.1**	**-0.2**
	1.7nm,0.4s,baz=299,slow=7.7,SNR=30								
ASAR				PcP	**PcP**	**21**	**33**	**41.1**	**+0.5**
	1.1nm,0.5s,baz=310,slow=3.2,SNR=8.2								
MAJO	**Matsushiro**	**50.91**	**48**	*eP*	**P**	**21**	**32**	**23.4**	**-0.7**
	20nm,1.8s								
MJAR	**Matsushiro Arr**	**50.92**	**48**	P	**P**	**21**	**32**	**23.4**	**-0.7**
	0.2nm,0.3s,baz=232,slow=8.4,SNR=4.3								
MJAR				PcP	**PcP**	**21**	**33**	**40.7**	**+0.3**
	0.3nm,0.5s,baz=207,slow=0.4,SNR=4.2								
STKA	**Stephens Creek**	**60.99**	**133**	P	**P**	**21**	**33**	**36.5**	**+0.3**
	2.5nm,0.6s,baz=328,slow=7.1,SNR=9.0								
FIA0	**FINESS Array S**	**72.44**	**333**	*eP*	**P**	**21**	**34**	**48.0**	**-0.7**
FINES	**FINESS Array B**	**72.44**	**333**	P	**P**	**21**	**34**	**48.0**	**-0.7**
	2.5nm,0.8s,baz=122,slow=5.1,SNR=2.3								
GEC2	**GERESS Array S**	**77.10**	**318**	*eP*	**P**	**21**	**35**	**15.9**	**-0.3**
GERES	**GERESS Array B**	**77.10**	**318**	P	**P**	**21**	**35**	**15.9**	**-0.3**
	0.5nm,0.6s,baz=75,slow=5.4,SNR=4.2								
NB2	**NORSAR Subarra**	**79.40**	**331**	P	P	21	35	36.7	+8.1
	comp=Z,1.7nm,0.8s,baz=95,slow=5.9								
LPG	**La Plagne**	**81.79**	**315**	*eP*	P	21	35	51.5	+9.4
	comp=Z,6.2nm,0.8s								
LPG	**La Plagne**	**81.79**	**315**	*eP*	P	21	35	51.5	+9.4
	comp=Z,6.2nm,0.8s								
LPL	**La Plagne**	**81.80**	**315**	*eP*	P	21	35	51.6	+10
	comp=Z,12nm,1.0s								
DBIC	**Dimbokro**	**96.25**	**278**	LR	LR	22	19	45.2	
	comp=Z,95nm,18.0s,baz=344,slow=35								
NVAR	**Mina Array Bea**	**126.37**	**30**	PKP	**PKPdf**	**21**	**42**	**26.2**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=283,slow=2.4,SNR=4.1								
PDAR	**Pinedale Array**	**126.39**	**20**	PKP	**PKPdf**	**21**	**42**	**25.7**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=48,slow=2.2,SNR=5.5								
TXAR	**Lajitas Array**	**140.51**	**22**	PKP	**PKPdf**	**21**	**42**	**52.5**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=187,slow=0.9,SNR=10								

MEX 02 21:28:20.0±1.0, 16°.91N×100°.73W, h8km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CAIG	**El Cayaco**	**0.47**	**73**	*eP*		Pg	21 28 28.4	-0.7
CAIG				*i* S		Sg	21 28 34.8	-0.4
ZIIG	**Zihuatanejo**	**0.98**	**315**	*eP*		Pg	21 28 35.9	-3.1
ZIIG				*i* S		Sg	21 28 48.7	-3.0
ARIG	**Puente Sto Nin**	**1.41**	**15**	*eP*		Pn	21 28 42.4	-3.7
ARIG				*i* P		Pn	21 28 42.4	-4.3
ARIG				*i* S		Sb	21 28 59.1	-5.7
MEIG	**Mezcala**	**1.47**	**46**	*i* P		Pn	21 28 43.9	-3.0
MEIG				*e*S		Sn	21 29 02.2	-4.2
TLIG	**Tlapa**	**2.17**	**72**	*eP*		Pn	21 28 54.6	-2.1
TLIG				*e*S		Sn	21 29 20.3	-3.6

IDC 02 21:41:52.9±2.6, 17°.10S×177°.30E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/18, mbtmp3.8/3, Error ellipse: s-maj=299.4km s-min=34.9km az=160.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**40.75**	**259**	P		P	21 49 35.9	-0.1
	0.3nm,0.6s,baz=90,slow=8.2,SNR=6.6							
ASAR	**Alice Springs**	**41.08**	**253**	P		P	21 49 38.5	-0.2
	0.6nm,0.3s,baz=89,slow=7.5,SNR=20							
TXAR	**Lajitas Array**	**89.06**	**59**	P		P	21 54 50.5	0.0
	1.5nm,1.2s,baz=216,slow=4.0,SNR=3.6							

DJA 02 22:09:37.4±0.5, 1°.S±3°.×12°.2E±°, h11km±5km, M3.9/9, mb4.3/1, MLv3.7/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LUWI	**Luwuk**	**0.45**	**138**	P		Pg	22 09 46.3	0.0
APSI	**Ampana**	**0.85**	**256**	P		Pg	22 09 51.1	-2.7
APSI				S		Sb	22 10 05.8	+0.3
MRSI	**Marisa**	**1.28**	**336**	P		Pn	22 10 00.4	-0.9
MRSI				S		Sb	22 10 16.6	-1.5
PCI	**Palu**	**2.64**	**266**	P		Pn	22 10 21.2	+1.2
PCI				S		Sn	22 10 51.2	-0.9
MPSI	**Mapaga**	**2.77**	**292**	P		Pn	22 10 23.1	+1.3
TTSI	**Tana Toraja**	**3.53**	**229**	P		Pn	22 10 32.0	-0.2
TTSI				S		Sn	22 10 45.8	-28
SPSI	**Sidrap Palu**	**4.22**	**220**	P		Pn	22 10 41.8	+0.1
SPSI				S		Sn	22 11 31.8	+0.8
BNSI	**Bone**	**4.37**	**213**	P		Pn	22 10 45.2	+1.4

*KRNET **02** 22:27:24.8±0.1, 40°.04N×76°.97E, h2km, mb3.7*
*NNC **02** 22:27:27.1±3.0, 40°.00N×76°.78E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=30.1km s-min=13.4km az=146.0*
ISC 02 22:27:26.9±2.4, 40°.06N±0°.08×76°.71E±0°.06, h3km±16km, n29, σ1s49/48, 22C-11D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NRN	**Naryn**	**1.47**	**339**	*eP*		**Pb**	**22 27 55.0**	**-0.1**
	baz=332							
NRN				*e*S		**Sg**	**22 28 16.4**	**+2.2**
	baz=332							
KDJ	**Kajisay**	**2.10**	**10**	*eP*		**Pn**	**22 28 01.8**	**-1.3**
	baz=4.0							
KDJ				*e*S		**Sb**	**22 28 31.7**	**-0.4**
	baz=4.0							
ULHL	**Ulahol**	**2.21**	**351**	P		**Pb**	**22 28 07.9**	**+0.3**
	SNR=6.9							
ULHL	**Ulahol**	**2.21**	**351**	⇑*i*P		**Pb**	**22 28 07.6**	**0.0**
	baz=346							
ULHL				⇑*i*S		**Sg**	**22 28 38.6**	**+0.7**
	baz=346							
KZA	**Kyzart**	**2.30**	**332**	P		**Pg**	**22 28 10.3**	**-0.6**
	SNR=37							
KZA	**Kyzart**	**2.30**	**332**	⇑*i*P		**Pb**	**22 28 10.0**	**+0.8**
	baz=328							
KZA				⇑*i*S		**Sg**	**22 28 42.8**	**+2.1**
	baz=328							
SALK	**Salom-Alik**	**2.35**	**291**	*eP*		**Pb**	**22 28 09.9**	**-0.1**
	baz=290							
SALK				*e*S		**Sg**	**22 28 45.8**	**+3.3**
	baz=290							
SFK	**Sufi-Kurgan**	**2.47**	**270**	⇓Pn		**Pn**	**22 28 07.1**	**-1.1**
	0.6nm,0.3s							
SFK				⇓Pg		**Pg**	**22 28 13.2**	**-0.9**
	4.1nm,0.3s							
SFK				⇑Lg		Lg	22 28 48.7	
	20nm,0.3s							
BOOM	**Boomskoye usch**	**2.49**	**347**	*eP*		**Pb**	**22 28 11.6**	**-0.8**
	baz=343							
BOOM				*e*S		**Sg**	**22 28 48.0**	**+1.0**
	baz=343							
UCH	**Uchtor**	**2.73**	**323**	P		**Pb**	**22 28 16.4**	**-0.2**
	SNR=14							
UCH	**Uchtor**	**2.73**	**323**	⇓*i*P		**Pb**	**22 28 15.8**	**-0.8**
	baz=320							
UCH				⇓*i*S		**Sg**	**22 28 56.7**	**+2.2**
	baz=320							
ANVS	**Anan'yevo**	**2.81**	**14**	⇓*i*P		**Pb**	**22 28 17.8**	**0.0**
	baz=11							
KBK	**Karagaybulak**	**2.91**	**333**	P		**Pg**	**22 28 21.8**	**-0.8**
	SNR=19							
KBK	**Karagaybulak**	**2.91**	**333**	⇑*i*P		**Pb**	**22 28 18.4**	**-1.1**
	baz=330							
KBK				⇑*i*S		**Sg**	**22 29 00.9**	**+0.5**
	baz=330							
TKM2	**Tokmak 2**	**2.98**	**344**	⇑Pn		**Pb**	**22 28 18.8**	**-1.8**
	3.1nm,0.4s							
TKM2				⇑Pg		**Pg**	**22 28 22.4**	**-1.5**
	9.4nm,0.6s							
TKM2				⇑Lg		Lg	22 29 01.1	
	22nm,0.6s							
TKM2	**Tokmak 2**	**2.98**	**344**	P		**Pb**	**22 28 18.8**	**-1.8**
	SNR=9.6							
TKM2	**Tokmak 2**	**2.98**	**344**	⇑*i*P		**Pb**	**22 28 18.7**	**-2.0**
	baz=341							
TKM2				⇑*i*S		**Sg**	**22 29 01.4**	**-1.1**
	baz=341							
AAK	**Ala-Archa**	**3.06**	**328**	⇓Pn		**Pb**	**22 28 20.5**	**-1.6**
	1.2nm,0.4s							
AAK				⇓Pg		**Pg**	**22 28 24.5**	**-1.1**
	11nm,0.8s							
AAK				⇑Lg		Lg	22 29 07.4	
	50nm,0.9s							
AAK	**Ala-Archa**	**3.06**	**328**	P		**Pg**	**22 28 24.8**	**-0.8**
	SNR=8.0							
AAK	**Ala-Archa**	**3.06**	**328**	⇑*i*P		**Pb**	**22 28 20.6**	**-1.6**
	baz=325							
AAK				⇑*i*S		**Sg**	**22 29 06.1**	**+0.8**
	baz=325							
AML	**Almayashu**	**3.08**	**313**	P		**Pb**	**22 28 20.7**	**-1.8**
	SNR=23							
AML	**Almayashu**	**3.08**	**313**	⇑*i*P		**Pb**	**22 28 20.5**	**-2.0**
	baz=311							
AML				⇑*i*S		**Sg**	**22 29 07.2**	**+1.4**
	baz=311							
KNDC	**Almaty**	**3.16**	**3**	⇑Pn		**Pb**	**22 28 23.0**	**-0.6**
	11nm,0.5s							
KNDC				⇑Lg		Lg	22 29 07.8	
	142nm,0.8s							
FRU	**Bishkek**	**3.19**	**331**	*eP*		**Pb**	**22 28 23.0**	**-1.1**
	baz=328							
FRU				*e*S		**Sg**	**22 29 11.0**	**+1.8**
	baz=328							
CHMS	**Chumysh**	**3.28**	**334**	P		**Pb**	**22 28 23.1**	**-2.6**
	SNR=11							
EKS2	**Erkin-Say**	**3.41**	**321**	P		**Pb**	**22 28 25.8**	**-2.2**
	SNR=8.8							
EKS	**Erkin-Say**	**3.41**	**321**	*i* P		**Pb**	**22 28 25.8**	**-2.2**
	baz=319							
EKS				*e*S		**Sg**	**22 29 18.8**	**+2.4**
	baz=319							
PDGK	**Podgornoye**	**3.87**	**32**	⇑Pn		**Pn**	**22 28 28.3**	**+1.1**
	0.4nm,0.3s							
PDGK				⇓Pg		**Pb**	**22 28 35.7**	**+0.1**
	3.1nm,0.4s							
PDGK				⇓Sn		**Sn**	**22 29 14.3**	**+1.2**
	12nm,1.6s							
PDGK				⇓Lg		Lg	22 29 26.5	
	33nm,0.9s							
KK31	**Karatay Array**	**5.55**	**305**	⇑Pn		**Pn**	**22 28 51.6**	**+1.2**
	0.1nm,0.2s,baz=163,slow=12,SNR=6.4							
KK31				⇑Pg		**Pb**	**22 29 04.9**	**+0.5**
	1.7nm,0.7s,baz=130,slow=14,SNR=5.6							
KK31				⇓Lg		Lg	22 30 22.2	
	1.7nm,0.5s,baz=139,slow=28,SNR=3.9							

*KRSC **02** 22:28:42.8±1.2, 57°.38N×162°.38E, h15km±6km, ML4.5*
*ISCJB **02** 22:28:43.9±0.7, 57°.38N±0°.02×162°.33E±0°.06, h15km±5km, mb3.8/22, MS3.1/5, Error ellipse: s-maj=5.6km s-min=3.4km az=24.4*
*MOS **02** 22:28:44.3±1.0, 57°.35N×162°.31E, h21km, mb4.3/13, Error ellipse: s-maj=15.5km s-min=6.6km az=85.4*
*IDC **02** 22:28:48.9±2.8, 57°.28N×162°.26E, h44km±27km, mb3.5/17, mb1 3.7/19, mb1mx3.6/31, mbtmp3.7/19, ML2.9/2, MS3.1/7, Ms1 3.1/7, ms1mx2.9/30, Error ellipse: s-maj=20.1km s-min=14.7km az=143.0*
ISC 02 22:28:42.8±1.5, 57°.36N±0°.03×162°.29E±0°.04, h0km±9km, n91, σ1s26/93, mb3.9/22, MS3.2/5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SMKR	**Semkarok**	**0.90**	**210**	*eP*		**Pg**	**22 29 00.3**	**+0.2**
SMKR				*e*S		**Sb**	**22 29 14.3**	**+0.3**
SRKR	**Sorokina**	**0.94**	**221**	*eP*		**Pg**	**22 29 00.2**	**-0.6**
SRKR				*e*S		**Sg**	**22 29 14.1**	**+1.1**
BDR	**Baidarnaya**	**0.99**	**217**	*eP*		**Pg**	**22 29 01.6**	**-0.2**
BDR				*e*S		**Sg**	**22 29 15.6**	**+0.9**
KBTR	**Krutoberegovo**	**1.19**	**166**	*eP*		**Pb**	**22 29 05.4**	**-0.9**
KBTR				*e*S		**Sn**	**22 29 22.0**	**-1.6**
KBTR	**Krutoberegovo**	**1.19**	**166**	PN		**Pb**	**22 29 05.4**	**-0.9**
KBTR				S		**Sn**	**22 29 22.0**	**-1.6**
KLY	**Klyuchi**	**1.39**	**221**	*eP*		**Pn**	**22 29 06.6**	**-2.8**
KLY				*e*S		**Sn**	**22 29 24.8**	**-3.6**
KLY	**Klyuchi**	**1.39**	**221**	PN		**Pn**	**22 29 06.6**	**-2.8**
KLY				S		**Sn**	**22 29 24.8**	**-3.6**
KRSR	**Krestovskiy**	**1.49**	**220**	*eP*		**Pn**	**22 29 08.8**	**-2.1**
KRSR				*e*S		**Sn**	**22 29 28.4**	**-2.7**
ZLN	**Zelenaya**	**1.58**	**212**	*eP*		**Pn**	**22 29 12.2**	**-0.7**
BZGR	**Bezymyannyi-Gr**	**1.68**	**212**	*eP*		**Pn**	**22 29 10.5**	**-3.0**
BZWR	**Bezymyannyi-We**	**1.72**	**216**	*eP*		**Pn**	**22 29 12.9**	**-1.2**
BZWR				*e*S		**Sn**	**22 29 35.3**	**-1.5**
BZMR	**Bezymyannaya**	**1.74**	**216**	*eP*		**Pn**	**22 29 13.8**	**-0.6**
BZMR				*e*S		**Sn**	**22 29 36.8**	**-0.6**
SRDR	**Sredinnyy**	**1.76**	**235**	*eP*		**Pn**	**22 29 13.2**	**-1.4**
SRDR				*e*S		**Sn**	**22 29 36.3**	**-1.4**
KIRR	**Kirishev**	**1.78**	**218**	*eP*		**Pn**	**22 29 14.0**	**-0.9**
KIRR				*e*S		**Sn**	**22 29 36.8**	**-1.5**
KPT	**Kopyto**	**1.81**	**220**	*eP*		**Pn**	**22 29 14.7**	**-0.6**
KPT				*e*S		**Sn**	**22 29 38.2**	**-0.7**
KOZR	**Kozyr**	**1.85**	**226**	PN		**Pn**	**22 29 15.7**	**-0.1**
KOZR				S		**Sb**	**22 29 40.4**	**-0.9**
KOZ	**Kozyrevsk**	**1.87**	**227**	*eP*		**Pn**	**22 29 15.7**	**-0.3**
KOZ				*e*S		**Sn**	**22 29 40.4**	**+0.1**
OSSR	**Ossora**	**1.94**	**12**	*eP*		**Pn**	**22 29 16.5**	**-0.4**
OSSR				*e*S		**Sb**	**22 29 41.4**	**-2.2**
KMNR	**Kamenistaya**	**1.97**	**216**	*eP*		**Pn**	**22 29 17.4**	**-0.1**
KMNR				*e*S		**Sb**	**22 29 43.4**	**-1.4**
PALN	**Palana**	**2.12**	**326**	*eP*		**Pn**	**22 29 19.9**	**+0.4**
PALN				*e*S		**Sb**	**22 29 47.7**	**-1.3**
TUMR	**Tumrok**	**2.40**	**211**	*eP*		**Pb**	**22 29 26.2**	**-0.8**
ESO	**Esso**	**2.45**	**236**	*eP*		**Pn**	**22 29 24.2**	**+0.1**
ESO				*e*S		**Sn**	**22 29 54.9**	**+0.2**
ESO	**Esso**	**2.45**	**236**	PN		**Pn**	**22 29 24.2**	**+0.1**
ESO				S		**Sn**	**22 29 54.9**	**+0.2**
KZV	**Kizimen**	**2.52**	**207**	*eP*		**Pb**	**22 29 27.8**	**-1.1**
MKZ	**Mys Kozlova**	**2.83**	**187**	*eP*		**Pn**	**22 29 29.7**	**+0.5**
MKZ				*e*S		**Sn**	**22 30 04.5**	**+0.5**
MKZ	**Mys Kozlova**	**2.83**	**187**	PN		**Pn**	**22 29 29.7**	**+0.5**
MKZ				S		**Sn**	**22 30 04.5**	**+0.5**
BKI	**Bering**	**2.98**	**135**	*eP*		**Pn**	**22 29 31.0**	**-0.3**
BKI				*e*S		**Sn**	**22 30 06.2**	**-1.5**
BKI	**Bering**	**2.98**	**135**	PN		**Pn**	**22 29 31.0**	**-0.3**
BKI				S		**Sn**	**22 30 06.2**	**-1.5**
TILK	**Tilichiki**	**3.68**	**31**	*eP*		**Pn**	**22 29 39.4**	**-1.5**
KII	**Karymskiy**	**3.70**	**207**	*eP*		Pn	22 29 44.5	+3.2
GNL	**Ganaly**	**4.43**	**216**	*eP*		Pn	22 29 54.0	+2.7
SPN	**Mys Shipunski**	**4.47**	**198**	*eP*		**Pn**	**22 29 52.5**	**+0.8**
SPN				*e*S		**Sn**	**22 30 44.6**	**+0.3**
SPN	**Mys Shipunski**	**4.47**	**198**	PN		**Pn**	**22 29 52.5**	**+0.8**
SPN				S		**Sn**	**22 30 44.6**	**+0.3**
KRX	**Arik**	**4.52**	**209**	*eP*		Pn	22 29 56.4	+3.8
NLC	**Nalytchevo**	**4.53**	**203**	*eP*		**Pn**	**22 29 54.8**	**+2.3**
NLC	**Nalytchevo**	**4.53**	**203**	PN		**Pn**	**22 29 54.8**	**+2.3**
SDLR	**Sedlovina**	**4.53**	**207**	*eP*		Pn	22 29 56.3	+3.6
KRER	**Koryakskii**	**4.54**	**208**	*eP*		Pn	22 29 56.8	+3.8
AVH	**Avacha**	**4.58**	**208**	*eP*		Pn	22 29 57.5	+4.1
KOK	**Koryaka**	**4.58**	**209**	*eP*		Pn	22 29 57.8	+4.4
UGLR	**Uglovaya**	**4.61**	**207**	*eP*		Pn	22 29 57.8	+4.0
PET	**Petropavlovsk**	**4.82**	**207**	*eP*		Pn	22 30 01.2	+4.6
PET	**Petropavlovsk**	**4.82**	**207**	*e*PN		Pb	22 30 02.2	-5.9
PET				*e*S		Sb	22 30 59.5	-7.1
PET				pmax	pmax			
	comp=Z,48nm,0.8s							
PET				smax	smax			
	comp=N,71nm,0.8s							
PET				MLR	MLR			
	comp=Z,900nm,6.0s							
PET				MLR	MLR			
	comp=Z,500nm,13.0s							
PETK	**Petropavlovsk-**	**5.01**	**214**	P		**Pn**	**22 30 01.1**	**+2.0**
	comp=Z,1.9nm,0.3s,baz=60,slow=15,SNR=43							
PETK				LR		LR	22 32 23.8	
	comp=Z,242nm,18.7s,baz=49,slow=44							
APC	**Apacha**	**5.33**	**216**	*eP*		Pn	22 30 07.5	+3.9
RUS	**Russkaya**	**5.40**	**205**	*eP*		Pn	22 30 07.3	+2.8
RUS	**Russkaya**	**5.40**	**205**	PN		Pn	22 30 07.3	+2.8
MTVR	**Mutnovka**	**5.43**	**208**	*eP*		Pn	22 30 09.5	+4.4
ASAK	**Asacha**	**5.60**	**209**	*eP*		Pn	22 30 11.6	+4.3
SEY	**Seymchan**	**7.45**	**323**	P		Pn	22 30 35.0	+2.3
	comp=Z,0.2nm,0.3s,baz=92,slow=11,SNR=2.8							
ASAJ	**Asahikawa**	**18.11**	**231**	LR		LR	22 39 41.4	
	comp=Z,57nm,20.7s,baz=337,slow=36							
TIXI	**Tiksi**	**19.88**	**329**	*eP*		**Pn**	**22 33 17.9**	**+1.2**
TIXI				pmax	pmax			
	comp=Z,5.0nm,1.0s							
ILAR	**Eielson Array**	**25.03**	**52**	P		**P**	**22 34 08.3**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=272,slow=9.1,SNR=10							
BOD	**Bodaibo**	**25.45**	**292**	*eP*		**P**	**22 34 11.2**	**-0.8**
MJA0	**Matsu Arr-Jizo**	**26.26**	**228**	*eP*		P	22 34 26.4	+6.8
MJAR	**Matsushiro Arr**	**26.28**	**228**	P		**P**	**22 34 18.8**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=35,slow=6.5,SNR=3.2							
MJAR				LR		LR	22 44 26.9	
	comp=Z,24nm,21.4s,baz=205,slow=36							
INK	**Inuvik**	**29.78**	**42**	LR		LR	22 49 38.7	
	comp=Z,47nm,18.2s,baz=294,slow=42							
ULN	**Ulaanbaatar**	**33.96**	**278**	*eP*		**P**	**22 35 29.2**	**+1.4**
ULN				pmax	pmax			
	comp=Z,3.0nm,1.2s							
SONM	**Songino Array**	**34.33**	**278**	P		**P**	**22 35 31.6**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=69,slow=7.9,SNR=4.3							
SONM	**Songino Array**	**34.33**	**278**	*eP*		**P**	**22 35 32.9**	**+1.9**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**37.73**	**173**	T		T	23 14 58.6	
	baz=357,slow=76,SNR=18							
H11N3	**WAKE ISLAND Hy**	**37.75**	**173**	T		T	23 14 55.7	
	baz=357,slow=76,SNR=11							
H11N1	**WAKE ISLAND Hy**	**37.75**	**173**	T		T	23 14 59.9	
	baz=357,slow=76,SNR=11							
RES	**Resolute Bay**	**38.89**	**24**	LR		LR	22 56 08.6	
	comp=Z,17nm,18.4s,baz=1.5,slow=42							
YKA	**Yellowknife Ar**	**39.23**	**47**	P		**P**	**22 36 12.8**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=302,slow=8.2,SNR=15							
YKA	**Yellowknife Ar**	**39.23**	**47**	P		**P**	**22 36 12.8**	**+0.5**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
SPITS	**Spitsbergen Ar**	**43.13**	**350**	P		**P**	**22 36 44.8**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=54,slow=7.3,SNR=5.7							
SPITS	**Spitsbergen Ar**	**43.13**	**350**	P		**P**	**22 36 44.8**	**+0.6**
SPITS				pmax	pmax			
	comp=Z,2.0nm,0.6s							
KURK	**Kurchatov**	**46.63**	**300**	*eP*		**P**	**22 37 12.4**	**+0.1**
KURK				pmax	pmax			
	comp=Z,6.0nm,1.3s							
MKAR	**Makanchi Array**	**47.52**	**293**	P		**P**	**22 37 18.7**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=18,slow=5.2,SNR=4.7							
BRVK	**Borovoye**	**48.80**	**307**	*eP*		P	22 37 31.5	+2.3
BRVK				pmax	pmax			
	comp=Z,4.0nm,1.7s							
SUMG	**Summit**	**49.55**	**8**	*i* P		**P**	**22 37 36.2**	**+1.0**
	comp=Z,7.6nm,1.1s							
SUMG	**Summit**	**49.55**	**8**	*i* P		**P**	**22 37 36.2**	**+1.0**
SUMG				pmax	pmax			
	comp=Z,8.0nm,1.1s							
AAK	**Ala-Archa**	**54.37**	**295**	*eP*		**P**	**22 38 11.1**	**-0.1**
AAK				pmax	pmax			
	comp=Z,6.0nm,1.0s							
PDAR	**Pinedale Array**	**54.44**	**65**	P		**P**	**22 38 12.1**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=302,slow=4.1,SNR=3.4							
FINES	**FINESS Array B**	**56.70**	**337**	P		**P**	**22 38 28.3**	**+0.9**
	comp=Z,3.1nm,1.1s,baz=353,slow=9.8,SNR=2.5							
FINES				LR		LR	23 06 56.4	
	comp=Z,17nm,18.5s,baz=346,slow=40							
FINES	**FINESS Array B**	**56.70**	**337**	P		**P**	**22 38 28.3**	**+0.9**
FINES				pmax	pmax			
	comp=Z,3.0nm,1.1s							
FINES				MLR	MLR			
	comp=Z,17nm,18.5s							
NB2	**NORSAR Subarra**	**59.78**	**344**	P		**P**	**22 38 48.3**	**-0.8**
	comp=Z,2.7nm,1.0s,baz=19,slow=6.9							
NOA	**NORSAR Array B**	**59.78**	**344**	P		**P**	**22 38 48.9**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=18,slow=6.8,SNR=5.5							
NOA	**NORSAR Array B**	**59.78**	**344**	*eP*		**P**	**22 38

DJA 02 22:51:23.5±2.7, 9°S±5°×107°E±°, h18km±38km, M3.6/8, MLv3.6/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**1.89**	**29**	P	Pn	22 51 54.7	-0.3
CISI				S	Sn	22 52 19.4	+0.9
CNJI	**Cibinong**	**1.92**	**7**	P	Pn	22 51 54.7	-0.6
CNJI				S	Sb	22 52 20.5	-1.2
CMJI	**Cimerak**	**2.10**	**47**	P	Pn	22 51 57.9	+0.1
CMJI				S	Sn	22 52 23.5	0.0
SKJI	**Sukabumi**	**2.24**	**351**	S	Sn	22 52 27.9	+1.0
LEM	**Lembang**	**2.49**	**17**	P	Pb	22 52 06.5	-1.5
KPJI	**Karang Pucung**	**2.75**	**47**	P	Pn	22 52 07.9	+1.1
CGJI	**Cibinong**	**2.86**	**335**	P	Pn	22 52 08.1	-0.2
UGM	**Wanagama**	**3.81**	**70**	P	Pn	22 52 21.9	+0.5

*NNC **02** 23:05:57.0±2.4, 39°.52N×74°.88E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=19.2km s-min=7.1km az=168.0*
*KRNET **02** 23:05:56.8±0.1, 39°.64N×74°.95E, h2km, mb3.7*

ISC 02 23:05:57.2±2.5, 39.7°N±0.1°×75.01°E±0.07°, h10km, n9, σ1§97/17, 9C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**1.21**	**288**	⇑P	**Pb**	**23 06 18.6**	**-1.8**
	15nm,0.4s						
SFK				⇑S	**Sg**	**23 06 35.6**	**-0.7**
	45nm,0.3s						
SALK	**Salom-Alik**	**1.52**	**324**	*e*P	**Pb**	**23 06 24.9**	**-0.8**
	baz=325						
SALK				*e*S	**Sg**	**23 06 47.0**	**+0.8**
	baz=325						
NRN	**Naryn**	**1.93**	**23**	*e*P	**Pb**	**23 06 32.1**	**-0.6**
	baz=23						
NRN				*e*S	**Sg**	**23 07 00.7**	**+1.5**
	baz=23						
CHVK	**Chauvay**	**2.20**	**283**	*e*P	**Pb**	**23 06 36.0**	**-1.2**
	baz=284						
CHVK				*e*S	**Sg**	**23 07 07.0**	**-0.9**
	baz=284						
BOOM	**Boomskoye usch**	**2.92**	**14**	*e*P	**Pb**	**23 06 51.0**	**+1.6**
	baz=14						
AAK	**Ala-Archa**	**3.00**	**353**	⇑Pn	**Pb**	**23 06 48.3**	**-2.5**
	1.1nm,0.8s						
AAK				⇑Pg	**Pg**	**23 06 53.5**	**-1.1**
	3.2nm,0.4s						
AAK				⇓Lg	Lg	23 07 32.8	
	3.6nm,0.6s						
BTK	**Batken**	**3.25**	**278**	*e*P	**Pb**	**23 06 56.0**	**+0.9**
	baz=279						
TKM2	**Tokmak 2**	**3.29**	**8**	⇑Pn	**Pb**	**23 06 53.4**	**-2.4**
	0.7nm,0.2s						
TKM2				⇓Pg	**Pg**	**23 06 57.4**	**-2.8**
	4.9nm,0.4s						
TKM2				⇓Sn	**Sb**	**23 07 35.7**	**-0.3**
	8.2nm,0.6s						
KK31	**Karatay Array**	**4.83**	**317**	⇑Pn	**Pn**	**23 07 11.7**	**+1.8**
	0.4nm,0.6s,baz=131,slow=13,SNR=9.2						
KK31				⇑Pg	Pb	23 07 25.0	+3.1
	0.7nm,0.4s,baz=130,slow=18,SNR=12						
KK31				⇑Sn	**Sn**	**23 08 10.0**	**+4.1**
	0.7nm,0.3s,baz=163,slow=29,SNR=4.1						
KK31				⇑Lg	Lg	23 08 27.4	
	1.2nm,0.5s,baz=132,slow=27						

*IDC **02** 23:29:03.2±1.6, 41°.59N×77°.08E, h0km, mb3.2/2, mb1 3.3/7, mb1mx3.2/32, mbtmp3.3/7, ML3.1/5, Error ellipse: s-maj=18.8km s-min=12.3km az=163.0*
*KRNET **02** 23:29:04.5±0.1, 41°.84N×77°.09E, h2km, mb4.4*
*KNET **02** 23:29:07.5±0.5, 41°.84N×76°.94E, h14km±2km, ml3.6, Error ellipse: s-maj=4.0km s-min=3.0km az=33.0*
*NNC **02** 23:29:08.2±0.9, 41°.94N×77°.08E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=6.6km s-min=4.5km az=163.0*

ISC 02 23:29:05.6±1.3, 41°.84N±0°.04×77°.10E±0°.03, h1km±9km, n47, σ1§28/74, 28C-23D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay**	**0.29**	**11**	*e*P	**Pg**	**23 29 10.3**	**-1.0**
	baz=15						
KDJ				*e*S	**Sg**	**23 29 13.8**	**-1.3**
	baz=15						
ULHL	**Ulahol**	**0.76**	**302**	⇓P	**Pg**	**23 29 20.1**	**-0.1**
	352nm,0.1s						
ULHL				⇑S	**Sg**	**23 29 30.9**	**+0.9**
	1µm,0.3s						
ULHL	**Ulahol**	**0.76**	**302**	*e*P	**Pg**	**23 29 19.9**	**-0.3**
	baz=303						
ULHL				*i* S	**Sg**	**23 29 30.7**	**+0.7**
	baz=303						
NRN	**Naryn**	**0.92**	**244**	*e*P	**Pg**	**23 29 23.0**	**-0.3**
	baz=243						
NRN				*e*S	**Sg**	**23 29 35.0**	**-0.3**
	baz=243						
ANVS	**Anan'yevo**	**1.03**	**24**	*i* P	**Pg**	**23 29 25.2**	**-0.1**
	baz=24						
ANVS				*e*S	**Sg**	**23 29 39.0**	**+0.3**
	baz=24						
BOOM	**Boomskoye usch**	**1.08**	**307**	*e*P	**Pg**	**23 29 25.9**	**-0.4**
	baz=307						
BOOM				*e*S	**Sg**	**23 29 39.5**	**-0.8**
	baz=307						
KNDC	**Almaty**	**1.38**	**356**	⇓P	**Pg**	**23 29 31.8**	**-0.2**
	159nm,0.2s						
KNDC				⇑S	**Sb**	**23 29 50.7**	**+0.3**
	825nm,0.4s						
KZA	**Kyzart**	**1.40**	**280**	⇓P	**Pn**	**23 29 31.5**	**-1.2**
	120nm,0.2s,SNR=140						
KZA				⇓S	**Sg**	**23 29 50.5**	**-0.2**
	279nm,0.2s						
KZA	**Kyzart**	**1.40**	**280**	*e*P	**Pn**	**23 29 31.4**	**-1.4**
	baz=280						
KZA				*i* S	**Sg**	**23 29 49.9**	**-0.8**
	baz=280						
TKM2	**Tokmak 2**	**1.55**	**314**	⇓P	**Pn**	**23 29 34.6**	**0.0**
	219nm,0.3s						
TKM2				⇑S	**Sb**	**23 29 55.8**	**+0.2**
	221nm,0.2s						
TKM2	**Tokmak 2**	**1.55**	**314**	P	**Pn**	**23 29 34.6**	**0.0**
	585nm,0.2s,SNR=736						
TKM2				⇓S	**Sb**	**23 29 55.9**	**+0.4**
	617nm,0.1s						
TKM2	**Tokmak 2**	**1.55**	**314**	⇑*i*P	**Pn**	**23 29 34.3**	**-0.3**
	baz=315						
TKM2				⇑*i*S	**Sb**	**23 29 55.7**	**+0.2**
	baz=315						
KBK	**Karagaybulak**	**1.79**	**298**	⇓P	**Pn**	**23 29 39.0**	**+1.1**
	154nm,0.2s,SNR=86						
KBK	**Karagaybulak**	**1.79**	**298**	⇓*i*P	**Pn**	**23 29 38.8**	**+0.9**
	baz=298						
KBK				⇓*i*S	**Sn**	**23 30 02.7**	**+1.2**
	baz=298						
UCH	**Uchtor**	**1.97**	**282**	⇓P	**Pn**	**23 29 41.7**	**+1.2**
	85nm,0.5s,SNR=162						
UCH	**Uchtor**	**1.97**	**282**	⇑*i*P	**Pn**	**23 29 41.0**	**+0.4**
	baz=282						
UCH				⇑*i*S	**Sb**	**23 30 08.7**	**+1.0**
	baz=282						
CHMS	**Chumysh**	**2.09**	**304**	⇓P	**Pn**	**23 29 43.7**	**+1.9**
	178nm,0.3s,SNR=215						
CHMS	**Chumysh**	**2.09**	**304**	*e*P	**Pn**	**23 29 43.5**	**+1.6**
	baz=304						
CHMS				*i* S	**Sb**	**23 30 11.8**	**+1.0**
	baz=304						
AAK	**Ala-Archa**	**2.09**	**293**	⇑Pn	**Pn**	**23 29 44.0**	**+2.0**
	108nm,0.6s						
AAK				⇑Sn	**Sb**	**23 30 11.7**	**+0.7**
	164nm,0.5s						
AAK	**Ala-Archa**	**2.09**	**293**	⇑P	**Pn**	**23 29 43.8**	**+1.8**
	136nm,0.3s,SNR=140						
AAK	**Ala-Archa**	**2.09**	**293**	Pn	**Pn**	**23 29 43.4**	**+1.4**
	44nm,0.3s,baz=114,slow=7.6,SNR=213						
AAK				Lg	Lg	23 30 11.7	
	39nm,0.3s,baz=275,slow=21,SNR=18						
AAK	**Ala-Archa**	**2.09**	**293**	⇑*i*P	**Pn**	**23 29 43.4**	**+1.4**
	baz=293						
AAK				⇑*i*S	**Sb**	**23 30 10.7**	**-0.3**
	baz=293						
FRU	**Bishkek**	**2.09**	**299**	⇓*i*P	**Pn**	**23 29 43.5**	**+1.6**
	baz=299						
FRU				⇓*e*S	**Sg**	**23 30 12.5**	**-0.3**
	baz=299						
PDGK	**Podgornoye**	**2.30**	**49**	⇑Pn	**Pn**	**23 29 46.1**	**+1.5**
	129nm,0.5s						
PDGK				⇓Sn	**Sb**	**23 30 17.1**	**+0.2**
	270nm,0.4s						
USP	**Ospenovka**	**2.39**	**307**	⇓P	**Pn**	**23 29 48.2**	**+2.2**
	134nm,0.2s,SNR=160						
USP	**Ospenovka**	**2.39**	**307**	⇑*i*P	**Pn**	**23 29 48.3**	**+2.2**
	baz=307						
USP				⇑*i*S	**Sb**	**23 30 21.2**	**+1.6**
	baz=307						
AML	**Almayashu**	**2.56**	**278**	⇑P	**Pb**	**23 29 52.3**	**-0.3**
	baz=278						
AML				⇑*i*S	**Sb**	**23 30 26.2**	**+1.5**
	baz=278						
EKS	**Erkin-Say**	**2.60**	**290**	*e*P	**Pb**	**23 29 53.0**	**-0.1**
	baz=290						
EKS				*e*S	**Sg**	**23 30 30.4**	**+1.3**
	baz=290						
EKS2	**Erkin-Say**	**2.60**	**289**	⇑*i*P	**Pb**	**23 29 53.1**	**0.0**
	baz=289						
EKS2				⇑*i*S	**Sg**	**23 30 28.9**	**-0.3**
	baz=289						
SALK	**Salom-Alik**	**2.65**	**250**	*i* P	**Pb**	**23 29 53.1**	**-0.9**
	baz=250						
SALK				*e*S	**Sb**	**23 30 28.8**	**+1.6**
	baz=250						
SFK	**Sufi-Kurgan**	**3.28**	**237**	⇑Pn	**Pb**	**23 30 05.5**	**+0.7**
	22nm,0.5s						
SFK				⇑Lg	Lg	23 30 50.8	
	82nm,0.9s						
CHVK	**Chauvay**	**4.07**	**247**	*e*P	**Pb**	**23 30 21.3**	**+3.0**
	baz=247						
CHVK				*e*S	**Sg**	**23 31 15.6**	**-0.9**
	baz=247						
KK31	**Karatay Array**	**5.04**	**287**	⇓Pg	**Pb**	**23 30 36.3**	**+1.8**
	5.7nm,0.3s						
KK31				⇓Lg	Lg	23 31 43.3	
	51nm,0.7s						
MK31	**Makanchi Array**	**6.19**	**35**	Pn	**Pn**	**23 30 39.2**	**+1.1**
	1.5nm,0.3s,baz=218,slow=13,SNR=69						
MK31				⇑Pg	Pb	23 30 59.2	+5.0
	6.6nm,0.7s,baz=219,slow=17,SNR=4.1						
MK31				⇑Lg	Lg	23 32 18.7	
	7.7nm,0.5s,baz=63,slow=43,SNR=4.4						
MKAR	**Makanchi Array**	**6.19**	**35**	Pn	**Pn**	**23 30 39.4**	**+1.2**
	0.8nm,0.3s,baz=221,slow=16,SNR=42						
MKAR				Sn	**Sn**	**23 31 53.1**	**+3.6**
	0.8nm,0.3s,baz=240,slow=23,SNR=2.9						
MKAR				Lg	Lg	23 32 16.9	
	3.1nm,0.3s,baz=222,slow=27,SNR=5.7						
DZET	**Dzherino**	**7.01**	**247**	⇑Lg	Lg	23 32 51.1	
	24nm,0.9s						
OTUK	**Ortayu**	**7.23**	**334**	⇓Pn	**Pn**	**23 30 53.0**	**+0.5**
	1.4nm,0.5s						
OTUK				⇑Lg	Lg	23 32 52.6	
	64nm,1.1s						
KURBB	**Kurchatov Arra**	**8.84**	**6**	⇓Pn	**Pn**	**23 31 15.2**	**+0.8**
	1.4nm,0.9s						
KURBB				⇓Lg	Lg	23 33 44.7	
	72nm,0.7s						
KURBB	**Kurchatov Arra**	**8.84**	**6**	Pn	**Pn**	**23 31 15.8**	**+1.4**
	0.0nm,0.3s,baz=191,slow=12,SNR=3.7						
KURBB				Sn	**Sn**	**23 32 55.6**	**+1.0**
	0.1nm,0.3s,baz=190,slow=16,SNR=4.7						
KURBB				Lg	Lg	23 33 43.4	
	0.7nm,0.3s,baz=188,slow=32,SNR=15						
KURK	**Kurchatov**	**8.94**	**6**	⇓Pn	**Pn**	**23 31 15.3**	**-0.5**
	0.4nm,0.7s						
KURK				⇑Lg	Lg	23 33 45.0	
	21nm,0.8s						
BVA0	**Borovoye Array**	**12.07**	**340**	⇓Pn	**Pn**	**23 32 00.3**	**+1.7**
	2.5nm,0.9s,baz=226,slow=40,SNR=10						
BVA0				⇓Lg	Lg	23 35 27.5	
	16nm,1.3s,baz=158,slow=29,SNR=6.8						
BVAR	**Borovoye Array**	**12.07**	**340**	Pn	**Pn**	**23 31 58.0**	**-0.7**
	0.2nm,0.3s,baz=152,slow=13,SNR=4.3						
BVAR				Sn	**Sn**	**23 34 10.5**	**-3.3**
	0.1nm,0.3s,baz=144,slow=27,SNR=2.6						
BVAR				Lg	Lg	23 35 24.0	
	0.7nm,0.3s,baz=146,slow=27,SNR=7.8						
BRVK	**Borovoye**	**12.12**	**340**	⇑Pn	**Pn**	**23 31 58.2**	**-1.2**
	5.4nm,0.8s						
BRVK				⇑Lg	Lg	23 35 27.4	
	72nm,1.5s						
ZALV	**Zalesovo Beam**	**13.16**	**20**	Pn	**Pn**	**23 32 13.8**	**+0.3**
	0.1nm,0.3s,baz=203,slow=14,SNR=2.8						
ZALV				Sn	Sn	23 34 47.1	+6.7
	0.1nm,0.3s,baz=200,slow=30,SNR=2.9						
ZALV				Lg	Lg	23 36 00.3	
	0.1nm,0.3s,baz=204,slow=23,SNR=3.3						
AKTO	**Aktyubinsk**	**15.74**	**310**	Pn	**Pn**	**23 32 47.5**	**-1.0**
	0.1nm,0.3s,baz=101,slow=13,SNR=4.0						
SONM	**Songino Array**	**21.54**	**64**	P	**P**	**23 33 54.9**	**-1.4**
	0.4nm,0.8s,baz=270,slow=10,SNR=2.2						
TORD	**Torodi Ar. Bea**	**70.51**	**270**	P	**P**	**23 40 20.4**	**-1.9**
	0.2nm,0.4s,baz=50,slow=5.3,SNR=5.4						

MEX 02 23:40:03.5±0.5, 27°.95N×111°.97W, h5km±10km, MD3.6, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**0.67**	**201**	*e*P	Pg	23 40 15.2	-1.2
SRIG				*i* S	Sg	23 40 25.1	-0.1
HSIG		**1.39**	**40**	*e*P	Pn	23 40 26.2	-3.4
HSIG				*e*S	Sb	23 40 43.0	-5.1

IDC 02 23:44:17.1±22.0, 23°.98S×179°.88E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.8/18, mbtmp4.0/4, ML4.5/1, Error ellipse: s-maj=408.8km s-min=59.5km az=66.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.43**	**189**	Pn	Pn	23 47 43.2	+0.6
	2.2nm,0.3s,baz=352,slow=14,SNR=25						
STKA	**Stephens Creek**	**34.59**	**248**	P	P	23 51 06.6	-1.2
	2.4nm,1.1s,baz=87,slow=7.1,SNR=3.3						
ASAR	**Alice Springs**	**41.91**	**261**	P	P	23 52 09.6	-0.1
	0.8nm,0.5s,baz=92,slow=8.2,SNR=18						
WRA	**Warramunga Arr**	**42.29**	**266**	P	P	23 52 13.2	+0.5
	0.6nm,0.4s,baz=104,slow=8.0,SNR=12						

CASC 02 23:48:41.5±1.5, 14°.11N×90°.34W, h148km±6km, MD3.7, 4C-3D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**0.13**	**299**	*e*P	Pn	23 49 01.6	-0.1
IXG				*e*S	Sn	23 49 16.7	-0.2
NBG	**Las Nubes**	**0.47**	**359**	⇓*e*P	Pn	23 49 04.0	+1.2
NBG				*e*S	Sn	23 49 20.2	+1.0
FUG	**Fuego 3**	**0.59**	**304**	*e*P	Pn	23 49 04.2	+0.8
RBDL	**Robledal**	**0.63**	**90**	⇓*i*P	Pn	23 49 03.6	+0.1
RTR	**El Retiro**	**0.70**	**107**	*e*P	Pn	23 49 04.1	+0.1
SBLS	**San Blas**	**0.74**	**111**	*e*P	Pn	23 49 04.5	+0.1
MTO2	**Montecristo 2**	**0.99**	**73**	⇓*i*P	Pn	23 49 06.1	-0.2
BOQS	**Boqueron**	**1.09**	**110**	*e*P	Pn	23 49 07.3	+0.1
BOQS				*e*S	Sn	23 49 29.0	+2.2
MRL	**Marmol**	**1.14**	**33**	⇑*i*P	Pn	23 49 07.8	+0.2
MRL				⇑*e*P	Pn	23 49 08.6	+1.1
JAT	**Jato**	**1.28**	**279**	⇑*e*P	Pn	23 49 09.7	+1.0
JAT				*e*S	Sn	23 49 26.7	-2.7
LFRS	**El Faro**	**1.33**	**111**	⇑*e*P	Pn	23 49 09.5	+0.2
LFRS				*e*S	Sn	23 49 32.0	+1.4

*NIED **03** 00:03:00, 22°.40N×123°.70E, h5km, Mw3.5 Best double couple: M₀1.91000×10¹⁴ NP1:φ₀147.00000°, δ78.00000°, λ4.00000°. NP2:φ₀56.00000°, δ86.00000°, λ168.00000°.*

JMA 03 00:03:34.4±0.5, 22°.37N×123°.68E, h50km, M3.6, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**1.68**	**4**	P	Pn	00 04 02.3	+0.9
HATJ				*e*S	Sn	00 04 21.9	+0.1
JKRS	**Kuro-shima**	**1.88**	**9**	P	Pn	00 04 05.4	+1.2
JKRS				*e*S	Sn	00 04 27.0	+0.3
IRIF	**Iriomote-Funau**	**1.96**	**1**	P	Pn	00 04 06.6	+1.4
IRIF				*e*S	Sn	00 04 28.8	+0.3
JIJ	**Ishigaki jima**	**2.03**	**12**	P	Pn	00 04 06.7	+0.5
JIJ				*e*S	Sn	00 04 29.0	-1.3
YOJ	**Yonaguni jima**	**2.17**	**344**	P	Pn	00 04 09.2	+1.1
YOJ				*e*S	Sn	00 04 34.6	+0.8
JYNG	**Yonagunijimaku**	**2.18**	**342**	P	Pn	00 04 10.1	+1.9
JYNG				S	Sn	00 04 35.0	+1.0
JISG	**Ishigakijimahi**	**2.28**	**15**	P	Pn	00 04 10.0	+0.4
JISG				*e*S	Sn	00 04 36.2	-0.3
JTJ	**Tarama**	**2.45**	**22**	*e*S	Sn	00 04 40.2	-0.4

*ISCJB **03** 00:11:56.3±0.9, 38°.18N±0°.07×26°.66E±0°.04, h7km±9km, Error ellipse: s-maj=12.4km s-min=4.9km az=13.8*
*ISK **03** 00:11:56.1, 38°.18N×26°.66E, h10km, MD2.5*
*CSEM **03** 00:11:56.7±0.3, 38°.21N×26°.66E, h5km, MD2.5, Error ellipse: s-maj=12.5km s-min=3.8km az=11.0*
*DDA **03** 00:11:56.4, 38°.22N×26°.65E, h7km, MD2.7*

ISC 03 00:11:56.5±1.1, 38°.21N±0°.07×26°.65E±0°.03, h9km±8km, n13, σ0§38/22, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZEY	**¯zmir**	**0.12**	**285**	*i* P	**Pg**	**00 11 59.1**	**-0.2**
ZEY				*i* S	**Sg**	**00 12 01.3**	**+0.1**
URLA	**Izmir**	**0.16**	**343**	*i* P	**Pg**	**00 11 59.8**	**-0.1**
URLA				*i* S	**Sg**	**00 12 02.6**	**+0.3**
URLA	**Izmir**	**0.16**	**343**	*i* P	**Pg**	**00 11 59.8**	**-0.1**
URLA				*i* S	**Sg**	**00 12 02.6**	**+0.3**
CHOS	**Chios island**	**0.51**	**291**	*e*PG	**Pg**	**00 12 06.7**	**+0.4**
CHOS				*e*SG	**Sb**	**00 12 14.4**	**-0.7**
CHOS	**Chios island**	**0.51**	**291**	*e*Pg	**Pg**	**00 12 06.7**	**+0.4**
CHOS				*e*Sg	**Sb**	**00 12 14.4**	**-0.7**
IZM	**Izmir**	**0.52**	**68**	*e*PG	**Pg**	**00 12 06.6**	**+0.1**
IZM				*e*SG	**Sb**	**00 12 14.9**	**-0.5**
IZM	**Izmir**	**0.52**	**68**	*e*Pg	**Pg**	**00 12 06.6**	**+0.1**
IZM				*e*Sg	**Sb**	**00 12 14.9**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.01**	**104**	*e*PG	**Pb**	**00 12 16.2**	**0.0**
AYDB				*e*SG	**Sb**	**00 12 29.6**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.01**	**104**	*e*Pg	**Pb**	**00 12 16.2**	**0.0**
AYDB				*e*Sg	**Sb**	**00 12 29.6**	**-0.1**
AKS	**Akhisar**	**1.13**	**53**	*e*PN	**Pn**	**00 12 18.5**	**0.0**
AKS	**Akhisar**	**1.13**	**53**	*e*Pn	**Pn**	**00 12 18.5**	**0.0**
SIGR	**SIGRI**	**1.18**	**328**	*e*PN	**Pg**	**00 12 19.6**	**+0.5**
SIGR	**SIGRI**	**1.18**	**328**	*e*Pn	**Pg**	**00 12 19.7**	**+0.5**

*NEIC **03** 00:15:01.7, 16°.31N×98°.18W, h8km, MD4.0(MEX), After MEX.*

MEX 03 00:15:01.7±0.7, 16°.31N×98°.18W, h8km±5km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.09**	**32**	*i* P	Pg	00 15 03.2	-0.9
PNIG				*i* S	Sg	00 15 05.3	-0.5
PNIG	**Pinotepa**	**0.09**	**32**	*i* P	Pg	00 15 03.2	-0.9
PNIG				*i* S	Sg	00 15 05.3	-0.5
TLIG	**Tlapa**	**1.30**	**343**	*e*P	Pn	00 15 23.2	-3.1
TLIG				*e*S	Sb	00 15 38.3	-5.2
VHO	**Vista Hermosa**	**1.58**	**61**	*e*P	Pn	00 15 26.7	-3.5
VHO				*e*S	Sn	00 15 46.9	-4.2
VHO	**Vista Hermosa**	**1.58**	**61**	*e*P	Pn	00 15 26.7	-3.5
VHO				*e*S	Sn	00 15 46.9	-4.2
HUIG	**Huatulco**	**2.06**	**105**	*e*P	Pn	00 15 32.6	-4.1
HUIG				*e*S	Sn	00 15 57.5	-5.1
HUIG	**Huatulco**	**2.06**	**105**	*e*P	Pn	00 15 32.6	-4.1
HUIG				*e*S	Sn	00 15 57.5	-5.1
CAIG	**El Cayaco**	**2.13**	**290**	*e*P	Pn	00 15 34.6	-3.0
CAIG	**El Cayaco**	**2.13**	**290**	*e*P	Pn	00 15 34.6	-3.0
PLIG	**Platanillo**	**2.42**	**329**	*e*P	Pn	00 15 39.0	-2.8
PLIG	**Platanillo**	**2.42**	**329**	*e*P	Pn	00 15 39.0	-2.8

IGQ 03 00:22:31±0.5, 0°.94S×80°.48W, h9km±45km, Mb4.0, 3C-5D, Error ellipse: s-maj=8.5km s-min=2.7km az=10.0, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PECV	**Mancha de Ca P**	**0.46**	**69**	⇑P	Pg	00 22 38.2	-1.7
ISPT	**Isla de la Pla**	**0.68**	**242**	⇓S	Sg	00 22 53.7	+0.6
ISPT	**Isla de la Pla**	**0.68**	**242**	⇓P	Pg	00 22 43.4	-0.7
JAMA	**Jama**	**0.72**	**22**	P	Pg	00 22 44.4	-0.7
MAG1	**Magdalena**	**1.11**	**39**	P	Pn	00 22 53.6	+0.8
MAG1	**Magdalena**	**1.11**	**39**	S	Sn	00 23 10.1	+1.8
GOLV	**Golondrinas**	**1.76**	**50**	P	Pn	00 22 59.4	-2.3
PAST	**Pastocalle**	**1.85**	**82**	P	Pn	00 23 04.3	+0.8
IGUA	**Igualata**	**1.92**	**107**	P	Pb	00 23 06.9	0.0
CAMI	**Rancho Maria**	**1.99**	**83**	P	Pb	00 23 07.4	-0.6
JUA2	**San Juan 2**	**2.00**	**69**	P	Pb	00 23 07.6	-0.7
TERV	**Terraza Guagua**	**2.02**	**68**	P	Pb	00 23 07.5	-1.1
PINO	**Pino**	**2.02**	**67**	P	Pn	00 23 06.4	+0.3
BMOR	**Cotopaxi Volca**	**2.03**	**84**	⇑P	Pb	00 23 07.5	-1.3
GGP	**Refugio Guagua**	**2.03**	**68**	P	Pn	00 23 07.0	+0.8
MOV1	**Cotopaxi Vol s**	**2.05**	**84**	P	Pb	00 23 10.0	+0.8
BBIL	**Ulba Tungurahu**	**2.05**	**104**	P	Pg	00 23 11.6	+1.8
BREF	**Cotopaxi Volca**	**2.05**	**83**	P	Pb	00 23 08.5	-0.8
JUI6	**Juive**	**2.06**	**104**	P	Pg	00 23 10.7	-0.3
YANA	**Yana**	**2.07**	**67**	P	Pn	00 23 07.6	+0.9
BMAS	**Trigal station**	**2.07**	**106**	P	Pb	00 23 09.6	+0.3
PITA	**Cotopaxi Volc**	**2.08**	**80**	P	Pb	00 23 08.3	-1.2
BVC2	**Cotopaxi Volca**	**2.08**	**82**	P	Pb	00 23 09.8	+0.1
PISA	**Pisayambo**	**2.09**	**93**	P	Pb	00 23 10.1	+0.3
VC1	**Cotopaxi 1**	**2.09**	**82**	P	Pb	00 23 09.1	-0.8
BTAM	**Cotopaxi Volca**	**2.09**	**83**	⇓P	Pb	00 23 09.6	-0.3
ARRY	**Arrayan**	**2.10**	**106**	⇓P	Pb	00 23 10.0	+0.2
ARRY	**Arrayan**	**2.10**	**106**	⇓S	Sb	00 23 37.0	+0.8
PAT1	**Patacocha**	**2.11**	**106**	P	Pb	00 23 10.7	+0.5
BPAT	**Tungurahua Vol**	**2.12**	**105**	P	Pb	00 23 11.0	+0.8
BRUN	**Tungurahua Vol**	**2.12**	**103**	P	Pb	00 23 10.7	+0.6
**

MEEK	**Meekatharra**	**58.28**	**249**	P	**P**	**01 01 22.6**	**-0.8**
	baz=58,SNR=5.1							
MJAR	**Matsushiro Arr**	**67.39**	**323**	P	**P**	**01 02 21.7**	**+0.1**
	1.4nm,0.6s,baz=162,slow=6.7,SNR=5.5							
ILAR	**Eielson Array**	**85.56**	**13**	P	**P**	**01 03 59.8**	**-0.7**
	0.3nm,0.4s,baz=226,slow=5.8,SNR=6.9							
TXAR	**Lajitas Array**	**86.04**	**58**	P	**P**	**01 04 04.3**	**+0.5**
	0.6nm,1.0s,baz=211,slow=9.5,SNR=3.4							
CMAR	**Chiang Mai Arr**	**88.45**	**290**	P	**P**	**01 04 16.1**	**+0.9**
	1.0nm,0.5s,baz=115,slow=3.1,SNR=5.7							
YKA	**Yellowknife Ar**	**94.09**	**25**	P	**P**	**01 04 39.9**	**-0.3**
	0.2nm,0.6s,baz=254,slow=4.4,SNR=3.2							
MKAR	**Makanchi Array**	**108.62**	**314**	PKiKP	**PKiKP**	**01 09 46.6**	**-0.7**
	0.3nm,0.5s,baz=84,slow=2.0,SNR=5.1							
KURBB	**Kurchatov Arra**	**111.36**	**318**	PKiKP	**PKiKP**	**01 09 51.5**	**-0.8**
	0.3nm,0.6s,baz=90,slow=1.9,SNR=6.3							
BVAR	**Borovoye Array**	**116.33**	**321**	PKP	**PKPdf**	**01 10 01.4**	**-0.4**
	0.5nm,0.3s,baz=129,slow=2.9,SNR=4.9							
FINES	**FINESS Array B**	**132.71**	**344**	PKP	**PKPdf**	**01 10 30.7**	**-2.1**
	1.1nm,0.8s,baz=104,slow=8.0,SNR=3.8							
AKASG	**Malin Array Be**	**140.05**	**332**	PKhKP	PKPpre	01 10 39.5		
	0.1nm,0.3s,baz=43,slow=4.1,SNR=4.1							
AKASG				PKP	**PKPdf**	**01 10 48.2**	**+1.5**	
	0.2nm,0.4s,baz=45,slow=3.6,SNR=5.0							
LEOM	**Leova**	**143.48**	**328** ⇑	*i* P	PKPbc	01 10 52.3	+0.7	
KWP	**Kalwaria Pacla**	**143.57**	**336** ⇓	*i* P	PKPbc	01 10 52.6	+0.8	
BURAR	**Bucovina Array**	**144.10**	**332** ⇑	*i* P	**PKPdf**	**01 10 55.1**	**+0.9**	
TESR	**Tescani**	**144.24**	**330** ⇑	*i* P	**PKPab**	**01 10 54.8**	**+0.4**	
BRTR	**Keskin Array B**	**144.27**	**315**	PKP	**PKPab**	**01 10 55.0**	**+0.2**	
	1.9nm,0.6s,baz=114,slow=3.9,SNR=22							
CFR	**Carcaliu**	**144.42**	**327** ⇑	*i* P	PKPbc	01 10 54.5	-0.1	
VRI	**Vrincioaia**	**144.66**	**329** ⇑	*i* P	**PKPab**	**01 10 56.8**	**+0.8**	
PLOR	**Plostina**	**144.71**	**329** ⇑	*i* P	**PKPab**	**01 10 56.4**	**+0.2**	
TIRR	**Tirgusor**	**144.75**	**326** ⇓	*i* P	**PKPab**	**01 10 56.6**	**+0.3**	
ANTO	**Ankara**	**144.76**	**316** ⇑	*i* P	**PKPdf**	**01 10 55.6**	**+0.1**	
TRPA	**Tarpa**	**144.84**	**335** ⇓	*i* P	**PKPab**	**01 10 56.5**	**-0.1**	
HARR	**Harsova**	**144.85**	**326** ⇑	*i* P	PKPbc	01 10 56.3	+0.4	
TLB	**Topalu**	**144.86**	**326** ⇓	*i* P	**PKPab**	**01 10 56.9**	**+0.1**	
CLL	**Collm**	**144.99**	**347**	*e*PKPbc	**PKPbc**	**01 10 56.6**	**+0.4**	
UPC	**Upice**	**145.00**	**344**	*e*P	**PKPab**	**01 10 57.3**	**+0.1**	
DPC	**Dobruska-Polom**	**145.06**	**343**	*e*P	**PKPab**	**01 10 57.5**	**+0.1**	
DPC				*ex*	x	01 11 00.0		
KRLC	**Kraliky**	**145.18**	**342**	*e*P	**PKPab**	**01 10 57.8**	**-0.1**	
BRG	**Berggiesshubel**	**145.19**	**346**	*i* P	**PKPbc**	**01 10 57.4**	**+0.6**	
	3.1nm,0.7s							
BRG	**Berggiesshubel**	**145.19**	**346**	*e*PKPbc	**PKPbc**	**01 10 57.4**	**+0.6**	
DOPR	**Dopca**	**145.24**	**330** ⇑	*i* P	**PKPab**	**01 10 58.2**	**-0.1**	
MLR	**Muntele Rosu**	**145.31**	**329** ⇑	*i* P	**PKPbc**	**01 10 57.9**	**+0.4**	
NEUB	**Neuenburg**	**145.33**	**348**	*e*PKPbc	**PKPbc**	**01 10 57.7**	**+0.5**	
PVCC	**Panska Ves**	**145.36**	**345**	*e*P	**PKPbc**	**01 10 57.8**	**+0.5**	
PVCC				*ex*	x	01 11 00.4		
PSN	**Preselentsi**	**145.38**	**325** ⇑	*i* P	**PKPab**	**01 10 58.9**	**+0.1**	
CJR	**Cluj-Napoca**	**145.50**	**332** ⇑	*i* P	**PKPbc**	**01 10 58.6**	**+0.7**	
DRGR		**145.83**	**333** ⇑	*i* P	**PKPbc**	**01 10 59.5**	**+0.6**	
TANN	**Tannenbergstha**	**145.95**	**347**	*e*PKPbc	**PKPbc**	**01 10 59.7**	**+0.6**	
ARR	**Arges**	**146.04**	**330** ⇑	*i* P	**PKPab**	**01 11 01.2**	**-0.3**	
ROTZ	**Rotzenmuhle**	**146.62**	**347**	*e*PKPbc	**PKPbc**	**01 11 01.7**	**+0.9**	
GEC2	**GERESS Array S**	**147.13**	**345**	*e*PKPbc	**PKPbc**	**01 11 02.7**	**+0.3**	
GERES	**GERESS Array B**	**147.13**	**345**	PKPbc	**PKPbc**	**01 11 02.9**	**+0.6**	
	1.5nm,0.5s,baz=20,slow=2.9,SNR=20							
CONA	**Conrad Observa**	**147.37**	**342** ⇑	*i* PKPbc	**PKPbc**	**01 11 04.0**	**+1.0**	
	2.3nm,0.5s							
WTTA	**Wattenberg**	**149.10**	**346** ⇓	*i* PKPbc	**PKPbc**	**01 11 07.8**	**+0.3**	
	4.4nm,0.5s							
DIVS	**Divibare**	**149.13**	**333** ⇓	*i* P	**PKPbc**	**01 11 08.1**	**+0.6**	
MOTA	**Moosalm**	**149.15**	**347** ⇓	*i* PKPbc	**PKPbc**	**01 11 07.7**	**+0.2**	
	1.2nm,0.4s							
MMB	**Musomiste**	**149.22**	**326** ⇓	*i* P	**PKPbc**	**01 11 07.9**	**+0.1**	
ABTA	**Abfaltersbach**	**149.38**	**345** ⇑	*i* PKPbc	**PKPbc**	**01 11 07.8**	**-0.2**	
	2.6nm,0.5s							
VOJS	**Vojsko**	**149.67**	**342**	*i* P	**PKPbc**	**01 11 08.6**	**-0.1**	

ECX 03 00:58:40.1±0.5, 32.10N×115.13W, h8km, MD2.8, ML2.9, 2C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMX	**El Mayor**	**0.14**	**221** ⇑	*e*P	Pg	00 58 40.3	-2.8
EMX				*e*S	Sg	00 58 42.6	-2.6
CPBX	**Cerro Prieto**	**0.35**	**336**	*e*P	Pg	00 58 46.5	-0.6
CPBX				*e*S	Sg	00 58 51.4	-0.4
CPBX				*e*		00 58 53.0	
CPBX				AML	AML	00 58 53.0	
	comp=N,4μm,0.2s						
ECBX	**El Chinero**	**0.63**	**174**	*e*P9	Pg	00 58 49.8	-2.4
ECBX				*e*S	Sg	00 58 58.4	-2.0
RDX	**Rancho Dawling**	**0.71**	**257**	*e*P	Pg	00 58 52.9	-1.1
RDX				*e*S	Sg	00 59 02.7	-0.8
WESC	**Westside Schoo**	**0.83**	**323**	*e*P	Pg	00 58 54.8	-1.4
RMX	**La Rumorosa**	**0.95**	**302**	*e*P	Pg	00 58 56.5	-2.0
SPX	**San Pedro Mart**	**1.08**	**195**	*e*P	Pg	00 58 58.9	-2.5
SPX				⇑*e*		00 59 16.1	
SPX				AML	AML	00 59 16.1	
	comp=N,194nm,0.5s						
ZAX	**El Zacaton**	**1.13**	**239**	*e*P	Pg	00 58 59.7	-2.2
CBX	**Cerro Bola**	**1.32**	**280**	*e*P	Pn	00 59 02.4	-2.6
CBX				AML	AML	00 59 21.9	
	comp=E,210nm,0.2s						
CBX				⇓*e*		00 59 21.9	
ECNX	**Esteban Cantu**	**1.32**	**251**	*e*P	Pn	00 59 02.9	-2.1

NEIC 03 00:59:24.2, 31.54N×114.73W, h10km, ML3.1(PAS), 1D, After PAS., Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPX	**San Pedro Mart**	**0.80**	**232** ⇓	*i* P	Pg	00 59 38.9	-1.3
SPX				*e*S	Sg	00 59 49.5	-1.4
CPBX	**Cerro Prieto**	**1.00**	**331**	*e*P	Pg	00 59 42.4	-1.2
CPBX				*e*S	Sg	00 59 55.7	-1.1
YMD	**Yuma Desert**	**1.02**	**9**	*e*P	Pg	00 59 42.5	-1.5
SGL	**Mount Signal**	**1.39**	**323**	*e*P	Pn	00 59 48.3	-1.4
SGL				*e*S	Sn	01 00 05.9	-2.3
IBP	**Imperial Bould**	**1.61**	**314**	*e*P	Pn	00 59 51.8	-1.1
IBP				*e*S	Sn	01 00 11.7	-2.1
BAR	**Barrett**	**2.00**	**305**	*e*Pn	Pn	00 59 54.5	-3.7
BAR				*e*Pg	Pb	00 59 58.5	-2.4
BAR				*e*Sn	Sn	01 00 18.7	-4.7
MWC	**Mount Wilson**	**3.88**	**315**	*e*Pn	Pn	01 00 19.2	-4.9

IGQ 03 01:00:00±0.5, 2.90S×77.83W, h4km±149km, Mb4.1, 3C-10D, Error ellipse: s-maj=9.7km s-min=1.9km az=12.0, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MACE	**Macas**	**0.74**	**330** ⇓	S	Sb	01 00 27.1	+0.6
MACE	**Macas**	**0.74**	**330** ⇓	P	Pn	01 00 16.9	-0.7
RIOE	**Riobamba**	**1.40**	**325** ⇓	S	Sb	01 00 45.3	-0.3
RIOE	**Riobamba**	**1.40**	**325** ⇓	P	Pn	01 00 26.1	-0.6
PAT1	**Patacocha**	**1.51**	**336**	P	Pg	01 00 29.5	-0.2
PAT1	**Patacocha**	**1.51**	**336**	S	Sn	01 00 49.1	-0.1
BPAT	**Tungurahua Vol**	**1.51**	**336** ⇓	P	Pg	01 00 29.6	-0.1
BPAT	**Tungurahua Vol**	**1.51**	**336** ⇓	S	Sb	01 00 49.5	+0.1
ARRY	**Arrayan**	**1.52**	**336** ⇓	P	Pn	01 00 28.3	-0.2
ARRY	**Arrayan**	**1.52**	**336** ⇓	S	Sg	01 00 49.7	0.0
BMAS	**Trigal station**	**1.53**	**335** ⇓	S	Sg	01 00 50.6	+0.4
BMAS	**Trigal station**	**1.53**	**335** ⇓	P	Pb	01 00 29.7	+0.1
ULBA	**Ulba**	**1.55**	**338**	S	Sb	01 00 50.4	+0.1
ULBA	**Ulba**	**1.55**	**338**	P	Pn	01 00 29.4	+0.4
BULB	**Ulba Tungurahu**	**1.56**	**338** ⇑	P	Pg	01 00 30.6	0.0
BULB	**Ulba Tungurahu**	**1.56**	**338** ⇑	S	Sg	01 00 51.5	+0.3
RETU	**Refugio**	**1.57**	**337**	P	Pg	01 00 30.5	-0.2
BRUN	**Tungurahua Vol**	**1.58**	**338** ⇑	P	Pg	01 00 30.9	+0.1
BBIL	**Ulba Tungurahu**	**1.58**	**335**	P	Pn	01 00 29.3	0.0
BBIL	**Ulba Tungurahu**	**1.58**	**335**	S	Sn	01 00 50.3	-0.4
BIL2	**Estacion Bilba**	**1.59**	**335**	P	Pg	01 00 31.8	+0.9
BIL2	**Estacion Bilba**	**1.59**	**335**	S	Sg	01 00 52.4	+0.7
RUN5	**Runtun**	**1.59**	**338**	P	Pg	01 00 30.8	-0.2
JUI6	**Juive**	**1.60**	**336**	S	Sg	01 00 53.0	+0.8
JUI6	**Juive**	**1.60**	**336**	P	Pb	01 00 30.8	+0.2
IGUA	**Igualata**	**1.62**	**330**	S	Sg	01 00 54.3	+0.9
IGUA	**Igualata**	**1.62**	**330**	P	Pg	01 00 31.9	0.0
PISA	**Pisayambo**	**1.91**	**343**	P	Pb	01 00 36.5	+0.4
PISA	**Pisayambo**	**1.91**	**343**	S	Sg	01 01 03.6	+0.9
BMOR	**Cotopaxi Volca**	**2.25**	**344**	P	Pn	01 00 40.2	+1.4
MOV1	**Cotopaxi Vol s**	**2.26**	**344**	P	Pb	01 00 41.9	-0.3
TAMB	**Tambo**	**2.26**	**346**	P	Pb	01 00 41.4	-0.7
BTAM	**Cotopaxi Volca**	**2.28**	**346**	P	Pb	01 00 42.6	0.0
BTAM	**Cotopaxi Volca**	**2.28**	**346**	S	Sg	01 01 13.2	-1.4
COV1	**Cotopaxi Volc**	**2.28**	**347**	P	Pb	01 00 42.4	-0.2
BREF	**Cotopaxi Volca**	**2.30**	**344**	P	Pb	01 00 42.4	-0.5
BREF	**Cotopaxi Volca**	**2.30**	**344**	S	Sg	01 01 15.6	+0.3
BVC2	**Cotopaxi Volca**	**2.30**	**345**	P	Pb	01 00 42.9	-0.1
CAMI	**Rancho Maria**	**2.31**	**343**	P	Pb	01 00 43.6	+0.7
VC1	**Cotopaxi 1**	**2.32**	**346**	P	Pb	01 00 42.0	-1.0
VC1	**Cotopaxi 1**	**2.32**	**346**	S	Sg	01 01 15.5	-0.1
NAS2	**Nasa**	**2.33**	**344**	P	Pb	01 00 43.3	0.0
PAST	**Pastocalle**	**2.34**	**340**	P	Pb	01 00 43.3	0.0
PITA	**Cotopaxi Volc**	**2.40**	**345**	S	Sg	01 01 19.0	+0.7
PITA	**Cotopaxi Volc**	**2.40**	**345**	P	Pb	01 00 44.2	-0.2
ANTI	**Antisana**	**2.46**	**352**	P	Pb	01 00 43.7	-1.9
GGP	**Refugio Guagua**	**2.81**	**344**	P	Pb	01 00 52.9	+1.2
TERV	**Terraza Guagua**	**2.82**	**345**	P	Pg	01 00 53.3	-1.4
PINO	**Pino**	**2.83**	**344**	P	Pg	01 00 53.7	-1.5
YANA	**Yana**	**2.86**	**345**	P	Pb	01 00 51.7	-0.7
OTAV	**Otavalo**	**3.18**	**349**	P	Pb	01 00 56.0	-1.7

KRSC 03 01:07:36.9±1.6, 52.90N×156.89E, h246km±14km, ML3.5, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APC	**Apacha**	**0.17**	**81**	*i* P	Pn	01 08 09.5	+0.9
MIPR	**Malaya Ipel'ka**	**0.63**	**187**	*e*P	Pn	01 08 10.7	+0.9
ASAK	**Asacha**	**0.81**	**129**	*e*P	Pn	01 08 11.9	+1.3
MTVR	**Mutnovka**	**0.89**	**117**	P	Pn	01 08 12.2	+1.1
GNL	**Ganaly**	**1.02**	**38**	*i* P	Pn	01 08 12.8	+1.1
PET	**Petropavlovsk**	**1.08**	**83**	*e*P	Pn	01 08 13.2	+1.3
RUS	**Russkaya**	**1.09**	**115**	*e*P	Pn	01 08 12.5	+0.5
RUS				S	S	01 08 40.3	+0.7
KOK	**Koryaka**	**1.13**	**69**	*e*P	Pn	01 08 14.0	+1.7
KRX	**Arik**	**1.16**	**66**	*e*P	Pn	01 08 14.0	+1.4
AVH	**Avacha**	**1.18**	**71**	*e*P	Pn	01 08 14.1	+1.5
KRER	**Koryakskii**	**1.19**	**69**	*e*P	Pn	01 08 14.3	+1.4
UGLR	**Uglovaya**	**1.21**	**74**	*e*P	Pn	01 08 14.5	+1.6
SMAR	**Somma**	**1.21**	**72**	*e*P	Pn	01 08 14.4	+1.4
SDLR	**Sedlovina**	**1.26**	**72**	*e*P	Pn	01 08 14.6	+1.4
SPLN	**Mys Shipunski**	**1.91**	**83**	*e*P	Pn	01 08 18.1	0.0
SPN				*e*S	S	01 08 49.3	-1.3
TUMR	**Tumrok**	**3.06**	**37**	*e*P	Pn	01 08 31.6	+1.7
MKZ	**Mys Kozlova**	**3.32**	**58**	*e*P	Pn	01 08 32.8	+0.3
KBTR	**Krutoberegovo**	**4.79**	**44**	*e*P	Pn	01 08 50.3	+0.5

*ISCJB **03** 01:09:26.0±0.4, 5.27S×103.05E×129.63E±0.07, h200km, mb3.8/5, Error ellipse: s-maj=10.9km s-min=5.4km az=159.2*
*IDC **03** 01:09:29.6±2.9, 5.31S×129.69E, h227km±25km, mb3.6/5, mb1 3.7/7, mb1mx3.3/31, mbtmp4.1/7, Error ellipse: s-maj=67.4km s-min=10.5km az=71.0*
*DJA **03** 01:09:30.8±0.9, 5.5S×13.10E±, h192km±5km, M4.5/12, mb4.9/2, mB5.4/1, MLv4.3/12, Mw(mB)4.8/1*
ISC 03 01:09:26.3±0.7, 5.33S±0.07×129.77E±0.08, h200km, n29, σ1925/32, mb4.0/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**0.81**	**9**	P	Pn	01 09 57.2	+2.3
BNDI				S	**Sn**	**01 10 19.2**	**+2.1**
MSAI	**Masohi**	**2.14**	**337**	P	**Pn**	**01 10 06.8**	**+0.5**
MSAI				S	**Sn**	**01 10 34.2**	**-3.3**
AAI	**Ambon**	**2.26**	**316**	P	**Pn**	**01 10 08.9**	**+1.3**
NLAI	**Namlea**	**3.38**	**308**	P	**Pn**	**01 10 21.7**	**+1.3**
FAKI	**Fak Fak**	**3.44**	**46**	P	**Pn**	**01 10 21.4**	**+0.2**
SWI	**Sorong**	**4.68**	**19**	P	**Pn**	**01 10 36.6**	**0.0**
SANI	**Sanana**	**4.99**	**311**	P	**Pn**	**01 10 40.6**	**+0.1**
LBMI	**Labuha**	**5.18**	**334**	P	**Pn**	**01 10 43.4**	**+0.4**
RKPI	**Ransiki, Papua**	**5.80**	**49**	P	**Pn**	**01 10 52.0**	**+0.9**
	281nm,0.7s,7μm2.5nm						
KDU	**Kakadu**	**7.78**	**160**	P	Pn	01 11 19.3	+2.6
	baz=11,SNR=11						
WRA	**Warramunga Arr**	**15.19**	**163**	P	**P**	**01 12 52.1**	**+0.8**
	0.6nm,0.3s,baz=338,slow=12,SNR=13						
WRA				S	**S**	**01 15 35.5**	**-4.3**
	0.6nm,0.3s,baz=342,slow=22,SNR=7.5						
ASAR	**Alice Springs**	**18.66**	**168**	P	**Pn**	**01 13 33.1**	**+1.0**
	0.8nm,0.3s,baz=348,slow=11,SNR=35						
ASAR				S	**S**	**01 16 52.1**	**+0.7**
	0.1nm,0.3s,baz=348,slow=19,SNR=10						
ASAR				ScP	**ScP**	**01 21 04.3**	**-1.4**
	0.1nm,0.3s,baz=356,slow=2.6,SNR=4.6						
CMAR	**Chiang Mai Arr**	**38.50**	**309**	P	**P**	**01 16 29.9**	**+0.3**
	1.9nm,0.5s,baz=133,slow=7.3,SNR=10						
ODAN	**Odare**	**52.00**	**310**	*e*P	**P**	**01 18 15.4**	**-0.3**
	7.8nm,0.5s						
TAPN	**Taplejung**	**52.02**	**311**	*e*P	**P**	**01 18 15.7**	**-0.2**
	15nm,0.4s						
RAMN	**Ramite**	**52.65**	**310**	*e*P	**P**	**01 18 20.5**	**0.0**
	31nm,0.4s						
JIRN	**Jiri**	**53.33**	**310**	*e*P	**P**	**01 18 25.2**	**-0.4**
	9.1nm,0.5s						
GUN	**Gumba**	**53.70**	**310**	*e*P	**P**	**01 18 27.9**	**-0.3**
	17nm,0.5s						
PKI	**Pulchoki**	**53.88**	**310**	*e*P	**P**	**01 18 28.8**	**-0.8**
	3.1nm,0.4s						
PKIN	**Phulchoki**	**53.89**	**310**	*e*P	**P**	**01 18 28.7**	**-0.9**
	2.9nm,0.4s						
KKN	**Kakani**	**54.09**	**310**	*e*P	**P**	**01 18 30.5**	**-0.4**
	6.5nm,0.4s						
DMN	**Daman**	**54.13**	**310**	*e*P	**P**	**01 18 31.0**	**-0.3**
	7.3nm,0.4s						
GKN	**Gorkha**	**54.69**	**310**	*e*P	**P**	**01 18 34.9**	**-0.3**
	15nm,0.4s						
KOLN	**Koldanda**	**55.37**	**309**	*e*P	**P**	**01 18 39.9**	**-0.2**
	14nm,0.4s						
SONM	**Songino Array**	**56.79**	**341**	P	**P**	**01 18 50.4**	**+0.7**
	0.4nm,0.5s,baz=162,slow=7.0,SNR=4.1						
MKAR	**Makanchi Array**	**66.71**	**327**	P	**P**	**01 19 55.9**	**0.0**
	1.1nm,0.3s,baz=2.4,slow=3.8,SNR=30						
ZALV	**Zalesovo Beam**	**69.99**	**334**	P	**P**	**01 20 15.5**	**-0.4**
	1.6nm,0.7s,baz=132,slow=5.7,SNR=6.4						
KURBB	**Kurchatov Arra**	**70.97**	**328**	P	**P**	**01 20 22.0**	**+0.1**
	3.1nm,0.7s,baz=129,slow=5.2,SNR=40						
TORD	**Torodi Ar. Bea**	**128.25**	**282**	PKP	**PKPdf**	**01 28 09.6**	**-0.3**
	0.2nm,0.6s,baz=74,slow=1.4,SNR=3.1						

*IDC **03** 01:28:00.6±2.7, 3.67S×100.61E, h0km, mb3.4/6, mb1 3.5/6, mb1mx3.3/31, mbtmp3.4/6, Error ellipse: s-maj=102.1km s-min=21.3km az=56.0*
*ISCJB **03** 01:28:02.4±2.6, 3.7S±0.4×100.6E±0.5, h29km, mb3.4/6, Error ellipse: s-maj=91.1km s-min=19.3km az=146.7*
ISC 03 01:28:04.4±3.0, 3.7S±0.4×100.5E±0.6, h29km, n7, σ0958/7, mb3.5/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**36.67**	**119**	P	**P**	**01 35 09.5**	**+0.5**
	0.1nm,0.5s,baz=304,slow=9.0,SNR=3.1						
ASAR	**Alice Springs**	**37.81**	**125**	P	**P**	**01 35 18.1**	**-0.5**
	0.2nm,0.8s,baz=312,slow=7.3,SNR=2.5						
SONM	**Songino Array**	**51.61**	**5**	P	**P**	**01 37 08.8**	**+0.4**
	0.5nm,0.7s,baz=182,slow=13,SNR=4.6						
MKAR	**Makanchi Array**	**52.84**	**344**	P	**P**	**01 37 17.3**	**-0.1**
	0.3nm,0.7s,baz=156,slow=7.1,SNR=5.5						
USRK	**Ussuriysk Ar.**	**55.44**	**27**	P	**P**	**01 37 35.8**	**-0.5**
	0.7nm,0.5s,baz=86,slow=3.6,SNR=4.3						
ZALV	**Zalesovo Beam**	**58.97**	**349**	P	**P**	**01 38 00.8**	**-0.2**
	0.2nm,0.4s,baz=161,slow=6.9,SNR=2.7						
TXAR	**Lajitas Array**	**145.72**	**39**	PKPbc	**PKPab**	**01 47 42.2**	**+0.5**
	0.4nm,0.4s,baz=255,slow=0.8,SNR=14						

*ISCJB **03** 01:31:28.6±0.7, 0.86N±0.07×126.53E±0.06, h39km, mb4.0/7, Error ellipse: s-maj=10.8km s-min=8.5km az=19.1*
*DJA **03** 01:31:30.6±0.8, 1.1N±5.1×12.7E±, h22km±11km, M4.2/6, mb4.4/1, mB4.7/1, MLv4.0/6, Mw(mB)4.0/1*
*IDC **03** 01:31:37.9±3.6, 0.74N×126.41E, h130km±34km, mb3.6/7, mb1 3.7/7, mb1mx3.4/30, mbtmp4.0/7, Error ellipse: s-maj=66.1km s-min=11.2km az=70.0*
ISC 03 01:31:29.4±0.8, 0.75N±0.07×126.53E±0.06, h39km, n15, σ2926/15, mb4.0/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.84**	**89**	P	**Pn**	**01 31 46.2**	**+1.5**
TNTI				S	**Sn**	**01 31 58.3**	**+2.4**
LBMI	**Labuha**	**1.69**	**145**	P	**Pn**	**01 31 58.5**	**+2.1**
KMSI	**Cibinong**	**2.55**	**266**	P	**Pn**	**01 32 10.5**	**+2.3**
SANI	**Sanana**	**2.83**	**191**	P	**Pn**	**01 32 11.7**	**-0.4**
NLAI	**Namlea**	**4.00**	**172**	P	**Pn**	**01 32 30.8**	**+2.5**
LUWI	**Luwuk**	**4.16**	**245**	P	Pn	01 32 34.2	+3.9
MRSI	**Marisa**	**4.59**	**267**	P	Pn	01 32 42.6	+6.3
APSI	**Ampana**	**5.15**	**251**	P	**Pn**	**01 32 46.9**	**+2.9**
WRA	**Warramunga Arr**	**21.95**	**160**	P	**P**	**01 36 19.7**	**-0.1**
	4.2nm,0.4s,baz=340,slow=11,SNR=69						
WRA				S	**S**	**01 40 16.4**	**-3.8**
	0.6nm,0.7s,baz=334,slow=21,SNR=3.1						
ASAR	**Alice Springs**	**25.31**	**164**	P	**P**	**01 36 54.6**	**+2.1**
	2.1nm,0.5s,baz=348,slow=13,SNR=43						
STKA	**Stephens Creek**	**35.45**	**158**	P	**P**	**01 38 21.7**	**-0.4**
	1.0nm,0.3s,baz=325,slow=13,SNR=5.4						
USRK	**Ussuriysk Ar.**	**43.53**	**6**	P	**P**	**01 39 28.9**	**-0.4**
	0.7nm,0.5s,baz=190,slow=7.3,SNR=3.9						
SONM	**Songino Array**	**50.05**	**342**	P	**P**	**01 40 20.0**	**-0.3**
	0.5nm,0.5s,baz=162,slow=7.8,SNR=3.6						
MKAR	**Makanchi Array**	**59.89**	**326**	P	**P**	**01 41 29.9**	**-1.5**
	0.8nm,0.4s,baz=116,slow=8.9,SNR=18						
ZALV	**Zalesovo Beam**	**63.14**	**334**	P	**P**	**01 41 50.4**	**-2.7**
	0.4nm,0.3s,baz=130,slow=5.8,SNR=3.3						

*IDC **03** 01:33:59.0±3.3, 2.53S×100.44E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.5/31, mbtmp3.8/5, Error ellipse: s-maj=147.5km s-min=21.0km az=56.0*
*ISCJB **03** 01:34:03.8±3.7, 2.5S±0.6×100.4E±0.9, h50km, mb3.8/5, Error ellipse: s-maj=157.5km s-min=20.0km az=145.9*
ISC 03 01:34:06.2±3.2, 2.5S±0.5×100.6E±0.8, h50km, n6, σ0972/6, mb3.7/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**37.25**	**120**	P	**P**	**01 41 13.1**	**-0.3**
	0.2nm,0.3s,baz=309,slow=9.7,SNR=7.2						
ASAR	**Alice Springs**	**38.51**	**126**	P	**P**	**01 41 24.5**	**+0.5**
	0.6nm,0.5s,baz=305,slow=7.8,SNR=8.6						
SONM	**Songino Array**	**50.33**	**5**	P	**P**	**01 42 58.5**	**+0.4**
	0.3nm,0.4s,baz=179,slow=8.4,SNR=3.1						
MKAR	**Makanchi Array**	**51.62**	**344**	P	**P**	**01 43 08.2**	**+0.4**
	0.7nm,0.4s,baz=159,slow=9.1,SNR=14						
ZALV	**Zalesovo Beam**	**57.72**	**349**	P	**P**	**01 43 50.9**	**-0.8**
	0.7nm,0.3s,baz=176,slow=5.9,SNR=7.4						
TXAR	**Lajitas Array**	**144.69**	**38**	PKP	**PKPdf**	**01 53 37.9**	**-0.4**
	0.5nm,0.7s,baz=4.3,slow=1.0,SNR=7.9						

*ISCJB **03** 01:42:58.8±0.5, 32.24N±0.02×115.27W±0.03, h14km±3km, Error ellipse: s-maj=4.8km s-min=3.9km az=3.6*
*NEIC **03** 01:42:59.1, 32.20N×115.28W, h13km, ML3.0(PAS), After PAS.*
*MEX **03** 01:43:00.4±0.3, 32.34N×115.14W, h23km±8km, MD3.7*
*ECX **03** 01:43:00.3±0.6, 32.24N×115.31W, h6km

ACAN	**Cantantal**	**4.79**	**69**	*eP*	**Pn**	**01 46 24.2**	**+0.7**
ACAN				*eS*	Sn	01 47 24.0	+4.3
AGUA	**GUANDACOL**	**5.71**	**38**	*eP*	**Pn**	**01 46 37.4**	**+1.2**

IDC 03 02:30:45.2±5.1, 63°81S×166°76W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/19, mbtmp3.9/4, ML4.0/1, MS3.8/8, Ms1 3.8/8, ms1mx3.6/17, Error ellipse: s-maj=142.0km s-min=29.4km az=64.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**16.84**	**203**	Pn	Pn	02 34 41.5	-0.5
	0.5nm,0.3s,baz=61,slow=17,SNR=27						
VNDA				LR	LR	02 39 48.5	
	comp=Z,288nm,18.7s,baz=67,slow=32						
QSPA	**South Pole Qui**	**26.29**	**180**	P	P	02 36 22.3	+0.2
	5.9nm,1.0s,baz=51,slow=6.3,SNR=12						
QSPA				LR	LR	02 45 58.3	
	comp=Z,84nm,20.9s,baz=96,slow=35						
URZ	**Urewera**	**27.35**	**332**	LR	LR	02 44 28.7	
	comp=Z,105nm,19.4s,baz=284,slow=30						
TBI	**Tubuai**	**42.05**	**24**	*e*LR	LR	02 49 57.3	
	162nm,29.5s						
TBI	**Tubuai**	**42.05**	**24**	*e*T	T	03 23 03.1	
	7.7nm,0.3s						
MAW	**Mawson**	**44.14**	**205**	LR	LR	02 54 55.2	
	comp=Z,178nm,18.4s,baz=220,slow=33						
STKA	**Stephens Creek**	**45.15**	**290**	LR	LR	02 53 30.6	
	comp=Z,96nm,20.9s,baz=205,slow=30						
RKT	**Rikitea**	**45.80**	**43**	*e*T	T	03 27 49.8	
	2.3nm,0.3s						
TVO	**Taravao**	**47.53**	**23**	*e*T	T	03 29 52.9	
	1.2nm,0.3s						
PAE	**Paea**	**47.59**	**22**	*e*T	T	03 29 57.3	
	0.8nm,0.3s						
PPT2	**Papeete2**	**47.66**	**22**	*e*LR	LR	02 52 27.8	
	177nm,28.0s						
PPT2	**Papeete2**	**47.66**	**22**	*e*T	T	03 30 02.7	
	1.9nm,0.3s						
PPT	**Papeete**	**47.68**	**22**	LR	LR	02 53 57.1	
	comp=Z,66nm,21.0s,baz=160,slow=29						
VAH	**Vaihoa**	**50.30**	**24**	*e*T	T	03 33 21.3	
	12nm,0.2s						
H01W1	**Cape Leeuwin H**	**54.59**	**262**	T	T	03 39 20.5	
	baz=146,slow=76,SNR=5.7						
H01W2	**Cape Leeuwin H**	**54.60**	**262**	T	T	03 39 23.1	
	baz=146,slow=76,SNR=5.6						
H01W3	**Cape Leeuwin H**	**54.61**	**262**	T	T	03 39 22.2	
	baz=146,slow=76,SNR=5.6						
ASAR	**Alice Springs**	**55.58**	**287**	P	P	02 40 22.2	0.0
	0.6nm,0.7s,baz=151,slow=6.6,SNR=5.8						
PLCA	**Paso Flores**	**56.90**	**116**	LR	LR	02 59 34.1	
	comp=Z,58nm,18.8s,baz=190,slow=30						
WRA	**Warramunga Arr**	**58.70**	**289**	P	P	02 40 44.2	-0.1
	0.6nm,0.9s,baz=159,slow=5.8,SNR=4.1						
CPUP	**Villa Florida**		**74.76 119**	LR	LR	03 10 25.2	
	comp=Z,341nm,20.3s,baz=183,slow=32						

*ISCJB **03** 02:36:53.8±0.7, 54°.7S±0°.1×28°.5W±0°.4, h10km, mb4.0/7, Error ellipse: s-maj=37.7km s-min=11.1km az=156.8*
*IDC **03** 02:36:54.6±0.8, 54°.66S×28°.62W, h0km, mb4.1/6, mb1 4.1/6, mb1mx4.0/16, mbtmp4.1/6, Error ellipse: s-maj=38.6km s-min=19.2km az=76.0*
*NEIC **03** 02:36:59.7±0.5, 54°.68S×28°.64W, h35km, mb4.6/4, Error ellipse: s-maj=27.2km s-min=10.2km az=68.0*
ISC 03 02:36:55.9±0.7, 54°.7S±0°.1×28°.6W±0°.2, h10km, n17, σ0s64/18, mb4.0/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**18.57**	**161**	P	**P**	**02 41 11.8**	**-0.9**
VNA2	**Neumayer--Watz**	**18.79**	**158**	P	**P**	**02 41 14.3**	**-0.7**
	baz=315,slow=14						
SNAA	**Sanae**	**20.34**	**157**	P	**P**	**02 41 31.5**	**-0.6**
SNAA	**Sanae**	**20.34**	**157**	P	**P**	**02 41 31.0**	**-1.1**
	6.1nm,0.4s,baz=316,slow=11,SNR=303						
SNAA	**Sanae**	**20.34**	**157**	*e*P	**P**	**02 41 31.2**	**-0.9**
	12nm,0.3s						
CPUP	**Villa Florida**	**35.27**	**312**	P	**P**	**02 43 49.9**	**-0.7**
	0.7nm,0.8s,baz=139,slow=7.1,SNR=4.8						
CPUP	**Villa Florida**	**35.27**	**312**	*e*P	**P**	**02 43 50.1**	**-0.5**
	0.1nm,0.8s						
QSPA	**South Pole Qui**	**35.59**	**180**	P	**P**	**02 43 53.2**	**0.0**
	6.2nm,0.6s,baz=204,slow=5.0,SNR=34						
QSPA	**South Pole Qui**	**35.59**	**180**	*e*P	**P**	**02 43 53.4**	**+0.2**
	6.5nm,0.7s						
BDFB	**Brasilia**	**41.75**	**331**	P	**P**	**02 44 45.9**	**+0.6**
	1.4nm,0.6s,baz=356,slow=5.4,SNR=3.6						
VNDA	**Vanda**	**47.92**	**183**	P	**P**	**02 45 34.7**	**+1.1**
	1.1nm,0.5s,baz=184,slow=6.5,SNR=6.3						
SAML	**Samuel**	**53.23**	**316**	*e*P	**P**	**02 46 14.2**	**-0.3**
	1.5nm,0.8s						
CASY	**Casey**	**55.49**	**161**	P	**P**	**02 46 30.4**	**+0.1**
	4.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**72.28**	**31**	P	**P**	**02 48 21.4**	**0.0**
	0.7nm,0.7s,baz=192,slow=6.5,SNR=6.9						
YKA	**Yellowknife Ar**	**134.58**	**319**	PKP	**PKPdf**	**02 56 12.8**	**-0.1**
	0.2nm,0.6s,baz=120,slow=2.2,SNR=3.9						
ILAR	**Eielson Array**	**148.56**	**314**	PKPbc	**PKPbc**	**02 56 41.6**	**+0.1**
	0.8nm,0.6s,baz=116,slow=1.8,SNR=16						
SONM	**Songino Array**	**151.45**	**85**	PKPbc	**PKPbc**	**02 56 49.2**	**0.0**
	0.7nm,0.6s,baz=221,slow=3.4,SNR=5.3						
SONM				PKPab	**PKPab**	**02 56 58.0**	**+0.3**
	0.5nm,0.5s,baz=214,slow=5.4,SNR=3.9						

*ISK **03** 02:44:39.6, 39°.63N×27°.45E, h5km, MD3.1*
*DDA **03** 02:44:39.7, 39°.62N×27°.48E, h7km, MD3.2*
*ISCJB **03** 02:44:39.9±0.4, 39°.64N±0°.02×27°.44E±0°.02, h2km±3km, Error ellipse: s-maj=2.7km s-min=2.5km az=28.6*
*CSEM **03** 02:44:40.3±0.1, 39°.64N×27°.44E, h5km, MD2.9, Error ellipse: s-maj=1.9km s-min=1.9km az=144.0*
*THE **03** 02:44:42.1, 39°.58N×27°.40E, h10km±2km, ML2.2/5, Error ellipse: s-maj=2.3km s-min=0.9km az=210.0*
*ATH **03** 02:44:43.9, 39°.62N×27°.12E, h27km±1km, MD3.2/4*
ISC 03 02:44:40.3±1.0, 39°.63N±0°.01×27°.44E±0°.01, h8km±8km, n136, σ0s79/190, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALY	**Balya**	**0.18**	**52**	*i* P	**Pg**	**02 44 43.6**	**-0.4**
BALY	**Balya**	**0.18**	**52**	P	**Pg**	**02 44 43.8**	**-0.2**
BALY	**Balya**	**0.18**	**52**	*i* P	**Pg**	**02 44 43.6**	**-0.4**
BALY				*i* S	Sg	02 45 01.8	+15
BALB	**Balikesir**	**0.34**	**88**	*e*PG	**Pg**	**02 44 46.5**	**-0.5**
BALB				*e*SG	**Sg**	**02 44 51.3**	**-0.2**
BALB	**Balikesir**	**0.34**	**88**	*e*Pg	**Pg**	**02 44 46.5**	**-0.5**
BALB				*e*Sg	**Sg**	**02 44 51.3**	**-0.2**
AYVA	**Ayvalik**	**0.66**	**241**	*i* P	**Pg**	**02 44 53.3**	**+0.3**
AYVA				*i* S	**Sb**	**02 45 03.6**	**+0.2**
AYVA	**Ayvalik**	**0.66**	**241**	*i* P	**Pb**	**02 44 53.5**	**-0.6**
AYVA				*i* S	**Sb**	**02 45 03.6**	**+0.2**
AYVA	**Ayvalik**	**0.66**	**241**	*i* P	**Pg**	**02 44 53.3**	**+0.3**
AYVA				*i* S	**Sb**	**02 45 03.6**	**+0.2**
KRBG	**Karabiga-Canak**	**0.77**	**352**	*e*PG	**Pg**	**02 44 55.0**	**-0.1**
KRBG				*e*SG	**Sg**	**02 45 06.2**	**+1.1**
KRBG	**Karabiga-Canak**	**0.77**	**352**	*e*Pg	**Pg**	**02 44 55.0**	**-0.1**
KRBG				*e*Sg	**Sg**	**02 45 06.2**	**+1.1**
EDC	**Edincik**	**0.79**	**24**	*e*PG	**Pg**	**02 44 55.0**	**-0.4**
EDC				*e*SG	**Sg**	**02 45 06.6**	**+0.9**
EDC	**Edincik**	**0.79**	**24**	*e*Pg	**Pg**	**02 44 55.0**	**-0.4**
EDC				*e*Sg	**Sg**	**02 45 06.6**	**+0.9**
AKHS	**Akhisar**	**0.81**	**159**	*i* P	**Pg**	**02 44 55.5**	**-0.3**
AKHS				*i* S	**Sb**	**02 45 06.9**	**-0.7**
AKHS	**Akhisar**	**0.81**	**159**	*i* P	**Pg**	**02 44 55.7**	**-0.1**
AKHS				*i* S	**Sb**	**02 45 06.8**	**-0.7**
AKHS	**Akhisar**	**0.81**	**159**	*i* P	**Pg**	**02 44 55.5**	**-0.3**
AKHS				*i* S	**Sb**	**02 45 06.9**	**-0.7**
AKS	**Akhisar**	**0.81**	**159**	*e*PG	**Pg**	**02 44 55.8**	**0.0**
AKS	**Akhisar**	**0.81**	**159**	*e*Pg	**Pg**	**02 44 55.8**	**0.0**
EZN	**Ezine**	**0.88**	**283**	*e*PG	**Pg**	**02 44 57.1**	**-0.1**
EZN	**Ezine**	**0.88**	**283**	*e*Pg	**Pg**	**02 44 57.1**	**-0.1**
LPK	**Lapseki**	**0.91**	**325**	*e*PG	**Pg**	**02 44 57.4**	**-0.3**
LPK	**Lapseki**	**0.91**	**325**	*e*Pg	**Pg**	**02 44 57.4**	**-0.3**
DST	**Dursunbey**	**0.91**	**91**	*e*PG	**Pg**	**02 44 56.8**	**-1.0**
DST				*e*SG	**Sg**	**02 45 10.0**	**+0.3**
DST	**Dursunbey**	**0.91**	**91**	*e*Pg	**Pg**	**02 44 56.8**	**-1.0**
DST				*e*Sg	**Sg**	**02 45 10.0**	**+0.3**
KCTX	**Karacabey (Bur**	**0.95**	**48**	*e*PG	**Pg**	**02 44 58.1**	**-0.4**
KCTX	**Karacabey (Bur**	**0.95**	**48**	*e*Pg	**Pg**	**02 44 58.1**	**-0.4**
MRMT	**Marmara Adasi**	**0.98**	**7**	*e*PG	**Pg**	**02 44 58.5**	**-0.6**
MRMT	**Marmara Adasi**	**0.98**	**7**	*e*Pg	**Pg**	**02 44 58.5**	**-0.6**
PRK	**Paraskevi**	**0.98**	**247**	P	**Pg**	**02 44 58.9**	**-0.2**
PRK				S	**Sb**	**02 45 13.5**	**+0.9**
PRK	**Paraskevi**	**0.98**	**247**	*e*PN	**Pg**	**02 44 58.9**	**-0.2**
PRK				*e*SN	**Sg**	**02 45 09.7**	**-2.2**
PRK	**Paraskevi**	**0.98**	**247**	*e*PN	**Pg**	**02 44 58.8**	**-0.3**
PRK				*e*SN	**Sg**	**02 45 09.4**	**-2.5**
PRK	**Paraskevi**	**0.98**	**247**	P	**Pg**	**02 44 58.9**	**-0.2**
PRK				S	**Sb**	**02 45 13.5**	**+0.9**
GELI	**Tayfur-Gelibol**	**1.07**	**316**	*e*PG	**Pg**	**02 44 59.9**	**-0.8**
GELI	**Tayfur-Gelibol**	**1.07**	**316**	*e*Pg	**Pg**	**02 44 59.9**	**-0.8**
RKY	**Sarkoy-Tekirda**	**1.07**	**349**	*e*PG	**Pg**	**02 45 01.2**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.07**	**349**	*e*Pg	**Pg**	**02 45 01.2**	**+0.3**
SART	**Tekirdag**	**1.08**	**349**	*i* P	**Pg**	**02 45 00.8**	**-0.2**
SART	**Tekirdag**	**1.08**	**349**	*i* P	**Pg**	**02 45 00.7**	**-0.2**
SART				*i* S	**Sb**	**02 45 15.9**	**+0.4**
SART	**Tekirdag**	**1.08**	**349**	*i* P	**Pg**	**02 45 00.8**	**-0.2**
SART				*i* S	**Sn**	**02 45 17.9**	**+1.0**
BOZC	**Bozcaada**	**1.09**	**282**	*i* P	**Pg**	**02 45 01.0**	**-0.2**
BOZC				*i* S	**Sn**	**02 45 17.2**	**+0.1**
BOZC	**Bozcaada**	**1.09**	**282**	*i* P	**Pn**	**02 45 02.0**	**+0.1**
BOZC				*i* S	**Sg**	**02 45 15.2**	**-0.1**
BOZC				*i* S	**Sn**	**02 45 17.8**	**+0.6**
DEMI	**Demirci**	**1.15**	**120**	*i* P	**Pg**	**02 45 02.0**	**-0.4**
DEMI				*i* S	**Sb**	**02 45 18.1**	**+0.4**
DEMI	**Demirci**	**1.15**	**120**	*i* P	**Pg**	**02 45 02.0**	**-0.4**
DEMI				*i* S	**Sb**	**02 45 17.9**	**+0.3**
DEMI	**Demirci**	**1.15**	**120**	*i* P	**Pg**	**02 45 02.0**	**-0.4**
DEMI				*i* S	**Sb**	**02 45 18.1**	**+0.4**
IZM	**Izmir**	**1.24**	**186**	*e*PN	**Pb**	**02 45 03.6**	**-0.4**
IZM	**Izmir**	**1.24**	**186**	*e*Pn	**Pb**	**02 45 03.6**	**-0.4**
ERIK	**Erikli-Kesan**	**1.26**	**326**	*e*PN	**Pn**	**02 45 04.0**	**-0.2**
ERIK	**Erikli-Kesan**	**1.26**	**326**	*e*Pn	**Pn**	**02 45 04.0**	**-0.2**
SIGR	**SIGRI**	**1.29**	**252**	*e*PN	**Pb**	**02 45 04.8**	**0.0**
SIGR	**SIGRI**	**1.29**	**252**	P	**Pn**	**02 45 04.6**	**-0.1**
SIGR				S	**Sg**	**02 45 21.8**	**-0.1**
SIGR	**SIGRI**	**1.29**	**252**	*e*PN	**Pn**	**02 45 04.4**	**-0.3**
SIGR	**SIGRI**	**1.29**	**252**	*e*PN	**Pn**	**02 45 04.2**	**-0.5**
SIGR	**SIGRI**	**1.29**	**252**	P	**Pn**	**02 45 04.6**	**-0.1**
SIGR				S	**Sg**	**02 45 21.8**	**-0.1**
GADA	**Gvkgeada**	**1.31**	**296**	*e*PN	**Pn**	**02 45 04.7**	**-0.2**
GADA	**Gvkgeada**	**1.31**	**296**	*e*Pn	**Pn**	**02 45 04.7**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.33**	**56**	*e*PN	**Pn**	**02 45 05.1**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.33**	**56**	*e*Pn	**Pn**	**02 45 05.1**	**-0.1**
URLA	**Izmir**	**1.43**	**208**	*i* P	**Pg**	**02 45 07.9**	**+0.2**
URLA				*i* S	**Sg**	**02 45 26.6**	**+0.4**
URLA	**Izmir**	**1.43**	**208**	*i* P	**Pg**	**02 45 07.9**	**+0.2**
URLA				*i* S	**Sg**	**02 45 26.6**	**+0.5**
MANT	**Manisa**	**1.43**	**142**	*i* P	**Pb**	**02 45 07.4**	**0.0**
MANT	**Manisa**	**1.43**	**142**	*i* P	**Pb**	**02 45 07.4**	**0.0**
MANT				*i* S	**Sb**	**02 45 22.3**	**-3.6**
ARMT	**Armutlu**	**1.44**	**49**	*e*PN	**Pn**	**02 45 05.9**	**-0.8**
ARMT	**Armutlu**	**1.44**	**49**	*e*Pn	**Pn**	**02 45 05.9**	**-0.8**
KULA	**Kula-Manisa**	**1.47**	**139**	*e*PN	**Pb**	**02 45 08.0**	**+0.1**
KULA	**Kula-Manisa**	**1.47**	**139**	P	**Pb**	**02 45 08.0**	**+0.1**
KULA				S	**Sn**	**02 45 26.2**	**-0.4**
KULA	**Kula-Manisa**	**1.47**	**139**	P	**Pb**	**02 45 08.0**	**+0.1**
KULA				S	**Sn**	**02 45 26.2**	**-0.4**
ENEZ	**Enez**	**1.48**	**319**	*e*PN	**Pb**	**02 45 08.2**	**+0.2**
ENEZ	**Enez**	**1.48**	**319**	*e*Pn	**Pb**	**02 45 08.2**	**+0.2**
CRLT	**Corlu**	**1.51**	**9**	*e*PN	**Pn**	**02 45 07.8**	**+0.1**
CRLT	**Corlu**	**1.51**	**9**	*e*Pn	**Pn**	**02 45 07.8**	**+0.1**
GEMT	**Gemlik**	**1.57**	**59**	*e*PN	**Pn**	**02 45 09.0**	**+0.5**
GEMT	**Gemlik**	**1.57**	**59**	*e*Pn	**Pn**	**02 45 09.0**	**+0.5**
ZEY	**¨zmir**	**1.57**	**208**	*i* P	**Pb**	**02 45 09.6**	**0.0**
ZEY				*i* S	**Sg**	**02 45 32.9**	**+2.2**
ZEY	**¨zmir**	**1.57**	**208**	*i* P	**Pg**	**02 45 09.6**	**-0.4**
ZEY				*i* S	**Sg**	**02 45 33.1**	**+2.4**
TVSB	**Tavsanli**	**1.57**	**96**	*e*PN	**Pn**	**02 45 09.0**	**+0.3**
TVSB	**Tavsanli**	**1.57**	**96**	*e*Pn	**Pn**	**02 45 09.0**	**+0.3**
CHOS	**Chios island**	**1.64**	**221**	*e*PN	**Pb**	**02 45 10.4**	**-0.5**
CHOS	**Chios island**	**1.64**	**221**	P	**Pn**	**02 45 09.7**	**+0.1**
CHOS	**Chios island**	**1.64**	**221**	*e*PN	**Pb**	**02 45 10.5**	**-0.4**
CHOS				*e*SN	**Sn**	**02 45 30.5**	**-0.4**
CHOS	**Chios island**	**1.64**	**221**	*e*PN	**Pb**	**02 45 10.8**	**-0.1**
CHOS				*e*SN	**Sn**	**02 45 30.5**	**-0.4**
CHOS	**Chios island**	**1.64**	**221**	P	**Pn**	**02 45 09.7**	**+0.1**
CHOS	**Chios island**	**1.64**	**221**	*e*Pn	**Pb**	**02 45 10.4**	**-0.5**
CHOS	**Chios island**	**1.64**	**221**	*e*Pb	**Pb**	**02 45 10.8**	**-0.1**
CHOS				*e*Sn	**Sn**	**02 45 30.5**	**-0.4**
ALN	**Alexandroupoli**	**1.65**	**320**	*e*PN	**Pn**	**02 45 10.1**	**+0.5**
ALN	**Alexandroupoli**	**1.65**	**320**	P	**Pn**	**02 45 10.1**	**+0.5**
ALN				S	**Sb**	**02 45 32.2**	**+0.2**
ALN	**Alexandroupoli**	**1.65**	**320**	*e*PN	**Pb**	**02 45 11.3**	**+0.3**
ALN	**Alexandroupoli**	**1.65**	**320**	*e*PN	**Pb**	**02 45 10.9**	**-0.1**
ALN				*e*SN	**Sn**	**02 45 29.5**	**-1.6**
ALN	**Alexandroupoli**	**1.65**	**320**	P	**Pn**	**02 45 10.1**	**+0.5**
ALN				*e*Sn	**Sn**	**02 45 29.5**	**-1.6**
ALN				S	**Sb**	**02 45 32.2**	**+0.2**
GDZ	**Gediz**	**1.67**	**108**	*i* P	**Pn**	**02 45 10.7**	**+0.7**
GDZ				*i* S	**Sb**	**02 45 32.9**	**+0.2**
SMTH	**Samothraki Isl**	**1.69**	**300**	P	**Pn**	**02 45 10.4**	**+0.3**
SMTH				S	**Sn**	**02 45 32.7**	**+0.7**
SMTH	**Samothraki Isl**	**1.69**	**300**	*e*PN	**Pn**	**02 45 10.4**	**+0.3**
SMTH				*e*SN	**Sn**	**02 45 30.3**	**-1.7**
SMTH	**Samothraki Isl**	**1.69**	**300**	*e*PN	**Pn**	**02 45 10.6**	**+0.5**
SMTH				*e*SN	**Sn**	**02 45 29.6**	**-2.4**
SMTH	**Samothraki Isl**	**1.69**	**300**	P	**Pn**	**02 45 10.4**	**+0.3**
SMTH				*e*Sn	**Sn**	**02 45 29.6**	**-2.4**
SMTH				S	**Sn**	**02 45 32.7**	**+0.7**
SLVT	**Silivri**	**1.70**	**20**	*e*PN	**Pn**	**02 45 10.9**	**+0.6**
SLVT	**Silivri**	**1.70**	**20**	*e*Pn	**Pn**	**02 45 10.9**	**+0.6**
IZI	**Iznik**	**1.71**	**65**	*e*PN	**Pb**	**02 45 11.7**	**-0.4**
IZI	**Iznik**	**1.71**	**65**	*e*Pn	**Pb**	**02 45 11.7**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.72**	**168**	*e*PN	**Pn**	**02 45 10.2**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.72**	**168**	*e*Pn	**Pn**	**02 45 10.2**	**-0.5**
LIA	**Limnos Island**	**1.76**	**279**	P	**Pn**	**02 45 11.4**	**+0.3**
LIA				S	**Sn**	**02 45 33.9**	**+0.3**
LIA	**Limnos Island**	**1.76**	**279**	*e*PN	**Pn**	**02 45 11.9**	**+0.8**
LIA				*e*SN	**Sn**	**02 45 31.4**	**-2.2**
LIA	**Limnos Island**	**1.76**	**279**	*e*PN	**Pn**	**02 45 11.1**	**0.0**
LIA	**Limnos Island**	**1.76**	**279**	*e*Pn	**Pn**	**02 45 11.1**	**0.0**
LIA	**Limnos Island**	**1.76**	**279**	P	**Pn**	**02 45 11.4**	**+0.3**
LIA				S	**Sn**	**02 45 33.9**	**+0.3**
CTKS	**Kestanelik-??a**	**1.80**	**27**	*e*PN	**Pn**	**02 45 11.7**	**+0.1**
CTKS	**Kestanelik-??a**	**1.80**	**27**	*e*Pn	**Pn**	**02 45 11.7**	**+0.1**
BGKT	**Bogazkoy**	**1.85**	**33**	*e*PN	**Pn**	**02 45 13.4**	**+1.1**
BGKT	**Bogazkoy**	**1.85**	**33**	*e*Pn	**Pn**	**02 45 13.5**	**+1.1**
ISK	**Istanbul-Kandi**	**1.90**	**40**	*e*PN	**Pn**	**02 45 13.7**	**+0.7**
ISK	**Istanbul-Kandi**	**1.90**	**40**	*e*Pn	**Pn**	**02 45 13.7**	**+0.7**
CAVI	**Cavuskoy**	**1.94**	**72**	*e*PN	**Pn**	**02 45 13.7**	**+0.1**
CAVI	**Cavuskoy**	**1.94**	**72**	*e*Pn	**Pn**	**02 45 13.7**	**+0.1**
ADVT	**Abdulvahap**	**1.94**	**65**	*e*PN	**Pn**	**02 45 14.1**	**+0.5**
ADVT	**Abdulvahap**	**1.94**	**65**	*e*Pn	**Pn**	**02 45 14.1**	**+0.5**
CTYL	**Yal??k??y-??at**	**1.95**	**19**	*e*PN	**Pn**	**02 45 14.8**	**+1.1**
CTYL	**Yal??k??y-??at**	**1.95**	**19**	*e*Pn	**Pn**	**02 45 14.8**	**+1.1**
SMG	**Samos**	**1.98**	**194**	*e*PB	**Pg**	**02 45 17.3**	**-0.8**
SMG				*e*SN	**Sb**	**02 45 40.7**	**-0.6**
SMG	**Samos**	**1.98**	**194**	*e*PB	**Pg**	**02 45 18.8**	**+0.7**
SMG	**Samos**	**1.98**	**194**	*e*Pb	**Pg**	**02 45 18.8**	**+0.7**
AYDN	**Tasoluk**	**2.00**	**170**	*i* P	**Pn**	**02 45 15.1**	**+0.7**
AYDN				*i* S	**Sn**	**02 45 40.7**	**+1.1**
AYDN	**Tasoluk**	**2.00**	**170**	*i* P	**Pn**	**02 45 15.1**	**+0.7**
AYDN				*i* S	**Sn**	**02 45 40.7**	**+1.1**
KLYT	**Kilyos**	**2.03**	**37**	*e*PN	**Pn**	**02 45 15.6**	**+0.8**
KLYT	**Kilyos**	**2.03**	**37**	*e*Pn	**Pn**	**02 45 15.6**	**+0.8**
HRT	**Hereke**	**2.08**	**54**	*e*PN	**Pn**	**02 45 16.8**	**+1.2**
HRT	**Hereke**	**2.08**	**54**	*e*Pn	**Pn**	**02 45 16.8**	**+1.2**
ALT	**Altintas**	**2.15**	**105**	*e*PN	**Pn**	**02 45 16.4**	**-0.2**
ALT	**Altintas**	**2.15**	**105**	*e*Pn	**Pn**	**02 45 16.4**	**-0.2**
SILT	**Sile**	**2.27**	**47**	*e*PN	**Pn**	**02 45 19.5**	**+1.4**
SILT	**Sile**	**2.27**	**47**	*e*Pn	**Pn**	**02 45 19.5**	**+1.4**
EDRB	**Edirne**	**2.28**	**347**	*e*PN	**Pn**	**02 45 18.3**	**+0.1**
EDRB	**Edirne**	**2.28**	**347**	*e*Pn	**Pn**	**02 45 18.3**	**+0.1**
GULT	**Gulveren**	**2.50**	**70**	*e*PN	**Pn**	**02 45 22.6**	**+1.3**
GULT	**Gulveren**	**2.50**	**70**	*e*Pn	**Pn**	**02 45 22.6**	**+1.3**
OUR	**Ouranopolis**	**2.75**	**286**	*e*PN	**Pn**	**02 45 24.8**	**+0.2**
OUR	**Ouranopolis**	**2.75**	**286**	*e*Pn	**Pn**	**02 45 24.8**	**+0.2**
OUR	**Ouranopolis**	**2.75**	**286**	*e*Pn	**Pn**	**02 45 24.8**	**+0.2**
APE	**Apeiranthos**	**2.96**	**211**	*e*PN	**Pn**	**02 45 30.1**	**+2.4**

*ISCJB **03** 03:18:39.1±0.7, 15°.4S±0°.1×73°.8W±0°.1, h71km, mb3.4/4, Error ellipse: s-maj=23.0km s-min=7.0km az=145.1*
*IDC **03** 03:18:42.3±1.8, 15°.43S×73°.91W, h98km±18km, mb3.3/5, mb1 3.5/7, mb1mx3.4/25, mbtmp3.7/7, Error ellipse: s-maj=31.5km s-min=12.6km az=56.0*
ISC 03 03:18:40.6±0.8, 15°.4S±0°.1×73°.8W±0°.2, h71km, n8, σ1s88/10, mb3.4/4, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.47**	**318**	P	**Pn**	**03 19 47.2**	**+1.1**
	3.7nm,0.3s,baz=142,slow=13,SNR=7.1						
NNA				S	**Sn**	**03 20 39.3**	**+2.4**
	7.1nm,0.3s,baz=44,slow=23,SNR=7.2						
LVC	**Limon Verde**	**8.56**	**148**	P	**Pn**	**03 20 43.6**	**+1.5**
	23nm,0.3s,baz=348,slow=9.6,SNR=4.6						
LVC				S	**Sn**	**03 22 18.3**	**+1.0**
	36nm,0.3s,baz=90,slow=20,SNR=5.1						
PTGA	**Pitinga**	**19.97**	**44**	P	**P**	**03 23 09.5**	**+2.2**
	1.8nm,0.5s,baz=238,slow=18,SNR=4.4						
PLCA	**Paso Flores**	**25.42**	**174**	P	**P**	**03 24 01.3**	**-0.4**
	1.2nm,0.8s,baz=338,slow=11,SNR=3.4						
TXAR	**Lajitas Array**	**52.98**	**327**	P	**P**	**03 27 48.9**	**-1.4**
	0.4nm,0.7s,baz=147,slow=8.5,SNR=7.2						
TORD	**Torodi Ar. Bea**	**79.89**	**73**	P	**P**	**03 30 40.8**	**-1.6**
	0.5nm,0.9s,baz=258,slow=4.7,SNR=4.6						
YKA	**Yellowknife Ar**	**83.93**	**342**	P	**P**	**03 31 00.3**	**-2.1**
	0.3nm,0.8s,baz=139,slow=5.6,SNR=4.3						
WRA	**Warramunga Arr**	**135.30**	**219**	PKP	**PKPdf**	**03 37 52.2**	**-1.0**
	0.4nm,0.7s,baz=145,slow=1.8,SNR=3.6						

*IDC **03** 03:43:11.5±0.9, 7°.50S×155°.01E, h0km, mb4.2/15, mb1 4.4/15, mb1mx4.2/27, mbtmp4.2/15, Error ellipse: s-maj=33.7km s-min=17.1km az=117.0*
*ISCJB **03** 03:43:14.6±0.6, 7°.4S±0°.1×155°.0E±0°.1, h31km, mb4.3/21, Error ellipse: s-maj=20.9km s-min=10.2km az=40.1*
*NEIC **03** 03:43:17.7±3.0, 7°.50S×155°.03E, h46km±26km, mb4.7/6, Error ellipse: s-maj=25.2km s-min=12.5km az=113.0*
ISC 03 03:43:16.2±0.9, 7°.5S±0°.2×155°.1E±0°.2, h31km, n25, σ0s97/26, mb4.3/21, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.07**	**256**	*e*Pn	**Pn**	**03 45 12.0**	**+0.6**
	25nm,0.7s						
WRAB	**Tennant Creek**	**23.60**	**236**	*e*P	**P**	**03

TXAR	**Lajitas Array**	**71.67**	**332**	P	**P**	**04 16 21.5**	**+0.2**
	comp=N,0.6nm,0.8s,baz=151,slow=8.5,SNR=6.1						
PDAR	**Pinedale Array**	**85.79**	**334**	P	**P**	**04 17 38.8**	**0.0**
	comp=N,0.3nm,0.7s,baz=162,slow=9.1,SNR=2.3						
TORD	**Torodi Ar. Bea**	**86.28**	**71**	P	**P**	**04 17 40.5**	**-1.1**
	comp=N,0.8nm,0.8s,baz=220,slow=4.9,SNR=8.6						
ZALV	**Zalesovo Beam**	**157.25**	**34**	PKP	**PKPdf**	**04 24 54.2**	**-0.5**
	comp=N,0.3nm,0.3s,baz=251,slow=4.4,SNR=2.0						
ZALV				PKPab	**PKPab**	**04 25 25.9**	**+0.1**
	comp=N,0.5nm,0.3s,baz=312,slow=5.1,SNR=4.0						
MKAR	**Makanchi Array**	**159.47**	**53**	PKP	**PKPdf**	**04 24 57.9**	**+0.2**
	comp=N,0.1nm,0.5s,baz=2.7,slow=3.0,SNR=1.8						
MKAR				PKPab	**PKPab**	**04 25 35.5**	**-0.2**
	comp=N,0.6nm,0.8s,baz=280,slow=9.2,SNR=5.5						

CASC ***03*** *04:22:37.0±3.0, 12°.38N×87°.86W, h166km±39km, MD3.9*
IDC ***03*** *04:22:38.4±2.0, 12°.63N×87°.62W, h0km, mb3.9/4, mb1 3.9/6, mb1mx3.6/32, mbtmp3.7/6, ML2.8/2, Error ellipse: s-maj=53.9km s-min=26.8km az=42.0*
ISCJB ***03*** *04:22:40.1±0.7, 12°.03N±0°.09×88°.05W±0°.08, h35km, mb3.9/4, Error ellipse: s-maj=15.9km s-min=4.2km az=40.6*

ISC 03 04:22:41.3±1.1, 11°.98N±0°.07×88°.06W±0°.07, h35km, n22, σ1§95/26, mb3.9/4, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**1.31**	**10**	*eP*	**Pn**	**04 23 02.2**	**-0.9**
CNCH				*eS*	**Sn**	**04 23 23.7**	**+4.2**
COPN	**Copaltepe**	**1.45**	**82**	*eP*	**Pn**	**04 23 03.4**	**-1.6**
VSM	**San Miguel**	**1.45**	**352**	*eP*	**Pn**	**04 23 04.4**	**-1.0**
VSM				*eS*	**Sn**	**04 23 26.8**	**+3.5**
BLLM	**Bellamira**	**1.46**	**353**	*eP*	**Pn**	**04 23 04.2**	**-1.1**
CAHU	**Cacacuatique**	**1.78**	**355**	*eP*	**Pn**	**04 23 09.5**	**-0.3**
HUEN		**1.88**	**79**	*eP*	**Pn**	**04 23 08.3**	**-2.7**
LFRS	**El Faro**	**1.90**	**329**	*eP*	**Pn**	**04 23 09.5**	**-1.8**
LBRS	**Las Brisas**	**1.99**	**331**	*eP*	**Pn**	**04 23 11.8**	**-0.8**
BOQS	**Boqueron**	**2.11**	**326**	*eP*	**Pn**	**04 23 13.8**	**-0.6**
SBLS	**San Blas**	**2.39**	**321**	*eP*	**Pn**	**04 23 17.1**	**-1.1**
RTR	**El Retiro**	**2.45**	**321**	*eP*	**Pn**	**04 23 18.1**	**-0.9**
VCR	**Vista de Mar**	**3.02**	**127**	*eP*	**Pn**	**04 23 27.2**	**+0.5**
IXG	**Ixpaco**	**3.19**	**313**	*eP*	**Pn**	**04 23 27.6**	**-1.5**
JTS	**JuntasAbangare**	**3.48**	**119**	Pn	**Pn**	**04 23 34.9**	**+1.9**
	0.7nm,0.3s,baz=311,slow=22,SNR=11						
JTS				Sn	**Sn**	**04 24 11.2**	**-1.9**
	4.3nm,0.3s,baz=302,slow=20,SNR=5.7						
JCR	**Jicaral**	**3.59**	**126**	*eP*	**Pn**	**04 23 34.8**	**+0.3**
URSC	**Urasca**	**4.72**	**116**	*eP*	**Pn**	**04 23 53.3**	**+3.2**
URSC				*eS*	**Sn**	**04 24 46.7**	**+2.9**
BUS	**Buena Vista**	**4.87**	**119**	*eP*	**Pn**	**04 23 54.6**	**+2.1**
BUS				*eS*	**Sn**	**04 24 47.0**	**-0.9**
CMIG	**Matias Romero**	**8.33**	**308**	Pn	**Pn**	**04 24 40.7**	**+1.0**
	0.2nm,0.3s,baz=138,slow=11,SNR=5.1						
TXAR	**Lajitas Array**	**22.57**	**322**	P	**P**	**04 27 39.0**	**+0.3**
	2.0nm,0.8s,baz=138,slow=11,SNR=19						
ULM	**Lac du Bonnet**	**38.69**	**352**	P	P	04 29 58.3	-3.4
	2.7nm,0.5s,baz=176,slow=8.8,SNR=7.5						
SCHQ	**Schefferville**	**45.90**	**17**	P	P	04 30 57.2	-3.1
	1.6nm,0.5s,baz=232,slow=5.6,SNR=8.6						
YKA	**Yellowknife Ar**	**53.91**	**345**	P	**P**	**04 31 59.2**	**-1.8**
	0.4nm,0.6s,baz=132,slow=8.4,SNR=9.9						
YKA				PcP	**PcP**	**04 33 05.3**	**-0.8**
	0.2nm,0.7s,baz=147,slow=3.7,SNR=3.9						

ISCJB ***03*** *04:55:19.5±0.4, 28°.16N±0°.03×112°.18W±0°.04, h10km, mb4.0/15, MS3.6/16, Error ellipse: s-maj=5.6km s-min=3.8km az=165.3*
MEX ***03*** *04:55:20.0±0.5, 27°.60N×111°.34W, h5km±14km, MD4.6*
NEIC ***03*** *04:55:21.2±0.5, 28°.13N×112°.23W, h10km, mb4.0/30, Error ellipse: s-maj=8.1km s-min=5.4km az=54.0*
NEIC Felt at Bahia Kino, Sonora.
IDC ***03*** *04:55:22.4±1.2, 28°.58N×111°.99W, h0km, mb4.0/10, mb1 4.1/15, mb1mx3.9/40, mbtmp4.0/15, ML3.6/5, MS3.7/19, Ms1 3.7/19, ms1mx3.5/36, Error ellipse: s-maj=22.8km s-min=11.7km az=32.0*

ISC 03 04:55:21.1±0.5, 28°.13N±0°.03×112°.07W±0°.04, h10km, n110, σ1§85/112, mb4.2/15, MS3.6/16, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**0.82**	**191**	*i* P	**Pg**	**04 55 34.4**	**-2.5**
SRIG				*i* S	**Sg**	**04 55 45.8**	**-1.7**
SRIG	**Santa Rosalia**	**0.82**	**191**	*i* P	**Pg**	**04 55 34.4**	**-2.5**
SRIG				*i* S	**Sg**	**04 55 45.8**	**-1.7**
HSIG		**1.33**	**48**	*eP*	**Pn**	**04 55 43.2**	**-2.6**
HSIG		**1.33**	**48**	*eP*	**Pn**	**04 55 43.2**	**-2.6**
214A	**Organ Pipe Nat**	**3.87**	**351**	*ePn*	Pn	04 56 17.1	-3.7
214A				*eS*	**Sb**	**04 57 16.0**	**-0.5**
SPX	**San Pedro Mart**	**4.15**	**315**	*eP*	**Pb**	**04 56 33.0**	**-1.5**
SPIG	**San Pedro Mart**	**4.15**	**315**	*i* P	**Pb**	**04 56 33.5**	**-0.9**
SPIG				*i* S	**Sb**	**04 57 28.6**	**+3.7**
SPIG	**San Pedro Mart**	**4.15**	**315**	*i* P	**Pb**	**04 56 33.5**	**-0.9**
SPIG				*i* S	**Sb**	**04 57 28.6**	**+3.7**
CGIG		**4.21**	**57**	*eP*	**Pn**	**04 56 25.2**	**-0.5**
CGIG				*eS*	**Sn**	**04 57 11.9**	**-3.1**
CGIG		**4.21**	**57**	*eP*	**Pn**	**04 56 25.2**	**-0.5**
CGIG				*eS*	**Sn**	**04 57 11.9**	**-3.1**
LPIG	**La Paz**	**4.31**	**158**	*eP*	**Pn**	**04 56 27.1**	**+0.4**
LPIG	**La Paz**	**4.31**	**158**	Pn	**Pn**	**04 56 27.8**	**+1.1**
	4.3nm,0.3s,baz=309,slow=6.8,SNR=3.2						
LPIG				Sn	**Sg**	**04 57 36.6**	**-2.9**
	1.0nm,0.3s,baz=351,slow=3.9,SNR=1.7						
LPIG				Lg	Lg	04 57 49.6	
	3.6nm,0.3s,baz=251,slow=14,SNR=1.6						
TUC	**Tucson**	**4.32**	**15**	*ePn*	**Pn**	**04 56 24.0**	**-3.0**
TUC				*ePg*	**Pg**	**04 56 43.7**	**-0.2**
TUC				*eS*	**Sn**	**04 57 18.8**	**+1.4**
TUC				*eS*	**Sb**	**04 57 33.9**	**+4.5**
SLBS	**Sierra La Lagu**	**4.82**	**156**	*i* P	**Pn**	**04 56 36.2**	**+2.4**
GLA	**Glamis**	**5.46**	**335**	*ePn*	**Pn**	**04 56 42.3**	**-0.3**
	33nm,0.5s						
GLA				*eS*	**Sg**	**04 58 17.2**	**+0.8**
121A	**Cookes Peak, D**	**5.75**	**39**	*ePn*	**Pn**	**04 56 46.0**	**-0.6**
	83nm,0.7s						
121A				*eS*	**Sg**	**04 58 24.3**	**-1.3**
CBX	**Cerro Bola**	**5.76**	**318**	*eP*	Pn	04 56 54.9	+8.0
CBX				*eS*	**Sb**	**04 58 09.5**	**-1.5**
CBX	**Cerro Bola**	**5.76**	**318**	*eP*	Pn	04 56 54.9	+8.0
CBX				*eS*	**Sb**	**04 58 09.5**	**-1.5**
HPIG		**5.81**	**100**	*eP*	Pn	04 56 38.9	-8.6
HPIG		**5.81**	**100**	*eP*	Pn	04 56 38.9	-8.6
BAR	**Barrett**	**6.03**	**320**	*ePn*	**Pn**	**04 56 48.9**	**-1.6**
	11nm,0.8s						
BAR				*eS*	Sb	04 58 25.3	+6.6
PFO	**Pinyon Flats O**	**6.64**	**326**	Pn	**Pn**	**04 56 56.2**	**-2.7**
	22nm,0.9s						
PFO				*ePg*	Pg	04 57 25.1	-3.2
PFO				*eS*	**Sg**	**04 58 49.9**	**-4.5**
MNTX	**Cornudas Mount**	**6.81**	**57**	*ePn*	**Pn**	**04 57 02.1**	**+1.0**
	25nm,0.8s						
MNTX				*ePg*	**Pg**	**04 57 28.8**	**-2.8**
MNTX				*eS*	**Sg**	**04 58 56.1**	**-3.6**
W18A	**Petrified Fore**	**7.25**	**15**	*ePn*	**Pn**	**04 57 06.5**	**-0.8**
	25nm,0.8s						
W18A				*ePg*	Pg	04 57 36.4	-3.6
W18A				*eS*	**Sg**	**04 59 10.9**	**-3.0**
WUAZ	**Wupatki**	**7.39**	**4**	*ePn*	**Pn**	**04 57 08.2**	**-1.1**
	20nm,0.8s						
WUAZ				*eS*	**Sg**	**04 59 16.9**	**-1.5**
LDFC	**Landfair**	**7.40**	**340**	*ePn*	**Pn**	**04 57 08.1**	**-1.2**
	44nm,1.1s						
LDFC				*eS*	Sb	04 59 04.9	+6.8
TXAR	**Lajitas Array**	**7.47**	**79**	Pn	**Pn**	**04 57 11.2**	**+0.8**
	0.7nm,0.3s,baz=251,slow=13,SNR=37						
TXAR				Lg	Lg	04 59 14.8	
	1.6nm,0.3s,baz=260,slow=25,SNR=1.7						
LAZ	**Ladron**	**7.55**	**33**	*ePn*	**Pn**	**04 57 12.2**	**+0.7**
	8.0nm,0.9s						
ANMO	**Albuquerque**	**8.31**	**34**	Pn	**Pn**	**04 57 21.5**	**-0.5**
	0.1nm,0.3s,baz=204,slow=10.0,SNR=3.5						
ANMO				Lg	Lg	04 59 40.0	
	1.0nm,0.3s,baz=357,slow=8.8,SNR=5.2						
ANMO	**Albuquerque**	**8.31**	**34**	*ePn*	**Pn**	**04 57 22.2**	**+0.2**
ANMO				*eS*	**Sn**	**04 58 56.7**	**+0.6**
ANMO				Lg	Lg	04 59 40.0	
SHPR	**Sheep Range**	**8.76**	**343**	*ePn*	**Pn**	**04 57 26.8**	**-1.2**
	4.1nm,0.9s						
SHPR				*eS*	Sg	04 59 38.9	-24
MVCO	**Mesa Verde**	**9.54**	**17**	*ePn*	**Pn**	**04 57 37.9**	**-1.0**
	17nm,0.8s						
MSTX	**Muleshoe**	**9.87**	**52**	*ePn*	**Pn**	**04 57 45.9**	**+2.6**
	14nm,0.9s						
MVU	**Marysvale**	**10.35**	**359**	*ePn*	**Pn**	**04 57 51.8**	**+1.9**
	8.0nm,0.8s						
MSU	**Marysvale**	**10.36**	**360**	*ePn*	**Pn**	**04 57 51.4**	**+1.3**
	6.2nm,0.6s						
PV01	**Paradox Valley**	**10.40**	**15**	*ePn*	**Pn**	**04 57 52.2**	**+1.6**
	425nm,0.7s						
R11A	**Troy Canyon, C**	**10.61**	**345**	*ePn*	**Pn**	**04 57 51.4**	**-2.0**
	5.8nm,1.1s						
TPH	**Tonopah**	**10.82**	**338**	*ePn*	**Pn**	**04 57 56.7**	**+0.4**
	5.9nm,0.9s						
JCT	**Junction City**	**10.96**	**75**	*ePn*	Pn	04 58 01.3	+3.2
	32nm,0.9s						
SRU	**San Rafael Swe**	**11.03**	**6**	*ePn*	**Pn**	**04 58 01.4**	**+2.2**
	15nm,1.0s						
AMTX	**Amarillo**	**11.13**	**50**	*ePn*	**Pn**	**04 58 02.7**	**+2.2**
	10nm,0.8s						
NVAR	**Mina Array Bea**	**11.52**	**335**	Pn	**Pn**	**04 58 04.5**	**-1.5**
	0.1nm,0.3s,baz=151,slow=12,SNR=5.6						
NVAR				Lg	Lg	05 01 34.4	
	0.0nm,0.3s,baz=278,slow=26,SNR=1.6						
ABTX	**Abilene, Hawle**	**11.63**	**64**	*ePn*	**Pn**	**04 58 09.3**	**+2.1**
	19nm,1.0s						
SMCO	**Snowmass**	**11.81**	**20**	*ePn*	**Pn**	**04 58 12.3**	**+2.3**
	3.4nm,0.9s						
DUG	**Dugway, Tooele**	**12.06**	**357**	*ePn*	**Pn**	**04 58 13.4**	**+0.2**
	8.6nm,1.1s						
BGU	**Big Grassy Mou**	**12.79**	**357**	*ePn*	**Pn**	**04 58 24.8**	**+1.6**
	16nm,1.6s						
ELK	**Elko**	**12.86**	**349**	Pn	**Pn**	**04 58 23.4**	**-0.7**
	0.1nm,0.3s,baz=181,slow=9.4,SNR=8.3						
ELK				Lg	Lg	05 02 10.6	
	0.1nm,0.3s,baz=36,slow=3.4,SNR=3.1						
ELK				LR	LR	05 03 31.1	
	comp=Z,310nm,19.4s,baz=181,slow=39						
WMOK	**Wichita Mounta**	**13.12**	**57**	*ePn*	**Pn**	**04 58 29.0**	**+1.5**
	6.6nm,1.0s						
HWUT	**Hardware Ranch**	**13.46**	**2**	*ePn*	**Pn**	**04 58 33.9**	**+1.5**
	16nm,0.9s						
HVU	**Hansel Valley**	**13.63**	**358**	*ePn*	**Pn**	**04 58 34.2**	**-0.5**
	18nm,1.5s						
V34A	**Guthrie**	**14.54**	**54**	*ePn*	**Pn**	**04 58 48.8**	**+1.9**
	23nm,1.1s						
AHID	**Auburn Hatcher**	**14.63**	**3**	*ePn*	**Pn**	**04 58 48.7**	**+0.3**
	16nm,1.4s						
BW06	**Boulder Array**	**14.75**	**7**	*ePn*	**Pn**	**04 58 48.4**	**-1.6**
	6.4nm,1.0s						
PDAR	**Pinedale Array**	**14.75**	**7**	Pn	**Pn**	**04 58 49.6**	**-0.4**
	0.0nm,0.3s,baz=169,slow=8.6,SNR=7.6						
PDAR				Lg	Lg	05 03 03.1	
	0.0nm,0.3s,baz=176,slow=17,SNR=3.1						
PDAR				LR	LR	05 04 42.5	
	comp=Z,311nm,19.5s,baz=197,slow=39						
U34A	**Anderson Ranch**	**14.81**	**52**	*ePn*	**P**	**04 58 57.1**	**+0.5**
	50nm,1.4s						
K22A	**Casper**	**15.18**	**16**	*ePn*	**Pn**	**04 58 57.4**	**+1.7**
	33nm,1.3s						
WVOR	**Wild Horse Val**	**15.24**	**341**	*ePn*	**Pn**	**04 58 57.4**	**+0.8**
	8.2nm,1.2s						
SNOW	**Snow King Moun**	**15.34**	**4**	*ePn*	**Pn**	**04 58 57.6**	**-0.3**
	6.7nm,0.9s						
LOHW	**Long Hollow**	**15.50**	**4**	*ePn*	**Pn**	**04 58 59.8**	**-0.2**
	9.0nm,1.1s						
HLID	**Hailey**	**15.52**	**354**	*ePn*	**Pn**	**04 59 01.3**	**+1.1**
	4.0nm,1.0s						
MFID	**Camas Ranch**	**15.56**	**350**	*ePn*	**Pn**	**04 59 01.7**	**+1.1**
	15nm,1.2s						
MOOW	**Moose Ponds**	**15.63**	**4**	*ePn*	**Pn**	**04 59 01.6**	**-0.1**
	6.5nm,1.1s						
IMW	**Indian Meadow**	**15.77**	**3**	*ePn*	**Pn**	**04 59 04.3**	**+0.8**
	21nm,1.0s						
TUL1	**Leonard**	**15.82**	**57**	Pn	**P**	**04 59 05.7**	**-2.1**
	18nm,1.1s						
FLWY	**Flagg Ranch**	**15.96**	**4**	*ePn*	**P**	**04 59 07.9**	**-1.7**
	17nm,1.2s						
YBH	**Yreka Blue Hor**	**16.12**	**330**	LR	LR	05 05 06.7	
	comp=Z,304nm,20.1s,baz=188,slow=37						
YNR	**Norris Junctio**	**16.59**	**3**	*ePn*	**Pn**	**04 59 15.0**	**+0.9**
	6.5nm,0.9s						
MCMT	**McKenzie Canyo**	**16.68**	**358**	*ePn*	Pn	04 59 10.3	-5.0
	2.6nm,1.0s						
KSU1	**Kansas State U**	**16.88**	**46**	Pn	**P**	**04 59 18.8**	**-0.7**
MIAR	**Mount Ida**	**17.04**	**63**	*ePn*	**P**	**04 59 20.1**	**-1.3**
	8.2nm,1.1s						
DLMT	**Dillon**	**17.21**	**359**	*ePn*	**P**	**04 59 22.6**	**-0.8**
	11nm,1.3s						
RSSD	**Black Hills**	**17.22**	**20**	*ePn*	**Pn**	**04 59 22.5**	**+0.6**
	7.4nm,1.2s						
HRY	**Holter Researc**	**18.55**	**1**	*eP*	**Pn**	**04 59 39.8**	**+1.4**
	6.2nm,0.6s						
CHMT	**Chamberlain Mo**	**18.78**	**357**	*ePn*	**P**	**04 59 40.7**	**0.0**
	3.7nm,1.2s						
LAO	**LASA Array**	**19.09**	**12**	*eP*	**Pn**	**04 59 44.4**	**-0.3**
	20nm,1.1s						
SLMT	**Seeley Lake**	**19.12**	**357**	*eP*	**Pn**	**04 59 45.3**	**+0.1**
	15nm,1.5s						
CMIG	**Matias Romero**	**19.27**	**121**	P	**Pn**	**04 59 49.2**	**+2.2**
	0.3nm,0.3s,baz=326,slow=11,SNR=3.5						
SWMT	**Swartz Lake**	**19.41**	**356**	*eP*	**P**	**04 59 48.1**	**+0.6**
	3.2nm,0.9s						
BSMT	**Bassoo Peak**	**19.81**	**355**	*eP*	**P**	**04 59 52.2**	**+0.3**
	7.9nm,1.3s						
ECSD	**EROS Data Cent**	**19.93**	**35**	*eP*	**P**	**04 59 53.5**	**+0.4**
	13nm,1.2s						
EGMT	**Eagleton**	**19.95**	**5**	*eP*	**P**	**04 59 53.3**	**0.0**
	6.9nm,1.0s						
OXF	**Oxford**	**20.36**	**66**	*eP*	Pn	04 59 59.0	-0.8
	34nm,0.9s						
NEW	**Newport**	**20.49**	**350**	P	**P**	**04 59 57.6**	**-1.5**
	7.6nm,1.0s,baz=168,slow=12,SNR=8.5						
NEW				LR	LR	05 07 19.9	
	comp=Z,49nm,19.4s,baz=214,slow=36						
WVT	**Waverly**	**21.99**	**63**	*eP*	**P**	**05 00 16.4**	**+1.0**
	14nm,1.0s						
SPMN	**Marine on St.**	**22.93**	**37**	P	**P**	**05 00 28.5**	**+3.2**
	7.4nm,1.0s						
TEIG	**Tepich**	**23.06**	**105**	LR	LR	05 11 20.9	
	comp=Z,213nm,19.9s,baz=358,slow=42						
AGMN	**Agassiz Nation**	**23.74**	**28**	*eP*	**P**	**05 00 37.1**	**+3.7**
	4.2nm,0.9s						
TKL	**Tuckaleechee C**	**25.11**	**65**	P	**P**	**05 00 47.2**	**+1.1**
	7.8nm,1.0s,baz=216,slow=12,SNR=4.8						
TKL				LR	LR	05 10 36.2	
	comp=Z,203nm,18.3s,baz=273,slow=37						
ULM	**Lac du Bonnet**	**25.30**	**25**	P	**P**	**05 00 46.7**	**-1.1**
	2.7nm,0.8s,baz=225,slow=8.5,SNR=2.7						
ULM				LR	LR	05 11 33.9	
	comp=Z,136nm,20.4s,baz=250,slow=39						
EYMN	**Ely**	**25.43**	**33**	P	**P**	**05 00 51.7**	**+2.7**
	4.6nm,0.7s						
BBB	**Bella Bella**	**26.86**	**338**	LR	LR	05 10 43.2	
	comp=Z,140nm,20.7s,baz=188,slow=35						
SADO	**Sadowa**	**31.00**	**49**	P	**P**	**05 01 38.0**	**-0.7**
	2.2nm,0.8s,baz=272,slow=16,SNR=2.6						
SADO				LR	LR	05 14 55.6	
	comp=Z,275nm,18.4s,baz=251,slow=38						
JTS	**JuntasAbangare**	**31.03**	**120**	LR	LR	05 13 15.1	
	comp=Z,79nm,21.1s,baz=312,slow=34						
YKA	**Yellowknife Ar**	**34.41**	**358**	P	**P**	**05 02 06.0**	**-2.4**
	0.3nm,0.9s,baz=176,slow=9.0,SNR=3.2						
SCHQ	**Schefferville**	**42.07**	**38**	P	**P**	**05 03 14.3**	**+1.4**
	4.3nm,0.9s,baz=260,slow=3.4,SNR=6.5						
SCHQ				LR	LR	05 22 00.9	
	comp=Z,51nm,21.5s,baz=36,slow=38						
INK	**Inuvik**	**42.19**	**348**	P	**P**	**05 03 11.7**	**-2.0**
	1.4nm,0.9s,baz=163,slow=11,SNR=3.9						
OTAV	**Otavalo**	**42.49**	**125**	*eP*	**P**	**05 03 18.7**	**+1.4**
	12nm,1.4s						
ROSC	**El Rosal**	**42.66**	**116**	P	P	05 03 21.9	+3.3
	2.9nm,0.7s,baz=91,slow=17,SNR=3.2						
ILAR	**Eielson Array**	**42.74**	**339**	P	**P**	**05 03 17.4**	**-0.8**
	2.6nm,0.9s,baz=151,slow=6.8,SNR=23						
ILAR				LR	LR	05 20 41.3	
	comp=Z,61nm,18.4s,baz=131,slow=36						
SDV	**Santo Domingo**	**43.42**	**108**	*eP*	**P**	**05 03 25.7**	**+1.0**
	5.4nm,0.7s						
IM04	**Indian Mountai**	**45.75**	**338**	*eP*	**P**	**05 03 40.9**	**-1.5**
ARCES	**ARCESS Array B**	**77.90**	**14**	LR	LR	05 43 33.7	
	comp=Z,48nm,18.3s,baz=330,slow=37						
NOA	**NORSAR Array B**	**79.99**	**24**	LR	LR	05 42 32.8	
	comp=Z,27nm,20.6s,baz=155,slow=36						
FINES	**FINESS Array B**	**84.54**	**19**	P	**P**	**05 07 56.6**	**+2.4**
	1.4nm,0.8s,baz=355,slow=8.4,SNR=2.3						
FINES				LR	LR	05 45 11.2	
	comp=Z,60nm,18.6s,baz=5.5,slow=36						
ESDC	**Sonseca Array**	**85.05**	**47**	LR	LR	05 44 51.8	
	comp=Z,46nm,18.2s,baz=275,slow=35						
GERES	**GERESS Array B**	**89.37**	**32**	LR	LR	05 48 10.2	
	comp=Z,43nm,18.3s,baz=308,slow=36						
AKASG	**Malin Array Be**	**94.38**	**24**	LR	LR	05 50 52.1	
	comp=Z,41nm,19.6s,baz=95,slow=35						
GUMO	**Guam**	**94.85**	**288**	LR	LR	05 42 19.6	
	comp=Z,37nm,21.7s,baz=102,slow=30						
WRA	**Warramunga Arr**	**119.44**	**262**	PKP	**PKPdf**	**05 14 14.2**	**+2.6**
	0.4nm,0.6s,baz=69,slow=3.0,SNR=2.4						
ASAR	**Alice Springs**	**121.12**	**258**	PKP	**PKPdf**	**05 14 19.1**	**+4.4**
	0.4nm,0.9s,baz=95,slow=2.0,SNR=3.0						

CASC 03 04:57:15.2±1.4, 13°.02N×90°.22W, h17km±7km, MD3.5, ML3.3, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**1.00**	**36**	*eP*	Pb	04 57 33.7	-0.7
SNJE	**San Jose**	**1.03**	**35**	*eP*	Pb	04 57 34.0	-1.0
RTR	**El Retiro**	**1.04**	**33**	*eP*	Pb	04 57 34.2	-0.7
RTR				*eS*	Sn	04 57 49.9	+0.4
BOQS	**Boqueron**	**1.16**	**52**	*eP*	Pn	04 57 36.6	-0.4
BOQS				*eS*	Sb	04 57 52.3	+0.2
IXG	**Ixpaco**	**1.17**	**349**	*eP*	Pn	04 57 35.4	-1.6
SNET	**Serv Nac Est T**	**1.17**	**56**	AML	AML	04 57 36.7	
	comp=Z,628nm,0.2s						
SNET				*eS*	Sb	04 57 52.2	+0.2
RBDL	**Robledal**	**1.20**	**26**	*eP*	Pb	04 57 37.0	-0.5
RBDL				*eS*	Sg	04 57 54.3	-0.4
LFRS	**El Faro**	**1.28**	**62**	*eP*	Pb	04 57 37.6	-0.8
LFRS				*eS*	Sb	04 57 54.8	-0.5
LBRS	**Las Brisas**	**1.35**	**58**	*eP*	Pn	04 57 39.1	-0.3
LBRS				*eS*	Sb	04 57 58.1	+0.8
FUG	**Fuego 3**	**1.54**	**337**	*eP*	Pn	04 57 42.6	+0.5
NBG	**Las Nubes**	**1.56**	**356**	*eP*	Pb	04 57 43.3	-0.7
NBG				*eS*	Sb	04 58 03.2	-0.5
MTO2	**Montecristo 2**	**1.61**	**31**	*eP*	Pn	04 57 43.0	-0.1
JAT	**Jato**	**1.88**	**313**	*eP*	Pn	04 57 46.0	-0.5
VSM	**San Miguel**	**1.94**	**78**	*eP*	Pn	04 57 47.8	0.0

IDC ***03*** *04:57:54.7±0.8, 11°.72N×143°.28E, h0km, mb4.2/16, mb1 4.4/17, mb1mx4.2/34, mbtmp4.2/17, ML4.5/1, MS3.2/3, Ms1 3.2/3, ms1mx2.7/33, Error ellipse: s-maj=22.8km s-min=15.7km az=105.0*
ISCJB ***03*** *04:57:57.7±0.5, 11°.70N±0°.07×143°.10E±0°.08, h32km, mb4.2/22, MS4.1/3, Error ellipse: s-maj=13.5km s-min=8.0km az=40.1*
NEIC ***03*** *04:57:60.0±0.5, 11°.73N×143°.24E, h35km, mb4.4/5, Error ellipse: s-maj=14.2km s-min=10.0km az=107.0*

ISC 03 04:57:59.4±0.8, 11.7N±0.1×143°.2E±0°.1, h32km, n35, σ1§19/29, mb4.3/22, MS3.8/3, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.54**	**41**	Pn	**Pn**	**04 58 37.2**	**-1.2**
	103nm,0.3s,baz=28,slow=5.0,SNR=16						
GUMO				Sn	**Sn**	**04 59 08.1**	**0.0**
	128nm,0.3s,baz=51,slow=19,SNR=12						
GUMO				LR	LR	04 59 27.4	
	comp=Z,91nm,21.6s,baz=192,slow=38						
GUMO	**Guam**	**2.54**	**41**	*ePn*	**Pn**	**04 58 37.1**	**-1.2**
GUMO				Sn	**Sn**	**04 59 08.1**	**0.0**
GUMO				*eS*	**Sn**	**04 59 09.2**	**+1.1**
DAV	**Davao City (W)**	**17.93**	**257**	Pn	**Pn**	**05 02 03.3**	**-3.1**
H11S3	**WAKE ISLAND Hy**	**23.70**	**71**	T	T	05 27 38.1	
	baz=313,slow=74,SNR=4.7						
H11S1	**WAKE ISLAND Hy**	**23.71**	**70**	T	T	05 27 43.8	
H11S2	**WAKE ISLAND Hy**	**23.71**	**71**	T	T	05 27 48.3	
	baz=256,slow=74,SNR=4.3						
JNU	**Nakatsue**	**24.14**	**334**	P	**P**	**05 03 13.5**	**+0.9**
	4.0nm,0.7s,baz=45,slow=13,SNR

JSD	**Sado**	**19.98**	**343**	P	**P**	**05 15 52.2**	**0.0**
JMK	**Ichinoseki**	**20.22**	**350**	P	**P**	**05 15 57.1**	**+2.4**
KSRS	**Korea Array**	**23.94**	**324**	P	**P**	**05 16 30.8**	**+0.1**
	1.5nm,0.6s,baz=152,slow=9.9,SNR=3.3						
ASAJ	**Asahikawa**	**25.16**	**355**	P	**P**	**05 16 43.9**	**+2.3**
	9.0nm,0.8s,baz=110,slow=15,SNR=3.3						
WRA	**Warramunga Arr**	**40.21**	**196**	P	**P**	**05 18 51.7**	**-0.3**
	0.4nm,0.4s,baz=358,slow=8.7,SNR=19						
SONM	**Songino Array**	**42.76**	**321**	P	**P**	**05 19 12.5**	**-0.1**
	0.7nm,0.5s,baz=138,slow=9.8,SNR=9.7						
ASAR	**Alice Springs**	**43.88**	**195**	P	**P**	**05 19 21.1**	**-0.5**
	0.3nm,0.7s,baz=16,slow=8.7,SNR=6.8						
MKAR	**Makanchi Array**	**58.08**	**314**	P	**P**	**05 21 06.7**	**-0.4**
	0.5nm,0.6s,baz=79,slow=6.3,SNR=8.1						
ILAR	**Eielson Array**	**63.48**	**26**	P	**P**	**05 21 42.0**	**-1.1**
	0.7nm,0.7s,baz=260,slow=5.4,SNR=9.5						
INK	**Inuvik**	**69.19**	**23**	P	**P**	**05 22 19.1**	**-0.1**
	0.7nm,0.5s,baz=264,slow=4.6,SNR=2.0						
YKA	**Yellowknife Ar**	**77.83**	**28**	P	**P**	**05 23 08.5**	**-1.0**
	0.7nm,0.5s,baz=289,slow=5.4,SNR=13						
ARCES	**ARCESS Array B**	**82.13**	**342**	P	**P**	**05 23 33.1**	**+0.6**
	3.5nm,0.9s,baz=70,slow=7.8,SNR=1.2						
NVAR	**Mina Array Bea**	**83.14**	**52**	P	**P**	**05 23 39.0**	**+0.3**
	2.0nm,0.7s,baz=267,slow=5.7,SNR=10						
FINES	**FINESS Array B**	**86.51**	**335**	P	**P**	**05 23 52.9**	**-1.7**
	0.5nm,0.4s,baz=87,slow=4.0,SNR=4.0						

TAP 03 05:13:46.3, 22.48N × 121.83E, h71km ± 1km, ML2.8, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWG	**Pinlang**	**0.78**	**296**	P	Pn	05 14 02.6	+0.4
	baz=295						
TWG				*e*S	Sn	05 14 14.6	+0.7
	baz=295						
ECL	**Taimali**	**0.82**	**279**	*e*S	Sn	05 14 15.6	+0.9
	baz=278						
EAST	**Anshuo**	**0.92**	**264**	*e*P	Pn	05 14 04.4	+0.6
	baz=263						
EAST				*e*S	Sn	05 14 17.5	+0.7
	baz=263						
TWF1	**Yuli**	**1.00**	**331**	*e*P	Pn	05 14 06.4	+1.6
	baz=330						
TWF1				*e*S	Sn	05 14 20.8	+2.1
	baz=330						
EHY	**Hungye**	**1.13**	**335**	*e*P	Pn	05 14 06.5	+0.1
	baz=335						
EHY				*e*S	Sn	05 14 22.4	+0.9
	baz=335						
YUS	**Yu-Shan**	**1.29**	**321**	*e*P	Pn	05 14 09.4	+0.2
	baz=321						
YUS				*e*S	Sn	05 14 26.1	-0.3
	baz=321						
WTP	**Ta-pu**	**1.36**	**304**	*e*P	Pn	05 14 09.8	+0.3
	baz=304						
WTP				*e*S	Sn	05 14 27.0	+0.1
	baz=304						
CHN1	**Nanshi**	**1.39**	**301**	*e*P	Pn	05 14 09.7	-0.2
	baz=300						
CHN1				*e*S	Sn	05 14 27.3	-0.4
	baz=300						
ALS	**Alishan**	**1.40**	**318**	*e*S	Sn	05 14 28.8	+0.4
	baz=317						
WDT	**Danda**	**1.43**	**333**	*e*P	Pn	05 14 11.0	+0.3
	baz=333						
WDT				*e*S	Sn	05 14 29.0	-0.1
	baz=333						
CHN5	**Tsauling**	**1.54**	**317**	*e*S	Sn	05 14 31.9	+0.7
	baz=316						
WHF	**Hehuan Shan**	**1.74**	**343**	*e*P	Pn	05 14 15.9	+0.9
	baz=342						
WHF				*e*S	Sn	05 14 36.9	+0.1
	baz=342						

*ISCJB **03** 05:38:47.3±0.4, 18°.53N±0°.03×72°.69W±0°.03, h13km, mb3.7/10, MS3.4/8, Error ellipse: s-maj=4.9km s-min=4.1km az=6.4*

*IDC **03** 05:38:47.4±1.1, 18°.58N×72°.56W, h0km, mb3.8/8, mb1 4.1/10, mb1mx3.8/38, mbtmp3.9/10, ML3.2/2, MS3.2/10, Ms1 3.2/10, ms1mx3.0/39, Error ellipse: s-maj=32.9km s-min=19.4km az=55.0*

*NEIC **03** 05:38:48.7±0.3, 18°.55N×72°.66W, h10km, mb4.0/4, Error ellipse: s-maj=6.3km s-min=5.1km az=203.0*

NEIC Felt at Croix des Bouquets, Petionville and Port-au-Prince.

ISC 03 05:38:48.9±0.5, 18°.52N±0°.04×72°.64W±0°.03, h13km, n41, σ2§00/45, mb3.8/10, MS3.3/8, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAKH	**Jacmel**	**0.30**	**157**	*e*Pg	**Pg**	**05 38 55.1**	**0.0**
PAPH	**Port-au-Prince**	**0.33**	**89**	*e*Pg	**Pg**	**05 38 55.6**	**0.0**
SDDR	**Presa de Saban**	**1.36**	**70**	*e*Pn	**Pn**	**05 39 12.5**	**-1.2**
SDDR				*e*Sn	**Sb**	**05 39 32.6**	**+0.8**
SDD	**Santo Domingo**	**2.59**	**91**	*e*Pn	**Pn**	**05 39 32.3**	**+1.8**
GTBY	**Guantanamo Bay**	**2.72**	**301**	*e*Pn	**Pn**	**05 39 31.6**	**-0.8**
GTBY				*e*Sn	**Sn**	**05 40 04.3**	**-0.8**
GRTK	**Grand Turk**	**3.30**	**25**	*e*Pn	**Pn**	**05 39 38.4**	**-1.9**
GRTK				*e*Sg	**Sg**	**05 40 35.4**	**+0.5**
MTDJ	**Mount Denham**	**4.65**	**267**	*e*Pn	**Pn**	**05 40 00.3**	**+1.2**
MTDJ				*e*Sg	**Sb**	**05 41 10.5**	**+4.0**
LSP	**Las Mesas**	**5.29**	**93**	*e*Pn	**Pn**	**05 40 08.1**	**+0.4**
LSP				*e*Sg	**Sg**	**05 41 33.9**	**-4.9**
LRS	**Lares**	**5.51**	**91**	*e*Pn	**Pn**	**05 40 11.2**	**+0.5**
LRS				*e*Sn	**Sn**	**05 41 14.8**	**+0.8**
AOPR	**Arecibo Observ**	**5.59**	**91**	*e*Pn	**Pn**	**05 40 14.5**	**+2.6**
OBIP	**Obispado Ponce**	**5.75**	**94**	*e*Pn	**Pn**	**05 40 15.1**	**+1.0**
	18nm,0.6s						
CELP	**Cerrillos**	**5.78**	**93**	*e*Pn	**Pn**	**05 40 15.3**	**+0.9**
CELP				*e*Sn	**Sn**	**05 41 24.4**	**+3.8**
SJG	**San Juan**	**6.18**	**93**	*e*Pn	**Pn**	**05 40 19.9**	**0.0**
	20nm,0.8s						
SJG				*e*Sn	**Sn**	**05 41 35.5**	**+4.9**
SDV	**Santo Domingo**	**9.77**	**168**	*e*Pn	**Pn**	**05 41 09.7**	**+0.2**
SDV				*e*Sn	**Sn**	**05 42 53.8**	**-5.4**
PCRV	**Puerto La Cruz**	**11.35**	**136**	Pn	**Pn**	**05 41 30.2**	**-0.8**
	1.4nm,0.3s,baz=325,slow=8.8,SNR=3.3						
PCRV				Sn	Sn	05 43 27.0	-11
	0.4nm,0.3s,baz=223,slow=12,SNR=2.5						
PCRV				LR	LR	05 45 39.7	
	comp=Z,81nm,18.6s,baz=312,slow=36						
BCIP	**Isla Barro Col**	**11.62**	**218**	*e*Pn	**Pn**	**05 41 33.2**	**-1.4**
ROSC	**El Rosal**	**13.68**	**187**	Pn	**Pn**	**05 42 04.8**	**+1.7**
	0.5nm,0.3s,baz=62,slow=20,SNR=7.0						
ROSC				Sn	**Sn**	**05 44 34.6**	**-0.6**
	0.3nm,0.3s,baz=231,slow=18,SNR=1.6						
ROSC	**El Rosal**	**13.68**	**187**	*e*Pn	**Pn**	**05 42 03.7**	**+0.6**
ROSC				Sn	**Sn**	**05 44 34.6**	**-0.6**
JTS	**JuntasAbangare**	**14.45**	**237**	LR	LR	05 47 22.9	
	comp=Z,32nm,19.4s,baz=64,slow=35						
OTAV	**Otavalo**	**19.04**	**198**	*e*P	**Pn**	**05 43 13.0**	**+0.8**
	9.4nm,1.2s						
OTAV				*e*S	**S**	**05 46 48.2**	**+0.5**
TKL	**Tuckaleechee C**	**19.71**	**332**	LR	LR	05 50 59.0	
	comp=Z,76nm,19.3s,baz=158,slow=37						
BLA	**Blacksburg**	**19.84**	**341**	*e*P	**P**	**05 43 18.4**	**-1.1**
	7.8nm,0.9s						
PTGA	**Pitinga**	**22.83**	**146**	P	**P**	**05 43 53.1**	**+1.2**
	3.9nm,0.8s,baz=326,slow=10,SNR=6.0						
PTGA				LR	LR	05 52 46.2	
	comp=Z,43nm,19.0s,baz=41,slow=37						
ATAH	**Atahualpa**	**26.11**	**193**	LR	LR	05 56 40.7	
	comp=Z,54nm,18.2s,baz=347,slow=41						
SADO	**Sadowa**	**26.73**	**350**	LR	LR	05 54 35.3	
	comp=Z,60nm,19.0s,baz=174,slow=36						
JFWS	**Jewell Farm**	**28.52**	**332**	*e*P	**P**	**05 44 44.1**	**-0.1**
	4.1nm,0.7s						
TXAR	**Lajitas Array**	**30.25**	**297**	P	**P**	**05 45 00.7**	**+1.0**
	0.2nm,0.8s,baz=103,slow=12,SNR=2.5						
SCHQ	**Schefferville**	**36.52**	**6**	P	**P**	**05 45 54.5**	**+0.5**
	1.5nm,0.6s,baz=201,slow=7.7,SNR=6.5						
ULM	**Lac du Bonnet**	**36.70**	**335**	P	**P**	**05 45 55.5**	**0.0**
	1.0nm,0.6s,baz=133,slow=7.7,SNR=3.5						
PDAR	**Pinedale Array**	**39.44**	**316**	LR	LR	06 03 55.6	
	comp=Z,62nm,18.2s,baz=126,slow=38						
MOOW	**Moose Ponds**	**40.65**	**317**	*e*P	**P**	**05 46 29.9**	**+0.8**
	1.0nm,0.7s						
SFJD	**Kangerlussuaq**	**50.50**	**11**	LR	LR	06 08 34.5	
	comp=Z,26nm,18.8s,baz=154,slow=35						
YKA	**Yellowknife Ar**	**52.61**	**337**	P	**P**	**05 48 02.1**	**-0.1**
	0.8nm,0.8s,baz=126,slow=7.5,SNR=11						
BORG	**Borgarnes**	**57.34**	**23**	LR	LR	06 10 56.1	
	comp=Z,26nm,18.2s,baz=150,slow=34						
ESDC	**Sonseca Array**	**62.16**	**54**	P	**P**	**05 49 10.3**	**+0.2**
	0.2nm,0.3s,baz=264,slow=8.8,SNR=4.4						
TORD	**Torodi Ar. Bea**	**71.28**	**82**	P	**P**	**05 50 07.4**	**-1.3**
	0.5nm,0.9s,baz=249,slow=2.8,SNR=3.0						
GERES	**GERESS Array B**	**73.92**	**43**	P	**P**	**05 50 24.8**	**+0.8**
	1.3nm,0.8s,baz=289,slow=4.1,SNR=7.9						
VRAC	**Vranov**	**75.70**	**42**	LR	LR	06 18 36.4	
	comp=Z,26nm,21.3s,baz=259,slow=32						
HHC	**Hu-ho-hao-te**	**120.81**	**356**	*e*PKP	**PKPdf**	**05 57 41.4**	**+0.1**
HHC				PP	PP	05 59 16.1	+7.9
HHC				SKS	**SKSdf**	**06 04 50.3**	**-3.1**
HHC				SKKS	**SKKSac**	**06 06 05.5**	**-3.8**
HHC	**Hu-ho-hao-te**	**120.81**	**356**	SS	SS	06 15 45.2	+7.2
HHC				AMB	AMB		
	comp=Z,64nm,8.6s						
HHC				LR	LR		
	comp=N,3.0nm,16.0s						
HHC				LR	LR		
	comp=E,24nm,16.0s						
HHC				LR	LR		
	comp=Z,56nm,14.8s						
LZH	**Lanzhou**	**125.59**	**3**	*e*PKP	PKPdf	05 57 45.4	-5.3
LZH				sPKP		05 57 59.6	

*IDC **03** 05:42:47.7±2.9, 35°.76N×71°.65E, h0km, mb3.6/6, mb1 3.7/9, mb1mx3.5/44, mbtmp3.6/9, ML3.2/3, Error ellipse: s-maj=62.4km s-min=30.8km az=132.0*

*ISCJB **03** 05:42:53.7±0.6, 36°.00N±0°.05×71°.32E±0°.08, h35km, mb3.5/5, Error ellipse: s-maj=11.0km s-min=5.6km az=148.2*

*NNC **03** 05:43:04.5±2.0, 36°.88N×71°.01E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=16.6km s-min=6.8km az=177.0*

ISC 03 05:42:54.9±0.9, 36°.02N±0°.08×71°.28E±0°.08, h35km, n26, σ1§99/28, mb3.7/5, 3C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**3.40**	**326**	⇓P	Pn	**05 43 47.6**	**+2.0**
	14nm,0.4s						
DZET				⇑S	Sn	**05 44 21.1**	**-3.6**
	31nm,0.3s						
SFK	**Sufi-Kurgan**	**4.36**	**23**	⇓P	Pn	05 44 03.9	+5.0
	2.7nm,0.4s						
SFK				⇑S	Sn	**05 44 49.3**	**+0.8**
	7.5nm,0.4s						
AAK	**Ala-Archa**	**7.06**	**20**	⇓P	Pn	**05 44 39.0**	**+3.1**
	4.9nm,0.4s						
AAK				⇓S	Sn	**05 45 52.4**	**-2.6**
	3.2nm,0.6s						
KK31	**Karatay Array**	**7.10**	**355**	Pn	Pn	**05 44 37.4**	**+1.0**
	0.6nm,0.3s,baz=183,slow=12,SNR=30						
KK31				⇓S	Sn	05 45 50.0	-5.8
	1.5nm,0.4s,baz=176,slow=17,SNR=3.7						
TKM2	**Tokmak 2**	**7.66**	**25**	⇑P	Pn	**05 44 46.8**	**+2.7**
	2.5nm,0.5s						
KOLN	**Koldanda**	**13.30**	**125**	*e*P	P	05 46 07.0	-3.7
	6.0nm,0.4s						
KOLN				*e*S	**Sn**	**05 48 26.5**	**-1.8**
MKAR	**Makanchi Array**	**13.56**	**34**	Pn	**Pn**	**05 46 06.4**	**+1.7**
	0.0nm,0.3s,baz=218,slow=9.1,SNR=2.3						
GKN	**Gorkha**	**13.86**	**121**	*e*P	**Pn**	**05 46 10.9**	**+1.9**
	3.3nm,0.2s						
DMN	**Daman**	**14.43**	**122**	*e*P	**Pn**	**05 46 18.6**	**+1.7**
	6.3nm,0.4s						
KKN	**Kakani**	**14.44**	**121**	*e*P	**Pn**	**05 46 17.4**	**+0.4**
	8.6nm,0.8s						
PKIN	**Phulchoki**	**14.65**	**121**	*e*P	**Pn**	**05 46 20.7**	**+0.8**
	3.5nm,0.3s						
PKI	**Pulchoki**	**14.66**	**121**	*e*P	**Pn**	**05 46 21.3**	**+1.2**
	2.6nm,0.3s						
JIRN	**Jiri**	**15.16**	**119**	*e*P	**Pn**	**05 46 24.6**	**-2.2**
	8.6nm,0.4s						
KURBB	**Kurchatov Arra**	**15.51**	**18**	Pn	**Pn**	**05 46 29.0**	**-1.9**
	0.0nm,0.3s,baz=207,slow=11,SNR=2.6						
RAMN	**Ramite**	**15.88**	**120**	*e*P	**Pn**	**05 46 34.8**	**-1.2**
TAPN	**Taplejung**	**16.43**	**117**	*e*P	**Pn**	**05 46 38.9**	**-4.2**
	6.2nm,0.4s						
ODAN	**Odare**	**16.49**	**119**	*e*P	**Pn**	**05 46 42.1**	**-1.7**
	6.7nm,0.6s						
BVAR	**Borovoye Array**	**17.02**	**358**	P	**Pn**	**05 46 49.2**	**-0.8**
	0.2nm,0.3s,baz=156,slow=11,SNR=2.1						
AKTO	**Aktyubinsk**	**17.31**	**330**	P	**Pn**	**05 46 55.1**	**+1.5**
	0.3nm,0.3s,baz=122,slow=12,SNR=9.4						
ZALV	**Zalesovo Beam**	**20.26**	**24**	P	**P**	**05 47 24.8**	**-2.3**
	1.2nm,0.5s,baz=222,slow=9.8,SNR=5.2						
FINES	**FINESS Array B**	**38.01**	**326**	P	**P**	**05 50 11.1**	**+1.8**
	0.7nm,0.7s,baz=116,slow=8.7,SNR=3.4						
ARCES	**ARCESS Array B**	**41.67**	**338**	P	**P**	**05 50 39.9**	**+0.2**
	2.7nm,0.8s,baz=116,slow=7.9,SNR=5.1						
NB2	**NORSAR Subarra**	**44.90**	**323**	P	**P**	**05 51 06.0**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=99,slow=7.9						
NOA	**NORSAR Array B**	**44.90**	**323**	P	**P**	**05 51 06.2**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=98,slow=7.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**65.93**	**269**	P	**P**	**05 53 37.9**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=47,slow=5.4,SNR=4.9						
YKA	**Yellowknife Ar**	**81.71**	**3**	P	**P**	**05 55 08.9**	**-0.5**
	comp=Z,0.1nm,0.5s,baz=350,slow=5.1,SNR=4.7						

*ISCJB **03** 05:45:18.6±0.8, 37°.24N±0°.07×71°.69E±0°.07, h109km, mb3.5/4, Error ellipse: s-maj=9.9km s-min=8.2km az=10.5*

*IDC **03** 05:45:19.0±5.7, 37°.06N×71°.79E, h124km±42km, mb3.3/4, mb1 3.3/10, mb1mx3.1/45, mbtmp3.7/10, Error ellipse: s-maj=55.0km s-min=28.6km az=164.0*

*NNC **03** 05:45:23.1±3.2, 37°.80N×71°.61E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=32.1km s-min=10.3km az=165.0*

ISC 03 05:45:18.5±0.8, 37°.24N±0°.07×71°.68E±0°.06, h109km, n27, σ1§74/32, mb3.3/4, 5C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.74**	**306**	⇓P	Pn	05 46 03.5	+2.4
	12nm,0.3s						
DZET				⇑S	Sn	**05 46 35.5**	**+1.6**
	150nm,0.4s						
AML	**Almayashu**	**5.12**	**17**	P	Pn	**05 46 34.9**	**+1.5**
	SNR=52						
UCH	**Uchtor**	**5.43**	**23**	P	Pn	**05 46 39.0**	**+1.5**
	SNR=12						
KZA	**Kyzart**	**5.56**	**29**	P	Pn	**05 46 40.5**	**+1.2**
	SNR=8.4						
EKS2	**Erkin-Say**	**5.65**	**16**	P	Pn	**05 46 42.1**	**+2.0**
	SNR=6.2						
AAK	**Ala-Archa**	**5.80**	**21**	⇓P	Pn	**05 46 44.1**	**+1.8**
	13nm,0.5s						
AAK				⇑S	Sn	**05 47 46.7**	**-0.8**
	11nm,0.5s						
AAK	**Ala-Archa**	**5.80**	**21**	P	Pn	**05 46 43.8**	**+1.5**
	SNR=12						
AAK	**Ala-Archa**	**5.80**	**21**	P	Pn	**05 46 44.1**	**+1.8**
	7.3nm,0.3s,baz=182,slow=6.3,SNR=18						
AAK				S	Sn	**05 47 46.5**	**-1.0**
	1.9nm,0.3s,baz=126,slow=22,SNR=10						
DLH	**Dalhousie**	**5.87**	**142**	*e*P	Pn	**05 46 46.0**	**+2.7**
DLH				*e*S	Sn	**05 47 47.0**	**-2.3**
KK31	**Karatay Array**	**5.92**	**352**	Pn	Pn	**05 46 45.5**	**+1.8**
	15nm,0.3s,baz=173,slow=12,SNR=76						
KK31				Sn	Sn	**05 47 48.3**	**-1.9**
	5.1nm,0.3s,baz=186,slow=23,SNR=9.1						
ULHL	**Ulahol**	**6.11**	**34**	P	Pn	**05 46 48.1**	**+1.7**
	SNR=5.8						
CHMS	**Chumysh**	**6.21**	**21**	P	Pn	**05 46 49.2**	**+1.5**
	SNR=6.4						
USP	**Ospenovka**	**6.39**	**19**	P	Pn	**05 46 51.1**	**+1.0**
	SNR=8.0						
TKM2	**Tokmak 2**	**6.42**	**27**	⇑P	Pn	**05 46 52.0**	**+1.4**
	4.0nm,0.6s						
TKM2				⇑S	Sn	**05 48 00.2**	**-2.3**
	4.8nm,0.7s						
TKM2	**Tokmak 2**	**6.42**	**27**	P	Pn	**05 46 52.0**	**+1.4**
	SNR=6.1						
GEYT	**Alibeck**	**10.79**	**278**	S	Sn	**05 49 44.3**	**-4.1**
	1.1nm,0.3s,baz=113,slow=14,SNR=2.5						
MK31	**Makanchi Array**	**12.37**	**36**	⇓P	P	**05 48 18.4**	**+0.1**
	0.3nm,0.4s,baz=216,slow=12,SNR=9.9						
MKAR	**Makanchi Array**	**12.37**	**36**	P	Pn	**05 48 13.3**	**+2.5**
	0.1nm,0.3s,baz=210,slow=11,SNR=1.9						
KURBB	**Kurchatov Arra**	**14.25**	**18**	P	P	**05 48 37.8**	**-1.3**
	0.1nm,0.3s,baz=205,slow=11,SNR=6.0						
AB31	**Akbulak array**	**14.72**	**328**	P	Pn	**05 48 40.8**	**-0.3**
	0.5nm,0.4s,baz=133,slow=13,SNR=17						
AB31				⇑S	Sn	05 51 16.1	-7.3
	1.0nm,0.5s,baz=156,slow=21,SNR=6.3						
BVAR	**Borovoye Array**	**15.81**	**357**	P	**P**	**05 48 56.4**	**0.0**
	0.2nm,0.3s,baz=165,slow=12,SNR=2.6						
AKTO	**Aktyubinsk**	**16.42**	**328**	P	**P**	**05 49 05.0**	**+1.9**
	0.2nm,0.3s,baz=162,slow=3.9,SNR=3.9						
AKTO				S	Sn	05 51 55.2	-9.3
	0.1nm,0.3s,baz=158,slow=23,SNR=2.2						
ZALV	**Zalesovo Beam**	**19.01**	**24**	P	**P**	**05 49 31.1**	**-0.5**
	0.5nm,0.3s,baz=209,slow=11,SNR=4.8						
SONM	**Songino Array**	**27.47**	**56**	P	**P**	**05 50 54.1**	**-0.3**
	0.2nm,0.3s,baz=248,slow=7.6,SNR=2.7						
ARCES	**ARCESS Array B**	**40.67**	**337**	P	**P**	**05 52 48.6**	**+1.0**
	6.4nm,1.1s,baz=118,slow=11,SNR=1.9						
TORD	**Torodi Ar. Bea**	**66.28**	**269**	P	**P**	**05 55 54.7**	**-0.7**
	0.1nm,0.4s,baz=55,slow=5.5,SNR=4.8						
YKA	**Yellowknife Ar**	**80.48**	**3**	P	**P**	**05 57 17.4**	**-0.5**
	0.3nm,0.5s,baz=351,slow=5.6,SNR=7.2						

*ISCJB **03** 06:12:33.3±0.2, 4°.09S±0°.04×80°.83W±0°.04, h28km, mb4.4/59, MS3.8/19, Error ellipse: s-maj=6.9km s-min=3.9km az=141.0*

*BJI **03** 06:12:33.6, 4°.69S×80°.84W, h28km, mB5.1/3, Ms5.3/4, Ms7 5.3/3*

*NEIC **03** 06:12:34.7±0.3, 4°.12S×80°.83W, mb4.5/47, ML4.4(ARE), Error ellipse: s-maj=9.3km s-min=5.0km az=56.0*

NEIC Felt [III] at Mancora and Zorritos and [II] at Tumbes, Peru. Also felt at El Alto and Talara. Felt [II] at Huaquillas, Ecuador. Also felt at Machala.

*IDC **03** 06:12:38.5±2.2, 4°.04S×80°.77W, h63km±21km, mb3.9/18, mb1 4.0/19, mb1mx3.9/38, mbtmp4.2/19, MS3.9/21, Ms1 3.9/21, ms1mx3.8/31, Error ellipse: s-maj=24.5km s-min=11.7km az=50.0*

ISC 03 06:12:34.8±0.5, 4°.04S±0°.05×80°.82W±0°.07, h30km±3km, h29km:pP-P, n294, σ1§19/309, mb4.5/59, MS3.8/19, 89C-92D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**3.91**	**142**	P	**Pn**	**06 13 35.6**	**+2.3**
	75nm,0.3s,baz=352,slow=6.5,SNR=143						
ATAH				S	**Sn**	**06 14 22.2**	**+3.7**
	129nm,0.3s,baz=347,slow=11,SNR=6.7						
OTAV	**Otavalo**	**4.86**	**29**	*e*Pn	**Pn**	**06 13 48.7**	**+2.4**
OTAV				*e*Sn	Sb	06 14 50.6	-7.2
NNA	**Nana**	**8.83**	**154**	P	**Pn**	**06 14 41.4**	**+0.9**
	5.9nm,0.3s,baz=333,slow=12,SNR=18						
NNA				S	**Sn**	**06 16 21.1**	**+2.0**
	5.5nm,0.3s,baz=131,slow=22,SNR=1.9						
NNA	**Nana**	**8.83**	**154**	*e*Pn	**Pn**	**06 14 41.6**	**+1.0**
NNA				*e*Sn	**Sn**	**06 16 23.7**	**+4.6**
ROSC	**El Rosal**	**10.96**	**36**	LR	LR	06 20 01.0	
	comp=Z,2μm,20.2s,baz=204,slow=40						
BCIP	**Isla Barro Col**	**13.15**	**4**	*e*Pn	Pn	06 15 43.4	+3.7
BCIP				*e*Sn	**Sn**	**06 18 06.9**	**+1.9**
JTS	**JuntasAbangare**	**14.81**	**344**	LR	LR	06 20 55.6	
	comp=Z,497nm,19.0s,baz=170,slow=34						
SDV	**Santo Domingo**	**16.37**	**38**	*e*Pn	**P**	**06 16 24.5**	**-0.9**
	65nm,1.0s						
SDV				*e*Sn	**Sn**	**06 19 26.0**	**+2.3**
SAML	**Samuel**	**18.18**	**106**	*e*P	**Pn**	**06 16 44.6**	**-0.6**
	11nm,1.2s						
SAML				*e*S	**Sn**	**06 20 04.6**	**-2.9**
PTGA	**Pitinga**	**21.09**	**82**	P	**P**	**06 17 17.5**	**+0.4**
	6.2nm,0.4s,baz=277,slow=18,SNR=13						
PTGA				LR	LR	06 26 13.4	
	comp=Z,1μm,20.1s,baz=280,slow=39						
PTGA	**Pitinga**	**21.09**	**82**	*e*P	**P**	**06 17 16.9**	**-0.1**
	10nm,0.9s						
PTGA				*e*S	**S**	**06 21 07.6**	**-2.9**
PCRV	**Puerto La Cruz**	**21.43**	**49**	P	**P**	**06 17 22.9**	**+2.2**
	30nm,0.9s,baz=72,slow=1.8,SNR=8.6						
PCRV				LR	LR	06 26 51.8	
	comp=Z,754nm,19.0s,baz=218,slow=40						
LVC	**Limon Verde**	**21.77**	**149**	P	**P**	**06 17 25.6**	**+1.1**
	62nm,1.0s,baz=312,slow=8.6,SNR=9.3						
LVC	**Limon Verde**	**21.77**	**149**	*e*P	**P**	**06 17 25.5**	**+0.9**
	20nm,1.1s						
LVC				*e*S	**S**	**06 21 20.1**	**-4.1**
CMIG	**Matias Romero**	**25.17**	**327**	LR	LR	06 25 57.6	
	comp=Z,200nm,21.0s,baz=150,slow=32						
TEIG	**Tepich**	**25.20**	**343**	P	**P**	**06 17 58.7**	**+0.7**
	11nm,0.8s,baz=113,slow=18,SNR=4.6						
CFAA	**Coronel Fontan**	**29.87**	**158**	LR	LR	06 28 39.7	
	comp=Z,36nm,21.2s,baz=330,slow=32						
CPUP	**Villa Florida**	**31.58**	**137**	P	**P**	**06 18 54.4**	**-0.6**
	0.6nm,0.9s,baz=310,slow=9.5,SNR=3.4						
BDFB	**Brasilia**	**34.25**	**112**	P	**P**	**06 19 18.4**	**-0.2**
	4.1nm,0.7s,baz=260,slow=9.3,SNR=6.8						
BDFB				LR	LR	06 34 40.3	
	comp=Z,183nm,19.9s,baz=282,slow=39						
035Z	**Hargill**	**34.61**	**332**	⇑P	**P**	**06 19 23.0**	**+1.5**
	baz=35	

TKL **Tuckaleechee C** 39.58 356 LR LR 06 36 07.3
comp=Z,271nm,19.9s,baz=171,slow=36
430A **Baggett Ranch,** 39.74 332 ⇓P P 06 20 06.2 +1.2
baz=40
233A **Rising Star** 39.77 336 ⇓P P 06 20 06.4 +1.2
baz=40
TXAR **Lajitas Array** 39.77 328 P P 06 20 05.6 +0.3
0.5nm,0.6s,baz=148,slow=10,SNR=9.0
TXAR PcP PcP 06 22 11.4 0.0
0.6nm,0.8s,baz=152,slow=5.7,SNR=4.7
TXAR LR LR 06 35 53.5
comp=Z,78nm,18.9s,baz=0.0,slow=35
331A **San Angelo** 39.81 333 ⇑P P 06 20 06.8 +1.3
baz=40
429A **Davenport Ranc** 39.92 331 ⇓P P 06 20 07.3 +0.8
baz=40
134A **White-Moore Ra** 39.92 337 ⇑P P 06 20 07.8 +1.3
baz=40
232A **Coleman** 39.97 335 ⇑P P 06 20 07.6 +0.7
baz=40,SNR=7.0
MIAR **Mount Ida** 40.21 344 *e*P P 06 20 09.2 +0.4
27nm,1.8s
MIAR *e*pP pP 06 20 19.1 +1.5
330A **Mertzon** 40.23 333 ⇓P P 06 20 10.1 +1.0
baz=40
Z35A **Perchaven, San** 40.29 339 ⇓P P 06 20 10.8 +1.4
baz=40
231A **Bronte** 40.30 334 ⇓P P 06 20 10.5 +0.9
baz=40
WVT **Waverly** 40.49 351 *e*P P 06 20 09.5 -1.6
1.6nm,0.6s
WVT *e*pP pP 06 20 18.6 -1.3
ABTX **Abilene, Hawle** 40.60 335 *e*P P 06 20 13.5 +1.4
9.3nm,1.0s
ABTX **Abilene, Hawle** 40.60 335 ⇑P P 06 20 13.3 +1.2
baz=41
230A **Sterling City** 40.61 333 ⇑P P 06 20 12.8 +0.6
baz=41,SNR=5.1
329A **Wagon Wheel Ra** 40.67 332 ⇓P P 06 20 13.0 +0.2
baz=41,SNR=9.3
X37A **Clayton** 40.79 341 ⇑P P 06 20 14.9 +1.3
baz=41
Z33A **Whitaker Ranch** 40.82 337 ⇑P P 06 20 15.1 +1.2
baz=41
131A **Roby** 40.96 334 ⇑P P 06 20 16.1 +1.1
baz=41
W38A **Poteau** 40.98 343 ⇓P P 06 20 16.2 +1.1
baz=41
Y34A **Reagan Ranch,** 41.03 338 ⇓P P 06 20 17.2 +1.6
baz=41
X36A **Centrahoma** 41.09 340 ⇓P P 06 20 17.5 +1.4
baz=41
Z32A **Haskell** 41.13 336 ⇑P P 06 20 17.4 +1.0
baz=41,SNR=6.1
130A **Snyder** 41.14 334 ⇑P P 06 20 17.2 +0.6
baz=41,SNR=5.4
X35A **Drake** 41.15 340 ⇓P P 06 20 17.8 +1.3
baz=41
W37A **Quinton** 41.31 342 ⇑P P 06 20 19.2 +1.3
baz=42
Z31A **Sharp Cattle R** 41.41 335 ⇑P P 06 20 19.7 +0.9
baz=42,SNR=6.7
W36A **Wetumka** 41.57 341 ⇓P P 06 20 20.5 +0.6
baz=42
X34A **Smith Ranch, M** 41.64 339 ⇓P P 06 20 21.5 +0.9
baz=42,SNR=5.5
Y32A **R-V Farms, Ver** 41.72 337 ⇓P P 06 20 22.3 +1.0
baz=42
W35A **Tecumseh** 41.80 340 ⇓P P 06 20 22.5 +0.6
baz=42
Z30A **Sanderson Ranc** 41.80 334 ⇓P P 06 20 22.7 +0.7
baz=42
X33A **Lawton** 41.83 338 ⇑P P 06 20 23.1 +1.0
baz=42
128A **Castleberry Fa** 41.85 332 ⇑P P 06 20 23.4 +0.9
baz=42
Y31A **Rekieta Farm,** 42.02 336 ⇓P P 06 20 25.0 +1.3
baz=42,SNR=12
X32A **Elmer** 42.03 337 ⇓P P 06 20 24.6 +0.8
baz=42,SNR=6.1
Z29A **Hungry Hill Ra** 42.03 334 ⇑P P 06 20 24.8 +0.9
baz=42
WMOK **Wichita Mounta** 42.11 338 *e*P P 06 20 25.1 +0.6
3.9nm,1.1s
WMOK *e*pP pP 06 20 33.2 -0.1
TUL1 **Leonard** 42.14 342 *e*P P 06 20 25.5 +0.9
16nm,0.8s
TUL1 *e*pP pP 06 20 34.2 +0.7
TUL1 **Leonard** 42.14 342 ⇑P P 06 20 25.3 +0.6
baz=42,SNR=8.0
W34A **Bridge Creek,** 42.19 339 *e*P P 06 20 26.1 +1.0
90nm,2.0s
W34A *e*pP pP 06 20 34.5 +0.6
W34A **Bridge Creek,** 42.19 339 ⇓P P 06 20 26.3 +1.2
baz=42
Y30A **Stafford Cattl** 42.21 335 ⇑P P 06 20 26.5 +1.2
baz=42
V35A **Meyer Ranch, C** 42.34 341 ⇓P P 06 20 26.8 +0.5
baz=43
W33A **Caddo, Fort Co** 42.36 338 ⇑P P 06 20 27.7 +1.2
baz=43
Z28A **Tucker Farm, M** 42.37 333 ⇑P P 06 20 28.7 +2.1
baz=43
X31A **McDonald Ranch** 42.48 336 ⇓P P 06 20 28.3 +0.8
baz=43,SNR=5.5
Y29A **Porterfield Fa** 42.53 334 ⇓P P 06 20 29.1 +1.1
baz=43
MNTX **Cornudas Mount** 42.54 328 *e*P P 06 20 28.8 +0.8
2.6nm,0.8s
MNTX **Cornudas Mount** 42.54 328 ⇑P P 06 20 28.7 +0.7
baz=43
W32A **Sentinel** 42.63 338 ⇑P P 06 20 29.3 +0.6
baz=43,SNR=6.4
V34A **Guthrie** 42.64 340 ⇓P P 06 20 28.8 +0.1
baz=43,SNR=8.6
X30A **Coker Ranch, T** 42.69 335 ⇑P P 06 20 29.9 +0.8
baz=43,SNR=7.2
Y28A **McKinney Farm,** 42.82 333 ⇓P P 06 20 30.9 +0.5
baz=43,SNR=6.1
V33A **Lossen Ranch,** 42.90 339 ⇑P P 06 20 31.8 +1.0
baz=43
X29A **Tulia** 43.04 334 ⇑P P 06 20 33.1 +1.0
baz=43
MSTX **Muleshoe** 43.11 333 *e*P P 06 20 33.6 +0.9
8.3nm,0.8s
MSTX *e*pP pP 06 20 40.4 -1.2
MSTX **Muleshoe** 43.11 333 ⇓P P 06 20 33.5 +0.8
baz=43
U34A **Anderson Ranch** 43.19 340 *e*P P 06 20 33.4 +0.3
14nm,0.7s
U34A **Anderson Ranch** 43.19 340 ⇑P P 06 20 34.1 +0.9
baz=44
X28A **Dimmitt** 43.32 334 ⇓P P 06 20 35.6 +1.2
baz=44
AMTX **Amarillo** 43.40 335 *e*P P 06 20 36.0 +1.0
6.4nm,0.7s
AMTX **Amarillo** 43.40 335 ⇓P P 06 20 36.2 +1.1
baz=44
V31A **Spring Creek L** 43.43 337 ⇓P P 06 20 36.3 +1.1
baz=44,SNR=5.1
W29A **Amarillo** 43.59 335 ⇓P P 06 20 37.3 +0.8
baz=44
U32A **Winter Ranch,** 43.65 339 ⇑P P 06 20 37.5 +0.6
baz=44,SNR=5.1
S36A **Lake Cedric, C** 43.76 343 ⇓P P 06 20 38.4 +0.7
baz=44
ACSO **Alum Creek Sta** 44.09 358 *e*P P 06 20 40.0 -0.4
5.7nm,0.6s
S34A **Willow Spring** 44.20 341 ⇓P P 06 20 42.5 +1.2
baz=44
T32A **Huddler Ranch,** 44.34 339 ⇑P P 06 20 43.9 +1.5
baz=45
U30A **WK&E Inc. Balk** 44.41 337 ⇓P P 06 20 44.5 +1.5
baz=45
319A **Douglas** 44.45 324 ⇓P P 06 20 44.8 +1.3
baz=45
121A **Cookes Peak, D** 44.47 327 ⇑P P 06 20 44.8 +1.0
baz=45
V27A **Dan Oppiter Fa** 44.64 334 ⇓P P 06 20 46.2 +1.2
baz=45
S32A **Newby Ranch, P** 44.81 340 ⇓P P 06 20 48.0 +1.9
baz=45
U28A **Mallet** 44.91 335 ⇑P P 06 20 47.9 +0.8
baz=45
R33A **Olander Ranch,** 45.03 341 ⇓P P 06 20 49.1 +1.2
baz=45
U27A **Thompson Grove** 45.20 335 ⇓P P 06 20 50.3 +0.9
baz=46
T29A **Hugoton** 45.20 337 ⇑P P 06 20 50.5 +1.1
baz=46
KSU1 **Kansas State U** 45.33 343 ⇓P P 06 20 50.9 +0.6
baz=46
R32A **Long Quarter,** 45.38 340 ⇓P P 06 20 51.3 +0.6
baz=46
T28A **Walsh** 45.50 336 ⇑P P 06 20 52.2 +0.4
baz=46
S29A **Ulysses** 45.54 337 ⇑P P 06 20 53.0 +1.0
baz=46
R31A **Burdett** 45.54 339 ⇓P P 06 20 53.1 +1.1
baz=46
Q33A **Connelly Farm,** 45.61 341 ⇓P P 06 20 53.7 +1.2
baz=46
ANMO **Albuquerque** 45.66 330 P P 06 20 53.9 +0.7
2.5nm,0.5s,baz=158,slow=17,SNR=18
ANMO **Albuquerque** 45.66 330 *e*P P 06 20 53.9 +0.7
3.9nm,0.8s
ANMO *e*pP pP 06 21 03.1 +1.0
T27A **Campo** 45.70 335 ⇓P P 06 20 54.6 +1.2
baz=46
R30A **Dighton** 45.81 339 ⇑P P 06 20 55.4 +1.3
baz=46
S28A **Manter** 45.82 337 ⇑P P 06 20 55.5 +1.2
baz=46
Q32A **Meitler Ranch,** 45.84 341 ⇓P P 06 20 55.9 +1.5
baz=46
T26A **Comanche Natio** 46.16 335 ⇑P P 06 20 58.5 +1.4
baz=46
R29A **Marienthal** 46.25 338 ⇓P P 06 20 58.9 +1.3
baz=46
P32A **Huiting Farm,** 46.43 341 ⇑P P 06 20 59.9 +0.9
baz=47
R28A **Tribune** 46.44 337 ⇑P P 06 20 59.8 +0.7
baz=47,SNR=7.6
T25A **Trinidad** 46.49 334 *e*P P 06 21 01.8 +2.1
T25A **Trinidad** 46.49 334 ⇓P P 06 21 01.0 +1.3
baz=47
S26A **Kim** 46.49 335 ⇓P P 06 21 01.0 +1.4
baz=47
P31A **Stockton** 46.59 340 ⇑P P 06 21 01.3 +1.0
baz=47
R27A **Eads** 46.78 336 ⇑P P 06 21 02.2 +0.4
baz=47,SNR=6.2
O32A **Brockman Farm,** 46.91 342 ⇓P P 06 21 03.6 +0.9
baz=47
P30A **Selden** 46.91 339 ⇓P P 06 21 03.6 +0.8
baz=47
214A **Organ Pipe Nat** 46.97 322 ⇓P P 06 21 03.4 0.0
baz=47
R26A **Arlington** 47.05 336 ⇑P P 06 21 04.8 +0.8
baz=47,SNR=5.9
Q28A **Sharon Springs** 47.07 338 ⇓P P 06 21 05.1 +1.0
baz=47
O31A **Woolen Ranch,** 47.15 341 ⇓P P 06 21 05.1 +0.5
baz=47
X18A **Snowflake** 47.16 327 ⇑P P 06 21 05.7 +0.8
baz=47
P29A **Atwood** 47.21 339 ⇓P P 06 21 06.4 +1.3
baz=48
SDCO **Great Sand Dun** 47.48 333 *e*P P 06 21 08.3 +0.8
3.0nm,0.8s
SDCO **Great Sand Dun** 47.48 333 ⇓P P 06 21 08.5 +1.0
baz=48,SNR=8.6
O29A **4D Ranch, Culb** 47.62 339 ⇓P P 06 21 09.2 +0.8
baz=48,SNR=5.3
P27A **Ficken Ranch,** 47.78 337 ⇓P P 06 21 10.9 +1.2
baz=48
Q25A **Bedland, Calha** 47.91 335 ⇑P P 06 21 11.6 +0.9
baz=48
X16A **Lo Mia Camp, P** 47.91 325 ⇑P P 06 21 11.4 +0.6
baz=48
R23A **Moffat** 47.99 333 ⇑P P 06 21 12.5 +1.0
baz=48
N28A **Pribbeno Ranch** 48.39 339 ⇓P P 06 21 15.5 +1.3
baz=49
Q23A **Hartsel** 48.58 334 ⇑P P 06 21 17.0 +1.0
baz=49
WUAZ **Wupatki** 48.67 326 *e*P P 06 21 18.4 +1.8
5.6nm,1.0s
WUAZ **Wupatki** 48.67 326 ⇑P P 06 21 18.1 +1.4
baz=49
L31A **Butterfield Fa** 48.82 342 ⇑P P 06 21 18.6 +1.1
baz=49
M28A **Bar X Bar Ranc** 48.95 339 ⇓P P 06 21 20.0 +1.4
baz=49
P23A **Jefferson** 48.97 334 ⇑P P 06 21 20.2 +1.1
baz=49,SNR=10
ISCO **Idaho Springs** 49.23 335 *e*P P 06 21 22.1 +1.1
12nm,1.7s
ISCO *e*pP pP 06 21 31.0 +1.0
ISCO **Idaho Springs** 49.23 335 ⇓P P 06 21 22.1 +1.1
baz=50
L29A **Maesberg Ranch** 49.24 341 ⇑P P 06 21 22.4 +1.6
baz=50
O24A **Longmont** 49.27 335 ⇑P P 06 21 22.5 +1.4
baz=50
SMCO **Snowmass** 49.31 333 *e*P P 06 21 22.3 +0.5
6.2nm,1.1s
SMCO *e*pP pP 06 21 31.9 +1.1
P22A **Eagle** 49.55 334 ⇑P P 06 21 24.0 +0.6
baz=50
ECSD **EROS Data Cent** 49.64 345 *e*P P 06 21 23.2 -0.5
ECSD **EROS Data Cent** 49.64 345 ⇓P P 06 21 23.7 0.0
baz=50
O23A **Lake Granby, G** 49.70 335 ⇑P P 06 21 25.7 +1.2
baz=50
U15A **North Rim** 49.85 327 ⇑P P 06 21 26.3 +0.5
baz=50
O22A **Kremmling** 49.93 334 ⇑P P 06 21 27.0 +0.6
baz=50
K28A **Ten Mile Ranch** 50.12 340 ⇑P P 06 21 28.5 +1.1
baz=50
SPMN **Marine on St.** 50.20 349 *e*P P 06 21 27.1 -0.8
6.4nm,1.0s
N23A **Red Feather La** 50.28 335 ⇑P P 06 21 29.1 +0.2
baz=50
J29A **Okreek** 50.40 342 ⇓P P 06 21 29.6 +0.1
baz=51,SNR=5.8
N22A **Wattenberg Ran** 50.41 335 ⇓P P 06 21 30.9 +0.9
baz=51
O20A **White River Ci** 50.66 333 *e*P P 06 21 34.5 +2.7
12nm,1.4s
O20A **White River Ci** 50.66 333 ⇑P P 06 21 32.8 +1.1
baz=51
M23A **Laramie** 50.66 336 ⇓P P 06 21 32.7 +0.9
baz=51
J28A **Allard Ranch,** 50.71 341 ⇑P P 06 21 33.3 +1.4
baz=51
J27A **Elkhorn Farm,** 50.81 340 ⇑P P 06 21 34.6 +1.9
baz=51
L24A **Wheatland** 50.83 337 ⇓P P 06 21 34.4 +1.4
baz=51
SRU **San Rafael Swe** 50.94 330 *e*P P 06 21 34.5 +0.7
1.1nm,0.7s
SRU *e*pP pP 06 21 42.6 -0.3
MSU **Marysvale** 51.32 328 *e*P P 06 21 38.0 +1.2
2.1nm,0.9s
MSU *e*pP pP 06 21 46.6 +0.7
MVU **Marysvale** 51.34 328 *e*P P 06 21 38.1 +1.2
3.3nm,1.0s
L22A **Ellis Ranch, M** 51.43 336 ⇑P P 06 21 38.7 +1.2
baz=52
H27A **Howes** 52.06 341 ⇓P P 06 21 43.0 +1.0
baz=52
K21A **Alcova** 52.26 335 ⇓P P 06 21 44.6 +0.9
baz=52
RSSD **Black Hills** 52.28 339 *e*P P 06 21 44.8 +0.9
G26A **Maurine** 52.82 341 ⇓P P 06 21 47.8 +0.3
baz=53
DUG **Dugway, Tooele** 52.91 329 *e*P P 06 21 49.8 +1.4
1.0nm,0.8s
DUG *e*pP pP 06 21 58.0 +0.5
J20A **Shoshoni** 53.20 335 ⇑P P 06 21 51.3 +0.7
baz=54
PDAR **Pinedale Array** 53.36 334 P P 06 21 52.0 +0.1
1.4nm,0.8s,baz=115,slow=8.6,SNR=13
PDAR LR LR 06 44 41.4
comp=Z,79nm,18.4s,baz=148,slow=36
BW06 **Boulder Array** 53.36 334 *e*P P 06 21 51.8 0.0
4.1nm,1.5s
HWUT **Hardware Ranch** 53.37 331 *e*P P 06 21 52.0 +0.1
9.0nm,0.9s
HWUT *e*pP pP 06 22 00.6 -0.3
BGU **Big Grassy Mou** 53.56 330 *e*P P 06 21 54.6 +1.3
G23A **Biddle** 53.70 339 ⇓P P 06 21 54.6 +0.4
baz=54
I20A **Worland** 53.71 336 ⇑P P 06 21 54.7 +0.4
baz=54
AGMN **Agassiz Nation** 53.75 348 *e*P P 06 21 54.5 +0.2
7.3nm,0.8s
AGMN *e*pP pP 06 22 02.4 -1.0
AGMN **Agassiz Nation** 53.75 348 ⇑P P 06 21 54.8 +0.5
baz=54
TPH **Tonopah** 53.79 325 *e*P P 06 21 56.5 +1.4
3.2nm,0.9s
TPH *e*pP pP 06 22 04.6 +0.5
E26A **Carlson Angus** 53.82 342 ⇑P P 06 21 55.5 +0.5
baz=54
F24A **Ekalaka** 53.92 340 ⇓P P 06 21 56.2 +0.4
baz=54
G22A **Birney** 54.05 338 ⇑P P 06 21 57.0 +0.2
baz=54
HVU **Hansel Valley** 54.08 331 *e*P P 06 21 57.5 +0.5
H20A **Greybull** 54.10 336 ⇓P P 06 21 57.3 +0.2
baz=54
E25A **Miller Ranch,** 54.15 341 ⇓P P 06 21 58.2 +0.9
baz=54
F23A **Volborg** 54.16 339 ⇓P P 06 21 58.1 +0.7
baz=54
REDW **Red Top Meadow** 54.41 333 *e*P P 06 21 59.9 +0.4
16nm,1.8s
ELK **Elko** 54.57 328 P P 06 22 01.2 +0.5
1.4nm,0.9s,baz=78,slow=14,SNR=4.7
NVAR **Mina Array Bea** 54.66 324 P P 06 22 02.9 +1.5
0.6nm,0.7s,baz=121,slow=7.0,SNR=4.7
G20A **Bridger** 54.79 337 ⇑P P 06 22 01.8 -0.3
baz=55
A30A **Hoffart Farm,** 54.91 346 ⇓P P 06 22 03.6 +0.8
baz=55
A29A **Manning Farm,** 55.13 345 ⇓P P 06 22 05.0 +0.7
baz=55
RKT **Rikitea** 55.59 245 *e*T T 07 21 16.5
2.3nm,0.3s
ULM **Lac du Bonnet** 55.61 348 P P 06 22 06.4 -1.3
4.5nm,0.9s,baz=151,slow=7.7,SNR=6.2
D22A **Cohagen** 55.66 339 ⇓P P 06 22 09.2 +1.0
baz=56
E20A **Meyer Farm, Mu** 55.83 337 ⇑P P 06 22 10.1 +0.6
baz=56
C23A **Lambert** 55.88 340 ⇓P P 06 22 10.8 +1.0
baz=56
E19A **Rath Farm, Rou** 56.05 337 ⇓P P 06 22 11.9 +0.9
baz=56
C22A **Vida** 56.06 340 ⇑P P 06 22 12.1 +1.0
baz=56
HLID **Hailey** 56.22 331 *e*P P 06 22 13.5 +1.0
4.8nm,1.0s
HLID *e*pP pP 06 22 22.6 +1.0
HLID **Hailey** 56.22 331 ⇓P P 06 22 13.0 +0.6
baz=56
D20A **Manuel Ranch,** 56.32 338 ⇓P P 06 22 13.5 +0.5
baz=57
BOZ **Bozeman (W)** 56.55 334 *e*P P 06 22 14.6 -0.2
3.0nm,1.0s
BOZ *e*pP pP 06 22 23.7 -0.2
C21A **Desert Coulee** 56.56 339 ⇑P P 06 22 15.6 +1.0
baz=57
MFID **Camas Ranch** 56.80 330 *e*P P 06 22 17.7 +1.1
7.9nm,0.9s
MFID *e*pP pP 06 22 26.6 +0.9
WVOR **Wild Horse Val** 57.56 327 *e*P P 06 22 21.6 -0.4
6.4nm,1.0s
WVOR *e*pP pP 06 22 30.9 -0.2
MSO **Missoula** 58.48 334 *e*P P 06 22 29.0 +0.7
6.7nm,1.2s
MSO *e*pP pP 06 22 37.4 -0.1
MSO **Missoula** 58.48 334 ⇑P P 06 22 29.1 +0.9
baz=59
F10A **Beach Ranch, E** 59.35 331 *e*P P 06 22 34.9 +0.6
YBH **Yreka Blue Hor** 59.37 324 P P 06 22 35.7 +1.1
2.1nm,0.9s,baz=186,slow=13,SNR=4.2
G08A **Pilot Rock** 59.72 330 *e*P P 06 22 37.6 +0.7
9.7nm,1.0s
G08A *e*pP pP 06 22 46.4 +0.3
SCHQ **Schefferville** 59.80 9 P P 06 22 35.7 -1.5
3.2nm,0.9s,baz=251,slow=5.7,SNR=6.4
SCHQ LR LR 06 48 24.0
comp=Z,45nm,20.4s,baz=190,slow=36
L02D **Cave Junction,** 60.16 324 ⇓P P 06 22 40.2 +0.3
baz=60
WALA **Waterton Lakes** 60.19 336 *e*P P 06 22 40.6 +0.5
4.6nm,0.9s
WALA *e*pP pP 06 22 49.2 -0.1
FCC **Fort Churchill** 63.49 352 *e*P P 06 23 01.2 -0.6
5.2nm,1.0s
FCC *e*pP pP 06 23 09.4 -1.7
PPT **Papeete** 68.55 253 LR LR 06 45 42.9
comp=Z,53nm,19.4s,baz=132,slow=29
PPT2 **Papeete2** 68.55 253 *e*S S 06 32 28.4 -7.9
59nm,24.0s
PPT2 **Papeete2** 68.55 253 *e*LR LR 06 44 17.7
283nm,27.8s
TBI **Tubuai** 68.81 247 *e*LR LR 06 44 25.6
167nm,27.8s
YKA **Yellowknife Ar** 71.15 344 P P 06 23 49.8 -0.6
0.4nm,0.5s,baz=136,slow=6.2,SNR=9.2
DBIC **Dimbokro** 76.57 82 P P 06 24 23.2 +0.1
15nm,1.1s,baz=231,slow=6.6,SNR=12
DBIC LR LR 06 57 02.6
comp=Z,96nm,18.5s,baz=253,slow=35
DBIC **Dimbokro** 76.57 82 *e*P P 06 24 23.2 +0.1
35nm,1.4s
INK **Inuvik** 80.80 343 P P 06 24 44.9 -0.3
0.6nm,0.3s,baz=138,slow=14,SNR=3.4
SUMG **Summit** 81.06 12 *i*P P 06 24 47.1 0.0
12nm,1.2s
SUMG **Summit** 81.06 12 *e*P P 06 24 47.3 +0.2
7.1nm,1.1s
ESDC **Sonseca Array** 82.49 49 LR LR 06 57 31.8
comp=Z,29nm,21.9s,baz=190,slow=33
TORD **Torodi Ar. Bea** 83.64 76 P P 06 25 00.7 -0.6
3.1nm,0.9s,baz=275,slow=5.0,SNR=22
TORD LR LR 07 02 02.9
comp=Z,182nm,18.3s,baz=165,slow=36
ILAR **Eielson Array** 83.67 337 LR LR 07 04 16.5
comp=Z,56nm,18.8s,baz=130,slow=37
QSPA **South Pole Qui** 86.04 180 LR LR 06 59 11.6
comp=Z,115nm,18.4s,baz=252,slow=32
QSPA **South Pole Qui** 86.04 180 *e*P P 06 25 12.7 +0.2
16nm,1.0s
NOA **NORSAR Array B** 94.49 29 LR LR 07 08 03.0
comp=Z,26nm,19.4s,baz=270,slow=35
GERES **GERESS Array B** 95.99 41 LR LR 07 10 37.2
comp=Z,23nm,18.0s,baz=256,slow=36
SYO **Syowa Base** 96.70 162 ⇑*e*X P 06 26 07.0 +5.0
ARCES **ARCESS Array B** 99.44 20 LR LR 07 09 20.8
comp=Z,19nm,21.4s,baz=266,slow=34
H11S2 **WAKE ISLAND Hyl** 12.58 288 T T 08 33 05.8
baz=89,slow=75,SNR=21
H11S1 **WAKE ISLAND Hyl** 12.58 288 T T 08 33 12.4
baz=89,slow=75,SNR=14
H11S3 **WAKE ISLAND Hyl** 12.60 288 T T 08 33 07.1
baz=89,slow=75,SNR=19
ABKAR **Akbulak array** 123.99 30 *e*PKPdf PKPdf 06 31 30.2 -0.2
ZAA0 **Zalesovo Array** 128.87 11 *e*PKPdf PKPdf 06 31 39.2 -0.3
ZALV **Zalesovo Beam** 128.87 11 PKP PKPdf 06 31 38.7 -0.9
1.5nm,0.7s,baz=329,slow=2.6,SNR=6.8
GEYT **Alibeck** 129.61 42 PKP PKPdf 06 31 41.5 0.0
1.4nm,0.3s,baz=258,slow=7.4,SNR=3.7
KURK **Kurchatov** 130.37 17 *e*PKPdf PKPdf 06 31 42.2 -0.3
MKAR **Makanchi Array** 134.96 16 PKP PKPdf 06 31 50.8 -0.6
0.4nm,0.7s,baz=317,slow=5.1,SNR=4.6
EKS2 **Erkin-Say** 135.39 27 *e*PKPdf PKPdf 06 31 52.9 +0.5
SONM **Songino Array** 135.93 353 PKP PKPdf 06 31 51.5 -1.7
0.3nm,0.7s,baz=110,slow=1.7,SNR=2.3
ASAR **Alice Springs** 136.38 229 PKP PKPdf 06 31 52.2 -2.4
0.7nm,0.7s,baz=150,slow=1.1,SNR=7.1
WRA **Warramunga Arr** 138.04 234 PKP PKPdf 06 31 56.7 -1.1
1.9nm,0.8s,baz=113,slow=2.1,SNR=23
KSH **Kashi** 138.89 28 *e*PKP PKPdf 06 31 59.4 +0.4
KSH *e*PP PP 06 34 55.8 +5.8
KSH SKS SKSdf 06 39 04.5 -3.3
KSH PPMZ
95nm,4.2s
KSH LN
130nm,6.9s
KSH LE
120nm,7.1s
KSH LZ
160nm,4.9s
WMQ **Urumqi** 139.10 13 *e*PKP PKPdf 06 32 01.6 +2.5
WMQ LZ
130nm,24.6s
HHC **Hu-ho-hao-te** 141.69 345 *e*PKP PKPdf 06 32 06.1 +2.1

HHC				PP	PP	06 35 14.0	+7.2	
HHC				PKS	**PKSdf**	**06 35 40.2**	**+0.3**	
HHC				SKS	**SKSdf**	**06 39 11.1**	**-1.1**	
HHC				SKKS	**SKKSac**	**06 41 59.7**	**+0.3**	
HHC				SS	SS	06 53 44.6	+9.0	
HHC				PPMZ				
	46nm,7.4s							
HHC				LN				
	110nm,16.0s							
HHC				LE				
	110nm,17.3s							
GTA	**Gaotai**	**144.78**	**359**	*e*PKPbc	**PKPab**	**06 32 07.2**	**-1.1**	
GTA				pPKP	**pPKPdf**	**06 32 17.2**	**-2.1**	
GTA				sPKP		06 32 21.0		
LZH	**Lanzhou**	**147.82**	**353**	*e*PKPbc	**PKPdf**	**06 32 15.0**	**+0.2**	
LZH				pPKP	**pPKPdf**	**06 32 24.3**	**-0.3**	
LZH				sPKP		06 32 27.4		
CMAR	**Chiang Mai Arr**	**165.66**	**1**	PKP	**PKPdf**	**06 32 37.2**	**-0.5**	
	0.9nm,0.3s,baz=282,slow=1.8,SNR=3.8							

IDC 03 06:13:05.7±14.0, 5.87S×127.44E, h630km±227km, mb2.6/3, mb1 3.0/5, mb1mx2.7/25, mbtmp3.9/5, Error ellipse: s-maj=203.0km s-min=75.4km az=57.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.51**	**155**	P	P	06 16 17.0	-0.4
	1.4nm,0.3s,baz=337,slow=9.3,SNR=91						
ASAR	**Alice Springs**	**18.75**	**161**	P	P	06 16 46.0	-1.0
	1.2nm,0.3s,baz=333,slow=8.2,SNR=78						
STKA	**Stephens Creek**	**29.06**	**155**	P	P	06 18 19.2	+1.3
	1.4nm,0.4s,baz=334,slow=7.3,SNR=5.6						
MKAR	**Makanchi Array**	**65.91**	**328**	P	P	06 22 51.2	+0.1
	0.2nm,0.4s,baz=133,slow=7.7,SNR=3.3						
KURBB	**Kurchatov Arra**	**70.24**	**329**	P	P	06 23 17.2	+0.1
	0.2nm,0.5s,baz=138,slow=4.6,SNR=4.2						

GUC 03 06:21:45.9±0.6, 34.38S×72.00W, h16km±999km, ML3.9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.89**	**135**	*e*P	Pb	06 22 02.1	-0.9
NICH				*e*S	Sb	06 22 14.0	-0.6
TALC	**Talca**	**1.06**	**164**	*e*P	Pb	06 22 04.4	-1.5
TALC				*e*S	Sb	06 22 18.3	-1.2
IHA	**Instituto Hidr**	**1.39**	**12**	*e*P	Pn	06 22 09.7	-1.0
LNCH	**Linares**	**1.50**	**168**	*e*P	Pn	06 22 11.4	-0.8
LNCH				*e*S	Sn	06 22 31.6	+0.1
ROCH	**El Roble**	**1.63**	**31**	*e*P	Pn	06 22 13.3	-1.0
ROCH				*e*S	Sn	06 22 35.6	+0.4
ROCH				AML	AML	06 22 40.7	
	comp=E,2μm,0.5s						
PEL	**Peldehue**	**1.65**	**42**	*e*P	Pn	06 22 14.0	-0.4
PEL				*e*S	Sn	06 22 35.0	-0.3
PEL				AML	AML	06 22 42.2	
	comp=N,3μm,0.6s						

*CSEM **03** 06:24:44.7±0.7, 36.22N×21.93E, h5km, MD3.5, Error ellipse: s-maj=20.8km s-min=8.6km az=63.0*
*THE **03** 06:24:45.8, 36.26N×21.84E, h11km±2km, ML2.6/2, Error ellipse: s-maj=5.9km s-min=1.4km az=283.0*
*ATH **03** 06:24:47.2, 36.39N×22.10E, h17km, MD3.5/10*
ISC 03 06:24:46.5±1.7, 36.32N±0.08×22.00E±0.09, h11km, n33, σ0.72/42, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.61**	**340**	P	**Pg**	**06 24 58.4**	**0.0**
PYL				S	**Sg**	**06 25 07.2**	**+0.7**
PYL	**PYLOS**	**0.61**	**340**	*e*PN	**Pg**	**06 24 58.5**	**0.0**
PYL				*e*SN	**Sg**	**06 25 06.8**	**+0.3**
PYL	**PYLOS**	**0.61**	**340**	P	**Pg**	**06 24 58.4**	**0.0**
PYL				*e*Sn	**Sg**	**06 25 06.8**	**+0.3**
PYL				S	**Sg**	**06 25 07.2**	**+0.7**
KYTH	**Kithira**	**0.84**	**92**	*e*PN	**Pg**	**06 25 01.9**	**-0.8**
ITM	**Ithomi**	**0.86**	**356**	P	**Pg**	**06 25 02.7**	**-0.4**
ITM				S	**Sn**	**06 25 17.1**	**-0.1**
ITM	**Ithomi**	**0.86**	**356**	*e*PN	**Pg**	**06 25 02.7**	**-0.4**
ITM				*e*SN	**Sg**	**06 25 13.7**	**-0.7**
ITM	**Ithomi**	**0.86**	**356**	P	**Pg**	**06 25 02.7**	**-0.4**
ITM				S	**Sn**	**06 25 17.1**	**-0.1**
VLX	**Vlachokerasia**	**1.09**	**16**	P	**Pb**	**06 25 07.1**	**-0.4**
VLX				S	**Sn**	**06 25 24.4**	**+1.4**
VLX	**Vlachokerasia**	**1.09**	**16**	*e*PN	**Pb**	**06 25 06.4**	**-1.1**
VLX	**Vlachokerasia**	**1.09**	**16**	*e*Pn	**Pb**	**06 25 06.4**	**-1.1**
VLX	**Vlachokerasia**	**1.09**	**16**	P	**Pb**	**06 25 07.1**	**-0.4**
VLX				S	**Sn**	**06 25 24.4**	**+1.4**
ANKY	**Antikythira Is**	**1.15**	**113**	*e*PN	**Pb**	**06 25 08.2**	**-0.1**
ANKY	**Antikythira Is**	**1.15**	**113**	*e*Pn	**Pb**	**06 25 08.2**	**-0.1**
GUR	**Goura**	**1.64**	**10**	P	**Pn**	**06 25 15.6**	**+0.2**
GUR	**Goura**	**1.64**	**10**	*e*PN	**Pb**	**06 25 16.3**	**-0.5**
GUR	**Goura**	**1.64**	**10**	P	**Pn**	**06 25 15.6**	**+0.2**
GUR	**Goura**	**1.64**	**10**	*e*Pn	**Pb**	**06 25 16.3**	**-0.5**
DRO	**Drossia**	**1.65**	**352**	P	**Pn**	**06 25 14.4**	**-1.0**
DRO	**Drossia**	**1.65**	**352**	*e*PN	**Pb**	**06 25 16.5**	**-0.4**
DRO	**Drossia**	**1.65**	**352**	P	**Pn**	**06 25 14.4**	**-1.0**
DRO	**Drossia**	**1.65**	**352**	*e*Pn	**Pb**	**06 25 16.5**	**-0.4**
KLV	**Kalavryta, Ach**	**1.73**	**4**	P	**Pn**	**06 25 16.0**	**-0.5**
KLV	**Kalavryta, Ach**	**1.73**	**4**	*e*PN	**Pb**	**06 25 17.6**	**-0.7**
KLV	**Kalavryta, Ach**	**1.73**	**4**	P	**Pn**	**06 25 16.0**	**-0.5**
KLV	**Kalavryta, Ach**	**1.73**	**4**	*e*Pn	**Pb**	**06 25 17.6**	**-0.7**
KALE	**Kalithea**	**2.07**	**3**	*e*PN	**Pn**	**06 25 22.3**	**+1.0**
KALE	**Kalithea**	**2.07**	**3**	*e*Pn	**Pn**	**06 25 22.3**	**+1.0**
DSF	**Desfina**	**2.13**	**11**	*e*PN	**Pn**	**06 25 22.8**	**+0.7**
DSF	**Desfina**	**2.13**	**11**	*e*Pn	**Pn**	**06 25 22.8**	**+0.7**
MAKR	**Makrakomi, Fth**	**2.69**	**2**	*e*PN	**Pn**	**06 25 31.1**	**+1.3**
MAKR	**Makrakomi, Fth**	**2.69**	**2**	*e*Pn	**Pn**	**06 25 31.1**	**+1.3**
MEV	**Metsovon**	**3.51**	**350**	P	**Pn**	**06 25 41.0**	**-0.2**
MEV	**Metsovon**	**3.51**	**350**	P	**Pn**	**06 25 41.0**	**-0.2**

*ISCJB **03** 06:25:05.7±0.7, 32.07N±0.03×115.13W±0.05, h10km±5km, Error ellipse: s-maj=7.4km s-min=4.5km az=9.3*
*ECX **03** 06:25:07.2±0.6, 32.07N×115.14W, h5km, MD2.9, ML3.1*
*MEX **03** 06:25:08.5±1.2, 32.19N×115.11W, h20km±88km, MD3.9*
ISC 03 06:25:05.3±1.0, 32.07N±0.03×115.13W±0.05, h11km±6km, n18, σ0.51/25, 3C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMX	**El Mayor**	**0.13**	**228**	*e*P9	**Pg**	**06 25 08.4**	**+0.1**
EMX				*e*S	**Sb**	**06 25 10.3**	**-0.2**
MBIG	**Mexicali**	**0.34**	**351**	*e*P	**Pb**	**06 25 13.7**	**+0.3**
MBIG				*e*S	**Sg**	**06 25 16.2**	**-0.4**
CPBX	**Cerro Prieto**	**0.37**	**337**	*e*P	**Pb**	**06 25 14.2**	**+0.2**
CPBX				*e*S	**Sb**	**06 25 19.6**	**-0.3**
ECBX	**El Chinero**	**0.60**	**173**	*e*P9	**Pg**	**06 25 17.7**	**+0.7**
ECBX				*e*S	**Sb**	**06 25 26.2**	**-0.2**
EMSC	**East Mesa**	**0.68**	**11⇓**	*i*P	**Pg**	**06 25 19.1**	**+0.7**
YMD	**Yuma Desert**	**0.69**	**46⇓**	*i*P	**Pg**	**06 25 19.1**	**+0.4**
RDX	**Rancho Dawling**	**0.70**	**258⇑**	*e*P	**Pg**	**06 25 20.1**	**+1.1**
RDX				*e*S	**Sb**	**06 25 29.2**	**-0.3**
RDX				⇑*e*		06 25 30.7	
RDX				AML	AML	06 25 30.7	
	comp=N,669nm,0.2s						
SGL	**Mount Signal**	**0.76**	**319**	*e*P3	**Pg**	**06 25 20.4**	**+0.4**
DREC	**Desert Rsrch C**	**0.78**	**340**	*e*P	**Pg**	**06 25 20.9**	**+0.5**
WESC	**Westside Schoo**	**0.85**	**324**	*e*P	**Pg**	**06 25 22.3**	**+0.6**
COK	**Cook Ranch**	**0.92**	**327**	*e*P2	**Pg**	**06 25 22.8**	**-0.3**
SPIG	**San Pedro Mart**	**1.06**	**196**	*e*P	**Pb**	**06 25 25.9**	**0.0**
SPX	**San Pedro Mart**	**1.06**	**195**	*e*P	**Pb**	**06 25 25.8**	**-0.1**
SPX				AML	AML	06 25 43.0	
	comp=N,441nm,0.3s						
SPX				⇑*e*		06 25 43.0	
ZAX	**El Zacaton**	**1.12**	**240**	*e*P	**Pn**	**06 25 26.6**	**-0.5**
ZAX				*e*S	**Sb**	**06 25 41.5**	**+0.1**
ECNX	**Esteban Cantu**	**1.31**	**252**	*e*P	**Pn**	**06 25 29.6**	**-0.2**
CBX	**Cerro Bola**	**1.32**	**281**	*e*P	**Pn**	**06 25 29.0**	**-0.9**
CBX	**Cerro Bola**	**1.32**	**281**	*e*P	**Pn**	**06 25 29.2**	**-0.7**
CBX				*e*S	**Sb**	**06 25 47.7**	**+0.4**
CBX				⇓*e*		06 25 48.8	
CBX				AML	AML	06 25 48.8	
	comp=E,371nm,0.3s						
PBX	**Punta Banda**	**1.39**	**257**	*e*P	**Pn**	**06 25 30.8**	**0.0**

*IDC **03** 06:33:26.0±0.7, 34.20S×71.86W, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.1/20, mbtmp4.1/9, ML4.1/1, Error ellipse: s-maj=29.2km s-min=19.1km az=81.0*
*ISCJB **03** 06:33:26.9±1.1, 34.25S±0.03×72.15W±0.05, h16km±7km, mb4.2/21, Error ellipse: s-maj=7.8km s-min=4.1km az=17.7*
*NEIC **03** 06:33:28.0, 34.25S×72.08W, h15km, mb4.5/13, ML4.6(GUC), After GUC.*
NEIC Felt [III] at Pichilemu and [II] at San Antonio and Santo Domingo.
*GUC **03** 06:33:28.5±0.5, 34.27S×71.99W, h43km±4km, ML4.6*
ISC 03 06:33:27.3±1.7, 34.25S±0.03×72.05W±0.06, h10km±9km, n70, σ0.86/90, mb4.4/21, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.01**	**138**	*e*P	**Pg**	**06 33 46.6**	**-0.3**
NICH				*e*S	**Sb**	**06 34 00.7**	**+0.4**
NICH				AML	AML	06 34 03.0	
	comp=E,34μm,0.4s						
NICH	**Los Niches**	**1.01**	**138**	*e*P	**Pg**	**06 33 46.3**	**-0.5**
NICH				*e*S	**Sb**	**06 34 00.3**	**0.0**
TACH	**Talagante**	**1.09**	**58**	*e*P	**Pb**	**06 33 48.1**	**-0.2**
TACH				*e*S	**Sb**	**06 34 02.5**	**-0.1**
TALC	**Talca**	**1.20**	**164⇑**	*e*P	**Pn**	**06 33 49.1**	**-1.0**
TALC				*e*S	**Sb**	**06 34 04.5**	**-1.1**
SAN	**Santiago**	**1.40**	**56**	*e*P	**Pn**	**06 33 53.0**	**+0.1**
SAN				*e*S	**Sn**	**06 34 11.1**	**-0.2**
LACH	**Col Las Americ**	**1.49**	**58**	*e*P	**Pn**	**06 33 54.0**	**-0.2**
LACH				*e*S	**Sn**	**06 34 13.7**	**0.0**
LACH				AML	AML	06 34 19.7	
	comp=E,9μm,0.5s						
CLCH	**Cerro Calan**	**1.52**	**56**	*e*P	**Pn**	**06 33 54.9**	**+0.3**
CLCH				*e*S	**Sb**	**06 34 15.4**	**+0.6**
CLCH				AML	AML	06 34 25.9	
	comp=N,13μm,0.7s						
CLCH	**Cerro Calan**	**1.52**	**56**	*e*P	**Pn**	**06 33 54.6**	**+0.1**
CLCH				*e*S	**Sb**	**06 34 14.7**	**-0.1**
CLCH				AML	AML	06 34 25.9	
	comp=N,14μm,0.7s						
CLCH				AML	AML	06 34 26.5	
	comp=N,16μm,0.7s						
ROCH	**El Roble**	**1.54**	**35**	*e*P	**Pb**	**06 33 56.2**	**+0.3**
ROCH				*e*S	**Sg**	**06 34 17.1**	**+0.3**
ROCH				AML	AML	06 34 25.4	
	comp=E,8μm,0.6s						
ROCH	**El Roble**	**1.54**	**35⇓**	*e*P	**Pn**	**06 33 54.7**	**-0.3**
ROCH				*e*S	**Sb**	**06 34 15.7**	**+0.1**
ROCH				AML	AML	06 34 25.5	
	comp=E,9μm,0.6s						
PEL	**Peldehue**	**1.58**	**46**	*e*P	**Pn**	**06 33 55.9**	**+0.5**
PEL				*e*S	**Sb**	**06 34 16.7**	**+0.1**
PEL				AML	AML	06 34 21.7	
	comp=N,27μm,0.7s						
PEL	**Peldehue**	**1.58**	**46**	*e*P	**Pn**	**06 33 55.8**	**+0.4**
PEL				*e*S	**Sn**	**06 34 16.2**	**+0.3**
PEL				AML	AML	06 34 21.7	
	comp=N,27μm,0.8s						
LNCH	**Linares**	**1.64**	**167**	*e*P	**Pn**	**06 33 56.5**	**+0.3**
LNCH				*e*S	**Sn**	**06 34 17.8**	**+0.4**
LNCH	**Linares**	**1.64**	**167**	*e*P	**Pn**	**06 33 55.8**	**-0.4**
LNCH				*e*S	**Sn**	**06 34 17.1**	**-0.3**
YECH	**El Yeso**	**1.73**	**71**	*e*P	**Pb**	**06 33 59.1**	**-0.3**
YECH				*e*S	**Sb**	**06 34 21.8**	**+0.5**
YECH				AML	AML	06 34 29.2	
	comp=N,7μm,0.3s						
CFAA	**Coronel Fontan**	**4.15**	**52**	Pn	**Pn**	**06 34 33.8**	**+3.1**
	comp=N,1.6nm,0.3s,baz=229,slow=13,SNR=33						
CFAA				Lg	Lg	06 35 28.1	
	comp=N,1.8nm,0.3s,baz=139,slow=16,SNR=3.5						
LCO	**Las Campanas**	**5.34**	**13**	*e*Pn	**Pn**	**06 34 47.0**	**-0.4**
	comp=N,38nm,0.6s						
LCO				*e*Sn	**Sn**	**06 35 50.1**	**+1.0**
PLCA	**Paso Flores**	**6.58**	**170**	Pn	**Pn**	**06 35 05.4**	**+1.2**
	comp=N,1.0nm,0.3s,baz=343,slow=10,SNR=24						
PLCA				Lg	Lg	06 36 49.3	
	baz=93,slow=23,SNR=2.9						
PLCA	**Paso Flores**	**6.58**	**170**	*e*Pn	**Pn**	**06 35 05.5**	**+1.2**
PLCA				*e*Sn	**Sn**	**06 36 20.6**	**+1.3**
PLCA				Lg	Lg	06 36 49.3	
TRQA	**Tornquist**	**8.99**	**118**	*e*Pn	**Pn**	**06 35 38.6**	**+1.5**
	comp=N,8.9nm,0.7s						
TRQA				*e*Sn	**Sn**	**06 37 18.4**	**0.0**
LVC	**Limon Verde**	**11.91**	**14**	Pn	Pn	06 36 12.1	-5.3
	comp=N,14nm,0.3s,baz=192,slow=7.7,SNR=2.9						
LVC	**Limon Verde**	**11.91**	**14**	*e*Pn	Pn	06 36 13.5	-4.0
LVC				*e*Sn	**Sn**	**06 38 26.8**	**-3.8**
SAML	**Samuel**	**26.46**	**20**	*e*P	**P**	**06 39 04.6**	**0.0**
	comp=N,2.5nm,0.6s						
BDFB	**Brasilia**	**28.48**	**55**	P	**P**	**06 39 21.2**	**-1.6**
	comp=N,2.3nm,0.6s,baz=232,slow=7.2,SNR=5.1						
VNA3	**Neumayer Olymp**	**49.13**	**158**	P	**P**	**06 42 15.6**	**+0.8**
VNA2	**Neumayer--Watz**	**49.79**	**157**	P	**P**	**06 42 20.3**	**+0.6**
	baz=287,slow=7.5						
SNAA	**Sanae**	**51.36**	**158**	P	**P**	**06 42 32.5**	**+0.8**
SNAA	**Sanae**	**51.36**	**158**	P	**P**	**06 42 32.2**	**+0.6**
	comp=N,2.1nm,0.9s,baz=298,slow=4.0,SNR=6.8						
QSPA	**South Pole Qui**	**55.99**	**180**	P	**P**	**06 43 06.2**	**+0.4**
	comp=N,3.1nm,0.8s,baz=157,slow=1.1,SNR=14						
QSPA	**South Pole Qui**	**55.99**	**180**	*e*P	**P**	**06 43 06.5**	**+0.8**
JCT	**Junction City**	**69.50**	**335**	*e*P	**P**	**06 44 36.9**	**+0.9**
	comp=N,2.7nm,0.7s						
TXAR	**Lajitas Array**	**69.94**	**331**	P	**P**	**06 44 39.6**	**+0.8**
	comp=N,0.6nm,0.5s,baz=156,slow=8.9,SNR=17						
SWET	**Sewanee**	**70.31**	**348**	*e*P	**P**	**06 44 40.9**	**+0.1**
	comp=N,5.4nm,0.6s						
TKL	**Tuckaleechee C**	**70.40**	**350**	*e*P	**P**	**06 44 41.2**	**-0.2**
WVT	**Waverly**	**71.55**	**347**	*e*P	**P**	**06 44 48.2**	**-0.1**
	comp=N,15nm,0.8s						
TUL1	**Leonard**	**73.23**	**340**	*e*P	**P**	**06 44 58.0**	**-0.3**
	comp=N,3.3nm,0.7s						
ACSO	**Alum Creek Sta**	**74.79**	**351**	*e*P	**P**	**06 45 07.3**	**-0.1**
	comp=N,6.8nm,0.5s						
DBIC	**Dimbokro**	**75.26**	**71**	P	**P**	**06 45 10.3**	**-0.4**
	comp=N,2.6nm,0.7s,baz=214,slow=6.9,SNR=3.7						
DBIC	**Dimbokro**	**75.26**	**71**	*e*P	**P**	**06 45 10.9**	**+0.1**
ANMO	**Albuquerque**	**75.99**	**331**	*e*P	**P**	**06 45 15.5**	**+0.8**
	comp=N,1.6nm,1.0s						
SMCO	**Snowmass**	**79.89**	**333**	*e*P	**P**	**06 45 37.8**	**+1.2**
	comp=N,4.7nm,1.2s						
ECSD	**EROS Data Cent**	**80.78**	**342**	*e*P	**P**	**06 45 40.6**	**-0.1**
	comp=N,16nm,1.3s						
SRU	**San Rafael Swe**	**81.22**	**331**	*e*P	**P**	**06 45 44.7**	**+1.3**
LBTB	**Lobatse**	**82.21**	**115**	*e*P	**P**	**06 45 49.4**	**+0.3**
	comp=N,2.2nm,0.6s						
HWUT	**Hardware Ranch**	**83.76**	**331**	*e*P	**P**	**06 45 57.1**	**+0.5**
	comp=N,1.7nm,0.7s						
PDAR	**Pinedale Array**	**83.98**	**333**	P	**P**	**06 45 57.8**	**+0.1**
	comp=N,0.4nm,0.8s,baz=142,slow=5.1,SNR=5.1						
NVAR	**Mina Array Bea**	**84.08**	**325**	P	**P**	**06 45 59.7**	**+1.3**
	comp=N,0.8nm,0.8s,baz=147,slow=6.4,SNR=7.1						
TORD	**Torodi Ar. Bea**	**84.30**	**70**	P	**P**	**06 45 59.0**	**-0.8**
	comp=N,2.6nm,0.9s,baz=260,slow=4.2,SNR=10						
HVU	**Hansel Valley**	**84.39**	**331**	*e*P	**P**	**06 46 00.3**	**+0.5**
	comp=N,0.8nm,0.5s						
MCMT	**McKenzie Canyo**	**86.98**	**332**	*e*P	**P**	**06 46 14.1**	**+1.4**
	comp=N,0.8nm,0.8s						
YKA	**Yellowknife Ar**	**102.29**	**341**	P	**Pdif**	**06 47 20.8**	**-1.2**
	comp=N,0.2nm,0.7s,baz=142,slow=4.4,SNR=5.3						
WRA	**Warramunga Arr**	**120.55**	**209**	PKP	**PKPdf**	**06 52 18.9**	**-0.9**
	comp=N,0.3nm,0.5s,baz=160,slow=1.7,SNR=9.2						
H11S2	**WAKE ISLAND Hyd**	**25.76**	**269**	T	T	09 10 51.1	
	baz=120,slow=75,SNR=10.0						
H11S1	**WAKE ISLAND Hyd**	**25.77**	**269**	T	T	09 10 45.8	
	baz=120,slow=75,SNR=19						
H11S3	**WAKE ISLAND Hyd**	**25.78**	**269**	T	T	09 10 52.1	
	baz=120,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hyd**	**26.18**	**270**	T	T	09 11 21.8	
H11N1	**WAKE ISLAND Hyd**	**26.19**	**270**	T	T	09 11 22.5	
	baz=122,slow=74,SNR=8.4						
H11N2	**WAKE ISLAND Hyd**	**26.20**	**270**	T	T	09 11 22.3	
	baz=272,slow=74,SNR=6.3						
ABKAR	**Akbulak array**	**141.84**	**52**	*e*PKPdf	**PKPdf**	**06 52 58.0**	**-0.7**
BRVK	**Borovoye**	**147.39**	**43**	*e*PKPbc	**PKPbc**	**06 53 11.6**	**+0.8**
KKAR	**Karatay Array**	**149.67**	**62**	*e*PKPbc	**PKPbc**	**06 53 16.9**	**-0.1**
EKS2	**Erkin-Say**	**152.10**	**62**	*e*PKPbc	**PKPbc**	**06 53 22.8**	**0.0**
EKS2				*e*PKPab	**PKPab**	**06 53 31.8**	**-0.7**
AAK	**Ala-Archa**	**152.63**	**62**	*e*PKPdf	**PKPdf**	**06 53 16.9**	**-0.2**
AAK				*e*PKPbc	**PKiKP**	**06 53 25.0**	**+0.6**
AAK				*e*PKPab	**PKPab**	**06 53 34.5**	**-0.2**
KURK	**Kurchatov**	**153.06**	**43**	*e*PKPdf	**PKPdf**	**06 53 15.7**	**-1.5**
KURK				*e*PKPbc	**PKPbc**	**06 53 23.9**	**-0.6**
KURK				*e*PKPab	**PKPab**	**06 53 35.6**	**-0.5**
ZAA0	**Zalesovo Array**	**154.44**	**33**	*e*PKPdf	**PKPdf**	**06 53 18.2**	**-0.8**
ZAA0				*e*PKPab	**PKPab**	**06 53 42.5**	**+0.7**
ZALV	**Zalesovo Beam**	**154.44**	**33**	PKPbc	**PKPbc**	**06 53 27.7**	**+0.3**
	comp=N,2.4nm,0.5s,baz=299,slow=3.7,SNR=9.3						
ZALV				PKPab	**PKPab**	**06 53 41.8**	**0.0**
	comp=N,1.9nm,0.4s,baz=292,slow=4.1,SNR=5.5						
MAJO	**Matsushiro**	**155.28**	**284**	*e*PKPdf	**PKPdf**	**06 53 21.1**	**+0.3**
MAJO				*e*PKPbc	PKPbc	06 53 29.7	
MAJO				*e*PKPab	**PKPab**	**06 53 45.8**	**-0.2**
MK31	**Makanchi Array**	**156.93**	**49**	*e*PKPdf	**PKPdf**	**06 53 21.9**	**-0.7**
MK31				*e*PKPab	**PKPab**	**06 53 52.5**	**-0.3**
MKAR	**Makanchi Array**	**156.93**	**49**	PKPab	**PKPab**	**06 53 52.3**	**-0.5**
	comp=N,0.3nm,0.4s,baz=292,slow=3.7,SNR=9.7						
SONM	**Songino Array**	**166.37**	**4**	PKPab	**PKPab**	**06 54 34.9**	**+0.9**
	comp=N,0.6nm,0.9s,baz=347,slow=6.1,SNR=4.8						

IDC 03 06:37:06.8±2.2, 54.75S×28.38W, h0km, mb3.5/1, mb1 3.5/1, mb1mx3.3/17, mbtmp3.5/1, Error ellipse: s-maj=117.0km s-min=80.4km az=150.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**72.27**	**31**	P	P	06 48 33.8	0.0
	0.2nm,0.4s,baz=202,slow=7.4,SNR=2.1						
ILAR	**Eielson Array**	**148.73**	**313**	PKPbc	PKPbc	06 56 53.9	-0.6
	1.1nm,0.8s,baz=123,slow=2.0,SNR=13						
SONM	**Songino Array**	**151.31**	**85**	PKPbc	PKPbc	06 57 01.2	-0.2
	0.3nm,0.6s,baz=220,slow=4.3,SNR=3.6						

*SJA **03** 06:49:13.5±0.8, 34.24S×72.93W, h350km±13km, ML5.4, MW4.7*
*IDC **03** 06:49:24.0±0.5, 34.18S×71.99W, h0km, mb4.5/14, mb1 4.6/15, mb1mx4.5/22, mbtmp4.5/15, ML4.5/1, MS3.9/13, Ms1 3.9/13, ms1mx3.8/18, Error ellipse: s-maj=22.2km s-min=15.4km az=86.0*
*ISCJB **03** 06:49:24.4±1.3, 34.26S±0.02×72.18W±0.03, h10km±8km, mb4.8/98, MS3.8/10, Error ellipse: s-maj=4.2km s-min=3.7km az=11.6*
*NEIC **03** 06:49:25.0, 34.27S×72.12W, h9km, mb4.8/83, ML5.0(GUC), After GUC.*
NEIC Felt [IV] at Navidad and Pichilemu; [III] at San Antonio and Santo Domingo; [II] at Rancagua, Santiago and Valparaiso. Also felt at Vina del Mar.
*GUC **03** 06:49:25.8±0.5, 34.28S×72.13W, h9km±3km, ML5.0*
*BJI **03** 06:49:31.7, 34.00S×71.80W, h35km, mB4.8/3, Ms5.2/2, Ms7 5.2/1*
ISC 03 06:49:28.6±0.8, 34.28S±0.03×71.99W±0.05, h29km±5km, n485, σ0.93/510, mb4.8/99, MS3.8/10, 157C-146D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.58**	**56**	*i*P	**Pb**	**06 49 39.1**	**-1.1**
NICH	**Los Niches**	**0.96**	**139⇑**	*i*P	**Pn**	**06 49 44.9**	**-1.2**
NICH				*i*S	**Sn**	**06 49 59.0**	**+0.2**
TALC	**Talca**	**1.16**	**165**	*e*P	**Pn**	**06 49 47.3**	**-1.5**
TALC				*i*S	**Sn**	**06 50 03.0**	**-0.7**
CHCH	**Chadas Angostu**	**1.16**	**73⇑**	*i*P	**Pn**	**06 49 48.4**	**-0.6**
CACH	**El Canelo**	**1.16**	**83**	*i*P	**Pn**	**06 49 49.0**	**-0.1**
IHA	**Instituto Hidr**	**1.28**	**13⇓**	*i*P	**Pn**	**06 49 49.1**	**-1.5**
IHA				*i*S	**Sn**	**06 50 06.6**	**-0.2**
FSR	**Penalolen**	**1.45**	**57**	*e*P	**Pn**	**06 49 52.9**	**-0.1**
FSR				*i*S	**Sb**	**06 50 13.7**	**+0.5**
LACH	**Col Las Americ**	**1.47**	**56**	*e*P	**Pn**	**06 49 52.3**	**-0.9**
LACH				*i*S	**Sb**	**06 50 13.2**	**-0.4**
CLCH	**Cerro Calan**	**1.49**	**54⇓**	*i*P	**Pn**	**06 49 53.4**	**-0.2**
CLCH				*e*S	**Sb**	**06 50 15.1**	**+0.8**
CLCH				AML	AML	06 50 21.2	
	comp=N,33μm,0.5s						
CLCH				AML	AML	06 50 26.8	
	comp=E,30μm,0.7s						
ROCH	**El Roble**	**1.54**	**32⇓**	*i*P	**Pn**	**06 49 53.0**	**-1.3**
ROCH				*e*S	**Sn**	**06 50 14.6**	**+1.2**
ROCH				AML	AML	06 50 24.2	
	comp=N,30μm,0.5s						
PEL	**Peldehue**	**1.57**	**44⇑**	*i*P	**Pn**	**06 49 54.3**	**-0.3**
PEL				*i*S	**Sb**	**06 50 16.6**	**+0.1**
LNCH	**Linares**	**1.60**	**169**	*e*P	**Pn**	**06 49 54.2**	**-0.8**
LNCH				*

OTAV **Otavalo** 34.86 349 *e*P P 06 56 19.0 +1.0
comp=Z,34nm,1.6s
PTGA **Pitinga** 35.22 21 *e*P P 06 56 19.4 -1.2
comp=Z,25nm,0.9s
ROSC **El Rosal** 38.98 356 LR LR 07 13 25.3
comp=Z,78nm,19.4s,baz=252,slow=37
ROSC **El Rosal** 38.98 356 *e*P P 06 56 55.8 +2.9
ROSC *e*PcP PcP 06 59 03.1 0.0
SDV **Santo Domingo** 42.94 2 *e*P P 06 57 23.6 -1.7
comp=Z,14nm,1.0s
BCIP **Isla Barro Col** 43.84 349 *e*P P 06 57 32.3 0.0
comp=Z,9.5nm,0.6s
PCRV **Puerto La Cruz** 44.76 10 P P 06 57 38.7 -1.0
comp=Z,9.7nm,0.8s,baz=180,slow=7.1,SNR=2.0
JTS **JuntasAbangare** 46.00 342 P P 06 57 49.0 -0.5
comp=Z,6.0nm,0.8s,baz=260,slow=11,SNR=1.6
VNA2 **Neumayer--Watz** 49.74 157 P P 06 58 18.5 +0.6
baz=289,slow=8.9
SNAA **Sanae** 51.31 158 P P 06 58 30.8 +0.9
SNAA **Sanae** 51.31 158 *e*P P 06 58 30.6 +0.7
comp=Z,14nm,1.1s
CELP **Cerrillos** 52.31 7 *e*P P 06 58 36.9 -0.9
QSPA **South Pole Qui** 55.96 180 P P 06 59 04.8 +0.7
comp=Z,6.6nm,1.1s,baz=306,slow=1.5,SNR=12
QSPA **South Pole Qui** 55.96 180 *e*P P 06 59 04.7 +0.7
comp=Z,27nm,1.0s
VNDA **Vanda** 63.84 191 P P 06 59 58.5 +0.7
comp=Z,0.8nm,0.8s,baz=263,slow=2.2,SNR=4.1
H06E1 **SOCORRO T-PHAS** 64.48 319 T T 08 10 00.1
SNR=8.3
SYO **Syowa Base** 65.59 158⇑ *e*P P 07 00 10.3 +1.0
035A **Encino** 65.72 334 ⇓P P 07 00 10.9 +0.3
baz=66
034A **Hebbronville** 66.05 334 ⇑P P 07 00 12.8 +0.1
baz=66
TIGA **Tifton** 66.27 349 ⇑P P 07 00 14.0 -0.1
baz=67
933A **Laredo** 66.76 334 ⇑P P 07 00 17.5 +0.2
baz=67
835A **Beeville** 66.86 335 ⇓P P 07 00 18.1 +0.2
baz=67
834A **Tilden** 66.97 335 ⇓P P 07 00 19.6 +1.1
baz=67,SNR=6.0
736A **Circle Diamond** 67.21 336 ⇑P P 07 00 21.1 +1.0
baz=68
735A **Kenedy** 67.37 336 ⇑P P 07 00 21.8 +0.7
baz=68
833A **Chaparral WMA,** 67.45 334 ⇑P P 07 00 21.8 +0.2
baz=68,SNR=7.5
832A **Faith Ranch, C** 67.63 333 ⇑P P 07 00 22.6 -0.2
baz=68,SNR=5.6
636A **Smothers Creek** 67.69 336 ⇓P P 07 00 24.0 +0.9
baz=68
733A **Divot King Ran** 67.77 334 ⇓P P 07 00 24.2 +0.6
baz=68
537A **Green Hill Far** 68.01 337 ⇓P P 07 00 25.5 +0.4
baz=68
732A **Laxson Ranch,** 68.03 334 ⇓P P 07 00 25.1 -0.1
baz=68,SNR=11
439A **Center Grove,** 68.20 339 ⇑P P 07 00 26.9 +0.6
baz=68
536A **Bastrop** 68.25 337 ⇑P P 07 00 27.0 +0.4
baz=68
438A **Sam Houston St** 68.37 338 ⇓P P 07 00 28.0 +0.6
baz=69
535A **Dale** 68.37 336 ⇑P P 07 00 27.5 +0.1
baz=69
633A **Saathoff Ranch** 68.40 335 ⇑P P 07 00 27.8 +0.2
baz=69
LRAL **Lakeview Retre** 68.43 346 *e*P P 07 00 26.8 -0.9
comp=Z,5.8nm,0.8s
340A **Bronson** 68.53 340 ⇑P P 07 00 28.7 +0.4
baz=69
339A **Huntington** 68.64 339 ⇓P P 07 00 29.4 +0.4
baz=69
632A **Uvalde** 68.66 334 ⇓P P 07 00 29.2 0.0
baz=69,SNR=5.1
631A **Perdido Creek** 68.87 333 ⇑P P 07 00 30.3 -0.3
baz=69
338A **Crockett** 68.88 339 ⇑P P 07 00 31.1 +0.5
baz=69
533A **Kerrville** 68.91 335 ⇓P P 07 00 31.1 +0.3
baz=69
337A **Centerville** 69.02 338 ⇓P P 07 00 32.2 +0.8
baz=69
435B **Jarrell** 69.07 337 ⇑P P 07 00 31.7 0.0
baz=69
239A **Gary** 69.26 340 ⇓P P 07 00 33.0 +0.2
baz=70
532A **Rocksprings** 69.27 334 ⇑P P 07 00 32.9 -0.2
baz=70,SNR=10.0
434A **Burnet** 69.33 336 ⇓P P 07 00 32.8 -0.5
baz=70,SNR=6.6
336A **Riesel** 69.39 337 ⇑P P 07 00 33.6 -0.1
baz=70
531A **Rocksprings** 69.53 334 ⇑P P 07 00 34.8 +0.1
baz=70,SNR=7.2
433A **Art** 69.55 335 ⇓P P 07 00 34.1 -0.6
baz=70,SNR=12
JCT **Junction City** 69.55 335 *e*P P 07 00 34.9 +0.1
comp=Z,10.0nm,0.9s
JCT **Junction City** 69.55 335 ⇓P P 07 00 34.2 -0.5
baz=70,SNR=9.1
KMSC **Kings Mountain** 69.61 352 *e*P P 07 00 34.3 -0.7
comp=Z,13nm,0.9s
KMSC **Kings Mountain** 69.61 352 ⇓P P 07 00 34.1 -0.9
baz=70
237A **Washetta, Mont** 69.64 339 ⇑P P 07 00 35.2 +0.1
baz=70
334A **Lometa** 69.79 336 ⇓P P 07 00 36.0 -0.2
baz=70,SNR=6.5
530A **J-C Ranch, Com** 69.81 333 ⇑P P 07 00 36.5 +0.1
baz=70,SNR=7.8
432A **Menard** 69.91 335 ⇓P P 07 00 36.3 -0.7
baz=70,SNR=6.2
TXAR **Lajitas Array** 70.00 331 P P 07 00 37.5 -0.1
comp=Z,2.1nm,0.6s,baz=155,slow=8.7,SNR=49
TXAR LR LR 07 26 59.9
comp=Z,39nm,18.5s,baz=0.0,slow=32
431A **Sonora** 70.03 334 ⇑P P 07 00 37.2 -0.6
baz=70
333A **Richland Sprin** 70.04 336 ⇓P P 07 00 37.2 -0.5
baz=70,SNR=6.0
529A **Stev Forest Ra** 70.13 332 ⇓P P 07 00 38.4 +0.1
baz=70,SNR=7.1
WHTX **Lake Whitney,** 70.14 337 *e*P P 07 00 38.4 +0.1
comp=Z,11nm,0.9s
WHTX **Lake Whitney,** 70.14 337 ⇑P P 07 00 38.1 -0.2
baz=70
CPCT **Cooper Cave** 70.35 349 *e*P P 07 00 39.1 -0.4
430A **Baggett Ranch,** 70.35 333 ⇑P P 07 00 39.5 -0.2
baz=71,SNR=10
OXF **Oxford** 70.35 345 *e*P P 07 00 38.8 -0.7
comp=Z,38nm,1.0s
332A **Millersview** 70.35 335 ⇓P P 07 00 39.0 -0.6
baz=71,SNR=6.4
234A **Clairette** 70.37 337 ⇓P P 07 00 39.4 -0.3
baz=71
429A **Davenport Ranc** 70.45 333 ⇑P P 07 00 40.3 -0.1
baz=71,SNR=7.3
331A **San Angelo** 70.53 334 ⇑P P 07 00 40.0 -0.8
baz=71,SNR=11
233A **Rising Star** 70.64 336 ⇓P P 07 00 41.1 -0.4
baz=71
232A **Coleman** 70.78 335 ⇓P P 07 00 41.8 -0.5
baz=71,SNR=5.9
330A **Mertzon** 70.89 334 ⇑P P 07 00 42.4 -0.5
baz=71
231A **Bronte** 71.06 335 ⇓P P 07 00 43.2 -0.7
baz=71,SNR=8.2
133A **Hamilton Ranch** 71.19 336 ⇑P P 07 00 43.7 -1.0
baz=72
329A **Wagon Wheel Ra** 71.26 333 ⇓P P 07 00 44.9 -0.3
baz=72,SNR=5.9
230A **Sterling City** 71.30 334 ⇓P P 07 00 44.8 -0.7
baz=72
MIAR **Mount Ida** 71.39 341 *e*P P 07 00 44.2 -1.7
comp=Z,7.6nm,1.0s
ABTX **Abilene, Hawle** 71.45 336 *e*P P 07 00 45.8 -0.5
comp=Z,9.0nm,0.8s
ABTX **Abilene, Hawle** 71.45 336 ⇓P P 07 00 45.4 -0.8
baz=72
WVT **Waverly** 71.59 347 *e*P P 07 00 46.0 -1.1
comp=Z,49nm,0.8s
229A **Bryant Ranch,** 71.62 334 ⇓P P 07 00 46.9 -0.5
baz=72
131A **Roby** 71.75 335 ⇓P P 07 00 47.2 -1.0
baz=72

Z33A **Whitaker Ranch** 71.76 337 ⇓P P 07 00 47.8 -0.3
baz=72,SNR=6.1
JSRW **J. Sargeant Re** 71.81 355 *e*P P 07 00 48.5 +0.2
130A **Snyder** 71.88 335 ⇓P P 07 00 48.3 -0.6
baz=72,SNR=5.0
UTMT **University of** 72.00 346 *e*P P 07 00 49.1 -0.3
comp=Z,64nm,1.1s
Z32A **Haskell** 72.01 336 ⇑P P 07 00 49.2 -0.4
baz=72,SNR=6.2
228A **UT Block 9, Go** 72.05 333 ⇓P P 07 00 49.5 -0.6
baz=72
Y34A **Reagan Ranch,** 72.05 338 ⇓P P 07 00 49.1 -0.8
baz=72
W38A **Poteau** 72.14 341 ⇑P P 07 00 49.9 -0.4
baz=72
X36A **Centrahoma** 72.19 339 ⇑P P 07 00 49.4 -1.3
baz=72,SNR=5.6
Z31A **Sharp Cattle R** 72.25 335 ⇑P P 07 00 50.6 -0.5
baz=72,SNR=6.6
Y33A **Hilltop Ranch,** 72.38 337 ⇑P P 07 00 51.4 -0.4
baz=73
W37A **Quinton** 72.45 340 ⇑P P 07 00 51.7 -0.5
baz=73
128A **Castleberry Fa** 72.46 333 ⇑P P 07 00 51.8 -0.7
baz=73
Z30A **Sanderson Ranc** 72.57 335 ⇑P P 07 00 52.0 -1.0
baz=73,SNR=6.5
Y32A **R-V Farms, Ver** 72.64 336 ⇓P P 07 00 52.8 -0.6
baz=73
X34A **Smith Ranch, M** 72.67 338 ⇑P P 07 00 52.9 -0.7
baz=73
W36A **Wetumka** 72.68 339 ⇓P P 07 00 52.8 -0.8
baz=73
Z29A **Hungry Hill Ra** 72.75 334 ⇑P P 07 00 53.4 -0.8
baz=73,SNR=8.4
PBMO **Poplar Bluff** 72.75 345 *e*P P 07 00 53.1 -0.8
comp=Z,9.9nm,0.8s
MNTX **Cornudas Mount** 72.77 331 *e*P P 07 00 53.3 -0.9
comp=Z,7.5nm,1.1s
MNTX **Cornudas Mount** 72.77 331 ⇑P P 07 00 53.0 -1.2
baz=73
X33A **Lawton** 72.83 337 ⇑P P 07 00 53.4 -1.0
baz=73
Y31A **Rekieta Farm,** 72.88 336 ⇑P P 07 00 54.0 -0.8
baz=73
W35A **Tecumseh** 72.89 339 ⇓P P 07 00 53.5 -1.3
baz=73
MAW **Mawson** 72.90 163 P P 07 00 57.0 +2.5
comp=Z,1.4nm,0.5s,baz=228,slow=14,SNR=3.5
MAW LR LR 07 35 50.7
comp=Z,214nm,18.2s,baz=238,slow=38
X32A **Elmer** 72.97 337 ⇓P P 07 00 54.5 -0.8
baz=73
Y30A **Stafford Cattl** 73.02 335 ⇓P P 07 00 54.8 -0.9
baz=73
Z28A **Tucker Farm, M** 73.02 334 ⇑P P 07 00 54.7 -1.0
baz=73
WMOK **Wichita Mounta** 73.10 337 *e*P P 07 00 55.8 -0.3
comp=Z,4.1nm,0.9s
W34A **Bridge Creek,** 73.24 338 ⇓P P 07 00 55.4 -1.5
baz=74
Y29A **Porterfield Fa** 73.28 335 ⇓P P 07 00 56.5 -0.8
baz=74,SNR=6.7
TUL1 **Lenard** 73.28 340 ⇓P P 07 00 56.1 -1.0
baz=74,SNR=5.7
USIN **University of** 73.34 347 *e*P P 07 00 56.4 -1.0
comp=Z,28nm,1.0s
W33A **Caddo, Fort Co** 73.38 338 ⇓P P 07 00 57.7 0.0
baz=74,SNR=6.4
X31A **McDonald Ranch** 73.39 336 ⇑P P 07 00 57.4 -0.4
baz=74
V35A **Meyer Ranch, C** 73.44 339 ⇑P P 07 00 57.2 -0.9
baz=74
Y28A **McKinney Farm,** 73.53 334 ⇓P P 07 00 58.3 -0.4
baz=74
W32A **Sentinel** 73.60 337 ⇓P P 07 00 58.8 -0.3
baz=74,SNR=12
V34A **Guthrie** 73.71 339 *e*P P 07 00 58.5 -1.2
comp=Z,19nm,1.3s
V34A **Guthrie** 73.71 339 ⇑P P 07 00 59.2 -0.5
baz=74
MSTX **Muleshoe** 73.77 334 *e*P P 07 01 00.0 -0.2
comp=Z,9.4nm,0.9s
MSTX **Muleshoe** 73.77 334 ⇑P P 07 00 59.5 -0.7
baz=74
X29A **Tulia** 73.81 335 ⇑P P 07 01 00.3 -0.1
baz=74
W31A **Holland Ranch,** 73.89 336 ⇓P P 07 01 00.8 +0.1
baz=74
V33A **Lossen Ranch,** 73.94 338 ⇓P P 07 01 00.7 -0.3
baz=74
X28A **Dimmitt** 74.06 334 ⇓P P 07 01 01.7 -0.2
baz=74
V32A **Arapaho** 74.08 337 ⇑P P 07 01 01.8 0.0
baz=74
319A **Douglas** 74.16 327 ⇓P P 07 01 02.5 0.0
baz=74
AMTX **Amarillo** 74.20 335 *e*P P 07 01 02.5 -0.2
comp=Z,13nm,1.1s
AMTX **Amarillo** 74.20 335 ⇑P P 07 01 02.8 +0.1
baz=74
U34A **Anderson Ranch** 74.28 339 *e*P P 07 01 02.8 -0.2
comp=Z,8.6nm,0.8s
U34A **Anderson Ranch** 74.28 339 ⇓P P 07 01 02.7 -0.2
baz=75
V31A **Spring Creek L** 74.39 337 ⇓P P 07 01 04.0 +0.3
baz=75
W29A **Amarillo** 74.41 335 ⇓P P 07 01 03.6 -0.3
baz=75
U33A **Lingo Farm, Me** 74.45 338 ⇓P P 07 01 03.3 -0.6
baz=75
121A **Cookes Peak, D** 74.50 329 *e*P P 07 01 05.2 +0.7
comp=Z,7.3nm,0.9s
121A **Cookes Peak, D** 74.50 329 ⇓P P 07 01 05.0 +0.5
baz=75
V30A **Spur Ranch, Mi** 74.66 336 ⇓P P 07 01 05.9 +0.6
baz=75
U32A **Winter Ranch,** 74.67 338 ⇓P P 07 01 05.3 0.0
baz=75
LIC **Lamto** 74.82 71 *e*P P 07 01 06.6 -0.1
comp=Z,69nm,1.9s
ACSO **Alum Creek Sta** 74.83 351 *e*P P 07 01 05.2 -0.8
comp=Z,22nm,0.7s
S36A **Lake Cedric, C** 74.92 341 ⇓P P 07 01 05.6 -1.1
baz=75,SNR=6.5
S35A **Otter Creek Ra** 75.08 340 ⇑P P 07 01 07.0 -0.6
baz=75
TIC **Toumodi** 75.08 71 *e*P P 07 01 08.2 0.0
comp=Z,3.0nm,0.2s
T33A **Patterson Ranc** 75.09 339 ⇓P P 07 01 08.3 +0.6
baz=75
KIC **Kosan Boka** 75.13 72 *e*P P 07 01 08.6 +0.1
comp=Z,29nm,0.9s
V28A **Channing** 75.17 335 ⇓P P 07 01 08.4 +0.1
baz=76
DBIC **Dimbokro** 75.23 71 P P 07 01 08.9 -0.1
comp=Z,6.7nm,0.6s,baz=213,slow=5.6,SNR=15
DBIC LR LR 07 31 19.0
comp=Z,70nm,19.9s,baz=172,slow=33
U30A **WK&E Inc. Balk** 75.34 336 ⇓P P 07 01 09.0 -0.2
baz=76
T31A **Randall Ranch,** 75.55 337 ⇑P P 07 01 10.2 -0.2
baz=76
SFIN **Lafayette** 75.58 348 *e*P P 07 01 08.7 -1.6
comp=Z,24nm,1.6s
SFIN **Lafayette** 75.58 348 ⇓P P 07 01 08.8 -1.6
baz=76
TUC **Tucson** 75.62 327 *e*P P 07 01 11.6 +0.6
comp=Z,51nm,3.0s
U28A **Mallet** 75.74 335 ⇑P P 07 01 11.4 -0.1
baz=76
LAZ **Ladron** 75.84 331 *e*P P 07 01 13.2 +0.9
comp=Z,3.6nm,1.1s
S31A **Mullinville** 75.97 338 ⇓P P 07 01 12.7 0.0
baz=76
U27A **Thompson Grove** 75.99 335 ⇑P P 07 01 13.1 +0.1
baz=76
ANMO **Albuquerque** 76.04 331 *e*P P 07 01 13.8 +0.3
comp=Z,7.9nm,1.1s
T29A **Hugoton** 76.13 336 ⇓P P 07 01 14.0 +0.3
baz=76
R33A **Olander Ranch,** 76.14 339 ⇑P P 07 01 13.7 0.0
baz=76
214A **Organ Pipe Nat** 76.27 325 ⇑P P 07 01 14.7 +0.1
baz=76
S30A **Montezuma** 76.30 337 ⇑P P 07 01 14.6 -0.1
baz=77
T28A **Walsh** 76.37 336 ⇑P P 07 01 14.5 -0.6
baz=77,SNR=9.2
R32A **Long Quarter,** 76.47 339 ⇑P P 07 01 15.5 0.0
baz=77
S29A **Ulysses** 76.49 337 ⇓P P 07 01 15.8 0.0
baz=77
T27A **Campo** 76.53 335 ⇓P P 07 01 16.0 0.0
baz=77
R31A **Burdett** 76.59 338 ⇑P P 07 01 16.1 -0.1
baz=77
S28A **Manter** 76.72 336 ⇑P P 07 01 17.0 -0.1
baz=77
Q33A **Connelly Farm,** 76.74 340 ⇓P P 07 01 16.8 -0.2
baz=77
MMNY **Mt. Morris Dam** 76.83 356 *e*P P 07 01 17.2 -0.2
comp=Z,102nm,1.7s
T26A **Comanche Natio** 76.94 335 ⇑P P 07 01 18.3 -0.1
baz=77
Q32A **Meitler Ranch,** 76.94 339 ⇓P P 07 01 18.2 0.0
baz=77
X18A **Snowflake** 77.13 329 ⇑P P 07 01 20.1 +0.5
baz=77
T25A **Trinidad** 77.20 334 *e*P P 07 01 20.9 +0.9
comp=Z,17nm,1.0s
T25A **Trinidad** 77.20 334 ⇑P P 07 01 20.5 +0.6
baz=78,SNR=14
Q31A **Ellis** 77.21 338 ⇑P P 07 01 20.0 +0.2
baz=78
R29A **Marienthal** 77.23 337 ⇑P P 07 01 20.1 +0.2
baz=78
S26A **Kim** 77.29 335 ⇓P P 07 01 20.6 +0.2
baz=78,SNR=8.3
R28A **Tribune** 77.37 336 ⇓P P 07 01 20.9 +0.2
baz=78,SNR=6.4
Q30A **Quinter** 77.44 338 ⇓P P 07 01 20.1 -0.9
baz=78
P32A **Huiting Farm,** 77.54 339 ⇓P P 07 01 21.6 0.0
baz=78
Q29A **Oakley** 77.60 337 ⇑P P 07 01 22.0 +0.1
baz=78
R27A **Eads** 77.66 336 ⇓P P 07 01 22.2 -0.1
baz=78,SNR=6.6
P31A **Stockton** 77.68 339 ⇑P P 07 01 22.4 +0.1
baz=78
X16A **Lo Mia Camp, P** 77.69 327 ⇑P P 07 01 23.6 +0.8
baz=78
R26A **Arlington** 77.89 335 ⇑P P 07 01 23.9 +0.2
baz=78
MDV **Middlebury** 77.91 359 *e*P P 07 01 23.6 +0.2
P30A **Selden** 77.97 338 ⇓P P 07 01 23.9 0.0
baz=78
Y14A **Wickenburg** 78.00 326 ⇑P P 07 01 24.8 +0.5
baz=78
Q28A **Sharon Springs** 78.03 337 ⇑P P 07 01 24.8 +0.4
baz=78
GLA **Glamis** 78.13 324 ⇓P P 07 01 25.0 0.0
baz=78
SDCO **Great Sand Dun** 78.14 333 *e*P P 07 01 25.1 -0.2
comp=Z,45nm,2.8s
SDCO **Great Sand Dun** 78.14 333 ⇑P P 07 01 25.0 -0.2
baz=78,SNR=5.7
P29A **Atwood** 78.23 338 ⇑P P 07 01 25.5 +0.1
baz=78,SNR=5.9
O31A **Woolen Ranch,** 78.24 339 ⇑P P 07 01 25.7 +0.3
baz=78
R24A **Sanders Place,** 78.42 334 ⇑P P 07 01 27.2 +0.5
baz=79,SNR=6.4
P28A **Saint Francis** 78.47 337 ⇑P P 07 01 27.2 +0.4
baz=79
Q26A **Hugo** 78.47 335 ⇑P P 07 01 27.1 +0.2
baz=79
O30A **MW Ranch, Wils** 78.49 338 ⇑P P 07 01 27.3 +0.5
baz=79
N32A **Stulken Farm,** 78.51 340 ⇓P P 07 01 27.2 +0.3
baz=79
LONY **Lake Ozonia** 78.56 358 *e*P P 07 01 26.8 -0.3
comp=Z,8.2nm,0.9s
WUAZ **Wupatki** 78.59 328 *e*P P 07 01 28.7 +1.1
comp=Z,9.9nm,1.1s
WUAZ **Wupatki** 78.59 328 ⇑P P 07 01 28.4 +0.8
baz=79
JFWS **Jewell Farm** 78.62 346 *e*P P 07 01 26.9 -0.5
comp=Z,10nm,0.8s
S22A **4UR Ranch, Cre** 78.64 332 *e*P P 07 01 28.7 +0.7
comp=Z,5.7nm,1.1s
S22A **4UR Ranch, Cre** 78.64 332 ⇓P P 07 01 28.3 +0.3
baz=79
R23A **Moffat** 78.65 333 ⇑P P 07 01 28.5 +0.4
baz=79
O29A **4D Ranch, Culb** 78.67 338 ⇑P P 07 01 28.5 +0.7
baz=79
Q25A **Bedland, Calha** 78.72 335 ⇑P P 07 01 29.0 +0.6
baz=79
EMMW **East Machias** 78.72 3 *e*P P 07 01 28.8 +0.9
MVCO **Mesa Verde** 78.83 331 *e*P P 07 01 29.2 +0.2
comp=Z,7.5nm,1.1s
MVCO **Mesa Verde** 78.83 331 ⇓P P 07 01 29.7 +0.7
baz=79
PDMCI **Parker Dam,Lak** 78.83 326 ⇓P P 07 01 30.1 +1.4
baz=79
BC3 **Big Chuckawall** 78.93 324 ⇑P P 07 01 30.4 +0.9
baz=79
O28A **Krutsinger Ran** 78.98 337 ⇓P P 07 01 29.7 +0.2
baz=79
P26A **Davis Ranch, A** 78.99 336 ⇓P P 07 01 29.7 0.0
baz=79
Q24A **Divide** 79.08 334 *e*P P 07 01 31.2 +0.7
comp=Z,7.8nm,0.9s
Q24A **Divide** 79.08 334 ⇓P P 07 01 31.1 +0.7
baz=79
IRM **Iron Mountain** 79.19 325 ⇑P P 07 01 31.2 +0.4
baz=79
P25A **Willow Gulch B** 79.23 335 ⇓P P 07 01 31.6 +0.5
baz=80
O27A **Beecher Island** 79.27 337 ⇑P P 07 01 32.1 +0.9
baz=80
Q23A **Hartsel** 79.28 334 ⇑P P 07 01 32.2 +0.6
baz=80
W13A **Hualapai Mount** 79.37 326 ⇑P P 07 01 32.9 +0.9
baz=80
PFO **Pinyon Flats O** 79.38 324 ⇑P P 07 01 33.2 +1.3
baz=80
N28A **Pribbeno Ranch** 79.41 338 ⇑P P 07 01 32.4 +0.4
baz=80
BELC **Belle Mtn. Jos** 79.47 324 ⇓P P 07 01 33.3 +0.9
baz=80
O26A **Horse Wrangler** 79.59 336 ⇓P P 07 01 33.6 +0.6
baz=80
PV01 **Paradox Valley** 79.65 331 *e*P P 07 01 34.1 +0.6
comp=Z,265nm,0.9s
P23A **Jefferson** 79.70 334 ⇑P P 07 01 34.7 +0.8
baz=80
CASY **Casey** 79.75 181 *e*P P 07 01 34.9 +1.5
O25A **Wiggins** 79.75 336 ⇓P P 07 01 35.0 +1.2
baz=80
U15A **North Rim** 79.75 328 ⇑P P 07 01 35.1 +1.0
baz=80
M29A **Burnside Ranch** 79.84 338 ⇑P P 07 01 34.9 +0.7
baz=80
N27A **Anderson Farm,** 79.84 337 ⇓P P 07 01 35.2 +0.9
baz=80
GMRC **Granite Mounta** 79.94 325 ⇑P P 07 01 35.7 +0.7
baz=80
SMCO **Snowmass** 79.94 333 *e*P P 07 01 35.9 +0.7
comp=Z,10.0nm,1.1s
L31A **Butterfield Fa** 79.97 340 ⇑P P 07 01 35.5 +0.6
baz=80
ISCO **Idaho Springs** 79.99 334 *e*P P 07 01 35.6 +0.2
comp=Z,9.5nm,1.4s
ISCO **Idaho Springs** 79.99 334 ⇓P P 07 01 36.0 +0.6
baz=80
N26A **Koester Ranch,** 80.08 336 ⇓P P 07 01 36.6 +1.0
baz=80
P22A **Eagle** 80.23 333 ⇑P P 07 01 37.2 +0.6
baz=80
HEC **Hector,Ludlow** 80.30 324 ⇑P P 07 01 37.8 +1.0
baz=80
O23A **Lake Granby, G** 80.46 334 ⇓P P 07 01 38.0 +0.1
baz=81,SNR=6.7
BFSC **Mount Baldy Ra** 80.48 323 ⇑P P 07 01 38.4 +0.5
baz=81
TUQ **Turquoise Moun** 80.60 325 ⇑P P 07 01 39.3 +0.8
baz=81
O22A **Kremmling** 80.65 334 ⇑P P 07 01 38.8 -0.1
baz=81,SNR=6.9
ECSD **EROS Data Cent** 80.82 342 *e*P P 07 01 38.7 -0.7
comp=Z,16nm,0.8s
ECSD **EROS Data Cent** 80.82 342 ⇓P P 07 01 39.2 -0.2
baz=81

GSC	Goldstone, Bar	80.91	324	⇑P		P	07 01 40.2	+0.1
	baz=81							
N23A	Red Feather La	81.08	335	*e*P		P	07 01 41.8	+0.6
	comp=Z,6.4nm,1.1s							
N23A	Red Feather La	81.08	335	⇑P		P	07 01 41.4	+0.3
	baz=81							
SHPR	Sheep Range	81.11	326	*e*P		P	07 01 42.3	+1.1
EDW2	Edwards Air Fo	81.15	323	⇑P		P	07 01 41.6	+0.2
	baz=81							
N22A	Wattenberg Ran	81.18	334	⇑P		P	07 01 42.1	+0.4
	baz=82							
M24A	Cheyenne	81.19	336	⇓P		P	07 01 42.2	+0.5
	baz=82							
K28A	Ten Mile Ranch	81.20	339	⇓P		P	07 01 41.6	+0.1
	baz=82,SNR=6.6							
PHWY	Pilot Hill	81.27	335	*e*P		P	07 01 42.5	+0.4
	comp=Z,9.3nm,1.3s							
SRU	San Rafael Swe	81.27	331	*e*P		P	07 01 42.1	0.0
	comp=Z,2.6nm,0.7s							
SPMN	Marine on St.	81.35	345	*e*P		P	07 01 41.1	-1.0
	comp=Z,9.0nm,0.9s							
SPMN	Marine on St.	81.35	345	⇑P		P	07 01 41.3	-0.8
	baz=82							
MSU	Marysvale	81.45	329	*e*P		P	07 01 43.5	+0.3
	comp=Z,3.3nm,0.9s							
MVU	Marysvale	81.46	329	*e*P		P	07 01 44.1	+0.9
	comp=Z,3.7nm,1.0s							
LRMC	Laurel Mtn Rad	81.48	324	⇓P		P	07 01 43.5	+0.3
	baz=82							
J29A	Okreek	81.53	340	⇑P		P	07 01 43.0	-0.1
	baz=82,SNR=14							
M22A	Cedar Creek Ra	81.76	334	⇑P		P	07 01 44.2	-0.5
	baz=82							
MPMC	Manual Prospec	81.85	324	⇓P		P	07 01 45.0	-0.2
	baz=82							
J27A	Elkhorn Farm,	81.89	338	⇑P		P	07 01 46.1	+0.9
	baz=82							
TPNV	Topopah Spring	81.98	326	*e*P		P	07 01 47.1	+1.3
	comp=Z,6.5nm,1.0s							
TPNV	Topopah Spring	81.98	326	⇑P		P	07 01 46.3	+0.5
	baz=82							
ISA	Isabella, Lake	82.02	323	*e*P		P	07 01 47.0	+1.1
	comp=Z,4.3nm,0.9s							
ISA	Isabella, Lake	82.02	323	⇓P		P	07 01 45.9	0.0
	baz=82							
DAC	Darwin (Calif)	82.08	324	*e*P		P	07 01 47.4	+1.0
	comp=Z,6.3nm,1.0s							
I29A	Vivian Onida	82.09	340	⇑P		P	07 01 45.8	-0.2
	baz=82							
LBTB	Lobatse	82.15	115	*e*P		P	07 01 47.2	0.0
	comp=Z,76nm,2.2s							
I28A	Midland	82.32	339	⇓P		P	07 01 46.8	-0.5
	baz=83,SNR=8.6							
VES	Vestal, Richgr	82.46	323	⇓P		P	07 01 48.7	+0.6
	baz=83							
MPU	Maple Canyon	82.49	330	*e*P		P	07 01 49.0	+0.5
	comp=Z,8.6nm,1.2s							
K23A	Bowen Ranch, D	82.61	336	⇓P		P	07 01 49.1	+0.1
	baz=83							
H29A	Onida	82.61	340	⇑P		P	07 01 48.5	-0.3
	baz=83							
I27A	Quinn	82.64	339	⇓P		P	07 01 49.2	+0.2
	baz=83							
G30A	Faulkton	82.78	341	⇓P		P	07 01 49.8	+0.2
	baz=83							
R11A	Troy Canyon, C	82.81	327	⇑P		P	07 01 51.2	+1.0
	baz=83							
K22A	Casper	82.83	335	*e*P		P	07 01 50.5	+0.4
	comp=Z,15nm,1.3s							
K22A	Casper	82.83	335	⇓P		P	07 01 50.6	+0.4
	baz=83							
JLU	Jordanelle	82.91	331	*e*P		P	07 01 51.0	+0.3
	comp=Z,2.9nm,0.3s							
K21A	Alcova	83.07	335	⇓P		P	07 01 51.1	-0.4
	baz=83,SNR=5.6							
I25A	Rochford	83.12	338	⇓P		P	07 01 51.5	-0.2
	baz=83,SNR=6.3							
DUG	Dugway, Tooele	83.13	330	*e*P		P	07 01 51.8	0.0
	comp=Z,8.4nm,1.1s							
DUG	Dugway, Tooele	83.13	330	⇓P		P	07 01 51.9	+0.2
	baz=83							
H27A	Howes	83.16	339	⇑P		P	07 01 51.3	-0.4
	baz=84,SNR=9.0							
G28A	Parade	83.23	340	⇑P		P	07 01 51.7	-0.2
	baz=84							
I24A	Kuemmerle Ranc	83.26	337	⇓P		P	07 01 52.3	0.0
	baz=84							
RSSD	Black Hills	83.31	337	*e*P		P	07 01 52.4	-0.3
	comp=Z,5.2nm,0.9s							
TPH	Tonopah	83.34	326	*e*P		P	07 01 53.6	+0.7
	comp=Z,6.8nm,0.9s							
J22A	Midwest	83.48	335	⇑P		P	07 01 53.2	-0.3
	baz=84							
H25A	Fruitdale	83.62	338	⇑P		P	07 01 54.5	+0.4
	baz=84							
F29A	Eureka	83.62	341	⇑P		P	07 01 53.9	-0.1
	baz=84							
EYMN	Ely	83.70	347	*e*P		P	07 01 53.6	-0.7
	comp=Z,6.4nm,0.9s							
G27A	Dupree	83.80	339	⇑P		P	07 01 54.3	-0.6
	baz=84,SNR=6.1							
HWUT	Hardware Ranch	83.81	331	*e*P		P	07 01 55.2	-0.1
	comp=Z,7.5nm,1.0s							
I22A	9 Mile Ranch,	83.91	336	⇓P		P	07 01 55.1	-0.5
	baz=84							
G26A	Maurine	83.92	339	⇑P		P	07 01 54.8	-0.8
	baz=84,SNR=5.8							
E30A	Jud	83.99	342	⇓P		P	07 01 55.1	-0.7
	baz=84							
J20A	Shoshoni	84.00	334	⇓P		P	07 01 55.8	-0.3
	baz=84,SNR=6.4							
PDAR	Pinedale Array	84.03	333	P		P	07 01 55.8	-0.7
	comp=Z,1.3nm,0.8s,baz=150,slow=3.4,SNR=12							
H24A	Dirks Ranch, A	84.03	337	⇓P		P	07 01 55.7	-0.5
	baz=84							
I21A	Big Trails, Te	84.12	335	⇑P		P	07 01 56.6	-0.2
	baz=84							
NVAR	Mina Array Bea	84.13	325	P		P	07 01 57.2	+0.1
	comp=Z,1.5nm,0.7s,baz=163,slow=6.4,SNR=13							
DRLN	Deer Lake	84.16	9	*e*P		P	07 01 56.7	+0.1
	comp=Z,142nm,2.3s							
TOA0	Torodi Ar. Sit	84.27	70	*e*P		P	07 01 57.8	-0.1
TORD	Torodi Ar. Bea	84.27	70	P		P	07 01 57.7	-0.3
	comp=Z,8.1nm,0.9s,baz=261,slow=4.3,SNR=39							
TORD				LR		LR	07 38 19.8	
	comp=Z,82nm,18.6s,baz=260,slow=35							
J19A	Crowheart	84.27	334	⇓P		P	07 01 56.7	-0.8
	baz=84,SNR=5.5							
F27A	Lemmon	84.27	339	⇓P		P	07 01 57.1	-0.3
	baz=85,SNR=7.1							
HVU	Hansel Valley	84.44	331	*e*P		P	07 01 57.7	-0.8
	comp=Z,3.8nm,0.7s							
F26A	Lodgepole	84.44	339	⇓P		P	07 01 58.1	-0.2
	baz=85							
H22A	Clearmont	84.48	336	⇑P		P	07 01 58.3	-0.2
	baz=85							
G24A	Alzada	84.51	338	⇓P		P	07 01 58.4	-0.2
	baz=85							
D30A	Buchanan	84.52	342	⇑P		P	07 01 58.5	0.0
	baz=85							
I20A	Worland	84.53	335	⇑P		P	07 01 58.5	-0.3
	baz=85,SNR=5.3							
E28A	Huff	84.54	341	⇓P		P	07 01 58.5	-0.1
	baz=85							
ELK	Elko	84.62	328	*e*P		P	07 01 59.7	+0.2
	comp=Z,4.2nm,1.0s							
E27A	Carson	84.65	340	⇑P		P	07 01 59.0	-0.3
	baz=85							
F25A	Bowman	84.75	339	⇓P		P	07 01 59.3	-0.4
	baz=85							
I19A	Meeteetse	84.92	334	⇓P		P	07 02 00.2	-0.6
	baz=85							
AGMN	Agassiz Nation	84.93	344	*e*P		P	07 02 00.1	-0.5
	comp=Z,7.4nm,0.7s							
AGMN	Agassiz Nation	84.93	344	⇓P		P	07 01 60.0	-0.5
	baz=85							
E26A	Carlson Angus	84.94	339	⇓P		P	07 02 00.1	-0.6
	baz=85							
H20A	Greybull	84.95	335	⇑P		P	07 02 00.0	-0.9
	baz=85,SNR=10.0							
F24A	Ekalaka	84.98	338	⇑P		P	07 02 00.6	-0.3
	baz=85							
C30A	Mose, Pekin	85.00	342	⇑P		P	07 02 00.2	-0.7
	baz=85,SNR=6.8							
G22A	Birney	85.02	336	⇓P		P	07 02 00.7	-0.5
	baz=85							
D28A	Regan	85.07	341	⇑P		P	07 02 01.2	-0.1
	baz=85							
SNOW	Snow King Moun	85.07	333	*e*P		P	07 02 01.4	-0.3
	comp=Z,3.2nm,0.7s							
LOHW	Long Hollow	85.14	333	*e*P		P	07 02 01.8	-0.2
	comp=Z,2.3nm,0.9s							
TPAW	Teton Pass	85.17	333	*e*P		P	07 02 01.9	-0.4
	comp=Z,28nm,2.0s							
MOOW	Moose Ponds	85.31	333	*e*P		P	07 02 02.6	-0.3
	comp=Z,18nm,2.2s							
FXWY	Fox Creek	85.33	333	*e*P		P	07 02 02.8	-0.1
	comp=Z,2.1nm,0.8s							
G21A	Lodge Grass	85.33	336	⇑P		P	07 02 02.7	0.0
	baz=86							
I17A	Pilgrim Ck.	85.40	333	⇑P		P	07 02 03.6	+0.3
	baz=86							
MDND	Maddock	85.42	342	⇓P		P	07 02 02.9	-0.1
	baz=86							
D26A	Manning	85.44	340	⇓P		P	07 02 03.2	0.0
	baz=86							
H19A	Powell	85.46	334	⇓P		P	07 02 03.3	-0.2
	baz=86							
F22A	Rosebud	85.50	337	⇑P		P	07 02 03.3	-0.2
	baz=86							
C28A	Hausauer Farms	85.50	341	⇓P		P	07 02 03.6	+0.1
	baz=86							
IMW	Indian Meadow	85.51	333	*e*P		P	07 02 03.7	-0.3
	comp=Z,6.5nm,1.2s							
E24A	Baker	85.58	338	⇑P		P	07 02 03.2	-0.7
	baz=86							
FLWY	Flagg Ranch	85.58	333	*e*P		P	07 02 04.6	+0.4
	comp=Z,6.2nm,0.7s							
B30A	Myrvik Farm, E	85.66	343	⇓P		P	07 02 03.5	-0.7
	baz=86,SNR=12							
G20A	Bridger	85.67	335	⇑P		P	07 02 03.4	-1.0
	baz=86,SNR=8.7							
H18A	Shoshone NF, C	85.71	334	⇓P		P	07 02 04.3	-0.5
	baz=86,SNR=10							
D25A	Fairfield	85.81	339	⇓P		P	07 02 05.4	+0.3
	baz=86							
RLMT	Red Lodge	85.95	335	*e*P		P	07 02 05.5	-0.5
	comp=Z,7.2nm,0.8s							
E22A	Miles City	85.98	337	⇑P		P	07 02 05.4	-0.5
	baz=86							
A30A	Hoffart Farm,	86.10	343	⇑P		P	07 02 05.9	-0.5
	baz=86							
B28A	Dugan Ranch, T	86.17	342	⇑P		P	07 02 06.6	-0.1
	baz=86							
YMR	Madison River	86.18	333	*e*P		P	07 02 07.7	+0.6
	comp=Z,10nm,0.8s							
LAO	LASA Array	86.29	337	*e*P		P	07 02 07.2	-0.2
A29A	Manning Farm,	86.32	342	⇑P		P	07 02 06.6	-0.8
	baz=87,SNR=8.2							
D23A	Lindsay	86.40	338	⇓P		P	07 02 08.2	+0.2
	baz=87							
E21A	Keefer Ranch,	86.44	337	⇑P		P	07 02 08.3	+0.2
	baz=87							
C24A	Savage	86.48	339	⇑P		P	07 02 08.9	+0.6
	baz=87							
QLMT	Earthquake Lak	86.49	333	*e*P		P	07 02 10.0	+1.4
HLID	Hailey	86.60	331	*e*P		P	07 02 09.8	+0.6
	comp=Z,4.0nm,0.8s							
HLID	Hailey	86.60	331	⇑P		P	07 02 09.6	+0.5
	baz=87							
B26A	Jensen Ranch,	86.61	340	⇓P		P	07 02 08.9	0.0
	baz=87							
D22A	Cohagen	86.69	337	⇓P		P	07 02 08.8	-0.5
	baz=87,SNR=8.5							
E20A	Meyer Farm, Mu	86.76	336	⇓P		P	07 02 09.0	-0.7
	baz=87,SNR=13							
ULM	Lac du Bonnet	86.78	345	P		P	07 02 08.5	-1.1
	comp=Z,6.0nm,0.8s,baz=206,slow=2.0,SNR=6.3							
ULM	Lac du Bonnet	86.78	345	*e*P		P	07 02 08.5	-1.1
	comp=Z,8.5nm,1.0s							
B25A	Knox Farm, Ray	86.78	340	⇑P		P	07 02 09.7	0.0
	baz=87							
A27A	Ledoux Ranch,	86.86	341	⇑P		P	07 02 10.6	+0.5
	baz=87							
D21A	La Casta Ranch	86.87	337	⇑P		P	07 02 09.8	-0.4
	baz=87							
E19A	Rath Farm, Rou	86.94	336	⇑P		P	07 02 09.8	-0.8
	baz=87,SNR=9.1							
C23A	Lambert	86.96	338	⇓P		P	07 02 10.3	-0.3
	baz=87,SNR=10							
A26A	Wade Farm, Ken	87.03	341	⇑P		P	07 02 10.9	0.0
	baz=87							
MCMT	McKenzie Canyo	87.03	332	*e*P		P	07 02 12.2	+0.8
	comp=Z,4.4nm,1.0s							
MFID	Camas Ranch	87.06	330	*e*P		P	07 02 11.5	+0.1
	comp=Z,19nm,2.0s							
C22A	Vida	87.12	338	⇑P		P	07 02 11.1	-0.3
	baz=87							
DGMT	Dagmar	87.26	339	*e*P		P	07 02 12.2	+0.1
	comp=Z,27nm,0.9s							
DGMT	Dagmar	87.26	339	⇓P		P	07 02 12.0	0.0
	baz=88							
BOZ	Bozeman (W)	87.26	333	*e*P		P	07 02 12.1	-0.3
	comp=Z,2.3nm,0.8s							
D20A	Manuel Ranch,	87.27	336	⇑P		P	07 02 11.4	-0.8
	baz=88,SNR=9.6							
A25A	Svangstu Ranch	87.37	340	⇑P		P	07 02 12.1	-0.5
	baz=88							
DLMT	Dillon	87.38	333	*e*P		P	07 02 13.4	+0.5
	comp=Z,7.4nm,1.1s							
B23A	Brockton	87.49	339	⇑P		P	07 02 12.5	-0.7
	baz=88							
C21A	Desert Coulee	87.58	337	⇑P		P	07 02 12.7	-0.9
	baz=88,SNR=6.7							
D19A	Cripps Ranch,	87.59	336	⇓P		P	07 02 13.0	-0.7
	baz=88							
A24A	Westby	87.61	340	⇑P		P	07 02 13.2	-0.5
	baz=88							
B22A	Reddig Ranch S	87.65	338	⇓P		P	07 02 14.0	+0.1
	baz=88							
LRM	Limekiln Ridge	87.72	333	*e*P		P	07 02 13.7	-0.9
	comp=Z,25nm,0.9s							
C20A	Veseth Ranch,	87.77	337	⇓P		P	07 02 13.9	-0.7
	baz=88,SNR=7.2							
B21A	Ellsworth Farm	88.08	338	⇓P		P	07 02 15.8	-0.2
	baz=88							
C19A	Slack Wire Ran	88.14	336	⇓P		P	07 02 16.1	-0.2
	baz=88							
A22A	Carney Farms,	88.24	338	⇑P		P	07 02 16.9	+0.2
	baz=88,SNR=9.3							
B20A	Solberg Farm,	88.41	337	⇑P		P	07 02 16.9	-0.7
	baz=89,SNR=8.0							
A21A	Bergtoll Ranch	88.55	338	⇓P		P	07 02 18.0	-0.2
	baz=89							
EGMT	Eagleton	88.63	336	⇑P		P	07 02 18.5	-0.1
	baz=89							
B19A	Brinkman Farms	88.73	336	⇓P		P	07 02 18.9	-0.2
	baz=89							
A20A	Cobblestone Ra	88.77	337	⇓P		P	07 02 18.6	-0.7
	baz=89,SNR=8.0							
BMO	Blue Mountains	88.85	330	*e*P		P	07 02 20.1	+0.3
	comp=Z,0.4nm,0.3s							
SCHQ	Schefferville	88.86	3	P		P	07 02 18.9	-0.6
	comp=Z,1.2nm,0.5s,baz=181,slow=5.4,SNR=8.1							
SCHQ				LR		LR	07 45 13.4	
	comp=Z,33nm,18.8s,baz=49,slow=38							
CHMT	Chamberlain Mo	88.94	333	*e*P		P	07 02 20.4	+0.1
A19A	Klindworth Far	89.07	337	⇓P		P	07 02 20.1	-0.6
	baz=89,SNR=5.6							
J05D	Fort Rock, OR	89.33	326	⇓P		P	07 02 22.4	+0.2
	baz=90							
FCC	Fort Churchill	94.51	349	*e*P		P	07 02 44.8	-0.7
	comp=Z,4.5nm,0.6s							
YKA	Yellowknife Ar	102.33	341	P		Pdif	07 03 19.6	-1.0
	comp=Z,0.6nm,0.7s,baz=142,slow=4.5,SNR=11							
TUE	Stuetta	108.60	46	*e*Pdif		Pdif	07 03 52.3	+3.1
ILAR	Eielson Array	114.46	333	PKP		PKPdf	07 08 04.3	-0.5
	comp=Z,0.3nm,0.7s,baz=187,slow=1.8,SNR=4.3							
ASAR	Alice Springs	117.34	207	PKP		PKPdf	07 08 10.3	-1.6
	comp=Z,0.2nm,0.7s,baz=145,slow=2.3,SNR=1.4							
WRA	Warramunga Arr	120.54	209	PKP		PKPdf	07 08 16.9	-1.2
	comp=Z,0.4nm,0.5s,baz=158,slow=1.7,SNR=11							
BRTR	Keskin Array B	121.93	61	PKP		PKPdf	07 08 19.2	-1.0
	comp=Z,0.3nm,0.4s,baz=266,slow=4.2,SNR=2.7							
AKASG	Malin Array Be	122.35	48	PKP		PKPdf	07 08 18.9	-1.5
	comp=Z,0.1nm,0.2s,baz=270,slow=2.6,SNR=4.1							
ARCES	ARCESS Array B	124.25	25	PKP		PKPdf	07 08 22.9	-0.7
	comp=Z,3.9nm,0.8s,baz=322,slow=3.7,SNR=5.4							
H11S2	WAKE ISLAND Hyl	25.81	269	T		T	09 26 42.8	
	SNR=10							
H11S1	WAKE ISLAND Hyl	25.82	269	T		T	09 26 43.2	
	baz=326,slow=74,SNR=20							
H11S3	WAKE ISLAND Hyl	25.82	269	T		T	09 26 44.6	
	baz=120,slow=74,SNR=13							
H11N3	WAKE ISLAND Hyl	26.23	270	T		T	09 27 15.9	
	baz=115,slow=78,SNR=4.4							
H11N1	WAKE ISLAND Hyl	26.24	270	T		T	09 27 16.3	
	baz=115,slow=78,SNR=13							
H11N2	WAKE ISLAND Hyl	26.24	270	T		T	09 27 24.5	
	baz=115,slow=78,SNR=8.0							
ABKAR	Akbulak array	141.82	52	*e*P		PKPdf	07 08 50.5	-6.6
BRVK	Borovoye	147.38	43	*e*PKPbc		PKPbc	07 09 09.5	+0.4
BVAR	Borovoye Array	147.45	43	PKPbc		PKPbc	07 09 09.7	+0.4
	comp=Z,6.9nm,0.7s,baz=285,slow=3.6,SNR=32							
KKAR	Karatay Array	149.64	62	*e*PKPbc		PKPbc	07 09 16.3	+1.0
KKAR				*e*PKPab		PKPab	07 09 19.8	-0.7
EKS2	Erkin-Say	152.07	62	*e*PKPbc		PKPbc	07 09 21.5	+0.4
EKS2				*e*PKPab		PKPab	07 09 26.9	-3.9
AAK	Ala-Archa	152.60	62	PKPbc		PKPbc	07 09 22.7	+0.3
	comp=Z,4.0nm,0.8s,baz=214,slow=1.8,SNR=7.6							
KURBB	Kurchatov Arra	153.04	44	PKPbc		PKPbc	07 09 22.6	-0.2
	comp=Z,2.9nm,0.6s,baz=296,slow=2.8,SNR=21							
KURK	Kurchatov	153.05	44	PKPbc		PKPbc	07 09 22.6	-0.2
TKM2	Tokmak 2	153.37	61	*e*PKPdf		PKPdf	07 09 16.5	0.0
TKM2				*e*PKPbc		PKPbc	07 09 24.1	0.0
TKM2				*e*PKPab		PKPab	07 09 35.7	-0.6
KSH	Kashi	153.93	69	PKPbc		PKPbc	07 09 24.1	-1.2
KSH				sPKP			07 09 38.5	
KSH				PKS		PKSdf	07 12 56.3	+4.6
KSH				PPMZ				
	comp=Z,47nm,3.8s							
KSH				LN				
	comp=Z,72nm,7.0s							
KSH				LE				
	comp=Z,52nm,4.8s							
KSH				LZ				
	comp=Z,97nm,6.4s							
ZAA0	Zalesovo Array	154.44	33	*e*PKPdf		PKPdf	07 09 16.8	-0.5
ZAA0				*e*PKPbc		PKPbc	07 09 25.4	-0.3
ZAA0				*e*PKPab		PKPab	07 09 40.3	+0.2
ZALV	Zalesovo Beam	154.44	33	PKPbc		PKPbc	07 09 25.7	0.0
	comp=Z,5.2nm,0.6s,baz=294,slow=2.9,SNR=17							
MK31	Makanchi Array	156.91	49	*e*PKPdf		PKPdf	07 09 20.5	-0.5
MK31				*e*PKPab		PKPab	07 09 50.1	-0.9
MKAR	Makanchi Array	156.91	49	PKP		PKPdf	07 09 20.7	-0.3
	comp=Z,0.3nm,0.8s,baz=358,slow=4.8,SNR=3.4							
MKAR				PKPab		PKPab	07 09 50.1	-1.0
	comp=Z,0.9nm,0.5s,baz=283,slow=3.8,SNR=22							
WMQ	Urumqi	161.61	53	*e*PKP		PKPdf	07 09 28.5	+1.9
WMQ				pPKP		pPKPdf	07 09 39.2	+3.1
KMN	Kunming	169.79	152	PKP		PKPdf	07 09 32.6	-1.5
GTA	Gaotai	171.67	50	*e*PKP		PKPdf	07 09 34.9	+0.4
GTA				pPKP		pPKPdf	07 09 45.5	+1.5
GTA				sPKP			07 09 49.2	
GTA				PKPab		PKPab	07 10 56.8	+0.6
HHC	Hu-ho-hao-te	172.86	338	*e*PKP		PKPdf	07 09 35.5	+0.6
HHC				sPKP			07 09 50.0	
HHC				PKS		PKSdf	07 13 09.0	+1.8
HHC				PP		PP	07 14 55.6	+3.3
HHC				SKS		SKSdf	07 16 35.4	-0.8
HHC				SKKS		SKKSac	07 21 36.6	-0.8
HHC				SS		SS	07 36 06.9	+3.7
HHC				PPMZ				
	comp=Z,34nm,11.2s							
HHC				LN				
	comp=Z,110nm,14.9s							
HHC				LE				
	comp=Z,140nm,16.2s							
CD2	Chengdu	175.09	132	*e*PKP		PKPdf	07 09 36.5	+0.5
LZH	Lanzhou	176.14	61	*e*PKP		PKPdf	07 09 36.3	+0.1
LZH				pPKP		pPKPdf	07 09 47.2	+1.4
LZH				sPKP			07 09 50.7	

IDC 03 07:21:28.3±2.9, 20.84S×179.62E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/19, mbtmp3.7/3, Error ellipse: s-maj=287.9km s-min=35.6km az=162.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	42.27	257	P	P	07 29 22.9	-1.0
	1.1nm,1.0s,baz=93,slow=7.1,SNR=6.0						
WRA	Warramunga Arr	42.34	263	P	P	07 29 25.0	+0.5
	0.6nm,0.3s,baz=97,slow=8.4,SNR=31						
TXAR	Lajitas Array	89.12	58	P	P	07 34 26.1	0.0
	0.3nm,0.8s,baz=213,slow=6.7,SNR=3.6						

*SOF **03** 08:10:36.4, 40.90N×21.90E, h4km, MD2.5*
*SKO **03** 08:10:39.6, 40.90N×22.19E, h15km, M2.1, ML2.5*
*CSEM **03** 08:10:40.1±0.1, 40.91N×22.19E, h5km, ML2.5, Error ellipse: s-maj=2.6km s-min=2.5km az=149.0*
*ATH **03** 08:10:40.3, 40.92N×22.20E, h1 1km±3km, MD2.9/14*
*THE **03** 08:10:40.8, 40.93N×22.20E, h4km, ML2.5/8, Error ellipse: s-maj=0.9km s-min=0.4km az=336.0*

ISC 03 08:10:40.5±0.9, 40.92N±0.02×22.19E±0.02, h9km±7km, n60, σ0.962/93, 2C, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRG	Griva	0.16	76	P	Pg	08 10 44.0	0.0
GRG				S	Sg	08 10 46.6	+0.1
GRG	Griva	0.16	76	*e*PG	Pg	08 10 44.0	0.0
GRG				*e*SG	Sg	08 10 46.7	+0.2
GRG	Griva	0.16	76	P	Pg	08 10 44.0	0.0
GRG				S	Sg	08 10 46.6	+0.1
VAY	Valandovo	0.49	35	P	Pg	08 10 49.8	-0.3
VAY				S	Sg	08 10 56.8	+0.2
VAY	Valandovo	0.49	35⇑	*i*Pg	Pg	08 10 50.3	+0.1
VAY				*i* Sg	Sg	08 10 57.4	+0.8
VAY				*i* Lg	Lg	08 10 58.3	
	comp=E,233nm,0.4s						
VAY				*

SRS				S	Sb	08 11 16.1	+0.6	
PLG	Polygyros	1.10	119	P	Pg	08 11 00.6	-1.0	
PLG				S	Sn	08 11 17.5	+0.1	
PLG	Polygyros	1.10	119	*e*PN	Pg	08 11 01.3	-0.3	
PLG	Polygyros	1.10	119	P	Pg	08 11 00.6	-1.0	
PLG	Polygyros	1.10	119	*e*Pn	Pg	08 11 01.3	-0.3	
PLG				S	Sn	08 11 17.5	+0.1	
KKB	Krupnik	1.16	35	*i* P	Pg	08 11 01.4	-1.4	
KKB	Krupnik	1.16	35	*i* P	Pg	08 11 01.4	-1.4	
SKO	Skopje	1.20	332	*i* Pg	Pg	08 11 02.9	-0.6	
SKO				*i* Sg	Sb	08 11 19.5	+0.6	
SKO				*i* Lg	Lg	08 11 20.3		
	comp=N,91nm,0.6s							
SKO				*i* Lg	Lg	08 11 21.1		
	comp=E,66nm,0.5s							
SKO	Skopje	1.20	332	*i* Pg	Pg	08 11 02.9	-0.6	
SKO				*i* Sg	Sb	08 11 19.5	+0.6	
SKO				*i* Lg	Lg	08 11 21.0		
	comp=E,66nm,0.5s							
NVR	Nevrokopi	1.33	71	P	Pn	08 11 05.3	-0.1	
NVR				S	Sn	08 11 23.8	+0.6	
NVR	Nevrokopi	1.33	71	*e*PB	Pn	08 11 05.2	-0.1	
NVR	Nevrokopi	1.33	71	P	Pn	08 11 05.3	-0.1	
NVR				S	Sn	08 11 23.8	+0.6	
MMB	Musomiste	1.34	59	*i* P	Pn	08 11 05.1	-0.3	
MMB	Musomiste	1.34	59	*i* P	Pn	08 11 05.1	-0.3	
THL	Klokotos Trika	1.36	186	P	Pb	08 11 05.9	-0.2	
THL				S	Sn	08 11 25.4	+1.7	
THL	Klokotos Trika	1.36	186	*e*PB	Pg	08 11 06.6	0.0	
THL	Klokotos Trika	1.36	186	P	Pb	08 11 05.9	-0.2	
THL	Klokotos Trika	1.36	186	*e*Pb	Pg	08 11 06.6	0.0	
THL				S	Sn	08 11 25.4	+1.7	
PAIG	Paliouri	1.51	131	P	Pn	08 11 07.5	-0.1	
PAIG				S	Sg	08 11 28.5	-0.4	
PAIG	Paliouri	1.51	131	*e*PG	Pn	08 11 07.8	+0.2	
PAIG	Paliouri	1.51	131	P	Pn	08 11 07.5	-0.1	
PAIG	Paliouri	1.51	131	*e*Pg	Pn	08 11 07.8	+0.2	
PAIG				S	Sg	08 11 28.5	-0.4	
KAVA	Kavala	1.76	87	*e*PN	Pb	08 11 12.1	-0.8	
KAVA	Kavala	1.76	87	*e*Pn	Pb	08 11 12.1	-0.8	
VTS	Vitosha	1.84	24	*i* P	Pn	08 11 13.5	+1.1	
VTS	Vitosha	1.84	24	*i* P	Pn	08 11 13.5	+1.1	
BARS	Barje	1.92	352	*e*Pn	Pn	08 11 13.6	+0.2	
BOLS	Boljevac	2.92	357	*e*Pn	Pn	08 11 26.7	-0.3	

*IDC **03** 08:13:48.8±2.5, 16˚.05S×173˚.26W, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.8/22, mbtmp3.9/5, MS3.1/1, Ms1 3.1/1, ms1mx2.7/29, Error ellipse: s-maj=139.3km s-min=23.5km az=142.0*

*NEIC **03** 08:13:54.1±0.6, 16˚.00S×173˚.36W, h35km, mb4.4/3, Error ellipse: s-maj=15.8km s-min=11.1km az=104.0*

*ISCJB **03** 08:13:56.9±0.7, 15˚.9S±0˚.1×173˚.4W±0˚.1, h79km, mb4.0/8, Error ellipse: s-maj=22.1km s-min=8.8km az=43.0*

ISC 03 08:13:58.6±0.8, 15˚.9S±0˚.1×173˚.4W±0˚.2, h79km, n23, σ1§00/14, mb4.2/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.51	39	*e*Pn		Pn		08 14 25.0	-12
AFI				*e*Sn		Sn		08 15 05.9	-1.3
MSVF	Nonsavu	8.40	256	*e*Pn		Pn		08 16 05.5	+7.7
RAO	Raoul Island	13.94	197	Pn		Pn		08 17 07.2	-5.4
TARA	Tarawa	21.83	320	*e*P		P		08 18 43.3	-1.4
PAE	Paea	22.86	98	*e*T		T		08 41 47.9	
	1.1nm,0.3s								
PPT	Papeete	22.86	98	LR		LR		08 24 46.4	
	comp=Z,50nm,21.3s,baz=296,slow=29								
PPT2	Papeete2	22.86	98	*e*LR		LR		08 23 51.9	
	101nm,25.0s								
PPT2	Papeete2	22.86	98	*e*T		T		08 41 49.5	
	1.8nm,0.3s								
TBI	Tubuai	23.71	112	*e*LR		LR		08 24 21.3	
	90nm,24.8s								
TBI	Tubuai	23.71	112	*e*T		T		08 42 52.9	
	5.3nm,0.3s								
RKT	Rikitea	36.84	107	*e*T		T		08 59 16.3	
	2.1nm,0.3s								
CTAO	Charters Tower	38.55	258	*e*P		P		08 21 13.1	-0.8
	7.1nm,0.8s								
STKA	Stephens Creek	43.80	240	P		P		08 21 56.8	-0.1
	1.8nm,0.6s,baz=88,slow=9.6,SNR=8.9								
WRAB	Tennant Creek	49.74	257	*e*P		P		08 22 44.1	+0.7
	3.9nm,0.9s								
WRA	Warramunga Arr	49.74	257	P		P		08 22 43.5	0.0
	0.5nm,0.4s,baz=91,slow=6.9,SNR=21								
AS31	Alice Springs	49.97	252	*e*P		P		08 22 45.4	+0.3
ASAR	Alice Springs	49.97	252	P		P		08 22 45.6	+0.4
	2.8nm,0.5s,baz=88,slow=8.1,SNR=76								
VNDA	Vanda	62.89	186	*e*P		P		08 24 15.4	-0.6
QSPA	South Pole Qui	74.16	180	*e*P		P		08 25 25.7	-0.8
	4.3nm,1.2s								
NVAR	Mina Array Bea	74.68	42	P		P		08 25 30.7	+0.6
	0.4nm,0.7s,baz=230,slow=9.6,SNR=4.5								
ILAR	Eielson Array	82.92	11	P		P		08 26 15.4	+1.1
	0.3nm,0.6s,baz=234,slow=6.3,SNR=12								
ABKAR	Akbulak array	125.59	320	*e*PKPdf		PKPdf		08 32 51.9	+1.1
BRTR	Keskin Array B	146.54	321	PKPbc		PKPab		08 33 34.0	+1.5
	1.1nm,0.7s,baz=127,slow=1.9,SNR=6.8								

MEX 03 08:28:54.5±0.7, 17˚.29N×99˚.84W, h35km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.47	239	*e*P		Pn		08 29 02.5	-2.4
CAIG				*i* S		Sn		08 29 10.2	-1.7
MEIG	Mezcala	0.67	18	*i* P		Pn		08 29 05.5	-2.1
ARIG	Puente Sto Nin	1.09	334	*e*P		Pn		08 29 12.0	-1.4
PLIG	Platanillo	1.14	16	*e*P		Pn		08 29 12.6	-1.5
PLIG				*e*S		Sn		08 29 26.9	-1.7
TLIG	Tlapa	1.25	77	*e*P		Pn		08 29 13.8	-1.8
TLIG				*e*S		Sn		08 29 29.6	-1.7
PNIG	Pinotepa	1.87	118	*e*P		Pn		08 29 21.4	-2.6
VHO	Vista Hermosa	2.98	94	*i* P		Pn		08 29 38.6	-0.9

*SJA **03** 08:43:29.5±0.7, 20˚.46S×67˚.68W, h538km±55km, ML3.6, MW3.2*

*ISCJB **03** 08:43:30.2±0.4, 19˚.63S±0˚.03×69˚.02W±0˚.06, h130km±5km, mb4.4/11, Error ellipse: s-maj=9.0km s-min=5.0km az=159.5*

*NEIC **03** 08:43:31.6±0.6, 19˚.69S×69˚.05W, h126km±6km, mb4.1/6, Error ellipse: s-maj=13.9km s-min=8.3km az=89.0*

*GUC **03** 08:43:32.6±1.3, 19˚.67S×69˚.78W, h115km±15km, ML4.7*

*IDC **03** 08:43:32.5±0.8, 19˚.67S×68˚.94W, h129km±7km, mb4.1/7, mb1 4.0/9, mb1mx3.6/31, mbtmp4.4/9, MS3.0/1, Ms1 3.0/1, ms1mx2.5/16, Error ellipse: s-maj=23.4km s-min=15.9km az=102.0*

ISC 03 08:43:31.2±0.6, 19˚.65S±0˚.04×69˚.02W±0˚.06, h125km±6km, n40, σ1§71/52, mb4.7/11, 1C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MNMC	Minimini	0.75	313	*e*P		Pn		08 43 52.0	+0.2
MNMC				*e*S		Sn		08 44 07.2	-0.2
MNMC				AML		AML		08 44 07.9	
	comp=E,46μm,0.6s								
PB01	IPOC Station P	1.46	197	*e*P		Pn		08 43 58.8	+0.3
PB01				*e*S		Sn		08 44 18.9	-0.5
PB07	IPOC Station P	2.22	201	*e*P		Pn		08 44 07.5	-0.4
PB07				*e*S		Sn		08 44 33.9	-2.1
PB07				AML		AML		08 44 40.1	
	comp=E,2μm,0.3s								
PB04	IPOC Station P	2.64	189	*e*P		Pn		08 44 15.7	+2.7
PB04				*e*S		Sn		08 44 47.3	+2.2
PB04				AML		AML		08 44 56.3	
	comp=N,1μm,0.5s								
LVC	Limon Verde	2.95	178	P		Pn		08 44 19.0	+1.7
	comp=N,388nm,0.3s,baz=37,slow=9.6,SNR=85								
LVC				S		Sn		08 44 49.9	-2.9
	comp=N,5μm,0.3s,baz=341,slow=8.8,SNR=14								
LVC	Limon Verde	2.95	178	*e*Pn		Pn		08 44 18.7	+1.4
LVC				*e*Sn		Sn		08 44 49.5	-3.3
LPAZ	La Paz	3.45	14	P		Pn		08 44 27.3	+3.1
	baz=198,slow=7.6								
ARE	Arequipa	3.94	323	⇑*i*P		Pn		08 44 29.4	-1.0
ARE				*i* S		Sn		08 45 15.7	-0.6
AZAP	Zapla	5.85	142	*e*P		Pn		08 44 57.0	+1.2
AZAP				*e*S		Sn		08 46 03.3	+1.4
AZAP				IAML				08 46 09.0	
	comp=Z,19nm,0.9s								
ASTB	Santa Barbara	6.01	136	*e*P		Pn		08 44 58.9	+1.0
ASTB				*e*S		Sn		08 46 04.5	-1.0
SLA	San Lorenzo	6.01	148	*e*P		Pn		08 44 59.7	+1.8
SLA				IAML				08 45 38.1	
	comp=Z,14nm,0.7s								
ALOL	LOMAS DE OLMED	6.26	132	*e*P		Pn		08 45 00.5	-0.8
ALOL				*e*S		Sn		08 46 06.8	-4.7
FSA	Cafayete	6.99	157	*e*P		Pn		08 45 10.7	-0.4
FSA				IAML				08 45 24.9	
	comp=Z,4.9nm,0.8s								
AGUA	GUANDACOL	9.81	177	*e*P		Pn		08 45 44.8	-4.3
NNA	Nana	10.71	314	S		Sn		08 47 53.7	-5.6
	comp=Z,1.0nm,0.3s,baz=225,slow=22,SNR=1.7								
CFAA	Coronel Fontan	11.93	177	P		Pn		08 46 14.7	-2.6
	comp=Z,0.0nm,0.3s,baz=295,slow=3.9,SNR=7.4								
CFAA				S		Sn		08 48 20.0	-8.6
	comp=Z,0.1nm,0.3s,baz=211,slow=20,SNR=2.5								
SAML	Samuel	12.04	29	*e*Pn		Pn		08 46 20.6	+1.7
	comp=Z,2.5nm,0.6s								
SAML				*e*Sn		Sn		08 48 28.3	-3.3
CPUP	Villa Florida	12.65	124	P		Pn		08 46 25.8	-0.9
	comp=Z,0.2nm,0.3s,baz=304,slow=12,SNR=9.2								
CPUP	Villa Florida	12.65	124	*e*Pn		Pn		08 46 26.8	+0.1
CPUP				*e*Sn		Sn		08 48 45.1	-1.0
TRQA	Tornquist	19.34	163	*e*P		Pn		08 47 47.8	-1.3
	comp=Z,3.9nm,0.7s								
TRQA				*e*S		S		08 51 18.8	-0.1
BDFB	Brasilia	20.41	82	P		P		08 47 58.5	-0.1
	comp=Z,8.3nm,0.7s,baz=255,slow=8.5,SNR=9.5								
PTGA	Pitinga	20.79	26	P		P		08 48 02.0	-0.5
	comp=Z,6.4nm,0.3s,baz=200,slow=17,SNR=25								
PTGA				LR		LR		08 57 04.2	
	comp=Z,44nm,19.4s,baz=124,slow=39								
PLCA	Paso Flores	21.06	183	P		P		08 48 06.2	+0.9
	comp=Z,5.7nm,0.9s,baz=355,slow=11,SNR=12								
RCBR	Riachuelo	35.01	71	P		P		08 50 14.1	+2.1
	comp=Z,12nm,0.5s,baz=237,slow=7.9,SNR=14								
LIC	Lamto	67.98	75	*e*P		P		08 54 16.7	-0.6
	comp=Z,94nm,2.2s								
TIC	Toumodi	68.16	74	*e*P		P		08 54 17.9	-0.5
	comp=Z,3.5nm,0.2s								
KIC	Kosan Boka	68.30	75	*e*P		P		08 54 19.2	-0.1
	comp=Z,51nm,1.1s								
DBIC	Dimbokro	68.32	74	P		P		08 54 19.5	+0.1
	comp=Z,8.0nm,0.8s,baz=222,slow=6.2,SNR=13								
DBIC	Dimbokro	68.32	74	*e*P		P		08 54 19.3	-0.1
	comp=Z,4.0nm,0.3s								
SRU	San Rafael Swe	70.17	327	*e*P		P		08 54 31.2	+0.7
	comp=Z,0.8nm,0.4s								
QSPA	South Pole Qui	70.53	180	*e*P		P		08 54 32.3	0.0
	comp=Z,1.5nm,0.7s								
TOA0	Torodi Ar. Sit	76.84	71	*e*P		P		08 55 09.6	-0.2
TORD	Torodi Ar. Bea	76.84	71	P		P		08 55 09.6	-0.2
	comp=Z,2.9nm,0.4s,baz=252,slow=5.4,SNR=65								
TSUM	Tsumeb	80.67	107	*e*P		P		08 55 31.5	+0.5
LBTB	Lobatse	85.89	115	*e*P		P		08 55 56.6	-1.0
	comp=Z,24nm,1.8s								
YKA	Yellowknife Ar	89.42	341	P		P		08 56 14.3	+1.0
	comp=Z,0.8nm,0.8s,baz=133,slow=4.5,SNR=8.6								
YKA				pP		pP		08 56 46.9	+1.3
	comp=Z,1.9nm,0.8s,baz=135,slow=4.9,SNR=9.7								
ASAR	Alice Springs	131.49	208	PKP		PKPdf		09 02 30.6	+0.9
	comp=Z,0.4nm,0.9s,baz=139,slow=1.4,SNR=2.1								
WRA	Warramunga Arr	134.48	212	PKP		PKPdf		09 02 36.2	+0.8
	comp=Z,0.6nm,0.9s,baz=134,slow=2.0,SNR=5.2								
WRA				pPKP		pPKPdf		09 03 09.9	+0.8
	comp=Z,0.2nm,0.5s,baz=148,slow=1.8,SNR=1.7								
MJAR	Matsushiro Arr	150.81	311	pPKPbc	pPKPbc			09 03 42.8	0.0
	comp=Z,1.4nm,0.7s,baz=89,slow=2.2,SNR=5.3								
SONM	Songino Array	151.64	7	PKPbc		PKPbc		09 03 12.1	+1.2
	comp=Z,0.4nm,0.6s,baz=248,slow=1.6,SNR=3.6								
SONM				pPKPbc		pPKPbc		09 03 46.5	+2.0
	comp=Z,0.6nm,0.6s,baz=301,slow=1.7,SNR=3.8								

SKHL 03 08:48:17.1±0.6, 44˚.28N×149˚.27E, h60km±4km, mb4.4/2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.38	314	*e*P		Pn		08 48 39.7	-0.4
KUR				AMB		AMB		08 48 40.4	
	70nm,0.2s								
KUR				*e*S		Sn		08 48 56.1	-1.3
KUR				A		A		08 48 59.5	
	40nm,0.2s								
KUR				A		A		08 48 59.5	
	160nm,0.2s								
SHO	Shikotan	1.81	258	*e*P		Pn		08 48 45.5	-0.4
SHO				AMB		AMB		08 48 48.6	
	300nm,0.6s								
SHO				*e*S		Sn		08 49 07.0	-0.7
SHO				A		A		08 49 11.1	
	200nm,0.4s								
YUK	Yuzh-Kuril'sk	2.46	265	*e*P		Pn		08 48 54.8	0.0
YUK				*e*S		Sn		08 49 23.4	-0.4
YUK				A		A		08 49 26.7	
	120nm,0.6s								
YUK				A		A		08 49 26.7	
	50nm,0.6s								
MYR	Moyori	4.80	248	*e*P		Pn		08 49 27.3	+0.5
YSS	Yuzh-Sakhalins	5.29	303	*e*P		Pn		08 49 34.2	+0.7

NNC 03 09:02:34.2±4.1, 38˚.31N×72˚.17E, h0km, mb4.0, mpv3.6, 4C-2D, Error ellipse: s-maj=41.1km s-min=10.9km az=157.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	1.99	31	⇑Pn		Pn		09 03 08.8	-0.5
	36nm,0.3s								
SFK				⇑Sn		Sb		09 03 37.1	+0.1
	33nm,0.2s								
DZET	Dzherino	2.67	282	⇑S		Sn		09 03 53.3	+1.5
	24nm,0.4s								
AAK	Ala-Archa	4.66	22	⇓Pn		Pn		09 03 44.2	-1.9
	2.1nm,0.6s								
AAK				⇓Sn		Sn		09 04 39.4	-1.7
	8.5nm,0.9s								
KK31	Karatay Array	4.95	346	⇑Pn		Pn		09 03 49.5	-0.3
	3.2nm,0.3s,baz=159,slow=12,SNR=40								
KK31				Sn		Sn		09 04 48.1	+0.3
	5.4nm,0.5s,baz=151,slow=19,SNR=22								

*IDC **03** 09:15:37.6±1.9, 5˚.37S×128˚.34E, h0km, mb3.7/1, mb1 4.0/3, mb1mx3.5/31, mbtmp3.8/3, ML3.6/2, Error ellipse: s-maj=125.3km s-min=28.4km az=67.0*

*DJA **03** 09:16:05.9±0.8, 5˚.5±7˚×13˚.0E±˚, h143km±6km, M4.4/8, mb4.8/2, MLv4.2/8*

ISC 03 09:15:39.4±1.4, 5˚.44S±0˚.06×128˚.7E±0˚.1, h10km, n10, σ3§17/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.53	54	P		P	Sn	09 16 26.3	-0.5
BNDI				S		Sg		09 16 41.9	+13
FAKI	Fak Fak	4.36	55	P		Pb		09 16 51.5	-4.7
FAKI				S		Sn		09 17 28.9	-7.8
SWI	Sorong	5.23	30	P		Pb		09 17 06.4	-4.6
SWI				S		Sn		09 17 55.1	-3.0
SWI	Sorong	5.23	30	P		Pb		09 17 06.5	-4.5
	baz=4.8,SNR=14								
SWI				S		Sn		09 17 57.6	-0.5
	baz=4.8,SNR=20								
RKPI	Ransiki, Papua	6.74	55	P		Pn		09 17 21.7	+3.2
	88nm,0.5s,3.2nm								
KDU	Kakadu	8.12	153	P		Pn		09 17 46.5	+9.0
	baz=7.9,SNR=49								
KDU				S		Sn		09 19 10.1	+0.6
	baz=7.9,SNR=14								
WRA	Warramunga Arr	15.44	160	Pn		Pn		09 19 18.8	+1.2
	0.2nm,0.3s,baz=337,slow=13,SNR=18								
WRA				Sn		Sn		09 22 03.8	-4.9
	1.0nm,0.3s,baz=346,slow=24,SNR=11								
ASAR	Alice Springs	18.81	165	P		Pn		09 20 00.9	+1.0
	0.4nm,0.3s,baz=345,slow=11,SNR=24								
ASAR				S		Sn		09 23 26.8	-3.8
	0.2nm,0.3s,baz=352,slow=25,SNR=5.6								
WRKA	Warakurna	19.49	181	P		Pn		09 20 12.1	+4.1
	baz=20,SNR=20								
MKAR	Makanchi Array	66.20	327	P		P		09 26 25.8	-1.7
	0.5nm,0.6s,baz=127,slow=7.5,SNR=11								

*ISCJB **03** 09:28:30.1±0.6, 6˚.92S±0˚.08×106˚.99E±0˚.05, h139km±4km, mb3.7/3, Error ellipse: s-maj=14.1km s-min=5.4km az=30.0*

*DJA **03** 09:28:31.3±0.4, 7˚.S±3˚×10˚.7E±˚, h124km±3km, M3.9/15, mb4.2/1, MLv3.7/15*

*IDC **03** 09:29:10.5±8.6, 10˚.81S×111˚.83E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/27, mbtmp3.7/3, Error ellipse: s-maj=139.0km s-min=108.1km az=146.0*

ISC 03 09:28:31.3±0.9, 6˚.90S±0˚.08×106˚.99E±0˚.06, h135km±7km, n19, σ0§60/25, mb3.7/3, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CNJI	Cibinong	0.43	162	P		Pn		09 28 50.4	-0.2
CNJI				S		Sn		09 29 05.3	+0.1
SKJI	Sukabumi	0.45	256	S		Sn		09 29 04.4	-0.9
LEM	Lembang	0.62	84	P		Pn		09 28 52.3	+0.4
LEM				S		Sn		09 29 08.6	+1.2
TNG	Tangerang	0.80	334	P		Pn		09 28 52.1	-0.8
TNG				S		Sn		09 29 10.1	+0.8
CISI	Cisompet, Garu	1.05	129	P		Pn		09 28 55.0	-0.2
SBJI	Serang	1.15	312	S		Sn		09 29 15.4	+0.5
CGJI	Cibinong	1.32	282	P		Pn		09 28 57.8	0.0
CGJI				S		Sn		09 29 17.5	-0.4
JCJI	Jatiwangi	1.33	72	S		Sn		09 29 17.3	-0.9
CMJI	Cimerak	1.69	122	P		Pn		09 29 01.6	-0.3
CMJI				S		Sn		09 29 25.4	+0.1
KPJI	Karang Pucung	1.97	103	P		Pn		09 29 05.3	+0.1
BLSI	Bandar Lampung	2.31	311	S		Sn		09 29 39.4	+0.9
KASI	Kota Agung	2.83	299	P		Pn		09 29 15.6	-0.3
KASI				S		Sn		09 29 51.0	+0.7
KLI	Kotabumi	2.93	313	P		Pn		09 29 17.0	-0.2
KLSI		3.14	314	P		Pn		09 29 19.3	-0.6
MDSI	Maura Dua	3.68	310	P		Pn		09 29 27.3	+0.3
PPBI	Pangkal Pinang	4.78	350	P		Pn		09 29 41.0	-0.6
WRA	Warramunga Arr	29.53	119	P		P		09 34 23.0	-0.3
	0.2nm,0.3s,baz=289,slow=12,SNR=5.1								
ASAR	Alice Springs	30.76	126	P		P		09 34 34.0	-0.2
	0.6nm,0.4s,baz=302,slow=8.2,SNR=19								
STKA	Stephens Creek	40.72	132	P		P		09 35 59.4	+0.4
	2.7nm,0.5s,baz=315,slow=7.8,SNR=19								

DDA 03 09:31:15.8, 36˚.35N×37˚.18E, h7km, MD2.7, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUZU	Kuzuini	0.43	349	*i* P		Pg		09 31 24.2	-0.1
KAMA	Osmaniye	0.93	334	*i* P		Pg		09 31 32.9	-1.0
KAMA				*i* S		Sg		09 31 45.0	-1.1
HCB	Kahramanmara¯	1.02	348	*i* P		Pg		09 31 35.4	0.0
HCB				*i* S		Sb		09 31 50.0	+0.6

KMA 03 09:31:39.6, 38˚.00N×128˚.89E, h0km, South Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSJMJ	Jumunjin	0.15	222	P		Pg		09 31 43.1	+0.6
	SNR=83								
KSJMJ	Jumunjin	0.15	222	P		Pg		09 31 43.1	+0.6
	SNR=83								
KSDGY	Daegwallycong	0.35	209	P		Pg		09 31 46.8	+0.4
	SNR=13								
KSDGY	Daegwallycong	0.35	209	P		Pg		09 31 46.8	+0.4
	SNR=13								
KSSKC	Sokcho	0.41	316	P		Pg		09 31 47.0	-0.5
	SNR=9.7								
KSSKC	Sokcho	0.41	316	P		Pg		09 31 47.0	-0.5
	SNR=9.7								
SEHB	SEOHWA	0.57	299	P		Pg		09 31 49.9	-0.8
	SNR=36								
SEHB	SEOHWA	0.57	299	P		Pg		09 31 49.9	-0.8
	SNR=36								
KSTBA	Taebaek	0.87	177	P		Pb		09 31 58.4	+0.7
	SNR=5.4								
KSCHC	Chuncheon	0.88	256	P		Pg		09 31 56.0	-0.4
	SNR=17								
KSCHC	Chuncheon	0.88	256	P		Pg		09 31 56.0	-0.4
	SNR=17								
KSCWO	Cheorwon	1.09	275	P		Pg		09 32 00.7	+0.2
	SNR=13								
KSULJ	Uljin	1.36	162	P		Pb		09 32 05.9	0.0
	SNR=13								
YNCB	YEONCHEON	1.55	272	P		Pn		09 32 08.4	-0.1
	SNR=6.2								

*ISCJB **03** 09:31:42.9±1.0, 41˚.02N±0˚.06×38˚.83E±0˚.05, h8km±5km, Error ellipse: s-maj=10.2km s-min=5.6km az=163.8*

*CSEM **03** 09:31:42.7±0.4, 41˚.03N×38˚.83E, h5km, MD2.7, Error ellipse: s-maj=8.6km s-min=4.5km az=165.0*

*DDA **03** 09:31:42.8, 40˚.99N×38˚.81E, h19km, MD2.7*

ISC 03 09:31:43.4±1.1, 40˚.98N±0˚.06×38˚.81E±0˚.03, h16km±6km, n16, σ0§67/30, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ESPY	Espiye-Giresun	0.09	227	*e*PG		Pg		09 31 46.6	-0.2
ESPY				*e*SG		Sg		09 31 49.2	+0.3
ESPY	Espiye-Giresun	0.09	227	*e*Pg		Pg		09 31 46.6	-0.2
ESPY				*e*Sg		Sg		09 31 49.2	+0.3
GRSN	GIRESUNGRSN	0.41	263	*i* P		Pg		09 31 50.7	-1.2
GRSN	GIRESUNGRSN	0.41	263	*i* P		Pg		09 31 50.7	-1.2
GUMT	Gumushane

mb1 4.1/6,mb1mx3.7/38,mbtmp3.9/6,MS4.5/7,Ms1 4.4/7, ms1mx4.1/27,Error ellipse: s-maj=59.5km s-min=26.7km az=12.0

*ISCJB **03** 09:45:47.5±1.0,40.1°S±0.3°×78.5°E±0.2,h14km,mb4.1/7, MS4.5/7,Error ellipse: s-maj=43.8km s-min=16.7km az=8.3*

*NEIC **03** 09:45:48.5±1.0,39.86°S×78.53°E,h10km,mb4.7/1,Error ellipse: s-maj=43.0km s-min=17.4km az=8.0*

*GCMT **03** 09:45:52.0±0.3,40.12°S×78.33°E,h18km±1km,MW5.1/61, Moment Tensor Solution. s45,c56; s61,c85; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-0.49±.20; Mθθ-4.53±.20; Mφφ5.01±.19; Mrθ-2.56±.57; Mθφ0.07±.16; Mφr2.65±.53; Best double couple: Mo6.03900×10^16^ NP1:φs137.00000°,δ87.00000°,λ-142.00000°. NP2: φs45.00000°,δ52.00000°,λ-4.00000°. Principal axes: T 6.1600, Plg23.0000°, Azm264.0000°; N -0.2490, Plg52.0000°, Azm141.0000°; P -5.9170, Plg28.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 03 09:45:49.3±1.1,39.9°S±0.4×78.5°E±0.1,h14km,n17, σ1§15/10,mb4.1/7,MS4.5/7,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
H01W2	**Cape Leeuwin H**	**28.61**	**91**	T		T	10 21 35.4	
	baz=249,slow=74,SNR=136							
H01W3	**Cape Leeuwin H**	**28.62**	**91**	T		T	10 21 36.7	
	baz=249,slow=74,SNR=142							
H01W1	**Cape Leeuwin H**	**28.63**	**91**	T		T	10 21 29.6	
	baz=249,slow=74,SNR=137							
MAW	**Mawson**		**29.09**	**192**	LR	LR	10 01 00.2	
	comp=Z,748nm,18.4s,baz=54,slow=31							
LBTB	**Lobatse**		**46.41**	**272**	P	**P**	**09 54 14.6**	**-1.0**
	5.6nm,1.0s,baz=116,slow=10,SNR=4.5							
PSI	**Prapat**		**46.42**	**29**	LR	LR	10 10 22.3	
	comp=Z,200nm,18.7s,baz=200,slow=32							
ASAR	**Alice Springs**		**49.03**	**88**	P	**P**	**09 54 35.3**	**-0.6**
	0.8nm,1.0s,baz=246,slow=6.0,SNR=2.6							
ASAR					LR	LR	10 13 05.1	
	comp=Z,902nm,18.5s,baz=246,slow=33							
VNDA	**Vanda**		**50.00**	**164**	LR	LR	10 14 04.7	
	comp=Z,413nm,18.4s,baz=274,slow=34							
LSZ	**Lusaka**		**50.11**	**284**	P	**P**	**09 54 45.4**	**+1.1**
	12nm,1.3s							
STKA	**Stephens Creek**		**50.80**	**102**	P	**P**	**09 54 50.0**	**+0.7**
	1.8nm,0.8s,baz=256,slow=6.0,SNR=1.7							
STKA					LR	LR	10 11 50.0	
	comp=Z,394nm,22.0s,baz=217,slow=31							
WRA	**Warramunga Arr**		**51.45**	**84**	P	**P**	**09 54 54.3**	**0.0**
	0.4nm,0.5s,baz=234,slow=7.4,SNR=2.9							
WRA					LR	LR	10 14 37.9	
	comp=Z,509nm,19.0s,baz=245,slow=34							
AAK	**Ala-Archa**		**82.21**	**357**	P	**P**	**09 58 11.0**	**+1.3**
	0.7nm,0.5s,baz=195,slow=9.6,SNR=2.0							
MK31	**Makanchi Array**		**86.36**	**3**	P	**P**	**09 58 30.7**	**+0.2**
MKAR	**Makanchi Array**		**86.36**	**3**	P	**P**	**09 58 30.4**	**-0.1**
	1.1nm,0.8s,baz=199,slow=6.4,SNR=13							
DBIC	**Dimbokro**		**89.17**	**279**	LR	LR	10 33 20.7	
	comp=Z,270nm,21.6s,baz=104,slow=32							
INK	**Inuvik**		**146.65**	**21**	PKPbc	**PKPdf**	**10 05 27.8**	**+0.1**
	3.4nm,1.0s,baz=257,slow=1.6,SNR=5.2							
YKA	**Yellowknife Ar**		**156.00**	**15**	PKPab	**PKPab**	**10 06 07.3**	**-2.1**
	0.4nm,0.9s,baz=339,slow=3.3,SNR=4.1							

NDI 03 09:50:27.8±2.3,32.14N×76.48E,h10km,ML3.5, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SMLA	**Simla**	**1.17**	**150**	*i* P		Pb	09 50 41.1	-8.9
SMLA				*i* S		Sb	09 50 57.1	-8.1
SMLA				AML		AML	09 51 01.2	
	comp=E,7μm,0.2s							
SMLA				AML		AML	09 51 01.2	
	comp=N,6μm,0.2s							
SMLA	**Simla**	**1.17**	**150**	*i* P		Pb	09 50 41.1	-8.9
SMLA				*i* S		Sb	09 50 56.7	-8.5
SMLA				*i* S		Sg	09 50 57.1	-8.3
KKR	**Kurukshetra**	**2.19**	**172**	*e*P		Pn	09 50 54.1	-10
KKR				*e*S		Sn	09 51 23.4	-8.0
BISR	**Bishrakh**	**3.65**	**167**	*e*S		Sn	09 52 06.1	-1.4
AYAN	**Aya Nagar**	**3.69**	**171**	*e*S		Sn	09 52 05.7	-2.7
SONA	**Sohna**	**3.91**	**172**	*e*P		Pn	09 51 29.1	+1.2
SONA				*e*S		Sn	09 52 12.1	-1.8
SONA				AML		AML	09 52 20.1	
	comp=N,26nm,0.2s							
SONA				AML		AML	09 52 21.8	
	comp=E,45nm,0.3s							
KUDL	**Kundal**	**3.98**	**180**	*e*P		Pn	09 51 29.1	+0.2
KUDL				*e*S		Sn	09 52 12.8	-2.9
KUDL				AML		AML	09 52 21.9	
	comp=E,50nm,0.5s							
AGRA	**Agra**	**5.05**	**165**	*e*P		Pn	09 51 44.4	+0.7
AGRA				*e*S		Sn	09 52 37.9	-4.2
AGRA				AML		AML	09 52 58.7	
	comp=E,99nm,0.3s							
AGRA				AML		AML	09 52 59.7	
	comp=N,75nm,0.3s							

MAN 03 10:03:31,12.46N×120.43E,h22km,mb4.3,ML3.1,MS2.9, 1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BUSP	**Coron**	**0.51**	**206**	*e*P		Pb	10 03 41.6	+0.4
SJMP	**San Jose**	**0.68**	**90**	*e*P		Pn	10 03 44.9	-0.4
PGP	**Puerto Galera**	**1.15**	**26**	⇓*i*P		Pn	10 03 51.7	-0.2
PGP				*i* S		Sn	10 04 07.3	+0.2
LUBP	**Lubang**	**1.27**	**352**	*e*P		Pn	10 03 53.2	-0.3
OTRP	**Odiongan**	**1.56**	**94**	*e*P		Pn	10 03 57.9	+0.5
ENPP	**El Nido**	**1.59**	**218**	*e*P		Pn	10 03 58.7	+0.9
CUYO	**Cuyo Island**	**1.71**	**160**	*e*P		Pn	10 03 59.2	-0.3

*IDC **03** 10:07:45.8±1.6,27.25N×92.46E,h0km,mb3.6/5, mb1 3.8/5,mb1mx3.4/29,mbtmp3.7/5,Error ellipse: s-maj=147.3km s-min=18.9km az=57.0*

*ISCJB **03** 10:07:46.3±0.8,26.65N±0.07×91.9E±0.1,h35km,mb3.6/5, Error ellipse: s-maj=18.8km s-min=7.9km az=155.3*

ISC 03 10:07:48.3±1.2,26.6N±0.1×91.8E±0.1,h35km,n7,σ1§96/8, mb3.6/5,Northeastern India

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SHL	**Shillong**	**1.02**	**177**	*e*PG		**Pn**	**10 08 06.0**	**-0.3**
SHL				*e*SG		**Sn**	**10 08 18.0**	**-1.4**
IMP	**Imphal**	**2.62**	**133**	*e*P		**Pn**	**10 08 27.5**	**-0.7**
IMP				*e*S		**Sn**	**10 08 58.0**	**-0.9**
AAK	**Ala-Archa**	**21.37**	**323**	P		**P**	**10 12 33.4**	**+0.6**
	1.7nm,0.6s,baz=184,slow=15,SNR=3.7							
MKAR	**Makanchi Array**	**21.53**	**342**	P		**P**	**10 12 32.5**	**-1.8**
	0.9nm,0.5s,baz=158,slow=11,SNR=17							
KURBB	**Kurchatov Arra**	**26.07**	**341**	P		**P**	**10 13 16.4**	**-1.9**
	0.4nm,0.7s,baz=159,slow=9.1,SNR=3.4							
WRA	**Warramunga Arr**	**61.97**	**134**	P		**P**	**10 18 07.9**	**+2.9**
	1.0nm,0.6s,baz=323,slow=7.3,SNR=11							
ASAR	**Alice Springs**	**64.43**	**137**	P		P	10 18 25.1	+3.8
	0.7nm,0.6s,baz=321,slow=6.8,SNR=12							

*ISCJB **03** 10:15:26.7±0.2,52.47N±0.05×179.35W±0.04, h234km±1km,mb4.2/100,Error ellipse: s-maj=7.4km s-min=3.8km az=0.2*

*BJI **03** 10:15:28.3,52.69N×179.30W,h251km,mb4.5/3,mB4.6/2*

*NEIC **03** 10:15:28.2,52.52N×179.33W,h227km,mb4.4/90, MG4.2(AEIC),After AEIC.*

*IDC **03** 10:15:29.5±0.8,52.54N×179.36W,h243km±6km,mb3.9/22, mb1 4.1/24,mb1mx3.9/35,mbtmp4.5/24,Error ellipse: s-maj=13.7km s-min=7.0km az=165.0*

ISC 03 10:15:28.4±0.5,52.35N±0.09×179.32W±0.04, h239km±3km,h238km:pP-P,n502,σ0§94/535,mb4.3/100, 148C-170D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GAEA	**Gareloi East**	**0.67**	**148**	P		**Pn**	**10 15 58.9**	**-1.8**
TANO	**Tanaga North**	**0.86**	**120**	P		**Pn**	**10 16 00.2**	**-1.4**
TANO				S		**S**	**10 16 23.8**	**-3.6**
TAFP	**Tanaga Falls P**	**0.94**	**118**	P		**Pn**	**10 16 00.4**	**-1.6**
TAFP				S		**S**	**10 16 25.2**	**-3.0**
TASE	**Tanaga Southea**		**0.94**	**123**	P	**Pn**	**10 16 00.6**	**-1.5**
TAFL	**Tanaga Flats**		**1.06**	**124**	P	**Pn**	**10 16 01.2**	**-1.4**
TAFL					S	**S**	**10 16 26.8**	**-2.6**
KIKV	**Kanaga Island**		**1.41**	**109**	P	**Pn**	**10 16 03.5**	**-1.4**
KIKV					S	**S**	**10 16 31.3**	**-2.3**
ADK	**Adak**		**1.69**	**105**	P	**Pn**	**10 16 05.4**	**-1.8**
ADK					S	**S**	**10 16 35.0**	**-2.6**
ETKA	**Kagalaska Isla**		**1.86**	**104**	P	**Pn**	**10 16 07.1**	**-1.6**
ETKA					S	**S**	**10 16 38.0**	**-2.2**
GSCK	**Great Sitkin C**		**1.97**	**99**	P	**Pn**	**10 16 08.1**	**-1.6**
GSCK					S	**S**	**10 16 40.0**	**-2.1**
GSTD	**Great Sitkin T**		**1.97**	**97**	P	**Pn**	**10 16 08.2**	**-1.7**
GSTD					S	**S**	**10 16 40.2**	**-2.0**
GSTR	**Great Sitkin T**		**2.02**	**96**	*e*Pn	**Pn**	**10 16 08.5**	**-1.6**
GSMY	**Great Sitkin M**		**2.03**	**97**	P	**Pn**	**10 16 08.5**	**-1.8**
GSMY					S	**S**	**10 16 41.5**	**-1.6**
KOKL	**Mount Kliuchef**		**3.14**	**89**	P	**Pn**	**10 16 21.3**	**-0.5**
KOFP	**Korovin Flat P**		**3.20**	**89**	P	**Pn**	**10 16 22.0**	**-0.5**
SMY	**Shemya**		**4.04**	**278**	P	**Pn**	**10 16 29.9**	**-2.2**
SMY					S	**S**	**10 17 18.6**	**-3.9**
NIKH	**Nikolski High**		**6.40**	**80**	P	**Pn**	**10 17 01.3**	**+0.1**
OKFG	**Magazine Ridge**		**6.98**	**77**	P	**Pn**	**10 17 09.0**	**+0.4**
MREP	**Makushin Rep't**		**7.71**	**74**	P	**Pn**	**10 17 19.0**	**+1.1**
UNV	**Unalaska Valle**		**7.86**	**74**	P	**Pn**	**10 17 19.7**	**0.0**
ZRO	**Akutan Zero**		**8.19**	**72**	P	**Pn**	**10 17 25.1**	**+1.0**
FALS	**False Pass**		**9.78**	**69**	*e*Pn	**Pn**	**10 17 44.1**	**0.0**
PETK	**Petropavlovsk-**		**13.94**	**282**	P	**P**	**10 18 37.1**	**+0.2**
	0.6nm,0.3s,baz=98,slow=14,SNR=12							
PETK					S	**S**	**10 21 06.9**	**-3.2**
	0.4nm,0.3s,baz=112,slow=16,SNR=3.8							
PETK					ScP	**ScP**	**10 26 47.5**	**-1.0**
	0.1nm,0.3s,baz=90,slow=5.0,SNR=4.3							
TNA	**Tin City**		**14.45**	**19**	*e*Pn	**P**	**10 18 42.6**	**+0.2**
SVW2	**Sparrevohn**		**15.61**	**47**	*e*Pn	**Pn**	**10 18 56.6**	**+0.5**
OHAK	**Old Harbor**		**15.73**	**62**	*e*P	**P**	**10 18 54.2**	**-2.4**
RSO	**Redoubt South**		**16.69**	**50**	*e*Pn	**Pn**	**10 19 08.8**	**-0.3**
BILL	**Bilibino**		**17.21**	**342**	*e*Pn	**P**	**10 19 12.8**	**+0.1**
	11nm,0.8s							
PPLA	**Purkeypile**		**17.80**	**43**	*e*Pn	**Pn**	**10 19 21.1**	**-0.9**
	40nm,0.7s							
CAST	**Castle Rocks**		**18.06**	**42**	*e*P	**P**	**10 19 22.9**	**+0.9**
	30nm,0.6s							
SEW	**Seward**		**18.19**	**53**	*e*P	**P**	**10 19 23.2**	**-0.2**
	43nm,0.6s							
RC01	**Rabbit Creek A**		**18.29**	**50**	*e*P	**P**	**10 19 24.8**	**+0.3**
	25nm,0.7s							
SEY	**Seymchan**		**18.31**	**316**	P	**P**	**10 19 25.1**	**+0.4**
	0.5nm,0.3s,baz=120,slow=10,SNR=33							
KTH	**Kantishna Hill**		**18.59**	**42**	*e*P	**P**	**10 19 28.6**	**+0.8**
	77nm,0.8s							
PMR	**Palmer**		**18.70**	**49**	*e*P	**P**	**10 19 27.5**	**-1.4**
	20nm,0.9s							
IM04	**Indian Mountai**		**18.71**	**33**	*e*P	**P**	**10 19 28.8**	**-0.2**
TRF	**Thorofare Moun**		**18.82**	**43**	*e*P	**P**	**10 19 30.2**	**-0.1**
	47nm,1.0s							
MCK	**McKinley**		**19.48**	**42**	*e*P	**P**	**10 19 36.2**	**-1.1**
	36nm,0.9s							
EYAK	**Cordova Ski Ar**		**20.09**	**53**	*e*P	**P**	**10 19 43.6**	**-0.1**
	61nm,0.6s							
DIV	**Divide**		**20.17**	**51**	*e*P	**P**	**10 19 43.9**	**-0.9**
	38nm,0.6s							
COLA	**College**		**20.35**	**40**	*e*P	**P**	**10 19 45.1**	**-1.4**
	24nm,0.8s							
RAGM	**Ragged Mountai**		**20.59**	**53**	*e*P	**P**	**10 19 49.6**	**+0.5**
	144nm,0.8s							
COLD	**Coldfoot**		**20.59**	**33**	*e*P	**P**	**10 19 49.9**	**+0.8**
	10nm,0.8s							
ILAR	**Eielson Array**		**20.70**	**41**	P	**P**	**10 19 47.8**	**-2.4**
	7.1nm,0.6s,baz=244,slow=9.9,SNR=92							
ILAR					ScP	**ScP**	**10 27 00.1**	**-2.2**
	1.3nm,0.6s,baz=275,slow=3.6,SNR=27							
BMRM	**Bremner River**		**20.71**	**52**	*e*P	**P**	**10 19 49.5**	**-0.9**
	33nm,0.6s							
DOT	**Dot Lake**		**21.52**	**45**	*e*P	**P**	**10 19 57.3**	**-1.2**
	27nm,0.7s							
EGAK	**Eagle**		**23.03**	**43**	*e*P	**P**	**10 20 12.0**	**-0.3**
	242nm,1.5s							
DAWY	**Dawson**		**23.63**	**45**	*e*P	**P**	**10 20 17.4**	**-0.3**
HYT	**Haines Junctio**		**24.15**	**53**	*e*P	**P**	**10 20 22.8**	**+0.2**
ASAJ	**Asahikawa**		**26.41**	**267**	P	**P**	**10 20 43.7**	**+0.7**
	3.1nm,0.5s,baz=55,slow=12,SNR=7.4							
INK	**Inuvik**		**26.85**	**36**	P	**P**	**10 20 46.6**	**+0.1**
	16nm,0.8s,baz=265,slow=7.1,SNR=18							
DLBC	**Dease Lake**		**28.10**	**58**	P	**P**	**10 20 59.2**	**+1.3**
	6.7nm,0.6s,baz=261,slow=7.0,SNR=42							
DLBC	**Dease Lake**		**28.10**	**58**	*e*P	**P**	**10 20 59.2**	**+1.3**
DLBC					*e*pP	pP	10 21 53.7	+8.7
MJAR	**Matsushiro Arr**		**33.64**	**259**	P	**P**	**10 21 47.4**	**+0.9**
	3.8nm,0.7s,baz=44,slow=6.8,SNR=21							
MJAR					ScP	**ScP**	**10 27 43.2**	**+1.4**
	0.4nm,0.8s,baz=37,slow=3.1,SNR=4.4							
MAJO	**Matsushiro**		**33.64**	**259**	*e*P	**P**	**10 21 47.4**	**+0.9**
	9.4nm,0.7s							
MAT	**Matsushiro**		**33.64**	**259**	P	**P**	**10 21 47.0**	**+0.5**
YKA	**Yellowknife Ar**		**34.80**	**47**	P	**P**	**10 21 56.4**	**+0.3**
	10nm,0.7s,baz=281,slow=8.1,SNR=96							
YKA					pP	**pP**	**10 22 44.3**	**0.0**
	1.3nm,0.8s,baz=283,slow=8.6,SNR=2.5							
YKA					PcP	**PcP**	**10 24 23.5**	**+0.1**
	0.4nm,0.3s,baz=285,slow=3.1,SNR=5.5							
YKA					ScP	**ScP**	**10 27 44.5**	**-0.9**
	0.6nm,0.6s,baz=280,slow=3.4,SNR=7.7							
LTY	**Liberty**		**37.28**	**74**	*e*P	**P**	**10 22 17.5**	**+0.1**
B08A	**Colville Reser**		**37.52**	**71**	*e*P	**P**	**10 22 19.5**	**+0.2**
	10nm,0.6s							
G05D	**Wamic, OR**		**37.95**	**77**	⇓P	**P**	**10 22 23.6**	**+0.7**
	baz=38							
I04A	**Tendick Farm,**		**38.07**	**80**	⇓P	**P**	**10 22 25.2**	**+1.2**
	baz=38							
L02D	**Cave Junction,**		**38.27**	**83**	⇓P	**P**	**10 22 27.5**	**+1.9**
	baz=38							
C09A	**Chrisman Ranch**		**38.41**	**72**	*e*P	**P**	**10 22 26.3**	**-0.4**
I05D	**Terrebonne, OR**		**38.42**	**78**	⇓P	**P**	**10 22 27.7**	**+0.9**
	baz=38							
EDM	**Edmonton**		**38.62**	**62**	*e*P	**P**	**10 22 28.4**	**0.0**
NEW	**Newport**		**38.85**	**70**	*e*P	**P**	**10 22 30.3**	**-0.1**
	14nm,0.7s							
NEW	**Newport**		**38.85**	**70**	⇑P	**P**	**10 22 30.0**	**-0.3**
	baz=39,SNR=12							
YBH	**Yreka Blue Hor**		**39.06**	**83**	*e*P	**P**	**10 22 34.3**	**+2.0**
	8.5nm,0.9s							
J05D	**Fort Rock, OR**		**39.07**	**80**	⇓P	**P**	**10 22 33.2**	**+0.8**
	baz=39							
M02C	**Callahan**		**39.17**	**83**	⇑P	**P**	**10 22 35.4**	**+2.2**
	baz=39							
KSRS	**Korea Array**		**39.32**	**269**	P	**P**	**10 22 34.7**	**+0.4**
	3.2nm,0.8s,baz=57,slow=8.0,SNR=8.0							
KSAR	**Wonju Array Be**		**39.35**	**269**	P	**P**	**10 22 34.7**	**+0.2**
N02D	**Trinity Center**		**39.51**	**84**	⇑P	**P**	**10 22 37.8**	**+1.8**
	baz=39							
M04C	**Macdoel**		**39.56**	**82**	⇑P	**P**	**10 22 37.9**	**+1.4**
	baz=39,SNR=6.0							
K05A	**Summer Lake**		**39.59**	**80**	*e*P	**P**	**10 22 38.5**	**+1.7**
	51nm,1.8s							
I07A	**Izee**		**39.66**	**77**	*e*P	**P**	**10 22 38.2**	**+1.0**
WDC	**Whiskeytown Da**		**39.85**	**84**	*e*P	**P**	**10 22 40.5**	**+1.8**
	7.3nm,0.8s							
WALA	**Waterton Lakes**		**40.29**	**68**	*e*P	**P**	**10 22 42.2**	**-0.1**
	12nm,1.1s							
JNU	**Nakatsue**		**40.38**	**262**	P	**P**	**10 22 43.8**	**+0.6**
	8.7nm,0.8s,baz=35,slow=0.7,SNR=7.1							
BSMT	**Bassoo Peak**		**40.41**	**70**	*e*P	**P**	**10 22 43.5**	**+0.1**
BMO	**Blue Mountains**		**40.54**	**75**	*e*P	**P**	**10 22 44.6**	**+0.2**
	7.3nm,0.8s							
BLMT	**Blacktail Moun**		**40.57**	**69**	*e*P	**P**	**10 22 45.0**	**+0.3**
JTMT	**Jette**		**40.75**	**70**	*e*P	**P**	**10 22 46.0**	**-0.1**
SWMT	**Swartz Lake**		**41.04**	**70**	*e*P	**P**	**10 22 48.3**	**-0.2**
WVOR	**Wild Horse Val**		**41.12**	**79**	*e*P	**P**	**10 22 50.0**	**+0.8**
	4.9nm,0.8s							
OHCM	**Honcut**		**41.25**	**85**	*e*P	**P**	**10 22 51.1**	**+1.1**
MSO	**Missoula**		**41.44**	**71**	*e*P	P	10 22 45.1	-6.6
	7.5nm,0.6s							
MSO	**Missoula**		**41.44**	**71**	⇑P	**P**	**10 22 51.1**	**-0.6**
	baz=41,SNR=12							
SLMT	**Seeley Lake**		**41.47**	**70**	*e*P	**P**	**10 22 51.8**	**-0.2**
CHMT	**Chamberlain Mo**		**41.79**	**70**	*e*P	**P**	**10 22 53.8**	**-0.8**
MFID	**Camas Ranch**		**42.23**	**76**	*e*P	**P**	**10 22 58.7**	**+0.5**
	4.4nm,0.8s							
HRY	**Holter Researc**		**42.72**	**70**	*e*P	**P**	**10 23 01.7**	**-0.3**
CMB	**Columbia Colle**		**42.73**	**85**	*e*P	**P**	**10 23 03.6**	**+1.5**
	16nm,1.3s							
LRM	**Limekiln Ridge**		**42.85**	**71**	*e*P	**P**	**10 23 02.9**	**-0.3**
HLID	**Hailey**		**42.99**	**75**	*e*P	**P**	**10 23 04.5**	**+0.2**
	7.2nm,0.9s							
HLID	**Hailey**		**42.99**	**75**	⇑P	**P**	**10 23 04.1**	**-0.1**
	baz=43,SNR=15							
WAKR	**Walker**		**43.01**	**84**	*e*P	**P**	**10 23 06.2**	**+1.7**
BMN	**Battle Mountai**		**43.17**	**80**	*e*P	**P**	**10 23 03.4**	**-2.3**
	6.0nm,0.6s							
MCMT	**McKenzie Canyo**		**43.18**	**72**	*e*P	**P**	**10 23 05.3**	**-0.5**
	3.8nm,0.3s							
EGMT	**Eagleton**		**43.18**	**67**	*e*P	**P**	**10 23 05.3**	**-0.3**
	10nm,0.8s							
EGMT	**Eagleton**		**43.18**	**67**	⇓P	**P**	**10 23 04.9**	**-0.8**
	baz=43,SNR=10							
A19A	**Klindworth Far**		**43.26**	**65**	⇑P	**P**	**10 23 05.4**	**-0.8**
	baz=43,SNR=9.4							
BOZ	**Bozeman (W)**		**43.43**	**71**	*e*P	**P**	**10 23 07.7**	**0.0**
	13nm,0.6s							
C19A	**Slack Wire Ran**		**43.74**	**67**	⇓P	**P**	**10 23 09.9**	**-0.1**
	baz=44,SNR=20							
A20A	**Cobblestone Ra**		**43.74**	**65**	⇓P	**P**	**10 23 09.5**	**-0.6**
	baz=44,SNR=12							
NVAR	**Mina Array Bea**		**43.75**	**83**	P	**P**	**10 23 11.7**	**+1.2**
	13nm,0.8s,baz=292,slow=8.0,SNR=77							
NVAR					pP	**pP**	**10 24 01.4**	**+0.7**
	1.8nm,0.7s,baz=289,slow=8.1,SNR=3.2							
NVAR					PcP	**PcP**	**10 24 53.6**	**+1.0**
	0.8nm,0.8s,baz=293,slow=3.6,SNR=2.5							
NVAR					ScP	**ScP**	**10 28 20.6**	**-0.2**
	0.4nm,0.5s,baz=280,slow=4.9,SNR=4.2							
QLMT	**Earthquake Lak**		**44.01**	**72**	*e*P	**P**	**10 23 12.4**	**0.0**
D19A	**Cripps Ranch,**		**44.15**	**67**	⇓P	**P**	**10 23 12.7**	**-0.6**
	baz=44,SNR=7.3							
ELK	**Elko**		**44.17**	**79**	*e*P	**P**	**10 23 14.6**	**+0.8**
	7.4nm,1.0s							
A21A	**Bergtoll Ranch**		**44.23**	**64**	⇓P	**P**	**10 23 13.5**	**-0.5**
	baz=44,SNR=5.2							
MTUM	**Tungsten Hills**		**44.28**	**85**	*e*P	**P**	**10 23 16.3**	**+1.7**
C20A	**Veseth Ranch,**		**44.34**	**66**	⇑P	**P**	**10 23 14.1**	**-0.6**
	baz=44,SNR=8.9							
YMR	**Madison River**		**44.37**	**72**	*e*P	**P**	**10 23 15.5**	**+0.2**
	14nm,0.9s							
B21A	**Ellsworth Farm**		**44.49**	**65**	⇓P	**P**	**10 23 15.0**	**-0.9**
	baz=44,SNR=8.8							
YNR	**Norris Junctio**		**44.51**	**71**	*e*P	**P**	**10 23 17.6**	**+1.2**
	11nm,1.0s							
RCTC	**Rector, Farmer**		**44.54**	**86**	⇓P	**P**	**10 23 17.8**	**+1.4**
	baz=44							
YFT	**Old Faithful**		**44.57**	**72**	*e*P	**P**	**10 23 18.2**	**+1.3**
	18nm,0.8s							
E19A	**Rath Farm, Rou**		**44.60**	**68**	⇑P	**P**	**10 23 16.4**	**-0.5**
	baz=44							
D20A	**Manuel Ranch,**		**44.61**	**67**	⇓P	**P**	**10 23 16.5**	**-0.5**
	baz=44							
TPH	**Tonopah**		**44.63**	**83**	*e*P	**P**	**10 23 18.5**	**+1.1**
	18nm,0.9s							
TIN	**Tinemaha, Big**		**44.67**	**85**	⇓P	**P**	**10 23 19.3**	**+1.7**
	baz=44							
H17A	**Grant Village**		**44.76**	**72**	*e*P	**P**	**10 23 19.7**	**+1.3**
	10nm,0.6s							
H17A	**Grant Village**		**44.76**	**72**	⇑P	**P**	**10 23 19.7**	**+1.3**
	baz=44,SNR=12							
C21A	**Desert Coulee**		**44.78**	**66**	⇑P	**P**	**10 23 17.7**	**-0.5**
	baz=44,SNR=10							
A22A	**Carney Farms,**		**44.79**	**64**	⇓P	**P**	**10 23 17.4**	**-0.9**
	baz=44,SNR=10							
IMW	**Indian Meadow**		**44.84**	**72**	*e*P	**P**	**10 23 19.3**	**+0.3**
	5.2nm,0.8s							
FXWY	**Fox Creek**		**44.94**	**73**	*e*P	**P**	**10 23 20.1**	**+0.3**
	8.5nm,1.8s							
VES	**Vestal, Richgr**		**44.94**	**87**	⇓P	**P**	**10 23 20.5**	**+0.9**
	baz=45,SNR=15							
E20A	**Meyer Farm, Mu**		**44.95**	**68**	⇑P	**P**	**10 23 19.3**	**-0.3**
	baz=45,SNR=6.0							
HVU	**Hansel Valley**		**45.02**	**76**	*e*P	**P**	**10 23 20.8**	**+0.5**
	8.3nm,0.5s							
I17A	**Pilgrim Ck.**		**45.04**	**72**	⇓P	**P**	**10 23 21.1**	**+0.5**
	baz=45,SNR=5.4							
MOOW	**Moose Ponds**		**45.04**	**72**	*e*P	**P**	**10 23 20.8**	**+0.2**
	1.7nm,0.6s							
TPAW	**Teton Pass**		**45.07**	**73**	*e*P	**P**	**10 23 21.8**	**+0.9**
	4.1nm,0.6s							
**RLMT

	baz=46						
I20A	**Worland**	46.44	71	⇓P	P	10 23 31.6	+0.2
	baz=46,SNR=8.3						
JLU	**Jordanelle**	46.53	76	*e*P	P	10 23 32.9	+0.7
	5.0nm,0.8s						
E23A	**Ismay**	46.55	66	⇓P	P	10 23 32.0	0.0
	baz=46						
SHOC	**Shoshone, Teco**	46.62	85	⇑P	P	10 23 33.7	+1.0
	baz=46,SNR=18						
MWC	**Mount Wilson**	46.64	88	*e*P	P	10 23 34.3	+1.2
	37nm,1.4s						
H21A	**Big Horn, Sher**	46.66	69	⇑P	P	10 23 32.9	-0.1
	baz=46,SNR=5.2						
GSC	**Goldstone, Bar**	46.69	86	*e*P	P	10 23 34.6	+1.3
	26nm,0.8s						
GSC	**Goldstone, Bar**	46.69	86	⇑P	P	10 23 34.4	+1.1
	baz=46,SNR=36						
B25A	**Knox Farm, Ray**	46.71	63	⇓P	P	10 23 33.0	-0.3
	baz=46						
D24A	**Glendive**	46.73	65	⇑P	P	10 23 33.8	+0.3
	baz=46						
G22A	**Birney**	46.74	68	⇑P	P	10 23 33.1	-0.5
	baz=46						
MPU	**Maple Canyon**	46.79	77	*e*P	P	10 23 34.9	+0.7
	5.2nm,0.5s						
J20A	**Shoshoni**	46.83	71	⇑P	P	10 23 34.4	+0.1
	baz=47						
BFSC	**Mount Baldy Ra**	46.88	87	⇓P	P	10 23 35.9	+1.0
	baz=47,SNR=7.9						
F23A	**Volborg**	46.95	67	⇓P	P	10 23 34.6	-0.5
	baz=47,SNR=7.2						
A26A	**Wade Farm, Ken**	46.96	62	⇑P	P	10 23 34.0	-1.2
	baz=47						
CIS	**Catalina Islan**	46.98	89	⇓P	P	10 23 36.0	+0.4
	baz=47						
I21A	**Big Trails, Te**	47.01	70	⇓P	P	10 23 35.0	-0.7
	baz=47,SNR=10						
E24A	**Baker**	47.07	66	⇓P	P	10 23 35.6	-0.5
	baz=47						
HHC	**Hu-ho-hao-te**	47.12	285	*e*P	P	10 23 36.4	-0.2
HHC				pP	pP	10 24 29.2	+1.6
HHC				sP	sP	10 24 57.7	+3.4
HHC				PP	PP	10 25 29.7	+0.2
HHC				S	S	10 30 06.1	-4.1
HHC				sS	sS	10 31 41.6	+1.3
HHC				PMZ			
	17nm,0.8s						
HHC				PMZ			
	93nm,7.8s						
TUQ	**Turquoise Moun**	47.14	85	⇑P	P	10 23 37.6	+0.8
	baz=47,SNR=14						
B26A	**Jensen Ranch,**	47.15	62	⇑P	P	10 23 36.5	-0.2
	baz=47						
J21A	**Lysite**	47.20	71	⇓P	P	10 23 36.9	-0.4
	baz=47						
G23A	**Biddle**	47.26	68	⇓P	P	10 23 37.4	-0.3
	baz=47						
HEC	**Hector,Ludlow**	47.29	86	⇓P	P	10 23 39.0	+1.0
	baz=47						
BBRC	**Big Bear Solar**	47.31	87	⇑P	P	10 23 39.3	+1.0
	baz=47,SNR=9.1						
MVU	**Marysvale**	47.40	79	*e*P	P	10 23 39.9	+1.0
MSU	**Marysvale**	47.41	79	*e*P	P	10 23 39.9	+0.8
	5.4nm,0.5s						
F24A	**Ekalaka**	47.41	66	⇑P	P	10 23 38.5	-0.3
	baz=47						
I22A	**9 Mile Ranch,**	47.42	70	⇑P	P	10 23 39.0	0.0
	baz=47,SNR=7.9						
TMUT	**Trail Mountain**	47.49	78	*e*P	P	10 23 40.8	+1.0
	15nm,0.7s						
C26A	**Wahner Farm, P**	47.55	63	⇑P	P	10 23 39.4	-0.3
	baz=47						
MURC	**Murrieta**	47.59	88	⇓P	P	10 23 41.0	+0.8
	baz=48						
E25A	**Miller Ranch,**	47.61	65	⇑P	P	10 23 40.1	-0.1
	baz=47						
J22A	**Midwest**	47.72	70	⇓P	P	10 23 41.1	-0.1
	baz=48,SNR=12						
GMRC	**Granite Mounta**	47.74	85	⇓P	P	10 23 42.6	+1.1
	baz=48,SNR=20						
G24A	**Alzada**	47.74	67	⇑P	P	10 23 40.9	-0.4
	baz=48						
K21A	**Alcova**	47.75	72	⇓P	P	10 23 40.7	-0.9
	baz=48						
D26A	**Manning**	47.83	64	⇓P	P	10 23 40.8	-1.1
	baz=48						
LDFC	**Landfair**	47.88	85	*e*P	P	10 23 43.2	+0.7
	24nm,0.8s						
A28A	**Rude Farm, Bot**	47.90	61	⇓P	P	10 23 42.3	-0.1
	baz=48						
H24A	**Dirks Ranch, A**	48.01	68	⇓P	P	10 23 42.7	-0.7
	baz=48						
SRU	**San Rafael Swe**	48.02	77	*e*P	P	10 23 44.4	+0.8
	20nm,1.1s						
PFO	**Pinyon Flats O**	48.04	87	⇓P	P	10 23 44.5	+0.7
	baz=48						
BELC	**Belle Mtn. Jos**	48.05	86	⇑P	P	10 23 44.6	+0.7
	baz=48,SNR=17						
B28A	**Dugan Ranch, T**	48.12	61	⇓P	P	10 23 43.9	-0.2
	baz=48						
109C	**Camp Elliot, M**	48.13	88	⇓P	P	10 23 45.4	+1.1
	baz=48						
E26A	**Carlson Angus**	48.15	65	⇑P	P	10 23 43.9	-0.5
	baz=48,SNR=6.3						
K22A	**Casper**	48.16	71	*e*P	P	10 23 43.8	-0.8
K22A	**Casper**	48.16	71	⇓P	P	10 23 44.1	-0.6
	baz=48						
N20A	**Spence Gulch,**	48.27	74	⇑P	P	10 23 45.5	-0.2
	baz=48						
F26A	**Lodgepole**	48.40	65	⇑P	P	10 23 45.9	-0.5
	baz=48						
A29A	**Manning Farm,**	48.45	60	⇓P	P	10 23 45.9	-0.6
	baz=48,SNR=7.4						
IRM	**Iron Mountain**	48.47	86	⇑P	P	10 23 47.9	+1.0
	baz=48,SNR=11						
I24A	**Kuemmerle Ranc**	48.51	69	⇓P	P	10 23 46.1	-1.1
	baz=48						
BAR	**Barrett**	48.54	88	*e*P	P	10 23 48.3	+0.9
	15nm,1.0s						
MONP	**Monument Peak,**	48.55	88	⇓P	P	10 23 48.6	+0.8
	baz=48						
W13A	**Hualapai Mount**	48.61	84	⇓P	P	10 23 49.0	+0.8
	baz=48,SNR=7.6						
K23A	**Bowen Ranch, D**	48.62	70	⇓P	P	10 23 47.5	-0.6
	baz=48						
BC3	**Big Chuckawall**	48.62	86	⇑P	P	10 23 48.7	+0.5
	baz=48,SNR=9.6						
H25A	**Fruitdale**	48.63	67	⇑P	P	10 23 46.8	-1.3
	baz=48						
E27A	**Carson**	48.67	64	⇓P	P	10 23 48.2	-0.1
	baz=48						
U15A	**North Rim**	48.70	81	⇑P	P	10 23 50.1	+1.1
	baz=48,SNR=28						
O20A	**White River Ci**	48.73	75	⇑P	P	10 23 48.8	-0.2
	baz=48,SNR=13						
F27A	**Lemmon**	48.75	65	⇓P	P	10 23 48.5	-0.5
	baz=48,SNR=5.9						
D28A	**Regan**	48.76	63	⇑P	P	10 23 48.5	-0.4
	baz=48						
G26A	**Maurine**	48.78	66	⇓P	P	10 23 48.8	-0.4
	baz=48,SNR=8.4						
J24A	**Dixon Ranch, L**	48.82	69	⇓P	P	10 23 49.2	-0.4
	baz=49						
MDND	**Maddock**	48.89	62	*e*P	P	10 23 49.9	0.0
	22nm,0.8s						
MDND	**Maddock**	48.89	62	⇑P	P	10 23 49.7	-0.2
	baz=49						
M22A	**Cedar Creek Ra**	48.90	72	⇑P	P	10 23 50.0	-0.4
	baz=49						
I25A	**Rochford**	48.92	68	⇓P	P	10 23 49.5	-0.9
	baz=49						
A30A	**Hoffart Farm,**	48.93	60	⇓P	P	10 23 49.3	-0.9
	baz=49						
L23A	**Garrett**	48.97	71	⇓P	P	10 23 50.5	-0.4
	baz=49,SNR=10.0						
PDMCI	**Parker Dam,Lak**	48.99	85	⇑P	P	10 23 51.5	+0.7
	baz=49,SNR=7.1						
G27A	**Dupree**	49.10	65	⇓P	P	10 23 51.0	-0.6
	baz=49						
Y12C	**Blythe**	49.12	86	⇓P	P	10 23 52.4	+0.6
	baz=49,SNR=5.9						
B30A	**Myrvik Farm, E**	49.21	60	⇑P	P	10 23 51.8	-0.5
	baz=49,SNR=11						
J25A	**Sunshine Ranch**	49.27	69	⇓P	P	10 23 52.1	-0.9
	baz=49						
N22A	**Wattenberg Ran**	49.36	73	⇑P	P	10 23 53.9	0.0
	baz=49						
I26A	**New Underwood**	49.41	67	⇓P	P	10 23 53.6	-0.4
	baz=49						
GLA	**Glamis**	49.41	86	*e*P	P	10 23 55.2	+1.1
	17nm,0.7s						
GLA	**Glamis**	49.41	86	⇑P	P	10 23 55.2	+1.1
	baz=49,SNR=6.6						
ULM	**Lac du Bonnet**	49.42	57	P	P	10 23 53.4	-0.4
	7.2nm,0.4s,baz=308,slow=7.2,SNR=28						
ULM	**Lac du Bonnet**	49.42	57	*e*P	P	10 23 53.4	-0.4
	8.7nm,0.5s						
F28A	**McLaughlin**	49.44	64	⇓P	P	10 23 53.8	-0.3
	baz=49						
H27A	**Howes**	49.48	66	⇓P	P	10 23 54.0	-0.4
	baz=49						
N23A	**Red Feather La**	49.60	73	⇓P	P	10 23 55.4	-0.3
	baz=49						
O22A	**Kremmling**	49.71	74	⇓P	P	10 23 56.6	0.0
	baz=50						
K25A	**Mack Ranch, Ha**	49.72	69	⇑P	P	10 23 55.9	-0.5
	baz=50						
D30A	**Buchanan**	49.79	62	⇑P	P	10 23 55.7	-1.0
	baz=50,SNR=5.0						
PV01	**Paradox Valley**	49.82	77	*e*P	P	10 23 57.0	-0.4
I27A	**Quinn**	49.84	67	⇓P	P	10 23 56.8	-0.4
	baz=50,SNR=5.7						
WUAZ	**Wupatki**	49.86	82	*e*P	P	10 23 58.5	+1.0
	7.5nm,0.6s						
WUAZ	**Wupatki**	49.86	82	⇓P	P	10 23 58.3	+0.8
	baz=50,SNR=8.7						
M24A	**Cheyenne**	49.89	71	⇓P	P	10 23 57.5	-0.2
	baz=50						
Y14A	**Wickenburg**	49.92	84	⇑P	P	10 23 59.0	+1.1
	baz=50,SNR=8.8						
P22A	**Eagle**	49.95	74	⇑P	P	10 23 57.9	-0.4
	baz=50						
H28A	**Mission Ridge**	50.05	66	⇑P	P	10 23 58.0	-0.7
	baz=50						
O23A	**Lake Granby, G**	50.05	73	⇓P	P	10 23 59.7	+0.6
	baz=50,SNR=11						
K26A	**Motz Farm, Whi**	50.06	69	⇑P	P	10 23 58.9	0.0
	baz=50						
SMCO	**Snowmass**	50.09	75	*e*P	P	10 23 59.3	-0.3
	2.6nm,0.6s						
N24A	**Carr**	50.26	72	⇓P	P	10 24 01.0	+0.4
	baz=50						
Z14A	**Wintersburg**	50.35	85	⇑P	P	10 24 01.8	+0.7
	baz=50						
M25A	**Palm-Egli Farm**	50.35	71	⇑P	P	10 24 01.4	+0.1
	baz=50						
J27A	**Elkhorn Farm,**	50.38	68	⇑P	P	10 24 00.7	-0.5
	baz=50						
I28A	**Midland**	50.38	66	⇑P	P	10 24 01.0	-0.3
	baz=50,SNR=9.4						
MVCO	**Mesa Verde**	50.47	78	⇓P	P	10 24 02.5	+0.3
	baz=50						
ISCO	**Idaho Springs**	50.49	73	*e*P	P	10 24 03.3	+0.8
	2.8nm,0.8s						
ISCO	**Idaho Springs**	50.49	73	⇓P	P	10 24 03.0	+0.6
	baz=50						
H29A	**Onida**	50.53	65	⇓P	P	10 24 02.3	+0.1
	baz=50						
X16A	**Lo Mia Camp, P**	50.55	83	⇑P	P	10 24 04.0	+1.2
	baz=50,SNR=5.7						
AGMN	**Agassiz Nation**	50.61	59	*e*P	P	10 24 02.1	-0.6
	8.4nm,0.9s						
AGMN	**Agassiz Nation**	50.61	59	⇓P	P	10 24 02.0	-0.8
	baz=50,SNR=6.6						
P23A	**Jefferson**	50.64	74	⇓P	P	10 24 04.5	+0.9
	baz=50						
J28A	**Allard Ranch,**	50.71	67	⇓P	P	10 24 03.7	0.0
	baz=50,SNR=6.4						
G30A	**Faulkton**	50.80	64	⇑P	P	10 24 03.5	-0.8
	baz=50						
I29A	**Vivian Onida**	50.85	66	⇓P	P	10 24 04.2	-0.5
	baz=51						
K28A	**Ten Mile Ranch**	51.08	68	⇓P	P	10 24 06.4	-0.1
	baz=51						
S22A	**4UR Ranch, Cre**	51.11	76	*e*P	P	10 24 07.8	+0.7
	4.2nm,0.9s						
S22A	**4UR Ranch, Cre**	51.11	76	⇑P	P	10 24 07.8	+0.7
	baz=51,SNR=8.2						
W18A	**Petrified Fore**	51.12	81	⇑P	P	10 24 07.6	+0.6
	baz=51						
N26A	**Koester Ranch,**	51.23	71	⇓P	P	10 24 07.8	+0.2
	baz=51						
J29A	**Okreek**	51.23	67	⇑P	P	10 24 07.3	-0.3
	baz=51,SNR=11						
X18A	**Snowflake**	51.38	81	⇓P	P	10 24 10.0	+1.0
	baz=51,SNR=12						
214A	**Organ Pipe Nat**	51.40	86	⇓P	P	10 24 09.6	+0.7
	baz=51,SNR=6.8						
I30A	**Ooma**	51.41	66	⇓P	P	10 24 08.0	-0.9
	baz=51						
R23A	**Moffat**	51.42	75	⇓P	P	10 24 09.7	+0.4
	baz=51,SNR=5.3						
P25A	**Willow Gulch B**	51.53	73	⇓P	P	10 24 10.4	+0.5
	baz=51,SNR=8.3						
N27A	**Anderson Farm,**	51.64	70	⇑P	P	10 24 11.0	+0.3
	baz=51						
J30A	**Dallas**	51.75	66	⇓P	P	10 24 11.0	-0.4
	baz=52						
R24A	**Sanders Place,**	51.82	75	⇓P	P	10 24 12.8	+0.6
	baz=52						
OGNE	**Ogallala**	51.84	70	⇓P	P	10 24 12.3	+0.2
	baz=52						
Q25A	**Bedland, Calha**	51.87	73	⇑P	P	10 24 12.9	+0.3
	baz=52						
SDCO	**Great Sand Dun**	51.90	75	*e*P	P	10 24 13.4	+0.5
	4.6nm,1.0s						
SDCO	**Great Sand Dun**	51.90	75	⇑P	P	10 24 13.3	+0.5
	baz=52,SNR=9.6						
P26A	**Davis Ranch, A**	51.98	72	⇓P	P	10 24 13.6	+0.3
	baz=52						
O27A	**Beecher Island**	52.07	71	⇑P	P	10 24 13.7	-0.2
	baz=52						
K30A	**Basset**	52.10	67	⇑P	P	10 24 14.1	+0.1
	baz=52						
Q26A	**Hugo**	52.30	73	⇑P	P	10 24 15.8	+0.3
	baz=52						
TUC	**Tucson**	52.40	84	*e*P	P	10 24 17.2	+0.9
	7.8nm,1.1s						
SUMG	**Summit**	52.43	14	*e*P	P	10 24 15.5	-0.8
P27A	**Ficken Ranch,**	52.43	72	⇑P	P	10 24 16.8	+0.2
	baz=52						
O28A	**Krutsinger Ran**	52.52	71	⇓P	P	10 24 16.9	-0.3
	baz=52						
N29A	**Votaw Ranch, W**	52.73	69	⇑P	P	10 24 18.6	-0.1
	baz=52						
R26A	**Arlington**	52.75	73	⇓P	P	10 24 19.2	+0.3
	baz=52						
KSCO	**Kaye Shedlock'**	52.76	72	⇓P	P	10 24 19.0	0.0
	baz=52						
L31A	**Butterfield Fa**	52.86	67	⇓P	P	10 24 19.5	0.0
	baz=53						
P28A	**Saint Francis**	52.90	71	⇓P	P	10 24 20.0	+0.1
	baz=53,SNR=6.1						
T25A	**Trinidad**	52.95	75	*e*P	P	10 24 21.4	+0.8
	8.8nm,0.8s						
T25A	**Trinidad**	52.95	75	⇓P	P	10 24 21.2	+0.7
	baz=53,SNR=10						
O29A	**4D Ranch, Culb**	53.09	70	⇓P	P	10 24 21.5	+0.2
	baz=53						
ECSD	**EROS Data Cent**	53.09	64	*e*P	P	10 24 19.8	-1.3
	2.7nm,0.6s						
ECSD	**EROS Data Cent**	53.09	64	⇑P	P	10 24 20.2	-1.0
	baz=53						
EYMN	**Ely**	53.10	57	*e*P	P	10 24 20.9	-0.3
	14nm,0.7s						
R27A	**Eads**	53.14	73	⇓P	P	10 24 22.0	+0.3
	baz=53,SNR=6.3						
S26A	**Kim**	53.19	74	⇑P	P	10 24 21.9	-0.2
	baz=53,SNR=6.1						
Q28A	**Sharon Springs**	53.19	72	⇑P	P	10 24 21.8	-0.2
	baz=53						
ANMO	**Albuquerque**	53.21	79	*e*P	P	10 24 22.4	0.0
	1.7nm,0.9s						
P29A	**Atwood**	53.35	71	⇑P	P	10 24 23.4	+0.2
	baz=53,SNR=11						
T26A	**Comanche Natio**	53.41	75	⇓P	P	10 24 23.7	-0.1
	baz=53						
O30A	**MW Ranch, Wils**	53.48	70	⇑P	P	10 24 24.0	0.0
	baz=53						
R28A	**Tribune**	53.68	72	⇑P	P	10 24 25.5	-0.1
	baz=54						
BGNE	**Belgrade**	53.75	67	*e*P	P	10 24 19.5	-6.5
P30A	**Selden**	53.79	70	⇑P	P	10 24 26.3	0.0
	baz=54,SNR=5.1						
Q29A	**Oakley**	53.80	71	⇓P	P	10 24 26.7	+0.3
	baz=54						
O31A	**Woolen Ranch,**	53.91	69	⇑P	P	10 24 27.2	0.0
	baz=54						
319A	**Douglas**	53.96	84	⇑P	P	10 24 28.5	+0.7
	baz=54,SNR=6.1						
R29A	**Marienthal**	54.02	72	⇓P	P	10 24 28.1	+0.1
	baz=54,SNR=5.4						
121A	**Cookes Peak, D**	54.07	82	*e*P	P	10 24 29.1	+0.6
	2.6nm,0.6s						
121A	**Cookes Peak, D**	54.07	82	⇓P	P	10 24 29.6	+1.1
	baz=54,SNR=6.1						
S28A	**Manter**	54.13	73	⇓P	P	10 24 29.2	+0.3
	baz=54,SNR=6.6						
Q30A	**Quinter**	54.18	71	⇓P	P	10 24 29.3	+0.2
	baz=54						
SPMN	**Marine on St.**	54.19	60	*e*P	P	10 24 28.8	-0.2
	15nm,1.3s						
SPMN	**Marine on St.**	54.19	60	⇑P	P	10 24 28.8	-0.2
	baz=54						
P31A	**Stockton**	54.30	70	⇑P	P	10 24 30.0	0.0
	baz=54						
T28A	**Walsh**	54.32	74	⇑P	P	10 24 30.4	+0.1
	baz=54,SNR=9.1						
U27A	**Thompson Grove**	54.38	75	⇑P	P	10 24 30.7	0.0
	baz=54,SNR=8.2						
R30A	**Dighton**	54.61	71	⇑P	P	10 24 32.1	-0.2
	baz=54,SNR=11						
P32A	**Hutting Farm,**	54.68	69	⇓P	P	10 24 32.5	-0.2
	baz=54						
U28A	**Mallet**	54.76	74	⇑P	P	10 24 33.4	0.0
	baz=54						
LZH	**Lanzhou**	54.81	285	*e*P	P	10 24 33.3	-0.6
LZH				pP	pP	10 25 29.5	+3.1
LZH				sP	sP	10 25 57.7	+5.0
LZH				PMZ			
	15nm,1.0s						
V27A	**Dan Oppiter Fa**	54.82	75	⇑P	P	10 24 33.7	-0.2
	baz=55						
S30A	**Montezuma**	54.94	72	⇓P	P	10 24 34.5	-0.2
	baz=55						
R31A	**Burdett**	55.05	71	⇓P	P	10 24 35.0	-0.3
	baz=55						
Q32A	**Meitler Ranch,**	55.13	70	⇓P	P	10 24 35.7	-0.2
	baz=55,SNR=6.7						
U29A	**Oasis Ranch, S**	55.27	74	⇑P	P	10 24 37.1	0.0
	baz=55						
P33A	**Williams Farm,**	55.33	69	⇓P	P	10 24 36.9	-0.4
	baz=55						
R32A	**Long Quarter,**	55.43	70	⇓P	P	10 24 37.7	-0.3
	baz=55						
S31A	**Mullinville**	55.52	71	⇑P	P	10 24 38.0	-0.8
	baz=55						
Q33A	**Connelly Farm,**	55.54	69	⇑P	P	10 24 38.4	-0.5
	baz=55,SNR=10.0						
U30A	**WK&E Inc. Balk**	55.59	73	⇓P	P	10 24 38.9	-0.4
	baz=55						
T31A	**Randall Ranch,**	55.77	72	⇓P	P	10 24 40.0	-0.5
	baz=56						
R33A	**Olander Ranch,**	55.92	70	⇓P	P	10 24 41.0	-0.6
	baz=56						
MSTX	**Muleshoe**	56.09	77	*e*P	P	10 24 42.9	0.0
MSTX	**Muleshoe**	56.09	77	⇓P	P	10 24 42.9	0.0
	baz=56,SNR=6.0						
MNTX	**Cornudas Mount**	56.10	81	*e*P	P	10 24 43.8	+0.9
	5.9nm,0.8s						
MNTX				*e*pP	pP	10 25 31.6	-4.2
MNTX	**Cornudas Mount**	56.10	81	⇓P	P	10 24 43.5	+0.6
	baz=56,SNR=12						
AMTX	**Amarillo**	56.11	75	*e*P	P	10 24 43.5	+0.5
	7.1nm,0.9s						
AMTX	**Amarillo**	56.11	75	⇑P	P	10 24 43.0	0.0
	baz=56						
T32A	**Huddler Ranch,**	56.15	71	⇑P	P	10 24 42.5	-0.6
	baz=56						
KSU1	**Kansas State U**	56.17	68	⇓P	P	10 24 42.5	-0.7
	baz=56						
X29A	**Tulia**	56.40	76	⇓P	P	10 24 44.9	-0.1
	baz=56						
S33A	**Kaszmaul Farm,**	56.40	71	⇑P	P	10 24 44.0	-0.9
	baz=56						
Y28A	**McKinney Farm,**	56.45	77	⇓P	P	10 24 45.5	+0.2
	baz=56						
V31A	**Spring Creek L**	56.58	73	⇑P	P	10 24 46.2	-0.1
	baz=56						
Z28A	**Tucker Farm, M**	56.80	77	⇑P	P	10 24 47.8	-0.1
	baz=57						
Y29A	**Porterfield Fa**	56.82	76	⇑P	P	10 24 48.1	0.0
	baz=57,SNR=7.8						
S34A	**Willow Spring**	56.84	70	⇑P	P	10 24 47.6	-0.4
	baz=57						
X30A	**Coker Ranch, T**	56.89	75	⇑P	P	10 24 48.6	+0.1
	baz=57						
W31A	**Holland Ranch,**	56.93	74	⇓P	P	10 24 48.5	-0.2
	baz=57						
ARCES	**ARCESS Array B**	57.08	350	P	P	10 24 48.3	-0.8
	7.2nm,1.0s,baz=17,slow=7.9,SNR=6.8						
JFWS	**Jewell Farm**	57.10	61	*e*P	P	10 24 48.9	-0.8
	15nm,0.7s						
U33A	**Lingo Farm, Me**	57.13	72	⇓P	P	10 24 49.7	-0.3
	baz=57						
128A	**Castleberry Fa**	57.20	78	⇑P	P	10 24 50.8	+0.1
	baz=57,SNR=5.5						
Z29A	**Hungry Hill Ra**	57.22	77	⇑P	P	10 24 51.0	+0.2
	baz=57,SNR=6.7						
Y30A	**Stafford Cattl**	57.27	76	⇓P	P	10 24 51.3	+0.2
	baz=57						
X31A	**McDonald Ranch**	57.29	74	⇑P	P	10 24 51.1	-0.1
	baz=57						
S35A	**Otter Creek Ra**	57.31	69	⇓P	P	10 24 50.6	-0.7
	baz=57						
R36A	**Gordon, Harris**	57.33	68	⇑P	P	10 24 50.7	-0.7
	baz=57						
W32A	**Sentinel**	57.38	73	⇑P	P	10 24 51.8	0.0
	baz=57						
V33A	**Lossen Ranch,**	57.46	72	⇑P	P	10 24 52.1	-0.2
	baz=57						
U34A	**Anderson Ranch**	57.47	71	*e*P	P	10 24 52.3	-0.1
	17nm,0.8s						
U34A	**Anderson Ranch**	57.47	71	⇑P	P	10 24 52.3	-0.1
	baz=57						
228A	**UT Block 9, Go**	57.49	78	⇑P	P	10 24 52.5	-0.2
	baz=57						
Z30A	**Sanderson Ranc**	57.55	76	⇓P	P	10 24 52.8	-0.3
	baz=57,SNR=5.7						
Q37A	**Longview Farm,**	57.55	67	⇓P	P	10 24 51.8	-1.2
	baz=57						
129A	**Stewart Farms,**	57.57	77	⇑P	P	10 24 53.3	+0.1
	baz=57						
S36A	**Lake Cedric, C**	57.70	69	⇓P	P	10 24 53.3	-0.7
	baz=57,SNR=5.2						
W33A	**Caddo, Fort Co**	57.82	73	⇓P	P	10 24 55.2	+0.3
	baz=58						
X32A	**Elmer**	57.85	74	⇓P	P	10 24 55.5	+0.4
	baz=58						
V34A	**Guth

baz=58
GLMI Grayling 58.73 56 *e*P **P** **10 25 00.5 -0.4**
W35A Tecumseh 58.75 72 ⇓P **P** **10 25 01.4 +0.2**
baz=58,SNR=6.6
TXAR Lajitas Array 58.82 81 P **P** **10 25 02.4 +0.4**
5.0nm,0.6s,baz=305,slow=5.3,SNR=46
TXAR PcP **PcP** **10 25 49.7 +1.0**
1.4nm,0.8s,baz=306,slow=2.8,SNR=4.4
TUL1 Leonard 58.84 70 *e*P **P** **10 25 02.2 +0.3**
8.2nm,0.9s
TUL1 Leonard 58.84 70 ⇑P **P** **10 25 01.4 -0.5**
baz=59
330A Mertzon 58.85 78 ⇑P **P** **10 25 02.0 -0.1**
baz=59
ABTX Abilene, Hawle 58.90 76 *e*P **P** **10 25 02.9 +0.6**
ABTX Abilene, Hawle 58.90 76 ⇓P **P** **10 25 02.6 +0.2**
baz=59,SNR=5.9
Z33A Whitaker Ranch 58.95 75 ⇓P **P** **10 25 02.5 -0.2**
baz=59
429A Davenport Ranc 58.97 79 ⇓P **P** **10 25 02.7 -0.3**
baz=59
231A Bronte 58.98 77 ⇓P **P** **10 25 03.1 +0.2**
baz=59
Y34A Reagan Ranch, 59.07 73 ⇑P **P** **10 25 03.6 +0.2**
baz=59
529A Stev Forest Ra 59.13 80 ⇓P **P** **10 25 03.9 -0.1**
baz=59
W36A Wetumka 59.13 71 ⇓P **P** **10 25 04.1 +0.2**
baz=59,SNR=6.4
HDIL Hopedale 59.25 62 *e*P **P** **10 25 04.2 -0.4**
268nm,0.8s
430A Baggett Ranch, 59.25 78 ⇑P **P** **10 25 04.9 +0.1**
baz=59,SNR=9.3
133A Hamilton Ranch 59.34 75 ⇓P **P** **10 25 05.6 +0.2**
baz=59,SNR=7.4
331A San Angelo 59.36 77 ⇑P **P** **10 25 05.4 -0.2**
baz=59
232A Coleman 59.42 76 ⇑P **P** **10 25 06.1 +0.1**
baz=59,SNR=10
SCHQ Schefferville 59.44 38 P **P** **10 25 05.4 -0.3**
3.6nm,0.5s,baz=312,slow=5.9,SNR=15
X36A Centrahoma 59.46 72 ⇓P **P** **10 25 06.2 +0.1**
baz=59,SNR=7.9
W37A Quinton 59.60 71 ⇑P **P** **10 25 06.9 -0.2**
baz=59
530A J-C Ranch, Com 59.65 79 ⇑P **P** **10 25 08.1 +0.6**
baz=60,SNR=15
431A Sonora 59.70 78 ⇑P **P** **10 25 07.7 -0.2**
baz=60,SNR=8.3
332A Millersview 59.72 77 ⇓P **P** **10 25 08.0 +0.1**
baz=60,SNR=9.0
233A Rising Star 59.77 76 ⇑P **P** **10 25 08.2 -0.1**
baz=60
134A White-Moore Ra 59.86 75 ⇓P **P** **10 25 09.1 +0.2**
baz=60,SNR=7.0
BVAR Borovoye Array 59.94 319 P **P** **10 25 08.2 -0.9**
0.5nm,0.5s,baz=53,slow=7.4,SNR=3.3
BVAR pP **pP** **10 26 02.9 +0.2**
0.7nm,0.5s,baz=56,slow=6.6,SNR=1.7
X37A Clayton 60.02 71 ⇑P **P** **10 25 09.9 0.0**
baz=60,SNR=6.9
531A Rocksprings 60.11 78 ⇓P **P** **10 25 10.7 0.0**
baz=60
W38A Poteau 60.17 70 ⇓P **P** **10 25 11.0 0.0**
baz=60,SNR=5.4
333A Richland Sprin 60.22 76 ⇓P **P** **10 25 11.4 0.0**
baz=60
234A Clairette 60.23 75 ⇓P **P** **10 25 11.8 +0.4**
baz=60,SNR=8.1
JCT Junction City 60.33 78 ⇓P **P** **10 25 12.1 0.0**
baz=60
532A Rocksprings 60.52 78 ⇓P **P** **10 25 13.2 -0.3**
baz=60
433A Art 60.56 77 ⇓P **P** **10 25 13.5 -0.2**
baz=60,SNR=5.2
SFIN Lafayette 60.56 61 *e*P **P** **10 25 13.3 -0.1**
631A Perdido Creek 60.63 79 ⇑P **P** **10 25 14.1 0.0**
baz=60
WHTX Lake Whitney, 60.65 75 ⇑P **P** **10 25 14.3 +0.1**
baz=60
334A Lometa 60.65 76 ⇑P **P** **10 25 14.3 0.0**
baz=60,SNR=8.3
434A Burnet 61.01 76 ⇑P **P** **10 25 16.7 0.0**
baz=61,SNR=9.7
533A Kerrville 61.08 77 ⇑P **P** **10 25 17.2 0.0**
baz=61,SNR=6.0
MIAR Mount Ida 61.09 70 *e*P **P** **10 25 16.9 -0.2**
14nm,0.9s
Z38A Mt. Pleasant 61.20 72 ⇑P **P** **10 25 17.6 -0.2**
baz=61
PBMO Poplar Bluff 61.29 66 *e*P **P** **10 25 16.0 -2.4**
14nm,0.9s
336A Riesel 61.44 75 ⇑P **P** **10 25 19.3 -0.2**
baz=61
534A Blanco 61.45 77 ⇑P **P** **10 25 19.5 -0.2**
baz=61
732A Laxson Ranch, 61.49 79 ⇓P **P** **10 25 20.3 +0.4**
baz=61,SNR=7.8
832A Faith Ranch, C 61.81 80 ⇓P **P** **10 25 22.4 +0.4**
baz=62,SNR=12
635A Leesville 62.33 77 ⇓P **P** **10 25 26.4 +0.9**
baz=62
636A Smothers Creek 62.69 76 ⇓P **P** **10 25 29.1 +1.3**
baz=62
537A Green Hill Far 62.70 76 ⇑P **P** **10 25 29.0 +1.1**
baz=62
735A Kenedy 62.70 78 ⇓P **P** **10 25 29.1 +1.2**
baz=62
438A Sam Houston St 62.71 74 ⇓P **P** **10 25 29.3 +1.4**
baz=62
933A Laredo 62.72 80 ⇑P **P** **10 25 29.4 +1.3**
baz=63
834A Tilden 62.79 79 ⇓P **P** **10 25 29.8 +1.4**
baz=63
736A Circle Diamond 63.07 77 ⇓P **P** **10 25 31.6 +1.3**
baz=63
835A Beeville 63.10 78 ⇑P **P** **10 25 32.0 +1.5**
baz=63
340A Bronson 63.16 73 ⇑P **P** **10 25 31.3 +0.5**
baz=63,SNR=9.2
934A Benavides 63.19 79 ⇓P **P** **10 25 32.1 +1.0**
baz=63
WVT Waverly 63.21 65 *e*P **P** **10 25 30.7 -0.4**
034A Hebbronville 63.48 80 ⇓P **P** **10 25 34.1 +1.0**
baz=63
OXF Oxford 63.50 67 *e*P **P** **10 25 32.5 -0.6**
45nm,1.3s
035A Encino 63.93 79 ⇑P **P** **10 25 36.7 +0.8**
baz=64
035Z Hargill 64.30 80 ⇓P **P** **10 25 39.0 +0.7**
baz=64
FINES FINESS Array B 64.76 347 P **P** **10 25 40.4 -0.4**
2.2nm,0.9s,baz=23,slow=5.6,SNR=3.1
TKL Tuckaleechee C 65.79 63 *e*P **P** **10 25 47.9 0.0**
NOA NORSAR Array B 66.64 354 P **P** **10 25 52.2 -0.6**
1.6nm,0.8s,baz=7.1,slow=5.8,SNR=2.6
EMMW East Machias 66.99 46 *e*P **P** **10 25 54.0 -1.2**
18nm,0.5s
KMSC Kings Mountain 67.50 61 ⇑P **P** **10 25 58.2 -0.4**
baz=67
KSH Kashi 67.66 306 *e*P **P** **10 26 01.6 +1.9**
KSH sP sP **10 27 27.3 +6.9**
KSH PP **PP** **10 28 36.0 +4.3**
KSH PcS 10 30 30.6
KSH S **S** **10 34 36.6 -0.6**
KSH PMZ
98nm,4.5s
KSH LN
250nm,5.8s
KSH LE
330nm,6.5s
KSH LZ
270nm,9.4s
CMAR Chiang Mai Arr 70.60 275 P **P** **10 26 18.2 +0.3**
1.5nm,0.4s,baz=39,slow=7.1,SNR=8.5
AKASG Malin Array Be 74.52 342 P **P** **10 26 39.9 -0.5**
0.7nm,0.4s,baz=21,slow=6.4,SNR=3.8
AKASG pP **pP** **10 27 36.9 +0.6**
0.4nm,0.4s,baz=17,slow=5.6,SNR=1.9
WRA Warramunga Arr 82.50 223 P **P** **10 27 24.3 +0.1**
2.1nm,0.5s,baz=31,slow=6.1,SNR=20
AS31 Alice Springs 85.99 222 *e*P **P** **10 27 42.6 +1.0**
ASAR Alice Springs 85.99 222 P **P** **10 27 42.9 +1.2**
5.3nm,0.7s,baz=19,slow=4.6,SNR=64
STKA Stephens Creek 90.58 212 P **P** **10 28 04.3 +1.3**
2.4nm,0.6s,baz=9.6,slow=5.8,SNR=8.7

GUC 03 10:24:40.5±0.5, 34.71S×71.88W, h13km±3km, ML3.9, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.61**	**119**	*e*P	Pg	10 24 52.3	-0.1
NICH				*e*S	Sb	10 25 01.1	-0.4
TALC	**Talca**	**0.72**	**164**	*e*P	Pg	10 24 53.7	-0.7
TALC				*e*S	Sg	10 25 03.8	-0.1
LNCH	**Linares**	**1.16**	**169**	*e*P	Pb	10 25 01.1	-1.3
LNCH				*e*S	Sb	10 25 16.4	-0.9
SJCH	**San Jose de Ma**	**1.65**	**50**	*e*P	Pn	10 25 08.6	-0.7
SJCH				*e*S	Sn	10 25 29.8	-0.7
CLCH	**Cerro Calan**	**1.72**	**41**	*e*P	Pn	10 25 09.7	-0.5
CLCH				*e*S	Sn	10 25 32.3	+0.2
CLCH				AML	AML	10 25 42.3	
	comp=N,2μm,0.6s						
PEL	**Peldehue**	**1.85**	**33**	*e*P	Pn	10 25 12.2	+0.2
PEL				*e*S	Sn	10 25 35.9	+0.6
PEL				AML	AML	10 25 45.2	
	comp=N,2μm,0.6s						
ROCH	**El Roble**	**1.88**	**23**	*e*P	Pn	10 25 12.7	+0.1
ROCH				*e*S	Sb	10 25 37.4	-1.1

*NIED **03** 10:27:00, 29.70N×141.50E, h86km, Mw6.0 Best double couple: M0 1.05000×10^18 NP1:φs45.00000°, δ50.00000°, λ130.00000°. NP2:φs173.00000°, δ54.00000°, λ53.00000°.*
*BJI **03** 10:27:36.5, 29.43N×141.65E, h67km, mb5.7/81, mB5.8/60, Ms5.6/91, Ms7 5.5/83*
*JMA **03** 10:27:44.7, 29.73N×141.49E, h65km, M6.1*
JMA Felt II J1.
*ISCJB **03** 10:27:44.9±0.3, 29.63N±0.01×141.05E±0.01, h93km±2km, mb6.1/463, Error ellipse: s-maj=2.1km s-min=1.8km az=148.5*
*IDC **03** 10:27:45.4±1.1, 29.63N×141.09E, h87km±8km, mb5.5/44, mb1 5.6/48, mb1mx5.6/48, mbtmp5.8/48, MS5.2/35, Ms1 5.2/35, ms1mx5.2/37, Error ellipse: s-maj=10.2km s-min=7.8km az=65.0*
*NEIC **03** 10:27:45.0±0.0, 29.61N×141.06E, h82km, Moment Tensor Solution. s48 Moment tensor: Scale 10^18Nm; Mrr0.87; Mθθ-0.17; Mφφ-0.70; Mrθ-0.25; Mθφ-0.25; Mφr1.17; Best double couple: M0 1.40000×10^18 NP1:φs355.00000°, δ73.00000°, λ77.00000°. NP2:φs214.00000°, δ20.00000°, λ126.00000°. Principal axes: T 1.5600, Plg59.0000°, Azm247.0000°; N -0.2300, Plg12.0000°, Azm359.0000°; P -1.3300, Plg27.0000°, Azm95.0000°;*
*MOS **03** 10:27:45.2±0.9, 29.61N×141.03E, h99km, mb6.3/136, MS5.3/39 Error ellipse: s-maj=6.4km s-min=3.5km az=113.1*
*NEIC **03** 10:27:45.1±0.1, 29.65N×140.95E, h84km, mb6.2/226, ME5.8, MW6.0, MW6.0, MW6.1, MW6.0(NIED), Error ellipse: s-maj=2.7km s-min=2.4km az=143.0, Moment Tensor Solution. s67 Moment tensor: Scale 10^18Nm; Mrr1.06; Mθθ-0.53; Mφφ-0.53; Mrθ-0.14; Mθφ-0.19; Mφr0.92; Best double couple: M0 1.30000×10^18 NP1:φs217.00000°, δ25.00000°, λ118.00000°. NP2:φs7.00000°, δ68.00000°, λ78.00000°. Principal axes: T 1.5000, Plg64.0000°, Azm256.0000°; N -0.5200, Plg11.0000°, Azm11.0000°; P -0.9800, Plg22.0000°, Azm105.0000°; Broadband fault plane solution: P waves. NP1:φs190.00000°, δ25.00000°, λ90.00000°. NP2:φs10.00000°, δ65.00000°, λ90.00000°. Principal axes: T Plg70.0000°, Azm280.0000°; N Plg0.0000°, Azm0.0000°; P Plg20.0000°, Azm100.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Recorded [2 JMA] in the Chichijima-retto and Hahajima-retto and [1 JMA] on Aoga-shima. Also recorded [1 JMA] in Chiba, Fukushima, Kanagawa, Miyagi and Tokyo, Honshu.
*GCMT **03** 10:27:46.7±0.1, 29.58N×141.28E, h99km, MW6.1/137, Moment Tensor Solution. s135,c312; s137,c463; Duration: 287 Moment tensor: Scale 10^18Nm; Mrr1.10±.01; Mθθ-0.07±.01; Mφφ-1.03±.01; Mrθ-0.27±.01; Mθφ-0.38±.01; Mφr1.14±.01; Best double couple: M0 1.62600×10^18 NP1:φs358.00000°, δ69.00000°, λ73.00000°. NP2:φs217.00000°, δ27.00000°, λ127.00000°. Principal axes: T 1.6870, Plg63.0000°, Azm241.0000°; N -0.1250, Plg16.0000°, Azm4.0000°; P -1.5660, Plg22.0000°, Azm100.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*SZGRF **03** 10:27:51.8, 29.05N×139.69E, h128km, mb6.2, Southeast of Honshu, Japan*
*NEIC **03** 10:27:59.4±0.0, 29.83N×141.17E, h86km, Moment Tensor Solution. s129 Moment tensor: Scale 10^18Nm; Mrr1.13; Mθθ-0.22; Mφφ-0.91; Mrθ-0.21; Mθφ-0.27; Mφr1.05; Best double couple: M0 1.50000×10^18 NP1:φs211.00000°, δ25.00000°, λ119.00000°. NP2:φs360.00000°, δ68.00000°, λ77.00000°. Principal axes: T 1.6200, Plg64.0000°, Azm247.0000°; N -0.2500, Plg11.0000°, Azm4.0000°; P -1.3800, Plg21.0000°, Azm99.0000°;*

ISC 03 10:27:45.8±0.2, 29.67N±0.02×141.01E±0.03, h90km±1km, h89km:pP-P,n2283,σ1336/2555, mb6.2/486, 343C-288D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.76**	**158**	P	**Pn**	**10 28 26.6**	**-1.5**
CBIJ				*e*S	**Sn**	**10 28 57.8**	**-2.8**
CBIJ	**Chichi jima**	**2.76**	**158**	*e*Pn	**Pn**	**10 28 26.8**	**-1.3**
CBIJ				S	**Sn**	**10 28 58.1**	**-2.6**
JCJ	**Chichijima**	**2.76**	**158**	P	**Pn**	**10 28 26.8**	**-1.4**
	15μm,0.3s,baz=323,slow=15,SNR=500						
JCJ				S	**Sn**	**10 28 58.1**	**-2.6**
	14μm,0.3s,baz=108,slow=23,SNR=17						
JHHJ	**Haha-jima-NKT**	**3.19**	**161**	P	**Pn**	**10 28 32.9**	**-1.1**
JHHJ				*e*S	**Sn**	**10 29 09.4**	**-1.7**
JHCJ	**Hachijojimakas**	**3.55**	**343**	⇓P	**Pn**	**10 28 39.8**	**+1.1**
JHCJ				*e*S	**Sn**	**10 29 18.6**	**-1.1**
JHJ2	**Mitsune**	**3.58**	**344**	P	**Pn**	**10 28 40.1**	**+0.9**
JHJ2				*e*S	**Sn**	**10 29 20.2**	**-0.2**
JHJ2	**Mitsune**	**3.58**	**344**	*e*Pn	**Pn**	**10 28 39.5**	**+0.4**
JKO	**Kozu shima**	**4.78**	**341**	P	**Pn**	**10 28 57.9**	**+2.5**
JKO				*e*S	**Sn**	**10 29 52.2**	**+2.7**
BSO1	**Boso 1**	**4.97**	**360**	P	**Pn**	**10 28 57.0**	**-0.5**
BSO3	**Boso 3**	**5.14**	**355**	P	**Pn**	**10 28 59.6**	**-0.4**
BSO3				S	**Sn**	**10 29 56.7**	**-1.1**
JIM2	**Oshima 3**	**5.21**	**346**	P	**Pn**	**10 29 02.2**	**+0.9**
JIM2				S	**Sn**	**10 30 00.2**	**+0.1**
BSO4	**Boso 4**	**5.34**	**354**	P	**Pn**	**10 29 02.9**	**0.0**
TTO1	**TONANKAI O.B.S**	**5.34**	**319**	⇓P	Pn	10 29 07.2	+4.4
JIZS	**Izushimoda**	**5.35**	**341**	P	**Pn**	**10 29 05.3**	**+2.1**
JSG	**Sagara**	**5.54**	**335**	P	Pn	10 29 09.0	+3.3
AJI	**Ajiro2**	**5.60**	**344**	P	**Pn**	**10 29 08.3**	**+1.7**
JOD2	**Odawara 2**	**5.81**	**344**	P	**Pn**	**10 29 10.8**	**+1.3**
JOD2				*e*S	**Sn**	**10 30 14.8**	**+0.1**
HMMJ	**Hamamatsu 2**	**5.88**	**333**	P	**Pn**	**10 29 13.1**	**+2.8**
SHZ3	**Shizuoka 3**	**5.88**	**337**	P	**Pn**	**10 29 13.1**	**+2.6**
JWZ	**Kozaga**	**5.94**	**312**	⇓P	Pn	10 29 14.6	+3.4
JAA	**Atsumi**	**5.94**	**327**	P	Pn	10 29 14.6	+3.5
JIE	**Ise**	**5.96**	**323**	P	Pn	10 29 14.8	+3.3
JKN2	**Miekihoku**	**6.08**	**320**	P	Pn	10 29 16.6	+3.5
JYN	**Shimob**	**6.18**	**341**	P	**Pn**	**10 29 16.6**	**+2.1**
JNY	**Yasuok**	**6.27**	**336**	P	**Pn**	**10 29 18.4**	**+2.7**
TSUJ	**Tsu 2**	**6.36**	**323**	P	Pn	10 29 21.1	+4.2
JRY	**Ryogami san**	**6.58**	**345**	P	**Pn**	**10 29 20.6**	**+0.7**
JRY				*e*S	**Sn**	**10 30 32.7**	**-0.7**
JGF	**Kuroka**	**6.67**	**333**	P	**Pn**	**10 29 24.3**	**+3.1**
MJAR	**Matsushiro Arr**	**7.25**	**342**	P	**Pn**	**10 29 30.1**	**+1.1**
	100nm,0.3s,baz=164,slow=11,SNR=503						
MJAR				S	**Sn**	**10 30 49.9**	**+0.2**
	58nm,0.3s,baz=164,slow=27,SNR=3.7						
MJAR				LR	LR	10 32 30.9	
	comp=Z,13μm,21.3s,baz=160,slow=39						
MJAR	**Matsushiro Arr**	**7.25**	**342**	P	**Pn**	**10 29 30.1**	**+1.1**
MJAR				S	**Sn**	**10 30 49.9**	**+0.2**
MJAR				pmax	pmax		
	comp=Z,100nm,0.3s						
MJAR				smax	smax		
	comp=N,59nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,13μm,21.3s						
MAJO	**Matsushiro**	**7.25**	**342**	*d* iP	**Pn**	**10 29 30.8**	**+1.8**
MAJO	**Matsushiro**	**7.25**	**342**	*e*Pn	**Pn**	**10 29 29.7**	**+0.7**
MAT	**Matsushiro**	**7.25**	**342**	P	**Pn**	**10 29 29.6**	**+0.6**
MAT				S	**Sn**	**10 30 50.4**	**+0.6**
ONAJ	**Iwakimizuishiy**	**7.42**	**359**	P	**Pn**	**10 29 29.2**	**-2.2**
JTO	**Tosashimizu**	**7.71**	**296**	P	Pn	10 29 40.1	+4.7
JHS	**Saijyo**	**8.54**	**311**	P	Pn	10 29 51.5	+4.9
SAI	**Saigo**	**9.17**	**317**	P	Pn	10 29 59.9	+4.8
JMK	**Ichinoseki**	**9.26**	**1**	P	**Pn**	**10 29 54.7**	**-1.7**
JMK				*e*S	Sn	10 31 32.4	-6.4
JNU	**Nakatsue**	**9.32**	**294**	P	Pn	10 30 02.4	+5.1
	baz=135,slow=12						
JNU				S	Sn	10 31 50.8	+10
	comp=Z,4.7nm,0.3s,baz=114,slow=19,SNR=1.9						
JNU				LR	LR	10 33 34.3	
	comp=Z,20μm,20.2s,baz=122,slow=37						
JMZ	**Minamidaito 2**	**9.48**	**249**	P	Pn	10 30 05.4	+5.9
JMZ				*e*S	Sn	10 31 54.8	+10
JSJ	**Shimokoshiki**	**9.93**	**284**	P	Pn	10 30 10.5	+4.9
JAMN	**Amaminishikomi**	**10.47**	**265**	P	Pn	10 30 20.4	+7.5
JAMN				*e*S	Sn	10 32 21.3	+13
JTU	**Tsushima**	**10.97**	**299**	P	Pn	10 30 24.3	+4.5
KSBUS	**Busan**	**11.49**	**302**	P	Pn	10 30 33.4	+6.7
	SNR=13						
KSBUS	**Busan**	**11.49**	**302**	P	Pn	10 30 33.4	+6.7
	SNR=13						
JOW	**Kunigami**	**11.58**	**259**	P	Pn	10 30 32.7	+4.7
JOW	**Kunigami**	**11.58**	**259**	P	Pn	10 30 31.6	+3.5
	baz=87,slow=13						
JOW				S	Sn	10 32 44.8	+9.4
	baz=108,slow=20,SNR=1.9						
JOW	**Kunigami**	**11.58**	**259**	*e*Pn	Pn	10 30 32.8	+4.8
JOW				S	Sn	10 32 44.8	+9.4
JOT	**Ohata**	**11.69**	**0**	P	**Pn**	**10 30 28.0**	**-1.4**
JOT				*e*S	Sn	10 32 31.5	-6.4
KSPHA	**Pohang**	**11.74**	**307**	P	Pn	10 30 35.5	+5.4
	SNR=9.1						
KSDAG	**Daegu**	**11.88**	**304**	P	Pn	10 30 38.4	+6.5
	SNR=12						
KSDAG	**Daegu**	**11.88**	**304**	P	Pn	10 30 38.4	+6.5
	SNR=12						
KSYOC	**YEONGCHEON**	**11.93**	**305**	P	Pn	10 30 37.2	+4.5
	SNR=8.7						
KSULJ	**Uljin**	**11.98**	**309**	P	Pn	10 30 38.3	+5.0
	SNR=7.9						
KSULJ	**Uljin**	**11.98**	**309**	P	Pn	10 30 38.3	+5.0
	SNR=7.9						
JKB	**Kayabe**	**12.20**	**0**	P	**Pn**	**10 30 34.1**	**-2.1**
JKB				*e*S	Sn	10 32 41.8	-8.3
KSNAH	**Namhae**	**12.21**	**298**	P	**P**	**10 30 43.5**	**-1.7**
	SNR=9.2						
KSNAH	**Namhae**	**12.21**	**298**	P	**P**	**10 30 43.5**	**-1.7**
	SNR=9.2						
KSJIN	**Jinju**	**12.26**	**300**	P	**P**	**10 30 44.1**	**-1.6**
	SNR=11						
KSJIN	**Jinju**	**12.26**	**300**	P	**P**	**10 30 44.6**	**-1.2**
	SNR=11						
ERM	**Erimo**	**12.44**	**7**	*c* iP	Pn	10 30 36.0	-3.5
ERM				pmax	pmax		
	comp=Z,606nm,1.0s						
ERM	**Erimo**	**12.44**	**7**	*e*Pn	**Pn**	**10 30 36.6**	**-2.9**
KSTBA	**Taebaek**	**12.52**	**310**	P	**P**	**10 30 46.4**	**-2.3**
	SNR=13						
KSTBA	**Taebaek**	**12.52**	**310**	P	**P**	**10 30 46.4**	**-2.3**
	SNR=13						
KSCPR	**CHUPUNGNYEONG**	**12.75**	**304**	P	**P**	**10 30 49.7**	**-1.5**
	SNR=11						
KSCPR	**CHUPUNGNYEONG**	**12.75**	**304**	P	**P**	**10 30 50.7**	**-0.5**
	SNR=42						
KSJES	**JEONGSEON**	**12.88**	**310**	P	**P**	**10 30 51.0**	**-1.7**
	SNR=13						
KSYOW	**Yeongwol**	**12.88**	**309**	P	**P**	**10 30 51.4**	**-1.3**
	SNR=7.9						
KSJJU	**Jeju**	**12.89**	**291**	P	**P**	**10 30 53.4**	**+0.4**
	SNR=16						
KSBON	**Boeun**	**13.00**	**305**	P	**P**	**10 30 54.0**	**0.0**
	SNR=13						
KSDGY	**Daegwallycong**	**13.02**	**311**	P	**P**	**10 30 53.1**	**-1.1**
	SNR=29						
KSWAN	**Wando**	**13.02**	**295**	P	**P**	**10 30 54.8**	**+0.6**
	SNR=13						
KSKWJ	**Gwangju**	**13.05**	**298**	P	**P**	**10 30 54.8**	**+0.3**
	SNR=29						
KSCHJ	**Chungju**	**13.06**	**307**	P	**P**	**10 30 54.4**	**-0.2**
	SNR=28						
KSJMJ	**Jumunjin**	**13.07**	**312**	P	**P**	**10 30 53.3**	**-1.5**
	SNR=11						
KSJMJ	**Jumunjin**	**13.07**	**312**	P	**P**	**10 30 53.3**	**-1.5**
	SNR=11						
KSGWJ	**Gwangju-acc**	**13.13**	**298**	P	**P**	**10 30 55.9**	**+0.5**
	SNR=14						
KSGWJ	**Gwangju-acc**	**13.13**	**298**	P	**P**	**10 30 55.9**	**+0.5**
	SNR=14						
KSJEU	**Jeongeup**	**13.22**	**300**	P	**P**	**10 30 56.9**	**+0.5**
	SNR=51						
KSTEJ	**Daejeon**	**13.25**	**304**	P	**P**	**10 30 56.5**	**-0.2**
	SNR=12						
TJN	**Taejon**	**13.26**	**304**	*e*P	**Pn**	**10 30 53.0**	**+2.6**
KSWJU	**Wonju**	**13.27**	**309**	P	**P**	**10 30 56.7**	**-0.3**
	SNR=6.0						
KSCEJ	**CHEONGJU**	**13.32**	**305**	P	**P**	**10 30 57.8**	**+0.2**
	SNR=9.6						
KSJDO	**Jindo**	**13.35**	**295**	P	**P**	**10 30 58.8**	**+0.9**
	SNR=12						
KSRS	**Korea Array**	**13.39**	**309**	P	**Pn**	**10 30 54.6**	**+2.6**
	comp=Z,1.2nm,0.3s,baz=117,slow=13,SNR=39						
KSRS				LR	LR	10 36 08.0	
	comp=Z,12μm,19.5s,baz=125,slow=37						
KSRS				PcP	**PcP**	**10 36 14.6**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=130,slow=1.7,SNR=4.1						
KSRS				ScP	**ScP**	**10 39 38.8**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=124,slow=1.7,SNR=15						
KSAR	**Wonju Array Be**	**13.41**	**309**	P	**Pn**	**10 30 54.6**	**+2.3**
KSAR	**Wonju Array Be**	**13.41**	**309**	P	**Pn**	**10 30 54.6**	**+2.3**
KSAR				PcP	**PcP**	**10 36 14.6**	**+1.0**
KSAR				ScP	**ScP**	**10 39 38.8**	**-0.1**
KSKOJ	**Gongju**	**13.46**	**304**	P	**P**	**10 30 59.1**	**+0.1**
	SNR=11						
KSSKC	**Sokcho**	**13.46**	**313**	P	**P**	**10 30 58.4**	**-0.7**
	SNR=16						
KSCEA	**Cheonan**	**13.54**	**305**	P	**P**	**10 31 00.2**	**+0.3**
	SNR=53						
SEHB	**SEOHWA**	**13.62**	**312**	P	**P**	**10 31 00.6**	**-0.3**
	SNR=40						
KSCHC	**Chuncheon**	**13.63**	**310**	P	**P**	**10 31 00.8**	**-0.2**
	SNR=41						
KSICN	**Icheon**	**13.65**	**307**	P	**P**	**10 31 01.4**	**+0.2**
	SNR=14						
KSSWO	**Suwon**	**13.95**	**307**	P	**P**	**10 31 05.4**	**+0.9**
	SNR=32						
KSCWO	**Cheorwon**	**13.99**	**310**	P	**P**	**10 31 06.2**	**+1.2**
	SNR=91						
KSHUK	**Heuksando**	**14.09**	**295**	P	**P**	**10 31 08.3**	**+2.1**
	SNR=8.4						
KSSES	**Seosan**	**14.10**	**304**	P	**P**	**10 31 07.8**	**+1.7**
	SNR=7.7						
KSDDC	**Dongducheon**	**14.21**	**309**	P	**P**	**10 31 09.3**	**+2.0**
	SNR=25						
INCN	**Inchon**	**14.29**	**307**	*e*Pn	**P**	**10 31 08.0**	**-0.4**
YNCB	**YEONCHEON**	**14.37**	**309**	P	**P**	**10 31 11.8**	**+2.7**
	SNR=49						
KSMUS	**Musan**	**14.40**	**308**	P	**P**	**10 31 12.4**	**+2.9**
	SNR=33						
ASAJ	**Asahikawa**	**14.48**	**5**	P	**Pn**	**10 31 05.0**	**-1.2**
	comp=Z,17nm,0.3s,baz=189,slow=9.0,SNR=104						
ASAJ				S	Sn	10 33 36.1	-9.4
	comp=Z,20nm,0.3s,baz=217,slow=20,SNR=4.6						
ASAJ				LR	LR	10 36 57.3	
	comp=Z,5μm,20.9s,baz=180,slow=38						
ASAJ	**Asahikawa**	**14.48**	**5**	P	**Pn**	**10 31 05.0**	**-1.2**
ASAJ				S	Sn	10 33 36.1	-9.4
ASAJ				pmax	pmax		
	comp=Z,17nm,0.3s						
ASAJ				smax	smax		
	comp=N,20nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,5μm,21.0s						
KSGAH	**Ganghwa**	**14.53**	**307**	P	P	10 31 14.1	+3.2
	SNR=10						
YUK	**Yuzh-Kuril'sk**	**14.85**	**14**	*c* iP	**Pn**	**10 31 08.7**	**-2.2**
YUK				pmax	pmax		
	comp=N,60nm,0.7s						
YUK				pmax	pmax		
	comp=E,98nm,0.7s						
YUK				pmax	pmax		
	comp=Z,238nm,0.7s						
YUK				pmax	pmax		
	comp=Z,2μm,2.3s						

YUK MLR MLR
comp=N,6μm,12.0s
YUK MLR MLR
comp=E,4μm,12.0s
YUK MLR MLR
comp=Z,4μm,12.0s
VLA Vladivostok 15.29 334*c i*P **Pn 10 31 17.1 +0.6**
VLA pmax pmax
comp=Z,818nm,1.7s
USRK Ussuriysk Ar. 16.18 336 P **Pn 10 31 27.6 -0.1**
comp=Z,9.0nm,0.3s,baz=148,slow=12,SNR=104
USRK S **S 10 34 31.1 -3.1**
baz=147,slow=19,SNR=1.9
USRK LR LR 10 37 22.5
comp=Z,8μm,18.1s,baz=143,slow=36
GUMO Guam 16.39 167 P **P 10 31 32.0 +0.2**
comp=Z,176nm,0.3s,baz=325,slow=7.5,SNR=51
GUMO S **S 10 34 37.6 -1.3**
comp=Z,26nm,0.3s,baz=282,slow=21,SNR=11
GUMO LR LR 10 35 58.1
comp=Z,4μm,21.9s,baz=11,slow=30
GUMO Guam 16.39 167 P **P 10 31 32.0 +0.2**
GUMO pmax pmax
comp=Z,176nm,0.3s
GUMO MLR MLR
comp=Z,4μm,21.9s
GUMO Guam 16.39 167 P **P 10 31 32.0 +0.2**
comp=Z,1μm,1.2s
GUMO S **S 10 34 37.6 -1.3**
KUR Kuril'sk 16.45 17*eP* **Pn 10 31 30.8 -0.2**
KUR *i* 10 34 22.5
KUR pmax pmax
comp=Z,3μm,4.4s
KUR pmax pmax
comp=E,41nm,0.5s
KUR pmax pmax
comp=Z,237nm,1.0s
KUR pmax pmax
comp=N,36nm,0.5s
KUR pmax pmax
comp=Z,31μm,1.6s
KUR pmax pmax
comp=E,13μm,5.4s
KUR pmax pmax
comp=N,8μm,5.4s
KUR MLR MLR
comp=E,6μm,10.0s
KUR MLR MLR
comp=Z,2μm,10.0s
KUR MLR MLR
comp=N,2μm,11.0s
YOJ Yonaguni jima 16.85 256*eP* **P 10 31 38.6 +1.9**
YOJ pmax pmax
comp=Z,1μm,1.4s
YOJ Yonaguni jima 16.85 256*e*Pn **P 10 31 38.6 +1.9**
comp=Z,1μm,1.4s
SSE Sheshan 17.17 280 P **Pn 10 31 39.5 -0.5**
SSE S **Sn 10 34 51.7 +1.0**
SSE PMZ
comp=Z,250nm,1.1s
SSE PMZ
comp=Z,4μm,10.3s
SSE LN
comp=Z,7μm,27.4s
SSE LE
comp=Z,14μm,27.4s
SSE LZ
comp=Z,16μm,33.5s
YSS Yuzh-Sakhalins 17.31 4*d i*P **Pn 10 31 41.0 -0.6**
YSS *e*S Sn 10 34 45.0 -8.9
YSS pmax pmax
comp=Z,680nm,1.0s
YSS pmax pmax
comp=Z,4μm,4.0s
YSS smax smax
comp=E,950nm,1.8s
YSS MLR MLR
comp=Z,4μm,16.0s
YSS Yuzh-Sakhalins 17.31 4*e*Pn **P 10 31 41.9 +0.1**
comp=Z,775nm,0.9s
MDJ Mudanjiang 17.45 332 P **P 10 31 43.0 -0.3**
MDJ pP **pP 10 31 59.1 -1.3**
MDJ sP **sP 10 32 09.6 -2.2**
MDJ S **Sn 10 34 52.9 -4.4**
MDJ PcP PcP 10 36 13.2 -6.1
MDJ ScP **ScP 10 39 40.1 -6.2**
MDJ PcS PcS 10 39 49.4 -6.0
MDJ ScS **ScS 10 43 26.7 +0.5**
MDJ PMZ
comp=Z,160nm,0.6s
MDJ PMZ
comp=Z,2μm,6.8s
MDJ LN
comp=Z,7μm,26.1s
MDJ LE
comp=Z,4μm,17.1s
MDJ LZ
comp=Z,11μm,25.3s
MDJ Mudanjiang 17.45 332 *e*Pn **P 10 31 42.9 -0.4**
comp=Z,383nm,0.9s
MDJ *e*Sn **S 10 34 58.7 -1.0**
TATO Taipei 17.96 260 *e*Pn **Pn 10 31 52.4 +2.7**
comp=Z,6μm,1.0s
DL2 Dalian 18.45 305⇑*i*P **Pn 10 31 54.9 -0.5**
DL2 PP **pP 10 32 11.9 +0.4**
DL2 S **Sn 10 35 27.1 +5.7**
DL2 SS SnSn 10 35 54.5 +18
DL2 PMZ
comp=Z,150nm,1.0s
DL2 PMZ
comp=Z,1μm,12.0s
DL2 LN
comp=Z,5μm,13.5s
DL2 LE
comp=Z,4μm,15.6s
DL2 LZ
comp=Z,7μm,28.9s
SNY Shenyang 18.60 315⇑P **P 10 31 56.4 +0.5**
SNY sP sP 10 32 16.0 -8.5
SNY S **S 10 35 17.7 -5.2**
SNY LN
comp=Z,5μm,15.9s
SNY LE
comp=Z,6μm,11.8s
SNY LZ
comp=Z,8μm,13.3s
CN2 Changchun 18.79 323 *e*P **Pn 10 31 59.6 +0.2**
CN2 *es*P **sP 10 32 23.9 -2.6**
CN2 *e*S **S 10 35 19.9 -6.9**
CN2 LN
comp=Z,3μm,16.0s
CN2 LE
comp=Z,10μm,16.0s
CN2 LZ
comp=Z,23μm,21.0s
SSLB Suanglung 18.84 257 *e*Pn **Pn 10 32 02.9 +2.7**
comp=Z,6μm,1.2s
NJ2 Nanjing 19.17 283 *e*P **Pn 10 32 04.6 +0.6**
NJ2 pP **pP 10 32 17.4 -2.1**
NJ2 sP **sP 10 32 28.2 -2.6**
NJ2 S **S 10 35 34.5 -0.3**
NJ2 sS **sS 10 36 04.3 +1.1**
NJ2 PMZ
comp=Z,60nm,0.8s
NJ2 PMZ
comp=Z,10μm,8.4s
NJ2 LN
comp=Z,26μm,24.4s
NJ2 LE
comp=Z,37μm,25.8s
NJ2 LZ
comp=Z,42μm,22.7s
HABR Khabarovsk 19.33 348*d i*P **P 10 32 02.6 -1.2**
HABR *e*S **S 10 35 38.5 +0.8**
HABR pmax pmax
comp=N,677nm,1.8s
HABR pmax pmax
comp=E,150nm,0.9s
HABR pmax pmax
comp=Z,2μm,1.8s
HABR MLR MLR
comp=Z,6μm,16.0s
UGL Uglegorsk 19.40 2*d i*P **Pn 10 32 07.2 +0.6**
UGL S **S 10 35 37.5 -1.6**
UGL pmax pmax
comp=Z,420nm,0.7s
UGL pmax pmax
comp=Z,3μm,4.0s
UGL smax smax
comp=E,5μm,4.0s
UGL smax smax
comp=N,15μm,8.0s
UGL smax smax
comp=Z,10μm,12.0s
UGL smax smax
comp=N,4μm,2.4s
UGL smax smax
comp=E,2μm,2.0s
UGL MLR MLR
comp=Z,2μm,15.0s
UGL MLR MLR
comp=N,6μm,17.0s
UGL MLR MLR
comp=E,8μm,17.0s
QZH Quanzhou 20.46 262⇑*i*P **P 10 32 17.5 +1.2**
QZH S **S 10 36 03.8 +3.4**
QZH PMZ
comp=E,2μm,1.2s
QZH LZ
comp=E,65μm,33.2s
KLR Kul'dur 20.77 343⇓*eP* **P 10 32 15.8 -3.6**
KLR *eS* **S 10 36 02.5 -3.7**
KLR pmax pmax
comp=Z,400nm,1.4s
KLR pmax pmax
comp=Z,4μm,11.5s
KLR smax smax
comp=N,30μm,9.5s
KLR smax smax
comp=E,18μm,9.5s
TIA Tai'an 21.06 294⇑P **P 10 32 22.9 +0.3**
TIA sP **sP 10 32 49.7 -1.8**
TIA S **S 10 36 08.9 -3.1**
TIA SS SnSn 10 36 57.7 +17
TIA PMZ
comp=E,180nm,0.8s
TIA PMZ
comp=E,3μm,7.5s
TIA LN
comp=E,6μm,10.7s
TIA LE
comp=E,7μm,13.1s
TIA LZ
comp=E,8μm,11.9s
CVP Callao Caves 21.19 240⇓*eP* **P 10 32 25.8 +1.7**
APYP Conner 21.54 241 *eP* **P 10 32 28.0 +0.2**
APYP *eS* **pP 10 32 41.7 -3.8**
CAUP Cauayan 21.66 238 *eP* **P 10 32 32.9 +3.7**
CAUP *eS* **sP 10 32 58.4 +0.3**
PIP Pasuquin 21.75 243⇑*eP* **P 10 32 29.9 -0.2**
ABRA Dolores 22.07 242 *eP* **P 10 32 34.6 +1.1**
SIPP Brgy, Tapao 22.10 243⇑*iP* **P 10 32 35.1 +1.2**
SZP Santa 22.32 242 *eP* **P 10 32 36.6 +0.4**
comp=E,4μm,1.2s
PVCP Virac 22.34 228⇑*eP* **P 10 32 38.2 +1.8**
BALP Baler 22.61 236 *eP* **P 10 32 39.0 -0.3**
BJT Baijiatuau 22.79 304 *eP* **P 10 32 41.3 +0.4**
BJT pmax pmax
comp=Z,975nm,1.4s
BJT Baijiatuau 22.79 304 *eP* **P 10 32 41.3 +0.4**
comp=Z,975nm,1.4s
BJI Beijing 22.79 304 P **P 10 32 41.4 +0.5**
BJI pP **pP 10 32 55.1 -3.8**
BJI PcP **PcP 10 36 30.6 +1.4**
BJI S **S 10 36 40.4 -2.7**
BJI sS **sS 10 37 11.6 -3.9**
BJI ScP **ScP 10 39 58.6 -0.3**
BJI PcS **PcS 10 40 08.9 +0.7**
BJI ScS **ScS 10 43 43.4 -1.2**
BJI PMZ
comp=Z,150nm,2.0s
BJI PMZ
comp=Z,3μm,8.0s
BJI LN
comp=Z,6μm,21.8s
BJI LE
comp=Z,10μm,20.3s
BJI LZ
comp=Z,11μm,35.0s
BCPH Baguio City Da 22.94 239⇓*iP* **P 10 32 41.4 -1.3**
BCPH *i*S **S 10 36 47.7 +1.5**
WHN Wuhan 23.07 279⇑P **P 10 32 44.0 +0.3**
WHN S **S 10 36 44.7 -3.0**
WHN LN
comp=Z,13μm,10.6s
WHN LE
comp=Z,9μm,11.0s
WHN LZ
comp=Z,15μm,17.4s
PCPH Palayan 23.08 237⇑*eP* **P 10 32 44.5 +0.6**
GQP Guinayangan 23.25 232⇓*eP* **P 10 32 47.7 +2.1**
BOLP Bolinao 23.44 240 *eP* **P 10 32 47.2 0.0**
AUQP San Andres 23.52 230 *eP* **P 10 32 51.8 +3.8**
PLP Palo 23.71 222⇓*eP* **P 10 32 51.1 +1.4**
SCZP Santa Cruz 23.82 239 *eP* **P 10 32 50.6 -0.1**
OCLP Ormoc 24.02 223 *eP* **P 10 32 54.2 +1.8**
TGY Tagaytay City 24.16 234⇓*eP* **P 10 32 56.5 +2.7**
PGP Puerto Galera 24.57 233⇑*eP* **P 10 32 57.1 -0.4**
PGP *i*S Px 10 33 08.3
MSLP Maasin 24.61 221 *eP* **P 10 32 58.8 +1.0**
RCP Roxas 24.77 227⇓*eP* **P 10 33 00.5 +1.1**
LUBP Lubang 24.91 235 *eP* **P 10 33 01.6 +1.1**
TIY Taiyuan 25.03 296 *eP* **P 10 33 02.3 +0.7**
TIY SS 10 38 33.5
TIY PMZ
comp=Z,130nm,0.7s
TIY PMZ
comp=Z,2μm,3.9s
TIY LN
comp=Z,7μm,13.4s
TIY LE
comp=Z,3μm,10.7s
TIY LZ
comp=Z,4μm,22.7s
BUTP Butuan 25.14 218 *eP* **P 10 33 04.0 +1.4**
HKC Hong Kong Obse 25.18 259⇑*iP* **P 10 33 06.0 +3.0**
HIA Hailar 25.40 326*c iP* **P 10 33 06.1 +1.4**
HIA pmax pmax
comp=Z,386nm,1.2s
HIA Hailar 25.40 326 *eP* **P 10 33 06.0 +1.2**
comp=Z,276nm,0.9s
BIPH Bislig 25.41 216⇑*eP* **P 10 33 04.8 -0.3**
H11N2 WAKE ISLAND Hy 25.46 107 P **P 10 33 04.6 -0.7**
baz=270,slow=9.6,SNR=18
H11N2 T T 10 58 52.0
baz=296,slow=75,SNR=6.8
H11N1 WAKE ISLAND Hy 25.46 107 P **P 10 33 03.7 -1.7**
baz=270,slow=9.6,SNR=21
H11N1 T T 10 59 01.1
baz=296,slow=75,SNR=52
WAKE Wake Island 25.47 108 *eP* **P 10 33 04.5 -1.1**
comp=Z,197nm,0.9s
H11N3 WAKE ISLAND Hy 25.48 107 P **P 10 33 04.4 -1.1**
baz=270,slow=9.6,SNR=15
H11N3 T T 10 59 03.5
baz=296,slow=75,SNR=5.6
GUIM Jordan 25.58 226 *eP* **P 10 33 07.3 +0.7**
GZH Guangzhou 25.60 262 P **P 10 33 04.7 -2.1**
GZH sP sP 10 33 28.5 -8.9
GZH PP **PnPn 10 33 45.8 -2.3**
GZH S **S 10 37 23.9 -4.5**
GZH sS sS 10 37 53.2 -10
GZH LN
comp=Z,8μm,17.5s
GZH LE
comp=Z,13μm,17.0s
H11S3 WAKE ISLAND Hy 25.89 110 T T 10 59 21.9
baz=300,slow=75,SNR=3.4
H11S1 WAKE ISLAND Hy 25.89 110 T T 10 59 28.1
baz=300,slow=75,SNR=5.4
H11S2 WAKE ISLAND Hy 25.90 110 T T 10 59 24.4
baz=300,slow=75,SNR=3.9
BUKP Musuan 26.35 218 *eP* **P 10 33 13.8 +0.2**
HHC Hu-ho-hao-te 26.39 303⇓P **P 10 33 14.0 +0.1**
HHC pP **pP 10 33 34.8 +0.7**
HHC sP **sP 10 33 40.9 -3.7**
HHC PP **PnPn 10 33 58.6 -0.1**
HHC S **S 10 37 40.0 -0.8**
HHC sS **sS 10 38 11.0 -5.0**
HHC PMZ
comp=Z,190nm,1.0s
HHC PMZ
comp=Z,2μm,7.5s
HHC LN
comp=Z,9μm,16.1s
HHC LE
comp=Z,10μm,17.3s
HHC LZ
comp=Z,12μm,18.7s
PEA0B Petropavlovsk- 26.43 23*eP* **P 10 33 14.6 +0.6**
PETK Petropavlovsk- 26.43 23 P **P 10 33 13.2 -0.8**
comp=Z,9.0nm,0.5s,baz=207,slow=9.6,SNR=39
PETK PcP **PcP 10 36 38.9 +1.9**
comp=Z,13nm,0.9s,baz=195,slow=4.5,SNR=4.3
PETK LR LR 10 43 18.2
comp=Z,2μm,21.6s,baz=196,slow=35
PETK Petropavlovsk- 26.43 23 P **P 10 33 13.2 -0.8**
PETK 10 36 38.9
PETK pmax pmax
comp=Z,9.0nm,0.5s
PETK pmax pmax
comp=Z,13nm,0.9s
PETK MLR MLR
comp=Z,2μm,21.6s
PET Petropavlovsk 26.69 24*c i*P **P 10 33 16.3 0.0**
PET *e* 10 33 59.2
PET *i* S **S 10 37 43.1 -1.8**
PET pmax pmax
comp=Z,1μm,3.0s
PET pmax pmax
comp=Z,194nm,1.6s
PET MLR MLR
comp=Z,4μm,15.0s
PET MLR MLR
comp=Z,4μm,11.0s
PET Petropavlovsk 26.69 24 *eP* **P 10 33 16.9 +0.7**
comp=Z,195nm,1.1s
DCPH Dipolog City 26.73 222⇑*eP* **P 10 33 16.5 -0.4**
DAV Davao City (W) 26.76 216 P **P 10 33 18.0 +0.7**
SNR=29
DAV Davao City (W) 26.76 216 *eP* **P 10 33 18.0 +0.7**
comp=Z,2μm,1.0s
ENH Enshi 27.28 279 *eP* **P 10 33 21.7 -0.2**
comp=Z,346nm,1.4s
CTBH Cotabato--PC H 27.34 219 *eP* **P 10 33 23.4 +1.0**
BTO Baotou 27.46 302 *eP* **P 10 33 23.8 +0.3**
BTO PMZ
comp=Z,61nm,0.9s
XAN Xi'an 27.54 287 P **P 10 33 23.4 -0.8**
XAN PMZ
comp=Z,59nm,1.0s
XAN PMZ
comp=Z,540nm,9.4s
XAN LN
comp=Z,3μm,22.6s
XAN LE
comp=Z,4μm,32.8s
XAN LZ
comp=Z,4μm,33.8s
CLNS Chul'man 29.43 342 *eP* **P 10 33 42.4 +1.7**
CLNS *e**PP sP 10 34 18.5 +6.9
CLNS *e* 10 34 40.2
CLNS *e* 10 36 41.0
CLNS *eS* **S 10 38 23.4 -4.8**
CLNS *e* 10 44 04.1
CLNS pmax pmax
comp=Z,209nm,1.4s
CLNS pmax pmax
comp=N,190nm,1.4s
CLNS pmax pmax
comp=E,64nm,1.6s
CLNS pmax pmax
comp=Z,98nm,0.9s
CLNS pmax pmax
comp=E,116nm,1.1s
CLNS pmax pmax
comp=N,98nm,0.9s
CLNS smax smax
comp=E,2μm,14.6s
CLNS smax smax
comp=N,4μm,13.6s
CIT Chita 30.19 325 *eP* **P 10 33 50.5 +3.0**
CIT *e* 10 34 09.2
CIT *e* 10 34 22.7
CIT *e* 10 34 46.2
CIT *e* 10 36 48.2
CIT *eS* **S 10 38 46.0 +5.9**
CIT *e* 10 40 29.5
CIT pmax pmax
comp=Z,528nm,2.6s
QIZ Qiongzhong 30.22 257 P **P 10 33 48.1 0.0**
QIZ pP **pP 10 34 04.5 -4.0**
QIZ S **S 10 38 42.6 +1.4**
QIZ PMZ
comp=Z,170nm,1.5s
QIZ PMZ
comp=Z,3μm,6.2s
QIZ LN
comp=Z,12μm,20.7s
QIZ LZ
comp=Z,13μm,33.4s
QIZ Qiongzhong 30.22 257 *eP* **P 10 33 49.8 +1.7**
comp=Z,457nm,1.5s
GYA Guiyang 30.41 272⇑*iP* **P 10 33 49.6 -0.3**
GYA pP **pP 10 34 10.0 -0.3**
GYA PcP **PcP 10 36 48.9 +1.3**
GYA S **S 10 38 44.8 +0.4**
GYA sS **sS 10 39 18.4 -1.3**
GYA ScP **ScP 10 40 23.3 +1.3**
GYA PMZ
comp=Z,310nm,1.2s
GYA PMZ
comp=Z,2μm,11.8s
GYA LN
comp=Z,6μm,21.7s
GYA LE
comp=Z,6μm,25.5s
GYA LZ
comp=Z,13μm,22.4s
TNTI Ternate 31.54 207 P **P 10 34 00.3 +0.7**
comp=Z,1μm,1.7s,comp=Z,20μm
SMPI Sarmi 31.55 184 P **P 10 34 00.7 +0.9**
comp=Z,312nm,1.2s,comp=Z,7μm
RKPI Ransiki, Papua 31.68 193 P **P 10 34 01.9 +1.0**
comp=Z,183nm,0.8s,comp=Z,6μmcomp=Z,6μm
SRPI Serui, Papua 31.69 189 P **P 10 34 02.2 +1.2**
comp=Z,322nm,1.0s,comp=Z,322nm,1.0s,comp=Z,9μm
comp=Z,9μm
LZH Lanzhou 31.73 291⇑P **P 10 34 01.3 -0.1**
LZH PP **PnPn 10 35 09.3 +0.5**
LZH PcP **PcP 10 36 52.0 +1.0**
LZH S **S 10 39 02.4 -2.4**
LZH SS SnSn 10 41 12.3 +11
LZH PMZ
comp=Z,290nm,1.5s
LZH PMZ
comp=Z,1μm,4.9s
LZH LN
comp=Z,6μm,14.6s
LZH LE
comp=Z,5μm,12.2s
LZH LZ
comp=Z,8μm,15.0s
SWI Sorong 31.75 199 P **P 10 34 01.3 -0.2**
comp=Z,258nm,0.9s,comp=Z,4μm
ULN Ulaanbaatar 31.77 314*ceP* **P 10 34 02.2 +0.6**
ULN pmax pmax
comp=Z,263nm,1.7s
ULN Ulaanbaatar 31.77 314 P **P 10 34 02.5 +0.9**
SNR=84
ULN Ulaanbaatar 31.77 314 *eP* **P 10 34 02.7 +1.1**
comp=Z,108nm,0.8s
JAY Jayapura 32.00 181 P **P 10 34 04.2 +0.5**
comp=Z,89nm,1.5s,comp=Z,89nm,1.5s,comp=Z,2μm
comp=Z,2μm
GENI Genyem 32.09 182 P **P 10 34 05.3 +0.9**
comp=Z,269nm,1.6s,comp=Z,269nm,1.6s,comp=Z,5μm
comp=Z,5μm
KDM Kudat 32.09 230⇑P **P 10 34 05.5 +1.0**
CD2 Chengdu 32.10 282⇑*iP* **P 10 34 03.8 -0.8**
CD2 pP **pP 10 34 22.8 -2.3**
CD2 sP **sP 10 34 32.8 -2.7**
CD2 PcP **PcP 10 36 47.1 -4.8**
CD2 S **S 10 39 06.5 -4.0**
CD2 PMZ
comp=Z,160nm,1.0s
CD2 PMZ

comp=Z,2µm,8.4s
CD2 LN
comp=Z,10µm,15.6s
CD2 LE
comp=Z,8µm,21.7s
CD2 LZ
comp=Z,13µm,16.8s
SONM Songino Array 32.17 314 P **P** **10 34 05.6 +0.5**
comp=Z,47nm,0.7s,baz=124,slow=8.7,SNR=160
SONM PcP **PcP** **10 36 53.0 +1.1**
comp=Z,27nm,0.6s,baz=101,slow=1.7,SNR=9.5
SONM ScP **ScP** **10 40 26.3 -1.2**
comp=Z,12nm,0.8s,baz=144,slow=5.4,SNR=5.0
SONM LR LR 10 47 49.3
comp=Z,3µm,20.3s,baz=113,slow=37
SONM P3KPbc 11 05 36.5
comp=Z,1.1nm,0.8s,baz=304,slow=3.6,SNR=6.5
SONM Songino Array 32.17 314 P **P** **10 34 05.6 +0.5**
SONM 10 36 53.0
SONM pmax pmax
comp=Z,47nm,0.7s
SONM pmax pmax
comp=Z,27nm,0.6s
SONM pmax pmax
comp=N,12nm,0.9s
SONM MLR MLR
comp=Z,3µm,20.3s
LBMI Labuha 32.78 206 P **P** **10 34 11.7 +1.2**
comp=Z,1µm,1.1s,comp=Z,1µm,1.1s,comp=Z,19µm
comp=Z,19µm
SDKM Sandakan 32.81 228 ⇑P **P** **10 34 11.6 +0.8**
KKM Kota Kinabalu 33.15 230 ⇑P **P** **10 34 16.1 +2.2**
KKM Kota Kinabalu 33.15 230 *e*P **P** **10 34 15.8 +1.9**
comp=Z,925nm,1.3s
KMSI Cibinong 33.17 212 P **P** **10 34 14.9 +1.0**
comp=Z,3µm,0.9s,comp=Z,3µm,0.9s,comp=Z,26µm
comp=Z,26µm
YAK Yakutsk 33.22 350 P **P** **10 34 13.8 0.0**
comp=Z,200nm,0.5s,baz=161,slow=13,SNR=72
YAK *e*S **S** **10 39 27.2 +0.3**
comp=Z,37nm,0.8s,baz=155,slow=21,SNR=5.5
YAK LR LR 10 48 57.2
comp=Z,3µm,18.1s,baz=165,slow=38
YAK Yakutsk 33.22 350 *c i*P **P** **10 34 13.8 0.0**
YAK *e**PP **pP** **10 34 37.0 +2.6**
YAK *e* 10 35 27.1
YAK *e* 10 36 54.7
YAK *e*S **S** **10 39 24.7 -2.2**
YAK *e**SS **sS** **10 40 06.1 +3.6**
YAK *e*SS **SnSn** **10 41 31.5 -4.3**
YAK *e* 10 44 33.0
YAK pmax pmax
comp=Z,209nm,1.0s
YAK pmax pmax
comp=N,146nm,1.2s
YAK pmax pmax
comp=E,48nm,1.2s
YAK pmax pmax
comp=Z,489nm,2.3s
YAK pmax pmax
comp=N,633nm,2.8s
YAK pmax pmax
comp=E,114nm,1.5s
YAK smax smax
comp=N,4µm,5.3s
YAK smax smax
comp=E,1µm,3.2s
TSM Tawau 33.41 225 ⇑P **P** **10 34 16.6 +0.5**
FAKI Fak Fak 33.47 196 P **P** **10 34 15.4 -1.1**
comp=E,162nm,0.8s,comp=E,162nm,0.8s,comp=E,3µm
comp=E,3µmcomp=E,12µmcomp=E,12µm
BOD Bodaibo 33.80 334 ⇑*i*P **P** **10 34 19.5 +0.5**
BOD pmax pmax
comp=Z,191nm,1.5s
SEY Seymchan 34.08 9 P **P** **10 34 21.6 +0.3**
comp=Z,51nm,0.5s,baz=196,slow=8.2,SNR=168
SEY LR LR 10 48 29.3
comp=Z,5µm,20.9s,baz=180,slow=36
SEY Seymchan 34.08 9 P **P** **10 34 21.6 +0.3**
SEY pmax pmax
comp=Z,51nm,0.5s
SEY MLR MLR
comp=Z,5µm,20.9s
KMI Kunming 34.18 272 P **P** **10 34 23.5 +0.6**
KMI pP **pP** **10 34 44.0 +0.5**
KMI PP **PnPn** **10 35 40.6 +0.9**
KMI S **S** **10 39 40.8 -2.3**
KMI sS sS 10 40 13.3 -5.4
KMI PMZ
comp=Z,170nm,1.2s
KMI PMZ
comp=Z,2µm,4.4s
KMI LN
comp=Z,6µm,11.9s
KMI LE
comp=Z,5µm,21.8s
KMI LZ
comp=Z,11µm,28.2s
MRSI Marisa 34.25 215 P **P** **10 34 24.5 +1.2**
comp=Z,2µm,1.4s,comp=Z,2µm,1.4s,comp=Z,31µm
comp=Z,31µm
SANI Sanana 34.66 207 P **P** **10 34 25.6 -1.2**
comp=Z,906nm,1.4s,comp=Z,906nm,1.4s,comp=Z,10µm
comp=Z,10µmcomp=Z,13µmcomp=Z,13µm
MSAI Masohi 34.81 201 P **P** **10 34 30.2 +2.1**
comp=Z,322nm,1.1s,comp=Z,322nm,1.1s,comp=Z,4µm
comp=Z,4µm
DLV T Lat 34.98 247 *e*P **P** **10 34 30.8 +0.9**
ZAK Zakamensk 35.02 317 *e*P **P** **10 34 30.2 +0.5**
ZAK *e* 10 36 59.6
ZAK pmax pmax
comp=Z,55nm,1.5s
GTA Gaotai 35.04 297 ⇑P **P** **10 34 29.3 -0.8**
GTA pP **pP** **10 34 51.3 +0.5**
GTA PP **PP** **10 35 51.1 0.0**
GTA PcP **PcP** **10 36 59.3 -0.9**
GTA S **S** **10 39 51.7 -4.3**
GTA sS **sS** **10 40 31.3 -0.4**
GTA ScP **ScP** **10 40 37.2 -0.6**
GTA PcS **PcS** **10 40 45.7 -1.5**
GTA PMZ
comp=Z,190nm,1.0s
GTA PMZ
comp=Z,2µm,6.7s
GTA LN
comp=Z,3µm,18.0s
GTA LE
comp=Z,4µm,20.0s
GTA LZ
comp=Z,7µm,19.9s
LUWI Luwuk 35.16 213 P **P** **10 34 30.8 -0.3**
comp=Z,1µm,1.4s,comp=Z,1µm,1.4s,comp=Z,14µm
comp=Z,14µm
LUWI Luwuk 35.16 213 *e*P **P** **10 34 30.4 -0.7**
comp=Z,2µm,1.1s
IRK Irkutsk 35.20 320 ⇑*i*P **P** **10 34 31.8 +0.7**
IRK *e* 10 36 59.8
IRK *e*S **S** **10 39 56.9 -0.9**
IRK pmax pmax
comp=Z,564nm,2.0s
TLY Talaya 35.31 319 P **P** **10 34 33.3 +1.1**
comp=Z,33nm,0.6s,baz=128,slow=12,SNR=46
TLY PcP **PcP** **10 37 01.8 +1.2**
comp=Z,28nm,0.6s,baz=229,slow=2.7,SNR=6.5
TLY S **S** **10 40 00.5 +0.9**
comp=Z,3.1nm,0.6s,baz=246,slow=18,SNR=2.2
TLY LR LR 10 48 34.5
comp=Z,4µm,21.2s,baz=112,slow=35
TLY Talaya 35.31 319 *c i*P **P** **10 34 33.5 +1.3**
TLY *e* 10 35 49.5
TLY *e* 10 37 00.1
TLY *e*S **S** **10 39 57.3 -2.3**
TLY pmax pmax
comp=Z,317nm,1.7s
TLY MLR MLR
comp=Z,4µm,15.0s
TLY Talaya 35.31 319 P **P** **10 34 33.4 +1.3**
SNR=140
NLAI Namlea 35.33 205 P **P** **10 34 33.6 +1.0**
comp=Z,542nm,0.9s,comp=Z,542nm,0.9s,comp=Z,8µm
comp=Z,8µmcomp=Z,10µmcomp=Z,10µm
MPSI Mapaga 35.44 218 P **P** **10 34 34.3 +0.8**
comp=Z,281nm,2.0s,comp=Z,281nm,2.0s,comp=Z,6µm
comp=Z,6µm
APSI Ampana 35.59 215 P **P** **10 34 34.6 -0.2**
comp=Z,1µm,1.4s,comp=Z,1µm,1.4s,comp=Z,18µm
comp=Z,18µmcomp=Z,13µmcomp=Z,13µm

BNDI Bandanaira 35.62 199 P **P** **10 34 35.1 0.0**
comp=Z,791nm,0.9s,comp=Z,791nm,0.9s,comp=Z,9µm
comp=Z,9µm
SKNT Sakolnakorn 36.12 258 P **P** **10 34 40.1 +0.7**
comp=Z,1µm,1.2s,comp=Z,17µm
PCI Palu 36.51 217 P **P** **10 34 44.1 +1.4**
comp=Z,2µm,1.3s,comp=Z,17µm
MOY Mondy 36.83 318 *e*P **P** **10 34 47.7 +2.5**
MOY pmax pmax
comp=Z,357nm,2.3s
BTM Bintulu 37.34 230 ⇑P **P** **10 34 50.6 +0.8**
KHON Khomkaen 37.40 258 P **P** **10 34 51.1 +0.9**
comp=Z,259nm,1.1s,comp=Z,3µm
ADK Adak 38.24 42 *e*P **P** **10 34 56.5 -0.4**
ADK pmax pmax
comp=Z,214nm,1.1s
ADK Adak 38.24 42 *e*P **P** **10 34 56.5 -0.4**
comp=Z,214nm,1.1s
TTSI Tana Toraja 38.34 216 P **P** **10 34 58.2 +0.1**
comp=Z,202nm,1.5s,comp=Z,202nm,1.5s,comp=Z,4µm
comp=Z,4µm
BKB Balikpapan 38.42 221 P **P** **10 35 00.5 +1.7**
comp=Z,1µm,1.2s,comp=Z,1µm,1.2s,comp=Z,13µm
comp=Z,13µm
SBUM Sibu 38.47 231 ⇑P **P** **10 35 00.9 +1.6**
SBUM Sibu 38.47 231 *e*P **P** **10 34 59.6 +0.3**
comp=Z,1µm,1.7s
UTTA Uttaradit 38.71 261 P **P** **10 35 01.6 +0.3**
comp=Z,214nm,1.1s,comp=Z,2µm
PBKT Sadao Pong 38.87 259 P **P** **10 35 03.1 +0.5**
comp=Z,738nm,1.1s,comp=Z,9µm
SPSI Sidrap Palu 39.15 215 P **P** **10 35 04.6 -0.3**
comp=Z,507nm,1.0s,comp=Z,6µmcomp=Z,14µm
LAMP Lampang 39.18 263 P **P** **10 35 05.8 +0.6**
comp=Z,136nm,0.9s,comp=Z,1µm
PMG Port Moresby 39.29 170 *e*P **P** **10 35 05.6 -0.5**
PMG Port Moresby 39.29 170 *e*P **P** **10 35 05.5 -0.5**
MTKI Muara Teweh, K 39.34 224 P **P** **10 35 07.8 +1.2**
comp=Z,2µm,1.1s,comp=Z,2µm,1.1s,comp=Z,26µm
comp=Z,26µm
BNSI Bone 39.36 214 P **P** **10 35 07.7 +1.0**
comp=Z,472nm,1.2s,comp=Z,472nm,1.2s,comp=Z,11µm
comp=Z,11µm
CHBT CHBT 39.57 253 P **P** **10 35 09.3 +0.9**
comp=Z,537nm,1.3s,comp=Z,6µm
CMMT Chiang Mai 39.66 264 P **P** **10 35 09.2 0.0**
comp=Z,1µm,1.1s,comp=Z,11µm
CHTO Chiang Mai 39.66 264 P **P** **10 35 09.2 0.0**
comp=Z,4µm,1.2s,comp=Z,41µm
CHTO Chiang Mai 39.66 264 *e*P **P** **10 35 09.6 +0.4**
CHTO pmax pmax
comp=Z,887nm,1.1s
CHTO Chiang Mai 39.66 264 P **P** **10 35 09.9 +0.7**
SNR=368
CHTO Chiang Mai 39.66 264 *e*P **P** **10 35 09.6 +0.4**
comp=Z,887nm,1.1s
CM31 Chiang Mai Arr 39.80 263 *e*P **P** **10 35 11.2 +0.8**
comp=Z,123nm,0.8s
CMAR Chiang Mai Arr 39.80 263 P **P** **10 35 10.9 +0.5**
comp=Z,106nm,0.9s,baz=50,slow=8.1,SNR=174
CMAR PcP **PcP** **10 37 15.6 +0.6**
comp=Z,34nm,1.0s,baz=66,slow=1.3,SNR=5.4
CMAR LR LR 10 53 36.2
comp=Z,8µm,20.0s,baz=81,slow=39
CMAR PKPPKP **P'P'df** **11 07 38.2 +1.2**
comp=Z,0.7nm,0.3s,baz=169,slow=2.2,SNR=4.6
CMAR Chiang Mai Arr 39.80 263 *i* P **P** **10 35 10.8 +0.4**
CMAR pmax pmax
comp=Z,191nm,1.1s
KAPI Kappang 40.07 214 P **P** **10 35 13.5 +1.0**
SNR=47
KAPI Kappang 40.07 214 *e*P **P** **10 35 12.9 +0.4**
comp=Z,90nm,0.9s
BKSI Bulukumba 40.16 213 P **P** **10 35 13.6 +0.4**
comp=Z,280nm,1.1s,comp=Z,4µmcomp=Z,17µm
KSM Kuching 40.48 232 ⇑P **P** **10 35 17.1 +1.1**
KSM Kuching 40.48 232 *e*P **P** **10 35 16.9 +0.9**
comp=Z,424nm,1.2s
KBKI Kotabaru 40.51 220 P **P** **10 35 16.5 +0.4**
comp=Z,498nm,1.5s,comp=Z,498nm,1.5s,comp=Z,11µm
comp=Z,11µmcomp=Z,11µmcomp=Z,11µm
STKI Sintang 40.73 229 P **P** **10 35 19.1 +1.1**
comp=Z,639nm,1.3s,comp=Z,639nm,1.3s,comp=Z,27µm
comp=Z,27µm
MHMT Maesarieng 40.80 264 P **P** **10 35 19.4 +0.8**
comp=Z,344nm,1.3s,comp=Z,5µm
HVS Khovu-Aksy 41.04 315 ⇑*e*P **P** **10 35 21.7 +1.4**
HVS pmax pmax
comp=Z,956nm,0.7s
BILL Bilibino 41.21 14 *c i*P **P** **10 35 21.4 +0.1**
BILL *i* 10 35 53.8
BILL *e* 10 36 58.6
BILL *i*S **S** **10 41 29.6 +1.6**
BILL pmax pmax
comp=Z,453nm,1.7s
BILL Bilibino 41.21 14 *e*P **P** **10 35 21.5 +0.1**
comp=Z,840nm,1.8s
BBKI Banjar Baru 41.40 222 P **P** **10 35 24.7 +1.2**
comp=Z,599nm,1.6s,comp=Z,599nm,1.6s,comp=Z,10µm
comp=Z,10µm
SRDT SRDT 41.48 258 P **P** **10 35 24.8 +0.6**
comp=Z,1µm,0.9s,comp=Z,23µm
KHLT Khaolaem Dam 41.72 259 P **P** **10 35 27.2 +1.0**
comp=Z,189nm,1.3s,comp=Z,3µm
IMP Imphal 41.92 275 *ex* P **10 35 27.0 -0.9**
IMP *ex* x 10 36 40.0
MMRI Maumere 42.15 208 P **P** **10 35 30.3 +0.7**
comp=Z,2µm,1.0s,comp=Z,2µm,1.0s,comp=Z,16µm
comp=Z,16µmcomp=Z,16µmcomp=Z,16µm
SOEI Soe 42.38 205 *e*P **P** **10 35 31.1 -0.5**
comp=Z,1µm,1.0s
EDFI Ende, Flores 42.48 209 P **P** **10 35 33.1 +0.7**
comp=Z,1µm,1.0s,comp=Z,1µm,1.0s,comp=Z,12µm
comp=Z,12µm
TIXI Tiksi 42.56 354 *ce*P **P** **10 35 31.9 -0.3**
TIXI pmax pmax
comp=Z,233nm,1.7s
TIXI MLR MLR
comp=Z,2µm,19.0s
TIXI Tiksi 42.56 354 *e*P **P** **10 35 31.9 -0.3**
comp=Z,125nm,0.9s
PBKI Pangkalan Bun 42.71 226 P **P** **10 35 35.2 +1.0**
comp=Z,2µm,1.2s,comp=Z,2µm,1.2s,comp=Z,23µm
comp=Z,23µm
KRAR Krasnoyarsk 42.81 322 ⇑*e*P **P** **10 35 35.9 +1.4**
KRAR pmax pmax
comp=Z,933nm,1.7s
HNR Honiara 42.94 152 *e*P **P** **10 35 36.5 +0.5**
HNR pmax pmax
comp=Z,410nm,1.0s
HNR Honiara 42.94 152 *e*P **P** **10 35 36.5 +0.5**
comp=Z,410nm,1.0s
BATI Baumata 43.02 205 P **P** **10 35 36.4 -0.3**
comp=Z,853nm,1.0s,comp=Z,9µm
LSA Lhasa 43.04 283 P **P** **10 35 39.7 +2.4**
LSA PP **PP** **10 37 21.8 +3.0**
LSA S **S** **10 41 51.5 -5.4**
LSA sS **sS** **10 42 29.6 -3.7**
LSA PMZ
comp=Z,50nm,1.0s
LSA PMZ
comp=Z,880nm,11.0s
LSA LN
comp=Z,2µm,26.0s
LSA LE
comp=Z,6µm,35.0s
LSA LZ
comp=Z,8µm,32.0s
LSA Lhasa 43.04 283 *e*P **P** **10 35 38.2 +0.9**
LSA pmax pmax
comp=Z,383nm,1.4s
LSA Lhasa 43.04 283 *e*P **P** **10 35 38.1 +0.9**
comp=Z,383nm,1.4s
NIKH Nikolski High 43.15 43 *e*P **P** **10 35 36.5 -0.8**
COEN Coen 43.42 177 *e*P **P** **10 35 39.4 -0.4**
comp=Z,53nm,1.0s
SHL Shillong 43.47 277 *e*P **P** **10 35 40.0 -0.5**
SHL *i* PCP **PP** **10 37 25.0 +1.9**
WSI Waingapu 43.91 210 P P **10 35 48.5 +4.8**
comp=Z,608nm,0.9s,comp=Z,10µm
SKLT Songkhla 44.04 248 P **P** **10 35 46.4 +1.5**
comp=Z,553nm,1.0s,comp=Z,8µm
WMQ Urumqi 44.27 304 P **P** **10 35 46.9 +0.4**
WMQ pP **pP** **10 36 06.1 -1.7**
WMQ sP **sP** **10 36 14.7 -3.3**
WMQ PP **PP** **10 37 30.4 -0.8**
WMQ ScP **ScP** **10 41 14.0 +0.7**

WMQ ScS **ScS** **10 45 36.5 +0.6**
WMQ PMZ
comp=Z,400nm,1.0s
WMQ PMZ
comp=Z,750nm,3.6s
WMQ LN
comp=Z,5µm,22.5s
WMQ LE
comp=Z,4µm,14.7s
WMQ LZ
comp=Z,5µm,24.6s
BASI Baing, Sumba 44.27 209 P **P** **10 35 46.3 -0.4**
comp=Z,1µm,1.2s,comp=Z,1µm,1.2s,comp=Z,13µm
comp=Z,13µm
WBSI Waikabubak, Su 44.28 211 P **P** **10 35 45.0 -1.8**
comp=Z,372nm,0.9s,comp=Z,4µm
TRTT Trang 44.41 249 P **P** **10 35 48.8 +0.9**
comp=Z,480nm,1.2s,comp=Z,6µm
SURT Suratani 44.52 251 P **P** **10 35 49.6 +0.9**
comp=Z,129nm,1.4s,comp=Z,2µm
UNV Unalaska Valle 44.70 42 *e*P **P** **10 35 49.2 -0.4**
comp=Z,103nm,1.0s
MYKOM Kota Tinggi 44.88 239 *e*P **P** **10 35 52.9 +1.3**
comp=Z,895nm,1.3s
TPRI Tanjung Pinang 44.97 237 P **P** **10 35 53.6 +1.3**
comp=Z,491nm,1.4s,comp=Z,491nm,1.4s,comp=Z,29µm
comp=Z,29µm
SRBI Singaraja 45.00 218 P **P** **10 35 53.1 +0.6**
comp=Z,1µm,1.0s,comp=Z,1µm,1.0s,comp=Z,16µm
comp=Z,16µm
KULM Kulim 45.13 245 *e*P **P** **10 35 54.2 +0.6**
comp=Z,1µm,1.3s
AKUT Akutan 45.18 42 *e*P **P** **10 35 53.1 -0.4**
ABJI Asem Bagus 45.29 219 P **P** **10 35 55.6 +0.9**
comp=Z,2µm,1.1s,comp=Z,18µm
GAMB Gambell 45.30 27 *e*P **P** **10 35 56.0 +1.8**
comp=Z,67nm,0.9s
IPM Ipoh 45.33 244 *e*P **P** **10 35 55.4 +0.2**
TPI Tanjungpandan 45.37 231 P **P** **10 35 56.8 +1.4**
comp=Z,415nm,1.2s,comp=Z,6µmcomp=Z,17µm
DNP Denpasar 45.50 217 P **P** **10 35 56.4 0.0**
comp=Z,3µm,1.0s,comp=Z,30µm
GRJI Gresik 45.55 222 P **P** **10 35 57.6 +0.8**
comp=Z,364nm,1.2s,comp=Z,4µm
BLJI Banyuglugur 45.60 220 P **P** **10 35 58.4 +1.2**
comp=Z,539nm,1.5s,comp=Z,8µm
IGBI Denpasar 45.65 217 P **P** **10 35 56.8 -0.8**
comp=Z,955nm,1.0s,comp=Z,8µm
TBJI Tambak Boyo 45.84 222 P **P** **10 36 00.8 +1.7**
comp=Z,2µm,1.1s,comp=Z,18µm
DSRI Dabo 45.88 236 P **P** **10 36 01.3 +1.8**
comp=Z,1µm,1.4s,comp=Z,17µm
PPBI Pangkal Pinang 45.97 233 P **P** **10 36 01.4 +1.2**
comp=Z,432nm,1.2s,comp=Z,6µm
UWJI Ujung Watu 46.06 224 P **P** **10 36 02.6 +1.7**
comp=Z,2µm,1.1s,comp=Z,18µm
GMJI Gumukmas 46.12 219 P **P** **10 36 02.2 +0.9**
comp=Z,339nm,1.2s,comp=Z,5µmcomp=Z,14µm
TAPN Taplejung 46.55 281 *e*P **P** **10 36 04.7 -0.4**
comp=Z,98nm,0.5s
FALS False Pass 46.66 41 *e*P **P** **10 36 03.6 -1.5**
PWJI Pagerwojo 46.84 221 P **P** **10 36 05.7 -1.2**
comp=Z,1µm,0.9s,comp=Z,8µm
ZAA0 Zalesovo Array 46.89 318 *e*P **P** **10 36 06.7 -0.2**
ZALV Zalesovo Beam 46.89 318 P **P** **10 36 06.5 -0.4**
comp=Z,50nm,0.5s,baz=114,slow=6.6,SNR=127
ZALV PcP **PcP** **10 37 38.2 0.0**
comp=Z,96nm,0.6s,baz=111,slow=3.7,SNR=15
ZALV ScP **ScP** **10 41 22.5 -1.4**
comp=Z,11nm,0.6s,baz=112,slow=4.6,SNR=4.4
ZALV ScS **ScS** **10 45 48.7 -3.6**
comp=Z,3.9nm,0.8s,baz=108,slow=8.4,SNR=3.9
ZALV LR LR 10 56 14.0
comp=Z,4µm,18.7s,baz=83,slow=36
ZALV Zalesovo Beam 46.89 318 P **P** **10 36 06.5 -0.4**
ZALV 10 37 38.2
ZALV 10 45 48.7
ZALV pmax pmax
comp=Z,50nm,0.5s
ZALV pmax pmax
comp=Z,96nm,0.6s
ZALV pmax pmax
comp=N,11nm,0.6s
ZALV pmax pmax
comp=N,4.0nm,0.8s
ZALV MLR MLR
comp=Z,4µm,18.7s
ODAN Odare 46.97 280 *e*P **P** **10 36 08.0 -0.2**
comp=Z,189nm,0.6s
WOJI Wonogiri, Jawa 47.20 223 P **P** **10 36 09.8 0.0**
comp=Z,435nm,1.1s,comp=Z,7µm
DGPR DIGLIPUR 47.32 260 *e*P **P** **10 36 11.0 +0.3**
PCJI Pacitan 47.34 222 P **P** **10 36 10.3 -0.5**
comp=Z,802nm,1.1s,comp=Z,9µm
JMBI JAMBI 47.35 236 P P 10 36 15.4 +4.4
comp=Z,2µm,1.4s,comp=Z,30µmcomp=Z,31µm
RGRI Rengat 47.43 238 P **P** **10 36 14.3 +2.7**
comp=Z,990nm,1.1s,comp=Z,82µm
PMBI Palembang 47.46 233 P P 10 36 15.3 +3.5
comp=Z,2µm,1.0s,comp=Z,17µmcomp=Z,18µm
UGM Wanagama 47.50 223 P **P** **10 36 12.6 +0.5**
comp=Z,1µm,1.2s,comp=Z,19µm
TNA Tin City 47.52 26 *e*P **P** **10 36 12.4 +0.8**
comp=Z,313nm,1.6s
RAMN Ramite 47.62 281 *e*P **P** **10 36 12.8 -0.5**
comp=Z,379nm,0.7s
JIRN Jiri 47.77 282 *e*P **P** **10 36 14.4 -0.2**
comp=Z,335nm,0.4s
TSI Tuntungan 47.86 245 P **P** **10 36 17.5 +2.6**
comp=Z,404nm,1.4s,comp=Z,7µm
NVS Novosibirsk 47.92 319 ⇓*i*P **P** **10 36 15.5 +0.6**
NVS *i* 10 37 43.8
NVS *i*S **S** **10 43 05.6 +0.1**
NVS *e* 10 45 54.6
NVS pmax pmax
comp=Z,2µm,2.4s
NVS pmax pmax
comp=N,270nm,1.9s
NVS pmax pmax
comp=E,1µm,1.9s
NVS smax smax
comp=N,188nm,2.1s
NVS smax smax
comp=E,534nm,2.1s
BKNI Bangkinang 47.95 240 P **P** **10 36 17.4 +1.8**
comp=E,692nm,1.3s,comp=E,10µm
GUN Gumba 47.96 282 *e*P **P** **10 36 15.8 -0.2**
comp=E,409nm,0.6s
KPJI Karang Pucung 48.01 225 P **P** **10 36 15.6 -0.4**
comp=E,1µm,1.1s,comp=E,12µm
PSI Prapat 48.01 244 P **P** **10 36 16.7 +0.5**
comp=E,575nm,1.0s,baz=35,slow=6.8,SNR=125
PSI PcP **PcP** **10 37 43.7 +0.7**
comp=E,120nm,0.9s,baz=16,slow=3.0,SNR=4.3
PSI ScP **ScP** **10 41 28.6 -0.8**
comp=E,33nm,0.9s,baz=25,slow=2.3,SNR=7.3
PSI Prapat 48.01 244 P **P** **10 36 16.7 +0.5**
PSI 10 37 43.7
PSI pmax pmax
comp=Z,575nm,1.0s
PSI pmax pmax
comp=Z,120nm,0.9s
PSI pmax pmax
comp=N,33nm,0.9s
MK31 Makanchi Array 48.07 308 *i* P **P** **10 36 15.8 -0.4**
MK31 pmax pmax
comp=N,259nm,0.8s
MK31 Makanchi Array 48.07 308 *e*P **P** **10 36 16.1 -0.1**
MKAR Makanchi Array 48.07 308 P **P** **10 36 16.6 +0.4**
comp=N,110nm,0.7s,baz=98,slow=9.0,SNR=219
MKAR PcP **PcP** **10 37 43.9 +1.2**
comp=N,68nm,0.9s,baz=96,slow=1.4,SNR=8.0
MKAR ScP **ScP** **10 41 28.2 -0.9**
comp=N,5.0nm,0.5s,baz=64,slow=3.4,SNR=11
MKAR LR LR 10 57 29.2
comp=N,3µm,20.1s,baz=89,slow=37
MKAR P4KPbc 11 13 56.3
comp=N,2.6nm,0.5s,baz=70,slow=1.8,SNR=30
MKAR Makanchi Array 48.07 308 P **P** **10 36 16.6 +0.4**
MKAR 10 37 43.9
MKAR pmax pmax
comp=Z,110nm,0.7s
MKAR pmax pmax
comp=Z,68nm,0.9s
MKAR pmax pmax
comp=N,5.0nm,0.5s
MKAR MLR MLR
comp=Z,3µm,20.1s

LHMI Lhok Sumawe 48.13 248 P P 10 36 20.3 +3.3
comp=Z,660nm,1.2s,comp=Z,11µm
PBA Port Blair 48.21 259 *e*P P 10 36 18.7 +1.0
PBA AMB AMB 10 36 22.3
comp=Z,256nm,2.1s
SDPT Sand Point 48.40 41 *e*P **P** **10 36 17.2 -1.4**
comp=Z,208nm,0.6s
LEM Lembang 48.44 227 P **P** **10 36 19.6 +0.1**
comp=Z,3µm,1.0s,comp=Z,23µm
PKI Pulchoki 48.46 282 *e*P **P** **10 36 19.1 -0.7**
comp=Z,91nm,0.5s
PKIN Phulchoki 48.47 282 *e*P **P** **10 36 19.9 +0.1**
comp=Z,126nm,0.8s
KCSI Kotacane, Aceh 48.48 246 P **P** **10 36 19.0 -0.7**
comp=Z,264nm,1.3s,comp=Z,4µm
SDSI Sungai Dareh 48.49 238 P **P** **10 36 21.2 +1.4**
comp=Z,382nm,1.8s,comp=Z,17µm
KKN Kakani 48.51 282 *e*P **P** **10 36 19.8 -0.3**
comp=Z,116nm,0.7s
TNG Tangerang 48.57 228 P **P** **10 36 23.2 +2.9**
comp=Z,2µm,1.2s,comp=Z,33µmcomp=Z,23µm
CBJI Citeko 48.62 228 P **P** **10 36 21.9 +1.2**
comp=Z,1µm,1.1s
CMJI Cimerak 48.66 225 P **P** **10 36 20.0 -1.0**
comp=Z,254nm,1.1s
DMN Daman 48.70 282 *e*P **P** **10 36 21.4 -0.2**
comp=Z,119nm,0.5s
MNSI Mandailing Nat 48.76 242 P **P** **10 36 21.6 -0.2**
comp=Z,705nm,1.1s,comp=Z,9µm
KLI Kotabumi 48.79 231 P **P** **10 36 22.0 -0.1**
comp=Z,925nm,1.1s,comp=Z,11µm
SBJI Serang 48.87 229 P **P** **10 36 24.6 +2.0**
comp=Z,513nm,1.6s,comp=Z,10µm
CISI Cisompet, Garu 48.87 226 P **P** **10 36 21.6 -1.1**
comp=Z,804nm,1.1s,comp=Z,8µmcomp=Z,11µm
CISI Cisompet, Garu 48.87 226 *e*P **P** **10 36 21.1 -1.7**
BLSI Bandar Lampung 48.90 231 P **P** **10 36 22.5 -0.4**
comp=Z,1µm,1.1s,comp=Z,13µm
LHSI Lahat 48.97 234 P **P** **10 36 24.3 +0.9**
comp=Z,1µm,1.2s,comp=Z,14µm
MDSI Maura Dua 48.99 232 P **P** **10 36 23.2 -0.3**
comp=Z,2µm,1.3s,comp=Z,21µmcomp=Z,17µm
GKN Gorkha 48.99 283 *e*P **P** **10 36 23.4 -0.3**
comp=Z,113nm,0.5s
CNJI Cibinong 49.12 227 P **P** **10 36 23.0 -1.5**
comp=Z,550nm,1.1s,comp=Z,6µm
BOK Bokaro 49.20 277 *e*P **P** **10 36 26.4 +1.2**
BOK AMB AMB 10 36 30.2
comp=Z,250nm,1.8s
SKJI Sukabumi 49.26 228 P **P** **10 36 25.5 -0.1**
comp=Z,620nm,1.2s,comp=Z,6µm
BSI Banda Aceh 49.32 250 P **P** **10 36 27.4 +1.2**
comp=Z,192nm,0.9s,comp=Z,4µm
MASI Maura Aman, Be 49.40 235 P **P** **10 36 27.8 +1.0**
comp=Z,2µm,1.1s,comp=Z,19µm
LWLI Liwa 49.45 232 P **P** **10 36 27.4 +0.2**
comp=Z,486nm,1.1s,comp=Z,19µm
KASI Kota Agung 49.52 231 P **P** **10 36 26.5 -1.1**
comp=Z,718nm,1.1s,comp=Z,7µm
CGJI Cibinong 49.52 229 P **P** **10 36 26.2 -1.4**
comp=Z,177nm,0.7s,comp=Z,5µm
CTA Charters Tower 49.72 174 P **P** **10 36 28.7 -0.3**
comp=Z,78nm,0.8s,baz=350,slow=8.6,SNR=41
CTA Charters Tower 49.72 174 P **P** **10 36 28.7 -0.3**
CTA pmax pmax
comp=Z,78nm,0.8s
CTAO Charters Tower 49.72 174 *e*P **P** **10 36 27.9 -1.1**
CTAO Charters Tower 49.72 174 *e*P **P** **10 36 27.9 -1.1**
WRAB Tennant Creek 49.73 188*c i*P **P** **10 36 27.2 -1.9**
WRAB pmax pmax
comp=Z,559nm,1.0s
WRAB Tennant Creek 49.73 188 *e*P **P** **10 36 27.1 -1.9**
comp=Z,290nm,0.8s
WRA Warramunga Arr 49.74 188 P **P** **10 36 27.7 -1.4**
comp=Z,64nm,0.4s,baz=6.9,slow=7.7,SNR=261
WRA PcP **PcP** **10 37 50.3 +1.3**
comp=Z,65nm,0.6s,baz=5.1,slow=3.8,SNR=6.6
WRA ScP **ScP** **10 41 35.9 -0.5**
comp=Z,100nm,1.1s,baz=3.2,slow=4.6,SNR=19
WRA S **S** **10 43 28.1 -3.5**
comp=Z,43nm,0.9s,baz=7.3,slow=14,SNR=7.5
WRA P4KPbc 11 14 03.0
comp=Z,3.3nm,0.6s,baz=9.7,slow=4.9,SNR=36
WRA Warramunga Arr 49.74 188 P **P** **10 36 27.7 -1.4**
WRA 10 37 50.3
WRA S **S** **10 43 28.1 -3.5**
WRA pmax pmax
comp=Z,64nm,0.4s
WRA pmax pmax
comp=Z,65nm,0.6s
WRA pmax pmax
comp=N,100nm,1.1s
WRA smax smax
comp=N,43nm,0.9s
MNAI Manna 49.75 234 P **P** **10 36 31.2 +1.8**
comp=N,1µm,1.2s,comp=N,20µm
FITZ Fitzroy Crossi 49.75 199 *e*P **P** **10 36 28.9 -0.3**
comp=N,461nm,1.2s
KOLN Koldanda 49.94 283 *e*P **P** **10 36 30.8 -0.2**
comp=N,211nm,0.6s
GSI Gunungsitoli 49.99 244 P **P** **10 36 31.1 -0.1**
comp=N,2µm,1.2s,comp=N,28µm
GSI Gunungsitoli 49.99 244 *e*P **P** **10 36 30.6 -0.7**
PDGK Podgornoye 50.25 303 P **P** **10 36 32.2 -0.6**
PDGK pmax pmax
comp=Z,646nm,1.2s
SNSI Sinabang, Aceh 50.30 246 P **P** **10 36 35.2 +1.7**
comp=Z,1µm,1.3s,comp=Z,22µm
KURK Kurchatov 50.47 313 *e*P **P** **10 36 33.8 -0.5**
KURK 10 37 51.7
KURK S **S** **10 43 43.3 +2.1**
KURK pmax pmax
comp=Z,521nm,1.1s
KURK Kurchatov 50.47 313 P **P** **10 36 34.3 -0.1**
SNR=158
KURK Kurchatov 50.47 313 *e*P **P** **10 36 33.8 -0.5**
comp=Z,521nm,1.1s
KURK PcP **PcP** **10 37 51.7 +0.4**
KURK S **S** **10 43 43.3 +2.1**
KURK P'P' 11 07 17.6
KURK *e* 11 14 06.6
KURBB Kurchatov Arra 50.52 313 P **P** **10 36 35.0 +0.3**
comp=Z,156nm,0.5s,baz=92,slow=6.7,SNR=284
KURBB PcP **PcP** **10 37 51.7 +0.2**
comp=Z,32nm,0.6s,baz=96,slow=3.2,SNR=6.0
KURBB S **S** **10 43 43.3 +1.3**
comp=Z,8.2nm,0.9s,baz=88,slow=11,SNR=7.3
KURBB PKPPKP P'P'df 11 07 17.6 -6.5
comp=Z,1.9nm,1.1s,baz=249,slow=2.7,SNR=6.8
KURBB P4KPbc 11 14 06.6
comp=Z,1.0nm,0.5s,baz=95,slow=4.0,SNR=7.2
SVW2 Sparrevohn 51.70 34 *e*P **P** **10 36 44.5 +1.0**
LGTI Lohaghat 52.29 286 *ex* P 10 36 54.1 +5.8
XMIS Christmas Isla 52.48 226 *e*P **P** **10 36 48.1 -1.6**
comp=Z,206nm,1.4s
OHAK Old Harbor 52.55 39 *e*P **P** **10 36 49.1 -0.7**
CHLP Challavanipeta 52.72 271 *e*P **P** **10 36 52.1 +0.5**
CHLP IAmb IAmb 10 36 55.5
comp=Z,477nm,1.5s
CHLP *ep*P pP 10 37 19.5 +6.0
CHLP *es*P **sP** **10 37 27.9 +4.4**
CHLP *e*PcP **PcP** **10 37 58.4 -1.8**
CHLP *e*PP **PP** **10 38 52.5 +0.8**
CHLP *e*S **S** **10 44 11.1 -1.8**
ULHL Ulahol 52.75 302 P **P** **10 36 52.2 +0.4**
SNR=47
ULHL Ulahol 52.75 302 *i* P **P** **10 36 52.2 +0.4**
KDAK Kodiak Island 52.95 38 *i* P **P** **10 36 51.9 -0.8**
KDAK Kodiak Island 52.95 38 *e*P **P** **10 36 52.2 -0.5**
comp=Z,449nm,1.2s
RSO Redoubt South 53.02 35 *e*P **P** **10 36 53.5 +0.1**
TKM2 Tokmak 2 53.12 303 P **P** **10 36 54.8 +0.3**
SNR=193
TKM2 Tokmak 2 53.12 303 P **P** **10 36 54.6 +0.1**
TKM2 pmax pmax
comp=Z,194nm,0.9s
TKM2 Tokmak 2 53.12 303 *e*P **P** **10 36 54.8 +0.3**
comp=Z,600nm,1.6s
IM04 Indian Mountai 53.22 28 *e*P **P** **10 36 54.8 +0.2**
KSH Kashi 53.40 299 P P 10 36 59.9 +3.4
KSH pP pP 10 37 19.0 +0.5
KSH PP PP 10 39 03.0 +5.4
KSH PcS **PcS** **10 42 03.8 +1.9**
KSH S **S** **10 44 25.1 +3.0**
KSH sS sS 10 44 57.7 -2.0
KSH ScS **ScS** **10 46 38.8 +1.2**
KSH PMZ
comp=Z,140nm,1.0s
KSH LN
comp=Z,3µm,14.2s
KSH LE
comp=Z,3µm,17.0s
KSH LZ
comp=Z,4µm,19.3s
AS31 Alice Springs 53.46 188 *e*P **P** **10 36 55.3 -1.6**
ASAR Alice Springs 53.47 188 P **P** **10 36 55.3 -1.6**
comp=Z,24nm,0.5s,baz=3.6,slow=5.8,SNR=134
ASAR PcP **PcP** **10 38 03.6 +0.8**
comp=Z,130nm,1.0s,baz=4.3,slow=3.5,SNR=11
ASAR ScP **ScP** **10 41 52.0 -0.4**
comp=Z,23nm,0.9s,baz=8.2,slow=4.1,SNR=8.4
ASAR S **S** **10 44 20.9 -1.8**
comp=Z,6.5nm,0.8s,baz=20,slow=18,SNR=6.9
ASAR LR LR 11 00 03.2
comp=Z,1µm,20.1s,baz=2.5,slow=36
ASAR PKPPKP **P'P'df** **11 07 17.5 +2.8**
comp=Z,1.2nm,0.7s,baz=153,slow=2.8,SNR=5.6
ASAR P4KPbc 11 14 19.6
comp=Z,4.3nm,1.0s,baz=6.0,slow=4.3,SNR=19
ASAR Alice Springs 53.47 188 P **P** **10 36 55.3 -1.6**
ASAR 10 38 03.6
ASAR S **S** **10 44 21.0 -1.8**
ASAR pmax pmax
comp=Z,24nm,0.5s
ASAR pmax pmax
comp=Z,130nm,1.0s
ASAR pmax pmax
comp=N,23nm,0.9s
ASAR smax smax
comp=N,7.0nm,0.8s
ASAR MLR MLR
comp=Z,1µm,20.1s
ASAR pmax pmax
comp=Z,4.0nm,1.0s
PPLA Purkeypile 53.50 32 *e*P **P** **10 36 57.7 +0.8**
comp=Z,560nm,1.4s
KZA Kyzart 53.50 302 P **P** **10 36 58.4 +0.8**
SNR=106
KZA Kyzart 53.50 302 *i* P **P** **10 36 58.4 +0.8**
CAST Castle Rocks 53.60 31 *e*P **P** **10 36 58.1 +0.7**
comp=Z,249nm,1.4s
KBK Karagaybulak 53.63 303 P **P** **10 36 58.6 +0.4**
SNR=78
KBK Karagaybulak 53.63 303 *i* P **P** **10 36 58.6 +0.4**
VIS Vishakhapatnam 53.67 271 *i* P **P** **10 37 00.5 +2.0**
VIS *i* x x 10 37 25.4
CHMS Chumysh 53.72 304 P **P** **10 36 58.5 -0.2**
SNR=63
CHMS Chumysh 53.72 304 *i* P **P** **10 36 58.5 -0.2**
FRU Bishkek 53.85 303⇑ *i*P **P** **10 36 58.8 -0.8**
FRU pmax pmax
comp=Z,600nm,1.8s
FRU smax smax
comp=E,2µm,6.0s
USP Ospenovka 53.87 304 P **P** **10 36 59.6 -0.1**
SNR=113
USP Ospenovka 53.87 304 *i* P **P** **10 36 59.6 -0.1**
DDI Dehra Dun 53.88 288 *e*P **P** **10 36 57.8 -2.3**
AAK Ala-Archa 53.97 303 P **P** **10 37 00.6 -0.1**
SNR=100
AAK Ala-Archa 53.97 303 P **P** **10 37 00.9 +0.2**
comp=E,74nm,0.7s,baz=104,slow=5.7,SNR=96
AAK PcP **PcP** **10 38 05.0 +0.1**
comp=E,48nm,0.5s,baz=80,slow=3.7,SNR=8.9
AAK Ala-Archa 53.97 303*c i*P **P** **10 37 00.2 -0.4**
AAK pmax pmax
comp=Z,550nm,1.6s
AAK Ala-Archa 53.97 303 P **P** **10 37 00.6 -0.1**
SNR=104
AAK Ala-Archa 53.97 303 *e*P **P** **10 37 00.6 -0.1**
comp=Z,851nm,2.1s
AAK PcP **PcP** **10 38 05.0 +0.1**
UCH Uchtor 54.02 303 P **P** **10 37 01.7 +0.3**
SNR=218
UCH Uchtor 54.02 303 *i* P **P** **10 37 01.6 +0.3**
KTH Kanishna Hill 54.13 31 *e*P P 10 36 54.7 -6.7
comp=Z,376nm,1.5s
SMLA Simla 54.39 289 *i* P **P** **10 37 03.1 -0.5**
SMLA AMB AMB 10 37 05.4
comp=Z,232nm,0.4s
TRF Thorofare Moun 54.41 31 *e*P **P** **10 37 03.8 +0.2**
comp=Z,312nm,1.4s
EKS2 Erkin-Say 54.48 303 P **P** **10 37 03.8 -0.5**
SNR=113
EKS2 Erkin-Say 54.48 303 *i* P **P** **10 37 03.8 -0.5**
EKS2 Erkin-Say 54.48 303 *e*P **P** **10 37 04.2 -0.1**
comp=Z,98nm,0.9s
MBWA Marble Bar 54.53 205 P **P** **10 37 05.0 +0.3**
SNR=22
MBWA Marble Bar 54.53 205 *e*P **P** **10 37 03.4 -1.2**
comp=Z,383nm,1.1s
RC01 Rabbit Creek A 54.53 34 *e*P **P** **10 37 04.6 +0.4**
AML Almayashu 54.64 303 P **P** **10 37 06.4 +0.6**
SNR=316
AML Almayashu 54.64 303 *i* P **P** **10 37 06.4 +0.6**
SEW Seward 54.65 35 *e*P **P** **10 37 04.3 -0.7**
comp=Z,378nm,1.1s
OTUK Ortayu 54.70 310 P **P** **10 37 05.6 -0.1**
OTUK pmax pmax
comp=Z,340nm,0.9s
DHRM DHARAMSHALA 54.79 290 *e*P **P** **10 37 07.0 +0.1**
COLD Coldfoot 54.82 26 *e*P **P** **10 37 07.0 +0.9**
comp=Z,268nm,1.6s
AGRA Agra 54.89 284 *e*P **P** **10 37 06.0 -1.3**
BISR Bishrakh 54.90 286 *e*P **P** **10 37 05.2 -2.2**
BHK Bhakra 54.92 289 *e*P **P** **10 37 07.4 -0.2**
DLH Dalhousie 54.99 291 *e*P **P** **10 37 08.0 -0.2**
KKR Kurukshetra 55.00 288 *e*P **P** **10 37 08.4 +0.2**
KKR AMB AMB 10 37 10.9
comp=Z,308nm,0.6s
MCK McKinley 55.03 31 *e*P **P** **10 37 07.7 -0.1**
MCK pmax pmax
comp=Z,255nm,1.2s
MCK McKinley 55.03 31 *e*P **P** **10 37 07.7 -0.1**
comp=Z,255nm,1.2s
NDI New Delhi 55.05 286 *e*P **P** **10 37 08.0 -0.5**
NDI *ex* x 10 44 39.0
KIP Kipapa 55.09 83⇓ *e*P **P** **10 37 08.3 -0.5**
KIP pmax pmax
comp=Z,260nm,1.7s
KIP Kipapa 55.09 83 *e*P **P** **10 37 09.1 +0.3**
comp=Z,350nm,1.4s
KIP *ep*P **pP** **10 37 27.3 -3.6**
SFK Sufi-Kurgan 55.17 300 P **P** **10 37 09.3 -0.2**
SFK pmax pmax
comp=Z,243nm,1.0s
AYAN Aya Nagar 55.19 286 *e*P **P** **10 37 08.3 -1.1**
BHGR Bahadurgarh 55.28 286 *e*P **P** **10 37 09.9 -0.2**
SONA Sohna 55.30 285 *e*P **P** **10 37 09.3 -0.9**
BVA0 Borovoye Array 55.47 316 *i* P **P** **10 37 11.8 +0.7**
BVA0 pmax pmax
comp=N,1µm,1.4s
BVAR Borovoye Array 55.47 316 P **P** **10 37 11.4 +0.3**
comp=N,348nm,0.5s,baz=96,slow=6.7,SNR=303
BVAR PcP **PcP** **10 38 10.7 +0.5**
comp=N,87nm,0.6s,baz=96,slow=4.5,SNR=5.4
BVAR S **S** **10 44 49.9 +0.8**
comp=N,6.8nm,0.7s,baz=100,slow=12,SNR=5.7
BVAR LR LR 11 00 52.2
comp=N,3µm,21.6s,baz=81,slow=36
BVAR PKP2bc 11 07 26.5
comp=N,5.1nm,1.0s,baz=251,slow=2.7,SNR=7.1
BVAR Borovoye Array 55.47 316 P **P** **10 37 11.4 +0.3**
BVAR 10 38 10.7
BVAR S **S** **10 44 49.9 +0.8**
BVAR pmax pmax
comp=Z,348nm,0.5s
BVAR pmax pmax
comp=Z,87nm,0.6s
BVAR smax smax
comp=N,7.0nm,0.7s
BVAR MLR MLR
comp=Z,3µm,21.6s
BVAR pmax pmax
comp=Z,5.0nm,1.0s
BRVK Borovoye 55.53 316*c i*P **P** **10 37 11.9 +0.4**
BRVK pmax pmax
comp=Z,2µm,1.7s
BRVK Borovoye 55.53 316 P **P** **10 37 12.2 +0.7**
SNR=430
BRVK Borovoye 55.53 316 *e*P **P** **10 37 11.7 +0.2**
comp=Z,2µm,1.5s
COLA College 55.57 29*c i*P **P** **10 37 12.7 +1.1**
COLA *i* *PP **pP** **10 37 32.6 -1.1**
COLA pmax pmax
comp=Z,524nm,2.5s
COLA College 55.57 29 *e*P **P** **10 37 12.0 +0.4**
comp=Z,88nm,0.9s
EIDS Eidsvold 55.57 169 *e*P **P** **10 37 11.3 -0.7**
comp=Z,677nm,1.4s
KUDL Kundal 55.83 286 *e*P **P** **10 37 13.1 -1.0**
ILAR Eielson Array 55.97 29 P **P** **10 37 13.7 -0.8**
comp=Z,2.8nm,0.8s,baz=270,slow=6.0,SNR=7.9
ILAR LR LR 10 58 51.4
comp=Z,1µm,21.7s,baz=270,slow=33
ILAR PKPPKP **P'P'df** **11 07 11.6 -4.3**
comp=Z,3.4nm,1.1s,baz=6.3,slow=1.5,SNR=6.8
ILAR PKP2bc 11 07 24.6
comp=Z,6.5nm,1.1s,baz=18,slow=1.8,SNR=9.1
ILAR PKP2ab 11 07 44.9
comp=Z,4.3nm,1.1s,baz=100,slow=2.7,SNR=6.1
ILAR P4KPbc 11 14 27.9
comp=Z,0.2nm,0.6s,baz=266,slow=4.5,SNR=5.2
NGP Nagpur 56.05 277 *i* P **P** **10 37 16.0 +0.3**
NGP AMB AMB 10 37 17.8
comp=Z,301nm,1.4s
NGP *ex* x 10 45 02.9
DIV Divide 56.46 34 *e*P **P** **10 37 18.9 +0.8**
comp=Z,291nm,1.2s
EYAK Cordova Ski Ar 56.49 35 *e*P **P** **10 37 18.7 +0.5**
comp=Z,422nm,1.6s
PAX Paxson 56.57 32 *e*P **P** **10 37 20.7 +1.7**
PAX pmax pmax
comp=Z,255nm,1.3s
PAX Paxson 56.57 32 *e*P **P** **10 37 20.6 +1.7**
comp=Z,255nm,1.3s
BHPL Bhopal 56.68 280 *e*P **P** **10 37 19.9 -0.4**
BHPL AMB AMB 10 37 21.5
comp=Z,205nm,0.2s
KK31 Karatay Array 56.77 304 *i* P **P** **10 37 20.5 0.0**
KK31 pmax pmax
comp=N,240nm,0.6s
KKAR Karatay Array 56.77 304 *e*P **P** **10 37 20.5 0.0**
KKAR Karatay Array 56.77 304 *e*P **P** **10 37 20.5 0.0**
DZM Mont Dzumac 56.97 152 *e*P **P** **10 37 23.3 +1.2**
comp=N,487nm,1.0s
DZM *es* S 10 45 00.8 -8.9
comp=N,8µm,25.5s
DZM *e*LR LR 10 54 07.6
comp=N,10µm,36.6s
RAGM Ragged Mountai 57.02 35 *e*P **P** **10 37 22.7 +0.6**
comp=N,203nm,1.2s
BMRM Bremner River 57.03 34 *e*P **P** **10 37 22.7 +0.5**
DOT Dot Lake 57.20 31 *e*P **P** **10 37 23.2 0.0**
comp=N,504nm,1.6s
NJS Nagarjunasagar 57.65 272 *e*P **P** **10 37 26.5 -0.6**
NJS IAmb IAmb 10 37 30.0
comp=Z,371nm,1.3s
NJS *ep*P **pP** **10 37 53.6 +4.2**
NJS *es*P **sP** **10 38 03.0 +3.7**
NJS *e*PcP **PcP** **10 38 19.0 -0.3**
NJS *e*S **S** **10 45 16.3 -2.5**
POHA Pohakuloa 57.87 84 *e*P **P** **10 37 29.2 +0.4**
comp=Z,244nm,1.0s
AJM Ajmer 57.92 284 *ex* **P** **10 37 28.0 -0.9**
HYB Hyderabad 57.95 273 *i* P **P** **10 37 28.0 -1.2**
comp=Z,210nm,1.0s
HYB *ep*P **pP** **10 37 55.0 +3.5**
HYB *es*P **sP** **10 38 06.0 +4.6**
HYB *e*PcP **PcP** **10 38 19.5 -1.0**
HYB *e*PP **PP** **10 39 38.0 -0.5**
HYB *e*S **S** **10 45 20.0 -2.8**
HYB Hyderabad 57.95 273 *e*P **P** **10 37 30.9 +1.7**
HYBB Hyderabad (bro 57.95 273 *e*P **P** **10 37 28.6 -0.6**
HYBB IAmb IAmb 10 37 31.8
comp=Z,288nm,1.3s
HYBB *e* 10 37 57.1
HYBB *es*P **sP** **10 38 02.8 +1.3**
HYBB *e*PcP **PcP** **10 38 20.7 +0.1**
HYBB *e*PP **PP** **10 39 39.5 +1.1**
HYBB *e*S **S** **10 45 19.5 -3.3**
AKL Akola 57.98 277 *e*P **P** **10 37 29.2 -0.2**
EGAK Eagle 58.43 29 *e*P **P** **10 37 31.6 -0.2**
comp=Z,141nm,1.3s
SKHT Srikalahasti 58.51 268 *e*P **P** **10 37 33.4 +0.4**
SKHT IAmb IAmb 10 37 36.5
comp=Z,520nm,1.3s
SKHT *ep*P pP 10 38 00.9 +5.5
SKHT *es*P **sP** **10 38 07.3 +2.0**
SKHT *e*PcP **PcP** **10 38 21.1 -1.6**
SKHT *e*S **S** **10 45 27.9 -2.2**
DZET Dzherino 58.98 300 P **P** **10 37 35.7 -0.5**
DZET pmax pmax
comp=Z,320nm,0.8s
MSVF Nonsavu 59.13 138 *e*P **P** **10 37 38.9 +1.6**
MSVF pmax pmax
comp=Z,127nm,0.9s
MSVF Nonsavu 59.13 138 *e*P **P** **10 37 38.9 +1.6**
comp=Z,127nm,0.9s
DAWY Dawson 59.24 30 *e*P **P** **10 37 38.1 +0.6**
COCO West Island 59.54 232 *i* P **P** **10 37 42.7 +2.6**
COCO West Island 59.54 232 *e*P **P** **10 37 42.2 +2.1**
KBL Kabul 59.98 295 *e*P **P** **10 37 43.0 -0.3**
KBL pmax pmax
comp=Z,95nm,1.0s
KBL Kabul 59.98 295 *e*P **P** **10 37 43.0 -0.3**
comp=Z,95nm,1.0s
URV Uravakonda 60.12 271 *e*P **P** **10 37 43.6 -0.6**
URV IAmb IAmb 10 37 46.8
comp=Z,587nm,1.3s
URV *ep*P pP 10 38 12.7 +6.1
URV *es*P **sP** **10 38 17.3 +0.7**
URV *e*PcP **PcP** **10 38 29.8 +0.6**
URV *e*S **S** **10 45 48.2 -2.7**
SVE Sverdlovsk 60.57 322*d i*P **P** **10 37 47.6 +1.0**
SVE *e*S **S** **10 45 52.4 -3.1**
SVE *e*SS **SS** **10 49 49.2 -5.4**
SVE pmax pmax
comp=Z,1µm,1.5s
SVE pmax pmax
comp=Z,1µm,9.1s
SVE MLR MLR
comp=Z,2µm,14.0s
ARMA Armidale 60.60 169 *e*P **P** **10 37 47.0 -0.2**
PALK Pallekele 60.69 261 *i* P **P** **10 37 49.0 +0.9**
PALK Pallekele 60.69 261 P **P** **10 37 48.9 +0.7**
SNR=28
PALK Pallekele 60.69 261⇑ *i*P **P** **10 37 49.8 +1.7**
SNR=32
PALK Pallekele 60.69 261 *e*P **P** **10 37 48.4 +0.2**
comp=Z,180nm,1.5s
INK Inuvik 61.14 25 P **P** **10 37 50.1 -0.1**
comp=Z,41nm,0.5s,baz=282,slow=6.0,SNR=108
STKA Stephens Creek 61.21 179 P **P** **10 37 49.8 -1.3**
comp=Z,22nm,0.4s,baz=16,slow=6.9,SNR=67
STKA LR LR 11 06 08.0
comp=Z,767nm,18.8s,baz=7.2,slow=38
STKA Stephens Creek 61.21 179 P **P** **10 37 49.8 -1.3**
STKA pmax pmax
comp=Z,22nm,0.4s
STKA MLR MLR
comp=Z,767nm,18.8s
STKA Stephens Creek 61.21 179 *e*P **P** **10 37 49.8 -1.3**
comp=Z,24nm,1.1s
FORT Forrest 61.36 193 *e*P **P** **10 37 50.8 -1.4**
POO Poona 61.57 276⇓ *i*P **P** **10 37 53.0 -1.1**
comp=Z,620nm,1.0s
POO *e*P **P** **10 37 54.0 0.0**
POO AMB AMB 10 37 56.2
comp=Z,375nm,0.8s
SOKR Solikamsk 62.06 325*c i*P **P** **10 37 57.3 +0.7**
SOKR S **S** **10 46 16.0 +1.8**
SOKR SS **SS** **10 50 19.7 +2.1**
SOKR pmax pmax
comp=Z,470nm,1.2s
SOKR MLR MLR
comp=Z,2µm,18.0s
SIT Sitka 62.29 38 *e*P **P** **10 38 00.3 +2.1**
SIT pmax pmax
comp=Z,475nm,2.1s
SIT Sitka 62.29 38 *e*P **P** **10 38 00.2 +2.1**
comp=Z,475nm,2.1s
BBOO Buckleboo 62.31 185 *e*P **P** **10 37 57.4 -1.1**
AB31 Akbulak array 62.58 313 *e*P **P** **10 38 00.4 +0.1**
AB31 pmax pmax
comp=N,282nm,0.7s
AFI Afiamalu 62.84 127 *ep*P pP 10 38 26.3 +1.2

BHJ Bhuj 63.31 283 *e*P **P** **10 38 06.3 +0.8**
BHJ AMB AMB 10 38 08.2
comp=Z,326nm,0.4s
TRD Trivandrum 63.32 265 *e*P **P** **10 38 06.6 +0.9**
TRD ⇑*e*x x 10 38 11.2
TRD *e*x x 10 46 43.2
AKTO Aktyubinsk 63.48 315 P **P** **10 38 06.2 -0.1**
comp=Z,288nm,0.9s,baz=83,slow=7.1,SNR=159
AKTO PKP2bc 11 07 06.5
comp=Z,0.8nm,0.3s,baz=216,slow=4.7,SNR=5.1
AKTO LR LR 11 07 07.7
comp=Z,3μm,20.8s,baz=86,slow=37
AKTO P4KPbc 11 15 02.1
comp=Z,3.9nm,1.1s,baz=66,slow=5.6,SNR=7.3
AKTO Aktyubinsk 63.48 315 P **P** **10 38 06.1 -0.1**
AKTO pmax pmax
comp=Z,481nm,1.0s
DLBC Dease Lake 64.72 36 *e*P **P** **10 38 15.4 +1.1**
CAN Canberra 65.08 173 *e*P **P** **10 38 16.3 -0.5**
CAN pmax pmax
comp=Z,411nm,1.1s
CAN Canberra 65.08 173 *e*P **P** **10 38 16.2 -0.5**
comp=Z,411nm,1.1s
IMYA Miami 66.33 299 *e*P **P** **10 38 25.0 -0.2**
ISRO Mashad 66.81 300 *e*P **P** **10 38 28.2 0.0**
PRGR Permogore 66.82 329⇑*i*P **P** **10 38 28.1 +0.5**
PRGR *e*S **S** **10 47 15.5 +2.8**
PRGR pmax pmax
comp=Z,431nm,0.8s
IMOG Moghan 66.98 299 *e*P **P** **10 38 29.8 +0.2**
HOPEN Hopen 67.10 347⇑*i*P **P** **10 38 31.7 +2.6**
HOPEN *e*S **S** **10 47 18.1 +2.3**
GEYT Alibeck 67.26 302 P **P** **10 38 30.8 -0.1**
comp=Z,103nm,1.1s,baz=29,slow=3.4,SNR=80
GEYT LR LR 11 10 35.7
comp=Z,3μm,19.7s,baz=60,slow=38
IKRD Kardeh 67.37 300 *e*P P 10 38 27.4 -4.4
ALE Alert 67.47 3 P **P** **10 38 32.2 +0.8**
comp=Z,1μm,0.7s,SNR=25
ISFR Sfrayin 67.66 301 *e*P **P** **10 38 33.9 +0.2**
SPA0 Spitsbergen Ar 67.68 349⇑*i*P **P** **10 38 34.8 +2.0**
SPA0 IAmb IAmb 10 38 35.9
comp=Z,345nm,1.3s
SPA0 *e*S **S** **10 47 23.8 +1.1**
SPITS Spitsbergen Ar 67.68 349 LR LR 11 09 20.6
comp=Z,2μm,21.0s,baz=30,slow=37
ISHV Shirvan 67.71 301 *e*P **P** **10 38 36.1 +2.2**
KBS Kingsbay 67.85 351 *e*P **P** **10 38 34.8 +1.0**
KBS *e*S **S** **10 47 26.4 +1.8**
KBS Kingsbay 67.85 351 *e*P **P** **10 38 34.6 +0.7**
KBS Kingsbay 67.85 351 *e*P **P** **10 38 34.6 +0.7**
HSPB Hornsund (broa 68.57 349 *e*P **P** **10 38 39.2 +0.8**
HSPB IAmb IAmb 10 38 42.5
comp=Z,873nm,1.6s
HSPB *e*S **S** **10 47 34.4 +1.1**
HSPB IAMs_20 IAMs_20 11 06 21.2
comp=Z,3μm,22.7s
LVZ Lovozero 68.71 337 P **P** **10 38 41.8 +2.3**
comp=Z,908nm,1.3s,SNR=9.2
LVZ Lovozero 68.71 337*c i*P **P** **10 38 41.0 +1.5**
LVZ pmax pmax
comp=Z,310nm,1.2s
LVZ Lovozero 68.71 337 *e*P **P** **10 38 41.6 +2.1**
comp=Z,485nm,1.5s
TMCR Tamitsa 69.08 333 *e*P **P** **10 38 42.9 +1.2**
TMCR *e* 10 41 16.2
TMCR *e*S S 10 47 48.1 +8.5
TMCR pmax pmax
comp=Z,866nm,1.4s
APA Apatity 69.29 337⇓*i*P **P** **10 38 43.4 +0.5**
APA *i* 10 39 14.0
APA *i*S **S** **10 47 42.0 0.0**
APA *i* 10 48 20.0
APA pmax pmax
comp=Z,520nm,1.4s
APA MLR MLR
comp=Z,30μm,11.0s
BJO Bjornoya 69.45 346 *e*P **P** **10 38 44.7 +0.8**
BJO *e*S **S** **10 47 46.3 +2.6**
RES Resolute Bay 69.81 14 *e*P **P** **10 38 46.2 +0.1**
RES pmax pmax
comp=Z,225nm,1.4s
RES Resolute Bay 69.81 14 *e*P **P** **10 38 46.2 +0.1**
comp=Z,225nm,1.4s
KLMR Klimovskoe 69.85 329*c i*P **P** **10 38 46.6 +0.1**
KLMR *e*S **S** **10 47 47.0 -1.8**
KLMR pmax pmax
comp=Z,2μm,1.8s
KLMR pmax pmax
comp=Z,674nm,1.2s
KLMR MLR MLR
comp=Z,2μm,17.0s
KEV Kevo 70.22 340 *e*P **P** **10 38 49.2 +0.6**
KEV pmax pmax
comp=Z,183nm,0.8s
KEV Kevo 70.22 340 *e*P **P** **10 38 49.2 +0.6**
comp=Z,183nm,0.8s
YKA Yellowknife Ar 70.38 29 P **P** **10 38 49.2 -0.5**
comp=Z,32nm,0.6s,baz=295,slow=6.3,SNR=197
YKA PKPPKP P'P'df 11 06 40.2 -12
comp=Z,2.9nm,1.1s,baz=114,slow=2.6,SNR=9.8
ARCES ARCESS Array B 70.78 340 P **P** **10 38 52.9 +0.8**
comp=Z,113nm,0.5s,baz=74,slow=6.6,SNR=168
ARCES LR LR 11 12 45.9
comp=Z,2μm,21.8s,baz=62,slow=38
ARCES ARCESS Array B 70.78 340 P **P** **10 38 52.9 +0.8**
ARCES pmax pmax
comp=Z,113nm,0.5s
ARCES MLR MLR
comp=Z,2μm,21.8s
ARE0 ARCESS Array S 70.78 340⇑*i*P **P** **10 38 52.6 +0.5**
ARE0 *e*S **S** **10 47 60.0 +0.5**
ARE0 *e*SS **SS** **10 52 31.4 -0.9**
ARE0 ARCESS Array S 70.78 340 *e*P **P** **10 38 52.8 +0.7**
IGLO Ghaloghah 70.97 302 *e*P **P** **10 38 54.5 +0.4**
IKIA Kiasar 71.19 301 *e*P **P** **10 38 55.9 +0.4**
IANJ Anjilo 71.31 301 *e*P **P** **10 38 56.5 +0.3**
OUZ Omahuta 71.48 152 *e*P **P** **10 38 58.5 +1.8**
comp=Z,47nm,1.5s
IBAF Bafgh 71.60 296 *e*P **P** **10 38 57.5 -0.4**
ISHM Shahmirzad 71.64 301 *e*P **P** **10 38 59.2 +1.0**
KTK1 Kautokeino 71.75 340 *e*P **P** **10 38 59.3 +1.4**
PGC Sidney 71.77 44 *e*P **P** **10 38 58.5 +0.1**
comp=Z,387nm,1.2s
IALA Alasht 71.89 302 *e*P **P** **10 38 59.5 -0.3**
NLWA Neilton Lookou 72.03 45 *e*P **P** **10 39 01.5 +1.5**
ILAS Lasjerd 72.06 301 *e*P **P** **10 39 01.5 +0.8**
IFIR Firoozkooh 72.11 301 *e*P **P** **10 39 01.9 +0.8**
IPRN Peran 72.17 302 *e*P **P** **10 39 01.3 0.0**
ICHK Chekchek 72.23 297 *e*P **P** **10 39 01.4 -0.4**
VDB Vedder Mountai 72.42 43 P **P** **10 39 02.6 +0.3**
HDW Hoodsport 72.42 45 P **P** **10 39 03.7 +1.3**
IMEH Mehriz 72.42 296 *e*P **P** **10 39 02.0 -1.0**
A05A Maple Falls 72.44 43 *e*P **P** **10 39 03.1 +0.7**
comp=Z,349nm,1.1s
TAU Tasmania Unive 72.45 175 *e*P **P** **10 39 02.1 -0.2**
TAU pmax pmax
comp=Z,448nm,1.3s
TAU Tasmania Unive 72.45 175 *e*P **P** **10 39 02.0 -0.2**
comp=Z,448nm,1.3s
WBK Wadi Bani Khal 72.57 286 P **P** **10 39 04.2 +0.6**
SNR=42
E03A Lebam 72.57 46 *e*P **P** **10 39 04.7 +1.5**
TRO Tromso 72.58 342 *e*P **P** **10 39 03.1 +0.3**
TRO *e*S **S** **10 48 21.3 +1.3**
TRO *e*SS **SS** **10 53 03.1 +3.5**
MBW Mount Baker 72.64 43 P **P** **10 39 04.5 +0.7**
MAK Makhachkala 72.83 310*c i*P **P** **10 39 06.5 +1.7**
MAK *e**PP **pP** **10 39 30.9 +3.0**
MAK *e**SP **sP** **10 39 39.6 +1.9**
MAK *e* 10 41 47.1
MAK *e*PPP PPP 10 43 36.3
MAK *e*S **S** **10 48 24.7 +1.0**
MAK *e* 10 48 59.7
MAK *e**SS **ScS** **10 49 06.4 +2.0**
MAK *e*SS **SS** **10 53 08.0 +3.3**
MAK pmax pmax
comp=Z,1μm,1.6s
MAK MLR MLR
comp=Z,5μm,18.0s
JCW Jim Creek 72.88 44 P **P** **10 39 06.0 +1.0**
ISAD Sadrabad 72.93 297 *e*P **P** **10 39 06.8 +0.9**
B06A Marblemount 73.01 44 *e*P **P** **10 39 06.3 +0.6**
comp=Z,370nm,1.3s

MOS Moscow 73.01 325 *e*P **P** **10 39 02.6 -3.0**
MOS *e* 10 39 36.5
MOS *i*S **S** **10 48 23.1 -2.3**
MOS *i* 10 49 05.9
MOS pmax pmax
comp=Z,1μm,1.6s
MOS pmax pmax
comp=N,321nm,1.4s
MOS pmax pmax
comp=E,264nm,1.4s
MOS pmax pmax
comp=Z,3μm,2.3s
MOS pmax pmax
comp=E,1μm,3.8s
MOS pmax pmax
comp=N,2μm,3.6s
MOS smax smax
comp=N,4μm,4.1s
MOS smax smax
comp=E,3μm,4.0s
MOS MLR MLR
comp=N,2μm,17.0s
MOS MLR MLR
comp=Z,2μm,17.0s
MOS MLR MLR
comp=E,2μm,19.0s
F04D Rainier, OR 73.11 46⇓P **P** **10 39 06.8 +0.4**
baz=73
IVRN Varamin 73.14 301 *e*P **P** **10 39 07.2 +0.3**
SMDO Samad 73.14 287 P **P** **10 39 07.4 +0.2**
SNR=36
D05A Enumclaw 73.27 45 *e*P **P** **10 39 09.0 +1.7**
G03D McMinnville, O 73.32 47⇓P **P** **10 39 08.1 +0.4**
baz=73
BANOM Banah 73.36 291 P **P** **10 39 10.5 +2.2**
SNR=22
BANOM Banah 73.36 291⇑*i*P **P** **10 39 08.9 +0.6**
SNR=24
JMDO Jabal Madar 73.39 287 P **P** **10 39 08.7 +0.1**
SNR=39
IR3 Iran Long-Peri 73.46 302 *e*P **P** **10 39 09.5 +0.6**
HOQ Hoqain 73.53 288 P **P** **10 39 09.6 +0.2**
SNR=50
F04A Amboy 73.55 46 *e*P **P** **10 39 09.8 +0.8**
comp=E,492nm,1.1s
IZEF Zefreh 73.56 299 *e*P **P** **10 39 09.8 +0.1**
COR Corvallis 73.57 48 *e*P **P** **10 39 11.5 +2.4**
COR Corvallis 73.57 48 *e*P **P** **10 39 11.5 +2.4**
RCS Mount Rainier- 73.57 45 P **P** **10 39 10.4 +0.9**
LON Longmire 73.57 45 *e*P **P** **10 39 09.6 +0.4**
LON Longmire 73.57 45 *e*P **P** **10 39 09.6 +0.4**
KEBM Edson Butte 73.62 50 *e*P **P** **10 39 11.6 +2.0**
comp=E,685nm,1.1s
PNT Penticton 73.76 42 P **P** **10 39 10.7 +0.4**
PNT Penticton 73.76 42 P **P** **10 39 10.7 +0.4**
LPSR Galich'ya Gora 73.79 322 *e*P **P** **10 39 10.6 +0.3**
LPSR *e*S **S** **10 48 33.7 -0.6**
LPSR pmax pmax
comp=Z,790nm,1.7s
LPSR pmax pmax
comp=N,330nm,1.9s
LPSR pmax pmax
comp=E,690nm,1.7s
LPSR smax smax
comp=E,2μm,3.4s
LPSR smax smax
comp=Z,400nm,3.0s
LPSR smax smax
comp=N,510nm,1.9s
LPSR MLR MLR
comp=N,930nm,15.0s
LPSR MLR MLR
comp=Z,1μm,15.0s
LPSR MLR MLR
comp=E,1μm,13.0s
OBN Obninsk 73.84 325 P **P** **10 39 10.8 +0.3**
comp=E,163nm,0.8s,baz=77,slow=0.8,SNR=80
OBN LR LR 11 15 52.9
comp=E,2μm,18.2s,baz=12,slow=39
OBN Obninsk 73.84 325*c i*P **P** **10 39 10.4 -0.1**
OBN *e* 10 41 57.8
OBN *i*S **S** **10 48 36.1 +1.4**
OBN *i*SS **SS** **10 53 16.9 -2.6**
OBN pmax pmax
comp=Z,937nm,1.7s
OBN MLR MLR
comp=Z,3μm,18.0s
I03D Drain, OR 73.92 49⇓P **P** **10 39 12.1 +0.9**
baz=74,SNR=27
IKLH Kolahrood 73.95 299 *e*P **P** **10 39 12.5 +0.6**
HATD Hatta, Dubai 73.97 290⇑*i*P **P** **10 39 12.0 +0.1**
SNR=59
ASR Mount Adams--S 73.97 46 P **P** **10 39 12.3 +0.7**
KBO Bosley Butte 73.98 50 *e*P **P** **10 39 12.6 +0.9**
comp=Z,285nm,1.3s
BSY Bisya 73.98 287 P **P** **10 39 12.0 0.0**
SNR=60
VOR Voronezh 74.05 321 *e*P **P** **10 39 11.0 -0.8**
VOR *e*S **S** **10 48 35.0 -2.2**
VOR pmax pmax
comp=Z,2μm,1.6s
LTY Liberty 74.05 45 *e*P **P** **10 39 12.2 +0.2**
ASHO Ashiyiah 74.09 290 P **P** **10 39 12.8 +0.1**
SNR=45
ASHO Ashiyiah 74.09 290⇑*i*P **P** **10 39 12.7 +0.1**
SNR=40
ETW Entiat 74.10 44 P **P** **10 39 12.7 +0.3**
TBM Table Mountain 74.13 45 P **P** **10 39 13.1 +0.6**
NAC Naches 74.19 45 P **P** **10 39 13.6 +0.8**
H04A Detroit Lake 74.24 47 *e*P **P** **10 39 13.8 +0.6**
EBG Ellensburg 74.27 45 P **P** **10 39 14.1 +0.8**
NAZ Nazwa, Dubai 74.28 290 *i*P **P** **10 39 14.8 +1.1**
SNR=17
WTV Waterville 74.29 44 P **P** **10 39 13.5 +0.1**
ARQ Araqi 74.29 288 P **P** **10 39 14.3 +0.6**
SNR=96
IPAR Pars 74.30 296 *e*P **P** **10 39 14.1 +0.1**
IRAZ Razeghan 74.30 302 *e*P **P** **10 39 14.0 +0.1**
VSR Storozhevoye 74.31 320 *e*P **P** **10 39 13.6 +0.3**
VSR *e* 10 39 28.3
VSR *e**SP **sP** **10 39 46.9 +0.6**
VSR *e* 10 42 00.7
VSR *e*S **S** **10 48 38.7 -1.4**
VSR *e**SS **sS** **10 49 19.0 -0.8**
VSR pmax pmax
comp=N,740nm,1.4s
VSR pmax pmax
comp=E,1μm,1.4s
VSR pmax pmax
comp=Z,2μm,1.4s
VSR pmax pmax
comp=N,350nm,1.1s
VSR pmax pmax
comp=E,560nm,1.1s
VSR pmax pmax
comp=Z,960nm,1.1s
VSR pmax pmax
comp=Z,290nm,1.8s
VSR pmax pmax
comp=N,80nm,1.3s
VSR pmax pmax
comp=E,220nm,2.0s
VSR smax smax
comp=N,700nm,2.0s
VSR smax smax
comp=E,900nm,2.0s
VSR smax smax
comp=Z,300nm,2.0s
VSR MLR MLR
comp=N,2μm,16.0s
VSR MLR MLR
comp=E,1μm,16.0s
VSR MLR MLR
comp=Z,2μm,16.0s
VORD Divnogorie 74.35 320 *e*P **P** **10 39 13.7 +0.1**
VORD *e* 10 39 28.8
VORD *e**SP **sP** **10 39 46.7 +0.2**
VORD *e* 10 42 00.8
VORD *e*S **S** **10 48 38.7 -1.9**
VORD pmax pmax
comp=N,230nm,1.3s
VORD pmax pmax
comp=E,660nm,1.3s
VORD pmax pmax
comp=Z,1μm,1.3s
VORD pmax pmax
comp=N,110nm,1.1s
VORD pmax pmax
comp=E,350nm,1.1s
VORD pmax pmax
comp=Z,580nm,1.1s
VORD pmax pmax
comp=N,200nm,2.3s
VORD pmax pmax
comp=E,280nm,2.3s
VORD pmax pmax
comp=Z,270nm,2.3s
VORD smax smax
comp=N,680nm,1.6s
VORD smax smax
comp=E,500nm,1.6s
VORD smax smax
comp=Z,210nm,1.6s
VORD MLR MLR
comp=N,2μm,18.0s
VORD MLR MLR
comp=E,2μm,18.0s
VORD MLR MLR
comp=Z,3μm,18.0s
B08A Colville Reser 74.36 43 P **P** **10 39 14.2 +0.4**
PUL Pulkovo 74.39 331⇓*e*P **P** **10 39 14.6 +1.0**
PUL pmax pmax
comp=Z,692nm,1.2s
L02D Cave Junction, 74.42 50⇓P **P** **10 39 15.0 +0.8**
baz=74,SNR=18
ISRV Sarvestan 74.44 295 *e*P **P** **10 39 15.1 +0.1**
FAQ Al Faqa, Dubai 74.44 290⇓*i*P **P** **10 39 14.8 +0.2**
SNR=14
YA2 Yakima 74.46 45 P **P** **10 39 16.7 +2.3**
I04A Tendick Farm, 74.49 48⇑P **P** **10 39 14.9 +0.3**
baz=74,SNR=42
I04A ⇓S **S** **10 48 41.5 -1.1**
baz=74
G05D Wamic, OR 74.55 47⇓P **P** **10 39 15.2 +0.3**
baz=74
TRW Toppenish Ridg 74.56 45 P **P** **10 39 15.7 +0.8**
SAW Saint Andrews 74.62 44 P **P** **10 39 15.4 +0.1**
HUMO Hull Mountain 74.65 50 *e*P **P** **10 39 16.7 +1.1**
ASUD Al Ashush, Dub 74.71 290 *i*P **P** **10 39 17.5 +1.4**
SNR=12
STEI Steigen 74.71 341 *e*P **P** **10 39 16.0 +0.6**
IPIR Pirpir 74.75 299 *e*P **P** **10 39 15.3 -1.3**
GOF Gofitskoye 74.82 313 *e*P **P** **10 39 17.2 +0.8**
GOF pmax pmax
comp=Z,2μm,1.7s
E07A Sunnyside 74.86 45 *e*P **P** **10 39 16.9 +0.2**
comp=Z,330nm,1.1s
KHMM Horse Mountain 74.90 51 *e*P **P** **10 39 18.7 +1.5**
J04D Umpqua Nationa 74.93 49⇓P **P** **10 39 17.8 +0.5**
baz=75,SNR=24
I05D Terrebonne, OR 74.94 47⇑P **P** **10 39 17.3 +0.2**
baz=75
G06A Carlson Farm, 74.98 46 *e*P **P** **10 39 18.1 +0.7**
LOF Lofoten 75.04 342 *e*P **P** **10 39 17.2 +0.1**
DUS Dusheti 75.07 310 P **P** **10 39 20.4 +2.3**
HAWA Hanford 75.14 45 *e*P **P** **10 39 19.0 +0.8**
SEAG Tbilisi Sea 75.15 310 P **P** **10 39 18.9 +0.5**
OD2 Odessa Site #2 75.18 44 P **P** **10 39 18.6 +0.1**
FINES FINESS Array B 75.19 333 P **P** **10 39 18.3 +0.1**
comp=Z,133nm,0.5s,baz=80,slow=4.9,SNR=478
FINES LR LR 11 14 32.4
comp=Z,1μm,21.7s,baz=54,slow=37
FINES FINESS Array B 75.19 333 *i*P **P** **10 39 18.2 0.0**
FINES pmax pmax
comp=Z,133nm,0.5s
KMRM Mail Ridge 75.20 52 *e*P **P** **10 39 20.6 +1.8**
TBLG Delisi 75.20 310 *e*P **P** **10 39 20.6 +1.9**
D08A Wollman Farm, 75.21 44 *e*P **P** **10 39 19.2 +0.6**
comp=Z,318nm,1.1s
YBH Yreka Blue Hor 75.21 50 *e*P **P** **10 39 19.8 +1.0**
YBH Yreka Blue Hor 75.21 50 *e*P **P** **10 39 19.8 +1.0**
C09A Chrisman Ranch 75.25 43 P **P** **10 39 19.4 +0.5**
M02C Callahan 75.26 51⇑P **P** **10 39 19.9 +0.7**
baz=75,SNR=44
IKAZ Kazeroun 75.27 296 *e*P **P** **10 39 19.5 -0.2**
ZEI Tsey 75.29 311 *e*P **P** **10 39 17.2 -2.2**
ZEI *e*S **S** **10 48 50.2 -1.6**
ZEI pmax pmax
comp=Z,365nm,1.4s
ZEI pmax pmax
comp=Z,45nm,2.2s
ZEI pmax pmax
comp=N,344nm,1.3s
ZEI pmax pmax
comp=E,453nm,1.3s
ZEI MLR MLR
comp=Z,5μm,20.0s
KULLO Kullorsuaq 75.33 5⇑*i*P **P** **10 39 18.9 +0.1**
comp=Z,474nm,1.2s
KULLO *i*S **S** **10 48 49.0 -1.7**
KULLO *i* 10 49 32.5
comp=Z,2μm,17.0s
EDM Edmonton 75.38 37 *e*P **P** **10 39 19.6 +0.1**
EDM pmax pmax
comp=Z,417nm,1.2s
EDM Edmonton 75.38 37 *e*P **P** **10 39 19.6 +0.1**
comp=Z,417nm,1.2s
DGAR Diego Garcia 75.38 253⇑*e*P **P** **10 39 19.8 -0.2**
K04D Chiloquin, OR 75.44 49⇑P **P** **10 39 21.1 +0.9**
baz=75,SNR=17
J05D Fort Rock, OR 75.48 48⇑P **P** **10 39 20.9 +0.4**
baz=75,SNR=59
KBZ Khabaz 75.52 312 P **P** **10 39 21.1 +0.7**
comp=Z,369nm,0.8s,baz=53,slow=20,SNR=194
KBZ Khabaz 75.52 312 P **P** **10 39 21.1 +0.7**
KBZ pmax pmax
comp=Z,369nm,0.9s
KCPM Cahto Peak 75.53 53 *e*P **P** **10 39 21.5 +0.7**
comp=Z,256nm,1.2s
URZ Urewera 75.53 151 LR LR 11 09 05.3
comp=Z,255nm,21.8s,baz=347,slow=33
URZ Urewera 75.53 151 *e*P **P** **10 39 19.0 -1.3**
KIPM Iron Peak 75.54 52 *e*P **P** **10 39 21.3 +0.5**
comp=Z,338nm,1.2s
KIV Kislovodsk 75.55 312 *e*P **P** **10 39 21.5 +0.7**
KIV Kislovodsk 75.55 312 *e*P **P** **10 39 21.2 +0.5**
KIV *e*S **S** **10 48 56.4 +2.0**
KIV *e*SS SS 10 53 53.8 +7.5
KIV pmax pmax
comp=Z,1μm,4.2s
KIV pmax pmax
comp=Z,1μm,1.1s
KIV MLR MLR
comp=Z,3μm,18.0s
KIV Kislovodsk 75.55 312 P **P** **10 39 21.9 +1.1**
SNR=315
KIV Kislovodsk 75.55 312 *i*P **P** **10 39 21.9 +1.1**
SNR=105
KIV Kislovodsk 75.55 312 *e*P **P** **10 39 21.4 +0.7**
N02D Trinity Center 75.55 51⇑P **P** **10 39 21.1 +0.3**
baz=75
KZR Kazreti 75.58 309 P **P** **10 39 21.4 +0.5**
ONI Oni 75.67 311 P **P** **10 39 22.7 +1.3**
NEW Newport 75.71 42 *e*P **P** **10 39 21.9 +0.4**
NEW Newport 75.71 42 *e*P **P** **10 39 21.9 +0.4**
NEW Newport 75.71 42⇓P **P** **10 39 21.8 +0.2**
baz=76
M04C Macdoel 75.77 50⇑P **P** **10 39 22.5 +0.4**
baz=76,SNR=94
WDC Whiskeytown Da 75.84 51 *e*P **P** **10 39 22.9 +0.5**
WDC Whiskeytown Da 75.84 51 *e*P **P** **10 39 22.9 +0.5**
GNI Garni 75.91 308 P **P** **10 39 23.9 +0.9**
comp=Z,102nm,0.8s,baz=89,slow=2.3,SNR=84
GNI LR LR 11 15 23.1
comp=Z,1μm,19.4s,baz=68,slow=38
GNI Garni 75.91 308*c e*P **P** **10 39 24.1 +1.1**
GNI pmax pmax
comp=Z,1μm,1.7s
GNI Garni 75.91 308 P **P** **10 39 24.6 +1.6**
SNR=163
GNI Garni 75.91 308 *i*P **P** **10 39 24.2 +1.2**
SNR=106
E09A Wood Farm, Sta 75.93 44 *e*P **P** **10 39 23.4 +0.7**
comp=Z,614nm,1.3s
K05A Summer Lake 75.96 49 *e*P **P** **10 39 24.1 +0.9**
G08A Pilot Rock 76.01 46 *e*P **P** **10 39 23.9 +0.6**
comp=Z,252nm,1.3s
BKZ Black Stump Fm 76.04 152 *e*P **P** **10 39 22.2 -1.1**
AKH Akhalkalaki 76.18 310 *e*P **P** **10 39 25.8 +1.3**
AKH Akhalkalaki 76.18 310 P **P** **10 39 27.5 +3.0**
I07A Izee 76.23 47 *e*P **P** **10 39 24.8 +0.1**
KONS Konsvik 76.31 341 *e*P **P** **10 39 26.6 +2.1**

KNZ Kokohu 76.40 151 PN P 10 39 22.9 -2.4
STOK Stokkvaagen 76.45 341 eP P 10 39 25.5 +0.2
CHVG Ch'k'valeri 76.51 312 eP P 10 39 27.7 +1.6
CHVG Ch'k'valeri 76.51 312 P P 10 39 29.0 +2.9
VSU Vasula 76.65 330c iP P 10 39 26.8 +0.2
VSU pmax pmax
comp=Z,2µm,1.7s
CKHZ Cape Kidnapper 76.70 152 PN P 10 39 27.6 +0.7
DIGO Kars 76.72 309 iP P 10 39 29.0 +1.4
MOD Modoc Plateau 76.73 49 P P 10 39 27.9 +0.3
F10A Beach Ranch, E 76.75 45 eP P 10 39 28.2 +0.7
KARS Kars 76.82 309 eP P 10 39 28.8 +0.7
THZ Tophouse 76.93 156 PN P 10 39 26.6 -1.7
OHCM Honcut 77.13 52 eP P 10 39 29.6 -0.1
ANWZ Angora Road 77.14 153 PN P 10 39 28.2 -1.1
WALA Waterton Lakes 77.17 41 eP P 10 39 30.4 +0.6
comp=Z,262nm,0.6s
SNZO South Karori 77.19 155 eP P 10 39 27.6 -2.0
BFZ Birch Farm 77.24 153 eP P 10 39 29.4 -0.5
BMO Blue Mountains 77.24 46 eP P 10 39 30.8 +0.4
BSMT Bassoo Peak 77.28 42 eP P 10 39 31.2 +0.6
JMIC Jan Mayen 77.33 350⇑ iP P 10 39 33.2 +3.0
JMIC eS S 10 49 18.7 +6.0
ARTV Artvin 77.33 310 iP P 10 39 31.3 +0.2
AGRB Hanur-Agry 77.37 308 eP P 10 39 31.9 +0.6
DAGI Agillar 77.39 310 iP P 10 39 32.1 +0.8
SHAO Shalim 77.41 284 P P 10 39 33.7 +2.2
SNR=10
BCA Borcka 77.41 311 eP P 10 39 32.1 +0.9
DBOC Borcka 77.43 310 iP P 10 39 32.1 +0.7
BLMT Blacktail Moun 77.45 42 eP P 10 39 32.7 +1.1
DBAD Bademkaya 77.57 310 iP P 10 39 33.3 +1.1
WVOR Wild Horse Val 77.57 48 eP P 10 39 32.7 +0.5
WVOR Wild Horse Val 77.57 48 eP P 10 39 32.7 +0.5
EATA Eleskirt 77.58 309 iP P 10 39 34.9 +2.3
DDEM Demirkent 77.59 310 iP P 10 39 33.3 +0.9
SOC Sochi 77.62 313c iP P 10 39 32.8 +0.5
SOC i 10 39 40.6
SOC e*SP sP 10 40 01.2 -4.2
SOC ePPP PPP 10 44 12.4
SOC iS S 10 49 17.7 +0.9
SOC e 10 49 37.2
SOC e*SS sS 10 49 54.1 -2.6
SOC pmax pmax
comp=Z,1µm,1.4s
SOC MLR MLR
comp=Z,2µm,14.0s
JTMT Jette 77.63 42 eP P 10 39 33.1 +0.7
YBMT Yellow Bay 77.72 42 eP P 10 39 33.9 +0.9
KHZ Kahutara 77.73 156 PN P 10 39 30.6 -2.1
KHZ Kahutara 77.73 156 eP P 10 39 31.0 -1.6
HAKT HAKKARI 77.82 306 iP P 10 39 33.4 -0.5
HOMI Horasan 77.89 309 iP P 10 39 36.0 +1.9
SWMT Swartz Lake 77.91 42 eP P 10 39 34.2 +0.2
GEVA Gevas 77.92 307 iP P 10 39 34.5 +0.2
SUMG Summit 78.03 360 iP P 10 39 35.5 +0.9
comp=Z,57nm,0.6s
SUMG i 10 40 06.9
SUMG iS S 10 49 22.5 +1.4
comp=Z,2µm,24.0s
SUMG Summit 78.03 360 iP P 10 39 35.5 +0.9
SUMG iS S 10 49 22.5 +1.4
SUMG pmax pmax
comp=Z,57nm,0.6s
SUMG MLR MLR
comp=Z,2µm,24.0s
SUMG Summit 78.03 360 eP P 10 39 35.3 +0.7
CUKT Cukurca 78.04 306 eP P 10 39 34.3 -0.6
RPZ Rata Peaks 78.04 158 PN P 10 39 33.1 -1.3
RPZ Rata Peaks 78.04 158 eP P 10 39 33.8 -0.6
NSS Namsos 78.06 340 eP P 10 39 34.4 +0.1
NSS eS S 10 49 20.5 -0.2
NSS eSS SS 10 54 25.8 +3.1
EKAR Karacoban 78.16 308 iP P 10 39 37.7 +2.0
MSO Missoula 78.30 43 eP P 10 39 36.0 -0.1
MSO Missoula 78.30 43 ⇓P P 10 39 35.9 -0.3
baz=78
ERZM Erzurum 78.32 309 iP P 10 39 38.2 +1.6
EZM Erzurum 78.32 309 eP P 10 39 38.1 +1.5
SLMT Seeley Lake 78.34 42 eP P 10 39 36.4 -0.1
SAO San Andreas Ge 78.36 54 eP P 10 39 37.7 +1.1
SAO San Andreas Ge 78.36 54 eP P 10 39 37.7 +1.1
TATV Tatvan 78.37 308 iP P 10 39 38.9 +2.0
MICGM Minsk 78.43 327⇑ iP P 10 39 35.0 -1.5
ANN Anapa 78.44 315 iP P 10 39 36.9 +0.1
ANN e*PP pP 10 40 58.3 -1.9
ANN e 10 42 31.1
ANN ePPP PPP 10 44 23.9
ANN eS S 10 49 23.4 -2.1
ANN eSS SS 10 54 33.4 +3.8
ANN pmax pmax
comp=N,1µm,2.5s
ANN pmax pmax
comp=E,1µm,2.2s
ANN pmax pmax
comp=Z,5µm,2.2s
ANN pmax pmax
comp=N,313nm,1.3s
ANN pmax pmax
comp=Z,2µm,1.4s
ANN pmax pmax
comp=E,402nm,1.5s
ANN MLR MLR
comp=N,1µm,19.0s
ANN MLR MLR
comp=Z,1µm,19.0s
ANN MLR MLR
comp=E,2µm,19.0s
MNK Minsk 78.45 327c iP P 10 39 35.0 -1.7
MNK e*PP pP 10 40 00.0 -0.1
MNK ePPP PPP 10 44 30.0
MNK eS S 10 49 20.0 -5.3
MNK e*SS sS 10 50 08.0 +2.7
MNK eSSS SSS 10 57 46.0
MNK pmax pmax
comp=Z,7µm,7.0s
MNK pmax pmax
comp=Z,2µm,1.1s
MNK pmax pmax
comp=N,2µm,1.8s
MNK pmax pmax
comp=E,3µm,1.8s
MNK smax smax
comp=N,5µm,7.0s
MNK smax smax
comp=E,3µm,6.0s
MNK MLR MLR
comp=Z,4µm,16.0s
CMB Columbia Colle 78.50 53 eP P 10 39 37.6 +0.3
CMB Columbia Colle 78.50 53 eP P 10 39 37.6 +0.3
VRTB Varto-Mus 78.62 309 eP P 10 39 41.6 +3.5
ISAL Salakas 78.62 328 eP P 10 39 38.5 +0.9
ISAL AMB AMB 10 39 42.3
comp=Z,311nm,1.3s
MLZ Mavora Lakes 78.64 161 PN P 10 39 36.7 -0.9
CHMT Chamberlain Mo 78.66 42 eP P 10 39 38.2 -0.1
IIGN Ignalina 78.71 328 eP P 10 39 38.9 +0.8
IIGN AMB AMB 10 39 42.6
comp=Z,183nm,0.8s
NACGM Naroch 78.71 328 eP P 10 39 36.0 -2.1
RBK Rabkut 78.85 284 P P 10 39 39.2 -0.3
SNR=42
KOPT Kop Dagi 78.85 310 iP P 10 39 41.4 +1.9
KTUT Trabzon 78.86 311 eP P 10 39 39.8 +0.6
EAZ Earnscleugh 78.87 160 PN P 10 39 38.4 -0.4
MFID Camas Ranch 78.88 46 eP P 10 39 40.1 +0.7
BAYT Ayd¯–ntepe-Bay 78.90 310 eP P 10 39 41.0 +1.3
BNGL BİNGOL 78.93 308 iP P 10 39 41.6 +1.7
WAKR Walker 78.93 52 eP P 10 39 40.4 +0.5
ODZ Otahua Downs 79.11 159 ePN P 10 39 39.3 -0.9
ODZ Otahua Downs 79.11 159 eP P 10 39 40.1 -0.1
BNGB Bing ¶ll 79.23 309 eP P 10 39 42.7 +1.3
SVAN Silvan-Diyarba 79.28 308 eP P 10 39 42.2 +0.5
GUMT Gumushane 79.31 310 eP P 10 39 43.1 +1.3
BMN Battle Mountai 79.47 49 eP P 10 39 43.7 +0.9
BMN pmax pmax
comp=Z,298nm,1.2s
BMN Battle Mountai 79.47 49 eP P 10 39 43.7 +0.9
comp=Z,298nm,1.2s
TBLU Trondheim 79.51 340 eP P 10 39 42.8 +0.5
TBLU lAmb lAmb 10 39 44.2
comp=Z,204nm,0.9s
EUZM Uzumlu 79.54 310 iP P 10 39 46.2 +3.2
ESPY Espiye-Giresun 79.58 311 eP P 10 39 43.0 -0.2
ERZN Erzincan 79.58 310 eP P 10 39 44.1 +0.8
HRY Holter Researc 79.59 42 eP P 10 39 43.6 +0.3
KELT Kelkit 79.61 310 iP P 10 39 44.6 +1.0
TUZ Tuapeka 79.62 160 PN P 10 39 42.8 -0.1
ABTO Aybut 79.68 284 P P 10 39 43.9 -0.3
SNR=79
HLID Hailey 79.69 46 eP P 10 39 44.5 +0.6
HLID Hailey 79.69 46 ⇓P P 10 39 44.1 +0.2
baz=80
LRM Limekiln Ridge 79.70 43 eP P 10 39 44.3 +0.2
NVAR Minor Array Bea 79.74 52 P P 10 39 44.5 +0.2
comp=Z,56nm,0.6s,baz=284,slow=5.5,SNR=174
NVAR PKKPbc PKKPbc 10 58 31.3 +1.3
comp=Z,1.5nm,0.9s,baz=123,slow=4.4,SNR=7.5
NVAR PKPPKP P'P'df 11 06 28.8 -7.8
comp=Z,0.5nm,0.6s,baz=123,slow=3.3,SNR=11
MLAC Mammoth, Mammo 79.77 53 ⇑P P 10 39 44.6 +0.1
baz=80,SNR=18
PTRM Twissleman Ran 79.77 55 eP P 10 39 45.9 +1.6
DLMT Dillon 79.86 43 eP P 10 39 44.3 -0.5
GRSN GIRESUNGRSN 79.87 311 iP P 10 39 44.6 -0.1
AKASG Malin Array Be 79.94 323 P P 10 39 44.8 -0.1
comp=Z,50nm,0.4s,baz=50,slow=5.7,SNR=150
AKASG PKKPbc PKKPbc 10 58 30.0 +0.4
comp=Z,1.4nm,0.5s,baz=258,slow=3.0,SNR=7.4
AKASG PKPPKP P'P'df 11 06 31.7 -3.9
comp=Z,0.2nm,0.3s,baz=254,slow=2.9,SNR=5.3
AKASG LR LR 11 19 08.8
comp=Z,3µm,19.1s,baz=45,slow=38
AKBB Malin Array Si 79.94 323 eP P 10 39 44.6 -0.3
AKBB Malin Array Si 79.94 323 eP P 10 39 44.5 -0.3
AK01 Malin Array Si 79.96 323 eP P 10 39 44.9 0.0
KIEV Kiev 79.96 323c iP P 10 39 44.6 -0.3
KIEV Kiev 79.96 323 eP P 10 39 44.7 -0.2
comp=Z,575nm,1.4s
AK02 Malin Array Si 79.98 323 eP P 10 39 45.0 0.0
MARD Mardin 79.98 307 iP P 10 39 46.0 +0.5
MCMT McKenzie Canyo 79.99 44 eP P 10 39 45.6 0.0
comp=Z,77nm,1.4s
SYZ Scrubby Hill 80.00 161 PN P 10 39 44.6 -0.3
EGMT Eagleton 80.06 40 eP P 10 39 45.9 +0.1
EGMT Eagleton 80.06 40 ⇑P P 10 39 45.7 0.0
baz=80,SNR=102
SMMC Simmler 80.09 55 ⇑P P 10 39 46.4 +0.4
baz=80,SNR=17
MTUM Tungsten Hills 80.09 53 eP P 10 39 46.8 +0.6
DYBB Diyarbakir 80.11 308 eP P 10 39 45.7 -0.4
A19A Klindworth Far 80.12 39 ⇓P P 10 39 45.9 -0.1
baz=80,SNR=174
RCTC Rector, Farmer 80.14 54 ⇓P P 10 39 46.1 -0.1
baz=80,SNR=21
MAZI Mazidag 80.14 307 eP P 10 39 47.3 +0.9
PTK Pertek 80.15 309 eP P 10 39 47.8 +1.3
B19A Brinkman Farms 80.28 39 ⇑P P 10 39 47.1 +0.3
baz=80,SNR=56
SUSE Susehri 80.28 311 iP P 10 39 46.4 -0.8
BOZ Bozeman (W) 80.28 43 eP P 10 39 47.2 +0.2
BOZ Bozeman (W) 80.28 43 eP P 10 39 47.2 +0.2
SIM Simferopol' 80.38 316c iP P 10 39 47.9 +0.5
SIM e 10 42 51.0
SIM iS S 10 49 44.0 -2.1
SIM e*SS sS 10 50 29.0 +2.7
SIM pmax pmax
comp=Z,271nm,1.6s
SIM MLR MLR
comp=Z,1µm,18.4s
ILIC ilic-Erzincan 80.42 310 eP P 10 39 56.0 +8.2
SVRC Sivrice-ELAZID 80.46 309 eP P 10 39 49.8 +1.6
TIN Tinemaha, Big 80.47 53 ⇑P P 10 39 48.6 +0.4
baz=80,SNR=15
VES Vestal, Richgr 80.48 54 ⇓P P 10 39 47.3 -0.7
baz=80,SNR=60
A20A Cobblestone Ra 80.59 39 ⇑P P 10 39 48.3 -0.2
baz=80,SNR=69
ELK Elko 80.62 48 eP P 10 39 49.5 +0.5
ELK Elko 80.62 48 eP P 10 39 49.5 +0.5
C19A Slack Wire Ran 80.62 40 ⇑P P 10 39 49.0 +0.3
baz=80,SNR=162
ELZG Elazig 80.62 309 iP P 10 39 50.9 +1.9
TPH Tonopah 80.66 52 eP P 10 39 49.4 +0.2
TPH Tonopah 80.66 52 eP P 10 39 49.4 +0.2
HFS Hagfors 80.66 336 P P 10 39 48.2 -0.4
comp=Z,84nm,0.6s,baz=44,slow=3.6,SNR=134
HFS Hagfors 80.66 336 P P 10 39 48.2 -0.4
HFS pmax pmax
comp=Z,84nm,0.6s
SBC Santa Barbara 80.72 56 ⇓P P 10 39 50.0 +0.7
baz=81,SNR=7.4
FCC Fort Churchill 80.75 26 eP P 10 39 48.7 -0.3
FCC pmax pmax
comp=Z,240nm,1.4s
FCC Fort Churchill 80.75 26 eP P 10 39 48.7 -0.3
comp=Z,240nm,1.4s
RSDY Resadiye-TOKAT 80.76 311 eP P 10 39 50.1 +0.6
B20A Solberg Farm, 80.79 39 ⇑P P 10 39 49.2 -0.3
baz=81,SNR=143
QLMT Earthquake Lak 80.84 43 eP P 10 39 51.2 +1.1
MOL Molde 80.84 340⇑ iP P 10 39 51.4 +1.9
MOL lAmb lAmb 10 39 52.6
comp=Z,408nm,1.4s
NB2 NORSAR Subarra 80.85 338 P P 10 39 49.5 -0.1
comp=Z,193nm,1.0s,baz=42,slow=5.9
NB2 NORSAR Subarra 80.85 338 P P 10 39 49.5 -0.1
baz=42,slow=5.9
NOA NORSAR Array B 80.85 338 P P 10 39 49.1 -0.4
comp=Z,52nm,0.7s,baz=45,slow=5.0,SNR=92
NOA LR LR 11 19 04.3
comp=Z,1µm,21.6s,baz=40,slow=38
NOA NORSAR Array B 80.85 338 P P 10 39 49.2 -0.4
NOA pmax pmax
comp=Z,52nm,0.7s
NOA MLR MLR
comp=Z,1µm,21.6s
SUW Suwalki 80.93 328 eP P 10 39 49.9 -0.1
SUW ePcP PcP 10 39 51.7 -4.6
SUW ePP PP 10 42 55.4 +0.3
SUW eSKSac S 10 49 51.4 0.0
SUW eSS sS 10 50 31.8 +0.2
SUW LMZ LR 11 08 18.2
SUW Suwalki 80.93 328 eP P 10 39 50.0 -0.1
SUW e 10 42 55.4
SUW e 10 49 51.5
SUW e*SS sS 10 50 31.8 +0.2
SUW pmax pmax
comp=Z,200nm,0.8s
SUW Suwalki 80.93 328 eP P 10 39 49.8 -0.3
comp=Z,2µm,1.2s
NC602 NORSAR Array S 80.96 337⇑ iP P 10 39 51.0 +0.8
NC602 eS S 10 49 48.5 -3.1
BSC Santa Cruz Isl 80.99 56 ⇑P P 10 39 50.5 -0.4
baz=81
ISA Isabella, Lake 81.00 54 ⇓P P 10 39 50.2 -0.7
baz=81,SNR=47
ARVC Arvin 81.01 55 ⇓P P 10 39 50.9 0.0
baz=81,SNR=6.8
ILULI Ilulissat 81.01 4 iP P 10 39 50.3 +0.1
comp=Z,229nm,1.2s
ILULI i 10 40 15.8
comp=Z,1µm,24.0s
D19A Cripps Ranch, 81.03 40 ⇑P P 10 39 51.0 +0.1
baz=81,SNR=180
A21A Bergtoll Ranch 81.07 38 ⇓P P 10 39 51.5 +0.4
baz=81,SNR=223
MALT Malatya 81.09 309 eP P 10 39 53.4 +2.0
MALT Malatya 81.09 309⇑ iP P 10 39 53.9 +2.5
GRAC Grapevine Rang 81.10 53 ⇑P P 10 39 51.6 +0.2
baz=81,SNR=66
NAO01 NORSAR Array S 81.10 338 eP P 10 39 50.2 -0.7
comp=Z,238nm,1.3s
YMR Madison River 81.21 43 eP P 10 39 53.3 +1.2
comp=Z,846nm,1.3s
C20A Veseth Ranch, 81.22 40 ⇓P P 10 39 52.2 +0.4
baz=81,SNR=97
SVSK Karacayir 81.22 311 eP P 10 39 53.5 +1.6
KVT Kavak 81.23 312 eP P 10 39 53.6 +1.5
URFA Urfa 81.27 308 eP P 10 39 53.6 +1.3
DAC Darwin (Calif) 81.31 53 eP P 10 39 52.6 -0.1
DAC Darwin (Calif) 81.31 53 eP P 10 39 52.5 -0.1
AKN Aaknes 81.31 340 eP P 10 39 52.4 +0.5
OSI Osito Audit: C 81.34 55 eP P 10 39 52.3 -0.5
comp=Z,89nm,0.8s
OSI Osito Audit: C 81.34 55 ⇑P P 10 39 53.1 +0.3
baz=81
B21A Ellsworth Farm 81.35 39 ⇓P P 10 39 52.8 +0.3
baz=81,SNR=22
BLG Laguna Peak, P 81.35 56 ⇑P P 10 39 52.4 -0.4
baz=81,SNR=9.1
YNR Norris Junctio 81.35 43 eP P 10 39 55.1 +2.2
comp=Z,594nm,1.4s
GCMT Greycliff 81.35 42 eP P 10 39 53.5 +0.8
comp=Z,377nm,1.5s
YFT Old Faithful 81.40 43 eP P 10 39 55.9 +2.7
DIKM Dikmen 81.44 313 eP P 10 39 54.1 +1.1
AKCD Akcadag 81.44 309 iP P 10 39 54.4 +1.1
HAVZ Havza 81.45 312 iP P 10 39 54.3 +1.1
E19A Rath Farm, Rou 81.48 41 ⇑P P 10 39 53.3 0.0
baz=81,SNR=363
MPMC Manual Prospec 81.49 53 ⇑P P 10 39 53.5 -0.2
baz=81,SNR=79
D20A Manuel Ranch, 81.50 40 ⇑P P 10 39 53.5 +0.1
baz=81,SNR=179
H17A Grant Village 81.59 43 eP P 10 39 56.1 +2.0
comp=Z,819nm,1.3s
H17A Grant Village 81.59 43 ⇓P P 10 39 55.7 +1.6
baz=81,SNR=172
DARE Darende-Malaty 81.60 310 eP P 10 39 55.9 +1.8
A22A Carney Farms, 81.61 38 ⇓P P 10 39 53.6 -0.3
baz=81,SNR=188
ATAB Bozova 81.61 308 iP P 10 39 56.0 +1.9
PMOR Pomariorio Ree 81.61 112 eP P 10 39 56.1 +1.9
comp=Z,219nm,1.4s
PMOR epP pP 10 40 20.1 +2.3
comp=Z,198nm,1.1s
PMOR Pomariorio Ree 81.61 112 eT T 12 07 59.4
comp=Z,135nm,0.2s
R11A Troy Canyon, C 81.62 51 eP P 10 39 54.4 0.0
comp=Z,372nm,1.4s
R11A Troy Canyon, C 81.62 51 ⇑P P 10 39 54.3 -0.1
baz=82,SNR=181
LRMC Laurel Mtn Rad 81.64 54 ⇓P P 10 39 54.3 -0.1
baz=82,SNR=87
IMW Indian Meadow 81.64 44 eP P 10 39 55.6 +1.1
C21A Desert Coulee 81.65 39 ⇓P P 10 39 54.0 -0.1
baz=82,SNR=193
HVU Hansel Valley 81.66 47 eP P 10 39 55.1 +0.7
HVU Hansel Valley 81.66 47 eP P 10 39 55.1 +0.7
FLWY Flagg Ranch 81.69 44 eP P 10 39 55.6 +1.0
comp=Z,896nm,1.4s
PPT Papeete 81.71 116 P P 10 39 54.3 -0.4
comp=Z,15nm,0.8s,baz=0.0,slow=6.1,SNR=3.8
PPT LR LR 11 10 53.3
comp=Z,1µm,18.9s,baz=288,slow=32
FURC Furnace Creek, 81.72 53 ⇑P P 10 39 54.5 0.0
baz=82,SNR=78
PPT2 Papeete2 81.72 116 eP P 10 39 57.5 +2.6
comp=Z,66nm,1.1s
PPT2 eS S 10 49 49.3 -11
comp=Z,4µm,25.2s
PPT2 Papeete2 81.72 116 eLQ LQ 11 01 32.0
comp=Z,3µm,30.2s
PPT2 eLR LR 11 05 03.2
comp=Z,5µm,26.0s,baz=306
EDW2 Edwards Air Fo 81.73 55 ⇓P P 10 39 54.7 -0.1
baz=82,SNR=91
FXWY Fox Creek 81.73 44 eP P 10 39 55.7 +0.8
PAE Paea 81.76 116 eP P 10 39 57.8 +2.8
comp=Z,11nm,1.2s
BOYT Boyabat 81.78 313 iP P 10 39 56.0 +1.1
DECC Green Verdugo 81.81 55 ⇓P P 10 39 55.1 0.0
baz=82
OSL Oslo 81.83 337 eP P 10 39 56.5 +1.8
OSL eS S 10 49 59.5 -1.0
E20A Meyer Farm, Mu 81.83 41 ⇑P P 10 39 55.6 +0.5
baz=82,SNR=144
MOOW Moose Ponds 81.84 44 eP P 10 39 56.1 +0.6
comp=Z,266nm,1.3s
MOOW epP pP 10 40 19.3 +0.3
BYBT Boyabat 81.84 313 eP P 10 39 56.9 +1.7
I17A Pilgrim Ck. 81.85 44 ⇓P P 10 39 57.1 +1.6
baz=82,SNR=96
TPAW Teton Pass 81.86 44 eP P 10 39 56.3 +0.7
comp=Z,216nm,0.9s
TIAR Tiarei 81.88 115 eP P 10 39 58.3 +2.6
comp=Z,19nm,0.9s
TPNV Topopah Spring 81.89 52 eP P 10 39 55.9 +0.1
TPNV Topopah Spring 81.89 52 eP P 10 39 55.9 +0.1
TPNV Topopah Spring 81.89 52 ⇓P P 10 39 55.5 -0.3
baz=82,SNR=170
BGU Big Grassy Mou 81.95 47 eP P 10 39 56.5 +0.5
comp=Z,152nm,1.1s
VAH Vaihoa 81.96 113 eP P 10 39 58.7 +2.7
comp=Z,98nm,1.2s
RLMT Red Ledge 81.96 42 eP P 10 39 56.3 +0.3
comp=Z,521nm,1.4s
B22A Reddig Ranch S 81.97 38 ⇓P P 10 39 56.1 +0.3
baz=82,SNR=31
H18A Shoshone NF, C 81.98 43 ⇓P P 10 39 56.9 +0.7
baz=82,SNR=101
REDW Red Top Meadow 81.99 44 eP P 10 39 56.7 +0.5
comp=Z,399nm,1.4s
SNOW Snow King Moun 81.99 44 eP P 10 39 57.2 +0.9
comp=Z,298nm,1.1s
LOHW Long Hollow 82.00 44 eP P 10 39 56.6 +0.4
comp=Z,262nm,1.3s
BZK Bozkurt 82.06 314 eP P 10 39 55.2 -1.1
TVO Taravao 82.08 116 eP P 10 39 59.5 +2.7
comp=Z,21nm,0.9s
FMP Fort Macarthur 82.10 56 ⇓P P 10 39 56.3 -0.3
baz=82
D21A La Casta Ranch 82.15 40 ⇓P P 10 39 57.0 +0.2
baz=82,SNR=57
AHID Auburn Hatcher 82.17 45 eP P 10 39 57.5 +0.4
comp=Z,223nm,1.0s
GZT Gaziantep 82.17 309 iP P 10 39 58.1 +0.9
CIS Catalina Islan 82.18 56 ⇑P P 10 39 56.6 -0.5
baz=82,SNR=11
A23A Redstone 82.18 37 ⇓P P 10 39 56.7 -0.2
baz=82,SNR=8.2
F20A Billings 82.22 41 ⇑P P 10 39 56.8 -0.4
baz=82,SNR=23
PINB Pinarbasi 82.26 310 iP P 10 39 58.8 +1.0
CTKT Corum 82.28 312 iP P 10 39 57.9 +0.2
SCI San Clemente I 82.29 57 ⇓P P 10 39 57.6 -0.1
baz=82
BFSC Mount Baldy Ra 82.29 55 ⇓P P 10 39 57.1 -0.8
baz=82,SNR=32
KIS Kishinev 82.30 320⇑ eP P 10 39 56.0 -1.5
comp=Z,2µm,3.0s
KIS epP pP 10 40 20.0 -1.0
KIS Kishinev 82.30 320 ePP PP 10 43 03.0 -3.6
KIS eS S 10 50 03.0 -2.8
comp=Z,3µm,9.0s
KIS eSKS ScS 10 50 30.0 +8.9
KIS eSS sS 10 50 48.0 +1.8
KIS Kishinev 82.30 320 eP P 10 39 56.0 -1.5
KIS e*PP pP 10 40 20.0 -1.0
KIS e 10 43 03.0
KIS eS S 10 50 03.0 -2.8
KIS ePS PnS 10 50 50.0 -16
KIS pmax pmax
comp=Z,220nm,3.0s
KIS pmax pmax
comp=Z,3µm,6.0s
KIS pmax pmax
comp=Z,2µm,14.0s
KIS smax smax
comp=N,3µm,9.0s
KIS smax smax
comp=E,2µm,8.0s
KIS MLR MLR
comp=Z,2µm,17.0s
KIS MLR MLR
comp=N,1µm,16.0s
KIS MLR MLR
comp=E,2µm,16.0s
FOO Floro 82.34 340⇑ iP P 10 39 59.1 +1.8
FOO lAmb lAmb 10 40 00.3
comp=Z,134nm,1.6s
HYA Hoyanger 82.34 340 eP P 10 39 57.8 +0.5
HYA lAmb lAmb 10 40 00.2
comp=Z,614nm,1.6s
HYA eS S 10 50 06.0 +0.4
GSC Goldstone, Bar 82.35 54 eP P 10 39 57.9 -0.2
GSC Goldstone, Bar 82.35 54 eP P 10 39 57.9 -0.2
GSC Goldstone, Bar 82.35 54 ⇑P P 10 39 57.7 -0.3
baz=82,SNR=76
KAST KASTAMONU 82.36 314 iP P 10 39 59.6 +1.6
C22A Vida 82.36 39 ⇑P P 10 39 57.1 -0.7
baz=82,SNR=61
H19A Powell 82.38 43 ⇓P P 10 39 59.0 +0.9

baz=82,SNR=80
E21A Keefer Ranch, 82.41 40 ⇓P P 10 39 58.1 0.0
baz=82,SNR=41
SHOC Shoshone, Teco 82.41 53 ⇑P P 10 39 58.1 -0.2
baz=82,SNR=39
B23A Brockton 82.42 38 ⇑P P 10 39 57.9 -0.2
baz=82,SNR=220
KONO Kongsberg 82.42 337 eP P 10 39 57.4 -0.5
KONO eS S 10 50 05.2 -1.5
KONO Kongsberg 82.42 337 eP P 10 39 57.7 -0.1
KONO pmax pmax
comp=Z,495nm,1.9s
KONO Kongsberg 82.42 337 eP P 10 39 57.7 -0.1
comp=Z,495nm,1.9s
RRX Edison Barstow 82.43 54 ⇓P P 10 39 58.1 -0.4
baz=82
DUG Dugway, Tooele 82.48 48 eP P 10 39 59.0 +0.3
DUG Dugway, Tooele 82.48 48 eP P 10 39 59.0 +0.3
DUG Dugway, Tooele 82.48 48 ⇓P P 10 39 59.0 +0.3
baz=82,SNR=177
HWUT Hardware Ranch 82.51 46 eP P 10 39 59.3 +0.3
comp=Z,681nm,1.2s
G20A Bridger 82.52 42 ⇑P P 10 39 58.6 -0.2
baz=82,SNR=95
KMRS Kahramanmaras 82.54 309 eP P 10 40 00.2 +1.2
D22A Cohagen 82.55 39 ⇓P P 10 39 58.6 -0.2
baz=82,SNR=154
HCB Kahramanmara˙ 82.62 309 iP P 10 40 00.2 +0.8
CORM Corum 82.62 312 eP P 10 40 00.9 +1.4
A24A Westby 82.67 37 ⇓P P 10 39 59.1 -0.3
baz=82,SNR=55
C23A Lambert 82.71 38 ⇓P P 10 39 59.6 -0.1
baz=82,SNR=110
I19A Meeteetse 82.73 43 ⇓P P 10 40 00.7 +0.7
baz=82,SNR=49
ILGA Ilgaz 82.73 313 iP P 10 40 01.2 +1.1
F21A Absaloka Mine, 82.80 41 ⇓P P 10 39 59.7 -0.5
baz=83,SNR=13
LAO LASA Array 82.80 40 eP P 10 40 00.3 +0.2
comp=Z,278nm,1.0s
LAO epP pP 10 40 24.1 +0.3
BBRC Big Bear Solar 82.80 55 ⇓P P 10 39 60.0 -0.7
baz=83,SNR=34
DGMT Dagmar 82.84 38 eP P 10 39 60.0 -0.3
DGMT Dagmar 82.84 38 ⇓P P 10 39 59.8 -0.5
baz=83,SNR=46
SUE Sulen 82.85 340 eP P 10 40 01.7 +1.7
KAMA Osmaniye 82.87 309 iP P 10 40 00.7 -0.1
SHPR Sheep Range 82.87 52 eP P 10 40 00.9 +0.1
comp=Z,355nm,1.3s
TCUT Toone Canyon 82.88 47 eP P 10 40 01.5 +0.5
comp=Z,323nm,0.9s
IAS Iasi 82.88 321⇑iP P 10 40 01.4 +0.9
CTU Camp Tracy 82.89 47 eP P 10 40 00.7 -0.2
comp=Z,89nm,0.8s
TUQ Turquoise Moun 82.90 53 ⇓P P 10 40 01.1 +0.1
baz=83,SNR=126
LEOM Leova 82.93 320⇓iP P 10 40 01.5 +0.8
HEC Hector,Ludlow 82.93 54 ⇑P P 10 40 01.2 +0.1
baz=83,SNR=70
MURC Murrieta 82.94 55 ⇓P P 10 40 01.1 0.0
baz=83,SNR=28
CANT Cankiri 83.04 313 eP P 10 40 02.8 +1.2
H20A Greybull 83.06 42 ⇓P P 10 40 01.7 0.0
baz=83,SNR=97
MEH Mehetia 83.07 115 eP P 10 40 04.1 +2.3
comp=Z,9.5nm,0.9s
D23A Lindsay 83.07 39 ⇓P P 10 40 01.4 -0.1
baz=83,SNR=96
NLU North Lily Min 83.09 48 eP P 10 40 02.2 +0.2
comp=Z,147nm,1.0s
CDAG Cicekdag 83.09 312 iP P 10 40 02.9 +1.0
G21A Lodge Grass 83.10 41 ⇑P P 10 40 01.7 -0.1
baz=83,SNR=43
E22A Miles City 83.10 40 ⇑P P 10 40 01.6 -0.1
baz=83,SNR=66
BW06 Boulder Array 83.11 44 eP P 10 40 01.6 -0.5
comp=Z,135nm,1.0s
PDAR Pinedale Array 83.11 44 P P 10 40 01.6 -0.4
comp=Z,24nm,0.8s,baz=5.4,slow=1.6,SNR=70
PDAR PKKPbc PKKPbc 10 58 23.8 +1.2
comp=Z,0.7nm,0.7s,baz=90,slow=3.7,SNR=5.3
PDAR PKPPKP P'P'df 11 06 25.3 -5.1
comp=Z,1.0nm,0.7s,baz=120,slow=5.3,SNR=6.5
PDAR LR LR 11 11 52.1
comp=Z,2µm,21.9s,baz=315,slow=32
A25A Svangstu Ranch 83.12 37 ⇑P P 10 40 01.7 -0.1
baz=83,SNR=34
J19A Crowheart 83.13 44 ⇓P P 10 40 02.7 +0.6
baz=83,SNR=118
JLU Jordanelle 83.13 47 eP P 10 40 02.4 +0.2
comp=Z,582nm,1.3s
LVV L'vov 83.14 324 eP P 10 40 01.6 -0.2
LVV e 10 43 11.0
LVV ePPP PPP 10 45 03.0
LVV eS S 10 50 09.4 -4.9
LVV ePS PnS 10 50 58.8 -17
LVV eSSS SSS 10 59 07.2
ASK Askoy 83.18 340 eP P 10 40 02.9 +1.1
ASK IAmb IAmb 10 40 04.2
comp=Z,1µm,2.1s
RAYN Ar Rayn 83.18 293 eP P 10 40 02.8 +0.3
comp=Z,866nm,1.1s
RUND Rundenannen 83.18 340 eP P 10 40 01.3 -0.5
ODD1 Odda 83.19 339 eP P 10 40 02.0 +0.2
BER Bergen 83.22 340 eP P 10 40 03.6 +1.7
ELDT Eldivan 83.23 313 iP P 10 40 03.2 +0.6
SFJD Kangerlussuaq 83.24 5 iP P 10 40 02.5 +0.6
comp=Z,566nm,1.9s
SFJD i 10 40 25.5
SFJD eS S 10 50 09.5 -5.1
comp=Z,850nm,19.0s
SFJD Kangerlussuaq 83.24 5 iP P 10 40 02.5 +0.6
SFJD i 10 40 25.5
SFJD eS S 10 50 09.5 -5.1
SFJD pmax pmax
comp=Z,570nm,1.9s
SFJD MLR MLR
comp=Z,860nm,19.0s
SFJD Kangerlussuaq 83.24 5 eP P 10 40 02.0 +0.1
comp=Z,391nm,1.5s
SAFT Safranbolu 83.28 314 eP P 10 40 04.2 +1.5
KOZT Kozan 83.28 309 eP P 10 40 03.8 +1.0
I20A Worland 83.30 43 ⇓P P 10 40 03.1 +0.3
baz=83,SNR=150
F22A Rosebud 83.31 41 ⇓P P 10 40 02.7 -0.1
baz=83,SNR=44
MPU Maple Canyon 83.34 48 eP P 10 40 03.5 +0.3
comp=Z,214nm,1.0s
TLCR 83.36 319⇓iP P 10 40 03.6 +0.6
109C Camp Elliot, M 83.38 56 ⇓P P 10 40 03.2 -0.1
baz=83,SNR=11
E23A Ismay 83.42 40 ⇑P P 10 40 03.2 -0.1
baz=83,SNR=19
GMRC Granite Mounta 83.43 54 ⇑P P 10 40 03.7 -0.1
baz=83,SNR=89
BEL Belsk 83.43 327 eP P 10 40 03.7 +0.5
BEL eP P 10 40 04.3 +1.1
BEL ePcP PcP 10 40 05.3 -2.1
BEL ePcP PcP 10 40 07.7 +0.3
BEL eSKSac S 10 50 15.8 -1.3
BEL esS sS 10 50 58.8 +1.2
BEL LMZ LR 11 09 47.1
BEL Belsk 83.43 327 eP P 10 40 04.4 +1.2
BEL e 10 50 15.8
PFO Pinyon Flats O 83.47 55 eP P 10 40 03.6 -0.4
PFO pmax pmax
comp=Z,277nm,1.1s
PFO Pinon Flats O 83.47 55 eP P 10 40 03.6 -0.4
comp=Z,277nm,1.1s
PFO Pinyon Flats O 83.47 55 ⇑P P 10 40 03.4 -0.6
baz=83,SNR=78
B25A Knox Farm, Ray 83.51 37 ⇑P P 10 40 03.6 -0.1
baz=83,SNR=33
PRAR RASCA 83.51 322⇑iP P 10 40 04.3 +0.6
BR131 Keskin Array S 83.51 312 eP P 10 40 04.6 +0.5
comp=Z,578nm,0.9s
BRTR Keskin Array B 83.51 312 P P 10 40 04.8 +0.7
comp=Z,452nm,0.8s,baz=96,slow=4.3,SNR=853
BRTR PKKPbc PKKPbc 10 58 23.7 +2.3
comp=Z,2.0nm,0.6s,baz=203,slow=4.7,SNR=8.2
BRTR LR LR 11 20 38.3
comp=Z,690nm,21.2s,baz=52,slow=38
BRTR Keskin Array B 83.51 312 iP P 10 40 04.5 +0.5
BRTR pmax pmax
comp=Z,467nm,0.8s
GIUM Giurgiulesti 83.53 319⇑iP P 10 40 04.5 +0.7
H21A Big Horn, Sher 83.54 42 ⇓P P 10 40 04.1 0.0
baz=83,SNR=107
CEYT Ceyhan 83.58 309 eP P 10 40 05.8 +1.6
D24A Glendive 83.59 39 ⇑P P 10 40 04.3 +0.1
baz=83,SNR=103
BELC Belle Mtn. Jos 83.59 55 ⇑P P 10 40 03.9 -0.7
baz=84,SNR=77
BLS5 Blasjo 83.62 338 eP P 10 40 03.7 -0.4
G22A Birney 83.62 41 ⇑P P 10 40 04.3 -0.2
baz=83,SNR=44
LDFC Landfair 83.66 53 eP P 10 40 05.5 +0.6
comp=Z,556nm,1.4s
KAMT Kaman 83.66 312 eP P 10 40 05.5 +0.7
J20A Shoshoni 83.67 43 ⇑P P 10 40 04.9 +0.1
baz=84,SNR=62
A26A Wade Farm, Ken 83.70 36 ⇓P P 10 40 04.5 -0.2
baz=84,SNR=47
CFR Carcaliu 83.75 319⇑iP P 10 40 05.1 +0.1
NIG Nigde 83.75 310 eP P 10 40 07.1 +1.6
BSD Bornholm Skovb 83.77 332 iP P 10 40 04.5 -0.4
comp=Z,360nm,1.0s
BSD i 10 40 38.6
BSD iS S 10 50 16.0 -4.4
BSD i 10 51 00.5
comp=Z,2µm,18.0s
BSD Bornholm Skovb 83.77 332 iP P 10 40 04.5 -0.4
BSD i 10 40 38.6
BSD iS S 10 50 16.0 -4.4
BSD pmax pmax
comp=Z,360nm,1.0s
BSD MLR MLR
comp=Z,2µm,18.0s
MVU Marysvale 83.79 49 eP P 10 40 06.1 +0.4
comp=Z,288nm,1.3s
MVU epP pP 10 40 29.9 +0.7
TESR Tescani 83.79 321⇓iP P 10 40 05.7 +0.5
BAR Barrett 83.80 56 eP P 10 40 05.3 -0.2
comp=Z,163nm,1.5s
C25A Freed Ranch, W 83.80 38 ⇑P P 10 40 05.4 +0.1
baz=84,SNR=31
MSU Marysvale 83.81 49 eP P 10 40 06.6 +0.9
MSU pmax pmax
comp=Z,399nm,1.4s
MSU Marysvale 83.81 49 eP P 10 40 06.6 +0.9
comp=Z,399nm,1.4s
F23A Volborg 83.83 40 ⇑P P 10 40 05.2 -0.3
baz=84,SNR=74
HOMB Homborsund 83.84 337⇑iP P 10 40 04.8 -0.3
HOMB eSKSac SKSac 10 50 19.2 -0.6
I21A Big Trails, Te 83.87 43 ⇑P P 10 40 05.7 -0.2
baz=84,SNR=59
MONP Monument Peak, 83.87 56 ⇑P P 10 40 04.8 -1.3
baz=84,SNR=43
BUR08 Bucovina Ar. S 83.89 322 eP P 10 40 06.2 +0.4
BURAR Bucovina Array 83.89 322⇑iP P 10 40 06.1 +0.3
BCAM Yenicaga 83.91 314 iP P 10 40 06.6 +0.6
KARA Karaisali 83.92 310 eP P 10 40 07.0 +1.0
B26A Jensen Ranch, 83.93 37 ⇓P P 10 40 05.8 -0.1
baz=84,SNR=28
KWP Kalwaria Pacla 83.93 325 eP P 10 40 06.3 +0.5
KWP ePcP PcP 10 40 07.9 -1.8
KWP ePP PP 10 43 19.0 -0.8
KWP eSKSac S 10 50 23.7 +1.4
KWP LMZ LR 11 10 48.9
KWP Kalwaria Pacla 83.93 325 eP P 10 40 06.4 +0.6
KWP e 10 43 19.0
KWP e 10 50 23.8
KWP Kalwaria Pacla 83.93 325⇑iP P 10 40 06.6 +0.8
KWP Kalwaria Pacla 83.93 325 eP P 10 40 06.2 +0.3
comp=Z,993nm,1.2s
E24A Baker 83.93 39 ⇑P P 10 40 05.8 -0.2
baz=84,SNR=29
PETR Petresti 83.94 320⇑iP P 10 40 08.0 +2.1
BBAL Bala 83.94 312 iP P 10 40 07.1 +0.9
H22A Clearmont 83.96 42 ⇓P P 10 40 05.7 -0.5
baz=84,SNR=42
ANTO Ankara 83.97 313 eP P 10 40 07.5 +1.2
ANTO Ankara 83.97 313 eP P 10 40 07.3 +0.9
ANTO pmax pmax
comp=Z,633nm,0.8s
ANTO Ankara 83.97 313⇑iP P 10 40 07.2 +0.9
ANTO Ankara 83.97 313 P P 10 40 07.3 +0.9
SNR=266
ANTO Ankara 83.97 313 eP P 10 40 07.3 +0.9
comp=Z,633nm,0.8s
LOD Lodumlu 83.98 313 eP P 10 40 07.4 +1.0
TMUT Trail Mountain 84.01 48 eP P 10 40 07.4 +0.5
comp=Z,526nm,1.6s
KDZE Karadeniz Ereo 84.02 314 eP P 10 40 06.2 -0.2
TIRR Tirgusor 84.02 318 eP P 10 40 06.5 +0.1
TIRR pmax pmax
comp=Z,469nm,1.4s
TIRR Tirgusor 84.02 318⇓iP P 10 40 07.0 +0.7
TIRR Tirgusor 84.02 318 eP P 10 40 06.5 +0.1
comp=Z,469nm,1.4s
AFSR Af˙ar-Bala (A 84.03 312 eP P 10 40 07.3 +0.7
J21A Lysite 84.05 43 ⇓P P 10 40 06.6 -0.2
baz=84,SNR=44
A27A Ledoux Ranch, 84.08 36 ⇑P P 10 40 06.2 -0.4
baz=84,SNR=39
GKP Gorka Klasztor 84.08 330 eP P 10 40 06.6 +0.1
GKP ePcP PcP 10 40 08.0 -2.2
GKP ePP PP 10 43 21.7 +0.8
GKP eSKSac SKSac 10 50 21.1 -0.5
GKP esS sS 10 51 00.0 -4.1
GKP LMZ LR 11 09 52.6
GKP Gorka Klasztor 84.08 330 eP P 10 40 06.6 +0.1
GKP e 10 43 21.8
GKP e 10 50 21.2
GKP pmax pmax
comp=Z,100nm,0.6s
IRM Iron Mountain 84.11 54 ⇓P P 10 40 07.1 0.0
baz=84,SNR=78
D25A Fairfield 84.11 38 ⇑P P 10 40 06.6 -0.3
baz=84,SNR=44
EFOR EFORIE 84.11 318⇓iP P 10 40 08.7 +1.9
VRI Vrincioaia 84.14 320⇓iP P 10 40 09.5 +2.5
G23A Biddle 84.15 41 ⇑P P 10 40 06.6 -0.6
baz=84,SNR=52
TLB Topalu 84.16 319⇓iP P 10 40 07.8 +0.8
BC3 Big Chuckawall 84.16 55 ⇓P P 10 40 07.3 -0.1
baz=84,SNR=109
HARR Harsova 84.16 319⇑iP P 10 40 08.5 +1.4
BSTP Nigde 84.17 311 iP P 10 40 09.5 +2.1
KMY Karmoy 84.17 339 eP P 10 40 09.2 +2.4
KMY eSKSac SKSac 10 50 22.5 +0.5
PLOR Plostina 84.19 320⇓iP P 10 40 08.0 +0.7
IBP Imperial Bould 84.22 56 ⇓P P 10 40 07.0 -0.7
baz=84,SNR=28
SNART Snartemo 84.23 338 eP P 10 40 07.2 +0.1
SWSC Sam W. Stewart 84.29 55 ⇓P P 10 40 08.0 0.0
baz=84,SNR=24
GRER 84.29 320⇑iP P 10 40 10.6 +2.9
F24A Ekalaka 84.29 40 ⇑P P 10 40 07.5 -0.3
baz=84,SNR=34
MANR Mangalia 84.30 318⇓iP P 10 40 09.4 +1.7
I22A 9 Mile Ranch, 84.30 42 ⇓P P 10 40 07.8 -0.1
baz=84,SNR=76
C26A Wahner Farm, P 84.34 37 ⇑P P 10 40 08.0 0.0
baz=84,SNR=15
COP Copenhagen 84.35 334 iP P 10 40 07.4 -0.4
comp=Z,742nm,1.9s
COP i 10 40 43.1
COP iS S 10 50 23.4 -2.7
COP i 10 51 06.6
comp=Z,820nm,19.0s
COP Copenhagen 84.35 334 iP P 10 40 07.4 -0.4
COP i 10 40 43.1
COP iS S 10 50 23.4 -2.7
COP pmax pmax
comp=Z,740nm,1.9s
COP MLR MLR
comp=Z,820nm,19.0s
B27A Peters Farms, 84.41 36 ⇓P P 10 40 07.9 -0.4
baz=84,SNR=7.7
SULT Sultanhani-AKS 84.43 311 eP P 10 40 09.3 +0.6
E25A Miller Ranch, 84.47 39 ⇑P P 10 40 08.9 +0.2
baz=84,SNR=67
MERS Mersin 84.49 309 eP P 10 40 09.5 +0.5
W13A Hualapai Mount 84.49 53 ⇓P P 10 40 08.8 -0.4
baz=84,SNR=24
H23A Clabaugh Cattl 84.53 41 ⇑P P 10 40 08.5 -0.6
baz=84
SRU San Rafael Swe 84.55 48 eP P 10 40 09.3 -0.1
SRU pmax pmax
comp=Z,290nm,0.9s
SRU San Rafael Swe 84.55 48 eP P 10 40 09.3 -0.1
comp=Z,290nm,0.9s
PGOR Pogoanele 84.57 319⇓iP P 10 40 11.7 +2.6
MSAB Monastry St. A 84.58 318⇑iP P 10 40 10.8 +1.6
K21A Alcova 84.58 44 ⇓P P 10 40 09.5 0.0
baz=84,SNR=135
J22A Midwest 84.58 43 ⇑P P 10 40 09.4 -0.1
baz=84,SNR=196
KOLS Kolonicke sedl 84.59 324 eP P 10 40 09.2 0.0
KOLS pmax pmax
comp=Z,146nm,1.4s
KOLS Kolonicke sedl 84.59 324 eP P 10 40 09.1 -0.1
A28A Rude Farm, Bot 84.60 36 ⇓P P 10 40 09.4 +0.1
baz=84,SNR=89
FKH Fakeheh 84.60 306 eP P 10 40 10.4 +0.7
PSN Preselentsi 84.61 318⇑iP P 10 40 11.2 +1.8
PSN Preselentsi 84.61 318 iP P 10 40 11.4 +2.0
G24A Alzada 84.62 40 ⇑P P 10 40 08.8 -0.7
baz=84,SNR=19
MDUB Mudurnu 84.65 314 eP P 10 40 10.2 +0.5
D26A Manning 84.66 38 ⇑P P 10 40 09.3 -0.4
baz=84,SNR=14
LLD Lille Linde 84.69 333 iP P 10 40 10.1 +0.6
LLD Lille Linde 84.69 333 iP P 10 40 10.1 +0.6
ISR Istrita 84.69 320⇓iP P 10 40 12.0 +2.2
BTAS Taskesti 84.71 314 iP P 10 40 10.0 0.0
C27A Sayler Ranch, 84.72 37 ⇓P P 10 40 10.2 +0.3
baz=84,SNR=27
PDMCI Parker Dam,Lak 84.74 53 ⇑P P 10 40 10.2 0.0
baz=85,SNR=54
BMR Baia Mare 84.77 323⇑iP P 10 40 12.3 +2.2
Y12C Blythe 84.77 54 ⇓P P 10 40 10.2 -0.1
baz=85,SNR=42
UZH Uzhgorod 84.78 324 eP P 10 40 09.6 -0.5
UZH e 10 40 31.8
UZH eS S 10 50 26.6 -4.1
UZH MLR MLR
comp=N,2µm,15.0s
UZH MLR MLR
comp=E,2µm,15.0s
UZH MLR MLR
comp=Z,1µm,15.0s
F25A Bowman 84.79 39 ⇑P P 10 40 10.4 +0.1
baz=85,SNR=32
STHS Stebnicka Huta 84.80 325 eP P 10 40 13.2 +3.0
STHS pmax pmax
comp=Z,109nm,1.3s
STHS Stebnicka Huta 84.80 325 e P 10 40 13.2 +3.0
MLR Muntele Rosu 84.80 320 P P 10 40 11.0 +0.5
comp=Z,12nm,0.9s,baz=14,slow=4.0,SNR=75
MLR Muntele Rosu 84.80 320 P P 10 40 11.0 +0.5
MLR pmax pmax
comp=Z,12nm,0.9s
MLR Muntele Rosu 84.80 320⇑iP P 10 40 11.7 +1.2
DOPR Dopca 84.82 321⇑iP P 10 40 11.4 +1.0
RGN Rugen 84.83 332 eP P 10 40 10.4 +0.2
comp=Z,540nm,1.4s
RGN epP pP 10 40 43.9 +10
B28A Dugan Ranch, T 84.85 36 ⇓P P 10 40 10.7 +0.2
baz=85,SNR=65
I23A Meade Ranch, G 84.85 42 ⇓P P 10 40 10.0 -0.8
baz=85
U15A North Rim 84.87 51 ⇑P P 10 40 11.2 0.0
baz=85,SNR=179
H24A Dirks Ranch, A 84.90 41 ⇓P P 10 40 10.5 -0.5
baz=85,SNR=48
HWQ Hawqa 84.91 307 eP P 10 40 11.3 +0.1
GLA Glamis 84.92 55 eP P 10 40 11.1 -0.1
GLA pmax pmax
comp=Z,177nm,1.1s
GLA Glamis 84.92 55 eP P 10 40 11.1 -0.1
comp=Z,178nm,1.1s
GLA Glamis 84.92 55 ⇓P P 10 40 11.0 -0.1
baz=85,SNR=30
KIZK Mersin 84.95 309 iP P 10 40 11.4 +0.2
OJC Ojcow 84.97 327 eP P 10 40 11.1 0.0
OJC ePcP PcP 10 40 12.8 -1.4
OJC eSKSac SKSac 10 50 28.5 +1.0
OJC esS sS 10 51 12.6 -0.6
OJC LMZ LR 11 10 36.5
OJC Ojcow 84.97 327 eP P 10 40 11.2 +0.1
OJC e 10 50 28.5
TRPA Tarpa 84.97 324⇓iP P 10 40 13.5 +2.4
TRPA Tarpa 84.97 324⇑eP P 10 40 13.1 +2.0
MUD Monsted U'grnd 84.99 335 iP P 10 40 11.7 +0.7
comp=Z,285nm,1.4s
MUD e 10 40 40.6
comp=Z,2µm,17.0s
MUD Monsted U'grnd 84.99 335 iP P 10 40 11.7 +0.7
MUD e 10 40 40.6
MUD pmax pmax
comp=Z,280nm,1.4s
MUD MLR MLR
comp=Z,2µm,17.0s
E26A Carlson Angus 84.99 38 ⇓P P 10 40 10.9 -0.4
baz=85,SNR=41
K22A Casper 85.00 43 eP P 10 40 11.2 -0.4
comp=Z,201nm,0.9s
K22A Casper 85.00 43 ⇓P P 10 40 10.8 -0.8
baz=85,SNR=59
N20A Spence Gulch, 85.01 45 ⇑P P 10 40 11.8 +0.1
baz=85,SNR=191
SECR 85.01 320⇑iP P 10 40 13.1 +1.7
CRVS Cervenica-Dubn 85.02 325 eP P 10 40 11.6 +0.2
CRVS pmax pmax
comp=Z,351nm,1.5s
CRVS Cervenica-Dubn 85.02 325 eP P 10 40 11.6 +0.2
SVRH Sivrihisar-ESK 85.02 313 eP P 10 40 12.0 +0.3
SPNC Sapanca-Adapaz 85.08 314 eP P 10 40 14.9 +3.1
TBI Tubuai 85.08 120 eP P 10 40 14.1 +2.2
comp=Z,258nm,1.2s
TBI Tubuai 85.08 120 eS S 10 50 23.5 -11
comp=Z,4µm,27.8s
TBI Tubuai 85.08 120 eLR LR 11 06 44.7
comp=Z,10µm,34.5s,baz=310
D27A Center 85.09 37 ⇓P P 10 40 11.8 0.0
baz=85,SNR=24
GULT Gulveren 85.10 314 eP P 10 40 11.8 -0.2
A29A Manning Farm, 85.11 35 ⇓P P 10 40 11.4 -0.4
baz=85,SNR=122
KIZT Kizilcal 85.11 312 eP P 10 40 12.7 +0.5
SULR 85.12 319⇓iP P 10 40 13.3 +1.4
J23A Dilts Ranch, B 85.13 42 ⇓P P 10 40 11.9 -0.3
baz=85,SNR=7.7
KDHN Kadinhani 85.16 312 iP P 10 40 11.6 -0.8
LADK Ladik-KONYA 85.18 311 eP P 10 40 12.5 0.0
SILT Sile 85.22 315 eP P 10 40 12.9 +0.5
NIE Niedzica 85.25 326 eP P 10 40 13.0 +0.5
NIE ePcP PcP 10 40 14.6 -0.9
NIE eP PP 10 43 34.6 +4.0
NIE eSKSac S 10 50 34.9 -0.6
NIE esS sS 10 51 13.2 -2.9
NIE LMZ LR 11 11 32.8
NIE Niedzica 85.25 326 eP P 10 40 13.0 +0.5
NIE e 10 43 34.6
NIE e 10 50 34.9
G25A Newell 85.26 40 ⇑P P 10 40 11.9 -0.8
baz=85,SNR=18
F26A Lodgepole 85.27 39 ⇑P P 10 40 12.4 -0.3
baz=85,SNR=66
LRW Lerwick 85.28 342 eP P 10 40 13.9 +1.5
LRW AMB AMB 10 40 15.9
comp=Z,377nm,2.0s
C28A Hausauer Farms 85.30 37 ⇓P P 10 40 12.6 -0.2
baz=85,SNR=24
CJR Cluj-Napoca 85.32 322⇑iP P 10 40 15.2 +2.3
KONT Konya--Tatoy 85.33 311 eP P 10 40 14.1 +1.0
VOIR 85.33 321⇑iP P 10 40 13.6 +0.5
B29A Wagenman Farm, 85.35 35 ⇑P P 10 40 12.7 -0.3
baz=85,SNR=42
PRD Provadia 85.36 318 iP P 10 40 14.4 +1.3
ASF Jabal al Asfar 85.36 304 P P 10 40 14.2 +0.8
comp=Z,318nm,1.2s,baz=12,slow=4.3,SNR=105
ASF Jabal al Asfar 85.36 304 P P 10 40 14.2 +0.8
ASF pmax pmax
comp=Z,318nm,1.2s
I24A Kuemmerle Ranc 85.39 41 ⇓P P 10 40 12.8 -0.6
baz=85,SNR=14
HRT Hereke 85.40 315 eP P 10 40 13.7 +0.3
RCY Rachaya 85.41 306 eP P 10 40 14.5 +0.7
SEYT Eskypehyr 85.41 313 iP P 10 40 13.6 0.0
O20A White River Ci 85.42 46 eP P 10 40 13.8 0.0
comp=Z,611nm,1.1s

O20A ePP pP 10 40 39.3 +1.8
O20A White River Ci 85.42 46 ⇓P P 10 40 13.5 -0.3
baz=85,SNR=78
L22A Ellis Ranch, M 85.42 44 ⇓P P 10 40 13.9 +0.1
baz=85,SNR=31
BORA Eskisehir 85.45 314 *i* P P 10 40 12.8 -1.0
MTUR Matau 85.45 320 ⇓*i*P P 10 40 11.1 -2.6
EREN Erenkoy 85.46 308 *e*P P 10 40 13.3 -0.4
K23A Bowen Ranch, D 85.47 43 ⇓P P 10 40 13.5 -0.4
baz=85,SNR=36
DQRL Deir Qamar 85.48 306 *e*P P 10 40 14.7 +0.6
E27A Carson 85.50 38 ⇑P P 10 40 13.7 -0.1
baz=85,SNR=57
H25A Fruitdale 85.51 40 ⇑P P 10 40 13.8 -0.2
baz=85,SNR=32
KLYT Kilyos 85.53 315 *e*P P 10 40 12.9 -1.0
D28A Regan 85.55 37 ⇑P P 10 40 13.9 -0.1
baz=85,SNR=23
A30A Hoffart Farm, 85.56 35 ⇑P P 10 40 13.4 -0.7
baz=85,SNR=28
RSSD Black Hills 85.57 41 *e*P P 10 40 14.0 -0.5
RSSD pmax pmax
comp=Z,306nm,1.4s
RSSD Black Hills 85.57 41 *e*P P 10 40 13.9 -0.5
comp=Z,306nm,1.4s
ADVT Abdulvahap 85.58 314 *e*P P 10 40 14.1 -0.2
F27A Lemmon 85.61 39 ⇑P P 10 40 14.1 -0.3
baz=85,SNR=119
MDND Maddock 85.62 36 *e*P P 10 40 14.3 -0.1
comp=Z,683nm,1.2s
MDND Maddock 85.62 36 ⇓P P 10 40 13.9 -0.5
baz=85,SNR=29
ISK Istanbul-Kandi 85.63 315 *e*P P 10 40 14.1 -0.4
ISK Istanbul-Kandi 85.63 315 P P 10 40 14.0 -0.5
ISK Istanbul-Kandi 85.63 315 P P 10 40 14.0 -0.5
ISK Istanbul-Kandi 85.63 315 P P 10 40 14.0 -0.5
CAVI Cavuskoy 85.65 314 *e*P P 10 40 15.0 +0.3
G26A Maurine 85.65 39 ⇑P P 10 40 14.1 -0.5
baz=86,SNR=104
ERMK Ermenek 85.69 310 *i* P P 10 40 15.1 -0.1
J24A Dixon Ranch, L 85.69 42 ⇓P P 10 40 14.2 -0.8
baz=86,SNR=18
M22A Cedar Creek Ra 85.70 44 ⇑P P 10 40 15.5 +0.3
baz=86,SNR=63
BUY Buyukada 85.72 315 *i* P P 10 40 14.7 -0.2
Y14A Wickenburg 85.73 53 ⇓P P 10 40 15.0 -0.2
baz=86,SNR=118
BGKT Bogazkoy 85.74 316 *e*P P 10 40 14.1 -0.9
DRGR 85.74 323 ⇑*i*P P 10 40 17.8 +2.7
KECS Kecovo 85.78 325 *e*P P 10 40 14.8 -0.3
KECS pmax pmax
comp=Z,66nm,1.3s
KECS Kecovo 85.78 325 *e*P P 10 40 14.8 -0.3
IZI Iznik 85.80 315 *e*P P 10 40 15.6 +0.1
BOLV Bolvadin 85.80 313 *i* P P 10 40 15.2 -0.4
I25A Rochford 85.81 41 ⇑P P 10 40 15.1 -0.5
baz=86,SNR=52
L23A Garrett 85.81 43 ⇓P P 10 40 15.1 -0.7
baz=86,SNR=86
RAC Raciborz 85.83 327 *e*P P 10 40 15.6 +0.3
RAC *e*S S 10 50 37.1 -3.9
113A Mohawk Valley, 85.83 55 ⇓P P 10 40 15.4 -0.2
baz=86,SNR=88
ULM Lac du Bonnet 85.85 33 P P 10 40 14.3 -1.1
comp=Z,26nm,0.8s,baz=311,slow=5.5,SNR=38
ULM LR LR 11 15 53.1
comp=Z,2µm,22.0s,baz=305,slow=34
CTYL Yal??k??y-??at 85.86 316 *e*P P 10 40 14.1 -1.5
CTKS Kestanelik-??a 85.86 316 *e*P P 10 40 14.1 -1.5
B30A Myrvik Farm, E 85.87 35 ⇑P P 10 40 15.1 -0.5
baz=86,SNR=98
E28A Huff 85.88 38 ⇑P P 10 40 15.2 -0.5
baz=86,SNR=18
GEMT Gemlik 85.92 315 *e*P P 10 40 15.3 -0.6
ELBA Catalca 85.96 316 *i* P P 10 40 24.7 +8.5
G27A Dupree 85.97 39 ⇑P P 10 40 15.8 -0.4
baz=86,SNR=209
MMAI Mount Meron Ar 85.97 306 P P 10 40 16.6 +0.2
comp=Z,64nm,0.5s,baz=58,slow=6.3,SNR=53
K24A Anderson Ranch 85.97 42 ⇓P P 10 40 15.5 -0.9
baz=86,SNR=9.5
WUAZ Wupatki 85.99 51 *e*P P 10 40 16.8 +0.2
comp=Z,311nm,1.1s
WUAZ Wupatki 85.99 51 ⇓P P 10 40 16.5 -0.1
baz=86,SNR=80
OKC Ostrava-Krasne 86.02 327 *e*P P 10 40 15.9 -0.3
OKC *ex* x 10 40 25.1
OKC *ex* x 10 40 36.6
OKC *e*pP pP 10 40 43.1 +3.1
OKC *ex* x 10 40 47.5
OKC *e*PP PP 10 43 37.9 +1.2
OKC *e*SKKS S 10 50 39.7 -3.2
OKC *ex* x 10 51 17.8
OKC *e*SS SS 10 56 22.3 +0.9
OKC AMS AMS 11 23 10.0
comp=Z,2µm,17.0s
OKC Ostrava-Krasne 86.02 327 *e*P P 10 40 15.9 -0.3
OKC *e* 10 40 43.1
OKC *e* 10 43 37.9
OKC *e* 10 50 39.7
OKC *e*SS SS 10 56 22.3 +0.9
OKC MLR MLR
comp=Z,2µm,17.0s
LOT Lotru 86.03 321 ⇓*i*P P 10 40 16.7 +0.2
LFK Lefkose 86.03 309 *e*P P 10 40 17.0 +0.4
ARMT Armutlu 86.04 315 *e*P P 10 40 16.4 -0.2
SLVT Silivri 86.05 316 *e*P P 10 40 16.5 -0.1
Z14A Wintersburg 86.09 54 ⇑P P 10 40 16.8 -0.1
baz=86,SNR=15
RUE Ruedersdorf 86.13 331 *e*P P 10 40 16.6 -0.1
comp=Z,717nm,1.8s
RUE Ruedersdorf 86.13 331 *e*P P 10 40 17.0 +0.3
comp=Z,230nm,1.3s
D29A Pettibone, Tap 86.14 37 ⇓P P 10 40 16.0 -1.0
baz=86
N22A Wattenberg Ran 86.14 45 ⇑P P 10 40 17.9 +0.5
baz=86,SNR=46
ALT Altintas 86.14 313 *e*P P 10 40 17.5 +0.2
ALT Altintas 86.14 313 P P 10 40 16.8 -0.4
ALT Altintas 86.14 313 P P 10 40 16.8 -0.4
MDNY Mudanya-Bursa 86.14 315 *e*P P 10 40 17.3 +0.2
J25A Sunshine Ranch 86.15 41 ⇑P P 10 40 16.1 -1.1
baz=86,SNR=12
SZH Strazhica 86.17 318 *i* P P 10 40 17.2 +0.1
KSP Ksiaz 86.19 329 *e*P P 10 40 17.1 0.0
KSP *e*PcP PcP 10 40 18.6 -0.9
KSP *e*PP PP 10 43 40.8 +2.8
KSP *e*SKSac S 10 50 42.4 -2.1
KSP *es*S sS 10 51 24.9 -0.2
KSP LMZ LR 11 11 04.9
KSP Ksiaz 86.19 329 *e*P P 10 40 17.1 0.0
KSP *e* 10 43 40.9
KSP *e* 10 50 42.4
M23A Laramie 86.19 44 ⇓P P 10 40 17.0 -0.5
baz=86,SNR=14
PHSR Pinarhisar 86.22 316 *e*P P 10 40 17.3 -0.2
F28A McLaughlin 86.28 38 ⇓P P 10 40 17.4 -0.3
baz=86,SNR=43
C30A Mose, Pekin 86.29 36 ⇓P P 10 40 16.7 -1.0
baz=86,SNR=39
I26A New Underwood 86.30 40 ⇓P P 10 40 17.8 -0.1
baz=86,SNR=58
MAMC Mammari 86.30 309 P P 10 40 18.3 +0.3
L24A Wheatland 86.31 43 ⇑P P 10 40 17.9 -0.2
baz=86
GAZI Gazipasa 86.32 310 *i* P P 10 40 16.6 -1.4
TVSB Tavsanli 86.33 314 *e*P P 10 40 18.2 +0.1
CSS Prodhromos 86.34 308 *e*P P 10 40 17.6 -0.6
CSS Prodhromos 86.34 308 P P 10 40 17.9 -0.3
CSS Prodhromos 86.34 308 P P 10 40 17.8 -0.3
CSS Prodhromos 86.34 308 *e*P P 10 40 17.9 -0.3
comp=Z,92nm,0.9s
MORC Moravsky Berou 86.34 327 *e*P P 10 40 16.9 -1.0
MORC pmax pmax
comp=Z,272nm,1.6s
MORC Moravsky Berou 86.34 327 ⇓*i*P P 10 40 18.1 +0.2
MORC Moravsky Berou 86.34 327 *e*P P 10 40 16.9 -1.0
comp=Z,272nm,1.6s
H27A Howes 86.36 40 ⇑P P 10 40 18.2 +0.1
baz=86,SNR=106
PV01 Paradox Valley 86.36 48 *e*P P 10 40 18.5 -0.1
N23A Red Feather La 86.39 44 ⇑P P 10 40 19.2 +0.5
baz=86,SNR=94
E29A Napoleon 86.43 37 ⇓P P 10 40 18.0 -0.4
baz=86,SNR=11
PHWY Pilot Hill 86.44 44 *e*P P 10 40 19.1 +0.2
comp=Z,346nm,1.4s
PSZ Piszkesteto 86.46 325 *e*P P 10 40 18.5 -0.1
PSZ pmax pmax
comp=Z,478nm,1.6s
PSZ Piszkesteto 86.46 325 ⇑*i*P P 10 40 19.3 +0.7
PSZ Piszkesteto 86.46 325 *e*P P 10 40 18.5 -0.1
comp=Z,478nm,1.6s
PSZ Piszkesteto 86.46 325 ⇑*e*P P 10 40 20.2 +1.6
O22A Kremmling 86.46 45 ⇑P P 10 40 18.6 -0.4
baz=86,SNR=107
BSEG Bad Segeberg 86.47 333 *e*P P 10 40 18.1 -0.2
comp=Z,251nm,1.2s
KRLC Kraliky 86.49 328 *e*P P 10 40 18.3 -0.4
KRLC *ex* x 10 40 49.7
KRLC Kraliky 86.49 328 *e*P P 10 40 18.3 -0.4
KRLC *e* 10 40 49.7
DPC Dobruska-Polom 86.52 328 *e*P P 10 40 18.7 -0.1
DPC *ex* x 10 40 30.8
DPC *e*pP pP 10 40 45.2 +2.7
DPC *ex* x 10 40 51.3
DPC *e*PP PP 10 43 45.5 +4.7
DPC *e*SKKS S 10 50 41.5 -6.3
DPC *ex* x 10 51 10.5
DPC *ex* x 10 51 24.1
DPC *ex* x 10 56 17.9
DPC AMS AMS 11 22 10.0
DPC Dobruska-Polom 86.52 328 *e*P P 10 40 18.7 -0.1
DPC *e* 10 40 45.2
DPC *e* 10 40 51.3
DPC *e* 10 43 45.5
DPC *e* 10 50 41.5
GDZ Gediz 86.52 314 *i* P P 10 40 18.5 -0.7
KCTX Karacabey (Bur 86.53 315 *e*P P 10 40 19.6 +0.6
D30A Buchanan 86.54 36 ⇑P P 10 40 18.4 -0.5
baz=86,SNR=63
PVL Pavlikeni 86.54 319 *i* P P 10 40 21.3 +2.3
UPC Upice 86.55 328 *e*P P 10 40 18.7 -0.2
UPC *ex* x 10 40 30.7
UPC *e*pP pP 10 40 43.8 +1.2
UPC *ex* x 10 40 51.9
UPC Upice 86.55 328 *e*P P 10 40 18.7 -0.2
UPC *e* 10 40 43.8
UPC *e* 10 40 51.9
X16A Lo Mia Camp, P 86.55 52 ⇑P P 10 40 19.1 -0.4
baz=86,SNR=50
LEF Lefka 86.56 309 *e*P P 10 40 17.3 -1.9
EDRB Edirne 86.56 317 *e*P P 10 40 19.4 +0.3
EDRB Edirne 86.56 317 P P 10 40 20.5 +1.4
EDRB Edirne 86.56 317 P P 10 40 20.5 +1.4
K25A Mack Ranch, Ha 86.59 42 ⇑P P 10 40 19.6 +0.2
baz=86,SNR=17
ISP Isparta 86.59 312 *e*P P 10 40 19.8 +0.3
ISP Isparta 86.59 312 *e*P P 10 40 19.1 -0.4
ISP pmax pmax
comp=Z,88nm,0.9s
ISP Isparta 86.59 312 ⇓*i*P P 10 40 19.6 +0.1
ISP Isparta 86.59 312 *e*P P 10 40 19.1 -0.4
comp=Z,88nm,0.9s
VYHS Vyhne 86.60 326 *e*P P 10 40 19.2 0.0
VYHS pmax pmax
comp=Z,207nm,1.6s
VYHS Vyhne 86.60 326 *e*P P 10 40 19.2 0.0
J26A Sides Ranch, S 86.62 41 ⇑P P 10 40 19.6 +0.2
baz=86,SNR=49
P22A Eagle 86.66 46 ⇑P P 10 40 20.3 +0.3
baz=86,SNR=178
G28A Parade 86.72 39 ⇑P P 10 40 19.9 +0.1
baz=86,SNR=55
I27A Quinn 86.72 40 ⇑P P 10 40 19.7 -0.2
baz=86,SNR=46
M24A Cheyenne 86.72 43 ⇓P P 10 40 20.7 +0.5
baz=86,SNR=88
ALFC Alevga 86.73 309 P P 10 40 19.8 -0.3
BCK Bucak 86.76 312 *e*P P 10 40 15.3 -4.9
SZAC Souni-Zanaja 86.76 308 P P 10 40 20.2 -0.1
SMCO Snowmass 86.77 46 *e*P P 10 40 20.9 +0.2
comp=Z,395nm,1.2s
EDC Edincik 86.79 315 *e*P P 10 40 18.9 -1.4
MRMT Marmara Adasi 86.80 316 *e*P P 10 40 21.8 +1.5
F29A Eureka 86.81 38 ⇓P P 10 40 20.0 -0.3
baz=87,SNR=41
L25A Engebretsen Ra 86.82 42 ⇓P P 10 40 20.2 -0.3
baz=87,SNR=25
O23A Lake Granby, G 86.82 45 ⇓P P 10 40 21.0 +0.2
baz=87,SNR=67
SRE Strehaia 86.83 321 ⇓*i*P P 10 40 21.6 +1.2
E30A Jud 86.86 37 ⇑P P 10 40 20.5 0.0
baz=87,SNR=33
H28A Mission Ridge 86.91 39 ⇑P P 10 40 20.8 0.0
baz=87,SNR=16
K26A Motz Farm, Whi 86.94 42 ⇑P P 10 40 20.8 -0.2
baz=87,SNR=20
MVCO Mesa Verde 86.94 48 *e*P P 10 40 21.4 0.0
comp=Z,308nm,1.3s
MVCO *e*pP pP 10 40 43.8 -1.3
MVCO Mesa Verde 86.94 48 ⇓P P 10 40 21.0 -0.3
baz=87,SNR=47
214A Organ Pipe Nat 86.95 55 *e*P P 10 40 21.2 0.0
comp=Z,199nm,1.2s
214A Organ Pipe Nat 86.95 55 ⇑P P 10 40 21.3 0.0
baz=87,SNR=82
AKMC Akamas 86.99 309 P P 10 40 20.2 -1.1
RKY Sarkoy-Tekirda 87.00 316 *e*P P 10 40 21.3 0.0
DEMI Demirci 87.03 314 *i* P P 10 40 20.8 -0.7
ANTB Antalya 87.04 311 *e*P P 10 40 20.4 -1.0
PPCY Paphos 87.06 309 P P 10 40 21.1 -0.5
N24A Carr 87.08 44 ⇑P P 10 40 21.6 -0.2
baz=87,SNR=43
BZS Buzias 87.08 322 ⇑*i*P P 10 40 22.5 +1.0
KRBG Karabiga-Canak 87.10 316 *e*P P 10 40 21.8 +0.1
VRAC Vranov 87.11 327 P P 10 40 21.6 0.0
comp=Z,47nm,0.9s,baz=56,slow=4.7,SNR=55
VRAC Vranov 87.11 327 P P 10 40 21.6 0.0
VRAC pmax pmax
comp=Z,47nm,0.9s
VRAC Vranov 87.11 327 ⇓*i*P P 10 40 22.1 +0.4
G29A Hoven 87.18 38 ⇓P P 10 40 21.7 -0.4
baz=87,SNR=16
KORT Korkueli 87.18 311 *i* P P 10 40 20.8 -1.6
BUD Budapest 87.18 325 ⇑*e*P P 10 40 22.9 +0.9
PVCC Panska Ves 87.19 329 *e*P P 10 40 21.8 -0.1
PVCC *ex* x 10 40 33.7
PVCC *ex* x 10 40 42.7
PVCC *e*pP pP 10 40 48.2 +2.5
PVCC *e*PP PP 10 43 50.9 +4.8
PVCC *e*SKKS S 10 50 49.5 -4.6
PVCC *ex* x 10 51 19.9
PVCC *ex* x 10 51 31.5
PVCC AMS AMS 11 25 40.0
comp=Z,2µm,16.9s
PVCC Panska Ves 87.19 329 *e*P P 10 40 21.8 -0.1
PVCC *e* 10 40 48.2
PVCC *e* 10 43 50.9
PVCC *e* 10 50 49.5
PVCC MLR MLR
comp=Z,2µm,16.9s
AGMN Agassiz Nation 87.19 34 *e*P P 10 40 21.3 -0.8
comp=Z,178nm,1.3s
AGMN Agassiz Nation 87.19 34 ⇓P P 10 40 21.0 -1.1
baz=87,SNR=26
BALB Balikesir 87.20 315 *e*P P 10 40 22.2 0.0
M25A Palm-Egli Farm 87.20 43 ⇓P P 10 40 22.6 +0.2
baz=87,SNR=13
HLG Helgoland 87.21 335 *e*P P 10 40 24.7 +2.8
comp=Z,1µm,1.8s
BRG Berggiesshubel 87.22 330 *i* P P 10 40 21.6 -0.5
comp=Z,11nm,0.7s
BRG *i* 10 40 23.1
comp=Z,140nm,1.5s
BRG *e* 10 40 33.9
comp=Z,27nm,0.8s
BRG *e* 10 41 17.2
comp=Z,41nm,0.9s
BRG PP PP 10 43 46.2 -0.1
comp=Z,54nm,1.4s
BRG S S 10 50 54.0 -0.4
BRG *e* 10 51 31.0
BRG SS SS 10 56 39.0 +0.1
comp=Z,2µm,16.9s
comp=N,2µm,21.7s
comp=E,1µm,21.7s
BRG Berggiesshubel 87.22 330 *e*P P 10 40 21.5 -0.6
comp=Z,502nm,2.0s
BRG Berggiesshubel 87.22 330 *i* P P 10 40 21.6 -0.5
BRG 10 43 46.2
BRG S S 10 50 54.0 -0.4
BRG SS SS 10 56 39.0 +0.1
BRG pmax pmax
comp=Z,11nm,0.7s
BRG MLR MLR
comp=Z,2µm,16.9s
BRG MLR MLR
comp=N,2µm,21.7s
BRG MLR MLR
comp=E,1µm,21.7s
F30A Leola 87.24 37 ⇓P P 10 40 21.8 -0.5
baz=87
ISCO Idaho Springs 87.25 45 *e*P P 10 40 23.4 +0.5
ISCO pmax pmax
comp=Z,144nm,1.2s
ISCO Idaho Springs 87.25 45 *e*P P 10 40 23.4 +0.5
comp=Z,144nm,1.2s
ISCO Idaho Springs 87.25 45 ⇑P P 10 40 22.7 -0.2
baz=87,SNR=47
I28A Midland 87.26 40 ⇑P P 10 40 22.1 -0.4
baz=87,SNR=76
J27A Elkhorn Farm, 87.26 41 ⇑P P 10 40 22.6 0.0
baz=87,SNR=71
SMOL Smolenice 87.27 326 *e*P P 10 40 23.3 +0.9
SMOL Smolenice 87.27 326 *e*P P 10 40 23.3 +0.9
BALY Balya 87.30 315 *i* P P 10 40 21.8 -1.0
CLL Collm 87.31 330 *e*P P 10 40 21.8 -0.7
comp=Z,207nm,1.4s
CLL Collm 87.31 330 *e*P P 10 40 22.0 -0.5
comp=Z,206nm,1.4s
CLL *e*Plp 10 40 24.0
comp=Z,800nm,15.8s
CLL *e*Pmax 10 40 25.0
CLL *e*PP PP 10 43 49.0 +2.0
comp=Z,173nm,1.7s
CLL *e*PP 10 44 18.0
CLL *e*S SKKSac 10 50 51.0 -0.3
CLL *es*S sS 10 51 38.0 +1.9
CLL *e*SP SP 10 51 57.0 +0.9
CLL *e*SS SS 10 56 40.0 -0.2
CLL *e*SSS SSS 11 00 24.0
CLL *e*SSSS 11 03 24.0
CLL Lmax 11 24 00.0
CLL Collm 87.31 330 *e*P P 10 40 22.0 -0.5
CLL *e**SP sP 10 40 52.0 -3.9
CLL *e* 10 43 49.0
CLL *e*S SKKSac 10 50 51.0 -0.3
CLL pmax pmax
comp=Z,206nm,1.4s
W18A Petrified Fore 87.32 51 ⇑P P 10 40 23.3 +0.1
baz=87
MPEP Malo Peshtene 87.36 320 *i* P P 10 40 23.3 +0.3
P23A Jefferson 87.37 46 ⇑P P 10 40 24.2 +0.7
baz=87,SNR=48
KULA Kula-Manisa 87.38 313 *e*P P 10 40 21.6 -1.6
KULA Kula-Manisa 87.38 313 P P 10 40 22.6 -0.6
KULA Kula-Manisa 87.38 313 P P 10 40 22.6 -0.6
H29A Onida 87.39 39 ⇑P P 10 40 23.2 +0.1
baz=87,SNR=23
O24A Longmont 87.39 45 ⇑P P 10 40 24.1 +0.8
baz=87,SNR=22
L26A Underwood Farm 87.41 42 ⇓P P 10 40 23.2 -0.1
baz=87,SNR=7.0
PKS7 Kunszentmiklos 87.41 324 ⇓*e*P P 10 40 25.1 +2.0
ERIK Erikli-Kesan 87.41 316 *e*P P 10 40 23.2 0.0
MLA1 Latheron 87.44 342 *e*P P 10 40 23.4 +0.4
FBE Freiberg 87.44 330 *e*PP PP 10 43 52.2 +4.1
LPK Lapseki 87.44 316 *e*P P 10 40 22.4 -1.0
MANT Manisa 87.46 313 *i* P P 10 40 22.9 -0.9
KDZ Kurdzhali 87.46 317 ⇓*i*P P 10 40 24.0 +0.5
KDZ Kurdzhali 87.46 317 *i* P P 10 40 24.4 +0.9
K27A Flueckinger Fa 87.48 41 ⇓P P 10 40 23.5 -0.1
baz=87,SNR=28
X18A Snowflake 87.51 51 ⇓P P 10 40 24.1 0.0
baz=87,SNR=25
GOPC GO Pecny, Ondr 87.52 329 *e*P P 10 40 23.0 -0.6
GOPC *ex* x 10 40 34.4
GOPC *ex* x 10 40 44.2
GOPC *e*pP pP 10 40 49.2 +1.8
GOPC *e*PP PP 10 43 51.3 +2.4
GOPC *e*SKKS S 10 50 49.9 -7.6
GOPC *ex* x 10 51 31.4
GOPC *ex* x 10 56 31.2
GOPC AMS AMS 11 24 20.0
comp=Z,2µm,15.4s
ALN Alexandroupoli 87.55 317 *e*P P 10 40 23.4 -0.5
ALN Alexandroupoli 87.55 317 P P 10 40 23.0 -0.9
ALN Alexandroupoli 87.55 317 *e*P P 10 40 24.1 +0.2
ALN Alexandroupoli 87.55 317 P P 10 40 23.0 -0.9
ALN Alexandroupoli 87.55 317 P P 10 40 23.0 -0.9
GOLH Golhisar 87.55 312 *i* P P 10 40 22.6 -1.5
PKSG 87.56 325 ⇑*e*P P 10 40 24.8 +1.0
N25A Grover 87.56 44 ⇑P P 10 40 23.6 -0.6
baz=87
PRA Prague 87.57 329 *e*P P 10 40 25.1 +1.3
PRA *e*pP pP 10 40 48.8 +1.2
PRA *ex* x 10 40 56.4
PRA *e*PP PP 10 43 52.2 +3.0
PRA *ex* x 10 50 52.4
PRA *ex* x 10 51 19.8
PRA *ex* x 10 51 33.4
PRA *ex* x 10 56 32.3
PRA AMS AMS 11 22 50.0
comp=Z,2µm,17.8s
PRA Prague 87.57 329 *e*P P 10 40 25.1 +1.3
PRA *e* 10 40 48.8
PRA *e* 10 43 52.2
PRA *e* 10 50 52.4
PRA MLR MLR
comp=Z,2µm,17.8s
PRU Pruhonice 87.58 329 *e*P P 10 40 23.5 -0.4
PRU *ex* x 10 40 35.2
PRU *e*pP pP 10 40 48.9 +1.2
PRU *ex* x 10 40 56.3
PRU *e*PP PP 10 43 52.0 +2.7
PRU *e*SKKS S 10 50 50.2 -7.8
PRU *ex* x 10 51 18.8
PRU *ex* x 10 51 33.0
PRU *e*SS SS 10 56 39.0 -5.3
PRU AMS AMS 11 22 50.0
comp=Z,2µm,19.0s
PRU Pruhonice 87.58 329 *e*P P 10 40 23.5 -0.4
PRU *e* 10 40 48.9
PRU *e* 10 40 56.3
PRU *e* 10 43 52.0
PRU *e* 10 50 50.2
PRU MLR MLR
comp=Z,2µm,19.0s
ENEZ Enez 87.59 316 *e*P P 10 40 21.2 -2.8
DENT Denizli 87.59 313 *e*P P 10 40 24.5 +0.3
J28A Allard Ranch, 87.59 40 ⇓P P 10 40 24.2 +0.1
baz=87,SNR=62
GELI Tayfur-Gelibol 87.60 316 *e*P P 10 40 23.2 -0.9
ELL Elmali 87.61 311 *e*P P 10 40 23.2 -1.2
PGB Panagyurishte 87.63 319 *i* P P 10 40 24.7 +0.4
G30A Faulkton 87.64 38 ⇑P P 10 40 23.9 -0.4
baz=87,SNR=38
NRDL Niedersach Rie 87.64 332 *e*P P 10 40 23.2 -0.8
comp=Z,115nm,1.4s
TREC Trest 87.64 328 AMS AMS 11 22 40.0
comp=Z,3µm,17.0s
Q23A Hartsel 87.65 46 ⇑P P 10 40 24.7 -0.2
baz=88,SNR=50
AKHS Akhisar 87.69 314 *i* P P 10 40 24.0 -0.7
AKS Akhisar 87.69 314 *e*P P 10 40 24.2 -0.4
S22A 4UR Ranch, Cre 87.71 47 ⇑P P 10 40 25.0 -0.2
baz=88,SNR=78
M26A McRoberts Ranc 87.72 43 ⇑P P 10 40 24.7 -0.2
baz=88,SNR=6.2
I29A Vivian Onida 87.73 39 ⇓P P 10 40 24.1 -0.7
baz=88,SNR=30
L27A T5 Ranch, Ells 87.82 42 ⇓P P 10 40 24.9 -0.4
baz=88
PKST T`s 87.83 325 *e*P P 10 40 24.9 -0.2
RZN Rozhen 87.85 318 *i* P P 10 40 26.7 +1.1
P24A Kohler Place, 87.86 45 ⇑P P 10 40 25.4 -0.3
baz=88,SNR=13
K28A Ten Mile Ranch 87.97 41 ⇑P P 10 40 25.2 -0.7
baz=88,SNR=25
O25A Wiggins 87.97 44 ⇓P P 10 40 26.0 -0.1

baz=88,SNR=52
MVH1 Achvaich 87.99 342 *e*P P 10 40 25.4 -0.2
CLZ Clausthal 88.02 332 *e*P P 10 40 25.5 -0.5
comp=Z,230nm,1.3s
CLZ *e*PP **PP** 10 43 56.2 +3.4
MCD Coleburn Disti 88.03 342 *e*P P 10 40 25.6 -0.2
Q24A Divide 88.04 46 ⇑P P 10 40 26.0 -0.7
baz=88,SNR=14
N26A Koester Ranch, 88.07 43 ⇑P P 10 40 26.1 -0.4
baz=88
GADA Gvkgeada 88.08 316 *e*P P 10 40 24.8 -1.6
R23A Moffat 88.08 46 ⇑P P 10 40 27.1 +0.2
baz=88,SNR=85
AKAS Kas 88.11 311 *i* P P 10 40 24.5 -2.3
EIL Elat 88.11 303 P P 10 40 26.2 -0.6
comp=Z,196nm,1.1s,baz=47,slow=2.3,SNR=82
J29A Okreek 88.11 40 ⇓P P 10 40 25.8 -0.8
baz=88,SNR=51
SMTH Samothraki Isl 88.12 316 P P 10 40 24.5 -2.1
SMTH Samothraki Isl 88.12 316 *e*P P 10 40 27.3 +0.7
SMTH Samothraki Isl 88.12 316 P P 10 40 24.5 -2.1
M27A Reverse DX Ran 88.13 42 ⇓P P 10 40 26.4 -0.4
baz=88
AYVA Ayvalik 88.13 315 *i* P P 10 40 26.8 +0.1
VTS Vitosha 88.15 319 P P 10 40 26.7 -0.2
VTS Vitosha 88.15 319 P P 10 40 26.7 -0.2
VTS Vitosha 88.15 319 ⇓*i*P P 10 40 27.1 +0.2
VTS Vitosha 88.15 319 *i* P P 10 40 27.1 +0.2
VTS Vitosha 88.15 319 P P 10 40 26.7 -0.2
PKS9 Tamasi 88.17 325 ⇓*e*P P 10 40 26.1 -0.6
TUC Tucson 88.18 54 *e*P P 10 40 27.4 +0.2
TUC pmax pmax
comp=Z,326nm,2.0s
TUC Tucson 88.18 54 *e*P P 10 40 27.4 +0.2
comp=Z,326nm,2.0s
BRSD Miller 88.19 38 *e*P P 10 40 26.9 0.0
comp=Z,103nm,0.7s
BRSD Miller 88.19 38 ⇓P P 10 40 26.2 -0.6
baz=88,SNR=7.4
BOZC Bozcaada 88.20 316 *i* P P 10 40 25.7 -1.3
TANN Tannenbergstha 88.20 330 *e*P P 10 40 26.0 -0.9
comp=Z,280nm,2.1s
TANN *e*PP **PP** 10 43 57.7 +3.4
AYDB Zeytinkoy-Aydi 88.20 313 *e*P P 10 40 27.3 +0.1
FETY Fethiye 88.22 312 *e*P P 10 40 26.4 -0.8
PKSM Moragy 88.24 324 ⇓*i*P P 10 40 26.6 -0.4
PKSM Moragy 88.24 324 ⇑*e*P P 10 40 27.8 +0.8
WERD Werda 88.24 330 *e*PP PP 10 43 58.3 +3.7
S23A Nye Farm, Mont 88.26 47 ⇑P P 10 40 28.2 +0.5
baz=88,SNR=10
SOP Sopron 88.26 326 ⇑*e*P P 10 40 28.6 +1.5
PLN Plauen 88.28 330 *e*PP PP 10 43 58.9 +4.1
I30A Oacoma 88.28 39 ⇓P P 10 40 27.4 +0.1
baz=88,SNR=23
GUNZ Gunzen 88.29 330 *e*PP PP 10 43 59.1 +4.1
P25A Willow Gulch B 88.31 45 ⇑P P 10 40 27.5 -0.3
baz=88,SNR=23
IZM Izmir 88.33 314 *e*P P 10 40 27.2 -0.5
L28A Connealy Angus 88.33 41 ⇓P P 10 40 27.1 -0.6
baz=88
NKC Novy Kostel 88.34 330 *e*P P 10 40 27.0 -0.5
NKC *ex* x 10 40 38.6
NKC *e*pP **pP** 10 40 52.2 +0.9
NKC *ex* x 10 41 00.0
NKC *e*PP **PP** 10 43 59.1 +3.8
NKC *e*SKS **SKSac** 10 50 51.2 +2.9
NKC *ex* x 10 51 39.5
NKC *e*SS **SS** 10 56 52.2 -3.0
NKC AMS AMS 11 25 10.0
NKC Novy Kostel 88.34 330 *e*P P 10 40 27.0 -0.5
NKC *e* 10 40 52.2
NKC *e* 10 41 00.0
NKC *e* 10 43 59.1
NKC *e* 10 50 51.2
NKC *e*SS SS 10 56 52.2 -3.1
AYDN Tasoluk 88.38 313 *i* P P 10 40 28.8 +0.8
O26A Horse Wrangler 88.38 44 ⇓P P 10 40 28.0 -0.1
baz=88,SNR=16
DALY Dalyan (Mu˘la 88.39 312 *e*P P 10 40 25.6 -2.3
MOX Moxa 88.39 331 *e*P P 10 40 27.0 -0.7
comp=Z,230nm,1.8s
MOX *e*PP **PP** 10 43 59.4 +3.6
DRUM Mains of Drumt 88.39 341 *e*P P 10 40 27.2 -0.3
DRUM AMS AMS 11 14 55.6
comp=Z,2μm,28.3s
KAVA Kavala 88.40 317 P P 10 40 27.0 -0.9
KAVA Kavala 88.40 317 *e*P P 10 40 28.4 +0.5
KAVA Kavala 88.40 317 P P 10 40 27.0 -0.9
MSEY Mahe Island 88.41 264 *i* P P 10 40 30.6 +2.2
MSEY Mahe Island 88.41 264 P P 10 40 30.6 +2.2
SNR=7.2
MSEY Mahe Island 88.41 264 ⇓*i*P P 10 40 30.3 +1.8
SNR=8.8
MSEY Mahe Island 88.41 264 *e*P P 10 40 28.6 +0.1
comp=Z,260nm,1.2s
CONA Conrad Observa 88.43 327 ⇑*i*PcP P 10 40 28.1 0.0
comp=Z,843nm,2.1s,SNR=51
PRK Paraskevi 88.43 315 P P 10 40 27.3 -0.8
PRK Paraskevi 88.43 315 *e*P P 10 40 27.9 -0.2
PRK Paraskevi 88.43 315 P P 10 40 27.3 -0.8
PRK Paraskevi 88.43 315 P P 10 40 27.3 -0.8
YER Yerkesik 88.44 312 *e*P P 10 40 28.4 +0.2
MDO Dochfour 88.45 342 *e*P P 10 40 27.3 -0.5
BLCB Balcova 88.47 314 *e*P P 10 40 26.4 -2.0
MMB Musomiste 88.49 318 ⇑*i*P P 10 40 29.5 +1.1
N27A Anderson Farm, 88.49 43 ⇓P P 10 40 28.0 -0.5
baz=88,SNR=22
R24A Sanders Place, 88.51 46 ⇑P P 10 40 28.8 +0.1
baz=88,SNR=68
DAMY Dhamar 88.51 286 *e*P P 10 40 30.2 +0.9
comp=Z,331nm,1.1s
K29A Lazy Trails An 88.53 40 ⇑P P 10 40 28.1 -0.5
baz=88,SNR=23
SDCO Great Sand Dun 88.55 47 ⇓P P 10 40 28.9 -0.2
baz=88,SNR=47
NVR Nevrokopi 88.56 318 P P 10 40 27.8 -0.9
NVR Nevrokopi 88.56 318 *e*P P 10 40 28.1 -0.6
NVR Nevrokopi 88.56 318 P P 10 40 27.8 -0.9
J30A Dallas 88.63 39 ⇓P P 10 40 28.4 -0.6
baz=88,SNR=22
Q25A Bedland, Calha 88.63 45 ⇑P P 10 40 29.4 +0.1
baz=88,SNR=35
KHC Kasperske Hory 88.64 329 *e*P P 10 40 28.0 -0.9
KHC *ex* x 10 40 33.5
KHC *e*pP **pP** 10 40 57.5 +4.7
KHC Kasperske Hory 88.64 329 *e*P P 10 40 28.0 -0.9
KHC *e* 10 40 57.5
KAC Achnashellach 88.65 343 *e*P P 10 40 28.2 -0.6
MANZ Manzenberg 88.67 330 *e*PP PP 10 44 01.5 +3.5
KKB Krupnik 88.69 319 *i* P P 10 40 29.8 +0.5
LIA Limnos Island 88.69 316 P P 10 40 28.1 -1.2
LIA Limnos Island 88.69 316 *e*P P 10 40 30.5 +1.2
LIA Limnos Island 88.69 316 P P 10 40 28.1 -1.2
OGNE Ogallala 88.70 42 *e*P P 10 40 29.0 -0.5
comp=Z,451nm,1.3s
OGNE Ogallala 88.70 42 ⇓P P 10 40 29.0 -0.5
baz=88,SNR=21
SIGR SIGRI 88.70 315 *e*P P 10 40 28.8 -0.6
SIGR SIGRI 88.70 315 P P 10 40 28.6 -0.8
SIGR SIGRI 88.70 315 *e*P P 10 40 28.7 -0.6
SIGR SIGRI 88.70 315 P P 10 40 28.6 -0.8
IBBN Ibbenburen 88.71 333 *e*P P 10 40 28.8 -0.3
comp=Z,335nm,1.2s
GCAM G?zelcaml? 88.77 313 *i* P P 10 40 29.7 +0.1
P26A Davis Ranch, A 88.78 44 ⇓P P 10 40 30.4 +0.4
baz=89,SNR=22
ROTZ Rotzenmuhle 88.78 330 *e*PP PP 10 44 03.2 +4.3
GEC2 GERESS Array S 88.79 328 *e*P P 10 40 29.1 -0.6
comp=Z,40nm,0.9s
GEC2 *e*pP pP 10 41 01.9 +8.3
GEC2 *e*PP **PP** 10 44 03.1 +4.0
GERES GERESS Array B 88.79 328 P P 10 40 28.9 -0.8
comp=Z,24nm,0.7s,baz=45,slow=4.5,SNR=98
GERES PKKPbc **PKKPbc** 10 58 09.8 +0.5
comp=Z,1.3nm,0.8s,baz=241,slow=2.7,SNR=6.1
GERES LR LR 11 24 43.1
comp=Z,1μm,18.2s,baz=46,slow=38
M28A Bar X Bar Ranc 88.80 42 ⇓P P 10 40 29.7 -0.3
baz=89,SNR=8.9
EDU Dundee 88.86 341 *e*P P 10 40 28.8 -0.9
KPL Plockton 88.88 343 *e*P P 10 40 29.6 -0.2
KPL AMB AMB 10 40 33.1
comp=Z,126nm,1.2s
KPL AMS AMS 11 18 00.9

comp=Z,1μm,22.1s
L29A Maesberg Ranch 88.89 41 ⇓P P 10 40 29.8 -0.5
baz=89,SNR=14
O27A Beecher Island 88.91 43 ⇑P P 10 40 29.8 -0.7
baz=89,SNR=14
WET Wettzell 88.94 329 *e*P P 10 40 30.1 -0.2
comp=Z,304nm,2.0s
WET *e*PP **PP** 10 44 04.1 +3.9
DIVS Divibare 88.95 322 P P 10 40 29.7 -0.9
DIVS Divibare 88.95 322 ⇓*i*P P 10 40 30.2 -0.4
K30A Basset 88.98 40 ⇓P P 10 40 30.6 -0.1
baz=89,SNR=7.8
BEHE Becsehely 89.00 325 *e*P P 10 40 32.4 +1.8
SMG Samos 89.01 314 P P 10 40 30.0 -0.9
SMG Samos 89.01 314 *e*P P 10 40 30.5 -0.4
SMG Samos 89.01 314 P P 10 40 30.0 -0.9
BDRM Kayabasi 89.02 313 *i* P P 10 40 29.6 -1.3
ARSA Arzberg 89.07 326 ⇓*i*PcP P 10 40 30.6 -0.4
comp=Z,602nm,2.0s,SNR=43
Q26A Hugo 89.07 45 ⇑P P 10 40 30.6 -0.7
baz=89
ARG Arkhangelos 89.09 312 P P 10 40 31.0 -0.2
ARG Arkhangelos 89.09 312 *e*P P 10 40 31.2 0.0
ARG Arkhangelos 89.09 312 P P 10 40 31.0 -0.2
ARG Arkhangelos 89.09 312 P P 10 40 31.0 -0.2
CHOS Chios island 89.09 315 P P 10 40 30.6 -0.7
CHOS Chios island 89.09 315 *e*P P 10 40 30.6 -0.7
CHOS Chios island 89.09 315 P P 10 40 30.6 -0.7
BODT Bodrum 89.10 313 *e*P P 10 40 30.8 -0.5
DAT Datca 89.13 313 *e*P P 10 40 30.5 -1.1
OUR Ouranopolis 89.13 317 *e*P P 10 40 29.7 -1.7
OUR Ouranopolis 89.13 317 P P 10 40 30.4 -0.9
OUR Ouranopolis 89.13 317 *e*P P 10 40 32.3 +1.0
OUR Ouranopolis 89.13 317 P P 10 40 30.4 -0.9
OUR Ouranopolis 89.13 317 P P 10 40 30.4 -0.9
N28A Pribbeno Ranch 89.16 42 ⇓P P 10 40 30.6 -1.0
baz=89,SNR=29
M29A Burnside Ranch 89.17 41 ⇑P P 10 40 30.9 -0.8
baz=89,SNR=19
SOH Sokhos 89.19 318 *e*P P 10 40 31.2 -0.5
MOA Molln 89.24 327 *i* PcP P 10 40 31.3 -0.5
comp=Z,704nm,2.5s,SNR=42
KNT Kendrikon 89.24 318 P P 10 40 31.0 -0.9
KNT Kendrikon 89.24 318 *e*P P 10 40 30.9 -0.9
KNT Kendrikon 89.24 318 P P 10 40 31.0 -0.9
KNT Kendrikon 89.24 318 P P 10 40 31.0 -0.9
P27A Ficken Ranch, 89.25 44 ⇓P P 10 40 31.3 -0.8
baz=89,SNR=15
GRF Grafenberg Arr 89.27 330 *e*P P 10 40 31.8 -0.1
comp=Z,304nm,1.4s
GRF *e*PP **PP** 10 44 06.2 +3.4
GRFO Grafenberg 89.27 330 *e*P P 10 40 31.8 0.0
GRFO pmax pmax
comp=Z,713nm,1.9s
GRFO Grafenberg 89.27 330 *e*P P 10 40 31.8 0.0
comp=Z,714nm,1.9s
VAY Valandovo 89.33 319 P P 10 40 32.5 +0.2
VAY Valandovo 89.33 319 *i* P P 10 40 31.9 -0.4
VAY Valandovo 89.33 319 P P 10 40 32.5 +0.2
VAY Valandovo 89.33 319 P P 10 40 32.5 +0.2
WTSB Winterswijk 89.35 334 *e*P P 10 40 31.4 -0.7
comp=Z,312nm,1.8s
O28A Krutsinger Ran 89.37 43 ⇓P P 10 40 31.6 -1.0
baz=89,SNR=27
L30A Spencer Herefo 89.40 41 ⇑P P 10 40 31.7 -1.0
baz=89,SNR=21
PLG Polygyros 89.43 317 P P 10 40 33.2 +0.4
PLG Polygyros 89.43 317 *e*P P 10 40 31.9 -0.9
PLG Polygyros 89.43 317 P P 10 40 33.2 +0.4
PLG Polygyros 89.43 317 P P 10 40 33.2 +0.4
LAZ Lanron 89.48 50 *e*P P 10 40 34.1 +0.7
comp=Z,36nm,1.3s
HORT Hortiatis 89.49 318 *e*P P 10 40 29.8 -3.4
HORT Hortiatis 89.49 318 P P 10 40 33.2 +0.1
HORT Hortiatis 89.49 318 *e*P P 10 40 32.8 -0.3
HORT Hortiatis 89.49 318 P P 10 40 33.2 +0.1
R26A Arlington 89.50 45 ⇑P P 10 40 32.7 -0.6
baz=89,SNR=19
EYMN Ely 89.52 32 *e*P P 10 40 32.5 -0.5
comp=Z,330nm,1.3s
EBL Broad Law 89.53 341 *e*P P 10 40 33.3 +0.4
EAB Aberfoyle 89.54 341 *e*P P 10 40 32.2 -0.7
SKO Skopje 89.55 320 *i* P P 10 40 33.0 -0.4
AIS Amsterdam Isla 89.56 225 P P 10 40 21.0 -12
AIS PP PP 10 43 57.0 -9.3
AIS SP SP 10 52 43.0 +21
AIS R 11 09 00.0
KSCO Kaye Shedlock' 89.56 44 *e*P P 10 40 34.2 +0.6
comp=Z,249nm,1.8s
KSCO Kaye Shedlock' 89.56 44 ⇑P P 10 40 33.1 -0.5
baz=89,SNR=5.2
PAIG Paliouri 89.57 317 P P 10 40 33.7 +0.3
PAIG Paliouri 89.57 317 *e*P P 10 40 32.6 -0.8
PAIG Paliouri 89.57 317 P P 10 40 33.7 +0.3
PAIG Paliouri 89.57 317 P P 10 40 33.7 +0.3
BUG Bochum--Univer 89.58 333 *e*P P 10 40 32.2 -1.0
comp=Z,235nm,1.5s
BUG *e*PP **PP** 10 44 07.1 +2.0
M30A Dale-Ortello V 89.58 41 ⇑P P 10 40 32.7 -0.9
baz=89,SNR=14
N29A Votaw Ranch, W 89.61 42 ⇓P P 10 40 33.1 -0.6
baz=89,SNR=15
ANMO Albuquerque 89.61 49 *c i*P P 10 40 33.9 -0.1
ANMO pmax pmax
comp=Z,218nm,1.7s
ANMO Albuquerque 89.61 49 *e*P P 10 40 33.9 -0.1
comp=Z,84nm,1.1s
T25A Trinidad 89.61 47 ⇑P P 10 40 33.5 -0.5
baz=89,SNR=46
GRG Griva 89.66 318 P P 10 40 32.4 -1.5
GRG Griva 89.66 318 *e*P P 10 40 32.9 -1.0
GRG Griva 89.66 318 P P 10 40 32.4 -1.5
GRG Griva 89.66 318 P P 10 40 32.4 -1.5
PERS Pernice 89.70 326 *e*P P 10 40 33.3 -0.7
PERS *i* 10 40 34.8
PERS *e* 10 52 18.0
SOKA Soboth 89.71 326 ⇓*i*PcP P 10 40 33.4 -0.6
comp=Z,627nm,1.9s,SNR=50
P28A Saint Francis 89.73 43 ⇓P P 10 40 33.3 -1.0
baz=90,SNR=35
L31A Butterfield Fa 89.74 40 ⇑P P 10 40 33.6 -0.7
baz=90,SNR=35
319A Douglas 89.76 54 ⇓P P 10 40 34.2 -0.5
baz=90
PLE Pljevlja 89.79 322 ⇑*i*P P 10 40 34.4 -0.1
IVA Berane 89.82 321 ⇑*i*P P 10 40 34.5 -0.2
LPM Los Pinos Moun 89.87 50 *e*P P 10 40 35.4 +0.2
comp=Z,50nm,1.5s
S26A Kim 89.91 46 ⇓P P 10 40 34.1 -1.1
baz=90,SNR=20
PGBU Glenifferbraes 89.91 341 *e*P P 10 40 34.4 -0.2
PGBU AMB AMB 10 40 37.5
comp=Z,204nm,1.4s
R27A Eads 89.91 45 ⇑P P 10 40 34.3 -0.9
baz=90,SNR=14
ECSD EROS Data Cent 89.92 38 *e*P P 10 40 34.3 -0.7
comp=Z,111nm,1.0s
ECSD EROS Data Cent 89.92 38 ⇑P P 10 40 33.7 -1.3
baz=90,SNR=47
N30A Hueftle Ranch, 89.93 42 ⇑P P 10 40 34.5 -0.6
baz=90
AOS Alonnisos 89.93 316 *e*P P 10 40 33.6 -1.5
AOS Alonnisos 89.93 316 P P 10 40 35.4 +0.3
AOS Alonnisos 89.93 316 *e*P P 10 40 34.2 -0.9
AOS Alonnisos 89.93 316 P P 10 40 35.4 +0.3
EKA Eskdalemuir Ar 89.95 340 P P 10 40 34.6 -0.2
comp=Z,20nm,0.7s,baz=57,slow=3.6,SNR=35
EKA PP **PP** 10 44 07.4 -0.4
comp=Z,2.6nm,0.6s,baz=34,slow=6.2,SNR=4.6
EKA Eskdalemuir Ar 89.95 340 P P 10 40 34.7 -0.2
EKA 10 44 07.4
EKA pmax pmax
comp=Z,21nm,0.7s
EKA pmax pmax
comp=Z,3.0nm,0.6s
O29A 4D Ranch, Culb 89.95 43 ⇓P P 10 40 34.4 -0.9
baz=90,SNR=27
LCP Cassop 89.95 339 *e*P P 10 40 34.1 -0.7
PVY Plav 89.97 321 ⇑*i*P P 10 40 34.9 -0.5
ESK Eskdalemuir 89.97 340 *e*P P 10 40 34.1 -0.9
ESK AMB AMB 10 40 36.8
comp=Z,100nm,1.7s
ESK AMS AMS 11 17 20.7
comp=Z,2μm,23.2s

ESK Eskdalemuir 89.97 340 *i* P P 10 40 36.2 +1.2
ESK Eskdalemuir 89.97 340 *e*P P 10 40 34.5 -0.5
comp=Z,150nm,1.3s
RJOB Jochberg 90.01 328 *e*P P 10 40 35.2 -0.2
comp=Z,124nm,0.9s
Q28A Sharon Springs 90.01 44 ⇓P P 10 40 34.9 -0.8
baz=90,SNR=16
TNS Taunus Mts 90.04 332 *e*P P 10 40 34.9 -0.6
comp=Z,156nm,1.6s
TNS *e*PP **PP** 10 44 11.3 +2.4
OBKA Obir 90.06 326 ⇑*i*PcP P 10 40 34.7 -1.1
comp=Z,884nm,4.0s,SNR=11
ECK Cauldkaine Hil 90.07 340 *e*P P 10 40 34.7 -0.7
T26A Comanche Natio 90.11 46 ⇑P P 10 40 35.3 -0.9
baz=90,SNR=60
KARP Karpathos 90.11 312 P P 10 40 35.3 -0.8
KARP Karpathos 90.11 312 *e*P P 10 40 35.2 -0.8
KARP Karpathos 90.11 312 P P 10 40 35.3 -0.8
121A Cookes Peak, D 90.13 52 *e*P P 10 40 37.2 +0.8
comp=Z,227nm,1.6s
121A Cookes Peak, D 90.13 52 ⇑P P 10 40 35.7 -0.8
baz=90,SNR=29
UPM Unac-Piva 90.14 322 ⇑*i*P P 10 40 36.2 0.0
LIT Litokhoron 90.16 318 P P 10 40 34.9 -1.3
LIT Litokhoron 90.16 318 *e*P P 10 40 34.8 -1.4
LIT Litokhoron 90.16 318 P P 10 40 34.9 -1.3
LIT Litokhoron 90.16 318 P P 10 40 34.9 -1.3
SKIA Skiathos 90.18 316 P P 10 40 36.3 0.0
SKIA Skiathos 90.18 316 *e*P P 10 40 35.7 -0.6
P29A Atwood 90.21 43 ⇑P P 10 40 35.4 -1.1
baz=90,SNR=23
M31A Lambtecht Ranc 90.21 41 ⇓P P 10 40 35.0 -1.5
baz=90,SNR=16
XOR Xorichti 90.22 317 P P 10 40 34.9 -1.6
XOR Xorichti 90.22 317 *e*P P 10 40 35.5 -1.0
XOR Xorichti 90.22 317 P P 10 40 34.9 -1.6
S27A Las Animas 90.22 45 ⇓P P 10 40 36.0 -0.7
baz=90
APE Apeiranthos 90.23 314 *e*P P 10 40 34.3 -2.3
APE Apeiranthos 90.23 314 *e*P P 10 40 35.2 -1.4
APE Apeiranthos 90.23 314 *d i*P P 10 40 34.9 -1.7
APE pmax pmax
comp=Z,228nm,1.7s
APE Apeiranthos 90.23 314 ⇑*i*P P 10 40 36.1 -0.5
KBA Koelnbreinsper 90.23 327 *i* PcP P 10 40 35.6 -1.0
comp=Z,454nm,2.5s,SNR=28
NEO Neokhori 90.24 317 *e*P P 10 40 36.5 -0.1
NKY Niksic 90.35 321 *e*P P 10 40 37.3 +0.1
O30A MW Ranch, Wils 90.35 42 ⇓P P 10 40 36.5 -0.6
baz=90,SNR=20
FNA Florina 90.37 319 P P 10 40 37.3 +0.1
FNA Florina 90.37 319 *e*P P 10 40 37.1 -0.1
FNA Florina 90.37 319 P P 10 40 37.3 +0.1
FNA Florina 90.37 319 P P 10 40 37.3 +0.1
FUR Furstenfeldbru 90.38 329 *e*P P 10 40 37.1 0.0
comp=Z,550nm,1.7s
FUR *e*pP pP 10 41 09.6 +8.6
FUR *e*PP **PP** 10 44 15.0 +3.3
MRKA Markates 90.40 316 P P 10 40 35.7 -1.7
MRKA Markates 90.40 316 *e*P P 10 40 35.5 -1.9
NKME Niksic 90.40 321 ⇑*i*P P 10 40 37.3 0.0
LJU Ljubljana 90.41 326 *i* P P 10 40 36.4 -0.8
LJU *e* 10 40 37.8
LJU *e* 10 41 10.2
LJU *e*PP **PP** 10 44 16.4 +4.5
LJU *e*SKSac **SKSac** 10 50 58.9 -1.7
LJU *e* 10 51 42.3
LJU *e* 10 52 27.2
MYKA Terra Mystica 90.41 327 *i* P P 10 40 36.1 -1.2
comp=Z,335nm,2.1s,SNR=31
VISS Visnje 90.43 326 *e*P P 10 40 36.3 -1.0
BOJS Bojanci 90.44 325 *e*P P 10 40 36.8 -0.6
BOJS *e* 10 40 38.1
BOJS *e*PP **PP** 10 44 16.0 +3.9
KZN Kozani 90.45 318 *e*P P 10 40 36.7 -0.9
TTG Podgorica 90.47 321 ⇑*i*P P 10 40 37.6 +0.1
R28A Tribune 90.48 44 ⇓P P 10 40 36.9 -0.9
baz=90,SNR=21
OHR Ohrid 90.48 319 *i* P P 10 40 37.1 -0.6
SMIA Simia 90.52 316 P P 10 40 38.1 +0.2
SMIA Simia 90.52 316 *e*P P 10 40 36.3 -1.6
BRY Bratogost 90.54 322 ⇑*i*P P 10 40 38.2 +0.1
N31A Bailey Ranch, 90.57 41 ⇓P P 10 40 37.4 -0.7
baz=90
KESW Keswick, Cumbr 90.57 340 *e*P P 10 40 37.2 -0.6
KESW AMB AMB 10 40 40.0
comp=Z,155nm,1.7s
KESW AMS AMS 11 17 36.5
comp=Z,2μm,27.8s
HGN Heimansgroeve 90.63 333 *e*P P 10 40 37.7 -0.4
comp=Z,313nm,1.8s
HGN Heimansgroeve 90.63 333 *e*S S 10 51 12.0 -14
Q29A Oakley 90.63 44 ⇓P P 10 40 37.6 -0.9
baz=90,SNR=21
BGNE Belgrade 90.64 40 *e*P P 10 40 37.9 -0.5
comp=Z,660nm,1.2s
BGNE Belgrade 90.64 40 ⇓P P 10 40 37.1 -1.3
baz=90,SNR=7.4
P30A Selden 90.65 43 ⇓P P 10 40 37.3 -1.3
baz=90,SNR=21
HPK Haverah Park 90.66 339 *e*P P 10 40 37.8 -0.4
HPK AMB AMB 10 40 40.2
comp=Z,161nm,1.7s
HPK AMS AMS 11 21 20.4
comp=Z,2μm,18.9s
DRME Dracevica, Mon 90.67 321 ⇑*i*P P 10 40 39.2 +0.7
SANT Santorini 90.70 313 P P 10 40 38.3 -0.5
SANT Santorini 90.70 313 P P 10 40 38.3 -0.5
comp=Z,14nm,1.3s
BEBN Eben Emael 90.70 334 P P 10 40 37.8 -0.7
comp=Z,35nm,1.6s
T27A Campo 90.72 46 ⇓P P 10 40 38.3 -0.7
baz=90,SNR=16
MEM Membach 90.72 333 P P 10 40 38.4 -0.1
comp=Z,52nm,1.8s
ATHU Athens Univers 90.75 315 P P 10 40 38.1 -0.9
ATHU Athens Univers 90.75 315 P P 10 40 38.1 -0.9
BUM Brajici-Budva 90.75 321 ⇑*i*P P 10 40 38.6 -0.4
THR6 Thira Island, 90.75 313 P P 10 40 37.3 -1.7
THR6 Thira Island, 90.75 313 P P 10 40 37.3 -1.7
ULC Ulcinj 90.78 321 *e*P P 10 40 39.9 +0.8
THL Klokotos Trika 90.79 317 *e*P P 10 40 38.2 -0.9
LKR Lokris 90.79 316 P P 10 40 38.7 -0.4
LKR Lokris 90.79 316 *e*P P 10 40 37.0 -2.1
LKR Lokris 90.79 316 P P 10 40 38.7 -0.4
O31A Woolen Ranch, 90.79 42 ⇓P P 10 40 38.1 -1.1
baz=91,SNR=5.4
GAL1 Galloway 90.80 341 *e*P P 10 40 38.4 -0.4
GAL1 AMB AMB 10 40 40.5
comp=Z,110nm,1.3s
GAL1 AMS AMS 11 16 35.0
comp=Z,1μm,31.2s
R29A Marienthal 90.83 44 ⇓P P 10 40 38.3 -1.2
baz=91,SNR=18
STU Stuttgart 90.84 330 *e*P P 10 40 38.6 -0.6
comp=Z,299nm,1.5s
STU *e*pP pP 10 41 11.6 +8.5
STU *e*PP **PP** 10 44 17.8 +2.6
STU Stuttgart 90.84 330 *e*P P 10 40 39.0 -0.2
STU pmax pmax
comp=Z,218nm,1.3s
STU Stuttgart 90.84 330 *e*P P 10 40 39.0 -0.2
comp=Z,218nm,1.3s
SPMN Marine on St. 90.84 35 *e*P P 10 40 38.9 -0.3
comp=Z,220nm,1.2s
SPMN *e*pP **pP** 10 41 02.9 -0.2
SPMN Marine on St. 90.84 35 ⇑P P 10 40 38.4 -0.9
baz=91,SNR=21
ABTA Abfaltersbach 90.86 327 ⇑*i*P P 10 40 37.7 -1.7
comp=Z,334nm,1.8s,SNR=49
WATA Walderalm 90.86 328 ⇑*i*PcP P 10 40 38.5 -1.0
comp=Z,52nm,1.1s,SNR=19
HCY Herceg Novi 90.87 321 ⇑*i*P P 10 40 39.4 0.0
WTTA Wattenberg 90.89 328 ⇑*i*PcP P 10 40 38.8 -0.9
comp=Z,554nm,2.3s,SNR=26
S28A Manter 90.90 45 ⇓P P 10 40 39.0 -0.8
baz=91,SNR=18
AXAR Agios Charalam 90.92 317 *e*P P 10 40 39.6 -0.2
AGG Agios Georgios 90.95 317 P P 10 40 39.2 -0.7
AGG Agios Georgios 90.95 317 *e*P P 10 40 38.3 -1.6
AGG Agios Georgios 90.95 317 P P 10 40 39.2 -0.7
AGG Agios Georgios 90.95 317 P P 10 40 39.2 -0.7
N32A Stulken Farm, 90.98 41 ⇓P P 10 40 38.6 -1.5
baz=91,SNR=5.2

ZKR Zakros 90.99 312 P P 10 40 39.5 -0.6
ZKR Zakros 90.99 312 P P 10 40 39.5 -0.6
TRI Trieste 91.02 326 eP P 10 40 39.5 -0.5
TRI pmax pmax
comp=Z,306nm,1.4s
TRI Trieste 91.02 326 eP P 10 40 39.5 -0.5
comp=Z,306nm,1.4s
Q30A Quinter 91.03 43 ⇑P P 10 40 39.8 -0.5
baz=91,SNR=36
U27A Thompson Grove 91.06 46 ⇑P P 10 40 40.1 -0.5
baz=91,SNR=43
T28A Walsh 91.06 45 ⇓P P 10 40 39.6 -1.0
baz=91,SNR=25
MOTA Moosalm 91.07 329 ⇑iPcP P 10 40 39.4 -1.1
comp=Z,92nm,1.4s,SNR=24
MAKR Makrakomi, Fth 91.08 317 eP P 10 40 37.9 -2.6
LHO Holmfirth 91.09 339 eP P 10 40 39.5 -0.7
RETA Reutte 91.12 329 i PcP P 10 40 40.1 -0.5
comp=Z,702nm,2.1s,SNR=37
BCLA Clavier 91.15 333 P P 10 40 39.9 -0.6
P31A Stockton 91.17 42 ⇓P P 10 40 39.9 -1.1
baz=91,SNR=44
UCC Uccle 91.21 334 P P 10 40 41.5 +0.7
LTK Loutraki 91.21 316 P P 10 40 39.3 -1.9
LTK Loutraki 91.21 316 eP P 10 40 39.2 -1.9
LTK Loutraki 91.21 316 P P 10 40 39.3 -1.9
DSF Desfina 91.23 316 P P 10 40 39.7 -1.5
DSF Desfina 91.23 316 eP P 10 40 39.6 -1.6
DSF Desfina 91.23 316 P P 10 40 39.7 -1.5
LANF Langenberg 91.27 331⇑eP P 10 40 42.3 +1.1
NPS Neapolis 91.29 312 P P 10 40 40.5 -1.0
NPS Neapolis 91.29 312 eP P 10 40 40.6 -1.0
NPS Neapolis 91.29 312 P P 10 40 40.5 -1.0
NPS Neapolis 91.29 312 P P 10 40 40.5 -1.0
NVLJ Novalja 91.29 325 P P 10 40 40.8 -0.5
O32A Brockman Farm, 91.33 41 ⇓P P 10 40 40.3 -1.4
baz=91
S29A Ulysses 91.36 45 ⇑P P 10 40 41.2 -0.7
baz=91,SNR=12
DID Didima 91.38 315 eP P 10 40 38.9 -3.0
WLF Walferdange 91.41 333 P P 10 40 42.0 +0.2
comp=Z,150nm,1.8s
WLF Walferdange 91.41 333 eP P 10 40 41.8 0.0
comp=Z,262nm,1.3s
WLF ePP PP 10 44 22.1 +2.4
WLF Walferdange 91.41 333 eP P 10 40 42.2 +0.4
WLF pmax pmax
comp=Z,250nm,1.4s
WLF Walferdange 91.41 333 eP P 10 40 42.2 +0.4
comp=Z,250nm,1.4s
LAST Lasithi 91.44 312 P P 10 40 41.7 -0.6
LAST Lasithi 91.44 312 P P 10 40 41.7 -0.6
R30A Dighton 91.44 44 ⇑P P 10 40 41.1 -1.1
baz=91,SNR=32
U28A Mallet 91.46 46 ⇑P P 10 40 42.1 -0.4
baz=91
V27A Dan Oppiter Fa 91.46 47 ⇓P P 10 40 42.6 +0.1
baz=91
SNF Seneffe 91.47 334 P P 10 40 42.3 +0.3
KALE Kalithea 91.47 316 P P 10 40 41.7 -0.7
KALE Kalithea 91.47 316 eP P 10 40 40.3 -2.1
KALE Kalithea 91.47 316 P P 10 40 41.7 -0.7
FETA Feichten 91.48 329 ⇑iPcP P 10 40 41.6 -0.8
comp=Z,523nm,2.8s,SNR=35
Q31A Ellis 91.50 43 ⇑P P 10 40 41.4 -1.1
baz=91,SNR=8.0
BFO Black Forest 91.55 331 eP P 10 40 41.9 -0.6
comp=Z,192nm,1.1s
BFO epP pP 10 41 14.8 +8.4
BFO ePP PP 10 44 23.3 +2.5
BFO Black Forest 91.55 331 i P P 10 40 42.1 -0.4
BFO Black Forest 91.55 331 eP P 10 40 41.9 -0.6
comp=Z,166nm,1.0s
T29A Hugoton 91.55 45 ⇑P P 10 40 42.5 -0.3
baz=91
P32A Huiting Farm, 91.56 42 ⇓P P 10 40 41.4 -1.4
baz=91,SNR=29
GIVF Givet 91.59 334 eP P 10 40 42.2 -0.4
comp=Z,43nm,0.7s
GIVF Givet 91.59 334 eP P 10 40 42.2 -0.4
GIVF pmax pmax
comp=Z,43nm,0.7s
GIVF Givet 91.59 334 eP P 10 40 42.2 -0.4
comp=Z,43nm,0.7s
EFP Efpalio 91.59 317 eP P 10 40 42.8 0.0
DSL Palaion Diasel 91.61 318 P P 10 40 40.9 -2.1
DSL Palaion Diasel 91.61 318 eP P 10 40 43.1 +0.1
DSL Palaion Diasel 91.61 318 P P 10 40 40.9 -2.1
GUR Goura 91.64 316 P P 10 40 42.4 -0.9
GUR Goura 91.64 316 eP P 10 40 42.4 -1.1
GUR Goura 91.64 316 P P 10 40 42.4 -0.9
DAVA Damuels 91.67 329 ⇑iPcP P 10 40 42.5 -0.7
comp=Z,525nm,1.8s,SNR=33
DOU Dourbes 91.68 334 P P 10 40 43.1 0.0
comp=Z,30nm,1.9s
KLV Kalavryta, Ach 91.69 316 P P 10 40 41.5 -1.9
KLV Kalavryta, Ach 91.69 316 eP P 10 40 41.9 -1.5
KLV Kalavryta, Ach 91.69 316 P P 10 40 41.5 -1.9
GMM Mts of Mourne 91.70 341 eP P 10 40 42.5 -0.5
IDI Anoyia 91.74 313 P P 10 40 42.6 -1.1
comp=Z,70nm,1.1s,baz=25,slow=12,SNR=22
S30A Montezuma 91.75 44 ⇓P P 10 40 42.5 -1.2
baz=92,SNR=18
IGT Igoumenitsa 91.79 318 eP P 10 40 43.8 0.0
V28A Channing 91.85 47 ⇓P P 10 40 43.8 -0.5
baz=92
BAIF Baives 91.86 334 eP P 10 40 43.5 -0.3
BAIF Baives 91.86 334 eP P 10 40 43.5 -0.3
BAIF Baives 91.86 334 eP P 10 40 43.5 -0.3
R31A Burdett 91.89 43 ⇓P P 10 40 43.2 -1.1
baz=92,SNR=24
PDO Prodromos 91.91 317 P P 10 40 43.0 -1.3
PDO Prodromos 91.91 317 eP P 10 40 43.1 -1.3
CDF Champ du Feu 91.93 331 eP P 10 40 43.9 -0.4
comp=Z,228nm,0.9s
CDF epP pP 10 41 13.4 +5.1
CDF Champ du Feu 91.93 331 eP P 10 40 43.9 -0.4
CDF e*PP pP 10 41 13.4 +5.1
CDF pmax pmax
comp=Z,228nm,0.9s
CDF Champ du Feu 91.93 331 eP P 10 40 43.9 -0.4
comp=Z,228nm,0.9s
CDF epP pP 10 41 13.4 +5.1
SIVA Sivas 91.96 313 P P 10 40 44.1 -0.5
SIVA Sivas 91.96 313 P P 10 40 44.1 -0.5
WPM1 Penmaenmawr 91.96 340 eP P 10 40 44.9 +0.6
COWI Conover 91.97 32 eP P 10 40 44.7 +0.2
comp=Z,166nm,1.4s
KEK Kerkira 91.98 319 eP P 10 40 44.5 -0.1
VLX Vlachokerasia 91.99 316 P P 10 40 42.9 -1.9
VLX Vlachokerasia 91.99 316 eP P 10 40 44.5 -0.3
VLX Vlachokerasia 91.99 316 P P 10 40 42.9 -1.9
Q32A Meitler Ranch, 92.00 42 ⇑P P 10 40 43.4 -1.4
baz=92,SNR=12
U29A Oasis Ranch, S 92.01 46 ⇑P P 10 40 44.0 -0.9
baz=92,SNR=9.9
DRO Drossia 92.01 316 P P 10 40 44.1 -0.8
DRO Drossia 92.01 316 eP P 10 40 44.8 -0.1
DAVOX Davos/Dischmat 92.05 329 P P 10 40 44.4 -0.6
comp=Z,60nm,0.6s,baz=41,slow=2.2,SNR=64
DAVOX Davos/Dischmat 92.05 329 P P 10 40 44.4 -0.6
DAVOX pmax pmax
comp=Z,60nm,0.6s
VLI Veliai 92.06 315 P P 10 40 42.5 -2.6
VLI Veliai 92.06 315 eP P 10 40 43.2 -1.9
VLI Veliai 92.06 315 P P 10 40 42.5 -2.6
FOEL Foel Wylfa 92.07 339 eP P 10 40 42.9 -1.9
FOEL AMB AMB 10 40 46.8
comp=Z,181nm,1.7s
FOEL AMS AMS 11 19 51.4
comp=Z,2µm,28.0s
WLF1 Llynfaes 92.08 340 eP P 10 40 44.0 -0.8
WLF1 AMB AMB 10 40 46.5
comp=Z,125nm,1.6s
T30A Plains 92.08 45 ⇑P P 10 40 44.2 -1.0
baz=92,SNR=6.2
LKD2 Lefkada island 92.09 318 P P 10 40 43.9 -1.3
LKD2 Lefkada island 92.09 318 eP P 10 40 45.0 -0.2
LKD2 Lefkada island 92.09 318 P P 10 40 43.9 -1.3
RLS Riolos of Patr 92.09 317 P P 10 40 44.4 -0.8
RLS Riolos of Patr 92.09 317 eP P 10 40 46.5 +1.3
RLS Riolos of Patr 92.09 317 P P 10 40 44.4 -0.8
VAM Vamos 92.10 313 eP P 10 40 42.9 -2.4
ECH Echery 92.13 331⇑eP P 10 40 46.0 +0.8
ECH Echery 92.13 331 eP P 10 40 44.6 -0.6
ECH pmax pmax
comp=Z,192nm,1.3s
ECH Echery 92.13 331 eP P 10 40 44.5 -0.6
comp=Z,192nm,1.3s
YLL Llanberis 92.14 340 eP P 10 40 46.0 +0.9
YRC Rhoscolyn 92.17 340 eP P 10 40 45.2 0.0
W28A Vega 92.17 47 ⇑P P 10 40 45.5 -0.2
baz=92
P33A Williams Farm, 92.21 41 ⇓P P 10 40 45.0 -0.7
baz=92
V29A Stinnett 92.22 46 ⇓P P 10 40 45.7 -0.2
baz=92
MNTX Cornudas Mount 92.27 51 eP P 10 40 46.2 +0.1
comp=Z,39nm,0.7s
MNTX Cornudas Mount 92.27 51 ⇓P P 10 40 45.7 -0.5
baz=92
KARN Karanos 92.28 313 P P 10 40 45.3 -0.9
KARN Karanos 92.28 313 P P 10 40 45.3 -0.9
HLM1 Long Mynd 92.29 339 eP P 10 40 45.0 -0.8
HLM1 AMB AMB 10 40 47.5
comp=Z,78nm,1.6s
HLM1 AMS AMS 11 20 57.6
comp=Z,2µm,29.3s
R32A Long Quarter, 92.29 43 ⇓P P 10 40 45.0 -1.1
baz=92,SNR=12
AMT Artemida-Makis 92.29 316 P P 10 40 45.5 -0.6
AMT Artemida-Makis 92.29 316 eP P 10 40 45.8 -0.3
U30A WK&E Inc. Balk 92.34 45 ⇑P P 10 40 46.2 -0.3
baz=92,SNR=9.5
S31A Mullinville 92.35 44 ⇑P P 10 40 45.8 -0.7
baz=92,SNR=15
YRE Yr Eifl 92.36 340 eP P 10 40 45.0 -1.0
ANKY Antikythira Is 92.38 314 eP P 10 40 45.2 -1.3
ITM Ithomi 92.38 316 P P 10 40 45.7 -0.9
ITM Ithomi 92.38 316 eP P 10 40 45.7 -0.9
ITM Ithomi 92.38 316 P P 10 40 45.7 -0.9
Q33A Connelly Farm, 92.42 42 ⇑P P 10 40 45.7 -1.0
baz=92,SNR=5.6
MOF Molkenrain 92.43 331⇑eP P 10 40 47.4 +0.7
PAGF Fort de Pagny 92.46 332 eP P 10 40 46.5 -0.2
comp=Z,124nm,0.9s
PAGF Fort de Pagny 92.46 332 eP P 10 40 46.5 -0.2
comp=Z,124nm,0.9s
KFL Anninata 92.46 317 P P 10 40 45.6 -1.3
SCHQ Schefferville 92.50 16 P P 10 40 46.3 -0.4
comp=Z,21nm,0.8s,baz=357,slow=4.7,SNR=25
SCHQ PKKPbc **PKKPdf 10 57 57.6 +1.3**
comp=Z,8.8nm,0.6s,baz=202,slow=3.3,SNR=17
SCHQ LR LR 11 24 47.2
comp=Z,858nm,21.5s,baz=344,slow=37
GVD Gavdhos 92.53 313 eP P 10 40 46.7 -0.6
comp=Z,581nm,1.3s
VLS Valsamata 92.53 317 P P 10 40 45.9 -1.3
VLS Valsamata 92.53 317 eP P 10 40 46.1 -1.1
VLS Valsamata 92.53 317 P P 10 40 45.9 -1.3
VLS Valsamata 92.53 317 P P 10 40 45.9 -1.3
HINF Hinteralfeld 92.57 331 eP P 10 40 46.3 -1.0
comp=Z,94nm,0.8s
HINF epP pP 10 41 15.9 +4.7
HINF Hinteralfeld 92.57 331 eP P 10 40 46.3 -1.0
HINF e*PP pP 10 41 15.9 +4.7
HINF pmax pmax
comp=Z,95nm,0.8s
HINF Hinteralfeld 92.57 331 eP P 10 40 46.3 -1.0
comp=Z,94nm,0.8s
HINF epP pP 10 41 15.9 +4.7
T31A Randall Ranch, 92.57 44 ⇑P P 10 40 46.2 -1.3
baz=92,SNR=16
THEF They Montfort 92.61 332⇑eP P 10 40 48.2 +0.8
MSTX Muleshoe 92.62 48 eP P 10 40 47.8 0.0
comp=Z,185nm,1.3s
MSTX epP pP 10 41 12.6 +0.8
MSTX Muleshoe 92.62 48 ⇓P P 10 40 46.8 -1.0
baz=92,SNR=7.6
W29A Amarillo 92.62 47 ⇑P P 10 40 47.1 -0.7
baz=92,SNR=6.2
HMNX Herstmonceux 92.62 336 eP P 10 40 47.0 -0.3
HMNX AMS AMS 11 23 20.4
comp=Z,2µm,24.2s
S32A Newby Ranch, P 92.63 43 ⇓P P 10 40 47.1 -0.6
baz=92,SNR=27
HAU Haudompre 92.64 331 eP P 10 40 46.8 -0.7
comp=Z,174nm,0.8s
HAU Haudompre 92.64 331 eP P 10 40 46.8 -0.7
HAU pmax pmax
comp=Z,174nm,0.8s
HAU Haudompre 92.64 331 eP P 10 40 46.8 -0.7
comp=Z,174nm,0.8s
X28A Dimmitt 92.64 48 ⇓P P 10 40 47.0 -1.0
baz=92,SNR=6.1
PYL PYLOS 92.68 316 P P 10 40 46.2 -1.7
PYL PYLOS 92.68 316 eP P 10 40 46.4 -1.5
PYL PYLOS 92.68 316 P P 10 40 46.2 -1.7
STRD Stroud 92.69 338 eP P 10 40 46.8 -0.9
STRD AMB AMB 10 40 50.3
comp=Z,412nm,1.7s
AMTX Amarillo 92.75 47 eP P 10 40 48.5 +0.1
comp=Z,401nm,1.1s
AMTX Amarillo 92.75 47 ⇑P P 10 40 48.0 -0.4
baz=93
MCH1 Michaelchurch 92.77 339 eP P 10 40 47.2 -0.8
MCH1 AMB AMB 10 40 50.6
comp=Z,224nm,1.7s
MEZF Maizieres J'vi 92.77 332 eP P 10 40 47.9 -0.2
comp=Z,383nm,1.2s
MEZF Maizieres J'vi 92.77 332 eP P 10 40 47.9 -0.2
comp=Z,383nm,1.2s
R33A Olander Ranch, 92.79 42 ⇓P P 10 40 47.4 -1.0
baz=93,SNR=16
V30A Spur Ranch, Mi 92.81 46 ⇓P P 10 40 47.9 -0.7
baz=93
MONM Monmouth 92.85 338 eP P 10 40 47.6 -0.7
MONM AMB AMB 10 40 50.0
comp=Z,180nm,1.9s
U31A Nine Bar Ranch 92.94 45 ⇑P P 10 40 49.1 -0.1
baz=93,SNR=5.3
LOMF Lomont 92.95 331⇑eP P 10 40 49.7 +0.7
T32A Huddler Ranch, 92.97 44 ⇑P P 10 40 48.1 -1.3
baz=93,SNR=11
SCIA State Center 92.99 37 eP P 10 40 49.9 +0.7
comp=Z,189nm,1.4s
Y28A McKinney Farm, 92.99 48 ⇓P P 10 40 48.8 -0.7
baz=93
X29A Tulia 93.01 47 ⇓P P 10 40 49.7 +0.1
baz=93,SNR=86
SFTF Sexfontaines 93.02 332 eP P 10 40 48.8 -0.4
comp=Z,404nm,1.0s
SFTF epP pP 10 41 18.4 +5.2
SFTF Sexfontaines 93.02 332 eP P 10 40 48.8 -0.4
comp=Z,404nm,1.0s
SFTF epP pP 10 41 18.4 +5.2
KSU1 Kansas State U 93.06 41 P P 10 40 49.0 -0.7
comp=Z,305nm,0.9s
KSU1 Kansas State U 93.06 41 ⇓P P 10 40 48.8 -0.9
baz=93
W30A Crocket Farms 93.25 46 ⇓P P 10 40 50.6 -0.1
baz=93,SNR=5.8
S33A Kaszmaul Farm, 93.25 43 ⇓P P 10 40 49.4 -1.1
baz=93,SNR=15
Z28A Tucker Farm, M 93.29 49 ⇓P P 10 40 50.7 -0.3
baz=93
V31A Spring Creek L 93.33 45 ⇓P P 10 40 51.2 +0.2
baz=93,SNR=27
Y29A Porterfield Fa 93.40 48 ⇑P P 10 40 50.8 -0.6
baz=93
U32A Winter Ranch, 93.45 44 ⇑P P 10 40 51.1 -0.4
baz=93,SNR=6.1
X30A Coker Ranch, T 93.53 47 ⇑P P 10 40 51.4 -0.6
baz=93,SNR=25
AQU L'Aquila 93.62 324 eP P 10 40 52.4 +0.2
AQU pmax pmax
comp=Z,400nm,1.8s
AQU L'Aquila 93.62 324 eP P 10 40 52.4 +0.2
comp=Z,400nm,1.8s
128A Castleberry Fa 93.64 49 ⇑P P 10 40 51.9 -0.6
baz=94
W31A Holland Ranch, 93.65 46 ⇓P P 10 40 52.7 +0.2
baz=94,SNR=47
S34A Willow Spring 93.71 42 ⇓P P 10 40 51.8 -0.9
baz=94,SNR=6.9
Z29A Hungry Hill Ra 93.75 48 ⇓P P 10 40 52.8 -0.2
baz=94,SNR=60
JFWS Jewell Farm 93.79 35 eP P 10 40 44.6 -0.6
JFWS pmax pmax
comp=Z,71nm,1.0s
JFWS Jewell Farm 93.79 35 eP P 10 40 53.1 +0.2
comp=Z,71nm,1.0s
CABF La Chapelle 93.84 331 eP P 10 40 52.6 -0.6
comp=Z,114nm,0.8s
CABF La Chapelle 93.84 331 eP P 10 40 52.6 -0.6
CABF pmax pmax
comp=Z,114nm,0.8s
CABF La Chapelle 93.84 331 eP P 10 40 52.6 -0.6
comp=Z,114nm,0.8s
V32A Arapaho 93.86 45 ⇑P P 10 40 53.2 -0.2
baz=94,SNR=23
Y30A Stafford Cattl 93.88 47 ⇓P P 10 40 53.8 +0.1
baz=94,SNR=7.2
228A UT Block 9, Go 93.89 50 ⇑P P 10 40 53.4 -0.3
baz=94,SNR=7.9
U33A Lingo Farm, Me 93.96 44 ⇓P P 10 40 52.9 -0.9
baz=94,SNR=13
X31A McDonald Ranch 93.98 46 ⇓P P 10 40 53.1 -0.9
baz=94,SNR=46
CUC Castrocucco 94.02 321 eP P 10 40 54.0 -0.1
comp=Z,26nm,1.0s
129A Stewart Farms, 94.04 49 ⇑P P 10 40 53.3 -1.1
baz=94,SNR=6.9
TIP Timpagrande 94.07 320 P P 10 40 52.9 -1.5
TIP Timpagrande 94.07 320 P P 10 40 52.9 -1.5
Z30A Sanderson Ranc 94.11 48 ⇑P P 10 40 53.7 -1.0
baz=94,SNR=58
W32A Sentinel 94.12 46 ⇓P P 10 40 54.1 -0.6
baz=94,SNR=38
S35A Otter Creek Ra 94.19 42 ⇑P P 10 40 53.9 -0.9
baz=94
R36A Gordon, Harris 94.22 41 ⇓P P 10 40 54.3 -0.7
baz=94
Y31A Rekieta Farm, 94.23 47 ⇓P P 10 40 54.7 -0.4
baz=94,SNR=34
LOR Lormes 94.24 332 eP P 10 40 54.1 -0.8
comp=Z,282nm,1.2s
LOR eR
comp=Z,2µm,19.8s
LOR Lormes 94.24 332 eP P 10 40 54.1 -0.8
LOR pmax pmax
comp=Z,282nm,1.2s
LOR Lormes 94.24 332 eP P 10 40 54.1 -0.8
comp=Z,282nm,1.2s
V33A Lossen Ranch, 94.26 44 ⇓P P 10 40 54.9 -0.3
baz=94,SNR=10
U34A Anderson Ranch 94.30 44 eP P 10 40 55.8 +0.4
comp=Z,313nm,1.3s
U34A Anderson Ranch 94.30 44 ⇑P P 10 40 54.5 -0.9
baz=94,SNR=23
DYA Yadsworthy 94.42 338 eP P 10 40 55.0 -0.6
DYA AMS AMS 11 21 59.4
comp=Z,1µm,26.4s
LPL La Plagne 94.42 330 eP P 10 40 55.4 -0.6
comp=Z,122nm,1.0s
LPL La Plagne 94.42 330 eP P 10 40 55.4 -0.6
LPL pmax pmax
comp=Z,122nm,1.0s
LPL La Plagne 94.42 330 eP P 10 40 55.4 -0.6
comp=Z,122nm,1.0s
LPG La Plagne 94.43 330 eP P 10 40 55.6 -0.6
comp=Z,83nm,0.7s
LPG epP pP 10 41 25.2 +5.1
LPG La Plagne 94.43 330 eP P 10 40 55.6 -0.6
LPG e*PP pP 10 41 25.2 +5.1
LPG pmax pmax
comp=Z,83nm,0.6s
LPG La Plagne 94.43 330 eP P 10 40 55.6 -0.6
comp=Z,83nm,0.6s
LPG epP pP 10 41 25.2 +5.1
Q37A Longview Farm, 94.43 40 ⇓P P 10 40 54.8 -1.1
baz=94
229A Bryant Ranch, 94.50 49 ⇓P P 10 40 56.0 -0.5
baz=94
SSF Saint Saulge 94.55 332 eP P 10 40 55.7 -0.6
comp=Z,123nm,0.8s
SSF epP pP 10 41 25.4 +5.1
SSF Saint Saulge 94.55 332 eP P 10 40 55.7 -0.6
SSF e*PP pP 10 41 25.4 +5.1
SSF pmax pmax
comp=Z,123nm,0.8s
SSF Saint Saulge 94.55 332 eP P 10 40 55.7 -0.6
comp=Z,123nm,0.8s
SSF epP pP 10 41 25.4 +5.1
X32A Elmer 94.55 46 ⇓P P 10 40 56.2 -0.4
baz=94,SNR=18
W33A Caddo, Fort Co 94.58 45 ⇑P P 10 40 56.8 +0.1
baz=94,SNR=32
R37A Teagarden Farm 94.61 41 ⇓P P 10 40 55.9 -0.9
baz=94
130A Snyder 94.65 48 ⇑P P 10 40 56.2 -1.0
baz=94,SNR=25
WMOK Wichita Mounta 94.66 46 eP P 10 40 56.7 -0.4
WMOK e*PP pP 10 41 21.3 +0.3
WMOK pmax pmax
comp=Z,163nm,1.1s
WMOK Wichita Mounta 94.66 46 eP P 10 40 56.7 -0.4
comp=Z,163nm,1.1s
WMOK epP pP 10 41 21.3 +0.3
FLN La Foliniere 94.67 336 eP P 10 40 56.1 -0.7
comp=Z,351nm,1.6s
FLN eR
comp=Z,2µm,22.0s
FLN La Foliniere 94.67 336 eP P 10 40 56.1 -0.7
FLN pmax pmax
comp=Z,351nm,1.6s
FLN La Foliniere 94.67 336 eP P 10 40 56.1 -0.7
comp=Z,351nm,1.6s
LDF La Druitiere 94.68 335 eP P 10 40 56.2 -0.7
comp=Z,208nm,1.2s
LDF epP pP 10 41 25.8 +5.0
LDF La Druitiere 94.68 335 eP P 10 40 56.2 -0.7
LDF e*PP pP 10 41 25.8 +5.0
LDF pmax pmax
comp=Z,208nm,1.2s
LDF La Druitiere 94.68 335 eP P 10 40 56.2 -0.7
comp=Z,208nm,1.2s
LDF epP pP 10 41 25.8 +5.0
329A Wagon Wheel Ra 94.69 50 ⇑P P 10 40 56.6 -0.8
baz=94
V34A Guthrie 94.71 44 eP P 10 40 57.8 +0.5
comp=Z,131nm,1.3s
V34A Guthrie 94.71 44 ⇓P P 10 40 56.8 -0.5
baz=94,SNR=7.1
Z31A Sharp Cattle R 94.72 47 ⇓P P 10 40 56.7 -0.7
baz=94,SNR=33
Y32A R-V Farms, Ver 94.73 46 ⇑P P 10 40 57.1 -0.3
baz=94,SNR=32
HYF Humbligny 94.73 333 eP P 10 40 57.0 -0.1
HYF Humbligny 94.73 333 eP P 10 40 57.0 -0.1
SMF Signal de Mont 94.75 332 eP P 10 40 56.6 -0.7
comp=Z,150nm,0.9s
SMF epP pP 10 41 20.5 -0.7
SMF Signal de Mont 94.75 332 eP P 10 40 56.6 -0.7
SMF e*PP pP 10 41 20.5 -0.7
SMF pmax pmax
comp=Z,150nm,0.9s
SMF Signal de Mont 94.75 332 eP P 10 40 56.6 -0.7
comp=Z,150nm,0.9s
SMF epP pP 10 41 20.5 -0.7
BNI Bardonecchia 94.81 329 eP P 10 40 56.9 -0.8
BNI pmax pmax
comp=Z,41nm,0.7s
BNI Bardonecchia 94.81 329 eP P 10 40 56.9 -0.8
comp=Z,41nm,0.7s
AVF Avril sur Loir 94.83 332 eP P 10 40 57.0 -0.6
comp=Z,237nm,0.9s
AVF Avril sur Loir 94.83 332 eP P 10 40 57.0 -0.6
AVF pmax pmax
comp=Z,237nm,0.9s
AVF Avril sur Loir 94.83 332 eP P 10 40 57.0 -0.6
comp=Z,237nm,0.9s
OG22 Abries 94.87 329 eP P 10 40 58.3 +0.2
TXAR Lajitas Array 94.88 52 P P 10 40 58.5 +0.2
comp=Z,22nm,0.6s,baz=305,slow=2.4,SNR=117
TXAR PKKPbc **PKKPbc 10 57 54.0 +0.7**
comp=Z,0.9nm,0.7s,baz=145,slow=4.6,SNR=5.9
TXAR LR LR 11 20 50.3
comp=Z,2µm,19.4s,baz=0.0,slow=34
VAL Valentia 94.92 343 ⇓iP P 10 40 59.0 +1.2
VAL Valentia 94.92 343 ⇓iS S 10 52 08.1 +3.8
W34A Bridge Creek, 94.96 45 eP P 10 40 58.9 +0.4
comp=Z,123nm,1.0s
W34A Bridge Creek, 94.96 45 ⇓P P 10 40 57.5 -0.9
baz=95,SNR=8.2
X33A Lawton 94.97 46 ⇑P P 10 40 57.7 -0.8
baz=95,SNR=14

131A	**Roby**	**94.98**	**48**	⇑P		**P**		**10 40 57.9**	**-0.7**
	baz=95,SNR=15								
GLMI	**Grayling**	**95.00**	**31**	*e*P		**P**		**10 40 59.0**	**+0.6**
	comp=Z,218nm,0.9s								
230A	**Sterling City**	**95.01**	**49**	⇑P		**P**		**10 40 58.5**	**-0.3**
	baz=95,SNR=20								
MBDF	**Montbardon**	**95.02**	**329**	*e*P		**P**		**10 40 57.4**	**-1.3**
	comp=Z,70nm,0.6s								
MBDF	**Montbardon**	**95.02**	**329**	*e*P		**P**		**10 40 57.4**	**-1.3**
MBDF				pmax		pmax			
	comp=Z,70nm,0.6s								
MBDF	**Montbardon**	**95.02**	**329**	*e*P		**P**		**10 40 57.4**	**-1.3**
	comp=Z,70nm,0.6s								
GRR	**Gorron**	**95.12**	**336**	*e*P		**P**		**10 40 58.2**	**-0.7**
GRR	**Gorron**	**95.12**	**336**	*e*P		**P**		**10 40 58.2**	**-0.7**
GRR	**Gorron**	**95.12**	**336**	*e*P		**P**		**10 40 58.2**	**-0.7**
Z32A	**Haskell**	**95.16**	**47**	⇓P		**P**		**10 40 59.3**	**-0.1**
	baz=95,SNR=101								
V35A	**Meyer Ranch, C**	**95.17**	**44**	⇑P		**P**		**10 40 58.5**	**-0.9**
	baz=95								
CEL	**Celeste**	**95.19**	**320**	*e*P		**P**		**10 40 59.1**	**-0.4**
	comp=Z,131nm,0.9s								
Y33A	**Hilltop Ranch,**	**95.24**	**46**	⇑P		**P**		**10 40 58.9**	**-0.8**
	baz=95,SNR=18								
ORIF	**Oris-en-Rattie**	**95.26**	**330**	*e*P		**P**		**10 40 58.9**	**-0.8**
	comp=Z,53nm,0.7s								
ORIF				*e*R					
	comp=Z,2µm,20.0s								
ORIF	**Oris-en-Rattie**	**95.26**	**330**	*e*P		**P**		**10 40 58.9**	**-0.8**
ORIF				pmax		pmax			
	comp=Z,53nm,0.7s								
ORIF	**Oris-en-Rattie**	**95.26**	**330**	*e*P		**P**		**10 40 58.9**	**-0.8**
	comp=Z,53nm,0.7s								
330A	**Mertzon**	**95.27**	**49**	⇓P		**P**		**10 40 58.8**	**-1.3**
	baz=95,SNR=26								
429A	**Davenport Ranc**	**95.28**	**50**	⇑P		**P**		**10 40 59.2**	**-0.9**
	baz=95,SNR=22								
X34A	**Smith Ranch, M**	**95.34**	**45**	⇓P		**P**		**10 40 59.9**	**-0.3**
	baz=95,SNR=10								
529A	**Stev Forest Ra**	**95.38**	**51**	⇑P		**P**		**10 41 00.1**	**-0.4**
	baz=95								
PLDF	**La Plantade**	**95.39**	**332**	⇑*e*P		**P**		**10 41 01.4**	**+1.1**
SBF	**Sospel**	**95.39**	**328**	*e*P		**P**		**10 40 58.7**	**-1.6**
	comp=Z,91nm,0.8s								
SBF	**Sospel**	**95.39**	**328**	*e*P		**P**		**10 40 58.7**	**-1.6**
SBF				pmax		pmax			
	comp=Z,91nm,0.8s								
SBF	**Sospel**	**95.39**	**328**	*e*P		**P**		**10 40 58.7**	**-1.6**
	comp=Z,91nm,0.8s								
ABTX	**Abilene, Hawle**	**95.49**	**48**	*e*P		**P**		**10 41 01.1**	**+0.1**
	comp=Z,248nm,1.2s								
ABTX	**Abilene, Hawle**	**95.49**	**48**	⇓P		**P**		**10 41 00.7**	**-0.2**
	baz=95,SNR=35								
231A	**Bronte**	**95.50**	**49**	⇑P		**P**		**10 41 00.5**	**-0.5**
	baz=95,SNR=16								
AGO	**Saint Agoulin**	**95.52**	**332**	⇑*e*P		**P**		**10 41 01.9**	**+1.1**
SSB	**Saint Sauveur**	**95.55**	**331**	*e*P		**P**		**10 41 01.6**	**+0.6**
SSB	**Saint Sauveur**	**95.55**	**331**	*e*P		**P**		**10 41 00.3**	**-0.7**
SSB				pmax		pmax			
	comp=Z,18nm,0.7s								
SSB	**Saint Sauveur**	**95.55**	**331**	*e*P		**P**		**10 41 00.3**	**-0.7**
	comp=Z,18nm,0.7s								
W35A	**Tecumseh**	**95.56**	**44**	⇓P		**P**		**10 41 00.6**	**-0.6**
	baz=95								
430A	**Baggett Ranch,**	**95.62**	**50**	⇓P		**P**		**10 41 01.1**	**-0.5**
	baz=96,SNR=13								
Z33A	**Whitaker Ranch**	**95.62**	**47**	⇑P		**P**		**10 41 00.6**	**-1.0**
	baz=95,SNR=28								
H06E1	**SOCORRO T-PHAS**	**95.63**	**65**	T		T		12 28 37.4	
	SNR=17								
PGF	**Pioggiola**	**95.66**	**327**	*e*P		**P**		**10 41 00.3**	**-1.3**
	comp=Z,24nm,0.6s								
PGF	**Pioggiola**	**95.66**	**327**	*e*P		**P**		**10 41 00.3**	**-1.3**
PGF				pmax		pmax			
	comp=Z,24nm,0.6s								
PGF	**Pioggiola**	**95.66**	**327**	*e*P		**P**		**10 41 00.3**	**-1.3**
	comp=Z,24nm,0.6s								
TUL1	**Leonard**	**95.70**	**43**	*e*P		**P**		**10 41 02.0**	**+0.2**
	comp=Z,134nm,1.3s								
TUL1	**Leonard**	**95.70**	**43**	⇓P		**P**		**10 41 01.1**	**-0.7**
	baz=96								
TCF	**Toulx Ste Croi**	**95.70**	**333**	*e*P		**P**		**10 41 00.9**	**-0.7**
	comp=Z,80nm,1.0s								
TCF	**Toulx Ste Croi**	**95.70**	**333**	*e*P		**P**		**10 41 00.9**	**-0.7**
TCF				pmax		pmax			
	comp=Z,80nm,1.0s								
TCF	**Toulx Ste Croi**	**95.70**	**333**	*e*P		**P**		**10 41 00.9**	**-0.7**
	comp=Z,80nm,1.0s								
COLF	**Collangettes**	**95.72**	**331**	*e*P		**P**		**10 41 02.8**	**+1.0**
OG26	**St.-Nazaire-De**	**95.78**	**330**	*e*P		**P**		**10 41 02.9**	**+0.8**
Y34A	**Reagan Ranch,**	**95.81**	**46**	⇓P		**P**		**10 41 02.3**	**-0.1**
	baz=96,SNR=13								
PYM	**Petit Puy Mans**	**95.82**	**332**	⇑*e*P		**P**		**10 41 03.3**	**+1.1**
331A	**San Angelo**	**95.83**	**49**	⇓P		**P**		**10 41 01.6**	**-0.9**
	baz=96,SNR=14								
SGMF	**Saint Gilles**	**95.84**	**336**	*e*P		**P**		**10 41 01.6**	**-0.5**
	comp=Z,67nm,0.8s								
SGMF	**Saint Gilles**	**95.84**	**336**	*e*P		**P**		**10 41 01.6**	**-0.5**
SGMF				pmax		pmax			
	comp=Z,67nm,0.8s								
SGMF	**Saint Gilles**	**95.84**	**336**	*e*P		**P**		**10 41 01.6**	**-0.5**
	comp=Z,67nm,0.8s								
VIVF	**Saint-Julien-I**	**95.84**	**330**	*e*P		**P**		**10 41 01.5**	**-0.8**
	comp=Z,85nm,0.9s								
VIVF				*e*pP		**pP**		**10 41 31.2**	**+5.0**
VIVF	**Saint-Julien-I**	**95.84**	**330**	*e*P		**P**		**10 41 01.5**	**-0.8**
VIVF				*e**PP		**pP**		**10 41 31.2**	**+5.0**
VIVF				pmax		pmax			
	comp=Z,85nm,0.9s								
VIVF	**Saint-Julien-I**	**95.84**	**330**	*e*P		**P**		**10 41 01.5**	**-0.8**
	comp=Z,85nm,0.9s								
VIVF				*e*pP		**pP**		**10 41 31.2**	**+5.0**
530A	**J-C Ranch, Com**	**95.96**	**50**	⇑P		**P**		**10 41 02.1**	**-1.0**
	baz=96,SNR=52								
W36A	**Wetumka**	**95.96**	**44**	⇓P		**P**		**10 41 02.4**	**-0.6**
	baz=96								
232A	**Coleman**	**95.96**	**48**	⇓P		**P**		**10 41 02.4**	**-0.8**
	baz=96,SNR=25								
133A	**Hamilton Ranch**	**95.97**	**47**	⇓P		**P**		**10 41 02.4**	**-0.7**
	baz=96,SNR=16								
FRF	**La Foret Royal**	**95.98**	**328**	*e*P		**P**		**10 41 01.5**	**-1.4**
	comp=Z,54nm,0.9s								
FRF	**La Foret Royal**	**95.98**	**328**	*e*P		**P**		**10 41 01.5**	**-1.4**
FRF				pmax		pmax			
	comp=Z,54nm,0.9s								
FRF	**La Foret Royal**	**95.98**	**328**	*e*P		**P**		**10 41 01.5**	**-1.4**
	comp=Z,54nm,0.9s								
X35A	**Drake**	**96.00**	**45**	⇓P		**P**		**10 41 02.0**	**-1.2**
	baz=96,SNR=13								
HDIL	**Hopedale**	**96.00**	**36**	*e*P		**P**		**10 41 02.9**	**-0.2**
	comp=Z,1µm,1.2s								
ROSF	**Rostrenen**	**96.01**	**337**	*e*P		**P**		**10 41 02.4**	**-0.5**
	comp=Z,107nm,1.0s								
ROSF	**Rostrenen**	**96.01**	**337**	*e*P		**P**		**10 41 02.4**	**-0.5**
ROSF				pmax		pmax			
	comp=Z,107nm,1.0s								
ROSF	**Rostrenen**	**96.01**	**337**	*e*P		**P**		**10 41 02.4**	**-0.5**
	comp=Z,107nm,1.0s								
DRV	**Dumont d'Urvil**	**96.03**	**180**	P		P		10 40 46.0	-16
DRV	**Dumont d'Urvil**	**96.03**	**180**	S		S		10 51 34.0	-39
DRV				SS		SS		10 58 37.0	-10
DRV				L		L		11 06 00.0	
DRV				R				11 13 00.0	
Z34A	**Collier Ranch,**	**96.10**	**46**	⇓P		**P**		**10 41 02.7**	**-1.0**
	baz=96,SNR=5.2								
431A	**Sonora**	**96.11**	**50**	⇓P		**P**		**10 41 02.7**	**-1.2**
	baz=96,SNR=12								
LBL	**Lubilhac**	**96.14**	**331**	⇑*e*P		**P**		**10 41 04.9**	**+1.2**
SMRF	**Simiane la Rot**	**96.14**	**329**	*e*P		**P**		**10 41 03.1**	**-0.6**
SMRF	**Simiane la Rot**	**96.14**	**329**	*e*P		**P**		**10 41 03.1**	**-0.6**
LMR	**La Mourre**	**96.22**	**328**	*e*P		**P**		**10 41 02.8**	**-1.2**
	comp=Z,75nm,0.9s								
LMR				*e*pP		**pP**		**10 41 32.4**	**+4.4**
LMR	**La Mourre**	**96.22**	**328**	*e*P		**P**		**10 41 02.8**	**-1.2**
LMR				*e**PP		**pP**		**10 41 32.4**	**+4.4**
LMR				pmax		pmax			
	comp=Z,75nm,0.9s								
LMR	**La Mourre**	**96.22**	**328**	*e*P		**P**		**10 41 02.8**	**-1.2**
	comp=Z,75nm,0.9s								
LMR				*e*pP		**pP**		**10 41 32.4**	**+4.4**
332A	**Millersview**	**96.23**	**49**	⇑P		**P**		**10 41 03.6**	**-0.8**
	baz=96,SNR=38								
RKT	**Rikitea**	**96.24**	**113**	*e*SKSac		**SKSac**		**10 51 32.7**	**-0.2**
	comp=Z,1µm,26.7s								
RKT				*e*SP		**SP**		**10 53 37.1**	**+0.3**
	comp=Z,2µm,30.8s								
RKT				*e*SS		**SS**		**10 58 53.2**	**+1.9**
	comp=Z,1µm,27.0s								
RKT	**Rikitea**	**96.24**	**113**	*e*LR		LR		11 11 48.3	
	comp=Z,5µm,35.2s,baz=304								
X36A	**Centrahoma**	**96.27**	**44**	⇓P		**P**		**10 41 03.1**	**-1.3**
	baz=96								
QUIF	**Quistinic**	**96.34**	**337**	*e*P		**P**		**10 41 03.5**	**-0.9**
QUIF	**Quistinic**	**96.34**	**337**	*e*P		**P**		**10 41 03.5**	**-0.9**
QUIF	**Quistinic**	**96.34**	**337**	*e*P		**P**		**10 41 03.5**	**-0.9**
MFF	**Saint Martin d**	**96.36**	**334**	*e*P		**P**		**10 41 04.5**	**0.0**
MFF				*e*pP		pP		10 41 34.1	+5.6
MFF	**Saint Martin d**	**96.36**	**334**	*e*P		**P**		**10 41 04.5**	**0.0**
MFF				*e**PP		pP		10 41 34.1	+5.6
MFF	**Saint Martin d**	**96.36**	**334**	*e*P		**P**		**10 41 04.5**	**0.0**
MFF				*e*pP		pP		10 41 34.1	+5.6
233A	**Rising Star**	**96.36**	**48**	⇑P		**P**		**10 41 04.3**	**-0.6**
	baz=96,SNR=18								
W37A	**Quinton**	**96.44**	**43**	⇑P		**P**		**10 41 04.3**	**-0.8**
	baz=96								
531A	**Rocksprings**	**96.47**	**50**	⇓P		**P**		**10 41 05.2**	**-0.3**
	baz=96,SNR=29								
432A	**Menard**	**96.52**	**49**	⇑P		**P**		**10 41 04.3**	**-1.4**
	baz=96,SNR=7.8								
134A	**White-Moore Ra**	**96.52**	**47**	⇑P		**P**		**10 41 04.6**	**-1.0**
	baz=96,SNR=16								
Z35A	**Perchaven, San**	**96.54**	**46**	⇑P		**P**		**10 41 04.1**	**-1.6**
	baz=96,SNR=10								
333A	**Richland Sprin**	**96.76**	**48**	⇑P		**P**		**10 41 05.1**	**-1.6**
	baz=97,SNR=30								
JCT	**Junction City**	**96.77**	**49**	*e*P		**P**		**10 41 06.9**	**+0.1**
JCT				pmax		pmax			
	comp=Z,136nm,1.3s								
JCT	**Junction City**	**96.77**	**49**	*e*P		**P**		**10 41 06.9**	**+0.1**
	comp=Z,136nm,1.3s								
JCT	**Junction City**	**96.77**	**49**	⇓P		**P**		**10 41 06.3**	**-0.5**
	baz=97,SNR=18								
RJF	**Les Rejaudoux**	**96.78**	**333**	*e*P		**P**		**10 41 06.1**	**-0.4**
	comp=Z,438nm,1.7s								
RJF				*e*pP		pP		10 41 36.0	+5.5
RJF				*e*R					
	comp=Z,2µm,19.0s								
RJF	**Les Rejaudoux**	**96.78**	**333**	*e*P		**P**		**10 41 06.1**	**-0.4**
RJF				*e**PP		pP		10 41 36.0	+5.5
RJF				pmax		pmax			
	comp=Z,438nm,1.7s								
RJF	**Les Rejaudoux**	**96.78**	**333**	*e*P		**P**		**10 41 06.1**	**-0.4**
	comp=Z,438nm,1.7s								
RJF				*e*pP		pP		10 41 36.0	+5.5
LASF	**Ste Croix**	**96.81**	**330**	*e*P		**P**		**10 41 06.2**	**-0.5**
	comp=Z,176nm,1.5s								
LASF				*e*pP		**pP**		**10 41 35.8**	**+5.1**
LASF	**Ste Croix**	**96.81**	**330**	*e*P		**P**		**10 41 06.2**	**-0.5**
	comp=Z,176nm,1.5s								
LASF				*e*pP		**pP**		**10 41 35.8**	**+5.1**
X37A	**Clayton**	**96.85**	**44**	⇓P		**P**		**10 41 06.7**	**-0.4**
	baz=97								
234A	**Clairette**	**96.86**	**47**	⇓P		**P**		**10 41 06.0**	**-1.1**
	baz=97,SNR=13								
CAF	**Calviac**	**96.87**	**332**	*e*P		**P**		**10 41 06.8**	**-0.2**
	comp=Z,71nm,1.0s								
CAF	**Calviac**	**96.87**	**332**	*e*P		**P**		**10 41 06.8**	**-0.2**
CAF				pmax		pmax			
	comp=Z,71nm,1.0s								
CAF	**Calviac**	**96.87**	**332**	*e*P		**P**		**10 41 06.8**	**-0.2**
	comp=Z,71nm,1.0s								
532A	**Rocksprings**	**96.93**	**50**	⇑P		**P**		**10 41 07.1**	**-0.4**
	baz=97,SNR=22								
631A	**Perdido Creek**	**96.93**	**51**	⇑P		**P**		**10 41 06.3**	**-1.2**
	baz=97,SNR=16								
135A	**Vickery Place,**	**96.96**	**46**	⇓P		**P**		**10 41 07.1**	**-0.5**
	baz=97								
W38A	**Poteau**	**97.03**	**43**	⇑P		**P**		**10 41 07.2**	**-0.6**
	baz=97								
433A	**Art**	**97.06**	**49**	⇑P		**P**		**10 41 07.3**	**-0.8**
	baz=97,SNR=11								
334A	**Lometa**	**97.24**	**48**	⇑P		**P**		**10 41 07.8**	**-1.0**
	baz=97,SNR=16								
SFIN	**Lafayette**	**97.25**	**35**	*e*P		**P**		**10 41 08.5**	**-0.2**
	comp=Z,106nm,1.5s								
SFIN	**Lafayette**	**97.25**	**35**	⇑P		**P**		**10 41 07.8**	**-0.9**
	baz=97								
WHTX	**Lake Whitney,**	**97.30**	**47**	*e*P		Pdif		10 41 09.5	+0.3
	comp=Z,150nm,1.2s								
WHTX	**Lake Whitney,**	**97.30**	**47**	⇑P		**P**		**10 41 08.4**	**-0.7**
	baz=97								
LFF	**La Frestale**	**97.40**	**333**	*e*P		**P**		**10 41 09.1**	**-0.2**
	comp=Z,58nm,0.8s								
LFF	**La Frestale**	**97.40**	**333**	*e*P		**P**		**10 41 09.1**	**-0.2**
LFF				pmax		pmax			
	comp=Z,59nm,0.8s								
LFF	**La Frestale**	**97.40**	**333**	*e*P		**P**		**10 41 09.1**	**-0.2**
	comp=Z,58nm,0.8s								
632A	**Uvalde**	**97.40**	**50**	⇑P		**P**		**10 41 09.2**	**-0.4**
	baz=97,SNR=8.5								
533A	**Kerrville**	**97.54**	**49**	⇓P		**P**		**10 41 09.8**	**-0.4**
	baz=97,SNR=6.4								
434A	**Burnet**	**97.56**	**48**	⇓P		**P**		**10 41 09.7**	**-0.7**
	baz=97,SNR=9.0								
732A	**Laxson Ranch,**	**97.78**	**51**	⇑P		**P**		**10 41 10.9**	**-0.4**
	baz=98,SNR=13								
VSL	**Villasalto**	**97.79**	**324**	*e*P		**P**		**10 41 10.3**	**-0.8**
	comp=Z,66nm,1.5s								
335A	**Moody**	**97.79**	**47**	⇓P		**P**		**10 41 10.7**	**-0.6**
	baz=98								
633A	**Saathoff Ranch**	**97.84**	**50**	⇓P		**P**		**10 41 11.3**	**-0.3**
	baz=98								
534A	**Blanco**	**97.93**	**49**	⇓P		**P**		**10 41 11.5**	**-0.6**
	baz=98,SNR=14								
MIAR	**Mount Ida**	**97.95**	**43**	*e*P		Pdif		10 41 12.3	+0.3
MIAR				pmax		pmax			
	comp=Z,88nm,1.0s								
MIAR	**Mount Ida**	**97.95**	**43**	*e*P		Pdif		10 41 12.3	+0.3
	comp=Z,88nm,1.0s								
137A	**Heron Place, G**	**97.97**	**45**	⇑P		**P**		**10 41 11.9**	**-0.1**
	baz=98								
OLIL	**Olney**	**97.97**	**37**	*e*P		**P**		**10 41 11.9**	**-0.1**
	comp=Z,49nm,1.3s								
Z38A	**Mt. Pleasant**	**98.00**	**45**	⇑P		**P**		**10 41 11.4**	**-0.8**
	baz=98								
435B	**Jarrell**	**98.02**	**48**	⇓P		**P**		**10 41 11.7**	**-0.7**
	baz=98								
832A	**Faith Ranch, C**	**98.06**	**51**	⇓P		**P**		**10 41 11.7**	**-0.9**
	baz=98,SNR=9.6								
336A	**Riesel**	**98.09**	**47**	⇓P		**P**		**10 41 11.8**	**-0.9**
	baz=98,SNR=7.7								
MTLF	**Montolieu**	**98.10**	**331**	*e*P		**P**		**10 41 12.3**	**-0.2**
MTLF	**Montolieu**	**98.10**	**331**	*e*P		**P**		**10 41 12.3**	**-0.2**
MTLF	**Montolieu**	**98.10**	**331**	*e*P		**P**		**10 41 12.3**	**-0.2**
733A	**Divot King Ran**	**98.24**	**50**	⇓P		**P**		**10 41 12.4**	**-1.0**
	baz=98								
138A	**Matatall Enter**	**98.34**	**45**	⇓P		**P**		**10 41 13.1**	**-0.7**
	baz=98								
237A	**Washetta, Mont**	**98.34**	**46**	⇓P		**P**		**10 41 13.0**	**-0.8**
	baz=98								
833A	**Chaparral WMA,**	**98.42**	**51**	⇓Pdiff		Pdif		10 41 14.3	+0.1
	baz=98								
634A	**China Grove, S**	**98.44**	**49**	⇑Pdiff		Pdif		10 41 14.3	+0.1
	baz=98								
535A	**Dale**	**98.53**	**48**	⇑Pdiff		**P**		**10 41 14.2**	**-0.4**
	baz=98								
436A	**Wall Ranch, Ga**	**98.53**	**47**	⇓Pdiff		**P**		**10 41 14.1**	**-0.5**
	baz=98								
734A	**La Parita Cree**	**98.65**	**50**	⇑Pdiff		**P**		**10 41 14.8**	**-0.4**
	baz=98								
337A	**Centerville**	**98.75**	**47**	⇑Pdiff		Pdif		10 41 15.9	+0.3
	baz=99								
238A	**Jacksonville**	**98.76**	**46**	⇑Pdiff		Pdif		10 41 16.2	+0.6
	baz=99								
635A	**Leesville**	**98.81**	**49**	⇓Pdiff		Pdif		10 41 16.1	+0.2
	baz=99								
536A	**Bastrop**	**98.82**	**48**	⇑Pdiff		Pdif		10 41 16.2	+0.2
	baz=99								
437A	**Phantom Ranch,**	**98.92**	**47**	⇑Pdiff		Pdif		10 41 16.6	+0.2
	baz=99								
933A	**Laredo**	**98.96**	**51**	⇓Pdiff		Pdif		10 41 16.8	+0.2
	baz=99								
338A	**Crockett**	**99.08**	**46**	⇓Pdiff		**Pdif**		**10 41 17.5**	**+0.4**
	baz=99								
735A	**Kenedy**	**99.14**	**49**	⇓Pdiff		**Pdif**		**10 41 17.3**	**-0.1**
	baz=99								
EPF	**Esparros**	**99.14**	**332**	*e*P		**Pdif**		**10 41 16.1**	**-1.1**
	comp=Z,14nm,0.7s								
EPF	**Esparros**	**99.14**	**332**	*e*P		**Pdif**		**10 41 16.1**	**-1.1**
EPF				pmax		pmax			
	comp=Z,14nm,0.7s								
EPF	**Esparros**	**99.14**	**332**	*e*P		**Pdif**		**10 41 16.1**	**-1.1**
	comp=Z,14nm,0.7s								
239A	**Gary**	**99.16**	**45**	⇑Pdiff		**Pdif**		**10 41 17.2**	**-0.2**
	baz=99								
636A	**Smothers Creek**	**99.22**	**49**	⇓Pdiff		**Pdif**		**10 41 17.6**	**-0.2**
	baz=99								
537A	**Green Hill Far**	**99.30**	**48**	⇓Pdiff		**Pdif**		**10 41 16.8**	**-1.3**
	baz=99								
438A	**Sam Houston St**	**99.39**	**47**	⇓Pdiff		**Pdif**		**10 41 17.8**	**-0.7**
	baz=99								
934A	**Benavides**	**99.48**	**51**	⇓Pdiff		**Pdif**		**10 41 19.1**	**+0.2**
	baz=99								
835A	**Beeville**	**99.50**	**50**	⇑Pdiff		**Pdif**		**10 41 19.7**	**+0.7**
	baz=99								
736A	**Circle Diamond**	**99.56**	**49**	⇓Pdiff		**Pdif**		**10 41 19.3**	**+0.1**
	baz=99								
339A	**Huntington**	**99.57**	**46**	⇓Pdiff		**Pdif**		**10 41 19.2**	**-0.1**
	baz=99								
ETSF	**Etsaut**	**99.61**	**332**	*e*P		**Pdif**		**10 41 19.4**	**0.0**
	comp=Z,16nm,0.6s								
ETSF	**Etsaut**	**99.61**	**332**	*e*P		**Pdif**		**10 41 19.4**	**0.0**
ETSF				pmax		pmax			
	comp=Z,16nm,0.6s								
ETSF	**Etsaut**	**99.61**	**332**	*e*P		**Pdif**		**10 41 19.4**	**0.0**
	comp=Z,16nm,0.6s								
SJPF	**Ste Jean**	**99.70**	**333**	*e*P		**Pdif**		**10 41 19.0**	**-0.7**
SJPF	**Ste Jean**	**99.70**	**333**	*e*P		**Pdif**		**10 41 19.0**	**-0.7**
SJPF	**Ste Jean**	**99.70**	**333**	*e*P		**Pdif**		**10 41 19.0**	**-0.7**
439A	**Center Grove,**	**99.81**	**46**	⇓Pdiff		**Pdif**		**10 41 20.4**	**0.0**
	baz=100								
340A	**Bronson**	**99.93**	**45**	⇑Pdiff		**Pdif**		**10 41 20.6**	**-0.2**
	baz=100								
035A	**Encino**	**100.19**	**51**	⇓Pdiff		**Pdif**		**10 41 22.2**	**+0.1**
	baz=100								
539A	**Cross D Ranch,**	**100.30**	**47**	⇑Pdiff		**Pdif**		**10 41 22.5**	**-0.1**
	baz=100								
035Z	**Hargill**	**100.52**	**51**	⇓Pdiff		**Pdif**		**10 41 23.0**	**-0.6**
	baz=100								
738A	**Farr-Stevens R**	**100.56**	**48**	⇑Pdiff		**Pdif**		**10 41 23.4**	**-0.3**
	baz=100								
KEST	**Kesra**	**100.63**	**322**	P		**Pdif**		**10 41 23.9**	**-0.1**
	comp=Z,2.8nm,0.6s,baz=63,slow=2.3,SNR=9.0								
PAF	**Port-aux-Franc**	**100.68**	**219**	PP		PP		10 45 17.0	-15
PAF				SP		SP		10 54 09.0	-15
PAF				R				11 15 00.0	
CMAH	**Djebel Manchou**	**100.97**	**324**	P		**PP**		**10 45 38.0**	**+4.2**
CAEH	**'Ain El Ouahch**	**101.14**	**324**	P		**PP**		**10 45 39.2**	**+4.2**
CKFL	**Kef-Lekhel**	**101.50**	**324**	P		**PP**		**10 45 41.8**	**+3.9**
CASM	**Ain Smara**	**101.73**	**324**	P		PP		10 45 44.7	+5.2
DFRA	**Djebel Bou Aff**	**101.82**	**325**	P		PP		10 45 45.5	+5.3
CTEI	**Djebel Teioual**	**101.92**	**324**	P		**PP**		**10 45 46.1**	**+5.0**
SET	**Setif**	**102.33**	**325**	P		PP		10 45 51.0	+7.0
CKHR	**Kef el Ahmar**	**102.42**	**324**	P		**PP**		**10 45 49.3**	**+4.6**
KMBO	**Kilima Mbogo**	**102.51**	**276**	P		**Pdif**		**10 41 33.0**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=28,slow=5.1,SNR=9.3								
KMBO	**Kilima Mbogo**	**102.51**	**276**	P		**Pdif**		**10 41 33.0**	**+0.1**
KMBO				pmax		pmax			
	comp=Z,1.0nm,0.5s								
PBRG	**Braganca**	**102.90**	**336**	*e*PP		PP		10 45 51.1	+3.1
PBRG	**Braganca**	**102.90**	**336**	*e*LR		LR		11 17 52.3	
	comp=Z,1µm,20.0s								
PGAV	**Gavieira, Arco**	**103.29**	**337**	*e*PP		PP		10 45 52.0	+1.0
PGAV	**Gavieira, Arco**	**103.29**	**337**	*e*LR		LR		11 18 24.9	
	comp=Z,595nm,20.0s								
EMHD	**Djebel Mahouad**	**103.54**	**326**	P		**PP**		**10 45 57.5**	**+4.4**
MVO	**Moncorvo**	**103.57**	**336**	*e*PP		PP		10 45 57.7	+4.7
MVO	**Moncorvo**	**103.57**	**336**	*e*LR		LR		11 17 40.0	
	comp=Z,981n

comp=Z,3.4nm,0.8s,baz=222,slow=3.1,SNR=3.5
LBTB Lobatse 123.09 258 PKKPbc PKKPbc 10 56 25.4 +2.4
comp=Z,3.4nm,0.6s,baz=252,slow=3.1,SNR=10
BCIP Isla Barro Col 124.90 52 *e*PKPdf **PKPdf 10 46 35.0 -1.1**
LRS Lares 125.27 33 *e*PKPdf **PKPdf 10 46 35.8 -0.9**
TSUM Tsumeb 127.89 268 *e*PKPdf **PKPdf 10 46 42.2 +0.4**
BBTS Babate 130.89 331 SKPbc **SKPbc 10 50 03.5 -0.3**
comp=Z,103nm,1.0s,baz=27,slow=2.3,SNR=4.5
SDV Santo Domingo 131.04 43 *e*PKPdf **PKPdf 10 46 48.0 0.0**
DBIC Dimbokro 131.21 312 PKP **PKPdf 10 46 48.5 +0.4**
comp=Z,28nm,0.8s,baz=8.7,slow=1.3,SNR=20
DBIC SKPbc **SKPbc 10 50 04.8 -0.1**
comp=Z,27nm,0.6s,baz=21,slow=4.7,SNR=14
DBIC Dimbokro 131.21 312 PKIKP **PKPdf 10 46 48.6 +0.4**
DBIC pmax pmax
comp=Z,28nm,0.9s
DBIC pmax pmax
comp=N,27nm,0.6s
DBIC Dimbokro 131.21 312 *e*PKPdf **PKPdf 10 46 48.3 +0.1**
DBIC PKP **PKPdf 10 46 48.5 +0.4**
DBIC SKPbc **SKPbc 10 50 04.8 -0.1**
TIC Toumodi 131.33 312 *e*P **PKPdf 10 46 49.4 +1.0**
comp=N,94nm,0.9s
KIC Kosan Boka 131.37 312 *e*P **PKPdf 10 46 48.4 -0.1**
comp=N,331nm,1.4s
LIC Lamto 131.66 312 *e*PKIKP **PKPdf 10 46 49.3 +0.3**
comp=N,201nm,1.2s
LIC *e*R
comp=N,1μm,23.0s
LIC Lamto 131.66 312 *e*P **PKPdf 10 46 50.5 +1.5**
comp=N,316nm,1.6s
LIC Lamto 131.66 312 *e*PKPdf **PKPdf 10 46 49.3 +0.3**
ROSC El Rosal 131.76 51 PKP **PKPdf 10 46 50.3 +0.6**
comp=N,9.4nm,0.6s,baz=13,slow=1.2,SNR=20
ROSC El Rosal 131.76 51 PKP **PKPdf 10 46 50.3 +0.6**
ROSC *e*PKPdf **PKiKP 10 46 50.6 -0.1**
OTAV Otavalo 132.06 59 *e*PKPdf **PKPdf 10 46 48.4 -2.0**
PCRV Puerto La Cruz 133.31 36 PKP **PKPdf 10 46 51.2 -0.9**
comp=N,17nm,0.6s,baz=213,slow=2.4,SNR=11
SNAA Sanae 133.59 195 P **PKPdf 10 46 51.8 +0.8**
SNAA Sanae 133.59 195 P **PKPbc 10 50 15.5 -1.0**
SNAA Sanae 133.59 195 PKhKP PKPpre 10 46 33.6
comp=N,2.7nm,0.9s,baz=123,slow=5.0,SNR=15
SNAA PKP **PKPdf 10 46 50.9 -0.1**
comp=N,16nm,1.0s,baz=154,slow=2.4,SNR=23
SNAA SKPbc **SKPbc 10 50 10.2 -1.3**
comp=N,22nm,0.8s,baz=177,slow=2.2,SNR=21
VNA2 Neumayer--Watz 135.14 194 P **PKPdf 10 46 55.3 +1.5**
baz=125,slow=3.2
VNA2 Neumayer--Watz 135.14 194 P **SKPbc 10 50 14.1 -2.4**
baz=102,slow=1.5
VNA3 Neumayer Olymp 135.35 193 P PKPpre 10 46 46.1
VNA3 Neumayer Olymp 135.35 193 P **PKPdf 10 46 55.6 +1.4**
VNA3 Neumayer Olymp 135.35 193 P **SKPbc 10 50 15.6 -1.5**
VNA1 Neumayer--Stat 135.53 194 P PKPpre 10 46 42.4
VNA1 Neumayer--Stat 135.53 194 P **PKPdf 10 46 56.6 +2.1**
VNA1 Neumayer--Stat 135.53 194 P **SKPbc 10 50 15.0 -2.7**
NNA Nana 140.72 72 SKPab **SKPab 10 50 47.2 0.0**
comp=N,28nm,1.1s,baz=301,slow=4.1,SNR=4.8
PTGA Pitinga 144.97 39 PKP PKPbc 10 47 12.2 -0.6
comp=N,168nm,0.7s,baz=313,slow=4.3,SNR=111
PTGA Pitinga 144.97 39 *e*PKPdf PKPbc 10 47 11.9 -0.8
PTGA PKP **PKPab 10 47 12.2 -0.6**
SHEL Horse Pasture 146.59 287 *i* PKP2 **PKPab 10 47 20.2 +1.3**
SHEL Horse Pasture 146.59 287 *e*PKPdf **PKPbc 10 47 17.9 +0.2**
USHA Ushuaia 147.16 148 PKPbc **PKPdf 10 47 16.4 +0.7**
comp=N,144nm,1.0s,baz=221,slow=4.5,SNR=3.6
ASCN Ascension 148.34 308 *e*PKPdf **PKPbc 10 47 20.8 -1.7**
SAML Samuel 149.37 53 *e*PKPdf **PKPdf 10 47 20.4 -0.2**
SAML *e*PKPbc **PKPbc 10 47 25.1 0.0**
SAML *e*PKPab **PKPab 10 47 30.3 +0.4**
PLCA Paso Flores 152.09 122 PKP **PKPdf 10 47 24.6 +0.5**
comp=N,22nm,1.2s,baz=238,slow=2.1,SNR=13
PLCA PKPbc **PKiKP 10 47 31.0 -0.1**
comp=N,112nm,0.8s,baz=237,slow=2.8,SNR=114
PLCA PKPab **PKPab 10 47 40.1 -0.6**
comp=N,26nm,0.8s,baz=233,slow=4.2,SNR=17
PLCA Paso Flores 152.09 122 PKIKP **PKPdf 10 47 24.6 +0.5**
PLCA 10 47 40.1
PLCA pmax pmax
comp=Z,22nm,1.2s
PLCA pmax pmax
comp=Z,26nm,0.8s
PLCA Paso Flores 152.09 122 PKP **PKPdf 10 47 24.6 +0.5**
PLCA *e*PKPdf **PKPdf 10 47 25.5 +1.4**
PLCA *e*PKPbc **PKPbc 10 47 30.9 0.0**
PLCA PKPbc **PKiKP 10 47 31.0 -0.1**
PLCA PKPab **PKPab 10 47 40.1 -0.6**
LVC Limon Verde 152.29 82 PKPbc **PKPbc 10 47 32.2 +0.2**
comp=Z,50nm,0.9s,baz=306,slow=3.4,SNR=5.4
LVC PKPab **PKPab 10 47 43.0 +0.8**
comp=Z,94nm,0.8s,baz=246,slow=1.7,SNR=7.8
LVC Limon Verde 152.29 82 *e*PKPdf **PKPdf 10 47 25.9 +0.7**
LVC PKPbc **PKPbc 10 47 32.2 +0.2**
LVC PKPab **PKPab 10 47 43.0 +0.8**
LCO Las Campanas 152.39 97 *e*PKPdf **PKPdf 10 47 26.6 +1.4**
LCO *e*PKPbc **PKPbc 10 47 31.9 -0.2**
CFAA Coronel Fontan 154.79 102 PKP **PKPdf 10 47 27.4 -0.9**
comp=Z,0.8nm,1.0s,baz=294,slow=0.5,SNR=15
CFAA PKPbc **PKPbc 10 47 36.6 -0.4**
comp=Z,0.8nm,0.7s,baz=280,slow=2.7,SNR=9.8
CFAA PKPab **PKPab 10 47 49.7 -2.7**
comp=Z,1.0nm,0.6s,baz=272,slow=5.8,SNR=6.1
HOPE Hope Point 155.33 184 *e*PKPdf **PKPdf 10 47 27.5 -0.6**
RCBR Riachuelo 156.11 352 PKP **PKPdf 10 47 30.6 +0.1**
comp=Z,9.1nm,0.8s,baz=11,slow=3.0,SNR=3.8
RCBR PKPab **PKPab 10 47 58.6 +0.4**
comp=Z,26nm,1.0s,baz=14,slow=5.0,SNR=4.5
TRQA Tornquist 159.19 120 *e*PKPdf **PKPdf 10 47 33.4 -0.3**
CPUP Villa Florida 163.46 83 PKP **PKPdf 10 47 37.6 -0.8**
comp=Z,8.7nm,1.1s,baz=321,slow=2.3,SNR=19
CPUP PKPab **PKPab 10 48 30.2 +0.1**
comp=Z,3.0nm,0.7s,baz=293,slow=5.1,SNR=12
CPUP Villa Florida 163.46 83 PKIKP **PKPdf 10 47 37.6 -0.8**
CPUP 10 48 30.2
CPUP pmax pmax
comp=Z,9.0nm,1.1s
CPUP pmax pmax
comp=Z,3.0nm,0.7s
CPUP Villa Florida 163.46 83 PKP **PKPdf 10 47 37.6 -0.8**
CPUP *e*PKPdf **PKPdf 10 47 38.2 -0.2**
CPUP PKPab **PKPab 10 48 30.2 +0.1**
BDFB Brasilia 163.76 33 PKP **PKPdf 10 47 39.4 +0.3**
comp=Z,80nm,1.4s,baz=351,slow=2.4,SNR=16
BDFB Brasilia 163.76 33 PKIKP **PKPdf 10 47 39.4 +0.3**
BDFB pmax pmax
comp=Z,80nm,1.4s

*ISCJB **03** 10:43:48.7±0.8,5.°12S±0.°08×146.°2E±0.°1,h150km, mb4.1/5,Error ellipse: s-maj=14.7km s-min=10.8km az=19.3*
*IDC **03** 10:43:51.4±3.4,5.°09S×145.°99E,h164km±29km,mb3.9/5, mb1 4.1/7,mb1mx3.6/20,mbtmp4.4/7,Error ellipse: s-maj=46.6km s-min=13.4km az=123.0*
ISC 03 10:43:50.9±1.1,5.°20S±0.°10×146.°1E±0.°1,h150km,n22, σ1s01/24,mb4.2/5,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COEN	**Coen**	**9.18**	**198**	P	**Pn**	**10 45 59.6**	**-0.5**
	baz=8.7,SNR=6.0						
COEN				S	**Sn**	**10 47 41.7**	**-0.3**
	baz=8.7,SNR=4.0						
CTA	**Charters Tower**	**14.80**	**180**	P	**Pn**	**10 47 15.5**	**+2.5**
	0.6nm,0.3s,baz=17,slow=12,SNR=7.0						
KDU	**Kakadu**	**15.41**	**240**	P	**Pn**	**10 47 20.1**	**-0.4**
	baz=15,SNR=10						
SWI	**Sorong**	**15.46**	**286**	P	**P**	**10 47 24.8**	**+2.4**
	baz=16,SNR=4.2						
QIS	**Mount Isa**	**16.54**	**202**	P	**P**	**10 47 34.5**	**+0.3**
	baz=16,SNR=4.0						
WRA	**Warramunga Arr**	**18.62**	**217**	P	**P**	**10 47 56.9**	**-0.2**
	2.9nm,0.3s,baz=38,slow=11,SNR=173						
WRA				S	**S**	**10 51 20.3**	**-1.2**
	0.0nm,0.3s,baz=41,slow=20,SNR=2.8						
KNRA	**Kununurra**	**19.99**	**237**	P	**P**	**10 48 11.4**	**-0.5**
	baz=20,SNR=16						
EIDS	**Eidsvold**	**20.61**	**167**	P	**P**	**10 48 18.1**	**-0.3**
	baz=20,SNR=5.9						
RMQ	**Roma**	**21.32**	**174**	P	**P**	**10 48 27.6**	**+1.6**
	baz=21,SNR=8.6						
QLP	**Quilpie**	**21.34**	**185**	P	**P**	**10 48 25.8**	**-0.5**
	baz=21,SNR=27						
ASAR	**Alice Springs**	**21.82**	**212**	P	**P**	**10 48 31.1**	**-0.3**
	13nm,1.0s,baz=53,slow=8.1,SNR=38						
ASAR				S	**S**	**10 52 23.0**	**+0.2**
	0.8nm,0.8s,baz=33,slow=19,SNR=4.1						
ARMA	**Armidale**	**25.62**	**169**	P	**P**	**10 49 06.3**	**-0.2**
	baz=25,SNR=7.2						
WRKA	**Warakurna**	**26.12**	**219**	P	**P**	**10 49 11.1**	**-0.1**
	baz=26,SNR=14						
CMSA	**Cobar Meteorol**	**26.21**	**181**	P	**P**	**10 49 11.5**	**-0.3**
	baz=26,SNR=9.0						
STKA	**Stephens Creek**	**26.88**	**189**	P	**P**	**10 49 17.4**	**-0.4**
	2.9nm,0.5s,baz=2.5,slow=10,SNR=12						
STKA	**Stephens Creek**	**26.88**	**189**	P	**P**	**10 49 17.1**	**-0.7**
	baz=26,SNR=10						
MEEK	**Meekatharra**	**33.84**	**228**	P	**P**	**10 50 19.2**	**+0.1**
	baz=34,SNR=11						
KSM	**Kuching**	**36.40**	**280**	P	**P**	**10 50 41.5**	**+0.3**
	baz=36,SNR=3.2						
KSM				S	S	10 56 16.6	+4.8
	baz=36,SNR=3.3						
VNDA	**Vanda**	**72.76**	**176**	P	**P**	**10 55 02.3**	**0.0**
	0.8nm,0.5s,baz=328,slow=7.6,SNR=9.2						
QSPA	**South Pole Qui**	**84.77**	**180**	P	**P**	**10 56 07.0**	**-1.2**
	3.1nm,0.6s,baz=317,slow=4.5,SNR=11						
ILAR	**Eielson Array**	**85.08**	**23**	P	**P**	**10 56 08.4**	**-1.1**
	1.7nm,0.7s,baz=252,slow=5.1,SNR=36						
TORD	**Torodi Ar. Bea**	**144.06**	**285**	PKP	PKPab	11 03 07.5	0.0
	1.1nm,0.9s,baz=85,slow=3.5,SNR=3.7						

*ISCJB **03** 10:48:31.8±0.3,43.°01N±0.°05×143.°67E±0.°05, h124km±2km,mb3.9/17,Error ellipse: s-maj=8.3km s-min=5.7km az=150.1*
*IDC **03** 10:48:33.4±1.6,43.°06N×143.°66E,h121km±13km, mb3.7/18,mb1 3.8/20,mb1mx3.7/32,mbtmp4.0/20,Error ellipse: s-maj=18.9km s-min=13.5km az=156.0*
*JMA **03** 10:48:33.4±0.1,43.°03N×143.°62E,h115km±1km,M3.7 JMA Felt I J1.*
ISC 03 10:48:32.7±0.7,43.°01N±0.°05×143.°67E±0.°04,h118km±5km, n39,σ0965/50,mb3.8/17,3C-5D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOB	**Onbets**	**0.16**	**132**	⇑P	**Pn**	**10 48 49.8**	**+0.8**
JOB				*e*S	**Sn**	**10 49 02.2**	**+1.0**
JAR	**Ashorobuto**	**0.29**	**14**	P	**Pn**	**10 48 49.7**	**+0.3**
JAR				*e*S	**Sn**	**10 49 01.8**	**-0.2**
JCH	**Churui**	**0.46**	**210**	⇑P	**Pn**	**10 48 50.3**	**+0.1**
JCH				*e*S	**Sn**	**10 49 02.6**	**-0.7**
JAK	**Akkeshi**	**0.75**	**91**	P	**Pn**	**10 48 52.7**	**+0.5**
JAK				*e*S	**Sn**	**10 49 07.5**	**+0.5**
JFR	**Furan**	**0.81**	**281**	⇓P	**Pn**	**10 48 52.6**	**-0.1**
JFR				*e*S	**Sn**	**10 49 07.1**	**-0.8**
JNK	**Nakash**	**0.96**	**53**	P	**Pn**	**10 48 54.6**	**+0.5**
JNK				*e*S	**Sn**	**10 49 11.1**	**+0.8**
JTKR	**Abashiri--Toko**	**0.97**	**10**	⇓P	**Pn**	**10 48 54.7**	**+0.4**
JTKR				*e*S	**Sn**	**10 49 10.5**	**-0.1**
JBT2	**Biratori 2**	**0.99**	**257**	P	**Pn**	**10 48 54.8**	**+0.4**
JBT2				*e*S	**Sn**	**10 49 11.0**	**+0.2**
JNBK	**Urakawa-nobuka**	**1.00**	**223**	⇑P	**Pn**	**10 48 54.8**	**+0.3**
JNBK				*e*S	**Sn**	**10 49 10.5**	**-0.5**
JMP	**Maruseppu**	**1.02**	**347**	⇓P	**Pn**	**10 48 55.1**	**+0.3**
JMP				*e*S	**Sn**	**10 49 11.1**	**-0.4**
JEM	**Erimo**	**1.06**	**201**	P	**Pn**	**10 48 55.5**	**+0.3**
JKK2	**Kamakawa 2**	**1.09**	**322**	⇓P	**Pn**	**10 48 55.9**	**+0.4**
JAB	**Ashibetsu**	**1.17**	**295**	P	**Pn**	**10 48 57.1**	**+0.9**
ASAJ	**Asahikawa**	**1.35**	**325**	⇓P	**Pn**	**10 48 59.0**	**+0.7**
ASAJ	**Asahikawa**	**1.35**	**325**	P	**Pn**	**10 48 59.1**	**+0.8**
	65nm,0.3s,baz=154,slow=12,SNR=456						
ASAJ				S	Sn	10 49 28.7	+11
	7.1nm,0.3s,baz=240,slow=20,SNR=2.7						
JRA	**Rausu**	**1.40**	**48**	P	**Pn**	**10 48 59.5**	**+0.7**
NEM2	**Nemuro 2**	**1.56**	**76**	P	**Pn**	**10 49 00.7**	**+0.1**
NEM2				*e*S	**Sn**	**10 49 20.8**	**-1.0**
JHR	**Hokuryu**	**1.60**	**298**	P	**Pn**	**10 49 02.1**	**+1.0**
MJAR	**Matsushiro Arr**	**7.71**	**215**	P	**Pn**	**10 50 21.8**	**-0.4**
	0.5nm,0.3s,baz=27,slow=13,SNR=6.9						
PETK	**Petropavlovsk-**	**13.76**	**38**	P	**Pn**	**10 51 40.9**	**-1.7**
	0.2nm,0.3s,baz=214,slow=11,SNR=5.4						
SEY	**Seymchan**	**20.60**	**11**	P	**P**	**10 53 00.6**	**-1.4**
	8.3nm,0.5s,baz=189,slow=8.4,SNR=42						
SONM	**Songino Array**	**26.43**	**294**	P	**P**	**10 53 58.6**	**+0.3**
	3.1nm,0.6s,baz=84,slow=8.6,SNR=18						
ZALV	**Zalesovo Beam**	**39.42**	**307**	P	**P**	**10 55 51.2**	**+0.5**
	1.7nm,0.4s,baz=79,slow=8.0,SNR=11						
MKAR	**Makanchi Array**	**42.67**	**297**	P	**P**	**10 56 17.7**	**+0.2**
	0.7nm,0.6s,baz=80,slow=9.2,SNR=10						
ILAR	**Eielson Array**	**43.57**	**36**	P	**P**	**10 56 24.7**	**+0.2**
	1.5nm,0.8s,baz=275,slow=8.0,SNR=21						
KURBB	**Kurchatov Arra**	**43.91**	**304**	P	**P**	**10 56 27.4**	**0.0**
	2.2nm,0.6s,baz=73,slow=8.9,SNR=14						
BVAR	**Borovoye Array**	**48.00**	**309**	P	**P**	**10 56 59.8**	**+0.4**
	2.6nm,0.3s,baz=83,slow=10,SNR=14						
INK	**Inuvik**	**48.31**	**30**	P	**P**	**10 57 01.8**	**+0.2**
	0.6nm,0.4s,baz=301,slow=5.4,SNR=5.6						
RES	**Resolute Bay**	**56.38**	**1**	P	**P**	**10 58 00.8**	**-0.2**
	2.5nm,0.5s,baz=325,slow=4.4,SNR=19						
YKA	**Yellowknife Ar**	**57.81**	**32**	P	**P**	**10 58 11.4**	**+0.3**
	0.4nm,0.5s,baz=306,slow=6.7,SNR=6.0						
ARCES	**ARCESS Array B**	**59.04**	**339**	P	**P**	**10 58 19.1**	**-0.6**
	8.0nm,1.1s,baz=53,slow=6.5,SNR=4.3						
WRA	**Warramunga Arr**	**63.23**	**190**	P	**P**	**10 58 49.0**	**+0.5**
	0.5nm,0.7s,baz=8.5,slow=6.7,SNR=5.2						
FINES	**FINESS Array B**	**64.35**	**332**	P	**P**	**10 58 54.7**	**-0.7**
	2.9nm,0.7s,baz=41,slow=7.4,SNR=6.7						
NB2	**NORSAR Subarra**	**69.34**	**337**	P	**P**	**10 59 26.7**	**-0.3**
	comp=Z,0.1nm,0.5s,baz=41,slow=6.2						
NOA	**NORSAR Array B**	**69.34**	**337**	P	**P**	**10 59 26.8**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=36,slow=6.1,SNR=5.0						
AKASG	**Malin Array Be**	**70.64**	**322**	P	**P**	**10 59 34.5**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=38,slow=5.9,SNR=6.5						
PDAR	**Pinedale Array**	**72.30**	**48**	P	**P**	**10 59 46.1**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=11,slow=3.0,SNR=4.0						
BRTR	**Keskin Array B**	**76.18**	**312**	P	**P**	**11 00 08.3**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=57,slow=5.3,SNR=2.3						
TXAR	**Lajitas Array**	**85.15**	**54**	P	**P**	**11 00 57.2**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=316,slow=5.0,SNR=3.2						

*ISCJB **03** 11:14:09.3±0.3,13.°04N±0.°04×89.°29W±0.°04,h73km±2km, mb4.3/18,Error ellipse: s-maj=8.0km s-min=2.5km az=42.3*
*CASC **03** 11:14:10.4±2.0,12.°99N×89.°32W,h36km±170km,MD4.5, ML4.8*
*NEIC **03** 11:14:10.5±0.7,12.°96N×89.°34W,mb4.3/11,Error ellipse: s-maj=15.1km s-min=6.4km az=208.0*
NEIC Felt [IV] at San Salvador.
*IDC **03** 11:14:11.5±1.1,13.°32N×89.°01W,h69km±8km,mb3.5/7, mb1 3.9/9,mb1mx3.7/23,mbtmp3.9/9,Error ellipse: s-maj=47.4km s-min=12.5km az=41.0*
ISC 03 11:14:10.2±0.6,12.°99N±0.°06×89.°35W±0.°05,h73km±5km, h73km:pP-P,n216,σ1s26/246,mb4.2/18,83C-67D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AIES	**Las Flores**	**0.54**	**32**	⇓*i*P	**Pn**	**11 14 21.6**	**-2.2**
AIES				*e*S	**Sn**	**11 14 30.2**	**-3.6**
AIES				AML	AML	11 14 31.8	
	comp=Z,34μm,0.2s						
LFRS	**El Faro**	**0.69**	**24**	*i* P	**Pn**	**11 14 23.4**	**-2.0**
SNET	**Serv Nac Est T**	**0.70**	**9**	*e*P	**Pn**	**11 14 23.8**	**-1.7**
SNET				*e*S	**Sn**	**11 14 34.1**	**-2.6**
SNET				AML	AML	11 14 35.6	
	comp=Z,84μm,0.2s						
BOQS	**Boqueron**	**0.74**	**5**	⇓*i*P	**Pn**	**11 14 24.5**	**-1.6**
LBRS	**Las Brisas**	**0.80**	**22**	*i* P	**Pn**	**11 14 25.1**	**-1.5**
SBLS	**San Blas**	**0.88**	**342**	*e*P	**Pn**	**11 14 26.3**	**-1.4**
SNJE	**San Jose**	**0.91**	**344**	*i* P	**Pn**	**11 14 26.1**	**-1.9**
RTR	**El Retiro**	**0.94**	**342**	*i* P	**Pn**	**11 14 27.3**	**-1.1**
VSM	**San Miguel**	**1.13**	**67**	*i* P	**Pn**	**11 14 29.9**	**-0.9**
RBDL	**Robledal**	**1.16**	**344**	*i* P	**Pn**	**11 14 30.3**	**-0.8**
BLLM	**Bellamira**	**1.17**	**67**	*e*P	**Pn**	**11 14 30.1**	**-1.0**
CAHU	**Cacacuatique**	**1.35**	**55**	*i* P	**Pn**	**11 14 32.4**	**-1.2**
CNCH	**Conchagua**	**1.50**	**79**	*i* P	**Pn**	**11 14 34.6**	**-0.8**
CNCH				*e*S	**Sn**	**11 14 53.5**	**-1.0**
PCG	**Pacaya**	**1.85**	**319**	*e*P	**Pn**	**11 14 41.1**	**+0.9**
PCG				*e*S	**Sn**	**11 15 05.1**	**+2.1**
NBG	**Las Nubes**	**1.86**	**329**	*e*P	**Pn**	**11 14 41.4**	**+1.1**
FUG	**Fuego 3**	**2.05**	**315**	*e*P	**Pn**	**11 14 43.3**	**+0.5**
MRL	**Marmol**	**2.09**	**351**	*i* P	**Pn**	**11 14 43.5**	**+0.1**
MRL				⇓*e*P	**Pn**	**11 14 44.4**	**+1.1**
JAT	**Jato**	**2.58**	**301**	⇓*e*P	**Pn**	**11 14 50.4**	**+0.5**
CCIG	**Comitan**	**4.24**	**321**	P	**Pn**	**11 15 13.9**	**+1.4**
GBS2	**Las Lilas**	**4.37**	**119**	*i* P	**Pn**	**11 15 14.6**	**+0.3**
GBS2				*i* S	**Sn**	**11 16 01.5**	**-2.5**
LAPC	**Finca la Perla**	**4.43**	**120**	*i* P	**Pn**	**11 15 14.5**	**-0.4**
LIM1	**Limonal**	**4.61**	**119**	*i* P	**Pn**	**11 15 18.3**	**+0.8**
PCIG		**4.62**	**306**	P	**Pn**	**11 15 18.1**	**+0.5**
PCIG				S	**Sn**	**11 16 10.3**	**+0.4**
VCR	**Vista de Mar**	**4.62**	**128**	*e*P	**Pn**	**11 15 18.4**	**+0.7**
VCR				*e*S	**Sn**	**11 16 06.8**	**-3.5**
MESS	**Mesas**	**4.64**	**118**	*i* P	**Pn**	**11 15 18.3**	**+0.3**
MESS				*i* S	**Sn**	**11 16 08.2**	**-2.5**
COLC	**Colonia**	**4.67**	**119**	*i* P	**Pn**	**11 15 18.6**	**+0.3**
JTS	**JuntasAbangare**	**5.08**	**121**	P	**Pn**	**11 15 24.6**	**+0.7**
	comp=Z,31nm,0.3s,baz=308,slow=19,SNR=214						
JTS				S	**Sn**	**11 16 20.8**	**-0.4**
	comp=Z,28nm,0.3s,baz=310,slow=20,SNR=6.4						
JCR	**Jicaral**	**5.20**	**127**	⇓*e*P	**Pn**	**11 15 27.0**	**+1.4**
JCR				*e*S	**Sn**	**11 16 22.8**	**-1.4**
CGA2	**Cerro Gallo 2**	**5.63**	**121**	*e*P	**Pn**	**11 15 33.0**	**+1.5**
CGA2				*e*S	**Sn**	**11 16 36.6**	**+1.7**
QCR	**Quepos**	**6.20**	**124**	⇑*e*P	**Pn**	**11 15 40.7**	**+1.5**
QCR				*e*S	**Sn**	**11 16 47.6**	**-1.1**
URSC	**Urasca**	**6.30**	**119**	*e*P	**Pn**	**11 15 42.1**	**+1.4**
URSC				*e*S	**Sn**	**11 16 55.5**	**+4.1**
BUS	**Buena Vista**	**6.46**	**121**	*e*P	**Pn**	**11 15 45.4**	**+2.2**
BUS				*e*S	**Sn**	**11 16 53.7**	**-2.0**
CMIG	**Matias Romero**	**6.72**	**308**	P	**Pn**	**11 15 46.8**	**+0.5**
	comp=Z,3.6nm,0.3s,baz=114,slow=11,SNR=46						
CMIG				S	**Sn**	**11 17 01.6**	**+0.1**
	comp=Z,6.2nm,0.3s,baz=53,slow=20,SNR=5.7						
CMIG	**Matias Romero**	**6.72**	**308**	P	**Pn**	**11 15 47.0**	**+0.6**
HUIG	**Huatulco**	**7.11**	**294**	P	**Pn**	**11 15 51.0**	**-0.6**
HUIG				S	Sn	11 17 21.1	+10
TEIG	**Tepich**	**7.26**	**8**	P	**Pn**	**11 15 54.3**	**+0.6**
	comp=Z,7.9nm,0.3s,baz=221,slow=7.0,SNR=52						
TEIG				S	**Sn**	**11 17 15.2**	**+0.5**
	comp=Z,5.3nm,0.3s,baz=326,slow=18,SNR=3.0						
TEIG	**Tepich**	**7.26**	**8**	*e*Pn	**Pn**	**11 15 55.7**	**+2.0**
ACR	**Cerro Adams**	**7.45**	**125**	*e*P	**Pn**	**11 15 58.3**	**+2.0**
ACR				*e*S	**Sn**	**11 17 18.2**	**-1.1**
BRU2	**Volcan**	**7.76**	**122**	*e*P	**Pn**	**11 16 02.5**	**+1.8**
BRU2				*e*S	**Sn**	**11 17 27.7**	**+0.6**
TBS2		**7.79**	**122**	*e*P	**Pn**	**11 16 03.4**	**+2.4**
TBS2				*e*S	**Sn**	**11 17 29.5**	**+1.7**
BRU	**Baru**	**7.86**	**121**	*e*P	**Pn**	**11 16 03.9**	**+1.7**
VHO	**Vista Hermosa**	**8.21**	**301**	P	**Pn**	**11 16 06.8**	**+0.1**
BCIP	**Isla Barro Col**	**10.08**	**111**	*e*Pn	**Pn**	**11 16 33.1**	**+0.9**
MTDJ	**Mount Denham**	**12.51**	**64**	*e*Pn	**Pn**	**11 17 05.6**	**+0.1**
034A	**Hebbronville**	**16.51**	**329**	⇑P	**P**	**11 17 59.9**	**+1.3**
	baz=17						
934A	**Benavides**	**16.88**	**331**	⇑P	**P**	**11 18 03.8**	**+1.1**
	baz=17						
933A	**Laredo**	**17.25**	**329**	⇑P	**P**	**11 18 08.0**	**+1.1**
	baz=17						
834A	**Tilden**	**17.33**	**332**	⇓P	**P**	**11 18 09.7**	**+1.9**
	baz=17						
636A	**Smothers Creek**	**17.90**	**338**	⇑P	**Pn**	**11 18 15.9**	**+1.6**
	baz=18						
833A	**Chaparral WMA,**	**17.90**	**330**	⇑P	**Pn**	**11 18 15.9**	**+1.6**
	baz=18						
734A	**La Parita Cree**	**17.95**	**333**	⇑P	**Pn**	**11 18 15.9**	**+1.0**
	baz=18						
832A	**Faith Ranch, C**	**18.16**	**329**	⇑P	**Pn**	**11 18 18.6**	**+1.2**
	baz=18						
733A	**Divot King Ran**	**18.18**	**331**	⇓P	**Pn**	**11 18 18.1**	**+0.4**
	baz=18,SNR=11						
537A	**Green Hill Far**	**18.19**	**340**	⇓P	**Pn**	**11 18 19.0**	**+1.2**
	baz=18						
633A	**Saathoff Ranch**	**18.75**	**332**	⇑P	**Pn**	**11 18 24.6**	**0.0**
	baz=19,SNR=7.2						
SDV	**Santo Domingo**	**18.82**	**101**	*e*Pn	**P**	**11 18 24.6**	**+0.2**
	comp=Z,7.1nm,0.7s						
534A	**Blanco**	**18.94**	**335**	⇑P	**P**	**11 18 26.1**	**+0.7**
	baz=19,SNR=5.6						
632A	**Uvalde**	**19.07**	**331**	⇓P	**Pn**	**11 18 28.7**	**+0.2**
	baz=19						
533A	**Kerrville**	**19.22**	**334**	⇓P	**P**	**11 18 29.0**	**+0.6**
	baz=19						
435B	**Jarrell**	**19.27**	**338**	⇓P	**P**	**11 18 29.6**	**+0.6**
	baz=19						
631A	**Perdido Creek**	**19.38**	**329**	⇓P	**Pn**	**11 18 31.8**	**-0.3**
	baz=20						
239A	**Gary**	**19.51**	**347**	⇓P	**P**	**11 18 32.0**	**+0.4**
	baz=20						
434A	**Burnet**	**19.55**	**337**	⇑P	**P**	**11 18 32.4**	**+0.3**
	baz=20,SNR=6.8						
532A	**Rocksprings**	**19.65**	**332**	⇑P	**P**	**11 18 33.8**	**+0.6**
	baz=20,SNR=14						
335A	**Moody**	**19.66**	**339**	⇑P	**P**	**11 18 33.9**	**+0.6**
	baz=20						
433A	**Art**

Y32A	R-V Farms, Ver baz=23	22.84	338	⇑P	P	11 19 07.0	-0.4
X34A	Smith Ranch, M baz=23	22.85	342	⇓P	P	11 19 06.9	-0.6
Z30A	Sanderson Ranc baz=23,SNR=7.2	22.88	334	⇑P	P	11 19 07.0	-0.9
128A	Castleberry Fa baz=23	22.94	331	⇓P	P	11 19 08.3	-0.2
X33A	Lawton baz=23	23.00	340	⇑P	P	11 19 08.6	-0.4
Z29A	Hungry Hill Ra baz=23	23.11	333	⇑P	P	11 19 09.8	-0.4
Y31A	Rekieta Farm, baz=23,SNR=9.3	23.12	336	⇑P	P	11 19 09.7	-0.5
X32A	Elmer baz=23	23.16	339	⇑P	P	11 19 10.2	-0.4
UTMT	University of comp=Z,308nm,0.4s	23.25	1	eP	P	11 19 07.5	-3.8
WMOK	Wichita Mounta comp=Z,156nm,1.2s	23.28	340	eP	P	11 19 10.8	-0.8
WMOK				epP	pP	11 19 24.9	-2.6
Y30A	Stafford Cattl baz=23	23.30	335	⇑P	P	11 19 11.7	-0.2
W34A	Bridge Creek, comp=Z,20nm,0.9s	23.42	342	eP	P	11 19 12.5	-0.4
W34A				epP	pP	11 19 27.6	-1.4
W34A	Bridge Creek, baz=24	23.42	342	⇓P	P	11 19 13.0	0.0
Z28A	Tucker Farm, M baz=24	23.45	332	⇓P	P	11 19 12.9	-0.4
TUL1	Leonard comp=Z,10nm,0.8s	23.55	347	eP	P	11 19 14.1	0.0
TUL1				epP	pP	11 19 37.5	+7.2
X31A	McDonald Ranch baz=24,SNR=8.5	23.60	338	⇓P	P	11 19 14.3	-0.3
Y29A	Porterfield Fa baz=24	23.61	334	⇓P	P	11 19 15.0	+0.2
PBMO	Poplar Bluff comp=Z,7.3nm,0.9s	23.70	358	eP	P	11 19 16.0	+0.6
MNTX	Cornudas Mount baz=24	23.74	324	⇑P	P	11 19 16.7	+0.8
X30A	Coker Ranch, T baz=24,SNR=14	23.78	336	⇓P	P	11 19 16.4	+0.1
W32A	Sentinel baz=24	23.78	340	⇑P	P	11 19 16.5	+0.2
Y28A	McKinney Farm, baz=24	23.90	333	⇓P	P	11 19 17.3	-0.1
X29A	Tulia baz=24	24.12	334	⇓P	P	11 19 19.8	+0.4
MSTX	Muleshoe comp=Z,13nm,1.1s	24.19	332	eP	P	11 19 20.4	+0.4
MSTX				epP	pP	11 19 38.1	+1.1
MSTX	Muleshoe baz=24,SNR=6.8	24.19	332	⇑P	P	11 19 19.7	-0.3
X28A	Dimmitt baz=24	24.40	334	⇓P	P	11 19 22.5	+0.7
CNNC	Cliffs of the comp=Z,168nm,0.4s	24.45	23	eP	P	11 19 20.6	-1.6
AMTX	Amarillo comp=Z,17nm,1.4s	24.49	335	eP	P	11 19 23.7	+1.0
AMTX	Amarillo baz=25	24.49	335	⇑P	P	11 19 23.2	+0.5
V31A	Spring Creek L baz=25	24.58	339	⇑P	P	11 19 23.7	+0.3
W29A	Amarillo baz=25	24.68	335	⇓P	P	11 19 24.7	+0.3
S36A	Lake Cedric, C baz=25	25.25	348	⇑P	P	11 19 29.6	+0.1
V27A	Dan Oppiter Fa baz=26	25.72	334	⇓P	P	11 19 34.4	+0.5
U27A	Thompson Grove baz=26	26.28	335	⇑P	P	11 19 39.6	+0.6
T28A	Walsh baz=27	26.61	337	⇓P	P	11 19 42.0	+0.1
Q33A	Connelly Farm, baz=27	26.97	345	⇑P	P	11 19 45.5	+0.5
T25A	Trinidad baz=28	27.57	333	⇓P	P	11 19 51.3	+0.7
R28A	Tribune baz=28	27.57	338	⇑P	P	11 19 50.1	-0.4
S26A	Kim baz=28	27.58	335	⇑P	P	11 19 51.1	+0.5
R27A	Eads baz=28	27.89	337	⇑P	P	11 19 53.8	+0.5
KSCO	Kaye Shedlock' baz=29	28.46	338	⇓P	P	11 19 58.8	+0.3
SDCO	Great Sand Dun baz=29	28.55	333	⇓P	P	11 20 00.7	+1.2
S22A	4UR Ranch, Cre comp=Z,28nm,2.6s	29.17	331	eP	P	11 20 07.0	+2.0
S22A	4UR Ranch, Cre baz=29	29.17	331	⇓P	P	11 20 06.1	+1.1
BGNE	Belgrade comp=Z,151nm,0.6s	29.33	346	eP	P	11 20 08.6	+2.5
BGNE				epP	pP	11 20 29.2	+5.8
Q23A	Hartsel baz=30	29.66	333	⇑P	P	11 20 10.0	+0.7
P23A	Jefferson baz=30	30.05	334	⇓P	P	11 20 13.3	+0.5
P22A	Eagle baz=31	30.63	333	⇓P	P	11 20 18.2	+0.4
O23A	Lake Granby, G baz=31	30.78	335	⇑P	P	11 20 19.1	-0.1
O22A	Kremmling baz=31	31.01	334	⇓P	P	11 20 21.5	+0.3
BC3	Big Chuckawall baz=32	31.43	315	⇓P	P	11 20 27.0	+2.2
N22A	Wattenberg Ran baz=32	31.50	335	⇓P	P	11 20 26.4	+0.9
MONP	Monument Peak, baz=32	31.68	313	⇓P	P	11 20 26.6	-0.5
O20A	White River Ci baz=32	31.74	332	⇓P	P	11 20 29.2	+1.7
J29A	Okreek baz=32	31.75	345	⇑P	P	11 20 28.3	+1.0
N20A	Spence Gulch, baz=32	32.31	333	⇑P	P	11 20 33.6	+1.1
L23A	Garrett baz=32	32.31	337	⇓P	P	11 20 33.4	+0.8
I29A	Vivian Onida baz=32	32.32	345	⇑P	P	11 20 33.3	+1.0
H29A	Onida baz=33	32.87	346	⇑P	P	11 20 36.7	-0.4
J24A	Dixon Ranch, L baz=33	32.99	339	⇑P	P	11 20 36.6	-1.7
G30A	Faulkton baz=33	33.10	347	⇑P	P	11 20 39.7	+0.6
H27A	Howes baz=34	33.36	343	⇓P	P	11 20 42.6	+1.2
J21A	Lysite baz=34	34.03	336	⇑P	P	11 20 49.2	+1.7
G26A	Maurine baz=34	34.11	343	⇑P	P	11 20 48.9	+0.9
I22A	9 Mile Ranch, baz=34	34.13	338	⇑P	P	11 20 49.0	+0.8
H24A	Dirks Ranch, A baz=34	34.21	341	⇑P	P	11 20 50.2	+1.3
I21A	Big Trails, Te baz=34	34.37	337	⇑P	P	11 20 51.0	+0.6
PDAR	Pinedale Array comp=Z,0.4nm,0.5s,baz=118,slow=9.8,SNR=4.8	34.44	333	P	P	11 20 51.6	+0.6
J19A	Crowheart baz=35	34.62	334	⇑P	P	11 20 53.7	+1.1
F26A	Lodgepole baz=35	34.64	344	⇑P	P	11 20 53.9	+1.3
I20A	Worland baz=35	34.81	336	⇑P	P	11 20 55.3	+1.2
H21A	Big Horn, Sher baz=35	34.97	338	⇑P	P	11 20 56.2	+0.8
F24A	Ekalaka baz=35	35.16	342	⇑P	P	11 20 57.7	+0.7
F23A	Volborg baz=36	35.35	340	⇑P	P	11 20 59.6	+0.9
E25A	Miller Ranch, baz=36	35.44	343	⇑P	P	11 21 00.1	+0.7
REDW	Red Top Meadow	35.49	333	eP	P	11 21 01.8	+1.7
G21A	Lodge Grass baz=36	35.54	338	⇑P	P	11 21 01.1	+0.8
E24A	Baker baz=36	35.76	342	⇑P	P	11 21 03.4	+1.3
MDND	Maddock baz=36	35.79	348	⇑P	P	11 21 03.1	+0.8
I17A	Pilgrim Ck. baz=36	35.81	333	⇓P	P	11 21 03.8	+1.0
G20A	Bridger baz=36	35.91	337	⇑P	P	11 21 04.2	+0.6
H18A	Shoshone NF, C baz=36	36.03	335	⇑P	P	11 21 04.9	+0.1
NVAR	Mina Array Bea comp=Z,1.7nm,0.8s,baz=119,slow=9.4,SNR=12	36.09	320	P	P	11 21 07.3	+2.1
NVAR				pP	pP	11 21 23.7	+0.8
D23A	Lindsay baz=37	36.58	342	⇓P	P	11 21 10.4	+1.3
E21A	Keefer Ranch, baz=37	36.63	339	⇑P	P	11 21 10.7	+1.2
A29A	Manning Farm, baz=37	36.75	349	⇑P	P	11 21 10.7	+0.3
D22A	Cohagen baz=37,SNR=5.3	36.86	341	⇑P	P	11 21 12.2	+0.7
E20A	Meyer Farm, Mu baz=37	36.97	338	⇑P	P	11 21 13.8	+1.3
C23A	Lambert baz=37	37.14	342	⇓P	P	11 21 15.3	+1.4
E19A	Rath Farm, Rou baz=37	37.17	338	⇓P	P	11 21 15.5	+1.3
C22A	Vida baz=37	37.30	342	⇓P	P	11 21 16.3	+1.1
HLID	Hailey baz=37	37.32	329	⇑P	P	11 21 17.6	+2.0
DGMT	Dagmar	37.46	344	eP	P	11 21 17.5	+1.0
DGMT	Dagmar baz=38	37.46	344	⇑P	P	11 21 17.6	+1.0
D20A	Manuel Ranch, baz=38	37.47	339	⇓P	P	11 21 18.0	+1.3
ULM	Lac du Bonnet comp=Z,1.0nm,0.4s,baz=166,slow=7.9,SNR=4.8	37.53	353	P	P	11 21 15.5	-1.6
B23A	Brockton baz=38	37.68	343	⇑P	P	11 21 19.8	+1.4
C21A	Desert Coulee baz=38	37.76	340	⇓P	P	11 21 20.5	+1.4
D19A	Cripps Ranch, baz=38	37.80	338	⇑P	P	11 21 21.0	+1.5
A24A	Westby baz=38	37.82	344	⇑P	P	11 21 21.4	+1.8
C20A	Veseth Ranch, baz=38	37.96	339	⇓P	P	11 21 22.6	+1.8
C19A	Slack Wire Ran baz=38	38.34	338	⇓P	P	11 21 25.3	+1.3
A22A	Carney Farms, baz=38	38.42	342	⇑P	P	11 21 26.0	+1.4
B20A	Solberg Farm, baz=39	38.59	340	⇓P	P	11 21 27.4	+1.3
EGMT	Eagleton baz=39	38.84	338	⇓P	P	11 21 29.6	+1.4
B19A	Brinkman Farms baz=39	38.92	339	⇓P	P	11 21 30.4	+1.5
A20A	Cobblestone Ra baz=39	38.95	340	⇑P	P	11 21 30.3	+1.3
SCHQ	Schefferville comp=Z,1.0nm,0.5s,baz=174,slow=9.2,SNR=3.0	45.32	18	P	P	11 22 19.3	-1.5
YKA	Yellowknife Ar comp=Z,1.6nm,0.8s,baz=142,slow=7.7,SNR=17	52.62	346	P	P	11 23 16.2	-0.2
ILAR	Eielson Array comp=Z,0.3nm,0.8s,baz=161,slow=4.7,SNR=4.1	64.78	336	P	P	11 24 40.7	-0.1
ILAR				pP	pP	11 25 00.3	+0.3
HHC	Hu-ho-hao-te comp=Z,0.6nm,0.9s,baz=159,slow=3.6,SNR=3.8	123.03	341	ePKP	PKPdf	11 32 55.7	-3.1
HHC				PP	PP	11 34 38.9	+1.4
HHC				PKS	PKSdf	11 36 30.8	-4.7
HHC				SKS	SKSdf	11 40 02.2	-2.4
HHC	Hu-ho-hao-te comp=Z,58nm,10.0s	123.03	341	SS	SS	11 51 14.5	-1.1
HHC				AMB	AMB		
HHC	comp=N,160nm,17.4s			LR	LR		
HHC	comp=E,110nm,14.9s			LR	LR		
HHC	comp=Z,110nm,13.7s			LR	LR		
LZH	Lanzhou	129.62	346	ePKP	PKPdf	11 33 08.4	-3.2
LZH				sPKP		11 33 45.7	
WRA	Warramunga Arr comp=Z,0.2nm,0.6s,baz=90,slow=2.6,SNR=3.1	137.63	255	PKP	PKPdf	11 33 29.3	+2.5
WRA				pPKP	pPKPdf	11 33 47.4	-0.3
	comp=Z,0.5nm,0.8s,baz=91,slow=2.7,SNR=2.5						

MAN 03 11:25:15,13°.78N×120°.90E,h7km,mb4.5,ML3.3,MS3.2, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BALP	Baler	2.06	19	eP	Pn	11 25 49.3	-0.7
BALP				eS	Sn	11 26 15.9	0.0

*ISCJB **03** 11:32:19.9±0.4,27°.65N±0°.05×141°.9E±0°.1,h39km, mb3.9/11,Error ellipse: s-maj=19.1km s-min=3.7km az=162.8*
*IDC **03** 11:32:21.7±2.7,27°.59N×141°.85E,h36km±24km,mb3.8/9, mb1 4.0/10,mb1mx3.8/23,mbtmp4.0/10,ML3.7/1,Error ellipse: s-maj=31.9km s-min=12.9km az=78.0*
*NEIC **03** 11:32:22.4±0.7,27°.57N×141°.86E,h44km±7km,mb4.4/1, Error ellipse: s-maj=17.9km s-min=6.0km az=79.0*
*JMA **03** 11:32:23.7,27°.47N×142°.46E,h37km,M4.1*

ISC 03 11:32:21.8±0.6,27°.60N±0°.06×141°.9E±0°.2,h39km,n32, σ0s75/35,mb4.1/11,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	Chichi jima	0.55	154	P	Pn	11 32 33.5	+0.2
CBIJ				eS	Sn	11 32 40.5	-0.8
CBIJ	Chichi jima	0.55	154	Pn	Pn	11 32 33.5	+0.2
CBIJ				Sn	Sn	11 32 40.6	-0.8
JCJ	Chichijima 669nm,0.3s,baz=281,slow=21,SNR=258	0.56	154	Pn	Pn	11 32 33.5	+0.2
JCJ				Sn	Sn	11 32 40.6	-0.7
JHHJ	Haha-jima-NKT	0.99	166	P	Pn	11 32 39.7	+0.5
JHHJ				eS	Sn	11 32 51.4	-0.6
BSO1	Boso 1	7.08	354	P	Pn	11 34 03.7	+1.4
BSO1				eS	Sn	11 35 20.3	-1.0
JHU	Hanno	8.53	345	P	Pn	11 34 24.1	+1.4
JHU				eS	Sn	11 35 57.2	-0.5
JRY	Ryogami san	8.78	344	P	Pn	11 34 27.4	+1.3
JAG	Ashikaga	9.05	347	P	Pn	11 34 29.9	+0.1
JHO	Hitachi	9.06	353	P	Pn	11 34 29.5	-0.5
MJAR	Matsushiro Arr 0.8nm,0.3s,baz=196,slow=20,SNR=12	9.46	342	Pn	Pn	11 34 36.6	+1.2
MJAR				Sn	Sn	11 36 18.7	-1.7
MAJO	Matsushiro	9.46	342	ePn	Pn	11 34 36.5	+1.1
JMK	Ichinoseki	11.34	357	eS	Sn	11 36 58.9	-7.6
YSS	Yuzh-Sakhalins	19.33	2	eP	P	11 36 43.7	+0.1
H11N2	WAKE ISLAND Hy baz=294,slow=75,SNR=17	24.15	104	T	T	12 02 23.7	
H11N1	WAKE ISLAND Hy baz=294,slow=75,SNR=12	24.16	104	T	T	12 02 27.4	
H11N3	WAKE ISLAND Hy baz=294,slow=75,SNR=12	24.17	104	T	T	12 02 27.1	
H11S3	WAKE ISLAND Hy baz=297,slow=75,SNR=91	24.49	106	T	T	12 02 51.6	
H11S1	WAKE ISLAND Hy baz=297,slow=75,SNR=57	24.50	106	T	T	12 02 55.0	
H11S2	WAKE ISLAND Hy baz=297,slow=75,SNR=54	24.51	106	T	T	12 02 56.5	
WRAB	Tennant Creek 2.5nm,0.6s	47.81	190	eP	P	11 40 55.5	-0.1
WRA	Warramunga Arr 2.6nm,0.4s,baz=12,slow=8.7,SNR=50	47.83	190	P	P	11 40 55.8	+0.1
WRA				PcP	PcP	11 42 24.7	+0.6
ZALV	Zalesovo Beam 1.0nm,0.5s,baz=103,slow=6.4,SNR=5.5	48.95	319	PcP	PcP	11 42 27.5	-0.3
MKAR	Makanchi Array 0.1nm,0.4s,baz=76,slow=6.1,SNR=2.7	49.97	309	P	P	11 41 10.7	-1.3
MKAR				PcP	PcP	11 42 31.9	+0.2
ASAR	Alice Springs 0.3nm,0.4s,baz=17,slow=8.8,SNR=22	51.55	189	P	P	11 41 23.8	-0.2
ASAR				PcP	PcP	11 42 38.2	+0.6
ILAR	Eielson Array 0.3nm,0.7s,baz=255,slow=5.2,SNR=5.0	57.39	29	P	P	11 42 06.4	+0.4
STKA	Stephens Creek 2.5nm,0.6s,baz=356,slow=8.0,SNR=5.6	59.15	180	P	P	11 42 18.6	0.0
YKA	Yellowknife Ar 0.3nm,0.7s,baz=291,slow=5.9,SNR=5.4	71.82	28	P	P	11 43 40.3	+0.2
ARCES	ARCESS Array B 4.7nm,1.0s,baz=53,slow=5.6,SNR=5.4	72.99	341	P	P	11 43 47.5	+0.4
FINES	FINESS Array B 2.9nm,0.4s,baz=88,slow=4.7,SNR=25	77.39	334	P	P	11 44 12.7	+0.3
AKASG	Malin Array Be	82.07	324	P	P	11 44 37.7	-0.3
	0.2nm,0.3s,baz=52,slow=5.3,SNR=5.2						
NB2	NORSAR Subarra comp=Z,0.9nm,0.5s,baz=46,slow=5.3	83.06	338	P	P	11 44 42.9	-0.1
NOA	NORSAR Array B comp=Z,0.9nm,0.6s,baz=44,slow=7.9,SNR=3.3	83.06	338	P	P	11 44 43.3	+0.2

KRSC 03 11:33:50.7±1.5,55°.50N×166°.08E,h39km±13km,ML3.9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	Bering	0.31	191	P	Pn	11 33 59.5	+0.5
BKI				S	Sn	11 34 05.0	-0.1
KBTR	Krutoberegovo	1.97	292	P	Pn	11 34 22.6	+1.1
KBTR				S	Sn	11 34 46.8	+1.9
MKZ	Mys Kozlova	2.68	251	P	Pn	11 34 34.5	+3.3
MKZ				S	Sn	11 35 06.0	+3.7
SMKR	Semkarok	2.80	295	P	Pn	11 34 35.8	+2.7
BDR	Baidarnaya	2.93	293	P	Pn	11 34 38.3	+3.4
SRKR	Sorokina	2.98	295	P	Pn	11 34 38.8	+3.2
KLY	Klyuchi	3.16	287	P	Pn	11 34 38.3	+0.5
KMNR	Kamenistaya	3.32	277	P	Pn	11 34 44.6	+4.4
KZV	Kizimen	3.33	266	P	Pn	11 34 44.4	+4.0
KZV				S	Sn	11 35 24.1	+5.3
TUMR	Tumrok	3.39	269	P	Pn	11 34 45.9	+4.7
TUMR				S	Sn	11 35 25.3	+5.1
SRDR	Sredinnyy	3.67	285	P	Pn	11 34 49.0	+4.0
SPN	Mys Shipunski	4.29	238	P	Pn	11 34 56.8	+3.5
SPN				S	Sn	11 35 44.9	+2.8
SDLR	Sedlovina	4.76	245	P	Pn	11 35 04.7	+4.7
SDLR				S	Sn	11 35 59.0	+5.0
SMAR	Somma	4.81	245	P	Pn	11 35 05.7	+4.9
SMAR				S	Sn	11 36 00.4	+5.0
KRER	Koryakskii	4.81	246	P	Pn	11 35 06.1	+5.2
KRER				S	Sn	11 36 01.8	+6.3
UGLR	Uglovaya	4.82	245	P	Pn	11 35 05.5	+4.6
UGLR				S	Sn	11 36 00.4	+4.8
KRX	Arik	4.84	247	P	Pn	11 35 06.1	+5.0
KRX				S	Sn	11 36 00.9	+4.9
AVH	Avacha	4.84	245	P	Pn	11 35 06.1	+5.0
AVH				S	Sn	11 36 01.5	+5.6
KOK	Koryaka	4.88	246	P	Pn	11 35 06.7	+5.1
PET	Petropavlovsk	5.01	243	P	Pn	11 35 07.3	+4.0
PET				S	Sn	11 36 03.7	+3.9
GNL	Ganaly	5.07	252	P	Pn	11 35 09.2	+5.0
RUS	Russkaya	5.42	239	P	Pn	11 35 12.9	+4.0
RUS				S	Sn	11 36 13.1	+3.2
MTVR	Mutnovka	5.55	240	P	Pn	11 35 15.6	+4.7
MTVR				S	Sn	11 36 16.6	+3.0
ASAK	Asacha	5.75	240	P	Pn	11 35 18.6	+5.0
ASAK				S	Sn	11 36 23.1	+4.8
APC	Apacha	5.83	247	P	Pn	11 35 20.3	+5.7

*IDC **03** 11:38:42.3±12.0,12°.19S×167°.06E,h144km±111km, mb3.6/12,mb1 3.8/12,mb1mx3.7/20,mbtmp3.9/12,Error ellipse: s-maj=34.6km s-min=20.7km az=84.0*
*ISCJB **03** 11:38:49.1±0.8,12°.3S±0°.1×166°.9E±0°.2,h220km, mb3.6/12,Error ellipse: s-maj=26.9km s-min=16.2km az=33.4*

ISC 03 11:38:50.6±0.9,12°.2S±0°.2×167°.0E±0°.2,h220km,n13, σ0s85/13,mb3.7/12,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek 2.3nm,0.9s,baz=40,slow=17,SNR=2.3	30.44	226	P	P	11 44 43.1	+0.4
WRA	Warramunga Arr 0.4nm,0.7s,baz=80,slow=8.9,SNR=5.0	32.22	252	P	P	11 44 57.4	-1.1
ASAR	Alice Springs 0.8nm,0.7s,baz=72,slow=9.6,SNR=12	33.35	245	P	P	11 45 07.2	-1.1
MJAR	Matsushiro Arr 1.3nm,0.7s,baz=169,slow=8.3,SNR=8.0	55.57	332	P	P	11 48 02.5	-0.9
ASAJ	Asahikawa 4.3nm,0.9s,baz=109,slow=9.7,SNR=4.2	60.31	340	P	P	11 48 36.6	+0.6
VNDA	Vanda 0.3nm,0.5s,baz=339,slow=6.7,SNR=4.8	65.33	181	P	P	11 49 09.2	+0.5
CMAR	Chiang Mai Arr 0.6nm,0.4s,baz=125,slow=5.5,SNR=4.0	73.67	293	P	P	11 50 01.4	+0.7
SONM	Songino Array 0.3nm,0.6s,baz=103,slow=4.6,SNR=2.8	80.32	323	P	P	11 50 38.5	+1.2
ILAR	Eielson Array 3.3nm,0.6s,baz=236,slow=5.4,SNR=79	84.26	18	P	P	11 50 56.8	-0.3
NVAR	Mina Array Bea 0.8nm,0.8s,baz=240,slow=8.2,SNR=5.7	85.88	49	P	P	11 51 06.2	+0.1
MKAR	Makanchi Array 0.3nm,0.6s,baz=92,slow=3.6,SNR=7.9	95.20	317	P	P	11 51 49.4	+0.3
YKA	Yellowknife Ar 0.3nm,0.4s,baz=259,slow=4.8,SNR=5.8	95.48	27	P	P	11 51 48.9	-1.0
ARCES	ARCESS Array B 2.0nm,0.6s,baz=62,slow=1.9,SNR=8.6	117.78	346	PKP	PKPdf	11 57 09.9	-0.2

DJA 03 12:03:49.7±0.6,1°.5S±5°.×13°.1E±°,h31km±3km,M3.6/2, MLv3.6/2,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SWI	Sorong	0.13	142	P	Pn	12 03 55.8	+0.2
SWI				S	Sb	12 04 01.4	+2.1
FAKI	Fak Fak	2.40	154	P	Pn	12 04 27.9	+1.0
FAKI				S	Sn	12 04 57.0	+1.8
MSAI	Masohi	3.42	221	P	Pn	12 04 40.0	-0.9
LBMI	Labuha	3.68	272	P	Pn	12 04 44.6	+0.1
BNDI	Bandanaira	3.95	199	P	Pn	12 04 48.7	+0.5

*IDC **03** 12:26:36.6±0.5,34°.02S×73°.32W,h0km,mb4.4/9, mb1 4.5/11,mb1mx4.3/18,mbtmp4.3/11,ML4.1/3,MS3.8/6, Ms1 3.8/6,ms1mx3.4/25,Error ellipse: s-maj=25.5km s-min=15.2km az=78.0*
*ISCJB **03** 12:26:37.1±1.7,33°.97S±0°.03×73°.27W±0°.03,h8km±10km, mb4.6/37,MS3.8/3,Error ellipse: s-maj=6.0km s-min=4.1km az=27.0*
*GUC **03** 12:26:39.3±0.6,33°.97S×73°.19W,h17km±4km,ML4.5*
*NEIC **03** 12:26:41.3±2.1,33°.98S×73°.15W,h27km±14km,mb4.7/29, Error ellipse: s-maj=9.9km s-min=5.4km az=69.0*
NEIC Felt at Vina del Mar.

ISC 03 12:26:41.4±0.9,33°.97S±0°.04×73°.26W±0°.07,h32km±5km, n319,σ1s17/339,mb4.7/37,MS3.7/3,114C-109D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHA	Instituto Hidr	1.65	55	⇑iP	Pn	12 27 06.4	-1.7
IHA				iS	Sn	12 27 26.9	-1.3
TALC	Talca	1.95	137	⇑iP	Pn	12 27 11.2	-1.2
TALC				iS	Sn	12 27 35.5	-0.2
NICH	Los Niches	1.96	122	⇑iP	Pn	12 27 12.0	-0.6
NICH				iS	Sn	12 27 36.2	+0.1
ROCH	El Roble	2.12	63	⇓iP	Pn	12 27 13.8	-1.2
ROCH				iS	Sn	12 27 40.2	-0.1
ROCH	comp=E,3μm,0.7s			AML	AML	12 27 43.9	
PEL	Peldehue	2.30	70	⇓iP	Pn	12 27 16.8	-0.4
PEL				iS	Sn	12 27 45.4	+1.0
PEL	comp=N,6μm,0.6s			AML	AML	12 27 46.7	
LNCH	Linares	2.31	144	⇑iP	Pn	12 27 17.1	-0.2
CLCH	Cerro Calan	2.34	77	⇑iP	Pn	12 27 17.3	-0.5
CLCH				iS	Sn	12 27 46.3	+0.9
CLCH	comp=E,3μm,0.7s			AML	AML	12 27 51.6	
CLCH				AML	AML	12 27 52.2	
CFAA	Coronel Fontan comp=E,1.6nm,0.3s,baz=240,slow=8.1,SNR=66	4.84	62	Pn	Pn	12 27 52.8	+0.7
CFAA				Sn	Sn	12 28 48.9	+1.8
CFAA	comp=E,3.5nm,0.3s,baz=192,slow=19,SNR=5.9			LR	LR	12 30 00.7	
LCO	Las Campanas comp=E,106nm,18.4s,baz=170,slow=42	5.40	24	ePn	Pn	12 27 57.8	-2.4
PLCA	Paso Flores comp=E,2.9nm,0.3s,baz=336,slow=12,SNR=93	7.08	163	Pn	Pn	12 28 22.6	-0.4
PLCA				Sn	Sn	12 29 42.7	+0.3
CPUP	Villa Florida comp=E,0.1nm,0.3s,baz=256,slow=19,SNR=3.2	15.73	65	Pn	Pn	12 30 21.1	+0.4
CPUP				LR	LR	12 37 02.6	
LPAZ	La Paz comp=E,2μm,19.9s,baz=256,slow=40	18.20	16	LR	LR	12 37 18.5	

comp=E,148nm,20.9s,baz=291,slow=35
NNA Nana 22.13 351 P P 12 31 35.1 +0.6
comp=E,4.2nm,0.4s,baz=213,slow=9.5,SNR=3.7
BDFB Brasilia 29.16 57 LR LR 12 45 26.2
comp=E,205nm,20.9s,baz=227,slow=39
PTGA Pitinga 35.34 23 LR LR 12 49 09.0
comp=E,150nm,21.1s,baz=194,slow=38
SDV Santo Domingo 42.69 4 eP P 12 34 35.4 -0.3
comp=E,6.1nm,0.8s
RCBR Riachuelo 44.49 59 LR LR 12 53 26.7
comp=E,162nm,18.2s,baz=224,slow=36
VNA3 Neumayer Olymp 49.77 158 P P 12 35 31.4 +0.9
VNA1 Neumayer--Stat 50.10 157 P P 12 35 34.0 +1.1
VNA2 Neumayer--Watz 50.43 157 P P 12 35 36.3 +0.8
baz=289,slow=9.2
SNAA Sanae 51.99 158 P P 12 35 48.3 +0.9
SNAA Sanae 51.99 158 P P 12 35 48.0 +0.6
comp=E,2.7nm,0.6s,baz=286,slow=8.0,SNR=43
SNAA Sanae 51.99 158 eP P 12 35 48.2 +0.9
comp=E,8.0nm,0.7s
QSPA South Pole Qui 56.26 180 P P 12 36 18.6 0.0
comp=E,4.7nm,1.1s,baz=172,slow=5.7,SNR=7.6
QSPA South Pole Qui 56.26 180 eP P 12 36 19.2 +0.6
035A Encino 65.00 336 ⇑P P 12 37 19.3 +1.0
baz=65
034A Hebbronville 65.32 335 ⇓P P 12 37 21.6 +1.2
baz=66
933A Laredo 66.03 335 ⇓P P 12 37 26.5 +1.5
baz=66
835A Beeville 66.15 336 ⇓P P 12 37 27.7 +2.0
baz=66
834A Tilden 66.25 336 ⇓P P 12 37 28.3 +2.0
baz=67
736A Circle Diamond 66.52 337 ⇓P P 12 37 30.6 +2.5
baz=67
833A Chaparral WMA, 66.72 335 ⇓P P 12 37 30.5 +1.1
baz=67,SNR=6.6
832A Faith Ranch, C 66.89 334 ⇑P P 12 37 31.2 +0.7
baz=67,SNR=6.2
636A Smothers Creek 67.00 338 ⇓P P 12 37 32.6 +1.5
baz=67
733A Divot King Ran 67.05 335 ⇓P P 12 37 32.7 +1.2
baz=67
732A Laxson Ranch, 67.30 335 ⇑P P 12 37 33.4 +0.4
baz=68,SNR=5.6
632A Uvalde 67.94 335 ⇓P P 12 37 37.7 +0.6
baz=68,SNR=6.5
631A Perdido Creek 68.13 334 ⇑P P 12 37 39.4 +1.1
baz=68
533A Kerrville 68.20 336 ⇓P P 12 37 39.8 +1.1
baz=69
532A Rocksprings 68.55 335 ⇑P P 12 37 41.9 +0.9
baz=69,SNR=14
239A Gary 68.61 341 ⇓P P 12 37 42.5 +1.2
baz=69
434A Burnet 68.63 337 ⇓P P 12 37 42.1 +0.7
baz=69,SNR=6.8
336A Riesel 68.71 338 ⇑P P 12 37 43.1 +1.2
baz=69
238A Jacksonville 68.78 340 ⇓P P 12 37 43.5 +1.2
baz=69
335A Moody 68.79 338 ⇓P P 12 37 43.4 +1.0
baz=69
531A Rocksprings 68.81 335 ⇑P P 12 37 43.4 +0.8
baz=69,SNR=8.5
JCT Junction City 68.83 336 eP P 12 37 43.8 +1.1
comp=E,15nm,0.9s
JCT Junction City 68.83 336 ⇓P P 12 37 43.8 +1.1
baz=69
433A Art 68.84 336 ⇑P P 12 37 43.2 +0.5
baz=69,SNR=15
237A Washetta, Mont 68.98 340 ⇓P P 12 37 44.5 +1.0
baz=69
530A J-C Ranch, Com 69.08 334 ⇑P P 12 37 45.2 +1.0
baz=69,SNR=11
432A Menard 69.19 336 ⇑P P 12 37 45.6 +0.7
baz=70
TXAR Lajitas Array 69.22 332 P P 12 37 45.9 +0.7
comp=E,3.9nm,0.6s,baz=155,slow=8.3,SNR=59
431A Sonora 69.30 335 ⇓P P 12 37 46.1 +0.4
baz=70
333A Richland Sprin 69.33 337 ⇑P P 12 37 46.1 +0.3
baz=70,SNR=7.7
529A Stev Forest Ra 69.38 333 ⇑P P 12 37 46.8 +0.7
baz=70,SNR=14
WHTX Lake Whitney, 69.46 338 eP P 12 37 47.0 +0.5
comp=E,15nm,0.9s
WHTX Lake Whitney, 69.46 338 ⇑P P 12 37 47.6 +1.1
baz=70
137A Heron Place, G 69.52 340 ⇓P P 12 37 47.8 +1.0
baz=70
430A Baggett Ranch, 69.62 334 ⇑P P 12 37 48.0 +0.4
baz=70,SNR=8.4
332A Millersview 69.64 336 ⇑P P 12 37 47.9 +0.2
baz=70,SNR=6.9
234A Clairette 69.69 338 ⇑P P 12 37 48.9 +1.0
baz=70
429A Davenport Ranc 69.71 334 ⇓P P 12 37 48.7 +0.6
baz=70,SNR=7.1
331A San Angelo 69.81 335 ⇑P P 12 37 48.8 +0.1
baz=70,SNR=6.2
CPCT Cooper Cave 69.86 350 eP P 12 37 49.4 +0.5
233A Rising Star 69.94 337 ⇓P P 12 37 49.9 +0.3
baz=70,SNR=5.0
232A Coleman 70.07 336 ⇓P P 12 37 50.5 +0.2
baz=70,SNR=8.0
330A Mertzon 70.16 335 ⇓P P 12 37 50.8 -0.1
baz=70,SNR=6.8
231A Bronte 70.34 336 ⇓P P 12 37 52.2 +0.2
baz=71,SNR=6.8
133A Hamilton Ranch 70.49 337 ⇑P P 12 37 53.4 +0.5
baz=71,SNR=5.4
329A Wagon Wheel Ra 70.52 334 ⇑P P 12 37 53.8 +0.7
baz=71
230A Sterling City 70.57 335 ⇑P P 12 37 54.0 +0.6
baz=71
Z35A Perchaven, San 70.64 339 ⇓P P 12 37 54.5 +0.7
baz=71
ABTX Abilene, Hawle 70.74 337 eP P 12 37 55.0 +0.5
ABTX Abilene, Hawle 70.74 337 ⇓P P 12 37 54.8 +0.3
baz=71,SNR=5.9
MIAR Mount Ida 70.77 342 eP P 12 37 55.1 +0.6
comp=E,3.6nm,0.8s
Z34A Collier Ranch, 70.88 338 ⇑P P 12 37 55.7 +0.5
baz=71
229A Bryant Ranch, 70.89 335 ⇓P P 12 37 55.9 +0.6
baz=71
131A Roby 71.04 336 ⇓P P 12 37 56.8 +0.6
baz=71
WVT Waverly 71.06 348 eP P 12 37 55.5 -0.6
Z33A Whitaker Ranch 71.07 338 ⇓P P 12 37 56.9 +0.5
baz=71,SNR=6.1
130A Snyder 71.17 335 ⇓P P 12 37 57.5 +0.5
baz=72
228A UT Block 9, Go 71.31 334 ⇑P P 12 37 58.6 +0.7
baz=72
Z32A Haskell 71.32 337 ⇓P P 12 37 58.2 +0.4
baz=72,SNR=8.7
Y34A Reagan Ranch, 71.38 339 ⇓P P 12 37 58.5 +0.2
baz=72
129A Stewart Farms, 71.51 335 ⇑P P 12 37 59.6 +0.4
baz=72
W38A Poteau 71.51 342 ⇑P P 12 37 59.4 +0.5
baz=72
X36A Centrahoma 71.54 340 ⇓P P 12 37 59.4 +0.2
baz=72
Z31A Sharp Cattle R 71.55 336 ⇑P P 12 37 59.7 +0.5
baz=72,SNR=7.6
X35A Drake 71.56 339 ⇑P P 12 37 59.3 0.0
baz=72
Y33A Hilltop Ranch, 71.69 338 ⇓P P 12 38 00.2 +0.1
baz=72
128A Castleberry Fa 71.72 334 ⇑P P 12 38 00.7 +0.3
baz=72
W37A Quinton 71.82 341 ⇑P P 12 38 01.3 +0.5
baz=72
Z30A Sanderson Ranc 71.85 336 ⇑P P 12 38 01.2 +0.1
baz=72,SNR=5.7
PARMO Parma 71.94 346 eP P 12 38 02.2 +0.7
Y32A R-V Farms, Ver 71.95 337 ⇑P P 12 38 02.3 +0.6
baz=72
MNTX Cornudas Mount 72.00 332 eP P 12 38 01.9 -0.1
comp=E,6.9nm,0.8s
MNTX Cornudas Mount 72.00 332 ⇑P P 12 38 02.0 0.0
baz=72
X34A Smith Ranch, M 72.00 339 ⇑P P 12 38 02.9 +1.0
baz=72
Z29A Hungry Hill Ra 72.02 335 ⇓P P 12 38 02.5 +0.3
baz=72
W36A Wetumka 72.04 340 ⇑P P 12 38 02.1 0.0
baz=72
Y31A Rekieta Farm, 72.17 337 ⇓P P 12 38 03.8 +0.7
baz=72
PBMO Poplar Bluff 72.19 346 eP P 12 38 03.1 +0.1
comp=E,21nm,1.3s
W35A Tecumseh 72.23 340 ⇓P P 12 38 02.9 -0.4
baz=73
X32A Elmer 72.28 338 ⇓P P 12 38 04.1 +0.5
baz=73
Z28A Tucker Farm, M 72.29 335 ⇑P P 12 38 03.9 0.0
baz=73
Y30A Stafford Cattl 72.31 336 ⇓P P 12 38 04.2 +0.3
baz=73
WMOK Wichita Mounta 72.42 338 eP P 12 38 04.6 +0.1
comp=E,9.4nm,1.2s
Y29A Porterfield Fa 72.56 335 ⇑P P 12 38 05.8 +0.4
baz=73,SNR=6.0
TUL1 Leonard 72.64 341 eP P 12 38 06.1 +0.3
TUL1 Leonard 72.64 341 ⇓P P 12 38 05.8 +0.1
baz=73
X31A McDonald Ranch 72.70 337 ⇑P P 12 38 06.7 +0.6
baz=73
W33A Caddo, Fort Co 72.70 339 ⇑P P 12 38 07.0 +0.9
baz=73
V35A Meyer Ranch, C 72.79 340 ⇓P P 12 38 06.9 +0.2
baz=73
W32A Sentinel 72.92 338 ⇓P P 12 38 08.3 +0.8
baz=73,SNR=9.8
MSTX Muleshoe 73.04 335 eP P 12 38 08.9 +0.6
comp=E,15nm,0.9s
MSTX Muleshoe 73.04 335 ⇓P P 12 38 08.8 +0.5
baz=73
V34A Guthrie 73.06 340 ⇓P P 12 38 08.4 +0.2
baz=73
X29A Tulia 73.10 336 ⇑P P 12 38 09.1 +0.5
baz=74
W31A Holland Ranch, 73.19 337 ⇓P P 12 38 09.5 +0.5
baz=74
V33A Lossen Ranch, 73.27 339 ⇓P P 12 38 09.9 +0.5
baz=74
319A Douglas 73.34 328 ⇓P P 12 38 11.5 +1.4
baz=74
AMTX Amarillo 73.49 336 eP P 12 38 11.5 +0.6
comp=E,22nm,1.3s
AMTX Amarillo 73.49 336 ⇑P P 12 38 12.0 +1.2
baz=74
MAW Mawson 73.49 164 P P 12 38 10.8 +0.4
comp=E,2.3nm,0.8s,baz=242,slow=11,SNR=3.0
U34A Anderson Ranch 73.62 340 ⇓P P 12 38 12.6 +1.1
baz=74
W29A Amarillo 73.69 336 ⇓P P 12 38 13.4 +1.3
baz=74
121A Cookes Peak, D 73.70 330 eP P 12 38 13.3 +1.0
comp=E,15nm,1.3s
121A Cookes Peak, D 73.70 330 ⇓P P 12 38 14.0 +1.7
baz=74
V31A Spring Creek L 73.70 338 ⇓P P 12 38 13.4 +1.3
baz=74
ACSO Alum Creek Sta 74.38 352 eP P 12 38 15.8 0.0
comp=E,40nm,1.4s
S35A Otter Creek Ra 74.45 341 ⇓P P 12 38 16.9 +0.6
baz=75
U30A WK&E Inc. Balk 74.65 337 ⇓P P 12 38 18.3 +0.7
baz=75
R37A Teagarden Farm 74.66 343 ⇓P P 12 38 18.2 +0.7
baz=75
TUC Tucson 74.80 328 eP P 12 38 20.2 +1.6
U27A Thompson Grove 75.27 336 ⇑P P 12 38 22.8 +1.5
baz=76
ANMO Albuquerque 75.28 332 eP P 12 38 22.6 +1.2
214A Organ Pipe Nat 75.42 326 ⇑P P 12 38 24.1 +2.0
baz=76
T29A Hugoton 75.43 337 ⇓P P 12 38 23.7 +1.5
baz=76
T28A Walsh 75.67 337 ⇓P P 12 38 24.0 +0.5
baz=76,SNR=6.2
S29A Ulysses 75.80 337 ⇓P P 12 38 25.2 +1.0
baz=76
R32A Long Quarter, 75.81 340 ⇑P P 12 38 25.2 +1.1
baz=76
T27A Campo 75.82 336 ⇑P P 12 38 25.6 +1.2
baz=76
R31A Burdett 75.92 339 ⇑P P 12 38 26.2 +1.3
baz=76
S28A Manter 76.02 337 ⇓P P 12 38 26.6 +1.1
baz=76
DBIC Dimbokro 76.13 72 P P 12 38 27.3 +0.8
comp=E,3.6nm,0.6s,baz=230,slow=4.6,SNR=9.1
T26A Comanche Natio 76.22 335 ⇑P P 12 38 27.6 +0.9
baz=77,SNR=5.5
Q32A Meitler Ranch, 76.29 340 ⇑P P 12 38 27.9 +1.0
baz=77
T25A Trinidad 76.47 335 eP P 12 38 29.6 +1.4
T25A Trinidad 76.47 335 ⇓P P 12 38 29.3 +1.1
baz=77,SNR=11
R29A Marienthal 76.54 338 ⇑P P 12 38 29.2 +0.8
baz=77
113A Mohawk Valley, 76.54 326 ⇑P P 12 38 29.5 +1.1
baz=77
Q31A Ellis 76.55 339 ⇑P P 12 38 29.4 +1.1
baz=77
S26A Kim 76.58 336 ⇑P P 12 38 29.8 +1.1
baz=77,SNR=8.0
R28A Tribune 76.68 337 ⇑P P 12 38 30.1 +0.9
baz=77,SNR=5.7
Q30A Quinter 76.77 339 ⇑P P 12 38 30.6 +0.9
baz=77,SNR=5.1
X16A Lo Mia Camp, P 76.88 328 ⇑P P 12 38 31.7 +1.2
baz=77,SNR=6.0
Q29A Oakley 76.92 338 ⇑P P 12 38 31.2 +0.7
baz=77
R27A Eads 76.95 337 ⇓P P 12 38 31.4 +0.6
baz=77,SNR=8.5
Y14A Wickenburg 77.17 327 ⇓P P 12 38 33.6 +1.6
baz=78
R26A Arlington 77.18 336 ⇓P P 12 38 33.4 +1.4
baz=78,SNR=8.0
Q28A Sharon Springs 77.34 338 ⇓P P 12 38 34.3 +1.4
baz=78
SDCO Great Sand Dun 77.40 334 eP P 12 38 34.9 +1.3
comp=E,3.3nm,0.8s
SDCO Great Sand Dun 77.40 334 ⇑P P 12 38 34.6 +1.0
baz=78,SNR=8.5
P29A Atwood 77.56 338 ⇓P P 12 38 35.5 +1.4
baz=78
R24A Sanders Place, 77.69 335 ⇑P P 12 38 36.4 +1.4
baz=78,SNR=5.1
Y12C Blythe 77.71 326 ⇑P P 12 38 36.9 +1.9
baz=78
WUAZ Wupatki 77.78 329 eP P 12 38 37.4 +1.8
comp=E,6.7nm,0.9s
WUAZ Wupatki 77.78 329 ⇑P P 12 38 37.2 +1.7
baz=78,SNR=5.6
P28A Saint Francis 77.79 338 ⇑P P 12 38 36.6 +1.2
baz=78
S22A 4UR Ranch, Cre 77.89 333 eP P 12 38 37.8 +1.5
S22A 4UR Ranch, Cre 77.89 333 ⇑P P 12 38 37.3 +1.0
baz=78
R23A Moffat 77.91 334 ⇑P P 12 38 37.4 +1.0
baz=78
MVCO Mesa Verde 78.06 332 eP P 12 38 38.3 +1.1
comp=E,7.2nm,0.9s
MVCO Mesa Verde 78.06 332 ⇑P P 12 38 38.2 +1.1
baz=78,SNR=5.2
BC3 Big Chuckawall 78.07 325 ⇑P P 12 38 38.9 +1.7
baz=78,SNR=5.1
P26A Davis Ranch, A 78.28 337 ⇓P P 12 38 39.8 +1.5
baz=79
IRM Iron Mountain 78.34 326 ⇓P P 12 38 40.1 +1.6
baz=79
Q24A Divide 78.36 335 eP P 12 38 40.4 +1.5
Q24A Divide 78.36 335 ⇑P P 12 38 40.2 +1.4
baz=79
PFO Pinyon Flats O 78.51 324 ⇑P P 12 38 41.5 +1.9
baz=79
P25A Willow Gulch B 78.52 336 ⇑P P 12 38 41.1 +1.5
baz=79,SNR=6.2
W13A Hualapai Mount 78.53 327 ⇓P P 12 38 41.5 +1.7
baz=79
Q23A Hartsel 78.55 335 ⇓P P 12 38 42.0 +2.1
baz=79
U15A North Rim 78.94 329 ⇓P P 12 38 43.9 +1.8
baz=79,SNR=9.8
P23A Jefferson 78.97 335 ⇓P P 12 38 43.6 +1.3
baz=79
GMRC Granite Mounta 79.09 326 ⇓P P 12 38 44.5 +1.7
baz=79
N27A Anderson Farm, 79.16 338 ⇓P P 12 38 44.1 +1.2
baz=80
SMCO Snowmass 79.20 334 eP P 12 38 45.0 +1.4
ISCO Idaho Springs 79.27 335 eP P 12 38 44.9 +1.0
comp=E,18nm,1.9s
ISCO Idaho Springs 79.27 335 ⇑P P 12 38 45.2 +1.4
baz=80
HEC Hector,Ludlow 79.45 325 ⇓P P 12 38 46.3 +1.7
baz=80
P22A Eagle 79.49 334 ⇓P P 12 38 46.5 +1.6
baz=80
BFSC Mount Baldy Ra 79.61 324 ⇑P P 12 38 47.3 +1.7
baz=80
O23A Lake Granby, G 79.74 335 ⇓P P 12 38 47.6 +1.2
baz=80,SNR=8.7
TUQ Turquoise Moun 79.75 326 ⇑P P 12 38 48.2 +1.8
baz=80
O22A Kremmling 79.92 335 ⇑P P 12 38 48.6 +1.2
baz=80,SNR=8.3
N24A Carr 79.94 336 ⇓P P 12 38 48.6 +1.4
baz=80
GSC Goldstone, Bar 80.06 325 ⇓P P 12 38 49.2 +1.2
baz=80
ECSD EROS Data Cent 80.22 343 eP P 12 38 49.0 +0.5
comp=E,23nm,1.5s
ECSD EROS Data Cent 80.22 343 ⇑P P 12 38 49.0 +0.5
baz=81
EDW2 Edwards Air Fo 80.29 324 ⇓P P 12 38 50.8 +1.7
baz=81
N23A Red Feather La 80.36 335 eP P 12 38 51.2 +1.5
N23A Red Feather La 80.36 335 ⇑P P 12 38 51.4 +1.8
baz=81
N22A Wattenberg Ran 80.45 335 ⇑P P 12 38 51.8 +1.6
baz=81
M24A Cheyenne 80.49 336 ⇓P P 12 38 51.7 +1.5
baz=81
SRU San Rafael Swe 80.50 331 eP P 12 38 51.5 +1.1
comp=E,5.0nm,0.9s
O20A White River Ci 80.51 334 ⇓P P 12 38 51.6 +1.2
baz=81
K28A Ten Mile Ranch 80.54 339 ⇑P P 12 38 51.6 +1.2
baz=81
LRMC Laurel Mtn Rad 80.62 325 ⇑P P 12 38 52.6 +1.6
baz=81
MSU Marysvale 80.66 330 eP P 12 38 52.3 +1.0
comp=E,6.7nm,1.1s
MVU Marysvale 80.67 330 eP P 12 38 53.0 +1.7
J29A Okreek 80.88 340 ⇑P P 12 38 53.6 +1.5
baz=81
MPMC Manual Prospec 81.00 325 ⇑P P 12 38 54.7 +1.6
baz=81
FURC Furnace Creek, 81.03 326 ⇑P P 12 38 54.7 +1.8
baz=81
M22A Cedar Creek Ra 81.03 335 ⇑P P 12 38 54.4 +1.1
baz=81
N20A Spence Gulch, 81.13 334 ⇑P P 12 38 55.2 +1.4
baz=82
TPNV Topopah Spring 81.14 326 eP P 12 38 55.9 +2.1
comp=E,38nm,2.5s
TPNV Topopah Spring 81.14 326 ⇓P P 12 38 55.3 +1.5
baz=82
ISA Isabella, Lake 81.15 324 ⇑P P 12 38 55.5 +1.7
baz=82
J28A Allard Ranch, 81.16 340 ⇓P P 12 38 55.2 +1.6
baz=82
DAC Darwin (Calif) 81.22 325 eP P 12 38 56.0 +1.7
J27A Elkhorn Farm, 81.22 339 ⇑P P 12 38 56.1 +2.1
baz=82
VES Vestal, Richgr 81.59 324 ⇑P P 12 38 58.0 +2.0
baz=82
K24A Anderson Ranch 81.61 337 ⇑P P 12 38 57.9 +1.7
baz=82
I28A Midland 81.67 340 ⇑P P 12 38 57.1 +0.9
baz=82
J25A Sunshine Ranch 81.89 338 ⇑P P 12 38 58.9 +1.3
baz=82
H29A Onida 81.98 341 ⇑P P 12 38 59.1 +1.3
baz=82
R11A Troy Canyon, C 81.99 328 eP P 12 38 59.3 +1.0
comp=E,4.5nm,1.3s
R11A Troy Canyon, C 81.99 328 ⇓P P 12 38 60.0 +1.7
baz=82
J24A Dixon Ranch, L 82.11 337 ⇓P P 12 39 00.6 +1.9
baz=82
K22A Casper 82.12 336 eP P 12 39 00.1 +1.3
K22A Casper 82.12 336 ⇑P P 12 39 00.3 +1.5
baz=82
JLU Jordanelle 82.14 332 eP P 12 39 00.3 +1.2
comp=E,4.3nm,0.8s
DUG Dugway, Tooele 82.34 331 eP P 12 39 01.2 +1.2
comp=E,19nm,1.6s
DUG Dugway, Tooele 82.34 331 ⇑P P 12 39 01.4 +1.4
baz=83
K21A Alcova 82.35 335 ⇑P P 12 39 01.4 +1.3
baz=83
I25A Rochford 82.44 338 ⇓P P 12 39 02.0 +1.4
baz=83
TPH Tonopah 82.50 326 eP P 12 39 02.6 +1.6
RSSD Black Hills 82.63 338 eP P 12 39 02.0 +0.5
comp=E,3.5nm,0.9s
H25A Fruitdale 82.94 339 ⇑P P 12 39 04.4 +1.4
baz=83
F29A Eureka 82.99 342 ⇑P P 12 39 04.1 +1.0
baz=83
HWUT Hardware Ranch 83.05 332 eP P 12 39 04.1 +0.4
comp=E,4.2nm,0.6s
J21A Lysite 83.05 336 ⇓P P 12 39 05.5 +1.8
baz=83
G26A Maurine 83.26 340 ⇑P P 12 39 05.5 +1.0
baz=84
J20A Shoshoni 83.27 335 ⇓P P 12 39 06.5 +1.7
baz=84
PDAR Pinedale Array 83.29 334 P P 12 39 04.9 -0.1
comp=E,2.2nm,1.1s,baz=131,slow=4.1,SNR=8.5
NVAR Mina Array Bea 83.29 326 P P 12 39 06.0 +0.9
comp=E,1.1nm,0.8s,baz=153,slow=6.5,SNR=9.1
H24A Dirks Ranch, A 83.35 338 ⇓P P 12 39 05.6 +0.5
baz=84
I21A Big Trails, Te 83.41 336 ⇓P P 12 39 06.3 +0.8
baz=84
J19A Crowheart 83.54 335 ⇓P P 12 39 07.2 +0.9
baz=84
F27A Lemmon 83.62 340 ⇓P P 12 39 07.4 +1.0
baz=84
HVU Hansel Valley 83.67 331 eP P 12 39 07.5 +0.6
comp=E,5.2nm,0.7s
H20A Greybull 84.24 336 ⇓P P 12 39 10.1 +0.4
baz=85
F24A Ekalaka 84.31 339 ⇑P P 12 39 10.7 +0.8
baz=85
AGMN Agassiz Nation 84.36 345 ⇓P P 12 39 10.2 +0.2
baz=85
C30A Mose, Pekin 84.39 343 ⇑P P 12 39 10.9 +0.7
baz=85
D28A Regan 84.45 342 ⇑P P 12 39 11.6 +1.1
baz=85
I17A Pilgrim Ck. 84.66 334 ⇓P P 12 39 12.9 +1.0
baz=85
H19A Powell 84.74 335 ⇑P P 12 39 13.4 +1.2
baz=85
FLWY Flagg Ranch 84.84 334 eP P 12 39 13.3 +0.4
comp=E,4.9nm,0.9s
H18A Shoshone NF, C 84.98 335 ⇑P P 12 39 14.3 +0.7
baz=85
B30A Myrvik Farm, E 85.06 344 ⇑P P 12 39 14.1 +0.6
baz=85
TOA0 Torodi Ar. Sit 85.15 71 eP P 12 39 14.6 -0.2
TORD Torodi Ar. Bea 85.15 71 P P 12 39 15.0 +0.2
comp=E,4.1nm,0.7s,baz=256,slow=4.0,SNR=22
D25A Fairfield 85.16 340 ⇓P P 12 39 15.4 +1.3
baz=86
B28A Dugan Ranch, T 85.55 342 ⇑P P 12 39 16.2 +0.2
baz=86
D23A Lindsay 85.73 339 ⇑P P 12 39 18.1 +1.0
baz=86
HLID Hailey 85.82 331 eP P 12 39 19.2 +1.5
comp=E,4.2nm,1.0s
HLID Hailey 85.82 331 ⇓P P 12 39 19.4 +1.6
baz=86
D22A Cohagen 86.01 338 ⇑P P 12 39 19.8 +1.4
baz=86
B25A Knox Farm, Ray 86.13 340 ⇓P P 12 39 20.0 +1.0
baz=86
E19A Rath Farm, Rou 86.24 336 ⇑P P 12 39 20.5 +0.9
baz=87
MCMT McKenzie Canyo 86.28 333 eP P 12 39 21.4 +1.3
comp=E,2.4nm,0.9s

C23A	Lambert	86.29	339	⇑P		P		12 39 20.9	+1.2	
	baz=87									
C22A	Vida	86.45	339	⇑P		P		12 39 21.2	+0.7	
	baz=87									
D20A	Manuel Ranch,	86.58	337	⇑P		P		12 39 21.6	+0.4	
	baz=87									
DGMT	Dagmar	86.61	340	⇓P		P		12 39 22.3	+1.0	
	baz=87									
B23A	Brockton	86.83	339	⇑P		P		12 39 23.4	+1.0	
	baz=87									
C21A	Desert Coulee	86.89	338	⇓P		P		12 39 23.2	+0.5	
	baz=87									
A24A	Westby	86.96	340	⇓P		P		12 39 23.3	+0.3	
	baz=87									
C20A	Veseth Ranch,	87.08	337	⇓P		P		12 39 23.8	+0.1	
	baz=88									
B21A	Ellsworth Farm	87.40	338	⇓P		P		12 39 26.0	+0.9	
	baz=88									
C19A	Slack Wire Ran	87.44	337	⇓P		P		12 39 25.9	+0.5	
	baz=88									
A22A	Carney Farms,	87.57	339	⇑P		P		12 39 27.1	+1.1	
	baz=88									
M04C	Macdoel	87.60	326	⇑P		P		12 39 27.6	+1.2	
	baz=88									
B20A	Solberg Farm,	87.73	338	⇓P		P		12 39 27.4	+0.7	
	baz=88									
M02C	Callahan	87.77	325	⇓P		P		12 39 28.7	+1.5	
	baz=88									
EGMT	Eagleton	87.92	336	⇑P		P		12 39 29.1	+1.4	
	baz=88									
A20A	Cobblestone Ra	88.08	338	⇓P		P		12 39 29.0	+0.6	
	baz=88									
A19A	Klindworth Far	88.39	337	⇑P		P		12 39 30.9	+1.1	
	baz=89									
GERES	GERESS Array B	112.86	46	PKiKP		PKiKP		12 45 15.1	+0.3	
	comp=E,0.6nm,0.7s,baz=198,slow=3.9,SNR=3.8									
ILAR	Eielson Array	113.71	333	PKiKP		PKiKP		12 45 15.9	+0.2	
	comp=E,0.2nm,0.6s,baz=91,slow=1.1,SNR=4.2									
VYHS	Vyhne	115.81	48	*e*PKP		PKPdf		12 45 20.9	+0.6	
ASAR	Alice Springs	117.13	208	PKP		PKPdf		12 45 22.3	-1.5	
	comp=E,0.5nm,0.8s,baz=162,slow=1.3,SNR=5.7									
WRA	Warramunga Arr	120.29	210	PKP		PKPdf		12 45 29.4	-0.6	
	comp=E,1.7nm,0.8s,baz=160,slow=1.7,SNR=17									
BRTR	Keskin Array B	122.70	61	PKP		PKPdf		12 45 34.4	+0.3	
	comp=E,1.5nm,0.8s,baz=200,slow=2.2,SNR=9.4									
AKASG	Malin Array Be	122.92	48	PKP		PKPdf		12 45 33.4	-0.5	
	comp=E,1.4nm,0.6s,baz=263,slow=2.7,SNR=10									
KSM	Kuching	147.50	187	*e*PKPdf		PKPbc		12 46 21.8	-1.1	
BRVK	Borovoye	147.87	42	*e*PKPdf		PKPdf		12 46 19.6	-0.1	
SKHT	Srikalahasti	148.28	123	*e*PKPbc		PKPbc		12 46 24.7	-0.2	
HYB	Hyderabad	149.86	116	*i* PKP		PKPbc		12 46 27.5	-1.4	
HYBB	Hyderabad (bro	149.86	116	*e*PKPbc		PKPbc		12 46 27.0	-1.9	
HYBB				*e*PKiKP		PKiKP		12 46 29.1	-0.8	
NJS	Nagarjunasagar	149.87	118	*e*PKPdf		PKPdf		12 46 24.9	+0.9	
NJS				*e*PKiKP		PKPbc		12 46 29.2	+0.3	
EKS2	Erkin-Say	152.85	62	*e*PKPdf		PKPdf		12 46 29.6	+1.6	
AAK	Ala-Archa	153.38	62	*e*PKPdf		PKPdf		12 46 30.1	+1.2	
KURK	Kurchatov	153.54	42	*e*PKPdf		PKPdf		12 46 28.7	+0.1	
CHLP	Challavanipeta	154.56	122	*e*PKPdf		PKPdf		12 46 30.0	-1.0	
ZAA0	Zalesovo Array	154.73	31	*e*PKPdf		PKPdf		12 46 30.1	-0.1	
ZALV	Zalesovo Beam	154.73	31	PKP		PKPdf		12 46 30.1	0.0	
	comp=E,1.3nm,0.7s,baz=280,slow=2.7,SNR=8.8									
ZALV				PKPbc		PKiKP		12 46 39.0	+0.3	
	comp=E,3.8nm,0.7s,baz=294,slow=3.2,SNR=17									
ZALV				PKPab		PKPab		12 46 54.1	+0.4	
	comp=E,1.7nm,0.7s,baz=303,slow=6.9,SNR=5.0									
KSH	Kashi	154.80	68	*e*PKPbc		PKPdf		12 46 30.8	-0.1	
KSH				pPKP		pPKPdf		12 46 41.5	+0.1	
KSH				sPKP				12 46 45.1		
KSH				PKS		PKSdf		12 50 03.4	-1.7	
KSH				SKS		SKSdf		12 53 31.7	-3.6	
KSH				PPMZ						
	comp=E,61nm,4.2s									
KSH				LN						
	comp=E,93nm,5.2s									
KSH				LE						
	comp=E,73nm,4.5s									
KSH				LZ						
	comp=E,160nm,5.1s									
MKAR	Makanchi Array	157.50	48	PKP		PKPdf		12 46 34.3	+0.2	
	comp=E,0.4nm,0.7s,baz=278,slow=4.5,SNR=5.4									
MKAR				PKPab		PKPab		12 47 04.9	-1.1	
	comp=E,1.0nm,0.8s,baz=285,slow=9.9,SNR=7.5									
WMQ	Urumqi	162.24	51	*e*PKP		PKPdf		12 46 39.8	+0.2	
WMQ				pPKP		pPKPdf		12 46 50.4	+0.3	
WMQ				LZ						
	comp=E,170nm,25.0s									
CMAR	Chiang Mai Arr	163.05	154	PKP		PKPdf		12 46 41.8	+0.7	
	comp=E,0.5nm,0.3s,baz=258,slow=3.7,SNR=4.8									
CMAR				PKPab		PKPab		12 47 28.5	-2.2	
	comp=E,0.5nm,0.3s,baz=183,slow=5.4,SNR=3.3									
SONM	Songino Array	166.15	1	PKP		PKPdf		12 46 43.4	+0.3	
	comp=E,0.8nm,1.1s,baz=48,slow=2.1,SNR=2.6									
SONM				PKPab		PKPab		12 47 44.3	+0.5	
	comp=E,0.8nm,0.7s,baz=339,slow=3.6,SNR=5.6									
KMI	Kunming	170.52	157	PKP		PKPdf		12 46 46.5	-0.3	
HHC	Hu-ho-hao-te	172.14	332	*e*PKP		PKPdf		12 46 45.0	-2.0	
HHC				pPKP		pPKPdf		12 46 54.9	-2.6	
HHC				sPKP				12 46 58.6		
HHC				PP		PP		12 52 03.3	+2.0	
HHC				SKS		SKSdf		12 53 41.5	-6.5	
HHC				SS		SS		13 13 09.6	+1.1	
HHC				PPMZ						
	comp=E,83nm,8.7s									
HHC				LN						
	comp=E,130nm,17.4s									
HHC				LE						
	comp=E,140nm,17.4s									
HHC				LZ						
	comp=E,120nm,16.2s									
CD2	Chengdu	176.04	140	*e*PKP		PKPdf		12 46 49.2	+0.6	
LZH	Lanzhou	176.82	48	*e*PKP		PKPdf		12 46 46.5	-2.2	
LZH				pPKP		pPKPdf		12 46 57.3	-1.9	
LZH				sPKP				12 47 01.2		

IDC 03 13:22:38.3±1.8, 18°.81N×146°.19E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.4/25, mbtmp3.6/4, Error ellipse: s-maj=170.8km s-min=24.1km az=115.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	40.23	197	P	P	13 30 17.2	+0.3
	0.9nm,0.6s,baz=23,slow=9.1,SNR=15						
ASAR	Alice Springs	43.89	196	P	P	13 30 46.1	-0.7
	0.4nm,0.6s,baz=8.1,slow=6.3,SNR=8.1						
YKA	Yellowknife Ar	77.67	28	P	P	13 34 36.1	-0.5
	0.2nm,0.5s,baz=283,slow=5.0,SNR=2.6						
NVAR	Mina Array Bea	82.71	52	P	P	13 35 05.3	+0.8
	0.4nm,0.8s,baz=278,slow=6.3,SNR=4.7						

NIED ***03*** *13:38:00,23°.40N×123°.70E,h35km,Mw4.3 Best double couple: M○3.40000×10^15 NP1:φ○s147.00000°,δ62.00000°, λ14.00000°. NP2:φ○s51.00000°,δ78.00000°,λ151.00000°.*
BJI ***03*** *13:38:15.8,23°.43N×123°.73E,h8km, mb4.4/38, mB4.6/25, ML3.8/4, Ms3.7/10, Ms7 3.6/16*
NEIC ***03*** *13:38:18.2±0.3,23°.35N×123°.71E,h10km, mb4.5/7, MW4.3(NIED), Error ellipse: s-maj=6.8km s-min=4.8km az=163.0*
NEIC Recorded [1 TAP] in T'ai-tung, Taiwan.
MOS ***03*** *13:38:19.8±1.2,23°.38N×123°.69E,h33km, mb4.6/14, Error ellipse: s-maj=11.4km s-min=6.6km az=98.2*
ISCJB ***03*** *13:38:20.7±0.3,23°.36N±0°.02×123°.69E±0°.01,h43km±2km, mb4.3/41, MS3.5/3, Error ellipse: s-maj=3.7km s-min=1.9km az=156.5*
JMA ***03*** *13:38:21.1±0.2,23°.37N×123°.69E,h55km±3km, M4.5*
JMA Felt I J1.
TAP ***03*** *13:38:21.3,23°.32N×123°.65E,h86km±1km, ML5.1, D*
IDC ***03*** *13:38:24.2±0.6,23°.42N×123°.72E,h57km±5km, mb3.9/21, mb1 4.1/23, mb1mx4.0/29, mbtmp4.2/23, MS3.6/3, Ms1 3.6/3, ms1mx3.0/34, Error ellipse: s-maj=16.7km s-min=11.4km az=77.0*

ISC 03 13:38:21.7±0.5, 23°.30N±0°.04×123°.72E±0°.03, h36km±1km, n197, σ1§69/288, mb4.3/41, MS3.2/3, 43C-10D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	Hateruma jima	0.76	6	P	Pn	13 38 35.0	-0.9
HATJ				S	Sn	13 38 44.9	-1.2
JKRS	Kuro-shima	0.97	16	P	Pn	13 38 38.1	-0.7
JKRS				*e*S	Sn	13 38 50.8	-0.6
IRIF	Iriomote-Funau	1.03	0	P	Pn	13 38 38.9	-0.8
IRIF				S	Sn	13 38 51.4	-1.5
JIJ	Ishigaki jima	1.13	20	P	Pn	13 38 40.1	-0.9
JIJ				S	Sn	13 38 53.3	-2.0
YOJ	Yonaguni jima	1.33	331	P	Pn	13 38 43.0	-0.7
YOJ				S	Sn	13 38 58.0	-2.2
YOJ	Yonaguni jima	1.33	331	*e*P	Pn	13 38 43.1	-0.7
YOJ	Yonaguni jima	1.33	331	⇑*i*P	Pn	13 38 43.2	-0.6
	baz=324						
YOJ				*i* S	Sn	13 38 58.4	-1.8
	baz=324						
YOJ	Yonaguni jima	1.33	331	*e*Pn	Pn	13 38 43.1	-0.6
JYNG	Yonagunijimaku	1.35	328	P	Pn	13 38 43.1	-0.9
JYNG				S	Sn	13 38 58.4	-2.3
JISG	Ishigakijimahi	1.39	23	P	Pn	13 38 43.6	-1.0
JISG				S	Sn	13 39 00.4	-1.3
JTJ	Tarama	1.61	34	P	Pn	13 38 47.2	-0.4
JTJ				S	Sn	13 39 06.3	-0.8
JIRB	Irabujima	2.02	41	P	Pn	13 38 52.8	-0.4
JIRB				S	Sn	13 39 16.4	-0.9
TEGC	Jichi Village	2.04	282	*e*P	Pn	13 38 52.6	-0.9
	baz=274						
HWA	Hwalien	2.05	290	*e*P	Pn	13 38 51.4	-2.3
	baz=282						
JMJ	Miyako jima 2	2.08	43	P	Pn	13 38 54.1	0.0
JMJ				*e*S	Sn	13 39 18.7	-0.1
JMJ	Miyako jima 2	2.08	43	*e*P	Pn	13 38 53.9	-0.2
	baz=45						
JMJ				*e*S	Sn	13 39 18.7	-0.1
	baz=45						
TWD	Chiawan	2.10	292	⇑*i*P	Pn	13 38 52.7	-1.6
	baz=301						
TWD				*e*S	Sn	13 39 15.9	-3.2
	baz=301						
JOGS	Gusukube	2.12	46	P	Pn	13 38 54.7	+0.1
JOGS				*e*S	Sn	13 39 19.9	+0.2
ENA	Nanau	2.13	302	⇑P	Pn	13 38 54.1	-0.7
	baz=310						
ENA				*e*S	Sn	13 39 17.9	-2.1
	baz=310						
NACB	Ninganchiao	2.13	295	*e*Pn	Pn	13 38 52.5	-2.3
JIKM	Ikemajima	2.14	40	P	Pn	13 38 54.2	-0.6
JIKM				*e*S	Sn	13 39 19.9	-0.2
TWC	Suao	2.15	308	*i* P	Pn	13 38 54.4	-0.7
	baz=308						
TWC				*e*S	Sn	13 39 17.7	-2.8
	baz=308						
ESL	Shilin	2.16	284	⇑*i*P	Pn	13 38 53.3	-1.8
	baz=277						
ESL				*e*S	Sn	13 39 16.6	-4.1
	baz=277						
CHKT	Chengkung	2.18	265	⇑*i*P	Pn	13 38 53.4	-2.0
	baz=264						
CHKT				*e*S	Sn	13 39 15.8	-5.2
	baz=264						
EHY	Hungye	2.21	276	⇑*i*P	Pn	13 38 54.5	-1.4
	baz=280						
EHY				*e*S	Sn	13 39 18.2	-3.8
	baz=280						
TWF1	Yuli	2.23	272	⇑*i*P	Pn	13 38 54.7	-1.4
	baz=266						
TWF1				*e*S	Sn	13 39 18.9	-3.5
	baz=266						
YULB	Yu-li	2.23	273	*e*Pn	Pn	13 38 54.4	-1.7
EGS		2.25	314	P	Pn	13 38 55.9	-0.5
	baz=314						
EGS				*e*S	Sn	13 39 21.9	-0.9
	baz=314						
ILA	Ilan	2.32	309	*e*P	Pn	13 38 57.5	+0.1
	baz=309						
ILA				*e*S	Sn	13 39 23.4	-1.3
	baz=309						
TWE	Neicheng	2.35	307	⇑*i*P	Pn	13 38 57.7	-0.1
	baz=308						
TWE				*e*S	Sn	13 39 23.6	-1.8
	baz=308						
LAY	Lan-yu	2.36	238	*e*P	Pn	13 38 56.4	-1.6
	baz=244						
ENTT	Nioudou	2.38	305	⇑*i*P	Pn	13 38 58.1	-0.2
	baz=304						
ENTT				*e*S	Sn	13 39 23.6	-2.6
	baz=304						
WHF	Hehuan Shan	2.40	291	⇑*i*P	Pn	13 38 57.5	-1.4
	baz=284						
WHF				*e*S	Sn	13 39 23.7	-3.6
	baz=284						
WDT	Danda	2.42	281	⇑*i*P	Pn	13 38 57.9	-1.1
	baz=275						
WDT				*e*S	Sn	13 39 24.6	-2.9
	baz=275						
NNS	Nan Shan	2.43	298	⇑*i*P	Pn	13 38 58.4	-0.6
	baz=298						
NNS				S	Sn	13 39 25.0	-2.6
	baz=298						
TTN	Taitung	2.43	258	*e*P	Pn	13 38 57.4	-1.5
	baz=252						
TTN				*e*S	Sn	13 39 23.9	-3.4
	baz=252						
TWG	Pinlang	2.48	260	P	Pn	13 38 58.4	-1.3
	baz=258						
TWG				*e*S	Sn	13 39 25.8	-3.0
	baz=258						
TWG	Pinlang	2.48	260	*e*Pn	Pn	13 38 58.0	-1.6
ELDTW	Lidau	2.49	268	⇑*i*P	Pn	13 38 58.2	-1.6
	baz=262						
ELDTW				*e*S	Sn	13 39 24.3	-4.7
	baz=262						
NWF	Wu-fen Shan	2.50	315	⇑P	Pn	13 38 59.7	-0.2
	baz=306						
NWF				S	Sn	13 39 27.1	-2.2
	baz=306						
TWT	Tachien	2.52	293	⇑*i*P	Pn	13 38 59.9	-0.4
	baz=287						
YHNB	Yeheng	2.54	303	*e*Pn	Pn	13 39 00.1	-0.4
YHNB				*e*Sn	Sn	13 39 28.6	-1.7
YUS	Yu-Shan	2.55	275	⇑*i*P	Pn	13 39 00.4	-0.6
	baz=280						
YUS				*e*S	Sn	13 39 26.6	-4.4
	baz=280						
NSK	Sanguang	2.56	303	⇑*i*P	Pn	13 39 00.5	-0.2
	baz=303						
NSK				*e*S	Sn	13 39 27.8	-2.9
	baz=303						
TWA	Mucha	2.57	311	*e*P	Pn	13 39 00.7	-0.1
	baz=311						
TWA				*e*S	Sn	13 39 29.6	-1.3
	baz=311						
SSLB	Suanglung	2.58	281	*e*Pn	Pn	13 38 59.8	-1.2
TATO	Taipei	2.64	310	*e*Pn	Pn	13 39 01.1	-0.6
ECL	Taimali	2.64	255	⇑*i*P	Pn	13 39 00.3	-1.5
	baz=254						
SMLT	Sun Moon Lake	2.65	283	⇑*i*P	Pn	13 39 01.6	-0.4
	baz=282						
TAP1	Taipei	2.65	311	*e*P	Pn	13 39 01.2	-0.7
	baz=311						
TAP1				*e*S	Sn	13 39 29.6	-3.3
	baz=311						
TAP	Taipei	2.66	311	*e*P	Pn	13 39 01.6	-0.5
	baz=311						
ALS	Alishan	2.69	275	⇑*i*P	Pn	13 39 02.7	0.0
	baz=279						
ALS				*e*S	Sn	13 39 32.3	-1.8
	baz=279						
TYC	Yuchr	2.69	284	⇑*i*P	Pn	13 39 02.1	-0.4
	baz=283						
STYT	Tauyuan	2.73	268	⇑*i*P	Pn	13 39 02.4	-0.7
	baz=264						
STYT				*e*S	Sn	13 39 32.0	-2.8
	baz=264						
TWY	Chenhua	2.76	316	*e*P	Pn	13 39 03.1	-0.3
	baz=307						
TWY				*e*S	Sn	13 39 33.6	-1.9
	baz=307						
PCYT	Pengchaiyu	2.77	327	*e*P	Pn	13 39 03.9	+0.4
	baz=319						
TWS1	Kuangyinshan	2.77	311	⇑*i*P	Pn	13 39 03.1	-0.3
	baz=311						
TWS1				*e*S	Sn	13 39 35.0	-0.6
	baz=311						
TAW	Tawu	2.77	251	*e*P	Pn	13 39 02.4	-1.1
	baz=256						
EAST	Anshuo	2.80	252	⇑P	Pn	13 39 03.1	-0.9
	baz=256						
CHN5	Tsauling	2.81	277	⇑*i*P	Pn	13 39 04.8	+0.6
	baz=276						
CHN5				S	Sn	13 39 37.0	+0.2
	baz=276						
NSTT	Nanjuang	2.82	299	⇑*i*P	Pn	13 39 05.1	+0.9
	baz=298						
NSTT				*e*S	Sn	13 39 35.6	-1.4
	baz=298						
TPUB	Ta-pu	2.84	271	*e*Pn	Pn	13 39 04.7	+0.2
TPUB				*e*Sn	Sn	13 39 36.3	-1.2
WNT	Mingjian	2.84	282	⇑*i*P	Pn	13 39 05.5	+0.9
	baz=286						
WNT				*e*S	Sn	13 39 37.7	+0.1
	baz=286						
NCU	National Centr	2.85	306	*e*P	Pn	13 39 04.8	+0.1
	baz=306						
NCU				*e*S	Sn	13 39 36.5	-1.3
	baz=306						
WTP	Ta-pu	2.86	270	⇑*i*P	Pn	13 39 05.3	+0.5
	baz=267						
WTP				S	Sn	13 39 36.6	-1.4
	baz=267						
CHN4	Tsaushan	2.88	272	⇑*i*P	Pn	13 39 05.8	+0.8
	baz=273						
CHN4				S	Sn	13 39 38.7	+0.3
	baz=273						
TWQ1	Liyutan	2.89	292	⇑*i*P	Pn	13 39 06.2	+0.9
	baz=297						
TWQ1				*e*S	Sn	13 39 38.9	0.0
	baz=297						
SGST	Jiashian	2.90	266	⇑P	Pn	13 39 05.9	+0.6
	baz=264						
SGST				*e*S	Sn	13 39 39.4	+0.5
	baz=264						
SSD	Sandimen	2.90	260	⇑*i*P	Pn	13 39 04.6	-0.7
	baz=262						
TCU	Taichung	2.92	287	*i* P	Pn	13 39 06.5	+1.0
	baz=287						
TCU				S	Sn	13 39 40.0	+0.7
	baz=287						
WGK	Gukeng	2.92	278	*e*P	Pn	13 39 06.5	+0.8
	baz=277						
WGK				*e*S	Sn	13 39 39.2	-0.4
	baz=277						
HSN	Hsinchu	2.93	301	*e*P	Pn	13 39 05.9	+0.2
	baz=314						
HSN				*e*S	Sn	13 39 38.0	-1.6
	baz=314						
NSY	Sanyi	2.93	293	P	Pn	13 39 06.8	+1.0
	baz=292						
NSY				S	Sn	13 39 40.2	+0.5
	baz=292						
CHN1	Nanshi	2.94	268	⇑*i*P	Pn	13 39 06.9	+1.0
	baz=263						
CHN1				S	Sn	13 39 40.3	+0.3
	baz=263						
TSEB	Hengchuen, Pin	2.95	242	*e*P	Pn	13 39 07.9	+1.8
	baz=241						
TSEB				*e*S	Sn	13 39 38.9	-1.4
	baz=241						
TWK	Hsinying	2.97	270	⇑*i*P	Pn	13 39 07.2	+0.8
	baz=265						
TWK				S	Sn	13 39 40.4	-0.4
	baz=265						
CHN2	Minshiung	2.99	275	*e*P	Pn	13 39 07.6	+1.0
	baz=281						
CHN2				*e*S	Sn	13 39 41.9	+0.7
	baz=281						
SCZT	Fangliau	3.00	253	*e*P	Pn	13 39 06.6	-0.1
	baz=251						
SCZT				*e*S	Sn	13 39 39.7	-1.8
	baz=251						
TWK1	Hengchun	3.01	244	⇑P	Pn	13 39 06.5	-0.4
	baz=242						
TWK1				*e*S	Sn	13 39 38.8	-3.0
	baz=242						
SGLT	Jiouru	3.03	260	*e*P	Pn	13 39 08.6	+1.5
	baz=256						
SGLT				*e*S	Sn	13 39 43.2	+1.1
	baz=256						
CHY	Chiayi	3.04	274	*e*P	Pn	13 39 08.2	+1.0
	baz=280						
CHY				*e*S	Sn	13 39 42.8	+0.5
	baz=280						
HEN	Hengchun	3.04	246	*e*P	Pn	13 39 07.2	-0.1
	baz=238						
HEN				*e*S	Sn	13 39 39.6	-2.8
	baz=238						
TWM1	Shoushan	3.07	262	*e*P	Pn	13 39 09.5	+1.8
	baz=260						
TWM1				*e*S	Sn	13 39 45.9	+2.6
	baz=260						
CHN3	Shinhua	3.10	267	*e*P	Pn	13 39 10.2	+2.2
	baz=275						
CHN3				S	Sn	13 39 47.2	+3.4
	baz=275						
WTCT	Ta-ch'eng	3.21	281	⇑*e*P	Pn	13 39 10.8	+1.3
	baz=280						
WTCT				*e*S	Sn	13 39 46.8	+0.3
	baz=280						
TAI1	Yung-k'ang	3.22	266	*e*P	Pn	13 39 10.7	+1.0
	baz=265						
CHN8	Yiju	3.23	272	⇑*e*P	Pn	13 39 10.6	+0.8
	baz=279						
CHN8				*e*S	Sn	13 39 46.9	-0.1
	baz=279						
KAU	Kaohsiung	3.23	258	*e*P	Pn	13 39 11.7	+1.8
	baz=256						
WSF	Szhu	3.23	277	*e*P	Pn	13 39 10.9	+1.0
	baz=276						
WSF				*e*S	Sn	13 39 46.8	-0.3
	baz=276						
TWP	Hsiaoliuchiu	3.24	254	⇓*e*P	Pn	13 39 12.8	+2.8
	baz=254						
SCLT	Jiali	3.25	269	*e*P	Pn	13 39 11.5	+1.4
	baz=278						
SCLT				*e*S	Sn	13 39 48.0	+0.5
	baz=278						
WDGT	Dungji	3.73	270	⇑*e*P	Pn	13 39 16.9	+0.1
	baz=260						
WDGT				*e*S	Sn	13 39 57.0	-2.5
	baz=260						
PNG	Penghu	3.83	275	⇑*i*P	Pn	13 39 18.5	+0.3
	baz=274						
PNG				*e*S	Sn	13 39 59.6	-2.5
	baz=274						
JKE	Kume jima 2	4.11	42	P	Pn	13 39 20.2	-1.7
JKE				*e*S	Sn	13 40 05.7	-3.0
JAGN	Aguni-jima	4.58	44	P	Pn	13 39 28.0	-0.4
JAGN				*e*S	Sn	13 40 18.3	-2.0
JJT2	Tamagusuku 2	4.63	52	*e*S	Sn	13 40 21.1	-0.5
QZH	Quanzhou	4.96	290	⇓*i*Pn	Pn	13 39 32.5	-1.2
QZH				Sn	Sn	13 40 24.2	-5.7
QZH				SMN			
	570nm,0.4s						
QZH				SME			
	320nm,0.4s						
KNM	Kinmen	4.97	284	*e*P	Pn	13 39 34.0	+0.3
	baz=282						
KNM				*e*S	Sn	13 40 27.9	-2.1
	baz=282						
JNTH	Nagotoyohara	5.05	50	P	Pn	13 39 33.5	-1.4
JNTH				*e*S	Sn	13 40 29.8	-2.3
JIH	Iheya	5.35	45	*e*S	Sn	13 40 36.1	-3.3
JOW	Kunigami	5.42	49	P	Pn	13 39 38.8	-1.3
JOW				*e*S	Sn	13 40 39.4	-1.9
JOW	Kunigami	5.42	49	P	Pn	13 39 38.5	-1.6
	0.4nm,0.3s,baz=156,slow=21,SNR=8.3						
JOW				S	Sn	13 40 37.5	-3.8
	1.6nm,0.3s,baz=129,slow=23,SNR=5.9						
JOW	Kunigami	5.42	49	*e*P	Pn	13 39 38.3	-1.8
	baz=50						
JOKE	Okino

QIZ					S		**Sn**	13 44 03.3	**+0.7**
QIZ					PMZ				
	11nm,1.4s								
QIZ					PMZ				
	55nm,5.0s								
QIZ					LN				
	190nm,19.8s								
QIZ					LE				
	50nm,16.6s								
QIZ					LZ				
	130nm,14.5s								
KSAR	**Wonju Array Be**	**14.55**	**13**		P		**Pn**	13 41 45.2	**+0.3**
KSAR	**Wonju Array Be**	**14.55**	**13**		P		**Pn**	13 41 45.2	**+0.3**
KSRS	**Korea Array**	**14.57**	**13**		P		**Pn**	13 41 45.2	**0.0**
	0.9nm,0.3s,baz=187,slow=12,SNR=21								
KSRS					LR	LR		13 48 30.8	
	comp=Z,108nm,18.0s,baz=180,slow=42								
GYA	**Guiyang**	**15.79**	**285**		*e*P		**Pn**	13 42 00.8	**-0.8**
GYA					PMZ				
	10.0nm,0.8s								
JIE	**Ise**	**15.85**	**43**		P		**P**	13 42 06.6	**+1.2**
BJI	**Beijing**	**17.87**	**341**		P		**Pn**	13 42 23.8	**-3.6**
BJI					PMZ				
	14nm,0.6s								
BJI					LZ				
	70nm,22.7s								
MAJO	**Matsushiro**	**18.19**	**40**	*c*	*i*P		**Pn**	13 42 31.8	**+0.4**
MAJO	**Matsushiro**	**18.19**	**40**		P		**P**	13 42 30.8	**-0.6**
	14nm,0.8s								
MAT	**Matsushiro**	**18.19**	**40**		P		**Pn**	13 42 31.8	**+0.4**
MAT	**Matsushiro**	**18.19**	**40**		P		**Pn**	13 42 32.4	**+1.0**
MJAR	**Matsushiro Arr**	**18.19**	**40**		P		**P**	13 42 31.2	**-0.2**
	1.4nm,0.3s,baz=226,slow=9.4,SNR=69								
JRY	**Ryogami san**	**18.27**	**43**		P		**Pn**	13 42 33.2	**+0.9**
KMI	**Kunming**	**19.22**	**280**		P		**Pn**	13 42 43.7	**-0.5**
KMI					PMZ				
	7.0nm,1.1s								
CD2	**Chengdu**	**19.30**	**297**		*e*P		**Pn**	13 42 44.8	**-0.2**
CD2					sP		*s*P	13 42 51.8	-5.9
CD2					S		**S**	13 46 16.2	**-4.2**
CD2					sS		**Sn**	13 46 21.7	**+1.2**
CD2					SS		**SnSn**	13 46 41.8	**+7.1**
CD2					PMZ				
	10.0nm,0.7s								
CD2					PMZ				
	190nm,4.8s								
CD2					LZ				
	210nm,14.4s								
HHC	**Hu-ho-hao-te**	**20.27**	**333**		*e*P		Pn	13 42 55.7	-0.7
HHC					sP		*s*P	13 43 03.7	-4.5
HHC					PP		**PnPn**	13 43 14.9	**+3.3**
HHC					S		**S**	13 46 38.8	**-0.8**
HHC					sS		Sn	13 46 43.8	+0.1
HHC					SS		**SnSn**	13 47 03.7	**+5.2**
HHC					PMZ				
	31nm,0.7s								
HHC					PMZ				
	90nm,8.7s								
HHC					LZ				
	310nm,17.4s								
CN2	**Changchun**	**20.50**	**4**		*e*P		**P**	13 42 55.6	**-0.9**
CN2					*e*S		**S**	13 46 44.1	**+0.2**
CN2					PMZ				
	30nm,0.9s								
CN2					PMZ				
	200nm,5.0s								
CN2					LN				
	200nm,16.0s								
CN2					LE				
	200nm,16.0s								
CN2					LZ				
	300nm,22.0s								
JMM	**Marumori**	**20.61**	**41**		P		**P**	13 42 56.1	**-1.7**
LZH	**Lanzhou**	**21.41**	**311**		*e*P		**P**	13 43 07.8	**+1.2**
LZH					pP		pP	13 43 10.4	-5.7
LZH					sP		*s*P	13 43 13.0	-7.7
LZH					*e*S		**S**	13 47 00.6	**-1.8**
LZH					sS		Sn	13 47 10.5	-0.8
LZH					PMZ				
	17nm,1.0s								
LZH					PMZ				
	52nm,4.2s								
LZH					LZ				
	470nm,14.2s								
MDJ	**Mudanjiang**	**21.80**	**11**		P		**P**	13 43 10.2	**-0.4**
MDJ					PMZ				
	8.0nm,0.7s								
MDJ					PMZ				
	22nm,4.3s								
USRK	**Ussuriysk Ar.**	**21.93**	**16**		P		**P**	13 43 09.8	**-2.1**
	3.1nm,0.6s,baz=225,slow=55,SNR=5.0								
USRK					LR		LR	13 53 00.3	
	comp=Z,94nm,18.4s,baz=148,slow=40								
JOM	**Ohasama**	**21.96**	**39**		P		**P**	13 43 09.6	**-2.7**
CMAR	**Chiang Mai Arr**	**23.63**	**263**		P		**P**	13 43 30.8	**+1.0**
	0.4nm,0.6s,baz=68,slow=8.8,SNR=4.2								
ERM	**Erimo**	**24.72**	**36**	ǁ	*i*P		**P**	13 43 38.1	**-1.4**
ERM					pmax		pmax		
	comp=Z,37nm,1.0s								
GTA	**Gaotai**	**25.86**	**314**		*e*P		**P**	13 43 50.3	**+0.2**
GTA					pP		pP	13 43 54.2	-6.1
GTA					sP		*s*P	13 43 57.3	-7.4
GTA					PcP		**PcP**	13 47 19.1	**+0.4**
GTA					S		**S**	13 48 17.9	**+0.3**
GTA					sS		sS	13 48 25.5	-9.1
GTA					SS		SnSn	13 49 24.8	+9.4
GTA					PMZ				
	comp=Z,3.0nm,1.3s								
GTA					LN				
	comp=Z,120nm,17.6s								
GTA					LE				
	comp=Z,99nm,17.6s								
GTA					LZ				
	comp=Z,78nm,19.0s								
ASAJ	**Asahikawa**	**25.92**	**32**		P		**P**	13 43 49.6	**-0.7**
	comp=Z,8.2nm,0.5s,baz=230,slow=9.2,SNR=16								
HABR	**Khabarovsk**	**26.69**	**17**		*e*P		**P**	13 43 55.0	**-2.3**
HABR					*e**PP		**pP**	13 44 04.6	**-2.9**
HABR					*e*SP			13 44 08.9	
HABR					*e*			13 44 43.3	
HABR					*e*			13 47 20.6	
HABR					*e*S		**S**	13 48 25.9	**-4.2**
HABR					*e*SS		SnSn	13 48 42.4	-53
HABR					*e*			13 54 47.1	
HABR					pmax		pmax		
	comp=Z,11nm,1.6s								
HABR					MLR		MLR		
	comp=Z,67nm,19.0s								
ULN	**Ulaanbaatar**	**27.89**	**336**	ǁ	*e*P		**P**	13 44 07.0	**-1.3**
ULN					pmax		pmax		
	comp=Z,3.0nm,0.8s								
SONM	**Songino Array**	**28.12**	**335**		P		**P**	13 44 09.3	**-1.1**
	comp=Z,4.9nm,0.8s,baz=146,slow=9.3,SNR=26								
YSS	**Yuzh-Sakhalins**	**28.13**	**28**		*e*P		**P**	13 44 12.0	**+1.8**
ZAK	**Zakamensk**	**31.39**	**335**		*e*P		P	13 44 36.4	-2.8
ZAK					pmax		pmax		
	comp=Z,2.0nm,1.0s								
TLY	**Talaya**	**32.28**	**336**		P		**P**	13 44 45.3	**-1.6**
	comp=Z,2.4nm,0.2s,baz=175,slow=11,SNR=2.4								
BOD	**Bodaibo**	**35.20**	**351**		*e*P		**P**	13 45 09.8	**-2.3**
BOD					pmax		pmax		
	comp=Z,2.0nm,1.4s								
WMQ	**Urumqi**	**35.95**	**314**		*e*P		**P**	13 45 21.2	**+2.3**
WMQ					pP		**pP**	13 45 28.0	**-1.3**
WMQ					PMZ				
	comp=Z,6.0nm,0.5s								
WMQ					PMZ				
	comp=Z,67nm,4.2s								
WMQ					LZ				
	comp=Z,180nm,25.0s								
YAK	**Yakutsk**	**38.93**	**4**		*e*P		**P**	13 45 42.1	**-1.6**
YAK					pmax		pmax		
	comp=Z,13nm,0.9s								
YAK					pmax		pmax		
	comp=N,5.0nm,1.2s								
PETK	**Petropavlovsk-**	**39.34**	**32**		P		**P**	13 45 47.7	**+0.4**
	comp=N,4.9nm,0.4s,baz=199,slow=4.1,SNR=71								
PET	**Petropavlovsk**	**39.76**	**33**		*i*P		**P**	13 45 51.6	**+0.8**
PET					pmax		pmax		
	comp=Z,68nm,0.6s								
MK31	**Makanchi Array**	**40.59**	**316**		*e*P		**P**	13 45 57.9	**0.0**
MK31	**Makanchi Array**	**40.59**	**316**		*e*P		**P**	13 45 57.9	**0.0**
MKAR	**Makanchi Array**	**40.59**	**316**		P		**P**	13 45 57.6	**-0.2**
	comp=Z,2.0nm,0.6s,baz=102,slow=8.0,SNR=37								
ZAA0	**Zalesovo Array**	**42.26**	**326**		*e*P		**P**	13 46 09.4	**-2.0**
ZALV	**Zalesovo Beam**	**42.26**	**326**		P		**P**	13 46 10.1	**-1.3**
	comp=Z,4.8nm,0.4s,baz=116,slow=8.0,SNR=34								
KSH	**Kashi**	**43.33**	**303**		*e*P		**P**	13 46 19.8	**-0.6**
KSH					*e*PP		**PP**	13 48 02.4	**+0.9**
KSH					PcS		**PcS**	13 52 01.0	**-0.5**
KSH					S		**S**	13 52 45.7	**-0.1**
KSH					ScS		**ScS**	13 56 17.6	**-0.3**
KSH					PMZ				
	comp=Z,100nm,5.7s								
KSH					LN				
	comp=Z,110nm,4.4s								
KSH					LE				
	comp=Z,83nm,4.7s								
KSH					LZ				
	comp=Z,170nm,5.1s								
TKM2	**Tokmak 2**	**44.14**	**308**		*e*P		**P**	13 46 27.9	**+0.9**
TKM2					pmax		pmax		
	comp=Z,6.0nm,1.0s								
TKM2	**Tokmak 2**	**44.14**	**308**		*e*P		**P**	13 46 27.9	**+0.9**
	comp=Z,6.2nm,1.0s								
WRA	**Warramunga Arr**	**44.21**	**166**		P		**P**	13 46 28.1	**+0.6**
	comp=Z,1.2nm,0.7s,baz=347,slow=9.3,SNR=8.1								
WRA					pP		pP	13 46 43.5	+5.4
	comp=Z,4.3nm,0.7s,baz=347,slow=9.0,SNR=12								
KURK	**Kurchatov**	**44.26**	**320**		*e*P		**P**	13 46 27.0	**-0.6**
KURK					pmax		pmax		
	comp=Z,3.0nm,0.7s								
KURK	**Kurchatov**	**44.26**	**320**		*e*P		**P**	13 46 27.0	**-0.6**
	comp=Z,3.1nm,0.7s								
AAK	**Ala-Archa**	**44.89**	**308**	ǁ	*e*P		**P**	13 46 34.1	**+1.2**
AAK					pmax		pmax		
	comp=Z,7.0nm,1.5s								
AS31	**Alice Springs**	**47.72**	**167**		*e*P		**P**	13 46 56.4	**+1.2**
ASAR	**Alice Springs**	**47.72**	**167**		P		**P**	13 46 56.5	**+1.4**
	comp=Z,0.5nm,0.6s,baz=352,slow=7.8,SNR=16								
ASAR					pP		pP	13 47 11.8	+5.9
	comp=Z,2.1nm,0.5s,baz=350,slow=13,SNR=13								
TIXI	**Tiksi**	**48.47**	**2**	ǁ	*e*P		**P**	13 46 59.1	**-1.2**
TIXI					pmax		pmax		
	comp=Z,11nm,1.3s								
TIXI	**Tiksi**	**48.47**	**2**		*e*P		**P**	13 46 58.5	**-1.8**
	comp=Z,8.5nm,1.0s								
BRVK	**Borovoye**	**49.90**	**321**	ǁ	*e*P		**P**	13 47 11.4	**-0.1**
BRVK					pmax		pmax		
	comp=Z,8.0nm,1.9s								
BILL	**Bilibino**	**51.74**	**19**	ǁ	*i*P		**P**	13 47 25.9	**+0.7**
BILL					pmax		pmax		
	comp=Z,4.0nm,1.0s								
BILL	**Bilibino**	**51.74**	**19**		*e*P		**P**	13 47 25.4	**+0.1**
ABKAR	**Akbulak array**	**55.72**	**315**		*e*P		**P**	13 47 54.9	**+0.3**
	comp=Z,4.1nm,0.5s								
SVE	**Sverdlovsk**	**56.13**	**324**	ǁ	*e*P		**P**	13 47 57.6	**+0.2**
SVE					pmax		pmax		
	comp=Z,17nm,1.0s								
STKA	**Stephens Creek**	**57.47**	**162**		P		**P**	13 48 07.2	**0.0**
	comp=Z,2.4nm,0.9s,baz=52,slow=12,SNR=2.1								
KDAK	**Kodiak Island**	**67.28**	**35**		*i*P		P	13 49 16.2	+3.7
KTH	**Kantishna Hill**	**67.36**	**29**		*e*P		**P**	13 49 13.9	**+0.9**
KBZ	**Khabaz**	**67.84**	**309**		P		**P**	13 49 17.3	**+1.0**
	comp=Z,1.9nm,0.7s,baz=236,slow=24,SNR=4.1								
KIV	**Kislovodsk**	**67.94**	**310**		*e*P		**P**	13 49 15.2	**-1.9**
KIV					pmax		pmax		
	comp=Z,7.0nm,1.1s								
MCK	**McKinley**	**68.21**	**29**		*e*P		**P**	13 49 18.8	**+0.5**
MCK					pmax		pmax		
	comp=Z,5.0nm,0.8s								
MCK	**McKinley**	**68.21**	**29**		*e*P		**P**	13 49 18.8	**+0.5**
	comp=Z,4.8nm,0.8s								
RC01	**Rabbit Creek A**	**68.24**	**31**		*e*P		**P**	13 49 19.1	**+0.5**
COLA	**College**	**68.51**	**27**	ǁ	*e*P		**P**	13 49 21.6	**+1.5**
COLA					pmax		pmax		
	comp=Z,17nm,0.8s								
ILAR	**Eielson Array**	**68.93**	**27**		P		**P**	13 49 22.3	**-0.5**
	comp=Z,1.1nm,0.6s,baz=260,slow=5.0,SNR=28								
BMRM	**Bremner River**	**70.72**	**31**		*e*P		**P**	13 49 34.7	**+0.8**
ARCES	**ARCESS Array B**	**71.22**	**338**		P		**P**	13 49 36.4	**-0.3**
	comp=Z,5.9nm,0.9s,baz=59,slow=7.5,SNR=5.5								
EGAK	**Eagle**	**71.33**	**27**		*e*P		**P**	13 49 37.7	**+0.3**
	comp=Z,4.5nm,1.0s								
FINES	**FINESS Array B**	**73.37**	**330**		P		**P**	13 49 49.3	**-0.3**
	comp=Z,2.2nm,0.9s,baz=55,slow=4.5,SNR=9.0								
FINES	**FINESS Array B**	**73.37**	**330**		*i*P		**P**	13 49 49.0	**-0.7**
FINES					pmax		pmax		
	comp=Z,2.0nm,0.9s								
VSU	**Vasula**	**73.99**	**327**	ǁ	*e*P		**P**	13 49 53.2	**-0.1**
VSU					pmax		pmax		
	comp=Z,28nm,1.0s								
AKASG	**Malin Array Be**	**75.07**	**319**		P		**P**	13 49 59.0	**-0.8**
	comp=Z,1.7nm,0.4s,baz=58,slow=6.2,SNR=13								
AKASG	**Malin Array Be**	**75.07**	**319**		P		**P**	13 49 59.0	**-0.8**
KIEV	**Kiev**	**75.08**	**319**	ǁ	*e*P		**P**	13 49 59.3	**-0.5**
BRTR	**Keskin Array B**	**75.56**	**307**		P		**P**	13 50 03.3	**+0.3**
	comp=Z,1.7nm,0.7s,baz=105,slow=6.0,SNR=9.5								
BRTR					pP		**PcP**	13 50 18.3	**+2.4**
	comp=Z,0.9nm,0.6s,baz=104,slow=5.2,SNR=3.7								
BRTR	**Keskin Array B**	**75.56**	**307**	*ce*	P		**P**	13 50 03.5	**+0.5**
BRTR					pmax		pmax		
	comp=Z,2.0nm,0.6s								
URZ	**Urewera**	**79.10**	**140**		LR		LR	14 24 58.7	
	comp=Z,74nm,18.7s,baz=357,slow=35								
NB2	**NORSAR Subarra**	**80.08**	**333**		P		**P**	13 50 26.8	**-0.8**
	comp=Z,2.1nm,0.8s,baz=56,slow=5.6								
NOA	**NORSAR Array B**	**80.08**	**333**		P		**P**	13 50 27.0	**-0.6**
	comp=Z,1.7nm,0.7s,baz=53,slow=6.2,SNR=5.5								
YKA	**Yellowknife Ar**	**82.87**	**23**		P		**P**	13 50 42.6	**+0.4**
	comp=Z,0.7nm,0.5s,baz=305,slow=4.9,SNR=11								
YKA					pP		pP	13 50 58.3	+4.7
	comp=Z,1.0nm,0.6s,baz=306,slow=5.1,SNR=6.0								
GERES	**GERESS Array B**	**84.99**	**321**		P		**P**	13 50 53.5	**0.0**
	comp=Z,2.0nm,0.7s,baz=55,slow=5.1,SNR=12								
GERES					pP		**pP**	13 51 08.7	**+3.9**
	comp=Z,1.2nm,0.6s,baz=186,slow=2.5,SNR=5.0								
NVAR	**Mina Array Bea**	**95.47**	**44**		P		**P**	13 51 42.5	**-0.8**
	comp=Z,0.3nm,0.5s,baz=311,slow=5.9,SNR=3.6								

MAN 03 13:43:27,13.58N×120.49E,h39km,mb4.7,ML3.6,MS3.6, 1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.28**	**304**	*e*P	Pn	13 43 37.1	+1.9
PGP	**Puerto Galera**	**0.46**	**99**	ǁ *e*P	Pn	13 43 39.1	+2.0
PGP				*e*S	Sn	13 43 47.6	+3.3
SJMP	**San Jose**	**1.27**	**151**	*e*P	Pn	13 43 50.4	+2.2
SJMP				*e*S	Sn	13 44 05.5	+1.5
BUSP	**Coron**	**1.59**	**190**	*e*P	Pn	13 43 54.0	+1.4
ENPP	**El Nido**	**2.57**	**204**	*e*P	Pn	13 44 07.2	+1.0
ENPP				*e*S	Sn	13 44 25.6	-11
CUYO	**Cuyo Island**	**2.76**	**169**	*e*P	Pn	13 44 09.2	+0.5

*CSEM **03** 13:59:46.9,45.94N×14.31E,h0km,ML0.8,Suspected Mining explosion.*

LJU 03 13:59:46.9,45.94N×14.31E,h0km,ML0.8 Artificial, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRNS	**Crni Vrh**	**0.15**	**345**	*i* Pg	Pg	13 59 49.5	-0.4
CRNS				*i* Sg	Sg	13 59 52.0	+0.1
	comp=Z,21nm,0.2s						
JAVS	**Javornik**	**0.18**	**255**	*i* Pg	Pg	13 59 50.2	-0.4
JAVS				*i* Sg	Sg	13 59 53.2	+0.2
	comp=Z,17nm,0.2s						
JAVS	**Javornik**	**0.18**	**255**	*i* Pg	Pg	13 59 50.2	-0.3
JAVS				*i* Sg	Sg	13 59 53.2	+0.2
	comp=Z,17nm,0.2s						
LJU	**Ljubljana**	**0.18**	**55**	*e*Pg	Pg	13 59 50.1	-0.3
LJU	**Ljubljana**	**0.18**	**55**	Pg	Pg	13 59 50.1	-0.4
CEY	**Cerknica**	**0.21**	**158**	*i* Pg	Pg	13 59 51.1	+0.1
CEY				*i* Sg	Sg	13 59 54.4	+0.4
	comp=Z,15nm,0.1s						
CEY	**Cerknica**	**0.21**	**158**	*i* Pg	Pg	13 59 51.2	+0.1
CEY				*i* Sg	Sg	13 59 54.4	+0.5
	comp=Z,15nm,0.1s						
VOJS	**Vojsko**	**0.31**	**287**	*i* Pg	Pg	13 59 52.3	-0.8
VOJS				*i* Sg	Sg	13 59 57.8	+0.5
	comp=Z,7.0nm,0.2s						
VOJS	**Vojsko**	**0.31**	**287**	*i* Pg	Pg	13 59 52.3	-0.8
VOJS				*i* Sg	Sg	13 59 57.8	+0.5
	comp=Z,7.0nm,0.2s						
VNDS	**Vrh nad Dolski**	**0.32**	**59**	*i* Pg	Pg	13 59 53.1	+0.1
VNDS				*i* Sg	Sg	13 59 57.9	+0.7
	comp=Z,5.0nm,0.1s						
VISS	**Visnje**	**0.39**	**110**	*i* Pg	Pg	13 59 54.6	+0.2
VISS	**Visnje**	**0.39**	**110**	*i* Pg	Pg	13 59 54.6	+0.1
GORS	**Gorjuse**	**0.44**	**330**	*i* Pg	Pg	13 59 56.1	+0.6
GORS	**Gorjuse**	**0.44**	**330**	*i* Pg	Pg	13 59 56.1	+0.6

IDC 03 14:01:26.2±64.0,15.86S×177.63W,h0km,mb4.2/3, mb1 4.4/3,mb1mx4.0/19,mbtmp4.2/3,Error ellipse: s-maj=1182.0km s-min=176.0km az=77.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.29**	**239**	P	P	14 09 05.2	-0.1
	1.6nm,0.9s,baz=80,slow=14,SNR=3.0						
WRA	**Warramunga Arr**	**45.77**	**257**	P	P	14 09 50.0	0.0
	1.8nm,0.9s,baz=92,slow=7.6,SNR=47						
ASAR	**Alice Springs**	**46.09**	**252**	P	P	14 09 52.2	-0.3
	11nm,0.6s,baz=87,slow=7.8,SNR=139						

*ISCJB **03** 14:04:17.4±0.7,52.53N±0.02×163.66W±0.02,h5km±4km, mb5.6/411,MS4.7/183,Error ellipse: s-maj=3.7km s-min=1.7km az=21.8*

*BJI **03** 14:04:17.5,52.48N×163.86W,h12km,mb5.5/79, mB5.5/63,Ms5.2/76,Ms7 4.8/71*

*IDC **03** 14:04:17.6±0.4,52.45N×163.77W,h0km,mb5.2/39, mb1 5.3/40,mb1mx5.3/40,mbtmp5.2/40,ML4.6/1,MS4.5/31, Ms1 4.5/31,ms1mx4.4/41,Error ellipse: s-maj=13.4km s-min=7.7km az=6.0*

*MOS **03** 14:04:17.9±0.9,52.47N×163.67W,h10km,mb6.0/130, MS4.8/53,Error ellipse: s-maj=7.0km s-min=4.0km az=95.8*

*NEIC **03** 14:04:19.4±1.2,52.61N×163.69W,h8km±7km,mb5.6/234, MS4.7/134,MW5.5,ML5.1(AEIC),Error ellipse: s-maj=4.2km s-min=2.0km az=194.0,Moment Tensor Solution. s83 Moment tensor: Scale 10^17^Nm; Mrr-1.98; Mθθ2.46; Mϕϕ-0.48; Mrθ0.48; Mrϕ0.19; Mθϕ-0.14; Best double couple: M~o~2.30000×10^17^ NP1:ϕ~s~272.00000°, δ51.00000°,λ-82.00000°. NP2:ϕ~s~80.00000°,δ39.00000°, λ-100.00000°. Principal axes: T 2.5200, Plg5.0000°, Azm356.0000°; N -0.4700, Plg6.0000°, Azm87.0000°; P -2.0500, Plg81.0000°, Azm223.0000°;*

NEIC Felt at Unalaska.

*GCMT **03** 14:04:19.4±0.1,52.49N×163.76W,h12km,MW5.5/122, Moment Tensor Solution. s71,c138; s122,c282; Duration: 1ŝ3 Moment tensor: Scale 10^17^Nm; Mrr-1.57±.02; Mθθ1.65±.02; Mϕϕ-0.08±.02; Mrθ-0.59±.05; Mθϕ0.82±.02; Mrϕ0.26±.06; Best double couple: M~o~1.91100×10^17^ NP1:ϕ~s~85.00000°,δ55.00000°, λ-67.00000°. NP2:ϕ~s~230.00000°,δ41.00000°, λ-119.00000°. Principal axes: T 2.0390, Plg7.0000°, Azm160.0000°; N -0.2580, Plg18.0000°, Azm252.0000°; P -1.7830, Plg70.0000°, Azm49.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*SZGRF **03** 14:04:32.8,53.84N×164.00W,h33km,mb5.8,MS4.6, Unimak Island, Alaska, United States, region*

ISC 03 14:04:20.4±0.3,52.52N±0.04×163.64W±0.03,h17km±1km, h17km:pP-P,n1633,σ1ŝ29/1731,mb5.7/430,MS4.7/185, 309C-280D,South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**2.04**	**344**	P	**Pn**	14 04 52.5	**-1.4**
AKA	**Akutan**	**2.06**	**323**	P	**Pn**	14 04 53.5	**-0.7**
AKA				S	**Sn**	14 05 17.2	**-2.2**
AKUT	**Akutan**	**2.06**	**323**	P	**Pn**	14 04 53.1	**-1.1**
AKUT				S	**Sn**	14 05 18.0	**-1.4**
WESP	**Westdahl Peak**	**2.08**	**342**	P	**Pn**	14 04 53.4	**-1.1**
ZRO	**Akutan Zero**	**2.11**	**319**	P	**Pn**	14 04 53.8	**-1.0**
AKRB	**Akutan Reef Bi**	**2.17**	**319**	P	**Pn**	14 04 54.7	**-1.0**
AKRB				S	**Sn**	14 05 21.7	**-0.6**
UNV	**Unalaska Valle**	**2.18**	**309**	P	**Pn**	14 04 54.5	**-1.3**
UNV				S	**Sn**	14 05 20.6	**-1.7**
WEBT	**Westdahl Beart**	**2.18**	**343**	P	**Pn**	14 04 54.9	**-0.9**
AKGG	**Akutan Green G**	**2.19**	**321**	P	**Pn**	14 04 54.9	**-1.1**
AKGG				S	**Sn**	14 05 21.1	**-1.7**
MREP	**Makushin Rep't**	**2.27**	**306**	P	**Pn**	14 04 56.6	**-0.6**
SSLW	**Shishaldin Wes**	**2.27**	**353**	P	**Pn**	14 04 55.7	**-1.4**
SSLN	**Shishaldin Nor**	**2.31**	**355**	P	**Pn**	14 04 56.6	**-1.0**
ISNN	**Isanotski Nort**	**2.32**	**358**	P	**Pn**	14 04 57.2	**-0.5**
FALS	**False Pass**	**2.35**	**3**	P	**Pn**	14 04 56.2	**-1.5**
FALS				S	**Sn**	14 05 24.9	**-1.6**
MSW	**Makushin Switc**	**2.35**	**308**	P	**Pn**	14 04 57.3	**-0.8**
MCIR	**Makushin Cirqu**	**2.42**	**308**	P	**Pn**	14 04 58.6	**-0.6**
DT1	**Dutton Round H**	**2.71**	**17**	P	**Pn**	14 05 01.4	**-1.8**
DT1				S	**Sn**	14 05 32.1	**-3.4**
OKFG	**Magazine Ridge**	**2.73**	**291**	P	**Pn**	14 05 02.3	**-1.1**
DTNA	**Dutton South F**	**2.76**	**17**	P	**Pn**	14 05 02.2	**-1.5**
DTNA				S	**Sn**	14 05 33.7	**-3.0**
NIKH	**Nikolski High**	**3.20**	**280**	P	**Pn**	14 05 08.7	**-1.2**
SDPT	**Sand Point**	**3.40**	**32**	P	**Pn**	14 05 11.6	**-0.9**
SDPT				S	**Sn**	14 05 49.2	**-3.0**
GSTR	**Great Sitkin T**	**7.63**	**272**	*e*Pn	**Pn**	14 06 12.1	**+1.4**
	291nm,0.3s						
ADK	**Adak**	**8.04**	**271**	*e*P	**Pn**	14 06 15.7	**-0.6**
ADK				pmax	pmax		
	comp=Z,319nm,0.4s						
ADK	**Adak**	**8.04**	**271**	*e*Pn	**Pn**	14 06 15.7	**-0.6**
	comp=Z,319nm,0.4s						
KDAK	**Kodiak Island**	**8.23**	**46**	Pn	**Pn**	14 06 17.7	**-1.1**
	comp=Z,941nm,1.0s,SNR=50						
KDAK	**Kodiak Island**	**8.23**	**46**	*ce*P	**Pn**	14 06 16.7	**-2.1**
KDAK	**Kodiak Island**	**8.23**	**46**	*e*Pn	**Pn**	14 06 16.9	**-1.9**
	comp=Z,162nm,0.9s						
RSO

SNR=2.8
DLBC Dease Lake 19.80 59 P **Pn 14 08 52.0 +0.8**
comp=Z,0.9nm,0.3s,baz=272,slow=9.2,SNR=142
BILL Bilibino 21.20 329*c i*P **P 14 09 04.3 -0.4**
BILL *i* 14 09 12.0
BILL *i* 14 09 22.5
BILL *i* S **S 14 12 58.7 -0.7**
BILL *i* 14 13 16.4
BILL pmax pmax
comp=Z,308nm,2.5s
BILL MLR MLR
comp=Z,4μm,17.0s
BILL Bilibino 21.20 329 *e*P **P 14 09 04.3 -0.4**
comp=Z,190nm,1.1s
BILL LR LR
comp=Z,4μm,19.0s
INK Inuvik 21.35 31 P **P 14 09 05.9 -0.3**
comp=Z,82nm,1.0s,baz=226,slow=12,SNR=150
INK S S 14 12 55.0 -7.4
comp=Z,8.4nm,0.8s,baz=210,slow=20,SNR=3.6
INK LR LR 14 18 32.5
comp=Z,2μm,18.2s,baz=236,slow=40
BBB Bella Bella 21.57 77 P **P 14 09 10.5 +1.7**
comp=Z,182nm,1.1s,baz=277,slow=9.7,SNR=14
BBB LR LR 14 15 20.8
comp=Z,1μm,18.1s,baz=286,slow=31
PET Petropavlovsk 22.65 286 *e*P **P 14 09 21.7 +1.4**
PET *e*S **S 14 13 24.4 -2.9**
PET pmax pmax
comp=Z,199nm,1.2s
PET pmax pmax
comp=Z,2μm,7.6s
PET pmax pmax
comp=Z,800nm,9.1s
PET MLR MLR
comp=Z,700nm,18.0s
PET MLR MLR
comp=Z,800nm,17.0s
PET Petropavlovsk 22.65 286 P **P 14 09 19.7 -0.6**
comp=Z,370nm,1.4s
PET LR LR
comp=Z,719nm,19.0s
PEA0B Petropavlovsk- 23.19 287 *e*P **P 14 09 25.7 -0.3**
PETK Petropavlovsk- 23.19 287 P **P 14 09 25.5 -0.4**
comp=Z,169nm,0.8s,baz=90,slow=12,SNR=177
PETK PcP **PcP 14 13 14.0 +0.5**
comp=Z,5.3nm,0.9s,baz=90,slow=3.0,SNR=6.5
PETK S **S 14 13 35.6 -1.1**
comp=Z,4.4nm,0.9s,baz=99,slow=18,SNR=2.6
SEY Seymchan 25.17 312 P **P 14 09 44.9 +0.5**
comp=Z,48nm,0.9s,baz=90,slow=8.8,SNR=72
SEY PcP **PcP 14 13 17.2 -0.4**
comp=Z,13nm,1.0s,baz=135,slow=4.9,SNR=4.8
SEY S **S 14 14 09.9 +1.6**
comp=Z,3.0nm,0.9s,baz=17,slow=19,SNR=1.4
SEY ScP **ScP 14 16 55.8 +0.2**
comp=Z,3.2nm,0.9s,baz=73,slow=1.1,SNR=4.0
OBC Olympics--Boni 25.45 84 P **P 14 09 50.1 +3.0**
OSR Olympics--Salm 25.74 85 P **P 14 09 52.7 +2.9**
NLWA Neilton Lookou 25.85 85 *e*P **P 14 09 52.6 +1.8**
comp=Z,147nm,0.9s
NLWA LR LR
comp=Z,2μm,19.0s
F04D Rainier, OR 26.98 87 ⇓P **P 14 10 03.4 +2.5**
baz=27
C05A Tolt Reservoir 27.04 83 P **P 14 10 03.6 +2.1**
D05A Enumclaw 27.09 85 P **P 14 10 04.7 +2.8**
G03D McMinnville, O 27.25 89 ⇓P **P 14 10 05.7 +2.3**
baz=27
LON Longmire 27.40 85 *e*P **P 14 10 06.8 +2.1**
LON pmax pmax
comp=Z,36nm,1.1s
LON Longmire 27.40 85 *e*P **P 14 10 06.8 +2.1**
comp=Z,36nm,1.1s
YKA Yellowknife Ar 27.49 49 P **P 14 10 05.6 +0.4**
comp=Z,33nm,1.0s,baz=270,slow=8.9,SNR=170
YKA PcP **PcP 14 13 22.9 -0.1**
comp=Z,2.6nm,0.5s,baz=270,slow=2.3,SNR=6.7
YKA ScP **ScP 14 17 03.1 +0.7**
comp=Z,1.1nm,0.8s,baz=277,slow=3.4,SNR=4.2
YKA P3KPbc 14 42 33.7
comp=Z,0.3nm,0.4s,baz=103,slow=4.8,SNR=4.9
MTMW Mount Mitchell 27.50 87 P **P 14 10 08.3 +2.7**
PNT Penticton 27.61 79 P **P 14 10 08.4 +1.8**
PNT Penticton 27.61 79 P **P 14 10 08.3 +1.8**
ETW Entiat 27.91 83 P **P 14 10 11.2 +1.8**
I03D Drain, OR 27.99 92 ⇑P **P 14 10 12.7 +2.7**
baz=28
WTV Waterville 28.09 82 P **P 14 10 12.8 +1.9**
B08A Colville Reser 28.18 81 P **P 14 10 13.6 +1.9**
VFP Flag Point 28.30 88 P **P 14 10 15.4 +2.5**
SAW Saint Andrews 28.43 82 P **P 14 10 15.6 +1.7**
G05D Wamic, OR 28.43 88 ⇑P **P 14 10 16.2 +2.3**
baz=28
I04A Tendick Farm, 28.51 91 ⇑P **P 14 10 16.7 +2.1**
baz=28,SNR=6.9
L02D Cave Junction, 28.69 95 ⇓P **P 14 10 18.5 +2.3**
baz=29
CROR Criterion Ridg 28.76 88 P **P 14 10 19.4 +2.4**
HUMO Hull Mountain 28.83 94 *e*P **P 14 10 18.9 +1.4**
comp=Z,37nm,1.5s
HUMO *e* 14 10 29.8
I05D Terrebonne, OR 28.88 89 ⇓P **P 14 10 20.2 +2.2**
baz=29
RSW Rattlesnake Hi 28.91 84 P **P 14 10 20.7 +2.4**
HAWA Hanford 28.95 84 *e*P **P 14 10 19.9 +1.4**
comp=Z,256nm,1.4s
HAWA *e* 14 10 30.1
HAWA LR LR
comp=Z,1μm,20.0s
KTRM Thompson Ridge 28.98 95 P **P 14 10 21.5 +2.6**
J04D Umpqua Nationa 29.00 92 ⇑P **P 14 10 21.3 +2.1**
baz=29
C09A Chrisman Ranch 29.06 81 P **P 14 10 21.1 +1.6**
KHMM Horse Mountain 29.37 97 *e*P **P 14 10 25.1 +2.6**
comp=Z,30nm,0.9s
YBH Yreka Blue Hor 29.48 95 P **P 14 10 24.4 +1.0**
comp=Z,11nm,1.0s,baz=280,slow=5.1,SNR=11
YBH PcP **PcP 14 13 28.9 +0.5**
comp=Z,2.6nm,0.9s,baz=166,slow=4.2,SNR=3.1
YBH LR LR 14 20 07.5
comp=Z,1μm,19.4s,baz=281,slow=32
YBH Yreka Blue Hor 29.48 95 *e*P **P 14 10 24.7 +1.3**
YBH 14 13 28.9
YBH Yreka Blue Hor 29.48 95 *e*P **P 14 10 24.7 +1.3**
YBH PcP **PcP 14 13 28.9 +0.5**
J05D Fort Rock, OR 29.51 91 ⇓P **P 14 10 26.1 +2.4**
baz=29,SNR=5.8
NEW Newport 29.55 79 P **P 14 10 25.6 +1.7**
comp=Z,193nm,0.9s,baz=301,slow=7.2,SNR=152
NEW LR LR 14 19 46.3
comp=Z,869nm,19.7s,baz=300,slow=31
NEW Newport 29.55 79 *e*P **P 14 10 25.3 +1.4**
NEW pmax pmax
comp=Z,265nm,1.0s
NEW Newport 29.55 79 *e*P **P 14 10 25.3 +1.4**
comp=Z,265nm,1.0s
NEW Newport 29.55 79 ⇑P **P 14 10 25.0 +1.1**
baz=29,SNR=144
K04D Chiloquin, OR 29.56 93 ⇑P **P 14 10 26.2 +2.1**
baz=30
M02C Callahan 29.59 96 ⇑P **P 14 10 26.9 +2.6**
baz=30,SNR=13
EDM Edmonton 29.86 68 *e*P **P 14 10 27.6 +1.1**
EDM Edmonton 29.86 68 *e*P **P 14 10 27.6 +1.1**
N02D Trinity Center 29.93 96 ⇓P **P 14 10 29.6 +2.2**
baz=30,SNR=8.4
M04C Macdoel 29.98 94 ⇑P **P 14 10 29.8 +1.9**
baz=30,SNR=9.1
WDC Whiskeytown Da 30.27 97 *e*P **P 14 10 31.2 +1.0**
WDC pmax pmax
comp=Z,45nm,1.4s
WDC Whiskeytown Da 30.27 97 *e*P **P 14 10 31.2 +1.0**
comp=Z,45nm,1.4s
MOD Modoc Plateau 30.85 93 P **P 14 10 37.7 +2.1**
BMO Blue Mountains 31.07 85 *e*P **P 14 10 38.8 +1.4**
comp=Z,139nm,1.7s
BMO LR LR
comp=Z,1μm,19.0s
WALA Waterton Lakes 31.12 76 P **P 14 10 38.2 +0.3**
comp=Z,177nm,1.3s
BSMT Bassoo Peak 31.14 79 *e*P **P 14 10 39.5 +1.4**
comp=Z,285nm,1.1s
BLMT Blacktail Moun 31.32 78 *e*P **P 14 10 41.3 +1.6**
comp=Z,194nm,0.8s
BLMT *e* 14 10 51.0

KIP Kipapa 31.34 170 ⇓*i*P **P 14 10 42.2 +2.4**
KIP pmax pmax
comp=Z,310nm,2.5s
JTMT Jette 31.49 79 *e*P **P 14 10 42.4 +1.3**
comp=Z,61nm,0.7s
JTMT *e* 14 10 52.3
WVOR Wild Horse Val 31.57 90 *e*P **P 14 10 43.5 +1.7**
WVOR pmax pmax
WVOR comp=Z,164nm,1.6s
WVOR MLR MLR
comp=Z,952nm,19.0s
WVOR Wild Horse Val 31.57 90 *e*P **P 14 10 43.5 +1.7**
comp=Z,164nm,1.6s
WVOR LR LR
comp=Z,952nm,19.0s
YBMT Yellow Bay 31.60 78 *e*P **P 14 10 43.2 +1.2**
comp=Z,187nm,1.1s
YBMT *e* 14 10 53.2
SWMT Swartz Lake 31.77 79 *e*P **P 14 10 44.5 +0.9**
comp=Z,186nm,1.5s
MSO Missoula 32.13 80 ⇑P **P 14 10 47.7 +1.1**
baz=32,SNR=78
SLMT Seeley Lake 32.20 79 *e*P **P 14 10 48.1 +0.8**
comp=Z,97nm,0.8s
SLMT *e* 14 10 58.1
CHMT Chamberlain Mo 32.50 79 *e*P **P 14 10 50.8 +0.7**
comp=Z,56nm,0.7s
CHMT *e* 14 11 00.0
MFID Camas Ranch 32.74 87 *e*P **P 14 10 53.3 +1.2**
comp=Z,29nm,0.8s
CMB Columbia Colle 33.16 98 *e*P **P 14 10 57.5 +1.8**
CMB pmax pmax
comp=Z,30nm,1.3s
CMB Columbia Colle 33.16 98 *e*P **P 14 10 57.5 +1.8**
comp=Z,30nm,1.3s
POHA Pohakuloa 33.30 166 PFAKE 14 11 10.0 +13
POHA LR LR
comp=Z,2μm,20.0s
WAKR Walker 33.44 97 *e*P **P 14 11 00.0 +1.7**
comp=Z,36nm,1.0s
HRY Holter Researc 33.45 79 *e*P **P 14 10 59.5 +1.2**
comp=Z,70nm,0.7s
HRY *e* 14 11 09.0
HLID Hailey 33.52 85 *e*P **P 14 11 00.3 +1.4**
comp=Z,49nm,0.7s
HLID *e* 14 11 10.6
HLID LR LR
comp=Z,1μm,19.0s
HLID Hailey 33.52 85 ⇓P **P 14 11 00.7 +1.8**
baz=33,SNR=77
LRM Limekiln Ridge 33.52 81 *e*P **P 14 10 59.9 +0.9**
comp=Z,442nm,0.9s
BMN Battle Mountai 33.60 92 *e*P **P 14 11 01.0 +1.4**
BMN pmax pmax
comp=Z,73nm,1.5s
BMN Battle Mountai 33.60 92 *e*P **P 14 11 01.0 +1.4**
comp=Z,73nm,1.5s
DLMT Dillon 33.67 81 *e*P **P 14 11 01.2 +1.0**
comp=Z,99nm,1.0s
DLMT *e* 14 11 11.2
MCMT McKenzie Canyo 33.79 82 *e*P **P 14 11 02.8 +1.4**
comp=Z,75nm,0.8s
MCMT *e* 14 11 12.8
YUK Yuzh-Kuril'sk 34.04 276*c i*P P 14 10 57.4 -5.8
YUK *i* PPP PPP 14 12 34.4
YUK *i* 14 13 38.2
YUK *i* S **S 14 16 27.4 -0.3**
YUK *i* 14 21 23.6
YUK pmax pmax
comp=Z,583nm,1.7s
YUK pmax pmax
comp=Z,388nm,1.5s
YUK pmax pmax
comp=N,177nm,0.7s
YUK pmax pmax
comp=E,78nm,0.7s
YUK MLR MLR
comp=E,395nm,18.0s
YUK MLR MLR
comp=Z,405nm,18.0s
EGMT Eagleton 34.05 76 *e*P **P 14 11 04.0 +0.5**
comp=Z,274nm,1.3s
EGMT LR LR
comp=Z,740nm,19.0s
EGMT Eagleton 34.05 76 ⇑P **P 14 11 04.2 +0.7**
baz=34,SNR=91
BOZ Bozeman (W) 34.10 80 *e*P **P 14 11 05.2 +1.2**
BOZ pmax pmax
comp=Z,87nm,0.7s
BOZ MLR MLR
comp=Z,597nm,20.0s
BOZ Bozeman (W) 34.10 80 *e*P **P 14 11 05.2 +1.2**
comp=Z,87nm,0.7s
BOZ *e* 14 11 15.2
BOZ LR LR
comp=Z,597nm,20.0s
NVAR Mina Array Bea 34.17 96 P **P 14 11 06.4 +1.7**
comp=Z,16nm,0.9s,baz=297,slow=8.0,SNR=71
NVAR PcP **PcP 14 13 41.5 +0.1**
comp=Z,3.2nm,0.7s,baz=276,slow=1.7,SNR=3.0
A19A Klindworth Far 34.23 74 ⇑P **P 14 11 05.2 +0.3**
baz=34,SNR=27
B19A Brinkman Farms 34.33 74 ⇓P **P 14 11 06.8 +1.0**
baz=34,SNR=44
MLAC Mammoth, Mammo 34.36 98 ⇓P **P 14 11 08.8 +2.5**
baz=34
YSS Yuzh-Sakhalins 34.41 283 *e*P **P 14 11 06.2 -0.2**
YSS *e* 14 12 19.0
YSS *e*S **S 14 16 29.0 -4.3**
YSS *e*SSS SSS 14 19 05.0
YSS pmax pmax
comp=Z,90nm,1.2s
YSS Yuzh-Sakhalins 34.41 283 *e*P **P 14 11 06.8 +0.4**
comp=Z,66nm,1.1s
YSS LR LR
comp=Z,294nm,21.0s
TIXI Tiksi 34.42 329*de*P **P 14 11 06.1 -0.1**
TIXI pmax pmax
comp=Z,102nm,2.5s
TIXI Tiksi 34.42 329 *e*P **P 14 11 05.7 -0.5**
comp=Z,22nm,0.8s
TIXI *e*PcP **PcP 14 13 41.6 +0.4**
TIXI LR LR
comp=Z,2μm,19.0s
C19A Slack Wire Ran 34.61 76 ⇑P **P 14 11 09.8 +1.6**
baz=34,SNR=195
ELK Elko 34.62 90 *e*P **P 14 11 09.8 +1.2**
ELK pmax pmax
comp=Z,90nm,1.6s
ELK Elko 34.62 90 *e*P **P 14 11 09.8 +1.2**
comp=Z,90nm,1.6s
QLMT Earthquake Lak 34.65 81 *e*P **P 14 11 10.1 +1.2**
comp=Z,21nm,1.4s
A20A Cobblestone Ra 34.73 73 ⇑P **P 14 11 09.9 +0.6**
baz=35,SNR=30
B20A Solberg Farm, 34.88 74 ⇑P **P 14 11 11.0 +0.4**
baz=35,SNR=39
RCTC Rector, Farmer 34.98 100 ⇓P **P 14 11 12.6 +1.1**
baz=35
D19A Cripps Ranch, 34.99 76 ⇓P **P 14 11 12.9 +1.3**
baz=35,SNR=78
YMR Madison River 35.02 81 *e*P **P 14 11 13.7 +1.8**
comp=Z,205nm,0.8s
YMR *e* 14 11 23.6
TPH Tonopah 35.05 96 *e*P **P 14 11 13.8 +1.5**
TPH pmax pmax
comp=Z,27nm,0.9s
TPH Tonopah 35.05 96 *e*P **P 14 11 13.8 +1.5**
comp=Z,28nm,0.9s
TIN Tinemaha, Big 35.10 98 ⇓P **P 14 11 14.4 +1.7**
baz=35
YNR Norris Junctio 35.16 81 *e*P **P 14 11 15.2 +1.9**
comp=Z,208nm,0.8s
YNR *e* 14 11 25.4
SMMC Simmler 35.20 102 ⇓P **P 14 11 15.8 +2.4**
baz=35
GCMT Greycliff 35.21 79 *e*P **P 14 11 14.9 +1.4**
comp=Z,52nm,0.7s
GCMT *e* 14 11 24.8
YFT Old Faithful 35.21 82 *e*P **P 14 11 15.9 +2.2**
comp=Z,80nm,0.8s
C20A Veseth Ranch, 35.24 75 ⇓P **P 14 11 14.7 +1.1**
baz=35,SNR=149
A21A Bergtoll Ranch 35.26 72 ⇑P **P 14 11 14.6 +0.7**
baz=35,SNR=10
VES Vestal, Richgr 35.39 100 ⇑P **P 14 11 16.3 +1.4**
baz=35,SNR=10

E19A Rath Farm, Rou 35.40 77 ⇑P **P 14 11 16.8 +1.7**
baz=35,SNR=104
H17A Grant Village 35.40 82 *e*P **P 14 11 17.8 +2.5**
comp=Z,306nm,1.3s
H17A Grant Village 35.40 82 ⇑P **P 14 11 18.0 +2.7**
baz=35,SNR=111
IMW Indian Meadow 35.45 83 *e*P **P 14 11 17.4 +1.6**
comp=Z,98nm,0.8s
IMW *e* 14 11 27.5
D20A Manuel Ranch, 35.47 76 ⇑P **P 14 11 16.8 +1.2**
baz=35,SNR=39
B21A Ellsworth Farm 35.48 73 ⇓P **P 14 11 16.1 +0.4**
baz=35,SNR=19
FLWY Flagg Ranch 35.49 82 *e*P **P 14 11 17.9 +1.9**
comp=Z,301nm,1.4s
FLWY *e* 14 11 28.0
HVU Hansel Valley 35.52 87 *e*P **P 14 11 17.7 +1.4**
HVU pmax pmax
comp=Z,65nm,0.8s
HVU Hansel Valley 35.52 87 *e*P **P 14 11 17.7 +1.4**
comp=Z,64nm,0.8s
HVU *e* 14 11 28.0
FFC Flin Flon 35.60 61 P **P 14 11 17.9 +1.3**
comp=Z,358nm,1.2s,SNR=22
FFC Flin Flon 35.60 61 *e*P **P 14 11 16.3 -0.3**
FFC pmax pmax
comp=Z,109nm,1.3s
FFC MLR MLR
comp=Z,1μm,20.0s
FFC Flin Flon 35.60 61 *e*P **P 14 11 16.3 -0.3**
comp=Z,109nm,1.3s
FFC LR LR
comp=Z,1μm,20.0s
MOOW Moose Ponds 35.65 83 *e*P **P 14 11 18.8 +1.4**
comp=Z,91nm,1.4s
MOOW *e* 14 11 28.8
I17A Pilgrim Ck. 35.66 82 ⇓P **P 14 11 19.6 +2.1**
baz=36,SNR=25
GRAC Grapevine Rang 35.66 97 ⇓P **P 14 11 19.7 +2.3**
baz=36,SNR=14
TPAW Teton Pass 35.66 83 *e*P **P 14 11 19.2 +1.6**
comp=Z,209nm,1.4s
YAK Yakutsk 35.70 312 P **P 14 11 17.0 -0.2**
comp=Z,82nm,0.7s,baz=58,slow=2.5,SNR=73
YAK PcP **PcP 14 13 44.1 -1.0**
comp=Z,13nm,0.6s,baz=355,slow=1.7,SNR=3.9
YAK Yakutsk 35.70 312*d i*P **P 14 11 16.9 -0.4**
YAK *e* 14 12 37.9
YAK *e* 14 13 44.5
YAK *e*S **S 14 16 51.2 -1.6**
YAK *e*SS **SnSn 14 19 10.0 -4.3**
YAK *e* 14 21 34.5
YAK pmax pmax
comp=Z,95nm,0.9s
YAK pmax pmax
comp=E,49nm,1.5s
YAK pmax pmax
comp=N,7.0nm,1.2s
YAK pmax pmax
comp=Z,134nm,2.0s
YAK pmax pmax
comp=E,165nm,2.3s
YAK pmax pmax
comp=N,57nm,2.0s
YAK smax smax
comp=E,540nm,7.6s
YAK smax smax
comp=N,266nm,5.0s
YAK MLR MLR
comp=N,741nm,12.0s
YAK Yakutsk 35.70 312 *e*P **P 14 11 16.5 -0.8**
comp=N,101nm,0.8s
YAK PcP **PcP 14 13 44.1 -1.0**
YAK LR LR
comp=Z,923nm,20.0s
C21A Desert Coulee 35.72 74 ⇓P **P 14 11 18.9 +1.2**
baz=36,SNR=29
E20A Meyer Farm, Mu 35.77 77 ⇑P **P 14 11 19.4 +1.2**
baz=36,SNR=74
REDW Red Top Meadow 35.80 83 *e*P **P 14 11 20.5 +1.8**
comp=Z,275nm,1.4s
H18A Shoshone NF, C 35.80 81 ⇑P **P 14 11 20.1 +1.4**
baz=36,SNR=62
SNOW Snow King Moun 35.80 83 *e*P **P 14 11 20.9 +2.1**
comp=Z,51nm,0.8s
SNOW *e* 14 11 31.5
RLMT Red Lodge 35.80 80 *e*P **P 14 11 20.0 +1.3**
comp=Z,397nm,1.2s
RLMT *e* 14 11 30.0
LOHW Long Hollow 35.81 83 *e*P **P 14 11 20.0 +1.2**
comp=Z,49nm,0.8s
LOHW *e* 14 11 30.4
A22A Carney Farms, 35.85 72 ⇑P **P 14 11 19.8 +0.9**
baz=36,SNR=32
BGU Big Grassy Mou 35.87 88 *e*P **P 14 11 20.8 +1.6**
comp=Z,136nm,1.6s
ISA Isabella, Lake 35.88 100 *e*P **P 14 11 20.0 +0.7**
ISA pmax pmax
comp=Z,65nm,1.4s
ISA Isabella, Lake 35.88 100 *e*P **P 14 11 19.9 +0.7**
comp=Z,65nm,1.4s
ISA Isabella, Lake 35.88 100 ⇑P **P 14 11 20.4 +1.1**
baz=36,SNR=22
R11A Troy Canyon, C 35.88 94 *e*P **P 14 11 20.5 +1.1**
comp=Z,55nm,1.2s
R11A Troy Canyon, C 35.88 94 ⇓P **P 14 11 21.0 +1.6**
baz=36,SNR=82
ASAJ Asahikawa 35.97 279 P **P 14 11 20.7 +0.7**
comp=Z,24nm,0.8s,baz=130,slow=2.8,SNR=9.9
ASAJ LR LR 14 25 01.4
comp=Z,452nm,21.3s,baz=78,slow=35
ASAJ Asahikawa 35.97 279 *e*P **P 14 11 20.6 +0.7**
comp=Z,43nm,1.4s
AHID Auburn Hatcher 35.98 84 *e*P **P 14 11 21.5 +1.3**
comp=Z,200nm,1.3s
AHID LR LR
comp=Z,1μm,19.0s
DAC Darwin (Calif) 36.00 98 *e*P **P 14 11 21.9 +1.5**
DAC pmax pmax
comp=Z,23nm,0.9s
DAC Darwin (Calif) 36.00 98 *e*P **P 14 11 21.9 +1.5**
comp=Z,23nm,0.9s
DAC *e* 14 11 32.2
ARVC Arvin 36.02 101 ⇓P **P 14 11 21.6 +1.1**
baz=36
F20A Billings 36.12 78 ⇓P **P 14 11 22.4 +1.1**
baz=36,SNR=26
B22A Reddig Ranch S 36.13 73 ⇑P **P 14 11 22.4 +1.1**
baz=36,SNR=13
D21A La Casta Ranch 36.16 75 ⇓P **P 14 11 22.7 +1.2**
baz=36,SNR=26
MPMC Manual Prospec 36.20 98 ⇓P **P 14 11 23.8 +1.5**
baz=36,SNR=23
H19A Powell 36.21 80 ⇓P **P 14 11 23.8 +1.6**
baz=36,SNR=45
FURC Furnace Creek, 36.31 97 ⇓P **P 14 11 24.6 +1.8**
baz=36,SNR=27
BSC Santa Cruz Isl 36.32 103 ⇓P **P 14 11 24.2 +1.2**
baz=36
HWUT Hardware Ranch 36.36 86 *e*P **P 14 11 24.5 +1.0**
comp=Z,32nm,1.3s
HWUT LR LR
comp=Z,749nm,20.0s
TPNV Topopah Spring 36.37 96 ⇑P **P 14 11 25.3 +1.7**
baz=36,SNR=49
E21A Keefer Ranch, 36.37 76 ⇑P **P 14 11 25.0 +1.6**
baz=36,SNR=21
G20A Bridger 36.38 79 ⇑P **P 14 11 24.7 +1.1**
baz=36,SNR=131
DUG Dugway, Tooele 36.43 89 *e*P **P 14 11 25.2 +1.1**
DUG pmax pmax
comp=Z,132nm,1.4s
DUG MLR MLR
comp=Z,693nm,20.0s
DUG Dugway, Tooele 36.43 89 *e*P **P 14 11 25.2 +1.1**
comp=Z,132nm,1.4s
DUG LR LR
comp=Z,693nm,20.0s
DUG Dugway, Tooele 36.43 89 ⇓P **P 14 11 25.7 +1.6**
baz=36,SNR=33
OSI Osito Audit: C 36.44 101 *e*P **P 14 11 25.3 +1.3**
comp=Z,63nm,1.1s
OSI Osito Audit: C 36.44 101 ⇑P **P 14 11 25.9 +1.8**
baz=36
A23A Redstone 36.47 71 ⇑P **P 14 11 24.8 +0.7**
baz=36,SNR=6.2
C22A Vida 36.47 74 ⇓P **P 14 11 24.9 +0.8**

baz=36,SNR=25
LRMC Laurel Mtn Rad 36.47 99 ⇑P P 14 11 25.6 +1.2
baz=36,SNR=10
I19A Meeteetse 36.55 81 ⇑P P 14 11 26.1 +1.0
baz=36,SNR=28
BLG Laguna Peak, P 36.58 102 ⇑P P 14 11 26.4 +1.2
baz=36
D22A Cohagen 36.59 75 ⇑P P 14 11 26.7 +1.4
baz=36,SNR=46
B23A Brockton 36.64 72 ⇓P P 14 11 26.5 +0.8
baz=36,SNR=60
EDW2 Edwards Air Fo 36.70 100 ⇓P P 14 11 27.4 +1.1
baz=37,SNR=11
F21A Absaloka Mine, 36.72 77 ⇓P P 14 11 27.6 +1.2
baz=37,SNR=11
TCUT Toone Canyon 36.74 87 *e*P P 14 11 27.8 +0.9
comp=Z,116nm,1.3s
LAO LASA Array 36.80 76 *e*P P 14 11 27.2 +0.2
comp=Z,343nm,1.8s
LAO LR LR
comp=Z,960nm,19.0s
ERM Erimo 36.81 275 PFAKE 14 11 40.0 +13
ERM LR LR
comp=Z,586nm,21.0s
C23A Lambert 36.85 73 ⇑P P 14 11 28.5 +1.1
baz=37,SNR=129
H20A Greybull 36.90 80 ⇑P P 14 11 28.8 +0.8
baz=37,SNR=30
BW06 Boulder Array 36.91 83 *e*P P 14 11 29.2 +1.0
comp=Z,84nm,0.7s
BW06 *e* 14 11 39.3
BW06 LR LR
comp=Z,730nm,20.0s
PDAR Pinedale Array 36.91 83 P P 14 11 29.4 +1.1
comp=Z,85nm,1.0s,baz=322,slow=4.5,SNR=254
PDAR LR LR 14 24 23.1
comp=Z,540nm,18.2s,baz=310,slow=33
PDAR P3KPbc 14 41 56.5
comp=Z,0.4nm,0.9s,baz=94,slow=3.7,SNR=3.5
DECC Green Verdugo 36.92 101 ⇓P P 14 11 29.1 +1.0
baz=37
J19A Crowheart 36.94 82 ⇑P P 14 11 29.9 +1.5
baz=37,SNR=51
G21A Lodge Grass 36.98 78 ⇓P P 14 11 29.4 +0.7
baz=37,SNR=13
A24A Westby 36.99 71 ⇓P P 14 11 29.3 +0.7
baz=37,SNR=45
JLU Jordanelle 37.02 87 *e*P P 14 11 30.1 +0.9
comp=Z,85nm,1.3s
NLU North Lily Min 37.03 89 *e*P P 14 11 30.2 +1.0
comp=Z,30nm,1.0s
SHOC Shoshone, Teco 37.04 98 ⇓P P 14 11 30.7 +1.6
baz=37,SNR=27
E22A Miles City 37.09 76 ⇑P P 14 11 30.6 +1.1
baz=37,SNR=23
DGMT Dagmar 37.10 72 *e*P P 14 11 30.3 +0.8
comp=Z,145nm,1.3s
DGMT LR LR
comp=Z,1μm,19.0s
DGMT Dagmar 37.10 72 ⇓P P 14 11 30.3 +0.8
baz=37,SNR=6.7
I20A Worland 37.12 81 ⇑P P 14 11 31.3 +1.4
baz=37,SNR=30
GSC Goldstone, Bar 37.12 99 *e*P P 14 11 31.1 +1.2
GSC pmax pmax
comp=Z,41nm,0.9s
GSC Goldstone, Bar 37.12 99 *e*P P 14 11 31.1 +1.2
comp=Z,41nm,0.9s
GSC Goldstone, Bar 37.12 99 ⇑P P 14 11 31.7 +1.8
baz=37,SNR=25
D23A Lindsay 37.16 74 ⇑P P 14 11 31.2 +1.1
baz=37,SNR=30
F22A Rosebud 37.25 77 ⇑P P 14 11 31.9 +0.9
baz=37,SNR=33
MPU Maple Canyon 37.26 88 *e*P P 14 11 32.6 +1.4
comp=Z,45nm,1.2s
RRX Edison Barstow 37.29 99 ⇑P P 14 11 33.1 +1.8
baz=37
FMP Fort Macarthur 37.32 102 ⇓P P 14 11 32.9 +1.5
baz=37
SHPR Sheep Range 37.32 96 *e*P P 14 11 32.6 +0.9
comp=Z,35nm,1.2s
BFSC Mount Baldy Ra 37.33 101 ⇓P P 14 11 33.2 +1.5
baz=37,SNR=15
H21A Big Horn, Sher 37.40 79 ⇓P P 14 11 32.9 +0.7
baz=37,SNR=36
E23A Ismay 37.44 75 ⇑P P 14 11 34.0 +1.5
baz=37,SNR=22
CIS Catalina Islan 37.46 102 ⇓P P 14 11 34.3 +1.5
baz=37,SNR=7.1
J20A Shoshoni 37.48 81 ⇑P P 14 11 34.6 +1.7
baz=37,SNR=120
A25A Svangstu Ranch 37.50 71 ⇓P P 14 11 33.5 +0.6
baz=37,SNR=20
G22A Birney 37.53 78 ⇑P P 14 11 34.0 +0.7
baz=37,SNR=33
TUQ Turquoise Moun 37.57 98 ⇓P P 14 11 35.2 +1.4
baz=38,SNR=29
SCI San Clemente I 37.68 103 ⇑P P 14 11 36.0 +1.5
baz=38
I21A Big Trails, Te 37.70 80 ⇓P P 14 11 35.5 +0.7
baz=38,SNR=91
D24A Glendive 37.70 74 ⇑P P 14 11 36.9 +2.2
baz=38,SNR=63
HEC Hector,Ludlow 37.73 99 ⇓P P 14 11 36.2 +1.1
baz=38,SNR=10
BBRC Big Bear Solar 37.76 100 ⇑P P 14 11 36.9 +1.4
baz=38
F23A Volborg 37.79 76 ⇑P P 14 11 36.3 +0.8
baz=38,SNR=54
B25A Knox Farm, Ray 37.80 72 ⇑P P 14 11 36.2 +0.8
baz=38,SNR=20
H22A Clearmont 37.83 79 ⇑P P 14 11 36.8 +0.9
baz=38,SNR=56
MVU Marysvale 37.84 91 *e*P P 14 11 37.7 +1.5
comp=Z,21nm,1.1s
MSU Marysvale 37.86 91 *e*P P 14 11 37.9 +1.6
MSU pmax pmax
comp=Z,15nm,0.8s
MSU Marysvale 37.86 91 *e*P P 14 11 37.9 +1.6
comp=Z,16nm,0.8s
J21A Lysite 37.87 81 ⇑P P 14 11 37.1 +0.8
baz=38,SNR=132
TMUT Trail Mountain 37.96 89 *e*P P 14 11 38.3 +1.1
comp=Z,37nm,0.9s
E24A Baker 38.00 75 ⇑P P 14 11 38.3 +1.1
baz=38,SNR=34
C25A Freed Ranch, W 38.02 72 ⇓P P 14 11 38.4 +1.0
baz=38,SNR=7.9
MURC Murrieta 38.05 101 ⇓P P 14 11 39.3 +1.6
baz=38,SNR=7.0
G23A Biddle 38.08 77 ⇓P P 14 11 38.6 +0.7
baz=38,SNR=36
FCC Fort Churchill 38.11 52 *e*P P 14 11 37.9 0.0
FCC pmax pmax
comp=Z,208nm,1.4s
FCC Fort Churchill 38.11 52 *e*P P 14 11 37.9 0.0
comp=Z,208nm,1.4s
A26A Wade Farm, Ken 38.14 70 ⇓P P 14 11 38.9 +0.6
baz=38,SNR=48
I22A 9 Mile Ranch, 38.14 80 ⇓P P 14 11 39.7 +1.2
baz=38,SNR=35
GMRC Granite Mounta 38.17 98 ⇓P P 14 11 40.0 +1.2
baz=38,SNR=27
HABR Khabarovsk 38.18 289 *d i*P P 14 11 38.2 -0.4
HABR 14 13 06.2
HABR *e* 14 13 25.7
HABR *e* 14 13 52.2
HABR *e*S **S** 14 **17 30.2** **-0.7**
HABR *e* 14 17 37.2
HABR *e*SS **SS** 14 **20 16.7** **-1.9**
HABR *e*SSS SSS 14 20 35.1
HABR *e* 14 21 47.2
HABR pmax pmax
comp=Z,559nm,1.7s
HABR pmax pmax
comp=N,66nm,1.5s
HABR pmax pmax
comp=E,213nm,1.5s
HABR pmax pmax
comp=Z,414nm,1.5s
HABR MLR MLR
comp=Z,541nm,18.0s
D25A Fairfield 38.27 73 ⇓P P 14 11 40.4 +0.9
baz=38
B26A Jensen Ranch, 38.28 71 ⇓P P 14 11 40.1 +0.6
baz=38,SNR=12
F24A Ekalaka 38.30 76 ⇓P P 14 11 40.7 +1.0
baz=38,SNR=55
K21A Alcova 38.39 82 ⇑P P 14 11 41.3 +0.6
baz=38,SNR=131
J22A Midwest 38.41 80 ⇑P P 14 11 41.9 +1.1
baz=38,SNR=180
H23A Clabaugh Cattl 38.42 78 ⇓P P 14 11 41.0 +0.2
baz=38
PFO Pinyon Flats O 38.49 100 P P 14 11 42.9 +1.3
comp=Z,119nm,1.3s,SNR=9.6
PFO Pinyon Flats O 38.49 100 *e*P P 14 11 42.6 +1.1
PFO pmax pmax
comp=Z,20nm,0.9s
PFO MLR MLR
comp=Z,1μm,21.0s
PFO Pinyon Flats O 38.49 100 *e*P P 14 11 42.6 +1.1
comp=Z,20nm,0.9s
PFO LR LR
comp=Z,1μm,21.0s
PFO Pinyon Flats O 38.49 100 ⇓P P 14 11 42.8 +1.3
baz=38,SNR=12
SRU San Rafael Swe 38.49 89 *e*P P 14 11 42.9 +1.3
SRU pmax pmax
comp=Z,43nm,1.0s
SRU San Rafael Swe 38.49 89 *e*P P 14 11 42.9 +1.3
comp=Z,43nm,1.0s
BELC Belle Mtn. Jos 38.49 100 ⇑P P 14 11 42.6 +1.0
baz=38,SNR=22
E25A Miller Ranch, 38.56 74 ⇑P P 14 11 43.0 +1.1
baz=38,SNR=24
A27A Ledoux Ranch, 38.57 70 ⇓P P 14 11 42.5 +0.6
baz=38,SNR=14
G24A Alzada 38.59 76 ⇓P P 14 11 42.6 +0.4
baz=38,SNR=22
109C Camp Elliot, M 38.60 102 ⇑P P 14 11 43.7 +1.4
baz=39
C26A Wahner Farm, P 38.64 72 ⇑P P 14 11 43.2 +0.6
baz=38,SNR=7.9
I23A Meade Ranch, G 38.72 79 ⇓P P 14 11 44.0 +0.7
baz=39
K22A Casper 38.82 81 *e*P P 14 11 45.1 +0.9
comp=Z,120nm,0.8s
K22A *e* 14 11 54.8
K22A Casper 38.82 81 ⇓P P 14 11 44.7 +0.5
baz=39,SNR=19
H24A Dirks Ranch, A 38.82 77 ⇑P P 14 11 44.5 +0.3
baz=39,SNR=33
N20A Spence Gulch, 38.83 85 ⇑P P 14 11 45.6 +1.2
baz=39,SNR=76
B27A Peters Farms, 38.83 70 ⇑P P 14 11 44.7 +0.6
baz=39,SNR=5.7
F25A Bowman 38.84 75 ⇑P P 14 11 45.2 +1.0
baz=39,SNR=8.7
D26A Manning 38.85 73 ⇓P P 14 11 44.5 +0.2
baz=39,SNR=9.8
IRM Iron Mountain 38.90 99 ⇓P P 14 11 46.5 +1.6
baz=39,SNR=23
J23A Dilts Ranch, B 38.97 80 ⇑P P 14 11 46.7 +1.2
baz=39,SNR=22
MONP Monument Peak, 39.01 101 ⇓P P 14 11 47.1 +1.1
baz=39,SNR=26
W13A Hualapai Mount 39.03 96 ⇑P P 14 11 47.6 +1.5
baz=39,SNR=40
C27A Sayler Ranch, 39.04 71 ⇓P P 14 11 46.6 +0.8
baz=39
BC3 Big Chuckawall 39.06 99 ⇓P P 14 11 47.0 +0.7
baz=39,SNR=20
U15A North Rim 39.12 93 ⇓P P 14 11 48.6 +1.6
baz=39,SNR=76
E26A Carlson Angus 39.13 74 ⇑P P 14 11 47.4 +0.7
baz=39,SNR=17
A28A Rude Farm, Bot 39.14 69 ⇓P P 14 11 47.4 +0.7
baz=39,SNR=50
L22A Ellis Ranch, M 39.23 82 ⇓P P 14 11 49.2 +1.4
baz=39,SNR=38
G25A Newell 39.26 76 ⇓P P 14 11 48.3 +0.5
baz=39
O20A White River Ci 39.26 86 *e*P P 14 11 49.0 +1.0
comp=Z,209nm,0.9s
O20A *e* 14 11 59.1
O20A White River Ci 39.26 86 ⇑P P 14 **11 49.1 +1.1**
baz=39,SNR=49
I24A Kuemmerle Ranc 39.27 78 ⇑P P 14 11 48.5 +0.5
baz=39,SNR=32
K23A Bowen Ranch, D 39.30 81 ⇓P P 14 11 48.6 +0.3
baz=39,SNR=30
B28A Dugan Ranch, T 39.32 70 ⇓P P 14 11 49.1 +0.8
baz=39,SNR=30
F26A Lodgepole 39.34 75 ⇓P P 14 11 49.3 +0.8
baz=39,SNR=6.1
D27A Center 39.34 72 ⇑P P 14 11 48.8 +0.4
baz=39,SNR=5.6
SWSC Sam R. Stewart 39.35 101 ⇑P P 14 11 49.8 +1.2
baz=39,SNR=13
IBP Imperial Bould 39.37 101 ⇑P P 14 11 50.4 +1.5
baz=39,SNR=7.4
PDMCI Parker Dam,Lak 39.41 97 ⇑P P 14 11 50.3 +1.2
baz=39,SNR=18
H25A Fruitdale 39.46 77 ⇑P P 14 11 50.1 +0.6
baz=39,SNR=23
RSSD Black Hills 39.48 78 *e*P P 14 **11 50.1 +0.3**
RSSD *e* 14 13 56.7
RSSD pmax pmax
comp=Z,140nm,1.3s
RSSD Black Hills 39.48 78 *e*P P 14 11 50.1 +0.3
comp=Z,140nm,1.3s
RSSD *e* 14 12 00.3
RSSD *e*PcP **PcP** **14 13 56.7 -0.6**
M22A Cedar Creek Ra 39.50 83 ⇑P P 14 11 50.9 +0.8
baz=39,SNR=90
J24A Dixon Ranch, L 39.55 79 ⇓P P 14 11 51.2 +0.9
baz=39,SNR=35
Y12C Blythe 39.56 98 ⇓P P 14 11 51.7 +1.4
baz=40,SNR=13
L23A Garrett 39.62 81 ⇓P P 14 11 51.6 +0.5
baz=40,SNR=55
E27A Carson 39.68 73 ⇑P P 14 11 51.8 +0.5
baz=40,SNR=6.7
G26A Maurine 39.68 75 ⇓P P 14 11 52.2 +0.9
baz=40,SNR=68
C28A Hausauer Farms 39.69 71 ⇑P P 14 11 52.2 +1.0
baz=40,SNR=6.7
KLR Kul'dur 39.69 292 *e*P P 14 11 46.9 -4.3
KLR *e* 14 11 47.0
KLR *e*S S 14 17 45.0 -8.7
KLR pmax pmax
comp=E,90nm,1.6s
KLR pmax pmax
comp=Z,170nm,1.6s
KLR MLR MLR
comp=E,500nm,13.0s
KLR MLR MLR
comp=Z,2μm,13.0s
F27A Lemmon 39.71 74 ⇓P P 14 11 52.1 +0.6
baz=40,SNR=14
I25A Rochford 39.72 78 ⇑P P 14 11 52.2 +0.4
baz=40,SNR=22
A29A Manning Farm, 39.73 69 ⇓P P 14 11 51.9 +0.3
baz=40,SNR=101
ALE Alert 39.73 12 P P 14 11 52.0 +0.8
comp=Z,783nm,1.3s,SNR=44
K24A Anderson Ranch 39.81 80 ⇓P P 14 11 52.9 +0.4
baz=40,SNR=9.6
CLNS Chul'man 39.82 306 *e*P P 14 **11 51.9 -0.4**
CLNS *e* 14 13 23.9
CLNS *e* 14 13 57.1
CLNS *e*S S 14 17 48.6 -7.0
CLNS *e*SS **SS** **14 20 51.0 -0.4**
CLNS *e* 14 21 55.0
CLNS pmax pmax
comp=Z,35nm,0.9s
CLNS pmax pmax
comp=N,11nm,0.8s
CLNS pmax pmax
comp=E,26nm,1.0s
CLNS pmax pmax
comp=E,9.0nm,0.9s
CLNS pmax pmax
comp=N,11nm,0.9s
CLNS pmax pmax
comp=Z,10.0nm,0.9s
CLNS smax smax
comp=E,14nm,1.2s
CLNS smax smax
comp=N,22nm,1.0s
CLNS MLR MLR
comp=Z,866nm,14.0s
CLNS MLR MLR
comp=Z,1μm,18.0s
D28A Regan 39.85 72 ⇓P P 14 11 53.4 +0.7
baz=40,SNR=30
GLA Glamis 39.86 100 *e*P P 14 11 53.3 +0.5
GLA pmax pmax
comp=Z,65nm,1.3s
GLA Glamis 39.86 100 *e*P P 14 11 53.3 +0.5
comp=Z,65nm,1.3s
GLA Glamis 39.86 100 ⇑P P 14 11 54.5 +1.6
baz=40,SNR=6.8
B29A Wagenman Farm, 39.89 69 ⇑P P 14 11 53.5 +0.6
baz=40,SNR=14
H11N2 WAKE ISLAND Hy 39.93 226 T T 14 56 43.4
baz=26,slow=76,SNR=208
H11N3 WAKE ISLAND Hy 39.94 226 T T 14 56 43.8
baz=26,slow=76,SNR=148
N22A Wattenberg Ran 39.94 84 ⇓P P 14 11 54.7 +0.9
baz=40,SNR=36
H11N1 WAKE ISLAND Hy 39.95 226 T T 14 56 50.3
baz=26,slow=76,SNR=199
M23A Laramie 39.99 82 ⇓P P 14 11 54.8 +0.7
baz=40,SNR=10
J25A Sunshine Ranch 40.03 78 ⇑P P 14 11 54.5 +0.2
baz=40,SNR=23
G27A Dupree 40.03 75 ⇑P P 14 11 54.4 +0.2
baz=40,SNR=30
MDND Maddock 40.07 70 *e*P P 14 11 55.0 +0.6
comp=Z,588nm,1.1s
MDND *e* 14 12 05.1
MDND Maddock 40.07 70 ⇓P P 14 11 55.0 +0.6
baz=40,SNR=43
E28A Huff 40.11 72 ⇓P P 14 11 55.5 +0.7
baz=40,SNR=19
L24A Wheatland 40.13 81 ⇓P P 14 11 55.9 +0.7
baz=40,SNR=6.9
N23A Red Feather La 40.20 83 ⇑P P 14 11 57.2 +1.3
baz=40,SNR=80
I26A New Underwood 40.23 77 ⇓P P 14 11 56.4 +0.5
baz=40
A30A Hoffart Farm, 40.25 68 ⇓P P 14 11 56.0 +0.1
baz=40,SNR=24
PHWY Pilot Hill 40.25 82 P P 14 11 54.9 -1.5
comp=Z,19nm,0.7s
O22A Kremmling 40.27 84 ⇑P P 14 11 57.4 +0.8
baz=40,SNR=64
WUAZ Wupatki 40.28 94 *e*P P 14 11 57.7 +1.2
comp=Z,90nm,1.3s
WUAZ LR LR
comp=Z,698nm,20.0s
WUAZ Wupatki 40.28 94 ⇑P P 14 11 58.2 +1.7
baz=40,SNR=28
PV01 Paradox Valley 40.30 88 *e*P P 14 11 57.5 +0.8
comp=Z,5μm,0.9s
Y14A Wickenburg 40.35 97 ⇓P P 14 11 58.3 +1.3
baz=40,SNR=25
H27A Howes 40.36 76 ⇑P P 14 11 57.0 +0.1
baz=40,SNR=5.5
K25A Mack Ranch, Ha 40.44 80 ⇓P P 14 11 58.3 +0.5
baz=40,SNR=12
F28A McLaughlin 40.44 73 ⇑P P 14 11 58.2 +0.7
baz=40,SNR=29
B30A Myrvik Farm, E 40.48 69 ⇑P P 14 11 58.0 +0.2
baz=40,SNR=49
D29A Pettibone, Tap 40.49 71 ⇑P P 14 11 57.8 -0.1
baz=40
P22A Eagle 40.49 85 ⇓P P 14 11 59.0 +0.7
baz=40,SNR=28
J26A Sides Ranch, S 40.51 78 ⇑P P 14 11 58.4 +0.2
baz=40
M24A Cheyenne 40.53 82 ⇓P P 14 11 59.5 +0.9
baz=40,SNR=9.3
SMCO Snowmass 40.62 86 *e*P P 14 11 59.7 +0.2
comp=Z,115nm,1.6s
O23A Lake Granby, G 40.63 84 ⇑P P 14 12 00.9 +1.4
baz=40,SNR=42
L25A Engebretsen Ra 40.65 80 ⇑P P 14 12 00.5 +1.1
baz=40,SNR=12
I27A Quinn 40.69 77 ⇑P P 14 12 00.1 +0.4
baz=40,SNR=17
113A Mohawk Valley, 40.69 99 ⇑P P 14 12 00.9 +1.1
baz=41,SNR=17
E29A Napoleon 40.73 72 ⇓P P 14 12 00.1 +0.2
baz=41,SNR=9.5
Z14A Wintersburg 40.78 97 ⇑P P 14 12 01.5 +1.1
baz=41,SNR=9.9
C30A Mose, Pekin 40.79 70 ⇑P P 14 12 00.5 +0.1
baz=41,SNR=27
G28A Parade 40.80 75 ⇓P P 14 12 00.6 +0.1
baz=41,SNR=6.0
K26A Motz Farm, Whi 40.80 79 ⇓P P 14 12 01.1 +0.4
baz=41,SNR=12
N24A Carr 40.88 82 ⇑P P 14 12 02.3 +0.9
baz=41,SNR=10
MVCO Mesa Verde 40.93 89 *e*P P 14 12 02.6 +0.7
comp=Z,50nm,1.3s
MVCO LR LR
comp=Z,425nm,20.0s
MVCO Mesa Verde 40.93 89 ⇓P P 14 12 02.4 +0.5
baz=41,SNR=18
ULM Lac du Bonnet 40.94 65 *e*P P 14 12 01.7 +0.1
comp=Z,93nm,0.9s,baz=301,slow=8.6,SNR=88
ULM Lac du Bonnet 40.94 65 *e*P P 14 12 01.5 -0.1
ULM pmax pmax
comp=Z,143nm,1.0s
ULM Lac du Bonnet 40.94 65 *e*P P 14 12 01.5 -0.1
comp=Z,143nm,1.0s
ULM *e* 14 12 11.6
D30A Buchanan 40.95 71 ⇑P P 14 12 01.8 +0.1
baz=41,SNR=42
H28A Mission Ridge 40.96 75 ⇑P P 14 12 02.2 +0.4
baz=41
X16A Lo Mia Camp, P 40.97 95 ⇑P P 14 12 04.2 +1.9
baz=41,SNR=26
F29A Eureka 41.02 73 ⇑P P 14 12 02.2 -0.1
baz=41,SNR=15
M25A Palm-Egli Farm 41.02 81 ⇓P P 14 12 04.0 +1.4
baz=41,SNR=8.3
ISCO Idaho Springs 41.06 84 *e*P P 14 12 03.4 +0.3
ISCO pmax pmax
comp=Z,22nm,0.9s
ISCO MLR MLR
comp=Z,1μm,19.0s
ISCO Idaho Springs 41.06 84 *e*P P 14 12 03.4 +0.3
comp=Z,22nm,0.9s
ISCO LR LR
comp=Z,1μm,19.0s
ISCO Idaho Springs 41.06 84 ⇓P P 14 12 04.0 +0.9
baz=41,SNR=20
H11S1 WAKE ISLAND Hy 41.09 226 T T 14 57 34.3
baz=24,slow=76,SNR=133
H11S2 WAKE ISLAND Hy 41.11 226 T T 14 57 32.1
baz=24,slow=76,SNR=144
H11S3 WAKE ISLAND Hy 41.11 226 T T 14 57 46.0
baz=24,slow=76,SNR=126
J27A Elkhorn Farm, 41.18 78 ⇓P P 14 12 04.2 +0.4
baz=41,SNR=12
E30A Jud 41.19 72 ⇓P P 14 12 03.4 -0.3
baz=41,SNR=8.2
P23A Jefferson 41.19 85 ⇑P P 14 12 06.1 +1.9
baz=41,SNR=46
O24A Longmont 41.19 83 ⇑P P 14 12 05.8 +1.8
baz=41,SNR=6.2
L26A Underwood Farm 41.25 80 ⇑P P 14 12 05.1 +0.7
baz=41,SNR=10.0
I28A Midland 41.25 76 ⇓P P 14 12 04.7 +0.4
baz=41,SNR=24
G29A Hoven 41.32 74 ⇑P P 14 12 04.8 +0.1
baz=41
K27A Flueckinger Fa 41.37 78 ⇑P P 14 12 05.3 0.0
baz=41,SNR=7.6
N25A Grover 41.37 82 ⇓P P 14 12 06.2 +0.7
baz=41
H29A Onida 41.46 75 ⇑P P 14 12 06.5 +0.5
baz=41,SNR=37
F30A Leola 41.48 72 ⇑P P 14 12 06.0 -0.1
baz=41,SNR=5.7
Q23A Hartsel 41.48 85 ⇓P P 14 12 07.9 +1.3
baz=41,SNR=67
W18A Petrified Fore 41.54 93 *e*P P 14 12 08.7 +1.8
comp=Z,59nm,1.3s
W18A Petrified Fore 41.54 93 ⇓P P 14 12 08.2 +1.2
baz=42,SNR=9.6
J28A Allard Ranch, 41.54 77 ⇓P P 14 12 07.2 +0.5
baz=41,SNR=33
M26A McRoberts Ranc 41.55 80 ⇑P P 14 12 08.0 +1.1
baz=41,SNR=6.5
S22A 4UR Ranch, Cre 41.61 87 ⇓P P 14 12 09.0 +1.4
baz=42,SNR=79
P24A Kohler Place, 41.67 84 ⇓P P 14 12 09.7 +1.8

baz=42
L27A T5 Ranch, Ells 41.68 79 ⇓P P 14 12 08.2 +0.3
baz=42,SNR=11
I29A Vivian Onida 41.75 75 ⇑P P 14 12 08.4 0.0
baz=42,SNR=11
O25A Wiggins 41.78 83 ⇑P P 14 12 10.2 +1.4
baz=42,SNR=28
X18A Snowflake 41.81 94 ⇓P P 14 12 10.5 +1.4
baz=42,SNR=15
G30A Faulkton 41.81 73 ⇑P P 14 12 08.8 +0.1
baz=42,SNR=41
214A Organ Pipe Nat 41.84 99 *e*P P 14 12 10.2 +1.0
comp=Z,68nm,1.1s
214A *e* 14 12 20.4
214A Organ Pipe Nat 41.84 99 ⇑P P 14 12 10.9 +1.7
baz=42,SNR=40
Q24A Divide 41.86 85 ⇑P P 14 12 11.0 +1.3
baz=42,SNR=30
K28A Ten Mile Ranch 41.88 78 ⇑P P 14 12 09.9 +0.4
baz=42,SNR=6.8
N26A Koester Ranch, 41.89 81 ⇓P P 14 12 10.9 +1.2
baz=42,SNR=8.9
R23A Moffat 41.94 86 ⇓P P 14 12 11.5 +1.3
baz=42,SNR=29
AGMN Agassiz Nation 41.96 68 *e*P P 14 12 09.7 -0.3
comp=Z,259nm,1.3s
AGMN *e* 14 12 19.6
AGMN LR LR
comp=Z,851nm,19.0s
AGMN Agassiz Nation 41.96 68 ⇑P P 14 12 09.7 -0.3
baz=42,SNR=60
M27A Reverse DX Ran 41.97 80 ⇓P P 14 12 11.1 +0.8
baz=42,SNR=9.9
J29A Okreek 42.09 76 ⇑P P 14 12 11.5 +0.3
baz=42,SNR=26
P25A Willow Gulch B 42.12 83 ⇑P P 14 12 13.4 +1.8
baz=42,SNR=37
S23A Nye Farm, Mont 42.14 87 ⇓P P 14 12 13.4 +1.6
baz=42
O26A Horse Wrangler 42.19 82 ⇓P P 14 12 13.2 +1.1
baz=42,SNR=19
L28A Connealy Angus 42.20 79 ⇑P P 14 12 12.5 +0.3
baz=42
USRK Ussuriysk Ar. 42.27 285 P P 14 12 11.8 -0.7
comp=Z,9.3nm,0.6s,baz=50,slow=8.9,SNR=26
USRK PcP PcP 14 14 05.5 -0.5
comp=Z,6.1nm,1.0s,baz=29,slow=4.4,SNR=6.1
USRK LR LR 14 29 12.2
comp=Z,278nm,21.9s,baz=54,slow=35
BRSD Miller 42.31 74 *e*P P 14 12 13.1 +0.2
comp=Z,331nm,1.2s
BRSD *e* 14 12 22.9
BRSD Miller 42.31 74 ⇑P P 14 12 12.6 -0.3
baz=42,SNR=11
N27A Anderson Farm, 42.31 81 ⇓P P 14 12 13.9 +0.9
baz=42,SNR=18
I30A Oacoma 42.33 75 ⇑P P 14 12 13.1 0.0
baz=42
R24A Sanders Place, 42.35 86 ⇑P P 14 12 14.7 +1.2
baz=42,SNR=21
SDCO Great Sand Dun 42.42 86 ⇑P P 14 12 15.2 +1.0
baz=42,SNR=77
Q25A Bedland, Calha 42.44 84 ⇓P P 14 12 15.3 +1.0
baz=42,SNR=20
K29A Lazy Trails An 42.48 77 ⇑P P 14 12 14.7 +0.4
baz=42
OGNE Ogallala 42.53 80 *e*P P 14 12 15.9 +1.1
comp=Z,106nm,0.8s
OGNE *e* 14 12 25.8
OGNE LR LR
comp=Z,471nm,20.0s
OGNE Ogallala 42.53 80 ⇓P P 14 12 16.0 +1.1
baz=42,SNR=13
P26A Davis Ranch, A 42.59 83 ⇓P P 14 12 16.5 +1.1
baz=42,SNR=103
J30A Dallas 42.64 76 ⇓P P 14 12 15.7 +0.1
baz=42,SNR=33
M28A Bar X Bar Ranc 42.66 79 ⇑P P 14 12 16.7 +0.8
baz=42,SNR=10
O27A Beecher Island 42.72 82 ⇓P P 14 12 17.3 +0.9
baz=43,SNR=6.4
L29A Maesberg Ranch 42.79 78 ⇑P P 14 12 17.1 +0.2
baz=43
TUC Tucson 42.82 97 *e*P P 14 12 18.7 +1.5
TUC pmax pmax
comp=Z,25nm,0.9s
TUC MLR MLR
comp=Z,564nm,20.0s
TUC Tucson 42.82 97 ⇑P P 14 12 18.7 +1.5
comp=Z,25nm,0.9s
TUC *e* 14 12 28.5
TUC LR LR
comp=Z,564nm,20.0s
Q26A Hugo 42.88 84 ⇓P P 14 12 19.1 +1.3
baz=43,SNR=31
K30A Basset 42.95 77 ⇑P P 14 12 18.4 +0.3
baz=43,SNR=14
VLA Vladivostok 42.95 284 *d i*P P 14 12 19.0 +0.9
VLA pmax pmax
comp=Z,192nm,1.7s
N28A Pribbeno Ranch 42.99 80 ⇓P P 14 12 19.4 +0.9
baz=43,SNR=5.6
M29A Burnside Ranch 43.04 79 ⇑P P 14 12 19.4 +0.4
baz=43
P27A Ficken Ranch, 43.06 82 ⇑P P 14 12 19.9 +0.8
baz=43,SNR=11
O28A Krutsinger Ran 43.19 81 ⇓P P 14 12 20.9 +0.8
baz=43,SNR=10
MJAR Matsushiro Arr 43.20 272 P P 14 12 19.8 -0.4
comp=Z,8.1nm,0.8s,baz=48,slow=7.1,SNR=36
MJAR PcP PcP 14 14 09.8 +0.4
comp=Z,5.9nm,1.1s,baz=46,slow=4.1,SNR=3.6
MJAR LR LR 14 28 37.8
comp=Z,341nm,21.9s,baz=45,slow=34
MAJO Matsushiro 43.20 272 *d i*P P 14 12 20.3 +0.1
MAJO pmax pmax
comp=Z,430nm,1.7s
MAJO Matsushiro 43.20 272 *e*P P 14 12 20.1 -0.1
comp=Z,39nm,1.0s
MAJO LR LR
comp=Z,641nm,21.0s
MAT Matsushiro 43.20 272 P P 14 12 19.9 -0.3
MAT S S 14 18 46.4 +0.3
L30A Spencer Herefo 43.31 78 ⇑P P 14 12 21.3 +0.2
baz=43
R26A Arlington 43.32 84 ⇓P P 14 12 22.1 +0.9
baz=43,SNR=46
KSCO Kaye Shedlock' 43.37 83 *e*P P 14 12 23.4 +1.7
comp=Z,425nm,1.5s
KSCO Kaye Shedlock' 43.37 83 ⇓P P 14 12 22.8 +1.2
baz=43,SNR=20
MDJ Mudanjiang 43.43 287 P P 14 12 21.5 -0.4
MDJ pP pP 14 12 24.7 -2.6
MDJ sP sP 14 12 26.0 -3.5
MDJ PcP PcP 14 14 10.4 +0.5
MDJ ScP ScP 14 18 01.9 +1.6
MDJ PcS PcS 14 18 03.0 +0.5
MDJ S S 14 18 47.9 -1.3
MDJ ScS ScS 14 22 22.1 +1.5
MDJ PMZ
comp=Z,25nm,0.8s
MDJ PMZ
comp=Z,320nm,7.9s
MDJ LN
comp=Z,1μm,21.9s
MDJ LE
comp=Z,630nm,25.6s
MDJ LZ
comp=Z,640nm,30.1s
MDJ Mudanjiang 43.43 287 *e*P P 14 12 21.4 -0.6
comp=Z,27nm,1.0s
MDJ LR LR
comp=Z,532nm,19.0s
N29A Votaw Ranch, W 43.46 80 ⇓P P 14 12 22.9 +0.6
baz=43,SNR=7.9
M30A Dale-Ortello V 43.47 78 ⇑P P 14 12 22.7 +0.3
baz=43
T25A Trinidad 43.47 86 ⇑P P 14 12 24.0 +1.3
baz=43,SNR=46
P28A Saint Francis 43.54 82 ⇓P P 14 12 23.8 +0.8
baz=43,SNR=10
ANMO Albuquerque 43.66 90 *d i*P P 14 12 24.9 +0.7
ANMO pmax pmax
comp=Z,221nm,1.7s
ANMO Albuquerque 43.66 90 *e*P P 14 12 25.0 +0.9
comp=Z,62nm,1.5s
ANMO LR LR
comp=Z,942nm,19.0s
L31A Butterfield Fa 43.70 77 ⇑P P 14 12 24.5 +0.3
baz=44,SNR=7.6
R27A Eads 43.72 84 ⇑P P 14 12 25.7 +1.2
baz=44,SNR=46
S26A Kim 43.73 85 ⇓P P 14 12 25.2 +0.5
baz=44,SNR=65
O29A 4D Ranch, Culb 43.78 80 ⇓P P 14 12 25.4 +0.5
baz=44,SNR=11
N30A Hueftle Ranch, 43.79 79 ⇑P P 14 12 25.4 +0.5
baz=44
Q28A Sharon Springs 43.82 82 ⇑P P 14 12 26.1 +0.8
baz=44,SNR=21
LENM Lemitar 43.87 92 *e*P P 14 12 27.6 +1.8
comp=Z,9.4nm,1.0s
T26A Comanche Natio 43.95 86 ⇑P P 14 12 27.0 +0.6
baz=44,SNR=53
Y22D IRIS PASSCAL I 43.96 92 ⇑P P 14 12 28.5 +1.9
baz=44
P29A Atwood 44.02 81 ⇑P P 14 12 27.5 +0.7
baz=44,SNR=8.6
S27A Las Animas 44.04 85 ⇑P P 14 12 27.7 +0.6
baz=44
ECSD EROS Data Cent 44.09 74 *e*P P 14 12 26.5 -0.9
comp=Z,102nm,1.3s
ECSD *e* 14 12 36.2
ECSD LR LR
comp=Z,911nm,19.0s
ECSD EROS Data Cent 44.09 74 ⇓P P 14 12 26.6 -0.7
baz=44,SNR=35
M31A Lambtecht Ranc 44.12 78 ⇑P P 14 12 27.6 -0.1
baz=44
O30A MW Ranch, Wils 44.19 80 ⇑P P 14 12 28.8 +0.6
baz=44,SNR=8.6
KULLO Kullorsuaq 44.23 22 *i*P P 14 12 28.8 +0.8
comp=Z,107nm,1.1s
KULLO *i* 14 14 24.1
comp=Z,800nm,15.0s
R28A Tribune 44.28 83 ⇑P P 14 12 30.0 +1.0
baz=44,SNR=21
319A Douglas 44.38 96 ⇓P P 14 12 31.1 +1.2
baz=44
Q29A Oakley 44.44 82 ⇑P P 14 12 31.0 +0.8
baz=44,SNR=20
N31A Bailey Ranch, 44.46 78 ⇑P P 14 12 30.7 +0.5
baz=44
P30A Selden 44.47 81 ⇓P P 14 12 31.1 +0.7
baz=44,SNR=37
121A Cookes Peak, D 44.49 94 *e*P P 14 12 32.0 +1.2
comp=Z,24nm,0.8s
121A Cookes Peak, D 44.49 94 ⇓P P 14 12 32.2 +1.4
baz=44,SNR=18
T27A Campo 44.55 85 ⇓P P 14 12 31.7 +0.5
baz=44,SNR=10
BGNE Belgrade 44.58 77 ⇓P P 14 12 31.7 +0.4
baz=44
BOD Bodaibo 44.59 311 ⇑*i*P P 14 12 31.0 0.0
BOD pmax pmax
comp=Z,88nm,1.4s
EYMN Ely 44.60 66 *e*P P 14 12 30.9 -0.5
comp=Z,272nm,1.3s
EYMN *e* 14 12 40.8
EYMN LR LR
comp=Z,880nm,19.0s
R29A Marienthal 44.64 83 ⇑P P 14 12 32.7 +0.8
baz=44,SNR=25
O31A Woolen Ranch, 44.65 79 ⇓P P 14 12 32.2 +0.4
baz=44,SNR=7.8
S28A Manter 44.71 84 ⇑P P 14 12 33.2 +0.8
baz=45,SNR=9.9
Q30A Quinter 44.84 81 ⇑P P 14 12 34.0 +0.6
baz=45,SNR=23
T28A Walsh 44.88 85 ⇑P P 14 12 34.5 +0.7
baz=45,SNR=13
N32A Stulken Farm, 44.89 78 ⇑P P 14 12 33.8 +0.1
baz=45
U27A Thompson Grove 44.91 86 ⇑P P 14 12 34.8 +0.8
baz=45,SNR=22
P31A Stockton 45.01 80 ⇑P P 14 12 35.6 +0.9
baz=45,SNR=24
S29A Ulysses 45.17 83 ⇓P P 14 12 36.7 +0.6
baz=45,SNR=8.9
O32A Brockman Farm, 45.21 79 ⇑P P 14 12 36.3 0.0
baz=45
R30A Dighton 45.25 82 ⇑P P 14 12 37.5 +0.8
baz=45,SNR=25
U28A Mallet 45.30 86 ⇓P P 14 12 37.4 +0.3
baz=45,SNR=12
Q31A Ellis 45.33 81 ⇓P P 14 12 38.0 +0.8
baz=45,SNR=15
V27A Dan Oppiter Fa 45.33 87 ⇑P P 14 12 37.9 +0.5
baz=45
T29A Hugoton 45.36 84 ⇓P P 14 12 38.2 +0.7
baz=45
P32A Huiting Farm, 45.41 79 ⇑P P 14 12 37.9 0.0
baz=45,SNR=8.0
SPMN Marine on St. 45.43 70 *e*P P 14 12 37.8 -0.1
comp=Z,40nm,0.7s
SPMN Marine on St. 45.43 70 ⇑P P 14 12 37.8 -0.1
baz=45,SNR=5.2
S30A Montezuma 45.55 83 ⇑P P 14 12 39.5 +0.5
baz=45,SNR=9.1
R31A Burdett 45.70 82 ⇑P P 14 12 40.7 +0.5
baz=46,SNR=16
V28A Channing 45.71 86 ⇑P P 14 12 40.6 +0.2
baz=46
U29A Oasis Ranch, S 45.83 85 ⇑P P 14 12 41.8 +0.4
baz=46
Q32A Meitler Ranch, 45.84 80 ⇓P P 14 12 41.7 +0.4
baz=46,SNR=25
T30A Plains 45.89 84 ⇑P P 14 12 42.2 +0.4
baz=46,SNR=5.9
W28A Vega 46.05 87 ⇓P P 14 12 43.1 0.0
baz=46
V29A Stinnett 46.06 86 ⇓P P 14 12 43.3 +0.2
baz=46
P33A Williams Farm, 46.08 79 ⇑P P 14 12 43.3 +0.1
baz=46,SNR=9.6
R32A Long Quarter, 46.11 81 ⇓P P 14 12 43.6 +0.2
baz=46
S31A Mullinville 46.16 82 ⇑P P 14 12 44.1 +0.2
baz=46,SNR=21
U30A WK&E Inc. Balk 46.16 84 ⇑P P 14 12 44.2 +0.3
baz=46,SNR=6.3
Q33A Connelly Farm, 46.27 80 ⇓P P 14 12 44.8 +0.2
baz=46,SNR=28
HIA Hailar 46.31 298 *e*P P 14 12 45.2 +0.3
HIA pmax pmax
comp=Z,105nm,1.3s
HIA MLR MLR
comp=Z,726nm,19.0s
HIA Hailar 46.31 298 *e*P P 14 12 45.2 +0.3
comp=Z,105nm,1.3s
HIA LR LR
comp=Z,726nm,19.0s
CN2 Changchun 46.32 289 *e*P P 14 12 45.1 +0.2
CN2 *e*pP pP 14 12 52.3 +1.9
CN2 *e*sP sP 14 12 55.7 +3.2
CN2 *e*S S 14 19 29.0 -2.0
CN2 PMZ
comp=Z,40nm,0.6s
CN2 LN
comp=Z,400nm,19.0s
CN2 LE
comp=Z,500nm,19.0s
CN2 LZ
comp=Z,300nm,14.0s
T31A Randall Ranch, 46.38 83 ⇑P P 14 12 46.2 +0.7
baz=46,SNR=24
S32A Newby Ranch, P 46.44 82 ⇓P P 14 12 46.2 +0.2
baz=46
W29A Amarillo 46.48 86 ⇓P P 14 12 46.7 +0.3
baz=46
MNTX Cornudas Mount 46.53 93 *e*P P 14 12 47.6 +0.8
comp=Z,35nm,0.9s
MNTX *e* 14 12 58.4
MNTX LR LR
comp=Z,792nm,21.0s
MNTX Cornudas Mount 46.53 93 ⇑P P 14 12 48.1 +1.3
baz=46,SNR=46
X28A Dimmitt 46.55 87 ⇓P P 14 12 47.7 +0.7
baz=46
MSTX Muleshoe 46.57 88 *e*P P 14 12 47.3 +0.1
comp=Z,110nm,1.3s
MSTX Muleshoe 46.57 88 ⇓P P 14 12 47.7 +0.6
baz=46,SNR=13
AMTX Amarillo 46.62 87 *e*P P 14 12 48.1 +0.5
comp=Z,57nm,1.1s
AMTX Amarillo 46.62 87 ⇑P P 14 12 48.1 +0.5
baz=46
R33A Olander Ranch, 46.62 80 ⇓P P 14 12 47.7 +0.3
baz=46,SNR=15
V30A Spur Ranch, Mi 46.64 85 ⇑P P 14 12 47.9 +0.2
baz=46,SNR=6.4
U31A Nine Bar Ranch 46.75 84 ⇓P P 14 12 48.5 +0.1
baz=47
T32A Huddler Ranch, 46.78 82 ⇓P P 14 12 48.7 0.0
baz=47,SNR=11
X29A Tulia 46.90 87 ⇑P P 14 12 50.0 +0.3
baz=47
Y28A McKinney Farm, 46.93 88 ⇓P P 14 12 49.9 0.0
baz=47
KSU1 Kansas State U 46.94 79 *e*P P 14 12 50.0 +0.1
comp=Z,48nm,0.8s
KSU1 *e* 14 12 59.4
KSU1 LR LR
comp=Z,730nm,20.0s
KSU1 Kansas State U 46.94 79 ⇑P P 14 12 49.5 -0.4
baz=47
COWI Conover 46.99 66 *e*P P 14 12 49.3 -0.9
comp=Z,43nm,0.7s
COWI *e* 14 12 59.2
COWI LR LR
comp=Z,592nm,20.0s
S33A Kaszmaul Farm, 47.07 81 ⇑P P 14 12 50.9 0.0
baz=47,SNR=8.8
W30A Crocket Farms 47.09 86 ⇓P P 14 12 51.5 +0.2
baz=47
V31A Spring Creek L 47.15 84 ⇑P P 14 12 52.1 +0.5
baz=47,SNR=10
SCIA State Center 47.19 73 *e*P P 14 12 52.0 +0.2
comp=Z,71nm,0.8s
SCIA *e* 14 13 01.9
SCIA LR LR
comp=Z,935nm,22.0s
T33A Patterson Ranc 47.26 82 ⇓P P 14 12 52.3 -0.1
baz=47
U32A Winter Ranch, 47.26 83 ⇑P P 14 12 52.7 +0.3
baz=47
Z28A Tucker Farm, M 47.27 89 ⇓P P 14 12 52.7 +0.1
baz=47,SNR=8.0
Y29A Porterfield Fa 47.31 88 ⇑P P 14 12 53.4 +0.5
baz=47,SNR=7.1
CBIJ Chichi jima 47.35 259 P P 14 12 51.6 -1.6
JCJ Chichijima 47.35 259 P P 14 12 51.6 -1.6
comp=Z,32nm,0.4s,baz=240,slow=20
X30A Coker Ranch, T 47.41 87 ⇑P P 14 12 54.1 +0.4
baz=47,SNR=8.1
W31A Holland Ranch, 47.48 85 ⇑P P 14 12 54.5 +0.4
baz=47,SNR=8.8
S34A Willow Spring 47.54 80 ⇓P P 14 12 54.2 -0.4
baz=47,SNR=8.2
128A Castleberry Fa 47.66 90 ⇑P P 14 12 56.4 +0.7
baz=48,SNR=44
V32A Arapaho 47.67 84 ⇑P P 14 12 56.0 +0.3
baz=48,SNR=5.9
Z29A Hungry Hill Ra 47.70 88 ⇑P P 14 12 56.4 +0.4
baz=48,SNR=28
U33A Lingo Farm, Me 47.76 82 ⇑P P 14 12 56.4 +0.1
baz=48
Y30A Stafford Cattl 47.77 87 ⇑P P 14 12 57.0 +0.5
baz=48,SNR=6.6
X31A McDonald Ranch 47.83 86 ⇓P P 14 12 57.0 +0.2
baz=48,SNR=5.5
W32A Sentinel 47.94 85 ⇑P P 14 12 58.4 +0.6
baz=48,SNR=18
228A UT Block 9, Go 47.95 90 ⇓P P 14 12 58.2 +0.3
baz=48,SNR=10
CIT Chita 47.96 304 *e*P P 14 12 58.9 +1.2
CIT *e* 14 14 53.1
CIT pmax pmax
comp=Z,222nm,1.4s
S35A Otter Creek Ra 48.03 80 ⇑P P 14 12 57.7 -0.7
baz=48,SNR=17
129A Stewart Farms, 48.03 89 ⇓P P 14 12 58.9 +0.3
baz=48
Z30A Sanderson Ranc 48.04 88 ⇓P P 14 12 58.8 +0.3
baz=48,SNR=39
V33A Lossen Ranch, 48.06 83 ⇓P P 14 12 58.5 -0.2
baz=48
R36A Gordon, Harris 48.10 79 ⇑P P 14 12 58.4 -0.5
baz=48,SNR=26
Y31A Rekieta Farm, 48.10 87 ⇓P P 14 12 59.1 +0.1
baz=48
U34A Anderson Ranch 48.11 82 *e*P P 14 12 59.0 0.0
comp=Z,285nm,1.5s
U34A Anderson Ranch 48.11 82 ⇓P P 14 12 59.2 +0.2
baz=48,SNR=15
JFWS Jewell Farm 48.29 71 *e*P P 14 12 59.1 -1.2
JFWS pmax pmax
comp=Z,87nm,0.7s
JFWS MLR MLR
comp=Z,1μm,21.0s
JFWS Jewell Farm 48.29 71 *e*P P 14 12 59.1 -1.2
comp=Z,87nm,0.7s
JFWS *e* 14 13 09.1
JFWS LR LR
comp=Z,1μm,21.0s
Q37A Longview Farm, 48.37 77 ⇓P P 14 12 59.7 -1.3
baz=48
X32A Elmer 48.39 85 ⇓P P 14 13 01.4 +0.2
baz=48,SNR=10
W33A Caddo, Fort Co 48.40 84 ⇓P P 14 13 01.9 +0.6
baz=48,SNR=7.8
S36A Lake Cedric, C 48.44 79 ⇑P P 14 13 00.8 -0.7
baz=48,SNR=15
WMOK Wichita Mounta 48.48 85 *e*P P 14 13 01.3 -0.6
WMOK pmax pmax
comp=Z,25nm,0.8s
WMOK MLR MLR
comp=Z,591nm,19.0s
WMOK Wichita Mounta 48.48 85 *e*P P 14 13 01.3 -0.6
comp=Z,25nm,0.8s
WMOK LR LR
comp=Z,591nm,19.0s
R37A Teagarden Farm 48.51 78 ⇓P P 14 13 01.2 -0.9
baz=48,SNR=7.8
V34A Guthrie 48.52 83 *e*P P 14 13 02.4 +0.2
comp=Z,227nm,1.7s
V34A Guthrie 48.52 83 ⇓P P 14 13 02.0 -0.2
baz=48,SNR=5.8
229A Bryant Ranch, 48.53 90 ⇓P P 14 13 02.6 +0.2
baz=48
Y32A R-V Farms, Ver 48.58 86 ⇑P P 14 13 02.9 +0.2
baz=48,SNR=8.9
130A Snyder 48.61 88 ⇑P P 14 13 03.3 +0.3
baz=48,SNR=6.7
Z31A Sharp Cattle R 48.62 87 ⇑P P 14 13 03.1 +0.1
baz=48,SNR=16
SNY Shenyang 48.62 288 ⇓P P 14 13 03.2 +0.4
SNY S S 14 20 01.8 -1.9
SNY PMZ
comp=Z,78nm,1.4s
SNY PMZ
comp=Z,650nm,3.5s
SNY LN
comp=Z,440nm,15.3s
SNY LE
comp=Z,460nm,17.1s
SNY LZ
comp=Z,420nm,16.8s
329A Wagon Wheel Ra 48.76 90 ⇓P P 14 13 04.5 +0.4
baz=49,SNR=7.1
W34A Bridge Creek, 48.76 83 *e*P P 14 13 04.2 +0.1
comp=Z,178nm,1.6s
W34A Bridge Creek, 48.76 83 ⇓P P 14 13 04.2 +0.1
baz=49
KBS Kingsbay 48.79 1 *e*P P 14 13 05.5 +1.9
KBS IAmb IAmb 14 13 07.1
comp=Z,291nm,1.1s
KBS Kingsbay 48.79 1 *e*P P 14 13 04.5 +0.8
KBS pmax pmax
comp=Z,50nm,0.9s
KBS MLR MLR
comp=Z,764nm,20.0s
KBS Kingsbay 48.79 1 *e*P P 14 13 04.5 +0.8
comp=Z,50nm,0.9s
KBS LR LR
comp=Z,764nm,20.0s
X33A Lawton 48.79 85 ⇓P P 14 13 04.4 +0.2
baz=49
KSRS Korea Array 48.85 281 P P 14 13 05.3 +0.7
comp=Z,14nm,0.8s,baz=52,slow=7.6,SNR=40
KSRS PcP PcP 14 14 29.4 +0.3
comp=Z,4.7nm,0.9s,baz=68,slow=4.6,SNR=2.7
KSRS LR LR 14 31 54.3

comp=Z,143nm,21.7s,baz=48,slow=34
KSAR Wonju Array Be 48.88 281 P P 14 13 05.3 +0.4
KSAR 14 14 29.4
KSAR Wonju Array Be 48.88 281 P P 14 13 05.3 +0.4
KSAR PcP PcP **14 14 29.4 +0.2**
131A Roby 48.91 88 ⇑P **P 14 13 05.5 +0.3**
baz=49,SNR=14
V35A Meyer Ranch, C 48.98 82 ⇑P **P 14 13 05.5 -0.2**
baz=49,SNR=11
230A Sterling City 49.01 89 ⇓P **P 14 13 06.1 +0.1**
baz=49,SNR=12
ILULI Ilulissat 49.02 26 *i* P **P 14 13 05.5 0.0**
comp=Z,176nm,1.7s
ILULI *i* 14 15 03.7
comp=Z,730nm,16.0s
Z32A Haskell 49.03 87 ⇑P **P 14 13 06.1 0.0**
baz=49,SNR=26
Y33A Hilltop Ranch, 49.07 85 ⇓P **P 14 13 06.5 +0.1**
baz=49
LPIG La Paz 49.09 104 P **P 14 13 07.5 +0.9**
comp=Z,18nm,0.3s,baz=156,slow=4.4,SNR=4.3
X34A Smith Ranch, M 49.15 84 ⇑P **P 14 13 07.6 +0.5**
baz=49,SNR=9.8
TXAR Lajitas Array 49.24 94 P **P 14 13 09.1 +1.1**
comp=Z,24nm,0.7s,baz=300,slow=5.4,SNR=115
TXAR PcP **PcP 14 14 30.4 -0.4**
comp=Z,4.9nm,0.9s,baz=298,slow=3.9,SNR=1.7
TXAR ScP **ScP 14 18 24.9 0.0**
comp=Z,3.2nm,1.2s,baz=318,slow=1.7,SNR=4.2
330A Mertzon 49.30 90 ⇓P **P 14 13 08.2 -0.1**
baz=49,SNR=28
W35A Tecumseh 49.36 83 ⇑P **P 14 13 08.7 +0.1**
baz=49,SNR=16
ABTX Abilene, Hawle 49.40 87 *eP* **P 14 13 09.1 +0.1**
comp=Z,64nm,1.0s
ABTX *e* 14 13 19.7
ABTX Abilene, Hawle 49.40 87 ⇓P **P 14 13 09.2 +0.3**
baz=49,SNR=18
429A Davenport Ranc 49.41 91 ⇑P **P 14 13 09.2 0.0**
baz=49,SNR=55
231A Bronte 49.46 89 ⇑P **P 14 13 09.1 -0.4**
baz=49
Z33A Whitaker Ranch 49.48 86 ⇑P **P 14 13 09.5 0.0**
baz=49,SNR=10
TUL1 Leonard 49.51 81 *eP* **P 14 13 09.4 -0.4**
comp=Z,59nm,1.0s
TUL1 Leonard 49.51 81 ⇑P **P 14 13 09.6 -0.2**
baz=49,SNR=6.5
SUMG Summit 49.55 19 *i* P **P 14 13 11.1 +1.0**
comp=Z,383nm,1.2s
SUMG *i* 14 15 09.7
SUMG *i* S **S 14 20 13.5 -3.5**
comp=Z,1μm,22.0s
SUMG Summit 49.55 19 *i* P **P 14 13 11.1 +1.0**
SUMG *i* 14 15 09.7
SUMG *i* S **S 14 20 13.5 -3.5**
SUMG pmax pmax
comp=Z,380nm,1.2s
SUMG MLR MLR
comp=Z,1μm,22.0s
SUMG Summit 49.55 19 *eP* **P 14 13 11.3 +1.3**
comp=Z,323nm,1.1s
529A Stev Forest Ra 49.57 92 ⇓P **P 14 13 11.2 +0.8**
baz=50,SNR=96
SPA0 Spitsbergen Ar 49.57 360 *eP* **P 14 13 10.2 +0.5**
SPITS Spitsbergen Ar 49.57 360 P **P 14 13 10.1 +0.5**
comp=Z,38nm,0.6s,baz=51,slow=4.4,SNR=56
INCN Inchon 49.60 282 *eP* **P 14 13 11.6 +1.1**
comp=Z,37nm,1.0s
INCN LR LR
comp=Z,349nm,21.0s
Y34A Reagan Ranch, 49.63 85 ⇓P **P 14 13 11.2 +0.4**
baz=50,SNR=18
430A Baggett Ranch, 49.70 90 ⇑P **P 14 13 11.6 +0.3**
baz=50,SNR=18
W36A Wetumka 49.77 82 ⇓P **P 14 13 11.5 -0.2**
baz=50,SNR=10
X35A Drake 49.81 84 ⇑P **P 14 13 12.0 -0.1**
baz=50,SNR=13
331A San Angelo 49.83 89 ⇑P **P 14 13 11.9 -0.4**
baz=50,SNR=19
133A Hamilton Ranch 49.85 87 ⇓P **P 14 13 12.9 +0.5**
baz=50,SNR=17
232A Coleman 49.90 88 ⇓P **P 14 13 12.9 +0.1**
baz=50,SNR=26
Z34A Collier Ranch, 49.94 85 ⇓P **P 14 13 12.9 -0.2**
baz=50
JNU Nakatsue 49.96 274 P **P 14 13 13.3 0.0**
comp=Z,30nm,0.9s,baz=343,slow=20,SNR=12
JNU LR LR 14 33 36.3
comp=Z,343nm,20.3s,slow=35
JNU Nakatsue 49.96 274 *eP* **P 14 13 13.3 0.0**
comp=Z,28nm,1.3s
X36A Centrahoma 50.07 83 ⇑P **P 14 13 14.3 +0.2**
baz=50,SNR=9.4
530A J-C Ranch, Com 50.09 91 ⇓P **P 14 13 14.8 +0.6**
baz=50,SNR=76
431A Sonora 50.16 90 ⇑P **P 14 13 14.7 -0.1**
baz=50,SNR=44
332A Millersview 50.20 89 ⇑P **P 14 13 15.0 0.0**
baz=50,SNR=16
W37A Quinton 50.25 82 ⇑P **P 14 13 15.6 +0.2**
baz=50
233A Rising Star 50.27 87 ⇓P **P 14 13 15.9 +0.3**
baz=50,SNR=28
GLMI Grayling 50.29 65 *eP* **P 14 13 15.7 +0.1**
GLMI LR LR
comp=Z,841nm,22.0s
HDIL Hopedale 50.33 72 *eP* **P 14 13 15.6 -0.4**
comp=Z,5μm,0.8s
HDIL *e* 14 13 25.4
HDIL LR LR
comp=Z,1391μm,19.0s
Z35A Perchaven, San 50.37 85 ⇓P **P 14 13 16.1 -0.2**
baz=50,SNR=6.4
134A White-Moore Ra 50.39 86 ⇓P **P 14 13 16.7 +0.3**
baz=50,SNR=10
432A Menard 50.52 89 ⇑P **P 14 13 17.6 +0.1**
baz=50,SNR=30
531A Rocksprings 50.56 90 ⇑P **P 14 13 18.1 +0.3**
baz=50,SNR=58
X37A Clayton 50.65 82 ⇑P **P 14 13 18.3 -0.2**
baz=50,SNR=24
SFJD Kangerlussuaq 50.66 28 *i* P **P 14 13 18.6 +0.6**
comp=Z,115nm,0.9s
SFJD *i* 14 15 15.3
SFJD *i* S **S 14 20 28.7 -2.9**
SFJD Kangerlussuaq 50.66 28 *i* P **P 14 13 18.6 +0.6**
SFJD *i* 14 15 15.3
SFJD *i* S **S 14 20 28.7 -2.9**
SFJD pmax pmax
comp=Z,120nm,0.9s
SFJD Kangerlussuaq 50.66 28 *eP* **P 14 13 19.3 +1.3**
comp=Z,219nm,1.3s
SFJD LR LR
comp=Z,654nm,19.0s
333A Richland Sprin 50.70 88 ⇑P **P 14 13 19.0 +0.1**
baz=51,SNR=25
234A Clairette 50.74 87 ⇓P **P 14 13 19.2 0.0**
baz=51,SNR=12
HSPB Hornsund (broa 50.75 0 *eP* **P 14 13 19.8 +1.3**
HSPB IAmb IAmb 14 13 20.4
comp=Z,136nm,1.3s
JCT Junction City 50.79 89 *eP* **P 14 13 19.1 -0.5**
JCT pmax pmax
comp=Z,140nm,0.9s
JCT MLR MLR
comp=Z,908nm,19.0s
JCT Junction City 50.79 89 *eP* **P 14 13 19.1 -0.5**
comp=Z,140nm,0.9s
JCT *e* 14 13 29.8
JCT LR LR
comp=Z,908nm,19.0s
JCT Junction City 50.79 89 ⇑P **P 14 13 19.6 0.0**
baz=51,SNR=35
135A Vickery Place, 50.80 86 ⇓P **P 14 13 20.0 +0.4**
baz=51
W38A Poteau 50.84 81 ⇓P **P 14 13 19.5 -0.3**
baz=51,SNR=9.5
532A Rocksprings 50.98 90 ⇑P **P 14 13 20.7 -0.4**
baz=51,SNR=18
SLM Saint Louis 51.03 75 *eP* **P 14 13 20.7 -0.5**
SLM pmax pmax
comp=Z,74nm,0.8s
SLM Saint Louis 51.03 75 *eP* **P 14 13 20.7 -0.5**
comp=Z,74nm,0.8s
SLM *e* 14 13 30.2

433A Art 51.03 89 ⇑P **P 14 13 21.4 0.0**
baz=51,SNR=46
631A Perdido Creek 51.08 91 ⇑P **P 14 13 21.5 -0.2**
baz=51,SNR=38
334A Lometa 51.15 87 ⇑P **P 14 13 22.4 +0.2**
baz=51,SNR=26
WHTX Lake Whitney, 51.17 86 *eP* **P 14 13 23.0 +0.6**
comp=Z,78nm,0.8s
WHTX *e* 14 13 33.0
WHTX Lake Whitney, 51.17 86 ⇓P **P 14 13 22.8 +0.4**
baz=51,SNR=13
632A Uvalde 51.49 90 ⇑P **P 14 13 24.5 -0.3**
baz=51,SNR=21
434A Burnet 51.49 88 ⇑P **P 14 13 24.8 0.0**
baz=51,SNR=33
533A Kerrville 51.55 89 ⇓P **P 14 13 25.2 -0.1**
baz=52,SNR=8.4
335A Moody 51.68 87 ⇑P **P 14 13 26.8 +0.6**
baz=52
SFIN Lafayette 51.72 71 *eP* **P 14 13 25.8 -0.6**
comp=Z,195nm,1.4s
SFIN Lafayette 51.72 71 ⇓P **P 14 13 25.1 -1.2**
baz=52,SNR=30
MIAR Mount Ida 51.77 81 *eP* **P 14 13 26.2 -0.6**
MIAR pmax pmax
comp=Z,160nm,1.5s
MIAR MLR MLR
comp=Z,596nm,19.0s
MIAR Mount Ida 51.77 81 *eP* **P 14 13 26.2 -0.6**
comp=Z,160nm,1.5s
MIAR LR LR
comp=Z,596nm,19.0s
137A Heron Place, G 51.78 84 ⇓P **P 14 13 27.3 +0.3**
baz=52
Z38A Mt. Pleasant 51.80 83 ⇑P **P 14 13 27.2 +0.2**
baz=52
633A Seathoff Ranch 51.90 90 ⇓P **P 14 13 27.4 -0.4**
baz=52
534A Blanco 51.92 89 ⇓P **P 14 13 27.8 -0.2**
baz=52,SNR=15
732A Laxson Ranch, 51.93 91 ⇑P **P 14 13 28.3 +0.2**
baz=52
435B Jarrell 51.93 87 ⇓P **P 14 13 28.7 +0.6**
baz=52
336A Riesel 51.96 86 ⇓P **P 14 13 28.6 +0.3**
baz=52,SNR=9.5
138A Matatall Enter 52.15 84 ⇑P **P 14 13 30.3 +0.7**
baz=52
237A Washetta, Mont 52.16 85 ⇑P **P 14 13 30.2 +0.4**
baz=52
OLIL Olney 52.22 73 *eP* **P 14 13 29.6 -0.5**
comp=Z,112nm,0.8s
OLIL *e* 14 13 39.7
832A Faith Ranch, C 52.25 92 ⇓P **P 14 13 30.5 +0.1**
baz=52,SNR=32
733A Divot King Ran 52.35 91 ⇓P **P 14 13 31.6 +0.4**
baz=52,SNR=7.2
UALR University of 52.36 80 *eP* **P 14 13 30.3 -0.8**
comp=Z,17nm,0.9s
IRK Irkutsk 52.37 309 *eP* **P 14 13 31.3 +0.2**
IRK *eS* **S 14 20 54.9 -0.8**
IRK pmax pmax
comp=Z,245nm,1.4s
436A Wall Ranch, Ga 52.42 87 ⇑P **P 14 13 32.6 +0.8**
baz=52
AAM Ann Arbor 52.44 67 *eP* **P 14 13 30.8 -0.8**
AAM MLR MLR
comp=Z,757nm,22.0s
AAM Ann Arbor 52.44 67 *eP* **P 14 13 30.8 -0.8**
AAM LR LR
comp=Z,757nm,22.0s
634A China Grove, S 52.46 89 ⇓P **P 14 13 32.3 +0.3**
baz=52
535A Dale 52.47 88 ⇓P **P 14 13 32.9 +0.8**
baz=52
833A Chaparral WMA, 52.58 91 ⇑P **P 14 13 33.2 +0.3**
baz=52,SNR=32
238A Jacksonville 52.58 85 ⇑P **P 14 13 33.4 +0.5**
baz=52
734A La Parita Cree 52.71 90 ⇓P **P 14 13 34.4 +0.5**
baz=53,SNR=5.8
536A Bastrop 52.75 88 ⇓P **P 14 13 34.9 +0.8**
baz=53
437A Phantom Ranch, 52.78 86 ⇑P **P 14 13 35.3 +0.9**
baz=53
635A Leesville 52.80 89 ⇓P **P 14 13 35.0 +0.5**
baz=53,SNR=7.0
BLO Bloomington 52.85 72 *eP* **P 14 13 32.8 -2.0**
BLO pmax pmax
comp=Z,48nm,0.9s
BLO Bloomington 52.85 72 *eP* **P 14 13 32.8 -2.0**
comp=Z,48nm,0.9s
SCHQ Schefferville 52.86 46 P **P 14 13 33.6 -1.0**
comp=Z,30nm,1.1s,baz=324,slow=6.8,SNR=27
SCHQ LR LR 14 37 07.1
comp=Z,1μm,19.0s,baz=326,slow=37
SCHQ Schefferville 52.86 46 *eP* **P 14 13 33.3 -1.3**
comp=Z,27nm,0.8s
SCHQ *e* 14 13 43.8
338A Crockett 52.92 85 ⇑P **P 14 13 36.3 +0.9**
baz=53
239A Gary 52.97 84 ⇓P **P 14 13 36.2 +0.5**
baz=53
USIN University of 52.99 74 *eP* **P 14 13 35.2 -0.6**
comp=Z,122nm,0.8s
TLY Talaya 53.03 309 P **P 14 13 37.7 +1.7**
comp=Z,630nm,0.8s,SNR=21
TLY Talaya 53.03 309 *d* *iP* **P 14 13 36.6 +0.6**
TLY *e* 14 14 49.8
TLY *e* 14 15 40.2
TLY *eS* **S 14 21 06.1 +1.4**
TLY pmax pmax
comp=Z,153nm,1.4s
TLY MLR MLR
comp=Z,666nm,16.0s
TLY Talaya 53.03 309 P **P 14 13 37.2 +1.3**
SNR=49
TLY Talaya 53.03 309 *eP* **P 14 13 36.8 +0.8**
comp=Z,97nm,0.9s
TLY LR LR
comp=Z,591nm,21.0s
NATX Nacogdoches 53.03 84 *eP* **P 14 13 37.0 +0.8**
comp=Z,176nm,1.4s
NATX LR LR
comp=Z,1μm,19.0s
933A Laredo 53.16 92 ⇑P **P 14 13 37.7 +0.5**
baz=53,SNR=15
735A Kenedy 53.16 89 ⇓P **P 14 13 38.4 +1.2**
baz=53
636A Smothers Creek 53.18 88 ⇓P **P 14 13 38.2 +0.9**
baz=53,SNR=8.4
537A Green Hill Far 53.20 87 ⇓P **P 14 13 38.6 +1.1**
baz=53
834A Tilden 53.23 91 ⇓P **P 14 13 38.9 +1.2**
baz=53,SNR=7.5
438A Sam Houston St 53.24 86 ⇓P **P 14 13 39.3 +1.6**
baz=53,SNR=11
HALT Halls 53.38 77 *eP* **P 14 13 38.9 +0.2**
339A Huntington 53.39 85 ⇑P **P 14 13 39.2 +0.4**
baz=53
736A Circle Diamond 53.55 89 ⇓P **P 14 13 41.2 +1.2**
baz=54
835A Beeville 53.56 90 ⇑P **P 14 13 41.9 +1.8**
baz=54
HKT Hockley 53.59 87 *eP* **P 14 13 41.0 +0.7**
HKT pmax pmax
comp=Z,184nm,1.7s
HKT Hockley 53.59 87 *eP* **P 14 13 41.0 +0.7**
comp=Z,184nm,1.7s
538A Harpers Horsep 53.61 86 ⇓P **P 14 13 41.9 +1.5**
baz=54
WCI Wyandotte Cave 53.61 73 *eP* **P 14 13 39.4 -1.0**
WCI pmax pmax
comp=Z,32nm,1.0s
WCI Wyandotte Cave 53.61 73 *eP* **P 14 13 39.4 -1.0**
comp=Z,32nm,1.0s
934A Benavides 53.63 91 ⇑P **P 14 13 42.1 +1.4**
baz=54,SNR=7.1
439A Center Grove, 53.65 85 ⇓P **P 14 13 41.7 +1.0**
baz=54
340A Bronson 53.74 84 ⇑P **P 14 13 41.6 +0.2**
baz=54
ULN Ulaanbaatar 53.83 303 *eP* **P 14 13 42.7 +0.6**
ULN pmax pmax
comp=Z,62nm,0.9s
ULN MLR MLR
comp=Z,613nm,20.0s

ULN Ulaanbaatar 53.83 303 P **P 14 13 42.9 +0.8**
SNR=36
ULN Ulaanbaatar 53.83 303 *eP* **P 14 13 42.7 +0.6**
comp=Z,62nm,0.9s
ULN LR LR
comp=Z,613nm,20.0s
034A Hebbronville 53.92 92 ⇑P **P 14 13 44.0 +1.2**
baz=54
BJI Beijing 54.04 291 P **P 14 13 44.5 +1.0**
BJI PP **PP 14 15 43.3 -1.4**
BJI S **S 14 21 17.8 -0.8**
BJI PMZ
comp=Z,59nm,0.8s
BJI PMZ
comp=Z,490nm,8.1s
BJI LN
comp=Z,1μm,24.1s
BJI LE
comp=Z,1μm,28.3s
BJI LZ
comp=Z,680nm,34.0s
ZAK Zakamensk 54.05 308 *eP* **P 14 13 43.7 +0.1**
ZAK *e* 14 21 21.8
ZAK pmax pmax
comp=Z,31nm,1.4s
KVTX Kingsville 54.05 91 PFAKE 14 14 00.0 +16
KVTX LR LR
comp=Z,558nm,19.0s
BJT Baijiatuau 54.06 291 PFAKE 14 14 00.0 +16
BJT LR LR
comp=Z,531nm,21.0s
WVT Waverly 54.13 76 *eP* **P 14 13 43.0 -1.2**
WVT pmax pmax
comp=Z,71nm,0.9s
WVT Waverly 54.13 76 *eP* **P 14 13 43.0 -1.2**
comp=Z,71nm,0.9s
539A Cross D Ranch, 54.16 86 ⇑P **P 14 13 46.1 +1.7**
baz=54
ACSO Alum Creek Sta 54.18 69 *eP* **P 14 13 43.7 -0.9**
comp=Z,106nm,1.4s
ACSO LR LR
comp=Z,890nm,20.0s
SONM Songino Array 54.18 304 P **P 14 13 45.4 +0.8**
comp=Z,34nm,0.9s,baz=48,slow=6.2,SNR=177
SONM PcP **PcP 14 14 49.3 +0.3**
comp=Z,13nm,0.9s,baz=57,slow=3.3,SNR=3.8
SONM LR LR 14 39 07.6
comp=Z,863nm,19.2s,baz=42,slow=39
MOY Mondy 54.29 310 *eP* **P 14 13 46.5 +1.2**
MOY pmax pmax
comp=Z,123nm,3.2s
OXF Oxford 54.30 78 *eP* **P 14 13 44.5 -0.9**
OXF pmax pmax
comp=Z,245nm,1.0s
OXF Oxford 54.30 78 *eP* **P 14 13 44.5 -0.9**
comp=Z,245nm,1.0s
OXF *e* 14 13 55.0
035A Encino 54.37 91 ⇑P **P 14 13 47.1 +1.1**
baz=54,SNR=5.6
738A Farr-Stevens R 54.49 88 ⇓P **P 14 13 48.1 +1.2**
baz=54
ERPA Erie 54.60 65 *eP* **P 14 13 47.2 -0.4**
comp=Z,195nm,1.4s
ERPA LR LR
comp=Z,829nm,20.0s
TARA Tarawa 54.62 209 PFAKE 14 14 00.0 +12
TARA LR LR
comp=Z,2μm,21.0s
035Z Hargill 54.73 92 ⇑P **P 14 13 49.4 +0.8**
baz=55
ALLY Alegheny Colle 54.83 66 *eP* **P 14 13 48.6 -0.7**
comp=Z,245nm,1.3s
ALLY *e* 14 13 58.1
KRAR Krasnoyarsk 54.91 318 *d* *iP* **P 14 13 50.5 +1.0**
KRAR pmax pmax
comp=Z,95nm,0.8s
LONY Lake Ozonia 55.85 60 *eP* **P 14 13 55.5 -1.1**
comp=Z,170nm,1.5s
LONY *e* 14 14 05.6
LONY LR LR
comp=Z,815nm,20.0s
JOW Kunigami 56.00 271 P **P 14 13 57.6 -0.2**
comp=Z,1.8nm,0.9s,baz=91,slow=13,SNR=3.6
TIA Tai'an 56.09 287 ⇑P **P 14 13 58.7 +0.3**
TIA S S 14 21 52.7 +6.4
TIA PMZ
comp=Z,60nm,1.0s
TIA PMZ
comp=Z,360nm,7.7s
TIA LN
comp=Z,290nm,19.6s
TIA LE
comp=Z,600nm,19.3s
TIA LZ
comp=Z,260nm,23.8s
HHC Hu-ho-hao-te 56.10 294 ⇓P **P 14 13 59.6 +1.1**
HHC sP **sP 14 14 08.5 +2.4**
HHC PP **PP 14 16 04.2 +1.0**
HHC S **S 14 21 46.2 -0.3**
HHC ScS **ScS 14 23 46.8 0.0**
HHC SS **SS 14 25 35.0 +2.8**
HHC PMZ
comp=Z,56nm,1.6s
HHC PMZ
comp=Z,520nm,6.2s
HHC LN
comp=Z,1μm,26.1s
HHC LE
comp=Z,1μm,24.9s
HHC LZ
comp=Z,1μm,24.9s
GUMO Guam 56.31 246 LR LR 14 37 26.3
comp=Z,124nm,18.4s,baz=72,slow=35
NCB Newcomb 56.48 60 PFAKE 14 14 10.0 +8.9
NCB LR LR
comp=Z,732nm,20.0s
BINY Binghamton 56.75 63 *eP* **P 14 14 02.8 -0.2**
comp=Z,211nm,1.4s
BINY *e* 14 14 12.4
BINY LR LR
comp=Z,779nm,19.0s
LRAL Lakeview Retre 56.76 78 *eP* **P 14 14 01.5 -1.7**
comp=Z,12nm,0.8s
SSPA Standing Stone 56.77 65 *eP* **P 14 14 02.2 -0.9**
comp=Z,63nm,0.8s
SSPA *e* 14 14 12.2
TKL Tuckaleechee C 56.84 73 *eP* **P 14 14 02.5 -1.3**
TKL Tuckaleechee C 56.84 73 *eP* **P 14 14 02.5 -1.3**
MDV Middlebury 57.01 59 *eP* **P 14 14 04.0 -0.8**
BTO Baotou 57.12 295 *eP* **P 14 14 06.6 +0.8**
BTO PMZ
comp=Z,38nm,0.8s
ACCN Adirondack Com 57.18 60 *eP* **P 14 14 05.5 -0.5**
comp=Z,277nm,1.5s
ACCN *e* 14 14 15.6
SSE Sheshan 57.25 280 P **P 14 14 06.8 +0.1**
SSE sP **sP 14 14 15.3 +1.0**
SSE S **S 14 22 01.7 0.0**
SSE sS **sS 14 22 12.2 +1.4**
SSE PMZ
comp=Z,65nm,1.0s
SSE PMZ
comp=Z,300nm,6.5s
SSE LN
comp=Z,510nm,33.2s
SSE LE
comp=Z,350nm,33.2s
SSE LZ
comp=Z,380nm,30.8s
LBNH Lisbon 57.50 58 *eP* **P 14 14 07.8 -0.5**
LBNH pmax pmax
comp=Z,97nm,1.4s
LBNH MLR MLR
comp=Z,671nm,19.0s
LBNH Lisbon 57.50 58 *eP* **P 14 14 07.8 -0.5**
comp=Z,97nm,1.4s
LBNH LR LR
comp=Z,671nm,19.0s
TRY Troy 57.63 61 *eP* **P 14 14 09.1 0.0**
comp=Z,49nm,0.8s
TRY *e* 14 14 18.8
HNH Hanover 57.69 59 *eP* **P 14 14 09.4 -0.2**
comp=Z,117nm,1.4s
BLA Blacksburg 57.70 70 *eP* **P 14 14 09.2 -0.6**
BLA pmax pmax
comp=Z,156nm,1.6s

BLA MLR MLR
comp=Z,946nm,20.0s
BLA Blacksburg 57.70 70 *e*P **P 14 14 09.2 -0.6**
comp=Z,156nm,1.6s
BLA LR LR
comp=Z,946nm,20.0s
TIY Taiyuan 57.76 291 *e*P **P 14 14 11.6 +1.3**
TIY PP **PP 14 16 21.8 +3.8**
TIY S **S 14 22 10.0 +1.6**
TIY PMZ
comp=Z,380nm,3.5s
TIY LN
comp=Z,360nm,13.6s
TIY LE
comp=Z,420nm,10.9s
TIY LZ
comp=Z,240nm,13.9s
KEV Kevo 57.79 356 *e*P **P 14 14 10.0 +0.1**
KEV pmax pmax
comp=Z,86nm,0.8s
KEV Kevo 57.79 356 *e*P **P 14 14 10.0 +0.1**
comp=Z,86nm,0.8s
PQI Presque Isle 57.81 54 *e*P **P 14 14 09.2 -1.2**
comp=Z,24nm,0.9s
VWCC Virginia Weste 57.93 69 *e*P **P 14 14 10.2 -1.3**
HVS Khovu-Aksy 57.97 314*d i*P **P 14 14 12.8 +1.2**
HVS pmax pmax
comp=Z,798nm,1.2s
NJ2 Nanjing 57.98 282 *e*P **P 14 14 12.0 +0.3**
NJ2 pP **pP 14 14 15.5 -1.8**
NJ2 sP **sP 14 14 17.1 -2.3**
NJ2 S **S 14 22 12.0 +0.9**
NJ2 sS **sS 14 22 19.0 -1.3**
NJ2 PMZ
comp=Z,150nm,1.3s
NJ2 PMZ
comp=Z,350nm,6.7s
NJ2 LN
comp=Z,570nm,23.4s
NJ2 LE
comp=Z,940nm,21.3s
NJ2 LZ
comp=Z,900nm,21.5s
ARCES ARCESS Array B 58.07 356 P **P 14 14 12.3 +0.4**
comp=Z,37nm,0.8s,baz=10,slow=7.1,SNR=64
ARCES LR LR 14 39 12.8
comp=Z,723nm,21.4s,baz=3.5,slow=36
ARE0 ARCESS Array S 58.07 356 *e*P **P 14 14 12.1 +0.2**
ARE0 ARCESS Array S 58.07 356 *e*P **P 14 14 12.3 +0.4**
TRO Tromso 58.15 359 *e*P **P 14 14 12.2 -0.2**
PKME Peaks-Kenny Pk 58.15 56 *e*P **P 14 14 11.9 -0.8**
comp=Z,100nm,1.4s
PKME LR LR
comp=Z,702nm,19.0s
BRAL Brewton 58.16 79 PFAKE 14 14 30.0 +17
BRAL LR LR
comp=Z,637nm,20.0s
SDMD Soldier's Deli 58.20 66 P **P 14 14 11.1 -2.1**
comp=Z,265nm,1.3s
WVL Waterville 58.45 57 *e*P **P 14 14 13.4 -1.5**
comp=Z,117nm,1.4s
GOGA Godfrey 58.59 75 *e*P **P 14 14 14.4 -1.7**
GOGA pmax pmax
comp=Z,16nm,0.9s
GOGA MLR MLR
comp=Z,724nm,19.0s
GOGA Godfrey 58.59 75 *e*P **P 14 14 14.4 -1.7**
comp=Z,16nm,0.9s
GOGA LR LR
comp=Z,724nm,19.0s
KMSC Kings Mountain 58.62 72 *e*P **P 14 14 14.8 -1.5**
comp=Z,100nm,1.5s
KMSC Kings Mountain 58.62 72 ⇓P **P 14 14 15.2 -1.0**
baz=58
QUA2 Belchertown 58.64 60 *e*P **P 14 14 16.0 -0.3**
comp=Z,47nm,0.8s
KTK1 Kautokeino 58.68 357 *e*P **P 14 14 17.7 +1.6**
CBN Corbin Frederi 58.74 67 *e*P **P 14 14 16.5 -0.5**
CBN LR LR
comp=Z,688nm,20.0s
JSRW J. Sargeant Re 58.81 68 *e*P **P 14 14 17.1 -0.5**
CPNY Central Park 58.82 63 *e*P **P 14 14 17.5 0.0**
comp=Z,224nm,1.6s
HRV Adam Dziewonsk 58.90 60 *e*P **P 14 14 18.0 -0.1**
HRV pmax pmax
comp=Z,114nm,1.4s
HRV Adam Dziewonsk 58.90 60 *e*P **P 14 14 17.9 -0.1**
comp=Z,114nm,1.4s
HRV *e* 14 14 27.3
LVZ Lovozero 59.13 352 P **P 14 14 20.9 +1.6**
comp=Z,800nm,0.9s,SNR=14
LVZ Lovozero 59.13 352*c i*P **P 14 14 20.5 +1.2**
LVZ pmax pmax
comp=Z,156nm,1.0s
LVZ Lovozero 59.13 352 *e*P **P 14 14 19.7 +0.4**
comp=Z,114nm,0.9s
LVZ LR LR
comp=Z,1μm,21.0s
EMMW East Machias 59.46 55 *e*P **P 14 14 21.3 -0.6**
comp=Z,42nm,0.8s
EMMW *e* 14 14 30.7
BORG Borgarnes 59.49 18 PFAKE 14 14 30.0 +8.2
BORG LR LR
comp=Z,854nm,22.0s
NVS Novosibirsk 59.54 322 ⇓*i*P **P 14 14 22.8 +0.5**
NVS *i* 14 16 36.3
NVS *i* S **S 14 22 29.3 -1.6**
NVS pmax pmax
comp=N,81nm,2.2s
NVS pmax pmax
comp=Z,190nm,2.2s
NVS pmax pmax
comp=E,63nm,1.5s
NVS smax smax
comp=N,54nm,2.5s
NVS smax smax
comp=E,16nm,1.6s
APA Apatity 59.55 353 ⇓*i*P **P 14 14 22.5 +0.3**
APA *i* 14 16 40.0
APA *e*S **S 14 22 30.0 -0.7**
APA pmax pmax
comp=Z,123nm,1.6s
APA MLR MLR
comp=Z,2μm,19.0s
ZAA0 Zalesovo Array 59.61 320 *e*P **P 14 14 23.5 +0.7**
ZALV Zalesovo Beam 59.61 320 P **P 14 14 23.6 +0.8**
comp=Z,16nm,0.7s,baz=38,slow=6.3,SNR=84
ZALV LR LR 14 41 17.0
comp=Z,1μm,21.9s,baz=68,slow=37
ZALV PKPPKP **P'P'df**
comp=Z,0.2nm,0.2s,baz=251,slow=4.5,SNR=4.9
TIGA Tifton 59.92 77 ⇑P **P 14 14 23.4 -1.9**
baz=60
CNNC Cliffs of the 60.54 70 PFAKE 14 14 40.0 +11
CNNC LR LR
comp=Z,2μm,19.0s
KONS Konsvik 61.28 1 *e*P **P 14 14 35.0 +1.0**
STOK Stokkvaagen 61.45 2 *e*P **P 14 14 35.4 +0.3**
MOR8 Moi Rana 61.63 1 *e*P **P 14 14 36.0 -0.4**
MOR8 IAmb IAmb 14 14 37.5
comp=Z,110nm,1.8s
WHN Wuhan 61.74 284 ⇑P **P 14 14 38.5 +0.9**
WHN S **S 14 22 53.9 -5.7**
WHN PMZ
comp=Z,170nm,1.2s
WHN LN
comp=Z,420nm,9.0s
WHN LE
comp=Z,1μm,14.4s
WHN LZ
comp=Z,690nm,15.7s
YHNB Yeheng 61.80 274 PFAKE 14 14 50.0 +12
YHNB LR LR
comp=Z,323nm,20.0s
XAN Xi'an 62.37 291 P **P 14 14 42.5 +0.6**
XAN pP pP 14 14 52.8 +5.3
XAN S **S 14 23 10.0 +2.3**
XAN PMZ
comp=Z,21nm,1.4s
XAN PMZ
comp=Z,100nm,5.1s
XAN LN
comp=Z,600nm,28.7s
XAN LE
comp=Z,220nm,27.7s
XAN LZ
comp=Z,4μm,33.8s
TMCR Tamitsa 62.44 349 *e*P **P 14 14 42.3 +0.5**
TMCR pmax pmax
comp=Z,146nm,1.4s
SSLB Suanglung 62.71 274 *e*P **P 14 14 43.8 -0.5**
comp=Z,79nm,1.0s
NSS Namsos 63.24 2 *e*P **P 14 14 47.6 +0.5**
TPUB Ta-pu 63.27 274 P **P 14 14 47.9 -0.1**
QZH Quanzhou 63.29 277 ⇓*i*P **P 14 14 47.7 -0.3**
QZH S **S 14 23 19.0 -0.2**
QZH PMZ
comp=Z,580nm,7.8s
QZH LZ
comp=Z,640nm,22.8s
GTA Gaotai 63.48 301 ⇓P **P 14 14 49.6 +0.3**
GTA pP **pP 14 14 54.1 -0.8**
GTA sP **sP 14 14 56.8 -0.2**
GTA PP **PP 14 17 10.4 +1.9**
GTA S **S 14 23 23.1 +1.5**
GTA sS **sS 14 23 29.5 -1.3**
GTA ScS **SKKSac 14 24 38.8 -2.9**
GTA SS **SS 14 27 30.8 +2.9**
GTA PMZ
comp=Z,74nm,1.3s
GTA PMZ
comp=Z,370nm,5.5s
GTA LN
comp=Z,750nm,18.1s
GTA LE
comp=Z,860nm,19.5s
GTA LZ
comp=Z,1μm,17.6s
SOKR Solikamsk 63.58 338*d i*P **P 14 14 50.1 +0.7**
SOKR S **S 14 23 22.8 +1.0**
SOKR SS **SS 14 27 27.4 -0.7**
SOKR pmax pmax
comp=Z,110nm,1.5s
SOKR MLR MLR
comp=Z,1μm,21.0s
LZH Lanzhou 63.74 296 ⇑P **P 14 14 52.6 +1.5**
LZH pP **pP 14 15 00.4 +3.7**
LZH sP sP 14 15 04.1 +5.3
LZH PP **PP 14 17 08.1 -2.8**
LZH S **S 14 23 26.4 +1.4**
LZH sS **sS 14 23 38.0 +3.8**
LZH SS **SS 14 27 28.2 -4.0**
LZH PMZ
comp=Z,130nm,1.0s
LZH PMZ
comp=Z,610nm,4.2s
LZH LN
comp=Z,990nm,12.2s
LZH LE
comp=Z,600nm,11.9s
LZH LZ
comp=Z,1μm,15.2s
PRGR Permogore 63.84 345 *e*P **P 14 14 52.0 +0.9**
PRGR pmax pmax
comp=Z,88nm,0.9s
KURK Kurchatov 64.52 321 P **P 14 14 56.6 +0.8**
comp=Z,192nm,1.4s,SNR=45
KURK Kurchatov 64.52 321 P **P 14 14 55.3 -0.5**
KURK pmax pmax
comp=Z,67nm,1.5s
KURK Kurchatov 64.52 321 P **P 14 14 56.6 +0.8**
SNR=42
KURK Kurchatov 64.52 321 *e*P **P 14 14 56.1 +0.3**
comp=Z,102nm,1.2s
KURK LR LR
comp=Z,1μm,21.0s
ENH Enshi 64.80 287 *e*P **P 14 14 58.2 +0.3**
comp=Z,35nm,1.0s
ENH *e* 14 15 08.2
ENH LR LR
comp=Z,292nm,21.0s
MOL Molde 65.04 4 *e*P **P 14 14 60.0 +1.0**
SVE Sverdlovsk 65.12 335*c i*P **P 14 15 01.1 +1.5**
SVE *e*PPP PPP 14 19 07.8
SVE *e*S **S 14 23 42.7 +1.6**
SVE *e* 14 24 46.2
SVE *e*SS **SS 14 27 56.4 +4.1**
SVE pmax pmax
comp=Z,102nm,1.5s
TEIG Tepich 65.35 89 *e*P **P 14 15 01.2 -0.4**
comp=Z,68nm,1.4s
TEIG LR LR
comp=Z,333nm,21.0s
AKN Aaknes 65.41 5 *e*P **P 14 15 02.4 +1.0**
AKN IAmb IAmb 14 15 03.9
comp=Z,102nm,1.0s
KLMR Klimovskoe 65.47 348 *e*P **P 14 15 02.3 +0.5**
KLMR pmax pmax
comp=Z,94nm,1.4s
BVA0 Borovoye Array 65.54 328 *i*P **P 14 15 02.9 +0.5**
BVA0 pmax pmax
comp=N,340nm,2.1s
BRVK Borovoye 65.55 328 P **P 14 15 03.4 +1.0**
comp=N,300nm,0.9s,SNR=27
BRVK Borovoye 65.55 328*d i*P **P 14 15 03.4 +1.0**
BRVK pmax pmax
comp=Z,141nm,1.7s
BRVK Borovoye 65.55 328 P **P 14 15 03.7 +1.3**
SNR=49
BRVK Borovoye 65.55 328 *e*P **P 14 15 03.2 +0.8**
comp=Z,91nm,1.2s
BRVK LR LR
comp=Z,1μm,20.0s
DOMB Dombas 65.64 4 *e*P **P 14 15 03.8 +0.9**
FOO Floro 65.87 6 *e*P **P 14 15 05.5 +1.1**
FINES FINESS Array B 66.12 355 P **P 14 15 06.2 +0.2**
comp=Z,30nm,0.8s,baz=22,slow=7.2,SNR=58
FINES PKP2bc 14 43 41.9
comp=Z,3.6nm,0.9s,baz=48,slow=2.8,SNR=4.6
FINES LR LR 14 45 39.2
comp=Z,600nm,20.0s,baz=18,slow=38
WMQ Urumqi 66.13 311 P **P 14 15 07.9 +1.4**
WMQ PcP **PcP 14 15 33.5 -3.2**
WMQ PP **PP 14 17 31.8 +0.2**
WMQ S **S 14 23 57.2 +3.2**
WMQ ScS **SKSac 14 24 59.1 -2.5**
WMQ SS **SS 14 28 10.4 +1.5**
WMQ PMZ
comp=Z,45nm,1.8s
WMQ PMZ
comp=Z,500nm,6.4s
WMQ LN
comp=Z,1μm,16.0s
WMQ LE
comp=Z,1μm,20.0s
WMQ LZ
comp=Z,1μm,22.6s
MK31 Makanchi Array 66.18 317 *e*P **P 14 15 06.4 -0.2**
MK31 Makanchi Array 66.18 317 *e*P **P 14 15 06.4 -0.2**
MKAR Makanchi Array 66.18 317 P **P 14 15 06.7 0.0**
comp=Z,13nm,0.7s,baz=1.7,slow=4.0,SNR=155
MKAR PKP2bc 14 43 44.2
comp=Z,1.1nm,1.1s,baz=253,slow=11,SNR=7.4
MKAR PKP2ab 14 43 49.2
comp=Z,0.9nm,0.9s,baz=248,slow=6.4,SNR=5.9
MKAR LR LR 14 45 16.3
comp=Z,889nm,21.2s,baz=24,slow=37
AFI Afiamalu 66.53 189 PFAKE 14 15 20.0 +11
AFI LR LR
comp=Z,1μm,22.0s
NB2 NORSAR Subarra 66.72 3 P **P 14 15 10.3 +0.4**
comp=Z,173nm,1.7s,baz=358,slow=6.5
NB2 NORSAR Subarra 66.72 3 P **P 14 15 10.3 +0.4**
baz=358,slow=6.5
NOA NORSAR Array B 66.72 3 P **P 14 15 10.6 +0.7**
comp=Z,20nm,0.8s,baz=358,slow=6.3,SNR=36
NOA LR LR 14 46 38.2
comp=Z,207nm,18.3s,baz=350,slow=38
NAO01 NORSAR Array S 66.90 3 *e*P **P 14 15 11.4 +0.4**
comp=Z,49nm,1.4s
ASK Askoy 66.99 6 *e*P **P 14 15 13.3 +1.8**
NC602 NORSAR Array S 67.03 3 *e*P **P 14 15 12.6 +0.8**
NC602 *e*SKSac **S 14 23 58.5 -5.7**
PUL Pulkovo 67.50 352⇑ *e*P **P 14 15 16.0 +1.2**
PUL pmax pmax
comp=Z,91nm,0.7s
CD2 Chengdu 67.62 292 ⇓*i*P **P 14 15 16.8 +0.7**
CD2 sP **sP 14 15 27.2 +3.4**
CD2 PcP **PcP 14 15 42.8 -0.3**
CD2 PP **PP 14 17 47.1 +2.3**
CD2 S **S 14 24 08.3 -4.0**
CD2 ScS **SKSac 14 25 13.3 +0.1**
CD2 SS **SS 14 28 30.8 -1.7**
CD2 PMZ
comp=Z,130nm,1.7s
CD2 PMZ
comp=Z,470nm,4.8s
CD2 LN
comp=Z,740nm,22.9s
CD2 LE
comp=Z,600nm,20.4s
CD2 LZ
comp=Z,390nm,25.3s
ODD1 Odda 67.65 5 *e*P **P 14 15 16.4 +0.6**
ODD1 IAmb IAmb 14 15 18.3
comp=Z,88nm,1.3s
SZP Santa 67.72 270 *e*P **P 14 15 16.9 +0.2**
comp=Z,145nm,1.3s
GZH Guangzhou 67.85 279 P P 14 15 14.2 -3.3
GZH PcP **PcP 14 15 39.6 -4.5**
GZH PcS 14 19 43.7
GZH S **S 14 24 10.6 -4.4**
GZH LN
comp=Z,560nm,15.1s
GZH LE
comp=Z,490nm,14.9s
KONO Kongsberg 68.05 4 *e*P **P 14 15 19.6 +1.3**
KONO IAmb IAmb 14 15 20.7
comp=Z,220nm,1.7s
KONO Kongsberg 68.05 4 *e*P **P 14 15 19.3 +1.0**
KONO pmax pmax
comp=Z,127nm,1.4s
KONO MLR MLR
comp=Z,303nm,19.0s
KONO Kongsberg 68.05 4 *e*P **P 14 15 19.3 +1.0**
comp=Z,127nm,1.4s
KONO LR LR
comp=Z,303nm,19.0s
BLS5 Blasjo 68.12 5 *e*P **P 14 15 19.7 +0.9**
BLS5 IAmb IAmb 14 15 24.5
comp=Z,24nm,0.9s
PMOR Pomariorio Ree 68.61 164 *e*P **P 14 15 23.4 +1.2**
comp=Z,107nm,1.1s
VAH Vaihoa 68.89 163 *e*P **P 14 15 25.0 +1.1**
comp=Z,112nm,1.1s
VSU Vasula 69.05 354*de*P **P 14 15 25.2 +0.7**
VSU pmax pmax
comp=Z,360nm,1.2s
GYA Guiyang 69.29 287⇑ *i*P **P 14 15 27.7 +1.0**
GYA PP **PP 14 18 02.5 +3.0**
GYA ScP 14 19 53.6
GYA S **S 14 24 31.8 -0.6**
GYA SKS **SKSac 14 25 23.0 -3.1**
GYA SS **SS 14 28 59.7 +1.1**
GYA PMZ
comp=Z,60nm,1.0s
GYA PMZ
comp=Z,160nm,5.8s
GYA LN
comp=Z,3μm,21.9s
GYA LE
comp=Z,4μm,25.6s
GYA LZ
comp=Z,4μm,22.5s
HOMB Homborsund 69.38 4 *e*P **P 14 15 27.7 +1.2**
HOMB IAmb IAmb 14 15 29.2
comp=Z,123nm,1.4s
BBSR BB Station 70.04 63 *e*P **P 14 15 30.1 -0.9**
comp=Z,258nm,1.7s
BBSR LR LR
comp=Z,384nm,19.0s
PDGK Podgornoye 70.14 316 P **P 14 15 32.0 +0.5**
PDGK pmax pmax
comp=Z,119nm,1.3s
MOS Moscow 70.69 347 *e*P P 14 15 31.0 -3.6
MOS pmax pmax
comp=Z,400nm,1.7s
MOS pmax pmax
comp=Z,222nm,1.5s
MOS MLR MLR
comp=Z,700nm,18.0s
PPT Papeete 70.86 166 P **P 14 15 35.0 -1.0**
comp=Z,20nm,0.9s,baz=2.9,slow=4.6,SNR=3.0
PPT LR LR 14 39 30.4
comp=Z,923nm,21.9s,baz=330,slow=30
PPT Papeete 70.86 166 P **P 14 15 35.0 -1.0**
PPT2 Papeete2 70.88 166 *e*P **P 14 15 37.2 +1.0**
comp=Z,36nm,1.2s
PPT2 *e*S **S 14 24 48.2 -2.4**
comp=Z,3μm,26.2s
PPT2 *e*SS **SS 14 29 25.3 +1.4**
comp=Z,393nm,29.5s
PPT2 *e*LR LR 14 36 58.3
comp=Z,3μm,24.0s,baz=347
TIAR Tiarei 70.88 166 *e*P **P 14 15 37.4 +1.2**
comp=Z,36nm,1.0s
PAE Paea 70.95 166 *e*P **P 14 15 37.5 +1.0**
comp=Z,13nm,1.1s
TVO Taravao 71.11 166 *e*P **P 14 15 39.0 +1.4**
comp=Z,34nm,1.0s
MUD Monsted U'grnd 71.23 4 *i*P **P 14 15 39.3 +1.4**
comp=Z,259nm,1.7s
MUD Monsted U'grnd 71.23 4 *i*P **P 14 15 39.3 +1.4**
MUD pmax pmax
comp=Z,260nm,1.7s
ESK Eskdalemuir 71.31 12 *e*P **P 14 15 39.1 +0.7**
ESK pmax pmax
comp=Z,31nm,0.8s
ESK MLR MLR
comp=Z,658nm,20.0s
ESK Eskdalemuir 71.31 12 *e*P **P 14 15 39.1 +0.7**
comp=Z,32nm,0.8s
ESK LR LR
comp=Z,658nm,20.0s
MEH Mehetia 71.39 164 *e*P **P 14 15 40.1 +0.8**
comp=Z,16nm,1.1s
OBN Obninsk 71.43 348 P **P 14 15 39.7 +0.6**
comp=Z,572nm,0.9s,SNR=8.6
OBN Obninsk 71.43 348*d i*P **P 14 15 39.3 +0.2**
OBN *i* 14 15 57.4
OBN *e* 14 18 19.1
OBN *i* S **S 14 24 59.5 +3.3**
OBN *i* SS SS 14 29 40.0 +10
OBN pmax pmax
comp=Z,228nm,1.7s
OBN MLR MLR
comp=Z,984nm,21.0s
OBN Obninsk 71.43 348 *e*P **P 14 15 39.1 0.0**
comp=Z,225nm,1.4s
OBN LR LR
comp=Z,1μm,22.0s
MSVF Nonsavu 71.75 198 PFAKE 14 15 50.0 +8.5
MSVF LR LR
comp=Z,1μm,21.0s
ISAL Salakas 71.97 354 *e*P **P 14 15 42.9 +0.5**
ISAL AMB AMB 14 15 44.8
comp=Z,35nm,1.3s
AB31 Akbulak array 72.06 332 *i*P **P 14 15 44.0 +0.9**
AB31 pmax pmax
comp=N,48nm,0.7s
ABKAR Akbulak array 72.06 332 *e*P **P 14 15 43.9 +0.8**
comp=N,31nm,0.7s
TKM2 Tokmak 2 72.09 318 P **P 14 15 44.6 +0.9**
SNR=54
TKM2 Tokmak 2 72.09 318 P **P 14 15 44.0 +0.4**
TKM2 pmax pmax
comp=Z,81nm,1.4s
TKM2 Tokmak 2 72.09 318 *e*P **P 14 15 44.4 +0.8**
comp=Z,77nm,1.2s
TKM2 LR LR
comp=Z,932nm,22.0s
COP Copenhagen 72.11 2 *i*P **P 14 15 42.2 -1.0**
COP Copenhagen 72.11 2 *e*P **P 14 15 42.2 -1.0**
IIGN Ignalina 72.19 354 *e*P **P 14 15 44.2 +0.5**
IIGN AMB AMB 14 15 45.9
comp=Z,42nm,1.5s
IDID Didziasalis 72.19 354 *e*P **P 14 15 44.2 +0.5**
USP Ospenovka 72.24 319 P **P 14 15 45.6 +1.3**
SNR=54
GENI Genyem 72.30 241 P **P 14 15 45.5 +0.6**
comp=Z,92nm,1.1s
CHMS Chumysh 72.37 319 P **P 14 15 46.3 +1.3**
SNR=26
ULHL Ulahol 72.39 318 P **P 14 15 47.2 +1.8**
SNR=18
FRU Bishkek 72.56 319 ⇓*i*P **P 14 15 47.8 +1.6**
FRU *e* 14 25 15.0

FRU pmax pmax
comp=Z,343nm,2.0s
KBK Karagaybulak 72.57 319 P **P** **14 15 47.6 +1.1**
SNR=49
KMI Kunming 72.59 289 P **P** **14 15 47.0 +0.1**
KMI pP **pP** **14 15 51.3 -1.2**
KMI PcP **PcP** **14 16 06.2 +1.8**
KMI PP **PP** **14 18 29.0 +1.0**
KMI S **S** **14 25 09.9 -1.0**
KMI SS **SS** **14 29 49.4 -0.1**
KMI PMZ
comp=Z,35nm,1.3s
KMI LN
comp=Z,450nm,20.9s
KMI LE
comp=Z,380nm,18.4s
KMI LZ
comp=Z,440nm,29.1s
BSD Bornholm Skovb 72.73 1 *i* P **P** **14 15 45.9 -1.0**
BSD Bornholm Skovb 72.73 1 *e*P **P** **14 15 45.9 -1.0**
DAV Davao City (W) 72.76 259 PFAKE 14 16 00.0 +12
DAV LR LR
comp=Z,255nm,20.0s
AAK Ala-Archa 72.78 319 P **P** **14 15 48.6 +0.9**
comp=Z,391nm,0.8s,SNR=45
AAK Ala-Archa 72.78 319 P **P** **14 15 48.8 +1.1**
SNR=43
AAK Ala-Archa 72.78 319 *d i*P **P** **14 15 48.7 +1.1**
AAK pmax pmax
comp=Z,295nm,1.7s
AAK Ala-Archa 72.78 319 P **P** **14 15 49.0 +1.3**
SNR=46
AAK Ala-Archa 72.78 319 *e*P **P** **14 15 48.6 +0.9**
comp=Z,109nm,1.1s
AAK LR LR
comp=Z,2µm,22.0s
MICGM Minsk 72.92 353‖ *e*P **P** **14 15 46.0 -2.0**
MNK Minsk 72.92 353‖ *e*P **P** **14 15 46.0 -2.1**
MNK pmax pmax
comp=Z,180nm,1.4s
MNK pmax pmax
comp=N,290nm,2.0s
KZA Kyzart 72.94 318 P **P** **14 15 50.2 +1.3**
SNR=28
EKS2 Erkin-Say 73.04 319 P **P** **14 15 50.5 +1.3**
SNR=56
EKS2 Erkin-Say 73.04 319 *e*P **P** **14 15 50.5 +1.3**
EKS2 *e* 14 16 00.5
EKS2 pmax pmax
comp=Z,67nm,0.9s
EKS2 MLR MLR
comp=Z,1µm,22.0s
EKS2 Erkin-Say 73.04 319 *e*P **P** **14 15 50.5 +1.3**
comp=Z,67nm,0.9s
EKS2 *e* 14 16 00.5
EKS2 LR LR
comp=Z,1µm,22.0s
QIZ Qiongzhong 73.04 279 P **P** **14 15 48.8 -0.5**
QIZ pP **pP** **14 15 51.6 -3.4**
QIZ sP **sP** **14 15 54.5 -2.6**
QIZ PP **PP** **14 18 30.9 -0.9**
QIZ S **S** **14 25 16.4 +0.6**
QIZ SS **SS** **14 30 00.7 +4.4**
QIZ PMZ
comp=Z,38nm,1.2s
QIZ PMZ
comp=Z,220nm,5.6s
QIZ LN
comp=Z,230nm,15.3s
QIZ LE
comp=Z,83nm,20.8s
QIZ LZ
comp=Z,250nm,22.4s
QIZ Qiongzhong 73.04 279 *e*P **P** **14 15 50.0 +0.6**
comp=Z,48nm,1.4s
QIZ *e* 14 16 00.1
QIZ LR LR
comp=Z,123nm,22.0s
UCH Uchtor 73.11 319 P **P** **14 15 51.8 +1.8**
SNR=28
MTDJ Mount Denham 73.41 82 PFAKE 14 16 00.0 +8.4
MTDJ LR LR
comp=Z,203nm,19.0s
RAR Rarotonga 73.50 176 PFAKE 14 16 00.0 +8.3
RAR LR LR
comp=Z,2.0nm,21.0s
AML Almayashu 73.52 319 P **P** **14 15 54.0 +1.6**
SNR=47
VAL Valentia 73.53 17 *e*P **P** **14 15 51.6 -0.1**
LPSR Galich'ya Gora 73.55 346 *e*P **P** **14 15 51.1 -0.7**
LPSR pmax pmax
comp=Z,70nm,1.0s
LPSR pmax pmax
comp=N,40nm,1.1s
LPSR pmax pmax
comp=E,20nm,1.3s
GTBY Guantanamo Bay 73.56 79 PFAKE 14 16 00.0 +7.6
GTBY LR LR
comp=Z,423nm,19.0s
SUW Suwalki 73.68 356 *e*P **P** **14 15 53.0 +0.4**
SUW Suwalki 73.68 356 *e*P **P** **14 15 52.2 -0.4**
SUW pmax pmax
comp=Z,239nm,1.4s
SUW Suwalki 73.68 356 *e*P **P** **14 15 52.2 -0.4**
comp=Z,239nm,1.4s
BSEG Bad Segeberg 73.79 4 *e*P **P** **14 15 54.8 +1.6**
comp=Z,142nm,1.4s
KK31 Karatay Array 73.93 322 *i* P **P** **14 15 54.3 0.0**
KK31 pmax pmax
comp=N,43nm,0.7s
KKAR Karatay Array 73.93 322 *e*P **P** **14 15 54.8 +0.5**
KKAR pmax pmax
comp=Z,31nm,0.7s
KKAR Karatay Array 73.93 322 *e*P **P** **14 15 54.8 +0.5**
comp=Z,31nm,0.7s
GKP Gorka Klasztor 74.58 359 *e*P **P** **14 15 58.9 +1.1**
GKP Gorka Klasztor 74.58 359 *e*P **P** **14 15 58.9 +1.1**
PMG Port Moresby 74.61 231 PFAKE 14 16 10.0 +12
PMG LR LR
comp=Z,365nm,20.0s
KSH Kashi 74.78 316 P P 14 16 03.3 +3.9
KSH sP sP 14 16 10.3 +3.1
KSH PP PP 14 18 54.1 +8.1
KSH S **S** **14 25 40.4 +5.3**
KSH SKS **SKSac** **14 26 07.2 0.0**
KSH ScS **ScS** **14 26 12.1 +1.7**
KSH SS SS 14 30 32.7 +11
KSH PMZ
comp=Z,210nm,1.7s
KSH PMZ
comp=Z,450nm,5.7s
KSH LN
comp=Z,720nm,16.9s
KSH LE
comp=Z,940nm,16.4s
KSH LZ
comp=Z,2µm,26.8s
VSR Storozhevoye 74.86 345 *e*P **P** **14 15 59.6 +0.1**
VSR pmax pmax
comp=Z,120nm,1.5s
VSR pmax pmax
comp=N,90nm,1.2s
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR MLR MLR
comp=Z,2µm,23.0s
VSR MLR MLR
comp=N,970nm,20.0s
VSR MLR MLR
comp=E,260nm,20.0s
JTS JuntasAbangare 75.02 93 PFAKE 14 16 10.0 +9.0
JTS LR LR
comp=Z,330nm,19.0s
NRDL Niedersach Rie 75.23 4 *e*P **P** **14 16 02.8 +1.3**
comp=Z,117nm,1.3s
IBBN Ibbenburen 75.30 5 *e*P **P** **14 16 03.6 +1.6**
comp=Z,156nm,1.3s
RUE Ruedersdorf 75.35 2 *e*P **P** **14 16 03.4 +1.2**
SFK Sufi-Kurgan 75.39 318 P **P** **14 16 03.8 +0.8**
SFK pmax pmax
comp=Z,168nm,1.7s
LSA Lhasa 75.48 300 P **P** **14 16 05.0 +0.9**
LSA PMZ
comp=Z,40nm,1.0s
LSA Lhasa 75.48 300 *e*P **P** **14 16 04.9 +0.9**
LSA pmax pmax
comp=Z,60nm,0.8s
LSA MLR MLR
comp=Z,464nm,19.0s
LSA Lhasa 75.48 300 *e*P **P** **14 16 04.9 +0.9**
comp=Z,60nm,0.8s
LSA LR LR
comp=Z,464nm,19.0s
WTSB Winterswijk 75.58 6 *e*P **P** **14 16 04.7 +1.2**
comp=Z,184nm,1.6s
CLZ Clausthal 75.89 4 *e*P **P** **14 16 07.0 +1.5**
comp=Z,236nm,1.6s
BEL Belsk 75.95 357 *e*P **P** **14 16 06.9 +1.2**
BEL Belsk 75.95 357 *e*P **P** **14 16 07.0 +1.2**
BUG Bochum--Univer 76.13 6 *e*P **P** **14 16 07.9 +1.2**
comp=Z,244nm,1.7s
CLL Collm 76.51 2 *e*P **P** **14 16 10.0 +1.1**
comp=Z,135nm,1.6s
CLL Collm 76.51 2‖ *i*P **P** **14 16 09.8 +0.9**
comp=Z,135nm,1.6s
CLL *i* 14 16 27.0
CLL *i* 14 16 36.4
CLL *e*S **S** **14 25 56.0 +2.5**
CLL *e*PS **PnS** **14 26 31.0 -0.4**
CLL *e*SS **SS** **14 30 54.0 +7.1**
CLL *e*(SSS) 14 34 30.0
CLL Collm 76.51 2‖ *i*P **P** **14 16 09.8 +0.9**
CLL *i* 14 16 27.0
CLL *e*S **S** **14 25 56.0 +2.5**
CLL pmax pmax
comp=Z,135nm,1.6s
TBI Tubuai 76.55 167 *e*S **S** **14 25 53.9 -0.4**
comp=Z,2µm,31.2s
TBI *e*SS **SS** **14 30 51.0 +0.8**
comp=Z,303nm,28.8s
TBI *e*LR LR 14 39 25.1
comp=Z,3µm,33.2s,baz=344
SDDR Presa de Saban 76.57 76 *e*P **P** **14 16 09.4 -0.4**
comp=Z,62nm,1.3s
SDDR *e* 14 16 19.2
SDDR LR LR
comp=Z,403nm,19.0s
NEUB Neuenburg 76.57 3 *e*P **P** **14 16 10.7 +1.4**
comp=Z,246nm,1.6s
AKASG Malin Array Be 76.58 352 P **P** **14 16 09.3 0.0**
comp=Z,30nm,0.6s,baz=9.3,slow=5.5,SNR=169
AKASG LR LR 14 52 31.1
comp=Z,750nm,20.6s,baz=355,slow=38
AKBB Malin Array Si 76.58 352 *e*P **P** **14 16 09.2 -0.1**
AKBB Malin Array Si 76.58 352 *e*P **P** **14 16 09.2 -0.1**
KIEV Kiev 76.59 352 *d i*P **P** **14 16 09.3 -0.1**
KIEV Kiev 76.59 352 *e*P **P** **14 16 08.8 -0.5**
comp=Z,70nm,0.9s
KIEV LR LR
comp=Z,903nm,21.0s
AK01 Malin Array Si 76.59 352 *e*P **P** **14 16 08.9 -0.5**
AK02 Malin Array Si 76.62 352 *e*P **P** **14 16 09.3 -0.2**
HGN Heimansgroeve 76.71 7 *i* P **P** **14 16 11.6 +1.6**
comp=Z,257nm,1.8s
HGN *e*S S 14 25 49.5 -6.3
TNTI Ternate 76.73 254 P **P** **14 16 10.3 -0.3**
comp=Z,66nm,1.5s,comp=Z,1µm
TNTI Ternate 76.73 254 P **P** **14 16 10.0 -0.6**
comp=Z,414nm,1.9s
SNF Seneffe 76.84 8 P **P** **14 16 12.2 +1.5**
MEM Membach 76.87 7 P **P** **14 16 12.4 +1.4**
comp=Z,48nm,1.8s
UBBA Unterbreizbach 76.89 4 *e*P **P** **14 16 12.0 +1.0**
comp=Z,83nm,1.6s
FBE Freiberg 76.90 2 *e*P **P** **14 16 12.6 +1.5**
comp=Z,145nm,1.3s
BRG Berggiesshubel 76.96 2‖ *i*P **P** **14 16 12.4 +0.9**
comp=Z,142nm,1.7s
BRG *e* 14 16 29.9
comp=Z,19nm,0.9s
BRG *e* 14 26 00.0
BRG Berggiesshubel 76.96 2 *e*P **P** **14 16 12.7 +1.2**
comp=Z,142nm,1.7s
BRG Berggiesshubel 76.96 2‖ *i*P **P** **14 16 12.4 +0.9**
BRG *e* 14 16 29.9
BRG *e* 14 26 00.0
BRG pmax pmax
comp=Z,142nm,1.7s
BCLA Clavier 77.01 7 P **P** **14 16 13.1 +1.3**
comp=Z,52nm,1.8s
KSP Ksiaz 77.01 0 *e*P **P** **14 16 13.0 +1.2**
KSP Ksiaz 77.01 0 *e*P **P** **14 16 13.0 +1.2**
MOX Moxa 77.13 3 *e*P **P** **14 16 13.9 +1.4**
comp=Z,174nm,1.7s
MOX *e*L L 14 51 37.6
comp=Z,345nm,22.0s
DOU Dourbes 77.27 8 P **P** **14 16 14.2 +1.0**
comp=Z,44nm,2.2s
BAIF Baives 77.28 8 *e*P **P** **14 16 13.8 +0.5**
comp=Z,301nm,1.6s
BAIF Baives 77.28 8 *e*P **P** **14 16 13.8 +0.5**
BAIF pmax pmax
comp=Z,301nm,1.6s
BAIF Baives 77.28 8 *e*P **P** **14 16 13.8 +0.5**
comp=Z,301nm,1.6s
GIVF Givet 77.29 8 *e*P **P** **14 16 13.6 +0.3**
comp=Z,394nm,1.7s
GIVF Givet 77.29 8 *e*P **P** **14 16 13.6 +0.3**
GIVF pmax pmax
comp=Z,395nm,1.7s
GIVF Givet 77.29 8 *e*P **P** **14 16 13.6 +0.3**
comp=Z,394nm,1.7s
PLN Plauen 77.31 3 *e*P **P** **14 16 14.8 +1.3**
comp=Z,62nm,1.4s
PVCC Panska Ves 77.32 1 *e*P **P** **14 16 14.8 +1.3**
PVCC *e*PCP **PcP** **14 16 23.4 -0.6**
PVCC AMS AMS 14 57 20.0
comp=Z,600nm,19.1s
PVCC Panska Ves 77.32 1 *e*P **P** **14 16 14.8 +1.3**
PVCC *e* 14 16 23.4
PVCC MLR MLR
comp=Z,600nm,19.1s
UPC Upice 77.35 0 *e*P **P** **14 16 15.1 +1.4**
UPC *e*PCP **PcP** **14 16 25.8 +1.6**
UPC Upice 77.35 0 *e*P **P** **14 16 15.1 +1.4**
UPC *e* 14 16 25.8
TANN Tannenbergstha 77.39 3 *e*P **P** **14 16 15.4 +1.4**
comp=Z,138nm,1.8s
TNS Taunus Mts 77.41 5 *e*P **P** **14 16 15.4 +1.3**
comp=Z,69nm,1.3s
DPC Dobruska-Polom 77.50 0 *e*P **P** **14 16 15.4 +0.8**
DPC *e*pP **pP** **14 16 21.0 +0.7**
DPC *e*PCP **PcP** **14 16 25.4 +0.5**
DPC *e*S **S** **14 26 06.5 +1.9**
DPC AMS AMS 15 01 00.0
DPC Dobruska-Polom 77.50 0 *e*P **P** **14 16 15.4 +0.8**
DPC *e* 14 16 21.0
DPC *e* 14 16 25.4
DPC *e*S **S** **14 26 06.5 +1.9**
NKC Novy Kostel 77.57 3 *e*P **P** **14 16 16.5 +1.6**
NKC *e*pP **pP** **14 16 20.8 +0.2**
NKC *e*PCP **PcP** **14 16 25.7 +0.5**
NKC Novy Kostel 77.57 3 *e*P **P** **14 16 16.5 +1.6**
NKC *e* 14 16 20.8
NKC *e* 14 16 25.7
OJC Ojcow 77.59 358 *e*P **P** **14 16 16.3 +1.2**
OJC Ojcow 77.59 358 *e*P **P** **14 16 16.3 +1.2**
SMN1 Samana, DR 77.60 75 *e*P **P** **14 16 15.7 +0.1**
SMN1 *e* 14 16 25.7
CRAI Chiangrai 77.75 287 P P 14 16 12.4 -4.0
comp=Z,42nm,1.1s,comp=Z,622nm
RAC Raciborz 77.76 359 *e*P **P** **14 16 17.5 +1.5**
PRA Prague 77.77 1 *e*P **P** **14 16 17.6 +1.6**
PRA *e*PCP **PcP** **14 16 28.3 +2.3**
PRA Prague 77.77 1 *e*P **P** **14 16 17.6 +1.6**
PRA *e* 14 16 28.3
KRLC Kraliky 77.78 360 *e*P **P** **14 16 17.5 +1.3**
KRLC *e*PCP **PcP** **14 16 25.3 -0.8**
KRLC *ex* x 14 16 27.5
KRLC Kraliky 77.78 360 *e*P **P** **14 16 17.5 +1.3**
KRLC *e* 14 16 25.3
KRLC *e* 14 16 27.5
MANZ Manzenberg 77.81 3 *e*P **P** **14 16 17.5 +1.2**
comp=Z,118nm,1.7s
WLF Walferdange 77.82 7 P **P** **14 16 18.3 +2.0**
comp=Z,70nm,1.9s
WLF Walferdange 77.82 7 *e*P **P** **14 16 18.1 +1.8**
comp=Z,119nm,1.4s
WLF Walferdange 77.82 7 *e*P **P** **14 16 17.4 +1.1**
WLF pmax pmax
comp=Z,180nm,1.6s
WLF MLR MLR
comp=Z,442nm,21.0s
WLF Walferdange 77.82 7 *e*P **P** **14 16 17.4 +1.1**
comp=Z,180nm,1.6s
WLF LR LR
comp=Z,442nm,21.0s
LVV L'vov 77.83 355 *e*P **P** **14 16 16.8 +0.4**
LVV *e* 14 16 25.8
LVV *e* 14 19 22.4
LVV *e*S **S** **14 26 06.8 -1.2**
LVV *e*PS **PnS** **14 26 42.6 -5.7**
LVV *e*SS **SS** **14 31 12.0 +5.1**
LVV *e*SSS SSS 14 34 25.4
LVV MLR MLR
comp=E,200nm,19.0s
LVV MLR MLR
comp=N,500nm,18.0s
LVV MLR MLR
comp=Z,600nm,18.0s
IMP Imphal 77.85 295 *e*P **P** **14 16 16.0 -1.0**
PRU Pruhonice 77.86 1 *e*P **P** **14 16 17.5 +1.0**
PRU *e*PCP **PcP** **14 16 28.3 +1.9**
PRU *e*S **S** **14 26 11.0 +2.8**
PRU AMS AMS 14 57 20.0
comp=Z,500nm,20.0s
PRU Pruhonice 77.86 1 *e*P **P** **14 16 17.5 +1.0**
PRU *e* 14 16 28.3
PRU *e*S **S** **14 26 11.0 +2.8**
PRU MLR MLR
comp=Z,500nm,20.0s
GOPC GO Pecny, Ondr 77.93 1 *e*P **P** **14 16 18.1 +1.1**
GOPC *e*PCP **PcP** **14 16 29.0 +2.2**
GOPC *e*S **S** **14 26 09.4 +0.3**
GOPC AMS AMS 14 57 40.0
comp=Z,500nm,15.3s
OKC Ostrava-Krasne 78.01 359 *e*P **P** **14 16 18.3 +1.0**
OKC *e*PCP **PcP** **14 16 26.4 -0.6**
OKC *e*S **S** **14 26 15.2 +5.3**
OKC AMS AMS 14 48 00.0
comp=Z,500nm,21.0s
OKC Ostrava-Krasne 78.01 359 *e*P **P** **14 16 18.3 +1.0**
OKC *e* 14 16 26.4
OKC *e* 14 16 28.5
OKC *e*S **S** **14 26 15.2 +5.3**
OKC MLR MLR
comp=Z,500nm,21.0s
ROTZ Rotzenmuhle 78.03 3 *e*P **P** **14 16 19.1 +1.6**
comp=Z,121nm,1.5s
GRF Grafenberg Arr 78.07 3 *e*P **P** **14 16 19.3 +1.6**
comp=Z,232nm,1.8s
GRF *e*L L 14 55 32.9
comp=Z,359nm,20.1s
GRFO Grafenberg 78.07 3 *e*P **P** **14 16 19.4 +1.7**
GRFO pmax pmax
comp=Z,199nm,1.8s
GRFO Grafenberg 78.07 3 *e*P **P** **14 16 19.4 +1.7**
comp=Z,199nm,1.8s
MORC Moravsky Berou 78.07 359 *e*P **P** **14 16 18.5 +0.7**
MORC pmax pmax
comp=Z,116nm,1.6s
MORC Moravsky Berou 78.07 359‖ *i*P **P** **14 16 18.8 +1.0**
MORC Moravsky Berou 78.07 359 *e*P **P** **14 16 18.4 +0.7**
comp=Z,116nm,1.6s
FLN La Foliniere 78.08 11 *e*P **P** **14 16 17.7 -0.1**
comp=Z,169nm,1.4s
FLN *e*R
comp=Z,985nm,21.5s
FLN La Foliniere 78.08 11 *e*P **P** **14 16 17.7 -0.1**
FLN pmax pmax
comp=Z,169nm,1.4s
FLN La Foliniere 78.08 11 *e*P **P** **14 16 17.7 -0.1**
comp=Z,169nm,1.4s
KWP Kalwaria Pacla 78.08 356 *e*P **P** **14 16 19.3 +1.5**
KWP Kalwaria Pacla 78.08 356 *e*P **P** **14 16 18.8 +1.0**
KWP pmax pmax
comp=Z,205nm,1.1s
KWP MLR MLR
comp=Z,860nm,21.0s
KWP Kalwaria Pacla 78.08 356‖ *i*P **P** **14 16 19.1 +1.3**
KWP Kalwaria Pacla 78.08 356 *e*P **P** **14 16 18.8 +1.0**
comp=Z,205nm,1.1s
KWP LR LR
comp=Z,860nm,21.0s
ROSF Rostrenen 78.14 13 *e*P **P** **14 16 18.3 +0.2**
ROSF Rostrenen 78.14 13 *e*P **P** **14 16 18.3 +0.2**
ROSF Rostrenen 78.14 13 *e*P **P** **14 16 18.3 +0.2**
SKNT Sakolnakorn 78.15 282 P **P** **14 16 18.6 0.0**
comp=Z,80nm,1.1s,comp=Z,1µm
LDF La Druitiere 78.29 11 *e*P **P** **14 16 18.8 -0.1**
comp=Z,246nm,1.4s
LDF La Druitiere 78.29 11 *e*P **P** **14 16 18.8 -0.1**
LDF pmax pmax
comp=Z,247nm,1.4s
LDF La Druitiere 78.29 11 *e*P **P** **14 16 18.8 -0.1**
comp=Z,246nm,1.4s
SGMF Saint Gilles 78.31 13 *e*P **P** **14 16 19.3 +0.2**
comp=Z,258nm,1.5s
SGMF Saint Gilles 78.31 13 *e*P **P** **14 16 19.3 +0.2**
SGMF pmax pmax
comp=Z,258nm,1.5s
SGMF Saint Gilles 78.31 13 *e*P **P** **14 16 19.3 +0.2**
comp=Z,258nm,1.5s
STHS Stebnicka Huta 78.36 357 *e*P **P** **14 16 21.1 +1.8**
STHS pmax pmax
comp=Z,76nm,0.8s
STHS Stebnicka Huta 78.36 357 *e*P **P** **14 16 21.1 +1.8**
NIE Niedzica 78.38 357 *e*P **P** **14 16 21.3 +1.8**
NIE Niedzica 78.38 357 *e*P **P** **14 16 21.4 +1.9**
GRR Gorron 78.40 12 *e*P **P** **14 16 19.6 0.0**
comp=Z,202nm,1.3s
GRR Gorron 78.40 12 *e*P **P** **14 16 19.6 0.0**
GRR pmax pmax
comp=Z,202nm,1.3s
GRR Gorron 78.40 12 *e*P **P** **14 16 19.6 0.0**
comp=Z,202nm,1.3s
VRAC Vranov 78.55 360⇑ *i*P **P** **14 16 22.1 +1.7**
TREC Trest 78.56 1 AMS AMS 14 59 50.0
comp=Z,400nm,15.0s
QUIF Quistinic 78.56 13 *e*P **P** **14 16 20.5 +0.1**
comp=Z,404nm,1.8s
QUIF Quistinic 78.56 13 *e*P **P** **14 16 20.5 +0.1**
QUIF pmax pmax
comp=Z,405nm,1.8s
QUIF Quistinic 78.56 13 *e*P **P** **14 16 20.5 +0.1**
comp=Z,404nm,1.8s
LANF Langenberg 78.61 6⇑ *e*P **P** **14 16 22.4 +1.6**
WET Wettzell 78.67 2 *e*P **P** **14 16 22.6 +1.5**
comp=Z,116nm,1.5s
LANS Liptovska Anna 78.67 358 *e*P **P** **14 16 23.6 +2.5**
KHC Kasperske Hory 78.70 2 *e*P **P** **14 16 22.5 +1.2**
KHC *e*pP **pP** **14 16 28.0 +1.1**
KHC *ex* x 14 16 49.0
KHC Kasperske Hory 78.70 2 *e*P **P** **14 16 22.5 +1.2**
KHC *e* 14 16 28.0
CMAI Chiengmai2 78.75 288 P **P** **14 16 22.7 +0.6**
comp=Z,49nm,1.1s,comp=Z,824nm
KOLS Kolonicke sedl 78.80 356 *e*P **P** **14 16 23.6 +1.8**
KOLS pmax pmax
comp=Z,95nm,1.4s
KOLS Kolonicke sedl 78.80 356 *e*P **P** **14 16 23.5 +1.8**
CRVS Cervenica-Dubn 78.86 357 *e*P **P** **14 16 23.8 +1.7**
CRVS pmax pmax
comp=Z,182nm,1.8s
CRVS Cervenica-Dubn 78.86 357 *e*P **P** **14 16 23.8 +1.7**
MEZF Maizieres J'vi 78.89 8 *e*P **P** **14 16 22.7 +0.4**
comp=Z,288nm,1.6s
MEZF Maizieres J'vi 78.89 8 *e*P **P** **14 16 22.7 +0.4**
comp=Z,288nm,1.6s
PAGF Fort de Pagny 78.89 7 *e*P **P** **14 16 23.1 +0.8**
comp=Z,38nm,0.8s
PAGF Fort de Pagny 78.89 7 *e*P **P** **14 16 23.1 +0.8**
comp=Z,38nm,0.8s
STU Stuttgart 78.90 5 *e*P **P** **14 16 23.7 +1.4**
comp=Z,84nm,1.2s
STU Stuttgart 78.90 5 *e*P **P** **14 16 23.3 +1.0**
STU Stuttgart 78.90 5 *e*P **P** **14 16 23.3 +1.0**
SDKM Sandakan 78.95 265⇑ P **P** **14 16 22.5 -0.6**
GEC2 GERESS Array S 78.99 2 *e*P **P** **14 16 24.3 +1.4**
comp=Z,82nm,1.5s
GERES GERESS Array B 78.99 2 P **P** **14 16 23.9 +1.0**
comp=Z,15nm,1.0s,baz=358,slow=3.3,SNR=70
BCIP Isla Barro Col 79.02 89 *e*P **P** **14 16 22.6 -0.9**
comp=Z,153nm,1.6s
BCIP LR LR
comp=Z,238nm,21.0s

UZH	**Uzhgorod**	**79.10**	**356**	*e*P		**P**	**14 16 23.6**	**+0.2**
UZH				*e*			14 16 30.2	
UZH				*e*			14 19 27.0	
UZH				*e*S		**S**	**14 26 20.6**	**-1.0**
UZH				*e*			14 27 06.0	
CDF	**Champ du Feu**	**79.15**	**6**	*e*P		**P**	**14 16 24.2**	**+0.4**
	comp=Z,240nm,1.6s							
CDF	**Champ du Feu**	**79.15**	**6**	*e*P		**P**	**14 16 24.2**	**+0.4**
CDF				pmax	pmax			
	comp=Z,240nm,1.6s							
CDF	**Champ du Feu**	**79.15**	**6**	*e*P		**P**	**14 16 24.2**	**+0.4**
	comp=Z,240nm,1.6s							
TAPN	**Taplejung**	**79.17**	**301**	*e*P		**P**	**14 16 24.8**	**+0.3**
	comp=Z,156nm,0.9s							
SFTF	**Sexfontaines**	**79.19**	**8**	*e*P		**P**	**14 16 24.2**	**+0.3**
	comp=Z,360nm,1.4s							
SFTF	**Sexfontaines**	**79.19**	**8**	*e*P		**P**	**14 16 24.2**	**+0.3**
	comp=Z,360nm,1.4s							
KKM	**Kota Kinabalu**	**79.23**	**266**	⇑P		**P**	**14 16 24.6**	**-0.1**
KKM	**Kota Kinabalu**	**79.23**	**266**	P		**P**	**14 16 23.9**	**-0.8**
	comp=Z,79nm,1.2s							
KKM				LR		LR		
	comp=Z,284nm,19.0s							
THEF	**They Montfort**	**79.24**	**7**	⇑*e*P		**P**	**14 16 25.8**	**+1.6**
BFO	**Black Forest**	**79.29**	**5**	P		**P**	**14 16 25.4**	**+0.9**
	comp=Z,184nm,1.4s,SNR=6.9							
BFO	**Black Forest**	**79.29**	**5**	*e*P		**P**	**14 16 25.7**	**+1.2**
	comp=Z,116nm,1.8s							
BFO	**Black Forest**	**79.29**	**5**	*ce*P		**P**	**14 16 25.9**	**+1.4**
BFO	**Black Forest**	**79.29**	**5**	*e*P		**P**	**14 16 25.3**	**+0.8**
	comp=Z,94nm,1.6s							
BFO				LR		LR		
	comp=Z,249nm,19.0s							
KECS	**Kecovo**	**79.31**	**357**	*e*P		**P**	**14 16 26.1**	**+1.5**
KECS				pmax	pmax			
	comp=Z,35nm,0.9s							
KECS	**Kecovo**	**79.31**	**357**	*e*P		**P**	**14 16 26.1**	**+1.5**
KHON	**Khomkaen**	**79.33**	**283**	P		**P**	**14 16 25.7**	**+0.6**
	comp=Z,21nm,1.1s,comp=Z,310nm							
ECH	**Echery**	**79.33**	**6**	⇑*e*P		**P**	**14 16 26.3**	**+1.6**
ECH	**Echery**	**79.33**	**6**	*e*P		**P**	**14 16 25.4**	**+0.7**
ECH				pmax	pmax			
	comp=Z,92nm,1.4s							
ECH				MLR	MLR			
	comp=Z,374nm,21.0s							
ECH	**Echery**	**79.33**	**6**	*e*P		**P**	**14 16 25.4**	**+0.7**
	comp=Z,92nm,1.4s							
ECH				LR	LR			
	comp=Z,374nm,21.0s							
SMOL	**Smolenice**	**79.34**	**359**	*e*P		**P**	**14 16 27.2**	**+2.5**
SMOL	**Smolenice**	**79.34**	**359**	*e*P		**P**	**14 16 27.2**	**+2.5**
VYHS	**Vyhne**	**79.34**	**358**	*e*P		**P**	**14 16 26.4**	**+1.6**
VYHS				pmax	pmax			
	comp=Z,68nm,1.4s							
VYHS	**Vyhne**	**79.34**	**358**	*e*P		**P**	**14 16 26.4**	**+1.6**
RKT	**Rikitea**	**79.36**	**153**	*e*P		**P**	**14 16 25.8**	**+0.9**
	comp=Z,84nm,0.9s							
RKT	**Rikitea**	**79.36**	**153**	*e*SS		SS	14 31 31.4	-1.2
	comp=Z,290nm,28.2s							
RKT				*e*LR		LR	14 40 53.6	
	comp=Z,3µm,32.0s,baz=341							
HAU	**Haudompre**	**79.49**	**7**	*e*P		**P**	**14 16 26.0**	**+0.4**
HAU				*e*R				
	comp=Z,537nm,20.5s							
HAU	**Haudompre**	**79.49**	**7**	*e*P		**P**	**14 16 26.0**	**+0.4**
HAU	**Haudompre**	**79.49**	**7**	*e*P		**P**	**14 16 26.0**	**+0.4**
LAMP	**Lampang**	**79.51**	**287**	P		**P**	**14 16 26.5**	**+0.4**
	comp=Z,11nm,1.1s,comp=Z,102nm							
UTTA	**Uttaradit**	**79.58**	**285**	P		**P**	**14 16 26.7**	**+0.2**
	comp=Z,28nm,0.9s,comp=Z,193nm							
FUR	**Furstenfeldbru**	**79.60**	**3**	*e*P		**P**	**14 16 27.6**	**+1.4**
	comp=Z,173nm,1.4s							
TSM	**Tawau**	**79.60**	**263**	⇑P		**P**	**14 16 26.0**	**-0.6**
GUN	**Gumba**	**79.67**	**303**	*e*P		**P**	**14 16 27.9**	**+0.6**
	comp=Z,268nm,0.9s							
CMMT	**Chiang Mai**	**79.69**	**287**	P		**P**	**14 16 26.9**	**-0.2**
	comp=Z,40nm,1.1s,comp=Z,656nm							
CHTO	**Chiang Mai**	**79.69**	**287**	P		**P**	**14 16 26.9**	**-0.1**
	comp=Z,119nm,1.3s,comp=Z,2µm							
CHTO	**Chiang Mai**	**79.69**	**287**	*e*P		**P**	**14 16 26.1**	**-1.0**
CHTO				pmax	pmax			
	comp=Z,31nm,1.2s							
CHTO				MLR	MLR			
	comp=Z,216nm,21.0s							
CHTO	**Chiang Mai**	**79.69**	**287**	P		**P**	**14 16 27.0**	**-0.1**
	SNR=20							
CHTO	**Chiang Mai**	**79.69**	**287**	*e*P		**P**	**14 16 26.1**	**-1.0**
	comp=Z,31nm,1.2s							
CHTO				LR	LR			
	comp=Z,216nm,21.0s							
MOF	**Molkenrain**	**79.70**	**6**	⇑*e*P		**P**	**14 16 28.1**	**+1.3**
JIRN	**Jiri**	**79.71**	**302**	*e*P		**P**	**14 16 28.1**	**+0.6**
	comp=Z,658nm,1.3s							
HINF	**Hinteralfeld**	**79.71**	**6**	*e*P		**P**	**14 16 27.0**	**+0.2**
	comp=Z,219nm,1.5s							
HINF	**Hinteralfeld**	**79.71**	**6**	*e*P		**P**	**14 16 27.0**	**+0.2**
HINF				pmax	pmax			
	comp=Z,219nm,1.5s							
HINF	**Hinteralfeld**	**79.71**	**6**	*e*P		**P**	**14 16 27.0**	**+0.2**
	comp=Z,219nm,1.5s							
LRS	**Lares**	**79.73**	**73**	P		**P**	**14 16 27.2**	**-0.2**
ODAN	**Odare**	**79.73**	**301**	*e*P		**P**	**14 16 27.7**	**+0.2**
	comp=Z,290nm,1.5s							
SANI	**Sanana**	**79.81**	**253**	P		**P**	**14 16 26.6**	**-1.1**
	comp=Z,36nm,1.1s,comp=Z,717nm							
PSZ	**Piszkesteto**	**79.89**	**358**	*e*P		**P**	**14 16 29.6**	**+1.7**
PSZ				pmax	pmax			
	comp=Z,234nm,1.5s							
PSZ				MLR	MLR			
	comp=Z,588nm,21.0s							
PSZ	**Piszkesteto**	**79.89**	**358**	⇓*i*P		**P**	**14 16 29.5**	**+1.7**
PSZ	**Piszkesteto**	**79.89**	**358**	*e*P		**P**	**14 16 29.6**	**+1.7**
	comp=Z,234nm,1.5s							
PSZ				LR	LR			
	comp=Z,588nm,21.0s							
PSZ	**Piszkesteto**	**79.89**	**358**	⇓*e*P		**P**	**14 16 29.7**	**+1.9**
HYF	**Humbligny**	**79.90**	**9**	*e*P		**P**	**14 16 28.3**	**+0.5**
HYF	**Humbligny**	**79.90**	**9**	*e*P		**P**	**14 16 28.3**	**+0.5**
BUR08	**Bucovina Ar. S**	**79.93**	**354**	*e*P		**P**	**14 16 28.7**	**+0.6**
CONA	**Conrad Observa**	**79.93**	**0**	⇓*i*pP		**P**	**14 16 29.4**	**+1.4**
	comp=Z,110nm,1.4s,SNR=31							
BURAR	**Bucovina Array**	**79.96**	**354**	⇑*i*P		**P**	**14 16 28.3**	**+0.1**
CM31	**Chiang Mai Arr**	**79.97**	**287**	*e*P		**P**	**14 16 28.6**	**+0.1**
	comp=Z,44nm,1.0s							
CMAR	**Chiang Mai Arr**	**79.97**	**287**	P		**P**	**14 16 28.6**	**0.0**
	comp=Z,22nm,0.9s,baz=20,slow=5.1,SNR=146							
CMAR				PP		**PP**	**14 19 30.9**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=56,slow=5.5,SNR=3.5							
CMAR				LR		LR	14 54 41.6	
	comp=Z,134nm,18.6s,baz=24,slow=38							
MOA	**Molln**	**79.99**	**1**	*i*pP		**P**	**14 16 29.6**	**+1.2**
	comp=Z,29nm,1.1s,SNR=11							
LOR	**Lormes**	**80.02**	**9**	*e*P		**P**	**14 16 28.7**	**+0.3**
	comp=Z,253nm,1.4s							
LOR				*e*R				
	comp=Z,542nm,20.5s							
LOR	**Lormes**	**80.02**	**9**	*e*P		**P**	**14 16 28.7**	**+0.3**
LOR				pmax	pmax			
	comp=Z,253nm,1.4s							
LOR	**Lormes**	**80.02**	**9**	*e*P		**P**	**14 16 28.7**	**+0.3**
	comp=Z,253nm,1.4s							
CELP	**Cerrillos**	**80.06**	**73**	*e*P		**P**	**14 16 29.1**	**+0.1**
OBIP	**Obispado Ponce**	**80.07**	**73**	*e*P		**P**	**14 16 28.7**	**-0.4**
	comp=Z,92nm,0.8s							
RAMN	**Ramite**	**80.07**	**301**	*e*P		**P**	**14 16 29.5**	**+0.1**
	comp=Z,714nm,1.3s							
KKN	**Kakani**	**80.07**	**303**	*e*P		**P**	**14 16 29.8**	**+0.5**
	comp=Z,353nm,1.4s							
RJOB	**Jochberg**	**80.07**	**2**	*e*P		**P**	**14 16 30.3**	**+1.5**
	comp=Z,59nm,1.0s							
GOF	**Gofitskoye**	**80.13**	**341**	*e*P		**P**	**14 16 30.4**	**+1.3**
GOF				pmax	pmax			
	comp=Z,440nm,1.3s							
LOMF	**Lomont**	**80.17**	**7**	⇑*e*P		**P**	**14 16 31.1**	**+1.7**
SOP	**Sopron**	**80.17**	**360**	⇓*e*P		**P**	**14 16 31.1**	**+1.9**
PKI	**Pulchoki**	**80.19**	**303**	*e*P		**P**	**14 16 30.2**	**+0.1**
	comp=Z,430nm,1.3s							
PKIN	**Phulchoki**	**80.19**	**303**	*e*P		**P**	**14 16 29.9**	**-0.1**
	comp=Z,88nm,0.9s							
SSF	**Saint Saulge**	**80.19**	**9**	*e*P		**P**	**14 16 29.7**	**+0.3**
	comp=Z,252nm,1.4s							
SSF	**Saint Saulge**	**80.19**	**9**	*e*P		**P**	**14 16 29.7**	**+0.3**
SSF				pmax	pmax			
	comp=Z,253nm,1.4s							
SSF	**Saint Saulge**	**80.19**	**9**	*e*P		**P**	**14 16 29.7**	**+0.3**
	comp=Z,252nm,1.4s							

GKN	**Gorkha**	**80.23**	**304**	*e*P		**P**	**14 16 30.4**	**+0.3**
	comp=Z,452nm,1.3s								
ICMP	**Isla Caja de M**	**80.23**	**74**	*e*P		**P**	**14 16 29.9**	**-0.1**
MFF	**Saint Martin d**	**80.25**	**11**	*e*P		**P**	**14 16 30.1**	**+0.4**
	comp=Z,369nm,1.3s								
MFF	**Saint Martin d**	**80.25**	**11**	*e*P		**P**	**14 16 30.1**	**+0.4**
MFF				pmax	pmax				
	comp=Z,369nm,1.3s								
MFF	**Saint Martin d**	**80.25**	**11**	*e*P		**P**	**14 16 30.1**	**+0.4**
	comp=Z,369nm,1.3s								
PBKT	**Sadao Pong**	**80.25**	**284**	P		**P**	**14 16 30.3**	**+0.2**
	comp=Z,35nm,1.0s,comp=Z,733nm								
RETA	**Reutte**	**80.26**	**4**	⇑*i*pP		**P**	**14 16 30.6**	**+0.8**
	comp=Z,54nm,1.5s,SNR=16								
SJG	**San Juan**	**80.28**	**73**	*e*P		**P**	**14 16 30.2**	**0.0**
SJG				pmax	pmax				
	comp=Z,59nm,0.8s								
SJG				MLR	MLR				
	comp=Z,298nm,20.0s								
SJG	**San Juan**	**80.28**	**73**	*e*P		**P**	**14 16 30.2**	**0.0**
	comp=Z,59nm,0.8s								
SJG				LR	LR				
	comp=Z,298nm,20.0s								
KIS	**Kishinev**	**80.29**	**351**	*e*P		**P**	**14 16 29.5**	**-0.4**
	comp=Z,200nm,1.5s								
KIS	**Kishinev**	**80.29**	**351**	*e*PcP		**PcP**	**14 16 36.0**	**-1.0**
KIS	**Kishinev**	**80.29**	**351**	*e*PP		PP	14 19 03.0	-29
KIS				*e*L		L	14 43 00.0		
KIS				LRM		MLR	14 57 18.0		
	comp=Z,800nm,18.0s								
KIS	**Kishinev**	**80.29**	**351**	*e*P		**P**	**14 16 29.5**	**-0.4**
KIS				*e*			14 16 36.0		
KIS				pmax	pmax				
	comp=Z,220nm,1.5s								
KIS				pmax	pmax				
	comp=Z,500nm,6.0s								
DMN	**Daman**	**80.31**	**303**	*e*P		**P**	**14 16 31.3**	**+0.6**
	comp=Z,458nm,1.3s								
BUD	**Budapest**	**80.35**	**358**	⇓*e*P		**P**	**14 16 32.0**	**+1.8**
MOTA	**Moosalm**	**80.41**	**4**	⇓*i*pP		**P**	**14 16 31.7**	**+0.9**
	comp=Z,61nm,1.1s,SNR=22								
DAVA	**Damuels**	**80.42**	**4**	⇑*i*pP		**P**	**14 16 31.1**	**+0.4**
	comp=Z,36nm,1.4s,SNR=10								
WATA	**Walderalm**	**80.44**	**3**	⇓*i*pP		**P**	**14 16 32.0**	**+1.1**
	comp=Z,60nm,1.0s,SNR=7.1								
AVF	**Avril sur Loir**	**80.44**	**9**	*e*P		**P**	**14 16 30.8**	**+0.1**
	comp=Z,82nm,0.9s								
AVF	**Avril sur Loir**	**80.44**	**9**	*e*P		**P**	**14 16 30.8**	**+0.1**
AVF				pmax	pmax				
	comp=Z,82nm,0.9s								
AVF	**Avril sur Loir**	**80.44**	**9**	*e*P		**P**	**14 16 30.8**	**+0.1**
	comp=Z,82nm,0.9s								
PKSG		**80.45**	**359**	⇑*e*P		**P**	**14 16 33.0**	**+2.3**
CSKK	**Cs˘tkako**	**80.48**	**359**	⇓*e*P		**P**	**14 16 32.8**	**+1.9**
WTTA	**Wattenberg**	**80.51**	**3**	⇓*i*pP		**P**	**14 16 32.5**	**+1.2**
	comp=Z,132nm,1.5s,SNR=26								
PKST	**T˘˘s**	**80.59**	**359**	⇑*e*P		**P**	**14 16 33.7**	**+2.2**
ARSA	**Arzberg**	**80.61**	**1**	⇑*i*pP		**P**	**14 16 33.0**	**+1.4**
	comp=Z,72nm,1.3s,SNR=23								
SMF	**Signal de Mont**	**80.63**	**9**	*e*P		**P**	**14 16 31.9**	**+0.1**
	comp=Z,228nm,1.3s								
SMF	**Signal de Mont**	**80.63**	**9**	*e*P		**P**	**14 16 31.9**	**+0.1**
SMF				pmax	pmax				
	comp=Z,228nm,1.3s								
SMF	**Signal de Mont**	**80.63**	**9**	*e*P		**P**	**14 16 31.9**	**+0.1**
	comp=Z,228nm,1.3s								
MTP	**Monte Pirata**	**80.64**	**73**	*e*P		**P**	**14 16 32.1**	**-0.1**
	comp=Z,78nm,0.8s								
MTP				*e*			14 16 41.6		
FETA	**Feichten**	**80.72**	**4**	⇓*i*pP		**P**	**14 16 33.7**	**+1.3**
	comp=Z,84nm,1.2s,SNR=26								
KBA	**Koelnbreinsper**	**80.75**	**2**	*i* sP		sP	14 16 34.3	-6.1
	comp=Z,178nm,1.4s,SNR=47								
MHMT	**Maesarieng**	**80.78**	**288**	P		**P**	**14 16 33.3**	**+0.4**
	comp=Z,34nm,1.5s,comp=Z,430nm								
PKS7	**Kunszentmiklos**	**80.78**	**358**	⇑*e*P		**P**	**14 16 34.9**	**+2.4**
TCF	**Toulx Ste Croi**	**80.83**	**10**	*e*P		**P**	**14 16 32.9**	**+0.1**
	comp=Z,66nm,1.1s								
TCF	**Toulx Ste Croi**	**80.83**	**10**	*e*P		**P**	**14 16 32.9**	**+0.1**
TCF				pmax	pmax				
	comp=Z,67nm,1.1s								
TCF	**Toulx Ste Croi**	**80.83**	**10**	*e*P		**P**	**14 16 32.9**	**+0.1**
	comp=Z,66nm,1.1s								
CABF	**La Chapelle**	**80.86**	**7**	*e*P		**P**	**14 16 33.8**	**+0.7**
	comp=Z,259nm,1.3s								
CABF	**La Chapelle**	**80.86**	**7**	*e*P		**P**	**14 16 33.8**	**+0.7**
CABF				pmax	pmax				
	comp=Z,259nm,1.3s								
CABF	**La Chapelle**	**80.86**	**7**	*e*P		**P**	**14 16 33.8**	**+0.7**
	comp=Z,259nm,1.3s								
LUWI	**Luwuk**	**80.89**	**256**	P		**P**	**14 16 33.0**	**-0.5**
	comp=Z,142nm,1.1s,comp=Z,4µm								
DRGR		**80.92**	**356**	⇑*i*P		**P**	**14 16 34.4**	**+1.0**
KOLN	**Koldanda**	**80.94**	**304**	*e*P		**P**	**14 16 34.2**	**+0.2**
	comp=Z,140nm,0.9s								
CJR	**Cluj-Napoca**	**80.95**	**355**	⇑*i*P		**P**	**14 16 34.6**	**+1.1**
TESR	**Tescani**	**80.95**	**353**	⇓*i*P		**P**	**14 16 34.2**	**+0.7**
ABTA	**Abfaltersbach**	**81.06**	**3**	⇓*i*pP		**P**	**14 16 35.1**	**+1.0**
	comp=Z,84nm,1.2s,SNR=25								
AGO	**Saint Agoulin**	**81.15**	**9**	⇑*e*P		**P**	**14 16 36.4**	**+1.8**
MAK	**Makhachkala**	**81.17**	**337**	*e*P		**P**	**14 16 32.7**	**-1.9**
MAK				*e*			14 19 40.8		
MAK				*e*S		**S**	**14 26 42.5**	**-1.0**
MAK				*e*SS		SS	14 32 05.3	+8.2
MAK				*e*SSS		SSS	14 35 25.1		
MAK				pmax	pmax				
	comp=Z,228nm,1.1s								
SOKA	**Soboth**	**81.17**	**1**	⇓*i*pP		**P**	**14 16 36.0**	**+1.3**
	comp=Z,145nm,1.4s,SNR=46								
MYKA	**Terra Mystica**	**81.20**	**2**	⇑*i*pP		**P**	**14 16 35.0**	**+0.2**
	comp=Z,75nm,1.6s,SNR=14								
TUE	**Stuetta**	**81.20**	**5**	*e*P		**P**	**14 16 36.1**	**+1.1**
	comp=Z,119nm,1.4s								
TUE				LR	LR				
	comp=Z,853nm,19.0s								
PERS	**Pernice**	**81.22**	**1**	*i* P		**P**	**14 16 36.7**	**+1.7**
PERS	**Pernice**	**81.22**	**1**	*i* P		**P**	**14 16 36.7**	**+1.8**
PKS9	**Tamasi**	**81.26**	**359**	*e*P		**P**	**14 16 36.4**	**+1.3**
KIV	**Kislovodsk**	**81.26**	**341**	P		**P**	**14 16 37.7**	**+2.4**
	comp=Z,601nm,0.8s,SNR=12								
KIV	**Kislovodsk**	**81.26**	**341**	*e*P		**P**	**14 16 36.6**	**+1.3**
KIV				*e*			14 19 41.4		
KIV				*e*S		**S**	**14 26 43.9**	**-0.8**
KIV				*e*SS		**SS**	**14 32 00.1**	**+1.4**
KIV				*e*SSS		SSS	14 35 27.4		
KIV				pmax	pmax				
	comp=Z,86nm,1.1s								
KIV				pmax	pmax				
	comp=Z,127nm,3.6s								
KIV				MLR	MLR				
	comp=Z,831nm,19.0s								
KIV	**Kislovodsk**	**81.26**	**341**	P		**P**	**14 16 36.8**	**+1.5**
	SNR=21								
KIV	**Kislovodsk**	**81.26**	**341**	⇓*i*P		**P**	**14 16 36.9**	**+1.7**
	SNR=16								
KIV	**Kislovodsk**	**81.26**	**341**	*e*P		**P**	**14 16 37.2**	**+2.0**
	comp=Z,90nm,0.9s								
KIV				LR	LR				
	comp=Z,532nm,19.0s								
PLDF	**La Plantade**	**81.28**	**9**	⇑*e*P		**P**	**14 16 37.3**	**+2.0**
OBKA	**Obir**	**81.34**	**1**	⇓*i*pP		**P**	**14 16 36.7**	**+1.0**
	comp=Z,79nm,0.8s,SNR=22								
ANN	**Anapa**	**81.38**	**345**	*e*P		**P**	**14 16 35.8**	**+0.1**
ANN				*e*PPP		PPP	14 21 32.1		
ANN				*e*S		**S**	**14 26 46.7**	**+1.1**
ANN				pmax	pmax				
	comp=Z,76nm,1.4s								
ANN				MLR	MLR				
	comp=E,516nm,19.0s								
ANN				MLR	MLR				
	comp=Z,532nm,19.0s								
ANN				MLR	MLR				
	comp=N,593nm,19.0s								
BEHE	**Becsehely**	**81.39**	**360**	⇓*e*P		**P**	**14 16 37.9**	**+2.1**
KOGS	**Kog**	**81.41**	**0**	*i* P		**P**	**14 16 37.5**	**+1.6**
KOGS	**Kog**	**81.41**	**0**	*i* P		**P**	**14 16 37.5**	**+1.6**
KBZ	**Khabaz**	**81.43**	**341**	P		**P**	**14 16 37.8**	**+1.8**
	comp=N,43nm,1.0s,baz=56,slow=24,SNR=57								
KBZ				LR		LR	14 56 04.8		
	comp=N,686nm,21.7s,baz=330,slow=38								
PYM	**Petit Puy Mans**	**81.44**	**9**	⇑*e*P		**P**	**14 16 37.6**	**+1.4**
SIRR	**Siria**	**81.49**	**356**	⇑*i*P		**P**	**14 16 37.5**	**+1.2**
DOPR	**Dopca**	**81.58**	**354**	⇑*i*P		**P**	**14 16 38.3**	**+1.4**
VRI	**Vrincioaia**	**81.59**	**353**	⇑*i*P		**P**	**14 16 38.1**	**+1.2**
PLOR	**Plostina**	**81.61**	**353**	⇑*i*P		**P**	**14 16 38.0**	**+1.0**
PKSM	**Moragy**	**81.63**	**358**	⇓*i*P		**P**	**14 16 37.7**	**+0.7**

PKSM	**Moragy**	**81.63**	**358**	⇓*e*P		**P**	**14 16 37.8**	**+0.7**
SIM	**Simferopol'**	**81.72**	**347**	*d i*P		**P**	**14 16 38.6**	**+1.1**
SIM				*e*S		**S**	**14 26 49.0**	**-0.2**
SIM				pmax	pmax			
	comp=Z,35nm,0.9s							
SIM				MLR	MLR			
	comp=Z,650nm,18.5s							
COLF	**Collangettes**	**81.74**	**9**	⇑*e*P		**P**	**14 16 39.3**	**+1.6**
LJU	**Ljubljana**	**81.80**	**1**	*e*P		**P**	**14 16 38.8**	**+0.8**
LJU	**Ljubljana**	**81.80**	**1**	*e*P		**P**	**14 16 38.8**	**+0.8**
VOJS	**Vojsko**	**81.80**	**2**	*e*P		**P**	**14 16 38.5**	**+0.4**
VOJS	**Vojsko**	**81.80**	**2**	*e*P		**P**	**14 16 38.5**	**+0.4**
KBL	**Kabul**	**81.90**	**318**	*e*P		**P**	**14 16 38.7**	**-0.3**
KBL				pmax	pmax				
	comp=Z,43nm,1.0s								
KBL	**Kabul**	**81.90**	**318**	*e*P		**P**	**14 16 38.6**	**-0.3**
	comp=Z,43nm,1.0s								
LBL	**Lubilhac**	**81.97**	**9**	⇑*e*P		**P**	**14 16 40.8**	**+1.8**
LFF	**La Frestale**	**81.99**	**11**	*e*P		**P**	**14 16 39.3**	**+0.3**
	comp=Z,469nm,1.5s								
LFF	**La Frestale**	**81.99**	**11**	*e*P		**P**	**14 16 39.3**	**+0.3**
LFF				pmax	pmax				
	comp=Z,469nm,1.5s								
LFF	**La Frestale**	**81.99**	**11**	*e*P		**P**	**14 16 39.3**	**+0.3**
	comp=Z,469nm,1.5s								
LPL	**La Plagne**	**81.99**	**7**	*e*P		**P**	**14 16 40.6**	**+1.3**
	comp=Z,134nm,1.5s								
LPL	**La Plagne**	**81.99**	**7**	*e*P		**P**	**14 16 40.6**	**+1.3**
LPL				pmax	pmax				
	comp=Z,134nm,1.5s								
LPL	**La Plagne**	**81.99**	**7**	*e*P		**P**	**14 16 40.6**	**+1.3**
	comp=Z,134nm,1.5s								
LPG	**La Plagne**	**82.01**	**7**	*e*P		**P**	**14 16 40.9**	**+1.4**
	comp=Z,157nm,1.4s								
LPG	**La Plagne**	**82.01**	**7**	*e*P		**P**	**14 16 40.9**	**+1.4**
LPG				pmax	pmax				
	comp=Z,157nm,1.4s								
LPG	**La Plagne**	**82.01**	**7**	*e*P		**P**	**14 16 40.9**	**+1.4**
	comp=Z,157nm,1.4s								
MLR	**Muntele Rosu**	**82.02**	**353**	⇓*i*P		**P**	**14 16 40.2**	**+0.9**
SSB	**Saint Sauveur**	**82.05**	**8**	⇑*e*P		**P**	**14 16 41.0**	**+1.6**
SSB	**Saint Sauveur**	**82.05**	**8**	*e*P		**P**	**14 16 40.1**	**+0.8**
SSB				pmax	pmax				
	comp=Z,36nm,0.9s								
SSB				MLR	MLR				
	comp=Z,475nm,20.0s								
SSB	**Saint Sauveur**	**82.05**	**8**	*e*P		**P**	**14 16 40.1**	**+0.8**
	comp=Z,36nm,0.9s								
SSB				*e*			14 16 50.3		
SSB				LR	LR				
	comp=Z,475nm,20.0s								
TLCR		**82.08**	**351**	⇓*i*P		**P**	**14 16 40.4**	**+1.0**
ZEI	**Tsey**	**82.13**	**340**	*e*P		**P**	**14 16 38.6**	**-1.4**
ZEI				pmax	pmax				
	comp=Z,134nm,1.7s								
VOIR		**82.14**	**354**	⇑*i*P		**P**	**14 16 40.3**	**+0.5**
BZS	**Buzias**	**82.14**	**356**	⇓*i*P		**P**	**14 16 40.4**	**+0.7**
CFR	**Carcaliu**	**82.16**	**352**	⇓*i*P		**P**	**14 16 40.2**	**+0.4**
CAF	**Calviac**	**82.16**	**10**	*e*P		**P**	**14 16 40.2**	**+0.3**
	comp=Z,165nm,1.3s								
CAF	**Calviac**	**82.16**	**10**	*e*P		**P**	**14 16 40.2**	**+0.3**
CAF				pmax	pmax				
	comp=Z,165nm,1.3s								
CAF	**Calviac**	**82.16**	**10**	*e*P		**P**	**14 16 40.2**	**+0.3**
	comp=Z,165nm,1.3s								
SOC	**Sochi**	**82.18**	**343**	*e*P		**P**	**14 16 40.4**	**+0.4**
SOC				*e*PPP		PPP	14 21 41.3		
SOC				*e*S		**S**	**14 26 51.1**	**-2.8**
SOC				pmax	pmax				
	comp=Z,78nm,1.1s								
SOC				MLR	MLR				
	comp=Z,774nm,22.0s								
GRN	**Grenoble**	**82.19**	**8**	⇑*e*P		**P**	**14 16 42.1**	**+2.0**
LOT	**Lotru**	**82.20**	**355**	⇓*i*P		**P**	**14 16 41.0**	**+0.8**
ARR	**Arges**	**82.23**	**354**	⇑*i*P		**P**	**14 16

PSN **Preselentsi** 83.63 351 *i* P P 14 16 47.5 0.0
SBF **Sospel** 83.69 6 *e*P P 14 16 48.4 +0.5
comp=Z,342nm,1.3s
SBF **Sospel** 83.69 6 *e*P P 14 16 48.4 +0.5
SBF pmax pmax
comp=Z,342nm,1.3s
SBF **Sospel** 83.69 6 *e*P P 14 16 48.4 +0.5
comp=Z,342nm,1.3s
DIVS **Divibare** 83.71 357 P P 14 16 48.5 +0.5
DIVS **Divibare** 83.71 357 ⇓*i*P P 14 16 49.0 +1.0
MTLF **Montolieu** 83.74 10 *e*P P 14 16 48.5 +0.4
comp=Z,172nm,1.4s
MTLF **Montolieu** 83.74 10 *e*P P 14 16 48.5 +0.4
MTLF pmax pmax
comp=Z,173nm,1.4s
MTLF **Montolieu** 83.74 10 *e*P P 14 16 48.5 +0.4
comp=Z,172nm,1.4s
CALN **Calern** 83.76 7⇑*e*P P 14 16 50.1 +1.7
REVF **Revere** 83.80 7⇑*e*P P 14 16 50.3 +1.8
EPF **Esparros** 83.83 12 *e*P P 14 16 48.2 -0.4
comp=Z,49nm,1.0s
EPF **Esparros** 83.83 12 *e*P P 14 16 48.2 -0.4
EPF pmax pmax
comp=Z,49nm,1.0s
EPF **Esparros** 83.83 12 *e*P P 14 16 48.2 -0.4
comp=Z,49nm,1.0s
ETSF **Etsaut** 83.84 12 *e*P P 14 16 49.4 +0.7
comp=Z,404nm,1.7s
ETSF **Etsaut** 83.84 12 *e*P P 14 16 49.4 +0.7
ETSF pmax pmax
comp=Z,404nm,1.7s
ETSF **Etsaut** 83.84 12 *e*P P 14 16 49.4 +0.7
comp=Z,404nm,1.7s
FRF **La Foret Royal** 83.93 7 *e*P P 14 16 49.7 +0.6
comp=Z,275nm,1.3s
FRF **La Foret Royal** 83.93 7 *e*P P 14 16 49.7 +0.6
FRF pmax pmax
comp=Z,275nm,1.3s
FRF **La Foret Royal** 83.93 7 *e*P P 14 16 49.7 +0.6
comp=Z,275nm,1.3s
VIEF **Viey** 83.93 12⇑*e*P P 14 16 50.9 +1.7
PBRG **Braganca** 83.94 17 *e*P P 14 16 50.2 +1.0
comp=Z,49nm,1.9s
PBRG **Braganca** 83.94 17 *e*LR LR 14 45 17.7
comp=Z,444nm,20.0s
LMR **La Mourre** 84.14 7 *e*P P 14 16 50.9 +0.8
comp=Z,362nm,1.5s
LMR **La Mourre** 84.14 7 *e*P P 14 16 50.9 +0.8
LMR pmax pmax
comp=Z,362nm,1.5s
LMR **La Mourre** 84.14 7 *e*P P 14 16 50.9 +0.8
comp=Z,362nm,1.5s
POLO **Lamas de Olo** 84.17 18 *e*P P 14 16 51.2 +0.8
comp=Z,56nm,1.5s
POLO **Lamas de Olo** 84.17 18 *e*LR LR 14 44 57.2
comp=Z,236nm,22.0s
LRDF **Laroque-de-Fa** 84.17 10⇑*e*P P 14 16 52.1 +1.8
PRD **Provadia** 84.18 352 *i* P P 14 16 50.9 +0.6
SZH **Strazhica** 84.23 353 *i* P P 14 16 50.9 +0.3
PVRL **Vila Real** 84.28 19 *e*P P 14 16 52.8 +1.9
comp=Z,102nm,1.5s
MPEP **Malo Peshtene** 84.29 355 *i* P P 14 16 50.5 -0.4
CARF **Carcanieres** 84.34 11⇑*e*P P 14 16 52.5 +1.2
CTA **Charters Tower** 84.37 226 LR LR 14 49 08.6
comp=Z,174nm,20.2s,baz=16,slow=32
GNI **Garni** 84.47 339*d* *i*P P 14 16 53.9 +1.8
GNI pmax pmax
comp=Z,141nm,1.7s
GNI **Garni** 84.47 339 P P 14 16 54.6 +2.5
SNR=23
GNI **Garni** 84.47 339 ⇓*i*P P 14 16 54.2 +2.1
SNR=9.1
GNI **Garni** 84.47 339 *e*P P 14 16 54.1 +2.0
comp=Z,62nm,0.9s
GNI LR LR
comp=Z,601nm,21.0s
PLE **Pljevlja** 84.49 358⇑*i*P P 14 16 54.2 +2.1
MVO **Moncorvo** 84.51 18 *e*P P 14 16 53.8 +1.6
comp=Z,79nm,1.6s
MVO **Moncorvo** 84.51 18 *e*PP PP 14 20 06.8 +0.2
MVO *e*S S 14 27 21.0 +3.1
MVO **Moncorvo** 84.51 18 *e*LR LR 14 45 06.8
comp=Z,441nm,20.0s
UPM **Unac-Piva** 84.63 358⇑*i*P P 14 16 52.8 -0.1
PVIS **Viseu** 84.78 18 *e*P P 14 16 54.7 +1.2
comp=Z,90nm,1.3s
SDV **Santo Domingo** 84.85 82 *e*P P 14 16 53.5 -0.8
comp=Z,32nm,0.9s
SDV LR LR
comp=Z,285nm,19.0s
IVA **Berane** 84.94 357⇑*i*P P 14 16 55.6 +1.3
BRY **Bratogost** 84.94 358⇑*i*P P 14 16 54.0 -0.4
NKY **Niksic** 85.02 358⇑*i*P P 14 16 54.3 -0.4
VTS **Vitosha** 85.08 355 P P 14 16 54.9 -0.2
VTS **Vitosha** 85.08 355 P P 14 16 54.9 -0.2
VTS **Vitosha** 85.08 355⇑*i*P P 14 16 55.5 +0.4
VTS **Vitosha** 85.08 355 *i* P P 14 16 54.3 -0.8
VTS **Vitosha** 85.08 355 P P 14 16 54.9 -0.2
PGF **Pioggiola** 85.09 5 *e*P P 14 16 55.7 +0.6
comp=Z,587nm,1.4s
PGF **Pioggiola** 85.09 5 *e*P P 14 16 55.7 +0.6
PGF pmax pmax
comp=Z,587nm,1.4s
PGF **Pioggiola** 85.09 5 *e*P P 14 16 55.7 +0.6
comp=Z,587nm,1.4s
MTE **Manteigas** 85.16 18 *e*P P 14 16 55.8 +0.4
comp=Z,64nm,1.6s
MTE **Manteigas** 85.16 18 *e*S S 14 27 27.9 +3.6
MTE **Manteigas** 85.16 18 *e*LR LR 14 45 11.6
comp=Z,445nm,20.0s
MTE **Manteigas** 85.16 18 PFAKE 14 17 10.0 +15
MTE LR LR
comp=Z,631nm,19.0s
PVY **Plav** 85.21 357⇑*i*P P 14 16 56.8 +1.1
PCAS **Casmilo, Conde** 85.31 19 *e*P P 14 16 56.3 +0.2
comp=Z,80nm,1.4s
PCAS **Casmilo, Conde** 85.31 19 *e*S S 14 27 31.8 +6.2
PCAS **Casmilo, Conde** 85.31 19 *e*LR LR 14 45 25.9
comp=Z,313nm,24.0s
HCY **Herceg Novi** 85.39 358⇑*i*P P 14 16 57.1 +0.6
PDG **Podgorica** 85.39 358 P P 14 16 57.0 +0.6
TTG **Podgorica** 85.39 358⇑*i*P P 14 16 57.5 +1.1
TTG **Podgorica** 85.39 358 P P 14 16 57.0 +0.6
TTG **Podgorica** 85.39 358 P P 14 16 57.0 +0.6
AQU **L'Aquila** 85.47 2 PFAKE 14 17 10.0 +13
AQU LR LR
comp=Z,461nm,21.0s
PLD **Plovdiv** 85.48 354 *i* P P 14 16 57.0 +0.1
BUM **Brajici-Budva** 85.53 358⇑*i*P P 14 16 58.2 +1.0
MTKI **Muara Teweh, K** 85.54 263 P P 14 16 57.4 -0.1
comp=Z,100nm,1.0s,comp=Z,7µm
PCBR **Castelo Branco** 85.71 18 *e*P P 14 16 59.3 +1.2
comp=Z,40nm,1.9s
PTOM **Tomar** 85.75 19 *e*P P 14 16 59.7 +1.5
comp=Z,68nm,1.6s
ROSC **El Rosal** 85.76 88 P P 14 16 59.7 +0.5
comp=Z,3.4nm,0.4s,baz=42,slow=4.3,SNR=6.3
SKO **Skopje** 85.78 356 P P 14 16 58.8 +0.4
SKO **Skopje** 85.78 356 *i* P P 14 16 58.3 -0.1
SKO **Skopje** 85.78 356 P P 14 16 58.8 +0.4
SKO **Skopje** 85.78 356 P P 14 16 58.8 +0.4
KKB **Krupnik** 85.81 355 *i* P P 14 16 59.1 +0.5
KAPI **Kappang** 85.86 256 P P 14 16 59.5 +0.4
comp=Z,263nm,1.1s,SNR=6.4
KAPI **Kappang** 85.86 256 P P 14 16 59.9 +0.8
SNR=8.8
KAPI **Kappang** 85.86 256 *e*P P 14 16 59.0 -0.1
comp=Z,75nm,1.2s
KAPI LR LR
comp=Z,73nm,19.0s
FDF **Fort de France** 85.86 71 PFAKE 14 17 10.0 +11
FDF LR LR
comp=Z,423nm,20.0s
ULC **Ulcinj** 85.86 358⇑*i*P P 14 16 59.6 +0.8
KDZ **Kurdzhali** 85.88 353⇑*i*P P 14 17 00.1 +1.2
KDZ **Kurdzhali** 85.88 353 *i* P P 14 16 59.1 +0.2
RZN **Rozhen** 85.89 354 *i* P P 14 16 59.0 -0.2
MMB **Musomiste** 86.05 354⇑*i*P P 14 17 00.7 +0.9
MMB **Musomiste** 86.05 354 *i* P P 14 16 59.7 -0.1
PMRV **Marv??o** 86.13 18 *e*P P 14 17 01.1 +0.9
comp=Z,40nm,1.7s
PMRV **Marv??o** 86.13 18 *e*LR LR 14 45 48.3
comp=Z,291nm,22.0s
NVR **Nevrokopi** 86.28 354 P P 14 17 01.3 +0.4
NVR **Nevrokopi** 86.28 354 *e*P P 14 17 02.3 +1.4
NVR **Nevrokopi** 86.28 354 P P 14 17 01.3 +0.4
PMTG **Montargil** 86.31 19 *e*S S 14 27 35.0 -0.5
PMTG **Montargil** 86.31 19 *e*LR LR 14 45 45.1
comp=Z,297nm,24.0s
VAY **Valandovo** 86.38 355 P P 14 17 01.7 +0.3
VAY **Valandovo** 86.38 355 *i* P P 14 17 00.9 -0.5
VAY **Valandovo** 86.38 355 P P 14 17 01.7 +0.3
VAY **Valandovo** 86.38 355 P P 14 17 01.7 +0.3
KSM **Kuching** 86.43 268 *e*P P 14 17 01.5 -0.5
comp=Z,50nm,1.0s
KSM *e* 14 17 12.2
KSM LR LR
comp=Z,187nm,19.0s
ESDC **Sonseca Array** 86.50 16 P P 14 17 02.2 +0.2
comp=Z,9.5nm,0.8s,baz=345,slow=4.6,SNR=29
ESDC PP PP 14 20 23.3 +0.6
comp=Z,1.8nm,0.7s,baz=350,slow=8.0,SNR=7.2
ESDC LR LR 14 58 48.7
comp=Z,136nm,18.0s,baz=320,slow=38
ESLA **Sonseca Array** 86.50 16 *e*P P 14 17 02.3 +0.2
comp=Z,5.3nm,0.9s
KNT **Kendrikon** 86.52 355 P P 14 17 02.9 +0.8
KNT **Kendrikon** 86.52 355 *e*P P 14 17 02.9 +0.8
KNT **Kendrikon** 86.52 355 P P 14 17 02.9 +0.8
KNT **Kendrikon** 86.52 355 P P 14 17 02.9 +0.8
SRS **Serrai** 86.53 355 P P 14 17 02.5 +0.4
SRS **Serrai** 86.53 355 *e*P P 14 17 02.9 +0.8
SRS **Serrai** 86.53 355 P P 14 17 02.5 +0.4
SRS **Serrai** 86.53 355 P P 14 17 02.5 +0.4
PAB **San Pablo** 86.56 16 PFAKE 14 17 10.0 +7.6
PAB LR LR
comp=Z,580nm,21.0s
ALN **Alexandroupoli** 86.58 353 P P 14 17 02.7 +0.4
ALN **Alexandroupoli** 86.58 353 *e*P P 14 17 02.9 +0.6
ALN **Alexandroupoli** 86.58 353 P P 14 17 02.7 +0.4
ALN **Alexandroupoli** 86.58 353 P P 14 17 02.7 +0.4
KAVA **Kavala** 86.59 354 P P 14 17 02.8 +0.4
KAVA **Kavala** 86.59 354 *e*P P 14 17 03.5 +1.1
KAVA **Kavala** 86.59 354 P P 14 17 02.8 +0.4
PESTR **Estremoz** 86.63 19 *e*P P 14 17 03.1 +0.4
comp=Z,32nm,1.3s
PESTR **Estremoz** 86.63 19 *e*S S 14 27 41.5 +2.8
PESTR **Estremoz** 86.63 19 *e*LR LR 14 46 08.9
comp=Z,399nm,20.0s
OHR **Ohrid** 86.67 357 *i* P P 14 17 02.3 -0.5
GRG **Griva** 86.75 355 P P 14 17 04.0 +0.8
GRG **Griva** 86.75 355 P P 14 17 04.0 +0.8
GRG **Griva** 86.75 355 P P 14 17 04.0 +0.8
STKI **Sintang** 86.83 266 P P 14 17 06.7 +2.8
SOH **Sokhos** 86.84 355 *e*P P 14 17 04.6 +0.9
EVOP **Sao Brissos** 86.85 19 *e*P P 14 17 04.3 +0.6
EVOP pmax pmax
comp=Z,31nm,1.0s
EVOP **Sao Brissos** 86.85 19 *e*P P 14 17 04.3 +0.6
comp=Z,31nm,1.0s
EVO **Evora** 86.87 19 *e*P P 14 17 04.3 +0.5
comp=Z,31nm,1.0s
EVO *e*R
comp=Z,421nm,20.8s
OTAV **Otavalo** 86.87 94 *e*P P 14 17 04.9 +0.2
comp=Z,13nm,0.8s
OTAV LR LR
comp=Z,156nm,19.0s
ANTO **Ankara** 86.89 347 *e*P P 14 17 05.2 +1.3
ANTO pmax pmax
comp=Z,57nm,0.8s
ANTO MLR MLR
comp=Z,584nm,21.0s
ANTO **Ankara** 86.89 347 ⇓*i*P P 14 17 05.3 +1.3
ANTO **Ankara** 86.89 347 P P 14 17 05.7 +1.7
SNR=21
ANTO **Ankara** 86.89 347 *e*P P 14 17 05.2 +1.3
comp=Z,57nm,0.8s
ANTO LR LR
comp=Z,584nm,21.0s
BR131 **Keskin Array S** 86.91 347 *e*P P 14 17 05.1 +0.9
comp=Z,16nm,0.8s
BRTR **Keskin Array B** 86.91 347 P P 14 17 05.1 +0.9
comp=Z,16nm,0.9s,baz=58,slow=3.1,SNR=85
BRTR PKPPKP **P'P'df** 14 43 05.8 -5.0
comp=Z,0.3nm,0.4s,baz=188,slow=8.2,SNR=3.7
BRTR LR LR 14 59 35.3
comp=Z,312nm,20.3s,baz=9.5,slow=38
FNA **Florina** 86.97 356 P P 14 17 04.3 0.0
FNA **Florina** 86.97 356 *e*P P 14 17 04.6 +0.3
FNA **Florina** 86.97 356 P P 14 17 04.3 0.0
FNA **Florina** 86.97 356 P P 14 17 04.3 0.0
SMTH **Samothraki Isl** 87.04 353 P P 14 17 05.0 +0.3
SMTH **Samothraki Isl** 87.04 353 *e*P P 14 17 04.9 +0.3
SMTH **Samothraki Isl** 87.04 353 P P 14 17 05.0 +0.3
THE **Thessaloniki** 87.05 355 *e*P P 14 17 05.2 +0.6
HORT **Hortiatis** 87.07 355 *e*P P 14 17 05.1 +0.2
PNCL **Nicolau / Gran** 87.17 19 *e*P P 14 17 06.2 +0.9
comp=Z,72nm,1.6s
PNCL **Nicolau / Gran** 87.17 19 *e*S S 14 27 45.8 +1.9
PNCL **Nicolau / Gran** 87.17 19 *e*LR LR 14 46 09.1
comp=Z,471nm,22.0s
PLG **Polygyros** 87.28 355 *e*P P 14 17 05.6 -0.2
OUR **Ouranopolis** 87.28 354 P P 14 17 05.7 -0.1
OUR **Ouranopolis** 87.28 354 *e*P P 14 17 06.1 +0.3
OUR **Ouranopolis** 87.28 354 P P 14 17 05.7 -0.1
OUR **Ouranopolis** 87.28 354 P P 14 17 05.7 -0.1
PBAR **Barrancos** 87.41 18 *e*P P 14 17 06.3 -0.1
comp=Z,87nm,1.3s
PBAR **Barrancos** 87.41 18 *e*PP PP 14 20 31.2 +1.2
PBAR *e*S S 14 27 48.7 +2.6
PBAR **Barrancos** 87.41 18 *e*LR LR 14 46 43.0
comp=Z,864nm,22.0s
KZN **Kozani** 87.43 356 P P 14 17 06.7 +0.1
KZN **Kozani** 87.43 356 P P 14 17 06.7 +0.1
KZN **Kozani** 87.43 356 P P 14 17 06.7 +0.1
MESJ **Messejana** 87.50 19 *e*P P 14 17 07.0 +0.2
MESJ AMb AMB 14 17 12.9
comp=Z,41nm,1.5s
MESJ *e*PP PP 14 20 31.6 +0.9
MESJ **Messejana** 87.50 19 *e*P P 14 17 07.1 +0.2
comp=Z,41nm,1.7s
MESJ **Messejana** 87.50 19 *e*P P 14 17 07.0 +0.2
MESJ *e* 14 20 31.6
MESJ pmax pmax
comp=Z,41nm,1.5s
MALT **Malatya** 87.52 343 ⇓*i*P P 14 17 08.7 +1.6
SURT **Suratani** 87.54 281 P P 14 17 08.5 +1.1
comp=Z,30nm,1.3s,comp=Z,343nm
LIT **Litokhoron** 87.60 355 P P 14 17 07.3 -0.1
LIT **Litokhoron** 87.60 355 *e*P P 14 17 07.5 +0.1
LIT **Litokhoron** 87.60 355 P P 14 17 07.3 -0.1
LIT **Litokhoron** 87.60 355 P P 14 17 07.3 -0.1
GRGR **Grenville** 87.64 73 PFAKE 14 17 20.0 +12
GRGR LR LR
comp=Z,629nm,22.0s
LIA **Limnos Island** 87.64 353 P P 14 17 07.7 +0.2
LIA **Limnos Island** 87.64 353 *e*P P 14 17 08.4 +0.9
LIA **Limnos Island** 87.64 353 P P 14 17 07.7 +0.2
PAIG **Paliouri** 87.71 354 P P 14 17 07.1 -0.7
PAIG **Paliouri** 87.71 354 *e*P P 14 17 06.7 -1.1
PAIG **Paliouri** 87.71 354 P P 14 17 07.1 -0.7
PAIG **Paliouri** 87.71 354 P P 14 17 07.1 -0.7
PCVE **Castro Verde** 87.74 19 *e*S S 14 27 47.3 -2.0
PCVE **Castro Verde** 87.74 19 *e*LR LR 14 46 07.7
comp=Z,2µm,24.0s
KTGM **Kuala Trenggan** 87.78 276 ⇑P P 14 17 07.6 -0.9
CUC **Castrocucco** 87.86 0 *e*P P 14 17 08.6 -0.1
comp=Z,17nm,1.0s
CUC LR LR
comp=Z,227nm,20.0s
TRTT **Trang** 87.89 280 P P 14 17 10.0 +1.0
comp=Z,26nm,1.3s,comp=Z,558nm
MORF **Marmelete** 87.93 20 *e*P P 14 17 09.4 +0.4
MORF AMb AMB 14 17 15.2
comp=Z,67nm,2.0s
MORF *e*PP PP 14 20 35.0 +0.7
MORF **Marmelete** 87.93 20 *e*S S 14 27 54.4 +3.2
MORF **Marmelete** 87.93 20 *e*LR LR 14 46 54.1
comp=Z,606nm,22.0s
MORF **Marmelete** 87.93 20 *e*P P 14 17 09.4 +0.4
MORF *e* 14 20 34.9
MORF pmax pmax
comp=Z,67nm,2.0s
PVAQ **Vaqueiros** 88.02 19 *e*P P 14 17 09.2 -0.2
comp=Z,82nm,1.6s
PVAQ **Vaqueiros** 88.02 19 *e*S S 14 27 46.8 -5.2
PVAQ **Vaqueiros** 88.02 19 *e*LR LR 14 46 48.5
comp=Z,391nm,22.0s
JAN **Janina** 88.11 357 *e*P P 14 17 11.0 +1.2
PBDV **Barranco-do-Ve** 88.13 19 *e*P P 14 17 10.5 +0.5
comp=Z,64nm,1.6s
PBDV **Barranco-do-Ve** 88.13 19 *e*S SKSac 14 27 31.8 -5.9
PBDV **Barranco-do-Ve** 88.13 19 *e*LR LR 14 46 47.4
comp=Z,447nm,22.0s
VSL **Villasalto** 88.16 5 PFAKE 14 17 20.0 +10
VSL LR LR
comp=Z,257nm,20.0s
THL **Klokotos Trika** 88.16 356 P P 14 17 09.4 -0.6
THL **Klokotos Trika** 88.16 356 *e*P P 14 17 10.3 +0.3
PRK **Paraskevi** 88.20 352 *e*P P 14 17 10.3 +0.1
IGT **Igoumenitsa** 88.26 357 *e*P P 14 17 10.6 +0.1
SIGR **SIGRI** 88.27 353 *e*P P 14 17 10.9 +0.4
XOR **Xorichti** 88.30 355 P P 14 17 10.2 -0.5
XOR **Xorichti** 88.30 355 *e*P P 14 17 10.3 -0.5
XOR **Xorichti** 88.30 355 P P 14 17 10.2 -0.5
CHLP **Challavanipeta** 88.30 299 *e*P P 14 17 10.9 0.0
CHLP *e*PP PP 14 20 39.4 +1.6
CHLP *e* 14 27 40.2
CHLP *e* 14 27 56.6
NEO **Neokhori** 88.35 355 *e*P P 14 17 11.0 0.0
AOS **Alonnisos** 88.45 354 P P 14 17 10.6 -0.8
AOS **Alonnisos** 88.45 354 *e*P P 14 17 11.2 -0.2
AOS **Alonnisos** 88.45 354 P P 14 17 10.6 -0.8
SKIA **Skiathos** 88.48 354 P P 14 17 11.1 -0.4
SKIA **Skiathos** 88.48 354 *e*P P 14 17 11.4 -0.1
PKDT **Phuket** 88.66 281 P P 14 17 14.5 +1.8
comp=Z,38nm,1.2s
TIP **Timpagrande** 88.67 360 P P 14 17 13.1 +0.6
TIP **Timpagrande** 88.67 360 P P 14 17 13.1 +0.6
TIP LR LR
comp=Z,308nm,22.0s
AGG **Agios Georgios** 88.68 355 *e*P P 14 17 11.9 -0.6
MAKR **Makrakomi, Fth** 88.70 356 *e*P P 14 17 12.6 0.0
EVR **Evrytania** 88.81 356 P P 14 17 13.6 +0.4
EVR **Evrytania** 88.81 356 *e*P P 14 17 13.9 +0.7
EVR **Evrytania** 88.81 356 P P 14 17 13.6 +0.4
MRKA **Markates** 88.93 354 *e*P P 14 17 13.8 +0.1
LKD2 **Lefkada island** 88.99 357 *e*P P 14 17 13.5 -0.5
CHOS **Chios island** 89.07 352 P P 14 17 14.2 -0.2
CHOS **Chios island** 89.07 352 *e*P P 14 17 13.6 -0.8
CHOS **Chios island** 89.07 352 P P 14 17 14.2 -0.2
PDO **Prodromos** 89.16 356 P P 14 17 14.8 +0.1
PDO **Prodromos** 89.16 356 *e*P P 14 17 14.6 -0.1
ISP **Isparta** 89.19 349 P P 14 17 14.0 -1.0
ISP **Isparta** 89.19 349 P P 14 17 14.0 -1.0
ISP MLR MLR
comp=Z,666nm,22.0s
ISP **Isparta** 89.19 349 P P 14 17 14.0 -1.0
ISP LR LR
comp=Z,666nm,22.0s
DSF **Desfina** 89.28 355 P P 14 17 14.3 -1.1
DSF **Desfina** 89.28 355 *e*P P 14 17 14.6 -0.8
DSF **Desfina** 89.28 355 P P 14 17 14.3 -1.1
KULM **Kulim** 89.32 278 ⇑P P 14 17 14.8 -1.0
KULM **Kulim** 89.32 278 *e*P P 14 17 15.4 -0.3
comp=Z,43nm,1.5s
KALE **Kalithea** 89.32 355 *e*P P 14 17 14.1 -1.5
CEL **Celeste** 89.59 0 P P 14 17 16.2 -0.7
comp=Z,24nm,0.8s
CEL LR LR
comp=Z,189nm,20.0s
VLS **Valsamata** 89.60 357 *e*P P 14 17 17.4 +0.6
LTK **Loutraki** 89.65 355 P P 14 17 15.8 -1.2
LTK **Loutraki** 89.65 355 *e*P P 14 17 15.8 -1.2
KLV **Kalavryta, Ach** 89.67 355 P P 14 17 17.5 +0.3
KLV **Kalavryta, Ach** 89.67 355 *e*P P 14 17 16.9 -0.3
KLV **Kalavryta, Ach** 89.67 355 P P 14 17 17.5 +0.3
SMG **Samos** 89.68 352 *e*P P 14 17 14.1 -3.1
RLS **Riolos of Patr** 89.69 356 *e*P P 14 17 17.8 +0.6
IPM **Ipoh** 89.73 277 ⇑P P 14 17 16.5 -1.2
IPM **Ipoh** 89.73 277 *e*P P 14 17 17.9 +0.1
comp=Z,16nm,1.1s
GUR **Goura** 89.77 355 P P 14 17 17.4 -0.3
GUR **Goura** 89.77 355 *e*P P 14 17 17.4 -0.3
GUR **Goura** 89.77 355 P P 14 17 17.4 -0.3
DRO **Drossia** 89.78 356 *e*P P 14 17 17.7 0.0
WRAB **Tennant Creek** 89.91 236 ⇓*e*P P 14 17 18.5 +0.2
WRAB pmax pmax
comp=Z,91nm,1.7s
WRAB **Tennant Creek** 89.91 236 *e*P P 14 17 17.1 -1.3
comp=Z,42nm,1.4s
WRAB *e* 14 17 27.3
WRA **Warramunga Arr** 89.93 236 P P 14 17 17.2 -1.2
comp=Z,7.5nm,0.9s,baz=38,slow=5.5,SNR=19
WRA PP PP 14 20 55.2 +3.6
comp=Z,3.1nm,1.0s,baz=38,slow=8.5,SNR=5.6
WRA LR LR 14 52 18.4
comp=Z,154nm,21.6s,baz=280,slow=32
PMOZ **Porto Moniz, M** 90.10 28 *e*LR LR 14 49 21.9
comp=Z,258nm,22.0s
DID **Didima** 90.14 355 *e*P P 14 17 18.1 -1.3
AMT **Artemida-Makis** 90.20 356 *e*P P 14 17 27.1 +7.5
ITM **Ithomi** 90.54 356 *e*P P 14 17 20.6 -0.6
SANT **Santorini** 91.12 353 PFAKE 14 17 40.0 +16
SANT LR LR
comp=Z,262nm,19.0s
ARMA **Armidale** 91.36 217 *e*P P 14 17 25.7 +0.8
comp=Z,54nm,1.4s
TPI **Tanjungpandan** 91.38 267 P P 14 17 36.1 +11
CSS **Prodhromos** 91.63 346 *e*P P 14 17 26.7 +0.4
comp=Z,31nm,1.8s
CSS *e* 14 17 37.1
CSS LR LR
comp=Z,68nm,21.0s
PPBI **Pangkal Pinang** 91.84 269 P P 14 17 38.5 +11
KEST **Kesra** 91.90 6 P P 14 17 28.3 +0.7
comp=Z,7.2nm,1.2s,baz=59,slow=5.9,SNR=12
KEST LR LR 15 00 53.2
comp=Z,39nm,20.0s,baz=342,slow=37
KEST **Kesra** 91.90 6 *e*P P 14 17 28.1 +0.5
WDD **Wield Dalam** 91.97 1 PFAKE 14 17 40.0 +12
WDD LR LR
comp=Z,341nm,20.0s
HYBB **Hyderabad (bro** 92.10 302 *e*P P 14 17 28.9 +0.1
HYBB *e*sP sP 14 17 32.4 -4.2
HYBB *e* 14 28 01.2
HYBB *e* 14 28 30.4
HYBB *e* 14 42 02.9
HYB **Hyderabad** 92.10 302 *i* P P 14 17 27.5 -1.3
comp=Z,80nm,1.0s
HYB *e*sP sP 14 17 33.5 -3.1
HYB *e*SKS SKSac 14 28 06.0 +4.8
HYB *e*S S 14 28 28.0 -2.4
HYB *e*SKKS SKKSdf 14 42 02.0 +16
VAM **Vamos** 92.17 354 *e*P P 14 17 28.2 -0.8
NJS **Nagarjunasagar** 92.43 301 *e*P P 14 17 30.4 +0.2
NJS *e*PP PP 14 21 11.3 +0.6
NJS *e* 14 28 05.1
NJS *e* 14 28 34.2
AS31 **Alice Springs** 93.26 235 *e*P P 14 17 33.1 -0.7
ASAR **Alice Springs** 93.26 235 P P 14 17 33.1 -0.7
comp=Z,5.5nm,0.7s,baz=35,slow=4.9,SNR=25
ASAR PP PP 14 21 15.9 -2.1
comp=Z,1.3nm,1.0s,baz=358,slow=5.6,SNR=3.7
ASAR PKKP **PKKPbc** 14 34 40.5 +0.5
comp=Z,0.4nm,0.5s,baz=203,slow=1.8,SNR=15
ASAR LR LR 14 54 14.3
comp=Z,363nm,21.2s,baz=42,slow=32
SKHT **Srikalahasti** 94.56 299 *e*P P 14 17 40.0 -0.1
SKHT *e*PP PP 14 21 29.6 +2.1
SKHT *e* 14 28 18.6
SKHT *e* 14 28 54.8
STKA **Stephens Creek** 96.67 224 P P 14 17 48.9 -0.3
comp=Z,5.3nm,1.0s,baz=74,slow=3.5,SNR=4.4
STKA LR LR 14 56 35.2
comp=Z,332nm,19.5s,baz=26,slow=32
RAYN **Ar Rayn** 100.12 333 *e*P Pdif 14 18 05.2 0.0
comp=Z,11nm,1.1s
SAML **Samuel** 103.41 87 PFAKE 14 18 30.0 +10
SAML LR LR
comp=Z,192nm,20.0s
TAM **Tamanrasset** 104.42 10 PFAKE 14 18 40.0 +16
TAM LR LR
comp=Z,324nm,21.0s
SACV **Santiago Islan** 104.44 40 PFAKE 14 18 40.0 +16
SACV LR LR
comp=Z,503nm,19.0s
TORD **Torodi Ar. Bea** 113.39 16 PKiKP **PKiKP** 14 22 55.9 -1.4
comp=Z,0.6nm,0.5s,baz=336,slow=2.2,SNR=9.4
TORD PKKPbc **PKKPbc** 14 33 37.1 -2.7
comp=Z,0.8nm,0.7s,baz=120,slow=1.4,SNR=6.9

TORD				PKKPab	**PKKPab**	**14 33 47.4**	**-4.4**
	comp=Z,1.8nm,0.8s,baz=168,slow=1.5,SNR=7.5							
RCBR	**Riachuelo**	**116.87**	**62**	PFAKE		14 23 20.0	+16
RCBR				LR	LR			
	comp=Z,327nm,19.0s							
BDFB	**Brasilia**	**117.82**	**79**	PKP	**PKPdf**	**14 23 05.0**	**-0.9**
	comp=Z,1.7nm,0.4s,baz=241,slow=4.0,SNR=3.0							
CPUP	**Villa Florida**	**120.21**	**95**	PKP	**PKPdf**	**14 23 08.8**	**-1.3**
	comp=Z,0.4nm,0.8s,baz=310,slow=1.4,SNR=3.1							
MSEY	**Mahe Island**	**122.45**	**312**	PFAKE		14 23 30.0	+15
MSEY				LR	LR			
	comp=Z,342nm,20.0s							
PLCA	**Paso Flores**	**122.65**	**116**	PKP	**PKPdf**	**14 23 12.6**	**-1.8**
	comp=Z,7.9nm,0.8s,baz=233,slow=2.0,SNR=16							
KMBO	**Kilima Mbogo**	**125.89**	**334**	PKP	**PKPdf**	**14 23 22.0**	**+0.3**
	comp=Z,8.2nm,1.1s,baz=34,slow=6.3,SNR=7.7							
KMBO	**Kilima Mbogo**	**125.89**	**334**	PKIKP	**PKPdf**	**14 23 22.0**	**+0.3**
KMBO				*e*		14 23 22.4		
KMBO				MLR	MLR			
	comp=Z,285nm,21.0s							
KMBO	**Kilima Mbogo**	**125.89**	**334**	PKP	**PKPdf**	**14 23 22.0**	**+0.3**
KMBO				*e*PKPdf	**PKiKP**	**14 23 22.4**	**+0.2**
KMBO				LR	LR			
	comp=Z,285nm,21.0s							
MBAR	**Mbarara**	**126.88**	**342**	PFAKE		14 23 40.0	+16
MBAR				LR	LR			
	comp=Z,1μm,22.0s							
ASCN	**Ascension**	**128.97**	**41**	PFAKE		14 23 40.0	+13
ASCN				LR	LR			
	comp=Z,1μm,19.0s							
VNDA	**Vanda**	**131.54**	**189**	PKhKP	PKPpre	14 23 25.4		
	comp=Z,0.7nm,0.4s,baz=43,slow=5.7,SNR=7.8							
VNDA				SKPbc	**SKPbc**	**14 26 54.4**	**0.0**	
	comp=Z,3.4nm,1.2s,baz=344,slow=4.5,SNR=5.6							
CASY	**Casey**	**134.90**	**215**	*e*PKPpre	PKPpre	14 23 27.4		
CASY				LR	LR			
	comp=Z,617nm,19.0s							
ABPO	**Ambohimpanom**	**138.82**	**313**	PFAKE		14 24 00.0	+14
ABPO				LR	LR			
	comp=Z,662nm,20.0s							
LSZ	**Lusaka**	**141.67**	**341**	*e*PKIKP	**PKPdf**	**14 23 46.5**	**-4.4**
LSZ	**Lusaka**	**141.67**	**341**	*e*PKPpre	PKPpre	14 23 46.5		
TSUM	**Tsumeb**	**146.74**	**358**	*e*PKPdf	**PKPdf**	**14 23 59.5**	**-0.2**
TSUM				LR	LR			
	comp=Z,656nm,21.0s							
MAW	**Mawson**	**153.17**	**218**	PKPbc	**PKPbc**	**14 24 15.0**	**-0.5**
	comp=Z,13nm,0.8s,baz=166,slow=3.0,SNR=15							
VNA3	**Neumayer Olymp**	**157.92**	**158**	P	**PKPdf**	**14 24 12.0**	**-2.4**
VNA2	**Neumayer--Watz**	**158.66**	**159**	P	**PKPdf**	**14 24 13.8**	**-1.5**
	baz=323,slow=2.9							
VNA1	**Neumayer--Stat**	**158.67**	**158**	P	**PKPdf**	**14 24 14.6**	**-0.6**
SNAA	**Sanae**	**158.99**	**163**	P	**PKPdf**	**14 24 14.5**	**-1.3**

*ISCJB **03** 14:09:13.9±0.3, 15°.34N±0°.06×145°.5E±0°.1, h100km, mb4.3/25, Error ellipse: s-maj=14.8km s-min=7.1km az=21.9*
*IDC **03** 14:09:16.2±1.3, 15°.21N×145°.56E, h115km±14km, mb3.9/17, mb1 4.2/17, mb1mx4.0/30, mbtmp4.3/17, Error ellipse: s-maj=21.5km s-min=15.0km az=109.0*
*NEIC **03** 14:09:16.9±1.1, 15°.19N×145°.52E, h120km±10km, mb4.7/8, Error ellipse: s-maj=12.6km s-min=8.5km az=112.0*

ISC 03 14:09:15.0±0.6, 15°.30N±0°.09×145°.6E±0°.2, h100km, n42, σ0°.92/40, mb4.4/25, 1C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.83**	**202**	P	**Pn**	**14 09 46.9**	**+1.4**
	133nm,0.3s,baz=46,slow=2.8,SNR=70						
GUMO				S	**Sn**	**14 10 09.3**	**+0.7**
	1μm,0.3s,baz=172,slow=22,SNR=18						
GUMO	**Guam**	**1.83**	**202**	*e*Pn	**Pn**	**14 09 46.7**	**+1.2**
GUMO				*e*Sn	**Sn**	**14 10 08.6**	**-0.1**
GUMO				S	**Sn**	**14 10 09.3**	**+0.7**
H11S3	**WAKE ISLAND Hy**	**20.44**	**78**	T	T	14 35 20.4	
	baz=263,slow=75,SNR=36						
H11S1	**WAKE ISLAND Hy**	**20.45**	**78**	T	T	14 35 18.2	
	baz=263,slow=75,SNR=21						
H11S2	**WAKE ISLAND Hy**	**20.45**	**78**	T	T	14 35 23.4	
	baz=263,slow=75,SNR=36						
H11N1	**WAKE ISLAND Hy**	**20.78**	**75**	T	T	14 35 29.6	
	baz=260,slow=75,SNR=18						
H11N2	**WAKE ISLAND Hy**	**20.79**	**75**	T	T	14 35 25.1	
	baz=260,slow=75,SNR=9.8						
H11N3	**WAKE ISLAND Hy**	**20.80**	**75**	T	T	14 35 19.4	
	baz=260,slow=75,SNR=12						
FAKI	**Fak Fak**	**22.40**	**217**	*e*Pn	**P**	**14 14 05.1**	**-0.4**
WRAB	**Tennant Creek**	**36.71**	**198**	*e*P	**P**	**14 16 11.4**	**-1.2**
	7.0nm,0.6s						
WRA	**Warramunga Arr**	**36.72**	**198**	P	**P**	**14 16 11.4**	**-1.3**
	5.4nm,0.7s,baz=13,slow=9.1,SNR=59						
PETK	**Petropavlovsk-**	**78.38**	**12**	P	**P**	**14 16 32.0**	**+1.2**
	1.0nm,0.7s,baz=160,slow=7.8,SNR=5.8						
AS31	**Alice Springs**	**40.37**	**197**	*e*P	**P**	**14 16 42.1**	**-1.2**
ASAR	**Alice Springs**	**40.37**	**197**	P	**P**	**14 16 42.2**	**-1.0**
	1.2nm,0.5s,baz=17,slow=13,SNR=30						
FRIM	**Kepong**	**44.91**	**259**	⇑P	**P**	**14 17 19.8**	**-0.4**
SONM	**Songino Array**	**45.76**	**324**	P	**P**	**14 17 27.9**	**+1.4**
	0.9nm,0.6s,baz=96,slow=6.1,SNR=3.4						
SONM				PcP	**PcP**	**14 19 02.7**	**0.0**
	0.8nm,0.6s,baz=138,slow=4.1,SNR=3.0						
ZALV	**Zalesovo Beam**	**50.66**	**324**	P	**P**	**14 19 16.2**	**+0.8**
	0.7nm,0.3s,baz=100,slow=6.0,SNR=4.1						
MK31	**Makanchi Array**	**60.76**	**315**	*e*P	**P**	**14 19 17.3**	**+1.0**
MKAR	**Makanchi Array**	**60.76**	**315**	P	**P**	**14 19 16.4**	**0.0**
	1.3nm,0.3s,baz=90,slow=12,SNR=23						
KURK	**Kurchatov**	**63.74**	**319**	*e*P	**P**	**14 19 36.3**	**+0.2**
ILAR	**Eielson Array**	**66.74**	**26**	P	**P**	**14 19 54.0**	**-1.2**
	1.7nm,0.5s,baz=249,slow=5.9,SNR=62						
HYT	**Haines Junctio**	**70.39**	**30**	*e*P	**P**	**14 20 19.1**	**+1.0**
INK	**Inuvik**	**72.53**	**23**	P	**P**	**14 20 29.8**	**-0.9**
	2.4nm,0.7s,baz=284,slow=5.1,SNR=9.8						
DLBC	**Dease Lake**	**74.18**	**33**	P	**P**	**14 20 40.9**	**+0.2**
	4.3nm,0.6s,baz=260,slow=4.4,SNR=11						
DLBC	**Dease Lake**	**74.18**	**33**	*e*P	**P**	**14 20 41.8**	**+1.1**
GEYT	**Alibeck**	**78.80**	**306**	P	**P**	**14 21 06.9**	**-0.3**
	1.8nm,0.5s,baz=75,slow=1.6,SNR=2.4						
YKA	**Yellowknife Ar**	**81.03**	**28**	P	**P**	**14 21 18.3**	**-0.3**
	0.6nm,0.4s,baz=286,slow=5.1,SNR=10						
YBH	**Yreka Blue Hor**	**81.23**	**49**	P	**P**	**14 21 20.9**	**+0.6**
	2.5nm,0.7s,baz=290,slow=2.8,SNR=7.0						
NEW	**Newport**	**83.50**	**42**	P	**P**	**14 21 32.4**	**+0.6**
	1.4nm,0.7s,baz=259,slow=5.2,SNR=4.2						
BSMT	**Bassoo Peak**	**85.12**	**42**	*e*P	**P**	**14 21 40.9**	**+0.7**
	11nm,0.8s						
NVAR	**Mina Array Bea**	**85.32**	**52**	P	**P**	**14 21 42.6**	**+1.2**
	3.1nm,0.6s,baz=273,slow=5.5,SNR=27						
ARCES	**ARCESS Array B**	**85.68**	**342**	P	**P**	**14 21 41.2**	**-1.2**
	4.3nm,0.9s,baz=64,slow=8.2,SNR=7.6						
MFID	**Camas Ranch**	**85.72**	**46**	*e*P	**P**	**14 21 43.8**	**+0.5**
	7.7nm,0.9s						
CHMT	**Chamberlain Mo**	**86.40**	**42**	*e*P	**P**	**14 21 46.6**	**-0.1**
HLID	**Hailey**	**86.66**	**46**	*e*P	**P**	**14 21 48.4**	**+0.5**
	6.5nm,0.9s						
ELK	**Elko**	**86.93**	**49**	*e*P	**P**	**14 21 50.2**	**+0.9**
	7.1nm,1.0s						
SHPR	**Sheep Range**	**88.27**	**53**	*e*P	**P**	**14 21 56.8**	**+1.0**
	2.4nm,0.8s						
DUG	**Dugway, Tooele**	**88.86**	**49**	*e*P	**P**	**14 21 59.1**	**+0.6**
	6.9nm,0.6s						
IMW	**Indian Meadow**	**88.94**	**45**	*e*P	**P**	**14 21 58.3**	**-0.7**
	4.6nm,0.7s						
FINES	**FINESS Array B**	**89.91**	**335**	P	**P**	**14 22 00.8**	**-1.9**
	1.9nm,0.6s,baz=84,slow=4.6,SNR=7.6						
PDAR	**Pinedale Array**	**90.28**	**45**	P	**P**	**14 22 05.2**	**+0.1**
	0.9nm,0.6s,baz=285,slow=1.6,SNR=7.2						
TORD	**Torodi Ar. Bea**	**134.44**	**306**	PKP	**PKPdf**	**14 28 21.5**	**-0.9**
	0.4nm,0.7s,baz=22,slow=1.9,SNR=4.3						

DJA 03 14:15:52.3±0.7, 1°.N±6°.×12°.1E±°., h10km, M3.5/5, MLv3.5/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.90**	**130**	P	Pg	14 16 08.7	-1.0
MRSI				S	Sg	14 16 21.6	+0.2
MPSI	**Mapaga**	**1.53**	**242**	P	Pn	14 16 18.9	-0.8
APSI	**Ampana**	**2.00**	**168**	P	Pn	14 16 25.8	-0.3
APSI				S	Sn	14 16 51.9	+0.7
PCI	**Palu**	**2.41**	**216**	P	Pn	14 16 31.7	-0.1
LUWI	**Luwuk**	**2.58**	**144**	P	Pn	14 16 33.9	-0.3
LUWI				S	Sn	14 17 07.3	+1.6
KMSI	**Cibinong**	**2.77**	**100**	P	Pn	14 16 36.7	-0.1
TTSI	**Tana Toraja**	**4.32**	**199**	P	Pn	14 16 57.6	-0.5

IDC 03 14:20:20.2±44.0, 15°.61S×178°.00E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.6/30, mbtmp4.1/3, Error ellipse: s-maj=791.8km s-min=142.0km az=74.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.84**	**237**	P	P	14 27 29.2	-1.1
	5.8nm,1.0s,baz=76,slow=8.3,SNR=5.0						
WRA	**Warramunga Arr**	**41.71**	**257**	P	P	14 28 11.8	+0.6
	0.4nm,0.4s,baz=89,slow=8.4,SNR=12						
ASAR	**Alice Springs**	**42.16**	**252**	P	P	14 28 14.8	-0.1
	1.8nm,0.5s,baz=83,slow=8.7,SNR=42						

*NIED **03** 14:24:00, 24°.20N×123°.60E, h38km, Mw3.7 Best double couple: M0 3.35000×10^14 NP1:φs=196.00000°, δ73.00000°, λ=-2.00000°. NP2:φs=287.00000°, δ88.00000°, λ=-163.00000°.*

JMA 03 14:24:17.6, 24°.20N×123°.59E, h19km±1km, M3.6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.18**	**44**	P	Pg	14 24 22.3	-0.1
IRIF				S	Sg	14 24 25.9	+0.2
HATJ	**Hateruma jima**	**0.24**	**126**	P	Pb	14 24 23.2	+0.1
HATJ				S	Sg	14 24 27.1	-0.1
JKRS	**Kuro-shima**	**0.39**	**84**	P	Pg	14 24 25.7	0.0
JKRS				S	Sb	14 24 31.6	+0.1
JIJ	**Ishigaki jima**	**0.53**	**72**	P	Pb	14 24 27.8	-0.5
JIJ				S	Sg	14 24 35.4	-0.1
YOJ	**Yonaguni jima**	**0.59**	**296**	P	Pb	14 24 29.1	-0.1
YOJ				S	Sb	14 24 37.2	+0.1
JYNG	**Yonagunijimaku**	**0.64**	**293**	P	Pb	14 24 29.8	-0.3
JYNG				S	Sb	14 24 38.5	-0.1
JISG	**Ishigakijimahi**	**0.76**	**59**	P	Pb	14 24 31.8	-0.5
JISG				S	Sg	14 24 42.8	+0.1
JTJ	**Tarama**	**1.10**	**66**	P	Pb	14 24 38.1	0.0
JTJ				S	Sg	14 24 53.3	-0.3
JIRB	**Irabujima**	**1.57**	**66**	P	Pn	14 24 44.7	+0.2
JIRB				S	Sb	14 25 05.8	+0.2
JMJ	**Miyako jima 2**	**1.67**	**68**	P	Pb	14 24 47.2	-0.5
JMJ				*e*S	Sb	14 25 08.7	+0.3
JIKM	**Ikemajima**	**1.67**	**64**	P	Pb	14 24 47.2	-0.6
JIKM				*e*S	Sb	14 25 07.8	-0.7
JOGS	**Gusukube**	**1.75**	**71**	P	Pb	14 24 48.9	-0.2
JOGS				*e*S	Sg	14 25 12.7	-1.3
JKE	**Kume jima 2**	**3.58**	**53**	P	Pn	14 25 13.0	+0.8
JAGN	**Aguni-jima**	**4.07**	**53**	P	Pn	14 25 19.1	+0.3

IDC 03 14:25:23.6±1.4, 15°.71N×124°.27E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/25, mbtmp3.6/4, Error ellipse: s-maj=70.9km s-min=22.1km az=85.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**24.17**	**28**	P	P	14 30 41.9	+0.2
	1.2nm,0.7s,baz=228,slow=9.2,SNR=7.0						
SONM	**Songino Array**	**35.27**	**339**	P	P	14 32 20.0	-0.2
	0.6nm,0.9s,baz=154,slow=9.1,SNR=3.7						
WRA	**Warramunga Arr**	**36.79**	**164**	P	P	14 32 33.7	+0.4
	1.2nm,0.8s,baz=347,slow=9.0,SNR=7.7						
ASAR	**Alice Springs**	**40.26**	**166**	P	P	14 33 01.8	-0.6
	0.3nm,0.5s,baz=351,slow=7.0,SNR=13						

JMA 03 14:26:19.7±0.4, 22°.33N×123°.78E, h52km, M4.0, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**1.72**	**1**	P	Pn	14 26 48.2	+1.0
HATJ				*e*S	Sn	14 27 08.5	+0.5
JKRS	**Kuro-shima**	**1.91**	**6**	P	Pn	14 26 51.0	+1.2
JKRS				*e*S	Sn	14 27 13.3	+0.6
IRIF	**Iriomote-Funau**	**2.00**	**359**	P	Pn	14 26 52.3	+1.3
IRIF				*e*S	Sn	14 27 14.9	+0.1
JIJ	**Ishigaki jima**	**2.05**	**9**	P	Pn	14 26 52.2	+0.4
JIJ				*e*S	Sn	14 27 15.4	-0.8
YOJ	**Yonaguni jima**	**2.24**	**342**	P	Pn	14 26 56.1	+1.8
YOJ				*e*S	Sn	14 27 21.8	+1.1
JYNG	**Yonagunijimaku**	**2.25**	**340**	P	Pn	14 26 56.2	+1.8
JYNG				*e*S	Sn	14 27 22.0	+1.0
JISG	**Ishigakijimahi**	**2.30**	**12**	P	Pn	14 26 55.3	+0.1
JISG				*e*S	Sn	14 27 22.2	-0.1
JTJ	**Tarama**	**2.45**	**20**	P	Pn	14 26 57.8	+0.6
JTJ				*e*S	Sn	14 27 25.9	-0.1
JIRB	**Irabujima**	**2.80**	**27**	P	Pn	14 27 00.3	-1.7
JIRB				*e*S	Sn	14 27 34.9	+0.4
JMJ	**Miyako jima 2**	**2.84**	**29**	P	Pn	14 27 04.1	+1.6
JMJ				*e*S	Sn	14 27 36.3	+0.8
JOGS	**Gusukube**	**2.84**	**31**	P	Pn	14 27 03.4	+0.8
JOGS				*e*S	Sn	14 27 36.2	+0.6
JIKM	**Ikemajima**	**2.91**	**27**	P	Pn	14 27 05.0	+1.4
JKE	**Kume jima 2**	**4.83**	**34**	P	Pn	14 27 29.6	-0.3
JKE				*e*S	Sn	14 28 02.2	-2.4
JJT2	**Tamagusuku 2**	**5.24**	**43**	P	Pn	14 27 36.1	+0.6
JAGN	**Aguni-jima**	**5.28**	**36**	P	Pn	14 27 35.2	-0.9
JNTH	**Nagotoyohara**	**5.69**	**42**	P	Pn	14 27 41.1	-0.5
JIH	**Iheya**	**6.04**	**38**	P	Pn	14 27 45.7	-0.7
JOW	**Kunigami**	**6.07**	**41**	P	Pn	14 27 46.5	-0.4
JOKE	**Okinoerabujima**	**6.63**	**40**	P	Pn	14 27 53.7	-0.9
JTK	**Tokunoshima**	**7.17**	**40**	P	Pn	14 28 00.0	-2.0
JAMN	**Amaminishikomi**	**7.65**	**39**	P	Pn	14 28 06.5	-2.0
JAMN				*e*S	Sn	14 29 29.7	-4.1
JAM	**Amami Oshima**	**8.02**	**40**	P	Pn	14 28 12.2	-1.5

IDC 03 14:35:27.5±2.0, 5°.64S×150°.78E, h0km, mb3.3/3, mb1 3.7/3, mb1mx3.3/18, mbtmp3.3/3, Error ellipse: s-maj=137.2km s-min=28.4km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.40**	**227**	P	P	14 40 16.1	-0.9
	0.5nm,0.6s,baz=53,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**24.20**	**221**	P	P	14 40 46.1	+0.1
	1.1nm,0.8s,baz=51,slow=9.2,SNR=16						
ILAR	**Eielson Array**	**83.69**	**22**	P	P	14 47 56.9	-1.0
	0.2nm,0.7s,baz=245,slow=5.8,SNR=3.1						
TORD	**Torodi Ar. Bea**	**148.63**	**286**	PKPbc	PKPbc	14 55 19.1	+1.4
	0.3nm,0.5s,baz=105,slow=2.5,SNR=2.9						

*IDC **03** 15:00:09.8±1.7, 34°.16S×72°.25W, h0km, mb4.0/1, mb1 3.8/2, mb1mx3.6/14, mbtmp3.7/2, ML3.6/1, Error ellipse: s-maj=85.8km s-min=44.9km az=97.0*
*ISCJB **03** 15:00:11.0±2.0, 34°.21S±0°.05×72°.5W±0°.1, h14km±15km, mb3.9/2, Error ellipse: s-maj=15.1km s-min=7.2km az=18.9*
*GUC **03** 15:00:12.7±0.8, 34°.27S×72°.39W, h41km±6km, ML4.0*
*NEIC **03** 15:00:14.8±1.2, 34°.24S×72°.56W, h35km, mb4.0/1, Error ellipse: s-maj=33.0km s-min=15.0km az=84.0*

ISC 03 15:00:10.6±2.1, 34°.25S±0°.04×72°.34W±0°.10, h3km±12km, n19, σ0°.68/23, 4C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.82**	**70**	⇓*i*P	**Pn**	**15 00 29.0**	**-0.2**
NICH	**Los Niches**	**1.19**	**130**	*e*P	**Pn**	**15 00 34.3**	**+0.2**
NICH				*i* S	**Sn**	**15 00 50.5**	**-0.3**
TALC	**Talca**	**1.28**	**153**	⇑*i*P	**Pg**	**15 00 34.9**	**-0.4**
TALC				*i* S	**Sb**	**15 00 52.0**	**-0.3**
CHCH	**Chadas Angostu**	**1.44**	**78**	⇑*i*P	**Pb**	**15 00 38.2**	**+0.2**
CACH	**El Canelo**	**1.45**	**85**	⇓*i*P	**Pg**	**15 00 38.9**	**+0.5**
RCDM	**Rinconada Maip**	**1.48**	**60**	*e*P	**Pn**	**15 00 38.0**	**-0.2**
RCDM				*i* S	**Sg**	**15 00 57.8**	**-0.6**
ROCH	**El Roble**	**1.69**	**41**	⇑*i*P	**Pb**	**15 00 41.9**	**-0.6**
ROCH				AML	AML	15 01 17.6	
	comp=E,2μm,0.8s						
LNCH	**Linares**	**1.71**	**159**	⇓*i*P	**Pg**	**15 00 44.2**	**+0.9**
LNCH				*i* S	**Sg**	**15 01 04.9**	**-0.5**
CLCH	**Cerro Calan**	**1.73**	**61**	⇑*i*P	**Pb**	**15 00 42.7**	**-0.3**
CLCH				*e*S	**Sb**	**15 01 05.2**	**+0.1**
CLCH				AML	AML	15 01 13.5	
	comp=N,2μm,0.7s						
CLCH				AML	AML	15 01 14.0	
	comp=N,3μm,0.7s						

PEL	**Peldehue**	**1.77**	**52**	⇓*i*P	**Pb**	**15 00 43.5**	**-0.2**
PEL				*i* S	**Sn**	**15 01 05.8**	**+0.7**
PEL				AML	AML	15 01 19.2	
	comp=N,2μm,0.8s						
FCH	**Farellones**	**1.94**	**62**	AML	AML	15 00 51.7	
	comp=N,1μm,0.3s						
LCO	**Las Campanas**	**5.41**	**15**	*e*Pn	**Pn**	**15 01 32.0**	**-0.4**
	comp=N,28nm,0.6s						
PLCA	**Paso Flores**	**6.63**	**168**	Pn	**Pn**	**15 01 49.5**	**+0.5**
	comp=N,0.3nm,0.3s,baz=330,slow=7.2,SNR=7.9						
PLCA				Lg	Lg	15 03 35.0	
	comp=N,0.4nm,0.3s,baz=78,slow=23,SNR=3.4						
PLCA	**Paso Flores**	**6.63**	**168**	*e*Pn	**Pn**	**15 01 49.2**	**+0.3**
	comp=N,5.1nm,0.6s						
PLCA				Lg	Lg	15 03 35.0	
TRQA	**Tornquist**	**9.20**	**117**	P	Pn	15 02 28.1	+3.8
SAML	**Samuel**	**26.55**	**21**	*e*P	**P**	**15 05 51.8**	**+2.0**
	comp=N,3.8nm,1.0s						
TORD	**Torodi Ar. Bea**	**84.53**	**70**	P	**P**	**15 12 44.7**	**-0.7**
	comp=N,1.1nm,0.9s,baz=248,slow=4.0,SNR=5.0						
WRA	**Warramunga Arr**	**120.42**	**209**	PKP	**PKPdf**	**15 19 03.9**	**-0.1**
	comp=N,0.6nm,0.9s,baz=166,slow=1.6,SNR=3.5						
ZALV	**Zalesovo Beam**	**154.57**	**32**	PKPbc	**PKPbc**	**15 20 11.5**	**-0.7**
	comp=N,0.9nm,0.6s,baz=314,slow=4.4,SNR=5.7						

*JMA **03** 15:01:33.6±0.3, 43°.62N×147°.88E, h29km*
*SKHL **03** 15:01:34.9±0.5, 43°.99N×147°.98E, h55km, mb3.8/2*

ISC 03 15:01:32.8±3.2, 43°.9N±0°.2×148°.0E±0°.2, h70km, n7, σ1°.1/14/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.84**	**266**	*e*P	**Pn**	**15 01 50.0**	**+0.7**
SHO				AMB	AMB	15 01 51.9	
	160nm,1.0s						
SHO				*e*S	**Sn**	**15 02 01.0**	**-0.6**
SHO				A	A	15 02 02.3	
	1μm,0.3s						
KUR	**Kuril'sk**	**1.30**	**356**	*e*P	**Pn**	**15 01 55.4**	**+0.3**
KUR				AMB	AMB	15 01 58.7	
	20nm,0.2s						
KUR				*e*S	**Sn**	**15 02 11.2**	**-0.7**
KUR				A	A	15 02 17.1	
	80nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.54**	**275**	*e*P	**Pn**	**15 01 59.0**	**+0.7**
YUK				*e*S	**Sn**	**15 02 17.0**	**-0.5**
YUK				A	A	15 02 19.3	
	60nm,0.2s						
YUK				A	A	15 02 19.3	
	30nm,0.2s						
NEM2	**Nemuro 2**	**1.73**	**252**	P	**Pn**	**15 02 00.5**	**-0.3**
NEM2				*e*S	**Sn**	**15 02 20.1**	**-1.9**
JAK	**Akkeshi**	**2.58**	**250**	P	**Pn**	**15 02 12.4**	**+0.2**
JAR	**Ashorobuto**	**3.13**	**260**	P	**Pn**	**15 02 21.7**	**+1.9**
JNBK	**Urakawa-nobuka**	**4.18**	**249**	P	**Pn**	**15 02 34.9**	**+0.9**

*IDC **03** 15:11:40.9±1.1, 53°.03N×164°.19W, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.6/40, mbtmp3.6/9, ML3.6/1, Error ellipse: s-maj=29.1km s-min=21.1km az=168.0*
*NEIC **03** 15:11:40.3±1.4, 52°.46N×163°.51W, h10km, ML3.6(AEIC), Error ellipse: s-maj=17.3km s-min=4.9km az=161.0*
*ISCJB **03** 15:11:42.6±1.0, 52°.52N±0°.06×163°.56W±0°.07, h44km±9km, mb3.7/8, Error ellipse: s-maj=10.0km s-min=7.3km az=176.3*

ISC 03 15:11:43.8±1.2, 52°.5N±0°.2×163°.59W±0°.09, h37km±3km, n31, σ0°.93/38, mb3.7/8, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WESE	**West Dahl East**	**2.04**	**343**	P	**Pn**	**15 12 15.6**	**-0.1**
AKA	**Akutan**	**2.08**	**322**	P	**Pn**	**15 12 16.5**	**+0.5**
AKA				S	**Sn**	**15 12 41.4**	**+0.8**
AKUT	**Akutan**	**2.08**	**322**	P	**Pn**	**15 12 16.1**	**+0.1**
AKUT				S	**Sn**	**15 12 40.5**	**-0.1**
WESP	**Westdahl Peak**	**2.09**	**342**	P	**Pn**	**15 12 16.4**	**+0.1**
WESP				S	**Sn**	**15 12 41.6**	**+0.7**
ZRO	**Akutan Zero**	**2.13**	**319**	P	**Pn**	**15 12 16.8**	**0.0**
ZRO				S	**Sn**	**15 12 41.9**	**0.0**
WEBT	**Westdahl Beart**	**2.19**	**342**	P	**Pn**	**15 12 18.4**	**+0.9**
AKRB	**Akutan Reef Bi**	**2.19**	**318**	P	**Pn**	**15 12 17.7**	**+0.1**
AKRB				S	**Sn**	**15 12 44.4**	**+1.0**
UNV	**Unalaska Valle**	**2.20**	**308**	P	**Pn**	**15 12 17.5**	**-0.2**
UNV				S	**Sn**	**15 12 42.4**	**-1.1**
AKGG	**Akutan Green G**	**2.21**	**320**	P	**Pn**	**15 12 18.1**	**+0.3**
SSLW	**Shishaldin Wes**	**2.28**	**352**	P	**Pn**	**15 12 18.5**	**-0.3**
SSLW				S	**Sn**	**15 12 46.5**	**+0.9**
MREP	**Makushin Rep't**	**2.30**	**305**	P	**Pn**	**15 12 19.7**	**+0.

GUC 03 15:29:37.8±0.3, 36°.81S×72°.97W, h24km±3km, ML3.9, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.12**	**255**	⇓*i*	*i*	P	15 29 42.6	+0.1
CCSP					*i*	S	15 29 46.4	+0.8
CCSP						AML	15 29 47.5	
	comp=E,35μm,0.5s							
LNCH	**Linares**	**1.46**	**49**		*i*	P	15 30 04.1	-0.3
LNCH					*i*	S	15 30 24.2	+1.6
TALC	**Talca**	**1.78**	**38**	⇑*i*	*i*	P	15 30 08.8	-0.9
TALC					*i*	S	15 30 32.5	+0.9
NICH	**Los Niches**	**2.29**	**38**		*i*	S	15 30 46.3	-0.1

GUC 03 15:43:35.6±0.4, 34°.29S×72°.05W, h35km±3km, ML3.6, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
LNV	**Longovilo**	**0.63**	**58**	⇑*i*	*i*	P	15 43 47.8	-0.1
LNV					*i*	S	15 43 57.1	+0.2
NICH	**Los Niches**	**0.98**	**137**		*i*	P	15 43 53.4	+0.5
NICH					*i*	S	15 44 06.7	-0.1
TALC	**Talca**	**1.15**	**163**	⇑*i*	*i*	P	15 43 55.8	+0.5
TALC					*i*	S	15 44 11.5	-0.3
CACH	**El Canelo**	**1.21**	**82**		*eP*	P	15 43 57.6	-0.7
CACH					*i*	S	15 44 14.3	+0.5
CHCH	**Chadas Angostu**	**1.21**	**73**		*eP*	P	15 43 57.0	+0.8
CHCH					*i*	S	15 44 13.1	-0.5
RCDM	**Rinconada Maip**	**1.31**	**52**		*i*	P	15 43 56.4	-1.1
RCDM					*i*	S	15 44 13.7	0.0
CLCH	**Cerro Calan**	**1.54**	**55**		*eP*	P	15 44 02.2	+1.5
CLCH					*eS*	S	15 44 22.2	-0.8
CLCH						AML	15 44 34.0	
	comp=N,1μm,0.6s							
CLCH						AML	15 44 35.0	
	comp=N,1μm,0.5s							
ROCH	**El Roble**	**1.58**	**34**		*eP*	P	15 44 03.2	-1.3
ROCH					*eS*	S	15 44 24.2	-0.1
PEL	**Peldehue**	**1.61**	**45**		*eP*	P	15 44 03.3	+1.6
PEL					*eS*	S	15 44 24.2	-0.8
PEL						AML	15 44 33.4	
	comp=N,1μm,0.6s							
FCH	**Farellones**	**1.75**	**57**		AML	AML	15 44 32.8	
	comp=E,973nm,0.3s							

*ISCJB **03** 16:11:49.1±0.4, 68°.71N±0°.03×145°.9W±0°.1, h10km, mb3.8/3, MS2.9/1, Error ellipse: s-maj=5.6km s-min=4.1km az=15.9*
*IDC **03** 16:11:49.9±1.1, 68°.74N×146°.08W, h0km, mb3.7/3, mb1 3.8/7, mb1mx3.4/31, mbtmp3.6/7, ML3.3/4, MS3.0/1, Ms1 3.0/1, ms1mx2.4/27, Error ellipse: s-maj=16.4km s-min=15.6km az=116.0*
*NEIC **03** 16:11:51.2, 68°.71N×146°.34W, h12km, ML3.3(AEIC), After AEIC.*

ISC 03 16:11:50.4±0.8, 68°.74N±0°.04×145°.95W±0°.05, h10km, n29, σ0s.84/38, mb3.8/3, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
PS01	**TAPS Pump Stn**	**1.79**	**330**		P	**Pb**	**16 12 22.3**	**-0.9**
PS01					S	**Sn**	**16 12 43.7**	**-0.4**
FYU	**Fort Yukon**	**2.20**	**172**		P	**Pn**	**16 12 26.4**	**-0.4**
FYU					S	**Sn**	**16 12 53.7**	**-0.3**
COLD	**Coldfoot**	**2.21**	**229**		P	**Pn**	**16 12 27.0**	**0.0**
COLD					S	**Sn**	**16 12 53.1**	**-1.2**
PS05	**TAPS Pump Stn5**	**2.63**	**225**		P	**Pn**	**16 12 33.4**	**+0.5**
PS05					S	**Sn**	**16 13 06.0**	**+1.2**
PS06	**TAPS Pump Stn6**	**3.25**	**209**		P	**Pn**	**16 12 41.3**	**0.0**
PS06					S	**Sn**	**16 13 20.2**	**+0.4**
MDM	**Murphy Dome**	**3.90**	**194**		P	**Pn**	**16 12 50.2**	**0.0**
MDM					S	**Sn**	**16 13 35.4**	**-0.6**
COLA	**College**	**3.95**	**192**		P	**Pn**	**16 12 51.2**	**+0.2**
COLA					S	**Sn**	**16 13 37.3**	**0.0**
ILAR	**Eielson Array**	**4.00**	**186**		Pn	**Pn**	**16 12 51.5**	**-0.1**
	2.0nm,0.3s,baz=1.5,slow=13,SNR=70							
ILAR					Sn	**Sn**	**16 13 38.2**	**-0.3**
	1.9nm,0.3s,baz=6.7,slow=21,SNR=8.1							
ILAR					Lg	Lg	16 13 55.5	
	2.8nm,0.3s,baz=1.2,slow=16,SNR=6.1							
ILB	**Eielson Array**	**4.00**	**186**		P	**Pn**	**16 12 51.6**	**0.0**
MLY	**Manley**	**4.17**	**209**		P	**Pn**	**16 12 53.2**	**-0.8**
CCB	**Clear Creek Bu**	**4.17**	**191**		P	**Pn**	**16 12 53.8**	**-0.2**
PS08	**TAPS Pump Stn8**	**4.23**	**185**		P	**Pn**	**16 12 54.7**	**0.0**
WRH	**Wood River Hil**	**4.37**	**192**		P	**Pn**	**16 12 56.5**	**-0.1**
INK	**Inuvik**	**4.59**	**90**		Pn	**Pn**	**16 13 00.2**	**+0.6**
	0.7nm,0.3s,baz=290,slow=14,SNR=14							
INK					Sn	**Sn**	**16 13 54.0**	**+1.0**
	0.6nm,0.3s,baz=202,slow=12,SNR=3.4							
INK					Lg	Lg	16 14 15.9	
	1.4nm,0.3s,baz=145,slow=31,SNR=7.7							
BWN	**Browne**	**4.80**	**199**		P	**Pn**	**16 13 02.1**	**-0.5**
SCRK	**Sand Creek**	**4.85**	**170**		P	**Pn**	**16 13 03.9**	**+0.5**
SCRK					S	**Sn**	**16 14 00.8**	**+1.3**
DDM	**Donnelly Dome**	**4.97**	**180**		P	**Pn**	**16 13 05.2**	**+0.2**
RND	**Reindeer**	**5.48**	**194**		P	**Pn**	**16 13 12.2**	**+0.2**
CHUM	**Lake Minchumin**	**5.51**	**211**		P	**Pn**	**16 13 12.9**	**+0.7**
TRF	**Thorofare Moun**	**5.59**	**200**		P	**Pn**	**16 13 13.6**	**0.0**
DHY	**Denali Highway**	**5.71**	**186**		P	**Pn**	**16 13 15.8**	**+0.4**
CAST	**Castle Rocks**	**5.89**	**208**		P	**Pn**	**16 13 18.7**	**+1.1**
HARP	**HAARP**	**6.37**	**177**		P	**Pn**	**16 13 25.5**	**+1.4**
YKA	**Yellowknife Ar**	**14.24**	**101**		Pn	**Pn**	**16 15 09.3**	**-2.4**
	0.2nm,0.3s,baz=307,slow=13,SNR=8.0							
YKA					Sn	Sn	16 17 40.1	-9.3
	0.1nm,0.3s,baz=306,slow=22,SNR=2.9							
RES	**Resolute Bay**	**16.55**	**47**		Pn	**Pn**	**16 15 41.2**	**-0.9**
	0.1nm,0.3s,baz=276,slow=10,SNR=2.9							
RES					Sn	Sn	16 18 35.5	-10
	0.1nm,0.3s,baz=170,slow=19,SNR=3.3							
SEY	**Seymchan**	**24.88**	**287**		P	**P**	**16 17 12.7**	**-0.1**
	1.1nm,0.5s,baz=65,slow=7.0,SNR=8.7							
FRB	**Frobisher Bay**	**29.62**	**61**		LR	LR	16 30 51.1	
	comp=Z,25nm,18.5s,baz=341,slow=38							
FINES	**FINESS Array B**	**49.98**	**5**		P	**P**	**16 20 45.3**	**+1.4**
	1.2nm,0.8s,baz=347,slow=11,SNR=2.7							
AKASG	**Malin Array Be**	**60.83**	**4**		P	**P**	**16 22 03.9**	**+1.8**
	0.3nm,0.5s,baz=356,slow=6.7,SNR=3.4							

*BJI **03** 16:24:30.8, 33°.16N×87°.28E, h7km, mb4.0/8, Ms3.6/3, Ms7 3.2/3*
*IDC **03** 16:24:37.5±0.9, 33°.82N×87°.67E, h0km, mb3.5/8, mb1 3.8/12, mb1mx3.6/30, mbtmp3.6/12, ML3.0/3, MS3.1/3, Ms1 3.1/3, ms1mx2.7/26, Error ellipse: s-maj=35.1km s-min=16.4km az=55.0*
*ISCJB **03** 16:24:40.2±0.4, 33°.87N±0°.04×87°.70E±0°.07, h33km, mb3.6/7, MS3.0/2, Error ellipse: s-maj=8.3km s-min=5.6km az=2.4*

ISC 03 16:24:42.1±0.7, 33°.91N±0°.08×87°.8E±0°.1, h35km, n26, σ0s92/23, mb3.6/7, Xizang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
GUN	**Gumba**	**6.21**	**196**		*eP*	**Pn**	**16 26 12.2**	**+0.6**
	58nm,1.0s							
JIRN	**Jiri**	**6.38**	**193**		*eP*	**Pn**	**16 26 14.3**	**+0.2**
	32nm,0.9s							
KKN	**Kakani**	**6.48**	**200**		*eP*	**Pn**	**16 26 14.4**	**-0.8**
	15nm,0.5s							
GKN	**Gorkha**	**6.49**	**206**		*eP*	**Pn**	**16 26 14.2**	**-1.1**
	16nm,0.6s							
TAPN	**Taplejung**	**6.54**	**181**		*eP*	**Pn**	**16 26 16.0**	**-0.1**
	24nm,0.6s							
PKIN	**Phulchoki**	**6.65**	**199**		*eP*	**Pn**	**16 26 16.9**	**-0.7**
	11nm,0.6s							
PKI	**Pulchoki**	**6.65**	**199**		*eP*	**Pn**	**16 26 17.6**	**-0.1**
	18nm,0.7s							
DMN	**Daman**	**6.70**	**201**		*eP*	**Pn**	**16 26 17.5**	**-0.8**
	24nm,0.5s							
RAMN	**Ramite**	**7.01**	**189**		*eP*	**Pn**	**16 26 22.2**	**-0.4**
	30nm,0.8s							
ODAN	**Odare**	**7.04**	**183**		*eP*	**Pn**	**16 26 22.8**	**-0.1**
	19nm,0.4s							
KOLN	**Koldanda**	**7.11**	**212**		*eP*	Pn	16 26 20.2	-3.7
	11nm,0.6s							
WMQ	**Urumqi**	**9.90**	**359**		*eP*	Pn	16 27 06.6	+4.7
MKAR	**Makanchi Array**	**13.54**	**344**		Pn	**Pn**	**16 27 50.3**	**-1.3**
	0.1nm,0.3s,baz=167,slow=11,SNR=8.4							
CD2	**Chengdu**	**13.80**	**98**		*eP*	**Pn**	**16 27 54.7**	**-0.6**
CD2					S	Sn	16 30 32.4	+5.1
CD2					PMZ			
	10.0nm,0.7s							
CD2					LE			
	170nm,12.0s							
CD2					LZ			
	220nm,12.0s							
KURBB	**Kurchatov Arra**	**18.04**	**341**		P	**Pn**	**16 28 48.6**	**-1.2**
	0.0nm,0.3s,baz=154,slow=11,SNR=18							
CMAR	**Chiang Mai Arr**	**18.32**	**144**		P	**P**	**16 28 52.5**	**-0.9**
	baz=327,slow=11,SNR=10.0							
SONM	**Songino Array**	**19.70**	**40**		P	**Pn**	**16 29 09.9**	**-0.2**
	0.1nm,0.3s,baz=228,slow=12,SNR=8.4							
SONM					LR	LR	16 37 50.8	
	comp=Z,70nm,20.1s,baz=240,slow=40							
ZALV	**Zalesovo Beam**	**20.15**	**355**		P	**P**	**16 29 13.1**	**0.0**
	0.5nm,0.5s,baz=171,slow=10,SNR=5.9							
ZALV					LR	LR	16 37 20.2	
	comp=Z,37nm,21.4s,baz=250,slow=38							
BVAR	**Borovoye Array**	**22.80**	**332**		P	**P**	**16 29 41.7**	**0.0**
	0.5nm,0.6s,baz=133,slow=10,SNR=4.3							
AKASG	**Malin Array Be**	**45.24**	**310**		P	**P**	**16 32 57.2**	**+1.4**
	0.3nm,0.3s,baz=79,slow=7.5,SNR=5.0							
FINES	**FINESS Array B**	**47.45**	**325**		P	**P**	**16 33 14.0**	**+1.0**
	1.9nm,1.0s,baz=96,slow=13,SNR=2.9							
PETK	**Petropavlovsk-**	**52.01**	**46**		LR	LR	16 58 49.8	
	comp=Z,21nm,18.4s,baz=241,slow=39							
GERES	**GERESS Array B**	**55.44**	**310**		P	**P**	**16 34 14.0**	**+0.9**
	0.6nm,0.6s,baz=74,slow=7.2,SNR=5.3							
WRA	**Warramunga Arr**	**69.51**	**133**		P	**P**	**16 35 49.1**	**+1.7**
	0.4nm,0.5s,baz=326,slow=6.8,SNR=8.6							
ASAR	**Alice Springs**	**72.11**	**136**		P	**P**	**16 36 03.8**	**+0.7**
	0.5nm,0.7s,baz=317,slow=5.6,SNR=6.3							
TORD	**Torodi Ar. Bea**	**79.61**	**279**		P	**P**	**16 36 44.8**	**-1.4**
	0.5nm,1.1s,baz=50,slow=4.4,SNR=2.5							

MAN 03 16:55:52.9, 24N×126°.01E, h25km, mb4.3, ML3.1, MS2.9, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
BUTP	**Butuan**	**0.47**	**235**		*eP*	Pn	16 56 03.3	+0.2
BUTP					*eS*	Sb	16 56 08.5	+0.2
BIPH	**Bislig**	**1.11**	**162**	⇓*eP*		Pn	16 56 11.3	-0.6
BIPH					*eS*	Sn	16 56 20.6	-5.9
BUKP	**Musuan**	**1.65**	**215**		*eP*	Pb	16 56 21.0	-0.8
BUKP					*eS*	Sb	16 56 41.1	-1.1
MATI	**Mati**	**2.30**	**174**		*eP*	Pn	16 56 29.2	+0.9

GUC 03 17:02:16.4±0.6, 35°.78S×72°.95W, h15km±11km, ML4.3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
COCH	**Cobquecura**	**0.38**	**159**		*eP*	Pb	17 02 24.7	-0.1
COCH					*eS*	Sb	17 02 30.6	+0.1
LNCH	**Linares**	**1.10**	**94**		*eP*	Pb	17 02 37.1	-0.1
LNCH					*eS*	Sn	17 02 52.6	+0.4
TALC	**Talca**	**1.14**	**71**		*eP*	Pb	17 02 37.4	-0.4
TALC					*eS*	Sg	17 02 54.1	+0.7
NICH	**Los Niches**	**1.61**	**62**		*eP*	Pb	17 02 45.2	-0.6
NICH					*eS*	Sb	17 03 06.8	+0.8
CLCH	**Cerro Calan**	**3.10**	**41**		*eP*	Pb	17 03 09.6	-1.8
CLCH					*eS*	Sb	17 03 50.3	+1.1
CLCH					AML	AML	17 04 06.1	
	comp=E,887nm,0.7s							
ROCH	**El Roble**	**3.23**	**30**		*eP*	Pn	17 03 05.7	-1.1
ROCH					AML	AML	17 04 02.8	
	comp=N,580nm,0.5s							

*LJU **03** 17:08:16.1, 46°.39N×15°.07E, h0km Rockburst*
CSEM 03 17:08:16.1±99.0, 46°.39N×15°.07E, h0km, Suspected Mining induced., Northwestern Balkan Peninsula

KRSC 03 17:10:55.4±1.6, 53°.55N×168°.44E, h5km±10km, ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
BKI	**Bering**	**2.20**	**320**		*eP*	Pb	17 11 35.1	-0.5
BKI					*eS*	Sb	17 12 02.4	-0.7
MKZ	**Mys Kozlova**	**4.08**	**287**		*eP*	Pn	17 12 02.5	+4.2
MKZ					*eS*	Sn	17 12 50.3	+3.9
KBTR	**Krutoberegovo**	**4.20**	**312**		*eP*	Pn	17 12 02.2	+2.2
SDLR	**Sedlovina**	**5.72**	**271**		*eP*	Pn	17 12 25.6	+4.5
UGLR	**Uglovaya**	**5.76**	**270**		*eP*	Pn	17 12 26.3	+4.6
SMAR	**Somma**	**5.77**	**271**		*eP*	Pn	17 12 25.8	+3.9
KRER	**Koryakskii**	**5.80**	**271**		*eP*	Pn	17 12 26.7	+4.4
KRER					*eS*	Sn	17 13 34.2	+4.9
AVH	**Avacha**	**5.81**	**271**		*eP*	Pn	17 12 26.1	+3.8
KRX	**Arik**	**5.85**	**272**		*eP*	Pn	17 12 27.3	+4.4
KOK	**Koryaka**	**5.87**	**271**		*eP*	Pn	17 12 27.2	+4.1
PET	**Petropavlovsk**	**5.89**	**269**		*eP*	Pn	17 12 28.1	+4.8
PET					*eS*	Sn	17 13 36.7	+5.6
RUS	**Russkaya**	**6.10**	**263**		*eP*	Pn	17 12 30.0	+3.9
GNL	**Ganaly**	**6.25**	**276**		*eP*	Pn	17 12 33.8	+5.5
MTVR	**Mutnovka**	**6.28**	**264**		*eP*	Pn	17 12 32.9	+4.1
MTVR					*eS*	Sn	17 13 44.5	+3.5
ASAK	**Asacha**	**6.47**	**264**		*eP*	Pn	17 12 35.7	+4.3

*IDC **03** 17:15:06.0±0.7, 30°.29N×78°.34E, h0km, mb3.8/20, mb1 4.0/21, mb1mx3.9/32, mbtmp3.8/21, ML3.5/1, Error ellipse: s-maj=21.3km s-min=13.6km az=43.0*
*ISCJB **03** 17:15:08.4±0.6, 30°.39N±0°.02×78°.36E±0°.03, h25km±5km, mb3.9/27, Error ellipse: s-maj=4.1km s-min=3.4km az=154.0*
*NEIC **03** 17:15:08.0±3.2, 30°.27N×78°.31E, h14km±20km, mb4.0/4, Error ellipse: s-maj=10.3km s-min=7.1km az=50.0*
NEIC Felt strongly in Tehri-Garhwal. Also felt at Dehra Dun.
*NDI **03** 17:15:09.4±2.8, 30°.31N×78°.31E, h16km±7km, ML4.1, mb4.0(NEIC)*
*NNC **03** 17:15:14.5±5.2, 30°.57N×78°.18E, h33km±42km, mb4.0, Error ellipse: s-maj=35.2km s-min=24.8km az=71.0*

ISC 03 17:15:09.7±0.8, 30°.32N±0°.03×78°.22E±0°.03, h25km±6km, n96, σ1s65/115, mb3.9/27, 11C-6D, Northern India

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
DDI	**Dehra Dun**	**0.15**	**271**		*eP*	**Pb**	**17 15 14.6**	**-0.3**
DDI					*eS*	**Sb**	**17 15 18.6**	**+0.4**
DDI					AML	AML	17 15 19.4	
	comp=N,22μm,0.4s							
DDI					AML	AML	17 15 20.1	
	comp=E,27μm,0.4s							
JOSI	**Joshimath**	**1.18**	**78**		*eS*	Pn	17 15 26.4	-4.4
JOSI					AML	AML	17 15 42.3	
	comp=E,3μm,0.8s							
JOSI					AML	AML	17 15 43.4	
	comp=N,2μm,0.2s							
SMLA	**Simla**	**1.22**	**312**		*i* P	**Pb**	**17 15 31.7**	**-0.3**
SMLA					*i* S	**Sb**	**17 15 49.7**	**+2.4**
SMLA					AML	AML	17 15 54.1	
	comp=E,78μm,0.3s							
SMLA					AML	AML	17 15 54.2	
	comp=N,77μm,0.3s							
KKR	**Kurukshetra**	**1.27**	**254**		*i* P	**Pb**	**17 15 33.0**	**+0.1**
SDNR	**Sundarnagar**	**1.60**	**318**		*eP*	**Pb**	**17 15 39.0**	**+0.5**
SDNR					*ex*	**Sb**	**17 16 03.0**	**+4.7**
NDI	**New Delhi**	**1.85**	**209**		*eP*	**Pb**	**17 15 43.0**	**+0.1**
NDI					*eS*	**Sb**	**17 16 07.0**	**+1.4**
BISR	**Bishrakh**	**1.87**	**202**		*ex*	**Pn**	**17 15 39.5**	**-0.6**
BISR					*eS*	**Sn**	**17 16 04.3**	**+1.3**
BISR					*eS*	**Sb**	**17 16 06.3**	**+0.2**
PTH	**Pithoragarh**	**1.89**	**113**		*eP*	**Pn**	**17 15 39.4**	**-1.2**
PTH					*eS*	**Sn**	**17 16 02.8**	**-1.0**
LGTI	**Lohaghat**	**1.96**	**116**		*eP*	**Pb**	**17 15 46.4**	**+1.7**
LGTI					*eS*	**Sb**	**17 16 11.1**	**+2.5**
BHGR	**Bahadurgarh**	**1.98**	**215**		*i* P	**Pb**	**17 15 43.8**	**-1.2**
BHGR					*eS*	**Sb**	**17 16 09.1**	**-0.1**
AYAN	**Aya Nagar**	**2.07**	**208**		*i* P	**Pn**	**17 15 44.4**	**+1.6**
AYAN					*eS*	**Sn**	**17 16 07.8**	**0.0**
AYAN					AML	AML	17 16 16.1	
	comp=Z,494nm,0.6s							
SONA	**Sohna**	**2.29**	**206**		*eP*	**Pn**	**17 15 48.2**	**+2.3**
SONA					*eS*	**Sn**	**17 16 14.8**	**+1.5**
SONA					AML	AML	17 16 23.2	
	comp=N,655nm,0.3s							
SONA					AML	AML	17 16 24.4	
	comp=E,1μm,0.3s							
DHRM	**DHARAMSHALA**	**2.53**	**320**		*eP*	**Pb**	**17 15 52.7**	**-1.9**
DHRM					*ex*	**Sb**	**17 16 25.1**	**-0.4**
DHRM					AML	AML	17 16 34.8	
	comp=N,1μm,0.5s							
DHRM					AML	AML	17 16 35.0	
	comp=E,2μm,0.4s							
KUDL	**Kundal**	**2.65**	**215**		*eP*	**Pn**	**17 15 53.3**	**+2.5**
KUDL					*ex*	**Sn**	**17 16 20.3**	**-1.8**
KUDL					AML	AML	17 16 35.7	
	comp=N,373nm,0.5s							
KUDL					AML	AML	17 16 36.5	
	comp=E,514nm,0.5s							
AGRA	**Agra**	**3.09**	**185**		*eP*	**Pn**	**17 15 58.1**	**+1.3**
AGRA					*eS*	**Sn**	**17 16 32.7**	**-0.3**
AGRA					AML	AML	17 16 52.5	
	comp=E,826nm,0.2s							
AGRA					AML	AML	17 16 52.8	
	comp=N,459nm,0.2s							
SARP	**Sargodha**	**5.02**	**290**		P	**Pn**	**17 16 26.3**	**+2.8**
KOLN	**Koldanda**	**5.35**	**117**		*eP*	**Pn**	**17 16 28.8**	**+0.6**
	comp=N,61nm,0.5s							
CHCP	**Chirah Chowk**	**5.37**	**310**		P	**Pn**	**17 16 31.1**	**+2.8**
THW	**Thamme Wali**	**6.06**	**296**		P	**Pn**	**17 16 40.3**	**+2.6**
GKN	**Gorkha**	**6.06**	**111**		*eP*	**Pn**	**17 16 38.5**	**+0.5**
CEP	**Cherat**	**6.40**	**305**		P	**Pn**	**17 16 44.1**	**+1.6**
CEP					S	**Sn**	**17 17 56.0**	**+1.2**
DMN	**Daman**	**6.61**	**112**		*eP*	**Pn**	**17 16 45.3**	**-0.2**
KKN	**Kakani**	**6.67**	**110**		*eP*	**Pn**	**17 16 46.6**	**+0.3**
	comp=N,147nm,0.5s							
PKIN	**Phulchoki**	**6.85**	**112**		*eP*	**Pn**	**17 16 48.8**	**-0.1**
	comp=N,96nm,0.4s							
PKI	**Pulchoki**	**6.87**	**112**		*eP*	**Pn**	**17 16 48.7**	**-0.4**
	comp=N,60nm,0.2s							
GUN	**Gumba**	**7.11**	**108**		*eP*	**Pn**	**17 16 51.8**	**-0.8**
	comp=N,131nm,0.4s							
JIRN	**Jiri**	**7.46**	**109**		*eP*	**Pn**	**17 16 57.0**	**-0.4**
	comp=N,120nm,0.3s							
RAMN	**Ramite**	**8.09**	**112**		*eP*	**Pn**	**17 17 04.7**	**-1.2**
	comp=N,124nm,0.4s							
ODAN	**Odare**	**8.76**	**111**		*eP*	**Pn**	**17 17 14.2**	**-0.9**
	comp=N,18nm,0.2s							
KBL	**Kabul**	**8.83**	**301**		Pn	**Pn**	**17 17 18.2**	**+2.3**
	comp=N,27nm,0.6s							
KBL					*eS*	**Sn**	**17 18 52.1**	**-2.6**
TAPN	**Taplejung**	**8.83**	**107**		*eP*	**Pn**	**17 17 14.9**	**-1.2**
	comp=N,80nm,0.5s							
SFK	**Sufi-Kurgan**	**10.41**	**340**	⇓Pn		**Pn**	**17 17 39.8**	**+2.2**
	comp=N,6.2nm,0.6s							
SFK				⇓Sn		**Sn**	**17 19 33.1**	**-0.5**
	comp=N,22nm,0.3s							
LSA	**Lhasa**	**11.22**	**90**		*eP*	**Pn**	**17 17 49.0**	**0.0**
	comp=N,3.9nm,0.4s							
DZET	**Dzherino**	**11.47**	**320**	⇑Pn		**Pn**	**17 17 51.3**	**-0.7**
	comp=N,81.9nm,0.5s							
DZET				⇑Sn		**Sn**	**17 19 55.8**	**-3.5**
	comp=N,44nm,0.7s							
AAK	**Ala-Archa**	**12.65**	**347**	⇓Pn		Pn	17 18 11.4	+3.2
	comp=N,2.5nm,0.6s							
AAK				⇑Sn		**Sn**	**17 20 29.0**	**+0.8**
	comp=N,4.7nm,0.8s							
AAK	**Ala-Archa**	**12.65**	**347**		Pn	**Pn**	**17 18 10.5**	**+2.3**
	comp=N,0.5nm,0.3s,baz=164,slow=8.5,SNR=7.0							
AAK					Sn	**Sn**	**17 20 24.6**	**-3.7**
	comp=N,0.2nm,0.3s,baz=356,slow=14,SNR=3.4							
AAK	**Ala-Archa**	**12.65**	**347**		*eP*	**Pn**	**17 18 10.0**	**+1.9**
	comp=N,2.8nm,0.6s							
AAK					Sn	**Sn**	**17 20 24.6**	**-3.7**
TKM2	**Tokmak 2**	**12.75**	**351**	⇑Pn		**Pn**	**17 18 12.0**	**+2.4**
	comp=N,3.4nm,0.6s							
TKM2				⇑Sn		**Sn**	**17 20 30.1**	**-0.8**
	comp=N,3.2nm,0.9s							
TKM2	**Tokmak 2**	**12.75**	**351**		*eP*	**Pn**	**17 18 12.0**	**+2.4**
	comp=N,5.7nm,0.8s							
EKS2	**Erkin-Say**	**12.82**	**345**		*eP*	**Pn**	**17 18 12.2**	**+1.7**
	comp=N,2.2nm,0.6s							
HYBB	**Hyderabad (bro**	**12.85**	**179**		*eP*	**Pn**	**17 18 08.8**	**-2.0**
HYBB					*eS*	Sn	17 20 24.6	-8.5
HYB	**Hyderabad**	**12.85**	**179**		*i* P	**Pn**	**17 18 08.0**	**-2.9**
HYB					*eS*	Sn	17 20 40.0	+6.8
HYB	**Hyderabad**	**12.85**	**179**		*eP*	**Pn**	**17 18 08.0**	**-2.9**
HYB					*eS*	Sn	17 20 25.5	-7.7
CHLP	**Challavanipeta**	**12.90**	**154**		*eS*	Sn	17 20 25.9	-8.5
PDGK	**Podgornoye**	**13.02**	**4**	⇓Pn		**Pn**	**17 18 12.5**	**-0.5**
	comp=N,5.3nm,0.7s							
PDGK				⇓Sn		**Sn**	**17 20 33.9**	**-3.2**
	comp=N,5.3nm,0.7s							
NJS	**Nagarjunasagar**	**13.74**	**176**		*eP*	**Pn**	**17 18 21.5**	**-1.5**
NJS					*eS*	Sn	17 20 45.0	-10
KK31	**Karatay Array**	**14.17**	**336**		Pn	**Pn**	**17 18 27.0**	**-1.8**
	comp=N,2.4nm,0.4s,baz=140,slow=12,SNR=74							
KK31				⇑Sn		**Sn**	**17 21 02.2**	**-3.0**
	comp=N,9.8nm,0.8s,baz=152,slow=24,SNR=14							
KKAR	**Karatay Array**	**14.17**	**336**		*eP*	**Pn**	**17 18 26.5**	**-2.3**
	comp=N,7.1nm,0.6s							
URV	**Uravakonda**	**15.33**	**184**		*eS*	Sn	17 21 22.7	-11
SKHT	**Srik

comp=N,14nm,1.0s
TOA0 Torodi Ar. Sit 71.96 275 *e*P **P 17 26 32.2 +0.7**
TORD Torodi Ar. Bea 71.96 275 P **P 17 26 32.1 +0.6**
comp=N,2.4nm,0.7s,baz=53,slow=4.8,SNR=18
WRA Warramunga Arr 73.55 125 P **P 17 26 40.2 -0.6**
comp=N,0.7nm,0.6s,baz=321,slow=6.0,SNR=14
WRAB Tennant Creek 73.55 125 P **P 17 26 40.3 -0.5**
comp=N,1.4nm,0.6s
ASAR Alice Springs 75.73 129 P **P 17 26 53.0 -0.4**
comp=N,0.3nm,0.4s,baz=314,slow=6.0,SNR=15
ILAR Eielson Array 78.91 18 P **P 17 27 10.4 -0.3**
comp=N,0.5nm,0.6s,baz=305,slow=6.3,SNR=6.6
DBIC Dimbokro 80.71 272 P **P 17 27 22.7 +1.5**
comp=N,1.2nm,0.6s,baz=92,slow=8.0,SNR=2.7
STKA Stephens Creek 86.23 130 P **P 17 27 48.6 -0.6**
comp=N,4.2nm,1.0s,baz=327,slow=15,SNR=3.4
YKA Yellowknife Ar 86.94 6 P **P 17 27 52.0 -0.2**
comp=N,0.7nm,0.6s,baz=338,slow=4.6,SNR=4.8

*ISCJB **03** 17:36:55.7±0.2, 63°.21N±0°.02×150°.71W±0°.05, h135km±2km, mb3.9/17, Error ellipse: s-maj=3.6km s-min=3.0km az=18.8*
*NEIC **03** 17:36:56.6, 63°.19N×150°.72W, h132km, mb4.4/2, After AEIC.*
NEIC Felt at Palmer.
*IDC **03** 17:36:56.7±2.2, 63°.33N×150°.94W, h125km±18km, mb3.6/15, mb1 3.7/19, mb1mx3.5/34, mbtmp3.9/19, Error ellipse: s-maj=21.6km s-min=11.2km az=45.0*
ISC 03 17:36:57.1±0.6, 63°.22N±0°.03×150°.75W±0°.04, h131km±5km, n120, σ0.97/138, mb3.9/17, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.31**	**41**	P		**Pn**		**17 37 15.5**	**-0.1**
TRF				S		**Sn**		**17 37 29.5**	**-0.1**
KTH	**Kantishna Hill**	**0.34**	**347**	P		**Pn**		**17 37 15.5**	**-0.1**
KTH				S		**Sn**		**17 37 29.0**	**-0.7**
HUR	**Hurricane**	**0.56**	**115**	P		**Pn**		**17 37 16.3**	**-0.4**
CAST	**Castle Rocks**	**0.64**	**289**	P		**Pn**		**17 37 16.7**	**-0.4**
CAST				S		**Sn**		**17 37 31.3**	**-1.0**
PPLA	**Purkeypile**	**0.73**	**244**	P		**Pn**		**17 37 17.8**	**-0.2**
PPLA				S		**Sn**		**17 37 33.7**	**-0.1**
RND	**Reindeer**	**0.88**	**77**	P		**Pn**		**17 37 18.6**	**-0.4**
RND				S		**Sn**		**17 37 36.1**	**+0.4**
TRAP	**Trapper Creek**	**0.92**	**165**	P		**Pn**		**17 37 18.9**	**-0.3**
TRAP				S		**Sn**		**17 37 36.4**	**+0.3**
MCK	**McKinley**	**0.96**	**57**	P		**Pn**		**17 37 19.6**	**-0.2**
MCK				S		**Sn**		**17 37 37.1**	**+0.2**
CHUM	**Lake Minchumin**	**0.97**	**314**	P		**Pn**		**17 37 19.7**	**0.0**
CHUM				S		**Sn**		**17 37 36.7**	**-0.2**
BWN	**Browne**	**1.11**	**30**	P		**Pn**		**17 37 21.5**	**+0.4**
SKT	**Skwentna**	**1.29**	**197**	P		**Pn**		**17 37 22.8**	**-0.3**
SKT				S		**Sn**		**17 37 42.4**	**-0.4**
DHY	**Denali Highway**	**1.54**	**94**	P		**Pn**		**17 37 25.5**	**-0.3**
DHY				S		**Sn**		**17 37 47.6**	**-0.1**
WRH	**Wood River Hil**	**1.72**	**42**	P		**Pn**		**17 37 27.3**	**-0.4**
SUA	**Susitna One**	**1.76**	**180**	P		**Pn**		**17 37 28.5**	**+0.1**
SUA				S		**Sn**		**17 37 52.2**	**0.0**
PMR	**Palmer**	**1.80**	**155**	P		**Pn**		**17 37 27.5**	**-1.1**
PMR				S		**Sn**		**17 37 51.4**	**-1.3**
STLK	**Strandline Lak**	**1.80**	**197**	P		**Pn**		**17 37 28.0**	**-0.8**
MLY	**Manley**	**1.82**	**0**	P		**Pn**		**17 37 28.6**	**-0.3**
MLY				S		**Sn**		**17 37 52.1**	**-1.2**
CCB	**Clear Creek Bu**	**1.93**	**41**	P		**Pn**		**17 37 29.8**	**-0.5**
CCB				S		**Sn**		**17 37 55.2**	**-0.5**
SPCG	**Spurr Capps Gl**	**2.02**	**198**	P		**Pn**		**17 37 31.2**	**-0.3**
HDA	**Harding Lake**	**2.06**	**53**	P		**Pn**		**17 37 31.6**	**-0.2**
CRP	**Crater Peak**	**2.07**	**199**	P		**Pn**		**17 37 32.1**	**0.0**
MDM	**Murphy Dome**	**2.07**	**31**	P		**Pn**		**17 37 31.5**	**-0.4**
FIB	**Fire Island**	**2.08**	**172**	P		**Pn**		**17 37 31.9**	**-0.1**
COLA	**College**	**2.09**	**36**	P		**Pn**		**17 37 31.8**	**-0.4**
BGL	**Barrier Glacie**	**2.11**	**202**	P		**Pn**		**17 37 32.4**	**-0.1**
SPBG	**Spurr Blockage**	**2.11**	**202**	P		**Pn**		**17 37 32.6**	**+0.1**
SCM	**Sheep Creek Mo**	**2.11**	**130**	P		**Pn**		**17 37 31.2**	**-1.3**
CKN	**Chakachatna No**	**2.11**	**199**	P		**Pn**		**17 37 32.3**	**-0.2**
CKL	**Chakachamna La**	**2.16**	**201**	P		**Pn**		**17 37 32.6**	**-0.6**
PS08	**TAPS Pump Stn8**	**2.19**	**51**	P		**Pn**		**17 37 33.1**	**-0.2**
RC01	**Rabbit Creek A**	**2.19**	**167**	P		**Pn**		**17 37 32.5**	**-0.9**
RC01				S		**Sn**		**17 37 59.9**	**-1.3**
PS10	**TAPS Pump St10**	**2.26**	**83**	P		**Pn**		**17 37 35.2**	**+1.0**
PS10				S		**Sn**		**17 38 03.3**	**+0.6**
DDM	**Donnelly Dome**	**2.26**	**73**	P		**Pn**		**17 37 34.4**	**+0.1**
ILAR	**Eielson Array**	**2.31**	**46**	P		**Pn**		**17 37 34.3**	**-0.5**
	50nm,0.3s,baz=125,slow=28,SNR=828								
ILAR				S		**Sn**		**17 38 03.0**	**-0.8**
	16nm,0.3s,baz=234,slow=12,SNR=6.0								
ILB	**Eielson Array**	**2.31**	**46**	P		**Pn**		**17 37 34.2**	**-0.7**
PAX	**Paxson**	**2.41**	**94**	P		**Pn**		**17 37 36.2**	**-0.3**
PAX				S		**Sn**		**17 38 05.7**	**-0.6**
PTE	**Portage**	**2.50**	**160**	P		**Pn**		**17 37 36.1**	**-1.1**
PS06	**TAPS Pump Stn6**	**2.68**	**9**	P		**Pn**		**17 37 39.6**	**0.0**
PS11	**TAPS Pump St11**	**2.69**	**113**	P		**Pn**		**17 37 39.7**	**0.0**
HARP	**HAARP**	**2.69**	**105**	P		**Pn**		**17 37 39.4**	**-0.4**
SLKM	**Skilak Lake**	**2.73**	**175**	P		**Pn**		**17 37 39.5**	**-0.8**
DFR	**Drift River**	**2.79**	**200**	P		**Pn**		**17 37 40.9**	**-0.2**
KLU	**Klutina**	**2.84**	**125**	P		**Pn**		**17 37 40.1**	**-1.6**
NCT	**North Crescent**	**2.86**	**202**	P		**Pn**		**17 37 42.0**	**0.0**
RDN	**Redoubt North**	**2.88**	**200**	P		**Pn**		**17 37 41.9**	**-0.3**
GLI	**Glacier Island**	**2.91**	**142**	P		**Pn**		**17 37 40.9**	**-1.6**
RDWB	**Redoubt West**	**2.92**	**201**	P		**Pn**		**17 37 42.1**	**-0.6**
JPK	**Jack Peak**	**2.92**	**136**	P		**Pn**		**17 37 41.2**	**-1.5**
RSO	**Redoubt South**	**2.93**	**200**	*e*P		**Pn**		**17 37 42.0**	**-0.9**
VLZ	**Valdez**	**2.94**	**133**	P		**Pn**		**17 37 41.0**	**-2.0**
DOT	**Dot Lake**	**3.04**	**79**	P		**Pn**		**17 37 43.3**	**-0.8**
IM04	**Indian Mountai**	**3.06**	**336**	*e*P		**Pn**		**17 37 43.8**	**-0.6**
GCSA	**Galena City Sc**	**3.11**	**302**	P		**Pn**		**17 37 45.0**	**+0.1**
SVW2	**Sparrevohn**	**3.11**	**229**	P		**Pn**		**17 37 44.5**	**-0.6**
SCRK	**Sand Creek**	**3.12**	**73**	P		**Pn**		**17 37 44.8**	**-0.5**
DIV	**Divide**	**3.14**	**130**	P		**Pn**		**17 37 43.5**	**-2.0**
PS12	**TAPS Pump St12**	**3.14**	**121**	P		**Pn**		**17 37 44.3**	**-1.3**
SEW	**Seward**	**3.19**	**168**	P		**Pn**		**17 37 44.9**	**-1.2**
BRLK	**Bradley Lake**	**3.47**	**181**	P		**Pn**		**17 37 49.0**	**-0.8**
EYAK	**Cordova Ski Ar**	**3.57**	**136**	P		**Pn**		**17 37 50.0**	**-1.1**
PS05	**TAPS Pump Stn5**	**3.61**	**1**	P		**Pn**		**17 37 52.0**	**+0.5**
BMRM	**Bremner River**	**3.67**	**125**	P		**Pn**		**17 37 50.3**	**-2.2**
OPT	**Oil Point**	**3.77**	**200**	P		**Pn**		**17 37 53.8**	**0.0**
GOAT	**Goat Mountain**	**3.89**	**130**	P		**Pn**		**17 37 53.7**	**-1.6**
VRDI	**Verde Repeater**	**3.96**	**117**	P		**Pn**		**17 37 54.9**	**-1.4**
COLD	**Coldfoot**	**4.03**	**3**	P		**Pn**		**17 37 57.0**	**-0.2**
RAGM	**Ragged Mountai**	**4.05**	**132**	P		**Pn**		**17 37 56.0**	**-1.4**
MCARA	**McCarthy VSAT**	**4.05**	**114**	P		**Pn**		**17 37 56.9**	**-0.5**
AUP	**Augustine Pinn**	**4.08**	**200**	P		**Pn**		**17 37 57.8**	**-0.1**
FYU	**Fort Yukon**	**4.10**	**33**	P		**Pn**		**17 37 58.0**	**0.0**
MID	**Middleton Isla**	**4.36**	**149**	P		**Pn**		**17 38 00.9**	**-0.6**
PTPK	**Patty Peak**	**4.38**	**114**	P		**Pn**		**17 38 01.3**	**-0.8**
BERG	**Berg Lake**	**4.38**	**127**	P		**Pn**		**17 38 00.5**	**-1.3**
NICHA	**Nichawak Mount**	**4.40**	**130**	P		**Pn**		**17 38 00.6**	**-1.5**
MCNL	**McNeil River**	**4.40**	**205**	P		**Pn**		**17 38 01.8**	**-0.4**
EGAK	**Eagle**	**4.50**	**65**	P		**Pn**		**17 38 03.0**	**-0.3**
KHIT	**Khitrov Hills**	**4.51**	**125**	P		**Pn**		**17 38 01.9**	**-1.8**
KIAG	**Kiagna River**	**4.57**	**117**	P		**Pn**		**17 38 02.8**	**-1.7**
SUCK	**Suckling Hills**	**4.58**	**130**	P		**Pn**		**17 38 03.3**	**-1.2**
GRIN	**Grindle Hills**	**4.60**	**127**	P		**Pn**		**17 38 03.0**	**-1.7**
ISLE	**Juniper Island**	**4.76**	**120**	P		**Pn**		**17 38 05.3**	**-1.7**
BARN	**Barnard Glacie**	**4.78**	**113**	P		**Pn**		**17 38 06.6**	**-0.8**
BARK	**Barkley Ridge**	**4.83**	**122**	P		**Pn**		**17 38 06.9**	**-1.0**
KULT	**Kultieth River**	**4.84**	**124**	P		**Pn**		**17 38 06.9**	**-1.2**
GRNC	**Granite Creek**	**4.92**	**116**	P		**Pn**		**17 38 07.6**	**-1.6**
BAGL	**Bagley Icefiel**	**4.93**	**120**	P		**Pn**		**17 38 07.6**	**-1.5**
DAWY	**Dawson**	**5.13**	**75**	P		**Pn**		**17 38 11.1**	**-0.8**
MESA	**MESA**	**5.18**	**122**	P		**Pn**		**17 38 11.3**	**-1.4**
TABL	**Table Mountain**	**5.34**	**117**	P		**Pn**		**17 38 13.2**	**-1.6**
RKAV	**Rock Avalanche**	**5.34**	**119**	P		**Pn**		**17 38 13.7**	**-1.1**
KVTA	**Katmai Vly 10**	**5.34**	**207**	P		**Pn**		**17 38 14.3**	**-0.3**
KAKN	**Katmai Knife C**	**5.37**	**205**	P		**Pn**		**17 38 14.4**	**-0.8**
KCE	**Katmai Mt Cerb**	**5.45**	**206**	P		**Pn**		**17 38 16.3**	**+0.2**
KABR	**Katmai Barrier**	**5.51**	**204**	P		**Pn**		**17 38 16.1**	**-0.9**
CHX	**Chaix Hills**	**5.58**	**120**	P		**Pn**		**17 38 17.3**	**-0.5**
SAMH	**Samovar Hills**	**5.67**	**119**	P		**Pn**		**17 38 18.7**	**-0.4**
HYT	**Haines Junctio**	**6.68**	**105**	P		**Pn**		**17 38 31.7**	**-1.0**
TNA	**Tin City**	**7.80**	**295**	P		**Pn**		**17 38 48.2**	**+0.6**
INK	**Inuvik**	**8.71**	**47**	P		**Pn**		**17 38 59.8**	**0.0**
	0.8nm,0.3s,baz=245,slow=19,SNR=8.6								
INK				S		**Sn**		**17 40 33.2**	**-2.9**
	0.4nm,0.3s,baz=200,slow=15,SNR=2.4								
DLBC	**Dease Lake**	**11.16**	**106**	P		**Pn**		**17 39 32.3**	**-0.4**
	0.2nm,0.3s,baz=315,slow=8.6,SNR=5.0								
YKA	**Yellowknife Ar**	**16.37**	**76**	P		**Pn**		**17 40 38.3**	**-0.7**
	0.4nm,0.3s,baz=283,slow=9.9,SNR=12								
EDM	**Edmonton**	**21.76**	**100**	*e*P		**P**		**17 41 38.1**	**+0.1**
RES	**Resolute Bay**	**22.02**	**36**	P		**P**		**17 41 42.1**	**+1.7**
	1.2nm,0.3s,baz=238,slow=9.0,SNR=16								
SEY	**Seymchan**	**25.04**	**295**	P		**P**		**17 42 07.8**	**-0.7**
	3.7nm,0.8s,baz=95,slow=8.9,SNR=9.8								
YBH	**Yreka Blue Hor**	**27.07**	**129**	P		**P**		**17 42 29.5**	**+2.3**
	0.9nm,0.5s,baz=18,slow=20,SNR=2.4								
BOZ	**Bozeman (W)**	**28.13**	**110**	*e*P		P		17 42 31.8	-4.8
	8.4nm,0.6s								
PDAR	**Pinedale Array**	**31.33**	**111**	P		**P**		**17 43 06.4**	**+1.4**
	2.0nm,0.8s,baz=328,slow=7.0,SNR=15								
NVAR	**Mina Array Bea**	**31.56**	**126**	P		**P**		**17 43 08.8**	**+1.8**
	1.1nm,0.6s,baz=318,slow=8.8,SNR=9.0								
ULM	**Lac du Bonnet**	**31.69**	**88**	P		**P**		**17 43 08.9**	**+1.1**
	2.0nm,0.6s,baz=291,slow=8.6,SNR=2.9								
SRU	**San Rafael Swe**	**33.98**	**116**	*e*P		**P**		**17 43 29.5**	**+1.4**
	2.6nm,0.7s								
SPITS	**Spitsbergen Ar**	**38.62**	**4**	P		**P**		**17 44 06.4**	**-0.3**
	1.0nm,0.3s,baz=17,slow=6.1,SNR=35								
TXAR	**Lajitas Array**	**45.26**	**116**	P		**P**		**17 45 02.5**	**+1.2**
	0.6nm,0.6s,baz=330,slow=5.6,SNR=4.8								
ARCES	**ARCESS Array B**	**47.50**	**2**	P		**P**		**17 45 17.1**	**-1.1**
	4.5nm,0.9s,baz=16,slow=9.1,SNR=11								
SONM	**Songino Array**	**53.78**	**305**	P		**P**		**17 46 06.2**	**+0.6**
	0.8nm,0.7s,baz=37,slow=6.7,SNR=6.8								
ZALV	**Zalesovo Beam**	**55.41**	**324**	P		**P**		**17 46 15.9**	**-1.2**
	0.5nm,0.4s,baz=27,slow=7.0,SNR=8.7								
FINES	**FINESS Array B**	**55.63**	**2**	P		**P**		**17 46 18.2**	**-0.4**
	0.3nm,0.3s,baz=308,slow=6.9,SNR=4.2								
BVAR	**Borovoye Array**	**59.71**	**333**	P		**P**		**17 46 46.3**	**-1.0**
	0.6nm,0.2s,baz=34,slow=9.0,SNR=11								
MKAR	**Makanchi Array**	**62.57**	**322**	P		**P**		**17 47 05.1**	**-1.5**
	0.3nm,0.3s,baz=43,slow=7.2,SNR=8.5								
AKASG	**Malin Array Be**	**66.42**	**0**	P		**P**		**17 47 30.9**	**-0.6**
	0.6nm,0.3s,baz=3.0,slow=6.4,SNR=3.6								
QSPA	**South Pole Qui**	**153.03**	**180**	PKPbc		**PKPbc**		**17 56 36.5**	**-0.8**
	0.7nm,0.7s,baz=76,slow=4.2,SNR=3.8								

*NEIC **03** 17:49:37.4, 40°.46N×127°.05W, h20km, ML3.4(NCEDC), After NCEDC.*
*IDC **03** 17:49:38.9±3.1, 40°.54N×126°.72W, h0km, mb2.9/2, mb1 3.5/5, mb1mx3.3/29, mbtmp3.1/5, ML3.8/3, MS3.0/2, Ms1 2.9/2, ms1mx2.5/10, Error ellipse: s-maj=34.1km s-min=27.7km az=75.0*
ISC 03 17:49:37.8±2.0, 40°.42N±0°.06×127°.0W±0°.1, h16km, n37, σ1§53/37, mb3.1/3, 7C-2D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	**2.53**	**79**	*e*Pn		**Pn**		**17 50 15.9**	**-2.5**
KCPM	**Cahto Peak**	**2.73**	**104**	*e*Pn		**Pn**		**17 50 19.0**	**-2.0**
KSXB	**Camp Six Broad**	**2.75**	**58**	P		**Pn**		**17 50 19.6**	**-1.8**
KIPM	**Iron Peak**	**2.77**	**102**	*e*Pn		**Pn**		**17 50 20.2**	**-1.4**
L02D	**Cave Junction,**	**3.10**	**55**	P		**Pn**		**17 50 24.8**	**-1.2**
	baz=3.1,SNR=101								
L02D				⇓S		**Sn**		**17 51 01.2**	**-1.4**
	baz=3.1								
KTRM	**Thompson Ridge**	**3.12**	**60**	P		**Pn**		**17 50 25.6**	**-0.8**
KEBM	**Edson Butte**	**3.16**	**38**	*e*Pn		**Pn**		**17 50 25.0**	**-2.0**
M02C	**Callahan**	**3.29**	**71**	P		**Pn**		**17 50 27.5**	**-1.2**
	baz=3.3,SNR=68								
M02C				⇑S		**Sn**		**17 51 06.4**	**-1.2**
	baz=3.3								
N02D	**Trinity Center**	**3.31**	**79**	⇑P		**Pn**		**17 50 27.8**	**-1.2**
	baz=3.3,SNR=18								
N02D				⇓S		**Sn**		**17 51 08.5**	**+0.4**
	baz=3.3								
HOPS	**Hopland Field**	**3.35**	**114**	*e*Pn		**Pn**		**17 50 28.4**	**-1.1**
WDC	**Whiskeytown Da**	**3.41**	**86**	*e*Pn		**Pn**		**17 50 29.4**	**-0.8**
YBH	**Yreka Blue Hor**	**3.50**	**67**	Pn		**Pn**		**17 50 31.8**	**+0.1**
	6.9nm,0.3s,baz=272,slow=11,SNR=157								
YBH				Sn		**Sn**		**17 51 11.2**	**-1.5**
	baz=131,slow=20,SNR=1.8								
LAMM	**Antelope Mount**	**3.52**	**69**	P		**Pn**		**17 50 32.0**	**0.0**
HUMO	**Hull Mountain**	**3.74**	**53**	*e*Pn		**Pn**		**17 50 33.8**	**-1.1**
MCCM	**Marconi Confer**	**3.92**	**124**	*e*Pn		**Pn**		**17 50 35.4**	**-2.0**
BUOR	**Burton Butte**	**4.03**	**61**	P		**Pn**		**17 50 40.2**	**+1.1**
BBOR	**Butler Butte**	**4.07**	**51**	P		**Pn**		**17 50 39.4**	**-0.2**
M04C	**Macdoel**	**4.13**	**69**	⇑P		**Pn**		**17 50 40.1**	**-0.2**
	baz=4.1								
SAC	**San Andreas**	**4.56**	**127**	*e*Pn		**Pn**		**17 50 44.2**	**-1.9**
J04D	**Umpqua Nationa**	**4.62**	**51**	⇑P		**Pn**		**17 50 47.2**	**+0.1**
	baz=4.6								
I04A	**Tendick Farm,**	**4.80**	**44**	⇑P		**Pn**		**17 50 49.2**	**-0.3**
	baz=4.8,SNR=6.0								
I04A				⇑S		**Sn**		**17 51 45.2**	**+0.5**
	baz=4.8								
J05D	**Fort Rock, OR**	**5.17**	**55**	⇑P		**Pn**		**17 50 54.4**	**-0.3**
	baz=5.2,SNR=6.7								
CMB	**Columbia Colle**	**5.66**	**113**	*e*Pn		**Pn**		**17 51 02.4**	**+1.0**
	41nm,0.6s								
SAO	**San Andreas Ge**	**5.68**	**128**	*e*Pn		**Pn**		**17 50 59.9**	**-1.6**
	3.1nm,0.4s								
WAKR	**Walker**	**6.16**	**106**	*e*Pn		**Pn**		**17 51 10.7**	**+2.4**
	16nm,0.6s								
NVAR	**Mina Array Bea**	**7.02**	**104**	Pn		**Pn**		**17 51 21.1**	**+1.0**
	0.3nm,0.3s,baz=276,slow=14,SNR=7.6								
TPH	**Tonopah**	**7.94**	**104**	Pn		**Pn**		**17 51 35.0**	**+2.2**
	5.2nm,0.7s								
ISA	**Isabella, Lake**	**8.23**	**123**	*e*Pn		**Pn**		**17 51 37.1**	**+0.4**
	5.9nm,0.4s								
BMO	**Blue Mountains**	**8.41**	**55**	*e*Pn		**Pn**		**17 51 39.6**	**+0.6**
	1.7nm,0.5s								
PDAR	**Pinedale Array**	**13.27**	**74**	Pn		Pn		17 52 49.8	+4.1
	0.1nm,0.3s,baz=238,slow=10,SNR=2.6								
PDAR				LR		LR		17 58 15.1	
	comp=Z,47nm,21.3s,baz=258,slow=40								
TXAR	**Lajitas Array**	**22.04**	**113**	P		**P**		**17 54 35.3**	**+3.4**
	0.3nm,0.7s,baz=290,slow=13,SNR=2.8								
ABTX	**Abilene, Hawle**	**23.26**	**101**	*e*P		**P**		**17 54 41.9**	**-2.6**
	21nm,1.1s								
YKA	**Yellowknife Ar**	**23.33**	**15**	P		**P**		**17 54 46.3**	**+1.4**
	0.3nm,0.5s,baz=200,slow=9.7,SNR=3.8								
ULM	**Lac du Bonnet**	**23.83**	**55**	LR		LR		18 03 23.5	
	comp=Z,44nm,19.2s,baz=342,slow=35								
H11N3	**WAKE ISLAND Hy**	**59.46**	**271**	T		T		19 03 59.8	
	baz=54								
H11N2	**WAKE ISLAND Hy**	**59.46**	**271**	T		T		19 04 17.1	
	baz=54								
H11N1	**WAKE ISLAND Hy**	**59.48**	**271**	T		T		19 04 14.3	
	baz=54								

*ISCJB **03** 18:10:46.6±0.9, 36°.70N±0°.05×70°.9E±0°.1, h188km, Error ellipse: s-maj=12.4km s-min=6.3km az=156.8*
*NNC **03** 18:10:49.0±3.2, 36°.93N×71°.09E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=26.5km s-min=10.7km az=175.0*
ISC 03 18:10:46.5±1.3, 36°.66N±0°.09×70°.90E±0°.09, h188km, n15, σ1§51/16, 5C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.70**	**323**	⇑Pn		**Pn**		**18 11 32.4**	**+0.4**
	13nm,0.3s								
DZET				⇓Sn		**Sn**		**18 12 06.0**	**-1.6**
	85nm,0.4s								
SFK	**Sufi-Kurgan**	**3.92**	**31**	⇑Pn		**Pn**		**18 11 47.5**	**+0.5**
	2.1nm,0.2s								
SFK				⇑Sn		**Sn**		**18 12 32.3**	**-2.3**
	18nm,0.2s								
KK31	**Karatay Array**	**6.44**	**357**	⇑Pn		**Pn**		**18 12 20.8**	**+1.6**
	5.2nm,0.4s,baz=179,slow=13,SNR=148								
KK31				⇓Sn		**Sn**		**18 13 32.5**	**-0.1**
	6.4nm,0.4s,baz=182,slow=19,SNR=21								
AAK	**Ala-Archa**	**6.58**	**24**	⇓Pn		**Pn**		**18 12 22.3**	**+1.2**
	1.3nm,0.5s								
AAK				⇑Sn		**Sn**		**18 13 34.9**	**-1.1**
	3.2nm,0.6s								
TKM2	**Tokmak 2**	**7.22**	**29**	⇓Pn		**Pn**		**18 12 31.2**	**+1.6**
	1.4nm,0.5s								
GKN	**Gorkha**	**14.46**	**123**	*e*P		**P**		**18 14 06.9**	**+2.6**
	11nm,0.5s								
AB31	**Akbulak array**	**14.90**	**331**	P		P		18 14 12.3	+3.5
	0.6nm,0.5s,baz=148,slow=12,SNR=19								
AB31				S		**Sn**		**18 16 54.3**	**0.0**
	1.2nm,0.7s,baz=142,slow=24,SNR=4.6								
DMN	**Daman**	**15.03**	**123**	*e*P		**P**		**18 14 10.5**	**-0.2**
	6.6nm,0.6s								
KKN	**Kakani**	**15.03**	**122**	*e*P		**P**		**18 14 12.0**	**+1.3**
	8.6nm,0.6s								
PKIN	**Phulchoki**	**15.24**	**122**	*e*P		**P**		**18 14 12.7**	**-0.4**
	4.3nm,0.3s								
PKI	**Pulchoki**	**15.26**	**122**	*e*P		**P**		**18 14 12.9**	**-0.4**
	11nm,0.6s								
JIRN	**Jiri**	**15.74**	**120**	*e*P		**Pn**		**18 14 16.3**	**-2.3**
	8.9nm,0.5s								
RAMN	**Ramite**	**16.47**	**122**	*e*P		P		18 14 18.5	-8.1
TAPN	**Taplejung**	**16.99**	**118**	*e*P		P		18 14 24.7	-7.7
ODAN	**Odare**	**17.07**	**120**	*e*P		P		18 14 23.1	-10

*IDC **03** 18:15:44.6±7.6, 18°.82N×108°.63W, h0km, mb3.4/5, mb1 3.8/6, mb1mx3.6/30, mbtmp3.4/6, ML3.4/1, MS3.1/5, Ms1 3.0/5, ms1mx2.8/21, Error ellipse: s-maj=122.4km s-min=71.7km az=154.0*
*ISCJB **03** 18:15:51.8±2.9, 19°.3N±0°.3×109°.0W±0°.2, h26km, mb3.4/4, MS2.9/1, Error ellipse: s-maj=55.0km s-min=7.3km az=142.8*
ISC 03 18:15:52.0±4.1, 19°.2N±0°.4×108°.9W±0°.3, h26km, n11, σ1§18/10, mb3.4/4, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H06E1	**SOCORRO T-PHAS**	**1.92**	**259**	Pn		**Pn**		**18 16 23.9**	**+0.9**
H06E1				Sn		**Sn**		**18 16 45.8**	**-0.6**
	SNR=157								
H06E1				T		T		18 18 32.7	
	SNR=6.0								
H06S1	**SOCORRO T**	**1.96**	**258**	Pn		**Pn**		**18 16 24.4**	**+0.8**
H06S1				Sn		**Sn**		**18 16 46.3**	**-1.0**
	SNR=31								
H06S1				T		T		18 18 31.2	
	SNR=5.5								
LPIG	**La Paz**	**5.08**	**346**	LR		LR		18 18 34.6	
	comp=Z,158nm,20.3s,baz=232,slow=31								
TXAR	**Lajitas Array**	**11.21**	**24**	Pn		**Pn**		**18 18 31.2**	**+0.6**
	0.1nm,0.3s,baz=205,slow=16,SNR=6.1								
TXAR				LR		LR		18 22 15.1	
	comp=Z,72nm,19.1s,baz=0.0,slow=34								
CMIG	**Matias Romero**	**13.52**	**97**	LR		LR		18 24 13.3	
	comp=Z,66nm,19.4s,baz=194,slow=39								
ANMO	**Albuquerque**	**15.87**	**7**	LR		LR		18 25 16.0	
	comp=Z,83nm,20.5s,baz=220,slow=35								
NVAR	**Mina Array Bea**	**20.86**	**339**	P		**P**		**18 20 33.6**	**+1.4**
	1.8nm,0.9s,baz=163,slow=13,SNR=9.6								
ELK	**Elko**	**22.18**	**347**	P		**P**		**18 20 46.3**	**-0.1**
	1.2nm,0.7s,baz=166,slow=12,SNR=4.2								
PDAR	**Pinedale Array**	**23.54**	**359**	P		**P**		**18 20 59.9**	**-0.5**
	0.6nm,0.7s,baz=152,slow=9.8,S

comp=N,3.3nm,1.2s,baz=124,slow=4.4,SNR=4.5
VNDA LR LR 19 14 13.9
comp=N,620nm,18.2s,baz=127,slow=34
SYO Syowa Base 63.40 158 *e*PcP PcP 18 50 45.0 -2.2
TBI Tubuai 65.24 259 *e*S S 18 59 07.8 +1.2
comp=N,1μm,28.5s
TBI Tubuai 65.24 259 *e*LR LR 19 09 59.1
comp=N,2μm,27.0s,baz=127
MEH Mehetia 67.06 265 *e*T T 20 03 16.7
comp=N,18nm,0.2s
034A Hebbronville 68.09 336 P P 18 50 42.0 +0.9
baz=68
PPT2 Papeete2 68.42 264 *e*S S 18 59 46.2 +0.8
comp=N,2μm,25.2s
PPT2 Papeete2 68.42 264 *e*LR LR 19 11 25.1
comp=N,2μm,25.0s,baz=121
PPT Papeete 68.43 264 LR LR 19 12 37.2
comp=N,923nm,18.5s,baz=128,slow=29
738A Farr-Stevens R 68.84 339 P P 18 50 46.1 +0.4
baz=69
834A Tilden 69.04 337 P P 18 50 47.4 +0.5
baz=69
833A Chaparral WMA, 69.49 336 P P 18 50 49.9 +0.2
baz=70
832A Faith Ranch, C 69.64 335 P P 18 50 50.9 +0.2
baz=70
734A La Parita Cree 69.71 337 P P 18 50 51.6 +0.6
baz=70
636A Smothers Creek 69.85 338 P P 18 50 53.4 +1.5
baz=70
732A Laxson Ranch, 70.05 336 P P 18 50 53.5 +0.3
baz=70
MAW Mawson 70.50 164 LR LR 19 22 15.2
comp=N,1μm,18.4s,baz=231,slow=36
MAW Mawson 70.50 164 *e*P P 18 50 48.5 -7.0
comp=N,1.2nm,0.8s
632A Uvalde 70.71 336 P P 18 50 57.6 +0.3
baz=71
631A Perdido Creek 70.88 335 P P 18 50 58.8 +0.5
baz=71
LRAL Lakeview Retre 70.97 348 *e*P P 18 50 59.0 +0.3
comp=N,9.4nm,0.9s
533A Kerrville 71.00 337 P P 18 50 59.6 +0.6
baz=71
532A Rocksprings 71.33 336 P P 18 51 01.1 +0.1
baz=72
434A Burnet 71.46 338 P P 18 51 01.7 -0.1
baz=72
531A Rocksprings 71.57 336 P P 18 51 02.9 +0.5
baz=72
JCT Junction City 71.62 336 *e*P P 18 51 03.2 +0.5
comp=N,28nm,1.2s
JCT Junction City 71.62 336 P P 18 51 03.3 +0.5
baz=72
433A Art 71.65 337 P P 18 51 02.8 -0.2
baz=72
530A J-C Ranch, Com 71.82 335 P P 18 51 04.4 +0.5
baz=72
TXAR Lajitas Array 71.89 333 P P 18 51 04.7 +0.2
comp=N,2.8nm,0.7s,baz=146,slow=9.1,SNR=18
TXAR LR LR 19 17 02.5
comp=N,439nm,20.5s,baz=0.0,slow=31
334A Lometa 71.93 338 P P 18 51 04.5 -0.1
baz=72
432A Menard 71.98 337 P P 18 51 04.7 -0.3
baz=72
431A Sonora 72.07 336 P P 18 51 05.3 -0.1
baz=72
529A Stev Forest Ra 72.10 334 P P 18 51 05.8 +0.2
baz=72
333A Richland Sprin 72.15 337 P P 18 51 05.6 -0.3
baz=72
WHTX Lake Whitney, 72.32 339 P P 18 51 07.4 +0.6
baz=73
KMSC Kings Mountain 72.34 354 *e*P P 18 51 06.0 -0.9
comp=N,43nm,0.1s
430A Baggett Ranch, 72.37 335 P P 18 51 07.2 -0.1
baz=73
332A Millersview 72.44 337 P P 18 51 07.0 -0.6
baz=73
429A Davenport Ranc 72.44 335 P P 18 51 08.2 +0.5
baz=73
233A Rising Star 72.77 338 P P 18 51 09.3 -0.3
baz=73
232A Coleman 72.88 337 P P 18 51 09.9 -0.3
baz=73
330A Mertzon 72.92 336 P P 18 51 10.0 -0.5
baz=73
231A Bronte 73.13 337 P P 18 51 11.2 -0.5
baz=74
Z35A Perchaven, San 73.52 340 P P 18 51 14.0 0.0
baz=74
ABTX Abilene, Hawle 73.56 337 *e*P P 18 51 14.3 +0.1
comp=N,37nm,1.4s
ABTX Abilene, Hawle 73.56 337 P P 18 51 14.1 -0.1
baz=74
131A Roby 73.84 337 P P 18 51 15.9 0.0
baz=74
Z33A Whitaker Ranch 73.91 338 P P 18 51 15.8 -0.5
baz=74
WVT Waverly 74.13 348 *e*P P 18 51 16.2 -1.2
comp=N,14nm,1.1s
Z32A Haskell 74.14 338 P P 18 51 17.6 -0.1
baz=74
128A Castleberry Fa 74.47 335 P P 18 51 19.3 -0.4
baz=75
Z30A Sanderson Ranc 74.64 336 P P 18 51 20.1 -0.5
baz=75
MNTX Cornudas Mount 74.65 332 *e*P P 18 51 19.7 -1.0
comp=N,4.9nm,1.0s
MNTX Cornudas Mount 74.65 332 P P 18 51 19.6 -1.0
baz=75
Z29A Hungry Hill Ra 74.80 336 P P 18 51 20.8 -0.7
baz=75
Y31A Rekieta Farm, 74.99 337 P P 18 51 22.2 -0.4
baz=75
Y30A Stafford Cattl 75.11 337 P P 18 51 23.5 +0.2
baz=76
WMOK Wichita Mounta 75.27 339 *e*P P 18 51 23.9 -0.3
comp=N,20nm,1.4s
X31A McDonald Ranch 75.53 338 P P 18 51 25.6 0.0
baz=76
TUL1 Leonard 75.57 342 *e*P P 18 51 25.2 -0.6
W32A Sentinel 75.77 339 P P 18 51 27.1 +0.1
baz=76
MSTX Muleshoe 75.80 335 *e*P P 18 51 27.5 +0.2
comp=N,25nm,1.3s
MSTX Muleshoe 75.80 335 P P 18 51 27.6 +0.2
baz=76
AMTX Amarillo 76.28 337 *e*P P 18 51 30.2 +0.2
comp=N,42nm,1.3s
AMTX Amarillo 76.28 337 P P 18 51 29.9 -0.2
baz=77
121A Cookes Peak, D 76.31 331 *e*P P 18 51 31.4 +1.0
comp=N,9.7nm,1.1s
V31A Spring Creek L 76.55 338 P P 18 51 32.3 +0.9
baz=77
CASY Casey 76.78 182 *e*P P 18 51 32.2 -0.3
comp=N,12nm,1.0s
LIC Lamto 77.13 72 *e*P P 18 51 35.4 +0.2
comp=N,38nm,1.1s
T33A Patterson Ranc 77.32 340 P P 18 51 36.3 +0.6
baz=78
TUC Tucson 77.32 329 *e*P P 18 51 37.0 +1.1
comp=N,8.2nm,1.1s
S35A Otter Creek Ra 77.39 342 P P 18 51 36.2 +0.1
baz=78
TIC Toumodi 77.41 72 *e*P P 18 51 37.0 +0.2
comp=N,16nm,0.7s
KIC Kosan Boka 77.44 72 *e*P P 18 51 37.4 +0.4
comp=N,56nm,1.2s
DBIC Dimbokro 77.55 72 P P 18 51 37.9 +0.3
comp=N,5.4nm,0.7s,baz=192,slow=5.3,SNR=9.9
DBIC LR LR 19 24 16.6
comp=N,521nm,18.3s,baz=216,slow=34
DBIC Dimbokro 77.55 72 *e*P P 18 51 37.9 +0.3
comp=N,8.2nm,0.7s
214A Organ Pipe Nat 77.88 327 *e*P P 18 51 39.2 +0.2
comp=N,15nm,1.1s
214A Organ Pipe Nat 77.88 327 P P 18 51 39.5 +0.5
baz=78
ANMO Albuquerque 77.96 333 *e*P P 18 51 40.1 +0.6
comp=N,15nm,1.1s
113A Mohawk Valley, 78.99 327 P P 18 51 45.4 +0.4
baz=79
T26A Comanche Natio 79.00 336 P P 18 51 45.3 +0.1
baz=79
Q32A Meitler Ranch, 79.20 341 P P 18 51 46.4 +0.3
baz=80
W18A Petrified Fore 79.35 331 *e*P P 18 51 47.9 +0.6
S26A Kim 79.36 336 P P 18 51 47.7 +0.5
baz=80
X16A Lo Mia Camp, P 79.42 329 P P 18 51 48.5 +0.9
baz=80
Q30A Quinter 79.64 339 P P 18 51 49.1 +0.6
baz=80
Y14A Wickenburg 79.66 328 P P 18 51 49.4 +0.6
baz=80
R27A Eads 79.76 337 P P 18 51 49.6 +0.3
baz=80
SDCO Great Sand Dun 80.14 335 P P 18 51 51.8 +0.2
baz=80
S22A 4UR Ranch, Cre 80.60 334 P P 18 51 54.5 +0.4
baz=81
MVCO Mesa Verde 80.72 333 *e*P P 18 51 53.4 -1.3
comp=N,30nm,1.2s
Q25A Bedland, Calha 80.79 336 P P 18 51 55.5 +0.5
baz=81
PFO Pinyon Flats O 80.91 325 *e*P P 18 51 57.2 +1.6
comp=N,12nm,1.1s
W13A Hualapai Mount 81.03 328 P P 18 51 57.3 +0.9
baz=81
P25A Willow Gulch B 81.31 337 P P 18 51 59.0 +1.3
baz=82
U15A North Rim 81.50 329 P P 18 51 59.9 +1.0
baz=82
GMRC Granite Mounta 81.53 326 P P 18 52 00.2 +1.3
baz=82
SADO Sadowa 81.75 356 LR LR 19 31 37.3
comp=N,293nm,19.7s,baz=146,slow=38
HEC Hector,Ludlow 81.87 326 P P 18 52 01.7 +1.0
baz=82
SMCO Snowmass 81.93 335 *e*P P 18 52 02.4 +1.1
comp=N,24nm,1.3s
TUQ Turquoise Moun 82.20 326 P P 18 52 03.6 +1.1
baz=83
LBTB Lobatse 82.23 115 *e*P P 18 52 02.7 -0.3
comp=N,5.3nm,0.6s
O22A Kremmling 82.67 335 P P 18 52 05.5 +0.5
baz=83
SHPR Sheep Range 82.77 328 *e*P P 18 52 06.0 +0.6
comp=N,8.8nm,1.1s
RAO Raoul Island 82.97 239 LR LR 19 20 58.0
comp=N,137nm,20.7s,baz=118,slow=30
SRU San Rafael Swe 83.15 332 *e*P P 18 52 07.2 -0.1
comp=N,31nm,1.8s
ECSD EROS Data Cent 83.20 344 *e*P P 18 52 06.9 -0.4
comp=N,20nm,1.1s
ECSD EROS Data Cent 83.20 344 P P 18 52 07.1 -0.1
baz=84
MSU Marysvale 83.26 331 *e*P P 18 52 08.9 +0.9
comp=N,22nm,1.7s
ISA Isabella, Lake 83.54 325 P P 18 52 10.6 +1.4
baz=84
DAC Darwin (Calif) 83.64 326 *e*P P 18 52 10.5 +0.5
comp=N,24nm,1.7s
NLU North Lily Min 84.47 331 *e*P P 18 52 13.2 -0.9
comp=N,14nm,1.4s
R11A Troy Canyon, C 84.50 328 *e*P P 18 52 14.8 +0.5
comp=N,10nm,1.4s
R11A Troy Canyon, C 84.50 328 P P 18 52 15.1 +0.8
baz=85
DUG Dugway, Tooele 84.96 331 *e*P P 18 52 16.7 +0.2
comp=N,11nm,1.2s
TPH Tonopah 84.97 327 *e*P P 18 52 15.7 -1.0
comp=N,10nm,1.1s
I25A Rochford 85.30 339 P P 18 52 18.0 -0.2
baz=86
H27A Howes 85.40 340 P P 18 52 18.4 0.0
baz=86
RSSD Black Hills 85.48 339 *e*P P 18 52 17.9 -1.2
comp=N,15nm,1.1s
BGU Big Grassy Mou 85.67 331 *e*P P 18 52 16.5 -3.6
HWUT Hardware Ranch 85.71 333 *e*P P 18 52 20.8 +0.5
comp=N,59nm,1.7s
NVAR Mina Array Bea 85.74 326 P P 18 52 19.9 -0.7
comp=N,1.1nm,0.8s,baz=151,slow=7.0,SNR=8.2
BW06 Boulder Array 86.02 334 *e*P P 18 52 20.8 -1.0
comp=N,11nm,1.3s
PDAR Pinedale Array 86.02 334 P P 18 52 21.9 +0.1
comp=N,3.6nm,1.1s,baz=129,slow=5.9,SNR=9.7
G27A Dupree 86.05 341 P P 18 52 21.7 0.0
baz=86
G26A Maurine 86.15 340 P P 18 52 22.0 -0.2
baz=86
J19A Crowheart 86.28 335 P P 18 52 23.3 +0.3
baz=87
ELK Elko 86.39 330 *e*P P 18 52 24.5 +0.8
comp=N,8.8nm,1.3s
I20A Worland 86.59 336 P P 18 52 24.3 -0.2
baz=87
TOA0 Torodi Ar. Sit 86.63 71 *e*P P 18 52 24.7 -0.4
TORD Torodi Ar. Bea 86.63 71 P P 18 52 24.8 -0.4
comp=N,2.4nm,0.7s,baz=214,slow=5.3,SNR=20
TORD LR LR 19 28 24.5
comp=N,338nm,20.4s,baz=225,slow=34
E28A Huff 86.84 342 P P 18 52 25.3 -0.2
baz=87
TPAW T Pon Pass 87.14 334 *e*P P 18 52 27.5 +0.1
comp=N,7.8nm,1.0s
C30A Mose, Pekin 87.38 344 P P 18 52 28.3 +0.2
baz=88
FLWY Flagg Ranch 87.57 334 *e*P P 18 52 30.0 +0.7
comp=N,16nm,1.4s
D26A Manning 87.71 341 P P 18 52 29.8 0.0
baz=88
B30A Myrvik Farm, E 88.05 344 P P 18 52 31.2 0.0
baz=88
HLID Hailey 88.46 332 *e*P P 18 52 34.5 +0.9
comp=N,3.5nm,1.3s
HLID Hailey 88.46 332 P P 18 52 34.5 +0.9
baz=89
B28A Dugan Ranch, T 88.52 343 P P 18 52 34.3 +0.8
baz=89
D23A Lindsay 88.60 339 P P 18 52 34.4 +0.4
baz=89
A29A Manning Farm, 88.70 344 P P 18 52 34.2 -0.1
baz=89
ULM Lac du Bonnet 89.25 346 P P 18 52 36.1 -0.8
comp=N,4.9nm,1.0s,baz=227,slow=3.4,SNR=4.7
SCHQ Schefferville 91.88 4 LR LR 19 35 28.0
comp=N,141nm,19.8s,baz=137,slow=36
MDT Midelt 94.92 52 LR LR 19 35 13.1
comp=N,700nm,19.4s,slow=35
ESDC Sonseca Array 99.81 47 LR LR 19 37 20.5
comp=N,524nm,19.6s,baz=255,slow=35
YKA Yellowknife Ar 104.65 342 PP PP 18 58 10.1 +3.6
comp=N,0.3nm,0.4s,baz=144,slow=8.4,SNR=7.0
ASAR Alice Springs 114.06 208 PKP PKPdf 18 58 21.2 +0.2
comp=N,0.3nm,0.5s,baz=129,slow=1.7,SNR=5.9
CLL Collm 116.15 44 *e*PP PP 18 59 27.0 -2.8
CLL *e*Sdif Sdif 19 07 30.0 +15
CLL *e*PS **PS 19 09 10.0 -1.0**
CLL *e*PPS PPS 19 10 25.0
CLL *e*SS **SS 19 15 30.0 -2.9**
CLL *e*SSS SSS 19 19 54.0
CLL *e*SSSS 19 23 30.0
CLL *e* 19 27 12.0
CLL LmV 19 46 00.0
comp=Z,500nm,20.9s
CLL LmH 19 47 00.0
comp=N,100nm,20.5s
CLL LmH 19 47 00.0
comp=E,300nm,19.2s
WRA Warramunga Arr 117.27 210 PKP PKPdf 18 58 25.3 -2.0
comp=E,0.4nm,0.5s,baz=160,slow=1.7,SNR=11
BRTR Keskin Array B 124.59 63 PKP PKPdf 18 58 38.3 -2.5
comp=E,0.9nm,0.9s,baz=199,slow=3.4,SNR=6.1
AKASG **Malin Array Be 125.39 49 PKP PKPdf 18 58 39.3 -2.4**
comp=E,0.4nm,0.5s,baz=261,slow=3.6,SNR=5.2
AKASG PP PP **19 00 29.6 -3.4**
comp=E,0.2nm,0.4s,baz=252,slow=7.6,SNR=5.1
GEYT Alibeck 142.21 74 PKhKP PKPpre 18 59 09.2
comp=E,0.8nm,0.4s,baz=248,slow=0.8,SNR=3.1
TIXI Tiksi 143.57 348 *e*PKPpre PKPpre 18 59 10.3
KSM Kuching 144.23 187 *e*PKPpre PKPpre 18 59 15.8
ABKAR Akbulak array 144.74 55 *e*PKPdf PKPab 18 59 16.2 -0.4
URV Uravakonda 146.05 123 *e*PKPab PKPdf 18 59 20.6 -0.4
URV *e* 18 59 28.3
SKHT Srikalahasti 146.76 128 *e*PKPab PKPdf 18 59 23.3 +1.2
SKHT *e* 18 59 33.8
LHMI Lhok Sumawe 147.05 163 *e*PKPbc PKPdf 18 59 24.1 +1.4
KULM Kulim 147.82 170 *e*PKPbc PKPdf 18 59 25.9 +1.8
NJS Nagarjunasagar 148.57 124 *e*PKPbc PKPbc 18 59 28.0 -0.7
NJS *e*PKiKP PKiKP 18 59 29.2 -1.1
NJS *e*PKPab PKPab 18 59 31.0 -1.2
HYB Hyderabad 148.67 122 *i* PKP PKPbc 18 59 28.5 -0.6
HYBB Hyderabad (bro 148.67 122 *e*PKiKP PKPbc 18 59 28.7 -0.4
HYBB *e*PKPab PKiKP 18 59 30.6 0.0
BRVK Borovoye 150.50 46 *e*PKPbc PKPbc 18 59 32.5 0.0
BVAR Borovoye Array 150.57 46 PKP PKPdf 18 59 26.9 -0.4
comp=E,0.3nm,0.4s,baz=270,slow=2.9,SNR=4.1
BVAR PKPbc PKPbc 18 59 32.6 -0.1
comp=E,4.2nm,0.9s,baz=317,slow=10,SNR=4.0
YAK Yakutsk 151.21 337 PKPbc PKPbc 18 59 33.4 -0.4
comp=E,14nm,0.7s,baz=212,slow=0.5,SNR=15
YAK Yakutsk 151.21 337 *e*PKPbc PKPbc 18 59 32.9 -0.9
KKAR Karatay Array 152.23 67 *e*PKPbc PKPbc 18 59 36.3 -0.6
MJAR Matsushiro Ar 154.46 278 PKPbc PKPbc 18 59 40.3 -1.6
comp=E,0.3nm,0.7s,baz=109,slow=3.9,SNR=2.9
EKS2 Erkin-Say 154.64 67 *e*PKPdf PKPdf 18 59 34.6 +0.9
TKM2 Tokmak 2 155.97 67 *e*PKPdf PKPdf 18 59 35.7 +0.1
KURBB Kurchatov Arra 156.14 47 PKP PKPdf 18 59 33.7 -1.6
comp=E,0.5nm,0.9s,baz=301,slow=2.1,SNR=4.3
KURBB PKPbc PKPbc 18 59 45.0
comp=E,0.7nm,0.9s,baz=293,slow=2.7,SNR=5.5
KURBB PKPab **PKPab 18 59 59.7 -3.3**
comp=E,1.1nm,0.9s,baz=292,slow=2.9,SNR=6.5
KURBB PP **PP 19 03 44.8 +4.0**
comp=E,0.5nm,0.7s,baz=284,slow=5.7,SNR=4.1
KURK Kurchatov 156.16 47 PKP PKPdf 18 59 33.7 -1.6
KURK PKPbc PKPbc 18 59 45.0
KURK PKPab **PKPab 18 59 59.7 -3.4**
KURK PP **PP 19 03 44.8 +3.9**
KSH Kashi 156.23 75 PKP PKPdf 18 59 36.0 0.0
KSH pPKP pPKPdf 18 59 46.9 +7.5
KSH sPKP 18 59 50.5
KSH PKS **PKSdf 19 03 08.6 -1.4**
KSH *e*PP **PP 19 03 43.6 +1.5**
KSH SKS **SKSdf 19 06 37.3 -5.0**
KSH PPMZ
comp=E,160nm,4.9s
KSH LN
comp=E,85nm,4.4s
KSH LE
comp=E,82nm,7.5s
KSH LZ
comp=E,150nm,6.5s
ZAA0 Zalesovo Array 157.69 35 *e*PKPdf PKPdf 18 59 36.3 -0.9
ZALV Zalesovo Beam 157.69 35 PKP PKPdf 18 59 35.9 -1.3
comp=E,1.2nm,0.8s,baz=302,slow=2.8,SNR=9.0
ZALV PKPbc PKPbc 18 59 48.8
comp=E,2.6nm,0.8s,baz=320,slow=3.9,SNR=5.7
ZALV PKPab **PKPab 19 00 08.2 -1.3**
comp=E,2.7nm,0.9s,baz=304,slow=3.7,SNR=5.2
MK31 Makanchi Array 159.88 54 *e*PKPdf PKPdf 18 59 39.4 -0.7
MKAR Makanchi Array 159.88 54 PKP PKPdf 18 59 39.5 -0.5
comp=E,0.8nm,0.9s,baz=280,slow=6.9,SNR=5.5
MKAR PKPab **PKPab 19 00 18.8 -0.6**
comp=E,1.4nm,0.8s,baz=274,slow=9.6,SNR=7.5
MKAR PP **PP 19 04 04.2 +2.7**
comp=E,1.6nm,1.1s,baz=272,slow=8.3,SNR=4.9
CMAR Chiang Mai Arr 160.25 159 PKP PKPdf 18 59 40.4 -0.9
comp=E,0.4nm,0.7s,baz=191,slow=1.8,SNR=3.7
WMQ Urumqi 164.46 59 *e*PKP PKPdf 18 59 43.9 -1.0
WMQ pPKP **pPKPdf 18 59 52.4 +4.1**
WMQ PKPab PKPab 19 00 45.2 +5.5
WMQ PP **PP 19 04 26.3 +0.1**
WMQ PPMZ
comp=E,200nm,11.0s
WMQ LN
comp=E,200nm,14.0s
WMQ LE
comp=E,280nm,20.2s
WMQ LZ
comp=E,250nm,21.2s
KMI Kunming 167.58 165 PKP PKPdf 18 59 49.4 +1.3
GYA Guiyang 169.26 182 *e*PKP PKPdf 18 59 49.8 +0.7
GYA sPKP 19 00 04.0
GYA PKPab **PKPab 19 01 04.3 +3.2**
GYA PKS **PKSdf 19 03 20.8 -1.0**
GYA PP **PP 19 04 54.4 +4.7**
GYA PPMZ
comp=E,120nm,7.9s
SONM Songino Array 169.39 359 PKP PKPdf 18 59 48.9 +0.4
comp=E,0.2nm,0.8s,baz=22,slow=1.6,SNR=2.5
SONM PKPab **PKPab 19 01 01.5 +0.3**
comp=E,1.3nm,1.0s,baz=346,slow=4.1,SNR=7.8
BJI Beijing 171.71 293 PKP PKPdf 18 59 51.1 +1.3
BJI PP **PP 19 05 06.8 +3.6**
BJI LN
comp=E,310nm,18.5s
BJI LE
comp=E,190nm,18.5s
BJI LZ
comp=E,180nm,21.7s
CD2 Chengdu 173.38 161 *e*PKP PKPdf 18 59 51.3 +0.4
HHC Hu-ho-hao-te 174.48 313 *e*PKP PKPdf 18 59 51.9 +0.8
HHC pPKP pPKPdf 19 00 02.0 +7.5
HHC PP **PP 19 05 21.6 +5.2**
HHC SKS **SKSdf 19 06 48.6 -5.6**
HHC SKKS **SKKSac 19 12 00.8 -2.1**
HHC PPMZ
comp=E,50nm,11.2s
HHC LN
comp=E,210nm,18.7s
HHC LE
comp=E,120nm,14.9s
HHC LZ
comp=E,190nm,19.9s
GTA Gaotai 174.51 65 *e*PKP PKPdf 18 59 51.9 +0.8
GTA pPKP pPKPdf 19 00 02.7 +8.1
GTA sPKP 19 00 06.4
GTA PKPab **PKPab 19 01 25.4 +1.0**
LZH Lanzhou 177.78 120 *e*PKP PKPdf 18 59 51.5 -0.5
LZH pPKP **pPKPdf 19 00 02.3 +6.8**
LZH sPKP 19 00 05.2

IDC 03 18:55:01.1±1.2, 56.08S×28.00W, h0km, mb3.7/2, mb1 3.8/2, mb1mx3.4/20, mbtmp3.7/2, Error ellipse: s-maj=97.7km s-min=35.8km az=103.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**46.52**	**183**	P	P	19 03 29.4	-0.1
	0.6nm,0.6s,baz=189,slow=6.3,SNR=4.4						
TORD	**Torodi Ar. Bea**	**73.31**	**30**	P	P	19 06 34.3	+0.1
	0.3nm,0.4s,baz=201,slow=6.1,SNR=6.7						
YKA	**Yellowknife Ar**	**135.89**	**318**	PKP	PKPdf	19 14 21.1	-1.1
	0.1nm,0.4s,baz=111,slow=3.5,SNR=2.8						
ILAR	**Eielson Array**	**149.80**	**312**	PKPbc	PKPbc	19 14 51.1	-0.3
	1.0nm,0.8s,baz=129,slow=2.5,SNR=9.3						

*IDC **03** 19:06:54.0±0.6, 38.30S×73.24W, h0km, mb4.4/9, mb1 4.5/13, mb1mx4.4/25, mbtmp4.4/13, ML4.1/2, MS4.3/7, Ms1 4.3/7, ms1mx4.0/17, Error ellipse: s-maj=26.6km s-min=15.1km az=102.0*
*NEIC **03** 19:06:54.5±4.4, 38.12S×73.78W, h11km±25km, mb4.9/33, ML5.3(GUC), Error ellipse: s-maj=21.0km s-min=8.1km az=90.0*
NEIC Felt [III] at Angol and Puerto Saavedra and [II] at Concepcion and Temuco.
*GUC **03** 19:06:57.7±0.5, 38.16S×73.68W, h64km±23km, ML5.3*
*ISCJB **03** 19:07:00.2±0.2, 38.31S±0.03×72.67W±0.07, h25km, mb4.8/45, MS4.4/7, Error ellipse: s-maj=8.0km s-min=5.0km az=6.9*

ISC 03 19:06:59.8±0.4, 38.39S±0.05×72.79W±0.10, h25km, n297, σ2.501/288, mb4.9/45, MS4.3/7, 96C-104D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLCH	**Valdivia**	**1.46**	**194**	*e*P	Pn	**19 07 25.1**	**+0.6**
VLCH				*i* S	**Sb**	**19 07 45.9**	**+1.6**
VLCH				AML	AML	19 07 59.9	
	comp=E,86μm,0.5s						
OSCH	**Osorno**	**2.20**	**187**	*e*P	**Pn**	**19 07 35.7**	**+1.0**
OSCH				AML	AML	19 08 21.3	
	comp=N,12μm,0.7s						
LNCH	**Linares**	**2.71**	**21**	*i*P	**Pn**	**19 07 41.1**	**-0.7**
LNCH				*i* S	**Sn**	**19 08 14.0**	**+0.2**
PLCA	**Paso Flores**	**2.91**	**144**	Pn	**Pb**	**19 07 50.1**	**-0.9**
	comp=N,9.1nm,0.3s,baz=298,slow=9.7,SNR=168						
PLCA				Lg	Lg	19 08 45.9	
	comp=N,35nm,0.3s,baz=270,slow=14,SNR=2.8						
PLCA	**Paso Flores**	**2.91**	**144**	*i*P	**Pb**	**19 07 50.9**	**-0.2**

TALC Talca 3.13 18 ⇓iP Pn 19 07 46.0 -1.5
TALC AML AML 19 08 45.9
comp=E,5µm,0.8s
CFAA Coronel Fontan 7.73 30 Pn Pn 19 08 48.7 -2.1
comp=E,1.7nm,0.3s,baz=219,slow=12,SNR=32
CFAA Sn Sn 19 10 20.2 +2.7
comp=E,0.7nm,0.3s,baz=186,slow=13,SNR=3.4
TRQA Tornquist 8.51 91 *e*Pn Pn 19 09 10.7 +9.2
comp=E,84nm,1.1s
LCO Las Campanas 9.52 11 *e*P Pn 19 09 08.8 -6.7
comp=E,38nm,0.3s
LVC Limon Verde 16.07 13 Pn Pn 19 10 41.2 -3.2
comp=E,22nm,0.3s,baz=174,slow=10,SNR=4.0
USHA Ushuaia 16.71 171 Pn Pn 19 10 52.8 +0.8
baz=318,slow=14,SNR=3.3
EFI East Falkland 16.83 147 *e*P P 19 10 57.9 +2.4
CPUP Villa Florida 17.72 52 P P 19 11 06.1 +0.6
comp=E,0.2nm,0.3s,baz=237,slow=8.0,SNR=9.2
CPUP Villa Florida 17.72 52 P P 19 11 06.1 +0.6
CPUP *e*P Pn 19 11 07.8 +2.9
BDFB Brasilia 31.45 51 P P 19 13 20.8 +1.3
comp=E,1.8nm,0.4s,baz=227,slow=14,SNR=2.2
OTAV Otavalo 38.79 351 *e*Pn P 19 14 19.6 -3.5
comp=E,15nm,1.3s
PTGA Pitinga 39.29 21 LR LR 19 32 52.7
comp=E,462nm,19.1s,baz=188,slow=40
VNA3 Neumayer Olymp 45.56 156 P P 19 15 19.7 +2.6
VNA1 Neumayer--Stat 45.91 155 P P 19 15 22.5 +2.7
VNA2 Neumayer--Watz 46.24 156 P P 19 15 24.9 +2.4
baz=275,slow=7.8
SDV Santo Domingo 47.08 3 *e*P P 19 15 23.9 -5.9
comp=E,7.2nm,1.0s
SNAA Sanae 47.78 156 P P 19 15 36.6 +2.0
SNAA Sanae 47.78 156 P P 19 15 35.6 +1.0
comp=E,5.8nm,1.1s,baz=282,slow=6.7,SNR=13
QSPA South Pole Qui 51.85 180 P P 19 16 04.6 -1.1
comp=E,6.8nm,0.9s,baz=305,slow=1.7,SNR=21
RKT Rikitea 54.62 267 *e*S S 19 23 48.9 -16
comp=E,177nm,26.5s
RKT *e*LR LR 19 31 50.6
comp=E,556nm,26.0s
VNDA Vanda 59.69 192 P P 19 17 00.9 -0.6
comp=E,1.2nm,1.0s,baz=138,slow=8.4,SNR=3.7
TBI Tubuai 65.78 259 *e*S S 19 26 12.2 -16
comp=E,335nm,26.8s
TBI Tubuai 65.78 259 *e*LR LR 19 37 02.3
comp=E,395nm,26.0s
TBI Tubuai 65.78 259 *e*T T 20 27 58.5
comp=E,8.1nm,0.3s
MEH Mehetia 67.74 264 *e*T T 20 30 23.3
comp=E,18nm,0.2s
TIAR Tiarei 68.92 264 *e*T T 20 31 52.0
comp=E,5.3nm,0.3s
PPT2 Papeete2 69.08 264 *e*S S 19 26 49.3 -19
comp=E,120nm,24.8s
PPT2 Papeete2 69.08 264 *e*LR LR 19 38 32.1
comp=E,318nm,26.5s
PPT Papeete 69.09 264 LR LR 19 41 02.7
comp=E,168nm,18.1s,baz=130,slow=30
MAW Mawson 69.15 163 P P 19 18 03.1 -0.3
comp=E,2.6nm,0.9s,baz=20,slow=20,SNR=3.5
MAW LR LR 19 50 43.0
comp=E,289nm,18.1s,baz=238,slow=38
035A Encino 69.18 336 ⇓P P 19 18 06.7 +2.6
baz=69
034A Hebbronville 69.48 335 ⇓P P 19 18 08.0 +2.0
baz=69,SNR=6.1
738A Farr-Stevens R 70.22 339 ⇓P P 19 18 11.7 +1.2
baz=70
835A Beeville 70.35 337 ⇑P P 19 18 13.4 +2.1
baz=70
834A Tilden 70.43 336 ⇓P P 19 18 13.7 +1.9
baz=70,SNR=5.3
736A Circle Diamond 70.74 338 ⇑P P 19 18 16.2 +2.5
baz=70
833A Chaparral WMA, 70.88 335 ⇓P P 19 18 15.3 +0.8
baz=71,SNR=5.2
832A Faith Ranch, C 71.04 335 ⇓P P 19 18 16.8 +1.3
baz=71
636A Smothers Creek 71.23 338 ⇑P P 19 18 18.4 +1.8
baz=71
732A Laxson Ranch, 71.45 335 ⇑P P 19 18 18.9 +0.9
baz=71,SNR=8.3
633A Saathoff Ranch 71.86 336 ⇑P P 19 18 22.1 +1.6
baz=72
632A Uvalde 72.11 335 ⇓P P 19 18 23.0 +1.1
baz=72,SNR=9.4
534A Blanco 72.17 337 ⇓P P 19 18 23.6 +1.3
baz=72
631A Perdido Creek 72.28 335 ⇓P P 19 18 24.5 +1.6
baz=72
LRAL Lakeview Retre 72.28 347 *e*P P 19 18 23.9 +1.0
comp=E,6.5nm,0.9s
533A Kerrville 72.39 336 ⇓P P 19 18 24.7 +1.1
baz=72,SNR=7.3
532A Rocksprings 72.72 336 ⇓P P 19 18 26.8 +1.1
baz=72,SNR=14
434A Burnet 72.84 337 ⇑P P 19 18 27.5 +1.2
baz=73,SNR=9.4
239A Gary 72.91 341 ⇑P P 19 18 28.5 +1.9
baz=73
336A Riesel 72.95 339 ⇓P P 19 18 28.5 +1.6
baz=73
531A Rocksprings 72.96 335 ⇓P P 19 18 28.3 +1.2
baz=73,SNR=8.8
JCT Junction City 73.01 336 *e*P P 19 18 27.6 +0.2
comp=E,30nm,1.0s
JCT Junction City 73.01 336 ⇓P P 19 18 28.1 +0.8
baz=73,SNR=11
335A Moody 73.03 338 ⇓P P 19 18 29.1 +1.7
baz=73
433A Art 73.04 336 ⇓P P 19 18 28.2 +0.7
baz=73,SNR=11
530A J-C Ranch, Com 73.21 334 ⇑P P 19 18 30.5 +1.9
baz=73
TXAR Lajitas Array 73.30 332 P P 19 18 27.6 -1.5
comp=E,8.1nm,0.7s,baz=163,slow=9.4,SNR=46
TXAR LR LR 19 44 34.0
comp=E,194nm,19.7s,baz=0.0,slow=31
334A Lometa 73.31 337 ⇓P P 19 18 30.0 +0.9
baz=73,SNR=16
432A Menard 73.37 336 ⇑P P 19 18 30.1 +0.7
baz=73
431A Sonora 73.46 335 ⇑P P 19 18 31.2 +1.2
baz=73,SNR=9.9
529A Stev Forest Ra 73.50 334 ⇓P P 19 18 32.2 +1.9
baz=73
333A Richland Sprin 73.53 337 ⇓P P 19 18 31.0 +0.6
baz=73
KMSC Kings Mountain 73.59 353 ⇓P P 19 18 31.9 +1.3
baz=74
138A Matatall Enter 73.67 341 ⇓P P 19 18 32.8 +1.7
baz=74
WHTX Lake Whitney, 73.70 338 ⇑P P 19 18 33.0 +1.7
baz=74
430A Baggett Ranch, 73.76 335 ⇓P P 19 18 32.8 +1.0
baz=74,SNR=13
332A Millersview 73.83 336 ⇑P P 19 18 33.1 +1.0
baz=74,SNR=12
429A Davenport Ranc 73.84 334 ⇑P P 19 18 33.7 +1.5
baz=74
234A Clairette 73.91 338 ⇑P P 19 18 34.2 +1.6
baz=74
331A San Angelo 73.98 336 ⇑P P 19 18 33.7 +0.7
baz=74,SNR=8.8
233A Rising Star 74.15 337 ⇑P P 19 18 34.8 +0.8
baz=74,SNR=8.2
Z38A Mt. Pleasant 74.21 341 ⇑P P 19 18 35.3 +1.1
baz=74
SWET Sewanee 74.25 349 *e*P P 19 18 35.3 +0.8
comp=E,29nm,1.0s
232A Coleman 74.26 336 ⇑P P 19 18 35.8 +1.1
baz=74,SNR=10
330A Mertzon 74.31 335 ⇑P P 19 18 35.7 +0.7
baz=74
134A White-Moore Ra 74.42 338 ⇓P P 19 18 36.6 +1.0
baz=74
231A Bronte 74.52 336 ⇓P P 19 18 36.9 +0.8
baz=74,SNR=6.0
329A Wagon Wheel Ra 74.66 334 ⇓P P 19 18 38.8 +1.8
baz=74
133A Hamilton Ranch 74.71 337 ⇑P P 19 18 37.9 +0.7
baz=74,SNR=5.4
230A Sterling City 74.73 335 ⇓P P 19 18 38.5 +1.0
baz=74
Z35A Perchaven, San 74.90 339 ⇓P P 19 18 40.0 +1.7
baz=75
ABTX Abilene, Hawle 74.94 337 *e*P P 19 18 39.0 +0.5
comp=E,29nm,1.0s
ABTX Abilene, Hawle 74.94 337 ⇓P P 19 18 39.4 +0.8
baz=75,SNR=5.8
229A Bryant Ranch, 75.04 335 ⇓P P 19 18 40.9 +1.7
baz=75
MIAR Mount Ida 75.09 342 *e*P P 19 18 40.8 +1.4
comp=E,9.8nm,1.2s
Z34A Collier Ranch, 75.12 338 ⇓P P 19 18 40.9 +1.4
baz=75
131A Roby 75.22 336 ⇓P P 19 18 41.8 +1.6
baz=75
Z33A Whitaker Ranch 75.29 338 ⇑P P 19 18 41.1 +0.5
baz=75,SNR=5.5
130A Snyder 75.34 336 ⇓P P 19 18 41.5 +0.7
baz=75
228A UT Block 9, Go 75.44 334 ⇓P P 19 18 43.6 +2.1
baz=75
WVT Waverly 75.45 347 *e*P P 19 18 42.9 +1.6
comp=E,17nm,1.1s
Z32A Haskell 75.53 337 ⇑P P 19 18 43.0 +1.1
baz=75,SNR=10
X37A Clayton 75.58 341 ⇑P P 19 18 43.3 +1.2
baz=75
Y34A Reagan Ranch, 75.63 339 ⇓P P 19 18 44.0 +1.6
baz=75
129A Stewart Farms, 75.67 335 ⇑P P 19 18 43.8 +1.0
baz=75
Z31A Sharp Cattle R 75.74 337 ⇑P P 19 18 43.9 +0.7
baz=76,SNR=5.4
X36A Centrahoma 75.82 340 ⇓P P 19 18 44.3 +0.8
baz=76,SNR=6.6
W38A Poteau 75.82 342 ⇓P P 19 18 45.6 +2.2
baz=76
X35A Drake 75.82 340 ⇑P P 19 18 44.9 +1.4
baz=76
128A Castleberry Fa 75.86 334 ⇑P P 19 18 45.7 +1.7
baz=76
Y33A Hilltop Ranch, 75.93 338 ⇑P P 19 18 45.5 +1.4
baz=76
Z30A Sanderson Ranc 76.03 336 ⇑P P 19 18 45.7 +0.9
baz=76,SNR=8.9
MNTX Cornudas Mount 76.06 332 *e*P P 19 18 45.1 +0.2
comp=E,6.8nm,1.0s
MNTX Cornudas Mount 76.06 332 ⇓P P 19 18 45.4 +0.4
baz=76
W37A Quinton 76.11 341 ⇑P P 19 18 46.2 +1.0
baz=76
Y32A R-V Farms, Ver 76.16 337 ⇑P P 19 18 46.9 +1.4
baz=76
Z29A Hungry Hill Ra 76.19 335 ⇑P P 19 18 46.7 +0.9
baz=76,SNR=11
X34A Smith Ranch, M 76.25 339 ⇓P P 19 18 47.3 +1.3
baz=76
W36A Watumka 76.32 340 ⇓P P 19 18 47.8 +1.4
baz=76
Y31A Rekieta Farm, 76.38 337 ⇓P P 19 18 48.0 +1.2
baz=76
Y30A Stafford Cattl 76.50 336 ⇑P P 19 18 48.3 +0.8
baz=76
W35A Tecumseh 76.51 340 ⇑P P 19 18 48.1 +0.7
baz=76
X32A Elmer 76.51 338 ⇓P P 19 18 48.5 +1.0
baz=76
WMOK Wichita Mounta 76.65 338 *e*P P 19 18 49.0 +0.7
comp=E,14nm,1.1s
LIC Lamto 76.76 71 *e*PKP2 P 19 18 51.0 +1.6
comp=E,71nm,1.5s
W34A Bridge Creek, 76.83 339 ⇑P P 19 18 50.9 +1.7
baz=77
X31A McDonald Ranch 76.91 337 ⇑P P 19 18 51.1 +1.3
baz=77,SNR=7.4
TUL1 Leonard 76.94 341 *e*P P 19 18 50.3 +0.5
comp=E,42nm,1.1s
TUL1 Leonard 76.94 341 ⇑P P 19 18 51.1 +1.3
baz=77
W33A Caddo, Fort Co 76.95 339 ⇓P P 19 18 51.5 +1.6
baz=77,SNR=9.5
X30A Coker Ranch, T 77.02 336 ⇓P P 19 18 52.8 +2.4
baz=77
TIC Toumodi 77.04 71 *e*PKP2 P 19 18 51.9 +0.9
comp=E,13nm,0.7s
KIC Kosan Boka 77.06 71 *e*PKP2 P 19 18 52.2 +1.1
comp=E,33nm,0.9s
V35A Meyer Ranch, C 77.07 340 ⇑P P 19 18 52.1 +1.5
baz=77
W32A Sentinel 77.15 338 ⇓P P 19 18 52.9 +1.8
baz=77
DBIC Dimbokro 77.18 71 P P 19 18 53.0 +1.2
comp=E,7.2nm,0.7s,baz=201,slow=5.6,SNR=8.9
DBIC LR LR 19 49 42.8
comp=E,151nm,20.2s,baz=209,slow=33
MSTX Muleshoe 77.19 335 *e*P P 19 18 53.0 +1.6
comp=E,23nm,1.0s
X29A Tulia 77.28 336 ⇑P P 19 18 53.5 +1.6
baz=77
319A Douglas 77.30 329 ⇓P P 19 18 55.0 +2.8
baz=77
V34A Guthrie 77.32 340 ⇓P P 19 18 53.3 +1.3
baz=77
W31A Holland Ranch, 77.41 337 ⇓P P 19 18 54.2 +1.6
baz=77
V33A Lossen Ranch, 77.52 339 ⇑P P 19 18 54.2 +1.1
baz=77
V32A Arapaho 77.64 338 ⇓P P 19 18 56.1 +2.3
baz=78
AMTX Amarillo 77.67 336 *e*P P 19 18 55.3 +1.2
comp=E,35nm,1.0s
AMTX Amarillo 77.67 336 ⇓P P 19 18 55.8 +1.7
baz=77
121A Cookes Peak, D 77.72 330 ⇓P P 19 18 56.3 +1.8
baz=77
W29A Amarillo 77.88 336 ⇑P P 19 18 56.7 +1.5
baz=78
V31A Spring Creek L 77.93 338 ⇓P P 19 18 57.6 +2.1
baz=78
U33A Lingo Farm, Me 78.05 339 ⇑P P 19 18 57.2 +1.2
baz=78
W28A Vega 78.19 336 ⇑P P 19 18 58.9 +1.9
baz=78
U32A Winter Ranch, 78.25 339 ⇓P P 19 18 58.9 +1.7
baz=78
S36A Lake Cedric, C 78.61 342 ⇑P P 19 19 01.3 +2.2
baz=78
T33A Patterson Ranc 78.69 339 ⇑P P 19 19 01.6 +2.0
baz=78
TUC Tucson 78.73 328 *e*P P 19 19 02.0 +2.0
comp=E,13nm,1.1s
S35A Otter Creek Ra 78.75 341 ⇑P P 19 19 01.3 +1.5
baz=79
T32A Huddler Ranch, 78.97 339 ⇓P P 19 19 03.4 +2.3
baz=79
R37A Teagarden Farm 78.98 342 ⇑P P 19 19 02.8 +1.7
baz=79
S33A Kaszmaul Farm, 79.11 340 ⇑P P 19 19 03.6 +1.8
baz=79
T31A Randall Ranch, 79.11 338 ⇓P P 19 19 03.4 +1.5
baz=79
214A Organ Pipe Nat 79.30 326 *e*P P 19 19 05.2 +2.2
comp=E,21nm,1.1s
214A Organ Pipe Nat 79.30 326 ⇓P P 19 19 05.6 +2.6
baz=79
ANMO Albuquerque 79.36 332 *e*P P 19 19 04.9 +1.3
comp=E,15nm,1.0s
U27A Thompson Grove 79.45 336 ⇑P P 19 19 05.5 +1.6
baz=79
S31A Mullinville 79.54 339 ⇓P P 19 19 06.1 +1.8
baz=79
S30A Montezuma 79.84 338 ⇓P P 19 19 08.2 +2.3
baz=80
T28A Walsh 79.87 337 ⇓P P 19 19 07.9 +1.8
baz=80
RPZ Rata Peaks 79.94 221 LR LR 19 46 58.1
comp=E,138nm,21.7s,baz=198,slow=30
T27A Campo 80.00 336 ⇑P P 19 19 08.4 +1.5
baz=80
R31A Burdett 80.18 339 ⇓P P 19 19 09.4 +1.7
baz=80
Q33A Connelly Farm, 80.38 340 ⇑P P 19 19 11.1 +2.4
baz=80
R30A Dighton 80.39 338 ⇓P P 19 19 11.2 +2.4
baz=80
T26A Comanche Natio 80.39 335 ⇑P P 19 19 11.6 +2.6
baz=80
113A Mohawk Valley, 80.41 326 ⇓P P 19 19 11.3 +2.4
baz=80
Z14A Wintersburg 80.56 327 ⇓P P 19 19 12.5 +2.6
baz=80
Q32A Meitler Ranch, 80.57 340 ⇑P P 19 19 11.9 +2.2
baz=80
T25A Trinidad 80.62 335 ⇑P P 19 19 12.9 +2.5
baz=80
S26A Kim 80.76 336 ⇓P P 19 19 13.0 +2.0
baz=80
W18A Petrified Fore 80.76 330 *e*P P 19 19 13.7 +2.6
comp=E,22nm,1.1s
W18A Petrified Fore 80.76 330 ⇑P P 19 19 13.8 +2.7
baz=80
R29A Marienthal 80.77 338 ⇓P P 19 19 13.3 +2.4
baz=81
X16A Lo Mia Camp, P 80.83 328 ⇑P P 19 19 14.2 +2.7
baz=80
R28A Tribune 80.90 337 ⇑P P 19 19 13.9 +2.2
baz=81
Q30A Quinter 81.02 339 ⇓P P 19 19 15.0 +2.8
baz=81
Y14A Wickenburg 81.07 327 ⇓P P 19 19 14.9 +2.2
baz=81
GLA Glamis 81.12 325 *e*P P 19 19 15.1 +2.2
comp=E,13nm,1.2s
GLA Glamis 81.12 325 ⇑P P 19 19 15.8 +2.9
baz=81
R27A Eads 81.15 337 ⇓P P 19 19 14.9 +1.9
baz=81
Q29A Oakley 81.15 338 ⇑P P 19 19 15.3 +2.3
baz=81
P31A Stockton 81.28 339 ⇑P P 19 19 15.3 +1.7
baz=81
IBP Imperial Bould 81.36 324 ⇑P P 19 19 17.0 +2.8
baz=81
R26A Arlington 81.37 336 ⇑P P 19 19 16.9 +2.7
baz=81
SWSC Sam W. Stewart 81.46 325 ⇓P P 19 19 17.7 +3.0
baz=81
SDCO Great Sand Dun 81.54 334 ⇓P P 19 19 17.6 +2.3
baz=81
P30A Selden 81.55 339 ⇓P P 19 19 17.5 +2.5
baz=81
Y12C Blythe 81.57 326 ⇓P P 19 19 18.5 +3.3
baz=81
MONP Monument Peak, 81.70 324 ⇑P P 19 19 18.7 +2.5
baz=81
WUAZ Wupatki 81.76 329 *e*P P 19 19 18.6 +2.2
comp=E,9.6nm,1.0s
WUAZ Wupatki 81.76 329 ⇑P P 19 19 19.2 +2.8
baz=81
P29A Atwood 81.80 338 ⇑P P 19 19 18.3 +2.0
baz=82
R24A Sanders Place, 81.85 335 ⇓P P 19 19 18.7 +1.8
baz=82
BC3 Big Chuckawall 81.91 325 ⇓P P 19 19 20.1 +3.0
baz=82
S22A 4UR Ranch, Cre 82.00 333 ⇑P P 19 19 19.8 +2.1
baz=82
R23A Moffat 82.05 334 ⇓P P 19 19 20.8 +2.8
baz=82
MVCO Mesa Verde 82.13 332 *e*P P 19 19 20.7 +2.3
comp=E,11nm,1.1s
MVCO Mesa Verde 82.13 332 ⇓P P 19 19 20.8 +2.5
baz=82
Q25A Bedland, Calha 82.18 336 ⇓P P 19 19 20.8 +2.2
baz=82
IRM Iron Mountain 82.20 326 ⇑P P 19 19 21.3 +2.8
baz=82
PFO Pinyon Flats O 82.32 324 ⇑P P 19 19 22.2 +2.8
baz=82
BELC Belle Mtn. Jos 82.44 325 ⇓P P 19 19 22.3 +2.4
baz=82
W13A Hualapai Mount 82.44 327 ⇑P P 19 19 22.8 +2.8
baz=82
P26A Davis Ranch, A 82.49 337 ⇑P P 19 19 22.2 +2.1
baz=82
Q24A Divide 82.52 335 ⇑P P 19 19 22.6 +2.1
baz=82
MURC Murrieta 82.66 324 ⇑P P 19 19 23.9 +3.0
baz=82
P25A Willow Gulch B 82.70 336 ⇑P P 19 19 23.9 +2.6
baz=82
O27A Beecher Island 82.80 338 ⇓P P 19 19 24.3 +2.7
baz=83
U15A North Rim 82.92 329 ⇓P P 19 19 25.3 +2.8
baz=83
GMRC Granite Mounta 82.94 326 ⇑P P 19 19 26.0 +3.5
baz=83
O26A Horse Wrangler 83.10 337 ⇓P P 19 19 25.3 +2.1
baz=83
HEC Hector,Ludlow 83.28 325 ⇑P P 19 19 27.1 +2.9
baz=83
SMCO Snowmass 83.33 334 *e*P P 19 19 25.4 +0.7
comp=E,9.9nm,1.1s
BFSC Mount Baldy Ra 83.40 324 ⇑P P 19 19 28.1 +3.2
baz=83
ISCO Idaho Springs 83.43 335 ⇑P P 19 19 27.3 +2.1
baz=83
TUQ Turquoise Moun 83.61 326 ⇓P P 19 19 29.1 +3.1
baz=83
O23A Lake Granby, G 83.90 335 ⇑P P 19 19 30.1 +2.5
baz=84
L29A Maesberg Ranch 83.96 340 ⇓P P 19 19 30.2 +2.7
baz=84
O22A Kremmling 84.07 335 ⇑P P 19 19 31.0 +2.5
baz=84
EDW2 Edwards Air Fo 84.08 324 ⇑P P 19 19 30.8 +2.5
baz=84
SHPR Sheep Range 84.18 327 *e*P P 19 19 31.8 +2.9
comp=E,4.0nm,1.0s
N23A Red Feather La 84.53 335 ⇓P P 19 19 32.5 +1.8
baz=84
ECSD EROS Data Cent 84.55 343 *e*P P 19 19 31.4 +1.0
comp=E,23nm,1.0s
ECSD EROS Data Cent 84.55 343 ⇓P P 19 19 31.7 +1.3
baz=84
N22A Wattenberg Ran 84.61 335 ⇓P P 19 19 33.1 +2.0
baz=84
MPMC Manual Prospec 84.83 325 ⇑P P 19 19 34.7 +2.4
baz=84
ISA Isabella, Lake 84.95 324 ⇑P P 19 19 35.9 +3.2
baz=85
M23A Laramie 84.97 336 ⇓P P 19 19 34.9 +2.0
baz=85
TPNV Topopah Spring 85.02 326 ⇑P P 19 19 36.3 +3.2
baz=85
J28A Allard Ranch, 85.42 340 ⇓P P 19 19 37.2 +2.4
baz=85
NLU North Lily Min 85.88 331 *e*P P 19 19 40.0 +2.6
comp=E,5.2nm,1.0s
R11A Troy Canyon, C 85.92 328 *e*P P 19 19 40.3 +2.6
comp=E,2.5nm,0.3s
R11A Troy Canyon, C 85.92 328 ⇓P P 19 19 40.2 +2.6
baz=86
I28A Midland 85.94 340 ⇑P P 19 19 39.7 +2.3
baz=86
TORD Torodi Ar. Bea 86.27 70 P P 19 19 39.6 0.0
comp=E,1.4nm,0.5s,baz=222,slow=5.2,SNR=21
TORD LR LR 19 56 20.3
comp=E,142nm,18.9s,baz=295,slow=34
K22A Casper 86.30 336 ⇑P P 19 19 42.3 +3.0
baz=86
J24A Dixon Ranch, L 86.33 337 ⇓P P 19 19 41.9 +2.5
baz=86
DUG Dugway, Tooele 86.37 330 *e*P P 19 19 42.3 +2.6
comp=E,12nm,1.3s
DUG Dugway, Tooele 86.37 330 ⇑P P 19 19 42.7 +3.0
baz=86
TPH Tonopah 86.39 326 *e*P P 19 19 42.5 +2.6
comp=E,16nm,1.1s
I25A Rochford 86.68 338 ⇓P P 19 19 43.2 +2.0
baz=86
H27A Howes 86.77 340 ⇓P P 19 19 43.5 +2.0
baz=87
G28A Parade 86.87 340 ⇑P P 19 19 44.7 +2.8
baz=87
HWUT Hardware Ranch 87.12 332 *e*P P 19 19 45.9 +2.5
comp=E,5.7nm,0.4s
H25A Fruitdale 87.19 339 ⇑P P 19 19 46.2 +2.7
baz=87
J21A Lysite 87.22 335 ⇓P P 19 19 46.4 +2.5
baz=87
I22A 9 Mile Ranch, 87.40 336 ⇓P P 19 19 46.7 +2.0
baz=87
PDAR Pinedale Array 87.42 334 P P 19 19 43.6 -1.3
comp=E,4.4nm,1.1s,baz=132,slow=4.2,SNR=16
G27A Dupree 87.42 340 ⇓P P 19 19 46.5 +2.0
baz=87
J20A Shoshoni 87.44 335 ⇑P P 19 19 48.0 +3.2
baz=87
G26A Maurine 87.53 339 ⇑P P 19 19 47.2 +2.1
baz=87

H24A	**Dirks Ranch, A**	**87.58**	**338**	⇑P		**P**		**19 19 46.3**	**+0.8**
	baz=87								
I21A	**Big Trails, Te**	**87.59**	**336**	⇓P		**P**		**19 19 47.8**	**+2.2**
	baz=87								
J19A	**Crowheart**	**87.68**	**334**	⇓P		**P**		**19 19 48.3**	**+2.2**
	baz=87								
ELK	**Elko**	**87.80**	**329**	*e*P		**P**		**19 19 48.9**	**+2.1**
	comp=E,7.1nm,1.1s								
I20A	**Worland**	**87.98**	**335**	⇑P		P		19 19 50.7	+3.3
	baz=88								
F24A	**Ekalaka**	**88.55**	**338**	⇓P		**P**		**19 19 52.1**	**+2.1**
	baz=88								
AGMN	**Agassiz Nation**	**88.72**	**345**	*e*P		**P**		**19 19 52.2**	**+1.6**
	comp=E,3.9nm,0.6s								
F23A	**Volborg**	**88.72**	**338**	⇓P		**P**		**19 19 52.7**	**+1.9**
	baz=88								
E25A	**Miller Ranch,**	**88.86**	**339**	⇑P		**P**		**19 19 54.0**	**+2.6**
	baz=89								
MDND	**Maddock**	**89.13**	**342**	⇓P		**P**		**19 19 55.4**	**+2.9**
	baz=89								
H18A	**Shoshone NF, C**	**89.14**	**335**	⇓P		**P**		**19 19 55.8**	**+2.8**
	baz=89								
B30A	**Myrvik Farm, E**	**89.40**	**343**	⇓P		**P**		**19 19 56.3**	**+2.5**
	baz=89								
C27A	**Sayler Ranch,**	**89.47**	**341**	⇑P		**P**		**19 19 57.3**	**+3.1**
	baz=89								
HLID	**Hailey**	**89.87**	**331**	*e*P		**P**		**19 19 59.2**	**+2.8**
	comp=E,6.6nm,1.2s								
HLID	**Hailey**	**89.87**	**331**	⇓P		P		19 19 59.8	+3.5
	baz=90								
D23A	**Lindsay**	**89.98**	**339**	⇑P		**P**		**19 19 59.2**	**+2.6**
	baz=90								
MFID	**Camas Ranch**	**90.29**	**330**	*e*P		**P**		**19 20 00.7**	**+2.4**
	comp=E,4.6nm,1.0s								
BMO	**Blue Mountains**	**92.07**	**330**	*e*P		**P**		**19 20 07.6**	**+1.1**
	comp=E,5.2nm,0.8s								
ASAR	**Alice Springs**	**113.38**	**207**	PKKPbc		PKKPbc		19 36 23.4	+3.8
	comp=E,0.6nm,0.9s,baz=336,slow=2.4,SNR=4.4								
GERES	**GERESS Array B**	**115.63**	**47**	PKP		**PKPdf**		**19 25 37.4**	**-1.9**
	comp=E,0.1nm,0.3s,baz=252,slow=0.3,SNR=2.7								
WRA	**Warramunga Arr**	**116.63**	**209**	PKP		**PKPdf**		**19 25 37.9**	**-4.3**
	comp=E,0.5nm,0.8s,baz=162,slow=1.5,SNR=4.2								
BRTR	**Keskin Array B**	**124.41**	**64**	PKP		**PKPdf**		**19 25 55.0**	**-1.6**
	comp=E,0.7nm,0.7s,baz=227,slow=4.9,SNR=4.8								
AKASG	**Malin Array Be**	**125.54**	**50**	PKP		**PKPdf**		**19 25 54.7**	**-3.4**
	comp=E,0.3nm,0.4s,baz=259,slow=3.5,SNR=4.4								
GEYT	**Alibeck**	**141.76**	**75**	PKhKP		PKPpre		19 26 23.2	
	comp=E,1.1nm,0.7s,baz=292,slow=15,SNR=3.8								
AKTO	**Aktyubinsk**	**143.50**	**54**	PKP		PKPab		19 26 27.4	-0.6
	comp=E,5.0nm,0.7s,baz=277,slow=2.3,SNR=20								
ABKAR	**Akbulak array**	**144.74**	**56**	*e*PKPdf		**PKPab**		**19 26 31.4**	**-1.3**
URV	**Uravakonda**	**144.75**	**123**	*e*PKPab		**PKPab**		**19 26 32.9**	**-0.9**
URV				*e*				19 26 34.4	
TIXI	**Tiksi**	**144.88**	**348**	*e*PKPdf		**PKPdf**		**19 26 33.6**	**+0.2**
NJS	**Nagarjunasagar**	**147.26**	**124**	*e*PKPbc		**PKPdf**		**19 26 37.9**	**-1.2**
NJS				*e*				19 26 40.9	
HYB	**Hyderabad**	**147.38**	**122**	*i* PKP		**PKPdf**		**19 26 40.0**	**+0.7**
HYBB	**Hyderabad (bro**	**147.38**	**122**	*e*PKPbc		**PKPdf**		**19 26 39.5**	**+0.2**
HYBB				*e*				19 26 41.2	
BRVK	**Borovoye**	**150.72**	**48**	*e*PKPdf		**PKPdf**		**19 26 41.6**	**-1.9**
BVAR	**Borovoye Array**	**150.79**	**48**	PKPbc		**PKPbc**		**19 26 46.7**	**-2.6**
	comp=E,2.8nm,0.7s,baz=297,slow=4.6,SNR=18								
BVAR				PKPab		**PKPab**		**19 26 54.5**	**-2.0**
	comp=E,7.0nm,0.7s,baz=291,slow=3.0,SNR=25								
EKS2	**Erkin-Say**	**154.33**	**70**	*e*PKPdf		**PKPdf**		**19 26 48.0**	**-1.4**
AAK	**Ala-Archa**	**154.86**	**70**	PKPbc		**PKPbc**		**19 26 55.1**	**-3.8**
	comp=E,1.6nm,0.7s,baz=294,slow=3.3,SNR=5.4								
AAK				PKPab		**PKPab**		**19 27 12.6**	**-1.6**
	comp=E,2.2nm,0.5s,baz=314,slow=1.3,SNR=5.7								
AAK	**Ala-Archa**	**154.86**	**70**	*e*PKPbc		**PKPbc**		**19 26 56.6**	**-2.2**
AAK				PKPab		**PKPab**		**19 27 12.6**	**-1.6**
TKM2	**Tokmak 2**	**155.67**	**69**	*e*PKPdf		**PKPdf**		**19 26 50.0**	**-1.3**
KURBB	**Kurchatov Arra**	**156.33**	**50**	PKP		**PKPdf**		**19 26 48.6**	**-3.0**
	comp=E,0.6nm,0.7s,baz=317,slow=2.8,SNR=4.2								
KURBB				PKPab		**PKPab**		**19 27 18.1**	**-1.9**
	comp=E,1.1nm,0.9s,baz=292,slow=4.2,SNR=4.7								
KURBB				PP		**PP**		**19 31 01.5**	**+3.4**
	comp=E,0.6nm,0.2s,baz=285,slow=6.1,SNR=4.6								
KURK	**Kurchatov**	**156.35**	**49**	PKP		**PKPdf**		**19 26 48.6**	**-3.0**
KURK				PKPab		**PKPab**		**19 27 18.1**	**-2.0**
KURK				PP		**PP**		**19 31 01.5**	**+3.2**
ZALV	**Zalesovo Beam**	**158.17**	**37**	PKP		**PKPdf**		**19 26 50.1**	**-3.7**
	comp=E,0.6nm,0.7s,baz=211,slow=2.6,SNR=4.0								
ZALV				PKPab		**PKPab**		**19 27 27.1**	**-0.8**
	comp=E,1.6nm,0.6s,baz=318,slow=6.0,SNR=7.6								
CMAR	**Chiang Mai Arr**	**158.87**	**158**	PKP		**PKPdf**		**19 26 52.6**	**-3.2**
	comp=E,0.4nm,0.7s,baz=218,slow=5.5,SNR=4.2								
MK31	**Makanchi Array**	**159.88**	**57**	*e*PKPdf		**PKPdf**		**19 26 54.5**	**-1.7**
MKAR	**Makanchi Array**	**159.88**	**57**	PKP		**PKPdf**		**19 26 53.0**	**-3.2**
	comp=E,0.7nm,1.0s,baz=305,slow=4.3,SNR=6.0								
MKAR				PP		PP		19 31 26.6	+8.6
	comp=E,0.3nm,0.8s,baz=268,slow=8.5,SNR=4.6								
SONM	**Songino Array**	**170.54**	**3**	PKP		**PKPdf**		**19 27 04.0**	**-1.3**
	comp=E,0.4nm,1.0s,baz=40,slow=7.6,SNR=2.9								
SONM				PKPab		**PKPab**		**19 28 19.0**	**-3.5**
	comp=E,0.4nm,0.7s,baz=346,slow=3.0,SNR=3.3								

*ISCJB **03** 19:13:28.6±0.7, 37°.47N±0°.03×20°.24E±0°.04, h2km±4km, mb3.4/6, Error ellipse: s-maj=5.4km s-min=4.4km az=160.4*
*IDC **03** 19:13:28.6±1.4, 37°.59N×20°.63E, h0km, mb3.5/6, mb1 3.4/7, mb1mx3.2/48, mbtmp3.4/7, Error ellipse: s-maj=40.8km s-min=22.9km az=123.0*
*CSEM **03** 19:13:29.4±0.4, 37°.45N×20°.28E, h2km, MD4.0, Error ellipse: s-maj=7.4km s-min=5.3km az=54.0*
*ATH **03** 19:13:30.9, 37°.46N×20°.40E, h17km±2km, MD4.0/14*
*THE **03** 19:13:31.4, 37°.53N×20°.39E, h0km±1km, ML3.5/8, Error ellipse: s-maj=2.1km s-min=0.8km az=238.0*

ISC 03 19:13:29.1±1.4, **37°.48N**±0°.03×**20°.28E**±0°.04, **h7**km±9km, **n88**, σ1§07/128, **mb3.6**/6, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFD	**Strofades**	**0.63**	**111**	P	**Pb**	**19 13 42.3**	**-0.2**
SFD				S	**Sb**	**19 13 51.2**	**-0.3**
SFD	**Strofades**	**0.63**	**111**	*e*PN	**Pb**	**19 13 42.3**	**-0.2**
VLS	**Valsamata**	**0.74**	**19**	P	**Pg**	**19 13 43.5**	**+0.1**
VLS				S	**Sg**	**19 13 53.2**	**+0.1**
VLS	**Valsamata**	**0.74**	**19**	*e*PB	**Pg**	**19 13 43.7**	**+0.3**
VLS				*e*SN	**Sb**	**19 13 56.2**	**+1.4**
VLS	**Valsamata**	**0.74**	**19**	P	**Pg**	**19 13 43.5**	**+0.1**
VLS				S	**Sg**	**19 13 53.2**	**+0.1**
KFL	**Anninata**	**0.75**	**32**	P	**Pb**	**19 13 44.4**	**-0.2**
KFL				S	**Sg**	**19 13 53.2**	**-0.1**
KFL	**Anninata**	**0.75**	**32**	P	**Pb**	**19 13 44.4**	**-0.2**
KFL				S	**Sg**	**19 13 53.2**	**-0.1**
VTN	**Vitineika**	**0.84**	**58**	P	**Pg**	**19 13 45.0**	**-0.3**
VTN				S	**Sg**	**19 13 56.0**	**-0.3**
RLS	**Riolos of Patr**	**1.11**	**58**	P	**Pg**	**19 13 50.3**	**-0.1**
RLS				S	**Sb**	**19 14 05.1**	**-0.1**
RLS	**Riolos of Patr**	**1.11**	**58**	*e*PN	**Pg**	**19 13 50.1**	**-0.3**
RLS				*e*SN	**Sg**	**19 14 04.0**	**-0.7**
RLS	**Riolos of Patr**	**1.11**	**58**	*e*Pn	**Pg**	**19 13 50.1**	**-0.3**
RLS				S	**Sb**	**19 14 05.1**	**-0.1**
AMT	**Artemida-Makis**	**1.14**	**87**	P	**Pb**	**19 13 51.2**	**+0.1**
AMT				S	**Sb**	**19 14 06.1**	**-0.1**
AMT	**Artemida-Makis**	**1.14**	**87**	*e*PN	**Pb**	**19 13 51.3**	**+0.1**
AMT				*e*SN	**Sg**	**19 14 04.0**	**-1.8**
AMT	**Artemida-Makis**	**1.14**	**87**	*e*Pn	**Pb**	**19 13 51.3**	**+0.1**
AMT				S	**Sb**	**19 14 06.1**	**-0.1**
DRO	**Drossia**	**1.23**	**67**	P	**Pb**	**19 13 53.0**	**+0.2**
DRO				S	**Sn**	**19 14 09.9**	**+0.1**
DRO	**Drossia**	**1.23**	**67**	*e*PN	**Pb**	**19 13 52.9**	**+0.2**
DRO				*e*SN	**Sn**	**19 14 09.7**	**-0.1**
DRO	**Drossia**	**1.23**	**67**	*e*Pn	**Pb**	**19 13 52.9**	**+0.2**
DRO				S	**Sn**	**19 14 09.9**	**+0.1**
PYL	**PYLOS**	**1.30**	**116**	P	**Pb**	**19 13 54.7**	**+0.7**
PYL	**PYLOS**	**1.30**	**116**	*e*PN	**Pb**	**19 13 54.5**	**+0.5**
PYL	**PYLOS**	**1.30**	**116**	*e*Pn	**Pb**	**19 13 54.5**	**+0.5**
PDO	**Prodromos**	**1.33**	**32**	P	**Pb**	**19 13 55.1**	**+0.7**
PDO				S	**Sn**	**19 14 13.0**	**+0.9**
PDO	**Prodromos**	**1.33**	**32**	*e*PN	**Pb**	**19 13 55.1**	**+0.7**
PDO				*e*SN	**Sn**	**19 14 13.5**	**+1.4**
PDO	**Prodromos**	**1.33**	**32**	P	**Pb**	**19 13 55.1**	**+0.7**
PDO				S	**Sn**	**19 14 13.0**	**+0.9**
LKD2	**Lefkada island**	**1.34**	**13**	P	**Pg**	**19 13 55.7**	**+0.8**
LKD2				S	**Sn**	**19 14 13.8**	**+1.2**
LKD2	**Lefkada island**	**1.34**	**13**	*e*PN	**Pg**	**19 13 56.3**	**+1.4**
LKD2				*e*SN	**Sn**	**19 14 14.7**	**+2.1**
LKD2	**Lefkada island**	**1.34**	**13**	P	**Pg**	**19 13 55.7**	**+0.8**
LKD2	**Lefkada island**	**1.34**	**13**	*e*Pn	**Pg**	**19 13 56.3**	**+1.4**
LKD2				S	**Sn**	**19 14 13.8**	**+1.2**
LKD2				*e*Sn	**Sn**	**19 14 14.7**	**+2.1**
ITM	**Ithomi**	**1.35**	**102**	P	**Pb**	**19 13 55.5**	**+0.8**
ITM	**Ithomi**	**1.35**	**102**	*e*PN	**Pb**	**19 13 55.0**	**+0.3**
ITM				*e*SN	**Sg**	**19 14 11.3**	**-1.1**
ITM	**Ithomi**	**1.35**	**102**	*e*Pn	**Pb**	**19 13 55.0**	**+0.3**
ITM				*e*Sn	**Sg**	**19 14 11.3**	**-1.1**
UPR	**University Cam**	**1.44**	**56**	P	**Pg**	**19 13 56.7**	**-0.1**
UPR				S	**Sn**	**19 14 16.9**	**+2.0**
PVO	**Paravola**	**1.50**	**40**	P	**Pg**	**19 13 58.1**	**+0.1**
PVO				S	**Sg**	**19 14 18.8**	**+1.3**
PVO	**Paravola**	**1.50**	**40**	P	**Pg**	**19 13 58.1**	**+0.1**
PVO				S	**Sg**	**19 14 18.8**	**+1.3**
KLV	**Kalavryta, Ach**	**1.59**	**69**	P	**Pb**	**19 13 58.7**	**-0.2**
KLV	**Kalavryta, Ach**	**1.59**	**69**	*e*PN	**Pb**	**19 13 58.9**	**0.0**
KLV				*e*SN	**Sg**	**19 14 20.4**	**+0.2**
KLV	**Kalavryta, Ach**	**1.59**	**69**	P	**Pb**	**19 13 58.7**	**-0.2**
KLV				*e*Sn	**Sg**	**19 14 20.4**	**+0.2**
EFP	**Efpalio**	**1.60**	**53**	P	**Pb**	**19 13 59.1**	**+0.1**
EFP				S	**Sg**	**19 14 20.9**	**+0.4**
EFP	**Efpalio**	**1.60**	**53**	*e*PN	**Pb**	**19 13 59.3**	**+0.3**
EFP				*e*SN	**Sg**	**19 14 21.3**	**+0.8**
EFP	**Efpalio**	**1.60**	**53**	*e*Pn	**Pb**	**19 13 59.3**	**+0.3**
EFP				S	**Sg**	**19 14 20.9**	**+0.4**
EFP				*e*Sn	**Sg**	**19 14 21.3**	**+0.8**
VLX	**Vlachokerasia**	**1.68**	**93**	P	**Pb**	**19 14 00.4**	**0.0**
GUR	**Goura**	**1.70**	**74**	P	**Pb**	**19 14 00.3**	**-0.5**
GUR				S	**Sg**	**19 14 23.1**	**-0.7**
GUR	**Goura**	**1.70**	**74**	*e*PN	**Pb**	**19 14 00.4**	**-0.4**
GUR	**Goura**	**1.70**	**74**	P	**Pb**	**19 14 00.3**	**-0.5**
GUR				S	**Sg**	**19 14 23.1**	**-0.7**
KALE	**Kalithea**	**1.73**	**58**	P	**Pn**	**19 14 00.6**	**+0.8**
DSL	**Palaion Diasel**	**1.77**	**21**	P	**Pn**	**19 14 02.1**	**0.0**
DSL				S	**Sn**	**19 14 24.2**	**+1.0**
DSL	**Palaion Diasel**	**1.77**	**21**	P	**Pb**	**19 14 02.1**	**0.0**
DSL				S	**Sn**	**19 14 24.2**	**+1.0**
EVR	**Evrytania**	**1.88**	**40**	P	**Pn**	**19 14 02.6**	**+0.8**
EVR	**Evrytania**	**1.88**	**40**	P	**Pn**	**19 14 02.6**	**+0.8**
DSF	**Desfina**	**2.01**	**62**	P	**Pn**	**19 14 04.6**	**+1.0**
DSF				S	**Sn**	**19 14 30.0**	**+1.0**
DSF	**Desfina**	**2.01**	**62**	*e*PN	**Pn**	**19 14 04.8**	**+1.2**
DSF	**Desfina**	**2.01**	**62**	*e*Pn	**Pn**	**19 14 04.8**	**+1.2**
DSF				S	**Sn**	**19 14 30.0**	**+1.0**
IGT	**Igoumenitsa**	**2.05**	**1**	P	**Pn**	**19 14 05.5**	**+1.4**
IGT	**Igoumenitsa**	**2.05**	**1**	P	**Pn**	**19 14 05.5**	**+1.4**
MAKR	**Makrakomi, Fth**	**2.12**	**43**	P	**Pb**	**19 14 06.8**	**-1.1**
MAKR				S	**Sb**	**19 14 33.5**	**-0.9**
MAKR	**Makrakomi, Fth**	**2.12**	**43**	P	**Pb**	**19 14 06.8**	**-1.1**
MAKR				S	**Sb**	**19 14 33.5**	**-0.9**
AXAR	**Agios Charalam**	**2.28**	**55**	P	**Pn**	**19 14 08.0**	**+0.8**
LKR	**Lokris**	**2.45**	**61**	P	**Pn**	**19 14 09.7**	**+0.2**
LKR	**Lokris**	**2.45**	**61**	*e*PB	**Pn**	**19 14 10.2**	**+0.7**
LKR	**Lokris**	**2.45**	**61**	*e*Pb	**Pn**	**19 14 10.2**	**+0.7**
THL	**Klokotos Trika**	**2.49**	**33**	P	**Pn**	**19 14 11.6**	**+1.5**
THL	**Klokotos Trika**	**2.49**	**33**	P	**Pn**	**19 14 11.6**	**+1.5**
KYTH	**Kithira**	**2.51**	**118**	P	**Pn**	**19 14 12.2**	**+1.7**
KYTH	**Kithira**	**2.51**	**118**	*e*PN	**Pn**	**19 14 12.4**	**+1.9**
KYTH	**Kithira**	**2.51**	**118**	P	**Pn**	**19 14 12.2**	**+1.7**
XOR	**Xorichti**	**2.96**	**50**	P	**Pn**	**19 14 17.2**	**+0.5**
XOR	**Xorichti**	**2.96**	**50**	P	**Pn**	**19 14 17.2**	**+0.5**
OHR	**Ohrid**	**3.65**	**6**	*i* Pn	**Pb**	**19 14 32.2**	**-1.9**
OHR	**Ohrid**	**3.65**	**6**	*i* Pn	**Pb**	**19 14 32.2**	**-1.9**
VAY	**Valandovo**	**4.23**	**24**	*i* Pn	**Pn**	**19 14 32.6**	**-1.4**
VAY	**Valandovo**	**4.23**	**24**	*i* Pn	**Pn**	**19 14 32.6**	**-1.4**
STON	**Ston**	**5.74**	**341**	*e*Pn	**Pn**	**19 14 54.3**	**-0.5**
STON				Sn	**Sn**	**19 15 56.3**	**-4.5**
STON	**Ston**	**5.74**	**341**	*e*Pn	**Pn**	**19 14 54.2**	**-0.5**
UDBI	**Udbina**	**7.83**	**336**	*e*Pn	**Pn**	**19 15 21.3**	**-2.1**
UDBI				Sn	Sn	19 16 42.9	-9.4
NVLJ	**Novalja**	**8.17**	**332**	*e*Pn	Pn	19 15 23.8	-4.4
NVLJ				Sn	Sn	19 16 47.0	-14
MLR	**Muntele Rosu**	**9.06**	**26**	Pn	**Pn**	**19 15 39.5**	**-1.0**
	baz=153,slow=14						
KECS	**Kecovo**	**11.00**	**1**	*e*PN	Pn	19 16 00.6	-6.3
KOLS	**Kolonicke sedl**	**11.54**	**7**	*e*PN	Pn	19 16 08.1	-6.2
HFS	**Hagfors**	**23.06**	**352**	P	**P**	**19 18 35.0**	**0.0**
	0.9nm,0.5s,baz=170,slow=12,SNR=5.4						
FINES	**FINESS Array B**	**24.27**	**7**	P	**P**	**19 18 45.0**	**-1.7**
	1.3nm,0.8s,baz=181,slow=11,SNR=5.6						
TORD	**Torodi Ar. Bea**	**29.37**	**219**	P	**P**	**19 19 35.9**	**+3.0**
	0.9nm,0.9s,baz=32,slow=9.6,SNR=4.5						
KURBB	**Kurchatov Arra**	**42.80**	**53**	P	**P**	**19 21 25.7**	**-1.7**
	0.2nm,0.5s,baz=277,slow=8.6,SNR=2.7						
MKAR	**Makanchi Array**	**45.83**	**58**	P	**P**	**19 21 49.2**	**-2.6**
	0.1nm,0.4s,baz=284,slow=5.8,SNR=3.1						
ZALV	**Zalesovo Beam**	**46.30**	**48**	P	**P**	**19 21 53.9**	**-1.4**
	0.3nm,0.3s,baz=260,slow=8.5,SNR=2.5						

*JSN **03** 19:21:18.7±6.9, 18°.58N×71°.85W, h14km±999km, MD5.0*
*IDC **03** 19:21:23.1±1.1, 18°.49N×72°.56W, h0km, mb3.8/8, mb1 4.2/10, mb1mx3.8/46, mbtmp3.9/10, ML4.1/2, MS3.7/1, Ms1 3.7/1, ms1mx3.1/32, Error ellipse: s-maj=42.3km s-min=18.8km az=45.0*
*ISCJB **03** 19:21:24.1±0.6, 18°.49N±0°.05×72°.59W±0°.03, h19km±5km, mb3.9/11, MS4.4/3, Error ellipse: s-maj=8.9km s-min=5.2km az=14.4*
*NEIC **03** 19:21:24.7±0.6, 18°.51N×72°.62W, h10km±4km, mb4.3/5, Error ellipse: s-maj=7.6km s-min=4.5km az=209.0*
NEIC Felt [III] at Delmas, Petionville and Port-au-Prince. Also felt at Anse-a-Pitre and Croix des Bouquets.

ISC 03 19:21:24.9±1.0, **18°.52N**±0°.05×**72°.61W**±0°.04, **h14**km±6km, **n44**, σ1§22/47, **mb4.0**/11, **MS4.7**/3, **Haiti region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LGNH	**LØogne**	**0.01**	**175**	*i* P	**Pg**	**19 21 26.8**	**-0.5**
JAKH	**Jacmel**	**0.29**	**163**	*i* P	**Pg**	**19 21 30.8**	**-0.2**
PAPH	**Port-au-Prince**	**0.29**	**89**	*i* P	**Pg**	**19 21 29.7**	**-1.2**
WSYH	**La Gonave Hosp**	**0.40**	**322**	*i* P	**Pg**	**19 21 32.8**	**0.0**
SDDR	**Presa de Saban**	**1.33**	**69**	*e*Pn	**Pn**	**19 21 47.0**	**-2.1**
GTBY	**Guantanamo Bay**	**2.75**	**301**	*e*Pn	**Pn**	**19 22 07.6**	**-1.0**
SMN1	**Samana, DR**	**3.23**	**78**	*e*Pn	**Pn**	**19 22 16.4**	**+1.2**
GRTK	**Grand Turk**	**3.29**	**25**	*e*Pn	**Pn**	**19 22 16.0**	**0.0**
GWJ	**Greenwich**	**3.94**	**264**	*i* P	**Pn**	**19 22 25.4**	**+0.3**
HOJ	**Hope**	**3.97**	**263**	*i* P	**Pn**	**19 22 26.0**	**+0.8**
STH	**Stony Hill**	**4.02**	**264**	*i* P	**Pn**	**19 22 26.5**	**+0.4**
STH				*i* S	**Sb**	**19 23 20.9**	**-3.1**
BBJ	**Bamboo Saint A**	**4.43**	**269**	*i* P	**Pn**	**19 22 34.4**	**+2.7**
MTDJ	**Mount Denham**	**4.69**	**267**	Pn	**Pn**	**19 22 35.5**	**+0.1**
MCJ	**Malvern**	**4.87**	**264**	*i* P	Pb	19 22 46.0	-4.0
AGPR	**Aguadilla, PR**	**5.21**	**90**	Pn	**Pn**	**19 22 41.8**	**-0.7**
CRPR	**Cabo Rojo, PR**	**5.25**	**95**	*e*Pn	**Pn**	**19 22 43.3**	**+0.4**
LSP	**Las Mesas**	**5.25**	**93**	*e*P	**Pn**	**19 22 44.8**	**+1.8**
LRS	**Lares**	**5.47**	**91**	*e*Pn	**Pn**	**19 22 48.1**	**+2.0**
OBIP	**Obispado Ponce**	**5.72**	**94**	*e*Pn	**Pn**	**19 22 50.2**	**+0.7**
CELP	**Cerrillos**	**5.74**	**93**	*e*Pn	**Pn**	**19 22 50.3**	**+0.6**
ICMP	**Isla Caja de M**	**5.81**	**95**	*e*Pn	**Pn**	**19 22 52.1**	**+1.4**
SJG	**San Juan**	**6.15**	**93**	Pn	**Pn**	**19 22 56.0**	**+0.7**
SDV	**Santo Domingo**	**9.76**	**168**	*e*Pn	**Pn**	**19 23 45.4**	**+0.3**
PCRV	**Puerto La Cruz**	**11.33**	**136**	Pn	**Pn**	**19 24 05.9**	**-0.6**
	2.5nm,0.3s,baz=324,slow=7.5,SNR=6.3						
GRGR	**Grenville**	**12.32**	**119**	*e*Pn	**Pn**	**19 24 21.5**	**+1.4**
TKL	**Tuckaleechee C**	**19.73**	**332**	P	**Pn**	**19 25 56.7**	**+1.1**
	0.3nm,0.3s,baz=150,slow=8.1,SNR=3.6						
BLA	**Blacksburg**	**19.85**	**341**	P	**P**	**19 25 52.6**	**-2.9**
	24nm,1.2s						
WVT	**Waverly**	**22.10**	**326**	*e*P	**P**	**19 26 20.4**	**+0.6**
	8.6nm,0.9s						
PTGA	**Pitinga**	**22.81**	**146**	P	**P**	**19 26 27.3**	**-0.2**
	11nm,1.1s,baz=340,slow=12,SNR=10						
PTGA	**Pitinga**	**22.81**	**146**	*e*P	**P**	**19 26 27.1**	**-0.4**
	8.8nm,1.1s						
ATAH	**Atahualpa**	**26.12**	**193**	LR	LR	19 37 32.9	
	comp=Z,166nm,19.1s,baz=66,slow=37						
SAML	**Samuel**	**28.83**	**160**	*e*P	**P**	**19 27 21.9**	**-1.0**
	2.2nm,0.7s						
TXAR	**Lajitas Array**	**30.28**	**297**	P	**P**	**19 27 37.6**	**+1.7**
	0.5nm,0.8s,baz=118,slow=11,SNR=3.4						
ULM	**Lac du Bonnet**	**36.71**	**335**	P	**P**	**19 28 31.5**	**+0.1**
	2.3nm,0.7s,baz=172,slow=6.2,SNR=3.0						
PDAR	**Pinedale Array**	**39.47**	**316**	P	**P**	**19 28 54.5**	**-0.6**
	0.5nm,0.8s,baz=109,slow=12,SNR=3.7						
NVAR	**Mina Array Bea**	**44.28**	**306**	P	**P**	**19 29 35.5**	**+0.9**
	0.5nm,0.8s,baz=103,slow=7.5,SNR=3.7						
YKA	**Yellowknife Ar**	**52.63**	**337**	P	**P**	**19 30 38.5**	**+0.4**
	1.1nm,0.9s,baz=124,slow=7.2,SNR=8.2						
SUMG	**Summit**	**57.48**	**12**	*i* P	**P**	**19 31 13.4**	**-0.2**
	9.2nm,1.0s						
SUMG	**Summit**	**57.48**	**12**	*e*P	**P**	**19 31 12.8**	**-0.8**
	7.2nm,1.0s						
ILAR	**Eielson Array**	**66.71**	**333**	P	**P**	**19 32 15.3**	**+0.1**
	0.6nm,0.9s,baz=104,slow=2.6,SNR=4.5						
GERES	**GERESS Array B**	**73.90**	**43**	P	**P**	**19 33 00.6**	**+0.9**
	1.3nm,0.8s,baz=266,slow=3.7,SNR=7.9						
KSH	**Kashi**	**115.23**	**26**	*e*PKP	**PKPdf**	**19 40 06.6**	**+0.1**
KSH				PP	**PP**	**19 41 06.5**	**+0.8**
KSH				PKS	**PKSdf**	**19 43 42.2**	**-1.1**
KSH				SKS	**SKSdf**	**19 47 17.5**	**-1.1**
KSH				SKKS	SKKSac	19 47 59.5	-8.7
KSH				AMB	AMB		
	comp=Z,35nm,4.0s						
KSH				LR	LR		
	comp=N,74nm,4.7s						
KSH				LR	LR		
	comp=E,77nm,6.8s						
KSH				LR	LR		
	comp=Z,160nm,15.6s						
HHC	**Hu-ho-hao-te**	**120.81**	**356**	*e*PKP	**PKPdf**	**19 40 18.0**	**+0.9**
HHC				PP	PP	19 41 50.3	+6.3
HHC				SKS	**SKSdf**	**19 47 28.5**	**-0.6**
HHC				SKKS	**SKKSac**	**19 48 43.2**	**-1.8**
HHC	**Hu-ho-hao-te**	**120.81**	**356**	SS	SS	19 58 27.6	+14
HHC				AMB	AMB		
	comp=Z,62nm,10.0s						
HHC				LR	LR		
	comp=N,200nm,19.9s						
HHC				LR	LR		
	comp=E,100nm,17.4s						
HHC				LR	LR		
	comp=Z,190nm,18.7s						

*NIED **03** 19:25:00, 22°.30N×123°.80E, h8km, Mw3.9 Best double couple: M0 8.14000×10^14 NP1:φ=87.00000°, δ41.00000°, λ-147.00000°. NP2:φ=330.00000°, δ69.00000°, λ-54.00000°*
*ISCJB **03** 19:25:23.7±0.4, 22°.33N±0°.03×123°.90E±0°.04, h11km, mb3.9/16, MS4.0/2, Error ellipse: s-maj=5.8km s-min=3.8km az=37.1*
*IDC **03** 19:25:23.4±0.9, 22°.23N×123°.95E, h0km, mb3.9/13, mb1 4.0/16, mb1mx3.8/47, mbtmp3.9/16, ML3.8/3, MS3.9/2, Ms1 3.9/2, ms1mx3.0/37, Error ellipse: s-maj=23.7km s-min=17.2km az=79.0*
*NEIC **03** 19:25:25.3±0.6, 22°.30N×123°.80E, h10km, mb4.0/4, Error ellipse: s-maj=10.0km s-min=8.7km az=146.0

DZET				⇑Sn		**Sn**	**19 28 23.6**	**+1.9**
	33nm,0.3s								
SFK	**Sufi-Kurgan**	**2.73**	**28**	⇓Pn		**Pn**	**19 27 52.8**	**+0.6**
	6.9nm,0.3s								
SFK				⇓Sn		**Sn**	**19 28 28.1**	**+4.0**
	47nm,0.5s								
AML	**Almayashu**	**4.73**	**17**	P		**Pn**	**19 28 18.8**	**-1.1**
	SNR=22								
UCH	**Uchtor**	**5.05**	**23**	P		**Pn**	**19 28 22.6**	**-1.7**
	SNR=14								
KZA	**Kyzart**	**5.18**	**30**	P		**Pn**	**19 28 23.7**	**-2.3**
	SNR=5.6								
EKS2	**Erkin-Say**	**5.26**	**16**	P		**Pn**	**19 28 26.6**	**-0.2**
	SNR=7.4								
AAK	**Ala-Archa**	**5.41**	**21**	⇑Pn		**Pn**	**19 28 27.7**	**-1.3**
	2.7nm,0.3s								
AAK				⇑Sn		**Sn**	**19 29 30.2**	**+0.1**
	6.3nm,0.8s								
AAK	**Ala-Archa**	**5.41**	**21**	P		**Pn**	**19 28 27.9**	**-1.1**
	SNR=8.1								
KK31	**Karatay Array**	**5.57**	**350**	Pn		**Pn**	**19 28 29.8**	**-1.3**
	0.7nm,0.2s,baz=156,slow=9.0,SNR=44								
KK31				Sn		**Sn**	**19 29 33.0**	**-0.8**
	4.8nm,0.4s,baz=179,slow=24,SNR=21								
AB31	**Akbulak array**	**14.46**	**327**	P		Pn	19 30 25.7	-6.9	
	0.2nm,0.3s,baz=153,slow=12,SNR=23								
AB31				⇓S		Sn	19 32 57.4	-14	
	0.5nm,0.6s,baz=161,slow=23,SNR=2.8								

WEL 03 19:30:22.0±1.0, 47°01S×165°57E, h33km, ML4.0/7, Error ellipse: s-maj=10.9km s-min=6.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**1.67**	**85**	PN	Pn	19 30 47.7	-1.2
APZ				SN	Sn	19 31 07.3	-2.0
APZ				AML	AML	19 31 10.6	
WHZ	**Wether Hill Ro**	**1.99**	**57**	PN	Pn	19 30 51.1	-2.2
WHZ				AML	AML	19 31 30.3	
WHZ				AML	AML	19 31 31.1	
MLZ	**Mavora Lakes**	**2.46**	**48**	PN	Pn	19 30 58.0	-1.9
MLZ				SN	Sn	19 31 27.0	-1.7
MLZ				AML	AML	19 31 45.5	
SYZ	**Scrubby Hill**	**2.50**	**80**	PN	Pn	19 31 00.4	+0.1
SYZ				SN	Sn	19 31 28.3	-1.3
SYZ				AML	AML	19 31 47.0	
SYZ				AML	AML	19 31 47.0	
SYZ				AML	AML	19 31 54.6	
TUZ	**Tuapeka**	**3.00**	**71**	PN	Pn	19 31 06.1	-1.0
TUZ				SN	Sn	19 31 39.8	-2.2
EAZ	**Earnscleugh**	**3.15**	**57**	PN	Pn	19 31 08.7	-0.6
EAZ				AML	AML	19 31 56.6	
EAZ				AML	AML	19 32 01.0	
WKZ	**Wanaka**	**3.25**	**49**	PN	Pn	19 31 10.3	-0.4
WKZ				AML	AML	19 32 04.6	
WKZ				AML	AML	19 32 18.7	
JCZ	**Jackson Bay**	**3.70**	**38**	PN	Pn	19 31 16.4	-0.5
JCZ				AML	AML	19 32 11.7	
JCZ				AML	AML	19 32 26.4	
ODZ	**Otahua Downs**	**4.05**	**63**	PN	Pn	19 31 18.3	-3.2

*IDC **03** 19:37:28.5±1.5, 3°34S×139°93E, h0km, mb4.3/2, mb1 4.7/3, mb1mx3.8/23, mbtmp4.4/3, ML4.3/1, Error ellipse: s-maj=71.3km s-min=15.3km az=101.0*
*ISCJB **03** 19:37:33.6±0.6, 3°29S±0°04×140°21E±0°06, h35km, mb3.9/3, Error ellipse: s-maj=8.0km s-min=6.2km az=175.7*
*DJA **03** 19:37:37.9±0.8, 2°S±7°×14°0E±°, h16km±8km, M4.0/3, MLv4.0/3*
ISC 03 19:37:34.1±0.8, 3°30S±0°06×140°28E±0°07, h35km, n14, σ1832/17, mb4.0/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.71**	**351**	P	**Pn**	**19 37 48.5**	**+0.8**
GENI				S	**Sn**	**19 37 56.5**	**-0.9**
JAY	**Jayapura**	**0.89**	**28**	P	**Pn**	**19 37 50.5**	**+0.4**
SRPI	**Serui, Papua**	**4.28**	**289**	P	**Pn**	**19 38 38.0**	**+1.2**
SRPI				S	**Sn**	**19 39 25.4**	**-0.2**
RKPI	**Ransiki, Papua**	**6.36**	**286**	P	**Pn**	**19 39 05.9**	**+0.6**
RKPI				S	**Sn**	**19 40 16.6**	**-0.1**
FAKI	**Fak Fak**	**8.03**	**272**	P	Pn	19 39 32.4	+4.0
	baz=7.6,SNR=3.6						
COEN	**Coen**	**10.97**	**165**	P	**Pn**	**19 40 10.5**	**+1.9**
	baz=10,SNR=4.0						
KDU	**Kakadu**	**12.11**	**219**	P	Pn	19 40 20.8	-3.5
	baz=11,SNR=32						
KNRA	**Kununurra**	**16.73**	**222**	P	**Pn**	**19 41 24.8**	**-1.1**
	baz=16,SNR=5.8						
SOEI	**Soe**	**17.15**	**247**	P	**P**	**19 41 33.2**	**+0.5**
	baz=16,SNR=5.9						
QIS	**Mount Isa**	**17.17**	**182**	P	**P**	**19 41 33.5**	**+0.9**
	baz=16,SNR=13						
WRA	**Warramunga Arr**	**17.53**	**199**	P	**Pn**	**19 41 32.6**	**-3.2**
	1.2nm,0.3s,baz=17,slow=13,SNR=41						
WRA				S	**Sn**	**19 44 50.9**	**+0.8**
	0.2nm,0.3s,baz=14,slow=23,SNR=5.2						
ASAR	**Alice Springs**	**21.17**	**196**	P	**P**	**19 42 14.9**	**-1.6**
	25nm,0.7s,baz=27,slow=7.5,SNR=91						
ASAR				S	**S**	**19 46 08.8**	**-1.3**
	1.1nm,0.9s,baz=14,slow=31,SNR=4.2						
MKAR	**Makanchi Array**	**71.22**	**322**	P	**P**	**19 48 49.2**	**-0.4**
	0.1nm,0.4s,baz=125,slow=4.0,SNR=4.3						
ILAR	**Eielson Array**	**85.72**	**24**	P	**P**	**19 50 09.4**	**+0.2**
	0.7nm,0.7s,baz=264,slow=4.5,SNR=6.6						

*NIED **03** 19:59:00, 22°60N×121°50E, h20km, Mw4.0 Best double couple: M0 1.17000×10^15 NP1:φs93.00000°, δ14.00000°, λ-28.00000°. NP2:φs210.00000°, δ84.00000°, λ-102.00000°.*
*IDC **03** 19:59:43.5±0.8, 22°41N×121°49E, h0km, mb3.7/10, mb1 3.8/11, mb1mx3.6/48, mbtmp3.7/11, ML3.7/1, Error ellipse: s-maj=25.1km s-min=16.4km az=69.0*
*ISCJB **03** 19:59:45.7±0.4, 22°46N±0°02×121°50E±0°02, h19km±3km, mb3.6/9, Error ellipse: s-maj=3.3km s-min=3.0km az=158.4*
*JMA **03** 19:59:47.3±0.1, 22°64N×121°46E, h18km±3km, M4.0*
*TAP **03** 19:59:47.7, 22°55N×121°32E, h22km, ML4.2, B*
ISC 03 19:59:46.7±0.9, 22°52N±0°02×121°41E±0°02, h19km±2km, n94, σ0997/137, mb3.8/9, 14C-7D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.34**	**315**	⇓P	**Pb**	**19 59 54.3**	**+0.2**
	baz=328						
TTN				*e*S	**Sb**	**19 59 59.6**	**+0.4**
	baz=328						
ECL	**Taimali**	**0.42**	**281**	⇑*i*P	**Pg**	**19 59 55.2**	**-0.3**
	baz=279						
ECL				*e*S	**Sg**	**20 00 00.6**	**-0.8**
	baz=279						
TWG	**Pinlang**	**0.43**	**315**	⇑*i*P	**Pg**	**19 59 55.6**	**-0.1**
	baz=305						
TWG				*e*S	**Sb**	**20 00 02.2**	**+0.2**
	baz=305						
LAY	**Lan-yu**	**0.49**	**164**	⇑*i*P	**Pb**	**19 59 57.5**	**+0.7**
	baz=157						
LAY				*e*S	**Sb**	**20 00 04.9**	**+1.3**
	baz=157						
TAW	**Tawu**	**0.50**	**252**	*i* P	**Pg**	**19 59 56.6**	**-0.2**
	baz=250						
TAW				S	**Sg**	**20 00 02.9**	**-0.7**
	baz=250						
EAST	**Anshuo**	**0.53**	**256**	⇑*i*P	**Pb**	**19 59 57.2**	**-0.2**
	baz=250						
EAST				*e*S	**Sb**	**20 00 03.6**	**-1.0**
	baz=250						
CHKT	**Chengkung**	**0.58**	**356**	⇓*i*P	**Pb**	**19 59 57.8**	**-0.4**
	baz=14						
CHKT				*e*S	**Sb**	**20 00 05.1**	**-0.9**
	baz=14						
SCZT	**Fangliau**	**0.74**	**259**	⇑*i*P	**Pb**	**20 00 00.4**	**-0.5**
	baz=254						
SSD	**Sandimen**	**0.75**	**288**	⇑*i*P	**Pb**	**20 00 00.2**	**-0.9**
	baz=294						
ELDTW	**Lidau**	**0.76**	**332**	P	**Pb**	**20 00 00.2**	**-1.2**
	baz=336						
TSEB	**Hengchuen, Pin**	**0.77**	**217**	*i* P	**Pg**	**20 00 01.9**	**0.0**
	baz=214						
TSEB				*i* S	**Sg**	**20 00 12.6**	**+0.4**
	baz=214						
TWK1	**Hengchun**	**0.80**	**224**	⇓*i*P	**Pb**	**20 00 01.8**	**-0.1**
	baz=209						
TWK1				*i* S	**Sb**	**20 00 11.9**	**-0.4**
	baz=209						
HEN	**Hengchun**	**0.80**	**231**	⇓*i*P	**Pb**	**20 00 02.0**	**0.0**
	baz=225						
HEN				S	**Sb**	**20 00 12.0**	**-0.4**
	baz=225						
TWF1	**Yuli**	**0.84**	**353**	*e*P	**Pb**	**20 00 02.0**	**-0.7**
	baz=346						
TWF1				*e*S	**Sn**	**20 00 14.9**	**-0.4**
	baz=346						
SGLT	**Jiouru**	**0.87**	**284**	*e*P	**Pg**	**20 00 03.6**	**-0.1**
	baz=286						
STYT	**Tauyuan**	**0.88**	**317**	⇑*i*P	**Pb**	**20 00 02.6**	**-0.8**
	baz=328						
SGST	**Jiashian**	**0.94**	**307**	P	**Pb**	**20 00 04.8**	**+0.3**
	baz=308						
SGST				*e*S	**Sg**	**20 00 17.9**	**+0.2**
	baz=308						
TWM1	**Shoushan**	**0.96**	**289**	*e*P	**Pn**	**20 00 05.3**	**+0.2**
	baz=291						
TWP	**Hsiaoliuchiu**	**0.98**	**260**	*e*P	**Pg**	**20 00 07.2**	**+1.4**
	baz=244						
EHY	**Hungye**	**0.99**	**356**	*e*P	**Pb**	**20 00 03.9**	**-1.4**
	baz=359						
KAU	**Kaohsiung**	**1.01**	**273**	*e*P	**Pg**	**20 00 07.0**	**+0.5**
	baz=270						
KAU				*e*S	**Sg**	**20 00 22.7**	**+2.8**
	baz=270						
WTP	**Ta-pu**	**1.03**	**315**	⇑*i*P	**Pb**	**20 00 05.9**	**0.0**
	baz=326						
CHN1	**Nanshi**	**1.05**	**310**	⇑*i*P	**Pn**	**20 00 06.7**	**+0.3**
	baz=311						
CHN1				*e*S	**Sg**	**20 00 21.6**	**+0.6**
	baz=311						
YUS	**Yu-Shan**	**1.05**	**337**	⇓*i*P	**Pb**	**20 00 06.0**	**-0.7**
	baz=340						
CHN3	**Shinhua**	**1.11**	**300**	*e*P	**Pg**	**20 00 09.1**	**+0.8**
	baz=301						
CHN3				*e*S	**Sg**	**20 00 24.9**	**+2.1**
	baz=301						
CHN4	**Tsaushan**	**1.12**	**318**	⇑*i*P	**Pb**	**20 00 07.6**	**+0.1**
	baz=329						
CHN4				*e*S	**Sg**	**20 00 24.2**	**+1.0**
	baz=329						
TWK	**Hsinying**	**1.13**	**312**	⇑*i*P	**Pb**	**20 00 07.8**	**+0.2**
	baz=324						
TWK				*e*S	**Sg**	**20 00 23.7**	**+0.2**
	baz=324						
ALS	**Alishan**	**1.13**	**331**	⇑*i*P	**Pn**	**20 00 07.5**	**-0.3**
	baz=333						
TAI1	**Yung-k'ang**	**1.21**	**296**	*e*P	**Pb**	**20 00 09.1**	**+0.2**
	baz=295						
WDT	**Danda**	**1.26**	**349**	⇓P	**Pn**	**20 00 08.9**	**-0.7**
	baz=1.0						
CHN5	**Tsauling**	**1.27**	**328**	⇑*i*P	**Pb**	**20 00 09.9**	**-0.1**
	baz=329						
CHN5				*e*S	**Sg**	**20 00 28.9**	**+1.0**
	baz=329						
ESL	**Shilin**	**1.29**	**1**	*e*P	**Pn**	**20 00 09.1**	**-0.7**
	baz=3.0						
SCLT	**Jiali**	**1.30**	**301**	*e*P	**Pn**	**20 00 10.1**	**+0.3**
	baz=302						
SCLT				*e*S	**Sg**	**20 00 29.1**	**+0.3**
	baz=302						
CHN2	**Minshiung**	**1.33**	**320**	P	**Pb**	**20 00 11.5**	**+0.5**
	baz=320						
CHN2				*e*S	**Sg**	**20 00 30.1**	**+0.3**
	baz=320						
CHY	**Chiayi**	**1.33**	**317**	*e*P	**Pb**	**20 00 10.8**	**-0.3**
	baz=318						
CHY				S	**Sb**	**20 00 28.6**	**+0.9**
	baz=318						
CHN8	**Yiju**	**1.38**	**307**	*e*P	**Pb**	**20 00 11.5**	**-0.3**
	baz=308						
CHN8				*e*S	**Sg**	**20 00 30.5**	**-0.8**
	baz=308						
WGK	**Gukeng**	**1.40**	**326**	*e*P	**Pb**	**20 00 12.6**	**+0.4**
	baz=326						
WGK				*e*S	**Sg**	**20 00 32.3**	**+0.2**
	baz=326						
SMLT	**Sun Moon Lake**	**1.44**	**341**	*e*P	**Pb**	**20 00 12.8**	**-0.2**
	baz=352						
SMLT				*e*S	**Sb**	**20 00 31.3**	**+0.3**
	baz=352						
HWA	**Hwalien**	**1.47**	**7**	*e*P	**Pb**	**20 00 13.9**	**+0.6**
	baz=355						
TYC	**Yuchr**	**1.47**	**340**	⇑P	**Pb**	**20 00 13.6**	**+0.1**
	baz=350						
TYC				*e*S	**Sb**	**20 00 33.0**	**+1.2**
	baz=350						
WNT	**Mingjian**	**1.51**	**334**	P	**Pb**	**20 00 14.8**	**+0.7**
	baz=333						
WNT				*e*S	**Sb**	**20 00 34.1**	**+1.2**
	baz=333						
WSF	**Szhu**	**1.56**	**316**	*e*P	**Pn**	**20 00 13.3**	**-0.1**
	baz=316						
WSF				*e*S	**Sb**	**20 00 34.5**	**+0.2**
	baz=316						
TWD	**Chiawan**	**1.57**	**6**	*e*P	**Pn**	**20 00 13.7**	**+0.2**
	baz=355						
TWD				*e*S	**Sn**	**20 00 33.0**	**-0.3**
	baz=355						
WHF	**Hehuan Shan**	**1.63**	**355**	*e*P	**Pn**	**20 00 14.7**	**0.0**
	baz=8.0						
TWT	**Tachien**	**1.74**	**353**	*e*P	**Pn**	**20 00 16.7**	**+0.6**
	baz=4.0						
TCU	**Taichung**	**1.76**	**338**	*e*P	**Pn**	**20 00 16.8**	**+0.7**
	baz=336						
WDGT	**Dungji**	**1.77**	**295**	P	**Pn**	**20 00 15.5**	**-0.8**
	baz=296						
WDGT				S	**Sn**	**20 00 36.5**	**-1.8**
	baz=296						
TWQ1	**Liyutan**	**1.91**	**342**	*e*P	**Pb**	**20 00 20.3**	**-0.7**
	baz=339						
TWQ1				*e*S	**Sb**	**20 00 44.9**	**+0.4**
	baz=339						
NNS	**Nan Shan**	**1.92**	**359**	*e*P	**Pb**	**20 00 20.3**	**-0.8**
	baz=11						
ENA	**Nanau**	**1.93**	**9**	*e*P	**Pn**	**20 00 18.0**	**-0.5**
	baz=356						
NSY	**Sanyi**	**1.98**	**343**	*e*P	**Pb**	**20 00 21.3**	**-0.9**
	baz=340						
NSY				*e*S	**Sb**	**20 00 47.6**	**+1.1**
	baz=340						
PNG	**Penghu**	**2.00**	**302**	*e*P	**Pn**	**20 00 18.9**	**-0.6**
	baz=303						
PNG				*e*S	**Sn**	**20 00 42.0**	**-1.9**
	baz=303						
ENTT	**Nioudou**	**2.12**	**4**	*e*P	**Pn**	**20 00 22.3**	**+1.2**
	baz=3.0						
TWC	**Suao**	**2.12**	**11**	*e*P	**Pn**	**20 00 21.7**	**+0.5**
	baz=357						
TWC				*e*S	**Sn**	**20 00 47.0**	**0.0**
	baz=357						
NSTT	**Nanjuang**	**2.14**	**350**	*e*P	**Pb**	**20 00 23.8**	**-1.0**
	baz=332						
NSTT				*e*S	**Sb**	**20 00 50.6**	**-0.4**
	baz=332						
NSK	**Sanguang**	**2.15**	**359**	*e*P	**Pn**	**20 00 22.8**	**+1.2**
	baz=9.0						
NSK				*e*S	**Sn**	**20 00 49.2**	**+1.4**
	baz=9.0						
EGS		**2.37**	**12**	*e*P	**Pn**	**20 00 25.7**	**+1.2**
	baz=357						
EGS				*e*S	**Sn**	**20 00 54.8**	**+1.7**
	baz=357						
JYNG	**Yonaguni jima**	**2.39**	**36**	P	**Pn**	**20 00 25.5**	**+0.7**
JYNG				*e*S	**Sn**	**20 00 52.2**	**-1.4**
YOJ	**Yonaguni jima**	**2.44**	**37**	P	**Pn**	**20 00 26.2**	**+0.8**
YOJ				*e*S	**Sn**	**20 00 53.5**	**-1.2**
YOJ	**Yonaguni jima**	**2.44**	**37**	P	**Pn**	**20 00 25.9**	**+0.5**
	baz=35						
TWA	**Mucha**	**2.46**	**4**	*e*P	**Pb**	**20 00 28.5**	**-1.8**
	baz=14						
NWF	**Wu-fen Shan**	**2.57**	**8**	*e*P	**Pn**	**20 00 28.1**	**+0.7**
	baz=4.0						
NWF				*e*S	**Sn**	**20 00 59.4**	**+1.3**
	baz=4.0						
TWS1	**Kuangyinshan**	**2.57**	**0**	*e*P	**Pn**	**20 00 29.3**	**+2.0**
	baz=11						
HATJ	**Hateruma jima**	**2.69**	**55**	P	**Pn**	**20 00 29.3**	**+0.4**
HATJ				*e*S	**Sn**	**20 00 59.5**	**-1.4**
TWY	**Chenhua**	**2.75**	**4**	*e*P	**Pb**	**20 00 32.7**	**-2.6**
IRIF	**Iriomote-Funau**	**2.80**	**49**	P	**Pn**	**20 00 30.9**	**+0.4**
IRIF				*e*S	**Sn**	**20 01 02.9**	**-0.8**
JKRS	**Kuro-shima**	**2.94**	**54**	P	**Pn**	**20 00 33.0**	**+0.6**
JKRS				*e*S	**Sn**	**20 01 06.7**	**-0.5**
JIJ	**Ishigaki jima**	**3.12**	**53**	P	**Pn**	**20 00 35.1**	**+0.3**
JIJ				*e*S	**Sn**	**20 01 09.4**	**-2.1**
KNM	**Kinmen**	**3.32**	**305**	*e*P	**Pn**	**20 00 38.4**	**+0.8**
	baz=303						
JISG	**Ishigakijimahi**	**3.37**	**52**	P	**Pn**	**20 00 38.1**	**-0.2**
JISG				*e*S	**Sn**	**20 01 15.8**	**-2.0**
QZH	**Quanzhou**	**3.53**	**314**	⇓*i*Pn	**Pn**	**20 00 40.1**	**-0.4**
QZH				Sn	**Sn**	**20 01 19.5**	**-2.3**
QZH				smax	smax		
	comp=N,190nm,0.6s						
QZH				smax	smax		
	comp=E,270nm,0.9s						
JTJ	**Tarama**	**3.69**	**54**	P	**Pn**	**20 00 43.5**	**+0.8**
JTJ				*e*S	**Sn**	**20 01 24.6**	**-1.1**
JIRB	**Irabujima**	**4.15**	**56**	P	**Pn**	**20 00 49.3**	**+0.3**
JIRB				*e*S	**Sn**	**20 01 37.0**	**0.0**
JMJ	**Miyako jima 2**	**4.24**	**57**	P	**Pn**	**20 00 51.5**	**+1.3**
JIKM	**Ikemajima**	**4.26**	**55**	P	**Pn**	**20 00 51.4**	**+0.9**
JIKM				*e*S	**Sn**	**20 01 40.0**	**+0.3**
JOGS	**Gusukube**	**4.30**	**58**	P	**Pn**	**20 00 51.8**	**+0.8**
JOW	**Kunigami**	**7.58**	**54**	Pn	**Pn**	**20 01 34.0**	**-2.2**
	baz=74,slow=20						
KSRS	**Korea Array**	**15.91**	**19**	Pn	**P**	**20 03 31.7**	**-1.4**
	comp=E,0.3nm,0.3s,baz=200,slow=11,SNR=3.3						
MJAR	**Matsushiro Arr**	**20.18**	**42**	P	**P**	**20 04 19.9**	**-0.3**
	comp=E,0.9nm,0.7s,baz=234,slow=9.1,SNR=3.2						
CMAR	**Chiang Mai Arr**	**21.42**	**263**	P	**P**	**20 04 32.7**	**-1.0**
	comp=E,0.3nm,0.8s,baz=76,slow=7.5,SNR=2.8						
SONM	**Songino Array**	**27.98**	**338**	P	**P**	**20 05 37.0**	**+0.8**
	comp=E,1.2nm,0.9s,baz=159,slow=10.0,SNR=4.8						
MKAR	**Makanchi Array**	**39.68**	**317**	P	**P**	**20 07 19.1**	**+1.5**
	comp=E,0.9nm,0.8s,baz=142,slow=4.6,SNR=13						
ZALV	**Zalesovo Beam**	**41.76**	**328**	P	**P**	**20 07 34.5**	**0.0**
	comp=E,2.4nm,0.7s,baz=110,slow=8.3,SNR=13						
H11N1	**WAKE ISLAND Hy**	**42.40**	**85**	T	T	20 52 57.3	
	baz=282,slow=75,SNR=39						
H11N2	**WAKE ISLAND Hy**	**42.41**	**85**	T	T	20 53 00.5	
	baz=282,slow=75,SNR=59						
H11N3	**WAKE ISLAND Hy**	**42.42**	**85**	T	T	20 53 00.8	
	baz=282,slow=75,SNR=50						
H11S3	**WAKE ISLAND Hy**	**42.48**	**87**	T	T	20 53 04.3	
	baz=284,slow=74,SNR=215						
H11S1	**WAKE ISLAND Hy**	**42.49**	**87**	T	T	20 52 58.1	
	baz=284,slow=74,SNR=105						
H11S2	**WAKE ISLAND Hy**	**42.50**	**87**	T	T	20 53 08.8	
	baz=284,slow=74,SNR=71						
WRA	**Warramunga Arr**	**44.05**	**162**	P	**P**	**20 07 51.9**	**-1.5**
	comp=E,0.5nm,0.5s,baz=345,slow=8.8,SNR=10.0						
ASAR	**Alice Springs**	**47.49**	**164**	P	**P**	**20 08 19.9**	**-0.8**
	comp=E,0.3nm,0.3s,baz=345,slow=7.0,SNR=16						
ASAR				PcP	**PcP**	**20 09 49.9**	**-0.9**
	comp=E,0.3nm,0.5s,baz=346,slow=2.9,SNR=5.1						
BVAR	**Borovoye Array**	**49.09**	**322**	P	**P**	**20 08 34.0**	**+1.3**
	comp=E,0.8nm,0.4s,baz=99,slow=9.2,SNR=5.0						
FINES	**FINESS Array B**	**72.98**	**330**	P	**P**	**20 11 14.8**	**0.0**
	comp=E,1.3nm,0.9s,baz=76,slow=8.0,SNR=5.7						
GERES	**GERESS Array B**	**84.26**	**321**	P	**P**	**20 12 19.1**	**+1.8**
	comp=E,0.7nm,0.7s,baz=66,slow=4.5,SNR=5.6						

IDC 03 20:07:52.0±4.2, 46°17N×154°30E, h0km, mb3.2/2, mb1 3.6/5, mb1mx3.3/53, mbtmp3.5/5, ML2.9/3, Error ellipse: s-maj=104.2km s-min=26.3km az=154.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**7.29**	**16**	Pn	Pn	20 09 39.9	+0.2
	0.7nm,0.3s,baz=182,slow=13,SNR=6.0						
ASAJ	**Asahikawa**	**8.52**	**260**	Pn	Pn	20 09 56.7	+0.1
	0.3nm,0.3s,baz=83,slow=16,SNR=3.3						
USRK	**Ussuriysk Ar.**	**15.85**	**271**	Pn	Pn	20 11 35.4	-0.9
	0.1nm,0.3s,baz=86,slow=12,SNR=6.6						
ILAR	**Eielson Array**	**36.50**	**38**	P	P	20 14 58.2	-0.3
	0.3nm,0.7s,baz=276,slow=8.1,SNR=3.5						
MKAR	**Makanchi Array**	**47.94**	**298**	P	P	20 16 32.3	+0.2
	0.2nm,0.6s,baz=71,slow=8.6,SNR=4.1						

IDC 03 20:24:00.2±1.4, 0°74S×127°41E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.3/28, mbtmp3.3/4, Error ellipse: s-maj=129.3km s-min=21.5km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.25**	**161**	P	P	20 28 37.5	+0.1
	0.4nm,0.5s,baz=340,slow=12,SNR=12						
ASAR	**Alice Springs**	**23.64**	**165**	P	P	20 29 13.3	-0.1
	0.4nm,0.5s,baz=347,slow=12,SNR=19						
SONM	**Songino Array**	**51.73**	**342**	P	P	20 33 10.1	+0.6
	0.2nm,0.6s,baz=158,slow=9.1,SNR=2.5						
MKAR	**Makanchi Array**	**61.61**	**326**	P	P	20 34 19.0	-0.7
	0.1nm,0.3s,baz=137,slow=6.0,SNR=6.1						

*ISCJB **03** 20:42:20.2±0.6, 28°82S±0°03×70°9W±0°1, h81km±4km, mb3.9/6, Error ellipse: s-maj=14.7km s-min=5.5km az=4.9*
*GUC **03** 20:42:20.9±0.5, 28°85S×70°96W, h68km±4km, ML4.5*
*NEIC **03** 20:42:21.5±0.8, 28°81S×70°79W, h69km±6km, mb3.4/1, Error ellipse: s-maj=15.8km s-min=9.7km az=85.0*
NEIC Felt [III] at Alto de Carmen, La Higuera and Vallenar; [II] at Copiapo and Tierra Amarilla.
*IDC **03** 20:42:22.2±0.7, 28°75S×70°77W, h72km±4km, mb3.8/5, mb1 3.8/7, mb1mx3.6/32, mbtmp4.0/7, MS2.8/3, Ms1 2.8/3, ms1mx2.7/17, Error ellipse: s-maj=19.1km s-min=10.1km az=67.0*
ISC 03 20:42:21.5±0.6, 28°84S±0°04×70°86W±0°09, h72km±4km, h72km:pP-P, n34, σ099/46, mb3.9/6, 4C-2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.22**	**140**	⇓*i*P	**Pn**	**20 42 32.3**	**-0.6**
LCO				*i* S	**Sn**	**20 42 41.4**	**+0.3**
LCO				AML	AML	20 42 42.5	
	comp=E,32μm,0.5s						
LCO	**Las Campanas**	**0.22**	**140**	*e*P	**Pn**	**20 42 32.3**	**-0.6**
VACH	**Vallenar**	**0.28**	**19**	⇑*i*P	**Pn**	**20 42 33.4**	**+0.5**
VACH				*i* S	**Sn**	**20 42 41.8**	**+0.6**
LSCH	**La Serena**	**1.12**	**197**	⇑*i*P	**Pn**	**20 42 40.9**	**-0.7**
LSCH				*i* S	**Sn**	**20 42 55.3**	**-1.3**
TLL	**Tololo Astrono**	**1.32**	**178**	⇑*i*P	**Pn**	**20 42 44.5**	**-0.1**
TLL				*i* S	**Sn**	**20 43 02.5**	**+0.7**
TLL				AML	AML	20 43 03.5	
	comp=N,24μm,0.5s						
CPCH	**Copiapo**	**1.54**	**17**	⇑*i*P	**Pn**	**20 42 47.2**	**0.0**
CP

TORD	**Torodi Ar. Bea**	**81.50**	**70**	P		**P**	**20 54 31.2**	**-0.3**
	comp=N,2.4nm,0.6s,baz=275,slow=5.9,SNR=20							
TORD				sP		**sP**	**20 54 58.4**	**-0.5**
	comp=N,3.1nm,0.7s,baz=259,slow=4.8,SNR=7.0							
ASAR	**Alice Springs**	**122.61**	**207**	PKP		**PKPdf**	**21 01 08.7**	**-0.8**
	comp=N,0.3nm,0.5s,baz=122,slow=1.5,SNR=3.8							
ASAR				pPKP		**pPKPdf**	**21 01 28.9**	**-1.2**
	comp=N,0.3nm,0.4s,baz=126,slow=1.7,SNR=2.3							
WRA	**Warramunga Arr**	**125.74**	**210**	PKP		**PKPdf**	**21 01 15.2**	**-0.4**
	comp=N,1.2nm,0.6s,baz=146,slow=1.7,SNR=12							
WRA				pPKP		**pPKPdf**	**21 01 35.5**	**-0.7**
	comp=N,1.1nm,0.4s,baz=155,slow=1.8,SNR=5.6							
KKAR	**Karatay Array**	**145.97**	**55**	*e*PKPdf		**PKPbc**	**21 01 52.7**	**-0.3**
KURK	**Kurchatov**	**148.31**	**38**	PKPbc		**PKPbc**	**21 01 59.8**	**+0.6**
KURK				pPKPbc		**pPKPbc**	**21 02 20.0**	**+0.4**
KURBB	**Kurchatov Arra**	**148.31**	**38**	PKPbc		**PKPbc**	**21 01 59.8**	**+0.6**
	comp=N,3.2nm,0.5s,baz=304,slow=3.1,SNR=81							
KURBB				pPKPbc		**pPKPbc**	**21 02 20.0**	**+0.4**
	comp=N,0.4nm,0.4s,baz=305,slow=3.0,SNR=3.1							
EKS2	**Erkin-Say**	**148.41**	**55**	*e*PKPbc		**PKPbc**	**21 02 01.1**	**+1.2**
AAK	**Ala-Arcka**	**148.93**	**54**	PKPbc		**PKPbc**	**21 02 02.3**	**+1.0**
	comp=N,3.0nm,0.5s,baz=229,slow=1.6,SNR=15							
AAK	**Ala-Arcka**	**148.93**	**54**	*e*PKPbc		**PKPbc**	**21 02 02.4**	**+1.1**
ZAA0	**Zalesovo Array**	**149.28**	**28**	*e*PKPbc		**PKPbc**	**21 02 01.6**	**0.0**
ZALV	**Zalesovo Beam**	**149.28**	**28**	PKPbc		**PKPbc**	**21 02 02.0**	**+0.5**
	comp=N,8.7nm,0.5s,baz=303,slow=3.7,SNR=41							
ZALV				pPKPbc		**pPKPbc**	**21 02 22.5**	**+0.4**
	comp=N,1.1nm,0.4s,baz=306,slow=3.1,SNR=3.1							
TKM2	**Tokmak 2**	**149.63**	**53**	*e*PKPbc		**PKPbc**	**21 02 03.1**	**0.0**
MK31	**Makanchi Array**	**152.44**	**42**	*e*PKPbc		**PKPbc**	**21 02 08.9**	**-0.3**
MKAR	**Makanchi Array**	**152.44**	**42**	PKPbc		**PKPbc**	**21 02 09.1**	**-0.2**
	comp=N,1.2nm,0.6s,baz=282,slow=6.9,SNR=22							
SONM	**Songino Array**	**160.91**	**6**	PKPab		**PKPab**	**21 02 55.8**	**-0.4**
	comp=N,0.4nm,0.6s,baz=339,slow=3.8,SNR=4.6							

IDC 03 20:52:41.1±3.0, 29.91S×177.18W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/20, mbtmp3.7/2, Error ellipse: s-maj=65.4km s-min=28.5km az=61.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.92**	**315**	Pn	Pn	20 53 01.9	+0.7
	96nm,0.3s,baz=319,slow=20,SNR=5.6						
RAO				Sn	Sn	20 53 14.6	-0.6
	563nm,0.3s,baz=53,slow=20,SNR=11						
ASAR	**Alice Springs**	**43.85**	**266**	P	P	21 00 48.7	-0.7
	0.3nm,0.5s,baz=106,slow=7.3,SNR=6.9						
WRA	**Warramunga Arr**	**44.80**	**271**	P	P	21 00 57.3	+0.3
	0.8nm,0.3s,baz=110,slow=8.1,SNR=27						
FINES	**FINESS Array B**	**144.92**	**341**	PKP	PKPab	21 12 18.4	-0.2
	1.0nm,0.8s,baz=46,slow=6.0,SNR=3.2						

*ISCJB **03** 21:17:26.6±1.0, 33.03N×0.08×96.6E±0.1, h10km, mb3.3/1, Error ellipse: s-maj=17.4km s-min=9.5km az=31.0*
*IDC **03** 21:17:26.7±2.9, 33.06N×96.51E, h0km, mb3.3/1, mb1 3.3/4, mb1mx3.1/35, mbtmp3.2/4, ML3.0/3, Error ellipse: s-maj=80.3km s-min=37.3km az=77.0*
*DMN **03** 21:18:55.5±12.0, 29.82N×90.01E, h10km, Error ellipse: s-maj=309.5km s-min=19.2km az=53.0*
ISC 03 21:17:27.4±1.3, 33.1N±0.1×96.7E±0.2, h10km, n13, σ0.35/11, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAPN	**Taplejung**	**9.65**	**236**	*e*P	**Pn**	**21 19 46.9**	**+0.2**
	3.9nm,0.3s						
ODAN	**Odare**	**10.18**	**235**	*e*P	Pn	21 19 55.2	+1.3
	9.0nm,0.5s						
JIRN	**Jiri**	**10.56**	**242**	*e*P	**Pn**	**21 19 59.2**	**0.0**
GUN	**Gumba**	**10.66**	**244**	*e*P	**Pn**	**21 20 00.4**	**-0.1**
	7.5nm,0.4s						
KKN	**Kakani**	**11.18**	**245**	*e*P	**Pn**	**21 20 07.3**	**-0.2**
	4.0nm,0.3s						
PKI	**Pulchoki**	**11.19**	**243**	*e*P	**Pn**	**21 20 07.5**	**-0.3**
	4.6nm,0.3s						
PKIN	**Phulchoki**	**11.20**	**243**	*e*P	**Pn**	**21 20 07.9**	**+0.1**
	4.3nm,0.3s						
DMN	**Daman**	**11.40**	**244**	*e*P	**Pn**	**21 20 09.9**	**-0.7**
GKN	**Gorkha**	**11.56**	**247**	*e*P	Pn	21 20 13.8	+1.1
CMAR	**Chiang Mai Arr**	**14.74**	**172**	Pn	**Pn**	**21 20 56.1**	**+0.1**
	0.0nm,0.3s,baz=343,slow=11,SNR=2.9						
SONM	**Songino Array**	**16.43**	**24**	Pn	**P**	**21 21 20.6**	**-0.3**
	0.1nm,0.3s,baz=217,slow=12,SNR=6.6						
MKAR	**Makanchi Array**	**17.52**	**325**	P	**P**	**21 21 33.3**	**+0.5**
	0.1nm,0.3s,baz=153,slow=11,SNR=8.1						
ZALV	**Zalesovo Beam**	**22.47**	**341**	P	**P**	**21 22 26.7**	**+0.2**
	0.4nm,0.3s,baz=151,slow=12,SNR=3.0						

IDC 03 21:21:44.2±3.4, 2.31S×139.60E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/26, mbtmp3.8/4, ML3.9/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/22, Error ellipse: s-maj=140.3km s-min=26.3km az=88.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.27**	**196**	P	Pn	21 25 58.0	-1.4
	0.4nm,0.3s,baz=18,slow=12,SNR=17						
ASAR	**Alice Springs**	**21.94**	**194**	P	P	21 26 39.6	+0.1
	1.7nm,0.7s,baz=21,slow=10,SNR=20						
KSRS	**Korea Array**	**41.02**	**346**	LR	LR	21 45 40.2	
	comp=Z,11nm,20.4s,baz=230,slow=35						
MKAR	**Makanchi Array**	**70.02**	**322**	P	P	21 32 58.4	+0.5
	0.3nm,0.7s,baz=134,slow=4.2,SNR=4.5						
BVAR	**Borovoye Array**	**79.49**	**325**	P	P	21 33 52.6	-0.1
	0.9nm,0.6s,baz=101,slow=7.7,SNR=5.4						

IDC 03 21:26:21.9±5.1, 23.75S×68.12W, h144km±26km, mb3.5/3, mb1 3.6/3, mb1mx3.2/22, mbtmp3.9/3, Error ellipse: s-maj=111.6km s-min=42.9km az=25.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.35**	**327**	P	Pn	21 26 49.7	0.0
	797nm,0.3s,baz=27,slow=11,SNR=57						
LVC				S	Sn	21 27 10.9	-0.1
	4μm,0.3s,baz=293,slow=22,SNR=110						
DBIC	**Dimbokro**	**68.70**	**72**	P	P	21 37 10.2	-0.2
	2.8nm,0.9s,baz=233,slow=8.7,SNR=4.5						
TORD	**Torodi Ar. Bea**	**77.44**	**70**	P	P	21 38 02.2	+0.5
	0.5nm,0.5s,baz=257,slow=5.1,SNR=10						
YKA	**Yellowknife Ar**	**93.54**	**340**	P	P	21 39 21.4	+0.5
	0.1nm,0.4s,baz=125,slow=5.4,SNR=2.7						
MKAR	**Makanchi Array**	**146.98**	**39**	PKPbc	PKPdf	21 45 45.8	+0.4
	0.6nm,0.8s,baz=305,slow=5.1,SNR=9.7						

TAP 03 21:41:56.2, 24.54N×121.54E, h5km±1km, ML1.9, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENTT	**Nioudou**	**0.10**	**11**	P	Pg	21 41 59.4	+1.0
	baz=15						
ENTT				S	Sg	21 42 01.0	+1.0
	baz=15						
NNS	**Nan Shan**	**0.18**	**237**	P	Pg	21 42 01.1	+1.0
	baz=235						
NNS				S	Sg	21 42 03.9	+1.2
	baz=235						
ENA	**Nanau**	**0.21**	**122**	*e*P	Pg	21 42 01.7	+1.3
	baz=121						
NSK	**Sanguang**	**0.22**	**309**	P	Pg	21 42 01.9	+1.2
	baz=309						
NSK				S	Sg	21 42 04.9	+1.3
	baz=309						
TWC	**Suao**	**0.29**	**76**	*e*P	Pb	21 42 03.3	-0.6
	baz=76						
TWC				*e*S	Sb	21 42 08.2	-0.8
	baz=76						
WHF	**Hehuan Shan**	**0.47**	**213**	*e*P	Pb	21 42 07.1	-0.4
	baz=212						
WHF				*e*S	Sb	21 42 13.9	-1.3
	baz=212						
NSTT	**Nanjuang**	**0.50**	**280**	*e*P	Pb	21 42 07.3	-0.2
	baz=280						
NSTT				*e*S	Sb	21 42 15.0	-0.2
	baz=280						

*ISCJB **03** 22:06:07.7±1.1, 34.87S±0.06×71.7W±0.2, h77km±8km, mb5.3/2, Error ellipse: s-maj=30.5km s-min=8.7km az=7.0*
*NEIC **03** 22:06:08.0, 34.79S×71.79W, h44km, MG3.7(GUC), After GUC.*
NEIC Felt [III] at Chimbarongo, San Fernando and Santa Cruz and [II] at Pencahue, Rancagua and Talca.
*GUC **03** 22:06:08.7±0.7, 34.79S×71.79W, h44km±4km, ML3.7*
ISC 03 22:06:08.5±1.3, 34.79S±0.05×71.8W±0.1, h58km±12km, n16, σ1§67/24, 5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.49**	**115**	⇓*i*P	**Pn**	**22 06 19.9**	**-0.4**
NICH				*i* S	**Sn**	**22 06 28.3**	**-0.6**
TALC	**Talca**	**0.62**	**169**	⇓*i*P	**Pn**	**22 06 21.8**	**+0.1**
TALC				*i* S	**Sn**	**22 06 30.6**	**-0.6**
LNCH	**Linares**	**1.06**	**173**	*e*P	**Pn**	**22 06 29.4**	**+2.0**
LNCH				*i* S	**Sn**	**22 06 44.1**	**+2.8**
TACH	**Talagante**	**1.33**	**32**	⇓*i*P	**Pn**	**22 06 31.6**	**+0.7**
TACH				*i* S	**Sn**	**22 06 49.2**	**+1.6**
RCDM	**Rinconada Maip**	**1.53**	**32**	⇓*i*P	**Pn**	**22 06 34.2**	**+0.6**
PCH	**Pirque**	**1.56**	**42**	*e*P	**Pn**	**22 06 35.4**	**+1.2**
PCH				*e*S	**Sn**	**22 06 55.0**	**+1.5**
SAN	**Santiago**	**1.62**	**35**	*e*P	**Pn**	**22 06 35.8**	**+0.9**
SAN				*e*S	**Sn**	**22 06 56.1**	**+1.4**
CLCH	**Cerro Calan**	**1.73**	**37**	*e*P	**Pn**	**22 06 37.4**	**+1.1**
CLCH				*i* S	**Sn**	**22 06 59.8**	**+2.4**
CLCH				AML	AML	22 07 05.5	
	comp=N,1μm,0.6s						
PEL	**Peldehue**	**1.88**	**29**	*e*P	**Pn**	**22 06 40.2**	**+1.8**
PEL				*i* S	**Sn**	**22 07 03.4**	**+2.4**
PEL				AML	AML	22 07 07.6	
	comp=N,1μm,0.3s						
FCH	**Farellones**	**1.91**	**41**	AML	AML	22 07 18.0	
	comp=N,1μm,0.3s						
ROCH	**El Roble**	**1.92**	**19**	⇓*i*P	**Pn**	**22 06 39.9**	**+0.8**
ROCH				AML	AML	22 07 08.7	
	comp=N,606nm,0.4s						
LCO	**Las Campanas**	**5.83**	**9**	*e*Pn	**Pn**	**22 07 30.6**	**-2.1**
LCO				*e*Sn	**Sn**	**22 08 35.9**	**-2.5**
PLCA	**Paso Flores**	**6.01**	**171**	*e*Pn	**Pn**	**22 07 35.5**	**+0.4**
PLCA				*e*Sn	Sn	22 08 28.5	-14
TRQA	**Tornquist**	**8.54**	**115**	*e*Pn	**Pn**	**22 08 08.8**	**-0.7**
RCBR	**Riachuelo**	**43.88**	**57**	*e*P	**P**	**22 14 07.5**	**-2.0**
	comp=N,47nm,1.5s						
GRGR	**Grenville**	**47.64**	**13**	*e*P	**P**	**22 14 38.8**	**-0.2**
	comp=N,130nm,1.1s						

*KRNET **03** 22:36:47.8±0.1, 41.11N×72.39E, h5km, mb3.2*
*NNC **03** 22:36:48.8±2.7, 41.05N×72.24E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=23.0km s-min=17.7km az=82.0*
*ISCJB **03** 22:36:50.2±0.5, 41.09N±0.03×72.26E±0.05, h10km, Error ellipse: s-maj=5.6km s-min=3.3km az=34.5*
ISC 03 22:36:49.0±0.8, 41.10N±0.03×72.38E±0.04, h10km, n24, σ1§34/40, 14C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHVK	**Chauvay**	**0.97**	**187**	*e*P	**Pg**	**22 37 06.9**	**-0.9**
	baz=188						
CHVK				*e*S	**Sb**	**22 37 21.0**	**-0.1**
	baz=188						
SALK	**Salom-Alik**	**1.11**	**101**	*e*P	**Pb**	**22 37 08.3**	**-2.1**
	baz=102						
SALK				*e*S	**Sb**	**22 37 24.1**	**-1.0**
	baz=102						
SFK	**Sufi-Kurgan**	**1.39**	**141**	⇑P	**Pb**	**22 37 15.1**	**0.0**
	14nm,0.3s						
SFK				⇓S	**Sg**	**22 37 34.4**	**+0.9**
	48nm,0.3s						
AML	**Almayashu**	**1.43**	**43**	⇓*i*P	**Pn**	**22 37 14.8**	**-0.5**
	baz=43						
AML				⇓*i*S	**Sn**	**22 37 34.2**	**-0.1**
	baz=43						
BTK	**Batken**	**1.58**	**229**	*e*P	**Pb**	**22 37 17.3**	**-1.0**
	baz=229						
BTK				*e*S	**Sg**	**22 37 38.6**	**-1.2**
	baz=229						
EKS2	**Erkin-Say**	**1.88**	**33**	P	**Pb**	**22 37 22.4**	**-1.0**
	SNR=15						
EKS2	**Erkin-Say**	**1.88**	**33**	⇑*i*P	**Pb**	**22 37 22.4**	**-1.0**
	baz=33						
EKS2				⇑*i*S	**Sb**	**22 37 47.3**	**+0.3**
	baz=33						
UCH	**Uchtor**	**1.96**	**54**	P	**Pb**	**22 37 23.9**	**-1.1**
	SNR=8.3						
UCH	**Uchtor**	**1.96**	**54**	⇑*i*P	**Pb**	**22 37 23.6**	**+0.9**
	baz=54						
UCH				⇑*i*S	**Sb**	**22 37 51.4**	**+1.8**
	baz=54						
AAK	**Ala-Arcka**	**2.20**	**45**	⇓Pn	**Pn**	**22 37 26.7**	**+1.0**
	5.1nm,0.3s						
AAK				⇓Sn	**Sb**	**22 37 57.7**	**+1.4**
	25nm,0.5s						
AAK	**Ala-Arcka**	**2.20**	**45**	P	**Pb**	**22 37 27.4**	**-1.5**
	SNR=10						
AAK	**Ala-Arcka**	**2.20**	**45**	⇑*i*P	**Pb**	**22 37 27.2**	**-1.8**
	baz=45						
AAK				⇑*i*S	**Sb**	**22 37 57.4**	**+1.1**
	baz=45						
KZA	**Kyzart**	**2.37**	**65**	P	**Pb**	**22 37 30.6**	**-1.4**
	SNR=9.3						
KZA	**Kyzart**	**2.37**	**65**	⇓*i*P	**Pb**	**22 37 30.1**	**-1.8**
	baz=65						
KZA				⇓*i*S	**Sb**	**22 38 03.5**	**+2.2**
	baz=65						
FRU	**Bishkek**	**2.40**	**43**	*e*P	**Pg**	**22 37 34.0**	**-1.1**
	baz=43						
KK31	**Karatay Array**	**2.44**	**326**	Pn	**Pn**	**22 37 29.8**	**+0.9**
	3.2nm,0.3s,baz=150,slow=16,SNR=15						
KK31				⇑Sn	**Sn**	**22 37 59.3**	**+0.6**
	8.1nm,0.3s,baz=163,slow=25,SNR=7.7						
KBK	**Karagaybulak**	**2.47**	**50**	⇑*i*P	**Pb**	**22 37 31.6**	**-2.0**
	baz=50						
KBK				⇑*i*S	**Sb**	**22 38 06.0**	**+1.9**
	baz=50						
CHMS	**Chumysh**	**2.59**	**42**	⇑*i*P	**Pn**	**22 37 31.9**	**+0.9**
	baz=42						
CHMS				⇑*i*S	**Sb**	**22 38 07.9**	**+0.4**
	baz=42						
USP	**Ospenovka**	**2.68**	**35**	P	**Pn**	**22 37 33.3**	**+1.1**
	SNR=6.6						
USP	**Ospenovka**	**2.68**	**35**	⇑*i*P	**Pn**	**22 37 33.0**	**+0.8**
	baz=35						
USP				⇑*i*S	**Sb**	**22 38 10.6**	**+0.6**
	baz=35						
NRN	**Naryn**	**2.75**	**82**	*e*P	**Pb**	**22 37 38.7**	**+0.3**
	baz=82						
NRN				*e*S	**Sg**	**22 38 16.0**	**-1.4**
	baz=82						
BOOM	**Boomskoye usch**	**3.00**	**61**	*e*P	**Pb**	**22 37 42.4**	**-0.3**
	baz=62						
BOOM				*e*S	**Sb**	**22 38 22.0**	**+2.6**
	baz=62						
TKM2	**Tokmak 2**	**3.01**	**52**	⇓Sn	**Sb**	**22 38 21.5**	**+1.9**
	22nm,0.8s						
DZET	**Dzherino**	**3.56**	**231**	⇓Sn	**Sn**	**22 38 28.7**	**+2.0**
	15nm,0.6s						

*ISCJB **03** 22:45:03.8±0.7, 1.33N±0.08×99.05E±0.08, h90km, mb3.9/10, Error ellipse: s-maj=11.3km s-min=10.3km az=39.1*
*IDC **03** 22:45:04.3±1.1, 1.20N×98.83E, h86km±7km, mb3.6/10, mb1 3.7/11, mb1mx3.5/36, mbtmp4.0/11, Error ellipse: s-maj=25.3km s-min=11.7km az=81.0*
*DJA **03** 22:45:09.3±0.4, 1°N±3'×99°E±', h10km, M3.5/3, MLv3.5/3*
ISC 03 22:45:06.0±0.7, 1.45N±0.07×98.90E±0.07, h90km, n14, σ1§34/20, mb3.9/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**0.94**	**134**	P	**Pn**	**22 45 26.2**	**+1.2**
MNSI				S	**Sn**	**22 45 41.6**	**+2.4**
GSI	**Gunungsitoli**	**1.33**	**264**	P	**Pn**	**22 45 30.2**	**+0.6**
GSI				S	**Sn**	**22 45 49.4**	**+1.9**
PSI	**Prapat**	**1.34**	**1**	P	**Pn**	**22 45 30.8**	**+0.8**
	16nm,0.3s,baz=28,slow=23,SNR=70						
PSI				S	**Sn**	**22 45 48.8**	**+0.9**
	7.1nm,0.3s,baz=44,slow=14,SNR=13						
CMAR	**Chiang Mai Arr**	**16.90**	**0**	P	**P**	**22 48 58.6**	**+0.9**
	0.6nm,0.3s,baz=191,slow=11,SNR=4.4						
WRA	**Warramunga Arr**	**40.73**	**123**	P	**P**	**22 52 36.1**	**-2.2**
	2.2nm,0.6s,baz=310,slow=8.8,SNR=26						
ASAR	**Alice Springs**	**42.20**	**128**	P	**P**	**22 52 48.0**	**-2.3**
	0.4nm,0.5s,baz=309,slow=8.1,SNR=4.3						

SONM	**Songino Array**	**46.66**	**7**	P		**P**	**22 53 27.0**	**+1.4**
	1.1nm,0.7s,baz=187,slow=10,SNR=12							
MKAR	**Makanchi Array**	**47.44**	**345**	P		**P**	**22 53 32.1**	**+0.6**
	0.7nm,0.4s,baz=157,slow=8.3,SNR=20							
MKAR				pP		**pP**	**22 53 53.5**	**+0.3**
	0.3nm,0.5s,baz=175,slow=7.1,SNR=3.6							
MKAR				sP		**sP**	**22 54 01.9**	**-1.4**
	0.7nm,0.9s,baz=198,slow=7.6,SNR=2.8							
KURBB	**Kurchatov Arra**	**51.95**	**344**	P		**P**	**22 54 06.1**	**+0.4**
	1.1nm,0.7s,baz=163,slow=7.3,SNR=9.8							
ZALV	**Zalesovo Beam**	**53.60**	**350**	P		**P**	**22 54 18.1**	**+0.3**
	2.6nm,0.3s,baz=171,slow=7.1,SNR=16							
ZALV				pP		**pP**	**22 54 39.5**	**-0.3**
	0.9nm,0.4s,baz=186,slow=10,SNR=2.6							
BVAR	**Borovoye Array**	**56.59**	**340**	P		**P**	**22 54 39.1**	**-0.2**
	0.9nm,0.4s,baz=141,slow=9.5,SNR=8.2							
BRTR	**Keskin Array B**	**70.21**	**312**	P		**P**	**22 56 08.8**	**-0.8**
	0.4nm,0.5s,baz=136,slow=7.7,SNR=4.5							
FINES	**FINESS Array B**	**80.57**	**332**	P		**P**	**22 57 07.7**	**-0.6**
	0.6nm,0.4s,baz=134,slow=8.2,SNR=5.6							
ARCES	**ARCESS Array B**	**82.88**	**340**	P		**P**	**22 57 19.5**	**-0.8**
	1.2nm,0.6s,baz=107,slow=4.2,SNR=5.5							

*ATH **03** 22:51:02.3, 35.18N×22.69E, h10km±2km, MD3.6/18*
*CSEM **03** 22:51:03.9±0.6, 35.26N×22.83E, h2km, ML2.1, Error ellipse: s-maj=14.5km s-min=5.4km az=37.0*
*ISCJB **03** 22:51:04.0±0.9, 35.27N±0.06×22.78E±0.06, h10km, Error ellipse: s-maj=10.5km s-min=4.4km az=37.8*
*THE **03** 22:51:05.4, 35.34N×22.83E, h1km±5km, ML2.5/1, Error ellipse: s-maj=5.4km s-min=1.7km az=204.0*
ISC 03 22:51:03.5±1.4, 35.26N±0.06×22.73E±0.05, h10km, n88, σ1§73/95, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANKY	**Antikythira Is**	**0.76**	**37**	P	**Pg**	**22 51 18.2**	**+0.1**
ANKY				S	**Sb**	**22 51 27.6**	**-1.7**
ANKY	**Antikythira Is**	**0.76**	**37**	*e*PB	**Pg**	**22 51 18.3**	**+0.1**
ANKY				*e*SB	**Sn**	**22 51 29.9**	**-2.0**
ANKY	**Antikythira Is**	**0.76**	**37**	*e*Pb	**Pg**	**22 51 18.3**	**+0.1**
ANKY				*e*Sb	**Sn**	**22 51 29.9**	**-2.0**
KYTH	**Kithira**	**1.05**	**14**	P	**Pg**	**22 51 23.2**	**-0.4**
KYTH	**Kithira**	**1.05**	**14**	*e*PN	**Pg**	**22 51 23.5**	**-0.1**
KYTH	**Kithira**	**1.05**	**14**	P	**Pg**	**22 51 23.2**	**-0.4**
KYTH	**Kithira**	**1.05**	**14**	*e*Pn	**Pg**	**22 51 23.5**	**-0.1**
GVD	**Gavdhos**	**1.19**	**110**	*e*PB	**Pb**	**22 51 25.6**	**-0.5**
GVD	**Gavdhos**	**1.19**	**110**	*e*Pb	**Pb**	**22 51 25.6**	**-0.5**
VAM	**Vamos**	**1.21**	**83**	P	**Pb**	**22 51 26.3**	**-0.1**
VAM	**Vamos**	**1.21**	**83**	*e*PN	**Pb**	**22 51 25.4**	**-1.0**
VAM	**Vamos**	**1.21**	**83**	*e*Pn	**Pb**	**22 51 25.4**	**-1.0**
VAM	**Vamos**	**1.21**	**83**	P	**Pb**	**22 51 26.3**	**-0.1**
VLI	**Veliai**	**1.46**	**6**	P	**Pn**	**22 51 30.9**	**+0.9**
VLI	**Veliai**	**1.46**	**6**	*e*PB	**Pg**	**22 51 32.0**	**+0.4**
VLI				*e*SB	**Sg**	**22 51 53.3**	**+2.7**
VLI	**Veliai**	**1.46**	**6**	P	**Pn**	**22 51 30.9**	**+0.9**
VLI	**Veliai**	**1.46**	**6**	*e*Pb	**Pg**	**22 51 32.0**	**+0.4**
VLI				*e*Sb	**Sg**	**22 51 53.3**	**+2.7**
SIVA	**Sivas**	**1.72**	**98**	P	**Pn**	**22 51 34.7**	**+1.3**
SIVA	**Sivas**	**1.72**	**98**	*e*PG	**Pn**	**22 51 35.0**	**+1.6**
SIVA	**Sivas**	**1.72**	**98**	P	**Pn**	**22 51 34.7**	**+1.3**
SIVA	**Sivas**	**1.72**	**98**	*e*Pg	**Pn**	**22 51 35.0**	**+1.6**
PYL	**PYLOS**	**1.82**	**334**	*e*PN	**Pn**	**22 51 35.7**	**+0.9**
PYL	**PYLOS**	**1.82**	**334**	*e*Pn	**Pn**	**22 51 35.7**	**+0.9**
ITM	**Ithomi**	**2.02**	**341**	P	**Pn**	**22 51 38.5**	**+0.8**
ITM	**Ithomi**	**2.02**	**341**	*e*PB	**Pn**	**22 51 38.4**	**+0.8**
ITM				*e*SG	**Sg**	**22 52 08.1**	**-0.4**
ITM	**Ithomi**	**2.02**	**341**	*e*Pb	**Pn**	**22 51 38.4**	**+0.8**
ITM	**Ithomi**	**2.02**	**341**	P	**Pb**	**22 51 40.5**	**+0.2**
ITM				*e*Sg	**Sg**	**22 52 08.1**	**-0.4**
VLX	**Vlachokerasia**	**2.12**	**352**	P	**Pn**	**22 51 41.0**	**+1.9**
VLX	**Vlachokerasia**	**2.12**	**352**	*e*PN	**Pn**	**22 51 41.2**	**+2.1**
VLX	**Vlachokerasia**	**2.12**	**352**	P	**Pn**	**22 51 41.0**	**+1.9**
LAST	**Lasithi**	**2.25**	**92**	*e*PB	**Pn**	**22 51 41.6**	**+0.8**
LAST	**Lasithi**	**2.25**	**92**	*e*Pb	**Pn**	**22 51 41.6**	**+0.8**
DID	**Didima**	**2.28**	**10**	*e*PN	**Pn**	**22 51 43.0**	**+1.8**
DID	**Didima**	**2.28**	**10**	*e*Pn	**Pn**	**22 51 43.0**	**+1.8**
NPS	**Neapolis**	**2.36**	**89**	*e*PN	**Pn**	**22 51 43.9**	**+1.7**
NPS	**Neapolis**	**2.36**	**89**	*e*Pn	**Pn**	**22 51 43.9**	**+1.7**
AMT	**Artemida-Makis**	**2.41**	**340**	*e*PN	**Pn**	**22 51 45.2**	**+2.2**
AMT	**Artemida-Makis**	**2.41**	**340**	*e*Pn	**Pn**	**22 51 45.2**	**+2.2**
GUR	**Goura**	**2.69**	**353**	*e*PB	**Pn**	**22 51 48.7**	**+1.8**
GUR	**Goura**	**2.69**	**353**	*e*Pn	**Pn**	**22 51 48.7**	**+1.8**
LTK	**Loutraki**	**2.76**	**4**	*e*PB	**Pn**	**22 51 50.6**	**+2.8**
LTK	**Loutraki**	**2.76**	**4**	*e*Pb	**Pn**	**22 51 50.6**	**+2.8**
DRO	**Drossia**	**2.81**	**343**	*e*PN	**Pn**	**22 51 50.3**	**+1.8**
DRO	**Drossia

KESW				AML	AML	23 07 42.3
	comp=E,70nm,0.3s					
KESW				AML	AML	23 07 42.7
	comp=N,42nm,0.4s					
KESW	**Keswick, Cumbr**	**0.59**	**325**	*i*P	Pg	23 07 34.0 -0.4
KESW				*e*S	Sg	23 07 41.9 -0.3
LHO	**Holmfirth**	**0.69**	**145**	*e*P	Pg	23 07 36.2 -0.2
LHO	**Holmfirth**	**0.69**	**145**	*e*P	Pg	23 07 36.2 -0.2
LHO	**Holmfirth**	**0.69**	**145**	*i*P	Pg	23 07 36.2 -0.2
LCP	**Cassop**	**0.88**	**44**	*e*P	Pg	23 07 39.1 -0.8
LCP	**Cassop**	**0.88**	**44**	*e*P	Pg	23 07 39.1 -0.8
LCP	**Cassop**	**0.88**	**44**	*e*P	Pg	23 07 39.1 -0.8
ECK	**Cauldkaine Hil**	**1.13**	**342**	*e*P	Pb	23 07 43.5 -1.2
ECK	**Cauldkaine Hil**	**1.13**	**342**	*e*P	Pb	23 07 43.5 -1.2
ECK	**Cauldkaine Hil**	**1.13**	**342**	*e*P	Pb	23 07 43.5 -1.2
WPM1	**Penmaenmawr**	**1.19**	**224**	*e*P	Pb	23 07 43.9 -1.7
WPM1	**Penmaenmawr**	**1.19**	**224**	*e*P	Pb	23 07 43.9 -1.7
WPM1	**Penmaenmawr**	**1.19**	**224**	*e*P	Pb	23 07 43.9 -1.8
ESK	**Eskdalemuir**	**1.27**	**342**	*e*P	Pn	23 07 45.9 -1.0
ESK				AML	AML	23 08 05.3
	comp=N,6.0nm,0.3s					
ESK				AML	AML	23 08 06.6
	comp=E,12nm,0.4s					
ESK	**Eskdalemuir**	**1.27**	**342**	*e*P	Pn	23 07 45.9 -1.0
ESK				AML	AML	23 08 05.3
	comp=N,6.0nm,0.3s					
ESK				AML	AML	23 08 06.6
	comp=E,12nm,0.4s					
ESK	**Eskdalemuir**	**1.27**	**342**	*e*P	Pn	23 07 45.9 -1.0
FOEL	**Foel Wylfa**	**1.29**	**199**	*e*P	Pn	23 07 46.1 -1.1
FOEL				*e*S	Sb	23 08 02.5 -1.6
FOEL				AML	AML	23 08 04.4
	comp=N,39nm,0.5s					
FOEL				AML	AML	23 08 06.3
	comp=E,16nm,0.5s					
FOEL	**Foel Wylfa**	**1.29**	**199**	*e*P	Pn	23 07 46.1 -1.1
FOEL				*e*S	Sb	23 08 02.5 -1.6
FOEL				AML	AML	23 08 04.4
	comp=N,39nm,0.5s					
FOEL				AML	AML	23 08 06.3
	comp=E,16nm,0.5s					
FOEL	**Foel Wylfa**	**1.29**	**199**	*e*P	Pn	23 07 46.1 -1.1
FOEL				*e*S	Sb	23 08 02.5 -1.6
WLF1	**Llynfaes**	**1.39**	**234**	*e*P	Pn	23 07 46.5 -1.9
WLF1				AML	AML	23 08 11.2
	comp=E,6.4nm,0.2s					
WLF1				AML	AML	23 08 12.0
	comp=N,8.6nm,0.5s					
WLF1	**Llynfaes**	**1.39**	**234**	*e*P	Pn	23 07 46.5 -1.9
WLF1				AML	AML	23 08 11.2
	comp=E,6.4nm,0.2s					
WLF1				AML	AML	23 08 12.0
	comp=N,8.6nm,0.5s					
WLF1	**Llynfaes**	**1.39**	**234**	*e*P	Pn	23 07 46.5 -1.9
GAL1	**Galloway**	**1.48**	**302**	*e*P	Pn	23 07 48.5 -1.3
GAL1				AML	AML	23 08 10.6
	comp=N,14nm,0.3s					
GAL1				AML	AML	23 08 10.7
	comp=E,6.8nm,0.6s					
GAL1	**Galloway**	**1.48**	**302**	*e*P	Pn	23 07 48.5 -1.3
GAL1				AML	AML	23 08 10.6
	comp=N,14nm,0.3s					
GAL1				AML	AML	23 08 10.7
	comp=E,6.8nm,0.6s					
GAL1	**Galloway**	**1.48**	**302**	*e*P	Pn	23 07 48.5 -1.3
YRC	**Rhoscolyn**	**1.50**	**236**	*e*P	Pn	23 07 48.3 -1.6
YRC	**Rhoscolyn**	**1.50**	**236**	*e*P	Pn	23 07 48.3 -1.6
YRC	**Rhoscolyn**	**1.50**	**236**	*e*P	Pn	23 07 48.3 -1.6
YRE	**Yr Eifl**	**1.60**	**226**	*e*P	Pn	23 07 49.8 -1.6
YRE	**Yr Eifl**	**1.60**	**226**	*e*P	Pn	23 07 49.8 -1.6
YRE	**Yr Eifl**	**1.60**	**226**	*i*P	Pn	23 07 49.9 -1.6
HLM1	**Long Mynd**	**1.61**	**188**	*e*P	Pn	23 07 50.4 -1.2
HLM1				*e*S	Sn	23 08 11.2 -1.2
HLM1				AML	AML	23 08 13.0
	comp=N,11nm,0.2s					
HLM1				AML	AML	23 08 14.2
	comp=E,11nm,0.2s					
HLM1	**Long Mynd**	**1.61**	**188**	*e*P	Pn	23 07 50.4 -1.2
HLM1				*e*S	Sn	23 08 11.2 -1.3

GUC ***03*** *23:09:38.5±0.5,38˚27S×74˚35W,h23km±6km,ML6.4*
GCMT ***03*** *23:09:38.0±0.1,38˚31S×74˚08W,h14km,MW6.2/123, Moment Tensor Solution. s123,c262; s119,c409; Duration: 3ᵗ0 Moment tensor: Scale 10¹⁸Nm; Mrr1.09±.01; Mθθ0.04±.01; Mϕϕ-1.13±.01; Mrθ0.07±.02; Mθϕ0.05±.01; Mϕr-2.02±.05; Best double couple: M₀2.30600×10¹⁸ NP1:ϕs178.00000°,δ76.00000°, λ90.00000°. NP2:ϕs357.00000°,δ14.00000°,λ89.00000°. Principal axes: T 2.2850, Plg59.0000°, Azm88.0000°; N 0.0420, Plg0.0000°, Azm358.0000°; P -2.3270, Plg31.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
IDC ***03*** *23:09:41.3±0.3,38˚12S×73˚58W,h0km,mb5.1/20, mb1 5.1/24,mb1mx5.1/24,mbtmp5.1/24,ML4.5/4,MS6.0/17, Ms1 6.0/17,ms1mx5.8/26 Error ellipse: s-maj=15.5km s-min=11.0km az=93.0*
ISCJB ***03*** *23:09:43.6±0.1,38˚05S±0˚02×73˚60W±0˚04,h22km, mb5.7/156,MS6.1/353,Error ellipse: s-maj=4.4km s-min=3.2km az=148.3*
NEIC ***03*** *23:09:44.8±0.1,38˚07S×73˚45W,h19km,mb5.8/134, ME5.8,MS6.0/297,MW6.2,MW6.1,MW6.3,ML6.4(GUC), Error ellipse: s-maj=7.4km s-min=4.4km az=71.0,Moment Tensor Solution. s61 Moment tensor: Scale 10¹⁸Nm; Mrr1.16; Mθθ0.01; Mϕϕ-1.17; Mrθ-0.24; Mθϕ-0.08; Mϕr-1.63; Best double couple: M₀2.00000×10¹⁸ NP1:ϕs187.00000°, δ72.00000°,λ92.00000°. NP2:ϕs0.00000°,δ18.00000°, λ83.00000°. Principal axes: T 2.0100, Plg62.0000°, Azm100.0000°; N 0.0100, Plg2.0000°, Azm6.0000°; P -2.0200, Plg27.0000°, Azm275.0000°; Broadband fault plane solution: P waves. NP1:ϕs5.00000°,δ15.00000°, λ90.00000°. NP2:ϕs185.00000°,δ75.00000°,λ90.00000°. Principal axes: T Plg60.0000°, Azm95.0000°; N Plg0.0000°, Azm0.0000°; P Plg25.0000°, Azm270.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [V] at Angol, Canete, Chillan, Concepcion, Los Angeles, Puren and Renaico; [IV] at La Laja, Lanco, Lebu, Loncoche, Lonquimay, Mehuin, Pucon, Puerto Saavedra, Queule, San Rosendo, Talcahuano, Temuco, Tolten and Valdivia. Felt in much of central Chile from Chillan to Puerto Montt and as far as Santiago. Felt [II] at Neuquen, Argentina. Also felt at Cutral-Co and San Carlos de Bariloche.
NEIC ***03*** *23:09:45.0±0.0,38˚05S×73˚49W,h19km,Moment Tensor Solution. s20 Moment tensor: Scale 10¹⁸Nm; Mrr1.02; Mθθ0.08; Mϕϕ-1.10; Mrθ-0.45; Mθϕ0.06; Mϕr-1.90; Best double couple: M₀2.20000×10¹⁸ NP1:ϕs191.00000°, δ76.00000°,λ97.00000°. NP2:ϕs342.00000°,δ15.00000°, λ61.00000°. Principal axes: T 2.2200, Plg58.0000°, Azm111.0000°; N 0.0100, Plg7.0000°, Azm9.0000°; P -2.2300, Plg30.0000°, Azm275.0000°;*
MOS ***03*** *23:09:46.1±1.1,38˚04S×73˚58W,h33km,mb5.9/55, MS6.0/59 Error ellipse: s-maj=13.2km s-min=6.7km az=102.1*
BJI ***03*** *23:09:46.5,38˚30S×74˚30W,h23km,mB6.0/43,Ms6.4/69, Ms7 6.3/64*
NEIC ***03*** *23:09:58.1±0.0,38˚74S×73˚96W,h24km,Moment Tensor Solution. s75 Moment tensor: Scale 10¹⁸Nm; Mrr1.29; Mθθ-0.09; Mϕϕ-1.20; Mrθ1.07; Mθϕ-0.04; Mϕr-3.30; Best double couple: M₀3.70000×10¹⁸ NP1:ϕs163.00000°, δ81.00000°,λ85.00000°. NP2:ϕs13.00000°,δ11.00000°, λ119.00000°. Principal axes: T 3.7800, Plg54.0000°, Azm66.0000°; N -0.2000, Plg5.0000°, Azm164.0000°; P -3.5800, Plg35.0000°, Azm258.0000°;*
ISC 03 23:09:45.1±0.2,**38˚13S**±0˚03×**73˚69W**±0˚04**,h22km, h22km:pP-P,n1394,σ1ϕ55**/1264**,mb5.8**/156**,MS6.1**/355**,**

303C-242D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
VLCH	**Valdivia**	**1.71**	**168**	*e*P	**Pn**	**23 10 11.6**	**-1.9**
VLCH				*e*S	**Sn**	**23 10 34.3**	**-0.3**
VLCH				AML	AML	23 10 49.5	
	comp=E,313μm,0.7s						
OSCH	**Osorno**	**2.48**	**170**	*i* S	**Sn**	**23 10 49.2**	**-4.4**
OSCH				AML	AML	23 11 20.3	
	comp=N,174μm,0.7s						
LNCH	**Linares**	**2.83**	**37**	*e*P	**Pn**	**23 10 28.7**	**-0.2**
LNCH				*i* S	**Sb**	**23 11 07.2**	**-1.8**
LNCH				AML	AML	23 11 26.9	
	comp=N,96μm,0.9s						
TALC	**Talca**	**3.19**	**32**	*e*P	**Pn**	**23 10 33.7**	**-0.1**
TALC				*i* S	**Sb**	**23 11 16.1**	**-3.3**
TALC				AML	AML	23 11 39.6	
	comp=N,71μm,0.3s						
PMCH	**Puerto Montt**	**3.41**	**170**	*i* S	**Sn**	**23 11 11.4**	**-5.2**
PLCA	**Paso Flores**	**3.56**	**138**	Pn	**Pn**	**23 10 39.4**	**+0.4**
	comp=N,28nm,0.3s,baz=310,slow=14,SNR=214						
PLCA				LR	LR	23 11 25.8	
	comp=N,69μm,19.0s,baz=218,slow=30						
PLCA				Lg	Lg	23 11 37.7	
	comp=N,249nm,0.3s,baz=224,slow=18,SNR=9.1						
PLCA	**Paso Flores**	**3.56**	**138**	*e*P	**Pn**	**23 10 39.5**	**+0.4**
PLCA				*e*		23 11 21.9	
PLCA	**Paso Flores**	**3.56**	**138**	*e*P	**Pn**	**23 10 37.4**	**-1.6**
PLCA	**Paso Flores**	**3.56**	**138**	*e*Pn	**Pn**	**23 10 39.5**	**+0.4**
PLCA				*e*Sn	**Sn**	**23 11 21.9**	**+1.4**
NICH	**Los Niches**	**3.70**	**33**	*i* P	**Pn**	**23 10 41.2**	**+0.3**
NICH				*i* S	**Sn**	**23 11 28.5**	**+4.6**
CFAA	**Coronel Fontan**	**7.90**	**36**	Pn	**Pn**	**23 11 36.1**	**-2.6**
	comp=N,1.7nm,0.3s,baz=217,slow=12,SNR=55						
CFAA				Sn	**Sn**	**23 13 08.2**	**+0.7**
	comp=N,3.9nm,0.3s,baz=197,slow=19,SNR=2.8						
CFAA				LR	LR	23 14 51.5	
	comp=N,24μm,18.0s,baz=222,slow=40						
TRQA	**Tornquist**	**9.23**	**93**	*e*Pn	**Pn**	**23 11 58.7**	**+1.7**
TRQA				*e*Sn	**Sn**	**23 13 39.6**	**-0.6**
LCO	**Las Campanas**	**9.43**	**16**	*e*Pn	Pn	23 11 56.7	-3.2
LCO				*e*Sn	**Sn**	**23 13 40.8**	**-4.6**
LVC	**Limon Verde**	**16.00**	**16**	Pn	Pn	23 13 24.2	-4.8
	comp=N,35nm,0.3s,baz=195,slow=10,SNR=9.9						
LVC				LR	LR	23 19 19.6	
	comp=N,264μm,20.9s,baz=191,slow=36						
LVC	**Limon Verde**	**16.00**	**16**	*e*Pn	**Pn**		
	comp=N,431nm,1.7s						
LVC				*e*Sn	Sn	23 16 05.9	-20
USHA	**Ushuaia**	**17.08**	**170**	P	**P**	**23 13 42.9**	**-0.9**
	comp=N,2.1nm,0.3s,baz=315,slow=9.3,SNR=24						
USHA				LR	LR	23 21 22.1	
	comp=N,122μm,19.5s,baz=326,slow=41						
EFI	**East Falkland**	**17.44**	**146**	P	**P**	**23 13 47.5**	**-0.3**
	comp=N,3μm,0.6s,SNR=37						
EFI	**East Falkland**	**17.44**	**146**	*e*P	**Pn**	**23 13 47.0**	**+0.3**
EFI				pmax	pmax		
	comp=Z,1μm,1.2s						
EFI				MLR	MLR		
	comp=Z,317μm,15.0s						
EFI	**East Falkland**	**17.44**	**146**	*e*Pn	**P**	**23 13 47.9**	**+0.1**
	comp=Z,284nm,0.6s						
EFI				*e*Sn	**Sn**	**23 16 58.3**	**-1.7**
CPUP	**Villa Florida**	**18.14**	**54**	P	**Pn**	**23 13 52.8**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=230,slow=10,SNR=41						
CPUP				LR	LR	23 21 38.1	
	comp=Z,744μm,22.0s,baz=230,slow=40						
CPUP	**Villa Florida**	**18.14**	**54**	P	**Pn**	**23 13 52.8**	**-2.7**
CPUP				*e*		23 17 11.9	
CPUP	**Villa Florida**	**18.14**	**54**	P	**Pn**	**23 13 52.8**	**-2.7**
CPUP				*e*Pn	**P**	**23 13 53.2**	**-2.5**
CPUP				*e*Sn	**Sn**	**23 17 11.9**	**-5.3**
I41PY	**VILLA FLORIDA**	**18.14**	**54**	*i*		00 51 25.0	
	baz=221,slow=316						
NNA	**Nana**	**26.19**	**353**	P	**P**	**23 15 17.2**	**-0.9**
	comp=Z,32nm,0.7s,baz=197,slow=11,SNR=14						
NNA	**Nana**	**26.19**	**353**	*e*P	**P**	**23 15 17.3**	**-0.9**
NNA				*e*		23 18 39.0	
NNA				pmax	pmax		
	comp=Z,66nm,0.9s						
NNA				MLR	MLR		
	comp=Z,16μm,20.0s						
NNA	**Nana**	**26.19**	**353**	*e*P	**P**	**23 15 17.3**	**-0.9**
	comp=Z,66nm,0.9s						
NNA				*e*PcP	PcP	23 18 39.0	-5.9
NNA				LR	LR		
	comp=Z,16μm,20.0s						
PMSA	**Palmer Station**	**27.28**	**171**	*e*P	**P**	**23 15 27.1**	**-0.4**
	comp=Z,209nm,1.6s						
PMSA				LR	LR		
	comp=Z,57μm,18.0s						
HOPE	**Hope Point**	**29.96**	**135**	P	**P**	**23 15 51.8**	**+0.4**
	comp=Z,1μm,0.8s,SNR=10						
HOPE	**Hope Point**	**29.96**	**135**	*e*P	**P**	**23 15 51.8**	**+0.4**
	comp=Z,357nm,1.1s						
HOPE				LR	LR		
	comp=Z,37μm,18.0s						
SAML	**Samuel**	**30.56**	**21**	*e*P	**P**	**23 15 56.0**	**-1.1**
	comp=Z,95nm,1.3s						
SAML				LR	LR		
	comp=Z,22μm,20.0s						
ATAH	**Atahualpa**	**31.15**	**351**	P	**P**	**23 16 04.3**	**+1.5**
	comp=Z,28nm,1.0s,baz=231,slow=6.5,SNR=10						
ATAH				LR	LR	23 27 33.0	
	comp=Z,12μm,18.6s,baz=164,slow=34						
BDFB	**Brasilia**	**31.84**	**52**	P	**P**	**23 16 07.2**	**-1.4**
	comp=Z,41nm,0.9s,baz=216,slow=6.9,SNR=25						
BDFB				LR	LR	23 28 43.9	
	comp=Z,31μm,20.5s,baz=218,slow=36						
OTAV	**Otavalo**	**38.43**	**352**	*e*P	**P**	**23 17 06.9**	**+1.3**
	comp=Z,240nm,1.4s						
PTGA	**Pitinga**	**39.30**	**22**	P	**P**	**23 17 11.0**	**-1.4**
	comp=Z,30nm,0.9s,baz=203,slow=9.6,SNR=34						
PTGA	**Pitinga**	**39.30**	**22**	P	**P**	**23 17 11.0**	**-1.4**
PTGA				LR	LR		
	comp=Z,38μm,18.0s						
ROSC	**El Rosal**	**42.77**	**359**	P	**P**	**23 17 41.9**	**+0.4**
	comp=Z,19nm,0.7s,baz=200,slow=2.2,SNR=8.0						
ROSC	**El Rosal**	**42.77**	**359**	*e*P	**P**	**23 17 44.2**	**+2.8**
VNA3	**Neumayer Olymp**	**46.09**	**156**	P	**P**	**23 18 07.3**	**+0.4**
VNA1	**Neumayer--Stat**	**46.45**	**155**	P	**P**	**23 18 10.7**	**+1.0**
VNA2	**Neumayer--Watz**	**46.77**	**156**	P	**P**	**23 18 12.3**	**+0.1**
	baz=282,slow=9.1						
RCBR	**Riachuelo**	**47.00**	**56**	P	**P**	**23 18 14.1**	**-0.7**
	comp=Z,79nm,0.9s,baz=203,slow=11,SNR=23						
RCBR	**Riachuelo**	**47.00**	**56**	*e*P	**P**	**23 18 15.3**	**+0.5**
	comp=Z,477nm,1.4s						
BCIP	**Isla Barro Col**	**47.40**	**352**	*e*P	**P**	**23 18 17.4**	**-0.4**
	comp=Z,172nm,1.2s						
BCIP				*e*pP	**pP**	**23 18 25.5**	**+0.8**
BCIP				LR	LR		
	comp=Z,9μm,20.3s						
TRIS	**Tristan da Cun**	**47.84**	**109**	PFAKE		23 18 30.0	+8.9
TRIS				LR	LR		
	comp=Z,22μm,18.0s						
SNAA	**Sanae**	**48.31**	**156**	P	**P**	**23 18 24.7**	**+0.4**
SNAA	**Sanae**	**48.31**	**156**	P	**P**	**23 18 24.0**	**-0.3**
	comp=Z,18nm,0.9s,baz=282,slow=6.3,SNR=61						
SNAA	**Sanae**	**48.31**	**156**	*e*P	**P**	**23 18 24.2**	**-0.1**
SNAA				pmax	pmax		
	comp=Z,102nm,1.2s						
SNAA				MLR	MLR		
	comp=Z,14μm,15.0s						
SNAA	**Sanae**	**48.31**	**156**	*e*P	**P**	**23 18 23.7**	**-0.6**
	comp=Z,173nm,1.1s						
SNAA				LR	LR		
	comp=Z,11μm,18.0s						
PCRV	**Puerto La Cruz**	**48.80**	**12**	P	**P**	**23 18 28.2**	**-0.4**
	comp=Z,24nm,0.8s,baz=298,slow=6.0,SNR=4.5						
JTS	**JuntasAbangare**	**49.31**	**345**	P	**P**	**23 18 34.8**	**+2.3**
	comp=Z,730nm,1.1s,SNR=8.3						
JTS	**JuntasAbangare**	**49.31**	**345**	P	**P**	**23 18 32.5**	**0.0**
	comp=Z,20nm,1.0s,baz=249,slow=5.7,SNR=6.7						
JTS	**JuntasAbangare**	**49.31**	**345**	*i*P	**P**	**23 18 33.2**	**+0.7**
JTS				pmax	pmax		
	comp=Z,87nm,1.7s						
JTS				MLR	MLR		
	comp=Z,40μm,22.0s						
JTS	**JuntasAbangare**	**49.31**	**345**	*e*P	**P**	**23 18 34.2**	**+1.7**
	comp=Z,157nm,1.1s						
JTS				LR	LR		
	comp=Z,7μm,18.0s						
SSN	**San Juan del S**	**50.48**	**344**	PFAKE		23 18 50.0	+8.7
SSN				LR	LR		
	comp=Z,3μm,20.0s						
GRGR	**Grenville**	**51.26**	**15**	*e*P	**P**	**23 18 47.0**	**-0.3**
	comp=Z,543nm,1.1s						
GRGR				LR	LR		
	comp=Z,22μm,19.4s						
QSPA	**South Pole Qui**	**52.11**	**180**	P	**P**	**23 18 53.0**	**-0.3**
	comp=Z,50nm,0.8s,baz=143,slow=2.4,SNR=100						
QSPA	**South Pole Qui**	**52.11**	**180**	P	**P**	**23 18 53.0**	**-0.3**
BBGH	**Gun Hill**	**52.70**	**17**	PFAKE		23 19 10.0	+12
BBGH				LR	LR		
	comp=Z,19μm,21.9s						
NVL	**N'lazarevskaya**	**53.09**	**156**	*i*P	**P**	**23 19 00.2**	**-0.1**
NVL				*e*		23 21 07.8	
NVL				*e*PPP	PPP	23 22 10.3	
NVL				*i* S	**S**	**23 26 23.9**	**-4.9**
NVL				*i* S	S	23 26 27.0	-1.8
NVL				pmax	pmax		
	comp=Z,46nm,0.8s						
RKT	**Rikitea**	**53.92**	**267**	*e*S	**S**	**23 26 38.8**	**-2.5**
	comp=Z,11μm,21.6s						
RKT				*e*LR	LR	23 34 40.6	
	comp=Z,37μm,26.0s,baz=125						
RKT	**Rikitea**	**53.92**	**267**	*e*T	T	00 16 44.7	
	comp=Z,6.7nm,0.2s						
ICMP	**Isla Caja de M**	**56.13**	**8**	*e*pP	pP	23 19 29.4	-0.4
MTDJ	**Mount Denham**	**56.17**	**356**	PFAKE		23 19 40.0	+17
MTDJ				LR	LR		
	comp=Z,6μm,20.9s						
CRPR	**Cabo Rojo, PR**	**56.18**	**8**	*e*P	**P**	**23 19 21.8**	**-1.4**
CRPR				LR	LR		
	comp=Z,8μm,19.1s						
CDVI	**St. Croix**	**56.22**	**10**	PFAKE		23 19 40.0	+17
CDVI				LR	LR		
	comp=Z,11μm,18.4s						
OBIP	**Obispado Ponce**	**56.27**	**8**	*e*P	P	23 19 20.3	-3.6
	comp=Z,144nm,1.1s						
OBIP				LR	LR		
	comp=Z,18μm,19.0s						
CELP	**Cerrillos**	**56.31**	**8**	*e*P	**P**	**23 19 23.2**	**-0.9**
SABA	**Saba**	**56.32**	**12**	PFAKE		23 19 40.0	+16
SABA				LR	LR		
	comp=Z,18μm,18.5s						
MPR	**Mayaguez**	**56.38**	**7**	PFAKE		23 19 40.0	+15
MPR				LR	LR		
	comp=Z,6μm,18.8s						
SJG	**San Juan**	**56.39**	**9**	*e*P	P	23 19 21.3	-3.4
SJG				pmax	pmax		
	comp=Z,124nm,1.2s						
SJG				MLR	MLR		
	comp=Z,10μm,19.0s						
SJG	**San Juan**	**56.39**	**9**	*e*P	P	23 19 21.3	-3.4
	comp=Z,124nm,1.2s						
SJG				LR	LR		
	comp=Z,10μm,19.0s						
HUMP	**Col San Antoni**	**56.46**	**9**	PFAKE		23 19 40.0	+15
HUMP				LR	LR		
	comp=Z,14μm,19.2s						
LRS	**Lares**	**56.49**	**8**	*e*P	**P**	**23 19 24.3**	**-1.1**
AOPR	**Arecibo Observ**	**56.55**	**8**	*e*P	P	23 19 29.4	+3.5
	comp=Z,82nm,1.0s						
AOPR				LR	LR		
	comp=Z,17μm,19.7s						
AGP	**Aguadilla**	**56.57**	**7**	PFAKE		23 19 40.0	+14
AGP				LR	LR		
	comp=Z,14μm,18.9s						
ANWB	**Willy Bob**	**56.62**	**14**	PFAKE		23 19 40.0	+14
ANWB				LR	LR		
	comp=Z,12μm,19.3s						
SMRT	**St. Maarten**	**56.77**	**12**	PFAKE		23 19 40.0	+13
SMRT				LR	LR		
	comp=Z,20μm,21.6s						
STVI	**Saint Thomas**	**56.78**	**10**	PFAKE		23 19 40.0	+13
STVI				LR	LR		
	comp=Z,16μm,18.9s						
SDDR	**Presa de Saban**	**56.85**	**3**	*e*P	**P**	**23 19 31.2**	**+3.2**
SDDR				LR	LR		
	comp=Z,14μm,19.4s						
SMN1	**Samana, DR**	**57.17**	**5**	*e*P	**P**	**23 19 28.5**	**-1.8**
GTBY	**Guantanamo Bay**	**57.77**	**358**	*e*P	**P**	**23 19 33.9**	**-0.5**
	comp=Z,126nm,1.0s						
GTBY				LR	LR		
	comp=Z,8μm,19.2s						
SBA	**Scott Base**	**58.76**	**192**	*e*P	**P**	**23 19 41.8**	**+1.0**
SBA				MLR	MLR		
	comp=Z,8μm,18.0s						
SBA	**Scott Base**	**58.76**	**192**	*e*P	**P**	**23 19 41.8**	**+1.0**
SBA				LR	LR		
	comp=Z,8μm,18.0s						
GRTK	**Grand Turk**	**59.38**	**3**	*e*P	**P**	**23 19 43.9**	**-1.7**
	comp=Z,165nm,1.0s						
GRTK				LR	LR		
	comp=Z,9μm,18.0s						
TEIG	**Tepich**	**59.65**	**344**	*e*P	**P**	**23 19 46.9**	**-0.6**
	comp=Z,162nm,1.0s						
TEIG				LR	LR		
	comp=Z,5μm,19.0s						
VNDA	**Vanda**	**59.79**	**192**	P	**P**	**23 19 48.0**	**+0.1**
	comp=Z,5.7nm,0.9s,baz=118,slow=4.7,SNR=13						
VNDA	**Vanda**	**59.79**	**192**	*e*P	**P**	**23 19 48.9**	**+1.0**
VNDA				pmax	pmax		
	comp=Z,97nm,1.6s						
VNDA				MLR	MLR		
	comp=Z,9μm,18.4s						
VNDA	**Vanda**	**59.79**	**192**	*e*P	**P**	**23 19 48.9**	**+1.0**
	comp=Z,97nm,1.6s						
VNDA				LR	LR		
	comp=Z,9μm,18.4s						
ASCN	**Ascension**	**61.13**	**77**	PFAKE		23 20 10.0	+12
ASCN				LR	LR		
	comp=Z,23μm,21.0s						
SYO	**Syowa Base**	**62.53**	**158**	*e*pP	**P**	**23 20 03.6**	**-2.9**
SHEL	**Horse Pasture**	**63.07**	**90**	*e*P	P	23 20 14.5	+3.5
SHEL				pmax	pmax		
	comp=Z,173nm,0.9s						
SHEL				MLR	MLR		
	comp=Z,24μm,19.0s						
SHEL	**Horse Pasture**	**63.07**	**90**	*e*P	P	23 20 14.5	+3.5
	comp=Z,173nm,0.9s						
SHEL				LR	LR		
	comp=Z,24μm,19.0s						
TBI	**Tubuai**	**65.13**	**259**	*e*P	**P**	**23 20 25.7**	**+1.3**
	comp=Z,215nm,1.2s						
TBI				*e*S	**S**	**23 29 03.2**	**-2.9**
	comp=Z,25μm,27.8s						
TBI				*e*LQ	LQ	23 37 05.7	
	comp=Z,4μm,28.5s						
TBI				*e*LR	LR	23 39 50.0	
	comp=Z,27μm,26.0s,baz=125						
TBI	**Tubuai**	**65.13**	**259**	*e*T	T	00 30 48.8	
	comp=Z,40nm,0.3s						
MEH	**Mehetia**	**67.05**	**265**	*e*P	**P**	**23 20 38.3**	**+1.5**
	comp=Z,35nm,1.2s						
MEH	**Mehetia**	**67.05**	**265**	*e*T	T	00 33 10.4	
	comp=Z,102nm,0.3s						
TVO	**Taravao**	**68.04**	**264**	*e*P	**P**	**23 20 44.7**	**+1.6**
	comp=Z,18nm,1.1s						
TVO	**Taravao**	**68.04**	**264**	*e*T	T	00 34 21.7	
	comp=Z,5.2nm,0.3s						
035Z	**Hargill**	**68.20**	**337**	⇑P	**P**	**23 20 44.9**	**+1.2**
	baz=68						
035Z				⇑S	**S**	**23 29 46.4**	**+3.7**
	baz=68						
VAH	**Vaihoa**	**68.21**	**267**	*e*P	**P**	**23 20 45.3**	**+1.2**
	comp=Z,150nm,1.3s						
VAH	**Vaihoa**	**68.21**	**267**	*e*T	T	00 34 39.7	
	comp=Z,10nm,0.2s						
TIAR	**Tiarei**	**68.24**	**264

baz=69
KVTX Kingsville 69.16 337 PFAKE 23 21 00.0 +10
KVTX LR LR
comp=Z,4µm,19.0s
934A Benavides 69.41 337 ⇑P **P 23 20 52.6 +1.4**
baz=70,SNR=21
MAW Mawson 69.60 164 P **P 23 20 51.2 -0.8**
comp=Z,13nm,0.8s,baz=212,slow=7.9,SNR=22
MAW LR LR 23 51 45.0
comp=Z,20µm,19.0s,baz=230,slow=36
MAW Mawson 69.60 164 *e*P **P 23 20 51.3 -0.6**
MAW pmax pmax
comp=Z,10.0nm,1.0s
MAW MLR MLR
comp=Z,4µm,19.1s
MAW Mawson 69.60 164 *e*P **P 23 20 51.3 -0.6**
comp=Z,9.9nm,1.0s
MAW LR LR
comp=Z,4µm,19.1s
933A Laredo 69.66 336 ⇓P **P 23 20 54.0 +1.3**
baz=70,SNR=24
738A Farr-Stevens R 69.72 340 ⇓P **P 23 20 54.5 +1.4**
baz=70
TIGA Tifton 69.83 351 *e*P **P 23 20 55.8 +2.1**
comp=Z,121nm,1.3s
TIGA LR LR
comp=Z,5µm,21.4s
TIGA Tifton 69.83 351 ⇓P **P 23 20 54.8 +1.1**
baz=70
835A Beeville 69.83 337 ⇑P **P 23 20 54.9 +1.1**
baz=70,SNR=8.5
834A Tilden 69.90 337 ⇓P **P 23 20 54.9 +0.7**
baz=70,SNR=24
736A Circle Diamond 70.23 338 ⇓P **P 23 20 56.4 +0.2**
baz=70
SLBS Sierra La Lagu 70.28 325 PFAKE 23 21 10.0 +13
SLBS LR LR
comp=Z,18µm,18.0s
833A Chaparral WMA, 70.35 336 ⇓P **P 23 20 57.4 +0.4**
baz=71
735A Kenedy 70.36 338 ⇑P **P 23 20 57.6 +0.6**
baz=71,SNR=7.5
832A Faith Ranch, C 70.50 336 ⇓P **P 23 20 58.5 +0.5**
baz=71,SNR=25
734A La Parita Cree 70.58 337 ⇑P **P 23 20 58.6 +0.2**
baz=71,SNR=6.0
BBSR BB Station 70.64 8 *e*pP pP 23 21 04.9 -0.9
SACV Santiago Islan 70.66 52 PFAKE 23 21 10.0 +11
SACV LR LR
comp=Z,48µm,18.0s
539A Cross D Ranch, 70.68 341 ⇑P **P 23 20 59.5 +0.6**
baz=71
733A Divot King Ran 70.69 336 ⇓P **P 23 20 59.5 +0.4**
baz=71,SNR=8.9
636A Smothers Creek 70.72 339 ⇓P **P 23 20 59.9 +0.6**
baz=71,SNR=6.1
LPIG La Paz 70.81 325 LR LR 23 45 23.0
comp=Z,17µm,18.3s,baz=150,slow=30
HKT Hockley 70.82 340 *e*P **P 23 21 02.1 +2.4**
HKT pmax pmax
comp=Z,159nm,1.7s
HKT MLR MLR
comp=Z,4µm,19.0s
HKT Hockley 70.82 340 *e*P **P 23 21 02.1 +2.4**
comp=Z,159nm,1.7s
HKT LR LR
comp=Z,4µm,19.0s
635A Leesville 70.85 338 ⇓P **P 23 20 59.9 -0.1**
baz=71
732A Laxson Ranch, 70.92 336 ⇓P **P 23 21 00.0 -0.4**
baz=71
RGRS Roger Stewart 70.94 354 *e*pP pP 23 21 07.8 +0.2
538A Harpers Horsep 70.99 340 ⇓P **P 23 21 00.3 -0.5**
baz=71
634A China Grove, S 71.01 337 ⇓P **P 23 21 00.7 -0.3**
baz=71
537A Green Hill Far 71.08 339 ⇑P **P 23 21 01.6 +0.3**
baz=71,SNR=8.9
536A Bastrop 71.28 339 ⇑P **P 23 21 03.6 +1.0**
baz=72,SNR=7.2
439A Center Grove, 71.34 341 ⇑P **P 23 21 03.7 +0.8**
baz=72,SNR=11
633A Saathoff Ranch 71.34 337 ⇑P **P 23 21 03.8 +0.8**
baz=72,SNR=10.0
535A Dale 71.39 338 ⇓P **P 23 21 04.1 +0.9**
baz=72,SNR=11
438A Sam Houston St 71.48 340 ⇑P **P 23 21 04.7 +0.9**
baz=72,SNR=6.9
632A Uvalde 71.58 336 ⇑P **P 23 21 04.3 -0.2**
baz=72
534A Blanco 71.66 337 ⇑P **P 23 21 04.7 -0.3**
baz=72
340A Bronson 71.71 342 ⇓P **P 23 21 04.9 -0.2**
baz=72
VBMS Vicksburg 71.73 345 *e*P P 23 21 10.3 +5.1
VBMS LR LR
comp=Z,3µm,18.0s
437A Phantom Ranch, 71.74 340 ⇑P **P 23 21 06.4 +1.1**
baz=72,SNR=6.5
631A Perdido Creek 71.74 335 ⇑P **P 23 21 04.7 -0.8**
baz=72
GOGA Godfrey 71.76 351 *e*P **P 23 21 04.7 -0.7**
GOGA pmax pmax
comp=Z,87nm,1.0s
GOGA MLR MLR
comp=Z,6µm,22.0s
GOGA Godfrey 71.76 351 *e*P **P 23 21 04.7 -0.7**
comp=Z,87nm,1.0s
GOGA LR LR
comp=Z,6µm,22.0s
339A Huntington 71.80 341 ⇓P **P 23 21 06.0 +0.3**
baz=72,SNR=8.9
436A Wall Ranch, Ga 71.86 339 ⇓P **P 23 21 05.6 -0.5**
baz=72
533A Kerrville 71.87 337 ⇓P **P 23 21 05.4 -0.8**
baz=72
LRAL Lakeview Retre 71.88 348 *e*P **P 23 21 05.6 -0.5**
comp=Z,148nm,1.1s
LRAL LR LR
comp=Z,5µm,18.0s
338A Crockett 72.02 341 ⇑P **P 23 21 07.6 +0.6**
baz=72,SNR=12
435B Jarrell 72.10 339 ⇑P **P 23 21 07.0 -0.6**
baz=72
337A Centerville 72.13 340 ⇑P **P 23 21 08.5 +0.8**
baz=72,SNR=16
532A Rocksprings 72.19 336 ⇓P **P 23 21 07.8 -0.3**
baz=72
NATX Nacogdoches 72.23 341 PFAKE 23 21 20.0 +12
NATX LR LR
comp=Z,3µm,20.0s
434A Burnet 72.33 338 ⇓P **P 23 21 08.3 -0.6**
baz=73
DRV Dumont d'Urvil 72.38 193 P P 23 20 49.0 -20
DRV S S 23 29 47.0 -44
DRV SS SS 23 35 20.0 +12
DRV L L 23 40 00.0
DRV R 23 43 00.0
JSC Jenkinsville 72.39 353 *e*P **P 23 21 07.6 -1.5**
JSC Jenkinsville 72.39 353 *e*P **P 23 21 07.6 -1.5**
239A Gary 72.43 342 ⇓P **P 23 21 08.8 -0.6**
baz=73
531A Rocksprings 72.43 336 ⇑P **P 23 21 09.1 -0.4**
baz=73
336A Riesel 72.46 339 ⇓P **P 23 21 08.7 -0.9**
baz=73
JCT Junction City 72.48 337 *e*P **P 23 21 09.7 -0.2**
JCT pmax pmax
comp=Z,303nm,1.1s
JCT Junction City 72.48 337 *e*P **P 23 21 09.7 -0.2**
comp=Z,303nm,1.1s
JCT Junction City 72.48 337 ⇑P **P 23 21 09.5 -0.4**
baz=73
433A Art 72.52 337 ⇓P **P 23 21 09.5 -0.6**
baz=73
335A Moody 72.52 339 ⇓P **P 23 21 10.3 +0.3**
baz=73,SNR=9.5
238A Jacksonville 72.58 341 ⇑P **P 23 21 10.7 +0.3**
baz=73,SNR=5.6
530A J-C Ranch, Com 72.67 335 ⇓P **P 23 21 10.8 -0.2**
baz=73
LTX Lajitas 72.74 333 *e*P **P 23 21 11.1 -0.4**
LTX Lajitas 72.74 333 *e*P **P 23 21 11.1 -0.4**
TXAR Lajitas Array 72.74 333 P P **23 21 11.1 -0.4**
comp=Z,15nm,0.7s,baz=154,slow=8.3,SNR=60
TXAR LR LR 23 48 14.6
comp=Z,10µm,18.5s,baz=0.0,slow=32

237A Washetta, Mont 72.76 340 ⇓P **P 23 21 11.7 +0.3**
baz=73,SNR=5.6
334A Lometa 72.81 338 ⇑P **P 23 21 11.0 -0.7**
baz=73
432A Menard 72.85 337 ⇓P **P 23 21 11.7 -0.4**
baz=73
431A Sonora 72.93 336 ⇑P **P 23 21 11.7 -0.8**
baz=73
529A Stev Forest Ra 72.95 334 ⇓P **P 23 21 12.2 -0.5**
baz=73
333A Richland Sprin 73.02 338 ⇑P **P 23 21 12.4 -0.6**
baz=73
CNNC Cliffs of the 73.11 356 *e*P **P 23 21 14.1 +0.7**
comp=Z,111nm,0.9s
CNNC LR LR
comp=Z,6µm,21.0s
138A Matatall Enter 73.20 341 ⇓P **P 23 21 13.8 -0.2**
baz=74
WHTX Lake Whitney, 73.20 339 *e*P **P 23 21 13.9 -0.1**
comp=Z,286nm,1.0s
WHTX Lake Whitney, 73.20 339 ⇑P **P 23 21 13.3 -0.7**
baz=74,SNR=13
430A Baggett Ranch, 73.23 335 ⇑P **P 23 21 13.4 -0.9**
baz=74
KMSC Kings Mountain 73.25 353 *e*P **P 23 21 13.8 -0.6**
comp=Z,110nm,1.1s
KMSC LR LR
comp=Z,4µm,20.8s
KMSC Kings Mountain 73.25 353 ⇑P **P 23 21 13.7 -0.6**
baz=74
429A Davenport Ranc 73.30 335 ⇑P **P 23 21 12.9 -1.8**
baz=74
332A Millersview 73.31 337 ⇓P **P 23 21 13.5 -1.2**
baz=74
137A Heron Place, G 73.31 341 ⇓P **P 23 21 14.5 -0.2**
baz=74,SNR=6.2
234A Clairette 73.40 338 ⇓P **P 23 21 14.3 -0.9**
baz=74
331A San Angelo 73.45 336 ⇓P **P 23 21 14.8 -0.8**
baz=74
233A Rising Star 73.64 338 ⇑P **P 23 21 15.7 -1.0**
baz=74
135A Vickery Place, 73.72 339 ⇑P **P 23 21 16.5 -0.6**
baz=74,SNR=5.9
Z38A Mt. Pleasant 73.73 342 ⇑P **P 23 21 16.0 -1.1**
baz=74
OXF Oxford 73.74 347 *e*P **P**
OXF pmax pmax
comp=Z,305nm,1.1s
OXF Oxford 73.74 347 *e*P **P 23 21 17.1 0.0**
comp=Z,305nm,1.1s
232A Coleman 73.75 337 ⇓P **P 23 21 15.7 -1.6**
baz=74
330A Mertzon 73.78 336 ⇓P **P 23 21 16.9 -0.6**
baz=74,SNR=28
SWET Sewanee 73.86 350 *e*P **P 23 21 16.8 -1.1**
134A White-Moore Ra 73.92 339 ⇓P **P 23 21 18.3 0.0**
baz=74,SNR=8.5
231A Bronte 74.00 337 ⇓P **P 23 21 17.3 -1.5**
baz=74
TKL Tuckaleechee C 74.01 351 *e*P **P 23 21 18.0 -0.8**
TKL Tuckaleechee C 74.01 351 *e*P **P 23 21 18.0 -0.8**
SUR Sutherland 74.02 119 P **P 23 21 20.1 +0.7**
comp=Z,405nm,0.8s,SNR=13
SUR Sutherland 74.02 119 *e*P **P 23 21 20.4 +1.0**
comp=Z,17nm,1.0s
SUR LR LR
comp=Z,20µm,20.0s
329A Wagon Wheel Ra 74.12 335 ⇓P **P 23 21 18.5 -1.1**
baz=74
133A Hamilton Ranch 74.20 338 ⇓P **P 23 21 18.8 -1.1**
baz=74
230A Sterling City 74.20 336 ⇑P **P 23 21 19.6 -0.5**
baz=74,SNR=9.6
RAR Rarotonga 74.25 255 PFAKE 23 21 30.0 +9.4
RAR LR LR
comp=Z,19µm,19.9s
Z35A Perchaven, San 74.40 340 ⇓P **P 23 21 21.1 +0.1**
baz=75,SNR=13
ABTX Abilene, Hawle 74.43 337 *e*P **P 23 21 20.9 -0.4**
comp=Z,252nm,1.0s
ABTX Abilene, Hawle 74.43 337 ⇑P **P 23 21 19.9 -1.3**
baz=75
229A Bryant Ranch, 74.50 335 ⇑P **P 23 21 21.8 0.0**
baz=75,SNR=15
UALR University of 74.58 344 *e*P P 23 21 25.4 +3.4
comp=Z,75nm,1.1s
Z34A Collier Ranch, 74.62 339 ⇓P **P 23 21 22.3 -0.1**
baz=75,SNR=9.5
MIAR Mount Ida 74.63 343 *e*P **P 23 21 22.3 0.0**
MIAR pmax pmax
comp=Z,96nm,1.1s
MIAR MLR MLR
comp=Z,2µm,20.0s
MIAR Mount Ida 74.63 343 *e*P **P 23 21 22.3 0.0**
comp=Z,96nm,1.1s
MIAR LR LR
comp=Z,2µm,20.0s
131A Roby 74.70 337 ⇑P **P 23 21 21.8 -1.1**
baz=75
Z33A Whitaker Ranch 74.79 338 ⇓P **P 23 21 22.5 -0.8**
baz=75
130A Snyder 74.81 336 ⇓P **P 23 21 22.8 -0.8**
baz=75
TZTN Tazewell 74.86 352 *e*P **P 23 21 22.7 -0.9**
comp=Z,135nm,1.1s
228A UT Block 9, Go 74.90 335 ⇑P **P 23 21 24.1 0.0**
baz=75,SNR=36
Z32A Haskell 75.02 338 ⇓P **P 23 21 24.1 -0.6**
baz=75
WVT Waverly 75.04 348 PFAKE 23 21 40.0 +15
WVT LR LR
comp=Z,4µm,21.0s
X37A Clayton 75.10 342 ⇑P **P 23 21 24.8 -0.3**
baz=75,SNR=8.2
Y34A Reagan Ranch, 75.13 339 ⇓P **P 23 21 23.9 -1.4**
baz=75
129A Stewart Farms, 75.13 336 ⇑P **P 23 21 24.4 -1.0**
baz=75,SNR=8.3
Z31A Sharp Cattle R 75.23 337 ⇓P **P 23 21 24.9 -1.0**
baz=76
BLA Blacksburg 75.23 354 PFAKE 23 21 40.0 +14
BLA LR LR
comp=Z,4µm,20.0s
VWCC Virginia Weste 75.23 355 *e*P **P 23 21 25.8 0.0**
128A Castleberry Fa 75.33 335 ⇓P **P 23 21 25.2 -1.3**
baz=76
X36A Centrahoma 75.33 341 ⇓P **P 23 21 24.8 -1.6**
baz=76
X35A Drake 75.33 340 ⇑P **P 23 21 25.3 -1.2**
baz=76,SNR=14
W38A Poteau 75.35 342 ⇓P **P 23 21 25.2 -1.3**
baz=76
URVA University of 75.41 357 *e*PP PP 23 24 17.6 +1.3
Y33A Hilltop Ranch, 75.42 339 ⇓P **P 23 21 25.7 -1.3**
baz=76
MNTX Cornudas Mount 75.50 332 PFAKE 23 21 40.0 +13
MNTX LR LR
comp=Z,6µm,18.0s
MNTX Cornudas Mount 75.50 332 ⇑P **P 23 21 26.0 -1.4**
baz=76
Z30A Sanderson Ranc 75.50 337 ⇑P **P 23 21 26.5 -1.0**
baz=76
JSRW J. Sargeant Re 75.55 357 *e*P **P 23 21 27.7 +0.2**
W37A Quinton 75.64 342 ⇓P **P 23 21 27.0 -1.2**
baz=76
Y32A R-V Farms, Ver 75.66 338 ⇑P **P 23 21 27.6 -0.7**
baz=76,SNR=12
Z29A Hungry Hill Ra 75.66 336 ⇓P **P 23 21 27.0 -1.4**
baz=76
X34A Smith Ranch, M 75.76 340 ⇑P **P 23 21 27.5 -1.4**
baz=76
W36A Wetumka 75.84 341 ⇑P **P 23 21 27.4 -2.0**
baz=76
Y31A Rekieta Farm, 75.86 337 ⇓P **P 23 21 28.7 -0.8**
baz=76
CASY Casey 75.87 182 *e*P **P 23 21 29.2 0.0**
comp=Z,68nm,1.1s
CASY LR LR
comp=Z,12µm,19.0s
X33A Lawton 75.89 339 ⇓P **P 23 21 28.7 -0.9**
baz=76,SNR=9.6
Z28A Tucker Farm, M 75.91 336 ⇓P **P 23 21 30.1 +0.2**
baz=76,SNR=8.9
Y30A Stafford Cattl 75.98 337 ⇑P **P 23 21 29.1 -1.1**
baz=76
X32A Elmer 76.00 338 ⇓P **P 23 21 29.7 -0.6**
baz=76,SNR=11

W35A Tecumseh 76.02 341 ⇑P **P 23 21 28.4 -2.0**
baz=76
CBN Corbin Frederi 76.04 357 PFAKE 23 21 40.0 +10
CBN LR LR
comp=Z,7µm,20.0s
WMOK Wichita Mounta 76.15 339 *e*P **P 23 21 29.8 -1.4**
WMOK pmax pmax
comp=Z,102nm,1.0s
WMOK MLR MLR
comp=Z,3µm,19.0s
WMOK Wichita Mounta 76.15 339 *e*P **P 23 21 29.8 -1.4**
comp=Z,102nm,1.0s
WMOK LR LR
comp=Z,3µm,19.0s
Y29A Porterfield Fa 76.20 336 ⇓P **P 23 21 29.6 -1.9**
baz=76
W34A Bridge Creek, 76.34 340 *e*P **P 23 21 32.0 -0.2**
comp=Z,239nm,1.1s
W34A Bridge Creek, 76.34 340 ⇑P **P 23 21 31.1 -1.1**
baz=77,SNR=9.7
X31A McDonald Ranch 76.40 338 ⇓P **P 23 21 31.0 -1.6**
baz=77
Y28A McKinney Farm, 76.43 336 ⇑P **P 23 21 32.0 -0.9**
baz=77,SNR=5.3
W33A Caddo, Fort Co 76.45 339 ⇓P **P 23 21 31.5 -1.3**
baz=77
TUL1 Leonard 76.46 342 *e*P **P 23 21 32.1 -0.8**
comp=Z,312nm,1.0s
TUL1 Leonard 76.46 342 ⇑P **P 23 21 31.4 -1.4**
baz=77
X30A Coker Ranch, T 76.50 337 ⇑P **P 23 21 31.5 -1.6**
baz=77
V35A Meyer Ranch, C 76.59 341 ⇑P **P 23 21 32.2 -1.3**
baz=77
W32A Sentinel 76.64 339 ⇑P **P 23 21 32.5 -1.4**
baz=77
MSTX Muleshoe 76.66 335 *e*P **P 23 21 33.6 -0.5**
comp=Z,166nm,1.0s
MSTX LR LR
comp=Z,3µm,18.0s
MSTX Muleshoe 76.66 335 ⇑P **P 23 21 33.2 -0.9**
baz=77,SNR=14
319A Douglas 76.71 329 ⇓P **P 23 21 34.5 0.0**
baz=77,SNR=32
X29A Tulia 76.75 337 ⇑P **P 23 21 34.4 -0.2**
baz=77,SNR=6.7
USIN University of 76.81 349 *e*P **P 23 21 33.3 -1.4**
comp=Z,207nm,1.0s
USIN LR LR
comp=Z,7µm,22.0s
V34A Guthrie 76.83 340 *e*P **P 23 21 34.6 -0.3**
comp=Z,270nm,1.0s
V34A Guthrie 76.83 340 ⇑P **P 23 21 34.6 -0.3**
baz=77
WCI Wyandotte Cave 76.87 350 PFAKE 23 21 50.0 +15
WCI LR LR
comp=Z,5µm,21.0s
W31A Holland Ranch, 76.91 338 ⇓P **P 23 21 35.9 +0.5**
baz=77,SNR=12
X28A Dimmitt 76.98 336 ⇑P **P 23 21 34.7 -1.2**
baz=77
V33A Lossen Ranch, 77.03 340 ⇑P **P 23 21 34.8 -1.3**
baz=77
W30A Crocket Farms 77.09 338 ⇓P **P 23 21 35.5 -1.0**
baz=77
121A Cookes Peak, D 77.14 331 ⇑P **P 23 21 37.4 +0.4**
baz=77,SNR=20
V32A Arapaho 77.14 339 ⇑P **P 23 21 36.8 0.0**
baz=77,SNR=9.9
AMTX Amarillo 77.15 337 *e*P **P 23 21 36.7 -0.2**
comp=Z,280nm,0.9s
AMTX LR LR
comp=Z,4µm,19.0s
AMTX Amarillo 77.15 337 ⇑P **P 23 21 35.9 -0.9**
baz=77
GRM Grahamstown 77.34 122 *i* P **P 23 21 39.0 +0.7**
LIC Lamto 77.35 72 ⇑*i*P **P 23 21 38.4 0.0**
comp=Z,370nm,1.0s
LIC Lamto 77.35 72 *e*P **P 23 21 38.4 0.0**
comp=Z,496nm,1.0s
LIC Lamto 77.35 72 ⇑*i*P **P 23 21 38.4 0.0**
comp=Z,370nm,1.0s
W29A Amarillo 77.36 337 ⇓P **P 23 21 37.0 -1.0**
baz=78
U34A Anderson Ranch 77.41 340 *e*P **P 23 21 37.7 -0.5**
comp=Z,220nm,1.1s
U34A Anderson Ranch 77.41 340 ⇓P **P 23 21 38.1 0.0**
baz=78,SNR=6.6
V31A Spring Creek L 77.42 338 ⇑P **P 23 21 38.4 0.0**
baz=78
U33A Lingo Farm, Me 77.56 340 ⇑P **P 23 21 39.3 +0.3**
baz=78,SNR=10
TIC Toumodi 77.63 71 *e*P **P 23 21 39.9 -0.1**
comp=Z,307nm,0.9s
OLIL Olney 77.63 349 *e*P **P 23 21 42.2 +2.9**
comp=Z,98nm,1.1s
KIC Kosan Boka 77.65 72 *e*P **P 23 21 40.2 +0.1**
comp=Z,488nm,1.0s
W28A Vega 77.66 336 ⇑P **P 23 21 40.0 +0.2**
baz=78,SNR=13
V30A Spur Ranch, Mi 77.66 338 ⇓P **P 23 21 39.9 +0.2**
baz=78,SNR=22
U32A Winter Ranch, 77.75 339 ⇑P **P 23 21 39.7 -0.4**
baz=78
DBIC Dimbokro 77.77 71 P **P 23 21 40.8 +0.1**
comp=Z,124nm,0.8s,baz=206,slow=6.4,SNR=82
DBIC LR LR 23 54 23.6
comp=Z,12µm,18.1s,baz=216,slow=34
DBIC Dimbokro 77.77 71⇑*e*P **P 23 21 40.5 -0.2**
DBIC pmax pmax
comp=Z,193nm,1.0s
DBIC Dimbokro 77.77 71⇑*e*P **P 23 21 40.5 -0.2**
comp=Z,192nm,1.0s
MVL Millersville 77.79 358 *e*PcP **PcP 23 21 47.7 -2.4**
comp=Z,72nm,1.1s
BLO Bloomington 77.83 350 *e*P **P 23 21 39.7 -0.7**
BLO pmax pmax
comp=Z,168nm,1.3s
BLO MLR MLR
comp=Z,7µm,20.0s
BLO Bloomington 77.83 350 *e*P **P 23 21 39.7 -0.7**
comp=Z,168nm,1.3s
BLO LR LR
comp=Z,7µm,20.0s
U31A Nine Bar Ranch 77.98 339 ⇑P **P 23 21 40.2 -1.2**
baz=78
V29A Stinnett 78.02 337 ⇓P **P 23 21 41.0 -0.6**
baz=78
V28A Channing 78.12 337 ⇓P **P 23 21 41.5 -0.7**
baz=78,SNR=13
TUC Tucson 78.14 329 *e*P **P 23 21 44.0 +1.6**
TUC pmax pmax
comp=Z,87nm,1.1s
TUC MLR MLR
comp=Z,4µm,20.0s
TUC Tucson 78.14 329 *e*P **P 23 21 44.0 +1.6**
comp=Z,87nm,1.1s
TUC LR LR
comp=Z,4µm,20.0s
S36A Lake Cedric, C 78.14 342 ⇓P **P 23 21 40.8 -1.4**
baz=78
Y22D IRIS PASSCAL I 78.19 332 ⇓P **P 23 21 41.7 -1.1**
baz=78
T33A Patterson Ranc 78.20 340 ⇑P **P 23 21 41.2 -1.4**
baz=78
S35A Otter Creek Ra 78.28 342 ⇓P **P 23 21 42.3 -0.7**
baz=79
LENM Lemitar 78.29 332 *e*P P 23 21 47.3 +3.9
LPM Los Pinos Moun 78.30 333 *e*P **P 23 21 44.5 +1.1**
V27A Dan Oppiter Fa 78.32 336 ⇑P **P 23 21 42.3 -1.1**
baz=79
U30A WK&E Inc. Balk 78.36 338 ⇓P **P 23 21 43.6 +0.1**
baz=79,SNR=20
LUPA Lehigh Univers 78.37 359 *e*P **P 23 21 44.2 +0.8**
comp=Z,9.1nm,1.1s
LUPA LR LR
comp=Z,1µm,18.0s
ACSO Alum Creek Sta 78.45 353 *e*P **P 23 21 43.0 -0.9**
comp=Z,151nm,1.0s
ACSO LR LR
comp=Z,7µm,19.0s
U29A Oasis Ranch, S 78.47 338 ⇑P **P 23 21 43.8 -0.4**
baz=79
T32A Huddler Ranch, 78.48 340 ⇑P **P 23 21 43.8 -0.3**
baz=79,SNR=9.1
SSPA Standing Stone 78.48 357 *e*P **P 23 21 43.4 -0.6**
comp=Z,62nm,1.1s
SSPA LR LR

comp=Z,4µm,21.0s
S34A Willow Spring 78.49 341 ⇑P P 23 21 42.9 -1.2
baz=79
R37A Teagarden Farm 78.52 343 ⇑P P 23 21 43.0 -1.3
baz=79
CPNY Central Park 78.55 360 *e*pP pP 23 21 52.5 +1.0
LAZ Ladron 78.57 332 *e*P P 23 21 46.6 +1.7
T31A Randall Ranch, 78.61 339 ⇓P P 23 21 44.3 -0.6
baz=79,SNR=12
S33A Kaszmaul Farm, 78.62 341 ⇑P P 23 21 43.7 -1.2
baz=79,SNR=11
214A Organ Pipe Nat 78.69 327 ⇑P P 23 21 44.0 -1.4
baz=79
R36A Gordon, Harris 78.69 343 ⇓P P 23 21 44.2 -1.0
baz=79,SNR=8.3
U28A Mallet 78.70 337 ⇑P P 23 21 44.4 -1.1
baz=79
PAL Palisades 78.76 360 PFAKE 23 22 00.0 +15
PAL LR LR
comp=Z,4µm,20.0s
ANMO Albuquerque 78.81 333 LR LR 23 51 01.7
comp=Z,6µm,21.8s,baz=180,slow=32
ANMO Albuquerque 78.81 333⇑ *e*P P 23 21 46.2 0.0
ANMO pmax pmax
comp=Z,151nm,1.7s
ANMO Albuquerque 78.81 333 *e*P P 23 21 46.3 0.0
comp=Z,128nm,1.0s
ANMO LR LR
comp=Z,6µm,22.0s
T30A Plains 78.81 338 ⇓P P 23 21 45.5 -0.5
baz=79,SNR=7.0
BFZ Birch Farm 78.84 227 PFAKE 23 22 00.0 +14
BFZ LR LR
comp=Z,9µm,19.0s
ODNJ Ogdensburg 78.84 359 *e*P P 23 21 46.3 +0.3
comp=Z,50nm,0.9s
ODNJ LR LR
comp=Z,6µm,19.0s
U27A Thompson Grove 78.92 336 ⇑P P 23 21 45.8 -0.9
baz=79,SNR=6.5
S32A Newby Ranch, P 78.97 340 ⇑P P 23 21 46.0 -0.8
baz=79,SNR=12
Q37A Longview Farm, 78.98 344 ⇓P P 23 21 45.8 -1.0
baz=79,SNR=9.6
S31A Mullinville 79.05 339 ⇓P P 23 21 46.8 -0.5
baz=79,SNR=9.5
YLE Yale 79.07 1 *e*P P 23 21 48.3 +1.1
YLE comp=Z,263nm,1.0s LR LR
comp=Z,6µm,19.0s
SFIN Lafayette 79.09 350 *e*P P 23 21 45.8 -1.5
comp=Z,85nm,1.4s
SFIN LR LR
comp=Z,7µm,19.0s
SFIN Lafayette 79.09 350 ⇓P P 23 21 46.2 -1.1
baz=80,SNR=5.7
T29A Hugoton 79.13 338 ⇓P P 23 21 47.9 +0.1
baz=79,SNR=12
R33A Olander Ranch, 79.29 341 ⇓P P 23 21 47.6 -0.9
baz=80,SNR=12
SNZO South Karori 79.30 225 PFAKE 23 22 00.0 +11
SNZO LR LR
comp=Z,9µm,19.0s
BOSA Boshof 79.33 118 *e*P P 23 21 49.5 +0.1
BOSA Boshof 79.33 118 *e*P P 23 21 49.5 +0.1
KSPA Keystone Colle 79.33 358 *e*P P 23 21 52.4 +3.8
comp=Z,41nm,1.2s
KSPA LR LR
comp=Z,6µm,19.0s
S30A Montezuma 79.34 339 ⇓P P 23 21 47.8 -1.1
baz=80,SNR=5.5
T28A Walsh 79.35 337 ⇓P P 23 21 48.2 -0.8
baz=80
TSUM Tsumeb 79.37 106 *e*P P 23 21 50.1 +0.4
comp=Z,337nm,2.1s
TSUM LR LR
comp=Z,20µm,20.0s
T27A Campo 79.48 337 ⇑P P 23 21 48.9 -0.9
baz=80,SNR=11
S29A Ulysses 79.51 338 ⇑P P 23 21 49.5 -0.3
baz=80,SNR=11
R32A Long Quarter, 79.59 340 ⇑P P 23 21 49.9 -0.3
baz=80,SNR=11
HDIL Hopedale 79.60 348 *e*P P 23 21 49.2 -1.0
comp=Z,4µm,1.1s
HDIL LR LR
comp=Z,6µm,20.0s
ALLY Alegheny Colle 79.62 355 *e*P P 23 21 53.7 +3.5
comp=Z,91nm,1.0s
ALLY LR LR
comp=Z,7µm,20.0s
RPZ Rata Peaks 79.66 222 PFAKE 23 22 00.0 +9.2
RPZ LR LR
comp=Z,14µm,21.0s
R31A Burdett 79.68 340 ⇓P P 23 21 50.2 -0.5
baz=80,SNR=6.3
BKZ Black Stump Fm 79.69 228 PFAKE 23 22 00.0 +8.9
BKZ LR LR
comp=Z,6µm,21.0s
KSU1 Kansas State U 79.69 342 *e*P P 23 21 48.5 -2.2
comp=Z,103nm,0.9s
KSU1 Kansas State U 79.69 342 ⇑P P 23 21 49.9 -0.8
baz=80
BRYW Bryant College 79.70 2 *e*P P 23 21 52.8 +2.1
comp=Z,124nm,1.1s
S28A Manter 79.72 338 ⇓P P 23 21 50.5 -0.5
baz=80,SNR=7.2
X18A Snowflake 79.75 330 ⇑P P 23 21 51.4 +0.1
baz=80,SNR=5.5
113A Mohawk Valley, 79.80 327 ⇑P P 23 21 52.1 +0.8
baz=80,SNR=9.9
T26A Comanche Natio 79.86 336 ⇑P P 23 21 51.7 -0.2
baz=80
R30A Dighton 79.89 339 ⇑P P 23 21 51.4 -0.5
baz=80
Q33A Connelly Farm, 79.90 341 ⇓P P 23 21 51.3 -0.5
baz=80,SNR=12
URZ Urewera 79.92 229 PFAKE 23 22 00.0 +7.8
URZ LR LR
comp=Z,8µm,20.0s
Z14A Wintersburg 79.95 327 ⇓P P 23 21 53.0 +0.8
baz=80,SNR=12
BINY Binghamton 79.98 358 PFAKE 23 22 00.0 +7.8
BINY LR LR
comp=Z,7µm,19.0s
QUA2 Belchertown 80.04 1 *e*P P 23 21 53.0 +0.6
comp=Z,130nm,1.0s
ERPA Erie 80.08 355 *e*P P 23 21 51.8 -0.9
comp=Z,58nm,1.0s
ERPA LR LR
comp=Z,5µm,20.0s
Q32A Meitler Ranch, 80.08 341 ⇓P P 23 21 52.0 -0.8
baz=80,SNR=9.7
T25A Trinidad 80.09 336 *e*P P 23 21 53.7 +0.5
comp=Z,276nm,1.1s
T25A LR LR
comp=Z,4µm,18.0s
T25A Trinidad 80.09 336 ⇑P P 23 21 53.1 -0.1
baz=80
S27A Las Animas 80.11 337 ⇑P P 23 21 53.2 0.0
baz=80
W18A Petrified Fore 80.18 331 *e*P P 23 21 54.6 +1.0
comp=Z,144nm,1.1s
W18A LR LR
comp=Z,10µm,18.0s
W18A Petrified Fore 80.18 331 ⇑P P 23 21 53.8 +0.1
baz=80,SNR=13
S26A Kim 80.23 336 ⇓P P 23 21 53.6 -0.2
baz=80
X16A Lo Mia Camp, P 80.24 329 ⇓P P 23 21 54.4 +0.4
baz=80
R29A Marienthal 80.26 338 ⇑P P 23 21 53.5 -0.4
baz=81,SNR=7.7
P33A Williams Farm, 80.28 341 ⇓P P 23 21 52.8 -1.0
baz=81,SNR=6.2
HRV Adam Dziewonsk 80.28 2 *e*P P 23 21 55.1 +1.3
HRV pmax pmax
comp=Z,99nm,1.0s
HRV MLR MLR
comp=Z,4µm,19.0s
HRV Adam Dziewonsk 80.28 2 *e*P P 23 21 55.1 +1.3
comp=Z,99nm,1.0s
HRV LR LR
comp=Z,4µm,19.0s
Q31A Ellis 80.32 340 ⇓P P 23 21 53.5 -0.6
baz=81,SNR=5.9
R28A Tribune 80.39 338 ⇑P P 23 21 54.2 -0.3
baz=81,SNR=11

Y14A Wickenburg 80.47 328 ⇓P P 23 21 55.7 +0.6
baz=81,SNR=13
TRY Troy 80.48 0 *e*P P 23 21 55.6 +0.8
comp=Z,195nm,1.0s
TRY LR LR
comp=Z,7µm,21.0s
GLA Glamis 80.50 326 *e*P P 23 21 55.5 +0.2
GLA pmax pmax
comp=Z,85nm,1.3s
GLA Glamis 80.50 326 *e*P P 23 21 55.5 +0.2
comp=Z,85nm,1.3s
GLA Glamis 80.50 326 ⇑P P 23 21 54.6 -0.7
baz=81
Q30A Quinter 80.52 339 ⇓P P 23 21 54.6 -0.6
baz=81
AAM Ann Arbor 80.57 353 *e*P P 23 21 56.0 +0.7
AAM pmax pmax
comp=Z,125nm,1.1s
AAM MLR MLR
comp=Z,6µm,20.0s
AAM Ann Arbor 80.57 353 *e*P P 23 21 56.0 +0.7
comp=Z,125nm,1.1s
AAM LR LR
comp=Z,6µm,20.0s
MMNY Mt. Morris Dam 80.58 357 *e*P P 23 21 55.3 -0.1
comp=Z,286nm,1.2s
MMNY LR LR
comp=Z,14µm,20.0s
R27A Eads 80.63 337 ⇓P P 23 21 55.6 -0.3
baz=81
Q29A Oakley 80.65 339 ⇑P P 23 21 55.3 -0.6
baz=81
P32A Huiting Farm, 80.69 341 ⇑P P 23 21 55.3 -0.8
baz=81,SNR=7.0
IBP Imperial Bould 80.74 325 ⇓P P 23 21 55.9 -0.7
baz=81
P31A Stockton 80.80 340 ⇓P P 23 21 56.1 -0.6
baz=81,SNR=8.7
SWSC Sam W. Stewart 80.84 325 ⇓P P 23 21 57.6 +0.6
baz=81,SNR=5.6
KUK Kukurantumi 80.84 75 *i* P P 23 21 51.3 -6.3
R26A Arlington 80.84 337 ⇓P P 23 21 56.7 -0.3
baz=81
Y12C Blythe 80.96 327 ⇑P P 23 21 57.8 +0.1
baz=81,SNR=19
SDCO Great Sand Dun 81.00 335 PFAKE 23 22 10.0 +12
SDCO LR LR
comp=Z,6µm,18.0s
SDCO Great Sand Dun 81.00 335 ⇑P P 23 21 58.2 0.0
baz=81
BAR Barrett 81.02 324 P P 23 21 59.0 +1.0
P30A Selden 81.05 340 ⇑P P 23 21 57.6 -0.5
baz=81,SNR=7.7
Q28A Sharon Springs 81.06 338 ⇓P P 23 21 58.1 0.0
baz=81
MONP Monument Peak, 81.08 325 ⇓P P 23 21 59.1 +0.5
baz=81,SNR=6.4
S23A Nye Farm, Mont 81.13 335 ⇓P P 23 21 59.4 +0.5
baz=81
ACCN Adirondack Com 81.14 0 *e*P P 23 21 58.3 0.0
comp=Z,90nm,1.0s
ACCN LR LR
comp=Z,6µm,20.0s
WUAZ Wupatki 81.17 330 *e*P P 23 21 59.8 +0.8
comp=Z,100nm,1.1s
WUAZ LR LR
comp=Z,4µm,20.0s
WUAZ Wupatki 81.17 330 ⇓P P 23 21 58.9 0.0
baz=81,SNR=28
O32A Brockman Farm, 81.20 341 ⇓P P 23 21 59.6 +0.8
baz=82,SNR=9.3
KSCO Kaye Shedlock' 81.25 338 *e*P P 23 21 59.7 +0.5
comp=Z,202nm,1.2s
KSCO LR LR
comp=Z,3µm,20.0s
KSCO Kaye Shedlock' 81.25 338 ⇓P P 23 21 59.9 +0.7
baz=82,SNR=7.0
PDMCI Parker Dam,Lak 81.26 327 ⇑P P 23 22 00.9 +1.7
baz=81,SNR=7.1
BC3 Big Chuckawall 81.29 326 ⇓P P 23 21 59.9 +0.3
baz=81,SNR=31
P29A Atwood 81.30 339 ⇓P P 23 21 59.9 +0.5
baz=82
R24A Sanders Place, 81.31 335 ⇓P P 23 22 00.3 +0.6
baz=82
O31A Woolen Ranch, 81.37 340 ⇓P P 23 21 59.8 +0.1
baz=82
109C Camp Elliot, M 81.39 324 ⇑P P 23 22 00.4 +0.5
baz=82
Q26A Hugo 81.44 337 ⇓P P 23 22 00.3 +0.1
baz=82,SNR=13
S22A 4UR Ranch, Cre 81.45 334 *e*P P 23 22 04.2 +3.7
comp=Z,60nm,1.1s
S22A LR LR
comp=Z,6µm,18.0s
S22A 4UR Ranch, Cre 81.45 334 ⇓P P 23 22 00.9 +0.3
baz=82,SNR=9.7
HNH Hanover 81.47 1 *e*P P 23 22 00.9 +0.8
comp=Z,82nm,1.1s
P28A Saint Francis 81.51 338 ⇓P P 23 22 00.9 +0.3
baz=82
R23A Moffat 81.51 335 ⇑P P 23 22 01.1 +0.3
baz=82
MVCO Mesa Verde 81.57 333 *e*P P 23 22 01.9 +0.8
comp=Z,133nm,1.2s
MVCO LR LR
comp=Z,9µm,20.0s
MVCO Mesa Verde 81.57 333 ⇑P P 23 22 01.9 +0.8
baz=82,SNR=12
IRM Iron Mountain 81.58 326 ⇓P P 23 22 02.1 +1.2
baz=82,SNR=8.3
O30A MW Ranch, Wils 81.59 340 ⇑P P 23 22 00.8 -0.1
baz=82,SNR=8.8
SCIA State Center 81.63 345 *e*P P 23 22 00.2 -0.7
comp=Z,216nm,1.4s
Q25A Bedland, Calha 81.66 336 ⇓P P 23 21 01.8 +0.3
baz=82,SNR=13
N32A Stulken Farm, 81.68 341 ⇓P P 23 22 01.3 0.0
baz=82
PFO Pinyon Flats O 81.70 325 P P 23 22 03.9 +2.2
comp=Z,372nm,1.1s,SNR=7.7
PFO Pinyon Flats O 81.70 325 *e*P P 23 22 03.9 +2.2
PFO pmax pmax
comp=Z,72nm,1.0s
PFO MLR MLR
comp=Z,8µm,18.0s
PFO Pinyon Flats O 81.70 325 *e*P P 23 22 03.9 +2.2
comp=Z,72nm,1.0s
PFO LR LR
comp=Z,8µm,18.0s
PFO Pinyon Flats O 81.70 325 ⇑P P 23 22 02.5 +0.8
baz=82,SNR=6.7
SNDA J Saunders Pla 81.72 325 *e*P P 23 22 03.1 +1.2
NCB Newcomb 81.73 360 PFAKE 23 22 10.0 +8.5
NCB LR LR
comp=Z,6µm,20.0s
P27A Ficken Ranch, 81.73 338 ⇑P P 23 22 01.6 -0.2
baz=82
O29A 4D Ranch, Culb 81.75 339 ⇑P P 23 22 02.6 +0.9
baz=82
MDV Middlebury 81.75 0 *e*P P 23 22 01.7 +0.1
LBTB Lobatse 81.77 115 *e*P P 23 22 02.3 -0.2
LBTB pmax pmax
comp=Z,144nm,1.1s
LBTB Lobatse 81.77 115 *e*P P 23 22 02.3 -0.2
comp=Z,144nm,1.1s
BELC Belle Mtn. Jos 81.82 326 ⇑P P 23 22 03.2 +0.8
baz=82,SNR=6.1
W13A Hualapai Mount 81.84 328 ⇓P P 23 22 03.5 +1.0
baz=82,SNR=14
N31A Bailey Ranch, 81.91 341 ⇑P P 23 22 03.0 +0.5
baz=82
P26A Davis Ranch, A 81.97 337 ⇓P P 23 22 03.5 +0.4
baz=82,SNR=6.5
Q24A Divide 81.99 336 *e*P P 23 22 04.4 +1.0
comp=Z,106nm,1.1s
Q24A LR LR
comp=Z,3µm,21.0s
Q24A Divide 81.99 336 ⇑P P 23 22 03.2 -0.2
baz=82,SNR=7.5
LBNH Lisbon 82.01 1 *e*P P 23 22 04.0 +1.0
LBNH pmax pmax
comp=Z,79nm,1.0s
LBNH MLR MLR
comp=Z,4µm,20.0s
LBNH Lisbon 82.01 1 *e*P P 23 22 04.0 +1.0
comp=Z,79nm,1.0s
LBNH LR LR

comp=Z,4µm,20.0s
O28A Krutsinger Ran 82.03 339 ⇓P P 23 22 03.4 +0.2
baz=82,SNR=8.1
MURC Murrieta 82.03 325 ⇓P P 23 22 03.6 +0.3
baz=82
JFWS Jewell Farm 82.06 348 *e*P P 23 22 03.7 +0.5
JFWS pmax pmax
comp=Z,151nm,1.1s
JFWS Jewell Farm 82.06 348 *e*P P 23 22 03.7 +0.5
comp=Z,151nm,1.1s
SCI San Clemente I 82.14 323 ⇓P P 23 22 04.0 +0.1
baz=82
Q23A Hartsel 82.16 335 ⇑P P 23 22 04.4 +0.1
baz=82
P25A Willow Gulch B 82.18 337 ⇓P P 23 22 04.3 +0.1
baz=82,SNR=12
N30A Hueftle Ranch, 82.18 340 ⇑P P 23 22 03.6 -0.5
baz=82
BGNE Belgrade 82.25 342 *e*P P 23 22 04.9 +0.5
BGNE Belgrade 82.25 342 ⇓P P 23 22 04.6 +0.2
baz=83
O27A Beecher Island 82.29 338 ⇑P P 23 22 05.2 +0.5
baz=83,SNR=6.4
U15A North Rim 82.33 329 ⇓P P 23 22 05.2 0.0
baz=82
GMRC Granite Mounta 82.33 326 ⇑P P 23 22 04.2 -0.9
baz=82
PTN Potsdam (NY) 82.33 359 *e*P P 23 22 04.5 -0.1
PTN pmax pmax
comp=Z,166nm,1.0s
PTN MLR MLR
comp=Z,13µm,19.0s
PTN Potsdam (NY) 82.33 359 *e*P P 23 22 04.5 -0.1
comp=Z,166nm,1.0s
PTN LR LR
comp=Z,13µm,19.0s
LDFC Landfair 82.34 327 *e*P P 23 22 06.3 +1.2
comp=Z,99nm,1.1s
N29A Votaw Ranch, W 82.35 340 ⇑P P 23 22 04.3 -0.6
baz=83
LONY Lake Ozonia 82.38 359 *e*P P 23 22 04.3 -0.5
comp=Z,116nm,1.0s
LONY LR LR
comp=Z,5µm,19.0s
WVL Waterville 82.40 3 PFAKE 23 22 20.0 +15
WVL LR LR
comp=Z,6µm,22.0s
M31A Lambtecht Ranc 82.40 341 ⇑P P 23 22 04.8 -0.3
baz=83,SNR=7.0
PV01 Paradox Valley 82.41 333 *e*P P 23 22 06.7 +1.2
P24A Kohler Place, 82.41 336 ⇑P P 23 22 05.5 +0.1
baz=83,SNR=6.8
CIS Catalina Islan 82.43 324 ⇓P P 23 22 04.5 -1.0
baz=83
BBRC Big Bear Solar 82.46 325 ⇓P P 23 22 05.8 -0.1
baz=83
N28A Pribbeno Ranch 82.48 339 ⇓P P 23 22 05.5 -0.1
baz=83,SNR=5.8
RAO Raoul Island 82.55 239 PFAKE 23 22 20.0 +14
RAO LR LR
comp=Z,5µm,20.0s
PV05 Paradox Valley 82.56 333 *e*P P 23 22 06.7 +0.5
O26A Horse Wrangler 82.58 338 ⇑P P 23 22 06.4 +0.2
baz=83,SNR=6.7
P23A Jefferson 82.59 335 ⇓P P 23 22 06.7 +0.1
baz=83,SNR=8.1
FMP Fort Macarthur 82.63 324 ⇑P P 23 22 06.1 -0.3
baz=83
HEC Hector,Ludlow 82.67 326 ⇓P P 23 22 07.3 +0.6
baz=83,SNR=8.2
CRZF Crozet Islands 82.71 145 P P 23 21 49.0 -18
CRZF S S 23 31 48.0 -35
CRZF SS **SS** **23 37 49.0 +4.7**
CRZF L L 23 44 00.0
CRZF R 23 51 00.0
O25A Wiggins 82.71 337 ⇑P P 23 22 07.0 +0.1
baz=83,SNR=9.8
BFSC Mount Baldy Ra 82.77 325 ⇑P P 23 22 07.1 -0.2
baz=83,SNR=5.8
SMCO Snowmass 82.79 335 *e*P P 23 22 08.2 +0.6
comp=Z,152nm,1.2s
SMCO LR LR
comp=Z,8µm,18.0s
M30A Dale-Ortello V 82.81 340 ⇑P P 23 22 07.0 -0.3
baz=83
OGNE Ogallala 82.86 339 ⇓P P 23 22 07.3 -0.3
baz=83
N27A Anderson Farm, 82.88 338 ⇑P P 23 22 07.7 0.0
baz=83,SNR=7.1
ISCO Idaho Springs 82.90 336 *e*P P 23 22 09.4 +1.3
ISCO pmax pmax
comp=Z,59nm,1.3s
ISCO MLR MLR
comp=Z,3µm,20.0s
ISCO Idaho Springs 82.90 336 *e*P P 23 22 09.3 +1.3
comp=Z,59nm,1.3s
ISCO LR LR
comp=Z,3µm,20.0s
ISCO Idaho Springs 82.90 336 ⇓P P 23 22 08.5 +0.4
baz=83,SNR=9.0
PV09 Paradox Valley 82.94 333 *e*P P 23 22 09.3 +1.0
MWC Mount Wilson 82.94 324 *e*P P 23 22 12.9 +4.6
MWC MLR MLR
comp=Z,9µm,18.0s
MWC Mount Wilson 82.94 324 *e*P P 23 22 12.9 +4.6
MWC LR LR
comp=Z,9µm,18.0s
M29A Burnside Ranch 82.95 340 ⇓P P 23 22 08.0 0.0
baz=83
TUQ Turquoise Moun 83.00 326 ⇑P P 23 22 08.9 +0.4
baz=83,SNR=6.7
RRX Edison Barstow 83.01 325 ⇑P P 23 22 08.5 +0.1
baz=83
O24A Longmont 83.02 336 ⇑P P 23 22 08.8 +0.3
baz=83
KNB Kanab 83.05 329 *e*P P 23 22 09.4 +0.6
KNB pmax pmax
comp=Z,149nm,1.2s
KNB MLR MLR
comp=Z,4µm,20.0s
KNB Kanab 83.05 329 *e*P P 23 22 09.4 +0.6
comp=Z,149nm,1.2s
KNB LR LR
comp=Z,4µm,20.0s
DECC Green Verdugo 83.09 324 ⇓P P 23 22 08.3 -0.6
baz=83
M28A Bar X Bar Ranc 83.09 339 ⇓P P 23 22 08.3 -0.4
baz=83,SNR=5.3
P22A Eagle 83.09 335 ⇑P P 23 22 08.9 -0.1
baz=83,SNR=8.8
N26A Koester Ranch, 83.10 338 ⇑P P 23 22 09.0 +0.2
baz=83
L31A Butterfield Fa 83.15 341 ⇑P P 23 22 08.8 -0.2
baz=84
L30A Spencer Herefo 83.16 341 ⇑P P 23 22 08.9 -0.1
baz=84,SNR=8.2
GLMI Grayling 83.17 352 PFAKE 23 22 20.0 +11
GLMI LR LR
comp=Z,6µm,21.0s
GSC Goldstone, Bar 83.28 326 *e*P P 23 22 11.4 +1.5
GSC pmax pmax
comp=Z,52nm,1.4s
GSC MLR MLR
comp=Z,4µm,21.0s
GSC Goldstone, Bar 83.28 326 *e*P P 23 22 11.4 +1.5
comp=Z,52nm,1.4s
GSC LR LR
comp=Z,4µm,21.0s
GSC Goldstone, Bar 83.28 326 ⇓P P 23 22 09.8 -0.1
baz=83
BLG Laguna Peak, P 83.31 324 ⇑P P 23 22 10.2 +0.2
baz=83
N25A Grover 83.34 337 ⇑P P 23 22 10.6 +0.5
baz=84
O23A Lake Granby, G 83.37 336 ⇓P P 23 22 10.4 -0.1
baz=84
EDW2 Edwards Air Fo 83.46 325 ⇓P P 23 22 11.1 +0.3
baz=84,SNR=15
L29A Maesberg Ranch 83.47 340 ⇓P P 23 22 10.1 -0.5
baz=84,SNR=5.5
BSC Santa Cruz Isl 83.49 323 ⇓P P 23 22 11.1 +0.2
baz=84,SNR=5.8
M27A Reverse DX Ran 83.50 339 ⇓P P 23 22 11.4 +0.6
baz=84
O22A Kremmling 83.53 335 ⇑P P 23 22 11.3 0.0
baz=84
SHOC Shoshone, Teco 83.55 326 ⇓P P 23 22 11.4 +0.2

OSI **Osito Audit: C** 83.57 324 ⇓P P 23 22 10.5 -0.9
baz=84
SHPR **Sheep Range** 83.58 328 eP P 23 22 12.7 +1.2
N24A **Carr** 83.60 337 ⇓P P 23 22 11.1 -0.4
baz=84
M26A **McRoberts Ranc** 83.66 338 ⇓P P 23 22 10.6 -1.1
baz=84
L28A **Connealy Angus** 83.70 340 ⇓P P 23 22 11.3 -0.5
baz=84
K30A **Basset** 83.81 341 ⇑P P 23 22 11.9 -0.5
baz=84,SNR=15
LRMC **Laurel Mtn Rad** 83.82 325 ⇓P P 23 22 11.9 -0.8
baz=84
SBC **Santa Barbara** 83.89 323 ⇓P P 23 22 12.9 0.0
baz=84
M25A **Palm-Egli Farm** 83.90 338 ⇑P P 23 22 13.9 +0.9
baz=84,SNR=5.5
SRU **San Rafael Swe** 83.99 332 eP P 23 22 13.6 0.0
SRU pmax pmax
comp=Z,64nm,1.0s
SRU MLR MLR
comp=Z,3µm,18.0s
SRU **San Rafael Swe** 83.99 332 eP P 23 22 13.6 0.0
comp=Z,64nm,1.0s
SRU LR LR
comp=Z,3µm,18.0s
L27A **T5 Ranch, Ells** 83.99 339 ⇓P P 23 22 13.5 +0.1
baz=84
N23A **Red Feather La** 84.00 336 eP P 23 22 14.2 +0.6
comp=Z,131nm,0.9s
N23A LR LR
comp=Z,3µm,22.0s
N23A **Red Feather La** 84.00 336 ⇓P P 23 22 13.5 -0.1
baz=84,SNR=11
OUZ **Omahuta** 84.04 229 PFAKE 23 22 30.0 +16
OUZ LR LR
comp=Z,8µm,20.0s
ARVC **Arvin** 84.05 324 ⇑P P 23 22 13.7 -0.1
baz=84
K29A **Lazy Trails An** 84.08 341 ⇑P P 23 22 13.5 -0.3
baz=84,SNR=5.6
N22A **Wattenberg Ran** 84.08 336 ⇓P P 23 22 13.8 -0.3
baz=84,SNR=9.9
O20A **White River Ci** 84.08 334 eP P 23 22 14.7 +0.7
comp=Z,73nm,1.2s
O20A LR LR
comp=Z,4µm,20.0s
O20A **White River Ci** 84.08 334 ⇓P P 23 22 13.7 -0.3
baz=84
MSU **Marysvale** 84.09 331 eP P 23 22 15.2 +1.0
MSU **Marysvale** 84.09 331 eP P 23 22 15.2 +1.0
ECSD **EROS Data Cent** 84.09 344 eP P 23 22 12.8 -1.0
comp=Z,303nm,1.1s
ECSD **EROS Data Cent** 84.09 344 ⇑P P 23 22 13.3 -0.5
baz=84
MVU **Marysvale** 84.10 331 eP P 23 22 15.7 +1.5
comp=Z,67nm,1.2s
MVU LR LR
comp=Z,5µm,20.0s
L26A **Underwood Farm** 84.17 338 ⇓P P 23 22 13.8 -0.5
baz=84
M24A **Cheyenne** 84.17 337 ⇓P P 23 22 13.7 -0.7
baz=84
PHWY **Pilot Hill** 84.21 337 PFAKE 23 22 30.0 +15
PHWY LR LR
comp=Z,3µm,18.0s
MPMC **Manual Prospec** 84.21 326 ⇓P P 23 22 14.3 -0.5
baz=84,SNR=12
FURC **Furnace Creek,** 84.28 326 ⇑P P 23 22 15.2 +0.4
baz=84,SNR=5.8
K28A **Ten Mile Ranch** 84.31 340 ⇑P P 23 22 15.3 +0.4
baz=85
ISA **Isabella, Lake** 84.33 325 eP P 23 22 16.2 +1.0
ISA pmax pmax
comp=Z,39nm,1.0s
ISA **Isabella, Lake** 84.33 325 eP P 23 22 16.2 +1.0
comp=Z,39nm,1.0s
ISA **Isabella, Lake** 84.33 325 ⇑P P 23 22 15.2 0.0
baz=84
J30A **Dallas** 84.39 341 ⇑P P 23 22 14.7 -0.6
baz=85,SNR=7.6
TPNV **Topopah Spring** 84.42 327 PFAKE 23 22 30.0 +14
TPNV LR LR
comp=Z,5µm,20.0s
TPNV **Topopah Spring** 84.42 327 ⇓P P 23 22 15.3 -0.5
baz=85,SNR=9.9
DAC **Darwin (Calif)** 84.44 326 eP P 23 22 17.4 +1.5
DAC pmax pmax
comp=Z,68nm,1.3s
DAC MLR MLR
comp=Z,3µm,22.0s
DAC **Darwin (Calif)** 84.44 326 eP P 23 22 17.4 +1.5
comp=Z,68nm,1.3s
DAC LR LR
comp=Z,3µm,22.0s
M23A **Laramie** 84.45 336 ⇑P P 23 22 15.8 0.0
baz=85
L25A **Engebretsen Ra** 84.53 338 ⇑P P 23 22 15.8 -0.4
baz=85,SNR=6.3
K27A **Flueckinger Fa** 84.54 339 ⇑P P 23 22 16.5 +0.3
baz=85
M22A **Cedar Creek Ra** 84.67 336 ⇓P P 23 22 17.0 -0.1
baz=85
J29A **Okreek** 84.68 341 ⇓P P 23 22 16.3 -0.5
baz=85,SNR=9.1
N20A **Spence Gulch,** 84.71 334 ⇓P P 23 22 17.4 +0.1
baz=85,SNR=12
L24A **Wheatland** 84.72 337 ⇓P P 23 22 16.1 -1.0
baz=85
SMMC **Simmler** 84.74 324 ⇑P P 23 22 17.0 -0.3
baz=85
SPMN **Marine on St.** 84.75 347 eP P 23 22 15.8 -1.1
comp=Z,85nm,0.9s
SPMN LR LR
comp=Z,5µm,20.0s
SPMN **Marine on St.** 84.75 347 ⇑P P 23 22 16.1 -0.9
baz=85
VES **Vestal, Richgr** 84.75 324 ⇓P P 23 22 17.2 0.0
baz=85
K26A **Motz Farm, Whi** 84.81 339 ⇓P P 23 22 17.3 -0.2
baz=85,SNR=5.3
K25A **Mack Ranch, Ha** 84.93 338 ⇓P P 23 22 17.3 -0.9
baz=85
I30A **Oacoma** 84.93 342 ⇑P P 23 22 16.9 -1.0
baz=85
J28A **Allard Ranch,** 84.94 340 ⇑P P 23 22 17.5 -0.5
baz=85,SNR=5.3
GRAC **Grapevine Rang** 84.94 326 ⇓P P 23 22 17.2 -1.1
baz=85
J27A **Elkhorn Farm,** 84.99 340 ⇑P P 23 22 18.0 -0.3
baz=85,SNR=6.4
COWI **Conover** 84.99 349 eP P 23 22 18.0 -0.3
comp=Z,65nm,1.0s
COWI LR LR
comp=Z,3µm,21.0s
L23A **Garrett** 85.03 337 ⇑P P 23 22 17.0 -1.8
baz=85
RWWY **Rawlins** 85.12 335 PFAKE 23 22 30.0 +11
RWWY LR LR
comp=Z,6µm,18.0s
L22A **Ellis Ranch, M** 85.18 336 ⇓P P 23 22 18.0 -1.5
baz=86
MPU **Maple Canyon** 85.19 332 eP P 23 22 21.1 +1.5
comp=Z,87nm,1.1s
MPU LR LR
comp=Z,13µm,18.0s
RCTC **Rector, Farmer** 85.21 325 ⇓P P 23 22 18.0 -1.5
baz=85
I29A **Vivian Onida** 85.25 341 ⇑P P 23 22 18.6 -1.0
baz=86,SNR=5.7
NLU **North Lily Min** 85.31 331 eP P 23 22 22.6 +2.3
comp=Z,166nm,2.0s
NLU LR LR
comp=Z,12µm,18.0s
K24A **Anderson Ranch** 85.31 338 ⇑P P 23 22 19.3 -0.8
baz=86
BRSD **Miller** 85.31 342 ⇑P P 23 22 19.2 -0.7
baz=86
R11A **Troy Canyon, C** 85.32 328 eP P 23 22 21.2 +0.9
R11A LR LR
comp=Z,5µm,19.0s
R11A **Troy Canyon, C** 85.32 328 ⇓P P 23 22 20.8 +0.5
baz=86,SNR=19
J26A **Sides Ranch, S** 85.34 339 ⇑P P 23 22 19.7 -0.5
baz=86,SNR=7.7
TIN **Tinemaha, Big** 85.37 326 ⇑P P 23 22 20.2 -0.3
baz=86

I28A **Midland** 85.45 340 ⇑P P 23 22 20.2 -0.5
baz=86
K23A **Bowen Ranch, D** 85.58 337 ⇑P P 23 22 20.6 -0.9
baz=86,SNR=16
J25A **Sunshine Ranch** 85.62 338 ⇑P P 23 22 20.8 -0.8
baz=86,SNR=10
JLU **Jordanelle** 85.64 332 PFAKE 23 22 30.0 +8.1
JLU LR LR
comp=Z,10µm,18.0s
I27A **Quinn** 85.75 340 ⇑P P 23 22 21.7 -0.5
baz=86
K22A **Casper** 85.77 336 eP P 23 22 23.3 +0.9
comp=Z,123nm,1.2s
K22A LR LR
comp=Z,3µm,20.0s
K22A **Casper** 85.77 336 ⇓P P 23 22 22.2 -0.2
baz=86
TPH **Tonopah** 85.78 327 eP P 23 22 23.9 +1.3
TPH pmax pmax
comp=Z,81nm,1.1s
TPH MLR MLR
comp=Z,5µm,21.0s
TPH **Tonopah** 85.78 327 eP P 23 22 23.9 +1.3
comp=Z,81nm,1.1s
TPH LR LR
comp=Z,5µm,21.0s
H29A **Onida** 85.79 341 ⇑P P 23 22 21.1 -1.2
baz=86
DUG **Dugway, Tooele** 85.80 331 eP P 23 22 24.1 +1.5
DUG pmax pmax
comp=Z,116nm,1.3s
DUG MLR MLR
comp=Z,7µm,18.0s
DUG **Dugway, Tooele** 85.80 331 eP P 23 22 24.1 +1.5
comp=Z,116nm,1.3s
DUG LR LR
comp=Z,7µm,18.0s
DUG **Dugway, Tooele** 85.80 331 ⇑P P 23 22 22.7 +0.1
baz=86,SNR=20
J24A **Dixon Ranch, L** 85.82 338 ⇑P P 23 22 21.9 -0.7
baz=86,SNR=11
I26A **New Underwood** 85.94 339 ⇑P P 23 22 22.5 -0.6
baz=86,SNR=5.0
K21A **Alcova** 85.99 336 ⇓P P 23 22 22.1 -1.4
baz=86
G30A **Faulkton** 86.00 342 ⇑P P 23 22 22.1 -1.2
baz=86,SNR=6.7
H28A **Mission Ridge** 86.05 341 ⇑P P 23 22 22.0 -1.5
baz=86,SNR=5.5
TCUT **Toone Canyon** 86.07 332 PFAKE 23 22 40.0 +16
TCUT LR LR
comp=Z,7µm,18.0s
MLAC **Mammoth, Mammo** 86.12 326 ⇓P P 23 22 23.0 -1.3
baz=86
J23A **Dilts Ranch, B** 86.15 337 ⇑P P 23 22 22.5 -1.8
baz=86
I25A **Rochford** 86.18 339 ⇓P P 23 22 22.9 -1.5
baz=86,SNR=19
H27A **Howes** 86.28 340 ⇓P P 23 22 23.3 -1.4
baz=87,SNR=12
I24A **Kuemmerle Ranc** 86.29 338 ⇑P P 23 22 24.5 -0.4
baz=87
XMAS **Kiritimati** 86.33 275 PFAKE 23 22 40.0 +14
XMAS LR LR
comp=Z,7µm,18.0s
RSSD **Black Hills** 86.36 339 eP P 23 22 24.7 -0.7
RSSD pmax pmax
comp=Z,66nm,1.1s
RSSD MLR MLR
comp=Z,4µm,20.0s
RSSD **Black Hills** 86.36 339 eP P 23 22 24.7 -0.7
comp=Z,66nm,1.1s
RSSD LR LR
comp=Z,4µm,20.0s
G28A **Parade** 86.39 341 ⇑P P 23 22 24.2 -1.0
baz=87,SNR=5.1
J22A **Midwest** 86.44 337 ⇑P P 23 22 25.0 -0.7
baz=87
BGU **Big Grassy Mou** 86.51 331 PFAKE 23 22 40.0 +14
BGU LR LR
comp=Z,7µm,18.0s
NV01 **Mina Array Sit** 86.54 326 eP P 23 22 26.9 +0.5
NVAR **Mina Array Bea** 86.54 326 P P 23 22 26.9 +0.5
comp=Z,3.2nm,0.7s,baz=154,slow=6.5,SNR=11
HWUT **Hardware Ranch** 86.56 333 eP P 23 22 27.3 +1.0
comp=Z,153nm,1.1s
HWUT LR LR
comp=Z,6µm,18.0s
SAO **San Andreas Ge** 86.60 323 PFAKE 23 22 40.0 +14
SAO LR LR
comp=Z,4µm,20.0s
I23A **Meade Ranch, G** 86.63 338 ⇓P P 23 22 25.4 -1.2
baz=87
F30A **Leola** 86.64 343 ⇓P P 23 22 25.7 -0.7
baz=87
J21A **Lysite** 86.69 336 ⇑P P 23 22 27.2 +0.2
baz=87
H25A **Fruitdale** 86.69 339 ⇓P P 23 22 25.7 -1.1
baz=87,SNR=15
F29A **Eureka** 86.83 342 ⇑P P 23 22 26.8 -0.6
baz=87
TOA0 **Torodi Ar. Sit** 86.86 71 ePP PP 23 25 53.5 +2.2
TORD **Torodi Ar. Bea** 86.86 71 P P 23 22 27.4 -0.8
comp=Z,19nm,0.9s,baz=241,slow=3.8,SNR=64
TORD PP PP 23 25 53.5 +2.2
comp=Z,11nm,0.9s,baz=234,slow=6.9,SNR=4.2
TORD LR LR 23 59 30.3
comp=Z,7µm,19.7s,baz=245,slow=34
MSKU **Masuku** 86.86 90 eP P 23 22 29.7 +1.3
comp=Z,113nm,1.2s
MSKU LR LR
comp=Z,18µm,20.0s
BW06 **Boulder Array** 86.87 334 PFAKE 23 22 40.0 +12
BW06 LR LR
comp=Z,10µm,19.0s
PD31 **Pinedale Array** 86.87 334 eP P 23 22 27.3 -0.6
PDAR **Pinedale Array** 86.87 334 P P 23 22 27.3 -0.6
comp=Z,3.0nm,0.7s,baz=151,slow=3.4,SNR=15
PDAR LR LR 23 57 12.2
comp=Z,9µm,18.6s,baz=150,slow=33
I22A **9 Mile Ranch,** 86.88 337 ⇑P P 23 22 28.3 +0.5
baz=87,SNR=8.9
J20A **Shoshoni** 86.90 336 ⇑P P 23 22 28.3 +0.3
baz=87,SNR=7.1
G27A **Dupree** 86.94 340 ⇓P P 23 22 27.3 -0.6
baz=87
G26A **Maurine** 87.04 340 ⇓P P 23 22 27.8 -0.7
baz=87
I21A **Big Trails, Te** 87.06 336 ⇓P P 23 22 28.1 -0.6
baz=87
H24A **Dirks Ranch, A** 87.08 339 ⇓P P 23 22 28.3 -0.4
baz=87,SNR=15
F28A **Mcaughlin** 87.08 341 ⇑P P 23 22 29.3 +0.7
baz=87,SNR=5.7
WAKR **Walker** 87.10 326 eP P 23 22 32.5 +3.4
J19A **Crowheart** 87.14 335 ⇑P P 23 22 28.7 -0.4
baz=87,SNR=8.3
CMB **Columbia Colle** 87.14 325 eP P 23 22 30.1 +1.0
CMB pmax pmax
comp=Z,24nm,1.2s
CMB MLR MLR
comp=Z,6µm,18.0s
CMB **Columbia Colle** 87.14 325 eP P 23 22 30.1 +1.0
comp=Z,24nm,1.2s
CMB LR LR
comp=Z,6µm,18.0s
HVU **Hansel Valley** 87.15 332 eP P 23 22 30.0 +0.8
HVU pmax pmax
comp=Z,59nm,1.1s
HVU MLR MLR
comp=Z,7µm,19.0s
HVU **Hansel Valley** 87.15 332 eP P 23 22 30.0 +0.8
comp=Z,59nm,1.1s
HVU LR LR
comp=Z,7µm,19.0s
EYMN **Ely** 87.16 348 eP P 23 22 28.3 -0.6
comp=Z,89nm,1.3s
EYMN LR LR
comp=Z,4µm,19.0s
H23A **Clabaugh Cattl** 87.16 338 ⇓P P 23 22 28.2 -0.9
baz=88
G25A **Newell** 87.17 339 ⇑P P 23 22 29.0 -0.1
baz=88,SNR=10.0
ELK **Elko** 87.21 330 LR LR 23 56 10.6
comp=Z,3µm,19.8s,baz=180,slow=32
ELK **Elko** 87.21 330 eP P 23 22 29.8 +0.2
ELK pmax pmax
comp=Z,53nm,1.0s

ELK **Elko** 87.21 330 eP P 23 22 29.8 +0.2
comp=Z,53nm,1.0s
PAF **Port-aux-Franc** 87.22 157 P P 23 22 12.0 -17
PAF **Port-aux-Franc** 87.22 157 S SKSac 23 32 48.0 -7.5
PAF R 23 51 00.0
E30A **Jud** 87.24 343 ⇑P P 23 22 29.4 +0.1
baz=88
AHID **Auburn Hatcher** 87.41 333 PFAKE 23 22 40.0 +10
AHID LR LR
comp=Z,5µm,18.0s
F27A **Lemmon** 87.42 341 ⇑P P 23 22 30.3 +0.1
baz=88
I20A **Worland** 87.45 336 ⇑P P 23 22 30.5 -0.1
baz=88,SNR=12
E29A **Napoleon** 87.47 342 ⇑P P 23 22 31.9 +1.4
baz=88
H22A **Clearmont** 87.47 337 ⇑P P 23 22 30.7 +0.1
baz=88,SNR=6.5
F26A **Lodgepole** 87.57 340 ⇑P P 23 22 32.9 +1.9
baz=88,SNR=8.6
G24A **Alzada** 87.57 339 ⇓P P 23 22 33.1 +2.1
baz=88,SNR=7.5
H21A **Big Horn, Sher** 87.72 337 ⇓P P 23 22 31.8 0.0
baz=88
E28A **Huff** 87.73 342 ⇑P P 23 22 31.7 0.0
baz=88
G23A **Biddle** 87.74 338 ⇑P P 23 22 33.7 +1.8
baz=88,SNR=9.0
AFI **Afiamalu** 87.75 254 PFAKE 23 22 40.0 +7.3
AFI LR LR
comp=Z,7µm,19.0s
D30A **Buchanan** 87.78 343 ⇑P P 23 22 33.6 +1.7
baz=88,SNR=6.4
I19A **Meeteetse** 87.81 335 ⇑P P 23 22 34.0 +1.6
baz=88
E27A **Carson** 87.82 341 ⇑P P 23 22 34.1 +2.0
baz=88
REDW **Red Top Meadow** 87.84 334 eP P 23 22 33.0 +0.4
comp=Z,54nm,1.3s
REDW LR LR
comp=Z,5µm,18.0s
F25A **Bowman** 87.85 340 ⇓P P 23 22 34.1 +1.8
baz=88
H20A **Greybull** 87.89 336 ⇓P P 23 22 34.6 +2.0
baz=88,SNR=8.8
SNOW **Snow King Moun** 87.90 334 eP P 23 22 33.1 +0.3
comp=Z,34nm,1.0s
SNOW LR LR
comp=Z,6µm,21.0s
D29A **Pettibone, Tap** 87.92 343 ⇓P P 23 22 34.7 +2.1
baz=88,SNR=5.8
LOHW **Long Hollow** 87.98 334 PFAKE 23 22 40.0 +6.8
LOHW LR LR
comp=Z,8µm,20.0s
TPAW **Teton Pass** 87.99 334 eP P 23 22 33.8 +0.5
comp=Z,51nm,1.0s
TPAW LR LR
comp=Z,5µm,19.0s
PMOZ **Porto Moniz, M** 88.01 45 eP P 23 22 34.4 +0.9
PMOZ **Porto Moniz, M** 88.01 45 ePP PP 23 26 08.4 +7.9
PMOZ eSKS SKSac 23 33 01.2 +0.7
PMOZ **Porto Moniz, M** 88.01 45 eLQ LQ 23 48 40.6
PMOZ eLR LR 23 51 30.6
comp=Z,19µm,20.0s
G22A **Birney** 88.02 338 ⇓P P 23 22 33.9 +0.7
baz=88
F24A **Ekalaka** 88.05 339 ⇓P P 23 22 35.8 +2.4
baz=88,SNR=9.4
E26A **Carlson Angus** 88.09 341 ⇓P P 23 22 35.6 +2.1
baz=88,SNR=5.1
FXWY **Fox Creek** 88.14 334 eP P 23 22 34.8 +0.8
comp=Z,28nm,1.1s
FXWY LR LR
comp=Z,5µm,18.0s
MOOW **Moose Ponds** 88.14 334 eP P 23 22 34.0 0.0
comp=Z,16nm,1.0s
DRLN **Deer Lake** 88.19 11 eP P 23 22 31.9 -1.8
comp=Z,54nm,1.4s
DRLN LR LR
comp=Z,9µm,20.0s
F23A **Volborg** 88.22 338 ⇓P P 23 22 35.9 +1.8
baz=88,SNR=9.9
I17A **Pilgrim Ck.** 88.24 334 ⇓P P 23 22 35.5 +1.1
baz=88
C30A **Mose, Pekin** 88.27 344 ⇓P P 23 22 36.5 +2.2
baz=89,SNR=6.1
D28A **Regan** 88.28 342 ⇑P P 23 22 36.9 +2.6
baz=89,SNR=8.5
AGMN **Agassiz Nation** 88.29 345 eP P 23 22 33.1 -1.2
comp=Z,113nm,1.1s
AGMN LR LR
comp=Z,5µm,22.0s
AGMN **Agassiz Nation** 88.29 345 ⇓P P 23 22 34.7 +0.5
baz=89
G21A **Lodge Grass** 88.30 337 ⇑P P 23 22 36.6 +2.0
baz=89
IMW **Indian Meadow** 88.34 334 eP P 23 22 35.6 +0.6
comp=Z,64nm,1.1s
IMW LR LR
comp=Z,6µm,18.0s
E25A **Miller Ranch,** 88.37 340 ⇑P P 23 22 36.0 +1.2
baz=89,SNR=11
H19A **Powell** 88.37 336 ⇑P P 23 22 36.9 +2.0
baz=89
MCCM **Marconi Confer** 88.39 323 PFAKE 23 22 50.0 +15
MCCM LR LR
comp=Z,4µm,20.0s
FLWY **Flagg Ranch** 88.42 334 eP P 23 22 36.6 +1.3
comp=Z,64nm,1.0s
FLWY LR LR
comp=Z,10µm,18.0s
D27A **Center** 88.44 341 ⇑P P 23 22 36.8 +1.7
baz=89
F22A **Rosebud** 88.52 338 ⇑P P 23 22 37.4 +1.9
baz=89,SNR=7.2
D26A **Manning** 88.60 341 ⇓P P 23 22 37.5 +1.7
baz=89,SNR=14
H18A **Shoshone NF, C** 88.60 335 ⇑P P 23 22 37.8 +1.7
baz=89,SNR=6.3
G20A **Bridger** 88.61 336 ⇑P P 23 22 37.9 +1.8
baz=89,SNR=5.1
H17A **Grant Village** 88.66 335 PFAKE 23 22 50.0 +14
H17A LR LR
comp=Z,14µm,18.0s
H17A **Grant Village** 88.66 335 ⇑P P 23 22 35.6 -0.8
baz=89
MDND **Maddock** 88.67 343 eP P 23 22 36.1 0.0
MDND **Maddock** 88.67 343 ⇓P P 23 22 35.4 -0.7
baz=89
E24A **Baker** 88.67 339 ⇑P P 23 22 35.4 -0.8
baz=89,SNR=10
C28A **Hausauer Farms** 88.73 342 ⇓P P 23 22 35.9 -0.5
baz=89
YFT **Old Faithful** 88.79 334 PFAKE 23 22 50.0 +13
YFT LR LR
comp=Z,11µm,20.0s
F21A **Absaloka Mine,** 88.82 337 ⇓P P 23 22 36.3 -0.6
baz=89
E23A **Ismay** 88.89 339 ⇓P P 23 22 36.3 -0.9
baz=89
D25A **Fairfield** 88.94 340 ⇑P P 23 22 36.7 -0.8
baz=89,SNR=6.2
B30A **Myrvik Farm, E** 88.95 344 ⇓P P 23 22 37.1 -0.3
baz=89
YNR **Norris Junctio** 88.97 335 PFAKE 23 22 50.0 +12
YNR LR LR
comp=Z,8µm,19.0s
C27A **Sayler Ranch,** 89.00 342 ⇑P P 23 22 37.0 -0.6
baz=89
E22A **Miles City** 89.02 338 ⇑P P 23 22 36.9 -1.0
baz=89
YMR **Madison River** 89.03 334 PFAKE 23 22 50.0 +12
YMR LR LR
comp=Z,10µm,18.0s
F20A **Billings** 89.11 337 ⇑P P 23 22 37.9 -0.4
baz=89
HOPS **Hopland Field** 89.16 324 PFAKE 23 22 50.0 +11
HOPS LR LR
comp=Z,5µm,18.0s
D24A **Glendive** 89.18 340 ⇓P P 23 22 38.5 -0.1
baz=90,SNR=7.0
B29A **Wagenman Farm,** 89.19 343 ⇓P P 23 22 38.4 -0.1
baz=90,SNR=8.9
C26A **Wahner Farm, P** 89.25 341 ⇑P P 23 22 38.8 0.0
baz=90,SNR=10.0
HLID **Hailey** 89.30 332 eP P 23 22 41.2 +1.8
comp=Z,62nm,1.1s

HLID LR LR
comp=Z,8µm,18.0s
HLID Hailey 89.30 332 ⇓P P 23 22 39.1 -0.3
baz=90
QLMT Earthquake Lak 89.33 334 *e*P'P'df P'P'df 23 48 23.4 +4.6
LAO LASA Array 89.33 338 *es*P **sP 23 22 48.7 -0.5**
LAO LR LR
comp=Z,2µm,19.0s
A30A Hoffart Farm, 89.40 344 ⇑P P 23 22 38.8 -0.7
baz=90
B28A Dugan Ranch, T 89.41 343 ⇑P P 23 22 39.6 0.0
baz=90,SNR=8.9
F19A Roth Farm, Mol 89.41 336 ⇑P P 23 22 39.2 -0.6
baz=90
C25A Freed Ranch, W 89.44 341 ⇑P P 23 22 39.9 +0.1
baz=90,SNR=5.8
E21A Keefer Ranch, 89.45 338 ⇓P P 23 22 39.1 -0.7
baz=90
D23A Lindsay 89.48 339 ⇓P P 23 22 40.3 +0.3
baz=90,SNR=7.4
B27A Peters Farms, 89.58 342 ⇓P P 23 22 39.9 -0.5
baz=90
C24A Savage 89.59 340 ⇓P P 23 22 40.3 -0.2
baz=90,SNR=12
A29A Manning Farm, 89.59 343 ⇓P P 23 22 40.3 -0.1
baz=90
MFID Camas Ranch 89.71 331 P P 23 22 41.5 +0.2
comp=Z,37nm,1.0s
MFID LR LR
comp=Z,4µm,19.0s
D22A Cohagen 89.74 338 ⇑P P 23 22 41.3 +0.2
baz=90
E20A Meyer Farm, Mu 89.74 337 ⇓P P 23 22 40.7 -0.5
baz=90
LSZ Lusaka 89.75 109 *e*P **P 23 22 43.5 +1.3**
LSZ pmax pmax
comp=Z,27nm,0.9s
LSZ MLR MLR
comp=Z,19µm,19.0s
LSZ Lusaka 89.75 109 *e*P **P 23 22 43.5 +1.3**
comp=Z,27nm,0.9s
LSZ LR LR
comp=Z,19µm,19.0s
B26A Jensen Ranch, 89.80 341 ⇑P P 23 22 40.9 -0.5
baz=90
A28A Rude Farm, Bot 89.82 343 ⇓P P 23 22 41.1 -0.4
baz=90,SNR=5.5
MCMT McKenzie Canyo 89.82 333 *e*P **P 23 22 43.2 +1.3**
D21A La Casta Ranch 89.90 338 ⇑P P 23 22 41.5 -0.5
baz=90
E19A Rath Farm, Rou 89.90 337 ⇑P P 23 22 42.5 +0.5
baz=90,SNR=5.8
B25A Knox Farm, Ray 89.94 341 ⇑P P 23 22 42.3 +0.2
baz=90
KCPM Cahto Peak 89.95 324 PFAKE 23 22 50.0 +7.5
KCPM LR LR
comp=Z,2µm,20.0s
WVOR Wild Horse Val 90.01 328 *es*P **sP 23 22 52.0 -0.6**
WVOR *e*P'P'df **P'P'df 23 48 20.8 +2.8**
WVOR LR LR
comp=Z,4µm,19.0s
C23A Lambert 90.05 339 ⇓P P 23 22 42.3 -0.3
baz=90,SNR=7.2
A27A Ledoux Ranch, 90.09 342 ⇑P P 23 22 42.5 -0.2
baz=90
BOZ Bozeman (W) 90.11 334 *e*P **P 23 22 43.2 +0.1**
BOZ pmax pmax
comp=Z,15nm,0.8s
BOZ MLR MLR
comp=Z,7µm,22.0s
BOZ Bozeman (W) 90.11 334 *e*P **P 23 22 43.2 +0.1**
comp=Z,15nm,0.8s
BOZ LR LR
comp=Z,7µm,22.0s
ULM Lac du Bonnet 90.15 346 P P 23 22 42.4 -0.5
comp=Z,6.8nm,0.8s,baz=182,slow=4.1,SNR=8.1
ULM Lac du Bonnet 90.15 346 *e*P **P 23 22 43.0 +0.1**
ULM pmax pmax
comp=Z,51nm,1.1s
ULM Lac du Bonnet 90.15 346 *e*P **P 23 22 43.0 +0.1**
comp=Z,50nm,1.1s
WDC Whiskeytown Da 90.18 325 P P 23 22 44.7 +1.3
WDC MLR MLR
comp=Z,3µm,20.0s
WDC Whiskeytown Da 90.18 325 P P 23 22 44.6 +1.3
WDC LR LR
comp=Z,3µm,20.0s
C22A Vida 90.19 339 ⇑P P 23 22 42.1 -1.2
baz=90
DLMT Dillon 90.20 334 PFAKE 23 23 00.0 +16
DLMT LR LR
comp=Z,6µm,21.0s
A26A Wade Farm, Ken 90.23 342 ⇓P P 23 22 42.8 -0.6
baz=91
D20A Manuel Ranch, 90.27 337 ⇓P P 23 22 43.3 -0.4
baz=91,SNR=5.7
DGMT Dagmar 90.39 340 *e*P **P 23 22 44.5 +0.3**
DGMT LR LR
comp=Z,4µm,18.0s
DGMT Dagmar 90.39 340 ⇓P P 23 22 43.6 -0.5
baz=91
KMRM Mail Ridge 90.43 324 *ep*P **pP 23 22 51.0 -1.0**
KMRM LR LR
comp=Z,9µm,18.0s
A25A Svangstu Ranch 90.54 341 ⇑P P 23 22 44.7 -0.1
baz=91
LRM Limekiln Ridge 90.55 334 *e*P **P 23 22 46.0 +0.7**
D19A Cripps Ranch, 90.56 337 ⇓P P 23 22 45.4 +0.3
baz=91
N02D Trinity Center 90.58 325 ⇑P P 23 22 45.1 -0.2
baz=91
B23A Brockton 90.60 340 ⇓P P 23 22 46.2 +1.1
baz=91
C21A Desert Coulee 90.61 338 ⇑P P 23 22 45.2 -0.1
baz=91
B22A Reddig Ranch S 90.73 339 ⇓P P 23 22 46.3 +0.5
baz=91
A24A Westby 90.75 341 ⇑P P 23 22 46.1 +0.2
baz=91
C20A Veseth Ranch, 90.78 338 ⇓P P 23 22 45.8 -0.2
baz=91
M04C Macdoel 90.84 326 ⇓P P 23 22 46.5 -0.1
baz=91
KHMM Horse Mountain 90.96 324 PFAKE 23 23 00.0 +13
KHMM LR LR
comp=Z,6µm,20.0s
M02C Callahan 90.98 325 ⇓P P 23 22 47.6 +0.4
baz=91
A23A Redstone 91.02 340 ⇓P P 23 22 47.5 +0.5
baz=91
C19A Slack Wire Ran 91.12 337 ⇓P P 23 22 47.4 -0.3
baz=91
B21A Ellsworth Farm 91.13 339 ⇑P P 23 22 47.9 +0.3
baz=91
YBH Yreka Blue Hor 91.19 326 LR LR 23 55 58.3
comp=Z,3µm,21.8s,baz=134,slow=30
YBH Yreka Blue Hor 91.19 326 P P 23 22 47.5 -0.6
YBH pmax pmax
comp=Z,15nm,1.2s
YBH MLR MLR
comp=Z,3µm,22.0s
YBH Yreka Blue Hor 91.19 326 P P 23 22 47.5 -0.6
comp=Z,15nm,1.2s
YBH LR LR
comp=Z,3µm,22.0s
K05A Summer Lake 91.20 327 *e*P P 23 22 54.4 +6.1
comp=Z,55nm,1.3s
A22A Carney Farms, 91.33 339 ⇑P P 23 22 48.7 +0.2
baz=92
B20A Solberg Farm, 91.44 338 ⇓P P 23 22 50.8 +1.7
baz=92,SNR=6.7
K04D Chiloquin, OR 91.48 327 ⇑P P 23 22 49.1 -0.5
baz=92
BMO Blue Mountains 91.50 331 *e*P **P 23 22 49.5 0.0**
BMO *e*P'P'df **P'P'df 23 48 11.7 -3.3**
BMO LR LR
comp=Z,4µm,18.0s
EGMT Eagleton 91.59 337 *ep*P **pP 23 22 57.7 +0.5**
EGMT LR LR
comp=Z,3µm,21.0s
EGMT Eagleton 91.59 337 ⇓P P 23 22 50.2 +0.3
baz=92
A21A Bergtoll Ranch 91.62 339 ⇑P P 23 22 50.5 +0.7
baz=92
B19A Brinkman Farms 91.73 337 ⇓P P 23 22 51.5 +1.1
baz=92
I07A Izee 91.73 329 *es*P **sP 23 23 00.9 +0.4**

I07A *e*P'P'df **P'P'df 23 48 10.1 -4.6**
CHMT Chamberlain Mo 91.77 334 *e*P'P'df P'P'df 23 48 14.9 +0.6
J05D Fort Rock, OR 91.80 327 ⇑P P 23 22 51.8 +0.8
baz=92
A20A Cobblestone Ra 91.81 338 ⇓P P 23 22 52.9 +2.1
baz=92,SNR=8.4
L02D Cave Junction, 91.92 325 ⇓P P 23 22 51.9 +0.5
baz=92
MSO Missoula 91.94 334 *ep*P **pP 23 22 59.3 +0.5**
comp=Z,38nm,1.3s
MSO LR LR
comp=Z,6µm,18.0s
MSO Missoula 91.94 334 ⇓P P 23 22 53.6 +2.1
baz=92,SNR=6.3
HUMO Hull Mountain 92.00 326 PFAKE 23 23 00.0 +8.2
HUMO LR LR
comp=Z,5µm,19.0s
A19A Klindworth Far 92.09 338 ⇑P P 23 22 53.7 +1.6
baz=92
J04D Umpqua Nationa 92.14 327 ⇑P P 23 22 54.4 +1.8
baz=92
SLMT Seeley Lake 92.14 334 *e*P **P 23 22 55.0 +2.5**
KBO Bosley Butte 92.25 325 PFAKE 23 23 00.0 +7.0
KBO LR LR
comp=Z,4µm,19.0s
G08A Pilot Rock 92.51 330 *e*P P 23 22 58.3 +4.1
comp=Z,23nm,1.1s
I05D Terrebonne, OR 92.70 328 ⇓P P 23 22 56.9 +1.9
baz=93
I04A Tendick Farm, 92.71 327 ⇑P P 23 22 57.3 +2.2
baz=93
SCHQ Schefferville 92.78 4 P P 23 22 53.8 -1.3
comp=Z,3.5nm,0.8s,baz=186,slow=5.0,SNR=4.1
SCHQ Schefferville 92.78 4 *e*P **P 23 22 52.9 -2.2**
comp=Z,18nm,1.0s
KEBM Edson Butte 92.82 325 PFAKE 23 23 10.0 +14
KEBM LR LR
comp=Z,4µm,18.0s
I03D Drain, OR 93.04 326 ⇑P P 23 22 58.5 +1.9
baz=93
E09A Wood Farm, Sta 93.21 331 *e*P **P 23 22 56.2 -1.1**
comp=Z,42nm,0.9s
H04A Detroit Lake 93.33 328 *es*P sP 23 23 07.6 -0.2
HAWA Hanford 93.64 330 PFAKE 23 23 10.0 +11
HAWA LR LR
comp=Z,4µm,20.0s
COR Corvallis 93.73 327 PFAKE 23 23 10.0 +10
COR LR LR
comp=Z,5µm,18.0s
WALA Waterton Lakes 93.84 335 *e*P **P 23 23 03.1 +2.8**
comp=Z,2µm,1.1s
WALA LR LR
comp=Z,9µm,18.0s
D08A Wollman Farm, 93.96 331 PFAKE 23 23 10.0 +9.3
D08A LR LR
comp=Z,4µm,19.0s
G03D McMinnville, O 94.21 327 ⇑P P 23 23 03.6 +1.7
baz=94
NEW Newport 94.29 333 LR LR 00 02 23.4
comp=Z,6µm,18.0s,baz=141,slow=34
NEW Newport 94.29 333 P P 23 23 02.7 +0.4
NEW *e* 23 23 10.1
NEW pmax pmax
comp=Z,27nm,1.1s
NEW MLR MLR
comp=Z,6µm,18.0s
NEW Newport 94.29 333 P P 23 23 02.6 +0.4
comp=Z,27nm,1.1s
NEW *e* 23 23 10.1
NEW LR LR
comp=Z,6µm,18.0s
NEW Newport 94.29 333 ⇓P P 23 23 04.5 +2.2
baz=94
C09A Chrisman Ranch 94.33 332 *ep*P pP 23 23 10.1 +0.4
F04A Amboy 94.44 328 PFAKE 23 23 10.0 +7.1
F04A LR LR
comp=Z,4µm,19.0s
KNTN Kanton 94.61 263 PFAKE 23 23 20.0 +15
KNTN LR LR
comp=Z,10µm,20.0s
LON Longmire 94.84 329 P P 23 23 04.9 +0.1
LON pmax pmax
comp=Z,12nm,1.0s
LON MLR MLR
comp=Z,4µm,19.0s
LON Longmire 94.84 329 P P 23 23 04.9 +0.1
comp=Z,12nm,1.0s
LON LR LR
comp=Z,4µm,19.0s
B08A Colville Reser 95.19 331 *es*P sP 23 23 15.6 -0.6
FFC Flin Flon 95.63 344 *e*P **P 23 23 07.0 -1.1**
FFC pmax pmax
comp=Z,12nm,1.1s
FFC MLR MLR
comp=Z,4µm,20.0s
FFC Flin Flon 95.63 344 *e*P **P 23 23 07.0 -1.1**
comp=Z,12nm,1.1s
FFC LR LR
comp=Z,4µm,20.0s
POHA Pohakuloa 95.81 290 *e*P **P 23 23 08.9 -1.2**
comp=Z,1µm,2.3s
POHA LR LR
comp=Z,6µm,22.0s
MORF Marmelete 96.07 47 *e*P **P 23 23 10.3 -0.4**
MORF *e*S **SKSac 23 33 45.5 -0.2**
MORF AMS AMS 00 04 50.0
comp=Z,21µm,23.0s
MORF Marmelete 96.07 47 *e*P **P 23 23 09.8 -0.9**
MORF Marmelete 96.07 47 *e*PP PP 23 27 03.7 -0.3
MORF Marmelete 96.07 47 *e*LR LR 23 58 41.4
comp=Z,21µm,20.0s
MORF Marmelete 96.07 47 *e*P **P 23 23 10.2 -0.4**
MORF *e*S **SKSac 23 33 45.4 -0.2**
NLWA Neilton Lookou 96.20 328 PFAKE 23 23 20.0 +9.0
NLWA LR LR
comp=Z,4µm,18.0s
PBDV Barranco-do-Ve 96.44 47 *e*P **P 23 23 13.7 +1.4**
PBDV Barranco-do-Ve 96.44 47 *e*PP PP 23 26 53.2 -14
PBDV Barranco-do-Ve 96.44 47 *e*LR LR 23 58 30.7
comp=Z,19µm,20.0s
PCVE Castro Verde 96.65 47 *e*P **P 23 23 15.1 +1.9**
PCVE Castro Verde 96.65 47 *e*PP PP 23 27 03.2 -5.2
PCVE Castro Verde 96.65 47 *e*LR LR 23 58 31.0
comp=Z,72µm,20.0s
PVAQ Vaqueiros 96.68 47 *e*P **P 23 23 14.6 +1.3**
PVAQ Vaqueiros 96.68 47 *e*PP PP 23 27 08.9 +0.3
PVAQ *e*SKS **SKSac 23 33 54.0 +5.3**
PVAQ Vaqueiros 96.68 47 *e*LQ LQ 23 48 42.5
PVAQ *e*LR LR 23 55 33.6
comp=Z,18µm,20.0s
MESJ Messejana 96.69 46 *e*P **P 23 23 13.1 -0.3**
MESJ *e*PP **PP 23 27 07.3 -1.4**
MESJ *e*S **SKSac 23 33 49.4 +0.7**
MESJ AMS AMS 00 04 57.0
comp=Z,18µm,18.8s
MESJ Messejana 96.69 46 *e*P **P 23 23 13.1 -0.3**
MESJ *e* 23 27 07.2
MESJ *e*S **SKSac 23 33 49.4 +0.7**
PNCL Nicolau / Gran 96.70 46 *e*P **P 23 23 13.3 -0.1**
PNCL Nicolau / Gran 96.70 46 *e*PP PP 23 27 09.1 +0.3
PNCL Nicolau / Gran 96.70 46 *e*LR LR 23 58 38.5
comp=Z,19µm,18.0s
LIS Lisbon 96.77 45 *e*P **P 23 23 13.3 -0.4**
LIS *e*S **SKSac 23 33 49.1 0.0**
LIS AMS AMS 00 06 04.6
comp=Z,13µm,20.0s
LIS Lisbon 96.77 45 *e*P **P 23 23 13.3 -0.4**
LIS *e*S **SKSac 23 33 49.0 0.0**
EDM Edmonton 97.25 337 PFAKE 23 23 30.0 +14
EDM LR LR
comp=Z,3µm,19.0s
PMTG Montargil 97.53 46 *e*P Pdif 23 23 18.4 +1.2
PMTG Montargil 97.53 46 *e*PP PP 23 27 16.2 +1.0
PMTG Montargil 97.53 46 *e*LR LR 23 58 32.1
comp=Z,11µm,22.0s
PBAR Barrancos 97.59 47 *e*P Pdif 23 23 21.1 +3.6
PBAR Barrancos 97.59 47 *e*PP PP 23 27 12.9 -2.8
PBAR Barrancos 97.59 47 *e*LR LR 23 58 38.3
comp=Z,40µm,20.0s
DZM Mont Dzumac 97.73 234 *e*PP PP 23 27 12.1 -4.2
comp=Z,732nm,25.2s
DZM *e*SKSac **SKSac 23 33 51.6 -3.8**
comp=Z,4µm,27.0s
DZM *e*SP **SP 23 36 01.2 -4.4**
comp=Z,4µm,25.5s

DZM *e*SS **SS 23 41 21.8 -1.2**
comp=Z,5µm,23.4s
DZM *e*LQ LQ 23 51 02.2
comp=Z,6µm,29.6s
DZM *e*LR LR 23 55 07.6
comp=Z,18µm,24.0s
PESTR Estremoz 97.75 46 *e*P Pdif 23 23 24.2 +5.9
PESTR Estremoz 97.75 46 *e*PP PP 23 27 15.8 -1.1
PESTR Estremoz 97.75 46 *e*LR LR 23 59 18.0
comp=Z,15µm,18.0s
FCC Fort Churchill 98.03 349 *e*P **P 23 23 18.2 -0.6**
FCC MLR MLR
comp=Z,5µm,20.0s
FCC Fort Churchill 98.03 349 *e*P **P 23 23 18.2 -0.6**
comp=Z,362nm,1.1s
FCC LR LR
comp=Z,5µm,20.0s
PCAS Casmilo, Conde 98.06 45 *e*P Pdif 23 23 22.4 +2.8
PCAS Casmilo, Conde 98.06 45 *e*PP PP 23 27 19.5 +0.3
PCAS Casmilo, Conde 98.06 45 *e*LR LR 23 56 32.0
comp=Z,15µm,18.0s
PMRV Marv??o 98.25 46 *e*P Pdif 23 23 23.7 +3.2
PMRV Marv??o 98.25 46 *e*PP PP 23 27 22.7 +2.0
PMRV *e*SKS **SKSac 23 34 01.9 +5.2**
PMRV Marv??o 98.25 46 *e*LQ LQ 23 54 10.5
PMRV *e*LR LR 23 58 42.1
comp=Z,13µm,16.0s
MTE Manteigas 98.83 45 *e*P Pdif 23 23 24.3 +1.2
MTE Manteigas 98.83 45 *e*PP PP 23 27 25.9 +0.7
MTE *e*SKS **SKSac 23 34 06.7 +7.0**
MTE Manteigas 98.83 45 *e*LQ LQ 23 53 02.6
MTE *e*LR LR 23 57 51.1
comp=Z,22µm,20.0s
MTE Manteigas 98.83 45 PFAKE 23 23 30.0 +6.9
MTE LR LR
comp=Z,21µm,20.0s
POLO Lamas de Olo 99.35 44 *e*P **Pdif 23 23 25.5 +0.1**
POLO Lamas de Olo 99.35 44 *e*PP PP 23 27 31.7 +2.5
POLO Lamas de Olo 99.35 44 *e*LR LR 23 56 26.3
comp=Z,8µm,18.0s
PGAV Gavieira, Arco 99.50 43 *e*P **Pdif 23 23 29.0 +2.9**
PGAV Gavieira, Arco 99.50 43 *e*PP PP 23 27 30.4 +0.1
PGAV *e*SKS 23 33 56.4
PGAV Gavieira, Arco 99.50 43 *e*LQ LQ 23 53 14.9
PGAV *e*LR LR 23 58 36.1
comp=Z,21µm,18.0s
MVO Moncorvo 99.63 45 *e*P **Pdif 23 23 29.2 +2.6**
MVO Moncorvo 99.63 45 *e*PP PP 23 27 33.3 +2.0
MVO *e*SKS SKSac 23 34 11.5 +7.8
MVO Moncorvo 99.63 45 *e*LQ LQ 23 53 31.4
MVO *e*LR LR 23 58 26.7
comp=Z,13µm,18.0s
ARMA Armidale 99.74 219 PFAKE 23 23 40.0 +12
ARMA LR LR
comp=Z,6µm,18.0s
AIS Amsterdam Isla 99.93 157 Pdif Pdif 23 23 16.0 -12
AIS PP PP 23 27 23.0 -9.1
AIS SP SP 23 36 09.0 -19
AIS SS SS 23 41 38.0 -14
AIS R 23 56 00.0
PAB San Pablo 100.07 47 PFAKE 23 23 40.0 +11
PAB LR LR
comp=Z,15µm,20.0s
PBRG Braganca 100.23 44 *e*P **Pdif 23 23 31.3 +2.1**
PBRG Braganca 100.23 44 *e*PP PP 23 27 34.7 -1.1
PBRG Braganca 100.23 44 *e*LR LR 23 58 48.0
comp=Z,17µm,20.0s
ESDC Sonseca Array 100.38 47 P **Pdif 23 23 28.6 -1.3**
comp=Z,2.6nm,0.8s,baz=247,slow=3.9,SNR=7.6
ESDC PP **PP 23 27 34.8 -2.2**
comp=Z,2.0nm,0.9s,baz=220,slow=7.3,SNR=4.1
ABPO Ambohimpanom 100.61 124 PFAKE 23 23 40.0 +8.2
ABPO LR LR
comp=Z,14µm,20.0s
DODT Dodoma, Tanzan 101.25 107 *i* P **Pdif 23 23 28.0 -6.7**
DODT *e*P x 23 27 20.4
DODT *e*P x 23 30 46.6
DODT *i* P x 23 30 56.2
DODT *i* P x 23 36 55.9
EIDS Eidsvold 104.15 221 PFAKE 23 24 00.0 +13
EIDS LR LR
comp=Z,7µm,19.0s
SJPF Ste Jean 104.17 46 *e*P **Pdif 23 23 47.2 +0.5**
comp=Z,118nm,1.5s
SJPF Ste Jean 104.17 46 *e*P **Pdif 23 23 47.2 +0.5**
SJPF pmax pmax
comp=Z,118nm,1.5s
SJPF Ste Jean 104.17 46 *e*P **Pdif 23 23 47.2 +0.5**
comp=Z,118nm,1.5s
BBOO Buckleboo 104.18 206 PFAKE 23 24 00.0 +13
BBOO LR LR
comp=Z,6µm,21.0s
VAL Valentia 105.35 35 *e*P **Pdif 23 23 54.5 +2.9**
VAL *e*PP **PP 23 28 11.7 -2.2**
KMBO Kilima Mbogo 105.65 104 PFAKE 23 28 20.0
KMBO LR LR
comp=Z,16µm,18.0s
SFJD Kangerlussuaq 106.28 9 *i* P **PP 23 28 21.8 +1.4**
SFJD Kangerlussuaq 106.28 9 PFAKE 23 28 20.0
SFJD LR LR
comp=Z,6µm,21.0s
WRAK Wrangell Islan 106.46 330 PFAKE 23 28 20.0
WRAK LR LR
comp=Z,3µm,20.0s
SGMF Saint Gilles 106.68 41 *e*P **Pdif 23 23 57.2 -0.5**
comp=Z,248nm,1.9s
SGMF Saint Gilles 106.68 41 *e*P **Pdif 23 23 57.2 -0.5**
SGMF pmax pmax
comp=Z,248nm,1.9s
SGMF Saint Gilles 106.68 41 *e*P **Pdif 23 23 57.2 -0.5**
comp=Z,248nm,1.9s
DLBC Dease Lake 107.04 333 *e*Pdif Pdif 23 24 09.4 +10
DLBC LR LR
comp=Z,4µm,20.0s
DYA Yadsworthy 107.36 39 PFAKE 23 28 20.0
DYA LR LR
comp=Z,14µm,19.0s
DSB Dublin 107.98 36 PFAKE 23 28 20.0
DSB LR LR
comp=Z,12µm,19.0s
ILULI Ilulissat 108.33 8 *i* P **PP 23 28 34.8 -0.6**
VSL Villasalto 108.42 54 PFAKE 23 28 20.0
VSL LR LR
comp=Z,20µm,18.0s
FORT Forrest 108.50 200 PFAKE 23 28 20.0
FORT LR LR
comp=Z,4µm,20.0s
BESE Bessie Mountai 108.94 331 PFAKE 23 28 20.0
BESE LR LR
comp=Z,2µm,18.0s
AVF Avril sur Loir 108.98 45 *e*P **Pdif 23 24 09.4 +1.4**
AVF Avril sur Loir 108.98 45 *e*P **Pdif 23 24 09.4 +1.4**
AVF Avril sur Loir 108.98 45 *e*P **Pdif 23 24 09.4 +1.4**
TARA Tarawa 109.11 256 PFAKE 23 28 30.0
TARA LR LR
comp=Z,4µm,20.0s
WDD Wield Dalam 109.80 60 PFAKE 23 28 30.0
WDD LR LR
comp=Z,46µm,20.0s
CLTB Caltabellotta 109.85 58 PFAKE 23 28 30.0
CLTB LR LR
comp=Z,15µm,18.0s
BNI Bardonecchia 109.89 48 PFAKE 23 28 30.0
BNI LR LR
comp=Z,11µm,20.0s
BORG Borgarnes 110.42 21 PFAKE 23 28 30.0
BORG LR LR
comp=Z,6µm,20.0s
ESK Eskdalemuir 110.73 35 PFAKE 23 28 30.0
ESK LR LR
comp=Z,14µm,19.0s
CTAO Charters Tower 111.00 220 PFAKE 23 28 30.0
CTAO LR LR
comp=Z,6µm,19.0s
EDI Edinburgh 111.11 35 PFAKE 23 28 30.0
EDI LR LR
comp=Z,7µm,19.0s
HNR Honiara 111.17 238 PFAKE 23 28 30.0
HNR LR LR
comp=Z,27µm,18.0s
VLC Villacollemand 111.61 50 PFAKE 23 28 30.0
VLC LR LR
comp=Z,13µm,20.0s
UCC Uccle 111.82 42 PFAKE 23 28 30.0

UCC LR LR
comp=Z,20µm,18.0s
CEL Celeste 112.01 58 PFAKE 23 28 30.0
CEL LR LR
comp=Z,20µm,21.0s
WLF Walferdange 112.15 44 PFAKE 23 28 30.0
WLF LR LR
comp=Z,28µm,20.0s
TUE Stuetta 112.23 48 PFAKE 23 28 30.0
TUE LR LR
comp=Z,16µm,20.0s
AQU L'Aquila 112.53 53 PFAKE 23 28 30.0
AQU LR LR
comp=Z,12µm,19.0s
MEM Membach 112.59 43 PFAKE 23 28 30.0
MEM LR LR
comp=Z,15µm,22.0s
BFO Black Forest 112.64 46 PFAKE 23 28 30.0
BFO LR LR
comp=Z,10µm,20.0s
CUC Castrocucco 112.86 56 PFAKE 23 28 30.0
CUC LR LR
comp=Z,18µm,20.0s
KULLO Kullorsuaq 112.97 5 *i* P **PP 23 29 06.0 -2.7**
FURI Furi 113.02 97 PFAKE 23 28 30.0
FURI LR LR
comp=Z,12µm,18.0s
TIP Timpagrande 113.06 58 PFAKE 23 28 30.0
TIP LR LR
comp=Z,18µm,21.0s
SUMG Summit 113.10 11 *i* P **PP 23 29 09.0 -1.2**
SUMG Summit 113.10 11 PFAKE 23 28 30.0
SUMG LR LR
comp=Z,7µm,20.0s
AS12 Alice Springs 113.29 208 *e*PKiKP **PKiKP 23 28 20.1 -1.4**
ASAR Alice Springs 113.29 208 PKiKP **PKiKP 23 28 20.1 -1.4**
comp=Z,0.7nm,0.7s,baz=119,slow=2.0,SNR=6.0
FETA Feichten 113.33 48⇑ *i*pPKiKP pPKiKP 23 28 27.7 -0.6
comp=Z,12nm,1.2s
STU Stuttgart 113.36 46 PFAKE 23 28 30.0
STU LR LR
comp=Z,10µm,20.0s
RAGM Ragged Mountai 113.96 329 PFAKE 23 28 30.0
RAGM LR LR
comp=Z,3µm,21.0s
WTTA Wattenberg 113.98 48⇑ *i*pPKPdf pPKiKP 23 28 28.7 -0.8
comp=Z,12nm,1.2s
ABTA Abfaltersbach 114.24 49⇑ *i*PKiKP **PKiKP 23 28 25.1 +2.7**
comp=Z,9.7nm,1.1s
TRI Trieste 114.47 50 PFAKE 23 28 30.0 +7.3
TRI LR LR
comp=Z,10µm,20.0s
GRFO Grafenberg 114.97 46 PFAKE 23 28 40.0 +16
GRFO LR LR
comp=Z,13µm,19.0s
GRF Grafenberg Arr 114.97 46 *e*PKiKP PKiKP 23 28 31.3 +7.7
GRF *e*PP PP 23 29 29.0 +5.4
GRF *e*L L 00 17 53.1
comp=Z,14µm,18.8s
KLU Klutina 115.09 330 PFAKE 23 28 40.0 +16
KLU LR LR
comp=Z,2µm,19.0s
EGAK Eagle 115.22 334 PFAKE 23 28 40.0 +16
EGAK LR LR
comp=Z,4µm,19.0s
OBKA Obir 115.34 50⇑ *i*PKPdf **PKPdf 23 28 23.7 -0.8**
comp=Z,9.7nm,0.8s
DOT Dot Lake 115.60 332 *e*pPKPdf PKPdf 23 28 32.6 +8.1
MOX Moxa 115.67 45 *e*L L 00 17 46.4
comp=Z,13µm,19.7s
PAX Paxson 115.74 331 PFAKE 23 28 40.0 +15
PAX LR LR
comp=Z,3µm,19.0s
SCRK Sand Creek 115.76 333 PFAKE 23 28 40.0 +15
SCRK LR LR
comp=Z,4µm,18.0s
SEW Seward 115.78 327 PFAKE 23 28 40.0 +15
SEW LR LR
comp=Z,3µm,19.0s
SCM Sheep Creek Mo 115.84 330 PFAKE 23 28 40.0 +15
SCM LR LR
comp=Z,2µm,21.0s
NKC Novy Kostel 115.93 45 *e*PDIFF **Pdif 23 24 41.7 +2.9**
NKC *e*PKP **PKiKP 23 28 26.5 +1.0**
NKC *e*pPKP PKPdf 23 28 32.5 +7.0
NKC *e*PP **PP 23 29 26.4 -3.9**
NKC *e*SKP 23 31 54.2
NKC *e*SKS **SKSac 23 35 16.4 +2.7**
NKC *e*SKKS **SKKSac 23 36 30.9 +1.7**
NKC *e*SDIF **Sdif 23 37 17.3 +3.5**
NKC *e*SP **SP 23 39 09.0 +0.9**
NKC *ex* x 23 40 27.9
NKC *e*SS **SS 23 45 31.0 +0.2**
NKC AMS AMS 00 18 30.0
comp=Z,8µm,18.9s
NKC Novy Kostel 115.93 45 *e*P **Pdif 23 24 41.7 +2.9**
NKC *e* 23 28 26.5
NKC *e* 23 28 32.5
NKC *e* 23 29 26.4
NKC *e* 23 31 54.2
NKC *e* 23 35 16.4
NKC *e*SP SP 23 39 09.0 +0.9
NKC *e* 23 40 27.9
NKC *e*SS **SS 23 45 31.0 +0.2**
NKC MLR MLR
comp=Z,8µm,18.9s
GVD Gavdhos 115.94 65 PFAKE 23 28 40.0 +14
GVD LR LR
comp=Z,46µm,20.0s
KDAK Kodiak Island 115.97 324 PFAKE 23 28 40.0 +15
KDAK LR LR
comp=Z,4µm,18.0s
GEC2 GERESS Array S 115.97 47 *e*PKIKP **PKPdf 23 28 24.8 -0.9**
GEC2 *e*SP SP 23 39 08.1 -0.6
GEC2 GERESS Array S 115.97 47 *e*PKPdf **PKPdf 23 28 24.8 -0.9**
GEC2 *e*PKPdf **PKiKP 23 28 25.2 -0.4**
GEC2 *e*SP SP 23 39 08.1 -0.6
GERES GERESS Array B 115.97 47 PKP **PKPdf 23 28 25.1 -0.6**
comp=Z,3.3nm,0.7s,baz=215,slow=1.6,SNR=18
GERES PKKPbc PKKPab 23 39 08.1 +8.9
comp=Z,0.5nm,0.7s,baz=66,slow=3.3,SNR=4.2
KHC Kasperske Hory 116.04 47 *e*PKP **PKPdf 23 28 30.0 +4.3**
KHC Kasperske Hory 116.04 47 *e*PKIKP **PKPdf 23 28 30.0 +4.3**
BRLK Bradley Lake 116.22 327 PFAKE 23 28 40.0 +14
BRLK LR LR
comp=Z,3µm,20.0s
SML Sawmill 116.23 329 PFAKE 23 28 40.0 +14
SML LR LR
comp=Z,900nm,20.0s
ARSA Arzberg 116.28 49⇓ *i*PKPdf **PKPdf 23 28 25.8 -0.4**
comp=Z,9.6nm,0.8s
DDM Donnelly Dome 116.34 332 PFAKE 23 28 40.0 +14
DDM LR LR
comp=Z,4µm,18.0s
RC01 Rabbit Creek A 116.42 328 PFAKE 23 28 40.0 +14
RC01 LR LR
comp=Z,2µm,19.0s
WRA Warramunga Arr 116.51 210 PKP **PKPdf 23 28 26.1 -1.5**
comp=Z,1.0nm,0.6s,baz=169,slow=1.4,SNR=12
WRA PKKPbc **PKKPab 23 39 02.9 +0.5**
comp=Z,2.5nm,0.8s,baz=313,slow=2.2,SNR=11
WRAB Tennant Creek 116.52 210⇓ *i*PKIKP **PKPdf 23 28 28.7 +1.0**
WRAB MLR MLR
comp=Z,12µm,17.0s
WRAB Tennant Creek 116.52 210 PFAKE 23 28 40.0 +12
WRAB LR LR
comp=Z,12µm,22.0s
MSEY Mahe Island 116.53 120 PFAKE 23 28 40.0 +12
MSEY LR LR
comp=Z,19µm,19.0s
AGG Agios Georgios 116.75 60 PFAKE 23 28 40.0 +13
AGG LR LR
comp=Z,17µm,19.0s
CLL Collm 116.75 45 *e*(Pdif) **Pdif 23 24 47.0 +4.6**
CLL *e*PKiKP **PKPdf 23 28 27.0 0.0**
CLL *i* pPKiKP **pPKiKP 23 28 34.1 -0.3**
comp=Z,11nm,1.1s
CLL *i* 23 28 39.5
CLL *e*PP **PP 23 29 35.0 -1.0**
CLL *e* 23 29 45.0
CLL *e*PPP PPP 23 32 12.0
CLL *e*SKSac **SKSac 23 35 21.0 +4.3**
CLL *e*SKKSac **SKKSac 23 36 37.0 +2.4**
CLL *e*(Sdif) 23 37 34.0
CLL *e*PS **PKKPdf 23 39 20.0 -1.3**
CLL *e*PPS PPS 23 40 38.0
CLL *e* 23 44 36.0
CLL *e*SS **SS 23 45 39.0 -2.4**
CLL *e*SSS SSS 23 50 06.0
CLL *e* 23 50 54.0
CLL *e*SSSS 23 53 42.0
CLL *e* 23 56 30.0
CLL Lm MLR 00 18 00.0
comp=N,6µm,19.9s
CLL Lm MLR 00 18 00.0
comp=E,7µm,20.5s
CLL Lm MLR 00 18 00.0
comp=Z,10µm,19.8s
CLL Collm 116.75 45 *e*PKIKP **PKPdf 23 28 27.0 0.0**
CLL *i* 23 28 34.1
CLL *e* 23 29 35.0
CLL *e* 23 35 21.0
CLL MLR MLR
comp=Z,10µm,19.8s
CLL Collm 116.75 45 PFAKE 23 28 40.0 +13
CLL LR LR
comp=Z,12µm,20.0s
CONA Conrad Observa 116.80 49⇑ *i*PKPdf **PKPdf 23 28 26.2 -1.1**
comp=Z,8.0nm,0.8s
PRA Prague 116.97 46 *e*PDIFF **Pdif 23 24 46.2 +2.8**
PRA *e*pPKP pPKPdf 23 28 33.0 -1.9
PRA *e*PP **PP 23 29 38.1 +0.5**
PRA *e*SKP 23 32 06.2
PRA *e*SKS **SKSac 23 35 19.6 +2.1**
PRA *e*SKKS **SKKSac 23 36 38.0 +1.8**
PRA *e*XS 23 37 32.7
PRA *e*SP **SP 23 39 17.3 -0.3**
PRA *ex* x 23 40 44.3
PRA *e*SS **SS 23 45 42.0 -2.4**
PRA AMS AMS 00 19 40.0
comp=Z,11µm,17.8s
PRA Prague 116.97 46 *e*P **Pdif 23 24 46.2 +2.8**
PRA *e* 23 29 38.1
PRA *e* 23 32 06.2
PRA *e* 23 35 19.6
PRA *e*SP SP 23 39 17.3 -0.3
PRA *e* 23 40 44.3
PRA *e*SS **SS 23 45 42.0 -2.4**
PRA MLR MLR
comp=Z,11µm,17.8s
PRU Pruhonice 117.00 46 *e*PDIFF **Pdif 23 24 44.4 +0.9**
PRU *e*PKP **PKiKP 23 28 30.8 +3.3**
PRU *ex* x 23 28 38.2
PRU *e*PP PP 23 29 32.5 -5.2
PRU *e*SKP 23 32 05.4
PRU *e*SKS **SKSac 23 35 20.4 +2.7**
PRU *e*SKKS **SKKSac 23 36 39.2 +2.9**
PRU *e*SDIF **Sdif 23 37 30.8 +8.1**
PRU *e*SP **SP 23 39 19.7 +1.9**
PRU *ex* x 23 40 43.0
PRU *e*SS **SS 23 45 44.7 0.0**
PRU AMS AMS 00 19 50.0
comp=Z,10µm,17.6s
PRU Pruhonice 117.00 46 *e*P **Pdif 23 24 44.4 +0.9**
PRU *e* 23 32 05.4
PRU *e* 23 35 20.4
PRU *e*SP SP 23 39 19.7 +1.9
PRU *e* 23 40 43.0
PRU *e*SS **SS 23 45 44.7 0.0**
PRU MLR MLR
comp=Z,10µm,17.6s
BRG Berggiesshubel 117.07 45 PDIF **Pdif 23 24 46.6 +2.8**
BRG Berggiesshubel 117.07 45 PKP PKPdf 23 28 34.9 +7.3
comp=Z,17nm,1.3s
BRG PP **PP 23 29 34.0 -4.2**
BRG *e* 23 32 25.0
BRG SKS **SKSac 23 35 21.0 +3.1**
BRG SKKS **SKKSac 23 36 42.0 +5.2**
BRG SDIF Sdif 23 37 43.0 +20
BRG PS PS 23 39 36.0 +14
BRG *e* 23 40 45.0
BRG SS **SS 23 45 44.0 -1.7**
comp=Z,9µm,18.3s
comp=N,5µm,18.7s
comp=E,8µm,18.7s
BRG Berggiesshubel 117.07 45 P **Pdif 23 24 46.6 +2.8**
BRG 23 35 21.0
BRG *e* 23 40 45.0
BRG SS SS 23 45 44.0 -1.7
BRG pmax pmax
comp=Z,17nm,1.3s
BRG MLR MLR
comp=Z,9µm,18.3s
BRG MLR MLR
comp=N,5µm,18.7s
BRG MLR MLR
comp=E,8µm,18.7s
HDA Harding Lake 117.08 332 PFAKE 23 28 40.0 +13
HDA LR LR
comp=Z,4µm,20.0s
GOPC GO Pecny, Ondr 117.10 47 *e*PDIFF **Pdif 23 24 47.1 +3.1**
GOPC *e*pPKP **pPKPdf 23 28 34.3 -0.9**
GOPC *e*PP **PP 23 29 34.0 -4.5**
GOPC *ex* x 23 31 26.4
GOPC *e*SKP 23 32 02.9
GOPC *e*SKS **SKSac 23 35 20.9 +2.8**
GOPC *e*SKKS **SKKSac 23 36 40.2 +3.1**
GOPC *e*SDIF **Sdif 23 37 29.1 +5.4**
GOPC *e*SP **SP 23 39 20.0 +1.2**
GOPC *ex* x 23 40 43.5
GOPC *e*SS **SS 23 45 42.4 -3.8**
GOPC AMS AMS 00 19 50.0
comp=Z,10µm,17.8s
TREC Trest 117.22 47 AMS AMS 00 23 50.0
comp=Z,8µm,17.7s
ILAR Eielson Array 117.25 333 PKP **PKPdf 23 28 26.9 -0.6**
comp=Z,2.7nm,0.9s,baz=141,slow=1.9,SNR=7.8
ILAR PP PP 23 29 47.5 +8.4
comp=Z,3.9nm,1.0s,baz=104,slow=4.8,SNR=5.1
ILAR PKKPbc PKKPbc 23 39 06.5 +14
comp=Z,1.1nm,1.1s,baz=335,slow=4.0,SNR=4.7
ILAR Eielson Array 117.25 333 PKIKP **PKPdf 23 28 27.0 -0.6**
ILB Eielson Array 117.25 333 *e*PKPdf **PKPdf 23 28 26.9 -0.6**
ILB *e*PP PP 23 29 47.5 +8.4
PVCC Panska Ves 117.27 46 *e*PDIFF **Pdif 23 24 47.7 +3.0**
PVCC *e*PKP **PKPdf 23 28 27.4 -0.6**
PVCC *e*pPKP **pPKPdf 23 28 35.1 -0.4**
PVCC *e*PP **PP 23 29 34.7 -4.9**
PVCC *e*SKP 23 32 05.2
PVCC *e*SKS **SKSac 23 35 21.2 +2.6**
PVCC *e*SKKS **SKKSac 23 36 42.6 +4.5**
PVCC *ex* x 23 37 41.6
PVCC *e*SP **SP 23 39 19.2 -1.0**
PVCC *ex* x 23 40 47.3
PVCC *e*SS **SS 23 45 43.6 -4.6**
PVCC AMS AMS 00 19 20.0
comp=Z,12µm,18.6s
PVCC Panska Ves 117.27 46 *e*P **Pdif 23 24 47.7 +3.0**
PVCC *e* 23 28 27.4
PVCC *e* 23 28 35.1
PVCC *e* 23 32 05.2
PVCC *e* 23 35 21.2
PVCC *e*SP SP 23 39 19.2 -1.0
PVCC *e* 23 40 47.3
PVCC *e*SS **SS 23 45 43.6 -4.6**
PVCC MLR MLR
comp=Z,12µm,18.6s
RND Reindeer 117.27 331 PFAKE 23 28 40.0 +12
RND LR LR
comp=Z,3µm,19.0s
BER Bergen 117.33 33 *e*PP PP 23 29 39.3 -0.5
MCK McKinley 117.47 331 PFAKE 23 28 40.0 +12
MCK LR LR
comp=Z,3µm,20.0s
CCB Clear Creek Bu 117.52 332 PFAKE 23 28 40.0 +12
CCB LR LR
comp=Z,4µm,20.0s
WRH Wood River Hil 117.53 332 PFAKE 23 28 40.0 +12
WRH LR LR
comp=Z,5µm,20.0s
DIVS Divibare 117.58 54⇑ *i*P **PKPdf 23 28 28.2 -0.7**
FYU Fort Yukon 117.63 335 PFAKE 23 28 40.0 +12
FYU LR LR
comp=Z,4µm,18.0s
COLA College 117.66 332 PFAKE 23 28 40.0 +12
COLA LR LR
comp=Z,3µm,19.0s
SANT Santorini 117.66 64 PFAKE 23 28 40.0 +11
SANT LR LR
comp=Z,8µm,22.0s
PKSM Moragy 117.70 52⇑ PKIKP **PKPdf 23 28 28.7 -0.2**
PKSM Moragy 117.70 52⇑ *i*P **PKPdf 23 28 28.7 -0.2**
COEN Coen 117.72 221 PFAKE 23 28 40.0 +10
COEN LR LR
comp=Z,5µm,20.0s
RUE Ruedersdorf 117.72 44 PFAKE 23 28 40.0 +11
RUE LR LR
comp=Z,17µm,20.0s
HOMB Homborsund 117.74 36 *e*PP PP 23 29 43.5 +0.8
HOMB *e*SS SS 23 45 54.8 +0.9
FOO Floro 117.80 32 *e*PP PP 23 29 43.9 +0.9
MDM Murphy Dome 117.84 332 PFAKE 23 28 40.0 +11
MDM LR LR
comp=Z,3µm,20.0s
TRF Thorofare Moun 117.85 330 *e*PKPdf **PKPdf 23 28 31.4 +2.4**
TRF LR LR
comp=Z,3µm,20.0s
VRAC Vranov 117.87 48 PKP **PKPdf 23 28 28.9 -0.3**
comp=Z,2.2nm,0.6s,baz=270,slow=3.0,SNR=3.7
VRAC Vranov 117.87 48⇑ PKIKP **PKPdf 23 28 29.2 0.0**
VRAC Vranov 117.87 48⇑ *i*P **PKPdf 23 28 29.2 0.0**
BWN Browne 117.90 331 PFAKE 23 28 40.0 +11
BWN LR LR
comp=Z,5µm,19.0s
APE Apeiranthos 118.05 63⇓ *i*PKIKP **PKPdf 23 28 29.4 -0.6**
UPC Upice 118.08 46 *e*pPKP pPKPdf 23 28 36.8 -0.2
UPC Upice 118.08 46 *e*PKIKP pPKPdf 23 28 36.8 -0.2
KTH Kantishna Hill 118.15 330 PFAKE 23 28 40.0 +11
KTH LR LR
comp=Z,3µm,21.0s
DPC Dobruska-Polom 118.18 47 *e*PDIFF **Pdif 23 24 50.7 +1.8**
DPC *e*PKP **PKiKP 23 28 29.9 0.0**
DPC *e*pPKP **pPKPdf 23 28 37.1 -0.2**
DPC *e*PP PP 23 29 40.6 -5.4
DPC *ex* x 23 32 16.9
DPC *e*SKS **SKSac 23 35 26.0 +3.9**
DPC *e*SKKS **SKKSac 23 36 44.2 -0.1**
DPC *e*XS 23 37 43.9
DPC *e*PS **PS 23 39 33.1 +1.4**
DPC *ex* x 23 40 53.3
DPC *e*SS **SS 23 45 59.8 -0.4**
DPC AMS AMS 00 18 30.0
DPC Dobruska-Polom 118.18 47 *e*P **Pdif 23 24 50.7 +1.8**
DPC *e* 23 28 29.9
DPC *e* 23 28 37.1
DPC *e* 23 32 16.9
DPC *e* 23 35 26.0
DPC *e*SP SP 23 39 33.1 +4.5
DPC *e* 23 40 53.3
DPC *e*SS **SS 23 45 59.8 -0.4**
DPC Dobruska-Polom 118.18 47 PFAKE 23 28 40.0 +10
DPC LR LR
comp=Z,56µm,20.0s
JMIC Jan Mayen 118.20 20 *e*PP PP 23 29 45.3 -0.2
KRLC Kraliky 118.32 47 *e*PKP **PKPdf 23 28 30.3 +0.2**
KRLC *e*pPKP **pPKPdf 23 28 37.0 -0.6**
KRLC Kraliky 118.32 47 *e*PKIKP **PKPdf 23 28 30.3 +0.2**
KRLC *e* 23 28 37.0
PPLA Purkeypile 118.33 329 PFAKE 23 28 40.0 +10
PPLA LR LR
comp=Z,3µm,20.0s
RGN Rugen 118.41 41 PFAKE 23 28 40.0 +10
RGN LR LR
comp=Z,11µm,22.0s
COP Copenhagen 118.47 40 *i* P **PP 23 29 46.5 -1.2**
CAST Castle Rocks 118.54 330 PFAKE 23 28 40.0 +10
CAST LR LR
comp=Z,2µm,19.0s
MORC Moravsky Berou 118.63 48⇑ PKIKP **PKPdf 23 28 29.8 -0.9**
MORC Moravsky Berou 118.63 48⇑ *i*P **PKPdf 23 28 29.8 -0.9**
MORC Moravsky Berou 118.63 48 PFAKE 23 28 40.0 +9.3
MORC LR LR
comp=Z,10µm,19.0s
MLY Manley 118.80 332 PFAKE 23 28 40.0 +9.4
MLY LR LR
comp=Z,5µm,20.0s
VYHS Vyhne 118.83 49 *e*PKIKP **PKPdf 23 28 30.8 -0.3**
VYHS *e* 23 28 37.9
VYHS Vyhne 118.83 49 *e*PKP **PKPdf 23 28 30.8 -0.3**
VYHS *e* 23 28 37.9
KONO Kongsberg 118.88 35 *e* **PP 23 29 50.1 -0.4**
KONO Kongsberg 118.88 35 PFAKE 23 28 40.0 +9.2
KONO LR LR
comp=Z,10µm,22.0s
MMB Musomiste 118.88 58⇑ PKIKP **PKPdf 23 28 30.6 -0.9**
MMB Musomiste 118.88 58⇑ *i*P **PKPdf 23 28 30.6 -0.9**
AKN Aaknes 118.89 32 *e* **PP 23 29 50.0 -0.6**
VTS Vitosha 118.99 57⇑ PKIKP **PKPdf 23 28 30.8 -1.0**
VTS Vitosha 118.99 57⇑ *i*P **PKPdf 23 28 30.8 -1.0**
OKC Ostrava-Krasne 119.01 48 *e*PDIFF **Pdif 23 24 54.5 +2.0**
OKC *e*PKP **PKPdf 23 28 31.0 -0.4**
OKC *e*pPKP **pPKPdf 23 28 38.3 -0.5**
OKC *e*PP **PP 23 29 53.1 +1.4**
OKC *ex* x 23 31 37.9
OKC *ex* x 23 32 15.8
OKC *e*SKS **SKSac 23 35 28.2 +3.3**
OKC *e*SKKS **SKKSac 23 36 50.0 +0.3**
OKC *e*SDIF **Sdif 23 37 47.0 +7.5**
OKC *e*SP **SP 23 39 28.8 -7.2**
OKC *ex* x 23 40 56.9
OKC AMS AMS 00 21 50.0
comp=Z,4µm,17.1s
OKC Ostrava-Krasne 119.01 48 *e*P **Pdif 23 24 54.5 +2.0**
OKC *e* 23 28 31.0
OKC *e* 23 28 38.3
OKC *e* 23 29 53.1
OKC *e* 23 35 28.2
OKC *e*SP SP 23 39 28.8 -7.2
OKC *e* 23 40 56.9
OKC MLR MLR
comp=Z,4µm,17.1s
PSZ Piszkesteto 119.22 50 PFAKE 23 28 40.0 +8.1
PSZ LR LR
comp=Z,11µm,22.0s
PMG Port Moresby 119.26 228 PFAKE 23 28 50.0 +17
PMG LR LR
comp=Z,18µm,20.0s
BZS Buzias 119.29 53⇑ PKIKP **PKPdf 23 28 31.8 -0.2**
BZS Buzias 119.29 53⇑ *i*P **PKPdf 23 28 31.8 -0.2**
BSD Bornholm Skovb 119.49 41 *i* P **PP 23 29 54.4 -0.4**
COLD Coldfoot 119.66 334 *e*pPKPdf **pPKPdf 23 28 40.4 +0.9**
COLD LR LR
comp=Z,3µm,20.0s
MPEP Malo Peshtene 119.67 56 *e*P **PKPdf 23 28 32.0 -0.9**
MBWA Marble Bar 119.69 194 PFAKE 23 28 50.0 +16
MBWA LR LR
comp=Z,6µm,19.0s
KECS Kecovo 119.82 50 *e*PKIKP **PKPdf 23 28 32.3 -0.7**
KECS *e* 23 28 40.4
KECS Kecovo 119.82 50 *e*PKP **PKPdf 23 28 32.2 -0.7**
KECS *e* 23 28 40.4
GZR Gura Zlata 119.93 54⇓ PKIKP **PKPdf 23 28 33.0 -0.4**
GZR Gura Zlata 119.93 54⇓ *i*P **PKPdf 23 28 33.0 -0.4**
KDZ Kurdzhali 120.05 59⇓ PKIKP **PKPdf 23 28 32.8 -0.9**
KDZ Kurdzhali 120.05 59⇓ *i*P **PKPdf 23 28 32.8 -0.9**
NIE Niedzica 120.11 49 *e*PKP **PKPdf 23 28 33.5 -0.1**
NIE *e*PS PS 23 40 01.1 +12
NIE LMZ LR 00 23 35.8
NIE Niedzica 120.11 49 *e*PKIKP **PKPdf 23 28 33.5 -0.1**
OJC Ojcow 120.14 48 *e*PKP **PKPdf 23 28 33.6 +0.1**
OJC *e*PS PS 23 39 59.4 +10
OJC LMZ LR 00 16 33.3
OJC Ojcow 120.14 48 *e*PKIKP **PKPdf 23 28 33.6 +0.1**
NB2 NORSAR Subarra 120.20 34 PKPdf **PKPdf 23 28 35.5 +2.1**
comp=Z,10nm,1.1s,baz=248,slow=1.9
NB2 NORSAR Subarra 120.20 34 PKPdf **PKPdf 23 28 35.5 +2.1**
baz=248,slow=1.9
NB200 NORSAR Array S 120.20 34 *e*PKPdf **PKPdf 23 28 32.9 -0.5**
NOA NORSAR Array B 120.20 34 PKP **PKPdf 23 28 32.9 -0.5**
comp=Z,1.3nm,0.9s,baz=193,slow=5.8,SNR=3.7
NC602 NORSAR Array S 120.22 35 *e*PP PP 23 29 59.0 -0.7
NC602 *e*SS SS 23 46 37.4 +11
NB201 NORSAR Array S 120.24 34 *e*PKPdf **PKPdf 23 28 32.8 -0.6**
IM04 Indian Mountai 120.36 332 *e*PKPdf **PKPdf 23 28 36.2 +2.7**
DRGR 120.48 52⇑ PKIKP **PKPdf 23 28 34.2 -0.2**
DRGR 120.48 52⇑ *i*P **PKPdf 23 28 34.2 -0.2**
CRVS Cervenica-Dubn 120.58 50 *e*PKIKP PKPdf 23 28 41.3 +6.8
CRVS Cervenica-Dubn 120.58 50 *e*PKP PKPdf 23 28 41.3 +6.8
STHS Stebnicka Huta 120.66 49 *e*PKIKP **PKPdf 23 28 36.1 +1.5**

STHS e 23 28 42.6
STHS Stebnicka Huta 120.66 49 *e*PKP **PKPdf 23 28 36.0 +1.5**
STHS e 23 28 42.6
DAMY Dhamar 120.88 96 PFAKE
DAMY LR LR
comp=Z,17µm,19.0s
TRPA Tarpa 120.92 51⇑ *i*P **PKPdf 23 28 34.3 -0.8**
HFS Hagfors 120.95 36 PKP **PKPdf 23 28 33.4 -1.4**
comp=Z,4.1nm,0.9s,baz=149,slow=3.1,SNR=6.7
UZH Uzhgorod 120.97 50 *e*PKIKP **PKPdf 23 28 34.6 -0.6**
UZH *i* 23 28 42.0
UZH e 23 32 46.2
UZH e 23 46 53.2
KOLS Kolonicke sedl 121.08 50 *e*PKIKP **PKPdf 23 28 35.0 -0.4**
KOLS e 23 28 42.2
KOLS Kolonicke sedl 121.08 50 *e*PKP **PKPdf 23 28 35.0 -0.4**
KOLS e 23 28 42.2
ARR Arges 121.11 55⇑ *i*P **PKPdf 23 28 35.3 -0.3**
UNV Unalaska Valle 121.22 316 PFAKE
UNV LR LR
comp=Z,2µm,19.0s
VOIR 121.40 55⇑PKIKP **PKPdf 23 28 35.9 -0.3**
VOIR 121.40 55⇑ *i*P **PKPdf 23 28 35.9 -0.3**
EIL Elat 121.48 75 PKP **PKPdf 23 28 36.5 -0.3**
comp=Z,4.3nm,0.9s,baz=306,slow=9.3,SNR=3.9
EIL PP **PP 23 30 09.7 +0.6**
comp=Z,5.6nm,1.0s,baz=5.6,slow=2.0,SNR=6.3
KWP Kalwaria Pacla 121.62 49 *e*PKP **PKPdf 23 28 36.3 -0.1**
KWP LMZ LR 00 22 21.5
KWP Kalwaria Pacla 121.62 49⇑PKIKP **PKPdf 23 28 35.9 -0.5**
KWP Kalwaria Pacla 121.62 49⇑ *i*P **PKPdf 23 28 35.9 -0.5**
KWP Kalwaria Pacla 121.62 49 PFAKE
KWP LR LR
comp=Z,12µm,20.0s
ISP Isparta 121.93 65 PFAKE 23 28 50.0 +12
ISP LR LR
comp=Z,12µm,20.0s
MLR Muntele Rosu 122.00 55 PKP **PKPdf 23 28 36.7 -0.7**
comp=Z,1.9nm,0.8s,baz=164,slow=1.8,SNR=15
MLR PP **PP 23 30 14.4 +1.9**
comp=Z,4.5nm,1.4s,baz=281,slow=3.8,SNR=4.7
MLR Muntele Rosu 122.00 55⇑ *i*P **PKPdf 23 28 36.8 -0.7**
PRD Provadia 122.03 58 *e*P **PKPdf 23 28 36.0 -1.4**
BURAR Bucovina Array 122.37 52⇑PKIKP **PKPdf 23 28 38.8 +0.7**
BURAR Bucovina Array 122.37 52⇑ *i*P **PKPdf 23 28 38.8 +0.7**
LVV L'vov 122.49 50 *e*PKIKP **PKPdf 23 28 37.2 -0.9**
LVV e 23 33 01.2
LVV e 23 40 05.4
LVV MLR MLR
comp=E,8µm,18.0s
LVV MLR MLR
comp=N,2µm,20.0s
LVV MLR MLR
comp=Z,7µm,19.0s
PLOR Plostina 122.60 55⇑PKIKP **PKPdf 23 28 37.2 -1.3**
PLOR Plostina 122.60 55⇑ *i*P **PKPdf 23 28 37.2 -1.3**
VRI Vrincioaia 122.65 55⇑PKIKP **PKPdf 23 28 37.5 -1.0**
VRI Vrincioaia 122.65 55⇑ *i*P **PKPdf 23 28 37.5 -1.0**
MSAB Monastry St. A 122.67 57⇑ *i*P **PKPdf 23 28 38.3 -0.3**
CSS Prodhromos 122.71 69 *e*PKPdf **PKPdf 23 28 38.4 -0.6**
CSS LR LR
comp=Z,1µm,19.0s
PSN Preselentsi 122.75 58⇑PKIKP **PKPdf 23 28 38.5 -0.2**
PSN Preselentsi 122.75 58⇑ *i*P **PKPdf 23 28 38.5 -0.2**
PSN Preselentsi 122.75 58 *e*P **PKPdf 23 28 38.2 -0.5**
TESR Tescani 122.85 54⇑ *i*P **PKPdf 23 28 37.6 -1.3**
TLB Topalu 123.01 57⇓PKIKP **PKPdf 23 28 38.7 -0.5**
TLB Topalu 123.01 57⇓ *i*P **PKPdf 23 28 38.7 -0.5**
TIRR Tirgusor 123.20 57⇑PKIKP **PKPdf 23 28 39.3 -0.3**
TIRR Tirgusor 123.20 57⇑ *i*P **PKPdf 23 28 39.3 -0.3**
TIRR Tirgusor 123.20 57 *e*PKPdf **PKPdf 23 28 38.9 -0.7**
TIRR LR LR
comp=Z,13µm,19.0s
MMAI Mount Meron Ar 123.38 72 PKP **PKPdf 23 28 39.9 -0.5**
comp=Z,3.0nm,0.8s,baz=304,slow=8.2,SNR=5.9
GIUM Giurgiulesti 123.47 56⇑ *i*P **PKPdf 23 28 39.8 -0.2**
SUW Suwalki 123.51 45 *e*PKP **PKPdf 23 28 39.4 -0.5**
SUW LMZ LR 00 19 15.8
SUW Suwalki 123.51 45 *e*PKIKP **PKPdf 23 28 38.9 -1.0**
SUW MLR MLR
comp=Z,11µm,22.0s
SUW Suwalki 123.51 45 *e*PKPdf **PKPdf 23 28 38.9 -1.0**
SUW LR LR
comp=Z,11µm,22.0s
ASF Jabal al Asfar 124.13 74 PKP **PKPdf 23 28 41.9 0.0**
comp=Z,3.6nm,0.9s,baz=144,slow=7.5,SNR=4.7
H11S2 WAKE ISLAND Hyd 124.30 267 T T 01 44 56.1
baz=126,slow=75,SNR=192
H11S1 WAKE ISLAND Hyd 124.31 267 T T 01 45 07.6
baz=126,slow=75,SNR=129
H11S3 WAKE ISLAND Hyd 124.32 267 T T 01 44 57.3
baz=126,slow=75,SNR=162
SPIA Saint Paul Isl 124.38 319 PFAKE 23 28 50.0 +8.6
SPIA LR LR
comp=Z,3µm,20.0s
ANTO Ankara 124.39 63⇓PKIKP **PKPdf 23 28 41.5 -0.6**
ANTO Ankara 124.39 63⇓ *i*P **PKPdf 23 28 41.5 -0.6**
ANTO Ankara 124.39 63 *e*PKPdf **PKPdf 23 28 42.3 +0.1**
ANTO LR LR
comp=Z,11µm,19.0s
KIS Kishinev 124.42 54 *e*PKP **PKPdf 23 28 40.0 -1.8**
KIS Kishinev 124.42 54 *e*PP PP 23 30 21.0 -7.6
KIS Kishinev 124.42 54 *e*PS PS 23 40 30.0 +2.6
KIS Kishinev 124.42 54 *e*PKIKP **PKPdf 23 28 40.0 -1.8**
KIS e 23 28 48.0
KIS e 23 28 51.0
KIS *e*PPP PPP 23 33 04.0
KIS e 23 35 50.0
KIS *e*PS **PS 23 40 30.0 +2.7**
KIS MLR MLR
comp=Z,11µm,20.0s
KIS MLR MLR
comp=E,7µm,20.0s
KIS MLR MLR
comp=Z,12µm,20.0s
KIS MLR MLR
comp=N,3µm,19.0s
WAKE Wake Island 124.78 268 PFAKE 23 29 00.0 +17
WAKE LR LR
comp=Z,4µm,20.0s
DGAR Diego Garcia 124.80 138 PFAKE 23 29 00.0 +16
DGAR LR LR
comp=Z,8µm,20.0s
BR101 Keskin Array S 124.93 64 *e*PKPdf **PKPdf 23 28 42.6 -0.7**
BRTR Keskin Array B 124.93 64 PKP **PKPdf 23 28 42.6 -0.7**
comp=Z,8.4nm,0.9s,baz=192,slow=2.7,SNR=41
TNA Tin City 125.69 329 *e*pPKPdf **pPKPdf 23 28 50.3 -0.8**
TNA LR LR
comp=Z,3µm,19.0s
NACGM Naroch 125.79 44 *e*PKP **PKPdf 23 28 47.0 +2.8**
KIEV Kiev 125.91 50⇓ *i*PKIKP **PKPdf 23 28 44.0 -0.6**
KIEV Kiev 125.91 50 *e*PKPdf **PKPdf 23 28 43.6 -1.0**
KIEV LR LR
comp=Z,9µm,20.0s
AKASG Malin Array Be 125.92 50 PKP **PKPdf 23 28 43.5 -1.1**
comp=Z,3.6nm,0.7s,baz=260,slow=2.5,SNR=18
AKASG PP **PP 23 30 37.8 -0.7**
comp=Z,0.2nm,0.3s,baz=262,slow=5.8,SNR=6.3
AKBB Malin Array Si 125.92 50 *e*PP PP 23 30 37.8 -0.7
TRO Tromso 126.06 26 *e*PP PP 23 30 38.1 -0.8
MNK Minsk 126.25 45 *e*PKIKP **PKPdf 23 28 45.0 -0.1**
MNK *e*PPP PPP 23 33 28.0
MNK e 23 35 48.0
MNK *e*PS **PS 23 40 46.0 +2.7**
MNK *e*SS SS 23 47 40.0 -2.7
MNK pmax pmax
comp=N,15µm,18.0s
MNK pmax pmax
comp=E,8µm,19.0s
MNK pmax pmax
comp=N,6µm,18.0s
KBS Kingsbay 126.28 14 PFAKE 23 29 00.0 +15
KBS LR LR
comp=Z,1µm,19.0s
MICGM Minsk 126.28 45 *e*PKP **PKPdf 23 28 45.0 -0.2**
HSPB Hornsund (broa 126.62 16 *e*PP PP 23 30 40.7 -1.8
RAYN Ar Rayn 126.66 87 *e*PKPdf **PKPdf 23 28 47.0 0.0**
RAYN LR LR
comp=Z,14µm,18.0s
VSU Vasula 126.74 40⇑ *e*PKIKP **PKPdf 23 28 45.9 0.0**
VSU MLR MLR
comp=Z,21µm,20.0s
GAMB Gambell 126.85 327 *e*PKPdf **PKPdf 23 28 50.2 +4.2**
FIA0 FINESS Array S 127.13 36 *e*PKIKP **PKPdf 23 28 45.4 -1.2**
FIA0 FINESS Array S 127.13 36 *e*PKPdf **PKPdf 23 28 45.4 -1.2**
FINES FINESS Array B 127.13 36 PKP **PKPdf 23 28 45.4 -1.2**
comp=Z,1.9nm,0.8s,baz=2.9,slow=2.8,SNR=6.1
SIM Simferopol' 127.17 58*c* *i*PKIKP **PKPdf 23 28 47.0 -0.2**
SIM *e* 23 30 45.0
SIM *e*PPP PPP 23 33 31.0
SIM *e* 23 35 52.0
SIM *e*PPS PPS 23 42 28.0
SIM *e*SS SS 23 47 55.0 +0.3
SIM *e*SSS SSS 23 52 30.0
SIM pmax pmax
comp=Z,35nm,0.8s
SIM pmax pmax
comp=Z,820nm,15.0s
MALT Malatya 127.82 67⇑PKIKP **PKPdf 23 28 49.0 +0.2**
MALT Malatya 127.82 67⇑ *i*P **PKPdf 23 28 49.0 +0.2**
ARA0 ARCESS Array S 128.31 26 *e*PKPdf **PKPdf 23 28 47.4 -1.3**
ARCES ARCESS Array B 128.31 26 PKP **PKPdf 23 28 47.4 -1.3**
comp=Z,7.2nm,1.0s,baz=306,slow=4.3,SNR=4.7
ARE0 ARCESS Array S 128.31 26 *e*PP PP 23 30 51.2 -2.6
ARE0 *e*SS SS 23 48 07.7 +0.2
KEV Kevo 128.86 26 PFAKE 23 29 00.0 +10
KEV LR LR
comp=Z,6µm,21.0s
COCO West Island 129.16 168 PFAKE 23 29 00.0 +8.1
COCO LR LR
comp=Z,5µm,19.0s
ANN Anapa 129.36 59 *i* PKIKP **PKPdf 23 28 51.0 -0.3**
ANN *e* 23 28 57.8
ANN *e* 23 30 58.0
ANN *e*PS **PS 23 41 07.8 -2.9**
ANN pmax pmax
comp=Z,82nm,1.1s
ANN MLR MLR
comp=E,3µm,23.0s
ANN MLR MLR
comp=Z,5µm,23.0s
ANN MLR MLR
comp=N,644nm,23.0s
SOEI Soe 129.49 203 *e*pPKPdf **pPKPdf 23 29 02.1 +1.8**
SOEI LR LR
comp=Z,10µm,20.0s
SOC Sochi 130.55 61*c* *i*P **Pdif 23 25 50.0 +6.1**
SOC *i* 23 28 53.3
SOC *i* 23 29 00.6
SOC *e* 23 31 06.9
SOC *e*PPP PPP 23 33 56.6
SOC *e* 23 35 51.2
SOC *e*SS SS 23 48 40.8 +4.3
SOC pmax pmax
comp=Z,26nm,1.1s
SOC pmax pmax
comp=Z,43nm,0.9s
SOC MLR MLR
comp=Z,2µm,18.0s
APA Apatity 131.06 29⇓ *i*PKIKP **PKPdf 23 28 54.0 +0.1**
APA MLR MLR
comp=Z,6µm,19.0s
APA pmax pmax
comp=Z,52nm,1.0s
MMRI Maumere 131.16 201 PFAKE 23 29 10.0 +14
MMRI LR LR
comp=Z,4µm,21.0s
OBN Obninsk 131.31 46⇑ *e*PKIKP **PKPdf 23 28 56.4 +1.7**
OBN *e* 23 36 08.4
OBN pmax pmax
comp=Z,77nm,1.7s
OBN Obninsk 131.31 46 *e*PKPdf PKPdf 23 29 00.5 +5.8
OBN LR LR
comp=Z,10µm,19.0s
LVZ Lovozero 131.54 29⇑ *e*PKIKP **PKPdf 23 28 58.3 +3.5**
LVZ Lovozero 131.54 29 *e*pPKPdf **pPKPdf 23 29 03.0 +0.7**
LVZ LR LR
comp=Z,7µm,20.0s
XMIS Christmas Isla 131.64 179 PFAKE 23 29 10.0 +13
XMIS LR LR
comp=Z,4µm,21.0s
CHVG Ch'k'valeri 131.94 63 P **PKPdf 23 28 56.3 0.0**
MOS Moscow 132.01 45 *i* PKIKP **PKPdf 23 28 56.6 +0.6**
MOS *e* 23 43 13.2
MOS *e*SS SS 23 48 45.2 -8.4
MOS pmax pmax
comp=Z,41nm,1.7s
VSR Storozhevoye 132.12 51 *e*PKIKP **PKPdf 23 28 56.5 +0.1**
VSR pmax pmax
comp=N,10.0nm,1.2s
VSR pmax pmax
comp=Z,10.0nm,1.2s
VSR pmax pmax
comp=E,8.0nm,0.8s
VORD Divnogorie 132.15 52 *e*PKIKP **PKPdf 23 28 59.2 +2.8**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD pmax pmax
comp=N,20nm,0.5s
VORD pmax pmax
comp=E,30nm,0.5s
LPSR Galich'ya Gora 132.24 50 *e*PKIKP **PKPdf 23 28 56.3 -0.2**
LPSR pmax pmax
comp=E,5.0nm,1.0s
LPSR pmax pmax
comp=Z,10.0nm,1.0s
LPSR pmax pmax
comp=N,5.0nm,0.8s
AKH Akhalkalaki 132.55 65 P **PKPdf 23 28 57.9 +0.1**
FAKI Fak Fak 132.62 216 PFAKE
FAKI LR LR
comp=Z,3µm,18.0s
KIV Kislovodsk 132.72 62 *i* P **Pdif 23 25 53.6 -0.1**
KIV *i* 23 28 58.3
KIV *e* 23 31 21.3
KIV *e* 23 36 06.3
KIV *e*PS **PS 23 41 39.9 -0.1**
KIV *e*SS SS 23 49 02.5 -0.7
KIV *e*SSS SSS 23 53 50.5
KIV pmax pmax
comp=Z,27nm,1.1s
KIV MLR MLR
comp=Z,4µm,21.0s
KIV Kislovodsk 132.72 62 *e*PKPdf **PKPdf 23 28 58.5 +0.6**
KIV LR LR
comp=Z,4µm,21.0s
KBZ Khabaz 132.80 62 PKP **PKPdf 23 28 57.2 -0.7**
comp=Z,8.8nm,0.9s,baz=236,slow=24,SNR=6.3
ONI Oni 132.87 64 P **PKPdf 23 28 58.0 -0.1**
TMCR Tamitsa 132.90 34 *e*PKIKP PKPdf 23 29 04.9 +7.5
TMCR pmax pmax
comp=Z,38nm,0.5s
GNI Garni 133.06 67⇑ *e*PKIKP **PKPdf 23 29 00.4 +1.6**
GNI Garni 133.06 67 PFAKE 23 29 10.0 +11
GNI LR LR
comp=Z,6µm,20.0s
ZEI Tsey 133.24 64 *e*PKHKP PKPpre 23 28 49.0
ZEI pmax pmax
comp=Z,19nm,1.1s
GOF Gofitskoye 133.25 60 *e*PKIKP **PKPdf 23 28 59.0 +0.3**
ITBZ Tabriz 133.47 70 *e*P **PKPdf 23 28 58.3 -1.4**
KLMR Klimovskoe 133.50 38 *e*PKIKP **PKPdf 23 28 58.8 +0.1**
KLMR *e* 23 31 28.5
KLMR pmax pmax
comp=Z,102nm,1.8s
TBLG Delisi 133.53 65 P **PKPdf 23 29 01.7 +2.2**
UGM Wanagama 134.03 186 PFAKE
UGM LR LR
comp=Z,6µm,22.0s
IHRS Heris 134.16 70 *e*P PKPdf 23 28 54.0 -7.0
ISRB Sarab 134.47 71 *e*P **PKPdf 23 28 59.9 -1.6**
CISI Cisompet, Garu 134.53 182 PFAKE 23 29 10.0 +7.8
CISI LR LR
comp=Z,3µm,21.0s
IKAZ Kazeroun 134.61 84 *e*P **PKPdf 23 29 02.7 +0.5**
KAPI Kappang 135.29 199 PFAKE
KAPI LR LR
comp=Z,3µm,18.0s
MAK Makhachkala 135.84 64 *i* PKIKP **PKPdf 23 29 04.6 +1.0**
MAK *e* 23 31 44.4
MAK *e*PPP PPP 23 34 37.1
MAK *e* 23 36 16.2
MAK *e*SS SS 23 49 41.4 +0.8
MAK *e*SSS SSS 23 54 40.4
MAK pmax pmax
comp=Z,146nm,1.4s
BILL Bilibino 135.91 332⇓ *e*PKIKP **PKPdf 23 29 05.1 +2.1**
BILL *i* 23 31 43.4
BILL *e* 23 36 12.9
BILL *i* PS PS 23 41 56.2 -10
BILL pmax pmax
comp=Z,13nm,1.3s
PRGR Permogore 136.44 37 *e*PKHKP PKPpre 23 28 52.9
PRGR pmax pmax
comp=Z,15nm,0.9s
IDMV Damavand 137.01 76 *e*P PKPdf 23 28 57.1 -9.4
IPRN Peran 137.47 75 *e*P PKPdf 23 28 59.8 -7.3
MDSI Maura Dua 137.55 177 P **PKPdf 23 29 08.3 +0.5**
MNAI Manna 137.61 175 PFAKE 23 29 20.0 +12
MNAI LR LR
comp=Z,6µm,20.0s
ILAS Lasjerd 137.66 77 *e*P PKPdf 23 29 00.6 -7.0
GUMO Guam 138.00 245 PFAKE 23 29 20.0 +12
GUMO LR LR
comp=Z,2µm,20.0s
ISHM Shahmirzad 138.06 76 *e*P PKPdf 23 29 01.4 -6.9
LUWI Luwuk 138.16 205 PFAKE 23 29 20.0 +11
LUWI LR LR
comp=Z,2µm,18.0s
IANJ Anjilo 138.42 77 *e*P **PKPdf 23 29 09.4 +0.4**
IGLO Ghaloghah 138.69 75 *e*P PKPdf 23 29 15.4 +6.0
PMBI Palembang 139.12 178 PFAKE 23 29 20.0 +9.3
PMBI LR LR
comp=Z,4µm,19.0s
PPBI Pangkal Pinang 139.91 180 P **PKPdf 23 29 12.3 +0.2**
TOLI Toli-Toli 140.84 203 PFAKE 23 29 30.0 +16
TOLI LR LR
comp=Z,2µm,20.0s
ITEG Tejag 141.27 83 *e*P PKPdf 23 29 08.1 -6.1
IKOO Kooshah 141.30 84 *e*P **PKPdf 23 29 09.9 -4.4**
PET Petropavlovsk 141.36 310 *e*PKIKP **PKPdf 23 29 13.7 +0.3**
PET *e* 23 32 22.5
PET *e*SS SS 23 50 48.6 +3.5
PET pmax pmax
comp=Z,27nm,0.8s
PET pmax pmax
comp=Z,800nm,9.7s
PET pmax pmax
comp=Z,300nm,10.6s
PET pmax pmax
comp=Z,800nm,18.0s
PET Petropavlovsk 141.36 310 PFAKE 23 29 30.0 +17
PET LR LR
comp=Z,3µm,22.0s
PALK Pallekele 141.52 136 *i* PKIKP **PKPdf 23 29 18.0 +3.0**
PALK Pallekele 141.52 136 PFAKE 23 29 30.0 +15
PALK LR LR
comp=Z,6µm,20.0s
PEA2 Petropavlovsk- 141.93 310 *e*PKPpre **PKPdf 23 29 11.9 -2.6**
PETK Petropavlovsk- 141.93 310 PKP **PKPdf 23 29 11.9 -2.6**
comp=Z,6.0nm,0.7s,baz=132,slow=6.2,SNR=8.2
ISHV Shirvan 141.96 75 *e*P PKPdf 23 29 10.1 -5.2
ISFR Sfrayin 142.05 76 *e*P **PKPdf 23 29 11.1 -4.5**
BKNI Bangkinang 142.07 171 PFAKE 23 29 30.0 +14
BKNI LR LR
comp=Z,5µm,20.0s
IDAH Dahanechah 142.09 84 *e*P **PKPdf 23 29 11.0 -4.8**
SOKR Solikamsk 142.17 39 *i* PKHKP PKPpre 23 29 09.7
SOKR SS SS 23 50 53.3 -0.7
SOKR pmax pmax
comp=Z,10.0nm,0.9s
MNSI Mandailing Nat 142.33 169 P **PKPdf 23 29 17.3 +0.9**
IKRD Kardeh 142.37 77 *e*P **PKPdf 23 29 13.6 -2.5**
GEYT Alibeck 142.38 75 PKhKP PKPpre 23 29 11.1
comp=Z,8.2nm,0.8s,baz=267,slow=5.3,SNR=16
GEYT PP **PP 23 32 25.3 +1.7**
comp=Z,10.0nm,1.0s,baz=243,slow=6.5,SNR=3.8
GSI Gunungsitoli 142.48 166 P PKPdf 23 29 22.0 +5.3
GSI Gunungsitoli 142.48 166 PFAKE 23 29 30.0 +13
GSI LR LR
comp=Z,11µm,19.0s
IAKL Akhelmad 142.50 77 *e*P **PKPdf 23 29 11.6 -4.8**
IPAY Payeh 142.64 78 *e*P **PKPdf 23 29 12.3 -4.3**
IMOG Moghan 142.80 78 *e*P PKPdf 23 29 11.4 -5.5
SEY Seymchan 142.85 327 PKhKP PKPpre 23 29 11.9
comp=Z,8.9nm,1.1s,baz=109,slow=2.2,SNR=14
ISRO Mashad 142.96 78 *e*P **PKPdf 23 29 12.5 -4.5**
KSM Kuching 143.33 187⇑P PKPbc 23 29 14.7 -0.5
KSM Kuching 143.33 187 *e*PKPpre PKPab 23 29 15.2 +1.1
KSM LR LR
comp=Z,3µm,20.0s
IMYA Miami 143.46 78 *e*P PKPab 23 29 14.1 -0.1
MYKOM Kota Tinggi 143.76 176⇑P PKPbc 23 29 16.2 -0.3
MYKOM Kota Tinggi 143.76 176 *e*PKPpre PKPab 23 29 15.8 0.0
MYKOM LR LR
comp=Z,5µm,20.0s
KGM Kluang 143.95 175⇑P PKPab 23 29 16.5 0.0
SBUM Sibu 144.08 190⇑P **PKPab 23 29 16.1 -0.8**
SBUM Sibu 144.08 190 *e*PKPdf **PKPab 23 29 16.2 -0.8**
SBUM LR LR
comp=Z,5µm,20.0s
PSI Prapat 144.19 167 PKP **PKPab 23 29 16.8 -0.8**
comp=Z,44nm,0.8s,baz=178,slow=2.1,SNR=52
PSI Prapat 144.19 167 *e*PKIKP **PKPab 23 29 16.8 -0.8**
PSI MLR MLR
comp=Z,8µm,20.0s
PSI Prapat 144.19 167 *e*PKPdf **PKPab 23 29 16.8 -0.8**
PSI LR LR
comp=Z,8µm,20.0s
TIXI Tiksi 144.48 348⇓ *e*PKIKP **PKPdf 23 29 20.6 +2.2**
TIXI MLR MLR
comp=Z,3µm,23.0s
TIXI Tiksi 144.48 348 *e*PKPdf **PKPab 23 29 14.8 -1.9**
TIXI LR LR
comp=Z,3µm,22.0s
BTM Bintulu 144.68 192⇑P **PKPab 23 29 16.3 -2.9**
TSM Tawau 144.70 200⇑P **PKPab 23 29 17.3 -1.9**
SVE Sverdlovsk 144.75 43*d* *i*PKIKP **PKPab 23 29 18.0 -0.2**
SVE *e* 23 32 37.0
SVE pmax pmax
comp=Z,182nm,1.2s
SVE pmax pmax
comp=Z,3µm,13.6s
SVE MLR MLR
comp=Z,10µm,22.0s
SVE MLR MLR
comp=E,7µm,24.0s
TSI Tuntungan 144.81 167 P PKPbc 23 29 20.1 +0.3
FRIM Kepong 145.01 172⇑P **PKPab 23 29 18.7 -1.7**
ABKAR Akbulak array 145.19 56 *e*PKPbc **PKPbc 23 29 19.4 -0.5**
URV Uravakonda 145.49 124 *e*PKPdf **PKPdf 23 29 20.7 -1.1**
URV *e*PP **PP 23 32 41.9 +0.2**
URV IVMs_BB IVMs_BB 00 37 13.4
comp=Z,3µm,16.8s
BSI Banda Aceh 146.00 160 P **PKPdf 23 29 22.1 -0.7**
SKHT Srikalahasti 146.13 129 *e*PKPab **PKPdf 23 29 23.2 +0.3**
SKHT *e*PKIKP **PKiKP 23 29 27.1 -0.1**
SKHT *e*PP **PP 23 32 48.0 +2.6**
SKHT *e* 23 39 38.1
SKHT *i* 23 40 35.4
SKHT *e* 23 43 01.0
SKHT *e*SS SS 23 51 39.3 -0.7
SKHT *i* 23 56 57.3
SKHT IVMs_BB IVMs_BB 00 34 26.9
comp=Z,3µm,18.4s
LHMI Lhok Sumawe 146.16 163 P **PKPdf 23 29 22.5 -0.6**
LHMI Lhok Sumawe 146.16 163 *e*PKPdf **PKPdf 23 29 22.1 -1.0**
LHMI LR LR
comp=Z,4µm,19.0s
IPM Ipoh 146.16 171⇑P **PKPdf 23 29 22.7 -0.5**
IPM Ipoh 146.16 171 *e*PKPdf **PKPdf 23 29 23.0 -0.2**
IPM LR LR
comp=Z,4µm,19.0s
SDKM Sandakan 146.18 200⇑P **PKPdf 23 29 22.4 -0.8**
KKM Kota Kinabalu 146.81 198⇑P **PKPdf 23 29 23.3 -1.0**
KKM Kota Kinabalu 146.81 198 PFAKE 23 29 40.0 +13
KKM LR LR
comp=Z,2µm,22.0s
KULM Kulim 146.91 170⇑P **PKPdf 23 29 24.4 0.0**
KULM Kulim 146.91 170 *e*PKPdf **PKPdf 23 29 24.4 0.0**
KULM LR LR
comp=Z,7µm,20.0s
KTGM Kuala Trenggan 147.22 174⇑P **PKPdf 23 29 23.9 -1.0**
KDM Kudat 147.49 200⇑P **PKPdf 23 29 23.5 -1.8**
NJS Nagarjunasagar 147.99 125 *e*PKPdf **PKPdf 23 29 25.8 -0.2**
NJS *e*PKiKP **PKiKP 23 29 30.4 -0.6**
NJS *e*PP **PP 23 32 56.6 +0.1**
NJS *e* 23 39 46.0
NJS *e* 23 43 13.3
NJS *e*SS SS 23 52 02.0 +0.7
NJS IVMs_BB IVMs_BB 00 39 19.0

comp=Z,3µm,18.3s
CBIJ Chichi jima 148.02 261 PFAKE 23 29 40.0 +8.3
CBIJ LR LR
comp=Z,3µm,20.0s
HYB Hyderabad 148.12 123 *i* PKP **PKPdf** **23 29 25.0 -1.3**
comp=Z,100nm,1.0s
HYB *e*PP PP 23 33 04.0 +6.6
HYB *e*PPP PPP 23 36 12.0
HYB *e*SKKS 23 39 46.0
HYB *e* 23 43 14.0
HYBB Hyderabad (bro 148.13 123 *e*PKPbc **PKPbc** **23 29 28.4 -1.0**
HYBB *e* 23 29 31.5
HYBB *e*PP **PP** **23 32 56.3 -1.1**
HYBB *e*SKKS 23 39 39.4
HYBB *e* 23 43 11.2
HYBB *e*SS **SS** **23 52 05.9 +3.0**
HYBB IVMs_BB IVMs_BB 00 32 54.5
comp=Z,3µm,19.4s
HYBB Hyderabad (bro 148.13 123 *i* **SS** **23 52 06.0 +3.0**
KUR Kuril'sk 148.44 296*c i*PKHKP PKPpre 23 29 14.8
KUR *i* **P* **PP** **23 32 58.2 -1.1**
KUR *i* SS SS 23 51 58.5 -8.2
YUK Yuzh-Kuril'sk 149.82 294*d i*PKHKP PKPpre 23 29 30.6
YUK *i* 23 33 12.4
YUK *i* 23 36 32.1
YUK *i* 23 45 52.1
YUK *i* SS SS 23 52 19.4 -2.8
KBL Kabul 149.90 85 *e*PKPdf **PKPdf** **23 29 29.3 +0.4**
KBL LR LR
comp=Z,7µm,21.0s
BRVK Borovoye 151.07 47‖ *e*PKIKP **PKPdf** **23 29 29.0 -0.8**
BRVK Borovoye 151.07 47 *e*PKPbc **PKPbc** **23 29 35.6 -0.1**
BRVK LR LR
comp=Z,11µm,20.0s
BVAR Borovoye Array 151.14 47 PKP **PKPdf** **23 29 29.8 -0.1**
comp=Z,2.8nm,0.8s,baz=247,slow=3.1,SNR=14
BVAR PKPbc **PKPbc** **23 29 35.3 -0.5**
comp=Z,31nm,0.8s,baz=282,slow=2.8,SNR=65
BVAR PKPab **PKPab** **23 29 43.6 -0.1**
comp=Z,97nm,0.9s,baz=300,slow=2.8,SNR=28
VIS Vishakhapatnam 151.41 129 *i* P **PKPbc** **23 29 38.1 +0.6**
ERM Erimo 151.68 290 PFAKE 23 29 40.0 +2.6
ERM LR LR
comp=Z,6µm,22.0s
YSS Yuzh-Sakhalins 151.95 300 *i* PKIKP **PKPdf** **23 29 32.0 +0.7**
YSS *e* 23 33 26.0
YSS pmax pmax
comp=Z,70nm,1.0s
YSS Yuzh-Sakhalins 151.95 300 *e*PKPbc **PKPbc** **23 29 41.2 +3.4**
YSS LR LR
comp=Z,2µm,19.0s
YAK Yakutsk 152.07 336 PKPbc **PKPbc** **23 29 36.4 -1.2**
comp=Z,46nm,0.5s,baz=217,slow=0.6,SNR=8.7
YAK Yakutsk 152.07 336 *e*PKIKP **PKPbc** **23 29 36.5 -1.2**
YAK *e* 23 33 25.7
YAK pmax pmax
comp=Z,146nm,1.0s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,9.0nm,0.9s
YAK pmax pmax
comp=Z,313nm,4.6s
YAK pmax pmax
comp=N,187nm,7.3s
YAK pmax pmax
comp=E,258nm,8.3s
YAK Yakutsk 152.07 336 *e*PKPbc **PKPbc** **23 29 36.3 -1.2**
YAK LR LR
comp=Z,3µm,22.0s
ASAJ Asahikawa 152.18 294 PKPbc **PKPbc** **23 29 38.4 -0.1**
comp=Z,34nm,1.1s,baz=247,slow=15,SNR=5.5
ASAJ Asahikawa 152.18 294 PKPbc **PKPbc** **23 29 38.4 -0.1**
ASAJ LR LR
comp=Z,3µm,21.0s
JHJ2 Mitsune 152.40 270 PFAKE 23 29 40.0 +0.7
JHJ2 LR LR
comp=Z,3µm,20.0s
CHLP Challavanipeta 152.45 129 *e*PKPdf **PKPdf** **23 29 31.9 -1.1**
CHLP *e* 23 29 52.1
CHLP *e*PP **PP** **23 33 24.1 +2.1**
CHLP *e*SKSdf **SKSdf** **23 36 42.0 +3.0**
CHLP *e*SS **SS** **23 52 51.1 +0.5**
CHLP IVMs_BB IVMs_BB 00 37 00.1
comp=Z,3µm,18.8s
KKAR Karatay Array 152.52 68 *e*PKIKP **PKPdf** **23 29 32.5 +0.1**
KKAR Karatay Array 152.52 68 *e*PKPdf **PKPdf** **23 29 32.5 +0.1**
NDI New Delhi 154.04 103 *ex* **PKPbc** **23 29 43.0 -0.1**
MJAR Matsushiro Arr 154.65 276 PKP **PKPdf** **23 29 35.9 +0.3**
comp=Z,4.2nm,1.1s,baz=178,slow=1.7,SNR=5.5
MJAR PKPab **PKPab** **23 29 58.7 -0.3**
comp=Z,6.6nm,0.8s,baz=145,slow=2.5,SNR=7.0
MAJO Matsushiro 154.65 276 *e*PKIKP **PKPdf** **23 29 35.9 +0.3**
MAJO *e* 23 29 45.0
MAJO *e* 23 29 58.7
MAJO MLR MLR
comp=Z,2µm,19.0s
MAJO Matsushiro 154.65 276 *e*PKPdf **PKPdf** **23 29 35.9 +0.3**
MAJO *e*PKPbc **PKiKP** **23 29 45.0 +0.8**
MAJO *e*PKPab **PKPab** **23 29 58.7 -0.3**
MAJO LR LR
comp=Z,2µm,19.0s
MAT Matsushiro 154.65 276 PKP **PKPdf** **23 29 34.3 -1.3**
AML Almayashu 154.83 71 P **PKPdf** **23 29 40.3 +4.1**
SNR=6.1
EKS2 Erkin-Say 154.91 69 P **PKPdf** **23 29 36.2 +0.3**
SNR=10.0
EKS2 Erkin-Say 154.91 69 *e*PKIKP **PKPdf** **23 29 36.2 +0.3**
EKS2 MLR MLR
comp=Z,6µm,19.0s
EKS2 Erkin-Say 154.91 69 *e*PKPdf **PKPdf** **23 29 36.2 +0.3**
EKS2 LR LR
comp=Z,6µm,19.0s
USP Ospenovka 155.43 68 P **PKPdf** **23 29 35.2 -1.4**
SNR=6.5
AAK Ala-Archa 155.44 69 P **PKPdf** **23 29 37.1 +0.4**
SNR=5.9
AAK Ala-Archa 155.44 69 PKP **PKPdf** **23 29 36.6 -0.1**
comp=Z,5.4nm,0.8s,baz=245,slow=9.3,SNR=20
AAK PKPab **PKPab** **23 30 02.5 +0.1**
comp=Z,50nm,0.9s,baz=215,slow=2.4,SNR=12
AAK PP **PP** **23 33 41.4 +1.8**
comp=Z,6.4nm,1.0s,baz=257,slow=6.6,SNR=5.6
AAK Ala-Archa 155.44 69 PKIKP **PKPdf** **23 29 36.6 -0.1**
AAK *e* 23 30 02.5
AAK *e* 23 33 42.4
AAK MLR MLR
comp=Z,7µm,19.0s
AAK Ala-Archa 155.44 69 PKP **PKPdf** **23 29 36.6 -0.1**
AAK *e*PKPdf **PKPdf** **23 29 36.9 +0.2**
AAK *e*PKPab **PKPab** **23 30 02.5 +0.1**
AAK *e*PP **PP** **23 33 42.4 +2.8**
AAK LR LR
comp=Z,7µm,19.0s
UCH Uchtor 155.44 70 P **PKPdf** **23 29 37.3 +0.2**
SNR=15
FRU Bishkek 155.53 69 *e*PKIKP **PKPdf** **23 29 35.0 -1.6**
FRU *i* 23 29 47.0
FRU *i* 23 33 40.5
FRU pmax pmax
comp=Z,95nm,1.8s
KBK Karagaybulak 155.77 69 P **PKPdf** **23 29 37.4 +0.2**
SNR=5.7
KZA Kyzart 155.99 71 P **PKPdf** **23 29 41.8 +4.0**
SNR=7.9
SZP Santa 156.04 215 PFAKE 23 29 50.0 +12
SZP LR LR
comp=Z,2µm,20.0s
TKM2 Tokmak 2 156.25 69 P **PKPdf** **23 29 37.3 -0.5**
SNR=15
TKM2 Tokmak 2 156.25 69 *e*PKIKP **PKPdf** **23 29 37.6 -0.2**
TKM2 MLR MLR
comp=Z,6µm,18.0s
TKM2 Tokmak 2 156.25 69 *e*PKPdf **PKPdf** **23 29 37.6 -0.2**
TKM2 LR LR
comp=Z,6µm,18.0s
KSH Kashi 156.38 77 PKP **PKPdf** **23 29 37.8 -0.2**
KSH pPKP **pPKPdf** **23 29 48.3 +2.8**
KSH PKS **PKSdf** **23 33 10.2 -1.8**
KSH PP PP 23 33 52.6 +7.7
KSH SKS **SKSdf** **23 36 38.2 -4.7**
KSH SKKS **SKKSac** **23 40 36.2 +3.6**
KSH PPMZ
comp=Z,1µm,7.4s
KSH LN
comp=Z,2µm,16.5s
KSH LE
comp=Z,4µm,20.2s
KSH LZ
comp=Z,6µm,21.1s
KURBB Kurchatov Arra 156.70 49 PKP **PKPdf** **23 29 37.2 -0.7**
comp=Z,2.0nm,0.5s,baz=299,slow=2.1,SNR=16
KURBB PKPab **PKPab** **23 30 06.7 -0.6**
comp=Z,22nm,0.9s,baz=286,slow=5.0,SNR=26
KURBB PP **PP** **23 33 48.4 +2.5**
comp=Z,3.9nm,0.8s,baz=281,slow=5.5,SNR=5.8
KURK Kurchatov 156.72 48 PKIKP **PKPdf** **23 29 37.2 -0.7**
KURK MLR MLR
comp=Z,3µm,20.0s
KURK Kurchatov 156.72 48 PKP **PKPdf** **23 29 37.2 -0.7**
KURK *e*PKPdf **PKPdf** **23 29 37.5 -0.3**
KURK *e*PKPab **PKPab** **23 30 06.7 -0.7**
KURK LR LR
comp=Z,3µm,20.0s
NVS Novosibirsk 157.11 36 *e*PKIKP **PKPdf** **23 29 37.7 -0.5**
NVS pmax pmax
comp=N,7.0nm,1.2s
NVS pmax pmax
comp=E,14nm,1.2s
NVS pmax pmax
comp=Z,84nm,1.2s
JOW Kunigami 158.37 245 PFAKE 23 29 50.0 +9.3
JOW LR LR
comp=Z,3µm,21.0s
KOLN Koldanda 158.37 112 *e*P **PKPdf** **23 29 40.2 -0.8**
ZAA1 Zalesovo Array 158.39 36 *e*PKPdf **PKPdf** **23 29 38.9 -1.0**
ZAA1 *e*PKPab **PKPab** **23 30 15.1 +0.6**
ZALV Zalesovo Beam 158.39 36 PKP **PKPdf** **23 29 38.9 -1.0**
comp=Z,8.8nm,0.8s,baz=281,slow=2.7,SNR=25
ZALV PKPab **PKPab** **23 30 15.1 +0.6**
comp=Z,41nm,0.9s,baz=297,slow=5.1,SNR=11
KLR Kul'dur 158.62 309 *e*PKIKP PKPdf 23 29 34.2 -6.1
KLR *e* 23 47 21.5
GKN Gorkha 159.26 113 *e*P **PKPdf** **23 29 40.9 -1.1**
CM31 Chiang Mai Arr 159.37 160 *e*PKPab **PKPab** **23 30 20.1 +0.5**
CMAR Chiang Mai Arr 159.37 160 PKP **PKPdf** **23 29 41.6 -0.5**
comp=Z,1.3nm,0.6s,baz=237,slow=3.0,SNR=10.0
CMAR PKPab **PKPab** **23 30 20.1 +0.5**
comp=Z,6.4nm,0.9s,baz=215,slow=2.9,SNR=4.2
DMN Daman 159.38 114 *e*P **PKPdf** **23 29 41.2 -1.0**
PKIN Phulchoki 159.56 115 *e*P **PKPdf** **23 29 41.2 -1.3**
PKI Pulchoki 159.57 115 *e*P **PKPdf** **23 29 41.5 -1.1**
KKN Kakani 159.60 114 *e*P **PKPdf** **23 29 40.9 -1.5**
BOD Bodaibo 159.66 348 *e*PKIKP **PKPdf** **23 29 44.5 +3.3**
BOD *e* 23 30 18.8
BOD pmax pmax
comp=Z,31nm,1.2s
CHTO Chiang Mai 159.71 160 *e*PKIKP PKPdf 23 29 49.4 +6.9
CHTO MLR MLR
comp=Z,4µm,20.0s
CHTO Chiang Mai 159.71 160 *e*pPKPdf **PKPdf** **23 29 49.4 +6.9**
CHTO LR LR
comp=Z,4µm,20.0s
USRK Ussuriysk Ar. 159.78 296 PKP **PKPdf** **23 29 42.8 +1.0**
comp=Z,0.8nm,0.6s,baz=121,slow=6.9,SNR=2.5
USRK PKPab **PKPab** **23 30 23.1 +2.2**
comp=Z,5.1nm,0.8s,baz=117,slow=1.9,SNR=7.9
RAMN Ramite 160.03 118 *e*P **PKPdf** **23 29 41.9 -1.1**
GUN Gumba 160.11 115 *e*P **PKPdf** **23 29 42.2 -1.0**
JIRN Jiri 160.18 116 *e*P **PKPdf** **23 29 42.4 -0.9**
MK32 Makanchi Array 160.34 56 *e*PKPdf **PKPdf** **23 29 41.6 -0.8**
MK32 *e*PKPab **PKPab** **23 30 22.4 -0.9**
MK32 *e*PP **PP** **23 34 06.6 +0.6**
MKAR Makanchi Array 160.34 56 PKP **PKPdf** **23 29 41.6 -0.8**
comp=Z,4.0nm,1.0s,baz=270,slow=5.9,SNR=21
MKAR PKPab **PKPab** **23 30 22.4 -0.9**
comp=Z,21nm,0.9s,baz=277,slow=9.7,SNR=15
MKAR PP **PP** **23 34 06.6 +0.6**
comp=Z,4.3nm,0.9s,baz=272,slow=8.4,SNR=4.7
ODAN Odare 160.52 120 *e*P **PKPdf** **23 29 42.6 -0.9**
QIZ Qiongzhong 160.72 190 PKP **PKPdf** **23 29 43.3 -0.3**
QIZ PKS **PKSdf** **23 33 18.9 +1.7**
QIZ PP **PP** **23 34 05.8 -1.1**
QIZ SS SS 23 54 21.1 +3.3
QIZ PPMZ
comp=Z,660nm,11.8s
QIZ LN
comp=Z,4µm,24.3s
QIZ LZ
comp=Z,4µm,22.3s
TAPN Taplejung 161.05 119 *e*P **PKPdf** **23 29 43.1 -1.1**
MDJ Mudanjiang 161.40 298 PKP **PKPdf** **23 29 41.7 -1.9**
MDJ pPKP **pPKPdf** **23 29 48.9 -2.2**
MDJ sPKP 23 29 49.9
MDJ PKS **PKSdf** **23 33 17.2 +0.5**
MDJ PP **PP** **23 34 13.3 +1.5**
MDJ SKS **SKSdf** **23 36 49.4 +2.3**
MDJ PPMZ
comp=Z,820nm,11.0s
MDJ LN
comp=Z,1µm,25.4s
MDJ LE
comp=Z,3µm,25.4s
MDJ LE
comp=Z,3µm,25.4s
KSRS Korea Array 162.90 274 PKP **PKPdf** **23 29 44.2 -1.0**
comp=Z,2.0nm,0.9s,baz=182,slow=0.4,SNR=4.6
KSRS PKPab **PKPab** **23 30 35.8 +1.0**
comp=Z,4.8nm,0.9s,baz=98,slow=4.0,SNR=4.7
KS15 Wonju Array Si 162.93 274 *e*PKPdf **PKPdf** **23 29 44.2 -1.1**
KS15 *e*PKPab **PKPab** **23 30 35.8 +0.8**
KSAR Wonju Array Be 162.93 274 PKIKP **PKPdf** **23 29 44.3 -1.1**
KSAR Wonju Array Be 162.93 274 PKP **PKPdf** **23 29 44.2 -1.1**
QZH Quanzhou 163.21 222 *i* PKP **PKPdf** **23 29 44.4 -1.6**
QZH PKPab **PKPab** **23 30 37.0 +0.7**
QZH PP **PP** **23 34 23.6 +2.7**
QZH SKKS 23 41 10.6
QZH SS **SS** **23 54 47.1 +2.1**
QZH PPMZ
comp=Z,2µm,11.7s
QZH LN
comp=Z,2µm,12.0s
QZH LE
comp=Z,3µm,17.0s
QZH LZ
comp=Z,6µm,21.4s
GZH Guangzhou 163.84 204 PKP **PKPdf** **23 29 51.2 +4.6**
GZH PP PP 23 34 30.4 +6.7
GZH LN
comp=Z,3µm,18.7s
GZH LE
comp=Z,3µm,18.7s
CN2 Changchun 164.48 297 *e*PKP PKPdf 23 29 52.1 +5.5
CN2 PPMZ
comp=Z,300nm,6.0s
CN2 LN
comp=Z,900nm,22.0s
CN2 LE
comp=Z,2µm,22.0s
CN2 LZ
comp=Z,1µm,19.0s
WMQ Urumqi 164.85 62 PKP **PKPdf** **23 29 46.9 -0.1**
WMQ pPKP **pPKPdf** **23 29 57.6 +3.1**
WMQ PKS **PKSdf** **23 33 18.6 -1.2**
WMQ PPMZ
comp=Z,3µm,9.6s
WMQ LN
comp=Z,8µm,19.5s
WMQ LE
comp=Z,9µm,19.5s
WMQ LZ
comp=Z,9µm,21.8s
LSA Lhasa 164.88 119 PKP **PKPdf** **23 29 43.0 -5.0**
LSA PKPab **PKPab** **23 30 45.0 +0.8**
LSA LN
comp=Z,2µm,22.0s
LSA LE
comp=Z,3µm,22.0s
LSA LZ
comp=Z,4µm,22.0s
LSA Lhasa 164.88 119 *e*PKIKP **PKPdf** **23 29 48.7 +0.7**
LSA Lhasa 164.88 119 *e*PKPdf **PKPdf** **23 29 48.7 +0.7**
SSE Sheshan 165.89 245 PKP **PKPdf** **23 29 47.0 -1.2**
SSE PP **PP** **23 34 34.9 -0.6**
SSE SS SS 23 55 09.9 -3.6
SSE PPMZ
comp=Z,890nm,10.3s
SSE LN
comp=Z,3µm,20.0s
SSE LE
comp=Z,2µm,20.0s
SSE LZ
comp=Z,4µm,18.0s
SNY Shenyang 166.25 291 ⇑PKP **PKPdf** **23 29 46.7 -1.4**
SNY PKPab **PKPab** **23 30 51.9 +2.5**
SNY PP **PP** **23 34 37.4 -0.1**
SNY LN
comp=Z,2µm,20.8s
SNY LE
comp=Z,3µm,19.7s
SNY LZ
comp=Z,4µm,21.4s
TLY Talaya 166.32 7 PKPab **PKPab** **23 30 49.2 0.0**
comp=Z,4.8nm,0.8s,baz=224,slow=7.2,SNR=4.2
TLY Talaya 166.32 7*c i*PKIKP **PKPdf** **23 29 44.4 -3.5**
TLY *e* 23 30 46.6
TLY *e* 23 34 33.5
TLY *e* 23 48 18.4
TLY *e*SS SS 23 55 15.6 -0.1
TLY pmax pmax
comp=Z,10.0nm,1.3s
KMI Kunming 166.68 166 PKP **PKPdf** **23 29 49.8 +0.5**
KMI pPKP **pPKPdf** **23 29 56.6 -0.2**
KMI sPKP 23 29 59.1
KMI SKKS 23 41 26.8
KMI SS **SS** **23 55 23.2 +3.4**
KMI LN
comp=Z,3µm,21.4s
KMI LE
comp=Z,3µm,21.4s
KMI LZ
comp=Z,4µm,20.3s
ZAK Zakamensk 167.56 9 *e*PKIKP PKPdf 23 29 55.3 +6.3
ZAK *e* 23 30 54.8
ZAK *e* 23 34 51.4
ZAK pmax pmax
comp=Z,4.0nm,2.6s
DL2 Dalian 167.97 278 PKP **PKPdf** **23 29 48.3 -1.2**
DL2 SKKS 23 41 30.4
DL2 SS **SS** **23 55 34.1 -1.0**
DL2 PPMZ
comp=Z,850nm,7.5s
DL2 LN
comp=Z,2µm,19.1s
DL2 LE
comp=Z,1µm,19.2s
DL2 LZ
comp=Z,3µm,18.8s
NJ2 Nanjing 168.07 243 *e*PKP **PKPdf** **23 29 49.8 0.0**
NJ2 PP **PP** **23 34 47.5 +0.8**
NJ2 SKKS 23 41 33.0
NJ2 PPMZ
comp=Z,3µm,6.7s
NJ2 LN
comp=Z,5µm,19.8s
NJ2 LE
comp=Z,6µm,17.6s
NJ2 LZ
comp=Z,7µm,18.0s
GYA Guiyang 168.36 182 PKP **PKPdf** **23 29 50.0 -0.3**
GYA PKPab **PKPab** **23 31 01.4 +2.4**
GYA PKS **PKSdf** **23 33 21.2 -1.9**
GYA PP **PP** **23 34 51.6 +4.6**
GYA SKKS 23 41 35.0
GYA SS **SS** **23 55 37.9 +1.6**
GYA PPMZ
comp=Z,210nm,8.5s
GYA LN
comp=Z,8µm,24.7s
GYA LE
comp=Z,7µm,25.0s
GYA LZ
comp=Z,5µm,23.4s
WHN Wuhan 169.93 224 ⇑PKP **PKPdf** **23 29 50.9 -0.1**
WHN PKPab **PKPab** **23 31 10.7 +4.9**
WHN PP **PP** **23 34 59.4 +3.9**
WHN SS SS 23 55 49.9 -3.2
WHN LN
comp=Z,10µm,23.0s
WHN LE
comp=Z,15µm,21.9s
WHN LZ
comp=Z,10µm,21.6s
ULN Ulaanbaatar 170.26 357 *e*PKIKP **PKPdf** **23 29 49.2 -1.7**
ULN Ulaanbaatar 170.26 357 *e*PKPdf **PKPdf** **23 29 49.2 -1.7**
ULN *e*PKPab **PKPab** **23 31 10.7 +3.8**
SONA0 Songino Array 170.30 360 *e*PKPdf **PKPdf** **23 29 49.9 -1.0**
SONA0 *e*PKPab **PKPab** **23 31 07.4 +0.4**
SONA0 *e*PP **PP** **23 35 01.8 +5.0**
SONM Songino Array 170.30 360 PKP **PKPdf** **23 29 49.9 -1.0**
comp=Z,2.5nm,1.0s,baz=201,slow=1.3,SNR=8.7
SONM PKPab **PKPab** **23 31 07.4 +0.4**
comp=Z,7.1nm,0.9s,baz=337,slow=2.9,SNR=7.4
SONM PP **PP** **23 35 01.8 +5.0**
comp=Z,10nm,1.1s,baz=358,slow=5.2,SNR=8.3
TIA Tai'an 171.16 261 PKP **PKPdf** **23 29 49.6 -1.9**
TIA PP PP 23 35 08.4 +5.8
TIA SS SS 23 56 04.5 -2.3
TIA PPMZ
comp=Z,2µm,8.9s
TIA LN
comp=Z,3µm,17.3s
TIA LE
comp=Z,4µm,18.4s
TIA LZ
comp=Z,3µm,16.7s
BJI Beijing 172.09 287 PKP **PKPdf** **23 29 51.8 0.0**
CD2 Chengdu 172.50 163 PKP **PKPdf** **23 29 52.9 +0.5**
CD2 pPKP **pPKPdf** **23 30 03.1 +3.2**
CD2 sPKP 23 30 06.7
CD2 PKPab **PKPab** **23 31 17.4 +0.3**
CD2 SKKS 23 41 55.4
CD2 SS **SS** **23 56 16.1 -1.2**
CD2 PPMZ
comp=Z,1µm,10.8s
CD2 LN
comp=Z,4µm,19.3s
CD2 LE
comp=Z,4µm,19.2s
CD2 LZ
comp=Z,5µm,20.5s
GTA Gaotai 174.77 74 ⇑PKP **PKPdf** **23 29 52.5 -0.5**
GTA pPKP **pPKPdf** **23 29 59.9 -0.7**
GTA sPKP 23 30 03.5
GTA PKPab **PKPab** **23 31 28.9 +1.5**
GTA PP **PP** **23 35 21.9 +1.5**
GTA SKS **SKSdf** **23 36 49.8 -5.0**
GTA PPMZ
comp=Z,4µm,12.3s
GTA LN
comp=Z,6µm,20.4s
GTA LE
comp=Z,3µm,20.0s
GTA LZ
comp=Z,8µm,21.8s
HHC Hu-ho-hao-te 175.11 305 *e*PKP **PKPdf** **23 29 49.7 -3.4**
HHC PKS **PKSdf** **23 33 22.4 -2.9**
HHC PP **PP** **23 35 23.0 +1.4**
HHC SKKS 23 42 02.2
HHC SS **SS** **23 56 39.1 -5.5**
HHC PPMZ
comp=Z,640nm,11.2s
HHC LN
comp=Z,7µm,17.4s
HHC LE
comp=Z,5µm,19.9s
HHC LZ
comp=Z,7µm,19.9s
TIY Taiyuan 175.14 267 *e*PKP **PKPdf** **23 29 55.7 +2.6**
TIY PP PP 23 35 28.5 +6.3
TIY SS SS 23 56 40.3 -5.5
TIY PPMZ
comp=Z,1µm,12.4s
TIY LN
comp=Z,3µm,23.9s
TIY LE
comp=Z,5µm,18.6s
TIY LZ
comp=Z,7µm,22.1s
XAN Xi'an 175.40 208 PKP **PKPdf** **23 29 52.9 -0.4**
XAN pPKP **pPKPdf** **23 30 02.9 +2.1**
XAN PKPab **PKPab** **23 31 30.3 +0.3**
XAN PP **PP** **23 35 27.2 +5.1**
XAN PPMZ

	comp=Z,560nm,20.5s						
XAN				LN			
	comp=Z,4μm,20.4s						
XAN				LZ			
	comp=Z,1μm,21.4s						
BTO	**Baotou**	**176.21 312**	*e*PKP		**PKPdf**	**23 29 53.1**	**-0.2**
LZH	**Lanzhou**	**177.16 135**	PKP		**PKPdf**	**23 29 54.3**	**+0.5**
LZH			pPKP		**pPKPdf**	**23 30 03.8**	**+2.5**
LZH			sPKP			23 30 09.0	
LZH			SKKS			23 42 19.0	
LZH			PPMZ				
	comp=Z,990nm,8.4s						
LZH				LN			
	comp=Z,1μm,18.4s						
LZH				LE			
	comp=Z,2μm,16.4s						
LZH				LZ			
	comp=Z,3μm,20.2s						

NNC 03 23:27:13.6±1.0, 47°.66N×83°.48E, h0km, mb0.8, mpv1.2, 16C-4D, Error ellipse: s-maj=14.9km s-min=5.4km az=133.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
MK05	**Makanchi Array**	**1.18**	**224**	⇑P		Pg	23 27 36.3	-0.1
MK05				⇓S		Sb	23 27 53.0	+0.1
MK31	**Makanchi Array**	**1.18**	**224**	⇑P		Pg	23 27 36.4	0.0
	0.1nm,0.4s,baz=41,slow=50,SNR=11							
MK31				⇑S		Sb	23 27 53.0	+0.1
	0.2nm,0.1s,baz=44,slow=31,SNR=15							
MK06	**Makanchi Array**	**1.19**	**223**	⇑P		Pg	23 27 36.2	-0.2
MK06				⇑S		Sb	23 27 52.6	-0.4
MK02	**Makanchi Array**	**1.19**	**223**	⇑P		Pg	23 27 36.4	-0.1
MK02				⇑S		Sb	23 27 52.6	-0.6
MK01	**Makanchi Array**	**1.20**	**223**	⇑P		Pg	23 27 36.1	-0.6
MK01				⇑S		Sg	23 27 52.5	+0.3
MK04	**Makanchi Array**	**1.20**	**223**	⇑P		Pg	23 27 36.0	-0.6
MK04				⇑S		Sg	23 27 52.2	0.0
MK03	**Makanchi Array**	**1.20**	**223**	⇑P		Pg	23 27 36.0	-0.7
MK03				⇑S		Sg	23 27 52.3	0.0
MK07	**Makanchi Array**	**1.20**	**222**	⇑P		Pg	23 27 36.0	-0.7
MK07				⇑S		Sg	23 27 52.3	0.0
MK09	**Makanchi Array**	**1.21**	**223**	⇑P		Pg	23 27 35.8	-1.0
MK09				⇓S		Sg	23 27 52.3	-0.1
MK08	**Makanchi Array**	**1.21**	**223**	⇑P		Pg	23 27 35.8	-1.2
MK08				⇓S		Sg	23 27 52.2	-0.5

*BJI **03** 23:29:56.4, 1°.51S×122°.70E, h19km, mb4.9/40, mB5.4/26, Ms5.2/32, Ms7 4.9/30*
*IDC **03** 23:29:60.0±0.4, 0°.66S×122°.56E, h0km, mb4.6/25, mb1 4.7/25, mb1mx4.6/41, mbtmp4.6/25, Error ellipse: s-maj=18.5km s-min=11.1km az=75.0*
*ISCJB **03** 23:30:03.0±0.1, 0°.70S±0°.02×122°.56E±0°.02, h26km, mb5.0/89, MS6.0/1, Error ellipse: s-maj=3.1km s-min=2.6km az=44.2*
*MOS **03** 23:30:03.7±1.3, 0°.60S×122°.61E, h33km, mb5.2/27, Error ellipse: s-maj=13.8km s-min=6.6km az=115.7*
*KLM **03** 23:30:04.5, 0°.79S×122°.50E, h20km, mb5.2, ML5.1, MS5.5*
*NEIC **03** 23:30:04.1±1.2, 0°.66S×122°.56E, h23km±9km, mb5.1/32, Error ellipse: s-maj=7.1km s-min=4.8km az=52.0*
*DJA **03** 23:30:05.5±0.1, 1°.S±2°×12°.3E±°, h10km, M5.1/67, mb5.1/67, mB5.6/34, MLv5.3/27, Mw(mB)5.0/34*
ISC 03 23:30:04.5±0.2, 0.77S±0°.03×122°.49E±0°.03, h26km, n325, σ1s71/340, mb5.0/89, 22C-3D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
LUWI	**Luwuk**	**0.39**	**134**	P		**Pb**	**23 30 11.5**	**-1.4**
LUWI	**Luwuk**	**0.39**	**134**	P		**Pb**	**23 30 12.1**	**-0.8**
LUWI				S		**Sb**	**23 30 19.5**	**+0.8**
LUWI	**Luwuk**	**0.39**	**134**	P		**Pb**	**23 30 11.8**	**-1.1**
	baz=0.3,SNR=1000							
LUWI				S		**Sb**	**23 30 19.5**	**+0.8**
	baz=0.3,SNR=6.8							
LUWI	**Luwuk**	**0.39**	**134**	*e*Pg		**Pb**	**23 30 11.8**	**-1.1**
LUWI				*e*Sg		**Sn**	**23 30 21.4**	**+0.4**
APSI	**Ampana**	**0.85**	**261**	P		**Pb**	**23 30 19.1**	**-1.6**
MRSI	**Marisa**	**1.36**	**336**	P		Pn	23 30 24.0	-3.8
MRSI				S		**Sn**	**23 30 43.4**	**-1.6**
KMSI	**Cibinong**	**2.00**	**48**	P		**Pb**	**23 30 40.9**	**+0.7**
KMSI				S		Sb	23 31 13.4	+8.7
TOLI	**Toli-Toli**	**2.53**	**318**	*e*Pn		**Pn**	**23 30 41.2**	**-2.8**
TOLI				*e*Sn		**Sn**	**23 31 15.1**	**+1.0**
PCI	**Palu**	**2.66**	**267**	P		**Pn**	**23 30 45.3**	**-0.4**
MPSI	**Mapaga**	**2.82**	**293**	P		**Pn**	**23 30 48.9**	**+1.0**
TTSI	**Tana Toraja**	**3.50**	**230**	P		**Pn**	**23 30 57.6**	**+0.4**
SANI	**Sanana**	**3.72**	**110**	P		**Pn**	**23 30 59.7**	**-0.6**
SANI				S		**Sn**	**23 31 46.0**	**+2.7**
SPSI	**Sidrap Palu**	**4.18**	**221**	P		**Pn**	**23 31 07.2**	**+0.6**
SPSI				S		**Sn**	**23 31 57.0**	**+2.4**
SPSI	**Sidrap Palu**	**4.18**	**221**	P		**Pn**	**23 31 05.9**	**-0.7**
SPSI				S		**Sn**	**23 31 55.5**	**+0.9**
BNSI	**Bone**	**4.32**	**213**	P		**Pn**	**23 31 09.0**	**+0.4**
BNSI	**Bone**	**4.32**	**213**	P		**Pn**	**23 31 10.1**	**+1.5**
BNSI				S		**Sn**	**23 31 59.2**	**+1.0**
SGKI	**Sangatta, Kali**	**4.89**	**273**	P		**Pn**	**23 31 19.3**	**+2.8**
LBMI	**Labuha**	**5.01**	**89**	P		**Pn**	**23 31 18.9**	**+0.9**
	828nm,0.8s,6μm8.9nm							
KAPI	**Kappang**	**5.03**	**213**	Pn		**Pn**	**23 31 18.0**	**-0.3**
	4μm,0.5s,SNR=94							
KAPI	**Kappang**	**5.03**	**213**	*e*Pn		**Pn**	**23 31 18.2**	**-0.1**
BKSI	**Bulukumba**	**5.10**	**208**	P		**Pn**	**23 31 19.5**	**+0.2**
	272nm,0.7s,2μm2.1nm							
TNTI	**Ternate**	**5.11**	**73**	P		Pn	23 31 23.7	+4.3
	500nm,0.8s,4μm3.6nm							
TNTI	**Ternate**	**5.11**	**73**	*e*Pn		Pn	23 31 23.6	+4.3
NLAI	**Namlea**	**5.22**	**118**	P		**Pn**	**23 31 22.8**	**+1.9**
	671nm,0.9s,7μm2.5nm							
BKB	**Balikpapan**	**5.62**	**265**	P		**Pn**	**23 31 27.3**	**+0.9**
	544nm,0.6s,7μm1.9nm							
KBKI	**Kotabaru**	**6.80**	**248**	P		**Pn**	**23 31 42.0**	**-0.7**
	343nm,0.8s,4μm1.4nm							
TSM	**Tawau**	**6.83**	**317**	⇑P		**Pn**	**23 31 44.4**	**+1.3**
MSAI	**Masohi**	**6.92**	**112**	P		Pn	23 31 47.9	+3.6
	72nm,0.8s,0.2nm							
MTKI	**Muara Teweh, K**	**7.60**	**269**	P		Pn	23 32 03.7	+10
MMRI	**Maumere**	**7.82**	**182**	P		**Pn**	**23 31 57.2**	**+0.6**
	382nm,1.3s,4μm1.7nm							
MMRI	**Maumere**	**7.82**	**182**	*e*Pn		**Pn**	**23 31 57.4**	**+0.8**
EDFI	**Ende, Flores**	**7.97**	**186**	P		**Pn**	**23 31 59.6**	**+0.8**
	156nm,0.9s,2μm0.5nm							
BBKI	**Banjar Baru**	**8.10**	**251**	P		**Pn**	**23 32 00.9**	**+0.4**
	135nm,0.9s,3μm1.3nm							
SDKM	**Sandakan**	**8.28**	**320**	⇑P		**Pn**	**23 32 03.2**	**+0.2**
DAV	**Davao City (W)**	**8.38**	**22**	*e*Pn		**Pn**	**23 32 02.8**	**-1.5**
SWI	**Sorong**	**8.77**	**91**	P		**Pn**	**23 32 12.3**	**+2.7**
	baz=8.7,SNR=7.5							
SWI				S		Sn	23 34 03.3	+16
	baz=8.7,SNR=3.6							
SOEI	**Soe**	**9.10**	**169**	P		**Pn**	**23 32 15.6**	**+1.3**
	340nm,1.0s,3μm							
SOEI	**Soe**	**9.10**	**169**	P		Pn	23 32 18.6	+4.2
	baz=9.1,SNR=9.0							
SOEI	**Soe**	**9.10**	**169**	*e*Pn		Pn	23 32 18.6	+4.2
KKM	**Kota Kinabalu**	**9.23**	**317**	P		Pn	23 32 23.3	+7.2
	baz=9.4,SNR=4.1							
KKM	**Kota Kinabalu**	**9.23**	**317**	*e*Pn		**Pn**	**23 32 16.8**	**+0.7**
BATI	**Baumata**	**9.45**	**173**	P		**Pn**	**23 32 20.1**	**+1.1**
	66nm,1.5s,1μm							
FAKI	**Fak Fak**	**9.98**	**102**	P		**Pn**	**23 32 26.5**	**+0.2**
	195nm,1.2s,3μm							
FAKI	**Fak Fak**	**9.98**	**102**	P		**Pn**	**23 32 26.1**	**-0.2**
	baz=9.9,SNR=34							
FAKI				S		**Sn**	**23 34 15.2**	**-2.4**
	baz=9.9,SNR=5.4							
FAKI	**Fak Fak**	**9.98**	**102**	*e*Pn		**Pn**	**23 32 25.9**	**-0.4**
BTM	**Bintulu**	**10.20**	**293**	⇑P		**Pn**	**23 32 30.3**	**+0.9**
SBUM	**Sibu**	**10.76**	**287**	⇑P		**Pn**	**23 32 38.5**	**+1.6**
SBUM	**Sibu**	**10.76**	**287**	*e*Pn		**Pn**	**23 32 39.6**	**+2.6**
PBKI	**Pangkalan Bun**	**10.99**	**260**	P		Pn	23 32 43.4	+3.3
	136nm,1.2s,2μm							
STKI	**Sintang**	**11.05**	**274**	P		Pn	23 32 44.4	+3.5
	43nm,0.9s							
RKPI	**Ransiki, Papua**	**11.71**	**94**	P		**Pn**	**23 32 50.4**	**+0.4**
	133nm,1.0s,13μm							
KSM	**Kuching**	**12.39**	**280**	P		P	23 33 06.7	-4.4
	baz=12,SNR=5.9							
KSM	**Kuching**	**12.39**	**280**	⇑P		**Pn**	**23 32 57.9**	**-1.3**
KSM	**Kuching**	**12.39**	**280**	*e*Pn		Pn	23 33 03.7	+4.4
PWJI	**Pagerwojo**	**12.86**	**236**	P		**Pn**	**23 33 08.5**	**+2.8**
	57nm,1.9s							
KPJI	**Karang Pucung**	**15.01**	**244**	P		**P**	**23 33 38.3**	**-1.9**
	99nm,1.1s,4μm							
KDU	**Kakadu**	**15.43**	**141**	P		**Pn**	**23 33 41.2**	**+0.7**
	baz=15,SNR=12							
LEM	**Lembang**	**16.01**	**248**	P		**P**	**23 33 50.9**	**-0.6**
	89nm,1.0s							
KNRA	**Kunununrra**	**16.05**	**158**	P		P	23 34 00.8	+9.0
	baz=16,SNR=3.9							
CISI	**Cisompet, Garu**	**16.11**	**245**	*e*Pn		**Pn**	**23 33 45.4**	**-4.0**
	452nm,1.8s							
PPBI	**Pangkal Pinang**	**16.41**	**265**	P		**P**	**23 33 56.4**	**+0.6**
	47nm,1.2s,2μm							
CBJI	**Citeko**	**16.58**	**250**	P		**P**	**23 33 58.5**	**+0.8**
	179nm,0.9s							
FITZ	**Fitzroy Crossi**	**17.50**	**170**	*e*Pn		**P**	**23 34 08.4**	**+0.6**
	23nm,1.1s							
CGJI	**Cibinong**	**17.73**	**250**	P		**P**	**23 34 12.3**	**+1.8**
	113nm,1.5s,2μm							
GENI	**Genyem**	**17.76**	**96**	P		**P**	**23 34 11.3**	**+0.5**
	156nm,1.1s							
BLSI	**Bandar Lampung**	**17.81**	**255**	P		**P**	**23 34 14.0**	**+2.6**
	103nm,0.8s,4μm							
PMBI	**Palembang**	**17.84**	**263**	*e*Pn		**P**	**23 34 13.7**	**+2.1**
	162nm,0.4s							
TPRI	**Tanjung Pinang**	**18.04**	**275**	P		**P**	**23 34 16.3**	**+2.4**
KASI	**Kota Agung**	**18.57**	**255**	P		**Pn**	**23 34 22.4**	**+2.3**
	126nm,1.7s,2μm							
MDSI	**Maura Dua**	**18.66**	**258**	P		**Pn**	**23 34 23.6**	**+2.5**
	57nm,1.9s,1μm							
MDSI	**Maura Dua**	**18.66**	**258**	S		**P**	**23 34 18.4**	**-2.3**
DLV	**T Lat**	**18.79**	**313**	*e*P		**P**	**23 34 21.0**	**-1.3**
MYKOM	**Kota Tinggi**	**18.81**	**278**	⇑P		**P**	**23 34 21.1**	**-1.3**
MYKOM	**Kota Tinggi**	**18.81**	**278**	*e*P		**P**	**23 34 23.0**	**+0.6**
	125nm,1.8s							
LHSI	**Lahat**	**19.19**	**261**	P		**Pn**	**23 34 30.2**	**+2.6**
	91nm,1.2s							
KGM	**Kluang**	**19.37**	**278**	⇑P		**Pn**	**23 34 29.5**	**-0.2**
KTGM	**Kuala Trenggan**	**20.26**	**288**	⇑P		**P**	**23 34 37.3**	**-0.9**
MASI	**Maura Aman, Be**	**20.38**	**263**	P		Pn	23 34 43.1	+1.4
	322nm,1.3s,4μm							
SDSI	**Sungai Dareh**	**21.06**	**269**	P		**P**	**23 34 49.7**	**+2.8**
	68nm,0.9s,23μm							
FRIM	**Kepong**	**21.23**	**281**	⇑P		**P**	**23 34 50.7**	**+1.9**
BKNI	**Bangkinang**	**21.48**	**273**	P		**P**	**23 34 54.6**	**+3.2**
	167nm,1.0s,3μm							
IPM	**Ipoh**	**22.07**	**284**	⇑P		**P**	**23 34 59.1**	**+1.3**
IPM	**Ipoh**	**22.07**	**284**	*e*P		**P**	**23 34 59.1**	**+1.3**
	56nm,1.0s							
WRAB	**Tennant Creek**	**22.30**	**149**	P		**P**	**23 35 00.5**	**+0.3**
	590nm,1.1s,SNR=12							
WRAB	**Tennant Creek**	**22.30**	**149**	*c* *i*P		**P**	**23 35 00.7**	**+0.5**
WRAB						pmax	pmax	
	comp=Z,402nm,1.2s							
WRAB	**Tennant Creek**	**22.30**	**149**	*e*P		**P**	**23 35 01.0**	**+0.9**
	comp=Z,120nm,1.0s							
WRA	**Waramunga Arr**	**22.30**	**149**	P		**P**	**23 35 00.2**	**0.0**
	comp=Z,74nm,1.0s,baz=331,slow=10.0,SNR=126							
KULM	**Kulim**	**22.63**	**286**	*e*P		**P**	**23 35 04.1**	**+0.4**
	comp=Z,37nm,1.0s							
MNSI	**Mandailing Nat**	**22.96**	**274**	P		**P**	**23 35 09.9**	**+2.7**
	comp=Z,79nm,0.9s,comp=Z,1μm							
MNSI	**Mandailing Nat**	**22.96**	**274**	S		**P**	**23 35 03.4**	**-3.8**
SKLT	**Songkhla**	**23.20**	**290**	P		**P**	**23 35 14.2**	**+4.5**
	comp=Z,34nm,0.9s							
QIZ	**Qiongzhong**	**23.27**	**328**	P		**P**	**23 35 14.0**	**+3.7**
QIZ				S		**S**	**23 39 27.5**	**+6.3**
QIZ				PMZ				
	comp=Z,29nm,1.8s							
QIZ				LN				
	comp=Z,540nm,16.7s							
QIZ				LZ				
	comp=Z,970nm,21.9s							
PSI	**Prapat**	**23.83**	**279**	P		**P**	**23 35 16.1**	**+0.2**
	comp=Z,74nm,1.0s,baz=122,slow=4.5,SNR=31							
PSI	**Prapat**	**23.83**	**279**	*e*P		**P**	**23 35 16.4**	**+0.5**
PSI	**Prapat**	**23.83**	**279**	*e*P		**P**	**23 35 16.4**	**+0.5**
CHBT	**CHBT**	**24.10**	**305**	P		**P**	**23 35 19.5**	**+1.3**
	comp=Z,92nm,1.0s							
TRTT	**Trang**	**24.29**	**291**	P		**P**	**23 35 21.9**	**+1.8**
	comp=Z,58nm,1.4s							
COEN	**Coen**	**24.30**	**124**	P		**P**	**23 35 20.7**	**+0.6**
	baz=24,SNR=8.4							
COEN	**Coen**	**24.30**	**124**	*e*P		**P**	**23 35 21.0**	**+0.9**
	comp=Z,191nm,1.6s							
SSLB	**Suangiung**	**24.46**	**357**	*e*P		**P**	**23 35 23.0**	**+1.5**
	comp=Z,58nm,1.1s							
WRKA	**Warakurna**	**24.77**	**167**	P		**P**	**23 35 24.8**	**+0.5**
	baz=25,SNR=17							
GSI	**Gunungsitoli**	**25.00**	**275**	P		**P**	**23 35 28.6**	**+2.1**
	comp=Z,132nm,1.5s,comp=Z,2μm							
GSI	**Gunungsitoli**	**25.00**	**275**	*e*P		**P**	**23 35 26.6**	**+0.1**
	comp=Z,129nm,1.1s							
AS12	**Alice Springs**	**25.31**	**155**	*e*P		**P**	**23 35 29.7**	**+0.5**
ASAR	**Alice Springs**	**25.31**	**155**	P		**P**	**23 35 29.7**	**+0.5**
	comp=Z,13nm,0.8s,baz=332,slow=8.0,SNR=94							
ASAR				PcP		**PcP**	**23 39 02.5**	**+0.5**
	comp=Z,3.8nm,0.9s,baz=346,slow=2.4,SNR=5.2							
ASAR				ScP		**ScP**	**23 42 42.0**	**+2.2**
	comp=Z,0.8nm,0.7s,baz=340,slow=2.7,SNR=4.5							
SKNT	**Sakolnakorn**	**25.38**	**315**	P		**P**	**23 35 31.9**	**+2.0**
	comp=Z,61nm,1.6s							
SURT	**Suratani**	**25.51**	**293**	P		**P**	**23 35 33.7**	**+2.6**
	comp=Z,17nm,1.3s							
PKDT	**Phuket**	**25.58**	**290**	P		**P**	**23 35 34.7**	**+3.0**
	comp=Z,26nm,1.0s,comp=Z,1μm							
KHON	**Khomkaen**	**25.80**	**312**	P		**P**	**23 35 35.5**	**+1.8**
	comp=Z,31nm,1.1s							
QIS	**Mount Isa**	**25.82**	**141**	P		**P**	**23 35 34.5**	**+0.7**
	baz=26,SNR=11							
MEEK	**Meekatharra**	**25.99**	**188**	P		**P**	**23 35 34.7**	**-0.6**
	baz=26,SNR=4.4							
PMG	**Port Moresby**	**26.00**	**110**	*e*P		**P**	**23 35 36.9**	**+1.3**
PMG						pmax	pmax	
	comp=Z,437nm,0.8s							
PMG	**Port Moresby**	**26.00**	**110**	*e*P		**P**	**23 35 36.9**	**+1.3**
	comp=Z,437nm,0.8s							
LHMI	**Lhok Sumawe**	**26.20**	**283**	P		**P**	**23 35 41.5**	**+4.1**
	comp=Z,145nm,1.4s							
LHMI	**Lhok Sumawe**	**26.20**	**283**	*e*P		**P**	**23 35 40.1**	**+2.7**
	comp=Z,229nm,1.3s							
PBKT	**Sadao Pong**	**27.34**	**310**	P		**P**	**23 35 50.2**	**+2.6**
	comp=Z,23nm,1.1s							
SRDT	**SRT**	**27.59**	**304**	P		**P**	**23 35 53.7**	**+3.9**
	comp=Z,64nm,1.3s,comp=Z,14μm							
KHLT	**Khaolaem Dam**	**28.26**	**304**	P		P	23 35 59.5	+3.7
	comp=Z,16nm,1.3s							
UTTA	**Uttaradit**	**28.37**	**311**	P		**P**	**23 35 59.2**	**+2.4**
	comp=Z,8.6nm,1.0s,comp=Z,76nm							
SUKH	**Sukhothai**	**28.91**	**310**	P		P	23 36 05.0	+3.4
	comp=Z,6.3nm,1.3s,comp=Z,66nm							
LAMP	**Lampang**	**29.54**	**312**	P		P	23 36 10.5	+3.3
	comp=Z,6.2nm,1.0s,comp=Z,76nm							
CM31	**Chiang Mai Arr**	**30.02**	**311**	*e*P		**P**	**23 36 12.3**	**+0.9**
CMAR	**Chiang Mai Arr**	**30.02**	**311**	P		**P**	**23 36 12.3**	**+0.9**
	comp=Z,7.7nm,0.8s,baz=134,slow=6.7,SNR=27							
CMAR				ScP		**ScP**	**23 42 56.2**	**+2.1**
	comp=Z,0.6nm,0.4s,baz=168,slow=2.7,SNR=6.0							
CMAR	**Chiang Mai Arr**	**30.02**	**311**	*c*eP		**P**	**23 36 13.0**	**+1.5**
CMAR						pmax	pmax	
	comp=Z,8.0nm,0.8s							
CRAI	**Chiangrai**	**30.09**	**315**	P		**P**	**23 36 11.4**	**-0.7**
	comp=Z,25nm,1.8s							
CMMT	**Chiang Mai**	**30.23**	**311**	P		**P**	**23 36 14.8**	**+1.4**
	comp=Z,36nm,1.4s							
CHTO	**Chiang Mai**	**30.23**	**311**	*e*P		**P**	**23 36 14.6**	**+1.2**
CHTO	**Chiang Mai**	**30.23**	**311**	*e*P		**P**	**23 36 14.6**	**+1.2**
FORT	**Forrest**	**30.31**	**170**	*e*P		P	23 36 10.8	-3.1
	comp=Z,40nm,0.9s							
MHMT	**Maesarieng**	**30.63**	**309**	P		**P**	**23 36 19.8**	**+2.9**
	comp=Z,18nm,1.0s,comp=Z,617nm							
CMAI	**Chiengmai2**	**30.85**	**313**	P		P	23 36 22.3	+3.3
	comp=Z,89nm,1.2s,comp=Z,20μm							
GYA	**Guiyang**	**31.08**	**332**	⇑*i*P		**P**	**23 36 22.1**	**+1.2**
GYA				PP		**PP**	**23 37 28.2**	**-3.2**
GYA				S		**S**	**23 41 29.6**	**+4.7**
GYA				SS		**SnSn**	**23 43 16.0**	**+8.7**
GYA				PMZ				
	comp=Z,20nm,0.8s							
GYA				PMZ				
	comp=Z,130nm,5.2s							
GYA				LN				
	comp=Z,850nm,15.7s							
GYA				LE				
	comp=Z,680nm,16.0s							
GYA				LZ				
	comp=Z,720nm,16.4s							
KMI	**Kunming**	**32.07**	**325**	P		**P**	**23 36 31.8**	**+2.1**
KMI				pP		**pP**	**23 36 39.8**	**+2.4**
KMI				S		**S**	**23 41 44.2**	**+3.6**
KMI				PMZ				
	comp=Z,11nm,1.4s							
KMI				PMZ				
	comp=Z,160nm,4.7s							
KMI				LN				
	comp=Z,1μm,12.9s							
KMI				LE				
	comp=Z,950nm,14.8s							
KMI				LZ				
	comp=Z,1μm,14.4s							
NJ2	**Nanjing**	**32.83**	**354**	*e*P		**P**	**23 36 38.8**	**+2.8**
NJ2				pP		**pP**	**23 36 41.8**	**-1.9**
NJ2				sP		**sP**	**23 36 43.1**	**-3.8**
NJ2				S		**S**	**23 41 55.0**	**+3.2**
NJ2				PMZ				
	comp=Z,10.0nm,0.6s							
NJ2				PMZ				
	comp=Z,490nm,4.8s							
NJ2				LN				
	comp=Z,3μm,22.1s							
NJ2				LE				
	comp=Z,5μm,22.4s							
NJ2				LZ				
	comp=Z,5μm,23.2s							
ENH	**Enshi**	**33.27**	**339**	*e*P		**P**	**23 36 41.6**	**+1.7**
	comp=Z,26nm,1.0s							
CBI	**Chichi jima**	**33.57**	**33**	*e*P		**P**	**23 36 41.7**	**-0.8**
CBIJ	**Chichi jima**	**33.57**	**33**	P		**P**	**23 36 41.7**	**-0.9**
JCJ	**Chichijima**	**33.57**	**33**	P		**P**	**23 36 41.7**	**-0.9**
	comp=Z,73nm,0.5s,baz=328,slow=17,SNR=5.9							
BBOO	**Buckleboo**	**34.33**	**159**	P		**P**	**23 36 49.4**	**+0.3**
	baz=34,SNR=6.6							
BBOO	**Buckleboo**	**34.33**	**159**	*e*P		**P**	**23 36 49.6**	**+0.4**
	comp=Z,105nm,1.7s							
STKA	**Stephens Creek**	**35.82**	**152**	P		**P**	**23 37 01.7**	**-0.2**
	comp=Z,26nm,1.1s,baz=323,slow=8.5,SNR=16							
STKA	**Stephens Creek**	**35.82**	**152**	*e*P		**P**	**23 37 02.5**	**+0.5**
STKA	**Stephens Creek**	**35.82**	**152**	*e*P		**P**	**23 37 02.5**	**+0.5**
CD2	**Chengdu**	**36.19**	**332**	*i*P		**P**	**23 37 05.7**	**+0.5**
CD2				pP		**pP**	**23 37 10.9**	**-2.1**
CD2				sP		**sP**	**23 37 16.8**	**+0.6**
CD2				S		**S**	**23 42 46.0**	**+2.1**
CD2				PMZ				
	comp=Z,70nm,1.0s							
XAN	**Xi'an**	**36.90**	**341**	P		**P**	**23 37 10.6**	**-0.6**
XAN				pP		**pP**	**23 37 17.4**	**-1.6**
XAN				PMZ				
	comp=Z,7.0nm,1.3s							
CMSA	**Cobar Meteorol**	**37.65**	**147**	P		**P**	**23 37 18.6**	**+1.0**
	baz=38,SNR=6.5							
KS15	**Wonju Array Si**	**38.35**	**7**	*e*P		**P**	**23 37 21.8**	**-1.6**
KSAR	**Wonju Array Be**	**38.35**	**7**	P		**P**	**23 37 21.8**	**-1.6**
KSAR	**Wonju Array Be**	**38.35**	**7**	P		**P**	**23 37 21.8**	**-1.6**
KSRS	**Korea Array**	**38.37**	**7**	P		**P**	**23 37 21.8**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=176,slow=12,SNR=3.0							
MAJO	**Matsushiro**	**39.90**	**20**	⇑*i*P		**P**	**23 37 34.1**	**-2.2**
MAJO						pmax	pmax	
	comp=Z,203nm,1.7s							
MAJO	**Matsushiro**	**39.90**	**20**	*e*P		**P**	**23 37 34.3**	**-2.1**
	comp=Z,18nm,0.9s							
MAT	**Matsushiro**	**39.90**	**20**	P		**P**	**23 37 34.0**	**-2.3**
MJAR	**Matsushiro Arr**	**39.90**	**20**	P		**P**	**23 37 34.1**	**-2.3**
	comp=Z,8.4nm,0.9s,baz=192,slow=8.9,SNR=18							
ARMA	**Armidale**	**40.43**	**140**	P		**P**	**23 37 43.3**	**+2.3**
	baz=40,SNR=5.6							
ARMA	**Armidale**	**40.43**	**140**	*e*P		**P**	**23 37 43.0**	**+2.0**
	comp=Z,82nm,1.9s							
LZH	**Lanzhou**	**40.57**	**337**	*e*P		**P**	**23 37 43.7**	**+1.5**
LZH				PMZ				
	comp=Z,75nm,1.3s							
LZH				PMZ				
	comp=Z,250nm,4.5s							
LZH				LN				
	comp=Z,4μm,16.2s							
LZH				LE				
	comp=Z,4μm,16.8s							
LZH				LZ				
	comp=Z,6μm,18.9s							
BJI	**Beijing**	**41.03**	**353**	P		**P**	**23 37 45.7**	**+0.1**
BJI				PMZ				
	comp=Z,13nm,1.0s							
YNG	**Young**	**41.22**	**147**	P		**P**	**23 37 49.1**	**+1.8**
	baz=41,SNR=5.5							
CHLP	**Challavanipeta**

GKN	**Gorkha**	**46.22**	**311**	*eP*		**P**	**23 38 27.8**	**-0.1**
	comp=Z,214nm,1.2s								
ERM	**Erimo**	**46.51**	**21**⇓	*eP*		**P**	**23 38 30.0**	**+0.4**
ERM					pmax	pmax			
	comp=Z,112nm,2.5s								
HYB	**Hyderabad**	**46.89**	**295**	*i* P		**P**	**23 38 32.0**	**-1.1**
HYBB	**Hyderabad (bro**	**46.89**	**295**	*eP*		**P**	**23 38 33.0**	**-0.2**
HYBB				*e*PcP		**PcP**	**23 40 02.6**	**-3.2**
HYBB				*e*			23 43 18.9		
HYBB				*e*ScP		**ScP**	**23 43 56.0**	**-2.1**
HYBB				*e*S		**S**	**23 45 23.0**	**+0.2**
KOLN	**Koldanda**	**46.89**	**310**	*eP*		**P**	**23 38 33.4**	**+0.2**
	comp=Z,124nm,1.0s								
URV	**Uravakonda**	**47.37**	**291**	*eP*		**P**	**23 38 36.7**	**-0.2**
URV				*e*			23 43 03.9		
URV				*e*			23 45 24.2		
URV				*e*SS		SS	23 48 56.9	-0.8	
URV				*e*			23 51 26.1		
TAU	**Tasmania Unive**	**47.48**	**155**	*eP*		**P**	**23 38 37.6**	**+0.3**
TAU					pmax	pmax			
	comp=Z,637nm,2.6s								
TAU	**Tasmania Unive**	**47.48**	**155**	*eP*		**P**	**23 38 37.6**	**+0.3**
	comp=Z,637nm,2.6s								
ASAJ	**Asahikawa**	**48.16**	**19**	P		**P**	**23 38 41.4**	**-1.2**
	comp=Z,19nm,0.9s,baz=224,slow=23,SNR=5.9								
ASAJ	**Asahikawa**	**48.16**	**19**	*eP*		**P**	**23 38 41.3**	**-1.2**
	comp=Z,33nm,1.1s								
HIA	**Hailar**	**49.90**	**358**⇓	*i* P		**P**	**23 38 57.0**	**+1.2**
HIA					pmax	pmax			
	comp=Z,18nm,1.7s								
ULN	**Ulaanbaatar**	**50.27**	**347**	*c i* P		**P**	**23 38 58.5**	**-0.3**
ULN					pmax	pmax			
	comp=Z,31nm,1.7s								
ULN	**Ulaanbaatar**	**50.27**	**347**	*eP*		**P**	**23 38 58.8**	**-0.1**
	comp=Z,19nm,1.1s								
SONA0	**Songino Array**	**50.40**	**346**	*eP*		**P**	**23 38 59.1**	**-0.7**
SONM	**Songino Array**	**50.40**	**346**	P		**P**	**23 38 59.1**	**-0.7**
	comp=Z,12nm,0.9s,baz=160,slow=8.0,SNR=18								
YSS	**Yuzh-Sakhalins**	**50.74**	**18**	*eP*		P	23 39 09.0	+6.9	
SMLA	**Simla**	**53.42**	**311**	*i* x		**P**	**23 39 22.4**	**+0.1**
WMQ	**Urumqi**	**54.19**	**329**	*eP*		**P**	**23 39 30.7**	**+2.8**
WMQ					pP	**pP**	**23 39 39.3**	**+3.3**
WMQ					PMZ				
	comp=Z,20nm,1.2s								
WMQ					PMZ				
	comp=Z,290nm,9.6s								
TLY	**Talaya**	**54.64**	**346**	*eP*		**P**	**23 39 33.4**	**+2.4**
TLY					pmax	pmax			
	comp=Z,15nm,1.7s								
MOY	**Mondy**	**55.32**	**344**	*eP*		**P**	**23 39 36.3**	**+0.3**
MSVF	**Nonsavu**	**57.11**	**111**	*eP*		**P**	**23 39 50.6**	**+1.2**
MSVF					pmax	pmax			
	comp=Z,76nm,1.5s								
MSVF	**Nonsavu**	**57.11**	**111**	*eP*		**P**	**23 39 50.6**	**+1.2**
	comp=Z,76nm,1.5s								
KSH	**Kashi**	**58.42**	**319**	P		**P**	**23 39 59.1**	**+0.9**
KSH					pP	**pP**	**23 40 05.2**	**-1.2**
KSH					sP	**sP**	**23 40 08.0**	**-1.5**
KSH					PP	**PP**	**23 42 09.9**	**+2.1**
KSH					S	**S**	**23 47 58.1**	**-1.8**
KSH					PMZ				
	comp=Z,15nm,1.2s								
KSH					PMZ				
	comp=Z,390nm,7.1s								
KSH					LN				
	comp=Z,430nm,12.2s								
KSH					LE				
	comp=Z,630nm,14.3s								
KSH					LZ				
	comp=Z,1μm,21.3s								
BOD	**Bodaibo**	**58.80**	**355**	*eP*		**P**	**23 39 58.2**	**-2.2**
BOD					pmax	pmax			
	comp=Z,10.0nm,1.1s								
MK32	**Makanchi Array**	**59.00**	**329**	*eP*		**P**	**23 40 01.6**	**-0.5**
MKAR	**Makanchi Array**	**59.00**	**329**	P		**P**	**23 40 01.6**	**-0.5**
	comp=Z,5.1nm,0.8s,baz=125,slow=9.5,SNR=42								
MKAR	**Makanchi Array**	**59.00**	**329**	*i* P		**P**	**23 40 01.6**	**-0.5**
MKAR					pmax	pmax			
	comp=Z,5.0nm,0.8s								
MKAR	**Makanchi Array**	**59.00**	**329**	*eP*		**P**	**23 40 01.5**	**-0.6**
TKM2	**Tokmak 2**	**60.47**	**322**	*eP*		**P**	**23 40 12.7**	**+0.2**
TKM2					pmax	pmax			
	comp=Z,10.0nm,0.9s								
TKM2	**Tokmak 2**	**60.47**	**322**	*eP*		**P**	**23 40 12.7**	**+0.2**
	comp=Z,10nm,0.9s								
RPZ	**Rata Peaks**	**60.72**	**141**	*eP*		**P**	**23 40 15.7**	**+1.8**
	comp=Z,94nm,1.0s								
AAK	**Ala-Archa**	**61.00**	**321**	P		**P**	**23 40 16.0**	**-0.1**
	comp=Z,5.1nm,0.9s,baz=126,slow=2.8,SNR=9.0								
AAK	**Ala-Archa**	**61.00**	**321**⇑	*eP*		**P**	**23 40 16.9**	**+0.8**
AAK					pmax	pmax			
	comp=Z,33nm,1.7s								
AAK	**Ala-Archa**	**61.00**	**321**	*eP*		**P**	**23 40 17.1**	**+1.0**
KBL	**Kabul**	**61.05**	**311**	*eP*		**P**	**23 40 16.4**	**-0.2**
KBL					pmax	pmax			
	comp=Z,27nm,1.2s								
KBL	**Kabul**	**61.05**	**311**	P		**P**	**23 40 17.3**	**+0.7**
	baz=61,SNR=6.5								
KBL	**Kabul**	**61.05**	**311**	*eP*		**P**	**23 40 16.4**	**-0.2**
	comp=Z,27nm,1.2s								
PETK	**Petropavlovsk-**	**61.19**	**23**	P		**P**	**23 40 15.9**	**-1.0**
	comp=Z,2.3nm,0.4s,baz=205,slow=6.2,SNR=7.3								
PEA2	**Petropavlovsk-**	**61.19**	**23**	*eP*		**P**	**23 40 15.9**	**-1.0**
EKS2	**Erkin-Say**	**61.47**	**321**	*eP*		**P**	**23 40 21.1**	**+2.0**
EKS2					pmax	pmax			
	comp=Z,27nm,1.5s								
EKS2	**Erkin-Say**	**61.47**	**321**	*eP*		**P**	**23 40 21.1**	**+2.0**
	comp=Z,27nm,1.5s								
KHZ	**Kahutara**	**61.67**	**139**	*eP*		**P**	**23 40 20.4**	**+0.1**
	comp=Z,170nm,1.9s								
ZALV	**Zalesovo Beam**	**62.80**	**336**	P		**P**	**23 40 26.1**	**-1.6**
	comp=Z,10.0nm,0.9s,baz=123,slow=5.5,SNR=13								
ZALV	**Zalesovo Beam**	**62.80**	**336**	*i* P		**P**	**23 40 26.6**	**-1.1**
ZALV					pmax	pmax			
	comp=Z,10.0nm,0.9s								
ZAA1	**Zalesovo Array**	**62.81**	**336**	*eP*		**P**	**23 40 26.1**	**-1.6**
YAK	**Yakutsk**	**62.88**	**4**	*eP*		P	23 40 24.6	-3.4	
YAK					pmax	pmax			
	comp=Z,16nm,0.9s								
YAK					pmax	pmax			
	comp=N,6.0nm,1.0s								
KURK	**Kurchatov**	**63.39**	**330**	P		**P**	**23 40 30.3**	**-1.3**
	comp=N,91nm,0.8s,SNR=22								
KURK	**Kurchatov**	**63.39**	**330**	*eP*		**P**	**23 40 30.4**	**-1.3**
KURK					pmax	pmax			
	comp=Z,29nm,0.9s								
KURK	**Kurchatov**	**63.39**	**330**	*eP*		**P**	**23 40 30.4**	**-1.3**
	comp=Z,29nm,0.9s								
NVS	**Novosibirsk**	**64.09**	**336**	*eP*		**P**	**23 40 34.4**	**-1.8**
NVS					pmax	pmax			
	comp=Z,15nm,1.1s								
NVS					pmax	pmax			
	comp=N,3.0nm,0.5s								
NVS					pmax	pmax			
	comp=E,9.0nm,1.2s								
SEY	**Seymchan**	**67.38**	**14**	P		**P**	**23 40 56.0**	**-1.2**
	comp=E,8.4nm,1.0s,baz=222,slow=3.5,SNR=11								
BRVK	**Borovoye**	**68.95**	**329**	*c i* P		**P**	**23 41 06.1**	**-1.2**
BRVK					pmax	pmax			
	comp=Z,26nm,1.7s								
BRVK	**Borovoye**	**68.95**	**329**	*eP*		**P**	**23 41 06.8**	**-0.5**
	comp=Z,13nm,1.0s								
GEYT	**Alibeck**	**70.50**	**311**	P		**P**	**23 41 16.1**	**-1.2**
	comp=Z,4.1nm,0.8s,baz=34,slow=5.6,SNR=7.1								
TIXI	**Tiksi**	**72.42**	**2**	*i* P		**P**	**23 41 25.5**	**-2.5**
TIXI	**Tiksi**	**72.42**	**2**	*eP*		P	23 41 25.0	-3.1	
	comp=Z,9.9nm,1.0s								
ABKAR	**Akbulak array**	**73.03**	**323**	*eP*		**P**	**23 41 31.7**	**-0.4**
AKTO	**Aktyubinsk**	**74.62**	**323**	P		**P**	**23 41 40.7**	**-0.8**
	comp=Z,3.8nm,1.0s,baz=115,slow=8.3,SNR=7.7								
SVE	**Sverdlovsk**	**75.63**	**330**⇑	*eP*		**P**	**23 41 45.6**	**-1.5**
SVE				*e*S		**S**	**23 51 28.0**	**+1.4**
SVE					pmax	pmax			
	comp=Z,31nm,1.5s								
SVE	**Sverdlovsk**	**75.63**	**330**	*e*			23 51 28.4		
MAW	**Mawson**	**78.11**	**200**	P		**P**	**23 42 00.9**	**+0.1**
	comp=Z,3.7nm,0.9s,baz=78,slow=4.1,SNR=4.1								
RAYN	**Ar Rayn**	**78.39**	**294**	P		**P**	**23 42 02.6**	**-0.8**
	comp=Z,70nm,1.0s,SNR=9.7								
RAYN	**Ar Rayn**	**78.39**	**294**	*eP*		**P**	**23 42 01.6**	**-1.9**
	comp=Z,9.7nm,1.1s								
VNDA	**Vanda**	**79.56**	**172**	P		**P**	**23 42 08.8**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=319,slow=5.8,SNR=18								
VNDA	**Vanda**	**79.56**	**172**	*eP*		**P**	**23 42 09.6**	**+0.9**
VNDA	**Vanda**	**79.56**	**172**	*eP*		**P**	**23 42 09.6**	**+0.9**

AKUT	**Akutan**	**80.00**	**35**	*eP*		**P**	**23 42 12.2**	**+0.7**
FALS	**False Pass**	**81.52**	**34**	*eP*		**P**	**23 42 18.9**	**-0.6**
	comp=Z,17nm,0.9s								
ZEI	**Tsey**	**82.15**	**313**	*eP*		P	23 42 19.2	-4.3	
ZEI					pmax	pmax			
	comp=Z,11nm,1.5s								
KIV	**Kislovodsk**	**83.19**	**314**	*eP*		**P**	**23 42 28.0**	**-0.8**
KIV					pmax	pmax			
	comp=Z,6.0nm,1.1s								
PRGR	**Permogore**	**84.45**	**332**	*eP*		**P**	**23 42 32.0**	**-2.6**
PRGR					pmax	pmax			
	comp=Z,25nm,1.4s								
VORD	**Divnogorie**	**86.30**	**321**	*eP*		**P**	**23 42 42.4**	**-1.7**
VORD					pmax	pmax			
	comp=Z,20nm,1.4s								
VORD					pmax	pmax			
	comp=N,6.0nm,0.6s								
VORD					pmax	pmax			
	comp=E,20nm,0.7s								
VORD					MLR	MLR			
	comp=Z,7μm,24.0s								
VORD					MLR	MLR			
	comp=N,2μm,20.0s								
VORD					MLR	MLR			
	comp=E,6μm,22.0s								
VSR	**Storozhevoye**	**86.41**	**321**	*eP*		**P**	**23 42 41.9**	**-2.7**
VSR					pmax	pmax			
	comp=Z,10.0nm,1.0s								
VSR					pmax	pmax			
	comp=N,10.0nm,0.8s								
VSR					pmax	pmax			
	comp=E,10.0nm,0.9s								
ASF	**Jabal al Asfar**	**86.67**	**302**	P		**P**	**23 42 47.2**	**+0.7**
	comp=E,3.9nm,1.1s,baz=72,slow=1.4,SNR=6.2								
LPSR	**Galich'ya Gora**	**86.69**	**323**	*eP*		**P**	**23 42 43.9**	**-2.1**
LPSR					pmax	pmax			
	comp=Z,9.0nm,1.0s								
LPSR					pmax	pmax			
	comp=N,6.0nm,0.6s								
LPSR					pmax	pmax			
	comp=E,20nm,0.6s								
SYO	**Syowa Base**	**86.73**	**201**⇑	*e*X		**P**	**23 42 44.6**	**-1.2**
KLMR	**Klimovskoe**	**87.24**	**331**	*eP*		**P**	**23 42 48.6**	**+0.1**
KLMR					pmax	pmax			
	comp=Z,46nm,1.7s								
IM04	**Indian Mountai**	**88.14**	**24**	*eP*		**P**	**23 42 53.5**	**+0.8**
QSPA	**South Pole Qui**	**89.17**	**180**	P		**P**	**23 42 58.1**	**+0.4**
	comp=Z,20nm,1.2s,baz=300,slow=2.1,SNR=19								
BR101	**Keskin Array S**	**89.60**	**310**	*eP*		**P**	**23 42 58.0**	**-2.4**
BRTR	**Keskin Array B**	**89.60**	**310**	P		**P**	**23 42 58.0**	**-2.4**
	comp=Z,1.0nm,0.9s,baz=141,slow=4.1,SNR=4.7								
BRTR					PP	**PP**	**23 46 29.4**	**-2.9**	
	comp=Z,0.8nm,0.8s,baz=94,slow=7.6,SNR=4.4								
BRTR	**Keskin Array B**	**89.60**	**310**	*ce*P		**P**	**23 43 01.7**	**+1.3**
BRTR					pmax	pmax			
	comp=Z,1.0nm,0.9s								
ILAR	**Eielson Array**	**90.96**	**25**	P		**P**	**23 43 04.2**	**-1.7**
	comp=Z,0.7nm,0.7s,baz=255,slow=3.9,SNR=5.4								
ILB	**Eielson Array**	**90.96**	**25**	*eP*		**P**	**23 43 04.2**	**-1.7**
AKASG	**Malin Array Be**	**92.67**	**321**	P		**P**	**23 43 11.7**	**-2.5**
	comp=Z,0.6nm,0.6s,baz=73,slow=4.6,SNR=5.8								
AKASG	**Malin Array Be**	**92.67**	**321**	*i* P		**P**	**23 43 12.1**	**-2.1**
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.7s								
AKBB	**Malin Array Si**	**92.67**	**321**	*eP*		**P**	**23 43 11.7**	**-2.5**
AKBB	**Malin Array Si**	**92.67**	**321**	*eP*		**P**	**23 43 11.7**	**-2.5**
KIS	**Kishinev**	**93.07**	**317**	*e*PPS		PPS	23 42 12.0		
KIS				*e*L		L	00 12 00.0		
KIS					LRM	MLR	00 25 12.0		
	comp=Z,3μm,19.0s								
LSZ	**Lusaka**	**93.95**	**255**	*eP*		**P**	**23 43 20.3**	**-0.7**
LSZ					pmax	pmax			
	comp=Z,8.0nm,1.1s								
LSZ	**Lusaka**	**93.95**	**255**	*eP*		**P**	**23 43 20.3**	**-0.7**
	comp=Z,8.2nm,1.1s								
SPA0	**Spitsbergen Ar**	**94.03**	**349**	*eP*		**P**	**23 43 17.4**	**-2.6**
SPITS	**Spitsbergen Ar**	**94.03**	**349**	P		**P**	**23 43 17.4**	**-2.6**
	comp=Z,8.7nm,0.9s,baz=102,slow=7.8,SNR=6.6								
DAWY	**Dawson**	**94.25**	**26**	*eP*		**P**	**23 43 20.8**	**-0.4**
	comp=Z,4.9nm,1.0s								
KOLS	**Kolonicke sedl**	**97.30**	**319**	*eP*		Pdif	23 43 35.8	+0.3	
KOLS	**Kolonicke sedl**	**97.30**	**319**	*eP*		Pdif	23 43 35.8	+0.3	
CRVS	**Cervenica-Dubn**	**97.83**	**319**	*eP*		Pdif	23 43 40.1	+2.2	
CRVS	**Cervenica-Dubn**	**97.83**	**319**	*e*		Pdif	23 43 40.1	+2.2	
KRLC	**Kraliky**	**100.64**	**321**	*e*PP		PP	23 48 01.2	+3.6	
DPC	**Dobruska-Polom**	**100.88**	**321**	*e*PP		PP	23 48 04.5	+5.2	
PVCC	**Panska Ves**	**101.93**	**322**	*e*PP		PP	23 48 07.4	+0.2	
PRU	**Pruhonice**	**102.07**	**321**	*e*PP		PP	23 48 12.8	+4.5	
G06A	**Carlson Farm,**	**109.20**	**42**	*e*Pdif		**Pdif**	**23 44 24.6**	**-4.0**
K05A	**Summer Lake**	**109.82**	**44**	*e*PKiKP		**PKiKP**	**23 48 30.9**	**-3.1**
HLID	**Hailey**	**113.96**	**42**	*e*PKiKP		**PKiKP**	**23 48 42.7**	**+0.9**
HRY	**Holter Researc**	**114.27**	**38**	*e*PKiKP		**PKiKP**	**23 48 44.3**	**+2.1**
MCMT	**McKenzie Canyo**	**114.46**	**40**	*e*PKiKP		PKPdf	23 48 43.7	+1.0	
GCMT	**Greycliff**	**116.02**	**38**	*e*PKPdf		**PKPdf**	**23 48 44.3**	**-1.3**
REDW	**Red Top Meadow**	**116.39**	**41**	*e*PKPdf		**PKPdf**	**23 48 47.2**	**+0.7**
PD31	**Pinedale Array**	**117.51**	**41**	*e*PKPdf		**PKPdf**	**23 48 48.6**	**-0.1**
PDAR	**Pinedale Array**	**117.51**	**41**	PKP		**PKPdf**	**23 48 48.6**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=318,slow=2.0,SNR=3.7								
WUAZ	**Wuatki**	**119.26**	**49**	*e*PKPdf		**PKPdf**	**23 48 53.2**	**+1.0**
TOA0	**Torodi Ar. Sit**	**120.11**	**285**	*e*PKPdf		**PKPdf**	**23 48 52.8**	**-1.4**
TORD	**Torodi Ar. Bea**	**120.11**	**285**	PKP		**PKPdf**	**23 48 52.8**	**-1.4**
	comp=Z,2.3nm,0.8s,baz=61,slow=2.0,SNR=13								
Q23A	**Lake Granby, G**	**121.12**	**42**	P		**PKPdf**	**23 48 55.1**	**-0.7**
	baz=121								
Q23A	**Hartsel**	**121.81**	**43**	P		**PKPdf**	**23 48 56.3**	**-0.8**
	baz=122								
121A	**Cookes Peak, D**	**123.16**	**51**	P		**PKPdf**	**23 48 59.6**	**-0.1**
	baz=123								
ANMO	**Albuquerque**	**123.17**	**48**⇓	*i*PKiKP		**PKPdf**	**23 48 58.8**	**-0.9**
ANMO					pmax	pmax			
	comp=Z,18nm,1.2s								
ANMO	**Albuquerque**	**123.17**	**48**	*e*PKPdf		**PKPdf**	**23 49 00.2**	**+0.4**
BNM	**Barren Site**	**123.38**	**49**	*e*PKPdf		**PKPdf**	**23 49 01.2**	**+1.0**
T26A	**Comanche Natio**	**124.19**	**44**	P		**PKPdf**	**23 49 01.4**	**-0.3**
	baz=124								
ECSD	**EROS Data Cent**	**124.86**	**34**	P		**PKPdf**	**23 49 01.6**	**-0.9**
	baz=125								
MNTX	**Cornudas Mount**	**125.36**	**51**	P		**PKPdf**	**23 49 03.6**	**-0.2**
	baz=125								
Z29A	**Hungry Hill Ra**	**127.44**	**47**	P		**PKPdf**	**23 49 08.0**	**+0.2**
	baz=127								
129A	**Stewart Farms,**	**127.62**	**48**	P		**PKPdf**	**23 49 08.3**	**+0.1**
	baz=127								
LTX	**Lajitas**	**127.68**	**53**	*e*PKIKP		**PKPdf**	**23 49 07.8**	**-0.6**
LTX	**Lajitas**	**127.68**	**53**	*e*PKPdf		**PKPdf**	**23 49 07.8**	**-0.6**
TXAR	**Lajitas Array**	**127.68**	**53**	PKP		**PKPdf**	**23 49 07.8**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=220,slow=1.0,SNR=4.2								
529A	**Stev Forest Ra**	**128.49**	**51**	P		**PKPdf**	**23 49 09.9**	**0.0**
	baz=128								
429A	**Davenport Ranc**	**128.52**	**50**	P		**PKPdf**	**23 49 09.6**	**-0.3**
	baz=128								
430A	**Baggett Ranch,**	**128.95**	**50**	P		**PKPdf**	**23 49 11.0**	**+0.2**
	baz=129								
Z32A	**Haskell**	**129.04**	**46**	P		**PKPdf**	**23 49 11.0**	**+0.2**
	baz=129								
530A	**J-C Ranch, Com**	**129.16**	**51**	P		**PKPdf**	**23 49 11.4**	**+0.2**
	baz=129								
531A	**Rocksprings**	**129.76**	**50**	P		**PKPdf**	**23 49 12.7**	**+0.4**
	baz=130								
TUL1	**Leonard**	**130.16**	**41**	P		**PKPdf**	**23 49 13.1**	**+0.3**
	baz=130								
RTLS	**Leoncito**	**145.73**	**162**	*eP*		PKPdf	23 49 34.9	-6.8	
RTCV	**Cerro Valdivia**	**145.90**	**163**	*eP*		**PKPdf**	**23 49 39.0**	**-2.8**
CFAA	**Coronel Fontan**	**146.23**	**163**	*eP*		**PKPbc**	**23 49 43.7**	**+0.3**
RTLL	**Cerro Villicun**	**146.42**	**163**	*eP*		**PKPbc**	**23 49 44.2**	**+0.2**
LCO	**Las Campanas**	**147.81**	**158**	*e*PKPbc		**PKPbc**	**23 49 48.9**	**+0.6**
JTS	**JuntasAbangare**	**151.12**	**70**	PKPbc		**PKPbc**	**23 49 56.5**	**0.0**
	comp=Z,19nm,1.1s,baz=328,slow=9.5,SNR=5.2								
CPUP	**Villa Florida**	**153.06**	**180**	PKP		**PKPdf**	**23 49 53.3**	**+0.1**
	comp=Z,1.7nm,1.2s,baz=122,slow=7.1,SNR=2.8								
CPUP					PKPbc	**PKPbc**	**23 50 00.8**	**+0.3**	
	comp=Z,2.8nm,1.1s,baz=212,slow=3.2,SNR=5.2								
CPUP	**Villa Florida**	**153.06**	**180**	PKIKP		**PKPdf**	**23 49 53.3**	**+0.1**
CPUP				*e*			23 49 55.8		
CPUP							23 50 00.8		
CPUP	**Villa Florida**	**153.06**	**180**	PKP		**PKPdf**	**23 49 53.3**	**+0.1**
CPUP					*e*PKPdf	**PKPbc**	**23 49 55.8**	**-4.7**
CPUP					PKPbc	**PKPbc**	**23 50 00.8**	**+0.3**
SAML	**Samuel**	**168.81**	**150**	*e*PKPdf		**PKPdf**	**23 50 10.6**	**+0.3**

MEX 03 23:41:55.0±0.7, 15°.99N×97°.58W, h16^{km}±10^{km}, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.66**	**307**	*i* P		Pg	23 42 05.6	-2.5
PNIG				*i* S		Sg	23 42 13.9	-3.1
VHO	**Vista Hermosa**	**1.35**	**37**	*i* P		Pn	23 42 15.8	-3.7
VHO				*i* S		Sn	23 42 31.8	-5.4
HUIG	**Huatulco**	**1.43**	**99**	*eP*		Pn	23 42 16.9	-3.4
HUIG				*i* S		Sn	23 42 33.0	-5.7

MEX 03 23:49:28.9±0.7, 18°.88N×104°.13W, h5^{km}, MD3.5, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
R15V		**0.32**	**26**	*i* P		Pg	23 49 34.7	-0.6
R15V				*i* S		Sg	23 49 39.1	-0.5
EZ5V		**0.78**	**40**	*i* P		Pg	23 49 43.4	-0.9
EZ5V				*i* S		Sg	23 49 54.1	-0.5
MMIG	**Aquila**	**0.95**	**128**	*eP*		Pg	23 49 44.6	-2.5
MMIG				*e*S		Sg	23 49 57.3	-2.1
SFJM	**Santa Fe**	**1.90**	**33**	*i* P		Pn	23 50 00.6	-1.7
ARIG	**Puente Sto Nin**	**3.64**	**99**	*i* P		Pn	23 50 23.6	-2.3
ARIG				*i* S		Sn	23 51 06.1	-3.2

*IDC **03** 23:50:60.0±2.1, 18°.67N×104°.83W, h0^{km}, mb3.6/4, mb1 3.9/7, mb1mx3.6/34, mbtmp3.6/7, ML3.1/3, Error ellipse: s-maj=43.0km s-min=32.4km az=66.0*
*ISCJB **03** 23:51:02.5±1.0, 18°.79N±0°.07×104°.37W±0°.07, h23^{km}, mb3.5/4, Error ellipse: s-maj=12.2km s-min=7.6km az=40.5*
*MEX **03** 23:51:05.2±1.4, 18°.86N×104°.33W, h5^{km}, MD4.0*
ISC 03 23:51:03.6±1.2, 18°.89N±0°.06×104°.21W±0°.09, h23^{km}, n14, σ1°.92/13, mb3.7/4, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
R15V		**0.35**	**38**	*i* P		**Pb**	**23 51 12.2**	**+0.9**
R15V				*i* S		**Sb**	**23 51 16.7**	**+0.1**
R15V				*i* S		**Sn**	**23 51 20.4**	**+0.6**
EZ5V		**0.82**	**44**	*i* P		**Pn**	**23 51 21.0**	**+1.0**
MMIG	**Aquila**	**1.02**	**126**	*eP*		**Pb**	**23 51 23.6**	**+1.1**
MMIG				*e*S		**Sb**	**23 51 35.9**	**+0.4**
SFJM	**Santa Fe**	**1.94**	**35**	*eP*		**Pb**	**23 51 37.6**	**-0.7**
ARIG	**Puente Sto Nin**	**3.72**	**99**	*eP*		**Pb**	**23 52 06.3**	**-2.2**
H06E1	**SOCORRO T-PHAS**	**6.36**	**270**	T		T	23 58 49.0	
	SNR=50							
H06S1	**SOCORRO T**	**6.39**	**270**	T		T	23 58 49.9	
	SNR=7.1							
CMIG	**Matias Romero**	**9.06**	**100**	Pn		Pn	23 53 20.4	+7.5
	0.2nm,0.3s,baz=276,slow=11,SNR=3.9							
CMIG					Lg	Lg	23 55 47.1	
	0.2nm,0.3s,baz=346,slow=16,SNR=4.2							
TXAR	**Lajitas Array**	**10.41**	**3**	Pn		Pn	23 53 35.9	+4.4
	0.1nm,0.3s,baz=186,slow=15,SNR=6.3							
TXAR					Lg	Lg	23 56 35.9	
	0.1nm,0.3s,baz=182,slow=30,SNR=4.6							
ANMO	**Albuquerque**	**16.12**	**353**	Pn		**P**	**23 54 51.6**	**-0.4**
	0.0nm,0.3s,baz=192,slow=5.3,SNR=3.6							
NVAR	**Mina Array Bea**	**23.01**	**331**	P		**P**	**23 56 07.4**	**+0.3**
	0.8nm,0.6s,baz=136,slow=10,SNR=4.8							
PDAR	**Pinedale Array**	**24.23**	**350**	P		**P**	**23 56 19.6**	**+0.7**
	0.6nm,0.8s,baz=131,slow=9.7,SNR=4.3							
ILAR	**Eielson Array**	**53.91**	**339**	P		**P**	**00 00 24.3**	**-0.6**
	1.3nm,0.9s,baz=150,slow=6.1,SNR=12							
SEY	**Seymchan**	**79.30**	**333**	P		**P**	**00 03 06.4**	**-0.6**
	0.8nm,0.6s,baz=20,slow=19,SNR=3.5							

*IDC **03** 23:53:13.7±0.7, 0°.65S×122°.53E, h0^{km}, mb4.2/9, mb1 4.4/9, mb1mx4.0/33, mbtm

STKA	Stephens Creek 17nm,2.3s	35.89	152	*e*P	P	00 00 15.5	-0.9
MAJO	Matsushiro 22nm,1.6s	39.85	20	*e*P	P	00 00 49.6	-0.2
MJAR	Matsushiro Arr 2.2nm,0.8s,baz=198,slow=9.1,SNR=7.8	39.85	20	P	P	00 00 49.6	-0.2
LSA	Lhasa 9.2nm,1.0s	42.50	318	*e*P	P	00 01 12.1	-0.2
ODAN	Odare 12nm,0.7s	43.48	312	*e*P	P	00 01 20.3	+0.3
TAPN	Taplejung 20nm,0.9s	43.52	313	*e*P	P	00 01 19.8	-0.6
RAMN	Ramite 74nm,1.3s	44.12	311	*e*P	P	00 01 25.5	+0.3
JIRN	Jiri 33nm,1.0s	44.81	312	*e*P	P	00 01 31.1	+0.2
GUN	Gumba 59nm,1.0s	45.18	312	*e*P	P	00 01 33.8	0.0
PKI	Pulchoki 28nm,1.3s	45.35	311	*e*P	P	00 01 34.9	-0.2
PKIN	Phulchoki 10nm,0.9s	45.36	311	*e*P	P	00 01 34.8	-0.3
KKN	Kakani 29nm,1.1s	45.56	311	*e*P	P	00 01 36.8	+0.2
DMN	Daman 45nm,1.2s	45.60	311	*e*P	P	00 01 37.0	0.0
GKN	Gorkha 39nm,1.0s	46.16	311	*e*P	P	00 01 40.9	-0.4
KOLN	Koldanda 12nm,0.6s	46.82	310	*e*P	P	00 01 46.8	+0.2
ASAJ	Asahikawa 103nm,2.0s	48.12	19	*e*P	P	00 01 54.3	-1.8
SONA0	Songino Array	50.34	346	*e*P	P	00 02 12.8	-0.3
SONM	Songino Array 2.4nm,0.8s,baz=162,slow=7.1,SNR=14	50.34	346	P	P	00 02 12.8	-0.3
MK32	Makanchi Array	58.93	329	*e*P	P	00 03 14.0	-1.5
MKAR	Makanchi Array 2.5nm,0.8s,baz=152,slow=5.5,SNR=23	58.93	329	P	P	00 03 14.0	-1.5
MKAR	Makanchi Array	58.93	329	*e*P	P	00 03 15.7	+0.2
AAK	Ala-Archa 3.0nm,0.9s	60.94	321	*e*P	P	00 03 31.6	+2.0
ZALV	Zalesovo Beam 2.1nm,0.7s,baz=120,slow=6.7,SNR=12	62.73	336	P	P	00 03 39.0	-2.1
ZAA1	Zalesovo Array	62.74	336	*e*P	P	00 03 39.0	-2.2
KURK	Kurchatov 7.2nm,1.0s	63.32	330	*e*P	P	00 03 44.3	-0.8
TORD	Torodi Ar. Bea 0.9nm,0.8s,baz=93,slow=0.8,SNR=5.0	120.07	285	PKP	PKPdf	00 12 05.4	-2.7

IDC ***04*** *00:05:41.6±1.8,44.7°70N×148.7°67E,h0km,mb3.8/2, mb1 3.9/5,mb1mx3.4/42,mbtmp3.8/5,ML3.6/2,Error ellipse: s-maj=56.6km s-min=27.5km az=159.0*
MOS ***04*** *00:05:47.1±1.9,45.6°4N×147.0°5E,h78km,mb4.0/5,Error ellipse: s-maj=25.5km s-min=12.0km az=72.0*
JMA ***04*** *00:05:49.6±0.3,44.6°16N×147.9°5E,h0km,M4.4*
SKHL ***04*** *00:05:50.1±0.4,44.9°1N×147.8°0E,h102km±5km,mb5.5/3, msh5.0/1*

ISC 04 00:05:45.6±1.1,**44.°54N**±0.°06×**148.°44E**±0.°09,**h92**km±10km, **n43,σ2ᵎ12/40,mb3.6/6,6C-2D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KUR	**Kuril'sk**	**0.81**	**330**	*i* P	N	**Pn**	**00 06 04.7**	**+1.5**
KUR				*i* S		**Sn**	**00 06 14.8**	**-1.7**
KUR	comp=N,826nm,0.1s			pmax		pmax		
KUR	comp=Z,2μm,0.3s			pmax		pmax		
KUR	comp=E,841nm,0.3s			pmax		pmax		
KUR	comp=Z,1μm,0.1s			pmax		pmax		
KUR	comp=N,2μm,0.5s			smax		smax		
KUR	comp=E,3μm,0.5s			smax		smax		
KUR	**Kuril'sk**	**0.81**	**330**	*i* P		**Pn**	**00 06 04.8**	**+1.5**
KUR	comp=E,2μm,0.3s			AMB		AMB	00 06 05.6	
KUR	comp=E,3μm,1.6s			AMB		AMB	00 06 11.0	
KUR				*i* S		**Sn**	**00 06 16.1**	**-0.4**
KUR	comp=E,6μm,1.0s			A		A	00 06 16.6	
KUR	comp=E,5μm,1.6s			A		A	00 06 16.6	
KUR	comp=E,5μm,0.3s			A		A	00 06 18.0	
KUR	comp=E,3μm,0.3s			A		A	00 06 18.0	
SHO	**Shikotan**	**1.34**	**241**	*e*P		**Pn**	**00 06 11.0**	**+1.6**
SHO	comp=E,690nm,0.3s			AMB		AMB	00 06 11.2	
SHO				*e*S		**Sn**	**00 06 25.4**	**-2.0**
SHO	comp=E,1μm,0.3s			A		A	00 06 25.8	
YUK	**Yuzh-Kuril'sk**	**1.92**	**256**	*c* iPN		**Pn**	**00 06 18.5**	**+1.8**
YUK				*i* S		**Sn**	**00 06 39.6**	**-1.0**
YUK	comp=N,112nm,0.2s			pmax		pmax		
YUK	comp=Z,758nm,0.2s			pmax		pmax		
YUK	comp=E,66nm,0.1s			pmax		pmax		
YUK	comp=N,2μm,0.5s			smax		smax		
YUK	comp=E,2μm,0.5s			smax		smax		
YUK	**Yuzh-Kuril'sk**	**1.92**	**256**	*i* P		**Pn**	**00 06 18.6**	**+1.8**
YUK	comp=E,110nm,0.2s			AMB		AMB	00 06 19.0	
YUK	comp=E,70nm,0.2s			AMB		AMB	00 06 19.0	
YUK	comp=E,760nm,0.2s			AMB		AMB	00 06 19.0	
YUK				*i* S		**Sn**	**00 06 39.7**	**-0.9**
YUK	comp=E,2μm,0.5s			A		A	00 06 41.1	
YUK	comp=E,2μm,0.5s			A		A	00 06 41.1	
YUK	comp=E,2μm,0.6s			A		A	00 06 41.7	
NEM2	**Nemuro 2**	**2.28**	**240**	P		**Pn**	**00 06 22.1**	**+0.6**
NEM2				*e*S		**Sn**	**00 06 46.0**	**-2.9**
JRA	**Rausu**	**2.46**	**257**	P		**Pn**	**00 06 25.9**	**+2.0**
JRA				*e*S		**Sn**	**00 06 52.9**	**-0.4**
JNK	**Nakash**	**2.85**	**252**	P		**Pn**	**00 06 31.4**	**+2.3**
JNK				*e*S		**Sn**	**00 07 01.1**	**-1.5**
JAK	**Akkeshi**	**3.12**	**242**	P		**Pn**	**00 06 34.0**	**+1.2**
JAK				*e*S		**Sn**	**00 07 06.4**	**-2.7**
JTKR	**Abashiri--Toko**	**3.31**	**262**	P		**Pn**	**00 06 37.4**	**+2.2**
JAR	**Ashorobuto**	**3.60**	**251**	P		**Pn**	**00 06 42.2**	**+3.0**
JAR				*e*S		**Sn**	**00 07 21.0**	**+0.3**
JCH	**Churui**	**4.16**	**244**	P		**Pn**	**00 06 48.7**	**+1.9**
JCH				*e*S		**Sn**	**00 07 33.4**	**-0.9**
ASAJ	**Asahikawa** comp=E,3.2nm,0.3s,baz=87,slow=15,SNR=14	**4.22**	**266**	Pn		Pn	00 06 51.0	+3.5
ASAJ	**Asahikawa** comp=Z,3.0nm,0.3s	**4.22**	**266**	PN		Pn	00 06 51.0	+3.5
ASAJ				pmax		pmax		
ERM	**Erimo**	**4.61**	**239**	*c* iPN		Pn	00 06 57.0	+4.1
ERM	**Erimo**	**4.61**	**239**	*i* P		Pn	00 06 57.0	+4.1
YSS	**Yuzh-Sakhalins**	**4.66**	**303**	*e*PN		**Pn**	**00 06 55.5**	**+2.0**
YSS	**Yuzh-Sakhalins**	**4.66**	**303**	*e*P		**Pn**	**00 06 53.5**	**0.0**
YSS				*e*S		**Sn**	**00 07 41.0**	**-5.2**
YSS	comp=Z,90nm,1.0s			A		A	00 07 50.0	
JNBK	**Urakawa-nobuka**	**4.72**	**243**	P		**Pn**	**00 06 56.3**	**+1.9**
JNBK				*e*S		**Sn**	**00 07 48.6**	**+0.7**
JKB	**Kayabe**	**6.03**	**246**	P		**Pn**	**00 07 14.3**	**+2.1**
JKB				*e*S		**Sn**	**00 08 16.9**	**-2.8**
JOT	**Ohata**	**6.28**	**242**	*e*S		**Sn**	**00 08 22.2**	**-3.6**
JANG	**Nango**	**6.60**	**233**	P		**Pn**	**00 07 20.1**	**+0.1**
JANG				*e*S		**Sn**	**00 08 30.0**	**-3.8**
TYV	**Tymovskoe**	**7.43**	**330**	*e*P		**Pn**	**00 07 33.5**	**+2.3**
SKR	**Severo-Kuril's**	**8.04**	**37**	*e*P		Pn	00 07 50.6	+11
PET	**Petropavlovsk**	**10.83**	**35**	*e*PN		**Pn**	**00 08 15.8**	**-1.6**
PET	**Petropavlovsk**	**10.83**	**35**	*e*P		**Pn**	**00 08 15.8**	**-1.6**
MJAR	**Matsushiro Arr** comp=Z,0.3nm,0.3s,baz=31,slow=12,SNR=8.3	**11.15**	**228**	Pn		**Pn**	**00 08 23.4**	**+1.4**
USRK	**Ussuriysk Ar.** comp=Z,0.2nm,0.3s,baz=91,slow=14,SNR=7.5	**11.79**	**274**	Pn		Pn	00 08 34.5	+4.1
KROS	**Kirovskiy**	**17.04**	**313**	*e*P		**P**	**00 09 40.4**	**+2.1**
SEY	**Seymchan**	**18.57**	**6**	*i* P		P	00 09 48.1	-6.9
SEY	**Seymchan**	**18.57**	**6**	*e*P		P	00 09 48.1	-6.9
ULN	**Ulaanbaatar** comp=Z,3.0nm,2.5s	**28.59**	**292**	*e*P		P	00 11 24.6	-8.5
ULN				pmax		pmax		
TIXI	**Tiksi**	**28.78**	**347**	*e*P		P	00 11 29.1	-5.2
TIXI	comp=Z,1.0nm,0.9s			pmax		pmax		
TIXI	**Tiksi**	**28.78**	**347**	*e*P		P	00 11 29.1	-5.2
COLA	**College**	**39.88**	**37**	*e*P		**P**	**00 13 10.4**	**+0.5**
COLA	**College**	**39.88**	**37**	*e*P		**P**	**00 13 10.4**	**+0.5**
BRVK	**Borovoye**	**49.77**	**309**	*e*P		P	00 14 24.1	-4.4
BRVK	comp=Z,5.0nm,2.7s			pmax		pmax		
BRVK	**Borovoye**	**49.77**	**309**	*e*P		P	00 14 24.1	-4.4
AAK	**Ala-Archa** comp=Z,3.0nm,1.4s	**51.86**	**296**	*e*P		P	00 14 38.2	-6.3
AAK				pmax		pmax		
AAK	**Ala-Archa**	**51.86**	**296**	*e*P		P	00 14 38.2	-6.3
FINES	**FINESS Array B** comp=Z,1.1nm,0.9s,baz=66,slow=3.4,SNR=5.0	**64.59**	**333**	P		P	00 16 18.7	+6.0
FINES	**FINESS Array B**	**64.59**	**333**	P		P	00 16 18.7	+6.0
FINES	comp=Z,1.0nm,0.9s			pmax		pmax		
TXAR	**Lajitas Array** comp=Z,0.4nm,0.6s,baz=290,slow=4.2,SNR=7.1	**81.44**	**57**	P		P	00 18 00.2	+7.5

GUC 04 00:17:56.8±0.5,**34.°12S**×**72.°27W,h15**km±4km**,ML3.7, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TACH	**Talagante**	**1.20**	**67**	*e*P		Pn	00 18 16.3	-2.8
TACH				*i* S		Sb	00 18 31.3	-3.4
IHA	**Instituto Hidr**	**1.21**	**26**	*i* P		Pn	00 18 16.2	-3.0
IHA				*i* S		Sb	00 18 31.8	-3.2
NICH	**Los Niches**	**1.23**	**136**	*i* P		Pn	00 18 16.9	-2.6
NICH				*i* S		Sb	00 18 31.7	-3.7
RCDM	**Rinconada Maip**	**1.37**	**63**	*i* P		Pn	00 18 19.4	-2.1
RCDM				*i* S		Sn	00 18 36.0	-3.4
TALC	**Talca**	**1.37**	**158**	*e*P		Pn	00 18 19.1	-2.3
TALC				*e*S		Sn	00 18 36.0	-3.3
PCH	**Pirque**	**1.54**	**72**	*i* P		Pn	00 18 22.5	-1.4
PCH				*i* S		Sn	00 18 42.0	-1.8
ROCH	**El Roble**	**1.56**	**43**	*i* P		Pn	00 18 22.3	-1.9
ROCH				*i* S		Sn	00 18 41.7	-2.7
ROCH	comp=N,1μm,0.5s			AML		AML	00 18 57.9	
CLCH	**Cerro Calan**	**1.61**	**64**	*e*P		Pn	00 18 22.9	-1.9
CLCH				*e*S		Sn	00 18 42.8	-2.7
CLCH	comp=E,1μm,0.5s			AML		AML	00 19 02.4	
CLCH	comp=E,2μm,0.5s			AML		AML	00 19 02.9	
PEL	**Peldehue** comp=E,2μm,0.3s	**1.64**	**54**	AML		AML	00 18 58.9	

MEX 04 00:18:23.5±1.4,**18.°94N**×**104.°44W,h5**km**,MD3.9,Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
R15V		**0.49**	**62**	*i* P		Pg	00 18 32.3	-0.7
R15V				*i* S		Sg	00 18 38.8	-0.6
EZ5V		**0.96**	**56**	*e*P		Pg	00 18 40.8	-1.4
EZ5V				*i* S		Sg	00 18 53.5	-1.4
MMIG	**Aquila**	**1.22**	**122**	*e*P		Pg	00 18 42.1	-4.9
MMIG				*i* S		Sg	00 18 59.9	-2.9
SFJM	**Santa Fe**	**2.03**	**40**	*i* P		Pn	00 18 54.3	-4.3
SFJM				*e*S		Sn	00 19 19.3	-5.2
ANIG	**Ahuacatlan**	**2.10**	**358**	*e*P		Pn	00 19 00.3	+0.8
ARIG	**Puente Sto Nin**	**3.94**	**99**	*e*P		Pn	00 19 22.3	-2.4
ARIG				*i* S		Sn	00 20 07.8	-3.4

GUC 04 00:23:09.5±0.5,**34.°12S**×**72.°71W,h61**km±10km**,ML3.6, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TALC	**Talca**	**1.55**	**145**	*e*P		Pn	00 23 36.4	+1.5
TALC				*e*S		Sn	00 23 56.3	+2.2
RCDM	**Rinconada Maip**	**1.71**	**69**	*e*P		Pn	00 23 38.5	+1.5
RCDM				*e*S		Sn	00 24 00.2	+2.2
RCDM	comp=E,1μm,0.1s			AML		AML	00 24 02.1	
ROCH	**El Roble**	**1.83**	**52**	*e*P		Pn	00 23 40.5	+1.5
ROCH	comp=N,344nm,0.7s			AML		AML	00 24 08.3	
CLCH	**Cerro Calan**	**1.95**	**69**	*e*P		Pn	00 23 42.3	+1.9
CLCH				*e*S		Sn	00 24 06.7	+2.7
CLCH	comp=E,469nm,0.3s			AML		AML	00 24 08.0	
PEL	**Peldehue**	**1.95**	**61**	*e*P		Pn	00 23 41.9	+1.5
PEL				*e*S		Sn	00 24 06.6	+2.6
PEL	comp=N,990nm,0.5s			AML		AML	00 24 08.7	
COCH	**Cobquecura**	**2.01**	**182**	*e*P		Pn	00 23 42.2	+1.1
SJCH	**San Jose de Ma**	**2.02**	**77**	*e*P		Pn	00 23 42.8	+1.4
SJCH				*e*S		Sn	00 24 08.2	+2.5
SJCH	comp=E,529nm,0.3s			AML		AML	00 24 09.4	

MAN 04 00:30:36,13.°33N×**121.°20E,h29**km**,mb4.1,ML2.9,MS2.7, 1C,Mindoro**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PGP	**Puerto Galera**	**0.29**	**306**	*e*P		Pn	00 30 44.3	-0.2
PGP				*i* S		Sn	00 30 50.3	+0.4
SJMP	**San Jose**	**0.86**	**185**	*e*P		Pb	00 30 53.3	+0.8
SJMP				*e*S		Sn	00 31 04.8	+1.0
LUBP	**Lubang**	**1.01**	**294**	*e*P		Pb	00 30 55.8	+0.9
LUBP				*e*S		Sb	00 31 08.4	+0.6

GUC 04 00:31:58.5±0.6,**34.°12S**×**72.°58W,h28**km±2km**,ML3.9, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NICH	**Los Niches**	**1.42**	**129**	*e*P		Pn	00 32 23.3	+0.8
NICH				*e*S		Sb	00 32 41.4	-0.6
TACH	**Talagante**	**1.45**	**72**	*e*P		Pn	00 32 23.2	+0.4
TALC	**Talca**	**1.49**	**149**	*e*P		Pn	00 32 24.2	+0.8
TALC				*e*S		Sn	00 32 42.2	+0.2
RCDM	**Rinconada Maip**	**1.61**	**67**	*e*P		Pn	00 32 25.7	+0.6
SAN	**Santiago**	**1.73**	**68**	*e*P		Pn	00 32 27.6	+0.8
SAN				*e*S		Sb	00 32 50.6	-0.6
CLCH	**Cerro Calan**	**1.85**	**68**	*e*P		Pn	00 32 29.8	+1.3
CLCH				*e*S		Sn	00 32 48.8	-2.3
CLCH	comp=E,1μm,0.7s			AML		AML	00 32 58.6	
PEL	**Peldehue**	**1.86**	**59**	*e*P		Pn	00 32 30.1	+1.5
PEL				*e*S		Sb	00 32 53.9	-0.9
PEL	comp=N,2μm,0.7s			AML		AML	00 33 05.0	
LNCH	**Linares**	**1.90**	**155**	*e*P		Pn	00 32 30.5	+1.5
LNCH				*e*S		Sb	00 32 54.2	-1.6
SJCH	**San Jose de Ma**	**1.92**	**76**	*e*P		Pn	00 32 30.7	+1.3
SJCH				*e*S		Sn	00 32 54.0	+1.3

IDC ***04*** *00:40:04.4±1.0,37.°55S×73.°55W,h0km,mb4.1/6, mb1 4.0/10,mb1mx3.9/24,mbtmp3.9/10,ML3.7/3,Error ellipse: s-maj=27.6km s-min=17.3km az=81.0*
GUC ***04*** *00:40:04.7±0.5,37.°22S×74.°09W,h8km±28km,ML4.6*

ISC 04 00:40:09.2±0.9,**37.°44S**±0.°09×**73.°8W**±0.°1,**h35**km**,n23,** σ1ᵎ40/30,**mb4.1/9,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LNCH	**Linares**	**2.38**	**49**	*e*P		**Pn**	**00 40 46.1**	**+0.4**
LNCH				*i* S		**Sn**	**00 41 17.1**	**+3.4**
TALC	**Talca**	**2.69**	**41**	*i* P		**Pn**	**00 40 49.1**	**-0.8**
TALC				*i* S		**Sn**	**00 41 23.1**	**+1.9**
LNV	**Longovilo**	**3.98**	**30**	*i* P		**Pn**	**00 41 06.0**	**-1.8**
LNV				*i* S		**Sn**	**00 41 52.9**	**-0.4**
PLCA	**Paso Flores** 2.6nm,0.3s,baz=318,slow=10,SNR=5.4	**4.15**	**143**	Pn		**Pn**	**00 41 07.5**	**-2.7**
PLCA	7.4nm,0.3s,baz=32,slow=15,SNR=3.0			Lg		Lg	00 42 08.1	
CACH	**El Canelo**	**4.22**	**39**	*i* P		**Pn**	**00 41 10.0**	**-1.1**
CACH				*i* S		**Sn**	**00 42 00.4**	**+1.2**
CHCH	**Chadas Angostu**	**4.34**	**37**	*e*P		**Pn**	**00 41 11.6**	**-1.1**
RCDM	**Rinconada Maip**	**4.64**	**33**	*i* P		**Pn**	**00 41 15.4**	**-1.4**
RCDM				*i* S		**Sn**	**00 42 08.6**	**-0.9**
CFAA	**Coronel Fontan** 0.4nm,0.3s,baz=40,slow=4.4,SNR=33	**7.41**	**40**	Pn		**Pn**	**00 41 53.0**	**-2.0**
CFAA	0.3nm,0.3s,baz=191,slow=14,SNR=3.0			Sn		**Sn**	**00 43 16.1**	**-1.8**
LVC	**Limon Verde** 6.4nm,0.3s,baz=283,slow=9.3,SNR=3.8	**15.37**	**17**	Pn		**Pn**	**00 43 44.1**	**+0.4**
CPUP	**Villa Florida** 0.0nm,0.3s,baz=209,slow=14,SNR=3.1	**17.82**	**56**	P		**Pn**	**00 44 13.1**	**-1.3**
LPAZ	**La Paz** 3.9nm,0.9s,baz=164,slow=7.3,SNR=9.9	**21.66**	**15**	P		**P**	**00 44 58.4**	**+1.0**
BDFB	**Brasilia** 2.0nm,0.7s,baz=170,slow=11,SNR=2.8	**31.50**	**53**	P		**P**	**00 46 29.2**	**+1.2**
QSPA	**South Pole Qui** 2.4nm,1.0s,baz=162,slow=2.9,SNR=4.4	**52.80**	**180**	P		**P**	**00 49 21.6**	**+0.8**
TXAR	**Lajitas Array** 0.9nm,0.8s,baz=155,slow=8.5,SNR=9.3	**72.08**	**333**	P		**P**	**00 51 31.6**	**+1.7**
LIC	**Lamto** 47nm,1.6s	**77.22**	**72**	*e*P		**P**	**00 51 59.5**	**-0.4**
TIC	**Toumodi** 2.3nm,0.2s	**77.50**	**72**	*e*P		**P**	**00 52 00.9**	**-0.6**
KIC	**Kosan Boka** 25nm,1.1s	**77.52**	**72**	*e*P		**P**	**00 52 01.2**	**-0.4**
DBIC	**Dimbokro** 2.6nm,0.7s,baz=158,slow=6.9,SNR=5.1	**77.64**	**72**	P		**P**	**00 52 01.9**	**-0.3**
TORD	**Torodi Ar. Bea** 0.6nm,0.6s,baz=222,slow=4.8,SNR=8.8	**86.72**	**71**	P		**P**	**00 52 48.9**	**-0.9**
BRTR	**Keskin Array B** 0.6nm,0.9s,baz=205,slow=6.4,SNR=3.8	**124.71**	**64**	PKP		**PKPdf**	**00 59 03.9**	**-1.2**
BVAR	**Borovoye Array** baz=302,slow=3.2	**150.73**	**46**	PKPbc		**PKPbc**	**00 59 57.5**	**+0.5**
ZALV	**Zalesovo Beam** 0.9nm,0.8s,baz=291,slow=4.1,SNR=5.3	**157.88**	**35**	PKP		**PKPdf**	**01 00 01.2**	**-0.2**
ZALV	1.0nm,0.6s,baz=297,slow=6.5,SNR=6.9			PKPab		**PKPab**	**01 00 34.9**	**+0.4**
MKAR	**Makanchi Array** 0.9nm,1.0s,baz=284,slow=5.8,SNR=6.0	**160.02**	**55**	PKPab		**PKPab**	**01 00 43.2**	**-0.9**

IDC ***04*** *00:43:42.5±1.0,38.°11S×73.°59W,h0km,mb4.2/5, mb1 4.2/9,mb1mx4.0/23,mbtmp4.1/9,ML3.7/3,MS3.6/1, Ms1 3.6/1,ms1mx3.2/20,Error ellipse: s-maj=26.9km s-min=18.0km az=76.0*
ISCJB ***04*** *00:43:44.5±0.7,38.°02S±0.°05×73.°5W±0.°1,h22km, mb4.5/12,Error ellipse: s-maj=13.5km s-min=6.7km az=176.0*
NEIC ***04*** *00:43:44.3±4.7,38.°05S×73.°66W,h12km±27km,mb4.5/5, Error ellipse: s-maj=21.1km s-min=8.7km az=76.0*

ISC 04 00:43:45.8±0.9,**38.°07S**±0.°07×**73.°6W**±0.°1,**h22**km**,n27,** σ0ᵎ74/29,**mb4.7**/12,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PLCA	**Paso Flores** 3.2nm,0.3s,baz=285,slow=16,SNR=11	**3.56**	**139**	Pn		**Pn**	**00 44 39.4**	**-0.4**
PLCA	29nm,0.3s,baz=37,slow=21,SNR=4.1			Lg		Lg	00 45 33.6	
PLCA	comp=Z,878nm,18.2s,baz=252,slow=37			LR		LR	00 45 51.7	
PLCA	**Paso Flores**	**3.56**	**139**	*e*Pn		**Pn**	**00 44 40.5**	**+0.7**
PLCA				*e*Sn		**Sn**	**00 45 20.7**	**-0.6**
PLCA				Lg		Lg	00 45 33.6	
CFAA	**Coronel Fontan** 0.3nm,0.3s,baz=179,slow=8.9,SNR=5.6	**7.81**	**36**	Pn		**Pn**	**00 45 37.7**	**-0.5**
CFAA	0.4nm,0.3s,baz=123,slow=18,SNR=4.2			Sn		**Sn**	**00 47 06.0**	**+0.1**
TRQA	**Tornquist**	**9.17**	**94**	*e*Pn		**Pn**	**00 45 57.4**	**+0.6**
LCO	**Las Campanas**	**9.35**	**16**	*e*Pn		**Pn**	**00 45 58.4**	**-1.1**
LVC	**Limon Verde** 6.4nm,0.3s,baz=93,slow=19,SNR=4.2	**15.92**	**16**	Pn		**Pn**	**00 47 27.5**	**-1.3**
LVC	**Limon Verde** 15nm,0.9s	**15.92**	**16**	*e*Pn		**Pn**	**00 47 27.4**	**-1.4**
CPUP	**Villa Florida** 0.1nm,0.3s,baz=240,slow=11,SNR=7.9	**18.04**	**54**	P		**P**	**00 47 55.5**	**0.0**
CPUP	**Villa Florida** 0.1nm,0.8s	**18.04**	**54**	*e*P		**Pn**	**00 47 54.3**	**-0.8**
LPAZ	**La Paz** 12nm,0.6s	**22.23**	**14**	*e*P		**P**	**00 48 42.8**	**+1.2**
SAML	**Samuel** 1.4nm,0.6s	**30.48**	**21**	*e*P		**P**	**00 49 57.0**	**-0.1**
BDFB	**Brasilia** 2.0nm,0.6s,baz=186,slow=16,SNR=3.1	**31.75**	**52**	P		**P**	**00 50 09.2**	**+0.7**
VNA2	**Neumayer--Watz** baz=295,slow=9.6	**46.80**	**156**	P		**P**	**00 52 13.8**	**+0.5**
RCBR	**Riachuelo** 18nm,1.0s	**46.90**	**56**	*e*P		**P**	**00 52 14.9**	**+0.1**
SNAA	**Sanae**	**48.34**	**156**	P		**P**	**00 52 26.0**	**+0.7**
SNAA	**Sanae** 21nm,1.4s	**48.34**	**156**	*e*P		**P**	**00 52 24.6**	**-0.8**
QSPA	**South Pole Qui** 1.3nm,0.8s,baz=219,slow=2.6,SNR=6.9	**52.18**	**180**	P		**P**	**00 52 54.1**	**-0.5**
TXAR	**Lajitas Array** 0.6nm,0.7s,baz=141,slow=8.1,SNR=7.1	**72.71**	**333**	P		**P**	**00 55 13.0**	**+0.9**
LIC	**Lamto** 18nm,0.6s	**77.26**	**72**	*e*P		**P**	**00 55 39.3**	**+0.6**
TIC	**Toumodi** 15nm,0.7s	**77.54**	**71**	*e*P		**P**	**00 55 40.7**	**+0.4**
KIC	**Kosan Boka** 23nm,0.8s	**77.57**	**72**	*e*P		**P**	**00 55 41.0**	**+0.6**
DBIC	**Dimbokro** 8.4nm,0.7s,baz=194,slow=4.9,SNR=22	**77.68**	**71**	P		**P**	**00 55 41.8**	**+0.7**
DBIC	**Dimbokro** 7.0nm,0.6s	**77.68**	**71**	*e*P		**P**	**00 55 41.7**	**+0.7**
TORD	**Torodi Ar. Bea** 1.0nm,0.7s,baz=226,slow=5.0,SNR=19	**86.77**	**71**	P		**P**	**00 56 28.5**	**-0.1**
BRTR	**Keskin Array B** 0.7nm,0.7s,baz=224,slow=2.7,SNR=5.4	**124.84**	**64**	PKP		**PKPdf**	**01 02 43.4**	**-0.5**
ZALV	**Zalesovo Beam** 0.2nm,0.3s,baz=324,slow=4.1,SNR=2.3	**158.30**	**36**	PKP		**PKPdf**	**01 03 39.7**	**-0.8**
MKAR	**Makanchi Array** 1.1nm,0.7s,baz=280,slow=8.2,SNR=16	**160.25**	**56**	PKPab		**PKPab**	**01 04 23.8**	**+0.2**

IDC ***04*** *01:06:13.3±1.1,29.°72S×177.°09W,h0km,mb4.3/6, mb1 4.4/6,mb1mx4.1/31,mbtmp4.3/6,Error ellipse: s-maj=33.1km s-min=15.9km az=46.0*

ISC 04 01:06:19.0±1.1,**29.°9S**±0.°1×**177.°4W**±0.°2,**h31**km**,n15,** σ1ᵎ53/15,**mb4.3/6,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island** 954nm,0.3s,baz=92,slow=2.8,SNR=44	**0.83**	**324**	Pn		**Pb**	**01 06 34.5**	**-0.4**
RAO	3μm,0.3s,baz=72,slow=19,SNR=34			Sn		**Sb**	**01 06 47.5**	**+1.7**
URZ	**Urewera** 0.5nm,0.3s,baz=271,slow=2.9,SNR=6.4	**9.49**	**207**	Pn		Pn	01 08 27.2	-6.4
URZ	3.6nm,0.3s,baz=79,slow=22,SNR=7.3			Sn		Sn	01 10 10.1	-9.1
RPZ	**Rata Peaks** 3.0nm,0.3s,baz=100,slow=19,SNR=4.4	**16.58**	**211**	Pn		**Pn**	**01 10 06.3**	**

TALC	**Talca**	**1.16**	**112**	*i* P		Pb	01 12 25.2	-0.2
TALC				*i* S		Sb	01 12 41.0	+1.0
COCH	**Cobquecura**	**1.17**	**174**	*i* P		Pn	01 12 24.8	0.0
COCH				*i* S		Sb	01 12 40.9	+0.7
LNCH	**Linares**	**1.41**	**129**	*i* P		Pb	01 12 29.2	-0.5
LNCH				*i* S		Sb	01 12 48.0	+0.9
NICH	**Los Niches**	**1.41**	**92**	*i* P		Pb	01 12 29.2	-0.6
NICH				*i* S		Sb	01 12 47.8	+0.4
CLCH	**Cerro Calan**	**2.54**	**53**	*e*P		Pn	01 12 46.3	+2.6
CLCH					AML	AML	01 13 32.9	
	comp=E,524nm,0.6s							
PEL	**Peldehue**	**2.62**	**47**	*e*P		Pb	01 12 47.6	-2.7
PEL					AML	AML	01 13 35.5	
	comp=E,471nm,0.9s							

ISCJB ***04*** *01:18:00.1±1.0, 56.7°S×0.2°×140.9°W×0.2, h10km, mb4.0/8, MS4.5/4, Error ellipse: s-maj=25.9km s-min=17.7km az=165.0*

GCMT ***04*** *01:18:00.0±0.2, 57.16°S×140.74°W, h24km, MW5.3/93, Moment Tensor Solution. s49,c61; s93,c142; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mr0.03±.03; Mθθ0.80±.03; Mφφ-0.82±.03; Mrθ0.40±.07; Mrφ0.10±.02; Mθφ0.18±.06; Best double couple: M0 1.29000×10^17 NP1:φs113.00000°, δ77.00000°, λ13.00000°. NP2: φs20.00000°, δ77.00000°, λ167.00000°. Principal axes: T 1.3490, Plg18.0000°, Azm336.0000°; N -0.1180, Plg72.0000°, Azm156.0000°; P -1.2310, Plg0.0000°, Azm246.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***04*** *01:18:01.3±0.9, 56.75°S×140.93°W, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.9/20, mbtmp3.8/7, MS4.6/4, Ms1 4.5/4, ms1mx4.2/15 Error ellipse: s-maj=30.1km s-min=21.8km az=171.0*

NEIC ***04*** *01:18:02.8±0.8, 56.74°S×140.91°W, h10km, mb5.1/3, Error ellipse: s-maj=27.3km s-min=18.9km az=162.0*

ISC 04 01:18:02.8±1.0, 56.8°S±0.2°×140.8°W±0.2°, h10km, n35, σ1°s33/15, mb4.0/8, MS4.5/4, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**28.39**	**203**	P	**P**	**01 23 58.2**	**+1.5**
	0.3nm,0.5s,baz=5.7,slow=10,SNR=9.3						
VNDA				LR	LR	01 31 43.2	
	comp=Z,935nm,21.1s,baz=254,slow=29						
QSPA	**South Pole Qui**	**33.34**	**180**	P	**P**	**01 24 39.8**	**-0.8**
	5.3nm,1.0s,baz=66,slow=5.2,SNR=8.2						
QSPA	**South Pole Qui**	**33.34**	**180**	P	**P**	**01 24 40.0**	**-0.7**
	84nm,2.1s						
RKT	**Rikitea**	**33.93**	**10**	*e*LQ	LQ	01 32 25.2	
	2μm,28.2s						
RKT				*e*LR	LR	01 33 48.8	
	2μm,28.8s,baz=192						
RKT	**Rikitea**	**33.93**	**10**	*e*T	T	02 00 44.5	
	3.1nm,0.3s						
TBI	**Tubuai**	**34.02**	**346**	*e*LR	LR	01 33 40.5	
	3μm,29.2s,baz=171						
TBI	**Tubuai**	**34.02**	**346**	*e*T	T	02 00 45.1	
	22nm,0.3s						
MEH	**Mehetia**	**39.26**	**349**	*e*T	T	02 07 21.3	
	10nm,0.2s						
PPT2	**Papeete2**	**39.71**	**347**	*e*LR	LR	01 36 15.4	
	3μm,29.2s,baz=176						
PPT	**Papeete**	**39.73**	**347**	LR	LR	01 38 14.7	
	comp=Z,576nm,20.7s,baz=260,slow=31						
VAH	**Vaihoa**	**41.82**	**350**	*e*T	T	02 10 33.6	
	26nm,0.2s						
PMOR	**Pomariorio Ree**	**42.08**	**350**	*e*T	T	02 10 53.1	
	2.0nm,0.3s						
PLCA	**Paso Flores**	**46.83**	**101**	P	**P**	**01 26 32.6**	**0.0**
	4.0nm,1.2s,baz=256,slow=5.4,SNR=2.9						
PLCA	**Paso Flores**	**46.83**	**101**	P	**P**	**01 26 34.1**	**+1.6**
	22nm,1.4s						
VNA2	**Neumayer--Watz**	**48.35**	**161**	P	**P**	**01 26 42.2**	**-1.7**
	baz=212,slow=6.4						
SNAA	**Sanae**	**48.46**	**164**	P	**P**	**01 26 43.7**	**-1.2**
MAW	**Mawson**	**54.66**	**191**	P	**P**	**01 27 32.7**	**+1.6**
	3.4nm,1.0s,baz=243,slow=11,SNR=2.7						
MAW				LR	LR	01 48 46.1	
	comp=Z,536nm,18.8s,baz=52,slow=34						
LVC	**Limon Verde**	**61.49**	**88**	P	**P**	**01 28 19.0**	**-0.9**
	12nm,1.0s						
CPUP	**Villa Florida**	**64.87**	**100**	P	**P**	**01 28 41.9**	**-0.1**
	0.1nm,0.5s,baz=98,slow=19,SNR=2.4						
ASAR	**Alice Springs**	**68.00**	**260**	P	**P**	**01 29 00.4**	**-1.7**
	0.3nm,0.6s,baz=141,slow=6.5,SNR=3.3						
H01W1	**Cape Leeuwin H**	**69.01**	**238**	T	T	02 45 08.7	
	baz=144,slow=76,SNR=38						
H01W2	**Cape Leeuwin H**	**69.02**	**238**	T	T	02 45 04.3	
	baz=144,slow=76,SNR=47						
H01W3	**Cape Leeuwin H**	**69.03**	**238**	T	T	02 45 05.2	
	baz=144,slow=76,SNR=43						
WRA	**Warramunga Arr**	**70.77**	**263**	P	**P**	**01 29 18.3**	**-0.9**
	0.5nm,0.9s,baz=142,slow=5.4,SNR=2.9						
BDFB	**Brasilia**	**78.57**	**101**	LR	LR	02 02 23.8	
	comp=Z,420nm,18.5s,baz=258,slow=34						
H10S3	**ASCENSION HYDR**	**101.02**	**126**	T	T	03 24 58.5	
	baz=207,slow=75,SNR=7.5						
H10S2	**ASCENSION HYDR**	**101.03**	**126**	T	T	03 24 44.2	
	baz=207,slow=75,SNR=9.7						
H10S1	**ASCENSION HYDR**	**101.04**	**126**	T	T	03 24 59.4	
	baz=207,slow=75,SNR=10						
H10N3	**ASCENSION HYDR**	**102.08**	**125**	T	T	03 26 06.6	
	baz=206,slow=74,SNR=11						
H10N1	**ASCENSION HYDR**	**102.09**	**125**	T	T	03 26 09.9	
	baz=206,slow=74,SNR=8.1						
H10N2	**ASCENSION HYDR**	**102.10**	**125**	T	T	03 26 11.8	
	baz=206,slow=74,SNR=8.5						
ILAR	**Eielson Array**	**121.35**	**357**	PKP	**PKPdf**	**01 36 56.6**	**+2.1**
	0.9nm,0.8s,baz=254,slow=1.5,SNR=9.7						
SUMG	**Summit**	**146.28**	**32**	*i* P	PKPab	01 37 52.1	+8.9
	3.4nm,0.8s						
ESDC	**Sonseca Array**	**147.21**	**103**	PKPbc	**PKPbc**	**01 37 45.6**	**0.0**
	0.3nm,0.4s,baz=234,slow=2.5,SNR=3.2						
MKAR	**Makanchi Array**	**151.99**	**268**	PKPbc	**PKPbc**	**01 37 57.0**	**-0.1**
	0.1nm,0.4s,baz=202,slow=1.6,SNR=4.5						

IDC 04 01:29:57.7±2.0, 6.70S×128.93E, h0km, mb3.6/1, mb1 4.0/3, mb1mx3.5/28, mbtmp3.8/3, ML4.1/2, Error ellipse: s-maj=106.7km s-min=30.9km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.17**	**159**	Pn	Pn	01 33 18.9	-1.0
	0.9nm,0.3s,baz=337,slow=12,SNR=9.0						
WRA				Sn	Sn	01 35 44.8	-13
	0.9nm,0.3s,baz=328,slow=22,SNR=7.7						
ASAR	**Alice Springs**	**17.53**	**165**	P	P	01 34 04.5	-0.5
	0.5nm,0.3s,baz=343,slow=9.6,SNR=22						
ASAR				S	Sn	01 37 10.8	-9.1
	0.2nm,0.3s,baz=320,slow=12,SNR=5.0						
MKAR	**Makanchi Array**	**67.40**	**327**	P	P	01 40 55.1	0.0
	0.3nm,0.5s,baz=134,slow=6.2,SNR=4.7						

ISCJB ***04*** *02:00:15.6±2.0, 34.15°S×0.04°×72.49°W×0.0°, h9.15km±14km, mb4.1/6, Error ellipse: s-maj=12.4km s-min=7.3km az=9.7*

IDC ***04*** *02:00:15.5±0.9, 34.11°S×72.12°W, h0km, mb4.1/6, mb1 4.2/6, mb1mx3.9/23, mbtmp4.1/6, MS4.7/1, Ms1 4.7/1, ms1mx3.6/19, Error ellipse: s-maj=39.8km s-min=22.0km az=96.0*

GUC ***04*** *02:00:17.2±1.6, 34.17°S×72.34W, h37km±26km, ML4.2*

NEIC ***04*** *02:00:20.4±0.7, 34.04°S×72.46W, h35km, mb4.6/2, Error ellipse: s-maj=16.9km s-min=12.7km az=107.0*

ISC 04 02:00:15.8±3.7, 34.12S±0.04°×72.41W±0.07°, h7km±23km, n27, σ1°s23/33, mb4.3/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**1.27**	**31**	*e*P	**Pb**	**02 00 40.1**	**+0.1**
TACH	**Talagante**	**1.31**	**70**	*e*P	**Pn**	**02 00 40.2**	**-0.4**
NICH	**Los Niches**	**1.31**	**132**	*e*P	**Pn**	**02 00 40.4**	**-0.1**
NICH				*e*S	**Sb**	**02 00 56.2**	**-1.6**
TALC	**Talca**	**1.42**	**154**	*e*P	**Pn**	**02 00 41.7**	**-0.4**
TALC				*e*S	**Sn**	**02 00 59.9**	**-1.3**
RCDM	**Rinconada Maip**	**1.48**	**65**	*e*P	**Pn**	**02 00 43.0**	**+0.1**
RCDM				*e*S	**Sn**	**02 01 02.5**	**+0.1**
STL	**Santa Lucia**	**1.62**	**66**	*e*P	**Pn**	**02 00 44.3**	**-0.6**
STL				*e*S	**Sb**	**02 01 07.2**	**+0.4**
CLCH	**Cerro Calan**	**1.72**	**66**	*e*P	**Pn**	**02 00 47.0**	**+0.7**
CLCH					AML	AML	02 01 16.5	
	comp=E,3μm,0.4s							
PEL	**Peldehue**	**1.74**	**56**	*e*P	**Pn**	**02 00 47.2**	**+0.8**
PEL				*e*S	**Sb**	**02 01 10.3**	**+0.1**
PEL					AML	AML	02 01 18.8	
	comp=E,5μm,0.3s							
SJCH	**San Jose de Ma**	**1.78**	**75**	*e*P	**Pn**	**02 00 46.9**	**-0.1**
SJCH				*e*S	**Sn**	**02 01 11.1**	**+1.1**
YECH	**El Yeso**	**1.99**	**77**	*e*P	**Pn**	**02 00 50.8**	**+0.6**
CFAA	**Coronel Fontan**	**4.32**	**56**	Pn	**Pn**	**02 01 23.3**	**+1.4**
	comp=E,0.6nm,0.3s,baz=226,slow=9.9,SNR=29							
CFAA				Lg	Lg	02 02 24.6		
	comp=E,1.4nm,0.3s,baz=299,slow=22,SNR=7.3							
LCO	**Las Campanas**	**5.30**	**16**	*e*Pn	**Pn**	**02 01 35.4**	**-0.3**
	comp=E,50nm,0.8s							
LCO				*e*S	**Sn**	**02 02 32.7**	**-4.5**
PLCA	**Paso Flores**	**6.76**	**168**	Lg	Lg	02 03 46.5	
	comp=E,0.3nm,0.3s,baz=74,slow=20,SNR=3.5							
TRQA	**Tornquist**	**9.31**	**118**	*e*Pn	Pn	02 02 34.1	+3.7
	comp=E,8.6nm,0.6s							
CPUP	**Villa Florida**	**15.16**	**63**	Pn	**P**	**02 03 53.8**	**-1.8**
	comp=E,0.0nm,0.3s,baz=212,slow=13,SNR=3.3							
CPUP				LR	LR	02 10 07.0		
	comp=E,3μm,19.4s,baz=248,slow=40							
BDFB	**Brasilia**	**28.66**	**56**	P	**P**	**02 06 12.3**	**-1.1**
	comp=E,3.0nm,0.6s,baz=203,slow=12,SNR=6.1							
SNAA	**Sanae**	**51.59**	**158**	P	**P**	**02 09 22.3**	**-0.1**
	comp=E,2.5nm,1.1s,baz=315,slow=8.8,SNR=5.1							
SNAA	**Sanae**	**51.59**	**158**	*e*P	**P**	**02 09 22.2**	**-0.1**
	comp=E,16nm,1.5s							
QSPA	**South Pole Qui**	**56.11**	**180**	P	**P**	**02 09 56.9**	**+1.2**
	comp=E,4.6nm,1.0s,baz=151,slow=4.9,SNR=7.7							
QSPA	**South Pole Qui**	**56.11**	**180**	P	**P**	**02 09 56.9**	**+1.2**
	comp=E,2.5nm,1.1s							
TXAR	**Lajitas Array**	**69.69**	**331**	P	**P**	**02 11 28.3**	**+2.0**
	comp=E,0.1nm,0.5s,baz=163,slow=7.3,SNR=3.6							
MAW	**Mawson**	**73.15**	**164**	P	**P**	**02 11 46.9**	**+0.3**
	comp=E,2.4nm,0.8s,baz=248,slow=11,SNR=2.7							
TORD	**Torodi Ar. Bea**	**84.54**	**70**	P	**P**	**02 12 49.9**	**-0.1**
	comp=E,2.7nm,1.0s,baz=267,slow=4.0,SNR=10							
WRA	**Warramunga Arr**	**120.50**	**209**	PKP	**PKPdf**	**02 19 09.9**	**+1.1**
	comp=E,0.4nm,0.9s,baz=163,slow=1.6,SNR=3.3							
ZALV	**Zalesovo Beam**	**154.49**	**32**	PKPbc	**PKPbc**	**02 20 16.2**	**-0.4**
	comp=E,1.6nm,0.7s,baz=276,slow=2.8,SNR=8.4							
ZALV				PKPab	**PKPab**	**02 20 31.8**	**+0.7**
	comp=E,0.6nm,0.4s,baz=302,slow=6.1,SNR=5.5							
MKAR	**Makanchi Array**	**157.08**	**49**	PKPab	**PKPab**	**02 20 42.5**	**+0.1**
	comp=E,0.3nm,0.7s,baz=271,slow=7.2,SNR=3.7							
SONM	**Songino Array**	**166.27**	**3**	PKPab	**PKPab**	**02 21 21.8**	**-0.8**
	comp=E,0.5nm,0.8s,baz=355,slow=1.7,SNR=3.4							

DJA 04 02:14:54.4±0.3, 1.3°S±2.2°×122.2°E±0.1°, h10km, M4.0/11, mb4.1/1, MLv3.9/11, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.46**	**132**	P	Pg	02 15 03.3	-0.1
LUWI				S	Sb	02 15 11.5	0.0
APSI	**Ampana**	**0.80**	**257**	P	Pg	02 15 08.6	-1.3
APSI				S	Sg	02 15 19.0	-1.4
MRSI	**Marisa**	**1.29**	**338**	P	Pn	02 15 14.5	-4.1
MRSI				S	Sb	02 15 31.0	-4.6
KMSI	**Cibinong**	**2.02**	**50**	P	Pg	02 15 34.3	+1.1
KMSI				S	Sn	02 15 53.4	-0.5
PCI	**Palu**	**2.60**	**266**	P	Pn	02 15 38.7	+2.2
MPSI	**Mapaga**	**2.75**	**293**	P	Pn	02 15 38.9	+0.4
TTSI	**Tana Toraja**	**3.48**	**229**	P	Pn	02 15 48.2	-0.4
TTSI				S	Sn	02 16 30.6	+0.7
SANI	**Sanana**	**3.79**	**110**	P	Pn	02 15 52.8	-0.1
SPSI	**Sidrap Palu**	**4.17**	**220**	P	Pn	02 15 57.5	-0.6
BNSI	**Bone**	**4.32**	**212**	P	Pn	02 16 00.9	+0.7
BKSI	**Bulukumba**	**5.11**	**207**	P	Pn	02 16 11.4	+0.3

IDC ***04*** *02:16:03.0±1.2, 34.14°N×26.17°E, h0km, mb3.6/4, mb1 3.6/9, mb1mx3.5/41, mbtmp3.5/9, ML3.6/4, MS3.7/1, Ms1 3.7/1, ms1mx2.7/39, Error ellipse: s-maj=24.3km s-min=18.7km az=178.0*

ISK ***04*** *02:16:04.9, 34.23°N×26.08°E, h11km, ML3.3*

CSEM ***04*** *02:16:05.9±0.2, 34.12°N×26.08°E, h20km, ML3.2, Error ellipse: s-maj=6.6km s-min=4.4km az=70.0*

ATH ***04*** *02:16:05.2, 34.22°N×26.11°E, h18km±2km, MD3.4/8*

DDA ***04*** *02:16:06.4, 34.42°N×26.39°E, h5km, MD3.2*

HLW ***04*** *02:16:07.1, 34.30°N×26.25°E, h33km±27km, Md3.6, Ml2.9*

THE ***04*** *02:16:10.5, 34.54°N×26.00°E, h5km±1km, ML3.2/1, Error ellipse: s-maj=2.6km s-min=1.2km az=328.0*

ISC 04 02:16:03.3±1.5, 34.15N±0.04°×26.18E±0.04, h3km±10km, n117, σ1°s56/131, mb3.6/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.96**	**2**	P	**Pg**	**02 16 21.9**	**+0.2**
ZKR				S	**Sg**	**02 16 31.7**	**-2.5**
ZKR	**Zakros**	**0.96**	**2**	*e*PN	**Pg**	**02 16 22.1**	**+0.4**
ZKR				*e*SN	**Sg**	**02 16 35.0**	**+0.8**
ZKR	**Zakros**	**0.96**	**2**	P	**Pg**	**02 16 21.9**	**+0.2**
ZKR				S	**Sg**	**02 16 31.7**	**-2.5**
ZKR				*e*Sn	**Sg**	**02 16 35.0**	**+0.8**
LAST	**Lasithi**	**1.16**	**330**	P	**Pg**	**02 16 25.1**	**-0.5**
LAST	**Lasithi**	**1.16**	**330**	*e*PN	**Pg**	**02 16 25.2**	**-0.4**
LAST	**Lasithi**	**1.16**	**330**	P	**Pg**	**02 16 25.1**	**-0.5**
NPS	**Neapolis**	**1.21**	**337**	P	**Pg**	**02 16 26.0**	**-0.4**
NPS	**Neapolis**	**1.21**	**337**	*e*PN	**Pg**	**02 16 26.0**	**-0.4**
NPS	**Neapolis**	**1.21**	**337**	P	**Pg**	**02 16 26.0**	**-0.4**
SIVA	**Sivas**	**1.43**	**308**	P	**Pb**	**02 16 30.9**	**+0.4**
SIVA	**Sivas**	**1.43**	**308**	*e*PN	**Pb**	**02 16 30.9**	**+0.4**
SIVA	**Sivas**	**1.43**	**308**	P	**Pb**	**02 16 30.9**	**+0.4**
IDI	**Anoyia**	**1.56**	**317**	Pn	**Pn**	**02 16 32.3**	**+0.2**
	2.0nm,0.3s,baz=131,slow=17,SNR=39							
KARP	**Karpathos**	**1.61**	**30**	P	**Pg**	**02 16 34.8**	**+0.7**
KARP				S	**Sn**	**02 16 54.4**	**+0.4**
KARP	**Karpathos**	**1.61**	**30**	*e*PN	**Pg**	**02 16 34.6**	**+0.5**
KARP	**Karpathos**	**1.61**	**30**	*e*Pn	**Pg**	**02 16 34.6**	**+0.5**
KARP				S	**Sn**	**02 16 54.4**	**+0.4**
VAM	**Vamos**	**2.06**	**308**	P	**Pn**	**02 16 39.2**	**+0.4**
VAM	**Vamos**	**2.06**	**308**	*e*PN	**Pn**	**02 16 39.9**	**+1.1**
VAM	**Vamos**	**2.06**	**308**	P	**Pn**	**02 16 39.2**	**+0.4**
VAM	**Vamos**	**2.06**	**308**	*e*Pn	**Pn**	**02 16 39.9**	**+1.1**
THR6	**Thira Island,**	**2.29**	**344**	P	**Pn**	**02 16 42.5**	**+0.4**
THR6	**Thira Island,**	**2.29**	**344**	P	**Pn**	**02 16 42.5**	**+0.4**
SANT	**Santorini**	**2.29**	**345**	P	**Pn**	**02 16 42.3**	**+0.2**
SANT	**Santorini**	**2.29**	**345**	P	**Pn**	**02 16 42.3**	**+0.2**
THR5	**Thira Island,**	**2.36**	**343**	*e*PN	**Pn**	**02 16 43.7**	**+0.7**
THR5	**Thira Island,**	**2.36**	**343**	P	**Pn**	**02 16 42.0**	**-1.0**
THR5	**Thira Island,**	**2.36**	**343**	P	**Pn**	**02 16 42.0**	**-1.0**
THR5	**Thira Island,**	**2.36**	**343**	*e*Pn	**Pn**	**02 16 43.7**	**+0.7**
ARG	**Arkhangelos**	**2.60**	**37**	P	**Pb**	**02 16 48.9**	**-1.7**
ARG	**Arkhangelos**	**2.60**	**37**	*e*PN	**Pb**	**02 16 48.9**	**-1.7**
ARG	**Arkhangelos**	**2.60**	**37**	P	**Pb**	**02 16 48.9**	**-1.7**
DAT	**Datca**	**2.81**	**23**	*e*PN	**Pn**	**02 16 50.4**	**+1.1**
DAT				*e*SN	**Sn**	**02 17 24.2**	**+0.3**
DAT	**Datca**	**2.81**	**23**	*e*Pn	**Pn**	**02 16 50.4**	**+1.1**
DAT				*e*Sn	**Sn**	**02 17 24.2**	**+0.3**
MATC	**Matruh**	**2.93**	**162**	P	**Pn**	**02 16 52.0**	**+1.1**
	baz=164							
APE	**Apeiranthos**	**2.96**	**350**	*e*PN	**Pn**	**02 16 52.1**	**+0.8**
APE	**Apeiranthos**	**2.96**	**350**	P	**Pn**	**02 16 51.4**	**+0.1**
APE				S	**Sn**	**02 17 22.6**	**-4.8**
APE	**Apeiranthos**	**2.96**	**350**	*e*PN	**Pn**	**02 16 52.6**	**+1.3**
APE	**Apeiranthos**	**2.96**	**350**	P	**Pn**	**02 16 51.4**	**+0.1**
APE	**Apeiranthos**	**2.96**	**350**	*e*Pn	**Pn**	**02 16 52.1**	**+0.8**
APE				S	**Sn**	**02 17 22.6**	**-4.8**
BODT	**Bodrum**	**3.05**	**17**	*e*PN	**Pn**	**02 16 54.0**	**+1.5**
BODT	**Bodrum**	**3.05**	**17**	*e*Pn	**Pn**	**02 16 54.0**	**+1.5**
BDRM	**Kayabasi**	**3.08**	**19**	*i* P	**Pn**	**02 16 53.8**	**+0.9**
BDRM				*i* S	**Sn**	**02 17 30.5**	**+0.1**
BDRM	**Kayabasi**	**3.08**	**19**	*i* P	**Pn**	**02 16 53.8**	**+0.9**
BDRM				*i* S	**Sn**	**02 17 30.5**	**+0.1**
HMAT	**Matruh**	**3.14**	**166**	AMP		02 17 00.0	
	comp=E,50μm,0.3s,logA/T=5.2,baz=167							
HMAT	**Matruh**	**3.14**	**166**	P	**Pn**	**02 16 52.0**	**-1.8**
DALY	**Dalyan (Mu¨la**	**3.34**	**36**	*e*PN	**Pn**	**02 16 58.6**	**+2.2**
DALY	**Dalyan (Mu¨la**	**3.34**	**36**	*e*Pn	**Pn**	**02 16 58.6**	**+2.2**
KYTH	**Kithira**	**3.34**	**310**	P	**Pn**	**02 16 57.5**	**+1.0**
KYTH	**Kithira**	**3.34**	**310**	P	**Pn**	**02 16 57.5**	**+1.0**
FETY	**Fethiye**	**3.43**	**43**	*e*PN	**Pn**	**02 16 59.6**	**+1.9**
FETY	**Fethiye**	**3.43**	**43**	*e*Pn	**Pn**	**02 16 59.6**	**+1.9**
YER	**Yerkesik**	**3.43**	**29**	*e*PN	**Pn**	**02 17 00.1**	**+2.3**
YER	**Yerkesik**	**3.43**	**29**	*e*Pn	**Pn**	**02 17 00.1**	**+2.3**
AKAS	**Kas**	**3.49**	**52**	*i* P	**Pn**	**02 17 00.6**	**+1.9**
AKAS				*i* S	**Sn**	**02 17 40.2**	**-0.3**
AKAS	**Kas**	**3.49**	**52**	*i* P	**Pn**	**02 17 00.6**	**+1.9**
AKAS				*i* S	**Sn**	**02 17 40.2**	**-0.3**
VLI	**Veliai**	**3.69**	**315**	P	**Pn**	**02 17 01.2**	**0.0**
VLI	**Veliai**	**3.69**	**315**	P	**Pn**	**02 17 01.2**	**0.0**
AYDN	**Tasoluk**	**3.76**	**21**	*i* P	**Pn**	**02 17 05.5**	**+3.1**
AYDN				*i* S	**Sn**	**02 17 47.2**	**0.0**
AYDN	**Tasoluk**	**3.76**	**21**	*i* P	**Pn**	**02 17 05.5**	**+3.1**
AYDN				*i* S	**Sn**	**02 17 47.2**	**0.0**
ELL	**Elmali**	**4.00**	**49**	*e*PN	**Pn**	**02 17 08.6**	**+3.0**
ELL	**Elmali**	**4.00**	**49**	*e*Pn	**Pn**	**02 17 08.6**	**+3.0**
AYDB	**Zeytinkoy-Aydi**	**4.03**	**20**	*e*PN	**Pn**	**02 17 07.6**	**+1.5**
AYDB	**Zeytinkoy-Aydi**	**4.03**	**20**	*e*Pn	**Pn**	**02 17 07.6**	**+1.5**
GOLH	**Golhisar**	**4.13**	**41**	*i* P	**Pn**	**02 17 09.6**	**+2.2**
GOLH				*i* S	**Sn**	**02 17 55.9**	**-0.4**
GOLH	**Golhisar**	**4.13**	**41**	*i* P	**Pn**	**02 17 09.6**	**+2.2**
GOLH				*i* S	**Sn**	**02 17 55.9**	**-0.4**
CHOS	**Chios island**	**4.23**	**359**	*e*PN	**Pn**	**02 17 09.9**	**+1.2**
CHOS	**Chios island**	**4.23**	**359**	P	**Pn**	**02 17 08.2**	**-0.6**
CHOS	**Chios island**	**4.23**	**359**	P	**Pn**	**02 17 08.2**	**-0.6**
CHOS	**Chios island**	**4.23**	**359**	*e*Pn	**Pn**	**02 17 09.9**	**+1.2**
BLCB	**Balcova**	**4.28**	**9**	*e*PN	**Pn**	**02 17 11.1**	**+1.7**
BLCB	**Balcova**	**4.28**	**9**	*e*Pn	**Pn**	**02 17 11.1**	**+1.7**
GUR	**Goura**	**4.89**	**322**	P	**Pn**	**02 17 17.6**	**-0.3**
GUR	**Goura**	**4.89**	**322**	P	**Pn**	**02 17 17.6**	**-0.3**
SWA2		**4.93**	**187**	P	**Pn**	**02 17 19.9**	**+1.5**
	baz=188							
SWA2		**4.93**	**187**	P	**Pn**	**02 17 19.9**	**+1.5**
SIGR	**SIGRI**	**5.06**	**357**	*e*PN	**Pn**	**02 17 21.9**	**+1.9**
SIGR	**SIGRI**	**5.06**	**357**	*e*Pn	**Pn**	**02 17 21.9**	**+1.9**
GAZI	**Gazipasa**	**5.43**	**66**	*i* P	**Pn**	**02 17 26.2**	**+0.9**
GAZI	**Gazipasa**	**5.43**	**66**	*i* P	**Pn**	**02 17 26.2**	**+0.9**
GAZI				*i* S	**Sn**	**02 18 24.2**	**-4.2**
LEF	**Lefka**	**5.61**	**78**	*e*PN	Pn	02 17 31.4	+3.7
LEF	**Lefka**	**5.61**	**78**	*e*Pn	Pn	02 17 31.4	+3.7
AGG	**Agios Georgios**	**5.76**	**329**	*e*PN	**Pn**	**02 17 31.5**	**+1.6**
HNAT	**Natroun**	**5.87**	**139**	P	**Pn**	**02 17 31.6**	**+0.3**
	baz=140							
HNAT	**Natroun**	**5.87**	**139**	P	**Pn**	**02 17 31.6**	**+0.3**
CSS	**Prodhromos**	**5.95**	**80**	*e*PN	Pn	02 17 37.6	+5.2
ERMK	**Ermenek**	**6.03**	**64**	*i* P	**Pn**	**02 17 36.8**	**+3.2**
ERMK	**Ermenek**	**6.03**	**64**	*i* P	**Pn**	**02 17 36.8**	**+3.2**
ERMK				*i* S	**Sn**	**02 18 42.3**	**-1.0**
AWBH		**6.26**	**157**	P	**Pn**	**02 17 37.8**	**+1.2**
	baz=158							
AWBH				S	**Sn**	**02 18 43.4**	**-5.3**
	baz=158							
AWBH		**6.26**	**157**	P	**Pn**	**02 17 37.8**	**+1.2**
KONT	**Konya--Tatoy**	**6.27**	**51**	*e*PN	Pn	02 17 40.5	+3.7
KONT	**Konya--Tatoy**	**6.27**	**51**	*e*Pn	Pn	02 17 40.5	+3.7
GLL	**Jalalah**	**6.55**	**133**	P	**Pn**	**02 17 41.2**	**+0.6**
	baz=134							
GLL				S	Sn	02 18 49.6	-6.2
	baz=134							
GLL	**Jalalah**	**6.55**	**133**	P	**Pn**	**02 17 41.2**	**+0.6**
AMAG	**Maghara**	**6.89**	**119**	P	**Pn**	**02 17 45.0**	**-0.3**
	baz=119							
AMAG	**Maghara**	**6.89**	**119**	P	**Pn**	**02 17 45.1**	**-0.3**
RSH		**7.11**	**114**	P	**Pn**	**02 17 47.7**	**-0.7**
	baz=115							
HFRF	**Wahat Farafira**	**7.22**	**165**	P	**Pn**	**02 17 51.2**	**+1.5**
	baz=165							
HFRF	**Wahat Farafira**	**7.22**	**165**	P	**Pn**	**02 17 51.2**	**+1.5**
MMAI	**Mount Meron Ar**	**7.78**	**96**	Pn	**Pn**	**02 17 57.0**	**-0.5**

n39,σ1ᵍ00/56, mb3.8/14, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.31**	**136**	P	**Pn**	**02 36 40.5**	**-0.3**
JKE				S	**Sn**	**02 36 51.4**	**-1.1**
JAGN	**Aguni-jima**	**0.62**	**87**	P	**Pn**	**02 36 42.5**	**-0.3**
JAGN				S	**Sn**	**02 36 55.0**	**-0.9**
JJT2	**Tamagusuku 2**	**1.16**	**111**	P	**Pn**	**02 36 48.6**	**+0.6**
JJT2				S	**Sn**	**02 37 05.3**	**+0.2**
JNTH	**Nagotoyohara**	**1.32**	**91**	P	**Pn**	**02 36 50.0**	**+0.2**
JNTH				S	**Sn**	**02 37 07.1**	**-1.4**
JIH	**Iheya**	**1.36**	**69**	P	**Pn**	**02 36 50.5**	**+0.3**
JIH				S	**Sn**	**02 37 08.4**	**-0.8**
JOW	**Kunigami**	**1.57**	**79**	P	**Pn**	**02 36 52.8**	**0.0**
JOW				eS	**Sn**	**02 37 11.8**	**-2.0**
JOW	**Kunigami** baz=214,slow=7.3	**1.57**	**79**	P	**Pn**	**02 36 53.0**	**+0.2**
JOKE	**Okinoerabujima**	**1.98**	**66**	P	**Pn**	**02 36 58.7**	**+0.8**
JIKM	**Ikemajima**	**2.00**	**216**	P	**Pn**	**02 36 58.9**	**+0.7**
JIKM				eS	**Sn**	**02 37 23.2**	**-0.1**
JOGS	**Gusukube**	**2.06**	**210**	eS	**Sn**	**02 37 25.1**	**+0.4**
JMJ	**Miyako jima 2**	**2.07**	**213**	eS	**Sn**	**02 37 24.9**	**+0.1**
JIRB	**Irabujima**	**2.12**	**216**	eS	**Sn**	**02 37 25.0**	**-1.0**
JTK	**Tokunoshima**	**2.47**	**60**	P	**Pn**	**02 37 04.5**	**+0.3**
JTK				eS	**Sn**	**02 37 32.9**	**-1.2**
JTJ	**Tarama**	**2.53**	**222**	P	**Pn**	**02 37 05.2**	**+0.2**
JTJ				eS	**Sn**	**02 37 34.1**	**-1.4**
JISG	**Ishigakijimahi**	**2.81**	**226**	P	**Pn**	**02 37 08.3**	**-0.4**
JISG				eS	**Sn**	**02 37 40.5**	**-1.7**
JAMN	**Amaminishikomi**	**2.88**	**54**	P	**Pn**	**02 37 09.3**	**-0.3**
JIJ	**Ishigaki jima**	**3.08**	**225**	P	**Pn**	**02 37 11.8**	**-0.5**
JIJ				eS	**Sn**	**02 37 46.7**	**-1.8**
JKRS	**Kuro-shima**	**3.25**	**225**	P	**Pn**	**02 37 14.8**	**+0.2**
JKRS				eS	**Sn**	**02 37 51.6**	**-1.0**
JAM	**Amami Oshima**	**3.29**	**55**	P	**Pn**	**02 37 14.8**	**-0.2**
JAM				eS	**Sn**	**02 37 51.5**	**-2.0**
IRIF	**Iriomote-Funau**	**3.37**	**230**	P	**Pn**	**02 37 16.1**	**-0.1**
IRIF				eS	**Sn**	**02 37 54.3**	**-1.2**
JTAJ	**Takarajima**	**3.50**	**42**	P	**Pn**	**02 37 18.2**	**+0.4**
JMZ	**Minamidaito 2**	**4.26**	**99**	P	**Pn**	**02 37 26.0**	**-2.1**
JMZ				eS	Sn	02 38 10.5	-6.4
JNU	**Nakatsue** 1.1nm,0.3s,baz=198,slow=2.1,SNR=7.7	**7.55**	**29**	P	**Pn**	**02 38 14.2**	**+1.6**
KSRS	**Korea Array** 0.4nm,0.3s,baz=186,slow=13,SNR=9.0	**10.93**	**6**	P	**Pn**	**02 39 00.9**	**+2.5**
SONM	**Songino Array** 1.1nm,0.5s,baz=158,slow=10,SNR=7.6	**26.48**	**329**	P	**P**	**02 41 51.9**	**-0.6**
MKAR	**Makanchi Array** 1.1nm,0.5s,baz=95,slow=10,SNR=34	**40.20**	**312**	P	**P**	**02 43 50.2**	**-0.8**
MKAR				PcP	**PcP**	**02 45 54.2**	**+1.1**
MKAR	0.4nm,0.5s,baz=18,slow=0.4,SNR=3.6			LR	LR	03 03 22.4	
ZALV	comp=Z,80nm,222.0s,baz=317,slow=40 **Zalesovo Beam** 2.3nm,0.4s,baz=111,slow=8.9,SNR=11	**41.08**	**323**	P	**P**	**02 43 57.5**	**-0.6**
ZALV				PcP	**PcP**	**02 45 55.7**	**-0.1**
KURBB	0.4nm,0.4s,baz=134,slow=4.2,SNR=3.3 **Kurchatov Arra** 0.4nm,0.3s,baz=106,slow=9.3,SNR=4.4	**43.58**	**317**	P	**P**	**02 44 17.1**	**-1.4**
KURBB				PcP	**PcP**	**02 46 03.8**	**-0.4**
WRA	0.3nm,0.3s,baz=104,slow=3.6,SNR=4.4 **Warramunga Arr** 1.7nm,0.5s,baz=352,slow=8.5,SNR=6.7	**46.83**	**170**	P	**P**	**02 44 45.3**	**+0.8**
BVAR	**Borovoye Array** 1.0nm,0.7s,baz=106,slow=4.7,SNR=4.9	**49.03**	**318**	PcP	**PcP**	**02 46 23.3**	**-0.1**
ASAR	**Alice Springs** 0.7nm,0.5s,baz=357,slow=14,SNR=13	**50.43**	**171**	P	**P**	**02 45 13.4**	**+1.5**
ILAR	**Eielson Array** 0.4nm,0.6s,baz=226,slow=4.7,SNR=11	**64.87**	**28**	P	**P**	**02 46 52.2**	**-0.4**
INK	**Inuvik** 2.1nm,0.8s,baz=316,slow=6.6,SNR=8.4	**69.19**	**23**	P	**P**	**02 47 20.8**	**+1.0**
FINES	**FINESS Array B** 2.3nm,0.9s,baz=83,slow=7.9,SNR=8.3	**71.84**	**330**	P	**P**	**02 47 35.6**	**-0.5**
AKASG	**Malin Array Be** 0.5nm,0.4s,baz=58,slow=6.2,SNR=5.6	**74.30**	**319**	P	**P**	**02 47 49.8**	**-1.0**
BRTR	**Keskin Array B** 0.3nm,0.5s,baz=116,slow=3.1,SNR=4.1	**75.64**	**307**	P	**P**	**02 47 58.9**	**-0.1**
NOA	**NORSAR Array B** 1.2nm,1.0s,baz=56,slow=5.6,SNR=2.8	**78.35**	**333**	P	**P**	**02 48 13.8**	**+0.3**
YKA	**Yellowknife Ar** 1.3nm,0.8s,baz=300,slow=5.1,SNR=7.2	**78.86**	**24**	P	**P**	**02 48 17.1**	**+0.9**
GERES	**GERESS Array B** 0.3nm,0.6s,baz=29,slow=2.2,SNR=3.3	**84.03**	**322**	P	**P**	**02 48 44.0**	**+0.1**

*GUC **04** 02:49:01.9±0.5, 37.°90S×73.°64W, h25km±4km, ML4.8*
*IDC **04** 02:49:03.1±0.7, 37.°52S×73.°46W, h0km, mb4.1/10, mb1 4.2/13, mb1mx4.1/26, mbtmp4.0/13, ML4.0/4, MS4.4/9, Ms1 4.4/9, ms1mx4.1/16, Error ellipse: s-maj=22.2km s-min=14.0km az=81.0*
*ISCJB **04** 02:49:04.9±0.4, 37.°51S±0.°04×73.°41W±0.°09, h23km, mb4.5/22, MS4.3/8, Error ellipse: s-maj=10.2km s-min=6.2km az=5.9*
*BJI **04** 02:49:06.6, 37.°04S×73.°66W, h35km, mB4.8/3, Ms5.0/3, Ms7 4.9/3*
*NEIC **04** 02:49:08.2±0.3, 37.°48S×73.°34W, h35km, mb4.6/12, ML4.8(GUC), Error ellipse: s-maj=9.8km s-min=6.5km az=78.0*
NEIC Felt [III] at Carampangue, Contulmo and Lebu; [II] at Concepcion and Renaico.

ISC 04 02:49:06.1±0.4, 37.°52S±0.°04×73.°60W±0.°07, h23km, n64, σ1ᵍ97/68, mb4.5/22, MS4.3/8, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLCH	**Valdivia**	**2.30**	**173**	⇑iP	**Pn**	**02 49 40.9**	**-1.6**
VLCH				*i* S	**Sn**	**02 50 06.1**	**-4.1**
LNCH	**Linares**	**2.31**	**45**	*e*P	**Pb**	**02 49 45.5**	**-1.5**
LNCH				*i* S	**Sb**	**02 50 18.7**	**+3.5**
TALC	**Talca**	**2.64**	**37**	*e*P	**Pn**	**02 49 50.0**	**+2.8**
TALC				*e*S	**Sb**	**02 50 26.8**	**+2.2**
OSCH	**Osorno**	**3.08**	**173**	*e*S	Sn	02 50 20.3	-9.0
NICH	**Los Niches**	**3.15**	**38**	*i* S	**Sb**	**02 50 39.4**	**0.0**
PLCA	**Paso Flores** 2.4nm,0.3s,baz=318,slow=11,SNR=62	**3.99**	**145**	Pn	**Pn**	**02 50 06.6**	**+0.7**
PLCA				Lg	Lg	02 51 06.2	
PLCA	6.4nm,0.3s,baz=215,slow=20,SNR=5.1 **Paso Flores**	**3.99**	**145**	*e*Pn	**Pn**	**02 50 06.8**	**+0.9**
PLCA				Lg	Lg	02 51 06.2	
PLCA				*e*S	**Sb**	**02 51 09.2**	**+5.7**
CFAA	**Coronel Fontan** 0.7nm,0.3s,baz=240,slow=5.9,SNR=24	**7.37**	**38**	Pn	**Pn**	**02 50 51.5**	**-0.8**
CFAA				Sn	**Sn**	**02 52 16.6**	**+1.4**
CFAA	0.4nm,0.3s,baz=38,slow=19,SNR=2.9			LR	LR	02 53 27.8	
LCO	comp=Z,71nm,21.7s,baz=222,slow=36 **Las Campanas** 33nm,0.8s	**8.82**	**17**	*e*Pn	**Pn**	**02 51 11.1**	**-1.3**
LCO				*e*S	**Sn**	**02 52 49.8**	**-1.4**
TRQA	**Tornquist** 22nm,1.0s	**9.21**	**97**	*e*Pn	**Pn**	**02 51 15.4**	**-2.2**
LVC	**Limon Verde** 5.7nm,0.3s,baz=303,slow=5.7,SNR=2.5	**15.39**	**17**	Pn	**Pn**	**02 52 41.9**	**-0.2**
LVC	**Limon Verde** 35nm,1.4s	**15.39**	**17**	*e*Pn	**Pn**	**02 52 41.6**	**-0.5**
CPUP	**Villa Florida** 0.1nm,0.3s,baz=237,slow=11,SNR=8.3	**17.72**	**56**	P	**Pn**	**02 53 09.3**	**-2.0**
CPUP	comp=Z,8μm,20.1s,baz=233,slow=40			LR	LR	03 00 44.5	
CPUP	**Villa Florida** 2.3nm,1.6s	**17.72**	**56**	*e*Pn	**Pn**	**02 53 10.2**	**-1.1**
EFI	**East Falkland**	**17.91**	**147**	*e*Pn	**Pn**	**02 53 12.6**	**-0.8**
NNA	**Nana** 2.4nm,0.3s,baz=198,slow=3.2,SNR=2.7	**25.59**	**353**	P	**P**	**02 54 34.1**	**+0.5**
SAML	**Samuel** 12nm,1.5s	**29.96**	**21**	*e*P	**P**	**02 55 12.3**	**-0.4**
BDFB	**Brasilia** 1.6nm,0.5s,baz=231,slow=15,SNR=2.2	**31.41**	**53**	P	**P**	**02 55 26.8**	**+1.1**
BDFB	comp=Z,612nm,20.1s,baz=222,slow=38			LR	LR	03 09 00.0	
OTAV	**Otavalo** 13nm,1.4s	**37.83**	**352**	*e*P	**P**	**02 56 23.4**	**+1.9**
SNAA	**Sanae** 1.8nm,1.0s,baz=237,slow=7.2,SNR=8.6	**48.84**	**157**	P	**P**	**02 57 48.8**	**-0.5**
SNAA	**Sanae** 33nm,1.4s	**48.84**	**157**	*e*P	**P**	**02 57 49.1**	**-0.1**
QSPA	**South Pole Qui** 3.2nm,1.0s,baz=204,slow=3.2,SNR=4.3	**52.73**	**180**	P	**P**	**02 58 18.9**	**+0.1**
RKT	**Rikitea** 466nm,25.8s	**54.02**	**267**	*e*LR	LR	03 14 10.1	
RKT	**Rikitea** 1.5nm,0.2s	**54.02**	**267**	*e*T	T	03 56 31.6	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda** 0.5nm,0.9s,baz=169,slow=5.2,SNR=2.3	**60.41**	**192**	P	**P**	**02 59 15.2**	**+2.1**
TBI	**Tubuai** 380nm,26.0s,baz=125	**65.33**	**259**	*e*LR	LR	03 19 29.3	
MEH	**Mehetia** 20nm,0.2s	**67.19**	**265**	*e*T	T	04 12 59.3	
TVO	**Taravao** 0.8nm,0.3s	**68.17**	**264**	*e*T	T	04 14 13.6	
TIAR	**Tiarei** 2.4nm,0.2s	**68.37**	**264**	*e*T	T	04 14 28.6	
PPT2	**Papeete2** 165nm,22.8s	**68.54**	**264**	*e*S	**S**	**03 09 06.6**	**-1.7**
PPT2	**Papeete2** 340nm,24.5s	**68.54**	**264**	*e*LR	LR	03 20 57.2	
PPT	**Papeete** comp=Z,243nm,18.4s,baz=143,slow=28	**68.55**	**264**	LR	LR	03 21 38.0	
MAW	**Mawson** comp=Z,310nm,18.1s,baz=237,slow=38	**70.17**	**164**	LR	LR	03 33 09.4	
LPIG	**La Paz** comp=Z,209nm,18.0s,baz=172,slow=30	**70.35**	**325**	LR	LR	03 24 30.2	
TXAR	**Lajitas Array** 1.1nm,0.8s,baz=154,slow=8.3,SNR=14	**72.22**	**333**	P	**P**	**03 00 29.7**	**+0.4**
TXAR				LR	LR	03 27 11.5	
SWET	comp=Z,170nm,18.9s,baz=0.0,slow=32 **Sewanee** 13nm,0.9s	**73.27**	**349**	*e*P	**P**	**03 00 36.1**	**+0.8**
ABTX	**Abilene, Hawle** 7.4nm,1.0s	**73.89**	**337**	*e*P	**P**	**03 00 39.2**	**+0.2**
WVT	**Waverly** 10nm,1.2s	**74.46**	**348**	*e*P	**P**	**03 00 42.4**	**+0.2**
AMTX	**Amarillo** 2.9nm,0.6s	**76.62**	**337**	*e*P	**P**	**03 00 55.8**	**+1.1**
LIC	**Lamto** 38nm,1.2s	**77.08**	**72**	*e*PKP2	**P**	**03 00 59.1**	**+1.3**
TIC	**Toumodi** 26nm,1.2s	**77.36**	**71**	*e*PKP2	**P**	**03 01 00.1**	**+0.8**
KIC	**Kosan Boka** 59nm,1.4s	**77.39**	**72**	*e*PKP2	**P**	**03 01 00.3**	**+0.8**
DBIC	**Dimbokro** 3.8nm,0.6s,baz=214,slow=4.9,SNR=11	**77.50**	**71**	P	**P**	**03 01 01.2**	**+1.1**
DBIC				LR	LR	03 32 53.7	
DBIC	comp=Z,130nm,18.5s,baz=207,slow=34 **Dimbokro** 4.3nm,1.1s	**77.50**	**71**	*e*P	**P**	**03 00 58.7**	**-1.4**
ANMO	**Albuquerque** 6.0nm,1.2s	**78.29**	**333**	*e*P	**P**	**03 01 04.0**	**-0.2**
SMCO	**Snowmass** 8.6nm,1.2s	**82.27**	**334**	*e*P	**P**	**03 01 26.8**	**+1.0**
ECSD	**EROS Data Cent** 7.5nm,1.0s	**83.53**	**343**	*e*P	**P**	**03 01 32.1**	**+0.4**
NVAR	**Mina Array Bea** 0.8nm,0.7s,baz=152,slow=8.0,SNR=4.3	**86.07**	**326**	P	**P**	**03 01 46.9**	**+1.9**
PDAR	**Pinedale Array** 1.4nm,1.1s,baz=131,slow=4.5,SNR=5.3	**86.35**	**334**	P	**P**	**03 01 48.0**	**+1.8**
TORD	**Torodi Ar. Bea** 1.6nm,0.9s,baz=222,slow=4.6,SNR=11	**86.58**	**71**	P	**P**	**03 01 47.8**	**0.0**
TORD				LR	LR	03 38 49.1	
ESDC	comp=Z,61nm,19.1s,baz=205,slow=34 **Sonseca Array** comp=Z,102nm,19.4s,baz=255,slow=34	**99.91**	**47**	LR	LR	03 46 12.8	
VYHS	**Vyhne**	**118.38**	**49**	*e*PKP	**PKPdf**	**03 07 52.0**	**+0.9**
STHS	**Stebnicka Huta**	**120.20**	**49**	*e*PKP	**PKPdf**	**03 07 56.5**	**+1.9**
BRTR	**Keskin Array B** 0.5nm,0.8s,baz=161,slow=5.2,SNR=5.0	**124.59**	**63**	PKP	**PKPdf**	**03 08 02.9**	**-0.6**
ABKAR	**Akbulak array**	**144.79**	**55**	*e*PKPdf	**PKPab**	**03 08 39.5**	**+0.1**
KSH	**Kashi**	**156.16**	**76**	*e*PKP	**PKPdf**	**03 08 57.3**	**-1.3**
KSH				pPKP	**pPKPdf**	**03 09 08.2**	**+1.8**
KSH				PKS	**PKSdf**	**03 12 30.3**	**-2.3**
KSH				PP	**PP**	**03 13 02.1**	**-2.4**
KSH				SKS	**SKSdf**	**03 15 58.6**	**-4.9**
KSH				SKKS	**SKKSac**	**03 19 46.1**	**-6.2**
KSH	94nm,4.9s			PPMZ			
KSH	66nm,6.2s			LN			
KSH	45nm,5.4s			LE			
KSH	130nm,5.2s			LZ			
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=298,slow=3.2,SNR=4.6	**157.85**	**35**	PKP	**PKPdf**	**03 08 58.6**	**-1.4**
ZALV				PKPab	**PKPab**	**03 09 32.8**	**-0.2**
MKAR	1.7nm,0.7s,baz=288,slow=5.8,SNR=7.7 **Makanchi Array** 0.6nm,1.0s,baz=294,slow=7.1,SNR=4.5	**159.93**	**55**	PKP	**PKPdf**	**03 09 03.4**	**+0.5**
MKAR				PKPab	**PKPab**	**03 09 41.0**	**-1.4**
CN2	0.6nm,0.8s,baz=274,slow=9.0,SNR=5.4 **Changchun**	**164.26**	**299**	*e*PKP	**PKPdf**	**03 09 06.5**	**-0.8**
WMQ	**Urumqi**	**164.48**	**60**	*e*PKP	**PKPdf**	**03 09 07.8**	**+0.2**
WMQ				pPKP	**pPKPdf**	**03 09 18.5**	**+3.1**
WMQ	170nm,20.6s			LE			
WMQ	190nm,21.8s			LZ			
NJ2	**Nanjing**	**168.41**	**246**	*e*PKP	**PKPdf**	**03 09 12.0**	**+1.1**
BJI	**Beijing**	**171.96**	**291**	PKP	**PKPdf**	**03 09 12.2**	**-0.4**
HHC	**Hu-ho-hao-te**	**174.79**	**311**	*e*PKP	**PKPdf**	**03 09 14.1**	**+0.3**
HHC				PP	**PP**	**03 14 44.6**	**+3.9**
HHC				SKS	**SKSdf**	**03 16 11.9**	**-3.6**
HHC	52nm,8.6s			PPMZ			
HHC	82nm,19.7s			LN			
HHC	94nm,19.7s			LE			
HHC	100nm,22.2s			LZ			
LZH	**Lanzhou**	**177.50**	**124**	*e*PKP	**PKPdf**	**03 09 14.7**	**0.0**
LZH				sPKP		03 09 29.2	

*IDC **04** 02:53:34.5±0.7, 15.°75S×171.°68W, h0km, mb4.0/9, mb1 4.4/9, mb1mx4.1/30, mbtmp4.0/9, MS3.8/4, Ms1 3.8/4, ms1mx3.2/34, Error ellipse: s-maj=39.2km s-min=18.6km az=131.0*
*NEIC **04** 02:53:35.3±0.5, 15.°87S×171.°71W, h10km, mb4.6/3, Error ellipse: s-maj=23.9km s-min=12.9km az=115.0*
*ISCJB **04** 02:53:38.2±0.4, 15.°70S±0.°06×171.°8W±0.°1, h33km, mb4.2/13, MS3.8/4, Error ellipse: s-maj=14.9km s-min=8.9km az=9.9*

ISC 04 02:53:40.1±0.7, 15.°63S±0.°10×171.°9W±0.°2, h35km, n146, σ0ᵍ51/136, mb4.1/13, MS3.9/4, 61C-55D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.71**	**3**	*e*Pn	**Pn**	**02 54 06.5**	**-1.0**
AFI				*e*S	**Sn**	**02 54 27.5**	**-0.6**
PPT	**Papeete** comp=Z,86nm,18.1s,baz=290,slow=32	**21.44**	**98**	LR	LR	03 05 06.0	
URZ	**Urewera** 6.0nm,0.6s,baz=335,slow=16,SNR=4.2	**24.56**	**201**	P	**P**	**02 58 55.5**	**-1.1**
URZ	**Urewera**	**24.56**	**201**	*e*Pn	P	02 58 50.8	-5.8
H11S2	**WAKE ISLAND Hy** baz=144,slow=76,SNR=3.1	**39.94**	**327**	T	T	03 43 39.4	
H11S3	**WAKE ISLAND Hy** baz=144,slow=76,SNR=32	**39.95**	**327**	T	T	03 43 39.4	
H11S1	**WAKE ISLAND Hy** baz=144,slow=76,SNR=36	**39.95**	**327**	T	T	03 44 08.9	
H11N3	**WAKE ISLAND Hy** baz=145,slow=76,SNR=12	**40.86**	**329**	T	T	03 44 52.7	
H11N1	**WAKE ISLAND Hy** baz=145,slow=76,SNR=4.0	**40.87**	**329**	T	T	03 44 52.7	
H11N2	**WAKE ISLAND Hy** baz=145,slow=76,SNR=6.4	**40.88**	**329**	T	T	03 44 52.4	
WRA	**Warramunga Arr** 1.6nm,0.9s,baz=91,slow=7.3,SNR=6.0	**51.24**	**257**	P	**P**	**03 02 41.0**	**+0.3**
ASAR	**Alice Springs** 2.7nm,1.0s,baz=86,slow=7.9,SNR=11	**51.45**	**252**	P	**P**	**03 02 42.9**	**+0.6**
VNDA	**Vanda** 1.0nm,1.0s,baz=337,slow=5.7,SNR=4.4	**63.31**	**186**	P	**P**	**03 04 04.1**	**-0.9**
EDW2	**Edwards Air Fo** baz=72	**71.66**	**44**	⇓P	**P**	**03 04 58.6**	**+0.1**
M04C	**Macdoel** baz=74	**73.42**	**37**	⇓P	**P**	**03 05 09.4**	**+0.5**
NVAR	**Mina Array Bea** 0.8nm,0.5s,baz=228,slow=9.2,SNR=6.6	**73.51**	**41**	P	**P**	**03 05 09.5**	**-0.1**
QSPA	**South Pole Qui** 7.4nm,1.2s	**74.42**	**180**	*e*P	P	03 05 10.5	-3.9
W13A	**Hualapai Mount** baz=75	**74.59**	**46**	⇑P	**P**	**03 05 16.0**	**0.0**
J05D	**Fort Rock, OR** baz=75	**74.72**	**36**	⇑P	**P**	**03 05 17.5**	**+1.0**
X16A	**Lo Mia Camp, P** baz=76	**75.96**	**48**	⇑P	**P**	**03 05 23.6**	**-0.3**
319A	**Douglas**	**76.06**	**51**	⇑P	**P**	**03 05 24.8**	**+0.4**

	baz=76						
121A	**Cookes Peak, D** baz=78	**77.73**	**51**	⇓P	**P**	**03 05 34.3**	**+0.5**
DUG	**Dugway, Tooele** baz=78	**78.02**	**42**	⇑P	**P**	**03 05 35.7**	**+0.4**
HLID	**Hailey** baz=79	**78.87**	**39**	⇑P	**P**	**03 05 39.9**	**0.0**
MNTX	**Cornudas Mount** baz=79	**79.17**	**53**	⇓P	**P**	**03 05 41.5**	**-0.1**
TXAR	**Lajitas Array** 1.2nm,0.9s,baz=218,slow=9.5,SNR=11	**79.51**	**56**	P	**P**	**03 05 43.4**	**-0.3**
ANMO	**Albuquerque** 10nm,1.8s	**79.81**	**49**	*e*P	**P**	**03 05 45.0**	**-0.3**
S22A	**4UR Ranch, Cre** baz=81	**80.84**	**47**	⇓P	**P**	**03 05 51.2**	**+0.3**
529A	**Stev Forest Ra** baz=81	**80.98**	**55**	⇓P	**P**	**03 05 51.2**	**-0.3**
O20A	**White River Ci** baz=81	**81.00**	**44**	⇑P	**P**	**03 05 51.7**	**+0.1**
MCK	**McKinley**	**81.08**	**10**	*e*P	**P**	**03 05 52.1**	**+0.9**
N20A	**Spence Gulch,** baz=82	**81.33**	**43**	⇑P	**P**	**03 05 54.0**	**+0.7**
429A	**Davenport Ranc** baz=82,SNR=8.4	**81.44**	**55**	⇓P	**P**	**03 05 53.2**	**-0.8**
PDAR	**Pinedale Array** 0.6nm,0.6s,baz=235,slow=1.9,SNR=5.1	**81.45**	**41**	P	**P**	**03 05 53.2**	**-0.7**
228A	**IT' Block 9, Go** baz=82	**81.50**	**53**	⇑P	**P**	**03 05 53.5**	**-0.8**
329A	**Wagon Wheel Ra** baz=82	**81.72**	**54**	⇑P	**P**	**03 05 55.6**	**+0.2**
P22A	**Eagle** baz=82	**81.75**	**45**	⇑P	**P**	**03 05 55.6**	**0.0**
SDCO	**Great Sand Dun** baz=82	**81.77**	**47**	⇓P	**P**	**03 05 56.0**	**+0.2**
128A	**Castleberry Fa** baz=82	**81.79**	**53**	⇑P	**P**	**03 05 56.0**	**+0.2**
631A	**Perdido Creek** baz=82	**82.01**	**57**	⇓P	**P**	**03 05 56.7**	**-0.2**
832A	**Faith Ranch, C** baz=82	**82.07**	**58**	⇓P	**P**	**03 05 56.4**	**-0.9**
MSTX	**Muleshoe** 9.6nm,1.0s	**82.13**	**52**	*e*P	**P**	**03 05 57.0**	**-0.6**
MSTX	**Muleshoe** baz=82	**82.13**	**52**	⇑P	**P**	**03 05 57.7**	**+0.1**
Z28A	**Tucker Farm, M** baz=82	**82.14**	**52**	⇑P	**P**	**03 05 57.6**	**0.0**
O22A	**Kremmling** baz=82	**82.16**	**45**	⇑P	**P**	**03 05 58.0**	**+0.1**
R24A	**Sanders Place,** baz=82	**82.27**	**47**	⇑P	**P**	**03 05 59.1**	**+0.8**
129A	**Stewart Farms,** baz=82	**82.27**	**53**	⇓P	**P**	**03 05 58.1**	**-0.2**
P23A	**Jefferson** baz=82	**82.28**	**46**	⇑P	**P**	**03 05 59.2**	**+0.7**
T25A	**Trinidad** baz=82	**82.28**	**48**	⇑P	**P**	**03 05 58.7**	**+0.2**
330A	**Mertzon** baz=82	**82.32**	**55**	⇓P	**P**	**03 05 57.5**	**-1.0**
531A	**Rocksprings** baz=82,SNR=5.4	**82.33**	**56**	⇓P	**P**	**03 05 58.1**	**-0.5**
ILAR	**Eielson Array** 0.9nm,0.7s,baz=223,slow=6.2,SNR=9.3	**82.39**	**11**	P	**P**	**03 05 58.1**	**+0.1**
ILAR				LR	LR	03 37 13.0	
Y28A	comp=Z,62nm,20.2s,baz=114,slow=32 **McKinney Farm,** baz=83	**82.50**	**52**	⇑P	**P**	**03 05 58.8**	**-0.7**
N22A	**Wattenberg Ran** baz=83	**82.52**	**44**	⇓P	**P**	**03 06 00.4**	**+0.7**
833A	**Chaparral WMA,** baz=83	**82.56**	**58**	⇓P	**P**	**03 05 59.6**	**-0.2**
ISCO	**Idaho Springs** baz=83	**82.63**	**45**	⇑P	**P**	**03 06 00.5**	**+0.2**
Z29A	**Hungry Hill Ra** baz=83	**82.65**	**53**	⇓P	**P**	**03 05 59.5**	**-0.8**
034A	**Hebbronville** baz=83	**82.67**	**59**	⇑P	**P**	**03 06 00.1**	**-0.3**
J20A	**Shoshoni** baz=83	**82.68**	**41**	⇓P	**P**	**03 06 00.8**	**+0.5**
632A	**Uvalde** baz=83	**82.68**	**57**	⇓P	**P**	**03 06 00.4**	**0.0**
M22A	**Cedar Creek Ra** baz=83	**82.71**	**44**	⇓P	**P**	**03 06 01.1**	**+0.5**
H19A	**Powell** baz=83	**82.77**	**40**	⇓P	**P**	**03 06 01.6**	**+0.9**
X28A	**Dimmitt** baz=83	**82.79**	**51**	⇑P	**P**	**03 06 00.8**	**-0.2**
532A	**Rocksprings** baz=83	**82.83**	**56**	⇓P	**P**	**03 06 00.6**	**-0.6**
K21A	**Alcova** baz=83	**82.86**	**42**	⇓P	**P**	**03 06 01.3**	**0.0**
331A	**San Angelo** baz=83	**82.87**	**55**	⇓P	**P**	**03 06 01.1**	**-0.3**
Y29A	**Porterfield Fa** baz=83	**82.92**	**52**	⇑P	**P**	**03 06 01.3**	**-0.3**
I20A	**Worland** baz=83	**82.94**	**41**	⇑P	**P**	**03 06 01.8**	**+0.2**
130A	**Snyder** baz=83	**82.95**	**53**	⇓P	**P**	**03 06 01.1**	**-0.7**
J21A	**Lysite** baz=83,SNR=6.5	**83.08**	**42**	⇑P	**P**	**03 06 01.9**	**-0.6**
Z30A	**Sanderson Ranc** baz=83	**83.10**	**53**	⇓P	**P**	**03 06 01.8**	**-0.7**
633A	**Saathoff Ranch** baz=83	**83.16**	**57**	⇓P	**P**	**03 06 02.6**	**-0.3**
S26A	**Kim** baz=83	**83.16**	**48**	⇓P	**P**	**03 06 02.6**	**-0.3**
834A	**Tilden** baz=83	**83.17**	**58**	⇓P	**P**	**03 06 03.2**	**+0.3**
231A	**Bronte** baz=83	**83.20**	**54**	⇓P	**P**	**03 06 02.0**	**-1.1**
AMTX	**Amarillo** baz=84	**83.33**	**51**	⇓P	**P**	**03 06 03.7**	**-0.1**
I21A	**Big Trails, Te** baz=84	**83.40**	**41**	⇑P	**P**	**03 06 04.0**	**0.0**
131A	**Roby** baz=84	**83.43**	**54**	⇑P	**P**	**03 06 04.1**	**-0.2**
332A	**Millersview** baz=84	**83.44**	**55**	⇓P	**P**	**03 06 04.9**	**+0.6**
W29A	**Amarillo** baz=84	**83.45**	**51**	⇑P	**P**	**03 06 03.9**	**-0.5**
T27A	**Campo** baz=84	**83.46**	**49**	⇑P	**P**	**03 06 04.4**	**-0.1**
R26A	**Arlington** baz=84	**83.47**	**47**	⇑P	**P**	**03 06 04.1**	**-0.4**
P25A	**Willow Gulch B** baz=84	**83.50**	**46**	⇑P	**P**	**03 06 04.6**	**0.0**
533A	**Kerrville** baz=84	**83.50**	**56**	⇑P	**P**	**03 06 03.9**	**-0.8**
L23A	**Garrett** baz=84	**83.63**	**43**	⇓P	**P**	**03 06 04.8**	**-0.5**
Q26A	**Hugo** baz=84	**83.69**	**47**	⇑P	**P**	**03 06 05.4**	**-0.2**
232A	**Coleman** baz=84	**83.70**	**55**	⇓P	**P**	**03 06 04.8**	**-0.9**
433A	**Art** baz=84	**83.71**	**56**	⇑P	**P**	**03 06 05.0**	**-0.8**
J22A	**Midwest** baz=84,SNR=5.7	**83.73**	**42**	⇑P	**P**	**03 06 05

C19A	**Slack Wire Ran**	**84.28**	**37**	⇑P		**P**	**03 06 08.8**	**+0.5**
	baz=85							
233A	**Rising Star**	**84.34**	**55**	⇓P		**P**	**03 06 08.1**	**-0.8**
	baz=84							
Z32A	**Haskell**	**84.38**	**53**	⇑P		**P**	**03 06 08.4**	**-0.7**
	baz=84,SNR=9.7							
V30A	**Spur Ranch, Mi**	**84.42**	**51**	⇑P		**P**	**03 06 09.6**	**+0.3**
	baz=85							
D20A	**Manuel Ranch,**	**84.49**	**38**	⇑P		**P**	**03 06 09.8**	**+0.4**
	baz=85							
X31A	**McDonald Ranch**	**84.51**	**52**	⇓P		**P**	**03 06 09.6**	**-0.2**
	baz=85							
133A	**Hamilton Ranch**	**84.55**	**54**	⇓P		**P**	**03 06 09.8**	**-0.2**
	baz=85							
334A	**Lometa**	**84.61**	**56**	⇓P		**P**	**03 06 10.2**	**-0.1**
	baz=85							
R28A	**Tribune**	**84.66**	**48**	⇓P		**P**	**03 06 10.0**	**-0.4**
	baz=85,SNR=9.4							
Y32A	**R-V Farms, Ver**	**84.68**	**53**	⇑P		**P**	**03 06 10.1**	**-0.5**
	baz=85,SNR=5.4							
W31A	**Holland Ranch,**	**84.75**	**51**	⇓P		**P**	**03 06 10.4**	**-0.5**
	baz=85							
X32A	**Elmer**	**84.96**	**52**	⇓P		**P**	**03 06 11.6**	**-0.4**
	baz=85							
M26A	**McRoberts Ranc**	**85.05**	**45**	⇑P		**P**	**03 06 12.1**	**-0.3**
	baz=85							
A19A	**Klindworth Far**	**85.06**	**36**	⇑P		**P**	**03 06 12.6**	**+0.4**
	baz=85							
V31A	**Spring Creek L**	**85.06**	**51**	⇑P		**P**	**03 06 13.1**	**+0.6**
	baz=85,SNR=5.3							
134A	**White-Moore Ra**	**85.19**	**54**	⇓P		**P**	**03 06 13.0**	**-0.2**
	baz=85							
W32A	**Sentinel**	**85.26**	**52**	⇑P		**P**	**03 06 13.0**	**-0.4**
	baz=85,SNR=5.8							
A20A	**Cobblestone Ra**	**85.50**	**36**	⇓P		**P**	**03 06 14.8**	**+0.4**
	baz=86							
H24A	**Dirks Ranch, A**	**85.58**	**41**	⇑P		**P**	**03 06 14.7**	**-0.3**
	baz=86							
V32A	**Arapaho**	**85.64**	**51**	⇑P		**P**	**03 06 15.4**	**+0.1**
	baz=86							
D22A	**Cohagen**	**85.69**	**39**	⇑P		**P**	**03 06 15.9**	**+0.5**
	baz=86							
T31A	**Randall Ranch,**	**85.70**	**50**	⇑P		**P**	**03 06 15.7**	**+0.1**
	baz=86							
I25A	**Rochford**	**85.78**	**42**	⇓P		**P**	**03 06 16.0**	**0.0**
	baz=86							
W33A	**Caddo, Fort Co**	**85.86**	**52**	⇓P		**P**	**03 06 16.9**	**+0.5**
	baz=86							
U32A	**Winter Ranch,**	**85.92**	**51**	⇓P		**P**	**03 06 16.6**	**-0.1**
	baz=86							
Y34A	**Reagan Ranch,**	**85.95**	**53**	⇓P		**P**	**03 06 16.4**	**-0.5**
	baz=86							
S31A	**Mullinville**	**86.05**	**49**	⇑P		**P**	**03 06 17.5**	**+0.2**
	baz=86							
Q30A	**Quinter**	**86.05**	**48**	⇑P		**P**	**03 06 17.6**	**+0.2**
	baz=86							
Z35A	**Perchaven, San**	**86.12**	**54**	⇑P		**P**	**03 06 17.4**	**-0.3**
	baz=86							
X34A	**Smith Ranch, M**	**86.14**	**53**	⇓P		**P**	**03 06 17.9**	**+0.1**
	baz=86							
V33A	**Lossen Ranch,**	**86.25**	**51**	⇑P		**P**	**03 06 18.4**	**+0.1**
	baz=86							
P30A	**Selden**	**86.26**	**47**	⇓P		**P**	**03 06 18.4**	**0.0**
	baz=86							
X35A	**Drake**	**86.72**	**53**	⇓P		**P**	**03 06 20.6**	**0.0**
	baz=87							
W35A	**Tecumseh**	**87.07**	**52**	⇑P		**P**	**03 06 22.6**	**+0.2**
	baz=87							
YKA	**Yellowknife Ar**	**89.72**	**23**	P		**P**	**03 06 34.7**	**+0.5**
	1.1nm,0.9s,baz=238,slow=4.4,SNR=6.5							
NNA	**Nana**	**91.56**	**103**	LR		LR	03 38 58.7	
	comp=Z,41nm,21.1s,baz=216,slow=30							
ULM	**Lac du Bonnet**	**93.18**	**39**	LR		LR	03 42 35.3	
	comp=Z,96nm,21.7s,baz=260,slow=32							
DPC	**Dobruska-Polom**	**144.74**	**351**	*e*PKP		**PKPdf**	**03 13 13.4**	**+0.2**
DPC				*ex*		x	03 13 23.0	
DPC				*ex*		x	03 13 26.6	
PRU	**Pruhonice**	**145.34**	**353**	*e*PKP		**PKPab**	**03 13 14.8**	**+0.6**
PRU				*ex*		x	03 13 28.8	
GOPC	**GO Pecny, Ondr**	**145.38**	**352**	*e*PKP		**PKPab**	**03 13 14.9**	**+0.5**
GERES	**GERESS Array B**	**146.56**	**353**	PKPbc		**PKPab**	**03 13 18.6**	**-0.3**
	1.1nm,0.9s,baz=318,slow=1.8,SNR=7.4							
BRTR	**Keskin Array B**	**147.26**	**322**	PKPbc		**PKPbc**	**03 13 20.6**	**+0.3**
	0.7nm,0.7s,baz=159,slow=1.8,SNR=6.1							

WEL 04 03:17:50.8±0.4, 36.77S×177.15E, h167km±4km, ML3.6/13, 1C-1D, Error ellipse: s-maj=5.1km s-min=4.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.11**	**153**	⇑PN	Pn	03 18 18.2	+0.2
HAZ				SN	Sn	03 18 38.8	-0.3
MXZ	**Matakaoa Point**	**1.22**	**131**	PN	Pn	03 18 19.1	+0.1
MXZ				SN	Sn	03 18 41.0	+0.2
WMGZ	**Waiomatatini S**	**1.46**	**136**	PN	Pn	03 18 21.2	0.0
URZ	**Urewera**	**1.49**	**181**	PN	Pn	03 18 21.8	+0.2
URZ				SN	Sn	03 18 45.1	-0.3
URZ				AML	AML	03 18 46.8	
TWGZ	**Tauwhareparae**	**1.55**	**155**	PN	Pn	03 18 22.7	+0.4
TWGZ				SN	Sn	03 18 46.5	-0.1
PUZ	**Puketiti**	**1.57**	**146**	PN	Pn	03 18 21.9	-0.5
MWZ	**Matawai**	**1.59**	**169**	⇓PN	Pn	03 18 22.7	+0.1
MWZ				SN	Sn	03 18 46.8	-0.5
MWZ				AML	AML	03 18 48.3	
RIGZ	**Rimuhau**	**1.99**	**166**	PN	Pn	03 18 26.4	-0.5
KNZ	**Kokohu**	**2.29**	**170**	PN	Pn	03 18 29.0	-1.2
BKZ	**Black Stump Fm**	**2.45**	**192**	PN	Pn	03 18 31.0	-1.2
FWVZ	**Far West T-bar**	**2.78**	**206**	PN	Pn	03 18 35.9	-0.5
WNVZ	**Wahianoa**	**2.83**	**205**	PN	Pn	03 18 36.2	-0.8
BHHZ	**Black Hill Sta**	**2.84**	**197**	PN	Pn	03 18 35.5	-1.5
KAHZ	**Kahuranaki**	**3.03**	**184**	PN	Pn	03 18 37.6	-1.7
PXZ	**Pawanui**	**3.26**	**184**	PN	Pn	03 18 39.6	-2.5
TSZ	**Takapari Road**	**3.41**	**195**	PN	Pn	03 18 41.6	-2.4
BFZ	**Birch Farm**	**3.97**	**190**	PN	Pn	03 18 47.7	-3.3
MRZ	**Mangatainoka R**	**4.07**	**197**	PN	Pn	03 18 49.0	-3.4
TIWZ	**Tintock**	**4.12**	**193**	PN	Pn	03 18 49.5	-3.5
HOWZ	**Holdsworth Sta**	**4.31**	**197**	PN	Pn	03 18 51.7	-3.9
OGWZ	**Otaki Gorge**	**4.33**	**200**	PN	Pn	03 18 52.1	-3.5
KIW	**Kapiti Island**	**4.44**	**202**	PN	Pn	03 18 53.6	-3.6
CAW	**Cannon Point**	**4.62**	**200**	PN	Pn	03 18 55.5	-4.0
PAWZ	**Paruwai Farm**	**4.79**	**196**	AML	AML	03 19 50.9	
PLWZ	**Palliser**	**5.01**	**196**	PN	Pn	03 18 59.8	-4.9
TUWZ	**Tuamarina**	**5.28**	**207**	PN	Pn	03 19 03.8	-4.2
KHZ	**Kahutara**	**6.29**	**205**	PN	Pn	03 19 16.3	-5.0

*IDC **04** 03:23:52.0±2.8, 40.75S×75.34W, h0km, mb4.2/6, mb1 4.3/7, mb1mx4.0/18, mbtmp4.1/7, ML3.8/1, MS3.6/1, Ms1 3.5/1, ms1mx2.9/16, Error ellipse: s-maj=99.0km s-min=27.0km az=15.0*

ISC 04 03:23:53.1±1.6, 41.3S±0.3×75.4W±0.2, h20km, n10, σ1§62/9, mb4.1/7, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.73**	**82**	Pn	**Pn**	**03 24 48.4**	**-1.2**
	1.6nm,0.3s,baz=252,slow=9.4,SNR=12						
CFAA	**Coronel Fontan**	**11.30**	**33**	Pn	**Pn**	**03 26 34.1**	**+0.7**
	0.1nm,0.3s,baz=204,slow=14,SNR=28						
CFAA				Sn	Sn	03 28 47.9	+8.8
	0.1nm,0.3s,baz=267,slow=18,SNR=2.3						
LVC	**Limon Verde**	**19.46**	**18**	P	Pn	03 28 25.0	+5.0
	28nm,0.3s,baz=221,slow=3.7,SNR=16						
CPUP	**Villa Florida**	**21.15**	**51**	P	**P**	**03 28 38.0**	**+1.2**
	1.6nm,0.7s,baz=238,slow=9.1,SNR=13						
BDFB	**Brasilia**	**34.88**	**51**	P	**P**	**03 30 41.4**	**-1.9**
	2.9nm,0.6s,baz=245,slow=5.7,SNR=4.8						
BDFB				LR	LR	03 45 02.4	
	comp=Z,86nm,18.6s,baz=238,slow=37						
TXAR	**Lajitas Array**	**75.02**	**335**	P	**P**	**03 35 33.3**	**+0.2**
	1.4nm,0.7s,baz=154,slow=9.2,SNR=21						
DBIC	**Dimbokro**	**80.04**	**72**	P	**P**	**03 36 02.8**	**+1.3**
	2.2nm,0.6s,baz=214,slow=4.8,SNR=5.9						
NVAR	**Mina Array Bea**	**88.51**	**328**	P	**P**	**03 36 43.4**	**-0.7**
	1.1nm,0.8s,baz=166,slow=5.8,SNR=6.3						
TORD	**Torodi Ar. Bea**	**89.15**	**72**	P	**P**	**03 36 49.1**	**+1.7**
	0.5nm,0.6s,baz=218,slow=5.8,SNR=15						
PDAR	**Pinedale Array**	**89.21**	**336**	P	**P**	**03 36 45.5**	**-1.8**
	0.5nm,0.5s,baz=110,slow=6.9,SNR=4.6						

GUC 04 03:57:15.6±0.6, 35.11S×72.10W, h20km±4km, ML3.9, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.47**	**127**	⇓*i*P	Pb	03 57 24.9	-0.3
TALC				*i* S	Sb	03 57 31.9	0.0
NICH	**Los Niches**	**0.72**	**81**	⇓*i*P	Pb	03 57 28.8	-0.7
NICH				*i* S	Sb	03 57 39.0	0.0
LNCH	**Linares**	**0.84**	**151**	*e*P	Pb	03 57 30.8	-0.6
LNCH				*i* S	Sb	03 57 42.4	+0.1
LNV	**Longovilo**	**1.29**	**26**	*e*P	Pn	03 57 37.8	-0.6
LNV				*i* S	Sn	03 57 54.8	-0.2
CACH	**El Canelo**	**1.59**	**52**	⇑*i*P	Pn	03 57 41.9	-0.9
CACH				*i* S	Sn	03 58 02.9	+0.1
CHCH	**Chadas Angostu**	**1.68**	**46**	*i* P	Pn	03 57 43.6	-0.2
CHCH				*i* S	Sb	03 58 05.8	-0.8
TACH	**Talagante**	**1.74**	**34**	*e*P	Pn	03 57 44.5	-0.3
TACH				*i* S	Sn	03 58 07.2	+0.7
RCDM	**Rinconada Maip**	**1.94**	**34**	*e*P	Pn	03 57 46.7	-0.8
RCDM				*i* S	Sn	03 58 11.5	+0.2
CLCH	**Cerro Calan**	**2.15**	**38**	⇓*i*P	Pn	03 57 50.1	-0.3
CLCH				*i* S	Sn	03 58 17.3	+0.8
CLCH				AML	AML	03 58 25.4	
	comp=N,1μm,0.6s						
CLCH				AML	AML	03 58 28.6	
	comp=N,1μm,0.4s						
PEL	**Peldehue**	**2.29**	**31**	*e*P	Pn	03 57 53.4	+1.1
PEL				*i* S	Sb	03 58 22.2	-1.9
PEL				AML	AML	03 58 28.7	
	comp=N,1μm,0.7s						
ROCH	**El Roble**	**2.32**	**23**	AML	AML	03 58 31.1	
	comp=N,934nm,0.6s						

IDC 04 04:02:38.0±1.9, 38.24S×73.25W, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.6/20, mbtmp3.5/4, ML3.4/2, MS4.0/1, Ms1 4.0/1, ms1mx2.7/19, Error ellipse: s-maj=44.7km s-min=19.5km az=61.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.25**	**141**	Pn	Pn	04 03 32.3	+1.9
	1.7nm,0.3s,baz=302,slow=9.2,SNR=23						
PLCA				Lg	Lg	04 04 20.1	
	5.9nm,0.3s,baz=240,slow=13,SNR=4.8						
CFAA	**Coronel Fontan**	**7.80**	**33**	Pn	Pn	04 04 33.7	+0.9
	0.1nm,0.3s,baz=206,slow=12,SNR=13						
CFAA				Sn	Sn	04 06 03.0	+1.1
	0.1nm,0.3s,baz=137,slow=18,SNR=2.7						
CPUP	**Villa Florida**	**17.92**	**53**	LR	LR	04 14 52.5	
	comp=Z,507nm,19.8s,baz=184,slow=41						
TXAR	**Lajitas Array**	**72.99**	**332**	P	P	04 14 09.6	+0.1
	0.3nm,0.8s,baz=161,slow=9.0,SNR=4.4						
TORD	**Torodi Ar. Bea**	**86.57**	**70**	P	P	04 15 22.7	-0.7
	1.1nm,0.9s,baz=225,slow=4.1,SNR=7.7						

WEL 04 04:07:03.0±0.2, 40.08S×174.33E, h106km±2km, ML3.7/15, 7C-4D, Error ellipse: s-maj=1.1km s-min=0.6km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.59**	**58**	⇑PN	Pn	04 07 20.2	0.0
WAZ				SN	Sn	04 07 33.8	+0.8
LREZ	**Lake Rotokare**	**0.62**	**5**	PN	Pn	04 07 20.1	-0.2
LREZ				SN	Sn	04 07 32.8	-0.5
PREZ	**Palmer Road**	**0.74**	**350**	⇑PN	Pn	04 07 21.1	-0.3
NMEZ	**Namu Road**	**0.75**	**332**	PN	Pn	04 07 21.0	-0.4
NMEZ				SN	Sn	04 07 34.7	-0.4
DUEZ	**D'Urville Isla**	**0.79**	**203**	PN	Pn	04 07 22.0	+0.1
KHEZ	**Kahui Hut**	**0.82**	**342**	⇑PN	Pn	04 07 21.7	-0.5
NEZ	**North Egmont**	**0.82**	**347**	PN	Pn	04 07 21.8	-0.4
NWEZ	**Newall Road**	**0.88**	**336**	⇑PN	Pn	04 07 22.5	-0.2
DREZ	**Durham Road**	**0.89**	**353**	PN	Pn	04 07 22.5	-0.3
KIW	**Kapiti Island**	**0.90**	**151**	PN	Pn	04 07 22.6	-0.3
KIW				SN	Sn	04 07 35.9	-2.0
KIW				AML	AML	04 07 37.9	
PKE	**Pukeiti**	**0.92**	**343**	PN	Pn	04 07 22.5	-0.6
OGWZ	**Otaki Gorge**	**0.98**	**140**	PN	Pn	04 07 23.5	-0.1
MHEZ	**Mangahewa**	**0.99**	**360**	PN	Pn	04 07 23.7	-0.1
PKVZ	**Pokaka**	**1.11**	**45**	PN	Pn	04 07 25.1	0.0
MTVZ	**Mangateitei**	**1.11**	**52**	PN	Pn	04 07 25.1	-0.1
MRZ	**Mangatainoka R**	**1.12**	**122**	⇓PN	Pn	04 07 25.0	-0.2
MRZ				AML	AML	04 07 42.0	
MRZ				AML	AML	04 07 42.2	
TCW	**Tory Channel**	**1.14**	**182**	PN	Pn	04 07 25.6	+0.2
TCW				AML	AML	04 07 41.7	
TCW				AML	AML	04 07 41.9	
POWZ	**Post Office Ro**	**1.14**	**107**	PN	Pn	04 07 25.0	-0.4
CAW	**Cannon Point**	**1.18**	**152**	PN	Pn	04 07 25.9	+0.1
CAW				AML	AML	04 07 43.3	
CAW				AML	AML	04 07 43.4	
TRVZ	**Turoa**	**1.22**	**51**	PN	Pn	04 07 26.5	-0.1
HOWZ	**Holdsworth Sta**	**1.22**	**133**	PN	Pn	04 07 26.0	-0.3
WNVZ	**Wahianoa**	**1.23**	**53**	PN	Pn	04 07 26.3	-0.3
DRZ	**Dome Shelter**	**1.24**	**50**	PN	Pn	04 07 27.1	+0.2
FWVZ	**Far West T-bar**	**1.25**	**49**	PN	Pn	04 07 26.8	-0.1
TSZ	**Takapari Road**	**1.25**	**90**	PN	Pn	04 07 26.2	-0.5
TSZ				AML	AML	04 07 47.9	
TSZ				AML	AML	04 07 49.6	
WHVZ	**Whangaehu Hut**	**1.25**	**51**	PN	Pn	04 07 26.5	-0.4
WEL	**Wellington**	**1.25**	**165**	PN	Pn	04 07 26.7	+0.1
WEL				AML	AML	04 07 44.7	
WEL				AML	AML	04 07 44.7	
WPVZ	**Whakapapa**	**1.28**	**48**	PN	Pn	04 07 26.9	-0.2
COVZ	**Chateau Observ**	**1.28**	**47**	⇓PN	Pn	04 07 26.4	+0.2
MOVZ	**Moawhango**	**1.28**	**59**	PN	Pn	04 07 26.3	-0.8
TUVZ	**Tukino**	**1.30**	**52**	PN	Pn	04 07 27.0	-0.4
TWVZ	**Taurewa**	**1.31**	**41**	PN	Pn	04 07 27.3	-0.2
NGZ	**Ngauruhoe**	**1.33**	**48**	PN	Pn	04 07 27.5	-0.2
PRWZ	**Pori Road**	**1.34**	**112**	PN	Pn	04 07 27.7	0.0
NNZ	**Nelson**	**1.35**	**212**	PN	Pn	04 07 27.9	+0.1
NNZ				SN	Sn	04 07 46.3	-0.3
WTVZ	**West Tongariro**	**1.36**	**46**	PN	Pn	04 07 27.4	-0.7
OTVZ	**Oturere**	**1.37**	**49**	PN	Pn	04 07 28.7	+0.4
TIWZ	**Tintock**	**1.38**	**121**	PN	Pn	04 07 27.9	-0.3
TIWZ				AML	AML	04 07 46.3	
TIWZ				AML	AML	04 07 47.3	
TUWZ	**Tuamarina**	**1.39**	**192**	PN	Pn	04 07 28.1	-0.1
TUWZ				AML	AML	04 07 47.1	
TUWZ				AML	AML	04 07 47.2	
BHW	**Baring Head**	**1.39**	**163**	⇓PN	Pn	04 07 28.2	-0.1
BHW				AML	AML	04 07 45.5	
BHW				AML	AML	04 07 46.4	
MTW	**Mount Morrison**	**1.40**	**141**	PN	Pn	04 07 28.4	0.0
MTW				AML	AML	04 07 45.9	
MTW				AML	AML	04 07 46.1	
KRVZ	**Karewarewa**	**1.41**	**46**	PN	Pn	04 07 28.6	0.0
DVHZ	**Dannevirke**	**1.42**	**100**	PN	Pn	04 07 28.1	-0.6
PNHZ	**Pukenui**	**1.44**	**84**	PN	Pn	04 07 28.3	-0.7
BHHZ	**Black Hill Sta**	**1.46**	**67**	PN	Pn	04 07 28.4	-0.7
MSWZ	**Moikau Station**	**1.51**	**153**	⇓PN	Pn	04 07 29.7	0.0
MSWZ				AML	AML	04 07 48.1	
MSWZ				AML	AML	04 07 48.3	
KATZ	**Kakaramea**	**1.52**	**44**	PN	Pn	04 07 30.3	+0.3
PAWZ	**Paruwai Farm**	**1.55**	**148**	PN	Pn	04 07 30.0	-0.1
PAWZ				AML	AML	04 07 48.8	
PAWZ				AML	AML	04 07 49.0	
QRZ	**Quartz Range**	**1.57**	**241**	PN	Pn	04 07 29.8	-0.6
TMWZ	**Te Maipa**	**1.57**	**132**	PN	Pn	04 07 30.5	-0.1
BFZ	**Birch Farm**	**1.58**	**113**	PN	Pn	04 07 30.0	-0.6
HIZ	**Hauiti**	**1.61**	**15**	PN	Pn	04 07 30.3	-0.7
WPHZ	**Waipukurau**	**1.62**	**90**	PN	Pn	04 07 30.5	-0.5
KRHZ	**Kereru**	**1.62**	**75**	⇑PN	Pn	04 07 30.5	-0.7
RATZ	**Rangitukua**	**1.64**	**43**	PN	Pn	04 07 32.1	+0.8
PLWZ	**Palliser**	**1.65**	**155**	PN	Pn	04 07 31.2	-0.3
CPWZ	**Castlepoint**	**1.65**	**121**	PN	Pn	04 07 31.9	+0.5
BSWZ	**Blackbirch Sta**	**1.68**	**192**	PN	Pn	04 07 32.3	+0.5
BSWZ				AML	AML	04 07 53.7	
TRWZ	**Traveller**	**1.68**	**143**	PN	Pn	04 07 31.6	-0.2
TRWZ				AML	AML	04 07 51.7	
TRWZ				AML	AML	04 07 52.8	
ANWZ	**Angora Road**	**1.68**	**104**	PN	Pn	04 07 31.8	0.0
WATZ	**Wairara**	**1.74**	**39**	PN	Pn	04 07 33.3	+0.7
PRHZ	**Porangahau**	**1.77**	**97**	PN	Pn	04 07 32.3	-0.7
BKZ	**Black Stump Fm**	**1.90**	**62**	PN	Pn	04 07 33.6	-1.0
BKZ				AML	AML	04 07 58.5	
BKZ				AML	AML	04 07 59.4	
MCHZ	**McNeill Hill**	**1.93**	**72**	PN	Pn	04 07 34.4	-0.5
PXZ	**Pawanui**	**1.94**	**90**	PN	Pn	04 07 34.3	-0.7
KAHZ	**Kahuranaki**	**1.98**	**83**	PN	Pn	04 07 34.9	-0.7
TLZ	**Tolley Road**	**1.98**	**29**	PN	Pn	04 07 35.2	-0.4
THZ	**Tophouse**	**2.00**	**212**	⇑PN	Pn	04 07 35.9	-0.1
NMHZ	**Naumai**	**2.15**	**64**	PN	Pn	04 07 37.3	-0.5
CKHZ	**Cape Kidnapper**	**2.15**	**80**	PN	Pn	04 07 36.6	-1.2
KHZ	**Kahutara**	**2.42**	**194**	⇑PN	Pn	04 07 41.1	-0.1
TOZ	**Tahuroa Road**	**2.51**	**22**	PN	Pn	04 07 42.2	-0.3
DSZ	**Denniston Nort**	**2.54**	**228**	PN	Pn	04 07 42.5	-0.4
KNZ	**Kokohu**	**2.79**	**69**	PN	Pn	04 07 44.1	-2.0
MHGZ	**Mahia Peninsul**	**2.91**	**73**	PN	Pn	04 07 46.1	-1.6
RIGZ	**Rimuhau**	**2.99**	**64**	PN	Pn	04 07 47.2	-1.6
KBAZ	**Karaka Road Bo**	**3.00**	**8**	PN	Pn	04 07 49.2	+0.2
MWZ	**Matawai**	**3.03**	**56**	PN	Pn	04 07 50.8	+1.4
MKAZ	**Moumakai**	**3.03**	**13**	PN	Pn	04 07 48.9	-0.5
KUZ	**Kuaotunu**	**3.50**	**19**	PN	Pn	04 07 55.2	-0.3
OXZ	**Oxford**	**3.67**	**207**	PN	Pn	04 07 55.4	-2.5
MQZ	**McQueen's Vall**	**3.84**	**199**	PN	Pn	04 07 57.6	-2.5
JCZ	**Jackson Bay**	**5.76**	**224**	PN	Pn	04 08 24.8	-1.4

*IDC **04** 04:09:25.0±0.6, 9.08S×117.11E, h0km, mb4.1/9, mb1 4.2/10, mb1mx4.0/32, mbtmp4.1/10, ML4.0/1, Error ellipse: s-maj=34.4km s-min=16.0km az=73.0*
*ISCJB **04** 04:09:30.5±0.3, 9.13S±0.04×117.49E±0.02, h50km, mb4.2/10, Error ellipse: s-maj=5.5km s-min=2.7km az=12.3*
*DJA **04** 04:09:31.9±1.6, 9.5S±4.4×117.7E±.°, h39km±18km, M5.0/17, mb5.1/4, mB5.0/2, MLv4.9/17, Mw(mB)4.3/2*
*NEIC **04** 04:09:31.7±1.1, 9.00S×117.39E, h47km±11km, mb4.2/3, Error ellipse: s-maj=13.6km s-min=9.8km az=46.0*

ISC 04 04:09:32.5±0.5, 9.08S±0.05×117.48E±0.04, h50km, n56, σ1§49/64, mb4.2/10, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNP	**Denpasar**	**2.28**	**280**	P	**Pn**	**04 10 07.4**	**-0.2**
DNP				S	**Sn**	**04 10 36.9**	**+2.4**
IGBI	**Denpasar**	**2.32**	**276**	P	**Pn**	**04 10 06.9**	**-1.3**
IGBI				S	**Sn**	**04 10 36.2**	**+0.7**
SRBI	**Singaraja**	**2.45**	**294**	P	**Pn**	**04 10 08.5**	**-1.5**
SRBI				S	**Sn**	**04 10 38.5**	**-0.2**
WSI	**Waingapu**	**2.84**	**102**	P	**Pn**	**04 10 13.4**	**-2.0**
WSI				S	**Sn**	**04 10 45.9**	**-2.6**
WSI	**Waingapu**	**2.84**	**102**	P	**Pn**	**04 10 16.6**	**+1.2**
	baz=2.9,SNR=5.7						
BASI	**Baing, Sumba**	**3.26**	**111**	P	**Pn**	**04 10 19.4**	**-1.7**
JAGI	**Jajag, Banyuwa**	**3.34**	**280**	P	**Pn**	**04 10 21.1**	**-1.2**
	baz=3.3,SNR=44						
JAGI				S	**Sn**	**04 11 01.7**	**+0.9**
	baz=3.3,SNR=8.9						
JAGI	**Jajag, Banyuwa**	**3.34**	**280**	*e*Pn	**Pn**	**04 10 21.2**	**-1.0**
JAGI				*e*S	**Sn**	**04 11 01.8**	**+1.1**
ABJI	**Asem Bagus**	**3.45**	**292**	P	**Pn**	**04 10 23.5**	**-0.3**
BLJI	**Banyuglugur**	**4.06**	**289**	P	**Pn**	**04 10 31.8**	**-0.3**
BLJI				S	**Sn**	**04 11 19.7**	**+1.2**
GMJI	**Gumukmas**	**4.07**	**281**	P	**Pn**	**04 10 32.5**	**+0.3**
GMJI				S	**Sn**	**04 11 19.4**	**+0.8**
EDFI	**Ende, Flores**	**4.18**	**86**	P	**Pn**	**04 10 33.5**	**-0.3**
BKSI	**Bulukumba**	**4.57**	**35**	P	**Pn**	**04 10 37.2**	**-1.9**
KAPI	**Kappang**	**4.63**	**29**	*e*Pn	**Pn**	**04 10 38.0**	**-2.0**
KAPI				*e*S	**Sn**	**04 11 31.0**	**-1.5**
MMRI	**Maumere**	**4.73**	**85**	P	**Pn**	**04 10 42.3**	**+1.0**
MMRI	**Maumere**	**4.73**	**85**	*e*Pn	**Pn**	**04 10 42.0**	**+0.7**
MMRI				*e*S	**Sn**	**04 11 36.8**	**+1.9**
BNSI	**Bone**	**5.33**	**29**	P	**Pn**	**04 10 50.0**	**+0.4**
	95nm,0.6s,924nm0.6nm						
BNSI				S	**Sn**	**04 11 52.0**	**+2.2**
	95nm,0.6s,924nm0.6nm						
GRJI	**cisik**	**5.40**	**293**	P	**Pn**	**04 10 49.3**	**-1.2**
	158nm,0.6s,2μm0.6nm						
SPSI	**Sidrap Palu**	**5.57**	**24**	P	Pn	04 10 59.7	+6.8
PWJI	**Pagerwojo**	**5.71**	**280**	P	Pn	04 10 58.5	+3.8
PWJI				S	**Sn**	**04 12 01.0**	**+2.0**
BBKI	**Banjar Baru**	**6.

DZET				⇑S		Sn	04 12 54.6	-0.2
	120nm,0.5s								
SFK	**Sufi-Kurgan**	**3.53**	**27**	⇓P		**Pn**	**04 12 34.0**	**+2.6**
	6.2nm,0.2s								
SFK				⇓S		Sn	04 13 14.9	+2.5
	18nm,0.2s								
AML	**Almayashu**	**5.53**	**18**	P		**Pn**	**04 12 59.9**	**+1.4**
	SNR=271								
UCH	**Uchtor**	**5.85**	**23**	P		**Pn**	**04 13 04.3**	**+1.3**
	SNR=6.5								
KZA	**Kyzart**	**5.98**	**29**	P		**Pn**	**04 13 06.1**	**+1.5**
	SNR=11								
EKS2	**Erkin-Say**	**6.05**	**17**	P		**Pn**	**04 13 07.2**	**+1.9**
	SNR=8.1								
AAK	**Ala-Archa**	**6.21**	**22**	⇓P		**Pn**	**04 13 09.4**	**+1.8**
	8.8nm,0.5s								
AAK				⇓S		Sn	04 14 15.6	-1.6
	6.6nm,0.4s								
AAK	**Ala-Archa**	**6.21**	**22**	P		**Pn**	**04 13 09.4**	**+1.8**
	SNR=12								
KK31	**Karatay Array**	**6.25**	**354**	⇑P		**Pn**	**04 13 09.2**	**+1.2**
	5.0nm,0.3s,baz=181,slow=14,SNR=98								
KK31				⇑S		Sn	04 14 13.8	-4.1
	2.1nm,0.3s,baz=186,slow=25,SNR=7.4								
CHMS	**Chumysh**	**6.62**	**22**	P		**Pn**	**04 13 14.8**	**+1.7**
	SNR=8.3								
USP	**Ospenovka**	**6.80**	**19**	P		**Pn**	**04 13 16.7**	**+1.2**
	SNR=6.2								
TKM2	**Tokmak 2**	**6.83**	**27**	⇓P		**Pn**	**04 13 17.4**	**+1.3**
	4.2nm,0.5s								
TKM2				⇓S		Sn	04 14 30.4	-2.0
	4.9nm,0.8s								
TKM2	**Tokmak 2**	**6.83**	**27**	P		**Pn**	**04 13 17.7**	**+1.6**
	SNR=11								
KOLN	**Koldanda**	**13.73**	**128**	*e*P		**Pn**	**04 14 49.3**	**+0.4**
	5.6nm,0.4s								
GKN	**Gorkha**	**14.24**	**125**	*e*P		**Pn**	**04 14 55.6**	**+0.1**
	4.9nm,0.3s								
KKN	**Kakani**	**14.81**	**124**	*e*P		**Pn**	**04 15 02.4**	**-0.4**
	3.9nm,0.4s								
DMN	**Daman**	**14.81**	**125**	*e*P		**Pn**	**04 15 02.8**	**-0.1**
	3.2nm,0.3s								
AB31	**Akbulak array**	**14.91**	**330**	⇑P		**Pn**	**04 15 03.9**	**+0.1**
	0.1nm,0.3s,baz=169,slow=9.5,SNR=10								
AB31				⇑S		Sn	04 17 34.0	-14
	0.6nm,0.5s,baz=149,slow=22,SNR=3.6								
PKIN	**Phulchoki**	**15.02**	**124**	*e*P		**Pn**	**04 15 04.8**	**-0.8**
	5.1nm,0.4s								
PKI	**Pulchoki**	**15.04**	**124**	*e*P		**Pn**	**04 15 05.0**	**-0.8**
	5.3nm,0.4s								
GUN	**Gumba**	**15.13**	**122**	*e*P		**Pn**	**04 15 05.5**	**-1.5**
	9.3nm,0.6s								
JIRN	**Jiri**	**15.50**	**122**	*e*P		**Pn**	**04 15 10.3**	**-1.4**
	13nm,0.5s								
RAMN	**Ramite**	**16.24**	**123**	*e*P		**Pn**	**04 15 17.2**	**-3.6**
	4.1nm,0.4s								
TAPN	**Taplejung**	**16.74**	**120**	*e*P		**Pn**	**04 15 22.6**	**-4.5**
	2.8nm,0.3s								

CASC 04 04:45:16.7±4.0, 8°40'N×82°92'W, h0km±10km, MD3.7, 1C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.35**	**316**	⇑*e*P	Pb	04 45 25.6	-0.4
ACR				*e*S	Sb	04 45 32.9	+0.7
BRU2	**Volcan**	**0.45**	**30**	⇓*i*P	Pb	04 45 27.0	-0.8
BRU2				*e*S	Sb	04 45 35.1	-0.2
TBS2		**0.47**	**33**	*e*P	Pb	04 45 28.5	+0.4
TBS2				*e*S	Sb	04 45 37.0	+1.2
BRU	**Baru**	**0.54**	**41**	*e*P	Pg	04 45 27.9	+0.3
BUS	**Buena Vista**	**1.42**	**324**	*e*P	Pn	04 45 43.9	-0.5
BUS				*e*S	Sn	04 46 05.3	+1.2
URSC	**Urasca**	**1.66**	**329**	*e*P	Pn	04 45 47.2	-0.2
URSC				*e*S	Sg	04 46 10.6	0.0
CGA2	**Cerro Gallo 2**	**2.22**	**317**	*e*P	Pb	04 45 56.8	-1.1
CGA2				*e*S	Sb	04 46 25.1	-1.0

IDC 04 05:39:40.7±4.4, 43°72S×16°01W, h0km, mb4.0/3, mb1 4.0/3, mb1mx3.6/21, mbtmp4.0/3, Error ellipse: s-maj=150.7km s-min=36.8km az=161.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPUP	**Villa Florida**	**37.58**	**284**	P	P	05 46 56.6	-0.2
	0.9nm,0.8s,baz=116,slow=7.0,SNR=7.6						
TORD	**Torodi Ar. Bea**	**58.85**	**20**	P	P	05 49 41.1	0.0
	1.9nm,1.0s,baz=193,slow=5.7,SNR=7.6						
BRTR	**Keskin Array B**	**94.37**	**36**	P	P	05 53 01.8	-0.4
	0.6nm,0.5s,baz=194,slow=3.4,SNR=4.5						
ILAR	**Eielson Array**	**145.65**	**325**	PKPbc	PKPdf	05 59 19.6	-0.2
	2.1nm,0.6s,baz=68,slow=2.1,SNR=36						

IDC 04 06:21:02.7±4.1, 53°42N×87°58E, h0km, mb1 2.6/2, mb1mx2.6/30, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=46.5km s-min=22.9km az=77.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**1.72**	**289**	Pn	Pn	06 21 33.4	-0.5
	0.8nm,0.3s,baz=110,slow=14,SNR=14						
ZALV				Sn	Sb	06 21 57.5	+0.1
	0.6nm,0.3s,baz=118,slow=22,SNR=6.6						
I46RU	**ZALESOVO INFRA**	**1.72**	**289**	*i*		06 31 40.0	
	baz=107,slow=324,SNR=2.8						
KURBB	**Kurchatov Arra**	**6.25**	**247**	Pn	Pn	06 22 36.8	+0.8
	0.0nm,0.3s,baz=64,slow=15,SNR=3.2						
MKAR	**Makanchi Array**	**7.45**	**209**	Pn	Pn	06 22 53.8	+1.1
	0.1nm,0.3s,baz=8.9,slow=8.6,SNR=4.2						

IDC 04 06:26:11.9±1.8, 37°47S×73°56W, h0km, mb3.6/2, mb1 3.6/4, mb1mx3.5/16, mbtmp3.3/4, ML3.4/2, MS4.0/2, Ms1 4.0/2, ms1mx3.3/13, Error ellipse: s-maj=43.0km s-min=21.3km az=66.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**4.01**	**145**	Pn	Pn	06 27 15.9	+1.2
	1.1nm,0.3s,baz=312,slow=11,SNR=19						
PLCA				Lg	Lg	06 28 18.3	
	3.7nm,0.3s,baz=227,slow=22,SNR=4.0						
CFAA	**Coronel Fontan**	**7.31**	**38**	Pn	Pn	06 28 01.4	+1.4
	0.1nm,0.3s,baz=220,slow=13,SNR=27						
CFAA				Sn	Sn	06 29 22.9	-0.9
	0.1nm,0.3s,baz=175,slow=11,SNR=2.0						
CFAA				LR	LR	06 31 01.4	
	comp=Z,21nm,18.7s,baz=218,slow=40						
LVC	**Limon Verde**	**15.34**	**16**	LR	LR	06 35 26.1	
	comp=Z,415nm,21.9s,baz=152,slow=36						
CPUP	**Villa Florida**	**17.67**	**56**	LR	LR	06 37 29.5	
	comp=Z,626nm,18.2s,baz=220,slow=38						
TXAR	**Lajitas Array**	**72.20**	**333**	P	P	06 37 38.6	-0.1
	0.2nm,0.6s,baz=161,slow=9.6,SNR=4.3						
TORD	**Torodi Ar. Bea**	**86.54**	**71**	P	P	06 38 56.7	-0.4
	0.9nm,1.0s,baz=221,slow=4.7,SNR=4.1						

*ISCJB **04** 07:23:51.6±0.4, 32°33N±0°02×115°27W±0°03, h21km±4km, Error ellipse: s-maj=4.2km s-min=3.6km az=166.8*
*MEX **04** 07:23:53.0±0.3, 32°42N×115°13W, h20km±3km, MD3.9*
*ECX **04** 07:23:53.1±0.5, 32°31N×115°32W, h5km, MD2.6, ML2.8*
ISC 04 07:23:51.0±0.9, 32°31N±0°02×115°28W±0°02, h17km±3km, n33, σ0°62/49, 18C-14D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.11**	**351**	*e*P	**Pg**	**07 23 55.0**	**+0.3**
CPBX				*e*S	**Sg**	**07 23 57.3**	**+0.2**
CPBX				AML	AML	07 24 01.4	
	comp=N,18μm,0.2s						
CPBX				⇓*e*		07 24 01.4	
CPBX				AML	AML	07 24 03.4	
	comp=E,22μm,0.3s						
CPBX				⇑*e*		07 24 03.4	
MBIG	**Mexicali**	**0.12**	**37**	*e*P	**Pb**	**07 23 55.7**	**+0.7**
MBIG				*e*S	**Sb**	**07 23 57.8**	**+0.3**
EMSC	**East Mesa**	**0.50**	**30**	*e*P2	**Pg**	**07 24 02.3**	**+1.3**
SGL	**Mount Signal**	**0.50**	**312**	⇓*i*P	**Pb**	**07 24 01.6**	**+0.2**
DREC	**Desert Rsrch C**	**0.51**	**345**	*e*P	**Pb**	**07 24 02.5**	**+0.9**
ERPC	**Ernies Place**	**0.54**	**324**	⇑*i*P	**Pb**	**07 24 02.6**	**+0.6**
COA	**Coachella**	**0.57**	**14**	⇓*i*P	**Pb**	**07 24 03.2**	**+0.7**
WESC	**Westside Schoo**	**0.59**	**320**	*e*P	**Pb**	**07 24 03.4**	**+0.5**
YUH	**Yuha Desert**	**0.64**	**302**	⇑*i*P	**Pb**	**07 24 03.7**	**0.0**
COK	**Cook Ranch**	**0.66**	**325**	*e*P2	**Pg**	**07 24 04.3**	**+0.3**
RDX	**Rancho Dawling**	**0.68**	**236**	*e*P	**Pg**	**07 24 04.9**	**+0.6**
RDX				*e*S	**Sg**	**07 24 13.8**	**+0.4**
RDX				⇓*e*		07 24 15.2	
RDX				AML	AML	07 24 15.2	
	comp=N,309nm,0.3s						
RMX	**La Rumorosa**	**0.73**	**294**	*e*P	**Pg**	**07 24 05.5**	**+0.1**
RMX				*e*S	**Sg**	**07 24 14.9**	**-0.3**
RMX				⇑*e*		07 24 17.1	
RMX				AML	AML	07 24 17.1	
	comp=N,509nm,0.1s						
SWSC	**Sam W. Stewart**	**0.76**	**326**	⇓P	**Pb**	**07 24 05.8**	**-0.1**
	baz=0.8						
SWSC				⇓S	**Sg**	**07 24 15.9**	**-0.2**
	baz=0.8						
IBP	**Imperial Bould**	**0.77**	**297**	⇓P	**Pg**	**07 24 06.3**	**+0.2**
	baz=0.8,SNR=7.1						
IBP				⇓S	**Sg**	**07 24 16.5**	**+0.2**
	baz=0.8						
GLA	**Glamis**	**0.83**	**27**	⇑P	**Pb**	**07 24 07.0**	**-0.2**
	baz=0.9,SNR=25						
GLA				⇑S	**Sg**	**07 24 18.3**	**0.0**
	baz=0.9						
ECBX	**El Chinero**	**0.86**	**167**	*e*P9	**Pg**	**07 24 07.2**	**-0.5**
ECBX				*e*S	**Sb**	**07 24 19.1**	**+0.5**
ECBX				AML	AML	07 24 20.6	
	comp=N,298nm,0.3s						
ECBX				⇑*e*		07 24 20.6	
MONP	**Monument Peak,**	**1.12**	**301**	⇑P	**Pb**	**07 24 11.5**	**-0.5**
	baz=1.2,SNR=15						
MONP				⇓Sb	**Sb**	**07 24 26.6**	**+0.1**
	baz=1.2						
ZAX	**El Zacaton**	**1.16**	**227**	*e*P	**Pn**	**07 24 13.0**	**+0.5**
ZAX				*e*S	**Sn**	**07 24 28.6**	**+0.6**
ZAX				⇓*e*		07 24 31.8	
ZAX				AML	AML	07 24 31.8	
	comp=E,274nm,0.4s						
CBX	**Cerro Bola**	**1.17**	**271**	*e*P	**Pn**	**07 24 12.9**	**+0.2**
CBX	**Cerro Bola**	**1.17**	**271**	*e*P	**Pb**	**07 24 13.1**	**+0.3**
CBX				*e*S	**Sn**	**07 24 28.5**	**+0.2**
CBX				⇑*e*		07 24 29.7	
CBX				⇓*e*		07 24 30.1	
CBX				AML	AML	07 24 30.1	
	comp=E,126nm,0.3s						
BAR	**Barrett**	**1.23**	**288**	*e*P	**Pb**	**07 24 13.8**	**0.0**
SPIG	**San Pedro Mart**	**1.27**	**187**	*i* P	**Pn**	**07 24 14.7**	**+0.4**
SPIG	**San Pedro Mart**	**1.27**	**187**	*e*P	**Pn**	**07 24 14.8**	**+0.5**
SPX	**San Pedro Mart**	**1.27**	**187**	*e*P	**Pn**	**07 24 14.8**	**+0.5**
ECNX	**Esteban Cantu**	**1.29**	**240**	*e*P	**Pb**	**07 24 15.2**	**+0.3**
PBX	**Punta Banda**	**1.35**	**246**	*e*P	**Pb**	**07 24 15.9**	**+0.1**
BC3	**Big Chuckawall**	**1.35**	**354**	⇑P	**Pn**	**07 24 14.3**	**-0.9**
	baz=1.5,SNR=11						
113A	**Mohawk Valley,**	**1.36**	**70**	⇑P	**Pn**	**07 24 15.3**	**+0.1**
	baz=1.4						
113A				⇓S	**Sn**	**07 24 32.7**	**-0.2**
	baz=1.4						
Y12C	**Blythe**	**1.57**	**24**	⇑Pb	**Pb**	**07 24 19.4**	**-0.2**
	baz=1.7,SNR=6.3						
Y12C				⇑Sb	**Sb**	**07 24 40.0**	**+0.7**
	baz=1.7						
PFO	**Pinyon Flats O**	**1.63**	**323**	⇓P	**Pn**	**07 24 18.5**	**-0.6**
	baz=1.7,SNR=7.2						
PFO				⇑S	**Sn**	**07 24 37.8**	**-1.9**
	baz=1.7						
109C	**Camp Elliot, M**	**1.64**	**291**	⇑Pb	**Pb**	**07 24 21.0**	**+0.2**
	baz=1.7,SNR=5.9						
109C				⇓Sb	**Sb**	**07 24 41.7**	**+0.4**
	baz=1.7						
MURC	**Murrieta**	**2.06**	**309**	⇑Sb	**Sb**	**07 24 55.0**	**+1.6**
	baz=2.1						
214A	**Organ Pipe Nat**	**2.13**	**99**	⇑P	**Pn**	**07 24 25.5**	**-0.3**
	baz=2.1						
214A				⇑Sb	**Sg**	**07 24 58.2**	**-1.2**
	baz=2.1						

*IDC **04** 07:28:29.2±1.8, 12°97N×91°77E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/43, mbtmp3.6/6, ML4.3/1, Error ellipse: s-maj=63.8km s-min=20.6km az=61.0*
ISC 04 07:28:33.3±1.6, 13°1N±0°2×91°6E±0°2, h35km, n14, σ1°33/12, mb3.6/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.82**	**52**	Pn	**Pn**	**07 30 38.5**	**+0.1**
	1.0nm,0.3s,baz=237,slow=15,SNR=4.6						
ODAN	**Odare**	**14.22**	**344**	*e*P	P	07 31 55.4	-4.0
	6.1nm,0.4s						
RAMN	**Ramite**	**14.53**	**342**	*e*P	**P**	**07 32 00.8**	**-2.0**
	4.7nm,0.3s						
TAPN	**Taplejung**	**14.61**	**346**	*e*P	**Pn**	**07 31 57.0**	**-0.8**
	10nm,0.3s						
JIRN	**Jiri**	**15.32**	**342**	*e*P	**P**	**07 32 09.8**	**-1.9**
PKI	**Pulchoki**	**15.50**	**339**	*e*P	**P**	**07 32 13.8**	**+0.2**
PKIN	**Phulchoki**	**15.51**	**339**	*e*P	**P**	**07 32 13.2**	**-0.5**
	2.6nm,0.2s						
DMN	**Daman**	**15.64**	**338**	*e*P	**P**	**07 32 15.6**	**+0.4**
	2.1nm,0.2s						
GUN	**Gumba**	**15.65**	**341**	*e*P	**Pn**	**07 32 11.9**	**+0.3**
	3.2nm,0.4s						
MKAR	**Makanchi Array**	**34.46**	**349**	P	**P**	**07 35 19.7**	**+2.0**
	0.2nm,0.4s,baz=196,slow=10,SNR=3.2						
KURBB	**Kurchatov Arra**	**38.88**	**347**	P	P	07 35 59.0	+3.7
	0.5nm,0.4s,baz=163,slow=8.0,SNR=5.6						
ZALV	**Zalesovo Beam**	**41.08**	**354**	P	**P**	**07 36 14.9**	**+1.5**
	0.8nm,0.6s,baz=185,slow=7.0,SNR=3.8						
WRA	**Warramunga Arr**	**53.36**	**127**	P	**P**	**07 37 48.9**	**-0.8**
	0.5nm,0.5s,baz=302,slow=10,SNR=13						
ASAR	**Alice Springs**	**55.20**	**131**	P	**P**	**07 38 03.0**	**0.0**
	0.3nm,0.5s,baz=313,slow=6.8,SNR=7.1						

*IDC **04** 07:36:07.9±1.0, 3°83N×126°26E, h0km, mb3.7/6, mb1 3.7/6, mb1mx3.6/38, mbtmp3.7/6, MS3.2/3, Ms1 3.2/3, ms1mx2.6/36, Error ellipse: s-maj=78.3km s-min=18.4km az=76.0*
*ISCJB **04** 07:36:12.0±0.9, 3°8N±0°1×126°3E±0°5, h45km, mb3.5/6, MS3.2/3, Error ellipse: s-maj=66.8km s-min=15.1km az=167.2*
ISC 04 07:36:14.1±1.1, 3°9N±0°2×126°4E±0°5, h45km, n9, σ0°97/6, mb3.6/6, MS3.2/3, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.92**	**162**	P	**P**	**07 41 32.0**	**-1.2**
	0.6nm,0.6s,baz=342,slow=11,SNR=14						
ASAR	**Alice Springs**	**28.33**	**165**	P	**P**	**07 42 04.7**	**+0.7**
	0.1nm,0.3s,baz=340,slow=7.9,SNR=3.4						
CMAR	**Chiang Mai Arr**	**30.48**	**301**	LR	LR	07 54 54.3	
	comp=Z,18nm,19.7s,baz=131,slow=37						
KSRS	**Korea Array**	**33.47**	**2**	P	**P**	**07 42 49.0**	**+0.1**
	1.3nm,0.8s,baz=180,slow=9.1,SNR=4.3						
USRK	**Ussuriysk Ar.**	**40.48**	**6**	P	**P**	**07 43 48.3**	**-0.2**
	0.5nm,0.5s,baz=170,slow=8.8,SNR=4.1						
SONM	**Songino Array**	**47.06**	**342**	P	**P**	**07 44 42.1**	**+0.7**
	0.6nm,0.6s,baz=153,slow=9.7,SNR=3.2						
TLY	**Talaya**	**51.29**	**342**	LR	LR	08 07 56.9	
	comp=Z,22nm,19.4s,baz=164,slow=37						
MKAR	**Makanchi Array**	**57.23**	**325**	P	**P**	**07 45 56.4**	**-0.6**
	0.3nm,0.4s,baz=157,slow=5.5,SNR=4.2						
KBZ	**Khabaz**	**82.61**	**313**	LR	LR	08 29 43.3	
	comp=Z,26nm,19.6s,baz=111,slow=39						

*IDC **04** 07:39:59.9±1.0, 39°17S×75°21W, h0km, mb4.0/6, mb1 3.9/9, mb1mx3.9/19, mbtmp3.8/9, ML3.3/3, MS3.5/3, Ms1 3.4/3, ms1mx2.9/18, Error ellipse: s-maj=27.0km s-min=22.1km az=111.0*
*ISCJB **04** 07:40:02.9±0.7, 39°05S±0°08×75°25W±0°10, h35km, mb4.2/9, MS4.1/1, Error ellipse: s-maj=12.4km s-min=9.4km az=137.1*
*NEIC **04** 07:40:04.9±0.6, 39°11S×75°25W, h35km, mb4.5/4, Error ellipse: s-maj=13.4km s-min=11.1km az=104.0*
ISC 04 07:40:04.7±0.7, 39°09S±0°09×75°3W±0°1, h35km, n23, σ0°93/22, mb4.3/9, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**3.98**	**116**	Pn	**Pn**	**07 41 01.9**	**-1.5**
	0.6nm,0.3s,baz=244,slow=21,SNR=5.0						
PLCA				Sn	**Sn**	**07 41 50.5**	**+1.6**
	8.4nm,0.3s,baz=195,slow=21,SNR=8.0						
PLCA				LR	LR	07 41 50.7	
	comp=Z,66nm,19.6s,baz=264,slow=28						
CFAA	**Coronel Fontan**	**9.42**	**40**	Pn	**Pn**	**07 42 16.8**	**-1.2**
	0.1nm,0.3s,baz=195,slow=12,SNR=11						
TRQA	**Tornquist**	**10.46**	**89**	*e*Pn	**Pn**	**07 42 33.4**	**+1.2**
LCO	**Las Campanas**	**10.74**	**22**	*e*Pn	**Pn**	**07 42 35.1**	**-1.2**
CPUP	**Villa Florida**	**19.70**	**55**	P	**Pn**	**07 44 32.7**	**+0.1**
	0.0nm,0.3s,baz=240,slow=16,SNR=3.6						
CPUP				LR	LR	07 52 53.2	
	comp=Z,354nm,21.0s,baz=208,slow=39						
CPUP	**Villa Florida**	**19.70**	**55**	*e*P	**Pn**	**07 44 33.5**	**+0.9**
	0.3nm,1.3s						
BDFB	**Brasilia**	**33.41**	**53**	P	**P**	**07 46 39.1**	**-1.1**
	2.6nm,0.9s,baz=174,slow=6.9,SNR=3.8						
SNAA	**Sanae**	**47.93**	**156**	*e*P	**P**	**07 48 38.7**	**-0.6**
	3.8nm,0.9s						
QSPA	**South Pole Qui**	**51.16**	**180**	P	**P**	**07 49 03.5**	**-0.6**
	3.2nm,1.0s,baz=137,slow=4.5,SNR=5.6						
QSPA	**South Pole Qui**	**51.16**	**180**	*e*P	**P**	**07 49 03.1**	**-0.9**
VNDA	**Vanda**	**58.60**	**192**	P	**P**	**07 49 57.5**	**0.0**
	1.2nm,0.9s,baz=107,slow=1.5,SNR=4.3						
TXAR	**Lajitas Array**	**73.04**	**334**	P	**P**	**07 51 32.7**	**+1.6**
	0.7nm,0.8s,baz=156,slow=8.6,SNR=11						
TUL1	**Leonard**	**77.00**	**343**	*e*P	**P**	**07 51 53.9**	**+0.3**
	3.0nm,0.6s						
DBIC	**Dimbokro**	**79.24**	**72**	P	**P**	**07 52 06.8**	**+0.2**
	3.1nm,0.7s,baz=172,slow=7.5,SNR=4.5						
DBIC	**Dimbokro**	**79.24**	**72**	*e*P	**P**	**07 52 06.8**	**+0.2**
	4.3nm,0.8s						
RAO	**Raoul Island**	**81.00**	**240**	LR	LR	08 18 54.8	
	comp=Z,91nm,20.8s,baz=79,slow=29						
ECSD	**EROS Data Cent**	**84.67**	**345**	*e*P	**P**	**07 52 35.1**	**+0.7**
	3.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**88.33**	**72**	P	**P**	**07 52 53.5**	**+0.4**
	0.4nm,0.8s,baz=233,slow=2.5,SNR=3.1						
GEYT	**Alibeck**	**143.82**	**77**	PKP	PKPbc	07 59 34.8	+1.0
	1.8nm,0.5s,baz=272,slow=3.9,SNR=4.3						
TIXI	**Tiksi**	**145.14**	**347**	*e*PKPdf	**PKPbc**	**07 59 36.9**	**0.0**
ARU	**Arti**	**145.24**	**45**	*e*PKPdf	**PKPdf**	**07 59 38.5**	**+0.7**
AKTO	**Aktyubinsk**	**145.49**	**55**	PKPbc	**PKPab**	**07 59 39.0**	**+0.2**
	1.4nm,0.8s,baz=278,slow=3.7,SNR=4.9						
ABKAR	**Akbulak array**	**146.75**	**57**	*e*PKPbc	**PKPbc**	**07 59 42.3**	**-0.2**

*NIED **04** 07:56:00.27°50N×129°00E, h41km, Mw4.1 Best double couple: M0 1.48000×10^15 NP1:φs=225.00000°, δ28.00000°, λ161.00000°. NP2:φs=332.00000°, δ81.00000°, λ64.00000°.*
*ISCJB **04** 07:56:39.1±0.4, 27°48N±0°04×128°98E±0°06, h47km±4km, mb3.7/8, MS3.1/3, Error ellipse: s-maj=10.9km s-min=3.4km az=35.9*
*JMA **04** 07:56:39.8, 27°52N×128°93E, h39km, MS3.6*
JMA Felt I J1.
*IDC **04** 07:56:40.6±1.6, 27°47N×128°85E, h48km±16km, mb3.4/8, mb1 3.6/9, mb1mx3.3/49, mbtmp3.7/9, ML3.9/1, MS2.9/7, Ms1 3.0/7, ms1mx2.8/22, Error ellipse: s-maj=29.0km s-min=16.5km az=101.0*
ISC 04 07:56:38.8±1.0, 27°43N±0°03×129°06E±0°04, h32km±6km, n31, σ0°84/41, mb3.7/8, MS3.2/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTK	**Tokunoshima**	**0.37**	**345**	P	**Pb**	**07 56 47.5**	**+0.1**
JTK				S	**Sb**	**07 56 52.9**	**-0.4**
JOKE	**Okinoerabujima**	**0.44**	**261**	P	**Pb**	**07 56 48.4**	**0.0**
JOKE				S	**Sb**	**07 56 54.6**	**-0.4**
JAMN	**Amaminishikomi**	**0.82**	**7**	P	**Pn**	**07 56 54.0**	**-0.1**
JAMN				S	**Sn**	**07 57 04.4**	**-0.6**
JOW	**Kunigami**	**0.92**	**230**	P	**Pb**	**07 56 56.2**	**0.0**
JOW				S	**Sb**	**07 57 08.0**	**-0.1**
JOW	**Kunigami**	**0.92**	**230**	P	**Pb**	**07 56 56.6**	**+0.4**
	67nm,0.3s,baz=108,slow=23,SNR=749						
JOW				S	**Sb**	**07 57 07.8**	**-0.3**
	53nm,0.3s,baz=180,slow=20,SNR=40						
JIH	**Iheya**	**1.04**	**248**	P	**Pn**	**07 56 57.5**	**+0.3**
JIH				S	**Sn**	**07 57 10.2**	**-0.5**
JAM	**Amami Oshima**	**1.09**	**26**	P	**Pb**	**07 56 58.9**	**-0.3**
JAM				*e*S	**Sn**	**07 57 12.5**	**+0.7**
JZK	**Kikaishima**	**1.20**	**42**	P	**Pb**	**07 57 01.1**	**+0.1**
JZK				S	**Sb**	**07 57 16.0**	**-0.2**
JNTH	**Nagotoyohara**	**1.29**	**226**	P	**Pn**	**07 57 01.5**	**+0.9**
JNTH				*e*S	**Sn**	**07 57 17.8**	**+1.0**
JTAJ	**Takarajima**	**1.72**	**4**	P	**Pn**	**07 57 07.0**	**+0.5**
JTAJ				S	**Sn**	**07 57 27.5**	**+0.1**
JJT2	**Tamagusuku 2**	**1.74**	**223**	P	**Pn**	**07 57 08.1**	**+1.4**
JAGN	**Aguni-jima**	**1.82**	**243**	P	**Pn**	**07 57 08.3**	**+0.4**
JAGN				*e*S	**Sn**	**07 57 29.7**	**-0.1**
JKE	**Kume jima 2**	**2.31**	**242**	P	**Pn**	**07 57 15.5**	**+1.0**
JNN	**Nakanoshima**	**2.51**	**17**	P	**Pn**	**07 57 18.0**	**+0.7**
JNN				S	**Sn**	**07 57 47.5**	**+0.7**
JMZ	**Minamidaito 2**	**2.52**	**129**	P	**Pn**	**07 57 18.1**	**+0.7**
JMZ				S	**Sn**	**07 57 45.5**	**-1.5**
JYAK	**Yakushimahirau**	**3.08**	**24**	P	**Pn**	**07 57 25.5**	**+0.4**
JYAK				S	**Sn**	**07 57 58.1**	**+1.1**
JKC	**Kuchinoerabu**	**3.18**	**18**	P	**Pn**	**07 57 27.6**	**+1.0**
JKC				S	**Sn

CPBX	**Cerro Prieto**	**0.24**	**356**	⇓*e*P		**Pg**	**08 05 33.1**	**-0.3**
CPBX				*e*S		**Sg**	**08 05 36.9**	**-0.1**
CPBX					AML	AML	08 05 38.6	
	comp=N,39μm,0.2s							
CPBX				*e*			08 05 38.6	
SGL	**Mount Signal**	**0.60**	**322**	⇑*i*P		**Pg**	**08 05 39.6**	**-0.4**
EMSC	**East Mesa**	**0.61**	**24**	⇓*i*P		**Pg**	**08 05 39.7**	**-0.6**
RDX	**Rancho Dawling**	**0.61**	**246**	*e*P		**Pg**	**08 05 41.1**	**+0.8**
RDX				*e*S		**Sg**	**08 05 49.8**	**+1.4**
RDX	**Rancho Dawling**	**0.61**	**246**	⇑*e*P		**Pg**	**08 05 41.1**	**+0.8**
RDX				*e*S		**Sg**	**08 05 49.8**	**+1.4**
RDX				*e*			08 05 52.1	
RDX					AML	AML	08 05 52.1	
	comp=N,3μm,0.5s							
DREC	**Desert Rsrch C**	**0.64**	**347**	*e*P		**Pg**	**08 05 40.6**	**-0.2**
ERPC	**Ernies Place**	**0.65**	**330**	⇑*i*P		**Pg**	**08 05 40.8**	**-0.1**
WESC	**Westside Schoo**	**0.69**	**327**	*e*P		**Pg**	**08 05 41.5**	**-0.3**
COA	**Coachella**	**0.70**	**11**	*e*P2		**Pg**	**08 05 41.4**	**-0.5**
YUH	**Yuha Desert**	**0.72**	**311**	⇑*i*P		**Pg**	**08 05 41.5**	**-0.7**
ECBX	**El Chinero**	**0.73**	**164**	*e*P9		**Pg**	**08 05 42.3**	**-0.2**
ECBX				*e*S		**Sg**	**08 05 52.8**	**+0.7**
COK	**Cook Ranch**	**0.77**	**331**	*e*P2		**Pg**	**08 05 42.4**	**-0.8**
RMX	**La Rumorosa**	**0.80**	**302**	*e*P		**Pg**	**08 05 43.2**	**-0.6**
RMX				*e*S		**Sg**	**08 05 53.5**	**-0.7**
RMX	**La Rumorosa**	**0.80**	**302**	⇑*e*P		**Pg**	**08 05 43.2**	**-0.6**
RMX				*e*S		**Sg**	**08 05 53.5**	**-0.7**
RMX				⇓*e*			08 05 54.1	
RMX					AML	AML	08 05 54.1	
	comp=N,2μm,0.2s							
ZAX	**El Zacaton**	**1.07**	**232**	*e*P		**Pg**	**08 05 48.7**	**-0.3**
SPIG	**San Pedro Mart**	**1.14**	**188**	*e*P		**Pg**	**08 05 49.7**	**-0.6**
SPX	**San Pedro Mart**	**1.14**	**188**	*e*P		**Pg**	**08 05 49.7**	**-0.6**
SPX				*e*S		**Sg**	**08 06 05.8**	**+0.6**
SPX					AML	AML	08 06 07.7	
	comp=E,822nm,0.4s							
SPX				⇓*e*			08 06 07.7	
CBX	**Cerro Bola**	**1.18**	**277**	*e*P		**Pg**	**08 05 49.7**	**-1.3**
CBX					AML	AML	08 06 07.4	
	comp=E,1μm,0.5s							
CBX				⇑*e*			08 06 07.4	
ECNX	**Esteban Cantu**	**1.23**	**245**	*e*P		**Pn**	**08 05 51.4**	**+0.1**
ECNX	**Esteban Cantu**	**1.23**	**245**	*e*P2		**Pn**	**08 05 51.4**	**+0.1**
BAR	**Barrett**	**1.28**	**293**	*e*Pn		**Pn**	**08 05 50.7**	**-1.2**
BAR				*e*Sg		**Sb**	**08 06 07.7**	**-0.9**
BAR	**Barrett**	**1.28**	**293**	*e*P		**Pn**	**08 05 51.1**	**-0.8**
PBX	**Punta Banda**	**1.30**	**251**	*e*P		**Pn**	**08 05 52.3**	**+0.1**
PBX	**Punta Banda**	**1.30**	**251**	⇓*e*P		**Pn**	**08 05 52.3**	**+0.1**
PFO	**Pinyon Flats O**	**1.73**	**326**	*e*Pn		**Pn**	**08 05 58.5**	**+0.3**
214A	**Organ Pipe Nat**	**2.11**	**95**	*e*Pn		Pn	08 06 01.4	-1.9
GSC	**Goldstone, Bar**	**3.36**	**338**	*e*Pg		**Pg**	**08 06 34.0**	**+1.2**
TUC	**Tucson**	**3.81**	**87**	*e*Pn		**Pn**	**08 06 26.6**	**-0.2**
TUC				*e*Pg		**Pg**	**08 06 40.9**	**-0.5**
TUC				*e*Sg		**Sg**	**08 07 27.4**	**-3.4**
SHPR	**Sheep Range**	**4.32**	**1**	*e*Pn		**Pn**	**08 06 33.6**	**-0.2**
SHPR				*e*Pg		**Pg**	**08 06 50.4**	**-0.6**
SHPR				*e*Sg		**Sg**	**08 07 52.3**	**+5.3**
DAC	**Darwin (Calif)**	**4.51**	**336**	*e*Pg		**Pg**	**08 06 53.7**	**-1.1**
WUAZ	**Wupatki**	**4.65**	**43**	*e*Pn		**Pn**	**08 06 38.7**	**+0.2**
121A	**Cookes Peak, D**	**6.35**	**85**	*e*Pn		**Pn**	**08 07 01.0**	**-0.8**
	comp=E,4.3nm,0.5s							
121A				*e*Sg		**Sg**	**08 08 56.4**	**+4.2**

*IDC **04** 08:29:09.9±0.8,9°.77S×159°.65E,h0km,mb4.3/16, mb1 4.5/16,mb1mx4.3/30,mbtmp4.3/16,MS3.5/7, Ms1 3.5/7,ms1mx3.2/19,Error ellipse: s-maj=27.1km s-min=15.7km az=106.0*

*BJI **04** 08:29:11.4,9.85S×159°.99E,h30km,mb4.8/19,mB4.8/12, Ms4.4/4,Ms7 4.2/5*

*ISCJB **04** 08:29:12.7±0.3,9°.73S±0°.04×159°.56E±0°.06,h26km, mb4.6/44,MS3.4/7,Error ellipse: s-maj=8.9km s-min=5.3km az=29.7*

*NEIC **04** 08:29:16.0±0.9,9°.68S×159°.68E,h39km±8km,mb4.6/32, Error ellipse: s-maj=11.4km s-min=5.7km az=118.0*

NEIC Felt [II] at Honiara.

ISC 04 08:29:14.6±0.5,9°.75S±0°.06×159°.68E±0°.07,h26km,n77, σ1°38/101,mb4.6/44,MS3.4/7,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**0.41**	**41**	*i* P		**Pn**	**08 29 24.0**	**-0.8**
HNR				*i* S		**Sn**	**08 29 33.0**	**+1.4**
HNR	**Honiara**	**0.41**	**41**	*e*Pg		**Pn**	**08 29 24.0**	**-0.8**
HNR				*e*Sg		**Sn**	**08 29 31.2**	**-0.4**
CTA	**Charters Tower**	**16.54**	**230**	Pn		**P**	**08 33 08.1**	**+0.9**
	0.6nm,0.3s,baz=60,slow=14,SNR=12							
CTAO	**Charters Tower**	**16.54**	**230**	*e*P		**P**	**08 33 08.2**	**+0.9**
	54nm,1.2s							
EIDS	**Eidsvold**	**17.55**	**207**	P		**P**	**08 33 17.9**	**-0.5**
	baz=20,SNR=5.2							
EIDS	**Eidsvold**	**17.55**	**207**	*e*P		**P**	**08 33 17.8**	**-0.7**
	24nm,1.1s							
RMQ	**Roma**	**19.60**	**210**	P		**Pn**	**08 33 42.3**	**-0.1**
	baz=22,SNR=29							
ARMA	**Armidale**	**21.90**	**199**	P		**P**	**08 34 07.5**	**+1.5**
	baz=24,SNR=10							
ARMA	**Armidale**	**21.90**	**199**	*e*P		**P**	**08 34 07.4**	**+1.5**
	31nm,1.3s							
QIS	**Mount Isa**	**22.13**	**239**	P		**P**	**08 34 08.1**	**-0.3**
	baz=25,SNR=8.3							
QLP	**Quilpie**	**22.22**	**219**	P		**P**	**08 34 08.3**	**-1.0**
	baz=24,SNR=12							
CMSA	**Cobar Meteorol**	**25.27**	**209**	P		**P**	**08 34 37.9**	**-0.9**
	baz=27,SNR=12							
WRAB	**Tennant Creek**	**26.46**	**245**	*e*P		**P**	**08 34 48.9**	**-0.8**
	24nm,1.5s							
WRA	**Warramunga Arr**	**26.47**	**245**	P		**P**	**08 34 48.4**	**-1.5**
	4.1nm,0.8s,baz=72,slow=10.0,SNR=24							
WRA					LR	LR	08 45 10.3	
	comp=Z,104nm,18.7s,baz=185,slow=36							
STKA	**Stephens Creek**	**27.67**	**215**	P		**P**	**08 34 59.2**	**-1.3**
	3.9nm,0.5s,baz=44,slow=13,SNR=9.0							
STKA					LR	LR	08 44 15.2	
	comp=Z,140nm,19.2s,baz=194,slow=33							
STKA	**Stephens Creek**	**27.67**	**215**	*e*P		**P**	**08 35 00.5**	**0.0**
	16nm,2.1s							
ASAR	**Alice Springs**	**28.23**	**237**	P		**P**	**08 35 03.5**	**-2.2**
	1.1nm,0.5s,baz=60,slow=10,SNR=22							
BBOO	**Buckleboo**	**31.65**	**220**	*e*P		**P**	**08 35 34.6**	**-1.2**
	27nm,1.1s							
BKZ	**Black Stump Fm**	**32.93**	**156**	*e*P		**P**	**08 35 46.3**	**-0.7**
	207nm,2.6s							
WRKA	**Waraku rra**	**33.47**	**239**	P		**P**	**08 35 49.8**	**-2.1**
	baz=36,SNR=4.0							
TAU	**Tasmania Unive**	**34.76**	**196**	*e*P		**P**	**08 36 03.2**	**+0.5**
	221nm,2.0s							
RPZ	**Rata Peaks**	**35.26**	**166**	*e*P		**P**	**08 36 09.2**	**+2.1**
	25nm,1.2s							
JCJ	**Chichijima**	**40.36**	**336**	LR		LR	08 52 41.7	
	comp=Z,65nm,19.5s,baz=136,slow=35							
MEEK	**Meekatharra**	**42.25**	**241**	P		**P**	**08 37 05.0**	**-1.0**
	baz=45,SNR=8.0							
MJAR	**Matsushiro Arr**	**50.27**	**337**	P		**P**	**08 38 07.7**	**-1.2**
	3.7nm,0.8s,baz=168,slow=8.4,SNR=16							
MJAR					LR	LR	08 58 07.4	
	comp=Z,23nm,21.7s,baz=230,slow=35							
MAJO	**Matsushiro**	**50.28**	**337**	*e*P		**P**	**08 38 07.4**	**-1.5**
	7.6nm,0.5s							
MAT	**Matsushiro**	**50.28**	**337**	P		**P**	**08 38 07.4**	**-1.5**
JNU	**Nakatsue**	**50.69**	**329**	P		**P**	**08 38 10.7**	**-1.4**
	8.4nm,0.9s,baz=126,slow=7.5,SNR=5.7							
JNU	**Nakatsue**	**50.69**	**329**	*e*P		**P**	**08 38 11.2**	**-0.9**
	3.7nm,0.8s							
KSRS	**Korea Array**	**55.58**	**329**	P		**P**	**08 38 47.7**	**-0.3**
	3.1nm,0.9s,baz=146,slow=7.1,SNR=9.0							
KSRS					LR	LR	08 59 54.0	
	comp=Z,18nm,21.5s,baz=180,slow=33							
KSAR	**Wonju Array Be**	**55.59**	**329**	P		**P**	**08 38 47.7**	**-0.4**
ASAJ	**Asahikawa**	**55.80**	**345**	P		**P**	**08 38 49.0**	**-0.5**
	2.2nm,0.5s,baz=125,slow=5.0,SNR=4.9							
ASAJ	**Asahikawa**	**55.80**	**345**	*e*P		**P**	**08 38 49.1**	**-0.3**
	7.4nm,1.4s							
QIZ	**Qiongzhong**	**56.84**	**300**	P		**P**	**08 38 58.1**	**+0.8**
QIZ				pP		**pP**	**08 39 05.6**	**+0.2**
QIZ				sP		**sP**	**08 39 09.4**	**+0.9**
QIZ				PP		**PP**	**08 41 02.9**	**-1.1**
QIZ				S		**S**	**08 46 48.6**	**-1.0**
QIZ				sS		**sS**	**08 47 04.4**	**+1.5**
QIZ				PMZ				
	66nm,3.9s							
NJ2	**Nanjing**	**57.00**	**319**	*e*P		**P**	**08 38 57.2**	**-1.0**
NJ2				PMZ				

	60nm,1.0s							
USRK	**Ussuriysk Ar.**	**59.27**	**337**	P		**P**	**08 39 14.2**	**+0.3**
	3.9nm,1.0s,baz=134,slow=7.2,SNR=7.8							
MDJ	**Mudanjiang**	**60.56**	**336**	P		**P**	**08 39 23.4**	**+0.6**
MDJ				pP		**pP**	**08 39 32.7**	**+1.8**
MDJ				sP		**sP**	**08 39 36.4**	**+2.4**
MDJ				PcP		**PcP**	**08 40 07.3**	**+0.2**
MDJ				PP		**PP**	**08 41 35.1**	**-1.5**
MDJ				S		**S**	**08 47 35.1**	**-2.0**
MDJ				ScS		SKKSac	08 49 10.3	-1.5
MDJ				SS		**SS**	**08 51 37.6**	**+1.6**
MDJ				PMZ				
	4.0nm,0.4s							
MDJ				PMZ				
	42nm,5.6s							
MDJ				LN				
	27nm,20.1s							
MDJ				LE				
	18nm,23.6s							
MDJ				LZ				
	48nm,24.7s							
CN2	**Changchun**	**61.70**	**332**	*e*P		P	08 39 33.7	+3.2
PETK	**Petropavlovsk-**	**62.63**	**359**	P		**P**	**08 39 36.6**	**+0.1**
	4.3nm,0.6s,baz=167,slow=8.6,SNR=22							
PETK					LR	LR	09 04 57.5	
	comp=Z,22nm,20.0s,baz=129,slow=34							
GYA	**Guiyang**	**62.80**	**306**	*e*P		**P**	**08 39 40.6**	**+2.2**
GYA				sP		**sP**	**08 39 52.8**	**+3.2**
GYA				PP		**PP**	**08 42 00.4**	**+3.6**
GYA				ScP		**ScP**	**08 44 15.0**	**-2.4**
GYA				S		**S**	**08 48 04.5**	**-1.9**
GYA				PMZ				
	10.0nm,0.9s							
GYA				PMZ				
	90nm,6.0s							
SMY	**Shemya**	**63.44**	**10**	*e*P		**P**	**08 39 42.1**	**+0.2**
BJI	**Beijing**	**63.82**	**324**	P		**P**	**08 39 44.3**	**-0.4**
BJI				PMZ				
	10.0nm,0.7s							
KMI	**Kunming**	**65.39**	**303**	P		**P**	**08 39 56.0**	**+0.5**
KMI				PMZ				
	13nm,0.8s							
CMAR	**Chiang Mai Arr**	**66.14**	**295**	P		**P**	**08 40 00.6**	**+0.4**
	2.8nm,0.7s,baz=113,slow=4.5,SNR=15							
CD2	**Chengdu**	**67.12**	**309**	*e*P		**P**	**08 40 06.8**	**+0.5**
CD2				sP		**sP**	**08 40 20.0**	**+2.4**
CD2				PP		**PP**	**08 42 36.5**	**+1.9**
CD2				S		**S**	**08 48 57.5**	**-1.8**
CD2				SS		**SS**	**08 53 18.6**	**-0.3**
CD2				PMZ				
	10.0nm,0.7s							
CD2				PMZ				
	40nm,4.8s							
CD2				LN				
	90nm,13.1s							
CD2				LZ				
	130nm,8.3s							
VNDA	**Vanda**	**67.77**	**179**	P		**P**	**08 40 09.7**	**+0.1**
	2.2nm,0.8s,baz=338,slow=6.2,SNR=13							
VNDA					LR	LR	09 04 34.1	
	comp=Z,94nm,19.4s,baz=326,slow=31							
VNDA	**Vanda**	**67.77**	**179**	*e*P		**P**	**08 40 09.3**	**-0.2**
	2.2nm,0.9s							
LZH	**Lanzhou**	**69.52**	**314**	*e*P		**P**	**08 40 23.4**	**+2.0**
LZH				pP		**pP**	**08 40 33.7**	**+4.0**
LZH				sP		sP	08 40 37.8	+5.0
LZH				PMZ				
	15nm,1.0s							
SONM	**Songino Array**	**74.17**	**326**	P		**P**	**08 40 49.0**	**-0.1**
	2.9nm,0.6s,baz=135,slow=5.7,SNR=12							
BILL	**Bilibino**	**77.73**	**3**	*e*P		**P**	**08 41 08.1**	**-0.7**
	6.1nm,0.8s							
BRLK	**Bradley Lake**	**79.67**	**23**	*e*P		**P**	**08 41 20.2**	**+0.6**
	35nm,1.6s							
QSPA	**South Pole Qui**	**80.25**	**180**	*e*P		**P**	**08 41 22.7**	**-0.2**
	3.8nm,1.0s							
RC01	**Rabbit Creek A**	**80.96**	**22**	*e*P		**P**	**08 41 25.7**	**-0.8**
	11nm,1.2s							
PPLA	**Purkeypile**	**81.27**	**20**	*e*P		**P**	**08 41 27.7**	**-0.6**
	28nm,1.9s							
PMR	**Palmer**	**81.50**	**22**	*e*P		**P**	**08 41 28.8**	**-0.6**
	5.6nm,0.8s							
CAST	**Castle Rocks**	**81.65**	**20**	*e*P		**P**	**08 41 29.4**	**-0.8**
	5.0nm,0.7s							
KTH	**Kantishna Hill**	**82.13**	**20**	*e*P		**P**	**08 41 31.6**	**-1.2**
	23nm,1.4s							
TRF	**Thorofare Moun**	**82.28**	**20**	*e*P		**P**	**08 41 32.3**	**-1.4**
	107nm,2.6s							
SCM	**Sheep Creek Mo**	**82.33**	**22**	*e*P		**P**	**08 41 33.6**	**-0.2**
	35nm,1.8s							
RND	**Reindeer**	**82.75**	**21**	*e*P		**P**	**08 41 35.7**	**-0.3**
	3.9nm,0.7s							
IM04	**Indian Mountai**	**82.87**	**17**	*e*P		**P**	**08 41 36.4**	**-0.1**
MCK	**McKinley**	**82.93**	**21**	*e*P		**P**	**08 41 35.7**	**-1.2**
	13nm,0.8s							
MLY	**Manley**	**83.16**	**19**	*e*P		**P**	**08 41 38.5**	**+0.4**
	3.5nm,0.8s							
WRH	**Wood River Hil**	**83.68**	**20**	*e*P		**P**	**08 41 38.8**	**-1.9**
	3.6nm,0.8s							
CCB	**Clear Creek Bu**	**83.89**	**20**	*e*P		**P**	**08 41 40.5**	**-1.2**
	3.2nm,0.8s							
MDM	**Murphy Dome**	**83.94**	**20**	*e*P		**P**	**08 41 41.1**	**-0.9**
	4.0nm,0.8s							
WMQ	**Urumqi**	**83.99**	**316**	*e*P		**P**	**08 41 43.7**	**+0.9**
WMQ				pP		pP	08 41 58.0	+6.7
WMQ				PMZ				
	6.0nm,0.5s							
WMQ				PMZ				
	120nm,4.6s							
WMQ				LZ				
	90nm,18.6s							
COLA	**College**	**84.01**	**20**	*e*P		**P**	**08 41 41.4**	**-1.0**
	6.1nm,0.8s							
DDM	**Donnelly Dome**	**84.04**	**21**	*e*P		**P**	**08 41 42.5**	**-0.1**
	6.2nm,0.9s							
ILAR	**Eielson Array**	**84.28**	**20**	P		**P**	**08 41 42.4**	**-1.3**
	1.5nm,0.5s,baz=247,slow=5.3,SNR=38							
DOT	**Dot Lake**	**84.61**	**22**	*e*P		**P**	**08 41 45.4**	**-0.1**
	3.8nm,0.7s							
SCRK	**Sand Creek**	**84.83**	**22**	*e*P		**P**	**08 41 46.7**	**0.0**
	2.6nm,0.8s							
EGAK	**Eagle**	**86.30**	**22**	*e*P		**P**	**08 41 54.3**	**+0.5**
	7.3nm,1.4s							
MKAR	**Makanchi Array**	**88.53**	**318**	P		**P**	**08 42 04.2**	**-0.8**
	1.1nm,0.6s,baz=98,slow=2.5,SNR=13							
NVAR	**Mina Array Bea**	**89.81**	**51**	P		**P**	**08 42 11.7**	**+0.2**
	0.6nm,0.8s,baz=234,slow=8.8,SNR=4.1							
KSH	**Kashi**	**91.31**	**310**	*e*P		**P**	**08 42 17.7**	**-0.7**
KSH				pP		**pP**	**08 42 28.3**	**+1.5**
KSH				PP		**PP**	**08 45 57.4**	**+1.4**
KSH				S		**S**	**08 53 11.2**	**-4.8**
KSH				sS		**sS**	**08 53 28.7**	**-1.3**
KSH				PMZ				
	82nm,5.2s							
KSH				LN				
	410nm,12.4s							
KSH				LE				
	460nm,14.6s							
KSH				LZ				
	130nm,6.0s							
YKA	**Yellowknife Ar**	**96.59**	**28**	P		**P**	**08 42 40.4**	**-1.4**
	0.3nm,0.5s,baz=265,slow=4.9,SNR=3.8							

*CSEM **04** 08:47:41.9±0.2,38°.46N×29°.14E,h10km,MD2.9,Error ellipse: s-maj=5.8km s-min=4.0km az=179.0*

*ISK **04** 08:47:41.7,38°.49N×29°.13E,h9km,MD2.9*

DDA 04 08:47:42.1,38°.44N×29°.12E,h8km,MD2.8,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KHL	**Karahalli**	**0.34**	**110**	*e*PG		Pg	08 47 48.9	0.0
KHL				*e*SG		Sb	08 47 55.3	-1.0
KHL	**Karahalli**	**0.34**	**110**	*e*Pg		Pg	08 47 48.9	0.0
KHL				*e*Sg		Sb	08 47 55.3	-1.0
KULA	**Kula-Manisa**	**0.37**	**282**	*e*PG		Pg	08 47 49.4	0.0
KULA				*e*SG		Sb	08 47 55.7	-1.3
KULA	**Kula-Manisa**	**0.37**	**282**	*e*Pg		Pg	08 47 49.4	0.0
KULA				*e*Sg		Sb	08 47 55.7	-1.3
MANT	**Manisa**	**0.44**	**277**	*i* P		Pg	08 47 50.6	-0.4
MANT				*i* S		Sg	08 47 56.4	-0.6
MANT	**Manisa**	**0.44**	**277**	*i* P		Pg	08 47 50.6	-0.4
MANT				*i* S		Sg	08 47 56.4	-0.7
DEMI	**Demirci**	**0.68**	**333**	*i* P		Pg	08 47 55.1	-0.2
DEMI				*i* S		Sg	08 48 03.6	-0.7
DEMI	**Demirci**	**0.68**	**333**	*i* P		Pg	08 47 55.1	-0.3
DEMI				*i* S		Sg	08 48 03.6	-0.7
GDZ	**Gediz**	**0.71**	**24**	*i* P		Pg	08 47 55.3	-0.7
GDZ				*i* S		Sg	08 48 05.4	+0.1
GDZ	**Gediz**	**0.71**	**24**	*i* P		Pg	08 47 55.3	-0.6
GDZ				*i* S		Sg	08 48 05.4	0.0
ALT	**Altintas**	**0.99**	**51**	*e*PG		Pg	08 47 59.7	-1.6
ALT	**Altintas**	**0.99**	**51**	*e*Pg		Pg	08 47 59.7	-1.6
TVSB	**Tavsanli**	**1.04**	**15**	*e*PG		Pg	08 48 01.5	-0.8
TVSB	**Tavsanli**	**1.04**	**15**	*e*Pg		Pg	08 48 01.5	-0.8
AYDB	**Zeytinkoy-Aydi**	**1.08**	**243**	*e*PN		Pg	08 48 02.5	-0.6
AYDB	**Zeytinkoy-Aydi**	**1.08**	**243**	*e*Pn		Pg	08 48 02.5	-0.6
AKHS	**Akhisar**	**1.11**	**294**	*i* P		Pn	08 48 04.1	+0.1
AKHS				*i* S		Sn	08 48 20.7	+1.1
AKHS	**Akhisar**	**1.11**	**294**	*i* P		Pn	08 48 04.1	+0.1
AKHS				*i* S		Sn	08 48 20.7	+1.1
AKS	**Akhisar**	**1.11**	**294**	*e*PN		Pg	08 48 03.2	-0.2
AKS	**Akhisar**	**1.11**	**294**	*e*Pn		Pg	08 48 03.2	-0.3
ISP	**Isparta**	**1.27**	**119**	*e*PN		Pn	08 48 06.0	-0.3
ISP	**Isparta**	**1.27**	**119**	*e*Pn		Pn	08 48 06.0	-0.3
CHOS	**Chios island**	**2.41**	**270**	*e*PN		Pn	08 48 23.0	+1.1
CHOS	**Chios island**	**2.41**	**270**	*e*Pn		Pn	08 48 23.0	+1.1

*CSEM **04** 08:48:12.6±0.2,37°.26N×28°.19E,h2km,MD2.7,Error ellipse: s-maj=6.7km s-min=3.3km az=24.0*

ISK 04 08:48:10.8,37°.26N×28°.19E,h5km,MD2.7,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YER	**Yerkesik**	**0.14**	**150**	PG		Pg	08 48 14.3	+0.5
YER				*e*SG		Sg	08 48 16.8	+1.0
YER	**Yerkesik**	**0.14**	**150**	*i* Pg		Pg	08 48 14.3	+0.5
YER				*e*Sg		Sg	08 48 16.8	+1.1
AYDN	**Tasoluk**	**0.47**	**328**	*i* P		Pb	08 48 22.8	+1.0
AYDN				*i* S		Sb	08 48 29.8	+0.7
AYDN	**Tasoluk**	**0.47**	**328**	*i* P		Pb	08 48 22.8	+1.0
AYDN				*i* S		Sb	08 48 29.8	+0.6
TURN	**Turunc**	**0.50**	**139**	*i* P		Pg	08 48 20.2	-0.3
TURN				*i* S		Sg	08 48 27.5	+0.4
TURN	**Turunc**	**0.50**	**139**	*i* P		Pg	08 48 20.2	-0.3
TURN				*i* S		Sg	08 48 27.5	+0.4
DALY	**Dalyan (Mu˘la**	**0.57**	**140**	*e*PG		Pb	08 48 22.7	-0.6
DALY				*e*SG		Sb	08 48 32.1	+0.3
DALY	**Dalyan (Mu˘la**	**0.57**	**140**	*e*Pg		Pb	08 48 22.7	-0.6
BDRM	**Kayabasi**	**0.63**	**252**	*i* P		Pb	08 48 23.8	-0.5
BDRM				*i* S		Sb	08 48 32.9	-0.5
BDRM	**Kayabasi**	**0.63**	**252**	*i* P		Pb	08 48 23.8	-0.5
BDRM				*i* S		Sb	08 48 32.9	-0.6
DAT	**Datca**	**0.72**	**223**	*e*PG		Pb	08 48 25.7	-0.3
DAT	**Datca**	**0.72**	**223**	*e*Pg		Pb	08 48 25.7	-0.3
BODT	**Bodrum**	**0.73**	**255**	*e*PG		Pb	08 48 26.3	+0.2
BODT				*e*SG		Sb	08 48 36.9	+0.5
BODT	**Bodrum**	**0.73**	**255**	*e*Pg		Pb	08 48 26.3	+0.2
BODT				*e*Sg		Sb	08 48 36.9	+0.5
FETY	**Fethiye**	**0.95**	**131**	*e*PG		Pb	08 48 29.9	+0.1
FETY	**Fethiye**	**0.95**	**131**	*e*Pg		Pb	08 48 29.9	+0.2
AKAS	**Kas**	**1.53**	**132**	*i* P		Pg	08 48 41.5	+1.2
AKAS	**Kas**	**1.53**	**132**	*i* P		Pg	08 48 41.5	+1.2
AKAS				*i* S		Sg	08 49 05.1	+4.8

*NEIC **04** 09:10:53.0±0.6,32°.11N×115°.20W,h10km,MD3.9(MEX), ML3.5(PAS),ML3.7(ECX),Error ellipse: s-maj=8.6km s-min=8.1km az=77.0*

*ISCJB **04** 09:10:53.1±0.6,32°.13N±0°.02×115°.15W±0°.02,h11km±4km, Error ellipse: s-maj=3.7km s-min=3.5km az=178.0*

*MEX **04** 09:10:55.7±0.8,32°.21N×115°.08W,h17km±999km,MD3.9*

*ECX **04** 09:10:55.2±0.5,32°.13N×115°.20W,h10km,MD3.4,ML3.6*

ISC 04 09:10:53.3±1.1,32°.10N±0°.02×115°.20W±0°.02,h7km±10km, n36,σ0°.94/52,5C-7D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MBIG	**Mexicali**	**0.31**	**360**	*e*P		**Pb**	**09 11 00.6**	**-0.6**
MBIG				*i* S		**Sg**	**09 11 03.1**	**-0.3**
CPBX	**Cerro Prieto**	**0.33**	**344**	*e*P		**Pb**	**09 11 00.9**	**-0.6**
CPBX				*e*S		**Sg**	**09 11 05.1**	**+1.0**
ECBX	**El Chinero**	**0.64**	**169**	⇓*e*P		**Pb**	**09 11 06.3**	**-0.5**
ECBX				*e*S		**Sb**	**09 11 15.6**	**-0.4**
ECBX				⇓*e*			09 11 16.8	
	comp=N,3μm,0.2s							
RDX	**Rancho Dawling**	**0.66**	**255**	⇑*e*P		**Pb**	**09 11 07.3**	**+0.1**
RDX				*e*S		**Sb**	**09 11 16.2**	**-0.5**
RDX				⇓*e*			09 11 19.4	
	comp=N,4μm,0

h25km:pP-P,n141,σ1§18/138,mb4.4/40,MS3.3/14,6C-3D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.06**	**332**	P	**Pn**	**09 17 34.2**	**-0.1**
WESP	**Westdahl Peak**	**1.12**	**329**	P	**Pn**	**09 17 35.3**	**+0.2**
WEBT	**Westdahl Beart**	**1.21**	**331**	P	**Pb**	**09 17 36.9**	**-0.4**
SSLW	**Shishaldin Wes**	**1.25**	**350**	P	**Pb**	**09 17 37.3**	**-0.7**
SSLN	**Shishaldin Nor**	**1.28**	**353**	P	**Pb**	**09 17 38.4**	**-0.1**
FALS	**False Pass**	**1.33**	**8**	P	**Pb**	**09 17 38.7**	**-0.7**
FALS				S	**Sn**	**09 17 57.4**	**+2.5**
AKA	**Akutan**	**1.34**	**297**	P	**Pb**	**09 17 38.3**	**-1.2**
AKA				S	**Sb**	**09 17 55.5**	**-0.7**
AKUT	**Akutan**	**1.34**	**297**	P	**Pb**	**09 17 38.2**	**-1.4**
AKUT				S	**Sb**	**09 17 56.8**	**+0.5**
ZRO	**Akutan Zero**	**1.44**	**293**	P	**Pn**	**09 17 39.3**	**-0.2**
AKGG	**Akutan Green G**	**1.49**	**297**	P	**Pn**	**09 17 40.2**	**+0.1**
AKGG				S	**Sb**	**09 18 00.9**	**+0.5**
AKRB	**Akutan Reef Bi**	**1.50**	**294**	P	**Pn**	**09 17 40.3**	**0.0**
UNV	**Unalaska Valle**	**1.67**	**282**	P	**Pn**	**09 17 42.0**	**-0.6**
UNV				S	**Sb**	**09 18 05.8**	**+0.1**
DT1	**Dutton Round H**	**1.79**	**28**	P	**Pb**	**09 17 45.1**	**-1.9**
MREP	**Makushin Rep't**	**1.81**	**280**	P	**Pn**	**09 17 45.0**	**+0.4**
DTNA	**Dutton South F**	**1.83**	**28**	P	**Pb**	**09 17 45.9**	**-2.0**
MSW	**Makushin Switc**	**1.85**	**283**	P	**Pn**	**09 17 44.9**	**-0.2**
MCIR	**Makushin Cirqu**	**1.92**	**284**	P	**Pn**	**09 17 46.5**	**+0.4**
OKFG	**Magazine Ridge**	**2.50**	**269**	P	**Pn**	**09 17 53.9**	**-0.1**
SDPT	**Sand Point**	**2.63**	**45**	*e*Pn	**Pn**	**09 17 57.0**	**+1.2**
SDPT				*e*Sn	**Sb**	**09 18 28.6**	**-4.6**
SPIA	**Saint Paul Isl**	**5.20**	**317**	P	Pn	09 18 33.4	+2.3
OHAK	**Old Harbor**	**7.00**	**54**	*e*Pn	**Pn**	**09 18 55.8**	**0.0**
KDAK	**Kodiak Island**	**7.60**	**52**	*i* P	**Pn**	**09 19 03.9**	**-0.2**
RSO	**Redoubt South**	**9.16**	**36**	*e*Pn	**Pn**	**09 19 25.4**	**-0.2**
PPLA	**Purkeypile**	**11.16**	**28**	*e*Pn	Pn	09 19 57.0	+4.1
CAST	**Castle Rocks**	**11.61**	**27**	*e*Pn	Pn	09 20 02.1	+3.2
KTH	**Kantishna Hill**	**12.03**	**28**	*e*Pn	Pn	09 20 07.9	+3.2
TRF	**Thorofare Moun**	**12.14**	**30**	*e*Pn	**Pn**	**09 20 06.7**	**+0.3**
TRF				*e*Sn	Sn	09 22 27.2	+6.4
TNA	**Tin City** 4.4nm,0.7s	**12.24**	**352**	*e*Pn	**Pn**	**09 20 09.0**	**+1.6**
BMRM	**Bremner River**	**12.71**	**47**	*e*Pn	**Pn**	**09 20 12.7**	**-1.4**
IM04	**Indian Mountai**	**13.41**	**18**	*e*Pn	Pn	09 20 27.0	+3.5
PAX	**Paxson**	**13.43**	**38**	*e*Pn	**Pn**	**09 20 22.8**	**-1.0**
PAX				*e*		09 22 50.9	
PAX	**Paxson**	**13.43**	**38**	*e*Pn	**Pn**	**09 20 22.8**	**-1.0**
PAX				*e*Sn	**Sn**	**09 22 50.9**	**-1.1**
COLA	**College**	**13.92**	**29**⇑	*e*P	**Pn**	**09 20 30.4**	**+0.1**
COLA	**College**	**13.92**	**29**	*e*Pn	**Pn**	**09 20 29.9**	**-0.5**
ILAR	**Eielson Array** 0.2nm,0.3s,baz=228,slow=12,SNR=11	**14.13**	**31**	Pn	**Pn**	**09 20 30.2**	**-3.1**
DOT	**Dot Lake** 4.1nm,0.5s	**14.34**	**37**	*e*Pn	**Pn**	**09 20 35.5**	**-0.7**
COLD	**Coldfoot** 9.0nm,0.7s	**15.21**	**20**	*e*Pn	**Pn**	**09 20 49.4**	**+1.5**
HYT	**Haines Junctio**	**15.89**	**52**	*e*Pn	**P**	**09 20 59.4**	**-1.0**
HYT				*e*Sn	**Sn**	**09 23 54.0**	**+1.8**
EGAK	**Eagle** 5.3nm,0.6s	**16.03**	**37**	*e*Pn	**Pn**	**09 20 57.2**	**-1.3**
DAWY	**Dawson**	**16.31**	**40**	*e*Pn	**Pn**	**09 21 01.7**	**-0.4**
SKAG	**Skagway**	**16.68**	**58**	*e*P	**P**	**09 21 09.1**	**+0.3**
DLBC	**Dease Lake** 0.1nm,0.3s,baz=262,slow=10,SNR=2.4	**19.34**	**62**	P	**Pn**	**09 21 41.4**	**+1.8**
DLBC				LR	LR	09 29 10.4	
	comp=Z,126nm,18.5s,baz=296,slow=37						
BILL	**Bilibino**	**20.30**	**327**⇑	*i* P	Pn	09 21 49.1	-1.6
BILL				*i*		09 22 00.6	
BILL				*i*		09 22 05.1	
BILL				*i*		09 25 59.6	
BILL				pmax	pmax		
	comp=Z,9.0nm,1.2s						
BILL				MLR	MLR		
	comp=Z,273nm,17.0s						
BILL	**Bilibino**	**20.30**	**327**	*e*P	**P**	**09 21 48.9**	**+0.3**
	comp=Z,9.4nm,1.1s						
INK	**Inuvik**	**20.51**	**32**	P	**P**	**09 21 50.3**	**-0.5**
	comp=Z,5.9nm,0.5s,baz=264,slow=8.0,SNR=7.6						
INK				LR	LR	09 30 35.2	
	comp=Z,113nm,19.9s,baz=264,slow=39						
BBB	**Bella Bella**	**21.42**	**79**	LR	LR	09 28 37.5	
	comp=Z,56nm,19.7s,baz=292,slow=32						
PETK	**Petropavlovsk-**	**22.85**	**285**	P	**P**	**09 22 13.1**	**-3.1**
	comp=Z,3.8nm,0.6s,baz=90,slow=12,SNR=7.4						
PETK				LR	LR	09 30 59.5	
	comp=Z,51nm,21.4s,baz=87,slow=36						
SEY	**Seymchan**	**24.45**	**310**	P	**P**	**09 22 29.7**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=162,slow=10.0,SNR=3.5						
YKA	**Yellowknife Ar**	**26.88**	**51**	P	**P**	**09 22 54.5**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=266,slow=7.1,SNR=14						
NEW	**Newport**	**29.44**	**81**	LR	LR	09 34 00.4	
	comp=Z,24nm,18.4s,baz=292,slow=34						
YBH	**Yreka Blue Hor**	**29.85**	**97**	LR	LR	09 32 10.6	
	comp=Z,75nm,21.1s,baz=306,slow=30						
BSMT	**Bassoo Peak**	**31.01**	**80**	*e*P	P	09 23 26.1	-4.3
TIXI	**Tiksi**	**33.52**	**328**⇑	*e*P	**P**	**09 23 51.5**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TIXI	**Tiksi**	**33.52**	**328**	*e*P	**P**	**09 23 51.5**	**-0.4**
	comp=Z,2.5nm,0.8s						
RES	**Resolute Bay**	**33.82**	**26**	LR	LR	09 39 21.3	
	comp=Z,59nm,18.2s,baz=52,slow=39						
NVAR	**Mina Array Bea**	**34.35**	**97**	P	P	09 24 05.0	+5.2
	comp=Z,0.5nm,0.7s,baz=284,slow=8.8,SNR=4.4						
ELK	**Elko**	**34.70**	**92**	LR	LR	09 35 20.0	
	comp=Z,47nm,19.4s,baz=348,slow=31						
AHID	**Auburn Hatcher**	**35.95**	**86**	*e*P	**P**	**09 24 12.9**	**-0.5**
	comp=Z,8.8nm,0.7s						
TMUT	**Trail Mountain**	**38.01**	**90**	*e*P	P	09 24 25.5	-5.7
	comp=Z,53nm,0.9s						
ULM	**Lac du Bonnet**	**40.57**	**66**	P	**P**	**09 24 52.7**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=321,slow=6.5,SNR=2.2						
ULM				LR	LR	09 40 47.0	
	comp=Z,46nm,19.6s,baz=312,slow=35						
H11N2	**WAKE ISLAND Hy**	**40.60**	**225**	T	T	10 08 32.0	
	baz=26,slow=76,SNR=104						
H11N3	**WAKE ISLAND Hy**	**40.61**	**225**	T	T	10 08 30.7	
	baz=26,slow=76,SNR=142						
H11N1	**WAKE ISLAND Hy**	**40.62**	**225**	T	T	10 08 31.7	
	baz=26,slow=76,SNR=124						
H11S1	**WAKE ISLAND Hy**	**41.77**	**225**	T	T	10 09 55.5	
	baz=26,slow=76,SNR=103						
H11S2	**WAKE ISLAND Hy**	**41.79**	**225**	T	T	10 09 56.0	
	baz=26,slow=76,SNR=99						
H11S3	**WAKE ISLAND Hy**	**41.79**	**225**	T	T	10 09 59.6	
	baz=26,slow=76,SNR=121						
MAT	**Matsushiro**	**43.12**	**271**	P	**P**	**09 25 11.8**	**-1.2**
MJAR	**Matsushiro Arr**	**43.12**	**271**	P	**P**	**09 25 12.6**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=44,slow=8.6,SNR=4.3						
BOD	**Bodaibo**	**43.88**	**310**	*e*P	**P**	**09 25 16.5**	**-2.3**
BOD				pmax	pmax		
	comp=Z,2.0nm,1.8s						
CN2	**Changchun**	**45.94**	**288**	*e*P	**P**	**09 25 34.2**	**-1.2**
SPITS	**Spitsbergen Ar**	**48.54**	**360**	P	**P**	**09 25 54.7**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=34,slow=6.1,SNR=16						
SPITS				LR	LR	09 45 27.0	
	comp=Z,48nm,21.5s,baz=220,slow=35						
SUMG	**Summit** 2.5nm,0.6s	**48.61**	**19**	*i* P	**P**	**09 25 57.4**	**+1.1**
SUMG	**Summit**	**48.61**	**19**	*e*P	**P**	**09 25 57.7**	**+1.4**
SUMG				pmax	pmax		
	comp=Z,5.0nm,0.6s						
SUMG	**Summit**	**48.61**	**19**	*e*P	**P**	**09 25 57.7**	**+1.4**
	comp=Z,5.3nm,0.6s						
KSRS	**Korea Array**	**48.61**	**280**	P	**P**	**09 25 55.1**	**-1.1**
	comp=Z,2.5nm,0.9s,baz=50,slow=6.6,SNR=6.5						
KSAR	**Wonju Array Be**	**48.64**	**280**	P	**P**	**09 25 55.2**	**-1.4**
KSAR	**Wonju Array Be**	**48.64**	**280**	P	**P**	**09 25 55.1**	**-1.4**
TXAR	**Lajitas Array**	**49.38**	**94**	P	**P**	**09 26 04.1**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=304,slow=6.9,SNR=6.3						
HDIL	**Hopedale** comp=Z,253nm,1.1s	**50.09**	**73**	*e*P	**P**	**09 26 07.7**	**+0.1**
HDIL				*e*pP	**pP**	**09 26 18.8**	**+3.4**
TLY	**Talaya**	**52.34**	**308**	*e*P	**P**	**09 26 24.1**	**-0.3**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TLY				MLR	MLR		
	comp=Z,73nm,18.0s						
TLY	**Talaya** comp=Z,5.1nm,0.9s	**52.34**	**308**	*e*P	**P**	**09 26 24.9**	**+0.5**
ULN	**Ulaanbaatar**	**53.22**	**303**	*ce*P	**P**	**09 26 30.9**	**-0.2**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ULN	**Ulaanbaatar** comp=Z,4.8nm,0.4s	**53.22**	**303**	*e*P	**P**	**09 26 31.2**	**+0.2**
SONM	**Songino Array**	**53.57**	**303**	P	**P**	**09 26 34.0**	**+0.4**
	comp=Z,2.5nm,0.6s,baz=47,slow=7.2,SNR=14						
HHC	**Hu-ho-hao-te**	**55.62**	**294**	*e*P	**P**	**09 26 48.9**	**+0.3**
HHC				PP	**PP**	**09 28 54.6**	**+2.1**
HHC				S	**S**	**09 34 31.5**	**-1.3**
HHC				sS	**sS**	**09 34 44.2**	**-1.7**
HHC				SS	**SS**	**09 38 16.5**	**-1.0**
HHC				PMZ			
	comp=Z,19nm,0.6s						
HHC				PMZ			
	comp=Z,49nm,7.4s						
HHC				LN			
	comp=Z,250nm,19.7s						
HHC				LE			
	comp=Z,630nm,21.0s						
HHC				LZ			
	comp=Z,67nm,21.0s						
ARCES	**ARCESS Array B**	**57.05**	**356**	P	**P**	**09 26 57.4**	**-0.8**
	comp=Z,4.0nm,1.0s,baz=12,slow=8.7,SNR=15						
NJ2	**Nanjing**	**57.71**	**281**	*e*P	**P**	**09 27 03.5**	**+0.2**
NJ2				PMZ			
	comp=Z,30nm,0.7s						
ZALV	**Zalesovo Beam**	**58.79**	**320**	P	**P**	**09 27 10.5**	**-0.1**
	comp=Z,1.5nm,0.3s,baz=28,slow=6.7,SNR=5.7						
ZALV				LR	LR	09 54 35.1	
	comp=Z,34nm,18.1s,baz=68,slow=38						
TIGA	**Tifton**	**59.75**	**77**	*e*P	**P**	**09 27 16.7**	**-0.9**
	comp=Z,67nm,0.3s						
LZH	**Lanzhou**	**63.25**	**295**	*e*P	**P**	**09 27 41.3**	**0.0**
LZH				pP	**pP**	**09 27 48.2**	**-1.2**
LZH				sP	**sP**	**09 27 52.3**	**-0.1**
LZH				PMZ			
	comp=Z,19nm,1.0s						
KURK	**Kurchatov**	**63.68**	**321**	*e*P	**P**	**09 27 44.2**	**+0.4**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KURK	**Kurchatov**	**63.68**	**321**	*e*P	**P**	**09 27 44.2**	**+0.4**
	comp=Z,2.4nm,0.9s						
KURBB	**Kurchatov Arra**	**63.79**	**321**	P	**P**	**09 27 44.7**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=44,slow=6.8,SNR=13						
BVAR	**Borovoye Array**	**64.65**	**327**	P	**P**	**09 27 50.7**	**+0.7**
	comp=Z,4.5nm,0.7s,baz=47,slow=6.5,SNR=20						
BRVK	**Borovoye**	**64.65**	**327**⇓	*i* P	**P**	**09 27 50.9**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRVK	**Borovoye**	**64.65**	**327**	*e*P	**P**	**09 27 50.8**	**+0.7**
ARU	**Arti**	**65.04**	**336**	*d* iP	**P**	**09 27 52.7**	**+0.1**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ARU	**Arti**	**65.04**	**336**	*e*P	**P**	**09 27 52.7**	**+0.1**
	comp=Z,7.0nm,1.0s						
FINES	**FINESS Array B**	**65.10**	**355**	P	**P**	**09 27 52.8**	**0.0**
	comp=Z,1.8nm,0.4s,baz=19,slow=6.8,SNR=10						
MK31	**Makanchi Array**	**65.39**	**316**	*e*P	**P**	**09 27 54.3**	**-0.7**
MK31	**Makanchi Array**	**65.39**	**316**	*e*P	**P**	**09 27 54.3**	**-0.7**
MKAR	**Makanchi Array**	**65.39**	**316**	P	**P**	**09 27 54.4**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=22,slow=5.5,SNR=13						
MKAR				LR	LR	09 57 55.4	
	comp=Z,32nm,20.5s,baz=359,slow=38						
MKAR	**Makanchi Array**	**65.39**	**316**	*e*P	**P**	**09 27 54.7**	**-0.3**
MKAR	**Makanchi Array**	**65.39**	**316**	*e*P	**P**	**09 27 54.7**	**-0.3**
WMQ	**Urumqi**	**65.41**	**311**	*e*P	**P**	**09 27 57.4**	**+2.1**
WMQ				pP	**pP**	**09 28 06.0**	**+2.7**
WMQ				PMZ			
	comp=Z,10.0nm,0.5s						
WMQ				PMZ			
	comp=Z,140nm,4.8s						
NB2	**NORSAR Subarra**	**65.69**	**3**	P	**P**	**09 27 56.8**	**0.0**
	comp=Z,4.6nm,1.1s,baz=359,slow=5.9						
NOA	**NORSAR Array B**	**65.69**	**3**	P	**P**	**09 27 56.9**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=357,slow=6.8,SNR=4.5						
HFS	**Hagfors**	**66.66**	**1**	P	**P**	**09 28 02.3**	**-0.5**
	comp=Z,7.7nm,0.4s,baz=9.6,slow=3.7,SNR=8.6						
OBN	**Obninsk**	**70.42**	**348**	*e*P	**P**	**09 28 26.3**	**-0.1**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AKTO	**Aktyubinsk**	**70.60**	**333**	P	**P**	**09 28 28.6**	**+1.0**
	comp=Z,7.9nm,0.8s,baz=28,slow=4.8,SNR=22						
ABKAR	**Akbulak array**	**71.13**	**331**	*e*P	**P**	**09 28 31.5**	**+0.6**
	comp=Z,2.1nm,0.3s						
AAK	**Ala-Archa**	**71.97**	**319**	P	**P**	**09 28 37.1**	**+0.9**
	comp=Z,3.5nm,0.8s,baz=68,slow=1.4,SNR=9.4						
AAK	**Ala-Archa**	**71.97**	**319**	*e*P	**P**	**09 28 37.0**	**+0.7**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AAK	**Ala-Archa**	**71.97**	**319**	*e*P	**P**	**09 28 37.0**	**+0.7**
	comp=Z,2.4nm,0.6s						
KMI	**Kunming**	**72.21**	**288**	P	**P**	**09 28 38.0**	**0.0**
KMI				PMZ			
	comp=Z,8.0nm,0.6s						
EKS2	**Erkin-Say**	**72.22**	**319**	*e*P	**P**	**09 28 39.0**	**+1.3**
EKS2				pmax	pmax		
	comp=Z,1.0nm,0.4s						
EKS2	**Erkin-Say**	**72.22**	**319**	*e*P	**P**	**09 28 39.0**	**+1.3**
	comp=Z,1.2nm,0.4s						
KSH	**Kashi**	**74.00**	**316**	P	P	09 28 52.4	+4.1
KSH				pP	**PcP**	**09 29 00.2**	**-3.3**
KSH				PP	PP	09 31 42.0	+9.1
KSH				S	S	09 38 26.1	+7.1
KSH				sS	sS	09 38 39.3	+6.9
KSH				SKS	**SKKSac**	**09 38 54.4**	**+0.4**
KSH				ScS	**ScS**	**09 38 59.0**	**+2.4**
KSH				PMZ			
	comp=Z,74nm,4.5s						
KSH				LN			
	comp=Z,380nm,11.1s						
KSH				LE			
	comp=Z,250nm,10.2s						
KSH				LZ			
	comp=Z,140nm,5.7s						
AKASG	**Malin Array Be**	**75.56**	**352**	P	**P**	**09 28 56.8**	**-0.2**
	comp=Z,2.0nm,0.5s,baz=10,slow=5.8,SNR=8.5						
AKASG	**Malin Array Be**	**75.56**	**352**	*ce*P	**P**	**09 28 56.7**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KIEV	**Kiev**	**75.57**	**352**⇓	*e*P	**P**	**09 28 56.8**	**-0.2**
DPC	**Dobruska-Polom**	**76.48**	**360**	*e*P	**P**	**09 29 02.2**	**-0.1**
DPC	**Dobruska-Polom**	**76.48**	**360**	*e*P	**P**	**09 29 02.2**	**-0.1**
MORC	**Moravsky Berou**	**77.05**	**359**	*e*P	**P**	**09 29 06.5**	**+1.0**
MORC	**Moravsky Berou**	**77.05**	**359**	*e*P	**P**	**09 29 06.5**	**+1.0**
	comp=Z,33nm,0.7s						
TAPN	**Taplejung**	**78.59**	**301**	*e*P	**P**	**09 29 14.9**	**+0.1**
	comp=Z,5.4nm,0.3s						
GUN	**Gumba**	**79.07**	**302**	*e*P	**P**	**09 29 18.0**	**+0.6**
	comp=Z,14nm,0.5s						
JIRN	**Jiri**	**79.11**	**302**	*e*P	**P**	**09 29 18.3**	**+0.6**
	comp=Z,21nm,0.5s						
KKN	**Kakani**	**79.47**	**303**	*e*P	**P**	**09 29 20.1**	**+0.7**
	comp=Z,15nm,0.3s						
RAMN	**Ramite**	**79.49**	**301**	*e*P	**P**	**09 29 19.9**	**+0.3**
	comp=Z,5.8nm,0.4s						
PKI	**Pulchoki**	**79.58**	**302**	*e*P	**P**	**09 29 20.4**	**+0.2**
	comp=Z,5.5nm,0.6s						
PKIN	**Phulchoki**	**79.58**	**303**	*e*P	**P**	**09 29 20.2**	**+0.1**
	comp=Z,5.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**79.61**	**287**	P	**P**	**09 29 20.6**	**+0.6**
	comp=Z,1.3nm,0.4s,baz=26,slow=6.4,SNR=4.5						
CMAR	**Chiang Mai Arr**	**79.61**	**287**	*ce*P	**P**	**09 29 17.8**	**-2.3**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GKN	**Gorkha**	**79.61**	**303**	*e*P	**P**	**09 29 20.5**	**+0.3**
DMN	**Daman**	**79.70**	**303**	*e*P	**P**	**09 29 21.3**	**+0.5**
	comp=Z,5.7nm,0.6s						
KOLN	**Koldanda**	**80.32**	**304**	*e*P	**P**	**09 29 23.9**	**-0.2**
	comp=Z,8.0nm,0.8s						
GEYT	**Alibeck**	**81.97**	**328**	LR	LR	10 11 04.7	
	comp=Z,36nm,20.8s,baz=60,slow=40						
ESDC	**Sonseca Array**	**85.53**	**16**	P	**P**	**09 29 51.3**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=338,slow=4.7,SNR=2.9						
BR131	**Keskin Array S**	**85.90**	**347**	*e*P	**P**	**09 29 53.5**	**+0.9**
	comp=Z,1.7nm,0.7s						
BRTR	**Keskin Array B**	**85.90**	**347**	*e*P	**P**	**09 29 53.8**	**+1.2**
	comp=Z,2.3nm,0.8s,baz=39,slow=2.4,SNR=12						

*CSEM **04** 09:24:26.5,38.59N×28.63E,h7km,MD2.7*

DDA 04 09:24:26.5,38.59N×28.63E,h7km,MD2.7,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANT	**Manisa**	**0.12**	**211**	*i* P	Pg	09 24 29.1	-0.3
MANT	**Manisa**	**0.12**	**211**	*i* P	Pg	09 24 29.1	-0.3
DEMI	**Demirci**	**0.46**	**8**	*i* P	Pg	09 24 36.1	+0.5
DEMI				*i* S	Sg	09 24 42.3	+0.6
DEMI	**Demirci**	**0.46**	**8**	*i* P	Pg	09 24 36.1	+0.5
DEMI				*i* S	Sg	09 24 42.3	+0.6
GDZ	**Gediz**	**0.83**	**53**	*i* P	Pg	09 24 42.5	-0.2
GDZ				*i* S	Sb	09 24 54.6	-0.4
GDZ	**Gediz**	**0.83**	**53**	*i* P	Pg	09 24 42.5	-0.2
GDZ				*i* S	Sb	09 24 54.6	-0.4

*CSEM **04** 09:25:04.0,45.70N×26.57E,h126km,MD3.7/4*

BUC 04 09:25:04.0±0.9,45.70N×26.57E,h126km±8km,MD3.7/4, 27C-24D,Error ellipse: s-maj=6.8km s-min=5.1km az=354.0,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.17**	**20**	*i* S	Sn	09 25 33.6	-0.9
PLOR	**Plostina**	**0.17**	**20**	*i* S	Sn	09 25 33.6	-0.9
PLOR	**Plostina**	**0.17**	**20**	*i* S	Sn	09 25 33.6	-0.9
VRI	**Vrincioaia**	**0.20**	**33**⇑	*i* P	Pn	09 25 21.6	+0.2
VRI	**Vrincioaia**	**0.20**	**33**⇑	*i* P	Pn	09 25 21.6	+0.2
VRI				*i* S	Sn	09 25 33.3	-1.3
VRI	**Vrincioaia**	**0.20**	**33**⇑	*i* P	Pn	09 25 21.6	+0.2
VRI				*i* S	Sn	09 25 33.3	-1.3
PETR	**Petresti**	**0.47**	**86**⇓	*i* P	Pn	09 25 22.7	+0.3
PETR	**Petresti**	**0.47**	**86**⇓	*i* P	Pn	09 25 22.7	+0.3
PETR				*i* S	Sn	09 25 36.2	-0.1
PETR	**Petresti**	**0.47**	**86**⇓	*i* P	Pn	09 25 22.7	+0.3
PETR				*i* S	Sn	09 25 36.2	-0.1
MLR	**Muntele Rosu**	**0.48**	**245**⇑	*i* P	Pn	09 25 22.7	0.0
MLR	**Muntele Rosu**	**0.48**	**245**⇑	*i* P	Pn	09 25 22.7	0.0
MLR				*i* S	Sn	09 25 36.0	-0.8
MLR	**Muntele Rosu**	**0.48**	**245**⇑	*i* P	Pn	09 25 22.7	0.0
MLR				*i* S	Sn	09 25 36.0	-0.8
ISR	**Istrita**	**0.58**	**182**⇓	*i* P	Pn	09 25 23.5	+0.3
ISR	**Istrita**	**0.58**	**182**⇓	*i* P	Pn	09 25 23.5	+0.3
ISR	**Istrita**	**0.58**	**182**⇓	*i* P	Pn	09 25 23.5	+0.3
SECR		**0.75**	**208**⇑	*i* P	Pn	09 25 24.8	+0.4
SECR		**0.75**	**208**⇑	*i* P	Pn	09 25 24.8	+0.4
SECR				*i* S	Sn	09 25 39.6	-0.1
SECR		**0.75**	**208**⇑	*i* P	Pn	09 25 24.8	+0.4
SECR				*i* S	Sn	09 25 39.6	-0.1
TESR	**Tescani**	**0.82**	**4**⇓	*i* P	Pn	09 25 24.1	-0.8
TESR	**Tescani**	**0.82**	**4**⇓	*i* P	Pn	09 25 24.1	-0.8
TESR				*i* S	Sn	09 25 39.1	-1.7
TESR	**Tescani**	**0.82**	**4**⇓	*i* P	Pn	09 25 24.1	-0.8
TESR				*i* S	Sn	09 25 39.1	-1.7
PGOR	**Pogoanele**	**0.84**	**159**	*i* S	Sn	09 25 40.1	-0.9
PGOR	**Pogoanele**	**0.84**	**159**	*i* S	Sn	09 25 40.1	-0.9
PGOR	**Pogoanele**	**0.84**	**159**	*i* S	Sn	09 25 40.1	-0.9
SULR		**1.04**	**192**⇑	*i* P	Pn	09 25 27.3	+0.4
SULR		**1.04**	**192**⇑	*i* P	Pn	09 25 27.3	+0.4
SULR				*i* S	Sn	09 25 44.2	0.0
SULR		**1.04**	**192**⇑	*i* P	Pn	09 25 27.3	+0.4
SULR				*i* S	Sn	09 25 44.2	0.0
VOIR		**1.10**	**257**⇓	*i* P	Pn	09 25 27.3	-0.3
VOIR		**1.10**	**257**⇓	*i* P	Pn	09 25 27.3	-0.3
VOIR				*i* S	Sn	09 25 44.1	-1.4
VOIR		**1.10**	**257**⇓	*i* P	Pn	09 25 27.3	-0.3
VOIR				*i* S	Sn	09 25 44.1	-1.4
MTUR	**Matau**	**1.16**	**247**⇑	*i* P	Pn	09 25 28.5	+0.3
MTUR	**Matau**	**1.16**	**247**⇑	*i* P	Pn	09 25 28.5	+0.3
MTUR	**Matau**	**1.16**	**247**⇑	*i* P	Pn	09 25 28.5	+0.3
CFR	**Carcaliu**	**1.22**	**115**⇑	*i* P	Pn	09 25 28.7	0.0
CFR	**Carcaliu**	**1.22**	**115**⇑	*i* P	Pn	09 25 28.7	0.0
CFR				*i* S	Sn	09 25 45.6	-1.8
CFR	**Carcaliu**	**1.22**	**115**⇑	*i* P	Pn	09 25 28.7	0.0
CFR				*i* S	Sn	09 25 45.6	-1.8
CIOR	**Ciorogarla**	**1.34**	**202**	S	Sn	09 25 49.1	-0.6
CIOR	**Ciorogarla**	**1.34**	**202**	*i* S	Sn	09 25 49.1	-0.6
CIOR	**Ciorogarla**	**1.34**	**202**	*i* S	Sn	09 25 49.1	-0.6
HARR	**Harsova**	**1.39**	**136**⇓	*i* P	Pn	09 25 30.5	-0.1
HARR	**Harsova**	**1.39**	**136**⇓	*i* P	Pn	09

*ISCJB **04** 09:36:58.5±1.2,55.1S±0.3×28.4W±0.5,h10km,mb3.5/3, Error ellipse: s-maj=53.1km s-min=23.7km az=135.3*
*IDC **04** 09:36:59.5±1.0,55.10S×28.47W,h0km,mb3.7/3, mb1 3.8/3,mb1mx3.7/13,mbtmp3.7/3,Error ellipse: s-maj=55.8km s-min=25.2km az=44.0*

ISC 04 09:37:00.7±1.1,55.1S±0.3×28.5W±0.3,h10km,n6,σ1§62/6, mb3.5/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
CPUP	**Villa Florida**	**35.63**	**312**	P		**P**		**09 43 57.0**	**-1.4**
	0.7nm,0.9s,baz=131,slow=9.3,SNR=3.7								
MAW	**Mawson**	**41.35**	**145**	P		**P**		**09 44 45.3**	**-0.8**
	1.0nm,0.4s,baz=221,slow=11,SNR=7.2								
LPAZ	**La Paz**	**49.22**	**306**	P		**P**		**09 45 50.5**	**+0.8**
	baz=170,slow=6.1								
TORD	**Torodi Ar. Bea**	**72.64**	**31**	P		**P**		**09 48 27.8**	**-0.4**
	0.2nm,0.7s,baz=194,slow=5.8,SNR=4.2								
ILAR	**Eielson Array**	**148.93**	**313**	PKPbc		**PKPbc**		**09 56 48.6**	**+1.5**
	0.5nm,0.6s,baz=116,slow=2.1,SNR=7.1								
SONM	**Songino Array**	**151.42**	**86**	PKPbc		**PKPbc**		**09 56 55.4**	**+1.5**
	0.3nm,0.5s,baz=216,slow=3.0,SNR=2.6								

JMA 04 09:54:53.7±0.4,27.43N×140.31E,h362km,M3.5,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
CBIJ	**Chichi jima**	**1.70**	**101**	P			Pn	09 55 44.3	+0.1
CBIJ					*e*S		S	09 56 23.9	-0.9
BSO1	**Boso 1**	**7.22**	**4**	P			P	09 56 40.2	+0.9
JAG	**Ashikaga**	**9.00**	**356**	P			Pn	09 56 59.1	-0.6
JAG					*e*S		S	09 58 39.8	-3.1
JHO	**Hitachi**	**9.16**	**1**	P			Pn	09 57 02.2	+0.7

DDA 04 10:46:18.4,36.18N×36.83E,h7km,MD2.7,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
YAYL	**Yayladag**	**0.61**	**257**	*i* P			Pg	10 46 29.9	-0.4
YAYL					*i* S		Sg	10 46 39.3	+1.0
KUZU	**Kuzuini**	**0.63**	**18**	*i* P			Pg	10 46 30.8	+0.3
KUZU					*i* S		Sg	10 46 39.4	+0.6
KAMA	**Osmaniye**	**1.01**	**352**	*i* P			Pn	10 46 39.0	-0.2
KAMA					*i* S		Sb	10 46 52.7	+0.6
HCB	**Kahramanmara¯**	**1.17**	**3**	*i* P			Pg	10 46 34.2	-6.6
HCB					*i* S		Sn	10 46 57.0	-0.5

*CSEM **04** 10:48:19.9±0.2,39.70N×29.50E,h1km,MD2.4, Error ellipse: s-maj=6.4km s-min=3.5km az=73.0,Mining explosion.*
*DDA **04** 10:48:20.4,39.65N×29.33E,h7km,MD2.7*

ISK 04 10:48:18.9,39.70N×29.49E,h2km,MD2.4,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
TVSB	**Tavsanli**	**0.25**	**186**	PG			Pg	10 48 24.6	+0.7
TVSB				SG			Sg	10 48 29.4	+2.3
TVSB	**Tavsanli**	**0.25**	**186**	*i* Pg			Pg	10 48 24.6	+0.8
TVSB				*i* Sg			Sg	10 48 29.4	+2.3
ULDT	**Uludag**	**0.52**	**328**	*i* P			Pg	10 48 29.9	+0.7
ULDT				*i* S			Sb	10 48 38.6	-0.7
ULDT	**Uludag**	**0.52**	**328**	*i* P			Pg	10 48 29.9	+0.7
ULDT				*i* S			Sb	10 48 38.6	-0.7
CAVI	**Cavuskoy**	**0.57**	**28**	*e*PG			Pg	10 48 30.8	+0.9
CAVI	**Cavuskoy**	**0.57**	**28**	*e*Pg			Pg	10 48 30.8	+0.8
GDZ	**Gediz**	**0.61**	**181**	*i* P			Pg	10 48 31.2	+0.5
GDZ				*i* S			Sb	10 48 40.9	-0.7
GDZ	**Gediz**	**0.61**	**181**	*i* P			Pg	10 48 31.2	+0.4
GDZ				*i* S			Sb	10 48 40.9	-0.7
IZI	**Iznik**	**0.64**	**359**	*e*PG			Pg	10 48 32.1	+0.7
IZI	**Iznik**	**0.64**	**359**	*e*Pg			Pg	10 48 32.1	+0.8
GEMT	**Gemlik**	**0.77**	**343**	*e*PG			Pb	10 48 35.3	+0.2
GEMT	**Gemlik**	**0.77**	**343**	*e*Pg			Pb	10 48 35.3	+0.2
ALT	**Altintas**	**0.80**	**143**	*e*PG			Pb	10 48 35.6	-0.1
ALT	**Altintas**	**0.80**	**143**	*e*Pg			Pb	10 48 35.6	-0.1
MDNY	**Mudanya-Bursa**	**0.82**	**325**	*e*PG			Pb	10 48 36.0	+0.1
MDNY	**Mudanya-Bursa**	**0.82**	**325**	*e*Pg			Pb	10 48 36.0	+0.1
ARMT	**Armutlu**	**0.99**	**331**	*e*PG			Pb	10 48 38.8	-0.2
ARMT	**Armutlu**	**0.99**	**331**	*e*Pg			Pb	10 48 38.8	-0.1
SEYT	**Eskypehyr**	**1.06**	**99**	*i* P			Pn	10 48 41.4	+0.4
SEYT				*i* S			Sn	10 48 59.9	+3.4
SEYT	**Eskypehyr**	**1.06**	**99**	*i* P			Pn	10 48 41.4	+0.4
SEYT				*i* S			Sn	10 48 59.9	+3.4
GULT	**Gulveren**	**1.07**	**47**	*e*PG			Pb	10 48 40.5	+0.1
GULT	**Gulveren**	**1.07**	**47**	*e*Pg			Pb	10 48 40.5	+0.1
HRT	**Hereke**	**1.13**	**7**	*e*PN			Pb	10 48 41.2	-0.1
HRT	**Hereke**	**1.13**	**7**	*e*Pn			Pb	10 48 41.2	-0.1
BUY	**Buyukada**	**1.19**	**346**	*i* P			Pn	10 48 43.7	+1.1
BUY				*i* S			Sn	10 49 01.6	+2.3
BUY	**Buyukada**	**1.19**	**346**	*i* P			Pn	10 48 43.7	+1.1
BUY				*i* S			Sn	10 49 01.6	+2.3
SVRH	**Sivrihisar-ESK**	**1.59**	**98**	*e*PN			Pb	10 48 49.2	+0.1
SVRH	**Sivrihisar-ESK**	**1.59**	**98**	*e*Pn			Pb	10 48 49.2	+0.1

BUC 04 10:49:41.0±0.5,45.46N×23.88E,h25km,MD2.3/3,2C-6D, Error ellipse: s-maj=10.1km s-min=3.8km az=9.0, Romania

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
LOT	**Lotru**	**0.07**	**265**	⇓*i* P			Pb	10 49 45.9	+0.3
LOT					S		Sb	10 49 48.8	+0.1
LOT	**Lotru**	**0.07**	**265**	⇓*i* P			Pb	10 49 45.9	+0.3
LOT					*i* S		Sb	10 49 48.8	+0.1
GZR	**Gura Zlata**	**0.78**	**266**	⇓*i* P			Pn	10 49 56.3	-0.2
GZR	**Gura Zlata**	**0.78**	**266**	⇓*i* P			Pn	10 49 56.3	-0.2
GZR					*i* S		Sb	10 50 08.3	+0.1
VOIR		**0.83**	**91**	⇑*i* P			Pb	10 49 56.8	-0.1
VOIR		**0.83**	**91**	⇑*i* P			Pb	10 49 56.8	-0.1
VOIR					*i* S		Sb	10 50 07.2	-0.5
DRGR		**1.56**	**329**	⇓*i* P			Pn	10 50 08.2	+0.9
DRGR		**1.56**	**329**	⇓*i* P			Pn	10 50 08.2	+0.9
BZS	**Buzias**	**1.59**	**277**	S			Sn	10 50 28.2	+0.7
BZS	**Buzias**	**1.59**	**277**	*i* S			Sn	10 50 28.2	+0.7

IDC 04 10:54:06.2±4.7,2.48S×138.70E,h0km,mb3.2/2, mb1 3.4/3,mb1mx3.3/27,mbtmp3.3/3,ML3.2/1,Error ellipse: s-maj=191.9km s-min=28.6km az=86.0,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
WRA	**Warramunga Arr**	**17.88**	**193**	P			Pn	10 58 15.7	-0.8
	0.1nm,0.3s,baz=16,slow=13,SNR=6.9								
ASAR	**Alice Springs**	**21.57**	**192**	P			P	10 58 58.0	+0.4
	0.5nm,0.8s,baz=12,slow=10,SNR=4.0								
MKAR	**Makanchi Array**	**69.60**	**322**	P			P	11 05 17.3	0.0
	0.2nm,0.5s,baz=117,slow=5.9,SNR=5.3								

*ISK **04** 11:05:58.3,39.69N×29.48E,h5km,MD2.5*
*ISCJB **04** 11:05:59.2±0.5,39.71N±0.03×29.47E±0.04,h0km,Error ellipse: s-maj=4.9km s-min=4.1km az=3.4*
*DDA **04** 11:05:59.6,39.69N×29.43E,h7km,MD2.7*
*CSEM **04** 11:05:59.2±0.2,39.68N×29.50E,h2km,MD2.5,Error ellipse: s-maj=5.0km s-min=3.8km az=88.0,Mining explosion.*

ISC 04 11:05:59.3±0.8,39.69N±0.03×29.48E±0.03,h0km,n26, σ0§75/35,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
TVSB	**Tavsanli**	**0.24**	**184**	PG			**Pg**	**11 06 04.2**	**+0.3**
TVSB					*e*SG		**Sg**	**11 06 08.5**	**+1.5**
TVSB	**Tavsanli**	**0.24**	**184**	*i* Pg			**Pg**	**11 06 04.2**	**+0.3**
TVSB					*e*Sg		**Sg**	**11 06 08.5**	**+1.5**
CAVI	**Cavuskoy**	**0.58**	**28**	*e*PG			**Pg**	**11 06 10.2**	**-0.3**
CAVI	**Cavuskoy**	**0.58**	**28**	*e*Pg			**Pg**	**11 06 10.2**	**-0.3**
GDZ	**Gediz**	**0.60**	**180**	*i* P			**Pg**	**11 06 09.3**	**-1.5**
GDZ				*i* S			**Sg**	**11 06 20.3**	**+1.7**
GDZ	**Gediz**	**0.60**	**180**	*i* P			**Pg**	**11 06 09.3**	**-1.5**
GDZ				*i* S			**Sg**	**11 06 20.3**	**+1.7**
IZI	**Iznik**	**0.65**	**359**	*e*PG			**Pb**	**11 06 12.7**	**-0.8**
IZI	**Iznik**	**0.65**	**359**	*e*Pg			**Pb**	**11 06 12.7**	**-0.9**
ADVT	**Abdulvahap**	**0.77**	**15**	*e*PG			**Pg**	**11 06 13.8**	**-0.3**
ADVT	**Abdulvahap**	**0.77**	**15**	*e*Pg			**Pg**	**11 06 13.8**	**-0.3**
BORA	**Eskisehir**	**0.77**	**75**	*i* P			**Pg**	**11 06 14.3**	**+0.1**
BORA					*i* S		**Sb**	**11 06 26.9**	**+0.1**
BORA	**Eskisehir**	**0.77**	**75**	*i* P			**Pg**	**11 06 14.3**	**+0.1**
BORA					*i* S		**Sb**	**11 06 26.9**	**+0.1**
MDNY	**Mudanya-Bursa**	**0.82**	**326**	*e*PG			**Pg**	**11 06 15.3**	**+0.2**
MDNY	**Mudanya-Bursa**	**0.82**	**326**	*e*Pg			**Pg**	**11 06 15.3**	**+0.2**
ARMT	**Armutlu**	**1.00**	**332**	*e*PG			**Pg**	**11 06 18.4**	**0.0**
ARMT	**Armutlu**	**1.00**	**332**	*e*Pg			**Pg**	**11 06 18.4**	**0.0**
KCTX	**Karacabey (Bur**	**1.04**	**304**	*e*PG			**Pg**	**11 06 19.2**	**0.0**
KCTX	**Karacabey (Bur**	**1.04**	**304**	*e*Pg			**Pg**	**11 06 19.2**	**0.0**
GULT	**Gulveren**	**1.09**	**47**	*e*PN			**Pb**	**11 06 20.6**	**-0.4**
GULT	**Gulveren**	**1.09**	**47**	*e*Pn			**Pb**	**11 06 20.7**	**-0.4**
ISK	**Istanbul-Kandi**	**1.41**	**347**	*e*PN			**Pb**	**11 06 26.5**	**-0.1**
ISK	**Istanbul-Kandi**	**1.41**	**347**	*e*Pn			**Pb**	**11 06 26.5**	**-0.1**
BALY	**Balya**	**1.44**	**273**	*i* P			**Pn**	**11 06 26.1**	**-0.6**
BALY					*i* S		**Sb**	**11 06 45.9**	**0.0**
BALY	**Balya**	**1.44**	**273**	*i* P			**Pn**	**11 06 26.1**	**-0.6**
BALY					*i* S		**Sb**	**11 06 45.9**	**0.0**
BALY					*i* S		**Sn**	**11 06 46.3**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.60**	**98**	*e*PN			**Pn**	**11 06 28.6**	**-0.4**
SVRH	**Sivrihisar-ESK**	**1.60**	**98**	*e*Pn			**Pn**	**11 06 28.6**	**-0.4**

*DDA **04** 11:10:48.3,37.33N×28.22E,h7km,MD2.6*

ISC 04 11:10:48.8±1.3,37.23N±0.05×27.97E±0.07,h12km,n4, σ0§57/7,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
YER	**Yerkesik**	**0.27**	**111**	*e*PG			**Pg**	**11 10 53.9**	**-0.5**
YER					*e*SG		**Sg**	**11 10 58.6**	**+0.4**
AYDN	**Tasoluk**	**0.43**	**351**	*i* P			**Pg**	**11 10 57.3**	**-0.1**
AYDN					*i* S		**Sg**	**11 11 02.7**	**-0.4**
DAT	**Datca**	**0.59**	**212**	*e*PG			**Pn**	**11 11 03.4**	**+0.3**
BORA	**Eskisehir**	**3.28**	**36**	*i* P			**Sb**	**11 12 26.8**	**-0.2**
BORA					*i* S		**Sg**	**11 12 35.0**	**+0.7**

*NNC **04** 11:18:04.4±2.5,37.08N×70.87E,h220km±22km,mb2.4, mpv3.6,Error ellipse: s-maj=25.9km s-min=11.5km az=158.0*

ISC 04 11:18:07.5±3.7,37.0N±0.2×71.24E±0.10,h88km,n11, σ1§43/14,2C-7D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
DZET	**Dzherino**	**2.61**	**314**	⇓P			**Pn**	**11 18 48.3**	**+0.5**
	8.7nm,0.2s								
DZET				⇑S			Sn	11 19 22.8	+4.1
	31nm,0.3s								
SFK	**Sufi-Kurgan**	**3.47**	**30**	⇓P			**Pn**	**11 19 01.6**	**+2.1**
	3.6nm,0.2s								
SFK				⇓S			Sn	11 19 48.7	+9.0
	4.5nm,0.2s								
AML	**Almayashu**	**5.44**	**20**	P			**Pn**	**11 19 25.9**	**-0.4**
	SNR=41								
UCH	**Uchtor**	**5.78**	**25**	P			**Pn**	**11 19 30.6**	**-0.5**
	SNR=11								
KZA	**Kyzart**	**5.92**	**30**	P			**Pn**	**11 19 31.9**	**-1.1**
	SNR=5.9								
KK31	**Karatay Array**	**6.10**	**355**	P			**Pn**	**11 19 33.4**	**-1.6**
	0.5nm,0.2s,baz=178,slow=13,SNR=35								
KK31				⇑S			**Sn**	**11 20 43.0**	**-0.2**
	4.0nm,0.7s,baz=188,slow=22,SNR=9.2								
AAK	**Ala-Archa**	**6.13**	**23**	⇓P			**Pn**	**11 19 35.0**	**-0.6**
	5.2nm,0.6s								
AAK				⇓S			**Sn**	**11 20 47.2**	**+2.8**
	3.0nm,0.7s								
AAK	**Ala-Archa**	**6.13**	**23**	P			**Pn**	**11 19 35.0**	**-0.6**
	SNR=8.7								
ULHL	**Ulahol**	**6.49**	**35**	P			**Pn**	**11 19 39.1**	**-1.3**
	SNR=6.8								
TKM2	**Tokmak 2**	**6.77**	**28**	⇓P			**Pn**	**11 19 43.0**	**-1.3**
	4.4nm,0.5s								
TKM2				⇓S			**Sn**	**11 20 59.6**	**-0.4**
	1.1nm,0.6s								
TKM2	**Tokmak 2**	**6.77**	**28**	P			**Pn**	**11 19 43.2**	**-1.2**
	SNR=8.7								

*ISCJB **04** 11:25:54.2±0.4,59.82N±0.03×22.40E±0.04,h0km,Error ellipse: s-maj=4.5km s-min=3.0km az=159.7*
*CSEM **04** 11:25:54.8±0.3,59.81N×22.47E,h2km,ML2.0,Error ellipse: s-maj=6.6km s-min=4.7km az=168.0,Mining explosion.*
*HEL **04** 11:25:55.5±0.1,59.79N×22.35E,h0km,ML2.0, ML2.4(UPP),Explosion*
*HEL **04** 11:25:55.1,59.77N×22.31E,h0km,ML2.0,Explosion*
*UPP **04** 11:25:56.8,59.83N×22.12E,h0km,ML2.4,Suspected Mining explosion.*
*IDC **04** 11:25:56.6±2.0,59.84N×22.37E,h0km,mb1 3.1/3, mb1mx2.9/46,mbtmp2.9/3,ML2.7/3,Error ellipse: s-maj=25.2km s-min=10.4km az=165.0*

ISC 04 11:25:54.7±0.8,59.83N±0.03×22.29E±0.02,h0km,n63, σ1§37/95,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
MEF	**Metsahovi**	**1.13**	**69**	*e*PB			**Pg**	**11 26 15.8**	**-0.5**
MEF					*e*SB		**Sg**	**11 26 31.2**	**+0.2**
MEF	**Metsahovi**	**1.13**	**69**	Pb			**Pg**	**11 26 15.8**	**-0.5**
MEF					Sb		**Sg**	**11 26 31.1**	**+0.2**
AAL	**Aland**	**1.20**	**288**	*e*P			**Pg**	**11 26 17.5**	**-0.2**
AAL					*e*S		**Sg**	**11 26 33.6**	**+0.3**
AAL	**Aland**	**1.20**	**288**	P			**Pg**	**11 26 17.6**	**-0.2**
AAL					S		**Sg**	**11 26 33.5**	**+0.2**
AAL	**Aland**	**1.20**	**288**	P			**Pg**	**11 26 17.6**	**-0.2**
AAL					S		**Sg**	**11 26 33.5**	**+0.2**
RAF	**Rauma**	**1.23**	**348**	*e*P			**Pg**	**11 26 17.9**	**-0.3**
	baz=163								
RAF					*e*S		**Sb**	**11 26 34.7**	**-0.3**
RAF	**Rauma**	**1.23**	**348**	P			**Pg**	**11 26 17.9**	**-0.3**
RAF					S		**Sb**	**11 26 34.7**	**-0.3**
MTSE	**Matsula**	**1.37**	**144**	*e*PN			**Pg**	**11 26 20.1**	**-0.8**
MTSE					*e*SN		**Sg**	**11 26 38.5**	**-0.1**
MTSE	**Matsula**	**1.37**	**144**	Pn			**Pg**	**11 26 20.1**	**-0.8**
MTSE					Sn		**Sg**	**11 26 38.5**	**-0.1**
NRTU	**Norrtaelje**	**1.86**	**267**	*e*P			**Pn**	**11 26 28.7**	**+1.0**
NRTU	**Norrtaelje**	**1.86**	**267**	P			**Pn**	**11 26 28.7**	**+1.0**
NRTU	**Norrtaelje**	**1.86**	**267**	P			**Pn**	**11 26 28.7**	**+1.0**
PVF	**Pernaja**	**1.93**	**67**	*e*PG			**Pn**	**11 26 29.7**	**+1.0**
	baz=248								
PVF					MSG		**Sb**	**11 26 54.2**	**-1.0**
	comp=Z,6.0nm,0.2s								
PVF					*e*SG		**Sb**	**11 26 54.2**	**-1.0**
PVF	**Pernaja**	**1.93**	**67**	Pg			**Pn**	**11 26 29.6**	**+1.0**
PVF					Sg		**Sb**	**11 26 54.1**	**-1.0**
GRAU	**Graesoe**	**1.94**	**287**	*e*P			**Pn**	**11 26 29.7**	**+0.8**
GRAU	**Graesoe**	**1.94**	**287**	P			**Pn**	**11 26 29.7**	**+0.8**
GRAU	**Graesoe**	**1.94**	**287**	P			**Pn**	**11 26 29.7**	**+0.8**
FORU	**Forsmark**	**2.13**	**287**	*e*P			**Pn**	**11 26 33.0**	**+1.4**
FORU	**Forsmark**	**2.13**	**287**	P			**Pn**	**11 26 32.9**	**+1.4**
FORU	**Forsmark**	**2.13**	**287**	P			**Pn**	**11 26 33.0**	**+1.4**
FLYU	**Flymyra**	**2.23**	**280**	*e*P			**Pn**	**11 26 34.0**	**+1.1**
FLYU	**Flymyra**	**2.23**	**280**	P			**Pn**	**11 26 34.0**	**+1.1**
FLYU	**Flymyra**	**2.23**	**280**	P			**Pn**	**11 26 34.0**	**+1.1**
UPP	**Uppsala**	**2.35**	**273**	*e*P			**Pn**	**11 26 36.0**	**+1.5**
UPP	**Uppsala**	**2.35**	**273**	P			**Pn**	**11 26 36.0**	**+1.5**
UPP	**Uppsala**	**2.35**	**273**	P			**Pn**	**11 26 36.0**	**+1.5**
FIA0	**FINESS Array S**	**2.47**	**47**	*e*PB			**Pn**	**11 26 38.1**	**+1.9**
FIA0					*e*SB		**Sb**	**11 27 10.3**	**-0.6**
FIA0					MSG			11 27 10.3	
	comp=Z,8.9nm,0.3s								
FIA0	**FINESS Array S**	**2.47**	**47**	Pb			**Pn**	**11 26 38.1**	**+1.9**
FIA0					Sb		**Sb**	**11 27 10.3**	**-0.6**
	comp=Z,8.9nm,0.3s								
FINES	**FINESS Array B**	**2.47**	**47**	Pn			**Pb**	**11 26 38.4**	**-1.6**
	comp=Z,1.7nm,0.3s,baz=228,slow=14,SNR=32								
FINES					Sn		**Sb**	**11 27 10.8**	**-0.1**
	comp=Z,4.7nm,0.3s,baz=234,slow=22,SNR=28								
BACU	**Backbrunna**	**2.61**	**273**	*e*P			**Pn**	**11 26 39.4**	**+1.3**
BACU	**Backbrunna**	**2.61**	**273**	P			**Pn**	**11 26 39.4**	**+1.3**
BACU	**Backbrunna**	**2.61**	**273**	P			**Pn**	**11 26 39.4**	**+1.3**
OSTU	**Oestervaala**	**2.62**	**281**	*e*P			**Pn**	**11 26 39.5**	**+1.4**
OSTU	**Oestervaala**	**2.62**	**281**	P			**Pn**	**11 26 39.5**	**+1.4**
OSTU	**Oestervaala**	**2.62**	**281**	P			**Pn**	**11 26 39.5**	**+1.4**
KEF	**Keuruu**	**2.66**	**27**	*e*PB			**Pb**	**11 26 42.0**	**-1.3**
KEF					*e*SB		**Sb**	**11 27 16.3**	**-0.1**
KEF					MSG			11 27 16.3	
	comp=Z,8.3nm,0.2s								
KEF	**Keuruu**	**2.66**	**27**	Pb			**Pb**	**11 26 41.9**	**-1.3**
KEF					Sb		**Sb**	**11 27 16.3**	**-0.1**
	comp=Z,8.3nm,0.2s								
VSU	**Vasula**	**2.67**	**119**	*e*PG			**Pb**	**11 26 42.4**	**-0.9**
VSU					*e*SG		**Sb**	**11 27 16.4**	**-0.3**
VSU	**Vasula**	**2.67**	**119**	Pg			**Pb**	**11 26 42.4**	**-0.9**
VSU					Sg		**Sb**	**11 27 16.3**	**-0.3**
IGGU	**Iggoen**	**2.68**	**295**	*e*P			**Pn**	**11 26 40.4**	**+1.3**
IGGU	**Iggoen**	**2.68**	**295**	P			**Pn**	**11 26 40.4**	**+1.3**
IGGU	**Iggoen**	**2.68**	**295**	P			**Pn**	**11 26 40.4**	**+1.3**
VJF	**Virojoki**	**2.73**	**73**	*e*P			**Pn**	**11 26 40.7**	**+1.0**
VJF					MSG		**Sn**	**11 27 15.0**	**+1.7**
	comp=Z,5.7nm,0.2s								
VJF					*e*SB		**Sn**	**11 27 15.0**	**+1.7**
VJF	**Virojoki**	**2.73**	**73**	P			**Pn**	**11 26 40.6**	**+1.0**
VJF					Sb		**Sn**	**11 27 15.0**	**+1.7**
GOTU	**Gotland**	**2.89**	**224**	*e*P			**Pn**	**11 26 43.1**	**+1.2**
GOTU	**Gotland**	**2.89**	**224**	P			**Pn**	**11 26 43.1**	**+1.2**
GOTU	**Gotland**	**2.89**	**224**	P			**Pn**	**11 26 43.1**	**+1.2**
KAF	**Kangasniemi**	**3.01**	**39**	*e*PB			**Pn**	**11 26 46.5**	**+2.8**
	baz=220								
KAF					*e*SB		**Sb**	**11 27 25.2**	**-1.3**
KAF					MSG			11 27 25.2	
	comp=Z,7.4nm,0.2s								
KAF	**Kangasniemi**	**3.01**	**39**	Pb			**Pn**	**11 26 46.4**	**+2.8**
KAF					Sb		**Sb**	**11 27 25.2**	**-1.3**
	comp=Z,7.4nm,0.2s								
ARNU	**Arnoeviken**	**3.05**	**310**	*e*P			**Pn**	**11 26 45.5**	**+1.4**
ARNU	**Arnoeviken**	**3.05**	**310**	P			**Pn**	**11 26 45.5**	**+1.4**
ARNU	**Arnoeviken**	**3.05**	**310**	P			**Pn**	**11 26 45.5**	**+1.4**
ESKU	**Eskilstuna**	**3.06**	**261**	*e*P			**Pn**	**11 26 45.8**	**+1.5**
ESKU	**Eskilstuna**	**3.06**	**261**	P			**Pn**	**11 26 45.8**	**+1.5**
ESKU	**Eskilstuna**	**3.06**	**261**	P			**Pn**	**11 26 45.8**	**+1.5**
	baz=74								
VAF	**Ylistaro**	**3.23**	**3**	*e*P			**Pn**	**11 26 49.7**	**+3.1**
	baz=180								
VAF					*e*SB		**Sb**	**11 27 33.3**	**+0.7**
VAF					MSG			11 27 33.3	
	comp=Z,1.7nm,0.2s								
VAF	**Ylistaro**	**3.23**	**3**	P			**Pn**	**11 26 49.7**	**+3.1**
VAF					Sb		**Sb**	**11 27 33.3**	**+0.7**
	comp=Z,1.7nm,0.2s								
SUF	**Sumiainen**	**3.45**	**31**	*e*P			**Pn**	**11 26 51.8**	**+2.1**
SUF					MSG		**Sb**	**11 27 36.3**	**-2.6**
	comp=Z,2.4nm,0.2s								
SUF					*e*SB		**Sb**	**11 27 36.3**	**-2.6**
SUF	**Sumiainen**	**3.45**	**31**	P			**Pn**	**11 26 51.7**	**+2.1**
SUF					Sb		**Sb**	**11 27 36.3**	**-2.6**
UMAU	**Umeaa**	**4.14**	**350**	*e*P			**Pn**	**11 27 01.4**	**+2.4**
UMAU					*e*SG		**Sg**	**11 28 06.6**	**-0.9**
UMAU	**Umeaa**	**4.14**	**350**	P			**Pn**	**11 27 01.4**	**+2.4**
UMAU					Sg		**Sg**	**11 28 06.6**	**-0.9**
NOA	**NORSAR Array B**	**5.62**	**287**	Pn			**Pn**	**11 27 19.9**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=92,slow=12,SNR=7.5								
NOA					Sn		**Sn**	**11 28 23.2**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=135,slow=23,SNR=2.4								
NOA					Lg		Lg	11 28 47.8	
	comp=Z,0.5nm,0.3s,baz=124,slow=21,SNR=3.4								
ARCES	**ARCESS Array B**	**9.84**	**7**	Pn			**Pn**	**11 28 16.4**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=183,slow=14,SNR=15								
ARCES					Sn		Sn	11 30 01.6	-6.7
	comp=Z,0.2nm,0.3s,baz=191,slow=24,SNR=3.3								

*ISCJB **04** 11:26:30.8±0.3,32.29N±0.01×115.27W±0.01,h8km±2km, mb4.6/59,MS3.8/18,Error ellipse: s-maj=2.1km s-min=1.9km az=176.4*
*NEIC **04** 11:26:32.6,32.28N×115.29W,h8km,mb4.7/47, ML4.6(PAS),ML4.8(ECX),After ECX.*
NEIC Felt [III] at Mexicali. Also felt at Ensenada, Guadalupe Victoria and Vicente Guerrero. Felt [III] at San Luis Rio Colorado, Sonora. Felt [IV] at Calexico, [III] at El Centro and Jamul and [II] at Chula Vista, Lakeside, San Diego and Santee, California. Felt in much of Imperial and San Diego Counties. Felt [III] at Yuma and [II] at Somerton, Arizona. Also felt at Roll and Welton.
*ECX **04** 11:26:32.6±0.4,32.27N×115.29W,h8km,MD4.6,ML4.8*
*BJI **04** 11:26:33.

BC3 **Big Chuckawall** 1.41 354 ⇑P Pn 11 26 54.7 -3.1
baz=1.4
Y12C **Blythe** 1.63 23 ⇑P Pn 11 26 57.8 -2.8
baz=1.6
109C **Camp Elliot, M** 1.66 293 ⇓P Pn 11 26 59.2 -1.8
baz=1.6
PFO **Pinyon Flats O** 1.68 325 eP Pn 11 26 58.2 -3.1
PFO e 11 27 23.4
PFO **Pinyon Flats O** 1.68 325 ePn Pn 11 26 58.2 -3.1
PFO eSn Sn 11 27 23.4 -0.1
PFO **Pinyon Flats O** 1.68 325 ⇑P Pn 11 26 58.5 -2.8
baz=1.7
BELC **Belle Mtn. Jos** 1.85 341 ⇓P Pn 11 27 00.8 -2.9
baz=1.8
IRM **Iron Mountain** 1.91 3 ⇑P Pn 11 27 01.9 -2.7
baz=1.9
MURC **Murrieta** 2.10 311 ⇓P Pn 11 27 04.6 -2.4
baz=2.1
214A **Organ Pipe Nat** 2.12 97 ePn Pn 11 27 04.9 -2.6
214A **Organ Pipe Nat** 2.12 97 ⇓P Pn 11 27 04.8 -2.6
baz=2.1
PDMCI **Parker Dam,Lak** 2.26 25 ⇓P Pn 11 27 07.2 -2.1
baz=2.2
Z14A **Wintersburg** 2.27 60 ⇑P Pn 11 27 07.3 -2.0
baz=2.2
BBRC **Big Bear Solar** 2.43 326 ⇓P Pn 11 27 09.8 -2.0
baz=2.4
GMRC **Granite Mounta** 2.55 353 ⇑P Pn 11 27 10.9 -2.5
baz=2.5
Y14A **Wickenburg** 2.56 48 ⇓P Pn 11 27 11.3 -2.0
baz=2.5
HEC **Hector,Ludlow** 2.72 342 ⇑P Pn 11 27 13.2 -2.5
baz=2.7
BFSC **Mount Baldy Ra** 2.81 316 ⇓P Pn 11 27 14.9 -2.0
baz=2.8
LDFC **Landfair** 2.83 3 ePn Pn 11 27 16.1 -1.1
LDFC eSn Sn 11 27 50.0 -2.0
SCI **San Clemente I** 2.84 286 ⇓P Pn 11 27 15.4 -1.9
baz=2.8
SCI ⇑Sb Sb 11 27 57.9 +0.3
baz=2.8
CIS **Catalina Islan** 2.87 295 ⇓P Pn 11 27 16.0 -1.6
baz=2.9
CIS ⇑Sb Sb 11 27 58.9 +0.6
baz=2.9
FMP **Fort Macarthur** 2.92 301 ⇓Sb Sb 11 27 59.9 +0.2
baz=2.9
RRX **Edison Barstow** 2.99 332 ⇓Sb Sb 11 28 01.7 -0.2
baz=3.0
MWC **Mount Wilson** 3.04 311 eP Pn 11 27 20.0 -0.2
MWC **Mount Wilson** 3.04 311 ePn Pn 11 27 20.0 -0.2
MWC eSg Sg 11 28 09.4 +0.7
W13A **Hualapai Mount** 3.08 22 ⇑P Pn 11 27 18.5 -2.2
baz=3.1
TUQ **Turquoise Moun** 3.23 351 ⇑P Pn 11 27 20.3 -2.3
baz=3.2
GSC **Goldstone, Bar** 3.30 338 eP Pn 11 27 22.4 -1.2
GSC **Goldstone, Bar** 3.30 338 ePn Pn 11 27 22.4 -1.2
EDW2 **Edwards Air Fo** 3.46 320 ⇑P Pn 11 27 24.1 -1.7
baz=3.4
OSI **Osito Audit: C** 3.72 310 ePn Pn 11 27 28.9 -0.4
OSI eSg Sg 11 28 30.9 +0.6
OSI **Osito Audit: C** 3.72 310 ⇓Sb Sb 11 28 23.8 +0.9
baz=3.7
TUC **Tucson** 3.82 88 eP Pn 11 27 28.2 -2.6
TUC **Tucson** 3.82 88 ePn Pn 11 27 28.1 -2.6
TUC eSg Sg 11 28 35.2 +1.7
X16A **Lo Mia Camp, P** 3.88 55 ⇓P Pn 11 27 30.6 -1.1
baz=3.9
ARVC **Arvin** 4.12 315 ⇑P Pn 11 27 33.6 -1.2
baz=4.1
MPMC **Manual Prospec** 4.22 335 ⇓P Pn 11 27 34.1 -2.3
baz=4.2
SHPR **Sheep Range** 4.25 1 ePn Pn 11 27 35.2 -1.5
SHPR eSn Sn 11 28 25.3 -1.8
ISA **Isabella, Lake** 4.31 323 eP Pn 11 27 36.3 -1.3
ISA **Isabella, Lake** 4.31 323 ePn Pn 11 27 36.3 -1.3
ISA eSg Sg 11 28 49.1 -0.3
ISA **Isabella, Lake** 4.31 323 ⇑P Pn 11 27 36.3 -1.3
baz=4.3
DAC **Darwin (Calif)** 4.45 335 eP Pn 11 27 37.4 -2.2
DAC e 11 28 31.2
DAC **Darwin (Calif)** 4.45 335 ePn Pn 11 27 37.4 -2.2
DAC ePg Pg 11 27 57.6 +1.4
DAC eSn Sn 11 28 31.2 -0.8
WUAZ **Wupatki** 4.61 44 ePn Pn 11 27 41.3 -0.4
WUAZ eSn Sn 11 28 37.1 +1.2
WUAZ **Wupatki** 4.61 44 ⇓P Pn 11 27 41.8 0.0
baz=4.6
TPNV **Topopah Spring** 4.76 351 eP Pn 11 27 43.0 -0.7
TPNV **Topopah Spring** 4.76 351 ePn Pn 11 27 43.0 -0.7
TPNV **Topopah Spring** 4.76 351 ⇑P Pn 11 27 43.1 -0.7
baz=4.7
VES **Vestal, Richgr** 4.77 320 ⇓P Pn 11 27 44.0 +0.2
baz=4.8
U15A **North Rim** 4.85 30 ⇑P Pn 11 27 45.1 -0.1
baz=4.8
SMMC **Simmler** 4.97 309 ⇓P Pn 11 27 46.3 -0.3
baz=5.0
X18A **Snowflake** 5.01 62 ⇓P Pn 11 27 46.5 -0.8
baz=5.0
319A **Douglas** 5.19 98 ⇓P Pn 11 27 48.4 -1.3
baz=5.2
PTRM **Twissleman Ran** 5.32 311 ePn Pn 11 27 53.9 +2.5
W18A **Petrified Fore** 5.44 57 ePn Pn 11 27 53.2 -0.1
W18A eSn Sn 11 28 55.1 -1.4
W18A **Petrified Fore** 5.44 57 ⇑P Pn 11 27 53.1 -0.1
baz=5.4
W18A ⇓S Sn 11 28 54.5 -2.0
baz=5.4
TPH **Tonopah** 6.03 345 eP Pn 11 28 03.1 +1.9
TPH e 11 29 15.4
TPH **Tonopah** 6.03 345 ePn Pn 11 28 03.1 +1.9
TPH eSn Sn 11 29 15.4 +4.5
R11A **Troy Canyon, C** 6.09 358 ePn Pn 11 28 01.7 -0.5
R11A eSn Sn 11 29 11.5 -1.1
R11A **Troy Canyon, C** 6.09 358 ⇓P Pn 11 28 01.3 -0.9
baz=6.1
121A **Cookes Peak, D** 6.36 85 ePn Pn 11 28 04.5 -1.2
comp=E,23nm,0.9s
121A eSn Sn 11 29 18.9 -0.1
121A **Cookes Peak, D** 6.36 85 ⇑P Pn 11 28 04.8 -0.9
baz=6.3
NVAR **Mina Array Bea** 6.64 339 Pn Pn 11 28 12.4 +2.7
comp=E,0.2nm,0.3s,baz=160,slow=13,SNR=4.3
NVAR Lg Lg 11 30 12.8
baz=151,slow=32,SNR=2.7
MVU **Marysvale** 6.73 21 ePn Pn 11 28 12.5 +1.6
MVU eSn Sn 11 29 27.3 -1.0
MSU **Marysvale** 6.75 21 eP Pn 11 28 11.5 +0.3
MSU e 11 29 27.7
MSU pmax pmax
comp=Z,1.0nm,1.3s
MSU **Marysvale** 6.75 21 ePn Pn 11 28 11.5 +0.3
comp=Z,0.8nm,1.3s
MSU eSn Sn 11 29 27.7 -1.0
WAKR **Walker** 7.10 333 ePn Pn 11 28 16.7 +0.7
WAKR ePg Pg 11 28 48.7 +1.8
WAKR eSg Sg 11 30 22.2 +3.2
CMB **Columbia Colle** 7.12 326 eP Pn 11 28 17.9 +1.7
CMB e 11 29 34.0
CMB **Columbia Colle** 7.12 326 ePn Pn 11 28 17.9 +1.7
CMB eSn Sn 11 29 34.0 -3.7
LAZ **Ladron** 7.15 70 ePn Pn 11 28 16.7 0.0
comp=Z,3µm,1.6s
LAZ eSn Sn 11 29 37.5 -1.1
LENM **Lemitar** 7.23 72 ePn Pn 11 28 17.5 -0.2
LENM eSn Sn 11 29 39.8 -0.6
Y22D **IRIS PASSCAL I** 7.25 73 ⇑P Pn 11 28 17.9 -0.1
baz=7.2
MVCO **Mesa Verde** 7.47 47 ePn Pn 11 28 22.4 +1.3
MVCO eSn Sn 11 29 45.7 -0.7
MVCO **Mesa Verde** 7.47 47 ⇑P Pn 11 28 21.9 +0.9
baz=7.4
LPM **Los Pinos Moun** 7.54 72 ePn Pn 11 28 21.8 -0.2
LPM eSn Sn 11 29 51.9 +3.8
TMUT **Trail Mountain** 7.78 24 ePn Pn 11 28 28.1 +2.8
ANMO **Albuquerque** 7.84 68 Pn Pn 11 28 25.4 -0.8
comp=Z,0.4nm,0.3s,baz=252,slow=13,SNR=34
ANMO Lg Lg 11 30 37.5
comp=Z,0.4nm,0.3s,baz=164,slow=23,SNR=3.2
ANMO LR LR 11 31 17.7
comp=Z,803nm,21.3s,baz=244,slow=37
ANMO **Albuquerque** 7.84 68 ⇓eP Pn 11 28 26.2 0.0
ANMO **Albuquerque** 7.84 68 ePn Pn 11 28 26.1 -0.1
ANMO eSn Sn 11 29 55.0 -0.7
ANMO Lg Lg 11 30 37.5
SRU **San Rafael Swe** 7.87 28 eP Pn 11 28 27.4 +0.9
SRU e 11 29 57.5
SRU **San Rafael Swe** 7.87 28 ePn Pn 11 28 27.4 +0.9
SRU eSn Sn 11 29 57.5 +1.2
PV01 **Paradox Valley** 8.05 41 ePn Pn 11 28 28.1 -0.9
comp=Z,52nm,1.3s
PV01 ePg Pg 11 29 03.8 -1.2
PV01 eSg Sg 11 30 46.2 -3.0
NLU **North Lily Min** 8.12 18 ePn Pn 11 28 32.2 +2.3
NLU eSn Sn 11 30 01.2 -1.2
DUG **Dugway, Tooele** 8.18 13 eP Pn 11 28 34.1 +3.9
DUG e 11 30 02.7
DUG **Dugway, Tooele** 8.18 13 ePn Pn 11 28 34.6 +3.9
DUG eSn Sn 11 30 02.7 -1.1
MPU **Maple Canyon** 8.30 20 ePn Pn 11 28 31.7 -0.7
MPU eSn Sn 11 30 07.4 +0.6
MNTX **Cornudas Mount** 8.44 91 ePn Pn 11 28 32.9 -1.3
MNTX eSn Sn 11 30 06.5 -3.5
MNTX **Cornudas Mount** 8.44 91 ⇓P Pn 11 28 33.2 -0.9
baz=8.4
ELK **Elko** 8.48 0 Pn Pn 11 28 35.5 +0.5
comp=Z,0.9nm,0.3s,baz=178,slow=10,SNR=14
ELK Lg Lg 11 31 04.8
comp=Z,0.3nm,0.3s,baz=90,slow=20,SNR=3.7
ELK LR LR 11 32 07.7
comp=Z,620nm,20.3s,baz=180,slow=40
ELK **Elko** 8.48 0 eP Pn 11 28 35.3 +0.3
ELK e 11 30 10.3
ELK **Elko** 8.48 0 ePn Pn 11 28 35.3 +0.3
ELK eSn Sn 11 30 10.3 -1.1
ELK Lg Lg 11 31 04.8
S22A **4UR Ranch, Cre** 8.85 49 ePn Pn 11 28 40.9 +0.9
BGU **Big Grassy Mou** 8.85 11 ePn Pn 11 28 41.8 +1.9
BGU eSn Sn 11 30 16.9 -3.4
JLU **Jordanelle** 8.89 19 ePn Pn 11 28 42.3 +1.7
LPIG **La Paz** 9.23 150 Pn Pn 11 28 48.8 +3.8
comp=Z,20nm,0.3s,baz=218,slow=2.5,SNR=8.9
LPIG LR LR 11 32 25.8
comp=Z,319nm,20.3s,baz=340,slow=38
TCUT **Toone Canyon** 9.38 18 ePn Pn 11 28 49.2 +1.8
comp=Z,62nm,1.0s
TCUT eSn Sn 11 30 37.1 +3.5
O20A **White River Ci** 9.71 34 ePn Pn 11 28 52.3 +0.5
O20A eSn Sn 11 30 42.6 +1.0
SDCO **Great Sand Dun** 9.72 53 ePn Pn 11 28 53.1 +1.0
SDCO **Great Sand Dun** 9.72 53 ⇑P Pn 11 28 52.3 +0.2
baz=9.7
R23A **Moffat** 9.75 50 ⇑P Pn 11 28 52.7 +0.3
baz=9.7
HWUT **Hardware Ranch** 9.81 17 ePn Pn 11 28 56.4 +3.3
comp=Z,22nm,1.2s
HWUT eSn Sn 11 30 46.6 +2.8
T25A **Trinidad** 10.20 58 ePn Pn 11 29 01.5 +3.0
TXAR **Lajitas Array** 10.41 103 Pn Pn 11 29 02.2 +1.0
comp=Z,1.1nm,0.3s,baz=280,slow=12,SNR=125
TXAR Lg Lg 11 32 00.2
comp=Z,0.9nm,0.3s,baz=275,slow=30,SNR=7.3
TXAR LR LR 11 33 14.0
comp=Z,589nm,21.1s,baz=0.0,slow=39
WVOR **Wild Horse Val** 10.51 346 eP Pn 11 29 07.3 +4.6
WVOR e 11 31 02.7
WVOR **Wild Horse Val** 10.51 346 ePn Pn 11 29 07.3 +4.6
WVOR eSn Sn 11 31 02.7 +1.7
O22A **Kremmling** 10.59 39 ⇑P Pn 11 29 06.2 +2.3
baz=11
Q24A **Divide** 10.63 48 ePn Pn 11 29 06.0 +1.5
MSTX **Muleshoe** 10.64 77 ePn Pn 11 29 05.8 +1.3
MSTX eSn Sn 11 31 03.5 -0.8
MSTX **Muleshoe** 10.64 77 ⇓P Pn 11 29 06.8 +2.3
baz=11
228A **UT Block 9, Go** 10.76 87 ⇓P Pn 11 29 09.2 +3.1
baz=11
T26A **Comanche Natio** 10.81 60 ⇑P Pn 11 29 09.7 +2.9
baz=11
128A **Castleberry Fa** 10.83 85 ⇓P Pn 11 29 09.4 +2.4
baz=11
AHID **Auburn Hatcher** 11.01 16 ePn Pn 11 29 12.8 +3.2
comp=Z,44nm,1.3s
AHID eSn Sn 11 31 01.9 -12
MFID **Camas Ranch** 11.16 358 ePn Pn 11 29 16.9 +5.3
YBH **Yreka Blue Hor** 11.17 330 Pn Pn 11 29 15.8 +4.2
comp=Z,0.1nm,0.3s,baz=134,slow=9.2,SNR=8.9
YBH LR LR 11 33 07.8
comp=Z,236nm,20.4s,baz=197,slow=35
YBH **Yreka Blue Hor** 11.17 330 eP Pn 11 29 16.5 +4.9
YBH **Yreka Blue Hor** 11.17 330 ePn Pn 11 29 16.5 +4.9
HLID **Hailey** 11.32 3 ePn Pn 11 29 19.4 +5.6
HLID eSn Sn 11 31 22.4 +1.5
K05A **Summer Lake** 11.36 339 ePn Pn 11 29 20.6 +6.2
N23A **Red Feather La** 11.44 38 ePn Pn 11 29 18.3 +2.8
PDAR **Pinedale Array** 11.44 22 Pn Pn 11 29 17.3 +1.8
comp=Z,0.1nm,0.3s,baz=260,slow=8.9,SNR=14
PDAR Lg Lg 11 32 38.2
comp=Z,0.0nm,0.3s,baz=203,slow=25,SNR=3.3
PDAR LR LR 11 33 51.4
comp=Z,453nm,21.4s,baz=216,slow=39
REDW **Red Top Meadow** 11.64 16 ePn Pn 11 29 21.1 +3.0
REDW eSn Sn 11 31 28.4 -0.3
AMTX **Amarillo** 11.65 73 eSn Sn 11 31 29.9 +0.9
TPAW **Teton Pass** 11.73 16 ePn Pn 11 29 22.8 +3.3
comp=Z,62nm,1.5s
TPAW eSn Sn 11 31 35.4 +4.2
SNOW **Snow King Moun** 11.75 16 ePn Pn 11 29 23.3 +3.5
comp=Z,41nm,1.7s
SNOW eSn Sn 11 31 28.7 -3.0
FXWY **Fox Creek** 11.86 15 ePn Pn 11 29 24.6 +3.4
LOHW **Long Hollow** 11.93 17 ePn Pn 11 29 24.3 +2.1
LOHW eSn Sn 11 31 37.6 +1.7
PHWY **Pilot Hill** 11.98 38 ePn Pn 11 29 27.1 +4.1
MOOW **Moose Ponds** 12.03 16 ePn Pn 11 29 25.3 +1.8
IMW **Indian Meadow** 12.12 15 eSn Sn 11 31 42.5 +1.7
I07A **Izee** 12.27 346 ePn Pn 11 29 33.8 +7.1
KSCO **Kaye Shedlock'** 12.31 53 ePn Pn 11 29 29.9 +2.6
KSCO eSn Sn 11 31 46.1 +1.0
FLWY **Flagg Ranch** 12.35 16 ePn Pn 11 29 31.4 +3.4
FLWY eSn Sn 11 31 46.1 -0.2
K22A **Casper** 12.50 31 ePn Pn 11 29 31.5 +1.7
comp=Z,9.2nm,0.8s
K22A eSn Sn 11 31 48.8 -0.9
BMO **Blue Mountains** 12.69 353 ePn Pn 11 29 32.7 +0.3
MCMT **McKenzie Canyo** 12.71 8 ePn Pn 11 29 37.4 +4.6
comp=Z,8.2nm,1.2s
QLMT **Earthquake Lak** 12.92 12 ePn Pn 11 29 39.3 +3.6
QLMT eSn Sn 11 31 59.6 -0.5
YNR **Norris Junctio** 12.96 15 Pn Pn 11 29 36.9 +0.7
comp=Z,13nm,1.3s
ABTX **Abilene, Hawle** 13.22 84 ePn Pn 11 29 43.2 +3.5
DLMT **Dillon** 13.26 8 ePn Pn 11 29 45.0 +4.7
G08A **Pilot Rock** 13.33 349 ePn Pn 11 29 46.1 +4.8
JCT **Junction City** 13.35 93 eP Pn 11 29 44.3 +2.8
JCT **Junction City** 13.35 93 ePn Pn 11 29 44.3 +2.8
H04A **Detroit Lake** 13.53 339 ePn P 11 29 49.0 -4.3
BOZ **Bozeman (W)** 13.68 11 eP P 11 29 52.8 -2.2
BOZ **Bozeman (W)** 13.68 11 ePn P 11 29 52.8 -2.2
LRM **Limekiln Ridge** 13.73 8 ePn Pn 11 29 48.7 +1.9
LRM eSn Sn 11 32 18.6 -1.4
F10A **Beach Ranch, E** 13.79 354 ePn P 11 29 52.9 -3.3
WMOK **Wichita Mounta** 14.00 75 eP Pn 11 29 51.2 +0.9
WMOK **Wichita Mounta** 14.00 75 ePn Pn 11 29 51.2 +0.9
HAWA **Hanford** 14.50 348 ePn Pn 11 29 58.6 +1.6
MSO **Missoula** 14.60 4 ePn P 11 30 02.9 -2.3
HRY **Holter Researc** 14.69 9 ePn P 11 30 03.4 -2.8
CHMT **Chamberlain Mo** 14.73 6 ePn Pn 11 30 01.2 +0.8
RSSD **Black Hills** 14.78 33 eP Pn 11 30 01.6 +0.6
RSSD **Black Hills** 14.78 33 ePn Pn 11 30 01.6 +0.6
SLMT **Seeley Lake** 15.04 5 ePn Pn 11 30 06.9 +2.4
WHTX **Lake Whitney,** 15.12 86 ePn Pn 11 30 06.7 +1.2
comp=Z,51nm,0.9s
U34A **Anderson Ranch** 15.25 69 ePn Pn 11 30 08.0 +0.7
comp=Z,56nm,1.3s
SWMT **Swartz Lake** 15.28 3 ePn P 11 30 10.8 -1.9
LON **Longmire** 15.32 343 eP P 11 30 10.9 -2.2
LON pmax pmax
comp=Z,16nm,1.2s
LON **Longmire** 15.32 343 ePn P 11 30 10.9 -2.2
comp=Z,16nm,1.2s
JTMT **Jette** 15.50 3 ePn P 11 30 14.0 -1.2
BSMT **Bassoo Peak** 15.59 1 ePn Pn 11 30 12.9 +1.0
C09A **Chrisman Ranch** 15.70 353 ePn P 11 30 16.1 -1.2
comp=Z,18nm,1.3s
D05A **Enumclaw** 15.78 343 ePn P 11 30 17.4 -0.7
comp=Z,114nm,1.6s
NEW **Newport** 16.06 356 Pn Pn 11 30 19.6 +1.8
comp=Z,0.1nm,0.3s,baz=173,slow=11,SNR=12
NEW LR LR 11 36 49.4
comp=Z,243nm,20.7s,baz=184,slow=38
NEW **Newport** 16.06 356 eP P 11 30 20.4 -0.9
NEW **Newport** 16.06 356 ePn P 11 30 20.4 -0.9
B08A **Colville Reser** 16.38 350 ePn P 11 30 23.7 -1.1
comp=Z,23nm,1.4s
TUL1 **Leonard** 16.56 72 ePn Pn 11 30 24.4 +0.2
comp=Z,26nm,1.0s
HKT **Hockley** 16.82 93 eP Pn 11 30 28.5 +1.0
HKT pmax pmax
comp=Z,59nm,1.7s
HKT **Hockley** 16.82 93 ePn Pn 11 30 28.5 +1.0
comp=Z,59nm,1.7s
DGMT **Dagmar** 18.25 24 eP P 11 30 46.5 +1.0
comp=Z,26nm,0.9s
MIAR **Mount Ida** 18.28 77 eP P 11 30 46.8 +1.0
MIAR eS Sn 11 34 09.6 -0.6
MIAR pmax pmax
comp=Z,49nm,1.5s
MIAR **Mount Ida** 18.28 77 ePn P 11 30 46.8 +1.0
comp=Z,49nm,1.5s
MIAR eS Sn 11 34 09.6 -0.6
ECSD **EROS Data Cent** 18.61 47 eP Pn 11 30 50.7 +0.9
comp=Z,19nm,1.2s
VBMS **Vicksburg** 20.95 83 ePn Pn 11 31 17.7 +0.1
comp=Z,104nm,0.8s
PBMO **Poplar Bluff** 20.96 71 eP P 11 31 15.6 +0.5
comp=Z,35nm,1.4s
EDM **Edmonton** 21.01 3 eP P 11 31 13.4 -2.2
EDM pmax pmax
comp=Z,25nm,0.7s
EDM **Edmonton** 21.01 3 eP P 11 31 13.4 -2.2
comp=Z,25nm,0.7s
OXF **Oxford** 21.71 77 eP P 11 31 24.3 +1.0
OXF pmax pmax
comp=Z,66nm,1.4s
OXF **Oxford** 21.71 77 eP P 11 31 24.3 +1.0
comp=Z,66nm,1.4s
SPMN **Marine on St.** 21.72 47 eP P 11 31 24.3 +1.0
comp=Z,41nm,1.3s
AGMN **Agassiz Nation** 21.74 37 eP P 11 31 23.9 +0.4
comp=Z,64nm,1.4s
BBB **Bella Bella** 22.01 339 LR LR 11 39 23.1
comp=Z,170nm,18.1s,baz=174,slow=35
JFWS **Jewell Farm** 22.44 55 eP P 11 31 32.3 +1.2
JFWS pmax pmax
comp=Z,35nm,1.4s
JFWS **Jewell Farm** 22.44 55 eP P 11 31 32.2 +1.2
comp=Z,35nm,1.4s
HDIL **Hopedale** 22.45 61 eP P 11 31 31.9 +0.8
comp=Z,252nm,1.0s
WVT **Waverly** 23.01 73 eP P 11 31 38.3 +1.2
WVT pmax pmax
comp=Z,15nm,1.1s
WVT **Waverly** 23.01 73 eP P 11 31 38.3 +1.2
comp=Z,15nm,1.1s
OLIL **Olney** 23.02 66 eP P 11 31 37.7 +0.6
comp=Z,44nm,1.3s
ULM **Lac du Bonnet** 23.05 33 P P 11 31 36.4 -0.9
comp=Z,14nm,1.0s,baz=225,slow=9.3,SNR=16
ULM LR LR 11 40 49.3
comp=Z,409nm,18.5s,baz=244,slow=37
ULM **Lac du Bonnet** 23.05 33 eP P 11 31 36.8 -0.5
ULM **Lac du Bonnet** 23.05 33 eP P 11 31 36.8 -0.5
LRAL **Lakeview Retre** 23.81 80 eP P 11 31 46.2 +1.0
comp=Z,7.7nm,0.9s
CMIG **Matias Romero** 23.84 124 P P 11 31 44.1 -1.5
comp=Z,4.7nm,0.9s,baz=302,slow=8.0,SNR=6.7
EYMN **Ely** 23.89 42 eP P 11 31 44.9 -0.8
comp=Z,21nm,1.4s
BRAL **Brewton** 24.05 85 eP P 11 31 49.7 +2.3
comp=Z,225nm,1.4s
SFIN **Lafayette** 24.05 62 eP P 11 31 49.2 +1.8
comp=Z,38nm,1.4s
FFC **Flin Flon** 24.37 19 eP P 11 31 49.9 -0.3
FFC pmax pmax
comp=Z,82nm,2.0s
FFC **Flin Flon** 24.37 19 eP P 11 31 49.9 -0.3
comp=Z,82nm,2.0s
COWI **Conover** 24.41 48 eP P 11 31 50.5 -0.2
comp=Z,9.2nm,0.8s
SWET **Sewanee** 24.56 75 eP P 11 31 51.9 -0.3
comp=Z,18nm,1.2s
TKL **Tuckaleechee C** 26.30 74 LR LR 11 42 52.1
comp=Z,454nm,20.8s,baz=290,slow=37
ACSO **Alum Creek Sta** 27.14 64 eP P 11 32 15.6 +0.2
comp=Z,20nm,0.8s
DLBC **Dease Lake** 28.04 343 P P 11 32 24.6 +1.3
comp=Z,4.0nm,1.0s,baz=171,slow=9.7,SNR=6.8
FCC **Fort Churchill** 30.13 22 eP P 11 32 42.4 +0.6
FCC pmax pmax
comp=Z,9.0nm,0.9s
FCC **Fort Churchill** 30.13 22 eP P 11 32 42.4 +0.6
comp=Z,9.1nm,0.9s
YKA **Yellowknife Ar** 30.27 1 P P 11 32 43.1 +0.2
comp=Z,1.5nm,1.0s,baz=181,slow=8.9,SNR=9.0
DAWY **Dawson** 35.21 342 eP P 11 33 27.1 +0.9
comp=Z,3.6nm,1.0s
PMR **Palmer** 36.59 333 eP P 11 33 40.3 +2.3
PMR pmax pmax
comp=Z,6.0nm,0.9s
PMR **Palmer** 36.59 333 eP P 11 33 40.3 +2.3
comp=Z,5.7nm,0.9s
RSO **Redoubt South** 37.39 330 eP P 11 33 41.9 -3.2
INK **Inuvik** 37.61 349 P P 11 33 46.7 +0.1
comp=Z,4.8nm,1.0s,baz=153,slow=11,SNR=8.0
MCK **McKinley** 37.87 336 eP P 11 33 50.8 +1.9
MCK pmax pmax
comp=Z,41nm,2.0s
MCK **McKinley** 37.87 336 eP P 11 33 50.8 +1.9
comp=Z,41nm,2.0s
ILAR **Eielson Array** 37.90 339 P P 11 33 50.5 +1.4
comp=Z,2.2nm,0.8s,baz=153,slow=7.4,SNR=42
COLA **College** 38.27 338 ⇓*i*P P 11 33 52.0 -0.2
COLA pmax pmax
comp=Z,13nm,0.8s
COLA **College** 38.27 338 eP P 11 33 52.8 +0.6
comp=Z,6.9nm,1.1s
KTH **Kantishna Hill** 38.45 335 eP P 11 33 54.1 +0.3
comp=Z,7.6nm,1.0s
PPLA **Purkeypile** 38.52 334 eP P 11 33 56.4 +1.9
comp=Z,42nm,1.8s
COLD **Coldfoot** 40.57 340 eP P 11 34 14.4 +3.0
comp=Z,8.6nm,1.4s
SCHQ **Schefferville** 40.69 42 LR LR 11 49 47.4
comp=Z,85nm,21.4s,baz=40,slow=34
IM04 **Indian Mountai** 40.89 337 eP P 11 34 15.6 +1.6
ROSC **El Rosal** 46.98 117 LR LR 11 59 19.4
comp=Z,50nm,18.0s,baz=12,slow=42
OTAV **Otavalo** 47.13 125 eP P 11 35 07.1 +1.8
comp=Z,14nm,1.2s
SDV **Santo Domingo** 47.38 109 eP P 11 35 07.6 +0.6
comp=Z,18nm,1.2s
SUMG **Summit** 55.63 21 *i* P P 11 36 08.2 -0.1
comp=Z,31nm,1.2s
SUMG **Summit** 55.63 21 eP P 11 36 07.7 -0.6
SUMG pmax pmax
comp=Z,26nm,1.1s
SUMG **Summit** 55.63 21 eP P 11 36 07.7 -0.6
comp=Z,26nm,1.1s
BILL **Bilibino** 56.23 334 eP P 11 36 11.0 -1.1
BILL *i* 11 36 21.8
BILL pmax pmax
comp=Z,4.0nm,1.5s
PPT **Papeete** 59.43 219 LR LR 11 56 33.0
comp=Z,54nm,19.4s,baz=3.5,slow=30
PPT2 **Papeete2** 59.45 219 eLR LR 11 54 07.1
comp=Z,101nm,24.0s,baz=46
PETK **Petropavlovsk-** 63.24 318 P P 11 37 00.6 0.0
comp=Z,3.2nm,0.8s,baz=90,slow=12,SNR=3.6
PETK LR LR 12 01 20.1
comp=Z,12nm,21.9s,baz=92,slow=33
TBI **Tubuai** 64.21 215 eLR LR 11 56 13.7
comp=Z,85nm,28.2s
TIXI **Tiksi** 67.25 342 ⇓eP P 11 37 25.4 -0.9
TIXI pmax pmax
comp=Z,6.0nm,1.5s
TIXI **Tiksi** 67.25 342 eP P 11 37 25.7 -0.6
comp=Z,4.3nm,1.1s
LVC **Limon Verde** 70.30 135 P P 11 37 47.2 +0.9

comp=Z,21nm,1.0s,baz=301,slow=8.5,SNR=4.8
ARCES ARCESS Array B 74.57 13 P **P** **11 38 10.9 0.0**
comp=Z,4.6nm,0.8s,baz=339,slow=6.5,SNR=6.5
ARCES LR LR 12 13 30.5
comp=Z,78nm,19.4s,baz=330,slow=38
ERM Erimo 76.84 311 *eP* P 11 38 19.2 -5.1
ERM pmax pmax
comp=Z,30nm,1.1s
NB2 NORSAR Subarra 77.38 24 P **P** **11 38 27.5 +0.4**
comp=Z,1.7nm,0.8s,baz=316,slow=5.6
NOA NORSAR Array B 77.38 24 P **P** **11 38 27.9 +0.8**
comp=Z,3.4nm,0.9s,baz=317,slow=5.6,SNR=5.8
NOA LR LR 12 12 19.4
comp=Z,44nm,19.2s,baz=320,slow=36
QUIF Quistinic 79.73 39 *eP* **P** **11 38 40.1 -0.1**
QUIF Quistinic 79.73 39 *eP* **P** **11 38 40.1 -0.1**
QUIF Quistinic 79.73 39 *eP* **P** **11 38 40.1 -0.1**
CPUP Villa Florida 80.26 129 P **P** **11 38 43.5 +0.3**
comp=Z,1.6nm,0.9s,baz=358,slow=7.7,SNR=8.0
CPUP LR LR 12 14 40.1
comp=Z,216nm,19.8s,baz=236,slow=36
CPUP Villa Florida 80.26 129 *eP* **P** **11 38 43.7 +0.4**
CPUP Villa Florida 80.26 129 *eP* **P** **11 38 43.7 +0.4**
FINES FINESS Array B 81.51 18 P **P** **11 38 50.1 +0.6**
comp=Z,7.1nm,0.8s,baz=27,slow=0.9,SNR=12
FINES LR LR 12 15 39.0
comp=Z,72nm,19.5s,baz=310,slow=36
FINES FINESS Array B 81.51 18 *i* P **P** **11 38 50.0 +0.5**
FINES pmax pmax
comp=Z,7.0nm,0.8s
BAIF Baives 82.12 34 *eP* **P** **11 38 54.1 +1.2**
comp=Z,20nm,0.9s
BAIF Baives 82.12 34 *eP* **P** **11 38 54.1 +1.2**
BAIF pmax pmax
comp=Z,20nm,0.9s
BAIF Baives 82.12 34 *eP* **P** **11 38 54.1 +1.2**
comp=Z,20nm,0.9s
EVOP Sao Brissos 82.34 49 *eP* **P** **11 38 54.2 -0.1**
EVOP pmax pmax
comp=Z,49nm,1.3s
EVOP Sao Brissos 82.34 49 *eP* **P** **11 38 54.2 -0.1**
comp=Z,49nm,1.3s
GIVF Givet 82.39 34 *eP* **P** **11 38 54.6 +0.3**
GIVF Givet 82.39 34 *eP* **P** **11 38 54.6 +0.3**
GIVF Givet 82.39 34 *eP* **P** **11 38 54.6 +0.3**
EVO Evora 82.41 49 *eP* **P** **11 38 54.2 -0.5**
comp=Z,49nm,1.3s
MJAR Matsushiro Arr 83.05 309 LR LR 12 09 28.3
comp=Z,16nm,20.8s,baz=100,slow=31
PLCA Paso Flores 83.56 147 P **P** **11 39 01.3 +0.9**
comp=Z,3.0nm,1.1s,baz=340,slow=7.4,SNR=3.4
MEZF Maizieres J'vi 83.58 35 *eP* **P** **11 39 00.7 +0.1**
MEZF Maizieres J'vi 83.58 35 *eP* **P** **11 39 00.7 +0.1**
SSF Saint Saulge 83.77 37 *eP* **P** **11 39 01.5 -0.1**
comp=Z,45nm,1.5s
SSF Saint Saulge 83.77 37 *eP* **P** **11 39 01.5 -0.1**
SSF pmax pmax
comp=Z,45nm,1.5s
SSF Saint Saulge 83.77 37 *eP* **P** **11 39 01.5 -0.1**
comp=Z,45nm,1.5s
SFTF Sexfontaines 83.77 36 *eP* **P** **11 39 01.6 0.0**
SFTF Sexfontaines 83.77 36 *eP* **P** **11 39 01.6 0.0**
LOR Lormes 83.81 37 *eP* **P** **11 39 01.9 +0.1**
comp=Z,78nm,1.4s
LOR Lormes 83.81 37 *eP* **P** **11 39 01.9 +0.1**
LOR pmax pmax
comp=Z,78nm,1.4s
LOR Lormes 83.81 37 *eP* **P** **11 39 01.9 +0.1**
comp=Z,78nm,1.4s
PAGF Fort de Pagny 83.87 35 *eP* **P** **11 39 02.4 +0.3**
PAGF Fort de Pagny 83.87 35 *eP* **P** **11 39 02.4 +0.3**
SMF Signal de Mont 84.22 37 *eP* **P** **11 39 03.5 -0.4**
comp=Z,32nm,1.0s
SMF Signal de Mont 84.22 37 *eP* **P** **11 39 03.5 -0.4**
SMF pmax pmax
comp=Z,32nm,1.0s
SMF Signal de Mont 84.22 37 *eP* **P** **11 39 03.5 -0.4**
comp=Z,32nm,1.0s
ESDC Sonseca Array 84.27 46 P **P** **11 39 03.4 -1.0**
comp=Z,0.9nm,0.6s,baz=316,slow=4.1,SNR=5.3
ESDC LR LR 12 13 51.1
comp=Z,68nm,20.4s,baz=300,slow=34
HAU Haudompre 84.55 35 *eP* **P** **11 39 05.5 -0.1**
comp=Z,32nm,1.1s
HAU Haudompre 84.55 35 *eP* **P** **11 39 05.5 -0.1**
HAU pmax pmax
comp=Z,32nm,1.1s
HAU Haudompre 84.55 35 *eP* **P** **11 39 05.5 -0.1**
comp=Z,32nm,1.1s
CDF Champ du Feu 84.72 34 *eP* **P** **11 39 06.4 -0.1**
CDF Champ du Feu 84.72 34 *eP* **P** **11 39 06.4 -0.1**
CDF Champ du Feu 84.72 34 *eP* **P** **11 39 06.4 -0.1**
HINF Hinteralfeld 84.93 35 *eP* **P** **11 39 07.3 -0.2**
comp=Z,20nm,0.9s
HINF Hinteralfeld 84.93 35 *eP* **P** **11 39 07.3 -0.2**
HINF pmax pmax
comp=Z,20nm,0.9s
HINF Hinteralfeld 84.93 35 *eP* **P** **11 39 07.3 -0.2**
comp=Z,20nm,0.9s
KLMR Klimovskoe 84.97 12 *eP* **P** **11 39 07.7 +0.3**
KLMR pmax pmax
comp=Z,23nm,1.1s
PRGR Permogore 85.17 9 *eP* **P** **11 39 09.8 +1.4**
PRGR pmax pmax
comp=Z,6.0nm,0.4s
CLL Collm 85.19 30 *eP* **P** **11 39 09.0 +0.3**
CLL LmV 12 17 00.0
comp=Z,100nm,19.4s
CLL Collm 85.19 30 *eP* **P** **11 39 09.0 +0.3**
CLL MLR MLR
comp=Z,300nm,20.5s
BRG Berggiesshubel 85.91 29 *eP* **P** **11 39 12.8 +0.6**
comp=Z,8.2nm,0.9s
BRG Berggiesshubel 85.91 29 *eP* **P** **11 39 12.9 +0.6**
BRG pmax pmax
comp=Z,8.0nm,1.0s
CN2 Changchun 86.20 321 *eP* **P** **11 39 13.2 -0.6**
DPC Dobruska-Polom 87.29 29 *eP* **P** **11 39 19.5 +0.4**
DPC Dobruska-Polom 87.29 29 *eP* **P** **11 39 19.5 +0.4**
GERES GERESS Array B 87.34 31 P **P** **11 39 18.4 -1.0**
comp=Z,0.7nm,0.7s,baz=270,slow=1.3,SNR=5.2
GERES LR LR 12 18 42.7
comp=Z,90nm,18.4s,baz=278,slow=36
VYHS Vyhne 89.77 29 *eP* P 11 39 34.5 +3.6
VYHS pmax pmax
comp=Z,56nm,3.4s
VYHS Vyhne 89.77 29 *ep*P P 11 39 34.5 +3.6
JNU Nakatsue 89.92 310 *eP* **P** **11 39 29.6 -2.3**
STHS Stebnicka Huta 89.97 27 *eP* **P** **11 39 32.3 +0.5**
STHS pmax pmax
comp=Z,3.0nm,0.9s
STHS Stebnicka Huta 89.97 27 *eP* **P** **11 39 32.3 +0.5**
UZH Uzhgorod 91.01 27 *eP* P 11 39 32.6 -4.0
UZH *e* 11 39 38.4
UZH *e* 11 39 50.8
AKASG Malin Array Be 91.66 22 P **P** **11 39 38.9 -0.6**
comp=Z,0.4nm,0.4s,baz=324,slow=3.6,SNR=8.5
AKASG LR LR 12 21 53.4
comp=Z,51nm,18.0s,baz=170,slow=36
AKASG Malin Array Be 91.66 22 *i* P **P** **11 39 39.2 -0.3**
SONM Songino Array 91.95 333 LR LR 12 22 24.4
comp=Z,24nm,19.1s,baz=30,slow=36
ZALV Zalesovo Beam 92.41 348 P **P** **11 39 42.9 0.0**
comp=Z,0.3nm,0.3s,baz=354,slow=2.9,SNR=2.7
BJI Beijing 93.73 323 P **P** **11 39 47.5 -1.8**
BJI PMZ
comp=Z,8.0nm,0.6s
BVAR Borovoye Array 94.94 357 P **P** **11 39 54.6 0.0**
comp=Z,0.8nm,0.8s,baz=0.0,slow=3.7,SNR=4.1
HHC Hu-ho-hao-te 95.37 326 *eP* P 11 39 51.9 -5.1
HHC PP **PP** **11 43 43.9 -2.6**
HHC SKS SKSac 11 50 23.6 -11
HHC S **SKKSac** **11 51 01.2 +3.8**
HHC SS SS 11 57 31.4 -8.3
HHC PMZ
comp=Z,9.0nm,0.7s
HHC PMZ
comp=Z,75nm,7.4s
NJ2 Nanjing 98.11 316 *eP* Pdif 11 40 09.7 +0.3
NJ2 PMZ
comp=Z,30nm,0.5s
MKAR Makanchi Array 99.74 348 LR LR 12 32 30.6
comp=Z,21nm,18.5s,baz=12,slow=40
WMQ Urumqi 101.44 343 *eP* **Pdif** **11 40 20.4 -3.7**
WMQ pP pP 11 40 32.6 +7.6
WMQ PMZ
comp=Z,5.0nm,0.6s
WMQ PMZ
comp=Z,120nm,4.5s
KSH Kashi 107.84 351 *e*Pdif **Pdif** **11 40 57.0 +4.2**
KSH PP PP 11 45 29.9 +10
KSH S **Sdif** **11 53 01.1 +2.0**
KSH PPMZ
comp=Z,110nm,4.2s
KSH LN
comp=Z,120nm,4.8s
KSH LZ
comp=Z,97nm,7.1s
KSH LZ
comp=Z,140nm,5.0s
KMI Kunming 112.39 323 PKP **PKiKP** **11 45 09.0 -0.3**
WRA Warramunga Arr 117.23 263 PKP **PKPdf** **11 45 17.4 -0.9**
comp=Z,0.5nm,0.8s,baz=42,slow=2.5,SNR=3.5
ASAR Alice Springs 119.20 259 PKP **PKPdf** **11 45 20.8 -1.2**
comp=Z,0.3nm,0.7s,baz=53,slow=4.8,SNR=3.7
MAW Mawson 144.59 179 PKP PKPbc 11 46 06.8 +0.1
comp=Z,4.7nm,0.9s,baz=157,slow=2.8,SNR=8.6
LBTB Lobatse 145.07 88 *e*PKIKP **PKPbc** **11 46 09.8 0.0**
LBTB Lobatse 145.07 88 *e*PKPbc **PKPbc** **11 46 09.8 0.0**

*IDC **04** 11:30:53.5±1.5, 36.66S×73.61W, h0km, mb3.9/3, mb1 3.8/5, mb1mx3.6/23, mbtmp3.6/5, ML3.3/2, MS3.5/1, Ms1 3.5/1, ms1mx2.6/17, Error ellipse: s-maj=47.8km s-min=24.6km az=73.0*
*ISCJB **04** 11:30:56.2±0.8, 36.70S±0.07×73.6W±0.1, h35km, mb4.0/5, Error ellipse: s-maj=16.2km s-min=10.0km az=166.8*
*NEIC **04** 11:30:57.7±0.7, 36.77S×73.57W, h35km, mb4.3/2, Error ellipse: s-maj=16.9km s-min=12.7km az=81.0*
ISC 04 11:30:57.7±0.8, 36.74S±0.07×73.8W±0.1, h35km, n16, σ1s84/20, mb4.1/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PLCA	**Paso Flores**	**4.73**	**149**	Pn		**Pn**	**11 32 07.1**	**+0.6**
	0.5nm,0.3s,baz=323,slow=17,SNR=13							
PLCA				Sn		**Sn**	**11 33 04.2**	**+4.1**
	0.2nm,0.3s,baz=301,slow=16,SNR=1.7							
PLCA	**Paso Flores**	**4.73**	**149**	*e*Pn		**Pn**	**11 32 03.7**	**-2.8**
PLCA				*e*Sn		**Sn**	**11 33 01.4**	**+1.2**
CFAA	**Coronel Fontan**	**6.88**	**44**	Pn		**Pn**	**11 32 35.5**	**-0.6**
	0.2nm,0.3s,baz=218,slow=14,SNR=9.0							
CFAA				Sn		**Sn**	**11 33 56.5**	**+3.3**
	0.1nm,0.3s,baz=102,slow=20,SNR=2.0							
TRQA	**Tornquist**	**9.49**	**102**	*e*Pn		**Pn**	**11 33 10.7**	**-1.2**
CPUP	**Villa Florida**	**17.42**	**58**	LR		LR	11 42 34.6	
	comp=Z,160nm,19.1s,baz=195,slow=41							
CPUP	**Villa Florida**	**17.42**	**58**	*e*Pn		**Pn**	**11 34 55.1**	**-2.9**
OTAV	**Otavalo**	**37.04**	**352**	*e*P		**P**	**11 38 05.3**	**+0.5**
	3.6nm,0.5s							
SNAA	**Sanae**	**49.62**	**157**	P		**P**	**11 39 46.0**	**+0.8**
	0.8nm,0.9s,baz=287,slow=7.4,SNR=4.3							
QSPA	**South Pole Qui**	**53.51**	**180**	*e*P		**P**	**11 40 13.9**	**-0.5**
	1.9nm,0.9s							
TXAR	**Lajitas Array**	**71.46**	**333**	P		**P**	**11 42 16.4**	**+1.7**
	0.3nm,0.6s,baz=150,slow=9.2,SNR=4.7							
WVT	**Waverly**	**73.66**	**348**	*e*P		**P**	**11 42 27.4**	**0.0**
DBIC	**Dimbokro**	**77.40**	**72**	P		**P**	**11 42 48.5**	**-0.9**
	3.6nm,1.1s,baz=207,slow=4.5,SNR=3.5							
ABKAR	**Akbulak array**	**144.46**	**55**	*e*PKPdf		**PKPab**	**11 50 27.0**	**-1.1**
BRVK	**Borovoye**	**150.16**	**45**	*e*PKPdf		**PKPdf**	**11 50 38.8**	**-0.2**
BRVK				*e*PKPbc		**PKPbc**	**11 50 43.0**	**-1.2**
BRVK				*e*PKPab		**PKPab**	**11 50 49.6**	**-0.7**
EKS2	**Erkin-Say**	**154.45**	**67**	*e*PKPbc		**PKPbc**	**11 50 54.7**	**+0.4**
AAK	**Ala-Archa**	**154.98**	**67**	*e*PKPdf		**PKPdf**	**11 50 48.0**	**+1.2**
AAK				*e*PKPbc		PKPab	11 50 55.1	-16
AAK				*e*PKPab		PKPab	11 51 10.2	-1.0

IDC 04 11:45:58.4±7.8, 17.95S×172.06W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.4/20, mbtmp3.4/2, Error ellipse: s-maj=462.6km s-min=39.5km az=5.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
WRA	**Warramunga Arr**	**50.56**	**259**	P		P	11 55 00.0	+0.9
	1.1nm,1.2s,baz=93,slow=9.0,SNR=13							
ASAR	**Alice Springs**	**50.59**	**254**	P		P	11 54 57.9	-1.5
	0.3nm,0.7s,baz=85,slow=8.2,SNR=4.3							
TORD	**Torodi Ar. Bea**	**172.32**	**128**	PKPab		PKPab	12 07 33.8	-0.5
	0.9nm,1.1s,baz=243,slow=4.5,SNR=3.4							

GUC 04 12:00:46.5±0.6, 34.82S×73.14W, h23km±6km, ML3.9, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
COCH	**Cobquecura**	**1.34**	**168**	*e*P		Pn	12 01 09.2	-0.7
COCH				*e*S		Sn	12 01 26.5	-0.5
TALC	**Talca**	**1.36**	**116**	*e*P		Pn	12 01 09.2	-1.0
TALC				*e*S		Sn	12 01 25.3	-2.2
NICH	**Los Niches**	**1.58**	**97**	*e*P		Pn	12 01 12.9	-0.2
NICH				*e*S		Sn	12 01 32.9	0.0
NICH				AML		AML	12 01 40.4	
	comp=E,4μm,0.3s							
LNCH	**Linares**	**1.62**	**130**	*e*P		Pn	12 01 13.4	-0.3
LNCH				*e*S		Sn	12 01 34.1	+0.1
LNV	**Longovilo**	**1.67**	**60**	*e*S		Sn	12 01 35.2	+0.3
CACH	**El Canelo**	**2.21**	**72**	*e*P		Pn	12 01 23.1	+1.1
CHCH	**Chadas Angostu**	**2.24**	**68**	*e*P		Pn	12 01 22.5	+0.3
ROCH	**El Roble**	**2.55**	**45**	*e*P		Pn	12 01 26.9	+0.1
ROCH				*e*S		Sn	12 01 58.5	+1.1
ROCH				AML		AML	12 02 12.1	
	comp=N,319nm,0.3s							
CLCH	**Cerro Calan**	**2.58**	**57**	*e*P		Pn	12 01 27.8	+0.7
CLCH				*e*S		Sn	12 01 59.1	+1.4
CLCH				AML		AML	12 02 18.9	
	comp=E,572nm,0.6s							
PEL	**Peldehue**	**2.63**	**51**	*e*P		Pn	12 01 28.7	+1.0
PEL				*e*S		Sn	12 02 00.0	+1.0
PEL				AML		AML	12 02 16.2	
	comp=N,780nm,0.5s							

IDC 04 12:02:10.4±1.2, 55.46S×27.02W, h0km, mb3.8/2, mb1 3.9/2, mb1mx3.6/14, mbtmp3.8/2, Error ellipse: s-maj=90.9km s-min=32.6km az=103.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
VNDA	**Vanda**	**47.17**	**183**	P		P	12 10 43.8	-0.1
	0.6nm,0.6s,baz=189,slow=6.8,SNR=7.9							
TORD	**Torodi Ar. Bea**	**72.49**	**29**	P		P	12 13 38.7	0.0
	0.8nm,0.6s,baz=199,slow=6.8,SNR=10.0							
ILAR	**Eielson Array**	**149.79**	**312**	PKPbc		PKPbc	12 22 00.2	-0.5
	0.4nm,0.7s,baz=130,slow=2.2,SNR=7.7							
SONM	**Songino Array**	**150.59**	**85**	PKPbc		PKPbc	12 22 03.0	-0.3
	0.4nm,0.4s,baz=253,slow=2.1,SNR=6.1							

*VIE **04** 12:10:46.9±0.5, 44.23N×11.78E, h8km±12km, mb2.5/3, ML2.7/6, Error ellipse: s-maj=14.6km s-min=2.4km az=4.0*
46 km SE of Bologna
*GEN **04** 12:10:46.2, 44.15N×11.66E, h2km, ML2.4*
*LDG **04** 12:10:46.7±0.1, 44.26N×11.53E, h25km, Ml2.8/9, Error ellipse: s-maj=1.6km s-min=1.2km az=40.0*
*ISCJB **04** 12:10:47.9±0.2, 44.19N±0.02×11.57E±0.03, h31km±2km, Error ellipse: s-maj=3.4km s-min=3.1km az=157.6*
*ROM **04** 12:10:48.2±0.2, 44.14N×11.50E, h27km±2km, Md2.5/21, Ml2.4/10, Error ellipse: s-maj=3.3km s-min=1.7km az=59.0*
*CSEM **04** 12:10:48.2±0.1, 44.17N×11.56E, h27km±1km, MD2.5, Error ellipse: s-maj=2.8km s-min=2.6km az=35.0*
*PRU **04** 12:10:49.1, 44.22N×11.45E, h20km*
ISC 04 12:10:48.0±0.9, 44.17N±0.02×11.53E±0.02, h26km±5km, n127, σ0s96/147, 3C-11D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SEI	**Scarperia**	**0.17**	**229**	Pg		**Pb**	**12 10 53.2**	**-0.2**
SEI				Sg		**Sb**	**12 10 57.9**	**+0.8**
SEI	**Scarperia**	**0.17**	**229**	Pg		**Pb**	**12 10 53.2**	**-0.2**
SEI				Sg		**Sb**	**12 10 57.9**	**+0.8**
VMG	**Vicchio**	**0.20**	**178**	Pg		**Pb**	**12 10 53.8**	**0.0**
VMG				Sg		**Sb**	**12 10 58.4**	**+0.7**
	372nm,0.4s							
MTRZ	**Monterenzio**	**0.22**	**347**	*i* Pg		**Pb**	**12 10 53.1**	**-0.9**
MTRZ				Sg		**Sb**	**12 10 58.2**	**+0.1**
MTRZ	**Monterenzio**	**0.22**	**347**	*i* Pg		**Pb**	**12 10 53.1**	**-0.9**
MTRZ				Sg		**Sb**	**12 10 58.2**	**+0.1**
FAEN	**Faenza**	**0.28**	**63**	Pg		**Pb**	**12 10 54.9**	**+0.2**
FAEN				Sg		**Sb**	**12 11 01.6**	**+2.3**
FAEN	**Faenza**	**0.28**	**63**	Pg		**Pb**	**12 10 54.9**	**+0.2**
FAEN				Sg		**Sb**	**12 11 01.6**	**+2.3**
SFI	**Santa Sofia**	**0.34**	**139**	Pg		**Pb**	**12 10 55.7**	**-0.1**
SFI				Sg		**Sb**	**12 11 02.3**	**+1.2**
	1μm,1.1s							
SFI	**Santa Sofia**	**0.34**	**139**	Pg		**Pb**	**12 10 55.7**	**-0.1**
SFI				Sg		**Sb**	**12 11 02.3**	**+1.2**
	1μm,1.1s							
ZCCA	**Zocca**	**0.44**	**295**	Pg		**Pb**	**12 10 57.8**	**+0.5**
	591nm,1.8s							
ZCCA	**Zocca**	**0.44**	**295**	Pg		**Pb**	**12 10 57.8**	**+0.5**
	591nm,1.8s							
CMPO	**Campotto Po**	**0.46**	**25**	Pg		**Pn**	**12 10 58.3**	**-0.6**
CMPO	**Campotto Po**	**0.46**	**25**	Pg		**Pn**	**12 10 58.3**	**-0.6**
FIU	**Minerbio Fiu**	**0.48**	**356**	Pg		**Pn**	**12 10 59.3**	**+0.2**
FIU				Sg		**Sn**	**12 11 07.1**	**+0.4**
	628nm,0.3s							
FIU	**Minerbio Fiu**	**0.48**	**356**	Pg		**Pn**	**12 10 59.3**	**+0.2**
POPM	**Popiglio**	**0.57**	**258**	P		**Pb**	**12 10 59.1**	**-0.3**
CRE	**Caprese Michel**	**0.62**	**151**	Pg		**Pb**	**12 11 00.7**	**+0.3**
	78nm,0.3s							
CRE	**Caprese Michel**	**0.62**	**151**	Pg		**Pb**	**12 11 00.7**	**+0.3**
	78nm,0.3s							
CSNT	**Castellina Chi**	**0.71**	**194**	Pg		**Pb**	**12 11 01.9**	**+0.1**
CSNT	**Castellina Chi**	**0.71**	**194**	Pg		**Pb**	**12 11 01.9**	**+0.1**
PARC	**Parchiule**	**0.73**	**135**	Pg		**Pb**	**12 11 02.1**	**+0.1**
	84nm,0.5s							
PARC	**Parchiule**	**0.73**	**135**	Pg		**Pb**	**12 11 02.1**	**+0.1**
	84nm,0.5s							
MAIM	**Mastiano**	**0.79**	**252**	S		**Sb**	**12 11 13.9**	**+0.5**
BADI	**Badiali**	**0.83**	**142**	Pg		**Pb**	**12 11 04.2**	**+0.4**
	115nm,0.6s							
BADI	**Badiali**	**0.83**	**142**	Pg		**Pb**	**12 11 04.2**	**+0.4**
	115nm,0.6s							
NOVE	**Novellara**	**0.86**	**318**	Pg		**Pn**	**12 11 06.2**	**+1.8**
NOVE	**Novellara**	**0.86**	**318**	Pg		**Pn**	**12 11 06.2**	**+1.8**
CAFI	**Castiglion Fio**	**0.89**	**159**	Pg		**Pn**	**12 11 05.3**	**+0.4**
CAFI	**Castiglion Fio**	**0.89**	**159**	Pg		**Pn**	**12 11 05.3**	**+0.4**
VALM	**Valbona**	**0.94**	**282**	P		**Pn**	**12 11 05.8**	**+0.2**
VALM				S		**Sn**	**12 11 19.0**	**+0.7**
ATPI	**Pietralunga -**	**0.95**	**138**	Pg		**Pn**	**12 11 06.5**	**+0.8**
	107nm,0.8s							
ATPI	**Pietralunga -**	**0.95**	**138**	Pg		**Pn**	**12 11 06.5**	**+0.8**
	107nm,0.8s							
ATPC	**Poggio Castell**	**0.96**	**135**	Pg		**Pn**	**12 11 06.2**	**+0.4**
	228nm,1.1s							
ATPC	**Poggio Castell**	**0.96**	**135**	Pg		**Pn**	**12 11 06.2**	**+0.4**
	228nm,1.1s							
PIEI	**Pieia**	**0.96**	**131**	Pg		**Pn**	**12 11 06.0**	**+0.1**
	38nm,0.4s							
PIEI	**Pieia**	**0.96**	**131**	Pg		**Pn**	**12 11 06.0**	**+0.1**
	38nm,0.4s							
ATVO	**AVT- Monte Val**	**1.01**	**141**	Pg		**Pn**	**12 11 07.2**	**+0.7**
	121nm,0.8s							
ATVO	**AVT- Monte Val**	**1.01**	**141**	Pg		**Pn**	**12 11 07.2**	**+0.7**
	121nm,0.8s							
FSSB	**Fossombrone**	**1.02**	**117**	Pg		**Pb**	**12 11 08.4**	**+1.5**
	22nm,0.3s							
FSSB	**Fossombrone**	**1.02**	**117**	Pg		**Pb**	**12 11 08.4**	**+1.5**
	22nm,0.3s							
GRFL	**Gerfalco**	**1.09**	**202**	Pg		**Pn**	**12 11 07.6**	**-0.1**
	8.0nm,0.5s							
GRFL	**Gerfalco**	**1.09**	**202**	Pg		**Pn**	**12 11 07.6**	**-0.1**
	8.0nm,0.5s							
CODM	**Codolo**	**1.23**	**281**	P		**Pb**	**12 11 10.8**	**+0.2**
CODM				S		**Sb**	**12 11 27.2**	**+1.2**
MGAB	**Montegabbione**	**1.32**	**161**	Pg		**Pn**	**12 11 10.9**	**+0.1**
MGAB	**Montegabbione**	**1.32**	**161**	Pg		**Pn**	**12 11 10.9**	**+0.1**
SC2M	**Scurtabo**	**1.46**	**280**	P		**Pn**	**12 11 13.9**	**+1.2**
SC2M				S		**Sb**	**12 11 32.7**	**+0.2**
ROVR	**Rover¯¤ Verone**	**1.52**	**348**	Pg		**Pb**	**12 11 15.3**	**-0.2**
ROVR	**Rover¯¤ Verone**	**1.52**	**348**	Pg		**Pb**	**12 11 15.3**	**-0.2**
CGRP	**Cima Grappa**	**1.73**	**6**	*e*Pg		**Pn**	**12 11 15.7**	**-0.8**
CGRP	**Cima Grappa**	**1.73**	**6**	*e*Pg		**Pn**	**12 11 15.7**	**-0.8**
MAGA	**Magasa**	**1.73**	**339**	Pg		**Pn**	**12 11 16.0**	**-0.6**
MAGA	**Magasa**	**1.73**	**339**	Pg		**Pn**	**12 11 16.0**	**-0.6**
RNI	**Roncone**	**1.92**	**341**	*e*Pg		**Pn**	**12 11 19.6**	**+0.3**
RNI	**Roncone**	**1.92**	**341**	*e*Pg		**Pn**	**12 11 19.5**	**+0.3**
POLC	**Polcenigo**	**1.98**	**20**	*e*Pg		**Pn**	**12 11 19.1**	**-0.8**
POLC	**Polcenigo**	**1.98**	**20**	*e*Pg		**Pn**	**12 11 19.1**	**-0.8**
MLNI	**MalnIsio**	**2.13**	**21**	*e*Pn		**Pn**	**12 11 20.9**	**-1.0**
MLNI				*e*Sn		**Sn**	**12 11 46.5**	**-1.1**
MLNI	**MalnIsio**	**2.13**	**21**	*e*Pn		**Pn**	**12 11 20.9**	**-1.0**
MLNI				*e*Sn		**Sn**	**12 11 46.5**	**-1.1**
SKDS	**Skadanscina**	**2.24**	**51**	*i* Pn		**Pn**	**12 11 21.9**	**-1.6**
SKDS				*i* Sn		**Sn**	**12 11 49.8**	**-0.5**
SKDS	**Skadanscina**	**2.24**	**51**	*i* Pn		**Pn**	**12 11 21.9**	**-1.6**
SKDS				*i* Sn		**Sn**	**12 11 49.8**	**-0.5**
KOSI	**Kohlern**	**2.30**	**357**	*e*Pn		**Pn**	**12 11 24.4**	**0.0**
APPI	**Appiano**	**2.32**	**355**	Pg		**Pn**	**12 11 24.6**	**-0.1**
APPI	**Appiano**	**2.32**	**355**	Pg		**Pn**	**12 11 24.6**	**-0.1**
SABO	**M.te Sabotino**	**2.33**	**38**	*e*Pn		**Pn**	**12 11 23.7**	**-1.0**
SABO	**M.te Sabotino**	**2.33**	**38**	*e*Pn		**Pn**	**12 11 23.7**	**-1.0**
NVLJ	**Novalja**	**2.43**	**79**	*e*Pn		**Pn**	**12 11 26.4**	**+0.4**
NVLJ				Sn		**Sn**	**12 11 53.4**	**-1.4**
NVLJ	**Novalja**	**2.43**	**79**	*e*Pn		**Pn**	**12 11 26.3**	**+0.4**
NVLJ				Sn		**Sn**	**12 11 53.4**	**-1.4**
VINO	**Villanova**	**2.43**	**30**	*e*Pn		**Pn**	**12 11 24.6**	**-1.4**
VINO	**Villanova**	**2.43**	**30**	*e*Pn		**Pn**	**12 11 24.6**	**-1.4**
PGF	**Pioggiola**	**2.45**	**230**	*e*Pn		**Pn**	**12 11 25.1**	**-1.4**
PGF				*e*Sn		**Sn**	**12 11 52.0**	**-3.7**
	3.6nm,0.3s							
PGF	**Pioggiola**	**2.45**	**230**	*e*Pn		**Pn**	**12 11 25.1**	**-1.4**
PGF				*e*Sn		**Sn**	**12 11 52.0**	**-3.7**
	1.8nm,0.3s							
JAVS	**Javornik**	**2.49**	**45**	*i* Pn		**Pn**	**12 11 25.5**	**-1.5**
JAVS				*i* Sn		**Sn**	**12 11 55.6**	**-1.0**
DRE	**Drenchia**	**2.50**	**36**	*e*Pn		**Pn**	**12 11 26.1**	**-1.0**
DRE				*e*Sn		**Sn**	**12 11 56.1**	**-0.7**
DRE	**Drenchia**	**2.50**	**36**	*e*Pn		**Pn**	**12 11 26.1**	**-1.0**
DRE				*e*Sn		**Sn**	**12 11 56.1**	**-0.7**
MOSI	**Grossmontoni**	**2.55**	**345**	*e*Pn		**Pn**	**12 11 28.8**	**+1.0**
ZOU	**Zoufplan**	**2.60**	**22**	*e*Pn		**Pn**	**12 11 27.9**	**-0.6**
ZOU				*e*Sn		**Sn**	**12 11 58.6**	**-0.8**
GBRS	**Gornja Briga**	**2.70**	**58**	*i* Sn		**Sn**	**12 12 01.7**	**0.0**
ACOM	**Acomizza, Ital**	**2.76**	**30**	*e*Pn		**Pn**	**12 11 29.8**	**-1.0**
ACOM	**Acomizza, Ital**	**2.76**	**30**	*e*Pn		**Pn**	**12 11 29.8**	**-1.0**
ROSI	**Rosskopf**	**2.77**	**358**	*e*Pn		**Pn**	**

LPL					*e*Sn		Sn	12 12 19.4	-6.5
	3.4nm,0.3s									
LPL	**La Plagne**	**3.67**	**293**	*e*P			**Pn**	**12 11 43.3**	**0.0**
LMR	**La Mourre**	**3.73**	**259**	*e*Pn			Pn	12 11 41.1	-2.8
LMR	**La Mourre**	**3.73**	**259**	*e*P			**Pn**	**12 11 44.6**	**+0.7**
LMR	**La Mourre**	**3.73**	**259**	*e*Pn			Pn	12 11 41.1	-2.8
LMR	**La Mourre**	**3.73**	**259**	*e*P			**Pn**	**12 11 44.6**	**+0.7**
CABF	**La Chapelle**	**4.55**	**304**	*e*Pn			Pn	12 11 51.5	-3.7
CABF	**La Chapelle**	**4.55**	**304**	*e*P			**Pn**	**12 11 55.2**	**0.0**
CABF	**La Chapelle**	**4.55**	**304**	*e*Pn			Pn	12 11 51.5	-3.7
CABF	**La Chapelle**	**4.55**	**304**	*e*P			**Pn**	**12 11 55.2**	**0.0**
STON	**Ston**	**4.67**	**104**	*e*Pn			**Pn**	**12 11 58.5**	**+1.7**
STON					Sn		**Sn**	**12 12 48.5**	**-1.6**
HINF	**Hinteralfeld**	**4.90**	**320**	*e*P			**Pn**	**12 11 59.8**	**-0.1**
HINF					*e*Sn		Sn	12 12 47.5	-8.3
	6.6nm,0.3s									
HINF	**Hinteralfeld**	**4.90**	**320**	*e*P			**Pn**	**12 11 59.8**	**-0.1**
VIVF	**Saint-Julien-l**	**4.96**	**280**	*e*P			**Pn**	**12 12 01.9**	**+1.1**
VIVF	**Saint-Julien-l**	**4.96**	**280**	*e*P			**Pn**	**12 12 01.9**	**+1.1**
KHC	**Kasperske Hory**	**5.16**	**15**	*e*SN			**Sn**	**12 12 59.5**	**-2.8**
KHC					*ex*		x	12 13 24.5		
CDF	**Champ du Feu**	**5.17**	**327**	*e*P			**Pn**	**12 12 03.4**	**-0.4**
CDF					*e*Sn		Sn	12 12 54.1	-8.5
	4.8nm,0.4s									
CDF	**Champ du Feu**	**5.17**	**327**	*e*P			**Pn**	**12 12 03.4**	**-0.4**
HAU	**Haudompre**	**5.27**	**319**	*e*P			**Pn**	**12 12 05.0**	**0.0**
HAU					*e*Sn		Sn	12 12 56.7	-8.2
	13nm,0.3s									
HAU	**Haudompre**	**5.27**	**319**	*e*P			**Pn**	**12 12 05.0**	**0.0**
LOR	**Lormes**	**6.20**	**303**	*e*P			**Pn**	**12 12 18.3**	**+0.4**
	baz=124									
LOR	**Lormes**	**6.20**	**303**	*e*P			**Pn**	**12 12 18.3**	**+0.4**
	baz=124									
CAF	**Calviac**	**6.81**	**280**	*e*Pn			Pn	12 12 22.4	-3.8
CAF	**Calviac**	**6.81**	**280**	*e*P			**Pn**	**12 12 27.5**	**+1.3**

IDC 04 12:20:59.3±6.6, 16°59S×174°71W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/28, mbtmp3.7/4, Error ellipse: s-maj=263.5km s-min=32.2km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**48.36**	**258**	P	P	12 29 42.6	-0.7
	0.3nm,0.7s,baz=90,slow=7.9,SNR=4.7						
ASAR	**Alice Springs**	**48.56**	**253**	P	P	12 29 45.1	+0.3
	1.5nm,0.7s,baz=88,slow=8.5,SNR=4.4						
SEY	**Seymchan**	**83.34**	**346**	P	P	12 33 28.1	+0.3
	0.4nm,0.4s,baz=194,slow=7.7,SNR=3.6						
ILAR	**Eielson Array**	**83.85**	**12**	P	P	12 33 30.2	-0.1
	0.3nm,0.4s,baz=227,slow=5.6,SNR=11						

IDC 04 12:25:10.4±4.2, 20°25S×178°67E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/25, mbtmp3.4/3, Error ellipse: s-maj=218.1km s-min=34.8km az=150.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**41.53**	**257**	P	P	12 32 58.5	-1.4
	0.1nm,0.5s,baz=94,slow=7.7,SNR=3.2						
WRA	**Warramunga Arr**	**41.54**	**262**	P	P	12 33 00.9	+0.9
	0.2nm,0.3s,baz=97,slow=8.4,SNR=8.0						
ILAR	**Eielson Array**	**88.80**	**14**	P	P	12 38 05.0	-0.8
	0.2nm,0.8s,baz=220,slow=6.8,SNR=5.3						
ARCES	**ARCESS Array B**	**128.08**	**348**	PKP	PKPdf	12 44 18.3	+0.5
	1.1nm,0.7s,baz=77,slow=1.5,SNR=9.8						

*IDC **04** 12:26:46.8±1.5, 44.16N×11.77E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.3/40, mbtmp3.5/4, ML3.6/2, MS2.6/1, Ms1 2.6/1, ms1mx2.0/34, Error ellipse: s-maj=40.8km s-min=14.6km az=106.0*

*VIE **04** 12:26:49.2±0.3, 44.19N×11.72E, h10km, mb3.0/10, ML3.3/12, Error ellipse: s-maj=3.0km s-min=1.7km az=162.0*

*LDG **04** 12:26:49.9±0.1, 44.27N×11.69E, h10km, Ml3.5/17, Error ellipse: s-maj=3.1km s-min=3.1km az=153.0*

*ROM **04** 12:26:50.9±0.1, 44.18N×11.54E, h30km±2km, Ml3.1/25, Error ellipse: s-maj=2.7km s-min=2.2km az=44.0*

*GEN **04** 12:26:50.0, 44.10N×11.57E, h2km, ML3.1*

*PRU **04** 12:26:51.3, 44.14N×11.67E, h29km*

*SZGRF **04** 12:26:51.7, 44.28N×11.49E, h10km, mb3.5, Northern Italy*

*CSEM **04** 12:26:51.0±0.1, 44.20N×11.57E, h26km±1km, ML3.4/17, Error ellipse: s-maj=2.4km s-min=2.1km az=175.0*

*STR **04** 12:27:05.1±0.4, 44.78N×10.01E, h5km, Ml3.0, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 04 12:26:50.8±0.8, 44.19N±0.02×11.55E±0.02, h26km±5km, n241, σ1833/362, 19C-21D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MTRZ	**Monterenzio**	**0.19**	**342**	⇓*i*Pg		**Pb**	**12 26 56.0**	**-0.6**
MTRZ				Sg		**Sb**	**12 27 01.2**	**+0.7**
	15µm,0.3s							
MTRZ	**Monterenzio**	**0.19**	**342**	⇓*i*Pg		**Pb**	**12 26 56.0**	**-0.6**
MTRZ				Sg		**Sb**	**12 27 01.2**	**+0.7**
	15µm,0.3s							
VMG	**Vicchio**	**0.23**	**181**	⇓*i*Pg		**Pb**	**12 26 56.7**	**-0.3**
VMG	**Vicchio**	**0.23**	**181**	⇓*i*Pg		**Pb**	**12 26 56.7**	**-0.3**
FAEN	**Faenza**	**0.26**	**67**	⇓*i*Pg		**Pb**	**12 26 57.7**	**+0.5**
FAEN				Sg		**Sn**	**12 27 04.4**	**+0.5**
FAEN	**Faenza**	**0.26**	**67**	⇓*i*Pg		**Pb**	**12 26 57.7**	**+0.5**
SFI	**Santa Sofia**	**0.36**	**143**	⇑*i*Pg		**Pb**	**12 26 58.6**	**-0.2**
SFI				Sg		**Sb**	**12 27 05.1**	**+0.9**
	5µm,0.9s							
SFI	**Santa Sofia**	**0.36**	**143**	⇑*i*Pg		**Pb**	**12 26 58.6**	**-0.2**
SFI				Sg		**Sb**	**12 27 05.1**	**+0.9**
	5µm,0.9s							
CMPO	**Campotto Po**	**0.43**	**25**	Pg		**Pn**	**12 27 01.3**	**+0.1**
	2µm,1.0s							
CMPO	**Campotto Po**	**0.43**	**25**	Pg		**Pn**	**12 27 01.3**	**+0.1**
	2µm,1.0s							
ZCCA	**Zocca**	**0.44**	**291**	Pg		**Pn**	**12 27 01.1**	**-0.3**
	692nm,0.7s							
ZCCA	**Zocca**	**0.44**	**291**	Pg		**Pn**	**12 27 01.1**	**-0.3**
	692nm,0.7s							
FIU	**Minerbio Fiu**	**0.45**	**355**	Pg		**Pn**	**12 27 01.6**	**+0.1**
	5µm,0.8s							
FIU	**Minerbio Fiu**	**0.45**	**355**	Pg		**Pn**	**12 27 01.6**	**+0.1**
	5µm,0.8s							
CRMI	**Carmignano**	**0.58**	**226**	⇓*i*Pg		**Pb**	**12 27 02.3**	**-0.1**
CRMI				Sg		**Sb**	**12 27 11.1**	**+0.8**
CRMI	**Carmignano**	**0.58**	**226**	⇓*i*Pg		**Pb**	**12 27 02.3**	**-0.1**
CRMI				Sg		**Sb**	**12 27 11.1**	**+0.8**
POPM	**Popiglio**	**0.59**	**256**	P		**Pb**	**12 27 01.6**	**-0.9**
POPM				S		**Sb**	**12 27 09.2**	**-1.3**
CRE	**Caprese Michel**	**0.64**	**153**	Pg		**Pb**	**12 27 03.5**	**0.0**
CRE				Sg		**Sn**	**12 27 13.5**	**-0.1**
	389nm,0.4s							
CRE	**Caprese Michel**	**0.64**	**153**	Pg		**Pb**	**12 27 03.5**	**0.0**
CRE				Sg		**Sn**	**12 27 13.5**	**-0.1**
	389nm,0.4s							
RSM	**Repubblica di**	**0.70**	**112**	Pg		**Pn**	**12 27 05.3**	**+0.3**
	644nm,0.6s							
RSM	**Repubblica di**	**0.70**	**112**	Pg		**Pn**	**12 27 05.3**	**+0.3**
	644nm,0.6s							
PARC	**Parchiule**	**0.74**	**137**	Pg		**Pb**	**12 27 04.9**	**-0.1**
PARC				Sg		**Sn**	**12 27 16.4**	**+0.6**
	847nm,1.1s							
PARC	**Parchiule**	**0.74**	**137**	Pg		**Pb**	**12 27 04.9**	**-0.1**
PARC				Sg		**Sn**	**12 27 16.4**	**+0.6**
	847nm,1.1s							
CSNT	**Castellina Chi**	**0.74**	**195**	⇓*i*Pg		**Pb**	**12 27 04.9**	**-0.2**
CSNT				Sg		**Sn**	**12 27 16.7**	**+0.7**
	727nm,0.7s							
CSNT	**Castellina Chi**	**0.74**	**195**	⇓*i*Pg		**Pb**	**12 27 04.9**	**-0.2**
CSNT				Sg		**Sn**	**12 27 16.7**	**+0.7**
	727nm,0.7s							
MAIM	**Mastiano**	**0.81**	**250**	P		**Pb**	**12 27 05.0**	**-1.2**
MAIM				S		**Sb**	**12 27 15.4**	**-1.4**
VLC	**Villacollemand**	**0.84**	**268**	Pg		**Pn**	**12 27 07.3**	**+0.4**
	383nm,0.7s							
VLC	**Villacollemand**	**0.84**	**268**	Pg		**Pn**	**12 27 07.3**	**+0.4**
	383nm,0.7s							
BADI	**Badiali**	**0.85**	**143**	Pg		**Pb**	**12 27 06.9**	**0.0**
	845nm,0.9s							
BADI	**Badiali**	**0.85**	**143**	Pg		**Pb**	**12 27 06.9**	**0.0**
	845nm,0.9s							
ERBM	**Eremo**	**0.85**	**286**	Pg		**Pn**	**12 27 08.3**	**+1.3**
	1µm,1.7s							
ERBM	**Eremo**	**0.85**	**286**	Pg		**Pn**	**12 27 08.3**	**+1.3**
	1µm,1.7s							
CAFI	**Castiglion Fio**	**0.91**	**161**	⇓*i*Pg		**Pn**	**12 27 08.1**	**+0.2**
CAFI	**Castiglion Fio**	**0.91**	**161**	⇓*i*Pg		**Pn**	**12 27 08.1**	**+0.2**
VALM	**Valbona**	**0.95**	**280**	P		**Pb**	**12 27 08.8**	**+0.2**
VALM				S		**Sn**	**12 27 21.0**	**-0.1**
PESA	**Pesaro**	**0.96**	**105**	Pg		**Pb**	**12 27 09.5**	**+0.7**
	449nm,0.5s							
PESA	**Pesaro**	**0.96**	**105**	Pg		**Pb**	**12 27 09.5**	**+0.7**
	449nm,0.5s							
ATPI	**Pietralunga -**	**0.96**	**140**	Pg		**Pb**	**12 27 09.2**	**+0.3**
	462nm,0.8s							
ATPI	**Pietralunga -**	**0.96**	**140**	Pg		**Pb**	**12 27 09.2**	**+0.3**
	462nm,0.8s							
ATPC	**Poggio Castell**	**0.97**	**137**	Pg		**Pn**	**12 27 08.9**	**+0.2**
	1µm,1.1s							
ATPC	**Poggio Castell**	**0.97**	**137**	Pg		**Pn**	**12 27 08.9**	**+0.2**
	1µm,1.1s							
PIEI	**Pieia**	**0.97**	**132**	Pg		**Pn**	**12 27 08.7**	**0.0**
	203nm,0.5s							
PIEI	**Pieia**	**0.97**	**132**	Pg		**Pn**	**12 27 08.7**	**0.0**
	203nm,0.5s							
SBPO	**S.Benedetto Po**	**0.97**	**333**	Pg		**Pb**	**12 27 10.3**	**+1.4**
	1µm,0.5s							
SBPO	**S.Benedetto Po**	**0.97**	**333**	Pg		**Pb**	**12 27 10.3**	**+1.4**
	1µm,0.5s							
FSSB	**Fossombrone**	**1.02**	**119**	Pg		**Pb**	**12 27 10.1**	**+0.4**
	119nm,0.4s							
FSSB	**Fossombrone**	**1.02**	**119**	Pg		**Pb**	**12 27 10.1**	**+0.4**
	119nm,0.4s							
ATVO	**AVT- Monte Val**	**1.02**	**142**	Pg		**Pb**	**12 27 10.2**	**+0.4**
	623nm,0.8s							
ATVO	**AVT- Monte Val**	**1.02**	**142**	Pg		**Pb**	**12 27 10.2**	**+0.4**
	623nm,0.8s							
ATFO	**Monte Foce - G**	**1.11**	**138**	Pg		**Pb**	**12 27 11.8**	**+0.5**
	403nm,0.6s							
ATFO	**Monte Foce - G**	**1.11**	**138**	Pg		**Pb**	**12 27 11.8**	**+0.5**
	403nm,0.6s							
GRFL	**Gerfalco**	**1.12**	**202**	Pg		**Pn**	**12 27 09.8**	**-1.0**
	80nm,0.7s							
GRFL	**Gerfalco**	**1.12**	**202**	Pg		**Pn**	**12 27 09.8**	**-1.0**
	80nm,0.7s							
MURB	**Monte Urbino**	**1.17**	**142**	Pg		**Pb**	**12 27 12.5**	**+0.2**
	611nm,0.3s							
MURB	**Monte Urbino**	**1.17**	**142**	Pg		**Pb**	**12 27 12.5**	**+0.2**
	611nm,0.3s							
ARVD	**Arcevia**	**1.22**	**124**	Pg		**Pb**	**12 27 13.5**	**+0.3**
	488nm,1.3s							
ARVD	**Arcevia**	**1.22**	**124**	Pg		**Pb**	**12 27 13.5**	**+0.3**
	488nm,1.3s							
CODM	**Codolo**	**1.24**	**280**	P		**Pb**	**12 27 14.1**	**+0.6**
CODM				S		**Sb**	**12 27 29.8**	**+0.8**
MGAB	**Montegabbione**	**1.34**	**162**	Pg		**Pn**	**12 27 13.9**	**+0.1**
	379nm,0.6s							
MGAB	**Montegabbione**	**1.34**	**162**	Pg		**Pn**	**12 27 13.9**	**+0.1**
	379nm,0.6s							
SC2M	**Scurtabo**	**1.46**	**279**	P		**Pb**	**12 27 17.5**	**+0.2**
SC2M				S		**Sb**	**12 27 35.4**	**-0.1**
MARN	**Marana (Italy)**	**1.47**	**351**	*e*Pg		**Pb**	**12 27 17.9**	**+0.5**
MARN				Sg		**Sb**	**12 27 34.9**	**-0.7**
MARN	**Marana (Italy)**	**1.47**	**351**	*e*Pg		**Pb**	**12 27 17.9**	**+0.5**
MARN				Sg		**Sb**	**12 27 34.9**	**-0.7**
CESI	**CESI - Serrava**	**1.54**	**140**	Pg		**Pb**	**12 27 17.9**	**-0.8**
	52nm,0.6s							
CESI	**CESI - Serrava**	**1.54**	**140**	Pg		**Pb**	**12 27 17.9**	**-0.8**
	52nm,0.6s							
BALD	**Monte Baldo**	**1.58**	**341**	*e*Pg		**Pn**	**12 27 17.1**	**-0.1**
BALD				*e*Sg		**Sn**	**12 27 37.9**	**+1.0**
BALD	**Monte Baldo**	**1.58**	**341**	*e*Pg		**Pn**	**12 27 17.1**	**-0.1**
BALD				*e*Sg		**Sn**	**12 27 37.9**	**+1.0**
CGRP	**Cima Grappa**	**1.70**	**6**	*e*Pg		**Pn**	**12 27 18.6**	**-0.2**
CGRP	**Cima Grappa**	**1.70**	**6**	Pg		**Pn**	**12 27 18.3**	**-0.5**
	318nm,0.5s							
CGRP	**Cima Grappa**	**1.70**	**6**	*e*Pg		**Pn**	**12 27 18.6**	**-0.2**
DDS	**Dosso del Somm**	**1.71**	**352**	*e*Pg		**Pn**	**12 27 18.6**	**-0.3**
DDS				*e*Sg		**Sb**	**12 27 41.7**	**-1.0**
DDS	**Dosso del Somm**	**1.71**	**352**	*e*Pg		**Pn**	**12 27 18.6**	**-0.4**
DDS				*e*Sg		**Sb**	**12 27 41.7**	**-1.0**
MAGA	**Magasa**	**1.71**	**338**	Pg		**Pn**	**12 27 18.9**	**-0.1**
MAGA	**Magasa**	**1.71**	**338**	Pg		**Pn**	**12 27 18.9**	**-0.1**
RNI	**Roncone**	**1.90**	**341**	*e*Pn		**Pn**	**12 27 21.8**	**+0.2**
RNI	**Roncone**	**1.90**	**341**	*e*Pn		**Pn**	**12 27 21.8**	**+0.2**
CAE	**Caneva**	**1.92**	**19**	*e*Pg		**Pn**	**12 27 21.2**	**-0.6**
CAE	**Caneva**	**1.92**	**19**	*e*Pg		**Pn**	**12 27 21.2**	**-0.6**
LNSS	**Leonessa**	**1.93**	**145**	Pg		**Pn**	**12 27 22.7**	**+0.8**
	262nm,0.8s							
LNSS	**Leonessa**	**1.93**	**145**	Pg		**Pn**	**12 27 22.7**	**+0.8**
	262nm,0.8s							
TLI	**Talmassons**	**2.05**	**32**	⇑*i*Pn		**Pn**	**12 27 22.9**	**-0.6**
TLI	**Talmassons**	**2.05**	**32**	⇑*i*Pn		**Pn**	**12 27 22.9**	**-0.6**
MLNI	**Malnisio**	**2.10**	**21**	⇓*e*Pn		**Pn**	**12 27 23.6**	**-0.6**
MLNI				*e*Sn		**Sn**	**12 27 49.4**	**-0.1**
MLNI	**Malnisio**	**2.10**	**21**	⇓*e*Pn		**Pn**	**12 27 23.6**	**-0.6**
MLNI				*e*Sn		**Sn**	**12 27 49.4**	**-0.1**
CSO	**Casso**	**2.15**	**14**	*e*Pn		**Pn**	**12 27 24.3**	**-0.7**
CSO	**Casso**	**2.15**	**14**	*e*Pn		**Pn**	**12 27 24.3**	**-0.7**
PCP	**Piancastagn**	**2.18**	**280**	P		**Pn**	**12 27 52.2**	**+0.8**
PCP				S		**Sn**	**12 27 52.1**	**+0.5**
TRI	**Trieste**	**2.19**	**45**	*e*Pn		**Pn**	**12 27 24.4**	**-1.0**
TRI				*e*Sn		**Sn**	**12 27 50.7**	**-0.8**
TRI	**Trieste**	**2.19**	**45**	Pg		**Pn**	**12 27 24.1**	**-1.2**
TRI	**Trieste**	**2.19**	**45**	Pg		**Pn**	**12 27 24.1**	**-1.2**
TRI	**Trieste**	**2.19**	**45**	*e*Pn		**Pn**	**12 27 24.4**	**-1.0**
TRI				*e*Sn		**Sn**	**12 27 50.7**	**-0.8**
CIMO	**Cimolais**	**2.21**	**16**	*e*Pn		**Pn**	**12 27 25.0**	**-0.7**
CIMO	**Cimolais**	**2.21**	**16**	*e*Pn		**Pn**	**12 27 25.0**	**-0.7**
SKDS	**Skadanscina**	**2.21**	**51**	*i* Pn		**Pn**	**12 27 24.7**	**-1.1**
SKDS				*i* Sn		**Sn**	**12 27 52.1**	**-0.2**
	comp=Z,35nm,0.2s							
SKDS	**Skadanscina**	**2.21**	**51**	Pn		**Pn**	**12 27 24.7**	**-1.1**
SKDS				*i* Sn		**Sn**	**12 27 52.1**	**-0.2**
	comp=Z,35nm,0.2s							
KOSI	**Kohlern**	**2.27**	**357**	*e*Pn		**Pn**	**12 27 27.1**	**+0.4**
MPRI	**Monte Prat**	**2.29**	**26**	*e*Pn		**Pn**	**12 27 26.5**	**-0.3**
MPRI	**Monte Prat**	**2.29**	**26**	*e*Pn		**Pn**	**12 27 26.5**	**-0.3**
SABO	**M.te Sabotino**	**2.30**	**38**	*e*Pn		**Pn**	**12 27 26.6**	**-0.4**
SABO	**M.te Sabotino**	**2.30**	**38**	Pg		**Pn**	**12 27 26.6**	**-0.4**
SABO	**M.te Sabotino**	**2.30**	**38**	Pg		**Pn**	**12 27 26.6**	**-0.4**
BUA	**Buia**	**2.31**	**28**	*e*Pn		**Pn**	**12 27 26.7**	**-0.4**
BUA				*e*Sn		**Sn**	**12 27 53.8**	**-0.9**
BUA	**Buia**	**2.31**	**28**	*e*Pn		**Pn**	**12 27 26.7**	**-0.4**
BUA				*e*Sn		**Sn**	**12 27 53.8**	**-0.9**
COLI	**Coloredo**	**2.33**	**33**	*e*Pn		**Pn**	**12 27 26.8**	**-0.6**
COLI				*e*Sn		**Sn**	**12 27 55.2**	**+0.1**
COLI	**Coloredo**	**2.33**	**33**	*e*Pn		**Pn**	**12 27 26.8**	**-0.6**
COLI				*e*Sn		**Sn**	**12 27 55.2**	**+0.1**
BAD	**Bernadia**	**2.37**	**30**	*e*Pn		**Pn**	**12 27 27.2**	**-0.7**
BAD				*e*Sn		**Sn**	**12 27 55.8**	**-0.3**
BAD	**Bernadia**	**2.37**	**30**	*e*Pn		**Pn**	**12 27 27.2**	**-0.7**
BAD				*e*Sn		**Sn**	**12 27 55.8**	**-0.3**
BOO	**Bordano**	**2.39**	**27**	*e*Pn		**Pn**	**12 27 27.6**	**-0.6**
BOO	**Bordano**	**2.39**	**27**	*e*Pn		**Pn**	**12 27 27.6**	**-0.6**
VINO	**Villanova**	**2.40**	**30**	*e*Pn		**Pn**	**12 27 27.6**	**-0.8**
VINO	**Villanova**	**2.40**	**30**	Pg		**Pn**	**12 27 27.6**	**-0.8**
VINO	**Villanova**	**2.40**	**30**	Pg		**Pn**	**12 27 27.6**	**-0.8**
NVLJ	**Novalja**	**2.41**	**80**	*e*Pn		**Pn**	**12 27 28.8**	**+0.3**
NVLJ				Sn		**Sn**	**12 27 57.1**	**0.0**
NVLJ	**Novalja**	**2.41**	**80**	*e*Pn		**Pn**	**12 27 28.7**	**+0.3**
NVLJ				Sn		**Sn**	**12 27 57.0**	**0.0**
CSMI	**Casera Mimoias**	**2.45**	**18**	*e*Pn		**Pn**	**12 27 29.0**	**-0.1**
CSMI				*e*Sn		**Sn**	**12 27 58.6**	**+0.4**
CSMI	**Casera Mimoias**	**2.45**	**18**	*e*Pn		**Pn**	**12 27 29.0**	**-0.1**
CSMI				*e*Sn		**Sn**	**12 27 58.6**	**+0.4**
FUSE	**Fusea**	**2.45**	**24**	*e*Pn		**Pn**	**12 27 29.1**	**+0.1**
FUSE	**Fusea**	**2.45**	**24**	*e*Pn		**Pn**	**12 27 29.1**	**+0.1**
JAVS	**Javornik**	**2.46**	**45**	*i* Pn		**Pn**	**12 27 28.3**	**-1.0**
JAVS				*i* Sn		**Sn**	**12 27 58.6**	**0.0**
JAVS	**Javornik**	**2.46**	**45**	*i* Pn		**Pn**	**12 27 28.3**	**-1.0**
JAVS				*i* Sn		**Sn**	**12 27 58.6**	**0.0**
DRE	**Drenchia**	**2.47**	**36**	⇓*e*Pn		**Pn**	**12 27 28.9**	**-0.5**
DRE				*e*Sn		**Sn**	**12 27 58.8**	**+0.1**
DRE	**Drenchia**	**2.47**	**36**	*e*Pn		**Pn**	**12 27 28.9**	**-0.5**
DRE				*e*Sn		**Sn**	**12 27 58.8**	**+0.1**
PGF	**Pioggiola**	**2.48**	**229**	*e*Pn		**Pn**	**12 27 29.2**	**-0.3**
	SNR=1.0							
PGF				*e*Sn		**Sn**	**12 27 58.7**	**-0.3**
	comp=Z,52nm,0.6s							
PGF	**Pioggiola**	**2.48**	**229**	*e*Pn		**Pn**	**12 27 29.2**	**-0.3**
	SNR=1.0							
PGF				*e*Sn		**Sn**	**12 27 58.7**	**-0.3**
	comp=Z,26nm,0.6s							
MOSI	**Grossmontoni**	**2.52**	**344**	*e*Pn		**Pn**	**12 27 31.1**	**+0.9**
ABSI	**Aberstueckl**	**2.54**	**356**	*e*Pn		**Pn**	**12 27 30.9**	**+0.5**
CADS	**Cadrg**	**2.56**	**36**	*i* Pn		**Pn**	**12 27 29.8**	**-0.7**
CADS				*i* Sn		**Sn**	**12 28 00.1**	**-0.6**
	comp=Z,25nm,0.2s							
CADS	**Cadrg**	**2.56**	**36**	*i* Pn		**Pn**	**12 27 29.8**	**-0.7**
CADS				*i* Sn		**Sn**	**12 28 00.1**	**-0.6**
	comp=Z,25nm,0.2s							
ZOU	**Zoufplan**	**2.57**	**22**	*e*Pn		**Pn**	**12 27 30.6**	**-0.2**
ABTA	**Abfaltersbach**	**2.64**	**15**	⇓*e*Pn		**Pn**	**12 27 32.2**	**+0.4**
	SNR=6.3							
ABTA				⇑*i*Sn		**Sn**	**12 28 04.5**	**+1.5**
ABTA	**Abfaltersbach**	**2.64**	**15**	Pn		**Pn**	**12 27 32.2**	**+0.4**
	SNR=6.3							
ABTA				Sn		**Sn**	**12 28 04.5**	**+1.5**
LSR	**Lussari**	**2.68**	**31**	*e*Pn		**Pn**	**12 27 31.7**	**-0.6**
LSR	**Lussari**	**2.68**	**31**	*e*Pn		**Pn**	**12 27 31.7**	**-0.6**
GBRS	**Gornja Briga**	**2.68**	**59**	*i* Pn		**Pn**	**12 27 31.9**	**-0.3**
GBRS				*i* Sn		**Sn**	**12 28 04.6**	**+0.9**
ACOM	**Acomizza, Ital**	**2.73**	**30**	*e*Pn		**Pn**	**12 27 32.3**	**-0.7**
ACOM	**Acomizza, Ital**	**2.73**	**30**	*e*Pn		**Pn**	**12 27 32.3**	**-0.7**
ROSI	**Rosskopf**	**2.74**	**358**	*e*Pn		**Pn**	**12 27 34.2**	**+1.1**
VISS	**Visnje**	**2.84**	**54**	*i* Pn		**Pn**	**12 27 34.0**	**-0.3**
VISS				*i* Sn		**Sn**	**12 28 07.7**	**+0.1**
	comp=Z,8.0nm,0.1s							
VISS	**Visnje**	**2.84**	**54**	*i* Pn		**Pn**	**12 27 34.0**	**-0.3**
VISS				*i* Sn		**Sn**	**12 28 07.7**	**+0.1**
	comp=Z,8.0nm,0.1s							
DAVOX	**Davos/Dischmat**	**2.84**	**336**	Pn		**Pn**	**12 27 36.2**	**+1.6**
	comp=Z,6.6nm,0.3s,baz=156,slow=12,SNR=12							
DAVOX				Sn		**Sn**	**12 28 11.3**	**+3.3**
	comp=Z,7.8nm,0.3s,baz=256,slow=8.8,SNR=7.4							
SAOF	**Saorge**	**2.88**	**267**	Pn		**Pn**	**12 27 36.8**	**+1.8**
SAOF				Sg		**Sn**	**12 28 08.5**	**-0.4**
SAOF	**Saorge**	**2.88**	**267**	Pn		**Pn**	**12 27 36.8**	**+1.8**
SAOF				Sg		**Sn**	**12 28 08.5**	**-0.4**
FETA	**Feichten**	**2.89**	**349**	⇓*e*Pn		**Pn**	**12 27 36.7**	**+1.5**
	SNR=8.3							
FETA				⇑*i*Sn		**Sn**	**12 28 11.2**	**+2.1**
FETA	**Feichten**	**2.89**	**349**	Pn		**Pn**	**12 27 36.7**	**+1.5**
	SNR=8.3							
FETA				Sn		**Sn**	**12 28 11.2**	**+2.1**
BOJS	**Bojanci**	**2.94**	**62**	*i* Pn		**Pn**	**12 27 36.2**	**+0.4**
BOJS				*i* Sn		**Sn**	**12 28 12.0**	**+1.8**
BOJS	**Bojanci**	**2.94**	**62**	*i* Pn		**Pn**	**12 27 36.2**	**+0.4**
BOJS				*i* Sn		**Sn**	**12 28 12.0**	**+1.8**
SBF	**Sospel**	**2.98**	**265**	*e*Pn		**Pn**	**12 27 36.7**	**+0.3**
	SNR=1.0							
SBF				*e*Sn		**Sn**	**12 28 12.3**	**+0.9**
	comp=Z,48nm,0.4s,SNR=1.0							
SBF

SLE					*e*Sn		**Sn**	**12 28 39.2**	**-1.1**
SLE	**Schleitheim**	**4.16**	**330**		*e*Pn		**Pn**	**12 27 52.8**	**+0.3**
SLE					*e*Sn		**Sn**	**12 28 39.2**	**-1.1**
SMRF	**Simiane la Rot**	**4.31**	**269**		*e*Sg		Sb	12 29 06.6	+9.3
	comp=Z,16nm,0.8s,SNR=1.0								
CABF	**La Chapelle**	**4.54**	**304**		*e*Pn		**Pn**	**12 27 58.3**	**+0.5**
	SNR=1.0								
CABF					*e*Sn		**Sn**	**12 28 48.0**	**-1.8**
	comp=Z,15nm,0.5s,SNR=1.0								
CABF	**La Chapelle**	**4.54**	**304**		*e*Pn		**Pn**	**12 27 58.3**	**+0.5**
	SNR=1.0								
CABF					*e*Sn		**Sn**	**12 28 48.0**	**-1.8**
	comp=Z,7.3nm,0.5s,SNR=1.0								
STON	**Ston**	**4.66**	**104**		*e*Pn		**Pn**	**12 27 58.7**	**-0.7**
STON						Sn	**Sn**	**12 28 51.7**	**-1.0**
STON	**Ston**	**4.66**	**104**		*e*Pn		**Pn**	**12 27 58.7**	**-0.7**
STON						Sn	**Sn**	**12 28 51.6**	**-1.0**
BFO	**Black Forest**	**4.70**	**333**		*e*Pn		**Pn**	**12 28 00.9**	**+0.9**
BFO					*e*Sn		**Sn**	**12 28 50.8**	**-2.8**
BFO	**Black Forest**	**4.70**	**333**		*e*Pn		**Pn**	**12 28 00.9**	**+0.9**
BFO					*e*Sn		**Sn**	**12 28 50.8**	**-2.8**
CONA	**Conrad Observa**	**4.79**	**37**	⇑	*i*Pn		**Pn**	**12 27 59.9**	**-1.4**
CONA	**Conrad Observa**	**4.79**	**37**		Pn		**Pn**	**12 27 59.9**	**-1.4**
HINF	**Hinteralfeld**	**4.88**	**320**		*e*Pn		**Pn**	**12 28 02.0**	**-0.5**
	SNR=1.0								
HINF					*e*Sn		**Sn**	**12 28 55.5**	**-2.6**
	comp=Z,56nm,0.4s,SNR=1.0								
HINF	**Hinteralfeld**	**4.88**	**320**		*e*Pn		**Pn**	**12 28 02.0**	**-0.5**
	SNR=1.0								
HINF					*e*Sn		**Sn**	**12 28 55.5**	**-2.6**
	comp=Z,28nm,0.4s,SNR=1.0								
GEC2	**GERESS Array S**	**4.89**	**17**		*e*Pn		**Pn**	**12 28 02.0**	**-0.6**
GEC2					*e*Pg		Pb	12 28 23.3	+7.7
GEC2					*e*Sn		**Sn**	**12 28 56.6**	**-1.7**
GEC2	**GERESS Array S**	**4.89**	**17**		*e*Pn		**Pn**	**12 28 02.0**	**-0.6**
GEC2					*e*Sn		**Sn**	**12 28 56.6**	**-1.7**
GERES	**GERESS Array B**	**4.89**	**17**		Pn		**Pn**	**12 28 01.9**	**-0.6**
	comp=Z,2.2nm,0.3s,baz=195,slow=14,SNR=28								
GERES					Pg		**Pb**	**12 28 16.3**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=199,slow=18,SNR=4.4								
GERES					Sn		**Sn**	**12 28 56.6**	**-1.7**
	comp=Z,2.7nm,0.3s,baz=196,slow=22,SNR=6.9								
GERES					LR		LR	12 30 29.1	
	comp=Z,63nm,18.1s,baz=295,slow=46								
VIVF	**Saint-Julien-l**	**4.96**	**280**		*e*Pn		**Pn**	**12 28 02.8**	**-0.7**
	SNR=1.0								
VIVF					*e*Sn		**Sn**	**12 28 58.0**	**-2.1**
	comp=Z,3.9nm,0.3s,SNR=1.0								
VIVF	**Saint-Julien-l**	**4.96**	**280**		*e*Pn		**Pn**	**12 28 02.8**	**-0.7**
	SNR=1.0								
VIVF					*e*Sn		**Sn**	**12 28 58.0**	**-2.1**
	comp=Z,2.0nm,0.3s,SNR=1.0								
WET	**Wettzell**	**5.04**	**10**		*e*Pn		**Pn**	**12 28 04.7**	**+0.1**
WET					*e*Sn		**Sn**	**12 28 59.2**	**-2.7**
WET	**Wettzell**	**5.04**	**10**		*e*Pn		**Pn**	**12 28 04.7**	**+0.1**
WET					*e*Sn		**Sn**	**12 28 59.2**	**-2.7**
KHC	**Kasperske Hory**	**5.13**	**15**		*e*PN		**Pn**	**12 28 05.0**	**-0.9**
KHC					*e*SN		**Sn**	**12 29 01.5**	**-2.8**
KHC					*e*SG		Sb	12 29 33.0	+12
KHC	**Kasperske Hory**	**5.13**	**15**		Pn		**Pn**	**12 28 05.0**	**-0.9**
CDF	**Champ du Feu**	**5.16**	**326**		*e*Pn		**Pn**	**12 28 05.9**	**-0.3**
	SNR=1.0								
CDF					*e*Sn		**Sn**	**12 29 00.5**	**-4.4**
	comp=Z,35nm,0.5s,SNR=1.0								
CDF	**Champ du Feu**	**5.16**	**326**		*e*Pn		**Pn**	**12 28 05.9**	**-0.3**
	SNR=1.0								
CDF					*e*Sn		**Sn**	**12 29 00.5**	**-4.4**
	comp=Z,18nm,0.5s,SNR=1.0								
HAU	**Haudompre**	**5.26**	**318**		*e*Pn		**Pn**	**12 28 06.0**	**-1.6**
	SNR=1.0								
HAU					*e*Sn		**Sn**	**12 29 03.0**	**-4.3**
	comp=Z,78nm,0.4s,SNR=1.0								
HAU	**Haudompre**	**5.26**	**318**		*e*Pn		**Pn**	**12 28 06.0**	**-1.6**
	SNR=1.0								
HAU					*e*Sn		**Sn**	**12 29 03.0**	**-4.3**
	comp=Z,39nm,0.4s,SNR=1.0								
SMF	**Signal de Mont**	**5.95**	**297**		*e*Pn		**Pn**	**12 28 16.3**	**-0.8**
	SNR=1.0								
SMF					*e*Sn		**Sn**	**12 29 22.1**	**-2.4**
	comp=Z,22nm,0.4s,SNR=1.0								
SMF	**Signal de Mont**	**5.95**	**297**		*e*Pn		**Pn**	**12 28 16.3**	**-0.8**
	SNR=1.0								
NKC	**Novy Kostel**	**6.08**	**5**		*e*SN		**Sn**	**12 29 24.6**	**-2.8**
NKC					*e*SG		Sb	12 30 05.5	+17
	comp=Z,4.7nm,0.4s								
GOPC	**GO Pecny, Ondr**	**6.14**	**20**		*e*SN		**Sn**	**12 29 25.6**	**-3.3**
GOPC					*ex*		x	12 29 39.1	
PRU	**Pruhonice**	**6.15**	**18**		*e*SN		**Sn**	**12 29 26.1**	**-3.1**
PRU					*ex*		x	12 29 40.1	
PRU					*e*SG		Sb	12 30 07.8	+18
	comp=Z,4.9nm,0.5s								
LOR	**Lormes**	**6.20**	**302**		*e*Pn		**Pn**	**12 28 20.3**	**-0.2**
	baz=124,SNR=1.0								
LOR					*e*Sn		**Sn**	**12 29 26.6**	**-3.9**
	comp=Z,48nm,0.4s,SNR=1.0								
LOR	**Lormes**	**6.20**	**302**		*e*Pn		**Pn**	**12 28 20.3**	**-0.2**
	SNR=1.0								
AVF	**Avril sur Loir**	**6.32**	**297**		*e*Sn		**Sn**	**12 29 30.5**	**-2.9**
	comp=Z,4.1nm,0.4s,SNR=1.0								
SSF	**Saint Saulge**	**6.33**	**300**		*e*Pn		**Pn**	**12 28 20.9**	**-1.4**
SSF					*e*Sn		**Sn**	**12 29 28.6**	**-5.0**
	comp=Z,22nm,0.4s,SNR=1.0								
SSF	**Saint Saulge**	**6.33**	**300**		*e*Pn		**Pn**	**12 28 20.9**	**-1.4**
CAF	**Calviac**	**6.82**	**279**		*e*Pn		**Pn**	**12 28 29.1**	**+0.1**
	SNR=1.0								
BRG	**Berggiesshubel**	**6.88**	**13**		*e*(P)		**Pn**	**12 28 30.1**	**+0.3**
	comp=Z,4.1nm,0.8s								
BRG	**Berggiesshubel**	**6.88**	**13**		SG		Sb	12 30 31.9	+21
	comp=Z,8.3nm,1.0s								
BZS	**Buzias**	**7.29**	**75**	⇑	*i*P		**Pb**	**12 28 57.8**	**+1.3**
GZR	**Gura Zlata**	**8.08**	**78**	⇑	*i*P		Pn	12 28 56.8	+10
DRGR		**8.26**	**68**	⇑	*i*P		**Pb**	**12 29 12.5**	**-0.6**
MLR	**Muntele Rosu**	**10.31**	**78**	⇑	*i*P		Pn	12 29 27.1	+10
TORD	**Torodi Ar. Bea**	**32.07**	**198**		P		**P**	**12 33 15.4**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=6.0,slow=9.6,SNR=3.5								
ILAR	**Eielson Array**	**70.07**	**350**		P		**P**	**12 38 00.2**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=16,slow=6.7,SNR=5.0								

*IDC **04** 12:59:05.0±2.0, 5°×24S×130°92E, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.5/26, mbtmp3.8/4, ML3.8/2, Error ellipse: s-maj=139.0km s-min=28.0km az=73.0*
*ISCJB **04** 12:59:23.7±0.6, 6°×16S±0°.04×130°.58E±0°.08, h124km, mb3.5/2, Error ellipse: s-maj=11.8km s-min=5.2km az=164.0*
*DJA **04** 12:59:31.2±1.1, 5°S±9°×13°1E±°, h168km±8km, M3.4/4, MLv3.4/4*

ISC 04 12:59:23.3±0.9, 6°14S±0°.05×130°.59E±0°.08, h124km, n14, σ2§36/17, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.74**	**337**	P	**Pn**	**12 59 55.9**	**+2.0**
BNDI				S	**Sn**	**13 00 19.9**	**+2.7**
MSAI	**Masohi**	**3.23**	**329**	P	**Pn**	**13 00 13.4**	**+0.6**
MSAI				S	**Sn**	**13 00 46.4**	**-4.6**
FAKI	**Fak Fak**	**3.60**	**27**	P	**Pn**	**13 00 18.6**	**+0.9**
FAKI				S	**Sn**	**13 00 56.2**	**-3.6**
FAKI	**Fak Fak**	**3.60**	**27**	P	**Pn**	**13 00 18.6**	**+0.9**
	baz=3.8,SNR=19						
FAKI				S	**Sn**	**13 00 59.2**	**-0.6**
	baz=3.8,SNR=38						
NLAI	**Namlea**	**4.51**	**310**	P	Pn	13 00 32.9	+3.1
KDU	**Kakadu**	**6.77**	**164**	P	Pn	13 01 03.5	+3.4
	baz=7.1,SNR=51						
KDU				S	**Sn**	**13 02 18.0**	**+2.1**
	baz=7.1,SNR=7.4						
KNRA	**Kununurra**	**9.65**	**191**	P	**Pn**	**13 01 40.1**	**+1.1**
	baz=9.8,SNR=8.3						
KNRA				S	**Sn**	**13 03 22.7**	**-2.9**
	baz=9.8,SNR=7.8						
WRA	**Warramunga Arr**	**14.20**	**165**	Pn	**Pn**	**13 02 39.5**	**+0.6**
	0.3nm,0.3s,baz=347,slow=12,SNR=18						
WRA				Sn	Sn	13 05 11.2	-4.6
	0.4nm,0.3s,baz=334,slow=22,SNR=6.4						
COEN	**Coen**	**14.62**	**123**	S	**Sn**	**13 05 25.7**	**-0.4**
	baz=15,SNR=4.6						
QIS	**Mount Isa**	**16.79**	**149**	P	**P**	**13 03 13.1**	**+1.8**
	baz=17,SNR=3.6						
ASAR	**Alice Springs**	**17.72**	**170**	P	**P**	**13 03 22.4**	**+1.0**
	0.5nm,0.3s,baz=350,slow=9.7,SNR=47						
ASAR				S	**S**	**13 06 35.9**	**-3.4**
	0.1nm,0.3s,baz=355,slow=27,SNR=4.6						
WRKA	**Warakurna**	**18.92**	**186**	P	**P**	**13 03 34.7**	**+0.1**
	baz=19,SNR=7.2						
MKAR	**Makanchi Array**	**67.83**	**326**	P	P	13 10 02.0	-6.1
	0.6nm,0.4s,baz=114,slow=8.0,SNR=8.5						
ZALV	**Zalesovo Beam**	**71.08**	**333**	P	P	13 10 20.5	-7.4
	0.1nm,0.3s,baz=121,slow=6.9,SNR=2.2						

*ISCJB **04** 13:05:33.6±0.5, 32°.06N±0°.02×114°.98W±0°.03, h10km±4km, mb3.2/1, MS3.1/2, Error ellipse: s-maj=3.7km s-min=3.2km az=33.2*
*NEIC **04** 13:05:34.1±0.5, 32°.02N×115°.05W, h10km, MD4.4(MEX), ML4.0(PAS), ML4.1(ECX), Error ellipse: s-maj=6.9km s-min=6.4km az=27.0*
*ECX **04** 13:05:35.9±0.5, 32°.06N×115°.05W, h10km, MD4.0, ML4.2*
*MEX **04** 13:05:36.4±1.8, 32°.15N×115°.02W, h8km±355km, MD4.4*
*IDC **04** 13:05:37.7±2.9, 32°.10N×114°.76W, h0km, mb3.4/1, mb1 3.5/5, mb1mx3.3/38, mbtmp3.2/5, ML3.5/3, MS3.1/8, Ms1 3.1/8, ms1mx2.9/21, Error ellipse: s-maj=56.9km s-min=12.8km az=41.0*

ISC 04 13:05:33.3±1.3, 32°.00N±0°.03×115°.04W±0°.03, h0km±12km, n53, σ1§14/66, 6C-10D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.43**	**342**	*e*P	**Pb**	**13 05 43.1**	**-0.7**
MBIG				*e*S	**Sg**	**13 05 45.7**	**-1.4**
MBIG				*i* S	**Sg**	**13 05 45.8**	**-1.4**
CPBX	**Cerro Prieto**	**0.48**	**332**	⇑ *e*P	**Pb**	**13 05 44.0**	**-0.6**
CPBX				*e*S	**Sg**	**13 05 49.9**	**+1.3**
CPBX				⇓ *e*		13 05 59.2	
	comp=N,89μm,0.6s						
ECBX	**El Chinero**	**0.52**	**181**	⇓ *e*P	**Pb**	**13 05 45.2**	**-0.1**
ECBX				*e*S	**Sb**	**13 05 53.5**	**+0.1**
ECBX				⇑ *e*		13 05 55.1	
ECBX				AML	AML	13 05 55.1	
	comp=E,14μm,0.2s						
ECBX				AML	AML	13 05 55.3	
	comp=N,18μm,0.5s						
ECBX				⇑ *e*		13 05 55.3	
YMD	**Yuma Desert**	**0.70**	**37**	⇓ *i*P	**Pg**	**13 05 47.1**	**+0.5**
EMSC	**East Mesa**	**0.74**	**3**	⇓ *i*P	**Pg**	**13 05 48.0**	**+0.5**
RDX	**Rancho Dawling**	**0.77**	**265**	*e*P	**Pb**	**13 05 49.7**	**+0.1**
RDX				*e*S	**Sb**	**13 06 00.2**	**-0.5**
RDX				⇑ *e*		13 06 04.1	
	comp=N,5μm,0.4s						
COA	**Coachella**	**0.87**	**355**	⇓ *i*P	**Pg**	**13 05 49.6**	**-0.3**
SGL	**Mount Signal**	**0.87**	**318**	⇓ *i*P	**Pg**	**13 05 50.2**	**+0.1**
WESC	**Westside Schoo**	**0.96**	**323**	*e*P	**Pg**	**13 05 51.7**	**0.0**
SPIG	**San Pedro Mart**	**1.02**	**201**	*e*P	**Pb**	**13 05 54.6**	**+0.7**
SPIG				*e*S	**Sn**	**13 06 09.7**	**-0.5**
SPIG	**San Pedro Mart**	**1.02**	**201**	*e*P	**Pb**	**13 05 54.6**	**+0.7**
SPIG				*e*S	**Sn**	**13 06 09.7**	**-0.5**
SPX	**San Pedro Mart**	**1.02**	**201**	*e*P	**Pb**	**13 05 54.8**	**+0.9**
SPX	**San Pedro Mart**	**1.02**	**201**	*e*P	**Pb**	**13 05 54.9**	**+0.9**
SPX				*e*S	**Sb**	**13 06 09.2**	**+1.3**
SPX				⇓ *e*		13 06 11.4	
SPX				AML	AML	13 06 11.4	
	comp=E,4μm,0.4s						
GLA	**Glamis**	**1.07**	**10**	*e*P	**Pg**	**13 05 52.7**	**-1.1**
GLA				*e*S	**Sg**	**13 06 05.7**	**-1.9**
RMX	**La Rumorosa**	**1.07**	**305**	*e*P	**Pg**	**13 05 53.7**	**-0.1**
RMX				*e*S	**Sg**	**13 06 08.0**	**+0.4**
RMX				⇓ *e*		13 06 09.4	
	comp=E,3μm,0.2s						
ZAX	**El Zacaton**	**1.16**	**246**	⇑ *e*P	**Pb**	**13 05 56.5**	**+0.3**
ZAX				*e*S	**Sb**	**13 06 12.0**	**+0.3**
ECNX	**Esteban Cantu**	**1.37**	**256**	*e*P2		13 05 59.6	
ECNX				*e*S	**Sg**	**13 06 17.9**	**+0.6**
ECNX				⇑ *e*		13 06 21.5	
	comp=E,4μm,0.4s						
CBX	**Cerro Bola**	**1.42**	**283**	*e*P	**Pn**	**13 05 59.9**	**-0.5**
CBX	**Cerro Bola**	**1.42**	**283**	*e*P	**Pn**	**13 05 59.9**	**-0.5**
CBX	**Cerro Bola**	**1.42**	**283**	*e*P	**Pn**	**13 05 59.6**	**-0.7**
CBX				*e*S	**Sg**	**13 06 18.7**	**-0.1**
CBX				AML	AML	13 06 20.7	
	comp=N,5μm,0.3s						
CBX				⇓ *e*		13 06 20.7	
PBX	**Punta Banda**	**1.46**	**260**	⇓ *e*P	**Pn**	**13 06 00.5**	**-0.3**
PBX				*e*S	**Sb**	**13 06 20.0**	**-0.4**
BAR	**Barrett**	**1.54**	**297**	*e*Pn	**Pn**	**13 06 00.9**	**-1.2**
BAR				*e*Pg	**Pg**	**13 06 03.0**	**+0.2**
BAR				*e*Sn	**Sn**	**13 06 21.8**	**-0.9**
214A	**Organ Pipe Nat**	**1.89**	**91**	*e*Pn	**Pn**	**13 06 04.8**	**-2.0**
PFO	**Pinyon Flats O**	**2.00**	**324**	*e*Pn	**Pn**	**13 06 06.2**	**-2.2**
PFO				*e*Pg	**Pg**	**13 06 11.5**	**-0.2**
LDFC	**Landfair**	**3.07**	**359**	*e*Pn	**Pn**	**13 06 21.4**	**-1.7**
LDFC				*e*Pg	**Pg**	**13 06 34.8**	**+2.6**
MWC	**Mount Wilson**	**3.37**	**312**	Pn	**Pn**	**13 06 26.9**	**-0.4**
MWC				*e*Pg	**Pb**	**13 06 35.7**	**+1.7**
MWC				*e*Sg	**Sb**	**13 07 17.7**	**+2.1**
GSC	**Goldstone, Bar**	**3.61**	**336**	Pn	**Pn**	**13 06 30.7**	**+0.2**
TUC	**Tucson**	**3.62**	**84**	*e*Pn	**Pn**	**13 06 28.4**	**-2.2**
TUC				*e*S	**Sg**	**13 07 28.2**	**-1.4**
OSI	**Osito Audit: C**	**4.04**	**311**	Pn	Pn	13 06 31.8	-4.6
OSI				*e*Pg	**Pg**	**13 06 49.4**	**-1.4**
SHPR	**Sheep Range**	**4.50**	**359**	*e*Pn	**Pn**	**13 06 42.9**	**+0.1**
SHPR				*e*Pg	**Pg**	**13 07 00.9**	**+1.4**
ISA	**Isabella, Lake**	**4.64**	**323**	*e*Pg	**Pg**	**13 07 00.5**	**-1.8**
WUAZ	**Wupatki**	**4.65**	**40**	*e*Pn	**Pn**	**13 06 45.4**	**+0.5**
DAC	**Darwin (Calif)**	**4.77**	**334**	*e*Pn	**Pn**	**13 06 45.4**	**-1.1**
W18A	**Petrified Fore**	**5.41**	**53**	*e*Pn	**Pn**	**13 06 56.1**	**+0.8**
	comp=N,55nm,0.5s						
121A	**Cookes Peak, D**	**6.17**	**83**	*e*Pn	**Pn**	**13 07 04.8**	**-0.9**
	comp=N,20nm,0.3s						
TPH	**Tonopah**	**6.32**	**344**	Pg	**Pg**	**13 07 35.4**	**+0.9**
	comp=N,19nm,0.9s						
R11A	**Troy Canyon, C**	**6.35**	**356**	*e*Pn	**Pn**	**13 07 08.6**	**+0.3**
	comp=N,6.0nm,0.6s						
MSU	**Marysvale**	**6.91**	**19**	Pn	**Pn**	**13 07 17.7**	**+1.7**
	comp=N,14nm,0.6s						
NVAR	**Mina Array Bea**	**6.95**	**338**	Pn	Pn	13 07 19.9	+3.3
	baz=156,slow=17,SNR=2.5						
LPM	**Los Pinos Moun**	**7.42**	**70**	*e*Pn	**Pn**	**13 07 23.1**	**+0.2**
	comp=N,2.7nm,0.4s						
MVCO	**Mesa Verde**	**7.49**	**44**	*e*P	**Pn**	**13 07 25.4**	**+1.4**
	comp=N,17nm,0.6s						
ANMO	**Albuquerque**	**7.75**	**65**	Pn	**Pn**	**13 07 28.8**	**+1.3**
	comp=N,0.3nm,0.3s,baz=244,slow=16,SNR=4.5						
ANMO				Lg	Lg	13 09 40.8	
	comp=N,0.1nm,0.3s,baz=359,slow=22,SNR=3.2						
ANMO				LR	LR	13 10 34.6	
	comp=N,176nm,21.4s,baz=242,slow=40						
ANMO	**Albuquerque**	**7.75**	**65**	*e*Pn	**Pn**	**13 07 28.4**	**+1.0**
	comp=N,4.9nm,0.8s						
ANMO				Lg	Lg	13 09 40.8	
PV01	**Paradox Valley**	**8.10**	**39**	*e*P	**Pn**	**13 07 31.3**	**-1.0**
	comp=N,929nm,0.6s						
MNTX	**Cornudas Mount**	**8.22**	**90**	*e*Pn	**Pn**	**13 07 32.1**	**-1.7**
	comp=N,3.8nm,0.7s						
ELK	**Elko**	**8.73**	**359**	Pn	Pn	13 07 45.9	+4.9
	comp=N,0.1nm,0.3s,baz=182,slow=16,SNR=2.0						
ELK				Lg	Lg	13 10 16.5	
	comp=N,0.1nm,0.3s,baz=90,slow=20,SNR=3.4						
ELK				LR	LR	13 11 22.4	
	comp=N,123nm,18.9s,baz=186,slow=40						
LPIG	**La Paz**	**8.90**	**151**	LR	LR	13 11 04.6	
	comp=N,82nm,20.1s,baz=348,slow=37						
TXAR	**Lajitas Array**	**10.14**	**102**	Pn	**Pn**	**13 08 02.6**	**+2.3**
	comp=N,0.6nm,0.3s,baz=286,slow=13,SNR=41						
TXAR				Lg	Lg	13 10 56.8	
	comp=N,0.1nm,0.3s,baz=282,slow=30,SNR=8.2						
TXAR				LR	LR	13 11 58.9	
	comp=N,112nm,20.6s,baz=0.0,slow=38						
YBH	**Yreka Blue Hor**	**11.49**	**330**	LR	LR	13 13 11.6	
	comp=N,75nm,20.5s,baz=192,slow=39						
NEW	**Newport**	**16.33**	**355**	LR	LR	13 15 09.7	
	comp=N,50nm,19.4s,baz=161,slow=35						
BBB	**Bella Bella**	**22.32**	**338**	LR	LR	13 19 54.4	
	comp=N,92nm,20.5s,baz=173,slow=38						
TKL	**Tuckaleechee C**	**26.17**	**73**	LR	LR	13 22 21.0	
	comp=N,45nm,21.6s,baz=280,slow=39						
ILAR	**Eielson Array**	**38.21**	**339**	P	P	13 13 00.6	+6.2
	comp=N,0.4nm,0.7s,baz=150,slow=7.5,SNR=7.0						

*KRSC **04** 13:09:04.3±2.3, 57°.49N×162°.38E, h0km±22km, ML4.1*
*ISCJB **04** 13:09:07.0±0.6, 57°.48N±0°.05×162°.4E±0°.1, h10km, mb3.0/2, Error ellipse: s-maj=9.4km s-min=4.9km az=35.2*
*IDC **04** 13:09:07.6±2.4, 55°.38N×165°.67E, h0km, mb3.2/2, mb1 3.5/4, mb1mx3.2/43, mbtmp3.3/4, ML2.6/2, MS2.5/1, Ms1 2.5/1, ms1mx2.1/14, Error ellipse: s-maj=46.3km s-min=27.1km az=173.0*
*MOS **04** 13:09:08.0±1.3, 57°.34N×162°.18E, h10km, mb4.2/1, Error ellipse: s-maj=24.3km s-min=5.7km az=72.3*

ISC 04 13:09:06.1±0.9, 57°.49N±0°.03×162°.18E±0°.05, h10km, n48, σ1§40/54, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMKR	**Semkarok**	**0.99**	**203**	*e*P	**Pn**	**13 09 24.9**	**-1.2**
SMKR				*e*S	**Sn**	**13 09 42.4**	**+2.2**
SMKR	**Semkarok**	**0.99**	**203**	PN	**Pn**	**13 09 24.9**	**-1.2**
SMKR				S	**Sn**	**13 09 42.4**	**+2.2**
SRKR	**Sorokina**	**1.01**	**214**	*e*P	**Pg**	**13 09 24.2**	**-1.2**
SRKR	**Sorokina**	**1.01**	**214**	PN	**Pg**	**13 09 24.2**	**-1.2**
BDR	**Baidarnaya**	**1.07**	**210**	*e*P	**Pb**	**13 09 25.5**	**-1.2**
KBTR	**Krutoberegovo**	**1.34**	**164**	*e*P	**Pg**	**13 09 29.5**	**-2.2**
KBTR				*e*S	**Sg**	**13 09 50.4**	**+1.4**
KBTR	**Krutoberegovo**	**1.34**	**164**	PN	**Pg**	**13 09 29.5**	**-2.2**
KBTR				S	**Sg**	**13 09 50.4**	**+1.4**
KLY	**Klyuchi**	**1.45**	**216**	*e*P	**Pn**	**13 09 30.2**	**-2.1**
KLY	**Klyuchi**	**1.45**	**216**	PN	**Pn**	**13 09 30.2**	**-2.1**
KRSR	**Krestovskiy**	**1.56**	**215**	*e*P	**Pn**	**13 09 33.4**	**-0.5**
KRSR	**Krestovskiy**	**1.56**	**215**	PN	**Pn**	**13 09 33.4**	**-0.5**
CIRR	**Tsirk**	**1.59**	**210**	*e*P	**Pb**	**13 09 34.2**	**-1.4**
CIRR	**Tsirk**	**1.59**	**210**	PN	**Pb**	**13 09 34.2**	**-1.4**
ZLN	**Zelenaya**	**1.66**	**208**	*e*P	**Pn**	**13 09 35.1**	**-0.3**
ZLN	**Zelenaya**	**1.66**	**208**	PN	**Pn**	**13 09 35.1**	**-0.3**
BZGR	**Bezymyannyi-Gr**	**1.76**	**208**	*e*P	**Pb**	**13 09 37.5**	**-1.0**
BZGR				*e*S	**Sg**	**13 10 04.1**	**+1.5**
SRDR	**Sredinnyy**	**1.79**	**230**	*e*P	**Pn**	**13 09 37.4**	**+0.3**
SRDR				*e*S	**Sg**	**13 10 04.1**	**+0.4**
SRDR	**Sredinnyy**	**1.79**	**230**	PN	**Pn**	**13 09 37.4**	**+0.3**
SRDR				S	**Sg**	**13 10 04.1**	**+0.4**
BZMR	**Bezymyannaya**	**1.82**	**211**	*e*P	**Pb**	**13 09 38.1**	**-1.4**
BZMR				*e*S	**Sg**	**13 10 04.8**	**+0.3**
OSSR	**Ossora**	**1.82**	**14**	*i* P	**Pg**	**13 09 39.9**	**-1.1**
OSSR				*i* S	**Sg**	**13 10 05.2**	**+0.6**
KIRR	**Kirishev**	**1.85**	**214**	*e*P	**Pb**	**13 09 39.1**	**-0.9**
KIRR				*e*S	**Sg**	**13 10 06.8**	**+1.4**
KPT	**Kopyto**	**1.87**	**216**	*e*P	**Pb**	**13 09 38.9**	**-1.5**
KPT				*e*S	**Sg**	**13 10 07.0**	**+0.8**
KPT	**Kopyto**	**1.87**	**216**	PN	**Pb**	**13 09 38.9**	**-1.5**
KPT				S	**Sg**	**13 10 07.0**	**+0.8**
KOZR	**Kozyr**	**1.91**	**222**	PN	**Pb**	**13 09 39.4**	**-1.5**
KOZ	**Kozyrevsk**	**1.92**	**222**	*e*P	**Pb**	**13 09 39.4**	**-1.7**
KOZ	**Kozyrevsk**	**1.92**	**222**	PN	**Pb**	**13 09 39.4**	**-1.7**
KMNR	**Kamenistaya**	**2.05**	**212**	*e*P	**Pb**	**13 09 42.0**	**-1.4**
KMNR				*e*S	**Sg**	**13 10 12.0**	**+0.2**
KMNR	**Kamenistaya**	**2.05**	**212**	PN	**Pb**	**13 09 42.0**	**-1.4**
KMNR				S	**Sg**	**13 10 12.0**	**+0.2**
ESO	**Esso**	**2.48**	**232**	*e*P	**Pb**	**13 09 48.6**	**-2.1**
ESO				*e*S	**Sb**	**13 10 23.6**	**+2.3**
ESO	**Esso**	**2.48**	**232**	PN	**Pb**	**13 09 48.6**	**-2.1**
ESO				S	**Sb**	**13 10 23.6**	**+2.3**
TUMR	**Tumrok**	**2.49**	**208**	*e*P	**Pb**	**13 09 49.8**	**-1.1**
TUMR				*e*S	**Sg**	**13 10 25.5**	**-0.5**
TUMR	**Tumrok**	**2.49**	**208**	PN	**Pb**	**13 09 49.8**	**-1.1**
TUMR				S	**Sg**	**13 10 25.5**	**-0.5**
KZV	**Kizimen**	**2.61**	**205**	*e*P	**Pb**	**13 09 51.7**	**-1.3**
**M

comp=N,540nm,0.3s
PBX Punta Banda 1.11 216 *e*P **Pb 13 24 08.8 -0.1**
ECNX Esteban Cantu 1.12 209 *e*P **Pn 13 24 09.4 +0.2**
ZAX El Zacaton 1.16 194 *e*P **Pg 13 24 09.8 -0.6**
ZAX *e*S **Sn 13 24 26.1 +1.0**
ECBX El Chinero 1.40 146 *e*P9 **Pn 13 24 13.2 +0.4**
ECBX *e*S **Sg 13 24 32.8 -0.3**
ECBX ⇓*e* 13 24 33.7
ECBX AML AML 13 24 33.7
comp=N,195nm,0.2s
ECBX AML AML 13 24 34.0
comp=E,200nm,0.3s
ECBX ⇑*e* 13 24 34.0
SPIG San Pedro Mart 1.65 165 *e*P Pn 13 24 11.2 -5.4
SPX San Pedro Mart 1.65 165 AML AML 13 24 43.3
comp=N,100nm,0.1s
SPX ⇓*e* 13 24 43.3

MAN 04 13:36:49,13.77N×120.55E,h100km,mb4.3,ML3.1, MS2.9,2C,Mindoro

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
LUBP	**Lubang**	**0.29**	**263**	*e*P		Pn	13 37 06.2	+2.7
PGP	**Puerto Galera**	**0.48**	**124**⇑	*e*P		Pn	13 37 07.0	+2.3
PGP				*i* S		Sn	13 37 19.5	+3.1
TGY	**Tagaytay City**	**0.50**	**49**⇑	*i* P		Pn	13 37 10.4	+5.5
TGY				*i* S		Sn	13 37 21.3	+4.4
SJMP	**San Jose**	**1.41**	**157**	*e*P		Pn	13 37 16.2	+1.9
BUSP	**Coron**	**1.79**	**191**	*e*P		Pn	13 37 19.7	+0.8
BUSP				*e*S		Sn	13 37 42.3	+0.7
SCZP	**Santa Cruz**	**2.09**	**343**	*e*P		Pn	13 37 23.2	+0.5
BOLP	**Bolinao**	**2.67**	**347**	*e*P		Pn	13 37 31.9	+1.6
ENPP	**El Nido**	**2.77**	**203**	*e*P		Pn	13 37 33.4	+1.6
CUYO	**Cuyo Island**	**2.94**	**171**	*e*P		Pn	13 37 35.0	+1.1

*IDC **04** 13:41:16.5±7.5,2˚61S×140˚57E,h0km,mb3.7/2, mb1 3.8/3,mb1mx3.4/20,mbtmp3.6/3,ML3.5/1,Error ellipse: s-maj=142.4km s-min=86.7km az=131.0*
*ISCJB **04** 13:41:19.9±1.3,2˚3S±0˚1×140˚10E±0˚06,h24km,mb3.6/2, Error ellipse: s-maj=15.3km s-min=8.4km az=12.6*
*DJA **04** 13:41:20.2±0.8,2˚S±8˚×14˚0E±˚,h11km±8km,M3.5/4, MLv3.5/4*

ISC 04 13:41:18.4±1.3,2˚33S±0˚10×140˚09E±0˚08,h24km,n7, σ1§25/9,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
GENI	**Genyem**	**0.27**	**163**	P		**Pn**	**13 41 26.5**	**-0.5**
GENI				S		**Sb**	**13 41 31.7**	**+2.3**
JAY	**Jayapura**	**0.64**	**106**	P		**Pn**	**13 41 32.2**	**+0.1**
JAY				S		**Sn**	**13 41 41.5**	**-0.1**
SMPI	**Sarmi**	**1.42**	**284**	P		**Pb**	**13 41 44.9**	**+0.7**
WAMI	**Wamena**	**2.06**	**222**	P		**Pb**	**13 41 55.4**	**+0.1**
WRA	**Warramunga Arr**	**18.38**	**197**	P		**P**	**13 45 31.1**	**-0.7**
	0.1nm,0.3s,baz=18,slow=12,SNR=13							
ASAR	**Alice Springs**	**22.04**	**195**	P		**P**	**13 46 12.3**	**+0.8**
	0.5nm,0.6s,baz=26,slow=10,SNR=11							
STKA	**Stephens Creek**	**29.42**	**177**	P		**P**	**13 47 18.7**	**-1.5**
	2.9nm,0.8s,baz=23,slow=7.7,SNR=3.6							

IDC 04 13:45:11.8±2.9,38˚22S×73˚84W,h0km,mb3.6/2, mb1 3.6/3,mb1mx3.5/15,mbtmp3.3/3,ML2.9/1,MS2.8/1, Ms1 2.8/1,ms1mx2.7/16,Error ellipse: s-maj=132.2km s-min=34.6km az=47.0,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PLCA	**Paso Flores**	**3.58**	**136**	Pn		Pn	13 46 08.6	-0.1
	0.3nm,0.3s,baz=307,slow=11,SNR=8.7							
PLCA				Sn		Sb	13 46 59.9	-0.2
	2.2nm,0.3s,baz=323,slow=16,SNR=3.2							
PLCA				LR		LR	13 47 33.1	
	comp=Z,147nm,21.7s,baz=323,slow=40							
TXAR	**Lajitas Array**	**72.76**	**333**	P		P	13 56 42.0	0.0
	0.5nm,0.9s,baz=153,slow=8.4,SNR=4.4							
TORD	**Torodi Ar. Bea**	**87.00**	**71**	P		P	13 57 59.3	0.0
	0.4nm,0.9s,baz=224,slow=6.0,SNR=3.0							

*BJI **04** 13:55:03.4,34˚38S×72˚87W,h12km,mB5.0/12,Ms5.2/7, Ms7 4.9/7*
*ISCJB **04** 13:55:04.5±1.1,34˚14S±0˚03×72˚43W±0˚04,h20km±8km, mb4.7/35,MS4.7/15,Error ellipse: s-maj=5.8km s-min=4.5km az=5.4*
*GCMT **04** 13:55:06.5±0.2,34˚17S×72˚48W,h23km,MW5.2/77, Moment Tensor Solution. s54,c81; s77,c108; Duration: 1s0 Moment tensor: Scale 10¹⁶Nm; Mrr5.37±.19; Mθθ0.32±.13; Mϕϕ-5.69±.15; Mrθ-0.29±.20; Mrϕ-1.76±.10; Mθϕ-4.95±.27; Best double couple: Ms7.61600×10¹⁶ NP1:ϕs187.00000°,δ66.00000°,λ82.00000°. NP2: ϕs25.00000°,δ26.00000°,λ107.00000°. Principal axes: T 7.2800, Plg69.0000°, Azm82.0000°; N 0.6680, Plg7.0000°, Azm190.0000°; P -7.9520, Plg20.0000°, Azm283.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **04** 13:55:06.5±2.3,34˚15S×72˚25W,h22km±15km,mb4.9/23, ML5.0(GUC) Error ellipse: s-maj=11.8km s-min=5.9km az=81.0*
NEIC Felt [III] at Rancagua, San Antonio, Santiago, Santo Domingo, Valparaiso and Vina del Mar. Also felt at Curico.
*GUC **04** 13:55:06.0±0.4,34˚14S×72˚34W,h22km±33km,ML5.0*
*MOS **04** 13:55:07.3±1.5,34˚17S×72˚19W,h33km,mb5.3/3,Error ellipse: s-maj=19.8km s-min=9.1km az=95.0*
*IDC **04** 13:55:08.4±3.4,34˚16S×72˚13W,h35km±25km,mb4.3/11, mb1 4.4/13,mb1mx4.3/23,mbtmp4.4/13,ML3.8/2,MS4.6/14, Ms1 4.6/14,ms1mx4.5/19,Error ellipse: s-maj=22.4km s-min=13.1km az=90.0*

ISC 04 13:55:06.4±0.4,34˚16S±0˚03×72˚26W±0˚06,h21km±4km, n163,σ1§47/182,mb4.9/35,MS4.8/16,2C-8D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
NICH	**Los Niches**	**1.20**	**135**⇓	*i* P		**Pn**	**13 55 28.1**	**+0.1**
NICH				*i* S		**Sn**	**13 55 44.4**	**+0.8**
TACH	**Talagante**	**1.21**	**66**⇓	*i* P		**Pn**	**13 55 27.8**	**-0.3**
IHA	**Instituto Hidr**	**1.24**	**25**⇑	*i* P		**Pn**	**13 55 27.7**	**-0.8**
IHA				*i* S		**Sn**	**13 55 44.1**	**-0.5**
TALC	**Talca**	**1.34**	**158**⇓	*i* P		**Pn**	**13 55 29.7**	**-0.2**
TALC				*i* S		**Sb**	**13 55 47.7**	**+0.1**
SAN	**Santiago**	**1.51**	**63**	*e*P		**Pn**	**13 55 32.2**	**0.0**
SAN				*i* S		**Sb**	**13 55 52.6**	**+0.3**
PCH	**Pirque**	**1.55**	**70**	*e*P		**Pn**	**13 55 33.4**	**+0.5**
PCH				*i* S		**Sb**	**13 55 54.1**	**+0.5**
LACH	**Col Las Americ**	**1.60**	**64**	*i* P		**Pn**	**13 55 34.2**	**+0.7**
LACH				*e*S		**Sb**	**13 55 55.6**	**+0.4**
LACH				AML	AML		13 56 00.5	
	comp=N,20μm,0.3s							
CLCH	**Cerro Calan**	**1.62**	**63**⇑	*i* P		**Pn**	**13 55 34.5**	**+0.6**
CLCH				*i* S		**Sb**	**13 55 56.2**	**+0.4**
CLCH				AML	AML		13 56 08.4	
	comp=E,36μm,0.8s							
PEL	**Peldehue**	**1.66**	**53**⇓	*i* P		**Pn**	**13 55 35.1**	**+0.8**
PEL				*i* S		**Sb**	**13 55 57.0**	**+0.2**
LNCH	**Linares**	**1.77**	**162**⇓	*i* P		**Pn**	**13 55 36.3**	**+0.5**
LNCH				*i* S		**Sb**	**13 55 59.5**	**-0.5**
YECH	**El Yeso**	**1.88**	**75**	*e*P		**Pb**	**13 55 39.2**	**-1.0**
YECH				*i* S		**Sb**	**13 56 04.3**	**+1.0**
YECH				AML	AML		13 56 14.3	
	comp=N,30μm,0.4s							
CFAA	**Coronel Fontan**	**4.24**	**54**	Pn		**Pn**	**13 56 11.1**	**+1.3**
	comp=N,1.7nm,0.3s,baz=230,slow=10,SNR=30							
CFAA				Lg		Lg	13 57 15.5	
	comp=N,18nm,0.3s,baz=99,slow=19,SNR=9.5							
CFAA				LR		LR	13 58 10.9	
	comp=N,2μm,19.0s,baz=232,slow=44							
LCO	**Las Campanas**	**5.30**	**15**	*e*Pn		**Pn**	**13 56 23.1**	**-1.5**
	comp=N,359nm,0.7s							
PLCA	**Paso Flores**	**6.70**	**169**	Pn		**Pn**	**13 56 44.8**	**+1.1**
	comp=N,0.8nm,0.3s,baz=336,slow=12,SNR=8.2							
PLCA				Lg		Lg	13 58 41.6	
	comp=N,3.4nm,0.3s,baz=256,slow=23,SNR=3.2							
PLCA				LR		LR	13 59 16.7	
	comp=N,3μm,18.9s,baz=350,slow=37							
PLCA	**Paso Flores**	**6.70**	**169**	*e*P		**Pn**	**13 56 43.7**	**0.0**
PLCA				pmax	pmax			
	comp=Z,2.0nm,0.2s							
PLCA	**Paso Flores**	**6.70**	**169**	*e*Pn		**Pn**	**13 56 43.7**	**0.0**
	comp=Z,2.1nm,0.2s							
PLCA				Lg		Lg	13 58 41.6	
TRQA	**Tornquist**	**9.18**	**118**	*e*Pn		Pn	13 57 21.6	+3.9
	comp=Z,57nm,0.9s							
LVC	**Limon Verde**	**11.87**	**15**	Pn		Pn	13 57 49.6	-5.2
	comp=Z,16nm,0.3s,baz=262,slow=7.5,SNR=4.7							
LVC				LR		LR	14 02 31.1	
	comp=Z,16μm,20.7s,baz=202,slow=37							
LVC	**Limon Verde**	**11.87**	**15**	*e*Pn		Pn	13 57 49.0	-5.7
CPUP	**Villa Florida**	**15.07**	**63**	Pn		**Pn**	**13 58 40.2**	**+2.1**
	comp=Z,0.1nm,0.3s,baz=195,slow=11,SNR=7.4							
CPUP				LR		LR	14 04 54.1	
	comp=Z,30μm,20.3s,baz=240,slow=39							
CPUP	**Villa Florida**	**15.07**	**63**	*e*P		**Pn**	**13 58 39.6**	**+1.6**
CPUP				pmax	pmax			
	comp=Z,1.0nm,1.0s							
CPUP	**Villa Florida**	**15.07**	**63**	*e*Pn		**Pn**	**13 58 39.6**	**+1.6**
	comp=Z,1.0nm,1.0s							
LPAZ	**La Paz**	**18.18**	**13**	P		**P**	**13 59 18.5**	**+0.1**
	baz=183,slow=9.2							
EFI	**East Falkland**	**20.30**	**154**	*e*P		**P**	**13 59 39.6**	**-1.0**
EFI	**East Falkland**	**20.30**	**154**	*e*P		**P**	**13 59 39.6**	**-1.0**
USHA	**Ushuaia**	**20.84**	**174**	P		**P**	**13 59 46.5**	**-0.1**
	comp=Z,8.7nm,1.0s,baz=321,slow=14,SNR=2.0							
USHA				LR		LR	14 09 14.1	
	comp=Z,2μm,18.1s,baz=344,slow=41							
NNA	**Nana**	**22.46**	**348**	P		**P**	**14 00 04.3**	**0.0**
	comp=Z,11nm,0.9s,baz=140,slow=10,SNR=5.3							
NNA				LR		LR	14 07 01.2	
	comp=Z,699nm,19.0s,baz=170,slow=32							
SAML	**Samuel**	**26.44**	**20**	*e*P		**P**	**14 00 40.9**	**-1.0**
	comp=Z,24nm,0.9s							
ATAH	**Atahualpa**	**27.48**	**347**	LR		LR	14 10 48.3	
	comp=Z,798nm,18.2s,baz=181,slow=34							
BDFB	**Brasilia**	**28.57**	**56**	P		**P**	**14 01 00.1**	**-1.0**
	comp=Z,16nm,0.9s,baz=231,slow=7.3,SNR=16							
BDFB				LR		LR	14 13 46.3	
	comp=Z,3μm,18.3s,baz=222,slow=39							
OTAV	**Otavalo**	**34.70**	**349**	*e*P		**P**	**14 01 54.2**	**-1.2**
	comp=Z,6.5nm,1.0s							
SDV	**Santo Domingo**	**42.83**	**2**	*e*P		**P**	**14 03 03.1**	**-0.1**
	comp=Z,13nm,0.9s							
JTS	**JuntasAbangare**	**45.82**	**342**⇓	*e*P		**P**	**14 03 28.7**	**+1.8**
JTS				pmax	pmax			
	comp=Z,37nm,1.5s							
VNA3	**Neumayer Olymp**	**49.28**	**158**	P		**P**	**14 03 55.0**	**+1.8**
VNA2	**Neumayer--Watz**	**49.94**	**157**	P		**P**	**14 03 59.8**	**+1.5**
	baz=282,slow=8.6							
SNAA	**Sanae**	**51.51**	**158**	P		**P**	**14 04 10.7**	**+0.6**
SNAA	**Sanae**	**51.51**	**158**	*i* P		**P**	**14 04 10.3**	**+0.2**
SNAA				pmax	pmax			
	comp=Z,33nm,1.3s							
SNAA	**Sanae**	**51.51**	**158**	*e*P		**P**	**14 04 10.0**	**-0.1**
	comp=Z,34nm,1.3s							
CELP	**Cerrillos**	**52.22**	**7**	*e*P		**P**	**14 04 13.6**	**-2.3**
RKT	**Rikitea**	**55.37**	**264**	*e*S		**S**	**14 12 22.7**	**+0.2**
	comp=Z,432nm,31.5s							
RKT				eLR		LR	14 20 47.5	
	comp=Z,433nm,27.2s,baz=115							
TEIG	**Tepich**	**56.19**	**342**	*e*P		**P**	**14 04 44.1**	**-0.7**
	comp=Z,32nm,1.0s							
NVL	**N'lazarevskaya**	**56.25**	**157**	*e*P		P	14 04 53.4	+8.7
NVL				*e*S		**S**	**14 12 29.6**	**-3.3**
NVL				pmax	pmax			
	comp=Z,7.0nm,0.6s							
VNDA	**Vanda**	**63.91**	**191**	P		**P**	**14 05 37.8**	**+0.7**
	comp=Z,1.8nm,1.0s,baz=151,slow=5.2,SNR=6.1							
VNDA				LR		LR	14 28 03.6	
	comp=Z,188nm,21.9s,baz=132,slow=31							
SYO	**Syowa Base**	**65.79**	**158**⇓	*e*P		P	14 05 45.0	-4.4
SYO	**Syowa Base**	**65.79**	**158**⇓	*e*pP		**P**	**14 05 49.4**	**0.0**
TBI	**Tubuai**	**67.10**	**257**	*e*S		**S**	**14 14 54.7**	**+3.0**
	comp=Z,353nm,27.0s							
TBI	**Tubuai**	**67.10**	**257**	*e*LR		LR	14 26 20.4	
	comp=Z,1μm,26.5s,baz=116							
MEH	**Mehetia**	**68.64**	**262**	*e*T		T	15 21 11.0	
	comp=Z,18nm,0.2s							
JCT	**Junction City**	**69.35**	**335**	*e*P		**P**	**14 06 12.0**	**-0.4**
JCT				pmax	pmax			
	comp=Z,9.0nm,0.6s							
JCT	**Junction City**	**69.35**	**335**	*e*P		**P**	**14 06 11.9**	**-0.4**
	comp=Z,9.0nm,0.6s							
TVO	**Taravao**	**69.66**	**262**	*e*T		T	15 22 28.8	
	comp=Z,1.0nm,0.2s							
TXAR	**Lajitas Array**	**69.78**	**331**	P		**P**	**14 06 15.0**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=155,slow=8.6,SNR=14							
TXAR				LR		LR	14 32 42.7	
	comp=Z,759nm,18.2s,baz=0.0,slow=32							
TIAR	**Tiarei**	**69.86**	**262**	*e*T		T	15 22 42.7	
	comp=Z,3.4nm,0.2s							
PPT2	**Papeete2**	**70.03**	**262**	*e*S		**S**	**14 15 26.9**	**+0.1**
	comp=Z,337nm,23.2s							
PPT2	**Papeete2**	**70.03**	**262**	*e*LR		LR	14 27 43.2	
	comp=Z,830nm,27.0s,baz=119							
PPT	**Papeete**	**70.04**	**262**	LR		LR	14 29 58.3	
	comp=Z,335nm,21.2s,baz=138,slow=30							
OXF	**Oxford**	**70.18**	**345**	*e*P		**P**	**14 06 17.2**	**-0.1**
OXF				pmax	pmax			
	comp=Z,25nm,1.1s							
OXF	**Oxford**	**70.18**	**345**	*e*P		**P**	**14 06 17.1**	**-0.1**
	comp=Z,25nm,1.1s							
CPCT	**Cooper Cave**	**70.19**	**349**	*e*P		**P**	**14 06 17.1**	**-0.2**
WVT	**Waverly**	**71.42**	**347**	*e*P		**P**	**14 06 24.2**	**-0.7**
WVT				*e*			14 06 34.2	
WVT				pmax	pmax			
	comp=Z,30nm,0.8s							
WVT	**Waverly**	**71.42**	**347**	*e*P		**P**	**14 06 24.2**	**-0.7**
	comp=Z,30nm,0.8s							
WVT				*e*			14 06 34.2	
JSRW	**J. Sargeant Re**	**71.68**	**355**	*e*P		**P**	**14 06 27.0**	**+0.6**
MNTX	**Cornudas Mount**	**72.56**	**331**	*e*P		**P**	**14 06 30.4**	**-1.4**
	comp=Z,4.4nm,0.8s							
WMOK	**Wichita Mounta**	**72.90**	**337**	*e*P		**P**	**14 06 33.6**	**-0.2**
WMOK				pmax	pmax			
	comp=Z,5.0nm,1.0s							
WMOK	**Wichita Mounta**	**72.90**	**337**	*e*P		**P**	**14 06 33.6**	**-0.2**
	comp=Z,4.6nm,1.0s							
MAW	**Mawson**	**73.08**	**164**	P		**P**	**14 06 34.5**	**0.0**
	comp=Z,111nm,0.9s,baz=272,slow=7.7,SNR=12							
MAW				LR		LR	14 41 21.8	
	comp=Z,899nm,18.1s,baz=234,slow=38							
ACSO	**Alum Creek Sta**	**74.68**	**352**	*e*P		**P**	**14 06 44.0**	**-0.1**
	comp=Z,13nm,0.6s							
LIC	**Lamto**	**75.00**	**72**	*e*P		**P**	**14 06 44.8**	**-1.8**
	comp=Z,36nm,1.4s							
TIC	**Toumodi**	**75.26**	**71**	*e*P		**P**	**14 06 48.7**	**+0.6**
	comp=Z,35nm,0.2s							
KIC	**Kosan Boka**	**75.31**	**72**	*e*P		**P**	**14 06 47.8**	**-0.5**
	comp=Z,38nm,1.2s							
DBIC	**Dimbokro**	**75.41**	**71**	P		**P**	**14 06 48.9**	**0.0**
	comp=Z,12nm,1.1s,baz=198,slow=7.8,SNR=8.8							
DBIC				LR		LR	14 38 28.4	
	comp=Z,564nm,18.9s,baz=216,slow=34							
DBIC	**Dimbokro**	**75.41**	**71**	*e*P		**P**	**14 06 48.1**	**-0.8**
DBIC				pmax	pmax			
	comp=Z,20nm,1.3s							
DBIC	**Dimbokro**	**75.41**	**71**	*e*P		**P**	**14 06 48.1**	**-0.8**
	comp=Z,20nm,1.3s							
ANMO	**Albuquerque**	**75.83**	**332**	*i* P		**P**	**14 06 52.2**	**+1.2**
ANMO				pmax	pmax			
	comp=Z,17nm,1.0s							
ANMO	**Albuquerque**	**75.83**	**332**	*e*P		**P**	**14 06 52.3**	**+1.2**
	comp=Z,3.9nm,1.0s							
HDIL	**Hopedale**	**75.99**	**347**	*e*P		**P**	**14 06 51.1**	**-0.4**
WUAZ	**Wupatki**	**78.37**	**328**	*e*P		**P**	**14 07 06.9**	**+1.6**
	comp=Z,7.0nm,1.0s							
JFWS	**Jewell Farm**	**78.45**	**347**	*e*P		**P**	**14 07 04.9**	**-0.4**
JFWS				pmax	pmax			
	comp=Z,29nm,0.8s							
JFWS	**Jewell Farm**	**78.45**	**347**	*e*P		**P**	**14 07 04.9**	**-0.4**
	comp=Z,29nm,0.8s							
TSUM	**Tsumeb**	**79.35**	**106**	*e*P		**P**	**14 07 11.5**	**+0.3**
	comp=Z,20nm,1.5s							
ECSD	**EROS Data Cent**	**80.64**	**342**	*e*P		**P**	**14 07 16.9**	**-0.3**
	comp=Z,10nm,0.7s							
ECSD				*e*			14 07 26.4	
SHPR	**Sheep Range**	**80.89**	**326**	*e*P		**P**	**14 07 20.1**	**+1.1**
	comp=Z,7.7nm,1.2s							
MSU	**Marysvale**	**81.23**	**329**	P		**P**	**14 07 21.8**	**+1.0**
MSU				pmax	pmax			
	comp=Z,4.0nm,1.1s							
MSU	**Marysvale**	**81.23**	**329**	P		**P**	**14 07 21.8**	**+1.0**
	comp=Z,4.0nm,1.1s							
R11A	**Troy Canyon, C**	**82.59**	**327**	*e*P		**P**	**14 07 29.1**	**+1.1**
	comp=Z,3.7nm,1.0s							
TPH	**Tonopah**	**83.12**	**326**	*e*P		**P**	**14 07 32.3**	**+1.6**
TPH				pmax	pmax			
	comp=Z,11nm,1.2s							
TPH	**Tonopah**	**83.12**	**326**	*e*P		**P**	**14 07 32.2**	**+1.6**
	comp=Z,11nm,1.2s							
EYMN	**Ely**	**83.53**	**347**	*e*P		**P**	**14 07 31.6**	**-0.7**
	comp=Z,9.7nm,1.1s							
PDAR	**Pinedale Array**	**83.82**	**333**	P		**P**	**14 07 34.2**	**0.0**
	comp=Z,1.6nm,0.9s,baz=129,slow=4.0,SNR=8.6							
NVAR	**Mina Array Bea**	**83.91**	**325**	P		**P**	**14 07 36.7**	**+1.9**
	comp=Z,1.3nm,0.7s,baz=156,slow=6.3,SNR=11							
TORD	**Torodi Ar. Bea**	**84.44**	**70**	P		**P**	**14 07 37.1**	**-0.6**
	comp=Z,13nm,1.0s,baz=249,slow=3.8,SNR=43							
TORD				LR		LR	14 44 31.1	
	comp=Z,608nm,18.7s,baz=245,slow=35							
ULM	**Lac du Bonnet**	**86.60**	**345**	P		**P**	**14 07 46.8**	**-0.8**
	comp=Z,6.2nm,1.0s,baz=176,slow=3.3,SNR=6.9							
ULM	**Lac du Bonnet**	**86.60**	**345**	*e*P		**P**	**14 07 46.2**	**-1.4**
ULM				pmax	pmax			
	comp=Z,6.0nm,0.9s							
ULM	**Lac du Bonnet**	**86.60**	**345**	*e*P		**P**	**14 07 46.2**	**-1.4**
	comp=Z,6.5nm,0.9s							
ESDC	**Sonseca Array**	**96.82**	**46**	LR		LR	14 51 42.5	
	comp=Z,129nm,18.1s,baz=215,slow=35							
YKA	**Yellowknife Ar**	**102.15**	**341**	P		**Pdif**	**14 08 59.0**	**+0.3**
	comp=Z,0.2nm,0.7s,baz=143,slow=5.2,SNR=4.3							
CLL	**Collm**	**113.08**	**43**	*e*PP		PP	14 14 30.0	-1.6
CLL				*e*PS		**PS**	**14 24 16.0**	**+9.3**
CLL				*e*PPS		PPS	14 25 28.0	
CLL				*e*(SS)			14 30 06.0	
CLL				*e*			14 34 06.0	
CLL				*e*			14 38 12.0	
CLL				Lm		MLR	14 59 00.0	
	comp=N,100nm,19.9s							
CLL				Lm		MLR	14 59 00.0	
	comp=E,200nm,21.2s							
CLL				Lm		MLR	14 59 00.0	
	comp=Z,300nm,20.5s							
PRU	**Pruhonice**	**113.39**	**45**	AMS		AMS	15 02 00.0	
	comp=Z,300nm,15.3s							
GOPC	**GO Pecny, Ondr**	**113.50**	**45**	AMS		AMS	15 02 10.0	
	comp=Z,300nm,14.2s							
TREC	**Trest**	**113.65**	**46**	AMS		AMS	15 10 10.0	
	comp=Z,300nm,15.9s							
DPC	**Dobruska-Polom**	**114.58**	**45**	AMS		AMS	15 03 00.0	
ASAR	**Alice Springs**	**117.34**	**207**	PKP		**PKPdf**	**14 13 50.0**	**-0.8**
	comp=Z,0.4nm,0.9s,baz=116,slow=1.3,SNR=3.9							
ASAR	**Alice Springs**	**117.34**	**207**	PKIKP		**PKPdf**	**14 13 50.0**	**-0.8**
WRA	**Warramunga Arr**	**120.53**	**209**	PKP		**PKPdf**	**14 13 55.1**	**-1.9**
	comp=Z,0.7nm,0.5s,baz=162,slow=1.8,SNR=18							
BRTR	**Keskin Array B**	**122.07**	**61**	PKP		**PKPdf**	**14 13 58.2**	**-1.2**
	comp=Z,1.3nm,0.9s,baz=204,slow=2.7,SNR=6.2							
AKASG	**Malin Array Be**	**122.43**	**48**	*i* PKIKP		**PKPdf**	**14 13 59.7**	**+0.2**
FINES	**FINESS Array B**	**123.22**	**35**	PKP		**PKPdf**	**14 14 01.1**	**+0.4**
	comp=Z,2.6nm,1.1s,baz=276,slow=1.7,SNR=2.6							
ARCES	**ARCESS Array B**	**124.23**	**25**	PKP		**PKPdf**	**14 14 03.4**	**+1.0**
	comp=Z,4.3nm,0.9s,baz=222,slow=1.6,SNR=6.5							
H11S2	**WAKE ISLAND Hyl**	**125.58**	**269**	T		T	16 33 22.9	
	baz=118,slow=7.4,SNR=7.9							
H11S1	**WAKE ISLAND Hyl**	**125.60**	**269**	T		T	16 33 23.8	
	baz=118,slow=7.4,SNR=9.2							
H11S3	**WAKE ISLAND Hyl**	**125.60**	**269**	T		T	16 33 24.4	
	baz=118,slow=7.4,SNR=6.4							
H11N3	**WAKE ISLAND Hyl**	**126.00**	**271**	T		T	16 33 11.9	
	baz=118							
H11N1	**WAKE ISLAND Hyl**	**126.01**	**271**	T		T	16 33 12.2	
	baz=118							
H11N2	**WAKE ISLAND Hyl**	**126.02**	**271**	T		T	16 33 12.8	
	baz=118							
KLMR	**Klimovskoe**	**129.64**	**36**	*e*PKIKP		**PKPdf**	**14 14 14.1**	**+1.1**
KLMR				pmax	pmax			
	comp=Z,21nm,1.3s							
KIV	**Kislovodsk**	**129.73**	**58**	*i* PKIKP		**PKPdf**	**14 14 14.4**	**+0.6**
KIV				pmax	pmax			
	comp=Z,9.0nm,1.1s							
KIV				MLR	MLR			
	comp=Z,137nm,21.0s							
BILL	**Bilibino**	**132.90**	**334**	*i* PKIKP		**PKPdf**	**14 14 20.4**	**+1.4**
BILL				*i*			14 14 28.3	
BILL				pmax	pmax			
	comp=Z,3.0nm,1.2s							
MAK	**Makhachkala**	**132.98**	**61**	*e*PKIKP		**PKPdf**	**14 14 15.9**	**-3.9**
ARU	**Arti**	**139.98**	**41**	PKHKP		PKPpre	14 14 17.7	
TIXI	**Tiksi**	**140.81**	**350**	*i* PKIKP		**PKPdf**	**14 14 35.0**	**+1.5**
ABKAR	**Akbulak array**	**141.93**	**52**	*e*PKPpre		PKPpre	14 14 30.7	
URV	**Uravakonda**	**146.51**	**117**	*e*PKPab		**PKPbc**	**14 14 46.5**	**-0.1**
URV				*e*PKIKP		**PKiKP**	**14 14 48.7**	**-0.9**
URV				*e*			14 14 55.5	
KSM	**Kuching**	**147.40**	**185**	*e*PKPbc		**PKPbc**	**14 14 49.4**	**+0.2**
BRVK	**Borovoye**	**147.45**	**43**	*e*PKIKP		**PKPdf**	**14 14 46.3**	**+0.7**
BRVK				*e*			14 14 49.2	
BRVK	**Bor

	comp=Z,10.0nm,1.1s								
MKAR	**Makanchi Array**	**157.01**	**49**	PKP	**PKPdf**	**14 14 59.9**	**-0.1**		
	comp=Z,1.0nm,0.9s,baz=291,slow=1.7,SNR=8.1								
MKAR				PKPab	**PKPab**	**14 15 30.6**	**+0.2**		
	comp=Z,3.2nm,1.0s,baz=303,slow=4.8,SNR=8.9								
WMQ	**Urumqi**	**161.71**	**52**	*e*PKP	**PKPdf**	**14 15 03.4**	**-2.2**		
WMQ				pPKP	**pPKPdf**	**14 15 13.9**	**+0.9**		
WMQ				SKS	**SKSdf**	**14 22 04.0**	**-5.3**		
WMQ				PPMZ					
	comp=Z,100nm,4.8s								
WMQ				LN					
	comp=Z,210nm,14.0s								
WMQ				LE					
	comp=Z,190nm,15.4s								
WMQ				LZ					
	comp=Z,170nm,20.6s								
TLY	**Talaya**	**162.24**	**8**	PKPab	**PKPab**	**14 15 53.7**	**+0.9**		
	comp=Z,2.5nm,0.6s,baz=357,slow=5.0,SNR=3.5								
CMAR	**Chiang Mai Arr**	**162.50**	**151**	PKP	**PKPdf**	**14 15 06.8**	**-0.3**		
	comp=Z,1.4nm,1.0s,baz=255,slow=2.6,SNR=8.1								
CMAR				PKPab	**PKPab**	**14 15 54.3**	**-0.6**		
	comp=Z,1.1nm,1.0s,baz=213,slow=5.2,SNR=4.6								
CN2	**Changchun**	**163.23**	**310**	*e*PKP	**PKPdf**	**14 15 05.3**	**-1.7**		
ZAK	**Zakamensk**	**163.46**	**10**	*e*PKP2	**PKPab**	**14 15 57.6**	**-0.7**		
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.5s								
QIZ	**Qiongzhong**	**164.82**	**188**	PKP	**PKPdf**	**14 15 08.4**	**-0.8**		
QIZ				PP	**PP**	**14 19 51.2**	**+1.1**		
QIZ				SS	SS	14 40 25.0	+3.3		
QIZ				LE					
	comp=Z,84nm,14.5s								
QIZ				LZ					
	comp=Z,140nm,19.6s								
SONM	**Songino Array**	**166.30**	**4**	PKP	**PKPdf**	**14 15 10.2**	**+0.4**		
	comp=Z,0.1nm,0.4s,baz=28,slow=39,SNR=3.4								
SONM				PKPab	**PKPab**	**14 16 11.3**	**+0.3**		
	comp=Z,2.0nm,0.9s,baz=340,slow=4.1,SNR=9.5								
SONM				PP	**PP**	**14 20 01.4**	**+3.5**		
	comp=Z,0.4nm,0.8s,baz=197,slow=1.5,SNR=3.9								
KMI	**Kunming**	**170.00**	**153**	PKP	**PKPdf**	**14 15 12.6**	**-0.5**		
NJ2	**Nanjing**	**170.44**	**260**	*e*PKP	**PKPdf**	**14 15 13.0**	**+0.2**		
GTA	**Gaotai**	**171.76**	**48**	*e*PKP	**PKPdf**	**14 15 14.2**	**+0.7**		
GTA				PKPab	**PKPab**	**14 16 36.8**	**+1.3**		
GYA	**Guiyang**	**172.27**	**173**	*e*PKP	**PKPdf**	**14 15 13.0**	**-1.1**		
GYA				PKPab	**PKPab**	**14 16 39.4**	**+1.5**		
GYA				PKS	**PKSdf**	**14 18 44.0**	**-2.6**		
GYA				PP	**PP**	**14 20 30.8**	**+2.7**		
GYA				PPMZ					
	comp=Z,110nm,8.2s								
HHC	**Hu-ho-hao-te**	**172.66**	**337**	*e*PKP	**PKPdf**	**14 15 15.7**	**+1.9**		
HHC				PP	**PP**	**14 20 35.0**	**+4.7**		
HHC				SKS	**SKSdf**	**14 22 17.5**	**+1.7**		
HHC				SS	**SS**	**14 41 45.0**	**+4.1**		
HHC				PPMZ					
	comp=Z,33nm,7.4s								
HHC				LN					
	comp=Z,77nm,18.5s								
HHC				LE					
	comp=Z,170nm,17.3s								
HHC				LZ					
	comp=Z,170nm,19.7s								
WHN	**Wuhan**	**173.35**	**239**	PKP	**PKPdf**	**14 15 14.4**	**+0.2**		
CD2	**Chengdu**	**175.33**	**133**	*e*PKP	**PKPdf**	**14 15 15.3**	**+0.3**		
LZH	**Lanzhou**	**176.27**	**58**	PKP	**PKPdf**	**14 15 14.4**	**-0.8**		
LZH				PP	**PP**	**14 20 49.0**	**+0.1**		
LZH				SKKS		14 27 33.0			
LZH				PPMZ					
	comp=Z,100nm,4.7s								
LZH				LN					
	comp=Z,270nm,18.4s								
LZH				LE					
	comp=Z,260nm,15.8s								
LZH				LZ					
	comp=Z,370nm,19.1s								

IDC 04 14:06:44.8±5.7, 20°50S×177°89W, h338km±51km, mb3.1/2, mb1 3.3/3, mb1mx2.9/26, mbtmp3.9/3, Error ellipse: s-maj=45.9km s-min=17.5km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.22**	**193**	P	P	14 10 34.6	0.0
	0.4nm,0.3s,baz=18,slow=3.2,SNR=9.7						
URZ				S	S	14 13 45.9	+0.6
	0.2nm,0.3s,baz=225,slow=20,SNR=3.2						
ASAR	**Alice Springs**	**44.62**	**257**	P	P	14 14 25.0	0.0
	1.2nm,0.5s,baz=92,slow=8.2,SNR=30						
WRA	**Warramunga Arr**	**44.70**	**262**	P	P	14 14 25.4	-0.3
	0.3nm,0.3s,baz=96,slow=7.5,SNR=28						
BRTR	**Keskin Array B**	**146.91**	**312**	PKPbc	PKPbc	14 25 47.4	-0.8
	0.4nm,0.6s,baz=108,slow=0.5,SNR=2.9						

*IDC **04** 14:15:39.8±1.7, 1°.88N×96°.64E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/37, mbtmp3.7/7, ML3.3/2, MS4.3/2, Ms1 4.3/2, ms1mx3.1/33, Error ellipse: s-maj=49.2km s-min=20.3km az=53.0*

*ISCJB **04** 14:15:41.8±1.0, 1°.84N±0°.09×96°.53E±0°.10, h28km, mb3.6/6, MS4.4/2, Error ellipse: s-maj=17.6km s-min=7.5km az=136.5*

*DJA **04** 14:15:44.7±0.9, 2°.N±11°×9°.7E±1°.4, h34km±13km, M3.8/6, mb4.0/1, MLv3.7/6*

ISC 04 14:15:44.5±1.0, 1°.93N±0°.08×96°.73E±0°.08, h28km, n17, σ0$46/15, mb3.7/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.63**	**320**	P	**Pn**	**14 15 57.5**	**0.0**
SNSI				S	**Sn**	**14 16 07.5**	**+0.9**
GSI	**Gunungsitoli**	**1.05**	**126**	P	**Pn**	**14 16 03.5**	**+0.2**
GSI				S	**Sb**	**14 16 17.7**	**+0.4**
PSI	**Prapat**	**2.35**	**68**	Pn	**Pn**	**14 16 21.1**	**-0.3**
	0.8nm,0.3s,baz=270,slow=10,SNR=4.9						
PSI				LR	LR	14 16 49.1	
	comp=Z,30nm,20.1s,baz=271,slow=29						
PSI				Sn	**Sb**	**14 16 55.4**	**+0.4**
	4.8nm,0.3s,baz=278,slow=8.4,SNR=7.0						
MNSI	**Mandailing Nat**	**3.06**	**112**	P	**Pn**	**14 16 31.6**	**+0.6**
LHMI	**Lhok Sumawe**	**3.28**	**4**	P	**Pn**	**14 16 34.7**	**+0.6**
CMAR	**Chiang Mai Arr**	**16.57**	**7**	Pn	**Pn**	**14 19 34.9**	**-0.1**
	0.2nm,0.3s,baz=198,slow=12,SNR=12						
H01W3	**Cape Leeuwin H**	**40.09**	**158**	T	T	15 05 57.4	
	baz=334,slow=76,SNR=6.8						
H01W2	**Cape Leeuwin H**	**40.10**	**158**	T	T	15 05 55.4	
	baz=334,slow=76,SNR=6.4						
H01W1	**Cape Leeuwin H**	**40.11**	**158**	T	T	15 05 54.3	
	baz=334,slow=76,SNR=5.2						
WRA	**Warramunga Arr**	**42.82**	**122**	P	**P**	**14 23 40.0**	**-0.2**
	0.4nm,0.7s,baz=303,slow=8.8,SNR=5.8						
ASAR	**Alice Springs**	**44.20**	**127**	P	**P**	**14 23 51.4**	**-0.1**
	0.5nm,0.8s,baz=299,slow=7.5,SNR=5.7						
MKAR	**Makanchi Array**	**46.43**	**346**	P	**P**	**14 24 08.6**	**-0.1**
	0.6nm,0.7s,baz=169,slow=8.5,SNR=12						
SONM	**Songino Array**	**46.49**	**9**	P	**P**	**14 24 08.7**	**-0.6**
	0.3nm,0.4s,baz=186,slow=10,SNR=4.1						
ZALV	**Zalesovo Beam**	**52.77**	**351**	P	**P**	**14 24 56.9**	**0.0**
	1.5nm,0.6s,baz=176,slow=7.6,SNR=9.7						
STKA	**Stephens Creek**	**54.19**	**132**	LR	LR	14 49 24.4	
	comp=Z,287nm,19.9s,baz=188,slow=37						
BVAR	**Borovoye Array**	**55.41**	**341**	P	**P**	**14 25 16.0**	**-0.2**
	0.6nm,0.6s,baz=134,slow=8.3,SNR=4.9						
FINES	**FINESS Array B**	**79.14**	**333**	LR	LR	15 05 42.4	
	comp=Z,195nm,20.1s,baz=256,slow=38						

*ISCJB **04** 14:30:43.7±0.5, 6°.96N±0°.05×73°.07W±0°.05, h166km, mb3.6/5, Error ellipse: s-maj=9.1km s-min=5.0km az=44.0*

*FUNV **04** 14:30:43.7, 6°.75N×73°.18W, h164km, MW3.6*

*IDC **04** 14:30:45.5±2.2, 6°.77N×73°.16W, h175km±20km, mb3.3/5, mb1 3.7/7, mb1mx3.3/28, mbtmp3.9/7, Error ellipse: s-maj=40.7km s-min=22.4km az=67.0*

ISC 04 14:30:44.4±0.8, 6°.88N±0°.06×73°.02W±0°.06, h166km, n23, σ1$17/33, mb3.5/5, 2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.21**	**36**	⇓*i*P	**Pn**	**14 31 13.2**	**+0.5**
CAPV				*e*S	**Sn**	**14 31 34.3**	**-0.2**
ROSC	**El Rosal**	**2.39**	**213**	P	**Pn**	**14 31 25.0**	**-0.5**
	63nm,0.3s,baz=287,slow=5.0,SNR=5.2						
ROSC				S	**Sn**	**14 31 55.5**	**-1.8**
	20nm,0.3s,baz=100,slow=20,SNR=5.5						
VIGV	**El Vigia**	**2.55**	**40**	*e*P	**Pn**	**14 31 27.6**	**+0.7**
VIGV				*e*S	**Sn**	**14 31 59.7**	**-0.2**
SOCV	**Socops**	**2.56**	**57**	*e*P	**Pn**	**14 31 27.9**	**+0.8**
SOCV				*e*S	**Sn**	**14 31 59.7**	**-0.4**
ELOV	**Elorza**	**3.52**	**88**	*e*P	**Pn**	**14 31 39.2**	**+0.3**
VIRV	**Villa del Rosa**	**3.65**	**10**	*e*P	**Pn**	**14 31 40.0**	**-0.6**
VIRV				*e*S	**Sn**	**14 32 22.0**	**-2.5**
QARV	**Quebrada Arrib**	**4.13**	**37**	⇓*i*P	**Pn**	**14 31 47.5**	**+0.7**
QARV				*e*S	**Sn**	**14 32 33.9**	**-1.6**
SANV	**Sanarito**	**4.32**	**53**	*e*P	**Pn**	**14 31 49.3**	**-0.1**
SANV				*e*S	**Sn**	**14 32 38.6**	**-1.5**
CURV	**Curarigua**	**4.34**	**44**	*e*P	**Pn**	**14 31 49.8**	**+0.2**
CURV				*e*S	**Sn**	**14 32 39.0**	**-1.6**
DABV	**Dabajuro**	**4.66**	**30**	*e*P	**Pn**	**14 31 53.9**	**+0.3**
DABV				*e*S	**Sn**	**14 32 46.2**	**-1.6**
TEPV	**Terepaima**	**4.87**	**51**	*e*P	**Pn**	**14 31 56.7**	**+0.2**
SIQV	**Siquisique**	**4.91**	**40**	*e*P	**Pn**	**14 31 57.0**	**0.0**
BAUV	**El Baul**	**5.34**	**67**	*e*P	**Pn**	**14 32 01.6**	**-1.1**
BAUV				*e*S	**Sn**	**14 33 00.8**	**-3.1**
MAPV	**Macapo**	**5.39**	**57**	*e*P	**Pn**	**14 32 03.4**	**+0.2**
PTGA	**Pitinga**	**15.06**	**120**	P	**P**	**14 34 12.4**	**+2.0**
	0.2nm,0.3s,baz=297,slow=18,SNR=5.5						
TEIG	**Tepich**	**19.87**	**313**	P	**Pn**	**14 35 07.1**	**+0.7**
	0.9nm,0.3s,baz=166,slow=16,SNR=3.9						
TXAR	**Lajitas Array**	**36.49**	**312**	P	**P**	**14 37 34.7**	**+0.8**
	0.6nm,0.6s,baz=128,slow=9.3,SNR=9.8						
ULM	**Lac du Bonnet**	**47.26**	**340**	P	**P**	**14 39 00.7**	**-0.1**
	1.5nm,0.4s,baz=148,slow=7.2,SNR=5.0						
PDAR	**Pinedale Array**	**48.09**	**324**	P	**P**	**14 39 07.4**	**-0.2**
	0.4nm,0.5s,baz=133,slow=7.5,SNR=3.3						
NVAR	**Mina Array Bea**	**51.51**	**315**	P	**P**	**14 39 34.3**	**+0.8**
	0.4nm,0.5s,baz=151,slow=5.4,SNR=4.0						
YKA	**Yellowknife Ar**	**63.24**	**340**	P	**P**	**14 40 55.0**	**+0.2**
	1.4nm,0.6s,baz=133,slow=6.6,SNR=12						
ASAR	**Alice Springs**	**149.22**	**234**	PKPbc	**PKPbc**	**14 50 13.2**	**-1.0**
	0.4nm,0.6s,baz=114,slow=3.8,SNR=5.7						
WRA	**Warramunga Arr**	**150.45**	**241**	PKPbc	**PKPbc**	**14 50 16.3**	**-1.0**
	0.3nm,0.4s,baz=108,slow=2.5,SNR=12						

NEIC 04 14:31:22.9, 53°.59N×166°.58W, h72km, MG3.5(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MREP	**Makushin Rep't**	**0.24**	**336**	P	Pn	14 31 34.9	+0.9
UNV	**Unalaska Valle**	**0.26**	**10**	P	Pn	14 31 34.3	+0.3
UNV				S	Sn	14 31 42.9	+0.7
MGOD	**Makushin Gods**	**0.27**	**320**	P	Pn	14 31 34.5	+0.4
MSW	**Makushin Switc**	**0.35**	**340**	P	Pn	14 31 34.8	+0.2
MCIR	**Makushin Cirqu**	**0.41**	**333**	P	Pn	14 31 35.8	+0.6
ZRO	**Akutan Zero**	**0.62**	**35**	P	Pn	14 31 37.4	+0.4
AKRB	**Akutan Reef Bi**	**0.62**	**29**	P	Pn	14 31 37.6	+0.6
AKRB				S	Sn	14 31 48.9	+1.4
AHB	**Akutan Harbor**	**0.70**	**40**	P	Pn	14 31 38.2	+0.3
AKGG	**Akutan Green G**	**0.70**	**29**	P	Pn	14 31 38.3	+0.3
HSB	**Akutan Spr's B**	**0.72**	**33**	P	Pn	14 31 38.9	+0.8
AKUT	**Akutan**	**0.73**	**41**	P	Pn	14 31 38.4	+0.2
AKUT				S	Sn	14 31 51.0	+1.6
OKFG	**Magazine Ridge**	**0.82**	**258**	P	Pn	14 31 39.5	+0.3
OKFG				S	Sn	14 31 52.0	+0.7
WECS	**Westdahl Cape**	**1.42**	**48**	P	Pn	14 31 47.9	+1.0
WESP	**Westdahl Peak**	**1.42**	**50**	P	Pn	14 31 47.7	+0.7
WESP				S	Sn	14 32 06.8	+1.7
WEBT	**Westdahl Beart**	**1.47**	**46**	P	Pn	14 31 48.4	+0.9
WESE	**West Dahl East**	**1.47**	**52**	P	Pn	14 31 48.1	+0.5
SSLW	**Shishaldin Wes**	**1.87**	**50**	P	Pn	14 31 53.2	+0.4
SSLN	**Shishaldin Nor**	**1.95**	**50**	P	Pn	14 31 55.4	+1.5
FALS	**False Pass**	**2.25**	**54**	P	Pn	14 31 58.8	+0.9
DTNA	**Dutton South F**	**2.98**	**57**	P	Pn	14 32 08.3	+0.6
SDPT	**Sand Point**	**3.97**	**61**	P	Pn	14 32 22.2	+0.9

*ISCJB **04** 14:50:55.5±1.0, 13°.2S±0°.2×74°.9W±0°.1, h96km, mb3.7/4, Error ellipse: s-maj=27.9km s-min=8.6km az=38.9*

*IDC **04** 14:50:56.6±2.4, 13°.09S×74°.93W, h89km±30km, mb3.5/4, mb1 3.6/6, mb1mx3.4/28, mbtmp3.9/6, MS2.9/1, Ms1 2.9/1, ms1mx2.6/18, Error ellipse: s-maj=69.3km s-min=21.4km az=38.0*

ISC 04 14:50:56.8±1.2, 13°.2S±0°.2×75°.0W±0°.2, h96km, n7, σ0$78/9, mb3.8/4, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.17**	**305**	P	**Pn**	**14 51 31.7**	**+0.1**
	46nm,0.3s,baz=139,slow=11,SNR=45						
NNA				S	**Sn**	**14 51 57.8**	**-0.3**
	128nm,0.3s,baz=229,slow=15,SNR=16						
ATAH	**Atahualpa**	**6.91**	**331**	P	**Pn**	**14 52 36.0**	**0.0**
	2.0nm,0.3s,baz=175,slow=6.3,SNR=6.7						
ATAH				S	**Sn**	**14 53 54.2**	**+0.9**
	0.7nm,0.3s,baz=217,slow=20,SNR=3.7						
ATAH				LR	LR	14 55 38.3	
	comp=Z,107nm,22.0s,baz=118,slow=41						
CPUP	**Villa Florida**	**21.10**	**131**	P	**P**	**14 55 34.8**	**+1.2**
	0.5nm,0.7s,baz=302,slow=13,SNR=4.6						
TXAR	**Lajitas Array**	**50.56**	**327**	P	**P**	**14 59 45.4**	**-0.4**
	0.3nm,0.7s,baz=148,slow=8.6,SNR=4.9						
DBIC	**Dimbokro**	**72.42**	**79**	P	**P**	**15 02 12.8**	**-0.5**
	3.6nm,0.9s,baz=240,slow=5.2,SNR=3.2						
TORD	**Torodi Ar. Bea**	**80.41**	**74**	P	**P**	**15 02 57.7**	**-0.7**
	2.3nm,0.8s,baz=258,slow=5.3,SNR=13						
SONM	**Songino Array**	**145.49**	**358**	PKPbc	**PKPab**	**15 10 25.1**	**+0.7**
	0.7nm,0.5s,baz=337,slow=2.4,SNR=5.8						

NEIC 04 15:01:20.4, 51°.88N×177°.42W, h9km, ML3.7(AEIC), After AEIC., Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KICM	**Kanaga Island**	**0.15**	**73**	P	Pg	15 01 25.1	+1.5
KIKV	**Kanaga Island**	**0.16**	**89**	P	Pg	15 01 25.0	+1.1
KIRH	**Kanaga Island**	**0.20**	**84**	P	Pg	15 01 25.8	+1.1
TAFL	**Tanaga Flats**	**0.32**	**248**	P	Pb	15 01 27.7	-0.6
TAFP	**Tanaga Falls P**	**0.35**	**274**	P	Pb	15 01 28.3	-0.6
TASE	**Tanaga Southea**	**0.38**	**264**	P	Pb	15 01 28.9	-0.5
TANO	**Tanaga North**	**0.43**	**275**	P	Pb	15 01 29.9	-0.4
TANO				S	Sb	15 01 36.0	-1.0
ETKA	**Kagalaska Isla**	**0.63**	**91**	P	Pg	15 01 32.8	+0.2
ETKA				S	Sg	15 01 41.4	+0.4
GSCK	**Great Sitkin C**	**0.79**	**80**	P	Pg	15 01 36.0	+0.3
GAEA	**Gareloi East**	**0.83**	**264**	P	Pb	15 01 36.7	-0.2
GALAA	**Gareloi Lava P**	**0.84**	**263**	P	Pb	15 01 37.1	-0.2
GSMY	**Great Sitkin M**	**0.86**	**78**	P	Pg	15 01 36.9	-0.1
GSTR	**Great Sitkin T**	**0.87**	**75**	P	Pg	15 01 37.3	0.0
KOKL	**Mount Kliuchef**	**2.04**	**76**	P	Pn	15 01 55.2	+0.2

*IDC **04** 15:01:27.6±1.1, 37°.54S×73°.69W, h0km, mb3.9/5, mb1 4.0/8, mb1mx3.9/26, mbtmp3.9/8, ML3.8/2, MS3.4/4, Ms1 3.5/4, ms1mx3.2/19, Error ellipse: s-maj=41.6km s-min=21.8km az=89.0*

*NEIC **04** 15:01:31.1±4.0, 37°.56S×73°.82W, h25km±26km, mb4.5/1, Error ellipse: s-maj=24.2km s-min=9.0km az=89.0*

ISC 04 15:01:31.6±1.0, 37°.48S±0°.07×74°.0W±0°.1, h35km, n19, σ1$31/19, mb4.1/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.21**	**142**	Pn	**Pn**	**15 02 31.4**	**-1.9**
	1.8nm,0.3s,baz=316,slow=10,SNR=24						
PLCA				Sn	**Sn**	**15 03 23.5**	**+2.3**
	7.7nm,0.3s,baz=198,slow=8.4,SNR=3.5						
PLCA	**Paso Flores**	**4.21**	**142**	*e*P	**Pn**	**15 02 31.7**	**-1.6**
PLCA				Sn	**Sn**	**15 03 23.5**	**+2.3**
CFAA	**Coronel Fontan**	**7.54**	**41**	Pn	**Pn**	**15 03 17.7**	**-1.4**
	1.0nm,0.3s,baz=45,slow=2.6,SNR=28						
CFAA				Sn	**Sn**	**15 04 43.0**	**-0.4**
	0.1nm,0.3s,baz=202,slow=16,SNR=1.9						
CFAA				LR	LR	15 06 19.1	
	comp=Z,34nm,20.2s,baz=230,slow=39						
TRQA	**Tornquist**	**9.53**	**97**	*e*P	**Pn**	**15 03 46.0**	**-0.3**
	10.0nm,1.0s						
LVC	**Limon Verde**	**15.45**	**18**	Pn	**Pn**	**15 05 08.4**	**+1.2**
	8.2nm,0.3s,baz=194,slow=8.3,SNR=1.9						
LVC				LR	LR	15 11 05.8	
	comp=Z,214nm,21.4s,baz=203,slow=38						
CPUP	**Villa Florida**	**17.96**	**57**	LR	LR	15 13 09.5	
	comp=Z,868nm,21.4s,baz=220,slow=39						
EFI	**East Falkland**	**18.11**	**147**	P	**Pn**	**15 05 38.7**	**-1.4**
PMSA	**Palmer Station**	**27.96**	**171**	P	**P**	**15 07 17.0**	**-1.4**
BDFB	**Brasilia**	**31.64**	**54**	LR	LR	15 21 14.0	

	comp=Z,92nm,21.0s,baz=209,slow=38								
SNAA	**Sanae**	**48.99**	**157**	P	**P**	**15 10 14.4**	**+0.1**		
	0.7nm,0.7s,baz=272,slow=5.6,SNR=6.0								
SNAA	**Sanae**	**48.99**	**157**	*e*P	**P**	**15 10 14.5**	**+0.1**		
	5.4nm,1.1s								
QSPA	**South Pole Qui**	**52.76**	**180**	P	**P**	**15 10 43.5**	**+0.6**		
	2.0nm,1.0s,baz=150,slow=1.1,SNR=5.4								
TXAR	**Lajitas Array**	**72.05**	**333**	P	P	15 12 54.9	+2.8		
	0.3nm,0.6s,baz=149,slow=9.2,SNR=3.8								
DBIC	**Dimbokro**	**77.79**	**72**	P	**P**	**15 13 26.3**	**+0.8**		
	2.2nm,0.5s,baz=204,slow=6.0,SNR=4.2								
TORD	**Torodi Ar. Bea**	**86.87**	**71**	P	**P**	**15 14 12.7**	**-0.2**		
	0.8nm,0.8s,baz=229,slow=4.7,SNR=5.0								
ABKAR	**Akbulak array**	**145.02**	**55**	*e*PKP	**PKPdf**	**15 21 05.0**	**+0.4**		
BVAR	**Borovoye Array**	**150.87**	**46**	PKPbc	**PKPbc**	**15 21 21.2**	**+1.4**		
	1.3nm,0.7s,baz=292,slow=4.0,SNR=9.5								
ZALV	**Zalesovo Beam**	**158.00**	**35**	PKPab	**PKPab**	**15 21 57.2**	**-0.2**		
	0.4nm,0.5s,baz=266,slow=3.8,SNR=3.6								
MKAR	**Makanchi Array**	**160.16**	**55**	PKPab	**PKPab**	**15 22 07.2**	**0.0**		
	0.3nm,0.8s,baz=324,slow=5.9,SNR=2.9								

MAN 04 15:21:44, 10°.09N×126°.15E, h68km, mb4.6, ML3.5, MS3.4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.71**	**245**	*e*P	Pn	15 22 01.7	+2.7
SCPH				*e*S	Sn	15 22 13.4	+3.5
MSLP	**Maasin**	**1.27**	**272**	*e*P	Pn	15 22 07.2	+1.3
MSLP				*e*S	Sn	15 22 24.7	+2.5
OCLP	**Ormoc**	**1.79**	**302**	*e*P	Pn	15 22 14.2	+1.5
GUIM	**Jordan**	**3.54**	**279**	*e*P	Pn	15 22 38.9	+2.3

IDC 04 15:34:03.6±2.0, 12°.39N×143°.03E, h124km±24km, mb3.4/7, mb1 3.6/8, mb1mx3.3/41, mbtmp3.8/8, Error ellipse: s-maj=29.8km s-min=15.9km az=98.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.15**	**56**	P	Pn	15 34 39.5	+0.3
	40nm,0.3s,baz=343,slow=4.6,SNR=17						
GUMO				S	Sn	15 35 06.9	+0.5
	63nm,0.3s,baz=118,slow=19,SNR=10						
WRA	**Warramunga Arr**	**33.25**	**195**	P	P	15 40 28.9	-0.3
	0.5nm,0.4s,baz=8.3,slow=5.5,SNR=12						
ASAR	**Alice Springs**	**36.93**	**194**	P	P	15 41 00.8	0.0
	0.4nm,0.5s,baz=23,slow=11,SNR=9.7						
CMAR	**Chiang Mai Arr**	**42.84**	**284**	P	P	15 41 49.4	-0.5
	0.8nm,0.6s,baz=90,slow=5.7,SNR=7.5						
SONM	**Songino Array**	**46.71**	**326**	P	P	15 42 20.1	-0.1
	0.4nm,0.5s,baz=148,slow=8.5,SNR=3.1						
KURBB	**Kurchatov Arra**	**64.39**	**320**	P	P	15 44 26.7	+0.3
	0.5nm,0.3s,baz=108,slow=7.0,SNR=3.0						
BVAR	**Borovoye Array**	**69.76**	**322**	P	P	15 45 00.2	-0.1
	0.7nm,0.4s,baz=103,slow=6.9,SNR=6.4						
ILAR	**Eielson Array**	**70.41**	**25**	P	P	15 45 03.7	-0.4
	0.3nm,0.7s,baz=255,slow=6.3,SNR=3.3						
TORD	**Torodi Ar. Bea**	**134.02**	**302**	PKP	PKPdf	15 53 08.6	+1.3
	0.3nm,0.5s,baz=31,slow=3.4,SNR=3.0						

*ISCJB **04** 15:35:36.1±0.3, 36°.69N±0°.02×71°.43E±0°.05, h200km, mb3.7/16, Error ellipse: s-maj=5.4km s-min=2.7km az=160.5*

*IDC **04** 15:35:36.9±1.1, 36°.65N×71°.51E, h193km±9km, mb3.4/15, mb1 3.6/21, mb1mx3.5/40, mbtmp4.0/21, Error ellipse: s-maj=16.9km s-min=11.1km az=28.0*

*NNC **04** 15:35:40.5±1.6, 37°.09N×71°.15E, h188km±10km, mb3.4, mpv4.4, Error ellipse: s-maj=16.0km s-min=7.2km az=166.0*

ISC 04 15:35:37.1±0.4, 36°.72N±0°.04×71°.47E±0°.06, h200km, n70, σ1$47/83, mb3.9/16, 6C-14D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.91**	**173**	⇓P	**Pn**	**15 36 25.2**	**-0.7**
DZET	**Dzherino**	**2.95**	**316**	⇓P	**Pn**	**15 36 23.9**	**-2.3**
	110nm,0.3s						
DZET				⇓S	Sn	15 36 57.9	-6.9
	729nm,0.5s						
CHCP	**Chirah Chowk**	**3.39**	**154**	⇓P	**Pn**	**15 36 31.9**	**+0.5**
SFK	**Sufi-Kurgan**	**3.66**	**25**	⇓P	**Pn**	**15 36 35.3**	**+0.5**
	67nm,0.3s						
SFK				⇓S	**Sn**	**15 37 18.5**	**-1.7**
	628nm,0.6s						
THW	**Th

comp=E,1.2nm,0.3s,baz=237,slow=16,SNR=34
MKAR Makanchi Array 12.90 35 P **Pn 15 38 33.6 +0.5**
comp=E,0.3nm,0.3s,baz=237,slow=16,SNR=21
PYUN Piuthan 12.97 128 *eP* **Pn 15 38 33.2 -1.3**
comp=E,166nm,0.4s
KOLN Koldanda 13.59 128 *eP* **Pn 15 38 41.5 -0.7**
comp=E,37nm,0.4s
GKN Gorkha 14.11 124 *eP* **P 15 38 49.0 -1.3**
comp=E,71nm,0.4s
BHPL Bhopal 14.38 157 *eP* **P 15 38 54.0 +0.8**
BHPL *ex* x 15 41 20.2
KKN Kakani 14.68 123 *eP* **P 15 38 56.1 -0.5**
comp=E,78nm,0.5s
DMN Daman 14.68 124 *eP* **P 15 38 56.2 -0.5**
comp=E,84nm,0.5s
KURBB Kurchatov Arra 14.80 18 ⇓P **Pn 15 38 56.8 +0.2**
comp=E,1.8nm,0.5s
KURBB Kurchatov Arra 14.80 18 P **Pn 15 38 55.7 -0.9**
comp=E,0.2nm,0.3s,baz=206,slow=11,SNR=18
PKIN Phulchoki 14.89 124 *eP* **P 15 38 58.7 -0.4**
comp=E,68nm,0.4s
PKI Pulchoki 14.91 124 *eP* **P 15 38 59.6 +0.3**
comp=E,78nm,0.4s
GUN Gumba 15.01 122 *eP* **P 15 39 00.2 -0.2**
comp=E,36nm,0.4s
AB31 Akbulak array 15.08 330 ⇑P **Pn 15 38 58.0 -2.0**
comp=E,5.2nm,0.6s
AB31 S S 15 41 36.3 -11
comp=E,16nm,0.7s,baz=149,slow=22,SNR=17
JIRN Jiri 15.38 122 *eP* **P 15 39 05.1 +0.6**
comp=E,189nm,0.5s
RAMN Ramite 16.11 123 *eP* **Pn 15 39 13.5 +0.5**
comp=E,24nm,0.3s
BVA0 Borovoye Array 16.32 358 ⇓P **Pn 15 39 16.6 +1.6**
comp=E,3.7nm,1.0s,baz=184,slow=16,SNR=15
BVA0 ⇓S **S 15 42 11.6 -3.4**
comp=E,1.8nm,0.7s,baz=168,slow=26,SNR=5.6
BVAR Borovoye Array 16.32 358 P **Pn 15 39 15.7 +0.6**
comp=E,0.7nm,0.3s,baz=159,slow=11,SNR=15
BVAR S **S 15 42 13.3 -1.7**
comp=E,0.1nm,0.3s,baz=163,slow=23,SNR=5.1
TAPN Taplejung 16.62 120 *eP* **Pn 15 39 21.8 +2.6**
comp=E,51nm,0.5s
ODAN Odare 16.71 122 *eP* **Pn 15 39 22.2 +2.1**
comp=E,38nm,0.6s
AKTO Aktyubinsk 16.79 329 ⇑P **P 15 39 20.1 +0.7**
comp=E,24nm,1.0s
AKTO ⇓S **S 15 42 20.6 -3.7**
comp=E,6.5nm,0.7s
AKTO Aktyubinsk 16.79 329 P **P 15 39 19.9 +0.4**
comp=E,3.4nm,0.3s,baz=134,slow=10,SNR=65
AKTO pP **pP 15 39 52.2 +0.5**
comp=E,0.6nm,0.3s,baz=134,slow=11,SNR=3.7
AKTO S **S 15 42 19.3 -5.0**
comp=E,0.2nm,0.3s,baz=163,slow=20,SNR=5.3
ZALV Zalesovo Beam 19.56 24 P **P 15 39 51.0 +1.5**
comp=E,1.1nm,0.3s,baz=219,slow=11,SNR=18
ZALV S **S 15 43 17.2 -2.0**
comp=E,0.1nm,0.3s,baz=211,slow=16,SNR=2.0
GNI Garni 21.19 287 P **P 15 40 08.2 +1.1**
comp=E,1.9nm,0.3s,baz=158,slow=11,SNR=3.6
KBZ Khabaz 22.84 297 P **P 15 40 23.1 +0.3**
comp=E,1.5nm,0.6s,baz=56,slow=24,SNR=3.8
SONM Songino Array 27.90 56 pP pP 15 41 50.8 +1.9
comp=E,0.2nm,0.3s,baz=260,slow=8.6,SNR=2.0
ASF Jabal al Asfar 28.77 271 P **P 15 41 17.8 +1.5**
comp=E,2.1nm,0.8s,baz=22,slow=5.4,SNR=4.3
BRTR Keskin Array B 29.73 287 P **P 15 41 25.6 +0.9**
comp=E,0.8nm,0.6s,baz=104,slow=9.1,SNR=5.4
CMAR Chiang Mai Arr 30.23 120 P **P 15 41 29.9 +0.7**
comp=E,0.4nm,0.4s,baz=303,slow=7.7,SNR=6.2
AKASG Malin Array Be 33.10 308 P **P 15 41 53.9 0.0**
comp=E,1.1nm,0.3s,baz=82,slow=7.6,SNR=4.7
FINES FINESS Array B 37.52 326 P **P 15 42 32.2 +0.9**
comp=E,1.2nm,0.3s,baz=128,slow=9.8,SNR=12
ARCES ARCESS Array B 41.09 337 P **P 15 43 02.0 +1.2**
comp=E,0.8nm,0.4s,baz=112,slow=8.9,SNR=12
GERES GERESS Array B 43.11 305 P **P 15 43 18.9 +1.4**
comp=E,0.2nm,0.3s,baz=88,slow=6.0,SNR=2.4
NB2 NORSAR Subarra 44.43 323 P **P 15 43 27.8 0.0**
comp=Z,1.4nm,0.6s,baz=96,slow=7.9
NOA NORSAR Array B 44.43 323 P **P 15 43 28.2 +0.4**
comp=Z,1.1nm,0.5s,baz=101,slow=7.8,SNR=8.7
NOA pP **pP 15 44 10.6 -0.3**
comp=Z,1.2nm,0.7s,baz=94,slow=8.5,SNR=2.9
TORD Torodi Ar. Bea 66.10 269 P **P 15 46 00.9 -2.1**
comp=Z,3.0nm,0.6s,baz=50,slow=5.9,SNR=39
ILAR Eielson Array 74.47 16 P **P 15 46 53.3 +0.4**
comp=Z,0.5nm,0.8s,baz=292,slow=5.7,SNR=5.4
ILAR pP **pP 15 47 39.7 -0.8**
comp=Z,0.4nm,0.9s,baz=317,slow=3.8,SNR=3.2
YKA Yellowknife Ar 81.01 3 P **P 15 47 30.5 +1.4**
comp=Z,2.1nm,0.6s,baz=349,slow=5.3
WRA Warramunga Arr 81.79 122 P **P 15 47 33.6 -0.2**
comp=Z,1.4nm,0.7s,baz=324,slow=4.8,SNR=31
SCHQ Schefferville 82.04 337 P **P 15 47 36.5 +1.9**
comp=Z,1.1nm,0.4s,baz=80,slow=6.1,SNR=3.2
ASAR Alice Springs 84.07 125 P **P 15 47 45.6 +0.2**
comp=Z,1.7nm,0.7s,baz=311,slow=5.1,SNR=27

*NIED **04** 15:59:00, 43.°90N×148.°00E, h35km, Mw4.0 Best double couple: M0 1.17000×10^15 NP1:ϕs178.00000°, δ11.00000°, λ75.00000°. NP2:ϕs14.00000°, δ79.00000°, λ93.00000°.*
*ISCJB **04** 15:59:32.9±0.8, 44.°06N±0.°04×148.°23E±0.°07, h55km±5km, mb3.9/22, MS3.0/2, Error ellipse: s-maj=9.8km s-min=4.6km az=38.7*
*JMA **04** 15:59:32.4±0.2, 43.°88N×147.°99E, h0km, M4.6*
*MOS **04** 15:59:33.7±1.2, 44.°14N×148.°15E, h62km, mb4.3/12, Error ellipse: s-maj=10.8km s-min=8.2km az=85.5*
*BJI **04** 15:59:33.2, 44.°80N×148.°20E, h57km, mb4.1/4, mB4.5/2, Ms4.2/1, Ms7 3.9/1*
*SKHL **04** 15:59:34.7±0.7, 44.°13N×148.°15E, h70km±4km, mb4.6/8*
*IDC **04** 15:59:35.4±2.4, 44.°16N×148.°14E, h56km±21km, mb3.6/17, mb1 3.8/23, mb1mx3.7/37, mbtmp3.9/23, ML3.5/6, MS3.2/7, Ms1 3.2/7, ms1mx2.9/38, Error ellipse: s-maj=18.1km s-min=13.8km az=140.0*

ISC 04 15:59:34.6±0.8, 44.°11N±0.°06×148.°14E±0.°06, h50km±7km, n104, σ1s15/114, mb3.9/21, 2C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SHO	**Shikotan**	**0.98**	**256**	*eP*		**Pn**	**15 59 51.1**	**-0.8**
SHO				AMB		AMB	15 59 51.6	
	440nm,0.7s							
SHO				*eS*		**Sn**	**16 00 03.3**	**-1.4**
SHO				A		A	16 00 07.5	
	3μm,0.4s							
KUR	**Kuril'sk**	**1.15**	**350**	*d iP*	N	**Pn**	**15 59 53.6**	**-0.6**
KUR				*i* S		**Sn**	**16 00 08.5**	**-0.3**
KUR				pmax		pmax		
	comp=Z,35μm,0.1s							
KUR				pmax		pmax		
	comp=Z,384nm,0.3s							
KUR				pmax		pmax		
	comp=N,197nm,0.3s							
KUR				pmax		pmax		
	comp=E,137nm,0.3s							
KUR				pmax		pmax		
	comp=N,2μm,0.4s							
KUR	**Kuril'sk**	**1.15**	**350**	*i* P		**Pn**	**15 59 53.7**	**-0.5**
KUR				AMB		AMB	15 59 59.8	
	comp=N,290nm,0.4s							
KUR				AMB		AMB	15 59 59.8	
	comp=N,370nm,0.4s							
KUR				AMB		AMB	15 59 59.8	
	comp=N,640nm,0.4s							
KUR				*i* S		**Sn**	**16 00 08.5**	**-0.3**
KUR				A		A	16 00 10.0	
	comp=N,4μm,0.4s							
KUR				A		A	16 00 10.0	
	comp=N,2μm,0.4s							
KUR				A		A	16 00 12.8	
	comp=N,10μm,2.0s							
KUR				A		A	16 00 12.8	
	comp=N,6μm,2.0s							
YUK	**Yuzh-Kuril'sk**	**1.65**	**268**	*d iP*	N	**Pn**	**16 00 00.8**	**-0.2**
YUK				*i* S		**Sn**	**16 00 20.0**	**-1.0**
YUK				pmax		pmax		
	comp=N,442nm,0.4s							
YUK				pmax		pmax		
	comp=E,564nm,0.4s							
YUK				pmax		pmax		
	comp=Z,917nm,0.4s							
YUK				smax		smax		
	comp=N,800nm,0.5s							
YUK				smax		smax		
	comp=E,3μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**1.65**	**268**	*i* P		**Pn**	**16 00 00.9**	**-0.1**
YUK				AMB		AMB	16 00 05.5	
	comp=E,440nm,0.4s							
YUK				AMB		AMB	16 00 05.5	
	comp=E,560nm,0.4s							
YUK				AMB		AMB	16 00 05.5	
	comp=E,920nm,0.4s							
YUK				*i* S		**Sn**	**16 00 20.1**	**-1.0**
YUK				A		A	16 00 27.2	
	comp=E,800nm,0.5s							
YUK				A		A	16 00 27.2	
	comp=E,3μm,0.5s							
YUK				A		A	16 00 36.0	
	comp=E,2μm,1.0s							
NEM2	**Nemuro 2**	**1.89**	**248**	P		**Pn**	**16 00 03.6**	**-0.8**
NEM2				*eS*		**Sn**	**16 00 26.6**	**-0.4**
JRA	**Rausu**	**2.19**	**267**	P		**Pn**	**16 00 09.0**	**+0.6**
JRA				*eS*		**Sn**	**16 00 36.1**	**+1.9**
JNK	**Nakash**	**2.53**	**259**	P		**Pn**	**16 00 13.6**	**+0.5**
JNK				*eS*		**Sn**	**16 00 44.1**	**+1.3**
JAK	**Akkeshi**	**2.74**	**247**	P		**Pn**	**16 00 16.0**	**0.0**
JAK				*eS*		**Sn**	**16 00 47.3**	**-0.6**
JTKR	**Abashiri--Toko**	**3.06**	**269**	P		**Pn**	**16 00 21.6**	**+1.3**
JAR	**Ashorobuto**	**3.27**	**257**	P		**Pn**	**16 00 24.4**	**+1.1**
JAR				*eS*		**Sn**	**16 01 03.3**	**+2.3**
JOB	**Onbets**	**3.36**	**251**	P		**Pn**	**16 00 25.0**	**+0.5**
JCH	**Churui**	**3.79**	**248**	P		**Pn**	**16 00 30.8**	**+0.4**
JKK2	**Kamakawa 2**	**3.90**	**268**	P		**Pn**	**16 00 34.7**	**+2.8**
JKA	**Kamikawa-asahi**	**3.99**	**272**	*eP*		**Pn**	**16 00 35.4**	**+2.2**
ASAJ	**Asahikawa**	**3.99**	**272**	P		**Pn**	**16 00 35.4**	**+2.2**
	comp=E,4.1nm,0.3s,baz=88,slow=25,SNR=52							
ASAJ				S		Sn	16 01 29.9	+11
	comp=E,3.3nm,0.3s,baz=146,slow=15,SNR=2.5							
ASAJ				LR		LR	16 02 18.8	
	comp=E,266nm,21.3s,baz=148,slow=41							
JFR	**Furan**	**4.14**	**259**	P		**Pn**	**16 00 37.3**	**+2.1**
ERM	**Erimo**	**4.21**	**242**	*i* PN		**Pn**	**16 00 38.2**	**+2.1**
ERM	**Erimo**	**4.21**	**242**	*eP*		**Pn**	**16 00 38.2**	**+2.1**
JNBK	**Urakawa-nobuka**	**4.34**	**247**	P		**Pn**	**16 00 38.2**	**+0.2**
YSS	**Yuzh-Sakhalins**	**4.74**	**309**	*i* PN		**Pn**	**16 00 44.7**	**+1.3**
YSS				*eS*		**Sn**	**16 01 35.0**	**-1.9**
YSS				smax		smax		
	comp=E,30nm,0.8s							
YSS	**Yuzh-Sakhalins**	**4.74**	**309**	*i* P		**Pn**	**16 00 44.7**	**+1.3**
YSS				AMB		AMB	16 00 46.1	
	comp=E,30nm,0.4s							
YSS				*eS*		**Sn**	**16 01 35.0**	**-1.9**
YSS				A		A	16 01 40.0	
	comp=E,30nm,0.8s							
JKB	**Kayabe**	**5.67**	**249**	P		**Pn**	**16 00 56.5**	**+0.4**
JKB				*eS*		**Sn**	**16 01 58.7**	**-1.1**
UGL	**Uglegorsk**	**6.50**	**322**	*eP*		**Pn**	**16 01 09.8**	**+2.3**
TYV	**Tymovskoe**	**7.71**	**333**	*eP*		**Pn**	**16 01 26.8**	**+2.7**
TYV				AMB		AMB	16 01 28.3	
	comp=E,10.0nm,0.6s							
SKR	**Severo-Kuril's**	**8.51**	**37**	*eP*		**Pn**	**16 01 36.1**	**+1.0**
SKR				AMB		AMB	16 01 37.1	
	comp=E,60nm,0.5s							
NKL	**Nikolayevsk**	**10.30**	**334**	*eP*		**Pn**	**16 02 00.5**	**+1.0**
NKL				AMB		AMB	16 02 02.0	
	comp=E,10.0nm,0.7s							
MAJO	**Matsushiro**	**10.70**	**228**	*i* PN		**Pn**	**16 02 05.9**	**+0.8**
MAJO	**Matsushiro**	**10.70**	**228**	*eP*		**Pn**	**16 02 05.9**	**+0.8**
MAT	**Matsushiro**	**10.70**	**228**	P		**Pn**	**16 02 03.9**	**-1.2**
MAT				*eS*		**Sn**	**16 04 03.6**	**+0.2**
MJAR	**Matsushiro Arr**	**10.70**	**228**	P		**Pn**	**16 02 04.3**	**-0.7**
	comp=E,0.4nm,0.3s,baz=25,slow=14,SNR=15							
MJAR				LR		LR	16 06 03.0	
	comp=E,73nm,21.6s,baz=110,slow=36							
PETK	**Petropavlovsk-**	**11.00**	**32**	P		**Pn**	**16 02 08.2**	**-0.9**
	comp=E,0.7nm,0.3s,baz=204,slow=15,SNR=26							
PETK	**Petropavlovsk-**	**11.00**	**32**	PN		**Pn**	**16 02 08.2**	**-0.9**
PETK				pmax		pmax		
	comp=Z,1.0nm,0.3s							
USRK	**Ussuriysk Ar.**	**11.61**	**276**	LR		LR	16 06 51.8	
	comp=Z,86nm,19.7s,baz=77,slow=38							
KLR	**Kul'dur**	**12.37**	**300**	*e*PN		**Pn**	**16 02 28.9**	**+1.2**
KLR	**Kul'dur**	**12.37**	**300**	*eP*		**Pn**	**16 02 28.9**	**+1.2**
EKMR	**Ekimchan**	**13.45**	**317**	*eP*		**Pn**	**16 02 45.3**	**+2.7**
YASR	**Yasnyy**	**16.13**	**312**	*eP*		**Pn**	**16 03 14.8**	**-2.8**
YASR				AMB		AMB	16 03 15.2	
	comp=Z,3.0nm,0.6s							
CN2	**Changchun**	**16.34**	**277**	*eP*		**Pn**	**16 03 19.4**	**-1.0**
BMKR	**Bomnak**	**16.39**	**317**	*eP*		**P**	**16 03 24.0**	**+1.0**
KSRS	**Korea Array**	**16.67**	**253**	P		**P**	**16 03 25.9**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=56,slow=12,SNR=4.0							
KSRS				LR		LR	16 10 05.6	
	comp=Z,36nm,19.9s,baz=70,slow=38							
KROS	**Kirovskiy**	**17.18**	**314**	*eP*		**P**	**16 03 33.4**	**+1.5**
JNU	**Nakasato**	**17.35**	**237**	P		**P**	**16 03 35.5**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=102,slow=13,SNR=3.2							
JNU				LR		LR	16 10 07.3	
	comp=Z,681nm,21.0s,baz=103,slow=36							
SEY	**Seymchan**	**19.02**	**6**	P		**P**	**16 03 51.1**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=176,slow=14,SNR=4.3							
YAK	**Yakutsk**	**20.96**	**335**	LR		LR	16 12 30.1	
	comp=Z,40nm,19.4s,baz=111,slow=37							
YAK	**Yakutsk**	**20.96**	**335**	*i* P		**P**	**16 04 11.4**	**-1.6**
YAK				pmax		pmax		
	comp=Z,5.0nm,0.7s							
YAK	**Yakutsk**	**20.96**	**335**	*eP*		**P**	**16 04 11.4**	**-1.6**
BILL	**Bilibino**	**25.82**	**16**	*eP*		**P**	**16 05 00.5**	**-0.2**
BILL				*i*			16 05 41.6	
BILL				pmax		pmax		
	comp=Z,4.0nm,2.2s							
BILL	**Bilibino**	**25.82**	**16**	*eP*		**P**	**16 05 00.5**	**-0.2**
H11N2	**WAKE ISLAND Hy**	**28.91**	**141**	T		T	16 36 13.0	
	baz=332,slow=76,SNR=258							
H11N1	**WAKE ISLAND Hy**	**28.93**	**141**	T		T	16 36 16.2	
	baz=332,slow=76,SNR=318							
H11N3	**WAKE ISLAND Hy**	**28.93**	**141**	T		T	16 36 18.1	
	baz=332,slow=76,SNR=384							
SONM	**Songino Array**	**29.00**	**292**	P		**P**	**16 05 30.4**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=92,slow=7.6,SNR=3.0							
SONM				LR		LR	16 18 11.6	
	comp=Z,59nm,19.4s,baz=92,slow=38							
H11S1	**WAKE ISLAND Hy**	**29.90**	**143**	T		T	16 37 21.9	
	baz=333,slow=76,SNR=485							
H11S3	**WAKE ISLAND Hy**	**29.91**	**143**	T		T	16 37 28.0	
	baz=333,slow=76,SNR=351							
H11S2	**WAKE ISLAND Hy**	**29.92**	**143**	T		T	16 37 23.3	
	baz=333,slow=76,SNR=315							
COLA	**College**	**40.36**	**36**	⇓*eP*		**P**	**16 07 08.5**	**+1.6**
COLA				pmax		pmax		
	comp=Z,28nm,1.0s							
COLA	**College**	**40.36**	**36**	*eP*		**P**	**16 07 08.5**	**+1.6**
ILAR	**Eielson Array**	**40.78**	**36**	P		**P**	**16 07 10.6**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=251,slow=6.7,SNR=15							
ILAR	**Eielson Array**	**40.78**	**36**	P		**P**	**16 07 10.6**	**+0.2**
ILAR				pmax		pmax		
	comp=Z,2.0nm,0.9s							
ZALV	**Zalesovo Beam**	**41.36**	**307**	P		**P**	**16 07 16.2**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=109,slow=6.6,SNR=2.5							
ZALV				PcP		**PcP**	**16 09 12.8**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=86,slow=4.6,SNR=6.3							
ZALV	**Zalesovo Beam**	**41.36**	**307**	P		**P**	**16 07 16.2**	**+1.0**
ZALV							16 09 12.8	
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**45.05**	**298**	P		**P**	**16 07 45.7**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=52,slow=2.4,SNR=12							
MKAR				PcP		**PcP**	**16 09 26.1**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=78,slow=5.6,SNR=2.9							
KURK	**Kurchatov**	**45.92**	**304**	*eP*		**P**	**16 07 52.0**	**0.0**
KURK				pmax		pmax		
	comp=Z,2.0nm,1.6s							
KURK	**Kurchatov**	**45.92**	**304**	*eP*		**P**	**16 07 52.0**	**0.0**
ODAN	**Odare**	**51.24**	**272**	*eP*		**P**	**16 08 33.0**	**-0.4**
JIRN	**Jiri**	**51.63**	**273**	*eP*		**P**	**16 08 37.1**	**+0.6**
	comp=Z,8.8nm,0.7s							
GUN	**Gumba**	**51.71**	**274**	*eP*		**P**	**16 08 37.7**	**+0.6**
RAMN	**Ramite**	**51.75**	**272**	*eP*		**P**	**16 08 36.9**	**-0.4**
	comp=Z,17nm,0.6s							
KKN	**Kakani**	**52.21**	**274**	*eP*		**P**	**16 08 41.6**	**+1.0**
	comp=Z,12nm,0.9s							
PKI	**Pulchoki**	**52.24**	**274**	*eP*		**P**	**16 08 41.3**	**+0.3**
PKIN	**Phulchoki**	**52.25**	**274**	*eP*		**P**	**16 08 41.2**	**+0.2**
	comp=Z,3.4nm,0.7s							
DMN	**Daman**	**52.44**	**274**	*eP*		**P**	**16 08 42.8**	**+0.4**
	comp=Z,9.3nm,0.8s							
GKN	**Gorkha**	**52.55**	**275**	*eP*		**P**	**16 08 43.4**	**+0.3**
	comp=Z,5.9nm,0.6s							
KOLN	**Koldanda**	**53.43**	**275**	*eP*		**P**	**16 08 50.0**	**+0.4**
	comp=Z,6.9nm,0.8s							
PYUN	**Piuthan**	**53.67**	**276**	*eP*		**P**	**16 08 51.9**	**+0.5**
	comp=Z,9.8nm,0.4s							
YKA	**Yellowknife Ar**	**55.11**	**34**	P		**P**	**16 09 01.5**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=300,slow=7.2,SNR=10							
YKA	**Yellowknife Ar**	**55.11**	**34**	P		**P**	**16 09 01.5**	**+0.5**
YKA				pmax		pmax		
	comp=Z,1.0nm,0.5s							
ARCES	**ARCESS Array B**	**59.16**	**340**	P		**P**	**16 09 28.7**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=46,slow=6.6,SNR=4.3							
ARCES	**ARCESS Array B**	**59.16**	**340**	P		**P**	**16 09 28.7**	**-0.9**
ARCES				pmax		pmax		
	comp=Z,2.0nm,0.8s							
FINES	**FINESS Array B**	**64.88**	**333**	P		**P**	**16 10 06.5**	**-1.6**
	comp=Z,2.0nm,0.6s,baz=46,slow=8.2,SNR=8.2							
FINES	**FINESS Array B**	**64.88**	**333**	*i* P		**P**	**16 10 08.1**	**+0.1**
FINES				pmax		pmax		
	comp=Z,2.0nm,0.6s							
FINES	**FINESS Array B**	**64.88**	**333**	*eP*		**P**	**16 10 08.1**	**+0.1**
GEYT	**Alibeck**	**64.89**	**299**	P		**P**	**16 10 07.5**	**-1.1**
	comp=Z,2.3nm,0.7s,baz=0.0,slow=3.6,SNR=5.3							
WRA	**Warramunga Arr**	**64.98**	**194**	P		**P**	**16 10 08.4**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=9.1,slow=6.5,SNR=3.3							
NVAR	**Mina Array Bea**	**66.78**	**59**	P		**P**	**16 10 21.8**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=279,slow=6.4,SNR=5.1							
ASAR	**Alice Springs**	**68.69**	**194**	P		**P**	**16 10 33.8**	**+1.1**
	comp=Z,0.4nm,0.9s,baz=10.0,slow=6.9,SNR=4.4							
NB2	**NORSAR Subarra**	**69.53**	**339**	P		**P**	**16 10 36.6**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=31,slow=6.5							
NOA	**NORSAR Array B**	**69.53**	**339**	P		**P**	**16 10 36.7**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=31,slow=6.6,SNR=6.3							
NOA	**NORSAR Array B**	**69.53**	**339**	P		**P**	**16 10 36.7**	**-0.8**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.5s							
KBZ	**Khabaz**	**70.10**	**312**	P		**P**	**16 10 42.1**	**+0.9**
	comp=Z,2.4nm,0.8s,baz=53,slow=20,SNR=9.1							
KBZ	**Khabaz**	**70.10**	**312**	P		**P**	**16 10 42.1**	**+0.9**
KBZ				pmax		pmax		
	comp=Z,2.0nm,0.8s							
ZEI	**Tsey**	**70.19**	**311**	*eP*		**P**	**16 10 41.3**	**-0.8**
ZEI				pmax		pmax		
	comp=Z,2.0nm,0.6s							
AKASG	**Malin Array Be**	**71.72**	**324**	P		**P**	**16 10 49.9**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=40,slow=5.9,SNR=5.8							
AKASG	**Malin Array Be**	**71.72**	**324**	*i* P		**P**	**16 10 50.5**	**-0.4**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
CLL	**Collm**	**77.33**	**333**	*eP*		**P**	**16 11 22.0**	**-1.5**
CLL	**Collm**	**77.33**	**333**	*eP*		**P**	**16 11 22.0**	**-1.5**
BRTR	**Keskin Array B**	**77.81**	**314**	P		**P**	**16 11 26.9**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=88,slow=2.1,SNR=5.8							
BRTR	**Keskin Array B**	**77.81**	**314**	*i* P		**P**	**16 11 27.2**	**+0.6**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
GERES	**GERESS Array B**	**79.19**	**331**	P		**P**	**16 11 33.8**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=31,slow=5.4,SNR=5.8							
GERES	**GERESS Array B**	**79.19**	**331**	P		**P**	**16 11 33.8**	**-0.2**
GERES				pmax		pmax		
	comp=Z,1.0nm,0.4s							
TXAR	**Lajitas Array**	**81.86**	**57**	P		**P**	**16 11 49.0**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=298,slow=4.0,SNR=17							
TXAR				pP		**pP**	**16 12 03.6**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=300,slow=4.1,SNR=7.3							
TXAR	**Lajitas Array**	**81.86**	**57**	P		**P**	**16 11 49.0**	**+0.4**
TXAR				*PP		**pP**	**16 12 03.6**	**+0.4**
TXAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
TXAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
TXAR	**Lajitas Array**	**81.86**	**57**	*eP*		**P**	**16 11 49.0**	**+0.4**

*IDC **04** 16:00:33.3±8.2, 10.°27N×126.°04E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.2/33, mbtmp3.3/3, Error ellipse: s-maj=280.3km s-min=28.0km az=47.0*
*ISCJB **04** 16:00:38.8±1.5, 10.°39N±0.°06×126.°3E±0.°1, h66km±14km, mb3.1/3, Error ellipse: s-maj=22.2km s-min=7.4km az=158.4*
*MAN **04** 16:00:39, 10.°36N×126.°30E, h28km, mb4.6, ML3.5, MS3.4*

ISC 04 16:00:39.6±2.1, 10.°38N±0.°08×126.°3E±0.°1, h53km±22km, n14, σ1s20/18, mb3.2/3, 3C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SCPH	**Surigao**	**1.02**	**234**	⇓*eP*		**Pn**	**16 00 57.5**	**-0.2**
SCPH				*i* S		**Sn**	**16 01 10.7**	**-0.4**
MSLP	**Maasin**	**1.47**	**261**	*eP*		**Pn**	**16 01 02.9**	**-0.9**
PLP	**Palo**	**1.54**	**300**	⇓*eP*		**Pn**	**16 01 04.9**	**+0.1**
PLP				*eS*		**Sn**	**16 01 23.5**	**-0.3**
BUTP	**Butuan**	**1.57**	**207**	*eP*		**Pn**	**16 01 04.4**	**-0.7**
BUTP				*eS*		**Sn**	**16 01 23.5**	**-0.9**
OCLP	**Ormoc**	**1.82**	**292**	*eP*		**Pn**	**16 01 09.5**	**+0.9**
BIPH	**Bislig**	**2.18**	**179**	⇑*eP*		**Pn**	**16 01 14.3**	**+0.7**
BIPH				*eS*		**Sn**	**16 01 39.2**	**-0.2**
CGP	**Cagayan de Oro**	**2.51**	**220**	⇑*eP*		**Pn**	**16 01 18.8**	**+0.8**
CGP				*eS*		**Sn**	**16 01 49.5**	**+2.1**
BUKP	**Musuan**	**2.79**	**207**	*eP*		**Pn**	**16 01 23.7**	**+1.9**
GUIM	**Jordan**	**3.69**	**274**	*eP*		**Pn**	**16 01 35.3**	**+1.1**
RCP	**Roxas**	**3.71**	**289**	⇑*eP*		**Pn**	**16 01 36.2**	**+1.6**
PAGZ	**Pagadian**	**3.85**	**229**	*eP*		Pn	16 01 31.7	-4.8
CMAR

RAO	**Raoul Island**	**14.41**	**198**	LR	LR	16 17 25.8		
	comp=Z,1μm,18.1s,baz=30,slow=34							
DZM	**Mont Dzumac**	**20.54**	**248**	*e*LR	LR	16 18 49.6		
	2μm,24.4s							
PAE	**Paea**	**22.52**	**99**	*e*T	T	16 37 19.7		
	1.6nm,0.3s							
PPT	**Papeete**	**22.52**	**98**	LR	LR	16 21 10.1		
	comp=Z,450nm,18.1s,baz=277,slow=32							
PPT2	**Papeete2**	**22.52**	**99**	*e*S	**S**	**16 18 12.2**	**-4.9**	
PPT2	1μm,27.0s							
				*e*LR	LR	16 19 27.4		
	2μm,26.0s,baz=266							
TVO	**Taravao**	**22.83**	**99**	*e*T	T	16 37 43.6		
	1.2nm,0.3s							
TBI	**Tubuai**	**23.48**	**113**	*e*S	**S**	**16 18 28.4**	**-5.0**	
TBI	1μm,30.0s							
				*e*LR	LR	16 20 00.5		
	2μm,26.0s,baz=285							
TBI	**Tubuai**	**23.48**	**113**	*e*T	T	16 38 32.7		
	8.2nm,0.3s							
PMOR	**Pomariorio Ree**	**24.19**	**92**	*e*T	T	16 39 24.7		
	2.0nm,0.2s							
URZ	**Urewera**	**24.29**	**199**	P	**P**	**16 14 28.2**	**+0.5**	
	6.2nm,0.6s,baz=297,slow=3.6,SNR=9.6							
RPZ	**Rata Peaks**	**31.23**	**203**	P	**P**	**16 15 30.9**	**+1.0**	
	3.3nm,0.7s,baz=22,slow=19,SNR=2.0							
TAOE	**Nuku Hiva Isla**	**32.73**	**82**	*e*T	T	16 50 03.8		
	153nm,0.3s							
RKT	**Rikitea**	**36.56**	**108**	*e*LR	LR	16 25 59.9		
	1μm,29.8s							
RKT	**Rikitea**	**36.56**	**108**	*e*T	T	16 54 53.2		
	3.5nm,0.3s							
H11S2	**WAKE ISLAND Hy**	**39.28**	**329**	T	T	16 58 42.4		
	baz=147,slow=75,SNR=16							
H11S3	**WAKE ISLAND Hy**	**39.29**	**329**	T	T	16 58 42.4		
	baz=147,slow=75,SNR=15							
H11S1	**WAKE ISLAND Hy**	**39.30**	**329**	T	T	16 58 38.1		
	baz=147,slow=75,SNR=11							
H11N3	**WAKE ISLAND Hy**	**40.22**	**330**	T	T	16 59 48.5		
	baz=150,slow=75							
H11N1	**WAKE ISLAND Hy**	**40.22**	**330**	T	T	16 59 48.5		
	baz=150							
H11N2	**WAKE ISLAND Hy**	**40.24**	**330**	T	T	16 59 48.5		
	baz=150,slow=75							
STKA	**Stephens Creek**	**44.34**	**240**	P	**P**	**16 17 19.3**	**-1.3**	
	5.8nm,0.8s,baz=96,slow=9.0,SNR=11							
STKA				LR	LR	16 34 05.4		
	comp=Z,291nm,18.5s,baz=75,slow=34							
WRA	**Warramunga Arr**	**50.22**	**257**	P	**P**	**16 18 04.8**	**-1.9**	
	1.9nm,0.7s,baz=91,slow=6.9,SNR=23							
WRA				LR	LR	16 38 22.8		
	comp=Z,495nm,18.4s,baz=110,slow=35							
AS31	**Alice Springs**	**50.47**	**252**	*e*P	**P**	**16 18 07.2**	**-1.4**	
ASAR	**Alice Springs**	**50.47**	**252**	P	**P**	**16 18 06.8**	**-1.8**	
	7.2nm,0.6s,baz=89,slow=7.3,SNR=151							
ASAR				LR	LR	16 38 21.6		
	comp=Z,786nm,19.0s,baz=92,slow=35							
GUMO	**Guam**	**50.75**	**303**	LR	LR	16 37 38.3		
	comp=Z,138nm,19.1s,baz=98,slow=34							
VNDA	**Vanda**	**63.30**	**186**	P	**P**	**16 19 40.4**	**+1.7**	
	2.1nm,1.0s,baz=0.1,slow=6.3,SNR=7.9							
MJAR	**Matsushiro Arr**	**69.30**	**320**	P	**P**	**16 20 16.4**	**-1.3**	
	1.9nm,1.1s,baz=146,slow=6.1,SNR=5.7							
MJAR				LR	LR	16 45 09.7		
	comp=Z,234nm,21.7s,baz=115,slow=31							
MAT	**Matsushiro**	**69.30**	**320**	P	**P**	**16 20 16.4**	**-1.3**	
MAT				S	**S**	**16 29 26.4**	**+2.5**	
PETK	**Petropavlovsk-**	**72.87**	**342**	P	**P**	**16 20 39.9**	**+0.9**	
	8.0nm,0.9s,baz=139,slow=9.2,SNR=7.7							
NVAR	**Mina Array Bea**	**74.14**	**42**	P	**P**	**16 20 48.1**	**+1.0**	
	2.2nm,0.9s,baz=243,slow=9.0,SNR=5.7							
QSPA	**South Pole Qui**	**74.53**	**180**	*e*P	**P**	**16 20 49.3**	**+0.4**	
	11nm,1.1s							
TPH	**Tonopah**	**74.64**	**43**	P	**P**	**16 20 50.0**	**+0.1**	
	12nm,1.1s							
SHPR	**Sheep Range**	**75.15**	**45**	P	**P**	**16 20 52.9**	**-0.1**	
	17nm,1.5s							
TUC	**Tucson**	**76.14**	**50**	*e*P	**P**	**16 20 60.0**	**+1.4**	
	5.9nm,1.1s							
WVOR	**Wild Horse Val**	**76.27**	**38**	*e*P	**P**	**16 21 00.5**	**+1.4**	
	7.9nm,1.3s							
KSRS	**Korea Array**	**76.53**	**315**	P	**P**	**16 20 59.0**	**-1.6**	
	0.5nm,0.7s,baz=119,slow=4.3,SNR=2.8							
KSRS				LR	LR	16 49 08.0		
	comp=Z,90nm,21.4s,baz=102,slow=31							
KSAR	**Wonju Array Be**	**76.55**	**315**	P	**P**	**16 20 59.0**	**-1.7**	
USRK	**Ussuriysk Ar.**	**77.73**	**323**	P	**P**	**16 21 07.9**	**+0.7**	
	2.0nm,0.8s,baz=79,slow=12,SNR=4.2							
USRK				LR	LR	16 48 49.3		
	comp=Z,278nm,22.0s,baz=117,slow=31							
MVU	**Marysvale**	**78.19**	**44**	*e*P	**P**	**16 21 11.7**	**+1.5**	
	8.8nm,1.2s							
MSU	**Marysvale**	**78.22**	**44**	*e*P	**P**	**16 21 10.0**	**-0.3**	
	16nm,1.5s							
BMO	**Blue Mountains**	**78.47**	**37**	P	**P**	**16 21 11.4**	**0.0**	
	6.9nm,1.5s							
MDJ	**Mudanjiang**	**79.37**	**322**	P	**P**	**16 21 16.3**	**+0.1**	
MDJ				pP	**pP**	**16 21 19.6**	**-1.5**	
MDJ				sP	**sP**	**16 21 20.9**	**-1.9**	
MDJ				PP	**PP**	**16 24 15.5**	**-1.1**	
MDJ				S	**S**	**16 31 17.8**	**+1.2**	
MDJ				sS	**sS**	**16 31 23.6**	**-1.0**	
MDJ				PMZ				
	8.0nm,0.9s							
MDJ				PMZ				
	110nm,4.5s							
MDJ				LN				
	150nm,21.7s							
MDJ				LE				
	180nm,21.3s							
MDJ				LZ				
	280nm,21.3s							
DIV	**Divide**	**79.42**	**13**	*e*P	**P**	**16 21 13.4**	**-2.7**	
	21nm,1.1s							
HLID	**Hailey**	**79.45**	**39**	*e*P	**P**	**16 21 17.2**	**+0.3**	
	5.3nm,1.1s							
TXAR	**Lajitas Array**	**80.33**	**56**	P	**P**	**16 21 23.0**	**+1.1**	
	3.6nm,1.1s,baz=224,slow=6.3,SNR=15							
NJ2	**Nanjing**	**80.57**	**307**	*e*P	**P**	**16 21 22.1**	**-0.9**	
NJ2				PMZ				
	40nm,1.2s							
KTH	**Kantishna Hill**	**80.66**	**10**	*e*P	**P**	**16 21 20.6**	**-2.2**	
	17nm,1.3s							
TRF	**Thorofare Moun**	**80.67**	**10**	*e*P	**P**	**16 21 22.5**	**-0.5**	
	18nm,1.2s							
TNA	**Tin City**	**80.92**	**2**	*e*P	**P**	**16 21 24.9**	**+0.8**	
	22nm,1.3s							
MCK	**McKinley**	**81.16**	**11**	*e*P	**P**	**16 21 24.9**	**-0.6**	
	15nm,1.0s							
CN2	**Changchun**	**81.44**	**320**	*e*P	**P**	**16 21 27.5**	**+0.1**	
REDW	**Red Top Meadow**	**81.55**	**41**	P	**P**	**16 21 27.4**	**-0.9**	
	20nm,1.5s							
BSMT	**Basso Peak**	**81.62**	**35**	*e*P	**P**	**16 21 29.0**	**+0.6**	
	13nm,1.2s							
CHMT	**Chamberlain Mo**	**81.97**	**37**	*e*P	**P**	**16 21 30.2**	**-0.2**	
	8.9nm,1.4s							
COLA	**College**	**82.40**	**11**	*e*P	**P**	**16 21 31.8**	**-0.1**	
	21nm,1.0s							
ILAR	**Eielson Array**	**82.48**	**11**	P	**P**	**16 21 32.3**	**-0.1**	
	2.4nm,1.0s,baz=211,slow=6.4,SNR=14							
ILAR				LR	LR	16 54 37.1		
	comp=Z,95nm,18.9s,baz=166,slow=33							
IM04	**Indian Mountai**	**82.52**	**8**	*e*P	**P**	**16 21 33.0**	**+0.5**	
SEY	**Seymchan**	**82.74**	**345**	P	**P**	**16 21 34.4**	**+0.7**	
	5.0nm,1.1s,baz=98,slow=8.4,SNR=6.4							
QIZ	**Qiongzhong**	**83.33**	**292**	P	**P**	**16 21 36.9**	**-0.9**	
QIZ				pP	**PcP**	**16 21 39.6**	**-2.6**	
QIZ				PP	**PP**	**16 24 47.3**	**-2.5**	
QIZ				S	**S**	**16 31 56.7**	**-2.0**	
QIZ				PMZ				
	15nm,1.7s							
QIZ				LZ				
	180nm,19.4s							
EGAK	**Eagle**	**83.64**	**13**	*e*P	**P**	**16 21 38.9**	**+0.5**	
	10.0nm,1.1s							
COLD	**Coldfoot**	**84.19**	**9**	*e*P	**P**	**16 21 42.5**	**+1.3**	
	6.9nm,1.0s							
BILL	**Bilibino**	**84.68**	**352**	*e*P	**P**	**16 21 43.6**	**0.0**	
	9.5nm,1.4s							
BJI	**Beijing**	**85.85**	**313**	P	**P**	**16 21 51.2**	**+1.1**	
BJI				PMZ				
	13nm,1.2s							
BJI				PMZ				
	130nm,3.4s							
BJI				LN				
	69nm,19.1s							
BJI				LE				
	98nm,23.1s							
BJI				LZ				
	100nm,28.1s							
MAW	**Mawson**	**87.81**	**199**	P	**P**	**16 21 59.8**	**+0.6**	
	1.7nm,0.8s,baz=341,slow=19,SNR=3.5							
INK	**Inuvik**	**88.28**	**14**	P	**P**	**16 22 01.4**	**+0.2**	
	2.6nm,1.0s,baz=251,slow=7.2,SNR=4.7							
GYA	**Guiyang**	**88.46**	**298**	*e*P	**P**	**16 22 03.0**	**-0.2**	
GYA				PMZ				
	10.0nm,1.0s							
HHC	**Hu-ho-hao-te**	**89.41**	**313**	*e*P	**P**	**16 22 07.5**	**+0.2**	
HHC				PP	**PP**	**16 25 41.0**	**+2.3**	
HHC				S	**S**	**16 32 55.0**	**-2.3**	
HHC				sS	**ScS**	**16 33 03.0**	**+1.0**	
HHC				PMZ				
	9.0nm,0.9s							
HHC				PMZ				
	130nm,7.4s							
HHC				LN				
	110nm,18.5s							
HHC				LE				
	220nm,16.1s							
HHC				LZ				
	34nm,18.5s							
YKA	**Yellowknife Ar**	**90.04**	**23**	P	**P**	**16 22 09.7**	**+0.2**	
	1.7nm,0.9s,baz=236,slow=4.4,SNR=14							
KMI	**Kunming**	**91.45**	**296**	P	**P**	**16 22 17.8**	**+0.4**	
KMI				S	**S**	**16 33 13.4**	**-3.6**	
KMI				PMZ				
	3.0nm,0.7s							
KMI				PMZ				
	55nm,3.6s							
KMI				LN				
	86nm,14.3s							
KMI				LE				
	160nm,16.3s							
KMI				LZ				
	180nm,17.4s							
CMAR	**Chiang Mai Arr**	**93.05**	**288**	P	**P**	**16 22 24.3**	**-0.3**	
	0.6nm,0.9s,baz=90,slow=3.6,SNR=2.9							
CMAR				LR	LR	16 59 41.3		
	comp=Z,58nm,21.3s,baz=270,slow=33							
LZH	**Lanzhou**	**93.63**	**306**	*e*P	**P**	**16 22 27.2**	**+0.1**	
LZH				pP	**pP**	**16 22 32.5**	**+0.5**	
LZH				sP	**sP**	**16 22 34.8**	**+1.0**	
LZH				PMZ				
	14nm,1.0s							
SONM	**Songino Array**	**95.21**	**318**	P	**P**	**16 22 34.0**	**-0.1**	
	0.4nm,0.8s,baz=122,slow=2.3,SNR=4.6							
SONM				LR	LR	17 00 38.6		
	comp=Z,75nm,21.8s,baz=90,slow=32							
MKAR	**Makanchi Array**	**111.20**	**315**	PKiKP	**PKiKP**	**16 27 45.1**	**+1.0**	
	0.4nm,0.9s,baz=204,slow=3.2,SNR=4.0							
KSH	**Kashi**	**115.88**	**307**	*e*PKP	**PKPdf**	**16 27 58.3**	**+4.8**	
KSH				PKS	**PKSdf**	**16 31 33.8**	**+3.6**	
KSH				PPMZ				
	100nm,2.8s							
KSH				LN				
	91nm,6.3s							
KSH				LE				
	82nm,5.0s							
KSH				LZ				
	98nm,5.1s							
AKASG	**Malin Array Be**	**140.60**	**338**	PKhKP	PKPpre	16 28 34.9		
	0.1nm,0.3s,baz=33,slow=2.3,SNR=2.7							
CLL	**Collm**	**143.98**	**354**	*e*	**PKPdf**	**16 28 48.0**	**+2.3**	
CLL				Lm	MLR	17 34 00.0		
	comp=Z,200nm,21.0s							
MALT	**Malatya**	**144.24**	**315**	↑*i*P	**PKPdf**	**16 28 46.9**	**+0.1**	
STHS	**Stebnicka Huta**	**144.25**	**344**	*e*PKP	**PKPdf**	**16 28 45.6**	**-0.7**	
DPC	**Dobruska-Polom**	**144.45**	**350**	*e*PKP	PKPbc	16 28 45.3	+0.2	
DPC				*ep*PKP	pPKPdf	16 28 54.6	+2.9	
OKC	**Ostrava-Krasne**	**144.59**	**348**	*e*PKP	**PKPdf**	**16 28 46.6**	**-0.3**	
OKC				*ex*	x	16 29 00.0		
BURAR	**Bucovina Array**	**144.63**	**339**	↑*i*P	**PKPab**	**16 28 45.7**	**0.0**	
KRLC	**Kraliky**	**144.63**	**349**	*e*PKP	**PKPdf**	**16 28 47.2**	**+0.2**	
KRLC				*ep*PKP	**pPKPdf**	**16 28 53.0**	**+0.9**	
CRVS	**Cervenica-Dubn**	**144.67**	**343**	*e*PKP	**PKPdf**	**16 28 46.6**	**-0.5**	
MORC	**Moravsky Berou**	**144.78**	**348**	↑*i*P	**PKPab**	**16 28 46.0**	**-0.1**	
TRPA	**Tarpa**	**145.05**	**342**	↑*i*P	**PKPdf**	**16 28 47.9**	**+0.2**	
PRU	**Pruhonice**	**145.08**	**352**	*e*PKP	**PKPdf**	**16 28 48.0**	**+0.3**	
PRU				*ep*PKP	**pPKPdf**	**16 28 53.5**	**+0.7**	
PRU				*ex*	x	16 29 00.4		
PRU				AMS	AMS	17 32 00.0		
	comp=Z,200nm,19.2s							
NKC	**Novy Kostel**	**145.10**	**354**	*e*PKP	**PKPdf**	**16 28 47.5**	**-0.3**	
NKC				*ex*	x	16 28 54.0		
GOPC	**GO Pecny, Ondr**	**145.12**	**351**	*e*PKP	**PKPdf**	**16 28 47.8**	**0.0**	
GOPC				*ex*	x	16 28 55.2		
GOPC				AMS	AMS	17 35 20.0		
	comp=Z,200nm,15.8s							
KECS	**Kecovo**	**145.31**	**344**	*e*PKP	**PKPdf**	**16 28 49.0**	**+0.8**	
VRAC	**Vranov**	**145.41**	**349**	↑*i*P	**PKPab**	**16 28 48.6**	**+0.2**	
CFR	**Carcaliu**	**145.49**	**333**	↑*i*P	**PKPbc**	**16 28 48.6**	**+0.1**	
VRI	**Vrincioaia**	**145.52**	**335**	↑*i*P	PKPab	16 28 54.7	+5.8	
PLOR	**Plostina**	**145.57**	**335**	↑*i*P	**PKPab**	**16 28 49.5**	**+0.4**	
ROTZ	**Rotzenmuhle**	**145.58**	**354**	*e*PKP	**PKPab**	**16 28 50.2**	**+1.2**	
TREC	**Trest**	**145.61**	**350**	AMS	AMS	17 31 50.0		
	comp=Z,200nm,15.1s							
VYHS	**Vyhne**	**145.71**	**346**	*e*PKP	**PKPab**	**16 28 50.0**	**+0.5**	
GRF	**Grafenberg Arr**	**145.75**	**355**	*e*PKP	**PKPab**	**16 28 50.9**	**+1.3**	
KMBO	**Kilima Mbogo**	**145.86**	**244**	PKPbc	**PKPbc**	**16 28 51.1**	**+0.2**	
	comp=Z,1.9nm,0.6s,baz=78,slow=2.4,SNR=7.7							
TIRR	**Tirgusor**	**145.93**	**332**	↓*i*P	**PKPab**	**16 28 51.4**	**+1.0**	
HARR	**Harsova**	**145.97**	**333**	↑*i*P	**PKPab**	**16 28 52.8**	**+2.2**	
TLB	**Topalu**	**146.00**	**333**	↑*i*P	**PKPab**	**16 28 51.2**	**+0.5**	
KHC	**Kasperske Hory**	**146.05**	**352**	*e*PKP	**PKPbc**	**16 28 50.5**	**+0.2**	
KHC				*ep*PKP	**pPKPdf**	**16 28 56.5**	**+2.0**	
WET	**Wettzell**	**146.12**	**353**	*e*PKP	**PKPab**	**16 28 51.9**	**+0.8**	
MLR	**Muntele Rosu**	**146.15**	**336**	↓*i*P	**PKPab**	**16 28 51.2**	**-0.2**	
DRGR		**146.19**	**341**	↑*i*P	**PKPab**	**16 28 51.2**	**-0.3**	
ISR	**Istrita**	**146.21**	**335**	↑*i*P	**PKPbc**	**16 28 50.8**	**-0.1**	
GEC2	**GERESS Array S**	**146.31**	**352**	*e*PKP	**PKPab**	**16 28 52.2**	**+0.3**	
GERES	**GERESS Array B**	**146.31**	**352**	PKPbc	**PKPab**	**16 28 51.6**	**-0.3**	
	comp=Z,6.1nm,1.2s,baz=48,slow=2.0,SNR=14							
BR131	**Keskin Array S**	**146.51**	**321**	*e*PKPbc	**PKPab**	**16 28 52.7**	**-0.3**	
BRTR	**Keskin Array B**	**146.51**	**321**	PKPbc	**PKPab**	**16 28 52.8**	**-0.3**	
	comp=Z,16nm,1.1s,baz=102,slow=1.8,SNR=36							
VOIR		**146.54**	**337**	↑*i*P	**PKPbc**	**16 28 51.5**	**-0.4**	
ARR	**Arges**	**146.75**	**337**	↓*i*P	**PKPab**	**16 28 54.8**	**+1.1**	
CONA	**Conrad Observa**	**146.87**	**349**	↑*i*PKPab	**PKPbc**	**16 28 52.2**	**-0.6**	
	comp=Z,8.5nm,1.0s							
BFO	**Black Forest**	**147.26**	**358**	*e*PKP	**PKPab**	**16 28 55.9**	**+0.4**	
BZS	**Buzias**	**147.58**	**341**	↑*i*P	**PKPab**	**16 28 56.0**	**-0.8**	
PKSM	**Moravgy**	**147.89**	**345**	↑*i*P	**PKPdf**	**16 28 49.5**	**-3.0**	
SOKA	**Soboth**	**148.22**	**350**	↓*i*pPKPdf	**PKPbc**	**16 28 55.5**	**-1.0**	
	comp=Z,11nm,1.3s							
DIVS	**Divibare**	**149.45**	**341**	↑*i*P	**PKPbc**	**16 29 00.0**	**+0.3**	
VTS	**Vitosha**	**149.65**	**336**	↓*i*P	**PKPbc**	**16 29 00.9**	**+0.5**	

*ISCJB **04** 16:12:53.8±0.6,21˚.73S±0˚.04×68˚.31W±0˚.04,h87km±5km, mb5.4/182, Error ellipse: s-maj=6.8km s-min=5.2km az=137.6*

*MOS **04** 16:12:53.2±1.1,21˚.78S×68˚.34W,h80km, mb5.4/39, Error ellipse: s-maj=13.4km s-min=5.8km az=115.6*

*GCMT **04** 16:12:55.5±0.2,22˚.11S×68˚.66W,h135km±1km, MW5.3/104, Moment Tensor Solution. s82,c118; s104,c167; Duration: 1ŝ1 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.70±.02; $M_{\theta\theta}$-0.08±.03; $M_{\phi\phi}$0.78±.03; $M_{r\theta}$0.25±.02; $M_{\theta\phi}$0.27±.03; $M_{\phi r}$-0.99±.02; Best double couple: $Mo1.29400\times10^{17}$ NP1:ϕ_s353.00000°, δ73.00000°, λ-108.00000°. NP2:ϕ_s219.00000°, δ24.00000°, λ-46.00000°. Principal axes: T 1.2910, Plg26.0000°, Azm96.0000°; N 0.0060, Plg17.0000°, Azm358.0000°; P -1.2970, Plg59.0000°, Azm238.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **04** 16:12:55.9±1.0,21˚.89S×68˚.28W,h97km±8km, mb5.0/16, mb1 4.9/20,mb1mx4.9/26,mbtmp5.2/20,MS4.3/6, Ms1 4.3/6,ms1mx4.0/17 Error ellipse: s-maj=13.7km s-min=11.2km az=76.0*

*NEIC **04** 16:12:55.2±0.5,21˚.89S×68˚.25W,h92km±4km, mb5.4/143, Error ellipse: s-maj=5.9km s-min=3.6km az=64.0*

NEIC Felt [III] at Maria Elena, Quillagua and Tocopilla; [II] at Antofagasta, Calama, Pica and Pozo Almonte. Also felt at Iquique.

*BJI **04** 16:12:55.1,21˚.12S×68˚.64W,h91km, mB5.1/31*

*GUC **04** 16:12:56.7±0.5,22˚.07S×68˚.66W,h125km±5km,ML5.4*

ISC 04 16:12:55.1±0.4,**21˚.84S**±0˚.04×**68˚.25W**±0˚.05,**h92**km±2km,

h91km:pP-P,n871,σ1ŝ03/933,mb5.4/182,228C-235D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.98**	**218**	P	**Pn**		**16 13 16.2**	**+1.3**
	6μm,0.3s,baz=30,slow=7.6,SNR=3.9							
LVC				S	**Sn**		**16 13 30.6**	**+0.8**
	baz=218,slow=19							
LVC				LR	LR		16 13 49.4	
	comp=Z,37μm,20.8s,baz=4.0,slow=58							
LVC	**Limon Verde**	**0.98**	**218**	*e*Pn	**Pn**		**16 13 16.3**	**+1.3**
LVC				*e*Sn	**Sn**		**16 13 30.4**	**+0.6**
LVC				S	**Sn**		**16 13 30.6**	**+0.8**
SPCH	**San Pedro de A**	**1.06**	**178**	↓*i*P	**Pn**		16 13 19.6	+3.7
SPCH				*i*S	**Sn**		**16 13 36.9**	**+5.3**
MACH	**Maria Elena**	**1.44**	**256**	↑*i*P	**Pn**		**16 13 20.4**	**0.0**
MACH				*i*S	**Sn**		**16 13 38.3**	**-1.3**
CEN1	**Los Morros**	**2.37**	**229**	‖*e*P	**Pn**		**16 13 33.5**	**+1.2**
PB10	**IPOC Station P**	**2.70**	**232**	↑*i*P	**Pn**		**16 13 34.2**	**-2.4**
PB10				*i*S	Sn		16 14 00.4	-8.2
PB10				AML	AML		16 14 16.3	
	comp=N,22μm,0.4s							
ANCH	**Antofagasta**	**2.71**	**227**	*e*P	Pn		16 13 30.8	-5.9
ANCH				*e*S	Sn		16 13 59.8	-9.0
ARE	**Arequipa**	**6.17**	**330**	↑*i*P	**Pn**		**16 14 23.0**	**-0.9**
ARE	**Arequipa**	**6.17**	**330**	↑*i*P	**Pn**		**16 14 23.0**	**-0.9**
LCO	**Las Campanas**	**7.47**	**197**	*e*Pn	Pn		16 14 36.0	-5.6
	comp=N,130nm,0.7s							
CFAA	**Coronel Fontan**	**9.72**	**180**	P	Pn		16 15 08.4	-3.7
	comp=N,1.1nm,0.3s,baz=17,slow=7.0,SNR=52							
CFAA				S	Sn		16 16 50.0	-9.5
	comp=N,1.0nm,0.3s,baz=305,slow=5.7,SNR=8.3							
CPUP	**Villa Florida**	**10.93**	**116**	P	**Pn**		**16 15 29.1**	**+0.6**
	comp=N,0.3nm,0.3s,baz=298,slow=12,SNR=47							
CPUP				LR	LR		16 20 35.7	
	comp=N,14μm,21.7s,baz=305,slow=42							
CPUP	**Villa Florida**	**10.93**	**116**	*e*P	**Pn**		**16 15 29.2**	**+0.7**
CPUP	**Villa Florida**	**10.93**	**116**	*e*P	**Pn**		**16 15 29.2**	**+0.7**
NNA	**Nana**	**12.79**	**319**	Pn	**P**		**16 16 02.6**	**+1.7**
	comp=N,1μm,0.8s,SNR=8.3							
NNA	**Nana**	**12.79**	**319**	P	**Pn**		**16 15 53.9**	**+0.4**
	comp=N,1.5nm,0.3s,baz=164,slow=15,SNR=5.6							
NNA				S	Sn		16 18 07.2	-7.0
	comp=N,2.2nm,0.3s,baz=231,slow=13,SNR=2.2							
NNA				LR	LR		16 21 01.9	
	comp=N,399nm,20.5s,baz=166,slow=38							
SAML	**Samuel**	**13.71**	**22**	*e*P	**Pn**		**16 16 05.8**	**+0.1**
	comp=N,1.0nm,0.5s							
TRQA	**Tornquist**	**17.04**	**163**	*e*P	**Pn**		**16 16 44.7**	**-2.9**
	comp=N,88nm,0.9s							
ATAH	**Atahualpa**	**17.60**	**325**	P	**Pn**		**16 16 56.7**	**+1.8**
	comp=N,0.6nm,0.3s,baz=171,slow=10.0,SNR=11							
PLCA	**Paso Flores**	**18.93**	**185**	P	**P**		**16 17 07.3**	**-1.5**
	comp=N,1.3nm,0.3s,baz=10,slow=12,SNR=42							
PLCA				PcP	**PcP**		**16 21 30.9**	**-0.2**
	comp=N,0.4nm,0.3s,baz=17,slow=1.9,SNR=9.5							
PLCA				LR	LR		16 25 25.2	
	comp=N,995nm,19.2s,baz=2.5,slow=40							
PLCA	**Paso Flores**	**18.93**	**185**	*e*P	**P**		**16 17 06.5**	**-2.3**
PLCA				pmax	pmax			
	comp=Z,91nm,0.9s							
PLCA	**Paso Flores**	**18.93**	**185**	*e*P	**P**		**16 17 06.5**	**-2.3**
	comp=Z,91nm,0.9s							
PLCA				PcP	**PcP**		**16 21 30.9**	**-0.2**
BDFB	**Brasilia**	**20.12**	**76**	P	**P**		**16 17 22.9**	**+1.0**
	comp=Z,66nm,0.7s,baz=256,slow=12,SNR=36							
PTGA	**Pitinga**	**22.48**	**22**	P	**P**		**16 17 46.6**	**-0.4**
	comp=Z,48nm,0.7s,baz=211,slow=23,SNR=43							
PTGA				S	**S**		**16 21 44.5**	**-3.0**
	comp=Z,50nm,0.8s,baz=171,slow=15,SNR=7.7							
PTGA	**Pitinga**	**22.48**	**22**	*e*P	**P**		**16 17 46.5**	**-0.5**
	comp=Z,59nm,0.6s							
PTGA				S	**S**		**16 21 44.5**	**-3.0**
PTGA				*e*S	**S**		**16 21 45.8**	**-1.8**
OTAV	**Otavalo**	**24.10**	**334**	*e*P	**P**		**16 18 04.5**	**+1.7**
	comp=Z,136nm,1.4s							
ROSC	**El Rosal**	**27.19**	**347**	P	**P**		**16 18 32.4**	**+1.6**
	comp=Z,21nm,0.8s,baz=108,slow=11,SNR=9.5							
ROSC				LR	LR		16 31 06.1	
	comp=Z,507nm,18.3s,baz=190,slow=40							
ROSC	**El Rosal**	**27.19**	**347**	*e*P	**P**		**16 18 32.5**	**+1.8**
USHA	**Ushuaia**	**32.94**	**180**	P	**P**		**16 19 20.2**	**-0.4**
	comp=Z,15nm,0.9s,baz=357,slow=9.2,SNR=7.1							
USHA				LR	LR		16 33 45.9	
	comp=Z,292nm,19.2s,baz=0.5,slow=38							
RCBR	**Riachuelo**	**35.09**	**68**	*e*P	**P**		**16 19 40.5**	**

833A **Chaparral WMA,** 58.23 328 ⇓P P 16 22 40.4 +0.4
baz=58,SNR=34
537A **Green Hill Far** 58.25 331 ⇓P P 16 22 40.7 +0.6
baz=59
734A **La Parita Cree** 58.26 329 ⇓P P 16 22 40.6 +0.5
baz=58,SNR=7.2
635A **Leesville** 58.34 330 ⇓P P 16 22 40.5 -0.1
baz=59,SNR=5.5
340A **Bronson** 58.38 334 ⇑P P 16 22 41.8 +0.9
baz=59,SNR=7.8
438A **Sam Houston St** 58.46 332 ⇓P P 16 22 42.4 +0.8
baz=59
832A **Faith Ranch, C** 58.49 327 ⇓P P 16 22 41.9 +0.1
baz=59
733A **Divot King Ran** 58.51 328 ⇑P P 16 22 42.1 +0.2
baz=59,SNR=16
339A **Huntington** 58.58 334 ⇑P P 16 22 42.8 +0.5
baz=59
536A **Bastrop** 58.59 331 ⇑P P 16 22 42.5 +0.1
baz=59
634A **China Grove, S** 58.60 329 ⇑P P 16 22 42.2 -0.3
baz=59
535A **Dale** 58.78 330 ⇑P P 16 22 43.6 -0.1
baz=59
437A **Phantom Ranch,** 58.82 332 ⇑P P 16 22 44.6 +0.6
baz=59
732A **Laxson Ranch,** 58.85 327 ⇓P P 16 22 44.5 +0.2
baz=59,SNR=10.0
338A **Crockett** 58.92 333 ⇑P P 16 22 45.7 +1.1
baz=59
TKL **Tuckaleechee C** 59.05 345 *e*P P 16 22 45.1 -0.4
TKL **Tuckaleechee C** 59.05 345 *e*P P 16 22 45.0 -0.4
436A **Wall Ranch, Ga** 59.06 331 ⇓P P 16 22 46.2 +0.5
baz=59
633A **Saathoff Ranch** 59.06 328 ⇓P P 16 22 45.9 +0.1
baz=59,SNR=14
SHEL **Horse Pasture** 59.09 96 P P 16 22 48.5 +2.2
comp=Z,2µm,0.8s,SNR=5.6
337A **Centerville** 59.13 332 ⇑P P 16 22 47.5 +1.4
baz=59
239A **Gary** 59.15 334 ⇑P P 16 22 47.2 +1.0
baz=60,SNR=8.1
534A **Blanco** 59.20 329 ⇓P P 16 22 46.1 -0.6
baz=60,SNR=5.5
238A **Jacksonville** 59.40 334 ⇑P P 16 22 48.9 +0.9
baz=60,SNR=5.8
632A **Uvalde** 59.40 328 ⇓P P 16 22 48.3 +0.2
baz=60,SNR=14
435B **Jarrell** 59.42 331 ⇑P P 16 22 48.1 -0.1
baz=60
533A **Kerrville** 59.50 329 ⇓P P 16 22 48.6 -0.3
baz=60,SNR=5.8
OXF **Oxford** 59.54 340 *e*P P 16 22 48.0 -0.9
OXF pmax pmax
comp=Z,116nm,1.0s
OXF **Oxford** 59.54 340 *e*P P 16 22 48.0 -0.9
comp=Z,116nm,1.0s
VNA3 **Neumayer Olymp** 59.56 161 P P 16 22 48.8 +0.1
336A **Riesel** 59.60 332 ⇑P P 16 22 49.7 +0.3
baz=60,SNR=8.4
237A **Washetta, Mont** 59.69 333 ⇓P P 16 22 50.7 +0.8
baz=60
631A **Perdido Creek** 59.72 327 ⇑P P 16 22 50.0 -0.3
baz=60,SNR=33
VNA1 **Neumayer--Stat** 59.76 160 P P 16 22 50.5 +0.6
434A **Burnet** 59.76 330 ⇑P P 16 22 50.2 -0.3
baz=60,SNR=10
335A **Moody** 59.77 331 ⇓P P 16 22 50.7 +0.1
baz=60,SNR=8.5
VWCC **Virginia Weste** 59.80 349 *e*P P 16 22 51.5 +0.8
BLA **Blacksburg** 59.85 349 *e*P P 16 22 51.8 +0.8
BLA pmax pmax
comp=Z,38nm,0.6s
BLA **Blacksburg** 59.85 349 *e*P P 16 22 51.8 +0.8
comp=Z,38nm,0.6s
JSRW **J. Sargeant Re** 59.91 351 *e*P P 16 22 52.0 +0.6
138A **Matatall Enter** 59.96 334 ⇑P P 16 22 52.6 +0.8
baz=60
532A **Rocksprings** 59.97 328 ⇓P P 16 22 52.2 +0.1
baz=60,SNR=22
433A **Art** 60.10 329 ⇑P P 16 22 52.7 -0.2
baz=60,SNR=35
VNA2 **Neumayer--Watz** 60.13 161 P P 16 22 52.7 +0.1
baz=284,slow=8.1
137A **Heron Place, G** 60.18 333 ⇑P P 16 22 54.3 +0.9
baz=60,SNR=8.5
334A **Lometa** 60.19 330 ⇓P P 16 22 53.2 -0.2
baz=60,SNR=10
JCT **Junction City** 60.21 329 *e*P P 16 22 53.6 -0.1
JCT pmax pmax
comp=Z,84nm,0.9s
JCT **Junction City** 60.21 329 *e*P P 16 22 53.5 -0.1
comp=Z,84nm,0.9s
JCT **Junction City** 60.21 329 ⇓P P 16 22 53.5 -0.2
baz=60,SNR=28
531A **Rocksprings** 60.32 328 ⇓P P 16 22 54.7 +0.3
baz=61,SNR=50
Z38A **Mt. Pleasant** 60.43 334 ⇓P P 16 22 55.5 +0.5
baz=61
333A **Richland Sprin** 60.52 330 ⇓P P 16 22 55.5 -0.3
baz=61,SNR=25
432A **Menard** 60.53 329 ⇓P P 16 22 55.8 -0.1
baz=61,SNR=31
WVT **Waverly** 60.56 342 *e*P P 16 22 54.9 -1.0
WVT pmax pmax
comp=Z,74nm,0.9s
WVT **Waverly** 60.56 342 *e*P P 16 22 54.9 -1.0
comp=Z,74nm,0.9s
530A **J-C Ranch, Com** 60.70 327 ⇓P P 16 22 57.2 +0.2
baz=61,SNR=72
234A **Clairette** 60.71 331 ⇓P P 16 22 57.0 +0.1
baz=61,SNR=24
431A **Sonora** 60.77 328 ⇓P P 16 22 57.3 -0.2
baz=61,SNR=40
UALR **University of** 60.78 337 *e*P P 16 22 57.0 -0.3
comp=Z,54nm,1.1s
135A **Vickery Place,** 60.85 332 ⇑P P 16 22 57.8 -0.1
baz=61
332A **Millersview** 60.93 329 ⇑P P 16 22 58.8 +0.3
baz=61
MIAR **Mount Ida** 61.02 336 *e*P P 16 22 58.8 -0.2
MIAR pmax pmax
comp=Z,51nm,1.0s
MIAR **Mount Ida** 61.02 336 *e*P P 16 22 58.8 -0.2
comp=Z,51nm,1.0s
233A **Rising Star** 61.06 330 ⇓P P 16 22 59.3 -0.1
baz=61,SNR=22
GNAR **Gosnell** 61.07 340 *e*P P 16 22 59.5 +0.2
comp=Z,857nm,0.9s
529A **Stev Forest Ra** 61.13 326 ⇓P P 16 23 00.4 +0.4
baz=61,SNR=114
RKT **Rikitea** 61.16 255 *e*LR LR 16 41 30.0
comp=Z,614nm,38.0s
134A **White-Moore Ra** 61.16 331 ⇓P P 16 22 59.8 -0.2
baz=62
430A **Baggett Ranch,** 61.17 328 ⇓P P 16 22 60.0 -0.2
baz=62,SNR=28
331A **San Angelo** 61.20 329 ⇑P P 16 23 00.1 -0.2
baz=62,SNR=16
TXAR **Lajitas Array** 61.26 325 P P 16 23 00.8 0.0
comp=Z,14nm,0.9s,baz=147,slow=8.4,SNR=54
232A **Coleman** 61.30 330 ⇓P P 16 23 00.9 -0.1
baz=62,SNR=37
LPIG **La Paz** 61.30 316 P P 16 23 02.1 +1.0
comp=Z,36nm,0.4s,baz=0.2,slow=2.8,SNR=5.3
429A **Davenport Ranc** 61.36 327 ⇓P P 16 23 01.7 +0.2
baz=62,SNR=33
Z35A **Perchaven, San** 61.45 332 ⇑P P 16 23 02.2 +0.3
baz=62,SNR=11
133A **Hamilton Ranch** 61.57 331 ⇑P P 16 23 02.7 -0.1
baz=62,SNR=9.0
330A **Mertzon** 61.64 328 ⇑P P 16 23 02.9 -0.4
baz=62,SNR=15
231A **Bronte** 61.66 329 ⇓P P 16 23 03.0 -0.5
baz=62,SNR=7.5
SNAA **Sanae** 61.76 161 P P 16 23 03.8 +0.1
SNAA **Sanae** 61.76 161 *d i*P P 16 23 03.8 +0.1
SNAA pmax pmax
comp=Z,50nm,1.4s
SNAA **Sanae** 61.76 161 *e*P P 16 23 03.5 -0.1
comp=Z,58nm,1.1s
X37A **Clayton** 61.76 335 ⇓P P 16 23 04.3 +0.3
baz=62,SNR=22
Z34A **Collier Ranch,** 61.77 332 ⇑P P 16 23 04.1 0.0
baz=62,SNR=8.0
W38A **Poteau** 61.85 336 ⇑P P 16 23 05.2 +0.6
baz=62,SNR=21
ABTX **Abilene, Hawle** 61.91 330 *e*P P 16 23 04.4 -0.7
comp=Z,124nm,1.2s
ABTX **Abilene, Hawle** 61.91 330 ⇑P P 16 23 05.0 -0.1
baz=62,SNR=18
230A **Sterling City** 62.00 328 ⇓P P 16 23 05.3 -0.5
baz=62,SNR=5.6
Z33A **Whitaker Ranch** 62.07 331 ⇑P P 16 23 06.1 0.0
baz=62,SNR=22
329A **Wagon Wheel Ra** 62.10 328 ⇑P P 16 23 06.3 -0.2
baz=62,SNR=21
WCI **Wyandotte Cave** 62.11 344 *e*P P 16 23 05.2 -1.1
WCI pmax pmax
comp=Z,50nm,1.0s
WCI **Wyandotte Cave** 62.11 344 *e*P P 16 23 05.2 -1.1
comp=Z,50nm,1.0s
X36A **Centrahoma** 62.14 334 ⇑P P 16 23 06.0 -0.6
baz=62,SNR=5.7
Y34A **Reagan Ranch,** 62.20 332 ⇓P P 16 23 06.8 -0.2
baz=62,SNR=27
X35A **Drake** 62.24 333 ⇑P P 16 23 06.8 -0.4
baz=63,SNR=11
W37A **Quinton** 62.26 335 ⇑P P 16 23 07.6 +0.2
baz=63
131A **Roby** 62.30 330 ⇓P P 16 23 07.8 +0.1
baz=63,SNR=15
229A **Bryant Ranch,** 62.41 328 ⇑P P 16 23 08.2 -0.3
baz=63,SNR=14
Z32A **Haskell** 62.41 331 ⇑P P 16 23 08.1 -0.3
baz=63,SNR=5.2
130A **Snyder** 62.51 329 ⇑P P 16 23 09.0 -0.2
baz=63,SNR=22
W36A **Wetumka** 62.58 334 ⇑P P 16 23 09.0 -0.5
baz=63,SNR=13
Y33A **Hilltop Ranch,** 62.62 332 ⇓P P 16 23 09.5 -0.3
baz=63,SNR=11
Z31A **Sharp Cattle R** 62.73 330 ⇑P P 16 23 10.5 0.0
baz=63,SNR=20
X34A **Smith Ranch, M** 62.78 333 ⇓P P 16 23 10.9 0.0
baz=63,SNR=11
SSPA **Standing Stone** 62.80 352 *e*P P 16 23 11.2 +0.4
comp=Z,21nm,1.1s
W35A **Tecumseh** 62.85 334 ⇓P P 16 23 10.5 -0.8
baz=63,SNR=5.1
228A **UT Block 9, Go** 62.92 327 ⇓P P 16 23 11.5 -0.5
baz=63,SNR=11
129A **Stewart Farms,** 62.98 328 ⇑P P 16 23 11.9 -0.4
baz=63
Y32A **R-V Farms, Ver** 62.98 331 ⇓P P 16 23 12.0 -0.2
baz=63,SNR=8.2
X33A **Lawton** 63.02 332 ⇑P P 16 23 11.6 -0.8
baz=63
BLO **Bloomington** 63.06 344 *e*P P 16 23 12.1 -0.5
BLO pmax pmax
comp=Z,10.0nm,0.4s
BLO **Bloomington** 63.06 344 *e*P P 16 23 12.1 -0.5
comp=Z,10nm,0.4s
TUL1 **Leonard** 63.08 335 *e*P P 16 23 12.1 -0.7
comp=Z,90nm,1.4s
TUL1 **Leonard** 63.08 335 ⇑P P 16 23 12.5 -0.3
baz=63,SNR=5.1
Z30A **Sanderson Ranc** 63.16 329 ⇓P P 16 23 12.9 -0.5
baz=64,SNR=41
X32A **Elmer** 63.26 331 ⇑P P 16 23 13.7 -0.3
baz=64,SNR=5.9
ACSO **Alcott Creek Sta** 63.26 347 *e*P P 16 23 12.9 -1.0
comp=Z,56nm,1.1s
128A **Castleberry Fa** 63.27 328 ⇑P P 16 23 13.8 -0.4
baz=64,SNR=14
W34A **Bridge Creek,** 63.30 333 ⇓P P 16 23 13.8 -0.5
baz=64
WMOK **Wichita Mounta** 63.30 332 *e*P P 16 23 13.0 -1.3
WMOK pmax pmax
comp=Z,15nm,1.0s
WMOK **Wichita Mounta** 63.30 332 *e*P P 16 23 13.0 -1.3
comp=Z,15nm,1.0s
Y31A **Rekieta Farm,** 63.31 330 ⇓P P 16 23 14.4 0.0
baz=64,SNR=21
V35A **Meyer Ranch, C** 63.37 334 ⇓P P 16 23 14.1 -0.6
baz=64,SNR=6.5
Z29A **Hungry Hill Ra** 63.41 329 ⇓P P 16 23 14.4 -0.7
baz=64,SNR=16
W33A **Caddo, Fort Co** 63.52 333 ⇑P P 16 23 16.0 +0.2
baz=64,SNR=16
Y30A **Stafford Cattl** 63.54 330 ⇓P P 16 23 15.4 -0.5
baz=64
V34A **Guthrie** 63.71 334 *e*P P 16 23 16.6 -0.3
comp=Z,22nm,0.8s
V34A **Guthrie** 63.71 334 ⇓P P 16 23 16.4 -0.5
baz=64
X31A **McDonald Ranch** 63.74 331 ⇑P P 16 23 17.0 -0.3
baz=64,SNR=29
Z28A **Tucker Farm, M** 63.77 328 ⇓P P 16 23 16.8 -0.7
baz=64
W32A **Sentinel** 63.83 332 ⇑P P 16 23 17.7 -0.1
baz=64,SNR=22
Y29A **Porterfield Fa** 63.89 329 ⇑P P 16 23 17.6 -0.6
baz=64
X30A **Coker Ranch, T** 64.00 330 ⇑P P 16 23 18.6 -0.3
baz=64,SNR=11
V33A **Lossen Ranch,** 64.01 333 ⇓P P 16 23 18.7 -0.2
baz=64,SNR=14
MNTX **Cornudas Mount** 64.03 325 *e*P P 16 23 18.1 -1.1
comp=Z,55nm,1.0s
MNTX **Cornudas Mount** 64.03 325 ⇓P P 16 23 18.6 -0.5
baz=64,SNR=70
BINY **Binghamton** 64.12 354 *e*P P 16 23 19.9 +0.4
BINY *e* 16 23 35.7
comp=Z,55nm,0.8s
W31A **Holland Ranch,** 64.19 331 ⇑P P 16 23 19.6 -0.6
baz=64,SNR=7.4
Y28A **McKinney Farm,** 64.20 329 ⇑P P 16 23 19.6 -0.7
baz=64
U34A **Anderson Ranch** 64.23 334 *e*P P 16 23 20.1 -0.2
comp=Z,123nm,1.4s
U34A **Anderson Ranch** 64.23 334 ⇓P P 16 23 20.1 -0.2
baz=64,SNR=7.8
V32A **Arapaho** 64.25 332 ⇑P P 16 23 20.5 0.0
baz=65
SFIN **Lafayette** 64.34 344 *e*P P 16 23 19.5 -1.5
comp=Z,40nm,1.3s
SFIN **Lafyette** 64.34 344 ⇓P P 16 23 19.5 -1.5
baz=65,SNR=7.3
X29A **Tulia** 64.38 330 ⇑P P 16 23 20.9 -0.6
baz=65,SNR=5.2
TRY **Troy** 64.44 356 *e*P P 16 23 22.3 +0.7
comp=Z,24nm,0.9s
U33A **Lingo Farm, Me** 64.47 334 ⇑P P 16 23 21.3 -0.6
baz=65,SNR=6.8
W30A **Crocket Farms** 64.47 331 ⇓P P 16 23 21.8 -0.3
baz=65
MSTX **Muleshoe** 64.50 329 *e*P P 16 23 21.9 -0.5
comp=Z,174nm,1.0s
MSTX **Muleshoe** 64.50 329 ⇑P P 16 23 22.0 -0.3
baz=65,SNR=41
ERPA **Erie** 64.56 350 *e*P P 16 23 22.8 +0.5
ERPA *e* 16 23 39.1
comp=Z,72nm,0.8s
S36A **Lake Cedric, C** 64.59 336 ⇑P P 16 23 22.4 -0.3
baz=65,SNR=16
V31A **Spring Creek L** 64.64 332 ⇓P P 16 23 23.3 +0.2
baz=65,SNR=7.0
X28A **Dimmitt** 64.68 329 ⇑P P 16 23 23.0 -0.4
baz=65
AMTX **Amarillo** 64.73 330 *e*P P 16 23 23.4 -0.3
comp=Z,50nm,1.1s
AMTX **Amarillo** 64.73 330 ⇑P P 16 23 23.2 -0.6
baz=65
U32A **Winter Ranch,** 64.79 333 ⇑P P 16 23 23.8 -0.2
baz=65
S35A **Otter Creek Ra** 64.83 336 ⇓P P 16 23 24.1 -0.2
baz=65,SNR=12
R37A **Teagarden Farm** 64.83 337 ⇑P P 16 23 23.9 -0.4
baz=65,SNR=16
W29A **Amarillo** 64.91 330 ⇑P P 16 23 24.4 -0.5
baz=65,SNR=17
V30A **Spur Ranch, Mi** 65.01 331 ⇓P P 16 23 26.0 +0.5
baz=65
T33A **Patterson Ranc** 65.08 334 ⇓P P 16 23 25.8 -0.1
baz=65,SNR=6.2
R36A **Gordon, Harris** 65.09 337 ⇓P P 16 23 25.6 -0.3
baz=65,SNR=8.6
U31A **Nine Bar Ranch** 65.15 332 ⇑P P 16 23 26.3 -0.1
baz=66
S34A **Willow Spring** 65.16 335 ⇓P P 16 23 25.9 -0.4
baz=66
Q37A **Longview Farm,** 65.20 338 ⇑P P 16 23 26.0 -0.6
baz=66
W28A **Vega** 65.28 330 ⇓P P 16 23 27.3 0.0
baz=66,SNR=6.0
S33A **Kaszmaul Farm,** 65.42 334 ⇓P P 16 23 27.8 -0.3
baz=66
T32A **Huddler Ranch,** 65.44 333 ⇓P P 16 23 28.3 0.0
baz=66,SNR=7.3
V29A **Stinnett** 65.47 331 ⇑P P 16 23 28.4 -0.2
baz=66
U30A **WK&E Inc. Balk** 65.63 332 ⇓P P 16 23 29.4 -0.1
baz=66
T31A **Randall Ranch,** 65.69 333 ⇓P P 16 23 29.9 +0.1
baz=66
V28A **Channing** 65.70 330 ⇓P P 16 23 30.1 +0.1
baz=66,SNR=6.4
U29A **Oasis Ranch, S** 65.84 331 ⇑P P 16 23 31.1 +0.3
baz=66,SNR=5.4
S32A **Newby Ranch, P** 65.89 334 ⇑P P 16 23 31.4 +0.3
baz=66
319A **Douglas** 65.93 322 ⇓P P 16 23 32.7 +1.1
baz=66,SNR=30
121A **Cookes Peak, D** 65.96 324 *e*P P 16 23 33.0 +1.1
comp=Z,111nm,1.1s
121A **Cookes Peak, D** 65.96 324 ⇑P P 16 23 33.1 +1.3
baz=66,SNR=57
V27A **Dan Oppiter Fa** 65.99 330 ⇑P P 16 23 32.0 +0.2
baz=66
T30A **Plains** 66.01 332 ⇓P P 16 23 31.9 -0.1
baz=66
R33A **Olander Ranch,** 66.03 335 ⇑P P 16 23 31.6 -0.3
baz=66
S31A **Mullinville** 66.05 333 ⇑P P 16 23 32.2 +0.1
baz=66
KSU1 **Kansas State U** 66.18 336 ⇓P P 16 23 32.3 -0.6
baz=66
U28A **Mallet** 66.21 330 ⇑P P 16 23 33.0 -0.3
baz=66
NVL **N'lazarevskaya** 66.30 159 ⇓*i*P P 16 23 32.7 -0.5
NVL *i* S S 16 32 13.4 -1.8
NVL pmax pmax
comp=Z,48nm,1.4s
LONY **Lake Ozonia** 66.39 355 *e*P P 16 23 34.6 +0.5
comp=Z,139nm,1.9s
R32A **Long Quarter,** 66.41 334 ⇑P P 16 23 34.5 +0.1
baz=67,SNR=7.0
T29A **Hugoton** 66.44 332 ⇑P P 16 23 34.8 +0.1
baz=67
S30A **Montezuma** 66.48 333 ⇑P P 16 23 35.1 +0.2
baz=67
U27A **Thompson Grove** 66.52 330 ⇑P P 16 23 35.3 0.0
baz=67
Q33A **Connelly Farm,** 66.56 335 ⇓P P 16 23 35.1 -0.2
baz=67
R31A **Burdett** 66.63 334 ⇑P P 16 23 36.0 +0.1
baz=67,SNR=5.2
Y22D **IRIS PASSCAL I** 66.68 326 ⇑P P 16 23 37.7 +1.3
baz=67
S29A **Ulysses** 66.75 332 ⇓P P 16 23 36.7 +0.1
baz=67
T28A **Walsh** 66.77 331 ⇓P P 16 23 36.6 -0.2
baz=67,SNR=8.9
LENM **Lemitar** 66.78 326 *e*P P 16 23 38.1 +1.0
comp=Z,75nm,1.3s
Q32A **Meitler Ranch,** 66.84 335 ⇑P P 16 23 37.1 0.0
baz=67,SNR=11
P33A **Williams Farm,** 66.89 336 ⇓P P 16 23 37.4 0.0
baz=67
R30A **Dighton** 66.94 333 ⇓P P 16 23 38.2 +0.3
baz=67,SNR=7.8
T27A **Campo** 67.00 331 ⇓P P 16 23 38.5 +0.1
baz=67,SNR=29
LAZ **Ladron** 67.05 326 *e*P P 16 23 39.9 +1.1
comp=Z,58nm,1.4s
S28A **Manter** 67.06 331 ⇓P P 16 23 38.9 +0.2
baz=67,SNR=32
ANMO **Albuquerque** 67.12 327 *d i*P P 16 23 40.1 +0.9
ANMO pmax pmax
comp=Z,358nm,1.2s
ANMO **Albuquerque** 67.12 327 *e*P P 16 23 39.7 +0.4
comp=Z,76nm,0.9s
Q31A **Ellis** 67.19 334 ⇑P P 16 23 39.8 +0.4
baz=68,SNR=9.7
P32A **Huiting Farm,** 67.40 335 ⇑P P 16 23 40.7 0.0
baz=68
R29A **Marienthal** 67.43 332 ⇑P P 16 23 41.2 +0.3
baz=68,SNR=8.0
TUC **Tucson** 67.48 322 *e*P P 16 23 42.1 +0.7
TUC pmax pmax
comp=Z,105nm,1.3s
TUC **Tucson** 67.48 322 *e*P P 16 23 42.1 +0.7
comp=Z,105nm,1.3s
T26A **Comanche Natio** 67.49 330 ⇑P P 16 23 42.0 +0.5
baz=68,SNR=61
Q30A **Quinter** 67.50 333 ⇑P P 16 23 41.9 +0.5
baz=68,SNR=23
JFWS **Jewell Farm** 67.55 343 *e*P P 16 23 40.9 -0.6
JFWS *e* 16 24 08.7
JFWS pmax pmax
comp=Z,14nm,0.7s
JFWS **Jewell Farm** 67.55 343 *e*P P 16 23 40.9 -0.6
comp=Z,14nm,0.7s
JFWS *e*PcP PcP 16 24 08.7 +0.6
S27A **Las Animas** 67.59 331 ⇓P P 16 23 42.1 +0.1
baz=68
P31A **Stockton** 67.62 334 ⇑P P 16 23 42.4 +0.3
baz=68,SNR=18
R28A **Tribune** 67.65 332 ⇓P P 16 23 42.5 +0.1
baz=68
Q29A **Oakley** 67.75 333 ⇓P P 16 23 43.0 0.0
baz=68,SNR=10.0
S26A **Kim** 67.80 330 ⇓P P 16 23 44.1 +0.7
baz=68,SNR=79
O32A **Brockman Farm,** 67.82 336 ⇓P P 16 23 43.1 -0.2
baz=68
T25A **Trinidad** 67.85 329 ⇓P P 16 23 44.6 +0.8
baz=68,SNR=22
LIC **Lamto** 67.89 73 *e*P P 16 23 44.8 +0.5
comp=Z,92nm,0.6s
P30A **Selden** 68.00 334 ⇓P P 16 23 44.7 +0.2
baz=68
R27A **Eads** 68.04 331 ⇑P P 16 23 44.8 0.0
baz=68,SNR=9.2
TIC **Toumodi** 68.09 73 *e*P P 16 23 46.0 +0.5
comp=Z,3µm,1.6s
O31A **Woolen Ranch,** 68.14 335 ⇑P P 16 23 45.3 -0.1
baz=68
KIC **Kosan Boka** 68.21 73 *e*P P 16 23 47.0 +0.7
comp=Z,240nm,0.7s
DBIC **Dimbokro** 68.24 73 P P 16 23 47.2 +0.7
comp=Z,122nm,0.7s,baz=217,slow=6.5,SNR=156
DBIC **Dimbokro** 68.24 73 *e*P P 16 23 47.3 +0.8
DBIC pmax pmax
comp=Z,146nm,0.8s
DBIC **Dimbokro** 68.24 73 *e*P P 16 23 47.2 +0.8
comp=Z,146nm,0.8s
Q28A **Sharon Springs** 68.26 332 ⇓P P 16 23 46.4 +0.3
baz=69,SNR=6.8
N32A **Stulken Farm,** 68.27 336 ⇑P P 16 23 46.2 +0.1
baz=69
P29A **Atwood** 68.33 333 ⇑P P 16 23 46.8 +0.3
baz=69
R26A **Arlington** 68.34 331 ⇑P P 16 23 47.1 +0.4
baz=69,SNR=21
214A **Organ Pipe Nat** 68.42 320 *e*P P 16 23 48.3 +1.1
comp=Z,117nm,0.9s
214A **Organ Pipe Nat** 68.42 320 ⇓P P 16 23 48.6 +1.4
baz=69,SNR=69
O30A **MW Ranch, Wils** 68.46 334 ⇑P P 16 23 47.6 +0.3
baz=69
KSCO **Kaye Shedlock'** 68.56 332 *e*P P 16 23 48.9 +0.7
comp=Z,207nm,1.4s
KSCO **Kaye Shedlock'** 68.56 332 ⇓P P 16 23 48.8 +0.7
baz=69,SNR=11
N31A **Bailey Ranch,** 68.57 335 ⇓P P 16 23 48.3 +0.3
baz=69
P28A **Saint Francis** 68.65 333 ⇓P P 16 23 48.8 +0.3
baz=69
X18A **Snowflake** 68.65 324 ⇑P P 16 23 50.1 +1.3
baz=69,SNR=28
O29A **4D Ranch, Culb** 68.71 334 ⇑P P 16 23 49.3 +0.4
baz=69
BGNE **Belgrade** 68.77 336 *e*P P 16 23 49.5 +0.3
comp=Z,244nm,0.9s
BGNE **Belgrade** 68.77 336 ⇓P P 16 23 49.3 +0.1
baz=69,SNR=6.8
SDCO **Great Sand Dun** 68.85 329 ⇓P P 16 23 51.2 +1.0
baz=69,SNR=117
Q26A **Hugo** 68.89 331 ⇑P P 16 23 51.1 +0.9
baz=69,SNR=23
W18A **Petrified Fore** 68.98 324 *e*P P 16 23 51.8 +0.9
comp=Z,129nm,1.0s

W18A **Petrified Fore** 68.98 324 ⇓P P 16 23 52.0 +1.1
baz=69,SNR=37
P27A **Ficken Ranch,** 68.99 332 ⇓P P 16 23 51.4 +0.6
baz=69
N30A **Hueftle Ranch,** 69.00 335 ⇑P P 16 23 50.9 +0.3
baz=69
M31A **Lambtecht Ranc** 69.03 336 ⇑P P 16 23 51.2 +0.3
baz=69
R24A **Sanders Place,** 69.05 330 ⇓P P 16 23 52.5 +1.2
baz=69,SNR=34
S23A **Nye Farm, Mont** 69.06 329 ⇓P P 16 23 52.6 +1.2
baz=69
O28A **Krutsinger Ran** 69.12 333 ⇑P P 16 23 52.2 +0.7
baz=69
N29A **Votaw Ranch, W** 69.23 334 ⇓P P 16 23 52.6 +0.5
baz=70
P26A **Davis Ranch, A** 69.33 332 ⇓P P 16 23 53.6 +0.7
baz=70,SNR=8.1
R23A **Moffat** 69.36 329 ⇑P P 16 23 54.3 +1.0
baz=70,SNR=32
X16A **Lo Mia Camp, P** 69.40 323 ⇓P P 16 23 54.9 +1.5
baz=70,SNR=126
O27A **Beecher Island** 69.47 333 ⇑P P 16 23 54.7 +1.0
baz=70,SNR=9.8
N28A **Pribbeno Ranch** 69.49 334 ⇑P P 16 23 54.3 +0.5
baz=70
S22A **4UR Ranch, Cre** 69.50 328 ⇓P P 16 23 54.9 +0.8
baz=70,SNR=23
Z14A **Wintersburg** 69.50 321 ⇑P P 16 23 55.0 +1.2
baz=70,SNR=11
M30A **Dale-Ortello V** 69.54 335 ⇑P P 16 23 54.3 +0.3
baz=70
113A **Mohawk Valley,** 69.56 320 ⇑P P 16 23 55.4 +1.1
baz=70,SNR=18
P25A **Willow Gulch B** 69.66 331 ⇑P P 16 23 56.1 +1.2
baz=70,SNR=25
Q24A **Divide** 69.66 330 ⇑P P 16 23 55.9 +0.7
baz=70,SNR=27
L31A **Butterfield Fa** 69.69 336 ⇑P P 16 23 55.3 +0.4
baz=70,SNR=11
M29A **Burnside Ranch** 69.78 335 ⇑P P 16 23 56.0 +0.5
baz=70
L30A **Spencer Herefo** 69.83 335 ⇓P P 16 23 56.2 +0.5
baz=70
O26A **Horse Wrangler** 69.87 332 ⇓P P 16 23 57.0 +0.8
baz=70,SNR=9.9
OGNE **Ogallala** 69.91 333 *e*P P 16 23 57.0 +0.6
comp=Z,76nm,1.1s
OGNE **Ogallala** 69.91 333 ⇓P P 16 23 57.0 +0.6
baz=70
MVCO **Mesa Verde** 69.92 327 *e*P P 16 23 57.3 +0.6
comp=Z,131nm,0.8s
MVCO **Mesa Verde** 69.92 327 ⇓P P 16 23 57.7 +1.0
baz=70,SNR=57
Q23A **Hartsel** 69.93 330 ⇑P P 16 23 57.5 +0.7
baz=70,SNR=8.1
Y14A **Wickenburg** 69.94 321 ⇓P P 16 23 57.9 +1.3
baz=70,SNR=43
P24A **Kohler Place,** 69.99 331 ⇓P P 16 23 58.0 +1.0
baz=70,SNR=7.3
N27A **Anderson Farm,** 70.01 333 ⇓P P 16 23 57.4 +0.4
baz=70
M28A **Bar X Bar Ranc** 70.02 334 ⇓P P 16 23 57.9 +0.9
baz=70
O25A **Wiggins** 70.12 331 ⇑P P 16 23 58.8 +1.1
baz=70,SNR=5.5
WUAZ **Wupatki** 70.17 324 *e*P P 16 23 59.0 +0.9
comp=Z,200nm,0.9s
WUAZ **Wupatki** 70.17 324 ⇓P P 16 23 59.7 +1.6
baz=70,SNR=126
L29A **Maesberg Ranch** 70.22 335 ⇑P P 16 23 58.6 +0.4
baz=70
COWI **Conover** 70.22 345 *e*P P 16 23 57.6 -0.4
comp=Z,52nm,1.5s
ECSD **EROS Data Cent** 70.26 339 *e*P P 16 23 57.7 -0.6
comp=Z,14nm,0.8s
ECSD **EROS Data Cent** 70.26 339 ⇑P P 16 23 57.9 -0.4
baz=71,SNR=12
P23A **Jefferson** 70.31 330 ⇓P P 16 24 00.2 +1.1
baz=71,SNR=6.9
N26A **Koester Ranch,** 70.32 332 ⇓P P 16 23 59.8 +1.0
baz=71
GLA **Glamis** 70.39 320 *e*P P 16 24 00.3 +0.9
GLA pmax pmax
comp=Z,47nm,0.8s
GLA **Glamis** 70.39 320 *e*P P 16 24 00.3 +0.9
comp=Z,47nm,0.8s
GLA **Glamis** 70.39 320 ⇑P P 16 24 00.7 +1.3
baz=71,SNR=18
SPMN **Marine on St.** 70.40 342 *e*P P 16 23 58.6 -0.4
comp=Z,26nm,0.3s
SPMN **Marine on St.** 70.40 342 ⇓P P 16 23 58.5 -0.6
baz=71
K30A **Basset** 70.41 336 ⇑P P 16 23 59.5 +0.2
baz=71
M27A **Reverse DX Ran** 70.54 333 ⇓P P 16 24 00.8 +0.6
baz=71
ISCO **Idaho Springs** 70.55 330 *e*P P 16 24 01.2 +0.7
ISCO pmax pmax
comp=Z,48nm,0.9s
ISCO **Idaho Springs** 70.55 330 *e*P P 16 24 01.2 +0.7
comp=Z,48nm,0.9s
ISCO **Idaho Springs** 70.55 330 ⇑P P 16 24 01.4 +0.9
baz=71,SNR=35
O24A **Longmont** 70.56 331 ⇑P P 16 24 01.4 +1.0
baz=71
L28A **Connealy Angus** 70.59 334 ⇑P P 16 24 01.2 +0.7
baz=71
PV01 **Paradox Valley** 70.66 327 *e*P P 16 24 02.3 +1.1
comp=Z,9ųm,1.0s
N25A **Grover** 70.68 332 ⇓P P 16 24 02.0 +0.9
baz=71
SMCO **Snowmass** 70.69 329 P P 16 24 02.7 +1.1
comp=Z,177nm,1.5s
Y12C **Blythe** 70.70 320 ⇓P P 16 24 02.5 +1.3
baz=71,SNR=33
K29A **Lazy Trails An** 70.75 336 ⇑P P 16 24 01.9 +0.5
baz=71,SNR=5.3
M26A **McRoberts Ranc** 70.81 333 ⇑P P 16 24 02.6 +0.8
baz=71
PDMCI **Parker Dam,Lak** 70.86 321 ⇑P P 16 24 03.1 +1.0
baz=71,SNR=19
IBP **Imperial Bould** 70.89 319 ⇑P P 16 24 03.7 +1.2
baz=71,SNR=20
SWSC **Sam W. Stewart** 70.90 319 ⇓P P 16 24 03.5 +1.1
baz=71
P22A **Eagle** 70.92 329 ⇑P P 16 24 03.8 +1.1
baz=71,SNR=7.9
J30A **Dallas** 70.92 336 ⇑P P 16 24 02.3 -0.1
baz=71
L27A **T5 Ranch, Ells** 70.98 334 ⇓P P 16 24 03.5 +0.7
baz=71
O23A **Lake Granby, G** 71.01 330 ⇑P P 16 24 04.4 +1.1
baz=71,SNR=5.6
N24A **Carr** 71.04 331 ⇓P P 16 24 04.7 +1.3
baz=71
K28A **Ten Mile Ranch** 71.12 335 ⇑P P 16 24 04.7 +1.0
baz=71,SNR=5.6
M25A **Palm-Egli Farm** 71.17 332 ⇓P P 16 24 05.0 +0.9
baz=72
BC3 **Big Chuckawall** 71.19 320 ⇑P P 16 24 05.6 +1.3
baz=71,SNR=98
MONP **Monument Peak,** 71.25 319 ⇑P P 16 24 05.9 +1.1
baz=72,SNR=30
L26A **Underwood Farm** 71.25 333 ⇓P P 16 24 05.3 +0.8
baz=72
BAR **Barrett** 71.26 318 *e*P P 16 24 05.6 +0.9
comp=Z,72nm,0.9s
O22A **Kremmling** 71.27 330 ⇓P P 16 24 05.7 +0.8
baz=72,SNR=55
W13A **Hualapai Mount** 71.28 322 ⇓P P 16 24 06.5 +1.5
baz=72,SNR=81
J29A **Okreek** 71.31 336 ⇓P P 16 24 05.0 +0.3
baz=72,SNR=5.5
U15A **North Rim** 71.34 324 ⇓P P 16 24 07.1 +1.7
baz=72,SNR=137
IRM **Iron Mountain** 71.36 320 ⇓P P 16 24 06.5 +1.3
baz=72,SNR=77
I30A **Oacoma** 71.41 337 ⇓P P 16 24 05.0 -0.2
baz=72
K27A **Flueckinger Fa** 71.46 334 ⇑P P 16 24 06.7 +1.0
baz=72,SNR=6.3
M24A **Cheyenne** 71.53 332 ⇓P P 16 24 07.6 +1.3
baz=72,SNR=17
N23A **Red Feather La** 71.57 331 ⇑P P 16 24 07.6 +1.0
baz=72,SNR=14
109C **Camp Elliot, M** 71.67 318 ⇓P P 16 24 07.7 +0.6
baz=72

J28A **Allard Ranch,** 71.67 335 ⇓P P 16 24 07.5 +0.6
baz=72,SNR=22
BRSD **Miller** 71.69 337 ⇓P P 16 24 06.6 -0.4
baz=72
L25A **Engebretsen Ra** 71.72 333 ⇓P P 16 24 08.3 +0.9
baz=72
N22A **Wattenberg Ran** 71.73 330 ⇑P P 16 24 09.0 +1.4
baz=72,SNR=7.4
BELC **Belle Mtn. Jos** 71.75 320 ⇑P P 16 24 08.9 +1.2
baz=72,SNR=31
PFO **Pinyon Flats O** 71.76 319 P P 16 24 09.2 +1.4
comp=Z,307nm,0.8s,SNR=10
PFO **Pinyon Flats O** 71.76 319 ⇑P P 16 24 09.0 +1.2
baz=72,SNR=28
I29A **Vivian Onida** 71.83 336 ⇓P P 16 24 07.6 -0.2
baz=72
J27A **Elkhorn Farm,** 71.83 335 ⇓P P 16 24 09.0 +1.1
baz=72,SNR=30
K26A **Motz Farm, Whi** 71.85 334 ⇓P P 16 24 09.0 +0.9
baz=72
M23A **Laramie** 71.93 331 ⇑P P 16 24 09.6 +0.9
baz=72,SNR=8.5
LDFC **Landfair** 71.97 321 *e*P P 16 24 10.5 +1.5
comp=Z,128nm,0.9s
O20A **White River Ci** 72.05 329 *e*P P 16 24 10.6 +1.1
comp=Z,141nm,0.9s
O20A **White River Ci** 72.05 329 ⇓P P 16 24 10.6 +1.1
baz=72,SNR=35
L24A **Wheatland** 72.05 332 ⇑P P 16 24 10.0 +0.7
baz=72
K25A **Mack Ranch, Ha** 72.06 333 ⇑P P 16 24 10.4 +1.0
baz=72
GMRC **Granite Mounta** 72.09 320 ⇑P P 16 24 11.2 +1.5
baz=72,SNR=68
I28A **Midland** 72.13 336 ⇑P P 16 24 09.8 +0.2
baz=72
MURC **Murrieta** 72.21 319 ⇓P P 16 24 11.4 +1.0
baz=72,SNR=7.7
M22A **Cedar Creek Ra** 72.28 331 ⇑P P 16 24 11.7 +0.9
baz=73,SNR=10
H29A **Onida** 72.31 337 ⇑P P 16 24 10.3 -0.3
baz=73
J26A **Sides Ranch, S** 72.31 334 ⇓P P 16 24 11.8 +1.0
baz=73,SNR=12
G30A **Faulkton** 72.36 338 ⇓P P 16 24 10.6 -0.3
baz=73
SRU **San Rafael Swe** 72.39 327 *e*P P 16 24 12.4 +0.9
SRU pmax pmax
comp=Z,145nm,0.8s
SRU **San Rafael Swe** 72.39 327 *e*P P 16 24 12.4 +0.9
comp=Z,145nm,0.8s
L23A **Garrett** 72.44 332 ⇓P P 16 24 12.4 +0.7
baz=73
BBRC **Big Bear Solar** 72.49 319 ⇓P P 16 24 13.2 +1.0
baz=73
HEC **Hector,Ludlow** 72.52 320 ⇓P P 16 24 13.7 +1.4
baz=73,SNR=56
I27A **Quinn** 72.53 335 ⇓P P 16 24 12.5 +0.5
baz=73,SNR=5.7
EYMN **Ely** 72.54 344 *e*P P 16 24 10.9 -1.0
comp=Z,42nm,1.2s
K24A **Anderson Ranch** 72.55 333 ⇓P P 16 24 13.2 +0.9
baz=73
N20A **Spence Gulch,** 72.60 329 ⇑P P 16 24 13.8 +1.0
baz=73,SNR=18
SCI **San Clemente I** 72.64 317 ⇑P P 16 24 13.8 +1.0
baz=73,SNR=5.8
H28A **Mission Ridge** 72.65 336 ⇓P P 16 24 12.8 +0.1
baz=73
J25A **Sunshine Ranch** 72.67 334 ⇓P P 16 24 13.8 +0.9
baz=73,SNR=23
G29A **Hoven** 72.69 337 ⇑P P 16 24 12.6 -0.3
baz=73
TUQ **Turquoise Moun** 72.70 321 ⇓P P 16 24 14.6 +1.2
baz=73,SNR=48
L22A **Ellis Ranch, M** 72.70 331 ⇑P P 16 24 14.5 +1.2
baz=73
MSU **Marysvale** 72.81 325 *e*P P 16 24 15.3 +1.3
MSU pmax pmax
comp=Z,156nm,0.9s
MSU **Marysvale** 72.81 325 *e*P P 16 24 15.3 +1.3
comp=Z,156nm,0.9s
MVU **Marysvale** 72.82 325 *e*P P 16 24 15.5 +1.4
comp=Z,150nm,0.9s
I26A **New Underwood** 72.82 335 ⇑P P 16 24 14.5 +0.7
baz=73
CIS **Catalina Islan** 72.83 318 ⇓P P 16 24 14.9 +0.9
baz=73
BFSC **Mount Baldy Ra** 72.92 319 ⇑P P 16 24 15.5 +0.8
baz=73,SNR=34
F30A **Leola** 72.93 338 ⇑P P 16 24 14.3 0.0
baz=73
K23A **Bowen Ranch, D** 72.93 332 ⇓P P 16 24 15.5 +1.0
baz=73,SNR=15
G28A **Parade** 72.95 336 ⇓P P 16 24 14.7 +0.2
baz=73
RRX **Edison Barstow** 72.96 320 ⇑P P 16 24 16.4 +1.7
baz=73
FMP **Fort Macarthur** 72.96 318 ⇓P P 16 24 16.0 +1.2
baz=73
J24A **Dixon Ranch, L** 72.98 333 ⇓P P 16 24 16.2 +1.4
baz=73,SNR=20
SHPR **Sheep Range** 73.00 322 *e*P P 16 24 16.4 +1.2
comp=Z,71nm,0.9s
H27A **Howes** 73.02 335 ⇑P P 16 24 15.0 +0.1
baz=73
GSC **Goldstone, Bar** 73.13 320 *e*P P 16 24 17.0 +1.2
GSC pmax pmax
comp=Z,73nm,1.1s
GSC **Goldstone, Bar** 73.13 320 *e*P P 16 24 17.0 +1.2
comp=Z,73nm,1.1s
GSC **Goldstone, Bar** 73.13 320 ⇓P P 16 24 17.1 +1.2
baz=73,SNR=42
I25A **Rochford** 73.16 334 ⇓P P 16 24 17.1 +1.2
baz=74,SNR=65
F29A **Eureka** 73.21 338 ⇑P P 16 24 16.0 0.0
baz=74
SHOC **Shoshone, Teco** 73.23 321 ⇓P P 16 24 17.3 +1.0
baz=74
K22A **Casper** 73.24 331 ⇓P P 16 24 17.2 +0.8
baz=74,SNR=7.1
DECC **Green Verdugo** 73.34 318 ⇓P P 16 24 18.0 +1.0
baz=74,SNR=5.6
RSSD **Black Hills** 73.37 334 *e*P P 16 24 17.8 +0.6
RSSD pmax pmax
comp=Z,42nm,1.0s
RSSD **Black Hills** 73.37 334 *e*P P 16 24 17.8 +0.6
comp=Z,42nm,1.0s
I24A **Kuemmerle Ranc** 73.40 333 ⇑P P 16 24 18.2 +0.9
baz=74,SNR=9.1
J23A **Dilts Ranch, B** 73.42 333 ⇓P P 16 24 18.4 +1.0
baz=74
E30A **Jud** 73.47 338 ⇓P P 16 24 17.7 +0.2
baz=74
K21A **Alcova** 73.55 331 ⇓P P 16 24 19.5 +1.2
baz=74,SNR=14
EDW2 **Edwards Air Fo** 73.56 319 ⇓P P 16 24 19.0 +0.7
baz=74,SNR=30
F28A **McLaughlin** 73.57 337 ⇑P P 16 24 18.4 +0.4
baz=74
G27A **Dupree** 73.59 336 ⇓P P 16 24 18.5 +0.2
baz=74,SNR=6.4
H25A **Fruitdale** 73.61 334 ⇑P P 16 24 18.9 +0.5
baz=74
MPU **Maple Canyon** 73.64 327 *e*P P 16 24 19.8 +1.0
comp=Z,119nm,1.0s
BLG **Laguna Peak, P** 73.70 318 ⇑P P 16 24 19.9 +0.8
baz=74,SNR=8.4
G26A **Maurine** 73.77 335 ⇑P P 16 24 19.4 +0.1
baz=74,SNR=7.9
E29A **Napoleon** 73.78 338 ⇓P P 16 24 19.2 0.0
baz=74
LRMC **Laurel Mtn Rad** 73.78 320 ⇓P P 16 24 20.8 +1.1
baz=74,SNR=40
NLU **North Lily Min** 73.82 326 *e*P P 16 24 20.8 +0.9
comp=Z,83nm,1.4s
J22A **Midwest** 73.83 332 ⇑P P 16 24 20.2 +0.4
baz=74,SNR=8.1
OSI **Osito Audit: C** 73.83 319 *e*P P 16 24 20.9 +1.0
comp=Z,20nm,0.7s
OSI **Osito Audit: C** 73.83 319 ⇓P P 16 24 20.7 +0.9
baz=74
I23A **Meade Ranch, G** 73.83 333 ⇓P P 16 24 20.1 +0.3
baz=74
TPNV **Topopah Spring** 73.94 322 ⇑P P 16 24 22.2 +1.6
baz=74,SNR=78
D30A **Buchanan** 73.94 339 ⇓P P 16 24 20.4 +0.2
baz=74,SNR=16

FURC **Furnace Creek,** 73.96 321 ⇑P P 16 24 22.0 +1.5
baz=74,SNR=33
TBI **Tubuai** 73.97 251 *e*P P 16 24 22.2 +1.2
comp=Z,190nm,1.3s
TBI *e*S S 16 33 47.8 +1.6
comp=Z,100nm,30.2s
BSC **Santa Cruz Isl** 73.98 318 ⇓P P 16 24 21.2 +0.4
baz=74
JLU **Jordanelle** 73.98 327 *e*P P 16 24 22.0 +1.1
comp=Z,95nm,0.9s
G25A **Newell** 74.01 335 ⇑P P 16 24 21.1 +0.4
baz=74
F27A **Lemmon** 74.04 336 ⇑P P 16 24 21.2 +0.4
baz=74
MPMC **Manual Prospec** 74.05 320 ⇓P P 16 24 22.2 +0.8
baz=74,SNR=38
AGMN **Agassiz Nation** 74.07 341 *e*P P 16 24 20.4 -0.4
comp=Z,30nm,1.0s
AGMN **Agassiz Nation** 74.07 341 ⇓P P 16 24 20.5 -0.4
baz=74,SNR=13
H24A **Dirks Ranch, A** 74.10 334 ⇑P P 16 24 21.6 +0.3
baz=74,SNR=34
E28A **Huff** 74.15 337 ⇑P P 16 24 21.9 +0.4
baz=74
D29A **Pettibone, Tap** 74.18 338 ⇑P P 16 24 21.7 0.0
baz=74
J21A **Lysite** 74.20 331 ⇓P P 16 24 22.8 +0.7
baz=74,SNR=7.8
I22A **9 Mile Ranch,** 74.21 332 ⇓P P 16 24 22.7 +0.7
baz=74,SNR=42
ARVC **Arvin** 74.23 319 ⇓P P 16 24 23.1 +0.9
baz=74
DAC **Darwin (Calif)** 74.26 320 *e*P P 16 24 23.1 +0.6
DAC pmax pmax
comp=Z,66nm,0.8s
DAC **Darwin (Calif)** 74.26 320 *e*P P 16 24 23.1 +0.6
comp=Z,66nm,0.8s
F26A **Lodgepole** 74.27 336 ⇑P P 16 24 22.6 +0.4
baz=75,SNR=8.2
H23A **Clabaugh Cattl** 74.29 333 ⇓P P 16 24 22.9 +0.4
baz=75,SNR=7.1
SBC **Santa Barbara** 74.33 318 ⇑P P 16 24 23.5 +0.8
baz=75
E27A **Carson** 74.34 337 ⇑P P 16 24 23.0 +0.4
baz=75
TCUT **Toone Canyon** 74.35 328 *e*P P 16 24 24.1 +1.1
comp=Z,55nm,0.7s
C30A **Mose, Pekin** 74.37 339 ⇑P P 16 24 23.0 +0.3
baz=75,SNR=18
ISA **Isabella, Lake** 74.38 319 *e*P P 16 24 24.3 +1.2
ISA pmax pmax
comp=Z,73nm,0.8s
ISA **Isabella, Lake** 74.38 319 *e*P P 16 24 24.3 +1.2
comp=Z,73nm,0.8s
ISA **Isabella, Lake** 74.38 319 ⇓P P 16 24 24.3 +1.2
baz=75,SNR=51
DUG **Dugway, Tooele** 74.38 326 *e*P P 16 24 24.2 +1.1
DUG pmax pmax
comp=Z,75nm,1.0s
DUG **Dugway, Tooele** 74.38 326 *e*P P 16 24 24.2 +1.1
comp=Z,75nm,1.0s
DUG **Dugway, Tooele** 74.38 326 ⇑P P 16 24 24.3 +1.2
baz=75,SNR=59
J20A **Shoshoni** 74.49 331 ⇑P P 16 24 24.6 +1.0
baz=75
I21A **Big Trails, Te** 74.50 332 ⇓P P 16 24 24.3 +0.6
baz=75,SNR=74
G24A **Alzada** 74.52 334 ⇓P P 16 24 24.2 +0.5
baz=75
R11A **Troy Canyon, C** 74.54 323 *e*P P 16 24 25.5 +1.4
comp=Z,60nm,1.1s
R11A **Troy Canyon, C** 74.54 323 ⇓P P 16 24 25.7 +1.5
baz=75,SNR=101
GRAC **Grapevine Rang** 74.62 321 ⇑P P 16 24 25.8 +1.4
baz=75,SNR=24
F25A **Bowman** 74.63 335 ⇓P P 16 24 24.9 +0.6
baz=75
D28A **Regan** 74.64 338 ⇑P P 16 24 24.5 +0.2
baz=75
E26A **Carlson Angus** 74.71 336 ⇑P P 16 24 25.0 +0.3
baz=75
BW06 **Boulder Array** 74.71 330 *e*P P 16 24 24.4 -0.7
comp=Z,17nm,0.8s
H22A **Clearmont** 74.72 333 ⇑P P 16 24 25.2 +0.3
baz=75,SNR=16
HWUT **Hardware Ranch** 74.80 328 *e*P P 16 24 25.3 -0.2
comp=Z,84nm,0.9s
G23A **Biddle** 74.81 334 ⇓P P 16 24 26.0 +0.6
baz=75,SNR=16
VAH **Vaihoa** 74.82 259 *e*P P 16 24 26.6 +0.6
comp=Z,100nm,1.0s
J19A **Crowheart** 74.86 330 ⇑P P 16 24 26.5 +0.6
baz=75,SNR=25
VES **Vestal, Richgr** 74.86 319 ⇓P P 16 24 26.8 +1.0
baz=75,SNR=7.6
MDND **Maddock** 74.87 339 *e*P P 16 24 25.8 +0.2
MDND *e*pP pP 16 24 48.9 -0.4
comp=Z,186nm,0.9s
MDND **Maddock** 74.87 339 ⇓P P 16 24 26.1 +0.6
baz=75,SNR=18
D27A **Center** 74.91 337 ⇓P P 16 24 26.1 +0.3
baz=75
F24A **Ekalaka** 74.95 335 ⇓P P 16 24 26.7 +0.5
baz=75,SNR=12
B30A **Myrvik Farm, E** 74.97 340 ⇑P P 16 24 26.3 +0.2
baz=75,SNR=14
I20A **Worland** 74.98 331 ⇑P P 16 24 27.1 +0.7
baz=75,SNR=19
C28A **Hausauer Farms** 75.02 338 ⇓P P 16 24 26.7 +0.3
baz=75
BGU **Big Grassy Mou** 75.03 326 *e*P P 16 24 27.4 +0.5
comp=Z,60nm,1.0s
H21A **Big Horn, Sher** 75.04 332 ⇑P P 16 24 27.1 +0.3
baz=75,SNR=20
SMMC **Simmler** 75.07 318 ⇓P P 16 24 28.6 +1.5
baz=75,SNR=21
E25A **Miller Ranch,** 75.09 336 ⇓P P 16 24 27.5 +0.6
baz=75,SNR=6.0
PMOR **Pomariorio Ree** 75.14 260 *e*P P 16 24 29.0 +1.2
comp=Z,154nm,1.1s
TIN **Tinemaha, Big** 75.17 321 ⇓P P 16 24 29.0 +1.4
baz=75,SNR=6.2
D26A **Manning** 75.17 337 ⇑P P 16 24 27.8 +0.5
baz=76
G22A **Birney** 75.20 333 ⇓P P 16 24 27.7 +0.1
baz=76
F23A **Volborg** 75.24 334 ⇓P P 16 24 28.4 +0.5
baz=76,SNR=17
RCTC **Rector, Farmer** 75.27 320 ⇑P P 16 24 28.1 0.0
baz=76
TPH **Tonopah** 75.28 322 *e*P P 16 24 29.3 +0.9
TPH pmax pmax
comp=Z,65nm,0.9s
TPH **Tonopah** 75.28 322 *e*P P 16 24 29.3 +0.9
comp=Z,65nm,0.9s
B29A **Wagenman Farm,** 75.32 339 ⇑P P 16 24 28.4 +0.3
baz=76,SNR=24
H20A **Greybull** 75.35 332 ⇓P P 16 24 28.9 +0.3
baz=76,SNR=38
A30A **Hoffart Farm,** 75.39 340 ⇑P P 16 24 28.4 -0.2
baz=76
C27A **Sayler Ranch,** 75.41 338 ⇓P P 16 24 29.3 +0.6
baz=76
I19A **Meeteetse** 75.44 331 ⇓P P 16 24 30.1 +0.9
baz=76,SNR=16
AHID **Auburn Hatcher** 75.44 329 *e*P P 16 24 29.7 +0.5
comp=Z,152nm,0.9s
E24A **Baker** 75.49 335 ⇓P P 16 24 30.2 +1.0
baz=76,SNR=25
HVU **Hansel Valley** 75.53 327 *e*P P 16 24 30.2 +0.5
HVU pmax pmax
comp=Z,82nm,1.0s
HVU **Hansel Valley** 75.53 327 *e*P P 16 24 30.2 +0.5
comp=Z,82nm,1.0s
G21A **Lodge Grass** 75.59 333 ⇑P P 16 24 30.5 +0.6
baz=76,SNR=15
D25A **Fairfield** 75.60 336 ⇓P P 16 24 30.9 +1.1
baz=76,SNR=16
SBA **Scott Base** 75.60 190 *e*P P 16 24 30.3 +0.9
SBA pmax pmax
comp=Z,41nm,1.1s
SBA **Scott Base** 75.60 190 *e*P P 16 24 30.3 +0.9
comp=Z,41nm,1.1s
F22A **Rosebud** 75.64 334 ⇓P P 16 24 30.7 +0.6
baz=76,SNR=10
B28A **Dugan Ranch, T** 75.64 339 ⇓P P 16 24 30.4 +0.4
baz=76,SNR=12
A29A **Manning Farm,** 75.68 339 ⇓P P 16 24 30.2 0.0

baz=76,SNR=20
C26A **Wahner Farm, P** 75.72 337 ⇑P P 16 24 31.1 +0.7
baz=76
REDW **Red Top Meadow** 75.78 329 *e*P P 16 24 31.7 +0.6
comp=Z,78nm,0.9s
SNOW **Snow King Moun** 75.81 330 *e*P P 16 24 31.2 -0.1
comp=Z,80nm,0.8s
PAE **Paea** 75.81 256 *e*P P 16 24 32.8 +1.1
comp=Z,16nm,1.1s
ULM **Lac du Bonnet** 75.83 342 P P 16 24 30.2 -0.8
comp=Z,18nm,0.7s,baz=166,slow=7.2,SNR=22
E23A **Ismay** 75.83 335 ⇓P P 16 24 31.5 +0.3
baz=76
PPT2 **Papeete2** 75.83 257 *e*P P 16 24 33.2 +1.3
comp=Z,76nm,1.1s
PPT2 *e*S S 16 34 10.1 +2.8
comp=Z,260nm,28.2s
PPT2 **Papeete2** 75.83 257 *e*LR LR 16 48 10.8
comp=Z,671nm,39.2s
PPT **Papeete** 75.84 257 P P 16 24 33.2 +1.3
comp=Z,40nm,0.8s,baz=190,slow=4.0,SNR=4.6
LOHW **Long Hollow** 75.85 330 *e*P P 16 24 32.4 +0.8
comp=Z,87nm,1.0s
MLAC **Mammoth, Mammo** 75.91 321 ⇑P P 16 24 33.3 +1.3
baz=76,SNR=8.2
B27A **Peters Farms,** 75.92 338 ⇑P P 16 24 32.2 +0.7
baz=76
TPAW **Teton Pass** 75.92 329 *e*P P 16 24 32.7 +0.6
comp=Z,138nm,1.2s
H19A **Powell** 75.93 331 ⇓P P 16 24 32.7 +0.8
baz=76,SNR=9.1
D24A **Glendive** 75.96 336 ⇓P P 16 24 32.9 +1.1
baz=76,SNR=11
SYO **Syowa Base** 75.97 159⇑ *e*P P 16 24 30.4 -1.2
SYO **Syowa Base** 75.97 159⇑ *e*PcP PcP 16 24 43.4 -0.2
A28A **Rude Farm, Bot** 76.01 339 ⇓P P 16 24 32.1 +0.1
baz=76,SNR=7.9
G20A **Bridger** 76.02 332 ⇑P P 16 24 32.7 +0.3
baz=76,SNR=40
MOOW **Moose Ponds** 76.02 330 *e*P P 16 24 33.1 +0.6
comp=Z,107nm,1.4s
F21A **Absaloka Mine,** 76.03 333 ⇑P P 16 24 33.0 +0.6
baz=76,SNR=5.6
E22A **Miles City** 76.04 334 ⇓P P 16 24 32.5 +0.2
baz=76
C25A **Freed Ranch, W** 76.05 336 ⇑P P 16 24 33.2 +0.8
baz=76,SNR=8.3
ELK **Elko** 76.05 325 *e*P P 16 24 33.5 +0.7
ELK pmax pmax
comp=Z,42nm,0.9s
ELK **Elko** 76.05 325 *e*P P 16 24 33.5 +0.7
comp=Z,42nm,0.9s
I17A **Pilgrim Ck.** 76.07 330 ⇓P P 16 24 34.3 +1.5
baz=76,SNR=35
NVAR **Mina Array Bea** 76.14 322 P P 16 24 34.2 +0.9
comp=Z,31nm,0.9s,baz=153,slow=6.7,SNR=109
IMW **Indian Meadow** 76.22 330 *e*P P 16 24 34.7 +0.9
comp=Z,87nm,0.9s
B26A **Jensen Ranch,** 76.23 337 ⇑P P 16 24 34.1 +0.7
baz=77
H18A **Shoshone NF, C** 76.24 331 ⇑P P 16 24 34.5 +0.7
baz=76,SNR=63
FLWY **Flagg Ranch** 76.25 330 *e*P P 16 24 35.0 +1.1
comp=Z,147nm,0.9s
C24A **Savage** 76.34 336 ⇑P P 16 24 35.0 +1.0
baz=77,SNR=16
D23A **Lindsay** 76.34 335 ⇓P P 16 24 35.3 +1.2
baz=77,SNR=7.3
SCHQ **Schefferville** 76.37 1 P P 16 24 34.1 +0.1
comp=Z,10nm,0.9s,baz=206,slow=5.1,SNR=6.8
A27A **Ledoux Ranch,** 76.38 338 ⇑P P 16 24 35.0 +0.9
baz=77,SNR=10
RLMT **Red Lodge** 76.41 331 *e*P P 16 24 35.5 +0.8
comp=Z,74nm,0.9s
H17A **Grant Village** 76.44 330 *e*P P 16 24 35.4 +0.5
comp=Z,25nm,0.8s
H17A **Grant Village** 76.44 330 ⇑P P 16 24 36.4 +1.5
baz=77,SNR=15
F20A **Billings** 76.45 333 ⇓P P 16 24 35.4 +0.6
baz=77,SNR=5.3
B25A **Knox Farm, Ray** 76.48 337 ⇑P P 16 24 35.8 +1.1
baz=77,SNR=5.5
E21A **Keefer Ranch,** 76.59 334 ⇑P P 16 24 36.2 +0.8
baz=77
YFT **Old Faithful** 76.60 330 *e*P P 16 24 38.0 +2.2
comp=Z,69nm,1.0s
A26A **Wade Farm, Ken** 76.61 338 ⇓P P 16 24 36.0 +0.5
baz=77,SNR=6.8
VNDA **Vanda** 76.62 190 P P 16 24 35.9 +0.6
comp=Z,13nm,1.0s,baz=136,slow=5.0,SNR=46
VNDA **Vanda** 76.62 190 *e*P P 16 24 35.8 +0.6
VNDA pmax pmax
comp=Z,22nm,1.1s
VNDA **Vanda** 76.62 190 *e*P P 16 24 35.8 +0.6
comp=Z,22nm,1.1s
D22A **Cohagen** 76.71 334 ⇑P P 16 24 37.1 +1.0
baz=77
YNR **Norris Junctio** 76.73 330 *e*P P 16 24 37.9 +1.4
comp=Z,31nm,0.9s
YMR **Madison River** 76.82 330 *e*P P 16 24 38.1 +1.1
comp=Z,212nm,1.3s
F19A **Roth Farm, Mol** 76.83 332 ⇓P P 16 24 37.5 +0.6
baz=77
WAKR **Walker** 76.85 321 *e*P P 16 24 38.5 +1.2
comp=Z,60nm,1.2s
C23A **Lambert** 76.85 335 ⇑P P 16 24 37.7 +0.8
baz=77,SNR=5.2
TOA0 **Torodi Ar. Sit** 76.89 70 *e*P P 16 24 38.1 +0.3
TORD **Torodi Ar. Bea** 76.89 70 P P 16 24 38.2 +0.4
comp=Z,76nm,0.7s,baz=251,slow=4.8,SNR=274
E20A **Meyer Farm, Mu** 77.00 333 ⇑P P 16 24 38.7 +0.9
baz=77,SNR=7.6
A25A **Svangstu Ranch** 77.02 337 ⇓P P 16 24 38.6 +0.8
baz=77,SNR=15
DGMT **Dagmar** 77.03 336 *e*P P 16 24 38.5 +0.7
comp=Z,228nm,1.3s
DGMT **Dagmar** 77.03 336 ⇑P P 16 24 38.9 +1.1
baz=77,SNR=13
C22A **Vida** 77.08 335 ⇓P P 16 24 38.5 +0.3
baz=77
CMB **Columbia Colle** 77.09 320 *e*P P 16 24 37.4 -1.1
CMB pmax pmax
comp=Z,18nm,1.0s
CMB **Columbia Colle** 77.09 320 *e*P P 16 24 37.4 -1.1
comp=Z,18nm,1.0s
GCMT **Greycliff** 77.10 332 *e*P P 16 24 38.7 +0.2
comp=Z,107nm,0.7s
QLMT **Earthquake Lak** 77.16 330 *e*P P 16 24 40.0 +1.1
comp=Z,8.8nm,1.3s
E19A **Rath Farm, Rou** 77.24 333 ⇑P P 16 24 39.9 +0.7
baz=78,SNR=5.4
B23A **Brockton** 77.32 336 ⇑P P 16 24 40.5 +1.0
baz=78,SNR=16
A24A **Westby** 77.33 337 ⇑P P 16 24 40.7 +1.1
baz=78,SNR=12
D20A **Manuel Ranch,** 77.47 333 ⇑P P 16 24 41.0 +0.6
baz=78,SNR=6.1
B22A **Reddig Ranch S** 77.57 335 ⇑P P 16 24 41.8 +0.9
baz=78,SNR=6.6
C21A **Desert Coulee** 77.62 334 ⇑P P 16 24 41.8 +0.5
baz=78
HLID **Hailey** 77.66 328 *e*P P 16 24 42.8 +1.1
comp=Z,140nm,1.0s
HLID **Hailey** 77.66 328 ⇑P P 16 24 43.1 +1.5
baz=78,SNR=161
A23A **Redstone** 77.69 336 ⇓P P 16 24 42.4 +0.9
baz=78,SNR=5.5
MCMT **McKenzie Canyo** 77.83 329 *e*P P 16 24 44.0 +1.4
comp=Z,38nm,0.8s
D19A **Cripps Ranch,** 77.83 333 ⇑P P 16 24 43.0 +0.5
baz=78
BOZ **Bozeman (W)** 77.87 330 *e*P P 16 24 43.2 +0.4
BOZ pmax pmax
comp=Z,33nm,1.1s
BOZ **Bozeman (W)** 77.87 330 *e*P P 16 24 43.2 +0.4
comp=Z,32nm,1.1s
C20A **Veseth Ranch,** 77.90 334 ⇑P P 16 24 43.1 +0.3
baz=78
B21A **Ellsworth Farm** 78.08 335 ⇓P P 16 24 44.4 +0.7
baz=78
A22A **Carney Farms,** 78.11 336 ⇓P P 16 24 44.6 +0.7
baz=78,SNR=27
DLMT **Dillon** 78.11 330 *e*P P 16 24 44.8 +0.7
comp=Z,60nm,1.1s
MFID **Camas Ranch** 78.27 327 *e*P P 16 24 45.7 +0.7
comp=Z,103nm,1.3s
C19A **Slack Wire Ran** 78.35 333 ⇑P P 16 24 45.8 +0.5
baz=79

LRM **Limekiln Ridge** 78.38 330 *e*P P 16 24 46.4 +0.6
comp=Z,304nm,0.9s
B20A **Solberg Farm,** 78.49 334 ⇓P P 16 24 46.5 +0.5
baz=79
A21A **Bergtoll Ranch** 78.50 335 ⇓P P 16 24 46.3 +0.3
baz=79
HRY **Holter Researc** 78.77 331 *e*P P 16 24 48.3 +0.6
comp=Z,11nm,0.9s
A20A **Cobblestone Ra** 78.80 335 ⇑P P 16 24 48.2 +0.5
baz=79,SNR=7.2
B19A **Brinkman Farms** 78.88 334 ⇓P P 16 24 48.5 +0.4
baz=79
WVOR **Wild Horse Val** 79.05 324 *e*P P 16 24 49.1 -0.2
WVOR pmax pmax
comp=Z,25nm,1.0s
WVOR **Wild Horse Val** 79.05 324 *e*P P 16 24 49.1 -0.2
comp=Z,26nm,1.0s
A19A **Klindworth Far** 79.17 334 ⇑P P 16 24 50.1 +0.4
baz=80,SNR=9.2
TSUM **Tsumeb** 79.36 106 *e*P P 16 24 52.5 +0.9
comp=Z,100nm,0.9s
LBCM **Butte Creek Ri** 79.50 322 P P 16 24 52.1 +0.3
CHMT **Chamberlain Mo** 79.57 330 *e*P P 16 24 52.7 +0.6
comp=Z,53nm,1.8s
MSO **Missoula** 79.82 330 ⇓P P 16 24 54.4 +1.0
baz=80,SNR=15
LKVW **Lakeview** 79.85 323 P P 16 24 54.6 +0.9
SLMT **Seeley Lake** 79.92 331 *e*P P 16 24 54.7 +0.7
comp=Z,48nm,1.1s
WDC **Whiskeytown Da** 80.02 321 *e*P P 16 24 53.6 -0.8
WDC pmax pmax
comp=Z,39nm,0.8s
WDC **Whiskeytown Da** 80.02 321 *e*P P 16 24 53.6 -0.8
comp=Z,39nm,0.8s
BMO **Blue Mountains** 80.03 327 *e*P P 16 24 55.1 +0.6
comp=Z,120nm,1.0s
KCPM **Cahto Peak** 80.06 320 *e*P P 16 24 55.7 +0.8
SWMT **Swartz Lake** 80.35 330 *e*P P 16 24 56.8 +0.5
comp=Z,40nm,1.1s
N02D **Trinity Center** 80.37 321 ⇓P P 16 24 56.3 -0.1
baz=81,SNR=18
M04C **Macdoel** 80.39 322 ⇓P P 16 24 57.2 +0.6
baz=81,SNR=35
YBMT **Yellow Bay** 80.62 331 *e*P P 16 24 58.6 +1.0
comp=Z,78nm,1.3s
JTMT **Jette** 80.66 331 *e*P P 16 24 58.6 +0.8
comp=Z,30nm,1.0s
M02C **Callahan** 80.72 322 ⇓P P 16 24 58.5 +0.2
baz=81,SNR=8.2
YBH **Yreka Blue Hor** 80.86 322 *e*P P 16 24 58.1 -0.9
YBH pmax pmax
comp=Z,23nm,1.0s
YBH **Yreka Blue Hor** 80.86 322 *e*P P 16 24 58.1 -0.9
comp=Z,23nm,1.0s
BLMT **Blacktail Moun** 80.89 331 *e*P P 16 24 60.0 +0.8
comp=Z,41nm,1.1s
K04D **Chiloquin, OR** 80.89 323 ⇓P P 16 24 60.0 +0.7
baz=81
KHMM **Horse Mountain** 80.90 321 *e*P P 16 25 00.2 +0.9
comp=Z,55nm,1.0s
BSMT **Bassoo Peak** 80.96 330 *e*P P 16 25 00.4 +0.8
comp=Z,49nm,0.9s
J05D **Fort Rock, OR** 81.04 324 ⇑P P 16 25 00.8 +0.8
baz=81,SNR=32
PTEO **Sao Teotonio** 81.37 44 *e*P P 16 25 05.0 +3.3
comp=Z,10nm,1.6s
WALA **Waterton Lakes** 81.46 332 *e*P P 16 25 02.5 +0.4
comp=Z,53nm,0.9s
J04D **Umppqua Nationa** 81.49 323 ⇓P P 16 25 03.1 +0.6
baz=82,SNR=22
FFC **Flin Flon** 81.55 341 P P 16 25 02.2 -0.1
comp=Z,158nm,1.2s,SNR=7.7
FFC **Flin Flon** 81.55 341 *e*P P 16 25 02.1 -0.1
FFC pmax pmax
comp=Z,51nm,1.3s
FFC **Flin Flon** 81.55 341 *e*P P 16 25 02.1 -0.1
comp=Z,51nm,1.3s
HUMO **Hull Mountain** 81.56 322 *e*P P 16 25 02.5 -0.1
comp=Z,31nm,1.1s
L02D **Cave Junction,** 81.64 322 ⇓P P 16 25 03.9 +0.8
baz=82,SNR=12
PBDV **Barranco-do-Ve** 81.71 44 *e*P P 16 25 05.8 +2.3
comp=Z,69nm,2.0s
I05D **Terrebonne, OR** 81.79 325 ⇑P P 16 25 05.0 +1.2
baz=82,SNR=25
PNCL **Nicolau / Gran** 81.83 43 *e*P P 16 25 06.2 +2.1
comp=Z,45nm,1.7s
PCVE **Castro Verde** 81.86 44 *e*P P 16 25 06.5 +2.2
comp=Z,11nm,1.2s
MESJ **Messejana** 81.86 44 *e*P P 16 25 06.3 +2.0
comp=Z,43nm,1.1s
PVAQ **Vaqueiros** 81.94 44 *e*P P 16 25 07.0 +2.3
comp=Z,52nm,1.5s
I04A **Tendick Farm,** 82.02 324 ⇑P P 16 25 05.1 +0.1
baz=82,SNR=9.6
BPO **Bald Peter** 82.19 325 P P 16 25 07.2 +1.1
HAWA **Hanford** 82.23 327 *e*P P 16 25 05.5 -0.5
comp=Z,32nm,0.8s
NEW **Newport** 82.35 329 *e*P P 16 25 06.0 -0.7
NEW pmax pmax
comp=Z,23nm,1.2s
NEW **Newport** 82.35 329 *e*P P 16 25 06.0 -0.7
comp=Z,23nm,1.2s
NEW **Newport** 82.35 329 ⇑P P 16 25 06.6 -0.1
baz=83,SNR=8.9
G05D **Wamic, OR** 82.38 325 ⇑P P 16 25 08.1 +1.3
baz=83,SNR=8.0
I03D **Drain, OR** 82.48 323 ⇑P P 16 25 08.0 +0.6
baz=83,SNR=6.8
OD2 **Odessa Site #2** 82.50 328 P P 16 25 08.2 +0.7
C09A **Chrisman Ranch** 82.57 329 P P 16 25 08.4 +0.6
PMTG **Montargil** 82.58 43 *e*P P 16 25 09.9 +1.9
comp=Z,57nm,1.0s
DPW **Davenport** 82.59 329 P P 16 25 08.9 +0.9
DPW **Davenport** 82.59 329 P P 16 25 08.9 +0.9
PTOM **Tomar** 82.78 42 *e*P P 16 25 11.1 +2.1
comp=Z,78nm,1.1s
PBAR **Barrancos** 82.82 44 *e*P P 16 25 10.9 +1.6
PESTR **Estremoz** 82.86 43 *e*P P 16 25 11.2 +1.7
comp=Z,27nm,1.3s
COR **Corvallis** 83.02 324 *e*P P 16 25 11.4 +1.3
COR **Corvallis** 83.02 324 *e*P P 16 25 11.4 +1.3
SAW **Saint Andrews** 83.06 328 P P 16 25 10.7 +0.4
EBG **Ellensburg** 83.10 327 P P 16 25 11.5 +0.9
FCC **Fort Churchill** 83.10 347 *e*P P 16 25 10.4 +0.2
FCC pmax pmax
comp=Z,50nm,0.8s
FCC **Fort Churchill** 83.10 347 *e*P P 16 25 10.4 +0.2
comp=Z,50nm,0.8s
PMRV **Marv??o** 83.31 43 *e*P P 16 25 13.4 +1.6
comp=Z,20nm,1.7s
PCBR **Castelo Branco** 83.50 43 *e*P P 16 25 14.8 +2.1
comp=Z,27nm,1.5s
LON **Longmire** 83.63 326 *e*P P 16 25 13.0 -0.3
LON pmax pmax
comp=Z,7.0nm,0.7s
LON **Longmire** 83.63 326 *e*P P 16 25 13.0 -0.3
comp=Z,7.1nm,0.7s
MTE **Manteigas** 83.78 42 *e*P P 16 25 16.0 +1.8
comp=Z,44nm,1.4s
MAW **Mawson** 83.83 163 P P 16 25 14.2 +0.1
comp=Z,25nm,0.9s,baz=210,slow=6.2,SNR=50
MAW **Mawson** 83.83 163 *e*P P 16 25 14.1 +0.1
MAW pmax pmax
comp=Z,8.0nm,1.0s
MAW **Mawson** 83.83 163 *e*P P 16 25 14.1 0.0
comp=Z,8.2nm,1.0s
POLO **Lamas de Olo** 84.19 41 *e*P P 16 25 17.2 +0.8
comp=Z,26nm,2.0s
LBTB **Lobatse** 84.32 115 PKKPbc PKKPbc 16 43 28.0 -0.9
comp=Z,2.7nm,0.9s,baz=112,slow=5.4,SNR=3.7
LBTB **Lobatse** 84.32 115 *e*P P 16 25 18.5 +1.0
LBTB pmax pmax
comp=Z,12nm,0.7s
LBTB **Lobatse** 84.32 115 *e*P P 16 25 18.5 +1.0
comp=Z,12nm,0.7s
LBTB PKKPbc **PKKPbc** 16 43 28.0 -0.9
EDM **Edmonton** 84.33 335 *e*P P 16 25 15.3 -1.4
EDM pmax pmax
comp=Z,86nm,1.1s
EDM **Edmonton** 84.33 335 *e*P P 16 25 15.3 -1.4
comp=Z,86nm,1.1s
TAM **Tamanrasset** 84.43 63 *e*P P 16 25 19.1 +1.1
TAM pmax pmax
comp=Z,21nm,1.0s
TAM **Tamanrasset** 84.43 63 *e*P P 16 25 19.1 +1.1
comp=Z,21nm,1.0s

MVO **Moncorvo** 84.54 42 *e*P P 16 25 19.9 +1.8
comp=Z,50nm,1.4s
JCW **Jim Creek** 84.65 327 P P 16 25 17.8 -0.6
PBRG **Braganca** 85.08 41 *e*P P 16 25 22.6 +1.8
comp=Z,30nm,1.2s
PAB **San Pablo** 85.33 44 *e*P P 16 25 23.2 +1.1
PAB pmax pmax
comp=Z,14nm,0.8s
PAB **San Pablo** 85.33 44 *e*P P 16 25 23.1 +1.1
comp=Z,14nm,0.8s
MCW **Mount Constitu** 85.42 327 P P 16 25 22.6 +0.3
MCW **Mount Constitu** 85.42 327 P P 16 25 22.6 +0.3
ESDC **Sonseca Array** 85.65 44 P P 16 25 25.2 +1.6
comp=Z,9.6nm,1.0s,baz=238,slow=5.2,SNR=21
ESLA **Sonseca Array** 85.65 44 *e*P P 16 25 24.9 +1.2
comp=Z,4.2nm,1.0s
LSZ **Lusaka** 90.21 106 PKKPbc PKKPbc 16 43 15.6 +1.0
comp=Z,4.0nm,0.7s,baz=50,slow=7.1,SNR=8.5
LSZ **Lusaka** 90.21 106 P P 16 25 48.5 +2.4
LSZ pmax pmax
comp=Z,28nm,1.3s
LSZ **Lusaka** 90.21 106 P P 16 25 48.5 +2.4
comp=Z,28nm,1.3s
LSZ PKKPbc **PKKPbc** 16 43 15.6 +0.9
YKA **Yellowknife Ar** 91.71 340 P P 16 25 51.8 0.0
comp=Z,43nm,0.8s,baz=134,slow=4.5,SNR=397
CASY **Casey** 92.15 180 *e*P P 16 25 54.4 +0.4
comp=Z,79nm,1.2s
DLBC **Dease Lake** 94.79 332 *e*P P 16 26 06.0 -0.1
SUMG **Summit** 96.30 9 *e*P P 16 26 13.7 +0.5
SUMG pmax pmax
comp=Z,6.0nm,0.9s
SUMG **Summit** 96.30 9 *e*P P 16 26 13.7 +0.5
comp=Z,5.6nm,0.9s
GERES **GERESS Array B** 101.06 42 P Pdif 16 26 36.1 +1.5
comp=Z,0.2nm,0.5s,baz=265,slow=11,SNR=2.4
INK **Inuvik** 101.47 340 P Pdif 16 26 35.8 0.0
comp=Z,4.4nm,0.9s,baz=105,slow=4.6,SNR=10
CLL **Collm** 101.49 39 *e*Sdif Sdif 16 38 12.0 +3.1
CLL *e*SP SP 16 39 43.0 +1.8
BRG **Berggiesshubel** 101.90 40 *e*(P) PP 16 30 48.1 -2.6
comp=Z,15nm,1.5s
NOA **NORSAR Array B** 103.91 30 PKKP PKKPdf 16 42 52.3 +4.2
comp=Z,1.4nm,0.8s,baz=71,slow=4.5,SNR=4.6
ILAR **Eielson Array** 104.82 334 Pdiff Pdif 16 26 50.1 -0.7
comp=Z,0.5nm,0.9s,baz=114,slow=3.0,SNR=4.7
ILAR PP PP 16 31 11.3 -0.7
comp=Z,3.8nm,1.2s,baz=120,slow=5.3,SNR=6.1
ILAR PKKPbc **PKKPbc** 16 42 33.2 -3.2
comp=Z,0.6nm,0.9s,baz=286,slow=4.3,SNR=4.7
FINES **FINESS Array B** 110.98 31 PKKPbc PKKPbc 16 42 15.1 -1.7
comp=Z,2.3nm,0.9s,baz=104,slow=6.9,SNR=3.4
AKASG **Malin Array Be** 111.24 43 PKiKP **PKiKP** 16 31 17.2 -0.8
comp=Z,0.5nm,0.6s,baz=263,slow=2.3,SNR=9.0
AKASG PP PP 16 31 56.2 -3.0
comp=Z,2.5nm,0.9s,baz=256,slow=7.3,SNR=4.6
AKASG PKKPbc **PKKPbc** 16 42 13.2 -2.3
comp=Z,1.1nm,0.7s,baz=79,slow=3.0,SNR=6.7
ARCES **ARCESS Array B** 111.57 22 PKKPab PKKPab 16 42 20.8 +0.3
comp=Z,2.7nm,0.7s,baz=51,slow=6.4,SNR=3.9
BRTR **Keskin Array B** 112.52 55 PKiKP **PKiKP** 16 31 20.8 -0.2
comp=Z,1.7nm,0.9s,baz=188,slow=4.1,SNR=4.4
BRTR PP PP 16 32 05.5 -3.5
comp=Z,6.8nm,1.0s,baz=232,slow=6.1,SNR=9.9
ANN **Anapa** 116.01 50 *i* PKiKP **PKPdf** 16 31 28.3 +1.0
ANN pmax pmax
comp=Z,136μm,4.8s
OBN **Obninsk** 116.06 38⇑ *i*PKiKP **PKPdf** 16 31 26.6 -0.4
OBN pmax pmax
comp=Z,14nm,1.7s
KLMR **Klimovskoe** 117.47 32 *e*PKiKP **PKPdf** 16 31 29.5 -0.1
KLMR pmax pmax
comp=Z,12nm,1.1s
SOC **Sochi** 117.54 51 *i* PKiKP **PKPdf** 16 31 30.0 -0.3
SOC *e* 16 31 50.5
SOC *e* 16 32 40.7
SOC *e*SS SS 16 48 49.3 +0.8
SOC *e*SSS SSS 16 53 20.0
SOC pmax pmax
comp=Z,10.0nm,0.7s
STKA **Stephens Creek** 119.42 209 PKP **PKPdf** 16 31 33.1 -1.3
comp=Z,8.1nm,1.1s,baz=11,slow=4.8,SNR=3.8
KIV **Kislovodsk** 119.71 51 *i* PKiKP **PKPdf** 16 31 34.8 +0.2
KIV pmax pmax
comp=Z,6.0nm,1.1s
KBZ **Khabaz** 119.85 51 PKP **PKPdf** 16 31 33.8 -0.9
comp=Z,7.2nm,0.8s,baz=236,slow=24,SNR=20
PRGR **Permogore** 120.30 30 *e*PKiKP **PKPdf** 16 31 35.8 +0.8
PRGR pmax pmax
comp=Z,11nm,0.7s
ZEI **Tsey** 120.55 52 *i* PKiKP **PKPdf** 16 31 35.8 -0.6
ZEI pmax pmax
comp=Z,4.0nm,0.8s
GNI **Garni** 121.04 55⇑ *i*PKiKP **PKPdf** 16 31 38.6 +1.2
GNI pmax pmax
comp=Z,8.0nm,1.2s
BILL **Bilibino** 123.06 339⇓ *i*PKiKP **PKPdf** 16 31 40.4 +0.2
BILL pmax pmax
comp=Z,10.0nm,1.2s
BILL **Bilibino** 123.06 339 *e*PKPdf **PKPdf** 16 31 39.7 -0.5
ARU **Arti** 128.08 34 *i* PKiKP **PKPdf** 16 31 51.2 +1.1
ARU 16 33 54.9
H11S2 **WAKE ISLAND Hy** 128.53 277 T T 18 51 39.8
baz=102,slow=74,SNR=137
H11S1 **WAKE ISLAND Hy** 128.54 277 T T 18 51 40.4
baz=102,slow=74,SNR=166
H11S3 **WAKE ISLAND Hy** 128.55 277 T T 18 51 41.2
baz=102,slow=74,SNR=104
H11N3 **WAKE ISLAND Hy** 128.62 278 T T 18 52 16.0
baz=103,slow=75,SNR=87
H11N2 **WAKE ISLAND Hy** 128.63 278 T T 18 52 21.7
baz=103,slow=75,SNR=67
H11N1 **WAKE ISLAND Hy** 128.63 278 T T 18 52 29.1
baz=103,slow=75,SNR=55
TIXI **Tiksi** 129.20 353⇑ *e*PKiKP **PKPdf** 16 31 51.6 -0.2
TIXI pmax pmax
comp=Z,10.0nm,0.7s
TIXI **Tiksi** 129.20 353 *e*PKPdf **PKPdf** 16 31 51.2 -0.6
ASAR **Alice Springs** 129.89 207 PKP **PKPdf** 16 31 53.8 -0.9
comp=Z,19nm,0.9s,baz=148,slow=2.3,SNR=55
ASAR SKPab SKPab 16 35 06.2 -2.5
comp=Z,0.9nm,0.8s,baz=160,slow=4.7,SNR=4.2
AS31 **Alice Springs** 129.89 207 *e*PKPdf **PKPdf** 16 31 53.9 -0.9
SEY **Seymchan** 130.65 337 PKP **PKPdf** 16 31 55.4 +0.6
comp=Z,22nm,0.9s,baz=88,slow=2.7,SNR=47
SEY SKPbc **SKPbc** 16 35 10.0 -0.4
comp=Z,1.2nm,0.9s,baz=48,slow=10,SNR=3.6
ABKAR **Akbulak array** 130.98 43 *e*PKPdf **PKPdf** 16 31 56.6 +0.8
GEYT **Alibeck** 131.46 58 PKP **PKPdf** 16 31 57.3 +0.2
comp=Z,1.9nm,0.5s,baz=265,slow=5.2,SNR=6.8
GEYT PP PP 16 34 17.1 -0.1
comp=Z,2.4nm,0.8s,baz=322,slow=6.2,SNR=4.3
GEYT SKPbc **SKPbc** 16 35 14.1 -0.2
comp=Z,5.7nm,1.0s,baz=273,slow=8.8,SNR=8.5
WRA **Warramunga Arr** 132.97 210 PKP **PKPdf** 16 31 59.9 -0.7
comp=Z,17nm,0.9s,baz=160,slow=1.7,SNR=27
WRA SKPbc **SKPbc** 16 35 17.1 -3.0
comp=Z,4.0nm,1.1s,baz=139,slow=3.8,SNR=6.3
PETK **Petropavlovsk-** 133.20 324 PKhKP PKPpre 16 31 47.9
comp=Z,2.3nm,0.9s,baz=132,slow=2.1,SNR=5.0
PETK PKP **PKPdf** 16 32 00.2 +0.3
comp=Z,9.1nm,0.9s,baz=141,slow=4.5,SNR=16
BVAR **Borovoye Array** 135.72 35 PKP **PKPdf** 16 32 05.4 +0.8
comp=Z,6.5nm,0.8s,baz=279,slow=2.9,SNR=27
YAK **Yakutsk** 137.98 347 PKhKP PKPpre 16 31 57.1
comp=Z,12nm,0.7s,baz=52,slow=0.4,SNR=14
YAK PKP **PKPdf** 16 32 06.2 -2.3
comp=Z,17nm,0.8s,baz=204,slow=0.4,SNR=15
YAK **Yakutsk** 137.98 347 *e*PKHKP PKPpre 16 31 59.3
YAK *e*SS SS 16 52 54.8 -5.0
YAK pmax pmax
comp=Z,26nm,1.0s
YAK pmax pmax
comp=Z,65nm,3.8s
YAK pmax pmax
comp=N,51nm,4.2s
YAK pmax pmax
comp=E,45nm,4.3s
YAK **Yakutsk** 137.98 347 PKPpre PKPpre 16 31 57.1
YAK PKP **PKPdf** 16 32 06.2 -2.3
YAK *e*PKPdf **PKiKP** 16 32 08.3 -2.2
KKAR **Karatay Array** 139.78 48 *e*PKiKP **PKPdf** 16 32 12.5 0.0
KKAR **Karatay Array** 139.78 48 *e*PKPdf **PKPdf** 16 32 12.4 0.0
NVS **Novosibirsk** 140.71 26 *e*PKiKP **PKPdf** 16 32 14.1 +0.4
NVS pmax pmax
comp=Z,23nm,1.4s

NVS					pmax	pmax		
	comp=E,6.0nm,1.3s							
KURK	**Kurchatov**	**141.27**	**34**	*e*PKIKP	**PKPdf**	**16 32 16.0**	**+1.1**	
KURK	**Kurchatov**	**141.27**	**34**	*e*PKPdf	**PKPdf**	**16 32 16.0**	**+1.1**	
ZAA0	**Zalesovo Array**	**142.00**	**26**	*e*PKPpre	PKPpre	16 32 12.3		
ZAA0				*e*PKPdf	**PKPdf**	**16 32 16.9**	**+0.8**	
ZALV	**Zalesovo Beam**	**142.00**	**26**	PKhKP	PKPpre	16 32 11.2		
	comp=E,4.8nm,0.7s,baz=279,slow=2.8,SNR=23							
ZALV				PKP	**PKPdf**	**16 32 16.7**	**+0.7**	
	comp=E,21nm,0.7s,baz=278,slow=3.2,SNR=37							
ZALV				SKPbc	**SKPbc**	**16 35 45.0**	**-0.4**	
	comp=E,4.0nm,0.7s,baz=293,slow=3.9,SNR=7.7							
EKS2	**Erkin-Say**	**142.18**	**48**	P	**PKPdf**	**16 32 18.6**	**+1.7**	
	SNR=8.4							
EKS2	**Erkin-Say**	**142.18**	**48**	*e*PKIKP	**PKPdf**	**16 32 18.0**	**+1.0**	
EKS2	**Erkin-Say**	**142.18**	**48**	*e*PKPdf	**PKPdf**	**16 32 18.0**	**+1.0**	
AAK	**Ala-Archa**	**142.69**	**47**	*e*PKIKP	**PKPdf**	**16 32 16.4**	**-1.5**	
AAK	**Ala-Archa**	**142.69**	**47**	*e*PKPdf	**PKPdf**	**16 32 16.4**	**-1.5**	
FRU	**Bishkek**	**142.69**	**47**	*e*PKIKP	**PKPdf**	**16 32 16.0**	**-1.7**	
UCH	**Uchtor**	**142.85**	**48**	P	**PKPdf**	**16 32 18.4**	**-0.2**	
	SNR=15							
KBK	**Karagaybulak**	**142.99**	**47**	P	**PKPdf**	**16 32 17.6**	**-0.9**	
	SNR=7.1							
TKM2	**Tokmak 2**	**143.32**	**47**	*e*PKIKP	PKPbc	16 32 17.4	+1.0	
TKM2	**Tokmak 2**	**143.32**	**47**	*e*PKPdf	PKPbc	16 32 17.4	+1.0	
KZA	**Kyzart**	**143.41**	**48**	P	**PKPdf**	**16 32 18.8**	**-0.8**	
	SNR=9.8							
BOD	**Bodaibo**	**144.03**	**358**	*e*PKIKP	**PKPab**	**16 32 16.6**	**-0.5**	
BOD				pmax	pmax			
	comp=Z,39nm,1.3s							
ULHL	**Ulahol**	**144.03**	**47**	P	**PKPdf**	**16 32 20.2**	**-0.2**	
	SNR=17							
YSS	**Yuzh-Sakhalins**	**144.59**	**322**	*i*PKIKP	**PKPab**	**16 32 19.3**	**-0.3**	
YSS				pmax	pmax			
	comp=Z,80nm,1.0s							
YSS	**Yuzh-Sakhalins**	**144.59**	**322**	*e*PKPdf	PKPbc	16 32 20.0	+0.2	
KSH	**Kashi**	**144.83**	**52**	PKP	**PKPdf**	**16 32 21.8**	**+0.1**	
KSH				pPKP	**pPKPdf**	**16 32 48.2**	**+1.0**	
KSH				sPKP		16 32 59.4		
KSH				PKS	**PKSdf**	**16 35 56.0**	**-1.3**	
KSH				SKS	**SKSdf**	**16 39 18.2**	**-4.7**	
KSH				PPMZ				
	comp=Z,87nm,4.0s							
KSH				LN				
	comp=Z,54nm,5.1s							
KSH				LE				
	comp=Z,87nm,4.5s							
KSH				LZ				
	comp=Z,140nm,6.6s							
MK31	**Makanchi Array**	**145.54**	**37**	*e*PKP2	**PKPab**	**16 32 23.1**	**-0.1**	
MK31	**Makanchi Array**	**145.54**	**37**	*e*PKP	**PKPab**	**16 32 23.1**	**-0.1**	
MKAR	**Makanchi Array**	**145.54**	**37**	PKPbc	**PKPab**	**16 32 23.1**	**-0.1**	
	comp=Z,7.2nm,0.7s,baz=285,slow=5.7,SNR=95							
ASAJ	**Asahikawa**	**146.21**	**318**	PKPbc	**PKPbc**	**16 32 24.6**	**-0.3**	
	comp=Z,68nm,0.8s,baz=342,slow=4.2,SNR=51							
ASAJ	**Asahikawa**	**146.21**	**318**	PKP2	**PKPbc**	**16 32 24.6**	**-0.3**	
ASAJ				pmax	pmax			
	comp=Z,68nm,0.8s							
ASAJ	**Asahikawa**	**146.21**	**318**	*e*PKPdf	**PKPdf**	**16 32 24.3**	**+0.6**	
ASAJ				PKPbc	**PKPbc**	**16 32 24.6**	**-0.3**	
SOEI	**Soe**	**146.28**	**203**	*e*PKPdf	**PKPbc**	**16 32 25.8**	**-0.3**	
URV	**Uravakonda**	**146.61**	**96**	*e*PKPdf	**PKPdf**	**16 32 24.4**	**-0.8**	
GUMO	**Guam**	**147.46**	**261**	PKPbc	**PKPbc**	**16 32 28.2**	**-1.1**	
	comp=Z,285nm,1.0s,baz=149,slow=7.4,SNR=6.4							
HABR	**Khabarovsk**	**147.56**	**331**	*de*PKIKP	**PKPdf**	**16 32 25.1**	**-0.7**	
HABR				*e*		16 32 47.8		
HABR				*e*		16 36 00.3		
HABR				*e*		16 39 27.3		
HABR				*e*		16 48 27.3		
HABR				*e*SS	SS	16 54 57.1	+6.1	
HABR				pmax	pmax			
	comp=E,29nm,1.9s							
HABR				pmax	pmax			
	comp=N,26nm,1.9s							
HABR				pmax	pmax			
	comp=Z,36nm,1.9s							
MMRI	**Maumere**	**148.01**	**200**	*e*PKPbc	**PKPbc**	**16 32 30.0**	**-0.8**	
NDI	**New Delhi**	**148.11**	**71**	*e*P	**PKPdf**	**16 32 29.0**	**+1.6**	
FAKI	**Fak Fak**	**148.26**	**222**	PKPdf	**PKPdf**	**16 32 28.1**	**0.0**	
FAKI				PKPbc	**PKPbc**	**16 32 31.4**	**-0.1**	
KLR	**Kul'dur**	**148.39**	**335**	*e*PKHKP	PKPpre	16 32 23.6		
HYBB	**Hyderabad (bro**	**148.46**	**92**	*e*PKPdf	**PKPdf**	**16 32 26.2**	**-2.1**	
HYBB				*e*PKPbc	**PKPbc**	**16 32 29.7**	**-2.3**	
HYBB				*e*PKiKP	**PKiKP**	**16 32 32.1**	**-1.4**	
HYBB				*ep*PKPbc	**pPKPbc**	**16 32 55.0**	**-2.2**	
HYBB				*es*PKPbc	**sPKPbc**	**16 33 04.3**	**-2.5**	
HYB	**Hyderabad**	**148.46**	**92**	*i* PKP	**PKPdf**	**16 32 28.0**	**-0.3**	
HYB				*ep*PKP	pPKPdf	16 33 03.5	+10	
NJS	**Nagarjunasagar**	**148.95**	**94**	*e*PKPdf	**PKPdf**	**16 32 29.2**	**+0.2**	
NJS				*e*PKPbc	**PKPbc**	**16 32 32.3**	**-0.9**	
NJS				*e*PKPab	**PKPab**	**16 32 37.0**	**-0.4**	
MOY	**Mondy**	**149.08**	**13**	*e*PKIKP	**PKPdf**	**16 32 29.8**	**+1.4**	
MOY				pmax	pmax			
	comp=Z,77nm,1.4s							
IRK	**Irkutsk**	**149.10**	**9**	*e*PKHKP	PKPpre	16 32 27.2		
IRK				pmax	pmax			
	comp=Z,88nm,2.0s							
ADKI	**Addanki**	**149.37**	**96**	*e*PKPbc	**PKPbc**	**16 32 32.5**	**-1.7**	
ADKI				*e*PKiKP	**PKiKP**	**16 32 34.7**	**-0.6**	
ADKI				*e*PKPab	**PKPab**	**16 32 38.0**	**-1.2**	
ADKI				*ep*PKPbc	**pPKPbc**	**16 32 57.6**	**-1.8**	
ADKI				*es*PKPbc	**sPKPbc**	**16 33 08.0**	**-1.1**	
ADKI				*es*PKPab	**sPKPab**	**16 33 11.9**	**-1.7**	
RPR	**Rampur**	**149.46**	**90**	*e*PKPdf	**PKPdf**	**16 32 30.6**	**+0.8**	
RPR				*e*PKPab	**PKPab**	**16 32 37.9**	**-1.5**	
RPR				*es*PKPbc	**sPKPbc**	**16 33 08.1**	**-1.1**	
RPR				*es*PKPab	**sPKPab**	**16 33 11.7**	**-2.2**	
TLY	**Talaya**	**149.56**	**10**	*e*PKHKP	PKPpre	16 32 30.6		
TLY				pmax	pmax			
	comp=Z,34nm,1.4s							
WMQ	**Urumqi**	**150.38**	**37**	PKPbc	**PKPbc**	**16 32 36.6**	**+0.6**	
WMQ				pPKP	**pPKPdf**	**16 32 50.3**	**-5.8**	
WMQ				PKPab	PKPab	16 33 15.2	+33	
WMQ				PP	**PP**	**16 36 10.9**	**-1.0**	
WMQ				SKS	**SKSdf**	**16 39 33.0**	**+2.7**	
CISI	**Cisompet, Garu**	**150.53**	**172**	*e*PKPbc	**PKPbc**	**16 32 36.9**	**-0.3**	
ZAK	**Zakamensk**	**150.75**	**11**	*e*PKIKP	**PKPdf**	**16 32 30.4**	**-0.7**	
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.5s							
HIA	**Hailar**	**151.90**	**349**	*e*PKIKP	**PKPbc**	**16 32 39.0**	**-0.3**	
HIA	**Hailar**	**151.90**	**349**	*e*PKPbc	**PKPbc**	**16 32 39.0**	**-0.3**	
USRK	**Ussuriysk Ar.**	**152.12**	**328**	PKP	**PKPdf**	**16 32 33.3**	**+0.1**	
	comp=Z,4.6nm,0.9s,baz=228,slow=2.3,SNR=9.2							
USRK				PKPbc	**PKPbc**	**16 32 39.8**	**-0.1**	
	comp=Z,25nm,0.8s,baz=348,slow=1.3,SNR=38							
USRK				PKPab	**PKPab**	**16 32 49.5**	**-0.2**	
	comp=Z,4.5nm,0.8s,baz=75,slow=3.0,SNR=4.5							
KAPI	**Kappang**	**152.18**	**197**	*e*PKPdf	**PKPdf**	**16 32 34.6**	**+0.3**	
KAPI				*e*PKPbc	**PKPbc**	**16 32 41.1**	**+0.1**	
MJAR	**Matsushiro Arr**	**152.76**	**308**	PKP	**PKPdf**	**16 32 33.7**	**-0.8**	
	comp=Z,1.3nm,1.0s,baz=134,slow=3.6,SNR=4.7							
MJAR				PKPbc	**PKPbc**	**16 32 41.0**	**-0.6**	
	comp=Z,21nm,0.9s,baz=95,slow=1.2,SNR=48							
MJAR				PKPab	**PKPab**	**16 32 52.3**	**-0.5**	
	comp=Z,15nm,0.9s,baz=84,slow=2.6,SNR=12							
MAJO	**Matsushiro**	**152.76**	**308**	*e*PKIKP	**PKPbc**	**16 32 40.9**	**-0.7**	
MAJO				*e*		16 32 52.2		
MAJO	**Matsushiro**	**152.76**	**308**	*e*PKPbc	**PKPbc**	**16 32 40.9**	**-0.7**	
MAJO				*e*PKPab	**PKPab**	**16 32 52.2**	**-0.6**	
MAT	**Matsushiro**	**152.76**	**308**	PKP	**PKPbc**	**16 32 40.6**	**-1.0**	
SONM	**Songino Array**	**153.71**	**8**	PKP	**PKPdf**	**16 32 36.3**	**+0.7**	
	comp=Z,10nm,0.9s,baz=307,slow=1.0,SNR=70							
SONM				PKPbc	**PKPbc**	**16 32 42.3**	**-1.2**	
	comp=Z,11nm,1.0s,baz=282,slow=1.3,SNR=18							
SONM				PKPab	**PKPab**	**16 32 57.6**	**+1.1**	
	comp=Z,6.0nm,0.9s,baz=334,slow=3.7,SNR=5.2							
ULN	**Ulaanbaatar**	**153.76**	**7**	*e*PKIKP	**PKPdf**	**16 32 36.4**	**+0.7**	
ULN				*e*		16 32 57.9		
ULN	**Ulaanbaatar**	**153.76**	**7**	*e*PKPdf	**PKPdf**	**16 32 36.4**	**+0.7**	
ULN				*e*PKPbc	**PKiKP**	**16 32 43.9**	**+0.2**	
ULN				*e*PKPab	**PKPab**	**16 32 57.9**	**+1.2**	
CHLP	**Challavanipeta**	**153.81**	**92**	*e*PKPdf	**PKPdf**	**16 32 38.1**	**+1.8**	
CHLP				*e*PKiKP	**PKPbc**	**16 32 44.3**	**0.0**	
CHLP				*ep*PKPdf	**pPKPdf**	**16 32 60.0**	**-1.9**	
LUWI	**Luwuk**	**154.84**	**207**	*e*PKPbc	**PKPbc**	**16 32 46.9**	**+0.1**	
LUWI				*e*PKPab	**PKPab**	**16 33 02.2**	**+0.2**	
CN2	**Changchun**	**155.33**	**336**	*e*PKPbc	**PKPdf**	**16 32 38.1**	**+0.3**	
KSRS	**Korea Array**	**159.08**	**322**	PKP	**PKPdf**	**16 32 42.9**	**+0.2**	
	comp=Z,8.3nm,0.9s,baz=53,slow=1.5,SNR=28							
KSRS				PKPab	**PKPab**	**16 33 18.6**	**-1.2**	
	comp=Z,7.6nm,0.9s,baz=36,slow=2.2,SNR=15							
KSRS	**Korea Array**	**159.08**	**322**	PKIKP	**PKPdf**	**16 32 42.9**	**+0.2**	
KSRS						16 33 18.6		
KSRS				pmax	pmax			
	comp=Z,8.0nm,0.9s							
KSRS				pmax	pmax			
	comp=Z,8.0nm,0.9s							
KSAR	**Wonju Array Be**	**159.11**	**322**	PKIKP	**PKPdf**	**16 32 42.9**	**+0.2**	
KSAR						16 33 18.6		
KSAR	**Wonju Array Be**	**159.11**	**322**	PKP	**PKPdf**	**16 32 42.9**	**+0.2**	
KSAR				PKPab	**PKPab**	**16 33 18.6**	**-1.3**	
KSM	**Kuching**	**159.71**	**176**	*e*PKPdf	**PKPdf**	**16 32 44.0**	**-0.1**	
GTA	**Gaotai**	**159.73**	**28**	*e*PKP	**PKPdf**	**16 32 44.2**	**+0.6**	
GTA				pPKP	**pPKPdf**	**16 33 11.1**	**+2.0**	
GTA				sPKP		16 33 21.7		
GTA				SKS	**SKSdf**	**16 39 38.7**	**-2.2**	
GTA				SKKS	**SKKSac**	**16 43 44.3**	**-0.6**	
GTA				SS	**SS**	**16 57 04.0**	**0.0**	
GTA				PPMZ				
	comp=Z,70nm,6.9s							
GTA				LN				
	comp=Z,130nm,17.3s							
GTA				LE				
	comp=Z,160nm,17.3s							
GTA				LZ				
	comp=Z,170nm,18.8s							
LSA	**Lhasa**	**159.88**	**63**	*e*PKIKP	**PKPdf**	**16 32 45.1**	**+0.6**	
LSA	**Lhasa**	**159.88**	**63**	*e*PKPdf	**PKPdf**	**16 32 45.1**	**+0.6**	
HHC	**Hu-ho-hao-te**	**161.05**	**0**	*e*PKP	**PKPdf**	**16 32 43.4**	**-1.6**	
HHC				PP	**PP**	**16 37 13.5**	**+3.1**	
HHC				SKS	**SKSdf**	**16 39 37.1**	**-4.9**	
HHC				PPMZ				
	comp=Z,59nm,8.6s							
HHC				LN				
	comp=Z,270nm,17.3s							
HHC				LE				
	comp=Z,210nm,17.3s							
HHC				LZ				
	comp=Z,240nm,21.0s							
SHL	**Shillong**	**161.44**	**75**	*e*P	**PKPdf**	**16 32 48.0**	**+2.1**	
BJI	**Beijing**	**161.47**	**349**	PKP	**PKPdf**	**16 32 45.6**	**+0.4**	
BJI				PP	**PP**	**16 37 16.6**	**+4.0**	
BJI				LN				
	comp=Z,110nm,20.4s							
BJI				LE				
	comp=Z,95nm,25.1s							
BJI				LZ				
	comp=Z,65nm,26.7s							
LZH	**Lanzhou**	**164.22**	**24**	*e*PKP	**PKPdf**	**16 32 49.4**	**+1.1**	
LZH				pPKP	**pPKPdf**	**16 33 14.7**	**+0.8**	
LZH				sPKP		16 33 24.1		
LZH				SKKS		16 44 07.1		
LZH				PPMZ				
	comp=Z,150nm,4.8s							
LZH				LN				
	comp=Z,300nm,17.4s							
LZH				LE				
	comp=Z,270nm,15.8s							
LZH				LZ				
	comp=Z,390nm,19.4s							
CM31	**Chiang Mai Arr**	**167.51**	**103**	*e*PKPdf	**PKPdf**	**16 32 51.3**	**+0.1**	
CMAR	**Chiang Mai Arr**	**167.51**	**103**	PKP	**PKPdf**	**16 32 51.0**	**-0.2**	
	comp=Z,4.2nm,1.0s,baz=276,slow=2.0,SNR=26							
CMAR				PKPab	**PKPab**	**16 33 57.8**	**+0.4**	
	comp=Z,2.3nm,0.8s,baz=257,slow=5.4,SNR=8.2							
XAN	**Xi'an**	**167.59**	**11**	PKP	**PKPdf**	**16 32 51.1**	**+0.2**	
XAN				pPKP	**pPKPdf**	**16 33 18.1**	**+1.6**	
CHTO	**Chiang Mai**	**167.61**	**102**	*e*PKIKP	**PKPdf**	**16 32 51.2**	**-0.1**	
CHTO	**Chiang Mai**	**167.61**	**102**	*e*PKPdf	**PKPdf**	**16 32 51.2**	**-0.1**	
NJ2	**Nanjing**	**168.02**	**330**	*e*PKP	**PKPdf**	**16 32 50.2**	**-1.0**	
CD2	**Chengdu**	**168.48**	**37**	PKP	**PKPdf**	**16 32 51.9**	**+0.3**	
CD2				PKPab	**PKPab**	**16 34 02.3**	**+1.1**	
CD2				PKS	**PKSdf**	**16 36 21.5**	**-2.8**	
CD2				SKS	**SKSdf**	**16 39 44.3**	**-3.1**	
CD2				SKKS	**SKKSac**	**16 44 29.5**	**+0.2**	
CD2				SS	**SS**	**16 58 34.2**	**0.0**	
CD2				LN				
	comp=Z,200nm,16.7s							
CD2				LE				
	comp=Z,140nm,16.6s							
CD2				LZ				
	comp=Z,120nm,20.2s							
WHN	**Wuhan**	**171.03**	**345**	PKP	**PKPdf**	**16 32 53.6**	**+0.6**	
WHN				PKPab	**PKPab**	**16 34 12.0**	**-0.3**	
KMI	**Kunming**	**171.11**	**67**	PKP	**PKPdf**	**16 32 53.8**	**+0.2**	
KMI				PP	**PP**	**16 38 05.6**	**+1.1**	
KMI				SKKS		16 44 42.0		
KMI				PPMZ				
	comp=Z,21nm,4.1s							
GYA	**Guiyang**	**173.47**	**44**	*e*PKP	**PKPdf**	**16 32 53.2**	**-1.2**	
GYA				pPKP	**pPKPdf**	**16 33 19.6**	**-0.4**	
GYA				sPKP		16 33 28.4		
GYA				PKPab	**PKPab**	**16 34 24.0**	**+0.4**	
GYA				PKS	**PKSdf**	**16 36 23.0**	**-3.9**	
GYA				PP	**PP**	**16 38 15.9**	**+0.8**	
GYA				SKKS		16 44 52.0		
GYA				SS	**SS**	**16 59 21.2**	**-2.8**	
GYA				PPMZ				
	comp=Z,150nm,8.5s							
GYA				LN				
	comp=Z,180nm,25.4s							
GYA				LE				
	comp=Z,160nm,24.0s							
GYA				LZ				
	comp=Z,140nm,25.2s							
QIZ	**Qiongzhong**	**176.68**	**147**	PKP	**PKPdf**	**16 32 54.1**	**-1.3**	
QIZ				sPKP		16 33 29.0		
QIZ				SS	SS	16 59 54.9	+1.3	
QIZ				PPMZ				
	comp=Z,58nm,3.5s							
QIZ				LZ				
	comp=Z,210nm,18.2s							

*ISCJB **04** 16:13:07.0±0.6,34°.71N±0°.05×140°.44E±0°.05,h69km±5km, mb3.7/2,Error ellipse: s-maj=9.3km s-min=5.3km az=35.9*
*IDC **04** 16:13:07.2±1.1,34°.77N×140°.62E,h49km±18km,mb3.3/2, mb1 3.7/4,mb1mx3.1/28,mbtmp3.8/4,ML4.0/2,Error ellipse: s-maj=41.9km s-min=13.1km az=54.0*
*JMA **04** 16:13:07.1±0.1,34°.79N×140°.46E,h70km±1km,M3.0*

ISC 04 16:13:08.4±1.1,34°.75N±0°.06×140°.42E±0°.05,h65km±9km, n23,σ0s94/30,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO3	**Boso 3**	**0.09**	**56**	P	**Pn**	**16 13 17.1**	**-0.6**
BSO3				S	**Sn**	**16 13 25.3**	**+0.9**
BSO4	**Boso 4**	**0.25**	**344**	P	**Pn**	**16 13 18.1**	**-0.5**
BSO4				S	**Sn**	**16 13 26.6**	**+0.7**
BSO2	**Boso 2**	**0.28**	**90**	S	**Sn**	**16 13 26.3**	**+0.4**
KTR	**Katsuura**	**0.40**	**348**	P	**Pn**	**16 13 18.9**	**-1.0**
KTR				S	**Sn**	**16 13 26.9**	**-1.3**
BSO1	**Boso 1**	**0.47**	**102**	P	**Pn**	**16 13 19.4**	**-0.5**
BSO1				S	**Sn**	**16 13 29.1**	**+0.8**
TATJ	**Tateyama 2**	**0.52**	**303**	P	**Pn**	**16 13 21.0**	**+0.1**
TATJ				S	**Sn**	**16 13 31.4**	**+1.3**
I30JP	**ISUMI INFRASON**	**0.56**	**351**	P	**Pn**	**16 13 20.7**	**-0.7**
I30JP				S	**Sn**	**16 13 30.2**	**-0.7**
JIM2	**Oshima 3**	**0.81**	**268**	P	**Pn**	**16 13 23.9**	**-0.5**
JIM2				S	**Sn**	**16 13 35.4**	**-0.7**
KTJJ	**Kamata 2**	**1.13**	**279**	P	**Pn**	**16 13 27.7**	**-0.6**
KTJJ				S	**Sn**	**16 13 41.9**	**-1.2**
JKO	**Kozu shima**	**1.20**	**242**	P	**Pn**	**16 13 29.8**	**+0.5**
JOD2	**Odawara 2**	**1.21**	**295**	P	**Pn**	**16 13 28.6**	**-0.8**
JOD2				S	**Sn**	**16 13 44.7**	**-0.3**
JIZS	**Izushimoda**	**1.27**	**269**	P	**Pn**	**16 13 30.0**	**-0.2**
JIZS				S	**Sn**	**16 13 46.2**	**-0.2**
MJAR	**Matsushiro Arr**	**2.54**	**315**	P	**Pn**	**16 13 47.4**	**+0.1**
	8.7nm,0.3s,baz=169,slow=14,SNR=123						
MJAR				S	**Sn**	**16 14 18.0**	**+1.0**
	2.9nm,0.3s,baz=155,slow=17,SNR=6.6						
MAT	**Matsushiro**	**2.54**	**315**	P	**Pn**	**16 13 47.4**	**+0.1**
MAT				S	**Sn**	**16 14 18.9**	**+1.8**
JCJ	**Chichijima**	**7.78**	**168**	P	**Pn**	**16 14 56.8**	**-2.2**
	8.7nm,0.3s,baz=343,slow=19,SNR=14						
JCJ				S	**Sn**	**16 16 25.8**	**+0.1**
	baz=9.1,slow=19						
H11N2	**WAKE ISLAND Hy**	**27.78**	**116**	T	T	16 48 09.1	
	baz=309,slow=75,SNR=15						
H11N1	**WAKE ISLAND Hy**	**27.79**	**116**	T	T	16 48 12.7	
	baz=309,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**27.80**	**116**	T	T	16 48 13.7	
	baz=309,slow=75,SNR=13						
H11S3	**WAKE ISLAND Hy**	**28.40**	**118**	T	T	16 48 53.6	
	baz=311,slow=76,SNR=5.1						
H11S1	**WAKE ISLAND Hy**	**28.40**	**118**	T	T	16 48 53.7	
	baz=311,slow=76,SNR=4.7						
H11S2	**WAKE ISLAND Hy**	**28.42**	**118**	T	T	16 48 54.6	
	baz=311,slow=76,SNR=5.3						
WRA	**Warramunga Arr**	**54.70**	**187**	P	**P**	**16 22 30.8**	**-0.3**
	0.6nm,0.6s,baz=5.2,slow=7.7,SNR=9.7						
ASAR	**Alice Springs**	**58.42**	**187**	P	**P**	**16 22 58.9**	**+1.4**
	0.4nm,0.8s,baz=13,slow=9.4,SNR=6.4						

*ISCJB **04** 16:21:29.1±0.4,25°.80S±0°.04×179°.90W±0°.06,h458km, mb4.2/20,Error ellipse: s-maj=7.8km s-min=5.4km az=167.2*
*IDC **04** 16:21:29.2±1.6,25°.73S×179°.90W,h448km±16km, mb3.8/12,mb1 4.1/13,mb1mx3.8/28,mbtmp4.6/13,Error ellipse: s-maj=16.6km s-min=14.1km az=46.0*
*NEIC **04** 16:21:29.8±0.7,25°.73S×179°.92W,h454km±7km,mb4.7/10, Error ellipse: s-maj=10.6km s-min=9.7km az=114.0*

ISC 04 16:21:30.0±0.5,25°.83S±0°.06×179°.83W±0°.08,h458km, n79,σ1s36/84,mb4.2/20,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.81**	**154**	P	**P**	**16 22 44.3**	**+0.4**
	264nm,0.3s,baz=66,slow=7.9,SNR=14						
RAO				S	**S**	**16 23 41.1**	**-3.0**
	176nm,0.3s,baz=252,slow=20,SNR=5.4						
RAO	**Raoul Island**	**3.81**	**154**	*e*P	**P**	**16 22 44.7**	**+0.8**
RAO				S	**S**	**16 23 41.1**	**-3.0**
MSVF	**Nonsavu**	**8.29**	**346**	*e*P	**P**	**16 23 27.9**	**-0.9**
OUZ	**Omahuta**	**10.94**	**210**	*e*P	**P**	**16 23 59.2**	**+2.1**
	11nm,0.5s						
WMGZ	**Waiomatatini S**	**12.05**	**187**	PN	**P**	**16 24 10.6**	**+1.5**
WMGZ				SN	**S**	**16 26 22.0**	**+1.6**
HAZ	**Te Kaha**	**12.07**	**189**	PN	**P**	**16 24 09.4**	**+0.1**
HAZ				SN	**S**	**16 26 18.4**	**-2.3**
OPRZ	**Ohinepanea**	**12.37**	**193**	PN	**P**	**16 24 13.2**	**+0.7**
OPRZ				SN	**S**	**16 26 31.5**	**+4.7**
OMRZ	**Omania**	**12.66**	**194**	PN	**P**	**16 24 17.2**	**+1.4**
OMRZ				SN	S	16 26 41.7	+9.0
URZ	**Urewera**	**12.67**	**191**	P	**P**	**16 24 12.9**	**-2.9**
	4.3nm,0.3s,baz=327,slow=2.2,SNR=35						
URZ				S	**S**	**16 26 31.7**	**-0.9**
	11nm,0.3s,baz=288,slow=22,SNR=26						
URZ	**Urewera**	**12.67**	**191**	PN	**P**	**16 24 12.8**	**-2.9**
URZ				SN	**S**	**16 26 32.6**	**0.0**
TARZ	**Mount Tarawera**	**12.76**	**193**	SN	S	16 26 41.1	+6.5
KNZ	**Kokohu**	**13.32**	**188**	SN	**S**	**16 26 43.8**	**-1.8**
RPZ	**Rata Peaks**	**19.33**	**200**	P	**P**	**16 25 22.2**	**-2.4**
	3.6nm,0.3s,baz=10,slow=2.1,SNR=19						
RPZ	**Rata Peaks**	**19.33**	**200**	*e*P	**P**	**16 25 22.9**	**-1.7**
ARMA	**Armidale**	**25.55**	**253**	P	**P**	**16 26 22.5**	**+1.5**
	baz=26,SNR=10.0						
EIDS	**Eidsvold**	**26.22**	**265**	P	**P**	**16 26 27.5**	**+0.7**
	baz=27,SNR=35						
EIDS	**Eidsvold**	**26.22**	**265**	*e*P	**P**	**16 26 27.4**	**+0.6**
	68nm,0.7s						
MGCD	**Mangrove Creek**	**26.28**	**247**	P	**P**	**16 26 28.9**	**+1.7**
	baz=27,SNR=8.5						
CNB	**Canberra Magne**	**28.07**	**243**	P	**P**	**16 26 45.1**	**+2.0**
	baz=28,SNR=17						
RMQ	**Roma**	**28.17**	**262**	P	**P**	**16 26 45.5**	**+1.5**
	baz=29,SNR=72						
MILA	**Mila**	**28.61**	**239**	P	**P**	**16 26 49.2**	**+1.4**
	baz=29,SNR=8.4						
YNG	**Young**	**28.68**	**245**	P	**P**	**16 26 49.8**	**+1.4**
	baz=29,SNR=9.0						
CMSA	**Cobar Meteorol**	**30.70**	**251**	P	**P**	**16 27 06.0**	**0.0**
	baz=31,SNR=57						
TOO	**Toolangi**	**31.58**	**240**	P	**P**	**16 27 14.1**	**+0.6**
	baz=32,SNR=5.3						
MOO	**Moorlands**	**31.69**	**230**	P	**P**	**16 27 15.0**	**+0.6**
	baz=32,SNR=4.0						
CTAO	**Charters Tower**	**31.69**	**273**	*e*P	**P**	**16 27 15.1**	**+0.4**
	56nm,0.7s						
QLP	**Quilpie**	**32.19**	**261**	P	**P**	**16 27 18.8**	**-0.1**
	baz=33,SNR=24						
QLP				S	S	16 31 40.8	-18
	baz=33,SNR=4.6						
MCQ	**Macquarie Isla**	**32.65**	**203**	S	S	16 32 15.3	+11

2.6nm,0.6s,baz=28,slow=4.1,SNR=4.7
FINES FINESS Array B 140.31 341 PKhKP PKPpre 16 39 57.4
0.8nm,0.7s,baz=345,slow=2.2,SNR=3.9
FINES SKPbc **SKPbc 16 42 59.0 +1.3**
1.6nm,0.7s,baz=68,slow=1.8,SNR=4.2
NB2 NORSAR Subarra144.00 351 PKP PKPbc 16 40 10.0 -1.0
comp=Z,1.0nm,0.5s,baz=16,slow=3.2
NOA NORSAR Array B 144.00 351 PKP PKPbc 16 40 10.0 -1.0
comp=Z,0.7nm,0.5s,baz=22,slow=3.8,SNR=7.4
AKASG Malin Array Be 146.66 326 PKPbc **PKPdf 16 40 17.7 +1.0**
comp=Z,0.8nm,0.4s,baz=47,slow=4.2,SNR=9.2
BR131 Keskin Array S 148.83 305 *e*PKPbc **PKPbc 16 40 24.6 -0.7**
BRTR Keskin Array B 148.83 305 PKPbc **PKPbc 16 40 24.6 -0.7**
comp=Z,1.1nm,0.5s,baz=141,slow=3.9,SNR=7.5
TORD Torodi Ar. Bea 167.31 187 PKP **PKPdf 16 40 42.4 -0.9**
comp=Z,0.6nm,1.0s,baz=187,slow=4.5,SNR=2.6
TORD PKPab **PKPab 16 41 50.3 -0.8**
comp=Z,0.6nm,0.6s,baz=164,slow=4.4,SNR=7.5

WEL 04 16:27:26.7±0.2, 36°52S×176°70E, h222km±3km, ML3.5/9, 1C, Error ellipse: s-maj=4.5km s-min=4.3km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**1.51**	**145**	PN	Pn	16 28 02.6	+0.2
HAZ				SN	S	16 28 30.2	-0.1
URZ	**Urewera**	**1.77**	**170**	PN	Pn	16 28 04.8	+0.2
URZ				SN	S	16 28 34.4	0.0
WMGZ	**Waiomatatini S**	**1.89**	**134**	PN	Pn	16 28 05.8	0.0
WMGZ				SN	S	16 28 35.8	-0.4
MWZ	**Matawai**	**1.93**	**160**	PN	Pn	16 28 06.1	-0.1
TWGZ	**Tauwhareparae**	**1.94**	**149**	PN	Pn	16 28 06.7	+0.3
TWGZ				SN	S	16 28 37.4	0.0
PUZ	**Puketiti**	**1.99**	**142**	PN	Pn	16 28 06.2	-0.5
TKGZ	**Te Karaka**	**2.12**	**155**	PN	Pn	16 28 07.6	-0.4
TKGZ				SN	S	16 28 38.9	-1.4
CNGZ	**Carnagh Statio**	**2.30**	**149**	PN	Pn	16 28 09.5	-0.3
SNGZ	**Shannon Statio**	**2.31**	**168**	PN	Pn	16 28 09.6	-0.4
RIGZ	**Rimuhau**	**2.34**	**159**	PN	Pn	16 28 10.0	-0.3
NMHZ	**Naumai**	**2.58**	**178**	PN	Pn	16 28 13.0	+0.1
KNZ	**Kokohu**	**2.62**	**163**	PN	Pn	16 28 12.1	-1.0
BKZ	**Black Stump Fm**	**2.65**	**184**	PN	Pn	16 28 12.7	-1.0
ARHZ	**Aropaoanui**	**2.75**	**175**	PN	Pn	16 28 13.9	-0.8
WNVZ	**Wahianoa**	**2.94**	**197**	PN	Pn	16 28 16.8	-0.2
BHHZ	**Black Hill Sta**	**3.01**	**189**	PN	Pn	16 28 16.6	-1.1
KRHZ	**Kereru**	**3.13**	**185**	PN	Pn	16 28 17.5	-1.5
KAHZ	**Kahuranaki**	**3.27**	**178**	PN	Pn	16 28 17.1	-3.6
PNHZ	**Pukenui**	**3.42**	**187**	PN	Pn	16 28 20.3	-2.0
PXZ	**Pawanui**	**3.51**	**178**	PN	Pn	16 28 21.0	-2.4
PXZ				AML	AML	16 29 05.2	
MRZ	**Mangatainoka R**	**4.23**	**192**	⇑PN	Pn	16 28 29.0	-3.1
TIWZ	**Tintock**	**4.30**	**188**	PN	Pn	16 28 27.6	-5.4
OGWZ	**Otaki Gorge**	**4.46**	**195**	PN	Pn	16 28 31.5	-3.3
HOWZ	**Holdsworth Sta**	**4.47**	**192**	PN	Pn	16 28 27.5	-7.5
TMWZ	**Te Maipa**	**4.63**	**188**	PN	Pn	16 28 27.6	-9.4
CAW	**Cannon Point**	**4.76**	**195**	PN	Pn	16 28 35.0	-3.6
TUWZ	**Tuamarina**	**5.36**	**203**	PN	Pn	16 28 42.9	-3.1

*ISCJB **04** 16:38:42.7±0.5, 46°97S±0°09×12°0W±0°1, h10km, mb4.2/14, MS4.4/13, Error ellipse: s-maj=13.3km s-min=12.3km az=179.3*
*IDC **04** 16:38:43.4±0.7, 47°12S×12°04W, h0km, mb4.0/10, mb1 4.0/10, mb1mx3.9/25, mbtmp4.0/10, MS4.4/13, Ms1 4.4/13, ms1mx4.3/16, Error ellipse: s-maj=20.9km s-min=19.1km az=114.0*
*GCMT **04** 16:38:44.8±0.2, 47°55S×11°80W, h18km±1km, MW5.3/108, Moment Tensor Solution. s61,c85; s108,c171; Duration: 1ş0 Moment tensor: Scale 10¹⁷Nm; Mrr-0.07±.02; Mθθ0.54±.02; Mϕϕ-0.46±.02; Mrθ0.01±.04; Mθϕ-0.81±.02; Mrϕ0.07±.04; Best double couple: M₀0.95800×10¹⁷ NP1:ϕ₁164.00000°, δ88.00000°, λ-4.00000°. NP2:ϕ₂254.00000°, δ86.00000°, λ-178.00000°. Principal axes: T 0.9920, Plg1.0000°, Azm209.0000°; N -0.0690, Plg86.0000°, Azm318.0000°; P -0.9240, Plg4.0000°, Azm119.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **04** 16:38:44.8±0.4, 47°07S×12°11W, h10km, mb4.8/4 Error ellipse: s-maj=11.8km s-min=10.9km az=144.0*
ISC 04 16:38:44.9±0.6, 47°0S±0°1×12°1W±0°1, h10km, n50, σ1ş42/32, mb4.1/14, MS4.5/13, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**23.75**	**177**	P	P	16 44 03.5	+6.6
VNA2	**Neumayer--Watz**	**24.06**	**176**	P	**P**	**16 44 04.2**	**+4.3**
baz=343,slow=13							
VNA3	**Neumayer Olymp**	**24.30**	**178**	P	**P**	**16 44 03.9**	**+1.7**
SNAA	**Sanae**	**25.09**	**173**	P	**P**	**16 44 08.4**	**-0.9**
SNAA	**Sanae**	**25.09**	**173**	P	**P**	**16 44 07.6**	**-1.7**
1.6nm,0.9s,baz=347,slow=13,SNR=6.1							
SNAA				LR	LR	16 51 16.2	
comp=Z,322nm,21.0s,baz=350,slow=30							
SNAA	**Sanae**	**25.09**	**173**	*e*P	**P**	**16 44 08.2**	**-1.1**
USHA	**Ushuaia**	**35.49**	**236**	P	**P**	**16 45 41.0**	**-0.3**
6.0nm,0.7s,baz=77,slow=14,SNR=2.2							
TSUM	**Tsumeb**	**36.85**	**51**	P	**P**	**16 45 52.9**	**-0.5**
3.9nm,1.0s,baz=190,slow=12,SNR=5.0							
TSUM	**Tsumeb**	**36.85**	**51**	*e*P	**P**	**16 45 53.7**	**+0.3**
TRQA	**Tornquist**	**37.30**	**265**	*e*P	**P**	**16 45 56.3**	**-0.7**
26nm,1.4s							
H10S2	**ASCENSION HYDR**	**38.01**	**356**	T	T	17 26 59.1	
baz=178,slow=75,SNR=23							
H10S3	**ASCENSION HYDR**	**38.02**	**356**	T	T	17 26 59.9	
baz=178,slow=75,SNR=23							
H10S1	**ASCENSION HYDR**	**38.03**	**356**	T	T	17 26 59.9	
baz=178,slow=75,SNR=29							
CPUP	**Villa Florida**	**41.08**	**284**	P	**P**	**16 46 30.6**	**+1.9**
0.9nm,0.9s,baz=74,slow=7.9,SNR=3.0							
CPUP	**Villa Florida**	**41.08**	**284**	*e*P	**P**	**16 46 28.4**	**-0.2**
0.2nm,1.0s							
PLCA	**Paso Flores**	**41.77**	**257**	P	**P**	**16 46 34.9**	**+0.6**
2.2nm,1.0s,baz=167,slow=14,SNR=2.4							
PLCA				LR	LR	17 03 48.9	
comp=Z,606nm,18.4s,baz=121,slow=36							
MAW	**Mawson**	**42.10**	**147**	P	**P**	**16 46 37.0**	**+0.4**
2.9nm,0.8s,baz=304,slow=7.3,SNR=3.5							
MAW				LR	LR	17 00 31.2	
comp=Z,424nm,21.7s,baz=234,slow=31							
BDFB	**Brasilia**	**43.20**	**304**	LR	LR	17 02 01.9	
comp=Z,813nm,18.1s,baz=150,slow=32							
QSPA	**South Pole Qui**	**43.22**	**180**	P	**P**	**16 46 43.5**	**-2.4**
3.5nm,0.9s,baz=212,slow=4.7,SNR=9.1							
QSPA	**South Pole Qui**	**43.22**	**180**	*e*P	**P**	**16 46 43.8**	**-2.1**
CFAA	**Coronel Fontan**	**45.14**	**269**	P	**P**	**16 47 00.3**	**-1.2**
0.5nm,0.7s,baz=123,slow=9.0,SNR=8.0							
LCO	**Las Campanas**	**48.41**	**270**	P	**P**	**16 47 28.3**	**+0.8**
10nm,0.7s							
LVC	**Limon Verde**	**51.35**	**278**	*e*P	**P**	**16 47 49.8**	**-0.1**
10nm,0.8s							
DBIC	**Dimbokro**	**53.85**	**9**	LR	LR	17 05 10.7	
comp=Z,391nm,21.9s,baz=160,slow=29							
VNDA	**Vanda**	**55.66**	**178**	P	**P**	**16 48 20.7**	**+0.3**
1.3nm,1.0s,baz=188,slow=6.2,SNR=3.0							
VNDA				LR	LR	17 10 04.3	
comp=Z,820nm,20.2s,baz=176,slow=34							
SAML	**Samuel**	**57.53**	**294**	*e*P	**P**	**16 48 33.5**	**-1.0**
14nm,1.4s							
TOA0	**Torodi Ar. Sit**	**61.17**	**15**	P	**P**	**16 48 59.0**	**-0.5**
TORD	**Torodi Ar. Bea**	**61.17**	**15**	P	**P**	**16 48 59.2**	**-0.4**
2.2nm,1.1s,baz=191,slow=7.3,SNR=6.5							
TORD				LR	LR	17 09 39.8	
comp=Z,425nm,21.9s,baz=175,slow=30							
KMBO	**Kilima Mbogo**	**62.61**	**59**	LR	LR	17 14 44.7	
comp=Z,351nm,19.6s,baz=111,slow=34							
TAM	**Tamanrasset**	**71.30**	**17**	P	**P**	**16 50 03.4**	**-1.1**
ROSC	**El Rosal**	**75.18**	**294**	LR	LR	17 22 20.4	
comp=Z,294nm,18.7s,baz=186,slow=35							
KEST	**Kesra**	**84.61**	**17**	LR	LR	17 25 53.4	
comp=Z,113nm,19.2s,baz=173,slow=33							
ESDC	**Sonseca Array**	**86.64**	**6**	LR	LR	17 26 26.5	
comp=Z,106nm,19.5s,baz=205,slow=33							
RKT	**Rikitea**	**93.28**	**231**	*e*LR	LR	17 21 59.8	
413nm,31.8s							
BRTR	**Keskin Array B**	**95.51**	**34**	LR	LR	17 34 01.6	
comp=Z,119nm,21.6s,baz=234,slow=35							
GERES	**GERESS Array B**	**98.09**	**17**	LR	LR	17 33 33.2	
comp=Z,159nm,20.8s,baz=240,slow=34							
TBI	**Tubuai**	**100.09**	**219**	*e*SS	SS	17 10 57.5	-0.2
112nm,27.2s							
TBI	**Tubuai**	**100.09**	**219**	*e*LR	LR	17 25 04.7	
468nm,31.8s,baz=151							
PPT2	**Papeete2**	**105.19**	**222**	*e*SS	SS	17 12 11.9	+3.4
192nm,25.5s							
PPT2	**Papeete2**	**105.19**	**222**	*e*LR	LR	17 27 29.8	
588nm,29.8s							
DZM	**Mont Dzumac**	**111.20**	**179**	*e*LR	LR	17 30 17.3	
1µm,26.6s							
YKA	**Yellowknife Ar**	**135.65**	**320**	PKP	**PKPdf**	**16 58 04.4**	**+0.3**
0.2nm,0.6s,baz=117,slow=2.2,SNR=3.6							
SONM	**Songino Array**	**139.35**	**65**	PKP	**PKPdf**	**16 58 11.7**	**0.0**
0.3nm,0.6s,baz=229,slow=4.3,SNR=2.5							
EGAK	**Eagle**	**147.56**	**322**	PKPbc	**PKPbc**	**16 58 29.0**	**+0.9**
KSAR	**Wonju Array Be**	**149.13**	**93**	PKPbc	**PKPbc**	**16 58 34.7**	**+1.7**
KSRS	**Korea Array**	**149.16**	**93**	PKPbc	**PKPbc**	**16 58 34.7**	**+1.7**
0.4nm,0.5s,baz=268,slow=1.3,SNR=2.9							
TIXI	**Tiksi**	**149.34**	**23**	*e*PKPbc	**PKPbc**	**16 58 34.3**	**+1.9**
ILAR	**Eielson Array**	**149.97**	**323**	PKPbc	**PKPbc**	**16 58 33.8**	**-0.5**
1.5nm,0.7s,baz=17,slow=1.1,SNR=9.6							
TRF	**Thorofare Moun**	**151.75**	**321**	*e*PKPbc	**PKPbc**	**16 58 39.3**	**+0.6**
KTH	**Kantishna Hill**	**152.00**	**321**	PKPbc	**PKPbc**	**16 58 38.3**	**-0.8**

IDC 04 17:05:03.5±1.1, 3°61N×126°29E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/30, mbtmp3.7/5, Error ellipse: s-maj=123.3km s-min=19.3km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.71**	**162**	P	P	17 10 25.9	-0.7
2.1nm,0.5s,baz=343,slow=10,SNR=25							
ASAR	**Alice Springs**	**28.11**	**165**	P	P	17 10 57.0	-0.3
0.2nm,0.3s,baz=344,slow=8.4,SNR=9.5							
ASAR				PcP	PcP	17 14 12.0	+0.1
0.2nm,0.4s,baz=347,slow=2.0,SNR=7.0							
STKA	**Stephens Creek**	**38.18**	**159**	P	P	17 12 25.7	+0.7
2.9nm,0.7s,baz=326,slow=11,SNR=7.3							
SONM	**Songino Array**	**47.27**	**342**	P	P	17 13 39.7	+0.9
0.2nm,0.6s,baz=135,slow=6.9,SNR=2.4							
MKAR	**Makanchi Array**	**57.40**	**325**	P	P	17 14 52.6	-1.4
0.3nm,0.5s,baz=136,slow=5.7,SNR=5.3							

*IDC **04** 17:21:11.0±1.5, 52°83S×10°79E, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/27, mbtmp4.1/4, MS3.5/2, Ms1 3.4/2, ms1mx3.1/18, Error ellipse: s-maj=184.3km s-min=21.6km az=80.0*
*AWI **04** 17:21:16.8, 52°49S×5°54E*
ISC 04 17:21:12.8±1.2, 52°9S±0°1×10°1E±0°6, h10km, n11, σ0ş50/10, mb4.2/4, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**19.64**	**198**	P	**P**	**17 25 41.6**	**+0.4**
SNAA	**Sanae**	**19.68**	**192**	P	**P**	**17 25 41.9**	**+0.2**
VNA2	**Neumayer--Watz**	**19.71**	**197**	P	**P**	**17 25 41.5**	**-0.6**
baz=23,slow=14							
VNA3	**Neumayer Olymp**	**20.40**	**198**	P	**P**	**17 25 49.2**	**-0.3**
MAW	**Mawson**	**28.91**	**141**	LR	LR	17 37 21.3	
comp=Z,45nm,19.5s,baz=246,slow=34							
QSPA	**South Pole Qui**	**37.33**	**180**	P	**P**	**17 28 24.9**	**-0.1**
1.5nm,0.8s,baz=229,slow=2.2,SNR=6.3							
VNDA	**Vanda**	**48.66**	**172**	P	**P**	**17 29 56.4**	**+0.1**
1.7nm,0.8s,baz=202,slow=3.0,SNR=9.3							
VNDA				LR	LR	17 50 43.0	
comp=Z,81nm,18.1s,baz=188,slow=36							
DBIC	**Dimbokro**	**60.70**	**343**	P	**P**	**17 31 24.0**	**-0.2**
4.7nm,0.8s,baz=153,slow=9.0,SNR=5.6							
TORD	**Torodi Ar. Bea**	**66.18**	**351**	P	**P**	**17 32 00.3**	**-0.2**
2.1nm,1.0s,baz=183,slow=6.5,SNR=7.7							
YKA	**Yellowknife Ar**	**149.87**	**311**	PKPbc	**PKPbc**	**17 41 01.4**	**-0.3**
1.2nm,0.8s,baz=91,slow=2.6,SNR=14							
ILAR	**Eielson Array**	**163.31**	**324**	PKPab	**PKPab**	**17 42 06.0**	**+1.0**
0.3nm,0.7s,baz=29,slow=4.2,SNR=3.5							

*IDC **04** 17:23:50.8±1.1, 38°32S×73°92W, h0km, mb3.9/3, mb1 4.2/5, mb1mx4.0/23, mbtmp4.0/5, ML3.1/3, MS4.0/4, Ms1 4.0/4, ms1mx3.5/17, Error ellipse: s-maj=34.4km s-min=18.3km az=62.0*
*ISCJB **04** 17:23:53.5±0.9, 38°33S±0°09×73°8W±0°2, h33km, mb4.0/4, MS3.5/2, Error ellipse: s-maj=18.1km s-min=12.5km az=11.1*
*NEIC **04** 17:23:55.5±0.7, 38°38S×73°84W, h35km, mb4.5/2, Error ellipse: s-maj=16.5km s-min=11.6km az=94.0*
ISC 04 17:23:55.5±0.9, 38°35S±0°1×73°9W±0°2, h35km, n21, σ0ş92/14, mb4.1/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**3.50**	**134**	P	**Pn**	**17 24 49.0**	**+1.4**
0.5nm,0.3s,baz=309,slow=9.9,SNR=6.7							
PLCA				Lg	Lg	17 25 44.3	
4.4nm,0.3s,baz=225,slow=22,SNR=5.1							
PLCA				LR	LR	17 25 47.6	
comp=Z,69nm,20.5s,baz=315,slow=33							
PLCA	**Paso Flores**	**3.50**	**134**	*e*Pn	**Pn**	**17 24 45.9**	**-1.7**
PLCA				*e*Sg	Sn	17 25 40.6	+13
PLCA				Lg	Lg	17 25 44.3	
CFAA	**Coronel Fontan**	**8.16**	**36**	Pn	**Pn**	**17 25 51.0**	**-0.6**
0.1nm,0.3s,baz=207,slow=2.3,SNR=6.2							
CFAA				Lg	Lg	17 28 12.8	
baz=266,slow=15,SNR=2.2							
CFAA				LR	LR	17 29 41.6	
comp=Z,44nm,18.9s,baz=238,slow=43							
TRQA	**Tornquist**	**9.37**	**92**	*e*Pn	**Pn**	**17 26 08.4**	**+0.4**
4.7nm,0.7s							
TRQA				*e*Sn	Sn	17 28 37.4	+45
LVC	**Limon Verde**	**16.25**	**17**	LR	LR	17 34 11.9	
comp=Z,1µm,20.1s,baz=217,slow=38							
USHA	**Ushuaia**	**16.90**	**169**	Pn	**Pn**	**17 27 48.4**	**-0.7**
0.2nm,0.3s,baz=339,slow=8.6,SNR=4.1							
CPUP	**Villa Florida**	**18.38**	**54**	LR	LR	17 36 14.6	
comp=Z,1µm,18.7s,baz=230,slow=40							
NNA	**Nana**	**26.39**	**353**	LR	LR	17 36 52.4	
comp=Z,93nm,21.0s,baz=196,slow=30							
BDFB	**Brasilia**	**32.09**	**52**	LR	LR	17 45 04.0	
comp=Z,136nm,20.3s,baz=221,slow=40							
SNAA	**Sanae**	**48.17**	**156**	P	**P**	**17 32 32.8**	**+0.8**
QSPA	**South Pole Qui**	**51.90**	**180**	P	**P**	**17 33 00.8**	**+0.4**
3.0nm,1.0s,baz=134,slow=3.7,SNR=3.9							
QSPA	**South Pole Qui**	**51.90**	**180**	P	**P**	**17 33 00.1**	**-0.3**
9.2nm,1.3s							
VNDA	**Vanda**	**59.55**	**192**	P	**P**	**17 33 54.6**	**-0.3**
5.1nm,1.5s							
TXAR	**Lajitas Array**	**72.86**	**333**	P	**P**	**17 35 21.8**	**+0.9**
0.9nm,0.8s,baz=152,slow=9.0,SNR=12							
TORD	**Torodi Ar. Bea**	**87.06**	**71**	P	**P**	**17 36 37.6**	**-0.2**
0.4nm,0.8s,baz=217,slow=5.4,SNR=3.1							
H11S2	**WAKE ISLAND Hyd**	**24.16**	**267**	T	T	19 58 57.5	
baz=122							
H11S1	**WAKE ISLAND Hyd**	**24.16**	**267**	T	T	19 59 01.1	
baz=122							
H11S3	**WAKE ISLAND Hyd**	**24.16**	**267**	T	T	19 59 01.8	
baz=122							
TIXI	**Tiksi**	**144.66**	**348**	*e*PKPbc	**PKPab**	**17 43 24.8**	**-1.1**
ABKAR	**Akbulak array**	**145.43**	**56**	*e*PKPdf	**PKPab**	**17 43 30.0**	**+0.5**
ZALV	**Zalesovo Beam**	**158.65**	**36**	PKPab	**PKPab**	**17 44 24.7**	**+0.5**
0.3nm,0.5s,baz=310,slow=5.4,SNR=2.5							

*ISCJB **04** 17:24:40.8±0.8, 58°2S±0°1×149°2W±0°2, h10km, mb4.5/14, MS4.4/11, Error ellipse: s-maj=20.4km s-min=14.8km az=2.4*
*IDC **04** 17:24:41.9±0.7, 58°18S×149°29W, h0km, mb4.4/7, mb1 4.5/7, mb1mx4.3/23, mbtmp4.4/7, MS4.4/11, Ms1 4.4/11, ms1mx4.2/15, Error ellipse: s-maj=39.2km s-min=17.7km az=8.0*
*NEIC **04** 17:24:43.0±0.4, 58°28S×149°20W, h10km, mb4.6/11, Error ellipse: s-maj=15.0km s-min=14.3km az=183.0*
ISC 04 17:24:43.1±0.6, 58°3S±0°1×149°3W±0°1, h10km, n53, σ1ş02/30, mb4.6/14, MS4.4/11, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBA	**Scott Base**	**24.46**	**201**	*e*P	**P**	**17 30 01.8**	**+0.3**
41nm,1.4s							
VNDA	**Vanda**	**25.28**	**203**	LR	LR	17 37 27.7	
comp=Z,276nm,20.6s,baz=86,slow=30							
VNDA	**Vanda**	**25.28**	**203**	*e*P	**P**	**17 30 08.6**	**-0.4**
6.6nm,1.1s							
RPZ	**Rata Peaks**	**28.42**	**283**	LR	LR	17 40 02.8	
comp=Z,856nm,18.2s,baz=132,slow=32							
QSPA	**South Pole Qui**	**31.86**	**180**	P	**P**	**17 31 08.5**	**+0.5**
7.8nm,1.1s,baz=66,slow=4.7,SNR=8.6							
QSPA	**South Pole Qui**	**31.86**	**180**	*e*P	**P**	**17 31 08.2**	**+0.2**
13nm,1.1s							
TBI	**Tubuai**	**34.90**	**360**	*e*LR	LR	17 40 48.6	
679nm,28.8s,baz=183							
TBI	**Tubuai**	**34.90**	**360**	*e*T	T	18 08 29.3	
45nm,0.3s							
RKT	**Rikitea**	**36.59**	**22**	*e*LR	LR	17 41 45.7	
491nm,29.8s							
RKT	**Rikitea**	**36.59**	**22**	*e*T	T	18 10 34.9	
3.3nm,0.3s							
MEH	**Mehetia**	**40.35**	**2**	*e*T	T	18 15 10.5	
12nm,0.3s							
PPT2	**Papeete2**	**40.63**	**360**	*e*LR	LR	17 43 39.0	
754nm,25.5s,baz=187							
PPT	**Papeete**	**40.65**	**360**	LR	LR	17 44 51.3	
comp=Z,292nm,18.1s,baz=154,slow=30							
CASY	**Casey**	**42.39**	**216**	*e*P	**P**	**17 32 39.6**	**+2.6**
16nm,1.2s							
VAH	**Vaihoa**	**42.98**	**2**	*e*T	T	18 18 37.7	
23nm,0.3s							
SNAA	**Sanae**	**48.23**	**166**	*e*P	**P**	**17 33 22.2**	**-1.1**
5.9nm,1.0s							
PLCA	**Paso Flores**	**50.91**	**106**	P	**P**	**17 33 44.7**	**+0.5**
3.4nm,1.0s,baz=257,slow=14,SNR=3.7							
PLCA				LR	LR	17 50 20.0	
comp=Z,288nm,18.3s,baz=224,slow=30							
PLCA	**Paso Flores**	**50.91**	**106**	*e*P	P	17 33 40.0	-4.2
21nm,1.6s							
MAW	**Mawson**	**52.21**	**195**	LR	LR	17 53 07.6	
comp=Z,240nm,20.7s,baz=227,slow=33							
MAW	**Mawson**	**52.21**	**195**	P	**P**	**17 33 51.2**	**-2.2**
1.1nm,1.0s							
STKA	**Stephens Creek**	**52.69**	**269**	P	**P**	**17 33 57.9**	**+0.4**
3.0nm,0.8s,baz=163,slow=10,SNR=3.5							
STKA				LR	LR	17 53 40.0	
comp=Z,433nm,18.1s,baz=171,slow=33							
STKA	**Stephens Creek**	**52.69**	**269**	P	P	17 33 51.2	-6.3
1.4nm,0.8s							
TRQA	**Tornquist**	**57.24**	**110**	*e*P	**P**	**17 34 29.6**	**-0.7**
12nm,1.1s							
CTAO	**Charters Tower**	**59.76**	**281**	*e*P	**P**	**17 34 46.8**	**-1.2**
25nm,1.5s							
ASAR	**Alice Springs**	**63.31**	**268**	P	**P**	**17 35 12.5**	**+0.4**
2.1nm,0.8s,baz=141,slow=6.6,SNR=15							
ASAR				LR	LR	18 00 03.1	
comp=Z,302nm,18.3s,baz=154,slow=34							
H01W1	**Cape Leeuwin H**	**64.31**	**245**	T	T	18 45 46.1	
baz=143,slow=76,SNR=6.3							
H01W2	**Cape Leeuwin H**	**64.31**	**245**	T	T	18 45 41.4	
baz=143,slow=76,SNR=8.2							
H01W3	**Cape Leeuwin H**	**64.32**	**245**	T	T	18 45 44.4	
baz=143,slow=76,SNR=6.8							
LVC	**Limon Verde**	**66.01**	**94**	P	**P**	**17 35 30.3**	**+0.3**
18nm,0.9s,baz=269,slow=5.3,SNR=4.7							
WRA	**Warramunga Arr**	**66.13**	**271**	P	**P**	**17 35 30.6**	**+0.2**
2.2nm,0.8s,baz=155,slow=5.3,SNR=11							
WRA				LR	LR	18 01 15.3	
comp=Z,323nm,20.3s,baz=150,slow=33							
CPUP	**Villa Florida**	**68.98**	**106**	P	**P**	**17 35 49.5**	**+1.1**
3.7nm,1.0s,baz=230,slow=5.0,SNR=8.2							
CPUP				LR	LR	18 01 54.8	
comp=Z,1µm,18.1s,baz=208,slow=32							
CPUP	**Villa Florida**	**68.98**	**106**	*e*P	**P**	**17 35 47.5**	**-0.8**
0.5nm,1.0s							
BDFB	**Brasilia**	**82.63**	**108**	LR	LR	18 11 03.3	
comp=Z,254nm,18.5s,baz=214,slow=34							
ROSC	**El Rosal**	**86.24**	**75**	LR	LR	18 10 28.4	
comp=Z,102nm,18.4s,baz=190,slow=32							
H10S2	**ASCENSION HYDR**	**03.60**	**134**	T	T	19 35 01.1	
baz=203,slow=75,SNR=43							
H10S3	**ASCENSION HYDR**	**03.60**	**134**	T	T	19 34 58.9	
baz=203,slow=75,SNR=43							
H10S1	**ASCENSION HYDR**	**03.62**	**134**	T	T	19 35 01.9	
baz=203,slow=75,SNR=38							
H10N3	**ASCENSION HYDR**	**04.68**	**133**	T	T	19 36 12.9	
baz=203,slow=75,SNR=41							
H10N1	**ASCENSION HYDR**	**04.69**	**133**	T	T	19 36 16.5	
baz=203,slow=75,SNR=41							
H10N2	**ASCENSION HYDR**	**04.70**	**133**	T	T	19 36 14.3	
baz=203,slow=75,SNR=34							
ILAR	**Eielson Array**	**122.74**	**1**	PKP	**PKPdf**	**17 43 37.2**	**-0.2**
2.7nm,1.0s,baz=229,slow=1.7,SNR=13							
YKA	**Yellowknife Ar**	**123.38**	**18**	PKP	**PKPdf**	**17 43 37.4**	**-1.3**
0.8nm,1.1s,baz=186,slow=2.0,SNR=4.3							
KBL	**Kabul**	**145.24**	**244**	*e*PKPdf	**PKPdf**	**17 44 20.7**	**+0.2**
MK31	**Makanchi Array**	**147.43**	**272**	*e*PKPbc	**PKPbc**	**17 44 25.8**	**-0.3**
MKAR	**Makanchi Array**	**147.43**	**272**	PKPbc	**PKPbc**	**17 44 26.2**	**0.0**
1.8nm,0.8s,baz=132,slow=2.1,SNR=24							
TKM2	**Tokmak 2**

CMAR	**Chiang Mai Arr**	**23.27**	**210**	P		P		17 50 18.9	+0.3
	1.0nm,0.8s,baz=13,slow=9.6,SNR=8.8								
KURBB	**Kurchatov Arra**	**25.29**	**307**	P		P		17 50 37.0	-0.2
	0.6nm,0.9s,baz=105,slow=9.9,SNR=4.3								

IDC 04 18:06:55.1±6.8, 6.78S×154.82E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/23, mbtmp3.4/3, Error ellipse: s-maj=146.9km s-min=44.0km az=99.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.80**	**235**	P	P	18 12 10.7	+0.9
	0.6nm,0.5s,baz=59,slow=9.6,SNR=18						
ASAR	**Alice Springs**	**26.18**	**228**	P	P	18 12 30.4	-1.2
	0.2nm,0.3s,baz=59,slow=9.3,SNR=5.0						
H11S3	**WAKE ISLAND Hy**	**27.71**	**25**	T	T	18 41 04.7	
	baz=203						
H11S2	**WAKE ISLAND Hy**	**27.71**	**25**	T	T	18 41 02.3	
	baz=203						
H11S1	**WAKE ISLAND Hy**	**27.73**	**25**	T	T	18 41 05.9	
	baz=203						
CMAR	**Chiang Mai Arr**	**60.53**	**296**	P	P	18 17 07.8	+0.1
	0.4nm,0.6s,baz=120,slow=5.3,SNR=4.0						

IDC 04 18:15:35.8±5.2, 31.69S×179.76E, h350km±45km, mb2.9/2, mb1 3.3/3, mb1mx2.9/25, mbtmp3.8/3, Error ellipse: s-maj=55.5km s-min=29.4km az=36.0
ISCJB 04 18:15:42.0±1.3, 32.04S±0.08×179.1E±0.2, h400km, mb3.1/2, Error ellipse: s-maj=27.5km s-min=9.8km az=173.5
ISC 04 18:15:43.0±1.6, 32.1S±0.1×179.1E±0.2, h400km, n28, σ1s25/35, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**5.49**	**187**	PN	**Pn**	**18 17 11.8**	**+1.8**
MXZ				SN	**S**	**18 18 19.2**	**-1.6**
WMGZ	**Waiomatatini S**	**5.73**	**186**	PN	**Pn**	**18 17 13.2**	**+0.6**
HAZ	**Te Kaha**	**5.74**	**191**	PN	**Pn**	**18 17 11.9**	**-0.9**
HAZ				SN	**S**	**18 18 25.3**	**-0.5**
TWGZ	**Tauwhareparae**	**6.13**	**188**	PN	**Pn**	**18 17 17.1**	**+0.2**
TWGZ				SN	**S**	**18 18 33.5**	**-0.1**
MWZ	**Matawai**	**6.35**	**191**	PN	**Pn**	**18 17 19.1**	**-0.3**
MWZ				SN	**S**	**18 18 40.0**	**+2.0**
URZ	**Urewera**	**6.36**	**194**	P	**Pn**	**18 17 18.3**	**-1.1**
	4.9nm,0.3s,baz=16,slow=2.7,SNR=108						
URZ				S	**S**	**18 18 37.6**	**-0.5**
	5.4nm,0.3s,baz=256,slow=23,SNR=22						
URZ	**Urewera**	**6.36**	**194**	PN	**Pn**	**18 17 18.1**	**-1.3**
URZ				SN	**S**	**18 18 37.4**	**-0.6**
TKGZ	**Te Karaka**	**6.40**	**189**	PN	**Pn**	**18 17 20.9**	**+1.0**
CNGZ	**Carnagh Statio**	**6.41**	**186**	PN	**Pn**	**18 17 21.5**	**+1.5**
RIGZ	**Rimuhau**	**6.68**	**189**	PN	**P**	**18 17 24.0**	**+0.3**
RAHZ	**Arahi**	**7.00**	**193**	PN	**P**	**18 17 27.2**	**+0.1**
KNZ	**Kokohu**	**7.00**	**189**	PN	**P**	**18 17 27.6**	**+0.5**
ARHZ	**Aropaoanui**	**7.35**	**193**	PN	**P**	**18 17 32.4**	**+1.4**
BKZ	**Black Stump Fm**	**7.36**	**196**	PN	**Pn**	**18 17 30.4**	**-0.3**
FWVZ	**Far West T-bar**	**7.70**	**201**	PN	**P**	**18 17 36.0**	**+0.8**
FWVZ				SN	**S**	**18 19 09.3**	**+3.2**
WNVZ	**Wahianoa**	**7.75**	**201**	PN	**Pn**	**18 17 34.3**	**-1.0**
BHHZ	**Black Hill Sta**	**7.77**	**198**	SN	**S**	**18 19 05.6**	**-1.8**
PXZ	**Pawanui**	**8.12**	**192**	SN	**S**	**18 19 12.5**	**-1.9**
ANWZ	**Angora Road**	**8.61**	**194**	PN	**P**	**18 17 46.0**	**+1.0**
MRZ	**Mangatainoka R**	**9.00**	**197**	PN	**Pn**	**18 17 48.0**	**-1.4**
TIWZ	**Tintock**	**9.04**	**196**	ePN	**P**	**18 17 50.0**	**+0.2**
TUWZ	**Tuamarina**	**10.19**	**203**	PN	**P**	**18 18 01.9**	**-0.6**
QRZ	**Quartz Range**	**10.19**	**209**	PN	**Pn**	**18 18 03.2**	**+0.2**
THZ	**Tophouse**	**10.84**	**205**	ePN	**P**	**18 18 09.8**	**0.0**
ASAR	**Alice Springs**	**40.60**	**270**	P	**P**	**18 22 47.6**	**+1.6**
	0.2nm,0.3s,baz=107,slow=7.6,SNR=8.1						
WRA	**Warramunga Arr**	**41.75**	**276**	P	**P**	**18 22 55.8**	**+0.4**
	0.6nm,0.4s,baz=112,slow=7.9,SNR=21						
FINES	**FINESS Array B**	**145.83**	**337**	PKPbc	**PKPdf**	**18 34 31.9**	**-2.1**
	2.3nm,1.1s,baz=29,slow=3.2,SNR=7.3						
TORD	**Torodi Ar. Bea**	**160.98**	**188**	PKPab	**PKPab**	**18 35 41.6**	**-0.3**
	0.3nm,0.8s,baz=197,slow=4.4,SNR=3.0						

IDC 04 18:21:13.7±1.0, 8.75N×126.34E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.5/37, mbtmp3.7/6, Error ellipse: s-maj=40.4km s-min=19.9km az=68.0
ISCJB 04 18:21:20.0±0.7, 8.74N±0.05×126.41E±0.06, h65km±7km, mb3.6/6, Error ellipse: s-maj=10.7km s-min=7.1km az=154.1
MAN 04 18:21:20, 8.76N×126.37E, h30km, mb4.6, ML3.5, MS3.5
ISC 04 18:21:20.8±1.2, 8.75N±0.05×126.41E±0.07, h51km±12km, n23, σ0s98/23, mb3.7/6, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.56**	**185**	⇓*iP*	**Pn**	**18 21 32.9**	**0.0**
BIPH				*i* S	**Sn**	**18 21 41.2**	**-0.4**
BUTP	**Butuan**	**0.81**	**286**	*eP*	**Pn**	**18 21 35.8**	**-0.2**
BUTP				*eS*	**Sn**	**18 21 46.7**	**-0.4**
BUKP	**Musuan**	**1.59**	**237**	*eP*	**Pn**	**18 21 47.9**	**+1.3**
BUKP				*eS*	**Sn**	**18 22 07.0**	**+1.0**
CGP	**Cagayan de Oro**	**1.72**	**260**	⇑*iP*	**Pn**	**18 21 47.9**	**-0.4**
CGP				*i* S	**Sn**	**18 22 09.1**	**-0.1**
MATI	**Mati**	**1.80**	**185**	*eP*	**Pn**	**18 21 50.8**	**+1.3**
MSLP	**Maasin**	**2.06**	**312**	*eP*	**Pn**	**18 21 53.4**	**+0.4**
PLP	**Palo**	**2.78**	**330**	⇓*eP*	**Pn**	**18 22 03.8**	**+0.9**
PLP				*eS*	**Sn**	**18 22 36.5**	**+1.2**
OCLP	**Ormoc**	**2.89**	**322**	*eP*	**Pn**	**18 22 05.7**	**+1.3**
DCPH	**Dipolog City**	**3.02**	**267**	⇑*eP*	**Pn**	**18 22 06.6**	**+0.4**
DCPH				*eS*	**Sn**	**18 22 41.0**	**-0.2**
PAGZ	**Pagadian**	**3.12**	**254**	*eP*	**Pn**	**18 22 09.8**	**+2.2**
GUIM	**Jordan**	**4.20**	**297**	*eP*	**Pn**	**18 22 22.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**28.34**	**293**	P	**P**	**18 27 10.2**	**0.0**
	2.2nm,1.0s,baz=110,slow=6.6,SNR=9.6						
WRA	**Warramunga Arr**	**29.56**	**165**	P	**P**	**18 27 20.5**	**-0.5**
	0.5nm,1.0s,baz=345,slow=8.5,SNR=4.2						
ASAR	**Alice Springs**	**33.04**	**167**	P	**P**	**18 27 51.1**	**-0.4**
	0.6nm,1.0s,baz=347,slow=7.3,SNR=6.6						
H11S3	**WAKE ISLAND Hy**	**40.24**	**72**	T	T	19 11 55.0	
	baz=262,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**40.26**	**72**	T	T	19 11 57.1	
	baz=262,slow=75,SNR=19						
H11S2	**WAKE ISLAND Hy**	**40.26**	**72**	T	T	19 11 56.3	
	baz=262,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**40.62**	**70**	T	T	19 12 39.5	
	baz=265						
H11N2	**WAKE ISLAND Hy**	**40.63**	**70**	T	T	19 12 40.4	
	baz=265						
H11N3	**WAKE ISLAND Hy**	**40.64**	**70**	T	T	19 12 41.0	
	baz=265						
PETK	**Petropavlovsk-**	**50.96**	**24**	P	**P**	**18 30 17.9**	**+0.7**
	1.6nm,0.8s,baz=224,slow=6.0,SNR=3.3						
MKAR	**Makanchi Array**	**53.32**	**323**	P	**P**	**18 30 33.7**	**-1.1**
	0.6nm,0.7s,baz=130,slow=4.1,SNR=11						
ZALV	**Zalesovo Beam**	**56.02**	**332**	P	**P**	**18 30 52.9**	**-1.3**
	0.3nm,0.3s,baz=106,slow=5.2,SNR=3.0						

ISCJB 04 18:24:31.8±0.4, 32.72N±0.03×115.78W±0.03, h9km±4km, Error ellipse: s-maj=5.6km s-min=4.3km az=173.7
NEIC 04 18:24:32.5, 32.71N×115.79W, h5km, ML3.2(ECX), ML3.2(PAS), After PAS.
ECX 04 18:24:32.7±0.6, 32.71N×115.79W, h3km, MD3.3, ML3.5
MEX 04 18:24:33.7±0.3, 32.98N×115.92W, h17km±999km, MD3.7
ISC 04 18:24:31.6±0.9, 32.69N±0.03×115.75W±0.02, h14km±6km, n28, σ0s94/37, 6C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.05**	**155**	⇓*iP*	**Pg**	**18 24 34.2**	**0.0**
WESC	**Westside Schoo**	**0.07**	**12**	*eP*	**Pg**	**18 24 34.2**	**-0.2**
ERPC	**Ernies Place**	**0.09**	**55**	⇑*iP*	**Pg**	**18 24 35.1**	**+0.5**
YUH	**Yuha Desert**	**0.15**	**253**	⇑*iP*	**Pg**	**18 24 35.2**	**-0.3**
COK	**Cook Ranch**	**0.16**	**7**	⇓*iP*	**Pg**	**18 24 35.7**	**+0.2**
SWSC	**Sam W. Stewart**	**0.25**	**351**	⇓*iP*	**Pg**	**18 24 36.9**	**-0.2**
CRR	**Carrizo Plain**	**0.27**	**316**	⇓*iP*	**Pg**	**18 24 37.1**	**-0.3**
RMX	**La Rumorosa**	**0.29**	**252**	*eP*	**Pg**	**18 24 37.7**	**-0.1**
RMX				*eS*	**Sg**	**18 24 42.1**	**+0.1**
CPBX	**Cerro Prieto**	**0.47**	**126**	*eP*	Pg	18 24 37.0	-3.8
CPBX				*eS*	**Sg**	**18 24 44.6**	**-2.6**
CPBX				⇑*e*		18 24 47.5	
CPBX				AML	AML	18 24 47.5	
	comp=N,12μm,0.3s						

MBIG	**Mexicali**	**0.55**	**121**	*i* P		**Pn**		**18 24 46.7**	**+1.7**
COA	**Coachella**	**0.55**	**72**	⇑*i*P		**Pb**		**18 24 43.4**	**+0.2**
BAR	**Barrett**	**0.78**	**269**	*e*Pg		**Pg**		**18 24 45.7**	**-1.0**
BAR				*e*Sg		**Sg**		**18 24 55.6**	**-1.4**
BAR	**Barrett**	**0.78**	**269**	⇑*eP*		**Pg**		**18 24 46.2**	**-0.5**
RDX	**Rancho Dawling**	**0.78**	**192**	*eP*		**Pg**		**18 24 46.6**	**-0.2**
RDX				*eS*		**Sg**		**18 24 57.1**	**0.0**
GLA	**Glamis**	**0.85**	**65**	*e*Pg		**Pg**		**18 24 47.4**	**-0.9**
GLA				*e*Sg		**Sg**		**18 24 59.0**	**-0.4**
CBX	**Cerro Bola**	**0.86**	**244**	*i* P		**Pg**		**18 24 48.1**	**-0.3**
CBX				*i* S		**Sg**		**18 24 59.2**	**-0.4**
CBX	**Cerro Bola**	**0.86**	**244**	*i* P		**Pg**		**18 24 48.1**	**-0.3**
CBX				*i* S		**Sg**		**18 24 59.2**	**-0.4**
CBX	**Cerro Bola**	**0.86**	**244**	⇑*eP*		**Pg**		**18 24 48.0**	**-0.3**
CBX				*eS*		**Sg**		**18 24 58.7**	**-0.9**
ZAX	**El Zacaton**	**1.26**	**201**	*eP*		**Pb**		**18 24 55.2**	**0.0**
ECNX	**Esteban Cantu**	**1.26**	**215**	*e*P2		**Pn**		**18 24 54.7**	**-0.3**
PBX	**Punta Banda**	**1.26**	**221**	*e*P2		**Pn**		**18 24 54.3**	**-0.5**
ECBX	**El Chinero**	**1.35**	**154**	*e*P9		**Pn**		**18 24 56.9**	**+0.8**
ECBX				*eS*		**Sg**		**18 25 15.7**	**+0.4**
ECBX				AML	AML	18 25 16.2			
	comp=E,420nm,0.5s								
ECBX				⇓*e*		18 25 16.2			
SPIG	**San Pedro Mart**	**1.66**	**172**	*i* P		**Pg**		**18 25 03.5**	**0.0**
SPIG	**San Pedro Mart**	**1.66**	**172**	*i* P		**Pg**		**18 25 03.5**	**0.0**
SPX	**San Pedro Mart**	**1.66**	**172**	*e*P		**Pb**		**18 25 03.2**	**+0.9**
SPX	**San Pedro Mart**	**1.66**	**172**	*e*P2		**Pg**		**18 25 02.1**	**-1.4**
MWC	**Mount Wilson**	**2.46**	**309**	*e*Pn		**Pn**		**18 25 11.3**	**-0.2**
MWC				*e*Sn		**Sn**		**18 25 43.8**	**+2.3**
214A	**Organ Pipe Nat**	**2.59**	**106**	*e*Pn		**Pn**		**18 25 11.2**	**-2.0**

IDC 04 18:29:58.0±1.9, 37.14N×142.25E, h0km, mb3.2/2, mb1 3.6/5, mb1mx3.3/34, mbtmp3.6/5, ML3.3/3, Error ellipse: s-maj=36.9km s-min=24.9km az=78.0
JMA 04 18:30:01.8±0.2, 37.24N×142.08E, h39km±5km, M3.5
ISC 04 18:29:59.0±3.4, 37.25N±0.05×142.14E±0.07, h7km±23km, n21, σ1s48/24, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.01**	**277**	P	**Pb**	**18 30 19.2**	**+0.3**
JFK				*e*S	**Sb**	**18 30 31.3**	**-1.1**
ONAJ	**Iwakimizuishiy**	**1.08**	**263**	P	**Pb**	**18 30 19.9**	**-0.1**
ONAJ				*e*S	**Sb**	**18 30 33.2**	**-1.1**
JMM	**Marumori**	**1.23**	**300**	P	**Pn**	**18 30 22.6**	**0.0**
JMM				*e*S	**Sb**	**18 30 37.5**	**-1.2**
JIO	**Ouri**	**1.35**	**333**	P	**Pn**	**18 30 24.5**	**+0.2**
JIO				*e*S	**Sn**	**18 30 40.2**	**-2.3**
JHO	**Hitachi**	**1.41**	**244**	P	**Pn**	**18 30 24.3**	**-0.7**
JFT	**Otama**	**1.46**	**281**	P	**Pn**	**18 30 26.6**	**+0.8**
JFT				*e*S	**Sn**	**18 30 44.0**	**-1.1**
JOU	**Okura**	**1.61**	**314**	P	**Pn**	**18 30 28.8**	**+0.9**
JOU				*e*S	**Sn**	**18 30 48.9**	**0.0**
JMK	**Ichinoseki**	**1.85**	**337**	P	**Pn**	**18 30 32.2**	**+1.1**
JYK	**Kaneyama**	**2.18**	**320**	P	**Pn**	**18 30 36.9**	**+1.3**
MJAR	**Matsushiro Arr**	**3.23**	**259**	Pn	**Pn**	**18 30 51.1**	**+1.0**
	1.8nm,0.3s,baz=81,slow=15,SNR=37						
MJAR				Sn	**Sn**	**18 31 31.7**	**+3.0**
	2.2nm,0.3s,baz=77,slow=25,SNR=5.8						
MAT	**Matsushiro**	**3.23**	**259**	P	**Pn**	**18 30 52.4**	**+2.3**
MAT				S	**Sn**	**18 31 31.1**	**+2.3**
ASAJ	**Asahikawa**	**6.87**	**3**	Pn	**Pn**	**18 31 42.5**	**+2.5**
	0.3nm,0.3s,baz=197,slow=14,SNR=4.5						
ASAJ				Sn	**Sn**	**18 32 58.0**	**-0.4**
	0.1nm,0.3s,baz=90,slow=20,SNR=1.9						
JCJ	**Chichijima**	**10.12**	**180**	Pn	**Pn**	**18 32 23.6**	**-1.1**
	1.5nm,0.3s,baz=22,slow=19,SNR=5.3						
JCJ				Sn	Sn	18 34 09.4	-9.2
	1.1nm,0.3s,baz=288,slow=19,SNR=2.4						
H11N2	**WAKE ISLAND Hy**	**27.77**	**122**	T	T	19 05 16.8	
	baz=314,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy**	**27.77**	**122**	T	T	19 05 20.4	
	baz=314,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**27.78**	**122**	T	T	19 05 26.2	
	baz=314,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**28.50**	**124**	T	T	19 06 19.1	
	baz=316,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**28.50**	**124**	T	T	19 06 16.2	
	baz=316,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**28.51**	**124**	T	T	19 06 15.3	
	baz=316,slow=76,SNR=12						
MKAR	**Makanchi Array**	**44.49**	**302**	P	**P**	**18 38 11.4**	**+0.5**
	0.2nm,0.7s,baz=92,slow=7.2,SNR=2.9						
WRA	**Warramunga Arr**	**57.36**	**189**	P	**P**	**18 39 47.3**	**-0.6**
	0.2nm,0.6s,baz=7.7,slow=7.1,SNR=4.9						

ISCJB 04 18:41:18.7±0.3, 35.07N±0.04×30.87E±0.04, h70km±25km, Error ellipse: s-maj=7.4km s-min=3.9km az=40.6
HLW 04 18:41:19.3, 35.32N×30.78E, h33km±19km, Md3.3, Ml2.6
ISK 04 18:41:20.2, 35.10N×31.08E, h82km, MD3.5
NIC 04 18:41:20.6, 35.15N×30.93E, h36km, ML3.6
CSEM 04 18:41:20.3±0.2, 35.12N×30.88E, h40km, ML3.6, Error ellipse: s-maj=5.4km s-min=4.1km az=21.0
DDA 04 18:41:24.9, 36.46N×30.90E, h31km, MD3.3
ATH 04 18:41:35.7, 35.72N×29.26E, h37km, MD3.4/5
ISC 04 18:41:19.4±1.2, 35.13N±0.04×30.86E±0.04, h57km±47km, n73, σ1s48/90, 4C, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKMC	**Akamas**	**1.21**	**94**	P	**Pn**	**18 41 40.2**	**+0.1**
	baz=276						
AKMC	**Akamas**	**1.21**	**94**	P	**Pn**	**18 41 40.2**	**+0.1**
PPCY	**Paphos**	**1.24**	**101**	⇑P	**Pn**	**18 41 41.0**	**+0.5**
	baz=283						
PPCY	**Paphos**	**1.24**	**101**	⇑P	**Pn**	**18 41 41.0**	**+0.5**
ALFC	**Alevga**	**1.43**	**88**	P	**Pn**	**18 41 43.0**	**-0.1**
	baz=270						
ALFC				S	**Sn**	**18 42 01.2**	**+0.4**
ALFC	**Alevga**	**1.43**	**88**	P	**Pn**	**18 41 43.0**	**-0.1**
ALFC				S	**Sn**	**18 42 01.2**	**+0.4**
LEF	**Lefka**	**1.66**	**90**	*e*PN	**Pn**	**18 41 45.4**	**-0.9**
LEF				*e*SN	**Sn**	**18 42 04.9**	**-1.6**
LEF	**Lefka**	**1.66**	**90**	*e*Pn	**Pn**	**18 41 45.4**	**-0.9**
LEF				*e*Sn	**Sn**	**18 42 04.9**	**-1.6**
SZAC	**Souni-Zanaja**	**1.70**	**102**	⇑P	**Pn**	**18 41 47.6**	**+0.8**
	baz=284						
SZAC				S	**Sn**	**18 42 08.1**	**+0.6**
SZAC	**Souni-Zanaja**	**1.70**	**102**	⇑P	**Pn**	**18 41 47.6**	**+0.8**
SZAC				S	**Sn**	**18 42 08.1**	**+0.6**
ELL	**Elmali**	**1.79**	**335**	*e*PN	Pn	18 41 52.2	+4.0
ELL	**Elmali**	**1.79**	**335**	*e*Pn	Pn	18 41 52.2	+4.0
MAMC	**Mammari**	**1.93**	**88**	P	**Pn**	**18 41 50.9**	**+1.0**
	baz=270						
MAMC	**Mammari**	**1.93**	**88**	P	Pn	**18 41 50.9**	**+1.0**
CSS	**Prodhromos**	**2.03**	**94**	*e*PN	Pn	18 41 51.5	+0.2
CSS				*e*SN	**Sn**	**18 42 14.2**	**-1.4**
CSS	**Prodhromos**	**2.03**	**94**	P	**Pn**	**18 41 51.7**	**+0.4**
	baz=276						
CSS	**Prodhromos**	**2.03**	**94**	*e*Pn	**Pn**	**18 41 51.5**	**+0.2**
CSS	**Prodhromos**	**2.03**	**94**	P	**Pn**	**18 41 51.7**	**+0.4**
CSS				*e*Sn	**Sn**	**18 42 14.2**	**-1.4**
LFK	**Lefkose**	**2.19**	**85**	*e*PN	**Pn**	**18 41 53.7**	**+0.2**
LFK				*e*SN	**Sn**	**18 42 18.1**	**-1.4**
LFK	**Lefkose**	**2.19**	**85**	*e*Pn	**Pn**	**18 41 53.7**	**+0.2**
LFK				*e*Sn	**Sn**	**18 42 18.1**	**-1.4**
ERMK	**Ermenek**	**2.25**	**47**	*i* P	**Pn**	**18 41 54.4**	**0.0**
ERMK				*i* S	**Sn**	**18 42 15.5**	**-5.7**
BCK	**Bucak**	**2.34**	**355**	*e*PN	Pn	18 41 58.9	+3.4
BCK	**Bucak**	**2.34**	**355**	*e*Pn	Pn	18 41 58.9	+3.4
GOLH	**Golhisar**	**2.35**	**334**	*i* P	**Pn**	**18 41 55.9**	**+0.1**
GOLH	**Golhisar**	**2.35**	**334**	*i* P	**Pn**	**18 41 55.9**	**+0.1**
GOLH				*i* S	Sn	18 42 14.6	-8.9
TURN	**Turunc**	**2.53**	**314**	*i* P	**Pn**	**18 42 00.8**	**+2.8**
TURN				*i* S	**Sn**	**18 42 29.8**	**+2.2**
TURN	**Turunc**	**2.53**	**314**	*i* P	**Pn**	**18 42 00.8**	**+2.8**
TURN				*i* S	**Sn**	**18 42 29.8**	**+2.2**
EREN	**Erenkoy**	**2.74**	**81**	*e*PN	**Pn**	**18 42 01.6**	**+0.8**
EREN	**Erenkoy**	**2.74**	**81**	*e*Pn	**Pn**	**18 42 01.6**	**+0.8**
KIZK	**Mersin**	**2.99**	**62**	*i* P	**Pn**	**18 42 04.1**	**-0.3**
KIZK				*i* S	**Sn**	**18 42 40.9**	**+1.9**
KIZK	**Mersin**	**2.99**	**62**	*i* P	**Pn**	**18 42 04.1**	**-0.3**
KIZK				*i* S	**Sn**	**18 42 40.9**	**+1.9**
KONT	**Konya--Tatoy**	**3.06**	**23**	*e*PN	**Pn**	**18 42 07.4**	**+2.0**
KONT	**Konya--Tatoy**	**3.06**	**23**	*e*Pn	**Pn**	**18 42 07.4**	**+2.0**
LADK	**Ladik-KONYA**	**3.30**	**21**	*e*PN	**Pn**	**18 42 10.6**	**+1.9**
LADK	**Ladik-KONYA**	**3.30**	**21**	*e*Pn	**Pn**	**18 42 10.6**	**+1.9**
BDRM	**Kayabasi**	**3.38**	**306**	*i* P	**Pn**	**18 42 09.0**	**-0.7**
BDRM				*i* S	**Sn**	**18 42 45.4**	**-3.1**

BDRM	**Kayabasi**	**3.38**	**306**	*i* P		**Pn**		**18 42 09.0**	**-0.7**
BDRM				*i* S		**Sn**		**18 42 45.4**	**-3.1**
MERS	**Mersin**	**3.44**	**59**	*e*PN		**Pn**		**18 42 12.1**	**+1.5**
ZKR	**Zakros**	**3.81**	**271**	*e*PN		**Pn**		**18 42 16.7**	**+1.2**
ZKR	**Zakros**	**3.81**	**271**	*e*Pn		**Pn**		**18 42 16.7**	**+1.2**
GCAM	**G?zelcaml?**	**3.89**	**312**	*i* P		**Pn**		**18 42 16.7**	**0.0**
GCAM	**G?zelcaml?**	**3.89**	**312**	*i* P		**Pn**		**18 42 16.7**	**0.0**
GCAM				*i* S		Sn		18 42 55.6	-5.5
GDZ	**Gediz**	**4.11**	**345**	*i* P		Pn		18 42 15.6	-4.2
GDZ	**Gediz**	**4.11**	**345**	*i* P		Pn		18 42 15.6	-4.2
NPS	**Neapolis**	**4.30**	**273**	*e*PN		**Pn**		**18 42 23.1**	**+0.8**
NPS	**Neapolis**	**4.30**	**273**	*e*Pn		**Pn**		**18 42 23.1**	**+0.8**
LAST	**Lasithi**	**4.41**	**272**	*e*PN		**Pn**		**18 42 24.8**	**+0.9**
LAST	**Lasithi**	**4.41**	**272**	*e*Pn		**Pn**		**18 42 24.8**	**+0.9**
APE	**Apeiranthos**	**4.73**	**296**	*e*PN		**Pn**		**18 42 27.3**	**-0.9**
APE	**Apeiranthos**	**4.73**	**296**	*e*Pn		**Pn**		**18 42 27.3**	**-0.9**
RSH		**4.80**	**149**	P		**Pn**		**18 42 30.9**	**+1.7**
	baz=149								
RSH				S		**Sn**		**18 43 22.7**	**-0.8**
	baz=149								
RSH		**4.80**	**149**	P		**Pn**		**18 42 30.8**	**+1.7**
RSH				S		**Sn**		**18 43 22.7**	**-0.8**
AMAG	**Maghara**	**4.89**	**156**	P		**Pn**		**18 42 31.6**	**+1.2**
	baz=155								
AMAG				S		**Sn**		**18 43 25.1**	**-0.6**
	baz=155								
AMAG	**Maghara**	**4.89**	**156**	S		**Sn**		**18 43 25.1**	**-0.6**
HMAT	**Matruh**	**5.11**	**219**	S		**Sn**		**18 43 28.0**	**-3.2**
	baz=218								
HMAT				AMP				18 43 00.0	
	comp=N,10μm,0.2s,logA/T=4.7,baz=218								
KOT	**Kottamia**	**5.25**	**171**	P		**Pn**		**18 42 37.1**	**+1.8**
	baz=170								
KOT	**Kottamia**	**5.25**	**171**	P		Pn		**18 42 37.1**	**+1.8**
HHAG	**Hagoal**	**5.26**	**168**	P		Pn		**18 42 36.7**	**+1.1**
	baz=167								
HHAG				S		**Sn**		**18 43 33.9**	**-1.1**
	baz=167								
HHAG	**Hagoal**	**5.26**	**168**	P		**Pn**		**18 42 36.7**	**+1.1**
HHAG				S		**Sn**		**18 43 33.9**	**-1.1**
SUZ		**5.53**	**162**	P		**Pn**		**18 42 40.9**	**+1.7**
	baz=161								
SUZ				S		**Sn**		**18 43 40.0**	**-1.4**
	baz=161								
SUZ		**5.53**	**162**	P		**Pn**		**18 42 40.9**	**+1.7**
GVD	**Gavdhos**	**5.57**	**269**	*e*PN		**Pn**		**18 42 40.9**	**+1.2**
GVD	**Gavdhos**	**5.57**	**269**	*e*Pn		**Pn**		**18 42 40.9**	**+1.2**
GLL	**Jalalah**	**5.58**	**172**	P		**Pn**		**18 42 41.6**	**+1.7**
	baz=171								
GLL	**Jalalah**	**5.58**	**172**	P		**Pn**		**18 42 41.6**	**+1.7**
HNKL	**Nakhl**	**5.81**	**152**	P		**Pn**		**18 42 44.6**	**+1.5**
	baz=152								
NBNS	**Bani Suef**	**6.50**	**177**	P		**Pn**		**18 42 53.8**	**+1.4**
	baz=176								
NBNS	**Bani Suef**	**6.50**	**177**	P		**Pn**		**18 42 53.8**	**+1.4**
VLI	**Veliai**	**6.62**	**286**	*e*PN		**Pn**		**18 42 53.6**	**-0.5**
TR2		**7.15**	**159**	P		**Pn**		**18 43 02.9**	**+1.5**
	baz=159								
TR2		**7.15**	**159**	P		**Pn**		**18 43 02.8**	**+1

SKR				AMB	AMB	19 00 10.4		
	70nm,0.7s							

*NNC **04** 18:59:36.2±2.8, 36°.78N×71°.15E, h128km±35km, mb2.5, mpv3.3, Error ellipse: s-maj=24.9km s-min=11.2km az=166.0*

ISC 04 18:59:28.7±1.2, 36°.34N±0°.08×71°.26E±0°.09, h114km, n16, σ28 31/18, 5C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**3.12**	**323**	⇓P	**Pn**	**19 00 18.9**	**+2.3**
	8.9nm,0.4s						
DZET				⇑S	**Sn**	**19 00 53.5**	**0.0**
	12nm,0.2s						
SFK	**Sufi-Kurgan**	**4.07**	**25**	⇑P	Pn	19 00 33.5	+4.3
	0.9nm,0.2s						
SFK				⇑S	**Sn**	**19 01 15.8**	**-0.4**
	5.3nm,0.3s						
DLH	**Dalhousie**	**5.43**	**133**	*e*P	**Sn**	**19 01 49.0**	**-0.1**
AAK	**Ala-Archa**	**6.76**	**21**	⇑P	**Pn**	**19 01 07.8**	**+2.3**
	1.2nm,0.6s						
AAK				⇓S	**Sn**	**19 02 21.3**	**+0.3**
	1.9nm,0.5s						
KK31	**Karatay Array**	**6.78**	**355**	P	**Pn**	**19 01 07.5**	**+2.0**
	2.4nm,0.5s,baz=191,slow=14,SNR=52						
KK31				⇑S	**Sn**	**19 02 19.3**	**-1.9**
	0.9nm,0.3s,baz=186,slow=22,SNR=4.0						
PYUN	**Piuthan**	**12.88**	**126**	*e*P	**Pn**	**19 02 26.1**	**-1.7**
	12nm,0.5s						
DANN	**Dangsing**	**13.23**	**124**	*e*P	**Pn**	**19 02 34.6**	**+2.2**
KOLN	**Koldanda**	**13.50**	**126**	*e*P	Pn	19 02 32.4	-3.5
	2.6nm,0.3s						
GKN	**Gorkha**	**14.04**	**123**	*e*P	**Pn**	**19 02 42.9**	**+0.1**
	3.6nm,0.3s						
KKN	**Kakani**	**14.62**	**122**	*e*P	**Pn**	**19 02 49.0**	**-1.2**
PKIN	**Phulchoki**	**14.83**	**122**	*e*P	**Pn**	**19 02 50.0**	**-3.0**
	3.0nm,0.5s						
PKI	**Pulchoki**	**14.85**	**122**	*e*P	**Pn**	**19 02 50.2**	**-3.0**
	2.3nm,0.3s						
GUN	**Gumba**	**14.96**	**120**	*e*P	**Pn**	**19 02 54.5**	**-0.1**
AB31	**Akbulak array**	**15.32**	**331**	⇓P	**Pn**	**19 03 00.1**	**+1.5**
	0.3nm,0.5s,baz=147,slow=11,SNR=15						
AB31				⇓S	**Sn**	**19 05 42.7**	**-5.3**
	0.7nm,0.8s						
JIRN	**Jiri**	**15.33**	**120**	*e*P	**Pn**	**19 02 57.1**	**-2.2**
	4.0nm,0.3s						
NB2	**NORSAR Subarra**	**44.63**	**323**	P	P	19 07 36.5	+7.0
	comp=Z,0.4nm,0.4s,baz=95,slow=7.9						

*IDC **04** 19:08:06.1±2.7, 0°.23S×132°.83E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/24, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=144.4km s-min=25.8km az=74.0*

*DJA **04** 19:08:13.1±0.7, 0°.5±6°×13°.2E±°, h10km, M4.2/6, mb4.5/1, MLv4.0/6*

ISC 04 19:08:12.7±1.4, 0°.5S±0°.1×132°.4E±0°.1, h33km, n9, σ1 945/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**2.08**	**120**	P	**Pb**	**19 08 50.0**	**+0.2**
RKPI				S	Sb	19 09 21.2	+5.9
FAKI	**Fak Fak**	**2.44**	**183**	P	**Pn**	**19 08 51.5**	**+1.3**
FAKI				S	Sb	**19 09 23.6**	**-1.9**
BNDI	**Bandanaira**	**4.72**	**211**	P	**Pn**	**19 09 23.0**	**+1.4**
WRA	**Warramunga Arr**	**19.45**	**174**	P	**P**	**19 12 37.0**	**+0.3**
	0.2nm,0.3s,baz=355,slow=11,SNR=11						
WRA				S	S	19 16 05.1	-10
	0.1nm,0.3s,baz=352,slow=20,SNR=3.5						
ASAR	**Alice Springs**	**23.11**	**176**	P	**P**	**19 13 15.8**	**-0.2**
	1.0nm,0.5s,baz=358,slow=10,SNR=35						
H11N1	**WAKE ISLAND Hy**	**39.33**	**57**	T	T	19 57 26.6	
	baz=246,slow=75,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**39.35**	**57**	T	T	19 57 27.8	
	baz=246,slow=75,SNR=5.3						
H11N3	**WAKE ISLAND Hy**	**39.35**	**57**	T	T	19 57 28.9	
	baz=246,slow=75,SNR=8.4						
MKAR	**Makanchi Array**	**64.22**	**324**	P	**P**	**19 18 43.5**	**-1.0**
	0.1nm,0.5s,baz=110,slow=1.7,SNR=5.1						

*IDC **04** 19:08:54.3±4.2, 31°.61S×69°.87W, h99km±40km, mb3.1/1, mb1 3.3/3, mb1mx3.2/14, mbtmp3.3/3, MS3.3/1, Ms1 3.5/1, ms1mx2.9/5, Error ellipse: s-maj=52.9km s-min=33.6km az=123.0*

*ISCJB **04** 19:08:55.6±0.7, 31°.51S±0°.03×70°.14W±0°.05, h117km±7km, mb3.1/1, Error ellipse: s-maj=7.1km s-min=5.3km az=9.0*

*GUC **04** 19:08:56.2±0.6, 31°.52S×70°.27W, h123km±8km, ML4.2*

*SJA **04** 19:08:57.7±0.8, 31°.54S×69°.91W, h112km±6km, ML3.9*

ISC 04 19:08:56.2±0.9, 31°.52S±0°.04×70°.13W±0°.05, h116km±8km, n25, σ0 884/34, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.76**	**111**	*i* P	**Pn**	**19 09 16.7**	**+0.8**
RTLS				*i* S	**Sn**	**19 09 30.9**	**0.0**
AUSP	**Uspallata**	**0.94**	**138**	*i* P	**Pn**	**19 09 18.3**	**+0.7**
AUSP				*i* S	**Sn**	**19 09 34.4**	**+0.5**
SJA	**San Juan**	**1.34**	**91**	*i* P	**Pn**	**19 09 22.3**	**+0.7**
SJA				*i* S	**Sn**	**19 09 39.4**	**-1.5**
RTCV	**Cerro Valdivia**	**1.40**	**104**	*i* P	**Pn**	**19 09 22.6**	**+0.3**
RTLL	**Cerro Villicun**	**1.43**	**83**	*i* P	**Pn**	**19 09 22.4**	**-0.2**
TLL	**Tololo Astrono**	**1.47**	**337**	*e*P	**Pn**	**19 09 23.4**	**+0.1**
TLL				*e*S	**Sn**	**19 09 43.9**	**0.0**
TLL				AML	AML	19 09 45.0	
	comp=E,3μm,0.4s						
CFAA	**Coronel Fontan**	**1.62**	**93**	*i* P	**Pn**	**19 09 24.5**	**-0.3**
CFAA				*i* S	**Sn**	**19 09 44.6**	**-2.0**
ARCO	**CERRO ARCO**	**1.66**	**143**	*i* P	**Pn**	**19 09 26.6**	**+1.1**
ARCO				AML	AML	19 09 52.2	
	comp=Z,1μm,0.2s						
PEL	**Peldehue**	**1.68**	**196**	*e*P	**Pn**	**19 09 25.5**	**-0.1**
PEL				*e*S	**Sn**	**19 09 47.7**	**-0.4**
PEL				AML	AML	19 09 49.2	
	comp=E,3μm,0.5s						
LSCH	**La Serena**	**1.87**	**329**	*e*P	**Pn**	**19 09 27.5**	**-0.4**
LSCH				*e*S	**Sn**	**19 09 50.9**	**-1.1**
CLCH	**Cerro Calan**	**1.90**	**190**	*e*P	**Pn**	**19 09 28.4**	**+0.2**
CLCH				*e*S	**Sn**	**19 09 52.6**	**-0.2**
CLCH				AML	AML	19 09 55.3	
	comp=E,2μm,0.3s						
AAGR	**Agrelo**	**1.91**	**145**	*i* P	**Pn**	**19 09 29.5**	**+1.1**
STL	**Santa Lucia**	**1.96**	**193**	*e*P	**Pn**	**19 09 28.3**	**-0.7**
STL				*e*S	**Sn**	**19 09 53.7**	**-0.3**
SAN	**Santiago**	**1.98**	**193**	*e*P	**Pn**	**19 09 29.2**	**0.0**
SAN				*e*S	**Sn**	**19 09 54.3**	**-0.1**
RCDM	**Rinconada Maip**	**2.04**	**196**	*e*P	**Pn**	**19 09 29.7**	**-0.3**
RCDM				*e*S	**Sn**	**19 09 55.4**	**-0.5**
RCDM				AML	AML	19 09 57.0	
	comp=N,2μm,0.5s						
PCH	**Pirque**	**2.12**	**189**	*e*P	**Pn**	**19 09 31.4**	**+0.4**
PCH				*e*S	**Sn**	**19 09 57.6**	**-0.1**
ACAN	**Cantantal**	**2.61**	**107**	*i* P	**Pn**	**19 09 37.2**	**-0.1**
PLCA	**Paso Flores**	**9.20**	**182**	P	**Pn**	**19 11 03.5**	**-2.4**
	comp=N,0.3nm,0.3s,baz=355,slow=10.0,SNR=11						
CPUP	**Villa Florida**	**12.35**	**68**	P	Pn	19 11 43.6	-4.4
	comp=N,0.1nm,0.3s,baz=231,slow=9.7,SNR=5.1						
LPAZ	**La Paz**	**15.28**	**7**	LR	LR	19 19 43.3	
	comp=N,133nm,21.8s,baz=47,slow=42						
TXAR	**Lajitas Array**	**68.41**	**329**	P	**P**	**19 19 46.7**	**+1.3**
	comp=N,0.2nm,0.6s,baz=165,slow=9.6,SNR=4.2						
TORD	**Torodi Ar. Bea**	**81.84**	**69**	pP	pP	19 21 30.5	-1.9
	comp=N,0.5nm,0.8s,baz=246,slow=5.0,SNR=2.5						
WRA	**Warramunga Arr**	**123.70**	**208**	PKP	**PKPdf**	**19 27 40.0**	**-0.7**
	comp=N,0.3nm,0.8s,baz=149,slow=1.8,SNR=3.9						
ZALV	**Zalesovo Beam**	**151.28**	**31**	PKPbc	**PKPbc**	**19 28 35.5**	**+0.1**
	comp=N,0.9nm,0.5s,baz=313,slow=2.8,SNR=7.4						
MKAR	**Makanchi Array**	**153.91**	**46**	PKPab	**PKPab**	**19 28 55.2**	**-0.1**
	comp=N,0.1nm,0.4s,baz=321,slow=3.7,SNR=3.5						

*IDC **04** 19:34:46.1±0.6, 18°.11N×120°.57E, h0km, mb3.9/21, mb1 4.1/21, mb1mx4.0/38, mbtmp4.0/21, MS3.2/11, Ms1 3.2/11, ms1mx3.0/37, Error ellipse: s-maj=21.9km s-min=14.0km az=72.0*

*ISCJB **04** 19:34:52.0±0.3, 18°.37N±0°.02×120°.41E±0°.04, h41km±4km, mb4.0/34, MS3.1/11, Error ellipse: s-maj=6.1km s-min=4.1km az=5.2*

*NEIC **04** 19:34:53.4±0.5, 18°.12N×120°.64E, h55km±5km, mb4.1/16, Error ellipse: s-maj=7.1km s-min=4.8km az=99.0*

NEIC Felt [III PIVS] at Pasuquin.

*MAN **04** 19:34:54, 18°.20N×120°.53E, h20km, mb5.1, ML4.1, MS4.2*

MAN INTENSITY III - PASUQUIN ILOCOS NORTE.

*BJI **04** 19:35:02.0, 18°.10N×120°.60E, h146km, mb4.0/9, mB4.4/7*

ISC 04 19:34:52.5±0.9, 18°.34N±0°.03×120°.40E±0°.04, h33km±3km, n89, σ1 838/85, mb4.1/34, MS3.1/11, 4C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.21**	**94**	⇑*i*P	**Pb**	**19 34 59.3**	**+0.1**
PIP				*e*S	**Sb**	**19 35 03.7**	**-0.2**
SIPP	**Brgy, Tapao**	**0.42**	**173**	⇑*e*P	**Pb**	**19 35 02.2**	**+0.3**
SIPP				*e*S	**Sn**	**19 35 09.3**	**+0.5**
ABRA	**Dolores**	**0.75**	**157**	*e*P	**Pn**	**19 35 06.2**	**-0.6**
ABRA				*e*S	**Sn**	**19 35 16.0**	**-0.9**
SZP	**Santa**	**0.79**	**176**	*e*Pn	**Pn**	**19 35 06.6**	**-0.7**
SZP				*e*Sn	**Sn**	**19 35 17.3**	**-0.5**
APYP	**Conner**	**0.93**	**121**	*e*P	**Pn**	**19 35 08.3**	**-0.9**
APYP				*e*S	**Sn**	**19 35 20.4**	**-1.1**
CVP	**Callao Caves**	**1.49**	**115**	⇑*e*P	**Pn**	**19 35 17.2**	**+0.2**
CVP				*i* S	**Sn**	**19 35 36.8**	**+1.5**
SGCP	**Mt. Cagua**	**1.56**	**93**	*e*P	**Pn**	**19 35 18.3**	**+0.3**
SGCP				*e*S	**Sn**	**19 35 38.7**	**+1.6**
CAUP	**Cauayan**	**1.94**	**135**	*e*P	**Pn**	**19 35 25.3**	**+2.1**
BCPH	**Baguio City Da**	**1.96**	**175**	⇑*i*P	**Pn**	**19 35 24.1**	**+0.5**
BCPH				*i* S	**Sn**	**19 35 46.7**	**-0.3**
BOLP	**Bolinao**	**2.00**	**194**	*e*P	**Pn**	**19 35 24.6**	**+0.6**
SCZP	**Santa Cruz**	**2.59**	**191**	*e*P	**Pn**	**19 35 33.7**	**+1.6**
BALP	**Baler**	**2.82**	**156**	*e*P	**Pn**	**19 35 37.3**	**+2.0**
TGY	**Tagaytay City**	**4.25**	**173**	⇓*i*P	Pb	19 36 01.5	-5.1
LUBP	**Lubang**	**4.58**	**182**	*e*P	**Pn**	**19 36 02.5**	**+2.9**
GQP	**Guinayangan**	**4.83**	**156**	⇓*e*P	**Pn**	**19 36 02.3**	**-0.6**
TPUB	**Ta-pu**	**4.94**	**2**	*e*Pn	**Pn**	**19 36 06.8**	**+2.4**
	24nm,0.6s						
TPUB				*e*Sn	Sn	19 36 49.5	-11
YULB	**Yu-li**	**5.10**	**9**	*e*Pn	**Pn**	**19 36 09.2**	**+2.6**
	12nm,0.6s						
YULB				*e*Sn	**Sn**	**19 37 04.6**	**+0.2**
SSLB	**Suanglung**	**5.45**	**5**	*e*Pn	**Pn**	**19 36 10.0**	**-1.4**
	19nm,0.6s						
SSLB				*e*Sn	**Sn**	**19 37 11.8**	**-1.2**
NACB	**Ninganchiao**	**5.91**	**11**	*e*Pn	**Pn**	**19 36 20.0**	**+2.2**
YHNB	**Yeheng**	**6.36**	**8**	*e*Pn	**Pn**	**19 36 27.3**	**+3.2**
	15nm,0.6s						
YHNB				*e*Sn	**Sn**	**19 37 35.0**	**-0.7**
TATO	**Taipei**	**6.68**	**9**	*e*Pn	Pn	19 36 32.2	+3.9
GZH	**Guangzhou**	**8.12**	**307**	P	**Pn**	**19 36 49.7**	**+1.6**
GZH				S	**Sn**	**19 38 14.2**	**-4.5**
GZH				smax	smax		
	comp=N,63nm,1.0s						
GZH				smax	smax		
	comp=E,72nm,1.0s						
QIZ	**Qiongzhong**	**10.03**	**276**	P	**Pn**	**19 37 14.5**	**+0.1**
QIZ				S	**Sn**	**19 39 06.8**	**+1.0**
QIZ				LR	LR		
	comp=E,95nm,15.0s						
QIZ				LR	LR		
	comp=Z,220nm,14.6s						
QIZ	**Qiongzhong**	**10.03**	**276**	*e*Pn	**Pn**	**19 37 13.8**	**-0.5**
QIZ				*e*Sn	**Sn**	**19 39 04.9**	**-0.9**
JNU	**Nakatsue**	**17.47**	**31**	P	**P**	**19 38 56.2**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=161,slow=1.8,SNR=8.6						
KSM	**Kuching**	**19.47**	**212**	*e*Pn	**P**	**19 39 16.2**	**-0.5**
KSAR	**Wonju Array Be**	**20.13**	**18**	P	**P**	**19 39 22.8**	**-1.0**
KSRS	**Korea Array**	**20.15**	**18**	P	**P**	**19 39 22.8**	**-1.2**
	comp=Z,1.3nm,0.7s,baz=193,slow=12,SNR=5.9						
CHTO	**Chiang Mai**	**20.35**	**275**	*e*P	Pn	19 39 28.4	-0.1
	comp=Z,5.9nm,1.0s						
CM31	**Chiang Mai Arr**	**20.36**	**274**	*e*P	Pn	19 39 28.4	-0.3
	comp=Z,1.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**20.36**	**274**	P	Pn	19 39 29.1	+0.4
	comp=Z,4.1nm,0.9s,baz=92,slow=8.5,SNR=29						
CMAR				LR	LR	19 46 42.8	
	comp=Z,47nm,18.4s,baz=165,slow=35						
KULM	**Kulim**	**23.24**	**239**	*e*P	**P**	**19 39 53.0**	**-4.1**
MJAR	**Matsushiro Arr**	**23.98**	**37**	P	**P**	**19 40 04.0**	**0.0**
	comp=Z,0.6nm,0.7s,baz=221,slow=9.1,SNR=4.6						
MJAR				LR	LR	19 49 40.7	
	comp=Z,18nm,18.5s,baz=240,slow=37						
GUMO	**Guam**	**23.98**	**98**	LR	LR	19 47 25.4	
	comp=Z,54nm,19.5s,baz=248,slow=32						
USRK	**Ussuriysk Ar.**	**27.56**	**18**	P	**P**	**19 40 35.9**	**-0.5**
	comp=Z,2.1nm,0.7s,baz=205,slow=6.4,SNR=5.5						
LSA	**Lhasa**	**28.93**	**298**	P	**P**	**19 40 49.9**	**+0.6**
	comp=Z,3.2nm,0.8s						
ULN	**Ulaanbaatar**	**31.40**	**343**	*e*P	**P**	**19 41 11.2**	**+0.7**
	comp=Z,0.6nm,0.5s						
SONM	**Songino Array**	**31.57**	**342**	P	**P**	**19 41 13.2**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=156,slow=10,SNR=7.4						
SONM				PcP	**PcP**	**19 44 03.7**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=144,slow=4.9,SNR=2.4						
SONM				LR	LR	19 54 47.6	
	comp=Z,55nm,20.2s,baz=170,slow=38						
ASAJ	**Asahikawa**	**31.75**	**31**	LR	LR	19 54 13.7	
	comp=Z,23nm,20.1s,baz=318,slow=37						
TLY	**Talaya**	**35.81**	**342**	LR	LR	19 57 35.2	
	comp=Z,37nm,18.7s,baz=174,slow=38						
WRAB	**Tennant Creek**	**40.42**	**160**	*e*P	P	19 42 23.8	-4.1
	comp=Z,3.0nm,0.9s						
WRA	**Warramunga Arr**	**40.43**	**160**	P	P	19 42 23.5	-4.4
	comp=Z,1.0nm,0.8s,baz=342,slow=8.8,SNR=11						
WRA				PcP	**PcP**	**19 44 29.4**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=342,slow=3.2,SNR=4.2						
MK31	**Makanchi Array**	**42.21**	**321**	*e*P	**P**	**19 42 44.5**	**+2.2**
MK31				*e*PcP	**PcP**	**19 44 35.7**	**-0.3**
MKAR	**Makanchi Array**	**42.21**	**321**	P	**P**	**19 42 44.5**	**+2.1**
	comp=Z,2.3nm,0.8s,baz=157,slow=4.7,SNR=31						
MKAR				PcP	**PcP**	**19 44 35.9**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=112,slow=1.3,SNR=5.2						
AS31	**Alice Springs**	**43.78**	**162**	P	P	19 42 50.6	-4.6
ASAR	**Alice Springs**	**43.78**	**162**	P	P	19 42 51.9	-3.4
	comp=Z,0.8nm,0.5s,baz=340,slow=6.8,SNR=19						
H11S3	**WAKE ISLAND Hy**	**43.82**	**82**	T	T	20 28 14.2	
	baz=276,slow=74,SNR=11						
H11S1	**WAKE ISLAND Hy**	**43.83**	**82**	T	T	20 28 16.0	
	baz=276,slow=74,SNR=6.3						
H11S2	**WAKE ISLAND Hy**	**43.84**	**82**	T	T	20 28 17.6	
	baz=276,slow=74,SNR=4.4						
H11N1	**WAKE ISLAND Hy**	**43.87**	**80**	T	T	20 28 21.9	
	baz=281						
H11N2	**WAKE ISLAND Hy**	**43.87**	**80**	T	T	20 28 24.2	
	baz=281						
H11N3	**WAKE ISLAND Hy**	**43.88**	**80**	T	T	20 28 24.5	
	baz=281						
YAK	**Yakutsk**	**44.13**	**6**	LR	LR	20 03 38.2	
	comp=Z,24nm,18.4s,baz=188,slow=39						
YAK	**Yakutsk**	**44.13**	**6**	P	**P**	**19 42 57.3**	**-0.2**
ZAA0	**Zalesovo Array**	**44.86**	**331**	*e*P	**P**	**19 43 04.3**	**+0.8**
ZALV	**Zalesovo Beam**	**44.86**	**331**	P	**P**	**19 43 04.7**	**+1.2**
	comp=Z,2.4nm,0.7s,baz=111,slow=8.1,SNR=16						
ZALV				PcP	**PcP**	**19 44 44.4**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=120,slow=5.8,SNR=2.8						
TKM2	**Tokmak 2**	**44.99**	**313**	P	P	19 42 59.6	-5.4
PETK	**Petropavlovsk-**	**45.17**	**31**	P	**P**	**19 43 05.8**	**-0.2**
	comp=Z,3.0nm,0.8s,baz=224,slow=8.1,SNR=3.8						
AAK	**Ala-Archa**	**45.67**	**312**	LR	LR	20 04 58.3	
	comp=Z,42nm,18.9s,baz=67,slow=39						
AAK	**Ala-Archa**	**45.67**	**312**	*e*P	**P**	**19 43 11.6**	**+1.2**
	comp=Z,1.2nm,0.7s						
EKS2	**Erkin-Say**	**46.18**	**312**	*e*P	**P**	**19 43 16.1**	**+1.7**
	comp=Z,1.4nm,0.8s						
KURK	**Kurchatov**	**46.24**	**324**	*e*P	**P**	**19 43 15.9**	**+1.5**
	comp=Z,12nm,0.9s						
KBL	**Kabul**	**48.23**	**300**	*e*P	**P**	**19 43 31.1**	**+0.6**
KKAR	**Karatay Array**	**48.61**	**312**	*e*P	**P**	**19 43 34.6**	**+1.5**
	comp=Z,1.1nm,0.8s						
SEY	**Seymchan**	**49.71**	**19**	P	**P**	**19 43 40.5**	**-0.6**
	comp=Z,0.4nm,0.2s,baz=232,slow=5.0,SNR=4.1						
BRVK	**Borovoye**	**51.91**	**324**	*e*P	**P**	**19 43 59.2**	**+1.4**
	comp=Z,4.4nm,1.1s						
TIXI	**Tiksi**	**53.54**	**3**	*e*P	**P**	**19 44 07.7**	**-1.9**
	comp=Z,0.5nm,0.6s						
STKA	**Stephens Creek**	**53.91**	**158**	P	P	19 44 09.5	-3.3
	comp=Z,1.7nm,0.7s,baz=341,slow=12,SNR=4.2						
ABKAR	**Akbulak array**	**57.10**	**317**	*e*P	**P**	**19 44 36.4**	**+0.7**
	comp=Z,1.4nm,0.7s						
GEYT	**Alibeck**	**57.26**	**304**	P	**P**	**19 44 38.9**	**+1.8**
	comp=Z,1.8nm,0.8s,baz=182,slow=11,SNR=5.1						
BILL	**Bilibino**	**57.41**	**19**	P	**P**	**19 44 36.8**	**-0.7**
AKTO	**Aktyubinsk**	**58.53**	**318**	LR	LR	20 11 49.1	
	comp=Z,15nm,18.9s,baz=130,slow=38						
ARU	**Arti**	**59.40**	**325**	*e*P	**P**	**19 44 51.6**	**0.0**
	comp=Z,2.2nm,0.8s						
KBZ	**Khabaz**	**68.63**	**311**	P	**P**	**19 45 53.3**	**+0.9**
	comp=Z,2.3nm,0.9s,baz=56,slow=24,SNR=7.3						
KIV	**Kislovodsk**	**68.76**	**311**	*e*P	**P**	**19 45 54.0**	**+0.6**
	comp=Z,7.0nm,0.7s						
MCK	**McKinley**	**74.03**	**28**	*e*P	**P**	**19 46 24.4**	**-0.4**
	comp=Z,4.9nm,0.9s						
ARCES	**ARCESS Array B**	**74.68**	**339**	P	**P**	**19 46 28.8**	**+0.4**
	comp=Z,2.1nm,0.9s,baz=63,slow=5.6,SNR=5.4						
ILAR	**Eielson Array**	**74.73**	**26**	P	**P**	**19 46 28.4**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=283,slow=6.5,SNR=8.1						
BRTR	**Keskin Array B**	**76.09**	**308**	P	**P**	**19 46 36.5**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=73,slow=4.8,SNR=3.6						
FINES	**FINESS Array B**	**76.12**	**330**	P	**P**	**19 46 36.3**	**-0.5**
	comp=Z,2.8nm,0.8s,baz=125,slow=9.6,SNR=6.3						
FINES				LR	LR	20 23 40.3	
	comp=Z,22nm,20.3s,baz=85,slow=38						
AKASG	**Malin Array Be**	**76.76**	**319**	P	**P**	**19 46 39.7**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=65,slow=5.1,SNR=6.1						
SUW	**Suwalki**	**79.51**	**323**	P	**P**	**19 46 55.0**	**-0.9**
BUR08	**Bucovina Ar. S**	**80.08**	**317**	*e*P	**P**	**19 46 58.6**	**-0.6**
NB2	**NORSAR Subarra**	**83.03**	**332**	P	**P**	**19 47 13.5**	**-0.9**
	comp=Z,1.9nm,0.7s,baz=64,slow=5.1						
NOA	**NORSAR Array B**	**83.03**	**332**	P	**P**	**19 47 13.7**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=65,slow=4.9,SNR=9.5						
NOA				LR	LR	20 25 55.8	
	comp=Z,20nm,19.5s,baz=115,slow=37						
PSZ	**Piszkesteto**	**83.40**	**318**	*e*P	**P**	**19 47 14.9**	**-1.7**
	comp=Z,2.6nm,0.8s						
KRLC	**Kraliky**	**84.55**	**321**	*e*P	**P**	**19 47 23.0**	**+0.6**
KRLC				*ex*	x	19 47 31.3	
GERES	**GERESS Array B**	**86.88**	**321**	P	**P**	**19 47 34.4**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=64,slow=6.7,SNR=3.1						
YKA	**Yellowknife Ar**	**88.62**	**22**	P	**P**	**19 47 41.9**	**-0.1**
	comp=Z,2.0nm,0.9s,baz=313,slow=4.5,SNR=22						

MAN 04 19:50:42, 9°.21N×125°.52E, h6km, mb4.3, ML3.2, MS3.0, Mindanao

*BYKL **04** 19:50:48.7±0.4, 50°.99N×99°.58E*

*MOS **04** 19:50:50.3±2.0, 51°.01N×99°.69E, h10km, mb4.2/1, Error ellipse: s-maj=31.1km s-min=16.2km az=51.7*

ISC 04 19:50:48.8±1.0, 51°.02N±0°.04×99°.81E±0°.04, h10km, n27, σ1 889/37, 4C-1D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOY	**Mondy**	**0.99**	**49**	⇓*i*Pg	**Pn**	**19 51 09.7**	**+0.9**
MOY				*e*Sg	**Sn**	**19 51 24.0**	**+1.1**
MOY				Pmax			
	180nm,0.2s						
MOY				Smax			
	377nm,0.3s						
MOY	**Mondy**	**0.99**	**49**	*e*PG	**Pn**	**19 51 09.6**	**+0.8**
MOY				*e*		19 51 23.8	
MOY				pmax	pmax		
	comp=Z,183nm,0.3s						
MOY				smax	smax		
	comp=N,369nm,0.3s						
ORL	**Orlik**	**1.52**	**0**	⇑*i*Pg	**Pg**	**19 51 18.1**	**0.0**
ORL				*e*Sg	**Sg**	**19 51 37.9**	**+0.2**
ORL				Pmax			
	comp=N,53nm,0.3s						
ORL				Smax			
	comp=N,206nm,0.2s						
ORL	**Orlik**	**1.52**	**0**	⇑*i*PG	**Pg**	**19 51 18.0**	**0.0**
ORL				*e*		19 51 37.7	
ORL				pmax	pmax		
	comp=Z,53nm,0.3s						
ORL				smax	smax		
	comp=E,322nm,0.7s						
ARS	**Arshan**	**1.87**	**60**	*e*Pg	**Pg**	**19 51 25.3**	**+0.7**
ARS				*e*		19 51 26.2	
ARS				*e*Sg	**Sg**	**19 51 51.4**	**+2.5**
ARS				max			
	comp=E,74nm,0.3s						
ARS				Smax			
	comp=E,382nm,0.5s						
ARS	**Arshan**	**1.87**	**60**	*e*PN	**Pg**	**19 51 25.1**	**+0.5**
ARS				*e*		19 51 52.0	
ARS				pmax	pmax		
	comp=Z,42nm,0.1s						
ARS				smax	smax		
	comp=E,377nm,0.5s						
ZAK	**Zakamensk**	**2.30**	**105**	⇑*i*Pn	**Pb**	**19 51 30.3**	**-0.1**
ZAK				*e*Pg	**Pg**	**19 51 33.0**	**+0.1**
ZAK				*e*PgPg	**PnPn**	**19 51 36.1**	**+2.1**
ZAK				*e*Sg	**Sg**

ULN				*e*Pg	Pg	19 52 33.5	-4.1		
ULN				*e*Sg	**Sg**	**19 53 48.7**	**-2.5**		
SYVR	**Suvo**	**6.78**	**63**	*e*Sg	**Sg**	**19 54 21.4**	**-4.9**		
SYVR				Smax					
	comp=E,12nm,0.9s								
YLYR	**Ulyunkhan**	**7.87**	**56**	*e*Sg	Sg	19 54 55.0	-6.1		
YLYR				Smax					
	comp=E,58nm,1.6s								
KPC	**Khapcheranga**	**8.15**	**94**	*e*Pg	Pg	19 53 17.7	-7.0		
KPC				*e*Sg	**Sg**	**19 55 05.5**	**-4.7**		
KPC				Pmax					
	comp=E,3.0nm,0.5s								
KPC				Smax					
	comp=E,64nm,1.5s								
KMO	**Kumora**	**8.36**	**50**	*e*Sg	Sg	19 55 10.1	-6.8		
KMO				Smax					
	comp=E,40nm,1.3s								
UKT	**Uakit**	**9.41**	**56**	*e*Sg	Sn	19 55 43.6	+53		
UKT				Smax					
	comp=E,16nm,1.9s								
TUP	**Tupik**	**12.67**	**67**	*e*Sg		19 57 24.8			
TUP				Smax					
	comp=E,11nm,2.3s								

*ISCJB **04** 19:53:21.2±0.3,59.90N±0.03×152.54W±0.05, h101km±3km, mb3.8/6, Error ellipse: s-maj=4.4km s-min=3.6km az=148.4*
*NEIC **04** 19:53:23.5,59.91N×152.54W, h82km, MG3.2(AEIC), After AEIC.*
*IDC **04** 19:53:26.0±4.6,60.21N×152.32W, h117km±43km, mb3.4/6, mb1 3.5/10, mb1mx3.2/52, mbtmp3.8/10, Error ellipse: s-maj=37.6km s-min=26.1km az=40.0*

ISC 04 19:53:22.3±0.8,59.91N±0.04×152.58W±0.04, h90km±6km, n105, σ0°78/115, mb3.9/6, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IVE	**Iliamna Volcan**	**0.24**	**296**	P	**Pn**	**19 53 35.4**	**-0.2**
ILS	**Iliamna Low So**	**0.25**	**281**	P	**Pn**	**19 53 35.5**	**-0.1**
OPT	**Oil Point**	**0.42**	**232**	P	**Pn**	**19 53 36.6**	**+0.1**
RED	**Redoubt Volcan**	**0.52**	**349**	P	**Pn**	**19 53 37.1**	**-0.1**
HOM	**Homer**	**0.54**	**118**	P	**Pn**	**19 53 37.5**	**+0.2**
HOM				S	**Sn**	**19 53 49.5**	**+1.0**
RSO	**Redoubt South**	**0.56**	**351**	*e*Pn	**Pn**	**19 53 37.6**	**-0.2**
RDWB	**Redoubt West**	**0.59**	**347**	P	**Pn**	**19 53 37.7**	**-0.3**
RDWB				S	**Sn**	**19 53 49.4**	**-0.3**
RDN	**Redoubt North**	**0.61**	**351**	P	**Pn**	**19 53 38.1**	**-0.1**
NCT	**North Crescent**	**0.68**	**345**	P	**Pn**	**19 53 38.5**	**-0.2**
DFR	**Drift River**	**0.68**	**355**	P	**Pn**	**19 53 38.7**	**-0.1**
AUP	**Augustine Pinn**	**0.70**	**218**	P	**Pn**	**19 53 39.1**	**+0.2**
AUH	**Augustine H**	**0.70**	**219**	P	**Pn**	**19 53 39.1**	**+0.2**
AUI	**Augustine Isla**	**0.72**	**217**	P	**Pn**	**19 53 39.1**	**+0.1**
AUI				S	**Sn**	**19 53 51.5**	**0.0**
BRLK	**Bradley Lake**	**0.87**	**99**	P	**Pn**	**19 53 40.6**	**+0.1**
BRLK				S	**Sn**	**19 53 54.2**	**+0.1**
NKA	**Nikishka**	**1.07**	**38**	P	**Pn**	**19 53 44.6**	**+1.9**
MCNL	**McNeil River**	**1.16**	**232**	P	**Pn**	**19 53 43.7**	**-0.1**
CKL	**Chakachamna La**	**1.29**	**5**	P	**Pn**	**19 53 45.8**	**+0.2**
SLKM	**Skilak Lake**	**1.32**	**62**	P	**Pn**	**19 53 45.7**	**-0.1**
CKN	**Chakachatna No**	**1.33**	**8**	P	**Pn**	**19 53 46.3**	**+0.4**
SPBG	**Spurr Blockage**	**1.36**	**4**	P	**Pn**	**19 53 46.6**	**+0.2**
SPBG				S	**Sn**	**19 54 04.9**	**+0.4**
BGL	**Barrier Glacie**	**1.36**	**4**	P	**Pn**	**19 53 46.7**	**+0.3**
SEW	**Seward**	**1.58**	**82**	P	**Pn**	**19 53 48.7**	**-0.3**
SEW				S	**Sn**	**19 54 08.8**	**-0.5**
STLK	**Strandline Lak**	**1.63**	**13**	P	**Pn**	**19 53 50.1**	**+0.3**
FIB	**Fire Island**	**1.73**	**42**	P	**Pn**	**19 53 52.4**	**+1.5**
FIB				S	**Sn**	**19 54 14.5**	**+1.8**
SUA	**Susitna One**	**1.80**	**29**	P	**Pn**	**19 53 52.4**	**+0.4**
SUA				S	**Sn**	**19 54 15.6**	**+1.1**
RC01	**Rabbit Creek A**	**1.84**	**49**	P	**Pn**	**19 53 52.6**	**+0.2**
SVW2	**Sparrevohn**	**1.90**	**310**	P	**Pn**	**19 53 53.0**	**-0.2**
PTE	**Portage**	**2.01**	**60**	P	**Pn**	**19 53 54.6**	**0.0**
KAKN	**Katmai Knife C**	**2.07**	**219**	P	**Pn**	**19 53 55.8**	**+0.3**
KVTA	**Katmai Vly 10**	**2.08**	**224**	P	**Pn**	**19 53 56.0**	**+0.4**
KDAK	**Kodiak Island**	**2.14**	**180**	P	**Pn**	**19 53 55.5**	**-0.7**
SKT	**Skwentna**	**2.14**	**13**	P	**Pn**	**19 53 56.4**	**+0.1**
KCE	**Katmai Mt Cerb**	**2.15**	**220**	P	**Pn**	**19 53 57.4**	**+0.9**
KABR	**Katmai Barrier**	**2.17**	**216**	P	**Pn**	**19 53 57.2**	**+0.4**
KELA	**Mount Kelaz**	**2.20**	**229**	P	**Pn**	**19 53 57.6**	**+0.4**
PMR	**Palmer**	**2.39**	**44**	P	**Pn**	**19 53 59.4**	**-0.1**
OHAK	**Old Harbor**	**2.72**	**188**	P	**Pn**	**19 54 02.9**	**-1.1**
GLI	**Glacier Island**	**2.89**	**68**	P	**Pn**	**19 54 04.9**	**-1.4**
PPLA	**Purkeypile**	**3.00**	**3**	P	**Pn**	**19 54 08.9**	**+1.0**
SCM	**Sheep Creek Mo**	**3.21**	**51**	P	**Pn**	**19 54 10.4**	**-0.2**
VLZ	**Valdez**	**3.32**	**66**	P	**Pn**	**19 54 12.1**	**+0.1**
TT01	**Tatalina**	**3.43**	**333**	P	**Pn**	**19 54 13.6**	**0.0**
CAST	**Castle Rocks**	**3.53**	**4**	P	**Pn**	**19 54 15.2**	**+0.3**
DIV	**Divide**	**3.58**	**67**	P	**Pn**	**19 54 16.1**	**+0.5**
KLU	**Klutina**	**3.64**	**61**	P	**Pn**	**19 54 15.4**	**-1.0**
TRF	**Thorofare Moun**	**3.71**	**16**	P	**Pn**	**19 54 17.2**	**-0.4**
KTH	**Kantishna Hill**	**3.74**	**11**	P	**Pn**	**19 54 18.1**	**+0.3**
RND	**Reindeer**	**3.93**	**25**	P	**Pn**	**19 54 20.9**	**+0.5**
GOAT	**Goat Mountain**	**3.97**	**77**	P	**Pn**	**19 54 20.4**	**0.0**
RAGM	**Ragged Mountai**	**3.98**	**80**	P	**Pn**	**19 54 19.4**	**-1.7**
DHY	**Denali Highway**	**4.04**	**36**	P	**Pn**	**19 54 22.2**	**+0.3**
BMRM	**Bremner River**	**4.09**	**72**	P	**Pn**	**19 54 21.3**	**-1.3**
MCK	**McKinley**	**4.20**	**23**	P	**Pn**	**19 54 25.0**	**+1.0**
NICHA	**Nichawak Mount**	**4.33**	**82**	P	**Pn**	**19 54 26.1**	**+0.4**
SUCK	**Suckling Hills**	**4.42**	**84**	P	**Pn**	**19 54 27.3**	**+0.3**
BERG	**Berg Lake**	**4.46**	**80**	P	**Pn**	**19 54 27.6**	**0.0**
BWN	**Browne**	**4.52**	**18**	P	**Pn**	**19 54 29.4**	**+1.1**
PAX	**Paxson**	**4.59**	**45**	P	**Pn**	**19 54 29.3**	**0.0**
KHIT	**Khitrov Hills**	**4.69**	**79**	P	**Pn**	**19 54 30.7**	**0.0**
VRDI	**Verde Repeater**	**4.69**	**70**	P	**Pn**	**19 54 30.5**	**-0.3**
PS10	**TAPS Pump St10**	**4.79**	**40**	P	**Pn**	**19 54 33.7**	**+1.7**
MCARA	**McCarthy VSAT**	**4.93**	**68**	P	**Pn**	**19 54 35.1**	**+1.2**
KULT	**Kultieth River**	**4.95**	**82**	P	**Pn**	**19 54 34.4**	**+0.2**
DDM	**Donnelly Dome**	**5.02**	**36**	P	**Pn**	**19 54 36.9**	**+1.8**
WRH	**Wood River Hil**	**5.03**	**23**	P	**Pn**	**19 54 35.1**	**-0.2**
BARK	**Barkley Ridge**	**5.06**	**80**	P	**Pn**	**19 54 36.3**	**+0.5**
ISLE	**Juniper Island**	**5.15**	**78**	P	**Pn**	**19 54 37.1**	**+0.1**
PTPK	**Patty Peak**	**5.15**	**71**	P	**Pn**	**19 54 36.4**	**-0.7**
KIAG	**Kiagna River**	**5.17**	**74**	P	**Pn**	**19 54 37.2**	**-0.1**
MLY	**Manley**	**5.21**	**9**	P	**Pn**	**19 54 38.7**	**+1.0**
CCB	**Clear Creek Bu**	**5.25**	**23**	P	**Pn**	**19 54 38.1**	**-0.1**
BAGL	**Bagley Icefiel**	**5.26**	**79**	P	**Pn**	**19 54 38.7**	**+0.3**
MESA	**MESA**	**5.33**	**83**	P	**Pn**	**19 54 39.9**	**+0.3**
COLA	**College**	**5.44**	**22**	P	**Pn**	**19 54 40.7**	**-0.1**
GRNC	**Granite Creek**	**5.44**	**77**	P	**Pn**	**19 54 41.2**	**+0.1**
MDM	**Murphy Dome**	**5.45**	**20**	P	**Pn**	**19 54 41.1**	**+0.1**
DOT	**Dot Lake**	**5.51**	**43**	*e*Pn	**Pn**	**19 54 41.2**	**-0.6**
	11nm,0.5s						
BARN	**Barnard Glacie**	**5.52**	**73**	P	**Pn**	**19 54 42.2**	**+0.1**
ILAR	**Eielson Array**	**5.55**	**26**	P	**Pn**	**19 54 42.0**	**-0.3**
	3.0nm,0.3s,baz=213,slow=14,SNR=102						
ILAR				S	**Sn**	**19 55 40.7**	**-3.9**
	3.2nm,0.3s,baz=206,slow=22,SNR=8.5						
ILB	**Eielson Array**	**5.55**	**26**	P	**Pn**	**19 54 41.8**	**-0.4**
RKAV	**Rock Avalanche**	**5.63**	**81**	P	**Pn**	**19 54 44.3**	**+0.7**
TABL	**Table Mountain**	**5.73**	**80**	P	**Pn**	**19 54 45.4**	**+0.4**
SCRK	**Sand Creek**	**5.75**	**41**	P	**Pn**	**19 54 44.9**	**-0.3**
CHX	**Chaix Hills**	**5.76**	**84**	P	**Pn**	**19 54 46.1**	**+0.9**
SAMH	**Samovar Hills**	**5.92**	**83**	P	**Pn**	**19 54 47.9**	**+0.4**
BCA3	**Beaver Creek A**	**6.06**	**54**	P	**Pn**	**19 54 49.1**	**-0.1**
PS06	**TAPS Pump Stn6**	**6.11**	**11**	P	**Pn**	**19 54 50.4**	**+0.6**
IM04	**Indian Mountai**	**6.11**	**355**	*e*Pn	**Pn**	**19 54 49.7**	**-0.2**
IM3	**Indian Mountai**	**6.12**	**355**	P	**Pn**	**19 54 50.1**	**+0.1**
EGAK	**Eagle**	**7.21**	**43**	*e*Pn	**Pn**	**19 55 03.8**	**-1.0**
DAWY	**Dawson**	**7.47**	**50**	*e*Pn	**Pn**	**19 55 07.8**	**-0.7**
HYT	**Haines Junctio**	**7.53**	**77**	P	**Pn**	**19 55 08.7**	**-0.6**
BM3	**Burnt Mountain**	**8.32**	**22**	P	**Pn**	**19 55 18.9**	**-1.0**
DLBC	**Dease Lake**	**11.65**	**87**	P	**Pn**	**19 56 06.8**	**+1.4**
	1.7nm,0.3s,baz=346,slow=6.2,SNR=28						
DLBC				S	**Sn**	**19 58 12.4**	**-0.9**
	0.4nm,0.3s,baz=307,slow=20,SNR=4.1						
INK	**Inuvik**	**11.78**	**36**	P	**Pn**	**19 56 07.4**	**+0.5**
	0.2nm,0.3s,baz=215,slow=12,SNR=6.2						
YKA	**Yellowknife Ar**	**18.29**	**66**	P	**P**	**19 57 28.0**	**-0.8**
	0.1nm,0.3s,baz=276,slow=9.8,SNR=5.8						
KSRS	**Korea Array**	**53.41**	**283**	P	**P**	**20 02 33.5**	**+1.1**
	0.9nm,0.5s,baz=45,slow=6.6,SNR=4.7						
KSAR	**Wonju Array Be**	**53.43**	**283**	P	**P**	**20 02 33.5**	**+0.9**
SONM	**Songino Array**	**55.01**	**306**	P	**P**	**20 02 45.0**	**+0.8**
	1.1nm,0.7s,baz=46,slow=7.1,SNR=8.4						
ZALV	**Zalesovo Beam**	**57.57**	**324**	P	**P**	**20 03 01.9**	**-0.1**
	0.8nm,0.4s,baz=39,slow=5.9,SNR=5.7						
KURK	**Kurchatov**	**62.22**	**326**	P	**P**	**20 03 34.2**	**+0.3**
BVAR	**Borovoye Array**	**62.24**	**332**	P	**P**	**20 03 33.8**	**-0.3**
	0.6nm,0.6s,baz=25,slow=11,SNR=4.6						
KURBB	**Kurchatov Arra**	**62.33**	**326**	P	**P**	**20 03 34.2**	**-0.4**
	0.5nm,0.5s,baz=28,slow=6.7,SNR=6.2						
MKAR	**Makanchi Array**	**64.63**	**322**	P	**P**	**20 03 49.0**	**-1.0**
	0.1nm,0.5s,baz=264,slow=7.2,SNR=4.0						
MKAR	**Makanchi Array**	**64.63**	**322**	P	**P**	**20 03 49.0**	**-1.0**

*IDC **04** 20:20:06.1±0.8,55.72S×28.33W, h0km, mb4.1/6, mb1 4.2/7, mb1mx3.9/25, mbtmp4.2/7, ML4.4/1, Error ellipse: s-maj=38.2km s-min=18.7km az=94.0*
*NEIC **04** 20:20:26.3±7.3,55.96S×27.88W, h167km±62km, mb4.0/3, Error ellipse: s-maj=39.1km s-min=18.0km az=114.0*

ISC 04 20:20:21.2±0.8,55.9S±0.1×28.0W±0.2, h121km, n28, σ1°05/21, mb4.2/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**19.09**	**156**	P	**P**	**20 24 33.9**	**-0.1**
	1.2nm,0.3s,baz=323,slow=12,SNR=107						
QSPA	**South Pole Qui**	**34.37**	**180**	P	**P**	**20 26 57.3**	**+1.1**
	2.1nm,0.6s,baz=43,slow=1.3,SNR=21						
MAW	**Mawson**	**40.56**	**144**	P	**P**	**20 27 47.7**	**-0.3**
	1.2nm,0.6s,baz=221,slow=9.3,SNR=4.3						
VNDA	**Vanda**	**46.72**	**183**	P	**P**	**20 28 36.9**	**-0.3**
	0.6nm,0.5s,baz=182,slow=6.1,SNR=11						
H10S2	**ASCENSION HYDR**	**47.98**	**18**	T	T	21 20 44.2	
	baz=190,slow=74,SNR=4.5						
H10S3	**ASCENSION HYDR**	**47.98**	**18**	T	T	21 20 47.0	
	baz=190,slow=74,SNR=4.0						
H10S1	**ASCENSION HYDR**	**48.00**	**18**	T	T	21 20 43.6	
	baz=190,slow=74,SNR=3.3						
H10N1	**ASCENSION HYDR**	**49.10**	**18**	T	T	21 22 10.0	
	baz=190						
H10N3	**ASCENSION HYDR**	**49.10**	**18**	T	T	21 22 14.6	
	baz=190,slow=74,SNR=4.0						
H10N2	**ASCENSION HYDR**	**49.11**	**18**	T	T	21 22 11.7	
	baz=190,slow=74,SNR=3.5						
LBTB	**Lobatse**	**49.41**	**74**	P	**P**	**20 28 58.0**	**-0.7**
	1.9nm,0.7s,baz=229,slow=7.5,SNR=3.8						
LBTB	**Lobatse**	**49.41**	**74**	*e*P	**P**	**20 28 57.7**	**-1.0**
	2.1nm,0.6s						
CASY	**Casey**	**54.22**	**161**	P	**P**	**20 29 33.8**	**+0.1**
	2.5nm,0.7s						
LSZ	**Lusaka**	**58.75**	**70**	P	**P**	**20 30 06.4**	**-0.2**
	2.0nm,0.8s						
DBIC	**Dimbokro**	**65.21**	**25**	P	**P**	**20 30 50.0**	**+0.5**
	3.7nm,1.0s,baz=151,slow=9.7,SNR=3.7						
TOA0	**Torodi Ar. Sit**	**73.14**	**30**	*e*P	**P**	**20 31 39.4**	**+1.1**
TORD	**Torodi Ar. Bea**	**73.14**	**30**	P	**P**	**20 31 39.5**	**+1.1**
	2.0nm,0.4s,baz=199,slow=6.3,SNR=53						
FINES	**FINESS Array B**	**124.45**	**28**	PKP	**PKPdf**	**20 39 04.0**	**-0.4**
	1.3nm,0.5s,baz=215,slow=2.3,SNR=11						
CMAR	**Chiang Mai Arr**	**125.56**	**111**	PKP	**PKPdf**	**20 39 08.3**	**+0.4**
	0.4nm,0.8s,baz=240,slow=2.0,SNR=4.3						
ARCES	**ARCESS Array B**	**130.96**	**22**	PKP	**PKPdf**	**20 39 16.4**	**-0.2**
	2.3nm,0.9s,baz=216,slow=3.1,SNR=15						
YKA	**Yellowknife Ar**	**135.73**	**318**	PKP	**PKPdf**	**20 39 24.9**	**-0.9**
	0.3nm,0.6s,baz=133,slow=3.1,SNR=5.3						
KURBB	**Kurchatov Arra**	**137.66**	**65**	PKP	**PKPdf**	**20 39 31.2**	**+1.5**
	0.2nm,0.5s,baz=357,slow=1.9,SNR=3.1						
KURK	**Kurchatov**	**137.76**	**65**	PKP	**PKPdf**	**20 39 31.2**	**+1.3**
ZALV	**Zalesovo Beam**	**142.72**	**64**	PKhKP	PKPpre	20 39 35.2	
	0.5nm,0.5s,baz=222,slow=3.9,SNR=3.1						
ILAR	**Eielson Array**	**149.66**	**312**	PKPbc	**PKPbc**	**20 39 55.3**	**+0.3**
	2.4nm,0.8s,baz=121,slow=3.0,SNR=21						
TRF	**Thorofare Moun**	**150.83**	**309**	*e*PKPbc	**PKPbc**	**20 39 58.3**	**+0.2**
KTH	**Kantishna Hill**	**151.13**	**309**	*e*PKPdf	**PKPdf**	**20 39 49.6**	**-3.0**
SONM	**Songino Array**	**151.19**	**87**	PKPbc	**PKPbc**	**20 39 59.3**	**-0.1**
	4.0nm,0.5s,baz=220,slow=3.9,SNR=65						

*ISCJB **04** 20:29:32.0±0.5,34.79S±0.03×72.18W±0.06, h10km, mb3.8/6, MS3.6/3, Error ellipse: s-maj=6.8km s-min=4.2km az=13.4*
*IDC **04** 20:29:32.3±0.8,34.72S×72.00W, h0km, mb3.8/6, mb1 4.2/7, mb1mx4.0/16, mbtmp3.9/7, ML4.4/1, MS3.6/5, Ms1 3.6/5, ms1mx3.2/20, Error ellipse: s-maj=36.9km s-min=21.2km az=81.0*
*NEIC **04** 20:29:33.0±3.6,34.67S×72.06W, h7km±22km, mb4.9/1, Error ellipse: s-maj=17.0km s-min=7.1km az=85.0*
*GUC **04** 20:29:33.2±0.9,34.81S×72.01W, h14km±6km, ML3.9*

ISC 04 20:29:33.1±0.6,34.75S±0.03×72.07W±0.06, h10km, n41, σ1°11/38, mb4.0/6, MS3.6/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.74**	**110**	*e*P	**Pg**	**20 29 46.9**	**-0.5**
NICH				*e*S	**Sg**	**20 29 57.2**	**+0.3**
TALC	**Talca**	**0.74**	**151**	*e*P	**Pg**	**20 29 46.5**	**-0.9**
LNCH	**Linares**	**1.16**	**161**	*e*P	**Pb**	**20 29 53.8**	**-1.5**
LNCH				*e*S	**Sb**	**20 30 09.4**	**-1.0**
COCH	**Cobquecura**	**1.50**	**203**	*e*P	**Pn**	**20 29 58.5**	**-1.5**
COCH				*e*S	**Sn**	**20 30 17.9**	**-1.8**
RCDM	**Rinconada Maip**	**1.64**	**40**	AML	AML	20 30 31.0	
	comp=E,2µm,0.2s						
SAN	**Santiago**	**1.74**	**43**	*e*P	**Pb**	**20 30 04.5**	**-0.7**
SAN				*e*S	**Sg**	**20 30 28.4**	**-0.8**
CLCH	**Cerro Calan**	**1.86**	**44**	*e*P	**Pb**	**20 30 06.4**	**-0.7**
CLCH				*e*S	**Sg**	**20 30 31.7**	**-1.1**
CLCH				AML	AML	20 30 35.4	
	comp=N,3µm,0.7s						
FCH	**Farellones**	**2.05**	**47**	*e*P	**Pb**	**20 30 10.0**	**-0.6**
FCH				AML	AML	20 30 41.9	
	comp=N,1µm,0.6s						
CFAA	**Coronel Fontan**	**4.49**	**47**	Pn	**Pn**	**20 30 42.2**	**+0.9**
	comp=N,0.3nm,0.3s,baz=221,slow=11,SNR=18						
CFAA				Sn	Sn	20 31 39.1	+5.5
	comp=N,0.4nm,0.3s,baz=155,slow=5.9,SNR=3.6						
LCO	**Las Campanas**	**5.84**	**12**	*e*Pn	**Pn**	**20 30 59.4**	**-0.6**
	comp=N,55nm,0.8s						
LCO				*e*Sn	**Sn**	**20 32 05.3**	**-1.8**
PLCA	**Paso Flores**	**6.09**	**169**	Pn	**Pn**	**20 31 04.8**	**+1.5**
	comp=N,2.2nm,0.3s,baz=349,slow=8.7,SNR=15						
PLCA				Lg	Lg	20 32 39.6	
	comp=N,1.1nm,0.3s,baz=277,slow=16,SNR=2.5						
PLCA				LR	LR	20 33 40.7	
	comp=N,254nm,21.2s,baz=351,slow=41						
PLCA	**Paso Flores**	**6.09**	**169**	*e*Pn	**Pn**	**20 31 04.3**	**+1.0**
	comp=N,15nm,0.6s						
PLCA				Lg	Lg	20 32 39.6	
TRQA	**Tornquist**	**8.78**	**115**	*e*Pn	**Pn**	**20 31 41.2**	**+1.0**
	comp=N,8.3nm,1.0s						
TRQA				*e*Sg	Sg	20 34 05.2	-10
LVC	**Limon Verde**	**12.40**	**14**	LR	LR	20 37 35.0	
	comp=N,645nm,20.2s,baz=217,slow=39						
LVC	**Limon Verde**	**12.40**	**14**	Pn	**Pn**	**20 32 27.7**	**-2.4**
EFI	**East Falkland**	**19.70**	**153**	P	**Pn**	**20 34 02.8**	**-1.1**
	comp=N,65nm,1.0s						
USHA	**Ushuaia**	**20.24**	**174**	LR	LR	20 42 32.3	
	comp=N,268nm,20.1s,baz=120,slow=38						
PMSA	**Palmer Station**	**30.45**	**173**	P	**P**	**20 35 46.8**	**+1.2**
SNAA	**Sanae**	**50.90**	**158**	P	**P**	**20 38 34.7**	**+0.7**
	comp=N,0.7nm,0.9s,baz=311,slow=9.3,SNR=3.7						
SJG	**San Juan**	**52.87**	**7**	P	**P**	**20 38 49.4**	**+0.3**
ANWB	**Willy Bob**	**53.04**	**12**	P	**P**	**20 38 48.1**	**-2.3**
QSPA	**South Pole Qui**	**55.49**	**180**	P	**P**	**20 39 09.3**	**+1.3**
	comp=N,1.9nm,0.9s,baz=115,slow=7.4,SNR=4.1						
TEIG	**Tepich**	**56.80**	**342**	P	**P**	**20 39 17.7**	**+0.1**
TXAR	**Lajitas Array**	**70.37**	**331**	P	**P**	**20 40 48.7**	**+1.4**
	comp=N,0.8nm,0.5s,baz=151,slow=8.5,SNR=11						
TXAR				LR	LR	21 06 45.2	
	comp=N,32nm,19.1s,baz=0.0,slow=32						
DBIC	**Dimbokro**	**75.45**	**71**	P	**P**	**20 41 18.9**	**+1.2**
PDAR	**Pinedale Array**	**84.42**	**333**	P	**P**	**20 42 06.3**	**+0.5**
	comp=N,0.3nm,0.6s,baz=141,slow=5.4,SNR=3.5						
NVAR	**Mina Array Bea**	**84.48**	**325**	P	**P**	**20 42 06.7**	**+0.5**
	comp=N,0.6nm,0.7s,baz=148,slow=3.9,SNR=2.9						
TOA0	**Torodi Ar. Sit**	**84.49**	**70**	*e*P	**P**	**20 42 06.2**	**-0.3**
TORD	**Torodi Ar. Bea**	**84.49**	**70**	P	**P**	**20 42 06.6**	**0.0**
	comp=N,1.1nm,1.0s,baz=250,slow=4.8,SNR=7.3						
ULM	**Lac du Bonnet**	**87.21**	**345**	LR	LR	21 19 13.5	
	comp=N,25nm,21.4s,baz=350,slow=34						
H11S2	**WAKE ISLAND Hy**	**125.73**	**269**	T	T	23 06 52.7	
	baz=118,slow=74,SNR=6.1						
H11S1	**WAKE ISLAND Hy**	**125.74**	**269**	T	T	23 06 50.3	
	baz=118,slow=74,SNR=7.4						
H11S3	**WAKE ISLAND Hy**	**125.75**	**269**	T	T	23 06 50.5	
	baz=118,slow=74,SNR=4.9						
H11N3	**WAKE ISLAND Hy**	**126.16**	**270**	T	T	23 07 17.2	
	baz=121,slow=76,SNR=5.8						
H11N1	**WAKE ISLAND Hy**	**126.17**	**270**	T	T	23 07 18.5	
	baz=121,slow=76,SNR=15						
H11N2	**WAKE ISLAND Hy**	**126.18**	**270**	T	T	23 07 18.1	
	baz=121,slow=76,SNR=11						
AAK	**Ala-Archa**	**152.88**	**63**	*e*PKPbc	**PKPbc**	**20 49 30.1**	**-0.4**
KURBB	**Kurchatov Arra**	**153.43**	**44**	PKPbc	**PKPbc**	**20 49 30.9**	**-0.3**
	comp=N,0.8nm,0.7s,baz=297,slow=3.2,SNR=6.9						
KURK	**Kurchatov**	**153.44**	**44**	PKPbc	**PKPbc**	**20 49 30.9**	**-0.3**
ZALV	**Zalesovo Beam**	**154.87**	**33**	PKPbc	**PKPbc**	**20 49 34.5**	**+0.3**
	comp=N,0.9nm,0.7s,baz=295,slow=2.3,SNR=5.6						
ZALV				PKPab	**PKPab**	**20 49 50.0**	**+0.5**
	comp=N,1.0nm,0.8s,baz=320,slow=4.4,SNR=4.1						
SONM	**Songino Array**	**166.88**	**5**	PKPab	**PKPab**	**20 50 42.9**	**+0.9**
	comp=N,0.4nm,0.8s,baz=346,slow=4.2,SNR=4.5						

*ISCJB **04** 20:44:00.3±1.1,25.6S±0.1×179.5E±0.2, h507km, mb3.4/6, Error ellipse: s-maj=21.4km s-min=11.7km az=148.1*
*IDC **04** 20:44:01.0±2.0,25.44S×179.59E, h510km±21km, mb3.1/6, mb1 3.3/7, mb1mx3.1/18, mbtmp4.0/7, Error ellipse: s-maj=27.0km s-min=18.4km az=55.0*

ISC 04 20:44:01.5±1.2,25.7S±0.1×179.5E±0.2, h507km, n13, σ1°28/13, mb3.5/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.23**	**148**	P	**P**	**20 45 23.3**	**+1.2**
	199nm,0.3s,baz=78,slow=8.0,SNR=22						
RAO				S	**S**	**20 46 27.2**	**-0.8**
	17nm,0.3s,baz=43,slow=19,SNR=1.6						
URZ	**Urewera**	**12.70**	**189**	P	**P**	**20 46 45.3**	**-1.8**
	2.4nm,0.3s,baz=306,slow=2.8,SNR=10						
URZ				S	**S**	**20 49 02.2**	**-1.6**
	1.8nm,0.3s,baz=63,slow=4.5,SNR=6.8						
RPZ	**Rata Peaks**	**19.25**	**199**	P	**P**	**20 47 53.4**	**+0.7**
	1.3nm,0.3s,baz=93,slow=19,SNR=5.3						
STKA	**Stephens Creek**	**33.65**	**251**	P	**P**	**20 50 00.6**	**+0.9**
	1.9nm,0.8s,baz=108,slow=10,SNR=2.8						
ASAR	**Alice Springs**	**41.31**	**263**	P	**P**	**20 51 03.1**	**+0.5**
	0.5nm,0.4s,baz=93,slow=7.8,SNR=16						
WRA	**Warramunga Arr**	**41.85**	**268**	P	**P**	**20 51 06.6**	**-0.3**
	0.5nm,0.3s,baz=99,slow=6.8,SNR=24						
VNDA	**Vanda**	**52.56**	**185**	P	**P**	**20 52 28.3**	**+1.6**
	1.0nm,0.7s,baz=346,slow=6.7,SNR=8.4						
MJAR	**Matsushiro Arr**	**73.11**	**326**	P	**P**	**20 54 38.3**	**-1.6**
	1.6nm,1.0s,baz=156,slow=5.9,SNR=7.5						
MAW	**Mawson**	**75.92**	**201**	P	**P**	**20 54 56.1**	**+0.8**
	1.1nm,0.6s,baz=116,slow=7.4,SNR=4.6						
NB2	**NORSAR Subarra**	**143.76**	**350**	PKP	PKPab	21 02 35.0	-1.9
	comp=Z,1.2nm,0.7s,baz=20,slow=3.5						
NOA	**NORSAR Array B**	**143.76**	**350**

WRAB	**Tennant Creek**	**50.02 257**	*e*P		**P**	**21 29 37.0**	**-1.0**
	48nm,2.0s							
WRA	**Warramunga Arr**	**50.02 257**	P		**P**	**21 29 37.1**	**-0.9**
	0.8nm,0.5s,baz=90,slow=7.3,SNR=27							
WRA				PcP	**PcP**	**21 30 58.1**	**+0.3**
	0.9nm,0.8s,baz=91,slow=3.9,SNR=3.3							
AS31	**Alice Springs**	**50.28 252**	*e*P		**P**	**21 29 38.9**	**-1.0**
ASAR	**Alice Springs**	**50.28 252**	P		**P**	**21 29 39.2**	**-0.7**
	7.5nm,0.5s,baz=87,slow=7.9,SNR=152							
GUMO	**Guam**	**50.56 303**	LR		LR	21 47 56.2		
	comp=Z,48nm,18.7s,baz=112,slow=32							
VNDA	**Vanda**	**63.30 186**	P		**P**	**21 31 12.5**	**+1.1**
	1.3nm,0.9s,baz=360,slow=4.8,SNR=7.4							
VNDA	**Vanda**	**63.30 186**	*e*P		**P**	**21 31 11.3**	**-0.1**
	1.6nm,0.9s							
MBWA	**Marble Bar**	**63.53 254**	P		**P**	**21 31 14.6**	**+0.7**
MJAR	**Matsushiro Arr**	**69.15 320**	P		**P**	**21 31 50.1**	**+0.6**
	2.6nm,1.3s,baz=159,slow=6.6,SNR=4.3							
MJAR				LR	LR	21 56 41.5		
	comp=Z,39nm,21.9s,baz=115,slow=31							
PETK	**Petropavlovsk-**	**72.79 342**	P		**P**	**21 32 11.8**	**+0.6**
	3.5nm,0.8s,baz=139,slow=12,SNR=4.8							
LPIG	**La Paz**	**72.91 58**	LR		LR	21 56 53.3		
	comp=Z,43nm,19.2s,baz=186,slow=30							
YBH	**Yreka Blue Hor**	**73.55 37**	LR		LR	21 56 00.0		
	comp=Z,36nm,19.8s,baz=237,slow=29							
NVAR	**Mina Array Bea**	**74.26 42**	P		**P**	**21 32 21.3**	**+0.8**
	0.3nm,0.3s,baz=231,slow=5.7,SNR=3.2							
BBB	**Bella Bella**	**77.88 26**	LR		LR	22 02 56.8		
	comp=Z,18nm,19.4s,baz=166,slow=33							
TXAR	**Lajitas Array**	**80.49 56**	P		**P**	**21 32 55.1**	**-0.4**
	0.2nm,0.8s,baz=227,slow=3.6,SNR=3.0							
TXAR				LR	LR	22 02 32.0		
	comp=Z,39nm,18.8s,baz=0.0,slow=31							
NEW	**Newport**	**80.67 34**	LR		LR	22 00 33.3		
	comp=Z,25nm,19.2s,baz=174,slow=30							
PDAR	**Pinedale Array**	**82.20 40**	P		**P**	**21 33 03.4**	**-1.1**
	0.7nm,0.8s,baz=204,slow=3.3,SNR=5.0							
PDAR				LR	LR	22 04 33.2		
	comp=Z,26nm,18.6s,baz=244,slow=32							
ILAR	**Eielson Array**	**82.50 11**	P		**P**	**21 33 04.3**	**-0.8**
	0.7nm,0.7s,baz=230,slow=6.0,SNR=8.1							
ILAR				LR	LR	22 06 18.0		
	comp=Z,20nm,19.3s,baz=232,slow=33							
MAW	**Mawson**	**87.77 199**	P		**P**	**21 33 31.4**	**-0.3**
	2.0nm,0.7s,baz=282,slow=19,SNR=3.6							
INK	**Inuvik**	**88.31 14**	P		**P**	**21 33 32.5**	**-1.6**
	0.7nm,0.2s,baz=173,slow=8.1,SNR=3.3							
INK				LR	LR	22 04 37.1		
	comp=Z,23nm,21.4s,baz=263,slow=30							
YKA	**Yellowknife Ar**	**90.10 23**	P		**P**	**21 33 41.9**	**-0.6**
	1.0nm,0.7s,baz=238,slow=4.6,SNR=12							
SONM	**Songino Array**	**95.06 318**	LR		LR	22 11 25.9		
	comp=Z,28nm,21.9s,baz=83,slow=32							
MALT	**Malatya**	**144.08 315** ⇑	*i*P		**PKPdf**	**21 40 19.6**	**+0.5**
DPC	**Dobruska-Polom**	**144.40 350**	*e*PKP		**PKPdf**	**21 40 19.9**	**+0.7**
DPC			*ex*		x	21 40 25.5		
BURAR	**Bucovina Array**	**144.54 338** ⇑	*i*P		PKPbc	21 40 18.0	-0.2
KRLC	**Kraliky**	**144.58 349**	*e*PKP		**PKPdf**	**21 40 20.1**	**+0.6**
KRLC			*ex*		x	21 40 25.2		
KRLC			*ep*	PKP	**pPKPdf**	**21 40 34.2**	**+5.1**
VRI	**Vrincioaia**	**145.42 335** ⇓	*i*P		**PKPab**	**21 40 21.7**	**+0.5**
TIRR	**Tirgusor**	**145.82 332** ⇓	*i*P		**PKPdf**	**21 40 18.5**	**-3.2**
DOPR	**Dopca**	**145.86 337** ⇓	*i*P		**PKPab**	**21 40 24.6**	**+1.8**
TLB	**Topalu**	**145.89 333** ⇑	*i*P		**PKPdf**	**21 40 21.9**	**+0.1**
MLR	**Muntele Rosu**	**146.04 336** ⇑	*i*P		**PKPab**	**21 40 24.1**	**+0.4**
DRGR		**146.10 340** ⇑	*i*P		**PKPbc**	**21 40 22.9**	**-0.3**
GERES	**GERESS Array B**	**146.27 352**	PKPbc		**PKPbc**	**21 40 23.7**	**+0.1**
	0.4nm,0.7s,baz=39,slow=5.1,SNR=4.2							
BRTR	**Keskin Array B**	**146.36 321**	PKPbc		**PKPab**	**21 40 24.9**	**-0.3**
	3.6nm,0.6s,baz=104,slow=2.5,SNR=20							
ARR	**Arges**	**146.66 337** ⇑	*i*P		**PKPab**	**21 40 26.3**	**+0.4**
BZS	**Buzias**	**147.50 341** ⇑	*i*P		**PKPbc**	**21 40 27.7**	**+0.6**
MMB	**Musomiste**	**150.17 334** ⇑	*i*P		**PKPbc**	**21 40 34.0**	**-0.1**

*ISCJB **04** 21:34:11.2±0.4, 4.°46S±0.°04×35.°92E±0.°08, h10km, mb3.8/16, MS3.2/4, Error ellipse: s-maj=12.2km s-min=5.1km az=18.2*
*IDC **04** 21:34:11.3±0.9, 4.°50S×36.°03E, h0km, mb3.8/14, mb1 4.0/16, mb1mx3.9/29, mbtmp3.9/16, ML4.5/2, MS3.4/5, Ms1 3.4/5, ms1mx2.9/29, Error ellipse: s-maj=27.2km s-min=16.8km az=121.0*
*NEIC **04** 21:34:12.8±0.4, 4.°48S×35.°96E, h10km, mb4.2/3, Error ellipse: s-maj=11.8km s-min=7.5km az=121.0*
NEIC Felt at Arusha.

ISC 04 21:34:12.6±0.6, 4.°47S±0.°05×35.°95E±0.°09, h10km, n38,
σ1§19/40, **mb3.9**/16, **MS3.2**/4, **Tanzania**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DODT	**Dodoma, Tanzan**	**1.72 187**	*i* P		**Pn**	**21 34 41.6**	**-1.1**
DODT			*i* S		**Sb**	**21 35 05.4**	**-0.6**
MAUS	**Longido**	**1.88 23**	*i* P		**Pn**	**21 34 44.4**	**-0.6**
MAUS			*i* S		**Sb**	**21 35 10.1**	**-0.6**
KMBO	**Kilima Mbogo**	**3.57 21**	Pn		**Pn**	**21 35 06.9**	**-1.4**
	37nm,0.3s,baz=193,slow=15,SNR=110						
KMBO				Sn	**Sn**	**21 35 50.4**	**-0.4**
	44nm,0.3s,baz=282,slow=19,SNR=7.7						
KMBO				Lg	Lg	21 35 57.6	
	116nm,0.3s,baz=247,slow=23,SNR=14						
MBAR	**Mbarara**	**6.47 306**	*e*Pn		**Pn**	**21 35 46.0**	**-2.2**
LSZ	**Lusaka**	**13.17 215**	Pn		**Pn**	**21 37 18.8**	**-1.2**
	0.5nm,0.3s,baz=43,slow=9.4,SNR=8.3						
LSZ				Sn	Sn	21 39 38.0	-8.8
	0.8nm,0.3s,baz=320,slow=18,SNR=3.6						
LSZ				Lg	Lg	21 40 58.1	
	1.9nm,0.3s,baz=312,slow=20,SNR=4.6						
LSZ				LR	LR	21 42 21.3	
	comp=Z,153nm,19.8s,baz=96,slow=37						
DAMY	**Dhamar**	**20.69 24**	*e*P		**P**	**21 38 49.3**	**-4.1**
	16nm,1.3s						
MSKU	**Masuku**	**22.48 276**	Lg		Lg	21 45 57.5	
	5.6nm,0.5s,baz=323,slow=20,SNR=2.9						
MSKU				LR	LR	21 48 37.8	
	comp=Z,94nm,21.0s,baz=147,slow=38						
LBTB	**Lobatse**	**22.72 205**	P		**P**	**21 39 14.4**	**-0.5**
	5.5nm,0.8s,baz=26,slow=11,SNR=8.2						
LBTB				Lg	Lg	21 45 55.2	
	3.2nm,0.8s,baz=120,slow=20,SNR=2.7						
LBTB				LR	LR	21 47 45.1	
	comp=Z,54nm,20.5s,baz=40,slow=36						
TSUM	**Tsumeb**	**23.14 229**	P		**P**	**21 39 21.0**	**+1.6**
	1.5nm,0.9s,baz=45,slow=13,SNR=2.9						
TSUM				S	S	21 43 38.5	+7.3
	1.9nm,0.8s,baz=156,slow=20,SNR=2.4						
TSUM				Lg	Lg	21 46 25.3	
	3.9nm,0.8s,baz=119,slow=19,SNR=2.9						
TSUM				LR	LR	21 48 39.3	
	comp=Z,136nm,20.4s,baz=29,slow=37						
BOSA	**Boshof**	**26.07 202**	*e*P		**P**	**21 39 46.5**	**-0.1**
TOA0	**Torodi Ar. Sit**	**38.26 298**	*e*P		**P**	**21 41 33.9**	**+0.5**
TORD	**Torodi Ar. Bea**	**38.26 298**	P		**P**	**21 41 33.9**	**+0.5**
	1.8nm,1.3s,baz=102,slow=7.5,SNR=3.2						
TORD				LR	LR	21 56 52.8	
	comp=Z,49nm,20.6s,baz=140,slow=36						
BR101	**Keskin Array S**	**44.03 357**	*e*P		**P**	**21 42 21.9**	**+1.2**
BRTR	**Keskin Array B**	**44.03 357**	P		**P**	**21 42 21.9**	**+1.2**
	0.5nm,0.7s,baz=166,slow=8.8,SNR=3.5						
BR231	**Keskin MP Arra**	**44.19 356**	*e*P		**P**	**21 42 22.6**	**+0.6**
BUR04	**Bucovina Ar. S**	**52.73 351**	*e*P		**P**	**21 43 29.2**	**+1.6**
AKASG	**Malin Array Be**	**55.26 355**	P		**P**	**21 43 46.4**	**+0.5**
	1.7nm,0.8s,baz=176,slow=6.4,SNR=13						
AKBB	**Malin Array Si**	**55.26 355**	*e*P		**P**	**21 43 46.4**	**+0.5**
GEC2	**GERESS Array S**	**56.54 343**	*e*P		**P**	**21 43 55.3**	**0.0**
GERES	**GERESS Array B**	**56.54 343**	P		**P**	**21 43 55.3**	**0.0**
	1.8nm,1.0s,baz=177,slow=5.3,SNR=6.2						
ESDC	**Sonseca Array**	**57.25 324**	P		**P**	**21 44 01.6**	**+1.1**
	1.2nm,0.6s,baz=135,slow=7.6,SNR=7.1						
TKM2	**Tokmak 2**	**59.25 33**	*e*P		**P**	**21 44 12.8**	**-1.8**
	6.5nm,1.3s						
MK01	**Makanchi Array**	**65.37 33**	*e*P		**P**	**21 44 54.6**	**-0.7**
MK32	**Makanchi Array**	**65.38 33**	*e*P		**P**	**21 44 55.0**	**-0.4**
MKAR	**Makanchi Array**	**65.38 33**	P		**P**	**21 44 55.0**	**-0.4**
	0.6nm,0.9s,baz=249,slow=8.9,SNR=6.7						
CM31	**Chiang Mai Arr**	**66.09 68**	*e*P		**P**	**21 45 00.7**	**+0.2**
CMAR	**Chiang Mai Arr**	**66.09 68**	P		**P**	**21 45 00.7**	**+0.2**
	0.7nm,0.8s,baz=254,slow=7.1,SNR=7.1						
FIA0	**FINESS Array S**	**66.17 355**	*e*P		**P**	**21 45 00.5**	**+0.4**
FINES	**FINESS Array B**	**66.17 355**	P		**P**	**21 45 00.5**	**+0.4**
	1.4nm,0.6s,baz=145,slow=7.0,SNR=9.2						
NB200	**NORSAR Array S**	**68.10 347**	*e*P		**P**	**21 45 12.6**	**+0.1**
NOA	**NORSAR Array B**	**68.10 347**	P		**P**	**21 45 12.6**	**+0.1**
	0.5nm,0.7s,baz=151,slow=3.6,SNR=2.7						
ZALV	**Zalesovo Beam**	**71.03 28**	P		**P**	**21 45 29.4**	**-1.2**
	0.3nm,0.5s,baz=228,slow=3.5,SNR=2.5						
ZAA1	**Zalesovo Array**	**71.03 28**	*e*P		**P**	**21 45 29.4**	**-1.2**
ARA0	**ARCESS Array S**	**74.20 356**	*e*P		**P**	**21 45 50.5**	**+1.2**
ARCES	**ARCESS Array B**	**74.20 356**	P		**P**	**21 45 50.5**	**+1.2**
	2.1nm,1.1s,baz=165,slow=7.5,SNR=2.8						
SONA0	**Songino Array**	**80.35 40**	*e*P		**P**	**21 46 25.5**	**+1.2**
SONM	**Songino Array**	**80.35 40**	P		**P**	**21 46 25.5**	**+1.2**
	1.0nm,0.8s,baz=240,slow=4.7,SNR=11						
ULN	**Ulaanbaatar**	**80.78 40**	*e*P		**P**	**21 46 27.8**	**+1.0**
	0.5nm,0.5s						

IDC 04 21:57:30.8±1.3, 5.°49S×146.°43E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/18, mbtmp3.6/7, ML3.7/1, Error ellipse: s-maj=48.4km s-min=22.6km az=96.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**14.51 181**	Pn		P	22 01 05.0	+0.5
	0.6nm,0.3s,baz=344,slow=15,SNR=3.6						
WRA	**Warramunga Arr**	**18.57 218**	P		P	22 01 49.0	-0.5
	0.2nm,0.3s,baz=37,slow=11,SNR=22						
WRA				PcP	PcP	22 06 18.6	-0.8
	0.0nm,0.3s,baz=28,slow=2.4,SNR=5.3						
ASAR	**Alice Springs**	**21.73 212**	P		P	22 02 23.9	0.0
	0.2nm,0.4s,baz=45,slow=7.3,SNR=5.1						
STKA	**Stephens Creek**	**26.64 189**	P		P	22 03 12.1	+0.8
	2.5nm,1.0s,baz=12,slow=9.3,SNR=3.0						
CMAR	**Chiang Mai Arr**	**52.51 298**	P		P	22 06 46.5	+0.2
	0.9nm,0.3s,baz=124,slow=5.2,SNR=5.6						
SONM	**Songino Array**	**63.69 331**	P		P	22 08 05.2	+0.9
	0.2nm,0.3s,baz=156,slow=7.4,SNR=3.0						
MKAR	**Makanchi Array**	**76.75 321**	P		P	22 09 23.9	-0.3
	0.3nm,0.6s,baz=85,slow=1.7,SNR=3.2						
ILAR	**Eielson Array**	**85.24 23**	P		P	22 10 09.3	+0.3
	0.6nm,0.8s,baz=262,slow=4.2,SNR=4.4						
TORD	**Torodi Ar. Bea**	**144.41 285**	PKP		PKPab	22 17 07.7	-0.7
	0.6nm,0.5s,baz=69,slow=3.4,SNR=15						
DBIC	**Dimbokro**	**151.43 274**	PKPbc		PKPbc	22 17 27.2	-0.7
	3.1nm,0.9s,baz=61,slow=4.9,SNR=4.1						

*NIED **04** 21:59:00, 47.°00N×153.°20E, h38km, Mw4.0 Best double couple: M0 1.04000×10^15 NP1:φ=221.00000°, δ=74.00000°, λ=-165.00000°. NP2:φ=127.00000°, δ=76.00000°, λ=-17.00000°.*
*SKHL **04** 21:59:44.8±7.1, 47.°08N×153.°64E, h5km±2km, mb4.8/7*
*JMA **04** 21:59:49.5±0.8, 47.°03N×153.°21E, h30km, M4.6*
*ISCJB **04** 21:59:51.1±0.4, 46.°77N±0.°05×153.°16E±0.°07, h56km, mb4.0/24, MS3.2/3, Error ellipse: s-maj=9.8km s-min=3.8km az=139.7*
*MOS **04** 21:59:51.4±1.1, 46.°90N×153.°15E, h55km, mb4.3/15, Error ellipse: s-maj=12.9km s-min=8.6km az=60.0*
*BJI **04** 21:59:53.2, 46.°81N×153.°37E, h95km, mb4.4/6, mB4.5/5*
*IDC **04** 21:59:53.1±0.7, 46.°98N×152.°97E, h50km±6km, mb3.7/21, mb1 3.9/23, mb1mx3.9/30, mbtmp3.9/23, MS3.1/4, Ms1 3.2/4, ms1mx2.8/31, Error ellipse: s-maj=17.2km s-min=11.2km az=142.0*

ISC 04 21:59:52.8±0.5, 46.°78N±0.°07×153.°23E±0.°06, h56km, n139, σ1§44/143, **mb4.1**/24, **MS3.3**/3, **8C-10D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.04 250**	*e*PN		**Pn**	**22 00 52.0**	**0.0**
KUR			*e*S		**Sn**	**22 01 38.3**	**+0.3**
KUR				pmax	pmax		
	comp=N,80nm,0.1s						
KUR				pmax	pmax		
	comp=E,82nm,0.1s						
KUR				pmax	pmax		
	comp=Z,178nm,0.5s						
KUR				pmax	pmax		
	comp=Z,32μm,0.1s						
KUR				smax	smax		
	comp=N,301nm,0.6s						
KUR				smax	smax		
	comp=E,174nm,0.3s						
KUR	**Kuril'sk**	**4.04 250**	*e*P		**Pn**	**22 00 52.7**	**+0.7**
KUR				AMB	AMB	22 01 08.5	
	comp=E,110nm,0.5s						
KUR				AMB	AMB	22 01 08.5	
	comp=E,140nm,0.5s						
KUR			*e*S		**Sn**	**22 01 39.2**	**+1.2**
KUR				A	A	22 01 53.5	
	comp=E,300nm,0.5s						
KUR				A	A	22 01 53.5	
	comp=E,230nm,0.5s						
SKR	**Severo-Kuril's**	**4.35 25**	*e*PN		Pn	22 00 43.5	-13
SKR				pmax	pmax		
	comp=N,30nm,0.5s						
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR	**Severo-Kuril's**	**4.35 25**	*e*P		Pn	22 00 45.2	-11
SKR				AMB	AMB	22 00 50.0	
	comp=Z,60nm,0.5s						
SKR			*e*S		Sn	22 01 30.5	-15
SKR				A	A	22 01 34.9	
	comp=Z,330nm,0.2s						
SKR				A	A	22 01 34.9	
	comp=Z,140nm,0.2s						
SHO	**Shikotan**	**5.36 240**	*e*P		**Pn**	**22 01 09.6**	**-0.6**
SHO				AMB	AMB	22 01 11.4	
	comp=Z,150nm,0.8s						
SHO			*e*S		**Sn**	**22 02 08.6**	**-2.0**
SHO				A	A	22 02 32.9	
	comp=Z,300nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**5.86 245**	*c i*PN		**Pn**	**22 01 17.8**	**+0.8**
YUK			*i* S		**Sn**	**22 02 27.5**	**+4.7**
YUK				pmax	pmax		
	comp=N,71nm,0.3s						
YUK				pmax	pmax		
	comp=E,60nm,0.3s						
YUK				pmax	pmax		
	comp=Z,198nm,0.3s						
YUK				smax	smax		
	comp=N,190nm,0.7s						
YUK				smax	smax		
	comp=E,415nm,0.7s						
YUK				smax	smax		
	comp=N,617nm,2.1s						
YUK				smax	smax		
	comp=E,697nm,2.1s						
YUK	**Yuzh-Kuril'sk**	**5.86 245**	*i* P		**Pn**	**22 01 17.9**	**+0.9**
YUK				AMB	AMB	22 01 23.6	
	comp=E,70nm,0.3s						
YUK				AMB	AMB	22 01 23.6	
	comp=E,60nm,0.3s						
YUK				AMB	AMB	22 01 23.6	
	comp=E,200nm,0.3s						
YUK			*i* S		**Sn**	**22 02 27.5**	**+4.7**
YUK				A	A	22 02 46.5	
	comp=E,190nm,0.7s						
YUK				A	A	22 02 46.5	
	comp=E,420nm,0.7s						
YUK				A	A	22 02 52.0	
	comp=E,600nm,2.0s						
YUK				A	A	22 02 52.0	
	comp=E,700nm,2.0s						
NEM2	**Nemuro 2**	**6.30 240**	P		**Pn**	**22 01 21.3**	**-1.7**
NEM2			*e*S		**Sn**	**22 02 29.1**	**-4.5**
JRA	**Rausu**	**6.37 247**	P		**Pn**	**22 01 24.8**	**+0.8**
JNK	**Nakash**	**6.80 245**	P		**Pn**	**22 01 30.1**	**+0.2**
PETK	**Petropavlovsk-**	**6.96 23**	P		**Pn**	**22 01 31.8**	**-0.3**
	comp=E,0.5nm,0.3s,baz=170,slow=13,SNR=11						
PETK				S	**Sn**	**22 02 47.4**	**-2.5**
	baz=149,slow=17,SNR=1.8						
JTKR	**Abashiri--Toko**	**7.13 250**	P		**Pn**	**22 01 35.4**	**+1.0**
JAK	**Akkeshi**	**7.14 241**	P		**Pn**	**22 01 32.6**	**-1.9**
JAK			*e*S		**Sn**	**22 02 49.5**	**-4.6**
YSS	**Yuzh-Sakhalins**	**7.18 275**	*i* PN		**Pn**	**22 01 36.8**	**+1.7**
YSS	**Yuzh-Sakhalins**	**7.18 275**	*e*P		**Pn**	**22 01 37.0**	**+1.9**
YSS			*e*S		Sn	22 03 04.0	+8.8
JMP	**Maruseppu**	**7.48 252**	P		**Pn**	**22 01 40.2**	**+1.0**
JAR	**Ashorobuto**	**7.54 246**	P		**Pn**	**22 01 40.3**	**+0.2**
JAR			*e*S		**Sn**	**22 03 03.8**	**-0.4**
JOB	**Onbets**	**7.71 243**	P		**Pn**	**22 01 41.8**	**-0.6**
JOB			*e*S		**Sn**	**22 03 04.7**	**-3.6**
HRK	**Horoka**	**7.87 249**	*e*P		**Pn**	**22 01 45.3**	**+0.7**
JKA	**Kamikawa-asahi**	**7.93 254**	*e*P		**Pn**	**22 01 47.6**	**+2.2**
ASAJ	**Asahikawa**	**7.93 254**	P		**Pn**	**22 01 47.4**	**+2.0**
ASAJ	**Asahikawa**	**7.93 254**	P		**Pn**	**22 01 47.6**	**+2.2**
ASAJ	comp=E,2.4nm,0.3s,baz=14,slow=14,SNR=17			LR	LR	22 04 36.7	
	comp=E,80nm,19.8s,baz=357,slow=36						
ASAJ	**Asahikawa**	**7.93 254**	PN		**Pn**	**22 01 47.6**	**+2.2**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,80nm,19.8s						
JKK2	**Kamakawa 2**	**7.93 252**	P		**Pn**	**22 01 46.9**	**+1.5**
TYV	**Tymovskoe**	**8.09 304**	*e*P		**Pn**	**22 01 47.6**	**+0.2**
TYV				AMB	AMB	22 01 48.6	
	comp=Z,10.0nm,0.6s						
JCH	**Churui**	**8.16 243**	P		**Pn**	**22 01 47.1**	**-1.4**
JCH			*e*S		**Sn**	**22 03 14.3**	**-5.0**
MYR	**Moyori**	**8.39 241**	*e*P		**Pn**	**22 01 49.9**	**-1.8**
ERM	**Erimo**	**8.63 240**	*i* PN		**Pn**	**22 01 55.0**	**0.0**
ERM	**Erimo**	**8.63 240**	*e*P		**Pn**	**22 01 55.0**	**0.0**
JNBK	**Urakawa-nobuka**	**8.72 243**	P		**Pn**	**22 01 54.1**	**-2.1**
JNBK			*e*S		Sn	22 03 26.6	-6.5
JKB	**Kayabe**	**10.01 245**	*e*S		Sn	22 03 55.8	-8.6
NKL	**Nikolayevsk**	**10.29 313**	*e*P		**Pn**	**22 02 17.0**	**-0.5**
NKL				AMB	AMB	22 02 19.4	
	comp=Z,30nm,1.1s						
JYM2	**Yakumo 2**	**10.30 248**	P		**Pn**	**22 02 16.4**	**-1.4**
JTM	**Tenmabayashi**	**10.63 240**	*e*S		Sn	22 04 09.2	-10
JANG	**Nango**	**10.63 237**	P		Pn	22 02 17.9	-4.4
JANG			*e*S		Sn	22 04 07.8	-12
JTH	**Tanohata**	**10.72 234**	*e*S		Sn	22 04 09.3	-13
OFUJ	**Ofunato**	**11.43 232**	*e*S		Sn	22 04 28.7	-11
JRG	**Rokugo**	**11.79 236**	P		Pn	22 02 34.7	-3.4
JIO	**Ouri**	**12.06 231**	P		Pn	22 02 38.4	-3.4
JIO			*e*S		Sn	22 04 42.8	-12
EKMR	**Ekimchan**	**14.47 303**	*e*P		**Pn**	**22 03 15.8**	**+1.4**
EKMR				AMB	AMB	22 03 29.0	
	comp=Z,4.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**15.11 268**	P		**Pn**	**22 03 22.1**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=72,slow=12,SNR=9.0						
MJA0	**Matsu Arr-Jizo**	**15.13 233**	*e*P		**Pn**	**22 03 23.6**	**+0.5**
MAJO	**Matsushiro**	**15.16 233**	*i* P		**Pn**	**22 03 23.3**	**0.0**
MAT	**Matsushiro**	**15.16 233**	P		**P**	**22 03 28.5**	**+1.2**
MJAR	**Matsushiro Arr**	**15.16 233**	P		**P**	**22 03 27.9**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=37,slow=8.7,SNR=18						
MJAR	**Matsushiro Arr**	**15.16 233**	P		**P**	**22 03 27.9**	**+0.6**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BMKR	**Bomnak**	**17.29 306**	*e*P		**P**	**22 03 51.7**	**+0.9**
KROS	**Kirovskiy**	**18.26 304**	*e*P		**Pn**	**22 04 02.2**	**+0.2**
KROS				AMB	AMB	22 04 04.5	
	comp=Z,4.0nm,0.5s						
KSRS	**Korea Array**	**20.88 253**	P		**P**	**22 04 31.1**	**+1.0**
	comp=Z,1.3nm,0.6s,baz=56,slow=11,SNR=4.2						
KSRS	**Korea Array**	**20.88 253**	P		**P**	**22 04 31.1**	**+1.0**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**29.21 153**	T		T	22 37 13.4	
	baz=340,slow=75,SNR=1094						
H11N1	**WAKE ISLAND Hy**	**29.22 153**	T		T	22 37 13.8	
	baz=340,slow=75,SNR=944						
H11N3	**WAKE ISLAND Hy**	**29.22 153**	T		T	22 37 14.6	
	baz=340,slow=75,SNR=579						
H11S1	**WAKE ISLAND Hy**	**30.30 154**	T		T	22 38 43.8	
	baz=341,slow=76,SNR=521						
H11S3	**WAKE ISLAND Hy**	**30.30 154**	T		T	22 38 39.2	
	baz=341,slow=76,SNR=295						
H11S2	**WAKE ISLAND Hy**	**30.31 154**	T		T	22 38 44.1	
	baz=341,slow=76,SNR=542						
HHC	**Hu-ho-hao-te**	**30.37 274**	*e*P		**P**	**22 06 00.8**	**+1.5**
HHC				pP	pP	22 06 19.2	+5.8
HHC				PP	**PnPn**	**22 07 02.1**	**+2.7**
HHC				S	**S**	**22 10 53.3**	**-2.5**
HHC				PMZ			
	comp=Z,12nm,0.7s						
HHC				PMZ			
	comp=Z,73nm,7.5s						
HHC				LN			
	comp=Z,87nm,18.5s						
HHC				LE			
	comp=Z,300nm,18.5s						
HHC				LZ			
	comp=Z,45nm,17.3s						
ULN	**Ulaanbaatar**	**30.96 289**	*i* P		**P**	**22 06 06.9**	**+2.3**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.7s						
ULN	**Ulaanbaatar**	**30.96 289**	*e*P		**P**	**22 06 06.9**	**+2.3**
SONM	**Songino Array**	**31.40 289**	P		**P**	**22 06 08.0**	**-0.3**
	comp=Z,0.1nm,0.4s,baz=72,slow=9.5,SNR=2.8						
TLY	**Talaya**	**32.24 297**	LR		LR	22 19 43.2	
	comp=Z,41nm,20.7s,baz=144,slow=37						
ILAR	**Eielson Array**	**36.48 39**	P		**P**	**22 06 52.5**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=263,slow=8.8,SNR=6.7						
ILAR

ARCES					pmax	pmax			
	comp=Z,3.0nm,0.9s								
SUMG	**Summit**	**60.67**	**4**	*i* P	**P**		**22 09 57.1**	**-0.9**	
	comp=Z,13nm,1.0s								
SUMG	**Summit**	**60.67**	**4**	*i* P	**P**		**22 09 57.1**	**-0.9**	
SUMG					pmax	pmax			
	comp=Z,13nm,1.0s								
NVAR	**Mina Array Bea**	**62.35**	**62**	P	**P**		**22 10 11.1**	**+1.4**	
	comp=Z,0.5nm,0.5s,baz=300,slow=7.2,SNR=3.3								
FINES	**FINESS Array B**	**64.05**	**335**	P	**P**		**22 10 18.7**	**-1.5**	
	comp=Z,2.8nm,0.4s,baz=40,slow=6.1,SNR=36								
FINES	**FINESS Array B**	**64.05**	**335**	P	**P**		**22 10 18.7**	**-1.5**	
FINES					pmax	pmax			
	comp=Z,3.0nm,0.4s								
PDAR	**Pinedale Array**	**64.67**	**54**	P	**P**		**22 10 26.2**	**+1.3**	
	comp=Z,1.2nm,0.7s,baz=327,slow=2.8,SNR=9.4								
NB2	**NORSAR Subarra**	**68.23**	**341**	P	**P**		**22 10 46.0**	**-1.0**	
	comp=Z,4.3nm,0.7s,baz=30,slow=6.5								
NOA	**NORSAR Array B**	**68.23**	**341**	P	**P**		**22 10 46.3**	**-0.8**	
	comp=Z,3.3nm,0.6s,baz=27,slow=6.3,SNR=18								
NOA					LR	LR	22 43 43.8		
	comp=Z,17nm,19.6s,baz=40,slow=39								
WRA	**Warramunga Arr**	**68.56**	**199**	P	**P**		**22 10 49.9**	**+0.4**	
	comp=Z,0.6nm,0.8s,baz=9.1,slow=6.2,SNR=3.1								
WRA	**Warramunga Arr**	**68.56**	**199**	P	**P**		**22 10 49.9**	**+0.4**	
WRA					pmax	pmax			
	comp=Z,1.0nm,0.8s								
KIV	**Kislovodsk**	**70.84**	**314**	*e*P	**P**		**22 11 02.5**	**-1.0**	
KIV					pmax	pmax			
	comp=Z,3.0nm,0.9s								
KIV	**Kislovodsk**	**70.84**	**314**	*e*P	**P**		**22 11 02.5**	**-1.0**	
KBZ	**Khabaz**	**70.90**	**314**	P	**P**		**22 11 03.9**	**+0.2**	
	comp=Z,2.0nm,0.7s,baz=56,slow=24,SNR=6.8								
KBZ	**Khabaz**	**70.90**	**314**	P	**P**		**22 11 03.9**	**+0.2**	
KBZ					pmax	pmax			
	comp=Z,2.0nm,0.7s								
AKASG	**Malin Array Be**	**71.57**	**326**	P	**P**		**22 11 06.2**	**-1.4**	
	comp=Z,4.3nm,0.4s,baz=33,slow=6.2,SNR=28								
AKASG	**Malin Array Be**	**71.57**	**326**	P	**P**		**22 11 06.2**	**-1.4**	
AKASG					pmax	pmax			
	comp=Z,4.0nm,0.4s								
ASAR	**Alice Springs**	**72.26**	**199**	P	**P**		**22 11 13.9**	**+1.9**	
	comp=Z,0.6nm,0.6s,baz=8.0,slow=5.2,SNR=6.8								
ASAR					pP	**pP**	**22 11 27.3**	**-0.3**	
	comp=Z,0.7nm,0.7s,baz=13,slow=5.3,SNR=3.9								
ASAR	**Alice Springs**	**72.26**	**199**	P	**P**		**22 11 13.9**	**+1.9**	
ASAR					*PP	**pP**	**22 11 27.3**	**-0.3**	
ASAR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
ASAR					pmax	pmax			
	comp=Z,1.0nm,0.7s								
KWP	**Kalwaria Pacla**	**74.84**	**329**	↑ *i*P	**P**		**22 11 25.7**	**-1.3**	
TRPA	**Tarpa**	**76.17**	**328**	↑ *i*P	**P**		**22 11 32.9**	**-1.6**	
DPC	**Dobruska-Polom**	**76.34**	**333**	*e*P	**P**		**22 11 35.5**	**-0.1**	
DPC	**Dobruska-Polom**	**76.34**	**333**	*e*P	**P**		**22 11 35.5**	**-0.1**	
KRLC	**Kraliky**	**76.43**	**333**	*e*P	**P**		**22 11 35.6**	**-0.5**	
KRLC	**Kraliky**	**76.43**	**333**	*e*P	**P**		**22 11 35.6**	**-0.5**	
MORC	**Moravsky Berou**	**76.45**	**332**	↓ *i*P	**P**		**22 11 35.0**	**-1.2**	
CLL	**Collm**	**76.47**	**336**	↓ *i*P	**P**		**22 11 35.5**	**-0.7**	
	comp=Z,5.0nm,1.1s								
CLL	**Collm**	**76.47**	**336**	↓ *i*P	**P**		**22 11 35.5**	**-0.7**	
CLL					pmax	pmax			
	comp=Z,5.0nm,1.1s								
CLL	**Collm**	**76.47**	**336**	*i* P	**P**		**22 11 35.5**	**-0.7**	
TLB	**Topalu**	**76.99**	**323**	↓ *i*P	**P**		**22 11 39.1**	**-0.1**	
MLR	**Muntele Rosu**	**77.09**	**325**	↑ *i*P	**P**		**22 11 39.7**	**-0.3**	
ISR	**Istrita**	**77.16**	**324**	↑ *i*P	**P**		**22 11 40.8**	**+0.5**	
MALT	**Malatya**	**77.19**	**313**	↑ *i*P	**P**		**22 11 40.2**	**-0.5**	
DRGR		**77.23**	**328**	↓ *i*P	**P**		**22 11 40.3**	**-0.4**	
TXAR	**Lajitas Array**	**77.41**	**61**	P	**P**		**22 11 43.4**	**+1.3**	
	comp=Z,1.0nm,0.5s,baz=299,slow=4.9,SNR=23								
TXAR					pP	**pP**	**22 11 57.6**	**-0.2**	
	comp=Z,1.0nm,0.5s,baz=298,slow=4.3,SNR=7.5								
TXAR	**Lajitas Array**	**77.41**	**61**	P	**P**		**22 11 43.4**	**+1.3**	
TXAR					*PP	**pP**	**22 11 57.6**	**-0.2**	
TXAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
TXAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
MSAB	**Monastry St. A**	**77.48**	**323**	↓ *i*P	**P**		**22 11 42.0**	**0.0**	
VOIR		**77.48**	**325**	↑ *i*P	**P**		**22 11 42.0**	**-0.2**	
ARR	**Arges**	**77.70**	**326**	↓ *i*P	**P**		**22 11 44.1**	**+0.7**	
BRTR	**Keskin Array B**	**78.42**	**317**	P	**P**		**22 11 47.5**	**-0.1**	
	comp=Z,1.2nm,0.8s,baz=48,slow=4.6,SNR=8.7								
BRTR	**Keskin Array B**	**78.42**	**317**	P	**P**		**22 11 47.5**	**-0.1**	
BRTR					pmax	pmax			
	comp=Z,1.0nm,0.8s								
GERES	**GERESS Array B**	**78.47**	**334**	P	**P**		**22 11 46.7**	**-0.8**	
	comp=Z,0.7nm,0.6s,baz=38,slow=6.8,SNR=4.6								
GERES	**GERESS Array B**	**78.47**	**334**	*e*P	**P**		**22 11 47.9**	**+0.3**	
GERES	**GERESS Array B**	**78.47**	**334**	*e*P	**P**		**22 11 47.9**	**+0.3**	
BZS	**Buzias**	**78.63**	**328**	↓ *i*P	**P**		**22 11 46.7**	**-1.7**	
PKSM	**Moragy**	**79.18**	**330**	↑ *i*P	P		22 11 43.5	-7.9	
VTS	**Vitosha**	**80.59**	**325**	↓ *i*P	**P**		**22 11 59.4**	**+0.1**	
MMB	**Musomiste**	**81.23**	**324**	↓ *i*P	**P**		**22 12 02.4**	**-0.2**	
TORD	**Torodi Ar. Bea**	**115.11**	**329**	PKP	**PKPdf**		**22 18 27.0**	**-0.9**	
	comp=Z,0.3nm,0.9s,baz=43,slow=1.8,SNR=3.3								

IDC 04 22:29:28.8±2.1, 46°27S×96°32E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.8/15, mbtmp3.8/4, MS3.9/3, Ms1 3.9/3, ms1mx3.1/23, Error ellipse: s-maj=53.1km s-min=33.2km az=96.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**17.62**	**56**	T	T	22 51 42.3	
	baz=224,slow=74,SNR=14						
H01W3	**Cape Leeuwin H**	**17.63**	**56**	T	T	22 51 39.9	
	baz=224,slow=74,SNR=19						
H01W1	**Cape Leeuwin H**	**17.64**	**56**	T	T	22 51 44.4	
	baz=224,slow=74,SNR=14						
ASAR	**Alice Springs**	**37.67**	**66**	P	P	22 36 45.8	0.0
	0.9nm,0.7s,baz=222,slow=7.0,SNR=9.4						
ASAR					LR	LR	22 50 00.4	
	comp=Z,88nm,19.4s,baz=174,slow=33						
VNDA	**Vanda**	**40.05**	**162**	P	P	22 37 05.0	-0.1
	0.7nm,0.9s,baz=270,slow=8.1,SNR=3.8						
WRA	**Warramunga Arr**	**40.68**	**63**	P	P	22 37 10.8	-0.3
	2.7nm,0.7s,baz=222,slow=8.2,SNR=22						
WRA					LR	LR	22 52 05.2	
	comp=Z,112nm,19.6s,baz=235,slow=33						
CMAR	**Chiang Mai Arr**	**64.46**	**3**	P	P	22 40 07.0	0.0
	0.7nm,0.7s,baz=202,slow=6.0,SNR=4.4						
USHA	**Ushuaia**	**78.45**	**189**	LR	LR	23 13 23.5	
	comp=Z,147nm,18.7s,baz=36,slow=34						

*ISCJB **04** 22:32:00.4±0.5, 33°18S±0°05×72°33W±0°06, h15km, mb4.3/14, MS4.0/7, Error ellipse: s-maj=7.8km s-min=6.8km az=169.6*

*IDC **04** 22:32:00.0±0.8, 33°18S×71°94W, h0km, mb4.0/9, mb1 4.1/12, mb1mx4.1/18, mbtmp4.0/12, ML3.8/2, MS4.0/9, Ms1 4.0/9, ms1mx3.8/19, Error ellipse: s-maj=29.1km s-min=16.8km az=84.0*

*NEIC **04** 22:32:04.0, 33°10S×72°15W, h37km, mb4.7/8, ML4.4(GUC), After GUC.*

NEIC Felt [III] at Valparaiso and [II] at Casablanca, El Quisco, El Tabo and San Antonio.

*GUC **04** 22:32:04.1±0.8, 33°10S×72°15W, h37km±9km, ML4.4*

ISC 04 22:32:01.8±0.6, 33°21S±0°05×72°22W±0°05, h15km, n48, σ1°53/51, mb4.4/14, MS4.1/7, 2C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.52**	**69**	↓ *i*P	**Pb**	**22 32 13.7**	**+1.0**
IHA				*i* S	**Sb**	**22 32 20.8**	**+0.8**
RCDM	**Rinconada Maip**	**1.22**	**103**	↑ *i*P	**Pn**	**22 32 24.4**	**+0.1**
RCDM				*i* S	**Sn**	**22 32 41.2**	**+0.6**
PEL	**Peldehue**	**1.29**	**87**	↓ *i*P	**Pb**	**22 32 26.2**	**+0.3**
PEL				*e*S	**Sb**	**22 32 42.0**	**-0.3**
PEL				AML	AML	22 32 53.1	
	comp=N,15μm,0.1s						
CLCH	**Cerro Calan**	**1.42**	**98**	↑ *i*P	**Pn**	**22 32 27.9**	**+0.7**
CLCH				AML	AML	22 32 57.6	
	comp=E,9μm,0.8s						
LACH	**Col Las Americ**	**1.44**	**100**	↓ *i*P	**Pn**	**22 32 28.3**	**+0.9**
FSR	**Penalolen**	**1.44**	**101**	*e*P	**Pb**	**22 32 29.2**	**+0.7**
PCH	**Pirque**	**1.49**	**106**	*e*P	**Pb**	**22 32 29.5**	**+0.3**
CFAA	**Coronel Fontan**	**3.73**	**66**	Pn	**Pn**	**22 33 01.1**	**+2.2**
	comp=E,1.1nm,0.3s,baz=247,slow=14,SNR=35						
CFAA				Lg	Lg	22 34 01.6	
	comp=E,9.1nm,0.3s,baz=322,slow=22,SNR=16						
CFAA				LR	LR	22 34 12.8	
	comp=E,51nm,20.6s,baz=266,slow=38						
LCO	**Las Campanas**	**4.39**	**18**	*e*Pn	**Pn**	**22 33 08.0**	**-0.1**
LCO				*e*Sn	**Sn**	**22 33 57.0**	**-2.1**
PLCA	**Paso Flores**	**7.62**	**170**	Pn	**Pn**	**22 33 53.4**	**+1.0**
	comp=E,0.8nm,0.3s,baz=342,slow=15,SNR=9.8						
PLCA				Lg	Lg	22 36 00.9	
	comp=E,0.4nm,0.3s,baz=95,slow=19,SNR=2.9						
PLCA				LR	LR	22 36 51.2	
	comp=E,790nm,20.0s,baz=350,slow=38						
PLCA	**Paso Flores**	**7.62**	**170**	*e*Pn	**Pn**	**22 33 53.7**	**+1.3**
PLCA				*e*Sn	**Sn**	**22 35 16.3**	**-2.2**
TRQA	**Tornquist**	**9.63**	**123**	*e*Pn	**Pn**	**22 34 20.5**	**+0.5**
TRQA				Sn	**Sn**	**22 36 04.5**	**-3.4**
LVC	**Limon Verde**	**10.96**	**16**	Pn	**Pn**	**22 34 35.6**	**-2.8**
	comp=E,15nm,0.3s,baz=194,slow=11,SNR=2.2						
LVC				Sn	Sn	22 36 33.2	-7.6
	comp=E,12nm,0.3s,baz=204,slow=20,SNR=1.8						
LVC				LR	LR	22 38 51.5	
	comp=E,2μm,18.9s,baz=208,slow=38						
LVC	**Limon Verde**	**10.96**	**16**	Pn	**Pn**	**22 34 35.6**	**-2.8**
LVC				*e*Sn	**Sn**	**22 36 40.6**	**-0.2**
CPUP	**Villa Florida**	**14.63**	**66**	Pn	**Pn**	**22 35 25.4**	**-2.9**
	comp=E,0.0nm,0.3s,baz=240,slow=15,SNR=2.0						
CPUP				Lg	Lg	22 39 30.9	
	comp=E,0.1nm,0.3s,baz=322,slow=20,SNR=3.1						
CPUP				LR	LR	22 41 35.7	
	comp=E,7μm,18.1s,baz=244,slow=40						
CPUP	**Villa Florida**	**14.63**	**66**	Pn	**Pn**	**22 35 25.4**	**-2.9**
CPUP				*e*Sn	**Sn**	**22 38 14.1**	**+3.9**
EFI	**East Falkland**	**21.13**	**155**	*e*P	**P**	**22 36 46.7**	**+0.7**
	comp=E,350nm,1.9s						
NNA	**Nana**	**21.55**	**348**	LR	LR	22 43 26.4	
	comp=E,169nm,20.6s,baz=182,slow=32						
SAML	**Samuel**	**25.55**	**21**	*e*P	**P**	**22 37 29.1**	**-1.0**
	comp=E,9.7nm,1.0s						
BDFB	**Brasilia**	**28.03**	**57**	P	**P**	**22 37 51.0**	**-1.7**
	comp=E,2.7nm,0.8s,baz=214,slow=10,SNR=4.8						
BDFB				LR	LR	22 50 08.7	
	comp=E,870nm,18.7s,baz=226,slow=39						
BDFB	**Brasilia**	**28.03**	**57**	*e*P	**P**	**22 37 51.4**	**-1.2**
PTGA	**Pitinga**	**34.30**	**22**	P	**P**	**22 38 47.4**	**-0.4**
	comp=E,2.3nm,0.7s,baz=206,slow=10.0,SNR=5.5						
PTGA	**Pitinga**	**34.30**	**22**	*e*P	**P**	**22 38 48.2**	**+0.4**
SDV	**Santo Domingo**	**41.89**	**2**	*e*P	P	22 39 47.9	-4.0
	comp=E,6.6nm,0.9s						
SNAA	**Sanae**	**52.37**	**158**	P	**P**	**22 41 13.0**	**+0.1**
	comp=E,0.8nm,0.9s,baz=288,slow=6.4,SNR=12						
SNAA	**Sanae**	**52.37**	**158**	*e*P	**P**	**22 41 13.0**	**+0.1**
	comp=E,7.4nm,1.0s						
TXAR	**Lajitas Array**	**68.97**	**331**	P	**P**	**22 43 07.7**	**+1.2**
	comp=E,0.5nm,0.6s,baz=153,slow=8.5,SNR=5.8						
TXAR				LR	LR	23 09 15.0	
	comp=E,103nm,18.3s,baz=0.0,slow=32						
LTX	**Lajitas**	**68.97**	**331**	*e*P	**P**	**22 43 07.7**	**+1.2**
TX31	**Lajitas Ar. Si**	**68.97**	**331**	*e*P	**P**	**22 43 08.3**	**+1.7**
WVT	**Waverly**	**70.51**	**347**	*e*P	**P**	**22 43 16.1**	**+0.4**
	comp=E,15nm,1.0s						
MAW	**Mawson**	**73.98**	**164**	P	**P**	**22 43 36.5**	**+0.3**
	comp=E,2.1nm,0.7s,baz=243,slow=6.8,SNR=3.7						
MAW				LR	LR	23 17 45.2	
	comp=E,180nm,18.3s,baz=238,slow=37						
MAW	**Mawson**	**73.98**	**164**	*e*P	**P**	**22 43 36.5**	**+0.3**
	comp=E,12nm,2.3s						
DBIC	**Dimbokro**	**75.08**	**72**	P	**P**	**22 43 43.3**	**-0.1**
	comp=E,3.8nm,0.9s,baz=234,slow=8.7,SNR=2.7						
DBIC				LR	LR	23 16 33.5	
	comp=E,58nm,18.9s,baz=196,slow=36						
DBIC	**Dimbokro**	**75.08**	**72**	*e*P	**P**	**22 43 43.3**	**-0.1**
	comp=E,41nm,1.6s						
SUR	**Sutherland**	**75.34**	**119**	LR	LR	23 13 03.9	
	comp=E,60nm,18.7s,baz=261,slow=33						
ECSD	**EROS Data Cent**	**79.75**	**342**	*e*P	**P**	**22 44 10.0**	**+1.1**
	comp=E,7.2nm,1.0s						
PD31	**Pinedale Array**	**82.99**	**333**	*e*P	**P**	**22 44 27.0**	**+0.6**
PDAR	**Pinedale Array**	**82.99**	**333**	P	**P**	**22 44 27.0**	**+0.6**
	comp=E,0.2nm,0.7s,baz=153,slow=2.7,SNR=2.5						
NV01	**Mina Array Sit**	**83.15**	**325**	*e*P	**P**	**22 44 30.2**	**+2.9**
NVAR	**Mina Array Bea**	**83.15**	**325**	P	**P**	**22 44 30.2**	**+2.9**
	comp=E,0.5nm,0.5s,baz=148,slow=5.2,SNR=2.4						
TOA0	**Torodi Ar. Sit**	**84.09**	**70**	*e*P	**P**	**22 44 32.4**	**0.0**
TORD	**Torodi Ar. Bea**	**84.09**	**70**	P	**P**	**22 44 32.1**	**-0.3**
	comp=E,3.3nm,0.8s,baz=257,slow=4.7,SNR=19						
TORD				LR	LR	23 19 32.7	
	comp=E,89nm,21.2s,baz=205,slow=34						
H11S2	**WAKE ISLAND Hyl**	**25.62**	**270**	T	T	01 09 17.2	
	baz=119						
H11S1	**WAKE ISLAND Hyl**	**25.64**	**270**	T	T	01 09 16.1	
	baz=119						
H11S3	**WAKE ISLAND Hyl**	**25.64**	**270**	T	T	01 09 18.2	
	baz=119						
ZALV	**Zalesovo Beam**	**153.64**	**31**	PKP	**PKPdf**	**22 51 51.5**	**-0.2**
	comp=E,0.4nm,0.5s,baz=289,slow=4.4,SNR=3.8						
ZALV				PKPbc	**PKPbc**	**22 51 58.3**	**-1.1**
	comp=E,1.1nm,0.6s,baz=300,slow=1.2,SNR=6.9						
MKAR	**Makanchi Array**	**156.36**	**47**	PKPab	**PKPab**	**22 52 24.0**	**0.0**
	comp=E,0.8nm,0.9s,baz=297,slow=6.3,SNR=6.6						
SONM	**Songino Array**	**165.36**	**4**	PKPab	**PKPab**	**22 53 03.5**	**+0.3**
	comp=E,0.2nm,0.4s,baz=5.4,slow=3.0,SNR=2.8						

*IDC **04** 22:58:22.3±0.7, 33°20S×72°01W, h0km, mb4.4/10, mb1 4.5/12, mb1mx4.3/19, mbtmp4.3/12, ML4.5/2, MS3.9/9, Ms1 3.9/9, ms1mx3.5/24, Error ellipse: s-maj=28.1km s-min=17.7km az=82.0*

*GUC **04** 22:58:23.7±0.6, 33°33S×72°36W, h14km±999km, ML4.5*

*ISCJB **04** 22:58:24.3±1.4, 33°28S±0°05×72°28W±0°06, h26km±9km, mb4.4/17, MS3.9/8, Error ellipse: s-maj=8.9km s-min=7.8km az=27.6*

*NEIC **04** 22:58:24.6±4.4, 33°26S×71°91W, h12km±27km, mb4.8/7, Error ellipse: s-maj=16.2km s-min=8.6km az=85.0*

NEIC Felt [II] at Santiago.

ISC 04 22:58:25.4±0.6, 33°21S±0°05×72°21W±0°07, h21km±4km, n68, σ1°47/74, mb4.5/17, MS3.9/8, 3C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.51**	**70**	↓ *i*P	**Pb**	**22 58 35.9**	**+0.2**
IHA				*e*S	**Sn**	**22 58 45.5**	**0.0**
TACH	**Talagante**	**1.16**	**113**	↑ *i*P	**Pn**	**22 58 45.2**	**-1.1**
TACH				*i* S	**Sb**	**22 59 01.0**	**-0.2**
RCDM	**Rinconada Maip**	**1.21**	**104**	*e*P	**Pn**	**22 58 46.0**	**-1.0**
RCDM				*i* S	**Sn**	**22 59 03.0**	**+0.2**
PEL	**Peldehue**	**1.28**	**88**	↓ *i*P	**Pn**	**22 58 48.3**	**+0.3**
PEL				*i* S	**Sb**	**22 59 06.8**	**+2.0**
PEL				AML	AML	22 59 09.7	
	comp=E,12μm,0.5s						
SAN	**Santiago**	**1.32**	**101**	*e*P	**Pn**	**22 58 48.2**	**-0.4**
SAN				*i* S	**Sb**	**22 59 06.6**	**+0.6**
CLCH	**Cerro Calan**	**1.42**	**98**	↑ *i*P	**Pn**	**22 58 50.0**	**0.0**
CLCH				*i* S	**Sb**	**22 59 09.8**	**+1.1**
CLCH				AML	AML	22 59 18.1	
	comp=E,11μm,0.6s						
CLCH				AML	AML	22 59 18.7	
	comp=E,12μm,0.5s						
LACH	**Col Las Americ**	**1.43**	**100**	*e*P	**Pn**	**22 58 49.6**	**-0.5**
FSR	**Penalolen**	**1.44**	**101**	*e*P	**Pb**	**22 58 51.2**	**-0.2**
FSR				*i* S	**Sb**	**22 59 11.4**	**+2.1**
PCH	**Pirque**	**1.48**	**107**	↑ *i*P	**Pn**	**22 58 51.2**	**+0.4**
NICH	**Los Niches**	**1.97**	**156**	*e*P	**Pn**	**22 58 55.3**	**-2.2**
TALC	**Talca**	**2.24**	**168**	*e*P	**Pn**	**22 58 59.8**	**-1.3**
CFAA	**Coronel Fontan**	**3.72**	**66**	Pn	**Pn**	**22 59 23.4**	**+1.8**
	comp=E,0.3nm,0.3s,baz=238,slow=14,SNR=30						
CFAA				LR	LR	23 00 09.0	
	comp=E,35nm,21.9s,baz=274,slow=30						
CFAA				Lg	Lg	23 00 25.2	
	comp=E,4.1nm,0.3s,baz=319,slow=21,SNR=20						
LCO	**Las Campanas**	**4.38**	**18**	*e*Pn	**Pn**	**22 59 30.5**	**-0.3**
LCO				*e*Sn	**Sn**	**23 00 17.6**	**-3.7**
PLCA	**Paso Flores**	**7.63**	**170**	Pn	**Pn**	**23 00 14.2**	**-1.1**
	comp=E,0.9nm,0.3s,baz=336,slow=12,SNR=16						
PLCA				Lg	Lg	23 02 17.1	
	baz=270,slow=19,SNR=1.7						
PLCA				LR	LR	23 02 38.8	
	comp=E,59nm,20.2s,baz=350,slow=34						
PLCA	**Paso Flores**	**7.63**	**170**	*e*Pn	**Pn**	**23 00 14.2**	**-1.1**
PLCA				*e*Sn	Sn	23 01 33.4	-7.8
TRQA	**Tornquist**	**9.63**	**123**	*e*Pn	**Pn**	**23 00 40.2**	**-2.5**
TRQA				*e*Sn	**Sn**	**23 02 31.1**	**+0.8**
LVC	**Limon Verde**	**10.95**	**16**	Pn	**Pn**	**23 00 58.4**	**-2.6**
	comp=E,13nm,0.3s,baz=196,slow=15,SNR=3.5						
LVC				LR	LR	23 05 23.6	
	comp=E,1μm,21.6s,baz=206,slow=39						
LVC	**Limon Verde**	**10.95**	**16**	*e*Pn	**Pn**	**23 00 58.6**	**-2.4**
LVC				*e*Sn	**Sn**	**23 03 00.3**	**-2.7**
CPUP	**Villa Florida**	**14.62**	**66**	Pn	**P**	**23 01 55.1**	**-2.0**
	comp=E,0.1nm,0.3s,baz=243,slow=16,SNR=7.4						
CPUP				Sn	**Sn**	**23 04 33.8**	**+1.5**
	comp=E,0.0nm,0.3s,baz=162,slow=20,SNR=2.0						
CPUP	**Villa Florida**	**14.62**	**66**	*e*Pn	**Pn**	**23 01 48.1**	**-2.9**
EFI	**East Falkland**	**21.14**	**155**	*e*P	**P**	**23 03 06.5**	**-2.1**
	comp=E,354nm,2.0s						
USHA	**Ushuaia**	**21.79**	**174**	P	**P**	**23 03 16.6**	**+1.0**
	comp=E,11nm,0.9s,baz=357,slow=9.6,SNR=4.2						
SAML	**Samuel**	**25.54**	**21**	*e*P	**P**	**23 03 52.9**	**+0.3**
	comp=E,15nm,0.9s						
BDFB	**Brasilia**	**28.02**	**57**	P	**P**	**23 04 13.4**	**-1.7**
	comp=E,5.7nm,0.8s,baz=225,slow=9.7,SNR=8.6						
BDFB				LR	LR	23 16 30.2	
	comp=E,392nm,19.0s,baz=236,slow=39						
BDFB	**Brasilia**	**28.02**	**57**	*e*P	**P**	**23 04 14.1**	**-1.1**
PTGA	**Pitinga**	**34.29**	**22**	LR	LR	23 20 39.3	
	comp=E,133nm,20.2s,baz=186,slow=39						
PTGA	**Pitinga**	**34.29**	**22**	*e*P	**P**	**23 05 10.2**	**-0.1**
	comp=E,7.7nm,0.9s						
SDV	**Santo Domingo**	**41.88**	**2**	*e*P	P	23 06 18.5	+4.1
	comp=E,10nm,0.9s						
PCRV	**Puerto La Cruz**	**43.74**	**11**	LR	LR	23 26 50.9	
	comp=E,168nm,20.0s,baz=176,slow=39						
VNA3	**Neumayer Olymp**	**50.15**	**158**	P	**P**	**23 07 19.0**	**+0.2**
VNA2	**Neumayer--Watz**	**50.80**	**157**	P	**P**	**23 07 23.9**	**+0.2**
	baz=280,slow=8.3						
SNAA	**Sanae**	**52.37**	**158**	P	**P**	**23 07 35.3**	**-0.2**
	comp=E,2.0nm,0.8s,baz=295,slow=6.8,SNR=3.0						
TX31	**Lajitas Ar. Si**	**68.97**	**331**	*e*P	**P**	**23 09 29.4**	**+0.3**
TXAR	**Lajitas Array**	**68.97**	**331**	P	**P**	**23 09 29.9**	**+0.8**
	comp=E,0.8nm,0.6s,baz=152,slow=8.9,SNR=15						
WVT	**Waverly**	**70.51**	**347**	*e*P	**P**	**23 09 38.1**	**-0.2**
	comp=E,7.7nm,0.7s						
MAW	**Mawson**	**73.98**	**164**	P	**P**	**23 09 58.5**	**-0.2**
	comp=E,2.3nm,0.8s,baz=231,slow=5.1,SNR=5.0						
MAW				LR	LR	23 44 24.9	
	comp=E,88nm,18.4s,baz=242,slow=37						
DBIC	**Dimbokro**	**75.06**	**72**	P	**P**	**23 10 05.6**	**-0.3**
	comp=E,2.0nm,0.6s,baz=227,slow=6.5,SNR=3.6						
DBIC				LR	LR	23 41 42.9	
	comp=E,30nm,18.2s,baz=147,slow=35						
TSUM	**Tsumeb**	**79.57**	**106**	P	**P**	**23 10 31.3**	**0.0**
	comp=E,3.5nm,0.8s,baz=230,slow=7.3,SNR=7.8						
ECSD	**EROS Data Cent**	**79.75**	**342**	*e*P	**P**	**23 10 33.2**	**+1.7**
	comp=E,6.3nm,1.1s						
TPH	**Tonopah**	**82.35**	**326**	*e*P	P	23 10 50.2	+4.5
	comp=E,8.6nm,0.4s						
LBTB	**Lobatse**	**82.77**	**115**	P	**P**	**23 10 47.9**	**-0.4**
	comp=E,7.4nm,0.8s,baz=246,slow=5.7,SNR=10						
LBTB	**Lobatse**	**82.77**	**115**	*e*P	**P**	**23 10 48.2**	**-0.1**
PDAR	**Pinedale Array**	**82.99**	**333**	LR	LR	23 43 56.9	
	comp=E,39nm,19.2s,baz=198,slow=33						
NVAR	**Mina Array Bea**	**83.15**	**325**	P	**P**	**23 10 51.6**	**+1.8**
	comp=E,0.5nm,0.7s,baz=144,slow=6.3,SNR=2.7						
TOA0	**Torodi Ar. Sit**	**84.08**	**70**	*e*P	**P**	**23 10 54.3**	**-0.5**
TORD	**Torodi Ar. Bea**	**84.08**	**70**	P	**P**	**23 10 54.5**	**-0.3**
	comp=E,5.8nm,0.8s,baz=244,slow=4.8,SNR=30						
TORD				LR	LR	23 45 52.8	
	comp=E,48nm,20.3s,baz=105,slow=34						
RPZ	**R

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.27**	**79**	⇑P	Pn	23 32 17.3	-1.9
HOLB				⇑S	Sb	23 32 33.4	-2.6
BPBC	**Brooks Peninsu**	**1.51**	**99**	⇑Pn	Pn	23 32 20.0	-2.5
BPBC				⇑Sn	Sn	23 32 38.2	-4.1
PHC	**Port Hardy**	**1.73**	**79**	⇑Pn	Pn	23 32 23.8	-1.5
PHC				⇓Sn	Sn	23 32 43.6	-3.8
FHRB	**Fair Harbour**	**1.94**	**99**	⇓Pn	Pn	23 32 26.8	-1.5
EDB	**Eliza Dome**	**1.99**	**104**	Pn	Pn	23 32 27.0	-2.0
EDB				⇑Sn	Sn	23 32 49.1	-4.8
BBB	**Bella Bella**	**2.17**	**34**	⇓Pn	Pn	23 32 29.9	-1.5
BBB				⇓Sn	Sn	23 32 54.1	-4.3
WOSB	**Woss**	**2.28**	**95**	⇑Pn	Pn	23 32 31.9	-1.2
BNB	**Barry Inlet**	**2.40**	**335**	⇑Pn	Pn	23 32 33.0	-1.8
BNB				⇓Sn	Sn	23 33 00.3	-4.0
GDR	**Gold River**	**2.69**	**102**	⇓Pn	Pn	23 32 37.2	-1.4
BTB	**Buttle Lake**	**3.10**	**106**	Pn	Pn	23 32 43.2	-1.3
BTB				⇑Sn	Sn	23 33 18.4	-3.4
DIB	**Dawson Inlet,**	**3.16**	**333**	⇓Pn	Pn	23 32 43.6	-1.4
DIB				⇑Sn	Sn	23 33 19.7	-3.1
VIB	**Van Inlet**	**3.23**	**333**	⇓Pn	Pn	23 32 44.7	-1.4
VIB				⇓Sn	Sn	23 33 21.2	-3.5
ALB	**Alberni**	**3.59**	**106**	⇑Pn	Pn	23 32 50.4	-0.6
MGB	**Mount Grey**	**3.78**	**110**	⇑Pn	Pn	23 32 52.6	-1.2
PFB	**Port Renfrew**	**4.12**	**114**	⇓Pn	Pn	23 32 58.0	-0.4

*ISCJB **04** 23:36:56.0±4.0, 50°.2S±0°.3×11°.2E×°, h10km, mb3.8/4, Error ellipse: s-maj=158.7km s-min=18.9km az=16.1*
*IDC **04** 23:36:57.5±2.4, 50°.27S×112°.04E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.8/19, mbtmp3.7/4, Error ellipse: s-maj=113.9km s-min=21.9km az=105.0*

ISC 04 23:36:58.5±2.8, 50°.3S±0°.3×111°.9E±0°.8, h10km, n10, σ0§61/7, mb3.8/4, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.42**	**7**	T	T	23 56 19.5	
	baz=183,slow=74,SNR=74						
H01W1	**Cape Leeuwin H**	**15.43**	**7**	T	T	23 56 20.6	
	baz=183,slow=74,SNR=117						
H01W3	**Cape Leeuwin H**	**15.44**	**7**	T	T	23 56 20.4	
	baz=183,slow=74,SNR=94						
ASAR	**Alice Springs**	**31.59**	**41**	P	**P**	**23 43 20.9**	**-0.4**
	0.8nm,0.8s,baz=212,slow=7,9,SNR=5.6						
VNDA	**Vanda**	**33.05**	**162**	P	**P**	**23 43 34.0**	**+0.4**
	1.0nm,0.6s,baz=297,slow=9.5,SNR=12						
WRA	**Warramunga Arr**	**35.09**	**39**	P	**P**	**23 43 51.6**	**-0.2**
	0.5nm,0.3s,baz=204,slow=8.4,SNR=3.4						
QSPA	**South Pole Qui**	**39.88**	**180**	P	**P**	**23 44 31.5**	**-0.7**
	1.0nm,0.6s,baz=310,slow=9.7,SNR=10						
TXAR	**Lajitas Array**	**146.06**	**114**	PKPbc	**PKPab**	**23 56 39.2**	**+0.1**
	0.3nm,0.6s,baz=188,slow=6.2,SNR=6.4						
PDAR	**Pinedale Array**	**150.80**	**89**	PKPbc	**PKPbc**	**23 56 50.9**	**+0.1**
	0.5nm,0.8s,baz=193,slow=5.8,SNR=3.5						
YKA	**Yellowknife Ar**	**152.15**	**46**	PKPbc	**PKPbc**	**23 56 53.6**	**+0.8**
	0.5nm,0.6s,baz=284,slow=1.9,SNR=18						

PGC 04 23:38:01.1±0.4, 50°.42N×130°.10W, h10km, ML2.6/6, Mw3.3, 6D, 192km west of Pt. Hardy, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.28**	**79**	⇓P	Pn	23 38 22.9	-2.1
HOLB				⇓S	Sb	23 38 38.7	-3.1
BPBC	**Brooks Peninsu**	**1.52**	**99**	⇓Pn	Pn	23 38 25.7	-2.7
BPBC				⇑Sn	Sn	23 38 43.8	-4.5
PHC	**Port Hardy**	**1.73**	**80**	⇑Pn	Pn	23 38 29.4	-1.8
PHC				⇓Sn	Sn	23 38 49.6	-3.6
EDB	**Eliza Dome**	**2.00**	**105**	⇑Pn	Pn	23 38 32.6	-2.3
EDB				⇑Sn	Sn	23 38 55.1	-4.8
BBB	**Bella Bella**	**2.16**	**35**	⇑Pn	Pn	23 38 35.7	-1.4
BBB				⇓Sn	Sn	23 38 59.7	-4.2
WOSB	**Woss**	**2.28**	**95**	⇑Pn	Pn	23 38 37.5	-1.4
BNB	**Barry Inlet**	**2.39**	**335**	⇑Pn	Pn	23 38 38.6	-1.8
BNB				⇓Sn	Sn	23 39 05.8	-3.9
GDR	**Gold River**	**2.70**	**102**	⇑Pn	Pn	23 38 42.9	-1.6
BTB	**Buttle Lake**	**3.11**	**106**	⇑Pn	Pn	23 38 49.0	-1.4
MGB	**Mount Grey**	**3.79**	**110**	⇑Pn	Pn	23 38 59.3	-0.4

PGC 04 23:38:36.9±0.4, 50°.44N×130°.05W, h10km, ML2.8/8, Mw3.4, 14D, 188km west of Pt. Hardy, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.24**	**80**	⇓P	Pn	23 38 58.2	-2.2
HOLB				⇓S	Sb	23 39 14.1	-2.5
BPBC	**Brooks Peninsu**	**1.49**	**100**	⇓Pn	Pn	23 39 01.8	-2.0
BPBC				⇓Sn	Sn	23 39 19.4	-3.9
PHC	**Port Hardy**	**1.69**	**80**	⇑Pn	Pn	23 39 04.6	-1.8
PHC				⇓Sn	Sn	23 39 24.9	-3.3
EDB	**Eliza Dome**	**1.97**	**106**	⇑Pn	Pn	23 39 07.9	-2.3
EDB				⇓Sn	Sn	23 39 30.3	-4.6
BBB	**Bella Bella**	**2.13**	**34**	⇑Sn	Sn	23 39 34.8	-4.2
WOSB	**Woss**	**2.25**	**96**	⇓Pn	Pn	23 39 12.8	-1.5
BNB	**Barry Inlet**	**2.39**	**334**	⇓Pn	Pn	23 39 14.9	-1.2
BNB				⇓Sn	Sn	23 39 41.4	-4.1
GDR	**Gold River**	**2.67**	**103**	⇓Pn	Pn	23 39 18.3	-1.6
GDR				⇓Sn	Sn	23 39 47.9	-4.4
BTB	**Buttle Lake**	**3.08**	**107**	⇓Pn	Pn	23 39 24.2	-1.6
BTB				⇑Sn	Sn	23 39 58.7	-4.2
DIB	**Dawson Inlet,**	**3.15**	**332**	⇓Pn	Pn	23 39 24.9	-1.5
DIB				⇓Sn	Sn	23 40 00.7	-3.4
VIB	**Van Inlet**	**3.21**	**332**	⇑Pn	Pn	23 39 26.1	-1.4
VIB				⇑Sn	Sn	23 40 01.8	-4.1
MGB	**Mount Grey**	**3.76**	**110**	Pn	Pn	23 39 34.3	-0.8

*DDA **04** 23:52:43.0, 37°.18N×28°.33E, h7km, MD2.8*
*CSEM **04** 23:52:44.7±0.3, 37°.13N×28°.55E, h2km, MD2.6, Error ellipse: s-maj=8.5km s-min=5.4km az=35.0*

ISK 04 23:52:43.5, 37°.13N×28°.58E, h5km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.24**	**272**	*e*PG	Pg	23 52 48.4	+0.1
YER				*e*SG	Sg	23 52 52.6	+1.1
YER	**Yerkesik**	**0.24**	**272**	*e*Pg	Pg	23 52 48.4	+0.1
YER				*e*Sg	Sg	23 52 52.6	+1.1
TURN	**Turunc**	**0.25**	**176**	*i* P	Pb	23 52 51.3	+0.8
TURN	**Turunc**	**0.25**	**176**	*i* P	Pb	23 52 51.3	+0.8
DALY	**Dalyan (Mu¨la**	**0.31**	**169**	*e*PG	Pg	23 52 50.2	+0.6
DALY				*e*SG	Sg	23 52 54.6	+0.9
DALY	**Dalyan (Mu¨la**	**0.31**	**169**	*e*Pg	Pg	23 52 50.2	+0.6
DALY				*e*Sg	Sg	23 52 54.6	+0.9
FETY	**Fethiye**	**0.63**	**140**	*e*PG	Pg	23 52 56.3	+0.5
FETY	**Fethiye**	**0.63**	**140**	*e*Pg	Pg	23 52 56.3	+0.5
DAT	**Datca**	**0.90**	**244**	*e*PG	Pb	23 53 01.8	+0.1
DAT	**Datca**	**0.90**	**244**	*e*Pg	Pb	23 53 01.8	+0.1
AYDB	**Zeytinkoy-Aydi**	**0.99**	**326**	*e*PG	Pg	23 53 02.7	+0.1
AYDB	**Zeytinkoy-Aydi**	**0.99**	**326**	*e*Pg	Pg	23 53 02.7	+0.1
BODT	**Bodrum**	**1.02**	**267**	*e*PG	Pg	23 53 03.3	+0.2
BODT	**Bodrum**	**1.02**	**267**	*e*Pg	Pg	23 53 03.3	+0.2
AKAS	**Kas**	**1.21**	**137**	*i* P	Pn	23 53 08.9	+1.6
AKAS	**Kas**	**1.21**	**137**	*i* P	Pn	23 53 08.9	+1.6
AKAS				*i* S	Sn	23 53 29.5	+5.2
ANTB	**Antalya**	**1.67**	**97**	*e*PN	Pb	23 53 14.9	+0.1
ANTB	**Antalya**	**1.67**	**97**	*e*Pn	Pb	23 53 14.9	+0.1

*DDA **04** 23:53:28.8, 40°.47N×29°.10E, h7km, MD3.0*
*CSEM **04** 23:53:29.0±0.1, 40°.48N×29°.11E, h2km, MD2.3, Error ellipse: s-maj=2.9km s-min=2.2km az=38.0*

ISK 04 23:53:27.9, 40°.47N×29°.10E, h5km, MD2.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEMT	**Gemlik**	**0.08**	**119**	*e*PG	Pg	23 53 30.1	+0.5
GEMT				*e*SG	Sg	23 53 31.1	+0.3
GEMT	**Gemlik**	**0.08**	**119**	*e*Pg	Pg	23 53 30.1	+0.5
GEMT				*e*Sg	Sg	23 53 31.1	+0.3
MDNY	**Mudanya-Bursa**	**0.20**	**238**	*e*PG	Pg	23 53 32.8	+1.0
MDNY				*e*SG	Sg	23 53 36.3	+2.0
MDNY	**Mudanya-Bursa**	**0.20**	**238**	*e*Pg	Pg	23 53 32.8	+1.0
MDNY				*e*Sg	Sg	23 53 36.3	+2.0
ARMT	**Armutlu**	**0.21**	**297**	*e*PG	Pg	23 53 32.7	+0.7
ARMT				*e*SG	Sg	23 53 36.5	+1.8
ARMT	**Armutlu**	**0.21**	**297**	*e*Pg	Pg	23 53 32.7	+0.7
ARMT				*e*Sg	Sg	23 53 36.6	+1.8
IZI	**Iznik**	**0.31**	**115**	*e*PG	Pg	23 53 34.5	+0.4
IZI	**Iznik**	**0.31**	**115**	*e*Pg	Pg	23 53 34.5	+0.4
ULDT	**Uludag**	**0.33**	**175**	*i* P	Pg	23 53 35.1	+0.5
ULDT	**Uludag**	**0.33**	**175**	*i* P	Pg	23 53 35.1	+0.5
ORLT	**Orhaneli**	**0.45**	**200**	*e*PG	Pg	23 53 37.4	+0.7
ORLT	**Orhaneli**	**0.45**	**200**	*e*Pg	Pg	23 53 37.4	+0.7
ADVT	**Abdulvahap**	**0.49**	**94**	*e*PG	Pb	23 53 38.2	-0.8
ADVT	**Abdulvahap**	**0.49**	**94**	*e*Pg	Pb	23 53 38.2	-0.8
BGKT	**Bogazkoy**	**0.75**	**341**	*e*PG	Pb	23 53 43.8	+0.3
BGKT	**Bogazkoy**	**0.75**	**341**	*e*Pg	Pb	23 53 43.8	+0.3
KLYT	**Kilyos**	**0.78**	**357**	*e*PG	Pb	23 53 44.7	+0.7
KLYT	**Kilyos**	**0.78**	**357**	*e*Pg	Pb	23 53 44.7	+0.7
CTKS	**Kestanelik-??a**	**0.89**	**330**	*e*PG	Pb	23 53 45.8	0.0
CTKS	**Kestanelik-??a**	**0.89**	**330**	*e*Pg	Pb	23 53 45.8	0.0
EDC	**Edincik**	**0.95**	**263**	*e*PG	Pb	23 53 47.1	+0.2
EDC	**Edincik**	**0.95**	**263**	*e*Pg	Pb	23 53 47.1	+0.2
SLVT	**Silivri**	**1.02**	**319**	*e*PG	Pn	23 53 48.7	-0.1
SLVT	**Silivri**	**1.02**	**319**	*e*Pg	Pn	23 53 48.7	-0.1
TVSB	**Tavsanli**	**1.06**	**165**	*e*PG	Pn	23 53 50.0	+0.5
TVSB	**Tavsanli**	**1.06**	**165**	*e*Pg	Pn	23 53 50.0	+0.5
GULT	**Gulveren**	**1.08**	**92**	*e*PG	Pn	23 53 49.6	-0.2
GULT	**Gulveren**	**1.08**	**92**	*e*Pg	Pn	23 53 49.6	-0.2
MRMT	**Marmara Adasi**	**1.16**	**277**	*e*PN	Pn	23 53 52.1	+1.2
MRMT	**Marmara Adasi**	**1.16**	**277**	*e*Pn	Pn	23 53 52.1	+1.3
CTYL	**Yal??k??y-??at**	**1.18**	**329**	*e*PN	Pn	23 53 51.2	+0.2
CTYL	**Yal??k??y-??at**	**1.18**	**329**	*e*Pn	Pn	23 53 51.2	+0.2
BORA	**Eskisehir**	**1.19**	**119**	*i* P	Pn	23 53 52.5	+1.1
BORA				*i* S	Sb	23 54 06.8	-0.1
BORA	**Eskisehir**	**1.19**	**119**	*i* P	Pn	23 53 52.5	+1.1
BORA				*i* S	Sb	23 54 06.8	-0.1
BALY	**Balya**	**1.35**	**238**	*i* P	Pg	23 53 55.0	+1.1
BALY				*i* S	Sn	23 54 13.4	+1.5
BALY	**Balya**	**1.35**	**238**	*i* P	Pg	23 53 55.0	+1.1
BALY				*i* S	Sn	23 54 13.4	+1.5
GDZ	**Gediz**	**1.41**	**168**	*i* P	Pg	23 53 56.3	+1.1
GDZ				*i* S	Sn	23 54 13.5	-0.1
GDZ	**Gediz**	**1.41**	**168**	*i* P	Pg	23 53 56.3	+1.1
GDZ				*i* S	Sn	23 54 13.5	0.0
DEMI	**Demirci**	**1.46**	**192**	*i* P	Pg	23 53 57.0	+1.0
DEMI				*i* S	Sg	23 54 16.3	+1.3
DEMI	**Demirci**	**1.46**	**192**	*i* P	Pg	23 53 57.0	+1.0
DEMI				*i* S	Sg	23 54 16.3	+1.3

*STR **04** 23:59:22.3±0.1, 42°.98N×0°.03W, h5km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **04** 23:59:22.1±0.1, 42°.99N×0°.03W, h10km, Md1.9/2, Ml2.0/5, Error ellipse: s-maj=1.3km s-min=1.0km az=177.0*
*MDD **04** 23:59:23.0±0.3, 43°.02N×0°.05W, h0km, mbLg1.7/13, Error ellipse: s-maj=3.5km s-min=1.8km az=7.0, PRXIMO*

CSEM 04 23:59:21.9±0.1, 43°.04N×0°.02W, h10km, ML1.9/8, Error ellipse: s-maj=2.5km s-min=1.7km az=4.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**81**	Pg	Pg	23 59 25.0	+0.8
LABF				Sg	Sg	23 59 26.9	+1.0
LABF	**Labassere**	**0.07**	**81**	Pg	Pg	23 59 25.0	+0.8
LABF				Lg	Lg	23 59 26.8	
LABF	**Labassere**	**0.07**	**81**	Pg	Pg	23 59 25.0	+0.8
LABF				Lg	Lg	23 59 26.8	
VIEF	**Viey**	**0.16**	**168**	Pg	Pg	23 59 24.8	-0.7
VIEF				Sg	Sg	23 59 26.9	-1.1
VIEF	**Viey**	**0.16**	**168**	Pg	Pg	23 59 25.8	+0.3
VIEF				Lg	Lg	23 59 28.2	
VIEF	**Viey**	**0.16**	**168**	Pg	Pg	23 59 25.8	+0.3
VIEF				Sg	Sg	23 59 26.9	-1.1
VIEF				Lg	Lg	23 59 28.2	
EPF	**Esparros**	**0.26**	**91**	*e*Pg	Pg	23 59 27.9	+0.5
EPF				*e*Sg	Sb	23 59 32.4	-1.1
	18nm,0.2s						
EPF	**Esparros**	**0.26**	**91**	Pg	Pg	23 59 27.9	+0.5
EPF				Lg	Lg	23 59 32.4	
	8.9nm,0.2s						
EPF	**Esparros**	**0.26**	**91**	Pg	Pg	23 59 27.9	+0.5
EPF				*e*Sg	Sb	23 59 32.4	-1.1
	8.9nm,0.2s						
REYF	**Montagne du Re**	**0.28**	**277**	Pg	Pg	23 59 27.5	-0.1
REYF				Sg	Sg	23 59 31.4	0.0
REYF	**Montagne du Re**	**0.28**	**277**	Pg	Pg	23 59 27.4	-0.2
REYF				Lg	Lg	23 59 31.4	
REYF	**Montagne du Re**	**0.28**	**277**	Pg	Pg	23 59 27.5	-0.1
REYF				Lg	Lg	23 59 31.4	
ETSF	**Etsaut**	**0.42**	**251**	*e*Pg	Pg	23 59 30.1	-0.2
ETSF				*e*Sg	Sg	23 59 35.5	-0.4
	46nm,0.2s						
ETSF	**Etsaut**	**0.42**	**251**	Pg	Pg	23 59 30.1	-0.2
ETSF				Lg	Lg	23 59 35.5	
	23nm,0.2s						
ETSF	**Etsaut**	**0.42**	**251**	Pg	Pg	23 59 30.1	-0.2
ETSF				*e*Sg	Sg	23 59 35.5	-0.4
	23nm,0.2s						
ATE	**Arette**	**0.50**	**276**	Pg	Pb	23 59 32.5	-0.4
ATE				Sg	Sb	23 59 39.4	-0.9
ATE	**Arette**	**0.50**	**276**	Pg	Pg	23 59 31.9	+0.2
	0.5nm,0.2s,SNR=7.9						
ATE				Lg	Lg	23 59 38.7	
	16nm,0.1s,SNR=7.9						
ATE	**Arette**	**0.50**	**276**	Pg	Pg	23 59 31.9	+0.2
	0.5nm,0.2s,SNR=7.9						
ATE				Lg	Lg	23 59 38.7	
	16nm,0.1s,SNR=7.9						
ATE				Sg	Sb	23 59 39.4	-0.9
MELF	**Melles**	**0.59**	**106**	Pg	Pg	23 59 33.3	-0.3
MELF				Sg	Sg	23 59 42.0	+0.5
MELF	**Melles**	**0.59**	**106**	Pg	Pg	23 59 33.6	0.0
MELF				Lg	Lg	23 59 41.7	
MELF	**Melles**	**0.59**	**106**	Pg	Pg	23 59 33.6	0.0
MELF				Lg	Lg	23 59 41.7	
MELF				Sg	Sg	23 59 42.0	+0.5
SJPF	**Ste Jean**	**0.89**	**275**	*e*Pg	Pg	23 59 39.0	0.0
SJPF				*e*Sg	Sg	23 59 50.7	+0.1
	6.4nm,0.4s						
SJPF	**Ste Jean**	**0.89**	**275**	Pg	Pg	23 59 39.0	0.0
SJPF				Lg	Lg	23 59 50.7	
	3.2nm,0.4s						
SJPF	**Ste Jean**	**0.89**	**275**	Pg	Pg	23 59 39.0	0.0
SJPF				*e*Sg	Sg	23 59 50.7	+0.1
	3.2nm,0.4s						
CTRE	**Tremp**	**0.92**	**140**	Pg	Pg	23 59 39.9	0.0
CTRE				Lg	Lg	23 59 52.7	
	5.8nm,0.2s						
CTRE	**Tremp**	**0.92**	**140**	Pg	Pg	23 59 39.9	0.0
CTRE				Lg	Lg	23 59 52.7	
	5.8nm,0.2s						
SALF	**Salau**	**0.93**	**107**	Lg	Lg	23 59 52.1	
SALF	**Salau**	**0.93**	**107**	Lg	Lg	23 59 52.2	
CEST	**Esterri de Car**	**1.03**	**115**	Pg	Pb	23 59 42.1	0.0
CEST				Lg	Lg	23 59 56.2	
	4.8nm,0.1s						
CEST	**Esterri de Car**	**1.03**	**115**	Pg	Pb	23 59 42.1	0.0
CEST				Lg	Lg	23 59 56.2	
	4.8nm,0.1s						
CSOR	**Sort**	**1.08**	**127**	Pg	Pg	23 59 42.6	-0.2
	7.0nm,0.9s,SNR=11						
CSOR				Lg	Lg	23 59 56.8	
	4.1nm,0.2s,SNR=5.6						
CSOR	**Sort**	**1.08**	**127**	Pg	Pg	23 59 42.6	-0.2
	7.0nm,0.9s,SNR=11						
CSOR				Lg	Lg	23 59 56.8	
	4.1nm,0.2s,SNR=5.6						
EALK	**Alkurruntz**	**1.10**	**280**	Lg	Lg	23 59 57.6	
	4.0nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**1.10**	**280**	Lg	Lg	23 59 57.6	
	4.0nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**1.12**	**266**	Pg	Pb	23 59 43.4	-0.2
	0.4nm,0.1s,SNR=7.9						
IUSE				Lg	Lg	23 59 58.4	
	0.5nm,0.2s,SNR=7.9						
IUSE	**Utxeti**	**1.12**	**266**	Pg	Pb	23 59 43.4	-0.2
	0.4nm,0.1s,SNR=7.9						
IUSE				Lg	Lg	23 59 58.4	
	0.5nm,0.2s,SNR=7.9						
CORG	**Organya**	**1.27**	**129**	Pg	Pg	23 59 46.5	0.0
CORG	**Organya**	**1.27**	**129**	Pg	Pg	23 59 46.5	0.0
CAVN	**Les Avellanes**	**1.29**	**153**	Pg	Pg	23 59 46.6	-0.1
CAVN	**Les Avellanes**	**1.29**	**153**	Pg	Pg	23 59 46.6	-0.1
ESAC	**San Caprasio**	**1.36**	**194**	Pg	Pg	23 59 48.4	+0.4
	4.4nm,0.1s,SNR=6.3						
ESAC				Lg	Lg	00 00 06.2	
	7.4nm,0.1s						
ESAC	**San Caprasio**	**1.36**	**194**	Pg	Pg	23 59 48.4	+0.3
	4.4nm,0.1s,SNR=6.3						
ESAC				Lg	Lg	00 00 06.2	
	7.4nm,0.1s						
CLLI	**Llivia**	**1.57**	**110**	Pg	Pb	23 59 51.3	0.0
	8.2nm,0.9s,SNR=6.5						
CLLI				Lg	Lg	00 00 13.0	
	2.0nm,0.4s,SNR=6.5						
CLLI	**Llivia**	**1.57**	**110**	Pg	Pb	23 59 51.3	+0.1
	8.2nm,0.9s,SNR=6.5						
CLLI				Lg	Lg	00 00 13.0	
	2.0nm,0.4s,SNR=6.5						
EMIR	**Miracle**	**1.60**	**134**	Pg	Pb	23 59 51.9	+0.2
	0.7nm,0.1s,SNR=7.9						
EMIR				Lg	Lg	00 00 13.9	
	12nm,0.9s,SNR=7.9						
EMIR	**Miracle**	**1.60**	**134**	Pg	Pb	23 59 51.9	+0.2
	0.7nm,0.1s,SNR=7.9						
EMIR				Lg	Lg	00 00 13.9	
	12nm,0.9s,SNR=7.9						
MTLF	**Montolieu**	**1.66**	**79**	*e*Pg	Pb	23 59 53.2	+0.5
MTLF				*e*Sg	Sg	00 00 14.9	-0.6
	2.2nm,0.2s						
MTLF	**Montolieu**	**1.66**	**79**	Pg	Pb	23 59 53.2	+0.5
MTLF	**Montolieu**	**1.66**	**79**	Pg	Pb	23 59 53.2	+0.5
MTLF				*e*Sg	Sg	00 00 14.9	-0.6
	1.1nm,0.2s						
EPOB	**Poblet**	**1.87**	**154**	Pg	Pb	23 59 56.6	+0.3
	0.1nm,0.2s,SNR=7.9						
EPOB				Lg	Lg	00 00 21.1	
	1.7nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**1.87**	**154**	Pg	Pb	23 59 56.6	+0.3
	0.1nm,0.2s,SNR=7.9						
EPOB				Lg	Lg	00 00 21.1	
	1.7nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**1.98**	**16**	*e*Pg	Pg	23 59 59.7	-0.2
LFF	**La Frestale**	**1.98**	**16**	*e*Pg	Pg	23 59 59.7	-0.2
LFF				*e*Sg	Sg	00 00 26.1	+0.5
	0.8nm,0.2s						
SJAF	**Saint Jean de**	**2.21**	**104**	Pn	Pn	23 59 59.5	+0.9
	0.1nm,0.1s,SNR=7.9						
SJAF				Lg	Lg	00 00 33.1	
	0.5nm,0.2s,SNR=7.9						
SJAF	**Saint Jean de**	**2.21**	**104**	Pn	Pn	23 59 59.5	+0.9
	0.1nm,0.1s,SNR=7.9						
SJAF				Lg	Lg	00 00 33.1	
	0.5nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**2.22**	**124**	Pn	Pn	23 59 59.8	+0.9
	0.3nm,0.1s,SNR=4.0						
CFON				Lg	Lg	00 00 32.5	
	5.2nm,0.2s,SNR=7.8						
CFON	**Fontmartina**	**2.22**	**124**	Pn	Pn	23 59 59.8	+0.9
	0.3nm,0.1s,SNR=4.0						
CFON				Lg	Lg	00 00 32.5	
	5.2nm,0.2s,SNR=7.8						
EJON	**La Jonquera**	**2.22**	**104**	Pn	Pn	00 00 00.0	+1.2
	0.2nm,0.1s,SNR=7.9						
EJON				Sn	Sb	00 00 28.2	-1.6
	1.0nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**2.22**	**104**	Pn	Pn	00 00 00.0	+1.2
	0.2nm,0.1s,SNR=7.9						
EJON				Sn	Sb	00 00 28.2	-1.6
	1.0nm,0.2s,SNR=7.9						
CAF	**Calviac**	**2.41**	**38**	*e*Pg	Pg	00 00 07.6	-0.7
CAF				*e*Sn	Sn	00 00 29.1	-2.1
CAF				*e*Sg	Sg	00 00 39.6	0.0
	1.4nm,0.2s						
CAF	**Calviac**	**2.41**	**38**	*e*Pg	Pg	00 00 07.6	-0.7
CAF				*e*Sn	Sn	00 00 29.1	-2.1
CAF				*e*Sg	Sg	00 00 39.6	0.0
	0.7nm,0.2s						
LASF	**Ste Croix**	**3.00**	**68**	*e*Sg	Sg	00 00 57.2	-1.3
	0.5nm,0.2s						
LASF	**Ste Croix**	**3.00**	**68**	*e*Sg	Sg	00 00 57.2	-1.3
	0.2nm,0.2s						

*BJI **05** 00:03:10.8, 4°.93S×35°.15E, h11km, mb4.9/9, mB4.9/5, Ms4.6/2, Ms7 4.3/2*
*ISCJB **05** 00:03:12.2±0.3, 5°.32S±0°.04×35°.94E±0°.07, h9km, mb4.3/28, MS3.6/12, Error ellipse: s-maj=10.4km s-min=4.5km az=16.9*
*IDC **05** 00:03:12.9±0.7, 5°.32S×35°.95E, h0km, mb4.0/14, mb1 4.2/16, mb1mx4.1/31, mbtmp4.1/16, ML4.9/2, MS3.7/12

comp=Z,1.4nm,0.9s,baz=181,slow=11,SNR=11
BRTR Keskin Array B 44.88 358 *ce* P **P** **00 11 30.3 +1.4**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BR231 Keskin MP Arra 45.04 357 *e* P **P** **00 11 29.8 -0.3**
GEYT Alibeck 47.76 24 LR LR 00 33 36.4
comp=Z,172nm,20.6s,baz=195,slow=38
KEST Kesra 47.84 331 LR LR 00 31 24.0
comp=Z,60nm,18.1s,baz=304,slow=35
ZEI Tsey 48.44 8 *e* P **P** **00 11 56.7 -0.1**
ZEI pmax pmax
comp=Z,9.0nm,1.5s
KBZ Khabaz 49.24 7 P **P** **00 12 04.4 +1.7**
comp=Z,2.2nm,0.9s,baz=215,slow=7.9,SNR=7.0
KIV Kislovodsk 49.44 6 *e* P **P** **00 12 02.6 -1.7**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,52nm,16.0s
KIV Kislovodsk 49.44 6 *e* P **P** **00 12 02.5 -1.9**
comp=Z,8.3nm,1.1s
GOF Gofitskoye 50.57 7 *e* P **P** **00 12 13.8 +1.0**
KIEV Kiev 56.10 355 *i* P **P** **00 12 54.1 +0.8**
AKASG Malin Array Be 56.10 355 P **P** **00 12 52.1 -1.2**
AKASG LR LR 00 39 39.4
comp=Z,3.5nm,1.0s,baz=180,slow=6.5,SNR=14
comp=Z,21nm,18.3s,baz=170,slow=39
AKASG Malin Array Be 56.10 355 *ce* P 00 12 58.0 +4.7
VORD Divnogorie 56.15 3 *e* P **P** **00 12 54.3 +0.6**
VORD pmax pmax
comp=N,10.0nm,1.0s
VORD pmax pmax
comp=E,10.0nm,1.0s
VORD pmax pmax
comp=Z,5.0nm,1.0s
VSR Storozhevoye 56.39 2 *e* P **P** **00 12 55.6 +0.2**
VSR pmax pmax
comp=N,8.0nm,1.0s
VSR pmax pmax
comp=Z,8.0nm,1.0s
VSR pmax pmax
comp=E,4.0nm,0.8s
GERES GERESS Array B 57.33 343 P **P** **00 13 02.2 0.0**
comp=E,0.5nm,0.6s,baz=201,slow=7.0,SNR=4.1
GERES LR LR 00 41 50.8
comp=E,46nm,18.5s,baz=10,slow=40
KKAR Karatay Array 57.51 30 *e* P **P** **00 13 01.1 -2.5**
KKAR Karatay Array 57.51 30 *e* P **P** **00 13 01.1 -2.5**
ESDC Sonseca Array 57.90 324 P **P** **00 13 07.3 +0.9**
comp=E,1.1nm,0.8s,baz=138,slow=7.9,SNR=5.5
KSH Kashi 57.95 36 *e* P **P** **00 13 04.8 -2.1**
KSH pP **pP** **00 13 09.5 -0.2**
KSH PP **PP** **00 15 14.1 -1.3**
KSH PcS **PcS** 00 17 58.5 -2.0
KSH S S 00 20 59.6 -7.8
KSH ScS **ScS** **00 22 50.4 -6.7**
KSH PMZ
comp=E,49nm,4.1s
KSH LN
comp=E,60nm,5.9s
KSH LE
comp=E,60nm,5.2s
KSH LZ
comp=E,140nm,5.4s
AAK Ala-Archa 59.21 32 P P 00 13 19.5 +3.9
comp=E,0.5nm,0.4s,baz=224,slow=3.7,SNR=3.8
AAK Ala-Archa 59.21 32 ⇑ *i* P **P** **00 13 16.1 +0.4**
AAK pmax pmax
comp=Z,3.0nm,1.7s
OBN Obninsk 60.23 0 *e* P **P** **00 13 23.1 +1.0**
OBN pmax pmax
comp=Z,10.0nm,1.1s
ARU Arti 64.30 14 *e* P **P** **00 13 50.1 +0.6**
ARU pmax pmax
comp=Z,5.0nm,0.8s
ARU Arti 64.30 14 *e* P **P** **00 13 50.1 +0.6**
comp=Z,4.7nm,0.8s
MAW Mawson 64.83 169 P **P** **00 13 52.4 -0.4**
comp=Z,2.3nm,0.9s,baz=342,slow=9.6,SNR=3.3
MAW LR LR 00 39 05.6
comp=Z,59nm,18.1s,baz=87,slow=33
KLMR Klimovskoe 66.05 2 *e* P **P** **00 14 00.4 -0.3**
KLMR pmax pmax
comp=Z,16nm,1.9s
MK01 Makanchi Array 66.12 33 *e* P **P** **00 14 01.1 -0.4**
MK31 Makanchi Array 66.13 33 *e* P **P** **00 14 01.6 0.0**
MK31 Makanchi Array 66.13 33 *e* P **P** **00 14 01.6 0.0**
MKAR Makanchi Array 66.13 33 P **P** **00 14 01.8 +0.2**
comp=Z,2.8nm,0.8s,baz=249,slow=11,SNR=30
CMAR Chiang Mai Arr 66.48 67 P **P** **00 14 04.3 0.0**
comp=Z,1.2nm,0.8s,baz=257,slow=7.7,SNR=5.2
CMAR Chiang Mai Arr 66.48 67 *ce* P **P** **00 14 03.5 -0.9**
CMAR pmax pmax
comp=Z,1.0nm,0.8s
KURK Kurchatov 66.82 28 *e* P **P** **00 14 05.8 -0.1**
KURK pmax pmax
comp=Z,5.0nm,1.2s
KURK Kurchatov 66.82 28 *e* P **P** **00 14 05.8 -0.1**
comp=Z,5.3nm,1.2s
PRGR Permogore 67.20 5 *e* P **P** **00 14 08.2 +0.2**
PRGR pmax pmax
comp=Z,8.0nm,0.7s
WMQ Urumqi 67.55 38 *e* P **P** **00 14 09.8 -1.0**
WMQ pP **pP** **00 14 16.7 +3.0**
WMQ PMZ
comp=Z,9.0nm,0.6s
WMQ PMZ
comp=Z,79nm,4.0s
NOA NORSAR Array B 68.91 347 LR LR 00 46 16.6
comp=Z,10.0nm,18.7s,baz=165,slow=38
NVS Novosibirsk 71.65 27 *e* P **P** **00 14 35.8 +0.1**
ZALV Zalesovo Beam 71.81 28 P **P** **00 14 36.0 -0.7**
comp=Z,0.2nm,0.3s,baz=299,slow=1.5,SNR=3.5
ZALV LR LR 00 49 23.6
comp=Z,71nm,18.6s,baz=250,slow=39
GTA Gaotai 73.71 46 *e* P P 00 14 39.3 -9.2
GTA pP pP 00 14 42.6 -8.9
GTA sP sP 00 14 45.4 -7.2
GTA pmax pmax
comp=Z,4.0nm,0.5s
SONM Songino Array 81.05 40 P **P** **00 15 31.2 +1.7**
comp=Z,1.7nm,0.8s,baz=242,slow=4.7,SNR=12
SONA1 Songino Array 81.06 40 *e* P **P** **00 15 30.8 +1.2**
ULN Ulaanbaatar 81.48 40 ⇓ *i* P **P** **00 15 33.1 +1.3**
ULN pmax pmax
comp=Z,3.0nm,1.4s
HHC Hu-ho-hao-te 82.73 48 *e* P **P** **00 15 37.5 -1.0**
HHC PP **PP** **00 18 49.3 +0.8**
HHC S **S** **00 25 53.4 -3.4**
HHC SS **SS** **00 31 18.9 -0.3**
HHC PMZ
comp=Z,15nm,0.7s
HHC PMZ
comp=Z,69nm,6.2s
HHC LN
comp=Z,87nm,17.3s
HHC LE
comp=Z,130nm,14.8s
HHC LZ
comp=Z,59nm,15.6s
NJ2 Nanjing 86.87 58 *e* P **P** **00 16 00.8 +1.4**
NJ2 PMZ
comp=Z,40nm,0.7s
TIXI Tiksi 95.97 19 *ce* P **P** **00 16 41.9 +1.0**
TIXI pmax pmax
comp=Z,6.0nm,2.5s
NVAR Mina Array Bea 139.56 328 PKP **PKPdf** **00 22 44.8 +2.1**
comp=Z,0.2nm,0.4s,baz=356,slow=1.5,SNR=4.9

*ISCJB **05** 00:46:56.5±0.2,39.17S±0.02×176.24E±0.03,h71km±2km, mb4.3/12, Error ellipse: s-maj=3.7km s-min=2.7km az=22.5*
*WEL **05** 00:46:57.6±0.1,39.10S×176.24E,h66km±1km, ML5.1/22, Error ellipse: s-maj=0.7km s-min=0.5km az=90.0*
WEL Felt from Bay of Plenty to Wellington, maximum reported intensity MM 5.
*NEIC **05** 00:46:57.7,39.09S×176.24E,h65km, mb4.5/2, ML5.1(WEL), After WEL.*
NEIC Felt [IV] at Greenmeadows, Hastings, Havelock North, Hospital Hill, Napier, Onekawa and Taradale. Felt as far as Palmerston North and Opotiki.
*IDC **05** 00:46:59.0±1.1,38.89S×176.30E,h78km±12km, mb3.9/9, mb1 4.0/9, mb1mx3.9/21, mbtmp4.2/9, MS3.5/7, Ms1 3.5/7, ms1mx3.3/14, Error ellipse: s-maj=20.8km s-min=15.8km az=68.0*

ISC 05 00:46:57.1±0.6, 39°17S±0°03×176°23E±0°03, h65km±4km, n243,σ1°09/256, mb4.3/12, 19C-36D, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKZ	**Black Stump Fm**	**0.20**	**90**	P*	**Pn**	**00 47 06.9**	**-0.3**
BKZ				S*	**Sn**	**00 47 14.1**	**-0.5**
BKZ				AML	AML	00 47 14.1	
BKZ				AML	AML	00 47 14.2	
BKZ				S*		00 47 14.3	
BKZ	**Black Stump Fm**	**0.20**	**90**	*e*Pn	**Pn**	**00 47 07.0**	**-0.3**
BKZ				*e*Sn	**Sn**	**00 47 13.6**	**-1.0**
BKZ				S*		00 47 13.9	
HATZ	**Hinemaiaia**	**0.29**	**339**	P*	**Pn**	**00 47 07.3**	**-0.4**
HATZ				S*	**Sn**	**00 47 14.2**	**-1.2**
HATZ	**Hinemaiaia**	**0.29**	**339**	P*	**Pn**	**00 47 07.3**	**-0.4**
HATZ				S*	**Sn**	**00 47 14.1**	**-1.3**
RITZ	**Rihia Road**	**0.34**	**303**	P*	**Pn**	**00 47 08.4**	**+0.3**
RITZ	**Rihia Road**	**0.34**	**303**	P*	**Pn**	**00 47 08.4**	**+0.3**
BHHZ	**Black Hill Sta**	**0.35**	**202**	⇑P*	**Pn**	**00 47 08.9**	**+0.7**
BHHZ				S*	**Sn**	**00 47 17.2**	**+0.9**
BHHZ	**Black Hill Sta**	**0.35**	**202**	P*	**Pn**	**00 47 08.9**	**+0.7**
BHHZ				S*	**Sn**	**00 47 17.2**	**+0.9**
OTVZ	**Oturere**	**0.44**	**270**	⇓P*	**Pn**	**00 47 09.7**	**+0.6**
OTVZ				S*	**Sn**	**00 47 18.2**	**+0.5**
OTVZ	**Oturere**	**0.44**	**270**	P*	**Pn**	**00 47 09.7**	**+0.6**
MOVZ	**Moawhango**	**0.44**	**237**	⇑P*	**Pn**	**00 47 09.6**	**+0.6**
MOVZ	**Moawhango**	**0.44**	**237**	P*	**Pn**	**00 47 09.6**	**+0.6**
NMHZ	**Naumai**	**0.45**	**82**	⇓PN	**Pn**	**00 47 09.7**	**+0.5**
NMHZ				SN	**Sn**	**00 47 17.9**	**0.0**
NMHZ	**Naumai**	**0.45**	**82**	Pn	**Pn**	**00 47 09.7**	**+0.5**
MCHZ	**McNeill Hill**	**0.46**	**128**	⇑PN	**Pn**	**00 47 10.6**	**+1.5**
MCHZ	**McNeill Hill**	**0.46**	**128**	Pn	**Pn**	**00 47 10.6**	**+1.5**
KATZ	**Kakaramea**	**0.46**	**294**	⇓P*	**Pn**	**00 47 09.7**	**+0.5**
KATZ				S*	**Sn**	**00 47 18.2**	**+0.2**
KATZ	**Kakaramea**	**0.46**	**294**	P*	**Pn**	**00 47 09.7**	**+0.5**
KATZ				S*	**Sn**	**00 47 18.2**	**+0.2**
TUVZ	**Tukino**	**0.46**	**257**	⇓P*	**Pn**	**00 47 10.0**	**+0.8**
TUVZ	**Tukino**	**0.46**	**257**	P*	**Pn**	**00 47 10.0**	**+0.8**
KRVZ	**Karewarewa**	**0.46**	**278**	⇓P*	**Pn**	**00 47 09.8**	**+0.5**
KRVZ	**Karewarewa**	**0.46**	**278**	P*	**Pn**	**00 47 09.8**	**+0.5**
RATZ	**Rangitukua**	**0.47**	**310**	P*	**Pn**	**00 47 09.3**	**+0.1**
RATZ	**Rangitukua**	**0.47**	**310**	P*	**Pn**	**00 47 09.3**	**+0.1**
NGZ	**Ngauruhoe**	**0.49**	**269**	⇓P*	**Pn**	**00 47 10.3**	**+0.7**
NGZ	**Ngauruhoe**	**0.49**	**269**	P*	**Pn**	**00 47 10.3**	**+0.7**
KRHZ	**Kereru**	**0.49**	**167**	PN	**Pn**	**00 47 10.6**	**+1.1**
WTVZ	**West Tongariro**	**0.50**	**275**	⇓P*	**Pn**	**00 47 10.2**	**+0.6**
WTVZ	**West Tongariro**	**0.50**	**275**	P*	**Pn**	**00 47 10.2**	**+0.6**
WHVZ	**Whangaehu Hut**	**0.51**	**257**	P*	**Pn**	**00 47 10.3**	**+0.4**
WNVZ	**Wahianoa**	**0.52**	**251**	⇓P*	**Pn**	**00 47 10.6**	**+0.8**
WNVZ	**Wahianoa**	**0.52**	**251**	P*	**Pn**	**00 47 10.6**	**+0.8**
DRZ	**Dome Shelter**	**0.53**	**258**	⇑P*	**Pn**	**00 47 10.9**	**+0.8**
DRZ	**Dome Shelter**	**0.53**	**258**	P*	**Pn**	**00 47 10.9**	**+0.8**
WPVZ	**Whakapapa**	**0.53**	**266**	P*	**Pn**	**00 47 10.4**	**+0.5**
WPVZ	**Whakapapa**	**0.53**	**266**	P*	**Pn**	**00 47 10.4**	**+0.5**
FWVZ	**Far West T-bar**	**0.53**	**260**	⇓P*	**Pn**	**00 47 10.5**	**+0.4**
FWVZ	**Far West T-bar**	**0.53**	**260**	P*	**Pn**	**00 47 10.5**	**+0.4**
COVZ	**Chateau Observ**	**0.54**	**266**	P*	**Pn**	**00 47 10.1**	**+0.1**
WHTZ	**Whakaora**	**0.54**	**337**	⇓P*	**Pn**	**00 47 10.0**	**0.0**
WHTZ	**Whakaora**	**0.54**	**337**	P*	**Pn**	**00 47 10.0**	**0.0**
TRVZ	**Turoa**	**0.55**	**256**	⇓P*	**Pn**	**00 47 10.6**	**+0.4**
TRVZ	**Turoa**	**0.55**	**256**	P*	**Pn**	**00 47 10.6**	**+0.4**
WATZ	**Wairara**	**0.60**	**319**	⇓P*	**Pn**	**00 47 10.3**	**-0.3**
WATZ	**Wairara**	**0.60**	**319**	P*	**Pn**	**00 47 10.3**	**-0.3**
ARHZ	**Aropaoanui**	**0.60**	**99**	⇑PN	**Pn**	**00 47 11.5**	**+1.0**
ALRZ	**Allen Road**	**0.61**	**8**	⇓P*	**Pn**	**00 47 10.0**	**-0.7**
ALRZ	**Allen Road**	**0.61**	**8**	P*	**Pn**	**00 47 10.0**	**-0.7**
TWVZ	**Taurewa**	**0.62**	**278**	P*	**Pn**	**00 47 11.3**	**+0.4**
TWVZ	**Taurewa**	**0.62**	**278**	P*	**Pn**	**00 47 11.3**	**+0.4**
MTVZ	**Mangateitei**	**0.63**	**249**	P*	**Pn**	**00 47 11.9**	**+0.9**
MTVZ	**Mangateitei**	**0.63**	**249**	P*	**Pn**	**00 47 11.9**	**+0.9**
WPRZ	**Whakapapatarin**	**0.65**	**355**	⇓P*	**Pn**	**00 47 10.5**	**-0.6**
PRRZ	**Plateau Road**	**0.68**	**11**	⇓P*	**Pn**	**00 47 10.8**	**-0.7**
PRRZ	**Plateau Road**	**0.68**	**11**	P*	**Pn**	**00 47 10.8**	**-0.7**
PKYZ	**Pokaka**	**0.70**	**259**	P*	**Pn**	**00 47 12.7**	**+1.0**
RAHZ	**Arahi**	**0.71**	**70**	PN	**Pn**	**00 47 12.1**	**+0.3**
RAHZ	**Arahi**	**0.71**	**70**	Pn	**Pn**	**00 47 12.1**	**+0.3**
KUTZ	**Kaahu Road**	**0.75**	**335**	⇓P*	**Pn**	**00 47 12.1**	**-0.2**
PNHZ	**Pukenui**	**0.75**	**182**	⇑PN	**Pn**	**00 47 13.6**	**+1.3**
PNHZ	**Pukenui**	**0.75**	**182**	Pn	**Pn**	**00 47 13.6**	**+1.3**
HRRZ	**Handcock Road**	**0.77**	**3**	⇓P*	**Pn**	**00 47 12.1**	**-0.5**
HRRZ	**Handcock Road**	**0.77**	**3**	P*	**Pn**	**00 47 12.1**	**-0.5**
WHHZ	**Waihua**	**0.79**	**84**	PN	**Pn**	**00 47 13.4**	**+0.7**
KAHZ	**Kahuranaki**	**0.80**	**142**	PN	**Pn**	**00 47 14.0**	**+1.0**
KAHZ	**Kahuranaki**	**0.80**	**142**	Pn	**Pn**	**00 47 14.0**	**+1.0**
CKHZ	**Cape Kidnapper**	**0.82**	**127**	⇑PN	**Pn**	**00 47 14.1**	**+1.0**
CKHZ	**Cape Kidnapper**	**0.82**	**127**	Pn	**Pn**	**00 47 14.1**	**+1.0**
GRRZ	**Galatos Road**	**0.82**	**353**	⇓P*	**Pn**	**00 47 12.9**	**-0.2**
HSRZ	**Hossack Road**	**0.85**	**1**	⇓P*	**Pn**	**00 47 13.2**	**-0.4**
RRRZ	**Republican Roa**	**0.85**	**15**	⇓P*	**Pn**	**00 47 12.9**	**-0.7**
RRRZ	**Republican Roa**	**0.85**	**15**	P*	**Pn**	**00 47 12.9**	**-0.7**
WPHZ	**Waipukurau**	**0.91**	**170**	⇑PN	**Pn**	**00 47 15.6**	**+1.3**
WPHZ	**Waipukurau**	**0.91**	**170**	Pn	**Pn**	**00 47 15.6**	**+1.3**
TSZ	**Takapari Road**	**0.92**	**193**	⇓PN	**Pn**	**00 47 15.8**	**+1.4**
TSZ				AML	AML	00 47 32.7	
TSZ				AML	AML	00 47 34.8	
TSZ	**Takapari Road**	**0.92**	**193**	Pn	**Pn**	**00 47 15.8**	**+1.4**
SNGZ	**Shannon Statio**	**0.95**	**66**	⇓PN	**Pn**	**00 47 15.2**	**+0.4**
TARZ	**Mount Tarawera**	**0.95**	**13**	⇓P*	**Pn**	**00 47 14.6**	**-0.3**
TARZ	**Mount Tarawera**	**0.95**	**13**	P*	**Pn**	**00 47 14.6**	**-0.3**
PXZ	**Pawanui**	**0.99**	**151**	PN	**Pn**	**00 47 15.8**	**+0.6**
PXZ				AML	AML	00 47 41.5	
PXZ				AML	AML	00 47 41.6	
PXZ				AML	AML	00 47 42.3	
PXZ				AML	AML	00 47 42.3	
PXZ	**Pawanui**	**0.99**	**151**	Pn	**Pn**	**00 47 15.8**	**+0.6**
TLZ	**Tolley Road**	**0.99**	**327**	⇑P*	**Pn**	**00 47 14.9**	**-0.5**
MKRZ	**Makatiti**	**1.04**	**10**	P*	**Pn**	**00 47 15.8**	**-0.1**
MKRZ	**Makatiti**	**1.04**	**10**	P*	**Pn**	**00 47 15.8**	**-0.1**
OMRZ	**Omania**	**1.06**	**6**	P*	**Pn**	**00 47 15.8**	**-0.5**
OMRZ	**Omania**	**1.06**	**6**	P*	**Pn**	**00 47 15.8**	**-0.5**
EDRZ	**Edgecumbe**	**1.13**	**21**	⇓P*	**Pn**	**00 47 16.5**	**-0.6**
EDRZ	**Edgecumbe**	**1.13**	**21**	P*	**Pn**	**00 47 16.5**	**-0.6**
WAZ	**Wanganui**	**1.13**	**238**	⇑PN	**Pn**	**00 47 19.2**	**+2.1**
WAZ	**Wanganui**	**1.13**	**238**	Pn	**Pn**	**00 47 19.2**	**+2.1**
KNZ	**Kokohu**	**1.13**	**83**	⇓PN	**Pn**	**00 47 16.8**	**-0.3**
KNZ	**Kokohu**	**1.13**	**83**	Pn	**Pn**	**00 47 16.8**	**-0.3**
DVHZ	**Dannevirke**	**1.13**	**182**	PN	**Pn**	**00 47 17.8**	**+0.7**
DVHZ	**Dannevirke**	**1.13**	**182**	Pn	**Pn**	**00 47 17.9**	**+0.7**
URZ	**Urewera**	**1.14**	**38**	P*	**Pn**	**00 47 15.8**	**-1.3**
URZ				AML	AML	00 47 30.9	
URZ				AML	AML	00 47 31.2	
URZ	**Urewera**	**1.14**	**38**	P	**Pn**	**00 47 16.4**	**-0.7**
	732nm,0.3s,baz=239,slow=8.0,SNR=3405						
URZ				S	**Sn**	**00 47 30.5**	**-1.5**
URZ				LR	LR	00 47 48.5	
	comp=Z,2μm,19.6s,baz=296,slow=56						
URZ	**Urewera**	**1.14**	**38**	*e*Pn	**Pn**	**00 47 16.5**	**-0.7**
URZ				*e*Sn	**Sn**	**00 47 28.9**	**-3.1**
KARZ	**Kaharoa**	**1.14**	**1**	⇓P*	**Pn**	**00 47 17.0**	**-0.3**
KARZ	**Kaharoa**	**1.14**	**1**	P*	**Pn**	**00 47 17.0**	**-0.3**
RAGZ	**Rawiri**	**1.14**	**55**	P*	**Pn**	**00 47 17.1**	**-0.2**
PRHZ	**Porangahau**	**1.14**	**164**	PN	**Pn**	**00 47 18.1**	**+0.9**
PRHZ	**Porangahau**	**1.14**	**164**	Pn	**Pn**	**00 47 18.1**	**+0.9**
MARZ	**Manawahe**	**1.23**	**17**	⇓P*	**Pn**	**00 47 17.7**	**-0.7**
MARZ	**Manawahe**	**1.23**	**17**	P*	**Pn**	**00 47 17.7**	**-0.7**
HIZ	**Hauiti**	**1.25**	**301**	PN	**Pn**	**00 47 19.0**	**+0.4**
HIZ	**Hauiti**	**1.25**	**301**	Pn	**Pn**	**00 47 19.1**	**+0.4**
POWZ	**Post Office Ro**	**1.28**	**196**	⇓PN	**Pn**	**00 47 20.0**	**+1.0**
POWZ	**Post Office Ro**	**1.28**	**196**	Pn	**Pn**	**00 47 20.0**	**+1.0**
RIGZ	**Rimuhau**	**1.28**	**69**	PN	**Pn**	**00 47 18.9**	**-0.2**
MHGZ	**Mahia Peninsul**	**1.30**	**90**	PN	**Pn**	**00 47 19.6**	**+0.3**
ANWZ	**Angora Road**	**1.31**	**172**	⇑PN	**Pn**	**00 47 20.3**	**+0.9**
PRGZ	**Paritu Road**	**1.31**	**80**	PN	**Pn**	**00 47 19.3**	**-0.2**
PRGZ	**Paritu Road**	**1.31**	**80**	Pn	**Pn**	**00 47 19.3**	**-0.2**
MWZ	**Matawai**	**1.31**	**51**	P*	**Pn**	**00 47 18.8**	**-0.6**
MWZ				AML	AML	00 47 41.7	
MWZ				AML	AML	00 47 41.8	
MWZ				AML	AML	00 47 43.4	
MWZ				AML	AML	00 47 43.4	
MWZ	**Matawai**	**1.31**	**51**	P*	**Pn**	**00 47 18.8**	**-0.6**
OPRZ	**Ohinepanea**	**1.34**	**11**	P*	**Pn**	**00 47 19.1**	**-0.7**
PRWZ	**Pori Road**	**1.40**	**188**	PN	**Pn**	**00 47 21.5**	**+0.9**
TGRZ	**Tauranga**	**1.43**	**1**	P*	**Pn**	**00 47 20.8**	**-0.2**
TKGZ	**Te Karaka**	**1.46**	**61**	PN	**Pn**	**00 47 21.8**	**+0.5**
MHEZ	**Mangahewa**	**1.49**	**273**	⇑PN	**Pn**	**00 47 24.0**	**+2.3**
MHEZ	**Mangahewa**	**1.49**	**273**	Pn	**Pn**	**00 47 24.0**	**+2.3**
BFZ	**Birch Farm**	**1.51**	**180**	⇑PN	**Pn**	**00 47 22.3**	**+0.2**
BFZ	**Birch Farm**	**1.51**	**180**	Pn	**Pn**	**00 47 22.3**	**+0.2**
BFZ				*e*Sn	**Sn**	**00 47 40.0**	**-1.0**
TOZ	**Tahuroa Road**	**1.54**	**338**	P*	**Pn**	**00 47 22.3**	**-0.2**
TOZ	**Tahuroa Road**	**1.54**	**338**	P*	**Pn**	**00 47 22.3**	**-0.2**
MRZ	**Mangatainoka R**	**1.58**	**198**	⇓PN	**Pn**	**00 47 23.4**	**+0.5**
MRZ				AML	AML	00 47 57.0	
MRZ				AML	AML	00 47 57.7	
MRZ	**Mangatainoka R**	**1.58**	**198**	Pn	**Pn**	**00 47 23.4**	**+0.5**
TIWZ	**Tintock**	**1.63**	**189**	⇓PN	**Pn**	**00 47 24.1**	**+0.4**
TIWZ				AML	AML	00 47 56.9	
TIWZ				AML	AML	00 47 57.9	
NEZ	**North Egmont**	**1.66**	**266**	PN	**Pn**	**00 47 26.8**	**+2.6**
CNGZ	**Carnagh Statio**	**1.69**	**67**	PN	**Pn**	**00 47 24.7**	**+0.3**
CNGZ	**Carnagh Statio**	**1.69**	**67**	Pn	**Pn**	**00 47 24.7**	**+0.3**
TWGZ	**Tauwhareparae**	**1.69**	**55**	PN	**Pn**	**00 47 24.9**	**+0.4**
CPWZ	**Castlepoint**	**1.74**	**181**	PN	**Pn**	**00 47 26.0**	**+0.8**
PKE	**Pukeiti**	**1.74**	**268**	PN	**Pn**	**00 47 27.4**	**+2.2**
WIZ	**White Island**	**1.80**	**25**	P*	**Pn**	**00 47 26.1**	**+0.1**
WIZ	**White Island**	**1.80**	**25**	P*	**Pn**	**00 47 26.1**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.82**	**197**	⇓PN	**Pn**	**00 47 26.1**	**-0.1**
NWEZ	**Newall Road**	**1.84**	**266**	PN	**Pn**	**00 47 28.7**	**+2.2**
OGWZ	**Otaki Gorge**	**1.84**	**206**	⇓PN	**Pn**	**00 47 26.9**	**+0.4**
HAZ	**Te Kaha**	**1.86**	**41**	PN	**Pn**	**00 47 25.7**	**-1.1**
MYRZ	**Mayor Island**	**1.88**	**0**	⇑PN	**Pn**	**00 47 27.3**	**+0.2**
PUZ	**Puketiti**	**1.93**	**56**	PN	**Pn**	**00 47 27.4**	**-0.3**
PUZ				AML	AML	00 48 05.6	
PUZ				AML	AML	00 48 07.8	
PUZ	**Puketiti**	**1.93**	**56**	Pn	**Pn**	**00 47 27.4**	**-0.3**
TMWZ	**Te Maipa**	**1.96**	**188**	PN	**Pn**	**00 47 27.8**	**-0.3**
KIW	**Kapiti Island**	**1.97**	**210**	⇓PN	**Pn**	**00 47 28.7**	**+0.3**
KIW				AML	AML	00 48 15.2	
KIW				AML	AML	00 48 16.6	
KIW	**Kapiti Island**	**1.97**	**210**	Pn	**Pn**	**00 47 28.7**	**+0.3**
MTW	**Mount Morrison**	**2.07**	**195**	⇓PN	**Pn**	**00 47 29.0**	**-0.6**
MTW				AML	AML	00 48 13.8	
MTW				AML	AML	00 48 16.2	
CAW	**Cannon Point**	**2.13**	**204**	⇓PN	**Pn**	**00 47 30.2**	**-0.3**
CAW				AML	AML	00 48 06.7	
CAW				AML	AML	00 48 19.0	
CAW	**Cannon Point**	**2.13**	**204**	Pn	**Pn**	**00 47 30.2**	**-0.3**
WMGZ	**Waiomatatini S**	**2.18**	**53**	PN	**Pn**	**00 47 30.8**	**-0.3**
MKAZ	**Moumakai**	**2.22**	**337**	PN	**Pn**	**00 47 31.9**	**+0.3**
MKAZ	**Moumakai**	**2.22**	**337**	Pn	**Pn**	**00 47 31.9**	**+0.3**
TRWZ	**Traveller**	**2.27**	**190**	PN	**Pn**	**00 47 31.7**	**-0.6**
TRWZ				AML	AML	00 48 00.0	
TRWZ				AML	AML	00 48 26.3	
TRWZ	**Traveller**	**2.27**	**190**	Pn	**Pn**	**00 47 31.7**	**-0.6**
MXZ	**Matakaoa Point**	**2.29**	**46**	⇑PN	**Pn**	**00 47 32.6**	**+0.1**
MXZ				AML	AML	00 48 10.0	
MXZ				AML	AML	00 48 10.0	
MXZ				AML	AML	00 48 10.3	
MXZ				AML	AML	00 48 10.3	
MXZ	**Matakaoa Point**	**2.29**	**46**	Pn	**Pn**	**00 47 32.6**	**+0.1**
PAWZ	**Paruwai Farm**	**2.30**	**195**	PN	**Pn**	**00 47 31.9**	**-0.8**
PAWZ				AML	AML	00 48 22.9	
PAWZ				AML	AML	00 48 25.7	
KBAZ	**Karaka Road Bo**	**2.32**	**332**	PN	**Pn**	**00 47 33.9**	**+0.9**
MSWZ	**Moikau Station**	**2.37**	**198**	PN	**Pn**	**00 47 32.9**	**-0.8**
MSWZ				AML	AML	00 48 16.8	
MSWZ				AML	AML	00 48 21.0	
WEL	**Wellington**	**2.40**	**207**	PN	**Pn**	**00 47 33.4**	**-0.6**
WEL				AML	AML	00 48 14.9	
WEL				AML	AML	00 48 31.9	
WEL	**Wellington**	**2.40**	**207**	Pn	**Pn**	**00 47 33.5**	**-0.6**
DUWZ	**D'Urville Isla**	**2.41**	**227**	PN	**Pn**	**00 47 34.5**	**+0.2**
DUWZ	**D'Urville Isla**	**2.41**	**227**	Pn	**Pn**	**00 47 34.5**	**+0.2**
ETAZ	**East Tamaki Re**	**2.44**	**335**	⇑PN	**Pn**	**00 47 35.2**	**+0.6**
SNZO	**South Karori**	**2.44**	**208**	*e*Pn	**Pn**	**00 47 33.9**	**-0.6**
SNZO				*e*Sn	**Sn**	**00 48 02.1**	**-1.2**
KUZ	**Kuaotunu**	**2.45**	**350**	PN	**Pn**	**00 47 34.7**	**0.0**
KUZ	**Kuaotunu**	**2.45**	**350**	Pn	**Pn**	**00 47 34.7**	**0.0**
BHW	**Baring Head**	**2.47**	**204**	⇓PN	**Pn**	**00 47 34.0**	**-1.0**
BHW				AML	AML	00 48 27.5	
BHW				AML	AML	00 48 27.7	
BHW	**Baring Head**	**2.47**	**204**	Pn	**Pn**	**00 47 34.0**	**-1.0**
PLWZ	**Palliser**	**2.52**	**197**	PN	**Pn**	**00 47 34.4**	**-1.3**
TCW	**Tory Channel**	**2.53**	**216**	⇑PN	**Pn**	**00 47 35.4**	**-0.4**
TCW				AML	AML	00 48 16.3	
TCW				AML	AML	00 48 18.9	
MTAZ	**Motutapu**	**2.59**	**336**	PN	**Pn**	**00 47 37.5**	**+0.8**
MTAZ	**Motutapu**	**2.59**	**336**	Pn	**Pn**	**00 47 37.5**	**+0.8**
ABAZ	**Army Bay**	**2.79**	**336**	PN	**Pn**	**00 47 40.3**	**+0.9**
TUWZ	**Tuamarina**	**2.86**	**217**	PN	**Pn**	**00 47 39.6**	**-0.7**
TUWZ				AML	AML	00 48 27.6	
TUWZ				AML	AML	00 48 28.9	
TUWZ	**Tuamarina**	**2.86**	**217**	Pn	**Pn**	**00 47 39.6**	**-0.7**
NNZ	**Nelson**	**3.00**	**226**	Pn	**Pn**	**00

13nm,1.0s,baz=2.0,slow=1.2,SNR=34
MAW Mawson 62.43 203 P **P** **00 57 14.0 +1.2**
3.0nm,0.8s,baz=125,slow=8.2,SNR=4.7
MAW LR LR 01 22 25.0
comp=Z,46nm,21.3s,baz=162,slow=34
SNAA Sanae 69.47 180 *e*P **P** **00 57 58.9 +0.8**
6.5nm,1.1s
PLCA Paso Flores 79.86 135 P **P** **00 59 01.4 +2.5**
1.6nm,0.8s,baz=206,slow=8.1,SNR=3.1
MJAR Matsushiro Arr 83.09 330 P **P** **00 59 15.7 +0.1**
0.4nm,0.6s,baz=153,slow=5.4,SNR=3.6
KSRS Korea Array 88.25 324 P **P** **00 59 41.6 +0.6**
2.2nm,0.8s,baz=147,slow=5.2,SNR=6.1
KSAR Wonju Array Be 88.25 323 P **P** **00 59 41.6 +0.6**
CMAR Chiang Mai Arr 92.04 292 P **P** **01 00 00.8 +1.7**
4.7nm,0.3s,baz=174,slow=2.9,SNR=5.4
PETK Petropavlovsk- 93.30 349 LR LR 01 33 51.3
comp=Z,18nm,21.5s,baz=171,slow=30
KURK Kurchatov 123.44 311 PKP **PKPdf** **01 05 44.9 -1.3**
KURBB Kurchatov Arra 123.45 311 PKP **PKPdf** **01 05 44.9 -1.4**
0.2nm,0.4s,baz=122,slow=1.0,SNR=3.8
KBZ Khabaz 145.09 293 PKPbc **PKPbc** **01 06 25.4 -0.9**
1.0nm,0.6s,baz=100,slow=4.2,SNR=5.3
ARCES ARCESS Array B 145.82 342 PKPbc **PKPdf** **01 06 27.0 -0.2**
3.2nm,0.6s,baz=67,slow=4.1,SNR=18
LIC Lamto 147.19 178 *e*P **PKPab** **01 06 35.8 +0.6**
37nm,1.1s
KIC Kosan Boka 147.33 178 *e*P **PKPbc** **01 06 33.8 -0.1**
30nm,1.0s
TIC Toumodi 147.60 178 *e*P **PKPbc** **01 06 35.4 +0.8**
9.4nm,0.5s
DBIC Dimbokro 147.63 178 PKPbc **PKPbc** **01 06 35.9 +1.2**
6.4nm,0.9s,baz=151,slow=2.7,SNR=6.6
FINES FINESS Array B 151.12 330 PKPbc **PKPbc** **01 06 41.5 -0.4**
0.6nm,0.4s,baz=90,slow=1.4,SNR=9.4
FINES PKPab **PKPab** **01 06 47.8 -2.1**
1.7nm,0.5s,baz=88,slow=4.4,SNR=12
BRTR Keskin Array B 151.24 283 PKPbc **PKPbc** **01 06 42.2 -0.9**
1.2nm,0.9s,baz=136,slow=4.4,SNR=8.2
BRTR PKPab **PKPab** **01 06 50.9 -0.5**
0.5nm,0.4s,baz=138,slow=3.0,SNR=6.3
TORD Torodi Ar. Bea 153.64 192 PKP **PKPdf** **01 06 40.3 -0.9**
1.0nm,1.0s,baz=245,slow=2.5,SNR=3.8
TORD PKPbc **PKiKP** **01 06 49.4 +0.3**
4.3nm,1.1s,baz=143,slow=2.4,SNR=23
TORD PKPab **PKPab** **01 07 02.1 +0.5**
3.1nm,1.0s,baz=186,slow=3.7,SNR=7.3
AKASG Malin Array Be 154.17 307 PKP **PKPdf** **01 06 40.7 -0.1**
0.2nm,0.3s,baz=4.4,slow=3.6,SNR=3.9
AKASG PKPbc **PKPbc** **01 06 47.4 -1.6**
0.1nm,0.2s,baz=60,slow=3.3,SNR=2.9
AKASG PKPab **PKPab** **01 07 01.4 -1.7**
0.1nm,0.2s,baz=61,slow=3.6,SNR=4.3

SZGRF ***05*** *00:59:21.2, 55.˙81N×163.˙77E, h33km, mb4.8, Off east coast of Kamchatka Peninsula, Russia*
KRSC ***05*** *00:59:21.4±3.0, 57.˙39N×162.˙46E, h0km±30km, ML4.8*
ISCJB ***05*** *00:59:26.0±0.7, 57.˙38N±0.˙02×162.˙22E±0.˙04, h19km±5km, mb4.7/120, MS3.6/22, Error ellipse: s-maj=4.4km s-min=2.6km az=138.0*
BJI ***05*** *00:59:28.8, 57.˙65N×161.˙63E, h27km, mb4.9/45, mB4.9/32, Ms4.5/30, Ms7 4.1/30*
MOS ***05*** *00:59:28.5±0.9, 57.˙21N×162.˙26E, h45km, mb4.9/41, Error ellipse: s-maj=9.3km s-min=4.4km az=92.3*
IDC ***05*** *00:59:29.1±3.9, 57.˙31N×162.˙22E, h33km±29km, mb4.2/29, mb1 4.3/31, mb1mx4.3/37, mbtmp4.3/31, ML3.3/2, MS3.6/22, Ms1 3.6/22, ms1mx3.5/32, Error ellipse: s-maj=14.4km s-min=10.4km az=153.0*
NEIC ***05*** *00:59:31.1±0.6, 57.˙30N×162.˙21E, h50km±5km, mb4.7/55, Error ellipse: s-maj=5.3km s-min=2.7km az=163.0*
ISC 05 00:59:28.9±0.4**, 57˚28N**±0.˙03×**162˚34E**±0.˙03**, h33**km±1km**, h33**km**:pP-P, n419,** σ1±**23**/469**, mb4.7**/121**, MS3.6**/22**,**
36C-15D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMKR	**Semkarok**	**0.85**	**214**	*e*P	Pn	00 59 41.2	-3.4
SRKR	**Sorokina**	**0.90**	**226**	*e*P	Pn	00 59 41.1	-4.2
BDR	**Baidarnaya**	**0.95**	**221**	*e*P	Pn	00 59 42.0	-4.0
KBG	**Krutoberegovo**	**1.05**	**169**	*e*P	**Pn**	**00 59 45.5**	**-1.8**
KBG	**Krutoberegovo**	**1.05**	**169**	PN	**Pn**	**00 59 45.5**	**-1.8**
KBTR	**Krutoberegovo**	**1.11**	**166**	*e*P	**Pn**	**00 59 46.3**	**-1.8**
KBTR				*e*S	**Sb**	**01 00 04.3**	**+0.6**
KBTR	**Krutoberegovo**	**1.11**	**166**	PN	**Pn**	**00 59 46.3**	**-1.8**
KBTR				S	**Sb**	**01 00 04.3**	**+0.6**
KLY	**Klyuchi**	**1.34**	**224**	*e*P	Pn	00 59 47.4	-3.9
KLY	**Klyuchi**	**1.34**	**224**	PN	Pn	00 59 47.4	-3.9
KRSR	**Krestovskiy**	**1.45**	**223**	*e*P	**Pn**	**00 59 50.1**	**-2.8**
CIRR	**Tsirk**	**1.46**	**217**	*e*P	**Pn**	**00 59 51.0**	**-2.1**
BZGR	**Bezymyannyi-Gr**	**1.62**	**215**	*e*P	**Pn**	**00 59 54.2**	**-1.1**
BZWR	**Bezymyannyi-We**	**1.67**	**218**	*e*P	**Pn**	**00 59 54.4**	**-1.6**
BZWR				*e*S	**Sb**	**01 00 18.9**	**-0.9**
BZMR	**Bezymyannaya**	**1.69**	**218**	*e*P	**Pn**	**00 59 54.8**	**-1.5**
BZMR				*e*S	**Sb**	**01 00 19.2**	**-1.3**
KIRR	**Kirishev**	**1.73**	**220**	*e*P	**Pn**	**00 59 55.0**	**-1.8**
KIRR				*e*S	**Sb**	**01 00 20.6**	**-1.0**
SRDR	**Sredinnyy**	**1.74**	**237**	*e*P	**Pn**	**00 59 54.3**	**-2.5**
SRDR				*e*S	**Sn**	**01 00 18.0**	**+0.2**
KPT	**Kopyto**	**1.76**	**222**	*e*P	**Pn**	**00 59 55.5**	**-1.7**
KOZR	**Kozyr**	**1.82**	**229**	PN	**Pn**	**00 59 56.9**	**-1.0**
KOZ	**Kozyrevsk**	**1.83**	**229**	*e*P	**Pn**	**00 59 56.9**	**-1.2**
KMNR	**Kamenistaya**	**1.92**	**218**	*e*P	**Pn**	**00 59 58.3**	**-1.1**
KMNR				*e*S	**Sb**	**01 00 25.8**	**-1.2**
OSSR	**Ossora**	**2.01**	**11**	*e*P	**Pn**	**00 59 57.6**	**-2.9**
OSSR				*e*S	**Sn**	**01 00 23.5**	**-0.9**
PALN	**Palana**	**2.20**	**326**	*e*P	**Pn**	**01 00 01.1**	**-2.0**
PALN				*e*S	**Sn**	**01 00 30.0**	**+0.8**
TUMR	**Tumrok**	**2.35**	**212**	*e*P	**Pn**	**01 00 07.2**	**+2.0**
TUMR				*e*S	**Sb**	**01 00 41.4**	**+2.2**
ESO	**Esso**	**2.43**	**237**	*e*P	**Pn**	**01 00 05.0**	**-1.3**
ESO				*e*S	**Sn**	**01 00 36.6**	**+1.8**
ESO	**Esso**	**2.43**	**237**	PN	**Pn**	**01 00 05.0**	**-1.3**
ESO				S	**Sn**	**01 00 36.6**	**+1.8**
KZV	**Kizimen**	**2.46**	**209**	*e*P	**Pn**	**01 00 08.7**	**+1.9**
MKZ	**Mys Kozlova**	**2.75**	**187**	*e*P	**Pn**	**01 00 10.7**	**0.0**
MKZ				*e*S	**Sb**	**01 00 47.8**	**-2.9**
MKZ	**Mys Kozlova**	**2.75**	**187**	PN	**Pn**	**01 00 10.7**	**0.0**
MKZ				S	**Sb**	**01 00 47.8**	**-2.9**
BKI	**Bering**	**2.91**	**134**	*e*P	**Pn**	**01 00 10.4**	**-2.4**
BKI				*e*S	**Sn**	**01 00 47.1**	**+0.5**
BKI	**Bering**	**2.91**	**134**	PN	**Pn**	**01 00 10.4**	**-2.4**
BKI				S	**Sn**	**01 00 47.1**	**+0.5**
GNL	**Ganaly**	**4.38**	**217**	*e*P	**Pn**	**01 00 36.0**	**+2.9**
SPN	**Mys Shipunski**	**4.40**	**199**	*e*P	**Pn**	**01 00 33.3**	**0.0**
SPN	**Mys Shipunski**	**4.40**	**199**	PN	**Pn**	**01 00 33.3**	**0.0**
KRX	**Arik**	**4.46**	**210**	*e*P	**Pn**	**01 00 37.2**	**+2.9**
SDLR	**Sedlovina**	**4.47**	**208**	*e*P	**Pn**	**01 00 37.0**	**+2.6**
KRER	**Koryakskii**	**4.48**	**209**	*e*P	**Pn**	**01 00 37.6**	**+2.9**
SMAR	**Somma**	**4.51**	**208**	*e*P	**Pn**	**01 00 37.5**	**+2.5**
AVH	**Avacha**	**4.52**	**209**	*e*P	**Pn**	**01 00 38.1**	**+3.0**
KOK	**Koryaka**	**4.52**	**209**	*e*P	Pn	01 00 38.4	+3.3
UGLR	**Uglovaya**	**4.55**	**208**	*e*P	**Pn**	**01 00 38.2**	**+2.7**
PET	**Petropavlovsk**	**4.76**	**208**	*e*P	**Pn**	**01 00 40.6**	**+2.3**
PET	**Petropavlovsk**	**4.76**	**208**	*ce*PN	**Pn**	**01 00 40.4**	**+2.1**
PET				pmax	pmax		
	comp=Z,200nm,5.3s						
PET				pmax	pmax		
	comp=Z,400nm,1.5s						
PET				pmax	pmax		
	comp=Z,143nm,1.0s						
PET				MLR	MLR		
	comp=Z,4μm,15.0s						
PET				MLR	MLR		
	comp=Z,5μm,16.0s						
PET	**Petropavlovsk**	**4.76**	**208**	*e*Pn	**Pn**	**01 00 40.8**	**+2.5**
PEA2	**Petropavlovsk-**	**4.95**	**214**	*e*Pn	**Pn**	**01 00 42.8**	**+1.9**
PEA0	**Petropavlovsk-**	**4.96**	**214**	*e*Pn	**Pn**	**01 00 43.0**	**+2.0**
PETK	**Petropavlovsk-**	**4.96**	**214**	Pn	**Pn**	**01 00 42.8**	**+1.8**
	comp=Z,5.3nm,0.3s,baz=70,slow=14,SNR=36						
PETK				LR	LR	01 02 53.8	
	comp=Z,920nm,21.8s,baz=41,slow=41						
APC	**Apacha**	**5.28**	**216**	*e*P	**Pn**	**01 00 48.3**	**+2.9**
MTVR	**Mutnovka**	**5.37**	**208**	*e*P	**Pn**	**01 00 49.5**	**+2.7**
ASAK	**Asacha**	**5.54**	**209**	*e*P	**Pn**	**01 00 52.1**	**+3.1**
PAU	**Pauzhetka**	**6.66**	**211**	*e*P	Pn	01 01 08.0	+3.7
PAU	**Pauzhetka**	**6.66**	**211**	PN	Pn	01 01 08.0	+3.7
SEY	**Seymchan**	**7.53**	**323**	Pn	**Pn**	**01 01 13.7**	**-2.6**
	comp=Z,0.5nm,0.3s,baz=132,slow=23,SNR=5.5						
SEY				LR	LR	01 04 14.0	
	comp=Z,237nm,18.6s,baz=62,slow=38						
SEY	**Seymchan**	**7.53**	**323**	PN	**Pn**	**01 01 13.7**	**-2.6**
SEY				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SEY				MLR	MLR		
	comp=Z,237nm,18.6s						
BILL	**Bilibino**	**10.94**	**8**	*i* PN	Pn	01 02 06.3	+3.4
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,487nm,17.0s						
BILL	**Bilibino**	**10.94**	**8**	*e*Pn	**Pn**	**01 02 03.8**	**+0.8**
BILL				*e*Sn	**Sn**	**01 04 08.7**	**+4.7**
YSS	**Yuzh-Sakhalins**	**15.80**	**237**	*e*P	**P**	**01 03 11.5**	**-0.7**
YSS				MLR	MLR		
	comp=E,500nm,12.0s						
YSS				MLR	MLR		
	comp=Z,600nm,12.0s						
TNA	**Tin City**	**16.31**	**47**	*e*Pn	**P**	**01 03 18.5**	**+0.7**
	comp=Z,18nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**16.82**	**225**	*e*P	**Pn**	**01 03 19.7**	**-1.9**
YUK				S	**Sn**	**01 06 24.8**	**-2.4**
YUK				MLR	MLR		
	comp=E,672nm,19.0s						
YUK				MLR	MLR		
	comp=Z,444nm,19.0s						
YAK	**Yakutsk**	**17.05**	**300**	LR	LR	01 09 56.3	
	comp=Z,46nm,18.4s,baz=199,slow=37						
YAK	**Yakutsk**	**17.05**	**300**	*e*P	**P**	**01 03 26.2**	**+0.3**
YAK				pmax	pmax		
	comp=Z,20nm,1.0s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,11nm,1.1s						
ASAJ	**Asahikawa**	**18.07**	**232**	LR	LR	01 10 24.3	
	comp=E,307nm,20.9s,baz=62,slow=36						
HABR	**Khabarovsk**	**18.57**	**253**	*e*P	Pn	01 03 49.8	+6.6
HABR				*e*S	**Sn**	**01 07 08.9**	**-0.6**
HABR				pmax	pmax		
	comp=Z,43nm,1.8s						
HABR				MLR	MLR		
	comp=Z,269nm,17.0s						
KLR	**Kul'dur**	**19.85**	**259**	*e*P	**P**	**01 03 54.0**	**-2.8**
KLR				MLR	MLR		
	comp=E,500nm,12.0s						
KLR				MLR	MLR		
	comp=Z,1μm,12.0s						
TIXI	**Tiksi**	**19.96**	**329**	*e*P	**Pn**	**01 03 59.5**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,13nm,0.8s						
TIXI	**Tiksi**	**19.96**	**329**	*e*P	**Pn**	**01 03 59.4**	**-0.1**
	comp=Z,12nm,0.7s						
CLNS	**Chul'man**	**20.20**	**285**	*e*P	**P**	**01 04 00.2**	**-0.4**
CLNS				pmax	pmax		
	comp=Z,14nm,1.1s						
CLNS				pmax	pmax		
	comp=N,8.0nm,0.9s						
SDPT	**Sand Point**	**20.55**	**80**	*e*P	**P**	**01 04 04.3**	**0.0**
	comp=N,46nm,1.4s						
SVW2	**Sparrevohn**	**21.60**	**62**	*e*P	**P**	**01 04 16.6**	**+0.9**
IM04	**Indian Mountai**	**22.13**	**49**	*e*P	**P**	**01 04 22.9**	**+1.6**
CAST	**Castle Rocks**	**22.94**	**56**	*e*P	**P**	**01 04 30.9**	**+1.0**
	comp=N,49nm,2.3s						
PPLA	**Purkeypile**	**22.95**	**57**	*e*P	**P**	**01 04 31.5**	**+1.4**
	comp=N,23nm,1.3s						
USRK	**Ussuriysk Ar.**	**23.01**	**248**	P	**P**	**01 04 31.4**	**+0.7**
	comp=N,9.4nm,0.8s,baz=55,slow=9.9,SNR=18						
USRK				LR	LR	01 13 50.7	
	comp=N,195nm,18.8s,baz=39,slow=38						
RSO	**Redoubt South**	**23.08**	**63**	*e*P	**P**	**01 04 34.1**	**+2.5**
KTH	**Kantishna Hill**	**23.44**	**55**	*e*P	**P**	**01 04 35.9**	**+0.9**
	comp=N,36nm,1.8s						
COLD	**Coldfoot**	**23.60**	**46**	*e*P	**P**	**01 04 36.6**	**+0.3**
	comp=N,5.5nm,0.8s						
OHAK	**Old Harbor**	**23.69**	**71**	*e*P	**P**	**01 04 36.6**	**-0.6**
	comp=N,181nm,2.2s						
TRF	**Thorofare Moun**	**23.74**	**55**	*e*P	**P**	**01 04 38.5**	**+0.6**
	comp=N,15nm,1.0s						
MDJ	**Mudanjiang**	**23.94**	**252**	P	**P**	**01 04 38.8**	**-0.9**
MDJ				pP	**pP**	**01 04 47.3**	**-1.9**
MDJ				sP	**sP**	**01 04 51.6**	**-1.6**
MDJ				S	**S**	**01 08 53.8**	**-0.1**
MDJ				PcS	**PcS**	**01 11 57.2**	**-3.5**
MDJ				PMZ			
	comp=N,13nm,0.8s						
MDJ				PMZ			
	comp=N,79nm,5.6s						
MDJ				LN			
	comp=N,160nm,15.5s						
MDJ				LE			
	comp=N,240nm,21.4s						
MDJ				LZ			
	comp=N,260nm,16.2s						
MDJ	**Mudanjiang**	**23.94**	**252**	*e*P	**P**	**01 04 39.4**	**-0.3**
	comp=N,11nm,0.7s						
MCK	**McKinley**	**24.30**	**54**	*e*P	**P**	**01 04 43.8**	**+0.8**
MCK				pmax	pmax		
	comp=Z,22nm,1.2s						
MCK	**McKinley**	**24.30**	**54**	*e*P	**P**	**01 04 43.8**	**+0.8**
	comp=Z,22nm,1.2s						
COLA	**College**	**24.64**	**51**	*e*P	**P**	**01 04 47.2**	**+1.2**
COLA				pmax	pmax		
	comp=Z,31nm,1.1s						
SEW	**Seward**	**24.77**	**63**	*e*P	**P**	**01 04 47.7**	**+0.6**
	comp=Z,17nm,1.0s						
ILAR	**Eielson Array**	**25.06**	**52**	P	**P**	**01 04 49.2**	**-0.6**
	comp=Z,2.8nm,0.7s,baz=262,slow=7.9,SNR=28						
ILAR				LR	LR	01 14 46.7	
	comp=Z,65nm,19.1s,baz=276,slow=37						
ILB	**Eielson Array**	**25.06**	**52**	*e*P	**P**	**01 04 49.2**	**-0.6**
IL1	**Eielson Array**	**25.06**	**52**	*e*P	**P**	**01 04 49.2**	**-0.6**
PAX	**Paxson**	**25.97**	**56**	*e*P	**P**	**01 04 59.4**	**+1.2**
PAX				pmax	pmax		
	comp=Z,12nm,1.3s						
PAX	**Paxson**	**25.97**	**56**	*e*P	**P**	**01 04 59.4**	**+1.2**
	comp=Z,12nm,1.3s						
MAJO	**Matsushiro**	**26.24**	**228**	*i* P	**P**	**01 05 00.4**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,38nm,1.0s						
MAJO	**Matsushiro**	**26.24**	**228**	*e*P	**P**	**01 05 00.2**	**-0.6**
	comp=Z,6.5nm,0.9s						
MAJO				*e*PcP	**PcP**	**01 08 26.6**	**+0.1**
MAT	**Matsushiro**	**26.24**	**228**	P	**P**	**01 04 59.7**	**-1.0**
MAT				S	S	01 09 42.8	+12
MJAR	**Matsushiro Arr**	**26.24**	**228**	P	**P**	**01 04 59.5**	**-1.2**
	comp=Z,4.5nm,0.9s,baz=19,slow=8.0,SNR=18						
MJAR				PcP	**PcP**	**01 08 26.6**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=79,slow=0.9,SNR=8.5						
DIV	**Divide**	**26.26**	**60**	*e*P	**P**	**01 05 00.8**	**+0.1**
	comp=Z,9.1nm,0.8s						
DOT	**Dot Lake**	**26.46**	**54**	*e*P	**P**	**01 05 02.1**	**-0.4**
	comp=Z,6.3nm,0.9s						
CN2	**Changchun**	**26.66**	**256**	*e*P	**P**	**01 05 05.4**	**+0.9**
CN2				*e*S	**S**	**01 09 34.4**	**-2.8**
CN2				PMZ			
	comp=Z,10.0nm,0.8s						
CN2				PMZ			
	comp=Z,200nm,5.0s						
CN2				LN			
	comp=Z,200nm,16.0s						
CN2				LE			
	comp=Z,300nm,16.0s						
CN2				LZ			
	comp=Z,300nm,17.0s						
MENT	**Mentasta**	**26.76**	**55**	*e*P	**P**	**01 05 04.8**	**-0.4**
BMRM	**Bremner River**	**26.85**	**60**	*e*P	**P**	**01 05 06.5**	**+0.5**
	comp=Z,19nm,0.9s						
EGAK	**Eagle**	**27.49**	**51**	*e*P	**P**	**01 05 11.0**	**-0.6**
	comp=Z,6.8nm,0.9s						
INK	**Inuvik**	**29.82**	**42**	P	**P**	**01 05 32.4**	**0.0**
	comp=Z,3.0nm,0.8s,baz=299,slow=9.2,SNR=12						
INK				LR	LR	01 18 25.4	
	comp=Z,201nm,21.7s,baz=276,slow=38						
INK	**Inuvik**	**29.82**	**42**	P	**P**	**01 05 32.4**	**0.0**
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
INK				MLR	MLR		
	comp=Z,201nm,21.7s						
INK	**Inuvik**	**29.82**	**42**	*e*P	**P**	**01 05 33.0**	**+0.7**
	comp=Z,7.3nm,1.1s						
KSRS	**Korea Array**	**30.12**	**244**	P	**P**	**01 05 35.3**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=32,slow=9.7,SNR=7.5						
KSRS				PcP	**PcP**	**01 08 37.5**	**+1.5**
	comp=Z,2.3nm,0.8s,baz=36,slow=3.7,SNR=7.1						
KSRS				LR	LR	01 18 33.1	
	comp=Z,112nm,20.0s,baz=50,slow=38						
KSRS	**Korea Array**	**30.12**	**244**	P	**P**	**01 05 35.3**	**+0.1**
KSRS						01 08 37.5	
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KSRS				MLR	MLR		
	comp=Z,112nm,20.0s						
KS15	**Wonju Array Si**	**30.14**	**244**	*e*P	**P**	**01 05 35.3**	**-0.2**
KS15				*e*PcP	**PcP**	**01 08 37.5**	**+1.4**
KSAR	**Wonju Array Be**	**30.14**	**244**	P	**P**	**01 05 35.3**	**-0.2**
KSAR	**Wonju Array Be**	**30.14**	**244**	P	**P**	**01 05 35.3**	**-0.2**
HYT	**Haines Junctio**	**30.19**	**58**	*e*P	**P**	**01 05 36.9**	**+1.1**
SKAG	**Skagway**	**31.71**	**59**	*e*P	**P**	**01 05 50.3**	**+1.3**
TLY	**Talaya**	**33.61**	**286**	P	**P**	**01 06 05.2**	**-0.7**
	comp=Z,1.7nm,0.3s,baz=228,slow=3.0,SNR=4.0						
TLY	**Talaya**	**33.61**	**286**	*e*P	**P**	**01 06 05.6**	**-0.3**
TLY				*e*S	**S**	**01 11 22.0**	**-4.0**
TLY				pmax	pmax		
	comp=Z,8.0nm,1.4s						
TLY				MLR	MLR		
	comp=Z,64nm,14.0s						
ULN	**Ulaanbaatar**	**34.00**	**278**	*i* P	**P**	**01 06 09.8**	**+0.4**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ULN	**Ulaanbaatar**	**34.00**	**278**	*e*P	**P**	**01 06 08.7**	**-0.7**
	comp=Z,8.5nm,1.1s						
BJI	**Beijing**	**34.23**	**260**	P	**P**	**01 06 11.4**	**+0.2**
BJI				pP	**pP**	**01 06 20.1**	**-0.7**
BJI				sP	**sP**	**01 06 24.2**	**-0.6**
BJI				PP	**PnPn**	**01 07 26.4**	**+0.8**
BJI				S	**S**	**01 11 34.5**	**-1.0**
BJI				ScS	**ScS**	**01 16 30.4**	**-1.2**
BJI				PMZ			
	comp=Z,22nm,0.9s						
BJI				PMZ			
	comp=Z,84nm,3.8s						
BJI				LN			
	comp=Z,340nm,19.2s						
BJI				LE			
	comp=Z,230nm,18.0s						
BJI				LZ			
	comp=Z,95nm,18.0s						
SONA1	**Songino Array**	**34.36**	**279**	*e*P	**P**	**01 06 12.4**	**-0.1**
SONA0	**Songino Array**	**34.37**	**279**	*e*P	**P**	**01 06 12.8**	**+0.2**
SONA0				*e*PcP	**PcP**	**01 08 47.4**	**-0.3**
SONM	**Songino Array**	**34.37**	**279**	P	**P**	**01 06 12.8**	**+0.2**
	comp=Z,6.5nm,0.8s,baz=54,slow=9.3,SNR=53						
SONM				PcP	**PcP**	**01 08 47.4**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=48,slow=2.5,SNR=7.2						
SONM				LR	LR	01 21 28.9	
	comp=Z,120nm,18.8s,baz=58,slow=38						
ZAK	**Zakamensk**	**34.53**	**284**	*e*P	**P**	**01 06 13.9**	**0.0**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
DLBC	**Dease Lake**	**34.63**	**59**	*e*P	**P**	**01 06 16.5**	**+1.8**
HHC	**Hu-ho-hao-te**	**36.13**	**265**	*e*P	**P**	**01 06 28.8**	**+1.0**
HHC				PP	**PP**	**01 07 51.0**	**+0.9**
HHC				S	**S**	**01 12 04.6**	**-0.5**
HHC				sS	**sS**	**01 12 20.6**	**-0.4**
HHC				SS	**SnSn**	**01 14 28.0**	**-3.8**
HHC				PMZ			
	comp=Z,14nm,0.7s						
HHC				PMZ			
	comp=Z,110nm,7.4s						
HHC				LN			
	comp=Z,270nm,14.3s						
HHC				LE			
	comp=Z,290nm,13.7s						
HHC				LZ			
	comp=Z,140nm,18.5s						
H11N2	**WAKE ISLAND Hy**	**37.65**	**173**	T	T	01 45 36.5	
	baz=357,slow=76,SNR=20						
H11N3	**WAKE ISLAND Hy**	**37.66**	**173**	T	T	01 45 42.8	
	baz=357,slow=76,SNR=20						
H11N1	**WAKE ISLAND Hy**	**37.67**	**173**	T	T	01 45 42.2	
	baz=357,slow=76,SNR=21						
NJ2	**Nanjing**	**38.92**	**248**	*e*P	**P**	**01 06 53.2**	**+1.9**
NJ2				S	**S**	**01 12 52.5**	**+5.3**
NJ2				sS	**sS**	**01 13 06.5**	**+3.3**
NJ2				PMZ			
	comp=Z,50nm,0.8s						
NJ2				LN			
	comp=Z,360nm,15.1s						
NJ2				LE			
	comp=Z,290nm,22.2s						
NJ2				LZ			
	comp=Z,390nm,28.9s						
YKA	**Yellowknife Ar**	**39.27**	**47**	P	**P**	**01 06 54.1**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=300,slow=8.0,SNR=30						
YKA				PcP	**PcP**	**01 09 01.3**	**-0.7**
	comp=Z,0.7nm,0.9s,baz=312,slow=3.9,SNR=3.8						
YKB5	**Yellowknife Ar**	**39.27**	**47**	*e*P	**P**	**01 06 54.1**	**+0.2**
ZAA1	**Zalesovo Array**	**41.69**	**300**	*e*P	**P**	**01 07 13.2**	**-0.8**
ZAA1				*e*PcP	**PcP**	**01 09 08.2**	**-1.8**
ZAA0	**Zalesovo Array**	**41.70**	**300**	*e*P	**P**	**01 07 12.9**	**-1.2**
ZALV	**Zalesovo Beam**	**41.70**	**300**	P	**P**	**01 07 13.2**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=56,slow=5.9,SNR=12						
ZALV				PcP	**PcP**	**01 09 08.2**	**-1.8**
	comp=Z,2.0nm,0.8s,baz=38,slow=7.5,SNR=4.5						
NVS	**Novosibirsk**	**41.90**	**302**	*e*P	**P**	**01 07 14.9**	**-0.7**
NVS				pmax	pmax		
	comp=Z,17nm,1.2s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.3s						
WHN	**Wuhan**	**42.42**	**252**	P	**P**	**01 07 20.7**	**+0.5**
XAN	**Xi'an**	**42.55**	**260**	P	**P**	**01 07 20.2**	**-1.1**
XAN				pP	**pP**	**01 07 31.4**	**+0.3**
XAN				PMZ			
	comp=E,2.0nm,1.1s						
XAN				LN			
	comp=E,130nm,15.4s						
XAN				LZ			
	comp=E,70nm,13.3s						
GTA	**Gaotai**	**43.52**	**274**	*e*P	**P**	**01 07 29.1**	**-0.1**
GTA				pP	**pP**	**01 07 38.3**	**-0.7**
GTA				sP	**sP**	**01 07 42.4**	**-0.6**
GTA				PMZ			

CD2 **Chengdu** 47.74 262 P **P** 01 08 02.9 +0.4
CD2 sP **sP** 01 08 18.2 +1.9
CD2 PP **PP** 01 09 49.8 -4.4
CD2 S **S** 01 14 55.4 -1.0
CD2 sS **sS** 01 15 13.2 +0.5
CD2 PMZ
comp=Z,40nm,0.9s
CD2 PMZ
comp=Z,40nm,10.7s
CD2 LN
comp=Z,200nm,14.3s
CD2 LE
comp=Z,160nm,10.7s
CD2 LZ
comp=Z,230nm,13.1s
WALA **Waterton Lakes** 47.83 62 *eP* **P** 01 08 04.0 +0.9
comp=Z,279nm,1.0s
G08A **Pilot Rock** 47.94 69 *eP* **P** 01 08 03.8 -0.2
comp=Z,59nm,3.0s
BSMT **Bassoo Peak** 48.24 64 *eP* **P** 01 08 07.5 +1.1
BVAR **Borovoye Array** 48.85 307 P **P** 01 08 10.2 -0.5
comp=Z,5.0nm,0.6s,baz=56,slow=8.0,SNR=41
BVAR PcP **PcP** 01 09 33.9 -0.9
comp=Z,1.0nm,0.7s,baz=62,slow=3.4,SNR=2.7
SWMT **Swartz Lake** 48.86 63 *eP* **P** 01 08 11.9 +0.9
BRVK **Borovoye** 48.87 307 *i* P **P** 01 08 10.3 -0.6
BRVK pmax pmax
comp=Z,9.0nm,1.1s
BRVK **Borovoye** 48.87 307 *eP* **P** 01 08 10.4 -0.6
comp=Z,9.4nm,0.7s
BMO **Blue Mountains** 49.09 68 *eP* **P** 01 08 13.7 +0.9
comp=Z,3.5nm,1.0s
SLMT **Seeley Lake** 49.29 63 *eP* **P** 01 08 15.2 +0.8
FCC **Fort Churchill** 49.44 42 *eP* **P** 01 08 15.5 +0.3
FCC pmax pmax
comp=Z,317nm,1.1s
FCC **Fort Churchill** 49.44 42 *eP* **P** 01 08 15.5 +0.3
comp=Z,317nm,1.1s
SUMG **Summit** 49.63 8 *i* P **P** 01 08 17.4 +0.5
comp=Z,31nm,1.0s
SUMG **Summit** 49.63 8 *eP* **P** 01 08 17.7 +0.8
SUMG pmax pmax
comp=Z,32nm,1.0s
SUMG **Summit** 49.63 8 *eP* **P** 01 08 17.7 +0.8
comp=Z,32nm,1.0s
ARCES **ARCESS Array B** 49.70 342 LR LR 01 33 05.8
comp=Z,47nm,18.7s,baz=14,slow=41
GYA **Guiyang** 49.71 256 *eP* **P** 01 08 19.0 +1.2
GYA PMZ
comp=Z,10.0nm,1.0s
SVE **Sverdlovsk** 50.14 315 ⇓ *i* P **P** 01 08 21.1 +0.6
SVE pmax pmax
comp=Z,21nm,0.9s
MFID **Camas Ranch** 50.86 68 *eP* **P** 01 08 27.2 +1.0
comp=Z,18nm,2.1s
ARU **Arti** 51.22 316 *d i* P **P** 01 08 28.4 -0.2
ARU S **S** 01 15 46.2 +1.8
ARU SS **SS** 01 19 20.6 +1.3
ARU pmax pmax
comp=Z,43nm,1.2s
ARU **Arti** 51.22 316 *eP* **P** 01 08 28.6 -0.1
comp=Z,25nm,0.7s
HLID **Hailey** 51.46 67 *eP* **P** 01 08 32.3 +1.5
comp=Z,28nm,2.6s
PRGR **Permogore** 51.60 327 *eP* **P** 01 08 31.7 +0.3
PRGR pmax pmax
comp=Z,13nm,0.8s
H17A **Grant Village** 52.76 64 *eP* **P** 01 08 43.3 +2.7
comp=Z,8.9nm,1.3s
KMI **Kunming** 52.87 259 P **P** 01 08 42.9 +1.3
KMI sP **sP** 01 08 58.6 +3.1
KMI PMZ
comp=Z,11nm,0.9s
KMI LN
comp=Z,120nm,15.1s
KMI LE
comp=Z,130nm,16.5s
KMI LZ
comp=Z,200nm,15.6s
FXWY **Fox Creek** 53.09 65 *eP* **P** 01 08 44.5 +1.4
comp=Z,3.8nm,1.1s
LAO **LASA Array** 53.16 59 *eP* **P** 01 08 42.0 -1.2
comp=Z,60nm,0.7s
NV01 **Mina Array Sit** 53.24 74 *eP* **P** 01 08 45.8 +1.6
NVAR **Mina Array Bea** 53.24 74 P **P** 01 08 45.3 +1.1
comp=Z,1.2nm,0.9s,baz=292,slow=7.8,SNR=6.3
ULHL **Ulahol** 53.85 293 P **P** 01 08 47.9 -0.7
SNR=8.3
ULHL **Ulahol** 53.85 293 *i* P **P** 01 08 47.9 -0.7
USP **Ospenovka** 53.95 295 P **P** 01 08 49.3 +0.2
SNR=6.7
USP **Ospenovka** 53.95 295 *i* P **P** 01 08 49.3 +0.2
KLMR **Klimovskoe** 53.98 329 *eP* **P** 01 08 49.1 +0.2
KLMR pmax pmax
comp=Z,13nm,1.4s
KBK **Karagaybulak** 54.19 295 P **P** 01 08 50.8 -0.2
SNR=5.1
KBK **Karagaybulak** 54.19 295 *i* P **P** 01 08 50.8 -0.2
QIZ **Qiongzhong** 54.20 248 P **P** 01 08 52.2 +1.1
QIZ pP **pP** 01 09 01.4 +0.3
QIZ sP **sP** 01 09 04.8 -0.2
QIZ PP **PP** 01 10 54.3 +1.4
QIZ S **S** 01 16 27.2 +1.3
QIZ sS **sS** 01 16 42.8 +0.4
QIZ PMZ
comp=Z,7.0nm,1.4s
QIZ LZ
comp=Z,130nm,20.1s
AAK **Ala-Archa** 54.43 295 P **P** 01 08 52.6 -0.2
SNR=10
AAK **Ala-Archa** 54.43 295 P **P** 01 08 52.8 0.0
comp=Z,7.5nm,0.7s,baz=103,slow=3.5,SNR=33
AAK **Ala-Archa** 54.43 295 *c i* P **P** 01 08 52.6 -0.2
AAK pmax pmax
comp=Z,23nm,1.0s
AAK **Ala-Archa** 54.43 295 *eP* **P** 01 08 52.8 0.0
comp=Z,9.1nm,0.8s
BW06 **Boulder Array** 54.46 65 *eP* **P** 01 08 53.6 +0.5
PD31 **Pinedale Array** 54.46 65 *eP* **P** 01 08 54.0 +0.9
PDAR **Pinedale Array** 54.46 65 P **P** 01 08 54.0 +0.9
comp=Z,1.6nm,0.8s,baz=333,slow=4.2,SNR=10
PDAR LR LR 01 33 08.7
comp=Z,54nm,20.1s,baz=344,slow=37
KZA **Kyzart** 54.47 294 P **P** 01 08 53.6 +0.3
SNR=6.9
KZA **Kyzart** 54.47 294 *i* P **P** 01 08 53.6 +0.3
EKS2 **Erkin-Say** 54.76 295 P **P** 01 08 55.4 +0.2
SNR=12
EKS2 **Erkin-Say** 54.76 295 *i* P **P** 01 08 55.3 +0.2
EKS2 **Erkin-Say** 54.76 295 *eP* **P** 01 08 55.0 -0.1
comp=Z,8.9nm,0.8s
ULM **Lac du Bonnet** 55.07 50 LR LR 01 36 01.6
comp=Z,55nm,18.3s,baz=273,slow=40
AML **Almayashu** 55.20 295 P **P** 01 08 58.6 0.0
SNR=6.2
AML **Almayashu** 55.20 295 *i* P **P** 01 08 58.6 0.0
KKAR **Karatay Array** 56.01 298 *eP* **P** 01 09 03.5 -0.5
KKAR **Karatay Array** 56.01 298 *eP* **P** 01 09 03.5 -0.5
KSH **Kashi** 56.03 291 P P 01 09 07.6 +3.3
KSH pP **pP** 01 09 17.7 +3.4
KSH PcS **PcS** 01 14 04.6 +1.9
KSH S **S** 01 16 51.9 +1.6
KSH ScS **ScS** 01 18 50.6 -0.1
KSH PMZ
comp=Z,61nm,3.6s
KSH LN
comp=Z,80nm,4.0s
KSH LE
comp=Z,65nm,4.9s
KSH LZ
comp=Z,130nm,5.5s
ABKAR **Akbulak array** 56.08 310 *eP* **P** 01 09 04.2 -0.2
SRU **San Rafael Swe** 56.73 68 *eP* **P** 01 09 11.1 +1.8
SRU pmax pmax
comp=Z,30nm,2.1s
SRU **San Rafael Swe** 56.73 68 *eP* **P** 01 09 11.1 +1.8
comp=Z,30nm,2.1s
FIA0 **FINESS Array S** 56.78 337 *eP* **P** 01 09 08.5 -0.6
FIA0 **FINESS Array S** 56.78 337 *eP* **P** 01 09 08.5 -0.6
FINES **FINESS Array B** 56.78 337 P **P** 01 09 08.5 -0.6
comp=Z,2.5nm,0.7s,baz=79,slow=10,SNR=5.8
FINES LR LR 01 38 04.0
comp=Z,38nm,19.0s,baz=35,slow=41
PHWY **Pilot Hill** 57.56 63 *eP* **P** 01 09 17.7 +2.4
comp=Z,60nm,0.8s
CRAI **Chiangrai** 58.11 257 P P 01 09 15.6 -3.4
comp=Z,5.1nm,1.0s,comp=Z,2μm
OBN **Obninsk** 59.67 327 *ce* P **P** 01 09 30.0 +0.6
OBN pmax pmax
comp=Z,12nm,1.5s
OBN MLR MLR
comp=Z,36nm,16.0s
NB2 **NORSAR Subarra** 59.86 344 P **P** 01 09 29.8 -0.9
comp=Z,9.8nm,0.9s,baz=18,slow=6.9
NB200 **NORSAR Array S** 59.86 344 *eP* **P** 01 09 30.4 -0.3
NOA **NORSAR Array B** 59.86 344 P **P** 01 09 30.4 -0.3
comp=Z,7.7nm,0.8s,baz=18,slow=6.9,SNR=28
NOA LR LR 01 36 32.3
comp=Z,19nm,18.9s,baz=10.0,slow=37
LOEI **Loei** 59.88 255 P **P** 01 09 30.0 -1.4
comp=Z,6.1nm,0.8s,comp=Z,330nm
LAMP **Lampang** 59.90 257 P **P** 01 09 32.1 +0.6
comp=Z,8.6nm,0.8s
NBO02 **NORSAR Array S** 59.91 344 *eP* **P** 01 09 30.4 -0.6
CMMT **Chiang Mai** 60.03 258 P **P** 01 09 32.5 +0.1
comp=Z,17nm,0.9s
CHTO **Chiang Mai** 60.03 258 P **P** 01 09 32.6 +0.2
comp=Z,61nm,1.4s,comp=Z,1μm
CHTO **Chiang Mai** 60.03 258 *eP* **P** 01 09 32.8 +0.4
CHTO pmax pmax
comp=Z,8.0nm,0.8s
CHTO **Chiang Mai** 60.03 258 *eP* **P** 01 09 32.8 +0.4
comp=Z,8.3nm,0.8s
UTTA **Uttaradit** 60.06 256 P **P** 01 09 33.6 +1.1
comp=Z,4.4nm,0.8s,comp=Z,117nm
CM31 **Chiang Mai Arr** 60.32 258 *eP* **P** 01 09 34.8 +0.4
CM31 *e* PcP **PcP** 01 10 17.6 -1.7
CMAR **Chiang Mai Arr** 60.32 258 P **P** 01 09 34.8 +0.4
comp=Z,5.4nm,0.8s,baz=17,slow=6.7,SNR=26
CMAR PcP **PcP** 01 10 17.6 -1.7
comp=Z,2.1nm,0.4s,baz=14,slow=4.2,SNR=8.1
CMAR LR LR 01 38 32.7
comp=Z,107nm,18.7s,baz=48,slow=39
HFS **Hagfors** 60.34 343 P **P** 01 09 33.1 -0.8
comp=Z,4.3nm,0.7s,baz=39,slow=5.7,SNR=8.5
PBKT **Sadao Pong** 60.82 255 P **P** 01 09 40.0 +2.3
comp=Z,8.3nm,0.9s
LPSR **Galich'ya Gora** 61.12 324 *eP* **P** 01 09 38.0 -1.3
LPSR pmax pmax
comp=Z,10.0nm,0.8s
LPSR pmax pmax
comp=N,6.0nm,1.1s
LPSR pmax pmax
comp=E,5.0nm,0.6s
SCHQ **Schefferville** 61.35 30 LR LR 01 38 52.2
comp=E,62nm,19.0s,baz=27,slow=38
VSR **Storozhevoye** 62.23 323 *eP* **P** 01 09 46.6 -0.2
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,3.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
AKASG **Malin Array Be** 65.67 329 P **P** 01 10 08.8 -0.7
comp=Z,1.4nm,0.5s,baz=28,slow=6.4,SNR=12
AKASG LR LR 01 42 42.5
comp=Z,51nm,18.5s,baz=25,slow=40
AKASG **Malin Array Be** 65.67 329 *i* P **P** 01 10 09.1 -0.3
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKBB **Malin Array Si** 65.67 329 *eP* **P** 01 10 08.8 -0.6
AKBB **Malin Array Si** 65.67 329 *eP* **P** 01 10 08.8 -0.6
KIEV **Kiev** 65.68 329 ‖ *eP* **P** 01 10 09.6 +0.1
GEYT **Ailbeck** 65.89 303 P **P** 01 10 11.0 -0.1
comp=Z,4.4nm,0.8s,baz=316,slow=4.1,SNR=7.1
WMOK **Wichita Mounta** 65.97 63 *eP* **P** 01 10 12.3 +0.6
WMOK pmax pmax
comp=Z,11nm,1.4s
WMOK **Wichita Mounta** 65.97 63 *eP* **P** 01 10 12.3 +0.6
comp=Z,11nm,1.4s
KIV **Kislovodsk** 67.25 317 *eP* **P** 01 10 20.5 +0.7
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,29nm,17.0s
NCK **Nalchik** 67.30 316 ⇓ *eP* **P** 01 10 20.7 +0.7
KBZ **Khabaz** 67.36 317 P **P** 01 10 20.9 +0.6
comp=Z,7.9nm,0.8s,baz=236,slow=24,SNR=25
KBZ LR LR 01 42 54.1
comp=Z,47nm,19.1s,baz=151,slow=39
ZEI **Tsey** 67.79 316 *eP* **P** 01 10 22.3 -1.1
ZEI pmax pmax
comp=Z,8.0nm,1.0s
NEY **Neytrino** 67.84 317 *eP* **P** 01 10 25.0 +1.4
LVV **L'vov** 67.85 332 *eP* **P** 01 10 25.7 +2.4
LTX **Lajitas** 67.90 70 *eP* **P** 01 10 25.3 +1.2
LTX **Lajitas** 67.90 70 *eP* **P** 01 10 25.3 +1.2
TX31 **Lajitas Ar. Si** 67.90 70 *eP* **P** 01 10 24.9 +0.7
TXAR **Lajitas Array** 67.90 70 P **P** 01 10 25.3 +1.2
comp=Z,3.5nm,1.0s,baz=298,slow=4.3,SNR=26
TXAR LR LR 01 40 04.6
comp=Z,46nm,19.1s,baz=0.0,slow=36
CHLP **Challavanipeta** 68.31 271 *eP* **P** 01 10 26.7 +0.1
KWP **Kalwaria Pacla** 68.35 333 *eP* **P** 01 10 27.2 +0.7
KWP **Kalwaria Pacla** 68.35 333 *eP* **P** 01 10 27.3 +0.7
KWP **Kalwaria Pacla** 68.35 333 ⇑ *iP* **P** 01 10 27.6 +1.1
KWP **Kalwaria Pacla** 68.35 333 *eP* **P** 01 10 27.3 +0.8
comp=Z,40nm,1.1s
OJC **Ojcow** 68.49 335 *eP* **P** 01 10 27.9 +0.6
OJC **Ojcow** 68.49 335 *eP* **P** 01 10 28.0 +0.6
OJC **Ojcow** 68.49 335 *eP* **P** 01 10 28.0 +0.6
comp=Z,13nm,1.0s
MIAR **Mount Ida** 68.60 59 *eP* **P** 01 10 29.4 +1.1
MIAR pmax pmax
comp=Z,94nm,2.7s
MIAR **Mount Ida** 68.60 59 *eP* **P** 01 10 29.4 +1.1
comp=Z,94nm,2.7s
KSP **Ksiaz** 68.67 338 *eP* **P** 01 10 28.6 +0.1
KSP **Ksiaz** 68.67 338 *eP* **P** 01 10 28.6 +0.1
CLZ **Clausthal** 68.83 342 *eP* **P** 01 10 30.2 +0.7
comp=Z,15nm,1.2s
CLL **Collm** 68.87 340 *eP* **P** 01 10 29.9 +0.2
comp=Z,9.0nm,1.2s
CLL **Collm** 68.87 340 ⇓ *iP* **P** 01 10 29.4 -0.3
comp=Z,11nm,1.3s
CLL **Collm** 68.87 340 ⇓ *iP* **P** 01 10 29.4 -0.3
CLL pmax pmax
comp=Z,11nm,1.3s
CLL **Collm** 68.87 340 *eP* **P** 01 10 29.9 +0.2
comp=Z,11nm,1.2s
STHS **Stebnicka Huta** 68.91 334 *eP* **P** 01 10 31.0 +1.0
STHS pmax pmax
comp=Z,8.0nm,0.9s
STHS **Stebnicka Huta** 68.91 334 *eP* **P** 01 10 31.0 +1.0
IGLO **Ghaloghah** 69.00 305 *eP* **P** 01 10 31.3 +0.3
BRG **Berggiesshubel** 69.11 339 *eP* **P** 01 10 30.8 -0.4
comp=Z,5.3nm,1.1s
BRG **Berggiesshubel** 69.11 339 *eP* **P** 01 10 30.8 -0.4
BRG pmax pmax
comp=Z,5.0nm,1.1s
NIE **Niedzica** 69.12 335 *eP* **P** 01 10 32.4 +1.1
NIE **Niedzica** 69.12 335 *eP* **P** 01 10 32.5 +1.1
DPC **Dobruska-Polom** 69.13 337 *eP* **P** 01 10 32.1 +0.7
DPC ex x 01 10 37.8
DPC *ep* P **pP** 01 10 42.6 +0.9
DPC **Dobruska-Polom** 69.13 337 *eP* **P** 01 10 32.1 +0.7
DPC *e* 01 10 42.6
DPC **Dobruska-Polom** 69.13 337 *eP* **P** 01 10 31.9 +0.5
comp=Z,87nm,1.2s
OKC **Ostrava-Krasne** 69.22 336 *eP* **P** 01 10 32.6 +0.7
OKC *ex* x 01 10 38.3
OKC **Ostrava-Krasne** 69.22 336 *eP* **P** 01 10 32.6 +0.7
KRLC **Kraliky** 69.29 337 *eP* **P** 01 10 33.0 +0.6
KRLC *ex* x 01 10 36.4
KRLC *ex* x 01 10 40.2
KRLC **Kraliky** 69.29 337 *eP* **P** 01 10 33.0 +0.6
CRVS **Cervenica-Dubn** 69.33 334 *eP* **P** 01 10 32.8 +0.2
CRVS pmax pmax
comp=Z,5.0nm,1.2s
CRVS **Cervenica-Dubn** 69.33 334 *eP* **P** 01 10 32.8 +0.2
SIM **Simferopol'** 69.35 323 *eP* **P** 01 10 34.0 +1.2
SIM pmax pmax
comp=Z,8.0nm,1.0s
SIM MLR MLR
comp=Z,40nm,18.0s
MORC **Moravsky Berou** 69.41 336 *eP* **P** 01 10 34.1 +0.9
MORC pmax pmax
comp=Z,10.0nm,1.1s
MORC **Moravsky Berou** 69.41 336 ⇑ *iP* **P** 01 10 34.1 +0.9
MORC **Moravsky Berou** 69.41 336 *eP* **P** 01 10 34.1 +0.9
comp=Z,10nm,1.1s
BUR04 **Bucovina Ar. S** 69.57 331 *eP* **P** 01 10 34.1 -0.1
BURAR **Bucovina Array** 69.57 331 ⇑ *iP* **P** 01 10 34.6 +0.4
BUG **Bochum--Univer** 69.72 344 *eP* **P** 01 10 35.4 +0.5
comp=Z,8.0nm,1.0s
GNI **Garni** 69.73 314 ⇑ *eP* **P** 01 10 37.1 +1.7
GNI pmax pmax
comp=Z,22nm,1.7s
GNI **Garni** 69.73 314 *eP* **P** 01 10 36.6 +1.2
comp=Z,45nm,0.6s
MOX **Moxa** 69.76 341 *eP* **P** 01 10 35.8 +0.6
comp=Z,8.0nm,1.3s
PRA **Prague** 69.78 339 *eP* **P** 01 10 36.1 +0.8
PRA **Prague** 69.78 339 *eP* **P** 01 10 36.1 +0.8
TRPA **Tarpa** 69.78 333 ⇑ *iP* **P** 01 10 36.4 +1.0
TANN **Tannenbergstha** 69.83 340 *eP* **P** 01 10 36.3 +0.6
comp=Z,6.0nm,1.2s
PRU **Pruhonice** 69.83 339 *eP* **P** 01 10 36.1 +0.4
PRU *ex* x 01 10 39.6
PRU **Pruhonice** 69.83 339 *eP* **P** 01 10 36.1 +0.4
GOPC **GO Pecny, Ondr** 69.86 338 *eP* **P** 01 10 36.4 +0.5
GOPC *ex* x 01 10 46.0
WVT **Waverly** 69.89 54 *eP* **P** 01 10 36.6 +0.3
WVT pmax pmax
comp=Z,9.0nm,1.3s
WVT **Waverly** 69.89 54 *eP* **P** 01 10 36.6 +0.3
comp=Z,9.2nm,1.3s
KECS **Kecovo** 69.96 334 *eP* **P** 01 10 37.2 +0.7
KECS pmax pmax
comp=Z,3.0nm,0.9s
KECS **Kecovo** 69.96 334 *eP* **P** 01 10 37.2 +0.7
NKC **Novy Kostel** 70.00 340 *eP* **P** 01 10 37.0 +0.2
NKC *ex* x 01 10 46.5
NKC **Novy Kostel** 70.00 340 *eP* **P** 01 10 37.0 +0.2
NKC *e* 01 10 46.5
VRAC **Vranov** 70.06 337 ⇓ *iP* **P** 01 10 37.8 +0.7
TESR **Tescani** 70.19 329 ⇑ *iP* **P** 01 10 38.0 +0.1
VYHS **Vyhne** 70.33 335 *eP* **P** 01 10 38.8 0.0
VYHS pmax pmax
comp=Z,4.0nm,1.0s
VYHS **Vyhne** 70.33 335 *eP* **P** 01 10 38.8 0.0
PSZ **Piszkesteto** 70.62 334 ⇑ *iP* **P** 01 10 41.9 +1.2
MEM **Membach** 70.71 344 P **P** 01 10 41.2 +0.2
MEM **Membach** 70.71 344 *eP* **P** 01 10 41.5 +0.5
MEM pmax pmax
comp=Z,17nm,1.0s
MEM **Membach** 70.71 344 *eP* **P** 01 10 41.5 +0.5
comp=Z,17nm,1.0s
GRF **Grafenberg Arr** 70.75 341 *eP* **P** 01 10 42.4 +1.1
comp=Z,14nm,1.2s
PETR **Petresti** 70.75 328 ⇑ *iP* **P** 01 10 42.1 +0.8
VRI **Vrincioaia** 70.76 329 ⇑ *iP* **P** 01 10 41.2 -0.2
TLCR 70.78 327 ⇑ *iP* **P** 01 10 42.1 +0.6
PLOR **Plostina** 70.80 329 ⇑ *iP* **P** 01 10 41.7 0.0
KHC **Kasperske Hory** 70.84 339 *eP* **P** 01 10 42.5 +0.6
KHC **Kasperske Hory** 70.84 339 *eP* **P** 01 10 42.5 +0.6
WET **Wettzell** 70.97 339 *eP* **P** 01 10 43.7 +1.0
comp=Z,12nm,1.3s
DRGR 70.98 332 ⇑ *iP* **P** 01 10 43.3 +0.4
CFR **Carcaliu** 70.98 328 ⇑ *iP* **P** 01 10 43.1 +0.3
DOPR **Dopca** 71.04 330 ⇓ *iP* **P** 01 10 44.3 +1.2
GEC2 **GERESS Array S** 71.09 339 *eP* **P** 01 10 44.2 +0.7
comp=Z,6.0nm,1.1s
GEC2 **GERESS Array S** 71.09 339 *eP* **P** 01 10 43.8 +0.3
GEC2 **GERESS Array S** 71.09 339 *eP* **P** 01 10 43.8 +0.3
GERES **GERESS Array B** 71.09 339 P **P** 01 10 44.0 +0.5
comp=Z,2.9nm,0.9s,baz=38,slow=5.0,SNR=13
GERES LR LR 01 46 18.5
comp=Z,42nm,18.7s,baz=74,slow=40
GERES **GERESS Array B** 71.09 339 P **P** 01 10 44.0 +0.5
MLR **Muntele Rosu** 71.32 329 ⇑ *iP* **P** 01 10 46.5 +1.5
ISR **Istrita** 71.50 329 ⇑ *iP* **P** 01 10 47.2 +1.2
CONA **Conrad Observa** 71.52 337 ⇑ *iP* **P** 01 10 47.4 +1.3
comp=Z,9.7nm,1.1s
TLB **Topalu** 71.55 327 ⇓ *iP* **P** 01 10 46.6 +0.4
TIRR **Tirgusor** 71.56 327 *eP* **P** 01 10 46.5 +0.3
TIRR pmax pmax
comp=Z,10.0nm,0.9s
TIRR **Tirgusor** 71.56 327 *eP* **P** 01 10 46.5 +0.3
comp=Z,10nm,0.9s
WLF **Walferdange** 71.61 344 *eP* **P** 01 10 46.5 0.0
comp=Z,35nm,1.7s
VOIR 71.62 330 ⇑ *iP* **P** 01 10 48.0 +1.3
ARR **Arges** 71.80 330 ⇑ *iP* **P** 01 10 49.3 +1.5
MSAB **Monastry St. A** 72.07 327 ⇓ *iP* **P** 01 10 49.0 -0.3
HYBB **Hyderabad (bro** 72.18 275 *eP* **P** 01 10 49.2 -1.2
HYB **Hyderabad** 72.19 275 *i* P **P** 01 10 49.0 -1.4
ARSA **Arzberg** 72.24 337 ⇑ *iP* **P** 01 10 50.7 +0.4
comp=Z,6.2nm,0.9s
RJOB **Jochberg** 72.33 339 *eP* **P** 01 10 50.5 -0.4
comp=Z,8.0nm,0.9s
PSN **Preselentsi** 72.33 327 ⇑ *iP* **P** 01 10 52.1 +1.2
BZS **Buzias** 72.36 332 ⇑ *iP* **P** 01 10 51.4 +0.4
NJS **Nagarjunasagar** 72.48 273 *eP* **P** 01 10 51.5 -0.6
PKSM **Moragy** 72.52 334 ⇑ *iP* **P** 01 10 52.3 +0.3
IKLH **Kolahrood** 72.67 305 *eP* **P** 01 10 53.4 0.0
IZEF **Zefreh** 72.69 304 *eP* **P** 01 10 53.9 +0.3
KBA **Koelnbreinsper** 72.85 338 ⇑ *iP* **P** 01 10 55.8 +1.7
comp=Z,15nm,1.2s
SOKA **Soboth** 72.89 337 ⇑ *iP* **P** 01 10 55.2 +1.0
comp=Z,8.9nm,1.4s
WTTA **Wattenberg** 73.00 340 ⇑ *iP* **P** 01 10 54.7 -0.4
comp=Z,13nm,1.2s
OBKA **Obir** 73.15 337 ⇑ *iP* **P** 01 10 57.1 +1.2
comp=Z,21nm,0.9s
ABTA **Abfaltersbach** 73.33 339 ⇑ *iP* **P** 01 10 57.3 +0.4
comp=Z,11nm,1.2s
FLN **La Foliniere** 73.36 348 *eP* **P** 01 10 56.8 -0.1
comp=Z,17nm,0.9s
FLN **La Foliniere** 73.36 348 *eP* **P** 01 10 56.8 -0.1
FLN pmax pmax
comp=Z,17nm,0.9s
FLN **La Foliniere** 73.36 348 *eP* **P** 01 10 56.8 -0.1
comp=Z,17nm,0.9s
FETA **Feichten** 73.41 340 ⇓ *iP* **P** 01 10 58.3 +0.8
comp=Z,11nm,1.1s
LDF **La Druitiere** 73.49 348 *eP* **P** 01 10 57.4 -0.3
comp=Z,19nm,1.0s
LDF **La Druitiere** 73.49 348 *eP* **P** 01 10 57.4 -0.3
LDF pmax pmax
comp=Z,19nm,1.0s
LDF **La Druitiere** 73.49 348 *eP* **P** 01 10 57.4 -0.3
comp=Z,19nm,1.0s
MALT **Malatya** 73.73 317 ⇓ *iP* **P** 01 11 00.4 +1.0
GRR **Gorron** 73.78 348 *eP* **P** 01 10 59.4 0.0
GRR **Gorron** 73.78 348 *eP* **P** 01 10 59.4 0.0
GRR **Gorron** 73.78 348 *eP* **P** 01 10 59.4 0.0
BR101 **Keskin Array S** 74.18 321 *eP* **P** 01 11 02.2 +0.2
BRTR **Keskin Array B** 74.18 321 P **P** 01 11 02.2 +0.2
comp=Z,3.2nm,0.7s,baz=52,slow=3.8,SNR=22
BRTR LR LR 01 49 10.6
comp=Z,24nm,18.9s,baz=22,slow=40
DIVS **Divibare** 74.18 333 ⇑ *iP* **P** 01 11 02.3 +0.3
ANTO **Ankara** 74.33 322 ⇑ *iP* **P** 01 11 04.1 +1.2
BR231 **Keskin MP Arra** 74.36 322 *eP* **P** 01 11 02.8 -0.3
SKHT **Srikalahasti** 74.58 271 *eP* **P** 01 11 05.1 +0.6
VTS **Vitosha** 74.75 330 ⇑ *iP* **P** 01 11 05.6 +0.2
URV **Uravakonda** 74.91 274 *eP* **P** 01 11 06.4 -0.1
KDZ **Kurdzhali** 75.01 328 ⇓ *iP* **P** 01 11 08.6 +1.9
MFF **Saint Martin d** 75.46 348 *eP* **P** 01 11 09.5 +0.4
comp=Z,30nm,1.1s
MFF **Saint Martin d** 75.46 348 *eP* **P** 01 11 09.5 +0.4
MFF pmax pmax
comp=Z,30nm,1.1s
MFF **Saint Martin d** 75.46 348 *eP* **P** 01 11 09.5 +0.4
comp=Z,30nm,1.1s
LPL **La Plagne** 75.56 343 *eP* **P** 01 11 11.1 +1.1
comp=Z,20nm,1.1s
LPL **La Plagne** 75.56 343 *eP* **P** 01 11 11.1 +1.1
LPL pmax pmax
comp=Z,20nm,1.1s
LPL **La Plagne** 75.56 343 *eP* **P** 01 11 11.1 +1.1
comp=Z,20nm,1.1s
LPG **La Plagne** 75.58 343 *eP* **P** 01 11 11.3 +1.1
comp=Z,18nm,1.0s
LPG **La Plagne** 75.58 343 *eP* **P** 01 11 11.3 +1.1
LPG pmax pmax
comp=Z,18nm,1.0s
LPG **La Plagne** 75.58 343 *eP* **P** 01 11 11.3 +1.1
comp=Z,18nm,1.0s
SKO **Skopje** 75.81 331 *eP* **P** 01 11 10.4 -0.8
SRS **Serrai** 76.02 329 P **P** 01 11 12.8 +0.3
SRS **Serrai** 76.02 329 P **P** 01 11 12.8 +0.3
SRS **Serrai** 76.02 329 P **P** 01 11 12.8 +0.3
VAY **Valandovo** 76.11 330 *eP* **P** 01 11 11.8 -1.1

GRG	**Griva**	**76.50**	**330**	P	**P**	**01 11 16.0**	**+0.8**
GRG	**Griva**	**76.50**	**330**	P	**P**	**01 11 16.0**	**+0.8**
GRG	**Griva**	**76.50**	**330**	P	**P**	**01 11 16.0**	**+0.8**
OHR	**Ohrid**	**76.78**	**331**	*e*P	**P**	**01 11 15.6**	**-1.2**
XOR	**Xorichti**	**77.76**	**329**	P	**P**	**01 11 21.7**	**-0.6**
XOR	**Xorichti**	**77.76**	**329**	P	**P**	**01 11 21.7**	**-0.6**
CHOS	**Chios island**	**77.83**	**326**	P	**P**	**01 11 22.6**	**-0.2**
CHOS	**Chios island**	**77.83**	**326**	P	**P**	**01 11 22.6**	**-0.2**
IGT	**Igoumenitsa**	**78.38**	**331**	P	**P**	**01 11 25.5**	**-0.2**
IGT	**Igoumenitsa**	**78.38**	**331**	P	**P**	**01 11 25.5**	**-0.2**
IGT	**Igoumenitsa**	**78.38**	**331**	P	**P**	**01 11 25.5**	**-0.2**
DSL	**Palaion Diesel**	**78.55**	**330**	P	**P**	**01 11 27.2**	**+0.5**
DSL	**Palaion Diesel**	**78.55**	**330**	P	**P**	**01 11 27.2**	**+0.5**
PDO	**Prodromos**	**79.03**	**330**	P	**P**	**01 11 29.2**	**-0.1**
LTK	**Loutraki**	**79.07**	**328**	P	**P**	**01 11 28.3**	**-1.3**
LTK	**Loutraki**	**79.07**	**328**	P	**P**	**01 11 28.3**	**-1.3**
ARG	**Arkhangelos**	**79.18**	**324**	P	**P**	**01 11 29.9**	**-0.3**
ARG	**Arkhangelos**	**79.18**	**324**	P	**P**	**01 11 29.9**	**-0.3**
ARG	**Arkhangelos**	**79.18**	**324**	P	**P**	**01 11 29.9**	**-0.3**
KLV	**Kalavryta, Ach**	**79.28**	**329**	P	**P**	**01 11 29.9**	**-0.9**
KLV	**Kalavryta, Ach**	**79.28**	**329**	P	**P**	**01 11 29.9**	**-0.9**
ITM	**Ithomi**	**80.15**	**329**	P	**P**	**01 11 34.5**	**-1.0**
ITM	**Ithomi**	**80.15**	**329**	P	**P**	**01 11 34.5**	**-1.0**
WRA	**Warramunga Arr**	**80.42**	**207**	P	**P**	**01 11 35.8**	**-1.1**
	comp=Z,4.7nm,1.1s,baz=17,slow=5.7,SNR=7.2						
LAST	**Lasithi**	**80.98**	**325**	P	**P**	**01 11 38.5**	**-1.5**
LAST	**Lasithi**	**80.98**	**325**	P	**P**	**01 11 38.5**	**-1.5**
ES19	**SONSECA Array**	**82.69**	**349**	*e*P	**P**	**01 11 49.6**	**+0.7**
ESDC	**Sonseca Array**	**82.72**	**349**	P	**P**	**01 11 49.2**	**+0.2**
	comp=Z,3.5nm,1.0s,baz=5.6,slow=5.6,SNR=9.6						
RAYN	**Ar Rayn**	**83.79**	**305**	*e*P	**P**	**01 11 54.3**	**-0.5**
	comp=Z,2.5nm,0.8s						
AS12	**Alice Springs**	**84.11**	**206**	*e*P	**P**	**01 11 56.0**	**-0.1**
ASAR	**Alice Springs**	**84.11**	**206**	P	**P**	**01 11 56.0**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=9.7,slow=4.9,SNR=14						
KEST	**Kesra**	**84.57**	**338**	P	**P**	**01 11 59.8**	**+1.1**
	comp=Z,5.9nm,1.1s,baz=0.9,slow=3.0,SNR=6.2						
STKA	**Stephens Creek**	**90.53**	**198**	LR	LR	01 56 25.5	
	comp=Z,36nm,18.0s,baz=197,slow=38						
MAW	**Mawson**	**144.08**	**220**	PKP	PKPbc	01 18 58.3	+0.9
	comp=Z,2.9nm,0.8s,baz=86,slow=4.7,SNR=3.6						

*AZER **05** 01:12:18.0±2.9, 41.°99N×45.°90E, h3km, Error ellipse: s-maj=3.9km s-min=1.6km az=340.0*
*TIF **05** 01:12:19.7, 42.°02N×45.°92E, h15km±1km*
*MOS **05** 01:12:21.2±1.1, 42.°03N×45.°95E, h11km, mb4.1/1, Error ellipse: s-maj=6.5km s-min=5.1km az=109.7*
*CSEM **05** 01:12:21.0±0.1, 42.°06N×45.°93E, h2km, mb4.1, Error ellipse: s-maj=3.0km s-min=2.6km az=15.0*
*NSSP **05** 01:13:20.6, 41.°98N×45.°78E, h5km, Ms3.2*
ISC 05 01:12:20.7±1.0, **42.°06N**±0.°01×**45.°91E**±0.°01, **h6**km±9km, **n124, s19/18/209, 33C-23D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTLR	**Botlikh**	**0.65**	**21**	⇑*i* PG	**Pg**	**01 12 33.8**	**+0.6**
BTLR				*i* S	**Sb**	**01 12 43.5**	**-0.4**
BTLR				pmax	pmax		
	comp=Z,490nm,0.3s						
BTLR	**Botlikh**	**0.65**	**21**	*i* Pg	**Pg**	**01 12 33.8**	**+0.6**
	comp=Z,490nm,0.3s						
BTLR				*i* Sg	**Sb**	**01 12 43.5**	**-0.4**
ZKTA	**Zakatala**	**0.68**	**128**	⇓P	**Pg**	**01 12 33.7**	**0.0**
	SNR=147						
ZKTA				⇑S	**Sb**	**01 12 44.0**	**-0.6**
XNZR	**Khunzakh**	**0.76**	**50**	⇓*i* PG	**Pg**	**01 12 35.2**	**-0.2**
XNZR				*i* S	**Sg**	**01 12 45.8**	**+0.5**
XNZR				pmax	pmax		
	comp=Z,275nm,0.2s						
XNZR	**Khunzakh**	**0.76**	**50**	*i* Pg	**Pg**	**01 12 35.2**	**-0.2**
	comp=Z,275nm,0.2s						
XNZR				*i* Sg	**Sg**	**01 12 45.8**	**+0.5**
SEAG	**Tbilisi Sea**	**0.88**	**251**	P	**Pg**	**01 12 36.5**	**-1.0**
SEAG				S	**Sb**	**01 12 49.9**	**-0.5**
SEAG	**Tbilisi Sea**	**0.88**	**251**	P	**Pg**	**01 12 36.5**	**-1.0**
SEAG				S	**Sb**	**01 12 49.9**	**-0.5**
KMKR	**Kumukh**	**0.89**	**85**	⇑*i* PG	**Pg**	**01 12 37.7**	**0.0**
KMKR				*i* S	**Sg**	**01 12 49.9**	**+0.6**
KMKR				pmax	pmax		
	comp=Z,142nm,0.3s						
KMKR	**Kumukh**	**0.89**	**85**	*i* Pg	**Pg**	**01 12 37.7**	**0.0**
	comp=Z,142nm,0.3s						
KMKR				*i* Sg	**Sg**	**01 12 49.9**	**+0.6**
DUS	**Dusheti**	**0.90**	**272**	P	**Pb**	**01 12 38.8**	**0.0**
DUS				S	**Sb**	**01 12 52.2**	**+1.1**
DUS	**Dusheti**	**0.90**	**272**	P	**Pb**	**01 12 38.8**	**0.0**
UNCR	**Uncukul**	**0.93**	**45**	⇑*i* PG	**Pg**	**01 12 38.0**	**-0.5**
UNCR				*i* S	**Sg**	**01 12 51.0**	**+0.5**
UNCR				pmax	pmax		
	comp=Z,161nm,0.3s						
UNCR	**Uncukul**	**0.93**	**45**	*i* Pg	**Pg**	**01 12 38.0**	**-0.5**
	comp=Z,161nm,0.3s						
UNCR				*i* Sg	**Sg**	**01 12 51.0**	**+0.5**
TBLG	**Delisi**	**0.93**	**250**	P	**Pg**	**01 12 38.2**	**-0.5**
TBLG				S	**Sb**	**01 12 51.7**	**-0.3**
TBLG	**Delisi**	**0.93**	**250**	*e*PG	**Pg**	**01 12 38.1**	**-0.5**
TBLG	**Delisi**	**0.93**	**250**	P	**Pg**	**01 12 38.2**	**-0.5**
ARKR	**Arakani**	**0.97**	**56**	*e*PG	**Pg**	**01 12 39.3**	**0.0**
ARKR				*e*S	**Sb**	**01 12 53.0**	**-0.1**
ARKR				pmax	pmax		
	comp=Z,76nm,0.2s						
ARKR	**Arakani**	**0.97**	**56**	*e*Pg	**Pg**	**01 12 39.3**	**0.0**
	comp=Z,76nm,0.2s						
ARKR				*e*Sg	**Sb**	**01 12 53.0**	**-0.1**
KRNR	**Karanay**	**1.06**	**43**	⇑*i* PG	**Pg**	**01 12 40.0**	**-1.1**
KRNR				*i* S	**Sg**	**01 12 54.2**	**-0.8**
KRNR				pmax	pmax		
	comp=Z,114nm,0.2s						
KRNR	**Karanay**	**1.06**	**43**	*i* Pg	**Pg**	**01 12 40.0**	**-1.1**
	comp=Z,114nm,0.2s						
KRNR				*i* Sg	**Sg**	**01 12 54.2**	**-0.8**
QZX	**Qazax, Azerbai**	**1.08**	**202**	⇓P	**Pg**	**01 12 40.6**	**-0.8**
	SNR=22						
QZX				⇑S	**Sb**	**01 12 56.3**	**+0.2**
QZX	**Qazax, Azerbai**	**1.08**	**202**	P	**Pg**	**01 12 40.6**	**-0.8**
	SNR=22						
QZX				S	**Sb**	**01 12 56.3**	**+0.2**
DLMR	**Dylym**	**1.14**	**27**	*i* PG	**Pg**	**01 12 41.5**	**-1.1**
DLMR	**Dylym**	**1.14**	**27**	*i* Pg	**Pg**	**01 12 41.5**	**-1.1**
BUJR	**Buynaksk**	**1.17**	**49**	⇑*i* PG	**Pg**	**01 12 43.0**	**-0.2**
BUJR				*e*S	**Sb**	**01 12 59.0**	**+0.1**
BUJR				pmax	pmax		
	comp=Z,134nm,0.2s						
BUJR	**Buynaksk**	**1.17**	**49**	*i* Pg	**Pg**	**01 12 43.0**	**-0.2**
	comp=Z,134nm,0.2s						
BUJR				*e*Sg	**Sb**	**01 12 59.0**	**+0.1**
DBC	**Dubki**	**1.18**	**35**	⇓*i* PG	**Pg**	**01 12 42.9**	**-0.4**
DBC				*i* S	**Sb**	**01 12 59.5**	**+0.4**
DBC	**Dubki**	**1.18**	**35**	*i* Pg	**Pg**	**01 12 42.9**	**-0.4**
DBC				*i* Sg	**Sb**	**01 12 59.5**	**+0.4**
GRO	**Groznyy**	**1.27**	**355**	⇓*i* PG	**Pg**	**01 12 43.2**	**-1.8**
GRO				*i* S	**Sg**	**01 13 00.0**	**-1.4**
GRO	**Groznyy**	**1.27**	**355**	*i* Pg	**Pg**	**01 12 43.2**	**-1.8**
GRO				*i* Sg	**Sg**	**01 13 00.0**	**-1.4**
SEKA	**Sheki**	**1.28**	**131**	⇑P	**Pn**	**01 12 43.7**	**-1.6**
	SNR=15						
SEKA				⇑S	**Sg**	**01 13 01.6**	**-0.4**
SEKA	**Sheki**	**1.28**	**131**	P	**Pn**	**01 12 43.7**	**-1.6**
	SNR=15						
SEKA				S	**Sg**	**01 13 01.6**	**-0.4**
URKR	**Urkarakh**	**1.29**	**85**	*i* PG	**Pn**	**01 12 45.0**	**-0.4**
URKR				*e*S	**Sn**	**01 13 04.5**	**+1.5**
URKR				pmax	pmax		
	comp=Z,61nm,0.3s						
URKR	**Urkarakh**	**1.29**	**85**	*i* Pg	**Pn**	**01 12 45.0**	**-0.4**
	comp=Z,61nm,0.3s						
URKR				*e*Sg	**Sn**	**01 13 04.5**	**+1.5**
SNJR	**Sundja**	**1.30**	**322**	⇑*i* PG	**Pb**	**01 12 46.2**	**+0.7**
SNJR				*i* S	**Sn**	**01 13 04.3**	**+1.1**
SNJR	**Sundja**	**1.30**	**322**	*i* Pg	**Pb**	**01 12 46.2**	**+0.7**
SNJR				*i* Sg	**Sn**	**01 13 04.3**	**+1.1**
VLKR	**Vladikavkaz**	**1.34**	**318**	*e*PG	**Pb**	**01 12 46.5**	**+0.1**
VLKR				*e*S	**Sn**	**01 13 05.3**	**+1.0**
VLKR	**Vladikavkaz**	**1.34**	**318**	*e*Pg	**Pb**	**01 12 46.5**	**+0.1**
VLKR				*e*Sg	**Sn**	**01 13 05.3**	**+1.0**
LACR	**Lac**	**1.42**	**303**	⇑*i* PG	**Pn**	**01 12 46.7**	**-0.5**
LACR				*e*S	**Sb**	**01 13 06.3**	**+0.2**
LACR	**Lac**	**1.42**	**303**	*i* Pg	**Pn**	**01 12 46.7**	**-0.5**
LACR				*e*Sg	**Sb**	**01 13 06.3**	**+0.2**
GANJ	**Ganja**	**1.44**	**167**	⇑P	**Pn**	**01 12 45.9**	**-1.5**
	SNR=84						
GANJ	**Ganja**	**1.44**	**167**	P	**Pn**	**01 12 45.9**	**-1.5**
	SNR=84						
CKLZ	**Chkalov**	**1.47**	**221**	⇓*i* P	**Pn**	**01 12 46.7**	**-1.2**
CKLZ				⇑*i* S	**Sn**	**01 13 06.5**	**-1.0**
CKLZ	**Chkalov**	**1.47**	**221**	⇓P	**Pn**	**01 12 46.7**	**-1.2**
CKLZ				S	**Sn**	**01 13 06.5**	**-1.0**
AKT	**Akhty**	**1.48**	**112**	*e*PG	**Pb**	**01 12 48.8**	**+0.1**
AKT				S	**Sb**	**01 13 08.2**	**+0.4**
AKT				pmax	pmax		
	comp=Z,49nm,0.2s						
AKT	**Akhty**	**1.48**	**112**	*e*Pg	**Pb**	**01 12 48.8**	**+0.1**
	comp=Z,49nm,0.2s						
AKT				Sg	**Sb**	**01 13 08.2**	**+0.4**
MAK	**Makhachkala**	**1.48**	**52**	*e*PG	**Pg**	**01 12 50.0**	**+0.8**
MAK				*e*		01 13 11.0	
MAK				pmax	pmax		
	comp=Z,266nm,0.4s						
MAK				smax	smax		
	comp=N,632nm,0.6s						
MAK				smax	smax		
	comp=E,728nm,0.5s						
MAK	**Makhachkala**	**1.48**	**52**	*e*Pg	**Pg**	**01 12 50.0**	**+0.8**
	comp=E,266nm,0.4s						
STEZ	**Stepenevan**	**1.55**	**228**	⇓*i* P	**Pn**	**01 12 47.7**	**-1.3**
STEZ				⇑*i* S	**Sn**	**01 13 08.5**	**-1.1**
STEZ	**Stepenevan**	**1.55**	**228**	⇑*i* P	**Pn**	**01 12 46.6**	**-2.4**
STEZ				⇑*i* S	**Sn**	**01 13 08.0**	**-1.6**
MNGR	**Mingechevir, A**	**1.56**	**145**	⇑Pn	**Pn**	**01 12 49.0**	**+0.1**
	SNR=15						
MNGR				⇓Sn	**Sg**	**01 13 11.6**	**+0.9**
MNGR	**Mingechevir, A**	**1.56**	**145**	Pn	**Pn**	**01 12 49.0**	**+0.1**
	SNR=15						
MNGR				Sn	**Sg**	**01 13 11.6**	**+0.9**
STE	**Stepanavan**	**1.57**	**228**	⇑P	**Pn**	**01 12 46.6**	**-2.6**
STE				S	**Sn**	**01 13 08.0**	**-1.9**
ARNR	**Ardon**	**1.64**	**314**	⇓*i* PN	**Pg**	**01 12 52.0**	**-0.2**
ARNR				*e*S	**Sg**	**01 13 14.4**	**+0.9**
ARNR	**Ardon**	**1.64**	**314**	*i* Pn	**Pg**	**01 12 52.0**	**-0.2**
ARNR				*e*Sg	**Sg**	**01 13 14.4**	**+0.9**
BTKR	**Batakoyurt**	**1.66**	**323**	⇓*i* PN	**Pg**	**01 12 52.2**	**-0.2**
BTKR				*e*S	**Sg**	**01 13 14.8**	**+0.9**
BTKR	**Batakoyurt**	**1.66**	**323**	*i* Pn	**Pg**	**01 12 52.2**	**-0.2**
BTKR				*e*Sg	**Sg**	**01 13 14.8**	**+0.9**
ZEI	**Tsey**	**1.66**	**297**	*e*PN	**Pb**	**01 12 51.4**	**-0.4**
ZEI				*e*S	**Sb**	**01 13 13.8**	**+0.8**
ZEI	**Tsey**	**1.66**	**297**	*e*Pn	**Pb**	**01 12 51.4**	**-0.4**
ZEI				*e*Sg	**Sb**	**01 13 13.8**	**+0.8**
KORR	**Kora**	**1.71**	**308**	⇓*i* PN	**Pb**	**01 12 52.9**	**+0.4**
KORR				*e*S	**Sg**	**01 13 15.8**	**+0.3**
KORR	**Kora**	**1.71**	**308**	*i* Pn	**Pb**	**01 12 52.9**	**+0.4**
KORR				*e*Sg	**Sg**	**01 13 15.8**	**+0.3**
KSMR	**Kasumkent**	**1.72**	**105**	*e*PN	**Pb**	**01 12 53.0**	**+0.3**
KSMR				*e*S	**Sg**	**01 13 17.5**	**+1.6**
KSMR	**Kasumkent**	**1.72**	**105**	*e*Pn	**Pb**	**01 12 53.0**	**+0.3**
KSMR				*e*Sg	**Sg**	**01 13 17.5**	**+1.6**
TRKR	**Terskaya**	**1.88**	**333**	*i* PN	**Pb**	**01 12 55.1**	**-0.3**
TRKR	**Terskaya**	**1.88**	**333**	*i* Pn	**Pb**	**01 12 55.1**	**-0.3**
VADZ	**Vardenis**	**1.89**	**184**	⇓*i* P	Pg	01 13 01.0	+4.1
VADZ				⇑*i* S	Sg	01 13 28.0	+6.6
STDR	**Stavd-Durt**	**1.89**	**315**	*e*PN	**Pb**	**01 12 55.9**	**+0.3**
STDR				*e*S	**Sg**	**01 13 21.2**	**-0.2**
STDR	**Stavd-Durt**	**1.89**	**315**	*e*Pn	**Pb**	**01 12 55.9**	**+0.3**
STDR				*e*Sg	**Sg**	**01 13 21.2**	**-0.2**
ONI	**Oni**	**1.90**	**287**	P	**Pn**	**01 12 54.8**	**+1.1**
ONI				S	**Sb**	**01 13 20.3**	**+0.4**
ONI	**Oni**	**1.90**	**287**	P	**Pn**	**01 12 54.8**	**+1.1**
ONI				S	**Sb**	**01 13 20.3**	**+0.4**
DIGR	**Digorskoe uzhe**	**1.92**	**297**	*e*PN	**Pb**	**01 12 55.9**	**-0.3**
DIGR	**Digorskoe uzhe**	**1.92**	**297**	*e*Pn	**Pb**	**01 12 55.9**	**-0.3**
AKH	**Akhalkalaki**	**1.92**	**251**	P	**Pn**	**01 12 54.8**	**+0.7**
AKH				S	**Sn**	**01 13 20.0**	**+1.2**
AKH	**Akhalkalaki**	**1.92**	**251**	P	**Pn**	**01 12 54.8**	**+0.7**
AKH				S	**Sn**	**01 13 20.0**	**+1.2**
KAPZ	**Kaputan**	**1.96**	**208**	*e*P	Pg	01 13 02.3	+4.1
KAPZ				*e*S	**Sg**	**01 13 28.0**	**+4.3**
LSNR	**Lesken**	**1.96**	**309**	*e*PN	**Pb**	**01 12 56.7**	**-0.2**
LSNR	**Lesken**	**1.96**	**309**	*e*Pn	**Pb**	**01 12 56.7**	**-0.2**
BRDA	**Brd**	**2.03**	**151**	⇑Pn	**Pb**	**01 12 56.9**	**-1.1**
	SNR=11						
BRDA				⇓Sn	**Sb**	**01 13 24.7**	**+1.1**
BRDA	**Brd**	**2.03**	**151**	Pn	**Pb**	**01 12 56.9**	**-1.1**
	SNR=11						
BRDA				Sn	**Sb**	**01 13 24.7**	**+1.1**
QUBA	**Quba, Azerbaij**	**2.06**	**109**	⇑Pn	**Pb**	**01 12 58.0**	**-0.5**
	SNR=3.2						
QUBA				⇓Sn	**Sg**	**01 13 27.2**	**+0.5**
QUBA	**Quba, Azerbaij**	**2.06**	**109**	Pn	**Pb**	**01 12 58.0**	**-0.5**
	SNR=3.2						
QUBA				Sn	**Sg**	**01 13 27.2**	**+0.5**
PRTR	**Priterechnaya**	**2.07**	**325**	⇑*i* PN	**Pb**	**01 12 58.1**	**-0.6**
PRTR				*e*S	**Sb**	**01 13 25.5**	**+0.7**
PRTR	**Priterechnaya**	**2.07**	**325**	*i* Pn	**Pb**	**01 12 58.1**	**-0.6**
GNI	**Garni**	**2.10**	**205**	⇓*i* P	**Pn**	**01 12 56.5**	**-0.1**
GNI				⇑*i* S	**Sb**	**01 13 25.0**	**-0.8**
GNI	**Garni**	**2.10**	**205**	*d*i PN	**Pn**	**01 12 56.4**	**-0.1**
GNI	**Garni**	**2.10**	**205**	⇓P	**Pn**	**01 12 56.5**	**-0.1**
GNI				S	**Sb**	**01 13 25.0**	**-0.8**
IML	**Ismayilli**	**2.12**	**126**	⇓Pn	**Pn**	**01 12 58.0**	**+1.2**
	SNR=8.1						
IML				⇑Sn	**Sb**	**01 13 27.6**	**+1.3**
IML	**Ismayilli**	**2.12**	**126**	Pn	**Pn**	**01 12 58.0**	**+1.2**
	SNR=8.1						
IML				Sn	**Sb**	**01 13 27.6**	**+1.3**
NCK	**Nalchik**	**2.23**	**311**	*i* PN	**Pn**	**01 12 59.8**	**+1.6**
NCK	**Nalchik**	**2.23**	**311**	*i* Pn	**Pn**	**01 12 59.8**	**+1.6**
PQL	**Pirkuli**	**2.38**	**121**	⇑Pn	**Pn**	**01 13 02.3**	**+1.8**
PQL				⇑Sn	**Sb**	**01 13 33.5**	**-0.3**
PQL	**Pirkuli**	**2.38**	**121**	Pn	**Pn**	**01 13 02.3**	**+1.8**
PQL				Sn	**Sb**	**01 13 33.5**	**-0.3**
KDMR	**Kurdemir**	**2.40**	**134**	⇑Sn	**Sb**	**01 13 34.0**	**-0.2**
KDMR	**Kurdemir**	**2.40**	**134**	Sn	**Sb**	**01 13 34.0**	**-0.2**
DIGO	**Kars**	**2.52**	**230**	*i* P	**Pn**	**01 13 04.1**	**+1.6**
DIGO				*i* S	**Sb**	**01 13 37.5**	**-0.4**
DIGO	**Kars**	**2.52**	**230**	*i* P	**Pn**	**01 13 04.1**	**+1.6**
DIGO				*i* S	**Sb**	**01 13 37.5**	**-0.4**
ATGJ	**Altiaghaj**	**2.57**	**117**	⇓Pn	**Pn**	**01 13 05.0**	**+2.0**
ATGJ				⇑Sn	**Sb**	**01 13 38.2**	**-1.0**
ATGJ	**Altiaghaj**	**2.57**	**117**	Pn	**Pn**	**01 13 05.0**	**+2.0**
ATGJ				Sn	**Sb**	**01 13 38.2**	**-1.0**
NEY	**Neytrino**	**2.64**	**298**	*i* PN	**Pn**	**01 13 06.4**	**+2.4**
NEY	**Neytrino**	**2.64**	**298**	*i* Pn	**Pn**	**01 13 06.4**	**+2.4**
NAX	**Nakhchivan**	**2.90**	**186**	⇓Pn	**Pn**	**01 13 07.9**	**+0.4**
NAX	**Nakhchivan**	**2.90**	**186**	Pn	**Pn**	**01 13 07.9**	**+0.4**
CHVG	**Ch'k'valeri**	**2.91**	**284**	P	**Pb**	**01 13 12.4**	**-0.6**
CHVG				S	**Sb**	**01 13 51.2**	**+2.3**
CHVG	**Ch'k'valeri**	**2.91**	**284**	P	**Pb**	**01 13 12.4**	**-0.6**
KIV	**Kislovodsk**	**3.03**	**310**	*e*PN	**Pb**	**01 13 12.7**	**-2.4**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KIV	**Kislovodsk**	**3.03**	**310**	*e*Pn	**Pb**	**01 13 12.7**	**-2.4**
	comp=Z,4.0nm,1.2s						
ARTV	**Artvin**	**3.11**	**255**	*i* P	**Pn**	**01 13 13.4**	**+2.9**
ARTV	**Artvin**	**3.11**	**255**	*i* P	**Pn**	**01 13 13.4**	**+2.9**
ARTV				*i* S	**Sb**	**01 13 56.2**	**+1.4**
DAGI	**Agillar**	**3.15**	**253**	*i* P	**Pb**	**01 13 16.0**	**-1.3**
DAGI				*i* S	**Sb**	**01 13 58.7**	**+2.7**
DBAD	**Bademkaya**	**3.33**	**253**	*i* P	**Pb**	**01 13 19.1**	**-1.2**
DBAD	**Bademkaya**	**3.33**	**253**	*i* P	**Pb**	**01 13 19.1**	**-1.2**
DBAD				*i* S	**Sb**	**01 14 03.1**	**+2.0**
DDEM	**Demirkent**	**3.33**	**251**	*i* P	**Pb**	**01 13 19.0**	**-1.3**
DDEM	**Demirkent**	**3.33**	**251**	*i* P	**Pb**	**01 13 19.0**	**-1.3**
DDEM				*i* S	**Sb**	**01 14 02.2**	**+0.9**
GLBA	**Clilabad**	**3.39**	**145**	⇑Pn	**Pn**	**01 13 14.5**	**+0.4**
GLBA				⇑Sn	**Sn**	**01 13 57.5**	**+2.9**
GLBA	**Clilabad**	**3.39**	**145**	Pn	**Pn**	**01 13 14.5**	**+0.4**
GLBA				Sn	**Sn**	**01 13 57.5**	**+2.9**
EATA	**Eleskirt**	**3.39**	**231**	*i* P	**Pn**	**01 13 16.7**	**+2.2**
EATA	**Eleskirt**	**3.39**	**231**	*i* P	**Pn**	**01 13 16.7**	**+2.2**
EATA				*i* S	**Sb**	**01 14 06.2**	**+3.1**
TUTA	**Tutak**	**3.55**	**223**	*i* P	**Pb**	**01 13 24.1**	**+0.1**
LRK	**Lerik**	**3.88**	**151**	⇓Pn	**Pn**	**01 13 21.6**	**+0.5**
	SNR=5.3						
LRK				⇓Sn	**Sn**	**01 14 09.1**	**+2.0**
LRK	**Lerik**	**3.88**	**151**	Pn	**Pn**	**01 13 21.6**	**+0.5**
	SNR=5.3						
LRK				Sn	**Sn**	**01 14 09.1**	**+2.0**
AKTO	**Aktyubinsk**	**11.84**	**41**	⇑Pn	**Pn**	**01 15 08.9**	**-1.1**
	comp=Z,1.2nm,0.6s						
AKTO				⇑Sn	Sn	01 17 12.8	-10
	comp=Z,2.6nm,1.1s						
AKTO	**Aktyubinsk**	**11.84**	**41**	Pn	**Pn**	**01 15 08.9**	**-1.1**
	comp=Z,1.2nm,0.6s						
AB31	**Akbulak array**	**12.16**	**49**	Pn	**Pn**	**01 15 13.7**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=240,slow=14,SNR=13						
AB31				⇑Sn	**Sn**	**01 17 26.9**	**-3.4**
	comp=Z,0.6nm,0.6s,baz=236,slow=23,SNR=5.6						
AB31	**Akbulak array**	**12.16**	**49**	Pn	**Pn**	**01 15 13.7**	**-0.7**
	comp=Z,0.2nm,0.3s,SNR=13						

*ISCJB **05** 01:23:03.2±0.9, 22.°77S±0.°07×70.°59W±0.°09, h32km, mb3.9/4, Error ellipse: s-maj=11.9km s-min=9.9km az=2.6*
*IDC **05** 01:23:09.0±2.4, 22.°83S×70.°26W, h74km±22km, mb3.5/4, mb1 3.6/5, mb1mx3.4/21, mbtmp3.7/5, MS2.0/1, Ms1 2.0/1, ms1mx2.0/15, Error ellipse: s-maj=29.5km s-min=18.9km az=110.0*
ISC 05 01:23:05.2±1.0, **22.°69S**±0.°09×**70.°44W**±0.°10, **h32**km, **n6, s1°35/8, mb4.0/4, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.41**	**87**	P	**Pn**	**01 23 29.8**	**+0.9**
	9μm,0.3s,baz=258,slow=10,SNR=1218						
LVC				S	**Sb**	**01 23 48.3**	**-0.6**
	25μm,0.3s,baz=6.3,slow=18,SNR=45						
LVC				LR	LR	01 24 05.8	
	comp=Z,758nm,20.6s,baz=296,slow=45						
CFAA	**Coronel Fontan**	**9.10**	**168**	P	**Pn**	**01 25 13.8**	**-0.5**
	0.1nm,0.3s,baz=352,slow=12,SNR=9.8						
CFAA				S	**Sn**	**01 26 57.3**	**+1.6**
	0.1nm,0.3s,baz=227,slow=19,SNR=2.6						
CFAA				LR	LR	01 28 54.9	
	comp=Z,10nm,22.0s,baz=256,slow=39						
PTGA	**Pitinga**	**24.08**	**26**	P	**P**	**01 28 18.8**	**+0.8**
	4.1nm,0.3s,baz=188,slow=2.2,SNR=13						
TXAR	**Lajitas Array**	**60.81**	**327**	P	**P**	**01 33 15.2**	**+0.7**
	0.2nm,0.5s,baz=142,slow=10,SNR=3.3						
TORD	**Torodi Ar. Bea**	**79.09**	**71**	P	**P**	**01 35 05.0**	**-2.0**
	1.4nm,0.7s,baz=254,slow=5.0,SNR=20						
YKA	**Yellowknife Ar**	**91.84**	**341**	P	**P**	**01 36 09.4**	**-0.1**
	0.4nm,0.7s,baz=136,slow=4.1,SNR=10						

*ISCJB **05** 01:32:58.0±0.3, 6.°53S±0.°03×130.°11E±0.°04, h146km, mb4.0/11, Error ellipse: s-maj=6.4km s-min=4.4km az=161.7*
*DJA **05** 01:33:02.2±0.5, 7.°5S±4.°×13.°0E±.°, h107km±12km, M4.8/13, mb4.9/8, mB5.3/8, MLv4.9/13, Mw(mB)4.8/8*
*IDC **05** 01:33:03.8±2.7, 6.°53S×130.°08E, h188km±25km, mb3.7/11, mb1 3.9/12, mb1mx3.7/24, mbtmp4.3/12, Error ellipse: s-maj=27.8km s-min=10.9km az=63.0*
ISC 05 01:32:59.4±0.5, **6.°65S**±0.°04×**130.°21E**±0.°06, **h146**km, **n55, s°00/59, mb3.9/11, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.71**	**141**	P	**Pn**	**01 33 30.8**	**-0.2**
BNDI	**Bandanaira**	**2.13**	**352**	P	**Pn**	**01 33 37.7**	**+1.8**
**MS

SONM	**Songino Array**	**58.18**	**341**	P	**P**	**01 42 37.5**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=157,slow=6.1,SNR=7.0						
MKAR	**Makanchi Array**	**68.05**	**327**	P	**P**	**01 43 42.3**	**-0.9**
	comp=Z,4.0nm,0.5s,baz=118,slow=6.6,SNR=4.1						
MKAR				pP	pP	01 44 26.0	+7.5
	comp=Z,1.0nm,0.6s,baz=190,slow=6.2,SNR=2.4						
ZALV	**Zalesovo Beam**	**71.36**	**334**	P	**P**	**01 44 01.1**	**-2.1**
	comp=Z,0.6nm,0.4s,baz=144,slow=5.3,SNR=4.0						
VNDA	**Vanda**	**72.77**	**173**	P	**P**	**01 44 11.6**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=339,slow=6.2,SNR=5.3						
BVAR	**Borovoye Array**	**77.88**	**328**	P	**P**	**01 44 39.6**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=108,slow=3.6,SNR=3.0						
ILAR	**Eielson Array**	**92.94**	**25**	P	**P**	**01 45 53.3**	**-2.4**
	comp=Z,0.3nm,0.6s,baz=282,slow=4.3,SNR=5.4						
TORD	**Torodi Ar. Bea**	**128.94**	**281**	PKP	**PKPdf**	**01 51 50.1**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=102,slow=1.5,SNR=4.3						
CPUP	**Villa Florida**	**146.41**	**168**	PKPbc	**PKPdf**	**01 52 23.3**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=257,slow=4.1,SNR=4.6						

WEL 05 01:47:14.0±0.1, 40.69S×174.12E, h85km±2km, ML3.7/18, 16C-14D, Error ellipse: s-maj=1.1km s-min=0.6km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUWZ	**D'Urville Isla**	**0.19**	**233**	↑PN	Pn	01 47 25.7	-0.7
DUWZ				SN	Sn	01 47 34.7	-1.0
TCW	**Tory Channel**	**0.54**	**167**	↑PN	Pn	01 47 28.7	+0.1
TCW				SN	Sn	01 47 38.9	-0.5
TCW				AML	AML	01 47 39.9	
KIW	**Kapiti Island**	**0.62**	**106**	↑PN	Pn	01 47 29.5	+0.1
KIW				AML	AML	01 47 30.1	
KIW				AML	AML	01 47 41.3	
TUWZ	**Tuamarina**	**0.75**	**190**	↓PN	Pn	01 47 30.1	-0.5
TUWZ				AML	AML	01 47 42.8	
TUWZ				AML	AML	01 47 42.8	
NNZ	**Nelson**	**0.77**	**227**	↓PN	Pn	01 47 30.0	-0.8
NNZ				SN	Sn	01 47 42.3	-1.1
WEL	**Wellington**	**0.77**	**141**	↑PN	Pn	01 47 31.1	+0.3
OGWZ	**Otaki Gorge**	**0.81**	**99**	↑PN	Pn	01 47 31.5	+0.3
CAW	**Cannon Point**	**0.83**	**121**	↑PN	Pn	01 47 31.7	+0.2
CAW				AML	AML	01 47 33.1	
CAW				AML	AML	01 47 48.7	
BHW	**Baring Head**	**0.92**	**142**	↑PN	Pn	01 47 32.3	0.0
BHW				AML	AML	01 47 46.4	
BHW				AML	AML	01 47 50.9	
BSWZ	**Blackbirch Sta**	**1.04**	**190**	PN	Pn	01 47 34.1	+0.3
BSWZ				AML	AML	01 47 49.4	
BSWZ				AML	AML	01 47 50.6	
CMWZ	**Cape Campbell**	**1.06**	**176**	PN	Pn	01 47 34.7	+0.5
CMWZ				AML	AML	01 47 54.9	
CMWZ				AML	AML	01 47 55.3	
HOWZ	**Holdsworth Sta**	**1.08**	**102**	↑PN	Pn	01 47 34.2	-0.1
MRZ	**Mangatainoka R**	**1.11**	**89**	↓PN	Pn	01 47 34.4	-0.3
MRZ				AML	AML	01 47 50.1	
MRZ				AML	AML	01 47 50.9	
MSWZ	**Moikau Station**	**1.12**	**131**	PN	Pn	01 47 34.8	0.0
MSWZ				AML	AML	01 47 50.3	
MSWZ				AML	AML	01 47 50.9	
WAZ	**Wanganui**	**1.14**	**36**	↓PN	Pn	01 47 35.0	+0.5
MTW	**Mount Morrison**	**1.15**	**115**	PN	Pn	01 47 35.0	-0.1
MTW				AML	AML	01 47 38.4	
MTW				AML	AML	01 47 58.2	
PAWZ	**Paruwai Farm**	**1.21**	**125**	PN	Pn	01 47 35.8	-0.1
PAWZ				AML	AML	01 47 52.1	
PAWZ				AML	AML	01 47 53.2	
QRZ	**Quartz Range**	**1.22**	**263**	PN	Pn	01 47 34.2	-1.8
QRZ				*e*SN	Sn	01 47 49.6	-3.0
PLWZ	**Palliser**	**1.23**	**136**	PN	Pn	01 47 36.0	-0.2
LREZ	**Lake Rotokare**	**1.25**	**10**	↓PN	Pn	01 47 36.8	+0.4
NMEZ	**Namu Road**	**1.29**	**352**	PN	Pn	01 47 36.6	-0.3
POWZ	**Post Office Ro**	**1.29**	**77**	PN	Pn	01 47 36.5	-0.3
TIWZ	**Tintock**	**1.34**	**94**	↑PN	Pn	01 47 37.3	-0.3
TIWZ				AML	AML	01 47 54.8	
TIWZ				AML	AML	01 47 54.8	
PREZ	**Palmer Road**	**1.35**	**1**	PN	Pn	01 47 37.6	-0.1
TRWZ	**Traveller**	**1.38**	**121**	PN	Pn	01 47 38.0	0.0
TRWZ				AML	AML	01 47 57.3	
TRWZ				AML	AML	01 47 58.4	
KHEZ	**Kahui Hut**	**1.40**	**357**	PN	Pn	01 47 38.0	-0.3
TMWZ	**Te Maipa**	**1.40**	**108**	PN	Pn	01 47 38.0	-0.3
THZ	**Tophouse**	**1.41**	**220**	PN	Pn	01 47 37.9	-0.6
PRWZ	**Pori Road**	**1.41**	**85**	PN	Pn	01 47 38.2	-0.2
NEZ	**North Egmont**	**1.42**	**359**	PN	Pn	01 47 38.2	-0.4
NWEZ	**Newall Road**	**1.43**	**352**	PN	Pn	01 47 38.4	-0.2
PKE	**Pukeiti**	**1.50**	**356**	PN	Pn	01 47 39.2	-0.3
DREZ	**Durham Road**	**1.50**	**2**	PN	Pn	01 47 39.5	0.0
TSZ	**Takapari Road**	**1.54**	**66**	PN	Pn	01 47 39.4	-0.7
TSZ				AML	AML	01 48 00.6	
TSZ				AML	AML	01 48 01.7	
CPWZ	**Castlepoint**	**1.59**	**99**	PN	Pn	01 47 40.9	+0.2
DVHZ	**Dannevirke**	**1.61**	**77**	PN	Pn	01 47 40.1	-0.9
BFZ	**Birch Farm**	**1.62**	**90**	↓PN	Pn	01 47 40.3	-0.7
MHEZ	**Mangahewa**	**1.62**	**6**	PN	Pn	01 47 41.1	+0.1
VRZ	**Vera Road**	**1.64**	**15**	PN	Pn	01 47 41.4	+0.1
MTVZ	**Mangateitei**	**1.66**	**39**	PN	Pn	01 47 41.3	-0.4
PKVZ	**Pokaka**	**1.68**	**34**	↓PN	Pn	01 47 41.6	-0.4
PNHZ	**Pukenui**	**1.77**	**65**	PN	Pn	01 47 42.1	-0.9
TRVZ	**Turoa**	**1.77**	**39**	PN	Pn	01 47 42.8	-0.6
WNVZ	**Wahianoa**	**1.77**	**40**	↑PN	Pn	01 47 42.7	-0.5
KHZ	**Kahutara**	**1.78**	**194**	↓PN	Pn	01 47 42.9	-0.3
KHZ				AML	AML	01 47 43.3	
KHZ				AML	AML	01 48 03.7	
MOVZ	**Moawhango**	**1.79**	**45**	↓PN	Pn	01 47 42.7	-0.7
DRZ	**Dome Shelter**	**1.79**	**39**	PN	Pn	01 47 43.6	-0.1
WHVZ	**Whangaehu Hut**	**1.80**	**39**	↑PN	Pn	01 47 43.2	-0.6
FWVZ	**Far West T-bar**	**1.81**	**38**	↑PN	Pn	01 47 43.3	-0.6
ANWZ	**Angora Road**	**1.81**	**84**	PN	Pn	01 47 42.7	-0.8
WPVZ	**Whakapapa**	**1.84**	**37**	PN	Pn	01 47 43.7	-0.5
TUVZ	**Tukino**	**1.84**	**40**	PN	Pn	01 47 43.9	-0.3
COVZ	**Chateau Observ**	**1.85**	**37**	↑PN	Pn	01 47 43.7	-0.5
NGZ	**Ngauruhoe**	**1.89**	**37**	PN	Pn	01 47 44.4	-0.5
TWVZ	**Taurewa**	**1.91**	**37**	PN	Pn	01 47 44.2	-0.8
BHHZ	**Black Hill Sta**	**1.91**	**52**	PN	Pn	01 47 44.1	-0.9
OTVZ	**Oturere**	**1.93**	**38**	PN	Pn	01 47 45.0	-0.4
WTVZ	**West Tongariro**	**1.94**	**36**	PN	Pn	01 47 44.7	-0.6
PRHZ	**Porangahau**	**1.96**	**78**	PN	Pn	01 47 44.8	-0.8
KRVZ	**Karewarewa**	**1.98**	**37**	PN	Pn	01 47 45.2	-0.7
KRHZ	**Kereru**	**2.01**	**60**	↓PN	Pn	01 47 45.1	-1.2
DSZ	**Denniston Nort**	**2.04**	**238**	↓PN	Pn	01 47 45.2	-1.5
RITZ	**Rihia Road**	**2.17**	**39**	PN	Pn	01 47 48.0	-0.3
PXZ	**Pawanui**	**2.19**	**73**	PN	Pn	01 47 47.4	-1.2
PXZ				AML	AML	01 48 16.7	
PXZ				AML	AML	01 48 16.7	
PXZ				AML	AML	01 48 21.1	
PXZ				AML	AML	01 48 21.1	
RATZ	**Rangitukua**	**2.22**	**35**	PN	Pn	01 47 48.7	-0.3
HIZ	**Hauiti**	**2.25**	**15**	PN	Pn	01 47 48.8	-0.5
KAHZ	**Kahuranaki**	**2.29**	**68**	PN	Pn	01 47 48.7	-1.2
MCHZ	**McNeill Hill**	**2.33**	**59**	↑PN	Pn	01 47 49.4	-1.1
WAITZ	**Wairara**	**2.34**	**33**	PN	Pn	01 47 50.2	-0.4
BKZ	**Black Stump Fm**	**2.37**	**51**	PN	Pn	01 47 49.6	-1.5
BKZ				AML	AML	01 48 30.1	
BKZ				AML	AML	01 48 30.2	
LTZ	**Lake Taylor**	**2.51**	**213**	↓PN	Pn	01 47 51.5	-1.4
TLZ	**Tolley Road**	**2.60**	**25**	↑PN	Pn	01 47 53.4	-0.7
NMHZ	**Naumai**	**2.61**	**53**	PN	Pn	01 47 52.8	-1.5
ARHZ	**Aropaoanui**	**2.63**	**58**	PN	Pn	01 47 52.5	-1.9
OXZ	**Oxford**	**3.06**	**210**	↓PN	Pn	01 47 57.6	-2.6
TOZ	**Tahuroa Road**	**3.14**	**20**	↓PN	Pn	01 48 00.6	-0.7
KNZ	**Kokohu**	**3.20**	**60**	PN	Pn	01 47 59.3	-2.9
MQZ	**McQueen's Vall**	**3.21**	**199**	PN	Pn	01 47 59.4	-2.8
MHGZ	**Mahia Peninsul**	**3.29**	**63**	PN	Pn	01 48 01.1	-2.3
URZ	**Urewera**	**3.35**	**45**	PN	Pn	01 48 01.2	-3.0
URZ				AML	AML	01 48 41.0	
URZ				AML	AML	01 48 41.1	
PRGZ	**Paritu Road**	**3.39**	**60**	PN	Pn	01 48 01.9	-2.9
WVZ	**Waitaha Valley**	**3.48**	**226**	PN	Pn	01 48 04.1	-1.7
MWZ	**Matawai**	**3.53**	**49**	PN	Pn	01 48 03.4	-3.3
KBAZ	**Karaka Road Bo**	**3.64**	**10**	PN	Pn	01 48 08.1	0.0
TKGZ	**Te Karaka**	**3.65**	**53**	PN	Pn	01 48 05.3	-3.0
MKAZ	**Moumakai**	**3.67**	**13**	PN	Pn	01 48 07.8	-0.6
ETAZ	**East Tamaki Re**	**3.78**	**10**	↑PN	Pn	01 48 09.7	-0.3
RPZ	**Rata Peaks**	**3.79**	**216**	PN	Pn	01 48 07.2	-2.9
HAZ	**Te Kaha**	**4.08**	**45**	PN	Pn	01 48 09.7	-4.4
KUZ	**Kuaotunu**	**4.13**	**18**	PN	Pn	01 48 13.5	-1.2
PUZ	**Puketiti**	**4.13**	**52**	PN	Pn	01 48 11.1	-3.8
WMGZ	**Waiomatatini S**	**4.40**	**51**	PN	Pn	01 48 14.6	-3.7
MXZ	**Matakaoa Point**	**4.51**	**48**	PN	Pn	01 48 16.6	-3.2
LBZ	**Lake Benmore**	**4.70**	**217**	PN	Pn	01 48 19.1	-3.5
ODZ	**Otahua Downs**	**5.05**	**209**	PN	Pn	01 48 24.2	-3.0
ODZ				SN	Sn	01 49 16.4	-7.8
JCZ	**Jackson Bay**	**5.22**	**228**	PN	Pn	01 48 27.4	-2.2
JCZ				SN	Sn	01 49 21.8	-6.8
WKZ	**Wanaka**	**5.59**	**221**	PN	Pn	01 48 33.0	-1.6
WKZ				SN	Sn	01 49 30.6	-6.8
TUZ	**Tuapeka**	**6.20**	**210**	PN	Pn	01 48 40.2	-2.6
TUZ				SN	Sn	01 49 43.6	-8.6
SYZ	**Scrubby Hill**	**6.87**	**210**	PN	Pn	01 48 50.0	-2.0
CTZ	**Chatham Island**	**7.52**	**117**	PN	Pn	01 49 00.2	-0.6
CTZ				SN	Sn	01 50 17.3	-7.1

IDC 05 01:48:26.1±28.0, 20.53S×173.28W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.8/26, mbtmp4.2/4, Error ellipse: s-maj=522.9km s-min=165.8km az=74.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.88**	**263**	P	P	01 55 45.8	+0.6
	3.9nm,0.4s,baz=99,slow=11,SNR=7.8						
STKA	**Stephens Creek**	**41.77**	**245**	P	P	01 56 16.5	-0.9
	2.0nm,0.8s,baz=81,slow=8.6,SNR=4.0						
ASAR	**Alice Springs**	**48.81**	**256**	P	P	01 57 13.2	-0.4
	1.8nm,0.7s,baz=87,slow=8.4,SNR=15						
WRA	**Warramunga Arr**	**48.97**	**261**	P	P	01 57 14.8	0.0
	0.7nm,0.3s,baz=94,slow=8.4,SNR=8.8						

GUC 05 02:02:30.7±0.8, 34.82S×72.04W, h21km±7km, ML3.5, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.67**	**150**	*e*P	Pb	02 02 43.6	-0.1
TALC				*e*S	Sn	02 02 53.7	-1.0
NICH	**Los Niches**	**0.69**	**106**	*e*P	Pn	02 02 44.8	-0.4
NICH				*e*S	Sn	02 02 54.9	-0.4
LNCH	**Linares**	**1.09**	**161**	*e*P	Pb	02 02 51.3	+0.5
LNCH				*e*S	Sn	02 03 06.7	+1.5
RCDM	**Rinconada Maip**	**1.67**	**38**	*e*P	Pb	02 03 00.5	-0.3
CLCH	**Cerro Calan**	**1.89**	**42**	*e*P	Pb	02 03 04.1	-0.5
CLCH				*e*S	Sb	02 03 29.3	+1.5
CLCH				AML	AML	02 03 40.3	
	comp=E,372nm,0.7s						
PEL	**Peldehue**	**2.01**	**34**	*e*P	Pb	02 03 05.8	-0.9
PEL				*e*S	Sb	02 03 32.0	+0.7
PEL				AML	AML	02 03 40.3	
	comp=N,401nm,0.7s						

*ISCJB **05** 02:14:19.3±2.3, 33.30S±0.07×72.45W±0.05, h10km±14km, mb4.2/10, MS3.9/3, Error ellipse: s-maj=11.8km s-min=5.8km az=15.6*
*GUC **05** 02:14:22.3±0.5, 33.36S×72.24W, h14km±8km, ML4.0*
*NEIC **05** 02:14:22.4±3.6, 33.29S×72.06W, h15km±21km, mb4.5/8, Error ellipse: s-maj=14.2km s-min=7.8km az=78.0*
*IDC **05** 02:14:25.5±5.1, 33.37S×72.10W, h40km±47km, mb3.5/2, mb1 3.6/4, mb1mx3.4/15, mbtmp3.5/4, ML3.2/2, MS3.9/4, Ms1 3.9/4, ms1mx3.4/17, Error ellipse: s-maj=48.5km s-min=41.3km az=25.0*

ISC 05 02:14:22.0±2.4, 33.30S±0.07×72.27W±0.09, h15km±14km, n37, σ0.88/44, mb4.4/10, MS3.9/3, 2C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.60**	**63**	↓*e*P	**Pb**	**02 14 34.6**	**+0.5**
IHA				*i* S	**Sb**	**02 14 43.5**	**+1.2**
TACH	**Talagante**	**1.17**	**108**	↑*e*P	**Pb**	**02 14 43.8**	**0.0**
TACH				*i* S	**Sg**	**02 14 59.6**	**-0.2**
RCDM	**Rinconada Maip**	**1.24**	**99**	*e*P	**Pn**	**02 14 44.8**	**0.0**
RCDM				*e*S	**Sg**	**02 15 02.3**	**+0.3**
PEL	**Peldehue**	**1.34**	**84**	↓*e*P	**Pb**	**02 14 46.8**	**0.0**
PEL				*e*S	**Sg**	**02 15 05.7**	**+0.5**
PEL				AML	AML	02 15 07.9	
	comp=N,4μm,1.0s						
SAN	**Santiago**	**1.35**	**97**	*e*P	**Pb**	**02 14 46.9**	**-0.2**
SAN				*e*S	**Sg**	**02 15 05.3**	**-0.5**
CLCH	**Cerro Calan**	**1.46**	**94**	↑*e*P	**Pb**	**02 14 48.5**	**-0.3**
CLCH				*e*S	**Sg**	**02 15 09.0**	**+0.1**
CLCH				AML	AML	02 15 12.9	
	comp=E,4μm,0.8s						
CLCH				AML	AML	02 15 14.3	
	comp=E,5μm,0.8s						
FSR	**Penalolen**	**1.47**	**97**	*e*P	**Pg**	**02 14 49.9**	**-0.4**
FSR				*e*S	**Sg**	**02 15 10.0**	**+0.6**
LCO	**Las Campanas**	**4.49**	**18**	*e*Pn	**Pn**	**02 15 28.5**	**-1.1**
LCO				*e*Lg	Lg	02 16 37.3	
PLCA	**Paso Flores**	**7.54**	**170**	Pn	**Pn**	**02 16 11.3**	**-0.1**
	comp=E,0.2nm,0.3s,baz=343,slow=14,SNR=6.9						
PLCA				LR	LR	02 18 35.5	
	comp=E,47nm,20.6s,baz=348,slow=34						
PLCA	**Paso Flores**	**7.54**	**170**	*e*Pn	**Pn**	**02 16 12.6**	**+1.2**
	comp=E,12nm,1.3s						
TRQA	**Tornquist**	**9.62**	**122**	*e*Pn	Pn	02 16 36.2	-3.6
CPUP	**Villa Florida**	**14.71**	**66**	Pn	**Pn**	**02 17 49.9**	**+0.4**
	comp=E,0.0nm,0.3s,baz=225,slow=16,SNR=1.6						
CPUP				LR	LR	02 23 35.5	
	comp=E,412nm,21.6s,baz=267,slow=38						
CPUP	**Villa Florida**	**14.71**	**66**	*e*Pn	**Pn**	**02 17 49.1**	**-0.4**
SAML	**Samuel**	**25.65**	**21**	*e*P	**P**	**02 19 51.7**	**+0.6**
	comp=E,3.7nm,0.8s						
RCBR	**Riachuelo**	**43.45**	**59**	LR	LR	02 41 31.1	
	comp=E,63nm,18.9s,baz=212,slow=38						
JTS	**JuntasAbangare**	**45.00**	**342**	LR	LR	02 37 19.3	
	comp=E,319nm,19.1s,baz=144,slow=30						
GRGR	**Grenville**	**46.30**	**14**	*e*P	**P**	**02 22 47.9**	**+0.7**
OBIP	**Obispado Ponce**	**51.34**	**7**	*e*P	**P**	**02 23 25.3**	**-0.6**
SDDR	**Presa de Saban**	**52.00**	**1**	*e*P	**P**	**02 23 30.3**	**-0.5**
QSPA	**South Pole Qui**	**56.93**	**180**	*e*P	**P**	**02 24 07.7**	**+1.4**
	comp=E,3.3nm,1.0s						
ASCN	**Ascension**	**58.96**	**78**	*e*P	**P**	**02 24 20.8**	**-0.3**
LRAL	**Lakeview Retre**	**67.43**	**347**	*e*P	**P**	**02 25 16.1**	**-0.7**
	comp=E,2.5nm,0.6s						
TXAR	**Lajitas Array**	**69.03**	**331**	P	**P**	**02 25 28.4**	**+1.3**
	comp=E,0.2nm,0.6s,baz=163,slow=7.5,SNR=3.2						
TXAR				LR	LR	02 52 04.0	
	comp=E,70nm,19.0s,baz=0.0,slow=33						
WHTX	**Lake Whitney,**	**69.16**	**337**	*e*P	**P**	**02 25 28.5**	**+0.9**
	comp=E,3.1nm,0.6s						
SWET	**Sewanee**	**69.36**	**348**	*e*P	**P**	**02 25 29.6**	**+0.7**
	comp=E,2.3nm,0.5s						
WVT	**Waverly**	**70.59**	**347**	*e*P	**P**	**02 25 37.2**	**+0.8**
	comp=E,4.3nm,1.0s						
MNTX	**Cornudas Mount**	**71.81**	**331**	*e*P	**P**	**02 25 44.8**	**+0.9**
SUR	**Sutherland**	**75.34**	**119**	*e*P	**P**	**02 26 03.9**	**-1.2**
TSUM	**Tsumeb**	**79.59**	**106**	*e*P	**P**	**02 26 28.2**	**-0.9**
	comp=E,5.1nm,1.2s						
LBTB	**Lobatse**	**82.77**	**115**	*e*P	**P**	**02 26 46.0**	**+0.1**
	comp=E,1.5nm,0.5s						
TOA0	**Torodi Ar. Sit**	**84.16**	**70**	*e*P	**P**	**02 26 53.1**	**+0.2**
TORD	**Torodi Ar. Bea**	**84.16**	**70**	P	**P**	**02 26 53.2**	**+0.4**
	comp=E,1.9nm,1.0s,baz=241,slow=5.1,SNR=11						
ABKAR	**Akbulak array**	**141.40**	**51**	*e*PKPdf	**PKPdf**	**02 33 51.6**	**-0.2**
KURBB	**Kurchatov Arra**	**152.49**	**42**	PKPbc	**PKPbc**	**02 34 16.8**	**-0.3**
	comp=E,0.2nm,0.4s,baz=305,slow=3.1,SNR=3.2						
KURBB				PKPab	**PKPab**	**02 34 25.6**	**-1.9**
	comp=E,0.3nm,0.6s,baz=301,slow=3.2,SNR=4.1						
KURK	**Kurchatov**	**152.50**	**42**	PKPbc	**PKPbc**	**02 34 16.8**	**-0.3**
KURK				PKPab	**PKPab**	**02 34 25.6**	**-1.9**
ZALV	**Zalesovo Beam**	**153.74**	**31**	PKPbc	**PKPbc**	**02 34 20.2**	**+0.4**
	comp=E,0.3nm,0.3s,baz=293,slow=4.5,SNR=3.9						
ZALV				PKPab	**PKPab**	**02 34 30.1**	**-2.6**
	comp=E,0.3nm,0.4s,baz=313,slow=5.0,SNR=2.3						
MKAR	**Makanchi Array**	**156.45**	**48**	PKPab	**PKPab**	**02 34 44.1**	**-0.4**
	comp=E,0.2nm,0.5s,baz=311,slow=3.7,SNR=3.1						

*BJI **05** 02:31:50.8, 2.00N×79.49W, h13km, mB5.0/2, Ms5.1/3, Ms7 4.8/3*
*ISCJB **05** 02:31:51.0±0.3, 2.66N±0.05×79.64W±0.08, h21km, mb4.2/34, MS3.7/12, Error ellipse: s-maj=12.8km s-min=5.0km az=150.8*
*IDC **05** 02:31:53.8±5.9, 2.87N×79.52W, h29km±42km, mb3.9/11, mb1 4.1/15, mb1mx3.9/34, mbtmp4.1/15, ML3.9/3, MS3.6/15, Ms1 3.7/15, ms1mx3.4/29, Error ellipse: s-maj=22.8km s-min=13.3km az=58.0*
*NEIC **05** 02:31:53.0±2.5, 2.60N×79.73W, h26km±19km, mb4.4/24, Error ellipse: s-maj=13.9km s-min=6.6km az=56.0*

ISC 05 02:31:53.0±0.4, 2.62N±0.05×79.50W±0.07, h21km, n72, σ1.97/68, mb4.3/34, MS3.5/12, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTAV	**Otavalo**	**2.59**	**156**	*e*Pn	**Pn**	**02 32 32.4**	**-1.8**
OTAV				*e*Sn	**Sn**	**02 33 05.1**	**-0.1**
ROSC	**El Rosal**	**5.61**	**67**	Pn	**Pn**	**02 33 13.7**	**-2.0**
	0.9nm,0.3s,baz=253,slow=16,SNR=2.1						
ROSC				Sn	**Sn**	**02 34 16.5**	**-3.3**
	2.7nm,0.3s,baz=105,slow=20,SNR=1.9						
ROSC	**El Rosal**	**5.61**	**67**	*e*Pn	**Pn**	**02 33 17.5**	**+1.8**
ROSC				Sn	**Sn**	**02 34 16.5**	**-3.3**
BCIP	**Isla Barro Col**	**6.51**	**357**	*e*Pn	**Pn**	**02 33 29.2**	**+1.5**
JTS	**JuntasAbangare**	**9.35**	**325**	Pn	Pn	02 34 01.9	-4.8
	0.6nm,0.3s,baz=255,slow=12,SNR=3.5						
JTS				Sn	Sn	02 35 41.1	-10
	0.4nm,0.3s,baz=253,slow=19,SNR=3.3						
ATAH	**Atahualpa**	**9.75**	**174**	Pn	Pn	02 34 16.8	+4.2
	0.9nm,0.3s,baz=352,slow=4.1,SNR=4.7						
ATAH				Sn	**Sn**	**02 35 57.7**	**-4.1**
	1.0nm,0.3s,baz=66,slow=19,SNR=3.2						
ATAH				LR	LR	02 38 07.7	
	comp=Z,538nm,21.5s,baz=347,slow=37						
NNA	**Nana**	**14.75**	**170**	Pn	**P**	**02 35 28.2**	**+1.7**
	1.4nm,0.3s,baz=329,slow=10.0,SNR=7.1						
NNA	**Nana**	**14.75**	**170**	*e*Pn	**Pn**	**02 35 20.9**	**+0.3**
	17nm,0.8s						
PCRV	**Puerto La Cruz**	**16.56**	**62**	LR	LR	02 43 41.0	
	comp=Z,414nm,19.4s,baz=236,slow=43						
TEIG	**Tepich**	**19.48**	**335**	LR	LR	02 43 25.5	
	comp=Z,233nm,19.0s,baz=123,slow=36						
PTGA	**Pitinga**	**19.81**	**99**	P	**P**	**02 36 23.4**	**+1.0**
	0.7nm,0.3s,baz=275,slow=11,SNR=15						
PTGA				LR	LR	02 44 13.1	
	comp=Z,594nm,21.5s,baz=282,slow=37						
PTGA	**Pitinga**	**19.81**	**99**	*e*P	**Pn**	**02 36 25.4**	**+1.4**
	20nm,1.0s						
SAML	**Samuel**	**19.91**	**125**	*e*P	Pn	02 36 25.9	+0.6
	15nm,0.9s						
ARE	**Arequipa**	**20.54**	**158**	*e*P	Pn	02 36 34.0	+1.0
CMIG	**Matias Romero**	**20.86**	**315**	LR	LR	02 43 05.7	
	comp=Z,196nm,19.8s,baz=154,slow=32						
LPAZ	**La Paz**	**21.89**	**149**	LR	LR	02 45 57.4	
	comp=Z,177nm,21.8s,baz=228,slow=38						
LVC	**Limon Verde**	**27.12**	**158**	P	**P**	**02 37 38.3**	**+3.2**
	25nm,0.9s,baz=331,slow=7.1,SNR=5.4						
LVC	**Limon Verde**	**27.12**	**158**	*e*P	**P**	**02 37 35.3**	**+0.3**
	10nm,1.0s						
TXAR	**Lajitas Array**	**35.12**	**322**	P	**P**	**02 38 42.7**	**-2.6**
	0.1nm,0.4s,baz=129,slow=8.6,SNR=2.5						
CPUP	**Villa Florida**	**35.88**	**145**	P	**P**	**02 38 53.1**	**+1.3**
	2.6nm,0.9s,baz=332,slow=8.5,SNR=10						
CPUP				LR	LR	02 55 23.8	
	comp=Z,2μm,20.3s,baz=308,slow=39						
CPUP	**Villa Florida**	**35.88**	**145**	*e*P	**P**	**02 38 53.1**	**+1.3**
	0.3nm,0.9s						
BDFB	**Brasilia**	**36.04**	**121**	LR	LR	02 54 20.4	
	comp=Z,383nm,18.2s,baz=281,slow=37						
MNTX	**Cornudas Mount**	**37.83**	**323**	*e*P	**P**	**02 39 09.6**	**+1.3**
	2.7nm,0.8s						
MSTX	**Muleshoe**	**38.01**	**328**	*e*P	**P**	**02 39 10.3**	**+0.4**
	8.5nm,0.8s						
121A	**Cookes Peak, D**	**39.88**	**321**	*e*P	**P**	**02 39 24.6**	**-1.1**
	5.6nm,0.8s						
ANMO	**Albuquerque**	**40.77**	**325**	*e*P	**P**	**02 39 32.0**	**-1.0**
	4.5nm,0.8s						
LAZ	**Ladron**	**40.78**	**324**	*e*P	**P

HHC					PPMZ				
	comp=Z,31nm,6.2s								
HHC					LN				
	comp=Z,83nm,18.5s								
HHC					LE				
	comp=Z,70nm,14.8s								
HHC					LZ				
	comp=Z,35nm,18.5s								
LZH	**Lanzhou**	**141.37**	**356**	*e*PKP		**PKPdf**	**02 51 22.5**	**-0.7**	
LZH				sPKP			02 51 27.1		
LZH				LN					
	comp=Z,130nm,18.5s								
LZH				LE					
	comp=Z,130nm,19.0s								
LZH				LZ					
	comp=Z,150nm,20.1s								
ASAR	**Alice Springs**	**141.52**	**234**	PKP		**PKPdf**	**02 51 20.8**	**-2.8**	
	comp=Z,0.5nm,0.8s,baz=118,slow=3.7,SNR=4.1								
WRA	**Warramunga Arr**	**142.75**	**240**	PKhKP	PKPpre		02 51 17.6		
	comp=Z,0.3nm,0.3s,baz=108,slow=3.4,SNR=3.2								
WRA				PKP		**PKPdf**	**02 51 25.9**	**+0.1**	
	comp=Z,0.3nm,0.4s,baz=123,slow=2.9,SNR=2.5								

IDC 05 02:53:03.0±27.0, 19°26S×174°40W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.7/33, mbtmp4.1/4, Error ellipse: s-maj=505.1km s-min=158.2km az=75.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.00**	**262**	P	P	03 00 15.2	+0.6
	0.8nm,0.3s,baz=98,slow=7.1,SNR=3.9						
STKA	**Stephens Creek**	**41.37**	**243**	P	P	03 00 51.0	0.0
	1.9nm,0.7s,baz=84,slow=9.9,SNR=4.2						
ASAR	**Alice Springs**	**48.10**	**255**	P	P	03 01 44.8	-0.2
	2.1nm,0.6s,baz=94,slow=8.2,SNR=31						
WRA	**Warramunga Arr**	**48.13**	**260**	P	P	03 01 44.6	-0.7
	0.4nm,0.3s,baz=97,slow=7.6,SNR=3.3						

GUC 05 02:53:05.5±0.7, 33°98S×72°51W, h12km±6km, ML4.0, 1C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**1.20**	**37**	*e*P	Pn	02 53 26.6	-1.4
IHA				*e*S	Sb	02 53 42.5	-0.9
TACH	**Talagante**	**1.35**	**76**	*e*P	Pn	02 53 28.6	-1.5
NICH	**Los Niches**	**1.47**	**134**	*e*P	Pn	02 53 32.1	+0.3
NICH				*e*S	Sb	02 53 51.7	+0.4
RCDM	**Rinconada Maip**	**1.50**	**71**	*e*P	Pn	02 53 31.3	-0.9
TALC	**Talca**	**1.59**	**153**	*e*P	Pn	02 53 33.3	-0.1
TALC				*e*S	Sn	02 53 53.2	-0.6
PCH	**Pirque**	**1.70**	**78**	*e*P	Pn	02 53 35.0	-0.1
PEL	**Peldehue**	**1.73**	**62**	*e*P	Pn	02 53 35.2	-0.3
PEL				*e*S	Sn	02 53 57.7	+0.1
PEL				AML	AML	02 54 07.8	
	comp=N,4μm,0.6s						
CLCH	**Cerro Calan**	**1.74**	**71**	*e*P	Pn	02 53 35.4	-0.3
CLCH				*e*S	Sn	02 53 58.4	+0.5
CLCH				AML	AML	02 54 07.7	
	comp=E,2μm,0.8s						
LNCH	**Linares**	**2.00**	**158**	*e*P	Pn	02 53 39.5	+0.3
LNCH				*e*S	Sn	02 54 05.2	+1.0

*CSEM **05** 03:10:49.8, 35°49N×27°30E, h18km, MD3.0*
ATH 05 03:10:49.8, 35°49N×27°30E, h18km±2km, MD3.0/5, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.13**	**297**	*e*PB	Pg	03 10 54.1	+0.3
KARP				*e*SB	Sg	03 10 56.8	+0.2
KARP	**Karpathos**	**0.13**	**297**	*e*Pb	Pg	03 10 54.1	+0.3
KARP				*e*Sb	Sg	03 10 56.8	+0.2
ZKR	**Zakros**	**0.96**	**247**	*e*PN	Pn	03 11 08.3	-0.1
ZKR				*e*SN	Sn	03 11 21.8	+0.1
ZKR	**Zakros**	**0.96**	**247**	*e*Pn	Pn	03 11 08.3	-0.1
ZKR				*e*Sn	Sn	03 11 21.8	+0.1
ARG	**Arkhangelos**	**0.99**	**43**	*e*PB	Pb	03 11 07.9	-0.5
ARG				*e*SN	Sn	03 11 22.9	+0.6
ARG	**Arkhangelos**	**0.99**	**43**	*e*Pb	Pb	03 11 07.9	-0.5
ARG				*e*Sn	Sn	03 11 22.9	+0.6
NPS	**Neapolis**	**1.40**	**261**	*e*PN	Pb	03 11 15.6	+0.2
NPS				*e*SN	Sg	03 11 34.8	-0.3
NPS	**Neapolis**	**1.40**	**261**	*e*Pn	Pb	03 11 15.6	+0.2
NPS				*e*Sn	Sg	03 11 34.8	-0.3
LAST	**Lasithi**	**1.52**	**258**	*e*PN	Pg	03 11 19.1	-0.2
LAST				*e*SN	Sg	03 11 39.5	+0.2
LAST	**Lasithi**	**1.52**	**258**	*e*Pn	Pg	03 11 19.1	-0.2
LAST				*e*Sn	Sg	03 11 39.5	+0.2

*ISCJB **05** 03:11:12.4±0.3, 38°.14N±0°.01×22°.61E±0°.02, h4km±3km, Error ellipse: s-maj=2.7km s-min=2.3km az=33.0*
*THE **05** 03:11:12.8, 38°.14N×22°.61E, h6km, ML2.8/18, Error ellipse: s-maj=0.5km s-min=0.2km az=251.0*
*CSEM **05** 03:11:12.5±0.1, 38°.14N×22°.61E, h7km, ML2.8, Error ellipse: s-maj=1.6km s-min=1.3km az=138.0*
*ATH **05** 03:11:13.2, 38°.13N×22°.59E, h10km±5km, MD3.5/22, ML2.6*
*SKO **05** 03:11:21.4, 38°.72N×22°.99E, h0km, M2.0, ML2.4*
ISC 05 03:11:12.9±0.9, 38°.14N±0°.01×22°.62E±0°.01, h7km±8km, n98, σ0s70/161, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DSF	**Desfina**	**0.28**	**345**	P	Pg	**03 11 18.3**	**-0.3**
DSF				S	Sg	**03 11 22.4**	**0.0**
DSF	**Desfina**	**0.28**	**345**	*e*PG	Pg	**03 11 18.4**	**-0.2**
DSF				*e*SG	Sg	**03 11 23.0**	**+0.6**
DSF	**Desfina**	**0.28**	**345**	P	Pg	**03 11 18.3**	**-0.3**
DSF				S	Sg	**03 11 22.4**	**0.0**
DSF				*e*Sg	Sg	**03 11 23.0**	**+0.6**
GUR	**Goura**	**0.29**	**228**	P	Pg	**03 11 18.6**	**-0.2**
GUR				S	Sg	**03 11 22.9**	**+0.2**
GUR	**Goura**	**0.29**	**228**	*e*PG	Pg	**03 11 18.8**	**0.0**
GUR				*e*SG	Sg	**03 11 23.0**	**+0.2**
GUR	**Goura**	**0.29**	**228**	P	Pg	**03 11 18.6**	**-0.2**
GUR				S	Sg	**03 11 22.9**	**+0.2**
LTK	**Loutraki**	**0.30**	**112**	P	Pg	**03 11 18.8**	**0.0**
LTK				S	Sg	**03 11 23.4**	**+0.7**
LTK	**Loutraki**	**0.30**	**112**	*e*PG	Pg	**03 11 18.9**	**+0.1**
LTK				*e*SB	Sb	**03 11 24.4**	**-1.3**
LTK	**Loutraki**	**0.30**	**112**	P	Pg	**03 11 18.8**	**0.0**
LTK				S	Sg	**03 11 23.4**	**+0.7**
LTK				*e*Sb	Sb	**03 11 24.4**	**-1.3**
KLV	**Kalavryta, Ach**	**0.38**	**256**	P	Pg	**03 11 20.0**	**-0.3**
KLV				S	Sg	**03 11 25.6**	**+0.2**
KLV	**Kalavryta, Ach**	**0.38**	**256**	*e*PG	Pg	**03 11 20.1**	**-0.3**
KLV				*e*SB	Sg	**03 11 25.1**	**-0.3**
KLV	**Kalavryta, Ach**	**0.38**	**256**	P	Pg	**03 11 20.0**	**-0.3**
KLV				*e*Sb	Sg	**03 11 25.1**	**-0.3**
KALE	**Kalithea**	**0.46**	**304**	P	Pg	**03 11 21.5**	**-0.3**
KALE				S	Sg	**03 11 27.9**	**+0.1**
KALE	**Kalithea**	**0.46**	**304**	*e*PB	Pg	**03 11 21.9**	**+0.1**
KALE	**Kalithea**	**0.46**	**304**	P	Pg	**03 11 21.5**	**-0.3**
KALE	**Kalithea**	**0.46**	**304**	*e*Pb	Pg	**03 11 21.9**	**+0.1**
KALE				S	Sg	**03 11 27.9**	**+0.1**
LKR	**Lokris**	**0.59**	**30**	P	Pg	**03 11 23.6**	**-0.8**
LKR				S	Sg	**03 11 32.7**	**+0.5**
LKR	**Lokris**	**0.59**	**30**	*e*PB	Pg	**03 11 23.6**	**-0.8**
LKR				*e*SB	Sb	**03 11 33.6**	**-0.8**
LKR	**Lokris**	**0.59**	**30**	P	Pg	**03 11 23.6**	**-0.8**
LKR				S	Sg	**03 11 32.7**	**+0.5**
LKR				*e*Sb	Sb	**03 11 33.6**	**-0.8**
AXAR	**Agios Charalam**	**0.63**	**3**	P	Pg	**03 11 24.6**	**-0.5**
AXAR				S	Sg	**03 11 33.7**	**+0.3**
AXAR	**Agios Charalam**	**0.63**	**3**	*e*PB	Pg	**03 11 24.7**	**-0.4**
AXAR				*e*SB	Sg	**03 11 34.4**	**+1.0**
AXAR	**Agios Charalam**	**0.63**	**3**	P	Pg	**03 11 24.6**	**-0.5**
AXAR				S	Sg	**03 11 33.7**	**+0.3**
AXAR				*e*Sb	Sg	**03 11 34.4**	**+1.0**
EFP	**Efpalio**	**0.63**	**298**	P	Pg	**03 11 24.7**	**-0.4**
EFP				S	Sg	**03 11 33.7**	**+0.3**
EFP	**Efpalio**	**0.63**	**298**	*e*PB	Pg	**03 11 25.1**	**0.0**
EFP	**Efpalio**	**0.63**	**298**	P	Pg	**03 11 24.7**	**-0.4**
EFP	**Efpalio**	**0.63**	**298**	*e*Pb	Pg	**03 11 25.1**	**0.0**
EFP				S	Sg	**03 11 33.7**	**+0.3**
DRO	**Drossia**	**0.74**	**256**	P	Pg	**03 11 26.6**	**-0.6**
DRO	**Drossia**	**0.74**	**256**	*e*PB	Pg	**03 11 26.9**	**-0.3**
DRO				*e*SB	Sb	**03 11 38.2**	**-0.3**
DRO	**Drossia**	**0.74**	**256**	P	Pg	**03 11 26.6**	**-0.6**
DRO	**Drossia**	**0.74**	**256**	*e*Pb	Pg	**03 11 26.9**	**-0.3**
DRO				*e*Sb	Sb	**03 11 38.2**	**-0.3**
VLX	**Vlachokerasia**	**0.79**	**194**	P	Pg	**03 11 27.6**	**-0.5**
VLX				S	Sb	**03 11 39.5**	**-0.4**
VLX	**Vlachokerasia**	**0.79**	**194**	*e*PG	Pg	**03 11 27.7**	**-0.4**
VLX	**Vlachokerasia**	**0.79**	**194**	*e*Pg	Pg	**03 11 27.7**	**-0.4**
VLX				S	Sb	**03 11 39.5**	**-0.4**
DID	**Didima**	**0.80**	**142**	*e*PB	Pg	**03 11 28.0**	**-0.2**
DID				*e*SB	Sb	**03 11 40.3**	**+0.2**
DID	**Didima**	**0.80**	**142**	*e*Pb	Pg	**03 11 28.0**	**-0.2**
DID				*e*Sb	Sb	**03 11 40.3**	**+0.2**
SMIA	**Simia**	**0.88**	**32**	P	Pg	**03 11 29.2**	**-0.6**
SMIA				S	Sb	**03 11 42.1**	**-0.3**
SMIA	**Simia**	**0.88**	**32**	*e*PG	Pg	**03 11 29.6**	**-0.2**
SMIA	**Simia**	**0.88**	**32**	P	Pg	**03 11 29.2**	**-0.6**
SMIA	**Simia**	**0.88**	**32**	*e*Pg	Pg	**03 11 29.6**	**-0.2**
SMIA				S	Sb	**03 11 42.1**	**-0.3**
ATH	**Athens Observa**	**0.88**	**100**	P	Pg	**03 11 29.9**	**0.0**
ATH				S	Sb	**03 11 42.7**	**+0.2**
ATH	**Athens Observa**	**0.88**	**100**	*e*PB	Pb	**03 11 30.7**	**+0.1**
ATH				*e*SB	Sb	**03 11 42.8**	**+0.2**
ATH	**Athens Observa**	**0.88**	**100**	P	Pg	**03 11 29.9**	**0.0**
ATH	**Athens Observa**	**0.88**	**100**	*e*Pb	Pb	**03 11 30.7**	**+0.1**
ATH				*e*Sb	Sb	**03 11 42.8**	**+0.2**
RLS	**Riolos of Patr**	**0.91**	**266**	P	Pg	**03 11 29.6**	**-0.9**
RLS	**Riolos of Patr**	**0.91**	**266**	*e*PG	Pg	**03 11 29.6**	**-0.9**
RLS	**Riolos of Patr**	**0.91**	**266**	P	Pg	**03 11 29.6**	**-0.9**
AGG	**Agios Georgios**	**0.92**	**346**	P	Pg	**03 11 29.7**	**-0.8**
AGG	**Agios Georgios**	**0.92**	**346**	*e*PB	Pg	**03 11 30.4**	**-0.1**
AGG	**Agios Georgios**	**0.92**	**346**	P	Pg	**03 11 29.7**	**-0.8**
AGG	**Agios Georgios**	**0.92**	**346**	*e*Pb	Pg	**03 11 30.4**	**-0.1**
AMT	**Artemida-Makis**	**0.94**	**230**	P	Pg	**03 11 30.4**	**-0.5**
AMT	**Artemida-Makis**	**0.94**	**230**	*e*PG	Pg	**03 11 30.5**	**-0.5**
AMT	**Artemida-Makis**	**0.94**	**230**	*e*Pg	Pg	**03 11 30.5**	**-0.5**
MRKA	**Markates**	**0.95**	**53**	P	Pg	**03 11 30.7**	**-0.5**
MRKA				S	Sg	**03 11 44.1**	**+0.6**
MRKA	**Markates**	**0.95**	**53**	*e*PB	Pb	**03 11 31.6**	**-0.2**
MRKA				*e*SB	Sn	**03 11 46.1**	**-0.5**
MRKA	**Markates**	**0.95**	**53**	P	Pg	**03 11 30.7**	**-0.5**
MRKA	**Markates**	**0.95**	**53**	*e*Pb	Pb	**03 11 31.6**	**-0.2**
MRKA				S	Sg	**03 11 44.1**	**+0.6**
MRKA				*e*Sb	Sn	**03 11 46.1**	**-0.5**
MAKR	**Makrakomi, Fth**	**0.96**	**337**	P	Pg	**03 11 30.6**	**-0.7**
MAKR				S	Sb	**03 11 44.6**	**-0.2**
MAKR	**Makrakomi, Fth**	**0.96**	**337**	*e*PB	Pg	**03 11 31.3**	**0.0**
MAKR				*e*SB	Sb	**03 11 44.6**	**-0.2**
MAKR	**Makrakomi, Fth**	**0.96**	**337**	P	Pg	**03 11 30.6**	**-0.7**
MAKR	**Makrakomi, Fth**	**0.96**	**337**	*e*Pb	Pg	**03 11 31.3**	**0.0**
MAKR				S	Sb	**03 11 44.6**	**-0.2**
PTL	**Penteli**	**0.99**	**95**	P	Pg	**03 11 31.5**	**-0.4**
PTL				S	Sb	**03 11 45.8**	**+0.2**
PTL	**Penteli**	**0.99**	**95**	P	Pg	**03 11 31.5**	**-0.4**
PTL				S	Sb	**03 11 45.8**	**+0.2**
EVR	**Evrytania**	**1.01**	**321**	P	Pg	**03 11 31.6**	**-0.7**
EVR				S	Sg	**03 11 45.8**	**+0.4**
EVR	**Evrytania**	**1.01**	**321**	*e*PN	Pb	**03 11 32.8**	**0.0**
EVR	**Evrytania**	**1.01**	**321**	P	Pg	**03 11 31.6**	**-0.7**
EVR	**Evrytania**	**1.01**	**321**	*e*Pn	Pb	**03 11 32.8**	**0.0**
EVR				S	Sg	**03 11 45.8**	**+0.4**
ITM	**Ithomi**	**1.10**	**210**	P	Pg	**03 11 33.3**	**-0.8**
ITM	**Ithomi**	**1.10**	**210**	*e*PG	Pg	**03 11 33.1**	**-1.0**
ITM	**Ithomi**	**1.10**	**210**	P	Pg	**03 11 33.3**	**-0.8**
PDO	**Prodromos**	**1.22**	**293**	*e*PB	Pg	**03 11 37.2**	**+0.8**
PDO	**Prodromos**	**1.22**	**293**	*e*Pb	Pg	**03 11 37.2**	**+0.8**
SKIA	**Skiathos**	**1.23**	**32**	P	Pb	**03 11 35.6**	**-0.9**
SKIA				S	Sn	**03 11 53.3**	**-0.1**
SKIA	**Skiathos**	**1.23**	**32**	*e*PN	Pb	**03 11 35.9**	**-0.6**
SKIA				*e*SB	Sn	**03 11 55.6**	**+2.2**
SKIA	**Skiathos**	**1.23**	**32**	P	Pb	**03 11 35.6**	**-0.9**
SKIA	**Skiathos**	**1.23**	**32**	*e*Pn	Pb	**03 11 35.9**	**-0.6**
SKIA				S	Sn	**03 11 53.3**	**-0.1**
SKIA				*e*Sb	Sn	**03 11 55.6**	**+2.2**
NEO	**Neokhori**	**1.26**	**22**	P	Pn	**03 11 36.1**	**-1.0**
NEO	**Neokhori**	**1.26**	**22**	*e*PN	Pn	**03 11 36.3**	**-0.8**
NEO				*e*SB	Sn	**03 11 54.2**	**-0.1**
NEO	**Neokhori**	**1.26**	**22**	P	Pn	**03 11 36.1**	**-1.0**
NEO				*e*Sb	Sn	**03 11 54.2**	**-0.1**
XOR	**Xorichti**	**1.31**	**20**	P	Pn	**03 11 36.8**	**-0.9**
XOR				S	Sg	**03 11 55.2**	**+0.2**
XOR	**Xorichti**	**1.31**	**20**	P	Pn	**03 11 36.8**	**-0.9**
XOR				S	Sg	**03 11 55.2**	**+0.2**
PYL	**PYLOS**	**1.42**	**210**	P	Pn	**03 11 38.6**	**-0.6**
PYL				S	Sb	**03 11 57.9**	**-0.2**
PYL	**PYLOS**	**1.42**	**210**	*e*PB	Pb	**03 11 39.7**	**-0.1**
PYL	**PYLOS**	**1.42**	**210**	P	Pn	**03 11 38.6**	**-0.6**
PYL	**PYLOS**	**1.42**	**210**	*e*Pb	Pb	**03 11 39.7**	**-0.1**
PYL				S	Sb	**03 11 57.9**	**-0.2**
AOS	**Alonnisos**	**1.43**	**43**	P	Pn	**03 11 38.0**	**-1.3**
AOS				S	Sn	**03 11 58.1**	**-0.3**
AOS	**Alonnisos**	**1.43**	**43**	P	Pn	**03 11 38.0**	**-1.3**
AOS				S	Sn	**03 11 58.1**	**-0.3**
THL	**Klokotos Trika**	**1.50**	**342**	P	Pn	**03 11 39.5**	**-0.8**
THL	**Klokotos Trika**	**1.50**	**342**	*e*PG	Pn	**03 11 40.5**	**+0.2**
THL	**Klokotos Trika**	**1.50**	**342**	P	Pn	**03 11 39.5**	**-0.8**
THL	**Klokotos Trika**	**1.50**	**342**	*e*Pg	Pn	**03 11 40.5**	**+0.2**
DSL	**Palaion Diasel**	**1.56**	**310**	*e*PB	Pg	**03 11 44.0**	**+1.2**
DSL	**Palaion Diasel**	**1.56**	**310**	*e*Pb	Pg	**03 11 44.0**	**+1.2**
KYTH	**Kithira**	**1.88**	**170**	*e*PN	Pn	**03 11 46.4**	**+0.8**
KYTH	**Kithira**	**1.88**	**170**	*e*Pn	Pn	**03 11 46.4**	**+0.8**
VAY	**Valandovo**	**3.18**	**359**	*i* Pn	Pn	**03 12 06.3**	**+2.8**
VAY				*e*Sn	Sn	**03 12 42.6**	**+1.0**
VAY				*e*Lg	Lg	03 12 51.0	
	comp=E,13nm,1.4s						
OHR	**Ohrid**	**3.29**	**335**	*i* Pn	Pb	**03 12 10.1**	**-1.6**
OHR				*e*Sn	Sb	**03 12 52.6**	**+0.7**
OHR				*e*Lg	Lg	03 12 54.1	
	comp=N,201nm,3.1s						
OHR				*e*Lg	Lg	03 12 56.2	
	comp=E,7.6nm,0.5s						

*IDC **05** 03:32:31.5±0.5, 33°.42S×72°.14W, h0km, mb4.5/14, mb1 4.6/15, mb1mx4.5/22, mbtmp4.5/15, ML5.1/1, MS3.9/9, Ms1 3.9/9, ms1mx3.7/17, Error ellipse: s-maj=24.3km s-min=13.3km az=84.0*
*NEIC **05** 03:32:33.0, 33°.50S×72°.24W, h21km, mb4.7/50, ML4.8(GUC), After GUC.*
NEIC Felt [III] at Casablanca, Quilpue, San Antonio, Valparaiso and Vina del Mar; [II] at Navidad and Santiago.
*GUC **05** 03:32:33.5±0.5, 33°.50S×72°.24W, h21km±13km, ML4.8*
*ISCJB **05** 03:32:35.8±0.9, 33°.47S±0°.03×72°.16W±0°.07, h38km±7km, mb4.8/65, MS3.9/6, Error ellipse: s-maj=9.5km s-min=5.5km az=171.6*
*BJI **05** 03:32:35.8, 34°.39S×72°.12W, h35km, mB4.8/2, Ms5.2/2, Ms7 4.9/3*
ISC 05 03:32:37.0±0.6, 33°.44S±0°.04×72°.19W±0°.05, h35km±2km, h35km:pP-P, n145, σ1s18/168, mb4.7/65, MS3.9/6, 2C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.62**	**48**	*i* P	Pn	**03 32 47.3**	**-1.9**
IHA				*i* S	Sb	**03 32 57.3**	**-0.8**
TACH	**Talagante**	**1.07**	**102**	*e*P	Pn	**03 32 53.9**	**-1.6**
SAN	**Santiago**	**1.28**	**91**	*e*P	Pn	**03 32 57.9**	**-0.5**
SAN				*e*S	Sb	**03 33 16.2**	**-0.6**
PEL	**Peldehue**	**1.29**	**77**	*e*P	Pn	**03 32 58.2**	**-0.5**
PEL				*e*S	Sb	**03 33 17.1**	**-0.2**
PEL				AML	AML	03 33 25.4	
	comp=E,34μm,0.3s						
CLCH	**Cerro Calan**	**1.38**	**89**	*e*P	Pn	**03 32 59.8**	**-0.2**
CLCH				*e*S	Sb	**03 33 19.8**	**0.0**
CLCH				AML	AML	03 33 32.5	
	comp=N,24μm,0.8s						
PCH	**Pirque**	**1.41**	**98**	*e*P	Pn	**03 32 59.8**	**-0.5**
NICH	**Los Niches**	**1.75**	**153**	*e*P	Pn	**03 33 03.8**	**-1.2**
NICH				*e*S	Sn	**03 33 26.1**	**+0.1**
YECH	**El Yeso**	**1.77**	**98**	*e*P	Pn	**03 33 06.6**	**+1.1**
YECH				*e*S	Sb	**03 33 31.1**	**-0.1**
CFAA	**Coronel Fontan**	**3.81**	**62**	Pn	Pn	**03 33 34.2**	**+0.9**
	comp=N,0.9nm,0.3s,baz=239,slow=13,SNR=25						

CFAA					Lg		Lg		03 34 30.9
	comp=N,7.2nm,0.3s,baz=180,slow=20,SNR=5.7								
CFAA					LR		LR		03 35 24.8
	comp=N,270nm,19.1s,baz=298,slow=46								
LCO	**Las Campanas**	**4.59**	**17**	*e*Pn		**Pn**	**03 33 42.5**	**-1.8**	
LCO				*e*Sn		**Sn**	**03 34 35.8**	**-0.7**	
VACH	**Vallenar**	**5.00**	**15**	*e*P		**Pn**	**03 33 47.8**	**-1.9**	
PLCA	**Paso Flores**	**7.40**	**170**	Pn		**Pn**	**03 34 21.6**	**-0.9**	
	comp=N,7.4nm,0.3s,baz=337,slow=14,SNR=80								
PLCA					Lg		Lg		03 36 26.5
	comp=N,1.5nm,0.3s,baz=90,slow=20,SNR=2.2								
PLCA					LR		LR		03 37 41.6
	comp=N,799nm,20.7s,baz=350,slow=42								
PLCA	**Paso Flores**	**7.40**	**170**	*e*Pn		**Pn**	**03 34 21.4**	**-1.1**	
PLCA				*e*Sn		**Sn**	**03 35 43.7**	**-1.6**	
PLCA				Lg		Lg		03 36 26.5	
TRQA	**Tornquist**	**9.49**	**122**	*e*Pn		**Pn**	**03 34 50.2**	**-1.0**	
TRQA				*e*S		**Sn**	**03 36 36.2**	**-0.5**	
LVC	**Limon Verde**	**11.16**	**16**	Pn		**Pn**	**03 35 15.0**	**+0.6**	
	comp=N,42nm,0.3s,baz=202,slow=12,SNR=9.4								
LVC					LR		LR		03 39 28.1
	comp=N,3μm,18.4s,baz=207,slow=37								
LVC	**Limon Verde**	**11.16**	**16**	*e*Pn		Pn	03 35 08.6	-5.9	
	comp=N,14nm,0.6s								
CPUP	**Villa Florida**	**14.70**	**65**	Pn		**Pn**	**03 36 03.2**	**+0.8**	
	comp=N,0.1nm,0.3s,baz=245,slow=16,SNR=7.5								
CPUP					Sn		**Sn**		**03 38 45.0**	**+0.9**
	comp=N,0.1nm,0.3s,baz=288,slow=20,SNR=1.8								
CPUP					Lg		Lg		03 40 19.7
	comp=N,0.1nm,0.3s,baz=342,slow=19,SNR=3.0								
CPUP	**Villa Florida**	**14.70**	**65**	*e*Pn		**Pn**	**03 36 00.5**	**-1.9**	
	comp=N,0.4nm,0.9s								
CPUP				*e*S		**Sn**	**03 38 49.1**	**+5.0**	
CPUP				Lg		Lg	03 40 19.7		
EFI	**East Falkland**	**20.92**	**155**	*e*P		**P**	**03 37 15.1**	**-1.3**	
	comp=N,36nm,0.5s								
USHA	**Ushuaia**	**21.55**	**174**	P		**P**	**03 37 25.1**	**+2.0**	
	comp=N,20nm,0.7s,baz=0.6,slow=10,SNR=13								
USHA					LR		LR		03 46 58.3
	comp=N,402nm,19.3s,baz=33,slow=40								
NNA	**Nana**	**21.77**	**348**	P		**P**	**03 37 26.8**	**+0.9**	
	comp=N,4.3nm,0.4s,baz=212,slow=13,SNR=3.5								
NNA	**Nana**	**21.77**	**348**	*e*P		**P**	**03 37 26.1**	**+0.2**	
	comp=N,7.6nm,0.6s								
SAML	**Samuel**	**25.75**	**21**	*e*P		**P**	**03 38 04.0**	**-0.5**	
	comp=N,12nm,0.7s								
BDFB	**Brasilia**	**28.13**	**57**	P		**P**	**03 38 24.4**	**-1.6**	
	comp=N,12nm,0.6s,baz=220,slow=7.8,SNR=22								
BDFB					LR		LR		03 50 33.7
	comp=N,549nm,18.2s,baz=226,slow=38								
BDFB	**Brasilia**	**28.13**	**57**	*e*P		**P**	**03 38 24.8**	**-1.2**	
HOPE	**Hope Point**	**32.60**	**141**	*e*P		**P**	**03 39 05.3**	**+0.2**	
	comp=N,34nm,0.8s								
OTAV	**Otavalo**	**34.01**	**349**	*e*P		**P**	**03 39 19.7**	**+1.4**	
	comp=N,23nm,1.6s								
PTGA	**Pitinga**	**34.50**	**22**	*e*P		**P**	**03 39 20.8**	**-1.2**	
	comp=N,15nm,0.9s								
ROSC	**El Rosal**	**38.14**	**357**	P		P	03 39 56.8	+3.4	
SDV	**Santo Domingo**	**42.12**	**2**	*e*P		**P**	**03 40 25.7**	**-0.5**	
	comp=N,8.3nm,0.9s								
RCBR	**Riachuelo**	**43.46**	**59**	*e*P		**P**	**03 40 36.5**	**-0.5**	
	comp=N,4.6nm,0.6s								
VNA3	**Neumayer Olymp**	**49.93**	**158**	P		**P**	**03 41 27.0**	**+0.1**	
VNA1	**Neumayer--Stat**	**50.24**	**157**	P		**P**	**03 41 30.3**	**+1.1**	
VNA2	**Neumayer--Watz**	**50.58**	**157**	P		**P**	**03 41 31.9**	**+0.1**	
	baz=291,slow=8.8								
SNAA	**Sanae**	**52.15**	**158**	P		**P**	**03 41 43.8**	**+0.2**	
SNAA	**Sanae**	**52.15**	**158**	P		**P**	**03 41 43.7**	**0.0**	
	comp=N,5.3nm,0.8s,baz=285,slow=7.6,SNR=29								
SNAA	**Sanae**	**52.15**	**158**	*e*P		**P**	**03 41 43.6**	**0.0**	
	comp=N,16nm,0.9s								
RKT	**Rikitea**	**55.51**	**263**	*e*T		T	04 42 06.3		
	comp=N,1.3nm,0.3s								
TEIG	**Tepich**	**55.53**	**342**	*e*P		**P**	**03 42 08.4**	**-0.4**	
	comp=N,21nm,0.8s								
TEIG				*e*pP		**pP**	**03 42 18.3**	**-0.9**	
QSPA	**South Pole Qui**	**56.80**	**180**	P		**P**	**03 42 17.8**	**+0.3**	
	comp=N,29nm,0.9s,baz=153,slow=1.9,SNR=59								
QSPA	**South Pole Qui**	**56.80**	**180**	*e*P		**P**	**03 42 18.0**	**+0.4**	
	comp=N,33nm,0.9s								
VNDA	**Vanda**	**64.63**	**191**	P		**P**	**03 43 10.5**	**0.0**	
	comp=N,1.2n

comp=N,1.5nm,0.9s,baz=123,slow=3.3,SNR=7.7
NVAR Mina Array Bea 83.35 325 P **P 03 45 00.8 +0.3**
comp=N,1.0nm,0.8s,baz=162,slow=6.5,SNR=5.2
HVU Hansel Valley 83.63 331 *eP* **P 03 45 02.3 +0.5**
comp=N,99µm,0.9s
ELK Elko 83.82 329 *eP* **P 03 45 03.5 +0.6**
comp=N,3.6nm,0.9s
AGMN Agassiz Nation 84.08 344 *eP* **P 03 45 03.0 -0.8**
comp=N,101nm,2.9s
TORD Torodi Ar. Bea 84.14 70 P **P 03 45 04.8 -0.1**
comp=N,9.6nm,0.7s,baz=263,slow=4.0,SNR=71
TORD LR LR 04 19 31.9
comp=N,77nm,21.8s,baz=245,slow=34
TPAW Teton Pass 84.35 333 *eP* **P 03 45 05.2 -0.4**
comp=N,5.9nm,1.0s
MDND Maddock 84.57 342 *eP* **P 03 45 06.1 -0.2**
comp=N,107nm,0.6s
MDND *epP* **pP 03 45 17.2 0.0**
IMW Indian Meadow 84.69 333 *eP* **P 03 45 07.9 +0.5**
comp=N,5.4nm,1.0s
IMW *epP* **pP 03 45 17.7 -0.6**
FLWY Flagg Ranch 84.76 333 *eP* **P 03 45 08.0 +0.4**
comp=N,5.7nm,0.8s
YMR Madison River 85.36 333 *eP* **P 03 45 11.1 +0.5**
comp=N,16nm,1.0s
YMR *epP* **pP 03 45 21.6 0.0**
HLID Hailey 85.78 331 *eP* **P 03 45 13.4 +0.7**
comp=N,5.0nm,1.1s
ULM Lac du Bonnet 85.92 345 P **P 03 45 12.6 -0.3**
comp=N,2.8nm,0.8s,baz=168,slow=7.7,SNR=3.2
MCMT McKenzie Canyo 86.21 332 *eP* **P 03 45 15.7 +0.8**
comp=N,2.5nm,0.9s
MCMT *epP* **pP 03 45 26.2 +0.4**
DLMT Dillon 86.56 333 *eP* **P 03 45 17.5 +1.0**
comp=N,6.9nm,1.1s
WVOR Wild Horse Val 86.69 327 *eP* **P 03 45 18.1 +1.0**
comp=N,11nm,1.5s
SCHQ Schefferville 88.03 3 P **P 03 45 22.2 -0.9**
comp=N,4.4nm,0.9s,baz=189,slow=8.1,SNR=7.6
BMO Blue Mountains 88.04 330 *eP* **P 03 45 23.9 +0.4**
comp=N,3.6nm,1.0s
SLMT Seeley Lake 88.48 333 *eP* **P 03 45 26.1 +0.5**
comp=N,3.3nm,0.9s
TAM Tamanrasset 92.70 65 *eP* **P 03 45 46.4 +0.6**
comp=N,3.0nm,1.4s
ESDC Sonseca Array 96.28 46 P **P 03 46 01.5 -0.3**
comp=N,0.3nm,0.5s,baz=239,slow=4.9,SNR=3.7
YKA Yellowknife Ar 101.49 341 P **Pdif 03 46 23.7 -0.7**
comp=N,0.4nm,0.6s,baz=144,slow=4.7,SNR=12
VYHS Vyhne 114.80 47 *ePKP* PKPdf 03 51 13.2 -0.3
KECS Kecovo 115.81 48 *ePKP* **PKPdf 03 51 14.6 -0.8**
STHS Stebnicka Huta 116.62 47 *e* **PKPdf 03 51 18.3 +1.3**
WRA Warramunga Arr 121.19 209 PKP **PKPdf 03 51 25.8 -1.0**
comp=N,1.7nm,0.8s,baz=165,slow=1.4,SNR=6.0
BRTR Keskin Array B 121.67 61 PKP **PKPdf 03 51 26.4 -0.8**
comp=N,1.1nm,0.8s,baz=214,slow=2.6,SNR=8.6
AKASC Malin Array Be 121.91 47 PKP **PKPdf 03 51 26.0 -1.1**
comp=N,1.3nm,0.6s,baz=259,slow=2.7,SNR=8.1
FINES FINESS Array B 122.60 34 PKP **PKPdf 03 51 27.5 -0.5**
comp=N,1.0nm,0.7s,baz=217,slow=0.7,SNR=4.9
ARCES ARCESS Array B 123.56 25 PKP **PKPdf 03 51 29.5 -0.3**
comp=N,1.5nm,0.7s,baz=240,slow=1.8,SNR=4.4
H11S2 WAKE ISLAND Hy 125.65 270 T T 06 10 34.6
baz=118,slow=74,SNR=15
H11S1 WAKE ISLAND Hy 125.66 270 T T 06 10 34.2
baz=118,slow=74,SNR=14
H11S3 WAKE ISLAND Hy 125.67 270 T T 06 10 40.0
baz=118,slow=74,SNR=9.1
GEYT Alibeck 139.77 69 PKP **PKPdf 03 52 01.0 -0.3**
comp=N,1.3nm,0.3s,baz=40,slow=21,SNR=3.7
ABKAR Akbulak array 141.43 51 *ePKPdf* PKPdf 03 51 57.2 -6.7
URV Uravakonda 146.79 116 *ePKPab* **PKPdf 03 52 14.6 +0.4**
URV *ePKiKP* **PKPbc 03 52 16.1 +0.1**
SKHT Srikalahasti 147.80 121 *ePKiKP* **PKPbc 03 52 18.8 0.0**
SKHT *e* 03 52 27.6
PSI Prapat 148.41 163 PKPbc **PKPbc 03 52 19.7 -1.0**
comp=N,28nm,0.8s,baz=213,slow=4.8,SNR=24
HYB Hyderabad 149.28 114 *i* PKP **PKPbc 03 52 21.0 -1.6**
HYBB Hyderabad (bro 149.28 114 *ePKiKP* **PKPbc 03 52 22.6 0.0**
NJS Nagarjunasagar 149.32 116 *ePKiKP* **PKPbc 03 52 21.6 -1.1**
KKAR Karatay Array 149.38 61 *ePKPdf* **PKPdf 03 52 17.0 -0.7**
KKAR *ePKPbc* **PKPbc 03 52 21.7 -0.4**
RPR Rampur 150.69 113 *ePKiKP* **PKPbc 03 52 24.7 -1.3**
ASAJ Asahikawa 151.06 302 PKPbc **PKPbc 03 52 24.8 -1.2**
comp=N,10.0nm,1.0s,baz=146,slow=3.6,SNR=3.5
EKS2 Erkin-Say 151.82 61 *ePKPdf* **PKPdf 03 52 22.2 +0.6**
EKS2 *ePKPbc* **PKiKP 03 52 28.6 +0.1**
AAK Ala-Archa 152.35 61 *ePKPdf* **PKPdf 03 52 23.4 +0.9**
AAK *ePKPbc* **PKiKP 03 52 29.9 +0.3**
KURK Kurchatov 152.55 42 *ePKPdf* **PKPdf 03 52 22.3 0.0**
KURK *ePKPbc* **PKPbc 03 52 29.3 0.0**
KSH Kashi 153.78 67 PKPbc **PKPbc 03 52 32.1 -0.4**
KSH pPKP **PKPab 03 52 42.8 -2.8**
KSH PKS **PKSdf 03 56 04.0 +5.0**
KSH PP PP 03 56 54.8 +34
KSH SKS **SKSdf 03 59 32.1 +3.1**
ZAA0 Zalesovo Array 153.82 32 *ePKPdf* **PKPdf 03 52 23.6 -0.4**
ZAA0 *ePKPbc* **PKPbc 03 52 31.8 -0.1**
ZALV Zalesovo Beam 153.82 32 PKP **PKPdf 03 52 23.8 -0.3**
comp=N,1.9nm,0.6s,baz=279,slow=2.8,SNR=10.0
ZALV PKPbc **PKPbc 03 52 31.9 0.0**
comp=N,9.5nm,0.7s,baz=297,slow=3.2,SNR=24
MK31 Makanchi Array 156.49 48 *ePKPdf* **PKPdf 03 52 27.8 -0.2**
MK31 *ePKPab* **PKPab 03 52 56.4 -0.4**
MKAR Makanchi Array 156.49 48 PKP **PKPdf 03 52 27.5 -0.4**
comp=N,0.9nm,0.8s,baz=315,slow=1.0,SNR=9.3
MKAR PKPab **PKPab 03 52 57.0 +0.3**
comp=N,5.1nm,0.6s,baz=302,slow=3.5,SNR=28
WMQ Urumqi 161.22 51 *ePKP* **PKPdf 03 52 33.1 -0.6**
WMQ LZ
comp=N,110nm,23.7s
CMAR Chiang Mai Arr 163.10 150 PKP **PKPdf 03 52 36.6 +0.3**
comp=N,0.8nm,0.3s,baz=242,slow=1.9,SNR=3.7
KSRS Korea Array 163.13 289 PKP **PKPdf 03 52 34.7 -1.0**
comp=N,1.7nm,0.9s,baz=238,slow=40,SNR=3.6
KSAR Wonju Array Be 163.16 289 PKP **PKPdf 03 52 34.6 -1.1**
SONM Songino Array 165.58 4 PKP **PKPdf 03 52 36.9 -0.8**
comp=N,0.7nm,0.8s,baz=83,slow=1.2,SNR=4.7
SONM PKPab **PKPab 03 53 37.3 +0.9**
comp=N,1.6nm,0.8s,baz=335,slow=5.1,SNR=9.3
GTA Gaotai 171.23 45 *ePKP* **PKPdf 03 52 42.6 +0.8**
HHC Hu-ho-hao-te 172.02 339 *ePKP* **PKPdf 03 52 42.0 -0.1**
HHC PP **PP 03 57 59.4 +3.7**
HHC SKS **SKSdf 03 59 40.1 -2.7**
HHC LN
comp=N,300nm,19.7s
HHC LE
comp=N,270nm,17.3s
HHC LZ
comp=N,180nm,19.7s
GYA Guiyang 172.97 172 *ePKP* **PKPdf 03 52 41.0 -2.0**
GYA PKPab **PKPab 03 54 10.6 +1.0**
GYA PKS **PKSdf 03 56 13.8 -1.6**
GYA PP **PP 03 58 02.9 +2.7**
GYA PPMZ
comp=N,90nm,8.4s
CD2 Chengdu 175.74 125 *ePKP* **PKPdf 03 52 44.1 +0.5**
LZH Lanzhou 175.80 50 *ePKP* **PKPdf 03 52 46.7 +3.1**
LZH pPKP **pPKPdf 03 52 58.1 +3.1**
LZH LN
comp=N,200nm,18.2s
LZH LE
comp=N,210nm,18.0s
LZH LZ
comp=N,240nm,20.1s

GUC 05 03:37:12.3±0.5, 33°34S × 72°25W, h51 km ± 8 km, ML4.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TACH	**Talagante**	**1.14**	**106**	*eP*	Pn	03 37 33.1	+1.1
SAN	**Santiago**	**1.33**	**95**	*eP*	Pn	03 37 36.5	+1.9
SAN				*eS*	Sn	03 37 54.4	+3.0
SAN				AML	AML	03 38 02.2	
comp=E,2µm,0.8s							
STL	**Santa Lucia**	**1.35**	**95**	*eP*	Pn	03 37 36.4	+1.5
STL				*eS*	Sn	03 37 54.7	+2.9
SJCH	**San Jose de Ma**	**1.61**	**101**	*eP*	Pn	03 37 40.3	+1.8
SJCH				*eS*	Sn	03 38 01.4	+3.0
NICH	**Los Niches**	**1.86**	**153**	*eP*	Pn	03 37 43.4	+1.6
NICH				*eS*	Sn	03 38 07.3	+3.1
NICH				AML	AML	03 38 16.8	
comp=N,3µm,0.3s							
LNCH	**Linares**	**2.56**	**168**	AML	AML	03 38 38.5	
comp=N,1µm,0.4s							

*CSEM **05** 03:38:52.8, 29°.49N × 51°.45E, h30 km, ML3.6*
TEH 05 03:38:52.8, 29°.49N × 51°.45E, h30 km, ML3.6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKAZ	**Kazeroun**	**0.45**	**49**	*e*		03 39 10.1	
comp=Z,13µm,0.1s							
IKAZ				*ePg*	Pb	03 39 03.1	+0.2
IKAZ				*eSg*	Sb	03 39 09.3	-0.3
IKAZ	**Kazeroun**	**0.45**	**49**	*ePg*	Pb	03 39 03.1	+0.3
IKAZ				*eSg*	Sb	03 39 09.4	-0.2
SHI	**Shiraz**	**0.94**	**80**	*ePg*	Pn	03 39 10.1	-0.1
SHI				*eSg*	Sb	03 39 23.0	0.0
SHI				*e*		03 39 26.8	
comp=Z,37µm,0.1s							
GHIR	**Ghir-Karzin**	**1.80**	**131**	*ePn*	Pb	03 39 34.0	+8.7
GHIR	**Ghir-Karzin**	**1.80**	**131**	*ePn*	Pb	03 39 34.0	+8.7
ISAD	**Sadrabad**	**3.09**	**38**	*ePn*	Pn	03 39 40.0	0.0
ISAD				*e*		03 40 17.7	
comp=Z,2µm,0.2s							
ISAD	**Sadrabad**	**3.09**	**38**	*ePn*	Pn	03 39 40.0	0.0
IPIR	**Pirpir**	**3.22**	**352**	*ePn*	Pn	03 39 40.6	-1.3
IPIR				*e*		03 40 36.0	
comp=Z,520nm,0.3s							
IPIR	**Pirpir**	**3.22**	**352**	*ePn*	Pn	03 39 40.6	-1.2
IMEH	**Mehriz**	**3.32**	**54**	*ePn*	Pn	03 39 43.1	0.0
IMEH				*e*		03 40 31.8	
comp=Z,938nm,0.5s							
IMEH	**Mehriz**	**3.32**	**54**	*ePn*	Pn	03 39 43.2	+0.1
SHGR	**Shooshtar-Gavs**	**3.47**	**320**	*ePn*	Pb	03 40 00.0	+6.5
SHGR	**Shooshtar-Gavs**	**3.47**	**320**	*ePn*	Pb	03 40 00.0	+6.5
IZEF	**Zefreh**	**3.48**	**12**	*ePn*	Pn	03 39 44.6	-0.7
IZEF				*e*		03 40 42.5	
comp=Z,406nm,0.0s							
IZEF	**Zefreh**	**3.48**	**12**	*ePn*	Pn	03 39 44.6	-0.7
IKLH	**Kolahrood**	**3.82**	**2**	*ePn*	Pn	03 39 49.6	-0.4
IKLH				*e*		03 40 10.0	
comp=Z,330nm,0.3s							
IKLH	**Kolahrood**	**3.82**	**2**	*ePn*	Pn	03 39 49.6	-0.4
IBAF	**Bafgh**	**4.12**	**58**	*ePn*	Pn	03 39 53.3	-0.7
IBAF				*e*		03 40 11.1	
comp=Z,226nm,0.2s							
IBAF	**Bafgh**	**4.12**	**58**	*ePn*	Pn	03 39 53.3	-0.7
KRBR	**Kerman**	**4.64**	**83**	*ePn*	Pn	03 39 57.0	-4.4
KRBR	**Kerman**	**4.64**	**83**	*ePn*	Pn	03 39 57.0	-4.4
BNDS	**Bandar-Abbas**	**4.65**	**115**	*ePn*	Pn	03 40 07.0	+5.8
IBND	**Bandar-abas**	**4.92**	**113**	*ePn*	Pn	03 40 07.0	+2.3
IDHR	**Dehrash**	**6.74**	**322**	*ePn*	Pn	03 40 34.7	+4.6
IDHR				*e*		03 41 53.4	
comp=Z,184nm,0.1s							
IDHR	**Dehrash**	**6.74**	**322**	*ePn*	Pn	03 40 34.7	+4.6

DJA 05 03:48:47.5±0.4, 9°S ± 7° × 118°E ± °, h41 km ± 23 km, M4.2/13, mb4.1/1, MLv4.2/13, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**1.92**	**105**	P	Pn	03 49 17.3	-0.5
WBSI				S	Sn	03 49 41.5	+0.7
DNP	**Denpasar**	**2.32**	**281**	P	Pn	03 49 22.4	-0.8
IGBI	**Denpasar**	**2.36**	**278**	P	Pn	03 49 23.4	-0.3
IGBI				S	Sn	03 49 52.6	+1.1
SRBI	**Singaraja**	**2.50**	**295**	P	Pn	03 49 25.0	-0.7
WSI	**Waingapu**	**2.80**	**101**	P	Pn	03 49 29.6	-0.2
JAGI	**Jajag, Banyuwa**	**3.38**	**281**	P	Pn	03 49 37.6	-0.3
GMJI	**Gumukmas**	**4.11**	**282**	P	Pn	03 49 48.2	+0.4
BLJI	**Banyuglugur**	**4.11**	**289**	P	Pn	03 49 48.0	+0.1
BSSI	**Bau Bau, Buton**	**4.19**	**45**	P	Pn	03 49 49.0	0.0
BKSI	**Bulukumba**	**4.59**	**35**	P	Pn	03 49 53.5	-1.0
PWJI	**Pagerwojo**	**5.75**	**281**	P	Pn	03 50 10.2	-0.2

*ISCJB **05** 03:51:54.0±0.8, 36°.65N±0°.05 × 70°.7E±0°.1, h204 km, Error ellipse: s-maj=12.4km s-min=5.6km az=155.0*
*NNC **05** 03:51:56.9±5.4, 36°.87N × 70°.20E, h142 km ± 104 km, mb3.1, mpv3.9, Error ellipse: s-maj=52.5km s-min=40.3km az=47.0*
ISC 05 03:51:54.3±1.2, 36°.68N±0°.09 × 70°.6E±0°.1, h204 km, n16, σ1§78/19, 2C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**4.04**	**34**	⇓P	**Pn**	**03 52 57.8**	**+0.8**
15nm,0.4s							
SFK				⇓S	**S**	**03 53 46.3**	**+0.6**
11nm,0.3s							
KSH	**Kashi**	**5.11**	**55**	Pn	Pn	03 53 05.3	-4.9
KSH				Sn	S	03 53 57.5	-12
KSH				smax	smax		
comp=N,100nm,0.3s							
KSH				smax	smax		
comp=E,90nm,0.5s							
KK31	**Karatay Array**	**6.42**	**360**	P	**Pn**	**03 53 28.3**	**+1.4**
comp=E,2.6nm,0.3s,baz=178,slow=13,SNR=54							
KK31				⇓S	**S**	**03 54 38.3**	**-1.9**
comp=E,2.0nm,0.2s,baz=187,slow=26,SNR=12							
AAK	**Ala-Archa**	**6.67**	**26**	⇓P	**Pn**	**03 53 31.4**	**+1.1**
comp=E,4.7nm,0.4s							
AAK				⇑S	**S**	**03 54 45.8**	**-0.5**
comp=E,4.4nm,0.6s							
GKN	**Gorkha**	**14.68**	**122**	*eP*	**P**	**03 55 14.8**	**+1.2**
comp=E,10nm,0.3s							
AB31	**Akbulak array**	**14.77**	**332**	⇓P	**P**	**03 55 14.7**	**+0.6**
comp=E,0.3nm,0.3s,baz=151,slow=12,SNR=9.5							
AB31				⇓S	**S**	**03 57 53.4**	**-3.5**
comp=E,0.6nm,0.6s,baz=155,slow=23,SNR=3.6							
DMN	**Daman**	**15.25**	**122**	*eP*	**Pn**	**03 55 18.4**	**-1.3**
comp=E,5.9nm,0.6s							
KKN	**Kakani**	**15.26**	**121**	*eP*	**P**	**03 55 19.9**	**-0.1**
comp=E,6.6nm,0.5s							
PKIN	**Phulchoki**	**15.47**	**122**	*eP*	**P**	**03 55 21.3**	**-1.1**
comp=E,4.8nm,0.4s							
PKI	**Pulchoki**	**15.48**	**122**	*eP*	**P**	**03 55 22.3**	**-0.3**
comp=E,8.4nm,0.6s							
GUN	**Gumba**	**15.60**	**120**	*eP*	**Pn**	**03 55 24.4**	**+0.4**
comp=E,3.2nm,0.2s							
JIRN	**Jiri**	**15.97**	**120**	*eP*	**Pn**	**03 55 27.8**	**-0.6**
comp=E,6.4nm,0.3s							
AKTO	**Aktyubinsk**	**16.46**	**331**	⇑P	**Pn**	**03 55 36.5**	**+2.8**
comp=E,1.6nm,0.6s							
RAMN	**Ramite**	**16.70**	**121**	*eP*	**P**	**03 55 32.7**	**-3.2**
comp=E,4.1nm,0.4s							
TAPN	**Taplejung**	**17.23**	**118**	*eP*	**P**	**03 55 41.2**	**-0.6**
comp=E,6.5nm,0.7s							
ODAN	**Odare**	**17.30**	**120**	*eP*	**P**	**03 55 39.9**	**-2.6**
comp=E,5.7nm,0.6s							

GUC 05 03:58:00.4±0.6, 34°.80S × 72°.66W, h36 km ± 3 km, ML4.1, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**1.03**	**126**	*eP*	Pn	03 58 17.3	-1.0
TALC				*eS*	Sn	03 58 30.9	-0.6
NICH	**Los Niches**	**1.19**	**100**	*eP*	Pn	03 58 20.5	-0.1
NICH				*eS*	Sn	03 58 36.1	+0.6
COCH	**Cobquecura**	**1.33**	**185**	*eP*	Pn	03 58 22.9	+0.4
COCH				*eS*	Sn	03 58 39.7	+0.7
LNCH	**Linares**	**1.36**	**141**	*eP*	Pn	03 58 23.5	+0.7
LNCH				*eS*	Sn	03 58 40.6	+1.1
SJCH	**San Jose de Ma**	**2.23**	**59**	*eP*	Pn	03 58 35.5	+0.5
SJCH				*eS*	Sn	03 59 02.8	+1.4
CLCH	**Cerro Calan**	**2.25**	**52**	*eP*	Pn	03 58 36.6	+1.4
CLCH				*eS*	Sn	03 59 03.3	+1.5
CLCH				AML	AML	03 59 16.6	
comp=N,1µm,0.3s							

*IDC **05** 03:59:43.7±0.8, 11°.74N × 143°.26E, h0 km, mb4.0/13, mb1 4.3/14, mb1mx4.0/30, mbtmp4.1/14, ML4.4/1, MS3.0/7, Ms1 3.0/7, ms1mx2.8/26, Error ellipse: s-maj=24.4km s-min=16.6km az=110.0*
*ISCJB **05** 03:59:46.8±0.6, 11°.70N±0°.08 × 143°.2E±0°.1, h32 km, mb4.1/14, MS3.0/5, Error ellipse: s-maj=16.7km s-min=8.6km az=35.5*
*NEIC **05** 03:59:48.9±0.5, 11°.74N × 143°.26E, h35 km, mb4.1/3, Error ellipse: s-maj=16.0km s-min=10.1km az=105.0*
ISC 05 03:59:48.6±0.9, 11°.7N±0°.1 × 143°.2E±0°.1, h32 km, n19, σ1§01/18, mb4.2/14, MS2.9/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.47**	**41**	Pn	**Pn**	**04 00 25.9**	**-0.7**
77nm,0.3s,baz=186,slow=10,SNR=16							
GUMO				Sn	**Sn**	**04 00 57.1**	**+1.4**
65nm,0.3s,baz=218,slow=22,SNR=7.1							
GUMO				LR	LR	04 01 31.1	
comp=Z,291nm,18.4s,baz=191,slow=44							
GUMO	**Guam**	**2.47**	**41**	*ePn*	**Pn**	**04 00 25.9**	**-0.7**
GUMO				*eS*	**Sn**	**04 00 56.5**	**+0.8**
JCJ	**Chichijima**	**15.32**	**357**	LR	LR	04 07 43.2	
comp=Z,39nm,20.3s,baz=138,slow=31							
JNU	**Nakatsue**	**24.11**	**334**	P	**P**	**04 05 01.3**	**-0.2**
5.6nm,0.7s,baz=154,slow=7.0,SNR=4.4							
JNU				LR	LR	04 13 26.2	
comp=Z,19nm,18.7s,baz=100,slow=34							
MJAR	**Matsushiro Arr**	**25.11**	**351**	P	**P**	**04 05 09.0**	**-1.6**
1.2nm,0.7s,baz=179,slow=10,SNR=6.6							
MJAR				LR	LR	04 14 21.1	
comp=Z,34nm,19.1s,baz=175,slow=35							
KSRS	**Korea Array**	**29.05**	**334**	LR	LR	04 15 26.7	
comp=Z,14nm,20.9s,baz=163,slow=32							
WRAB	**Tennant Creek**	**32.64**	**196**	*eP*	**P**	**04 06 17.5**	**-0.3**
3.5nm,0.6s							
WRA	**Warramunga Arr**	**32.65**	**196**	P	**P**	**04 06 17.6**	**-0.3**
2.3nm,0.6s,baz=19,slow=9.7,SNR=16							
ASAR	**Alice Springs**	**36.33**	**194**	P	**P**	**04 06 49.6**	**-0.1**
0.9nm,0.6s,baz=26,slow=11,SNR=7.9							
CMAR	**Chiang Mai Arr**	**43.16**	**284**	P	**P**	**04 07 48.4**	**+1.7**
0.9nm,0.3s,baz=88,slow=6.4,SNR=3.9							
STKA	**Stephens Creek**	**43.38**	**182**	LR	LR	04 27 56.0	
comp=Z,88nm,18.2s,baz=204,slow=39							
SONM	**Songino Array**	**47.34**	**327**	P	**P**	**04 08 20.0**	**+0.4**
0.3nm,0.5s,baz=144,slow=6.7,SNR=4.1							
SONM				LR	LR	04 27 23.4	
comp=Z,19nm,21.2s,baz=119,slow=35							
KURK	**Kurchatov**	**64.96**	**321**	*eP*	**P**	**04 10 25.0**	**-0.3**
2.7nm,0.8s							
ILAR	**Eielson Array**	**70.94**	**25**	P	**P**	**04 11 01.4**	**-1.2**
1.9nm,0.6s,baz=248,slow=6.1,SNR=47							
ABKAR	**Akbulak array**	**76.82**	**318**	*eP*	**P**	**04 11 37.2**	**-0.1**
0.6nm,0.4s							
YKA	**Yellowknife Ar**	**85.25**	**27**	P	**P**	**04 12 22.6**	**+0.7**
0.9nm,0.4s,baz=286,slow=4.9,SNR=26							
ARCES	**ARCESS Array B**	**88.34**	**342**	P	**P**	**04 12 36.5**	**-0.4**
1.5nm,0.6s,baz=61,slow=7.3,SNR=10							
NVAR	**Mina Array Bea**	**89.36**	**51**	P	**P**	**04 12 44.0**	**+1.4**
1.0nm,0.6s,baz=264,slow=5.7,SNR=8.9							
FINES	**FINESS Array B**	**92.14**	**335**	P	**P**	**04 12 53.4**	**-1.3**
1.5nm,0.8s,baz=98,slow=5.8,SNR=6.4							

IDC 05 04:19:55.5±8.0, 5°.29S × 143°.11E, h99 km ± 53 km, mb3.1/2, mb1 3.4/4, mb1mx3.1/18, mbtmp3.6/4, MS4.0/1, Ms1 4.0/1, ms1mx2.7/11, Error ellipse: s-maj=109.5km s-min=21.5km az=82.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**3.65**	**319**	P	Pn	04 20 49.5	-0.6
2.6nm,0.3s,baz=206,slow=11,SNR=8.9							
JAY				S	Sn	04 21 33.1	+0.7
6.9nm,0.3s,baz=314,slow=22,SNR=6.4							
WRA	**Warramunga Arr**	**16.88**	**210**	P	Pn	04 23 45.3	-0.6
0.4nm,0.3s,baz=28,slow=12,SNR=11							
ASAR	**Alice Springs**	**20.31**	**205**	P	P	04 24 24.2	+0.4
1.0nm,0.7s,baz=30,slow=12,SNR=8.6							
JCJ	**Chichijima**	**32.20**	**358**	LR	LR	04 36 39.4	
comp=Z,270nm,21.9s,baz=136,slow=31							
MKAR	**Makanchi Array**	**74.51**	**322**	P	P	04 31 23.4	0.0
0.3nm,0.5s,baz=101,slow=7.5,SNR=5.1							

DJA 05 04:31:51.1±0.9, 1°N ± 5° × 126°E ± °, h51 km ± 16 km, M3.8/6, MLv3.8/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.06**	**111**	P	Pn	04 32 09.2	-0.4
TNTI				S	Sn	04 32 24.1	+0.8
LBMI	**Labuha**	**2.10**	**148**	P	Pn	04 32 23.9	0.0
LBMI				S	Sn	04 32 49.6	+0.8
KMSI	**Cibinong**	**2.47**	**257**	P	Pn	04 32 28.8	-0.1
KMSI				S	Sn	04 32 58.9	+1.1
SANI	**Sanana**	**3.20**	**187**	P	Pn	04 32 38.7	-0.3

*ISCJB **05** 04:55:24.0±0.7, 14°.83S±0°.10 × 73°.7W±0°.1, h98 km, mb3.4/4, Error ellipse: s-maj=19.6km s-min=8.4km az=141.8*
*IDC **05** 04:55:24.0±2.2, 14°.81S × 73°.60W, h74 km ± 23 km, mb3.2/3, mb1 3.7/5, mb1mx3.4/18, mbtmp3.7/5, MS2.7/1, Ms1 2.7/1, ms1mx2.4/10, Error ellipse: s-maj=38.6km s-min=15.8km az=46.0*
ISC 05 04:55:25.5±0.8, 14°.9S±0°.1 × 73°.7W±0°.1, h98 km, n9, σ1§12/10, mb3.5/4, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.20**	**313**	P	**Pn**	**04 56 26.3**	**-1.0**
9.5nm,0.3s,baz=129,slow=13,SNR=18							
NNA				S	**Sn**	**04 57 14.6**	**-0.8**
15nm,0.3s,baz=77,slow=19,SNR=5.6							
LVC	**Limon Verde**	**8.93**	**150**	P	**Pn**	**04 57 30.1**	**-1.8**
63nm,0.3s,baz=352,slow=7.8,SNR=19							
CFAA	**Coronel Fontan**	**17.39**	**164**	P	**Pn**	**04 59 22.9**	**+1.0**
0.0nm,0.3s,baz=359,slow=9.9,SNR=3.5							
PTGA	**Pitinga**	**19.53**	**45**	P	**P**	**04 59 45.3**	**-0.1**
0.8nm,0.3s,baz=231,slow=13,SNR=8.6							
PTGA				LR	LR	05 07 10.1	
comp=Z,20nm,18.9s,baz=192,slow=36							
PLCA	**Paso Flores**	**25.91**	**175**	P	**P**	**05 00 49.4**	**+0.9**
2.1nm,1.0s,baz=7.5,slow=11,SNR=3.5							
TXAR	**Lajitas Array**	**52.62**	**327**	P	**P**	**05 04 31.0**	**+1.3**
0.7nm,0.8s,baz=143,slow=8.6,SNR=7.5							
TORD	**Torodi Ar. Bea**	**79.63**	**73**	P	**P**	**05 07 22.7**	**+0.1**
0.3nm,0.8s,baz=260,slow=5.1,SNR=2.6							
YKA	**Yellowknife Ar**	**83.49**	**342**	P	**P**	**05 07 42.5**	**+0.6**
0.4nm,0.8s,baz=134,slow=5.0,SNR=6.6							
SONM	**Songino Array**	**147.13**	**360**	PKPbc	**PKPab**	**05 14 58.8**	**-0.3**
0.3nm,0.6s,baz=354,slow=1.4,SNR=2.9							

*IDC **05** 04:56:51.5±0.9, 1°.36N × 127°.23E, h0 km, mb3.9/6, mb1 4.1/6, mb1mx3.8/22, mbtmp3.9/6, Error ellipse: s-maj=58.2km s-min=17.6km az=75.0*
*DJA **05** 04:56:59.6±0.6, 1°N ± 6° × 126°E ± °, h29 km ± 10 km, M4.1/6, MLv4.1/6*
**ISC 05 04:56:53.0±0.9, 1°.35

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHEZ	**Kahui Hut**	**0.35**	**315**	PN	Pn	05 11 27.0	-0.6
KHEZ				SN	S	05 11 48.2	-0.9
WAZ	**Wanganui**	**0.55**	**113**	PN	Pn	05 11 28.2	+0.2
WAZ				SN	S	05 11 50.1	+0.1
PKVZ	**Pokaka**	**0.83**	**73**	PN	Pn	05 11 29.1	-0.3
PKVZ				SN	S	05 11 50.9	-1.5
MTVZ	**Mangateitei**	**0.90**	**80**	PN	Pn	05 11 29.8	-0.1
MTVZ				SN	S	05 11 52.2	-0.9
TRVZ	**Turoa**	**0.97**	**76**	PN	Pn	05 11 30.3	-0.3
TRVZ				SN	S	05 11 52.3	-1.9
TWVZ	**Taurewa**	**0.98**	**62**	PN	Pn	05 11 29.6	-0.9
FWVZ	**Far West T-bar**	**0.99**	**74**	⇑PN	Pn	05 11 30.2	-0.5
FWVZ				SN	S	05 11 51.9	-2.5
WNVZ	**Wahianoa**	**1.00**	**78**	⇓PN	Pn	05 11 30.6	-0.1
WNVZ				SN	S	05 11 52.8	-1.6
TUVZ	**Tukino**	**1.06**	**76**	PN	Pn	05 11 31.0	-0.1
MOVZ	**Moawhango**	**1.11**	**84**	PN	Pn	05 11 30.8	-0.5
DUWZ	**D'Urville Isla**	**1.30**	**194**	PN	Pn	05 11 32.3	-0.3
BHHZ	**Black Hill Sta**	**1.34**	**88**	PN	Pn	05 11 32.5	-0.6
KIW	**Kapiti Island**	**1.39**	**162**	PN	Pn	05 11 33.2	-0.1
OGWZ	**Otaki Gorge**	**1.43**	**153**	⇑PN	Pn	05 11 33.8	+0.2
MRZ	**Mangatainoka R**	**1.48**	**140**	PN	Pn	05 11 34.0	0.0
MRZ				SN	S	05 11 59.4	-1.0
KRHZ	**Kereru**	**1.58**	**94**	PN	Pn	05 11 35.0	0.0
PRWZ	**Pori Road**	**1.62**	**129**	PN	Pn	05 11 35.9	+0.6
HOWZ	**Holdsworth Sta**	**1.63**	**147**	PN	Pn	05 11 35.3	-0.1
CAW	**Cannon Point**	**1.67**	**160**	PN	Pn	05 11 35.6	-0.1
CAW				AML	AML	05 12 04.8	
TCW	**Tory Channel**	**1.67**	**181**	PN	Pn	05 11 35.9	+0.1
TCW				AML	AML	05 12 04.3	
TCW				AML	AML	05 12 04.9	
BKZ	**Black Stump Fm**	**1.72**	**78**	PN	Pn	05 11 35.6	-0.7
TIWZ	**Tintock**	**1.72**	**137**	PN	Pn	05 11 36.4	+0.1
TIWZ				AML	AML	05 12 06.0	
NNZ	**Nelson**	**1.83**	**203**	⇑PN	Pn	05 11 36.5	-0.7
NNZ				SN	S	05 12 03.8	-2.3
MTW	**Mount Morrison**	**1.85**	**151**	PN	Pn	05 11 37.3	-0.1
BFZ	**Birch Farm**	**1.86**	**128**	PN	Pn	05 11 37.6	+0.1
QRZ	**Quartz Range**	**1.89**	**226**	PN	Pn	05 11 36.1	-1.6
TUWZ	**Tuamarina**	**1.91**	**189**	⇓PN	Pn	05 11 37.6	-0.4
TUWZ				AML	AML	05 12 07.6	
TUWZ				AML	AML	05 12 08.1	
TMWZ	**Te Maipa**	**1.97**	**143**	PN	Pn	05 11 38.5	-0.2
KAHZ	**Kahuranaki**	**1.98**	**98**	⇑PN	Pn	05 11 39.3	+0.4
MSWZ	**Moikau Station**	**2.00**	**160**	PN	Pn	05 11 38.4	-0.5
PXZ	**Pawanui**	**2.01**	**105**	PN	Pn	05 11 39.3	+0.3
ARHZ	**Aropaoanui**	**2.08**	**83**	PN	Pn	05 11 39.9	0.0
PLWZ	**Palliser**	**2.15**	**161**	PN	Pn	05 11 39.9	-0.6
BSWZ	**Blackbirch Sta**	**2.20**	**189**	PN	Pn	05 11 41.2	+0.2
THZ	**Tophouse**	**2.47**	**206**	PN	Pn	05 11 42.8	-1.2
URZ	**Urewera**	**2.52**	**60**	PN	Pn	05 11 42.5	-2.0
KNZ	**Kokohu**	**2.65**	**80**	PN	Pn	05 11 45.2	-0.7
MWZ	**Matawai**	**2.77**	**65**	⇑PN	Pn	05 11 45.7	-1.7
RIGZ	**Rimuhau**	**2.80**	**74**	PN	Pn	05 11 46.7	-0.9
DSZ	**Denniston Nort**	**2.92**	**220**	⇓PN	Pn	05 11 47.3	-1.7
KHZ	**Kahutara**	**2.94**	**191**	PN	Pn	05 11 48.8	-0.3
TWGZ	**Tauwhareparae**	**3.16**	**66**	PN	Pn	05 11 50.8	-1.1
HAZ	**Te Kaha**	**3.24**	**58**	PN	Pn	05 11 50.0	-2.7
LTZ	**Lake Taylor**	**3.59**	**205**	PN	Pn	05 11 55.4	-1.6
WMGZ	**Waiomatatini S**	**3.63**	**63**	PN	Pn	05 11 55.2	-2.2
MXZ	**Matakaoa Point**	**3.69**	**59**	PN	Pn	05 11 56.1	-2.1
OXZ	**Oxford**	**4.16**	**204**	PN	Pn	05 12 01.3	-2.5
MQZ	**McQueen's Vall**	**4.35**	**196**	PN	Pn	05 12 04.0	-2.2

GUC 05 05:20:16.9±0.6, 35°.47S×73°.26W, h40km±4km, ML4.2, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.77**	**150**	*e*P	Pn	05 20 30.6	-0.7
COCH				*e*S	Sn	05 20 41.6	0.0
TALC	**Talca**	**1.33**	**87**	*e*P	Pn	05 20 39.1	+0.1
LNCH	**Linares**	**1.41**	**106**	*e*P	Pn	05 20 40.6	+0.6
LNCH				*e*S	Sn	05 20 58.2	+0.9
LNCH				AML	AML	05 21 10.2	
	comp=E,4μm,0.4s						
NICH	**Los Niches**	**1.73**	**75**	*e*P	Pn	05 20 45.2	+0.7
NICH				*e*S	Sn	05 21 06.5	+1.2
NICH				AML	AML	05 21 19.6	
	comp=E,5μm,0.9s						
CLCH	**Cerro Calan**	**3.06**	**48**	*e*P	Pn	05 21 03.5	+0.6
CLCH				*e*S	Sn	05 21 39.3	+1.0
CLCH				AML	AML	05 22 02.6	
	comp=E,993nm,0.7s						
PEL	**Peldehue**	**3.15**	**43**	*e*P	Pn	05 21 04.1	0.0
PEL				*e*S	Sn	05 21 39.9	-0.7
PEL				AML	AML	05 22 03.2	
	comp=N,1μm,0.3s						

MOS ***05*** *05:41:24.6±1.6,53°.35N×108°.38E, h10km, mb4.6/1, Error ellipse: s-maj=15.3km s-min=9.3km az=56.3*
BYKL ***05*** *05:41:25.8±0.1,53°.32N×108°.32E, h11km,3km*
ISC 05 05:41:25.4±1.1, 53°.33N±0°.02×108°.36E±0°.02, h5km±9km, n46, σ2s01/98, 6C-6D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXMB	**Maximikha**	**0.24**	**106**	⇑*i*Pg	**Pg**	**05 41 30.9**	**+0.8**
MXMB				Pmax		05 41 31.0	
	5μm,0.1s						
MXMB				*e*Sg	**Sg**	**05 41 34.9**	**+1.6**
MXMB				Smax		05 41 35.2	
	8μm,0.3s						
OGRR	**Ongureny**	**0.55**	**305**	⇑*i*Pg	**Pg**	**05 41 36.2**	**+0.1**
	2μm,0.3s						
OGRR				⇓*i*Pg	**Pg**	**05 41 36.2**	**+0.1**
	2μm,0.3s						
OGRR				⇑*i*Pg	**Pg**	**05 41 36.2**	**+0.1**
	3μm,0.3s						
OGRR				Pmax		05 41 36.3	
	3μm,0.2s						
OGRR				*e*Sg	**Sg**	**05 41 43.5**	**+0.2**
OGRR				Smax		05 41 43.9	
	3μm,0.4s						
OGRR				*e*Sb	**Sn**	**05 41 48.8**	**-0.9**
OGRR				*e*Sb	**Sb**	**05 41 51.1**	**+5.2**
OGRR	**Ongureny**	**0.55**	**305**	⇑*i*PG	**Pg**	**05 41 36.2**	**+0.1**
OGRR				*e*		05 41 43.3	
OGRR				pmax	pmax		
	comp=Z,3μm,0.2s						
OGRR				smax	smax		
	comp=E,3μm,0.4s						
SYVR	**Suvo**	**1.03**	**71**	⇑*i*Pg	**Pg**	**05 41 45.0**	**-0.2**
SYVR				Pmax		05 41 48.2	
	comp=E,130nm,0.2s						
SYVR				*e*Sg	**Sg**	**05 41 58.8**	**+0.2**
SYVR				Smax		05 42 03.2	
	comp=E,1μm,0.5s						
SYVR	**Suvo**	**1.03**	**71**	*e*PG	**Pg**	**05 41 44.8**	**-0.4**
SYVR				*e*		05 41 58.7	
SYVR				pmax	pmax		
	comp=Z,164nm,0.3s						
SYVR				smax	smax		
	comp=N,1μm,0.4s						
ZRHB	**Zarechye**	**1.07**	**224**	⇓*i*Pg	**Pg**	**05 41 45.2**	**-0.7**
ZRHB				Pmax		05 41 46.4	
	comp=N,675nm,0.2s						
ZRHB				*e*Sg	**Sg**	**05 41 59.8**	**+0.1**
ZRHB				Smax		05 42 02.9	
	comp=N,4μm,0.4s						
TRG	**Tyrgan**	**1.34**	**246**	*e*Pg	**Pn**	**05 41 49.1**	**-1.8**
TRG				Pmax		05 41 51.3	
	comp=N,280nm,0.2s						
TRG				*e*Sg	**Sg**	**05 42 06.8**	**-1.7**
TRG				Smax		05 42 10.8	
	comp=N,3μm,0.4s						
TRG	**Tyrgan**	**1.34**	**246**	*e*PG	**Pn**	**05 41 49.2**	**-1.7**
TRG				*e*		05 42 06.7	
TRG				pmax	pmax		
	comp=Z,279nm,0.2s						
TRG				smax	smax		
	comp=N,3μm,0.4s						
UUDB	**Ulan-Yde**	**1.53**	**196**	⇓*i*Pg	**Pn**	**05 41 53.1**	**-0.3**
UUDB				Pmax		05 41 54.1	
	comp=N,380nm,0.4s						
UUDB				*e*Sg	**Sn**	**05 42 13.7**	**+0.1**
UUDB				Smax		05 42 15.5	
	comp=N,1μm,0.3s						
KAB	**Kabansk**	**1.65**	**220**	*e*Pg	**Pn**	**05 41 55.4**	**+0.3**
KAB				Pmax		05 42 00.8	
	comp=N,425nm,0.2s						
KAB				*e*Sg	**Sn**	**05 42 16.7**	**+0.1**
KAB				Smax		05 42 22.8	
	comp=N,2μm,0.3s						
KAB	**Kabansk**	**1.65**	**220**	*e*PN	**Pb**	**05 41 56.0**	**-0.3**
KAB				*e*		05 42 17.3	
KAB				pmax	pmax		
	comp=Z,284nm,0.4s						
KAB				smax	smax		
	comp=N,2μm,0.5s						
HRMR	**Khuramsha**	**1.91**	**207**	⇓*i*Pn	**Pn**	**05 41 58.5**	**-0.1**
HRMR				*e*Pg	**Pb**	**05 41 59.7**	**-1.0**
HRMR				Pmax		05 42 00.5	
	comp=N,898nm,0.2s						
HRMR				*e*Sg	**Sb**	**05 42 25.3**	**+0.4**
HRMR				Smax		05 42 27.5	
	comp=N,6μm,0.2s						
YLYR	**Ulyunkhan**	**2.26**	**46**	⇓*i*Pn	**Pn**	**05 42 04.0**	**+0.5**
YLYR				⇑*i*Pg	**Pb**	**05 42 06.4**	**-0.4**
YLYR				Pmax		05 42 06.6	
	comp=N,257nm,0.4s						
YLYR				*e*Sg	**Sg**	**05 42 37.0**	**-1.1**
YLYR				Smax		05 42 38.3	
	comp=N,623nm,0.5s						
NIZ	**Nizh Angarsk**	**2.54**	**15**	*e*Pn	**Pn**	**05 42 08.1**	**+0.7**
NIZ				*e*Pg	**Pb**	**05 42 11.2**	**-0.4**
NIZ				Pmax		05 42 13.3	
	comp=N,131nm,0.4s						
NIZ				*e*Sn	**Sn**	**05 42 37.8**	**-0.9**
NIZ				*e*Sg	**Sb**	**05 42 45.0**	**+1.8**
NIZ				Smax		05 42 47.7	
	comp=N,197nm,0.2s						
NIZ	**Nizh Angarsk**	**2.54**	**15**	*e*PN	**Pn**	**05 42 08.1**	**+0.7**
NIZ				*e*		05 42 11.3	
NIZ				*e*S	**Sn**	**05 42 36.3**	**-2.4**
LSTR	**Listvyanka**	**2.60**	**237**	⇓*i*Pn	**Pn**	**05 42 07.8**	**-0.4**
LSTR				*e*		05 42 10.1	
LSTR				*e*Pg	**Pb**	**05 42 12.1**	**-0.4**
LSTR				Pmax		05 42 12.5	
	comp=N,44nm,0.3s						
LSTR				*e*Sn	**Sn**	**05 42 39.3**	**-0.8**
LSTR				*e*Sg	**Sb**	**05 42 45.2**	**+0.4**
LSTR				Smax		05 42 50.8	
	comp=N,702nm,1.4s						
LSTR	**Listvyanka**	**2.60**	**237**	*e*PN	**Pn**	**05 42 07.7**	**-0.4**
LSTR				*e*		05 42 11.5	
LSTR				*e*S	**Sn**	**05 42 38.5**	**-1.6**
LSTR				*e*		05 42 44.0	
LSTR				pmax	pmax		
	comp=Z,44nm,0.3s						
LSTR				smax	smax		
	comp=E,703nm,1.4s						
IRK	**Irkutsk**	**2.71**	**248**	*e*Pg	**Pb**	**05 42 13.2**	**-1.2**
IRK				Pmax		05 42 14.3	
	comp=E,183nm,0.1s						
IRK				*e*Sg	**Sb**	**05 42 47.7**	**-0.2**
IRK				Smax		05 42 55.3	
	comp=E,1μm,0.6s						
IRK	**Irkutsk**	**2.71**	**248**	*e*PN	**Pb**	**05 42 12.7**	**-1.7**
IRK				*e*		05 42 47.1	
IRK				pmax	pmax		
	comp=Z,183nm,0.1s						
IRK				smax	smax		
	comp=E,1μm,0.5s						
KMO	**Kumora**	**3.05**	**32**	*e*Pn	**Pn**	**05 42 15.1**	**+0.8**
KMO				*e*Pg	**Pb**	**05 42 20.1**	**-0.1**
KMO				Pmax		05 42 21.0	
	comp=E,223nm,0.4s						
KMO				*e*Sg	**Sg**	**05 43 01.1**	**-2.2**
KMO				Smax		05 43 17.1	
	comp=E,358nm,1.1s						
TLY	**Talaya**	**3.32**	**242**	*e*Pn	**Pn**	**05 42 17.9**	**-0.2**
TLY				*e*Pg	**Pb**	**05 42 25.5**	**+0.7**
TLY				Pmax		05 42 31.3	
	comp=E,42nm,0.4s						
TLY				*e*Sn	**Sn**	**05 42 55.2**	**-2.7**
TLY				*e*		05 43 06.8	
TLY				*e*Sg	**Sb**	**05 43 08.0**	**+2.5**
TLY				Smax		05 43 13.3	
	comp=E,269nm,0.5s						
TLY	**Talaya**	**3.32**	**242**	*e*PN	**Pn**	**05 42 18.3**	**+0.2**
TLY				*e*		05 42 25.4	
TLY				*e*		05 43 05.6	
TLY				pmax	pmax		
	comp=Z,21nm,0.4s						
TLY				smax	smax		
	comp=N,85nm,0.3s						
YOA	**Uoyan**	**3.42**	**33**	*e*Pg	**Pb**	**05 42 27.9**	**+1.4**
YOA				Pmax		05 42 33.2	
	comp=N,250nm,0.4s						
YOA				*e*Sg	**Sg**	**05 43 13.8**	**-1.4**
YOA				Smax		05 43 31.0	
	comp=N,809nm,0.6s						
YOA	**Uoyan**	**3.42**	**33**	*e*PN	**Pb**	**05 42 25.5**	**-1.0**
YOA				*e*		05 43 13.4	
YOA				pmax	pmax		
	comp=Z,114nm,0.3s						
YOA				smax	smax		
	comp=E,804nm,0.5s						
CIT	**Chita**	**3.42**	**110**	*e*Pg	**Pb**	**05 42 26.5**	**0.0**
CIT				Pmax		05 42 30.0	
	comp=E,143nm,0.3s						
CIT				*e*Sg	**Sg**	**05 43 12.7**	**-2.6**
CIT				Smax		05 43 22.0	
	comp=E,539nm,0.2s						
CIT	**Chita**	**3.42**	**110**	*e*PN	**Pn**	**05 42 21.5**	**+2.0**
CIT				*e*		05 42 28.3	
CIT				*e*		05 43 12.2	
CIT				pmax	pmax		
	comp=Z,241nm,0.4s						
CIT				smax	smax		
	comp=E,514nm,0.4s						
UKT	**Uakit**	**3.76**	**53**	*e*PN	**Pb**	**05 42 31.1**	**-1.2**
UKT				*e*		05 43 21.6	
UKT				pmax	pmax		
	comp=Z,70nm,0.8s						
UKT				smax	smax		
	comp=E,206nm,1.0s						
ARS	**Arshan**	**3.88**	**251**	*e*Pn	**Pn**	**05 42 26.4**	**+0.6**
ARS				*e*Pg	**Pb**	**05 42 35.1**	**+0.7**
ARS				Pmax		05 42 45.1	
	comp=E,64nm,0.4s						
ARS				*e*Sg	**Sb**	**05 43 23.7**	**+2.0**
ARS				Smax		05 43 28.1	
	comp=E,1μm,0.5s						
ARS	**Arshan**	**3.88**	**251**	*e*PN	**Pb**	**05 42 33.9**	**-0.5**
SVKR	**Severomuysk**	**4.11**	**45**	*e*Pn	**Pn**	**05 42 29.3**	**+0.4**
SVKR				*e*Pg	**Pb**	**05 42 40.7**	**+2.5**
SVKR				Pmax		05 42 42.2	
	comp=E,107nm,0.4s						
SVKR				*e*Sg	**Sg**	**05 43 34.7**	**-2.6**
SVKR				Smax		05 43 43.8	
	comp=E,483nm,0.6s						
ZAK	**Zakamensk**	**4.32**	**229**	*e*Pn	**Pn**	**05 42 32.2**	**+0.4**
ZAK				*e*Pg	**Pb**	**05 42 42.6**	**+0.8**
ZAK				Pmax		05 42 47.1	
	comp=E,18nm,0.3s						
ZAK				*e*Sn	**Sn**	**05 43 19.5**	**-3.0**
ZAK				*e*Sg	**Sg**	**05 43 39.6**	**-4.3**
ZAK				Smax		05 43 44.0	
	comp=E,99nm,0.5s						
ZAK	**Zakamensk**	**4.32**	**229**	*e*PN	**Pn**	**05 42 29.6**	**-2.2**
ZAK				*e*		05 42 41.6	
ZAK				*e*S	**Sb**	**05 43 39.3**	**+5.1**
ZAK				pmax	pmax		
	comp=Z,18nm,0.3s						
ZAK				smax	smax		
	comp=E,99nm,1.1s						
KPC	**Khapcheranga**	**4.41**	**144**	*e*Pn	**Pn**	**05 42 32.1**	**-1.0**
KPC				*e*Pg	**Pb**	**05 42 45.3**	**+1.9**
KPC				Pmax		05 42 49.4	
	comp=E,26nm,0.2s						
KPC				*e*Sn	**Sn**	**05 43 22.8**	**-2.1**
KPC				*e*Sg	**Sb**	**05 43 41.2**	**+4.2**
KPC				Smax		05 43 51.8	
	comp=E,272nm,0.7s						
KPC	**Khapcheranga**	**4.41**	**144**	*e*PN	**Pn**	**05 42 32.2**	**-0.9**
KPC				*e*		05 42 44.0	
KPC				*e*S	**Sn**	**05 43 22.7**	**-2.1**
KPC				*e*		05 43 41.5	
KPC				pmax	pmax		
	comp=Z,32nm,0.4s						
KPC				smax	smax		
	comp=E,308nm,1.1s						
MOY	**Mondy**	**4.80**	**253**	*e*Pn	**Pn**	**05 42 40.3**	**+1.9**
MOY				max		05 43 02.1	
	comp=E,22nm,0.4s						
MOY				*e*Sn	**Sn**	**05 43 31.8**	**-2.6**
MOY				*e*		05 43 49.9	
MOY				*e*Sg	**Sb**	**05 43 53.1**	**+5.0**
MOY				*e*		05 44 03.8	
MOY				max		05 44 06.0	
	comp=E,488nm,1.2s						
MOY	**Mondy**	**4.80**	**253**	*e*PN	**Pb**	**05 42 52.9**	**+2.9**
MOY				*e*S	**Sn**	**05 43 32.2**	**-2.2**
MOY				*e*		05 43 50.0	
MOY				pmax	pmax		
	comp=Z,21nm,0.4s						
MOY				smax	smax		
	comp=E,487nm,0.7s						
ORL	**Orlik**	**5.23**	**265**	*e*Pn	**Pn**	**05 42 45.4**	**+1.1**
ORL				*e*		05 42 53.3	
ORL				max		05 42 53.9	
	comp=E,74nm,0.5s						
ORL				*e*Sn	**Sn**	**05 43 42.2**	**-2.9**
ORL				*e*Sg	**Sb**	**05 44 06.2**	**+5.7**
ORL				Smax		05 44 15.2	
	comp=E,232nm,0.7s						
ORL	**Orlik**	**5.23**	**265**	*e*PN	**Pn**	**05 42 45.5**	**+1.1**
ORL				*e*		05 42 59.6	
ORL				*e*		05 44 03.5	
ORL				pmax	pmax		
	comp=Z,74nm,0.5s						
ORL				smax	smax		
	comp=N,236nm,0.7s						
NLYR	**Nelyaty**	**5.29**	**50**	*e*PN	**Pn**	**05 42 43.8**	**-1.3**
NLYR				*e*		05 42 59.8	
NLYR				*e*		05 44 11.5	
NLYR				pmax	pmax		
	comp=Z,22nm,0.6s						
NLYR				smax	smax		
	comp=N,274nm,1.4s						
BOD	**Bodaibo**	**5.52**	**33**	*e*Pn	**Pn**	**05 42 48.3**	**+0.1**
BOD				*e*Pg	**Pb**	**05 43 05.4**	**+3.2**
BOD				Pmax		05 43 09.1	
	comp=N,10.0nm,0.3s						
BOD				*e*Sn	**Sn**	**05 43 49.6**	**-2.4**
BOD				*e*Sg	**Sg**	**05 44 17.5**	**-5.1**
BOD				Smax		05 44 24.9	
	comp=N,53nm,0.5s						
BOD	**Bodaibo**	**5.52**	**33**	*e*PN	**Pn**	**05 42 47.6**	**-0.6**
BOD				*e*		05 43 05.2	
ULN	**Ulaanbaatar**	**5.53**	**189**	*e*Pn	**Pn**	**05 42 48.9**	**+0.3**
ULN				*e*Pg	**Pb**	**05 43 04.4**	**+1.8**
ULN				*e*Sg	Sg	05 44 16.9	-6.2
CRS	**Chara**	**6.71**	**54**	*e*Pg	Pb	05 43 26.4	+3.8
CRS				Pmax		05 43 31.5	
	comp=N,18nm,0.7s						
CRS				*e*Sg	**Sg**	**05 44 55.4**	**-5.4**
CRS				Smax		05 45 01.7	
	comp=N,169nm,1.5s						
CRS	**Chara**	**6.71**	**54**	*e*PG	Pb	05 43 26.6	+4.0
CRS				*e*		05 44 54.4	
CRS				pmax	pmax		
	comp=Z,18nm,0.7s						
CRS				smax	smax		
	comp=E,137nm,1.5s						
TUP	**Tupik**	**6.94**	**76**	*e*Pn	**Pn**	**05 43 08.1**	**+0.3**
TUP				*e*Pg	Pb	05 43 31.1	+4.6
TUP				Pmax		05 43 33.5	
	comp=E,5.0nm,0.4s						
TUP				*e*Sg	Sg	05 45 01.3	-6.9
TUP				Smax		05 45 06.5	
	comp=E,299nm,0.9s						
TUP	**Tupik**	**6.94**	**76**	*e*PN	**Pn**	**05 43 08.7**	**+0.9**
TUP				*e*		05 43 30.9	
TUP				*e*S	**Sn**	**05 44 26.3**	**-0.8**
TUP				*e*		05 45 00.9	
TUP				pmax	pmax		
	comp=Z,6.0nm,0.6s						
TUP				smax	smax		
	comp=N,300nm,0.9s						

WEL 05 05:56:13.8±0.6, 45°.39S×166°.57E, h33km, ML3.8/10, 3C-2D, Error ellipse: s-maj=5.7km s-min=2.3km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**1.09**	**118**	⇓PN	Pn	05 56 31.8	-1.0
WHZ				SN	Sn	05 56 46.5	-0.3
WHZ				AML	AML	05 56 48.6	
MLZ	**Mavora Lakes**	**1.13**	**89**	⇓PN	Pn	05 56 30.9	-2.5
MLZ				SN	Sn	05 56 46.2	-1.6
MLZ				AML	AML	05 56 53.4	
MSZ	**Milford Sound**	**1.20**	**54**	PN	Pn	05 56 31.7	-2.5
MSZ				SN	Sn	05 56 48.7	-0.6
MSZ				AML	AML	05 56 52.2	
MSZ				AML	AML	05 56 52.2	
MSZ				AML	AML	05 56 52.2	
APZ	**The Paps**	**1.75**	**146**	PN	Pn	05 56 41.9	0.0
APZ				SN	Sb	05 57 09.0	+1.9
APZ				AML	AML	05 57 10.6	
WKZ	**Wanaka**	**1.82**	**73**	PN	Pn	05 56 42.8	0.0
WKZ				SN	Sb	05 57 06.9	-2.1
WKZ				AML	AML	05 57 10.8	
WKZ				AML	AML	05 57 12.2	
EAZ	**Earnscleugh**	**1.94**	**86**	⇑PN	Pn	05 56 44.6	+0.2
EAZ				AML	AML	05 57 12.5	
EAZ				AML	AML	05 57 12.5	
EAZ				AML	AML	05 57 12.7	
EAZ				AML	AML	05 57 12.7	
JCZ	**Jackson Bay**	**2.04**	**51**	PN	Pn	05 56 45.3	-0.6
JCZ				AML	AML	05 57 18.3	
JCZ				AML	AML	05 57 18.5	
SYZ	**Scrubby Hill**	**2.13**	**124**	⇑PN	Pn	05 56 47.7	+0.7
SYZ				AML	AML	05 57 19.7	
TUZ	**Tuapeka**	**2.22**	**106**	PN	Pn	05 56 48.6	+0.3
LBZ	**Lake Benmore**	**2.76**	**70**	PN	Pn	05 56 54.7	-1.0
LBZ				AML	AML	05 57 39.5	
LBZ				AML	AML	05 57 42.6	
HHSZ	**Highcliff Hill**	**2.87**	**101**	PN	Pn	05 56 57.1	-0.1
ODZ	**Otahua Downs**	**2.90**	**85**	⇑PN	Pn	05 56 56.5	-1.1
RPZ	**Rata Peaks**	**3.61**	**64**	PN	Pn	05 57 06.0	-1.4
RPZ				AML	AML	05 57 54.9	
RPZ				AML	AML	05 58 06.6	
MQZ	**McQueen's Vall**	**4.66**	**71**	PN	Pn	05 57 21.7	-0.1
LTZ	**Lake Taylor**	**4.86**	**60**	PN	Pn	05 57 24.3	-0.3
DSZ	**Denniston Nort**	**5.26**	**48**	PN	Pn	05 57 28.2	-1.9
THZ	**Tophouse**	**5.85**	**54**	PN	Pn	05 57 37.0	-1.3
QRZ	**Quartz Range**	**6.31**	**46**	PN	Pn	05 57 42.8	-1.7

ISCJB ***05*** *06:02:46.8±0.7, 32°.23N±0°.03×115°.27W±0°.05, h13km±6km, Error ellipse: s-maj=6.5km s-min=5.8km az=169.7*
MEX ***05*** *06:02:48.8±0.3, 32°.27N×115°.17W, h12km±999km, MD3.5*
ECX ***05*** *06:02:48.1±0.5, 32°.23N×115°.29W, h6km, MD2.9, ML3.1*
ISC 05 06:02:46.3±0.9, 32°.21N±0°.03×115°.27W±0°.03, h15km±9km, n20, σ0s22/28, 4C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.21**	**17**	*e*P	**Pb**	**06 02 51.7**	**-0.1**
MBIG				*i* S	**Sg**	**06 02 53.9**	**-0.4**
CPBX	**Cerro Prieto**	**0.21**	**352**	*e*P9	**Pg**	**06 02 51.5**	**+0.3**
CPBX				*e*S	**Sg**	**06 02 54.3**	**-0.1**
EMSC	**East Mesa**	**0.58**	**24**

ZAX				*e*S		**Sg**	**06 03 21.9 0.0**
SPIG	**San Pedro Mart**	**1.17**	**188**	*e*P		**Pn**	**06 03 08.5 0.0**
SPIG	**San Pedro Mart**	**1.17**	**188**	*e*P		**Pn**	**06 03 08.4 0.0**
SPX	**San Pedro Mart**	**1.17**	**188**	*e*P		**Pn**	**06 03 08.5 0.0**
CBX	**Cerro Bola**	**1.19**	**275**	*e*P		**Pn**	**06 03 08.6 +0.1**
CBX				*e*S		**Sb**	**06 03 23.4 -0.5**
CBX	**Cerro Bola**	**1.19**	**275**	*e*P		**Pn**	**06 03 08.6 +0.1**
CBX				*e*S		**Sb**	**06 03 24.0 +0.2**
CBX				*e*			06 03 25.8
CBX				AML		AML	06 03 25.8
	comp=E,479nm,0.2s						
ECNX	**Esteban Cantu**	**1.26**	**244**	*e*P		**Pb**	**06 03 10.2 +0.4**
BAR	**Barrett**	**1.27**	**292**	*e*P		**Pn**	**06 03 09.7 +0.1**

ISCJB ***05*** *06:44:53.4±0.5, 8°.20S±0°.07×109°.01E±0°.03, h92*^{km}*±4*^{km}*, mb4.2/6, Error ellipse: s-maj=11.6km s-min=4.7km az=11.5*

DJA ***05*** *06:44:54.4±0.8, 8°.S±4°×10°.9E±°, h38*^{km}*±10*^{km}*, M4.6/18, MLv4.6/18*

NEIC ***05*** *06:44:56.2±0.7, 7°.95S×109°.07E, h92*^{km}*±6*^{km}*, mb4.3/3, Error ellipse: s-maj=14.8km s-min=7.3km az=210.0*

NEIC Felt [III] at Cilacap and [II] at Pangandaran.

IDC ***05*** *06:44:57.9±1.4, 7°.80S×109°.24E, h101*^{km}*±13*^{km}*, mb3.9/13, mb1 4.1/13, mb1mx3.9/22, mbtmp4.2/13, MS3.3/3, Ms1 3.3/3, ms1mx2.7/31, Error ellipse: s-maj=28.6km s-min=11.3km az=45.0*

ISC 05 06:44:54.5±0.7, 8°.27S±0°.08×109°.01E±0°.03, h83^{km}**±6**^{km}**, n48, σ1°44/63, mb4.2/16, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.73**	**311**	P	**Pn**	**06 45 09.2**	**-1.5**
KPJI	**Karang Pucung**	**0.93**	**355**	P	**Pn**	**06 45 12.4**	**-0.6**
KPJI				S	**Sn**	**06 45 26.5**	**-0.2**
CISI	**Cisompet, Garu**	**1.38**	**301**	P	**Pn**	**06 45 17.8**	**-0.6**
CISI				S	**Sn**	**06 45 35.0**	**-1.4**
CISI	**Cisompet, Garu**	**1.38**	**301**	P	**Pn**	**06 45 17.4**	**-1.0**
	baz=1.4,SNR=77						
CISI				S	**Sn**	**06 45 34.9**	**-1.5**
	baz=1.4,SNR=13						
CISI	**Cisompet, Garu**	**1.38**	**301**	*e*Pn	**Pn**	**06 45 17.8**	**-0.6**
CISI				*e*Sn	**Sn**	**06 45 35.1**	**-1.4**
UGM	**Wanagama**	**1.54**	**77**	P	**Pn**	**06 45 19.4**	**-1.1**
UGM				S	**Sn**	**06 45 38.7**	**-1.5**
UGM	**Wanagama**	**1.54**	**77**	P	**Pn**	**06 45 19.4**	**-1.1**
	baz=1.7,SNR=102						
UGM				S	**Sn**	**06 45 37.7**	**-2.5**
	baz=1.7,SNR=10						
SMRI	**Semarang**	**1.87**	**50**	P	**Pn**	**06 45 25.3**	**+0.6**
SMRI				S	**Sn**	**06 45 48.1**	**+0.3**
SMRI	**Semarang**	**1.87**	**50**	P	**Pn**	**06 45 25.3**	**+0.5**
	baz=2.0,SNR=28						
SMRI	**Semarang**	**1.87**	**50**	*e*Pn	**Pn**	**06 45 24.6**	**-0.1**
WOJI	**Wonogiri, Jawa**	**1.95**	**77**	P	**Pn**	**06 45 25.3**	**-0.5**
LEM	**Lembang**	**1.99**	**316**	P	**Pn**	**06 45 27.1**	**+0.6**
LEM	**Lembang**	**1.99**	**316**	P	**Pn**	**06 45 28.4**	**+2.0**
	89nm,0.3s,baz=93,slow=8.3,SNR=19						
LEM				S	**Sn**	**06 45 53.4**	**+2.6**
	132nm,0.3s,baz=346,slow=19,SNR=11						
LEM				LR	LR	06 46 31.4	
	comp=Z,347nm,18.5s,baz=256,slow=50						
LEM	**Lembang**	**1.99**	**316**	P	**Pn**	**06 45 27.9**	**+1.4**
	baz=2.0,SNR=18						
CNJI	**Cibinong**	**2.09**	**297**	P	**Pn**	**06 45 27.0**	**-0.7**
PCJI	**Pacitan**	**2.15**	**88**	P	**Pn**	**06 45 28.0**	**-0.5**
UWJI	**Ujung Watu**	**2.66**	**46**	P	**Pn**	**06 45 35.3**	**0.0**
SKJI	**Sukabumi**	**2.73**	**297**	P	**Pn**	**06 45 37.1**	**+0.8**
PWJI	**Pagerwojo**	**2.78**	**85**	P	**Pn**	**06 45 36.1**	**-0.8**
CGJI	**Cibinong**	**3.67**	**296**	P	**Pn**	**06 45 49.1**	**+0.1**
CGJI				S	**Sn**	**06 46 30.2**	**-1.1**
XMI	**Christmas Isla**	**3.93**	**236**	P	**Pn**	**06 45 50.9**	**-1.6**
	baz=3.8,SNR=8.6						
XMI				S	Sn	06 46 30.6	-6.8
	baz=3.8,SNR=9.4						
BLJI	**Banyuglugur**	**4.57**	**84**	P	**Pn**	**06 46 00.9**	**-0.4**
JAGI	**Jajag, Banyuwa**	**5.10**	**93**	P	**Pn**	**06 46 10.4**	**+2.0**
	baz=5.2,SNR=7.6						
JAGI	**Jajag, Banyuwa**	**5.10**	**93**	*e*Pn	**Pn**	**06 46 09.0**	**+0.6**
	119nm,0.6s						
JAGI				*e*Sn	**Sn**	**06 47 04.9**	**-1.1**
MNAI	**Manna**	**7.16**	**302**	P	**Pn**	**06 46 38.7**	**+2.1**
	baz=7.1,SNR=4.3						
WRA	**Warramunga Arr**	**27.12**	**118**	P	**P**	**06 50 31.9**	**+1.9**
	2.4nm,0.7s,baz=290,slow=11,SNR=17						
WRA				PcP	**PcP**	**06 53 50.3**	**+1.3**
	0.7nm,0.5s,baz=299,slow=2.1,SNR=5.8						
AS31	**Alice Springs**	**28.34**	**126**	*e*P	**P**	**06 50 42.6**	**+1.8**
ASAR	**Alice Springs**	**28.34**	**126**	P	**P**	**06 50 43.0**	**+2.3**
	2.6nm,0.6s,baz=305,slow=9.5,SNR=36						
ASAR				PcP	**PcP**	**06 53 53.4**	**+1.5**
	0.9nm,0.3s,baz=313,slow=2.1,SNR=9.0						
CMAR	**Chiang Mai Arr**	**28.35**	**340**	P	**P**	**06 50 39.1**	**-1.7**
	0.7nm,0.3s,baz=170,slow=11,SNR=4.3						
CMAR				LR	LR	07 03 14.1	
	comp=Z,44nm,18.0s,baz=176,slow=39						
STKA	**Stephens Creek**	**38.32**	**132**	P	**P**	**06 52 09.6**	**+2.2**
	3.7nm,0.6s,baz=291,slow=8.6,SNR=11						
STKA				PcP	**PcP**	**06 54 21.5**	**+1.8**
	3.3nm,0.7s,baz=288,slow=2.1,SNR=4.5						
STKA				LR	LR	07 09 12.2	
	comp=Z,38nm,19.2s,baz=198,slow=38						
HHC	**Hu-ho-hao-te**	**48.93**	**3**	*e*P	P	06 53 40.7	+8.4
HHC				pP	pP	06 53 53.2	+0.4
HHC				sP	sP	06 53 58.5	-3.7
HHC				PP	PP	06 55 35.6	+9.0
HHC				S	S	07 00 42.6	+12
HHC				sS	sS	07 01 03.7	-1.4
HHC				pmax	pmax		
	comp=Z,17nm,0.7s						
HHC				pmax	pmax		
	comp=Z,100nm,5.9s						
HHC				LR	LR		
	comp=N,160nm,18.5s						
HHC				LR	LR		
	comp=E,480nm,18.5s						
HHC				LR	LR		
	comp=Z,67nm,18.5s						
MJAR	**Matsushiro Arr**	**52.33**	**30**	P	**P**	**06 53 55.5**	**-2.4**
	comp=Z,1.8nm,0.5s,baz=210,slow=8.3,SNR=10						
MJAR				PcP	**PcP**	**06 55 08.1**	**0.0**
	comp=Z,1.2nm,0.6s,baz=192,slow=4.5,SNR=5.2						
SONM	**Songino Array**	**55.90**	**358**	P	**P**	**06 54 23.1**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=172,slow=8.1,SNR=6.3						
SONM				pP	**pP**	**06 54 49.1**	**+4.5**
	comp=Z,0.6nm,0.8s,baz=162,slow=9.1,SNR=2.9						
SONM				PcP	**PcP**	**06 55 21.6**	**0.0**
	comp=Z,0.8nm,0.6s,baz=176,slow=2.7,SNR=5.5						
MK31	**Makanchi Array**	**59.76**	**339**	*e*P	**P**	**06 54 48.9**	**-1.8**
MKAR	**Makanchi Array**	**59.76**	**339**	P	**P**	**06 54 48.9**	**-1.9**
	comp=Z,0.7nm,0.4s,baz=144,slow=8.4,SNR=14						
MKAR				PcP	**PcP**	**06 55 37.1**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=174,slow=5.5,SNR=5.9						
ZALV	**Zalesovo Beam**	**65.26**	**345**	P	**P**	**06 55 25.2**	**-1.9**
	comp=Z,0.8nm,0.3s,baz=143,slow=6.2,SNR=5.4						
GEYT	**Alibeck**	**66.03**	**318**	P	**P**	**06 55 32.7**	**+0.1**
	comp=Z,2.1nm,0.4s,baz=216,slow=7.3,SNR=3.9						
ABKAR	**Akbulak array**	**71.52**	**329**	*e*P	**P**	**06 56 05.0**	**-1.3**
	comp=Z,2.0nm,0.4s						
KBZ	**Khabaz**	**78.92**	**318**	P	**P**	**06 56 49.1**	**+0.2**
	comp=Z,3.3nm,0.8s,baz=236,slow=24,SNR=12						
TIXI	**Tiksi**	**80.83**	**6**	*e*P	**P**	**06 56 56.9**	**-1.7**
	comp=Z,6.7nm,0.7s						
BR131	**Keskin Array S**	**84.15**	**311**	*e*P	**P**	**06 57 16.7**	**-0.2**
	comp=Z,2.3nm,0.8s						
BRTR	**Keskin Array B**	**84.15**	**311**	P	**P**	**06 57 17.2**	**+0.3**
	comp=Z,4.0nm,0.8s,baz=116,slow=5.6,SNR=19						
AKASG	**Malin Array Be**	**89.92**	**321**	P	**P**	**06 57 43.6**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=94,slow=4.7,SNR=4.8						
FINES	**FINESS Array B**	**93.83**	**331**	P	**P**	**06 58 02.7**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=92,slow=4.7,SNR=5.1						
ARCES	**ARCESS Array B**	**95.41**	**339**	LR	LR	07 50 15.9	
	comp=Z,14nm,18.6s,baz=6.5,slow=41						
YKA	**Yellowknife Ar**	**117.34**	**21**	PKP	**PKPdf**	**07 03 30.2**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=314,slow=0.7,SNR=7.0						
BDFB	**Brasilia**	**147.10**	**224**	PKPbc	**PKPab**	**07 04 31.4**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=138,slow=2.0,SNR=4.2						
TKL	**Tuckaleechee C**	**150.34**	**21**	PKPbc	**PKPbc**	**07 04 37.5**	**+0.8**
	comp=Z,5.3nm,0.6s,baz=153,slow=5.1,SNR=12						

ISCJB ***05*** *06:52:02.3±0.4, 32°.76N±0°.03×115°.88W±0°.03, h12*^{km}*±4*^{km}*, Error ellipse: s-maj=5.4km s-min=3.9km az=174.5*

NEIC ***05*** *06:52:03.3, 32°.71N×115°.89W, h2*^{km}*, ML3.0(PAS), ML3.1(ECX), After PAS.*

NEIC 3.0 [PAS].

ECX ***05*** *06:52:03.5±0.6, 32°.72N×115°.88W, h3*^{km}*, MD2.9, ML3.1*

MEX ***05*** *06:52:04.1±0.3, 32°.99N×116°.07W, h17*^{km}*±799*^{km}*, MD3.6*

ISC 05 06:52:02.7±0.9, 32°.72N±0°.03×115°.89W±0°.02, h13^{km}**±6**^{km}**, n31, σ0°66/43, 9C-7D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.08**	**201**	⇑*i*P	**Pg**	**06 52 10.1**	**-0.4**
WESC	**Westside Schoo**	**0.14**	**75**	⇑*e*P	**Pg**	**06 52 06.2**	**+0.1**
SGL	**Mount Signal**	**0.16**	**118**	⇑*i*P	**Pg**	**06 52 06.2**	**-0.2**
CRR	**Carrizo Plain**	**0.18**	**337**	⇓*i*P	**Pg**	**06 52 07.0**	**+0.3**
COK	**Cook Ranch**	**0.18**	**47**	⇑*i*P	**Pg**	**06 52 07.3**	**+0.4**
RMX	**La Rumorosa**	**0.20**	**233**	⇑*e*P	**Pg**	**06 52 07.3**	**+0.1**
RMX				*e*S	**Sg**	**06 52 10.5**	**+0.1**
RMX				⇓*e*		06 52 10.7	
	comp=E,6μm,0.2s						
RMX				⇑*e*		06 52 10.7	
	comp=N,3μm,0.2s						
SWSC	**Sam W. Stewart**	**0.23**	**20**	⇓*i*P	**Pg**	**06 52 07.9**	**+0.2**
CPBX	**Cerro Prieto**	**0.58**	**121**	*e*P	**Pg**	**06 52 14.2**	**+0.2**
CPBX				*e*P	**Pg**	**06 52 14.3**	**+0.2**
CPBX				*e*S	**Sg**	**06 52 21.8**	**+0.1**
BAR	**Barrett**	**0.66**	**267**	*e*Pg	**Pg**	**06 52 15.6**	**0.0**
BAR				*e*Sg	**Sg**	**06 52 24.1**	**-0.2**
BAR	**Barrett**	**0.66**	**267**	⇑*e*P	**Pg**	**06 52 15.8**	**+0.1**
MBIG	**Mexicali**	**0.66**	**118**	*e*P	**Pn**	**06 52 18.6**	**+0.7**
CBX	**Cerro Bola**	**0.77**	**238**	*e*P	**Pg**	**06 52 17.4**	**-0.3**
CBX				*e*S	**Sg**	**06 52 27.7**	**-0.2**
CBX	**Cerro Bola**	**0.77**	**238**	⇑*e*P	**Pg**	**06 52 17.4**	**-0.3**
CBX				*e*S	**Sg**	**06 52 27.7**	**-0.2**
CBX	**Cerro Bola**	**0.77**	**238**	⇑*e*P	**Pg**	**06 52 17.8**	**+0.1**
CBX				AML	AML	06 52 29.4	
	comp=E,946nm,0.2s						
CBX				⇓*e*		06 52 29.4	
RDX	**Rancho Dawling**	**0.79**	**183**	⇓*e*P	**Pg**	**06 52 17.4**	**-0.7**
SDRC	**San Diego Road**	**0.89**	**271**	⇑*e*P	**Pg**	**06 52 19.5**	**-0.4**
GLA	**Glamis**	**0.95**	**70**	*e*Pg	**Pg**	**06 52 19.9**	**-1.2**
GLA				*e*Sg	**Sg**	**06 52 32.5**	**-1.0**
PFO	**Pinyon Flats O**	**1.00**	**332**	*e*Pg	**Pg**	**06 52 21.2**	**-0.8**
PFO				*e*Sg	**Sb**	**06 52 34.9**	**-0.4**
PBX	**Punta Banda**	**1.21**	**216**	*e*P2	**Pn**	**06 52 25.1**	**-0.3**
ECNX	**Esteban Cantu**	**1.22**	**210**	*e*P2	**Pn**	**06 52 25.1**	**-0.6**
ZAX	**El Zacaton**	**1.25**	**195**	⇓*e*P	**Pn**	**06 52 25.8**	**-0.2**
ECBX	**El Chinero**	**1.44**	**150**	*e*P9	**Pn**	**06 52 27.7**	**-0.8**
ECBX				*e*S	**Sn**	**06 52 47.1**	**-0.1**
ECBX				⇓*e*		06 52 49.0	
ECBX				AML	AML	06 52 49.0	
	comp=E,171nm,0.2s						
SPIG	**San Pedro Mart**	**1.71**	**168**	*e*P	**Pb**	**06 52 34.2**	**0.0**
SPIG				*e*S	**Sb**	**06 52 57.0**	**+1.2**
SPIG	**San Pedro Mart**	**1.71**	**168**	*e*P	**Pb**	**06 52 34.2**	**0.0**
SPIG				*e*S	**Sb**	**06 52 57.0**	**+1.2**
SPIG	**San Pedro Mart**	**1.71**	**168**	*e*P	**Pn**	**06 52 33.2**	**+0.6**
SPX	**San Pedro Mart**	**1.71**	**168**	*e*P	**Pb**	**06 52 34.1**	**-0.2**
SPX				*i*P	**Pn**	**06 52 34.3**	**+1.7**
SPX	**San Pedro Mart**	**1.71**	**168**	*e*P2	**Pn**	**06 52 33.4**	**+0.8**
MWC	**Mount Wilson**	**2.35**	**310**	*e*Pn	**Pb**	**06 52 45.0**	**-0.1**
GSC	**Goldstone, Bar**	**2.68**	**344**	*e*Pn	**Pb**	**06 52 52.3**	**+1.6**
214A	**Organ Pipe Nat**	**2.71**	**106**	*e*Pn	**Pn**	**06 52 45.1**	**-1.0**
121A	**Cookes Peak, D**	**6.84**	**89**	*e*Pn	**Pn**	**06 53 42.9**	**-0.1**
	comp=E,2.3nm,0.3s						

IDC ***05*** *06:58:32.1±3.0, 32°.52N×116°.11W, h0*^{km}*, mb1 3.6/4, mb1mx3.3/27, mbtmp3.2/4, ML3.4/4, Error ellipse: s-maj=42.0km s-min=14.9km az=47.0*

ISCJB ***05*** *06:58:35.0±0.3, 32°.72N±0°.02×115°.86W±0°.02, h10*^{km}*±2*^{km}*, Error ellipse: s-maj=3.5km s-min=3.1km az=10.5*

IASPEI ***05*** *06:58:34.8±0.9, 32°.73N±0°.03×115°.89W±0°.02, h15*^{km}*±6*^{km}*, Error ellipse: s-maj=4.8km s-min=3.3km az=162.1*

NEIC ***05*** *06:58:35.5, 32°.71N×115°.89W, h2*^{km}*, MD3.9(MEX), ML3.9(PAS), ML4.0(ECX), After PAS.*

NEIC Felt [II] at San Diego. Also felt at Brawley, Chula Vista, El Cajon, Gardena, Long Beach, Ocotillo, Pomona and West Covina.

MEX ***05*** *06:58:35.4±1.1, 33°.04N×116°.05W, h20*^{km}*±296*^{km}*, MD3.9*

ECX ***05*** *06:58:35.9±0.6, 32°.73N×115°.90W, h3*^{km}*, MD3.8, ML4.0*

ISC 05 06:58:35.5±0.8, 32°.70N±0°.02×115°.89W±0°.02, h9^{km}**±6**^{km}**, n55, σ1°18/69, 14C-5D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.06**	**213**	⇑*i*P	**Pg**	**06 58 37.2**	**-0.3**
WESC	**Westside Schoo**	**0.14**	**64**	⇑*e*P	**Pg**	**06 58 38.5**	**-0.2**
WESC				*e*S	**Sg**	**06 58 41.2**	**+0.3**
RMX	**La Rumorosa**	**0.19**	**240**	⇑*e*P	**Pg**	**06 58 39.5**	**-0.1**
RMX				*e*S	**Sg**	**06 58 42.7**	**+0.4**
ERPC	**Ernies Place**	**0.19**	**76**	⇑*i*P	**Pg**	**06 58 39.7**	**+0.1**
COK	**Cook Ranch**	**0.20**	**41**	⇑*i*P	**Pg**	**06 58 39.5**	**-0.2**
CRR	**Carrizo Plain**	**0.20**	**340**	⇓*i*P	**Pg**	**06 58 39.3**	**-0.5**
SWSC	**Sam W. Stewart**	**0.26**	**17**	⇓*i*P	**Pg**	**06 58 40.1**	**-0.6**
DREC	**Desert Rsrch C**	**0.39**	**74**	⇑*e*P	**Pg**	**06 58 43.5**	**+0.4**
CPBX	**Cerro Prieto**	**0.56**	**119**	⇑*e*P	**Pg**	**06 58 46.4**	**0.0**
CPBX				⇑*e*P	**Pg**	**06 58 46.5**	**0.0**
CPBX				*e*S	**Sg**	**06 58 54.9**	**+1.0**
MBIG	**Mexicali**	**0.65**	**116**	*e*P	**Pg**	**06 58 47.9**	**-0.1**
BAR	**Barrett**	**0.66**	**269**	⇑*e*P	**Pg**	**06 58 48.0**	**-0.4**
BAR				*e*S	**Sg**	**06 58 56.8**	**-0.2**
CBX	**Cerro Bola**	**0.76**	**240**	*i*P	**Pg**	**06 58 49.9**	**-0.3**
CBX				*i*S	**Sg**	**06 58 59.9**	**-0.2**
CBX	**Cerro Bola**	**0.76**	**240**	*i*P	**Pg**	**06 58 49.9**	**-0.3**
CBX				*i*S	**Sg**	**06 58 59.9**	**-0.2**
CBX	**Cerro Bola**	**0.76**	**240**	⇑*e*P	**Pg**	**06 58 50.0**	**-0.2**
CBX				*e*S	**Sg**	**06 59 00.4**	**+0.2**
CBX				AML	AML	06 59 01.7	
	comp=N,7μm,0.2s						
CBX				⇑*e*		06 59 01.7	
CBX				*e*		06 59 01.8	
CBX				AML	AML	06 59 01.8	
	comp=E,8μm,0.2s						
RDX	**Rancho Dawling**	**0.77**	**184**	*e*P	**Pg**	**06 58 49.7**	**-0.7**
RDX				⇑*e*		06 59 03.8	
	comp=E,5μm,0.4s						
SDRC	**San Diego Road**	**0.89**	**273**	⇑*e*P	**Pg**	**06 58 51.8**	**-0.9**
GLA	**Glamis**	**0.96**	**68**	*e*Pg	**Pg**	**06 58 52.4**	**-1.6**
GLA				*e*Sg	**Sg**	**06 59 04.8**	**-1.6**
PFO	**Pinyon Flats O**	**1.03**	**332**	*e*Pg	**Pg**	**06 58 53.6**	**-1.7**
PFO				*e*Sg	**Sg**	**06 59 07.1**	**-1.6**
PBX	**Punta Banda**	**1.19**	**217**	*e*P	**Pb**	**06 58 57.4**	**-0.8**
ECNX	**Esteban Cantu**	**1.20**	**210**	*e*P	**Pb**	**06 58 57.6**	**-0.8**
ZAX	**El Zacaton**	**1.22**	**196**	*e*P	**Pn**	**06 58 58.1**	**-0.7**
ECBX	**El Chinero**	**1.41**	**150**	*e*P9	**Pn**	**06 58 59.9**	**-1.4**
ECBX				*e*S	**Sn**	**06 59 19.3**	**-0.7**
ECBX				AML	AML	06 59 25.0	
	comp=N,1μm,0.3s						
ECBX				*e*		06 59 25.0	
SPIG	**San Pedro Mart**	**1.68**	**168**	*i*P	**Pn**	**06 59 06.4**	**+1.0**
SPIG				*i*S	**Sb**	**06 59 29.2**	**+1.0**
SPIG	**San Pedro Mart**	**1.68**	**168**	*i*P	**Pn**	**06 59 06.4**	**+1.0**
SPIG				*i*S	**Sb**	**06 59 29.2**	**+1.0**
SPIG	**San Pedro Mart**	**1.68**	**168**	*e*P	**Pn**	**06 59 05.1**	**-0.2**
SPX	**San Pedro Mart**	**1.69**	**168**	*i*P	**Pn**	**06 59 06.6**	**+1.2**
SPX				*e*S	**Sb**	**06 59 29.1**	**+0.8**
SPX	**San Pedro Mart**	**1.69**	**168**	*e*P2	**Pn**	**06 59 05.5**	**+0.1**
SPX				AML	AML	06 59 35.8	
	comp=E,762nm,0.9s						
SPX				⇓*e*		06 59 35.8	
MWC	**Mount Wilson**	**2.37**	**311**	*e*Pn	**Pn**	**06 59 16.5**	**+1.8**
MWC				*e*Sn	**Sn**	**06 59 45.1**	**+1.1**
PASC	**Pasadena Art C**	**2.42**	**308**	*e*Pn	**Pb**	**06 59 17.9**	**-1.3**
PASC				*e*Sn	**Sn**	**06 59 47.2**	**+2.3**
LDFC	**Landfair**	**2.46**	**15**	*e*Pn	**Pn**	**06 59 18.0**	**+2.1**
214A	**Organ Pipe Nat**	**2.71**	**105**	*e*Pn	**Pn**	**06 59 16.7**	**-2.5**
GSC	**Goldstone, Bar**	**2.71**	**344**	*e*Pn	**Pn**	**06 59 18.0**	**-1.3**
OSI	**Osito Audit: C**	**3.04**	**310**	*e*Pn	**Pn**	**06 59 25.3**	**+1.5**
OSI				*e*Sn	**Sn**	**07 00 00.6**	**+0.3**
ISA	**Isabella, Lake**	**3.66**	**325**	*e*Pn	**Pn**	**06 59 33.1**	**+0.8**
DAC	**Darwin (Calif)**	**3.84**	**339**	Pn	**Pn**	**06 59 38.1**	**+3.2**
SHPR	**Sheep Range**	**3.85**	**9**	*e*Pn	**Pn**	**06 59 34.5**	**-0.5**
TUC	**Tucson**	**4.33**	**94**	*e*Pn	**Pn**	**06 59 39.9**	**-1.6**
WUAZ	**Wupatki**	**4.68**	**52**	*e*Pn	**Pn**	**06 59 46.4**	**0.0**
R11A	**Troy Canyon, C**	**5.64**	**2**	Pn	**Pn**	**07 00 01.5**	**+1.8**
	comp=E,4.2nm,0.5s						
W18A	**Petrified Fore**	**5.66**	**63**	*e*Pn	**Pn**	**07 00 00.4**	**+0.6**
	comp=E,15nm,0.4s						
NVAR	**Mina Array Bea**	**6.05**	**342**	Pn	**Pn**	**07 00 04.5**	**-0.8**
	comp=E,0.2nm,0.3s,baz=161,slow=15,SNR=3.4						
NVAR				Pg	Pb	07 00 26.4	+5.2
	comp=E,1.0nm,0.3s,baz=158,slow=17,SNR=23						
NVAR				Lg	Lg	07 01 46.7	
	comp=E,0.3nm,0.3s,baz=160,slow=34,SNR=2.1						
MVU	**Marysvale**	**6.52**	**26**	*e*Pn	Pn	07 00 15.6	+3.8
	comp=E,6.3nm,0.7s						
MSU	**Marysvale**	**6.54**	**26**	*e*Pn	Pn	07 00 16.7	+4.7
	comp=E,6.3nm,0.6s						
121A	**Cookes Peak, D**	**6.84**	**89**	*e*Pn	**Pn**	**07 00 15.4**	**-0.7**
	comp=E,24nm,0.6s						
LAZ	**Ladron**	**7.50**	**75**	*e*Pn	**Pn**	**07 00 25.1**	**0.0**
	comp=E,1.7nm,0.4s						
MVCO	**Mesa Verde**	**7.55**	**51**	*e*Pn	**Pn**	**07 00 28.4**	**+2.4**
	comp=E,14nm,0.6s						
SRU	**San Rafael Swe**	**7.74**	**33**	*e*Pn	**Pn**	**07 00 30.3**	**+1.9**
	comp=E,6.5nm,0.6s						
LPM	**Los Pinos Moun**	**7.89**	**76**	Pn	**Pn**	**07 00 30.9**	**+0.3**
	comp=E,4.2nm,0.6s						
ELK	**Elko**	**8.05**	**4**	Pg	**Pg**	**07 01 08.4**	**-1.2**
	comp=E,0.2nm,0.3s,baz=183,slow=15,SNR=8.8						
ELK				Lg	Lg	07 02 51.1	
	comp=E,0.1nm,0.3s,baz=176,slow=19,SNR=2.2						
PV01	**Paradox Valley**	**8.07**	**46**	*e*Pn	**Pn**	**07 00 35.2**	**+2.2**
	comp=E,632nm,0.7s						
ANMO	**Albuquerque**	**8.16**	**71**	Pn	**Pn**	**07 00 34.9**	**+0.6**
	comp=E,0.3nm,0.3s,baz=258,slow=13,SNR=6.1						
ANMO				Lg	Lg	07 02 59.2	
	comp=E,0.2nm,0.3s,baz=9.0,slow=19,SNR=3.2						
MNTX	**Cornudas Mount**	**8.96**	**94**	*e*Pn	**Pn**	**07 00 45.0**	**0.0**
	comp=E,3.0nm,0.2s						
TXAR	**Lajitas Array**	**11.01**	**105**	Pn	**Pn**	**07 01 14.4**	**+1.2**
	comp=E,0.2nm,0.3s,baz=285,slow=12,SNR=15						
MSTX	**Muleshoe**	**11.04**	**80**	*e*Pn	**Pn**	**07 01 15.7**	**+2.0**
	comp=E,11nm,0.8s						
PDAR	**Pinedale Array**	**11.23**	**25**	Pn	Pn	07 01 21.4	+5.1
	comp=E,0.0nm,0.3s,baz=203,slow=8.8,SNR=4.3						

NNC 05 07:08:45.6±3.2, 36°.00N×67°.66E, h0^{km}**, mb3.9, mpv3.6, 5C-4D, Error ellipse: s-maj=29.7km s-min=24.4km az=129.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.96**	**18**	⇑Pn	Pn	07 09 35.2	+1.2
	16nm,0.4s						
DZET				⇓Lg	Lg	07 10 20.7	
	52nm,0.5s						
SFK	**Sufi-Kurgan**	**6.12**	**47**	⇑Pn	Pn	07 10 17.4	-0.2
	1.9nm,0.4s						
SFK				⇑Sn	Sn	07 11 29.7	+1.3
	8.4nm,0.4s						
KK31	**Karatay Array**	**7.43**	**16**	⇑Pn	Pn	07 10 32.8	-2.6
	0.4nm,0.2s,baz=196,slow=12,SNR=7.4						
KK31				⇓Sn	Sn	07 11 59.9	-0.6
	0.8nm,0.3s,baz=198,slow=24,SNR=3.9						
KK31				⇓Lg	Lg	07 12 39.9	
	2.9nm,0.6s,baz=198,slow=29,SNR=5.3						
AAK	**Ala-Archa**	**8.48**	**37**	⇓Pn	Pn	07 10 48.7	-1.3
	1.3nm,0.3s						
AAK				⇑Sn	Sn

PV01	**Paradox Valley**	**79.66**	**347**	*e*P		**P**	**07 22 16.5**	**-0.1**
	2μm,1.7s							
MVU	**Marysvale**	**80.73**	**344**	*e*P		**P**	**07 22 23.1**	**+0.7**
	10nm,1.7s							
R11A	**Troy Canyon, C**	**81.35**	**341**	*e*P		**P**	**07 22 26.4**	**+0.8**
	31nm,2.3s							
TPH	**Tonopah**	**81.51**	**340**	*e*P		**P**	**07 22 27.3**	**+0.8**
	30nm,2.0s							
O20A	**White River Ci**	**81.55**	**347**	*e*P		**P**	**07 22 26.9**	**+0.2**
	77nm,2.5s							
NLU	**North Lily Min**	**82.09**	**344**	*e*P		**P**	**07 22 30.5**	**+0.9**
	44nm,2.1s							
NVAR	**Mina Array Bea**	**82.13**	**339**	P		**P**	**07 22 27.9**	**-1.9**
	0.9nm,0.9s,baz=185,slow=5.6,SNR=5.2							
DUG	**Dugway, Tooele**	**82.48**	**344**	*e*P		**P**	**07 22 32.0**	**+0.5**
	17nm,1.6s							
K22A	**Casper**	**83.75**	**349**	*e*P		**P**	**07 22 38.7**	**+0.7**
	63nm,2.0s							
ECSD	**EROS Data Cent**	**83.87**	**356**	*e*P		**P**	**07 22 37.9**	**-0.6**
	26nm,1.6s							
PDAR	**Pinedale Array**	**84.34**	**347**	P		**P**	**07 22 40.8**	**-0.3**
	2.6nm,0.9s,baz=142,slow=5.1,SNR=20							
PDAR				LR		LR	07 54 43.1	
	comp=Z,40nm,22.0s,baz=166,slow=32							
BW06	**Boulder Array**	**84.34**	**347**	*e*P		**P**	**07 22 40.9**	**-0.2**
	18nm,1.7s							
RSSD	**Black Hills**	**84.87**	**351**	*e*P		**P**	**07 22 44.1**	**+0.4**
	5.8nm,0.9s							
REDW	**Red Top Meadow**	**85.15**	**346**	*e*P		**P**	**07 22 45.4**	**+0.2**
	16nm,1.4s							
TPAW	**Teton Pass**	**85.29**	**346**	*e*P		**P**	**07 22 46.2**	**+0.3**
	9.5nm,1.1s							
LOHW	**Long Hollow**	**85.34**	**346**	*e*P		**P**	**07 22 46.2**	**+0.1**
	8.5nm,1.4s							
FXWY	**Fox Creek**	**85.45**	**346**	*e*P		**P**	**07 22 46.9**	**+0.2**
	39nm,2.3s							
NCB	**Newcomb**	**85.48**	**13**	*e*P		**P**	**07 22 46.9**	**+0.4**
	22nm,0.9s							
MOOW	**Moose Ponds**	**85.50**	**346**	*e*P		**P**	**07 22 46.5**	**-0.4**
	11nm,1.9s							
IMW	**Indian Meadow**	**85.68**	**346**	*e*P		**P**	**07 22 48.1**	**+0.2**
	22nm,1.8s							
WVOR	**Wild Horse Val**	**85.97**	**340**	*e*P		**P**	**07 22 49.7**	**+0.6**
	26nm,1.9s							
HLID	**Hailey**	**86.05**	**344**	*e*P		**P**	**07 22 50.2**	**+0.6**
	14nm,1.8s							
YMR	**Madison River**	**86.43**	**346**	*e*P		**P**	**07 22 53.3**	**+1.8**
	48nm,1.9s							
RLMT	**Red Lodge**	**86.58**	**348**	*e*P		**P**	**07 22 52.0**	**-0.2**
	3.4nm,0.3s							
MCMT	**McKenzie Canyo**	**86.94**	**345**	*e*P		**P**	**07 22 54.5**	**+0.5**
	8.1nm,1.8s							
LRM	**Limekiln Ridge**	**87.82**	**346**	*e*P		**P**	**07 22 59.2**	**+1.0**
G08A	**Pilot Rock**	**88.73**	**341**	*e*P		**P**	**07 23 03.1**	**+0.7**
	35nm,2.0s							
DBIC	**Dimbokro**	**91.95**	**83**	LR		LR	07 58 42.2	
	comp=Z,65nm,20.6s,baz=198,slow=32							
USRK	**Ussuriysk Ar.**	**147.68**	**291**	PKPbc		**PKPdf**	**07 29 51.8**	**+1.3**
	3.3nm,0.8s,baz=144,slow=3.0,SNR=5.6							
KSRS	**Korea Array**	**149.14**	**278**	PKPbc		**PKPbc**	**07 29 56.4**	**-0.9**
	3.1nm,0.9s,baz=127,slow=3.4,SNR=8.0							
KSAR	**Wonju Array Be**	**149.16**	**277**	PKPbc		**PKPbc**	**07 29 56.4**	**-0.9**
NJ2	**Nanjing**	**154.01**	**261**	*e*PKPbc		**PKPdf**	**07 30 01.4**	**+0.8**
ABKAR	**Akbulak array**	**158.20**	**57**	*e*PKPdf		**PKPdf**	**07 30 04.6**	**-1.0**
GYA	**Guiyang**	**159.30**	**233**	*e*PKP		**PKPdf**	**07 30 07.6**	**-0.2**
GYA				PKPab		**PKPab**	**07 30 47.0**	**+1.8**
GYA				PKS		**PKSdf**	**07 33 39.8**	**-1.7**
GYA				PP		**PP**	**07 34 28.9**	**+2.7**
GYA				PPMZ				
	110nm,8.0s							
HHC	**Hu-ho-hao-te**	**162.27**	**279**	*e*PKP		**PKPdf**	**07 30 12.0**	**+1.4**
HHC				PP		**PP**	**07 34 46.0**	**+3.3**
HHC				SKS		**SKSdf**	**07 37 15.5**	**+0.7**
HHC				SS		**SS**	**07 55 05.0**	**+1.5**
HHC				PPMZ				
	28nm,6.2s							
HHC				LN				
	97nm,14.8s							
HHC				LE				
	110nm,14.8s							
HHC				LZ				
	50nm,16.0s							
CD2	**Chengdu**	**164.22**	**238**	*e*PKP		**PKPdf**	**07 30 13.2**	**+0.5**
SONM	**Songino Array**	**165.00**	**306**	PKPab		**PKPab**	**07 31 08.2**	**-1.4**
	0.3nm,0.4s,baz=116,slow=3.4,SNR=4.2							
ZALV	**Zalesovo Beam**	**166.26**	**8**	PKP		**PKPdf**	**07 30 10.8**	**-2.7**
	0.8nm,0.7s,baz=116,slow=3.4,SNR=5.0							
LZH	**Lanzhou**	**166.97**	**256**	*e*PKP		**PKPdf**	**07 30 14.0**	**-0.9**
LZH				pPKP		**pPKPdf**	**07 30 17.1**	**-3.0**
LZH				sPKP			07 30 18.5	
LZH				LN				
	150nm,18.2s							
LZH				LE				
	150nm,18.5s							
LZH				LZ				
	180nm,20.3s							
KSH	**Kashi**	**170.56**	**91**	*e*PKP		**PKPdf**	**07 30 15.0**	**-2.1**
KSH				PKS		**PKSdf**	**07 33 46.7**	**-2.8**
KSH				SKS		**SKSdf**	**07 37 18.2**	**-1.8**
KSH				PPMZ				
	79nm,5.9s							
KSH				LN				
	110nm,6.9s							
KSH				LE				
	100nm,4.8s							
KSH				LZ				
	120nm,5.4s							
WMQ	**Urumqi**	**176.57**	**6**	*e*PKP		**PKPdf**	**07 30 16.4**	**-2.7**
WMQ				pPKP		**pPKPdf**	**07 30 27.0**	**+2.8**
WMQ				LZ				
	110nm,27.8s							

*ISCJB **05** 07:57:29.2±1.1, 13.8°S±0.2°×72.69°W±0.09°, h83km, mb3.3/3, Error ellipse: s-maj=29.7km s-min=9.3km az=18.0*
*IDC **05** 07:57:30.5±2.2, 13.93°S×72.74°W, h87km±21km, mb3.3/3, mb1 3.7/5, mb1mx3.4/20, mbtmp3.8/5, Error ellipse: s-maj=54.8km s-min=16.2km az=23.0*
ISC 05 07:57:30.3±1.0, 13.95°S±0.2°×72.7°W±0.1, h83km, n8, σ0s89/9, mb3.4/3, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.45**	**295**	P	**Pn**	**07 58 36.0**	**+0.6**
	12nm,0.3s,baz=128,slow=14,SNR=14						
NNA				S	**Sn**	**07 59 26.0**	**0.0**
	6.0nm,0.3s,baz=99,slow=9.4,SNR=6.0						
LPAZ	**La Paz**	**5.02**	**119**	P	**Pn**	**07 58 44.7**	**+0.9**
	baz=303,slow=10						
PTGA	**Pitinga**	**18.17**	**45**	P	**P**	**08 01 37.1**	**+0.6**
	0.8nm,0.3s,baz=216,slow=15,SNR=10						
TXAR	**Lajitas Array**	**52.35**	**325**	P	**P**	**08 06 34.4**	**+0.4**
	0.2nm,0.5s,baz=149,slow=6.7,SNR=5.4						
TORD	**Torodi Ar. Bea**	**78.44**	**73**	P	**P**	**08 09 21.3**	**-1.4**
	0.9nm,0.9s,baz=249,slow=6.0,SNR=3.6						
YKA	**Yellowknife Ar**	**82.86**	**342**	P	**P**	**08 09 45.0**	**-0.2**
	0.2nm,0.6s,baz=133,slow=5.0,SNR=9.0						
WRA	**Warramunga Arr**	**137.11**	**219**	PKP	**PKPdf**	**08 16 43.7**	**-1.0**
	0.5nm,1.0s,baz=146,slow=2.0,SNR=3.5						
SONM	**Songino Array**	**146.16**	**1**	PKPbc	**PKPbc**	**08 17 01.2**	**0.0**
	0.3nm,0.4s,baz=300,slow=1.1,SNR=4.0						

*KRNET **05** 08:01:17.4±0.1, 40.87°N×74.86°E, h2km, mb3.5*
*NNC **05** 08:01:20.0±1.3, 40.83°N×74.91°E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=16.3km s-min=4.7km az=121.0*
ISC 05 08:01:18.8±1.3, 40.87°N±0.04°×74.88°E±0.03°, h1km±11km, n36, σ0s92/53, 21C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALK	**Salom-Alik**	**0.81**	**271**	*e*P	**Pg**	**08 01 32.9**	**-1.4**
	baz=271						
SALK				*e*S	**Sg**	**08 01 43.9**	**-0.9**
	baz=271						
NRN	**Naryn**	**1.01**	**56**	*e*P	**Pg**	**08 01 37.6**	**-0.6**
	baz=57						
NRN				*e*S	**Sg**	**08 01 51.7**	**+0.3**
	baz=57						
KZA	**Kyzart**	**1.23**	**13**	P	**Pg**	**08 01 42.1**	**-0.5**
	SNR=39						
KZA	**Kyzart**	**1.23**	**13**	⇑*i*P	**Pg**	**08 01 41.9**	**-0.6**
	baz=14						
KZA				⇑*i*S	**Sg**	**08 01 58.3**	**-0.3**
	baz=14						
SFK	**Sufi-Kurgan**	**1.36**	**231**	⇑P	**Pg**	**08 01 44.2**	**-0.7**
	10nm,0.3s						
SFK				⇓S	**Sn**	**08 02 04.4**	**+0.4**
	156nm,0.5s						
UCH	**Uchtor**	**1.38**	**349**	P	**Pn**	**08 01 44.7**	**-1.1**
	SNR=72						
UCH	**Uchtor**	**1.38**	**349**	⇑*i*P	**Pn**	**08 01 44.6**	**-1.2**
	baz=349						
AML	**Almayashu**	**1.54**	**325**	P	**Pn**	**08 01 47.6**	**-0.3**
	SNR=45						
AML	**Almayashu**	**1.54**	**325**	⇑*i*P	**Pn**	**08 01 47.4**	**-0.5**
	baz=326						
AML				⇑*i*S	**Sn**	**08 02 07.2**	**-1.6**
	baz=326						
ULHL	**Ulahol**	**1.71**	**36**	P	**Pn**	**08 01 50.6**	**+0.5**
	SNR=53						
ULHL	**Ulahol**	**1.71**	**36**	⇑*i*P	**Pb**	**08 01 50.7**	**-0.5**
	baz=37						
ULHL				⇑*i*S	**Sn**	**08 02 12.3**	**-0.4**
	baz=37						
AAK	**Ala-Archa**	**1.78**	**351**	Pn	**Pb**	**08 01 52.1**	**-0.4**
	41nm,0.5s						
AAK				Sn	**Sg**	**08 02 17.9**	**+1.8**
	75nm,0.6s						
AAK	**Ala-Archa**	**1.78**	**351**	P	**Pb**	**08 01 52.1**	**-0.4**
	SNR=72						
AAK	**Ala-Archa**	**1.78**	**351**	⇑*i*P	**Pb**	**08 01 51.9**	**-0.6**
	baz=351						
AAK				⇑*i*S	**Sg**	**08 02 17.7**	**+1.6**
	baz=351						
KBK	**Karagaybulak**	**1.78**	**2**	P	**Pb**	**08 01 52.2**	**-0.2**
	SNR=17						
KBK	**Karagaybulak**	**1.78**	**2**	⇑*i*P	**Pb**	**08 01 51.9**	**-0.6**
	baz=2.0						
KBK				⇑*i*S	**Sg**	**08 02 17.4**	**+1.3**
	baz=2.0						
BOOM	**Boomskoye usch**	**1.80**	**26**	*e*P	**Pn**	**08 01 51.4**	**+0.2**
	baz=26						
BOOM				*e*S	**Sn**	**08 02 15.4**	**+0.6**
	baz=26						
FRU	**Bishkek**	**1.97**	**354**	*e*P	**Pn**	**08 01 54.0**	**+0.6**
	baz=355						
EKS2	**Erkin-Say**	**1.97**	**336**	P	**Pb**	**08 01 55.4**	**-0.2**
	SNR=32						
EKS2	**Erkin-Say**	**1.97**	**336**	⇑*i*P	**Pb**	**08 01 55.3**	**-0.3**
	baz=336						
EKS2				⇑*i*S	**Sg**	**08 02 22.5**	**+0.4**
	baz=336						
EKS	**Erkin-Say**	**1.97**	**336**	*e*P	**Pg**	**08 01 56.7**	**0.0**
	baz=336						
EKS				*e*S	**Sg**	**08 02 22.6**	**+0.4**
	baz=336						
TKM2	**Tokmak 2**	**2.12**	**14**	Pn	**Pb**	**08 01 58.4**	**+0.3**
	32nm,0.5s						
TKM2				⇑Sn	**Sg**	**08 02 27.1**	**+0.3**
	77nm,0.5s						
TKM2	**Tokmak 2**	**2.12**	**14**	P	**Pb**	**08 01 57.7**	**-0.4**
	SNR=67						
TKM2	**Tokmak 2**	**2.12**	**14**	⇑*i*P	**Pb**	**08 01 57.8**	**-0.4**
	baz=15						
TKM2				⇑*i*S	**Sb**	**08 02 25.7**	**+0.7**
	baz=15						
CHMS	**Chumysh**	**2.13**	**357**	P	**Pb**	**08 01 58.3**	**0.0**
	SNR=31						
CHMS	**Chumysh**	**2.13**	**357**	⇑*i*P	**Pb**	**08 01 58.1**	**-0.1**
	baz=358						
CHMS				⇑*i*S	**Sg**	**08 02 27.0**	**-0.2**
	baz=358						
KDJ	**Kajisay**	**2.13**	**53**	*i* P	**Pn**	**08 01 56.7**	**+0.9**
	baz=54						
KDJ				*e*S	**Sb**	**08 02 24.6**	**-0.9**
	baz=54						
CHVK	**Chauvay**	**2.16**	**251**	*e*P	**Pg**	**08 02 00.6**	**+0.3**
	baz=251						
CHVK				*e*S	**Sg**	**08 02 31.4**	**+3.0**
	baz=251						
USP	**Ospenovka**	**2.41**	**353**	P	**Pb**	**08 02 03.5**	**+0.4**
	SNR=25						
ANVS	**Anan'yevo**	**2.82**	**47**	⇓*i*P	**Pb**	**08 02 10.5**	**+0.3**
	baz=47						
ANVS				⇓*e*S	**Sg**	**08 02 48.9**	**-0.6**
	baz=47						
BTK	**Batken**	**3.21**	**257**	*e*P	**Pb**	**08 02 15.3**	**-1.4**
	baz=257						
BTK				*e*S	**Sb**	**08 02 56.3**	**0.0**
	baz=257						
KK31	**Karatay Array**	**3.95**	**306**	Pg	**Pb**	**08 02 30.9**	**+1.6**
	1.4nm,0.3s,baz=123,slow=14,SNR=25						
KK31				Lg	Lg	08 03 21.6	
	8.4nm,0.5s,baz=128,slow=28,SNR=6.2						
PDGK	**Podgornoye**	**4.21**	**53**	Pn	**Pn**	**08 02 23.3**	**-0.9**
	3.3nm,0.9s						
PDGK				Lg	Lg	08 03 30.6	
	64nm,0.7s						
MK31	**Makanchi Array**	**7.98**	**40**	Pn	**Pn**	**08 03 18.0**	**+2.0**
	0.4nm,0.4s,baz=236,slow=17						
MK31				⇑Lg	Lg	08 05 33.1	
	1.6nm,0.6s,baz=227,slow=29						
KURBB	**Kurchatov Arra**	**10.08**	**13**	⇓Lg	Lg	08 06 39.2	
	10nm,0.9s						
KURK	**Kurchatov**	**10.18**	**14**	⇑Lg	Lg	08 06 41.1	
	4.4nm,0.8s						

*IDC **05** 08:14:42.8±2.1, 6.68°S×129.11°E, h0km, mb3.9/1, mb1 4.0/3, mb1mx3.5/29, mbtmp3.8/3, ML3.8/2, Error ellipse: s-maj=109.6km s-min=31.5km az=67.0*
ISC 05 08:14:42.9±1.0, 6.75°S±0.06°×129.17°E±0.10°, h10km, n10, σ2s92/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.89**	**39**	P	Pb	08 16 03.6	-5.2
	baz=4.6,SNR=7.5						
FAKI				S	**Sn**	**08 16 51.1**	**-2.2**
	baz=4.6,SNR=19						
SOEI	**Soe**	**5.70**	**238**	P	**Pg**	**08 16 29.1**	**-3.0**
	baz=6.3,SNR=3.7						
SWI	**Sorong**	**6.21**	**20**	S	**Sn**	**08 17 26.3**	**+0.4**
	baz=6.2,SNR=6.2						
KDU	**Kakadu**	**6.74**	**151**	P	Pn	08 16 29.1	+7.1
	baz=6.2,SNR=36						
KDU				S	**Sn**	**08 17 36.4**	**-2.4**
	baz=6.2,SNR=8.2						
KNRA	**Kununurra**	**8.88**	**183**	P	Pn	08 17 01.4	+10
	baz=8.8,SNR=7.4						
KNRA				S	**Sn**	**08 18 34.9**	**+3.3**
	baz=8.8,SNR=10.0						
WRA	**Warramunga Arr**	**14.04**	**160**	Pn	**Pn**	**08 18 03.6**	**+1.5**
	0.3nm,0.3s,baz=338,slow=13,SNR=10						
WRA				Sn	Sn	08 20 30.0	-8.1
	0.4nm,0.3s,baz=351,slow=23,SNR=7.0						
QIS	**Mount Isa**	**17.05**	**145**	P	**Pn**	**08 18 42.3**	**+0.7**
	baz=16,SNR=4.0						
ASAR	**Alice Springs**	**17.42**	**165**	P	**P**	**08 18 48.9**	**+1.4**
	0.5nm,0.3s,baz=348,slow=11,SNR=29						
ASAR				S	**Sn**	**08 21 56.1**	**-4.2**
	0.1nm,0.3s,baz=185,slow=20,SNR=3.6						
WRKA	**Warakurna**	**18.20**	**183**	P	**P**	**08 18 59.8**	**+3.7**
	baz=18,SNR=4.2						
MKAR	**Makanchi Array**	**67.57**	**327**	P	**P**	**08 25 40.6**	**+0.9**
	0.4nm,0.3s,baz=126,slow=7.1,SNR=5.8						

*ISCJB **05** 08:20:14.7±0.3, 59.79°N±0.03°×22.28°E±0.04°, h0km, Error ellipse: s-maj=4.1km s-min=2.9km az=11.9*
*CSEM **05** 08:20:15.8±0.2, 59.77°N×22.28°E, h2km, ML2.3, Error ellipse: s-maj=7.5km s-min=5.3km az=10.0, Mining explosion.*
*NAO **05** 08:20:16.0±1.1, 59.85°N×22.34°E, ML2.1*
*BER **05** 08:20:16.7±3.8, 59.84°N×22.32°E, h0km, ML2.1(NAO), Suspected explosion*
*HEL **05** 08:20:16.4±0.0, 59.83°N×22.31°E, h0km, ML2.3, ML2.3(UPP), Explosion*
*UPP **05** 08:20:16.8, 59.86°N×22.19°E, h0km, ML2.3, Suspected Mining explosion.*
*IDC **05** 08:20:16.1±1.8, 59.73°N×22.47°E, h0km, mb1 2.9/4, mb1mx2.8/39, mbtmp2.9/4, ML2.6/4, Error ellipse: s-maj=24.3km s-min=7.8km az=158.0*
ISC 05 08:20:15.4±0.7, 59.81°N±0.03°×22.27°E±0.02°, h0km, n67, σ1s21/85, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPE	**Suurupi**	**1.13**	**107**	*e*P	**Pg**	**08 20 36.2**	**-0.8**
SRPE				*e*S	**Sg**	**08 20 51.2**	**-0.4**
MEF	**Metsahovi**	**1.15**	**68**	*e*P	**Pg**	**08 20 36.4**	**-1.0**
AAL	**Aland**	**1.20**	**289**	*e*P	**Pg**	**08 20 38.1**	**-0.2**
AAL				*e*S	**Sg**	**08 20 53.8**	**-0.1**
AAL	**Aland**	**1.20**	**289**	P	**Pg**	**08 20 38.2**	**-0.2**
AAL				S	**Sg**	**08 20 54.1**	**+0.2**
AAL	**Aland**	**1.20**	**289**	P	**Pg**	**08 20 38.2**	**-0.2**
AAL				S	**Sg**	**08 20 54.1**	**+0.2**
RAF	**Rauma**	**1.24**	**349**	*e*P	**Pg**	**08 20 38.5**	**-0.7**
RAF				*e*SB	**Sg**	**08 20 54.8**	**-0.5**
RAF	**Rauma**	**1.24**	**349**	P	**Pg**	**08 20 38.5**	**-0.7**
RAF				Sb	**Sg**	**08 20 54.8**	**-0.5**
MTSE	**Matsula**	**1.36**	**143**	*e*P	**Pg**	**08 20 40.7**	**-0.7**
MTSE				*e*S	**Sg**	**08 20 58.6**	**-0.3**
NRTU	**Norrtaelje**	**1.85**	**267**	*e*P	**Pn**	**08 20 49.2**	**+1.0**
NRTU	**Norrtaelje**	**1.85**	**267**	P	**Pn**	**08 20 49.2**	**+1.0**
NRTU	**Norrtaelje**	**1.85**	**267**	P	**Pn**	**08 20 49.2**	**+1.0**
GRAU	**Graesoe**	**1.94**	**287**	*e*P	**Pn**	**08 20 50.3**	**+0.7**
GRAU	**Graesoe**	**1.94**	**287**	P	**Pn**	**08 20 50.3**	**+0.7**
GRAU	**Graesoe**	**1.94**	**287**	P	**Pn**	**08 20 50.3**	**+0.7**
PVF	**Pernaja**	**1.94**	**66**	*e*P	**Pn**	**08 20 50.3**	**+0.6**
PVF				*e*S	**Sn**	**08 21 14.6**	**-0.1**
PVF				MSG		08 21 19.9	
	comp=Z,24nm,0.1s						
PVF	**Pernaja**	**1.94**	**66**	P	**Pn**	**08 20 50.2**	**+0.6**
PVF				S	**Sn**	**08 21 14.5**	**-0.1**
FORU	**Forsmark**	**2.13**	**288**	*e*P	**Pn**	**08 20 53.0**	**+0.9**
FORU	**Forsmark**	**2.13**	**288**	P	**Pn**	**08 20 53.0**	**+0.9**
FORU	**Forsmark**	**2.13**	**288**	P	**Pn**	**08 20 53.0**	**+0.9**
SLIT	**Slitere, Latvi**	**2.19**	**180**	*e*PB	**Pn**	**08 20 54.6**	**+1.6**
SLIT				*e*SG	**Sb**	**08 21 24.8**	**+1.4**
SLIT	**Slitere, Latvi**	**2.19**	**180**	Pb	**Pn**	**08 20 54.5**	**+1.6**
FLYU	**Flymyra**	**2.23**	**280**	*e*P	**Pn**	**08 20 54.6**	**+1.1**
FLYU	**Flymyra**	**2.23**	**280**	P	**Pn**	**08 20 54.5**	**+1.1**
FLYU	**Flymyra**	**2.23**	**280**	P	**Pn**	**08 20 54.6**	**+1.1**
UPP	**Uppsala**	**2.34**	**273**	*e*P	**Pn**	**08 20 56.6**	**+1.6**
UPP	**Uppsala**	**2.34**	**273**	P	**Pn**	**08 20 56.7**	**+1.6**
UPP	**Uppsala**	**2.34**	**273**	P	**Pn**	**08 20 56.6**	**+1.6**
FIA0	**FINESS Array S**	**2.49**	**47**	Pn	**Pn**	**08 20 59.0**	**+1.8**
	baz=223,slow=16						
FIA0				Lg	Lg	08 21 31.1	
	baz=229,slow=28						
FIA0				Rg	Rg	08 21 47.0	
	baz=212,slow=37						
FIA0	**FINESS Array S**	**2.49**	**47**	Pn	**Pn**	**08 20 59.0**	**+1.8**
	baz=223,slow=16						
FIA0				Lg	Lg	08 21 31.1	
	baz=229,slow=28						
FIA0				Rg	Rg	08 21 47.0	
	baz=212,slow=37						
FIA0	**FINESS Array S**	**2.49**	**47**	*e*PB	**Pn**	**08 20 58.9**	**+1.8**
FIA0				*e*SB	**Sb**	**08 21 31.3**	**-0.9**
FIA0				MSG		08 21 34.9	
	comp=Z,12nm,0.1s						
FIA0	**FINESS Array S**	**2.49**	**47**	Pn	**Pn**	**08 20 59.0**	**+1.8**
	SNR=50						
FIA0				Lg	Lg	08 21 31.0	
	SNR=2.6						
FINES	**FINESS Array B**	**2.49**	**47**	Pn	**Pn**	**08 20 59.0**	**+1.8**
	comp=Z,1.8nm,0.3s,baz=225,slow=15,SNR=58						
FINES				Sn	**Sb**	**08 21 31.4**	**-0.9**
	comp=Z,4.7nm,0.3s,baz=236,slow=25,SNR=29						
BACU	**Backbrunna**	**2.60**	**273**	*e*P	**Pn**	**08 21 00.1**	**+1.4**
BACU	**Backbrunna**	**2.60**	**273**	P	**Pn**	**08 21 00.0**	**+1.4**
BACU	**Backbrunna**	**2.60**	**273**	P	**Pn**	**08 21 00.1**	**+1.4**
OSTU	**Oestervaala**	**2.61**	**282**	*e*P	**Pn**	**08 21 00.0**	**+1.2**
OSTU	**Oestervaala**	**2.61**	**282**	P	**Pn**	**08 21 00.0**	**+1.2**
OSTU	**Oestervaala**	**2.61**	**282**	P	**Pn**	**08 21 00.0**	**+1.2**
VSU	**Vasula**	**2.67**	**118**	Pn	**Pn**	**08 21 01.2**	**+1.6**
VSU				Lg	Lg	08 21 37.0	
VSU	**Vasula**	**2.67**	**118**	Pn	**Pn**	**08 21 01.2**	**+1.6**
VSU				Lg	Lg	08 21 37.0	
VSU	**Vasula**	**2.67**	**118**	*e*PB	**Pn**	**08 21 01.5**	**+1.9**
VSU	**Vasula**	**2.67**	**118**	Pn	**Pn**	**08 21 01.2**	**+1.6**
	SNR=50						
VSU	**Vasula**	**2.67**	**118**	Pb	**Pn**	**08 21 01.5**	**+1.9**
VSU				Lg	Lg	08 21 37.0	
IGGU	**Iggoen**	**2.68**	**296**	*e*P	**Pn**	**08 21 00.9**	**+1.2**
IGGU	**Iggoen**	**2.68**	**296**	P	**Pn**	**08 21 00.9**	**+1.2**
IGGU	**Iggoen**	**2.68**	**296**	P	**Pn**	**08 21 00.9**	**+1.2**
VJF	**Virojoki**	**2.74**	**72**	*e*P	**Pn**	**08 21 01.2**	**+0.6**
VJF				*e*SG	**Sb**	**08 21 40.0**	**+0.6**
VJF				MSG		08 21 40.8	
	comp=Z,13nm,0.1s						
VJF	**Virojoki**	**2.74**	**72**	P	**Pn**	**08 21 01.2**	**+0.6**
ROTU	**Roteberg**	**3.57**	**300**	*e*P	**Pn**	**08 21 12.4**	**+0.5**
ROTU	**Roteberg**	**3.57**	**300**	P	**Pn**	**08 21 12.4**	**+0.5**
ROTU	**Roteberg**	**3.57**	**300**	P	**Pn**	**08 21 12.4**	**+0.5**
HFS	**Hagfors**	**4.32**	**278**	Pn	**Pn**	**08 21 23.1**	**+0.8**
	baz=95,slow=16						
HFS				Lg	Lg	08 22 29.2	
	baz=84,slow=37						
HFS	**Hagfors**	**4.32**	**278**	Pn	**Pn**	**08 21 23.1**	**+0.8**
	baz=95,slow=16						
HFS				Lg	Lg	08 22 29.2	
	baz=84,slow=37						
HFS	**Hagfors**	**4.32**	**278**	Pn	**Pn**	**08 21 23.3**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=87,slow=15,SNR=16						
HFS				Pg	**Pb**	**08 21 32.8**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=92,slow=16,SNR=11						
HFS				Sn	**Sn**	**08 22 15.3**	**+2.0**
	comp=Z,0.3nm,0.3s,baz=96,slow=26,SNR=3.1						
HFS				Lg	Lg	08 22 29.5	
	comp=Z,0.9nm,0.3s,baz=105,slow=31,SNR=6.9						
HFS	**Hagfors**	**4.32**	**278**	Pn	**Pn**	**08 21 23.1**	**+0.8**
	SNR=50						
HFS				Lg	Lg	08 22 29.2	
	SNR=90						
NB2	**NORSAR Subarra**	**5.61**	**287**	Pn	**Pn**	**08 21 39.6**	**-0.4**
	baz=96,slow=14						
NB2				Lg	Lg	08 23 09.7	
	baz=96,

APA				S	Sg	08 48 07.2	+0.8	
APA0	**Apatity Array**	**0.50**	**267**	Pg	Pg	08 48 05.5	+0.6	
	baz=92,slow=16							
APA0				Lg	Lg	08 48 12.4		
	baz=84,slow=37							
APA0				Rg	Rg	08 48 14.3		
	baz=124,slow=28							
APA0	**Apatity Array**	**0.50**	**267**	Pg	Pg	08 48 05.5	+0.6	
	baz=92,slow=16							
APA0				Lg	Lg	08 48 12.4		
	baz=84,slow=37							
APA0				Rg	Rg	08 48 14.3		
	baz=124,slow=28							
APA0	**Apatity Array**	**0.50**	**267**	P	Pg	08 48 05.7	+0.9	
APA0				S	Sg	08 48 11.4	+0.1	
APA0	**Apatity Array**	**0.50**	**267**	Pg	Pg	08 48 05.4	+0.6	
	SNR=256							
APA0				Lg	Lg	08 48 12.4		
	SNR=47							
VRF	**Varrio**	**1.79**	**276**	*e*P	Pn	08 48 28.2	+0.8	
VRF				*e*S	Sn	08 48 50.5	-0.4	
VRF				MSG		08 48 53.6		
	comp=Z,59nm,0.2s							
VRF	**Varrio**	**1.79**	**276**	P	Pn	08 48 28.2	+0.8	
VRF				S	Sn	08 48 50.4	-0.4	
KU6	**Riekki**	**2.38**	**229**	*e*P	Pn	08 48 37.2	+1.7	
KU6				*e*Sg	Sb	08 49 09.5	+0.8	
KU6	**Riekki**	**2.38**	**229**	P	Pn	08 48 37.1	+1.7	
KU6				Sg	Sb	08 49 09.4	+0.8	
MSF	**Maaselka**	**2.71**	**233**	*e*PB	Pb	08 48 43.1	-1.4	
MSF				*e*SB	Sb	08 49 18.1	-0.1	
MSF	**Maaselka**	**2.71**	**233**	Pb	Pb	08 48 43.1	-1.4	
MSF				Sb	Sb	08 49 18.1	-0.1	
SGF	**Sodankyl**	**2.99**	**270**	*e*PG	Pb	08 48 48.9	-0.5	
SGF				*e*SB	Sb	08 49 26.1	-0.2	
SGF	**Sodankyl**	**2.99**	**270**	Pg	Pb	08 48 48.8	-0.5	
SGF				Sb	Sb	08 49 26.1	-0.2	
KEV	**Kevo**	**3.41**	**312**	*e*P	Pn	08 48 50.7	+1.2	
KEV				*e*S	Sn	08 49 30.2	-0.4	
KEV				*e*SB	Sb	08 49 38.1	-0.3	
KEV				MSG		08 49 40.9		
	comp=Z,33nm,0.2s							
KEV	**Kevo**	**3.41**	**312**	P	Pn	08 48 50.7	+1.2	
KEV				S	Sn	08 49 30.2	-0.4	
KEV				Sb	Sb	08 49 38.0	-0.3	
ARA0	**ARCESS Array S**	**3.75**	**305**	Pn	Pn	08 48 55.3	+1.0	
	baz=121,slow=14							
ARA0				Pg	Pb	08 49 03.2	+1.0	
	baz=117,slow=16							
ARA0				Sn	Sn	08 49 37.8	-1.2	
	baz=120,slow=28							
ARA0				Lg	Lg	08 49 49.1		
	baz=112,slow=37							
ARA0	**ARCESS Array S**	**3.75**	**305**	Pn	Pn	08 48 55.3	+1.0	
	baz=121,slow=14							
ARA0				Pg	Pb	08 49 03.2	+1.0	
	baz=117,slow=16							
ARA0				Sn	Sn	08 49 37.8	-1.2	
	baz=120,slow=28							
ARA0				Lg	Lg	08 49 49.1		
	baz=112,slow=37							
ARA0	**ARCESS Array S**	**3.75**	**305**	Pn	Pn	08 48 55.3	+1.0	
	SNR=326							
ARA0	**ARCESS Array S**	**3.75**	**305**	Pg	Pb	08 49 03.2	+1.0	
	SNR=90							
ARA0				Sn	Sn	08 49 37.8	-1.2	
	SNR=6.1							
ARA0				Lg	Lg	08 49 49.2		
	SNR=50							
HEF	**Hetta**	**4.07**	**286**	*e*P	Pn	08 48 59.2	+0.5	
HEF	**Hetta**	**4.07**	**286**	P	Pn	08 48 59.2	+0.5	
OUL	**Oulu**	**4.24**	**237**	*e*PB	Pb	08 49 08.6	-2.1	
OUL				*e*SG	Sb	08 50 06.5	+4.2	
OUL	**Oulu**	**4.24**	**237**	Pb	Pb	08 49 08.5	-2.1	
PAJU	**Pajala**	**4.37**	**267**	*e*P	Pn	08 49 02.8	-0.1	
PAJU				*e*S	Sn	08 49 53.2	-1.2	
PAJU	**Pajala**	**4.37**	**267**	P	Pn	08 49 02.8	-0.1	
PAJU				S	Sn	08 49 53.2	-1.2	
PAJU	**Pajala**	**4.37**	**267**	P	Pn	08 49 02.8	-0.1	
PAJU				S	Sn	08 49 53.2	-1.2	
LANU	**Lannavaara**	**4.68**	**281**	*e*P	Pn	08 49 07.2	+0.1	
LANU	**Lannavaara**	**4.68**	**281**	P	Pn	08 49 07.2	+0.1	
LANU	**Lannavaara**	**4.68**	**281**	P	Pn	08 49 07.2	+0.1	
MASU	**Masugnsbyn**	**4.72**	**274**	*e*P	Pn	08 49 07.7	+0.1	
MASU	**Masugnsbyn**	**4.72**	**274**	P	Pn	08 49 07.7	+0.1	
MASU	**Masugnsbyn**	**4.72**	**274**	P	Pn	08 49 07.7	+0.1	
ERTU	**Ertsjaerv**	**4.85**	**263**	*e*P	Pn	08 49 09.4	0.0	
ERTU	**Ertsjaerv**	**4.85**	**263**	P	Pn	08 49 09.4	0.0	
ERTU	**Ertsjaerv**	**4.85**	**263**	P	Pn	08 49 09.4	0.0	
KUA	**Kurravaara**	**5.30**	**280**	*e*P	Pn	08 49 15.4	-0.2	
KUA	**Kurravaara**	**5.30**	**280**	P	Pn	08 49 15.4	-0.2	
KUA	**Kurravaara**	**5.30**	**280**	P	Pn	08 49 15.4	-0.2	
DUNU	**Dundret**	**5.32**	**271**	*e*P	Pn	08 49 17.2	+1.3	
DUNU	**Dundret**	**5.32**	**271**	P	Pn	08 49 17.2	+1.3	
DUNU	**Dundret**	**5.32**	**271**	P	Pn	08 49 17.2	+1.3	
NIKU	**Nikkaluokta**	**5.80**	**279**	*e*P	Pn	08 49 22.4	0.0	
NIKU	**Nikkaluokta**	**5.80**	**279**	P	Pn	08 49 22.4	0.0	
NIKU	**Nikkaluokta**	**5.80**	**279**	P	Pn	08 49 22.4	0.0	
FIA0	**FINESS Array S**	**7.15**	**214**	Pn	Pn	08 49 41.8	+0.9	
	baz=32,slow=12							
FIA0				Lg	Lg	08 51 36.5		
	baz=31,slow=28							
FIA0	**FINESS Array S**	**7.15**	**214**	Pn	Pn	08 49 41.8	+0.9	
	baz=32,slow=12							
FIA0				Lg	Lg	08 51 36.5		
	baz=31,slow=28							
FIA0	**FINESS Array S**	**7.15**	**214**	Pn	Pn	08 49 41.8	+0.9	
FIA0				Lg	Lg	08 51 36.5		
	SNR=50							
SPA0	**Spitsbergen Ar**	**11.73**	**342**	Pn	Pn	08 50 41.7	-1.9	
	baz=142,slow=14							
SPA0	**Spitsbergen Ar**	**11.73**	**342**	Pn	Pn	08 50 41.7	-1.9	
	baz=142,slow=14							

*ISCJB **05** 08:55:39.7±0.3, 32°.72N±0°.02×115°.86W±0°.02, h9km±3km, Error ellipse: s-maj=3.6km s-min=3.3km az=169.2*
*MEX **05** 08:55:40.3±0.9, 33°.05N×116°.02W, h25km±201km, MD3.8*
*NEIC **05** 08:55:40.4, 32°.72N×115°.89W, h2km, MD3.8(MEX), ML3.8(PAS), ML3.9(ECX), After PAS.*
*ECX **05** 08:55:40.8±0.7, 32°.72N×115°.88W, h2km, MD3.8, ML4.0*
ISC 05 08:55:40.3±0.9, 32°.70N±0°.02×115°.88W±0°.02, h10km±6km, n43, σ1§04/53, 13C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	h	m	s	Res ISC
YUH	**Yuha Desert**	**0.06**	**218**	⇑	*i*P		**Pg**	**08**	**55**	**42.2**	**-0.2**
SGL	**Mount Signal**	**0.14**	**110**	⇓	*i*P		**Pg**	**08**	**55**	**43.4**	**-0.1**
WESC	**Westside Schoo**	**0.14**	**63**	⇑	*i*P		**Pg**	**08**	**55**	**43.4**	**-0.1**
RMX	**La Rumorosa**	**0.19**	**241**	⇑	*e*P		**Pg**	**08**	**55**	**44.5**	**+0.1**
RMX					*e*S		**Sg**	**08**	**55**	**47.8**	**+0.4**
COK	**Cook Ranch**	**0.20**	**40**	⇑	*i*[			08	55	44.4	
CRR	**Carrizo Plain**	**0.20**	**338**	⇓	*i*P		**Pg**	**08**	**55**	**44.1**	**-0.5**
SWSC	**Sam W. Stewart**	**0.25**	**16**	⇓	*i*P		**Pg**	**08**	**55**	**45.0**	**-0.4**
DREC	**Desert Rsrch C**	**0.38**	**73**	⇑	*i*P		**Pg**	**08**	**55**	**48.3**	**+0.5**
CPBX	**Cerro Prieto**	**0.56**	**120**		*e*P		**Pg**	**08**	**55**	**51.6**	**+0.4**
CPBX					*e*S		**Sg**	**08**	**55**	**59.5**	**+1.0**
CPBX					AML	AML		08	56	08.6	
	comp=N,24μm,0.6s										
CPBX				⇓	*e*			08	56	08.6	
MBIG	**Mexicali**	**0.64**	**116**		*e*P		**Pg**	**08**	**55**	**53.1**	**+0.3**
BAR	**Barrett**	**0.67**	**269**		*e*Pg		**Pg**	**08**	**55**	**52.7**	**-0.6**
BAR					*e*Sg		**Sg**	**08**	**56**	**01.4**	**-0.6**
BAR	**Barrett**	**0.67**	**269**	⇑	*e*P		**Pg**	**08**	**55**	**52.9**	**-0.3**
CBX	**Cerro Bola**	**0.77**	**240**		*i*P		**Pg**	**08**	**55**	**54.9**	**-0.2**
CBX					*i*S		**Sg**	**08**	**56**	**05.3**	**+0.2**
CBX	**Cerro Bola**	**0.77**	**240**		*i*P		**Pg**	**08**	**55**	**54.9**	**-0.2**
CBX					*i*S		**Sg**	**08**	**56**	**05.3**	**+0.2**
CBX	**Cerro Bola**	**0.77**	**240**	⇑	*i*P		**Pg**	**08**	**55**	**55.0**	**-0.2**
CBX					*e*S		**Sg**	**08**	**56**	**05.4**	**+0.2**
RDX	**Rancho Dawling**	**0.77**	**184**	⇓	*e*P		**Pg**	**08**	**55**	**54.6**	**-0.5**
RDX					*e*S		**Sg**	**08**	**56**	**05.3**	**+0.1**
RDX				⇑	*e*			08	56	10.4	
	comp=N,3μm,0.7s										
SDRC	**San Diego Road**	**0.90**	**273**	⇑	*e*P		**Pg**	**08**	**55**	**56.7**	**-0.9**
GLA	**Glamis**	**0.95**	**68**		*e*Pg		**Pg**	**08**	**55**	**57.1**	**-1.6**
GLA					*e*Sg		**Sg**	**08**	**56**	**10.2**	**-0.9**
PFO	**Pinyon Flats O**	**1.03**	**332**		*e*Pg		**Pg**	**08**	**55**	**58.5**	**-1.7**
PFO					*e*Sg		**Sg**	**08**	**56**	**12.6**	**-1.0**
PBX	**Punta Banda**	**1.19**	**217**	⇑	*e*P		**Pb**	**08**	**56**	**02.5**	**-0.5**
ECNX	**Esteban Cantu**	**1.20**	**211**	⇑	*e*P		**Pb**	**08**	**56**	**02.6**	**-0.6**
ECNX				⇑	*e*			08	56	20.9	
	comp=E,5μm,0.7s										
ZAX	**El Zacaton**	**1.23**	**196**	⇓	*e*P		**Pn**	**08**	**56**	**03.0**	**-0.6**
ECBX	**El Chinero**	**1.41**	**150**		*e*P9			08	56	04.7	
ECBX					*e*S		**Sn**	**08**	**56**	**24.0**	**-0.6**
ECBX				⇑	*e*			08	56	28.5	
	comp=N,985nm,1.0s										
SPIG	**San Pedro Mart**	**1.68**	**168**		*e*P		**Pb**	**08**	**56**	**11.6**	**+0.1**
SPIG	**San Pedro Mart**	**1.68**	**168**		*e*P		**Pb**	**08**	**56**	**11.6**	**+0.1**
SPX	**San Pedro Mart**	**1.68**	**168**		*e*P		**Pb**	**08**	**56**	**11.4**	**-0.2**
SPX	**San Pedro Mart**	**1.68**	**168**		*e*P		**Pn**	**08**	**56**	**10.5**	**+0.4**
PASC	**Pasadena Art C**	**2.43**	**308**		*e*Pn		**Pn**	**08**	**56**	**21.8**	**+1.7**
PASC					*e*Sn		**Sn**	**08**	**56**	**51.2**	**+1.4**
214A	**Organ Pipe Nat**	**2.70**	**105**		*e*Pn		**Pn**	**08**	**56**	**21.7**	**-2.1**
GSC	**Goldstone, Bar**	**2.71**	**344**		*e*Pn		**Pn**	**08**	**56**	**24.2**	**+0.2**
GSC					*e*Sn		**Sn**	**08**	**56**	**58.6**	**+1.6**
OSI	**Osito Audit: C**	**3.05**	**310**		*e*Pn		**Pb**	**08**	**56**	**33.6**	**-1.1**
ISA	**Isabella, Lake**	**3.66**	**325**		Pn		Pn	08	56	41.1	+4.1
DAC	**Darwin (Calif)**	**3.84**	**339**		*e*Pn		**Pn**	**08**	**56**	**39.8**	**+0.1**
SHPR	**Sheep Range**	**3.85**	**9**		*e*Pn		**Pn**	**08**	**56**	**39.4**	**-0.3**
SHPR					*e*Sn		**Sn**	**08**	**57**	**25.4**	**+0.4**
TUC	**Tucson**	**4.32**	**94**		*e*P		**Pn**	**08**	**56**	**44.4**	**-1.8**
W18A	**Petrified Fore**	**5.65**	**63**		*e*Pn		**Pn**	**08**	**57**	**05.4**	**+0.9**
	comp=N,19nm,0.6s										
MVU	**Marysvale**	**6.52**	**26**		*e*Pn		**Pn**	**08**	**57**	**19.4**	**+2.9**
	comp=N,6.0nm,0.8s										
MSU	**Marysvale**	**6.54**	**26**		*e*Pn		**Pn**	**08**	**57**	**19.8**	**+3.1**
	comp=N,8.0nm,0.7s										
121A	**Cookes Peak, D**	**6.83**	**89**		*e*Pn		**Pn**	**08**	**57**	**20.1**	**-0.7**
	comp=N,16nm,0.5s										
MVCO	**Mesa Verde**	**7.55**	**51**		*e*Pn		**Pn**	**08**	**57**	**32.0**	**+1.4**
	comp=N,11nm,0.6s										
PV01	**Paradox Valley**	**8.06**	**46**		*e*Pn		**Pn**	**08**	**57**	**39.2**	**+1.6**
	comp=N,524nm,0.6s										
ANMO	**Albuquerque**	**8.15**	**71**		*e*Pn		**Pn**	**08**	**57**	**39.6**	**+0.7**
	comp=N,3.1nm,0.8s										
MNTX	**Cornudas Mount**	**8.95**	**94**		*e*Pn		**Pn**	**08**	**57**	**49.4**	**-0.2**
	comp=N,1.8nm,0.6s										

*ISK **05** 09:05:56.9, 39°.42N×38°.46E, h6km, MD2.7*
*CSEM **05** 09:05:57.1±0.1, 39°.42N×38°.45E, h8km, MD2.7, Error ellipse: s-maj=4.0km s-min=3.2km az=79.0*
DDA 05 09:05:58, 39°.42N×38°.53E, h7km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	h	m	s	Res ISC
ILIC	**ilic-Erzincan**	**0.04**	**48**		*e*PG		Pg	09	05	59.4	-0.4
ILIC					*e*SG		Sg	09	06	01.2	+0.2
ILIC	**ilic-Erzincan**	**0.04**	**48**		*e*Pg		Pg	09	05	59.4	-0.3
ILIC					*e*Sg		Sg	09	06	01.2	+0.2
SUSE	**Susehri**	**0.82**	**343**		*i*P		Pg	09	06	13.3	-0.8
SUSE					*i*S		Sb	09	06	26.6	+0.2
SUSE	**Susehri**	**0.82**	**343**		*i*P		Pg	09	06	13.3	-0.9
SUSE					*i*S		Sb	09	06	26.6	+0.2
PTK	**Pertek**	**0.86**	**128**		*e*PG		Pg	09	06	14.6	-0.2
PTK					*e*SG		Sb	09	06	27.5	+0.2
PTK	**Pertek**	**0.86**	**128**		*e*Pg		Pg	09	06	14.6	-0.2
PTK					*e*Sg		Sb	09	06	27.5	+0.1
KELT	**Kelkit**	**0.92**	**38**		*i*P		Pg	09	06	15.5	-0.5
KELT	**Kelkit**	**0.92**	**38**		*i*P		Pg	09	06	15.5	-0.4
ERZN	**Erzincan**	**0.94**	**80**		*e*PG		Pg	09	06	16.3	0.0
ERZN					*e*SG		Sb	09	06	30.5	+0.9
ELZG	**Elazig**	**0.99**	**159**		*i*P		Pg	09	06	17.1	-0.2
ELZG					*i*S		Sb	09	06	31.6	+0.5
ELZG	**Elazig**	**0.99**	**159**		*i*P		Pg	09	06	17.1	-0.2
ELZG					*i*S		Sb	09	06	31.6	+0.4
MALT	**Malatya**	**1.11**	**184**		*e*PN		Pg	09	06	18.6	-0.9
MALT	**Malatya**	**1.11**	**184**		*e*Pn		Pg	09	06	18.6	-0.9
DARE	**Darende-Malaty**	**1.18**	**224**		*e*PN		Pg	09	06	19.0	-1.7
DARE	**Darende-Malaty**	**1.18**	**224**		*e*Pn		Pg	09	06	19.0	-1.7
SVRC	**Sivrice-ELAZID**	**1.21**	**149**		*e*PN		Pb	09	06	20.9	-0.6
SVRC	**Sivrice-ELAZID**	**1.21**	**149**		*e*Pn		Pb	09	06	20.9	-0.5
AKCD	**Akcadag**	**1.22**	**203**		*i*P		Pb	09	06	20.2	-1.4
AKCD					*i*S		Sn	09	06	38.9	+0.4
AKCD	**Akcadag**	**1.22**	**203**		*i*P		Pb	09	06	20.2	-1.4
AKCD					*i*S		Sn	09	06	38.9	+0.4
SVSK	**Karacayir**	**1.28**	**293**		*e*PN		Pn	09	06	21.0	-1.2
SVSK	**Karacayir**	**1.28**	**293**		*e*Pn		Pn	09	06	21.0	-1.2

*ISCJB **05** 09:31:07.1±1.7, 14°.40N±0°.03×93°.08E±0°.05, h33km±14km, mb3.9/15, Error ellipse: s-maj=7.6km s-min=5.0km az=169.9*
*IDC **05** 09:31:10.1±0.7, 14°.34N×93°.11E, h40km±5km, mb3.7/14, mb1 3.9/16, mb1mx3.7/28, mbtmp3.9/16, ML4.0/2, MS3.1/1, Ms1 3.3/1, ms1mx2.6/31, Error ellipse: s-maj=24.1km s-min=12.0km az=53.0*
*NEIC **05** 09:31:10.5±0.4, 14°.36N×93°.05E, mb4.4/1, Error ellipse: s-maj=10.6km s-min=5.8km az=60.0*
ISC 05 09:31:09.7±0.5, 14°.31N±0°.05×93°.05E±0°.07, h41km±5km, h41km:pP-P, n43, σ1§47/51, mb4.1/15, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	h	m	s	Res ISC
DGPR	**DIGLIPUR**	**1.13**	**186**		*e*P		**Pn**	**09**	**31**	**30.9**	**+1.8**
DGPR					*e*S		**Sn**	**09**	**31**	**41.2**	**-2.2**
PBA	**Port Blair**	**2.65**	**187**		*e*P		Pn	09	31	52.4	+2.4
PBA					*e*S		Sn	09	32	22.6	+1.7
CMAR	**Chiang Mai Arr**	**7.00**	**53**		Pn		**Pn**	**09**	**32**	**51.0**	**+1.2**
	0.8nm,0.3s,baz=74,slow=24,SNR=3.1										
CMAR						Sn	**Sn**	**09**	**34**	**06.8**	**-1.4**
	0.8nm,0.3s,baz=238,slow=26,SNR=4.4										
CMAR						LR	LR	09	36	04.2	
	comp=Z,137nm,20.3s,baz=268,slow=42										
CHTO	**Chiang Mai**	**7.21**	**51**		Pn		**Pn**	**09**	**32**	**52.8**	**+0.1**
	9.0nm,0.6s										
CHTO					*e*Sn		**Sn**	**09**	**34**	**10.5**	**-2.9**
CMBY	**CAMPBELL BAY**	**7.30**	**173**		*e*P		**Pn**	**09**	**32**	**53.9**	**0.0**
CMBY					*e*S		**Sn**	**09**	**34**	**11.3**	**-4.2**
CMBY					AML	AML		09	37	10.6	
	comp=E,492nm,0.2s										
CMBY					AML	AML		09	37	10.8	
	comp=N,459nm,0.4s										
VIS	**Vishakhapatnam**	**9.95**	**291**		*i*P		**Pn**	**09**	**33**	**29.3**	**-1.0**
VIS					*i*S		Sn	09	35	10.5	-10
VIS					*ex*		x	09	35	13.7	
	comp=E,59nm,0.2s										
VIS					*ex*		x	09	35	15.1	
	comp=N,59nm,0.3s										
SHL	**Shillong**	**11.26**	**355**		*ex*		x	09	34	02.4	
KULM	**Kulim**	**11.67**	**139**		*e*Pn		**Pn**	**09**	**33**	**56.2**	**+2.4**
	comp=N,6.8nm,1.0s										
IPM	**Ipoh**	**12.53**	**140**		*e*Pn		**Pn**	**09**	**34**	**06.8**	**+1.2**
	comp=N,5.6nm,1.2s										
PSI	**Prapat**	**12.82**	**153**		Pn		Pn	09	34	13.2	+3.5
	comp=N,0.6nm,0.3s,baz=329,slow=14,SNR=8.3										
ODAN	**Odare**	**13.57**	**338**		*e*P		**Pn**	**09**	**34**	**19.0**	**-0.9**
	comp=N,28nm,0.4s										
TAPN	**Taplejung**	**13.90**	**340**		*e*P		Pn	09	34	20.0	-4.6
	comp=N,26nm,0.6s										
RAMN	**Ramite**	**13.95**	**335**		*e*P		**Pn**	**09**	**34**	**24.5**	**-0.7**
	comp=N,21nm,0.4s										
JIRN	**Jiri**	**14.75**	**335**		*e*P		Pn	09	34	32.3	-3.7
	comp=N,13nm,0.3s										
PKI	**Pulchoki**	**15.00**	**333**		*e*P		**Pn**	**09**	**34**	**38.2**	**-1.1**
	comp=N,13nm,0.6s										
PKIN	**Phulchoki**	**15.01**	**333**		*e*P		**Pn**	**09**	**34**	**37.4**	**-2.0**
	comp=N,22nm,0.5s										
GUN	**Gumba**	**15.10**	**335**		*e*P		**Pn**	**09**	**34**	**36.7**	**-3.9**
	comp=N,4.2nm,0.2s										
DMN	**Daman**	**15.17**	**332**		*e*P		**Pn**	**09**	**34**	**39.5**	**-2.0**
	comp=N,20nm,0.5s										
KKN	**Kakani**	**15.24**	**333**		*e*P		**Pn**	**09**	**34**	**40.0**	**-2.4**
	comp=N,4.8nm,0.3s										
GKN	**Gorkha**	**15.72**	**331**		*e*P		**Pn**	**09**	**34**	**45.7**	**-2.8**
	comp=N,14nm,0.3s										
KOLN	**Koldanda**	**16.03**	**328**		*e*P		**Pn**	**09**	**34**	**51.5**	**-1.0**
	comp=N,33nm,0.6s										
MK31	**Makanchi Array**	**33.62**	**347**		*e*P		**P**	**09**	**37**	**47.2**	**+0.9**
MKAR	**Makanchi Array**	**33.62**	**347**		P		**P**	**09**	**37**	**47.4**	**+1.1**
	comp=N,0.3nm,0.4s,baz=168,slow=6.2,SNR=5.3										
MKAR					pP		**pP**	**09**	**37**	**56.4**	**-1.2**
	comp=N,1.1nm,0.7s,baz=194,slow=8.1,SNR=8.6										
SONM	**Songino Array**	**35.22**	**16**		P		**P**	**09**	**37**	**59.6**	**-0.7**
	comp=N,0.1nm,0.3s,baz=195,slow=10,SNR=2.4										
SONM					pP		**pP**	**09**	**38**	**12.0**	**+0.4**
	comp=N,2.4nm,1.0s,baz=198,slow=11,SNR=7.2										
KURBB	**Kurchatov Arra**	**38.09**	**345**		P		**P**	**09**	**38**	**25.4**	**+0.9**
	comp=N,0.6nm,0.6s,baz=164,slow=8.3,SNR=4.7										
KURBB					pP		**pP**	**09**	**38**	**35.8**	**-0.1**
	comp=N,3.7nm,0.8s,baz=164,slow=8.0,SNR=18										

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	h	m	s	Res ISC
KURK	**Kurchatov**	**38.16**	**345**		P		**P**	**09**	**38**	**25.4**	**+0.4**
KURK					pP		**pP**	**09**	**38**	**35.8**	**-0.6**
KSAR	**Wonju Array Be**	**38.56**	**47**		pP		pP	09	38	40.8	+0.8
KSRS	**Korea Array**	**38.59**	**47**		pP		pP	09	38	40.8	+0.5
	comp=N,1.1nm,0.8s,baz=240,slow=9.7,SNR=3.0										
ZALV	**Zalesovo Beam**	**40.08**	**352**		P		**P**	**09**	**38**	**40.3**	**-0.8**
	comp=N,0.4nm,0.5s,baz=165,slow=12,SNR=2.5										
ZALV					pP		**pP**	**09**	**38**	**52.5**	**0.0**
	comp=N,1.0nm,0.5s,baz=185,slow=8.3,SNR=4.3										
AKTO	**Aktyubinsk**	**45.87**	**329**		P		**P**	**09**	**39**	**27.6**	**-0.3**
	comp=N,1.0nm,0.6s,baz=109,slow=6.7,SNR=3.6										
AKTO					pP		**pP**	**09**	**39**	**40.9**	**+1.4**
	comp=N,1.0nm,0.5s,baz=150,slow=12,SNR=3.9										
WRA	**Warramunga Ar**	**52.98**	**129**		P		**P**	**09**	**40**	**22.5**	**-0.2**
	comp=N,1.8nm,0.8s,baz=313,slow=8.5,SNR=16										
WRA					pP		**pP**	**09**	**40**	**33.7**	**-0.8**
	comp=N,0.8nm,0.7s,baz=312,slow=8.0,SNR=3.1										
WRA					PcP		**PcP**	**09**	**41**	**32.2**	**+1.0**
	comp=N,0.4nm,0.6s,baz=325,slow=3.2,SNR=4.7										
WRAB	**Tennant Creek**	**52.99**	**129**		*e*P		**P**	**09**	**40**	**21.8**	**-1.0**
	comp=N,4.1nm,0.9s										
AS31	**Alice Springs**	**54.95**	**133**		*e*P		**P**	**09**	**40**	**37.4**	**+0.3**
ASAR	**Alice Springs**	**54.95**	**133**		P		**P**	**09**	**40**	**37.1**	**+0.1**
	comp=N,1.3nm,0.6s,baz=312,slow=6.8,SNR=20										
ASAR					pP		**pP**	**09**	**40**	**49.7**	**+0.9**
	comp=N,0.6nm,0.6s,baz=309,slow=6.7,SNR=3.3										
BRTR	**Keskin Array B**	**57.54**	**308**		P		**P**	**09**	**40**	**55.5**	**0.0**
	comp=N,1.4nm,0.8s,baz=120,slow=7.3,SNR=9.1										
BRTR					pP		**pP**	**09**	**41**	**08.6**	**+1.3**
	comp=N,0.6nm,0.6s,baz=123,slow=9.0,SNR=3.6										
STKA	**Stephens Creek**	**65.36**	**135**		P		**P**	**09**	**41**	**48.5**	**+0.3**
	comp=N,1.9nm,0.6s,baz=304,slow=4.1,SNR=5.4										
FINES	**FINESS Array B**	**66.58**	**331**		P		**P**	**09**	**41**	**55.6**	**+0.1**
	comp=N,1.3nm,0.5s,baz=100,slow=5.8,SNR=10										
FINES					pP		**pP**	**09**	**42**	**07.8**	**+0.3**
	comp=N,1.4nm,0.6s,baz=115,slow=8.6,SNR=3.6										
ARCES	**ARCESS Array B**	**68.90**	**340**		P		**P**	**09**	**42**	**10.9**	**+0.8**
	comp=N,4.2nm,1.1s,baz=83,slow=7.4,SNR=4.4										
GERES	**GERESS Array B**	**72.38**	**317**

TIAR	Tiarei	44.69	282	eP		P	09 46 36.0	-0.3	
	comp=Z,40nm,0.8s								
TIAR	Tiarei	44.69	282	eT		T	10 33 40.4		
	comp=Z,6.8nm,0.3s								
PAE	Paea	44.81	281	eP		P	09 46 35.9	-1.4	
	comp=Z,24nm,0.9s								
PPT2	Papeete2	44.85	281	eP		P	09 46 36.6	-1.1	
	comp=Z,134nm,1.1s								
PPT2				eS		S	09 53 12.3	-2.9	
	comp=Z,5µm,26.5s								
PPT2				eLQ		LQ	09 56 32.1		
	comp=Z,10µm,27.5s								
PPT2				eLR		LR	09 57 35.3		
	comp=Z,4µm,26.0s								
PPT	Papeete	44.86	282	P		P	09 46 37.8	+0.1	
	comp=Z,116nm,0.8s,baz=158,slow=2.3,SNR=6.9								
PPT				LR		LR	10 00 14.8		
	comp=Z,2µm,18.0s,baz=116,slow=29								
PMOR	Pomariorio Ree	44.99	286	eP		P	09 46 38.9	+0.2	
	comp=Z,165nm,1.2s								
SAML	Samuel	45.19	63	eP		P	09 46 39.0	-1.2	
	comp=Z,100nm,2.4s								
ROSC	El Rosal	48.76	40	P		P	09 47 08.8	+0.2	
	comp=Z,26nm,0.8s,baz=152,slow=2.9,SNR=18								
ROSC				LR		LR	10 04 45.2		
	comp=Z,814nm,20.0s,baz=201,slow=32								
ROSC	El Rosal	48.76	40	eP		P	09 47 08.3	-0.3	
JTS	JuntasAbangare	49.09	24	P		P	09 47 10.4	-0.3	
	comp=Z,12nm,1.1s,baz=234,slow=7.8,SNR=5.0								
JTS	JuntasAbangare	49.09	24	eP		P	09 47 07.9	-2.8	
JTS	JuntasAbangare	49.09	24	P		P	09 47 10.4	-0.3	
	comp=Z,7.2nm,1.1s								
BCIP	Isla Barro Col	49.96	31	eP		P	09 47 16.1	-1.2	
	comp=Z,20nm,0.9s								
BDFB	Brasilia	52.88	82	P		P	09 47 39.0	-0.4	
	comp=Z,14nm,0.8s,baz=245,slow=9.2,SNR=16								
BDFB				LR		LR	10 08 40.5		
	comp=Z,581nm,18.3s,baz=234,slow=34								
BDFB	Brasilia	52.88	82	eP		P	09 47 38.8	-0.6	
BDFB	Brasilia	52.88	82	eP		P	09 47 38.8	-0.6	
PTGA	Pitinga	53.20	59	LR		LR	10 07 49.6		
	comp=Z,986nm,19.2s,baz=241,slow=33								
PTGA	Pitinga	53.20	59	eP		P	09 47 39.2	-2.3	
	comp=Z,12nm,0.8s								
CMIG	Matias Romero	53.33	10	P		P	09 47 41.0	-1.4	
	comp=Z,5.6nm,1.0s,baz=190,slow=11,SNR=2.4								
SDV	Santo Domingo	54.10	41	eP		P	09 47 45.4	-3.0	
	comp=Z,17nm,0.9s								
QSPA	South Pole Qui	54.26	180	P		P	09 47 50.1	+1.2	
	comp=Z,22nm,1.0s,baz=135,slow=1.8,SNR=54								
QSPA	South Pole Qui	54.26	180	eP		P	09 47 50.0	+1.1	
	comp=Z,22nm,0.7s								
SBA	Scott Base	55.18	195	eP		P	09 47 56.1	+0.9	
SBA				pmax		pmax			
	comp=Z,30nm,1.3s								
SBA	Scott Base	55.18	195	eP		P	09 47 56.1	+0.9	
	comp=Z,30nm,1.3s								
VNDA	Vanda	56.28	195	P		P	09 48 03.9	+0.7	
	comp=Z,7.8nm,1.2s,baz=95,slow=3.9,SNR=9.9								
VNDA				LR		LR	10 06 55.5		
	comp=Z,2µm,21.3s,baz=97,slow=30								
VNA3	Neumayer Olymp	57.51	157	P		P	09 48 12.1	+0.2	
VNA1	Neumayer--Stat	58.12	157	P		P	09 48 17.3	+1.1	
VNA2	Neumayer--Watz	58.31	157	P		P	09 48 18.1	+0.5	
	baz=283,slow=6.6								
PCRV	Puerto La Cruz	58.50	46	LR		LR	10 11 48.2		
	comp=Z,755nm,18.4s,slow=34								
SNAA	Sanae	59.43	159	P		P	09 48 25.6	+0.1	
SNAA	Sanae	59.43	159	LR		LR	10 11 58.4		
	comp=Z,220nm,18.0s,baz=240,slow=34								
SNAA	Sanae	59.43	159	eP		P	09 48 25.2	-0.2	
SNAA				pmax		pmax			
	comp=Z,25nm,1.0s								
SNAA	Sanae	59.43	159	eP		P	09 48 25.2	-0.2	
	comp=Z,24nm,1.0s								
SLBS	Sierra La Lagu	59.66	353	eP		P	09 48 26.7	-0.8	
	comp=Z,56nm,1.5s								
BFZ	Birch Farm	61.30	239	eP		P	09 48 38.4	-0.2	
	comp=Z,89nm,1.2s								
GTBY	Guantanamo Bay	61.59	30	eP		P	09 48 40.8	+0.2	
	comp=Z,72nm,1.3s								
URZ	Urewera	61.70	242	P		P	09 48 40.7	-0.6	
	comp=Z,11nm,1.0s,baz=142,slow=5.2,SNR=4.0								
BKZ	Black Stump Fm	61.75	240	eP		P	09 48 42.6	+0.9	
	comp=Z,31nm,1.2s								
035Z	Hargill	62.26	5	⇑P		P	09 48 45.2	+0.2	
	baz=63								
SDDR	Presa de Saban	62.41	34	eP		P	09 48 45.4	-0.8	
	comp=Z,163nm,2.2s								
035A	Encino	62.73	5	⇑P		P	09 48 47.9	-0.2	
	baz=63								
034A	Hebbronville	62.82	4	⇑P		P	09 48 48.3	-0.4	
	baz=63,SNR=9.4								
933A	Laredo	63.33	4	⇑P		P	09 48 52.1	-0.1	
	baz=64								
KVTX	Kingsville	63.35	5	eP		P	09 48 46.3	-5.9	
	comp=Z,53nm,0.6s								
934A	Benavides	63.36	5	⇓P		P	09 48 52.0	-0.3	
	baz=64,SNR=7.8								
RPZ	Rata Peaks	63.54	234	P		P	09 48 52.3	-1.3	
	comp=Z,17nm,0.9s,baz=114,slow=9.2,SNR=4.0								
LSP	Las Mesas	63.74	39	P		P	09 48 50.1	-5.0	
834A	Tilden	63.88	5	⇓P		P	09 48 55.7	0.0	
	baz=64								
CELP	Cerrillos	63.92	39	eP		P	09 48 59.5	+3.3	
832A	Faith Ranch, C	63.96	3	⇓P		P	09 48 55.9	-0.4	
	baz=64								
LRS	Lares	63.96	39	eP		P	09 48 54.3	-2.3	
NVL	N'lazarevskaya	64.03	160	eP		P	09 48 55.5	-0.8	
NVL				eS		S	09 57 34.0	+2.0	
NVL				pmax		pmax			
	comp=Z,10.0nm,0.8s								
833A	Chaparral WMA,	64.03	4	⇓P		P	09 48 56.7	0.0	
	baz=64								
835A	Beeville	64.09	5	⇓P		P	09 48 57.0	-0.2	
	baz=64								
732A	Laxson Ranch,	64.41	3	⇑P		P	09 48 58.8	-0.4	
	baz=65								
733A	Divot King Ran	64.43	4	⇓P		P	09 48 58.9	-0.4	
	baz=65								
735A	Kenedy	64.66	5	⇓P		P	09 49 00.8	0.0	
	baz=65								
736A	Circle Diamond	64.81	6	⇓P		P	09 49 01.7	-0.1	
	baz=65								
TXAR	Lajitas Array	64.94	359	P		P	09 49 02.5	-0.2	
	comp=Z,8.1nm,0.8s,baz=184,slow=8.0,SNR=47								
TXAR				LR		LR	10 11 32.0		
	comp=Z,754nm,21.1s,baz=0.0,slow=31								
631A	Perdido Creek	65.06	2	⇓P		P	09 49 02.5	-1.0	
	baz=65,SNR=15								
633A	Saathoff Ranch	65.17	4	⇑P		P	09 49 03.7	-0.5	
	baz=66,SNR=7.2								
632A	Uvalde	65.19	3	⇓P		P	09 49 03.4	-0.9	
	baz=66,SNR=22								
636A	Smothers Creek	65.34	6	⇑P		P	09 49 04.5	-0.8	
	baz=66								
529A	Stev Forest Ra	65.73	1	⇓P		P	09 49 07.8	0.0	
	baz=66,SNR=8.7								
530A	J-C Ranch, Com	65.77	2	⇑P		P	09 49 07.7	-0.4	
	baz=66,SNR=48								
534A	Blanco	65.78	4	⇑P		P	09 49 07.7	-0.4	
	baz=66								
533A	Kerrville	65.79	4	⇑P		P	09 49 07.4	-0.8	
	baz=66								
532A	Rocksprings	65.80	3	⇓P		P	09 49 07.8	-0.5	
	baz=66,SNR=17								
531A	Rocksprings	65.81	2	⇓P		P	09 49 08.0	-0.4	
	baz=66,SNR=24								
535A	Dale	65.84	5	⇑P		P	09 49 07.7	-0.7	
	baz=66								
HKT	Hockley	65.91	7	eP		P	09 49 09.5	+0.7	
HKT				pmax		pmax			
	comp=Z,77nm,1.9s								
HKT	Hockley	65.91	7	eP		P	09 49 09.5	+0.7	
	comp=Z,77nm,1.9s								
536A	Bastrop	65.93	6	⇑P		P	09 49 08.3	-0.7	
	baz=66								
537A	Green Hill Far	66.00	6	⇑P		P	09 49 09.0	-0.5	
	baz=66								
JCT	Junction City	66.16	3	eP		P	09 49 10.3	-0.3	
JCT				pmax		pmax			
	comp=Z,29nm,0.9s								
JCT	Junction City	66.16	3	eP		P	09 49 10.3	-0.3	
	comp=Z,29nm,0.9s								
JCT	Junction City	66.16	3	⇑P		P	09 49 09.8	-0.8	
	baz=66								
429A	Davenport Ranc	66.24	1	⇓P		P	09 49 10.3	-0.8	
	baz=67,SNR=12								
431A	Sonora	66.33	2	⇑P		P	09 49 10.9	-0.8	
	baz=67,SNR=14								
430A	Baggett Ranch,	66.41	2	⇓P		P	09 49 11.5	-0.8	
	baz=67,SNR=11								
433A	Art	66.46	4	⇓P		P	09 49 11.3	-1.2	
	baz=67,SNR=21								
432A	Menard	66.55	3	⇓P		P	09 49 11.9	-1.1	
	baz=67,SNR=11								
434A	Burnet	66.57	5	⇑P		P	09 49 11.9	-1.3	
	baz=67,SNR=12								
435B	Jarrell	66.59	5	⇑P		P	09 49 13.2	-0.1	
	baz=67								
438A	Sam Houston St	66.74	7	⇑P		P	09 49 13.7	-0.5	
	baz=67								
331A	San Angelo	66.96	3	⇓P		P	09 49 14.4	-1.2	
	baz=67,SNR=14								
330A	Mertzon	67.03	2	⇑P		P	09 49 15.0	-1.1	
	baz=67,SNR=13								
DRV	Dumont d'Urvil	67.03	203	P		P	09 48 59.0	-17	
DRV				S		S	09 57 51.0	-18	
DRV				SS		SS	10 02 07.0	-20	
DRV				L		L	10 05 00.0		
DRV				R			10 08 00.0		
333A	Richland Sprin	67.04	4	⇓P		P	09 49 15.4	-0.7	
	baz=67,SNR=12								
332A	Millersview	67.06	3	⇑P		P	09 49 15.4	-0.8	
	baz=67,SNR=46								
334A	Lometa	67.09	5	⇑P		P	09 49 15.2	-1.2	
	baz=67,SNR=14								
329A	Wagon Wheel Ra	67.09	1	⇑P		P	09 49 16.1	-0.5	
	baz=67,SNR=14								
335A	Moody	67.10	5	⇓P		P	09 49 15.3	-1.2	
	baz=67								
319A	Douglas	67.22	354	⇓P		P	09 49 16.7	-0.7	
	baz=68,SNR=16								
336A	Riesel	67.25	6	⇓P		P	09 49 16.7	-0.7	
	baz=68								
337A	Centerville	67.26	7	⇓P		P	09 49 17.0	-0.5	
	baz=68								
MNTX	Cornudas Mount	67.33	358	eP		P	09 49 16.6	-1.4	
	comp=Z,11nm,1.0s								
MNTX	Cornudas Mount	67.33	358	⇑P		P	09 49 17.5	-0.5	
	baz=68								
339A	Huntington	67.42	8	⇓P		P	09 49 17.5	-1.0	
	baz=68								
230A	Sterling City	67.51	2	⇑P		P	09 49 18.3	-0.9	
	baz=68								
232A	Coleman	67.56	3	⇓P		P	09 49 18.7	-0.9	
	baz=68								
229A	Bryant Ranch,	67.58	1	⇑P		P	09 49 19.1	-0.5	
	baz=68								
340A	Bronson	67.58	9	⇑P		P	09 49 18.6	-0.9	
	baz=68								
231A	Bronte	67.58	3	⇓P		P	09 49 18.8	-0.8	
	baz=68								
228A	UT Block 9, Go	67.72	1	⇓P		P	09 49 19.8	-0.7	
	baz=68								
233A	Rising Star	67.73	4	⇓P		P	09 49 19.9	-0.6	
	baz=68,SNR=15								
234A	Clairette	67.76	5	⇓P		P	09 49 19.5	-1.2	
	baz=68,SNR=17								
WHTX	Lake Whitney,	67.80	5	eP		P	09 49 20.7	-0.2	
	comp=Z,39nm,0.9s								
WHTX	Lake Whitney,	67.80	5	⇓P		P	09 49 20.1	-0.8	
	baz=68								
GDL2	Guadalupe Moun	67.81	359	eP		P	09 49 21.3	+0.2	
237A	Washetta, Mont	67.95	7	⇑P		P	09 49 21.8	-0.1	
	baz=68								
238A	Jacksonville	68.02	7	⇑P		P	09 49 22.2	-0.1	
	baz=68								
239A	Gary	68.10	8	⇓P		P	09 49 22.3	-0.5	
	baz=68								
214A	Organ Pipe Nat	68.16	351	eP		P	09 49 22.8	-0.4	
	comp=Z,22nm,1.2s								
214A	Organ Pipe Nat	68.16	351	⇓P		P	09 49 22.3	-1.0	
	baz=68,SNR=11								
128A	Castleberry Fa	68.22	1	⇓P		P	09 49 22.7	-1.0	
	baz=69,SNR=14								
130A	Snyder	68.22	2	⇑P		P	09 49 23.1	-0.6	
	baz=69								
129A	Stewart Farms,	68.24	1	⇓P		P	09 49 23.3	-0.5	
	baz=69								
121A	Cookes Peak, D	68.27	356	eP		P	09 49 23.7	-0.3	
	comp=Z,63nm,1.5s								
121A	Cookes Peak, D	68.27	356	⇑P		P	09 49 23.4	-0.7	
	baz=69								
TUC	Tucson	68.28	353	eP		P	09 49 23.5	-0.6	
TUC				pmax		pmax			
	comp=Z,15nm,0.9s								
TUC	Tucson	68.28	353	eP		P	09 49 23.5	-0.6	
	comp=Z,16nm,0.9s								
ABTX	Abilene, Hawle	68.30	3	eP		P	09 49 23.5	-0.6	
	comp=Z,32nm,1.2s								
ABTX	Abilene, Hawle	68.30	3	⇓P		P	09 49 23.4	-0.7	
	baz=69								
131A	Roby	68.32	2	⇑P		P	09 49 23.5	-0.7	
	baz=69								
133A	Hamilton Ranch	68.32	4	⇓P		P	09 49 23.3	-0.9	
	baz=69,SNR=6.9								
134A	White-Moore Ra	68.33	5	⇑P		P	09 49 23.7	-0.6	
	baz=69,SNR=7.6								
135A	Vickery Place,	68.36	5	⇑P		P	09 49 24.3	-0.2	
	baz=69								
137A	Heron Place, G	68.54	7	⇑P		P	09 49 24.9	-0.7	
	baz=69								
138A	Matatall Enter	68.67	7	⇑P		P	09 49 25.5	-0.8	
	baz=69								
VBMS	Vicksburg	68.84	11	eP		P	09 49 29.2	+1.8	
	comp=Z,55nm,1.3s								
Z29A	Hungry Hill Ra	68.87	1	⇑P		P	09 49 27.1	-0.6	
	baz=69,SNR=18								
Z28A	Tucker Farm, M	68.89	1	⇓P		P	09 49 27.0	-0.9	
	baz=69								
Z30A	Sanderson Ranc	68.91	2	⇓P		P	09 49 27.0	-0.9	
	baz=69,SNR=5.1								
Z31A	Sharp Cattle R	68.97	3	⇑P		P	09 49 27.2	-1.1	
	baz=69,SNR=16								
Z32A	Haskell	68.98	3	⇑P		P	09 49 27.3	-1.0	
	baz=69,SNR=6.5								
Z33A	Whitaker Ranch	69.00	4	⇓P		P	09 49 27.8	-0.7	
	baz=69								
113A	Mohawk Valley,	69.08	350	⇑P		P	09 49 28.1	-0.9	
	baz=69,SNR=12								
BAR	Barrett	69.44	348	eP		P	09 49 31.3	+0.1	
	comp=Z,8.0nm,1.4s								
Y29A	Porterfield Fa	69.47	1	⇑P		P	09 49 30.9	-0.5	
	baz=70								
Y30A	Stafford Cattl	69.50	2	⇑P		P	09 49 31.4	-0.2	
	baz=70								
TIGA	Tifton	69.50	18	⇑P		P	09 49 30.6	-1.0	
	baz=70								
Y28A	McKinney Farm,	69.50	1	⇓P		P	09 49 30.6	-1.1	
	baz=70,SNR=8.8								
MSTX	Muleshoe	69.56	0	eP		P	09 49 31.5	-0.6	
	comp=Z,16nm,0.9s								
MSTX	Muleshoe	69.56	0	⇓P		P	09 49 31.2	-0.9	
	baz=70,SNR=6.7								
Z14A	Wintersburg	69.56	351	⇑P		P	09 49 32.0	+0.1	
	baz=70								
Y31A	Rekieta Farm,	69.61	3	⇑P		P	09 49 32.3	+0.1	
	baz=70,SNR=22								
Y32A	R-V Farms, Ver	69.68	3	⇓P		P	09 49 32.0	-0.7	
	baz=70								
109C	Camp Elliot, M	69.72	348	⇓P		P	09 49 32.4	-0.5	
	baz=70								
Y33A	Hilltop Ranch,	69.73	4	⇓P		P	09 49 32.0	-0.9	
	baz=70								
Y34A	Reagan Ranch,	69.73	5	⇓P		P	09 49 32.2	-0.8	
	baz=70								
LENM	Lemitar	69.85	357	eP		P	09 49 33.8	-0.1	
X29A	Tulia	70.05	1	⇑P		P	09 49 34.5	-0.5	
	baz=70,SNR=16								
X30A	Coker Ranch, T	70.07	2	⇓P		P	09 49 34.6	-0.4	
	baz=70,SNR=8.9								
LAZ	Ladron	70.09	356	eP		P	09 49 35.0	-0.4	
	comp=Z,12nm,1.4s								
X32A	Elmer	70.10	3	⇑P		P	09 49 34.5	-0.8	
	baz=70								
X28A	Dimmitt	70.11	1	⇓P		P	09 49 34.7	-0.7	
	baz=70								
Y14A	Wickenburg	70.14	351	⇓P		P	09 49 35.3	-0.2	
	baz=70,SNR=19								
Y12C	Blythe	70.15	350	⇓P		P	09 49 35.4	-0.1	
	baz=70								
BC3	Big Chuckawall	70.20	349	⇑P		P	09 49 35.7	-0.3	
	baz=71								
X35A	Drake	70.23	5	⇓P		P	09 49 35.1	-0.9	
	baz=71								
X33A	Lawton	70.27	4	⇑P		P	09 49 35.7	-0.5	
	baz=71								
LRAL	Lakeview Retre	70.27	14	eP		P	09 49 35.1	-1.2	
	comp=Z,31nm,1.1s								
X31A	McDonald Ranch	70.28	3	⇓P		P	09 49 36.2	-0.1	
	baz=71								
PFO	Pinyon Flats O	70.31	348	eP		P	09 49 36.7	0.0	
PFO				pmax		pmax			
	comp=Z,17nm,1.2s								
PFO	Pinyon Flats O	70.31	348	eP		P	09 49 36.6	0.0	
	comp=Z,18nm,1.2s								
PFO	Pinyon Flats O	70.31	348	⇑P		P	09 49 36.9	+0.2	
	baz=71								
X34A	Smith Ranch, M	70.36	5	⇑P		P	09 49 36.9	+0.1	
	baz=71								
X18A	Snowflake	70.41	354	⇓P		P	09 49 37.5	+0.2	
	baz=71,SNR=21								
MURC	Murrieta	70.43	348	⇓P		P	09 49 37.2	-0.1	
	baz=71								
X16A	Lo Mia Camp, P	70.44	353	⇑P		P	09 49 37.2	-0.3	
	baz=71,SNR=20								
WMOK	Wichita Mounta	70.44	4	eP		P	09 49 35.8	-1.5	
WMOK				pmax		pmax			
	comp=Z,8.0nm,1.0s								
WMOK	Wichita Mounta	70.44	4	eP		P	09 49 35.8	-1.5	
	comp=Z,8.5nm,1.0s								
X36A	Centrahoma	70.45	6	⇑P		P	09 49 36.8	-0.5	
	baz=71,SNR=7.3								
AMTX	Amarillo	70.49	1	eP		P	09 49 37.5	-0.1	
	comp=Z,40nm,0.9s								
AMTX	Amarillo	70.49	1	⇓P		P	09 49 37.7	0.0	
	baz=71								
X37A	Clayton	70.55	7	⇓P		P	09 49 37.4	-0.5	
	baz=71								
ANMO	Albuquerque	70.60	357	eP		P	09 49 38.5	0.0	
ANMO				pmax		pmax			
	comp=Z,64nm,2.0s								
ANMO	Albuquerque	70.60	357	eP		P	09 49 38.5	0.0	
	comp=Z,64nm,2.0s								
BELC	Belle Mtn. Jos	70.62	349	⇓P		P	09 49 38.6	+0.1	
	baz=71								
PDMCI	Parker Dam,Lak	70.64	350	⇑P		P	09 49 39.0	+0.5	
	baz=71								
IRM	Iron Mountain	70.65	349	⇓P		P	09 49 38.8	+0.2	
	baz=71								
MIAR	Mount Ida	70.70	8	eP		P	09 49 39.9	+1.0	
MIAR				pmax		pmax			
	comp=Z,11nm,0.9s								
MIAR	Mount Ida	70.70	8	eP		P	09 49 39.9	+1.0	
	comp=Z,11nm,0.9s								
W29A	Amarillo	70.72	1	⇓P		P	09 49 38.9	-0.2	
	baz=71								
W32A	Sentinel	70.81	3	⇓P		P	09 49 39.1	-0.4	
	baz=71								
W31A	Holland Ranch,	70.84	3	⇓P		P	09 49 40.0	+0.2	
	baz=71								
W33A	Caddo, Fort Co	70.87	4	⇑P		P	09 49 39.9	0.0	
	baz=71,SNR=14								
W18A	Petrified Fore	70.97	354	eP		P	09 49 40.7	0.0	
	comp=Z,76nm,2.0s								
W18A	Petrified Fore	70.97	354	⇓P		P	09 49 40.1	-0.6	
	baz=71								
W35A	Tecumseh	70.98	5	⇑P		P	09 49 40.0	-0.5	
	baz=71								
W34A	Bridge Creek,	71.00	5	eP		P	09 49 40.5	-0.2	
	comp=Z,26nm,0.8s								
W34A	Bridge Creek,	71.00	5	⇑P		P	09 49 40.2	-0.5	
	baz=71								
W36A	Wetumka	71.02	6	⇓P		P	09 49 40.1	-0.6	
	baz=71								
UALR	University of	71.08	9	eP		P	09 49 41.7	+0.5	
	comp=Z,17nm,0.9s								
W37A	Quinton	71.09	7	⇓P		P	09 49 41.1	-0.2	
	baz=71								
W38A	Poteau	71.11	7	⇓P		P	09 49 41.3	0.0	
	baz=72								
BFSC	Mount Baldy Ra	71.13	347	⇓P		P	09 49 41.3	-0.4	
	baz=72								
PASC	Pasadena Art C	71.16	347	eP		P	09 49 41.9	+0.2	
	comp=Z,57nm,1.5s								
OXF	Oxford	71.27	12	eP		P	09 49 42.4	+0.1	
OXF				pmax		pmax			
	comp=Z,34nm,1.0s								
OXF	Oxford	71.27	12	eP		P	09 49 42.4	+0.1	
	comp=Z,34nm,1.0s								
BLG	Laguna Peak, P	71.27	346	⇓P		P	09 49 42.0	-0.4	
	baz=72								
GMRC	Granite Mounta	71.33	349	⇓P		P	09 49 42.7	-0.1	
	baz=72,SNR=11								
V28A	Channing	71.34	1	⇓P		P	09 49 43.0	+0.2	
	baz=72								
V27A	Dan Oppiter Fa	71.34	0	⇑P		P	09 49 42.8	-0.1	
	baz=72								
W13A	Hualapai Mount	71.39	351	⇑P		P	09 49 42.9	-0.4	
	baz=72								
V32A	Arapaho	71.41	4	⇓P		P	09 49 42.9	-0.3	
	baz=72								
GOGA	Godfrey	71.42	17	eP		P	09 49 42.4	-0.8	
GOGA				pmax		pmax			
	comp=Z,59nm,1.6s								
GOGA	Godfrey	71.42	17	eP		P	09 49 42.4	-0.8	
	comp=Z,59nm,1.6s								
V31A	Spring Creek L	71.43	3	⇓P		P	09 49 43.3	0.0	
	baz=72								
V29A	Stinnett	71.48	1	⇑P		P	09 49 43.8	+0.2	
	baz=72								
HEC	Hector,Ludlow	71.49	349	⇑P		P	09 49 43.8	0.0	
	baz=72								
WUAZ	Wupatki	71.52	353	eP		P	09 49 44.3	+0.3	
	comp=Z,24nm,1.2s								
WUAZ	Wupatki	71.52	353	⇑P		P	09 49 44.0	0.0	
	baz=72								
LDFC	Landfair	71.54	350	eP		P	09 49 45.1	+1.0	
	comp=Z,81nm,1.1s		

ISA **Isabella, Lake** 72.67 347 ⇑P P 09 49 50.8 +0.1
baz=73
T28A **Walsh** 72.71 1 ⇑P P 09 49 51.1 +0.1
baz=73
T25A **Trinidad** 72.73 359 eP P 09 49 51.4 +0.1
comp=Z,31nm,1.1s
T25A **Trinidad** 72.73 359 ⇑P P 09 49 50.9 -0.4
baz=73,SNR=10.0
T31A **Randall Ranch,** 72.75 3 ⇓P P 09 49 51.1 -0.1
baz=73
T26A **Comanche Natio** 72.76 360 ⇑P P 09 49 51.2 -0.3
baz=73,SNR=21
T29A **Hugoton** 72.76 2 ⇓P P 09 49 51.0 -0.3
baz=73
JSC **Jenkinsville** 72.80 19 eP P 09 49 51.2 -0.3
JSC pmax pmax
comp=Z,25nm,1.0s
JSC **Jenkinsville** 72.80 19 eP P 09 49 51.2 -0.3
comp=Z,25nm,1.0s
T33A **Patterson Ranc** 72.81 4 ⇓P P 09 49 51.4 -0.1
baz=73
MPMC **Manual Prospec** 72.88 348 ⇑P P 09 49 51.7 -0.5
baz=73,SNR=22
SHPR **Sheep Range** 72.95 350 eP P 09 49 52.8 +0.2
VES **Vestal, Richgr** 72.95 347 ⇓P P 09 49 52.4 +0.1
baz=73
MVCO **Mesa Verde** 72.96 356 eP P 09 49 52.7 0.0
comp=Z,37nm,0.9s
MVCO **Mesa Verde** 72.96 356 ⇓P P 09 49 52.7 0.0
baz=73
PTRM **Twissleman Ran** 72.99 346 eP P 09 49 53.2 +0.6
DAC **Darwin (Calif)** 73.11 348 eP P 09 49 53.7 +0.2
DAC pmax pmax
comp=Z,95nm,2.3s
DAC **Darwin (Calif)** 73.11 348 eP P 09 49 53.7 +0.2
comp=Z,95nm,2.3s
WVT **Waverly** 73.12 13 eP P 09 49 51.5 -1.8
WVT pmax pmax
comp=Z,17nm,1.1s
WVT **Waverly** 73.12 13 eP P 09 49 51.5 -1.8
comp=Z,17nm,1.1s
CPCT **Cooper Lake** 73.13 16 eP P 09 49 54.4 +1.0
FURC **Furnace Creek,** 73.18 348 ⇑P P 09 49 53.7 +0.1
baz=74
S28A **Manter** 73.18 1 ⇓P P 09 49 53.5 -0.3
baz=74,SNR=17
S26A **Kim** 73.21 360 ⇓P P 09 49 54.1 0.0
baz=74,SNR=19
S29A **Ulysses** 73.23 2 ⇑P P 09 49 54.5 +0.5
baz=74
S30A **Montezuma** 73.27 2 ⇓P P 09 49 54.4 +0.1
baz=74
S27A **Las Animas** 73.27 0 ⇓P P 09 49 54.5 +0.2
baz=74
S31A **Mullinville** 73.28 3 ⇓P P 09 49 54.6 +0.2
baz=74
PBMO **Poplar Bluff** 73.32 11 eP P 09 49 54.7 +0.2
comp=Z,24nm,0.9s
S23A **Nye Farm, Mont** 73.34 358 ⇓P P 09 49 55.3 +0.4
baz=74
SDCO **Great Sand Dun** 73.36 358 eP P 09 49 55.0 0.0
comp=Z,15nm,0.9s
SDCO **Great Sand Dun** 73.36 358 ⇓P P 09 49 55.1 0.0
baz=74
S32A **Newby Ranch, P** 73.39 3 ⇑P P 09 49 55.4 +0.5
baz=74
S22A **4UR Ranch, Cre** 73.41 357 eP P 09 49 55.6 +0.2
comp=Z,18nm,1.0s
S22A **4UR Ranch, Cre** 73.41 357 ⇓P P 09 49 55.5 +0.2
baz=74,SNR=26
RCTC **Rector, Farmer** 73.44 346 ⇑P P 09 49 55.6 +0.4
baz=74
TKL **Tuckaleechee C** 73.49 16 eP P 09 49 56.2 +0.6
TKL **Tuckaleechee C** 73.49 16 eP P 09 49 56.1 +0.6
S34A **Willow Spring** 73.50 5 ⇑P P 09 49 55.7 +0.1
baz=74
S35A **Otter Creek Ra** 73.54 6 ⇑P P 09 49 55.4 -0.4
baz=74,SNR=9.0
TPNV **Topopah Spring** 73.55 349 eP P 09 49 56.6 +0.5
TPNV pmax pmax
comp=Z,21nm,1.0s
TPNV **Topopah Spring** 73.55 349 eP P 09 49 56.6 +0.5
comp=Z,21nm,1.0s
TPNV **Topopah Spring** 73.55 349 ⇓P P 09 49 56.1 +0.1
baz=74
KMSC **Kings Mountain** 73.59 19 eP P 09 49 57.1 +0.9
comp=Z,21nm,0.8s
KMSC **Kings Mountain** 73.59 19 ⇓P P 09 49 56.1 0.0
baz=74
S36A **Lake Cedric, C** 73.64 6 ⇓P P 09 49 56.0 -0.4
baz=74
GRAC **Grapevine Rang** 73.78 348 ⇓P P 09 49 57.3 +0.1
baz=74
R23A **Moffat** 73.81 358 ⇓P P 09 49 57.5 -0.2
baz=74,SNR=13
R27A **Eads** 73.87 0 ⇓P P 09 49 57.8 0.0
baz=74,SNR=18
R26A **Arlington** 73.88 360 ⇑P P 09 49 57.8 -0.2
baz=74,SNR=19
PV01 **Paradox Valley** 73.89 356 eP P 09 49 57.9 -0.2
comp=Z,2µm,1.0s
R30A **Dighton** 73.91 2 ⇑P P 09 49 58.2 +0.1
baz=74,SNR=7.2
R28A **Tribune** 73.94 1 ⇑P P 09 49 58.2 0.0
baz=74,SNR=16
R31A **Burdett** 73.95 3 ⇑P P 09 49 58.5 +0.3
baz=74
R29A **Marienthal** 74.03 2 ⇑P P 09 49 59.2 +0.5
baz=74
R33A **Olander Ranch,** 74.04 4 ⇑P P 09 49 59.3 +0.5
baz=74
R32A **Long Quarter,** 74.12 4 ⇓P P 09 49 60.0 +0.8
baz=74
R36A **Gordon, Harris** 74.24 6 ⇓P P 09 50 00.5 +0.6
baz=75
R37A **Teagarden Farm** 74.30 7 ⇓P P 09 50 00.7 +0.5
baz=75
MTUM **Tungsten Hills** 74.33 347 eP P 09 49 59.8 -0.8
Q29A **Oakley** 74.50 2 ⇑P P 09 50 02.0 +0.5
baz=75
Q26A **Hugo** 74.51 360 ⇓P P 09 50 01.9 +0.3
baz=75
Q23A **Hartsel** 74.53 358 ⇓P P 09 50 02.4 +0.5
baz=75,SNR=12
MVU **Marysvale** 74.56 353 eP P 09 49 59.8 -2.3
comp=Z,43nm,1.7s
MSU **Marysvale** 74.56 353 eP P 09 50 02.1 0.0
MSU pmax pmax
comp=Z,31nm,1.5s
MSU **Marysvale** 74.56 353 eP P 09 50 02.0 0.0
comp=Z,31nm,1.5s
Q24A **Divide** 74.57 358 eP P 09 50 02.4 +0.2
comp=Z,16nm,0.9s
Q24A **Divide** 74.57 358 ⇓P P 09 50 02.5 +0.3
baz=75
KSCO **Kaye Shedlock'** 74.59 0 eP P 09 50 02.4 +0.3
comp=Z,31nm,1.0s
KSCO **Kaye Shedlock'** 74.59 0 ⇓P P 09 50 02.8 +0.7
baz=75
Q30A **Quinter** 74.61 2 ⇓P P 09 50 02.2 +0.1
baz=75,SNR=11
MLAC **Mammoth, Mammo** 74.64 347 ⇑P P 09 50 03.2 +0.6
baz=75
Q28A **Sharon Springs** 74.65 1 ⇑P P 09 50 02.4 0.0
baz=75
Q31A **Ellis** 74.67 3 ⇑P P 09 50 02.5 +0.1
baz=75
Q32A **Meitler Ranch,** 74.69 4 ⇓P P 09 50 02.8 +0.3
baz=75
Q33A **Connelly Farm,** 74.74 4 ⇑P P 09 50 03.2 +0.4
baz=75
TPH **Tonopah** 74.80 349 eP P 09 50 03.8 +0.4
TPH pmax pmax
comp=Z,33nm,1.0s
TPH **Tonopah** 74.80 349 eP P 09 50 03.8 +0.4
comp=Z,33nm,1.0s
R11A **Troy Canyon, C** 74.82 350 eP P 09 50 03.8 +0.3
comp=Z,20nm,1.3s
R11A **Troy Canyon, C** 74.82 350 ⇑P P 09 50 03.9 +0.4
baz=75,SNR=24
SMCO **Snowmass** 74.84 357 eP P 09 50 04.1 +0.2
comp=Z,32nm,1.2s
CASY **Casey** 74.85 193 eP P 09 50 04.2 +1.1
comp=Z,160nm,2.5s
KSU1 **Kansas State U** 74.92 5 ⇓P P 09 50 04.5 +0.7
baz=75
USIN **University of** 74.93 13 eP P 09 50 04.6 +0.7
comp=Z,86nm,1.3s
P23A **Jefferson** 75.00 358 ⇑P P 09 50 05.5 +0.8
baz=75,SNR=10
SRU **San Rafael Swe** 75.00 354 eP P 09 50 04.2 -0.4
SRU pmax pmax
comp=Z,20nm,0.9s
SRU **San Rafael Swe** 75.00 354 eP P 09 50 04.2 -0.4
comp=Z,20nm,0.9s
P25A **Willow Gulch B** 75.10 359 ⇓P P 09 50 05.6 +0.5
baz=76,SNR=7.9
P24A **Kohler Place,** 75.11 359 ⇑P P 09 50 04.9 -0.2
baz=76
P27A **Ficken Ranch,** 75.14 0 ⇑P P 09 50 05.8 +0.6
baz=76
P26A **Davis Ranch, A** 75.14 360 ⇑P P 09 50 05.7 +0.4
baz=76,SNR=7.6
P28A **Saint Francis** 75.17 1 ⇓P P 09 50 05.6 +0.2
baz=76
P30A **Selden** 75.17 2 ⇑P P 09 50 06.0 +0.6
baz=76
P31A **Stockton** 75.18 3 ⇑P P 09 50 05.6 +0.3
baz=76
P33A **Williams Farm,** 75.19 4 ⇓P P 09 50 05.6 +0.3
baz=76
P29A **Atwood** 75.21 2 ⇓P P 09 50 06.1 +0.5
baz=76
TMUT **Trail Mountain** 75.25 354 eP P 09 50 06.4 +0.3
comp=Z,40nm,1.0s
P22A **Eagle** 75.25 357 ⇑P P 09 50 06.6 +0.6
baz=76,SNR=39
P32A **Huiting Farm,** 75.32 4 ⇓P P 09 50 06.7 +0.5
baz=76
NVAR **Mina Array Bea** 75.33 348 P P 09 50 06.5 +0.1
comp=Z,18nm,0.8s,baz=179,slow=7.8,SNR=44
CMB **Columbia Colle** 75.33 346 eP P 09 50 06.5 +0.2
CMB pmax pmax
comp=Z,19nm,1.0s
CMB **Columbia Colle** 75.33 346 eP P 09 50 06.5 +0.2
comp=Z,19nm,1.0s
ISCO **Idaho Springs** 75.41 358 eP P 09 50 09.1 +2.0
ISCO pmax pmax
comp=Z,23nm,1.5s
ISCO **Idaho Springs** 75.41 358 eP P 09 50 09.1 +2.0
comp=Z,23nm,1.5s
ISCO **Idaho Springs** 75.41 358 ⇓P P 09 50 07.4 +0.4
baz=76
WCI **Wyandotte Cave** 75.44 14 eP P 09 50 05.5 -1.4
WCI pmax pmax
comp=Z,21nm,0.9s
WCI **Wyandotte Cave** 75.44 14 eP P 09 50 05.5 -1.4
comp=Z,21nm,0.9s
WAKR **Walker** 75.60 347 eP P 09 50 08.6 +0.5
OLIL **Olney** 75.61 12 eP P 09 50 06.9 -0.8
comp=Z,87nm,0.9s
O25A **Wiggins** 75.70 359 ⇓P P 09 50 08.8 +0.3
baz=76,SNR=18
O28A **Krutsinger Ran** 75.72 1 ⇑P P 09 50 08.7 +0.2
baz=76
O24A **Longmont** 75.72 358 ⇑P P 09 50 09.1 +0.4
baz=76
O29A **4D Ranch, Culb** 75.74 2 ⇑P P 09 50 08.5 -0.1
baz=76
O27A **Beecher Island** 75.77 1 ⇑P P 09 50 09.1 +0.2
baz=76
BLA **Blacksburg** 75.79 19 eP P 09 50 09.1 +0.2
BLA pmax pmax
comp=Z,15nm,0.8s
BLA **Blacksburg** 75.79 19 eP P 09 50 09.1 +0.2
comp=Z,15nm,0.8s
O22A **Kremmling** 75.81 357 ⇓P P 09 50 09.4 +0.1
baz=76,SNR=6.8
O30A **MW Ranch, Wils** 75.81 2 ⇓P P 09 50 09.0 0.0
baz=76,SNR=8.1
O31A **Woolen Ranch,** 75.81 3 ⇓P P 09 50 09.5 +0.5
baz=76
O26A **Horse Wrangler** 75.82 360 ⇓P P 09 50 09.5 +0.3
baz=76,SNR=7.3
O23A **Lake Granby, G** 75.83 358 ⇑P P 09 50 09.7 +0.3
baz=76
O20A **White River Ci** 75.86 356 eP P 09 50 09.4 -0.1
comp=Z,17nm,1.0s
O20A **White River Ci** 75.86 356 ⇓P P 09 50 09.7 +0.3
baz=76
O32A **Brockman Farm,** 75.97 4 ⇑P P 09 50 10.5 +0.7
baz=76
NLU **North Lily Min** 75.98 353 eP P 09 50 10.4 +0.2
comp=Z,16nm,1.0s
MPU **Maple Canyon** 76.00 353 eP P 09 50 10.8 +0.6
comp=Z,10nm,0.9s
MAW **Mawson** 76.22 175 P P 09 50 11.3 +0.3
comp=Z,5.3nm,0.8s,baz=213,slow=6.6,SNR=9.9
MAW LR LR 10 21 38.2
comp=Z,577nm,19.8s,baz=188,slow=34
DUG **Dugway, Tooele** 76.30 352 eP P 09 50 11.9 +0.1
DUG pmax pmax
comp=Z,33nm,1.4s
DUG **Dugway, Tooele** 76.30 352 eP P 09 50 11.9 +0.1
comp=Z,33nm,1.4s
DUG **Dugway, Tooele** 76.30 352 ⇓P P 09 50 12.0 +0.1
baz=77
BLO **Bloomington** 76.31 13 eP P 09 50 13.0 +1.2
BLO pmax pmax
comp=Z,22nm,0.9s
BLO **Bloomington** 76.31 13 eP P 09 50 13.0 +1.2
comp=Z,22nm,0.9s
N22A **Wattenberg Ran** 76.44 357 ⇑P P 09 50 13.0 +0.2
baz=77,SNR=17
N23A **Red Feather La** 76.52 358 eP P 09 50 14.9 +1.7
comp=Z,72nm,1.8s
N23A **Red Feather La** 76.52 358 ⇑P P 09 50 13.7 +0.4
baz=77
OGNE **Ogallala** 76.53 1 eP P 09 50 14.3 +1.2
comp=Z,86nm,1.2s
OGNE **Ogallala** 76.53 1 ⇑P P 09 50 13.6 +0.5
baz=77
N20A **Spence Gulch,** 76.56 356 ⇑P P 09 50 13.4 0.0
baz=77,SNR=18
JLU **Jordanelle** 76.56 354 eP P 09 50 13.5 0.0
comp=Z,15nm,0.9s
OHCM **Honcut** 76.81 345 eP P 09 50 14.7 +0.1
PHWY **Pilot Hill** 76.91 358 eP P 09 50 17.4 +1.9
comp=Z,22nm,1.4s
BGU **Big Grassy Mou** 77.04 352 eP P 09 50 15.6 -0.5
M22A **Cedar Creek Ra** 77.05 357 ⇑P P 09 50 16.4 +0.2
baz=77
M29A **Burnside Ranch** 77.06 2 ⇓P P 09 50 16.4 +0.4
baz=77
M24A **Cheyenne** 77.06 359 ⇓P P 09 50 16.2 0.0
baz=77,SNR=7.8
TCUT **Toone Canyon** 77.07 354 eP P 09 50 16.1 -0.3
comp=Z,13nm,0.8s
M23A **Laramie** 77.08 358 ⇓P P 09 50 16.6 +0.2
baz=78
BMN **Battle Mountai** 77.11 349 eP P 09 50 12.7 -3.8
BMN pmax pmax
comp=Z,22nm,1.0s
BMN **Battle Mountai** 77.11 349 eP P 09 50 12.7 -3.8
comp=Z,22nm,1.0s
M27A **Reverse DX Ran** 77.11 1 ⇑P P 09 50 16.5 +0.1
baz=78
ELK **Elko** 77.13 351 eP P 09 50 16.5 -0.2
ELK pmax pmax
comp=Z,15nm,1.3s
ELK **Elko** 77.13 351 eP P 09 50 16.5 -0.2
comp=Z,15nm,1.3s
HDIL **Hopedale** 77.19 11 eP P 09 50 16.5 -0.2
SFIN **Lafayette** 77.38 12 eP P 09 50 18.4 +0.7
comp=Z,18nm,0.9s
SFIN **Lafayette** 77.38 12 ⇓P P 09 50 18.0 +0.2
baz=78
L30A **Spencer Herefo** 77.59 3 ⇓P P 09 50 19.2 +0.2
baz=78
L26A **Underwood Farm** 77.61 0 ⇓P P 09 50 19.3 +0.1
baz=78
L24A **Wheatland** 77.64 359 ⇓P P 09 50 19.6 +0.2
baz=78
L22A **Ellis Ranch, M** 77.67 357 ⇑P P 09 50 19.9 +0.3
baz=78
L29A **Maesberg Ranch** 77.68 2 ⇑P P 09 50 19.8 +0.3
baz=78
DZM **Mont Dzumac** 77.70 252 eS S 10 00 08.1 -4.5
DZM comp=Z,2µm,35.0s eSS SS 10 05 05.4 -6.7
DZM comp=Z,2µm,28.5s eLQ LQ 10 10 51.0
DZM comp=Z,2µm,27.8s eLR LR 10 13 59.7
comp=Z,11µm,28.1s
L23A **Garrett** 77.73 358 ⇑P P 09 50 19.5 -0.5
baz=78,SNR=5.4
L31A **Butterfield Fa** 77.85 3 ⇑P P 09 50 21.1 +0.7
baz=78
HVU **Hansel Valley** 77.86 353 eP P 09 50 20.2 -0.4
HVU **Hansel Valley** 77.86 353 eP P 09 50 20.2 -0.4
ACSO **Alum Creek Sta** 78.05 16 eP P 09 50 23.2 +1.6
comp=Z,28nm,1.0s
KMRM **Mail Ridge** 78.13 344 eP P 09 50 26.3 +4.3
comp=Z,61nm,1.0s
K25A **Mack Ranch, Ha** 78.19 359 ⇑P P 09 50 22.9 +0.5
baz=79
WDC **Whiskeytown Da** 78.22 345 eP P 09 50 22.0 -0.5
WDC pmax pmax
comp=Z,40nm,1.1s
WDC **Whiskeytown Da** 78.22 345 eP P 09 50 22.0 -0.5
comp=Z,40nm,1.1s
K26A **Motz Farm, Whi** 78.28 360 ⇑P P 09 50 23.5 +0.6
baz=79
K27A **Flueckinger Fa** 78.29 1 ⇑P P 09 50 23.2 +0.3
baz=79,SNR=6.1
K22A **Casper** 78.29 357 eP P 09 50 23.1 0.0
comp=Z,72nm,1.6s
K22A **Casper** 78.29 357 ⇑P P 09 50 22.8 -0.2
baz=79,SNR=9.1
K21A **Alcova** 78.30 357 ⇓P P 09 50 23.0 -0.1
baz=79,SNR=9.7
K28A **Ten Mile Ranch** 78.31 1 ⇑P P 09 50 23.5 +0.5
baz=79
K24A **Anderson Ranch** 78.31 359 ⇑P P 09 50 23.1 -0.1
baz=79
K30A **Basset** 78.32 3 ⇑P P 09 50 23.3 +0.3
baz=79
K23A **Bowen Ranch, D** 78.36 358 ⇑P P 09 50 23.1 -0.3
baz=79
K29A **Lazy Trails An** 78.38 2 ⇓P P 09 50 23.7 +0.3
baz=79
BW06 **Boulder Array** 78.56 355 eP P 09 50 23.7 -0.9
comp=Z,29nm,0.9s
PDAR **Pinedale Array** 78.56 355 P P 09 50 23.5 -1.1
comp=Z,22nm,0.8s,baz=147,slow=5.1,SNR=83
N02D **Trinity Center** 78.63 345 ⇑P P 09 50 25.2 +0.3
baz=79
AHID **Auburn Hatcher** 78.68 354 eP P 09 50 24.3 -0.9
comp=Z,13nm,1.0s
SDMD **Soldier's Deli** 78.82 20 eP P 09 50 25.8 0.0
comp=Z,78nm,1.0s
J27A **Elkhorn Farm,** 78.84 1 ⇓P P 09 50 26.7 +0.8
baz=79,SNR=8.9
J25A **Sunshine Ranch** 78.97 360 ⇓P P 09 50 26.7 0.0
baz=79
J30A **Dallas** 78.97 3 ⇓P P 09 50 26.9 +0.3
baz=79
J28A **Allard Ranch,** 79.02 1 ⇑P P 09 50 27.2 +0.3
baz=79,SNR=11
J21A **Lysite** 79.02 357 ⇑P P 09 50 27.2 +0.2
baz=79,SNR=20
J29A **Okreek** 79.03 2 ⇓P P 09 50 26.8 -0.1
baz=79,SNR=13
J19A **Crowheart** 79.03 356 ⇓P P 09 50 26.4 -0.7
baz=79,SNR=24
J22A **Midwest** 79.05 358 ⇑P P 09 50 26.8 -0.4
baz=79
J20A **Shoshoni** 79.06 356 ⇓P P 09 50 27.2 0.0
baz=79,SNR=14
M02C **Callahan** 79.07 345 ⇓P P 09 50 27.7 +0.5
baz=79,SNR=7.7
M04C **Macdoel** 79.23 346 ⇑P P 09 50 28.1 -0.1
baz=80,SNR=16
REDW **Red Top Meadow** 79.25 354 eP P 09 50 27.9 -0.5
comp=Z,25nm,1.0s
WVOR **Wild Horse Val** 79.29 348 eP P 09 50 28.7 +0.3
WVOR pmax pmax
comp=Z,22nm,1.1s
WVOR **Wild Horse Val** 79.29 348 eP P 09 50 28.7 +0.3
comp=Z,22nm,1.1s
SNOW **Snow King Moun** 79.34 354 eP P 09 50 28.5 -0.4
comp=Z,35nm,1.1s
YBH **Yreka Blue Hor** 79.36 345 LR LR 10 17 35.8
comp=Z,2µm,21.9s,baz=168,slow=30
YBH **Yreka Blue Hor** 79.36 345 eP P 09 50 28.3 -0.5
YBH pmax pmax
comp=Z,11nm,0.9s
YBH **Yreka Blue Hor** 79.36 345 eP P 09 50 28.3 -0.5
comp=Z,11nm,0.9s
TPAW **Teton Pass** 79.39 354 eP P 09 50 28.8 -0.3
comp=Z,70nm,1.3s
I24A **Kuemmerle Ranc** 79.45 359 ⇑P P 09 50 29.3 0.0
baz=80
I21A **Big Trails, Te** 79.48 357 ⇑P P 09 50 29.2 -0.3
baz=80,SNR=9.0
LOHW **Long Hollow** 79.48 354 eP P 09 50 29.0 -0.6
comp=Z,18nm,1.2s
I22A **9 Mile Ranch,** 79.53 358 ⇓P P 09 50 29.6 -0.1
baz=80
ECSD **EROS Data Cent** 79.53 5 eP P 09 50 29.3 -0.3
comp=Z,24nm,1.0s
ECSD **EROS Data Cent** 79.53 5 ⇓P P 09 50 29.5 -0.1
baz=80
FXWY **Fox Creek** 79.54 354 eP P 09 50 29.5 -0.4
comp=Z,19nm,1.0s
I25A **Rochford** 79.60 360 ⇑P P 09 50 30.8 +0.6
baz=80,SNR=6.5
MOOW **Moose Ponds** 79.63 354 eP P 09 50 29.7 -0.7
comp=Z,9.7nm,0.8s
I27A **Quinn** 79.65 1 ⇑P P 09 50 30.5 +0.2
baz=80
I20A **Worland** 79.66 356 ⇓P P 09 50 30.2 -0.2
baz=80,SNR=37
SSPA **Standing Stone** 79.67 19 eP P 09 50 29.1 -1.3
comp=Z,28nm,1.1s
RSSD **Black Hills** 79.70 359 eP P 09 50 32.2 +1.4
RSSD pmax pmax
comp=Z,38nm,1.5s
RSSD **Black Hills** 79.70 359 eP P 09 50 32.1 +1.4
comp=Z,38nm,1.5s
I17A **Pilgrim Ck.** 79.78 355 ⇓P P 09 50 31.3 0.0
baz=80
IMW **Indian Meadow** 79.79 354 eP P 09 50 31.0 -0.4
comp=Z,16nm,0.8s
I19A **Meeteetse** 79.79 356 ⇑P P 09 50 31.2 -0.1
baz=80
HLID **Hailey** 79.80 352 eP P 09 50 31.1 -0.2
comp=Z,54nm,1.1s
HLID **Hailey** 79.80 352 ⇓P P 09 50 31.3 0.0
baz=80
MFID **Camas Ranch** 79.83 351 eP P 09 50 32.4 +1.0
comp=Z,26nm,1.5s
AAM **Ann Arbor** 79.89 15 eP P 09 50 32.8 +1.2
AAM pmax pmax
comp=Z,48nm,0.9s
AAM **Ann Arbor** 79.89 15 eP P 09 50 32.8 +1.2
comp=Z,48nm,0.9s
FLWY **Flagg Ranch** 79.95 354 eP P 09 50 31.9 -0.3
comp=Z,24nm,0.9s
K05A **Summer Lake** 79.96 347 eP P 09 50 32.8 +0.5
comp=Z,83nm,1.4s
ALLY **Alegheny Colle** 80.05 17 eP P 09 50 31.8 -0.7
comp=Z,40nm,0.9s
H20A **Greybull** 80.19 356 ⇑P P 09 50 33.2 -0.1
baz=81
H22A **Clearmont** 80.22 358 ⇑P P 09 50 33.5 0.0
baz=81
HUMO **Hull Mountain** 80.25 345 eP P 09 50 33.8 +0.2
comp=Z,44nm,1.4s
H17A **Grant Village** 80.26 355 eP P 09 50 35.1 +1.3
comp=Z,9.9nm,1.1s
H21A **Big Horn, Sher** 80.28 357 ⇑P P 09 50 33.9 +0.1
baz=81
YFT **Old Faithful** 80.33 354 eP P 09 50 36.7 +2.5
comp=Z,31nm,1.5s
H24A **Dirks Ranch, A** 80.33 359 ⇓P P 09 50 33.8 -0.2
baz=81
H19A **Powell** 80.42 356 ⇓P P 09 50 34.4 -0.1
baz=81
H18A **Shoshone NF, C** 80.47 355 ⇓P P 09 50 34.6 -0.4
baz=81,SNR=8.8
ERPA **Erie** 80.53 17 epP pP 09 50 42.5 +3.5
YMR **Madison River** 80.56 354 eP P 09 50 37.7 +2.3
comp=Z,71nm,1.8s
J05D **Fort Rock, OR** 80.57 347 ⇓P P 09 50 35.9 +0.5
baz=81,SNR=33
BRNJ **Basking Ridge** 80.66 22 eP P 09 50 35.8 +0.1
QLMT **Earthquake Lak** 80.76 354 eP P 09 50 37.1 +0.7
G23A **Biddle** 80.80 358 ⇑P P 09 50 36.7 +0.2
baz=81
G22A **Birney** 80.85 358 ⇑P P 09 50 37.0 +0.3
baz=81

MCMT	McKenzie Canyo	80.89	353	*e*P		P	09 50 37.1	-0.1		
	comp=Z,9.9nm,1.2s									
G21A	Lodge Grass	80.89	357	⇓P		P	09 50 37.0	0.0		
	baz=81									
RLMT	Red Lodge	80.89	356	*e*P		P	09 50 36.8	-0.4		
	comp=Z,15nm,1.0s									
G20A	Bridger	80.93	356	⇓P		P	09 50 36.7	-0.5		
	baz=81,SNR=18									
ODNJ	Ogdensburg	81.02	21	*e*P		P	09 50 36.1	-1.5		
	comp=Z,20nm,0.8s									
I07A	Izee	81.03	348	*e*P		P	09 50 38.2	+0.4		
	comp=Z,24nm,0.9s									
PAL	Palisades	81.15	22	*e*P		P	09 50 42.0	+3.7		
PAL				pmax		pmax				
	comp=Z,22nm,0.8s									
PAL	Palisades	81.15	22	*e*P		P	09 50 42.0	+3.7		
	comp=Z,22nm,0.8s									
I04A	Tendick Farm,	81.28	346	⇓P		P	09 50 39.1	0.0		
	baz=82									
F23A	Volborg	81.32	358	⇑P		P	09 50 38.8	-0.4		
	baz=82,SNR=7.8									
SPMN	Marine on St.	81.34	7	*e*P		P	09 50 38.9	-0.4		
	comp=Z,58nm,1.2s									
SPMN	Marine on St.	81.34	7	⇑P		P	09 50 38.6	-0.7		
	baz=82,SNR=10.0									
DLMT	Dillon	81.39	353	*e*P		P	09 50 40.1	+0.4		
	comp=Z,32nm,1.6s									
F22A	Rosebud	81.41	358	⇑P		P	09 50 39.4	-0.3		
	baz=82									
F26A	Lodgepole	81.43	0	⇑P		P	09 50 40.0	+0.2		
	baz=82									
F24A	Ekalaka	81.43	359	⇑P		P	09 50 40.5	+0.6		
	baz=82									
BMO	Blue Mountains	81.45	350	*e*P		P	09 50 40.3	+0.3		
	comp=Z,17nm,1.4s									
F27A	Lemmon	81.46	1	⇑P		P	09 50 40.4	+0.4		
	baz=82									
F21A	Absaloka Mine,	81.48	357	⇓P		P	09 50 40.3	+0.2		
	baz=82									
F20A	Billings	81.50	356	⇑P		P	09 50 40.4	+0.1		
	baz=82									
BOZ	Bozeman (W)	81.58	354	*e*P		P	09 50 40.2	-0.6		
BOZ				pmax		pmax				
	comp=Z,16nm,1.1s									
BOZ	Bozeman (W)	81.58	354	*e*P		P	09 50 40.2	-0.6		
	comp=Z,16nm,1.1s									
F19A	Roth Farm, Mol	81.60	356	⇑P		P	09 50 40.3	-0.5		
	baz=82									
I05D	Terrebonne, OR	81.61	347	⇓P		P	09 50 40.8	0.0		
	baz=82									
MMNY	Mt. Morris Dam	81.63	19	*e*P		P	09 50 41.1	+0.2		
	comp=Z,63nm,1.0s									
BINY	Binghamton	81.65	20	*e*P		P	09 50 40.3	-0.7		
	comp=Z,23nm,1.0s									
LCCM	Lewis and Clar	81.80	354	P		P	09 50 42.1	+0.2		
LRM	Limekiln Ridge	81.83	353	*e*P		P	09 50 43.2	+1.1		
E27A	Carson	82.02	1	⇑P		P	09 50 43.2	+0.3		
	baz=82									
E26A	Carlson Angus	82.05	0	⇓P		P	09 50 43.0	-0.1		
	baz=82,SNR=9.9									
E22A	Miles City	82.06	358	⇑P		P	09 50 42.8	-0.3		
	baz=82,SNR=5.5									
E25A	Miller Ranch,	82.08	360	⇑P		P	09 50 42.8	-0.5		
	baz=82									
H04A	Detroit Lake	82.10	346	*e*P		P	09 50 45.3	+2.0		
	comp=Z,119nm,2.2s									
E23A	Ismay	82.10	358	⇓P		P	09 50 43.9	+0.6		
	baz=82									
G08A	Pilot Rock	82.12	349	*e*P		P	09 50 43.9	+0.3		
	comp=Z,41nm,1.5s									
E24A	Baker	82.14	359	⇓P		P	09 50 44.1	+0.5		
	baz=82									
E30A	Jud	82.17	3	⇓P		P	09 50 43.6	-0.1		
	baz=82									
E19A	Rath Farm, Rou	82.19	356	⇓P		P	09 50 43.5	-0.3		
	baz=83,SNR=17									
E20A	Meyer Farm, Mu	82.20	357	⇓P		P	09 50 43.7	-0.2		
	baz=83,SNR=15									
LAO	LASA Array	82.31	358	*e*P		P	09 50 48.0	+3.6		
	comp=Z,34nm,0.9s									
G06A	Carlson Farm,	82.35	348	*e*P		P	09 50 47.8	+3.1		
	comp=Z,149nm,2.4s									
G05D	Wamic, OR	82.47	347	⇑P		P	09 50 45.7	+0.4		
	baz=83									
F10A	Beach Ranch, E	82.53	350	*e*P		P	09 50 45.4	-0.2		
	comp=Z,50nm,1.7s									
D26A	Manning	82.61	0	⇓P		P	09 50 46.1	+0.2		
	baz=83,SNR=6.7									
COWI	Conover	82.65	10	P		P	09 50 40.7	-5.5		
	comp=Z,28nm,1.0s									
HRY	Holter Researc	82.66	354	*e*P		P	09 50 46.8	+0.5		
D27A	Center	82.70	1	⇑P		P	09 50 46.5	+0.1		
	baz=83									
D24A	Glendive	82.70	359	⇓P		P	09 50 46.3	-0.2		
	baz=83									
D25A	Fairfield	82.73	360	⇑P		P	09 50 47.0	+0.4		
	baz=83									
D23A	Lindsay	82.77	359	⇑P		P	09 50 46.9	0.0		
	baz=83,SNR=9.0									
D22A	Cohagen	82.77	358	⇓P		P	09 50 47.1	+0.3		
	baz=83									
D30A	Buchanan	82.78	3	⇓P		P	09 50 47.6	+0.8		
	baz=83									
QUA2	Belchertown	82.79	23	*e*P		P	09 50 46.2	-0.7		
	comp=Z,22nm,0.8s									
D28A	Regan	82.80	2	⇑P		P	09 50 46.8	-0.2		
	baz=83									
G03D	McMinnville, O	82.81	346	⇓P		P	09 50 46.7	-0.3		
	baz=83									
D19A	Cripps Ranch,	82.90	356	⇓P		P	09 50 47.3	-0.2		
	baz=83									
MSO	Missoula	82.98	353	*e*P		P	09 50 48.5	+0.5		
	comp=Z,33nm,1.8s									
MSO	Missoula	82.98	353	⇓P		P	09 50 48.0	0.0		
	baz=83									
CHMT	Chamberlain Mo	82.99	353	*e*P		P	09 50 48.8	+0.7		
C24A	Savage	83.12	359	⇓P		P	09 50 48.8	+0.2		
	baz=84									
HAWA	Hanford	83.29	349	*e*P		P	09 50 49.7	+0.2		
	comp=Z,37nm,1.3s									
C25A	Freed Ranch, W	83.29	360	⇓P		P	09 50 49.2	-0.3		
	baz=84,SNR=9.1									
SLMT	Seeley Lake	83.34	353	*e*P		P	09 50 50.1	+0.2		
F04A	Amboy	83.34	347	*e*P		P	09 50 49.9	+0.2		
	comp=Z,60nm,1.1s									
C22A	Vida	83.36	358	⇑P		P	09 50 49.5	-0.3		
	baz=84									
C30A	Mose, Pekin	83.39	3	⇑P		P	09 50 49.4	-0.6		
	baz=84									
C23A	Lambert	83.40	359	⇑P		P	09 50 50.0	-0.1		
	baz=84,SNR=7.1									
ASR	Mount Adams--S	83.40	347	P		P	09 50 51.1	+0.9		
C20A	Veseth Ranch,	83.41	357	⇑P		P	09 50 50.4	+0.3		
	baz=84,SNR=5.3									
C21A	Desert Coulee	83.48	357	⇓P		P	09 50 50.5	+0.1		
	baz=84									
C19A	Slack Wire Ran	83.48	356	⇓P		P	09 50 50.7	+0.2		
	baz=84,SNR=5.5									
E07A	Sunnyside	83.50	348	*e*P		P	09 50 55.6	+5.0		
	comp=Z,45nm,1.1s									
F04D	Rainier, OR	83.60	346	⇓P		P	09 50 51.2	+0.2		
	baz=84									
SWMT	Swartz Lake	83.66	353	*e*P		P	09 50 51.6	+0.2		
NCB	Newcomb	83.78	21	*e*P		P	09 50 50.6	-1.4		
	comp=Z,28nm,0.8s									
EGMT	Eagleton	83.81	356	*e*P		P	09 50 52.5	+0.4		
EGMT	Eagleton	83.81	356	⇓P		P	09 50 52.6	+0.4		
	baz=84									
NAC	Naches	83.83	348	P		P	09 50 52.9	+0.6		
D08A	Wollman Farm,	83.84	349	*e*P		P	09 50 53.3	+1.1		
	comp=Z,19nm,1.1s									
B25A	Knox Farm, Ray	83.85	360	⇑P		P	09 50 52.9	+0.5		
	baz=84									
B22A	Reddig Ranch S	83.92	358	⇓P		P	09 50 52.9	+0.2		
	baz=84,SNR=6.2									
JTMT	Jette	83.92	352	*e*P		P	09 50 53.0	+0.2		
B26A	Jensen Ranch,	83.96	1	⇓P		P	09 50 52.8	-0.1		
	baz=84									
EBG	Ellensburg	83.96	348	P		P	09 50 53.8	+0.8		
YBMT	Yellow Bay	84.01	353	*e*P		P	09 50 53.6	+0.3		
BMW	Boistfort Moun	84.02	346	P		P	09 50 53.5	+0.2		
BMW	Boistfort Moun	84.02	346	P		P	09 50 53.5	+0.2		
LON	Longmire	84.02	347	*e*P		P	09 50 53.6	+0.3		
LON				pmax		pmax				
	comp=Z,15nm,1.0s									
LON	Longmire	84.02	347	*e*P		P	09 50 53.6	+0.3		
	comp=Z,15nm,1.0s									
DGMT	Dagmar	84.05	359	*e*P		P	09 50 55.2	+1.9		
	comp=Z,163nm,1.9s									
DGMT	Dagmar	84.05	359	⇓P		P	09 50 53.7	+0.3		
	baz=84									
B23A	Brockton	84.06	359	⇑P		P	09 50 53.7	+0.3		
	baz=84									
B28A	Dugan Ranch, T	84.06	2	⇑P		P	09 50 53.7	+0.3		
	baz=84									
B21A	Ellsworth Farm	84.08	357	⇑P		P	09 50 53.6	+0.1		
	baz=84									
BSMT	Bassoo Peak	84.08	352	*e*P		P	09 50 54.1	+0.4		
FFD	Franklin Falls	84.09	22	*e*P		P	09 50 53.3	-0.3		
	comp=Z,40nm,0.9s									
HNH	Hanover	84.11	22	*e*P		P	09 50 54.3	+0.6		
	comp=Z,32nm,1.3s									
MDV	Middlebury	84.11	21	*e*P		P	09 50 52.9	-0.7		
	comp=Z,58um,0.8s									
AGMN	Agassiz Nation	84.13	5	*e*P		P	09 50 53.6	-0.1		
	comp=Z,126nm,2.3s									
AGMN	Agassiz Nation	84.13	5	⇑P		P	09 50 53.6	-0.1		
	baz=84									
B20A	Solberg Farm,	84.13	357	⇑P		P	09 50 53.8	+0.1		
	baz=84,SNR=6.2									
B30A	Myrvik Farm, E	84.14	3	⇓P		P	09 50 53.7	-0.1		
	baz=84									
E03A	Lebam	84.15	346	*e*P		P	09 50 49.8	-4.0		
	comp=Z,66nm,1.1s									
BLMT	Blacktail Moun	84.19	352	*e*P		P	09 50 55.9	+1.6		
B19A	Brinkman Farms	84.19	356	⇓P		P	09 50 54.4	+0.3		
	baz=85									
LONY	Lake Ozonia	84.28	20	*e*P		P	09 50 52.9	-1.7		
	comp=Z,41nm,1.0s									
LTY	Liberty	84.31	348	*e*P		P	09 50 54.7	-0.1		
	comp=Z,42nm,1.4s									
C09A	Chrisman Ranch	84.47	350	*e*P		P	09 50 55.8	+0.3		
	comp=Z,86nm,1.6s									
D05A	Emmalaw	84.48	347	*e*P		P	09 50 55.2	-0.2		
	comp=Z,66nm,1.2s									
A26A	Wade Farm, Ken	84.48	1	⇑P		P	09 50 56.1	+0.6		
	baz=85									
A24A	Westby	84.51	359	⇑P		P	09 50 55.8	+0.2		
	baz=85									
A25A	Svangstu Ranch	84.52	0	⇑P		P	09 50 56.1	+0.4		
	baz=85,SNR=6.3									
A28A	Rude Farm, Bot	84.53	2	⇑P		P	09 50 55.8	0.0		
	baz=85									
SAW	Saint Andrews	84.54	349	P		P	09 50 56.4	+0.6		
A27A	Ledoux Ranch,	84.55	1	⇑P		P	09 50 56.1	+0.3		
	baz=85									
A23A	Redstone	84.55	359	⇑P		P	09 50 56.2	+0.3		
	baz=85									
A20A	Cobblestone Ra	84.57	357	⇓P		P	09 50 56.2	+0.2		
	baz=85,SNR=6.0									
A29A	Manning Farm,	84.57	3	⇑P		P	09 50 55.4	-0.6		
	baz=85									
ETW	Entiat	84.59	348	P		P	09 50 56.5	+0.3		
A22A	Carney Farms,	84.61	358	⇓P		P	09 50 56.3	+0.2		
	baz=85									
WTV	Waterville	84.63	349	P		P	09 50 55.3	-1.0		
A30A	Hoffart Farm,	84.63	3	⇑P		P	09 50 56.2	-0.1		
	baz=85									
A21A	Bergtoll Ranch	84.64	357	⇑P		P	09 50 56.8	+0.4		
	baz=85									
A19A	Klindworth Far	84.65	356	⇓P		P	09 50 56.4	-0.1		
	baz=85,SNR=6.7									
LBNH	Lisbon	84.70	22	*e*P		P	09 50 57.2	+0.5		
LBNH				pmax		pmax				
	comp=Z,16nm,0.9s									
LBNH	Lisbon	84.70	22	*e*P		P	09 50 57.2	+0.5		
	comp=Z,16nm,0.9s									
NEW	Newport	84.77	351	*e*P		P	09 50 56.7	-0.3		
NEW				pmax		pmax				
	comp=Z,71nm,1.7s									
NEW	Newport	84.77	351	*e*P		P	09 50 56.7	-0.3		
	comp=Z,70nm,1.7s									
NEW	Newport	84.77	351	⇓P		P	09 50 56.9	-0.1		
	baz=85									
NLWA	Neilton Lookou	85.03	346	*e*P		P	09 50 59.6	+1.3		
	comp=Z,104nm,1.8s									
B08A	Colville Reser	85.17	349	*e*P		P	09 50 59.5	+0.4		
	comp=Z,33nm,1.5s									
WALA	Waterton Lakes	85.18	353	*e*P		P	09 50 59.5	+0.4		
JCW	Jim Creek	85.44	348	P		P	09 51 00.1	-0.3		
B06A	Marblemount	85.67	348	*e*P		P	09 51 02.1	+0.7		
	comp=Z,34nm,1.4s									
CMW	Cultus Mountai	85.69	347	P		P	09 51 01.8	+0.1		
ULM	Lac du Bonnet	86.07	5	P		P	09 51 02.9	-0.5		
	comp=Z,9.0nm,1.0s,baz=195,slow=7.9,SNR=6.0									
ULM	Lac du Bonnet	86.07	5	*e*P		P	09 51 03.6	+0.2		
ULM	Lac du Bonnet	86.07	5	*e*P		P	09 51 03.5	+0.2		
A05A	Maple Falls	86.24	348	*e*P		P	09 51 06.2	+2.0		
	comp=Z,14nm,0.9s									
EDM	Edmonton	89.25	354	*e*P		P	09 51 20.7	+2.1		
EDM	Edmonton	89.25	354	*e*P		P	09 51 20.7	+2.1		
STKA	Stephens Creek	89.28	230	P		P	09 51 18.1	-1.4		
	comp=Z,3.4nm,0.8s,baz=323,slow=4.9,SNR=4.0									
STKA					LR	LR	10 25 09.1			
	comp=Z,4μm,19.0s,baz=143,slow=31									
FFC	Flin Flon	90.32	1	*e*P		P	09 51 25.6	+2.0		
FFC				pmax		pmax				
	comp=Z,8.0nm,1.1s									
FFC	Flin Flon	90.32	1	*e*P		P	09 51 25.6	+2.0		
	comp=Z,8.1nm,1.1s									
PAF	Port-aux-Franc	94.86	176	S		S	10 02 44.0	-15		
PAF				SS		SS	10 09 07.0	-14		
PAF				L		L	10 18 00.0			
PAF				R			10 24 00.0			
CRZF	Crozet Islands	94.96	163	S		S	10 03 23.0	+23		
CRZF				SS		SS	10 09 20.0	-2.7		
CRZF				R			10 22 00.0			
SCHQ	Schefferville	95.65	20	LR		LR	10 29 37.9			
	comp=Z,701nm,21.7s,baz=212,slow=32									
DLBC	Dease Lake	96.69	346	*e*P		P	09 51 56.5	+3.7		
YKA	Yellowknife Ar	98.54	355	P		P	09 51 59.8	-1.2		
	comp=Z,1.2nm,0.8s,baz=164,slow=4.7,SNR=10.0									
ASAR	Alice Springs	99.87	231	P		Pdif	09 52 06.1	-2.1		
	comp=Z,1.8nm,1.1s,baz=132,slow=4.9,SNR=9.2									
ASAR					PKKPbc	PKKPbc	10 08 26.2	-0.6		
	comp=Z,0.6nm,1.0s,baz=313,slow=2.3,SNR=4.3									
ASAR					LR	LR	10 31 12.4			
	comp=Z,4μm,19.5s,baz=150,slow=32									
H11S2	WAKE ISLAND Hyl	100.74	285	T		T	11 44 08.1			
	baz=126,slow=75,SNR=12									
H11S1	WAKE ISLAND Hyl	100.75	285	T		T	11 44 07.9			
	baz=126,slow=75,SNR=6.8									
H11S3	WAKE ISLAND Hyl	100.75	285	T		T	11 44 08.7			
	baz=126,slow=75,SNR=8.6									
H01W1	Cape Leeuwin H	101.40	211	T		T	11 46 02.8			
	baz=147,slow=76,SNR=60									
H01W2	Cape Leeuwin H	101.41	211	T		T	11 46 00.1			
	baz=147,slow=76,SNR=61									
H01W3	Cape Leeuwin H	101.42	211	T		T	11 46 04.5			
	baz=147,slow=76,SNR=43									
WRA	Warramunga Arr	102.25	234	P		Pdif	09 52 17.4	-1.4		
	comp=Z,0.5nm,0.8s,baz=140,slow=4.1,SNR=3.9									
PMR	Palmer	104.11	339	*e*P		Pdif	09 52 32.3	+6.5		
PMR	Palmer	104.11	339	*e*Pdif		Pdif	09 52 32.3	+6.5		
RSO	Redoubt South	104.31	337	*e*Pdif		Pdif	09 52 24.1	-2.9		
DOT	Dot Lake	104.45	342	*e*Pdif		Pdif	09 52 30.6	+3.3		
ESDC	Sonseca Array	118.14	60	PKP		PKPdf	09 57 11.4	+1.3		
	comp=Z,0.3nm,0.4s,baz=298,slow=2.6,SNR=2.7									
SJPF	Ste Jean	121.38	57	*e*PKIKP		PKPdf	09 57 16.6	+0.4		
	comp=Z,50nm,1.2s									
SJPF	Ste Jean	121.38	57	*e*PKIKP		PKPdf	09 57 16.6	+0.4		
SJPF	Ste Jean	121.38	57	*e*PKPdf		PKPdf	09 57 16.6	+0.4		
PET	Petropavlovsk	122.40	315	*i* PKIKP		PKPdf	09 57 16.0	-1.7		
PET				pmax		pmax				
	comp=Z,64nm,1.7s									
EPF	Esparros	122.42	58	*e*PKIKP		PKPdf	09 57 17.8	-0.4		
	comp=Z,38nm,1.3s									
EPF	Esparros	122.42	58	*e*PKIKP		PKPdf	09 57 17.8	-0.4		
EPF	Esparros	122.42	58	*e*PKPdf		PKPdf	09 57 17.8	-0.4		
PETK	Petropavlovsk-	122.97	315	PKP		PKPdf	09 57 19.6	+0.7		
	comp=Z,4.7nm,0.9s,baz=98,slow=5.1,SNR=3.0									
MTLF	Montolieu	123.82	58	*e*PKIKP		PKPdf	09 57 20.7	-0.1		
MTLF	Montolieu	123.82	58	*e*PKIKP		PKPdf	09 57 20.7	-0.1		
MTLF	Montolieu	123.82	58	*e*PKPdf		PKPdf	09 57 20.7	-0.1		
AVF	Avril sur Loir	125.66	54	*e*PKIKP		PKPdf	09 57 22.2	-2.0		
	comp=Z,14nm,0.9s									
AVF	Avril sur Loir	125.66	54	*e*PKIKP		PKPdf	09 57 22.2	-2.0		
AVF	Avril sur Loir	125.66	54	*e*PKPdf		PKPdf	09 57 22.2	-2.0		
SSF	Saint Saulge	125.84	54	*e*PKIKP		PKPdf	09 57 25.2	+0.6		
SSF	Saint Saulge	125.84	54	*e*PKIKP		PKPdf	09 57 25.2	+0.6		
SSF	Saint Saulge	125.84	54	*e*PKPdf		PKPdf	09 57 25.2	+0.6		
SMF	Signal de Mont	125.94	54	*e*PKIKP		PKPdf	09 57 23.5	-1.3		
	comp=Z,42nm,1.2s									
SMF	Signal de Mont	125.94	54	*e*PKPdf		PKPdf	09 57 23.5	-1.3		
LOR	Lormes	126.13	54	*e*PKIKP		PKPdf	09 57 24.0	-1.1		
	comp=Z,13nm,0.9s									
LOR	Lormes	126.13	54	*e*PKIKP		PKPdf	09 57 24.0	-1.1		
LOR	Lormes	126.13	54	*e*PKPdf		PKPdf	09 57 24.0	-1.1		
ORIF	Oris-en-Rattie	126.81	57	*e*PKIKP		PKPdf	09 57 26.7	+0.1		
	comp=Z,14nm,0.9s									
ORIF	Oris-en-Rattie	126.81	57	*e*PKIKP		PKPdf	09 57 26.7	+0.1		
ORIF	Oris-en-Rattie	126.81	57	*e*PKPdf		PKPdf	09 57 26.7	+0.1		
KUR	Kuril'sk	126.88	303	*i* PKIKP		PKPdf	09 57 25.5	-1.1		
KUR				*e*			09 59 22.9			
BAIF	Baives	127.08	50	*e*PKIKP		PKPdf	09 57 27.1	+0.3		
	comp=Z,24nm,1.0s									
BAIF	Baives	127.08	50	*e*PKIKP		PKPdf	09 57 27.1	+0.3		
BAIF	Baives	127.08	50	*e*PKPdf		PKPdf	09 57 27.1	+0.3		
SFTF	Sexfontaines	127.14	53	*e*PKIKP		PKPdf	09 57 25.8	-1.2		
	comp=Z,54nm,1.0s									
SFTF	Sexfontaines	127.14	53	*e*PKPdf		PKPdf	09 57 25.8	-1.2		
CABF	La Chapelle	127.42	55	*e*PKIKP		PKPdf	09 57 28.1	+0.4		
	comp=Z,76nm,1.4s									
CABF	La Chapelle	127.42	55	*e*PKIKP		PKPdf	09 57 28.1	+0.4		
CABF	La Chapelle	127.42	55	*e*PKPdf		PKPdf	09 57 28.1	+0.4		
LPL	La Plagne	127.56	57	*e*PKIKP		PKPdf	09 57 28.2	0.0		
	comp=Z,14nm,1.0s									
LPL	La Plagne	127.56	57	*e*PKIKP		PKPdf	09 57 28.2	0.0		
LPL	La Plagne	127.56	57	*e*PKPdf		PKPdf	09 57 28.2	0.0		
LPG	La Plagne	127.57	57	*e*PKIKP		PKPdf	09 57 28.3	0.0		
	comp=Z,21nm,1.1s									
LPG	La Plagne	127.57	57	*e*PKIKP		PKPdf	09 57 28.3	0.0		
LPG	La Plagne	127.57	57	*e*PKPdf		PKPdf	09 57 28.3	0.0		
SEY	Seymchan	127.77	326	*e*PKIKP		PKPdf	09 57 26.4	-1.3		
SENIN	Lac Senin/Sane	128.16	56	*e*PKPdf		PKPdf	09 57 31.3	+2.0		
HINF	Hinteralfeld	128.23	54	*e*PKIKP		PKPdf	09 57 28.7	-0.5		
HINF	Hinteralfeld	128.23	54	*e*PKIKP		PKPdf	09 57 28.7	-0.5		
HINF	Hinteralfeld	128.23	54	*e*PKPdf		PKPdf	09 57 28.7	-0.5		
CDF	Champ du Feu	128.65	53	*e*PKIKP		PKPdf	09 57 28.7	-1.3		
CDF	Champ du Feu	128.65	53	*e*PKIKP		PKPdf	09 57 28.7	-1.3		
CDF	Champ du Feu	128.65	53	*e*PKPdf		PKPdf	09 57 28.7	-1.3		
TUE	Stuetta	129.56	56	*e*PKPdf		PKPdf	09 57 40.2	+8.2		
MOTA	Moosalm	130.93	55	⇑*i* PKPdf		PKPdf	09 57 34.6	+0.1		
	comp=Z,11nm,0.9s									
NKC	Novy Kostel	132.31	52	*e*PKPdf		PKPdf	09 57 39.8	+3.0		
NKC				AMS		AMS	10 54 00.0			
	comp=Z,100nm,14.2s									
NKC	Novy Kostel	132.31	52	*e*PKIKP		PKPdf	09 57 39.8	+3.0		
NKC				MLR		MLR				
	comp=Z,100nm,14.2s									
NB2	NORSAR Subarra	132.34	37	PKPdf		PKPdf	09 57 36.9	+0.4		
	comp=Z,6.6nm,1.2s,baz=289,slow=1.9									
NOA	NORSAR Array B	132.34	37	PKP		PKPdf	09 57 37.0	+0.4		
	comp=Z,0.7nm,0.7s,baz=283,slow=2.0,SNR=3.1									
NOA	NORSAR Array B	132.34	37	PKIKP		PKPdf	09 57 37.0	+0.4		
NOA	NORSAR Array B	132.34	37	PKP		PKPdf	09 57 37.0	+0.4		
CLL	Collm	132.80	50	*e*PKPdf		PKPdf	09 57 37.0	-0.6		
CLL				*i*			09 57 44.2			
CLL				*e*PP		PP	10 00 00.0	-3.2		
CLL				*e*PKSbc		PKSbc	10 01 09.0	+2.9		
CLL				*e*PPP		PPP	10 02 54.0			
CLL				*e*PPS		PPS	10 11 58.0			
CLL				*e*SS		SS	10 17 54.0	+10		
CLL				*e*			10 18 48.0			
CLL				*e*SSS	

comp=Z,630nm,24.4s
KIEV Kiev 143.01 51 *e*PKIKP **PKPdf** 09 57 55.6 **-0.8**
KIEV Kiev 143.01 51 *e*PKPdf **PKPdf** 09 57 55.6 **-0.8**
AKASG Malin Array Be 143.02 51 PKP **PKPdf** 09 57 57.6 **+1.2**
comp=Z,5.0nm,0.9s,baz=282,slow=3.0,SNR=14
TMCR Tamitsa 143.36 27 *e*PKIKP **PKPdf** 09 57 56.5 **-0.1**
TMCR pmax pmax
comp=Z,41nm,1.0s
CSS Prodhromos 144.75 79 *e*PKPdf PKPbc 09 57 59.1 +0.1
NJ2 Nanjing 145.16 276 *e*PKPbc **PKPdf** 09 58 00.9 **+0.1**
NJ2 pPKP **pPKPdf** 09 58 05.3 **+0.4**
NJ2 PP **PP** 10 01 22.0 **+1.8**
NJ2 PPMZ
comp=Z,330nm,7.0s
ANTO Ankara 145.28 70 PKIKP **PKPdf** 09 58 01.5 **+0.6**
ANTO Ankara 145.28 70 PKPbc **PKPdf** 09 58 01.5 **+0.6**
KLMR Klimovskoe 145.64 32 *e*PKIKP **PKPdf** 09 57 59.7 **-1.0**
KLMR pmax pmax
comp=Z,160nm,1.4s
BR131 Keskin Array S 145.90 70 *e*PKPdf **PKPdf** 09 58 01.9 **-0.1**
BRTR Keskin Array B 145.90 70 PKPbc **PKPdf** 09 58 01.6 **-0.4**
comp=Z,6.2nm,0.9s,baz=204,slow=3.5,SNR=23
HIA Hailar 146.21 307 *e*PKP2 **PKPab** 09 58 04.1 **+0.2**
HIA Hailar 146.21 307 *e*PKPbc **PKPab** 09 58 04.1 **+0.2**
QIZ Qiongzhong 146.44 249 PKPbc **PKPdf** 09 58 03.3 **0.0**
QIZ PP **PP** 10 01 28.3 **+0.7**
QIZ SS SS 10 20 28.4 +3.1
QIZ PPMZ
comp=Z,67nm,3.6s
QIZ LZ
comp=Z,1μm,31.9s
OBN Obninsk 146.51 42 *i* PKIKP **PKPdf** 09 58 01.5 **-0.8**
OBN *e* 09 58 09.4
OBN pmax pmax
comp=Z,75nm,1.1s
OBN MLR MLR
comp=Z,290nm,23.0s
OBN Obninsk 146.51 42 *e*PKPdf **PKPdf** 09 58 02.8 **+0.5**
SIM Simferopol' 146.59 61 *i* PKP2 **PKPbc** 09 58 04.0 **-0.4**
SIM pmax pmax
comp=Z,49nm,0.9s
MOS Moscow 146.88 41 *e*PKP2 **PKPbc** 09 58 05.2 **+0.4**
PRGR Permogore 147.66 28 *e*PKP2 **PKPbc** 09 58 06.3 **-0.5**
PRGR pmax pmax
comp=Z,85nm,1.0s
WHN Wuhan 148.32 271 PKPbc **PKPbc** 09 58 08.8 **-0.8**
WHN PKPab **PKPab** 09 58 16.9 **+4.2**
WHN PP PP 10 01 47.8 +9.0
WHN SS SS 10 20 44.9 -2.0
WHN LZ
comp=Z,1μm,24.2s
LPSR Galich'ya Gora 148.60 46 *e*PKP2 **PKPbc** 09 58 08.3 **-1.3**
LPSR pmax pmax
comp=Z,50nm,1.1s
LPSR pmax pmax
comp=N,10.0nm,0.8s
LPSR pmax pmax
comp=E,30nm,1.7s
BJI Beijing 148.92 290 PKPbc **PKPdf** 09 58 06.8 **0.0**
BJI **PP PP** 10 01 41.3 **-0.9**
BJI SS SS 10 20 54.0 +0.7
BJI PPMZ
comp=E,82nm,6.3s
BJI LN
comp=E,260nm,22.3s
BJI LE
comp=E,530nm,22.3s
BJI LZ
comp=E,700nm,25.2s
BJT Baijiatuau 148.93 290 *e*PKIKP **PKPdf** 09 58 08.1 **+1.3**
BJT Baijiatuau 148.93 290 *e*PKPdf **PKPdf** 09 58 08.1 **+1.3**
VSR Storozhevoye 149.12 49 *e*PKP2 **PKPbc** 09 58 09.5 **-1.4**
VSR pmax pmax
comp=N,10.0nm,1.1s
VSR pmax pmax
comp=E,20nm,1.1s
VSR pmax pmax
comp=Z,40nm,1.1s
VORD Divnogorie 149.26 49 *e*PKP2 **PKPbc** 09 58 11.2 **-0.1**
VORD pmax pmax
comp=N,10.0nm,1.1s
VORD pmax pmax
comp=E,30nm,1.1s
VORD pmax pmax
comp=Z,20nm,1.1s
RAYN Ar Rayn 150.22 106 *e*PKPdf **PKPbc** 09 58 12.4 **-2.2**
SOC Sochi 150.64 63 *i* PKIKP **PKPbc** 09 58 14.4 **-0.5**
SOC pmax pmax
comp=Z,100nm,1.0s
PALK Pallekele 151.24 188 *e*PKIKP **PKPab** 09 58 23.5 **-1.5**
PALK Pallekele 151.24 188 *e*PKPab **PKPab** 09 58 23.5 **-1.5**
ENH Enshi 152.17 268 *e*PKPbc **PKPbc** 09 58 19.5 **+0.6**
HHC Hu-ho-hao-te 152.48 291 *e*PKPbc **PKPdf** 09 58 14.2 **+1.7**
HHC PP **PP** 10 02 07.6 **+4.8**
HHC SS SS 10 21 36.6 +3.5
HHC PPMZ
comp=Z,51nm,7.4s
HHC LN
comp=Z,150nm,17.3s
HHC LE
comp=Z,120nm,14.8s
HHC LZ
comp=Z,71nm,18.5s
KIV Kislovodsk 152.76 62 *e*PKIKP **PKPdf** 09 58 10.4 **-2.4**
KIV *e* 10 02 00.5
KIV *e*SS SS 10 21 30.9 -5.0
KIV pmax pmax
comp=Z,6.0nm,0.9s
KIV Kislovodsk 152.76 62 *e*PKPbc **PKPbc** 09 58 21.0 **+1.1**
GYA Guiyang 152.89 258 *e*PKPbc **PKPdf** 09 58 14.7 **+1.1**
GYA PKPab **PKPab** 09 58 35.0 **+3.1**
GYA PKS **PKSdf** 10 01 47.4 **-0.8**
GYA PP **PP** 10 02 08.9 **+3.6**
GYA SKKS 10 08 56.4
GYA SS **SS** 10 21 40.0 **+2.1**
GYA PPMZ
comp=Z,140nm,7.8s
GYA LN
comp=Z,140nm,23.4s
GYA LE
comp=Z,120nm,25.0s
GYA LZ
comp=Z,140nm,24.2s
KBZ Khabaz 152.94 63 PKP **PKPdf** 09 58 12.5 **-0.3**
comp=Z,5.0nm,1.0s,baz=56,slow=24,SNR=10.0
KBZ PKPbc **PKPbc** 09 58 19.8 **-0.3**
comp=Z,13nm,0.9s,baz=53,slow=20,SNR=16
SOKR Solikamsk 152.99 23*d* *i*PKIKP **PKPbc** 09 58 19.9 **+0.2**
SOKR SS SS 10 21 33.8 -2.3
SOKR 10 58 16.3
SOKR pmax pmax
comp=Z,20nm,0.9s
ZEI Tsey 153.74 65 *e*PKIKP **PKPdf** 09 58 13.9 **-0.5**
ZEI pmax pmax
comp=Z,16nm,1.1s
CMAR Chiang Mai Arr 153.84 234 PKP **PKPdf** 09 58 13.8 **-1.2**
comp=Z,1.0nm,0.3s,baz=270,slow=1.1,SNR=6.8
CMAR PKPbc **PiKiP** 09 58 24.3 **+1.3**
comp=Z,0.9nm,0.3s,baz=229,slow=0.9,SNR=8.8
CMAR PKPab **PKPab** 09 58 35.6 **-0.3**
comp=Z,3.0nm,0.7s,baz=171,slow=2.4,SNR=7.3
CHTO Chiang Mai 154.10 235 *e*PKIKP **PKPdf** 09 58 15.8 **+0.4**
CHTO *e* 09 58 23.7
CHTO Chiang Mai 154.10 235 *e*PKPdf **PKPdf** 09 58 15.8 **+0.4**
CHTO *e*PKPbc **PKiKP** 09 58 23.7 **+0.2**
CHTO *e*PKPab **PKPab** 09 58 37.5 **+0.6**
SONM Songino Array 155.17 308 PKP **PKPdf** 09 58 15.5 **-0.6**
comp=Z,1.1nm,0.7s,baz=327,slow=2.5,SNR=5.1
SONM PKPab **PKPab** 09 58 41.6 **+0.7**
comp=Z,3.5nm,0.7s,baz=114,slow=3.2,SNR=7.4
TLY Talaya 155.28 318 *e*PKIKP **PKPdf** 09 58 18.9 **+2.9**
TLY pmax pmax
comp=Z,8.0nm,1.5s
KMI Kunming 155.30 251 PKP **PKPdf** 09 58 18.2 **+1.1**
KMI PP **PP** 10 02 23.2 **+4.3**
KMI PPMZ
comp=Z,89nm,8.7s
KMI LN
comp=Z,120nm,19.8s
KMI LE
comp=Z,420nm,21.8s
KMI LZ
comp=Z,640nm,25.8s
ARU Arti 156.06 25 PKP2 **PKPab** 09 58 44.8 **+0.5**
ZAK Zakamensk 156.09 315 *e*PKIKP PKPdf 09 58 27.2 +10
ZAK pmax pmax
comp=Z,2.0nm,1.7s
CD2 Chengdu 157.03 265 *e*PKP **PKPdf** 09 58 16.5 **-2.5**
CD2 pPKP **pPKPdf** 09 58 27.8 **+4.7**
CD2 PKPab **PKPab** 09 58 52.6 **+3.2**
CD2 PP **PP** 10 02 30.0 **+1.6**
CD2 SKKS 10 09 20.3
CD2 SS **SS** 10 22 23.4 **+0.7**
CD2 PPMZ
comp=Z,240nm,8.3s
CD2 LN
comp=Z,480nm,21.4s
CD2 LE
comp=Z,320nm,22.6s
CD2 LZ
comp=Z,440nm,20.2s
ZALV Zalesovo Beam 161.17 345 PKP **PKPdf** 09 58 21.6 **-1.4**
comp=Z,2.7nm,1.0s,baz=170,slow=0.9,SNR=6.6
ZALV PKPab **PKPab** 09 59 09.6 **+3.1**
comp=Z,1.6nm,0.6s,baz=354,slow=3.0,SNR=4.6
ABKAR Akbulak array 161.84 38 *e*PKPdf **PKPdf** 09 58 22.0 **-1.9**
GEYT Alibeck 164.88 77 PKP **PKPdf** 09 58 29.2 **+2.0**
comp=Z,1.3nm,0.4s,baz=75,slow=1.6,SNR=3.0
ODAN Odare 167.24 228 *e*P **PKPab** 09 59 32.4 **-1.9**
comp=Z,24nm,1.0s
TAPN Taplejung 167.40 230 *e*P **PKPab** 09 59 30.1 **-5.0**
comp=Z,8.6nm,0.7s
RAMN Ramite 167.77 225 *e*P **PKPab** 09 59 34.9 **-1.7**
comp=Z,16nm,0.7s
MKAR Makanchi Array 168.43 341 PKP **PKPdf** 09 58 28.7 **-0.8**
comp=Z,0.3nm,0.8s,baz=343,slow=3.0,SNR=3.1
MKAR PKPab **PKPab** 09 59 40.5 **+1.8**
comp=Z,2.2nm,0.9s,baz=313,slow=7.8,SNR=3.6
JIRN Jiri 168.54 226 *e*P **PKPab** 09 59 36.5 **-3.7**
comp=Z,16nm,0.8s
WMQ Urumqi 168.56 317 *e*PKP **PKPdf** 09 58 29.0 **-0.8**
WMQ PP **PP** 10 03 29.9 **+1.2**
WMQ SS SS 10 24 16.4 -4.3
WMQ PPMZ
comp=Z,170nm,7.5s
WMQ LN
comp=Z,610nm,18.6s
WMQ LE
comp=Z,450nm,22.2s
WMQ LZ
comp=Z,570nm,29.5s
GUN Gumba 168.91 226 *e*P **PKPab** 09 59 38.2 **-3.6**
comp=Z,17nm,0.7s
PKI Pulchoki 168.93 223 *e*P **PKPab** 09 59 39.7 **-2.1**
comp=Z,32nm,1.1s
DMN Daman 169.12 222 *e*P **PKPab** 09 59 40.7 **-1.9**
comp=Z,18nm,0.7s
KKN Kakani 169.17 224 *e*P **PKPab** 09 59 40.1 **-2.6**
comp=Z,25nm,0.9s
GKN Gorkha 169.69 222 *e*P **PKPab** 09 59 42.6 **-2.4**
comp=Z,24nm,0.8s
KOLN Koldanda 170.03 217 *e*P **PKPab** 09 59 45.6 **-0.9**
comp=Z,37nm,1.3s
TKM2 Tokmak 2 172.97 8 *e*PKIKP **PKPdf** 09 58 32.4 **0.0**
TKM2 Tokmak 2 172.97 8 *e*PKPdf **PKPdf** 09 58 32.4 **0.0**
KSH Kashi 176.37 11 *e*PKP **PKPdf** 09 58 36.2 **+2.8**
KSH PKS **PKSdf** 10 02 06.9 **+1.3**
KSH PP PP 10 04 14.5 +8.1
KSH SKS **SKSdf** 10 05 37.9 **+1.6**
KSH SKKS **SKKSac** 10 10 59.3 **+6.2**
KSH PPMZ
comp=Z,62nm,5.8s
KSH LN
comp=Z,84nm,6.1s
KSH LE
comp=Z,120nm,9.7s
KSH LZ
comp=Z,140nm,6.6s

*IDC **05** 09:51:48.2±1.2,32.81N×140.44E,h0km,mb3.4/3, mb1 3.6/4,mb1mx3.3/28,mbtmp3.2/4,ML2.6/1,Error ellipse: s-maj=69.7km s-min=24.5km az=95.0*
*ISCJB **05** 09:51:49.4±1.1,33.25N±0.05×141.09E±0.10,h48km, mb3.4/3,Error ellipse: s-maj=11.8km s-min=6.7km az=10.3*
*JMA **05** 09:51:50.6±0.2,33.31N×140.98E,h62km,M2.8*
ISC 05 09:51:51.3±1.5,33.26N±0.07×141.0E±0.1,h48km,n12,
σ1s15/14,mb3.5/3,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**0.99**	**262**	P	**Pn**	**09 52 09.0**	**+0.1**
JHJ2				S	**Sn**	**09 52 22.2**	**+0.4**
JHCJ	**Hachijojimakas**	**1.01**	**260**	P	**Pn**	**09 52 09.1**	**-0.1**
BSO1	**Boso 1**	**1.39**	**360**	P	**Pn**	**09 52 13.8**	**0.0**
BSO1				*e*S	**Sn**	**09 52 30.3**	**-0.4**
BSO2	**Boso 2**	**1.50**	**353**	S	**Sn**	**09 52 34.1**	**+0.3**
BSO3	**Boso 3**	**1.59**	**346**	S	**Sn**	**09 52 35.3**	**-0.7**
JIM2	**Oshima 3**	**1.95**	**319**	P	**Pn**	**09 52 21.3**	**-0.6**
JIZS	**Izushimoda**	**2.28**	**310**	P	**Pn**	**09 52 26.8**	**+0.4**
JOD2	**Odawara 2**	**2.54**	**322**	*e*S	**Sn**	**09 52 57.1**	**-2.7**
MJAR	**Matsushiro Arr**	**3.99**	**326**	Pn	**Pn**	**09 52 52.0**	**+2.0**
	0.4nm,0.3s,baz=161,slow=13,SNR=5.3						
MJAR				Sn	**Sn**	**09 53 36.7**	**+1.2**
	0.3nm,0.3s,baz=76,slow=23,SNR=3.2						
WRA	**Warramunga Arr**	**53.28**	**188**	P	**P**	**10 01 05.3**	**-0.1**
	0.4nm,0.7s,baz=5.2,slow=7.7,SNR=8.2						
ASAR	**Alice Springs**	**57.01**	**188**	P	**P**	**10 01 32.0**	**-0.3**
	0.4nm,0.8s,baz=0.9,slow=5.0,SNR=5.5						
YKA	**Yellowknife Ar**	**67.25**	**29**	P	P	10 02 48.2	+7.8
	0.1nm,0.5s,baz=282,slow=9.2,SNR=3.3						

*ISCJB **05** 10:01:35.8±0.4,22.19S±0.06×63.73W±0.08,h528km, mb4.0/15,Error ellipse: s-maj=10.1km s-min=7.3km az=40.5*
*IDC **05** 10:01:36.4±0.7,22.09S×63.70W,h519km±8km,mb3.4/11, mb1 3.6/17,mb1mx3.4/33,mbtmp4.3/17,Error ellipse: s-maj=13.1km s-min=10.3km az=116.0*
ISC 05 10:01:36.9±0.4,22.19S±0.07×63.73W±0.08,h528km,n41,
σ1s42/47,mb4.5/15,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**4.81**	**264**	P	**P**	**10 03 04.3**	**+0.1**
	3μm,0.3s,baz=87,slow=6.0,SNR=566						
LVC				S	**S**	**10 04 13.5**	**-1.8**
	774nm,0.3s,baz=104,slow=18,SNR=24						
SIV	**San Ignacio**	**6.66**	**23**	P	**P**	**10 03 20.8**	**-0.1**
	16nm,0.3s,baz=207,slow=10,SNR=158						
CPUP	**Villa Florida**	**7.15**	**127**	P	**P**	**10 03 26.4**	**+1.0**
	0.7nm,0.3s,baz=314,slow=11,SNR=38						
CFAA	**Coronel Fontan**	**10.21**	**202**	P	**P**	**10 03 57.1**	**+0.5**
	0.7nm,0.3s,baz=14,slow=11,SNR=57						
CFAA				S	**S**	**10 05 47.9**	**-3.6**
	1.2nm,0.3s,baz=114,slow=20,SNR=21						
NNA	**Nana**	**16.11**	**307**	P	**P**	**10 04 59.3**	**+0.9**
	0.6nm,0.3s,baz=201,slow=4.5,SNR=3.8						
BDFB	**Brasilia**	**16.22**	**69**	P	**P**	**10 04 57.3**	**-2.2**
	4.8nm,0.3s,baz=232,slow=12,SNR=32						
PLCA	**Paso Flores**	**19.37**	**196**	P	**P**	**10 05 28.7**	**+0.4**
	1.2nm,0.3s,baz=18,slow=11,SNR=20						
PTGA	**Pitinga**	**21.64**	**10**	P	**P**	**10 05 48.0**	**-1.1**
	3.8nm,0.3s,baz=186,slow=9.7,SNR=11						
RCBR	**Riachuelo**	**31.42**	**63**	P	**P**	**10 07 14.7**	**-0.4**
	12nm,0.9s,baz=224,slow=12,SNR=4.1						
USHA	**Ushuaia**	**32.79**	**185**	P	**P**	**10 07 26.8**	**+0.7**
	12nm,0.8s,baz=359,slow=8.0,SNR=6.4						
LIC	**Lamto**	**64.01**	**71**	*e*P	**P**	**10 11 17.9**	**-1.1**
	52nm,1.6s						
TXAR	**Lajitas Array**	**64.06**	**321**	P	**P**	**10 11 17.4**	**-1.7**
	0.3nm,0.7s,baz=132,slow=6.9,SNR=4.1						
TIC	**Toumodi**	**64.21**	**71**	*e*P	**P**	**10 11 19.6**	**-0.7**
	5.9nm,0.2s						
KIC	**Kosan Boka**	**64.32**	**71**	*e*P	**P**	**10 11 20.3**	**-0.7**
	29nm,0.7s						
DBIC	**Dimbokro**	**64.37**	**71**	P	**P**	**10 11 20.6**	**-0.6**
	12nm,0.6s,baz=210,slow=7.3,SNR=16						
TORD	**Torodi Ar. Bea**	**73.10**	**68**	P	**P**	**10 12 13.3**	**-0.7**
	18nm,0.5s,baz=257,slow=5.8,SNR=394						
TORD				pP	**pP**	**10 14 05.4**	**+0.7**
	3.3nm,1.0s,baz=249,slow=6.2,SNR=7.2						
SCHQ	**Schefferville**	**76.75**	**358**	P	**P**	**10 12 33.0**	**-0.6**
	2.4nm,0.5s,baz=213,slow=4.0,SNR=11						
VNDA	**Vanda**	**76.98**	**189**	P	**P**	**10 12 36.2**	**+1.6**
	1.2nm,0.9s,baz=197,slow=2.0,SNR=6.0						
PDAR	**Pinedale Array**	**77.20**	**327**	P	**P**	**10 12 37.1**	**+0.5**
	0.5nm,0.6s,baz=112,slow=9.1,SNR=6.6						
ULM	**Lac du Bonnet**	**77.53**	**340**	P	**P**	**10 12 37.5**	**-0.3**
	2.1nm,0.8s,baz=123,slow=8.1,SNR=3.1						
ESDC	**Sonseca Array**	**83.03**	**42**	P	**P**	**10 13 07.0**	**+0.1**
	0.2nm,0.3s,baz=243,slow=4.6,SNR=8.7						
YKA	**Yellowknife Ar**	**93.50**	**339**	P	**P**	**10 13 55.8**	**+0.3**
	0.5nm,0.6s,baz=126,slow=4.7,SNR=12						
ASAR	**Alice Springs**	**131.30**	**202**	PKP	**PKPdf**	**10 19 50.5**	**+0.6**
	0.5nm,1.0s,baz=134,slow=2.7,SNR=2.8						
ASAR				SKPbc	**SKPab**	**10 22 26.2**	**-0.3**
	1.1nm,0.4s,baz=150,slow=3.8,SNR=26						
WRA	**Warramunga Arr**	**134.56**	**204**	PKP	**PKPdf**	**10 19 56.6**	**+0.6**
	0.3nm,0.8s,baz=157,slow=1.8,SNR=3.7						
WRA				SKPbc	**SKPbc**	**10 22 36.7**	**+0.1**
	2.2nm,0.6s,baz=155,slow=2.7,SNR=28						
KURBB	**Kurchatov Arra**	**139.14**	**37**	PKP	**PKPdf**	**10 20 03.2**	**-0.2**
	0.5nm,0.3s,baz=292,slow=3.1,SNR=4.2						
ZALV	**Zalesovo Beam**	**140.37**	**29**	PKhKP	PKPpre	10 20 00.3	
	0.7nm,0.4s,baz=306,slow=5.0,SNR=3.5						
ZALV				SKPbc	**SKPbc**	**10 22 52.9**	**+0.8**
	0.9nm,0.3s,baz=271,slow=2.6,SNR=5.6						
MKAR	**Makanchi Array**	**143.21**	**40**	PKP	PKPbc	10 20 09.1	0.0
	2.7nm,0.7s,baz=283,slow=7.4,SNR=27						
MKAR				SKPbc	**SKiKP**	**10 23 00.7**	**+0.3**
	0.4nm,0.7s,baz=284,slow=5.8,SNR=5.2						
SMLA	**Simla**	**144.09**	**67**	*e*P	PKPbc	10 20 12.4	+0.1
KOLN	**Koldanda**	**149.92**	**73**	*e*P	**PKPbc**	**10 20 28.4**	**0.0**
	11nm,0.7s						
GKN	**Gorkha**	**150.82**	**72**	*e*P	**PKPbc**	**10 20 30.3**	**-0.1**
	20nm,0.4s						
DMN	**Daman**	**151.27**	**73**	*e*P	**PKPbc**	**10 20 31.3**	**-0.2**
	8.0nm,0.5s						
KKN	**Kakani**	**151.41**	**72**	*e*P	**PKPbc**	**10 20 31.5**	**-0.3**
	11nm,0.5s						
PKIN	**Phulchoki**	**151.53**	**73**	*e*P	**PKPbc**	**10 20 31.5**	**-0.6**
	3.1nm,0.3s						
PKI	**Pulchoki**	**151.54**	**73**	*e*P	**PKPbc**	**10 20 31.6**	**-0.6**
	5.4nm,0.5s						
GUN	**Gumba**	**151.93**	**72**	*e*P	**PKPbc**	**10 20 33.0**	**-0.1**
	5.7nm,0.3s						
JIRN	**Jiri**	**152.22**	**73**	*e*P	**PKPbc**	**10 20 32.5**	**-1.3**
RAMN	**Ramite**	**152.63**	**74**	*e*P	**PKPbc**	**10 20 33.3**	**-1.3**
	21nm,0.6s						
SONM	**Songino Array**	**153.21**	**15**	PKPbc	**PKPbc**	**10 20 35.2**	**+0.2**
	0.6nm,0.4s,baz=353,slow=0.8,SNR=4.6						
SONM				PKPab	**PKPab**	**10 20 49.5**	**+0.1**
	1.1nm,0.6s,baz=313,slow=3.3,SNR=5.1						
ODAN	**Odare**	**153.34**	**74**	*e*P	**PKPbc**	**10 20 33.6**	**-2.5**
	13nm,0.6s						
TAPN	**Taplejung**	**153.59**	**73**	*e*P	**PKPbc**	**10 20 33.6**	**-3.1**
	3.3nm,0.5s						
HHC	**Hu-ho-hao-te**	**160.97**	**11**	*e*PKP	**PKPdf**	**10 20 41.0**	**+4.1**
HHC				PP	PP	10 25 13.7	+6.6
HHC				SKKS		10 31 08.9	
HHC				SS	**SS**	**10 44 41.1**	**+3.8**
HHC				PPMZ			
	57nm,10.2s						

*IDC **05** 10:18:50.6±1.0,1.80N×95.42E,h0km,mb3.9/12, mb1 3.9/14,mb1mx3.8/39,mbtmp3.9/14,ML4.3/2,MS4.2/1, Ms1 4.2/1,ms1mx3.1/33,Error ellipse: s-maj=32.4km s-min=18.0km az=46.0*
*ISCJB **05** 10:18:54.8±0.5,1.96N±0.05×95.56E±0.04,h33km, mb3.8/12,MS4.2/1,Error ellipse: s-maj=7.4km s-min=4.4km az=32.3*
*DJA **05** 10:18:56.2±0.7,2.1N±3.3×9.6E±.7,h45km±13km,M4.5/12, mb4.7/8,mB5.3/4,MLv4.3/12,Mw(mB)4.7/4*
ISC 05 10:18:56.7±0.7,2.01N±0.07×95.54E±0.07,h35km,n41,
σ1s19/41,mb3.9/12,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.88**	**63**	P	**Pn**	**10 19 11.4**	**-1.2**
SNSI				S	**Sn**	**10 19 24.1**	**-0.1**
GSI	**Gunungsitoli**	**2.15**	**109**	P	**Pn**	**10 19 29.3**	**-0.8**
GSI				S	**Sn**	**10 19 55.0**	**-0.6**
KCSI	**Kotacane, Aceh**	**2.69**	**56**	P	**Pn**	**10 19 38.0**	**+0.5**
TSI	**Tuntungan**	**3.37**	**64**	P	**Pn**	**10 19 46.9**	**+0.1**
BSI	**Banda Aceh**	**3.47**	**356**	P	**Pn**	**10 19 45.7**	**-2.5**
BSI				S	**Sn**	**10 20 26.4**	**-1.8**
PSI	**Prapat**	**3.47**	**77**	Pn	**Pn**	**10 19 48.3**	**0.0**
	9.0nm,0.3s,baz=272,slow=10,SNR=21						
PSI				Sn	**Sn**	**10 20 26.7**	**-1.6**
	2.5nm,0.3s,baz=319,slow=20,SNR=3.9						
LHMI	**Lhok Sumawe**	**3.49**	**24**	P	**Pn**	**10 19 47.2**	**-1.3**
LHMI				S	**Sn**	**10 20 27.9**	**-0.7**
MNSI	**Mandailing Nat**	**4.22**	**107**	P	**Pn**	**10 19 58.5**	**0.0**
MNSI				S	**Sn**	**10 20 47.4**	**+0.9**
PDSI	**Padang**	**5.71**	**120**	P	**Pn**	**10 20 19.3**	**+0.2**
	35nm,0.8s,3μm1.4nm						
JMBI	**JAMBI**	**8.87**	**114**	P	**Pn**	**10 21 01.9**	**-0.6**
	494nm,0.2s,40μm						
MNAI	**Manna**	**9.75**	**131**	P	**Pn**	**10 21 14.1**	**-0.4**
	208nm,0.5s						
LHSI	**Lahat**	**9.86**	**126**	P	Pn	10 21 26.9	+11
MDSI	**Maura Dua**	**10.78**	**127**	P	**Pn**	**10 21 27.5**	**-1.1**
CMAR	**Chiang Mai Arr**	**16.68**	**11**	Pn	**Pn**	**10 22 48.6**	**+0.8**
	0.9nm,0.3s,baz=203,slow=11,SNR=14						
ODAN	**Odare**	**25.92**	**343**	*e*P	**P**	**10 24 27.6**	**+1.7**
	33nm,0.7s						
RAMN	**Ramite**	**26.24**	**342**	*e*P	**P**	**10 24 31.1**	**+2.2**
	43nm,0.6s						
TAPN	**Taplejung**	**26.29**	**344**	*e*P	**P**	**10 24 31.4**	**+2.0**
	26nm,0.9s						
JIRN	**Jiri**	**27.03**	**342**	*e*P	**P**	**10 24 37.9**	**+1.8**
	36nm,0.7s						
PKI	**Pulchoki**	**27.20**	**340**	*e*P	**P**	**10 24 38.2**	**+0.5**
	8.5nm,0.7s						
DMN	**Daman**	**27.34**	**340**	*e*P	**P**	**10 24 40.9**	**+2.1**
	15nm,0.8s						
GUN	**Gumba**	**27.36**	**341**	*e*P	**P**	**10 24 40.8**	**+1.7**
	23nm,0.7s						
KKN	**Kakani**	**27.45**	**340**	*e*P	**P**	**10 24 41.2**	**+1.5**
	22nm,0.9s						
GKN	**Gorkha**	**27.87**	**339**	*e*P	**P**	**10 24 44.4**	**+1.0**
	33nm,0.9s						
KOLN	**Koldanda**	**28.05**	**337**	*e*P	**P**	**10 24 46.0**	**+0.9**
	19nm,0.8s						
H01W3	**Cape Leeuwin H**	**40.63**	**156**	T	T	11 09 59.6	
	baz=333,slow=76,SNR=14						
H01W2	**Cape Leeuwin H**	**40.65**	**156**	T	T	11 10 01.8	
	baz=333,slow=76,SNR=15						
H01W1	**Cape Leeuwin H**	**40.65**	**156**	T	T	11 10 02.9	
	baz=333,slow=76,SNR=15						
WRA	**Warramunga Arr**	**43.87**	**122**	P	**P**	**10 26 59.7**	**-0.4**
	0.6nm,0.7s,baz=299,slow=9.6,SNR=5.6						
AAK	**Ala-Archa**	**44.62**	**338**	P	**P**	**10 27 07.0**	**+1.1**
	0.6nm,0.3s,baz=159,slow=14,SNR=2.2						
ASAR	**Alice Springs**	**45.21**	**127**	P	**P**	**10 27 09.2**	**-1.5**
	0.6nm,0.8s,baz=297,slow=8.1,SNR=4.3						
MKAR	**Makanchi Array**	**46.08**	**347**	P	**P**	**10 27 18.1**	**+0.8**
	1.1nm,0.5s,baz=185,slow=7.1,SNR=13						
KSRS	**Korea Array**	**46.15**	**36**	LR	LR	10 48 50.9	
	comp=Z,260nm,20.5s,baz=102,slow=39						
SONM	**Songino Array**	**46.60**	**10**	P	**P**	**10 27 21.3**	**-0.2**
	0.9nm,0.4s,baz=185,slow=8.7,SNR=3.8						
KURBB	**Kurchatov Arra**	**50.53**	**346**	P	**P**	**10 27 52.2**	**+0.7**
	0.7nm,0.6s,baz=164,slow=6.5,SNR=3.4						
ZALV	**Zalesovo Beam**	**52.52**	**352**	P	**P**	**10 28 06.9**	**+0.7**
	1.5nm,0.4s,baz=167,slow=7.0,SNR=6.3						
BVAR	**Borovoye Array**	**54.95**	**342**	P	**P**	**10 28 24.3**	**+0.2**
	0.7nm,0.4s,baz=152,slow=6.5,SNR=3.8						
BRTR	**Keskin Array B**	**67.34**	**313**	P	**P**	**10 29 47.9**	**-0.7**
	0.5nm,0.7s,baz=112,slow=6.4,SNR=2.9						
SEY	**Seymchan**	**73.68**	**24**	P	**P**	**10 30 27.3**	**+0.7**
	0.8nm,0.7s,baz=240,slow=20,SNR=3.3						
FINES	**FINESS Array B**	**78.52**	**333**	P	**P**	**10 30 53.9**	**-0.3**
	0.6nm,0.6s,baz=104,slow=4.6,SNR=3.3						
TORD	**Torodi Ar. Bea**	**93.29**	**283**	P	**P**	**10 32 08.0**	**-0.6**
	0.5nm,0.8s,baz=86,slow=5.5,SNR=3.2						
TXAR	**Lajitas Array**	**143.81**	**29**	PKP	PKPab	10 38 26.3	+0.2
	0.1nm,0.4s,baz=270,slow=0.9,SNR=2.7						

MAN 05 10:27:59,13.15N×121.05E,h32km,mb4.6,ML3.5,MS3.4, 1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.36**	**345**	*e*P	Pn	10 28 09.5	+1.4
PGP				*e*S	Sn	10 28 15.9	+1.7
SJMP	**San Jose**	**0.69**	**174**	*e*

IDC ***05*** *10:29:25.4±0.6,35˚.46S×72˚.64W,h0km,mb4.3/11, mb1 4.4/15,mb1mx4.3/20,mbtmp4.2/15,ML4.2/4,MS4.1/8, Ms1 4.1/8,ms1mx3.8/21,Error ellipse: s-maj=24.6km s-min=15.5km az=92.0*

ISCJB ***05*** *10:29:27.7±0.2,35˚.43S±0˚.04×72˚.67W±0˚.03,h20km, mb4.5/34,MS3.8/5,Error ellipse: s-maj=6.6km s-min=3.8km az=14.2*

NEIC ***05*** *10:29:29.0,35˚.47S×72˚.64W,h38km,mb4.6/21,After GUC.*

NEIC Felt [IV] at Cauquenes and Chanco; [III] at Colbun, Constitucion, Parral, Retiro and Yerbas Buenas. Also felt at Talca.

GUC ***05*** *10:29:29.0±0.7,35˚.47S×72˚.64W,h38km±9km,ML5.1*

BJI ***05*** *10:29:31.1,35˚.04S×72˚.81W,h35km,Ms4.9/3,Ms7 4.7/3*

ISC 05 10:29:29.0±0.4,35˚.48S±0˚.05×72˚.60W±0˚.06,h20km,n298, σ0°84/300,mb4.6/34,MS3.7/5,112C-99D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.79**	**84**	⇓	*e*P		**Pb**	**10 29 44.3**	**+0.2**
TALC					*e*S		**Sn**	**10 29 55.7**	**-0.5**
LNCH	**Linares**	**0.89**	**115**		*e*P		**Pb**	**10 29 46.2**	**+0.4**
LNCH					*e*S		**Sn**	**10 29 58.5**	**-0.2**
NICH	**Los Niches**	**1.22**	**67**		*e*P		**Pn**	**10 29 51.1**	**+0.2**
NICH					*e*S		**Sn**	**10 30 08.0**	**+1.2**
TACH	**Talagante**	**2.28**	**37**		*e*P		**Pn**	**10 30 05.7**	**+0.2**
IHA	**Instituto Hidr**	**2.57**	**18**		*e*P		**Pn**	**10 30 08.9**	**-0.6**
CLCH	**Cerro Calan**	**2.69**	**40**		*e*P		**Pn**	**10 30 11.3**	**+0.2**
CLCH					*e*S		**Sb**	**10 30 47.4**	**-1.5**
CLCH					AML		AML	10 30 58.0	
	comp=N,8μm,0.8s								
PEL	**Peldehue**	**2.81**	**35**		*e*P		**Pn**	**10 30 12.9**	**0.0**
PEL					AML		AML	10 30 58.0	
	comp=N,6μm,0.6s								
VLCH	**Valdivia**	**4.35**	**187**		*e*P		**Pn**	**10 30 33.1**	**-0.9**
CFAA	**Coronel Fontan**	**5.31**	**45**		Pn		**Pn**	**10 30 47.8**	**+0.6**
	comp=N,1.1nm,0.3s,baz=257,slow=2.1,SNR=18								
CFAA					Lg		Lg	10 32 03.1	
	comp=N,1.0nm,0.3s,baz=147,slow=10,SNR=4.4								
CFAA					LR		LR	10 32 58.0	
	comp=N,124nm,19.0s,baz=225,slow=40								
PLCA	**Paso Flores**	**5.49**	**164**		Pn		**Pn**	**10 30 51.0**	**+1.3**
	comp=N,3.8nm,0.3s,baz=331,slow=10,SNR=89								
PLCA					Lg		Lg	10 32 12.7	
	comp=N,3.2nm,0.3s,baz=261,slow=20,SNR=3.2								
LCO	**Las Campanas**	**6.64**	**14**		*e*Pn		**Pn**	**10 31 04.8**	**-0.9**
TRQA	**Tornquist**	**8.90**	**110**		*e*Pn		**Pn**	**10 31 37.3**	**+0.8**
LVC	**Limon Verde**	**13.22**	**15**		Pn		**Pn**	**10 32 34.9**	**-0.9**
	comp=N,9.2nm,0.3s,baz=206,slow=11,SNR=3.0								
LVC					LR		LR	10 38 22.0	
	comp=N,2μm,18.8s,baz=186,slow=41								
LVC	**Limon Verde**	**13.22**	**15**		*e*Pn		**Pn**	**10 32 35.2**	**-0.6**
CPUP	**Villa Florida**	**15.95**	**59**		Pn		**Pn**	**10 33 13.0**	**+0.8**
	comp=N,0.1nm,0.3s,baz=246,slow=14,SNR=5.6								
CPUP					LR		LR	10 39 54.4	
	comp=N,4μm,18.3s,baz=252,slow=39								
USHA	**Ushuaia**	**19.57**	**173**		LR		LR	10 42 11.4	
	comp=N,433nm,19.6s,baz=200,slow=39								
SIV	**San Ignacio**	**21.97**	**31**		P		**P**	**10 34 20.6**	**-1.2**
	comp=N,17nm,0.8s,baz=215,slow=8.6,SNR=46								
SIV					LR		LR	10 44 32.4	
	comp=N,277nm,18.2s,baz=194,slow=41								
NNA	**Nana**	**23.70**	**350**		LR		LR	10 41 21.4	
	comp=N,179nm,21.4s,baz=176,slow=30								
ATAH	**Atahualpa**	**28.71**	**348**		LR		LR	10 44 29.6	
	comp=N,164nm,18.6s,baz=183,slow=32								
BDFB	**Brasilia**	**29.55**	**54**		P		**P**	**10 35 32.9**	**+0.3**
	comp=N,1.8nm,0.6s,baz=198,slow=9.3,SNR=2.1								
BDFB					LR		LR	10 48 32.9	
	comp=N,352nm,19.4s,baz=224,slow=39								
OTAV	**Otavalo**	**35.95**	**350**		*e*P		**P**	**10 36 30.4**	**+1.6**
	comp=N,12nm,1.4s								
PTGA	**Pitinga**	**36.52**	**22**		*e*P		**P**	**10 36 32.2**	**-1.0**
	comp=N,13nm,0.7s								
PTGA					*e*pP		**pP**	**10 36 41.2**	**+1.8**
SDV	**Santo Domingo**	**44.16**	**3**		*e*P		**P**	**10 37 35.4**	**-1.3**
	comp=N,5.1nm,0.8s								
SDV					*e*pP		**pP**	**10 37 46.7**	**+3.7**
BCIP	**Isla Barro Col**	**44.93**	**350**		*e*P		**P**	**10 37 42.8**	**+0.3**
	comp=N,9.2nm,0.7s								
VNA3	**Neumayer Olymp**	**48.17**	**157**		P		P	10 38 17.4	+10
VNA1	**Neumayer--Stat**	**48.50**	**156**		P		P	10 38 17.3	+7.4
VNA2	**Neumayer--Watz**	**48.84**	**157**		P		P	10 38 19.0	+6.5
	baz=296,slow=7.7								
SNAA	**Sanae**	**50.40**	**157**		P		**P**	**10 38 24.7**	**+0.1**
	comp=N,0.8nm,0.8s,baz=239,slow=11,SNR=7.3								
QSPA	**South Pole Qui**	**54.76**	**180**		P		**P**	**10 38 57.5**	**+0.6**
	comp=N,4.3nm,0.8s,baz=152,slow=1.0,SNR=30								
QSPA	**South Pole Qui**	**54.76**	**180**		*e*P		**P**	**10 38 57.6**	**+0.6**
	comp=N,6.7nm,0.8s								
035A	**Encino**	**66.59**	**335**	⇓	P		**P**	**10 40 18.9**	**+1.1**
	baz=67								
034A	**Hebbronville**	**66.91**	**335**	⇑	P		**P**	**10 40 21.4**	**+1.6**
	baz=67								
933A	**Laredo**	**67.62**	**334**	⇓	P		**P**	**10 40 25.6**	**+1.2**
	baz=68								
835A	**Beeville**	**67.75**	**336**	⇑	P		**P**	**10 40 26.7**	**+1.6**
	baz=68								
834A	**Tilden**	**67.84**	**335**	⇓	P		**P**	**10 40 27.3**	**+1.6**
	baz=68								
736A	**Circle Diamond**	**68.12**	**337**	⇑	P		**P**	**10 40 28.7**	**+1.3**
	baz=68								
735A	**Kenedy**	**68.26**	**336**	⇓	P		**P**	**10 40 28.9**	**+0.5**
	baz=69,SNR=5.2								
833A	**Chaparral WMA,**	**68.31**	**335**	⇓	P		**P**	**10 40 28.9**	**+0.3**
	baz=69,SNR=7.2								
832A	**Faith Ranch, C**	**68.48**	**334**	⇑	P		**P**	**10 40 30.2**	**+0.5**
	baz=69								
734A	**La Parita Cree**	**68.51**	**336**	⇑	P		**P**	**10 40 30.6**	**+0.8**
	baz=69								
636A	**Smothers Creek**	**68.60**	**337**	⇑	P		**P**	**10 40 30.8**	**+0.4**
	baz=69,SNR=7.0								
732A	**Laxson Ranch,**	**68.89**	**334**	⇑	P		**P**	**10 40 32.6**	**+0.4**
	baz=69,SNR=12								
535A	**Dale**	**69.27**	**337**	⇑	P		**P**	**10 40 35.4**	**+0.8**
	baz=70								
632A	**Uvalde**	**69.53**	**335**	⇓	P		**P**	**10 40 36.4**	**+0.1**
	baz=70,SNR=9.0								
631A	**Perdido Creek**	**69.72**	**334**	⇑	P		**P**	**10 40 37.7**	**+0.2**
	baz=70								
533A	**Kerrville**	**69.79**	**336**	⇓	P		**P**	**10 40 38.2**	**+0.3**
	baz=70								
337A	**Centerville**	**69.95**	**339**	⇑	P		**P**	**10 40 39.8**	**+1.1**
	baz=70								
532A	**Rocksprings**	**70.14**	**335**	⇑	P		**P**	**10 40 40.1**	**+0.1**
	baz=70,SNR=18								
434A	**Burnet**	**70.22**	**337**	⇓	P		**P**	**10 40 40.5**	**0.0**
	baz=70,SNR=6.3								
336A	**Riesel**	**70.31**	**338**	⇑	P		**P**	**10 40 41.9**	**+0.9**
	baz=71								
531A	**Rocksprings**	**70.40**	**334**	⇑	P		**P**	**10 40 41.7**	**+0.1**
	baz=71,SNR=9.5								
JCT	**Junction City**	**70.43**	**335**		*e*P		**P**	**10 40 42.1**	**+0.3**
	comp=N,12nm,0.9s								
JCT	**Junction City**	**70.43**	**335**	⇑	P		**P**	**10 40 41.9**	**+0.1**
	baz=71,SNR=7.3								
433A	**Art**	**70.44**	**336**	⇓	P		**P**	**10 40 41.7**	**-0.1**
	baz=71,SNR=10								
530A	**J-C Ranch, Com**	**70.66**	**334**	⇓	P		**P**	**10 40 43.8**	**+0.6**
	baz=71,SNR=13								
334A	**Lometa**	**70.69**	**337**	⇓	P		**P**	**10 40 43.6**	**+0.3**
	baz=71,SNR=8.9								
KMSC	**Kings Mountain**	**70.73**	**352**	⇑	P		**P**	**10 40 42.7**	**-0.7**
	baz=71								
432A	**Menard**	**70.79**	**335**	⇑	P		**P**	**10 40 43.8**	**-0.2**
	baz=71								
TXAR	**Lajitas Array**	**70.80**	**331**		P		**P**	**10 40 44.3**	**+0.1**
	comp=N,3.3nm,0.7s,baz=151,slow=8.6,SNR=46								
431A	**Sonora**	**70.89**	**335**	⇓	P		**P**	**10 40 44.4**	**-0.2**
	baz=71,SNR=6.9								
333A	**Richland Sprin**	**70.93**	**336**	⇑	P		**P**	**10 40 44.5**	**-0.2**
	baz=71,SNR=7.2								
529A	**Stev Forest Ra**	**70.96**	**333**	⇑	P		**P**	**10 40 45.4**	**+0.3**
	baz=71,SNR=13								
WHTX	**Lake Whitney,**	**71.06**	**338**	⇑	P		**P**	**10 40 45.7**	**+0.2**
	baz=71								
137A	**Heron Place, G**	**71.12**	**339**	⇓	P		**P**	**10 40 46.3**	**+0.5**
	baz=71								
430A	**Baggett Ranch,**	**71.21**	**334**	⇓	P		**P**	**10 40 46.3**	**-0.2**
	baz=72,SNR=5.1								
332A	**Millersview**	**71.23**	**336**	⇑	P		**P**	**10 40 46.4**	**-0.3**
	baz=72,SNR=5.1								
234A	**Clairette**	**71.28**	**337**	⇓	P		**P**	**10 40 46.9**	**0.0**
	baz=72								
429A	**Davenport Ranc**	**71.30**	**334**	⇓	P		**P**	**10 40 47.0**	**-0.1**
	baz=72,SNR=6.7								
331A	**San Angelo**	**71.40**	**335**	⇑	P		**P**	**10 40 47.5**	**-0.1**
	baz=72,SNR=7.6								
CPCT	**Cooper Cave**	**71.44**	**350**		*e*P		**P**	**10 40 47.4**	**-0.4**
Z38A	**Mt. Pleasant**	**71.52**	**340**	⇑	P		**P**	**10 40 48.0**	**-0.3**
	baz=72								
233A	**Rising Star**	**71.54**	**337**	⇑	P		**P**	**10 40 47.9**	**-0.6**
	baz=72,SNR=5.3								
135A	**Vickery Place,**	**71.57**	**338**	⇑	P		**P**	**10 40 48.3**	**-0.3**
	baz=72								
232A	**Coleman**	**71.66**	**336**	⇑	P		**P**	**10 40 48.7**	**-0.5**
	baz=72,SNR=6.1								
330A	**Mertzon**	**71.75**	**334**	⇓	P		**P**	**10 40 49.1**	**-0.7**
	baz=72,SNR=6.1								
MAW	**Mawson**	**71.89**	**164**		P		**P**	**10 40 49.3**	**-0.9**
	comp=N,4.1nm,0.7s,baz=216,slow=7.9,SNR=8.6								
MAW					LR		LR	11 14 09.6	
	comp=N,134nm,18.6s,baz=234,slow=37								
231A	**Bronte**	**71.93**	**335**	⇑	P		**P**	**10 40 50.5**	**-0.4**
	baz=72,SNR=7.8								
133A	**Hamilton Ranch**	**72.09**	**337**	⇑	P		**P**	**10 40 51.5**	**-0.2**
	baz=72								
329A	**Wagon Wheel Ra**	**72.11**	**334**	⇓	P		**P**	**10 40 51.6**	**-0.3**
	baz=72,SNR=5.2								
Z35A	**Perchaven, San**	**72.24**	**338**	⇓	P		**P**	**10 40 52.7**	**+0.1**
	baz=73								
ABTX	**Abilene, Hawle**	**72.34**	**336**	⇑	P		**P**	**10 40 53.3**	**0.0**
	baz=73								
Z34A	**Collier Ranch,**	**72.48**	**338**	⇓	P		**P**	**10 40 54.1**	**+0.1**
	baz=73								
229A	**Bryant Ranch,**	**72.48**	**334**	⇑	P		**P**	**10 40 54.2**	**+0.1**
	baz=73								
131A	**Roby**	**72.63**	**336**	⇓	P		**P**	**10 40 55.3**	**+0.2**
	baz=73								
WVT	**Waverly**	**72.64**	**347**		*e*P		**P**	**10 40 53.9**	**-1.1**
Z33A	**Whitaker Ranch**	**72.67**	**337**	⇓	P		**P**	**10 40 54.5**	**-0.7**
	baz=73,SNR=6.2								
130A	**Snyder**	**72.76**	**335**	⇓	P		**P**	**10 40 55.5**	**-0.3**
	baz=73								
228A	**UT Block 9, Go**	**72.90**	**334**	⇓	P		**P**	**10 40 56.0**	**-0.7**
	baz=73,SNR=5.2								
Z32A	**Haskell**	**72.91**	**337**	⇓	P		**P**	**10 40 56.1**	**-0.6**
	baz=73,SNR=6.6								
Y34A	**Reagan Ranch,**	**72.98**	**338**	⇑	P		**P**	**10 40 56.9**	**-0.1**
	baz=73								
W38A	**Poteau**	**73.11**	**341**	⇑	P		**P**	**10 40 58.0**	**+0.2**
	baz=73								
X36A	**Centrahoma**	**73.14**	**340**	⇓	P		**P**	**10 40 57.1**	**-0.8**
	baz=74								
Z31A	**Sharp Cattle R**	**73.14**	**336**	⇓	P		**P**	**10 40 57.5**	**-0.5**
	baz=73,SNR=6.4								
X35A	**Drake**	**73.16**	**339**	⇓	P		**P**	**10 40 57.6**	**-0.4**
	baz=74								
Y33A	**Hilltop Ranch,**	**73.29**	**338**	⇑	P		**P**	**10 40 58.5**	**-0.3**
	baz=74								
128A	**Castleberry Fa**	**73.31**	**334**	⇑	P		**P**	**10 40 58.8**	**-0.3**
	baz=74,SNR=6.1								
W37A	**Quinton**	**73.41**	**341**	⇑	P		**P**	**10 40 59.5**	**0.0**
	baz=74								
Z30A	**Sanderson Ranc**	**73.44**	**335**	⇑	P		**P**	**10 40 59.8**	**0.0**
	baz=74								
Y32A	**R-T Farms, Ver**	**73.54**	**337**	⇑	P		**P**	**10 41 00.0**	**-0.3**
	baz=74								
MNTX	**Cornudas Mount**	**73.58**	**331**		*e*P		**P**	**10 40 59.9**	**-0.8**
	comp=N,6.4nm,0.8s								
MNTX	**Cornudas Mount**	**73.58**	**331**	⇑	P		**P**	**10 40 59.8**	**-0.8**
	baz=74,SNR=11								
X34A	**Smith Ranch, M**	**73.60**	**338**	⇓	P		**P**	**10 41 00.7**	**+0.1**
	baz=74								
Z29A	**Hungry Hill Ra**	**73.62**	**335**	⇑	P		**P**	**10 41 00.1**	**-0.8**
	baz=74,SNR=5.4								
W36A	**Wetumka**	**73.64**	**340**	⇓	P		**P**	**10 41 00.2**	**-0.7**
	baz=74								
Y31A	**Rekieta Farm,**	**73.77**	**336**	⇓	P		**P**	**10 41 01.7**	**0.0**
	baz=74								
PBMO	**Poplar Bluff**	**73.78**	**345**		*e*P		**P**	**10 41 00.7**	**-0.9**
	comp=N,5.3nm,0.6s								
W35A	**Tecumseh**	**73.83**	**339**	⇑	P		**P**	**10 41 01.3**	**-0.7**
	baz=74								
X32A	**Elmer**	**73.88**	**337**	⇓	P		**P**	**10 41 02.0**	**-0.3**
	baz=74								
Z28A	**Tucker Farm, M**	**73.88**	**334**	⇑	P		**P**	**10 41 02.1**	**-0.3**
	baz=74								
WMOK	**Wichita Mounta**	**74.01**	**338**		*e*P		**P**	**10 41 02.5**	**-0.6**
Y29A	**Porterfield Fa**	**74.15**	**335**	⇓	P		**P**	**10 41 03.9**	**-0.1**
	baz=74,SNR=5.9								
TUL1	**Leonard**	**74.24**	**341**		*e*P		**P**	**10 41 03.9**	**-0.4**
TUL1	**Leonard**	**74.24**	**341**	⇓	P		**P**	**10 41 04.1**	**-0.3**
	baz=75								
X31A	**McDonald Ranch**	**74.29**	**337**	⇑	P		**P**	**10 41 04.5**	**-0.2**
	baz=75								
W33A	**Caddo, Fort Co**	**74.30**	**338**	⇓	P		**P**	**10 41 04.8**	**+0.1**
	baz=75								
V35A	**Meyer Ranch, C**	**74.39**	**340**	⇑	P		**P**	**10 41 04.6**	**-0.7**
	baz=75								
Y28A	**McKinney Farm,**	**74.39**	**335**	⇓	P		**P**	**10 41 05.5**	**0.0**
	baz=75								
W32A	**Sentinel**	**74.51**	**338**	⇓	P		**P**	**10 41 06.2**	**+0.2**
	baz=75								
MSTX	**Muleshoe**	**74.63**	**334**		*e*P		**P**	**10 41 06.7**	**-0.1**
MSTX	**Muleshoe**	**74.63**	**334**	⇑	P		**P**	**10 41 06.4**	**-0.5**
	baz=75,SNR=6.2								
V34A	**Guthrie**	**74.65**	**339**	⇑	P		**P**	**10 41 06.2**	**-0.5**
	baz=75								
X29A	**Tulia**	**74.69**	**335**	⇓	P		**P**	**10 41 07.0**	**-0.2**
	baz=75								
V33A	**Lossen Ranch,**	**74.87**	**339**	⇓	P		**P**	**10 41 08.0**	**-0.1**
	baz=75								
319A	**Douglas**	**74.90**	**328**	⇑	P		**P**	**10 41 09.3**	**+0.8**
	baz=75,SNR=5.8								
AMTX	**Amarillo**	**75.08**	**336**		*e*P		**P**	**10 41 09.6**	**+0.1**
	comp=N,16nm,1.2s								
AMTX	**Amarillo**	**75.08**	**336**	⇑	P		**P**	**10 41 09.7**	**+0.3**
	baz=75								
U34A	**Anderson Ranch**	**75.22**	**339**	⇓	P		**P**	**10 41 10.1**	**+0.1**
	baz=76								
121A	**Cookes Peak, D**	**75.27**	**330**		*e*P		**P**	**10 41 11.4**	**+0.7**
	comp=N,7.7nm,0.9s								
121A	**Cookes Peak, D**	**75.27**	**330**	⇑	P		**P**	**10 41 11.7**	**+1.0**
	baz=76,SNR=9.4								
W29A	**Amarillo**	**75.29**	**336**	⇑	P		**P**	**10 41 10.8**	**+0.2**
	baz=76								
U32A	**Winter Ranch,**	**75.60**	**338**	⇑	P		**P**	**10 41 12.2**	**-0.1**
	baz=76								
LIC	**Lamto**	**75.68**	**72**		*e*P		**P**	**10 41 12.4**	**-0.8**
	comp=N,48nm,1.7s								
S36A	**Lake Cedric, C**	**75.89**	**341**	⇑	P		**P**	**10 41 13.4**	**-0.5**
	baz=76								
ACSO	**Alum Creek Sta**	**75.94**	**352**		*e*P		**P**	**10 41 13.4**	**-0.7**
	comp=N,22nm,0.6s								
TIC	**Toumodi**	**75.94**	**71**		*e*P		**P**	**10 41 14.2**	**-0.6**
	comp=N,4.4nm,0.2s								
KIC	**Kosan Boka**	**75.98**	**72**		*e*P		**P**	**10 41 13.9**	**-1.1**
	comp=N,76nm,1.7s								
T33A	**Patterson Ranc**	**76.03**	**339**	⇑	P		**P**	**10 41 14.7**	**+0.1**
	baz=76								
S35A	**Otter Creek Ra**	**76.05**	**341**	⇓	P		**P**	**10 41 14.6**	**-0.2**
	baz=76								
DBIC	**Dimbokro**	**76.09**	**71**		P		**P**	**10 41 14.3**	**-1.3**
	comp=N,4.9nm,0.8s,baz=194,slow=9.0,SNR=5.4								
U30A	**WK&E Inc. Balk**	**76.25**	**337**	⇑	P		**P**	**10 41 16.4**	**+0.4**
	baz=77								
V27A	**Dan Oppiter Fa**	**76.27**	**335**	⇓	P		**P**	**10 41 17.0**	**+0.8**
	baz=77								
TUC	**Tucson**	**76.36**	**327**		*e*P		**P**	**10 41 17.6**	**+0.9**
	comp=N,3.8nm,1.0s								
LPM	**Los Pinos Moun**	**76.37**	**332**		*e*P		**P**	**10 41 17.8**	**+0.9**
T31A	**Randall Ranch,**	**76.47**	**338**	⇑	P		**P**	**10 41 17.5**	**+0.3**
	baz=77								
U28A	**Mallet**	**76.62**	**336**	⇓	P		**P**	**10 41 18.5**	**+0.3**
	baz=77								
ANMO	**Albuquerque**	**76.86**	**332**		*e*P		**P**	**10 41 20.1**	**+0.4**
	comp=N,4.4nm,0.9s								
U27A	**Thompson Grove**	**76.87**	**335**	⇑	P		**P**	**10 41 19.6**	**0.0**
	baz=77								
214A	**Organ Pipe Nat**	**76.97**	**326**	⇑	P		**P**	**10 41 21.4**	**+1.2**
	baz=77								
T29A	**Hugoton**	**77.03**	**337**	⇑	P		**P**	**10 41 20.6**	**+0.2**
	baz=77								
R33A	**Olander Ranch,**	**77.09**	**340**	⇓	P		**P**	**10 41 20.9**	**+0.2**
	baz=77								
S30A	**Montezuma**	**77.21**	**338**	⇑	P		**P**	**10 41 21.6**	**+0.2**
	baz=78								
T28A	**Walsh**	**77.26**	**336**	⇑	P		**P**	**10 41 21.8**	**+0.1**
	baz=78,SNR=6.0								
S29A	**Ulysses**	**77.40**	**337**	⇑	P		**P**	**10 41 22.9**	**+0.5**
	baz=78								
R32A	**Long Quarter,**	**77.41**	**339**	⇓	P		**P**	**10 41 22.9**	**+0.4**
	baz=78								
T27A	**Campo**	**77.41**	**336**	⇓	P		**P**	**10 41 23.0**	**+0.4**
	baz=78								
R31A	**Burdett**	**77.52**	**339**	⇓	P		**P**	**10 41 23.1**	**0.0**
	baz=78								
S28A	**Manter**	**77.62**	**337**	⇑	P		**P**	**10 41 24.1**	**+0.3**
	baz=78								
T26A	**Comanche Natio**	**77.81**	**335**	⇓	P		**P**	**10 41 25.2**	**+0.3**
	baz=78								
X18A	**Snowflake**	**77.90**	**329**	⇑	P		**P**	**10 41 26.4**	**+0.9**
	baz=78								
T25A	**Trinidad**	**78.06**	**334**		*e*P		**P**	**10 41 27.1**	**+0.7**
T25A	**Trinidad**	**78.06**	**334**	⇓	P		**P**	**10 41 27.1**	**+0.7**
	baz=78								
R29A	**Marienthal**	**78.14**	**337**	⇑	P		**P**	**10 41 26.8**	**+0.2**
	baz=78								
Q31A	**Ellis**	**78.14**	**339**	⇓	P		**P**	**10 41 26.7**	**+0.2**
	baz=78								
S26A	**Kim**	**78.17**	**335**	⇓	P		**P**	**10 41 27.0**	**+0.1**
	baz=78,SNR=6.8								
R28A	**Tribune**	**78.28**	**337**	⇓	P		**P**	**10 41 27.7**	**+0.3**
	baz=79								
Q30A	**Quinter**	**78.36**	**338**	⇓	P		**P**	**10 41 28.1**	**+0.3**
	baz=79								
X16A	**Lo Mia Camp, P**	**78.44**	**328**	⇑	P		**P**	**10 41 29.3**	**+0.8**
	baz=79								
P32A	**Huiting Farm,**	**78.49**	**340**	⇓	P		**P**	**10 41 28.2**	**-0.2**
	baz=79								
Q29A	**Oakley**	**78.52**	**338**	⇑	P		**P**	**10 41 28.9**	**+0.2**
	baz=79								
R27A	**Eads**	**78.55**	**336**	⇑	P		**P**	**10 41 28.8**	**-0.1**
	baz=79,SNR=5.9								
Y14A	**Wickenburg**	**78.72**	**327**	⇓	P		**P**	**10 41 30.5**	**+0.6**
	baz=79								
R26A	**Arlington**	**78.78**	**336**	⇑	P		**P**	**10 41 30.4**	**+0.3**
	baz=79								
Q28A	**Sharon Springs**	**78.94**	**337**	⇑	P		**P**	**10 41 31.6**	**+0.6**
	baz=79								
SDCO	**Great Sand Dun**	**78.99**	**334**		*e*P		**P**	**10 41 32.1**	**+0.6**
	comp=N,3.1nm,0.9s								
SDCO	**Great Sand Dun**	**78.99**	**334**	⇑	P		**P**	**10 41 31.9**	**+0.3**
	baz=79								
P29A	**Atwood**	**79.16**	**338**	⇓	P		**P**	**10 41 32.6**	**+0.5**
	baz=80								
WUAZ	**Wupatki**	**79.35**	**329**		*e*P		**P**	**10 41 34.3**	**+0.8**
	comp=N,3.9nm,0.8s								
WUAZ	**Wupatki**	**79.35**	**329**	⇑	P		**P**	**10 41 34.0**	**+0.6**
	baz=80								
P28A	**Saint Francis**	**79.38**	**337**	⇓	P		**P**	**10 41 34.2**	**+0.8**
	baz=80								
S22A	**4UR Ranch, Cre**	**79.47**	**333**		*e*P		**P**	**10 41 34.9**	**+0.7**
S22A	**4UR Ranch, Cre**	**79.47**	**333**	⇑	P		**P**	**10 41 34.9**	**+0.7**
	baz=80								
R23A	**Moffat**	**79.50**	**334**	⇑	P		**P**	**10 41 35.3**	**+0.9**
	baz=80								
BC3	**Big Chuckawall**	**79.61**	**325**	⇓	P		**P**	**10 41 35.7**	**+0.9**
	baz=80								
MVCO	**Mesa Verde**	**79.64**	**332**	⇓	P		**P**	**10 41 35.7**	**+0.7**
	baz=80								
P26A	**Davis Ranch, A**	**79.88**	**336**	⇑	P		**P**	**10 41 36.7**	**+0.5**
	baz=80								
BGNE	**Belgrade**	**80.03**	**341**	⇑	P		**P**	**10 41 38.0**	**+1.2**
	baz=80								
PFO	**Pinyon Flats O**	**80.05**	**324**	⇑	P		**P**	**10 41 38.2**	**+1.0**
	baz=80								
W13A	**Hualapai Mount**	**80.09**	**327**	⇑	P		**P**	**10 41 38.5**	**+1.0**
	baz=80								
P25A	**Willow Gulch B**	**80.11**	**336**	⇓	P		**P**	**10 41 37.7**	**+0.2**
	baz=80,SNR=6.2								
O27A

E28A	**Huff**	**85.51**	**341**	⇓P		**P**	**10 42 05.1**	**0.0**
	baz=86							
G23A	**Biddle**	**85.62**	**337**	⇓P		**P**	**10 42 05.0**	**-0.8**
	baz=86							
H21A	**Big Horn, Sher**	**85.64**	**336**	⇑P		**P**	**10 42 05.5**	**-0.5**
	baz=86							
I19A	**Meeteetse**	**85.78**	**335**	⇓P		**P**	**10 42 07.0**	**+0.2**
	baz=86							
H20A	**Greybull**	**85.83**	**335**	⇑P		**P**	**10 42 06.2**	**-0.7**
	baz=86,SNR=7.0							
E26A	**Carlson Angus**	**85.89**	**340**	⇓P		**P**	**10 42 07.0**	**-0.1**
	baz=86							
F24A	**Ekalaka**	**85.91**	**338**	⇑P		**P**	**10 42 06.8**	**-0.4**
	baz=86							
G22A	**Birney**	**85.92**	**337**	⇓P		**P**	**10 42 06.9**	**-0.4**
	baz=86							
AGMN	**Agassiz Nation**	**85.95**	**345**	⇑P		**P**	**10 42 06.9**	**-0.4**
	baz=86							
TPAW	**Teton Pass**	**86.01**	**333**	*e*P		**P**	**10 42 07.5**	**-0.6**
	comp=N,1.9nm,0.8s							
F23A	**Volborg**	**86.09**	**338**	⇓P		**P**	**10 42 07.7**	**-0.4**
	baz=86							
G21A	**Lodge Grass**	**86.22**	**336**	⇑P		**P**	**10 42 08.5**	**-0.3**
	baz=86							
H19A	**Powell**	**86.33**	**335**	⇓P		**P**	**10 42 09.0**	**-0.4**
	baz=87							
D26A	**Manning**	**86.40**	**340**	⇓P		**P**	**10 42 09.3**	**-0.2**
	baz=87							
F22A	**Rosebud**	**86.41**	**337**	⇑P		**P**	**10 42 09.3**	**-0.4**
	baz=87							
FLWY	**Flagg Ranch**	**86.43**	**334**	*e*P		**P**	**10 42 09.9**	**-0.1**
	comp=N,2.2nm,0.7s							
C28A	**Hausauer Farms**	**86.48**	**342**	⇑P		**P**	**10 42 09.7**	**-0.2**
	baz=87							
E24A	**Baker**	**86.51**	**339**	⇑P		**P**	**10 42 10.5**	**+0.4**
	baz=87							
G20A	**Bridger**	**86.55**	**336**	⇑P		**P**	**10 42 09.9**	**-0.6**
	baz=87,SNR=5.8							
H18A	**Shoshone NF, C**	**86.58**	**334**	⇑P		**P**	**10 42 10.6**	**-0.1**
	baz=87,SNR=12							
B30A	**Myrvik Farm, E**	**86.66**	**343**	⇓P		**P**	**10 42 10.7**	**0.0**
	baz=87							
E23A	**Ismay**	**86.75**	**338**	⇑P		**P**	**10 42 11.0**	**-0.4**
	baz=87							
D25A	**Fairfield**	**86.76**	**340**	⇑P		**P**	**10 42 11.5**	**+0.1**
	baz=87							
E22A	**Miles City**	**86.90**	**338**	⇑P		**P**	**10 42 12.0**	**0.0**
	baz=87							
D24A	**Glendive**	**87.02**	**339**	⇓P		**P**	**10 42 12.7**	**+0.1**
	baz=87							
C25A	**Freed Ranch, W**	**87.25**	**340**	⇓P		**P**	**10 42 14.3**	**+0.6**
	baz=88							
D23A	**Lindsay**	**87.33**	**338**	⇑P		**P**	**10 42 14.7**	**+0.6**
	baz=88							
HLID	**Hailey**	**87.40**	**331**	*e*P		**P**	**10 42 15.4**	**+0.7**
HLID	**Hailey**	**87.40**	**331**	⇑P		**P**	**10 42 15.2**	**+0.5**
	baz=88							
C24A	**Savage**	**87.42**	**339**	⇑P		**P**	**10 42 14.8**	**+0.2**
	baz=88							
E20A	**Meyer Farm, Mu**	**87.65**	**336**	⇑P		**P**	**10 42 15.3**	**-0.4**
	baz=88,SNR=6.4							
B25A	**Knox Farm, Ray**	**87.73**	**340**	⇑P		**P**	**10 42 16.1**	**+0.1**
	baz=88							
ULM	**Lac du Bonnet**	**87.81**	**345**	P		**P**	**10 42 15.2**	**-1.1**
	comp=N,5.2nm,0.8s,baz=292,slow=2.8,SNR=4.1							
E19A	**Rath Farm, Rou**	**87.83**	**336**	⇓P		**P**	**10 42 15.5**	**-1.1**
	baz=88,SNR=5.5							
MCMT	**McKenzie Canyo**	**87.86**	**333**	*e*P		**P**	**10 42 17.4**	**+0.4**
	comp=N,0.6nm,0.8s							
C23A	**Lambert**	**87.89**	**339**	⇓P		**P**	**10 42 16.7**	**0.0**
	baz=88							
DGMT	**Dagmar**	**88.20**	**340**	*e*P		**P**	**10 42 18.2**	**+0.1**
	comp=N,8.9nm,0.7s							
DGMT				*e*pP		**pP**	**10 42 29.4**	**+4.5**
DGMT	**Dagmar**	**88.20**	**340**	⇑P		**P**	**10 42 18.3**	**+0.1**
	baz=88							
A19A	**Klindworth Far**	**89.98**	**337**	⇓P		**P**	**10 42 25.8**	**-0.8**
	baz=90							
YKA	**Yellowknife Ar**	**103.31**	**341**	Pdiff		**Pdif**	**10 43 24.2**	**-2.5**
	comp=N,0.3nm,0.7s,baz=147,slow=4.9,SNR=3.4							
WRA	**Warramunga Arr**	**119.25**	**209**	PKP		**PKPdf**	**10 48 15.0**	**-2.3**
	comp=N,0.5nm,0.7s,baz=170,slow=1.6,SNR=5.6							
H11S2	**WAKE ISLAND Hyl**	**25.28**	**268**	T		T	13 06 21.5	
	baz=126,slow=77,SNR=8.8							
H11S1	**WAKE ISLAND Hyl**	**25.29**	**268**	T		T	13 06 20.8	
	baz=126,slow=77,SNR=6.0							
H11S3	**WAKE ISLAND Hyl**	**25.30**	**268**	T		T	13 06 23.8	
	baz=126,slow=77,SNR=6.2							
H11N3	**WAKE ISLAND Hyl**	**25.73**	**270**	T		T	13 06 44.6	
	baz=116,slow=78,SNR=4.5							
H11N1	**WAKE ISLAND Hyl**	**25.74**	**270**	T		T	13 06 39.6	
	baz=116,slow=78,SNR=9.0							
H11N2	**WAKE ISLAND Hyl**	**25.75**	**270**	T		T	13 06 42.2	
	baz=116,slow=78,SNR=7.0							
BVAR	**Borovoye Array**	**148.66**	**44**	PKPbc		**PKPbc**	**10 49 13.8**	**-0.3**
	comp=N,1.4nm,0.8s,baz=301,slow=6.4,SNR=4.8							
KKAR	**Karatay Array**	**150.63**	**64**	*e*PKPbc		**PKPbc**	**10 49 18.5**	**-0.8**
AAK	**Ala-Archa**	**153.58**	**64**	*e*PKPbc		**PKPbc**	**10 49 26.1**	**-0.2**
AAK				*e*PKPab		**PKPab**	**10 49 38.4**	**-0.5**
KURBB	**Kurchatov Arra**	**154.25**	**45**	PKPbc		**PKPbc**	**10 49 26.4**	**-0.7**
	comp=N,0.5nm,0.3s,baz=313,slow=2.8,SNR=4.3							
KURK	**Kurchatov**	**154.26**	**45**	PKPbc		**PKPbc**	**10 49 26.4**	**-0.7**
KSH	**Kashi**	**154.81**	**71**	*e*PKPbc		**PKPdf**	**10 49 23.2**	**+3.0**
KSH				sPKP			10 49 37.6	
KSH				PKS		**PKSdf**	**10 52 55.8**	**+1.3**
KSH				SKS		**SKSdf**	**10 56 24.1**	**-1.7**
KSH				LN				
	comp=N,62nm,4.6s							
KSH				LE				
	comp=N,89nm,6.5s							
KSH				LZ				
	comp=N,120nm,5.7s							
ZALV	**Zalesovo Beam**	**155.71**	**34**	PKPbc		PKPbc	10 49 29.4	
	comp=N,1.8nm,0.8s,baz=295,slow=3.4,SNR=7.4							
ZALV				PKPab		**PKPab**	**10 49 47.0**	**-0.3**
	comp=N,1.5nm,0.6s,baz=319,slow=5.9,SNR=6.7							
MKAR	**Makanchi Array**	**158.06**	**51**	PKPab		**PKPab**	**10 49 56.9**	**-0.8**
	comp=N,0.6nm,0.7s,baz=280,slow=9.6,SNR=7.5							
WMQ	**Urumqi**	**162.71**	**55**	*e*PKP		**PKPdf**	**10 49 28.0**	**-1.4**
WMQ				pPKP		**pPKPdf**	**10 49 37.6**	**+1.3**
SONM	**Songino Array**	**167.63**	**3**	PKPab		**PKPab**	**10 50 39.2**	**-0.4**
	comp=N,1.2nm,0.7s,baz=338,slow=3.5,SNR=6.1							
HHC	**Hu-ho-hao-te**	**173.72**	**330**	*e*PKP		**PKPdf**	**10 49 36.7**	**-0.3**
HHC				PP		**PP**	**10 55 01.5**	**+3.1**
HHC				SKS		**SKSdf**	**10 56 34.6**	**-4.4**
HHC				SS		**SS**	**11 16 12.3**	**-2.0**
HHC				LN				
	comp=N,74nm,18.5s							
HHC				LE				
	comp=N,67nm,14.8s							
HHC				LZ				
	comp=N,36nm,16.0s							
LZH	**Lanzhou**	**177.04**	**77**	*e*PKP		**PKPdf**	**10 49 37.8**	**-0.3**
LZH				sPKP			10 49 53.1	
LZH				LN				
	comp=N,140nm,18.2s							
LZH				LE				
	comp=N,160nm,18.0s							
LZH				LZ				
	comp=N,190nm,20.1s							

***GUC* 05 10:45:55.0±0.5, 35°27S×72°50W, h38km±3km, ML4.1, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TALC	**Talca**	**0.72**	**100**	*e*P		Pn	10 46 08.6	0.0
TALC				*e*S		Sn	10 46 19.1	+0.8
COCH	**Cobquecura**	**0.89**	**195**	*e*P		Pn	10 46 10.6	-0.4
COCH				*e*S		Sn	10 46 22.4	-0.3
LNCH	**Linares**	**0.93**	**128**	*e*P		Pn	10 46 11.9	+0.4
LNCH				*e*S		Sn	10 46 24.9	+1.2
NICH	**Los Niches**	**1.07**	**76**	*e*P		Pn	10 46 14.2	+0.7
NICH				*e*S		Sn	10 46 28.9	+1.8
CACH	**El Canelo**	**1.94**	**54**	*e*P		Pn	10 46 27.1	+1.5
CACH				*e*S		Sn	10 46 51.7	+2.8
CHCH	**Chadas Angostu**	**2.02**	**49**	*e*P		Pn	10 46 28.1	+1.4
CHCH				*e*S		Sn	10 46 53.0	+2.2
SAN	**Santiago**	**2.37**	**40**	*e*P		Pn	10 46 32.6	+1.3
SAN				*e*S		Sn	10 47 01.2	+2.1
CLCH	**Cerro Calan**	**2.48**	**41**	*e*P		Pn	10 46 34.2	+1.3
CLCH				*e*S		Sn	10 47 07.4	+5.5
CLCH				AML		AML	10 47 19.1	
	comp=N,1μm,0.5s							
PEL	**Peldehue**	**2.60**	**36**	*e*P		Pn	10 46 36.0	+1.4
PEL				AML		AML	10 47 20.3	
	comp=N,1μm,2.7s							

IDC ***05*** *10:53:37.3±1.3, 34°.90S×72°.93W, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.8/16, mbtmp3.5/4, ML4.1/1, Error ellipse: s-maj=62.6km s-min=22.7km az=67.0*
ISCJB ***05*** *10:53:38.1±2.2, 34°.77S±0°.04×72°.52W±0°.07, h8km±14km, mb3.5/3, Error ellipse: s-maj=9.1km s-min=6.3km az=8.6*
GUC ***05*** *10:53:40.1±0.6, 34°.79S×72°.39W, h35km±3km, ML4.4*
ISC 05 10:53:38.9±2.2, **34°.79S**±0°.06×**72°.48W**±0°.07, **h8km**±13km, **n18**, σ0°**.83**/19, **mb3.6**/3, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TALC	**Talca**	**0.92**	**131**	*e*P		**Pg**	**10 53 56.5**	**-0.1**
TALC				*e*S		**Sg**	**10 54 09.2**	**+0.6**
NICH	**Los Niches**	**1.05**	**102**	*e*P		**Pg**	**10 53 58.6**	**-0.5**
NICH				*e*S		**Sg**	**10 54 12.3**	**-0.4**
LNCH	**Linares**	**1.27**	**146**	*e*P		**Pn**	**10 54 02.4**	**-0.7**
LNCH				*e*S		**Sb**	**10 54 19.1**	**-0.6**
COCH	**Cobquecura**	**1.36**	**191**	*e*P		**Pn**	**10 54 04.1**	**-0.1**
COCH				*e*S		**Sg**	**10 54 23.4**	**+0.8**
PCH	**Pirque**	**2.01**	**55**	*e*S		**Sn**	**10 54 38.8**	**+0.2**
SAN	**Santiago**	**2.02**	**49**	*e*P		**Pn**	**10 54 13.7**	**+0.4**
SAN				*e*S		**Sn**	**10 54 39.0**	**+0.2**
CLCH	**Cerro Calan**	**2.13**	**50**	*e*P		**Pn**	**10 54 15.3**	**+0.3**
CLCH				*e*S		**Sn**	**10 54 42.3**	**+0.6**
CLCH				AML		AML	10 54 52.5	
	comp=E,4μm,0.4s							
PEL	**Peldehue**	**2.22**	**43**	*e*P		**Pn**	**10 54 16.7**	**+0.5**
PEL				*e*S		**Sn**	**10 54 44.2**	**+0.3**
PEL				AML		AML	10 54 52.9	
	comp=N,3μm,2.9s							
PLCA	**Paso Flores**	**6.12**	**166**	Pn		**Pn**	**10 55 11.0**	**+1.2**
	comp=N,1.0nm,0.3s,baz=340,slow=12,SNR=17							
PLCA				Lg		Lg	10 56 49.4	
	comp=N,0.4nm,0.3s,baz=282,slow=14,SNR=3.4							
TXAR	**Lajitas Array**	**70.25**	**331**	P		**P**	**11 04 52.5**	**-0.2**
	comp=N,0.4nm,0.7s,baz=154,slow=7.8,SNR=4.9							
NVAR	**Mina Array Bea**	**84.33**	**326**	P		**P**	**11 06 09.8**	**-1.8**
	comp=N,0.1nm,0.3s,baz=157,slow=4.9,SNR=2.9							
TORD	**Torodi Ar. Bea**	**84.82**	**70**	P		**P**	**11 06 15.9**	**+1.5**
	comp=N,0.4nm,1.0s,baz=242,slow=4.8,SNR=2.2							
H11S2	**WAKE ISLAND Hyl**	**25.39**	**269**	T		T	13 30 59.7	
	baz=114							
H11S1	**WAKE ISLAND Hyl**	**25.40**	**269**	T		T	13 31 00.3	
	baz=114,slow=74,SNR=3.7							
H11S3	**WAKE ISLAND Hyl**	**25.41**	**269**	T		T	13 31 02.8	
	baz=114,slow=74,SNR=4.1							
H11N3	**WAKE ISLAND Hyl**	**25.82**	**270**	T		T	13 31 24.4	
	baz=120							
H11N1	**WAKE ISLAND Hyl**	**25.84**	**270**	T		T	13 31 18.3	
	baz=120							
H11N2	**WAKE ISLAND Hyl**	**25.84**	**270**	T		T	13 31 19.4	
	baz=120							

IDC ***05*** *11:07:40.3±1.7, 22°.55S×174°.11W, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.8/22, mbtmp3.7/6, Error ellipse: s-maj=82.4km s-min=24.9km az=159.0*
ISCJB ***05*** *11:07:43.7±1.7, 22°.55S±0°.6×174°.2W±0°.3, h31km, mb3.7/6, Error ellipse: s-maj=86.3km s-min=22.8km az=158.6*
ISC 05 11:07:45.0±1.9, **22°.6S**±0°.6×**174°.1W**±0°.3, **h31km**, **n6**, σ0°**.44**/6, **mb3.8**/6, **Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAR	**Alice Springs**	**47.57**	**258**	P		**P**	**11 16 18.2**	**+0.1**
	1.2nm,0.9s,baz=92,slow=7.8,SNR=7.9							
WRA	**Warramunga Arr**	**47.89**	**263**	P		**P**	**11 16 20.6**	**0.0**
	1.1nm,0.8s,baz=99,slow=8.7,SNR=8.1							
MJAR	**Matsushiro Arr**	**74.03**	**322**	P		**P**	**11 19 17.9**	**0.0**
	0.4nm,0.5s,baz=110,slow=7.5,SNR=3.2							
NVAR	**Mina Array Bea**	**80.14**	**41**	P		**P**	**11 19 52.6**	**+0.2**
	0.6nm,0.7s,baz=223,slow=8.5,SNR=5.5							
TXAR	**Lajitas Array**	**85.20**	**56**	P		**P**	**11 20 19.1**	**+0.3**
	0.2nm,0.7s,baz=210,slow=5.2,SNR=2.5							
PDAR	**Pinedale Array**	**88.06**	**42**	P		**P**	**11 20 32.0**	**-0.7**
	0.6nm,0.9s,baz=134,slow=2.6,SNR=3.8							

ISCJB ***05*** *11:07:49.2±0.7, 32°.21N±0°.03×115°.25W±0°.04, h10km±6km, Error ellipse: s-maj=6.5km s-min=4.8km az=44.9*
MEX ***05*** *11:07:51.5±0.3, 32°.33N×115°.14W, h22km±7km, MD4.0*
NEIC ***05*** *11:07:52.0, 32°.25N×115°.36W, h7km, ML3.7(PAS), ML3.8(ECX), After ECX.*
ECX ***05*** *11:07:52.1±0.4, 32°.25N×115°.37W, h7km, MD3.6, ML3.8*
ISC 05 11:07:49.2±1.2, **32°.19N**±0°.02×**115°.31W**±0°.03, **h1km**±14km, **n21**, σ0°**77**/30, **4C-3D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.23**	**0**	*e*P	9	**Pg**	**11 07 52.4**	**-1.4**
CPBX				*e*S		**Sg**	**11 07 55.4**	**-1.3**
CPBX				⇓*e*			11 08 00.8	
	comp=N,63μm,0.4s							
CPBX				⇑*e*			11 08 00.9	
	comp=E,60μm,0.3s							
MBIG	**Mexicali**	**0.24**	**22**	*e*P		**Pg**	**11 07 54.7**	**+0.8**
MBIG				*e*S		**Sg**	**11 07 57.2**	**+0.2**
RDX	**Rancho Dawling**	**0.60**	**245**	⇑*e*P		**Pb**	**11 08 02.4**	**-0.2**
RDX				*e*S		**Sb**	**11 08 10.7**	**-0.9**
RDX				*e*			11 08 13.1	
	comp=N,4μm,0.4s							
DREC	**Desert Rsrch C**	**0.63**	**349**	*e*P		**Pg**	**11 08 01.9**	**+0.6**
ECBX	**El Chinero**	**0.74**	**163**	*e*P	9	**Pg**	**11 08 01.8**	**-1.7**
ECBX				*e*S		**Sg**	**11 08 13.2**	**+0.2**
ECBX				⇓*e*			11 08 13.7	
	comp=E,2μm,0.2s							
RMX	**La Rumorosa**	**0.78**	**303**	⇓*e*P		**Pg**	**11 08 04.3**	**+0.2**
RMX				⇑*e*			11 08 16.1	
	comp=N,4μm,0.4s							
RMX				⇑*e*			11 08 16.1	
	comp=E,4μm,0.4s							
ZAX	**El Zacaton**	**1.06**	**231**	*e*P		**Pb**	**11 08 10.5**	**0.0**
SPIG	**San Pedro Mart**	**1.14**	**187**	*e*S		**Sg**	**11 08 27.1**	**+1.1**
SPX	**San Pedro Mart**	**1.14**	**187**	*e*P		**Pg**	**11 08 11.5**	**+0.3**
SPX	**San Pedro Mart**	**1.14**	**187**	*e*P		**Pn**	**11 08 13.2**	**+0.5**
CBX	**Cerro Bola**	**1.16**	**277**	*e*P		**Pg**	**11 08 11.2**	**-0.2**
CBX				*i* S		**Sg**	**11 08 26.6**	**+0.1**
CBX	**Cerro Bola**	**1.16**	**277**	*e*P		**Pg**	**11 08 11.2**	**-0.2**
CBX				*i* S		**Sg**	**11 08 26.6**	**+0.1**
CBX	**Cerro Bola**	**1.16**	**277**	*e*P		**Pg**	**11 08 11.2**	**-0.2**
ECNX	**Esteban Cantu**	**1.22**	**245**	*e*P		**Pg**	**11 08 12.9**	**+0.3**
ECNX				*e*S		**Sb**	**11 08 29.3**	**-0.1**
PBX	**Punta Banda**	**1.28**	**250**	*e*P		**Pg**	**11 08 13.7**	**-0.2**
LDFC	**Landfair**	**2.89**	**3**	*e*Pn		**Pn**	**11 08 35.8**	**-0.7**
MWC	**Mount Wilson**	**3.08**	**312**	*e*Pn		**Pb**	**11 08 44.8**	**-0.1**
MWC				*e*Sn		**Sb**	**11 09 23.4**	**+0.4**
PASC	**Pasadena Art C**	**3.12**	**310**	*e*Pn		**Pn**	**11 09 40.4**	**+0.7**
WUAZ	**Wupatki**	**4.66**	**43**	*e*Pn		**Pn**	**11 09 01.3**	**+0.4**
W18A	**Petrified Fore**	**5.49**	**56**	*e*Pn		**Pn**	**11 09 12.4**	**+0.1**
121A	**Cookes Peak, D**	**6.37**	**85**	*e*Pn		**Pn**	**11 09 23.8**	**-0.7**
	comp=E,9.9nm,0.3s							
121A				*e*Sg		**Sg**	**11 11 15.8**	**+1.8**

IDC ***05*** *11:25:29.9±1.9, 10°.68S×119°.92E, h0km, mb3.6/2, mb1 3.7/5, mb1mx3.5/20, mbtmp3.6/5, ML3.6/3, Error ellipse: s-maj=52.9km s-min=23.6km az=35.0*
ISCJB ***05*** *11:25:30.2±0.6, 10°.22S±0°.05×119°.82E±0°.04, h33km, mb3.6/2, Error ellipse: s-maj=7.0km s-min=5.8km az=27.0*
DJA ***05*** *11:25:32.6±0.6, 10°.5S±6°×12°.0E±°, h23km±6km, M3.9/9, MLv3.9/9*
ISC 05 11:25:31.4±0.9, **10°.13S**±0°.07×**119°.83E**±0°.05, **h35km**, **n21**, σ1°**47**/20, **Sumba region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WSI	**Waingapu**	**0.65**	**45**	P		**Pn**	**11 25 43.6**	**-0.5**
WSI	**Waingapu**	**0.65**	**45**	P		**Pn**	**11 25 43.9**	**-0.2**
	baz=0.8,SNR=41							
WSI				S		**Sn**	**11 25 53.6**	**+0.6**
	baz=0.8,SNR=6.5							
WBSI	**Waikabubak, Su**	**0.65**	**318**	P		**Pn**	**11 25 44.7**	**+0.5**
WBSI				S		**Sn**	**11 25 54.0**	**+0.8**
BASI	**Baing, Sumba**	**0.74**	**97**	P		**Pn**	**11 25 46.5**	**+1.2**
EDFI	**Ende, Flores**	**2.29**	**53**	P		**Pn**	**11 26 07.1**	**+0.4**
MMRI	**Maumere**	**2.80**	**58**	P		**Pn**	**11 26 14.3**	**+0.6**
BATI	**Baumata**	**3.77**	**92**	P		**Pn**	**11 26 28.3**	**+1.2**
BATI	**Baumata**	**3.77**	**92**	Pn		**Pn**	**11 26 29.0**	**+1.9**
	8.2nm,0.3s,baz=191,slow=1.4,SNR=16							
BATI					Sn	**Sn**	**11 27 12.2**	**+1.9**
	9.0nm,0.3s,baz=93,slow=23,SNR=10							
SOEI	**Soe**	**4.38**	**86**	P		Pn	11 26 38.6	+3.0
SOEI	**Soe**	**4.38**	**86**	P		Pn	11 26 40.0	+4.4
	baz=4.4,SNR=11							
BKSI	**Bulukumba**	**4.78**	**3**	P		**Pn**	**11 26 41.8**	**+0.8**
JAGI	**Jajag, Banyuwa**	**5.84**	**286**	P		**Pn**	**11 26 56.3**	**+0.7**
	baz=5.8,SNR=7.6							
KNRA	**Kununurra**	**10.30**	**123**	P		**Pn**	**11 27 57.0**	**+0.2**
	baz=10,SNR=9.8							
KDU	**Kakadu**	**12.65**	**103**	P		**Pn**	**11 28 28.1**	**-0.8**
	baz=13,SNR=5.6							
GIRL	**Giralia**	**13.55**	**203**	P		**Pn**	**11 28 41.5**	**+0.3**
	baz=14,SNR=3.6							
MEEK	**Meekatharra**	**16.46**	**184**	P		**P**	**11 29 20.3**	**-1.9**
	baz=16,SNR=12							
MEEK				S		Sn	11 32 10.4	-11
	baz=16,SNR=7.2							
WRA	**Warramunga Arr**	**17.06**	**127**	Pn		**Pn**	**11 29 24.7**	**-2.7**
	0.2nm,0.3s,baz=302,slow=14,SNR=9.4							
ASAR	**Alice Springs**	**19.02**	**137**	P		**P**	**11 29 48.6**	**-1.8**
	0.2nm,0.3s,baz=314,slow=12,SNR=15							
MORW	**Morawa**	**19.18**	**190**	P		**Pn**	**11 29 56.2**	**+3.0**
	baz=19,SNR=5.3							
SONM	**Songino Array**	**58.93**	**349**	P		P	11 35 35.7	+8.6
	0.3nm,0.6s,baz=167,slow=7.2,SNR=4.3							
MKAR	**Makanchi Array**	**65.83**	**333**	P		P	11 36 19.9	+6.6
	0.3nm,0.3s,baz=126,slow=5.7,SNR=8.2							

***IDC* 05 11:27:05.2**±8.1, **1°.56N×124°.35E, h0km, mb3.7**/3, **mb1 3.9**/3, **mb1mx3.4**/23, **mbtmp3.7**/3, **Error ellipse: s-maj=183.6km s-min=125.8km az=65.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.51**	**156**	P		P	11 32 18.0	+1.0
	0.7nm,0.3s,baz=334,slow=11,SNR=12							
ASAR	**Alice Springs**	**26.74**	**160**	P		P	11 32 47.2	+0.5
	0.3nm,0.4s,baz=340,slow=7.4,SNR=5.9							
STKA	**Stephens Creek**	**37.06**	**155**	P		P	11 34 15.7	-1.4
	1.2nm,0.4s,baz=320,slow=10,SNR=5.3							

KRNET ***05*** *11:41:45.9±0.1, 40°.37N×73°.30E, h2km, mb3.9*
ISCJB ***05*** *11:41:48.8±0.5, 40°.22N±0°.03×73°.28E±0°.04, h10km, Error ellipse: s-maj=5.0km s-min=3.8km az=42.8*
NNC ***05*** *11:41:48.2±1.1, 40°.25N×73°.29E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=15.5km s-min=4.7km az=66.0*
ISC 05 11:41:47.1±0.9, **40°.34N**±0°.03×**73°.31E**±0°.03, **h10km**, **n31**, σ1°**36**/47, **23C-6D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.35**	**155**	⇑P		**Pg**	**11 41 54.0**	**-0.2**
	114nm,0.1s							
SFK				⇑S		**Sg**	**11 41 57.9**	**-1.1**
	270nm,0.3s							
SALK	**Salom-Alik**	**0.67**	**35**	⇓*i*P		**Pg**	**11 41 58.8**	**-1.3**
	baz=37							
SALK				⇓*e*S		**Sg**	**11 42 07.1**	**-1.8**
	baz=37							
CHVK	**Chauvay**	**0.86**	**257**	*e*P		**Pg**	**11 42 03.0**	**-0.7**
	baz=255							
CHVK				*e*S		**Sb**	**11 42 15.4**	**-0.5**
	baz=255							
AML	**Almayashu**	**1.82**	**9**	P		**Pb**	**11 42 20.3**	**-0.5**
	SNR=240							
AML	**Almayashu**	**1.82**	**9**	⇑*i*P		**Pb**	**11 42 20.0**	**-0.8**
	baz=10.0							
AML				⇑*i*S		**Sg**	**11 42 45.4**	**-0.2**
	baz=10.0							
BTK	**Batken**	**1.93**	**263**	*e*P		**Pb**	**11 42 21.5**	**-0.9**
	baz=261							
BTK				*e*S		**Sg**	**11 42 47.8**	**-1.3**
	baz=261							
UCH	**Uchtor**	**2.10**	**25**	P		**Pb**	**11 42 24.9**	**-0.7**
	SNR=142							
UCH	**Uchtor**	**2.10**	**25**	⇑*i*P		**Pb**	**11 42 24.9**	**-0.7**
	baz=26							
UCH				⇑*i*S		**Sb**	**11 42 53.1**	**+1.3**
	baz=26							
KZA	**Kyzart**	**2.27**	**39**	P		**Pb**	**11 42 28.6**	**+0.1**
	SNR=51							
KZA	**Kyzart**	**2.27**	**39**	⇑*i*P		**Pb**	**11 42 28.5**	**0.0**
	baz=40							
KZA				⇑*i*S		**Sb**	**11 42 58.3**	**+1.4**
	baz=40							
NRN	**Naryn**	**2.32**	**61**	*e*

ISC 05 11:46:05.5±2.1, 34.80S±0.05×72.66W±0.08, h9km±12km, n11, σ1°12/18, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
TALC	**Talca**	**1.03**	**126**	*eP*		**Pb**	**11 46 25.6**	**0.0**
TALC				*eS*		**Sg**	**11 46 38.6**	**-0.1**
TALC				AML		AML	11 46 42.2	
	comp=N,5μm,0.4s							
NICH	**Los Niches**	**1.19**	**100**	*eP*		**Pg**	**11 46 29.0**	**+0.6**
NICH				*eS*		**Sn**	**11 46 44.6**	**-0.1**
NICH				AML		AML	11 46 49.5	
	comp=E,7μm,0.3s							
COCH	**Cobquecura**	**1.33**	**185**	*eP*		**Pn**	**11 46 29.7**	**-0.6**
COCH				*eS*		**Sb**	**11 46 45.9**	**-1.9**
LNCH	**Linares**	**1.35**	**141**	*eP*		**Pg**	**11 46 32.1**	**+0.5**
LNCH				*eS*		**Sn**	**11 46 48.6**	**-0.1**
LNCH				AML		AML	11 46 52.9	
	comp=E,3μm,0.4s							
SAN	**Santiago**	**2.13**	**51**	*eP*		**Pb**	**11 46 44.5**	**+0.1**
SAN				*eS*		**Sb**	**11 47 12.0**	**+1.1**
CLCH	**Cerro Calan**	**2.25**	**52**	*eP*		**Pb**	**11 46 46.5**	**+0.1**
CLCH				*eS*		**Sb**	**11 47 14.6**	**+0.3**
CLCH				AML		AML	11 47 24.6	
	comp=N,1μm,0.6s							
PEL	**Peldehue**	**2.33**	**45**	*eP*		**Pb**	**11 46 46.4**	**-1.3**
PEL				*eS*		**Sb**	**11 47 15.4**	**-1.2**
PEL				AML		AML	11 47 28.4	
	comp=E,1μm,0.7s							
CFAA	**Coronel Fontan**	**4.89**	**51**	Pn		**Pn**	**11 47 17.0**	**-2.2**
	comp=E,0.1nm,0.3s,baz=302,slow=13,SNR=2.8							
PLCA	**Paso Flores**	**6.15**	**165**	Pn		**Pn**	**11 47 37.5**	**+0.9**
	comp=E,0.7nm,0.3s,baz=343,slow=12,SNR=15							
PLCA				Lg		Lg	11 49 13.1	
	comp=E,0.3nm,0.3s,baz=273,slow=19,SNR=2.5							
TXAR	**Lajitas Array**	**70.19**	**331**	P		**P**	**11 57 20.4**	**+1.7**
	comp=E,0.3nm,0.6s,baz=155,slow=7.3,SNR=7.3							
TORD	**Torodi Ar. Bea**	**84.96**	**70**	P		**P**	**11 58 41.5**	**+0.1**
	comp=E,0.3nm,0.7s,baz=248,slow=4.4,SNR=3.0							

*ISCJB **05** 11:47:46.7±0.7, 29.05S±0.03×71.14W±0.1, h35km, mb3.9/5, Error ellipse: s-maj=13.4km s-min=4.7km az=0.2*
*IDC **05** 11:47:49.6±0.9, 29.15S×71.09W, h52km±7km, mb3.7/5, mb1 3.8/8, mb1mx3.6/26, mbtmp3.9/8, MS2.9/3, Ms1 3.0/3, ms1mx2.8/16, Error ellipse: s-maj=24.1km s-min=20.0km az=127.0*
*GUC **05** 11:47:50.4±1.5, 29.21S×71.14W, h46km±14km, ML4.6*
ISC 05 11:47:48.8±0.7, 29.11S±0.04×71.28W±0.09, h35km, n22, σ2°08/27, mb4.2/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
VACH	**Vallenar**	**0.70**	**41**	*eP*		**Pn**	**11 48 04.1**	**+1.8**
VACH				*eS*		**Sn**	**11 48 14.7**	**+2.8**
VACH				AML		AML	11 48 16.1	
	comp=E,46μm,0.5s							
LSCH	**La Serena**	**0.80**	**178**	*eP*		**Pn**	**11 48 04.1**	**+0.5**
LSCH				*eS*		**Sn**	**11 48 14.5**	**+0.3**
CPCH	**Copiapo**	**1.93**	**25**	*eP*		**Pn**	**11 48 20.1**	**+1.0**
CPCH				*eS*		**Sn**	**11 48 44.4**	**+2.2**
CFAA	**Coronel Fontan**	**3.62**	**134**	P		**Pn**	**11 48 45.0**	**+2.6**
	comp=E,2.3nm,0.3s,baz=325,slow=12,SNR=13							
CFAA				S		**Sn**	**11 49 26.1**	**+2.0**
	comp=E,1.6nm,0.3s,baz=248,slow=19,SNR=7.5							
CFAA				LR		LR	11 50 25.1	
	comp=E,20nm,18.2s,baz=290,slow=45							
PEL	**Peldehue**	**4.05**	**173**	*eP*		**Pn**	**11 48 49.5**	**+1.1**
PEL				*eS*		**Sn**	**11 49 34.8**	**+0.1**
CLCH	**Cerro Calan**	**4.32**	**172**	*eP*		Pn	11 48 58.5	+6.4
CLCH				*eS*		**Sn**	**11 49 44.7**	**+3.4**
LVC	**Limon Verde**	**6.81**	**19**	P		**Pn**	**11 49 25.1**	**-1.4**
	comp=E,36nm,0.3s,baz=196,slow=9.4,SNR=24							
LVC				S		**Sn**	**11 50 44.7**	**+1.7**
	comp=E,157nm,0.3s,baz=194,slow=22,SNR=3.7							
LVC				LR		LR	11 52 24.8	
	comp=E,440nm,18.7s,baz=224,slow=40							
PLCA	**Paso Flores**	**11.61**	**177**	LR		LR	11 55 33.1	
	comp=E,131nm,19.7s,baz=121,slow=40							
CPUP	**Villa Florida**	**12.67**	**81**	P		**Pn**	**11 50 44.6**	**-1.9**
	comp=E,0.0nm,0.3s,baz=262,slow=18,SNR=3.7							
SIV	**San Ignacio**	**16.09**	**38**	P		**Pn**	**11 51 30.7**	**-1.8**
	comp=E,0.2nm,0.3s,baz=236,slow=12,SNR=3.4							
BDFB	**Brasilia**	**25.29**	**63**	P		**P**	**11 53 09.8**	**-2.4**
	comp=E,4.3nm,0.6s,baz=244,slow=13,SNR=5.6							
TXAR	**Lajitas Array**	**65.83**	**329**	P		**P**	**11 58 30.3**	**-0.5**
	comp=E,0.2nm,0.9s,baz=135,slow=10,SNR=2.5							
TXAR				pP		**pP**	**11 58 45.3**	**+3.8**
	comp=E,0.4nm,0.8s,baz=141,slow=8.1,SNR=3.2							
DBIC	**Dimbokro**	**73.03**	**72**	P		**P**	**11 59 14.0**	**-1.6**
	comp=E,1.9nm,0.6s,baz=191,slow=5.2,SNR=4.0							
PDAR	**Pinedale Array**	**79.72**	**332**	P		**P**	**11 59 53.0**	**-0.1**
	comp=E,0.3nm,0.7s,baz=101,slow=7.4,SNR=2.4							
TORD	**Torodi Ar. Bea**	**81.94**	**70**	P		**P**	**12 00 03.9**	**-1.4**
	comp=E,2.9nm,0.6s,baz=261,slow=5.0,SNR=34							
ASAR	**Alice Springs**	**122.20**	**207**	PKP		**PKPdf**	**12 06 38.5**	**-2.0**
	comp=E,0.4nm,0.7s,baz=124,slow=1.4,SNR=3.9							
WRA	**Warramunga Arr**	**125.32**	**210**	PKP		**PKPdf**	**12 06 45.1**	**-1.5**
	comp=E,0.5nm,0.4s,baz=151,slow=1.8,SNR=11							
WRA				pPKP		**pPKPdf**	**12 07 00.1**	**+2.1**
	comp=E,0.4nm,1.0s,baz=160,slow=1.6,SNR=1.5							
H11S2	**WAKE ISLAND Hy**	**126.36**	**272**	T		T	14 25 40.9	
	baz=115,slow=75,SNR=11							
H11S1	**WAKE ISLAND Hy**	**126.37**	**272**	T		T	14 25 41.8	
	baz=115,slow=75,SNR=19							
H11S3	**WAKE ISLAND Hy**	**126.37**	**272**	T		T	14 25 42.2	
	baz=115,slow=75,SNR=10							
ZALV	**Zalesovo Beam**	**149.69**	**28**	PKPbc		**PKPdf**	**12 07 32.5**	**+2.9**
	comp=E,1.0nm,0.5s,baz=316,slow=4.1,SNR=6.0							
ZALV				pPKPbc		**pPKPbc**	**12 07 48.2**	**+2.5**
	comp=E,2.0nm,0.8s,baz=300,slow=3.3,SNR=5.0							
MKAR	**Makanchi Array**	**152.88**	**42**	PKPbc		**PKPbc**	**12 07 41.0**	**-1.0**
	comp=E,0.2nm,0.7s,baz=264,slow=7.2,SNR=4.1							

IGQ 05 12:00:50±1.0, 0.51N×80.16W, h5km±54km, Mb4.1, 10D, Error ellipse: s-maj=5.4km s-min=2.1km az=13.1, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MAG1	**Magdalena**	**0.70**	**146**	↓↓P		Pn	12 01 05.9	-0.7
MAG1	**Magdalena**	**0.70**	**146**	↓↓S		Sb	12 01 14.8	0.0
PECV	**Mancha de Ca P**	**1.29**	**175**	P		Pb	12 01 15.6	+0.8
PECV	**Mancha de Ca P**	**1.29**	**175**	S		Sn	12 01 32.8	+0.3
CHIS	**Cerro-Chispas-**	**1.65**	**200**	P		Pn	12 01 19.2	-0.6
PINO	**Pino**	**1.69**	**113**	P		Pn	12 01 21.1	+0.1
PINO	**Pino**	**1.69**	**113**	S		Sn	12 01 40.8	-2.9
TERV	**Terraza Guagua**	**1.70**	**114**	P		Pn	12 01 21.1	0.0
GGP	**Refugio Guagua**	**1.71**	**114**	P		Pn	12 01 21.3	+0.1
YANA	**Yana**	**1.71**	**112**	P		Pn	12 01 21.4	+0.3
JUA2	**San Juan 2**	**1.71**	**115**	P		Pb	12 01 22.8	+0.1
OTAV	**Otavalo**	**1.73**	**99**	↓↓P		Pg	12 01 23.6	-0.3
LITE	**Lita**	**1.82**	**81**	↓↓P		Pg	12 01 25.7	+0.6
LITE	**Lita**	**1.82**	**81**	↓↓S		Sg	12 01 48.6	-0.3
COTA	**Cotacachi**	**1.83**	**96**	P		Pb	12 01 25.2	+0.4
COTA	**Cotacachi**	**1.83**	**96**	S		Sg	12 01 49.4	-0.7
PAST	**Pastocalle**	**1.94**	**128**	P		Pb	12 01 25.8	-0.6
ISPT	**Isla de la Pla**	**1.99**	**207**	P		Pg	12 01 27.5	-0.6
PITA	**Cotopaxi Volc**	**2.03**	**122**	P		Pb	12 01 27.7	-0.4
CAMI	**Rancho Maria**	**2.04**	**126**	P		Pb	12 01 27.7	-0.4
BREF	**Cotopaxi Volca**	**2.08**	**124**	↓↓P		Pb	12 01 28.8	-0.4
VC1	**Cotopaxi 1**	**2.10**	**123**	P		Pb	12 01 28.1	-1.2
BVC2	**Cotopaxi Volca**	**2.10**	**124**	↓↓P		Pb	12 01 28.9	-0.5
BMOR	**Cotopaxi Volca**	**2.10**	**126**	↓↓P		Pn	12 01 27.5	+0.8
BMOR	**Cotopaxi Volca**	**2.10**	**126**	↓↓S		Sn	12 01 53.8	0.0
BTAM	**Cotopaxi Volca**	**2.12**	**124**	↓↓P		Pn	12 01 28.2	+1.2
TAMB	**Tambo**	**2.16**	**124**	P		Pb	12 01 29.4	-1.0
COV1	**Cotopaxi Volc**	**2.16**	**123**	S		Sn	12 01 54.1	-1.2
COV1	**Cotopaxi Volc**	**2.16**	**123**	P		Pn	12 01 28.9	+1.4
CAYA	**Cayambe**	**2.21**	**101**	P		Pb	12 01 31.5	+0.2
ANTI	**Antisana**	**2.22**	**116**	P		Pb	12 01 30.3	-1.1
PISA	**Pisayambo**	**2.36**	**131**	P		Pb	12 01 33.7	-0.1
BRUN	**Tungurahua Vol**	**2.60**	**138**	P		Pb	12 01 36.7	-0.9
BULB	**Ulba Tungurahu**	**2.61**	**138**	P		Pb	12 01 36.7	-1.2
BMAS	**Trigal station**	**2.62**	**140**	P		Pn	12 01 34.1	+0.6
ULBA	**Ulba**	**2.62**	**138**	P		Pb	12 01 36.2	-1.8
ARRY	**Arrayan**	**2.63**	**140**	P		Pn	12 01 35.7	+2.0
ARRY	**Arrayan**	**2.63**	**140**	S		Sn	12 02 07.2	+0.7
BPAT	**Tungurahua Vol**	**2.65**	**139**	P		Pn	12 01 35.2	+1.1
PAT1	**Patacocha**	**2.65**	**139**	P		Pn	12 01 36.2	+2.2

IDC 05 12:25:16.0±36.0, 3.77N×124.28E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.5/42, mbtmp4.1/3, Error ellipse: s-maj=596.8km s-min=262.0km az=153.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.55**	**158**	P		P	12 30 46.8	+0.1
	3.6nm,0.3s,baz=336,slow=9.9,SNR=67							
ASAR	**Alice Springs**	**28.83**	**161**	P		P	12 31 15.9	-0.4
	0.6nm,0.5s,baz=340,slow=7.3,SNR=15							
STKA	**Stephens Creek**	**39.09**	**156**	P		P	12 32 45.1	+0.1
	3.3nm,1.0s,baz=337,slow=7.7,SNR=3.6							

IDC 05 12:34:01.3±3.2, 54.19N×87.30E, h0km, mb1 2.9/2, mb1mx2.8/48, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=30.5km s-min=18.4km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.48**	**262**	*i*			12 43 20.0	
	baz=81,slow=325,SNR=3.8							
ZALV	**Zalesovo Beam**	**1.48**	**262**	Pg		Pn	12 34 27.7	-1.5
	2.7nm,0.3s,baz=80,slow=16,SNR=39							
ZALV				Lg		Lg	12 34 48.2	
	0.8nm,0.3s,baz=77,slow=26,SNR=5.6							
KURBB	**Kurchatov Arra**	**6.44**	**240**	Pn		Pn	12 35 38.3	+1.0
	0.1nm,0.3s,baz=55,slow=13,SNR=3.5							
MKAR	**Makanchi Array**	**8.06**	**205**	Pn		Pn	12 36 00.6	+0.9
	0.2nm,0.3s,baz=59,slow=8.9,SNR=4.5							

*IDC **05** 12:37:27.6±2.5, 8.17S×117.94E, h0km, mb3.7/4, mb1 3.6/5, mb1mx3.5/34, mbtmp3.6/5, ML3.3/1, Error ellipse: s-maj=171.7km s-min=22.4km az=53.0*
*ISCJB **05** 12:37:32.0±0.7, 7.90S±0.05×118.30E±0.07, h33km, mb3.7/4, Error ellipse: s-maj=10.7km s-min=6.9km az=173.5*
*DJA **05** 12:37:31.8±1.8, 8°S±4°×11°8E±°, h14km±15km, M4.0/8, mb4.2/1, MLv3.9/8*
ISC 05 12:37:33.9±0.9, 7.91S±0.05×118.30E±0.08, h35km, n12, σ1°37/13, mb3.7/4, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**2.03**	**148**	P		**Pn**	**12 38 05.0**	**-0.7**
WBSI				S		**Sn**	**12 38 29.6**	**-0.3**
WSI	**Waingapu**	**2.64**	**132**	S		**Sn**	**12 38 48.3**	**+3.5**
SRBI	**Singaraja**	**3.06**	**267**	P		**Pn**	**12 38 20.1**	**+0.3**
BKSI	**Bulukumba**	**3.15**	**35**	P		**Pn**	**12 38 20.3**	**-0.7**
BKSI				S		**Sn**	**12 38 56.5**	**-0.9**
BNSI	**Bone**	**3.92**	**27**	P		**Pn**	**12 38 32.4**	**+0.7**
SPSI	**Sidrap Palu**	**4.19**	**21**	P		Pn	12 38 43.2	+7.9
TTSI	**Tana Toraja**	**5.07**	**17**	P		**Pn**	**12 38 48.8**	**+1.4**
WRA	**Warramunga Arr**	**19.61**	**129**	P		**P**	**12 41 58.4**	**-1.1**
	0.1nm,0.3s,baz=302,slow=13,SNR=5.8							
ASAR	**Alice Springs**	**21.66**	**138**	P		**P**	**12 42 21.0**	**-0.6**
	0.9nm,0.9s,baz=313,slow=9.1,SNR=9.0							
SONM	**Songino Array**	**56.49**	**350**	P		**P**	**12 47 13.1**	**+0.4**
	0.6nm,0.8s,baz=164,slow=6.8,SNR=3.8							
MKAR	**Makanchi Array**	**63.18**	**333**	P		**P**	**12 47 58.0**	**-0.5**
	0.4nm,0.5s,baz=152,slow=7.8,SNR=7.8							
ZALV	**Zalesovo Beam**	**67.78**	**339**	P		**P**	**12 48 27.7**	**-0.4**
	1.3nm,0.4s,baz=147,slow=4.4,SNR=11							

*IDC **05** 13:07:07.4±1.1, 16.60S×173.51W, h0km, mb3.8/7, mb1 4.1/7, mb1mx3.8/30, mbtmp3.8/7, Error ellipse: s-maj=51.7km s-min=20.8km az=136.0*
*NEIC **05** 13:07:08.6±0.5, 16.52S×173.50W, h10km, mb4.2/1, Error ellipse: s-maj=24.9km s-min=10.0km az=130.0*
*ISCJB **05** 13:07:14.7±0.8, 16.6S±0.2×173.7W±0.2, h66km, mb3.7/8, Error ellipse: s-maj=30.6km s-min=16.4km az=135.2*
ISC 05 13:07:16.1±0.9, 16.6S±0.2×173.6W±0.2, h66km, n19, σ0°45/10, mb3.8/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**3.22**	**33**	*e*Pn		Pn	13 07 55.9	-8.4
PPT2	**Papeete2**	**22.96**	**96**	*e*LR		LR	13 17 56.0	
	153nm,25.0s							
URZ	**Urewera**	**23.05**	**199**	P		**P**	**13 12 14.9**	**-0.8**
	4.0nm,0.6s,baz=338,slow=5.8,SNR=7.0							
TBI	**Tubuai**	**23.61**	**110**	*e*LR		LR	13 18 01.7	
	131nm,31.0s							
H11S2	**WAKE ISLAND Hy**	**39.93**	**330**	T		T	13 57 02.9	
	baz=144							
H11S3	**WAKE ISLAND Hy**	**39.94**	**330**	T		T	13 57 01.5	
	baz=144							
H11S1	**WAKE ISLAND Hy**	**39.95**	**330**	T		T	13 56 58.2	
	baz=144							
H11N3	**WAKE ISLAND Hy**	**40.90**	**331**	T		T	13 58 19.9	
	baz=154							
H11N1	**WAKE ISLAND Hy**	**40.90**	**331**	T		T	13 58 19.9	
	baz=154							
H11N2	**WAKE ISLAND Hy**	**40.91**	**331**	T		T	13 58 18.7	
	baz=154							
STKA	**Stephens Creek**	**43.28**	**241**	P		**P**	**13 15 11.7**	**+0.3**
	2.1nm,0.8s,baz=94,slow=13,SNR=2.9							
WRA	**Warramunga Arr**	**49.40**	**258**	P		**P**	**13 15 59.5**	**-0.1**
	0.4nm,0.7s,baz=97,slow=7.4,SNR=7.5							
AS31	**Alice Springs**	**49.57**	**253**	*eP*		**P**	**13 16 00.8**	**0.0**
ASAR	**Alice Springs**	**49.57**	**253**	P		**P**	**13 16 00.8**	**0.0**
	2.6nm,0.6s,baz=93,slow=7.7,SNR=53							
QSPA	**South Pole Qui**	**73.42**	**180**	*eP*		**P**	**13 18 41.7**	**+0.6**
	1.8nm,0.8s							
NVAR	**Mina Array Bea**	**75.36**	**42**	P		**P**	**13 18 52.8**	**-0.1**
	0.4nm,0.6s,baz=218,slow=7.7,SNR=3.7							
PDAR	**Pinedale Array**	**83.30**	**42**	P		**P**	**13 19 35.8**	**-0.2**
	0.3nm,0.7s,baz=308,slow=3.3,SNR=3.4							
ILAR	**Eielson Array**	**83.68**	**11**	P		**P**	**13 19 37.2**	**+0.1**
	0.3nm,0.7s,baz=222,slow=5.4,SNR=6.7							
BRTR	**Keskin Array B**	**146.99**	**320**	PKPbc		**PKPab**	**13 26 52.9**	**-0.3**
	0.4nm,0.5s,baz=59,slow=3.9,SNR=2.6							

*IDC **05** 13:08:44.8±1.0, 22.05S×174.34W, h0km, mb4.0/9, mb1 4.4/9, mb1mx4.1/20, mbtmp4.0/9, Error ellipse: s-maj=47.6km s-min=23.2km az=156.0*
*ISCJB **05** 13:08:48.2±0.5, 22.0S±0.1×174.4W±0.1, h27km, mb4.2/14, Error ellipse: s-maj=18.2km s-min=12.9km az=160.5*
*NEIC **05** 13:08:53.9±2.1, 21.91S×174.47W, h62km±18km, mb4.4/5, Error ellipse: s-maj=16.9km s-min=10.4km az=132.0*
ISC 05 13:08:49.6±0.6, 22.0S±0.1×174.3W±0.1, h27km, n22, σ0°81/23, mb4.2/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**8.35**	**299**	Pn		**Pn**	**13 10 49.6**	**+0.7**
	26nm,0.8s							
AS31	**Alice Springs**	**47.55**	**258**	P		**P**	**13 17 23.7**	**+0.5**
ASAR	**Alice Springs**	**47.55**	**258**	P		**P**	**13 17 22.2**	**-1.0**
	1.1nm,0.9s,baz=100,slow=7.6,SNR=3.3							
WRA	**Warramunga Arr**	**47.82**	**263**	P		**P**	**13 17 24.2**	**-1.0**
	1.8nm,0.9s,baz=98,slow=8.2,SNR=7.3							
VNDA	**Vanda**	**56.78**	**186**	P		**P**	**13 18 31.8**	**+1.0**
QSPA	**South Pole Qui**	**68.10**	**180**	*eP*		**P**	**13 19 47.3**	**+0.4**
MJAR	**Matsushiro Arr**	**73.47**	**322**	P		**P**	**13 20 19.8**	**0.0**
	0.8nm,0.7s,baz=134,slow=5.2,SNR=3.6							
YBH	**Yreka Blue Hor**	**79.35**	**37**	P		**P**	**13 20 53.5**	**+0.4**
	3.1nm,0.8s,baz=185,slow=5.9,SNR=5.6							
NVAR	**Mina Array Bea**	**79.79**	**41**	P		**P**	**13 20 56.3**	**+0.6**
	1.7nm,0.7s,baz=223,slow=7.3,SNR=12							
MVU	**Marysvale**	**83.67**	**44**	*eP*		**P**	**13 21 17.4**	**+1.1**
	2.5nm,0.9s							
MFID	**Camas Ranch**	**84.33**	**39**	P		**P**	**13 21 19.5**	**+0.2**
	2.9nm,0.9s							
TMUT	**Trail Mountain**	**84.77**	**44**	*eP*		**P**	**13 21 22.6**	**+0.7**
	5.1nm,0.9s							
TXAR	**Lajitas Array**	**84.99**	**56**	P		**P**	**13 21 22.9**	**-0.1**
	1.3nm,1.0s,baz=216,slow=7.7,SNR=9.5							
ANMO	**Albuquerque**	**85.68**	**50**	*eP*		**P**	**13 21 26.9**	**+0.6**
	3.7nm,1.0s							
MCK	**McKinley**	**87.71**	**11**	*eP*		**P**	**13 21 35.7**	**+0.3**
	4.0nm,1.2s							
PDAR	**Pinedale Array**	**87.72**	**42**	P		**P**	**13 21 35.8**	**-0.5**
	1.2nm,0.9s,baz=247,slow=0.9,SNR=7.8							
ILAR	**Eielson Array**	**89.03**	**11**	P		**P**	**13 21 40.5**	**-1.0**
	0.8nm,0.9s,baz=218,slow=5.8,SNR=6.0							
YKA	**Yellowknife Ar**	**96.44**	**24**	P		**P**	**13 22 15.9**	**+0.1**
	0.4nm,0.9s,baz=244,slow=5.4,SNR=4.7							
AKASG	**Malin Array Be**	**145.93**	**333**	PKPbc		**PKPdf**	**13 28 24.6**	**-1.2**
	0.3nm,0.4s,baz=39,slow=4.0,SNR=5.9							
CLL	**Collm**	**150.18**	**351**	*i* PKPbc		**PKPbc**	**13 28 38.9**	**+1.1**
	comp=Z,8.0nm,1.1s							
BRTR	**Keskin Array B**	**150.37**	**313**	PKPbc		**PKPbc**	**13 28 38.3**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=77,slow=0.3,SNR=4.3							
TORD	**Torodi Ar. Bea**	**170.42**	**156**	PKP		**PKPdf**	**13 28 55.0**	**-1.0**
	comp=Z,1.1nm,1.1s,baz=244,slow=3.1,SNR=4.0							
TORD				PKPab		**PKPab**	**13 30 11.4**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=228,slow=3.5,SNR=3.1							

*NIED **05** 13:19:00, 32.60N×141.90E, h5km, Mw4.4 Best double couple: M0 5.04000×10^15 NP1:φ=343.00000°, δ=13.00000°, λ=127.00000°. NP2:φ=126.00000°, δ=80.00000°, λ=82.00000°.*
*IDC **05** 13:19:31.7±0.6, 32.49N×141.68E, h0km, mb4.1/17, mb1 4.2/21, mb1mx4.2/31, mbtmp4.1/21, ML4.0/4, MS3.1/5, Ms1 3.2/5, ms1mx2.7/47, Error ellipse: s-maj=18.5km s-min=14.6km az=72.0*
*JMA **05** 13:19:33.9±0.3, 32.55N×141.87E, h79km, M3.7*
*NEIC **05** 13:19:33.3±0.3, 32.54N×141.79E, h10km, mb4.5/11, MW4.4(NIED), Error ellipse: s-maj=8.5km s-min=6.9km az=69.0*
*MOS **05** 13:19:34.6±1.0, 32.63N×141.69E, h30km, mb4.7/14, Error ellipse: s-maj=13.7km s-min=6.2km az=118.3*
*ISCJB **05** 13:19:35.1±0.3, 32.58N±0.03×141.79E±0.05, h39km, mb4.2/39, MS3.3/5, Error ellipse: s-maj=6.3km s-min=3.8km az=154.6*
ISC 05 13:19:36.7±0.5, 32.54N±0.04×141.84E±0.06, h39km, n101, σ1°63/114, mb4.3/39, MS3.2/5, 3C-1D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JHJ2	**Mitsune**	**1.80**	**289**	P		**Pn**	**13 20 03.5**	**-1.7**
JHJ2				S		**Sn**	**13 20 26.4**	**-0.4**
JHJ2	**Mitsune**	**1.80**	**289**	*eP*		**Pn**	**13 20 03.9**	**-1.3**
JHCJ	**Hachijojimakas**	**1.80**	**288**	P		**Pn**	**13 20 04.3**	**-0.9**
JHCJ				S		**Sn**	**13 20 26.5**	**-0.4**
BSO1	**Boso 1**	**2.23**	**341**	P		**Pn**	**13 20 09.3**	**-1.3**
BSO1				S		**Sn**	**13 20 37.0**	**+0.3**
BSO3	**Boso 3**	**2.52**	**334**	P		**Pn**	**13 20 13.9**	**-0.9**
JOD2	**Odawara 2**	**3.56**	**321**	P		**Pn**	**13 20 27.9**	**-1.4**
JYT	**Yasato**	**3.93**	**340**	P		**Pn**	**13 20 34.2**	**-0.2**
JYT				S		**Sn**	**13 21 20.1**	**+0.9**
JHU	**Hanno**	**3.93**	**328**	P		**Pn**	**13 20 33.0**	**-1.5**
JHU				S		**Sn**	**13 21 17.9**	**-1.4**
JYN	**Shimob**	**4.03**	**318**	P		**Pn**	**13 20 37.0**	**+1.1**
JYN				S		**Sn**	**13 21 22.7**	**+0.9**
JHO	**Hitachi**	**4.20**	**346**	P		**Pn**	**13 20 36.3**	**-1.8**
JRY	**Ryogami san**	**4.24**	**326**	P		**Pn**	**13 20 37.7**	**-1.1**
JRY				S		**Sn**	**13 21 26.2**	**-0.8**
JAG	**Ashikaga**	**4.35**	**334**	P		**Pn**	**13 20 38.9**	**-1.4**
JAG				S		**Sn**	**13 21 27.9**	**-1.8**
JIE	**Ise**	**4.67**	**295**	P		**Pn**	**13 20 44.1**	**-0.6**
MJAR	**Matsushiro Arr**	**5.00**	**324**	Pn		**Pn**	**13 20 48.2**	**-0.9**
	3.6nm,0.3s,baz=155,slow=12,SNR=30							
MJAR				Sn		**Sn**	**13 21 44.6**	**-1.0**
	3.1nm,0.3s,baz=152,slow=13,SNR=6.8							
MAJO	**Matsushiro**	**5.00**	**324**	*c iP*		**Pn**	**13 20 46.9**	**-2.2**
MAJO	**Matsushiro**	**5.00**	**324**	*eP*		**Pn**	**13 20 48.2**	**-0.9**
MAT	**Matsushiro**	**5.00**	**324**	P		**Pn**	**13 20 48.3**	**-0.8**
MAT				S		**Sn**	**13 21 44.2**	**-1.4**
MAT	**Matsushiro**	**5.00**	**324**	P		**Pn**	**13 20 48.6**	**-0.5**
MAT				S		**Sn**	**13 21 45.3**	**-0.3**
JFT	**Otama**	**5.12**	**346**	P		**Pn**	**13 20 48.9**	**-1.9**
JFT				S		**Sn**	**13 21 46.7**	**-2.0**
CBIJ	**Chichi jima**	**5.43**	**177**	P		**Pn**	**13 20 54.0**	**-1.1**
CBIJ				S		**Sn**	**13 21 51

ODAN	**Odare**		**47.22**	**278**	*eP*		**P**	**13 28 05.2**	**-1.0**
	comp=N,7.9nm,0.6s								
RAMN	**Ramite**		**47.84**	**278**	*eP*		**P**	**13 28 10.3**	**-0.8**
	comp=N,14nm,0.7s								
JIRN	**Jiri**		**47.94**	**279**	*eP*		**P**	**13 28 11.8**	**-0.1**
	comp=N,17nm,0.6s								
GUN	**Gumba**		**48.11**	**280**	*eP*		**P**	**13 28 13.0**	**-0.3**
	comp=N,21nm,1.0s								
KKN	**Kakani**		**48.65**	**280**	*eP*		**P**	**13 28 17.1**	**-0.2**
KURK	**Kurchatov**		**49.07**	**311**	*eP*		**P**	**13 28 18.5**	**-1.4**
KURK					pmax	pmax			
	comp=Z,6.0nm,0.9s								
KURK	**Kurchatov**		**49.07**	**311**	*eP*		**P**	**13 28 18.5**	**-1.4**
	comp=Z,5.6nm,0.9s								
PDGK	**Podgornoye**		**49.31**	**302**	P		**P**	**13 28 21.7**	**-0.1**
PDGK					pmax	pmax			
	comp=Z,8.0nm,0.8s								
TKM2	**Tokmak 2**		**52.18**	**302**	P		**P**	**13 28 43.6**	**-0.1**
TKM2					pmax	pmax			
	comp=Z,3.0nm,0.6s								
TKM2	**Tokmak 2**		**52.18**	**302**	*eP*		**P**	**13 28 44.7**	**+1.0**
	comp=Z,3.5nm,0.6s								
WRAB	**Tennant Creek**		**52.66**	**189**	*eP*		**P**	**13 28 50.0**	**+2.9**
WRAB					pmax	pmax			
	comp=Z,17nm,1.3s								
WRAB	**Tennant Creek**		**52.66**	**189**	*eP*		**P**	**13 28 47.0**	**-0.1**
	comp=Z,9.4nm,1.1s								
WRA	**Warramunga Arr**		**52.67**	**189**	P		**P**	**13 28 47.1**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=5.2,slow=7.6,SNR=37								
COLA	**College**		**52.73**	**30**	*eP*		**P**	**13 28 47.4**	**+0.3**
COLA					pmax	pmax			
	comp=Z,8.0nm,1.4s								
AAK	**Ala-Archa**		**53.04**	**302**	*i* P		**P**	**13 28 49.8**	**-0.2**
AAK					pmax	pmax			
	comp=Z,7.0nm,1.7s								
ILAR	**Eielson Array**		**53.14**	**30**	P		**P**	**13 28 51.4**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=267,slow=5.9,SNR=18								
BVAR	**Borovoye Array**		**53.92**	**315**	P		**P**	**13 28 56.3**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=99,slow=9.2,SNR=10								
BVAR					PcP		**PcP**	**13 30 01.7**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=86,slow=4.7,SNR=4.2								
BRVK	**Borovoye**		**53.98**	**315**	*eP*		**P**	**13 28 57.1**	**+0.6**
BRVK					pmax	pmax			
	comp=Z,4.0nm,1.0s								
KK31	**Karatay Array**		**55.77**	**303**	P		**P**	**13 29 10.2**	**+0.5**
KK31					pmax	pmax			
	comp=Z,1.0nm,0.3s								
KKAR	**Karatay Array**		**55.77**	**303**	*eP*		**P**	**13 29 10.1**	**+0.4**
KKAR					pmax	pmax			
	comp=Z,2.0nm,0.5s								
KKAR	**Karatay Array**		**55.77**	**303**	*eP*		**P**	**13 29 10.1**	**+0.4**
	comp=Z,2.4nm,0.5s								
AS31	**Alice Springs**		**56.40**	**189**	*eP*		**P**	**13 29 14.2**	**0.0**
ASAR	**Alice Springs**		**56.40**	**189**	P		**P**	**13 29 14.2**	**0.0**
	comp=Z,0.3nm,0.4s,baz=4.8,slow=6.8,SNR=18								
SVE	**Sverdlovsk**		**58.79**	**321**	*eP*		**P**	**13 29 31.3**	**+0.6**
ARU	**Arti**		**60.00**	**320**	*d iP*		**P**	**13 29 38.9**	**-0.2**
ARU								13 30 19.5	
ARU					S		**S**	**13 37 49.7**	**+1.0**
ARU					pmax	pmax			
	comp=Z,9.0nm,1.2s								
ARU	**Arti**		**60.00**	**320**	*eP*		**P**	**13 29 38.7**	**-0.3**
	comp=Z,5.0nm,0.6s								
AB31	**Akbulak array**		**61.16**	**312**	*i* P		**P**	**13 29 47.0**	**-0.1**
AB31					pmax	pmax			
	comp=N,2.0nm,0.4s								
ABKAR	**Akbulak array**		**61.16**	**312**	*eP*		**P**	**13 29 46.9**	**-0.1**
	comp=N,2.6nm,0.4s								
GEYT	**Alibeck**		**66.38**	**301**	P		**P**	**13 30 22.5**	**+0.8**
	comp=N,1.3nm,0.4s,baz=12,slow=7.8,SNR=3.9								
YKA	**Yellowknife Ar**		**67.53**	**29**	P		**P**	**13 30 29.6**	**+1.1**
	comp=N,1.3nm,1.0s,baz=294,slow=6.3,SNR=8.1								
OBN	**Obninsk**		**71.92**	**324**	*eP*		**P**	**13 30 55.7**	**0.0**
OBN					*e*			13 31 13.1	
OBN					pmax	pmax			
	comp=Z,6.0nm,0.4s								
OBN					MLR	MLR			
	comp=Z,35nm,19.0s								
FINES	**FINESS Array B**		**72.96**	**333**	P		**P**	**13 31 02.1**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=46,slow=6.0,SNR=3.7								
KBZ	**Khabaz**		**74.13**	**312**	P		**P**	**13 31 09.3**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=53,slow=20,SNR=5.4								
KIV	**Kislovodsk**		**74.15**	**312**	*eP*		**P**	**13 31 09.6**	**+0.4**
KIV					pmax	pmax			
	comp=Z,5.0nm,0.9s								
LRM	**Limekiln Ridge**		**77.13**	**44**	*eP*		**P**	**13 31 28.6**	**+2.2**
NVAR	**Mina Array Bea**		**77.42**	**52**	P		**P**	**13 31 30.9**	**+2.8**
	comp=Z,1.0nm,0.9s,baz=282,slow=5.4,SNR=5.4								
NB2	**NORSAR Subarra**		**78.47**	**338**	P		**P**	**13 31 33.8**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=40,slow=5.6								
NOA	**NORSAR Array B**		**78.47**	**339**	P		**P**	**13 31 33.0**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=40,slow=5.5,SNR=5.8								
H17A	**Grant Village**		**79.03**	**44**	*eP*		P	13 31 42.1	+5.1
	comp=Z,4.0nm,0.9s								
PDAR	**Pinedale Array**		**80.58**	**45**	P		**P**	**13 31 47.9**	**+2.5**
	comp=Z,0.7nm,0.8s,baz=322,slow=4.3,SNR=6.2								
BRTR	**Keskin Array B**		**82.11**	**312**	P		**P**	**13 31 54.6**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=115,slow=3.7,SNR=3.7								
BRTR	**Keskin Array B**		**82.11**	**312**	*ceP*		**P**	**13 31 54.5**	**+1.1**
BRTR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
SRU	**San Rafael Swe**		**82.11**	**48**	*eP*		**P**	**13 31 55.7**	**+2.1**
SRU					pmax	pmax			
	comp=Z,4.0nm,0.7s								
SRU	**San Rafael Swe**		**82.11**	**48**	*eP*		**P**	**13 31 55.7**	**+2.1**
	comp=Z,4.1nm,0.7s								
RAYN	**Ar Rayn**		**82.71**	**293**	*eP*		**P**	**13 31 57.4**	**+0.6**
	comp=Z,2.8nm,0.8s								
TXAR	**Lajitas Array**		**92.57**	**53**	P		**P**	**13 32 46.4**	**+1.9**
	comp=Z,2.1nm,0.9s,baz=306,slow=3.0,SNR=16								
TORD	**Torodi Ar. Bea**		**120.71**	**313**	PKP		**PKPdf**	**13 38 25.0**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=24,slow=2.3,SNR=4.2								
LPAZ	**La Paz**		**148.42**	**66**	PKPbc		**PKPab**	**13 39 22.6**	**-1.0**
	comp=Z,2.0nm,0.6s,baz=346,slow=4.2,SNR=5.2								

MAN 05 13:21:31.13˝58N×120˚46E, h65km, mb4.2, ML3.0, MS2.8, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.26**	**307**	*eP*	Pn	13 21 43.1	+1.8
PGP	**Puerto Galera**	**0.49**	**99**	⇑*eP*	Pn	13 21 44.8	+1.5
PGP				*i* S	Sn	13 21 56.5	+4.2
SJMP	**San Jose**	**1.28**	**150**	*eP*	Pn	13 21 55.1	+2.2
SJMP				*eS*	Sn	13 22 10.7	+1.3
BUSP	**Coron**	**1.59**	**189**	*eP*	Pn	13 21 58.7	+1.7
CUYO	**Cuyo Island**	**2.77**	**169**	*eP*	Pn	13 22 13.9	+0.9

*ISCJB **05** 13:27:22.8±0.5, 6˚.88N±0˚.06×73˚.00W±0˚.04, h166km, mb3.8/14, Error ellipse: s-maj=8.7km s-min=4.6km az=149.3*
*IDC **05** 13:27:22.6±1.6, 6˚.69N×72˚.94W, h160km±17km, mb3.7/15, mb1 3.8/16, mb1mx3.5/41, mbtmp4.1/16, MS3.4/2, Ms1 3.4/2, ms1mx2.7/26, Error ellipse: s-maj=21.4km s-min=14.9km az=46.0*
*FUNV **05** 13:27:22.5, 6˚.73N×73˚.21W, h163km, MW4.0*
ISC 05 13:27:23.7±0.6, 6˚.85N±0˚.06×73˚.00W±0˚.06, h166km, n39, σ1§19/51, mb3.7/14, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.22**	**34**	⇓*iP*	**Pn**	**13 27 52.4**	**+0.3**
CAPV				*eS*	**Sn**	**13 28 13.6**	**-0.4**
ROSC	**El Rosal**	**2.38**	**214**	P	**Pn**	**13 28 04.1**	**-0.5**
	158nm,0.3s,baz=94,slow=14,SNR=81						
ROSC				S	**Sn**	**13 28 32.7**	**-3.6**
	152nm,0.3s,baz=125,slow=19,SNR=10						
ROSC				LR	LR	13 28 41.5	
	comp=Z,28nm,20.0s,baz=270,slow=34						
VIGV	**El Vigia**	**2.56**	**39**	*eP*	**Pn**	**13 28 07.0**	**+0.6**
VIGV				*eS*	**Sn**	**13 28 39.0**	**-0.5**
SOCV	**Socops**	**2.56**	**56**	*eP*	**Pn**	**13 28 07.1**	**+0.7**
SOCV				*eS*	**Sn**	**13 28 38.9**	**-0.6**
ELOV	**Elorza**	**3.49**	**87**	*eP*	**Pn**	**13 28 18.5**	**+0.6**
ELOV				*eS*	**Sn**	**13 28 59.4**	**-0.8**
VIRV	**Villa del Rosa**	**3.68**	**9**	*eP*	**Pn**	**13 28 19.2**	**-1.1**
QARV	**Quebrada Arrib**	**4.14**	**36**	*eP*	**Pn**	**13 28 26.6**	**+0.3**
QARV				*eS*	**Sn**	**13 29 13.8**	**-1.4**
SANV	**Sanarito**	**4.32**	**52**	*eP*	**Pn**	**13 28 28.4**	**-0.4**
SANV				*eS*	**Sn**	**13 29 18.1**	**-1.4**
CURV	**Curarigua**	**4.35**	**43**	*eP*	**Pn**	**13 28 29.0**	**0.0**
CURV				*eS*	**Sn**	**13 29 17.9**	**-2.1**
DABV	**Dabajuro**	**4.67**	**30**	*eP*	**Pn**	**13 28 33.3**	**+0.1**
DABV				*eS*	**Sn**	**13 29 25.6**	**-1.9**
TEPV	**Terepaima**	**4.88**	**50**	*eP*	**Pn**	**13 28 36.0**	**+0.2**
TEPV				*eS*	**Sn**	**13 29 30.4**	**-1.9**
SIQV	**Siquisique**	**4.92**	**40**	*eP*	**Pn**	**13 28 36.1**	**-0.3**
SIQV				*eS*	**Sn**	**13 29 31.9**	**-1.4**
MAPV	**Macapo**	**5.38**	**56**	*eP*	**Pn**	**13 28 42.2**	**-0.3**
MONV	**Montecano**	**5.89**	**30**	*eP*	**Pn**	**13 28 48.4**	**-0.7**
MONV				*eS*	**Sn**	**13 29 52.2**	**-4.0**
TURV	**Turiamo**	**6.23**	**55**	*eP*	**Pn**	**13 28 52.8**	**-0.9**
PCRV	**Puerto La Cruz**	**8.91**	**68**	S	**Sn**	**13 31 08.1**	**-0.4**
	4.0nm,0.3s,baz=329,slow=5.9,SNR=3.5						
TEIG	**Tepich**	**19.91**	**313**	P	**P**	**13 31 43.8**	**+1.2**
	14nm,0.5s,baz=215,slow=1.0,SNR=11						
TEIG				LR	LR	13 40 32.5	
	comp=Z,42nm,19.8s,baz=222,slow=39						
LVC	**Limon Verde**	**29.55**	**172**	LR	LR	13 46 02.3	
	comp=Z,206nm,19.2s,baz=245,slow=38						
TXAR	**Lajitas Array**	**36.53**	**312**	P	**P**	**13 34 14.0**	**+0.4**
	1.8nm,0.6s,baz=126,slow=9.4,SNR=25						
TXAR				PcP	**PcP**	**13 36 35.1**	**+1.4**
	0.2nm,0.7s,baz=134,slow=5.2,SNR=3.4						
ULM	**Lac du Bonnet**	**47.30**	**340**	P	**P**	**13 35 40.1**	**-0.3**
	2.5nm,0.4s,baz=144,slow=8.1,SNR=6.1						
SCHQ	**Schefferville**	**48.10**	**5**	P	**P**	**13 35 47.6**	**+1.1**
	7.9nm,0.5s,baz=195,slow=6.8,SNR=18						
PDAR	**Pinedale Array**	**48.13**	**324**	P	**P**	**13 35 47.6**	**+0.4**
	0.6nm,0.5s,baz=120,slow=8.8,SNR=7.3						
NVAR	**Mina Array Bea**	**51.55**	**315**	P	**P**	**13 36 14.0**	**+0.9**
	1.0nm,0.7s,baz=120,slow=7.0,SNR=8.5						
YKA	**Yellowknife Ar**	**63.28**	**340**	P	**P**	**13 37 34.5**	**+0.1**
	0.9nm,0.6s,baz=133,slow=6.6,SNR=21						
DBIC	**Dimbokro**	**67.61**	**86**	P	**P**	**13 38 02.3**	**-0.9**
	4.0nm,0.7s,baz=262,slow=5.5,SNR=6.0						
INK	**Inuvik**	**73.05**	**340**	P	**P**	**13 38 35.8**	**+0.7**
	0.7nm,0.5s,baz=208,slow=10,SNR=3.2						
TORD	**Torodi Ar. Bea**	**73.61**	**78**	P	**P**	**13 38 38.2**	**-1.3**
	0.3nm,0.3s,baz=284,slow=7.0,SNR=14						
ILAR	**Eielson Array**	**76.99**	**335**	P	**P**	**13 38 58.0**	**+0.1**
	0.3nm,0.8s,baz=92,slow=3.7,SNR=3.2						
NB2	**NORSAR Subarra**	**81.25**	**29**	P	**P**	**13 39 21.7**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=268,slow=5.6						
NOA	**NORSAR Array B**	**81.25**	**29**	P	**P**	**13 39 21.9**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=268,slow=5.4,SNR=4.2						
HFS	**Hagfors**	**82.46**	**30**	P	**P**	**13 39 27.5**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=183,slow=7.2,SNR=2.9						
SPITS	**Spitsbergen Ar**	**83.21**	**12**	P	**P**	**13 39 32.0**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=188,slow=1.7,SNR=5.1						
ARCES	**ARCESS Array B**	**86.60**	**20**	P	**P**	**13 39 48.2**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=273,slow=4.7,SNR=6.9						
ZALV	**Zalesovo Beam**	**116.61**	**14**	PKP	**PKPdf**	**13 45 47.2**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=318,slow=4.2,SNR=4.4						
MKAR	**Makanchi Array**	**122.26**	**20**	PKP	**PKPdf**	**13 45 58.5**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=289,slow=5.4,SNR=9.7						
SONM	**Songino Array**	**125.55**	**1**	PKP	**PKPdf**	**13 46 06.0**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=11,slow=1.5,SNR=4.6						
ASAR	**Alice Springs**	**149.22**	**234**	PKPbc	**PKPbc**	**13 46 52.4**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=122,slow=3.4,SNR=4.9						
WRA	**Warramunga Arr**	**150.46**	**241**	PKPbc	**PKPbc**	**13 46 55.7**	**-0.9**
	comp=Z,0.9nm,0.4s,baz=104,slow=3.2,SNR=3.1						
CMAR	**Chiang Mai Arr**	**153.63**	**17**	PKPbc	**PKPbc**	**13 47 04.2**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=318,slow=3.0,SNR=6.2						

*ISCJB **05** 13:29:09.6±0.7, 32˚.62N±0˚.04×142˚.03E±0˚.09, h31km, mb3.2/3, Error ellipse: s-maj=11.3km s-min=4.9km az=161.8*
*JMA **05** 13:29:10.0±0.5, 32˚.60N×141˚.96E, h33km, M3.0*
*IDC **05** 13:29:12.2±2.3, 32˚.13N×140˚.69E, h0km, mb3.2/3, mb1 3.4/6, mb1mx3.2/53, mbtmp3.3/6, ML3.2/3, Error ellipse: s-maj=72.1km s-min=21.8km az=64.0*
ISC 05 13:29:11.1±1.0, 32˚.53N±0˚.05×141˚.91E±0˚.09, h31km, n18, σ1§45/25, mb3.3/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.86**	**289**	P	**Pn**	**13 29 40.9**	**+0.1**
JHJ2				S	**Sb**	**13 30 04.7**	**-2.6**
JHCJ	**Hachijojimakas**	**1.86**	**287**	P	**Pn**	**13 29 41.1**	**+0.2**
BSO1	**Boso 1**	**2.26**	**340**	P	**Pn**	**13 29 45.3**	**-0.5**
BSO1				S	**Sn**	**13 30 11.9**	**-0.4**
BSO2	**Boso 2**	**2.42**	**337**	S	**Sb**	**13 30 21.3**	**-1.7**
JYT	**Yasato**	**3.95**	**339**	P	**Pn**	**13 30 10.9**	**+1.3**
JHU	**Hanno**	**3.97**	**327**	S	**Sn**	**13 30 54.3**	**-1.0**
JYN	**Shimob**	**4.07**	**318**	S	**Sn**	**13 30 59.1**	**+1.1**
JHO	**Hitachi**	**4.22**	**345**	P	**Pn**	**13 30 13.3**	**0.0**
JHO				S	**Sn**	**13 31 00.0**	**-1.5**
JRY	**Ryogami san**	**4.28**	**325**	P	**Pn**	**13 30 15.2**	**+1.0**
JRY				S	**Sn**	**13 31 03.6**	**+0.6**
JAG	**Ashikaga**	**4.38**	**333**	P	**Pn**	**13 30 16.1**	**+0.5**
JAG				S	**Sn**	**13 31 05.7**	**+0.1**
MJAR	**Matsushiro Arr**	**5.04**	**324**	Pn	**Pn**	**13 30 25.1**	**+0.5**
	0.3nm,0.3s,baz=156,slow=12,SNR=5.3						
MJAR				Sn	**Sn**	**13 31 20.1**	**-1.5**
	0.3nm,0.3s,baz=172,slow=27,SNR=4.6						
JFT	**Otama**	**5.14**	**346**	P	**Pn**	**13 30 26.4**	**+0.4**
JFT				S	**Sn**	**13 31 22.2**	**-2.1**
CBIJ	**Chichi jima**	**5.42**	**177**	P	**Pn**	**13 30 30.9**	**+1.1**
JCJ	**Chichijima**	**5.42**	**177**	Pn	**Pn**	**13 30 30.6**	**+0.8**
	4.6nm,0.3s,baz=30,slow=20,SNR=8.4						
JCJ				Sn	**Sn**	**13 31 27.9**	**-3.3**
	1.9nm,0.3s,baz=301,slow=19,SNR=2.5						
JNU	**Nakatsue**	**9.31**	**277**	Pn	Pn	13 31 13.8	-9.4
	0.2nm,0.3s,baz=86,slow=19,SNR=2.4						
MKAR	**Makanchi Array**	**46.97**	**306**	P	**P**	**13 37 40.6**	**+1.5**
	0.1nm,0.3s,baz=84,slow=7.4,SNR=2.6						
WRA	**Warramunga Arr**	**52.68**	**189**	P	**P**	**13 38 24.4**	**+1.7**
	0.3nm,0.6s,baz=5.6,slow=7.6,SNR=6.0						
ASAR	**Alice Springs**	**56.40**	**189**	P	**P**	**13 38 51.5**	**+1.8**
	0.1nm,0.7s,baz=8.3,slow=7.0,SNR=2.9						

*NIED **05** 13:31:00, 40˚.20N×142˚.30E, h59km, Mw4.0 Best double couple: M0 1.28000×10^15 NP1:φs306.00000°, δ37.00000°, λ-8.00000°. NP2:φs43.00000°, δ85.00000°, λ-127.00000°.*
*ISCJB **05** 13:31:09.0±0.8, 40˚.21N±0˚.03×142˚.33E±0˚.09, h53km±6km, mb3.5/5, MS3.1/1, Error ellipse: s-maj=11.5km s-min=5.7km az=3.8*
*JMA **05** 13:31:09.8±0.1, 40˚.22N×142˚.31E, h38km±1km, M3.9*
JMA Felt I J1.
*IDC **05** 13:31:11.4±2.5, 40˚.25N×142˚.52E, h71km±23km, mb3.0/4, mb1 3.2/7, mb1mx3.0/28, mbtmp3.3/7, MS3.1/1, Ms1 3.3/1, ms1mx2.3/20, Error ellipse: s-maj=36.6km s-min=16.8km az=94.0*
ISC 05 13:31:09.9±1.4, 40˚.22N±0˚.04×142˚.30E±0˚.09, h42km±13km, n26, σ1§11/28, mb3.4/5, 1C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.43**	**230**	⇓P	**Pn**	**13 31 19.6**	**-0.2**
JTH				*eS*	**Sn**	**13 31 26.7**	**-0.1**
JANG	**Nango**	**0.61**	**285**	⇓P	**Pn**	**13 31 22.0**	**-0.2**
JANG				S	**Sn**	**13 31 30.7**	**-0.3**
MIYJ	**Miyakonagasawa**	**0.74**	**210**	⇓P	**Pn**	**13 31 23.6**	**-0.3**
MIYJ				S	**Sn**	**13 31 33.6**	**-0.4**
JKZ	**Kuzumaki**	**0.78**	**253**	⇓P	**Pn**	**13 31 24.6**	**+0.2**
JKZ				S	**Sn**	**13 31 35.1**	**+0.1**
JOM	**Ohasama**	**1.07**	**226**	⇓P	**Pn**	**13 31 28.8**	**+0.4**
JOM				*eS*	**Sn**	**13 31 42.8**	**+0.7**
JTM	**Tenmabayashi**	**1.09**	**302**	⇑P	**Pn**	**13 31 28.8**	**+0.1**
JTM				S	**Sn**	**13 31 42.9**	**+0.3**
JAH	**Hinai**	**1.27**	**269**	⇓P	**Pn**	**13 31 31.6**	**+0.5**
JAH				S	**Sn**	**13 31 48.0**	**+1.0**
JOT	**Ohata**	**1.50**	**321**	P	**Pn**	**13 31 34.5**	**+0.3**
JOT				*eS*	**Sn**	**13 31 53.4**	**+0.9**
JMK	**Ichinoseki**	**1.52**	**214**	P	**Pn**	**13 31 35.1**	**+0.6**
JRG	**Rokugo**	**1.52**	**238**	P	**Pn**	**13 31 35.7**	**+1.1**
ASAJ	**Asahikawa**	**3.90**	**3**	P	**Pn**	**13 32 08.0**	**+0.7**
	1.9nm,0.3s,baz=207,slow=16,SNR=14						
ASAJ				S	**Sn**	**13 32 53.5**	**+1.8**
	1.9nm,0.3s,baz=202,slow=19,SNR=3.7						
MAT	**Matsushiro**	**4.88**	**222**	P	**Pn**	**13 32 23.5**	**+2.8**
MAT				*eS*	**Sn**	**13 33 16.3**	**+0.4**
MJAR	**Matsushiro Arr**	**4.88**	**222**	P	**Pn**	**13 32 23.8**	**+3.0**
	0.5nm,0.3s,baz=34,slow=13,SNR=12						
USRK	**Ussuriysk Ar.**	**8.62**	**301**	P	Pn	13 33 16.0	+4.0
	0.3nm,0.3s,baz=104,slow=14,SNR=5.7						
H11N2	**WAKE ISLAND Hy**	**29.35**	**127**	T	T	14 07 54.0	
	baz=319,slow=76,SNR=53						
H11N1	**WAKE ISLAND Hy**	**29.36**	**127**	T	T	14 07 55.8	
	baz=319,slow=56,SNR=56						
H11N3	**WAKE ISLAND Hy**	**29.36**	**127**	T	T	14 07 55.1	
	baz=319,slow=76,SNR=51						
H11S1	**WAKE ISLAND Hy**	**30.16**	**129**	T	T	14 08 60.0	
	baz=321,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**30.16**	**129**	T	T	14 08 59.4	
	baz=321,slow=76,SNR=23						
H11S2	**WAKE ISLAND Hy**	**30.18**	**129**	T	T	14 09 01.1	
	baz=321,slow=76,SNR=15						
ZALV	**Zalesovo Beam**	**40.35**	**310**	P	**P**	**13 38 42.7**	**-0.4**
	0.3nm,0.5s,baz=96,slow=10,SNR=2.3						
CMAR	**Chiang Mai Arr**	**43.04**	**253**	LR	LR	13 56 23.1	
	comp=Z,25nm,19.7s,baz=189,slow=35						
MKAR	**Makanchi Array**	**43.08**	**299**	P	**P**	**13 39 05.4**	**-0.3**
	0.1nm,0.5s,baz=11,slow=1.5,SNR=3.2						
KURBB	**Kurchatov Arra**	**44.65**	**306**	P	**P**	**13 39 17.3**	**-0.8**
	3.5nm,0.2s,baz=79,slow=8.7,SNR=3.3						
WRA	**Warramunga Arr**	**60.31**	**189**	P	**P**	**13 41 12.9**	**-1.4**
	0.2nm,0.5s,baz=12,slow=8.3,SNR=3.4						
ASAR	**Alice Springs**	**64.04**	**189**	P	**P**	**13 41 38.3**	**-1.0**
	0.4nm,1.0s,baz=2.6,slow=6.5,SNR=4.8						

WEL 05 13:44:55.1±0.5, 45˚.23S×166˚.95E, h12km, ML3.5/10, 3C-2D, Error ellipse: s-maj=4.8km s-min=1.7km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLZ	**Mavora Lakes**	**0.87**	**98**	⇑P*	Pg	13 45 10.4	-1.6
MLZ				S*	Sg	13 45 21.4	-2.1
MLZ				AML	AML	13 45 22.6	
MSZ	**Milford Sound**	**0.89**	**52**	P*	Pg	13 45 10.5	-1.8
MSZ				S*	Sg	13 45 24.0	0.0
MSZ				AML	AML	13 45 24.8	
MSZ				AML	AML	13 45 26.5	
MSZ				AML	AML	13 45 26.5	
WHZ	**Wether Hill Ro**	**0.97**	**134**	⇑P*	Pg	13 45 12.6	-1.2
WHZ				S*	Sg	13 45 26.1	-0.4
WHZ				AML	AML	13 45 26.5	
WKZ	**Wanaka**	**1.52**	**75**	PN	Pn	13 45 21.7	-0.5
WKZ				SN	Sn	13 45 40.3	-1.6
WKZ				AML	AML	13 45 46.9	
WKZ				AML	AML	13 45 46.9	
EAZ	**Earnscleugh**	**1.67**	**91**	⇓PN	Pn	13 45 23.9	-0.3
EAZ				SN	Sn	13 45 44.6	-0.9
EAZ				AML	AML	13 45 46.5	
EAZ				AML	AML	13 45 46.5	
EAZ				AML	AML	13 45 49.5	
JCZ	**Jackson Bay**	**1.73**	**49**	PN	Pn	13 45 23.5	-1.7
JCZ				AML	AML	13 45 52.4	
JCZ				AML	AML	13 45 53.5	
APZ	**The Paps**	**1.76**	**156**	PN	Pn	13 45 25.2	-0.3
APZ				AML	AML	13 45 51.5	
SYZ	**Scrubby Hill**	**2.01**	**131**	⇑PN	Pn	13 45 28.0	-0.9
SYZ				AML	AML	13 45 57.8	
SYZ				AML	AML	13 45 57.8	
SYZ				AML	AML	13 45 57.8	
TUZ	**Tuapeka**	**2.02**	**112**	PN	Pn	13 45 28.4	-0.5
LBZ	**Lake Benmore**	**2.45**	**71**	PN	Pn	13 45 33.9	-1.1
LBZ				AML	AML	13 46 07.7	
LBZ				AML	AML	13 46 07.8	
ODZ	**Otahua Downs**	**2.62**	**87**	⇓PN	Pn	13 45 35.8	-1.5
HHSZ	**Highcliff Hill**	**2.65**	**106**	PN	Pn	13 45 37.0	-0.6
RPZ	**Rata Peaks**	**3.31**	**64**	PN	Pn	13 45 45.7	-1.0
RPZ				AML	AML	13 46 26.9	
RPZ				AML	AML	13 46 30.7	
WVZ	**Waitaha Valley**	**3.48**	**53**	PN	Pn	13 45 46.3	-2.7

comp=E,2.1nm,0.3s,baz=96,slow=9.1,SNR=11
GEYT S **Sn** 13 51 40.1 -3.1
comp=E,3.1nm,0.3s,baz=93,slow=11,SNR=11
AGRA Agra 10.82 146 *e*S Sn 13 51 39.1 -12
AGRA AML AML 13 51 46.1
comp=N,53nm,0.5s
AGRA AML AML 13 51 46.2
comp=E,54nm,0.2s
MKAR Makanchi Array 13.29 35 P **Pn 13 50 23.2 +0.2**
comp=E,0.1nm,0.3s,baz=229,slow=17,SNR=5.6
KOLN Koldanda 13.62 126 *e*P **Pn 13 50 27.6 +0.1**
comp=E,9.5nm,0.3s
GKN Gorkha 14.16 123 *e*P **Pn 13 50 34.3 0.0**
comp=E,51nm,0.8s
DMN Daman 14.73 123 *e*P **P 13 50 41.8 -1.9**
comp=E,24nm,0.7s
KKN Kakani 14.73 122 *e*P **Pn 13 50 40.9 -0.7**
comp=E,24nm,0.6s
PKIN Phulchoki 14.95 122 *e*P **P 13 50 45.0 -1.2**
comp=E,14nm,0.4s
PKI Pulchoki 14.96 122 *e*P **Pn 13 50 44.0 -0.5**
comp=E,18nm,0.6s
GUN Gumba 15.07 120 *e*P **Pn 13 50 45.0 -0.9**
comp=E,14nm,0.5s
KURBB Kurchatov Arra 15.16 18 P **P 13 50 49.6 +1.6**
comp=E,0.2nm,0.3s,baz=208,slow=10,SNR=17
AB31 Akbulak array 15.21 331 ⇓P **P 13 50 48.3 -0.3**
comp=E,1.0nm,0.3s,baz=156,slow=11,SNR=66
JIRN Jiri 15.44 120 *e*P **P 13 50 50.7 -1.1**
comp=E,43nm,0.6s
RAMN Ramite 16.17 121 *e*P **P 13 50 59.9 +0.2**
comp=E,16nm,0.5s
BVA0 Borovoye Array 16.61 358 ⇓P **Pn 13 51 07.9 +3.6**
comp=E,3.3nm,0.7s,baz=164,slow=9.0,SNR=16
BVA0 ⇑S **Sn 13 54 09.0 -0.6**
comp=E,5.0nm,1.0s,baz=222,slow=38,SNR=3.8
BVAR Borovoye Array 16.61 358 P **Pn 13 51 05.6 +1.4**
comp=E,0.9nm,0.3s,baz=170,slow=9.5,SNR=17
TAPN Taplejung 16.70 118 *e*P **Pn 13 51 06.8 +1.0**
comp=E,17nm,0.7s
ODAN Odare 16.77 120 *e*P **Pn 13 51 07.4 +0.8**
comp=E,30nm,0.9s
AKTO Aktyubinsk 16.91 330 ⇑P **Pn 13 51 10.5 +2.6**
comp=E,15nm,0.8s
AKTO Aktyubinsk 16.91 330 P **Pn 13 51 10.3 +2.4**
comp=E,0.8nm,0.3s,baz=142,slow=10,SNR=66
AKTO S **S 13 54 10.1 -5.6**
comp=E,0.1nm,0.3s,baz=162,slow=20,SNR=6.6
ZALV Zalesovo Beam 19.94 24 P Pn 13 51 42.2 -1.3
comp=E,4.7nm,0.3s,baz=223,slow=11,SNR=64
KBZ Khabaz 22.75 297 P **P 13 52 12.1 +2.7**
comp=E,1.1nm,0.7s,baz=56,slow=24,SNR=4.2
SONM Songino Array 28.28 55 P P 13 53 02.5 +2.9
comp=E,0.5nm,0.7s,baz=250,slow=8.6,SNR=3.3
AKASG Malin Array Be 33.09 309 P **P 13 53 42.8 +1.2**
comp=E,0.3nm,0.3s,baz=86,slow=6.5,SNR=5.6
FINES FINESS Array B 37.62 326 P P 13 54 22.8 +2.7
comp=E,1.4nm,0.8s,baz=132,slow=8.0,SNR=4.9
ARCES ARCESS Array B 41.27 338 P **P 13 54 51.7 +1.5**
comp=E,3.1nm,0.9s,baz=108,slow=8.9,SNR=5.9
NB2 NORSAR Subarra 44.52 323 P P 13 55 19.0 +2.5
comp=Z,1.5nm,0.7s,baz=94,slow=7.9
NOA NORSAR Array B 44.52 323 P **P 13 55 18.0 +1.5**
comp=Z,2.3nm,0.7s,baz=96,slow=7.8,SNR=12
KSRS Korea Array 44.79 71 LR LR 14 17 03.9
comp=Z,18nm,18.8s,baz=170,slow=40
TORD Torodi Ar. Bea 65.84 269 P **P 13 57 50.7 +0.8**
comp=Z,0.5nm,0.6s,baz=50,slow=6.5,SNR=5.2
YKA Yellowknife Ar 81.32 3 P P 13 59 21.3 +1.9
comp=Z,0.6nm,0.7s,baz=346,slow=5.2,SNR=7.8
WRA Warramunga Arr 81.84 122 P **P 13 59 23.9 +1.1**
comp=Z,0.3nm,0.8s,baz=328,slow=4.9,SNR=3.3
ASAR Alice Springs 84.11 125 P **P 13 59 35.6 +1.2**
comp=Z,0.3nm,0.9s,baz=314,slow=4.5,SNR=3.0
ASAR pP **pP 14 00 13.0 +1.0**
comp=Z,0.4nm,0.7s,baz=326,slow=6.2,SNR=2.9

*NIED **05** 13:51:00,26.30N×126.60E,h77km,Mw3.9 Best double couple: M0 7.58000×10^14 NP1:φs244.00000°,δ62.00000°, λ-171.00000°. NP2:φs150.00000°,δ82.00000°, λ-29.00000°.*
*ISCJB **05** 13:51:41.3±0.3,26.29N±0.06×126.67E±0.05,h86km±4km, mb3.5/7,Error ellipse: s-maj=12.2km s-min=3.4km az=142.0*
*IDC **05** 13:51:42.5±2.6,26.27N×126.58E,h84km±25km,mb3.3/7, mb1 3.5/10,mb1mx3.3/42,mbtmpg3.8/10,Error ellipse: s-maj=30.9km s-min=16.8km az=71.0*
*JMA **05** 13:51:42.5±0.1,26.28N×126.63E,h73km±1km,M4.0*

ISC 05 13:51:42.4±0.8,26.23N±0.06×126.76E±0.05,h83km±6km, n37,σ1⅘56/50,mb3.5/7,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.10**	**14**	P	**Pn**		**13 51 53.4**	**-0.8**
JKE				S	**Sn**		**13 52 01.2**	**-1.7**
JAGN	**Aguni-jima**	**0.56**	**50**	P	**Pn**		**13 52 57.0**	**+0.1**
JAGN				S	**Sn**		**13 52 07.5**	**-0.1**
JJT2	**Tamagusuku 2**	**0.89**	**96**	P	**Pn**		**13 52 01.7**	**+1.4**
JNTH	**Nagotoyohara**	**1.17**	**75**	P	**Pn**		**13 52 04.9**	**+1.3**
JNTH				S	**Sn**		**13 52 20.8**	**+1.3**
JIH	**Iheya**	**1.35**	**53**	P	**Pn**		**13 52 06.9**	**+1.1**
JIH				S	**Sn**		**13 52 24.4**	**+1.0**
JOW	**Kunigami**	**1.48**	**66**	P	**Pn**		**13 52 08.5**	**+0.9**
JOW				S	**Sn**		**13 52 27.9**	**+1.3**
JOW	**Kunigami** baz=244,slow=11	**1.48**	**66**	P	**Pn**		**13 52 08.8**	**+1.2**
JIKM	**Ikemajima**	**1.89**	**227**	P	**Pn**		**13 52 12.1**	**-0.7**
JOGS	**Gusukube**	**1.91**	**220**	P	**Pn**		**13 52 12.9**	**-0.2**
JMJ	**Miyako jima 2**	**1.93**	**224**	P	**Pn**		**13 52 13.1**	**-0.3**
JMJ				*e*S	**Sn**		**13 52 36.4**	**-0.7**
JOKE	**Okinoerabujima**	**1.97**	**55**	P	**Pn**		**13 52 14.3**	**+0.3**
JIRB	**Irabujima**	**2.00**	**226**	P	**Pn**		**13 52 13.4**	**-0.9**
JIRB				*e*S	**Sn**		**13 52 37.7**	**-1.0**
JTJ	**Tarama**	**2.44**	**230**	P	**Pn**		**13 52 19.4**	**-0.8**
JTK	**Tokunoshima**	**2.50**	**51**	P	**Pn**		**13 52 21.4**	**+0.5**
JTK				*e*S	**Sn**		**13 52 50.9**	**+0.4**
JISG	**Ishigakijimahi**	**2.75**	**234**	P	**Pn**		**13 52 23.0**	**-1.4**
JAMN	**Amaminishikomi**	**2.94**	**46**	P	**Pn**		**13 52 26.6**	**-0.3**
JIJ	**Ishigaki jima**	**3.01**	**232**	P	**Pn**		**13 52 25.9**	**-2.0**
JKRS	**Kuro-shima**	**3.18**	**232**	P	**Pn**		**13 52 28.7**	**-1.5**
JKRS				*e*S	**Sn**		**13 53 09.1**	**+1.9**
IRIF	**Iriomote-Funau**	**3.33**	**236**	P	**Pn**		**13 52 30.4**	**-1.8**
IRIF				*e*S	**Sn**		**13 53 12.0**	**+1.3**
JAM	**Amami Oshima**	**3.34**	**49**	P	**Pn**		**13 52 32.3**	**0.0**
JAM				*e*S	**Sn**		**13 53 05.4**	**-5.4**
HATJ	**Hateruma jima**	**3.44**	**232**	S	**Sn**		**13 53 17.1**	**+3.7**
JZK	**Kikaishima**	**3.53**	**53**	P	**Pn**		**13 52 35.7**	**+0.7**
JZK				*e*S	**Sn**		**13 53 16.6**	**+0.9**
JTAJ	**Takarajima**	**3.63**	**36**	P	**Pn**		**13 52 37.0**	**+0.7**
YOJ	**Yonaguni jima**	**3.82**	**243**	P	**Pn**		**13 52 38.5**	**-0.4**
JYNG	**Yonagunijimaku**	**3.88**	**244**	P	**Pn**		**13 52 39.9**	**+0.3**
JMZ	**Minamidaito 2**	**4.03**	**95**	P	**Pn**		**13 52 40.1**	**-1.7**
JMZ				*e*S	**Sn**		**13 53 23.9**	**-4.0**
JNAR	**Kushima--Naru**	**6.59**	**36**	P	**Pn**		**13 53 17.5**	**+0.8**
JNU	**Nakatsue** 0.6nm,0.3s,baz=179,slow=19,SNR=8.2	**7.75**	**27**	P	**Pn**		**13 53 33.5**	**+1.1**
KSRS	**Korea Array** 0.1nm,0.3s,baz=180,slow=14,SNR=5.4	**11.23**	**5**	P	**Pn**		**13 54 20.6**	**+0.8**
JCJ	**Chichijima** 2.4nm,0.3s,baz=276,slow=23,SNR=5.9	**13.82**	**83**	P	**Pn**		**13 54 56.0**	**+1.4**
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=90,slow=6.5,SNR=8.9	**40.55**	**312**	P	**P**		**13 59 12.9**	**-0.7**
ZALV	**Zalesovo Beam** 0.7nm,0.3s,baz=119,slow=9.1,SNR=5.2	**41.45**	**323**	P	**P**		**13 59 20.0**	**-0.8**
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=351,slow=8.7,SNR=4.1	**46.48**	**170**	P	**P**		**14 00 01.8**	**+0.4**
ASAR	**Alice Springs** 0.3nm,0.8s,baz=354,slow=9.7,SNR=4.0	**50.08**	**171**	P	**P**		**14 00 29.7**	**+0.6**
ILAR	**Eielson Array** 0.9nm,1.2s,baz=250,slow=4.6,SNR=4.7	**65.06**	**28**	P	**P**		**14 02 14.1**	**+0.4**
FINES	**FINESS Array B** 0.6nm,0.6s,baz=90,slow=8.3,SNR=3.5	**72.21**	**330**	P	**P**		**14 02 56.0**	**-2.2**
YKA	**Yellowknife Ar** 0.3nm,0.4s,baz=299,slow=5.5,SNR=6.6	**79.08**	**25**	P	**P**		**14 03 38.3**	**+0.9**

IDC 05 14:37:06.6±3.5,3.40S×104.14E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.4/23,mbtmpg3.5/4,Error ellipse: s-maj=205.5km s-min=25.6km az=54.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC

WRA	**Warramunga Arr** 0.5nm,0.8s,baz=299,slow=9.4,SNR=2.6	**33.73**	**122**	P	**P**		14 43 50.1	0.0
ASAR	**Alice Springs** 0.3nm,0.3s,baz=301,slow=7.6,SNR=18	**35.11**	**128**	P	**P**		14 44 02.2	+0.2
STKA	**Stephens Creek** 2.7nm,1.1s,baz=310,slow=7.2,SNR=4.7	**45.16**	**133**	P	**P**		14 45 24.8	-0.6
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=166,slow=7.8,SNR=2.8	**53.58**	**341**	P	**P**		14 46 29.4	0.0

MAN 05 14:52:31,12.44N×120.44E,h35km,mb4.2,ML3.0,MS2.7, 1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BUSP	**Coron**	**0.49**	**209**	*e*P		Pn	14 52 43.3	+1.7
SJMP	**San Jose**	**0.66**	**88**	*e*P		Pn	14 52 45.8	+1.9
SJMP				*e*S		Sn	14 52 54.8	+1.7
PGP	**Puerto Galera**	**1.17**	**25**	⇑*i*P		Pn	14 52 52.1	+1.1
PGP				*e*S		Sn	14 53 06.2	+0.4
LUBP	**Lubang**	**1.30**	**352**	*e*P		Pn	14 52 53.4	+0.7

*TIF **05** 14:58:20.9,41.38N×43.97E,h8km±1km*
*AZER **05** 14:58:21.7±0.3,41.59N×44.08E,h8km±7km,Error ellipse: s-maj=13.9km s-min=6.1km az=16.0*
*NSSP **05** 14:58:21.2,41.32N×43.90E,h7km,Ms3.4*
*MOS **05** 14:58:21.4±0.8,41.24N×43.92E,h13km,mb4.2/1,Error ellipse: s-maj=14.2km s-min=5.3km az=89.1*
*CSEM **05** 14:58:22.3±0.1,41.34N×43.92E,h2km,mb4.2,Error ellipse: s-maj=3.3km s-min=2.9km az=82.0*
*ISK **05** 14:58:23.8,41.15N×43.91E,h5km,MD3.4*
*DDA **05** 14:58:24.6,41.23N×43.66E,h7km,MD3.0*

ISC 05 14:58:21.1±1.0,41.37N±0.01×43.96E±0.01,h7km±8km, n122,σ1⅑32/183,22C-17D,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AKH	**Akhalkalaki**	**0.35**	**277**	P		**Pg**	**14 58 28.6**	**+0.5**
AKH				S		**Sg**	**14 58 33.6**	**+0.8**
AKH	**Akhalkalaki**	**0.35**	**277**	*e*PG		**Pg**	**14 58 28.6**	**+0.5**
AKH	**Akhalkalaki**	**0.35**	**277**	P		**Pg**	**14 58 28.6**	**+0.5**
AKH				S		**Sg**	**14 58 33.6**	**+0.8**
STE	**Stepanavan**	**0.48**	**140**	⇑P		**Pg**	**14 58 31.0**	**+0.6**
STE				S		**Sg**	**14 58 37.0**	**+0.3**
STEZ	**Stepenevan**	**0.49**	**138**	⇑*i*P		**Pg**	**14 58 30.9**	**+0.3**
STEZ				⇓*i*S		**Sg**	**14 58 37.8**	**+0.7**
STEZ	**Stepenevan**	**0.49**	**138**	⇑*i*P		**Pg**	**14 58 30.6**	**-0.1**
STEZ				⇑*i*S		**Sg**	**14 58 37.0**	**-0.1**
GMRZ	**Gyumri**	**0.56**	**190**	*e*P		**Pn**	**14 58 35.0**	**-0.7**
GMRZ				S		**Sn**	**14 58 44.0**	**-1.4**
SPIZ	**Spitak**	**0.59**	**156**	⇑*i*P		**Pg**	**14 58 33.1**	**+0.6**
SPIZ				⇓*i*S		**Sb**	**14 58 42.3**	**-0.2**
SPIZ	**Spitak**	**0.59**	**156**	⇑P		**Pg**	**14 58 33.1**	**+0.6**
SPIZ				S		**Sb**	**14 58 42.3**	**-0.2**
CKLZ	**Chkalov**	**0.68**	**129**	*i* P		**Pg**	**14 58 34.4**	**+0.3**
CKLZ				⇓*i*S		**Sg**	**14 58 43.8**	**+0.8**
CKLZ	**Chkalov**	**0.68**	**129**	P		**Pg**	**14 58 34.4**	**+0.3**
CKLZ				S		**Sg**	**14 58 43.8**	**+0.8**
TBLG	**Delisi**	**0.69**	**58**	P		**Pb**	**14 58 35.1**	**-0.4**
TBLG				S		**Sb**	**14 58 45.2**	**0.0**
TBLG	**Delisi**	**0.69**	**58**	*e*PG		**Pb**	**14 58 35.1**	**-0.4**
TBLG				S		**Sb**	**14 58 45.2**	**0.0**
SEAG	**Tbilisi Sea**	**0.75**	**58**	P		**Pg**	**14 58 35.3**	**-0.2**
SEAG				S		**Sb**	**14 58 46.3**	**-0.7**
SEAG	**Tbilisi Sea**	**0.75**	**58**	P		**Pg**	**14 58 35.3**	**-0.2**
SEAG				S		**Sb**	**14 58 46.3**	**-0.7**
DUS	**Dusheti**	**0.91**	**37**	P		**Pn**	**14 58 40.6**	**+0.1**
DUS				S		**Sn**	**14 58 53.5**	**-0.4**
DUS	**Dusheti**	**0.91**	**37**	*e*PG		**Pn**	**14 58 40.6**	**+0.1**
DUS	**Dusheti**	**0.91**	**37**	P		**Pn**	**14 58 40.6**	**+0.1**
DUS				S		**Sn**	**14 58 53.5**	**-0.4**
KARS	**Kars**	**0.99**	**222**	*e*PG		**Pg**	**14 58 40.2**	**0.0**
KARS				*e*SG		**Sg**	**14 58 53.3**	**+0.2**
KARS	**Kars**	**0.99**	**222**	*e*Pg		**Pg**	**14 58 40.2**	**0.0**
KARS				*e*Sg		**Sg**	**14 58 53.3**	**+0.2**
AMBZ	**Amberd**	**1.00**	**167**	*e*P		Pn	14 58 45.5	+3.8
AMBZ				*e*S		Sn	14 58 59.9	+4.5
DIGO	**Kars**	**1.05**	**205**	*i* P		**Pg**	**14 58 40.8**	**-0.5**
DIGO				*i* S		**Sb**	**14 58 56.1**	**+0.3**
DIGO	**Kars**	**1.05**	**205**	*i* P		**Pg**	**14 58 40.8**	**-0.5**
DIGO				*i* S		**Sb**	**14 58 56.1**	**+0.3**
QZX	**Qazax, Azerbai** SNR=552	**1.11**	**106**	⇑Pg		**Pg**	**14 58 42.0**	**-0.4**
QZX				⇑Sg		**Sb**	**14 58 57.0**	**-0.3**
QZX	**Qazax, Azerbai** SNR=552	**1.11**	**106**	Pg		**Pg**	**14 58 42.0**	**-0.4**
QZX				Sg		**Sb**	**14 58 57.0**	**-0.3**
KAPZ	**Kaputan**	**1.19**	**151**	*e*P		**Pn**	**14 58 45.6**	**+1.3**
KAPZ				*e*S		**Sn**	**14 59 01.3**	**+0.5**
KAPZ	**Kaputan**	**1.19**	**151**	P		**Pn**	**14 58 45.6**	**+1.3**
KAPZ				S		**Sn**	**14 59 01.3**	**+0.5**
ERE	**Yerevan**	**1.26**	**162**	*e*P		Pn	14 58 41.0	-4.2
ERE				⇑S		**Sb**	**14 58 56.0**	**-5.6**
ERE	**Yerevan**	**1.26**	**162**	P		Pn	14 58 41.0	-4.2
VNNZ	**Vanand**	**1.27**	**185**	*e*P		**Pg**	**14 58 46.4**	**+1.0**
VNNZ				*e*S		**Sn**	**14 59 03.6**	**+0.9**
VNNZ	**Vanand**	**1.27**	**185**	P		**Pg**	**14 58 46.4**	**+1.0**
VNNZ				S		**Sn**	**14 59 03.6**	**+0.9**
ONI	**Oni**	**1.28**	**343**	P		**Pg**	**14 58 45.4**	**-0.3**
ONI				S		**Sn**	**14 59 03.3**	**+0.3**
ONI	**Oni**	**1.28**	**343**	*e*PG		**Pg**	**14 58 45.4**	**-0.3**
GNI	**Garni**	**1.35**	**154**	*e*PN		**Pg**	**14 58 47.3**	**+0.2**
GNI	**Garni**	**1.35**	**154**	⇑*i*P		**Pb**	**14 58 46.9**	**0.0**
GNI				⇓*i*S		**Sg**	**14 59 05.7**	**+1.1**
GNI	**Garni**	**1.35**	**154**	*e*PG		**Pb**	**14 58 46.8**	**0.0**
GNI	**Garni**	**1.35**	**154**	⇑P		**Pb**	**14 58 46.9**	**0.0**
GNI	**Garni**	**1.35**	**154**	*e*Pn		**Pg**	**14 58 47.3**	**+0.2**
GNI				S		**Sg**	**14 59 05.7**	**+1.1**
ZEI	**Tsey**	**1.42**	**358**	⇓*i*PG		**Pg**	**14 58 48.4**	**0.0**
ZEI				*i* S		**Sg**	**14 59 08.5**	**+1.7**
LACR	**Lac**	**1.48**	**10**	⇓*i*PG		**Pg**	**14 58 49.5**	**0.0**
LACR				*i* S		**Sg**	**14 59 10.5**	**+1.8**
LACR	**Lac**	**1.48**	**10**	*i* Pg		**Pg**	**14 58 49.5**	**0.0**
LACR				*i* Sg		**Sg**	**14 59 10.5**	**+1.8**
ARTV	**Artvin**	**1.54**	**264**	*i* P		**Pn**	**14 58 49.4**	**+0.1**
ARTV				*i* S		**Sn**	**14 59 09.7**	**+0.1**
ARTV	**Artvin**	**1.54**	**264**	*i* P		**Pn**	**14 58 49.4**	**+0.1**
ARTV				*i* S		**Sn**	**14 59 09.7**	**+0.1**
DIGR	**Digorskoe uzhe**	**1.56**	**350**	⇓*i*PN		**Pg**	**14 58 50.8**	**-0.2**
DIGR				*i* S		**Sg**	**14 59 12.7**	**+1.5**
DIGR	**Digorskoe uzhe**	**1.56**	**350**	*i* Pn		**Pg**	**14 58 50.8**	**-0.2**
DIGR				*i* Sg		**Sg**	**14 59 12.7**	**+1.5**
DAGI	**Agillar**	**1.57**	**260**	*i* P		**Pb**	**14 58 50.0**	**-0.5**
DAGI				*i* S		**Sg**	**14 59 11.4**	**-0.2**
KORR	**Kora**	**1.72**	**3**	⇓*i*PN		**Pg**	**14 58 55.0**	**+0.9**
KORR				*i* S		**Sg**	**14 59 19.3**	**+2.9**
KORR	**Kora**	**1.72**	**3**	*i* Pn		**Pg**	**14 58 55.0**	**+0.9**
KORR				*i* Sg		**Sg**	**14 59 19.3**	**+2.9**
DBOC	**Borcka**	**1.73**	**270**	*i* P		**Pb**	**14 58 52.5**	**-0.7**
DBOC				*i* S		**Sb**	**14 59 15.3**	**+0.2**
DBOC	**Borcka**	**1.73**	**270**	*i* P		**Pb**	**14 58 52.5**	**-0.7**
DBOC				*i* S		**Sb**	**14 59 15.3**	**+0.2**
DDEM	**Demirkent**	**1.73**	**255**	*i* P		**Pb**	**14 58 52.8**	**-0.6**
DDEM				*i* S		**Sb**	**14 59 15.1**	**-0.3**
DDEM	**Demirkent**	**1.73**	**255**	*i* P		**Pb**	**14 58 52.8**	**-0.6**
DDEM				*i* S		**Sb**	**14 59 15.1**	**-0.3**
DBAD	**Bademkaya**	**1.74**	**259**	*i* P		**Pb**	**14 58 52.8**	**-0.7**
DBAD				*i* S		**Sb**	**14 59 15.9**	**+0.2**
DBAD	**Bademkaya**	**1.74**	**259**	*i* P		**Pb**	**14 58 52.8**	**-0.7**
DBAD				*i* S		**Sb**	**14 59 15.9**	**+0.2**
VLKR	**Vladikavkaz**	**1.76**	**17**	*e*PN		**Pg**	**14 58 54.4**	**-0.5**
VLKR	**Vladikavkaz**	**1.76**	**17**	*e*Pn		**Pg**	**14 58 54.4**	**-0.5**
VADZ	**Vardenis**	**1.81**	**131**	⇓*i*P		**Pg**	**14 58 55.0**	**+0.3**
VADZ				⇓*i*S		**Sg**	**14 59 20.0**	**+0.8**
VADZ	**Vardenis**	**1.81**	**131**	⇓P		**Pb**	**14 58 55.0**	**+0.3**
VADZ				S		**Sg**	**14 59 20.0**	**+0.8**
SNJR	**Sundja**	**1.81**	**20**	*e*PN		**Pg**	**14 58 55.3**	**-0.6**
SNJR	**Sundja**	**1.81**	**20**	*e*Pn		**Pg**	**14 58 55.3**	**-0.6**
ARNR	**Ardon**	**1.83**	**7**	*e*PN		**Pg**	**14 58 55.8**	**-0.4**
DYDN	**Diyadin**	**1.83**	**187**	*i* P		**Pg**	**14 58 56.1**	**-0.1**
DYDN	**Diyadin**	**1.83**	**187**	*i* P		**Pg**	**14 58 56.1**	**-0.1**
EATA	**Eleskirt**	**1.87**	**217**	*i* P		**Pb**	**14 58 55.4**	**-0.4**
EATA				*i* S		**Sg**	**14 59 21.1**	**-0.2**
EATA	**Eleskirt**	**1.87**	**217**	*i* P		**Pb**	**14 58 55.4**	**-0.4**
EATA				*i* S		**Sg**	**14 59 21.1**	**-0.2**
LSNR	**Lesken**	**1.91**	**357**	*e*PN		**Pg**	**14 58 57.5**	**-0.3**
LSNR	**Lesken**	**1.91**	**357**	*e*Pn		**Pg**	**14 58 57.5**	**-0.3**
GANJ	**Ganja** SNR=128	**1.93**	**111**	⇑Pg		**Pb**	**14 58 55.3**	**-1.3**
GANJ	**Ganja** SNR=128	**1.93**	**111**	Pg		**Pb**	**14 58 55.3**	**-1.3**
AGRB	**Hanur-Agry**	**1.94**	**203**	*e*PN		**Pb**	**14 58 56.3**	**-0.5**
AGRB	**Hanur-Agry**	**1.94**	**203**	*e*Pn		**Pb**	**14 58 56.3**	**-0.5**
CHVG	**Ch'k'valeri**	**1.94**	**315**	P		**Pb**	**14 58 56.7**	**-0.1**
CHVG				S		**Sg**	**14 59 23.6**	**+0.1**
CHVG	**Ch'k'valeri**	**1.94**	**315**	P		**Pg**	**14 58 56.7**	**-0.1**
CHVG				S		**Sg**	**14 59 23.6**	**+0.1**
STDR	**Stavd-Durt**	**2.00**	**2**	*e*PN		**Pg**	**14 58 59.9**	**+0.4**
STDR				*e*S		**Sg**	**14 59 27.6**	**+2.2**
STDR	**Stavd-Durt**	**2.00**	**2**	*e*Pn		**Pg**	**14 58 59.9**	**+0.4**
STDR				*e*Sb		**Sg**	**14 59 27.6**	**+2.2**
ZKTA	**Zakatala** SNR=14	**2.02**	**81**	⇓Pn		**Pb**	**14 58 57.2**	**-0.9**
ZKTA				⇓Sn		**Sg**	**14 59 25.0**	**-0.9**
HOMI	**Horasan**	**2.04**	**230**	*i* P		**Pg**	**14 59 00.0**	**-0.3**
BTKR	**Batakoyurt**	**2.05**	**12**	*e*PN		**Pg**	**14 59 00.2**	**-0.2**
BTKR				*e*S		**Sg**	**14 59 27.7**	**+0.7**
BTKR	**Batakoyurt**	**2.05**	**12**	*e*Pn		**Pg**	**14 59 00.2**	**-0.2**
NEY	**Neytrino**	**2.09**	**334**	*e*PN		**Pb**	**14 58 58.6**	**-0.9**
NEY	**Neytrino**	**2.09**	**334**	*e*Pn		**Pb**	**14 58 58.6**	**-0.9**
NCK	**Nalchik**	**2.14**	**353**	*e*PN		**Pb**	**14 59 00.6**	**+0.3**
NCK	**Nalchik**	**2.14**	**353**	*e*Pn		**Pb**	**14 59 00.6**	**+0.3**
TUTA	**Tutak**	**2.15**	**204**	*i* P		**Pn**	**14 58 58.9**	**+1.3**
TUTA	**Tutak**	**2.15**	**204**	*i* P		**Pn**	**14 58 58.9**	**+1.3**
CLDR	**Caldiran**	**2.22**	**181**	*e*PN		**Pn**	**14 59 00.1**	**+1.5**
CLDR	**Caldiran**	**2.22**	**181**	*e*Pn		**Pn**	**14 59 00.1**	**+1.5**
MNGR	**Mingechevir, A**	**2.44**	**103**	⇑Pn		**Pb**	**14 59 05.0**	**-0.2**
MNGR				⇑Sn		**Sb**	**14 59 35.6**	**+0.1**
MNGR	**Mingechevir, A**	**2.44**	**103**	Pn		**Pb**	**14 59 05.0**	**-0.2**
MNGR				Sn		**Sb**	**14 59 35.6**	**+0.1**
SEKA	**Sheki** SNR=20	**2.44**	**93**	⇑Pn		**Pn**	**14 59 03.0**	**+1.5**
SEKA				⇓Sn		**Sb**	**14 59 37.3**	**+1.5**
SEKA	**Sheki** SNR=20	**2.44**	**93**	Pn		**Pn**	**14 59 03.0**	**+1.5**
SEKA				Sn		**Sb**	**14 59 37.3**	**+1.5**
EZM	**Erzurum**	**2.46**	**234**	*e*PN		**Pb**	**14 59 04.5**	**-1.3**
NAX	**Nakhchivan** SNR=4.9	**2.48**	**151**	Pn		**Pg**	**14 59 07.9**	**-0.8**
NAX	**Nakhchivan** SNR=4.9	**2.48**	**151**	Pn		**Pg**	**14 59 07.9**	**-0.8**
EKAR	**Karacoban**	**2.56**	**215**	*i* P		**Pg**	**14 59 11.6**	**+1.5**
BRDA	**Brd**	**2.68**	**113**	⇑Pn		**Pb**	**14 59 08.9**	**-0.5**
BRDA				⇓Sn		**Sg**	**14 59 45.6**	**-1.6**
BRDA	**Brd**	**2.68**	**113**	Pn		**Pb**	**14 59 08.9**	**-0.5**
KIV	**Kislovodsk**	**2.75**	**340**	*e*PN		**Pb**	**14 59 08.3**	**-2.4**
KIV				*e*S		**Sb**	**14 59 43.0**	**-1.7**
KIV	comp=Z,13nm,0.9s			pmax	pmax			
KIV	**Kislovodsk** comp=Z,13nm,0.9s	**2.75**	**340**	*e*Pn		**Pb**	**14 59 08.3**	**-2.4**
KIV				*e*Sn		**Sb**	**14 59 43.0**	**-1.7**
IML	**Ismayilli** SNR=4.7	**3.24**	**99**	⇑Pn		**Pb**	**14 59 15.9**	**-3.1**
IML				⇑Sn		**Sb**	**14 59 56.2**	**-2.6**
IML	**Ismayilli** SNR=4.7	**3.24**	**99**	Pn		**Pb**	**14 59 15.9**	**-3.1**
IML				Sn		**Sb**	**14 59 56.2**	**-2.6**
QUBA	**Quba, Azerbaij**	**3.41**	**89**	⇑Pn		**Pb**	**14 59 19.5**	**-2.4**
QUBA				⇑Sn		**Sb**	**14 59 59.7**	**-3.9**
QUBA	**Quba, Azerbaij**	**3.41**	**89**	Pn		**Pb**	**14 59 19.5**	**-2.4**
QUBA				Sn		**Sb**	**14 59 59.7**	**-3.9**
GUMT	**Gumushane**	**3.51**	**257**	*e*PN		**Pb**	**14 59 20.6**	**-3.0**
GUMT	**Gumushane**	**3.51**	**257**	*e*Pn		**Pb**	**14 59 20.7**	**-3.0**
PQL	**Pirkuli** SNR=21	**3.55**	**98**	Pn		Pn	14 59 20.2	+3.4
PQL	**Pirkuli** SNR=21	**3.55**	**98**	Pn		Pn	14 59 20.2	+3.4
KELT	**Kelkit**	**3.77**	**253**	*i* P		**Pb**

comp=E,0.1nm,0.3s,baz=3.3,slow=14,SNR=7.0
PLCA Paso Flores 18.08 184 *e*P **P 15 04 33.5 +0.2**
BDFB Brasilia 20.94 74 P **P 15 05 03.9 -0.6**
comp=E,23nm,0.4s,baz=250,slow=11,SNR=32
BDFB LR LR 15 15 10.3
comp=E,54nm,21.0s,baz=222,slow=42
PTGA Pitinga 23.47 23 P **P 15 05 30.1 0.0**
comp=E,5.2nm,0.3s,baz=204,slow=14,SNR=16
RCBR Riachuelo 35.99 67 P **P 15 07 20.9 0.0**
comp=E,10nm,0.7s,baz=227,slow=10,SNR=8.6
PMSA Palmer Station 42.24 177 *e*P P 15 08 08.8 -3.3
JCT Junction City 60.57 329 *e*P **P 15 10 30.3 +1.1**
comp=E,6.7nm,0.5s
SNAA Sanae 61.21 161 *e*P **P 15 10 34.2 +1.1**
comp=E,0.4nm,0.4s
QSPA South Pole Qui 67.55 180 *e*P **P 15 11 15.8 +1.2**
comp=E,1.5nm,0.4s
DBIC Dimbokro 69.09 73 P **P 15 11 24.8 -0.1**
comp=E,3.2nm,0.7s,baz=208,slow=4.9,SNR=3.9
DBIC pP **pP 15 11 52.3 +0.4**
comp=E,6.6nm,0.8s,baz=211,slow=6.5,SNR=4.5
PDAR Pinedale Array 75.09 330 P **P 15 12 01.0 +0.7**
comp=E,0.2nm,0.4s,baz=122,slow=6.6,SNR=2.9
NVAR Mina Array Bea 76.38 322 P **P 15 12 08.8 +1.1**
comp=E,0.6nm,0.8s,baz=136,slow=6.9,SNR=4.4
NVAR pP **pP 15 12 35.4 +0.1**
comp=E,0.3nm,0.6s,baz=141,slow=8.9,SNR=2.7
NVAR sP **sP 15 12 47.2 +0.3**
comp=E,0.9nm,0.7s,baz=165,slow=5.4,SNR=5.0
TOA0 Torodi Ar. Sit 77.76 70 *e*P **P 15 12 15.9 +0.2**
TORD Torodi Ar. Bea 77.76 70 P **P 15 12 16.0 +0.3**
TORD pP **pP 15 12 43.0 -0.3**
comp=E,3.9nm,0.6s,baz=252,slow=5.7,SNR=4.7
TSUM Tsumeb 79.74 107 *e*P **P 15 12 27.6 +0.9**
comp=E,4.2nm,0.9s
MAW Mawson 83.24 163 P **P 15 12 44.0 0.0**
comp=E,1.2nm,0.6s,baz=270,slow=6.1,SNR=3.3
MAW pP **pP 15 13 12.7 +0.7**
comp=E,1.6nm,0.6s,baz=230,slow=7.9,SNR=2.7
YKA Yellowknife Ar 92.25 341 P **P 15 13 27.5 +0.3**
comp=E,0.9nm,0.8s,baz=137,slow=4.6,SNR=14
YKA pP **pP 15 13 56.0 +0.5**
comp=E,0.7nm,0.8s,baz=135,slow=4.4,SNR=4.9
YKA sP **sP 15 14 07.8 +0.8**
comp=E,2.4nm,0.7s,baz=137,slow=4.4,SNR=15
ASAR Alice Springs 128.89 207 PKP **PKPdf 15 19 25.4 -0.3**
comp=E,1.2nm,0.7s,baz=153,slow=2.5,SNR=9.2
WRA Warramunga Arr 131.96 210 PKP **PKPdf 15 19 31.5 0.0**
comp=E,0.8nm,0.5s,baz=154,slow=1.7,SNR=12
ZALV Zalesovo Beam 142.99 26 PKP **PKPdf 15 19 50.6 -0.1**
comp=E,0.3nm,0.3s,baz=311,slow=5.5,SNR=2.4
ZALV pPKP **pPKPdf 15 20 19.0 -1.3**
comp=E,1.9nm,0.6s,baz=291,slow=1.8,SNR=4.1
MKAR Makanchi Array 146.57 37 PKPbc **PKPbc 15 19 58.7 -0.2**
comp=E,0.3nm,0.7s,baz=285,slow=5.7,SNR=5.4
MKAR pPKPbc pPKPbc 15 20 27.7 -0.3
comp=E,3.3nm,0.9s,baz=290,slow=7.2,SNR=14
MJAR Matsushiro Arr 152.75 307 PKPbc **PKPbc 15 20 15.3 +0.8**
comp=E,0.3nm,0.4s,baz=86,slow=2.4,SNR=4.0
MJAR pPKPbc **pPKPbc 15 20 43.7 -0.2**
comp=E,0.3nm,0.6s,baz=78,slow=1.1,SNR=1.9

NNC 05 15:02:39.8±7.0, 37°15N×71°37E, h0km, mb3.7, mpv3.2, 3C-2D, Error ellipse: s-maj=60.6km s-min=21.5km az=170.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.60**	**310**	⇓P	Pn	15 03 22.4	-0.9
	20nm,0.4s						
DZET				⇑S	Sn	15 03 57.7	+1.9
	84nm,0.4s						
SFK	**Sufi-Kurgan**	**3.31**	**30**	⇓P	Pn	15 03 33.7	+0.4
	0.9nm,0.2s						
SFK				⇑S	Sn	15 04 15.4	+1.8
	10nm,0.3s						
KK31	**Karatay Array**	**5.99**	**354**	Pn	Pn	15 04 07.3	-2.4
	0.4nm,0.3s,baz=176,slow=12,SNR=16						
KK31				⇑Sn	Sn	15 05 16.2	-2.8
	1.0nm,0.5s,baz=179,slow=20,SNR=6.2						

MEX 05 15:06:21.6±0.3, 30°23N×109°22W, h5km±9km, MD3.5, Sonora

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGIG		**1.08**	**82**	*e*P	Pg	15 06 39.6	-3.0
CGIG				*i* S	Sg	15 06 53.6	-3.1
HSIG		**1.93**	**232**	*e*P	Pn	15 06 51.7	-3.4
HPIG		**4.53**	**136**	*e*P	Pn	15 07 30.3	-0.8

*ISCJB **05** 15:08:45.2±0.4, 59°.89N±0°.04×22°.36E±0°.05, h0km, Error ellipse: s-maj=5.5km s-min=3.3km az=12.4*
*NAO **05** 15:08:45.7±1.3, 59°.78N×22°.31E, ML2.1*
*BER **05** 15:08:46.4±3.3, 59°.77N×22°.24E, h0km, ML2.1(NAO), Suspected explosion*
*CSEM **05** 15:08:46.0±0.2, 59°.89N×22°.40E, h2km, ML2.2, Error ellipse: s-maj=5.2km s-min=3.2km az=3.0, Mining explosion.*
*HEL **05** 15:08:46.8±0.0, 59°.84N×22°.31E, h0km, ML2.2, Explosion*
*IDC **05** 15:08:46.9±2.0, 59°.83N×22°.46E, h0km, mb1 3.2/3, mb1mx3.0/29, mbtmp3.1/3, ML2.8/3, Error ellipse: s-maj=25.9km s-min=9.9km az=156.0*
*UPP **05** 15:08:47.4, 59°.86N×22°.17E, h0km, ML2.3, Suspected Mining explosion.*

ISC 05 15:08:45.8±0.8, 59°.83N±0°.03×22°.29E±0°.03, h0km, n55, σ0s99/63, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPE	**Suurupi**	**1.12**	**108**	*e*P	**Pg**	**15 09 06.8**	**-0.5**
SRPE				*e*S	**Sg**	**15 09 21.2**	**-0.6**
SRPE	**Suurupi**	**1.12**	**108**	P	**Pg**	**15 09 06.7**	**-0.5**
SRPE				S	**Sg**	**15 09 21.1**	**-0.6**
MEF	**Metsahovi**	**1.13**	**69**	*e*P	**Pg**	**15 09 06.7**	**-0.7**
MEF	**Metsahovi**	**1.13**	**69**	P	**Pg**	**15 09 06.6**	**-0.7**
AAL	**Aland**	**1.21**	**288**	*e*P	**Pg**	**15 09 08.4**	**-0.4**
AAL				*e*S	**Sg**	**15 09 24.1**	**-0.4**
AAL	**Aland**	**1.21**	**288**	P	**Pg**	**15 09 08.5**	**-0.4**
AAL				S	**Sg**	**15 09 24.1**	**-0.4**
AAL	**Aland**	**1.21**	**288**	P	**Pg**	**15 09 08.5**	**-0.4**
AAL				S	**Sg**	**15 09 24.1**	**-0.4**
RAF	**Rauma**	**1.23**	**348**	*e*PB	**Pg**	**15 09 08.9**	**-0.4**
RAF	**Rauma**	**1.23**	**348**	Pb	**Pg**	**15 09 08.8**	**-0.4**
MTSE	**Matsula**	**1.36**	**144**	*e*P	**Pg**	**15 09 11.0**	**-0.9**
MTSE				*e*S	**Sg**	**15 09 29.1**	**-0.5**
MTSE	**Matsula**	**1.36**	**144**	P	**Pg**	**15 09 11.0**	**-0.9**
MTSE				S	**Sg**	**15 09 29.0**	**-0.5**
NRTU	**Norrtaelje**	**1.86**	**267**	P	**Pn**	**15 09 19.6**	**+0.7**
NRTU	**Norrtaelje**	**1.86**	**267**	P	**Pn**	**15 09 19.6**	**+0.7**
PVF	**Pernaja**	**1.92**	**67**	*e*PN	**Pn**	**15 09 20.5**	**+0.8**
PVF				*e*S	**Sn**	**15 09 44.9**	**+0.3**
PVF				MSG		15 09 47.6	
	comp=Z,13nm,0.2s						
PVF	**Pernaja**	**1.92**	**67**	Pn	**Pn**	**15 09 20.5**	**+0.8**
GRAU	**Graesoe**	**1.95**	**287**	P	**Pn**	**15 09 20.5**	**+0.5**
GRAU	**Graesoe**	**1.95**	**287**	P	**Pn**	**15 09 20.5**	**+0.5**
FORU	**Forsmark**	**2.13**	**287**	P	**Pn**	**15 09 24.0**	**+1.4**
FORU	**Forsmark**	**2.13**	**287**	P	**Pn**	**15 09 24.0**	**+1.4**
SLIT	**Slitere, Latvi**	**2.21**	**180**	*e*P	**Pn**	**15 09 24.9**	**+1.2**
SLIT				*e*SG	**Sb**	**15 09 54.7**	**+0.4**
SLIT	**Slitere, Latvi**	**2.21**	**180**	P	**Pn**	**15 09 24.8**	**+1.2**
FLYU	**Flymyra**	**2.24**	**280**	P	**Pn**	**15 09 24.9**	**+0.9**
FLYU	**Flymyra**	**2.24**	**280**	P	**Pn**	**15 09 24.9**	**+0.9**
NYNU	**Nynaeshamn**	**2.34**	**251**	P	**Pn**	**15 09 26.7**	**+1.2**
NYNU	**Nynaeshamn**	**2.34**	**251**	P	**Pn**	**15 09 26.7**	**+1.2**
UPP	**Uppsala**	**2.35**	**273**	P	**Pn**	**15 09 26.9**	**+1.3**
UPP	**Uppsala**	**2.35**	**273**	P	**Pn**	**15 09 26.9**	**+1.3**
FIA0	**FINESS Array S**	**2.47**	**47**	Pn	**Pn**	**15 09 29.2**	**+1.9**
	baz=221,slow=16						
FIA0				Lg	Lg	15 10 02.6	
	baz=227,slow=28						
FIA0	**FINESS Array S**	**2.47**	**47**	Pn	**Pn**	**15 09 29.2**	**+1.9**
	baz=221,slow=16						
FIA0				Lg	Lg	15 10 02.6	
	baz=227,slow=28						
FIA0	**FINESS Array S**	**2.47**	**47**	*e*PB	**Pn**	**15 09 29.2**	**+1.9**
FIA0				*e*SG	**Sb**	**15 10 02.0**	**+0.1**
FIA0				MSG		15 10 04.3	
	comp=Z,11nm,0.2s						
FIA0	**FINESS Array S**	**2.47**	**47**	Pb	**Pn**	**15 09 29.1**	**+1.9**
FIA0				Sg	**Sb**	**15 10 02.0**	**+0.1**
FINES	**FINESS Array B**	**2.47**	**47**	Pn	**Pn**	**15 09 29.1**	**+1.9**
	comp=Z,1.9nm,0.3s,baz=229,slow=15,SNR=63						
FINES				Lg	Lg	15 10 01.9	
	comp=Z,3.6nm,0.3s,baz=230,slow=24,SNR=22						
BACU	**Backbrunna**	**2.62**	**273**	P	**Pn**	**15 09 30.4**	**+1.2**
BACU	**Backbrunna**	**2.62**	**273**	P	**Pn**	**15 09 30.4**	**+1.2**
OSTU	**Oestervaala**	**2.62**	**281**	P	**Pn**	**15 09 30.3**	**+1.0**
OSTU	**Oestervaala**	**2.62**	**281**	P	**Pn**	**15 09 30.3**	**+1.0**
VSU	**Vasula**	**2.67**	**119**	Lg	Lg	15 10 07.6	
VSU	**Vasula**	**2.67**	**119**	Lg	Lg	15 10 07.6	
VSU	**Vasula**	**2.67**	**119**	*e*SB	**Sb**	**15 10 07.4**	**-0.2**
VSU	**Vasula**	**2.67**	**119**	Lg	Lg	15 10 07.6	
VJF	**Virojoki**	**2.72**	**73**	*e*SG	**Sb**	**15 10 09.3**	**+0.1**
VJF				MSG		15 10 11.1	
	comp=Z,7.1nm,0.1s						
VJF	**Virojoki**	**2.72**	**73**	Sg	**Sb**	**15 10 09.3**	**+0.1**
HFS	**Hagfors**	**4.33**	**278**	Pn	**Pn**	**15 09 53.3**	**+0.5**
	baz=96,slow=9.3						
HFS				Lg	Lg	15 10 57.7	
	baz=97,slow=37						
HFS	**Hagfors**	**4.33**	**278**	Pn	**Pn**	**15 09 53.3**	**+0.5**
	baz=96,slow=9.3						
HFS				Lg	Lg	15 10 57.7	
	baz=97,slow=37						
HFS	**Hagfors**	**4.33**	**278**	Pn	**Pn**	**15 09 53.3**	**+0.5**
	SNR=50						
HFS				Lg	Lg	15 10 57.7	
	SNR=90						
NB2	**NORSAR Subarra**	**5.62**	**287**	Pn	**Pn**	**15 10 10.7**	**+0.2**
	baz=96,slow=14						
NB2				Lg	Lg	15 11 38.2	
	baz=100,slow=37						
NB2	**NORSAR Subarra**	**5.62**	**287**	Pn	**Pn**	**15 10 10.7**	**+0.2**
	baz=96,slow=14						
NB2				Lg	Lg	15 11 38.2	
	baz=100,slow=37						
NB2	**NORSAR Subarra**	**5.62**	**287**	Pn	**Pn**	**15 10 10.7**	**+0.2**
	SNR=50						
NB2				Lg	Lg	15 11 38.2	
	SNR=70						
NOA	**NORSAR Array B**	**5.62**	**287**	Pn	**Pn**	**15 10 10.3**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=120,slow=11,SNR=7.7						
NOA				Lg	Lg	15 11 39.3	
	comp=Z,0.5nm,0.3s,baz=142,slow=22,SNR=3.6						
APA0	**Apatity Array**	**9.12**	**27**	Pn	**Pn**	**15 10 59.7**	**+1.3**
	baz=227,slow=12						
APA0	**Apatity Array**	**9.12**	**27**	Pn	**Pn**	**15 10 59.7**	**+1.3**
	baz=227,slow=12						
ARA0	**ARCESS Array S**	**9.84**	**7**	Pn	**Pn**	**15 11 07.0**	**-1.3**
	baz=186,slow=14						
ARA0	**ARCESS Array S**	**9.84**	**7**	Pn	**Pn**	**15 11 07.0**	**-1.3**
	baz=186,slow=14						
ARA0	**ARCESS Array S**	**9.84**	**7**	Pn	**Pn**	**15 11 07.0**	**-1.3**
	SNR=50						
ARCES	**ARCESS Array B**	**9.84**	**7**	Pn	**Pn**	**15 11 06.6**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=185,slow=14,SNR=14						
ARCES				Sn	Sn	15 12 52.5	-6.8
	comp=Z,0.2nm,0.3s,baz=191,slow=24,SNR=3.6						

GUC 05 15:16:06.2±0.5, 33°97S×72°48W, h36km±3km, ML3.8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.89**	**89**	*e*P	Pn	15 16 23.1	+1.0
LNV				*e*S	Sn	15 16 35.7	+1.9
NICH	**Los Niches**	**1.45**	**135**	*e*P	Pn	15 16 32.3	+2.3
NICH				*e*S	Sn	15 16 51.8	+4.1
NICH				AML	AML	15 16 57.4	
	comp=N,4μm,0.3s						
CHCH	**Chadas Angostu**	**1.52**	**89**	*e*P	Pn	15 16 33.0	+2.1
CHCH				*e*S	Sn	15 16 53.6	+4.2
TALC	**Talca**	**1.58**	**154**	*e*P	Pn	15 16 34.1	+2.4
TALC				*e*S	Sn	15 16 55.1	+4.2
SAN	**Santiago**	**1.60**	**72**	*e*P	Pn	15 16 34.4	+2.4
SAN				*e*S	Sn	15 16 55.5	+4.1
PEL	**Peldehue**	**1.71**	**61**	*e*P	Pn	15 16 36.3	+2.8
PEL				*e*S	Sn	15 16 59.4	+5.2
PEL				AML	AML	15 17 09.1	
	comp=N,3μm,0.8s						
CLCH	**Cerro Calan**	**1.72**	**71**	*e*P	Pn	15 16 36.1	+2.5
CLCH				*e*S	Sn	15 16 59.3	+4.9
CLCH				AML	AML	15 17 09.9	
	comp=E,625nm,0.1s						

*IDC **05** 15:24:05.8±0.4, 35°.56S×73°.07W, h0km, mb4.7/18, mb1 4.8/23, mb1mx4.7/29, mbtmp4.7/23, ML4.4/4, MS4.9/14, Ms1 4.9/14, ms1mx4.7/18, Error ellipse: s-maj=18.7km s-min=11.3km az=96.0*
*GUC **05** 15:24:06.0±0.5, 35°.57S×73°.44W, h28km±4km, ML6.1, MW6.1*
*ISCJB **05** 15:24:07.6±0.2, 35°.58S±0°.03×72°.97W±0°.05, h17km, mb4.9/80, MS4.8/18, Error ellipse: s-maj=6.1km s-min=4.6km az=150.8*
*MOS **05** 15:24:10.0±1.2, 35°.52S×72°.75W, h33km, mb5.1/25, Error ellipse: s-maj=18.1km s-min=8.7km az=99.5*
*NEIC **05** 15:24:10.7±0.2, 35°.56S×72°.94W, mb5.0/63, Error ellipse: s-maj=6.6km s-min=4.2km az=72.0*
NEIC Felt [V] at Cauquenes and Chillan; [IV] at Chanco, Colbun, Constitucion, Linares, San Javier and Talca; [III] at Concepcion, Curico, Paredones, Parral and Pichilemu; [II] at Navidad and Santiago. Also felt at Los Angeles and Talcahuano.
*GCMT **05** 15:24:10.7±0.2, 35°.67S×73°.32W, h16km, MW5.4/85, Moment Tensor Solution. s69,c98; s85,c123; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr0.69±.03; Mθθ0.03±.02; Mϕϕ-0.72±.02; Mrθ-0.04±.04; Mrϕ-0.14±.01; Mθϕ-1.38±.11; Best double couple: Mo1.55500×10^17 NP1:ϕs182.00000°, δ76.00000°, λ86.00000°. NP2: ϕs19.00000°, δ14.00000°, λ106.00000°. Principal axes: T 1.5320, Plg58.0000°, Azm87.0000°; N 0.0450, Plg4.0000°, Azm183.0000°; P -1.5780, Plg31.0000°, Azm276.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 05 15:24:08.6±0.3, 35°.58S±0°.04×73°.08W±0°.05, h17km, n491, σ1s21/494, mb4.9/80, MS4.9/19, 93C-98D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.60**	**157**	⇑*i*P	**Pg**	**15 24 20.2**	**-0.3**
TALC	**Talca**	**1.20**	**82**	⇑*i*P	**Pb**	**15 24 31.1**	**+0.4**
TALC				*i* S	**Sg**	**15 24 50.8**	**+3.4**
LNCH	**Linares**	**1.23**	**103**	⇑*i*P	Pg	15 24 36.0	+3.6
LNCH				*i* S	Sg	15 24 56.1	+7.6
NICH	**Los Niches**	**1.62**	**70**	⇑*i*P	**Pb**	**15 24 37.8**	**-0.3**
NICH				*i* S	**Sg**	**15 25 01.9**	**+1.0**
CACH	**El Canelo**	**2.51**	**55**	⇓*i*P	**Pn**	**15 24 49.8**	**+1.0**
CHCH	**Chadas Angostu**	**2.59**	**51**	*e*P	**Pn**	**15 24 50.7**	**+0.9**
TACH	**Talagante**	**2.61**	**43**	*e*P	**Pn**	**15 24 50.6**	**+0.5**
IHA	**Instituto Hidr**	**2.81**	**25**	*e*P	**Pn**	**15 24 52.4**	**-0.4**
SAN	**Santiago**	**2.92**	**44**	*e*P	**Pn**	**15 24 54.7**	**+0.5**
CLCH	**Cerro Calan**	**3.03**	**45**	⇑*i*P	**Pn**	**15 24 56.0**	**+0.2**
CLCH				*e*P	Pb	15 24 57.2	-4.9
CLCH				AML	AML	15 25 55.5	
	comp=N,41μm,0.5s						
CLCH				AML	AML	15 25 56.0	
	comp=E,51μm,0.8s						
ROCH	**El Roble**	**3.12**	**34**	*e*P	**Pn**	**15 24 57.5**	**+0.3**
PEL	**Peldehue**	**3.14**	**40**	⇓*i*P	**Pn**	**15 24 57.4**	**+0.1**
PEL				AML	AML	15 25 52.3	
	comp=E,30μm,0.4s						
PLCA	**Paso Flores**	**5.52**	**160**	Pn	**Pn**	**15 25 29.6**	**-0.4**
	comp=E,7.1nm,0.3s,baz=337,slow=13,SNR=122						
PLCA				Lg	Lg	15 26 58.7	
	comp=E,19nm,0.3s,baz=271,slow=18,SNR=4.6						
PLCA	**Paso Flores**	**5.52**	**160**	*e*P	**Pn**	**15 25 30.4**	**+0.4**
PLCA				pmax	pmax		
	comp=Z,340nm,0.8s						
PLCA	**Paso Flores**	**5.52**	**160**	*e*Pn	**Pn**	**15 25 30.4**	**+0.4**
	comp=Z,340nm,0.8s						
PLCA				Lg	Lg	15 26 58.7	
CFAA	**Coronel Fontan**	**5.66**	**47**	Pn	**Pn**	**15 25 31.3**	**-0.7**
	comp=Z,4.0nm,0.3s,baz=221,slow=13,SNR=184						
CFAA				Lg	Lg	15 26 58.9	
	comp=Z,4.2nm,0.3s,baz=134,slow=17,SNR=3.7						
CFAA				LR	LR	15 27 14.5	
	comp=Z,170nm,21.6s,baz=228,slow=34						
CFAA	**Coronel Fontan**	**5.66**	**47**	Pn	**Pn**	**15 25 31.3**	**-0.7**
CFAA				Lg	Lg	15 26 58.9	
LCO	**Las Campanas**	**6.85**	**18**	*e*Pn	**Pn**	**15 25 46.7**	**-1.9**
	comp=Z,155nm,0.6s						
TRQA	**Tornquist**	**9.24**	**109**	*e*Pn	**Pn**	**15 26 22.2**	**+1.2**
	comp=Z,132nm,0.6s						
LVC	**Limon Verde**	**13.43**	**17**	Pn	**Pn**	**15 27 17.5**	**-1.1**
	comp=Z,73nm,0.3s,baz=204,slow=9.6,SNR=14						
LVC				Sn	**S**	**15 30 13.5**	**+2.1**
	comp=Z,33nm,0.3s,baz=288,slow=20,SNR=2.6						
LVC				LR	LR	15 33 04.6	
	comp=Z,29μm,18.2s,baz=208,slow=40						
LVC	**Limon Verde**	**13.43**	**17**	*e*Pn	Pn	15 27 14.4	-4.2
	comp=Z,20nm,0.6s						
LVC				Sn	**S**	**15 30 13.5**	**+2.1**
CPUP	**Villa Florida**	**16.34**	**60**	Pn	**Pn**	**15 27 56.0**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=194,slow=13,SNR=6.1						
CPUP				Sn	**S**	**15 31 13.1**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=319,slow=20,SNR=1.7						
CPUP				LR	LR	15 34 50.9	
	comp=Z,61μm,19.6s,baz=236,slow=40						
CPUP	**Villa Florida**	**16.34**	**60**	*e*P	**Pn**	**15 27 52.7**	**-4.5**
CPUP	**Villa Florida**	**16.34**	**60**	*e*Pn	**Pn**	**15 27 52.7**	**-4.5**
CPUP				Sn	**S**	**15 31 13.1**	**+2.5**
EFI	**East Falkland**	**19.35**	**151**	*e*P	**P**	**15 28 32.5**	**-0.6**
EFI				pmax	pmax		
	comp=Z,85nm,0.9s						
EFI	**East Falkland**	**19.35**	**151**	*e*P	**P**	**15 28 32.5**	**-0.6**
	comp=Z,85nm,0.9s						
USHA	**Ushuaia**	**19.52**	**172**	P	**P**	**15 28 35.1**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=332,slow=9.3,SNR=9.3						
USHA				LR	LR	15 36 39.8	
	comp=Z,2μm,18.4s,baz=330,slow=39						
USHA	**Ushuaia**	**19.52**	**172**	P	**P**	**15 28 35.1**	**+0.3**
LPAZ	**La Paz**	**19.72**	**14**	P	**P**	**15 28 37.4**	**-0.6**
	baz=188,slow=7.3						
LPAZ	**La Paz**	**19.72**	**14**	P	**P**	**15 28 37.4**	**-0.6**
LPAZ	**La Paz**	**19.72**	**14**	P	**P**	**15 28 37.4**	**-0.6**
SIV	**San Ignacio**	**22.27**	**32**	P	**P**	**15 29 04.4**	**-0.6**
	comp=Z,30nm,0.7s,baz=217,slow=11,SNR=60						
SIV				LR	LR	15 39 39.3	
	comp=Z,9μm,18.3s,baz=230,slow=42						
SIV	**San Ignacio**	**22.27**	**32**	P	**P**	**15 29 04.4**	**-0.6**
NNA	**Nana**	**23.74**	**351**	P	**P**	**15 29 19.8**	**-0.2**
	comp=Z,5.1nm,0.4s,baz=190,slow=12,SNR=2.9						
NNA				LR	LR	15 36 45.6	
	comp=Z,1μm,19.3s,baz=182,slow=32						
NNA	**Nana**	**23.74**	**351**	P	**P**	**15 29 19.8**	**-0.2**
NNA	**Nana**	**23.74**	**351**	P	**P**	**15 29 19.8**	**-0.2**
SAML	**Samuel**	**28.01**	**21**	*e*P	**P**	**15 29 58.1**	**-0.6**
	comp=Z,14nm,0.9s						
ATAH	**Atahualpa**	**28.73**	**349**	LR	LR	15 39 19.4	
	comp=Z,936nm,21.1s,baz=188,slow=32						
BDFB	**Brasilia**	**29.94**	**55**	P	**P**	**15 30 15.4**	**-0.6**
	comp=Z,17nm,0.7s,baz=219,slow=9.3,SNR=21						
BDFB				LR	LR	15 42 39.7	
	comp=Z,2μm,20.3s,baz=222,slow=37						
BDFB	**Brasilia**	**29.94**	**55**	P	**P**	**15 30 15.4**	**-0.6**
BDFB	**Brasilia**	**29.94**	**55**	P	**P**	**15 30 15.4**	**-0.6**
OTAV	**Otavalo**	**35.99**	**351**	*e*P	**P**	**15 31 11.5**	**+2.3**
	comp=Z,35nm,1.4s						
PTGA	**Pitinga**	**36.76**	**22**	P	**P**	**15 31 14.9**	**-0.4**
	comp=Z,28nm,0.9s,baz=208,slow=9.9,SNR=41						
PTGA	**Pitinga**	**36.76**	**22**	*e*P	**P**	**15 31 14.9**	**-0.4**
	comp=Z,68nm,1.2s						
ROSC	**El Rosal**	**40.24**	**358**	P	**P**	**15 31 44.5**	**-0.5**
	comp=Z,4.4nm,0.4s,baz=270,slow=20,SNR=2.9						
ROSC				LR	LR	15 48 58.1	
	comp=Z,707nm,18.8s,baz=196,slow=37						
ROSC	**El Rosal**	**40.24**	**358**	P	**P**	**15 31 44.5**	**-0.5**
SDV	**Santo Domingo**	**44.29**	**3**	*e*P	**P**	**15 32 16.6**	**-1.2**
	comp=Z,23nm,0.8s						
RCBR	**Riachuelo**	**45.21**	**58**	P	**P**	**15 32 24.9**	**-0.1**
	comp=Z,16nm,0.6s,baz=217,slow=13,SNR=16						
RCBR	**Riachuelo**	**45.21**	**58**	*e*P	**P**	**15 32 25.2**	**+0.2**
	comp=Z,36nm,1.0s						
PCRV	**Puerto La Cruz**	**46.20**	**12**	P	**P**	**15 32 32.6**	**-0.2**
	comp=Z,7.8nm,0.6s,baz=153,slow=9.0,SNR=3.4						
PCRV	**Puerto La Cruz**	**46.20**	**12**	P	**P**	**15 32 32.6**	**-0.2**
JTS	**JuntasAbangare**	**46.98**	**344**	*d*P	P	15 32 34.7	-4.2
JTS				pmax	pmax		
	comp=Z,17nm,1.4s						
VNA3	**Neumayer Olymp**	**48.23**	**157**	P	**P**	**15 32 48.6**	**+0.6**
VNA1	**Neumayer--Stat**	**48.57**	**156**	P	**P**	**15 32 51.6**	**+1.1**
GRGR	**Grenville**	**48.67**	**15**	P	**P**	**15 32 51.9**	**0.0**
VNA2	**Neumayer--Watz**	**48.90**	**157**	P	**P**	**15 32 53.8**	**+0.7**
	baz=294,slow=10						
SNAA	**Sanae**	**50.45**	**157**	P	**P**	**15 33 05.7**	**+0.7**
SNAA	**Sanae**	**50.45**	**157**	P	**P**	**15 33 05.3**	**+0.4**
	comp=Z,15nm,0.9s,baz=289,slow=6.4,SNR=46						
SNAA	**Sanae**	**50.45**	**157**	*e*P	**P**	**15 33 05.4**	**+0.4**
SNAA				pmax	pmax		
	comp=Z,61nm,1.0s						
SNAA	**Sanae**	**50.45**	**157**	*e*P	**P**	**15 33 05.4**	**+0.4**
	comp=Z,61nm,1.0s						
CELP	**Cerrillos**	**53.72**	**8**	*e*P	**P**	**15 33 29.2**	**-0.5**
RKT	**Rikitea**	**54.57**	**265**	*e*S	**S**	**15 41 16.5**	**+1.6**
	comp=Z,445nm,24.8s						
RKT				*e*LR	LR	15 49 25.1	
	comp=Z,760nm,28.5s						
RKT	**Rikitea**	**54.57**	**265**	*e*T	T	16 32 11.1	
	comp=Z,1.3nm,0.2s						
QSPA	**South Pole Qui**	**54.66**	**180**	P	**P**	**15 33 36.7**	**+0.4**
	comp=Z,12nm,0.8s,baz=154,slow=4.7,SNR=54						
QSPA	**South Pole Qui**	**54.66**	**180**	*e*P	**P**	**15 33 36.7**	**+0.4**
	comp=Z,21nm,0.8s						
NVL	**N'lazarevskaya**	**55.22**	**156**	*e*P	**P**	**15 33 40.1**	**0.0**

baz=71
333A Richland Sprin 70.86 337 ⇓P P 15 35 25.2 +0.8
baz=71
WHTX Lake Whitney, 71.00 338 eP P 15 35 26.1 +0.9
comp=Z,15nm,0.6s
WHTX Lake Whitney, 71.00 338 ⇓P P 15 35 26.2 +0.9
baz=71
430A Baggett Ranch, 71.13 335 ⇓P P 15 35 26.6 +0.5
baz=72
332A Millersview 71.17 336 ⇓P P 15 35 27.2 +0.9
baz=72
429A Davenport Ranc 71.21 334 ⇓P P 15 35 27.8 +1.1
baz=72
234A Clairette 71.22 338 ⇑P P 15 35 27.5 +0.9
baz=72
331A San Angelo 71.33 335 ⇓P P 15 35 28.1 +0.8
baz=72
233A Rising Star 71.48 337 ⇓P P 15 35 29.1 +0.9
baz=72
TKL Tuckaleechee C 71.57 351 eP P 15 35 28.2 -0.5
TKL Tuckaleechee C 71.57 351 eP P 15 35 28.1 -0.5
232A Coleman 71.60 336 ⇓P P 15 35 29.1 +0.2
baz=72
330A Mertzon 71.67 335 ⇑P P 15 35 30.1 +0.7
baz=72
134A White-Moore Ra 71.74 338 ⇓P P 15 35 30.3 +0.6
baz=72
231A Bronte 71.86 336 ⇑P P 15 35 31.6 +1.1
baz=72
MAW Mawson 71.91 164 P P 15 35 30.6 +0.3
comp=Z,14nm,0.8s,baz=220,slow=7.0,SNR=26
MAW LR LR 16 08 25.8
comp=Z,710nm,18.5s,baz=230,slow=37
MAW Mawson 71.91 164 eP P 15 35 30.4 +0.1
MAW pmax pmax
comp=Z,4.0nm,0.8s
MAW Mawson 71.91 164 eP P 15 35 30.4 +0.1
comp=Z,4.0nm,0.8s
133A Hamilton Ranch 72.03 337 ⇓P P 15 35 32.5 +1.0
baz=72
Z35A Perchaven, San 72.19 339 ⇑P P 15 35 33.6 +1.2
baz=73
ABTX Abilene, Hawle 72.28 337 eP P 15 35 33.4 +0.4
comp=Z,42nm,1.2s
ABTX Abilene, Hawle 72.28 337 ⇓P P 15 35 34.2 +1.2
baz=73
229A Bryant Ranch, 72.40 335 ⇑P P 15 35 35.0 +1.2
baz=73
Z34A Collier Ranch, 72.43 338 ⇓P P 15 35 34.7 +0.9
baz=73
131A Roby 72.56 336 ⇓P P 15 35 35.6 +0.9
baz=73
Z33A Whitaker Ranch 72.61 338 ⇑P P 15 35 36.5 +1.6
baz=73
WVT Waverly 72.66 348 eP P 15 35 35.1 0.0
WVT pmax pmax
comp=Z,11nm,1.1s
WVT Waverly 72.66 348 eP P 15 35 35.1 0.0
comp=Z,11nm,1.1s
130A Snyder 72.69 336 ⇑P P 15 35 36.7 +1.2
baz=73
228A UT Block 9, Go 72.81 334 ⇑P P 15 35 37.1 +0.8
baz=73
X37A Clayton 72.85 341 ⇑P P 15 35 37.1 +0.8
baz=73
Z32A Haskell 72.85 337 ⇓P P 15 35 37.3 +0.9
baz=73
Y34A Reagan Ranch, 72.93 339 ⇑P P 15 35 37.8 +1.1
baz=73
Z31A Sharp Cattle R 73.08 337 ⇓P P 15 35 37.9 +0.2
baz=73
W38A Poteau 73.08 342 ⇑P P 15 35 38.9 +1.2
baz=73
X36A Centrahoma 73.10 340 ⇑P P 15 35 38.0 +0.2
baz=74
X35A Drake 73.11 340 ⇓P P 15 35 38.8 +0.9
baz=74
128A Castleberry Fa 73.23 334 ⇓P P 15 35 39.4 +0.7
baz=74
Y33A Hilltop Ranch, 73.24 338 ⇑P P 15 35 39.1 +0.6
baz=74
Z30A Sanderson Ranc 73.37 336 ⇑P P 15 35 40.7 +1.2
baz=74
W37A Quinton 73.38 341 ⇑P P 15 35 40.5 +1.1
baz=74
MNTX Cornudas Mount 73.48 332 eP P 15 35 39.7 -0.4
comp=Z,6.5nm,1.0s
MNTX Cornudas Mount 73.48 332 ⇓P P 15 35 40.4 +0.3
baz=74
Z29A Hungry Hill Ra 73.54 335 ⇓P P 15 35 41.8 +1.2
baz=74
X34A Smith Ranch, M 73.55 339 ⇑P P 15 35 41.2 +0.8
baz=74
Y31A Rekieta Farm, 73.71 337 ⇓P P 15 35 42.3 +0.9
baz=74
W35A Tecumseh 73.79 340 ⇑P P 15 35 42.8 +1.0
baz=74
Z28A Tucker Farm, M 73.80 335 ⇓P P 15 35 43.0 +0.9
baz=74
WMOK Wichita Mounta 73.96 338 PFAKE 15 35 50.0 +7.1
WMOK LR LR
comp=Z,233nm,20.0s
TUL1 Leonard 74.21 341 eP P 15 35 43.9 -0.3
comp=Z,33nm,1.0s
TUL1 Leonard 74.21 341 ⇑P P 15 35 44.7 +0.5
baz=75
W33A Caddo, Fort Co 74.25 339 ⇓P P 15 35 45.1 +0.5
baz=75
V35A Meyer Ranch, C 74.35 340 ⇓P P 15 35 46.0 +1.0
baz=75
W32A Sentinel 74.46 338 ⇑P P 15 35 46.5 +0.8
baz=75
MSTX Muleshoe 74.56 335 eP P 15 35 47.0 +0.6
W31A Holland Ranch, 74.73 337 ⇓P P 15 35 49.0 +1.6
baz=75
V33A Lossen Ranch, 74.82 339 ⇑P P 15 35 49.3 +1.4
baz=75
AMTX Amarillo 75.02 336 eP P 15 35 49.8 +0.7
comp=Z,41nm,1.1s
AMTX Amarillo 75.02 336 ⇑P P 15 35 50.4 +1.3
baz=75
121A Cookes Peak, D 75.17 330 eP P 15 35 50.8 +0.6
comp=Z,12nm,1.0s
121A Cookes Peak, D 75.17 330 ⇑P P 15 35 51.0 +0.8
baz=76
U34A Anderson Ranch 75.18 340 ⇓P P 15 35 51.2 +1.3
baz=76
W29A Amarillo 75.22 336 ⇑P P 15 35 51.7 +1.4
baz=76
V31A Spring Creek L 75.24 338 ⇓P P 15 35 51.6 +1.2
baz=76
S36A Lake Cedric, C 75.87 342 ⇓P P 15 35 54.2 +0.4
baz=76
T33A Patterson Ranc 75.98 339 ⇑P P 15 35 55.8 +1.4
baz=76
ACSO Alum Creek Sta 75.99 352 eP P 15 35 54.3 -0.2
comp=Z,40nm,0.6s
S35A Otter Creek Ra 76.02 341 ⇓P P 15 35 55.2 +0.5
baz=76
LIC Lamto 76.09 72 eP P 15 35 55.9 +0.3
comp=Z,95nm,1.1s
TUC Tucson 76.23 328 eP P 15 35 57.5 +1.4
TUC pmax pmax
comp=Z,7.0nm,1.1s
TUC Tucson 76.23 328 eP P 15 35 57.5 +1.4
comp=Z,6.5nm,1.1s
T32A Huddler Ranch, 76.27 339 ⇓P P 15 35 57.3 +1.1
baz=77
LPM Los Pinos Moun 76.28 332 eP P 15 35 57.6 +1.2
comp=Z,11nm,1.1s
TIC Toumodi 76.35 71 eP P 15 35 57.6 +0.4
comp=Z,41nm,0.2s
KIC Kosan Boka 76.39 72 eP P 15 35 57.8 +0.4
comp=Z,88nm,0.9s
T31A Randall Ranch, 76.42 338 ⇓P P 15 35 57.4 +0.4
baz=77
DBIC Dimbokro 76.50 72 P P 15 35 58.2 +0.3
comp=Z,25nm,0.7s,baz=207,slow=5.9,SNR=34
DBIC LR LR 16 06 34.0
comp=Z,970nm,20.6s,baz=209,slow=33
DBIC Dimbokro 76.50 72 eP P 15 35 58.1 +0.2
DBIC pmax pmax
comp=Z,33nm,0.8s
DBIC Dimbokro 76.50 72 eP P 15 35 58.1 +0.2
comp=Z,33nm,0.8s
SFIN Lafayette 76.68 349 ⇓P P 15 35 58.9 +0.6
baz=77
ANMO Albuquerque 76.77 332 eP P 15 35 58.1 -1.1
ANMO pmax pmax
comp=Z,16nm,1.3s
ANMO Albuquerque 76.77 332 eP P 15 36 00.6 +1.4
comp=Z,18nm,1.1s
U27A Thompson Grove 76.80 336 ⇑P P 15 36 00.7 +1.4
baz=77
214A Organ Pipe Nat 76.83 326 eP P 15 36 00.3 +0.9
comp=Z,7.6nm,1.1s
214A Organ Pipe Nat 76.83 326 ⇓P P 15 36 01.2 +1.7
baz=77
S30A Montezuma 77.16 338 ⇓P P 15 36 02.7 +1.5
baz=78
T28A Walsh 77.20 337 ⇓P P 15 36 03.2 +1.7
baz=78
T27A Campo 77.34 336 ⇓P P 15 36 04.0 +1.7
baz=78
R31A Burdett 77.47 339 ⇑P P 15 36 03.4 +0.4
baz=78
S28A Manter 77.56 337 ⇑P P 15 36 04.5 +1.0
baz=78
Q33A Connelly Farm, 77.66 340 ⇓P P 15 36 04.9 +1.0
baz=78
R30A Dighton 77.69 338 ⇓P P 15 36 05.4 +1.2
baz=78
T26A Comanche Natio 77.74 335 ⇓P P 15 36 05.7 +1.1
baz=78
X18A Snowflake 77.79 330 ⇓P P 15 36 06.1 +1.2
baz=78
Q32A Meitler Ranch, 77.85 340 ⇓P P 15 36 06.3 +1.3
baz=78
TRY Troy 77.94 360 eP P 15 36 05.6 +0.3
comp=Z,8.3nm,0.6s
T25A Trinidad 77.98 335 ⇑P P 15 36 07.4 +1.4
baz=78
Q31A Ellis 78.10 339 ⇓P P 15 36 07.9 +1.5
baz=78
S26A Kim 78.10 336 ⇓P P 15 36 08.4 +1.9
baz=78
Q30A Quinter 78.32 339 ⇑P P 15 36 08.2 +0.6
baz=79
X16A Lo Mia Camp, P 78.32 328 ⇓P P 15 36 08.4 +0.5
baz=79
Q29A Oakley 78.46 338 ⇑P P 15 36 09.4 +1.0
baz=79
R27A Eads 78.48 337 ⇑P P 15 36 09.4 +0.8
baz=79
P31A Stockton 78.58 340 ⇑P P 15 36 09.5 +0.5
baz=79
Y14A Wickenburg 78.59 327 ⇑P P 15 36 10.0 +0.7
baz=79
ACCN Adirondack Com 78.59 360 eP P 15 36 09.5 +0.5
comp=Z,4.7nm,0.6s
R26A Arlington 78.71 336 ⇓P P 15 36 10.9 +1.1
baz=79
Q28A Sharon Springs 78.88 338 ⇓P P 15 36 12.0 +1.2
baz=79
SDCO Great Sand Dun 78.91 334 eP P 15 36 12.1 +0.9
comp=Z,5.9nm,1.0s
SDCO Great Sand Dun 78.91 334 ⇓P P 15 36 11.9 +0.7
baz=79
KSCO Kaye Shedlock' 79.09 337 P P 15 36 12.3 +0.3
P29A Atwood 79.10 338 ⇑P P 15 36 13.3 +1.3
baz=80
NCB Newcomb 79.19 359 eP P 15 36 11.8 -0.4
comp=Z,64nm,1.3s
MDV Middlebury 79.21 360 eP P 15 36 13.0 +0.7
comp=Z,61µm,0.5s
WUAZ Wupatki 79.23 329 eP P 15 36 14.1 +1.2
comp=Z,11nm,1.0s
WUAZ Wupatki 79.23 329 ⇑P P 15 36 14.2 +1.3
baz=80
Q26A Hugo 79.30 336 ⇓P P 15 36 14.1 +1.0
baz=80
R23A Moffat 79.42 334 ⇑P P 15 36 15.3 +1.3
baz=80
BC3 Big Chuckawall 79.47 325 ⇑P P 15 36 15.2 +1.1
baz=80
MVCO Mesa Verde 79.54 332 eP P 15 36 15.6 +1.0
comp=Z,17nm,1.1s
MVCO Mesa Verde 79.54 332 ⇓P P 15 36 16.1 +1.5
baz=80
TSUM Tsumeb 79.61 106 eP P 15 36 15.5 +0.1
comp=Z,19nm,1.4s
IRM Iron Mountain 79.75 326 ⇑P P 15 36 17.1 +1.6
baz=80
P26A Davis Ranch, A 79.82 337 ⇑P P 15 36 17.1 +1.2
baz=80
LONY Lake Ozonia 79.84 359 eP P 15 36 14.8 -0.9
comp=Z,9.3nm,0.9s
Q24A Divide 79.88 335 ⇓P P 15 36 17.8 +1.3
baz=80
W13A Hualapai Mount 79.96 327 ⇑P P 15 36 18.3 +1.3
baz=80
BELC Belle Mtn. Jos 80.01 325 ⇓P P 15 36 18.5 +1.4
baz=80
P25A Willow Gulch B 80.04 336 ⇓P P 15 36 18.5 +1.3
baz=80
O27A Beecher Island 80.12 338 ⇑P P 15 36 18.3 +0.9
baz=80
MURC Murrieta 80.25 324 ⇓P P 15 36 20.2 +1.9
baz=81
GMRC Granite Mounta 80.50 326 ⇑P P 15 36 21.5 +1.8
baz=81
SMCO Snowmass 80.71 334 eP P 15 36 22.5 +1.4
comp=Z,18nm,1.0s
ISCO Idaho Springs 80.79 335 eP P 15 36 22.2 +0.8
ISCO pmax pmax
comp=Z,6.0nm,1.0s
ISCO Idaho Springs 80.79 335 eP P 15 36 22.2 +0.8
comp=Z,6.4nm,1.0s
ISCO Idaho Springs 80.79 335 ⇓P P 15 36 22.7 +1.3
baz=81
BFSC Mount Baldy Ra 80.99 324 ⇑P P 15 36 24.3 +1.9
baz=81
P22A Eagle 81.00 334 ⇓P P 15 36 24.1 +1.7
baz=81
O22A Kremmling 81.43 335 ⇓P P 15 36 25.8 +1.0
baz=82
GSC Goldstone, Bar 81.46 325 P P 15 36 25.5 +0.8
GSC pmax pmax
comp=Z,9.0nm,1.1s
GSC Goldstone, Bar 81.46 325 P P 15 36 25.5 +0.8
comp=Z,9.3nm,1.1s
GSC Goldstone, Bar 81.46 325 ⇑P P 15 36 25.9 +1.2
baz=82
EDW2 Edwards Air Fo 81.67 324 ⇓P P 15 36 27.5 +1.6
baz=82
SHPR Sheep Range 81.70 327 eP P 15 36 28.0 +1.9
comp=Z,17nm,1.2s
ECSD EROS Data Cent 81.80 343 eP P 15 36 25.0 -1.3
comp=Z,16nm,0.6s
ECSD EROS Data Cent 81.80 343 ⇓P P 15 36 27.8 +1.5
baz=82
N23A Red Feather La 81.88 335 ⇑P P 15 36 28.0 +0.9
baz=82
PHWY Pilot Hill 82.08 336 eP P 15 36 28.2 0.0
comp=Z,10nm,1.0s
K28A Ten Mile Ranch 82.10 339 ⇑P P 15 36 28.9 +1.0
baz=82
MSU Marysvale 82.12 330 eP P 15 36 30.0 +1.6
MSU pmax pmax
comp=Z,10.0nm,0.9s
MSU Marysvale 82.12 330 eP P 15 36 30.0 +1.6
comp=Z,10nm,0.9s
MVU Marysvale 82.13 330 eP P 15 36 29.2 +0.8
comp=Z,8.2nm,0.9s
MVU epP pP 15 36 38.7 +4.6
M23A Laramie 82.32 336 ⇓P P 15 36 30.5 +1.2
baz=83
SPMN Marine on St. 82.39 346 eP P 15 36 28.9 -0.4
MPMC Manual Prospec 82.39 325 ⇓P P 15 36 30.5 +0.7
baz=83
LBTB Lobatse 82.42 115 eP P 15 36 29.9 -0.4
LBTB pmax pmax
comp=Z,13nm,0.6s
LBTB Lobatse 82.42 115 eP P 15 36 29.9 -0.4
comp=Z,13nm,0.6s
J29A Okreek 82.44 340 ⇑P P 15 36 30.6 +0.9
baz=83
TPNV Topopah Spring 82.56 326 ⇑P P 15 36 32.2 +1.6
baz=83
DAC Darwin (Calif) 82.62 325 eP P 15 36 30.4 -0.6
DAC pmax pmax
comp=Z,3.0nm,0.8s
DAC Darwin (Calif) 82.62 325 eP P 15 36 30.4 -0.6
comp=Z,2.9nm,0.8s
J28A Allard Ranch, 82.71 340 ⇓P P 15 36 32.4 +1.3
baz=83
J27A Elkhorn Farm, 82.78 339 ⇑P P 15 36 32.3 +0.9
baz=83
I28A Midland 83.22 340 ⇓P P 15 36 35.4 +1.7
baz=84
R11A Troy Canyon, C 83.42 328 eP P 15 36 36.2 +1.2
comp=Z,9.9nm,1.1s
J25A Sunshine Ranch 83.44 338 ⇑P P 15 36 36.7 +1.8
baz=84
K23A Bowen Ranch, D 83.44 336 ⇑P P 15 36 36.5 +1.5
baz=84
K22A Casper 83.64 336 P P 15 36 37.1 +1.1
comp=Z,14nm,0.9s
DUG Dugway, Tooele 83.81 330 eP P 15 36 38.2 +1.2
DUG pmax pmax
comp=Z,20nm,1.1s
DUG Dugway, Tooele 83.81 330 eP P 15 36 38.2 +1.2
comp=Z,20nm,1.1s
DUG Dugway, Tooele 83.81 330 ⇓P P 15 36 37.9 +0.9
baz=84
K21A Alcova 83.87 335 ⇓P P 15 36 38.4 +1.1
baz=84
TPH Tonopah 83.92 326 eP P 15 36 38.5 +0.9
TPH pmax pmax
comp=Z,16nm,1.1s
TPH Tonopah 83.92 326 eP P 15 36 38.5 +0.9
comp=Z,16nm,1.1s
H27A Howes 84.06 340 ⇓P P 15 36 39.0 +1.0
baz=84
I24A Kuemmerle Ranc 84.11 338 ⇓P P 15 36 39.2 +0.8
baz=84
RSSD Black Hills 84.17 338 eP P 15 36 39.1 +0.3
RSSD pmax pmax
comp=Z,3.0nm,0.9s
RSSD Black Hills 84.17 338 eP P 15 36 39.0 +0.3
comp=Z,3.4nm,0.9s
J22A Midwest 84.31 336 ⇑P P 15 36 40.4 +1.0
baz=85
J21A Lysite 84.57 336 ⇑P P 15 36 41.7 +0.9
baz=85
NVAR Mina Array Bea 84.70 326 P P 15 36 41.9 +0.3
comp=Z,2.1nm,0.7s,baz=156,slow=5.8,SNR=15
NVAR Mina Array Bea 84.70 326 P P 15 36 41.9 +0.3
I22A 9 Mile Ranch, 84.73 336 ⇑P P 15 36 42.6 +1.0
baz=85
EYMN Ely 84.77 348 P P 15 36 42.3 +0.9
J20A Shoshoni 84.79 335 ⇑P P 15 36 42.7 +0.9
baz=85
PDAR Pinedale Array 84.79 334 P P 15 36 42.6 +0.6
comp=Z,0.9nm,0.6s,baz=128,slow=7.0,SNR=6.5
PDAR LR LR 16 11 06.0
comp=Z,404nm,18.5s,baz=158,slow=33
PDAR Pinedale Array 84.79 334 P P 15 36 42.6 +0.6
H24A Dirks Ranch, A 84.89 338 ⇑P P 15 36 42.6 +0.3
baz=85
I21A Big Trails, Te 84.93 336 ⇑P P 15 36 42.9 +0.3
baz=85
G25A Newell 84.96 339 ⇓P P 15 36 43.3 +0.7
baz=85
J19A Crowheart 85.05 334 ⇑P P 15 36 43.5 +0.3
baz=85
F27A Lemmon 85.19 340 ⇑P P 15 36 44.5 +0.9
baz=86
ELK Elko 85.27 329 eP P 15 36 45.3 +0.8
ELK e 15 36 54.3
ELK pmax pmax
comp=Z,2.0nm,0.8s
ELK Elko 85.27 329 eP P 15 36 45.2 +0.8
comp=Z,2.3nm,0.8s
ELK e 15 36 54.3
H22A Clearmont 85.32 337 ⇑P P 15 36 45.3 +0.9
baz=86
I20A Worland 85.33 335 ⇑P P 15 36 44.6 0.0
baz=86,SNR=7.0
D30A Buchanan 85.48 343 ⇓P P 15 36 45.6 +0.5
baz=86
TOA0 Torodi Ar. Sit 85.55 71 eP P 15 36 45.7 -0.4
TORD Torodi Ar. Bea 85.55 71 P P 15 36 46.0 -0.2
comp=Z,9.8nm,1.0s,baz=230,slow=4.6,SNR=33
TORD LR LR 16 14 49.1
comp=Z,862nm,18.1s,baz=225,slow=36
TORD Torodi Ar. Bea 85.55 71 P P 15 36 46.0 -0.2
G23A Biddle 85.56 338 ⇓P P 15 36 46.4 +0.8
baz=86
H21A Big Horn, Sher 85.57 336 ⇑P P 15 36 46.2 +0.5
baz=86
H20A Greybull 85.76 336 ⇓P P 15 36 47.3 +0.7
baz=86
LOHW Long Hollow 85.91 334 eP P 15 36 47.5 0.0
comp=Z,8.7nm,1.3s
TPAW Teton Pass 85.92 333 eP P 15 36 45.1 -2.6
comp=Z,15nm,1.2s
AGMN Agassiz Nation 85.95 345 eP P 15 36 46.4 -1.0
comp=Z,7.9nm,0.6s
AGMN Agassiz Nation 85.95 345 ⇑P P 15 36 47.1 -0.2
baz=86,SNR=7.4
F23A Volborg 86.03 338 ⇓P P 15 36 48.4 +0.5
baz=86
MOOW Moose Ponds 86.07 334 P P 15 36 46.7 -1.7
comp=Z,1.9nm,0.8s
E25A Miller Ranch, 86.15 340 ⇓P P 15 36 49.0 +0.6
baz=86
G21A Lodge Grass 86.16 337 ⇓P P 15 36 48.5 -0.1
baz=86
H19A Powell 86.26 335 ⇓P P 15 36 49.8 +0.7
baz=87
FLWY Flagg Ranch 86.35 334 eP P 15 36 50.7 +1.0
comp=Z,23nm,1.2s
F22A Rosebud 86.35 337 ⇑P P 15 36 49.9 +0.5
baz=87
D26A Manning 86.36 340 ⇓P P 15 36 50.0 +0.6
baz=87
MDND Maddock 86.38 342 ⇑P P 15 36 50.1 +0.6
baz=87
C28A Hausauer Farms 86.45 342 ⇑P P 15 36 49.2 -0.6
baz=87
E24A Baker 86.46 339 ⇑P P 15 36 50.3 +0.3
baz=87
G20A Bridger 86.48 336 ⇑P P 15 36 50.2 0.0
baz=87,SNR=7.1
H18A Shoshone NF, C 86.50 335 ⇑P P 15 36 50.9 +0.5
baz=87,SNR=9.7
B30A Myrvik Farm, E 86.64 343 ⇓P P 15 36 51.1 +0.4
baz=87
D25A Fairfield 86.72 340 ⇑P P 15 36 52.1 +0.9
baz=87
C27A Sayler Ranch, 86.74 341 ⇑P P 15 36 52.4 +1.1
baz=87
RLMT Red Lodge 86.75 335 eP P 15 36 51.8 +0.2
comp=Z,4.3nm,0.6s
D24A Glendive 86.97 339 ⇓P P 15 36 53.4 +0.9
baz=87
B28A Dugan Ranch, T 87.13 342 ⇓P P 15 36 54.2 +1.1
baz=88
C25A Freed Ranch, W 87.21 340 ⇑P P 15 36 54.7 +1.1
baz=88
QLMT Earthquake Lak 87.26 334 eP P 15 36 55.4 +1.2
comp=Z,1.4nm,1.1s
D23A Lindsay 87.28 339 ⇑P P 15 36 54.6 +0.7
baz=88,SNR=8.3
F19A Roth Farm, Mol 87.28 336 ⇓P P 15 36 55.0 +1.0
baz=88
A29A Manning Farm, 87.29 343 ⇓P P 15 36 54.6 +0.7
baz=88
HLID Hailey 87.30 331 eP P 15 36 55.5 +1.3
comp=Z,8.5nm,1.3s
HLID Hailey 87.30 331 ⇑P P 15 36 56.0 +1.7
baz=88
C24A Savage 87.38 339 ⇑P P 15 36 54.8 +0.4
baz=88,SNR=7.4
GCMT Greycliff 87.47 335 eP P 15 36 54.8 -0.2
comp=Z,4.3nm,1.1s
D22A Cohagen 87.55 338 ⇓P P 15 36 57.0 +1.7
baz=88
E20A Meyer Farm, Mu 87.59 337 ⇑P P 15 36 56.4 +0.9
baz=88
E19A Rath Farm, Rou 87.77 336 ⇓P P 15 36 56.6 +0.3
baz=88,SNR=7.0
MCMT McKenzie Canyo 87.77 333 eP P 15 36 57.8 +1.1
comp=Z,6.9nm,1.0s
ULM Lac du Bonnet 87.81 346 P P 15 36 56.3 0.0
comp=Z,10.0nm,0.8s,baz=188,slow=4.3,SNR=8.2
ULM Lac du Bonnet 87.81 346 eP P 15 36 55.9 -0.4
ULM pmax pmax
comp=Z,9.0nm,0.8s
ULM Lac du Bonnet 87.81 346 eP P 15 36 55.9 -0.4
comp=Z,9.3nm,0.8s
C23A Lambert 87.84 339 ⇑P P 15 36 57.3 +0.6
baz=88

A26A	Wade Farm, Ken	87.97	341	⇑P		P	15 36 57.5	+0.4	
	baz=88								
DLMT	Dillon	88.14	333	P		P	15 36 57.7	-0.5	
	comp=Z,3.8nm,0.8s								
DLMT				*e*			15 37 08.0		
DGMT	Dagmar	88.16	340	P		P	15 36 58.6	+0.5	
	comp=Z,51nm,1.1s								
DGMT	Dagmar	88.16	340	⇓P		P	15 36 59.0	+0.9	
	baz=88								
A25A	Svangstu Ranch	88.29	341	⇑P		P	15 36 59.5	+0.8	
	baz=89								
B23A	Brockton	88.38	339	⇓P		P	15 36 59.8	+0.6	
	baz=89								
B22A	Reddig Ranch S	88.53	339	⇓P		P	15 37 00.9	+1.0	
	baz=89								
C20A	Veseth Ranch,	88.62	337	⇓P		P	15 37 01.6	+1.3	
	baz=89								
C19A	Slack Wire Ran	88.97	337	⇓P		P	15 37 03.0	+1.0	
	baz=89								
M04C	Macdoel	89.00	326	⇓P		P	15 37 03.5	+1.1	
	baz=89								
A22A	Carney Farms,	89.13	339	⇓P		P	15 37 03.3	+0.6	
	baz=90								
J05D	Fort Rock, OR	89.92	327	⇓P		P	15 37 08.2	+1.5	
	baz=90								
LSZ	Lusaka	90.12	109	*e*P		P	15 37 09.4	+1.1	
LSZ					pmax	pmax			
	comp=Z,6.0nm,0.9s								
LSZ	Lusaka	90.12	109	*e*P		P	15 37 09.4	+1.1	
	comp=Z,6.5nm,0.9s								
BSMT	Bassoo Peak	91.05	333	*e*P		P	15 37 15.3	+3.4	
	comp=Z,3.5nm,1.0s								
FCC	Fort Churchill	95.61	349	*e*P		P	15 37 32.1	-0.2	
FCC					pmax	pmax			
	comp=Z,3.0nm,0.6s								
FCC	Fort Churchill	95.61	349	*e*P		P	15 37 32.1	-0.2	
	comp=Z,2.9nm,0.6s								
ESDC	Sonseca Array	98.29	47	P		P	15 37 44.8	-0.2	
	comp=Z,1.1nm,0.7s,baz=208,slow=2.9,SNR=4.8								
ESDC	Sonseca Array	98.29	47	P		P	15 37 44.8	-0.2	
YKA	Yellowknife Ar	103.28	342	Pdiff		Pdif	15 38 06.3	-0.3	
	comp=Z,0.3nm,0.5s,baz=146,slow=4.4,SNR=5.9								
YKA	Yellowknife Ar	103.28	342	P		Pdif	15 38 06.3	-0.3	
YKA	Yellowknife Ar	103.28	342	Pdif		Pdif	15 38 06.3	-0.3	
NKC	Novy Kostel	113.78	44	AMS		AMS	16 28 30.0		
	comp=Z,300nm,22.3s								
CLL	Collm	114.58	44	*e*PP		PP	15 43 41.0	-4.1	
CLL				*e*PS		PS	15 53 22.0	-1.1	
CLL				*e*(PPS)			15 54 43.0		
CLL				*e*SS		SS	15 59 24.0	-14	
CLL					Lm	MLR	16 30 00.0		
	comp=N,200nm,21.4s								
CLL					Lm	MLR	16 30 00.0		
	comp=E,300nm,22.0s								
CLL					Lm	MLR	16 30 00.0		
	comp=Z,500nm,20.3s								
PRU	Pruhonice	114.87	45	AMS		AMS	16 31 50.0		
	comp=Z,300nm,17.0s								
GOPC	GO Pecny, Ondr	114.98	45	AMS		AMS	16 41 10.0		
	comp=Z,400nm,20.5s								
TREC	Trest	115.12	46	AMS		AMS	16 40 50.0		
	comp=Z,400nm,16.3s								
ILAR	Eielson Array	115.21	333	PKP		PKPdf	15 42 47.2	-0.8	
	comp=Z,0.5nm,0.9s,baz=132,slow=1.3,SNR=7.0								
ILAR	Eielson Array	115.21	333	PKIKP		PKPdf	15 42 47.2	-0.8	
ILAR	Eielson Array	115.21	333	PKP		PKPdf	15 42 47.2	-0.8	
ASAR	Alice Springs	115.77	208	PKP		PKPdf	15 42 49.2	-1.4	
	comp=Z,0.6nm,0.8s,baz=144,slow=2.3,SNR=4.7								
ASAR				PKKPbc		PKKPbc	15 53 20.8	-1.0	
	comp=Z,0.6nm,0.5s,baz=340,slow=3.2,SNR=20								
ASAR	Alice Springs	115.77	208	PKIKP		PKPdf	15 42 49.2	-1.4	
ASAR	Alice Springs	115.77	208	PKP		PKPdf	15 42 49.2	-1.4	
ASAR				PKKPbc		PKKPbc	15 53 20.8	-1.0	
VYHS	Vyhne	116.79	48	*e*PKIKP		PKPdf	15 42 50.5	-1.1	
VYHS	Vyhne	116.79	48	*e*PKP		PKPdf	15 42 50.5	-1.1	
OKC	Ostrava-Krasne	116.92	47	AMS		AMS	16 36 00.0		
	comp=Z,400nm,15.7s								
NOA	NORSAR Array B	117.81	33	PKIKP		PKPdf	15 42 52.9	-0.3	
	comp=Z,0.6nm,0.8s,baz=257,slow=2.0,SNR=3.3								
NOA	NORSAR Array B	117.81	33	PKIKP		PKPdf	15 42 52.9	-0.3	
NOA	NORSAR Array B	117.81	33	PKP		PKPdf	15 42 52.9	-0.3	
UZH	Uzhgorod	118.95	49	⇑*i*PKIKP		PKPdf	15 43 01.8	+6.1	
UZH				*i*			15 43 07.4		
WRA	Warramunga Arr	118.97	210	PKP		PKPdf	15 42 55.5	-1.3	
	comp=Z,0.4nm,0.4s,baz=162,slow=1.6,SNR=6.4								
WRA				PKKPbc		PKKPbc	15 53 09.2	-1.1	
	comp=Z,0.6nm,0.8s,baz=346,slow=4.2,SNR=5.1								
WRA	Warramunga Arr	118.97	210	PKIKP		PKPdf	15 42 55.5	-1.3	
WRA	Warramunga Arr	118.97	210	PKP		PKPdf	15 42 55.5	-1.3	
WRA				PKKPbc		PKKPbc	15 53 09.2	-1.1	
KOLS	Kolonicke sedl	119.06	49	*e*PKIKP		PKPdf	15 42 59.4	+3.4	
KOLS	Kolonicke sedl	119.06	49	*e*		PKPdf	15 42 59.4	+3.4	
BRTR	Keskin Array B	123.34	62	PKP		PKPdf	15 43 04.4	-0.3	
	comp=Z,0.9nm,0.8s,baz=204,slow=2.7,SNR=5.9								
BRTR	Keskin Array B	123.34	62	PKIKP		PKPdf	15 43 04.4	-0.3	
BRTR	Keskin Array B	123.34	62	PKP		PKPdf	15 43 04.4	-0.3	
TNA	Tin City	123.74	330	*e*PKPdf		PKPdf	15 43 04.8	+0.4	
KIEV	Kiev	123.88	48	*i* PKIKP		PKPdf	15 43 02.9	-2.2	
AKASG	Malin Array Be	123.89	48	PKP		PKPdf	15 43 04.1	-1.0	
	comp=Z,0.5nm,0.2s,baz=269,slow=2.5,SNR=4.1								
AKASG	Malin Array Be	123.89	48	*c* *i* PKIKP		PKPdf	15 43 03.9	-1.2	
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.2s								
AKASG	Malin Array Be	123.89	48	PKP		PKPdf	15 43 04.1	-1.0	
VSU	Vasula	124.46	39	*i* PKIKP		PKPdf	15 43 05.2	-0.8	
FINES	FINESS Array B	124.78	35	PKP		PKPdf	15 43 05.4	-1.1	
	comp=Z,1.7nm,0.9s,baz=171,slow=2.7,SNR=5.3								
FINES	FINESS Array B	124.78	35	*c* *i* PKIKP		PKPdf	15 43 06.0	-0.5	
FINES					pmax	pmax			
	comp=Z,2.0nm,0.9s								
FINES	FINESS Array B	124.78	35	PKP		PKPdf	15 43 05.4	-1.1	
H11S2	WAKE ISLAND Hyl	124.88	269	T		T	18 00 34.6		
	baz=118,slow=75,SNR=18								
H11S1	WAKE ISLAND Hyl	124.89	269	T		T	18 00 33.4		
	baz=118,slow=75,SNR=18								
H11S3	WAKE ISLAND Hyl	124.90	269	T		T	18 00 35.5		
	baz=118,slow=75,SNR=13								
H11N3	WAKE ISLAND Hyl	125.33	270	T		T	18 00 58.8		
	baz=116,slow=78,SNR=44								
H11N1	WAKE ISLAND Hyl	125.35	270	T		T	18 00 59.4		
	baz=116,slow=78,SNR=77								
H11N2	WAKE ISLAND Hyl	125.35	270	T		T	18 00 59.2		
	baz=116,slow=78,SNR=62								
ARCES	ARCESS Array B	125.81	25	PKP		PKPdf	15 43 07.8	-0.5	
	comp=Z,1.7nm,0.7s,baz=270,slow=2.4,SNR=7.0								
ARCES	ARCESS Array B	125.81	25	PKIKP		PKPdf	15 43 07.8	-0.5	
ARCES	ARCESS Array B	125.81	25	PKP		PKPdf	15 43 07.8	-0.5	
OBN	Obninsk	129.17	44	*e*PKIKP		PKPdf	15 43 13.6	-1.5	
OBN					pmax	pmax			
	comp=Z,5.0nm,1.1s								
LPSR	Galich'ya Gora	130.19	48	*e*PKIKP		PKPdf	15 43 13.2	-3.9	
LPSR					pmax	pmax			
	comp=Z,7.0nm,0.6s								
LPSR					pmax	pmax			
	comp=N,8.0nm,1.5s								
LPSR					pmax	pmax			
	comp=E,10.0nm,1.5s								
KIV	Kislovodsk	131.04	60	*i* PKIKP		PKPdf	15 43 19.3	+0.1	
KIV				*e*			15 45 33.2		
KIV				*e*PS		PS	15 55 45.9	-4.1	
KIV				*e*SS		SS	16 02 59.7	-7.9	
KIV					pmax	pmax			
	comp=Z,5.0nm,1.0s								
KLMR	Klimovskoe	131.18	37	*e*PKIKP		PKPdf	15 43 18.9	+0.2	
KLMR					pmax	pmax			
	comp=Z,26nm,1.6s								
BILL	Bilibino	133.87	333	*i* PKIKP		PKPdf	15 43 23.4	-0.2	
BILL				*e*			15 45 54.9		
BILL					pmax	pmax			
	comp=Z,2.0nm,1.1s								
BILL	Bilibino	133.87	333	*e*PKPdf		PKPdf	15 43 23.7	+0.1	
PRGR	Permogore	134.10	36	*e*PKIKP		PKPdf	15 43 24.7	+0.5	
PRGR					pmax	pmax			
	comp=Z,6.0nm,0.4s								
SEY	Seymchan	140.95	329	*i* PKIKP		PKPdf	15 43 37.1	+0.3	
GEYT	Alibeck	141.18	72	PKhKP		PKPpre	15 43 31.0		
	comp=Z,1.0nm,0.4s,baz=268,slow=4.2,SNR=3.2								
ARU	Arti	141.50	42	*i* PKIKP		PKPdf	15 43 36.3	-1.7	
AKTO	Aktyubinsk	142.00	52	PKIKP		PKPdf	15 43 35.5	-3.6	
AKTO					pmax	pmax			
	comp=Z,6.0nm,1.2s								
TIXI	Tiksi	142.09	349	*e*PKHKP		PKPpre	15 43 33.4		
TIXI				*e*			15 43 38.4		
TIXI	Tiksi	142.09	349	*e*PKPpre		PKPpre	15 43 33.4		
TIXI				*e*PKPdf		PKPdf	15 43 38.4	-0.2	
AB31	Akbulak array	143.32	53	*i* PKIKP		PKPab	15 43 37.7	+0.2	
AB31					pmax	pmax			
	comp=N,5.0nm,0.5s								
ABKAR	Akbulak array	143.32	53	*e*PKPpre		PKPab	15 43 37.6	+0.2	
GSI	Gunungsitoli	144.81	164	*e*PKPdf		PKPbc	15 43 44.4	+0.3	
KSM	Kuching	145.92	186	*e*PKPdf		PKPdf	15 43 46.9	-0.2	
POO	Poona	146.21	111	*e*P		PKPdf	15 43 47.0	-0.5	
URV	Uravakonda	146.42	120	*e*PKPab		PKPbc	15 43 48.6	-0.6	
SKHT	Srikalahasti	147.26	125	*e*PKPab		PKPbc	15 43 51.8	+0.3	
IPM	Ipoh	148.57	169	*e*PKPdf		PKPdf	15 43 53.1	+1.5	
BRVK	Borovoye	148.94	44	*c* *i* PKP2		PKPbc	15 43 55.1	+0.2	
BRVK					pmax	pmax			
	comp=Z,12nm,0.5s								
BRVK	Borovoye	148.94	44	*e*PKPbc		PKPbc	15 43 55.5	+0.5	
NJS	Nagarjunasagar	148.96	120	*e*PKPbc		PKPbc	15 43 55.0	-1.1	
HYB	Hyderabad	149.00	118	*i* PKP		PKPbc	15 43 55.0	-1.2	
HYB				*e*pPKP		pPKP	15 44 15.0		
HYBB	Hyderabad (bro	149.00	118	*e*PKPbc		PKPbc	15 43 55.6	-0.6	
BVA0	Borovoye Array	149.01	44	*i* PKIKP		PKPdf	15 43 51.9	+0.9	
BVA0					pmax	pmax			
	comp=N,16nm,0.8s								
DZET	Dzherino	149.63	72	PKP2		PKPbc	15 43 56.7	-0.6	
DZET					pmax	pmax			
	comp=Z,17nm,0.9s								
YAK	Yakutsk	149.91	339	*e*PKHKP		PKPbc	15 43 56.0	-1.0	
YAK				*e*			15 44 03.1		
YAK					pmax	pmax			
	comp=E,2.0nm,0.9s								
YAK					pmax	pmax			
	comp=Z,26nm,1.0s								
YAK	Yakutsk	149.91	339	*e*PKPbc		PKPbc	15 43 56.8	-0.2	
RPR	Rampur	150.46	117	*e*PKPbc		PKPbc	15 43 59.1	-0.6	
YSS	Yuzh-Sakhalins	151.01	304	*e*PKIKP		PKPbc	15 43 59.7	-0.4	
YSS	Yuzh-Sakhalins	151.01	304	*e*PKPbc		PKPbc	15 43 59.7	-0.4	
KK31	Karatay Array	151.03	64	*i* PKIKP		PKPbc	15 43 59.4	-1.0	
KK31					pmax	pmax			
	comp=N,5.0nm,0.6s								
KKAR	Karatay Array	151.03	64	*e*PKIKP		PKPbc	15 43 59.9	-0.5	
KKAR	Karatay Array	151.03	64	*e*PKPbc		PKPbc	15 43 59.9	-0.5	
ASAJ	Asahikawa	151.49	298	PKPbc		PKPbc	15 44 00.8	-0.5	
	comp=N,7.7nm,0.9s,baz=154,slow=5.7,SNR=3.8								
ASAJ	Asahikawa	151.49	298	PKPbc		PKPbc	15 44 00.8	-0.5	
SFK	Sufi-Kurgan	153.32	70	PKP2		PKPab	15 44 18.0	0.0	
SFK					pmax	pmax			
	comp=Z,13nm,0.8s								
EKS2	Erkin-Say	153.46	64	*e*PKIKP		PKPdf	15 43 58.2	-0.1	
EKS2				*e*			15 44 05.4		
EKS2	Erkin-Say	153.46	64	*e*PKPdf		PKPdf	15 43 58.2	-0.1	
EKS2				*e*PKPbc		PKPbc	15 44 05.4	-0.6	
AAK	Ala-Archa	153.99	64	*e*PKIKP		PKPbc	15 44 07.3	+0.1	
AAK	Ala-Archa	153.99	64	*e*PKPbc		PKPbc	15 44 07.3	+0.1	
NVS	Novosibirsk	154.73	33	*e*PKIKP		PKPdf	15 44 01.8	+2.3	
NVS					pmax	pmax			
	comp=Z,20nm,1.0s								
NVS					pmax	pmax			
	comp=N,4.0nm,1.1s								
MJAR	Matsushiro Arr	154.74	281	PKP		PKPdf	15 44 00.4	+0.2	
	comp=N,0.4nm,0.8s,baz=134,slow=3.5,SNR=2.7								
MJAR	Matsushiro Arr	154.74	281	PKIKP		PKPdf	15 44 00.4	+0.2	
MJAR	Matsushiro Arr	154.74	281	PKP		PKPdf	15 44 00.4	+0.2	
TKM2	Tokmak 2	154.76	64	PKIKP		PKPdf	15 43 59.5	-0.8	
TKM2				*e*			15 44 09.0		
TKM2	Tokmak 2	154.76	64	PKPdf		PKPdf	15 43 59.5	-0.8	
TKM2				*e*PKPbc		PKiKP	15 44 09.0	+0.1	
KSH	Kashi	155.22	72	*e*PKPbc		PKPbc	15 44 09.4		
KSH				pPKP		pPKP	15 44 20.2		
KSH				*es*PKP			15 44 23.9		
KSH				PP		PP	15 48 46.7	+44	
KSH				SKS		SKSdf	15 51 08.9	+2.2	
ZAA0	Zalesovo Array	156.02	33	*e*PKPdf		PKPdf	15 44 00.4	-0.9	
ZALV	Zalesovo Beam	156.02	33	PKP		PKPdf	15 44 00.8	-0.5	
	comp=N,2.8nm,0.8s,baz=256,slow=2.4,SNR=17								
ZALV				PKPab		PKPab	15 44 28.5	-0.2	
	comp=N,10nm,0.6s,baz=310,slow=3.7,SNR=4.1								
ZALV	Zalesovo Beam	156.02	33	PKIKP		PKPdf	15 44 00.8	-0.5	
ZALV							15 44 28.5		
ZALV	Zalesovo Beam	156.02	33	PKP		PKPdf	15 44 00.8	-0.5	
ZALV				PKPab		PKPab	15 44 28.5	-0.2	
MK31	Makanchi Array	158.44	51	*i* PKIKP		PKPdf	15 44 04.0	-0.7	
MK31					pmax	pmax			
	comp=N,4.0nm,1.1s								
MK31	Makanchi Array	158.44	51	*e*PKPdf		PKPdf	15 44 04.1	-0.5	
MKAR	Makanchi Array	158.44	51	PKP		PKPdf	15 44 04.1	-0.6	
	comp=N,1.5nm,1.0s,baz=304,slow=2.6,SNR=12								
MKAR				PKPab		PKPab	15 44 38.4	-1.0	
	comp=N,4.1nm,0.8s,baz=281,slow=4.8,SNR=14								
MKAR				PP		PP	15 48 22.4	+2.4	
	comp=N,1.3nm,1.1s,baz=305,slow=5.1,SNR=3.7								
MKAR	Makanchi Array	158.44	51	PKIKP		PKPdf	15 44 04.1	-0.6	
MKAR							15 44 38.4		
MKAR							15 48 22.4		
MKAR	Makanchi Array	158.44	51	PKP		PKPdf	15 44 04.1	-0.6	
MKAR				PKPab		PKPab	15 44 38.4	-1.0	
MKAR				PP		PP	15 48 22.4	+2.4	
KOLN	Koldanda	158.71	105	*e*P		PKPab	15 44 40.3	-1.1	
	comp=N,16nm,0.8s								
GKN	Gorkha	159.64	106	*e*P		PKPab	15 44 44.7	-0.7	
	comp=N,43nm,1.1s								
DMN	Daman	159.82	107	*e*P		PKPab	15 44 46.1	-0.2	
	comp=N,53nm,0.8s								
PKIN	Phulchoki	160.03	108	*e*P		PKPab	15 44 46.9	-0.3	
	comp=N,20nm,0.7s								
PKI	Pulchoki	160.04	108	*e*P		PKPab	15 44 46.7	-0.6	
	comp=N,51nm,0.9s								
KKN	Kakani	160.04	107	*e*P		PKPab	15 44 47.0	-0.2	
	comp=N,37nm,0.7s								
GUN	Gumba	160.56	107	*e*P		PKPab	15 44 49.2	-0.4	
	comp=N,40nm,0.9s								
RAMN	Ramite	160.64	111	*e*P		PKPab	15 44 48.3	-1.6	
	comp=N,18nm,0.6s								
JIRN	Jiri	160.69	108	*e*P		PKPab	15 44 49.7	-0.5	
	comp=N,28nm,0.7s								
ODAN	Odare	161.19	112	*e*P		PKPab	15 44 49.7	-2.6	
	comp=N,19nm,0.8s								
CMAR	Chiang Mai Arr	161.54	155	PKP		PKPdf	15 44 08.3	-0.7	
	comp=N,0.5nm,0.3s,baz=232,slow=3.0,SNR=7.7								
CMAR	Chiang Mai Arr	161.54	155	PKIKP		PKPdf	15 44 08.3	-0.7	
CMAR	Chiang Mai Arr	161.54	155	PKP		PKPdf	15 44 08.3	-0.7	
TAPN	Taplejung	161.69	111	*e*P		PKPab	15 44 53.6	-0.9	
	comp=N,7.3nm,0.8s								
KSRS	Korea Array	163.01	282	PKPab		PKPab	15 44 59.8	+0.2	
	comp=N,1.2nm,0.7s,baz=88,slow=5.3,SNR=4.5								
KSAR	Wonju Array Be	163.04	282	PKP2		PKPab	15 44 59.8	0.0	
KSAR	Wonju Array Be	163.04	282	PKPab		PKPab	15 44 59.8	0.0	
WMQ	Urumqi	163.10	55	*e*PKP		PKPdf	15 44 11.0	+1.1	
WMQ				pPKP		pPKPdf	15 44 22.0	+6.3	
TLY	Talaya	163.74	7	*e*PKP2		PKPab	15 45 03.6	+1.3	
TLY					pmax	pmax			
	comp=Z,5.0nm,0.9s								
ZAK	Zakamensk	164.97	9	*e*PKP2		PKPab	15 45 08.4	+0.6	
ZAK					pmax	pmax			
	comp=Z,3.0nm,1.6s								
SONM	Songino Array	167.75	2	PKP		PKPdf	15 44 12.9	-0.8	
	comp=Z,0.6nm,0.9s,baz=211,slow=0.9,SNR=4.8								
SONM				PKPab		PKPab	15 45 20.0	-0.2	
	comp=Z,2.4nm,0.9s,baz=335,slow=3.7,SNR=11								
SONM				PP		PP	15 49 08.7	+0.4	
	comp=Z,0.6nm,0.8s,baz=15,slow=6.1,SNR=2.5								
SONM	Songino Array	167.75	2	PKIKP		PKPdf	15 44 12.9	-0.8	
SONM							15 45 20.0		
SONM							15 49 08.7		
SONM	Songino Array	167.75	2	PKP		PKPdf	15 44 12.9	-0.8	
SONM				PKPab		PKPab	15 45 20.0	-0.2	
SONM				PP		PP	15 49 08.7	+0.4	
NJ2	Nanjing	169.47	254	*e*PKP		PKPdf	15 44 14.9	-0.2	
GYA	Guiyang	170.90	179	*e*PKP		PKPdf	15 44 15.0	-1.3	
GYA				sPKP			15 44 28.9		
GYA				PKPab		PKPab	15 45 36.4	+1.8	
GYA				PKS		PKSdf	15 47 45.6	-3.3	
GYA				PP		PP	15 49 27.2	+3.1	
GYA				PPMZ					
	comp=Z,120nm,8.0s								
HHC	Hu-ho-hao-te	173.59	327	*e*PKP		PKPdf	15 44 17.7	+0.7	
HHC				PP		PP	15 49 42.5	+4.5	
HHC				SKS		SKSdf	15 51 15.5	-3.9	
HHC				SS		SS	16 10 53.3	-0.4	
HHC				PPMZ					
	comp=Z,34nm,7.4s								
HHC					LN				
	comp=Z,86nm,16.0s								
HHC					LE				
	comp=Z,75nm,14.8s								
HHC					LZ				
	comp=Z,68nm,18.5s								
CD2	Chengdu	174.64	150	*e*PKP		PKPdf	15 44 17.2	-0.4	
LZH	Lanzhou	177.45	78	*e*PKP		PKPdf	15 44 18.7	+0.5	
LZH				pPKP		pPKPdf	15 44 29.8	+5.7	
LZH				sPKP			15 44 34.0		
LZH				LN					
	comp=Z,240nm,18.2s								
LZH					LE				
	comp=Z,250nm,18.1s								
LZH					LZ				
	comp=Z,280nm,20.3s								

GUC 05 15:29:55.7±0.4, 35.94S×71.98W, h47km±4km, ML3.9, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	Linares	0.32	74	AML	AML	15 30 25.0	
	comp=N,13μm,0.3s						
TALC	Talca	0.61	28	*e*P	Pn	15 30 07.5	-0.7
TALC				*e*S	Sn	15 30 16.9	-0.2
TALC				AML	AML	15 30 19.0	
	comp=E,16μm,0.1s						
COCH	Cobquecura	0.68	253	*e*P	Pn	15 30 08.8	-0.3
COCH				*e*S	Sn	15 30 18.6	-0.1
NICH	Los Niches	1.12	34	*e*P	Pn	15 30 14.8	-0.2
NICH				*e*S	Sn	15 30 29.7	+0.5
NICH				AML	AML	15 30 30.2	
	comp=E,6μm,0.2s						
TACH	Talagante	2.43	21	*e*P	Pn	15 30 31.4	-1.7
TACH				*e*S	Sn	15 30 59.8	-1.8
SAN	Santiago	2.71	24	*e*P	Pn	15 30 37.0	+0.3
SAN				*e*S	Sn	15 31 08.2	-0.2
SAN				AML	AML	15 31 12.9	
	comp=E,370nm,0.7s						

MAN 05 15:36:35, 12.50N×123.66E, h9km, mb4.5, ML3.3, MS3.2, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	Masbate	0.14	194	⇑*i*P	Pg	15 36 39.1	+1.0
MMPH				*i* S	Sg	15 36 42.9	+2.7
PVCP	Virac	1.20	24	⇑*i*P	Pb	15 36 56.6	-1.3
PVCP				*i* S	Sb	15 37 07.3	-6.2
AUQP	San Andres	1.27	311	*e*P	Pn	15 36 58.1	-0.7
RCP	Roxas	1.29	224	⇓*e*P	Pn	15 36 58.5	-0.8
RCP				*e*S	Sb	15 37 16.3	+0.1
GUIM	Jordan	2.13	210	*e*P	Pn	15 37 11.9	+1.1

*ISCJB **05** 15:51:03.2±0.8, 35.58S±0.03×73.34W±0.07, h17km, mb3.6/4, Error ellipse: s-maj=8.4km s-min=4.5km az=11.4*
*IDC **05** 15:51:03.1±1.3, 35.58S×73.04W, h0km, mb3.7/4, mb1 3.7/6, mb1mx3.6/20, mbtmp3.6/6, ML3.4/2, MS2.4/1, Ms1 2.4/1, ms1mx2.4/19, Error ellipse: s-maj=37.5km s-min=28.0km az=79.0*
*GUC **05** 15:51:04.8±1.1, 35.61S×73.26W, h28km±10km, ML4.4*

ISC 05 15:51:05.1±0.8, 35.69S±0.04×73.12W±0.07, h17km, n18, σ0s65/25, mb3.7/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	Cobquecura	0.52	148	*e*P	Pn	15 51 17.2	-0.5
COCH				*e*S	Sn	15 51 26.1	-0.1
CCSP	San Pedro de C	1.15	179	*e*P	Pn	15 51 26.5	+0.1
CCSP				*e*S	Sg	15 51 42.6	+0.1
TALC	Talca	1.25	77	*e*P	Pn	15 51 27.9	+0.1
TALC				*e*S	Sg	15 51 45.7	+0.1
NICH	Los Niches	1.69	67	*e*P	Pb	15 51 34.9	-0.9
NICH				*e*S	Sb	15 51 57.6	+0.8
RCDM	Rinconada Maip	2.91	42	*e*P	Pn	15 51 50.8	+0.1
RCDM				AML	AML	15 52 55.5	
	comp=E,443nm,1.1s						
CLCH	Cerro Calan	3.13	44	*e*P	Pn	15 51 54.2	+0.5
CLCH				*e*S	Sn	15 52 31.1	+0.4
CLCH				AML	AML	15 52 53.2	
	comp=E,1μm,1.2s						
ROCH	El Roble	3.23	33

ASUD	**Al Ashush, Dub**	**2.70**	**151**	P		**Pb**	**16 10 55.1**	**-0.9**
	SNR=25							
ASUD	**Al Ashush, Dub**	**2.70**	**151⇑**	*eP*		**Pb**	**16 10 55.1**	**-0.9**
	SNR=25							
FAQ	**Al Faqa, Dubai**	**2.72**	**146**	P		**Pb**	**16 10 55.5**	**-0.9**
FAQ	**Al Faqa, Dubai**	**2.72**	**146**	⇑P		**Pb**	**16 10 55.5**	**-0.9**
IPAR	**Pars**	**2.92**	**345**	*e*Pn		**Pn**	**16 10 55.1**	**+1.0**
IPAR				*e*			16 11 52.3	
	comp=Z,3μm,0.3s							
IPAR	**Pars**	**2.92**	**345**	*e*Pn		**Pn**	**16 10 55.1**	**+1.0**
HATD	**Hatta, Dubai**	**2.96**	**137**	P		**Pb**	**16 10 58.2**	**-2.3**
	SNR=6.5							
HATD	**Hatta, Dubai**	**2.96**	**137⇓**	*i*P		**Pb**	**16 10 58.2**	**-2.3**
	SNR=6.5							
IKAZ	**Kazeroun**	**3.31**	**327**	*e*Pn		**Pn**	**16 10 58.4**	**-1.0**
IKAZ				*e*			16 12 01.7	
	comp=Z,2μm,0.2s							
IKAZ	**Kazeroun**	**3.31**	**327**	*e*Pn		**Pn**	**16 10 58.4**	**-1.0**
SLWS		**3.67**	**234**	P		Pb	16 11 08.0	-4.6
SLWS		**3.67**	**234**	P		Pb	16 11 07.6	-4.9
KRBR	**Kerman**	**3.89**	**40**	*e*Pn		**Pn**	**16 11 09.1**	**+1.7**
KRBR				AML		AML	16 12 14.8	
	comp=N,142nm,0.6s							
KRBR				AML		AML	16 12 15.2	
	comp=E,150nm,0.5s							
KRBR	**Kerman**	**3.89**	**40**	*e*Pn		**Pn**	**16 11 09.1**	**+1.7**
	comp=E,150nm,0.5s							
BTHS		**4.04**	**224**	P		**Pn**	**16 11 11.0**	**+1.8**
BTHS		**4.04**	**224**	P		**Pn**	**16 11 11.4**	**+2.2**
BOQSS		**4.21**	**255**	P		**Pn**	**16 11 14.0**	**+2.4**
BOQSS				S		**Sn**	**16 12 02.0**	**+1.7**
BOQSS		**4.21**	**255**	P		**Pn**	**16 11 13.9**	**+2.3**
IMEH	**Mehriz**	**4.41**	**8**	*e*Pn		**Pn**	**16 11 15.5**	**+1.0**
IMEH				*e*Sn		**Sn**	**16 12 05.2**	**-0.3**
IMEH				*e*			16 12 10.2	
	comp=Z,598nm,0.3s							
IMEH	**Mehriz**	**4.41**	**8**	*e*Pn		**Pn**	**16 11 15.5**	**+1.0**
IMEH				*e*Sn		**Sn**	**16 12 05.2**	**-0.3**
IBAF	**Bafgh**	**4.79**	**17**	*e*Pn		**Pn**	**16 11 21.0**	**+1.3**
IBAF				*e*			16 12 51.0	
	comp=Z,350nm,0.3s							
IBAF	**Bafgh**	**4.79**	**17**	*e*Pn		**Pn**	**16 11 21.0**	**+1.3**
ISAD	**Sadrabad**	**4.89**	**358**	*e*Pn		**Pn**	**16 11 22.7**	**+1.5**
ISAD				*e*			16 12 22.2	
	comp=Z,888nm,0.3s							
ISAD	**Sadrabad**	**4.89**	**358**	*e*Pn		**Pn**	**16 11 22.7**	**+1.5**
ICHK	**Chekchek**	**5.24**	**5**	*e*Pn		**Pn**	**16 11 26.8**	**+0.9**
ICHK				*e*			16 12 35.6	
	comp=Z,442nm,0.3s							
ICHK	**Chekchek**	**5.24**	**5**	*e*Pn		**Pn**	**16 11 26.8**	**+0.9**
IZEF	**Zefreh**	**6.03**	**347**	*e*Pn		**Pn**	**16 11 36.5**	**-0.1**
IZEF				*e*			16 12 49.0	
	comp=Z,403nm,0.2s							
IZEF	**Zefreh**	**6.03**	**347**	*e*Pn		**Pn**	**16 11 36.6**	**-0.1**
IPIR	**Pirpir**	**6.23**	**336**	*e*Pn		**Pn**	**16 11 38.2**	**-1.4**
IPIR				*e*			16 12 18.4	
	comp=Z,340nm,0.2s							
IPIR	**Pirpir**	**6.23**	**336**	*e*Pn		**Pn**	**16 11 38.2**	**-1.4**
ZHSF	**Zahedan**	**6.59**	**65**	*e*Pn		**Pn**	**16 11 46.4**	**+1.9**
ZHSF	**Zahedan**	**6.59**	**65**	*e*Pn		**Pn**	**16 11 46.3**	**+1.9**
IKLH	**Kolahrood**	**6.60**	**343**	*e*Pn		**Pn**	**16 11 44.6**	**-0.1**
IKLH				*e*			16 13 03.7	
	comp=Z,146nm,0.2s							
IKLH	**Kolahrood**	**6.60**	**343**	*e*Pn		**Pn**	**16 11 44.6**	**-0.1**
NSR	**Nassriya**	**7.88**	**302**	*e*PN		x	16 11 58.3	
NSR				*e*Pn		x	16 11 59.0	
NSR				*e*SN		x	16 13 27.2	
ASAO	**Ashtian**	**8.22**	**337**	*e*Pn		**Pn**	**16 12 06.8**	**-0.1**
ASAO	**Ashtian**	**8.22**	**337**	*e*Pn		**Pn**	**16 12 06.8**	**-0.1**
IBDR	**Badra**	**9.20**	**313**	*e*Pn		x	16 12 17.0	
IBDR				*e*Sn		x	16 14 02.0	
IDHR	**Dehrash**	**10.02**	**322**	*e*Pn		**Pn**	**16 12 31.6**	**+0.1**
IDHR				*e*			16 14 27.6	
	comp=Z,260nm,0.3s							
IDHR	**Dehrash**	**10.02**	**322**	*e*Pn		**Pn**	**16 12 31.6**	**+0.1**
BHD	**Baghdad**	**10.34**	**309**	*e*P		x	16 12 33.0	
BHD				*e*S		x	16 14 29.0	
GEYT	**Alibeck**	**11.46**	**17**	LR		LR	16 17 57.0	
	comp=Z,71nm,19.7s,baz=90,slow=41							
GNI	**Garni**	**15.15**	**332**	Pn		**Pn**	**16 13 43.0**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=24,slow=2.4,SNR=2.9							
GNI	**Garni**	**15.15**	**332**	*c i*P		**Pn**	**16 13 43.3**	**+1.8**
GNI				pmax		pmax		
	comp=Z,18nm,1.0s							
ASF	**Jabal al Asfar**	**15.66**	**293**	Pn		**Pn**	**16 13 48.6**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=51,slow=13,SNR=1.8							
EIL	**Elat**	**16.89**	**283**	Pn		**Pn**	**16 14 04.1**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=106,slow=5.2,SNR=2.1							
MMAI	**Mount Meron Ar**	**17.10**	**295**	P		**Pn**	**16 14 05.7**	**-0.7**
	comp=Z,1.4nm,0.3s,baz=104,slow=17,SNR=3.3							
ZEI	**Tsey**	**17.73**	**335**	*e*P		**Pn**	**16 14 14.5**	**+0.2**
ZEI				pmax		pmax		
	comp=Z,11nm,1.3s							
NCK	**Nalchik**	**18.45**	**336**	*e*P		**Pn**	**16 14 25.0**	**+2.0**
NCK	**Nalchik**	**18.45**	**336**	*e*P		**Pn**	**16 14 25.0**	**+2.0**
NEY	**Neytrino**	**18.58**	**334**	*e*P		**P**	**16 14 24.8**	**+0.4**
NEY	**Neytrino**	**18.58**	**334**	*e*P		**P**	**16 14 24.8**	**+0.4**
KBZ	**Khabaz**	**18.91**	**335**	P		**P**	**16 14 27.9**	**0.0**
	comp=Z,0.1nm,0.3s,baz=233,slow=20,SNR=7.9							
KIV	**Kislovodsk**	**19.19**	**335**	*e*P		**P**	**16 14 31.6**	**+0.6**
KIV				pmax		pmax		
	comp=Z,10.0nm,0.9s							
KIV	**Kislovodsk**	**19.19**	**335**	*e*P		**P**	**16 14 31.6**	**+0.6**
	comp=Z,10.0nm,0.9s							
BRTR	**Keskin Array B**	**21.09**	**312**	P		**P**	**16 14 52.0**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=131,slow=11,SNR=12							
BRTR	**Keskin Array B**	**21.09**	**312**	*ce*P		**P**	**16 14 52.4**	**+0.6**
BRTR				pmax		pmax		
	comp=Z,3.0nm,0.8s							
BRTR	**Keskin Array B**	**21.09**	**312**	*e*P		**P**	**16 14 52.4**	**+0.6**
	comp=Z,3.0nm,0.8s							
AML	**Almayashu**	**22.13**	**42**	P		**P**	**16 15 03.6**	**+0.4**
	SNR=13							
AAK	**Ala-Archa**	**22.91**	**42**	P		**P**	**16 15 11.8**	**+0.6**
	comp=Z,1.1nm,0.4s,baz=233,slow=15,SNR=5.8							
AAK	**Ala-Archa**	**22.91**	**42**	*i* P		**P**	**16 15 12.1**	**+0.9**
AAK				pmax		pmax		
	comp=Z,26nm,1.7s							
AAK	**Ala-Archa**	**22.91**	**42**	*i* P		**P**	**16 15 12.1**	**+0.9**
	comp=Z,26nm,1.7s							
AKTK	**Aktyubinsk**	**23.61**	**7**	P		**P**	**16 15 18.3**	**+0.3**
	comp=Z,2.0nm,0.4s							
AKTO	**Aktyubinsk**	**23.61**	**7**	P		**P**	**16 15 18.3**	**+0.3**
	comp=Z,1.6nm,0.4s,baz=169,slow=10,SNR=13							
AKTO	**Aktyubinsk**	**23.61**	**7**	P		**P**	**16 15 18.3**	**+0.3**
AKTO				pmax		pmax		
	comp=Z,2.0nm,0.4s							
IDI	**Anoyia**	**26.10**	**296**	P		**P**	**16 15 40.5**	**-0.6**
	comp=Z,5.5nm,0.6s,baz=70,slow=6.7,SNR=6.2							
BRVK	**Borovoye**	**28.75**	**21**	*i* P		**P**	**16 16 05.1**	**+0.6**
BRVK				pmax		pmax		
	comp=Z,2.0nm,1.0s							
BVAR	**Borovoye Array**	**28.75**	**21**	P		**P**	**16 16 04.9**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=217,slow=8.1,SNR=12							
BVAR				PcP		**PcP**	**16 19 14.6**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=204,slow=3.2,SNR=3.4							
BVAR	**Borovoye Array**	**28.75**	**21**	P		**P**	**16 16 04.9**	**+0.3**
BVAR							16 19 14.6	
BVAR				pmax		pmax		
	comp=Z,2.0nm,0.6s							
MLR	**Muntele Rosu**	**28.91**	**317**	P		**P**	**16 16 06.4**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=314,slow=7.7,SNR=3.1							
MKAR	**Makanchi Array**	**29.84**	**41**	P		**P**	**16 16 15.0**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=222,slow=8.0,SNR=6.1							
MKAR				PcP		**PcP**	**16 19 17.5**	**+0.2**
	comp=Z,0.1nm,0.5s,baz=194,slow=1.2,SNR=2.4							
AKASG	**Malin Array Be**	**30.22**	**328**	P		**P**	**16 16 16.6**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=121,slow=7.2,SNR=7.1							
KIEV	**Kiev**	**30.22**	**328**	*e*P		**P**	**16 16 16.1**	**-1.5**
KIEV	**Kiev**	**30.22**	**328**	*e*P		**P**	**16 16 16.1**	**-1.5**
OBN	**Obninsk**	**30.80**	**340**	P		**P**	**16 16 23.6**	**+1.0**
OBN				pmax		pmax		
	comp=Z,3.0nm,0.9s							
OBN	**Obninsk**	**30.80**	**340**	P		**P**	**16 16 23.6**	**+1.0**
	comp=Z,3.0nm,0.9s							
ZALV	**Zalesovo Beam**	**35.24**	**32**	P		**P**	**16 17 01.5**	**+0.1**
	comp=Z,2.8nm,0.5s,baz=240,slow=9.4,SNR=21							
ZALV	**Zalesovo Beam**	**35.24**	**32**	*i* P		**P**	**16 17 01.5**	**+0.1**
ZALV				pmax		pmax		
	comp=Z,3.0nm,0.5s							
GERES	**GERESS Array B**	**37.88**	**316**	P		**P**	**16 17 23.6**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=84,slow=10.0,SNR=2.8							
FINES	**FINESS Array B**	**39.17**	**339**	P		**P**	**16 17 34.1**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=142,slow=11,SNR=14							
FINES	**FINESS Array B**	**39.17**	**339**	*i* P		**P**	**16 17 34.2**	**-0.5**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.4s							
FINES	**FINESS Array B**	**39.17**	**339**	*i* P		**P**	**16 17 34.2**	**-0.5**
	comp=Z,1.0nm,0.4s							
FETA	**Feichten**	**39.23**	**312⇑**	*i* P		**P**	**16 17 34.7**	**-1.0**
	comp=Z,2.9nm,0.7s							
FETA	**Feichten**	**39.23**	**312**	P		**P**	**16 17 34.7**	**-1.0**
	comp=Z,2.9nm,0.7s							
DAVA	**Damuels**	**39.86**	**312⇑**	*i* P		**P**	**16 17 40.4**	**-0.5**
	comp=Z,7.9nm,0.6s							
DAVA	**Damuels**	**39.86**	**312**	P		**P**	**16 17 40.4**	**-0.5**
	comp=Z,7.9nm,0.6s							
CMAR	**Chiang Mai Arr**	**42.22**	**92**	P		**P**	**16 18 00.6**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=289,slow=11,SNR=4.5							
NOA	**NORSAR Array B**	**44.46**	**332**	P		**P**	**16 18 17.1**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=138,slow=7.1,SNR=3.3							
NOA	**NORSAR Array B**	**44.46**	**332**	P		**P**	**16 18 17.1**	**-0.9**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
SONM	**Songino Array**	**45.59**	**48**	P		**P**	**16 18 27.6**	**+0.2**
	comp=Z,1.1nm,0.9s,baz=258,slow=9.5,SNR=6.0							
SONM	**Songino Array**	**45.59**	**48**	P		**P**	**16 18 27.6**	**+0.2**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.9s							
ARCES	**ARCESS Array B**	**45.66**	**346**	P		**P**	**16 18 27.1**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=139,slow=8.4,SNR=5.6							
ARCES	**ARCESS Array B**	**45.66**	**346**	P		**P**	**16 18 27.1**	**-0.4**
ARCES				pmax		pmax		
	comp=Z,1.0nm,0.7s							
ULN	**Ulaanbaatar**	**46.03**	**48**	*i* P		**P**	**16 18 30.4**	**-0.5**
ULN				pmax		pmax		
	comp=Z,4.0nm,2.5s							
ULN	**Ulaanbaatar**	**46.03**	**48**	*i* P		**P**	**16 18 30.4**	**-0.5**
	comp=Z,4.0nm,2.5s							
ESDC	**Sonseca Array**	**49.20**	**300**	P		**P**	**16 18 55.1**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=70,slow=7.5,SNR=3.0							
TORD	**Torodi Ar. Bea**	**50.60**	**265**	P		**P**	**16 19 05.9**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=67,slow=7.7,SNR=14							
DBIC	**Dimbokro**	**59.22**	**261**	P		**P**	**16 20 08.5**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=67,slow=12,SNR=3.2							
DBIC	**Dimbokro**	**59.22**	**261**	P		**P**	**16 20 08.5**	**-0.2**
DBIC				pmax		pmax		
	comp=Z,2.0nm,0.7s							
BILL	**Bilibino**	**73.09**	**21**	*e*P		**P**	**16 21 37.7**	**+0.7**
BILL				pmax		pmax		
	comp=Z,2.0nm,1.1s							
BILL	**Bilibino**	**73.09**	**21**	*e*P		**P**	**16 21 37.7**	**+0.7**
	comp=Z,2.0nm,1.1s							
ILAR	**Eielson Array**	**87.10**	**9**	P		**P**	**16 22 52.0**	**-0.6**
	comp=Z,0.2nm,0.7s,baz=338,slow=3.6,SNR=4.1							
ILAR	**Eielson Array**	**87.10**	**9**	P		**P**	**16 22 52.0**	**-0.6**
ILAR	**Eielson Array**	**87.10**	**9**	P		**P**	**16 22 52.0**	**-0.6**
YKA	**Yellowknife Ar**	**90.34**	**355**	P		**P**	**16 23 07.9**	**0.0**
	comp=Z,0.4nm,0.6s,baz=6.3,slow=5.0,SNR=8.5							
WRA	**Warramunga Arr**	**90.78**	**112**	P		**P**	**16 23 10.7**	**0.0**
	comp=Z,0.9nm,0.9s,baz=308,slow=4.2,SNR=3.7							
WRA	**Warramunga Arr**	**90.78**	**112**	P		**P**	**16 23 10.7**	**0.0**
WRA				pmax		pmax		
	comp=Z,1.0nm,0.9s							
ASAR	**Alice Springs**	**92.19**	**115**	P		**P**	**16 23 16.8**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=302,slow=5.0,SNR=4.2							

JMA 05 16:20:56.1, 32.39N×130.62E, h9km±1km, M0.2, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIU2	**Izumi 2**	**0.23**	**47**	P		Pg 16 21 00.8	+0.1
JIU2				*e*S		Sg 16 21 04.4	+0.5
JZO	**Okuchi**	**0.25**	**184**	P		Pg 16 21 01.2	0.0
JZO				*e*S		Sg 16 21 04.6	0.0
JHD	**Hondo**	**0.41**	**280**	P		Pg 16 21 04.5	+0.3
JHD				*e*S		Sg 16 21 10.5	+0.8

BJI ***05*** *16:28:55.3, 4.84S×100.96E, h27km, mb5.8/84, mB6.5/52, Ms7.0/79, Ms7 6.8/84*

SZGRF ***05*** *16:28:57.8, 5.04S×102.23E, h33km, mb5.8, MS6.4, Southern Sumatera, Indonesia*

IDC ***05*** *16:28:58.8±0.4, 4.06S×101.10E, h0km, mb5.7/32, mb1 5.7/33, mb1mx5.7/33, mbtmp5.7/33, ML4.4/1, MS6.3/26, Ms1 6.3/26, ms1mx6.2/38, Error ellipse: s-maj=10.2km s-min=7.6km az=77.0*

ISCJB ***05*** *16:28:59.1±0.5, 4.13S±0.02×101.03E±0.01, h10km±3km, mb5.8/232, MS6.5/220, Error ellipse: s-maj=3.4km s-min=2.2km az=27.1*

KLM ***05*** *16:29:01.1, 4.28S×100.63E, h38km, mb6.4, ML6.3, MS6.8*

NEIC ***05*** *16:29:02.0±0.0, 4.08S×101.07E, h25km, Moment Tensor Solution. s27 Moment tensor: Scale 10¹⁸Nm; Mrr2.93; Mθθ-1.72; Mφφ-1.21; Mrθ3.30; Mrφ1.88; Mθφ-5.14; Best double couple: M₀6.90000×10¹⁸ NP1:φ₁145.00000°, δ76.00000°, λ97.00000°. NP2:φ₂294.00000°, δ15.00000°, λ59.00000°. Principal axes: T 6.7800, Plg57.0000°, Azm65.0000°; N 0.2000, Plg7.0000°, Azm323.0000°; P -6.9800, Plg31.0000°, Azm229.0000°;*

DJA ***05*** *16:29:02.5±0.6, 4°S±2°×10°1E±°, h15km±5km, M6.3/125, mb6.0/125, mB6.4/111, MLv6.5/30, Mw(mB)6.2/111, Mwp6.4/73*

GCMT ***05*** *16:29:03.2±0.1, 4.28S×100.77E, h12km, MW6.5/138, Moment Tensor Solution. s138,c332; s131,c472; Duration: 4s5 Moment tensor: Scale 10¹⁸Nm; Mrr2.47±.02; Mθθ-1.25±.02; Mφφ-1.22±.02; Mrθ6.32±.05; Mθφ1.46±.01; Mφr-4.26±.06; Best double couple: M₀8.04900×10¹⁸ NP1:φ₁125.00000°, δ81.00000°, λ86.00000°. NP2:φ₂326.00000°, δ10.00000°, λ111.00000°. Principal axes: T 7.9820, Plg54.0000°, Azm30.0000°; N 0.1340, Plg4.0000°, Azm125.0000°; P -8.1160, Plg36.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*

MOS ***05*** *16:29:03.2±1.2, 3.91S×101.20E, h33km, mb6.1/78, MS6.6/73 Error ellipse: s-maj=7.7km s-min=3.9km az=116.9*

NEIC ***05*** *16:29:03.2±0.1, 4.05S×101.10E, h27km, mb5.9/115, ME6.4, MS6.6/153, MW6.5, MW6.4, Error ellipse: s-maj=4.6km s-min=3.1km az=36.0, Moment Tensor Solution. s71 Moment tensor: Scale 10¹⁸Nm; Mrr2.59; Mθθ-1.39; Mφφ-1.20; Mrθ3.12; Mθφ-0.62; Mφr-2.73; Best double couple: M₀4.80000×10¹⁸ NP1:φ₁128.00000°, δ79.00000°, λ94.00000°. NP2:φ₂290.00000°, δ11.00000°, λ72.00000°. Principal axes: T 5.4100, Plg55.0000°, Azm42.0000°; N -1.8900, Plg3.0000°, Azm307.0000°; P -3.5200, Plg33.0000°, Azm214.0000°; Broadband fault plane solution: P waves. NP1:φ₁310.00000°, δ2.00000°, λ90.00000°. NP2:φ₂130.00000°, δ88.00000°, λ90.00000°. Principal axes: T Plg47.0000°, Azm40.0000°; N Plg0.0000°, Azm0.0000°; P Plg43.0000°, Azm220.0000°;*

Complex earthquake, with at least one event occurring about 5 seconds after the onset observed on broadband displacement seismograms. Depth from synthetics of broadband displacement seismograms based on first event. Energy computed from BB mechanism.

NEIC Felt [IV] at Ipuh, Ketaun and Mukomuko and [III] at Bengkulu, Lebong and Muaraaman. Also felt in Singapore.

ISC 05 16:29:03.1±0.3, 4.14S±0.03×101.11E±0.03, h26km±1km, h26km:pP-P, n1924, σ1965/1916, mb5.9/236, MS6.6/235, 315C-263D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASI	**Maura Aman, Be**	**1.50**	**49**	P	**Pb**	**16 29 30.1**	**-0.3**
MASI				S	Sb	16 29 58.0	+8.9
MNAI	**Manna**	**1.86**	**97**	P	**Pn**	**16 29 34.0**	**+0.7**
MNAI				S	**Sb**	**16 29 59.2**	**-0.1**
MNAI	**Manna**	**1.86**	**97**	*e*Pn	**Pn**	**16 29 33.8**	**+0.5**
LHSI	**Lahat**	**2.43**	**83**	P	**Pn**	**16 29 42.9**	**+1.7**
LWLI	**Liwa**	**3.07**	**107**	P	**Pn**	**16 29 50.4**	**+0.3**
LWLI				S	**Sb**	**16 30 32.0**	**-2.3**
MDSI	**Maura Dua**	**3.08**	**97**	P	**Pn**	**16 29 50.7**	**+0.6**
MDSI				S	**Sb**	**16 30 32.1**	**-2.4**
SDSI	**Sungai Dareh**	**3.20**	**6**	P	**Pn**	**16 29 52.8**	**+1.0**
SDSI				S	Sb	16 30 50.8	+13
JMBI	**JAMBI**	**3.55**	**46**	P	**Pn**	**16 29 58.4**	**+1.8**
KASI	**Kota Agung**	**3.65**	**112**	P	**Pn**	**16 29 57.8**	**-0.1**
KLI	**Kotabumi**	**3.81**	**101**	P	**Pn**	**16 30 02.9**	**+2.8**
PMBI	**Palembang**	**3.85**	**72**	P	**Pn**	**16 30 01.6**	**+0.9**
PMBI	**Palembang**	**3.85**	**72**	P	**Pn**	**16 30 01.7**	**+1.0**
	baz=3.9,SNR=19						
BLSI	**Bandar Lampung**	**4.30**	**107**	P	**Pn**	**16 30 09.8**	**+2.9**
BKNI	**Bangkinang**	**4.44**	**359**	P	**Pn**	**16 30 10.3**	**+1.6**
BKNI	**Bangkinang**	**4.44**	**359**	P	**Pn**	**16 30 10.3**	**+1.6**
	baz=4.5,SNR=28						
BKNI	**Bangkinang**	**4.44**	**359**	*e*Pn	**Pn**	**16 30 09.2**	**+0.4**
DSRI	**Dabo**	**5.03**	**44**	P	Pn	16 30 23.3	+6.4
	8μm,1.1s,216μm54nm						
MNSI	**Mandailing Nat**	**5.13**	**343**	P	**Pn**	**16 30 18.9**	**+0.6**
	3μm,1.1s,61μm844μm26nm						
CGJI	**Cibinong**	**5.19**	**118**	P	**Pn**	**16 30 17.5**	**-1.6**
	4μm,0.7s,49μm274μm14nm						
SBJI	**Serang**	**5.38**	**112**	P	**Pn**	**16 30 24.0**	**+2.3**
	2μm,0.9s,57μm640μm28nm						
PPBI	**Pangkal Pinang**	**5.39**	**69**	P	**Pn**	**16 30 23.4**	**+1.5**
	2μm,1.1s,41μm711μm17nm						
TNG	**Tangerang**	**5.88**	**110**	P	**Pn**	**16 30 30.6**	**+2.0**
	10μm,0.7s,93μm438μm43nm						
TPRI	**Tanjung Pinang**	**6.08**	**34**	P	**Pn**	**16 30 34.3**	**+3.0**
	4μm,0.9s,56μm925μm20nm						
BTDF	**Bukit Timah Da**	**6.08**	**26**	P	**Pn**	**16 30 34.4**	**+3.0**
	baz=6.2,SNR=40						
SKJI	**Sukabumi**	**6.13**	**118**	P	**Pn**	**16 30 33.2**	**+1.2**
	3μm,1.4s,43μm191μm24nm						
CBJI	**Citeko**	**6.15**	**112**	P	Pn	16 30 35.6	+3.2
	7μm,1.0s,74μm330μm22nm						
GSI	**Gunungsitoli**	**6.46**	**327**	P	**Pn**	**16 30 33.9**	**-2.7**
	2μm,1.4s,35μm398μm32nm						
GSI	**Gunungsitoli**	**6.46**	**327**	*e*Pn	**Pn**	**16 30 33.9**	**-2.7**
	3μm,1.1s						
MYKOM	**Kota Tinggi**	**6.50**	**25**	⇓P	**Pn**	**16 30 40.0**	**+2.9**
MYKOM	**Kota Tinggi**	**6.50**	**25**	⇓S	Sn	16 31 57.8	+7.4
KGM	**Kluang**	**6.50**	**20**	⇓P	**Pn**	**16 30 39.8**	**+2.6**
TPI	**Tanjungpandan**	**6.68**	**78**	P	**Pn**	**16 30 42.3**	**+2.7**
	509nm,0.9s,22μm858μm13nm						
CNJI	**Cibinong**	**6.77**	**118**	P	**Pn**	**16 30 38.8**	**-2.0**
	3μm,0.6s,38μm159μm16nm						
LEM	**Lembang**	**7.01**	**113**	P	**Pn**	**16 30 47.3**	**+3.0**
	3μm,1.9s,47μm350μm18nm						
LEM	**Lembang**	**7.01**	**113**	Pn	**Pn**	**16 30 46.5**	**+2.3**
	96nm,0.3s,baz=202,slow=9.3,SNR=92						
LEM	**Lembang**	**7.01**	**113**	P	**Pn**	**16 30 46.6**	**+2.3**
LEM	**Lembang**	**7.01**	**113**	P	**Pn**	**16 30 47.0**	**+2.7**
	baz=7.1,SNR=58						
LEM	**Lembang**	**7.01**	**113**	Pn	**Pn**	**16 30 46.5**	**+2.3**
PSI	**Prapat**	**7.23**	**342**	Pn	**Pn**	**16 30 44.6**	**-2.7**
	6.3nm,0.3s,baz=151,slow=10,SNR=81						
PSI	**Prapat**	**7.23**	**342**	P	**Pn**	**16 30 44.6**	**-2.7**
PSI	**Prapat**	**7.23**	**342**	Pn	**Pn**	**16 30 44.6**	**-2.7**
FRIM	**Kepong**	**7.35**	**4**	⇓P	**Pn**	**16 30 50.2**	**+1.4**
CISI	**Cisompet, Garu**	**7.49**	**117**	P	**Pn**	**16 30 48.8**	**-2.0**
	4μm,1.0s,54μm198μm16nm						
CISI	**Cisompet, Garu**	**7.49**	**117**	P	**Pn**	**16 30 49.0**	**-1.8**
	baz=7.6,SNR=186						
CISI	**Cisompet, Garu**	**7.49**	**117**	*e*Pn	**Pn**	**16 30 49.2**	**-1.5**
	2μm,0.5s						
XMI	**Christmas Isla**	**7.74**	**144**	P	Pn	16 30 58.9	+4.6
	baz=7.8,SNR=4.3						
XMI				S	**Sn**	**16 32 17.1**	**-4.1**
	baz=7.8,SNR=5.4						
XMIS	**Christmas Isla**	**7.75**	**145**	*e*Pn	Pn	16 30 48.8	-5.5
	280nm,0.8s						
TSI	**Tuntungan**	**8.00**	**341**	P	**Pn**	**16 30 59.6**	**+1.8**
	1μm,1.2s,39μm870μm						
SNSI	**Sinabang, Aceh**	**8.07**	**324**	P	**Pn**	**16 30 59.2**	**+0.5**
	2μm,1.2s,28μm230μm						
CMJI	**Cimerak**	**8.15**	**117**	P	**Pn**	**16 30 58.0**	**-1.8**
	2μm,0.8s,18μm111μm						
KPJI	**Karang Pucung**	**8.41**	**113**	P	**Pn**	**16 31 05.1**	**+1.8**
	1μm,0.8s,16μm						
KPJI				S	Sb	16 33 23.7	+16
	1μm,0.8s,16μm						
IPM	**Ipoh**	**8.56**	**359**	*e*Pn	**Pn**	**16 31 07.7**	**+2.2**
	1μm,1.1s						
COCO	**West Island**	**9.05**	**208**	Pn	Pn	16 31 07.5	-4.6
	14μm,1.1s,SNR=15						
COCO	**West Island**	**9.05**	**208**	*e*P

SPSI **Sidrap Palu** 18.62 90 P Pn 16 33 19.6 +0.4
comp=Z,1µm,1.2s,comp=Z,19µmcomp=Z,128µm
TTSI **Tana Toraja** 18.71 87 P Pn 16 33 21.7 +1.4
comp=Z,808nm,1.1s,comp=Z,17µmcomp=Z,140µm
TSM **Tawau** 18.73 64 ⇓P Pn 16 33 22.2 +1.6
BNSI **Bone** 18.95 91 P Pn 16 33 24.5 +1.3
comp=Z,2µm,1.1s,comp=Z,34µmcomp=Z,143µm
WBSI **Waikabubak, Su** 18.95 108 P P 16 33 20.7 -1.8
comp=Z,1µm,0.8s,comp=Z,10µm
KHLT **Khaolaem Dam** 18.98 352 P P 16 33 21.7 -1.0
comp=Z,143nm,1.0s,comp=Z,5µm
PCI **Palu** 18.98 81 P Pn 16 33 24.3 +0.6
comp=Z,3µm,1.3s,comp=Z,47µm
BKSI **Bulukumba** 18.99 94 P P 16 33 22.5 -0.4
comp=Z,1µm,0.9s,comp=Z,17µmcomp=Z,104µm
DGPR **DIGLIPUR** 19.02 335 *eP* P 16 33 22.4 -0.8
DGPR AMB AMB 16 33 32.9
comp=Z,462nm,0.0s
KDM **Kudat** 19.16 55 ⇑P Pn 16 33 27.3 +1.6
MPSI **Mapaga** 19.30 77 P Pn 16 33 27.4 0.0
comp=Z,1µm,1.5s,comp=Z,18µmcomp=Z,243µm
BSSI **Bau Bau, Buton** 19.41 97 P P 16 33 28.1 +0.6
comp=Z,472nm,1.4s,comp=Z,14µmcomp=Z,139µm
WSI **Waingapu** 19.82 107 P Pn 16 33 33.8 +0.1
comp=Z,3µm,0.7s,comp=Z,32µm
WSI **Waingapu** 19.82 107 P Pn 16 33 35.1 +1.4
baz=20,SNR=6.9
WSI S Sn 16 37 18.4 +2.5
baz=20,SNR=4.7
CHAI **Chaiyaphum** 19.93 2 P P 16 33 32.4 -0.7
comp=Z,222nm,0.9s,comp=Z,2µm
BASI **Baing, Sumba** 20.23 108 P Pn 16 33 37.9 -0.6
comp=Z,3µm,1.5s,comp=Z,33µm
TOLI **Toli-Toli** 20.36 76 *eP* P 16 33 38.9 +1.0
comp=Z,2µm,0.9s
KHON **Khomkaen** 20.42 5 P P 16 33 37.9 -0.5
comp=Z,354nm,1.0s,comp=Z,3µm
PBKT **Sadao Pong** 20.58 360 P P 16 33 39.4 -0.7
comp=Z,392nm,1.0s,comp=Z,14µm
EDFI **Ende, Flores** 20.96 104 P Pn 16 33 47.5 +0.4
comp=Z,262nm,0.9s,comp=Z,6µm
SKNT **Sakolnakorn** 21.17 8 P P 16 33 45.2 -1.4
comp=Z,610nm,1.3s,comp=Z,19µm
MRSI **Marisa** 21.32 78 P P 16 33 49.3 +1.1
comp=Z,871nm,1.0s,comp=Z,14µmcomp=Z,154µm
MMRI **Maumere** 21.47 103 P P 16 33 51.4 +1.6
comp=Z,551nm,1.0s,comp=Z,6µm
MMRI **Maumere** 21.47 103 *eP* P 16 33 49.5 -0.3
comp=Z,328nm,0.7s
LOEI **Loei** 21.51 0 P P 16 33 48.5 -1.7
comp=Z,426nm,1.1s,comp=Z,11µm
LUWI **Luwuk** 21.86 82 P P 16 33 55.7 +1.7
comp=Z,3µm,1.3s,comp=Z,32µmcomp=Z,199µm
LUWI **Luwuk** 21.86 82 P P 16 33 45.5 -8.6
baz=22,SNR=5.0
LUWI **Luwuk** 21.86 82 *eP* P 16 33 54.3 +0.3
comp=Z,3µm,1.2s
NONG **Nongkai** 22.15 5 P P 16 33 54.8 -2.3
comp=Z,1µm,1.0s,comp=Z,17µm
PPR **Puerto Princes** 22.35 52⇑*eP* P 16 34 05.7 +6.4
GIRL **Giralia** 22.36 147 P P 16 34 04.5 +5.2
baz=22,SNR=12
CM31 **Chiang Mai Arr** 22.55 355 *eP* P 16 33 59.3 -2.1
comp=Z,245nm,0.8s
CMAR **Chiang Mai Arr** 22.55 355 P P 16 34 00.8 -0.6
comp=Z,76nm,0.9s,baz=184,slow=9.5,SNR=157
CMAR S S 16 38 08.8 +1.4
comp=Z,13nm,1.1s,baz=174,slow=18,SNR=3.8
CMAR LR LR 16 44 03.1
comp=Z,153µm,19.2s,baz=186,slow=40
CMAR P3KPbc 17 07 39.9
comp=Z,0.4nm,0.8s,baz=339,slow=4.8,SNR=5.0
CMAR **Chiang Mai Arr** 22.55 355 P P 16 34 00.8 -0.6
CMAR **Chiang Mai Arr** 22.55 355 P P 16 34 00.8 -0.6
CMAR S S 16 38 08.8 +1.4
CMAR *e* 17 07 39.9
CMMT **Chiang Mai** 22.91 355 P P 16 34 03.6 -1.5
comp=Z,445nm,1.4s,comp=Z,14µm
CHTO **Chiang Mai** 22.91 355 P P 16 34 03.6 -1.6
comp=Z,3µm,1.0s,comp=Z,53µm
CHTO **Chiang Mai** 22.91 355 *eP* P 16 34 03.5 -1.6
CHTO pmax pmax
comp=Z,277nm,1.0s
CHTO MLR MLR
comp=Z,157µm,20.0s
CHTO **Chiang Mai** 22.91 355 *eP* P 16 34 03.5 -1.7
comp=Z,277nm,1.0s
CHTO LR LR
comp=Z,157µm,20.0s
BATI **Baumata** 23.17 106 P P 16 34 07.2 -0.8
comp=Z,335nm,0.8s,baz=1.9,slow=1.5,SNR=30
BATI **Baumata** 23.17 106 P P 16 34 07.2 -0.8
PALK **Pallekele** 23.30 299 P P 16 34 06.1 -3.2
PALK pmax pmax
comp=Z,25nm,1.1s
PALK **Pallekele** 23.30 299 P P 16 34 06.1 -3.2
comp=Z,25nm,1.1s
KMSI **Cibinong** 23.33 79 P P 16 34 08.3 -1.2
comp=Z,1µm,1.2s,comp=Z,20µmcomp=Z,122µm
SOEI **Soe** 23.65 105 P P 16 34 10.3 -2.5
comp=Z,888nm,1.1s,comp=Z,9µm
SOEI **Soe** 23.65 105 P P 16 34 09.0 -3.8
baz=24,SNR=26
SOEI S S 16 38 26.9 +0.6
baz=24,SNR=6.8
SOEI **Soe** 23.65 105 *eP* P 16 34 08.9 -3.8
comp=Z,772nm,0.9s
ENPP **El Nido** 23.77 50 *eP* P 16 34 13.8 +0.1
IPIL **Ipil** 24.48 61 *eP* P 16 34 21.4 +1.0
QIZ **Qiongzhong** 24.58 20 P P 16 34 22.4 +1.2
QIZ pP pP 16 34 28.2 -0.7
QIZ sP sP 16 34 30.1 -2.1
QIZ S S 16 38 43.6 +2.9
QIZ LN
comp=Z,83µm,18.1s
QIZ LE
comp=Z,72µm,17.7s
QIZ LZ
comp=Z,128µm,21.3s
QIZ **Qiongzhong** 24.58 20 *eP* P 16 34 20.2 -1.0
comp=Z,492nm,1.1s
QIZ LR LR
comp=Z,133µm,21.0s
MBWA **Marble Bar** 24.77 135 *eP* P 16 34 22.6 -0.4
comp=Z,112nm,0.8s
MBWA LR LR
comp=Z,34µm,20.0s
CUYO **Cuyo Island** 24.79 53 *eP* P 16 34 24.1 +1.0
BUSP **Coron** 24.85 50 *eP* P 16 34 24.4 +0.7
SANI **Sanana** 24.93 86 P P 16 34 24.0 -0.5
comp=Z,260nm,1.6s,comp=Z,7µmcomp=Z,97µm
PAGZ **Pagadian** 25.21 62 *eP* P 16 34 28.5 +1.5
SGSI **Sangihe** 25.61 73 P P 16 34 31.3 +0.7
comp=Z,685nm,1.2s
CTBH **Cotabato--PC H** 25.70 64 *eP* P 16 34 31.4 0.0
SJMP **San Jose** 25.84 50 *eP* P 16 34 34.0 +1.3
GUIM **Jordan** 25.94 55 *eP* P 16 34 34.4 +0.8
NLAI **Namlea** 25.96 89 P P 16 34 33.5 -0.3
comp=Z,243nm,0.8s,comp=Z,6µmcomp=Z,71µm
LUBP **Lubang** 26.00 47 *eP* P 16 34 34.5 +0.4
OTRP **Odiongan** 26.48 51 *eP* P 16 34 39.7 +1.3
RCP **Roxas** 26.58 54⇓*eP* P 16 34 40.0 +0.6
LBMI **Labuha** 26.60 83 P P 16 34 39.8 +0.2
comp=Z,1µm,1.0s,comp=Z,11µmcomp=Z,65µm
CGP **Cagayan de Oro** 26.64 62⇑*iP* sP 16 34 55.8 +4.8
TNTI **Ternate** 26.69 80 P P 16 34 38.7 -1.7
comp=Z,366nm,1.1s,comp=Z,7µmcomp=Z,96µm
TNTI **Ternate** 26.69 80 *eP* P 16 34 38.1 -2.3
comp=Z,412nm,1.1s
BUKP **Musuan** 26.72 63 *eP* P 16 34 41.4 +0.7
DAV **Davao City (W)** 26.84 66 PFAKE 16 34 50.0 +8.2
DAV LR LR
comp=Z,62µm,20.0s
MDRS **Chennai** 26.86 310 *eP* P 16 34 42.5 +0.7
AAI **Ambon** 27.03 90 P P 16 34 48.8 +5.3
comp=Z,223nm,1.2s,comp=Z,5µm
AAI **Ambon** 27.03 90 P P 16 34 44.3 +0.8
baz=27,SNR=8.1
TRD **Trivandrum** 27.16 298 *ex* pP 16 34 54.2 +1.8
SCZP **Santa Cruz** 27.17 43 *eP* P 16 34 43.3 -1.3
LQP **Lukban** 27.20 48 *eP* P 16 34 46.5 +1.3
MATI **Mati** 27.41 66 *eP* P 16 34 46.2 -0.7
AUQP **San Andres** 27.56 51 *eP* P 16 34 56.2 +8.1
MSLP **Maasin** 27.58 59 *eP* P 16 34 47.1 -1.3
BOLP **Bolinao** 27.60 42 *eP* P 16 34 48.5 0.0
SKHT **Srikalahasti** 27.68 310 *eP* P 16 34 51.3 +2.0
SKHT *e* 16 35 00.7
SKHT *eS* **S** 16 39 31.8 +1.7
SKHT IVMs_BB IVMs_BB 16 44 30.4
comp=Z,51µm,18.5s
MSAI **Masohi** 27.77 89 P P 16 34 50.2 0.0
comp=Z,57nm,1.1s,comp=Z,900nm
OCLP **Ormoc** 27.84 57 *eP* P 16 34 51.2 +0.6
VIS **Vishakhapatnam** 27.92 322 *eP* P 16 34 51.6 +0.2
MEEK **Meekatharra** 27.95 145 P P 16 34 52.8 +1.2
baz=28,SNR=15
BCPH **Baguio City Da** 28.05 43⇑*iP* P 16 34 51.0 -1.7
BCPH *i* S S 16 39 52.9 +17
CHLP **Challavanipeta** 28.08 324 *eP* P 16 34 53.6 +0.8
CHLP *epP* **pP** 16 35 00.3 -0.3
CHLP *esP* **sP** 16 35 04.2 +0.4
CHLP *eS* **S** 16 39 35.3 -0.9
CHLP IVMs_BB IVMs_BB 16 47 53.6
comp=Z,50µm,19.6s
PLP **Palo** 28.21 57⇓*eP* P 16 34 53.6 -0.4
BALP **Baler** 28.30 45 *eP* P 16 34 54.8 0.0
MORW **Morawa** 28.56 152 P P 16 34 59.6 +2.7
baz=29,SNR=5.2
DGAR **Diego Garcia** 28.69 262 PFAKE 16 35 10.0 +12
DGAR LR LR
comp=Z,65µm,21.0s
SZP **Santa** 28.80 41 *eP* P 16 34 58.8 -0.4
comp=Z,831nm,1.1s
PVCP **Virac** 28.88 52 *eP* P 16 35 00.1 +0.2
ABRA **Dolores** 29.04 41 *eP* P 16 35 01.8 +0.5
KMI **Kunming** 29.13 3 P P 16 35 03.3 +1.0
KMI pP **pP** 16 35 12.1 +2.0
KMI sP **sP** 16 35 14.7 +1.4
KMI PP **PnPn** 16 36 01.3 +5.9
KMI S **S** 16 39 53.0 -0.1
KMI LN
comp=Z,76µm,18.7s
KMI LE
comp=Z,257µm,18.7s
KMI LZ
comp=Z,215µm,14.2s
HKC **Hong Kong Obse** 29.22 25⇑*iP* P 16 35 04.0 +1.1
CAUP **Cauayan** 29.29 44 *eP* P 16 35 03.2 -0.3
KNRA **Kununurra** 29.51 115 P P 16 35 03.9 -1.6
baz=30,SNR=96
KNRA S S 16 39 58.9 0.0
baz=30,SNR=5.5
APYP **Conner** 29.54 42 *eP* P 16 35 05.8 0.0
GZH **Guangzhou** 29.58 23 P P 16 35 13.0 +6.9
GZH PP **PP** 16 36 19.0 +5.8
GZH S S 16 40 17.7 +18
GZH SS **SS** 16 42 03.4 -2.7
GZH LR LR
comp=N,121µm,17.3s
GZH LR LR
comp=E,173µm,16.8s
IMP **Imphal** 29.58 347 *ex* **pP** 16 35 15.0 +1.1
IMP *eS* **S** 16 40 05.0 +5.1
NJS **Nagarjunasagar** 29.79 314 *eP* **P** 16 35 08.1 +0.1
NJS *eS* **S** 16 40 02.1 -1.0
NJS IVMs_BB IVMs_BB 16 50 20.2
comp=Z,34µm,18.0s
URV **Uravakonda** 30.30 309 *eP* **P** 16 35 11.9 -0.6
URV *esP* **sP** 16 35 23.4 -0.1
URV *eS* **S** 16 40 11.2 -0.1
URV IVMs_BB IVMs_BB 16 46 19.1
comp=Z,32µm,21.1s
SHL **Shillong** 30.86 344 *i* P **P** 16 35 17.5 0.0
SHL AMB AMB 16 35 27.4
comp=Z,341nm,2.3s
SHL *eS* **S** 16 40 20.0 -0.1
GYA **Guiyang** 30.89 10⇑*iP* **P** 16 35 17.9 +0.1
GYA pP **pP** 16 35 27.8 +2.2
GYA PP **PnPn** 16 36 22.0 +3.2
GYA S **S** 16 40 21.6 +1.1
GYA sS **sS** 16 40 35.2 +1.9
GYA PMZ
comp=Z,210nm,1.0s
GYA PMZ
comp=Z,19µm,12.0s
GYA LN
comp=Z,152µm,19.0s
GYA LE
comp=Z,353µm,18.4s
GYA LZ
comp=Z,264µm,19.0s
HYB **Hyderabad** 30.89 315 *i* P P 16 35 18.0 +0.2
comp=Z,100nm,1.0s
HYB *eS* **S** 16 40 20.0 -0.6
HYB LR LR 16 46 20.0
comp=Z,113nm,20.0s
HYB **Hyderabad** 30.89 315 *eP* **P** 16 35 17.5 -0.4
HYBB **Hyderabad (bro** 30.90 315 *eP* **P** 16 35 18.2 +0.3
HYBB *eS* **S** 16 40 19.8 -0.8
FAKI **Fak Fak** 31.11 89 P P 16 35 18.8 -1.0
comp=Z,167nm,1.6s,comp=Z,4µmcomp=Z,62µm
FAKI **Fak Fak** 31.11 89 P P 16 35 18.6 -1.2
baz=31,SNR=29
FAKI S S 16 40 20.4 -3.7
baz=31,SNR=5.0
FAKI **Fak Fak** 31.11 89 *eP* P 16 35 18.4 -1.4
comp=Z,87nm,0.7s
MNGI **Mangalore** 31.14 303 *eP* P 16 35 18.2 -1.7
MNGI *ex* x 16 40 13.7
RPR **Rampur** 31.36 317 *eP* P 16 35 21.6 -0.3
RPR *e* 16 36 14.8
RPR *eS* **S** 16 40 28.9 +1.1
RPR IVMs_BB IVMs_BB 16 47 14.4
comp=Z,27µm,19.8s
BOK **Bokaro** 31.48 333 *eP* P 16 35 21.9 -1.0
BOK AMB AMB 16 35 36.1
comp=Z,516nm,0.6s
KDU **Kakadu** 32.14 107 P P 16 35 26.8 -2.0
baz=32,SNR=40
H01W3 **Cape Leeuwin H** 32.89 160 T T 17 10 10.3
baz=336,slow=76,SNR=3026
H01W2 **Cape Leeuwin H** 32.90 160 T T 17 10 11.2
baz=336,slow=76,SNR=2679
H01W1 **Cape Leeuwin H** 32.91 160 T T 17 10 11.4
baz=336,slow=76,SNR=2330
RKPI **Ransiki, Papua** 33.13 86 P P 16 35 36.6 -0.9
comp=Z,174nm,1.1s,comp=Z,4µm
TWG **Pinlang** 33.14 35 *eP* P 16 35 36.8 -0.7
comp=Z,451nm,1.0s
NGP **Nagpur** 33.16 320 *eP* P 16 35 34.8 -2.8
NGP *ex* x 16 41 13.9
TPUB **Ta-pu** 33.27 34 *eP* P 16 35 38.8 +0.2
comp=Z,150nm,1.0s
GOA **Goa** 33.32 306 *eP* P 16 35 38.4 -0.7
WRKA **Warakurna** 33.39 131 P P 16 35 41.1 +1.4
baz=34,SNR=18
KMBL **Kambalda** 33.40 147 P P 16 35 41.3 +1.6
baz=34,SNR=10
QZH **Quanzhou** 33.53 30⇑*iP* P 16 35 41.0 +0.2
QZH PP **PP** 16 36 57.4 +0.4
QZH S **S** 16 41 00.0 -1.5
QZH PMZ
comp=Z,140nm,0.8s
QZH LN
comp=Z,106µm,15.1s
QZH LE
comp=Z,161µm,14.4s
QZH LZ
comp=Z,179µm,15.0s
ODAN **Odare** 33.55 337 *eP* P 16 35 41.8 +0.6
comp=Z,2µm,0.9s
RKGY **Rocky Gully** 33.71 156 P P 16 35 44.5 +2.2
baz=34,SNR=5.6
YULB **Yu-li** 33.72 35 *eP* P 16 35 39.1 -3.4
comp=Z,86nm,0.9s
SSLB **Suanglung** 33.84 34 *eP* P 16 35 43.8 +0.3
comp=Z,88nm,0.8s
TAPN **Taplejung** 33.87 338 *eP* P 16 35 45.1 +1.0
comp=Z,2µm,0.9s
RAMN **Ramite** 33.94 336 *eP* P 16 35 45.5 +0.8
comp=Z,2µm,1.3s
AKL **Akola** 34.18 317 *eP* P 16 35 45.9 -0.7
AKL AMB AMB 16 36 05.6
comp=Z,89nm,0.3s
NACB **Ninganchiao** 34.50 34 *eP* P 16 35 49.8 +0.5
comp=Z,172nm,0.8s
JIRN **Jiri** 34.73 336 *eP* P 16 35 52.5 +0.8
comp=Z,2µm,0.9s
YHNB **Yeheng** 34.77 34 *eP* P 16 35 51.2 -0.5
comp=Z,171nm,0.9s
YHNB LR LR
comp=Z,50µm,22.0s
CD2 **Chengdu** 34.95 4⇑*iP* P 16 35 53.6 +0.5
CD2 sP **sP** 16 36 00.5 -3.6
CD2 PP **PP** 16 37 14.4 +1.7
CD2 S **S** 16 41 20.6 -2.7
CD2 PMZ
comp=Z,1µm,0.9s
CD2 PMZ
comp=Z,19µm,10.8s
CD2 LZ
comp=Z,287µm,14.3s
LSA **Lhasa** 34.98 345 P P 16 35 54.5 +0.7
LSA PMZ
comp=Z,80nm,1.0s
LSA LN
comp=Z,54µm,21.0s
LSA LE
comp=Z,59µm,21.0s
LSA LZ
comp=Z,86µm,22.0s
LSA **Lhasa** 34.98 345 *eP* P 16 35 53.8 0.0
LSA pmax pmax
comp=Z,192nm,0.8s
LSA MLR MLR
comp=Z,85µm,20.0s
LSA **Lhasa** 34.98 345 *eP* P 16 35 53.8 0.0
comp=Z,192nm,0.8s
LSA LR LR
comp=Z,85µm,20.0s
PKI **Pulchoki** 34.98 335 *eP* P 16 35 53.9 +0.2
comp=Z,1µm,1.3s
PKIN **Phulchoki** 34.99 335 *eP* P 16 35 54.3 +0.6
comp=Z,309nm,0.8s
POO **Poona** 35.05 311 *eP* P 16 35 54.0 -0.2
POO *i* SCS **ScS** 16 46 12.5 -1.5
TATO **Taipei** 35.07 33 *eP* P 16 35 54.4 +0.2
comp=Z,53nm,0.7s
TATO LR LR
comp=Z,44µm,20.0s
GUN **Gumba** 35.08 336 *eP* P 16 35 55.1 +0.4
comp=Z,2µm,0.8s
DMN **Daman** 35.14 335 *eP* P 16 35 55.1 +0.1
comp=Z,1µm,1.2s
ENH **Enshi** 35.15 13 *eP* P 16 35 54.1 -0.7
comp=Z,173nm,0.8s
ENH LR LR
comp=Z,48µm,19.0s
SRPI **Serui, Papua** 35.16 87 P P 16 35 53.8 -1.3
comp=Z,210nm,0.8s,comp=Z,6µm
KKN **Kakani** 35.22 335 *eP* P 16 35 55.8 +0.1
comp=Z,784nm,0.9s
YOJ **Yonaguni jima** 35.53 36 *eP* P 16 35 59.0 +0.9
YOJ pmax pmax
comp=Z,82nm,1.0s
YOJ **Yonaguni jima** 35.53 36 *eP* P 16 35 59.0 +0.9
comp=Z,82nm,1.0s
GKN **Gorkha** 35.68 335 *eP* P 16 36 00.0 +0.4
comp=Z,2µm,1.2s
BHPL **Bhopal** 35.70 321 *eP* P 16 35 57.6 -2.1
KOLN **Koldanda** 35.94 333 *eP* P 16 36 01.7 -0.1
comp=Z,595nm,0.7s
WRA **Warramunga Arr** 35.98 119 P P 16 36 02.1 0.0
comp=Z,78nm,1.0s,baz=292,slow=9.4,SNR=132
WRA S S 16 41 38.7 -0.9
comp=Z,6.1nm,1.0s,baz=291,slow=12,SNR=3.4
WRA LR LR 16 53 45.1
comp=Z,9µm,18.6s,baz=300,slow=41
WRA **Warramunga Arr** 35.98 119 P P 16 36 02.2 0.0
WRA S S 16 41 38.7 -0.9
WRA **Warramunga Arr** 35.98 119 P P 16 36 02.1 0.0
WRA S S 16 41 38.7 -0.9
WRAB **Tennant Creek** 35.99 119 P P 16 36 01.9 -0.3
comp=Z,925nm,1.0s,SNR=29
WRAB **Tennant Creek** 35.99 119*c* *iP* P 16 36 01.4 -0.8
WRAB pmax pmax
comp=Z,487nm,1.2s
WRAB MLR MLR
comp=Z,83µm,22.0s
WRAB **Tennant Creek** 35.99 119 *eP* P 16 36 01.2 -1.1
comp=Z,344nm,1.0s
WRAB LR LR
comp=Z,29µm,21.0s
FORT **Forrest** 36.71 139 *eP* P 16 36 09.3 +1.2
comp=Z,140nm,0.7s
WHN **Wuhan** 36.74 19 ⇑P P 16 36 09.6 +1.2
WHN PP **PnPn** 16 37 36.9 +4.5
WHN S S 16 41 57.7 +7.0
WHN LZ
comp=Z,279µm,19.3s
ASAR **Alice Springs** 37.12 125 P P 16 36 10.8 -1.0
comp=Z,59nm,0.8s,baz=297,slow=6.6,SNR=158
ASAR S S 16 41 50.2 -6.8
comp=Z,2.9nm,0.8s,baz=306,slow=20,SNR=2.2
ASAR LR LR 16 53 34.2
comp=Z,14µm,20.0s,baz=305,slow=40
ASAR **Alice Springs** 37.12 125 P P 16 36 10.9 -1.0
ASAR S S 16 41 50.2 -6.8
ASAR **Alice Springs** 37.12 125 P P 16 36 10.8 -1.0
ASAR S S 16 41 50.1 -6.8
AS31 **Alice Springs** 37.12 125 *eP* P 16 36 11.2 -0.7
SMPI **Sarmi** 37.61 88 P P 16 36 15.4 -0.7
comp=Z,142nm,1.5s,comp=Z,6µm
AGRA **Agra** 38.38 326 *eP* P 16 36 22.4 0.0
AGRA AMB AMB 16 36 33.7
comp=Z,113nm,0.6s
XAN **Xi'an** 38.68 10 P P 16 36 24.2 -0.7
XAN pP **pP** 16 36 30.5 -2.3
XAN sP **sP** 16 36 33.7 -2.3
XAN PP **PnPn** 16 37 59.0 +3.0
XAN S **ScP** 16 42 25.7 +2.5
XAN SS **SnSn** 16 45 07.8 -2.1
XAN ScS **ScS** 16 46 28.8 -5.0
XAN PMZ
comp=Z,150nm,1.1s
XAN LN
comp=Z,65µm,20.5s
XAN LE
comp=Z,83µm,17.4s
XAN LZ
comp=Z,46µm,16.4s
LGTI **Lohaghat** 38.94 330 *ex* P 16 36 33.2 +6.2
LGTI *ex* x 16 42 38.1
GENI **Genyem** 39.02 89 P P 16 36 26.4 -1.6
comp=Z,262nm,1.2s,comp=Z,4µmcomp=Z,43µm
PTH **Pithoragarh** 39.03 330 *eP* P 16 36 27.9 -0.1
PTH *ex* x 16 42 30.0
JAY **Jayapura** 39.56 89 P P 16 36 31.3 -1.2
comp=Z,94nm,1.0s,comp=Z,3µm
SONA **Sohna** 39.65 326 *eP* P 16 36 33.2 +0.3
BISR **Bishrakh** 39.70 326 *ex* P 16 36 29.1 -4.2
BISR AMB AMB 16 36 39.6
comp=Z,164nm,0.8s
NJ2 **Nanjing** 39.75 24 *eP* P 16 36 33.8 0.0
NJ2 sP **sP** 16 36 42.8 -2.1
NJ2 S **ScP** 16 42 30.5 +3.2
NJ2 PMZ
comp=Z,140nm,0.8s
NJ2 PMZ
comp=Z,3µm,9.0s
NJ2 LN
comp=Z,209µm,19.2s
NJ2 LE
comp=Z,173µm,21.3s
NJ2 LZ
comp=Z,173µm,21.3s
AJM **Ajmer** 39.78 321 *ex* P 16 36 34.0 -0.1
AYAN **Aya Nagar** 39.80 326 *eP* P 16 36 33.4 -0.8
AYAN AMB AMB 16 36 50.1
comp=Z,94nm,0.4s
AIS **Amsterdam Isla** 39.81 210 P P 16 36 15.0 -19
AIS S S 16 42 30.0 -7.0
AIS R 16 47 00.0
KUDL **Kundal** 39.91 325⇑*iP* P 16 36 35.0 0.0
KUDL AMB AMB 16 36 45.3
comp=Z,122nm,0.4s
NDI **New Delhi** 39.91 326 *eP* P 16 36 35.0 -0.1
NDI *ex* x 16 42 46.0
SSE **Sheshan** 39.94 27 ⇑P P 16 36 35.9 +0.6
SSE pP **pP** 16 36 44.3 +1.1
SSE sP **sP** 16 36 48.5 +2.1
SSE S S 16 42 43.1 +4.1
SSE sS **sS** 16 42 56.0 +4.0
SSE PMZ
comp=Z,99nm,1.3s
SSE PMZ

comp=Z,1µm,7.3s
SSE LN
comp=Z,84µm,16.3s
SSE LE
comp=Z,35µm,16.3s
SSE LZ
comp=Z,88µm,15.6s
BHGR Bahadurgarh 40.07 326 *e*P **P 16 36 36.0 -0.4**
BHGR AMB AMB 16 36 39.5
comp=Z,74nm,0.4s
LZH Lanzhou 40.10 3 ⇑P **P 16 36 38.6 +1.8**
LZH pP **pP 16 36 46.5 +1.8**
LZH sP **sP 16 36 49.0 +1.1**
LZH PP **PnPn 16 38 15.7 +2.8**
LZH S **S 16 42 44.0 +2.4**
LZH sS **sS 16 42 56.0 +1.3**
LZH PMZ
comp=Z,1µm,1.3s
LZH PMZ
comp=Z,7µm,6.6s
LZH LZ
comp=Z,214µm,17.8s
JOW Kunigami 40.47 39 P **P 16 36 40.7 +0.9**
baz=214,slow=6.5
JOW Kunigami 40.47 39 *e*P **P 16 36 40.0 +0.1**
comp=Z,79nm,1.0s
RTK Rohtak 40.62 326 *e*P **P 16 36 41.4 +0.4**
DDI Dehra Dun 40.75 329 *e*P **P 16 36 39.7 -2.4**
DDI AMB AMB 16 36 53.7
comp=Z,387nm,1.1s
QIS Mount Isa 40.84 117 P **P 16 36 42.2 -0.8**
baz=41,SNR=53
QIS S **S 16 42 52.2 -0.8**
baz=41,SNR=6.2
BHJ Bhuj 41.02 313 *e*P **P 16 36 43.0 -1.4**
BHJ AMB AMB 16 36 57.0
comp=Z,153nm,3.9s
KKR Kurukshetra 41.12 327 *e*P **P 16 36 44.7 -0.4**
KKR AMB AMB 16 36 47.9
comp=Z,332nm,1.2s
SMLA Simla 41.85 329 *i* P **P 16 36 50.4 -0.6**
SMLA AMB AMB 16 36 57.0
comp=Z,879nm,0.7s
SMLA *i* x x 16 42 54.3
SDNR Sundarnagar 42.25 329 *e*P **P 16 36 53.0 -1.4**
BHK Bhakra 42.47 328 *ex* **P 16 36 58.0 +1.8**
COEN Coen 42.61 106 P **P 16 36 56.7 -0.8**
baz=43,SNR=22
COEN Coen 42.61 106 *e*P **P 16 36 56.7 -0.8**
comp=Z,67nm,0.8s
TIA Tai'an 42.85 19 ⇑P **P 16 36 59.5 +0.3**
TIA pP **pP 16 37 06.8 -0.3**
TIA sP **sP 16 37 10.7 +0.4**
TIA S S 16 43 34.2 +12
TIA PMZ
comp=Z,70nm,1.3s
TIA PMZ
comp=Z,8µm,12.2s
TIA LN
comp=Z,49µm,19.2s
TIA LE
comp=Z,84µm,18.7s
TIA LZ
comp=Z,70µm,19.1s
TIY Taiyuan 42.95 13 *e*P **P 16 36 59.7 -0.3**
TIY pP **pP 16 37 06.7 -1.3**
TIY sP **sP 16 37 10.7 -0.5**
TIY S **S 16 43 24.0 +0.3**
TIY PMZ
comp=Z,120nm,0.6s
TIY PMZ
comp=Z,3µm,4.3s
TIY LN
comp=Z,79µm,14.4s
TIY LE
comp=Z,86µm,13.3s
TIY LZ
comp=Z,109µm,19.8s
DHRM DHARAMSHALA 43.19 329 *e*P **P 16 37 00.7 -1.5**
GTA Gaotai 43.35 359 ⇑P **P 16 37 02.9 -0.4**
GTA pP **pP 16 37 10.4 -0.9**
GTA sP **sP 16 37 13.4 -1.1**
GTA S **S 16 43 28.9 -0.8**
GTA ScS **ScS 16 46 58.8 -3.1**
GTA PMZ
comp=Z,190nm,1.8s
GTA PMZ
comp=Z,3µm,5.9s
GTA LN
comp=Z,134µm,15.4s
GTA LE
comp=Z,189µm,19.2s
GTA LZ
comp=Z,190µm,16.4s
BBOO Buckleboo 43.35 135 P P 16 37 09.0 +5.6
baz=44,SNR=7.8
BBOO Buckleboo 43.35 135 *e*P **P 16 37 03.6 +0.3**
comp=Z,45nm,0.5s
DLH Dalhousie 43.59 329 *e*P **P 16 37 06.0 +0.5**
KSHUK Heuksando 44.91 29 P **P 16 37 17.1 +1.4**
SNR=9.0
KSHUK Heuksando 44.91 29 P **P 16 37 17.1 +1.4**
SNR=9.0
KSJDO Jindo 45.16 30 P **P 16 37 19.1 +1.3**
SNR=13
KSJDO Jindo 45.16 30 P **P 16 37 19.0 +1.3**
SNR=7.6
BTO Baotou 45.27 10 *e*P **P 16 37 19.2 +0.6**
BTO PMZ
comp=Z,46nm,2.0s
MSEY Mahe Island 45.49 268 PFAKE 16 37 30.0 +9.2
MSEY LR LR
comp=Z,47µm,20.0s
HHC Hu-ho-hao-te 45.78 11 *e*P **P 16 37 24.5 +1.8**
HHC pP **pP 16 37 33.5 +2.8**
HHC sP **sP 16 37 37.5 +3.6**
HHC S **S 16 44 06.7 +1.8**
HHC ScS **ScS 16 47 14.9 -2.4**
HHC SS **SS 16 47 24.5 -5.3**
HHC PMZ
comp=Z,2µm,1.2s
HHC PMZ
comp=Z,2µm,5.9s
HHC LN
comp=Z,76µm,13.7s
HHC LE
comp=Z,38µm,11.9s
HHC LZ
comp=Z,86µm,14.1s
PMG Port Moresby 46.00 99*c i*P **P 16 37 23.7 -1.0**
PMG pmax pmax
comp=Z,2µm,1.7s
PMG Port Moresby 46.00 99 *e*P **P 16 37 23.5 -1.3**
comp=Z,233nm,1.0s
PMG LR LR
comp=Z,29µm,22.0s
KSGWJ Gwangju-acc 46.00 30 P **P 16 37 25.5 +1.2**
SNR=8.6
KSGWJ Gwangju-acc 46.00 30 P **P 16 37 25.5 +1.2**
SNR=8.6
BJT Baijiatuau 46.07 16 *e*P **P 16 37 24.9 +0.1**
BJT pmax pmax
comp=Z,370nm,1.0s
BJT MLR MLR
comp=Z,120µm,20.0s
BJT Baijiatuau 46.07 16 *e*P **P 16 37 24.9 +0.1**
comp=Z,370nm,1.0s
BJT LR LR
comp=Z,120µm,20.0s
BJI Beijing 46.10 16 P **P 16 37 25.5 +0.5**
BJI pP **pP 16 37 32.8 -0.2**
BJI sP **sP 16 37 35.0 -1.2**
BJI PcP **PcP 16 39 01.9 +0.9**
BJI PP **PP 16 39 15.2 +1.7**
BJI S **S 16 44 13.3 +4.2**
BJI PMZ
comp=Z,190nm,1.0s
BJI PMZ
comp=Z,5µm,9.9s
BJI LN
comp=Z,48µm,21.4s
BJI LE
comp=Z,155µm,20.6s
BJI LZ
comp=Z,83µm,20.6s
KSJEU Jeongeup 46.28 29 P **P 16 37 27.6 +1.1**
SNR=8.2
KSJEU Jeongeup 46.28 29 P **P 16 37 27.6 +1.1**
SNR=8.2
JNU Nakatsue 46.56 35 P **P 16 37 29.0 +0.1**
comp=Z,344nm,1.0s,baz=210,slow=5.8,SNR=60
JNU S **S 16 44 19.8 +3.5**
comp=Z,2.2nm,0.9s,baz=17,slow=19,SNR=1.5
JNU Nakatsue 46.56 35 P **P 16 37 29.0 +0.1**
JNU S **S 16 44 19.8 +3.5**
KSGUS GUNSAN 46.64 29 P **P 16 37 30.4 +1.1**
SNR=30
KSGUS GUNSAN 46.64 29 P **P 16 37 30.3 +0.9**
SNR=12
CTA Charters Tower 46.71 114 S **S 16 44 18.5 -0.3**
comp=Z,11nm,1.0s,baz=264,slow=13,SNR=6.6
CTA LR LR 16 59 51.3
comp=Z,17µm,20.8s,baz=284,slow=40
CTA Charters Tower 46.71 114 S **S 16 44 18.5 -0.3**
CTAO Charters Tower 46.71 114 *e*P **P 16 37 29.8 -0.5**
CTAO pmax pmax
comp=Z,272nm,1.0s
CTAO MLR MLR
comp=Z,22µm,19.0s
CTAO Charters Tower 46.71 114 *e*P **P 16 37 29.8 -0.5**
comp=Z,272nm,1.0s
CTAO LR LR
comp=Z,22µm,19.0s
DL2 Dalian 46.84 22 ⇑*i*P **P 16 37 30.8 -0.1**
DL2 PP **PP 16 39 23.3 +1.8**
DL2 S **S 16 44 22.7 +2.8**
DL2 PMZ
comp=Z,230nm,1.1s
DL2 PMZ
comp=Z,4µm,4.3s
DL2 LE
comp=Z,41µm,17.7s
DL2 LZ
comp=Z,48µm,19.6s
QLP Quilpie 46.86 123 P **P 16 37 31.3 0.0**
baz=47,SNR=49
QLP S **S 16 44 24.1 +3.4**
baz=47,SNR=8.6
GUMO Guam 46.87 67 P P 16 37 27.5 -4.0
comp=Z,94nm,0.4s,baz=253,slow=3.4,SNR=11
GUMO S **S 16 44 23.6 +2.6**
comp=Z,67nm,1.0s,baz=18,slow=20,SNR=1.9
GUMO Guam 46.87 67 *e*P **P 16 37 28.8 -2.7**
GUMO S **S 16 44 23.6 +2.6**
GUMO pmax pmax
comp=Z,12nm,0.6s
GUMO MLR MLR
comp=Z,1µm,22.0s
GUMO Guam 46.87 67 *e*P **P 16 37 28.8 -2.7**
comp=Z,12nm,0.6s
GUMO S **S 16 44 23.6 +2.6**
GUMO LR LR
comp=Z,1µm,22.0s
STKA Stephens Creek 46.92 131 P **P 16 37 32.9 +1.2**
comp=Z,77nm,1.1s,baz=301,slow=7.6,SNR=39
STKA S **S 16 44 24.1 +2.7**
comp=Z,11nm,1.2s,baz=330,slow=20,SNR=3.1
STKA LR LR 16 56 57.0
comp=Z,27µm,22.0s,baz=298,slow=36
STKA Stephens Creek 46.92 131 *e*P **P 16 37 32.0 +0.3**
STKA S **S 16 44 24.1 +2.7**
STKA pmax pmax
comp=Z,38nm,0.8s
STKA Stephens Creek 46.92 131 *e*P **P 16 37 32.0 +0.3**
comp=Z,38nm,0.8s
STKA S **S 16 44 24.1 +2.7**
KSSES Seosan 47.09 28 P **P 16 37 33.8 +1.0**
SNR=10
KSSES Seosan 47.09 28 P **P 16 37 33.3 +0.4**
SNR=23
KSKOJ Gongju 47.16 29 P **P 16 37 33.1 -0.3**
SNR=14
KSKOJ Gongju 47.16 29 P **P 16 37 33.1 -0.3**
SNR=14
RER Riviere de l'E 47.16 245 PFAKE 16 37 50.0 +16
RER LR LR
comp=Z,26µm,20.0s
KSBAR Backryungdo 47.29 26 P **P 16 37 35.1 +0.8**
SNR=12
KSBAR Backryungdo 47.29 26 P **P 16 37 35.0 +0.6**
SNR=9.4
KSCPR CHUPUNGNYEONG 47.37 30 P **P 16 37 36.1 +1.0**
SNR=10
KSCPR CHUPUNGNYEONG 47.37 30 P **P 16 37 36.1 +1.0**
SNR=10
KSCEA Cheonan 47.50 29 P **P 16 37 37.1 +1.1**
SNR=11
KSCEA Cheonan 47.50 29 P **P 16 37 37.1 +1.1**
SNR=11
KSBON Boeun 47.50 29 P **P 16 37 37.4 +1.3**
SNR=39
KSBON Boeun 47.50 29 P **P 16 37 37.4 +1.3**
SNR=39
KSSAJ Sangju 47.61 30 P **P 16 37 38.1 +1.2**
SNR=14
KSSAJ Sangju 47.61 30 P **P 16 37 38.1 +1.2**
SNR=14
INCN Inchon 47.74 28 P **P 16 37 35.3 -2.6**
comp=Z,142nm,1.0s
INCN LR LR
comp=Z,50µm,19.0s
KSGAH Ganghwa 47.83 27 P **P 16 37 38.9 +0.2**
SNR=13
KSSEO Seoul 47.87 28 P **P 16 37 39.3 +0.3**
SNR=12
KSSEO Seoul 47.87 28 P **P 16 37 39.3 +0.3**
SNR=12
KSCHJ Chungju 47.88 29 P **P 16 37 40.1 +1.1**
SNR=10
KSICN Icheon 47.95 28 P **P 16 37 40.4 +0.8**
SNR=16
KSPHA Pohang 48.05 31 P **P 16 37 42.6 +2.2**
SNR=9.7
KSMUS Musan 48.12 27 P **P 16 37 41.4 +0.6**
SNR=16
KSDDC Dongducheon 48.27 28 P **P 16 37 42.8 +0.7**
SNR=13
KSAR Wonju Array Be 48.29 29 P **P 16 37 42.3 +0.1**
KSAR S **S 16 44 40.6 0.0**
KSAR Wonju Array Be 48.29 29 P **P 16 37 42.2 +0.1**
KSAR S **S 16 44 40.5 0.0**
KSRS Korea Array 48.32 29 P **P 16 37 42.2 -0.1**
comp=Z,153nm,0.9s,baz=218,slow=7.2,SNR=139
KSRS S **S 16 44 40.5 -0.4**
comp=Z,0.6nm,0.7s,baz=124,slow=17,SNR=2.5
YNCB YEONCHEON 48.32 27 P **P 16 37 42.8 +0.4**
SNR=11
KSWJU Wonju 48.34 29 P **P 16 37 44.1 +1.5**
SNR=9.5
KSYOW Yeongwol 48.36 29 P **P 16 37 44.1 +1.4**
SNR=7.8
KSULJ Uljin 48.46 31 P **P 16 37 45.4 +1.8**
SNR=6.4
KSCHC Chuncheon 48.53 28 P **P 16 37 45.5 +1.5**
SNR=33
KSTBA Taebaek 48.56 30 P **P 16 37 45.9 +1.5**
SNR=18
KSCWO Cheorwon 48.63 28 P **P 16 37 45.4 +0.5**
SNR=11
KSJES JEONGSEON 48.66 29 P **P 16 37 46.7 +1.7**
SNR=12
KSIJA INJE 48.84 28 P **P 16 37 47.7 +1.3**
SNR=43
KSDGY Daegwallycong 48.87 29 P **P 16 37 47.9 +1.2**
SNR=12
KBL Kabul 48.91 324 *e*P **P 16 37 45.7 -1.5**
KBL pmax pmax
comp=Z,101nm,0.8s
KBL Kabul 48.91 324 P **P 16 37 47.4 +0.1**
baz=49,SNR=9.3
KBL Kabul 48.91 324 *e*P **P 16 37 45.7 -1.5**
comp=Z,101nm,0.8s
KSJMJ Jumunjin 49.06 29 P **P 16 37 49.7 +1.6**
SNR=12
SEHB SEOHWA 49.13 28 P **P 16 37 49.6 +0.9**
SNR=23
KSH Kashi 49.23 334 P **P 16 37 48.0 -1.5**
KSH pP **pP 16 37 54.0 -3.6**
KSH PP **PP 16 39 41.1 -2.5**
KSH S **S 16 44 49.1 -4.9**
KSH PMZ
comp=Z,110nm,0.9s
KSH PMZ
comp=Z,2µm,3.2s
KSH LN
comp=Z,55µm,19.8s
KSH LE
comp=Z,52µm,18.1s
KSH LZ
comp=Z,94µm,21.4s
WMQ Urumqi 49.25 347 ⇑*i*P **P 16 37 50.5 +1.0**
WMQ sP **sP 16 38 00.1 -0.7**
WMQ S **S 16 44 56.2 +2.2**
WMQ PMZ
comp=Z,560nm,1.0s
WMQ PMZ
comp=Z,9µm,12.8s
WMQ LN
comp=Z,67µm,16.2s
WMQ LE
comp=Z,73µm,19.7s
WMQ LZ
comp=Z,53µm,23.2s
KSSKC Sokcho 49.27 29 P **P 16 37 51.0 +1.3**
SNR=13
CMSA Cobar Meteorol 49.92 128 P **P 16 37 54.8 -0.1**
baz=50,SNR=108
SNY Shenyang 50.12 22 ⇑P **P 16 37 56.2 +0.1**
SNY PP **PP 16 39 54.8 +3.3**
SNY S S 16 45 17.5 +11
SNY PMZ
comp=Z,81nm,1.3s
SNY LN
comp=Z,48µm,15.1s
SNY LE
comp=Z,76µm,15.7s
SNY LZ
comp=Z,108µm,15.5s
CBIJ Chichi jima 50.37 50 *e*P **P 16 37 55.6 -2.8**
comp=Z,113nm,0.6s
CBIJ S **S 16 45 15.0 +4.8**
JCJ Chichijima 50.37 50 P **P 16 37 56.4 -1.9**
comp=Z,185nm,0.6s,baz=296,slow=8.5,SNR=18
JCJ S **S 16 45 15.0 +4.8**
baz=287,slow=19
RMQ Roma 50.66 121 P **P 16 38 01.6 +1.0**
baz=51,SNR=43
SFK Sufi-Kurgan 50.73 333 P **P 16 38 01.5 +0.4**
SFK pmax pmax
comp=Z,430nm,1.0s
PDGK Podgornoye 51.12 340 P **P 16 38 03.7 +0.1**
PDGK pmax pmax
comp=Z,604nm,1.0s
ULHL Ulahol 51.40 336 P **P 16 38 07.0 +1.0**
SNR=140
ULHL Ulahol 51.40 336 *i* P **P 16 38 07.0 +1.0**
KZA Kyzart 51.66 336 P **P 16 38 09.0 +0.7**
SNR=119
KZA Kyzart 51.66 336 *i* P **P 16 38 08.9 +0.7**
SONM Songino Array 51.96 5 P **P 16 38 10.2 +0.2**
comp=Z,410nm,0.9s,baz=184,slow=8.5,SNR=348
SONM PcP **PcP 16 39 21.6 -0.7**
comp=Z,65nm,1.0s,baz=198,slow=4.1,SNR=1.5
SONM S **S 16 45 33.8 +2.1**
comp=Z,3.0nm,1.1s,baz=160,slow=4.6,SNR=2.4
SONM Songino Array 51.96 5 P **P 16 38 10.2 +0.2**
SONM 16 39 21.6
SONM S **S 16 45 33.8 +2.1**
SONM Songino Array 51.96 5 P **P 16 38 10.2 +0.2**
SONM PcP **PcP 16 39 21.6 -0.7**
SONM S **S 16 45 33.8 +2.1**
ULN Ulaanbaatar 52.05 5*c i*P **P 16 38 09.5 -1.2**
ULN pmax pmax
comp=Z,199nm,1.0s
ULN MLR MLR
comp=Z,55µm,16.0s
ULN Ulaanbaatar 52.05 5 PFAKE 16 38 20.0 +9.3
ULN LR LR
comp=Z,48µm,20.0s
UCH Uchtor 52.09 335 P **P 16 38 12.5 +1.0**
SNR=67
UCH Uchtor 52.09 335 *i* P **P 16 38 12.5 +1.0**
JHJ2 Mitsune 52.10 42 *e*P **P 16 38 10.2 -1.0**
comp=Z,89nm,1.0s
DZET Dzherino 52.11 328 P **P 16 38 09.8 -1.5**
DZET pmax pmax
comp=Z,101nm,0.7s
PAF Port-aux-Franc 52.12 205 P P 16 38 03.0 -8.0
PAF S S 16 45 24.0 -10
PAF R 16 53 00.0
PAF Port-aux-Franc 52.12 205 PFAKE 16 38 20.0 +9.0
PAF LR LR
comp=Z,32µm,19.0s
TKM2 Tokmak 2 52.22 336 P **P 16 38 11.6 -0.6**
SNR=127
TKM2 Tokmak 2 52.22 336 *i* P **P 16 38 11.6 -0.6**
TKM2 Tokmak 2 52.22 336 *e*P **P 16 38 11.5 -0.7**
comp=Z,837nm,0.5s
TKM2 LR LR
comp=Z,97µm,20.0s
KBK Karagaybulak 52.26 336 P **P 16 38 12.4 -0.1**
SNR=108
KBK Karagaybulak 52.26 336 *i* P **P 16 38 12.4 -0.1**
HATD Hatta, Dubai 52.32 306 ⇑*i*P **P 16 38 14.2 +1.2**
SNR=8.0
EIDS Eidsvold 52.35 119 P **P 16 38 14.8 +1.6**
baz=52,SNR=21
EIDS Eidsvold 52.35 119 *e*P **P 16 38 13.7 +0.5**
comp=Z,219nm,1.2s
AML Almayashu 52.36 334 P **P 16 38 13.5 +0.1**
SNR=50
AML Almayashu 52.36 334 *i* P **P 16 38 13.5 +0.1**
TOO Toolangi 52.42 135 P P 16 38 20.2 +6.7
baz=52,SNR=4.1
AAK Ala-Archa 52.43 335 P **P 16 38 14.9 +1.2**
comp=Z,783nm,0.8s,SNR=56
AAK Ala-Archa 52.43 335 P **P 16 38 14.9 +1.2**
SNR=47
AAK Ala-Archa 52.43 335 P **P 16 38 13.7 0.0**
comp=Z,46nm,0.9s,baz=140,slow=5.8,SNR=56
AAK S **S 16 45 40.7 +2.3**
comp=Z,6.0nm,1.0s,baz=153,slow=9.0,SNR=2.9
AAK LR LR 17 03 08.5
comp=Z,111µm,20.8s,baz=138,slow=39
AAK Ala-Archa 52.43 335 P **P 16 38 13.7 0.0**
AAK S **S 16 45 40.7 +2.3**
AAK pmax pmax
comp=Z,14nm,0.9s
AAK Ala-Archa 52.43 335 P **P 16 38 13.7 0.0**
comp=Z,14nm,0.9s
AAK S **S 16 45 40.7 +2.3**
CN2 Changchun 52.52 22 *e*P **P 16 38 13.9 -0.2**
CN2 *ep*P **pP 16 38 23.9 +1.7**
CN2 PP **PP 16 40 15.0 +1.8**
CN2 *e*S **S 16 45 37.8 -1.3**
CN2 PMZ
comp=Z,20nm,1.0s
CN2 LN
comp=Z,47µm,16.0s
CN2 LE
comp=Z,62µm,16.0s
CN2 LZ
comp=Z,19µm,18.0s
FRU Bishkek 52.55 336 ⇑*i*P **P 16 38 16.0 +1.6**
FRU *i* S **S 16 45 40.0 +0.3**
FRU *i* 16 50 54.0
FRU pmax pmax
comp=Z,570nm,2.0s
FRU smax smax
comp=E,9µm,10.0s
CHMS Chumysh 52.63 336 P **P 16 38 15.7 +0.7**
SNR=77
CHMS Chumysh 52.63 336 *i* P **P 16 38 15.6 +0.7**
FAQ Al Faqa, Dubai 52.72 305 ⇓*i*P **P 16 38 17.2 +1.2**
SNR=6.9
EKS2 Erkin-Say 52.76 335 P **P 16 38 15.8 -0.3**
SNR=153
EKS2 Erkin-Say 52.76 335 *i* P **P 16 38 15.7 -0.3**
EKS2 Erkin-Say 52.76 335 *e*P **P 16 38 16.0 -0.1**
comp=E,5.7nm,0.9s
EKS2 LR LR
comp=Z,60µm,21.0s
NAZ Nazwa, Dubai 52.78 306 ⇑P **P 16 38 16.8 +0.4**
ASUD Al Ashush, Dub 52.88 305 ⇑P **P 16 38 18.0 +0.9**
USP Ospenovka 52.95 336 P **P 16 38 17.3 -0.1**
SNR=46
USP Ospenovka 52.95 336 *i* P **P 16 38 17.2 -0.1**
YNG Young 53.11 130 P **P 16 38 20.6 +1.8**
baz=53,SNR=6.7

MAJO Matsushiro 53.26 37*c i*P **P 16 38 16.8 -3.0**
MAJO pmax pmax
comp=Z,620nm,1.1s
MAJO MLR MLR
comp=Z,100µm,22.0s
MAJO Matsushiro 53.26 37 *e*P **P 16 38 17.7 -2.1**
comp=Z,212nm,1.0s
MAJO LR LR
comp=Z,20µm,19.0s
MAT Matsushiro 53.26 37 P **P 16 38 17.3 -2.5**
MAT S **S 16 45 52.2 +2.5**
MJAR Matsushiro Arr 53.26 37 P **P 16 38 18.4 -1.4**
comp=Z,106nm,0.9s,baz=216,slow=7.2,SNR=192
MJAR S **S 16 45 51.2 +1.5**
comp=Z,0.5nm,0.3s,baz=229,slow=24,SNR=5.3
MJAR Matsushiro Arr 53.26 37 P **P 16 38 18.4 -1.4**
MJAR S **S 16 45 51.2 +1.5**
MJAR Matsushiro Arr 53.26 37 P **P 16 38 18.4 -1.4**
MJAR S **S 16 45 51.2 +1.5**
MK31 Makanchi Array 53.38 344 *i* P **P 16 38 19.3 -1.1**
MK31 pmax pmax
comp=N,360nm,0.8s
MK31 Makanchi Array 53.38 344 *e*P **P 16 38 19.7 -0.7**
MKAR Makanchi Array 53.38 344 P **P 16 38 20.2 -0.2**
comp=N,207nm,0.8s,baz=183,slow=6.1,SNR=395
MKAR S **S 16 45 51.0 +0.2**
comp=N,1.2nm,0.9s,baz=179,slow=18,SNR=2.5
MKAR LR LR 17 05 39.4
comp=N,41µm,18.4s,baz=148,slow=41
MKAR PKP2bc 17 08 55.1
comp=N,1.1nm,0.9s,baz=288,slow=5.6,SNR=4.9
MKAR Makanchi Array 53.38 344*c e*P **P 16 38 19.3 -1.1**
MKAR pmax pmax
comp=Z,207nm,0.9s
MKAR Makanchi Array 53.38 344 P **P 16 38 20.2 -0.2**
MKAR S **S 16 45 51.0 +0.2**
MKAR ⇑*e* 17 08 55.1
IDAH Dahanechah 53.59 316 *e*P **P 16 38 23.1 +0.6**
ARMA Armidale 54.27 125 P **P 16 38 30.2 +2.8**
baz=54,SNR=8.8
ARMA Armidale 54.27 125 *e*P **P 16 38 28.3 +0.8**
comp=Z,192nm,1.1s
ZAK Zakamensk 54.34 2 *e*P **P 16 38 27.2 -0.2**
ZAK pmax pmax
comp=Z,77nm,1.0s
KK31 Karatay Array 54.55 333 *i* P **P 16 38 28.5 -0.5**
KK31 pmax pmax
comp=N,120nm,1.0s
KKAR Karatay Array 54.55 333 *e*P **P 16 38 28.4 -0.6**
KKAR pmax pmax
comp=Z,46nm,0.7s
KKAR Karatay Array 54.55 333 *e*P **P 16 38 28.4 -0.6**
comp=Z,46nm,0.7s
OPO Ambohidratompo 54.55 250 S **S 16 46 13.3 +5.3**
comp=Z,2.0nm,0.9s,baz=251,slow=12,SNR=2.3
OPO Ambohidratompo 54.55 250 S **S 16 46 13.3 +5.3**
ABPO Ambohimpanom 54.58 250 *e*P **P 16 38 29.9 0.0**
ABPO pmax pmax
comp=Z,104nm,1.2s
ABPO MLR MLR
comp=Z,35µm,21.0s
ABPO Ambohimpanom 54.58 250 *e*P **P 16 38 29.9 0.0**
comp=Z,104nm,1.2s
ABPO LR LR
comp=Z,35µm,21.0s
VLA Vladivostok 54.65 27*d i*P **P 16 38 28.2 -1.5**
VLA pmax pmax
comp=Z,190nm,1.0s
VLA MLR MLR
comp=Z,55µm,20.0s
MGCD Mangrove Creek 54.79 128 P P 16 38 41.0 +10
baz=55,SNR=8.3
MDJ Mudanjiang 54.84 25 P **P 16 38 32.1 +1.1**
MDJ pP **pP 16 38 38.6 -0.6**
MDJ sP **sP 16 38 40.6 -1.7**
MDJ PMZ
comp=Z,74nm,1.2s
MDJ PMZ
comp=Z,7µm,10.7s
MDJ LN
comp=Z,80µm,18.8s
MDJ LE
comp=Z,78µm,20.1s
MDJ LZ
comp=Z,116µm,16.3s
MDJ Mudanjiang 54.84 25 *e*P **P 16 38 30.4 -0.6**
comp=Z,147nm,1.0s
MDJ LR LR
comp=Z,66µm,20.0s
HVS Khovu-Aksy 55.42 354 *e*P **P 16 38 34.0 -1.3**
HVS pmax pmax
comp=Z,155nm,1.0s
HVS MLR MLR
comp=Z,162µm,17.0s
USRK Ussuriysk Ar. 55.54 27 P **P 16 38 36.1 0.0**
comp=Z,318nm,0.9s,baz=220,slow=7.4,SNR=130
USRK S **S 16 46 23.7 +3.7**
comp=Z,0.7nm,0.5s,baz=190,slow=5.3,SNR=2.5
USRK LR LR 17 04 10.5
comp=Z,72µm,19.4s,baz=215,slow=38
MOY Mondy 55.59 360 *e*P **P 16 38 36.7 +0.2**
MOY pmax pmax
comp=Z,468nm,3.0s
HIA Hailar 55.60 15*c i*P **P 16 38 35.8 -0.7**
HIA pmax pmax
comp=Z,41nm,0.9s
HIA MLR MLR
comp=Z,93µm,18.0s
HIA Hailar 55.60 15 *e*P **P 16 38 36.4 -0.1**
comp=Z,314nm,1.5s
HIA LR LR
comp=Z,99µm,19.0s
TLY Talaya 55.65 2 P **P 16 38 37.0 +0.2**
comp=Z,959nm,1.0s,SNR=44
TLY Talaya 55.65 2 P **P 16 38 36.3 -0.5**
comp=Z,157nm,1.0s,baz=205,slow=7.4,SNR=148
TLY S **S 16 46 22.9 +1.7**
comp=Z,0.8nm,0.3s,baz=250,slow=15,SNR=1.4
TLY Talaya 55.65 2*c i*P **P 16 38 37.4 +0.6**
TLY *e* 16 40 45.0
TLY *e*S **S 16 46 19.2 -2.1**
TLY pmax pmax
comp=Z,181nm,1.0s
TLY MLR MLR
comp=Z,112µm,17.0s
TLY Talaya 55.65 2 P **P 16 38 36.3 -0.5**
TLY S **S 16 46 22.9 +1.7**
TLY LR LR
comp=Z,111µm,19.0s
IBAF Bafgh 56.03 313 *e*P **P 16 38 38.6 -1.5**
IRK Irkutsk 56.23 2 *e*P **P 16 38 41.3 +0.3**
IRK *e*S **S 16 46 33.6 +4.6**
IRK pmax pmax
comp=Z,633nm,2.9s
TAU Tasmania Unive 56.24 140 P **P 16 38 41.7 +0.5**
TAU MLR MLR
comp=Z,25µm,20.0s
TAU Tasmania Unive 56.24 140 P **P 16 38 41.7 +0.5**
TAU LR LR
comp=Z,25µm,20.0s
IMEH Mehriz 56.63 312 *e*P **P 16 38 42.5 -2.0**
ISRV Sarvestan 56.80 309 *e*P **P 16 38 45.5 -0.3**
CIT Chita 56.94 9 *e*P **P 16 38 47.4 +1.3**
CIT *e* 16 40 59.0
CIT *e* 16 46 43.8
CIT pmax pmax
comp=Z,862nm,2.9s
IPAR Pars 57.06 310 *e*P **P 16 38 47.1 -0.6**
ICHK Chekchek 57.21 313 *e*P **P 16 38 48.5 0.0**
ISAD Sadrabad 57.57 312 *e*P **P 16 38 50.8 -0.4**
GEYT Alibeck 57.79 320 P **P 16 38 51.8 -0.5**
comp=Z,115nm,0.9s,baz=151,slow=6.5,SNR=78
GEYT S **S 16 46 52.9 +2.8**
comp=Z,1.1nm,0.4s,baz=203,slow=14,SNR=2.8
GEYT LR LR 17 04 41.2
comp=Z,42µm,21.0s,baz=100,slow=37
KURBB Kurchatov Arra 57.90 343 S **S 16 46 52.1 +1.1**
comp=Z,2.0nm,0.4s,baz=151,slow=12,SNR=5.5
OTUK Ortayu 57.92 338 P **P 16 38 52.5 -0.5**
OTUK pmax pmax
comp=Z,346nm,1.2s
KURK Kurchatov 57.96 343 P **P 16 38 52.8 -0.4**
comp=Z,2µm,0.9s,SNR=85
KURK Kurchatov 57.96 343 *e*P **P 16 38 52.0 -1.2**
KURK S **S 16 46 52.1 +0.4**
KURK pmax pmax
comp=Z,560nm,0.9s
KURK MLR MLR
comp=Z,5µm,20.0s
KURK Kurchatov 57.96 343 *e*P **P 16 38 52.0 -1.2**
comp=Z,560nm,0.9s
KURK S **S 16 46 52.1 +0.4**
KURK LR LR
comp=Z,5µm,20.0s
IKAZ Kazeroun 57.97 309 *e*P **P 16 38 52.9 -1.2**
HNR Honiara 58.61 98 *e*P **P 16 38 57.6 -0.9**
HNR pmax pmax
comp=Z,915nm,1.0s
HNR MLR MLR
comp=Z,11µm,22.0s
HNR Honiara 58.61 98 *e*P **P 16 38 57.5 -0.9**
comp=Z,915nm,1.0s
HNR LR LR
comp=Z,11µm,22.0s
DAMY Dhamar 59.20 290 *e*P **P 16 39 04.2 +1.4**
comp=Z,392nm,1.5s
KLR Kul'dur 59.44 23‖ *e*P P 16 38 59.0 -4.6
KLR *e* 16 42 45.0
KLR pmax pmax
comp=N,100nm,2.0s
KLR pmax pmax
comp=E,200nm,2.0s
KLR pmax pmax
comp=Z,600nm,2.0s
KLR pmax pmax
comp=Z,5µm,13.5s
ZAA0 Zalesovo Array 59.46 349 *e*P **P 16 39 02.6 -0.9**
ZALV Zalesovo Beam 59.46 349 P **P 16 39 02.4 -1.1**
comp=Z,622nm,1.0s,baz=189,slow=6.1,SNR=358
ZALV S **S 16 47 10.6 -0.6**
comp=Z,1.6nm,0.6s,baz=243,slow=6.3,SNR=4.5
ZALV LR LR 17 08 04.7
comp=Z,51µm,20.7s,baz=164,slow=40
ZALV PKP2ab 17 08 56.7
comp=Z,1.3nm,0.8s,baz=302,slow=2.7,SNR=3.5
ZALV Zalesovo Beam 59.46 349 *i* P **P 16 39 02.2 -1.4**
ZALV pmax pmax
comp=Z,461nm,1.0s
ZALV Zalesovo Beam 59.46 349 P **P 16 39 02.5 -1.1**
ZALV S **S 16 47 10.6 -0.6**
ZALV P'P'ab **P'P'ab 17 08 56.7 +2.0**
ERM Erimo 59.73 35 P **P 16 39 06.8 +1.2**
comp=Z,541nm,1.0s,SNR=7.3
ERM Erimo 59.73 35 *e*P **P 16 39 04.8 -0.8**
ERM pmax pmax
comp=Z,49nm,1.0s
ERM MLR MLR
comp=Z,12µm,16.0s
ERM Erimo 59.73 35 *e*P **P 16 39 05.4 -0.2**
comp=Z,117nm,0.9s
ERM LR LR
comp=Z,23µm,19.0s
IGLO Ghaloghah 59.81 317 *e*P **P 16 39 06.6 0.0**
CRZF Crozet Islands 59.86 217 P P 16 38 53.0 -13
CRZF S S 16 46 55.0 -22
CRZF R 16 56 00.0
IFIR Firoozkooh 60.11 315 *e*P **P 16 39 09.1 +0.3**
HABR Khabarovsk 60.19 25*c e*P **P 16 39 05.9 -2.8**
HABR *e**PP **pP 16 39 15.3 -1.6**
HABR *e*SP 16 39 19.4
HABR *e* 16 39 50.6
HABR *e* 16 41 17.9
HABR *e*S **S 16 47 18.0 -2.7**
HABR *e* 16 47 29.1
HABR *e*SS x 16 47 34.2
HABR *e* 16 48 52.5
HABR *e*SS **SS 16 51 15.5 -2.9**
HABR pmax pmax
comp=N,43nm,1.9s
HABR pmax pmax
comp=E,66nm,1.9s
HABR pmax pmax
comp=Z,307nm,1.9s
HABR pmax pmax
comp=Z,1µm,2.2s
HABR MLR MLR
comp=E,95µm,21.0s
HABR MLR MLR
comp=Z,69µm,21.0s
HABR MLR MLR
comp=N,57µm,21.0s
IALA Alasht 60.30 316 *e*P **P 16 39 10.7 +0.6**
KRAR Krasnoyarsk 60.33 355*c i*P **P 16 39 08.2 -1.2**
KRAR pmax pmax
comp=Z,436nm,0.9s
KRAR MLR MLR
comp=Z,63µm,17.0s
IVRN Varamin 60.51 314 *e*P **P 16 39 12.1 +0.7**
NVS Novosibirsk 60.62 348‖ *i*P **P 16 39 10.0 -1.5**
NVS *e* 16 41 29.8
NVS *i*S S 16 47 18.5 -7.5
NVS pmax pmax
comp=N,453nm,2.5s
NVS pmax pmax
comp=E,292nm,2.5s
NVS pmax pmax
comp=Z,668nm,2.5s
NVS smax smax
comp=N,218nm,2.5s
NVS smax smax
comp=E,480nm,3.0s
IPRN Peran 60.71 316 *e*P **P 16 39 12.6 -0.1**
RAYN Ar Rayn 60.74 300 P **P 16 39 12.1 -0.9**
comp=E,105nm,1.1s,SNR=12
RAYN Ar Rayn 60.74 300 *e*P **P 16 39 11.7 -1.3**
comp=E,140nm,1.4s
ASAJ Asahikawa 60.77 33 P **P 16 39 11.5 -1.2**
comp=E,33nm,0.6s,baz=242,slow=8.0,SNR=51
ASAJ LR LR 17 08 05.4
comp=E,14µm,18.3s,baz=238,slow=39
ASAJ Asahikawa 60.77 33 *e*P **P 16 39 12.1 -0.6**
comp=E,68nm,1.0s
IR3 Iran Long-Peri 61.25 314 *e*P **P 16 39 16.5 +0.2**
IRAZ Razeghan 62.00 314 *e*P **P 16 39 21.3 -0.2**
CASY Casey 62.38 176 *e*P **P 16 39 23.5 +0.3**
comp=E,93nm,1.3s
CASY LR LR
comp=Z,20µm,20.0s
YUK Yuzh-Kuril'sk 62.54 35*d i*P P 16 39 13.9 -11
YUK *i*S **S 16 47 55.1 +4.4**
YUK pmax pmax
comp=Z,3µm,2.3s
YUK pmax pmax
comp=N,648nm,1.6s
YUK pmax pmax
comp=E,305nm,1.6s
YUK pmax pmax
comp=Z,1µm,1.6s
BVA0 Borovoye Array 62.56 340 P **P 16 39 23.0 -1.7**
BVA0 pmax pmax
comp=Z,167nm,0.9s
BVAR Borovoye Array 62.56 340 P **P 16 39 23.0 -1.7**
comp=Z,61nm,0.8s,baz=146,slow=7.9,SNR=194
BVAR LR LR 17 09 57.2
comp=Z,31µm,18.7s,baz=149,slow=39
BVAR Borovoye Array 62.56 340 P **P 16 39 23.0 -1.7**
BVAR Borovoye Array 62.56 340 P **P 16 39 23.0 -1.7**
BRVK Borovoye 62.62 340 P **P 16 39 23.9 -1.2**
comp=Z,846nm,0.7s,SNR=37
BRVK Borovoye 62.62 340*c i*P **P 16 39 23.6 -1.5**
BRVK pmax pmax
comp=Z,113nm,1.0s
BRVK MLR MLR
comp=Z,43µm,19.0s
BRVK Borovoye 62.62 340 *e*P **P 16 39 22.1 -2.9**
comp=Z,229nm,1.0s
BRVK LR LR
comp=Z,50µm,20.0s
BOD Bodaibo 62.63 8 *e*P **P 16 39 24.5 -0.5**
BOD pmax pmax
comp=Z,187nm,1.2s
YSS Yuzh-Sakhalins 62.72 31α *i*P **P 16 39 26.4 +0.6**
YSS *e* 16 39 34.0
YSS *e*PPP PPP 16 43 14.0
YSS *i*S S 16 48 02.0 +9.1
YSS *e*PS **PnS 16 48 20.0 +9.3**
YSS pmax pmax
comp=Z,230nm,1.0s
YSS smax smax
comp=N,4µm,20.0s
YSS Yuzh-Sakhalins 62.72 31 *e*P **P 16 39 24.5 -1.3**
comp=N,412nm,1.0s
YSS LR LR
comp=Z,13µm,19.0s
FURI Furi 63.56 282 P P 16 39 43.0 +10
FURI S S 16 48 11.6 +6.2
CLNS Chul'man 63.79 14 *e*P P 16 39 29.6 -3.2
CLNS *e**PP pP 16 39 44.1 +3.1
CLNS *e* 16 40 03.2
CLNS *e* 16 41 49.9
CLNS *e*PPP PPP 16 43 20.8
CLNS *e*S **S 16 48 00.4 -5.6**
CLNS *e* 16 49 14.1
CLNS *e*SSS SSS 16 54 52.1
CLNS pmax pmax
comp=Z,129nm,1.0s
CLNS pmax pmax
comp=E,55nm,0.9s
CLNS pmax pmax
comp=N,74nm,1.0s
CLNS pmax pmax
comp=Z,27nm,0.9s
CLNS pmax pmax
comp=E,21nm,0.9s
CLNS pmax pmax
comp=N,25nm,1.0s
CLNS smax smax
comp=N,4µm,17.6s
CLNS smax smax
comp=E,2µm,13.7s
CLNS MLR MLR
comp=Z,70µm,15.0s
CLNS MLR MLR
comp=E,44µm,14.0s
CLNS MLR MLR
comp=N,118µm,19.0s
KMBO Kilima Mbogo 63.84 271 P **P 16 39 35.0 +0.8**
comp=N,18nm,1.3s,baz=85,slow=5.6,SNR=9.2
KMBO S **S 16 48 11.3 +2.6**
comp=N,0.6nm,0.3s,baz=225,slow=19,SNR=2.9
KMBO LR LR 17 05 58.1
comp=N,16µm,18.0s,baz=87,slow=35
KMBO Kilima Mbogo 63.84 271*c e*P P 16 39 37.5 +3.3
KMBO pmax pmax
comp=Z,6.0nm,0.9s
KMBO Kilima Mbogo 63.84 271 *e*P **P 16 39 35.1 +0.8**
comp=Z,29nm,1.1s
KMBO S **S 16 48 11.3 +2.6**
ABKAR Akbulak array 64.03 331 *e*P **P 16 39 32.8 -1.7**
comp=Z,160nm,0.8s
IDHR Dehrash 64.28 312 *e*P **P 16 39 35.0 -1.7**
MAUS Longido 64.29 269 *i* P P 16 39 40.4 +3.4
MAUS *e*P **S 16 48 16.5 +2.4**
KUR Kuril'sk 64.40 35*c i*P P 16 39 29.6 -7.3
KUR *i*S **S 16 48 17.5 +3.6**
KUR pmax pmax
comp=Z,1µm,1.7s
KUR pmax pmax
comp=N,166nm,1.0s
KUR pmax pmax
comp=E,103nm,1.0s
KUR pmax pmax
comp=Z,364nm,1.0s
KUR MLR MLR
comp=N,25µm,23.0s
KUR MLR MLR
comp=E,15µm,23.0s
KUR MLR MLR
comp=Z,3µm,23.0s
DODT Dodoma, Tanzan 65.09 265 *i* P P 16 39 46.9 +4.7
DODT *e*P **S 16 48 27.3 +3.5**
DZM Mont Dzumac 65.62 112 *e*P **P 16 39 46.5 +1.0**
comp=Z,246nm,1.4s
DZM *e*S **S 16 48 28.8 -1.2**
comp=Z,31µm,27.9s
DZM Mont Dzumac 65.62 112 *e*LR LR 16 59 33.5
comp=Z,37µm,24.4s
DZM Mont Dzumac 65.62 112 LR LR 17 09 27.7
comp=Z,12µm,21.9s,baz=348,slow=37
AKTO Aktyubinsk 65.75 331 P **P 16 39 44.4 -1.3**
comp=Z,65nm,1.0s,baz=146,slow=7.2,SNR=56
AKTO Aktyubinsk 65.75 331 P **P 16 39 44.4 -1.3**
AKTO Aktyubinsk 65.75 331 P **P 16 39 44.4 -1.3**
MAK Makhachkala 67.31 320 *e*P **P 16 39 52.7 -3.0**
MAK *e* 16 40 21.8
MAK *e*PPP PPP 16 44 00.3
MAK *e*S **S 16 48 46.1 -3.3**
MAK *e* 16 49 45.1
MAK *e*SS **SS 16 53 10.9 +1.2**
MAK pmax pmax
comp=Z,214nm,1.1s
MAK MLR MLR
comp=Z,23µm,19.0s
CUKT Cukurca 67.39 313 *e*P **P 16 39 55.2 -1.4**
GNI Garni 67.83 316 *e*P **P 16 39 58.9 -0.4**
GNI Garni 67.83 316*c i*P **P 16 39 58.4 -0.9**
GNI pmax pmax
comp=Z,106nm,2.5s
GNI MLR MLR
comp=Z,28µm,23.0s
GNI Garni 67.83 316‖ *i*P **P 16 40 00.2 +0.9**
SNR=12
GNI Garni 67.83 316 *e*P **P 16 40 00.1 +0.9**
comp=Z,130nm,0.9s
GNI LR LR
comp=Z,19µm,20.0s
CLDR Caldiran 67.96 315 *e*P **P 16 39 58.4 -1.9**
DRV Dumont d'Urvil 67.98 164 P P 16 39 40.0 -20
DRV S S 16 48 24.0 -33
DRV SS SS 16 53 08.0 -11
DRV L L 16 55 00.0
DRV R 16 59 00.0
VANB Van 68.10 314 *e*P **P 16 39 59.5 -1.5**
MAW Mawson 68.50 195 P **P 16 40 03.2 +0.4**
comp=Z,19nm,0.8s,baz=18,slow=5.8,SNR=14
MAW S **S 16 49 06.4 +3.5**
comp=Z,0.4nm,0.3s,baz=354,slow=18,SNR=2.1
MAW LR LR 17 03 41.8
comp=Z,25µm,21.7s,baz=33,slow=30
MAW Mawson 68.50 195 *e*P **P 16 40 01.7 -1.1**
MAW S **S 16 49 06.4 +3.5**
MAW pmax pmax
comp=Z,11nm,1.0s
MAW Mawson 68.50 195 *e*P **P 16 40 01.7 -1.1**
comp=Z,10nm,1.0s
MAW S **S 16 49 06.4 +3.5**
WAKE Wake Island 68.50 68 P **P 16 40 02.7 -1.0**
comp=Z,327nm,1.1s
WAKE LR LR
comp=Z,5µm,22.0s
SEAG Tbilisi Sea 68.50 318 P **P 16 40 06.1 +2.7**
TBLG Delisi 68.53 318 P **P 16 40 04.5 +0.9**
TBLG S **S 16 49 03.4 -0.9**
DUS Dusheti 68.72 318 P **P 16 40 06.9 +2.1**
AGRB Hanur-Agry 68.79 315 *e*P **P 16 40 06.8 +1.3**
SVE Sverdlovsk 69.07 338*d i*P **P 16 40 07.4 +0.9**
SVE *e* 16 42 40.4
SVE *e*PPP PPP 16 44 21.1
SVE *e*S **S 16 49 08.2 -1.8**
SVE *e*SS **SS 16 53 34.6 -1.8**
SVE *e*SSS SSS 16 56 43.6
SVE pmax pmax
comp=Z,477nm,1.2s
SVE pmax pmax
comp=Z,6µm,19.7s
SVE smax smax
comp=E,11µm,21.4s
SVE MLR MLR
comp=N,48µm,21.0s
SVE MLR MLR
comp=Z,93µm,21.0s
SVE MLR MLR
comp=E,50µm,20.0s
AKH Akhalkalaki 69.23 317 P **P 16 40 09.2 +1.1**
AKH S **S 16 49 14.2 +1.3**
YAK Yakutsk 69.53 14 P **P 16 40 07.8 -1.4**
comp=E,276nm,0.8s,baz=263,slow=1.8,SNR=136
YAK S **S 16 49 13.3 -1.9**
comp=E,6.8nm,0.3s,baz=204,slow=20,SNR=3.4
YAK Yakutsk 69.53 14*c i*P **P 16 40 09.0 -0.2**
YAK *e**PP **pP 16 40 18.9 +1.3**
YAK *e* 16 40 33.5
YAK *e* 16 42 47.1
YAK *e*S **S 16 49 11.2 -4.0**
YAK *e* 16 50 08.3
YAK *e*SS **SS 16 53 46.7 +3.4**
YAK pmax pmax

comp=Z,407nm,1.0s
YAK pmax pmax
comp=E,78nm,1.1s
YAK pmax pmax
comp=N,126nm,1.0s
YAK pmax pmax
comp=Z,186nm,2.4s
YAK pmax pmax
comp=N,81nm,1.5s
YAK pmax pmax
comp=E,30nm,1.2s
YAK smax smax
comp=N,399nm,3.3s
YAK smax smax
comp=E,349nm,3.3s
YAK MLR MLR
comp=Z,106µm,17.0s
YAK MLR MLR
comp=N,59µm,17.0s
YAK MLR MLR
comp=E,47µm,17.0s
YAK Yakutsk 69.53 14 *e*P **P 16 40 07.5 -1.7**
comp=E,582nm,1.0s
YAK S **S 16 49 13.3 -1.9**
YAK LR LR
comp=Z,80µm,19.0s
ZEI Tsey 69.56 319 *e*P **P 16 40 10.3 +0.1**
ZEI *e*S **S 16 49 17.0 +0.2**
ZEI pmax pmax
comp=Z,146nm,1.0s
ZEI pmax pmax
comp=N,308nm,1.6s
ZEI pmax pmax
comp=E,261nm,0.9s
ZEI pmax pmax
comp=Z,306nm,6.0s
ZEI MLR MLR
comp=Z,16µm,19.0s
ZEI MLR MLR
comp=E,17µm,23.0s
ZEI MLR MLR
comp=N,16µm,22.0s
ARU Arti 69.60 336 P **P 16 40 08.1 -1.7**
comp=N,662nm,1.2s,SNR=43
ARU Arti 69.60 336*c i*P **P 16 40 08.7 -1.1**
ARU 16 40 30.6
ARU 16 42 40.5
ARU PPP PPP 16 44 28.9
ARU S **S 16 49 16.0 -0.2**
ARU 16 50 11.3
ARU SS **SS 16 53 43.4 -1.2**
ARU SSS SSS 16 56 49.5
ARU pmax pmax
comp=Z,147nm,1.0s
ARU pmax pmax
comp=Z,6µm,19.5s
ARU MLR MLR
comp=Z,52µm,18.0s
ARU Arti 69.60 336 *e*P **P 16 40 08.0 -1.8**
comp=Z,264nm,1.2s
ARU LR LR
comp=Z,56µm,19.0s
ONI Oni 69.77 318 P P 16 40 07.8 -3.5
ONI S S 16 49 12.9 -6.1
MAZI Mazidag 69.79 312 *e*P **P 16 40 10.6 -1.0**
EZM Erzurum 70.08 315 *e*P **P 16 40 13.3 -0.2**
NCK Nalchik 70.08 319 *e*P **P 16 40 13.4 +0.3**
NEY Neytrino 70.54 319 *e*P **P 16 40 15.8 -0.3**
NEY pmax pmax
comp=Z,7.0nm,0.9s
KBZ Khabaz 70.64 319 P **P 16 40 15.9 -0.5**
comp=Z,88nm,1.0s,baz=233,slow=20,SNR=75
KBZ S **S 16 49 26.1 -2.7**
comp=Z,2.1nm,1.0s,baz=53,slow=20,SNR=2.4
KBZ Khabaz 70.64 319 P **P 16 40 15.9 -0.5**
KBZ S **S 16 49 26.2 -2.7**
KBZ Khabaz 70.64 319 P **P 16 40 15.9 -0.5**
KBZ S **S 16 49 26.1 -2.7**
CHVG Ch'k'valeri 70.74 318 P **P 16 40 17.9 +0.8**
KIV Kislovodsk 70.87 319 P **P 16 40 18.7 +0.7**
comp=Z,666nm,1.2s,SNR=15
KIV Kislovodsk 70.87 319 *e*P **P 16 40 18.0 0.0**
KIV *e* 16 40 37.6
KIV *e* 16 42 53.5
KIV *e*PPP PPP 16 44 38.1
KIV *e*S **S 16 49 30.9 -1.0**
KIV *e*SS **SS 16 54 05.6 +0.6**
KIV pmax pmax
comp=Z,185nm,6.2s
KIV pmax pmax
comp=Z,104nm,1.1s
KIV Kislovodsk 70.87 319⇑ *i*P **P 16 40 18.3 +0.3**
SNR=18
KIV Kislovodsk 70.87 319 PFAKE 16 40 30.0 +12
KIV LR LR
comp=Z,21µm,20.0s
ERZN Erzincan 71.12 314 *e*P P 16 40 26.7 +7.0
GOF Gofitskoye 71.13 321 *e*P **P 16 40 19.0 -0.4**
GOF *e*S **S 16 49 34.3 -0.3**
GOF pmax pmax
comp=Z,200nm,1.3s
GOF smax smax
comp=N,40nm,1.6s
GOF smax smax
comp=E,70nm,1.6s
MALT Malatya 71.59 313 *e*P **P 16 40 24.1 +1.6**
MALT Malatya 71.59 313⇓ *i*P **P 16 40 22.9 +0.4**
EIL Elat 71.60 303 P **P 16 40 22.8 +0.2**
baz=72,SNR=21
ILIC ilic-Erzincan 71.89 314 *e*P **P 16 40 26.3 +2.0**
TARA Tarawa 71.97 87 PFAKE 16 40 40.0 +15
TARA LR LR
comp=Z,6µm,20.0s
MMLI Mount Malkishu 72.00 306 *e*P **P 16 40 26.3 +1.3**
SKR Severo-Kuril's 72.03 33 *e*P P 16 40 13.0 -12
SKR *e* 16 40 31.5
SKR *e* 16 40 43.0
SKR *e*S S 16 49 37.0 -7.7
SKR *e* 16 50 22.0
SKR pmax pmax
comp=N,180nm,1.0s
SKR pmax pmax
comp=E,220nm,1.0s
SKR pmax pmax
comp=Z,450nm,1.0s
SKR pmax pmax
comp=N,3µm,18.0s
SKR pmax pmax
comp=E,5µm,18.0s
SKR pmax pmax
comp=Z,8µm,18.0s
SKR MLR MLR
comp=N,12µm,20.0s
SKR MLR MLR
comp=Z,34µm,20.0s
SKR MLR MLR
comp=E,17µm,22.0s
ESPY Espiye-Giresun 72.32 315 *e*P **P 16 40 27.5 +0.8**
KMRS Kahramanmaras 72.44 311 *e*P **P 16 40 27.5 -0.1**
LSZ Lusaka 72.45 255 LR LR 17 09 38.0
comp=E,29µm,18.1s,baz=128,slow=34
LSZ Lusaka 72.45 255 *e*P **P 16 40 28.1 0.0**
LSZ pmax pmax
comp=Z,55nm,1.2s
LSZ Lusaka 72.45 255 *e*P **P 16 40 28.1 0.0**
comp=Z,55nm,1.2s
SOKR Solikamsk 72.47 338*c i*P **P 16 40 28.1 +1.0**
SOKR 16 40 43.1
SOKR 16 43 12.0
SOKR PPP PPP 16 44 57.7
SOKR S **S 16 49 47.5 -1.8**
SOKR SS **SS 16 54 28.4 0.0**
SOKR pmax pmax
comp=Z,270nm,1.0s
SOKR MLR MLR
comp=Z,78µm,23.0s
SOC Sochi 72.67 318*c i*P **P 16 40 27.3 -1.4**
SOC *e**PP **pP 16 40 36.1 -1.0**
SOC *e* 16 40 42.5
SOC *i* S **S 16 49 46.6 -5.8**
SOC *i* 16 50 30.8
SOC *e*SS **SS 16 54 28.4 -3.9**
SOC pmax pmax
comp=Z,67nm,0.9s
SOC MLR MLR
comp=Z,24µm,21.0s
RPZ Rata Peaks 72.70 134 *e*P **P 16 40 29.5 +0.6**
comp=Z,64nm,0.6s
RSDY Resadiye-TOKAT 73.12 314 *e*P **P 16 40 30.2 -1.3**
SVSK Karacayir 73.19 314 *e*P **P 16 40 29.8 -2.0**
KOZT Kozan 73.24 311 *e*P **P 16 40 33.0 +0.7**
QRZ Quartz Range 73.27 131 PN **P 16 40 33.8 +1.5**
THZ Tophouse 73.70 132 *e*PN **P 16 40 36.0 +1.0**
MERS Mersin 74.03 310 *e*P P 16 40 33.4 -3.6
PEA0B Petropavlovsk- 74.11 32 *e*P **P 16 40 36.6 -0.4**
PETK Petropavlovsk- 74.11 32 P **P 16 40 35.9 -1.1**
comp=Z,92nm,1.0s,baz=200,slow=2.2,SNR=25
PETK S S 16 50 20.1 +12
comp=Z,3.7nm,0.9s,baz=83,slow=12,SNR=2.8
PETK Petropavlovsk- 74.11 32 P **P 16 40 35.9 -1.1**
PETK Petropavlovsk- 74.11 32 P **P 16 40 35.9 -1.1**
PETK S S 16 50 20.1 +12
KHZ Kahutara 74.27 133 PN **P 16 40 38.6 +0.4**
KHZ Kahutara 74.27 133 *e*P **P 16 40 38.6 +0.4**
comp=Z,76nm,0.8s
KVT Kavak 74.28 315 *e*P **P 16 40 36.5 -1.8**
CSS Prodhromos 74.40 308 *e*P **P 16 40 39.5 +0.4**
CSS Prodhromos 74.40 308 P **P 16 40 39.9 +0.8**
CSS Prodhromos 74.40 308 P **P 16 40 39.8 +0.7**
CSS Prodhromos 74.40 308 *e*P **P 16 40 38.2 -0.9**
comp=Z,46nm,1.2s
CSS LR LR
comp=Z,13µm,20.0s
PET Petropavlovsk 74.56 32*c i*P **P 16 40 39.8 +0.2**
PET *e* 16 43 27.8
PET *e*S **S 16 50 11.0 -2.3**
PET *e*PS **PnS 16 50 45.4 -4.5**
PET *e*PPS PPS 16 50 57.4
PET pmax pmax
comp=Z,259nm,0.9s
PET pmax pmax
comp=Z,3µm,4.2s
PET pmax pmax
comp=Z,4µm,11.9s
PET MLR MLR
comp=N,44µm,19.0s
PET MLR MLR
comp=Z,36µm,25.0s
PET Petropavlovsk 74.56 32 *e*P **P 16 40 38.4 -1.1**
comp=Z,184nm,0.8s
PET LR LR
comp=Z,31µm,19.0s
ANN Anapa 74.66 319 *e*P **P 16 40 39.0 -1.3**
ANN *e* 16 40 52.0
ANN *e* 16 43 35.2
ANN *e*S **S 16 50 14.6 -0.1**
ANN pmax pmax
comp=E,6.0nm,1.4s
ANN pmax pmax
comp=Z,37nm,1.4s
ANN pmax pmax
comp=N,19nm,1.4s
ANN pmax pmax
comp=Z,410nm,3.7s
ANN pmax pmax
comp=N,154nm,3.7s
ANN pmax pmax
comp=E,103nm,3.7s
ANN smax smax
comp=N,8µm,18.8s
ANN smax smax
comp=E,6µm,18.8s
SZAC Souni-Zanaja 74.69 308 P **P 16 40 41.5 +0.7**
GRM Grahamstown 74.87 237 *i*P **PcP 16 40 56.3 +0.5**
GRM *e*P **S 16 50 20.1 +2.3**
SNZO South Karori 74.97 132 P **P 16 40 43.0 +0.8**
comp=E,158nm,0.9s
SNZO LR LR
comp=Z,22µm,20.0s
ALFC Alevga 75.03 308 P **P 16 40 42.9 +0.1**
PPCY Paphos 75.15 308 P **P 16 40 44.1 +0.7**
SULT Sultanhani-AKS 75.20 311 *e*P **P 16 40 42.8 -1.0**
AKMC Akamas 75.20 308 P **P 16 40 43.9 +0.1**
COVZ Chateau Observ 75.34 129 PN **P 16 40 44.4 -0.2**
FWVZ Far West T-bar 75.36 129 PN **P 16 40 44.7 -0.1**
TRVZ Turoa 75.36 129 *e*PN **P 16 40 44.7 -0.2**
WNVZ Wahianoa 75.40 129 PN **P 16 40 44.9 -0.1**
BRTR Keskin Array B 75.57 313 P **P 16 40 44.5 -1.4**
comp=Z,32nm,0.9s,baz=131,slow=6.2,SNR=78
BRTR S **S 16 50 22.8 -2.7**
comp=Z,1.0nm,1.0s,baz=155,slow=4.4,SNR=2.4
BRTR LR LR 17 16 13.2
comp=Z,19µm,20.7s,baz=109,slow=38
BRTR Keskin Array B 75.57 313 *i*P **P 16 40 44.0 -1.9**
BRTR pmax pmax
comp=Z,16nm,0.8s
BRTR Keskin Array B 75.57 313 P **P 16 40 44.5 -1.4**
BRTR *S* **S 16 50 22.8 -2.7**
CANT Cankiri 75.86 314 *e*P **P 16 40 47.5 +0.1**
VORD Divnogorie 75.97 325 *e*P **P 16 40 47.5 -0.2**
VORD *e* 16 43 37.9
VORD *e*S **S 16 50 25.0 -4.1**
VORD *e*SS **SS 16 55 29.1 +6.9**
VORD pmax pmax
comp=N,30nm,1.2s
VORD pmax pmax
comp=E,70nm,1.2s
VORD pmax pmax
comp=Z,80nm,1.2s
VORD pmax pmax
comp=Z,170nm,2.6s
VORD pmax pmax
comp=N,110nm,1.3s
VORD pmax pmax
comp=E,150nm,1.3s
VORD smax smax
comp=N,770nm,3.4s
VORD smax smax
comp=E,390nm,3.4s
VORD smax smax
comp=Z,50nm,2.7s
KONT Konya--Tatoy 76.00 311 *e*P **P 16 40 47.9 -0.4**
BZK Bozkurt 76.01 315 *e*P **P 16 40 47.9 -0.3**
BFZ Birch Farm 76.05 131 *e*PN **P 16 40 48.2 -0.3**
BKZ Black Stump Fm 76.07 129 PN **P 16 40 48.4 -0.4**
VSR Storozhevoye 76.15 325 *e*P **P 16 40 48.3 -0.5**
VSR *e**PP **pP 16 40 58.6 +1.4**
VSR *e* 16 43 40.0
VSR *e*S **S 16 50 29.0 -2.1**
VSR *e**SS **sS 16 50 47.1 +2.1**
VSR *e*SS **SS 16 55 24.9 0.0**
VSR pmax pmax
comp=N,30nm,1.0s
VSR pmax pmax
comp=E,80nm,1.0s
VSR pmax pmax
comp=Z,110nm,1.0s
VSR pmax pmax
comp=N,200nm,2.5s
VSR pmax pmax
comp=Z,270nm,2.5s
VSR pmax pmax
comp=E,150nm,2.3s
VSR smax smax
comp=N,1µm,4.1s
VSR smax smax
comp=E,450nm,4.1s
VSR smax smax
comp=Z,70nm,3.0s
VSR MLR MLR
comp=Z,39µm,22.0s
SYO Syowa Base 76.21 199⇑ *e*X **P 16 40 46.0 -2.8**
ANTO Ankara 76.24 313 *e*P **P 16 40 50.2 +0.6**
ANTO Ankara 76.24 313 *e*P **P 16 40 49.0 -0.6**
ANTO pmax pmax
comp=Z,174nm,1.4s
ANTO MLR MLR
comp=Z,28µm,21.0s
ANTO Ankara 76.24 313⇑ *i*P **P 16 40 49.8 +0.2**
ANTO Ankara 76.24 313 *e*P **P 16 40 49.0 -0.6**
comp=Z,174nm,1.4s
ANTO LR LR
comp=Z,28µm,21.0s
MSVF Nonsavu 76.32 107 *e*P **P 16 40 51.4 +0.8**
MSVF pmax pmax
comp=Z,196nm,1.3s
MSVF MLR MLR
comp=Z,6µm,20.0s
MSVF Nonsavu 76.32 107 *e*P **P 16 40 51.4 +0.8**
comp=Z,196nm,1.3s
MSVF LR LR
comp=Z,6µm,20.0s
VOR Voronezh 76.35 326 *e*P P 16 40 46.0 -3.9
VOR pmax pmax
comp=Z,300nm,1.5s
URZ Urewera 76.46 128 *e*PN **P 16 40 51.5 +0.7**
URZ Urewera 76.46 128 *e*P **P 16 40 51.8 +0.9**
comp=Z,34nm,0.7s
SAFT Safranbolu 76.73 314 *e*P **P 16 40 52.5 +0.2**
MWZ Matawai 76.80 128 *e*PN **P 16 40 52.4 -0.4**
SIM Simferopol' 76.92 318*c i*P **P 16 40 53.9 +0.6**
SIM *e*PPP PPP 16 45 31.0
SIM *e*S **S 16 50 36.0 -3.7**
SIM pmax pmax
comp=Z,88nm,1.2s
SIM pmax pmax
comp=Z,1µm,13.3s
HAZ Te Kaha 76.94 128 *e*PN **P 16 40 54.1 +0.5**
TWGZ Tauwhareparae 77.14 128 PN **P 16 40 55.4 +0.7**
SEY Seymchan 77.19 21 P **P 16 40 53.9 -0.5**
comp=Z,108nm,1.0s,baz=242,slow=5.3,SNR=66
SEY S **S 16 50 40.3 -1.7**
comp=Z,0.9nm,0.8s,baz=287,slow=19,SNR=2.4
SEY Seymchan 77.19 21 P **P 16 40 53.9 -0.5**
SEY S **S 16 50 40.3 -1.7**
SEY Seymchan 77.19 21 P **P 16 40 53.9 -0.5**
SEY S **S 16 50 40.3 -1.7**
ISP Isparta 77.36 310 *e*P **P 16 40 56.3 +0.2**
ISP Isparta 77.36 310 P **P 16 40 55.4 -0.7**
ISP Isparta 77.36 310 P **P 16 40 55.4 -0.7**
ISP MLR MLR
comp=Z,22µm,20.0s
ISP Isparta 77.36 310 P **P 16 40 55.4 -0.7**
ISP LR LR
comp=Z,22µm,20.0s
TIXI Tiksi 77.79 9*c i*P **P 16 40 55.8 -1.7**
TIXI pmax pmax
comp=Z,137nm,1.0s
TIXI MLR MLR
comp=Z,85µm,20.0s
TIXI Tiksi 77.79 9 *e*P **P 16 40 55.0 -2.5**
comp=Z,93nm,0.6s
TIXI LR LR
comp=Z,85µm,20.0s
PRGR Permogore 78.06 336 *e*P **P 16 40 59.7 +0.5**
PRGR *e*S **S 16 50 51.1 -0.3**
PRGR pmax pmax
comp=Z,416nm,0.9s
GULT Gulveren 78.07 313 *e*P **P 16 40 58.9 -1.0**
DALY Dalyan (Mu˘la 78.55 309 *e*P P 16 40 55.4 -7.1
MOS Moscow 78.89 329 *e*P **P 16 41 03.1 -0.8**
MOS *e* 16 41 12.2
MOS *e* 16 44 05.5
MOS *e*PPP PPP 16 45 51.1
MOS *e*S **S 16 50 58.4 -2.1**
MOS *e* 16 51 20.8
MOS *e*SS **SS 16 56 02.8 -3.2**
MOS pmax pmax
comp=Z,123nm,1.2s
MOS pmax pmax
comp=Z,600nm,2.3s
MOS smax smax
comp=N,3µm,4.0s
MOS MLR MLR
comp=E,37µm,22.0s
MOS MLR MLR
comp=Z,48µm,22.0s
GEMT Gemlik 79.05 312 *e*P **P 16 41 05.6 +0.4**
OBN Obninsk 79.18 328 P **P 16 41 06.2 +0.6**
comp=Z,874nm,0.9s,SNR=16
OBN Obninsk 79.18 328 LR LR 17 20 32.6
comp=Z,26µm,19.9s,baz=119,slow=39
OBN Obninsk 79.18 328*c i*P **P 16 41 04.8 -0.8**
OBN *e* 16 41 13.2
OBN *e* 16 44 06.6
OBN *e*PPP PPP 16 45 52.9
OBN *i* S **S 16 51 01.0 -2.6**
OBN *e*SS **SS 16 56 04.3 -6.1**
OBN pmax pmax
comp=Z,139nm,1.0s
OBN Obninsk 79.18 328 *e*P **P 16 41 04.8 -0.8**
comp=Z,154nm,0.9s
ISK Istanbul-Kandi 79.31 313 *e*P **P 16 41 03.6 -3.0**
AYDB Zeytinkoy-Aydi 79.41 310 *e*P **P 16 41 04.4 -3.0**
KARP Karpathos 79.43 307 P **P 16 41 07.3 -0.1**
KARP Karpathos 79.43 307 *e*P **P 16 41 06.6 -0.8**
KARP Karpathos 79.43 307 P **P 16 41 07.3 -0.1**
SUR Sutherland 79.60 238 P P 16 41 17.7 +9.0
comp=Z,285nm,1.0s,SNR=5.5
SUR Sutherland 79.60 238 *e*P **P 16 41 10.1 +1.4**
comp=Z,19nm,1.0s
SUR LR LR
comp=Z,18µm,19.0s
VNDA Vanda 79.86 169 P **P 16 41 09.9 +1.0**
comp=Z,11nm,1.0s,baz=292,slow=5.6,SNR=32
VNDA S **S 16 51 13.8 +3.5**
comp=Z,0.6nm,0.8s,baz=203,slow=23,SNR=3.3
VNDA LR LR 17 15 34.9
comp=Z,7µm,18.1s,baz=316,slow=35
VNDA Vanda 79.86 169 *e*P **P 16 41 10.1 +1.1**
VNDA S **S 16 51 13.8 +3.5**
VNDA pmax pmax
comp=Z,47nm,1.0s
VNDA Vanda 79.86 169 *e*P **P 16 41 10.1 +1.1**
comp=Z,47nm,1.0s
VNDA S **S 16 51 13.8 +3.5**
ZKR Zakros 80.09 307 *e*P **P 16 41 11.6 +0.6**
RAO Raoul Island 80.12 119 LR LR 17 18 10.7
comp=Z,7µm,19.4s,baz=286,slow=37
SMG Samos 80.17 309 *e*P P 16 41 17.8 +6.4
KLMR Klimovskoe 80.22 334*c i*P **P 16 41 11.7 +0.6**
KLMR *e**PP **PP 16 44 16.2 +2.4**
KLMR *e*S **S 16 51 12.2 -2.3**
KLMR SS **SS 16 56 24.8 -1.0**
KLMR pmax pmax
comp=Z,229nm,1.1s
KLMR pmax pmax
comp=Z,2µm,3.2s
KLMR MLR MLR
comp=Z,23µm,21.0s
MANR Mangalia 80.36 316⇑ *i*P **P 16 41 13.2 +1.0**
TLCR 80.57 317⇓ *i*P **P 16 41 13.4 +0.1**
NPS Neapolis 80.60 307 *e*P **P 16 41 14.8 +1.0**
PSN Preselentsi 80.61 315⇑ *i*P **P 16 41 13.2 -0.4**
PSN Preselentsi 80.61 315 *e*P **P 16 41 13.0 -0.6**
TIRR Tirgusor 80.65 316 *e*P **P 16 41 12.5 -1.3**
TIRR pmax pmax
comp=Z,182nm,1.4s
TIRR Tirgusor 80.65 316⇓ *i*P **P 16 41 13.2 -0.6**
TIRR Tirgusor 80.65 316 *e*P **P 16 41 12.5 -1.3**
comp=Z,182nm,1.4s
LAST Lasithi 80.69 306 *e*P **P 16 41 14.7 +0.4**
CHOS Chios island 80.92 310 P **P 16 41 16.0 +0.5**
CHOS Chios island 80.92 310 *e*P **P 16 41 14.7 -0.8**
CHOS Chios island 80.92 310 P **P 16 41 16.0 +0.5**
TLB Topalu 80.94 316⇑ *i*P **P 16 41 15.0 -0.3**
PRK Paraskevi 80.94 311 P **P 16 41 16.1 +0.6**
PRK Paraskevi 80.94 311 *e*P **P 16 41 15.6 +0.1**
PRK Paraskevi 80.94 311 P **P 16 41 16.1 +0.6**
PRK Paraskevi 80.94 311 P **P 16 41 16.1 +0.6**
THR1 Thera Island 80.95 308 P P 16 41 20.8 +5.1
SANT Santorini 80.95 308 P **P 16 41 15.4 -0.3**
SANT Santorini 80.95 308 *e*P **P 16 41 15.6 -0.1**
SANT Santorini 80.95 308 *e*P **P 16 41 14.4 -1.2**
comp=Z,194nm,1.1s
SANT LR LR
comp=Z,19µm,21.0s
SBA Scott Base 80.96 169 *e*P **P 16 41 16.7 +1.9**
SBA pmax pmax
comp=Z,107nm,1.4s
SBA MLR MLR
comp=Z,5µm,20.0s
SBA Scott Base 80.96 169 *e*P **P 16 41 16.6 +1.9**
comp=Z,107nm,1.4s
SBA LR LR
comp=Z,5µm,20.0s
MSAB Monastry St. A 80.96 316⇓ *i*P **P 16 41 15.4 -0.1**
CFR Carcaliu 81.03 317⇓ *i*P **P 16 41 15.2 -0.6**
PRD Provadia 81.04 315 *e*P **P 16 41 16.1 +0.2**
APE Apeiranthos 81.04 308 *e*P **P 16 41 13.9 -2.2**
APE Apeiranthos 81.04 308 *e*P P 16 41 21.5 +5.4
APE Apeiranthos 81.04 308 *e*P **P 16 41 15.0 -1.1**
APE pmax pmax
comp=Z,26nm,1.1s

APE MLR MLR
comp=Z,24µm,22.0s
APE Apeiranthos 81.04 308⇑ *i* P **P 16 41 15.9 -0.2**
HARR Harsova 81.04 316⇑ *i* P **P 16 41 16.5 +0.6**
KIS Kishinev 81.06 319⇓ *i* P **P 16 41 16.0 +0.1**
comp=Z,4µm,1.8s
KIS Kishinev 81.06 319 *e* PP PP 16 44 36.0 +15
KIS Kishinev 81.06 319 *i* PS 16 52 20.0
KIS *i* SS SS 16 56 22.0 -17
KIS *e* SSS SSS 16 59 52.0
KIS LRM MLR 17 23 48.0
comp=Z,19µm,22.0s
KIS Kishinev 81.06 319 *d* P **P 16 41 16.0 +0.1**
KIS *i* S **S 16 51 20.0 -3.8**
KIS *i* PS **PnS 16 52 20.0 +7.3**
KIS pmax pmax
comp=Z,4µm,18.0s
KIS pmax pmax
comp=Z,3µm,20.0s
KIS smax smax
comp=N,10µm,18.0s
KIS smax smax
comp=E,3µm,13.0s
KIS MLR MLR
comp=Z,19µm,20.0s
KIS MLR MLR
comp=N,17µm,23.0s
KIS MLR MLR
comp=E,16µm,18.0s
KIS MLR MLR
comp=Z,19µm,22.0s
SIVA Sivas 81.20 306 P **P 16 41 17.6 +0.7**
SIVA Sivas 81.20 306 P **P 16 41 17.6 +0.7**
SIGR SIGRI 81.25 311 P **P 16 41 17.3 +0.2**
SIGR SIGRI 81.25 311 *e* P **P 16 41 15.6 -1.5**
SIGR SIGRI 81.25 311 P **P 16 41 17.3 +0.2**
LEOM Leova 81.30 318⇑ *i* P **P 16 41 18.6 +1.4**
ALN Alexandroupoli 81.48 312 P **P 16 41 17.4 -0.9**
ALN Alexandroupoli 81.48 312 *e* P **P 16 41 18.7 +0.4**
ALN Alexandroupoli 81.48 312 P **P 16 41 17.4 -0.9**
ALN Alexandroupoli 81.48 312 P **P 16 41 17.4 -0.9**
VAM Vamos 81.77 306 P **P 16 41 19.8 -0.1**
VAM Vamos 81.77 306 *e* P **P 16 41 19.8 -0.1**
VAM Vamos 81.77 306 P **P 16 41 19.8 -0.1**
VAM Vamos 81.77 306 P **P 16 41 19.8 -0.1**
SMTH Samothraki Isl 81.77 312 P **P 16 41 19.8 0.0**
SMTH Samothraki Isl 81.77 312 *e* P **P 16 41 19.8 0.0**
SMTH Samothraki Isl 81.77 312 P **P 16 41 19.8 0.0**
AKASG Malin Array Be 81.84 322 P **P 16 41 19.3 -0.7**
comp=Z,19nm,0.9s,baz=94,slow=5.8,SNR=30
AKASG S **S 16 51 29.7 -2.0**
comp=Z,0.1nm,0.3s,baz=116,slow=15,SNR=3.5
AKASG LR LR 17 21 44.6
comp=Z,20µm,21.9s,baz=75,slow=39
AKASG Malin Array Be 81.84 322 P **P 16 41 19.3 -0.7**
AKASG S **S 16 51 29.7 -2.0**
AKASG Malin Array Be 81.84 322 P **P 16 41 19.3 -0.7**
AKASG S **S 16 51 29.7 -2.0**
KIEV Kiev 81.85 322 *c* P **P 16 41 19.3 -0.7**
KIEV Kiev 81.85 322 *e* P **P 16 41 18.8 -1.2**
comp=Z,29nm,0.8s
KIEV LR LR
comp=Z,26µm,22.0s
LIA Limnos Island 81.90 311 P **P 16 41 20.7 +0.2**
LIA Limnos Island 81.90 311 *e* P **P 16 41 20.7 +0.2**
LIA Limnos Island 81.90 311 P **P 16 41 20.7 +0.2**
SZH Strazhica 82.10 315 *e* P **P 16 41 21.5 0.0**
ISR Istrita 82.11 316⇑ *i* P **P 16 41 22.0 +0.4**
KDZ Kurdzhali 82.11 313⇓ *i* P **P 16 41 21.6 0.0**
KDZ Kurdzhali 82.11 313 *e* P **P 16 41 21.2 -0.4**
DIM Dimitrovgrad 82.11 313 *e* P **P 16 41 21.2 -0.4**
VRI Vrincioaia 82.16 317⇑ *i* P **P 16 41 22.5 +0.7**
PLOR Plostina 82.21 317⇑ *i* P **P 16 41 23.0 +0.9**
TMCR Tamitsa 82.33 337 *e* P **P 16 41 23.3 +1.1**
TMCR *e* 16 44 35.1
TMCR *e* S **S 16 51 40.7 +4.5**
TMCR pmax pmax
comp=Z,110nm,0.9s
TESR Tescani 82.37 318⇓ *i* P **P 16 41 22.3 -0.6**
SECR 82.41 316⇓ *i* P **P 16 41 23.7 +0.6**
PTL Penteli 82.54 309 P **P 16 41 23.8 -0.2**
PTL Penteli 82.54 309 *e* P **P 16 41 23.5 -0.5**
PTL Penteli 82.54 309 P **P 16 41 23.8 -0.2**
TSUM Tsumeb 82.54 251 *e* P **P 16 41 23.2 -1.3**
comp=Z,26nm,1.0s
TSUM LR LR
comp=Z,26µm,20.0s
ANKY Antikythira Is 82.57 307 P **P 16 41 24.1 0.0**
ANKY Antikythira Is 82.57 307 *e* P **P 16 41 24.8 +0.7**
ANKY Antikythira Is 82.57 307 P **P 16 41 24.1 0.0**
MLR Muntele Rosu 82.60 317⇑ *i* P **P 16 41 24.7 +0.4**
RZN Rozhen 82.63 313 *e* P **P 16 41 24.8 +0.2**
KAVA Kavala 82.63 312 P **P 16 41 24.6 +0.3**
KAVA Kavala 82.63 312 *e* P **P 16 41 24.4 +0.1**
KAVA Kavala 82.63 312 P **P 16 41 24.6 +0.3**
ATH Athens Observa 82.64 309 *e* P **P 16 41 24.2 -0.2**
PLD Plovdiv 82.73 313 P **P 16 41 25.0 +0.2**
PLD Plovdiv 82.73 313 P **P 16 41 25.0 +0.2**
PLD Plovdiv 82.73 313 *e* P **P 16 41 24.8 0.0**
PLD Plovdiv 82.73 313 P **P 16 41 25.0 +0.2**
AOS Alonnisos 82.74 310 P **P 16 41 23.6 -1.4**
AOS Alonnisos 82.74 310 *e* P **P 16 41 24.6 -0.4**
AOS Alonnisos 82.74 310 P **P 16 41 23.6 -1.4**
MRKA Markates 82.88 310 *e* P **P 16 41 24.2 -1.5**
OUR Ouranopolis 82.89 311 P **P 16 41 25.3 -0.4**
OUR Ouranopolis 82.89 311 *e* P **P 16 41 24.6 -1.1**
OUR Ouranopolis 82.89 311 P **P 16 41 25.3 -0.4**
OUR Ouranopolis 82.89 311 P **P 16 41 25.3 -0.4**
DID Didima 82.92 308 *e* P **P 16 41 24.2 -1.8**
VLI Veliai 83.01 308 P **P 16 41 25.6 -0.8**
VLI Veliai 83.01 308 *e* P **P 16 41 25.6 -0.8**
VLI Veliai 83.01 308 P **P 16 41 25.6 -0.8**
PAIG Paliouri 83.04 311 P **P 16 41 26.5 0.0**
PAIG Paliouri 83.04 311 *e* P **P 16 41 26.4 0.0**
PAIG Paliouri 83.04 311 P **P 16 41 26.5 0.0**
PAIG Paliouri 83.04 311 P **P 16 41 26.5 0.0**
DOPR Dopca 83.09 317⇓ *i* P **P 16 41 27.7 +1.0**
NVR Nevrokopi 83.19 312 P **P 16 41 26.5 -0.7**
NVR Nevrokopi 83.19 312 *e* P **P 16 41 26.6 -0.7**
NVR Nevrokopi 83.19 312 P **P 16 41 26.5 -0.7**
VOIR 83.20 317⇑ *i* P **P 16 41 27.1 -0.2**
PGB Panagyurishte 83.21 314 *e* P **P 16 41 26.8 -0.6**
LTK Loutraki 83.23 309 P **P 16 41 26.5 -1.0**
LTK Loutraki 83.23 309 *e* P **P 16 41 26.2 -1.3**
LTK Loutraki 83.23 309 P **P 16 41 26.5 -1.0**
PLG Polygyros 83.31 311 P **P 16 41 27.7 -0.2**
PLG Polygyros 83.31 311 *e* P **P 16 41 27.8 -0.2**
PLG Polygyros 83.31 311 P **P 16 41 27.7 -0.2**
PLG Polygyros 83.31 311 P **P 16 41 27.7 -0.2**
MMB Musomiste 83.33 313⇑ *i* P **P 16 41 28.0 0.0**
MMB Musomiste 83.33 313 *e* P **P 16 41 27.6 -0.4**
SRS Serrai 83.34 312 P **P 16 41 27.9 -0.1**
SRS Serrai 83.34 312 *e* P **P 16 41 27.5 -0.5**
SRS Serrai 83.34 312 P **P 16 41 27.9 -0.1**
SRS Serrai 83.34 312 P **P 16 41 27.9 -0.1**
SOH Sokhos 83.46 312 *e* P **P 16 41 28.1 -0.6**
ARR Arges 83.48 316⇓ *i* P **P 16 41 29.3 +0.6**
BURAR Bucovina Array 83.58 319⇓ *i* P **P 16 41 30.0 +0.7**
AXAR Agios Charalam 83.60 310 P **P 16 41 29.9 +0.5**
AXAR Agios Charalam 83.60 310 P **P 16 41 29.9 +0.5**
BUR08 Bucovina Ar. S 83.60 319 *e* P **P 16 41 28.9 -0.5**
HORT Hortiatis 83.61 311 P **P 16 41 29.2 -0.3**
HORT Hortiatis 83.61 311 *e* P **P 16 41 27.9 -1.6**
HORT Hortiatis 83.61 311 P **P 16 41 29.2 -0.3**
DSF Desfina 83.64 309 P **P 16 41 28.6 -1.1**
DSF Desfina 83.64 309 *e* P **P 16 41 28.6 -1.1**
DSF Desfina 83.64 309 P **P 16 41 28.6 -1.1**
MPEP Malo Peshtene 83.68 314 *e* P **P 16 41 29.9 +0.2**
GUR Goura 83.70 309 P **P 16 41 29.9 -0.2**
GUR Goura 83.70 309 *e* P **P 16 41 28.4 -1.7**
GUR Goura 83.70 309 P **P 16 41 29.9 -0.2**
MICGM Minsk 83.70 326⇑ *e* P **P 16 41 28.0 -1.5**
MNK Minsk 83.73 326 *ce* P **P 16 41 28.0 -1.7**
MNK *e* S S 16 51 44.0 -6.8
MNK S **SKKSac 16 51 56.0 +0.5**
MNK *e* PS **PnS 16 52 48.0 +2.6**
MNK *e* SS **SS 16 57 12.0 -6.2**
MNK pmax pmax
comp=Z,120nm,2.0s
MNK pmax pmax
comp=Z,3µm,8.0s
MNK MLR MLR
comp=E,38µm,20.0s
MNK MLR MLR
comp=Z,33µm,20.0s
MNK MLR MLR
comp=N,33µm,20.0s
KKB Krupnik 83.86 313 *e* P **P 16 41 30.7 0.0**
KNT Kendrikon 83.86 312 P **P 16 41 30.6 -0.1**
KNT Kendrikon 83.86 312 *e* P **P 16 41 28.1 -2.6**
KNT Kendrikon 83.86 312 P **P 16 41 30.6 -0.1**
KNT Kendrikon 83.86 312 P **P 16 41 30.6 -0.1**
KLV Kalavryta, Ach 83.86 309 P **P 16 41 30.7 -0.2**
KLV Kalavryta, Ach 83.86 309 *e* P **P 16 41 29.9 -1.0**
KLV Kalavryta, Ach 83.86 309 P **P 16 41 30.7 -0.2**
ITM Ithomi 83.89 308 P **P 16 41 30.6 -0.4**
ITM Ithomi 83.89 308 *e* P **P 16 41 31.0 0.0**
ITM Ithomi 83.89 308 P **P 16 41 30.6 -0.4**
AGG Agios Georgios 83.90 310 P **P 16 41 29.1 -1.9**
AGG Agios Georgios 83.90 310 *e* P **P 16 41 29.2 -1.8**
AGG Agios Georgios 83.90 310 P **P 16 41 29.1 -1.9**
AGG Agios Georgios 83.90 310 P **P 16 41 29.1 -1.9**
VTS Vitosha 83.91 313 *e* P **P 16 41 31.8 +0.7**
VTS Vitosha 83.91 313 P **P 16 41 30.7 -0.4**
VTS Vitosha 83.91 313 P **P 16 41 30.7 -0.4**
VTS Vitosha 83.91 313⇓ *i* P **P 16 41 30.5 -0.6**
VTS Vitosha 83.91 313 *e* P **P 16 41 29.9 -1.2**
VTS Vitosha 83.91 313 P **P 16 41 30.7 -0.4**
KALE Kalithea 83.93 309 P **P 16 41 30.9 -0.3**
KALE Kalithea 83.93 309 *e* P **P 16 41 30.8 -0.4**
KALE Kalithea 83.93 309 P **P 16 41 30.9 -0.3**
LIT Litokhoron 83.97 311 P **P 16 41 29.7 -1.6**
LIT Litokhoron 83.97 311 *e* P **P 16 41 30.1 -1.2**
LIT Litokhoron 83.97 311 P **P 16 41 29.7 -1.6**
LIT Litokhoron 83.97 311 P **P 16 41 29.7 -1.6**
PYL PYLOS 83.99 308 *e* P **P 16 41 30.1 -1.3**
PUL Pulkovo 84.02 331 *e* P **P 16 41 32.0 +1.0**
PUL pmax pmax
comp=Z,294nm,1.0s
MAKR Makrakomi, Fth 84.05 310 P **P 16 41 31.4 -0.4**
MAKR Makrakomi, Fth 84.05 310 *e* P **P 16 41 30.8 -1.0**
MAKR Makrakomi, Fth 84.05 310 P **P 16 41 31.4 -0.4**
EFP Efpalio 84.12 309 P P 16 41 37.9 +5.8
AMT Artemida-Makis 84.12 308 P P 16 41 35.5 +3.4
VAY Valandovo 84.14 312 *i* P **P 16 41 31.3 -0.8**
DRO Drossia 84.19 309 P **P 16 41 33.4 +0.9**
DRO Drossia 84.19 309 *e* P **P 16 41 31.9 -0.6**
THL Klokotos Trika 84.24 310 *e* P **P 16 41 31.4 -1.2**
EVR Evrytania 84.28 310 P **P 16 41 32.9 -0.1**
EVR Evrytania 84.28 310 P **P 16 41 32.9 -0.1**
RLS Riolos of Patr 84.40 309 P **P 16 41 34.0 +0.5**
RLS Riolos of Patr 84.40 309 *e* P **P 16 41 34.3 +0.8**
RLS Riolos of Patr 84.40 309 P **P 16 41 34.0 +0.5**
NACGM Naroch 84.43 326 *e* P P 16 41 30.0 -3.2
CJR Cluj-Napoca 84.47 318⇓ *i* P **P 16 41 33.1 -0.6**
PDO Prodromos 84.71 309 P **P 16 41 35.5 +0.4**
PDO Prodromos 84.71 309 *e* P **P 16 41 35.0 -0.1**
BMR Baia Mare 84.73 318⇑ *i* P **P 16 41 36.2 +1.2**
GZR Gura Zlata 84.76 316⇑ *i* P **P 16 41 36.1 +0.8**
DEV Deva 84.77 317⇓ *i* P **P 16 41 37.1 +1.9**
BILL Bilibino 84.77 20 *c i* P **P 16 41 33.3 -1.4**
BILL *e* 16 44 47.6
BILL S S 16 51 52.1 -8.7
BILL *e* SS **SS 16 57 35.6 +2.6**
BILL pmax pmax
comp=Z,128nm,1.0s
BILL Bilibino 84.77 20 *e* P **P 16 41 33.5 -1.2**
comp=Z,148nm,1.1s
BILL LR LR
comp=Z,32µm,19.0s
LVV L'vov 84.84 321 *i* P **P 16 41 35.3 -0.2**
LVV *i* 16 44 52.5
LVV *i* PPP PPP 16 46 48.0
LVV *i* S **S 16 51 58.7 -3.5**
LVV *i* PS **PnS 16 52 58.1 -1.1**
LVV *i* SS **SS 16 57 39.5 +4.6**
DSL Palaion Diasel 84.86 310 P **P 16 41 35.6 -0.3**
DSL Palaion Diasel 84.86 310 P **P 16 41 35.6 -0.3**
FNA Florina 84.93 311 P P 16 41 41.6 +5.4
FNA Florina 84.93 311 *e* P **P 16 41 34.1 -2.1**
FNA Florina 84.93 311 P P 16 41 41.6 +5.4
FNA Florina 84.93 311 P P 16 41 41.6 +5.4
DRGR 85.08 318⇑ *i* P **P 16 41 37.9 +1.1**
NEST Nestorio 85.11 311 *e* P P 16 41 33.9 -3.3
LVZ Lovozero 85.16 340 P **P 16 41 37.9 +1.2**
comp=Z,585nm,0.6s,SNR=8.4
LVZ Lovozero 85.16 340 *c i* P **P 16 41 36.5 -0.2**
LVZ pmax pmax
comp=Z,93nm,1.0s
LVZ MLR MLR
comp=Z,70µm,24.0s
LVZ Lovozero 85.16 340 *e* P **P 16 41 35.0 -1.7**
comp=Z,112nm,1.0s
LVZ LR LR
comp=Z,15µm,22.0s
VSU Vasula 85.40 329 *c i* P **P 16 41 38.8 +0.8**
VSU pmax pmax
comp=Z,223nm,1.1s
OHR Ohrid 85.42 312 *i* P **P 16 41 36.6 -2.0**
TRPA Tarpa 85.46 319⇑ *i* P **P 16 41 39.5 +0.9**
TRPA Tarpa 85.46 319⇑ *e* P **P 16 41 39.4 +0.9**
APA Apatity 85.47 339⇓ *i* P **P 16 41 38.2 0.0**
APA *i* PPP PPP 16 46 59.0
APA *i* 16 52 08.0
APA *i* PS **PnS 16 53 08.0 +1.9**
APA pmax pmax
comp=Z,119nm,1.2s
IGT Igoumenitsa 85.51 310 P **P 16 41 41.5 +2.4**
IGT Igoumenitsa 85.51 310 *e* P P 16 41 30.1 -9.0
IGT Igoumenitsa 85.51 310 P **P 16 41 41.5 +2.4**
IGT Igoumenitsa 85.51 310 P **P 16 41 41.5 +2.4**
BZS Buzias 85.61 316⇓ *i* P **P 16 41 39.7 +0.3**
KWP Kalwaria Pacla 85.64 320 *e* P **P 16 41 40.3 +0.8**
KWP *e* S **S 16 52 09.3 -0.9**
KWP LMZ LR 17 26 17.1
KWP Kalwaria Pacla 85.64 320 *e* P **P 16 41 40.4 +0.9**
KWP *e* S **S 16 52 09.3 -0.9**
KWP MLR MLR
comp=Z,27µm,24.8s
KWP Kalwaria Pacla 85.64 320⇓ *i* P **P 16 41 40.1 +0.6**
KWP Kalwaria Pacla 85.64 320 *e* P **P 16 41 38.3 -1.2**
comp=Z,30nm,0.7s
KWP LR LR
comp=Z,21µm,19.0s
SIRR Siria 85.69 317⇑ *i* P **P 16 41 39.5 -0.3**
UZH Uzhgorod 85.71 319 *e* P **P 16 41 41.4 +1.6**
UZH *e* 16 41 47.8
UZH *i* S **S 16 52 10.2 -0.6**
UZH MLR MLR
comp=N,10µm,19.5s
UZH MLR MLR
comp=E,12µm,19.5s
UZH MLR MLR
comp=Z,6µm,19.5s
KOLS Kolonicke sedl 85.78 320 *e* P **P 16 41 40.6 +0.4**
KOLS pmax pmax
comp=Z,41nm,0.9s
KOLS Kolonicke sedl 85.78 320 *e* P **P 16 41 40.6 +0.4**
QSPA South Pole Qui 85.84 180 LR LR 17 17 46.8
comp=Z,12µm,18.3s,baz=317,slow=34
QSPA South Pole Qui 85.84 180 *e* P **P 16 41 39.3 -1.0**
comp=Z,49nm,1.1s
NVL N'lazarevskaya 85.88 199 *e* P P 16 41 51.2 +11
NVL *e* 16 42 07.8
NVL pmax pmax
comp=Z,26nm,1.0s
AFI Afiamalu 86.23 104 P **P 16 41 43.8 +0.6**
AFI pmax pmax
comp=Z,134nm,0.9s
AFI MLR MLR
comp=Z,6µm,20.0s
AFI Afiamalu 86.23 104 P **P 16 41 43.8 +0.6**
comp=Z,134nm,0.9s
AFI LR LR
comp=Z,6µm,20.0s
SUW Suwalki 86.26 325 *e* P **P 16 41 42.8 +0.4**
SUW *e* S **S 16 52 13.0 -2.9**
SUW LMZ LR 17 27 58.8
SUW Suwalki 86.26 325 *e* P **P 16 41 42.9 +0.5**
SUW *e* S **S 16 52 13.0 -2.9**
SUW MLR MLR
comp=Z,18µm,21.9s
SUW Suwalki 86.26 325 *e* P **P 16 41 42.0 -0.4**
comp=Z,376nm,1.0s
CRVS Cervenica-Dubn 86.31 319 *e* P **P 16 41 42.9 +0.1**
CRVS pmax pmax
comp=Z,46nm,1.9s
CRVS Cervenica-Dubn 86.31 319 *e* P **P 16 41 42.9 +0.1**
DIVS Divibare 86.49 315 P **P 16 41 44.5 +0.6**
DIVS Divibare 86.49 315⇑ *i* P **P 16 41 44.7 +0.8**
FIA1 FINESS Array S 86.51 332 *e* P **P 16 41 42.5 -0.9**
FINES FINESS Array B 86.51 332 P **P 16 41 43.0 -0.5**
comp=Z,104nm,1.1s,baz=108,slow=6.2,SNR=42
FINES S **S 16 52 14.5 -3.5**
comp=Z,3.4nm,1.1s,baz=134,slow=16,SNR=3.4
FINES LR LR 17 26 03.9
comp=Z,26µm,19.3s,baz=112,slow=40
FINES FINESS Array B 86.51 332 P **P 16 41 43.0 -0.5**
FINES S **S 16 52 14.5 -3.5**
FINES FINESS Array B 86.51 332 P **P 16 41 43.0 -0.5**
FINES S **S 16 52 14.5 -3.5**
STHS Stebnicka Huta 86.54 320 *e* P **P 16 41 44.9 +1.0**
STHS pmax pmax
comp=Z,9.0nm,0.9s
STHS Stebnicka Huta 86.54 320 *e* P **P 16 41 44.9 +1.0**
NIE Niedzica 87.14 320 *e* P **P 16 41 48.2 +1.4**
NIE *e* S **S 16 52 26.7 +2.0**
NIE LMZ LR 17 27 21.8
NIE Niedzica 87.14 320 *e* P **P 16 41 48.3 +1.4**
NIE *e* S **S 16 52 26.8 +2.0**
NIE MLR MLR
comp=Z,21µm,21.4s
PSZ Piszkesteto 87.17 318 *e* P **P 16 41 44.7 -2.4**
PSZ pmax pmax
comp=Z,116nm,1.5s
PSZ MLR MLR
comp=Z,15µm,20.0s
PSZ Piszkesteto 87.17 318⇓ *i* P **P 16 41 48.3 +1.2**
PSZ Piszkesteto 87.17 318 *e* P **P 16 41 44.7 -2.4**
comp=Z,116nm,1.5s
PSZ LR LR
comp=Z,15µm,20.0s
PSZ Piszkesteto 87.17 318⇑ *e* P **P 16 41 48.1 +1.0**
BEL Belsk 87.25 322 *e* P **P 16 41 48.5 +1.2**
BEL *e* S **S 16 52 25.5 -0.2**
BEL LMZ LR 17 24 42.7
BEL Belsk 87.25 322 *e* P **P 16 41 48.5 +1.2**
BEL *e* S **S 16 52 25.5 -0.2**
BEL MLR MLR
comp=Z,45µm,23.2s
OJC Ojcow 87.60 321 *e* P **P 16 41 49.9 +0.8**
OJC *e* S **S 16 52 29.2 +0.1**
OJC LMZ LR 17 27 34.0
OJC Ojcow 87.60 321 *e* P **P 16 41 49.9 +0.8**
OJC *e* S **S 16 52 29.2 +0.1**
OJC MLR MLR
comp=Z,18µm,22.1s
PKSM Moragy 87.75 316⇑ *i* P **P 16 41 49.9 +0.1**
PKSM Moragy 87.75 316⇑ *e* P **P 16 41 50.3 +0.5**
VYHS Vyhne 87.95 319 *e* P **P 16 41 51.0 +0.2**
VYHS pmax pmax
comp=Z,84nm,2.7s
VYHS Vyhne 87.95 319 *e* P **P 16 41 51.0 +0.2**
PKSG 88.09 318⇑ *e* P **P 16 41 52.4 +1.0**
TIP Timpagrande 88.21 309 *e* P **P 16 41 52.7 +0.4**
comp=Z,53nm,1.2s
TIP LR LR
comp=Z,8µm,20.0s
PKST T''s 88.31 317 *e* P **P 16 41 52.2 -0.3**
KEV Kevo 88.40 340 *e* P **P 16 41 53.1 +0.7**
KEV pmax pmax
comp=Z,139nm,1.1s
KEV MLR MLR
comp=Z,65µm,22.0s
KEV Kevo 88.40 340 *e* P **P 16 41 53.1 +0.7**
comp=Z,139nm,1.1s
KEV LR LR
comp=Z,65µm,22.0s
OKC Ostrava-Krasne 88.59 320 *e* P **P 16 41 54.3 +0.5**
OKC *ex* x 16 41 57.9
OKC *ex* x 16 44 18.8
OKC *e* PP PP 16 45 30.1 +7.7
OKC *e* S **S 16 52 38.6 0.0**
OKC AMS AMS 17 32 40.0
comp=Z,12µm,16.4s
OKC Ostrava-Krasne 88.59 320 *e* P **P 16 41 54.3 +0.5**
OKC *e* 16 45 30.1
OKC *e* S **S 16 52 38.6 0.0**
OKC MLR MLR
comp=Z,12µm,16.4s
RAC Raciborz 88.60 320 *e* P **P 16 41 54.2 +0.4**
RAC *e* S **S 16 52 39.5 +0.9**
RAC MLR MLR
comp=Z,19µm,21.2s
CEL Celeste 88.78 308 *e* P **P 16 41 55.1 +0.1**
comp=Z,164nm,1.1s
CEL LR LR
comp=Z,12µm,20.0s
GSTR Great Sitkin T 88.84 38 P **P 16 41 55.6 +0.7**
ARCES ARCESS Array B 88.85 340 P **P 16 41 54.2 -0.4**
comp=Z,118nm,1.0s,baz=96,slow=4.9,SNR=55
ARCES S **SKSac 16 52 16.7 -5.3**
comp=Z,2.3nm,0.9s,baz=96,slow=16,SNR=2.2
ARCES LR LR 17 25 58.6
comp=Z,71µm,21.9s,baz=102,slow=38
ARCES ARCESS Array B 88.85 340 P **P 16 41 54.2 -0.4**
ARCES S **SKSac 16 52 16.7 -5.3**
ARCES ARCESS Array B 88.85 340 P **P 16 41 54.2 -0.4**
ARCES S **SKSac 16 52 16.7 -5.3**
ARE0 ARCESS Array S 88.85 340 *e* P **P 16 41 54.4 -0.2**
ARE0 *e* PP **PP 16 45 23.3 -0.6**
ARE0 *e* 16 52 35.3
ARE0 *e* SS SS 16 58 35.8 +3.2
ARE0 IAMs_20 IAMs_20 17 25 40.0
comp=Z,72µm,20.9s
ARE0 IVMs_BB IVMs_BB 17 25 55.5
comp=Z,21µm,21.8s
ARE0 ARCESS Array S 88.85 340 *e* P **P 16 41 54.0 -0.5**
MORC Moravsky Berou 88.97 320 *e* P **P 16 41 54.1 -1.5**
MORC pmax pmax
comp=Z,38nm,1.0s
MORC Moravsky Berou 88.97 320⇓ *i* P **P 16 41 56.0 +0.4**
MORC Moravsky Berou 88.97 320 *e* P **P 16 41 54.1 -1.5**
comp=Z,38nm,1.0s
CUC Castrocucco 89.03 310 P **P 16 41 54.3 -1.8**
comp=Z,67nm,1.3s
CUC LR LR
comp=Z,14µm,22.0s
KRLC Kraliky 89.50 320 *e* P **P 16 41 58.3 +0.2**
KRLC *ex* x 16 41 59.6
KRLC *ex* x 16 42 14.4
KRLC Kraliky 89.50 320 *e* P **P 16 41 58.3 +0.2**
KRLC *e* 16 42 14.4
KTK1 Kautokeino 89.50 339 *e* **SKKSac 16 52 40.8 +2.4**
VRAC Vranov 89.53 319⇓ *i* P **P 16 41 58.8 +0.6**
GKP Gorka Klasztor 89.62 323 *e* P **P 16 41 59.3 +0.8**
GKP *e* S **S 16 52 48.3 +0.3**
GKP LMZ LR 17 27 49.5
GKP Gorka Klasztor 89.62 323 *e* P **P 16 41 59.3 +0.8**
GKP *e* S **S 16 52 48.3 +0.3**
GKP MLR MLR
comp=Z,29µm,23.4s
WDD Wield Dalam 89.63 306 PFAKE 16 42 10.0 +11
WDD LR LR
comp=Z,19µm,20.0s
DPC Dobruska-Polom 89.83 320 *e* P **P 16 42 00.0 +0.4**
DPC *ex* x 16 42 03.9
DPC *ex* x 16 42 16.1
DPC *ex* x 16 44 25.7
DPC *e* PP PP 16 45 38.1 +5.8
DPC *e* S **S 16 52 51.0 +0.8**
DPC AMS AMS 17 31 30.0
DPC Dobruska-Polom 89.83 320 *e* P **P 16 42 00.0 +0.4**
DPC *e* 16 42 16.1
DPC *e* 16 45 38.1
DPC *e* S **S 16 52 51.0 +0.8**
CONA Conrad Observa 89.85 318⇑ *i* P **P 16 41 59.2 -0.7**
comp=Z,16nm,1.0s
KSP Ksiaz 89.90 321 *e* P **P 16 42 01.2 +1.3**
KSP *e* S **S 16 52 50.9 +0.1**
KSP LMZ LR 17 26 44.2
KSP Ksiaz 89.90 321 *e* P **P 16 42 01.2 +1.3**
KSP *e* S **S 16 52 50.9 +0.1**
KSP MLR MLR
comp=Z,19µm,23.4s
GROS Grobnik 89.94 316 *e* P **P 16 42 01.1 +0.9**

GROS *eS* **S** **16 52 50.9 -0.6**
ARSA Arzberg 90.01 317 ⇑ *i* PcP **P** **16 42 01.2 +0.7**
comp=Z,49nm,1.0s,SNR=18
TREC Trest 90.25 319 AMS AMS 17 29 10.0
comp=Z,24µm,21.0s
SOKA Soboth 90.28 317 *i* PcP **P** **16 42 03.2 +1.3**
comp=Z,40nm,1.1s,SNR=12
SNAA Sanae 90.46 198 P P 16 42 06.8 +4.6
SNAA Sanae 90.46 198 *e*P **P** **16 42 03.1 +0.9**
SNAA pmax pmax
comp=Z,52nm,1.1s
SNAA Sanae 90.46 198 *e*P **P** **16 42 03.0 +0.9**
comp=Z,52nm,1.1s
LJU Ljubljana 90.57 316 *e*P **P** **16 42 04.6 +1.4**
LJU *e* 16 44 28.9
LJU *e*PP PP 16 45 47.7 +9.4
LJU *e* 16 47 48.8
LJU *e*S **S** **16 52 55.6 -1.6**
LJU *e*SS **SS** **16 58 59.1 +0.4**
GOPC GO Pecny, Ondr 90.76 320 *e*P **P** **16 42 05.1 +1.1**
GOPC *ex* x 16 42 08.0
GOPC *ex* x 16 42 20.2
GOPC *ex* x 16 44 29.7
GOPC *ex* x 16 45 51.1
GOPC *e*S **S** **16 52 57.5 -1.3**
GOPC *ex* x 17 05 45.5
GOPC AMS AMS 17 32 10.0
comp=Z,12µm,18.2s
HOPEN Hopen 90.77 347 *e*P **P** **16 42 01.6 -1.7**
HOPEN *e*PP **PP** **16 45 38.2 -0.8**
HOPEN *e*SKSac **SKSac** **16 52 32.4 -0.6**
HOPEN IVMs_BB IVMs_BB 17 27 43.1
comp=Z,13µm,21.7s
HOPEN IAMs_20 IAMs_20 17 29 14.1
comp=Z,39µm,20.4s
CLTB Caltabellotta 90.82 307 PFAKE 16 42 20.0 +15
CLTB LR LR
comp=Z,8µm,21.0s
PRU Pruhonice 90.93 320 *e*P **P** **16 42 04.6 -0.1**
PRU *ex* x 16 42 05.8
PRU *ex* x 16 42 08.5
PRU *ex* x 16 44 30.2
PRU *ex* x 16 45 49.8
PRU *e*S **S** **16 52 56.7 -3.5**
PRU *ex* x 17 05 44.0
PRU AMS AMS 17 32 00.0
comp=Z,13µm,19.8s
PRU Pruhonice 90.93 320 *e*P **P** **16 42 04.6 -0.1**
PRU *e* 16 42 20.8
PRU *e* 16 45 49.8
PRU *e*S **S** **16 52 56.7 -3.5**
PRU MLR MLR
comp=Z,13µm,19.8s
PVCC Panska Ves 90.96 320 *e*P **P** **16 42 05.9 +1.1**
PVCC *ex* x 16 42 09.3
PVCC *ex* x 16 44 31.0
PVCC *ex* x 16 45 49.7
PVCC *e*S **S** **16 52 58.5 -2.0**
PVCC *ex* x 17 05 44.3
PVCC AMS AMS 17 31 50.0
comp=Z,24µm,18.4s
PVCC Panska Ves 90.96 320 *e*P **P** **16 42 05.9 +1.1**
PVCC *e* 16 45 49.7
PVCC *e*S **S** **16 52 58.5 -2.0**
PVCC MLR MLR
comp=Z,24µm,18.4s
PRA Prague 91.00 320 *e*P **P** **16 42 06.3 +1.3**
PRA *ex* x 16 42 09.7
PRA *ex* x 16 42 23.0
PRA *ex* x 16 44 31.4
PRA *ex* x 16 45 51.4
PRA *e*S **S** **16 52 59.5 -1.4**
PRA *ex* x 17 05 47.3
PRA AMS AMS 17 31 50.0
comp=Z,16µm,18.2s
PRA Prague 91.00 320 *e*P **P** **16 42 06.3 +1.3**
PRA *e* 16 42 23.0
PRA *e*S **S** **16 52 59.5 -1.4**
PRA MLR MLR
comp=Z,16µm,18.2s
AQU L'Aquila 91.06 312 PFAKE 16 42 20.0 +14
AQU LR LR
comp=Z,21µm,22.0s
TRO Tromso 91.12 340 *e*P **P** **16 42 04.8 -0.3**
TRO IAmb IAmb 16 42 08.4
comp=Z,127nm,1.3s
TRO IAMs_20 IAMs_20 17 26 46.4
comp=Z,51µm,21.2s
TRO IVMs_BB IVMs_BB 17 28 42.8
comp=Z,16µm,18.1s
CADS Cadrg 91.14 316 *e*P **P** **16 42 06.2 +0.4**
BSD Bornholm Skovb 91.18 325 *i* P **P** **16 42 05.1 -0.6**
comp=Z,51nm,1.0s
comp=Z,24µm,18.0s
BSD Bornholm Skovb 91.18 325 *i* P **P** **16 42 05.1 -0.6**
BSD pmax pmax
comp=Z,51nm,1.0s
BSD MLR MLR
comp=Z,24µm,18.0s
MYKA Terra Mystica 91.23 316 ⇑ *i* PcP **PcP** **16 42 07.1 -0.1**
comp=Z,23nm,0.9s
GEC2 GERESS Array S 91.37 319 *e*P **P** **16 42 08.0 +1.1**
comp=Z,115nm,1.6s
GERES GERESS Array B 91.37 319 P **P** **16 42 06.4 -0.5**
comp=Z,13nm,0.9s,baz=90,slow=5.3,SNR=24
GERES S SKSac 16 52 45.3 +7.5
comp=Z,0.3nm,0.5s,baz=192,slow=23,SNR=2.5
GERES LR LR 17 27 57.9
comp=Z,13µm,20.2s,baz=77,slow=39
GERES GERESS Array B 91.37 319 P **P** **16 42 06.4 -0.5**
GERES GERESS Array B 91.37 319 P **P** **16 42 06.4 -0.5**
GERES S SKSac 16 52 45.3 +7.5
BRG Berggiesshubel 91.39 321 *i* P **P** **16 42 07.3 +0.5**
comp=Z,37nm,1.4s
BRG *e* 16 42 24.9
comp=Z,95nm,1.7s
BRG Berggiesshubel 91.39 321 S **S** **16 53 05.0 +0.6**
BRG SS SS 16 59 30.0 +20
comp=Z,25µm,22.5s
comp=N,22µm,21.3s
comp=E,17µm,21.3s
BRG Berggiesshubel 91.39 321 *e*P **P** **16 42 08.2 +1.4**
comp=Z,94nm,1.7s
BRG Berggiesshubel 91.39 321 *i* P **P** **16 42 07.3 +0.5**
BRG *e* 16 42 24.9
BRG S **S** **16 53 05.0 +0.6**
BRG pmax pmax
comp=Z,37nm,1.4s
BRG MLR MLR
comp=Z,25µm,22.5s
BRG MLR MLR
comp=N,22µm,21.3s
BRG MLR MLR
comp=E,17µm,21.3s
KHC Kasperske Hory 91.48 319 *e*P **P** **16 42 07.0 -0.3**
KHC *e*sP **sP** **16 42 19.5 +0.5**
KHC *ex* x 16 42 27.5
KHC Kasperske Hory 91.48 319 *e*P **P** **16 42 07.0 -0.3**
KHC *e* 16 42 19.5
RUE Ruedersdorf 91.62 322 P **P** **16 42 06.9 -0.8**
comp=E,66nm,1.0s
BJO Bjornoya 91.80 345 *e*SKSac **SKSac** **16 52 45.3 +6.4**
BJO *e* 16 53 08.9
BJO IVMs_BB IVMs_BB 17 30 39.5
comp=Z,14µm,20.6s
BJO IAMs_20 IAMs_20 17 30 45.6
comp=Z,44µm,19.2s
RJOB Jochberg 91.89 318 *e*P **P** **16 42 09.5 +0.2**
comp=Z,36nm,1.1s
WET Wettzell 91.94 319 *e*P **P** **16 42 10.4 +1.0**
comp=Z,40nm,1.1s
CLL Collm 92.01 321 *e*P **P** **16 42 10.5 +0.8**
comp=Z,172nm,2.5s
CLL Collm 92.01 321 ⇑ *i* P **P** **16 42 10.5 +0.8**
comp=Z,28nm,1.6s
CLL *e*pP **pP** **16 42 19.0 +0.8**
CLL *e* 16 45 40.0
CLL *e*sPP 16 46 02.0
CLL *e*PPP PPP 16 47 43.0
CLL *e*S **S** **16 53 07.0 -3.0**
comp=N,13µm,31.9s
CLL *e*S **S** **16 53 07.0 -3.0**
comp=E,3µm,22.5s
CLL *e*PS **PS** **16 54 23.0 -0.3**

CLL *e*SS **SS** **16 59 14.0 -5.1**
CLL *e*SSS SSS 17 02 59.0
CLL *e*SSSS 17 06 12.0
CLL LmH 17 29 00.0
comp=N,27µm,20.7s
CLL LmH 17 29 00.0
comp=E,6µm,18.2s
CLL LmV 17 33 00.0
comp=Z,23µm,20.4s
CLL Collm 92.01 321 ⇑ *i* P **P** **16 42 10.5 +0.8**
CLL *i* 16 42 25.6
CLL *e*S **S** **16 53 07.0 -3.0**
CLL pmax pmax
comp=Z,28nm,1.6s
CLL MLR MLR
comp=Z,23µm,20.4s
ABTA Abfaltersbach 92.02 317 ⇓ *i* PcP **PcP** **16 42 10.6 -0.2**
comp=Z,19nm,1.2s
VNA2 Neumayer--Watz 92.08 198 P P 16 42 14.3 +4.6
baz=86,slow=4.5
STEI Steigen 92.25 338 *e*P **P** **16 42 11.2 +0.8**
NKC Novy Kostel 92.29 320 *e*P **P** **16 42 12.2 +1.2**
NKC *ex* x 16 42 14.9
NKC *ex* x 16 42 26.8
NKC *ex* x 16 44 36.5
NKC *e*PP PP 16 45 59.6 +7.9
NKC *ex* x 16 52 54.2
NKC AMS AMS 17 27 50.0
comp=Z,15µm,21.6s
NKC Novy Kostel 92.29 320 *e*P **P** **16 42 12.2 +1.2**
NKC *e* 16 42 26.8
NKC *e* 16 45 59.6
NKC MLR MLR
comp=Z,15µm,21.6s
TANN Tannenbergstha 92.29 320 *e*P **P** **16 42 12.0 +0.9**
comp=Z,116nm,2.5s
ROTZ Rotzenmuhle 92.42 320 *e*P **P** **16 42 13.2 +1.6**
comp=Z,38nm,1.3s
GAMB Gambell 92.44 26 *e*P **P** **16 42 11.3 0.0**
comp=Z,40nm,1.1s
VNA1 Neumayer--Stat 92.44 198 P P 16 42 16.1 +4.8
COP Copenhagen 92.64 325 *i* P P 16 42 18.6 +6.2
comp=Z,12µm,20.0s
COP Copenhagen 92.64 325 *i* P P 16 42 18.6 +6.2
COP MLR MLR
comp=Z,12µm,20.0s
MOX Moxa 92.84 320 *e*P **P** **16 42 14.5 +0.9**
comp=Z,176nm,2.8s
MOX *e*L L 17 29 30.6
comp=Z,16µm,22.0s
LOF Lofoten 92.90 338 *e*P P 16 42 19.3 +5.9
LOF IVMs_BB IVMs_BB 17 30 22.2
comp=Z,15µm,18.3s
LOF IAMs_20 IAMs_20 17 30 26.7
comp=Z,44µm,18.3s
SPA0 Spitsbergen Ar 92.94 348 *e*P **P** **16 42 11.2 -2.3**
SPA0 *e*PP **PP** **16 45 55.3 -0.8**
SPA0 *e*SKSac **SKSac** **16 52 51.3 +6.0**
SPA0 IVMs_BB IVMs_BB 17 32 45.1
comp=Z,20µm,18.1s
HSPB Hornsund (broa 93.00 347 *e*P **P** **16 42 14.8 +1.1**
HSPB IAMs_20 IAMs_20 17 31 41.9
comp=Z,59µm,19.9s
HSPB IVMs_BB IVMs_BB 17 31 56.9
comp=Z,19µm,22.0s
MOTA Moosalm 93.01 317 ⇑ *i* P **P** **16 42 13.9 -0.7**
comp=Z,19nm,0.9s,SNR=7.7
GRF Grafenberg Arr 93.05 319 *e*P **P** **16 42 15.9 +1.3**
comp=Z,112nm,1.7s
GRF *e*PP **PP** **16 46 00.9 +3.2**
GRF *e*L L 17 33 42.7
comp=Z,17µm,19.3s
GRFO Grafenberg 93.05 319 *e*P **P** **16 42 15.0 +0.4**
GRFO pmax pmax
comp=Z,15nm,0.9s
GRFO Grafenberg 93.05 319 *e*P **P** **16 42 14.9 +0.4**
comp=Z,15nm,0.9s
RETA Reutte 93.25 317 ⇑ *i* PcP **P** **16 42 15.5 -0.1**
comp=Z,18nm,0.9s
FETA Feichten 93.25 317 ⇑ *i* PcP **PcP** **16 42 16.3 0.0**
comp=Z,19nm,1.0s
NSS Namsos 93.33 334 *e*P **P** **16 42 15.6 +0.1**
NSS *e*PP **PP** **16 45 58.8 -0.6**
NSS *e*SKSac **SKSac** **16 52 50.5 +2.7**
NSS *e* 16 53 21.8
NSS IAMs_20 IAMs_20 17 29 07.5
comp=Z,35µm,19.8s
NSS IVMs_BB IVMs_BB 17 29 22.4
comp=Z,11µm,18.2s
NC602 NORSAR Array S 93.37 331 *e*P **P** **16 42 15.9 +0.2**
NC602 *e*PP **PP** **16 45 58.8 -1.1**
NC602 *e*SKSac **SKSac** **16 52 54.5 +6.3**
NC602 *e* 16 53 21.6
NC602 *e*SS **SS** **16 59 39.4 +1.3**
NC602 IVMs_BB IVMs_BB 17 29 05.6
comp=Z,10µm,22.5s
VLC Villacollemand 93.37 314 PFAKE 16 42 30.0 +14
VLC LR LR
comp=Z,25µm,21.0s
NB2 NORSAR Subarra 93.54 331 P P **16 42 16.4 -0.1**
comp=Z,1.3nm,0.8s,baz=95,slow=5.3
NB2 NORSAR Subarra 93.54 331 P P **16 42 16.4 -0.1**
baz=95,slow=5.3
NOA NORSAR Array B 93.54 331 P P **16 42 16.5 -0.1**
comp=Z,25nm,1.0s,baz=92,slow=4.6,SNR=19
NOA PP **PP** **16 46 00.4 -0.9**
comp=Z,7.4nm,0.9s,baz=88,slow=7.6,SNR=3.2
NOA S **SKSac** **16 52 54.3 +5.1**
comp=Z,0.7nm,0.8s,baz=116,slow=9.2,SNR=2.1
NOA LR LR 17 29 34.4
comp=Z,11µm,18.6s,baz=90,slow=39
NOA NORSAR Array B 93.54 331 P P **16 42 16.5 -0.1**
NOA 16 46 00.4
NOA S **SKSac** **16 52 54.3 +5.1**
NOA NORSAR Array B 93.54 331 P **P** **16 42 16.5 -0.1**
NOA PP **PP** **16 46 00.3 -0.9**
NOA S **SKSac** **16 52 54.3 +5.1**
CLZ Clausthal 93.68 322 *e*P **P** **16 42 18.2 +0.8**
comp=Z,53nm,1.6s
NAO01 NORSAR Array S 93.69 331 *e*P **P** **16 42 16.1 -1.2**
comp=Z,25nm,0.9s
BSEG Bad Segeberg 93.78 324 *e*P **P** **16 42 18.5 +0.8**
comp=Z,27nm,1.1s
KEST Kesra 93.82 305 P P **16 42 19.1 +0.6**
comp=Z,2.4nm,0.8s,baz=98,slow=7.1,SNR=4.6
KEST Kesra 93.82 305 *e*P **P** **16 42 19.5 +1.0**
DAVA Damuels 93.84 317 ⇑ *i* P **P** **16 42 16.7 -1.7**
comp=Z,27nm,1.0s
NRDL Niedersach Rie 93.86 322 *e*P **P** **16 42 19.3 +1.2**
comp=Z,59nm,1.4s
KBS Kingsbay 93.87 349 *e*P **P** **16 42 16.5 -1.2**
KBS IVMs_BB IVMs_BB 17 32 56.8
comp=Z,22µm,20.3s
KBS Kingsbay 93.87 349 PFAKE 16 42 30.0 +12
KBS LR LR
comp=Z,58µm,19.0s
UBBA Unterbreizbach 93.88 321 *e*P **P** **16 42 18.8 +0.6**
comp=Z,84nm,2.3s
VSL Villasalto 93.94 309 PFAKE 16 42 30.0 +11
VSL LR LR
comp=Z,6µm,19.0s
TBLU Trondheim 94.05 333 *e*P P 16 42 22.7 +3.9
TBLU IAMs_20 IAMs_20 17 33 33.9
comp=Z,44µm,18.8s
TBLU IVMs_BB IVMs_BB 17 33 47.4
comp=Z,14µm,18.1s
TNA Tin City 94.14 25 *e*P **P** **16 42 17.9 -1.3**
comp=Z,25nm,1.0s
TUE Stuetta 94.19 316 PFAKE 16 42 30.0 +10
TUE LR LR
comp=Z,18µm,22.0s
KONO Kongsberg 94.31 329 *e*P **P** **16 42 20.2 +0.2**
KONO *e*P **pP** **16 42 26.3 -2.3**
KONO IVMs_BB IVMs_BB 17 31 02.2
comp=Z,9µm,17.1s
KONO IAMs_20 IAMs_20 17 31 06.3
comp=Z,26µm,18.2s
KONO Kongsberg 94.31 329 *e*P **P** **16 42 19.7 -0.4**
KONO pmax pmax
comp=Z,22nm,1.0s
KONO MLR MLR
comp=Z,26µm,19.0s
KONO Kongsberg 94.31 329 *e*P **P** **16 42 19.7 -0.4**
comp=Z,22nm,1.0s
KONO LR LR
comp=Z,26µm,19.0s

MUD Monsted U'grnd 94.49 326 *i* P P 16 42 25.6 +4.7
comp=Z,24nm,1.0s
comp=Z,25µm,16.0s
MUD Monsted U'grnd 94.49 326 *i* P P 16 42 25.6 +4.7
MUD pmax pmax
comp=Z,24nm,1.0s
MUD MLR MLR
comp=Z,25µm,16.0s
TNS Taunus Mts 94.86 320 *e*P **P** **16 42 23.9 +1.0**
comp=Z,32nm,1.0s
HOMB Homborsund 94.86 328 *e*P **P** **16 42 20.2 -2.4**
HOMB *e* 16 53 32.4
HOMB IAMs_20 IAMs_20 17 30 07.0
comp=Z,31µm,20.2s
HOMB IVMs_BB IVMs_BB 17 30 18.7
comp=Z,9µm,18.4s
BFO Black Forest 94.91 318 *e*P **P** **16 42 20.9 -2.3**
BFO pmax pmax
comp=Z,9.0nm,1.1s
BFO MLR MLR
comp=Z,12µm,22.0s
BFO Black Forest 94.91 318 *e*P **P** **16 42 20.9 -2.3**
comp=Z,9.3nm,1.1s
BFO LR LR
comp=Z,12µm,22.0s
IBBN Ibbenburen 95.30 322 *e*P **P** **16 42 25.7 +0.9**
comp=Z,65nm,1.8s
SBF Sospel 95.49 314 *e*P **P** **16 42 25.3 -0.7**
comp=Z,68nm,1.0s
SBF Sospel 95.49 314 *e*P **P** **16 42 25.3 -0.7**
SBF pmax pmax
comp=Z,69nm,1.0s
SBF Sospel 95.49 314 *e*P **P** **16 42 25.3 -0.7**
comp=Z,68nm,1.0s
SNART Snartemo 95.55 328 *e*P P 16 42 34.3 +8.6
AKN Aaknes 95.56 332 *e*P P 16 42 29.8 +4.0
CDF Champ du Feu 95.61 318 *e*P **P** **16 42 25.8 -0.7**
CDF Champ du Feu 95.61 318 *e*P **P** **16 42 25.8 -0.7**
CDF Champ du Feu 95.61 318 *e*P **P** **16 42 25.8 -0.7**
ECH Echery 95.69 318 PFAKE 16 42 40.0 +13
ECH LR LR
comp=Z,12µm,19.0s
HINF Hinteralfeld 95.90 317 *e*P **P** **16 42 27.4 -0.3**
HINF Hinteralfeld 95.90 317 *e*P **P** **16 42 27.4 -0.3**
HINF Hinteralfeld 95.90 317 *e*P **P** **16 42 27.4 -0.3**
HYA Hoyanger 95.98 331 *e*P **P** **16 42 30.1 +2.5**
LPG La Plagne 95.98 315 *e*P **P** **16 42 27.8 -0.7**
comp=Z,20nm,0.9s
LPG La Plagne 95.98 315 *e*P **P** **16 42 27.8 -0.7**
LPG pmax pmax
comp=Z,20nm,0.9s
LPG La Plagne 95.98 315 *e*P **P** **16 42 27.8 -0.7**
comp=Z,20nm,0.9s
LPL La Plagne 96.00 315 *e*P **P** **16 42 27.8 -0.6**
comp=Z,37nm,1.2s
LPL La Plagne 96.00 315 *e*P **P** **16 42 27.8 -0.6**
LPL pmax pmax
comp=Z,37nm,1.2s
LPL La Plagne 96.00 315 *e*P **P** **16 42 27.8 -0.6**
comp=Z,37nm,1.2s
BNI Bardonecchia 96.04 315 PFAKE 16 42 40.0 +11
BNI LR LR
comp=Z,21µm,22.0s
HAU Haudompre 96.24 318 *e*P **P** **16 42 28.4 -0.8**
comp=Z,52nm,1.3s
HAU *e*R
comp=Z,24µm,23.0s
HAU Haudompre 96.24 318 *e*P **P** **16 42 28.4 -0.8**
HAU pmax pmax
comp=Z,52nm,1.3s
HAU Haudompre 96.24 318 *e*P **P** **16 42 28.4 -0.8**
comp=Z,52nm,1.3s
WLF Walferdange 96.34 319 PFAKE 16 42 40.0 +10
WLF LR LR
comp=Z,20µm,22.0s
BER Bergen 96.43 330 *e*P **P** **16 42 31.9 +2.2**
BER *e*PP **PP** **16 46 26.6 +3.0**
BER IVMs_BB IVMs_BB 17 30 35.5
comp=Z,8µm,24.7s
BER IAMs_20 IAMs_20 17 30 43.6
comp=Z,29µm,21.6s
FOO Floro 96.51 331 *e*P P 16 42 37.8 +7.8
FOO *e*PP **PP** **16 46 26.4 +2.3**
FOO IAMs_20 IAMs_20 17 35 26.3
comp=Z,12µm,19.1s
FOO IVMs_BB IVMs_BB 17 35 39.2
comp=Z,4µm,18.4s
KMY Karmoy 96.54 329 *e*P P 16 42 34.2 +4.0
SUE Sulen 96.68 331 *e*P P 16 42 40.9 +10
SUE *e*PP **PP** **16 46 29.1 +3.6**
SUE IVMs_BB IVMs_BB 17 30 42.6
comp=Z,8µm,19.2s
TAM Tamanrasset 96.73 292 PFAKE 16 42 40.0 +7.8
TAM LR LR
comp=Z,16µm,21.0s
MEZF Maizieres J'vi 97.09 318 *e*P **P** **16 42 32.5 -0.5**
MEZF Maizieres J'vi 97.09 318 *e*P **P** **16 42 32.5 -0.5**
SFTF Sexfontaines 97.11 318 *e*P **P** **16 42 32.6 -0.5**
SFTF Sexfontaines 97.11 318 *e*P **P** **16 42 32.6 -0.5**
SSB Saint Sauveur 97.54 315 PFAKE 16 42 50.0 +15
SSB LR LR
comp=Z,11µm,22.0s
BAIF Baives 97.59 320 *e*P **P** **16 42 34.9 -0.3**
BAIF Baives 97.59 320 *e*P **P** **16 42 34.9 -0.3**
BAIF Baives 97.59 320 *e*P **P** **16 42 34.9 -0.3**
LOR Lormes 97.94 317 *e*P **P** **16 42 36.4 -0.5**
comp=Z,40nm,1.4s
LOR *e*R
comp=Z,13µm,19.8s
LOR Lormes 97.94 317 *e*P **P** **16 42 36.4 -0.5**
LOR pmax pmax
comp=Z,40nm,1.4s
LOR Lormes 97.94 317 *e*P **P** **16 42 36.4 -0.5**
comp=Z,40nm,1.4s
SMF Signal de Mont 97.98 316 *e*P **P** **16 42 36.4 -0.7**
comp=Z,27nm,1.1s
SMF Signal de Mont 97.98 316 *e*P **P** **16 42 36.4 -0.7**
SMF pmax pmax
comp=Z,27nm,1.1s
SMF Signal de Mont 97.98 316 *e*P **P** **16 42 36.4 -0.7**
comp=Z,27nm,1.1s
SSF Saint Saulge 98.19 317 *e*P **P** **16 42 37.7 -0.3**
comp=Z,27nm,1.2s
SSF Saint Saulge 98.19 317 *e*P **P** **16 42 37.7 -0.3**
SSF pmax pmax
comp=Z,27nm,1.2s
SSF Saint Saulge 98.19 317 *e*P **P** **16 42 37.7 -0.3**
comp=Z,27nm,1.2s
AVF Avril sur Loir 98.31 317 *e*P **P** **16 42 38.0 -0.5**
comp=Z,58nm,1.6s
AVF Avril sur Loir 98.31 317 *e*P **P** **16 42 38.0 -0.5**
AVF pmax pmax
comp=Z,58nm,1.6s
AVF Avril sur Loir 98.31 317 *e*P **P** **16 42 38.0 -0.5**
comp=Z,58nm,1.6s
IM04 Indian Mountai 99.90 24 *e*Pdif **Pdif** **16 42 44.8 -0.4**
TORD Torodi Ar. Bea 100.08 283 P **Pdif** **16 42 46.6 -0.5**
comp=Z,0.7nm,1.1s,baz=87,slow=5.6,SNR=2.6
TORD PP **PP** **16 46 52.7 -0.2**
comp=Z,2.4nm,1.1s,baz=104,slow=7.4,SNR=3.0
TORD PKKPbc **PKKPbc** **16 59 05.9 +0.5**
comp=Z,0.7nm,0.6s,baz=295,slow=3.1,SNR=3.6
TORD Torodi Ar. Bea 100.08 283 P **Pdif** **16 42 46.6 -0.5**
TORD PP **PP** **16 46 52.7 -0.2**
TORD PKKPbc **PKKPbc** **16 59 05.9 +0.5**
JMIC Jan Mayen 100.22 342 *e*P **Pdif** **16 42 53.8 +7.3**
JMIC *e*PP **PP** **16 46 51.9 -0.4**
JMIC *e*SS SS 17 01 15.3 +1.1
JMIC IVMs_BB IVMs_BB 17 31 25.0
comp=Z,8µm,21.4s
JMIC IAMs_20 IAMs_20 17 31 31.1
comp=Z,26µm,20.3s
COLD Coldfoot 100.98 22 *e*Pdif **Pdif** **16 42 49.8 -0.2**
comp=Z,42nm,1.6s
ESK Eskdalemuir 101.52 326 PFAKE 16 43 00.0 +7.3
ESK LR LR
comp=Z,12µm,20.0s
XMAS Kiritimati 101.56 89 PFAKE 16 43 10.0 +16
XMAS LR LR
comp=Z,7µm,20.0s
KIP Kipapa 101.62 69 PFAKE 16 43 10.0 +16
KIP LR LR
comp=Z,6µm,21.0s
TRF Thorofare Moun 101.95 26 *e*Pdif **Pdif** **16 42 54.8 +0.1**
comp=Z,12nm,1.0s
KDAK Kodiak Island 102.16 32 *e*P **Pdif** **16 42 54.7 -0.7**

KDAK pmax pmax
comp=Z,11nm,1.1s
KDAK MLR MLR
comp=Z,21µm,20.0s
KDAK Kodiak Island 102.16 32 *e*Pdif **Pdif 16 42 54.7 -0.7**
comp=Z,11nm,1.1s
KDAK LR LR
comp=Z,21µm,20.0s
MCK McKinley 102.46 25 *e*P **Pdif 16 42 56.6 -0.1**
MCK pmax pmax
comp=Z,22nm,1.0s
MCK McKinley 102.46 25 *e*Pdif **Pdif 16 42 56.5 -0.1**
comp=Z,22nm,1.0s
COLA College 102.58 24 PFAKE 16 43 10.0 +13
COLA LR LR
comp=Z,19µm,20.0s
RC01 Rabbit Creek A 102.81 28 Pdif **Pdif 16 42 57.8 -0.5**
comp=Z,12nm,0.9s
ILAR Eielson Array 103.00 24 Pdiff **Pdif 16 42 58.7 -0.3**
comp=Z,2.7nm,1.1s,baz=302,slow=5.2,SNR=15
ILAR PP PP 16 47 03.6 -10
comp=Z,2.8nm,0.9s,baz=297,slow=6.7,SNR=4.7
ILAR PKKPbc **PKKPbc 16 59 01.1 +2.5**
comp=Z,0.5nm,0.8s,baz=154,slow=1.6,SNR=3.2
ILAR Eielson Array 103.00 24 P **Pdif 16 42 58.7 -0.3**
ILAR Eielson Array 103.00 24 Pdif **Pdif 16 42 58.7 -0.3**
ILAR PP PP 16 47 03.6 -10
ILAR PKKPbc **PKKPbc 16 59 01.1 +2.5**
SEW Seward 103.20 29 *e*Pdif **Pdif 16 42 59.7 -0.3**
comp=Z,9.6nm,0.9s
POHA Pohakuloa 103.96 71 PFAKE 16 43 20.0 +15
POHA LR LR
comp=Z,5µm,21.0s
PAB San Pablo 104.53 310 PFAKE 16 43 20.0 +13
PAB LR LR
comp=Z,11µm,20.0s
SHEL Horse Pasture 104.98 252 PFAKE 16 47 40.0
SHEL LR LR
comp=Z,3µm,19.0s
BMRM Bremner River 105.23 27 *e*Pdif **Pdif 16 43 08.8 -0.3**
comp=Z,17nm,1.0s
EGAK Eagle 105.29 23 PFAKE 16 47 30.0
EGAK LR LR
comp=Z,21µm,20.0s
TRIS Tristan da Cun 105.91 230 PFAKE 16 47 40.0
TRIS LR LR
comp=Z,10µm,20.0s
H09N1 TRISTAN DA CUN105.91 230 T T 18 41 09.9
SNR=5.7
H09W1 TRISTAN DA CUN105.91 230 T T 18 41 08.5
SNR=5.9
PBRG Braganca 106.03 312 *e*PKiKP **PKiKP 16 47 27.6 +2.4**
PBRG *e*Sdif Sdif 16 55 17.1 +7.2
PBRG Braganca 106.03 312 *e*LQ LQ 17 12 58.1
PBRG *e*LR LR 17 22 08.7
comp=Z,10µm,20.0s
TBI Tubuai 106.07 116 *e*Pdif **Pdif 16 43 12.3 -1.3**
comp=Z,697nm,29.8s
TBI Tubuai 106.07 116 *e*PP PP 16 47 34.7 -2.7
comp=Z,1µm,31.8s
TBI *e*SKSac **SKSac 16 53 48.6 -4.0**
comp=Z,2µm,28.5s
TBI *e*Sdif **Sdif 16 55 07.2 -3.6**
comp=Z,11µm,29.0s
TBI Tubuai 106.07 116 *e*PS PS 16 56 56.8 +1.2
comp=Z,3µm,27.8s
TBI *e*SS SS 17 02 38.5 +1.3
comp=Z,14µm,28.5s
TBI Tubuai 106.07 116 *e*LR LR 17 18 17.4
comp=Z,14µm,23.5s
VAL Valentia 106.33 323 *e*P **Pdif 16 43 12.6 -1.5**
VAL *e*PP **PP 16 47 42.7 +4.3**
INK Inuvik 106.33 18 Pdiff **Pdif 16 43 13.1 -0.7**
comp=Z,5.3nm,0.9s,baz=314,slow=6.0,SNR=5.3
INK Inuvik 106.33 18 P **Pdif 16 43 13.1 -0.7**
INK Inuvik 106.33 18 Pdif **Pdif 16 43 13.1 -0.7**
MVO Moncorvo 106.34 312 *e*Pdif **Pdif 16 43 11.7 -2.9**
MVO Moncorvo 106.34 312 *e*Sdif Sdif 16 55 16.3 +3.7
MVO Moncorvo 106.34 312 *e*LQ LQ 17 14 38.5
MVO *e*LR LR 17 22 10.4
comp=Z,7µm,20.0s
PBAR Barrancos 106.79 309 *e*PP PP 16 47 42.1 -0.3
PBAR *e*Sdif Sdif 16 55 18.7 +2.4
PBAR Barrancos 106.79 309 *e*LR LR 17 27 19.4
comp=Z,23µm,18.0s
MTE Manteigas 106.85 311 *e*PP PP 16 47 44.9 +2.1
MTE *e*SKSac **SKSac 16 53 52.3 -3.3**
MTE *e*Sdif **Sdif 16 55 20.5 +3.7**
MTE Manteigas 106.85 311 *e*LQ LQ 17 13 43.8
MTE *e*LR LR 17 22 21.3
comp=Z,10µm,20.0s
MTE Manteigas 106.85 311 PFAKE 16 47 40.0
MTE LR LR
comp=Z,11µm,22.0s
POLO Lamas de Olo 106.88 312 *e*PP PP 16 47 43.1 0.0
POLO *e*Sdif Sdif 16 55 21.1 +4.0
POLO Lamas de Olo 106.88 312 *e*LQ LQ 17 13 23.0
POLO *e*LR LR 17 22 48.3
comp=Z,5µm,20.0s
PMRV Marv??o 106.88 310 *e*PKPdf **PKiKP 16 47 28.9 +2.0**
PMRV *e*SKSac **SKSac 16 53 51.4 -4.2**
PMRV *e*Sdif **Sdif 16 55 17.8 +0.7**
PMRV Marv??o 106.88 310 *e*LR LR 17 26 29.4
comp=Z,8µm,20.0s
PCBR Castelo Branco 106.89 310 *e*PP PP 16 47 41.7 -1.3
PPT2 Papeete2 107.05 110 *e*Pdif **Pdif 16 43 17.6 -0.6**
comp=Z,947nm,27.8s
PPT2 Papeete2 107.05 110 *e*PP PP 16 47 40.1 -4.8
comp=Z,2µm,27.0s
PPT2 *e*SKSac **SKSac 16 53 54.7 -2.6**
comp=Z,3µm,28.0s
PPT2 *e*Sdif **Sdif 16 55 11.8 -7.6**
comp=Z,14µm,26.5s
PPT2 Papeete2 107.05 110 *e*PS PS 16 57 06.5 +0.3
comp=Z,5µm,28.5s
PPT2 Papeete2 107.05 110 *e*LR LR 17 18 46.0
comp=Z,13µm,25.8s
BORG Borgarnes 107.11 338 PFAKE 16 47 40.0
BORG LR LR
comp=Z,12µm,19.0s
PESTR Estremoz 107.12 309 *e*PP PP 16 47 44.9 +0.1
PESTR *e*Sdif Sdif 16 55 22.5 +3.4
PESTR Estremoz 107.12 309 *e*LQ LQ 17 12 52.4
PESTR *e*LR LR 17 21 43.3
comp=Z,9µm,20.0s
PGAV Gavieira, Arco 107.13 313 *e*Pdif **Pdif 16 43 18.4 +0.3**
PGAV Gavieira, Arco 107.13 313 *e*Sdif Sdif 16 55 24.5 +5.3
PGAV Gavieira, Arco 107.13 313 *e*LQ LQ 17 13 17.1
PGAV *e*LR LR 17 22 18.4
comp=Z,9µm,22.0s
SUMG Summit 107.28 348 *e*P **Pdif 16 43 19.6 +1.1**
SUMG pmax pmax
comp=Z,13nm,0.1s
SUMG Summit 107.28 348 *e*Pdif **Pdif 16 43 19.6 +1.1**
comp=Z,13nm,0.1s
PVAQ Vaqueiros 107.44 308 *e*PP PP 16 47 44.6 -2.5
PVAQ Vaqueiros 107.44 308 *e*LQ LQ 17 14 23.7
PVAQ *e*LR LR 17 22 39.8
comp=Z,13µm,22.0s
PMTG Montargil 107.58 310 *e*PP PP 16 47 45.3 -2.8
PMTG *e*Sdif Sdif 16 55 24.8 +2.0
PMTG Montargil 107.58 310 *e*LQ LQ 17 13 02.6
PMTG Montargil 107.58 310 *e*LR LR 17 24 21.6
comp=Z,7µm,22.0s
PCAS Casmilo, Conde 107.63 311 *e*PP PP 16 47 47.4 -1.1
PCAS *e*SKSdf **SKSdf 16 54 34.0 -4.6**
PCAS *e*Sdif **Sdif 16 55 26.8 +3.6**
PCAS Casmilo, Conde 107.63 311 *e*LQ LQ 17 12 01.8
PCAS Casmilo, Conde 107.63 311 *e*LR LR 17 23 06.2
comp=Z,11µm,20.0s
PBDV Barranco-do-Ve 107.63 308 *e*PP PP 16 47 48.2 -0.4
PBDV Barranco-do-Ve 107.63 308 *e*LQ LQ 17 12 57.5
PBDV *e*LR LR 17 22 48.9
comp=Z,10µm,22.0s
PCVE Castro Verde 107.66 308 *e*Pdif **Pdif 16 43 18.7 -1.7**
PCVE Castro Verde 107.66 308 *e*PP PP 16 47 50.3 +1.5
PCVE *e*Sdif Sdif 16 55 25.5 +2.0
PCVE Castro Verde 107.66 308 *e*LQ LQ 17 12 20.7
PCVE Castro Verde 107.66 308 *e*LR LR 17 22 56.3
comp=Z,37µm,22.0s
MESJ Messejana 107.77 308 *e*P **Pdif 16 43 19.7 -1.1**
MESJ *e*PP **PP 16 47 48.1 -1.4**
MESJ *e*SS SS 17 02 58.5 -1.2
MESJ AMS AMS 17 34 05.6
comp=E,11µm,25.2s
MESJ Messejana 107.77 308 *e*Pdif **Pdif 16 43 21.3 +0.5**
MESJ Messejana 107.77 308 *e*PP PP 16 47 55.9 +6.4
MESJ Messejana 107.77 308 *e*P **Pdif 16 43 19.7 -1.1**
MESJ *e* 16 47 48.1
MESJ *e*SS SS 17 02 58.5 -1.2
PNCL Nicolau / Gran 107.97 309 *e*PP PP 16 47 49.7 -1.3
PNCL *e*Sdif Sdif 16 55 29.7 +3.6
PNCL Nicolau / Gran 107.97 309 *e*LQ LQ 17 14 35.5
PNCL *e*LR LR 17 23 05.3
comp=E,13µm,20.0s
MORF Marmelete 108.19 308 *e*P **Pdif 16 43 21.8 -1.0**
MORF *e*PP **PP 16 47 50.9 -1.8**
MORF AMS AMS 17 34 17.8
comp=Z,12µm,16.7s
MORF Marmelete 108.19 308 *e*SKSac **SKSac 16 54 08.4 +7.0**
MORF *e*Sdif **Sdif 16 55 28.3 +0.2**
MORF Marmelete 108.19 308 *e*LQ LQ 17 15 03.4
MORF Marmelete 108.19 308 *e*LR LR 17 26 47.7
comp=Z,12µm,22.0s
MORF Marmelete 108.19 308 *e*P **Pdif 16 43 21.8 -1.0**
MORF *e* 16 47 50.8
LIS Lisbon 108.35 309 *e*P **Pdif 16 43 21.5 -2.0**
LIS *e*PP **PP 16 47 52.5 -1.3**
LIS AMS AMS 17 33 42.2
comp=Z,10µm,19.6s
LIS Lisbon 108.35 309 *e*P **Pdif 16 43 21.4 -2.0**
LIS *e* 16 47 52.4
PFVI Vila Bisbo 108.35 308 *e*PP PP 16 47 57.0 +3.2
PFVI *e*Sdif Sdif 16 55 30.5 +1.2
PFVI Vila Bisbo 108.35 308 *e*LQ LQ 17 15 01.4
PFVI Vila Bisbo 108.35 308 *e*LR LR 17 25 33.3
comp=Z,10µm,20.0s
PMAFR Mafra 108.41 310 *e*Sdif Sdif 16 55 38.5 +8.7
PMAFR Mafra 108.41 310 *e*LQ LQ 17 14 46.0
PMAFR Mafra 108.41 310 *e*LR LR 17 26 35.8
comp=Z,9µm,20.0s
HYT Haines Junctio 108.49 26 *e*PKiKP **PKiKP 16 47 28.6 -0.7**
KULLO Kullorsuaq 108.49 354 *i* P **Pdif 16 43 30.0 +6.8**
comp=Z,43µm,20.0s
PMSA Palmer Station 110.39 187 PFAKE 16 47 40.0
PMSA LR LR
comp=Z,10µm,20.0s
HOPE Hope Point 111.95 205 PFAKE 16 47 50.0
HOPE LR LR
comp=Z,8µm,19.0s
ILULI Ilulissat 112.46 350 *i* P **Pdif 16 43 42.1 +1.1**
comp=Z,36µm,17.0s
WRAK Wrangell Islan 112.93 29 PFAKE 16 47 50.0
WRAK LR LR
comp=Z,16µm,20.0s
DLBC Dease Lake 112.97 26 PKiKP **PKiKP 16 47 37.6 -0.2**
baz=280,slow=2.5
DLBC Dease Lake 112.97 26 PKiKP **PKiKP 16 47 37.6 -0.2**
SFJD Kangerlussuaq 114.28 348 PFAKE 16 47 50.0 +10
SFJD LR LR
comp=Z,28µm,20.0s
ASCN Ascension 114.52 259 PFAKE 16 47 50.0 +8.0
ASCN LR LR
comp=Z,10µm,19.0s
PMAR Madeira 115.69 304 *e*PP PP 16 48 45.7 -1.1
PMOZ Porto Moniz, M 115.90 304 *e*Sdif Sdif 16 56 39.7 +6.9
PMOZ Porto Moniz, M 115.90 304 *e*LR LR 17 21 57.5
comp=Z,11µm,18.0s
YKA Yellowknife Ar 116.07 18 Pdiff **Pdif 16 43 56.2 -1.0**
comp=Z,0.1nm,0.5s,baz=327,slow=4.8,SNR=2.8
YKA PKP **PKiKP 16 47 43.0 -0.5**
comp=Z,7.2nm,0.9s,baz=315,slow=2.0,SNR=18
YKA PP **PP 16 48 43.1 -4.7**
comp=Z,2.1nm,0.9s,baz=322,slow=7.9,SNR=3.9
YKA PKKPab **PKKPab 16 58 17.9 -1.1**
comp=Z,0.7nm,0.8s,baz=137,slow=4.0,SNR=5.2
YKA Yellowknife Ar 116.07 18 P **Pdif 16 43 56.2 -1.0**
YKA 16 47 43.0
YKA 16 58 17.9
YKA Yellowknife Ar 116.07 18 Pdif **Pdif 16 43 56.2 -1.0**
YKA PKP **PKiKP 16 47 43.0 -0.5**
YKA PP **PP 16 48 43.1 -4.7**
YKA PKKPab **PKKPab 16 58 17.9 -1.1**
BBB Bella Bella 117.23 32 PKP **PKPdf 16 47 46.0 0.0**
comp=Z,4.9nm,0.8s,baz=233,slow=5.1,SNR=3.0
BBB Bella Bella 117.23 32 PKP **PKPdf 16 47 46.0 0.0**
RKT Rikitea 118.98 119 *e*PP PP 16 49 09.3 -0.2
comp=Z,1µm,27.8s
RKT *e*Sdif Sdif 16 56 59.5 +1.0
comp=Z,5µm,28.0s
RKT Rikitea 118.98 119 *e*PS PS 16 58 57.9 0.0
comp=Z,2µm,30.0s
RKT *e*SS SS 17 05 26.7 -1.8
comp=Z,12µm,29.8s
RKT Rikitea 118.98 119 *e*LR LR 17 24 15.2
comp=Z,16µm,28.5s
PSMN Pico do Norte, 120.95 311 *e*PP PP 16 49 22.2 -0.5
PSET Sete Cidades 121.15 312 *e*PP PP 16 49 25.1 +1.1
EFI East Falkland 121.63 195 PFAKE 16 48 10.0 +15
EFI LR LR
comp=Z,5µm,20.0s
OSD Olympics--Snow 122.00 34 P **PKPdf 16 47 57.2 +1.5**
NLWA Neilton Lookou 122.14 35 PFAKE 16 48 10.0 +14
NLWA LR LR
comp=Z,13µm,20.0s
PGRA Graciosa 122.33 314 *e*PP PP 16 49 39.3 +7.3
MBW Mount Baker 122.43 32 P **PKPdf 16 47 56.9 +0.5**
PTCN Pitcairn Islan 122.45 123 PFAKE 16 48 10.0 +13
PTCN LR LR
comp=Z,6µm,21.0s
ROSA Rosais 122.64 314 *e*PP PP 16 49 38.5 +4.4
F04D Rainier, OR 123.36 35 ⇓P **PKPdf 16 47 55.8 -2.2**
baz=123
EDM Edmonton 123.49 24 *e*PKIKP **PKPdf 16 47 57.6 -0.6**
EDM Edmonton 123.49 24 *e*PKPdf **PKPdf 16 47 57.5 -0.6**
LON Longmire 123.67 34 *e*PKIKP **PKPdf 16 47 58.8 +0.1**
LON Longmire 123.67 34 *e*PKPdf **PKPdf 16 47 58.8 +0.1**
G03D McMinnville, O 123.69 36 ⇑P **PKPdf 16 47 56.8 -1.9**
baz=124
ETW Entiat 123.97 33 P **PKPdf 16 47 60.0 +0.6**
COR Corvallis 124.01 37 *e*PKIKP **PKPdf 16 47 58.9 -0.4**
COR Corvallis 124.01 37 *e*PKPdf **PKPdf 16 47 58.9 -0.4**
FCC Fort Churchill 124.25 10 PKIKP **PKPdf 16 47 59.1 -0.2**
FCC Fort Churchill 124.25 10 PKPdf **PKPdf 16 47 59.1 -0.2**
I03D Drain, OR 124.46 38 ⇓P **PKPdf 16 47 57.8 -2.4**
baz=124,SNR=9.1
VLL Laurance Lake 124.48 35 P **PKPdf 16 48 01.9 +1.5**
SACV Santiago Islan 124.57 285 PFAKE 16 48 10.0 +8.8
SACV LR LR
comp=Z,12µm,20.0s
VFP Flag Point 124.69 35 P **PKPdf 16 48 02.7 +1.8**
G05D Wamic, OR 124.82 35 ⇓P **PKPdf 16 47 58.7 -2.2**
baz=125
OD2 Odessa Site #2 124.97 32 P **PKPdf 16 48 02.3 +1.2**
I04A Tendick Farm, 124.98 37 ⇓P **PKPdf 16 47 58.9 -2.4**
baz=125,SNR=11
L02D Cave Junction, 125.10 40 ⇑P **PKPdf 16 47 58.5 -3.0**
baz=125
HAWA Hanford 125.14 33 PKPdf **PKPdf 16 48 01.6 +0.1**
HAWA LR LR
comp=Z,16µm,19.0s
NEW Newport 125.23 30 PKP **PKPdf 16 48 01.4 -0.3**
comp=Z,12nm,1.1s,baz=18,slow=1.2,SNR=11
NEW Newport 125.23 30 PKIKP **PKPdf 16 48 01.4 -0.3**
NEW Newport 125.23 30 PKP **PKPdf 16 48 01.4 -0.3**
NEW *e*PKPdf **PKiKP 16 48 02.2 +0.2**
NEW LR LR
comp=Z,25µm,21.0s
NEW Newport 125.23 30 ⇑P **PKPdf 16 47 59.2 -2.5**
baz=125,SNR=17
HUMO Hull Mountain 125.28 39 *e*PKPdf **PKPdf 16 48 02.1 +0.2**
VTHM Trough 125.29 35 P **PKPdf 16 48 03.2 +1.4**
I05D Terrebonne, OR 125.32 36 ⇓P **PKPdf 16 47 59.5 -2.4**
baz=125
J04D Umpqua Nationa 125.46 38 ⇓P **PKPdf 16 48 00.2 -2.3**
baz=125
KHMM Horse Mountain 125.67 41 *e*PKPdf **PKPdf 16 48 04.4 +1.5**
YBH Yreka Blue Hor 125.89 40 PKP **PKPdf 16 48 03.2 0.0**
comp=Z,5.4nm,0.9s,baz=326,slow=3.6,SNR=6.5
YBH Yreka Blue Hor 125.89 40 PKIKP **PKPdf 16 48 03.2 0.0**
YBH Yreka Blue Hor 125.89 40 PKP **PKPdf 16 48 03.1 0.0**
YBH *e*PKPdf **PKiKP 16 48 03.6 0.0**
J05D Fort Rock, OR 125.97 37 ⇑P **PKPdf 16 48 00.9 -2.5**
baz=126,SNR=10
M02C Callahan 125.98 40 ⇑P **PKPdf 16 48 00.3 -3.0**
baz=126,SNR=18
K04D Chiloquin, OR 126.02 38 ⇑P **PKPdf 16 48 00.9 -2.6**
baz=126
FFC Flin Flon 126.20 16 PFAKE 16 48 10.0 +6.8
FFC LR LR
comp=Z,38µm,22.0s
WALA Waterton Lakes 126.25 28 *e*PKPdf **PKPdf 16 48 03.7 0.0**
N02D Trinity Center 126.29 41 ⇑P **PKPdf 16 48 01.8 -2.2**
baz=126
KIPM Iron Peak 126.36 42 *e*PKPdf **PKPdf 16 48 06.1 +1.9**
M04C Macdoel 126.42 39 ⇑P **PKPdf 16 48 02.4 -1.9**
baz=126,SNR=11
WDC Whiskeytown Da 126.60 41 *e*PKIKP **PKPdf 16 48 04.5 +0.1**
WDC Whiskeytown Da 126.60 41 *e*PKPdf **PKPdf 16 48 04.5 +0.1**
BSMT Bassoo Peak 126.67 29 *e*PKPdf **PKPdf 16 48 04.8 +0.2**
BLMT Blacktail Moun 126.77 29 *e*PKPdf **PKPdf 16 48 05.0 +0.2**
JTMT Jette 126.99 29 *e*PKPdf **PKPdf 16 48 05.3 +0.2**
LBCM Butte Creek Ri 127.23 40 P **PKPdf 16 48 07.2 +1.3**
SWMT Swartz Lake 127.29 29 *e*PKPdf **PKPdf 16 48 05.3 -0.4**
BMO Blue Mountains 127.32 34 *e*PKIKP **PKPdf 16 48 06.0 +0.2**
BMO MLR MLR
comp=Z,11µm,20.0s
BMO Blue Mountains 127.32 34 *e*PKPdf **PKPdf 16 48 06.0 +0.2**
BMO LR LR
comp=Z,11µm,20.0s
SLMT Seeley Lake 127.73 29 *e*PKPdf **PKPdf 16 48 06.8 +0.2**
MSO Missoula 127.79 30 ⇓P **PKPdf 16 48 04.9 -1.8**
baz=128,SNR=19
WVOR Wild Horse Val 128.02 37 *e*PKIKP **PKPdf 16 48 08.3 +1.0**
WVOR MLR MLR
comp=Z,13µm,20.0s
WVOR Wild Horse Val 128.02 37 *e*PKPdf **PKPdf 16 48 08.3 +1.0**
WVOR LR LR
comp=Z,13µm,20.0s
CHMT Chamberlain Mo 128.07 29 *e*PKPdf **PKPdf 16 48 07.4 0.0**
SCHQ Schefferville 128.52 351 PKP **PKPdf 16 48 07.4 -0.3**
comp=Z,8.8nm,0.8s,baz=349,slow=3.2,SNR=5.6
SCHQ Schefferville 128.52 351 PKP **PKPdf 16 48 07.4 -0.3**
SCHQ *e*PKPdf **PKiKP 16 48 07.5 -0.8**
A19A Klindworth Far 128.64 25 ⇓P **PKPdf 16 48 06.7 -1.5**
baz=128,SNR=12
EGMT Eagleton 128.90 26 *e*PKPdf **PKPdf 16 48 08.9 +0.2**
EGMT LR LR
comp=Z,14µm,19.0s
EGMT Eagleton 128.90 26 ⇓P **PKPdf 16 48 06.9 -1.9**
baz=129
HRY Holter Researc 128.91 29 *e*PKPdf **PKPdf 16 48 10.0 +1.2**
B19A Brinkman Farms 128.92 25 ⇑P **PKPdf 16 48 07.0 -1.7**
baz=129
A20A Cobblestone Ra 129.02 24 ⇑P **PKPdf 16 48 07.7 -1.2**
baz=129,SNR=10
MFID Camas Ranch 129.06 34 *e*PKPdf **PKPdf 16 48 10.5 +1.3**
LRM Limekiln Ridge 129.24 30 *e*PKPdf **PKPdf 16 48 10.2 +0.5**
B20A Solberg Farm, 129.32 25 ⇑P **PKPdf 16 48 08.5 -1.0**
baz=129,SNR=13
A21A Bergtoll Ranch 129.34 24 ⇓P **PKPdf 16 48 08.7 -0.8**
baz=129
CMB Columbia Colle 129.34 43 *e*PKIKP **PKPdf 16 48 10.3 +0.5**
CMB Columbia Colle 129.34 43 *e*PKPdf **PKPdf 16 48 10.3 +0.5**
C19A Slack Wire Ran 129.43 26 ⇑P **PKPdf 16 48 09.2 -0.5**
baz=129
DLMT Dillon 129.48 30 *e*PKPdf **PKPdf 16 48 10.3 +0.3**
MCMT McKenzie Canyo 129.73 31 *e*PKPdf **PKPdf 16 48 10.9 +0.3**
WAKR Walker 129.73 42 *e*PKPdf **PKPdf 16 48 12.3 +1.5**
A22A Carney Farms, 129.73 23 ⇑P **PKPdf 16 48 09.4 -0.8**
baz=130,SNR=9.3
HLID Hailey 129.75 33 *e*PKPdf **PKPdf 16 48 11.4 +0.8**
HLID LR LR
comp=Z,21µm,20.0s
HLID Hailey 129.75 33 ⇓P **PKPdf 16 48 10.0 -0.6**
baz=130
B21A Ellsworth Farm 129.75 24 ⇑P **PKPdf 16 48 09.2 -1.1**
baz=130
BOZ Bozeman (W) 129.77 30 *e*PKIKP **PKPdf 16 48 10.6 +0.1**
BOZ MLR MLR
comp=Z,17µm,20.0s
BOZ Bozeman (W) 129.77 30 *e*PKPdf **PKPdf 16 48 10.6 +0.1**
BOZ LR LR
comp=Z,17µm,20.0s
C20A Veseth Ranch, 129.90 25 ⇓P **PKPdf 16 48 11.2 +0.6**
baz=130,SNR=19
D19A Cripps Ranch, 129.94 26 ⇑P **PKPdf 16 48 10.8 +0.1**
baz=130
BMN Battle Mountai 130.06 38 *e*PKIKP **PKPdf 16 48 12.5 +1.2**
BMN Battle Mountai 130.06 38 *e*PKPdf **PKPdf 16 48 12.5 +1.2**
A23A Redstone 130.16 22 ⇓P **PKPdf 16 48 10.3 -0.7**
baz=130
C21A Desert Coulee 130.19 25 ⇓P **PKPdf 16 48 10.6 -0.5**
baz=130
B22A Reddig Ranch S 130.26 23 ⇓P **PKPdf 16 48 10.9 -0.4**
baz=130
QLMT Earthquake Lak 130.44 30 *e*PKPdf **PKPdf 16 48 12.4 +0.5**
E19A Rath Farm, Rou 130.51 27 ⇓P **PKPdf 16 48 11.5 -0.3**
baz=130
A24A Westby 130.51 22 ⇑P **PKPdf 16 48 11.6 -0.1**
baz=130
NVAR Mina Array Bea 130.51 41 PKP **PKPdf 16 48 11.9 -0.4**
comp=Z,4.8nm,0.7s,baz=249,slow=1.7,SNR=6.0
NVAR PP **PP 16 50 24.6 -1.7**
comp=Z,4.2nm,0.9s,baz=279,slow=6.0,SNR=4.4
NVAR SKPbc **SKPbc 16 51 36.3 +2.1**
comp=Z,8.5nm,0.9s,baz=280,slow=3.9,SNR=4.1
NVAR Mina Array Bea 130.51 41 PKP **PKPdf 16 48 11.9 -0.4**
NVAR PP **PP 16 50 24.6 -1.7**
NVAR SKPbc **SKPbc 16 51 36.3 +2.1**
B23A Brockton 130.52 23 ⇓P **PKPdf 16 48 11.2 -0.5**
baz=130
MLAC Mammoth, Mammt 130.60 42 ⇑P **PKPdf 16 48 11.9 -0.6**
baz=130
GCMT Greycliff 130.61 28 *e*PKPdf **PKPdf 16 48 12.3 +0.2**
C22A Vida 130.75 24 ⇑P **PKPdf 16 48 11.4 -0.8**
baz=130,SNR=11
E20A Meyer Farm, Mu 130.77 26 ⇑P **PKPdf 16 48 11.4 -0.9**
baz=131
YMR Madison River 130.79 30 *e*PKPdf **PKPdf 16 48 13.8 +1.2**
DGMT Dagmar 130.82 22 PFAKE 16 48 20.0 +7.7
DGMT LR LR
comp=Z,15µm,20.0s
DGMT Dagmar 130.82 22 ⇑P **PKPdf 16 48 11.8 -0.5**
baz=131
A25A Svangstu Ranch 130.82 21 ⇓P **PKPdf 16 48 11.6 -0.7**
baz=131
F19A Roth Farm, Mol 130.90 28 ⇑P **PKPdf 16 48 11.5 -1.1**
baz=131
YNR Norris Junctio 130.90 30 *e*PKPdf **PKPdf 16 48 13.7 +0.9**
C23A Lambert 130.98 23 ⇑P **PKPdf 16 48 11.5 -1.2**
baz=131
SMMC Simmler 130.99 45 ⇑P **PKPdf 16 48 12.4 -0.6**
baz=131
YFT Old Faithful 131.01 30 PKPdf **PKPdf 16 48 15.0 +1.9**
RCTC Rector, Farmer 131.02 44 ⇑P **PKPdf 16 48 13.6 +0.7**
baz=131
ELK Elko 131.07 37 PKP **PKPdf 16 48 13.0 -0.3**
comp=Z,11nm,0.9s,baz=353,slow=1.7,SNR=21
ELK SKPbc **SKPbc 16 51 36.2 0.0**
comp=Z,7.2nm,1.1s,baz=360,slow=2.8,SNR=7.4
ELK Elko 131.07 37 PKIKP **PKPdf 16 48 13.0 -0.3**
ELK Elko 131.07 37 PKP **PKPdf 16 48 13.0 -0.3**
ELK *e*PKPdf **PKiKP 16 48 14.5 +0.3**
ELK SKPbc **SKPbc 16 51 36.2 0.0**
D22A Cohagen 131.10 25 ⇑P **PKPdf 16 48 13.7 +0.8**
baz=131,SNR=17
H17A Grant Village 131.18 30 *e*PKPdf **PKPdf 16 48 12.0 -1.4**
H17A Grant Village 131.18 30 ⇑P **PKPdf 16 48 13.0 -0.5**
baz=131
E21A Keefer Ranch, 131.21 26 ⇑P **PKPdf 16 48 13.8 +0.7**
baz=131
A26A Wade Farm, Ken 131.23 20 ⇓P **PKPdf 16 48 12.6 -0.5**
baz=131
RLMT Red Lodge 131.29 28 *e*PKPdf **PKPdf 16 48 14.0 +0.5**
RLMT LR LR
comp=Z,22µm,19.0s
F20A Billings 131.30 27 ⇑P **PKPdf 16 48 13.4 0.0**
baz=131
TIN Tinemaha, Big 131.32 42 ⇓P **PKPdf 16 48 12.9 -0.8**
baz=131
FLWY Flagg Ranch 131.34 30 *e*PKPdf **PKPdf 16 48 14.4 +0.8**
IMW Indian Meadow 131.36 31 PKPdf **PKPdf 16 48 14.3 +0.5**
B25A Knox Farm, Ray 131.36 21 ⇑P **PKPdf 16 48 12.2 -1.2**
baz=131
VES Vestal, Richgr 131.37 44 ⇑P **PKPdf 16 48 13.6 0.0**
baz=131
TPH Tonopah 131.42 41 *e*PKIKP **PKPdf 16 48 13.5 -0.5**
TPH Tonopah 131.42 41 *e*PKPdf **PKPdf 16 48 13.5 -0.5**
H18A Shoshone NF, C 131.43 29 ⇓P **PKPdf 16 48 13.1 -0.7**
baz=131,SNR=9.2
A27A Ledoux Ranch, 131.46 20 ⇑P **PKPdf 16 48 12.9 -0.5**
baz=131
D23A Lindsay 131.48 24 ⇑P **PKPdf 16 48 13.2 -0.5**
baz=131

C24A	Savage	131.50	23	⇓P		PKPdf	16 48 13.4	-0.3	
	baz=131								
I17A	Pilgrim Ck.	131.52	30	⇑P		PKPdf	16 48 13.1	-0.9	
	baz=131								
MOOW	Moose Ponds	131.56	31	ePKPdf		PKPdf	16 48 14.9	+0.8	
B26A	Jensen Ranch,	131.61	21	⇓P		PKPdf	16 48 13.2	-0.6	
	baz=131								
TPAW	Teton Pass	131.64	31	ePKPdf		PKPdf	16 48 16.4	+2.1	
G20A	Bridger	131.71	28	⇓P		PKPdf	16 48 13.2	-1.1	
	baz=132								
LOHW	Long Hollow	131.73	31	ePKPdf		PKPdf	16 48 15.2	+0.7	
F21A	Absaloka Mine,	131.74	26	⇑P		PKPdf	16 48 13.5	-0.7	
	baz=132								
CWC	Cottonwood Cre	131.75	43	⇑P		PKPdf	16 48 14.4	-0.2	
	baz=132								
SNOW	Snow King Moun	131.76	31	ePKPdf		PKPdf	16 48 15.8	+1.3	
H19A	Powell	131.76	29	⇑P		PKPdf	16 48 14.2	-0.2	
	baz=132,SNR=18								
E22A	Miles City	131.77	25	⇑P		PKPdf	16 48 14.0	-0.2	
	baz=132								
REDW	Red Top Meadow	131.78	31	ePKPdf		PKPdf	16 48 15.1	+0.6	
C25A	Freed Ranch, W	131.80	22	⇓P		PKPdf	16 48 14.1	-0.1	
	baz=132								
A28A	Rude Farm, Bot	131.81	19	⇓P		PKPdf	16 48 14.4	+0.2	
	baz=132								
HVU	Hansel Valley	131.83	34	ePKIKP		PKPdf	16 48 15.0	+0.4	
HVU	Hansel Valley	131.83	34	ePKPdf		PKPdf	16 48 15.0	+0.4	
ULM	Lac du Bonnet	131.87	15	PKP		PKPdf	16 48 13.8	-0.4	
	comp=Z,28nm,0.9s,baz=326,slow=2.5,SNR=10								
ULM	Lac du Bonnet	131.87	15	ePKIKP		PKPdf	16 48 13.2	-0.9	
ULM	Lac du Bonnet	131.87	15	ePKPdf		PKPdf	16 48 13.2	-0.9	
ULM				PKP		PKPdf	16 48 13.8	-0.4	
D24A	Glendive	131.88	23	⇑P		PKPdf	16 48 14.7	+0.3	
	baz=132								
ISA	Isabella, Lake	131.88	44	PKIKP		PKPdf	16 48 16.0	+1.2	
ISA	Isabella, Lake	131.88	44	PKPdf		PKPdf	16 48 16.0	+1.2	
ISA	Isabella, Lake	131.88	44	⇑P		PKPdf	16 48 13.9	-0.8	
	baz=132								
BSC	Santa Cruz Isl	131.90	47	⇓P		PKPdf	16 48 14.0	-0.8	
	baz=132								
ARVC	Arvin	131.91	45	⇓P		PKPdf	16 48 14.4	-0.3	
	baz=132								
GRAC	Grapevine Rang	131.92	42	⇓P		PKPdf	16 48 13.7	-1.1	
	baz=132								
B27A	Peters Farms,	131.92	20	⇑P		PKPdf	16 48 14.7	+0.4	
	baz=132								
E23A	Ismay	131.99	24	⇑P		PKPdf	16 48 14.3	-0.3	
	baz=132								
AHID	Auburn Hatcher	132.07	32	PFAKE			16 48 30.0	+15	
AHID				LR		LR			
	comp=Z,18µm,19.0s								
C26A	Wahner Farm, P	132.12	21	⇑P		PKPdf	16 48 13.8	-1.0	
	baz=132								
A29A	Manning Farm,	132.13	18	⇓P		PKPdf	16 48 14.5	-0.2	
	baz=132								
F22A	Rosebud	132.16	26	⇑P		PKPdf	16 48 14.8	-0.2	
	baz=132								
DAC	Darwin (Calif)	132.16	43	ePKIKP		PKPdf	16 48 14.9	-0.6	
DAC	Darwin (Calif)	132.16	43	ePKPdf		PKPdf	16 48 14.8	-0.6	
G21A	Lodge Grass	132.17	27	⇑P		PKPdf	16 48 13.9	-1.2	
	baz=132								
B28A	Dugan Ranch, T	132.18	19	⇓P		PKPdf	16 48 14.3	-0.5	
	baz=132								
I19A	Meeteetse	132.22	29	⇑P		PKPdf	16 48 13.5	-1.8	
	baz=132								
D25A	Fairfield	132.24	22	⇑P		PKPdf	16 48 13.2	-1.9	
	baz=132								
OSI	Osito Audit: C	132.25	46	⇑P		PKPdf	16 48 13.8	-1.6	
	baz=132								
BGU	Big Grassy Mou	132.25	35	ePKPdf		PKPdf	16 48 16.6	+1.2	
BLG	Laguna Peak, P	132.25	46	⇓P		PKPdf	16 48 14.3	-1.1	
	baz=132								
R11A	Troy Canyon, C	132.31	39	ePKPpre		PKPpre	16 48 05.8		
R11A				ePKPdf		PKiKP	16 48 17.0	+0.3	
R11A	Troy Canyon, C	132.31	39	⇑P		PKPdf	16 48 14.7	-0.9	
	baz=132								
E24A	Baker	132.34	24	⇑P		PKPdf	16 48 14.8	-0.5	
	baz=132								
MPMC	Manual Prospec	132.35	43	⇑P		PKPdf	16 48 14.8	-1.0	
	baz=132								
H20A	Greybull	132.37	28	⇓P		PKPdf	16 48 15.0	-0.4	
	baz=132,SNR=7.0								
A30A	Hoffart Farm,	132.39	17	⇓P		PKPdf	16 48 14.1	-1.1	
	baz=132								
C27A	Sayler Ranch,	132.43	21	⇑P		PKPdf	16 48 15.5	+0.1	
	baz=132								
B29A	Wagenman Farm,	132.49	18	⇓P		PKPdf	16 48 14.3	-1.2	
	baz=132								
LRMC	Laurel Mtn Rad	132.53	44	⇓P		PKPdf	16 48 15.9	-0.2	
	baz=132								
FURC	Furnace Creek,	132.56	42	⇓P		PKPdf	16 48 16.1	+0.2	
	baz=132								
F23A	Volborg	132.57	25	⇑P		PKPdf	16 48 15.8	+0.1	
	baz=132								
G22A	Birney	132.58	26	⇓P		PKPdf	16 48 15.7	-0.1	
	baz=132								
EDW2	Edwards Air Fo	132.63	45	⇑P		PKPdf	16 48 16.4	+0.2	
	baz=132								
D26A	Manning	132.67	22	⇑P		PKPdf	16 48 16.1	+0.3	
	baz=132								
TPNV	Topopah Spring	132.69	41	⇓P		PKPdf	16 48 16.5	+0.1	
	baz=133								
H21A	Big Horn, Sher	132.70	27	⇓P		PKPdf	16 48 16.1	0.0	
	baz=132								
I20A	Worland	132.71	29	⇓P		PKPdf	16 48 16.0	-0.2	
	baz=132								
DECC	Green Verdugo	132.71	46	⇑P		PKPdf	16 48 15.9	-0.4	
	baz=133								
E25A	Miller Ranch,	132.75	23	⇓P		PKPdf	16 48 16.1	+0.1	
	baz=132								
J19A	Crowheart	132.76	30	⇑P		PKPdf	16 48 15.9	-0.4	
	baz=133,SNR=6.4								
C28A	Hausauer Farms	132.81	20	⇑P		PKPdf	16 48 16.8	+0.7	
	baz=133								
B30A	Myrvik Farm, E	132.82	18	⇑P		PKPdf	16 48 16.8	+0.8	
	baz=133								
DUG	Dugway, Tooele	132.85	36	ePKIKP		PKPdf	16 48 17.4	+0.9	
DUG				MLR		MLR			
	comp=Z,14µm,20.0s								
DUG	Dugway, Tooele	132.85	36	ePKPdf		PKPdf	16 48 17.4	+0.9	
DUG				LR		LR			
	comp=Z,14µm,20.0s								
DUG	Dugway, Tooele	132.85	36	⇓P		PKPdf	16 48 16.7	+0.2	
	baz=133								
F24A	Ekalaka	132.87	24	⇑P		PKPdf	16 48 16.4	0.0	
	baz=133								
BW06	Boulder Array	132.87	31	PFAKE			16 48 30.0	+13	
BW06				LR		LR			
	comp=Z,17µm,19.0s								
PDAR	Pinedale Array	132.87	31	PKhKP		PKPpre	16 48 00.2		
	comp=Z,0.7nm,0.9s,baz=337,slow=5.9,SNR=3.4								
PDAR				PP		PP	16 50 38.2	-3.0	
	comp=Z,4.7nm,1.0s,baz=359,slow=3.6,SNR=2.7								
PDAR				SKPbc		SKPab	16 51 45.1	+1.0	
	comp=Z,4.5nm,1.0s,baz=321,slow=2.3,SNR=3.0								
PDAR	Pinedale Array	132.87	31	PKPpre		PKPpre	16 48 00.2		
PDAR				PP		PP	16 50 38.2	-3.0	
PDAR				SKPbc		SKPab	16 51 45.1	+1.0	
D27A	Center	132.94	21	⇑P		PKPdf	16 48 17.1	+0.7	
	baz=133								
MDND	Maddock	132.96	19	ePKPdf		PKPdf	16 48 16.4	0.0	
MDND	Maddock	132.96	19	⇓P		PKPdf	16 48 17.1	+0.7	
	baz=133								
G23A	Biddle	132.99	26	⇑P		PKPdf	16 48 17.2	+0.6	
	baz=133								
FMP	Fort Macarthur	133.01	46	⇑P		PKPdf	16 48 15.4	-1.4	
	baz=133								
TCUT	Toone Canyon	133.04	34	ePKPdf		PKPdf	16 48 17.6	+0.6	
H22A	Clearmont	133.04	27	⇓P		PKPdf	16 48 16.0	-0.8	
	baz=133								
CIS	Catalina Islan	133.08	47	⇓P		PKPdf	16 48 16.8	-0.2	
	baz=133								
E26A	Carlson Angus	133.13	22	⇓P		PKPdf	16 48 15.5	-1.3	
	baz=133								
J20A	Shoshoni	133.17	29	⇑P		PKPdf	16 48 17.6	+0.6	
	baz=133,SNR=22								
SCI	San Clemente I	133.18	47	⇑P		PKPdf	16 48 16.8	-0.3	
	baz=133								
BFSC	Mount Baldy Ra	133.19	45	⇓P		PKPdf	16 48 17.7	+0.4	
	baz=133								
F25A	Bowman	133.20	23	⇓P		PKPdf	16 48 17.6	+0.6	
	baz=133								
D28A	Regan	133.20	20	⇓P		PKPdf	16 48 16.7	-0.2	
	baz=133								
I21A	Big Trails, Te	133.21	28	⇑P		PKPdf	16 48 17.2	+0.1	
	baz=133,SNR=11								
GSC	Goldstone, Bar	133.23	44	ePKIKP		PKPdf	16 48 19.1	+1.7	
GSC	Goldstone, Bar	133.23	44	⇓P		PKPdf	16 48 17.9	+0.6	
	baz=133								
SHOC	Shoshone, Teco	133.26	43	⇑P		PKPdf	16 48 17.9	+0.6	
	baz=133								
G24A	Alzada	133.30	25	⇑P		PKPdf	16 48 17.5	+0.3	
	baz=133								
RRX	Edison Barstow	133.32	44	⇑P		PKPdf	16 48 17.8	+0.4	
	baz=133								
JLU	Jordanelle	133.36	34	ePKPdf		PKPdf	16 48 18.3	+0.6	
NLU	North Lily Min	133.44	35	ePKPdf		PKPdf	16 48 19.2	+1.4	
C30A	Mose, Pekin	133.44	18	⇓P		PKPdf	16 48 17.4	+0.2	
	baz=133								
H23A	Clabaugh Cattl	133.49	26	⇓P		PKPdf	16 48 17.2	-0.3	
	baz=133								
J21A	Lysite	133.49	29	⇓P		PKPdf	16 48 17.1	-0.6	
	baz=133								
E27A	Carson	133.50	22	⇑P		PKPdf	16 48 17.4	-0.1	
	baz=133,SNR=7.6								
I22A	9 Mile Ranch,	133.52	28	⇓P		PKPdf	16 48 17.6	-0.1	
	baz=133								
F26A	Lodgepole	133.57	23	⇑P		PKPdf	16 48 17.5	-0.1	
	baz=133								
D29A	Pettibone, Tap	133.65	20	⇓P		PKPdf	16 48 17.2	-0.5	
	baz=133								
MPU	Maple Canyon	133.65	35	PKPdf		PKPdf	16 48 16.8	-1.4	
AGMN	Agassiz Nation	133.66	16	ePKPdf		PKPdf	16 48 18.2	+0.6	
AGMN				LR		LR			
	comp=Z,34µm,21.0s								
AGMN	Agassiz Nation	133.66	16	⇓P		PKPdf	16 48 17.2	-0.4	
	baz=133								
SHPR	Sheep Range	133.66	41	ePKPdf		PKPdf	16 48 19.1	+0.9	
E28A	Huff	133.69	21	⇓P		PKPdf	16 48 17.1	-0.6	
	baz=134								
BBRC	Big Bear Solar	133.70	45	⇑P		PKPdf	16 48 17.2	-1.3	
	baz=134								
H24A	Dirks Ranch, A	133.71	25	⇑P		PKPdf	16 48 17.2	-0.8	
	baz=134								
TUQ	Turquoise Moun	133.76	43	⇑P		PKPdf	16 48 17.4	-0.9	
	baz=134								
F27A	Lemmon	133.80	22	⇑P		PKPdf	16 48 17.2	-0.8	
	baz=134								
HEC	Hector,Ludlow	133.81	44	⇓P		PKPdf	16 48 17.5	-0.9	
	baz=134								
G25A	Newell	133.82	24	⇓P		PKPdf	16 48 17.4	-0.7	
	baz=134								
MURC	Murrieta	133.85	46	⇑P		PKPdf	16 48 18.2	-0.3	
	baz=134								
D30A	Buchanan	133.88	19	⇓P		PKPdf	16 48 17.5	-0.6	
	baz=134								
J22A	Midwest	133.90	28	⇓P		PKPdf	16 48 17.4	-1.0	
	baz=134,SNR=8.0								
I23A	Meade Ranch, G	133.93	27	⇑P		PKPdf	16 48 17.3	-1.1	
	baz=134								
E29A	Napoleon	134.06	20	⇓P		PKPdf	16 48 17.2	-1.3	
	baz=134								
G26A	Maurine	134.06	23	⇑P		PKPdf	16 48 16.6	-2.0	
	baz=134								
K21A	Alcova	134.12	29	⇓P		PKPdf	16 48 17.2	-1.7	
	baz=134								
H25A	Fruitdale	134.21	25	⇑P		PKPdf	16 48 17.5	-1.4	
	baz=134								
G27A	Dupree	134.25	23	⇑P		PKPdf	16 48 18.2	-0.7	
	baz=134								
F28A	McLaughlin	134.28	21	⇓P		PKPdf	16 48 17.8	-1.1	
	baz=134								
109C	Camp Elliot, M	134.28	47	⇓P		PKPdf	16 48 18.4	-0.8	
	baz=134								
MVU	Marysvale	134.30	37	ePKPdf		PKPdf	16 48 21.3	+1.8	
GMRC	Granite Mounta	134.30	44	⇑P		PKPdf	16 48 18.4	-1.0	
	baz=134								
MSU	Marysvale	134.31	37	ePKIKP		PKPdf	16 48 21.3	+1.9	
MSU	Marysvale	134.31	37	ePKPdf		PKPdf	16 48 21.3	+1.9	
J23A	Dilts Ranch, B	134.33	27	⇑P		PKPdf	16 48 18.4	-0.9	
	baz=134								
E30A	Jud	134.36	19	⇓P		PKPdf	16 48 17.6	-1.4	
	baz=134								
TMUT	Trail Mountain	134.37	35	ePKPdf		PKPdf	16 48 20.4	+0.8	
PFO	Pinyon Flats O	134.38	45	PFAKE			16 48 30.0	+10	
PFO				LR		LR			
	comp=Z,10µm,22.0s								
PFO	Pinyon Flats O	134.38	45	⇑P		PKPdf	16 48 18.6	-1.0	
	baz=134								
I24A	Kuemmerle Ranc	134.38	26	⇑P		PKPdf	16 48 18.1	-1.1	
	baz=134								
RSSD	Black Hills	134.43	25	ePKHKP		PKPpre	16 48 04.7		
RSSD	Black Hills	134.43	25	ePKPpre		PKPpre	16 48 04.7		
K22A	Casper	134.46	29	ePKPdf		PKPdf	16 48 19.7	+0.2	
K22A	Casper	134.46	29	⇓P		PKPdf	16 48 18.3	-1.2	
	baz=134								
BELC	Belle Mtn. Jos	134.49	45	⇓P		PKPdf	16 48 18.6	-1.2	
	baz=134								
H26A	Fairpoint	134.55	24	⇑P		PKPdf	16 48 17.8	-1.7	
	baz=134								
F29A	Eureka	134.63	21	⇑P		PKPdf	16 48 17.6	-1.9	
	baz=134								
I25A	Rochford	134.64	25	⇑P		PKPdf	16 48 18.9	-0.9	
	baz=134								
MONP	Monument Peak,	134.77	46	⇓P		PKPdf	16 48 19.6	-0.8	
	baz=135								
J24A	Dixon Ranch, L	134.79	27	⇓P		PKPdf	16 48 18.6	-1.5	
	baz=135								
K23A	Bowen Ranch, D	134.80	28	⇓P		PKPdf	16 48 19.2	-0.9	
	baz=135								
H27A	Howes	134.82	23	⇑P		PKPdf	16 48 20.0	0.0	
	baz=135								
G28A	Parade	134.89	22	⇓P		PKPdf	16 48 19.2	-0.9	
	baz=135								
SRU	San Rafael Swe	134.89	35	PKIKP		PKPdf	16 48 18.7	-1.8	
SRU	San Rafael Swe	134.89	35	PKPdf		PKPdf	16 48 18.7	-1.8	
F30A	Leola	134.91	20	⇓P		PKPdf	16 48 19.8	-0.2	
	baz=135								
N20A	Spence Gulch,	134.93	32	⇓P		PKPdf	16 48 20.4	-0.1	
	baz=135								
L22A	Ellis Ranch, M	134.97	29	⇑P		PKPdf	16 48 19.6	-1.0	
	baz=135								
IRM	Iron Mountain	134.99	44	⇑P		PKPdf	16 48 20.9	+0.3	
	baz=135								
I26A	New Underwood	135.00	24	⇓P		PKPdf	16 48 20.5	+0.1	
	baz=135								
NEE2	Needles Airpor	135.02	43	⇑P		PKPdf	16 48 21.0	+0.4	
	baz=135								
EYMN	Ely	135.03	12	ePKPdf		PKPdf	16 48 21.8	+1.6	
EYMN				LR		LR			
	comp=Z,27µm,19.0s								
BC3	Big Chuckawall	135.06	45	⇓P		PKPdf	16 48 21.2	+0.4	
	baz=135								
J25A	Sunshine Ranch	135.12	26	⇓P		PKPdf	16 48 20.1	-0.5	
	baz=135								
IBP	Imperial Bould	135.13	46	⇑P		PKPdf	16 48 19.8	-1.1	
	baz=135								
G29A	Hoven	135.16	21	⇓P		PKPdf	16 48 20.0	-0.6	
	baz=135								
TRQA	Tornquist	135.18	199	ePKPdf		PKPdf	16 48 21.7	+0.9	
TRQA				LR		LR			
	comp=Z,6µm,20.0s								
H28A	Mission Ridge	135.19	22	⇓P		PKPdf	16 48 20.4	-0.3	
	baz=135								
SWSC	Sam W. Stewart	135.20	46	⇓P		PKPdf	16 48 21.0	+0.1	
	baz=135								
K24A	Anderson Ranch	135.20	27	⇑P		PKPdf	16 48 20.3	-0.6	
	baz=135								
L23A	Garrett	135.26	28	⇑P		PKPdf	16 48 20.4	-0.7	
	baz=135,SNR=8.2								
I27A	Quinn	135.30	24	⇓P		PKPdf	16 48 20.7	-0.2	
	baz=135								
W13A	Hualapai Mount	135.32	42	⇓P		PKPdf	16 48 20.9	-0.5	
M22A	Cedar Creek Ra	135.36	30	⇓P		PKPdf	16 48 20.6	-0.8	
	baz=135,SNR=12								
O20A	White River Ci	135.45	32	ePKPdf		PKPdf	16 48 21.3	-0.2	
O20A	White River Ci	135.45	32	⇓P		PKPdf	16 48 20.9	-0.6	
	baz=135								
G30A	Faulkton	135.49	20	⇓P		PKPdf	16 48 21.1	-0.1	
	baz=135								
J26A	Sides Ranch, S	135.49	25	⇓P		PKPdf	16 48 20.8	-0.5	
	baz=135								
H29A	Onida	135.54	22	⇓P		PKPdf	16 48 20.4	-0.9	
	baz=135								
PDMCI	Parker Dam,Lak	135.61	43	⇓P		PKPdf	16 48 21.7	+0.1	
	baz=136								
Y12C	Blythe	135.65	44	⇑P		PKPdf	16 48 21.1	-0.7	
	baz=136								
L24A	Wheatland	135.68	28	⇓P		PKPdf	16 48 21.5	-0.3	
	baz=136								
I28A	Midland	135.70	23	⇑P		PKPdf	16 48 17.0	-4.6	
	baz=136								
K25A	Mack Ranch, Ha	135.71	27	⇑P		PKPdf	16 48 19.8	-2.0	
	baz=136								
M23A	Laramie	135.74	29	⇓P		PKPdf	16 48 21.7	-0.3	
	baz=136								
GLA	Glamis	135.82	45	ePKIKP		PKPdf	16 48 23.4	+1.2	
GLA	Glamis	135.82	45	ePKPdf		PKPdf	16 48 23.4	+1.2	
GLA	Glamis	135.82	45	⇑P		PKPdf	16 48 21.6	-0.6	
	baz=136								
N22A	Wattenberg Ran	135.88	30	⇓P		PKPdf	16 48 22.0	-0.4	
	baz=136								
RCBR	Riachuelo	135.94	257	PFAKE			16 48 30.0	+7.1	
RCBR				LR		LR			
	comp=Z,16µm,19.0s								
K26A	Motz Farm, Whi	135.94	26	⇓P		PKPdf	16 48 21.3	-0.9	
	baz=136								
J27A	Elkhorn Farm,	135.99	24	⇓P		PKPdf	16 48 18.3	-3.9	
	baz=136								
PHWY	Pilot Hill	136.00	29	ePKPdf		PKPdf	16 48 22.8	+0.2	
I29A	Vivian Onida	136.02	22	⇓P		PKPdf	16 48 18.9	-3.3	
	baz=136								
L25A	Engebretsen Ra	136.03	27	⇑P		PKPdf	16 48 18.4	-4.0	
	baz=136								
N23A	Red Feather La	136.07	30	⇓P		PKPdf	16 48 18.5	-4.2	
	baz=136								
BRSD	Miller	136.15	21	⇓P		PKPdf	16 48 19.7	-2.7	
	baz=136								
J28A	Allard Ranch,	136.16	24	⇑P		PKPdf	16 48 18.6	-3.9	
	baz=136,SNR=5.4								
M24A	Cheyenne	136.17	28	⇑P		PKPdf	16 48 20.9	-1.9	
	baz=136								
O22A	Kremmling	136.31	31	⇑P		PKPdf	16 48 20.1	-3.2	
	baz=136								
K27A	Flueckinger Fa	136.35	25	⇓P		PKPdf	16 48 19.5	-3.4	
	baz=136								
I30A	Oacoma	136.44	22	⇑P		PKPdf	16 48 21.3	-1.7	
	baz=136								
L26A	Underwood Farm	136.52	26	⇑P		PKPdf	16 48 19.3	-4.0	
	baz=136								
J29A	Okreek	136.53	23	⇓P		PKPdf	16 48 19.3	-3.9	
	baz=136								
M25A	Palm-Egli Farm	136.56	28	⇓P		PKPdf	16 48 19.4	-4.1	
	baz=136								
Y14A	Wickenburg	136.59	43	⇓P		PKPdf	16 48 20.7	-2.9	
	baz=136								
PQI	Presque Isle	136.59	349	ePKPdf		PKPdf	16 48 22.8	-0.3	
O23A	Lake Granby, G	136.60	30	⇓P		PKPdf	16 48 21.1	-2.6	
	baz=136								
P22A	Eagle	136.62	32	⇑P		PKPdf	16 48 20.6	-3.1	
	baz=136								
N24A	Carr	136.64	29	⇑P		PKPdf	16 48 21.2	-2.5	
	baz=136								
K28A	Ten Mile Ranch	136.70	24	⇑P		PKPdf	16 48 21.3	-2.3	
	baz=136								
WUAZ	Wupatki	136.71	40	ePKPdf		PKPdf	16 48 24.0	+0.1	
WUAZ				LR		LR			
	comp=Z,13µm,20.0s								
WUAZ	Wupatki	136.71	40	⇓P		PKPdf	16 48 20.9	-3.1	
	baz=137								
113A	Mohawk Valley,	136.72	45	⇑P		PKPdf	16 48 21.5	-2.3	
	baz=137								
SMCO	Snowmass	136.81	32	PKPdf		PKPdf	16 48 24.7	+0.4	
L27A	T5 Ranch, Ells	136.82	26	⇑P		PKPdf	16 48 20.4	-3.4	
	baz=137								
J30A	Dallas	136.92	22	⇓P		PKPdf	16 48 20.6	-3.3	
	baz=137								
M26A	McRoberts Ranc	136.95	27	⇓P		PKPdf	16 48 20.7	-3.5	
	baz=137								
Z14A	Wintersburg	136.96	43	⇓P		PKPdf	16 48 20.8	-3.4	
	baz=137								
N25A	Grover	137.03	28	⇓P		PKPdf	16 48 20.3	-4.1	
	baz=137								
ISCO	Idaho Springs	137.06	31	PKHKP		PKPpre	16 48 14.1		
ISCO				MLR		MLR			
	comp=Z,14µm,22.0s								
ISCO	Idaho Springs	137.06	31	PKPpre		PKPpre	16 48 14.1		
ISCO				LR		LR			
	comp=Z,14µm,22.0s								
ISCO	Idaho Springs	137.06	31	⇑P		PKPdf	16 48 22.0	-2.7	
	baz=137								
K29A	Lazy Trails An	137.08	23	⇓P		PKPdf	16 48 23.1	-1.2	
	baz=137								
O24A	Longmont	137.09	30	⇑P		PKPdf	16 48 22.6	-1.9	
	baz=137								
L28A	Connealy Angus	137.22	25	⇓P		PKPdf	16 48 20.9	-3.7	
	baz=137								
M27A	Reverse DX Ran	137.24	26	⇓P		PKPdf	16 48 22.3	-2.4	
	baz=137								
COWI	Conover	137.26	11	ePKPdf		PKPdf	16 48 24.3	-0.1	
COWI				LR		LR			
	comp=Z,27µm,21.0s								
P23A	Jefferson	137.26	31	⇓P		PKPdf	16 48 22.4	-2.7	
	baz=137								
SPMN	Marine on St.	137.30	15	⇑P		PKPdf	16 48 21.8	-2.7	
	baz=137								
X16A	Lo Mia Camp, P	137.34	41	⇑P		PKPdf

SDCO LR LR
comp=Z,17µm,22.0s
SDCO Great Sand Dun 138.65 33 ⇓P PKPpre 16 48 19.5
baz=138
P27A Ficken Ranch, 138.73 28 ⇑P PKPpre 16 48 19.9
baz=138
Q26A Hugo 138.78 30 ⇑P PKPpre 16 48 19.7
baz=139
M31A Lambtecht Ranc 138.81 23 ⇓P PKPpre 16 48 18.1
baz=139
N30A Hueftle Ranch, 138.82 25 ⇓P PKPpre 16 48 18.2
baz=139
TUC Tucson 139.05 43 *e*PKHKP PKPpre 16 48 21.1
TUC MLR MLR
comp=Z,13µm,20.0s
TUC Tucson 139.05 43 *e*PKPpre PKPpre 16 48 21.1
TUC LR LR
comp=Z,13µm,20.0s
BGNE Belgrade 139.07 22 *e*PKPdf **PKPdf 16 48 26.3 -1.6**
BGNE Belgrade 139.07 22 ⇓P PKPpre 16 48 18.7
baz=139
O29A 4D Ranch, Culb 139.08 26 ⇓P PKPpre 16 48 19.7
baz=139
P28A Saint Francis 139.10 27 ⇓P PKPpre 16 48 18.4
baz=139
KSCO Kaye Shedlock' 139.14 29 ⇑P PKPpre 16 48 20.6
baz=139
GLMI Grayling 139.17 6 PFAKE 16 48 40.0 +12
GLMI LR LR
comp=Z,23µm,22.0s
N31A Bailey Ranch, 139.26 24 ⇓P PKPpre 16 48 19.7
baz=139
R26A Arlington 139.29 30 ⇓P PKPpre 16 48 21.2
baz=139
O30A MW Ranch, Wils 139.35 25 ⇓P PKPpre 16 48 21.5
baz=139
P29A Atwood 139.45 26 ⇑P PKPpre 16 48 21.2
baz=139
Q28A Sharon Springs 139.48 28 ⇑P PKPpre 16 48 22.0
baz=139
LONY Lake Ozonia 139.51 355 PFAKE 16 48 40.0 +11
LONY LR LR
comp=Z,21µm,21.0s
SADO Sadowa 139.53 0 PKP **PKPdf 16 48 27.5 -1.1**
comp=Z,11nm,0.9s,baz=259,slow=1.4
SADO PP **PP 16 51 21.1 -0.9**
comp=Z,37nm,0.9s,baz=345,slow=6.7,SNR=8.3
SADO Sadowa 139.53 0 PKP **PKPdf 16 48 27.5 -1.1**
SADO PP **PP 16 51 21.1 -0.9**
N32A Stulken Farm, 139.57 23 ⇑P PKPpre 16 48 21.5
baz=139
LBNH Lisbon 139.59 352 PFAKE 16 48 40.0 +11
LBNH LR LR
comp=Z,26µm,20.0s
R27A Eads 139.63 29 ⇑P PKPpre 16 48 21.8
baz=139
T25A Trinidad 139.68 32 ⇑P PKPpre 16 48 22.4
baz=140
O31A Woolen Ranch, 139.68 24 ⇓P PKPpre 16 48 22.5
baz=140
P30A Selden 139.80 26 ⇑P PKPpre 16 48 22.4
baz=140
S26A Kim 139.80 31 ⇓P PKPpre 16 48 22.4
baz=140
Q29A Oakley 140.01 27 ⇑P PKPpre 16 48 23.4
baz=140
O32A Brockman Farm, 140.01 23 ⇓P PKPpre 16 48 23.4
baz=140
S27A Las Animas 140.04 30 ⇑P PKPpre 16 48 23.5
baz=140
R28A Tribune 140.06 28 ⇑P PKPpre 16 48 24.2
baz=140
T26A Comanche Natio 140.08 31 ⇓P PKPpre 16 48 24.4
baz=140
JFWS Jewell Farm 140.09 13 *e*PKIKP **PKPdf 16 48 29.5 -0.2**
JFWS MLR MLR
comp=Z,23µm,20.0s
JFWS Jewell Farm 140.09 13 *e*PKPdf **PKPdf 16 48 29.5 -0.2**
JFWS LR LR
comp=Z,23µm,20.0s
ANMO Albuquerque 140.11 36 PKhKP PKPpre 16 48 24.6
comp=Z,12nm,0.9s,baz=303,slow=2.7,SNR=9.4
ANMO Albuquerque 140.11 36 *e*PKHKP PKPpre 16 48 23.0
ANMO *e* 16 48 29.7
ANMO MLR MLR
comp=Z,16µm,21.0s
ANMO Albuquerque 140.11 36 *e*PKPpre PKPpre 16 48 23.0
ANMO PKPpre PKPpre 16 48 24.6
ANMO *e*PKPdf **PKPdf 16 48 29.7 -0.5**
ANMO LR LR
comp=Z,16µm,21.0s
NCB Newcomb 140.12 355 PFAKE 16 48 40.0 +10
NCB LR LR
comp=Z,19µm,21.0s
P31A Stockton 140.19 25 ⇓P PKPpre 16 48 24.4
baz=140,SNR=12
SCIA State Center 140.27 17 PFAKE 16 48 40.0 +10
SCIA LR LR
comp=Z,23µm,20.0s
Q30A Quinter 140.28 26 ⇓P PKPpre 16 48 24.7
baz=140,SNR=10
R29A Marienthal 140.31 28 ⇑P PKPpre 16 48 23.9
baz=140
LENM Lemitar 140.33 38 *e*PKPdf **PKPdf 16 48 29.0 -1.6**
P32A Huiting Farm, 140.43 24 ⇓P PKPpre 16 48 23.9
baz=140
Y22D IRIS PASSCAL I 140.43 38 ⇑P PKPpre 16 48 24.8
baz=140
LPM Los Pinos Moun 140.44 37 PKPdf **PKPdf 16 48 31.3 +0.4**
Q31A Ellis 140.61 25 ⇓P PKPpre 16 48 24.9
baz=140
S28A Manter 140.61 29 ⇑P PKPpre 16 48 25.4
baz=140
T27A Campo 140.62 31 ⇑P PKPpre 16 48 25.7
baz=140,SNR=6.5
319A Douglas 140.63 43 ⇑P PKPpre 16 48 25.0
baz=140
R30A Dighton 140.82 27 ⇑P PKPpre 16 48 25.5
baz=141
T28A Walsh 140.88 30 ⇓P PKPpre 16 48 25.5
baz=141
121A Cookes Peak, D 140.90 40 *e*PKPpre PKPpre 16 48 27.1
121A Cookes Peak, D 140.90 40 ⇓P PKPpre 16 48 26.4
baz=141
P33A Williams Farm, 140.95 23 ⇑P PKPpre 16 48 26.2
baz=141
S29A Ulysses 140.97 28 ⇑P PKPpre 16 48 26.0
baz=141
Q32A Meitler Ranch, 140.98 25 ⇓P PKPpre 16 48 25.8
baz=141,SNR=5.6
U27A Thompson Grove 141.05 31 ⇑P PKPpre 16 48 26.3
baz=141
R31A Burdett 141.15 26 ⇑P **PKPdf 16 48 26.7 -5.1**
baz=141
T29A Hugoton 141.25 29 ⇑P **PKPdf 16 48 27.2 -4.9**
baz=141
S30A Montezuma 141.26 28 ⇑P **PKPdf 16 48 27.1 -5.0**
baz=141
Q33A Connelly Farm, 141.27 24 ⇑P PKPpre 16 48 26.3
baz=141
TRY Troy 141.29 354 *e*PKPpre PKPpre 16 48 30.3
R32A Long Quarter, 141.39 25 ⇓P **PKPdf 16 48 28.4 -3.8**
baz=141,SNR=17
U28A Mallet 141.40 31 ⇓P **PKPdf 16 48 28.4 -4.0**
baz=141
V27A Dan Oppiter Fa 141.55 32 ⇓P PKPpre 16 48 27.5
baz=141
KSU1 Kansas State U 141.66 22 *e*PKPpre PKPpre 16 48 28.8
KSU1 LR LR
comp=Z,28µm,22.0s
KSU1 Kansas State U 141.66 22 ⇓P PKPpre 16 48 27.6
baz=141
T30A Plains 141.70 28 ⇑P **PKPdf 16 48 28.1 -4.8**
baz=142
S31A Mullinville 141.72 27 ⇓P **PKPdf 16 48 28.9 -4.0**
baz=142,SNR=13
AAM Ann Arbor 141.76 6 *e*PKIKP **PKPdf 16 48 31.1 -1.6**
AAM MLR MLR
comp=Z,27µm,21.0s
AAM Ann Arbor 141.76 6 *e*PKPpre **PKPdf 16 48 31.1 -1.6**
AAM LR LR
comp=Z,27µm,21.0s
U29A Oasis Ranch, S 141.82 30 ⇓P **PKPdf 16 48 28.4 -4.7**
baz=142
V28A Channing 141.88 31 ⇑P **PKPdf 16 48 29.2 -4.1**
baz=142
S32A Newby Ranch, P 141.90 26 ⇓P **PKPdf 16 48 29.3 -3.9**
baz=142
BINY Binghamton 142.01 356 *e*PKPpre PKPpre 16 48 31.0
BINY LR LR
comp=Z,30µm,21.0s
U30A WK&E Inc. Balk 142.06 29 ⇓P **PKPdf 16 48 29.5 -4.1**
baz=142
T31A Randall Ranch, 142.06 27 ⇓P **PKPdf 16 48 30.2 -3.2**
baz=142,SNR=14
V29A Stinnett 142.15 31 ⇓P **PKPdf 16 48 29.6 -4.1**
baz=142
ERPA Erie 142.17 1 PFAKE 16 48 50.0 +17
ERPA LR LR
comp=Z,20µm,22.0s
W28A Vega 142.26 32 ⇓P **PKPdf 16 48 30.0 -4.0**
baz=142
T32A Huddler Ranch, 142.34 27 ⇑P **PKPdf 16 48 30.1 -3.9**
baz=142,SNR=18
S33A Kaszmaul Farm, 142.39 25 ⇓P **PKPdf 16 48 30.5 -3.5**
baz=142,SNR=9.7
HDIL Hopedale 142.55 13 PKPdf **PKPdf 16 48 32.9 -1.3**
HDIL LR LR
comp=Z,427µm,19.0s
U31A Nine Bar Ranch 142.57 28 ⇑P **PKPdf 16 48 30.7 -3.7**
baz=142
Q37A Longview Farm, 142.64 20 ⇑P **PKPdf 16 48 30.6 -3.8**
baz=142
V30A Spur Ranch, Mi 142.65 30 ⇓P **PKPdf 16 48 31.4 -3.2**
baz=142
W29A Amarillo 142.66 32 ⇓P **PKPdf 16 48 31.3 -3.4**
baz=142
S34A Willow Spring 142.67 24 ⇑P **PKPdf 16 48 30.9 -3.6**
baz=142,SNR=6.7
T33A Patterson Ranc 142.72 26 ⇓P **PKPdf 16 48 31.9 -2.7**
baz=142,SNR=16
R36A Gordon, Harris 142.76 22 ⇓P PKPpre 16 48 31.4
baz=142
AMTX Amarillo 142.83 32 *e*PKPpre PKPpre 16 48 31.8
AMTX Amarillo 142.83 32 ⇑P **PKPdf 16 48 32.2 -2.8**
baz=143
X28A Dimmitt 142.83 33 ⇑P **PKPdf 16 48 32.2 -2.8**
baz=143
MSTX Muleshoe 142.93 34 *e*PKPpre PKPpre 16 48 32.8
MSTX Muleshoe 142.93 34 ⇑P PKPpre 16 48 32.1
baz=143,SNR=20
U32A Winter Ranch, 142.96 27 ⇓P PKPpre 16 48 32.0
baz=143
MNTX Cornudas Mount 142.98 39 *e*PKPpre PKPpre 16 48 31.8
MNTX LR LR
comp=Z,17µm,19.0s
MNTX Cornudas Mount 142.98 39 ⇑P **PKPdf 16 48 32.9 -2.3**
baz=143
S35A Otter Creek Ra 143.00 23 ⇑P PKPbc 16 48 32.3 +0.5
baz=143
R37A Teagarden Farm 143.01 21 ⇓P PKPbc 16 48 31.5 -0.3
baz=143
V31A Spring Creek L 143.06 29 ⇑P PKPbc 16 48 32.7 +0.6
baz=143,SNR=19
X29A Tulia 143.15 32 ⇑P PKPbc 16 48 32.7 +0.2
baz=143
W30A Crocket Farms 143.16 30 ⇓P PKPbc 16 48 32.7 +0.3
baz=143
SFIN Lafayette 143.17 10 ⇑P PKPbc 16 48 32.3 +0.2
baz=143
S36A Lake Cedric, C 143.25 22 ⇓P PKPbc 16 48 32.5 +0.1
baz=143
Y28A McKinney Farm, 143.26 33 ⇑P PKPbc 16 48 33.2 +0.5
baz=143
U33A Lingo Farm, Me 143.32 26 ⇑P PKPbc 16 48 33.3 +0.6
baz=143,SNR=17
W31A Holland Ranch, 143.48 30 ⇑P PKPbc 16 48 33.3 +0.1
baz=143,SNR=26
V32A Arapaho 143.48 28 ⇑P PKPbc 16 48 33.5 +0.2
baz=143,SNR=9.7
CLNB Carlsbad 143.52 37 *e*PKPdf **PKPdf 16 48 35.2 -1.1**
U34A Anderson Ranch 143.57 26 *e*PKPpre PKPpre 16 48 32.6
U34A Anderson Ranch 143.57 26 ⇓P PKPbc 16 48 33.7 +0.3
baz=143,SNR=9.2
X30A Coker Ranch, T 143.59 31 ⇓P PKPbc 16 48 34.0 +0.4
baz=143
Y29A Porterfield Fa 143.61 33 ⇑P PKPab 16 48 33.2 +0.3
baz=143
Z28A Tucker Farm, M 143.65 34 ⇓P PKPbc 16 48 34.3 +0.4
baz=144,SNR=23
SSPA Standing Stone 143.66 359 *e*PKPpre PKPpre 16 48 32.7
BDFB Brasilia 143.66 237 PKP **PKPdf 16 48 36.6 -0.3**
comp=Z,10nm,0.8s,baz=191,slow=5.2,SNR=5.7
BDFB Brasilia 143.66 237 PKIKP **PKPdf 16 48 36.6 -0.3**
BDFB Brasilia 143.66 237 PKP **PKPdf 16 48 36.6 -0.3**
V33A Lossen Ranch, 143.75 27 ⇓P PKPbc 16 48 33.7 -0.3
baz=144,SNR=19
W32A Sentinel 143.87 29 ⇓P PKPbc 16 48 34.5 +0.1
baz=144,SNR=25
ACSO Alum Creek Sta 143.88 5 *e*PKPpre PKPbc 16 48 34.1 -0.1
ACSO LR LR
comp=Z,28µm,21.0s
X31A McDonald Ranch 143.90 30 ⇓P PKPbc 16 48 34.6 +0.1
baz=144,SNR=60
Y30A Stafford Cattl 144.01 32 ⇓P PKPbc 16 48 35.1 +0.2
baz=144,SNR=15
Z29A Hungry Hill Ra 144.05 34 ⇑P PKPbc 16 48 36.1 +1.0
baz=144,SNR=92
V34A Guthrie 144.08 26 *e*PKPpre PKPpre 16 48 34.1
V34A Guthrie 144.08 26 ⇓P PKPbc 16 48 35.5 +0.5
baz=144,SNR=39
128A Castleberry Fa 144.08 35 ⇓P PKPbc 16 48 35.9 +0.7
baz=144,SNR=8.5
SLM Saint Louis 144.14 15 *e*PKIKP PKPbc 16 48 35.4 +0.4
SLM Saint Louis 144.14 15 *e*PKP PKPbc 16 48 35.4 +0.4
W33A Caddo, Fort Co 144.21 28 ⇓P PKPbc 16 48 36.0 +0.5
baz=144,SNR=59
Y31A Rekieta Farm, 144.28 31 ⇑P PKPbc 16 48 36.2 +0.5
baz=144
Z30A Sanderson Ranc 144.34 33 ⇓P PKPbc 16 48 36.5 +0.5
baz=144,SNR=78
228A UT Block 9, Go 144.38 36 ⇓P PKPbc 16 48 36.7 +0.5
baz=144,SNR=37
WMOK Wichita Mounta 144.40 29 *e*PKIKP **PKPab 16 48 34.6 -1.2**
WMOK MLR MLR
comp=Z,26µm,22.0s
WMOK Wichita Mounta 144.40 29 *e*PKPpre **PKPab 16 48 34.6 -1.2**
WMOK LR LR
comp=Z,26µm,22.0s
X32A Elmer 144.41 30 ⇑P PKPbc 16 48 36.3 +0.2
baz=144,SNR=38
129A Stewart Farms, 144.43 34 ⇑P **PKPdf 16 48 37.1 -0.7**
baz=144,SNR=74
V35A Meyer Ranch, C 144.44 26 ⇑P PKPbc 16 48 36.5 +0.4
baz=144
BLO Bloomington 144.45 10 *e*PKIKP **PKPab 16 48 35.7 0.0**
BLO Bloomington 144.45 10 *e*PKPdf **PKPab 16 48 35.7 0.0**
W34A Bridge Creek, 144.47 27 *e*PKPpre PKPpre 16 48 35.7
W34A *e*PKPdf **PKPdf 16 48 37.1 -0.6**
W34A Bridge Creek, 144.47 27 ⇑P **PKPdf 16 48 37.0 -0.7**
baz=144,SNR=39
OLIL Olney 144.56 12 *e*PKPdf PKPbc 16 48 36.8 +0.4
Y32A R-V Farms, Ver 144.67 30 ⇓P PKPbc 16 48 37.4 +0.5
baz=144,SNR=33
X33A Lawton 144.70 29 ⇓P PKPbc 16 48 36.9 0.0
baz=144
TUL1 Leonard 144.75 24 *e*PKP **PKPab 16 48 36.1 -0.8**
TUL1 Leonard 144.75 24 ⇑P **PKPab 16 48 36.5 -0.5**
baz=144
SDMD Soldier's Deli 144.84 357 *e*PKP **PKPab 16 48 35.9 -1.3**
Z31A Sharp Cattle R 144.84 32 ⇓P **PKPab 16 48 37.4 0.0**
baz=145,SNR=186
W35A Tecumseh 144.94 26 ⇓P **PKPab 16 48 37.2 -0.5**
baz=145
229A Bryant Ranch, 144.95 35 ⇓P PKPbc 16 48 38.0 +0.1
baz=145,SNR=34
130A Snyder 144.96 34 ⇑P **PKPdf 16 48 38.5 -0.2**
baz=145,SNR=75
X34A Smith Ranch, M 144.96 28 ⇑P **PKPdf 16 48 38.4 -0.2**
baz=145,SNR=57
Y33A Hilltop Ranch, 145.07 29 ⇑P **PKPab 16 48 38.3 +0.1**
baz=145,SNR=31
Z32A Haskell 145.20 31 ⇓P **PKPdf 16 48 39.3 +0.3**
baz=145,SNR=149
329A Wagon Wheel Ra 145.20 36 ⇓P **PKPdf 16 48 39.3 +0.1**
baz=145,SNR=119
131A Roby 145.21 33 ⇓P **PKPdf 16 48 39.1 0.0**
baz=145,SNR=106
W36A Wetumka 145.23 25 ⇑P **PKPbc 16 48 38.2 -0.4**
baz=145
USIN University of 145.39 12 *e*PKP **PKPbc 16 48 38.2 -0.8**
230A Sterling City 145.40 35 ⇑P **PKPab 16 48 40.2 +0.6**
baz=145,SNR=270
WCI Wyandotte Cave 145.40 10 *e*PKIKP **PKPbc 16 48 38.0 -1.2**
WCI Wyandotte Cave 145.40 10 *e*PKP **PKPbc 16 48 38.0 -1.2**
X35A Drake 145.52 27 ⇓P **PKPdf 16 48 39.6 0.0**
baz=145,SNR=100
Y34A Reagan Ranch, 145.53 28 ⇑P **PKPdf 16 48 39.5 -0.1**
baz=145,SNR=183
W37A Quinton 145.56 24 ⇓P **PKPdf 16 48 39.6 0.0**
baz=145
Z33A Whitaker Ranch 145.58 30 ⇓P **PKPdf 16 48 39.5 -0.2**
baz=145,SNR=51
ABTX Abilene, Hawle 145.65 32 *e*PKP **PKPdf 16 48 39.9 0.0**
ABTX Abilene, Hawle 145.65 32 ⇑P **PKPab 16 48 40.5 +0.1**
baz=146,SNR=85
X36A Centrahoma 145.66 26 ⇓P **PKPdf 16 48 39.7 0.0**
baz=146
TXAR Lajitas Array 145.66 40 PKPbc **PKPab 16 48 41.2 +0.6**
comp=Z,165nm,1.0s,baz=325,slow=0.7,SNR=287
TXAR Lajitas Array 145.66 40 PKIKP **PKPab 16 48 41.3 +0.6**
TXAR Lajitas Array 145.66 40 PKPbc **PKPab 16 48 41.2 +0.6**
330A Mertzon 145.73 35 ⇑P **PKPbc 16 48 40.6 +0.1**
baz=146,SNR=188
231A Bronte 145.81 34 ⇑P **PKPab 16 48 41.1 0.0**
baz=146,SNR=56
429A Davenport Ranc 145.87 37 ⇑P **PKPdf 16 48 40.4 +0.1**
baz=146,SNR=92
Z34A Collier Ranch, 145.93 29 ⇑P **PKPdf 16 48 39.6 -0.7**
baz=146,SNR=22
W38A Poteau 145.99 23 ⇓P **PKPdf 16 48 40.6 +0.3**
baz=146
529A Stev Forest Ra 146.03 38 ⇑P **PKPbc 16 48 41.4 -0.1**
baz=146,SNR=51
133A Hamilton Ranch 146.04 31 ⇓P **PKPab 16 48 41.6 -0.3**
baz=146,SNR=133
X37A Clayton 146.06 25 ⇑P **PKPdf 16 48 40.5 0.0**
baz=146
CBN Corbin Frederi 146.07 358 PKPdf **PKPdf 16 48 39.3 -1.1**
CBN LR LR
comp=Z,17µm,20.0s
LCO Las Campanas 146.11 193 PKPdf **PKPdf 16 48 40.7 -0.4**
LCO LR LR
comp=Z,9µm,19.0s
PARMO Parma 146.13 16 *e*PKP **PKPdf 16 48 40.7 +0.2**
430A Baggett Ranch, 146.15 36 ⇑P **PKPbc 16 48 41.4 -0.3**
baz=146,SNR=76
232A Coleman 146.22 33 ⇓P **PKPdf 16 48 41.0 +0.1**
baz=146,SNR=170
331A San Angelo 146.22 34 ⇑P **PKPdf 16 48 41.4 +0.5**
baz=146,SNR=34
Z35A Perchaven, San 146.28 28 ⇑P **PKPdf 16 48 41.1 +0.2**
baz=146,SNR=24
134A White-Moore Ra 146.49 30 ⇓P **PKPbc 16 48 42.2 -0.4**
baz=146,SNR=17
233A Rising Star 146.51 32 ⇓P **PKPbc 16 48 42.1 -0.6**
baz=146,SNR=77
530A J-C Ranch, Com 146.55 37 ⇑P **PKPbc 16 48 42.8 -0.1**
baz=146,SNR=231
332A Millersview 146.55 34 ⇓P **PKPbc 16 48 42.8 -0.1**
baz=146,SNR=330
431A Sonora 146.59 35 ⇑P **PKPbc 16 48 42.8 -0.3**
baz=146,SNR=73
GLAT Glass 146.62 15 *e*PKPbc **PKPab 16 48 43.6 -0.3**
MIAR Mount Ida 146.82 22 *e*PKP2 **PKPbc 16 48 42.7 -0.8**
MIAR MLR MLR
comp=Z,19µm,19.0s
MIAR Mount Ida 146.82 22 *e*PKPdf **PKPbc 16 48 42.7 -0.8**
MIAR LR LR
comp=Z,19µm,19.0s
135A Vickery Place, 146.84 29 ⇑P **PKPdf 16 48 42.4 +0.6**
baz=147
HBAR Harrisburg 146.90 18 *e*PKPdf **PKPdf 16 48 41.4 -0.4**
HBAR *e*PKPbc **PKPbc 16 48 43.9 +0.3**
432A Menard 146.91 34 ⇓P **PKPdf 16 48 42.9 +0.9**
baz=147,SNR=68
234A Clairette 146.92 31 ⇓P **PKPbc 16 48 43.1 -0.8**
baz=147,SNR=54
HALT Halls 146.95 16 *e*PKPdf **PKPdf 16 48 41.6 -0.3**
531A Rocksprings 147.00 36 ⇓P **PKPbc 16 48 43.7 -0.5**
baz=147,SNR=170
333A Richland Sprin 147.01 33 ⇑P **PKPdf 16 48 43.1 +0.9**
baz=147,SNR=230
BLA Blacksburg 147.06 2 *e*PKIKP **PKPdf 16 48 41.7 -0.4**
BLA *e* 16 48 44.0
BLA MLR MLR
comp=Z,23µm,20.0s
BLA Blacksburg 147.06 2 *e*PKPdf **PKPdf 16 48 41.7 -0.4**
BLA *e*PKPbc **PKPbc 16 48 44.0 -0.2**
BLA LR LR
comp=Z,23µm,20.0s
UALR University of 147.06 21 *e*PKPdf **PKPdf 16 48 40.6 -1.5**
UALR *e*PKPbc **PKPbc 16 48 43.7 -0.5**
WVT Waverly 147.12 13 *e*PKP2 **PKPdf 16 48 42.4 +0.2**
WVT Waverly 147.12 13 *e*PKPdf **PKPdf 16 48 42.4 +0.2**
WVT *e*PKPbc **PKPbc 16 48 44.6 +0.3**
Z37A Pogue Cattle C 147.14 26 ⇓P **PKPbc 16 48 43.6 -0.8**
baz=147
JCT Junction City 147.20 35 *e*PKP2 **PKPdf 16 48 43.5 +0.9**
JCT MLR MLR
comp=Z,16µm,20.0s
JCT Junction City 147.20 35 *e*PKPdf **PKPdf 16 48 43.5 +0.9**
JCT LR LR
comp=Z,16µm,20.0s
JCT Junction City 147.20 35 ⇑P **PKPbc 16 48 44.0 -0.7**
baz=147,SNR=77
WHTX Lake Whitney, 147.27 30 *e*PKPbc **PKPbc 16 48 45.6 +0.8**
WHTX Lake Whitney, 147.27 30 ⇓P **PKPdf 16 48 43.6 +1.1**
baz=147,SNR=9.8
Z38A Mt. Pleasant 147.37 26 ⇓P **PKPbc 16 48 44.1 -0.9**
baz=147
433A Art 147.39 33 ⇑P **PKPbc 16 48 44.2 -1.0**
baz=147,SNR=67
334A Lometa 147.40 32 ⇓P **PKPdf 16 48 43.7 +0.9**
baz=147,SNR=64
532A Rocksprings 147.41 35 ⇓P **PKPbc 16 48 44.4 -1.0**
baz=147,SNR=100
631A Perdido Creek 147.54 37 ⇓P **PKPbc 16 48 44.9 -0.8**
baz=147,SNR=71
137A Heron Place, G 147.59 27 ⇑P **PKPbc 16 48 44.8 -0.9**
baz=147
Z39A Irene McRaven, 147.72 24 ⇓P **PKPbc 16 48 45.1 -1.0**
baz=148
236A Katherine and 147.72 29 ⇓P **PKPbc 16 48 44.7 -1.3**
baz=148
434A Burnet 147.79 32 ⇑P **PKPbc 16 48 45.0 -1.4**
baz=148,SNR=45
138A Matatall Enter 147.83 26 ⇓P **PKPdf 16 48 44.8 +1.3**
baz=148
335A Moody 147.86 31 ⇑P **PKPbc 16 48 45.1 -1.4**
baz=148,SNR=95
632A Uvalde 147.93 36 ⇓P **PKPbc 16 48 45.4 -1.4**
baz=148,SNR=58
533A Kerrville 147.94 34 ⇓P **PKPdf 16 48 45.0 +1.2**
baz=148,SNR=24
237A Washetta, Mont 148.06 28 ⇓P **PKPdf 16 48 45.2 +1.3**
baz=148
336A Riesel 148.07 30 ⇓P **PKPdf 16 48 45.1 +1.2**
baz=148,SNR=12
139A Bunkhouse Ranc 148.12 25 ⇑P **PKPbc 16 48 45.6 -1.5**
baz=148
435B Jarrell 148.17 32 ⇑P **PKPdf 16 48 45.6 +1.5**
baz=148,SNR=16
OXF Oxford 148.24 17 *e*PKIKP **PKPdf 16 48 43.2 -0.9**
OXF *e* 16 48 47.5
OXF Oxford 148.24 17 *e*PKPdf **PKPdf 16 48 43.1 -0.9**
OXF *e*PKPbc **PKPbc 16 48 47.5 +0.1**
534A Blanco 148.28 34 ⇑P **PKPdf 16 48 45.9 +1.6**
baz=148,SNR=43
TKL Tuckaleechee C 148.31 8 PKPbc **PKPbc 16 48 46.6 -1.0**
baz=4.3,slow=3.1
TKL Tuckaleechee C 148.31 8 *e*PKIKP **PKPdf 16 48 44.6 +0.4**
TKL *e* 16 48 47.8
TKL Tuckaleechee C 148.31 8 *e*PKPdf **PKPdf 16 48 44.6 +0.4**
TKL PKPbc **PKPbc 16 48 46.6 -1.0**
TKL *e*PKPbc **PKiKP 16 48 47.8 -1.5**
633A Saathoff Ranch 148.32 35 ⇑P **PKPdf 16 48 46.0 +1.6**
baz=148,SNR=32
238A Jacksonville 148.37 27 ⇑P **PKPdf 16 48 45.8 +1.4**
baz=148
732A Laxson Ranch, 148.40 37 ⇑P **PKPdf 16 48 46.1 +1.6**
baz=148,SNR=12
436A Wall Ranch, Ga 148.59 31 ⇓P **PKPbc 16 48 46.9 -1.5**
baz=148,SNR=19
337A Centerville 148.59 29 ⇓P **PKPdf 16 48 46.4 +1.6**
baz=148
239A Gary 148.65 26 ⇑P **PKPdf 16 48 46.6 +1.8**
baz=148
832A Faith Ranch, C 148.72 38 ⇓P **PKPdf 16 48 46.7 +1.6**
baz=149,SNR=41

535A	**Dale**	**148.78**	**32**	⇑P	**PKPdf**	**16 48 46.5**	**+1.4**
	baz=149,SNR=9.8						
NATX	**Nacogdoches**	**148.79**	**27**	*e*PKPbc	**PKPbc**	**16 48 48.8**	**-0.1**
NATX				LR	LR		
	comp=Z,29μm,20.0s						
733A	**Divot King Ran**	**148.81**	**36**	⇑P	**PKPdf**	**16 48 46.9**	**+1.7**
	baz=149,SNR=18						
338A	**Crockett**	**148.83**	**28**	⇑P	**PKPbc**	**16 48 47.2**	**-1.9**
	baz=149						
634A	**China Grove, S**	**148.85**	**34**	⇓P	**PKPbc**	**16 48 47.4**	**-1.8**
	baz=149						
437A	**Phantom Ranch,**	**148.87**	**30**	⇓P	**PKPbc**	**16 48 47.4**	**-1.8**
	baz=149						
BBSR	**BB Station**	**148.92**	**336**	*e*PKPbc	**PKPbc**	**16 48 49.9**	**+0.7**
BBSR				LR	LR		
	comp=Z,11μm,20.0s						
536A	**Bastrop**	**149.01**	**32**	⇑P	**PKPdf**	**16 48 47.1**	**+1.6**
	baz=149						
833A	**Chaparral WMA,**	**149.04**	**37**	⇑P	**PKPdf**	**16 48 47.3**	**+1.7**
	baz=149,SNR=36						
CNNC	**Cliffs of the**	**149.04**	**358**	*e*PKPbc	**PKPbc**	**16 48 49.4**	**-0.1**
CNNC				LR	LR		
	comp=Z,17μm,20.0s						
KMSC	**Kings Mountain**	**149.07**	**4**	*e*PKPdf	**PKPdf**	**16 48 45.6**	**+0.2**
KMSC				*e*PKPbc	**PKPbc**	**16 48 48.8**	**-0.7**
KMSC	**Kings Mountain**	**149.07**	**4**	⇑P	**PKPdf**	**16 48 47.5**	**+2.0**
	baz=149						
734A	**La Parita Cree**	**149.14**	**35**	⇓P	**PKPbc**	**16 48 47.8**	**-2.1**
	baz=149,SNR=12						
635A	**Leesville**	**149.17**	**33**	⇓P	**PKPbc**	**16 48 48.0**	**-2.0**
	baz=149,SNR=23						
339A	**Huntington**	**149.20**	**27**	⇓P	**PKPdf**	**16 48 47.5**	**+1.8**
	baz=149						
438A	**Sam Houston St**	**149.26**	**29**	⇑P	**PKPbc**	**16 48 48.2**	**-1.9**
	baz=149						
537A	**Green Hill Far**	**149.39**	**31**	⇓P	**PKPbc**	**16 48 48.6**	**-1.9**
	baz=149						
340A	**Bronson**	**149.42**	**26**	⇑P	**PKPbc**	**16 48 48.5**	**-2.0**
	baz=149						
636A	**Smothers Creek**	**149.48**	**32**	⇑P	**PKPbc**	**16 48 49.2**	**-1.5**
	baz=149,SNR=63						
439A	**Center Grove,**	**149.56**	**28**	⇑P	**PKPbc**	**16 48 49.1**	**-1.8**
	baz=149						
735A	**Kenedy**	**149.56**	**34**	⇓P	**PKPbc**	**16 48 49.2**	**-1.7**
	baz=149,SNR=15						
933A	**Laredo**	**149.63**	**38**	⇑P	**PKPbc**	**16 48 49.5**	**-1.7**
	baz=150,SNR=22						
834A	**Tilden**	**149.68**	**36**	⇑P	**PKPbc**	**16 48 50.2**	**-1.1**
	baz=150,SNR=29						
538A	**Harpers Horsep**	**149.69**	**29**	⇓P	**PKPbc**	**16 48 49.5**	**-1.7**
	baz=150						
HKT	**Hockley**	**149.74**	**30**	*e*PKP2	**PKPbc**	**16 48 51.3**	**+0.1**
HKT	**Hockley**	**149.74**	**30**	*e*PKPbc	**PKPbc**	**16 48 51.3**	**+0.1**
736A	**Circle Diamond**	**149.89**	**33**	⇑P	**PKPbc**	**16 48 50.7**	**-1.0**
	baz=150,SNR=30						
835A	**Beeville**	**149.98**	**35**	⇓P	**PKPbc**	**16 48 50.9**	**-1.1**
	baz=150,SNR=25						
934A	**Benavides**	**150.09**	**37**	⇑P	**PKPbc**	**16 48 50.8**	**-1.4**
	baz=150,SNR=20						
539A	**Cross D Ranch,**	**150.15**	**28**	⇓P	**PKPbc**	**16 48 51.0**	**-1.3**
	baz=150						
LRAL	**Lakeview Retre**	**150.27**	**14**	*e*PKPbc	**PKPbc**	**16 48 51.2**	**-1.3**
034A	**Hebbronville**	**150.38**	**38**	⇑P	**PKPbc**	**16 48 51.5**	**-1.4**
	baz=150,SNR=39						
KVTX	**Kingsville**	**150.50**	**36**	*e*PKPbc	**PKPbc**	**16 48 53.6**	**+0.4**
KVTX				LR	LR		
	comp=Z,17μm,20.0s						
GOGA	**Godfrey**	**150.57**	**8**	*e*PKIKP	**PKPdf**	**16 48 47.2**	**-0.6**
GOGA				*e*		16 48 52.9	
GOGA				MLR	MLR		
	comp=Z,23μm,19.0s						
GOGA	**Godfrey**	**150.57**	**8**	*e*PKPdf	**PKPdf**	**16 48 47.2**	**-0.6**
GOGA				*e*PKPbc	**PKPbc**	**16 48 52.9**	**-0.3**
GOGA				LR	LR		
	comp=Z,23μm,19.0s						
738A	**Farr-Stevens R**	**150.73**	**31**	⇑P	**PKPbc**	**16 48 53.0**	**-0.7**
	baz=151						
035A	**Encino**	**150.83**	**37**	⇑P	**PKPbc**	**16 48 52.6**	**-1.4**
	baz=151,SNR=27						
936A	**North Padre Is**	**150.94**	**35**	⇓P	**PKPbc**	**16 48 52.3**	**-2.0**
	baz=151						
NHSC	**New Hope**	**151.16**	**2**	*e*PKPbc	**PKPbc**	**16 48 55.1**	**+0.5**
NHSC				LR	LR		
	comp=Z,22μm,19.0s						
035Z	**Hargill**	**151.20**	**38**	⇑P	**PKPbc**	**16 48 53.3**	**-1.6**
	baz=151,SNR=20						
RGRS	**Roger Stewart**	**151.35**	**2**	*e*PKPbc	**PKPbc**	**16 48 55.5**	**+0.4**
SFJM	**Santa Fe**	**151.43**	**53**	P	**PKPdf**	**16 48 52.4**	**+2.7**
LVC	**Limon Verde**	**151.68**	**200**	*e*PKPbc	**PKPbc**	**16 48 56.1**	**-0.4**
LVC				LR	LR		
	comp=Z,7μm,21.0s						
BRAL	**Brewton**	**152.19**	**15**	*e*PKPbc	**PKPbc**	**16 48 57.5**	**+0.5**
BRAL				LR	LR		
	comp=Z,27μm,21.0s						
TIGA	**Tifton**	**152.49**	**9**	*e*PKPbc	**PKPbc**	**16 48 57.9**	**+0.2**
ANWB	**Willy Bob**	**158.51**	**310**	PFAKE		16 49 10.0	+11
ANWB				LR	LR		
	comp=Z,13μm,21.0s						
BBGH	**Gun Hill**	**158.91**	**296**	PFAKE		16 49 10.0	+10
BBGH				LR	LR		
	comp=Z,15μm,20.0s						
FDF	**Fort de France**	**159.60**	**302**	PFAKE		16 49 10.0	+9.4
FDF				LR	LR		
	comp=Z,13μm,21.0s						
SAML	**Samuel**	**159.64**	**230**	*e*PKPdf	**PKPdf**	**16 48 56.5**	**-4.2**
SAML				LR	LR		
	comp=Z,15μm,20.0s						
PTGA	**Pitinga**	**160.48**	**256**	PFAKE		16 49 10.0	+8.3
PTGA				LR	LR		
	comp=Z,13μm,20.0s						
GRTK	**Grand Turk**	**161.16**	**337**	PFAKE		16 49 10.0	+7.9
GRTK				LR	LR		
	comp=Z,13μm,21.0s						
GRGR	**Grenville**	**161.19**	**296**	PFAKE		16 49 10.0	+7.6
GRGR				LR	LR		
	comp=Z,7μm,20.0s						
TEIG	**Tepich**	**161.58**	**29**	PFAKE		16 49 10.0	+7.4
TEIG				LR	LR		
	comp=Z,24μm,20.0s						
SDDR	**Presa de Saban**	**163.48**	**334**	PFAKE		16 49 20.0	+15
SDDR				LR	LR		
	comp=Z,17μm,19.0s						
NNA	**Nana**	**163.85**	**187**	PFAKE		16 49 20.0	+15
NNA				LR	LR		
	comp=Z,11μm,20.0s						
GTBY	**Guantanamo Bay**	**163.88**	**347**	PFAKE		16 49 20.0	+15
GTBY				LR	LR		
	comp=Z,12μm,21.0s						
MTDJ	**Mount Denham**	**165.94**	**355**	PFAKE		16 49 20.0	+13
MTDJ				LR	LR		
	comp=Z,19μm,20.0s						
SDV	**Santo Domingo**	**170.53**	**300**	*e*PKPdf	**PKPdf**	**16 49 08.7**	**-1.5**
SDV				LR	LR		
	comp=Z,18μm,20.0s						
JTS	**JuntasAbangare**	**171.43**	**44**	PFAKE		16 49 20.0	+10
JTS				LR	LR		
	comp=Z,15μm,20.0s						
BCIP	**Isla Barro Col**	**174.92**	**11**	PFAKE		16 49 20.0	+8.2
BCIP				LR	LR		
	comp=Z,12μm,21.0s						
OTAV	**Otavalo**	**176.10**	**187**	*e*PKPdf	**PKPdf**	**16 49 12.5**	**-0.2**
OTAV				LR	LR		
	comp=Z,13μm,21.0s						

JMA 05 16:34:56.5±0.1, 28°18N×129°42E, h17km±1km, M0.9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAMN	**Amaminishikomi**	**0.23**	**286**	P	Pg	16 35 01.7	0.0
JAMN				*e*S	Sg	16 35 05.1	-0.2
JAM	**Amami Oshima**	**0.28**	**35**	P	Pg	16 35 02.5	-0.2
JAM				*e*S	Sg	16 35 06.4	-0.5
JTK	**Tokunoshima**	**0.57**	**227**	P	Pg	16 35 07.6	-0.3
JTK				*e*S	Sg	16 35 14.9	-0.6

*IDC **05** 16:39:36.2±1.9, 3.°86S×101.°30E, h0km, mb4.1/9, mb1 4.2/10, mb1mx4.0/26, mbtmp4.1/10, ML3.6/1, Error ellipse: s-maj=69.0km s-min=18.4km az=54.0*
*ISCJB **05** 16:39:37.9±1.5, 3.°9S±0.°2×101.°2E±0.°3, h29km, mb4.2/10, Error ellipse: s-maj=53.0km s-min=11.8km az=143.7*
*NEIC **05** 16:39:41.7±2.3, 3.°93S×101.°10E, h44km±14km, mb4.7/1, Error ellipse: s-maj=43.1km s-min=8.6km az=50.0*

ISC 05 16:39:40.4±1.8, 3.°8S±0.°2×101.°2E±0.°2, h29km, n17, σ0s2.52/14, mb4.2/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**1.79**	**107**	*e*P	**Pb**	**16 40 12.7**	**+0.1**
PSI	**Prapat**	**6.99**	**341**	Pn	**Pn**	**16 41 20.2**	**-0.8**
	1.1nm,0.3s,baz=168,slow=13,SNR=4.1						
CMAR	**Chiang Mai Arr**	**22.27**	**354**	P	**P**	**16 44 35.4**	**0.0**
	1.4nm,0.7s,baz=184,slow=7.8,SNR=9.2						
H01W3	**Cape Leeuwin H**	**33.13**	**160**	T	T	17 20 41.9	
	baz=335						
H01W2	**Cape Leeuwin H**	**33.14**	**160**	T	T	17 20 41.4	
	baz=335						
H01W1	**Cape Leeuwin H**	**33.14**	**160**	T	T	17 20 40.8	
	baz=335						
WRA	**Warramunga Arr**	**36.01**	**119**	P	**P**	**16 46 38.7**	**-0.7**
	1.9nm,0.7s,baz=304,slow=9.1,SNR=7.0						
WRAB	**Tennant Creek**	**36.02**	**119**	*e*P	**P**	**16 46 39.4**	**0.0**
	9.0nm,0.9s						
ASAR	**Alice Springs**	**37.19**	**125**	P	**P**	**16 46 48.7**	**-0.6**
	1.8nm,0.8s,baz=300,slow=7.2,SNR=5.2						
SONM	**Songino Array**	**51.63**	**4**	P	**P**	**16 48 45.0**	**+0.4**
	2.2nm,0.7s,baz=185,slow=7.2,SNR=6.7						
MJAR	**Matsushiro Arr**	**52.95**	**37**	P	**P**	**16 48 54.3**	**-0.1**
	1.4nm,0.8s,baz=221,slow=7.3,SNR=7.2						
MKAR	**Makanchi Array**	**53.12**	**344**	P	**P**	**16 48 55.6**	**+0.1**
	2.2nm,0.7s,baz=155,slow=6.6,SNR=10						
KURBB	**Kurchatov Arra**	**57.65**	**343**	P	**P**	**16 49 28.7**	**+0.7**
	2.4nm,0.2s,baz=156,slow=7.1,SNR=4.2						
KURK	**Kurchatov**	**57.71**	**343**	P	**P**	**16 49 28.7**	**+0.3**
ZALV	**Zalesovo Beam**	**59.20**	**349**	P	**P**	**16 49 39.2**	**+0.6**
	2.2nm,0.4s,baz=164,slow=6.0,SNR=9.5						
BVAR	**Borovoye Array**	**62.33**	**340**	P	**P**	**16 49 60.0**	**0.0**
	1.5nm,0.6s,baz=139,slow=10,SNR=4.8						
TXAR	**Lajitas Array**	**145.35**	**40**	PKPbc	**PKPdf**	**16 59 16.9**	**+0.5**
	2.4nm,0.8s,baz=293,slow=1.1,SNR=12						

BER 05 16:48:32.6±0.3, 66.°59N×13.°34E, h9km±13km, MD0.6, ML0.7, 1D, Northern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KONS	**Konsvik**	**0.12**	**224**	⇓*i*P	Pg	16 48 35.3	-0.1
KONS				*e*S	Sg	16 48 37.3	-0.1
KONS				IAML		16 48 37.4	
	comp=Z,18nm,0.1s						
STOK	**Stokkvaagen**	**0.29**	**207**	*e*P	Pg	16 48 38.0	-0.3

*IDC **05** 16:57:01.3±1.5, 4.°05S×101.°27E, h0km, mb4.1/12, mb1 4.2/14, mb1mx4.0/27, mbtmp4.1/14, ML4.0/2, Error ellipse: s-maj=47.8km s-min=14.0km az=54.0*
*ISCJB **05** 16:57:03.7±0.5, 4.°24S±0.°05×101.°09E±0.°05, h34km, mb4.1/14, Error ellipse: s-maj=8.6km s-min=4.5km az=39.1*
*NEIC **05** 16:57:05.1±2.2, 4.°13S×101.°16E, h30km±16km, mb4.0/2, Error ellipse: s-maj=19.5km s-min=5.5km az=52.0*
*DJA **05** 16:57:09.5±2.5, 4.°S±4.°×10.°1E±.°, h31km±26km, M4.3/17, mb4.1/1, MLv4.4/17*

ISC 05 16:57:06.0±0.8, 4.°12S±0.°07×101.°26E±0.°07, h34km, n52, σ1s17/46, mb4.2/14, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASI	**Maura Aman, Be**	**1.38**	**45**	P	**Pb**	**16 57 31.9**	**+0.7**
MASI				S	**Sb**	**16 57 48.4**	**-0.1**
MNAI	**Manna**	**1.71**	**98**	P	**Pb**	**16 57 35.5**	**-1.3**
MNAI				S	**Sn**	**16 57 53.5**	**-0.6**
MNAI	**Manna**	**1.71**	**98**	*e*Pn	**Pb**	**16 57 35.7**	**-1.1**
LHSI	**Lahat**	**2.28**	**83**	P	**Pb**	**16 57 45.0**	**-1.4**
LWLI	**Liwa**	**2.93**	**108**	P	**Pn**	**16 57 52.8**	**+2.5**
LWLI				S	Sn	16 58 17.9	-6.5
MDSI	**Maura Dua**	**2.93**	**97**	P	**Pn**	**16 57 53.2**	**+3.0**
SDSI	**Sungai Dareh**	**3.17**	**3**	P	Pb	16 57 57.1	-4.5
JMBI	**JAMBI**	**3.43**	**4**	P	Pb	16 58 01.8	-4.2
KLSI		**3.51**	**99**	P	**Pn**	**16 58 00.1**	**+2.0**
KASI	**Kota Agung**	**3.52**	**114**	P	**Pn**	**16 57 59.7**	**+1.5**
KLI	**Kotabumi**	**3.66**	**102**	P	**Pn**	**16 57 59.8**	**-0.5**
PMBI	**Palembang**	**3.70**	**72**	P	**Pn**	**16 58 01.0**	**+0.2**
BLSI	**Bandar Lampung**	**4.16**	**108**	P	**Pn**	**16 58 08.5**	**+1.4**
BKNI	**Bangkinang**	**4.42**	**357**	P	Pn	16 58 14.3	+3.6
DSRI	**Dabo**	**4.90**	**43**	P	Pn	16 58 20.4	+3.1
CGJI	**Cibinong**	**5.06**	**120**	P	**Pn**	**16 58 21.8**	**+2.3**
MNSI	**Mandailing Nat**	**5.16**	**341**	P	**Pn**	**16 58 21.6**	**+0.8**
PPBI	**Pangkal Pinang**	**5.24**	**68**	P	Pn	16 58 24.8	+2.8
GSI	**Gunungsitoli**	**6.52**	**326**	P	**Pn**	**16 58 38.6**	**-1.0**
	11nm,0.4s						
LEM	**Lembang**	**6.88**	**113**	Pn	**Pn**	**16 58 45.7**	**+1.1**
	3.5nm,0.3s,baz=24,slow=13,SNR=3.4						
PSI	**Prapat**	**7.26**	**341**	Pn	**Pn**	**16 58 48.5**	**-1.3**
	2.5nm,0.3s,baz=198,slow=9.6,SNR=7.1						
CISI	**Cisompet, Garu**	**7.36**	**118**	*e*P	**Pn**	**16 58 51.0**	**-0.2**
	44nm,0.4s						
XMIS	**Christmas Isla**	**7.68**	**146**	*e*P	**Pn**	**16 58 54.7**	**-0.8**
CM31	**Chiang Mai Arr**	**22.55**	**354**	P	**P**	**17 02 02.4**	**-0.9**
CMAR	**Chiang Mai Arr**	**22.55**	**354**	P	**P**	**17 02 02.5**	**-0.8**
	3.3nm,0.8s,baz=183,slow=8.4,SNR=24						
CHTO	**Chiang Mai**	**22.90**	**354**	*e*P	**P**	**17 02 05.4**	**-1.6**
	3.6nm,0.9s						
BATI	**Baumata**	**23.03**	**106**	P	**P**	**17 02 08.2**	**-0.2**
	9.7nm,0.7s,baz=202,slow=4.6,SNR=2.9						
H01W3	**Cape Leeuwin H**	**32.86**	**160**	T	T	17 38 01.0	
	baz=337,slow=76,SNR=34						
H01W2	**Cape Leeuwin H**	**32.87**	**160**	T	T	17 38 00.4	
	baz=337,slow=76,SNR=30						
H01W1	**Cape Leeuwin H**	**32.88**	**160**	T	T	17 37 58.7	
	baz=337,slow=76,SNR=31						
ODAN	**Odare**	**33.59**	**337**	*e*P	**P**	**17 03 44.4**	**+1.0**
	16nm,0.7s						
TAPN	**Taplejung**	**33.91**	**338**	*e*P	**P**	**17 03 47.8**	**+1.5**
	18nm,0.9s						
RAMN	**Ramite**	**33.98**	**336**	*e*P	**P**	**17 03 48.1**	**+1.3**
	7.9nm,0.6s						
JIRN	**Jiri**	**34.78**	**336**	*e*P	**P**	**17 03 55.0**	**+1.1**
	21nm,0.8s						
GUN	**Gumba**	**35.12**	**336**	*e*P	**P**	**17 03 57.8**	**+1.0**
	13nm,0.6s						
DMN	**Daman**	**35.18**	**335**	*e*P	**P**	**17 03 57.9**	**+0.7**
KKN	**Kakani**	**35.27**	**335**	*e*P	**P**	**17 03 58.6**	**+0.7**
	8.5nm,0.8s						
GKN	**Gorkha**	**35.73**	**334**	*e*P	**P**	**17 04 02.6**	**+0.8**
WRA	**Warramunga Arr**	**35.86**	**119**	P	**P**	**17 04 02.9**	**-0.1**
	1.4nm,0.7s,baz=301,slow=8.9,SNR=18						
ASAR	**Alice Springs**	**37.01**	**125**	P	**P**	**17 04 13.0**	**+0.2**
	0.8nm,0.5s,baz=299,slow=7.6,SNR=16						
AS31	**Alice Springs**	**37.01**	**125**	*e*P	**P**	**17 04 13.4**	**+0.7**
STKA	**Stephens Creek**	**46.82**	**131**	P	**P**	**17 05 33.5**	**+0.7**
	1.4nm,0.8s,baz=321,slow=8.9,SNR=2.4						
KSAR	**Kitonju Array Be**	**48.20**	**29**	P	**P**	**17 05 42.2**	**-1.0**
KSRS	**Kongsberg Array**	**48.23**	**29**	P	**P**	**17 05 42.2**	**-1.2**
	2.4nm,0.8s,baz=209,slow=7.8,SNR=5.3						
SONM	**Songino Array**	**51.93**	**4**	P	**P**	**17 06 12.3**	**+0.8**
	3.8nm,0.8s,baz=186,slow=9.3,SNR=29						
MJAR	**Matsushiro Arr**	**53.15**	**37**	P	**P**	**17 06 20.3**	**-0.4**
	1.3nm,0.9s,baz=216,slow=7.3,SNR=9.3						
MKAR	**Makanchi Array**	**53.40**	**344**	P	**P**	**17 06 22.3**	**0.0**
	3.1nm,0.7s,baz=178,slow=7.3,SNR=44						
USRK	**Ussuriysk Ar.**	**55.45**	**27**	P	**P**	**17 06 37.1**	**-0.1**
	2.7nm,0.6s,baz=207,slow=3.7,SNR=5.9						
ZALV	**Zalesovo Beam**	**59.47**	**349**	P	**P**	**17 07 04.8**	**-0.5**
	1.9nm,0.4s,baz=180,slow=6.1,SNR=15						
BVAR	**Borovoye Array**	**62.59**	**340**	P	**P**	**17 07 26.1**	**-0.6**
	1.4nm,0.6s,baz=148,slow=10,SNR=11						
ABKAR	**Akbulak array**	**64.09**	**331**	*e*P	**P**	**17 07 35.9**	**-0.7**
	1.3nm,0.6s						
TXAR	**Lajitas Array**	**145.55**	**41**	PKPbc	**PKPab**	**17 16 43.0**	**+1.1**
	1.0nm,0.4s,baz=248,slow=1.0,SNR=21						

JMA 05 17:01:22.6±0.2, 24.°18N×125.°17E, h22km, M1.6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**0.62**	**20**	P	Pb	17 01 34.6	-0.2
JOGS				*e*S	Sb	17 01 43.5	+0.5
JTJ	**Tarama**	**0.63**	**317**	P	Pb	17 01 34.7	-0.2
JTJ				*e*S	Sb	17 01 43.3	0.0
JMJ	**Miyako jima 2**	**0.64**	**10**	*e*S	Sb	17 01 44.0	+0.2
JIRB	**Irabujima**	**0.65**	**0**	P	Pb	17 01 34.7	-0.5
JIRB				*e*S	Sb	17 01 43.7	-0.1
JISG	**Ishigakijimahi**	**0.88**	**298**	P	Pb	17 01 39.0	-0.2
JISG				*e*S	Sb	17 01 50.1	-0.5
JIJ	**Ishigaki jima**	**0.95**	**281**	P	Pb	17 01 40.3	-0.2
JIJ				*e*S	Sb	17 01 52.4	-0.3
JKRS	**Kuro-shima**	**1.06**	**273**	*e*S	Sn	17 01 56.4	+0.2

GUC 05 17:05:40.4±0.3, 35.°01S×70.°21W, h19km±6km, ML4.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.83**	**270**	*e*P	Pb	17 05 54.9	-1.4
NICH				*e*S	Sb	17 06 05.7	-1.4
CHCH	**Chadas Angostu**	**1.13**	**341**	*e*P	Pn	17 05 59.4	-1.8
TALC	**Talca**	**1.23**	**251**	*e*P	Pn	17 06 01.1	-1.4
TALC				*e*S	Sb	17 06 16.7	-1.7
SJCH	**San Jose de Ma**	**1.37**	**355**	*e*P	Pn	17 06 03.3	-1.3
SJCH				*e*S	Sn	17 06 20.8	-1.4
PCH	**Pirque**	**1.40**	**350**	*e*P	Pn	17 06 04.2	-0.9
LNV	**Longovilo**	**1.44**	**316**	*e*P	Pn	17 06 04.4	-1.1
TACH	**Talagante**	**1.48**	**336**	*e*P	Pn	17 06 04.9	-1.1
RCDM	**Rinconada Maip**	**1.59**	**342**	*e*P	Pn	17 06 06.9	-0.6
RCDM				*e*S	Sn	17 06 27.0	-0.6
SAN	**Santiago**	**1.59**	**346**	*e*P	Pn	17 06 07.0	-0.6
SAN				*e*S	Sn	17 06 27.2	-0.4
STL	**Santa Lucia**	**1.60**	**347**	*e*P	Pn	17 06 06.9	-0.9
STL				*e*S	Sn	17 06 27.3	-0.7
CLCH	**Cerro Calan**	**1.63**	**350**	*e*P	Pn	17 06 07.7	-0.5
CLCH				*e*S	Sn	17 06 28.3	-0.3
CLCH				AML	AML	17 06 30.7	
	comp=E,3μm,0.4s						
PEL	**Peldehue**	**1.90**	**348**	*e*P	Pn	17 06 11.9	+0.1
PEL				*e*S	Sn	17 06 35.9	+0.7
PEL				AML	AML	17 06 38.9	
	comp=N,3μm,0.3s						
ROCH	**El Roble**	**2.13**	**342**	*e*P	Pn	17 06 15.8	+0.5
ROCH				*e*S	Sn	17 06 42.8	+1.3
ROCH				AML	AML	17 06 49.6	
	comp=N,1μm,0.4s						

*CSEM **05** 17:06:05.9, 66.°19N×12.°74E, h0km, ML1.3, Suspected Mining explosion.*

BER 05 17:06:05.9±0.9, 66.°19N×12.°74E, h0km, MD1.7, ML1.3, 4C, Suspected explosion, Northern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STOK	**Stokkvaagen**	**0.18**	**38**	⇑*i*P	Pg	17 06 09.1	-0.3
STOK				IAML		17 06 13.7	
	comp=Z,130nm,0.6s						
STOK	**Stokkvaagen**	**0.18**	**38**	⇑*i*P	Pg	17 06 09.1	-0.3
	SNR=90						
KONS	**Konsvik**	**0.35**	**26**	⇑*i*P	Pg	17 06 12.3	-0.2
KONS				*e*S	Sg	17 06 16.6	-0.3
KONS				IAML		17 06 17.0	
	comp=Z,32nm,0.4s						
KONS	**Konsvik**	**0.35**	**26**	⇑*i*P	Pg	17 06 12.3	-0.2
	SNR=90						
KONS				*e*S	Sg	17 06 16.6	-0.4
	SNR=90						
MOR8	**Moi Rana**	**0.69**	**91**	*e*P	Pg	17 06 19.7	+0.5
MOR8				*e*S	Sb	17 06 31.8	+0.8
MOR8				IAML		17 06 32.9	
	comp=Z,8.7nm,0.3s						
MOR8	**Moi Rana**	**0.69**	**91**	*e*P	Pg	17 06 19.7	+0.5
	SNR=90						
MOR8				*e*S	Sb	17 06 31.8	+0.8
	SNR=90						

*ISCJB **05** 17:08:08.6±0.6, 56.°69S±0.°08×148.°4E±0.°3, h10km, mb4.5/9, MS5.5/1, Error ellipse: s-maj=23.0km s-min=10.6km az=171.4*
*IDC **05** 17:08:08.9±0.8, 56.°74S×148.°55E, h0km, mb4.3/5, mb1 4.4/5, mb1mx4.2/13, mbtmp4.3/5, MS5.4/1, Ms1 5.4/1, ms1mx4.5/20, Error ellipse: s-maj=39.5km s-min=20.3km az=94.0*
*NEIC **05** 17:08:10.3±0.4, 56.°72S×148.°36E, h10km, mb4.7/7, Error ellipse: s-maj=18.2km s-min=8.7km az=79.0*

ISC 05 17:08:10.4±0.8, 56.°7S±0.°1×148.°3E±0.°2, h10km, n26, σ0s71/20, mb4.4/9, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CASY	**Casey**	**20.10**	**226**	*e*P	P	17 12 36.6	-7.2
	34nm,0.9s						
VNDA	**Vanda**	**21.45**	**172**	P	**P**	**17 12 57.4**	**-0.9**
	14nm,1.1s,baz=341,slow=10,SNR=20						
SBA	**Scott Base**	**22.18**	**170**	*e*P	**P**	**17 13 06.7**	**+0.6**
	41nm,1.4s						
STKA	**Stephens Creek**	**25.25**	**346**	P	**P**	**17 13 37.2**	**+0.8**
	25nm,0.9s,baz=161,slow=11,SNR=26						
STKA	**Stephens Creek**	**25.25**	**346**	*e*P	**P**	**17 13 38.1**	**+1.7**
	27nm,1.6s						
BBOO	**Buckleboo**	**25.35**	**335**	*e*P	**P**	**17 13 37.8**	**+0.5**
	41nm,1.2s						
URZ	**Urewera**	**26.49**	**58**	P	**P**	**17 13 46.8**	**-0.8**
	5.9nm,0.9s,baz=305,slow=5.9,SNR=1.9						
FORT	**Forrest**	**29.54**	**323**	*e*P	**P**	**17 14 14.2**	**-0.6**
	32nm,0.8s						
H01W1	**Cape Leeuwin H**	**31.78**	**299**	T	T	17 47 47.3	
	baz=144,slow=75,SNR=96						
H01W2	**Cape Leeuwin H**	**31.78**	**299**	T	T	17 47 47.5	
	baz=144,slow=75,SNR=140						
H01W3

mb5.9/71,mB6.3/24,Mw(mB)6.0/24

ISC 05 17:09:07.8±0.2,**6°29S**±0°04×**154°92E**±0°04,**h60**km±1km,
h60km:pP-P,n787,σ1**s27**/981,**mb5.6**/191,**26C-24D,**
Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.88**	**122**	*e*P	**Pn**	**17 10 35.5**	**+3.1**
HNR	comp=Z,2μm,0.8s			pmax	pmax		
HNR	**Honiara**	**5.88**	**122**	*e*P	Pn	17 10 36.0	+3.6
HNR				*i* S	Sn	17 11 52.0	+13
HNR	**Honiara**	**5.88**	**122**	*e*P	**Pn**	**17 10 35.5**	**+3.1**
	comp=Z,2μm,0.8s						
PMG	**Port Moresby**	**8.29**	**248**	*d i*P	**Pn**	**17 11 07.9**	**+2.4**
PMG	**Port Moresby**	**8.29**	**248**	*e*Pn	**Pn**	**17 11 07.2**	**+1.7**
COEN	**Coen**	**13.84**	**236**	P	**Pn**	**17 12 22.5**	**+1.2**
	baz=14,SNR=31						
COEN	**Coen**	**13.84**	**236**	*e*Pn	**Pn**	**17 12 22.1**	**+0.9**
MMPI	**Merauke**	**14.58**	**261**	P	**P**	**17 12 34.2**	**-1.7**
	comp=Z,909nm,1.3s,comp=Z,13μm						
MMPI	**Merauke**	**14.58**	**261**	P	**P**	**17 12 35.1**	**-0.8**
	baz=15,SNR=3.1						
JAY	**Jayapura**	**14.66**	**284**	P	**Pn**	**17 12 34.2**	**+2.2**
	comp=Z,157nm,0.8s						
GENI	**Genyem**	**15.16**	**283**	P	**P**	**17 12 41.4**	**-0.9**
	comp=Z,245nm,0.9s,comp=Z,5μm						
CTA	**Charters Tower**	**16.10**	**211**	P	**Pn**	**17 12 50.7**	**+0.3**
	comp=Z,2.4nm,0.3s,baz=39,slow=15,SNR=25						
CTA				S	**S**	**17 15 56.0**	**-2.5**
	baz=348,slow=15,SNR=1.6						
CTA				LR	LR	17 18 31.4	
	comp=Z,13μm,19.5s,baz=338,slow=35						
CTAO	**Charters Tower**	**16.10**	**211**	*e*P	**P**	**17 12 52.7**	**-0.1**
CTAO	comp=Z,143nm,0.9s			pmax	pmax		
CTAO	**Charters Tower**	**16.10**	**211**	*e*Pn	**P**	**17 12 52.7**	**-0.1**
	comp=Z,143nm,0.9s						
SMPI	**Sarmi**	**16.72**	**284**	P	**P**	**17 13 00.1**	**+0.4**
	comp=Z,421nm,1.5s,comp=Z,4μm						
SRPI	**Serui, Papua**	**19.14**	**282**	P	**Pn**	**17 13 28.5**	**+0.8**
	comp=Z,183nm,0.8s,comp=Z,4μm						
DZM	**Mont Dzumac**	**19.24**	**146**	P	**Pn**	**17 13 28.8**	**-0.2**
	comp=Z,23nm,0.3s,baz=336,slow=11,SNR=174						
DZM	**Mont Dzumac**	**19.24**	**146**	*e*P	**Pn**	**17 13 29.1**	**+0.1**
EIDS	**Eidsvold**	**19.33**	**191**	P	**Pn**	**17 13 30.6**	**+0.8**
	baz=20,SNR=18						
EIDS				S	**Sn**	**17 17 07.8**	**+1.6**
	baz=20,SNR=6.1						
EIDS	**Eidsvold**	**19.33**	**191**	*e*Pn	**Pn**	**17 13 30.7**	**+0.8**
	comp=Z,137nm,1.0s						
TARA	**Tarawa**	**19.51**	**68**	*e*Pn	**Pn**	**17 13 32.6**	**+0.5**
QIS	**Mount Isa**	**20.54**	**225**	P	Pn	17 13 43.3	-1.0
	baz=21,SNR=98						
RMQ	**Roma**	**20.93**	**196**	P	Pn	17 13 47.8	-1.1
	baz=21,SNR=62						
RKPI	**Ransiki, Papua**	**21.23**	**282**	P	**P**	**17 13 50.8**	**+1.8**
	comp=Z,376nm,1.0s,comp=Z,4μm						
GUMO	**Guam**	**22.12**	**333**	P	**P**	**17 13 59.2**	**+0.7**
	comp=Z,43nm,0.5s,baz=138,slow=14,SNR=4.2						
GUMO	**Guam**	**22.12**	**333**	*e*P	**P**	**17 14 00.2**	**+1.7**
GUMO	**Guam**	**22.12**	**333**	*e*P	**P**	**17 14 00.2**	**+1.7**
QLP	**Quilpie**	**22.61**	**206**	P	**P**	**17 14 04.7**	**+1.0**
	baz=23,SNR=154						
QLP				S	S	17 17 56.6	-11
	baz=23,SNR=3.7						
FAKI	**Fak Fak**	**22.84**	**277**	P	**P**	**17 14 06.4**	**+0.1**
	comp=Z,308nm,0.9s,comp=Z,5μm						
FAKI	**Fak Fak**	**22.84**	**277**	P	**P**	**17 14 06.8**	**+0.6**
	baz=23,SNR=43						
FAKI	**Fak Fak**	**22.84**	**277**	*e*P	**P**	**17 14 06.1**	**-0.2**
	comp=Z,226nm,0.9s						
KDU	**Kakadu**	**23.02**	**252**	P	**P**	**17 14 08.4**	**+0.3**
	baz=23,SNR=35						
SAUI	**Saumlaki**	**23.50**	**264**	P	**P**	**17 14 14.6**	**+2.0**
	comp=Z,1μm,1.5s						
WRAB	**Tennant Creek**	**24.15**	**234**	P	**P**	**17 14 19.0**	**+0.5**
	comp=Z,2μm,0.7s						
WRAB	**Tennant Creek**	**24.15**	**234**	*c iP*	**P**	**17 14 19.8**	**+1.3**
WRAB	comp=Z,1μm,1.7s			pmax	pmax		
WRA	**Warramunga Arr**	**24.17**	**234**	P	**P**	**17 14 19.0**	**+0.4**
	comp=Z,182nm,0.8s,baz=57,slow=9.6,SNR=390						
WRA				PcP	**PcP**	**17 17 58.0**	**-0.4**
	comp=Z,6.3nm,0.4s,baz=67,slow=2.8,SNR=6.8						
WRA				pPcP		17 18 14.9	
	comp=Z,28nm,0.8s,baz=60,slow=2.4,SNR=7.2						
WRA				S	**S**	**17 18 32.2**	**-0.6**
	comp=Z,7.4nm,0.9s,baz=58,slow=15,SNR=2.5						
WRA				LR	LR	17 23 25.7	
	comp=Z,7μm,21.0s,baz=280,slow=36						
ARMA	**Armidale**	**24.21**	**187**	P	**P**	**17 14 20.6**	**+1.6**
	baz=24,SNR=33						
ARMA	**Armidale**	**24.21**	**187**	*e*P	**P**	**17 14 20.5**	**+1.6**
	comp=Z,141nm,0.8s						
BNDI	**Bandanaira**	**24.96**	**273**	P	**P**	**17 14 27.3**	**+1.3**
	comp=Z,809nm,1.1s,comp=Z,10μm						
MSVF	**Nonsavu**	**25.29**	**119**	P	pP	17 14 46.6	+3.0
	comp=Z,1μm,1.1s,SNR=6.0						
LHI	**Lord Howe Isla**	**25.40**	**172**	P	**P**	**17 14 30.6**	**+0.9**
	baz=26,SNR=5.2						
MSAI	**Masohi**	**26.06**	**275**	P	**P**	**17 14 38.0**	**+2.1**
	comp=Z,42nm,1.1s,comp=Z,631nm						
CMSA	**Cobar Meteorol**	**26.57**	**198**	P	**P**	**17 14 40.9**	**+0.6**
	baz=27,SNR=36						
AS31	**Alice Springs**	**26.59**	**227**	*e*P	**P**	**17 14 41.0**	**+0.3**
ASAR	**Alice Springs**	**26.59**	**227**	P	**P**	**17 14 41.1**	**+0.5**
	comp=Z,64nm,0.7s,baz=59,slow=8.3,SNR=686						
ASAR				PcP	**PcP**	**17 18 03.5**	**-0.3**
	comp=Z,7.7nm,0.5s,baz=61,slow=2.4,SNR=4.8						
ASAR				pPcP		17 18 20.5	
	comp=Z,24nm,0.9s,baz=56,slow=2.6,SNR=7.2						
ASAR				LR	LR	17 24 02.7	
	comp=Z,6μm,18.3s,baz=341,slow=34						
ASAR				P3KPbc		17 47 16.1	
	comp=Z,0.3nm,0.7s,baz=238,slow=3.4,SNR=4.9						
AAI	**Ambon**	**26.75**	**274**	P	**P**	**17 14 42.4**	**+0.3**
	comp=Z,259nm,0.8s						
AAI	**Ambon**	**26.75**	**274**	P	**P**	**17 14 42.3**	**+0.1**
	baz=27,SNR=11						
MGCD	**Mangrove Creek**	**27.02**	**187**	P	**P**	**17 14 46.2**	**+1.9**
	baz=27,SNR=18						
H11S3	**WAKE ISLAND Hy**	**27.22**	**25**	T	T	17 42 56.1	
	baz=205,slow=76,SNR=43						
H11S2	**WAKE ISLAND Hy**	**27.22**	**25**	T	T	17 42 53.7	
	baz=205,slow=76,SNR=76						
H11S1	**WAKE ISLAND Hy**	**27.24**	**25**	T	T	17 42 52.5	
	baz=205,slow=76,SNR=88						
KNRA	**Kununurra**	**27.29**	**248**	P	**P**	**17 14 47.5**	**+0.5**
	baz=27,SNR=38						
NLAI	**Namlea**	**27.89**	**275**	P	**P**	**17 14 53.3**	**+1.0**
	comp=Z,212nm,1.6s						
LBMI	**Labuha**	**27.93**	**281**	P	**P**	**17 14 54.6**	**+1.9**
	comp=Z,729nm,1.0s,comp=Z,7μm						
STKA	**Stephens Creek**	**28.34**	**204**	P	**P**	**17 14 56.6**	**+0.4**
	comp=Z,26nm,0.6s,baz=5.5,slow=8.3,SNR=32						
STKA				pPcP		17 18 24.3	
	comp=Z,24nm,0.8s,baz=14,slow=1.2,SNR=3.9						
STKA	**Stephens Creek**	**28.34**	**204**	*e*P	**P**	**17 14 56.6**	**+0.4**
STKA	comp=Z,15nm,1.1s			pmax	pmax		
STKA	**Stephens Creek**	**28.34**	**204**	*e*P	**P**	**17 14 56.6**	**+0.4**
	comp=Z,15nm,1.1s						
STKA				pPcP		17 18 24.3	
TNTI	**Ternate**	**28.38**	**283**	P	**P**	**17 14 57.2**	**+0.4**
	comp=Z,140nm,1.5s,comp=Z,2μm						
TNTI	**Ternate**	**28.38**	**283**	*e*P	**P**	**17 14 57.5**	**+0.7**
	comp=Z,163nm,1.1s						
H11N1	**WAKE ISLAND Hy**	**28.39**	**24**	T	T	17 44 34.0	
	baz=194,slow=75,SNR=70						
H11N3	**WAKE ISLAND Hy**	**28.41**	**24**	T	T	17 44 32.8	
	baz=194,slow=75,SNR=55						
H11N2	**WAKE ISLAND Hy**	**28.41**	**24**	T	T	17 44 32.8	
	baz=194,slow=75,SNR=73						
YNG	**Young**	**28.52**	**191**	P	**P**	**17 14 59.4**	**+1.6**
	baz=29,SNR=11						
SANI	**Sanana**	**29.15**	**277**	P	**P**	**17 15 04.0**	**+0.4**
	comp=Z,328nm,1.3s						
CNB	**Canberra Magne**	**29.34**	**189**	P	**P**	**17 15 06.4**	**+1.4**
	baz=30,SNR=16						
SOEI	**Soe**	**30.54**	**261**	P	**P**	**17 15 18.2**	**+2.2**
	comp=Z,274nm,1.0s						
SOEI	**Soe**	**30.54**	**261**	P	P	17 15 22.0	+6.0
	baz=31,SNR=5.8						
SOEI	**Soe**	**30.54**	**261**	*e*P	P	17 15 22.1	+6.0
	comp=Z,202nm,0.9s						
SGSI	**Sangihe**	**30.97**	**288**	P	**P**	**17 15 22.2**	**+2.5**
	comp=Z,293nm,0.8s,comp=Z,11μm						
MILA	**Mila**	**31.08**	**189**	P	**P**	**17 15 22.4**	**+2.0**
	baz=31,SNR=8.2						
WRKA	**Warakurna**	**31.58**	**231**	P	**P**	**17 15 25.2**	**+0.2**
	baz=32,SNR=20						
KMSI	**Cibinong**	**31.63**	**281**	P	**P**	**17 15 26.5**	**+1.1**
	comp=Z,2μm,0.7s,comp=Z,15μm						
BBOO	**Buckleboo**	**31.70**	**211**	P	**P**	**17 15 26.1**	**+0.3**
	baz=32,SNR=14						
BBOO	**Buckleboo**	**31.70**	**211**	*e*P	**P**	**17 15 26.0**	**+0.1**
	comp=Z,3.2nm,1.0s						
TOO	**Toolangi**	**32.31**	**194**	P	**P**	**17 15 32.7**	**+1.5**
	baz=32,SNR=12						
MMRI	**Maumere**	**32.48**	**264**	P	**P**	**17 15 33.3**	**+0.3**
	comp=Z,782nm,1.0s,comp=Z,10μm						
MMRI	**Maumere**	**32.48**	**264**	*e*P	**P**	**17 15 32.6**	**-0.4**
	comp=Z,630nm,0.9s						
LUWI	**Luwuk**	**32.49**	**278**	P	**P**	**17 15 34.1**	**+1.1**
	comp=Z,1μm,0.9s,comp=Z,10μm						
LUWI	**Luwuk**	**32.49**	**278**	P	**P**	**17 15 34.2**	**+1.1**
	baz=33,SNR=40						
LUWI	**Luwuk**	**32.49**	**278**	*e*P	**P**	**17 15 34.2**	**+1.1**
	comp=Z,1μm,1.0s						
BUTP	**Butuan**	**32.90**	**297**	*e*P	**P**	**17 15 37.4**	**+0.8**
BUKP	**Musuan**	**32.94**	**295**	*e*P	**P**	**17 15 37.6**	**+0.6**
BUKP				*e*S	x	17 16 02.6	
EDFI	**Ende, Flores**	**33.03**	**264**	P	**P**	**17 15 37.2**	**-0.7**
	comp=Z,652nm,0.9s						
OUZ	**Omahuta**	**33.54**	**152**	*e*P	**P**	**17 15 44.5**	**+2.6**
	comp=Z,98nm,1.1s						
MRSI	**Marisa**	**33.60**	**280**	P	**P**	**17 15 42.3**	**-0.4**
	comp=Z,244nm,1.2s						
MSLP	**Maasin**	**34.10**	**298**	*e*P	**P**	**17 15 47.7**	**+0.7**
BASI	**Baing, Sumba**	**34.20**	**261**	P	**P**	**17 15 49.0**	**+1.1**
	comp=Z,877nm,1.3s,comp=Z,13μm						
BSSI	**Bau Bau, Buton**	**34.23**	**268**	P	**P**	**17 15 49.8**	**+1.6**
	comp=Z,494nm,1.1s						
WSI	**Waingapu**	**34.44**	**262**	P	**P**	**17 15 50.2**	**+0.2**
	comp=Z,1μm,1.1s,comp=Z,16μm						
WSI	**Waingapu**	**34.44**	**262**	P	**P**	**17 15 50.7**	**+0.7**
	baz=34,SNR=5.5						
WSI				S	S	17 21 44.9	+31
	baz=34,SNR=5.8						
PAGZ	**Pagadian**	**34.45**	**294**	*e*P	**P**	**17 15 51.4**	**+1.3**
PAGZ				*e*S	x	17 16 20.3	
BKSI	**Bulukumba**	**34.63**	**270**	P	**P**	**17 15 52.4**	**+0.7**
	comp=Z,110nm,0.9s						
BNSI	**Bone**	**34.71**	**271**	P	**P**	**17 15 53.5**	**+1.2**
	comp=Z,181nm,0.9s						
OCLP	**Ormoc**	**34.74**	**300**	*e*P	**P**	**17 15 53.0**	**+0.5**
TOLI	**Toli-Toli**	**34.85**	**281**	*e*P	**P**	**17 15 53.4**	**-0.2**
	comp=Z,243nm,0.7s						
FORT	**Forrest**	**35.05**	**223**	P	**P**	**17 15 55.5**	**+0.3**
	baz=35,SNR=30						
FORT	**Forrest**	**35.05**	**223**	*e*P	**P**	**17 15 55.4**	**+0.3**
	comp=Z,156nm,0.7s						
SPSI	**Sidrap Palu**	**35.08**	**272**	P	**P**	**17 15 55.1**	**-0.5**
	comp=Z,95nm,1.0s						
TTSI	**Tana Toraja**	**35.13**	**274**	P	**P**	**17 15 57.5**	**+1.6**
	comp=Z,86nm,0.9s						
WBSI	**Waikabubak, Su**	**35.33**	**262**	P	**P**	**17 15 57.7**	**-0.1**
	comp=Z,564nm,0.8s						
PCI	**Palu**	**35.41**	**277**	P	**P**	**17 16 00.5**	**+2.1**
	comp=Z,1μm,1.0s,comp=Z,10μm						
MPSI	**Mapaga**	**35.57**	**279**	P	**P**	**17 15 59.7**	**0.0**
	comp=Z,605nm,0.8s,comp=Z,5μm						
GUIM	**Jordan**	**36.31**	**297**	*e*P	**P**	**17 16 06.7**	**+0.7**
PVCP	**Virac**	**36.38**	**303**	*e*P	**P**	**17 16 07.3**	**+0.7**
RCP	**Roxas**	**36.59**	**299**	⇑*e*P	**P**	**17 16 09.4**	**+0.9**
MOO	**Moorlands**	**36.65**	**190**	P	**P**	**17 16 11.0**	**+2.4**
	baz=37,SNR=9.7						
TAU	**Tasmania Unive**	**37.09**	**189**	P	**P**	**17 16 14.5**	**+2.2**
	comp=Z,1μm,0.7s,SNR=19						
HAZ	**Te Kaha**	**37.60**	**150**	PN	**P**	**17 16 17.9**	**+1.2**
URZ	**Urewera**	**37.66**	**151**	P	**P**	**17 16 18.3**	**+1.1**
	comp=Z,81nm,0.5s,baz=358,slow=6.6,SNR=59						
URZ	**Urewera**	**37.66**	**151**	PN	**P**	**17 16 17.5**	**+0.3**
URZ	**Urewera**	**37.66**	**151**	*e*P	**P**	**17 16 18.6**	**+1.4**
MXZ	**Matakaoa Point**	**37.72**	**149**	PN	**P**	**17 16 19.3**	**+1.6**
MWZ	**Matawai**	**37.92**	**151**	PN	**P**	**17 16 20.4**	**+0.9**
TWGZ	**Tauwhareparae**	**38.02**	**150**	PN	**P**	**17 16 21.9**	**+1.6**
PUZ	**Puketiti**	**38.08**	**150**	PN	**P**	**17 16 21.3**	**+0.5**
BKZ	**Black Stump Fm**	**38.09**	**152**	PN	**P**	**17 16 21.8**	**+0.9**
BKZ	**Black Stump Fm**	**38.09**	**152**	*e*P	**P**	**17 16 22.2**	**+1.3**
	comp=Z,98nm,1.1s						
SNGZ	**Shannon Statio**	**38.18**	**151**	PN	**P**	**17 16 23.0**	**+1.3**
RIGZ	**Rimuhau**	**38.33**	**151**	PN	**P**	**17 16 24.2**	**+1.3**
WHHZ	**Waihua**	**38.36**	**152**	PN	**P**	**17 16 24.4**	**+1.2**
ARHZ	**Aropaoanui**	**38.40**	**152**	PN	**P**	**17 16 23.5**	**+0.1**
SJMP	**San Jose**	**38.42**	**299**	*e*P	**P**	**17 16 25.2**	**+1.3**
TSM	**Tawau**	**38.45**	**285**	⇑P	**P**	**17 16 24.9**	**+0.7**
KNZ	**Kokohu**	**38.53**	**151**	PN	**P**	**17 16 25.1**	**+0.6**
KBKI	**Kotabaru**	**38.72**	**273**	P	pP	17 16 43.6	+1.9
MHGZ	**Mahia Peninsul**	**38.75**	**151**	PN	**P**	**17 16 27.5**	**+1.2**
THZ	**Tophouse**	**38.78**	**158**	PN	**P**	**17 16 27.1**	**+0.4**
MRZ	**Mangatainoka R**	**38.91**	**155**	PN	**P**	**17 16 27.8**	**+0.2**
PXZ	**Pawanui**	**38.95**	**153**	PN	**P**	**17 16 28.8**	**+0.8**
BFZ	**Birch Farm**	**39.21**	**154**	PN	**P**	**17 16 30.5**	**+0.2**
BFZ	**Birch Farm**	**39.21**	**154**	*e*P	**P**	**17 16 30.8**	**+0.6**
	comp=Z,93nm,0.9s						
MTW	**Mount Morrison**	**39.29**	**155**	PN	**P**	**17 16 31.3**	**+0.5**
ENPP	**El Nido**	**39.37**	**296**	*e*P	**P**	**17 16 33.0**	**+1.2**
SRBI	**Singaraja**	**39.43**	**265**	P	**P**	**17 16 33.9**	**+1.5**
	comp=Z,150nm,1.0s						
DNP	**Denpasar**	**39.43**	**264**	P	pP	17 16 47.9	+0.2
LTZ	**Lake Taylor**	**39.45**	**160**	PN	**P**	**17 16 34.1**	**+1.8**
IGBI	**Denpasar**	**39.50**	**264**	P	**P**	**17 16 32.1**	**-0.9**
	comp=Z,402nm,1.1s						
KHZ	**Kahutara**	**39.59**	**158**	PN	**P**	**17 16 33.7**	**+0.4**
KHZ	**Kahutara**	**39.59**	**158**	*e*P	**P**	**17 16 33.7**	**+0.4**
	comp=Z,111nm,1.0s						
BALP	**Baler**	**39.61**	**304**	*e*P	**P**	**17 16 34.0**	**+0.2**
KMBL	**Kambalda**	**39.72**	**227**	P	**P**	**17 16 35.1**	**+0.5**
	baz=40,SNR=18						
LUBP	**Lubang**	**39.76**	**300**	*e*P	**P**	**17 16 34.7**	**-0.4**
RPZ	**Rata Peaks**	**39.89**	**162**	P	**P**	**17 16 36.3**	**+0.5**
	comp=Z,98nm,0.8s,baz=326,slow=13,SNR=25						
RPZ				LR	LR	17 31 00.7	
	comp=Z,6μm,21.6s,baz=292,slow=33						
RPZ	**Rata Peaks**	**39.89**	**162**	*e*P	**P**	**17 16 36.8**	**+1.0**
BBKI	**Banjar Baru**	**40.02**	**272**	P	**P**	**17 16 38.8**	**+1.4**
	comp=Z,257nm,0.8s						
CAUP	**Cauayan**	**40.04**	**306**	*e*P	**P**	**17 16 38.8**	**+1.4**
MEEK	**Meekatharra**	**40.05**	**235**	P	**P**	**17 16 37.9**	**+0.4**
	baz=40,SNR=104						
KDM	**Kudat**	**40.20**	**288**	⇓P	**P**	**17 16 40.0**	**+1.2**
ABJI	**Asem Bagus**	**40.40**	**265**	P	**P**	**17 16 40.5**	**+0.1**
	comp=Z,229nm,1.0s						
KKM	**Kota Kinabalu**	**40.53**	**287**	P	**P**	**17 16 42.0**	**+0.3**
	baz=41,SNR=29						
KKM	**Kota Kinabalu**	**40.53**	**287**	⇓P	**P**	**17 16 42.1**	**+0.5**
KKM	**Kota Kinabalu**	**40.53**	**287**	*e*P	**P**	**17 16 41.9**	**+0.3**
KMMI	**Kalianget**	**40.68**	**267**	P	pP	17 16 59.9	+1.9
APYP	**Conner**	**41.00**	**306**	*e*P	**P**	**17 16 45.3**	**0.0**
SCZP	**Santa Cruz**	**41.02**	**303**	*e*P	**P**	**17 16 44.1**	**-1.3**
BLJI	**Banyuglugur**	**41.03**	**265**	P	**P**	**17 16 45.5**	**-0.2**
	comp=Z,173nm,0.9s						
WHZ	**Wether Hill Ro**	**41.04**	**166**	*e*P	**P**	**17 16 45.6**	**+0.3**
	comp=Z,49nm,1.0s						
GMJI	**Gumukmas**	**41.18**	**265**	P	**P**	**17 16 48.1**	**+1.2**
	comp=Z,161nm,1.1s						
BOLP	**Bolinao**	**41.31**	**303**	*e*P	**P**	**17 16 46.8**	**-1.1**
SZP	**Santa**	**41.47**	**305**	*e*P	**P**	**17 16 49.0**	**-0.2**
	comp=Z,98nm,0.9s						
JOW	**Kunigami**	**41.83**	**323**	*e*P	**P**	**17 16 52.9**	**+0.9**
	comp=Z,27nm,0.8s						
GRJI	**Gresik**	**42.16**	**267**	P	**P**	**17 16 57.7**	**+2.8**
GRJI	**Gresik**	**42.16**	**267**	P	pP	17 17 10.9	+0.7
GIRL	**Giralia**	**42.44**	**243**	P	**P**	**17 16 58.2**	**+1.1**
	baz=43,SNR=16						
PWJI	**Pagerwojo**	**42.80**	**265**	P	**P**	**17 16 59.3**	**-0.8**
	comp=Z,591nm,1.0s						
MORW	**Morawa**	**43.11**	**234**	P	**P**	**17 17 02.4**	**0.0**
	baz=43,SNR=42						
BLDU	**Ballidu**	**43.24**	**231**	P	**P**	**17 17 03.4**	**-0.1**
	baz=43,SNR=70						
PBKI	**Pangkalan Bun**	**43.25**	**273**	P	**P**	**17 17 05.6**	**+1.8**
	comp=Z,400nm,1.1s						
PCJI	**Pacitan**	**43.42**	**265**	P	**P**	**17 17 05.4**	**+0.3**
	comp=Z,1μm,1.1s,comp=Z,14μm						
SBUM	**Sibu**	**43.51**	**280**	⇑P	**P**	**17 17 07.8**	**+1.9**
SBUM	**Sibu**	**43.51**	**280**	*e*P	**P**	**17 17 07.4**	**+1.5**
	comp=Z,118nm,1.0s						
YOJ	**Yonaguni jima**	**43.60**	**316**	*e*P	**P**	**17 17 07.8**	**+1.4**
YOJ				*e**PP	**pP**	**17 17 22.0**	**+0.2**
YOJ				pmax	pmax		
	comp=Z,60nm,0.9s						
YOJ	**Yonaguni jima**	**43.60**	**316**	*e*P	**P**	**17 17 07.8**	**+1.4**
	comp=Z,60nm,0.9s						
YOJ				*e*pP	**pP**	**17 17 22.0**	**+0.2**
STKI	**Sintang**	**43.81**	**277**	P	**P**	**17 17 09.5**	**+1.2**
	comp=Z,76nm,1.1s						
TWG	**Pinlang**	**43.96**	**312**	*e*P	**P**	**17 17 06.5**	**-2.9**
	comp=Z,93nm,0.4s						
UGM	**Wanagama**	**44.07**	**265**	P	**P**	**17 17 12.6**	**+2.2**
UGM	**Wanagama**	**44.07**	**265**	P	**P**	**17 17 10.8**	**+0.4**
	baz=44,SNR=15						
UGM	**Wanagama**	**44.07**	**265**	*e*P	**P**	**17 17 10.9**	**+0.5**
	comp=Z,685nm,0.9s						
YULB	**Yu-li**	**44.14**	**313**	*e*P	**P**	**17 17 10.6**	**-0.2**
	comp=Z,50nm,0.8s						
SMRI	**Semarang**	**44.17**	**266**	P	**P**	**17 17 12.2**	**+1.0**
	comp=Z,465nm,1.0s						
SMRI	**Semarang**	**44.17**	**266**	P	**P**	**17 17 12.1**	**+1.0**
	baz=44,SNR=3.9						
SMRI	**Semarang**	**44.17**	**266**	*e*P	**P**	**17 17 11.7**	**+0.5**
	comp=Z,416nm,0.9s						
NACB	**Ninganchiao**	**44.41**	**314**	*e*P	**P**	**17 17 13.0**	**+0.1**
	comp=Z,192nm,1.2s						
TPUB	**Ta-pu**	**44.58**	**312**	*e*P	**P**	**17 17 13.8**	**-0.4**
	comp=Z,79nm,0.6s						
SSLB	**Suanglung**	**44.63**	**313**	*e*P	**P**	**17 17 14.8**	**+0.1**
	comp=Z,44nm,0.7s						
YHNB	**Yeheng**	**44.88**	**315**	*e*P	**P**	**17 17 16.8**	**+0.2**
	comp=Z,96nm,1.0s						
RKGY	**Rocky Gully**	**44.92**	**226**	P	**P**	**17 17 18.1**	**+1.2**
	baz=45,SNR=62						
TATO	**Taipei**	**44.99**	**315**	*e*P	**P**	**17 17 18.4**	**+0.9**
	comp=Z,70nm,1.0s						
TATO				*e*pP	**pP**	**17 17 33.7**	**+0.7**
KSM	**Kuching**	**45.20**	**278**	P	**P**	**17 17 20.0**	**+0.6**
	baz=45,SNR=75						
KSM				S	S	17 24 01.6	+6.3
	baz=45,SNR=3.9						
KSM	**Kuching**	**45.20**	**278**	⇓P	**P**	**17 17 20.3**	**+0.9**
KSM	**Kuching**	**45.20**	**278**	*e*P	**P**	**17 17 19.9**	**+0.6**
JNU	**Nakatsue**	**45.36**	**331**	*e*P	**P**	**17 17 20.3**	**0.0**
MJAR	**Matsushiro Arr**	**45.39**	**341**	P	**P**	**17 17 19.7**	**-0.8**
	comp=Z,2.6nm,0.5s,baz=167,slow=7.6,SNR=27						
MJAR				pP	**pP**	**17 17 35.3**	**-0.8**
	comp=Z,2.8nm,0.5s,baz=168,slow=7.2,SNR=6.3						
MAJO	**Matsushiro**	**45.39**	**341**	*e*P	**P**	**17 17 19.7**	**-0.8**
MAJO	**Matsushiro**	**45.39**	**341**	*e*P	**P**	**17 17 19.7**	**-0.8**
MAT	**Matsushiro**	**45.39**	**341**	P	**P**	**17 17 19.7**	**-0.8**
KPJI	**Karang Pucung**	**45.66**	**266**	P	**P**	**17 17 23.5**	**+0.5**
CISI	**Cisompet, Garu**	**46.76**	**266**	P	**P**	**17 17 31.1**	**-0.6**
	baz=47,SNR=28						
CISI	**Cisompet, Garu**	**46.76**	**266**	*e*P	**P**	**17 17 31.0**	**-0.7**
LEM	**Lembang**	**46.98**	**267**	P	**P**	**17 17 34.2**	**+0.6**
	baz=47,SNR=32						
QZH	**Quanzhou**	**47.05**	**313**	⇑*i*P	**P**	**17 17 34.4**	**+0.7**
QZH				pP	**pP**	**17 17 48.8**	**-0.5**
QZH	comp=Z,150nm,0.9s			PMZ			
MCQ	**Macquarie Isla**	**48.18**	**177**	P	**P**	**17 17 44.3**	**+2.3**
	baz=48,SNR=3.6						
KSULJ	**Uljin**	**48.98**	**333**	P	**P**	**17 17 48.9**	**+0.5**
	SNR=9.3						
KSBON	**Boeun**	**49.57**	**331**	P	**P**	**17 17 53.9**	**+1.0**
	SNR=9.4						
DLV	**T Lat**	**49.60**	**291**	*e*P	**P**	**17 17 54.5**	**+0.7**
KSKOJ	**Gongju**	**49.87**	**331**	P	**P**	**17 17 55.6**	**+0.4**
	SNR=7.6						
KSCEA	**Cheonan**	**50.09**	**331**	P	**P**	**17 17 57.5**	**+0.6**
	SNR=10					

CN2	**Changchun**	**56.52**	**335**	*eP*	**P**	**17 18 42.8**	**-1.1**
CN2				*epP*	**pP**	**17 19 01.9**	**+1.9**
CN2				*esP*	**sP**	**17 19 10.7**	**+3.9**
CN2				*eS*	**S**	**17 26 27.8**	**-3.2**
CN2				PMZ			
	comp=Z,20nm,1.0s						
CN2				PMZ			
	comp=Z,300nm,6.0s						
PSI	**Prapat**	**56.63**	**277**	P	**P**	**17 18 44.3**	**-1.2**
	comp=Z,8.7nm,0.3s,baz=118,slow=5.5,SNR=18						
PSI				pP	**pP**	**17 19 00.2**	**-1.3**
	comp=Z,19nm,0.6s,baz=90,slow=9.1,SNR=5.6						
ENH	**Enshi**	**56.71**	**312**	*eP*	**P**	**17 18 45.4**	**-0.2**
	comp=Z,29nm,0.8s						
TRTT	**Trang**	**56.84**	**284**	P	**P**	**17 18 46.6**	**-0.2**
	comp=Z,48nm,1.7s						
CHAI	**Chaiyaphum**	**56.84**	**293**	P	**P**	**17 18 47.0**	**+0.2**
	comp=Z,22nm,0.8s,comp=Z,178nm						
GYA	**Guiyang**	**56.97**	**307**	P	**P**	**17 18 50.2**	**+2.6**
GYA				pP	**pP**	**17 19 06.0**	**+2.4**
GYA				sP	**sP**	**17 19 14.2**	**+3.7**
GYA				PP	**PP**	**17 20 59.4**	**+4.5**
GYA				ScP	**ScP**	**17 23 37.8**	**+0.8**
GYA				S	**S**	**17 26 37.8**	**0.0**
GYA				SS	**SS**	**17 30 28.0**	**+0.7**
GYA				PMZ			
	comp=Z,40nm,1.0s						
GYA				LN			
	comp=Z,840nm,19.4s						
GYA				LE			
	comp=Z,620nm,20.0s						
HABR	**Khabarovsk**	**57.25**	**344**	*eP*	**P**	**17 18 46.7**	**-2.3**
HABR				*e*PP	**pP**	**17 19 02.4**	**-2.6**
HABR				*eSP*		17 19 09.5	
HABR				*e*		17 19 40.9	
HABR				*e*		17 20 53.8	
HABR				*eS*	**S**	**17 26 37.3**	**-3.1**
HABR				*eSS*	x	17 27 04.9	
HABR				*e*		17 28 28.9	
HABR				*eSS*	**SS**	**17 30 26.7**	**-4.0**
HABR				pmax	pmax		
	comp=Z,34nm,1.5s						
HABR				MLR	MLR		
	comp=Z,2μm,20.0s						
GSI	**Gunungsitoli**	**57.74**	**276**	*eP*	**P**	**17 18 51.8**	**-1.4**
SURT	**Suratani**	**57.96**	**285**	P	**P**	**17 18 54.6**	**0.0**
	comp=Z,25nm,1.3s						
PBKT	**Sadao Pong**	**57.98**	**294**	P	**P**	**17 18 55.7**	**+1.0**
	comp=Z,99nm,0.9s						
PKDT	**Phuket**	**58.16**	**283**	P	**P**	**17 18 55.7**	**-0.4**
	comp=Z,258nm,1.0s						
KLR	**Kul'dur**	**58.87**	**342**	*eP*	**P**	**17 18 58.0**	**-2.3**
KLR				pmax	pmax		
	comp=Z,57nm,1.6s						
LHMI	**Lhok Sumawe**	**58.99**	**280**	*eP*	**P**	**17 19 00.7**	**-1.2**
SRDT	**SRDT**	**59.02**	**291**	P	**P**	**17 19 03.2**	**+1.2**
	comp=Z,709nm,0.7s						
UTHA	**Uthaitani**	**59.07**	**292**	P	**P**	**17 19 03.3**	**+1.0**
	comp=Z,72nm,0.8s,comp=Z,551nm						
XAN	**Xi'an**	**59.15**	**316**	P	**P**	**17 19 02.5**	**-0.1**
XAN				pP	**pP**	**17 19 18.0**	**-0.7**
XAN				PMZ			
	comp=Z,12nm,0.7s						
PET	**Petropavlovsk**	**59.17**	**3**	*eP*	**P**	**17 19 02.9**	**+0.6**
PET				pmax	pmax		
	comp=Z,52nm,0.6s						
PET	**Petropavlovsk**	**59.17**	**3**	*eP*	**P**	**17 19 02.9**	**+0.6**
	comp=Z,52nm,0.6s						
PEA0B	**Petropavlovsk-**	**59.21**	**2**	*eP*	**P**	**17 19 03.7**	**+1.1**
PETK	**Petropavlovsk-**	**59.21**	**2**	P	**P**	**17 19 03.2**	**+0.6**
	comp=Z,81nm,0.7s,baz=170,slow=6.9,SNR=88						
PETK				pP	**pP**	**17 19 18.8**	**+0.1**
	comp=Z,35nm,0.9s,baz=185,slow=8.7,SNR=4.6						
PETK	**Petropavlovsk-**	**59.21**	**2**	P	**P**	**17 19 03.2**	**+0.6**
PETK				*PP	**pP**	**17 19 18.8**	**+0.1**
PETK				pmax	pmax		
	comp=Z,81nm,0.7s						
PETK				pmax	pmax		
	comp=Z,35nm,0.9s						
KMI	**Kunming**	**59.56**	**304**	P	**P**	**17 19 07.3**	**+1.4**
KMI				pP	**pP**	**17 19 22.5**	**+0.5**
KMI				sP	**sP**	**17 19 31.7**	**+2.9**
KMI				PMZ			
	comp=Z,35nm,1.2s						
KHLT	**Khaolaem Dam**	**59.64**	**291**	P	**P**	**17 19 07.6**	**+1.3**
	comp=Z,67nm,1.1s						
CM31	**Chiang Mai Arr**	**60.41**	**295**	*eP*	**P**	**17 19 12.6**	**+1.1**
	comp=Z,146nm,0.8s						
CMAR	**Chiang Mai Arr**	**60.41**	**295**	P	**P**	**17 19 11.8**	**+0.2**
	comp=Z,131nm,0.8s,baz=120,slow=5.2,SNR=623						
CMAR				pP	**pP**	**17 19 27.3**	**-0.4**
	comp=Z,9.6nm,0.6s,baz=92,slow=3.6,SNR=2.2						
CMAR				PKPPKP	**P'P'df**	**17 48 32.1**	**-2.3**
	comp=Z,1.7nm,0.9s,baz=269,slow=4.5,SNR=5.0						
CMAR				PKP2bc		17 48 38.7	
	comp=Z,3.3nm,1.1s,baz=284,slow=4.2,SNR=9.3						
CMAR				PKP2ab		17 48 56.1	
	comp=Z,5.1nm,1.0s,baz=292,slow=3.6,SNR=7.4						
CMMT	**Chiang Mai**	**60.52**	**296**	P	**P**	**17 19 12.9**	**+0.6**
	comp=Z,159nm,1.1s						
CHTO	**Chiang Mai**	**60.53**	**296**	P	**P**	**17 19 12.9**	**+0.6**
	comp=Z,538nm,1.5s						
CHTO	**Chiang Mai**	**60.53**	**296**	*eP*	**P**	**17 19 13.0**	**+0.6**
CHTO	**Chiang Mai**	**60.53**	**296**	*eP*	**P**	**17 19 13.0**	**+0.7**
MHMT	**Maesarieng**	**61.24**	**295**	P	**P**	**17 19 18.1**	**+0.9**
	comp=Z,82nm,0.8s						
CD2	**Chengdu**	**61.30**	**310**	P	**P**	**17 19 17.8**	**+0.4**
CD2				sP	**sP**	**17 19 42.3**	**+1.9**
CD2				S	**S**	**17 27 33.5**	**-0.1**
CD2				SS	**SS**	**17 31 34.2**	**-0.9**
CD2				PMZ			
	comp=Z,60nm,0.6s						
CD2				LE			
	comp=Z,3μm,20.2s						
CD2				LZ			
	comp=Z,4μm,16.6s						
HHC	**Hu-ho-hao-te**	**61.48**	**324**	*eP*	**P**	**17 19 20.9**	**+2.4**
HHC				pP	**pP**	**17 19 37.4**	**+2.7**
HHC				sP	**sP**	**17 19 43.6**	**+2.1**
HHC				PP	PP	17 21 40.8	+6.2
HHC				S	**S**	**17 27 36.0**	**+0.4**
HHC				SS	**SS**	**17 31 40.1**	**+2.4**
HHC				PMZ			
	comp=Z,14nm,0.7s						
HHC				PMZ			
	comp=Z,4μm,10.0s						
HHC				LN			
	comp=Z,3μm,21.0s						
HHC				LE			
	comp=Z,2μm,18.5s						
HHC				LZ			
	comp=Z,2μm,17.3s						
HIA	**Hailar**	**63.25**	**335**	*c iP*	**P**	**17 19 30.4**	**+0.3**
HIA				pmax	pmax		
	comp=Z,39nm,0.8s						
HIA	**Hailar**	**63.25**	**335**	*eP*	**P**	**17 19 30.2**	**+0.1**
	comp=Z,42nm,0.8s						
HIA				*epP*	**pP**	**17 19 46.5**	**+0.2**
LZH	**Lanzhou**	**63.76**	**315**	*eP*	**P**	**17 19 34.8**	**+0.9**
LZH				pP	**pP**	**17 19 51.0**	**+0.8**
LZH				sP	**sP**	**17 19 58.0**	**+1.1**
LZH				PP	**PP**	**17 21 57.5**	**+2.6**
LZH				*eS*	**S**	**17 28 04.0**	**-0.5**
LZH				SS	**SS**	**17 32 14.0**	**+0.4**
LZH				PMZ			
	comp=Z,75nm,1.3s						
LZH				PMZ			
	comp=Z,400nm,8.0s						
LZH				LN			
	comp=Z,2μm,14.5s						
LZH				LE			
	comp=Z,2μm,16.0s						
LZH				LZ			
	comp=Z,3μm,18.0s						
DGPR	**DIGLIPUR**	**64.53**	**288**	*eP*	**P**	**17 19 37.8**	**-1.2**
IMP	**Imphal**	**66.86**	**300**	*eP*	**P**	**17 19 53.5**	**-0.6**
IMP				*ex*	x	17 21 09.0	
CASY	**Casey**	**67.24**	**198**	*eP*	**P**	**17 19 55.5**	**-0.1**
	comp=Z,55nm,1.2s						
CIT	**Chita**	**67.94**	**334**	*eP*	**P**	**17 20 00.8**	**+0.5**
CIT				*e*		17 20 25.8	
UNV	**Unalaska Valle**	**68.11**	**23**	*eP*	**P**	**17 20 01.8**	**+0.6**
	comp=Z,51nm,0.9s						
UNV				*epP*	**pP**	**17 20 17.7**	**+0.1**
GTA	**Gaotai**	**68.17**	**317**	*eP*	**P**	**17 20 02.7**	**+0.6**
GTA				pP	**pP**	**17 20 18.8**	**+0.2**
GTA				sP	**sP**	**17 20 26.1**	**+0.8**
GTA				S	**S**	**17 28 55.8**	**-2.2**
GTA				SS	**SS**	**17 33 22.3**	**+0.3**
GTA				PMZ			
	comp=Z,27nm,1.1s						
GTA				PMZ			
	comp=Z,4μm,7.4s						
GTA				LN			
	comp=Z,2μm,15.0s						
GTA				LE			
	comp=Z,3μm,18.0s						
GTA				LZ			
	comp=Z,2μm,19.0s						
ULN	**Ulaanbaatar**	**68.37**	**328**	*c iP*	**P**	**17 20 03.8**	**+0.6**
ULN				pmax	pmax		
	comp=Z,35nm,1.2s						
ULN	**Ulaanbaatar**	**68.37**	**328**	*eP*	**P**	**17 20 04.0**	**+0.8**
	comp=Z,23nm,0.8s						
SONM	**Songino Array**	**68.70**	**327**	P	**P**	**17 20 05.7**	**+0.4**
	comp=Z,17nm,0.6s,baz=137,slow=5.4,SNR=121						
SONM				pP	**pP**	**17 20 21.3**	**-0.4**
	comp=Z,11nm,0.9s,baz=130,slow=4.8,SNR=5.8						
SONM				PKP2ab		17 48 22.3	
	comp=Z,1.2nm,0.8s,baz=282,slow=3.0,SNR=8.1						
SHL	**Shillong**	**68.87**	**300**	*eP*	**P**	**17 20 06.6**	**-0.2**
SEY	**Seymchan**	**69.05**	**359**	*i P*	**P**	**17 20 07.7**	**+0.8**
LSA	**Lhasa**	**70.81**	**304**	*eP*	**P**	**17 20 19.6**	**+0.5**
LSA				*e*PP	**pP**	**17 20 35.9**	**+0.3**
LSA				pmax	pmax		
	comp=Z,69nm,0.8s						
LSA	**Lhasa**	**70.81**	**304**	*eP*	**P**	**17 20 19.6**	**+0.5**
	comp=Z,69nm,0.8s						
LSA				*epP*	**pP**	**17 20 35.9**	**+0.3**
YAK	**Yakutsk**	**70.85**	**348**	P	**P**	**17 20 18.1**	**+0.2**
	comp=Z,36nm,0.6s,baz=149,slow=3.0,SNR=26						
YAK				pP	**pP**	**17 20 34.9**	**+0.5**
	comp=Z,31nm,0.7s,baz=123,slow=7.4,SNR=4.4						
YAK	**Yakutsk**	**70.85**	**348**	*eP*	**P**	**17 20 17.6**	**-0.3**
YAK				*e*		17 20 32.7	
YAK				*e*PP	**PcP**	**17 20 41.7**	**+3.5**
YAK				*eS*	**S**	**17 29 30.6**	**+2.3**
YAK				*e*SS	**SKSac**	**17 30 08.2**	**-6.6**
YAK				*e*		17 30 16.0	
YAK				pmax	pmax		
	comp=Z,65nm,1.3s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,18nm,1.2s						
YAK	**Yakutsk**	**70.85**	**348**	*eP*	**P**	**17 20 17.8**	**-0.2**
	comp=N,43nm,0.6s						
YAK				pP	**pP**	**17 20 34.9**	**+0.5**
VNDA	**Vanda**	**71.29**	**178**	P	**P**	**17 20 21.1**	**+0.7**
	comp=N,11nm,0.7s,baz=334,slow=6.6,SNR=61						
VNDA				pP	**pP**	**17 20 36.3**	**-0.7**
	comp=N,42nm,0.8s,baz=327,slow=5.7,SNR=33						
ZAK	**Zakamensk**	**71.86**	**328**	*i P*	**P**	**17 20 24.3**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,31nm,1.0s						
BOD	**Bodaibo**	**71.93**	**338**	*eP*	**P**	**17 20 22.9**	**-1.7**
BOD				pmax	pmax		
	comp=Z,15nm,1.3s						
TLY	**Talaya**	**72.42**	**329**	P	**P**	**17 20 27.8**	**+0.1**
	comp=Z,6.0nm,0.6s,baz=226,slow=4.5,SNR=5.8						
TLY	**Talaya**	**72.42**	**329**	*eP*	**P**	**17 20 27.6**	**-0.1**
TLY				pmax	pmax		
	comp=Z,16nm,0.9s						
IRK	**Irkutsk**	**72.43**	**330**	*eP*	**P**	**17 20 26.5**	**-1.2**
IRK				pmax	pmax		
	comp=Z,43nm,0.7s						
TAPN	**Taplejung**	**72.97**	**301**	*eP*	**P**	**17 20 32.0**	**+0.2**
	comp=Z,93nm,0.9s						
ODAN	**Odare**	**73.11**	**300**	*eP*	**P**	**17 20 32.9**	**+0.3**
	comp=Z,248nm,0.7s						
MIR	**Mirnyy**	**73.32**	**202**	*eP*	**pP**	**17 20 46.0**	**-3.3**
MIR				pmax	pmax		
	comp=Z,12nm,0.2s						
BOK	**Bokaro**	**73.61**	**297**	*eP*	**P**	**17 20 36.1**	**+0.8**
BOK				AMB	AMB	17 20 53.3	
	comp=Z,101nm,0.9s						
MOY	**Mondy**	**73.77**	**328**	*eP*	**P**	**17 20 36.0**	**+0.2**
MOY				pmax	pmax		
	comp=Z,23nm,1.1s						
RAMN	**Ramite**	**73.81**	**300**	*eP*	**P**	**17 20 36.9**	**+0.2**
	comp=Z,57nm,0.5s						
CHLP	**Challavanipeta**	**74.04**	**291**	*eP*	**P**	**17 20 38.8**	**+0.9**
CHLP				IAmb	IAmb	17 20 42.1	
	comp=Z,109nm,1.0s						
CHLP				*epP*	**PcP**	**17 20 53.4**	**+0.5**
GAMB	**Gambell**	**74.25**	**15**	*eP*	**P**	**17 20 39.2**	**+1.1**
	comp=Z,33nm,0.9s						
JIRN	**Jiri**	**74.36**	**301**	*eP*	**P**	**17 20 40.1**	**+0.1**
	comp=Z,87nm,0.7s						
VIS	**Vishakhapatnam**	**74.56**	**290**	*eP*	**P**	**17 20 41.0**	**+0.2**
VIS				AMB	AMB	17 20 59.4	
	comp=Z,105nm,1.7s						
BILL	**Bilibino**	**74.58**	**4**	*c iP*	**P**	**17 20 40.9**	**+0.9**
BILL				*e*		17 23 30.0	
BILL				pmax	pmax		
	comp=Z,104nm,1.2s						
BILL	**Bilibino**	**74.58**	**4**	*eP*	**P**	**17 20 40.7**	**+0.7**
	comp=Z,83nm,0.8s						
BILL				*epP*	**pP**	**17 20 57.4**	**+0.8**
GUN	**Gumba**	**74.69**	**301**	*eP*	**P**	**17 20 42.0**	**+0.1**
	comp=Z,183nm,0.7s						
PKI	**Pulchoki**	**75.00**	**301**	*eP*	**P**	**17 20 43.5**	**-0.2**
	comp=Z,63nm,0.5s						
PKIN	**Phulchoki**	**75.01**	**301**	*eP*	**P**	**17 20 43.3**	**-0.4**
	comp=Z,22nm,0.4s						
KKN	**Kakani**	**75.17**	**301**	*eP*	**P**	**17 20 44.5**	**0.0**
	comp=Z,95nm,0.5s						
PALK	**Pallekele**	**75.25**	**279**	P	**P**	**17 20 45.9**	**+0.8**
	comp=Z,458nm,0.8s,SNR=8.9						
DMN	**Daman**	**75.27**	**301**	*eP*	**P**	**17 20 45.3**	**+0.1**
	comp=Z,143nm,0.6s						
GKN	**Gorkha**	**75.77**	**301**	*eP*	**P**	**17 20 47.8**	**-0.1**
	comp=Z,166nm,0.8s						
KDAK	**Kodiak Island**	**76.56**	**26**	P	**P**	**17 20 52.3**	**+0.8**
	comp=Z,148nm,0.8s,SNR=6.6						
KOLN	**Koldanda**	**76.60**	**300**	*eP*	**P**	**17 20 52.3**	**-0.4**
	comp=Z,102nm,0.7s						
TNA	**Tin City**	**76.66**	**15**	*eP*	**P**	**17 20 52.9**	**+1.0**
	comp=Z,26nm,1.0s						
TNA				*epP*	**pP**	**17 21 07.2**	**-1.4**
SKHT	**Srikalahasti**	**77.24**	**286**	*eP*	**P**	**17 20 56.7**	**+0.5**
SKHT				*epP*	**pP**	**17 21 11.3**	**-1.6**
HVS	**Khovu-Aksy**	**77.46**	**326**	*eP*	**P**	**17 20 57.2**	**+0.3**
HVS				pmax	pmax		
	comp=Z,281nm,1.2s						
RSO	**Redoubt South**	**78.08**	**24**	*eP*	**P**	**17 21 00.0**	**-0.2**
	comp=Z,60nm,0.9s						
RSO				*epP*	**pP**	**17 21 16.9**	**0.0**
NJS	**Nagarjunasagar**	**78.11**	**288**	*eP*	**P**	**17 21 00.4**	**-0.7**
NJS				*epP*	**pP**	**17 21 15.4**	**-2.3**
WMQ	**Urumqi**	**78.26**	**317**	P	**P**	**17 21 01.8**	**+0.4**
WMQ				pP	**pP**	**17 21 19.2**	**+1.0**
WMQ				sP	**sP**	**17 21 26.4**	**+1.5**
WMQ				PMZ			
	comp=Z,21nm,0.6s						
RPR	**Rampur**	**78.54**	**291**	*eP*	**P**	**17 21 03.2**	**-0.1**
RPR				IAmb	IAmb	17 21 03.4	
	comp=Z,31nm,1.1s						
RPR				*epP*	**pP**	**17 21 17.6**	**-2.5**
HYB	**Hyderabad**	**78.97**	**289**	*i P*	**P**	**17 21 04.5**	**-1.3**
HYB	**Hyderabad**	**78.97**	**289**	*eP*	**P**	**17 21 04.8**	**-1.0**
HYB				AMB	AMB	17 21 22.3	
	comp=Z,134nm,2.9s						
HYBB	**Hyderabad (bro**	**78.97**	**289**	IAmb	IAmb	17 21 04.8	
	comp=Z,74nm,1.5s						
HYBB				*eP*	**P**	**17 21 04.9**	**-0.9**
HYBB				*epP*	pP	17 21 20.6	-2.0
SEW	**Seward**	**79.22**	**25**	*eP*	**P**	**17 21 06.9**	**+0.7**
	comp=Z,64nm,0.9s						
TIXI	**Tiksi**	**79.65**	**352**	*i P*	**P**	**17 21 07.6**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,17nm,1.2s						
TIXI	**Tiksi**	**79.65**	**352**	*eP*	**P**	**17 21 07.5**	**-0.8**
	comp=Z,8.9nm,0.5s						
RC01	**Rabbit Creek A**	**79.65**	**24**	*eP*	**P**	**17 21 09.1**	**+0.5**
	comp=Z,50nm,0.5s						
RC01				*epP*	**pP**	**17 21 25.7**	**+0.3**
PPLA	**Purkeypile**	**79.75**	**22**	*eP*	**P**	**17 21 09.5**	**+0.2**
	comp=Z,76nm,1.3s						
PPLA				*epP*	**pP**	**17 21 25.2**	**-0.8**
URV	**Uravakonda**	**79.78**	**286**	*eP*	**P**	**17 21 10.1**	**-0.2**
URV				*epP*	**pP**	**17 21 25.1**	**-1.9**
PMR	**Palmer**	**80.17**	**24**	*eP*	**P**	**17 21 11.7**	**+0.4**
PMR				*e*PP	**pP**	**17 21 28.4**	**+0.3**
PMR				pmax	pmax		
	comp=Z,68nm,0.9s						
PMR	**Palmer**	**80.17**	**24**	*eP*	**P**	**17 21 11.7**	**+0.4**
	comp=Z,68nm,0.9s						
PMR				*epP*	**pP**	**17 21 28.4**	**+0.3**
KTH	**Kantishna Hill**	**80.59**	**22**	*eP*	**P**	**17 21 13.3**	**-0.4**
	comp=Z,46nm,1.1s						
TRF	**Thorofare Moun**	**80.77**	**22**	*eP*	**P**	**17 21 14.2**	**-0.5**
	comp=Z,32nm,0.8s						
TRF				*epP*	**pP**	**17 21 29.1**	**-2.5**
BHPL	**Bhopal**	**81.07**	**295**	*eP*	**P**	**17 21 16.7**	**-0.4**
BHPL				AMB	AMB	17 21 31.9	
	comp=Z,120nm,2.2s						
IM04	**Indian Mountai**	**81.07**	**19**	*eP*	**P**	**17 21 16.7**	**+0.6**
IM04				*epP*	**pP**	**17 21 31.7**	**-1.2**
DIV	**Divide**	**81.31**	**25**	*eP*	**P**	**17 21 18.3**	**+0.8**
	comp=Z,54nm,0.9s						
DIV				*epP*	**pP**	**17 21 34.5**	**+0.1**
AGRA	**Agra**	**81.38**	**299**	*eP*	**P**	**17 21 17.4**	**-1.1**
AGRA				AMB	AMB	17 21 33.9	
	comp=Z,99nm,0.8s						
MCK	**McKinley**	**81.43**	**22**	*eP*	**P**	**17 21 17.8**	**-0.3**
MCK				*e*PP	**pP**	**17 21 32.8**	**-2.1**
MCK				pmax	pmax		
	comp=Z,94nm,1.0s						
MCK	**McKinley**	**81.43**	**22**	*eP*	**P**	**17 21 17.8**	**-0.3**
	comp=Z,94nm,1.0s						
MCK				*epP*	**pP**	**17 21 32.8**	**-2.1**
BMRM	**Bremner River**	**81.72**	**25**	*eP*	**P**	**17 21 20.2**	**+0.5**
	comp=Z,154nm,1.4s						
BMRM				*epP*	**pP**	**17 21 36.6**	**0.0**
BISR	**Bishrakh**	**82.08**	**300**	*eP*	**P**	**17 21 20.9**	**-1.3**
NDI	**New Delhi**	**82.30**	**300**	*ex*	pP	17 21 39.0	-1.3
SONA	**Sohna**	**82.33**	**300**	*eP*	**P**	**17 21 22.8**	**-0.7**
SONA				AMB	AMB	17 21 39.0	
	comp=Z,56nm,1.2s						
AYAN	**Aya Nagar**	**82.33**	**300**	*eP*	**P**	**17 21 21.2**	**-2.4**
PAX	**Paxson**	**82.36**	**23**	*eP*	**P**	**17 21 23.2**	**+0.2**
PAX				pmax	pmax		
	comp=Z,127nm,1.9s						
PAX	**Paxson**	**82.36**	**23**	*eP*	**P**	**17 21 23.2**	**+0.2**
	comp=Z,127nm,1.9s						
COLA	**College**	**82.45**	**21**	*c iP*	**P**	**17 21 22.8**	**-0.5**
COLA				pmax	pmax		
	comp=Z,79nm,1.1s						
COLA	**College**	**82.45**	**21**	*eP*	**P**	**17 21 23.0**	**-0.3**
	comp=Z,88nm,1.0s						
COLA				*epP*	**pP**	**17 21 39.0**	**-1.2**
ILAR	**Eielson Array**	**82.74**	**22**	P	**P**	**17 21 24.4**	**-0.5**
	comp=Z,5.7nm,0.6s,baz=237,slow=5.4,SNR=60						
ILAR				pP	**pP**	**17 21 40.5**	**-1.3**
	comp=Z,33nm,1.0s,baz=257,slow=5.2,SNR=17						
ILAR				PKKPbc	**PKKPdf**	**17 39 46.6**	**+3.8**
	comp=Z,0.4nm,0.6s,baz=20,slow=2.9,SNR=4.7						
ILAR				PKPPKP	**P'P'df**	**17 47 54.7**	**+1.9**
	comp=Z,0.4nm,1.0s,baz=90,slow=1.2,SNR=2.7						
KUDL	**Kundal**	**82.82**	**299**	*eP*	**P**	**17 21 24.5**	**-1.5**
MK31	**Makanchi Array**	**82.83**	**319**	*eP*	**P**	**17 21 25.2**	**-0.6**
MK31	**Makanchi Array**	**82.83**	**319**	*eP*	**P**	**17 21 25.2**	**-0.6**
MKAR	**Makanchi Array**	**82.83**	**319**	P	**P**	**17 21 25.3**	**-0.5**
	comp=Z,55nm,0.8s,baz=132,slow=2.1,SNR=249						
MKAR				pP	**pP**	**17 21 42.2**	**-0.5**
	comp=Z,18nm,0.7s,baz=122,slow=1.9,SNR=6.9						
MKAR				PKKPbc	**PKKPbc**	**17 39 48.6**	**-2.6**
	comp=Z,0.3nm,0.8s,baz=273,slow=8.0,SNR=3.5						
MKAR				PKPPKP	**P'P'df**	**17 47 54.5**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=308,slow=4.7,SNR=2.5						
MKAR	**Makanchi Array**	**82.83**	**319**	*ceP*	**P**	**17 21 25.8**	**0.0**
MKAR				pmax	pmax		
	comp=Z,55nm,0.8s						
SMLA	**Simla**	**82.83**	**302**	*eP*	**P**	**17 21 25.0**	**-1.0**
SMLA				AMB	AMB	17 21 42.4	
	comp=Z,67nm,1.0s						
KKR	**Kurukshetra**	**82.89**	**301**	*eP*	**P**	**17 21 26.5**	**0.0**
COLD	**Coldfoot**	**82.97**	**19**	*eP*	**P**	**17 21 26.6**	**+0.6**
	comp=Z,52nm,1.2s						
COLD				*epP*	**pP**	**17 21 43.1**	**+0.2**
DOT	**Dot Lake**	**83.24**	**23**	*eP*	**P**	**17 21 28.1**	**+0.6**
	comp=Z,98nm,1.3s						
DOT				*epP*	**pP**	**17 21 43.7**	**-0.8**
BHK	**Bhakra**	**83.51**	**303**	*ex*	sP	17 21 52.2	-1.0
ZAA0	**Zalesovo Array**	**83.55**	**326**	*eP*	**P**	**17 21 27.4**	**-1.9**
ZALV	**Zalesovo Beam**	**83.55**	**326**	P	**P**	**17 21 28.2**	**-1.1**
	comp=Z,57nm,0.8s,baz=113,slow=5.4,SNR=224						
ZALV				pP	**pP**	**17 21 45.1**	**-1.1**
	comp=Z,14nm,0.7s,baz=108,slow=5.2,SNR=4.9						
ZALV				PKKPbc	PKKPbc	17 39 57.3	+7.6
	comp=Z,0.2nm,0.4s,baz=299,slow=3.0,SNR=2.2						
ZALV				PKPPKP	**P'P'df**	**17 47 53.4**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=300,slow=2.8,SNR=2.9						
POO	**Poona**	**83.57**	**289**	*eP*	**P**	**17 21 29.0**	**-1.2**
POO				*eP*	**PcP**	**17 21 29.2**	**-5.2**
POO				AMB	AMB	17 21 47.3	
	comp=Z,130nm,1.7s						
QSPA	**South Pole Qui**	**83.69**	**180**	P	**P**	**17 21 30.4**	**+0.5**
	comp=Z,114nm,0.7s,baz=353,slow=2.3,SNR=327						
QSPA				pP	**pP**	**17 21 45.8**	**-1.1**
	comp=Z,185nm,0.9s,baz=357,slow=3.3,SNR=18						
QSPA				PKKPbc	**PKKPdf**	**17 39 44.6**	**+3.9**
	comp=Z,1.5nm,0.8s,baz=208,slow=0.9,SNR=6.6						
QSPA	**South Pole Qui**	**83.69**	**180**	*eP*	**P**	**17 21 30.4**	**+0.5**
QSPA				*epP*	**pP**	**17 21 45.4**	**-1.5**
QSPA				pP	**pP**	**17 21 45.8**	**-1.1**
QSPA				PKKPbc	**PKKPdf**	**17 39 44.6**	**+3.9**
DHRM	**DHARAMSHALA**	**83.78**	**303**	*eP*	**P**	**17 21 30.0**	**-1.3**
NVS	**Novosibirsk**	**84.72**	**327**	*i P*	**P**	**17 21 33.0**	**-2.2**
NVS				pmax	pmax		
	comp=N,32nm,1.7s						
NVS				pmax	pmax		
	comp=E,58nm,1.7s						
NVS				pmax	pmax		
	comp=Z,103nm,1.7s						

TKM2	**Tokmak 2**	**86.47**	**314**	*e*P		**P**		**17 21 43.4**	**-1.1**
TKM2					pmax	pmax				
	comp=Z,22nm,0.5s									
TKM2	**Tokmak 2**	**86.47**	**314**	*e*P		**P**		**17 21 43.4**	**-1.1**
	comp=Z,22nm,0.5s									
KZA	**Kyzart**	**86.56**	**313**	P		**P**		**17 21 45.5**	**+0.4**
	SNR=32									
KBK	**Karagaybulak**	**86.89**	**313**	P		**P**		**17 21 46.8**	**+0.3**
	SNR=14									
CHMS	**Chumysh**	**87.10**	**314**	P		**P**		**17 21 47.0**	**-0.3**
	SNR=8.4									
UCH	**Uchtor**	**87.12**	**313**	P		**P**		**17 21 47.9**	**-0.1**
	SNR=10									
AAK	**Ala-Archa**	**87.21**	**313**	P		**P**		**17 21 48.5**	**+0.4**
	comp=Z,122nm,0.5s,SNR=14									
AAK	**Ala-Archa**	**87.21**	**313**	P		**P**		**17 21 48.0**	**-0.1**
	SNR=18									
AAK	**Ala-Archa**	**87.21**	**313**	P		**P**		**17 21 47.7**	**-0.3**
	comp=Z,11nm,0.6s,baz=111,slow=5.0,SNR=54									
AAK					pP	**pP**		**17 22 05.7**	**+0.6**
	comp=Z,14nm,0.6s,baz=154,slow=7.9,SNR=9.6									
AAK	**Ala-Archa**	**87.21**	**313**	*c i*P		**P**		**17 21 47.9**	**-0.1**
AAK					pmax	pmax				
	comp=Z,34nm,0.8s									
USP	**Ospenovka**	**87.33**	**314**	P		**P**		**17 21 48.6**	**+0.2**
	SNR=9.5									
DLBC	**Dease Lake**	**87.57**	**31**	*e*P		**P**		**17 21 50.6**	**+1.3**
DLBC					*e*pP	**pP**		**17 22 07.6**	**+1.3**
AML	**Almayashu**	**87.70**	**313**	P		**P**		**17 21 51.7**	**+1.0**
	SNR=16									
EKS2	**Erkin-Say**	**87.74**	**313**	P		**P**		**17 21 50.1**	**-0.5**
	SNR=22									
M02C	**Callahan**	**88.31**	**48**	P		**P**		**17 21 53.7**	**+0.5**
	baz=88									
HUMO	**Hull Mountain**	**88.44**	**47**	*e*P		**P**		**17 21 54.6**	**+0.8**
	comp=Z,12nm,1.0s									
HUMO					*e*pP	**pP**		**17 22 11.9**	**+1.1**
YBH	**Yreka Blue Hor**	**88.47**	**48**	LR		LR		17 55 16.4		
	comp=Z,7um,21.0s,baz=348,slow=31									
NLWA	**Neilton Lookou**	**88.66**	**42**	P		**P**		**17 21 55.5**	**+0.8**
	comp=Z,42nm,1.2s									
INK	**Inuvik**	**89.09**	**21**	P		**P**		**17 21 56.3**	**+0.2**
	comp=Z,6.8nm,0.9s,baz=248,slow=6.5,SNR=12									
INK					pP	**pP**		**17 22 13.4**	**+0.2**
	comp=Z,15nm,0.9s,baz=245,slow=7.0,SNR=7.9									
INK	**Inuvik**	**89.09**	**21**	*e*P		**P**		**17 21 56.3**	**+0.2**
INK				*e	*PP	**pP**		**17 22 13.4**	**+0.2**
INK					pmax	pmax				
	comp=Z,40nm,1.2s									
INK	**Inuvik**	**89.09**	**21**	*e*P		**P**		**17 21 56.3**	**+0.2**
	comp=Z,40nm,1.2s									
INK					*e*pP	**pP**		**17 22 11.3**	**-1.8**
INK					pP	**pP**		**17 22 13.4**	**+0.2**
M04C	**Macdoel**	**89.12**	**48**	P		**P**		**17 21 57.7**	**+0.6**
	baz=89									
J04D	**Umpqua Nationa**	**89.16**	**46**	P		**P**		**17 21 58.0**	**+0.7**
	baz=89									
HDW	**Hoodsport**	**89.25**	**42**	P		**P**		**17 21 58.8**	**+1.4**
TDL	**Tradedollar La**	**89.59**	**43**	P		**P**		**17 22 00.2**	**+1.0**
J05D	**Fort Rock, OR**	**89.80**	**47**	P		**P**		**17 22 00.8**	**+0.6**
	baz=90									
LON	**Longmire**	**89.93**	**43**	*e*P		**P**		**17 22 01.2**	**+0.5**
LON				*e	*PP	**pP**		**17 22 16.8**	**-0.9**
LON					pmax	pmax				
	comp=Z,32nm,1.6s									
LON	**Longmire**	**89.93**	**43**	*e*P		**P**		**17 22 01.2**	**+0.5**
	comp=Z,32nm,1.6s									
LON					*e*pP	**pP**		**17 22 16.8**	**-0.9**
KKAR	**Karatay Array**	**90.18**	**313**	*e*P		**P**		**17 22 01.0**	**-0.9**
KKAR					pmax	pmax				
	comp=Z,12nm,0.9s									
KKAR	**Karatay Array**	**90.18**	**313**	*e*P		**P**		**17 22 01.0**	**-0.9**
	comp=Z,12nm,0.9s									
WAKR	**Walker**	**90.47**	**51**	*e*P		**P**		**17 22 04.8**	**+1.2**
	comp=Z,7.9nm,0.8s									
WAKR					*e*pP	**pP**		**17 22 21.4**	**+0.8**
ARVC	**Arvin**	**90.52**	**55**	P		**P**		**17 22 05.1**	**+1.5**
	baz=91									
OSI	**Osito Audit: C**	**90.54**	**55**	P		P		17 22 07.0	+3.2	
	comp=Z,90nm,1.5s									
OSI					*e*pP	pP		17 22 22.8	+1.9	
NAC	**Naches**	**90.60**	**43**	P		**P**		**17 22 04.9**	**+1.1**
CIS	**Catalina Islan**	**90.65**	**57**	P		**P**		**17 22 05.4**	**+1.1**
	baz=91									
EBG	**Ellensburg**	**90.80**	**43**	P		**P**		**17 22 05.9**	**+1.2**
ISA	**Isabella, Lake**	**90.87**	**54**	*e*P		**P**		**17 22 07.1**	**+1.8**
ISA				*e	*PP	**pP**		**17 22 23.5**	**+1.1**
ISA					pmax	pmax				
	comp=Z,10.0nm,1.0s									
ISA	**Isabella, Lake**	**90.87**	**54**	*e*P		**P**		**17 22 07.1**	**+1.8**
	comp=Z,10nm,1.0s									
ISA					*e*pP	**pP**		**17 22 23.5**	**+1.1**
ISA	**Isabella, Lake**	**90.87**	**54**	P		**P**		**17 22 06.9**	**+1.6**
	baz=91									
PASC	**Pasadena Art C**	**90.92**	**56**	*e*P		**P**		**17 22 06.8**	**+1.3**
	comp=Z,25nm,1.0s									
PASC					*e*pP	**pP**		**17 22 22.3**	**-0.3**
ETW	**Entiat**	**91.06**	**42**	P		**P**		**17 22 06.8**	**+0.8**
EDW2	**Edwards Air Fo**	**91.17**	**55**	P		**P**		**17 22 08.2**	**+1.5**
	baz=91									
TIN	**Tinemaha, Big**	**91.24**	**53**	P		**P**		**17 22 09.0**	**+2.0**
	baz=91									
NVAR	**Mina Array Bea**	**91.34**	**52**	P		**P**		**17 22 09.3**	**+1.7**
	comp=Z,20nm,0.9s,baz=254,slow=6.5,SNR=61									
NVAR					pP	**pP**		**17 22 25.7**	**+1.0**
	comp=Z,42nm,1.0s,baz=256,slow=5.8,SNR=12									
BFSC	**Mount Baldy Ra**	**91.37**	**56**	P		**P**		**17 22 09.1**	**+1.4**
	baz=91									
RSW	**Rattlesnake Hi**	**91.40**	**44**	P		**P**		**17 22 08.8**	**+1.2**
HAWA	**Hanford**	**91.44**	**44**	*e*P		**P**		**17 22 08.5**	**+0.9**
	comp=Z,67nm,1.5s									
HAWA					*e*pP	**pP**		**17 22 25.0**	**+0.3**
LRMC	**Laurel Mtn Rad**	**91.48**	**55**	P		**P**		**17 22 10.1**	**+1.9**
	baz=92									
DAC	**Darwin (Calif)**	**91.65**	**54**	*e*P		**P**		**17 22 10.4**	**+1.3**
DAC				*e	*PP	**pP**		**17 22 26.9**	**+0.7**
DAC					pmax	pmax				
	comp=Z,86nm,1.3s									
DAC	**Darwin (Calif)**	**91.65**	**54**	*e*P		**P**		**17 22 10.4**	**+1.3**
	comp=Z,86nm,1.3s									
DAC					*e*pP	**pP**		**17 22 26.9**	**+0.7**
BVAR	**Borovoye Array**	**91.69**	**323**	P		**P**		**17 22 07.5**	**-1.1**
	comp=Z,24nm,0.7s,baz=106,slow=5.3,SNR=142									
BVAR					pP	**pP**		**17 22 24.2**	**-1.5**
	comp=Z,14nm,0.7s,baz=100,slow=4.8,SNR=8.4									
MPMC	**Manual Prospec**	**91.71**	**54**	P		**P**		**17 22 11.5**	**+2.1**
	baz=92									
BRVK	**Borovoye**	**91.75**	**323**	P		**P**		**17 22 07.3**	**-1.6**
	comp=Z,147nm,0.6s,SNR=23									
BRVK	**Borovoye**	**91.75**	**323**	*i* P		**P**		**17 22 07.3**	**-1.6**
BRVK					pmax	pmax				
	comp=Z,21nm,1.0s									
GRAC	**Grapevine Rang**	**91.91**	**53**	P		**P**		**17 22 11.9**	**+1.8**
	baz=92									
OD2	**Odessa Site #2**	**92.12**	**43**	P		**P**		**17 22 11.3**	**+0.6**
TPH	**Tonopah**	**92.15**	**52**	*e*P		**P**		**17 22 12.8**	**+1.5**
TPH				*e	*PP	**pP**		**17 22 29.7**	**+1.3**
TPH					pmax	pmax				
	comp=Z,96nm,1.4s									
TPH	**Tonopah**	**92.15**	**52**	*e*P		**P**		**17 22 12.8**	**+1.5**
	comp=Z,96nm,1.4s									
TPH					*e*pP	**pP**		**17 22 29.7**	**+1.3**
GSC	**Goldstone, Bar**	**92.18**	**55**	*e*P		**P**		**17 22 13.2**	**+1.8**
GSC				*e	*PP	**pP**		**17 22 29.6**	**+1.1**
GSC					pmax	pmax				
	comp=Z,23nm,1.0s									
GSC	**Goldstone, Bar**	**92.18**	**55**	*e*P		**P**		**17 22 13.2**	**+1.8**
	comp=Z,23nm,1.0s									
GSC					*e*pP	**pP**		**17 22 29.6**	**+1.1**
MONP	**Monument Peak,**	**92.25**	**57**	P		**P**		**17 22 14.1**	**+2.2**
	baz=92									
FURC	**Furnace Creek,**	**92.26**	**54**	P		**P**		**17 22 13.6**	**+2.0**
	baz=92									
PFO	**Pinyon Flats O**	**92.29**	**57**	P		**P**		**17 22 13.2**	**+1.2**
	comp=Z,72nm,1.3s,SNR=5.6									
BMN	**Battle Mountai**	**92.40**	**50**	*e*P		**P**		**17 22 13.2**	**+0.8**
BMN				*e	*PP	**pP**		**17 22 31.0**	**+1.5**
BMN					pmax	pmax				
	comp=Z,44nm,1.1s									
BMN	**Battle Mountai**	**92.40**	**50**	*e*P		**P**		**17 22 13.2**	**+0.8**
	comp=Z,44nm,1.1s									
BMN					*e*pP	**pP**		**17 22 31.0**	**+1.5**
HEC	**Hector,Ludlow**	**92.52**	**55**	P		**P**		**17 22 14.5**	**+1.6**
	baz=93									
SHOC	**Shoshone, Teco**	**92.67**	**54**	P		**P**		**17 22 15.5**	**+1.9**
	baz=93									
BELC	**Belle Mtn. Jos**	**92.71**	**56**	P		**P**		**17 22 15.8**	**+1.9**
	baz=93									
TPNV	**Topopah Spring**	**92.80**	**53**	P		**P**		**17 22 16.0**	**+1.7**
	baz=93									
BMO	**Blue Mountains**	**92.81**	**45**	*e*P		**P**		**17 22 14.2**	**+0.1**
BMO				*e	*PP	**pP**		**17 22 31.6**	**+0.4**
BMO					pmax	pmax				
	comp=Z,37nm,1.2s									
BMO	**Blue Mountains**	**92.81**	**45**	*e*P		**P**		**17 22 14.2**	**+0.1**
	comp=Z,37nm,1.2s									
BMO					*e*pP	**pP**		**17 22 31.6**	**+0.4**
SYO	**Syowa Base**	**92.97**	**199**	‖ *e*P		**P**		**17 22 12.7**	**-1.5**
GMRC	**Granite Mounta**	**93.06**	**56**	P		**P**		**17 22 17.3**	**+1.7**
	baz=93									
BC3	**Big Chuckawall**	**93.13**	**57**	P		**P**		**17 22 17.9**	**+2.0**
	baz=93									
NEW	**Newport**	**93.28**	**42**	*e*P		**P**		**17 22 15.9**	**-0.2**
NEW				*e	*PP	**pP**		**17 22 33.2**	**0.0**
NEW					pmax	pmax				
	comp=Z,15nm,1.2s									
NEW	**Newport**	**93.28**	**42**	*e*P		**P**		**17 22 15.9**	**-0.2**
	comp=Z,15nm,1.2s									
NEW					*e*pP	**pP**		**17 22 33.2**	**0.0**
NEW	**Newport**	**93.28**	**42**	P		**P**		**17 22 16.6**	**+0.5**
	baz=93									
IRM	**Iron Mountain**	**93.43**	**56**	P		**P**		**17 22 19.0**	**+1.9**
	baz=94									
R11A	**Troy Canyon, C**	**93.46**	**52**	*e*P		**P**		**17 22 18.5**	**+1.1**
	comp=Z,50nm,1.3s									
R11A					*e*pP	**pP**		**17 22 35.0**	**+0.5**
R11A	**Troy Canyon, C**	**93.46**	**52**	P		**P**		**17 22 19.3**	**+1.9**
	baz=94									
LDFC	**Landfair**	**93.54**	**55**	*e*P		**P**		**17 22 19.8**	**+2.0**
LDFC				*e	*PP	**pP**		**17 22 36.0**	**+1.2**
GLA	**Glamis**	**93.59**	**57**	*e*P		**P**		**17 22 20.4**	**+2.5**
GLA				*e	*PP	**pP**		**17 22 37.1**	**+2.1**
GLA					pmax	pmax				
	comp=Z,16nm,1.0s									
GLA	**Glamis**	**93.59**	**57**	*e*P		**P**		**17 22 20.4**	**+2.5**
	comp=Z,16nm,1.0s									
GLA					*e*pP	**pP**		**17 22 37.1**	**+2.1**
GLA	**Glamis**	**93.59**	**57**	P		**P**		**17 22 20.4**	**+2.5**
	baz=94									
SHPR	**Sheep Range**	**93.63**	**54**	*e*P		**P**		**17 22 19.7**	**+1.5**
	comp=Z,63nm,1.1s									
SHPR					*e*pP	**pP**		**17 22 36.6**	**+1.3**
Y12C	**Blythe**	**93.91**	**57**	P		**P**		**17 22 21.8**	**+2.5**
	baz=94									
NEE2	**Needles Airpor**	**93.92**	**56**	P		**P**		**17 22 21.5**	**+2.2**
	baz=94									
ELK	**Elko**	**93.93**	**50**	*e*P		**P**		**17 22 20.2**	**+0.6**
ELK				*e	*PP	**pP**		**17 22 37.2**	**+0.5**
ELK					pmax	pmax				
	comp=Z,5.0nm,0.9s									
ELK	**Elko**	**93.93**	**50**	*e*P		**P**		**17 22 20.2**	**+0.6**
	comp=Z,5.1nm,0.9s									
ELK					*e*pP	**pP**		**17 22 37.1**	**+0.5**
PDMCI	**Parker Dam,Lak**	**94.27**	**56**	P		**P**		**17 22 23.0**	**+2.1**
	baz=94									
W13A	**Hualapai Mount**	**94.54**	**55**	P		**P**		**17 22 24.4**	**+1.9**
	baz=95									
HLID	**Hailey**	**94.77**	**47**	P		**P**		**17 22 24.1**	**+0.9**
	baz=95									
BSMT	**Bassoo Peak**	**94.81**	**43**	P		**P**		**17 22 24.0**	**+0.6**
WALA	**Waterton Lakes**	**95.46**	**41**	*e*P		**P**		**17 22 27.1**	**+0.8**
	comp=Z,50nm,1.1s									
WALA					*e*pP	**pP**		**17 22 44.1**	**+0.7**
YKA	**Yellowknife Ar**	**95.75**	**28**	P		**P**		**17 22 27.4**	**+0.4**
	comp=Z,8.0nm,0.6s,baz=266,slow=4.5,SNR=127									
YKA					pP	**pP**		**17 22 43.8**	**-0.3**
	comp=Z,9.8nm,0.7s,baz=269,slow=4.6,SNR=16									
YKA					PP	**PP**		**17 26 21.3**	**+2.0**
	comp=Z,0.7nm,0.8s,baz=267,slow=7.7,SNR=3.3									
YKA					PKKPbc	**PKKPbc**		**17 39 15.7**	**-3.7**
	comp=Z,1.0nm,0.7s,baz=78,slow=2.6,SNR=9.7									
HVU	**Hansel Valley**	**95.86**	**49**	*e*P		**P**		**17 22 29.2**	**+0.9**
HVU				*e	*PP	**pP**		**17 22 46.1**	**+0.7**
HVU					pmax	pmax				
	comp=Z,23nm,1.1s									
HVU	**Hansel Valley**	**95.86**	**49**	*e*P		**P**		**17 22 29.2**	**+0.9**
	comp=Z,23nm,1.1s									
HVU					*e*pP	**pP**		**17 22 46.1**	**+0.7**
EDM	**Edmonton**	**96.02**	**37**	*e*P		**P**		**17 22 29.0**	**+0.4**
EDM				*e	*PP	**pP**		**17 22 45.4**	**-0.3**
EDM	**Edmonton**	**96.02**	**37**	*e*P		**P**		**17 22 29.0**	**+0.4**
EDM					*e*pP	**pP**		**17 22 45.4**	**-0.3**
MSU	**Marysvale**	**96.14**	**52**	*e*P		**P**		**17 22 31.4**	**+1.7**
MSU				*e	*PP	**pP**		**17 22 48.2**	**+1.4**
MSU					pmax	pmax				
	comp=Z,8.0nm,1.3s									
MSU	**Marysvale**	**96.14**	**52**	*e*P		**P**		**17 22 31.4**	**+1.7**
	comp=Z,7.7nm,1.3s									
MSU					*e*pP	**pP**		**17 22 48.2**	**+1.4**
BOZ	**Bozeman (W)**	**96.86**	**45**	*e*P		**P**		**17 22 33.6**	**+0.9**
BOZ				*e	*PP	**pP**		**17 22 49.7**	**-0.1**
BOZ					pmax	pmax				
	comp=Z,3.0nm,1.0s									
BOZ	**Bozeman (W)**	**96.86**	**45**	*e*P		**P**		**17 22 33.6**	**+0.9**
	comp=Z,2.7nm,1.0s									
BOZ					*e*pP	**pP**		**17 22 49.7**	**-0.1**
TMUT	**Trail Mountain**	**96.93**	**51**	*e*P		**P**		**17 22 34.6**	**+1.3**
	comp=Z,8.6nm,0.9s									
TMUT					*e*pP	**pP**		**17 22 51.8**	**+1.3**
SRU	**San Rafael Swe**	**97.45**	**51**	*e*P		Pdif		17 22 36.5	+0.8	
SRU				*e	*PP	pP		17 22 53.5	+0.8	
SRU					pmax	pmax				
	comp=Z,13nm,0.9s									
SRU	**San Rafael Swe**	**97.45**	**51**	*e*P		Pdif		17 22 36.5	+0.8	
	comp=Z,13nm,0.9s									
SRU					*e*pP	pP		17 22 53.5	+0.8	
SVE	**Sverdlovsk**	**97.57**	**326**	*e*P		**P**		**17 22 33.5**	**-1.9**
W18A	**Petrified Fore**	**97.94**	**56**	*e*P		Pdif		17 22 39.8	+1.9	
	comp=Z,31nm,1.3s									
W18A					*e*pP	pP		17 22 56.5	+1.5	
W18A	**Petrified Fore**	**97.94**	**56**	P		Pdif		17 22 40.2	+2.2	
	baz=98									
ABKAR	**Akbulak array**	**97.97**	**319**	*e*P		**P**		**17 22 34.4**	**-3.0**
	comp=Z,1.3nm,0.4s									
EGMT	**Eagleton**	**98.19**	**42**	P		Pdif		17 22 39.0	+0.4	
	baz=98									
H18A	**Shoshone NF, C**	**98.23**	**46**	P		Pdif		17 22 40.3	+1.2	
	baz=98									
PDAR	**Pinedale Array**	**98.28**	**48**	P		Pdif		17 22 39.3	0.0	
	comp=Z,3.0nm,0.9s,baz=270,slow=0.9,SNR=19									
PDAR					pP	pP		17 22 55.2	-1.2	
	comp=Z,6.1nm,1.0s,baz=256,slow=1.2,SNR=12									
PDAR					PP	**PP**		**17 26 41.7**	**+2.0**
	comp=Z,0.4nm,0.8s,baz=290,slow=2.7,SNR=2.3									
J19A	**Crowheart**	**98.66**	**47**	P		Pdif		17 22 41.8	+0.9	
	baz=99									
C19A	**Slack Wire Ran**	**98.67**	**43**	P		Pdif		17 22 41.0	+0.3	
	baz=99									
ARU	**Arti**	**98.72**	**326**	*d i*P		**P**		**17 22 38.2**	**-2.4**
ARU								17 26 40.0		
ARU					S	**SKSac**		**17 33 10.8**	**-2.6**
ARU					pmax	pmax				
	comp=Z,10.0nm,1.0s									
B19A	**Brinkman Farms**	**98.73**	**42**	P		Pdif		17 22 41.3	+0.4	
	baz=99									
F19A	**Roth Farm, Mol**	**98.75**	**45**	P		Pdif		17 22 41.5	+0.4	
	baz=99									
D19A	**Cripps Ranch,**	**98.79**	**43**	P		Pdif		17 22 42.0	+0.8	
	baz=99									
E19A	**Rath Farm, Rou**	**98.85**	**44**	P		Pdif		17 22 42.0	+0.4	
	baz=99									
A19A	**Klindworth Far**	**98.86**	**42**	P		Pdif		17 22 41.9	+0.4	
	baz=99									
GEYT	**Alibeck**	**99.19**	**307**	P		**Pdif**		**17 22 42.6**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=86,slow=5.9,SNR=2.6									
GEYT					pP	**pP**		**17 22 59.2**	**-1.2**
	comp=Z,4.3nm,0.9s,baz=270,slow=0.4,SNR=5.7									
GEYT					PP	**PP**		**17 26 49.0**	**+2.5**
	comp=Z,3.6nm,0.8s,baz=101,slow=7.7,SNR=4.8									
N20A	**Spence Gulch,**	**99.23**	**50**	P		**Pdif**		**17 22 43.9**	**+0.4**
	baz=99									
O20A	**White River Ci**	**99.24**	**50**	P		**Pdif**		**17 22 44.0**	**+0.4**
	baz=99									
C20A	**Veseth Ranch,**	**99.37**	**43**	P		**Pdif**		**17 22 44.5**	**+0.7**
	baz=99									
A20A	**Cobblestone Ra**	**99.40**	**42**	P		**Pdif**		**17 22 44.3**	**+0.4**
	baz=99									
J21A	**Lysite**	**99.83**	**47**	P		**Pdif**		**17 22 46.3**	**+0.2**
	baz=100									
B21A	**Ellsworth Farm**	**100.02**	**42**	P		**Pdif**		**17 22 47.7**	**+1.1**
	baz=100									
A21A	**Bergtoll Ranch**	**100.06**	**41**	P		**Pdif**		**17 22 47.6**	**+0.7**
	baz=100									
P22A	**Eagle**	**100.38**	**51**	P		**Pdif**		**17 22 50.2**	**+1.4**
	baz=100									
M22A	**Cedar Creek Ra**	**100.48**	**49**	P		**Pdif**		**17 22 50.5**	**+1.3**
	baz=100									
O22A	**Kremmling**	**100.54**	**50**	P		**Pdif**		**17 22 49.7**	**+0.2**
	baz=101									
F22A	**Rosebud**	**100.62**	**45**	P		**Pdif**		**17 22 49.8**	**+0.4**
	baz=101									
D22A	**Cohagen**	**100.63**	**43**	P		**Pdif**		**17 22 49.9**	**+0.5**
	baz=101									
A22A	**Carney Farms,**	**100.72**	**41**	P		**Pdif**		**17 22 50.4**	**+0.6**
	baz=101									
SNAA	**Sanae**	**100.83**	**187**	P		**Pdif**		**17 22 50.0**	**+0.1**
N23A	**Red Feather La**	**100.98**	**50**	P		**Pdif**		**17 22 51.7**	**+0.3**
	baz=101									
L23A	**Garrett**	**101.14**	**48**	P		**Pdif**		**17 22 52.5**	**+0.5**
	baz=101									
G23A	**Biddle**	**101.25**	**45**	P		**Pdif**		**17 22 53.0**	**+0.7**
	baz=101									
C23A	**Lambert**	**101.27**	**43**	P		**Pdif**		**17 22 53.0**	**+0.8**
	baz=101									
B23A	**Brockton**	**101.36**	**42**	P		**Pdif**		**17 22 53.3**	**+0.6**
	baz=101									
H24A	**Dirks Ranch, A**	**101.87**	**46**	P		**Pdif**		**17 22 55.6**	**+0.5**
	baz=102									
VNA3	**Neumayer Olymp**	**101.95**	**185**	P		**Pdif**		**17 22 54.5**	**-0.3**
VNA2	**Neumayer--Watz**	**102.04**	**186**	P		**Pdif**		**17 22 56.2**	**+1.0**
	baz=161,slow=4.0									
A25A	**Svangstu Ranch**	**102.57**	**41**	P		**Pdif**		**17 22 58.5**	**+0.5**
	baz=103									
TXAR	**Lajitas Array**	**102.99**	**61**	Pdiff		**Pdif**		**17 22 59.8**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=229,slow=4.2,SNR=2.5									
TXAR					PKiKP	**PKiKP**		**17 27 20.1**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=207,slow=3.0,SNR=6.8									
TXAR					pPKiKP	**pPKiKP**		**17 27 37.4**	**-0.6**
	comp=Z,1.5nm,0.9s,baz=172,slow=1.6,SNR=4.9									
TXAR					PKKPbc	**PKKPbc**		**17 38 55.9**	**-2.0**
	comp=Z,1.9nm,0.8s,baz=113,slow=3.9,SNR=15									
PRGR	**Permogore**	**104.62**	**332**	*e*P		**Pdif**		**17 23 04.5**	**-2.2**
PRGR					pmax	pmax				
	comp=Z,15nm,0.9s									
333A	**Richland Sprin**	**106.98**	**59**	P		**PKiKP**		**17 27 27.5**	**0.0**
	baz=107									
534A	**Blanco**	**107.49**	**61**	P		**PKiKP**		**17 27 28.5**	**0.0**
	baz=108									
ECSD	**EROS Data Cent**	**107.65**	**46**	P		**PKiKP**		**17 27 27.7**	**-0.6**
	baz=108									
KLMR	**Klimovskoe**	**107.67**	**332**	*e*P		**Pdif**		**17 23 18.9**	**-1.4**
KLMR					pmax	pmax				
	comp=Z,13nm,1.2s									
ARCES	**ARCESS Array B**	**108.89**	**343**	PKiKP		**PKiKP**		**17 27 29.3**	**-0.7**
	comp=Z,2.8nm,0.8s,baz=77,slow=1.9,SNR=7.0									
ARCES					PKKPbc	**PKKPbc**		**17 38 39.4**	**-1.5**
	comp=Z,1.2nm,0.6s,baz=259,slow=1.2,SNR=7.9									
X36A	**Centrahoma**	**108.95**	**56**	P		**PKiKP**		**17 27 31.0**	**-0.1**
	baz=109									
S36A	**Lake Cedric, C**	**109.22**	**52**	P		**PKiKP**		**17 27 31.7**	**+0.2**
	baz=109									
W37A	**Quinton**	**109.65**	**55**	P		**PKiKP**		**17 27 32.6**	**+0.2**
	baz=110									
KIV	**Kislovodsk**	**110.30**	**315**	*e*PKiKP		**PKiKP**		**17 27 31.4**	**-2.1**
KIV					pmax	pmax				
	comp=Z,5.0nm,1.1s									
COWI	**Conover**	**112.38**	**43**	*e*PKiKP		**PKiKP**		**17 27 40.4**	**+3.1**
FINES	**FINESS Array B**	**113.26**	**336**	PKiKP		**PKiKP**		**17 27 37.5**	**-0.9**
	comp=Z,2.0nm,0.8s,baz=90,slow=1.4,SNR=6.9									
FINES					pPKiKP	**pPKiKP**		**17 27 55.0**	**-1.1**
	comp=Z,1.7nm,0.7s,baz=72,slow=4.5,SNR=3.7									
FINES					PKKPbc	**PKKPbc**		**17 38 23.3**	**-3.0**
	comp=Z,0.7nm,0.4s,baz=205,slow=3.9,SNR=

KDZ	Kurdzhali	123.09	316	⇑PKIKP	PKPdf	17 27 56.0	-1.9
KDZ	Kurdzhali	123.09	316	⇑*i*P	PKPdf	17 27 56.0	-1.9
BZS	Buzias	123.78	322	⇓PKIKP	PKPdf	17 27 57.2	-1.9
BZS	Buzias	123.78	322	⇓*i*P	PKPdf	17 27 57.2	-1.9
MORC	Moravsky Berou	123.85	328	⇓PKIKP	PKPdf	17 27 59.4	+0.2
MORC	Moravsky Berou	123.85	328	⇓*i*P	PKPdf	17 27 59.4	+0.2
VYHS	Vyhne	123.89	326	*e*PKIKP	PKPdf	17 27 56.6	-2.7
VYHS	Vyhne	123.89	326	*e*PKP	PKPdf	17 27 56.6	-2.7
VYHS				*e*		17 38 02.1	
TRY	Troy	123.92	42	*e*PKPdf	PKPdf	17 27 59.4	0.0
TRY				*ep*PKP	pPKPdf	17 28 16.1	-1.0
KARP	Karpathos	124.01	309	*e*P	PKPdf	17 27 58.8	-1.1
KRLC	Kraliky	124.07	329	*e*PKPdf	PKPdf	17 27 58.9	-0.7
KRLC				*ex*	x	17 28 03.8	
KRLC				*ep*PKP	pPKPdf	17 28 13.5	-3.8
KRLC	Kraliky	124.07	329	*e*PKIKP	PKPdf	17 27 58.9	-0.7
KRLC				*e*		17 28 13.5	
DPC	Dobruska-Polom	124.14	329	*e*PKPdf	PKPdf	17 27 59.2	-0.5
DPC				*ex*	x	17 28 06.3	
DPC				*ep*PKP	pPKPdf	17 28 13.7	-3.8
DPC	Dobruska-Polom	124.14	329	*e*P	PKKPbc	17 37 46.2	-0.2
DPC				*ex*	x	17 38 02.1	
DPC				*ex*	x	17 38 05.4	
DPC	Dobruska-Polom	124.14	329	*e*PKIKP	PKPdf	17 27 59.2	-0.5
DPC				*e*		17 28 13.7	
MMB	Musomiste	124.27	317	⇑PKIKP	PKPdf	17 27 59.1	-1.1
MMB	Musomiste	124.27	317	⇑*i*P	PKPdf	17 27 59.1	-1.1
NVR	Nevrokopi	124.28	317	*e*P	pPKPdf	17 28 15.2	-2.8
HNH	Hanover	124.38	40	*e*PKPdf	PKPdf	17 28 00.4	+0.1
HNH				*ep*PKP	pPKPdf	17 28 18.7	+0.7
BSEG	Bad Segeberg	124.53	335	*e*PKPdf	PKPdf	17 28 00.8	+0.5
BSEG				*ep*PKPdf	pPKPdf	17 28 17.1	-0.9
APE	Apeiranthos	124.74	311	*e*P	PKPdf	17 27 59.6	-1.7
ZKR	Zakros	124.88	309	*e*P	PKPdf	17 27 59.8	-1.8
PVCC	Panska Ves	124.91	330	*e*PKPdf	PKPdf	17 28 01.9	+0.8
PVCC				*ex*	x	17 28 05.8	
PVCC				*ep*PKP	pPKPdf	17 28 18.4	-0.4
PVCC	Panska Ves	124.91	330	*e*PKIKP	PKPdf	17 28 01.9	+0.8
PVCC				*e*		17 28 18.4	
BRG	Berggiesshubel	124.99	331	*e*PKP	PKPdf	17 28 01.5	+0.2
	comp=Z,5.3nm,1.1s						
BRG				pPKP	pPKPdf	17 28 18.7	-0.3
	comp=Z,36nm,1.9s						
BRG	Berggiesshubel	124.99	331	*e*PKPdf	PKPdf	17 28 01.5	+0.2
BRG				*ep*PKPdf	pPKPdf	17 28 17.7	-1.3
BRG	Berggiesshubel	124.99	331	*e*PKIKP	PKPdf	17 28 01.5	+0.2
BRG						17 28 18.7	
BRG				pmax	pmax		
	comp=Z,5.0nm,1.1s						
CLL	Collm	125.16	332	*e*PKPdf	PKPdf	17 28 01.6	0.0
CLL				*ep*PKPdf	pPKPdf	17 28 17.6	-1.7
CLL	Collm	125.16	332	⇑*i*PKPdf	PKPdf	17 28 01.1	-0.5
	comp=Z,7.0nm,0.9s						
CLL				*i* pPKPdf	pPKPdf	17 28 18.2	-1.1
CLL	Collm	125.16	332	⇑*i*PKIKP	PKPdf	17 28 01.1	-0.5
CLL				*i*		17 28 18.2	
CLL				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GOPC	GO Pecny, Ondr	125.19	330	*e*PKPdf	PKPdf	17 28 03.6	+1.9
GOPC				*ep*PKP	pPKPdf	17 28 17.7	-1.7
GOPC	GO Pecny, Ondr	125.19	330	*e*P	PKKPbc	17 37 41.8	-0.5
GOPC				*ex*	x	17 37 57.5	
PKSM	Moragy	125.25	324	⇓PKIKP	PKPdf	17 28 01.6	-0.3
PKSM	Moragy	125.25	324	⇓*i*P	PKPdf	17 28 01.6	-0.3
PRU	Pruhonice	125.26	330	*e*PKPdf	PKPdf	17 28 02.0	+0.2
PRU				*ep*PKP	pPKPdf	17 28 17.4	-2.1
PRU	Pruhonice	125.26	330	*e*PKIKP	PKPdf	17 28 02.0	+0.2
PRU				*e*		17 28 17.4	
LAST	Lasithi	125.44	309	*e*P	PKPdf	17 28 02.6	-0.1
NRDL	Niedersach Rie	125.65	334	*e*PKPdf	PKPdf	17 28 03.0	+0.6
NRDL				*ep*PKPdf	pPKPdf	17 28 19.1	-1.0
BCIP	Isla Barro Col	125.70	83	*e*PKPdf	PKPdf	17 28 00.8	-2.9
BCIP				*ep*PKPdf	pPKPdf	17 28 18.6	-2.8
CLZ	Clausthal	125.99	334	*e*PKPdf	PKPdf	17 28 03.7	+0.5
CLZ				*ep*PKPdf	pPKPdf	17 28 19.8	-1.1
TANN	Tannenbergstha	126.00	331	*e*PKPdf	PKPdf	17 28 03.5	+0.2
TANN				*ep*PKPdf	pPKPdf	17 28 19.8	-1.2
NKC	Novy Kostel	126.13	331	*e*PKPdf	PKPdf	17 28 03.7	+0.2
NKC				*ep*PKP	pPKPdf	17 28 19.8	-1.4
NKC	Novy Kostel	126.13	331	*e*PKIKP	PKPdf	17 28 03.7	+0.2
NKC				*e*		17 28 19.8	
FNA	Florina	126.21	317	*e*P	PKPdf	17 28 02.8	-1.2
MOX	Moxa	126.25	332	*e*PKPdf	PKPdf	17 28 03.8	+0.1
MOX				*ep*PKPdf	pPKPdf	17 28 20.1	-1.3
KHC	Kasperske Hory	126.29	329	*e*PKPdf	PKPdf	17 28 02.0	-1.9
KHC				*ep*PKP	pPKPdf	17 28 19.5	-2.1
KHC	Kasperske Hory	126.29	329	*e*PKIKP	PKPdf	17 28 02.0	-1.9
KHC				*e*		17 28 19.5	
VAM	Vamos	126.33	310	*e*P	PKPdf	17 28 03.1	-1.2
OTAV	Otavalo	126.41	94	*e*PKPdf	PKPdf	17 28 06.8	+1.2
GEC2	GERESS Array S	126.41	329	*e*PKPdf	PKPdf	17 28 04.2	0.0
GEC2				*ep*PKPdf	pPKPdf	17 28 20.3	-1.6
GERES	GERESS Array B	126.41	329	PKP	PKPdf	17 28 03.8	-0.4
	comp=Z,2.6nm,0.5s,baz=48,slow=2.0,SNR=14						
GERES				pPKP	pPKPdf	17 28 20.9	-1.0
	comp=Z,2.8nm,0.6s,baz=48,slow=2.0,SNR=5.3						
DSF	Desfina	126.43	314	*e*P	PKPdf	17 28 03.1	-1.4
MAKR	Makrakomi, Fth	126.46	315	*e*P	PKPdf	17 28 03.9	-0.6
ROTZ	Rotzenmuhle	126.56	331	*e*PKPdf	pPKPdf	17 28 20.7	-1.4
WET	Wettzell	126.63	330	*e*PKPdf	PKPdf	17 28 04.9	+0.4
WET				*ep*PKPdf	pPKPdf	17 28 21.1	-1.1
KALE	Kalithea	126.71	314	*e*P	PKPdf	17 28 03.8	-1.3
GUR	Goura	126.75	313	*e*P	PKPdf	17 28 04.7	-0.5
IBBN	Ibbenburen	126.78	335	*e*PKPdf	PKPdf	17 28 05.0	+0.4
IBBN				*ep*PKPdf	pPKPdf	17 28 21.2	-1.1
GRF	Grafenberg Arr	127.08	331	*e*PKPdf	PKPdf	17 28 04.9	-0.5
GRF				*ep*PKPdf	pPKPdf	17 28 21.3	-1.8
PDO	Prodromos	127.31	315	*e*P	PKPdf	17 28 05.9	-0.2
RLS	Riolos of Patr	127.33	314	*e*P	PKPdf	17 28 06.2	+0.1
PYL	PYLOS	127.61	312	*e*P	PKPdf	17 28 03.0	-3.7
LVC	Limon Verde	128.39	125	PKP	PKPdf	17 28 08.8	-0.2
	comp=Z,23nm,0.8s,baz=236,slow=1.2,SNR=9.0						
LVC				pPKP	pPKPdf	17 28 26.1	-0.6
	comp=Z,58nm,0.9s,baz=237,slow=3.1,SNR=11						
WTTA	Wattenberg	128.49	329	⇑*i*PKiKP	PKPdf	17 28 07.9	-0.5
	comp=Z,16nm,1.0s						
MOTA	Moosalm	128.71	329	⇑*i*sPKPdf	PKPdf	17 28 04.8	-3.9
	comp=Z,8.4nm,0.9s						
MEM	Membach	128.77	335	PKP	PKPdf	17 28 09.1	+0.6
MEM	Membach	128.77	335	APKP	pPKPdf	17 28 26.0	-0.2
FETA	Feichten	129.12	329	⇑*i*PKPbc	PKPdf	17 28 06.0	-3.5
	comp=Z,15nm,1.0s						
GTBY	Guantanamo Bay	129.62	69	*e*PKPdf	PKPdf	17 28 09.9	-1.1
GIVF	Givet	129.65	335	*e*PKIKP	PKPdf	17 28 08.9	-1.3
	comp=Z,43nm,1.1s						
GIVF	Givet	129.65	335	*e*PKIKP	PKPdf	17 28 08.9	-1.3
GIVF	Givet	129.65	335	*e*PKPdf	PKPdf	17 28 08.9	-1.3
CDF	Champ du Feu	129.84	332	*e*PKIKP	PKPdf	17 28 09.1	-1.6
CDF	Champ du Feu	129.84	332	*e*PKIKP	PKPdf	17 28 09.1	-1.6
CDF	Champ du Feu	129.84	332	*e*PKPdf	PKPdf	17 28 09.1	-1.6
PAGF	Fort de Pagny	130.43	333	*e*PKIKP	PKPdf	17 28 11.1	-0.7
	comp=Z,12nm,1.4s						
PAGF	Fort de Pagny	130.43	333	*e*PKPdf	PKPdf	17 28 11.1	-0.7
HINF	Hinteralfeld	130.46	332	*e*PKIKP	PKPdf	17 28 10.4	-1.5
HINF	Hinteralfeld	130.46	332	*e*PKIKP	PKPdf	17 28 10.4	-1.5
HINF	Hinteralfeld	130.46	332	*e*PKPdf	PKPdf	17 28 10.4	-1.5
HAU	Haudompre	130.56	333	*e*PKIKP	PKPdf	17 28 10.8	-1.2
HAU	Haudompre	130.56	333	*e*PKIKP	PKPdf	17 28 10.8	-1.2
HAU	Haudompre	130.56	333	*e*PKPdf	PKPdf	17 28 10.8	-1.2
MEZF	Maizieres J'vi	130.77	334	*e*PKIKP	PKPdf	17 28 11.7	-0.7
MEZF	Maizieres J'vi	130.77	334	*e*PKPdf	PKPdf	17 28 11.7	-0.7
ROSC	El Rosal	130.97	89	PKP	PKPdf	17 28 14.5	+0.2
	comp=Z,25nm,0.5s,baz=45,slow=2.9,SNR=11						
ROSC				pPKP	pPKPdf	17 28 31.6	-0.3
	comp=Z,32nm,0.7s,baz=137,slow=2.9,SNR=4.7						
ROSC	El Rosal	130.97	89	*e*PKPdf	PKPdf	17 28 14.4	+0.2
ROSC				PKP	PKPdf	17 28 14.5	+0.2
ROSC				*ep*PKPdf	pPKPdf	17 28 31.2	-0.8
ROSC				pPKP		17 28 31.6	
CABF	La Chapelle	131.69	331	*e*PKIKP	PKPdf	17 28 13.6	-0.7
	comp=Z,16nm,0.8s						
CABF	La Chapelle	131.69	331	*e*PKIKP	PKPdf	17 28 13.6	-0.7
CABF	La Chapelle	131.69	331	*e*PKPdf	PKPdf	17 28 13.6	-0.7
LPL	La Plagne	132.16	330	*e*PKIKP	PKPdf	17 28 14.6	-0.8
	comp=Z,6.1nm,0.7s						
LPL	La Plagne	132.16	330	*e*PKIKP	PKPdf	17 28 14.6	-0.8
LPL	La Plagne	132.16	330	*e*PKPdf	PKPdf	17 28 14.6	-0.8
LPG	La Plagne	132.17	330	*e*PKIKP	PKPdf	17 28 14.7	-0.8
	comp=Z,5.3nm,0.6s						
LPG	La Plagne	132.17	330	*e*PKIKP	PKPdf	17 28 14.7	-0.8
LPG	La Plagne	132.17	330	*e*PKPdf	PKPdf	17 28 14.7	-0.8
LOR	Lormes	132.23	334	*e*PKIKP	PKPdf	17 28 14.2	-1.0
LOR	Lormes	132.23	334	*e*PKIKP	PKPdf	17 28 14.2	-1.0
LOR	Lormes	132.23	334	*e*PKPdf	PKPdf	17 28 14.2	-1.0
SSF	Saint Saulge	132.54	334	*e*PKIKP	PKPdf	17 28 15.1	-0.7
	comp=Z,19nm,0.9s						
SSF	Saint Saulge	132.54	334	*e*PKIKP	PKPdf	17 28 15.1	-0.7
SSF	Saint Saulge	132.54	334	*e*PKPdf	PKPdf	17 28 15.1	-0.7
MBDF	Montbardon	132.70	329	*e*PKIKP	PKPdf	17 28 15.6	-0.8
	comp=Z,7.5nm,0.6s						
MBDF	Montbardon	132.70	329	*e*PKIKP	PKPdf	17 28 15.6	-0.8
MBDF	Montbardon	132.70	329	*e*PKPdf	PKPdf	17 28 15.6	-0.8
SMF	Signal de Mont	132.71	333	*e*PKIKP	PKPdf	17 28 15.1	-1.0
	comp=Z,20nm,1.0s						
SMF	Signal de Mont	132.71	333	*e*PKIKP	PKPdf	17 28 15.1	-1.0
SMF	Signal de Mont	132.71	333	*e*PKPdf	PKPdf	17 28 15.1	-1.0
FLN	La Foliniere	132.81	338	*e*PKIKP	PKPdf	17 28 15.1	-1.1
	comp=Z,53nm,1.1s						
FLN	La Foliniere	132.81	338	*e*PKIKP	PKPdf	17 28 15.1	-1.1
FLN	La Foliniere	132.81	338	*e*PKPdf	PKPdf	17 28 15.1	-1.1
AVF	Avril sur Loir	132.82	334	*e*PKIKP	PKPdf	17 28 15.3	-1.0
	comp=Z,11nm,0.9s						
AVF	Avril sur Loir	132.82	334	*e*PKIKP	PKPdf	17 28 15.3	-1.0
AVF	Avril sur Loir	132.82	334	*e*PKPdf	PKPdf	17 28 15.3	-1.0
SBF	Sospel	132.95	328	*e*PKIKP	PKPdf	17 28 15.9	-0.9
	comp=Z,32nm,0.8s						
SBF	Sospel	132.95	328	*e*PKIKP	PKPdf	17 28 15.9	-0.9
SBF	Sospel	132.95	328	*e*PKPdf	PKPdf	17 28 15.9	-0.9
PGF	Pioggiola	132.98	326	*e*PKIKP	PKPdf	17 28 15.7	-1.2
PGF	Pioggiola	132.98	326	*e*PKIKP	PKPdf	17 28 15.7	-1.2
PGF	Pioggiola	132.98	326	*e*PKPdf	PKPdf	17 28 15.7	-1.2
ORIF	Oris-en-Rattie	133.01	330	*e*PKIKP	PKPdf	17 28 15.9	-1.0
	comp=Z,15nm,0.9s						
ORIF	Oris-en-Rattie	133.01	330	*e*PKIKP	PKPdf	17 28 15.9	-1.0
ORIF	Oris-en-Rattie	133.01	330	*e*PKPdf	PKPdf	17 28 15.9	-1.0
GRR	Gorron	133.26	338	*e*PKIKP	PKPdf	17 28 16.2	-0.9
GRR	Gorron	133.26	338	*e*PKIKP	PKPdf	17 28 16.2	-0.9
GRR	Gorron	133.26	338	*e*PKPdf	PKPdf	17 28 16.2	-0.9
SDDR	Presa de Saban	133.32	70	*e*PKPdf	PKPdf	17 28 18.0	-0.1
SDDR				*ep*PKPdf	pPKPdf	17 28 35.0	-0.8
VIVF	Saint-Julien-l	133.65	331	*e*PKIKP	PKPdf	17 28 17.2	-0.8
VIVF	Saint-Julien-l	133.65	331	*e*PKIKP	PKPdf	17 28 17.2	-0.8
VIVF	Saint-Julien-l	133.65	331	*e*PKPdf	PKPdf	17 28 17.2	-0.8
TCF	Toulx Ste Croi	133.71	334	*e*PKIKP	PKPdf	17 28 17.2	-0.8
	comp=Z,16nm,1.0s						
TCF	Toulx Ste Croi	133.71	334	*e*PKIKP	PKPdf	17 28 17.2	-0.8
TCF	Toulx Ste Croi	133.71	334	*e*PKPdf	PKPdf	17 28 17.2	-0.8
LMR	La Mourre	133.81	328	*e*PKIKP	PKPdf	17 28 17.3	-1.0
LMR	La Mourre	133.81	328	*e*PKIKP	PKPdf	17 28 17.3	-1.0
LMR	La Mourre	133.81	328	*e*PKPdf	PKPdf	17 28 17.3	-1.0
MFF	Saint Martin d	134.45	336	*e*PKIKP	PKPdf	17 28 18.7	-0.7
	comp=Z,25nm,1.0s						
MFF	Saint Martin d	134.45	336	*e*PKIKP	PKPdf	17 28 18.7	-0.7
MFF	Saint Martin d	134.45	336	*e*PKPdf	PKPdf	17 28 18.7	-0.7
LASF	Ste Croix	134.62	331	*e*PKIKP	PKPdf	17 28 19.3	-0.5
	comp=Z,48nm,1.2s						
LASF	Ste Croix	134.62	331	*e*PKPdf	PKPdf	17 28 19.3	-0.5
RJF	Les Rejaudoux	134.78	334	*e*PKIKP	PKPdf	17 28 19.4	-0.7
RJF	Les Rejaudoux	134.78	334	*e*PKIKP	PKPdf	17 28 19.4	-0.7
RJF	Les Rejaudoux	134.78	334	*e*PKPdf	PKPdf	17 28 19.4	-0.7
CPUP	Villa Florida	134.95	137	PKP	PKPdf	17 28 20.6	-0.3
	comp=Z,1.2nm,0.9s,baz=260,slow=2.6,SNR=7.9						
CPUP				pPKP	pPKPdf	17 28 37.7	-1.0
	comp=Z,2.8nm,0.8s,baz=238,slow=1.3,SNR=11						
IDE	Isla Desecheo	136.99	70	⇑*e*P	PKPdf	17 28 25.2	+0.4
IDE				*e*S	pPKPdf	17 28 41.1	-1.5
LSP	Las Mesas	137.39	70	*e*PKPdf	PKPdf	17 28 26.2	+0.6
LSP				*ep*PKPdf	pPKPdf	17 28 41.8	-1.6
CRPR	Cabo Rojo, PR	137.40	70	*e*PKPdf	PKPdf	17 28 25.0	-0.6
CRPR				*ep*PKPdf	pPKPdf	17 28 41.4	-1.9
CRPR	Cabo Rojo, PR	137.40	70	⇑*e*P	PKPdf	17 28 25.8	+0.2
CRPR	Cabo Rojo, PR	137.40	70	*e*S	pPKPdf	17 28 42.1	-1.2
ETSF	Etsaut	137.59	333	*e*PKIKP	PKPdf	17 28 23.9	-1.6
	comp=Z,26nm,0.9s						
ETSF	Etsaut	137.59	333	*e*PKIKP	PKPdf	17 28 23.9	-1.6
ETSF	Etsaut	137.59	333	*e*PKPdf	PKPdf	17 28 23.9	-1.6
LRS	Lares	137.59	70	*e*PKPdf	PKPdf	17 28 25.6	-0.5
LRS				*ep*PKPdf	pPKPdf	17 28 42.7	-1.1
LRS	Lares	137.59	70	⇓*e*P	PKPdf	17 28 42.0	-0.1
LRS				*e*S	pPKPdf	17 28 42.4	-1.4
GBPR	Guanica, Bosqu	137.62	70	⇓*e*P	PKPdf	17 28 26.5	+0.5
GBPR	Guanica, Bosqu	137.62	70	*e*S	pPKPdf	17 28 42.9	-0.9
AOPR	Arecibo Observ	137.67	70	⇓*e*P	PKPdf	17 28 27.0	+0.9
AOPR	Arecibo Observ	137.67	70	*e*S	pPKPdf	17 28 42.6	-1.3
OBIP	Obispado Ponce	137.86	70	*e*PKPdf	PKPdf	17 28 26.2	-0.3
OBIP				*ep*PKPdf	pPKPdf	17 28 43.3	-1.0
CELP	Cerrillos	137.88	70	*e*PKPdf	PKPdf	17 28 26.9	+0.4
CELP				*ep*PKPdf	pPKPdf	17 28 43.7	-0.6
CELP	Cerrillos	137.88	70	⇓*e*P	PKPdf	17 28 26.7	+0.2
CELP				*e*S	pPKPdf	17 28 43.7	-0.6
SIV	San Ignacio	138.06	122	PKP	PKPdf	17 28 27.0	0.0
	comp=Z,2.7nm,0.7s,baz=307,slow=1.4,SNR=4.7						
SIV				pPKP	pPKPdf	17 28 44.3	-0.4
	comp=Z,6.5nm,0.8s,baz=278,slow=0.5,SNR=6.2						
SAML	Samuel	139.12	111	*e*PKPpre	PKPpre	17 28 17.2	
SAML				*e*PKPdf	PKPdf	17 28 28.3	-0.6
SAML				*ep*PKP	pPKPdf	17 28 45.2	-1.5
CDVI	St. Croix	139.64	70	*e*PKPdf	PKPdf	17 28 29.9	+0.1
CDVI				*ep*PKPdf	pPKPdf	17 28 46.6	-0.9
ESDC	Sonseca Array	141.71	333	PKP	PKPdf	17 28 33.5	+0.4
	comp=Z,0.3nm,0.4s,baz=338,slow=3.7,SNR=3.4						
POLO	Lamas de Olo	141.81	339	PKPdf	PKPdf	17 28 33.1	-0.1
PVIS	Viseu	142.42	338	PKPdf	PKPdf	17 28 29.5	-4.8
MTE	Manteigas	142.57	338	PKPdf	PKPdf	17 28 35.3	+0.8
ECG	Echelle	142.89	72	*e*P	PKPdf	17 28 34.8	-1.0
PHG	Guadaloupe-2	142.91	72	*e*P	PKPdf	17 28 32.5	-3.3
PCBR	Castelo Branco	143.03	337	PKPdf	PKPdf	17 28 35.3	0.0
PMRV	Marv??o	143.35	337	PKPdf	PKPbc	17 28 32.8	-0.3
PTOM	Tomar	143.57	338	PKPdf	PKPbc	17 28 33.5	-0.2
PESTR	Estremoz	143.91	337	PKPdf	PKPdf	17 28 35.9	-1.0
PMTG	Montargil	143.99	337	PKPdf	PKPdf	17 28 36.8	-0.2
PBAR	Barrancos	144.28	335	PKPdf	PKPab	17 28 35.4	-0.1
EVO	Evora	144.37	337	*e*PKIKP	PKPab	17 28 35.0	-0.8
	comp=Z,42nm,1.1s						
EVO	Evora	144.37	337	PKPdf	PKPab	17 28 35.8	0.0
EVOP	Sao Brissos	144.41	337	*e*PKIKP	PKPab	17 28 35.0	-1.0
EVOP	Sao Brissos	144.41	337	*e*PKPdf	PKPab	17 28 35.0	-1.0
PACT	Alcochete	144.48	338	PKPdf	PKPdf	17 28 38.5	+0.7
PNCL	Nicolau / Gran	144.93	337	PKPdf	PKPbc	17 28 37.9	0.0
MESJ	Messejana	145.05	336	*e*P	PKPab	17 28 38.5	+0.2
MESJ	Messejana	145.05	336	PKPdf	PKPab	17 28 38.5	+0.2
PVAQ	Vaqueiros	145.22	335	PKPdf	PKPab	17 28 39.0	0.0
PBDV	Barranco-do-Ve	145.44	335	PKPdf	PKPdf	17 28 39.6	0.0
PTEO	Sao Teotonio	145.50	337	PKPdf	PKPbc	17 28 39.7	0.0
MORF	Marmelete	145.68	336	*e*P	PKPdf	17 28 39.8	-0.2
MORF	Marmelete	145.68	336	PKPdf	PKPdf	17 28 39.8	-0.2
PFVI	Vila Bisbo	145.90	336	PKPdf	PKPdf	17 28 39.9	-0.4
TAM	Tamanrasset	146.25	302	*e*PKP2	PKPdf	17 28 41.8	+0.3
TAM	Tamanrasset	146.25	302	*e*PKPdf	PKPdf	17 28 41.8	+0.3
TAM				*ep*PKPdf	pPKPdf	17 29 01.0	+1.7
BDFB	Brasilia	148.53	134	PKP	PKPdf	17 28 45.7	+0.2
	comp=Z,4.8nm,0.4s,baz=174,slow=2.0,SNR=12						
BDFB				pPKP	pPKPdf	17 29 02.6	-0.6
	comp=Z,33nm,0.8s,baz=268,slow=1.4,SNR=10						
TOA0	Torodi Ar. Sit	152.76	287	*e*PKPdf	PKPdf	17 28 50.3	-1.5
TOA0				*e*PKPbc	PKPbc	17 28 57.9	-1.1
TORD	Torodi Ar. Bea	152.76	287	PKP	PKPdf	17 28 50.8	-1.1
	comp=Z,3.7nm,0.8s,baz=46,slow=1.5,SNR=15						
TORD				PKPbc	PKPbc	17 28 58.1	-0.9
	comp=Z,13nm,0.8s,baz=44,slow=2.6,SNR=56						
TORD				pPKPbc	pPKPbc	17 29 14.5	-2.2
	comp=Z,67nm,0.8s,baz=79,slow=2.5,SNR=29						
KIC	Kosan Boka	159.78	271	*e*P	pPKPdf	17 29 18.9	0.0
	comp=Z,595nm,1.2s						
DBIC	Dimbokro	159.90	272	PKP	PKPdf	17 29 00.1	-1.1
	comp=Z,3.8nm,0.8s,baz=56,slow=3.6,SNR=4.6						
DBIC				pPKP	pPKPdf	17 29 19.1	+0.1
	comp=Z,5.1nm,0.7s,baz=79,slow=4.8,SNR=4.7						
DBIC				PKPab	PKPab	17 29 38.9	-1.9
	comp=Z,21nm,0.9s,baz=70,slow=5.2,SNR=4.8						
DBIC				pPKPab	pPKPab	17 29 56.8	-1.2
	comp=Z,87nm,1.0s,baz=68,slow=5.0,SNR=15						
TIC	Toumodi	160.06	272	*e*P	pPKPdf	17 29 20.1	+0.9
	comp=Z,218nm,1.2s						
LIC	Lamto	160.07	271	*e*PKP2	PKPab	17 29 39.1	-2.4
	comp=Z,70nm,1.0s						
LIC	Lamto	160.07	271	*e*P	pPKPdf	17 29 20.5	+1.3
	comp=Z,335nm,1.2s						

GUC 05 17:10:04.5±0.4, 34°.35S×72°.00W, h43km±2km, ML4.3, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.91**	**136**	⇓*e*P		Pn 17 10 22.1	+1.2
NICH				*e*S		Sn 17 10 35.2	+2.3
TALC	**Talca**	**1.09**	**164**	*e*S		Sn 17 10 39.7	+2.4
RCDM	**Rinconada Maip**	**1.31**	**50**	*e*P		Pn 17 10 27.7	+1.4
RCDM				*e*S		Sn 17 10 45.5	+2.9
SAN	**Santiago**	**1.42**	**52**	*e*P		Pn 17 10 29.8	+1.8
SAN				*e*S		Sn 17 10 49.0	+3.5
LACH	**Col Las Americ**	**1.51**	**54**	*e*P		Pn 17 10 31.2	+2.0
LACH				*e*S		Sn 17 10 51.6	+3.9
LNCH	**Linares**	**1.53**	**168**	*e*P		Pn 17 10 31.4	+2.0
SJCH	**San Jose de Ma**	**1.54**	**63**	*e*P		Pn 17 10 31.7	+2.2
SJCH				*e*S		Sn 17 10 52.7	+3.8
CLCH	**Cerro Calan**	**1.54**	**52**	*e*P		Pn 17 10 31.7	+2.1
CLCH				*e*S		Sn 17 10 52.2	+3.7
CLCH				AML	AML	17 11 05.4	
	comp=E,6μm,0.5s						
PEL	**Peldehue**	**1.62**	**43**	*e*P		Pn 17 10 32.8	+2.1
PEL				*e*S		Sn 17 10 54.4	+4.0
PEL				AML	AML	17 11 00.7	
	comp=N,8μm,0.6s						

*IDC **05** 17:16:04.0±1.9, 34°.61S×72°.80W, h0km, mb3.7/1, mb1 4.0/2, mb1mx3.7/22, mbtmp3.9/2, ML4.2/1, Error

MSZ	**Milford Sound**	**1.06**	**64**	Pn		**Pn**	17 32 57.3	+0.7
MSZ				S*		**Sb**	**17 33 09.6**	**-0.4**
MLZ	**Mavora Lakes**	**1.13**	**101**	P*		**Pg**	**17 32 58.1**	**+0.4**
MLZ				S*		**Sb**	**17 33 11.0**	**-1.1**
MLZ				AML	AML		17 33 14.2	
MLZ	**Mavora Lakes**	**1.13**	**101**	Pn		**Pg**	**17 32 58.1**	**+0.4**
WHZ	**Wether Hill Ro**	**1.21**	**128**	P*		**Pg**	**17 32 59.8**	**+0.7**
WHZ				S*		**Sg**	**17 33 14.8**	**-0.1**
WHZ				AML	AML		17 33 16.4	
WHZ	**Wether Hill Ro**	**1.21**	**128**	Pn		**Pg**	**17 32 59.8**	**+0.7**
WKZ	**Wanaka**	**1.75**	**80**	PN		**Pb**	**17 33 08.3**	**+0.3**
WKZ				AML	AML		17 33 31.8	
WKZ				AML	AML		17 33 31.9	
WKZ				AML	AML		17 33 35.5	
WKZ				AML	AML		17 33 35.6	
WKZ	**Wanaka**	**1.75**	**80**	Pn		**Pg**	**17 33 09.1**	**-0.4**
JCZ	**Jackson Bay**	**1.88**	**56**	PN		**Pb**	**17 33 09.8**	**-0.5**
JCZ				AML	AML		17 33 29.8	
JCZ				AML	AML		17 33 32.8	
JCZ	**Jackson Bay**	**1.88**	**56**	Pn		**Pg**	**17 33 13.3**	**+1.2**
EAZ	**Earnscleugh**	**1.92**	**93**	PN		**Pb**	**17 33 10.9**	**0.0**
EAZ				AML	AML		17 33 34.2	
EAZ				AML	AML		17 33 34.2	
EAZ				AML	AML		17 33 35.1	
EAZ				AML	AML		17 33 35.6	
EAZ	**Earnscleugh**	**1.92**	**93**	Pn		**Pb**	**17 33 10.9**	**0.0**
APZ	**The Paps**	**1.94**	**150**	PN		**Pb**	**17 33 11.2**	**-0.1**
APZ				SN		**Sn**	**17 33 33.5**	**+0.4**
APZ				AML	AML		17 33 36.7	
APZ	**The Paps**	**1.94**	**150**	Pn		**Pb**	**17 33 11.2**	**-0.1**
SYZ	**Scrubby Hill**	**2.26**	**129**	PN		**Pb**	**17 33 15.1**	**-1.5**
SYZ				AML	AML		17 33 41.9	
SYZ				AML	AML		17 33 41.9	
SYZ				AML	AML		17 33 46.0	
SYZ				AML	AML		17 33 46.1	
SYZ	**Scrubby Hill**	**2.26**	**129**	Pn		**Pb**	**17 33 15.1**	**-1.5**
TUZ	**Tuapeka**	**2.28**	**112**	PN		**Pb**	**17 33 16.2**	**-0.8**
LBZ	**Lake Benmore**	**2.67**	**75**	PN		**Pn**	**17 33 20.0**	**+1.2**
LBZ				AML	AML		17 34 11.3	
LBZ				AML	AML		17 34 11.3	
LBZ				AML	AML		17 34 19.8	
LBZ				AML	AML		17 34 19.8	
LBZ	**Lake Benmore**	**2.67**	**75**	Pn		**Pn**	**17 33 20.0**	**+1.2**
ODZ	**Otahua Downs**	**2.87**	**89**	PN		**Pn**	**17 33 22.9**	**+1.4**
ODZ	**Otahua Downs**	**2.87**	**89**	Pn		**Pn**	**17 33 22.9**	**+1.4**
HHSZ	**Highcliff Hill**	**2.91**	**106**	PN		**Pn**	**17 33 23.7**	**+1.7**
HHSZ	**Highcliff Hill**	**2.91**	**106**	Pn		**Pn**	**17 33 23.7**	**+1.7**
RPZ	**Rata Peaks**	**3.50**	**67**	PN		**Pn**	**17 33 32.4**	**+2.2**
RPZ				AML	AML		17 34 32.0	
RPZ				AML	AML		17 34 42.7	
RPZ	**Rata Peaks**	**3.50**	**67**	Pg		**Pn**	**17 33 30.0**	**-0.2**
RPZ				Pn		**Pn**	**17 33 32.4**	**+2.2**
RPZ				Lg	Lg		17 34 10.5	
RPZ	**Rata Peaks**	**3.50**	**67**	Pg		**Pn**	**17 33 30.0**	**-0.2**
	44nm,0.3s,baz=227,slow=6.1,SNR=65							
RPZ				Lg	Lg		17 34 10.5	
	35nm,0.3s,baz=54,slow=17,SNR=10							
WVZ	**Waitaha Valley**	**3.63**	**57**	PN		**Pn**	**17 33 35.0**	**+3.0**
WVZ				AML	AML		17 34 42.3	
WVZ	**Waitaha Valley**	**3.63**	**57**	Pn		**Pn**	**17 33 31.9**	**0.0**
CRLZ	**Canterbury Las**	**4.60**	**72**	AML	AML		17 35 08.1	
CRLZ				AML	AML		17 35 15.7	
THZ	**Tophouse**	**5.71**	**56**	AML	AML		17 35 05.0	
THZ				AML	AML		17 35 06.7	
KHZ	**Kahutara**	**5.72**	**64**	*eP*		**Pn**	**17 34 02.0**	**+1.3**
TUWZ	**Tuamarina**	**6.52**	**58**	AML	AML		17 35 29.1	
TCW	**Tory Channel**	**6.86**	**58**	PN		**Pn**	**17 34 19.0**	**+2.8**
TCW				AML	AML		17 35 37.0	
TCW	**Tory Channel**	**6.86**	**58**	Pn		**Pn**	**17 34 19.0**	**+2.8**
DUWZ	**D'Urville Isla**	**6.91**	**54**	PN		**Pn**	**17 34 17.6**	**+0.6**
KIW	**Kapiti Island**	**7.45**	**58**	PN		**Pn**	**17 34 25.7**	**+1.3**
KIW	**Kapiti Island**	**7.45**	**58**	Pn		**Pn**	**17 34 25.7**	**+1.3**
OGWZ	**Otaki Gorge**	**7.63**	**58**	Pn		Pn	17 34 30.8	+3.9
KHEZ	**Kahui Hut**	**8.03**	**46**	PN		**Pn**	**17 34 32.8**	**+0.3**
NEZ	**North Egmont**	**8.09**	**46**	PN		**Pn**	**17 34 33.9**	**+0.6**
NEZ	**North Egmont**	**8.09**	**46**	Pn		**Pn**	**17 34 33.9**	**+0.6**
WAZ	**Wanganui**	**8.22**	**52**	PN		**Pn**	**17 34 36.7**	**+1.8**
WAZ	**Wanganui**	**8.22**	**52**	Pn		**Pn**	**17 34 36.7**	**+1.8**
MHEZ	**Mangahewa**	**8.35**	**46**	PN		**Pn**	**17 34 37.6**	**+0.8**
MHEZ	**Mangahewa**	**8.35**	**46**	Pn		**Pn**	**17 34 37.6**	**+0.8**
VRZ	**Vera Road**	**8.54**	**48**	PN		**Pn**	**17 34 40.4**	**+1.0**
VRZ	**Vera Road**	**8.54**	**48**	Pn		**Pn**	**17 34 40.4**	**+1.0**
PKVZ	**Pokaka**	**8.74**	**51**	PN		**Pn**	**17 34 44.1**	**+1.9**
PKVZ	**Pokaka**	**8.74**	**51**	Pn		**Pn**	**17 34 44.1**	**+1.9**
TRVZ	**Turoa**	**8.85**	**52**	PN		**Pn**	**17 34 45.6**	**+1.8**
TRVZ	**Turoa**	**8.85**	**52**	Pn		**Pn**	**17 34 45.6**	**+1.8**
WTAZ	**Waiatarua**	**10.18**	**39**	PN		**Pn**	**17 35 02.2**	**+0.4**
WTAZ	**Waiatarua**	**10.18**	**39**	Pn		**Pn**	**17 35 02.2**	**+0.4**
URZ	**Urewera**	**10.44**	**52**	Pn		Pn	17 34 56.9	-8.5
	0.0nm,0.3s,baz=256,slow=12,SNR=2.0							
URZ				Sn		Sn	17 36 50.5	-12
	0.6nm,0.3s,baz=103,slow=18,SNR=3.4							
WCZ	**Waipu Caves**	**10.92**	**35**	PN		**Pn**	**17 35 11.9**	**-0.1**
WCZ	**Waipu Caves**	**10.92**	**35**	Pn		**Pn**	**17 35 11.9**	**-0.1**
OUZ	**Omahuta**	**11.27**	**31**	PN		**Pn**	**17 35 17.3**	**+0.6**
OUZ	**Omahuta**	**11.27**	**31**	Pn		**Pn**	**17 35 16.3**	**-0.4**
MOO	**Moorlands**	**14.27**	**274**	P		**Pn**	**17 35 59.1**	**+1.3**
	baz=14,SNR=8.6							
MILA	**Mila**	**15.41**	**296**	P		**Pn**	**17 36 13.3**	**+0.1**
	baz=16,SNR=15							
MILA				S		Sn	17 38 52.8	-11
	baz=16,SNR=5.7							
TOO	**Toolangi**	**17.53**	**288**	P		**P**	**17 36 43.7**	**+2.5**
	baz=18,SNR=23							
RMQ	**Roma**	**23.49**	**316**	P		**P**	**17 37 48.4**	**+2.8**
	baz=24,SNR=6.2							
STKA	**Stephens Creek**	**23.51**	**296**	P		**P**	**17 37 43.8**	**-1.9**
	2.9nm,1.1s,baz=122,slow=12,SNR=2.2							
ASAR	**Alice Springs**	**34.10**	**298**	P		**P**	**17 39 17.7**	**-2.8**
	0.5nm,0.9s,baz=129,slow=7.1,SNR=4.0							
WRA	**Warramunga Arr**	**36.63**	**303**	P		**P**	**17 39 40.0**	**-2.2**
	2.0nm,0.9s,baz=138,slow=7.8,SNR=8.0							
WRKA	**Warakurna**	**36.76**	**290**	P		**P**	**17 39 44.6**	**+1.2**
	baz=37,SNR=3.3							
H01W1	**Cape Leeuwin H**	**40.80**	**266**	T		T	18 23 53.6	
	baz=121,slow=76,SNR=28							
H01W2	**Cape Leeuwin H**	**40.81**	**266**	T		T	18 23 54.4	
	baz=121,slow=76,SNR=34							
H01W3	**Cape Leeuwin H**	**40.81**	**266**	T		T	18 23 54.9	
	baz=121,slow=76,SNR=27							
QSPA	**South Pole Qui**	**44.97**	**180**	P		**P**	**17 40 52.4**	**+1.7**
	3.4nm,0.7s,baz=359,slow=3.7,SNR=10							
SNAA	**Sanae**	**63.24**	**184**	P		**P**	**17 43 01.4**	**-2.3**
VNA3	**Neumayer Olymp**	**63.88**	**181**	P		P	17 42 56.6	-11
VNA2	**Neumayer--Watz**	**64.15**	**182**	P		**P**	**17 43 10.4**	**+0.7**
	baz=158,slow=3.9							
PLCA	**Paso Flores**	**80.35**	**140**	P		**P**	**17 44 47.4**	**+0.3**
	3.8nm,1.1s,baz=256,slow=4.2,SNR=3.3							
CMAR	**Chiang Mai Arr**	**88.11**	**299**	P		**P**	**17 45 26.5**	**0.0**
	0.4nm,0.9s,baz=134,slow=2.6,SNR=2.9							
BR131	**Keskin Array S**	**145.25**	**278**	*e*PKPdf		**PKPdf**	**17 52 13.4**	**+0.2**
BRTR	**Keskin Array B**	**145.25**	**278**	PKPbc		**PKPbc**	**17 52 12.2**	**-0.8**
	3.4nm,0.8s,baz=122,slow=3.8,SNR=25							
TORD	**Torodi Ar. Bea**	**145.61**	**207**	PKPbc		**PKPdf**	**17 52 14.0**	**-0.4**
	15nm,0.7s,baz=150,slow=2.1,SNR=86							
ARCES	**ARCESS Array B**	**148.77**	**335**	PKPbc		**PKPdf**	**17 52 19.5**	**+1.4**
	1.7nm,0.6s,baz=66,slow=2.9,SNR=11							
AKASG	**Malin Array Be**	**151.21**	**297**	PKP		**PKPdf**	**17 52 20.8**	**-1.6**
	0.2nm,0.3s,baz=78,slow=2.7,SNR=4.7							
AKASG				PKPbc		**PKPbc**	**17 52 27.1**	**-1.3**
	2.5nm,0.7s,baz=78,slow=2.5,SNR=18							
FINES	**FINESS Array B**	**151.90**	**320**	PKPbc		**PKPbc**	**17 52 27.9**	**-1.6**
	2.7nm,0.7s,baz=109,slow=3.9,SNR=15							
FINES				PKPab		**PKPab**	**17 52 36.0**	**-2.9**
	0.7nm,0.6s,baz=76,slow=5.9,SNR=3.8							

GUC 05 17:33:37.6±0.4, 33°90'S×72°50'W, h79km±18km, ML3.5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
RCDM	**Rinconada Maip**	**1.47**	**74**	*e*P		Pn	17 34 02.1	-0.4
RCDM				*e*S		Sn	17 34 20.7	-0.6
NICH	**Los Niches**	**1.52**	**137**	*e*P		Pn	17 34 02.9	-0.2
NICH				*e*S		Sn	17 34 22.2	-0.2
ROCH	**El Roble**	**1.55**	**54**	*e*P		Pn	17 34 04.0	+0.2
ROCH				*e*S		Sn	17 34 23.5	-0.1
ROCH				AMP			17 34 38.2	
	comp=N,595nm,0.5s							
TALC	**Talca**	**1.66**	**155**	*e*P		Pn	17 34 04.5	-0.3
TALC				*e*S		Sn	17 34 25.2	-0.4
PEL	**Peldehue**	**1.69**	**64**	*e*P		Pn	17 34 07.9	+2.5
PEL				*e*S		Sn	17 34 28.9	+2.4
PEL				AML	AML		17 34 38.9	
	comp=N,2μm,0.3s							
CLCH	**Cerro Calan**	**1.71**	**73**	*e*P		Pn	17 34 05.4	-0.3
CLCH				*e*S		Sn	17 34 26.8	-0.2
CLCH				AML	AML		17 34 39.5	
	comp=E,368nm,1.0s							

SKHL 05 17:39:10.3±0.7, 44°13'N×148°69'E, h35km±5km, mb3.9/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**1.25**	**332**	*i* P		Pn	17 39 30.9	-0.3
KUR				AMB	AMB		17 39 31.0	
	20nm,0.7s							
KUR				AMB	AMB		17 39 31.0	
	50nm,0.7s							
KUR				*e*S		Sn	17 39 46.8	0.0
KUR				A	A		17 39 48.5	
	80nm,0.5s							
SHO	**Shikotan**	**1.37**	**260**	*e*P		Pn	17 39 32.5	-0.4
SHO				AMB	AMB		17 39 37.8	
	160nm,1.1s							
SHO				*e*S		Sn	17 39 48.6	-1.1
YUK	**Yuzh-Kuril'sk**	**2.04**	**268**	*i* P		Pn	17 39 42.3	+0.2
YUK				AMB	AMB		17 39 44.7	
	10.0nm,0.2s							
YUK				AMB	AMB		17 39 44.7	
	20nm,0.2s							
YUK				*e*S		Sn	17 40 06.4	+0.1
YUK				A	A		17 40 11.7	
	30nm,0.2s							
YUK				A	A		17 40 11.7	
	10.0nm,0.2s							

IDC 05 17:41:57.8±10.0, 18°38S×178°31W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/31, mbtmp4.0/4, Error ellipse: s-maj=254.5km s-min=43.7km az=116.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**38.49**	**242**	P		P	17 49 22.1	+0.3
	3.5nm,0.9s,baz=74,slow=6.9,SNR=3.8							
WRA	**Warramunga Arr**	**44.64**	**260**	P		P	17 50 12.2	-0.2
	0.7nm,0.3s,baz=97,slow=7.5,SNR=31							
ASAR	**Alice Springs**	**44.76**	**255**	P		P	17 50 13.1	-0.3
	1.4nm,0.5s,baz=87,slow=7.9,SNR=44							
MJAR	**Matsushiro Arr**	**68.34**	**323**	P		P	17 53 00.9	-0.2
	0.3nm,0.4s,baz=154,slow=5.9,SNR=5.2							

*IDC **05** 17:46:00.2±2.3, 3°91S×101°09E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/33, mbtmp3.7/7, Error ellipse: s-maj=80.8km s-min=19.5km az=57.0*

*DJA **05** 17:46:14.0±1.4, 4°S±5°×107°1E±°, h39km±23km, M3.6/5, MLv3.6/5*

ISC 05 17:46:04.3±1.2, 4°1S±0°1×101°04E±0°09, h34km, n14, σ1s30/16, mb3.8/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MASI	**Maura Aman, Be**	**1.50**	**53**	P		**Pb**	**17 46 31.5**	**-0.1**
MNAI	**Manna**	**1.93**	**99**	P		**Pb**	**17 46 39.6**	**+0.7**
MNAI				S		**Sb**	**17 47 01.5**	**-1.2**
LHSI	**Lahat**	**2.48**	**85**	P		**Pb**	**17 46 47.7**	**-0.6**
LHSI				S		**Sn**	**17 47 12.7**	**+1.2**
SDSI	**Sungai Dareh**	**3.13**	**7**	P		Pb	17 47 07.1	+7.8
LWLI	**Liwa**	**3.15**	**108**	P		**Pb**	**17 46 58.8**	**-1.0**
MDSI	**Maura Dua**	**3.15**	**98**	P		**Pb**	**17 46 56.7**	**-3.0**
MDSI				S		**Sn**	**17 47 30.0**	**+1.9**
CMAR	**Chiang Mai Arr**	**22.47**	**355**	P		**P**	**17 50 59.4**	**-1.4**
	1.4nm,0.8s,baz=184,slow=9.0,SNR=11							
WRA	**Warramunga Arr**	**36.08**	**119**	P		**P**	**17 53 04.1**	**+0.9**
	0.6nm,0.8s,baz=301,slow=8.9,SNR=3.6							
ASAR	**Alice Springs**	**37.22**	**125**	P		**P**	**17 53 13.6**	**+0.7**
	0.5nm,0.9s,baz=298,slow=7.8,SNR=3.9							
SONM	**Songino Array**	**51.89**	**5**	P		**P**	**17 55 09.6**	**0.0**
	1.5nm,0.8s,baz=185,slow=9.3,SNR=11							
MJAR	**Matsushiro Arr**	**53.24**	**37**	P		**P**	**17 55 19.7**	**0.0**
	0.7nm,0.6s,baz=213,slow=7.2,SNR=5.8							
MKAR	**Makanchi Array**	**53.28**	**344**	P		**P**	**17 55 19.7**	**-0.1**
	0.9nm,0.7s,baz=183,slow=7.0,SNR=13							
ZALV	**Zalesovo Beam**	**59.37**	**349**	P		**P**	**17 56 02.9**	**-0.2**
	1.8nm,0.7s,baz=182,slow=4.2,SNR=11							
TXAR	**Lajitas Array**	**145.64**	**40**	PKPbc		**PKPbc**	**18 05 41.4**	**+1.1**
	1.9nm,0.7s,baz=270,slow=1.3,SNR=20							

*IDC **05** 17:49:01.3±0.5, 56°72S×147°82E, h0km, mb4.7/15, mb1 4.8/15, mb1mx4.8/16, mbtmp4.7/15, MS4.8/7, Ms1 4.8/7, ms1mx4.7/15, Error ellipse: s-maj=24.7km s-min=13.7km az=85.0*

*MOS **05** 17:49:02.7±1.5, 56°71S×147°51E, h10km, mb5.2/13, Error ellipse: s-maj=41.4km s-min=9.7km az=92.9*

*ISCJB **05** 17:49:02.3±0.3, 56°69S±0°05×147°8E±0°2, h10km, mb5.0/38, MS4.9/8, Error ellipse: s-maj=12.6km s-min=7.0km az=172.5*

*NEIC **05** 17:49:03.1±0.2, 56°78S×147°62E, h10km, mb5.2/19, Error ellipse: s-maj=10.9km s-min=6.2km az=85.0*

*GCMT **05** 17:49:03.1±0.3, 56°72S×147°33E, h12km, MW5.4/69, Moment Tensor Solution. s9,c9; s69,c96; Duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.44±.08; $M_{\theta\theta}$0.62±.07; $M_{\phi\phi}$-0.18±.08; $M_{r\theta}$-0.68±.20; $M_{\theta\phi}$-1.28±.05; $M_{\phi r}$0.25±.24; Best double couple: $M_0$1.48600×10^{17} NP1:ϕ_s83.00000°, δ89.00000°, λ-154.00000°. NP2: ϕ_s353.00000°, δ64.00000°, λ-1.00000°. Principal axes: T 1.7790, Plg17.0000°, Azm215.0000°; N -0.5860, Plg64.0000°, Azm86.0000°; P -1.1930, Plg19.0000°, Azm311.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **05** 17:49:04.9, 56°85S×147°39E, h26km, mb5.3/6, mB5.6/4, Ms5.3/2, Ms7 5.0/1*

*AWI **05** 17:49:19.3, 58°41S×146°87E*

ISC 05 17:49:04.5±0.6, 56°77S±0°06×147°7E±0°1, h17km±3km, h16km:pP-P, n175, σ1s35/176, mb5.1/38, MS4.9/8, 19C-17D, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
TAU	**Tasmania Unive**	**13.88**	**359**	*e*P		**Pn**	**17 52 21.5**	**+1.2**
TAU				pmax		pmax		
	comp=Z,147nm,1.0s							
TAU	**Tasmania Unive**	**13.88**	**359**	*e*P		**Pn**	**17 52 21.5**	**+1.2**
	comp=Z,147nm,1.0s							
RPZ	**Rata Peaks**	**19.70**	**58**	P		**Pn**	**17 53 34.2**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=182,slow=10,SNR=4.4							
RPZ				LR		LR	17 59 33.8	
	comp=Z,6μm,19.6s,baz=227,slow=32							
CASY	**Casey**	**19.81**	**226**	*e*P		**P**	**17 53 31.5**	**-2.3**
	comp=Z,170nm,1.7s							
VNDA	**Vanda**	**21.41**	**172**	P		**P**	**17 53 49.0**	**-2.0**
	comp=Z,1.9nm,0.8s,baz=328,slow=10,SNR=7.6							
VNDA	**Vanda**	**21.41**	**172**	*e*P		**P**	**17 53 48.8**	**-2.3**
VNDA				pmax		pmax		
	comp=Z,110nm,1.6s							
VNDA	**Vanda**	**21.41**	**172**	*e*P		**P**	**17 53 48.8**	**-2.3**
	comp=Z,110nm,1.6s							
SBA	**Scott Base**	**22.16**	**169**	*e*P		**P**	**17 53 59.6**	**+0.5**
SBA				pmax		pmax		
	comp=Z,163nm,1.8s							
SBA	**Scott Base**	**22.16**	**169**	*e*P		**P**	**17 53 59.6**	**+0.5**
	comp=Z,163nm,1.8s							
STKA	**Stephens Creek**	**25.26**	**348**	P		**P**	**17 54 28.8**	**-0.8**
	comp=Z,63nm,0.9s,baz=166,slow=7.2,SNR=36							
STKA	**Stephens Creek**	**25.26**	**348**	*e*P		**P**	**17 54 29.9**	**+0.3**
STKA				pmax		pmax		
	comp=Z,24nm,1.1s							
STKA	**Stephens Creek**	**25.26**	**348**	*e*P		**P**	**17 54 29.9**	**+0.3**
	comp=Z,24nm,1.1s							
BBOO	**Buckleboo**	**25.28**	**336**	*e*P		**P**	**17 54 29.7**	**-0.1**
	comp=Z,57nm,1.0s							
URZ	**Urewera**	**26.81**	**59**	P		**P**	**17 54 42.4**	**-1.2**
	comp=Z,49nm,1.1s,baz=235,slow=7.2,SNR=10							
URZ				LR		LR	18 04 33.0	
	comp=Z,1μm,20.3s,baz=212,slow=35							
URZ	**Urewera**	**26.81**	**59**	*e*P		**P**	**17 54 42.4**	**-1.2**
	comp=Z,92nm,1.2s							
FORT	**Forrest**	**29.40**	**324**	*e*P		**P**	**17 55 05.3**	**-1.5**
	comp=Z,79nm,1.0s							
H01W1	**Cape Leeuwin H**	**31.53**	**300**	T		T	18 28 31.6	
	baz=143,slow=75,SNR=2.3							
H01W2	**Cape Leeuwin H**	**31.53**	**300**	T		T	18 28 32.8	
	baz=143,slow=75,SNR=206							
H01W3	**Cape Leeuwin H**	**31.54**	**300**	T		T	18 28 33.4	
	baz=143,slow=75,SNR=11							
QSPA	**South Pole Qui**	**33.33**	**180**	P		**P**	**17 55 40.6**	**-0.7**
	comp=Z,11nm,1.2s,baz=349,slow=4.0,SNR=8.7							
ASAR	**Alice Springs**	**34.58**	**337**	P		**P**	**17 55 51.1**	**-1.3**
	comp=Z,10nm,0.9s,baz=166,slow=9.1,SNR=44							
ASAR				PcP		**PcP**	**17 58 25.7**	**-1.0**
	comp=Z,7.1nm,1.1s,baz=158,slow=3.6,SNR=6.8							
ASAR				LR		LR	18 09 12.0	
	comp=Z,1μm,18.2s,baz=225,slow=35							
AS31	**Alice Springs**	**34.58**	**337**	*e*P		**P**	**17 55 51.7**	**-0.6**
CTAO	**Charters Tower**	**36.65**	**358**	*e*P		**P**	**17 56 09.4**	**-0.6**
CTAO				pmax		pmax		
	comp=Z,63nm,1.1s							
CTAO	**Charters Tower**	**36.65**	**358**	*e*P		**P**	**17 56 09.4**	**-0.6**
	comp=Z,63nm,1.1s							
MAW	**Mawson**	**37.82**	**218**	P		**P**	**17 56 19.7**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=107,slow=8.6,SNR=3.1							
MAW				LR		LR	18 10 23.7	
	comp=Z,3μm,20.2s,baz=94,slow=34							
WRA	**Warramunga Arr**	**38.11**	**339**	P		**P**	**17 56 21.1**	**-1.3**
	comp=Z,29nm,1.0s,baz=167,slow=7.1,SNR=60							
WRA				PcP		**PcP**	**17 58 36.1**	**-1.1**
	comp=Z,6.2nm,1.0s,baz=167,slow=2.7,SNR=5.4							
WRA				LR		LR	18 10 15.4	
	comp=Z,822nm,19.7s,baz=135,slow=34							
WRAB	**Tennant Creek**	**38.11**	**339**	*e*P		**P**	**17 56 20.6**	**-1.9**
WRAB				pmax		pmax		
	comp=Z,42nm,1.0s							
WRAB	**Tennant Creek**	**38.11**	**339**	*e*P		**P**	**17 56 20.6**	**-1.9**
	comp=Z,42nm,1.0s							
MBWA	**Marble Bar**	**41.13**	**318**	*e*P		**P**	**17 56 46.5**	**-1.1**
	comp=Z,103nm,1.5s							
SYO	**Syowa Base**	**44.20**	**209**	‖*e*P		P	17 57 20.5	+8.6
HNR	**Honiara**	**48.18**	**16**	*e*P		**P**	**17 57 44.0**	**+0.2**
HNR				pmax		pmax		
	comp=Z,113nm,1.0s							
HNR	**Honiara**	**48.18**	**16**	*e*P		**P**	**17 57 44.0**	**+0.2**
	comp=Z,113nm,1.0s							
NVL	**N'lazarevskaya**	**48.96**	**198**	*e*P		**P**	**17 57 50.5**	**+1.3**
NVL				pmax		pmax		
	comp=Z,14nm,0.9s							
SNAA	**Sanae**	**50.19**	**192**	P		**P**	**17 58 01.0**	**+2.3**
SNAA	**Sanae**	**50.19**	**192**	P		**P**	**17 57 58.3**	**-0.4**
	comp=Z,4.0nm,1.1s,baz=194,slow=9.8,SNR=3.9							
SNAA	**Sanae**	**50.19**	**192**	*e*P		**P**	**17 57 57.2**	**-1.5**
SNAA				pmax		pmax		
	comp=Z,33nm,1.4s							
SNAA	**Sanae**	**50.19**	**192**	*e*P		**P**	**17 57 57.2**	**-1.5**
	comp=Z,33nm,1.4s							
VNA3	**Neumayer Olymp**	**51.28**	**189**	P		**P**	**17 58 08.2**	**+1.4**
VNA1	**Neumayer--Stat**	**51.73**	**190**	P		**P**	**17 58 13.2**	**+3.1**
FAKI	**Fak Fak**	**55.10**	**341**	*e*P		**P**	**17 58 33.5**	**-2.1**
	comp=Z,38nm,0.9s							
KAPI	**Kappang**	**56.17**	**326**	*e*P		**P**	**17 58 42.5**	**-0.7**
	comp=Z,41nm,1.1s							
KSM	**Kuching**	**65.44**	**318**	⇑P		**P**	**17 59 46.8**	**+0.5**
KSM	**Kuching**	**65.44**	**318**	*e*P		**P**	**17 59 46.4**	**+0.1**
	comp=Z,27nm,1.0s							
TSM	**Tawau**	**65.54**	**327**	⇑P		**P**	**17 59 48.4**	**+1.4**
SBUM	**Sibu**	**65.66**	**320**	⇑P		**P**	**17 59 48.0**	**+0.3**
BTM	**Bintulu**	**66.06**	**322**	⇑P		**P**	**17 59 51.1**	**+0.8**
MYKOM	**Kota Tinggi**	**68.24**	**312**	⇑P		**P**	**18 00 05.3**	**+1.1**
KGM	**Kluang**	**68.67**	**311**	⇑P		**P**	**18 00 07.7**	**+0.9**
GUMO	**Guam**	**70.14**	**357**	LR		LR	18 31 01.8	
	comp=Z,446nm,18.2s,baz=54,slow=36							
FRIM	**Kepong**	**70.48**	**310**	⇑P		**P**	**18 00 18.3**	**+0.3**
GSI	**Gunungsitoli**	**70.51**	**305**	*e*P		**P**	**18 00 19.6**	**+1.4**
	comp=Z,29nm,1.0s							
KTGM	**Kuala Trenggan**	**71.74**	**313**	⇑P		**P**	**18 00 26.1**	**+0.4**
IPM	**Ipoh**	**71.85**	**310**	⇑P		**P**	**18 00 27.0**	**+0.7**
IPM	**Ipoh**	**

KSH	**Kashi**	**113.32**	**307**	*e*PKP			18 07 44.3		
MKAR	**Makanchi Array**	**116.71**	**316**	PKP		**PKPdf**	**18 07 46.1**	**-0.7**	
	comp=Z,1.1nm,1.0s,baz=236,slow=3.5,SNR=7.6								
MKAR				PP		**PP**	**18 08 55.6**	**-0.2**	
	comp=Z,0.2nm,0.6s,baz=180,slow=6.6,SNR=3.9								
GEYT	**Alibeck**	**120.54**	**293**	PKP		**PKPdf**	**18 07 54.3**	**-0.2**	
	comp=Z,1.8nm,0.8s,baz=29,slow=3.3,SNR=4.1								
ZALV	**Zalesovo Beam**	**121.68**	**322**	PKP		**PKPdf**	**18 07 55.9**	**-0.1**	
	comp=Z,0.3nm,0.4s,baz=153,slow=0.6,SNR=4.2								
NVAR	**Mina Array Bea**	**123.13**	**69**	PKP		**PKPdf**	**18 07 58.7**	**-1.0**	
	comp=Z,0.9nm,0.9s,baz=199,slow=4.8,SNR=3.6								
TXAR	**Lajitas Array**	**124.07**	**88**	PKP		**PKPdf**	**18 08 00.1**	**-1.5**	
	comp=Z,0.1nm,0.4s,baz=193,slow=2.8,SNR=4.5								
MNTX	**Cornudas Mount**	**124.94**	**84**	P		**PKPdf**	**18 08 03.2**	**+0.1**	
	baz=125								
BILL	**Bilibino**	**125.25**	**8**	*e*PKIKP		**PKPdf**	**18 08 03.7**	**+1.2**	
BILL				pmax		pmax			
	comp=Z,6.0nm,1.5s								
BVAR	**Borovoye Array**	**126.33**	**313**	PKP		**PKPdf**	**18 08 05.1**	**+0.1**	
	comp=Z,1.8nm,0.9s,baz=132,slow=4.2,SNR=8.8								
DUG	**Dugway, Tooele**	**127.29**	**72**	P		**PKPdf**	**18 08 09.2**	**+1.8**	
	baz=128								
MVCO	**Mesa Verde**	**127.39**	**77**	P		**PKPdf**	**18 08 08.7**	**+0.8**	
	baz=128								
S22A	**4UR Ranch, Cre**	**128.68**	**78**	P		**PKPdf**	**18 08 12.1**	**+1.7**	
	baz=129								
TORD	**Toroti Ar. Bea**	**129.31**	**225**	PKP		**PKPdf**	**18 08 10.6**	**-1.3**	
	comp=Z,2.4nm,1.1s,baz=188,slow=2.8,SNR=6.5								
SDCO	**Great Sand Dun**	**129.40**	**79**	P		**PKPdf**	**18 08 12.3**	**+0.6**	
	baz=130								
Z32A	**Haskell**	**129.40**	**88**	P		**PKPdf**	**18 08 12.6**	**+1.0**	
	baz=130								
T26A	**Comanche Natio**	**130.02**	**81**	P		**PKPdf**	**18 08 13.1**	**+0.3**	
	baz=130								
N20A	**Spence Gulch,**	**130.15**	**74**	P		**PKPdf**	**18 08 14.8**	**+1.7**	
	baz=130								
PDAR	**Pinedale Array**	**130.84**	**72**	PKP		**PKPdf**	**18 08 13.5**	**-0.8**	
	comp=Z,1.1nm,1.1s,baz=212,slow=3.2,SNR=3.3								
ILAR	**Eielson Array**	**130.99**	**31**	PKP		**PKPdf**	**18 08 12.9**	**-0.6**	
	comp=Z,2.3nm,1.1s,baz=247,slow=3.6,SNR=9.0								
J19A	**Crowheart**	**131.45**	**72**	P		**PKPdf**	**18 08 15.2**	**-0.2**	
	baz=132								
KBZ	**Khabaz**	**132.63**	**288**	PKP		**PKPdf**	**18 08 18.6**	**+1.4**	
	comp=Z,1.6nm,0.8s,baz=53,slow=20,SNR=6.4								
BRTR	**Keskin Array B**	**134.81**	**277**	PKP		**PKPdf**	**18 08 21.6**	**-0.2**	
	comp=Z,0.8nm,0.8s,baz=127,slow=2.0,SNR=5.5								
YKA	**Yellowknife Ar**	**140.66**	**47**	PKhKP		PKPpre	18 08 22.4		
	comp=Z,0.1nm,0.4s,baz=246,slow=3.0,SNR=3.2								
YKA				PKP		**PKPdf**	**18 08 30.6**	**-0.9**	
	comp=Z,2.3nm,1.2s,baz=244,slow=3.0,SNR=3.7								
PRGR	**Permogore**	**142.06**	**311**	*e*PKHKP		PKPpre	18 08 28.1		
PRGR				pmax		pmax			
	comp=Z,5.0nm,0.9s								
MLR	**Muntele Rosu**	**142.88**	**278**	⇑PKIKP		**PKPdf**	**18 08 36.6**	**+0.3**	
MLR	**Muntele Rosu**	**142.88**	**278**	⇑*i*P		**PKPdf**	**18 08 36.6**	**+0.3**	
OBN	**Obninsk**	**142.89**	**297**	*e*PKIKP		**PKPdf**	**18 08 33.1**	**-2.6**	
OBN				pmax		pmax			
	comp=Z,6.0nm,0.9s								
COWI	**Conover**	**143.99**	**82**	*e*PKPdf		PKPab	18 08 35.3	-0.1	
AKASG	**Malin Array Be**	**144.24**	**287**	PKP		**PKPab**	**18 08 35.7**	**-0.5**	
	comp=Z,2.4nm,0.8s,baz=100,slow=2.4,SNR=17								
KIEV	**Kiev**	**144.24**	**287**	*e*PKIKP		**PKPab**	**18 08 34.9**	**-1.3**	
KIEV	**Kiev**	**144.24**	**287**	*e*PKPdf		**PKPab**	**18 08 34.9**	**-1.3**	
KLMR	**Klimovskoe**	**144.31**	**307**	*e*PKIKP		PKPbc	18 08 37.0	+0.5	
KLMR				pmax		pmax			
	comp=Z,16nm,1.1s								
GZR	**Gura Zlata**	**144.56**	**275**	⇓PKP2		PKPbc	18 08 37.9	0.0	
GZR	**Gura Zlata**	**144.56**	**275**	⇓*i*P		PKPbc	18 08 37.9	0.0	
BURAR	**Bucovina Array**	**144.59**	**280**	⇓PKIKP		**PKPdf**	**18 08 41.0**	**+1.8**	
BURAR	**Bucovina Array**	**144.59**	**280**	⇓*i*P		**PKPdf**	**18 08 41.0**	**+1.8**	
BUR08	**Bucovina Ar. S**	**144.61**	**280**	*e*PKPdf		**PKPdf**	**18 08 38.8**	**-0.4**	
KEST	**Kesra**	**145.11**	**251**	PKPbc		**PKPbc**	**18 08 39.5**	**-0.5**	
	comp=Z,9.3nm,1.0s,baz=52,slow=3.4,SNR=10								
KEST	**Kesra**	**145.11**	**251**	PKPbc		**PKPbc**	**18 08 39.5**	**-0.5**	
KEST				*e*PKPdf		**PKPdf**	**18 08 41.1**	**+0.7**	
BZS	**Buzias**	**145.33**	**275**	⇓PKIKP		**PKPab**	**18 08 41.3**	**+0.9**	
BZS	**Buzias**	**145.33**	**275**	⇓*i*P		**PKPab**	**18 08 41.3**	**+0.9**	
LVV	**L'vov**	**146.50**	**282**	*e*PKP2		**PKPab**	**18 08 44.3**	**-0.4**	
UZH	**Uzhgorod**	**146.77**	**280**	*e*PKP2		**PKPbc**	**18 08 44.4**	**-0.1**	
KOLS	**Kolonicke sedl**	**146.95**	**280**	*e*PKP2		**PKPbc**	**18 08 45.3**	**+0.2**	
KOLS	**Kolonicke sedl**	**146.95**	**280**	*e*PKP		**PKPbc**	**18 08 45.3**	**+0.2**	
KWP	**Kalwaria Pacla**	**147.11**	**281**	*e*P		**PKPbc**	**18 08 45.6**	**+0.1**	
KWP	**Kalwaria Pacla**	**147.11**	**281**	⇓PKP2		**PKPbc**	**18 08 46.1**	**+0.6**	
KWP	**Kalwaria Pacla**	**147.11**	**281**	⇓*i*P		**PKPbc**	**18 08 46.1**	**+0.6**	
KWP	**Kalwaria Pacla**	**147.11**	**281**	*e*PKPbc		**PKPbc**	**18 08 45.2**	**-0.3**	
PKSM	**Moragy**	**147.33**	**273**	⇓PKIKP		**PKPdf**	**18 08 43.9**	**+0.2**	
PKSM	**Moragy**	**147.33**	**273**	⇓*i*P		**PKPdf**	**18 08 43.8**	**+0.1**	
CRVS	**Cervenica-Dubn**	**147.38**	**279**	*e*PKIKP		**PKPdf**	**18 08 42.1**	**-1.7**	
CRVS	**Cervenica-Dubn**	**147.38**	**279**	*e*PKP		**PKPdf**	**18 08 42.0**	**-1.7**	
PSZ	**Piszkesteto**	**147.66**	**277**	⇑PKIKP		**PKPdf**	**18 08 43.6**	**-0.7**	
PSZ	**Piszkesteto**	**147.66**	**277**	⇑*i*P		**PKPdf**	**18 08 43.6**	**-0.7**	
NACGM	**Naroch**	**147.68**	**292**	*e*		**PKPdf**	**18 08 43.0**	**-1.0**	
FCC	**Fort Churchill**	**147.99**	**60**	*e*PKIKP		**PKPdf**	**18 08 45.6**	**+1.3**	
FCC	**Fort Churchill**	**147.99**	**60**	*e*PKPdf		**PKPdf**	**18 08 45.6**	**+1.3**	
VYHS	**Vyhne**	**148.57**	**277**	*e*PKP2		**PKPbc**	**18 08 49.5**	**+0.1**	
VYHS	**Vyhne**	**148.57**	**277**	*e*PKP		**PKPbc**	**18 08 49.5**	**+0.1**	
OJC	**Ojcow**	**149.01**	**280**	*e*P		**PKPbc**	**18 08 50.8**	**+0.3**	
OJC	**Ojcow**	**149.01**	**280**	*e*PKP2		**PKPbc**	**18 08 50.8**	**+0.3**	
SUW	**Suwalki**	**149.12**	**289**	*e*P		**PKPbc**	**18 08 50.4**	**-0.2**	
SUW	**Suwalki**	**149.12**	**289**	*e*PKP2		**PKPbc**	**18 08 50.2**	**-0.4**	
SUW	**Suwalki**	**149.12**	**289**	*e*PKPbc		**PKPbc**	**18 08 50.2**	**-0.4**	
SOKA	**Soboth**	**149.60**	**271**	⇑*i*PKPbc		**PKPbc**	**18 08 52.6**	**+0.5**	
	comp=Z,14nm,1.2s								
MORC	**Moravsky Berou**	**150.00**	**278**	⇓PKP2		**PKPbc**	**18 08 53.7**	**+0.7**	
MORC	**Moravsky Berou**	**150.00**	**278**	⇓*i*P		**PKPbc**	**18 08 53.7**	**+0.7**	
MORC	**Moravsky Berou**	**150.00**	**278**	*e*PKPbc		**PKPbc**	**18 08 52.9**	**-0.1**	
VRAC	**Vranov**	**150.26**	**277**	⇓PKIKP		**PKPbc**	**18 08 55.1**	**+1.5**	
VRAC	**Vranov**	**150.26**	**277**	⇓*i*P		**PKPbc**	**18 08 55.1**	**+1.5**	
FIA1	**FINESS Array S**	**150.57**	**304**	*e*PKPbc		**PKPbc**	**18 08 53.8**	**-0.1**	
FINES	**FINESS Array B**	**150.57**	**304**	PKPbc		**PKPbc**	**18 08 52.5**	**-1.3**	
	comp=Z,16nm,0.9s,baz=98,slow=4.2,SNR=33								
DPC	**Dobruska-Polom**	**150.97**	**278**	*e*PKP		**PKPbc**	**18 08 53.7**	**-1.6**	
DPC				*ex*		x	18 08 56.4		
DPC				*e*pPKP		**pPKPdf**	**18 08 59.1**	**+3.8**	
DPC				*ex*		x	18 09 07.9		
DPC	**Dobruska-Polom**	**150.97**	**278**	*e*PKIKP		**PKPbc**	**18 08 53.7**	**-1.6**	
DPC				*e*			18 08 56.4		
DPC				*e*			18 08 59.1		
GOPC	**GO Pecny, Ondr**	**151.57**	**276**	⇑*e*PKP		**PKPbc**	**18 08 57.3**	**+0.7**	
GERES	**GERESS Array B**	**151.59**	**274**	PKPbc		**PKPbc**	**18 08 55.8**	**-1.0**	
	comp=Z,2.9nm,0.9s,baz=130,slow=2.1,SNR=10								
PRU	**Pruhonice**	**151.75**	**276**	⇑*e*PKP		**PKPbc**	**18 08 55.8**	**-1.2**	
PRU				*e*PKPAB		**PKPab**	**18 09 08.0**	**+1.9**	
PRU	**Pruhonice**	**151.75**	**276**	*e*PKIKP		**PKPbc**	**18 08 55.8**	**-1.2**	
WTTA	**Wattenberg**	**151.82**	**269**	⇑*i*PKPbc		**PKPbc**	**18 08 57.2**	**-0.3**	
	comp=Z,9.8nm,1.1s								
PVCC	**Panska Ves**	**152.02**	**277**	⇑*e*PKP		**PKPbc**	**18 08 58.4**	**+0.8**	
PVCC				*e*PKPAB		**PKPab**	**18 09 10.0**	**+2.8**	
PVCC	**Panska Ves**	**152.02**	**277**	*e*PKIKP		**PKPbc**	**18 08 58.4**	**+0.8**	
MOTA	**Moosalm**	**152.16**	**269**	⇓*i*PKPbc		**PKPbc**	**18 08 58.2**	**0.0**	
	comp=Z,6.7nm,0.8s								
FETA	**Feichten**	**152.17**	**268**	⇓*i*PKPbc		**PKPbc**	**18 08 58.7**	**+0.4**	
	comp=Z,17nm,1.0s								
ARCES	**ARCESS Array B**	**152.22**	**320**	PKPbc		**PKPbc**	**18 08 55.4**	**-2.2**	
	comp=Z,9.6nm,0.9s,baz=94,slow=3.8,SNR=14								
BRG	**Berggiesshubel**	**152.53**	**277**	*e*PKP		**PKPbc**	**18 08 58.5**	**-0.3**	
	comp=Z,4.1nm,1.1s								
BRG				*e*			18 09 10.6		
	comp=Z,7.0nm,1.2s								
BRG	**Berggiesshubel**	**152.53**	**277**	*e*PKIKP		**PKPbc**	**18 08 58.5**	**-0.3**	
BRG				pmax		pmax			
	comp=Z,4.0nm,1.1s								
CLL	**Collm**	**153.27**	**278**	*i* PKPbc		**PKPbc**	**18 09 00.8**	**+0.5**	
CLL				*e*(PKPab)		**PKPab**	**18 09 15.0**	**+2.6**	
ESDC	**Sonseca Array**	**154.82**	**239**	PKPbc		**PKPbc**	**18 09 03.1**	**-1.1**	
	comp=Z,0.8nm,0.8s,baz=119,slow=1.9,SNR=4.5								
NB2	**NORSAR Subarra**	**157.47**	**299**	PKP		**PKPab**	**18 09 30.8**	**+0.6**	
	comp=Z,4.6nm,1.1s,baz=95,slow=4.4								
NOA	**NORSAR Array B**	**157.47**	**299**	PKPab		**PKPab**	**18 09 29.5**	**-0.7**	
	comp=Z,2.0nm,0.9s,baz=96,slow=4.5,SNR=4.7								

*ISCJB **05** 17:52:22.2±0.8,56°.5S±0°.1×27°.3W±0°.4,h101km,mb4.2/6, Error ellipse: s-maj=31.6km s-min=13.1km az=165.0*
*IDC **05** 17:52:29.0±7.0,56°.65S×27°.25W,h151km±64km,mb3.9/6, mb1 3.9/7,mb1mx3.6/21,mbtmp4.3/7,Error ellipse: s-maj=27.9km s-min=18.5km az=80.0*

ISC 05 17:52:23.4±0.8,56°.6S±0°.1×27°.3W±0°.2,h101km,n15, σ0s88/14,mb4.2/6,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
VNA1	**Neumayer--Stat**	**16.33**	**157**	P		P	17 56 12.9	+5.5
VNA3	**Neumayer Olymp**	**16.52**	**160**	P		**P**	**17 56 10.1**	**+0.6**
VNA2	**Neumayer--Watz**	**16.73**	**157**	P		**P**	**17 56 13.0**	**+1.2**
	baz=311,slow=14							
SNAA	**Sanae**	**18.29**	**155**	P		**P**	**17 56 29.8**	**+0.8**
SNAA	**Sanae**	**18.29**	**155**	P		**P**	**17 56 29.6**	**+0.6**
	0.6nm,0.3s,baz=304,slow=10,SNR=65							
QSPA	**South Pole Qui**	**33.67**	**180**	P		**P**	**17 58 54.2**	**-0.2**
	3.1nm,0.6s,baz=24,slow=9.5,SNR=20							
MAW	**Mawson**	**39.77**	**143**	P		**P**	**17 59 45.9**	**+0.2**
	2.2nm,0.6s,baz=240,slow=8.1,SNR=2.5							
VNDA	**Vanda**	**46.04**	**183**	P		**P**	**18 00 36.4**	**+0.2**
	2.3nm,0.7s,baz=179,slow=4.2,SNR=10							
LPAZ	**La Paz**	**50.63**	**306**	P		**P**	**18 01 13.8**	**+1.0**
	baz=84,slow=6.8							
DBIC	**Dimbokro**	**65.67**	**25**	P		**P**	**18 02 57.2**	**+0.4**
	2.0nm,0.5s,baz=196,slow=6.9,SNR=4.5							
TORD	**Torodi Ar. Bea**	**73.55**	**30**	P		**P**	**18 03 45.5**	**+0.4**
	3.9nm,0.5s,baz=201,slow=6.5,SNR=45							
ASAR	**Alice Springs**	**98.51**	**163**	P		**P**	**18 05 49.1**	**-1.4**
	0.2nm,0.6s,baz=191,slow=4.1,SNR=5.7							
YKA	**Yellowknife Ar**	**136.51**	**318**	PKP		**PKPdf**	**18 11 30.9**	**-0.9**
	0.3nm,0.6s,baz=121,slow=1.9,SNR=6.1							
ILAR	**Eielson Array**	**150.41**	**311**	PKPbc		**PKPbc**	**18 12 00.7**	**-0.8**
	1.6nm,0.8s,baz=150,slow=1.7,SNR=14							
SONM	**Songino Array**	**150.82**	**88**	PKPbc		**PKPbc**	**18 12 02.2**	**-0.9**
	0.3nm,0.4s,baz=220,slow=3.2,SNR=4.6							

MAN 05 17:52:24,19°.42N×121°.02E,h7km,mb4.7,ML3.6,MS3.6, 1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
PIP	**Pasuquin**	**1.15**	**199**	⇑*i*P		Pn	17 52 46.7	+0.1
PIP				*i* S		Sg	17 53 00.7	-0.5
SGCP	**Mt. Cagua**	**1.53**	**140**	*e*P		Pn	17 52 51.9	+0.2
APYP	**Conner**	**1.57**	**172**	*e*P		Pn	17 52 52.6	+0.4
APYP				*e*S		Sg	17 53 14.3	-0.1
ABRA	**Dolores**	**1.79**	**189**	*e*P		Pn	17 52 53.0	-2.2
CAUP	**Cauayan**	**2.58**	**163**	*e*P		Pb	17 53 09.7	-0.9

SKHL 05 18:05:58.6±0.6,52°.08N×142°.03E,h10km,mb3.9/5,1D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
TYV	**Tymovskoe**	**1.28**	**162**	*e*Pg		Pg	18 06 24.0	+0.8
TYV					AMB	AMB	18 06 28.8	
	44nm,0.8s							
TYV				*e*Sg		Sg	18 06 42.3	+2.5
TYV				A		A	18 06 45.0	
	77nm,0.8s							
NKL	**Nikolayevsk**	**1.35**	**323**	⇓*i*Pg		Pg	18 06 26.0	+1.5
NKL					AMB	AMB	18 06 28.0	
	29nm,0.3s							
NKL					AMB	AMB	18 06 28.0	
	27nm,0.3s							
NKL					AMB	AMB	18 06 28.0	
	38nm,0.3s							
NKL				*e*Sg		Sg	18 06 44.8	+2.7
NKL				A		A	18 06 48.5	
	160nm,0.3s							
OKH	**Okha**	**1.57**	**20**	*e*Pg		Pg	18 06 31.8	+3.1
OKH					AMB	AMB	18 06 36.0	
	70nm,0.5s							
OKH				*e*Sg		Sg	18 06 55.0	+5.9
OKH				A		A	18 06 58.0	
	142nm,0.4s							
UGL	**Uglegorsk**	**3.01**	**180**	*e*Sg		Sg	18 07 40.0	+4.9
UGL				A		A	18 07 41.0	
	90nm,0.7s							
GRNR	**Gornyy**	**3.75**	**252**	*e*Pg		Pg	18 07 13.0	+2.6
GRNR					AMB	AMB	18 07 14.5	
	40nm,0.4s							
GRNR				*e*Sg		Sg	18 08 04.2	+5.2
GRNR				A		A	18 08 05.0	
	20nm,0.3s							
EKMR	**Ekimchan**	**5.63**	**284**	*e*Pg		Pg	18 07 47.0	+0.7
EKMR					AMB	AMB	18 07 52.5	
	4.0nm,0.5s							
EKMR				*e*S		Sn	18 08 27.2	+0.3
EKMR				*e*Sg		Sg	18 09 06.1	+6.9
EKMR				A		A	18 09 09.4	
	8.0nm,0.5s							
EKMR				A		A	18 09 09.4	
	4.0nm,0.5s							
EKMR				A		A	18 09 09.4	
	7.0nm,0.5s							

*ISCJB **05** 18:22:38.1±0.2,43°.70N±0°.01×105°.29W±0°.02,h0km, mb4.0/4,Error ellipse: s-maj=2.1km s-min=2.0km az=19.5*
*IDC **05** 18:22:38.9±0.9,43°.97N×105°.66W,h0km,mb3.9/4, mb1 3.8/9,mb1mx3.6/31,mbtmp3.7/9,ML3.5/4,Error ellipse: s-maj=24.1km s-min=8.3km az=146.0*
*NEIC **05** 18:22:38.9±0.4,43°.74N×105°.22W,h0km,ML3.4,Error ellipse: s-maj=5.6km s-min=4.7km az=158.0,Suspected Mining explosion.*
NEIC 70 km [40 miles] SSE of Gillette.

ISC 05 18:22:38.4±0.6,43°.72N±0°.02×105°.32W±0°.02,h0km,n118, σ0s99/129,mb4.1/4,38C-38D,Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
I23A	**Meade Ranch, G**	**0.26**	**336**	P		**Pg**	**18 22 44.9**	**+1.4**
	baz=0.3,SNR=206							
J23A	**Dilts Ranch, B**	**0.36**	**208**	P		**Pg**	**18 22 45.9**	**+0.6**
	baz=0.4,SNR=325							
I24A	**Kuemmerle Ranc**	**0.52**	**74**	P		**Pg**	**18 22 49.0**	**+0.7**
	baz=0.4,SNR=154							
J24A	**Dixon Ranch, L**	**0.62**	**129**	P		**Pg**	**18 22 50.4**	**+0.2**
	baz=0.6,SNR=102							
H23A	**Clabaugh Cattl**	**0.84**	**356**	⇑P		**Pg**	**18 22 54.7**	**+0.2**
	baz=0.8,SNR=35							
I22A	**9 Mile Ranch,**	**0.86**	**282**	P		**Pg**	**18 22 55.2**	**+0.3**
	baz=0.9,SNR=391							
I22A				⇑S		**Sg**	**18 23 06.5**	**+0.4**
	baz=0.9							
J22A	**Midwest**	**0.90**	**250**	P		**Pg**	**18 22 55.3**	**-0.3**
	baz=1.0,SNR=161							
J22A				⇓S		**Sg**	**18 23 07.9**	**+0.6**
	baz=1.0							
K23A	**Bowen Ranch, D**	**0.99**	**193**	⇓P		**Pg**	**18 22 57.0**	**-0.4**
	baz=1.0,SNR=35							
RSSD	**Black Hills**	**1.01**	**66**	*e*Pg		**Pg**	**18 22 57.4**	**-0.4**
K24A	**Anderson Ranch**	**1.06**	**160**	⇑P		**Pg**	**18 22 58.4**	**-0.3**
	baz=1.1,SNR=182							
H22A	**Clement**	**1.15**	**320**	⇑P		**Pg**	**18 23 00.5**	**+0.1**
	baz=1.2,SNR=67							
J25A	**Sunshine Ranch**	**1.15**	**106**	⇑P		**Pg**	**18 23 00.2**	**-0.3**
	baz=1.1,SNR=220							
H24A	**Dirks Ranch, A**	**1.16**	**28**	P		**Pg**	**18 23 00.3**	**-0.4**
	baz=1.1,SNR=200							
I25A	**Rochford**	**1.18**	**75**	⇓P		**Pg**	**18 23 00.6**	**-0.5**
	baz=1.1,SNR=93							
K22A	**Casper**	**1.39**	**220**	*e*Pg		**Pn**	**18 23 03.8**	**-1.4**
K22A	**Casper**	**1.39**	**220**	⇓P		**Pn**	**18 23 03.9**	**-1.2**
	baz=1.4,SNR=99							
K22A				⇑S		**Sg**	**18 23 23.9**	**+0.9**
	baz=1.4							
I21A	**Big Trails, Te**	**1.43**	**274**	⇑P		**Pn**	**18 23 04.4**	**-1.5**
	baz=1.5,SNR=229							
I21A				⇓S		**Sb**	**18 23 25.4**	**+0.5**
	baz=1.5							
G23A	**Biddle**	**1.48**	**358**	⇑P		**Pn**	**18 23 06.0**	**-0.4**
	baz=1.5,SNR=121							
G23A				⇑S		**Sn**	**18 23 27.8**	**+1.3**
	baz=1.5							
H25A	**Fruitdale**	**1.53**	**53**	⇑P		**Pn**	**18 23 07.0**	**-0.1**
	baz=1.5,SNR=12							
H25A				⇑S		**Sn**	**18 23 28.6**	**+0.9**
	baz=1.5							
K25A	**Mack Ranch, Ha**	**1.53**	**136**	⇑Pb		**Pn**	**18 23 07.4**	**+0.2**
	baz=1.5,SNR=114							
H21A	**Big Horn, Sher**	**1.54**	**307**	⇑P		**Pn**	**18 23 07.3**	**+0.1**
	baz=1.6,SNR=68							
H21A				⇑S		**Sn**	**18 23 28.6**	**+0.6**
	baz=1.6							
J21A	**Lysite**	**1.59**	**257**	P		**Pn**	**18 23 07.3**	**-0.7**
	baz=1.7,SNR=91							
J21A				⇓S		**Sn**	**18 23 29.2**	**-0.2**
	baz=1.7							
L23A	**Garrett**	**1.63**	**190**	P		**Pn**	**18 23 08.0**	**-0.5**
	baz=1.7,SNR=420							
G22A	**Birney**	**1.65**	**335**	⇓P		**Pn**	**18 23 09.1**	**+0.3**
	baz=1.7,SNR=75							
J26A	**Sides Ranch, S**	**1.68**	**103**	⇓Pb		**Pn**	**18 23 10.2**	**+1.1**
	baz=1.6,SNR=5.7							
L24A	**Wheatland**	**1.70**	**170**	⇓P		**Pn**	**18 23 09.3**	**-0.1**
	baz=1.7,SNR=23							
G24A	**Alzada**	**1.73**	**22**	⇓P		**Pb**	**18 23 10.5**	**-0.6**
	baz=1.7,SNR=25							
K21A	**Alcova**	**1.78**	**233**	P		**Pn**	**18 23 11.0**	**+0.3**
	baz=1.8,SNR=320							
K21A				⇓Sb		**Sb**	**18 23 36.1**	**+1.0**
	baz=1.8							
I26A	**New Underwood**	**1.80**	**79**	⇓P		**Pn**	**18 23 11.5**	**+0.7**
	baz=1.7,SNR=6.1							
L25A	**Engebretsen Ra**	**1.85**	**147**	⇑P		**Pn**	**18 23 12.2**	**+0.7**
	baz=1.8,SNR=19							
K26A	**Motz Farm, Whi**	**1.87**	**122**	⇑P		**Pn**	**18 23 12.3**	**+0.6**
	baz=1.8,SNR=17							
L22A	**Ellis Ranch, M**	**1.88**	**206**	⇓P		**Pn**	**18 23 12.2**	**+0.3**
	baz=1.9,SNR=231							
L22A				⇑Sb		**Sb**	**18 23 38.9**	**+1.2**
	baz=1.9							
F23A	**Volborg**	**2.00**	**358**	⇑P		**Pn**	**18 23 14.1**	**+0.5**
	baz=2.0,SNR=57							
F23A				⇓Sb		**Sg**	**18 23 42.6**	**-0.1**
	baz=2.0							
G25A	**Newell**	**2.00**	**42**	⇓Pb		**Pb**	**18 23 15.8**	**0.0**
	baz=1.9,SNR=12							
G25A				⇑Sb		**Sg**	**18 23 43.4**	**+0.6**
	baz=1.9							
G21A	**Lodge Grass**	**2.02**	**319**	⇓P		**Pn**	**18 23 14.4**	**+0.5**
	baz=2.1,SNR=34							
G21A				⇓Sb		**Sg**	**18 23 43.5**	**+0.1**
	baz=2.1							
H26A	**Fairpoint**	**2.04**	**63**	⇑Pb		**Pb**	**18 23 16.4**	**+0.1**
	baz=2.0,SNR=7.0							
J20A	**Shoshoni**	**2.05**	**261**	⇑Pb		**Pb**	**18 23 16.3**	**-0.3**
	baz=2.1,SNR=147							
J20A				⇑Sb		**Sb**	**18 23 43.7**	**+1.2**
	baz=2.1							
I20A	**Worland**	**2.05**	**277**	⇑P		**Pn**	**18 23 14.9**	**+0.7**
	baz=2.1,SNR=292							
I20A				⇓Sb		**Sg**	**18 23 43.8**	**-0.4**
	baz=2.1							
H20A	**Greybull**	**2.08**	**293**	⇓P		**Pn**	**18 23 14.9**	**+0.3**
	baz=2.1,SNR=14							
F22A	**Rosebud**	**2.17**	**342**	⇓P		**Pn**	**18 23 16.1**	**+0.3**
	baz=2.2,SNR=99							
F22A				⇑Sb		**Sg**	**18 23 48.1**	**+0.1**
	baz=2.2							
M23A	**Laramie**	**2.27**	**188**	⇓Sb		**Sb**	**18 23 50.0**	**+0.9**
	baz=2.3							
M24A	**Cheyenne**	**2.28**	**171**	⇑Sb		**Sb**	**18 23 51.3**	**+2.0**
	baz=2.3							
L26A	**Underwood Farm**	**2.35**	**135**	⇓Sb		**Sb**	**18 23 53.2**	**+1.8**
	baz=2.3							
PHWY	**Pilot Hill**	**2.42**	**183**	*e*Pn		**Pn**	**18 23 19.6**	**+0.1**
G20A	**Bridger**	**2.56**	**307**	⇑P		**Pn**	**18 23 21.1**	**-0.1**
	baz=2.6,SNR=139							
J19A	**Crowheart**	**2.76**	**262**	⇓Pb		**Pb**	**18 23 28.0**	**-0.7**
	baz=2.8,SNR=133							
H19A

ANMO	**Albuquerque**	**8.81**	**186**	Lg	Lg	18 27 12.2		
	0.1nm,0.3s,baz=20,slow=19,SNR=1.9							
ULM	**Lac du Bonnet**	**9.18**	**41**	Pn	**Pn**	**18 24 50.9**	**-1.1**	
	1.3nm,0.3s,baz=234,slow=12,SNR=7.3							
ULM				Lg	Lg	18 27 25.4		
	0.4nm,0.3s,baz=131,slow=20,SNR=3.0							
NEW	**Newport**	**9.39**	**303**	Lg	Lg	18 27 38.5		
	0.2nm,0.3s,baz=222,slow=22,SNR=4.7							
NVAR	**Mina Array Bea**	**11.13**	**246**	Pn	**Pn**	**18 25 19.3**	**+0.3**	
	0.5nm,0.3s,baz=67,slow=8.2,SNR=4.3							
TXAR	**Lajitas Array**	**14.42**	**174**	Pn	**P**	**18 26 09.8**	**-1.2**	
	baz=7.0,slow=8.2,SNR=2.3							
TXAR				Lg	Lg	18 30 14.7		
	0.0nm,0.3s,baz=359,slow=25,SNR=5.1							
YKA	**Yellowknife Ar**	**19.58**	**347**	P	**Pn**	**18 27 08.7**	**-0.2**	
	0.0nm,0.3s,baz=165,slow=12,SNR=3.8							
ARCES	**ARCESS Array B**	**61.44**	**18**	P	**P**	**18 32 55.6**	**-0.4**	
	1.3nm,0.6s,baz=332,slow=7.5,SNR=7.6							
FINES	**FINESS Array B**	**68.06**	**23**	P	**P**	**18 33 37.4**	**-1.8**	
	1.1nm,0.9s,baz=27,slow=9.5,SNR=3.2							
ZALV	**Zalesovo Beam**	**82.32**	**354**	P	**P**	**18 35 00.6**	**-0.9**	
	0.8nm,0.5s,baz=5.5,slow=5.9,SNR=5.8							
MKAR	**Makanchi Array**	**89.62**	**355**	P	**P**	**18 35 37.2**	**-0.6**	
	0.2nm,0.6s,baz=326,slow=6.3,SNR=4.3							

IDC 05 18:24:39.9±50.0, 18.14S×178.94W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/32, mbtmp4.1/3, Error ellipse: s-maj=903.8km s-min=156.4km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.07**	**241**	P	P	18 32 01.6	+1.1
	2.1nm,1.0s,baz=90,slow=10,SNR=3.7						
WRA	**Warramunga Arr**	**44.09**	**260**	P	P	18 32 49.9	-0.4
	0.7nm,0.5s,baz=97,slow=8.2,SNR=16						
ASAR	**Alice Springs**	**44.24**	**254**	P	P	18 32 50.7	-0.7
	3.4nm,0.7s,baz=89,slow=8.8,SNR=47						

*ISCJB **05** 18:25:55.2±0.4, 32.71N±0.03×115.95W±0.03, h14km±3km, Error ellipse: s-maj=5.0km s-min=3.7km az=5.0*
*NEIC **05** 18:25:56.1, 32.68N×115.94W, h6km, ML3.3(PAS), ML3.4(ECX), After PAS.*
*ECX **05** 18:25:56.4±0.6, 32.68N×115.94W, h4km, MD3.2, ML3.4*
*MEX **05** 18:25:58.3±0.3, 32.74N×116.05W, h20km±999km, MD3.7*

ISC 05 18:25:55.2±0.8, 32.67N±0.03×115.93W±0.02, h17km±5km, n31, σ0.93/43, 13C-8D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUH	**Yuha Desert**	**0.02**	**169**	↑*iP*	**Pg**	**18 25 57.4**	**-0.8**
RMX	**La Rumorosa**	**0.14**	**243**	↑*iP*	**Pg**	**18 25 59.2**	**-0.2**
RMX				*eS*	**Sg**	**18 26 01.6**	**-0.6**
SGL	**Mount Signal**	**0.17**	**96**	↑*iP*	**Pg**	**18 25 59.6**	**0.0**
WESC	**Westside Schoo**	**0.19**	**61**	↑*iP*	**Pg**	**18 26 00.1**	**+0.2**
WESC				*eS*	**Sg**	**18 26 03.6**	**+0.6**
CRR	**Carrizo Plain**	**0.22**	**351**	↓*iP*	**Pg**	**18 26 00.2**	**-0.2**
ERPC	**Ernies Place**	**0.23**	**71**	↑*iP*	**Pg**	**18 26 01.1**	**+0.5**
COK	**Cook Ranch**	**0.25**	**43**	↑*iP*	**Pg**	**18 26 01.1**	**+0.3**
SWSC	**Sam W. Stewart**	**0.29**	**22**	↓*iP*	**Pg**	**18 26 01.6**	**0.0**
CPBX	**Cerro Prieto**	**0.58**	**115**	*eP*	**Pb**	**18 26 07.3**	**+0.3**
CPBX				*eP*4		18 26 07.5	
CPBX				*eS*	**Sb**	**18 26 15.6**	**+0.7**
CPBX				↓*e*		18 26 18.2	
CPBX				AML	AML	18 26 18.2	
	comp=N,8μm,0.2s						
BAR	**Barrett**	**0.63**	**271**	*ePg*	**Pg**	**18 26 07.3**	**-0.3**
BAR				*eSg*	**Sg**	**18 26 15.5**	**-0.5**
BAR	**Barrett**	**0.63**	**271**	↑*iP*	**Pg**	**18 26 07.6**	**0.0**
BAR				*eS*	**Sg**	**18 26 15.7**	**-0.4**
CBX	**Cerro Bola**	**0.72**	**241**	*eP*	**Pb**	**18 26 09.2**	**-0.2**
CBX				*eS*	**Sg**	**18 26 17.6**	**-1.2**
CBX	**Cerro Bola**	**0.72**	**241**	*eP*	**Pb**	**18 26 09.2**	**-0.2**
CBX				*eS*	**Sg**	**18 26 17.6**	**-1.2**
CBX	**Cerro Bola**	**0.72**	**241**	↑*iP*	**Pb**	**18 26 09.4**	**+0.1**
CBX				*eS*	**Sb**	**18 26 18.9**	**-0.1**
CBX				↑*e*		18 26 20.3	
CBX				AML	AML	18 26 20.3	
	comp=N,2μm,0.4s						
RDX	**Rancho Dawling**	**0.74**	**181**	↓*eP*	**Pg**	**18 26 09.5**	**-0.2**
RDX				*eS*	**Sb**	**18 26 19.8**	**+0.2**
RDX				↓*e*		18 26 21.1	
RDX				AML	AML	18 26 21.1	
	comp=N,1μm,0.3s						
SDRC	**San Diego Road**	**0.86**	**275**	↑*eP*	**Pg**	**18 26 11.6**	**-0.3**
GLA	**Glamis**	**1.00**	**67**	*ePg*	**Pg**	**18 26 13.3**	**-1.4**
GLA				*eSg*	**Sg**	**18 26 25.2**	**-2.6**
PFO	**Pinyon Flats O**	**1.04**	**335**	*ePg*	**Pg**	**18 26 13.8**	**-1.5**
PFO				*eSg*	**Sg**	**18 26 27.6**	**-1.4**
PBX	**Punta Banda**	**1.15**	**216**	↑*eP*	**Pg**	**18 26 16.9**	**-0.5**
ECNX	**Esteban Cantu**	**1.16**	**210**	↓*eP*	**Pg**	**18 26 17.1**	**-0.5**
ZAX	**El Zacaton**	**1.19**	**194**	↓*eP*	**Pn**	**18 26 17.7**	**+0.5**
ECBX	**El Chinero**	**1.41**	**148**	*eP*9		18 26 20.6	
ECBX				*eS*	**Sb**	**18 26 39.6**	**+1.0**
ECBX				AML	AML	18 26 40.7	
	comp=E,365nm,0.5s						
ECBX				↓*e*		18 26 40.7	
SPIG	**San Pedro Mart**	**1.67**	**166**	*eP*	**Pn**	**18 26 25.0**	**+1.1**
SPIG	**San Pedro Mart**	**1.67**	**166**	*eP*	**Pn**	**18 26 25.0**	**+1.1**
SPIG	**San Pedro Mart**	**1.67**	**166**	↑*eP*	**Pn**	**18 26 25.1**	**+1.2**
SPX	**San Pedro Mart**	**1.67**	**166**	*eP*	**Pn**	**18 26 24.9**	**+1.0**
SPX	**San Pedro Mart**	**1.67**	**166**	↑*eP*	**Pn**	**18 26 25.1**	**+1.1**
MWC	**Mount Wilson**	**2.36**	**312**	*ePn*	**Pb**	**18 26 37.3**	**-0.1**
MWC				*eSn*	**Sb**	**18 27 08.0**	**+1.6**
214A	**Organ Pipe Nat**	**2.73**	**104**	*ePn*	**Pn**	**18 26 37.1**	**-1.2**
ISA	**Isabella, Lake**	**3.66**	**325**	Pn	**Pb**	**18 26 59.6**	**+0.2**
DAC	**Darwin (Calif)**	**3.85**	**340**	Pn	**Pn**	**18 26 55.6**	**+1.7**

SKHL 05 18:33:26.7±0.7, 46.62N×153.12E, h37km±2km, mb4.4/2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.92**	**251**	*eP*	Pn	18 34 25.7	+1.5
KUR				AMB	AMB	18 34 27.7	
	60nm,0.8s						
KUR				*eS*	Sn	18 35 10.5	+1.6
KUR				A	A	18 35 24.6	
	80nm,0.7s						
KUR				A	A	18 35 24.6	
	90nm,0.7s						
SKR	**Severo-Kuril's**	**4.53**	**25**	*eP*	Pn	18 34 33.1	+0.6
SKR				*eS*	Sn	18 35 22.4	-1.4
SHO	**Shikotan**	**5.22**	**241**	*eP*	Pn	18 34 43.0	+0.8
SHO				*eS*	Sn	18 35 42.0	+0.9
SHO				A	A	18 35 54.8	
	100nm,0.9s						
YUK	**Yuzh-Kuril'sk**	**5.73**	**246**	*i* P	Pn	18 34 50.8	+1.6
YUK				AMB	AMB	18 34 53.1	
	20nm,0.2s						
YUK				*eS*	Sn	18 35 56.5	+2.9
YUK				A	A	18 36 01.1	
	10.0nm,0.5s						
YUK				A	A	18 36 01.1	
	20nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.12**	**276**	*eP*	Pn	18 35 10.7	+2.4

*IDC **05** 18:43:42.1±0.9, 10.83S×165.14E, h0km, mb4.2/16, mb1 4.3/17, mb1mx4.2/30, mbtmp4.2/17, ML4.1/1, Error ellipse: s-maj=29.0km s-min=15.8km az=103.0*
*ISCJB **05** 18:43:44.4±0.5, 10.92S±0.06×165.22E±0.08, h30km, mb4.2/17, Error ellipse: s-maj=11.4km s-min=9.0km az=175.6*
*NEIC **05** 18:43:47.5±1.7, 10.86S×165.14E, h37km±14km, mb4.5/3, Error ellipse: s-maj=14.7km s-min=10.9km az=86.0*

ISC 05 18:43:46.3±0.7, 10.87S±0.09×165.3E±0.1, h30km, n40, σ1.1/11/34, mb4.2/17, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.42**	**285**	P	Pn	18 45 05.0	-0.1
HNR	**Honiara**	**5.42**	**285**	*eP*	Pn	18 45 04.5	-0.6
	241nm,0.6s						
DZM	**Mont Dzumac**	**11.20**	**174**	Pn	Pn	18 46 25.1	+0.6
	1.3nm,0.3s,baz=90,slow=20,SNR=5.6						
RABL	**Rabaul**	**14.57**	**296**	S	Sn	18 49 53.6	+2.4
	baz=12,SNR=4.3						
CTA	**Charters Tower**	**20.46**	**241**	P	P	18 48 22.0	+0.3
	22nm,0.8s,baz=65,slow=12,SNR=21						
CTAO	**Charters Tower**	**20.46**	**241**	*eP*	P	18 48 21.6	-0.1
	38nm,0.9s						
RMQ	**Roma**	**22.00**	**223**	P	P	18 48 39.2	+1.0
	baz=15,SNR=8.2						
QLP	**Quilpie**	**25.25**	**229**	P	P	18 49 10.2	+0.2
	baz=18,SNR=11						
H11S2	**WAKE ISLAND Hy**	**29.20**	**3**	T	T	19 20 20.7	
	baz=183,slow=76,SNR=52						
H11S3	**WAKE ISLAND Hy**	**29.21**	**3**	T	T	19 20 21.9	
	baz=183,slow=76,SNR=25						
H11S1	**WAKE ISLAND Hy**	**29.22**	**3**	T	T	19 20 22.0	
	baz=183,slow=76,SNR=35						
STKA	**Stephens Creek**	**30.25**	**223**	P	P	18 49 54.7	+0.1
	3.4nm,0.7s,baz=44,slow=9.1,SNR=9.0						
H11N1	**WAKE ISLAND Hy**	**30.43**	**3**	T	T	19 21 55.1	
	baz=182,slow=76,SNR=33						
H11N3	**WAKE ISLAND Hy**	**30.43**	**3**	T	T	19 21 54.1	
	baz=182,slow=76,SNR=17						
H11N2	**WAKE ISLAND Hy**	**30.45**	**3**	T	T	19 21 54.6	
	baz=182,slow=76,SNR=14						
WRAB	**Tennant Creek**	**31.09**	**249**	*eP*	P	18 50 01.0	-1.2
	8.2nm,1.0s						
WRA	**Warramunga Arr**	**31.10**	**249**	P	P	18 50 00.6	-1.7
	2.1nm,0.5s,baz=80,slow=9.2,SNR=30						
AS31	**Alice Springs**	**32.45**	**243**	*eP*	P	18 50 12.2	-2.0
ASAR	**Alice Springs**	**32.45**	**243**	P	P	18 50 12.2	-2.0
	4.8nm,0.5s,baz=65,slow=10,SNR=139						
BBOO	**Buckleboo**	**34.60**	**226**	P	P	18 50 32.7	-0.1
	baz=28,SNR=6.4						
KNRA	**Kununurra**	**35.81**	**258**	P	P	18 50 41.7	-1.7
	baz=29,SNR=5.1						
WRKA	**Warakurna**	**37.74**	**243**	P	P	18 50 58.2	-1.6
	baz=30,SNR=21						
MEEK	**Meekatharra**	**46.60**	**244**	P	P	18 52 11.4	-0.6
	baz=39,SNR=10.0						
MORW	**Morawa**	**49.29**	**241**	P	P	18 52 32.6	-0.2
	baz=42,SNR=3.2						
MJAR	**Matsushiro Arr**	**53.59**	**333**	P	P	18 53 03.5	-1.3
	1.7nm,0.8s,baz=162,slow=9.0,SNR=12						
ASAJ	**Asahikawa**	**58.47**	**341**	P	P	18 53 41.0	+1.5
	9.5nm,0.8s,baz=180,slow=7.1,SNR=7.2						
KSRS	**Korea Array**	**59.46**	**326**	P	P	18 53 47.0	+0.5
	1.6nm,0.7s,baz=144,slow=8.4,SNR=5.4						
KSAR	**Wonju Array Be**	**59.47**	**326**	P	P	18 53 47.0	+0.4
USRK	**Ussuriysk Ar.**	**62.57**	**334**	P	P	18 54 08.8	+1.3
	3.5nm,0.9s,baz=159,slow=19,SNR=3.9						
VNDA	**Vanda**	**66.67**	**181**	P	P	18 54 35.5	+1.7
	1.5nm,0.8s,baz=348,slow=8.1,SNR=5.4						
CMAR	**Chiang Mai Arr**	**71.60**	**294**	P	P	18 55 05.2	-0.2
	1.1nm,0.8s,baz=116,slow=4.3,SNR=8.8						
ULN	**Ulaanbaatar**	**77.88**	**324**	*eP*	P	18 55 41.6	+0.3
	3.4nm,0.8s						
SONM	**Songino Array**	**78.24**	**324**	P	P	18 55 43.5	+0.2
	1.3nm,0.9s,baz=129,slow=5.9,SNR=8.2						
ILAR	**Eielson Array**	**83.50**	**19**	P	P	18 56 10.5	-0.4
	0.5nm,0.8s,baz=249,slow=4.9,SNR=5.2						
MAW	**Mawson**	**84.71**	**202**	P	P	18 56 17.4	+0.4
	2.4nm,0.7s,baz=104,slow=10,SNR=6.2						
MK31	**Makanchi Array**	**93.06**	**317**	*eP*	P	18 56 57.3	0.0
MKAR	**Makanchi Array**	**93.06**	**317**	P	P	18 56 56.7	-0.6
	0.7nm,0.7s,baz=90,slow=3.0,SNR=14						
ZALV	**Zalesovo Beam**	**93.13**	**324**	P	P	18 56 56.1	-1.2
	1.9nm,0.5s,baz=134,slow=4.2,SNR=4.4						
YKA	**Yellowknife Ar**	**95.03**	**27**	P	P	18 57 05.2	-0.6
	0.1nm,0.3s,baz=256,slow=4.4,SNR=2.9						
TORD	**Torodi Ar. Bea**	**163.76**	**280**	PKPab	**PKPab**	**19 04 40.8**	**+0.9**
	0.6nm,0.9s,baz=158,slow=1.6,SNR=3.5						

IDC 05 18:52:49.0±6.9, 21.75S×170.07E, h100km±45km, mb3.1/2, mb1 3.3/3, mb1mx3.1/22, mbtmp3.4/3, Error ellipse: s-maj=77.1km s-min=49.2km az=154.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.38**	**264**	P	Pn	18 53 40.1	+0.1
	2.9nm,0.3s,baz=91,slow=24,SNR=60						
DZM				S	Sn	18 54 19.6	+0.3
	7.9nm,0.3s,baz=281,slow=22,SNR=14						
ASAR	**Alice Springs**	**33.36**	**260**	P	P	18 59 18.7	+0.8
	0.5nm,1.0s,baz=73,slow=9.3,SNR=6.6						
WRA	**Warramunga Arr**	**33.39**	**266**	P	P	18 59 17.5	-0.8
	0.2nm,0.3s,baz=98,slow=7.8,SNR=8.0						
H11S2	**WAKE ISLAND Hy**	**40.13**	**355**	T	T	19 41 57.8	
	baz=169						
H11S3	**WAKE ISLAND Hy**	**40.14**	**355**	T	T	19 42 04.6	
	baz=169						
H11S1	**WAKE ISLAND Hy**	**40.15**	**355**	T	T	19 41 58.8	
	baz=169						
H11N1	**WAKE ISLAND Hy**	**41.33**	**355**	T	T	19 43 31.7	
	baz=173						
H11N3	**WAKE ISLAND Hy**	**41.33**	**355**	T	T	19 43 28.5	
	baz=173						
H11N2	**WAKE ISLAND Hy**	**41.34**	**355**	T	T	19 43 36.1	
	baz=173						
GERES	**GERESS Array B**	**147.06**	**331**	PKPbc	PKPbc	19 12 19.4	-0.9
	0.6nm,0.6s,baz=306,slow=2.3,SNR=3.6						

*IDC **05** 19:17:09.4±1.6, 10.87S×165.09E, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.8/31, mbtmp3.8/8, ML3.9/1, Error ellipse: s-maj=45.5km s-min=24.8km az=122.0*
*ISCJB **05** 19:17:12.2±1.0, 11.05S±0.1×165.1E±0.1, h31km, mb3.6/7, Error ellipse: s-maj=20.1km s-min=15.7km az=163.4*
*NEIC **05** 19:17:15.2±2.0, 10.96S×165.12E, h43km±17km, mb4.1/2, Error ellipse: s-maj=20.4km s-min=16.6km az=60.0*

ISC 05 19:17:14.0±1.1, 11.05S±0.1×165.1E±0.2, h31km, n17, σ1.9/05/9, mb3.7/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.31**	**286**	*ePn*	**Pn**	**19 18 31.9**	**+0.7**
	71nm,0.6s						
DZM	**Mont Dzumac**	**11.13**	**174**	Pn	**Pn**	**19 19 51.7**	**+0.5**
	0.8nm,0.3s,baz=108,slow=19,SNR=6.5						
CTA	**Charters Tower**	**20.30**	**241**	P	Pn	19 21 49.1	-0.5
	11nm,0.8s,baz=70,slow=12,SNR=9.6						
CTAO	**Charters Tower**	**20.30**	**241**	*eP*	Pn	19 21 48.7	-0.9
	13nm,0.8s						
H11S2	**WAKE ISLAND Hy**	**29.30**	**3**	T	T	19 53 51.7	
	baz=184,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**29.30**	**3**	T	T	19 53 52.0	
	baz=184,slow=76,SNR=7.0						
H11S1	**WAKE ISLAND Hy**	**29.32**	**3**	T	T	19 53 52.3	
	baz=184,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**30.52**	**3**	T	T	19 55 21.6	
	baz=182,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**30.53**	**3**	T	T	19 55 24.5	
	baz=182,slow=76,SNR=8.2						
H11N2	**WAKE ISLAND Hy**	**30.54**	**3**	T	T	19 55 23.7	
	baz=182,slow=76,SNR=8.4						
WRAB	**Tennant Creek**	**30.92**	**249**	P	P	**19 23 27.1**	**-1.2**
	1.6nm,0.6s						
WRA	**Warramunga Arr**	**30.93**	**249**	P	P	**19 23 27.5**	**-0.9**
	0.7nm,0.5s,baz=80,slow=9.0,SNR=6.3						
ASAR	**Alice Springs**	**32.28**	**243**	P	P	**19 23 39.4**	**-0.9**
	4.3nm,0.5s,baz=64,slow=10,SNR=37						
CMAR	**Chiang Mai Arr**	**71.51**	**294**	P	P	**19 28 33.7**	**+1.3**
	0.2nm,0.3s,baz=108,slow=4.8,SNR=3.0						
SONM	**Songino Array**	**78.22**	**324**	P	P	**19 29 10.0**	**-0.9**
	0.3nm,0.9s,baz=150,slow=6.0,SNR=2.7						
ILAR	**Eielson Array**	**83.62**	**19**	P	P	**19 29 39.3**	**+0.2**
	0.2nm,0.7s,baz=236,slow=7.2,SNR=3.4						
MKAR	**Makanchi Array**	**93.03**	**317**	P	P	**19 30 24.3**	**-0.4**
	0.2nm,0.7s,baz=104,slow=3.0,SNR=3.3						

*NNC **05** 19:24:19.7±2.9, 39.51N×73.70E, h0km, mb3.2, mpv3.0, Error ellipse: s-maj=37.4km s-min=14.9km az=73.0*
*KRNET **05** 19:24:19.2±0.1, 39.56N×73.62E, h2km, mb3.9*

ISC 05 19:24:17.3±2.5, 39.4N±0.1×73.65E±0.05, h7km±13km, n14, σ1.9/65/19, 5C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.65**	**350**	↓*P*	**Pg**	**19 24 29.7**	**-0.2**
	47nm,0.3s						
SFK				↓*S*	**Sg**	**19 24 37.8**	**-0.6**
	138nm,0.2s						
CHVK	**Chauvay**	**1.34**	**305**	*eP*	**Pg**	**19 24 42.6**	**-0.4**
	baz=299						
CHVK				*eS*	**Sg**	**19 25 00.6**	**+0.2**
	baz=299						
SALK	**Salom-Alik**	**1.51**	**5**	*eP*	**Pn**	**19 24 44.1**	**-0.9**
	baz=6.0						
SALK				*eS*	**Sn**	**19 25 04.4**	**-0.6**
	baz=6.0						
BTK	**Batken**	**2.29**	**288**	*eP*	**Pg**	**19 25 00.0**	**-1.2**
	baz=284						
BTK				*eS*	**Sg**	**19 25 32.2**	**+1.4**
	baz=284						
NRN	**Naryn**	**2.73**	**40**	*eP*	**Pg**	**19 25 09.8**	**+0.1**
	baz=43						
NRN				*eS*	**Sg**	**19 25 49.6**	**+4.5**
	baz=43						
AML	**Almayashu**	**2.76**	**1**	P	**Pb**	**19 25 06.7**	**-0.4**
	SNR=14						
UCH	**Uchtor**	**2.93**	**13**	P	**Pb**	**19 25 10.4**	**+0.3**
	SNR=27						
KZA	**Kyzart**	**2.96**	**24**	P	**Pg**	**19 25 12.7**	**-1.4**
	SNR=9.5						
AAK	**Ala-Archa**	**3.32**	**11**	⇑Pn	**Pb**	**19 25 16.0**	**-0.6**
	2.7nm,0.5s						
AAK				⇑Lg	Lg	19 26 02.8	
	6.3nm,0.5s						
AAK	**Ala-Archa**	**3.32**	**11**	P	**Pb**	**19 25 15.6**	**-1.0**
	SNR=7.3						
ULHL	**Ulahol**	**3.48**	**34**	P	**Pg**	**19 25 21.9**	**-2.1**
	SNR=7.3						
DZET	**Dzherino**	**3.79**	**263**	⇑Lg	Lg	19 26 27.7	
	21nm,0.6s						
TKM2	**Tokmak 2**	**3.84**	**22**	⇑Pg	**Pb**	**19 25 24.0**	**-1.5**
	3.0nm,0.7s						
TKM2				⇑Lg	Lg	19 26 22.1	
	4.3nm,0.6s						
KK31	**Karatay Array**	**4.42**	**329**	Pn	**Pn**	**19 25 27.0**	**+2.3**
	0.5nm,0.4s,baz=142,slow=13,SNR=20						
KK31				Pg	**Pg**	**19 25 42.0**	**+0.1**
	0.5nm,0.3s,baz=136,slow=16,SNR=5.5						
KK31				⇓Lg	Lg	19 26 34.9	
	1.6nm,0.3s,baz=145,slow=29,SNR=5.3						

*IDC **05** 19:26:25.5±0.8, 37.75S×73.67W, h21km±4km, mb3.8/6, mb1 3.8/10, mb1mx3.7/21, mbtmp3.8/10, ML3.6/3, MS2.9/1, Ms1 2.9/1, ms1mx2.9/20, Error ellipse: s-maj=25.4km s-min=16.5km az=65.0*
*NEIC **05** 19:26:25.6±3.6, 37.65S×73.79W, h22km±24km, mb4.2/1, Error ellipse: s-maj=20.8km s-min=9.3km az=80.0*

ISC 05 19:26:25.6±0.7, 37.67S±0.09×73.8W±0.1, h22km±6km, h22:pP-P, n18, σ0.80/25, mb3.9/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**3.95**	**142**	Pn	**Pn**	**19 27 25.1**	**0.0**
	1.3nm,0.3s,baz=310,slow=9.6,SNR=17						
PLCA				Lg	Lg	19 28 25.9	
	6.3nm,0.3s,baz=234,slow=20,SNR=4.5						
CFAA	**Coronel Fontan**	**7.57**	**39**	Pn	**Pn**	**19 28 14.3**	**-0.5**
	0.4nm,0.3s,baz=4.3,slow=5.9,SNR=13						
CFAA				LR	LR	19 31 26.4	
	comp=Z,84nm,18.0s,baz=220,slow=40						
LCO	**Las Campanas**	**9.00**	**17**	*ePn*	**Pn**	**19 28 33.1**	**-1.5**
	18nm,0.6s						
TRQA	**Tornquist**	**9.33**	**96**	*ePn*	**Pn**	**19 28 40.2**	**+1.4**
	8.1nm,0.8s						
LVC	**Limon Verde**	**15.58**	**17**	Pn	**Pn**	**19 30 04.3**	**+0.2**
	6.8nm,0.3s,baz=254,slow=19,SNR=2.6						
CPUP	**Villa Florida**	**17.92**	**56**	P	**P**	**19 30 33.9**	**0.0**
	0.1nm,0.3s,baz=218,slow=10,SNR=3.0						
SIV	**San Ignacio**	**24.33**	**31**	P	**P**	**19 31 42.7**	**+0.8**
	1.9nm,0.8s,baz=234,slow=14,SNR=6.5						
QSPA	**South Pole Qui**	**52.58**	**180**	P	**P**	**19 35 37.5**	**+0.2**
	2.7nm,1.0s,baz=287,slow=0.2,SNR=5.3						
QSPA	**South Pole Qui**	**52.58**	**180**	*eP*	**P**	**19 35 37.2**	**-0.1**
	3.6nm,1.1s						
QSPA				*ep*P	**pP**	**19 35 43.6**	**-0.7**
TXAR	**Lajitas Array**	**72.30**	**333**	P	**P**	**19 37 50.4**	**+1.0**
	0.4nm,0.7s,baz=139,slow=8.4,SNR=3.9						
TXAR				pP	**pP**	**19 37 56.5**	**0.0**
	0.7nm,0.6s,baz=156,slow=9.1,SNR=5.6						
DBIC	**Dimbokro**	**77.68**	**72**	P	**P**	**19 38 20.3**	**-0.5**
	2.1nm,0.7s,baz=221,slow=8.1,SNR=3.1						
DBIC				pP	**pP**	**19 38 28.8**	**+0.8**
	3.5nm,0.7s,baz=247,slow=5.1,SNR=3.2						
PDAR	**Pinedale Array**	**86.42**	**334**	P	**P**	**19 39 07.2**	**+0.8**
	0.9nm,1.1s,baz=151,slow=3.4,SNR=4.2						
PDAR				pP	**pP**	**19 39 14.3**	**+0.7**
	2.3nm,1.2s,baz=150,slow=4.5,SNR=5.1						
TORD	**Torodi Ar. Bea**	**86.76**	**71**	P	**P**	**19 39 07.9**	**-0.4**
	0.5nm,0.7s,baz=224,slow=6.0,SNR=3.6						
TORD				pP	**pP**	**19 39 14.6**	**-1.0**
	0.9nm,1.0s,baz=206,slow=4.9,SNR=2.7						
BRTR	**Keskin Array B**	**124.78**	**64**	PKP	**PKPdf**	**19 45 22.8**	**-0.8**
	0.2nm,0.4s,baz=251,slow=4.4,SNR=2.9						
BRTR				pPKP	**pPKPdf**	**19 45 30.7**	**-0.4**
	0.5nm,0.7s,baz=188,slow=3.7,SNR=3.4						
TIXI	**Tiksi**	**144.01**	**348**	*ePKPdf*	**PKPab**	**19 45 55.0**	**-0.7**
PSI	**Prapat**	**144.66**	**167**	PKP	**PKPab**	**19 45 58.9**	**-1.0**
	3.7nm,0.5s,baz=63

SNR=6.6
TKM2 Tokmak 2 6.83 28 ⇓P Pn 19 35 40.0 -1.4
4.1nm,0.8s
TKM2 Tokmak 2 6.83 28 P Pn 19 35 40.2 -1.2
SNR=6.7

*ISCJB **05** 19:37:52.6±0.8, 3.93S±0.06×101.42E±0.07, h34km, mb3.7/8, Error ellipse: s-maj=11.3km s-min=7.4km az=141.3*
*IDC **05** 19:37:54.3±1.4, 3.97S×101.36E, h38km±6km, mb3.5/8, mb1 3.6/8, mb1mx3.4/27, mbtmp3.7/8, Error ellipse: s-maj=61.5km s-min=13.7km az=54.0*
*DJA **05** 19:37:58.3±1.0, 4°S±4°×10°2E±°, h19km±8km, M4.0/12, mb4.3/3, MLv3.9/12*
ISC 05 19:37:54.8±0.8, 3.90S±0.07×101.55E±0.10, h34km, n19, σ1§39/25, mb3.7/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**1.02**	**42**	P	**Pn**	**19 38 12.3**	**-0.4**
MASI				S	**Sn**	**19 38 24.5**	**-1.3**
MNAI	**Manna**	**1.47**	**108**	P	**Pn**	**19 38 19.3**	**+0.4**
LHSI	**Lahat**	**1.97**	**88**	P	**Pn**	**19 38 27.1**	**+1.4**
MDSI	**Maura Dua**	**2.68**	**103**	P	**Pn**	**19 38 36.4**	**+0.8**
LWLI	**Liwa**	**2.73**	**114**	P	**Pn**	**19 38 37.8**	**+1.4**
SDSI	**Sungai Dareh**	**2.95**	**358**	P	**Pn**	**19 38 42.2**	**+3.0**
JMBI	**JAMBI**	**3.07**	**43**	P	**Pn**	**19 38 42.5**	**+1.6**
KASI	**Kota Agung**	**3.35**	**119**	P	**Pn**	**19 38 45.4**	**+0.7**
KASI				S	**Sn**	**19 39 24.5**	**+1.2**
MNSI	**Mandailing Nat** 21nm,0.6s,0.1nm	**5.06**	**337**	P	Pb	19 39 16.1	-6.6
TPRI	**Tanjung Pinang** 30nm,0.6s,0.1nm	**5.63**	**32**	P	**Pn**	**19 39 18.2**	**+2.1**
CMAR	**Chiang Mai Arr** 0.4nm,0.7s,baz=184,slow=7.2,SNR=3.2	**22.36**	**353**	P	**P**	**19 42 50.8**	**+0.7**
WRA	**Warramunga Arr** 0.4nm,0.6s,baz=304,slow=8.6,SNR=9.2	**35.71**	**119**	P	**P**	**19 44 50.2**	**-0.2**
WRA	0.3nm,0.3s,baz=304,slow=8.9,SNR=2.6			pP	**pP**	**19 44 59.5**	**-0.9**
ASAR	**Alice Springs** 0.6nm,0.7s,baz=296,slow=8.0,SNR=11	**36.89**	**125**	P	**P**	**19 45 00.3**	**-0.2**
ASAR	0.3nm,0.4s,baz=299,slow=7.9,SNR=2.4			pP	**pP**	**19 45 13.0**	**+2.6**
STKA	**Stephens Creek** 2.2nm,0.9s,baz=282,slow=7.8,SNR=4.1	**46.74**	**131**	P	**P**	**19 46 21.5**	**+0.6**
STKA	2.5nm,0.9s,baz=320,slow=7.6,SNR=1.6			pP	**pP**	**19 46 31.3**	**+0.3**
SONM	**Songino Array** 0.6nm,0.7s,baz=187,slow=9.8,SNR=6.5	**51.69**	**4**	P	**P**	**19 46 58.1**	**-0.5**
MKAR	**Makanchi Array** 0.4nm,0.4s,baz=154,slow=8.6,SNR=6.0	**53.27**	**344**	P	**P**	**19 47 09.4**	**-0.8**
MKAR	0.3nm,0.4s,baz=142,slow=5.3,SNR=3.0			pP	**pP**	**19 47 19.3**	**-1.1**
ZALV	**Zalesovo Beam** 1.2nm,0.4s,baz=167,slow=5.9,SNR=6.7	**59.32**	**349**	P	**P**	**19 47 51.2**	**-1.9**
ZALV	1.0nm,0.4s,baz=156,slow=4.7,SNR=4.0			pP	**pP**	**19 48 04.7**	**+1.2**
BRTR	**Keskin Array B** 0.6nm,0.5s,baz=140,slow=5.5,SNR=4.8	**75.74**	**312**	P	**P**	**19 49 36.0**	**-1.4**
TXAR	**Lajitas Array** 0.8nm,0.5s,baz=231,slow=0.7,SNR=8.4	**145.19**	**41**	PKPbc	**PKPbc**	**19 57 28.7**	**-0.6**

MAN 05 19:41:24, 18.13N×120.23E, h14km, mb4.2, ML3.0, MS2.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.41**	**62**	⇑*i*P	Pb	19 41 32.9	-0.2
PIP				*i* S	Sn	19 41 44.5	+1.4
ABRA	**Dolores**	**0.66**	**137**	*e*P	Pb	19 41 37.5	+0.2
ABRA				*e*S	Sn	19 41 49.4	+0.2
APYP	**Conner**	**1.00**	**106**	*e*P	Pg	19 41 43.2	-0.1

*IDC **05** 20:06:59.4±1.3, 33.62N×71.39E, h0km, mb3.6/5, mb1 3.7/10, mb1mx3.4/41, mbtmp3.6/10, ML3.5/5, Error ellipse: s-maj=38.0km s-min=20.3km az=73.0*
*NNC **05** 20:07:06.2±5.6, 34.01N×70.53E, h0km, mb3.6, mpv3.6, Error ellipse: s-maj=70.2km s-min=34.5km az=131.0*
ISC 05 20:07:03.8±1.0, 33.61N±0.09×71.19E±0.10, h35km, n28, σ1§87/29, mb3.6/5, 6C-2D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**4.15**	**104**	*e*P	**Pn**	**20 08 07.0**	**+2.1**
DLH				*e*S	**Sn**	**20 08 55.0**	**+2.8**
SMLA	**Simla**	**5.63**	**114**	*i* P	**Pn**	**20 08 26.3**	**+1.3**
SMLA				*i* P	**Pn**	**20 08 26.3**	**+1.3**
SMLA				*i* S	**Sn**	**20 09 28.2**	**-0.2**
SMLA	comp=N,730nm,0.3s			AML	AML	20 09 32.4	
SMLA	comp=E,719nm,0.2s			AML	AML	20 09 32.9	
SFK	**Sufi-Kurgan** comp=E,1.3nm,0.3s	**6.66**	**15**	⇓Pn	Pn	20 08 43.6	+4.3
SFK	comp=E,1.7nm,0.3s			⇓Sn	Sn	20 10 00.4	+6.4
AAK	**Ala-Archa** comp=E,0.6nm,0.3s	**9.38**	**15**	⇑Pn	**Pn**	**20 09 17.8**	**+1.2**
AAK	comp=E,2.1nm,0.7s			⇑Sn	**Sn**	**20 10 60.0**	**-0.9**
AAK	**Ala-Archa** comp=E,0.5nm,0.3s,baz=179,slow=7.8,SNR=5.6	**9.38**	**15**	Pn	**Pn**	**20 09 18.3**	**+1.7**
AAK	comp=E,0.1nm,0.3s,baz=331,slow=21,SNR=1.1			Sn	**Sn**	**20 11 00.2**	**-0.7**
KK31	**Karatay Array** comp=E,0.8nm,0.3s,baz=177,slow=12,SNR=78	**9.50**	**357**	Pn	**Pn**	**20 09 19.1**	**+1.1**
KK31	comp=E,0.4nm,0.3s,baz=182,slow=25			⇑Sn	**Sn**	**20 11 03.0**	**-0.5**
KOLN	**Koldanda** comp=E,5.0nm,0.4s	**12.16**	**115**	*e*P	Pn	20 09 51.5	-3.2
GKN	**Gorkha** comp=E,5.4nm,0.2s	**12.83**	**112**	*e*P	**Pn**	**20 10 02.0**	**-1.9**
DMN	**Daman** comp=E,7.4nm,0.4s	**13.39**	**113**	*e*P	**Pn**	**20 10 08.4**	**-3.2**
KKN	**Kakani** comp=E,6.7nm,0.4s	**13.43**	**112**	*e*P	**Pn**	**20 10 09.1**	**-3.1**
PKIN	**Phulchoki** comp=E,7.2nm,0.3s	**13.63**	**112**	*e*P	Pn	20 10 11.2	-3.7
PKI	**Pulchoki** comp=E,4.9nm,0.2s	**13.64**	**112**	*e*P	Pn	20 10 11.1	-4.0
GUN	**Gumba** comp=E,6.6nm,0.4s	**13.84**	**110**	*e*P	**Pn**	**20 10 15.2**	**-2.7**
JIRN	**Jiri** comp=E,9.1nm,0.3s	**14.20**	**111**	*e*P	**Pn**	**20 10 19.8**	**-3.0**
RAMN	**Ramite**	**14.87**	**112**	*e*P	Pn	20 10 27.7	-4.0
TAPN	**Taplejung**	**15.54**	**109**	*e*P	**Pn**	**20 10 36.5**	**-4.1**
MKAR	**Makanchi Array** comp=E,0.1nm,0.3s,baz=215,slow=11,SNR=3.4	**15.64**	**29**	Pn	**Pn**	**20 10 41.0**	**-0.6**
AB31	**Akbulak array** comp=E,0.3nm,0.4s,baz=142,slow=13,SNR=16	**17.73**	**335**	⇑P	**Pn**	**20 11 06.3**	**-1.5**
KURBB	**Kurchatov Arra** comp=E,0.1nm,0.3s,baz=203,slow=10,SNR=18	**17.84**	**15**	P	**Pn**	**20 11 07.6**	**-1.5**
AKTO	**Aktyubinsk** comp=E,1.7nm,0.6s	**19.41**	**334**	⇑P	**P**	**20 11 28.3**	**+1.5**
AKTO	**Aktyubinsk** comp=E,0.2nm,0.3s,baz=147,slow=12,SNR=4.3	**19.41**	**334**	P	**Pn**	**20 11 28.5**	**+0.4**
BVA0	**Borovoye Array** comp=E,1.5nm,0.8s,baz=162,slow=10,SNR=12	**19.42**	**359**	⇑P	**P**	**20 11 27.9**	**+1.0**
BVAR	**Borovoye Array** comp=E,0.4nm,0.3s,baz=160,slow=11,SNR=14	**19.42**	**359**	P	**P**	**20 11 28.0**	**+1.1**
ZALV	**Zalesovo Beam** comp=E,0.9nm,0.4s,baz=221,slow=10,SNR=6.2	**22.51**	**21**	P	**P**	**20 11 59.7**	**-0.6**
ARCES	**ARCESS Array B** comp=E,1.6nm,0.9s,baz=126,slow=9.1,SNR=4.9	**43.88**	**339**	P	**P**	**20 15 07.3**	**+0.8**
NOA	**NORSAR Array B** comp=E,0.4nm,0.6s,baz=98,slow=7.8,SNR=3.4	**46.80**	**325**	P	**P**	**20 15 30.5**	**+0.7**
WRA	**Warramunga Arr** comp=E,0.4nm,0.8s,baz=323,slow=4.9,SNR=4.5	**80.34**	**122**	P	**P**	**20 19 12.6**	**+0.9**
ASAR	**Alice Springs** comp=E,0.3nm,1.0s,baz=303,slow=5.2,SNR=2.9	**82.48**	**125**	P	**P**	**20 19 23.0**	**+0.1**

IDC 05 20:08:45.7±1.9, 2.21S×127.45E, h0km, mb3.2/3, ML3.2/1, Error ellipse: s-maj=184.6km s-min=23.1km az=67.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=342,slow=12,SNR=8.0	**18.87**	**160**	P	P	20 13 07.5	-0.2
ASAR	**Alice Springs** 0.6nm,0.6s,baz=345,slow=11,SNR=10	**22.23**	**164**	P	P	20 13 44.6	+0.4
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=115,slow=6.3,SNR=5.2	**62.85**	**327**	P	P	20 19 13.7	+0.2
KURBB	**Kurchatov Arra** 0.1nm,0.4s,baz=131,slow=5.5,SNR=5.2	**67.12**	**329**	P	P	20 19 40.8	-0.4

*IDC **05** 20:30:13.2±4.2, 5.29S×101.89E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/23, mbtmp3.4/4, Error ellipse: s-maj=164.2km s-min=65.6km az=62.0*
*DJA **05** 20:30:31.6±1.2, 4°S±4°×10°1E±°, h28km±15km, M3.7/8, mb4.0/1, MLv3.5/8*
ISC 05 20:30:29.2±1.3, 3.90S±0.10×100.97E±0.09, h29km, n13, σ1§65/18, mb3.4/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**1.48**	**59**	P	**Pn**	**20 30 54.8**	**+0.9**
MASI				S	**Sn**	**20 31 10.2**	**-2.1**
MNAI	**Manna**	**2.03**	**103**	P	**Pn**	**20 31 02.5**	**+1.0**
MNAI				S	**Sb**	**20 31 28.1**	**-2.3**
LHSI	**Lahat**	**2.55**	**88**	P	**Pn**	**20 31 10.9**	**+2.3**
LHSI				S	**Sb**	**20 31 44.5**	**-0.7**
MDSI	**Maura Dua**	**3.25**	**100**	P	**Pn**	**20 31 19.9**	**+1.6**
MDSI				S	**Sn**	**20 31 58.8**	**+2.7**
LWLI	**Liwa**	**3.27**	**110**	P	**Pn**	**20 31 20.3**	**+1.6**
LWLI				S	**Sn**	**20 31 58.8**	**+2.0**
KASI	**Kota Agung**	**3.87**	**115**	P	**Pn**	**20 31 27.6**	**+0.9**
KASI				S	**Sn**	**20 32 09.9**	**-1.3**
CGJI	**Cibinong**	**5.42**	**120**	P	**Pn**	**20 31 47.9**	**-0.2**
SBJI	**Serang**	**5.59**	**113**	P	**Pn**	**20 31 49.0**	**-1.5**
CMAR	**Chiang Mai Arr** 0.4nm,0.7s,baz=182,slow=8.2,SNR=4.7	**22.31**	**355**	P	**P**	**20 35 25.8**	**+1.2**
SONM	**Songino Array** 0.4nm,0.6s,baz=185,slow=8.1,SNR=4.7	**51.74**	**5**	P	**P**	**20 39 33.4**	**-0.7**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=153,slow=7.5,SNR=5.2	**53.11**	**344**	P	**P**	**20 39 43.9**	**-0.2**
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=152,slow=6.5,SNR=3.1	**59.21**	**349**	P	**P**	**20 40 27.0**	**-0.5**
TXAR	**Lajitas Array** 0.2nm,0.7s,baz=251,slow=2.8,SNR=3.6	**145.57**	**40**	PKPbc	PKPbc	20 49 54.4	-11

*ISCJB **05** 20:32:53.6±0.7, 2.07S±0.09×129.00E±0.06, h24km, mb3.9/2, Error ellipse: s-maj=14.5km s-min=6.2km az=31.9*
*DJA **05** 20:32:55.6±0.4, 2°S±4°×12°9E±°, h90km±24km, M4.0/9, mb4.6/1, mB4.6/1, MLv3.8/9, Mw(mB)3.8/1*
*IDC **05** 20:33:03.2±3.9, 2.85S×130.24E, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.4/29, mbtmp3.9/3, ML3.9/1, Error ellipse: s-maj=97.4km s-min=35.4km az=84.0*
ISC 05 20:32:55.1±1.1, 1.87S±0.10×129.04E±0.08, h24km, n10, σ1§75/12, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.47**	**184**	P	**Pn**	**20 33 22.0**	**+1.9**
LBMI	**Labuha**	**1.97**	**309**	P	**Pn**	**20 33 28.4**	**+1.4**
LBMI				S	**Sn**	**20 33 53.0**	**+2.1**
NLAI	**Namlea**	**2.37**	**235**	P	**Pn**	**20 33 33.8**	**+1.4**
BNDI	**Bandanaira**	**2.77**	**162**	P	**Pn**	**20 33 40.3**	**+2.3**
SANI	**Sanana**	**3.05**	**267**	P	**Pn**	**20 33 40.5**	**-1.4**
FAKI	**Fak Fak**	**3.37**	**108**	P	**Pn**	**20 33 46.1**	**-0.2**
FAKI				S	**Sn**	**20 34 24.6**	**-1.0**
LUWI	**Luwuk**	**6.32**	**277**	P	**Pn**	**20 34 26.4**	**-0.4**
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=346,slow=12,SNR=30	**18.69**	**164**	P	**P**	**20 37 09.4**	**-2.4**
WRA	0.1nm,0.3s,baz=351,slow=24,SNR=1.4			S	Sn	20 40 21.8	-19
ASAR	**Alice Springs** 5.3nm,0.8s,baz=350,slow=12,SNR=49	**22.17**	**168**	P	**P**	**20 37 48.4**	**-1.2**
ASAR	1.0nm,0.8s,baz=349,slow=22,SNR=5.7			S	S	20 41 45.1	-7.7
STKA	**Stephens Creek** 1.4nm,0.8s,baz=5.7,slow=10,SNR=3.1	**32.11**	**160**	P	**P**	**20 39 20.6**	**+0.1**

*ISCJB **05** 20:44:12.4±0.5, 16.45S±0.1×177.39W±0.09, h400km, mb3.9/11, Error ellipse: s-maj=17.1km s-min=11.0km az=173.3*
*IDC **05** 20:44:15.2±2.4, 16.31S×177.59W, h422km±24km, mb3.5/10, mb1 3.8/10, mb1mx3.5/25, mbtmp4.3/10, Error ellipse: s-maj=19.9km s-min=12.8km az=143.0*
ISC 05 20:44:13.1±0.5, 16.45S±0.1×177.35W±0.10, h400km, n50, σ1§58/44, mb4.0/11, 6C-7D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue** baz=7.4,SNR=3.3	**7.57**	**112**	P	**Pn**	**20 46 04.7**	**+1.5**
DZM	**Mont Dzumac** 1.4nm,0.3s,baz=272,slow=24,SNR=10	**16.31**	**247**	P	**P**	**20 47 42.1**	**+2.2**
URZ	**Urewera** 8.1nm,0.6s,baz=86,slow=5.3,SNR=4.4	**22.33**	**192**	P	**P**	**20 48 35.5**	**-3.1**
COEN	**Coen** baz=38,SNR=5.6	**38.13**	**268**	P	**P**	**20 50 57.0**	**+0.8**
STKA	**Stephens Creek** 1.4nm,0.6s,baz=100,slow=13,SNR=4.5	**40.26**	**240**	P	**P**	**20 51 12.0**	**-1.3**
WRA	**Warramunga Arr** 1.4nm,0.7s,baz=85,slow=6.9,SNR=46	**45.92**	**258**	P	**P**	**20 51 57.1**	**-1.1**
WRA	0.5nm,0.3s,baz=91,slow=3.7,SNR=7.5			PcP	**PcP**	**20 53 27.4**	**-0.2**
ASAR	**Alice Springs** 5.2nm,0.7s,baz=89,slow=8.1,SNR=90	**46.19**	**253**	P	**P**	**20 51 59.5**	**-0.8**
ASAR	0.8nm,0.6s,baz=96,slow=5.0,SNR=4.5			PcP	**PcP**	**20 53 28.1**	**-0.5**
ASAR	0.4nm,0.8s,baz=104,slow=5.8,SNR=3.6			ScP	**ScP**	**20 56 42.4**	**-0.6**
ASAR	0.3nm,0.7s,baz=83,slow=14,SNR=3.0			S	S	20 58 11.2	-4.9
KDU	**Kakadu** baz=49,SNR=10	**48.61**	**267**	P	**P**	**20 52 20.9**	**+2.2**
WRKA	**Warakurna** baz=52,SNR=43	**51.28**	**251**	P	**P**	**20 52 37.9**	**-0.6**
KNRA	**Kununurra** baz=52,SNR=6.7	**51.66**	**263**	P	**P**	**20 52 44.4**	**+3.0**
MEEK	**Meekatharra** baz=60,SNR=3.2	**59.92**	**248**	P	**P**	**20 53 41.5**	**+2.3**
VNDA	**Vanda** 1.5nm,0.6s,baz=352,slow=6.7,SNR=16	**62.04**	**185**	P	**P**	**20 53 52.8**	**+0.5**
QSPA	**South Pole Qui** 6.7nm,0.7s,baz=334,slow=0.7,SNR=24	**73.66**	**180**	P	**P**	**20 55 04.4**	**+0.2**
ILAR	**Eielson Array** 2.2nm,0.6s,baz=227,slow=5.5,SNR=34	**84.18**	**13**	P	**P**	**20 55 59.5**	**-0.8**
TXAR	**Lajitas Array** 2.2nm,0.8s,baz=216,slow=6.9,SNR=19	**84.33**	**57**	P	**P**	**20 56 03.6**	**+1.6**
PDAR	**Pinedale Array** 0.6nm,0.7s,baz=91,slow=1.2,SNR=5.6	**85.56**	**43**	P	**P**	**20 56 07.5**	**-0.3**
MAW	**Mawson** 1.8nm,0.6s,baz=138,slow=7.4,SNR=7.6	**85.63**	**199**	P	**P**	**20 56 07.2**	**-0.3**
SNAA	**Sanae**	**92.09**	**178**	P	**P**	**20 56 37.5**	**-0.2**
VNA3	**Neumayer Olymp**	**92.19**	**176**	P	**P**	**20 56 38.1**	**-0.1**
YKA	**Yellowknife Ar** 0.6nm,0.6s,baz=244,slow=4.4,SNR=12	**92.53**	**24**	P	**P**	**20 56 39.3**	**-0.3**
VNA2	**Neumayer--Watz** baz=192,slow=4.7	**92.64**	**177**	P	**P**	**20 56 40.6**	**+0.4**
VNA1	**Neumayer--Stat**	**92.86**	**176**	P	**P**	**20 56 41.9**	**+0.7**
ZALV	**Zalesovo Beam** 0.3nm,0.5s,baz=79,slow=3.1,SNR=2.6	**107.66**	**322**	PKiKP	**PKiKP**	**21 01 50.3**	**-2.9**
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=274,slow=2.1,SNR=6.9	**108.80**	**314**	PKiKP	**PKiKP**	**21 01 54.0**	**-1.6**
KURBB	**Kurchatov Arra** 0.3nm,0.6s,baz=90,slow=2.1,SNR=4.8	**111.42**	**318**	PKiKP	**PKiKP**	**21 01 58.6**	**-1.7**
BVAR	**Borovoye Array** 0.6nm,0.6s,baz=35,slow=5.4,SNR=6.3	**116.30**	**321**	PKP	**PKPdf**	**21 02 07.3**	**-2.3**
ARCES	**ARCESS Array B** 1.6nm,0.5s,baz=319,slow=0.5,SNR=20	**124.39**	**350**	PKP	**PKPdf**	**21 02 25.2**	**-0.7**
FINES	**FINESS Array B** 0.6nm,0.5s,baz=64,slow=4.4,SNR=7.0	**131.99**	**345**	PKP	**PKPdf**	**21 02 38.5**	**-0.8**
NOA	**NORSAR Array B** 0.5nm,0.8s,baz=13,slow=4.1,SNR=2.7	**134.98**	**354**	PKP	**PKPdf**	**21 02 44.7**	**-0.3**
KWP	**Kalwaria Pacla**	**143.06**	**338**	⇑*i*P	**PKPdf**	**21 03 02.9**	**+2.8**
CFR	**Carcaliu**	**144.19**	**329**	⇑*i*P	PKPbc	21 03 01.1	-0.2
DPC	**Dobruska-Polom**	**144.37**	**345**	*e*PKP	PKPbc	21 03 02.1	+0.3
TRPA	**Tarpa**	**144.37**	**337**	⇑*i*P	PKPbc	21 03 01.7	-0.1
VRI	**Vrincioaia**	**144.38**	**331**	⇓*i*P	PKPbc	21 03 01.5	-0.4
BRTR	**Keskin Array B** 1.2nm,0.4s,baz=98,slow=2.5,SNR=12	**144.40**	**317**	PKP	PKPbc	21 03 02.1	-0.3
PLOR	**Plostina**	**144.43**	**331**	⇓*i*P	PKPbc	21 03 01.6	-0.5
KRLC	**Kraliky**	**144.50**	**344**	*e*PKP	PKPbc	21 03 02.1	-0.1
MORC	**Moravsky Berou**	**144.57**	**343**	⇑*i*P	PKPbc	21 03 02.6	+0.1
PVCC	**Panska Ves**	**144.61**	**347**	*e*PKP	PKPbc	21 03 02.5	0.0
PVCC				*ex*	x	21 03 05.2	
TLB	**Topalu**	**144.66**	**328**	⇓*i*P	PKPbc	21 03 02.5	-0.3
DOPR	**Dopca**	**144.92**	**332**	⇓*i*P	**PKPdf**	**21 03 04.1**	**+0.6**
MLR	**Muntele Rosu**	**145.02**	**331**	⇓*i*P	**PKPdf**	**21 03 02.8**	**-1.0**
PRU	**Pruhonice**	**145.12**	**347**	*e*PKP	**PKPdf**	**21 03 03.9**	**+0.3**
GOPC	**GO Pecny, Ondr**	**145.14**	**346**	*e*PKP	**PKPdf**	**21 03 03.8**	**+0.1**
DRGR		**145.40**	**335**	⇑*i*P	**PKPdf**	**21 03 04.8**	**+0.5**
ARR	**Arges**	**145.72**	**332**	⇓*i*P	**PKPdf**	**21 03 06.3**	**+1.4**
GERES	**GERESS Array B** 3.3nm,1.1s,baz=46,slow=3.9,SNR=5.2	**146.39**	**347**	PKPbc	**PKPdf**	**21 03 07.7**	**+1.7**
CONA	**Conrad Observa** 2.7nm,0.6s	**146.71**	**344**	⇑*i*PKPab	**PKPdf**	**21 03 09.1**	**+2.6**
ABTA	**Abfaltersbach** 2.4nm,0.6s	**148.63**	**347**	⇓*i*PKPbc	**PKPdf**	**21 03 13.1**	**+3.4**
TORD	**Torodi Ar. Bea** 1.0nm,0.9s,baz=3.8,slow=1.2,SNR=4.5	**176.66**	**164**	PKP	**PKPdf**	**21 03 35.5**	**-1.6**
TORD	1.3nm,0.8s,baz=186,slow=4.5,SNR=8.5			PKPab	**PKPab**	**21 05 21.7**	**+0.2**

*ISCJB **05** 20:55:56.6±0.5, 25.03N±0.04×122.31E±0.02, h162km±4km, Error ellipse: s-maj=6.2km s-min=2.8km az=160.4*
*TAP **05** 20:55:56.5, 25.12N×122.26E, h170km, ML3.8, D*
*JMA **05** 20:55:57.4±0.2, 25.01N×122.26E, h155km±2km, M2.8*
ISC 05 20:55:55.6±1.5, 25.08N±0.06×122.28E±0.03, h173km±8km, n61, σ0§92/114, 7C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao** baz=245	**0.27**	**256**	⇑*i*P	**Pn**	**20 56 19.3**	**+0.5**
TWB1	baz=245			*e*S	**Sn**	**20 56 39.2**	**+2.7**
EGS	baz=226	**0.39**	**234**	P	**Pn**	**20 56 19.5**	**+0.4**
NWF	**Wu-fen Shan** baz=263	**0.45**	**270**	*i* P	**Pn**	**20 56 20.1**	**+0.6**
NWF	baz=263			S	**Sn**	**20 56 36.6**	**-1.1**
ILA	**Ilan** baz=232	**0.57**	**237**	*e*P	**Pn**	**20 56 20.1**	**+0.1**
ILA	baz=232			*e*S	**Sn**	**20 56 39.5**	**+0.9**
PCYT	**Pengchaiyu** baz=342	**0.58**	**341**	*e*P	**Pn**	**20 56 20.8**	**+0.8**
TWC	**Suao** baz=215	**0.60**	**220**	P	**Pn**	**20 56 20.2**	**+0.1**
TWC	baz=215			*e*S	**Sn**	**20 56 39.4**	**+0.5**
TWA	**Mucha** baz=256	**0.64**	**262**	*e*P	**Pn**	**20 56 20.4**	**+0.1**
TWA	baz=256			*e*S	**Sn**	**20 56 38.8**	**-0.4**
TWY	**Chenhua** baz=284	**0.65**	**288**	P	**Pn**	**20 56 20.9**	**+0.6**
TWY	baz=284			S	**Sn**	**20 56 38.4**	**-0.8**
TWE	**Neicheng** baz=232	**0.66**	**238**	P	**Pn**	**20 56 20.9**	**+0.5**
TWE	baz=232			*e*S	**Sn**	**20 56 38.9**	**-0.4**
ENTT	**Nioudou** baz=232	**0.78**	**236**	⇑*i*P	**Pn**	**20 56 21.8**	**+0.7**
ENTT	baz=232			S	**Sn**	**20 56 40.3**	**-0.4**
TWS1	**Kuangyinshan** baz=268	**0.78**	**272**	P	**Pn**	**20 56 21.6**	**+0.5**
TWS1	baz=268			*e*S	**Sn**	**20 56 40.7**	**+0.1**
ENA	**Nanau** baz=214	**0.81**	**217**	⇑*i*P	**Pn**	**20 56 22.1**	**+0.8**
ENA	baz=214			S	**Sn**	**20 56 40.8**	**-0.3**
JYNG	**Yonagunijimaku**	**0.87**	**135**	P	**Pn**	**20 56 21.5**	**-0.2**
JYNG				*e*S	**Sn**	**20 56 39.6**	**-2.1**
YOJ	**Yonaguni jima**	**0.90**	**132**	P	**Pn**	**20 56 21.9**	**0.0**
YOJ				*e*S	**Sn**	**20 56 41.2**	**-0.9**
NSK	**Sanguang** baz=241	**0.92**	**245**	⇑*i*P	**Pn**	**20 56 22.5**	**+0.3**
NSK	baz=241			*e*S	**Sn**	**20 56 40.8**	**-1.7**
NCU	**National Centr** baz=261	**0.99**	**264**	*e*P	**Pn**	**20 56 23.1**	**+0.6**
NCU	baz=261			*e*S	**Sn**	**20 56 42.3**	**-1.0**
NNS	**Nan Shan** baz=229	**1.04**	**233**	⇑*i*P	**Pn**	**20 56 23.9**	**+0.8**
NNS	baz=229			*e*S	**Sn**	**20 56 43.5**	**-0.6**
TWD	**Chiawan** baz=210	**1.17**	**212**	*e*P	**Pn**	**20 56 24.4**	**+0.4**
TWD	baz=210			*e*S	**Sn**	**20 56 44.8**	**-1.0**
NSTT	**Nanjuang** baz=246	**1.24**	**249**	⇑*i*P	**Pn**	**20 56 25.3**	**+0.7**
NSTT	baz=246			S	**Sn**	**20 56 45.7**	**-1.2**
HWA	**Hwalien** baz=207	**1.25**	**209**	*e*P	**Pn**	**20 56 25.7**	**+1.0**
HWA	baz=207			*e*S	**Sn**	**20 56 47.5**	**+0.3**
TWT	**Tachien** baz=229	**1.29**	**231**	*e*P	**Pn**	**20 56 26.5**	**+1.2**
TWT	baz=229			*e*S	**Sn**	**20 56 47.9**	**-0.2**
WHF	**Hehuan Shan** baz=222	**1.31**	**225**	⇑*i*P	**Pn**	**20 56 26.7**	**+1.0**
WHF	baz=222			S	**Sn**	**20 56 48.0**	**-0.8**
ESL	**Shilin** baz=209	**1.47**	**212**	*e*P	**Pn**	**20 56 26.7**	**-0.1**
ESL	baz=209			*e*S	**Sn**	**20 56 48.5**	**-2.3**
IRIF	**Iriomote-Funau**	**1.51**	**119**	P	**Pn**	**20 56 27.5**	**+0.4**
IRIF				*e*S	**Sn**	**20 56 50.7**	**-0.7**
NSY	**Sanyi** baz=242	**1.53**	**245**	*e*P	**Pn**	**20 56 28.0**	**+0.7**
NSY	baz=242			*e*S	**Sn**	**20 56 51.1**	**-0.6**
TWQ1	**Liyutan** baz=240	**1.55**	**242**	*e*P	**Pn**	**20 56 28.2**	**+0.7**
TWQ1	baz=240			S	**Sn**	**20 56 51.3**	**-0.7**
WDT	**Danda** baz=216	**1.68**	**219**	*e*P	**Pn**	**20 56 30.1**	**+1.0**
WDT	baz=216			S	**Sn**	**20 56 54.2**	**-0.8**
HATJ	**Hateruma jima**	**1.72**	**126**	*e*S	**Sn**	**20 56 54.7**	**-0.5**
TCU	**Taichung** baz=235	**1.73**	**238**	*e*P	**Pn**	**20 56 30.0**	**+0.7**
TCU	baz=235			*e*S	**Sn**	**20 56 54.1**	**-1.1**
SMLT	**Sun Moon Lake** baz=225	**1.73**	**227**	*e*P	**Pn**	**20 56 30.9**	**+1.5**
SMLT	baz=225			*e*S	**Sn**	**20 56 55.8**	**+0.2**
TYC	**Yuchr** ba

CHN5					S		Sn	20 57 02.1	0.0
	baz=223										
WGK	**Gukeng**	**2.09**	**229**	*eP*		**Pn**	20 56 31.4	-1.7
	baz=227										
WGK					*eS*		**Sn**	20 57 02.6	+0.4
	baz=227										
CHKT	**Chengkung**	**2.14**	**203**	*eP*		**Pn**	20 56 34.4	+0.6
	baz=201										
CHKT					*eS*		**Sn**	20 57 02.6	-0.7
	baz=201										
ELDTW	**Lidau**	**2.20**	**212**	*eP*		**Pn**	20 56 34.3	-0.4
	baz=210										
ELDTW					*eS*		**Sn**	20 57 04.6	-0.2
	baz=210										
JTJ	**Tarama**	**2.25**	**101**	P		**Pn**	20 56 36.0	+1.1
JTJ					*eS*		**Sn**	20 57 04.4	-1.0
CHN4	**Tsaushan**	**2.30**	**222**	*eP*		**Pn**	20 56 36.5	+0.9
	baz=220										
CHN4					*eS*		**Sn**	20 57 06.6	-0.1
	baz=220										
STYT	**Tauyuan**	**2.36**	**216**	*eP*		**Pn**	20 56 37.3	+0.9
	baz=215										
STYT					*eS*		**Sn**	20 57 08.0	+0.1
	baz=215										
WTP	**Ta-pu**	**2.37**	**220**	*eP*		**Pn**	20 56 37.1	+0.6
	baz=218										
WTP					*eS*		**Sn**	20 57 07.9	-0.3
	baz=218										
TWK	**Hsinying**	**2.43**	**223**	*eP*		**Pn**	20 56 37.8	+0.6
	baz=221										
TWK					*eS*		**Sn**	20 57 09.0	-0.4
	baz=221										
CHN1	**Nanshi**	**2.47**	**221**	*eP*		**Pn**	20 56 38.3	+0.7
	baz=219										
CHN1					*eS*		**Sn**	20 57 10.3	+0.1
	baz=219										
SGST	**Jiashian**	**2.52**	**218**	*eP*		**Pn**	20 56 39.4	+1.2
	baz=216										
SGST					*eS*		**Sn**	20 57 11.0	-0.1
	baz=216										
JIRB	**Irabujima**	**2.64**	**95**	P		**Pn**	20 56 41.0	+1.4
JIRB					*eS*		**Sn**	20 57 13.2	-0.5
JIKM	**Ikemajima**	**2.70**	**93**	P		**Pn**	20 56 42.2	+1.9
JIKM					*eS*		**Sn**	20 57 14.8	-0.2
ECL	**Taimali**	**2.75**	**206**	*eP*		**Pn**	20 56 42.5	+1.6
	baz=205										
ECL					*eS*		**Sn**	20 57 15.2	-0.9
	baz=205										
JMJ	**Miyako jima 2**	**2.75**	**95**	*eS*		**Sn**	20 57 16.1	0.0
SSD	**Sandimen**	**2.76**	**213**	*eP*		**Pn**	20 56 41.7	+0.6
	baz=212										
SSD					*eS*		**Sn**	20 57 16.8	+0.3
	baz=212										
JOGS	**Gusukube**	**2.86**	**96**	P		**Pn**	20 56 44.1	+1.9
JOGS					*eS*		**Sn**	20 57 18.9	+0.5
PNG	**Penghu**	**2.90**	**239**	*eP*		**Pn**	20 56 41.6	-1.1
	baz=237										
PNG					*eS*		**Sn**	20 57 17.8	-1.5
	baz=237										
JAGN	**Aguni-jima**	**4.72**	**70**	P		**Pn**	20 57 06.6	+0.8
JNTH	**Nagotoyohara**	**5.37**	**73**	P		**Pn**	20 57 14.4	+0.1
JOW	**Kunigami**	**5.67**	**71**	P		**Pn**	20 57 17.8	-0.5
JOKE	**Okinoerabujima**	**6.09**	**67**	P		**Pn**	20 57 23.2	-0.6

*IDC **05** 21:05:06.5±0.7,3°.63N×126°.64E,h0km,mb4.1/11, mb1 4.2/11,mb1mx4.0/35,mbtmp4.1/11,MS3.3/4, Ms1 3.3/4,ms1mx2.8/32,Error ellipse: s-maj=41.4km s-min=14.7km az=71.0*

*ISCJB **05** 21:05:11.5±0.3,3°.67N±0°.03×126°.74E±0°.06,h53km, mb4.4/21,MS3.2/4,Error ellipse: s-maj=8.8km s-min=4.2km az=170.9*

*DJA **05** 21:05:12.9±1.1,3°N±7°×12°7E±°,h10km,M4.3/6,mb4.4/3, mB4.8/2,MLv4.2/6,Mw(mB)4.1/2*

*NEIC **05** 21:05:12.0±0.8,3°.65N×126°.72E,h40km±9km,mb4.5/12, Error ellipse: s-maj=9.9km s-min=5.1km az=72.0*

ISC 05 21:05:13.5±0.5,3°.69N±0°.06×126°.80E±0°.08,h53km,n54, σ1ᵍ11/53,mb4.3/21,MS3.2/4,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**2.95**	**169**	P		**Pn**	**21 05 56.7**	**-1.2**
TNTI				S		**Sn**	**21 06 31.2**	**-0.9**
TNTI	**Ternate**	**2.95**	**169**	*e*Pn		Pn	21 05 54.5	-3.4
KMSI	**Cibinong**	**4.18**	**222**	P		Pn	21 06 18.7	+3.9
LBMI	**Labuha**	**4.35**	**171**	P		**Pn**	**21 06 17.8**	**+0.7**
LBMI				S		**Sn**	**21 07 07.8**	**+1.2**
SANI	**Sanana**	**5.76**	**188**	P		**Pn**	**21 06 34.9**	**-1.5**
	13nm,0.7s,0.1nm							
SANI				S		Sn	21 07 33.6	-7.6
	13nm,0.7s,0.1nm							
MRSI	**Marisa**	**5.81**	**237**	P		**Pn**	**21 06 39.0**	**+1.9**
MRSI				S		**Sn**	**21 07 41.0**	**-1.5**
LUWI	**Luwuk**	**6.19**	**221**	P		**Pn**	**21 06 45.0**	**+2.7**
LUWI	**Luwuk**	**6.19**	**221**	*e*Pn		**Pn**	**21 06 40.3**	**-2.0**
NLAI	**Namlea**	**6.89**	**178**	P		**Pn**	**21 06 52.0**	**+0.1**
FAKI	**Fak Fak**	**8.53**	**140**	*e*Pn		**Pn**	**21 07 14.8**	**+0.4**
SBUM	**Sibu**	**14.61**	**266**	*e*Pn		**P**	**21 08 43.8**	**+1.4**
YULB	**Yu-li**	**20.30**	**345**	*eP*		**P**	**21 09 43.3**	**-1.7**
	32nm,1.6s							
TPUB	**Ta-pu**	**20.39**	**344**	*eP*		**P**	**21 09 44.8**	**-1.3**
	18nm,1.1s							
SSLB	**Suanglung**	**20.76**	**345**	*eP*		**P**	**21 09 46.4**	**-3.7**
	9.3nm,1.0s							
YHNB	**Yeheng**	**21.50**	**346**	*eP*		**P**	**21 09 57.7**	**-0.4**
	73nm,1.8s							
LEM	**Lembang**	**21.81**	**241**	LR		LR	21 19 26.7	
	comp=Z,64nm,19.4s,baz=168,slow=40							
WRAB	**Tennant Creek**	**24.62**	**163**	*eP*		**P**	**21 10 28.8**	**-0.2**
	13nm,0.8s							
WRA	**Warramunga Arr**	**24.62**	**163**	P		**P**	**21 10 28.0**	**-1.1**
	7.9nm,0.7s,baz=343,slow=10,SNR=41							
AS12	**Alice Springs**	**28.06**	**166**	*eP*		**P**	**21 11 00.3**	**+0.2**
ASAR	**Alice Springs**	**28.06**	**166**	P		**P**	**21 11 00.3**	**+0.2**
	1.0nm,0.6s,baz=336,slow=6.6,SNR=13							
ASAR					PcP	**PcP**	**21 14 14.9**	**+1.1**
	0.3nm,0.4s,baz=355,slow=2.1,SNR=5.1							
AS01	**Alice Springs**	**28.07**	**166**	*eP*		**P**	**21 10 59.4**	**-0.7**
JNU	**Nakatsue**	**29.53**	**7**	LR		LR	21 20 60.0	
	comp=Z,21nm,21.6s,baz=42,slow=32							
CM31	**Chiang Mai Arr**	**30.95**	**300**	*eP*		**P**	**21 11 25.8**	**0.0**
CMAR	**Chiang Mai Arr**	**30.95**	**300**	P		**P**	**21 11 25.8**	**0.0**
	0.7nm,0.5s,baz=116,slow=6.4,SNR=7.6							
CHTO	**Chiang Mai**	**31.10**	**301**	*eP*		**P**	**21 11 27.6**	**+0.5**
	2.6nm,0.9s							
KS15	**Wonju Array Si**	**33.61**	**2**	*eP*		**P**	**21 11 50.2**	**+1.4**
KSAR	**Wonju Array Be**	**33.61**	**2**	P		**P**	**21 11 50.2**	**+1.4**
KSRS	**Korea Array**	**33.62**	**2**	P		**P**	**21 11 50.2**	**+1.3**
	1.5nm,0.7s,baz=189,slow=11,SNR=4.4							
MJAR	**Matsushiro Arr**	**34.34**	**16**	P		**P**	**21 11 55.7**	**+0.5**
	0.3nm,0.4s,baz=181,slow=13,SNR=4.0							
MAJO	**Matsushiro**	**34.34**	**16**	*eP*		**P**	**21 11 55.7**	**+0.5**
	18nm,1.8s							
STKA	**Stephens Creek**	**38.07**	**159**	P		**P**	**21 12 27.2**	**+0.1**
	3.7nm,0.6s,baz=336,slow=8.2,SNR=10.0							
STKA	**Stephens Creek**	**38.07**	**159**	*eP*		**P**	**21 12 26.4**	**-0.7**
	25nm,2.6s							
LSA	**Lhasa**	**42.52**	**311**	*eP*		**P**	**21 13 03.6**	**-0.9**
	3.2nm,0.9s							
YSS	**Yuzh-Sakhalins**	**45.26**	**15**	*eP*		**P**	**21 13 25.0**	**-0.7**
	232nm,2.7s							
ULN	**Ulaanbaatar**	**47.18**	**342**	*eP*		**P**	**21 13 41.1**	**+0.1**
	6.9nm,1.6s							
SONA0	**Songino Array**	**47.36**	**341**	*eP*		**P**	**21 13 42.6**	**+0.3**
SONM	**Songino Array**	**47.36**	**341**	P		**P**	**21 13 42.6**	**+0.3**
	0.9nm,0.6s,baz=160,slow=7.7,SNR=8.0							
SONM					PcP	**PcP**	**21 15 13.8**	**+1.4**
	0.6nm,0.7s,baz=182,slow=4.5,SNR=3.6							
SONA1	**Songino Array**	**47.37**	**341**	*eP*		**P**	**21 13 42.8**	**+0.4**
MK01	**Makanchi Array**	**57.61**	**325**	*eP*		**P**	**21 14 57.9**	**-0.3**
MK32	**Makanchi Array**	**57.63**	**325**	*eP*		**P**	**21 14 58.3**	**0.0**
MKAR	**Makanchi Array**	**57.63**	**325**	P		**P**	**21 14 58.3**	**0.0**
	1.4nm,0.7s,baz=117,slow=7.8,SNR=20							
YAK	**Yakutsk**	**58.25**	**2**	*eP*		**P**	**21 15 03.2**	**+1.0**
	25nm,0.5s							
ZALV	**Zalesovo Beam**	**60.66**	**333**	P		**P**	**21 15 18.2**	**-0.8**
	0.6nm,0.4s,baz=139,slow=7.0,SNR=3.9							
ZAA1	**Zalesovo Array**	**60.66**	**333**	*eP*		**P**	**21 15 18.2**	**-0.8**
KURK	**Kurchatov**	**61.81**	**327**	*eP*		**P**	**21 15 26.3**	**-0.6**
	7.5nm,0.6s							
KKAR	**Karatay Array**	**63.31**	**317**	*eP*		**P**	**21 15 37.5**	**+0.5**
BVAR	**Borovoye Array**	**67.39**	**327**	LR		LR	21 46 11.1	
	comp=Z,52nm,20.5s,baz=225,slow=37							
BRVK	**Borovoye**	**67.47**	**327**	*eP*		**P**	**21 16 03.6**	**-0.1**
	6.4nm,1.0s							
BR101	**Keskin Array S**	**90.10**	**310**	*eP*		**P**	**21 18 07.6**	**-0.7**
BRTR	**Keskin Array B**	**90.10**	**310**	P		**P**	**21 18 07.6**	**-0.7**
	0.9nm,0.9s,baz=120,slow=5.0,SNR=4.8							
ARA0	**ARCESS Array S**	**90.51**	**340**	*eP*		**P**	**21 18 09.3**	**-0.1**
ARCES	**ARCESS Array B**	**90.51**	**340**	P		**P**	**21 18 09.3**	**-0.1**
	3.3nm,1.0s,baz=81,slow=7.7,SNR=6.7							
NOA	**NORSAR Array B**	**98.86**	**334**	LR		LR	22 06 12.8	
	comp=Z,13nm,19.8s,baz=30,slow=37							
TORD	**Torodi Ar. Bea**	**123.00**	**288**	PKP		**PKPdf**	**21 24 05.1**	**+0.1**
	0.3nm,0.8s,baz=103,slow=1.7,SNR=3.0							

*ISCJB **05** 21:05:30.6±1.7,43°.17N±0°.04×138°.52E±0°.05, h32km±15km,mb3.5/5,Error ellipse: s-maj=6.7km s-min=5.5km az=31.7*

*JMA **05** 21:05:30.4±0.2,43°.19N×138°.61E,h26km±4km,M3.5*

*IDC **05** 21:05:32.9±7.5,43°.27N×138°.47E,h29km±55km,mb3.3/5, mb1 3.6/7,mb1mx3.3/36,mbtmp3.5/7,ML3.0/2,Error ellipse: s-maj=27.9km s-min=19.7km az=161.0*

ISC 05 21:05:32.3±1.4,43°.15N±0°.05×138°.57E±0°.04,h29km±10km, n22,σ0ᵍ99/31,mb3.5/5,Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JSH	**Shimam**	**1.20**	**115**	P		**Pn**	**21 05 51.4**	**-1.6**
JSH				*eS*		**Sn**	**21 06 06.6**	**-1.7**
JOSM	**Okushiri--Mats**	**1.26**	**148**	P		**Pn**	**21 05 52.8**	**-1.1**
JOSM				*eS*		**Sn**	**21 06 08.9**	**-0.9**
JSK	**Shakotan**	**1.41**	**81**	P		**Pn**	**21 05 54.1**	**-1.8**
JYM2	**Yakumo 2**	**1.68**	**127**	P		**Pn**	**21 05 59.0**	**-0.7**
JYM2				*eS*		**Sn**	**21 06 20.0**	**-0.3**
JNB	**Noboribetsu**	**1.94**	**110**	P		**Pn**	**21 06 02.9**	**-0.3**
JNB				*eS*		**Sn**	**21 06 26.3**	**-0.3**
JSR	**Shiriuchi**	**2.12**	**139**	P		**Pn**	**21 06 05.7**	**0.0**
JSR				*eS*		**Sn**	**21 06 31.5**	**+0.4**
JKB	**Kayabe**	**2.22**	**124**	P		**Pn**	**21 06 06.7**	**-0.3**
JHR	**Hokuryu**	**2.37**	**74**	*eS*		**Sn**	**21 06 38.2**	**+0.9**
JYG	**Yagishiri**	**2.43**	**57**	P		**Pn**	**21 06 08.9**	**-1.1**
JYG				*eS*		**Sn**	**21 06 37.1**	**-1.6**
JOT	**Ohata**	**2.55**	**133**	P		**Pn**	**21 06 11.7**	**+0.1**
JSS	**Shosan**	**2.69**	**61**	P		**Pn**	**21 06 13.5**	**0.0**
JAB	**Ashibetsu**	**2.69**	**81**	P		**Pn**	**21 06 13.3**	**-0.2**
JIW	**Iwasaki**	**2.77**	**157**	P		**Pn**	**21 06 14.0**	**-0.7**
JIW				*eS*		**Sn**	**21 06 47.0**	**-0.2**
JBT2	**Biratori 2**	**2.81**	**96**	P		**Pn**	**21 06 15.4**	**+0.2**
ASAJ	**Asahikawa**	**3.08**	**70**	Pn		**Pn**	**21 06 18.9**	**-0.1**
	3.9nm,0.3s,baz=244,slow=10,SNR=35							
ASAJ					Sn	**Sn**	**21 06 55.8**	**+1.1**
	7.7nm,0.3s,baz=59,slow=32,SNR=10							
USRK	**Ussuriysk Ar.**	**4.89**	**285**	Pn		**Pn**	**21 06 43.9**	**+0.2**
	0.7nm,0.3s,baz=76,slow=15,SNR=13							
USRK					Sn	**Sn**	**21 07 37.7**	**-1.5**
	1.2nm,0.3s,baz=92,slow=23,SNR=6.0							
MJAR	**Matsushiro Arr**	**6.61**	**183**	Pn		Pb	21 07 20.2	-6.2
	0.1nm,0.3s,baz=20,slow=12,SNR=4.6							
ILAR	**Eielson Array**	**45.63**	**35**	P		**P**	**21 13 48.6**	**-1.0**
	0.4nm,0.9s,baz=252,slow=0.5,SNR=4.1							
YKA	**Yellowknife Ar**	**59.66**	**31**	P		**P**	**21 15 34.6**	**+1.3**
	0.2nm,0.5s,baz=305,slow=6.4,SNR=3.9							
WRA	**Warramunga Arr**	**62.90**	**184**	P		**P**	**21 15 57.0**	**+1.4**
	0.6nm,0.5s,baz=4.3,slow=7.2,SNR=10							
WRA					pP	**pP**	**21 16 05.0**	**+0.3**
	0.9nm,0.6s,baz=3.2,slow=7.3,SNR=3.5							
BRTR	**Keskin Array B**	**73.24**	**309**	P		**P**	**21 16 59.7**	**-1.1**
	0.1nm,0.4s,baz=79,slow=7.5,SNR=2.2							
PDAR	**Pinedale Array**	**74.91**	**45**	P		**P**	**21 17 11.2**	**+0.6**
	0.6nm,0.8s,baz=358,slow=2.7,SNR=5.2							

*ISCJB **05** 21:27:56.5±0.4,42°.84S±0°.08×41°.9E±0°.1,h10km, mb4.0/12,MS3.8/13,Error ellipse: s-maj=16.5km s-min=10.4km az=154.8*

*IDC **05** 21:27:56.6±0.6,42°.78S×42°.25E,h0km,mb3.9/11, mb1 4.1/11,mb1mx3.8/32,mbtmp3.9/11,MS3.7/14, Ms1 3.7/14,ms1mx3.6/27,Error ellipse: s-maj=28.4km s-min=16.3km az=77.0*

*NEIC **05** 21:27:58.2±0.3,42°.79S×42°.14E,h10km,mb4.7/5,Error ellipse: s-maj=13.0km s-min=8.1km az=68.0*

ISC 05 21:27:58.2±0.6,42°.8S±0°.1×42°.1E±0°.2,h10km,n41, σ0ᵍ77/30,mb4.1/12,MS3.7/13,4C-1D,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BOSA	**Boshof**	**19.61**	**311**	*eP*		**P**	**21 32 26.4**	**-0.4**
SUR	**Sutherland**	**19.75**	**295**	LR		LR	21 38 04.4	
	comp=Z,118nm,20.9s,baz=53,slow=31							
SUR	**Sutherland**	**19.75**	**295**	*eP*		**P**	**21 32 26.6**	**-1.7**
	361nm,2.3s							
OPO	**Ambohidratompo**	**24.52**	**12**	P		**P**	**21 33 18.9**	**+0.9**
	4.5nm,0.9s,baz=222,slow=12,SNR=3.9							
OPO					LR	LR	21 41 17.6	
	comp=Z,649nm,21.1s,baz=180,slow=33							
MAW	**Mawson**	**27.27**	**163**	P		**P**	**21 33 43.1**	**+0.8**
	3.3nm,0.8s,baz=323,slow=9.8,SNR=4.6							
MAW					LR	LR	21 42 08.2	
	comp=Z,117nm,20.0s,baz=53,slow=31							
MAW	**Mawson**	**27.27**	**163**	*eP*		**P**	**21 33 43.1**	**+0.8**
	23nm,2.7s							
LSZ	**Lusaka**	**29.89**	**332**	P		**P**	**21 34 06.2**	**-0.1**
	1.4nm,0.8s,baz=135,slow=14,SNR=2.4							
LSZ					LR	LR	21 45 08.6	
	comp=Z,70nm,20.3s,baz=96,slow=34							
LSZ	**Lusaka**	**29.89**	**332**	*eP*		**P**	**21 34 06.2**	**-0.1**
	95nm,3.0s							
SNAA	**Sanae**	**36.20**	**202**	P		**P**	**21 35 02.0**	**+1.2**
	1.9nm,0.9s,baz=58,slow=6.5,SNR=5.6							
SNAA	**Sanae**	**36.20**	**202**	*eP*		**P**	**21 35 02.0**	**+1.2**
	8.8nm,1.1s							
KMBO	**Kilima Mbogo**	**41.70**	**353**	LR		LR	21 51 02.5	
	comp=Z,97nm,19.5s,baz=102,slow=33							
QSPA	**South Pole Qui**	**47.42**	**180**	P		**P**	**21 36 31.4**	**-1.2**
	2.6nm,0.8s,baz=284,slow=3.8,SNR=9.5							
VNDA	**Vanda**	**54.48**	**167**	P		**P**	**21 37 24.9**	**-0.4**
	0.7nm,0.9s,baz=266,slow=6.8,SNR=3.2							
VNDA					LR	LR	21 58 52.3	
	comp=Z,52nm,19.8s,baz=228,slow=34							
H01W2	**Cape Leeuwin H**	**55.12**	**108**	T		T	22 36 55.5	
	baz=240,slow=75,SNR=93							
H01W3	**Cape Leeuwin H**	**55.13**	**108**	T		T	22 36 56.1	
	baz=240,slow=75,SNR=74							
H01W1	**Cape Leeuwin H**	**55.14**	**108**	T		T	22 36 56.7	
	baz=240,slow=75,SNR=84							
TOA0	**Torodi Ar. Sit**	**66.84**	**317**	*eP*		**P**	**21 38 51.0**	**+0.7**
TORD	**Torodi Ar. Bea**	**66.84**	**317**	P		**P**	**21 38 51.0**	**+0.7**
	1.3nm,0.9s,baz=150,slow=7.4,SNR=5.4							
TORD					LR	LR	22 06 00.6	
	comp=Z,40nm,20.6s,baz=165,slow=34							
AS12	**Alice Springs**	**75.61**	**109**	*eP*		**P**	**21 39 42.8**	**-0.7**
ASAR	**Alice Springs**	**75.61**	**109**	P		**P**	**21 39 42.8**	**-0.7**
	1.9nm,1.1s,baz=214,slow=7.0,SNR=6.2							
PLCA	**Paso Flores**	**77.02**	**226**	LR		LR	22 07 36.4	
	comp=Z,85nm,21.2s,baz=172,slow=31							
WRA	**Warramunga Arr**	**78.34**	**106**	P		**P**	**21 39 58.0**	**-1.0**
	1.1nm,0.9s,baz=220,slow=5.6,SNR=6.2							
CPUP	**Villa Florida**	**79.01**	**244**	LR		LR	22 10 06.4	
	comp=Z,194nm,19.0s,baz=163,slow=32							
CM31	**Chiang Mai Arr**	**80.27**	**54**	*eP*		**P**	**21 40 09.3**	**0.0**
CMAR	**Chiang Mai Arr**	**80.27**	**54**	P		**P**	**21 40 09.3**	**0.0**
	0.7nm,0.9s,baz=244,slow=5.6,SNR=4.1							
CMAR					LR	LR	22 10 23.5	
	comp=Z,44nm,18.4s,baz=202,slow=32							
GEYT	**Alibeck**	**81.63**	**13**	LR		LR	22 13 09.2	
	comp=Z,34nm,20.9s,baz=150,slow=33							
BR101	**Keskin Array S**	**82.48**	**353**	*eP*		**P**	**21 40 20.4**	**-0.4**
BRTR	**Keskin Array B**	**82.48**	**353**	P		**P**	**21 40 20.4**	**-0.3**
	0.6nm,0.8s,baz=176,slow=6.1,SNR=4.1							
KEST	**Kesra**	**83.66**	**334**	LR		LR	22 18 01.3	
	comp=Z,21nm,18.9s,baz=312,slow=36							
LSA	**Lhasa**	**85.07**	**41**	*eP*		**P**	**21 40 34.8**	**+0.2**
	3.6nm,0.9s							
CFR	**Carcaliu**	**88.46**	**350**	⇑*iP*		**P**	**21 40 50.7**	**+0.6**
MLR	**Muntele Rosu**	**89.06**	**349**	⇓*iP*		**P**	**21 40 53.2**	**+0.1**
ARR	**Arges**	**89.13**	**348**	⇑*iP*		**P**	**21 40 53.7**	**+0.3**
PLOR	**Plostina**	**89.31**	**349**	⇑*iP*		**P**	**21 40 54.4**	**+0.2**
VRI	**Vrincioaia**	**89.32**	**349**	⇑*iP*		**P**	**21 40 54.5**	**+0.3**
BUR04	**Bucovina Ar. S**	**91.25**	**349**	*eP*		**P**	**21 41 04.2**	**+0.9**
ESDC	**Sonseca Array**	**92.06**	**326**	LR		LR	22 24 08.3	
	comp=Z,35nm,18.8s,baz=205,slow=37							
MKAR	**Makanchi Array**	**96.05**	**26**	LR		LR	22 20 36.7	
	comp=Z,21nm,20.7s,baz=182,slow=33							
TXAR	**Lajitas Array**	**149.45**	**255**	PKPbc		**PKPbc**	**21 47 48.4**	**+0.7**
	3.0nm,1.0s,baz=167,slow=4.4,SNR=4.7							
ULM	**Lac du Bonnet**	**150.44**	**299**	PKPbc		**PKPbc**	**21 47 48.3**	**-0.9**
	5.3nm,0.8s,baz=164,slow=3.1,SNR=4.1							
YKA	**Yellowknife Ar**	**155.97**	**333**	PKPab		**PKPab**	**21 48 18.7**	**-0.1**
	0.3nm,0.7s,baz=34,slow=4.5,SNR=4.7							

*ISCJB **05** 21:32:03.6±1.2,36°.42N±0°.10×70°.85E±0°.08,h50km, mb3.5/4,MS4.0/1,Error ellipse: s-maj=15.6km s-min=6.8km az=151.7*

*IDC **05** 21:32:05.3±4.6,36°.46N×71°.04E,h58km±32km,mb3.3/4, mb1 3.4/11,mb1mx3.2/42,mbtmp3.5/11,ML3.4/7,MS4.1/1, Ms1 4.1/1,ms1mx2.5/24,Error ellipse: s-maj=49.0km s-min=19.4km az=149.0*

*NNC **05** 21:32:06.3±6.7,36°.74N×70°.94E,h0km,mb3.8,mpv3.6, Error ellipse: s-maj=59.2km s-min=38.9km az=154.0*

ISC 05 21:32:04.5±1.6,36°.4N±0°.1×71°.00E±0°.10,h50km,n24, σ1ᵍ40/28,mb3.6/4,4C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**4.13**	**28**	⇑Pn		**Pn**	**21 33 07.5**	**+2.2**
	2.7nm,0.3s							
SFK				⇑Sn		**Sn**	**21 33 55.3**	**+3.0**
	7.7nm,0.3s							
AML	**Almayashu**	**6.11**	**19**	P		**Pn**	**21 33 33.9**	**+1.3**
	SNR=30							
UCH	**Uchtor**	**6.44**	**24**	P		**Pn**	**21 33 38.6**	**+1.5**
	SNR=5.8							
EKS2	**Erkin-Say**	**6.63**	**18**	P		**Pn**	**21 33 41.0**	**+1.5**
	SNR=13							
KK31	**Karatay Array**	**6.72**	**357**	Pn		**Pn**	**21 33 41.9**	**+1.3**
	2.0nm,0.5s,baz=173,slow=11,SNR=36							
KK31				⇑Sn		**Sn**	**21 34 55.9**	**+0.1**
	1.3nm,0.3s,baz=172,slow=25							
AAK	**Ala-Archa**	**6.80**	**22**	⇑Pn		**Pn**	**21 33 43.1**	**+1.2**
	6.0nm,0.4s							
AAK				⇓Sn		**Sn**	**21 34 56.2**	**-1.8**
	3.7nm,0.7s							
AAK	**Ala-Archa**	**6.80**	**22**	P		**Pn**	**21 33 43.5**	**+1.6**
	SNR=19							
AAK	**Ala-Archa**	**6.80**	**22**	P		**Pn**	**21 33 43.4**	**+1.6**
	5.0nm,0.3s,baz=160,slow=6.4,SNR=48							
AAK				S		**Sn**	**21 34 56.3**	**-1.7**
	0.5nm,0.3s,baz=331,slow=18,SNR=6.7							
CHMS	**Chumysh**	**7.21**	**22**	P		**Pn**	**21 33 48.3**	**+1.0**
	SNR=6.8							
TKM2	**Tokmak 2**	**7.43**	**27**	P		**Pn**	**21 33 51.6**	**+1.1**
	SNR=11							
GEYT	**Alibeck**	**10.40**	**282**	P		**Pn**	**21 34 32.0**	**+1.1**
	0.3nm,0.3s,baz=108,slow=9.4,SNR=4.0							
GEYT				S		**Sn**	**21 36 25.8**	**-0.2**
	0.8nm,0.3s,baz=9.7,slow=27,SNR=5.6							
MKAR	**Makanchi Array**	**13.39**	**36**	P		**Pn**	**21 35 10.7**	**-1.0**
	0.0nm,0.3s,baz=237,slow=13,SNR=3.0							
AB31	**Akbulak array**	**15.19**	**331**	⇓P		**Pn**	**21 35 34.1**	**-1.5**
	0.2nm,0.3s,baz=144,slow=12,SNR=6.0							
KURBB	**Kurchatov Arra**	**15.23**	**19**	P		**Pn**	**21 35 37.6**	**+1.3**
	0.1nm,0.3s,baz=203,slow=10,SNR=7.9							
BVAR	**Borovoye Array**	**16.65**	**359**	P		**Pn**	**21 35 53.8**	**-0.3**
	0.2nm,0.3s,baz=170,slow=8.3,SNR=4.2							
AKTO	**Aktyubinsk**	**16.88**	**330**	⇓P		**Pn**	**21 35 57.1**	**0.0**
	1.1nm,0.5s							
AKTO	**Aktyubinsk**	**16.88**	**330**	P		**Pn**	**21 35 57.0**	**-0.1**
	0.3nm,0.3s,baz=146,slow=13,SNR=6.9							
ZALV	**Zalesovo Beam**	**20.02**	**24**	P		**P**	**21 36 30.7**	**-2.2**
	0.4nm,0.3s,baz=222,slow=11,SNR=9.0

PBX	**Punta Banda**	**1.32**	**247**	*e*P	**Pb**	**21 38 30.6**	**+0.3**
PFO	**Pinyon Flats O**	**1.66**	**324**	*e*Pn	**Pn**	**21 38 33.8**	**-0.7**
PFO				*e*Sn	**Sb**	**21 38 56.7**	**-0.2**
214A	**Organ Pipe Nat**	**2.13**	**97**	*e*Pn	**Pn**	**21 38 40.7**	**-0.1**
214A				*e*Sg	**Sg**	**21 39 14.3**	**-0.4**

*ISCJB **05** 21:39:31.0±0.7, 32°.08N±0°.03 × 115°.07W±0°.07, h6km±9km, Error ellipse: s-maj=10.7km s-min=5.1km az=171.1*
*NEIC **05** 21:39:32.9, 32°.10N × 115°.09W, h10km, ML3.3(PAS), After PAS.*
*ECX **05** 21:39:33.2±0.4, 32°.08N × 115°.12W, h8km, MD3.3, ML3.5*
ISC 05 21:39:31.4±1.1, 32°.08N±0°.04 × 115°.09W±0°.05, h14km±11km, n14, σ1°13/19, 2C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CPBX	**Cerro Prieto**	**0.38**	**332**	*e*P		**Pg**	**21 39 40.0**	**+0.7**
CPBX				*e*S		**Sg**	**21 39 45.3**	**+0.8**
CPBX				AML		AML	21 39 48.8	
	comp=N,16μm,0.3s							
CPBX				*e*			21 39 48.8	
ECBX	**El Chinero**	**0.60**	**177**	*e*P9		Pg	21 39 41.3	-2.0
ECBX				*e*S		**Sg**	**21 39 49.6**	**-1.8**
ECBX				⇓*e*			21 39 51.8	
ECBX				AML		AML	21 39 51.8	
	comp=N,3μm,0.4s							
YMD	**Yuma Desert**	**0.66**	**44**	⇓*i*P		**Pg**	**21 39 44.8**	**+0.4**
EMSC	**East Mesa**	**0.67**	**8**	⇓*i*P		**Pg**	**21 39 44.8**	**+0.3**
SGL	**Mount Signal**	**0.78**	**317**	⇑*i*P		**Pg**	**21 39 46.8**	**+0.1**
COA	**Coachella**	**0.78**	**358**	*e*P2		**Pg**	**21 39 46.3**	**-0.4**
YUH	**Yuha Desert**	**0.91**	**309**	⇑*i*P		**Pg**	**21 39 48.6**	**-0.4**
GLA	**Glamis**	**1.00**	**13**	*e*Pg		**Pg**	**21 39 49.7**	**-1.0**
GLA				*e*Sg		**Sg**	**21 40 02.3**	**-1.4**
SPX	**San Pedro Mart**	**1.08**	**197**	*e*P		**Pb**	**21 39 52.2**	**+0.1**
SPX				*e*S		**Sg**	**21 40 06.9**	**+0.4**
SPX				AML		AML	21 40 10.0	
	comp=N,601nm,0.3s							
SPX				*e*			21 40 10.0	
CBX	**Cerro Bola**	**1.35**	**280**	*e*P		**Pn**	**21 39 56.0**	**0.0**
CBX				*e*S		**Sb**	**21 40 13.9**	**0.0**
CBX				⇓*e*			21 40 17.6	
CBX				AML		AML	21 40 17.6	
	comp=E,953nm,0.4s							
BAR	**Barrett**	**1.47**	**295**	*e*Pn		**Pn**	**21 39 59.1**	**+1.6**
BAR				*e*Sn		**Sn**	**21 40 15.6**	**-0.9**
BAR	**Barrett**	**1.47**	**295**	*e*P		**Pn**	**21 39 58.4**	**+0.9**
PFO	**Pinyon Flats O**	**1.91**	**323**	*e*Pn		**Pn**	**21 40 05.2**	**+1.5**
PASC	**Pasadena Art C**	**3.33**	**310**	*e*Pn		Pn	21 40 26.8	+3.7
PASC				*e*Sg		**Sg**	**21 41 16.4**	**-2.1**

*IDC **05** 21:40:49.9±3.6, 28°.96N × 120°.75W, h0km, mb3.4/1, mb1 4.0/4, mb1mx3.5/24, mbtmp3.6/4, ML3.7/3, MS3.2/3, Ms1 3.2/3, ms1mx2.8/17, Error ellipse: s-maj=46.8km s-min=35.2km az=46.0*
*MEX **05** 21:40:59.4±0.6, 32°.16N × 115°.05W, h5km±999km, MD3.3*
*ECX **05** 21:40:59.0±0.6, 32°.10N × 115°.06W, h12km, ML3.9*
ISC 05 21:40:56.4±1.3, 32°.05N±0°.03 × 115°.03W±0°.05, h8km±11km, n25, σ0°52/27, 4C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MBIG	**Mexicali**	**0.38**	**339**	*e*P		**Pb**	**21 41 05.0**	**-0.4**
MBIG				*e*S		**Sg**	**21 41 08.4**	**-0.4**
CPBX	**Cerro Prieto**	**0.43**	**328**	*e*P		**Pb**	**21 41 06.0**	**-0.2**
CPBX				*e*S		**Sb**	**21 41 11.9**	**-1.0**
CPBX				AML		AML	21 41 15.8	
	comp=N,41μm,0.3s							
CPBX				*e*			21 41 15.8	
CPBX				⇓*e*			21 41 16.8	
CPBX				AML		AML	21 41 16.8	
	comp=E,43μm,0.5s							
ECBX	**El Chinero**	**0.58**	**181**	*e*P9		**Pg**	**21 41 06.5**	**-1.1**
ECBX				*e*S		**Sg**	**21 41 15.5**	**+0.3**
EMSC	**East Mesa**	**0.69**	**3**	*e*P2		**Pg**	**21 41 10.6**	**+1.0**
RDX	**Rancho Dawling**	**0.78**	**261**	*e*P		**Pg**	**21 41 12.2**	**+0.7**
RDX				*e*S		**Sb**	**21 41 23.3**	**+0.1**
RDX				AML		AML	21 41 27.1	
	comp=N,3μm,0.5s							
RDX				⇓*e*			21 41 27.1	
COA	**Coachella**	**0.81**	**355**	⇑*i*P		**Pg**	**21 41 12.2**	**+0.2**
SGL	**Mount Signal**	**0.83**	**316**	*e*P2		**Pg**	**21 41 12.5**	**+0.1**
WESC	**Westside Schoo**	**0.92**	**320**	*e*P		**Pg**	**21 41 14.3**	**+0.2**
YUH	**Yuha Desert**	**0.96**	**308**	⇑*i*P		**Pg**	**21 41 14.4**	**-0.4**
RMX	**La Rumorosa**	**1.04**	**302**	*e*P		**Pg**	**21 41 16.1**	**-0.2**
RMX				*e*S		**Sg**	**21 41 30.0**	**+0.1**
RMX				AML		AML	21 41 31.8	
	comp=N,3μm,0.1s							
RMX				⇓*e*			21 41 31.8	
SPIG	**San Pedro Mart**	**1.07**	**200**	*e*P		**Pn**	**21 41 18.6**	**+0.6**
SPIG				*e*S		**Sn**	**21 41 33.1**	**-0.2**
SPX	**San Pedro Mart**	**1.07**	**200**	*e*P		**Pn**	**21 41 18.8**	**+0.7**
SPX				*e*S		**Sn**	**21 41 33.7**	**+0.4**
ZAX	**El Zacaton**	**1.18**	**243**	*e*P		**Pb**	**21 41 19.2**	**+0.1**
ZAX				*e*S		**Sn**	**21 41 35.6**	**-0.2**
ZAX				⇑*e*			21 41 39.3	
ZAX				AML		AML	21 41 39.3	
	comp=E,3μm,0.6s							
ECNX	**Esteban Cantu**	**1.39**	**254**	*e*P		**Pb**	**21 41 22.8**	**+0.1**
CBX	**Cerro Bola**	**1.41**	**281**	*e*P		**Pn**	**21 41 22.2**	**-0.3**
CBX	**Cerro Bola**	**1.41**	**281**	*e*P		**Pn**	**21 41 22.3**	**-0.2**
CBX				*e*S		**Sb**	**21 41 41.0**	**-0.2**
CBX				⇑*e*			21 41 43.5	
CBX				AML		AML	21 41 43.5	
	comp=N,2μm,0.5s							
PBX	**Punta Banda**	**1.47**	**258**	*e*P		**Pb**	**21 41 24.1**	**0.0**
BAR	**Barrett**	**1.52**	**295**	*e*P		**Pn**	**21 41 24.4**	**+0.5**
NVAR	**Mina Array Bea**	**6.90**	**338**	Pn		Pg	21 43 12.4	+3.9
	comp=N,0.3nm,0.3s,baz=170,slow=14,SNR=5.7							
NVAR				Sn		Sg	21 44 57.0	+18
	comp=N,0.2nm,0.3s,baz=186,slow=25,SNR=2.1							
ELK	**Elko**	**8.68**	**359**	Pn		Pg	21 43 52.0	+9.5
	comp=N,0.1nm,0.3s,baz=207,slow=14,SNR=2.9							
LPIG	**La Paz**	**8.95**	**151**	LR		LR	21 45 57.6	
	comp=N,99nm,21.7s,baz=22,slow=29							
TXAR	**Lajitas Array**	**10.15**	**103**	Pn		x	21 44 24.1	
	comp=N,0.4nm,0.3s,baz=284,slow=13,SNR=7.6							
YBH	**Yreka Blue Hor**	**11.44**	**330**	LR		LR	21 48 42.1	
	comp=N,116nm,18.6s,baz=184,slow=37							
BBB	**Bella Bella**	**22.27**	**338**	LR		LR	21 54 44.3	
	comp=N,80nm,19.8s,baz=166,slow=35							
ILAR	**Eielson Array**	**38.16**	**339**	P		P	21 48 20.9	+5.0
	comp=N,0.4nm,0.7s,baz=159,slow=7.2,SNR=5.1							

ECX 05 21:41:57.4±0.4, 32°.09N × 115°.11W, h12km, MD3.7, ML3.9, 1C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CPBX	**Cerro Prieto**	**0.37**	**333**	*e*P		Pg	21 42 04.1	-0.7
CPBX				*e*S		Sg	21 42 09.7	0.0
CPBX				AML		AML	21 42 12.8	
	comp=N,37μm,0.4s							
CPBX				⇓*e*			21 42 12.8	
EMSC	**East Mesa**	**0.66**	**9**	⇓*i*P		Pg	21 42 08.7	-1.5
YMD	**Yuma Desert**	**0.67**	**46**	*e*P2		Pg	21 42 08.7	-1.7
RDX	**Rancho Dawling**	**0.72**	**257**	*e*P		Pg	21 42 10.4	-1.3
RDX				*e*S		Sg	21 42 20.4	-1.1
RDX				AML		AML	21 42 27.0	
	comp=N,3μm,0.4s							
RDX				⇓*e*			21 42 27.0	
COA	**Coachella**	**0.77**	**359**	*e*P3		Pg	21 42 10.4	-2.0
RMX	**La Rumorosa**	**0.97**	**302**	*e*P		Pg	21 42 14.3	-2.0
RMX				*e*S		Sg	21 42 27.1	-1.9
RMX				AML		AML	21 42 28.1	
	comp=N,2μm,0.5s							
RMX				⇓*e*			21 42 28.1	
SPX	**San Pedro Mart**	**1.08**	**196**	*e*P		Pb	21 42 16.7	-1.9
SPX				*e*S		Sb	21 42 31.1	-1.9
SPX				AML		AML	21 42 33.5	
	comp=E,2μm,0.2s							
ZAX	**El Zacaton**	**1.14**	**240**	*e*P		Pb	21 42 17.2	-2.0
ZAX				*e*S		Sb	21 42 32.5	-1.7
ZAX				⇑*e*			21 42 36.2	
ZAX				AML		AML	21 42 36.2	
	comp=E,4μm,0.6s							
CBX	**Cerro Bola**	**1.34**	**280**	*e*P		Pn	21 42 20.6	-1.5
CBX				*e*S		Sb	21 42 38.5	-1.3
CBX				AML		AML	21 42 41.6	
	comp=E,2μm,0.5s							
CBX				⇓*e*			21 42 41.6	
ECNX	**Esteban Cantu**	**1.34**	**252**	*e*P		Pn	21 42 20.6	-1.4
PBX	**Punta Banda**	**1.42**	**256**	*e*P		Pn	21 42 21.4	-1.6

MEX 05 21:44:42.9±0.3, 17°.46N × 93°.84W, h143km±17km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**1.06**	**250**	*e*P		Pn	21 45 06.2	-1.3
CMIG				*i* S		Sn	21 45 24.5	-1.8
PCIG		**1.84**	**161**	*e*P		Pn	21 45 14.5	-1.2
PCIG				*i* S		Sn	21 45 39.0	-1.9
CCIG	**Comitan**	**2.00**	**125**	*e*P		Pn	21 45 16.6	-1.3
VHO	**Vista Hermosa**	**2.79**	**263**	*e*P		Pn	21 45 31.6	+4.0

*ISCJB **05** 21:55:19.9±0.8, 32°.09N±0°.03 × 115°.01W±0°.03, h13km±5km, Error ellipse: s-maj=4.8km s-min=4.0km az=43.1*
*NEIC **05** 21:55:21.0, 32°.06N × 115°.04W, h7km, MD3.3(MEX), ML3.3(PAS), After PAS.*
*ECX **05** 21:55:21.8±0.6, 32°.09N × 115°.07W, h10km, MD3.3, ML3.5*
*MEX **05** 21:55:23.0±0.9, 32°.18N × 115°.12W, h17km±254km, MD3.6*
ISC 05 21:55:19.8±1.1, 32°.09N±0°.02 × 115°.06W±0°.03, h14km±9km, n26, σ0°79/42, 4C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.34**	**340**	*e*P		**Pb**	**21 55 28.4**	**+0.7**
MBIG				*i* S		**Sg**	**21 55 30.7**	**-0.8**
CPBX	**Cerro Prieto**	**0.39**	**328**	*e*P		**Pb**	**21 55 28.8**	**+0.2**
CPBX				*e*S		**Sb**	**21 55 34.3**	**-0.1**
CPBX				AML		AML	21 55 38.8	
	comp=N,13μm,0.3s							
CPBX				⇓*e*			21 55 38.8	
CPBX				AML		AML	21 55 40.8	
	comp=E,15μm,0.4s							
CPBX				⇑*e*			21 55 40.8	
ECBX	**El Chinero**	**0.61**	**179**	*e*P9		**Pg**	**21 55 31.3**	**-0.5**
ECBX				*e*S		**Sg**	**21 55 39.5**	**-0.4**
YMD	**Yuma Desert**	**0.64**	**43**	⇑*i*P		**Pb**	**21 55 33.3**	**+0.5**
EMSC	**East Mesa**	**0.65**	**6**	⇓*i*P		**Pb**	**21 55 33.6**	**+0.6**
RDX	**Rancho Dawling**	**0.76**	**258**	*e*		**Pb**	**21 55 35.2**	**+0.2**
RDX				*e*S		**Sb**	**21 55 46.1**	**+0.8**
RDX				*e*S		**Sg**	**21 55 46.3**	**+1.5**
RDX				⇑*e*			21 55 48.7	
RDX				AML		AML	21 55 48.7	
	comp=N,1μm,0.4s							
COA	**Coachella**	**0.78**	**356**	⇓*i*P		**Pb**	**21 55 35.2**	**+0.1**
SGL	**Mount Signal**	**0.79**	**315**	*e*P2		**Pg**	**21 55 35.2**	**0.0**
WESC	**Westside Schoo**	**0.88**	**320**	*e*P		**Pn**	**21 55 37.4**	**-0.4**
YUH	**Yuha Desert**	**0.92**	**308**	*e*P2		**Pg**	**21 55 37.7**	**+0.2**
GLA	**Glamis**	**0.98**	**12**	*e*P		**Pb**	**21 55 38.3**	**-0.4**
GLA				*e*S		**Sb**	**21 55 51.2**	**-0.4**
RMX	**La Rumorosa**	**1.00**	**301**	*e*P		**Pb**	**21 55 38.8**	**-0.3**
RMX				*e*S		**Sg**	**21 55 53.1**	**+0.8**
SPIG	**San Pedro Mart**	**1.09**	**198**	*e*P		**Pb**	**21 55 40.7**	**0.0**
SPIG				*e*S		**Sb**	**21 55 53.9**	**-1.1**
SPIG	**San Pedro Mart**	**1.09**	**198**	*e*P		**Pb**	**21 55 40.7**	**0.0**
SPIG				*e*S		**Sb**	**21 55 53.9**	**-1.1**
SPIG	**San Pedro Mart**	**1.09**	**198**	*e*P		**Pb**	**21 55 41.0**	**+0.2**
SPX	**San Pedro Mart**	**1.09**	**198**	*e*P		**Pb**	**21 55 40.8**	**+0.1**
SPX				*i* S		**Sb**	**21 55 55.2**	**+0.3**
SPX	**San Pedro Mart**	**1.09**	**198**	*e*P		**Pb**	**21 55 40.8**	**+0.1**
SPX				*e*S		**Sg**	**21 55 56.0**	**+0.7**
SPX				AML		AML	21 55 58.5	
	comp=N,550nm,0.5s							
SPX				⇓*e*			21 55 58.5	
ZAX	**El Zacaton**	**1.18**	**241**	*e*P		**Pn**	**21 55 42.0**	**0.0**
ZAX				*e*S		**Sg**	**21 55 58.4**	**+0.5**
ECNX	**Esteban Cantu**	**1.37**	**252**	*e*P		**Pb**	**21 55 45.5**	**+0.1**
CBX	**Cerro Bola**	**1.38**	**280**	*e*P		**Pn**	**21 55 44.4**	**-0.4**
CBX	**Cerro Bola**	**1.38**	**280**	*e*P		**Pn**	**21 55 44.4**	**-0.4**
CBX	**Cerro Bola**	**1.38**	**280**	*e*P		**Pn**	**21 55 45.0**	**+0.3**
CBX				*e*S		**Sb**	**21 56 03.9**	**+1.0**
CBX				AML		AML	21 56 05.5	
	comp=N,776nm,0.8s							
CBX				⇑*e*			21 56 05.5	
PBX	**Punta Banda**	**1.45**	**257**	*e*P		**Pb**	**21 55 46.4**	**-0.3**
PFO	**Pinyon Flats O**	**1.92**	**323**	*e*Pn		**Pn**	**21 55 50.8**	**-1.4**
PFO				*e*Sn		**Sn**	**21 56 14.4**	**-1.9**
214A	**Organ Pipe Nat**	**1.92**	**93**	*e*Pn		**Pn**	**21 55 51.8**	**-0.4**
214A				*e*Sn		**Sn**	**21 56 15.6**	**-0.5**
121A	**Cookes Peak, D**	**6.18**	**84**	*e*Pn		**Pn**	**21 56 50.9**	**+0.1**
	comp=N,4.2nm,0.6s							
121A				*e*Sn		**Sn**	**21 58 04.0**	**+2.6**

*KRNET **05** 21:58:51.4±0.1, 39°.66N × 74°.05E, h2km, mb3.9*
*ISCJB **05** 21:58:55.0±1.8, 39°.66N±0°.10 × 74°.08E±0°.10, h10km, Error ellipse: s-maj=14.5km s-min=10.1km az=156.4*
ISC 05 21:58:54.3±2.3, 39°.8N±0°.1 × 73°.97E±0°.06, h10km, n5, σ2°.07/10, 1C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op	ISC	h m s	ISC
SALK	**Salom-Alik**	**1.11**	**354**	*e*P		**Pg**	**21 59 14.5**	**-1.3**
	baz=351							
SALK				*e*S		**Sn**	**21 59 33.0**	**+1.3**
	baz=351							
CHVK	**Chauvay**	**1.40**	**286**	*e*P		**Pn**	**21 59 20.0**	**0.0**
	baz=289							
CHVK				*e*S		**Sg**	**21 59 42.0**	**+2.7**
	baz=289							
NRN	**Naryn**	**2.27**	**42**	*e*P		**Pb**	**21 59 34.8**	**-0.8**
	baz=39							
NRN				*e*S		**Sg**	**22 00 08.4**	**+1.1**
	baz=39							
BTK	**Batken**	**2.44**	**278**	*e*P		**Pb**	**21 59 37.8**	**-0.6**
	baz=280							
BTK				*e*S		**Sg**	**22 00 12.6**	**-0.2**
	baz=280							
KK31	**Karatay Array**	**4.22**	**323**	⇑Pn		**Pn**	**22 00 01.5**	**+2.7**
	0.3nm,0.3s,baz=133,slow=12,SNR=5.2							
KK31				⇓Sn		**Sb**	**22 00 56.7**	**-3.1**
	0.8nm,0.3s,baz=140,slow=26,SNR=4.7							
KK31				⇓Lg		Lg	22 01 12.0	
	1.9nm,0.4s,baz=142,slow=30,SNR=4.4							

NNC 05 22:02:53.1±2.9, 37°.17N × 71°.01E, h0km, mb3.8, mpv3.4, 2C-2D, Error ellipse: s-maj=24.8km s-min=18.9km az=155.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.45**	**34**	⇓Pn		Pn	22 03 48.5	+0.1
	5.9nm,0.2s							
SFK				⇓Sn		Sn	22 04 31.5	+1.4
	3.6nm,0.2s							
KK31	**Karatay Array**	**5.94**	**356**	Pn		Pn	22 04 23.0	+0.7
	0.4nm,0.2s,baz=170,slow=12,SNR=50							
KK31				Sn		Sn	22 05 32.1	+1.1
	0.7nm,0.3s,baz=176,slow=20,SNR=7.7							
AAK	**Ala-Archa**	**6.08**	**25**	⇑Pn		Pn	22 04 23.0	-1.4
	1.5nm,0.3s							
AAK				⇑Sn		Sn	22 05 35.1	+0.2
	1.3nm,0.6s							

*IDC **05** 22:12:26.4±2.5, 43°.16N × 105°.11W, h0km, mb3.3/3, mb1 3.6/5, mb1mx3.3/33, mbtmp3.5/5, ML3.6/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/25, Error ellipse: s-maj=57.3km s-min=9.5km az=159.0*
*ISCJB **05** 22:12:30.1±0.2, 43°.59N±0°.01 × 105°.28W±0°.02, h0km, mb3.8/3, Error ellipse: s-maj=2.2km s-min=2.0km az=3.2*
*NEIC **05** 22:12:31.4±0.5, 43°.59N × 105°.26W, h0km, ML3.5, Error ellipse: s-maj=6.4km s-min=5.4km az=94.0, Suspected Mining explosion.*
NEIC 80 km [50 miles] SSE of Gillette.
ISC 05 22:12:28.7±0.6, 43°.52N±0°.02 × 105°.20W±0°.02, h0km, n100, σ1°47/103, mb4.0/3, 28C-34D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op	ISC	h m s	ISC
J23A	**Dilts Ranch, B**	**0.28**	**246**	P		**Pg**	**22 12 36.0**	**+1.9**
	baz=0.3,SNR=563							
J23A				⇓S		**Sg**	**22 12 39.3**	**+1.6**
	baz=0.3							
J24A	**Dixon Ranch, L**	**0.44**	**115**	P		**Pn**	**22 12 41.1**	**-1.3**
	baz=0.5,SNR=332							
I23A	**Meade Ranch, G**	**0.48**	**337**	⇓P		**Pg**	**22 12 38.6**	**+0.6**
	baz=0.4,SNR=51							
I24A	**Kuemmerle Ranc**	**0.54**	**50**	⇑P		**Pb**	**22 12 41.5**	**+0.4**
	baz=0.5,SNR=1000							
K23A	**Bowen Ranch, D**	**0.82**	**202**	⇑P		**Pn**	**22 12 47.1**	**-0.7**
	baz=0.9,SNR=15							
K24A	**Anderson Ranch**	**0.84**	**160**	⇓P		**Pn**	**22 12 48.3**	**+0.3**
	baz=0.9,SNR=34							
J22A	**Midwest**	**0.94**	**264**	P		**Pg**	**22 12 46.8**	**+0.2**
	baz=0.9,SNR=296							
I22A	**9 Mile Ranch,**	**1.00**	**292**	P		**Pg**	**22 12 47.7**	**-0.2**
	baz=0.9,SNR=408							
I22A				⇑Sb		**Sg**	**22 13 02.0**	**+1.1**
	baz=0.9							
J25A	**Sunshine Ranch**	**1.03**	**97**	P		**Pn**	**22 12 51.7**	**+1.2**
	baz=1.1,SNR=79							
RSSD	**Black Hills**	**1.04**	**54**	*e*Pg		**Pb**	**22 12 50.0**	**+0.3**
RSSD				*e*Sg		**Sb**	**22 13 04.5**	**+0.5**
H23A	**Clabaugh Cattl**	**1.05**	**352**	⇑P		**Pg**	**22 12 48.6**	**-0.3**
	baz=1.0,SNR=16							
I25A	**Rochford**	**1.18**	**64**	⇑P		**Pn**	**22 12 53.2**	**+0.5**
	baz=1.2,SNR=189							
K22A	**Casper**	**1.30**	**229**	*e*Pg		**Pb**	**22 12 54.3**	**+0.1**
K22A				*e*Sg		**Sn**	**22 13 13.2**	**+0.8**
K22A	**Casper**	**1.30**	**229**	P		**Pb**	**22 12 54.3**	**+0.1**
	baz=1.3,SNR=211							
H24A	**Dirks Ranch, A**	**1.31**	**21**	⇑P		**Pg**	**22 12 53.8**	**-0.1**
	baz=1.3							
K25A	**Mack Ranch, Ha**	**1.33**	**132**	⇑P		Pn	22 12 57.8	+3.1
	baz=1.4,SNR=169							
H22A	**Clearmont**	**1.36**	**323**	⇓P		**Pn**	**22 12 54.4**	**-0.7**
	baz=1.3,SNR=149							
L23A	**Garrett**	**1.45**	**195**	⇓P		**Pb**	**22 12 57.8**	**+1.1**
	baz=1.5,SNR=176							
L24A	**Wheatland**	**1.49**	**172**	⇓P		**Pb**	**22 12 59.3**	**+2.0**
	baz=1.6,SNR=14							
I21A	**Big Trails, Te**	**1.54**	**282**	⇓P		**Pn**	**22 12 57.0**	**-0.7**
	baz=1.5							
I21A				⇑S		**Sn**	**22 13 17.2**	**-1.3**
	baz=1.5							
J26A	**Sides Ranch, S**	**1.56**	**97**	⇓P		**Pg**	**22 13 01.1**	**+2.4**
	baz=1.6,SNR=22							
H25A	**Fruitdale**	**1.60**	**46**	⇓P		**Pg**	**22 13 00.4**	**+1.1**
	baz=1.6,SNR=18							
L25A	**Engebretsen Ra**	**1.64**	**146**	⇓Pb		Pg	22 13 03.2	+3.1
	baz=1.7,SNR=158							
J21A	**Lysite**	**1.64**	**265**	P		**Pn**	**22 12 59.0**	**-0.1**
	baz=1.6,SNR=180							
G23A	**Biddle**	**1.69**	**355**	⇑P		**Pn**	**22 13 00.6**	**+1.0**
	baz=1.6,SNR=42							
K26A	**Motz Farm, Whi**	**1.69**	**118**	⇓P		**Pg**	**22 13 03.2**	**+2.1**
	baz=1.8,SNR=61							
H21A	**Big Horn, Sher**	**1.73**	**311**	⇓P		**Pn**	**22 13 00.4**	**+0.2**
	baz=1.6,SNR=59							
L22A	**Ellis Ranch, M**	**1.74**	**212**	P		**Pg**	**22 13 02.5**	**+0.5**
	baz=1.8,SNR=35							
L22A				⇑S		**Sg**	**22 13 26.4**	**+1.8**
	baz=1.8							
K21A	**Alcova**	**1.74**	**240**	P		**Pb**	**22 13 01.8**	**+0.1**
	baz=1.7,SNR=306							
K21A				⇓S		**Sg**	**22 13 25.0**	**+0.3**
	baz=1.7							
G22A	**Birney**	**1.87**	**336**	⇑P		**Pn**	**22 13 02.8**	**+0.6**
	baz=1.8,SNR=15							
G24A	**Alzada**	**1.90**	**17**	⇑P		**Pn**	**22 13 04.1**	**+1.7**
	baz=1.8,SNR=13							
G24A				⇑Sb		**Sg**	**22 13 31.0**	**+1.4**
	baz=1.8							
M23A	**Laramie**	**2.08**	**191**	⇓Sb		**Sg**	**22 13 38.6**	**+2.9**
	baz=2.2							
J20A	**Shoshoni**	**2.11**	**267**	Pb		**Pb**	**22 13 08.0**	**+0.1**
	baz=2.1,SNR=103							
J20A				⇓Sb		**Sb**	**22 13 35.7**	**+1.1**
	baz=2.1							
G25A	**Newell**	**2.11**	**37**	⇓Sb		**Sg**	**22 13 37.4**	**+1.0**
	baz=2.1							
I20A	**Worland**	**2.17**	**283**	⇑P		**Pn**	**22 13 07.3**	**+1.2**
	baz=2.1,SNR=155							
I20A				⇑Sb		**Sn**	**22 13 36.3**	**+2.6**
	baz=2.1							
F23A	**Volborg**	**2.21**	**356**	P		**Pn**	**22 13 07.5**	**+0.8**
	baz=2.1,SNR=71							
F23A				⇑S		**Sn**	**22 13 36.2**	**+1.5**
	baz=2.1							
PHWY	**Pilot Hill**	**2.22**	**185**	*e*Pn		**Pg**	**22 13 11.2**	**-0.2**
PHWY				*e*Sn		**Sg**	**22 13 39.7**	**-0.4**
G21A	**Lodge Grass**	**2.23**	**321**	⇑P		**Pn**	**22 13 07.8**	**+0.7**
	baz=2.1,SNR=19							
G21A				⇓Sb		**Sn**	**22 13 37.4**	**+2.0**
	baz=2.1							
H20A	**Greybull**	**2.24**	**297**	⇓P		**Pn**	**22 13 07.9**	**+0.8**
	baz=2.2,SNR=14							
H20A				⇑Sb		**Sn**	**22 13 37.7**	**+2.1**
	baz=2.2							
F22A	**Rosebud**	**2.38**	**342**	⇓P		**Pn**	**22 13 09.6**	**+0.5**
	baz=2.3,SNR=63							
F22A				⇓Sb		**Sb**	**22 13 43.1**	**+0.5**
	baz=2.3							
N23A	**Red Feather La**	**

	baz=4.5,SNR=14								
D19A	**Cripps Ranch,** baz=4.4,SNR=5.2	**4.47**	**326**	⇑P		**Pn**	**22 13 38.6**	**+0.7**	
SMCO	**Snowmass**	**4.54**	**198**	*e*Pn		Pb	22 13 43.9	-5.5	
Q24A	**Divide**	**4.55**	**179**	*e*Pn		Pn	22 13 42.8	+3.7	
KSCO	**Kaye Shedlock'**	**4.90**	**156**	*e*Pn		Pn	22 13 47.0	+3.2	
DGMT	**Dagmar**	**5.00**	**8**	*e*Pn		**Pn**	**22 13 47.1**	**+2.0**	
BOZ	**Bozeman (W)**	**5.06**	**297**	*e*Pn		**Pn**	**22 13 47.4**	**+1.4**	
R26A	**Arlington** baz=5.5,SNR=13	**5.38**	**165**	⇑P		Pn	22 13 53.4	+3.1	
EGMT	**Eagleton**	**5.52**	**326**	*e*Pn		**Pn**	**22 13 53.3**	**+1.2**	
R27A	**Eads** baz=5.6,SNR=12	**5.53**	**160**	⇑P		Pn	22 13 55.8	+3.4	
DLMT	**Dillon**	**5.61**	**292**	*e*Pn		**Pn**	**22 13 54.9**	**+1.4**	
LRM	**Limekiln Ridge**	**5.66**	**297**	*e*Pn		**Pn**	**22 13 54.7**	**+0.4**	
R28A	**Tribune** baz=5.9,SNR=6.9	**5.77**	**152**	⇓P		Pn	22 13 59.4	+3.7	
SRU	**San Rafael Swe**	**5.95**	**224**	*e*Pn		**Pn**	**22 13 59.6**	**+1.4**	
CHMT	**Chamberlain Mo**	**6.62**	**304**	*e*Pn		**Pn**	**22 14 08.3**	**+0.9**	
T28A	**Walsh** baz=6.9,SNR=8.3	**6.81**	**159**	⇓P		Pn	22 14 12.9	+2.9	
I10CA	**LAC DU BONNET** baz=224,slow=339,SNR=0.9	**9.17**	**40**	*i*			23 06 50.0		
ULM	**Lac du Bonnet** 1.3nm,0.3s,baz=233,slow=12,SNR=8.7	**9.28**	**40**	Pn		**Pn**	**22 14 41.8**	**-1.8**	
ULM	0.5nm,0.3s,baz=323,slow=20,SNR=2.8			Lg		Lg	22 17 20.2		
NEW	**Newport** comp=Z,105nm,20.4s,baz=113,slow=39	**9.57**	**304**	LR		LR	22 18 50.7		
I56US	**NEWPORT INFRAS** baz=114,slow=327,SNR=1.0	**9.57**	**304**	*i*			23 09 10.0		
TXAR	**Lajitas Array** 0.0nm,0.3s,baz=4.2,slow=14,SNR=4.9	**14.21**	**175**	Pg			22 17 01.6		
YKA	**Yellowknife Ar** 0.1nm,0.6s,baz=157,slow=13,SNR=3.3	**19.79**	**347**	P		**P**	**22 17 01.7**	**+1.4**	
ILAR	**Eielson Array** 0.1nm,0.4s,baz=114,slow=11,SNR=3.3	**31.49**	**327**	P		P	22 19 05.4	+14	
ARCES	**ARCESS Array B** 1.1nm,0.7s,baz=321,slow=7.1,SNR=4.4	**61.61**	**18**	P		**P**	**22 22 47.7**	**+0.2**	
FINES	**FINESS Array B** 0.9nm,1.0s,baz=336,slow=6.5,SNR=4.4	**68.21**	**23**	P		**P**	**22 23 30.3**	**-0.3**	

MAN 05 22:24:08.7±88.8N×124°86.8E,h42km,mb3.9,ML2.7,MS2.3, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.20**	**91**	*e*P	Pn	22 24 17.3	+1.7
BUKP				*e*S	Sn	22 24 24.1	+3.3
CGP	**Cagayan de Oro**	**0.59**	**344**	⇑*i*P	Pn	22 24 22.6	+2.5
CGP				*i* S	Sn	22 24 31.6	+3.0
PAGZ	**Pagadian**	**1.46**	**269**	*e*P	Pn	22 24 32.7	+0.8
PAGZ				*e*S	Sn	22 24 51.7	+1.8

*ISCJB **05** 22:28:42.8±0.4, 13°.95N±0°.06×120°.80E±0°.08, h200km, mb3.7/25, Error ellipse: s-maj=11.2km s-min=7.6km az=154.9*
*MAN **05** 22:28:44, 13°.67N×120°.77E, h201km, mb4.7, ML3.5, MS3.5*
*IDC **05** 22:28:48.2±3.7, 13°.60N×120°.88E, h258km±36km, mb3.5/25, mb1 3.5/25, mb1mx3.4/55, mbtmp4.1/25, Error ellipse: s-maj=16.6km s-min=12.3km az=51.0*

ISC 05 22:28:43.2±0.6, 13.73N±0°.09×120.79E±0°.10, h200km, n46, σ1°31/45, mb3.8/25, 2C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.28**	**145**	⇑*e*P	**Pn**	**22 29 12.0**	**+2.3**
PGP				*i* S	**Sn**	**22 29 33.2**	**+2.9**
LUBP	**Lubang**	**0.53**	**270**	*e*P	**Pn**	**22 29 12.9**	**+2.5**
LUBP				*e*S	Sn	22 29 22.0	-9.4
SJMP	**San Jose**	**1.30**	**166**	*e*P	**Pn**	**22 29 17.3**	**+2.0**
BUSP	**Coron**	**1.81**	**199**	*e*P	**Pn**	**22 29 21.5**	**+1.6**
ENPP	**El Nido**	**2.84**	**208**	*e*P	**Pn**	**22 29 32.6**	**+1.6**
CUYO	**Cuyo Island**	**2.87**	**176**	*e*P	**Pn**	**22 29 32.6**	**+1.2**
RCP	**Roxas**	**2.88**	**138**	⇓*e*P	**Pn**	**22 29 34.0**	**+2.5**
PVCP	**Virac**	**3.27**	**92**	⇑*e*P	Pn	22 29 40.5	+4.4
CMAR	**Chiang Mai Arr** 5.9nm,0.7s,baz=95,slow=7.9,SNR=46	**21.50**	**286**	P	**P**	**22 33 17.8**	**+1.1**
JCJ	**Chichijima** 23nm,0.8s,baz=238,slow=19,SNR=3.3	**24.01**	**53**	P	**P**	**22 33 38.9**	**-0.9**
TAPN	**Taplejung** 9.2nm,0.4s	**33.69**	**299**	*e*P	**P**	**22 35 06.5**	**+0.6**
ODAN	**Odare** 30nm,0.7s	**33.82**	**298**	*e*P	**P**	**22 35 07.6**	**+0.6**
RAMN	**Ramite** 16nm,0.6s	**34.53**	**298**	*e*P	**P**	**22 35 13.7**	**+0.6**
JIRN	**Jiri** 18nm,0.3s	**35.07**	**299**	*e*P	**P**	**22 35 18.6**	**+0.8**
GUN	**Gumba** 16nm,0.3s	**35.41**	**299**	*e*P	**P**	**22 35 21.4**	**+0.7**
PKI	**Pulchoki** 8.8nm,0.4s	**35.71**	**298**	*e*P	**P**	**22 35 23.1**	**-0.2**
PKIN	**Phulchoki** 4.0nm,0.3s	**35.73**	**298**	*e*P	**P**	**22 35 23.3**	**0.0**
KKN	**Kakani** 6.7nm,0.4s	**35.88**	**299**	*e*P	**P**	**22 35 25.1**	**+0.5**
DMN	**Daman**	**35.98**	**298**	*e*P	**P**	**22 35 25.6**	**+0.1**
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=324,slow=12,SNR=3.3	**36.02**	**158**	P	**P**	**22 35 23.9**	**-1.6**
SONM	**Songino Array** 1.6nm,0.6s,baz=162,slow=10,SNR=17	**36.28**	**299**	P	**P**	**22 35 26.7**	**+1.1**
GKN	**Gorkha** 5.9nm,0.4s	**36.49**	**299**	*e*P	**P**	**22 35 29.5**	**-0.1**
KOLN	**Koldanda** 8.3nm,0.4s	**37.31**	**298**	*e*P	**P**	**22 35 34.4**	**-2.3**
ASAR	**Alice Springs** 0.2nm,0.3s,baz=332,slow=7.2,SNR=4.5	**39.32**	**161**	P	**P**	**22 35 51.9**	**-1.2**
MKAR	**Makanchi Array** 0.9nm,0.6s,baz=127,slow=5.3,SNR=18	**46.06**	**324**	P	**P**	**22 36 48.0**	**+1.0**
ZALV	**Zalesovo Beam** 1.4nm,0.3s,baz=114,slow=7.9,SNR=10	**49.07**	**333**	P	**P**	**22 37 10.2**	**+0.2**
KURBB	**Kurchatov Arra** 1.7nm,0.7s,baz=128,slow=7.5,SNR=16	**50.21**	**326**	P	**P**	**22 37 19.6**	**+0.9**
SEY	**Seymchan** 1.1nm,0.3s,baz=176,slow=8.2,SNR=5.0	**53.95**	**17**	P	**P**	**22 37 46.4**	**+0.3**
BVAR	**Borovoye Array** 1.1nm,0.5s,baz=114,slow=7.8,SNR=12	**55.80**	**326**	P	**P**	**22 37 59.9**	**+0.5**
GEYT	**Ailbeck** 1.8nm,0.7s,baz=90,slow=14,SNR=5.3	**60.19**	**306**	P	**P**	**22 38 29.8**	**-0.5**
AKTO	**Aktyubinsk** 2.1nm,0.4s,baz=94,slow=9.3,SNR=13	**62.25**	**320**	P	**P**	**22 38 43.9**	**+0.1**
ILAR	**Eielson Array** 0.2nm,0.7s,baz=282,slow=4.4,SNR=2.7	**78.68**	**26**	P	**P**	**22 40 21.4**	**-1.5**
MMAI	**Mount Meron Ar** 0.5nm,0.5s,baz=47,slow=10,SNR=4.2	**78.84**	**301**	P	**P**	**22 40 25.5**	**+1.0**
ARCES	**ARCESS Array B** 2.1nm,0.5s,baz=76,slow=6.8,SNR=31	**79.09**	**339**	P	**P**	**22 40 25.1**	**+0.1**
BRTR	**Keskin Array B** 0.8nm,0.7s,baz=106,slow=5.1,SNR=7.1	**79.20**	**308**	P	**P**	**22 40 26.1**	**-0.4**
SPITS	**Spitsbergen Ar** 1.1nm,0.4s,baz=90,slow=6.7,SNR=22	**79.58**	**348**	P	**P**	**22 40 27.4**	**-0.2**
FINES	**FINESS Array B** 1.6nm,0.5s,baz=68,slow=5.1,SNR=30	**80.30**	**331**	P	**P**	**22 40 30.9**	**-0.8**
AKASG	**Malin Array Be** 0.2nm,0.2s,baz=68,slow=5.6,SNR=3.1	**80.49**	**320**	P	**P**	**22 40 31.0**	**-2.0**
INK	**Inuvik** 0.4nm,0.3s,baz=196,slow=5.6,SNR=3.4	**83.03**	**21**	P	**P**	**22 40 45.9**	**+0.1**
MLR	**Muntele Rosu** 0.8nm,0.6s,baz=194,slow=8.3	**83.69**	**315**	P	**P**	**22 40 49.6**	**-0.2**
HFS	**Hagfors** 1.3nm,0.4s,baz=151,slow=3.4,SNR=19	**86.49**	**331**	P	**P**	**22 41 02.4**	**-0.8**
IDI	**Anoyia** 0.7nm,0.3s,baz=161,slow=6.6,SNR=7.4	**86.91**	**305**	P	**P**	**22 41 04.1**	**-1.8**
NB2	**NORSAR Subarra** comp=Z,1.0nm,0.5s,baz=68,slow=4.8	**87.27**	**333**	P	**P**	**22 41 05.6**	**-1.5**
NOA	**NORSAR Array B** comp=Z,1.0nm,0.5s,baz=68,slow=4.6,SNR=8.0	**87.27**	**333**	P	**P**	**22 41 05.3**	**-1.8**
YKA	**Yellowknife Ar** comp=Z,0.1nm,0.4s,baz=306,slow=3.7,SNR=4.0	**92.71**	**22**	P	**P**	**22 41 32.6**	**+0.3**
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,1.1s,baz=69,slow=2.7,SNR=3.1	**114.02**	**291**	PKP	PKPdf	22 46 56.7	-2.7

WEL 05 22:31:20.1±0.2, 37°.30S×176°.20E, h289km±2km, ML3.6/9, 3C-2D, Error ellipse: s-maj=5.8km s-min=4.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.20**	**143**	⇑PN	Pn	22 32 00.4	+0.1
URZ				SN	S	22 32 32.0	-0.2
HAZ	**Te Kaha**	**1.34**	**110**	⇑PN	Pn	22 32 01.2	+0.1
HAZ				SN	S	22 32 33.6	-0.2
MWZ	**Matawai**	**1.47**	**135**	⇓PN	Pn	22 32 02.3	+0.2
MWZ				SN	S	22 32 35.1	-0.3
MXZ	**Matakaoa Point**	**1.70**	**99**	PN	Pn	22 32 04.0	+0.5
MXZ				SN	S	22 32 36.7	-1.5
SNGZ	**Shannon Statio**	**1.73**	**149**	PN	Pn	22 32 04.0	+0.1
SNGZ				SN	S	22 32 37.2	-1.4
PUZ	**Puketiti**	**1.80**	**116**	PN	Pn	22 32 04.5	+0.1
WMGZ	**Waiomatatini S**	**1.83**	**107**	PN	Pn	22 32 04.7	+0.1
RIGZ	**Rimuhau**	**1.87**	**139**	PN	Pn	22 32 05.1	+0.2
BKZ	**Black Stump Fm**	**1.88**	**173**	⇑PN	Pn	22 32 04.8	-0.2
BKZ				SN	S	22 32 40.0	-0.6
CNGZ	**Carnagh Statio**	**1.98**	**127**	PN	Pn	22 32 06.2	+0.5
TUVZ	**Tukino**	**2.01**	**192**	PN	Pn	22 32 03.3	-2.9
FWVZ	**Far West T-bar**	**2.02**	**194**	PN	Pn	22 32 06.6	+0.2
ARHZ	**Aropaoanui**	**2.05**	**162**	PN	Pn	22 32 06.5	+0.1
TRVZ	**Turoa**	**2.06**	**194**	PN	Pn	22 32 07.0	+0.3
KNZ	**Kokohu**	**2.07**	**146**	⇓PN	Pn	22 32 06.2	-0.3
WNVZ	**Wahianoa**	**2.08**	**193**	PN	Pn	22 32 06.7	0.0
MCHZ	**McNeill Hill**	**2.17**	**170**	PN	Pn	22 32 08.0	+0.6
BHHZ	**Black Hill Sta**	**2.18**	**183**	PN	Pn	22 32 07.1	-0.4
KAHZ	**Kahuranaki**	**2.54**	**168**	PN	Pn	22 32 10.3	-0.4
PNHZ	**Pukenui**	**2.61**	**180**	PN	Pn	22 32 10.6	-0.7
BFZ	**Birch Farm**	**3.37**	**179**	PN	Pn	22 32 17.1	-1.8
MRZ	**Mangatainoka R**	**3.39**	**188**	PN	Pn	22 32 16.2	-2.9
OGWZ	**Otaki Gorge**	**3.60**	**193**	PN	Pn	22 32 19.4	-1.9
HOWZ	**Holdsworth Sta**	**3.63**	**188**	PN	Pn	22 32 19.5	-2.2
KIW	**Kapiti Island**	**3.69**	**195**	PN	Pn	22 32 20.3	-2.1
MTW	**Mount Morrison**	**3.89**	**188**	PN	Pn	22 32 21.8	-2.7
TCW	**Tory Channel**	**4.18**	**200**	PN	Pn	22 32 25.6	-2.1
TUWZ	**Tuamarina**	**4.48**	**202**	PN	Pn	22 32 28.7	-2.4
QRZ	**Quartz Range**	**4.53**	**218**	PN	Pn	22 32 28.6	-3.1
THZ	**Tophouse**	**5.13**	**209**	PN	Pn	22 32 35.2	-3.6
KHZ	**Kahutara**	**5.50**	**201**	PN	Pn	22 32 40.4	-2.7

GUC 05 22:38:24.0±1.5, 34°.14S×72°.35W, h36km±7km, ML4.1, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.27**	**133**	*e*P	Pn	22 38 45.5	+0.3
NICH				*e*S	Sn	22 39 01.9	+1.0
NICH				AML	AML	22 39 06.7	
	comp=E,11μm,0.4s						
TALC	**Talca**	**1.39**	**155**	*e*P	Pn	22 38 47.5	+0.7
TALC				*e*S	Sn	22 39 05.0	+1.1
SAN	**Santiago**	**1.56**	**65**	*e*P	Pn	22 38 50.1	+0.9
SAN				*e*S	Sn	22 39 09.9	+1.6
CLCH	**Cerro Calan**	**1.68**	**64**	*e*P	Pn	22 38 51.5	+0.6
CLCH				*e*S	Sn	22 39 12.9	+1.6
CLCH				AML	AML	22 39 22.1	
	comp=E,2μm,5.6s						
PEL	**Peldehue**	**1.71**	**55**	*e*P	Pn	22 38 52.1	+0.9
PEL				*e*S	Sn	22 39 13.5	+1.6
PEL				AML	AML	22 39 22.2	
	comp=N,3μm,0.1s						
LNCH	**Linares**	**1.82**	**160**	*e*P	Pn	22 38 53.7	+1.0
LNCH				*e*S	Sn	22 39 16.1	+1.6
LNCH				AML	AML	22 39 21.9	
	comp=E,1μm,0.3s						
COCH	**Cobquecura**	**2.02**	**190**	*e*P	Pn	22 38 55.6	+0.1
COCH				*e*S	Sn	22 39 18.1	-1.4

*KRNET **05** 22:43:28.2±0.1, 40°.99N×73°.70E, h2km, mb3.3*
*NNC **05** 22:43:29.3±1.5, 40°.80N×73°.84E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=23.9km s-min=10.0km az=110.0*

ISC 05 22:43:28.3±1.1, 40°.92N±0°.03×73°.73E±0°.03, h3km±11km, n34, σ1°13/53, 29C-1D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALK	**Salom-Alik** baz=147	**0.08**	**120**	⇑*i*P	**Pg**	**22 43 29.0**	**-1.0**
SALK				⇑*e*S	**Sg**	**22 43 32.8**	**+1.7**
	baz=147						
SFK	**Sufi-Kurgan**	**0.92**	**191**	⇓P	**Pg**	**22 43 44.9**	**-1.1**
SFK				⇑S	**Sg**	**22 43 56.6**	**-1.3**
AML	**Almayashu** SNR=134	**1.21**	**359**	P	**Pn**	**22 43 51.0**	**-1.5**
AML	**Almayashu** baz=360	**1.21**	**359**	⇑*i*P	**Pn**	**22 43 50.8**	**-1.7**
AML				⇑*i*S	**Sb**	**22 44 06.9**	**-1.4**
	baz=360						
CHVK	**Chauvay** baz=234	**1.40**	**236**	*e*P	**Pb**	**22 43 54.9**	**-0.2**
CHVK				*e*S	**Sg**	**22 44 16.9**	**+3.8**
	baz=234						
UCH	**Uchtor** SNR=46	**1.43**	**24**	P	**Pn**	**22 43 55.3**	**-0.3**
UCH	**Uchtor** baz=26	**1.43**	**24**	⇓*i*P	**Pn**	**22 43 55.1**	**-0.5**
UCH				⇓*i*S	**Sn**	**22 44 14.4**	**-0.8**
	baz=26						
KZA	**Kyzart** SNR=25	**1.62**	**44**	P	**Pg**	**22 44 00.1**	**+0.6**
KZA	**Kyzart** baz=46	**1.62**	**44**	⇑*i*P	**Pb**	**22 43 59.0**	**-0.2**
KZA				⇑*i*S	**Sg**	**22 44 21.9**	**+1.4**
	baz=46						
EKS2	**Erkin-Say** SNR=12	**1.74**	**1**	P	**Pg**	**22 44 00.6**	**-0.4**
EKS2	**Erkin-Say** baz=2.0	**1.74**	**1**	⇓*i*P	**Pb**	**22 44 00.3**	**-0.7**
EKS2				⇓*i*S	**Sb**	**22 44 23.8**	**+0.5**
	baz=2.0						
EKS	**Erkin-Say** baz=2.0	**1.75**	**1**	⇓*i*P	**Pb**	**22 44 00.9**	**-0.2**
EKS				⇓*e*S	**Sg**	**22 44 24.8**	**+0.4**
	baz=2.0						
NRN	**Naryn** baz=75	**1.79**	**73**	*e*P	**Pb**	**22 44 02.6**	**+0.7**
NRN				*e*S	**Sg**	**22 44 26.0**	**+0.2**
	baz=75						
AAK	**Ala-Archa** 9.1nm,0.2s	**1.81**	**18**	⇑Pn	**Pb**	**22 44 02.1**	**0.0**
AAK				⇑Sn	**Sb**	**22 44 26.0**	**+0.8**
	21nm,0.2s						
AAK	**Ala-Archa** SNR=17	**1.81**	**18**	P	**Pb**	**22 44 02.0**	**-0.1**
AAK	**Ala-Archa** baz=20	**1.81**	**18**	⇑*i*P	**Pb**	**22 44 01.9**	**-0.1**
AAK				⇑*i*S	**Sb**	**22 44 25.9**	**+0.7**
	baz=20						
KBK	**Karagaybulak** SNR=30	**1.96**	**27**	P	**Pb**	**22 44 05.0**	**+0.3**
KBK	**Karagaybulak** baz=29	**1.96**	**27**	⇑*i*P	**Pb**	**22 44 04.9**	**+0.2**
KBK				⇑*i*S	**Sg**	**22 44 31.3**	**0.0**
	baz=29						
CHMS	**Chumysh** SNR=18	**2.21**	**20**	P	**Pb**	**22 44 09.2**	**+0.2**
CHMS	**Chumysh** baz=21	**2.21**	**20**	⇑*i*P	**Pb**	**22 44 08.9**	**-0.1**
CHMS				⇑*i*S	**Sb**	**22 44 38.1**	**+1.3**
	baz=21						
BOOM	**Boomskoye usch** baz=48	**2.28**	**46**	⇓*i*P	**Pb**	**22 44 11.0**	**+0.8**
BOOM				⇓*e*S	**Sg**	**22 44 41.0**	**-0.6**
	baz=48						
ULHL	**Ulahol** SNR=43	**2.30**	**54**	P	**Pb**	**22 44 11.5**	**+0.9**
ULHL	**Ulahol** baz=56	**2.30**	**54**	⇑*i*P	**Pb**	**22 44 11.2**	**+0.6**
ULHL				⇑*i*S	**Sg**	**22 44 41.5**	**-0.8**
	baz=56						
BTK	**Batken** baz=248	**2.38**	**250**	*e*P	**Pb**	**22 44 10.1**	**-1.8**
BTK				*e*S	**Sb**	**22 44 42.2**	**+0.5**
	baz=248						
USP	**Ospenovka** SNR=32	**2.41**	**13**	P	**Pb**	**22 44 12.7**	**+0.3**
USP	**Ospenovka** baz=14	**2.41**	**13**	⇑*i*P	**Pb**	**22 44 11.8**	**-0.6**
USP				⇑*i*S	**Sg**	**22 44 44.5**	**-1.3**
	baz=14						
TKM2	**Tokmak 2** 12nm,0.2s	**2.44**	**34**	⇑Pn	**Pb**	**22 44 13.4**	**+0.5**
TKM2				⇑Sn	**Sg**	**22 44 46.9**	**+0.3**
	18nm,0.2s						
TKM2	**Tokmak 2** SNR=39	**2.44**	**34**	P	**Pb**	**22 44 12.7**	**-0.2**
TKM2	**Tokmak 2** baz=36	**2.44**	**34**	⇑*i*P	**Pb**	**22 44 12.9**	**0.0**
TKM2				⇑*i*S	**Sg**	**22 44 45.7**	**-0.9**
	baz=36						
KDJ	**Kajisay** baz=65	**2.86**	**64**	*e*P	**Pb**	**22 44 18.8**	**-1.3**
KDJ				*e*S	**Sb**	**22 44 57.8**	**+2.3**
	baz=65						
KK31	**Karatay Array** 4.5nm,0.2s,baz=126,slow=16,SNR=8.4	**3.24**	**313**	⇑Pn	**Pn**	**22 44 22.6**	**+2.5**
KK31				⇓Sn	**Sb**	**22 45 08.2**	**+1.9**
	20nm,0.3s,baz=134,slow=28,SNR=12						
KNDC	**Almaty** 9.0nm,0.1s	**3.33**	**45**	⇑Pg	**Pg**	**22 44 31.5**	**-0.5**
KNDC				⇑Lg	Lg	22 45 16.3	
	20nm,0.2s						
PDGK	**Podgornoye**	**4.91**	**59**	⇓Pg	Pb	22 44 58.7	+3.8
PDGK				⇑Lg	Lg	22 46 02.3	
OTUK	**Ortayu**	**7.39**	**353**	⇑Pg	Pg	22 45 46.7	-3.1
OTUK				⇑Lg	Lg	22 47 22.5	

*FUNV **05** 23:28:27.3, 10°.47N×62°.36W, h5km, MW3.2*
*TRN **05** 23:28:29.2, 10°.51N×62°.13W, h9km, MD3.5*

ISC 05 23:28:25.8±1.0, 10°.46N±0°.05×62°.32W±0°.03, h14km±8km, n16, σ1°31/25, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.21**	**28**	*e*P	**Pb**	**23 28 31.4**	**0.0**
GUIV				*e*S	**Sg**	**23 28 35.0**	**+1.1**
TCE	**Chacachacare**	**0.61**	**67**	*e*P	**Pg**	**23 28 37.7**	**-0.1**
TCE				*e*S	**Sg**	**23 28 43.5**	**-2.4**
GUNV	**Guanoco**	**0.68**	**244**	*e*P	**Pg**	**23 28 39.1**	**+0.1**
GUNV				*e*S	**Sg**	**23 28 48.9**	**+1.0**
TPP	**Pointe-a-Pierr**	**0.87**	**99**	*e*P	**Pg**	**23 28 42.6**	**0.0**
CRUV	**Carupano**	**0.92**	**284**	*e*P	**Pg**	**23 28 43.5**	**-0.2**
CRUV				*e*S	**Sg**	**23 28 53.9**	**-1.8**
TRN	**Trinidad (W)**	**0.93**	**78**	*e*P	**Pg**	**23 28 42.8**	**-0.9**
TRN				*e*S	**Sg**	**23 28 54.4**	**-1.5**
TBH	**Brigand Hill**	**1.24**	**89**	*e*P	**Pg**	**23 28 50.0**	**+0.4**
TPR	**Prospect**	**1.69**	**64**	*e*P	**Pn**	**23 28 56.0**	**+1.2**
TPR				*e*S	**Sn**	**23 29 15.8**	**-0.3**
BOT	**Bacolet**	**1.73**	**66**	*e*P	**Pb**	**23 28 57.3**	**0.0**
ORIV	**Oritupano**	**1.74**	**218**	*e*P	**Pb**	**23 28 57.5**	**-0.1**
GRW	**Mount Saint Ca**	**1.81**	**21**	*e*P	**Pg**	**23 29 00.2**	**-0.4**
GRW				*e*S	**Sn**	**23 29 20.8**	**+1.3**
TOSP	**Speyside**	**1.95**	**64**	*e*P	**Pb**	**23 29 00.3**	**-0.7**
TOSP				*e*S	**Sn**	**23 29 23.6**	**+1.0**
PCRV	**Puerto La Cruz**	**2.29**	**263**	*e*P	**Pn**	**23 29 04.8**	**+1.7**
PRGV	**PARIAGUAN**	**2.84**	**234**	*e*P	**Pn**	**23 29 12.1**	**+1.4**
BIRV	**Birongo**	**3.88**	**271**	*e*S	**Sn**	**23 30 09.5**	**-0.9**
BAUV	**El Baul**	**5.83**	**256**	*e*P	**Pn**	**23 29 52.7**	**+0.8**
BAUV				*e*S	**Sn**	**23 30 55.4**	**-3.2**

GUC 05 23:49:30.7±0.5, 33°.80S×72°.04W, h15km±6km, ML3.7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.84**	**24**	*e*P	Pb	23 49 46.9	-0.2
IHA				*e*S	Sn	23 49 59.9	-0.2
TACH	**Talagante**	**0.93**	**81**	*e*P	Pb	23 49 48.6	0.0
TACH				*e*S	Sn	23 50 02.6	+0.1
SAN	**Santiago**	**1.20**	**74**	*e*P	Pb	23 49 53.5	+0.2
PCH	**Pirque**	**1.29**	**82**	*e*P	Pb	23 49 54.8	+0.1
PEL	**Peldehue**	**1.31**	**60**	*e*P	Pb	23 49 55.1	0.0
PEL				*e*S	Sg	23 50 13.7	+0.5
PEL				AML	AML	23 50 27.6	
	comp=N,3μm,0.4s						
CLCH	**Cerro Calan**	**1.32**	**73**	*e*P	Pb	23 49 55.5	+0.2
CLCH				*e*P	Pg	23 49 55.6	-0.6
CLCH				*e*S	Sg	23 50 14.0	+0.5
CLCH				*e*S	Sn	23 50 14.5	+2.4
CLCH				AMP		23 50 15.1	
	comp=E,1μm,0.2s						
NICH	**Los Niches**	**1.37**	**151**	*e*P	Pb	23 49 56.2	+0.1
NICH				AML	AML	23 50 21.0	
	comp=N,3μm,0.6s						
SJCH	**San Jose de Ma**	**1.42**	**84**	*e*P	Pb	23 49 57.1	+0.1

*IDC **05** 23:50:13.0±0.6, 7°.50N×126°.67E, h0km, mb3.9/12, mb1 4.1/12, mb1mx3.9/30, mbtmp3.9/12, MS2.8/1, Ms1 3.0/1, ms1mx2.3/36, Error ellipse: s-maj=41.8km s-min=15.4km az=78.0*
*ISCJB **05** 23:50:20.3±0.5, 7°.38N±0°.06×126°.74E±0°.06, h71km, mb3.8/12, Error ellipse: s-maj=10.5km s-min=6.6km az=41.7*
*MAN **05** 23:50:22, 7°.36N×126°.59E, h32km, mb4.7, ML3.6, MS3.5*

ISC 05 23:50:22.0±0.6, 7°.35N±0°.07×126°.65E±0°.09, h71km, n28, σ1°02/26, mb4.0/12, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.56**	**225**	*e*P	**Pn**	**23 50 33.9**	**-1.7**
BUKP	**Musuan**	**1.66**	**289**	*e*P	**Pn**	**23 50 49.2**	**0.0**
BUKP				*e*S	**Sn**	**23 51 11.0**	**+1.2**
BUTP	**Butuan**	**1.91**	**328**	*e*P	**Pn**	**23 50 51.9**	**-0.5**
CGP	**Cagayan de Oro**	**2.23**	**300**	⇓*e*P	**Pn**	**23 50 56.3**	**-0.4**
CGP				*e*S	**Sn**	**23 51 22.7**	**-0.6**
SCPH	**Surigao**	**2.68**	**335**	*e*P	**Pn**	**23 51 04.5**	**+1.6**
SCPH				*e*S	**Sn**	**23 51 34.6**	**+0.4**
PAGZ	**Pagadian**	**3.28**	**279**	*e*P	**Pn**	**23 51 11.8**	**+0.7**
TBP	**Tagbilaran**	**3.61**	**310**	*e*P	**Pn**	**23 51 15.4**	**-0.2**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=350,slow=9.7,SNR=3.2	**28.15**	**165**	P	**P**	**23 56 07.9**	**+0.2**
WRA				PcP	**PcP**	**23 59 21.2**	**+0.8**
	0.4nm,0.6s,baz=334,slow=2.8,SNR=3.3						
CMAR	**Chiang Mai Arr**

NKL				AMB	AMB	23 55 56.3
	9.0nm,0.4s					
NKL				AMB	AMB	23 55 56.3
	19nm,0.4s					
NKL				AMB	AMB	23 55 56.3
	24nm,0.4s					
NKL			*e*Sg	Sg	Sg	23 56 14.8 +2.2
NKL				A	A	23 56 15.5
	95nm,0.3s					
NKL				A	A	23 56 15.5
	48nm,0.3s					
TYV	**Tymovskoe**	**1.77**	**184**	*e*Sg	Sg	23 56 27.8 +3.5
TYV				A	A	23 56 32.3
	7.0nm,0.6s					
EKMR	**Ekimchan**	**6.01**	**278**	*e*Sg	Sg	23 58 49.5 +9.3
EKMR				A	A	23 58 50.3
	3.0nm,0.5s					

IDC ***05*** *23:59:34.9±3.0,4˚.89S×102˚.97E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/33, mbtmp3.6/6, Error ellipse: s-maj=146.4km s-min=19.7km az=55.0*

ISCJB ***05*** *23:59:39.5±0.9,5˚.19S±0˚.07×102˚.96E±0˚.07, h59km, mb3.5/6, Error ellipse: s-maj=11.6km s-min=7.2km az=42.4*

DJA ***05*** *23:59:40.7±0.8,5˚S±4˚×10˚3E±˚, h28km±7km, M3.7/8, MLv3.7/8*

ISC 05 23:59:42.0±1.0,5˚.12S±0˚.08×103˚.03E±0˚.09, h59km, n14, σ0§96/16, mb3.5/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**0.75**	**354**	P	**Pn**	**23 59 55.7**	**-1.2**
MNAI				S	**Sn**	**00 00 07.8**	**+0.1**
LWLI	**Liwa**	**1.03**	**85**	P	**Pn**	**23 59 59.4**	**-1.1**
LWLI				S	**Sn**	**00 00 14.0**	**-0.1**
MDSI	**Maura Dua**	**1.30**	**61**	P	**Pn**	**00 00 03.7**	**-0.3**
MDSI				S	**Sn**	**00 00 20.3**	**-0.1**
LHSI	**Lahat**	**1.37**	**21**	P	**Pn**	**00 00 05.2**	**+0.3**
KASI	**Kota Agung**	**1.51**	**106**	P	**Pn**	**00 00 05.5**	**-1.3**
KASI				S	**Sn**	**00 00 24.6**	**-0.9**
KLSI		**1.74**	**76**	P	**Pn**	**00 00 09.8**	**-0.2**
CGJI	**Cibinong**	**3.04**	**119**	P	**Pn**	**00 00 26.5**	**-1.1**
WRA	**Warramunga Arr**	**33.83**	**119**	P	**P**	**00 06 18.9**	**-0.1**
	0.2nm,0.4s,baz=299,slow=10,SNR=3.1						
ASAR	**Alice Springs**	**34.99**	**125**	P	P	00 06 32.8	+3.8
	0.2nm,0.4s,baz=298,slow=7.4,SNR=3.2						
STKA	**Stephens Creek**	**44.83**	**131**	P	**P**	**00 07 52.3**	**+1.8**
	1.4nm,0.9s,baz=302,slow=9.5,SNR=3.5						
SONM	**Songino Array**	**52.81**	**3**	P	**P**	**00 08 51.1**	**-0.4**
	0.3nm,0.5s,baz=185,slow=8.7,SNR=4.2						
MKAR	**Makanchi Array**	**54.85**	**343**	P	**P**	**00 09 05.2**	**-1.1**
	0.1nm,0.5s,baz=139,slow=5.4,SNR=3.0						
ZALV	**Zalesovo Beam**	**60.80**	**348**	P	**P**	**00 09 47.0**	**-0.8**
	0.3nm,0.3s,baz=159,slow=6.2,SNR=3.0						
TXAR	**Lajitas Array**	**145.10**	**43**	PKP	PKPbc	00 19 13.9	+0.7
	0.2nm,0.6s,baz=306,slow=2.1,SNR=3.0						

GUC 06 00:11:18.3±0.5,30˚.73S×72˚.27W, h33km±3km, ML4.3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSCH	**La Serena**	**1.20**	**47**	*e*P	Pn	00 11 39.5	+0.7
LSCH				*e*S	Sb	00 11 55.1	-0.7
VACH	**Vallenar**	**2.51**	**32**	*e*S	Sn	00 12 29.8	+3.4
PEL	**Peldehue**	**2.76**	**151**	*e*P	Pn	00 12 02.4	+2.1
PEL				*e*S	Sn	00 12 35.8	+3.3
PEL				AML	AML	00 12 46.0	
	comp=E,891nm,0.5s						
CLCH	**Cerro Calan**	**3.04**	**152**	*e*P	Pn	00 12 06.2	+2.0
CLCH				*e*S	Sn	00 12 42.6	+3.1
CLCH				AML	AML	00 12 50.5	
	comp=E,940nm,0.6s						
SAN	**Santiago**	**3.04**	**154**	*e*S	Sn	00 12 42.9	+3.4
TACH	**Talagante**	**3.13**	**159**	*e*P	Pn	00 12 07.1	+1.8
TACH				*e*S	Sn	00 12 44.4	+2.8

IDC 06 00:12:26.5±2.6,13˚.24N×88˚.36W, h132km±21km, mb2.8/2, mb1 3.3/4, mb1mx2.9/33, mbtmp3.5/4, Error ellipse: s-maj=70.5km s-min=15.8km az=50.0, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**4.44**	**131**	P	Pn	00 13 32.1	-0.1
	2.2nm,0.3s,baz=290,slow=7.2,SNR=12						
JTS				S	Sn	00 14 24.0	+0.7
	1.4nm,0.3s,baz=263,slow=19,SNR=2.3						
TEIG	**Tepich**	**6.95**	**1**	P	Pn	00 14 05.5	-0.4
	2.8nm,0.3s,baz=172,slow=7.1,SNR=8.9						
TXAR	**Lajitas Array**	**21.40**	**321**	P	P	00 17 04.0	0.0
	0.3nm,0.6s,baz=137,slow=12,SNR=4.9						
YKA	**Yellowknife Ar**	**52.62**	**345**	P	P	00 21 26.7	+0.1
	0.2nm,0.3s,baz=151,slow=7.3,SNR=16						
DBIC	**Dimbokro**	**82.20**	**85**	P	P	00 24 33.4	-0.2
	1.9nm,0.3s,baz=259,slow=5.5,SNR=9.5						

IDC ***06*** *00:17:40.9±11.0, 12˚.76N×124˚.45E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.3/37, mbtmp3.5/3, MS3.2/1, Ms1 3.2/1, ms1mx2.5/18, Error ellipse: s-maj=384.2km s-min=29.6km az=44.0*

ISC 06 00:17:45.8±2.1,12˚.3N±0˚.2×124˚.0E±0˚.1, h13km, n7, σ1§13/6, mb3.5/3, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RCP	**Roxas**	**1.40**	**239**	*e*P	**Pg**	**00 18 13.9**	**+1.2**
RCP				*i* S	**Sb**	**00 18 28.1**	**-1.5**
TBP	**Tagbilaran**	**2.58**	**182**	*e*P	**Pb**	**00 18 32.3**	**+0.2**
TBP				*e*S	Sn	00 18 50.0	-8.7
DCPH	**Dipolog City**	**3.73**	**189**	*e*P	Pn	00 18 38.5	-4.7
DCPH				*e*S	Sn	00 19 10.7	-16
CMAR	**Chiang Mai Arr**	**24.88**	**287**	P	**P**	**00 23 08.4**	**-0.2**
	0.5nm,0.3s,baz=110,slow=7.8,SNR=5.5						
WRA	**Warramunga Arr**	**33.62**	**162**	P	**P**	**00 24 25.8**	**-0.4**
	0.5nm,0.7s,baz=344,slow=9.1,SNR=5.3						
ASAR	**Alice Springs**	**37.03**	**165**	P	**P**	**00 24 55.4**	**-0.3**
	0.3nm,0.7s,baz=347,slow=6.7,SNR=4.4						
ZALV	**Zalesovo Beam**	**51.78**	**332**	LR	LR	00 48 36.7	
	comp=Z,24nm,18.7s,baz=70,slow=36						

IDC ***06*** *00:29:34.1±0.8, 34˚.96S×72˚.88W, h0km, mb3.8/5, mb1 3.8/8, mb1mx3.8/18, mbtmp3.7/8, ML3.6/3, MS3.5/4, Ms1 3.5/4, ms1mx3.1/19, Error ellipse: s-maj=32.2km s-min=22.9km az=100.0*

ISCJB ***06*** *00:29:35.7±1.4, 35˚.00S±0˚.04×72˚.92W±0˚.06, h25km±10km, mb4.0/8, MS3.5/2, Error ellipse: s-maj=9.0km s-min=5.8km az=15.5*

GUC ***06*** *00:29:35.9±0.5, 34˚.93S×72˚.91W, h13km±4km*

NEIC ***06*** *00:29:36.5±4.8, 34˚.95S×72˚.94W, h17km±29km, mb4.3/4, Error ellipse: s-maj=22.5km s-min=8.7km az=96.0*

ISC 06 00:29:34.5±2.1,34˚.98S±0˚.05×72˚.87W±0˚.06, h6km±12km, n28, σ0§96/36, mb4.0/8, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**1.09**	**113**	*e*P	**Pg**	**00 29 55.3**	**-0.1**
TALC				*e*S	**Sb**	**00 30 10.3**	**0.0**
COCH	**Cobquecura**	**1.15**	**177**	*e*P	**Pg**	**00 29 56.3**	**-0.2**
COCH				*e*S	**Sb**	**00 30 11.8**	**-0.1**
NICH	**Los Niches**	**1.34**	**91**	*e*P	**Pn**	**00 29 59.3**	**-0.5**
NICH				*e*S	**Sb**	**00 30 17.2**	**-0.4**
LNCH	**Linares**	**1.34**	**130**	*e*P	**Pn**	**00 29 59.5**	**-0.3**
LNCH				*e*S	**Sb**	**00 30 17.5**	**-0.1**
SAN	**Santiago**	**2.38**	**51**	*e*P	**Pn**	**00 30 15.2**	**+1.1**
CLCH	**Cerro Calan**	**2.50**	**51**	*e*P	**Pn**	**00 30 16.7**	**+0.9**
CLCH				*e*S	**Sn**	**00 30 47.7**	**+1.1**
PEL	**Peldehue**	**2.58**	**45**	*e*P	**Pn**	**00 30 17.8**	**+0.9**
PEL				*e*S	**Sn**	**00 30 48.9**	**+0.4**
CFAA	**Coronel Fontan**	**5.13**	**50**	Pn	**Pn**	**00 30 53.1**	**+1.1**
	0.4nm,0.3s,baz=221,slow=4.2,SNR=29						
CFAA				Lg	Lg	00 32 09.0	
	0.8nm,0.3s,baz=325,slow=11,SNR=3.9						
PLCA	**Paso Flores**	**6.03**	**163**	Pn	**Pn**	**00 31 05.7**	**+1.4**
	1.4nm,0.3s,baz=330,slow=10,SNR=35						
PLCA				Lg	Lg	00 32 37.6	
	1.0nm,0.3s,baz=266,slow=22,SNR=2.9						
PLCA				LR	LR	00 33 23.8	
	comp=Z,186nm,18.8s,baz=352,slow=38						
PLCA	**Paso Flores**	**6.03**	**163**	*e*Pn	**Pn**	**00 31 05.6**	**+1.4**
	30nm,0.9s						
PLCA				*e*Sn	**Sn**	**00 32 13.2**	**-0.4**
PLCA				Lg	Lg	00 32 37.6	
LCO	**Las Campanas**	**6.23**	**18**	*e*Pn	**Pn**	**00 31 06.8**	**-0.5**
	15nm,0.6s						
LCO				*e*Sn	**Sn**	**00 32 15.7**	**-3.3**
LVC	**Limon Verde**	**12.80**	**17**	LR	LR	00 37 00.7	
	comp=Z,630nm,21.8s,baz=210,slow=35						
CPUP	**Villa Florida**	**15.89**	**61**	Pn	**P**	**00 33 21.2**	**-1.4**
	0.0nm,0.3s,baz=248,slow=18,SNR=2.4						
SIV	**San Ignacio**	**21.67**	**32**	P	**P**	**00 34 25.4**	**-0.6**
	2.3nm,0.7s,baz=213,slow=7.4,SNR=9.1						
SIV				LR	LR	00 44 27.8	
	comp=Z,85nm,18.6s,baz=222,slow=41						
SAML	**Samuel**	**27.39**	**21**	*e*P	**P**	**00 35 20.7**	**-0.1**
	1.5nm,0.8s						
PTGA	**Pitinga**	**36.14**	**22**	*e*P	**P**	**00 36 37.2**	**-0.4**
	2.9nm,0.6s						
SNAA	**Sanae**	**50.94**	**157**	*e*P	**P**	**00 38 36.7**	**+0.3**
	3.2nm,0.8s						
QSPA	**South Pole Qui**	**55.26**	**180**	P	**P**	**00 39 09.3**	**+1.0**
	1.4nm,0.8s,baz=349,slow=1.3,SNR=3.5						
QSPA	**South Pole Qui**	**55.26**	**180**	*e*P	**P**	**00 39 08.5**	**+0.2**
	3.4nm,0.9s						
TXAR	**Lajitas Array**	**70.27**	**332**	P	**P**	**00 40 49.4**	**+0.7**
	0.6nm,0.6s,baz=151,slow=8.8,SNR=11						
TXAR				LR	LR	01 06 07.5	
	comp=Z,44nm,18.0s,baz=0.0,slow=31						
PDAR	**Pinedale Array**	**84.33**	**334**	P	**P**	**00 42 08.6**	**+1.2**
	0.4nm,0.8s,baz=126,slow=5.7,SNR=3.8						
TORD	**Torodi Ar. Bea**	**85.18**	**70**	P	**P**	**00 42 12.1**	**0.0**
	1.5nm,0.7s,baz=259,slow=4.8,SNR=15						
WRA	**Warramunga Arr**	**119.57**	**210**	PKP	**PKPdf**	**00 48 25.1**	**-0.7**
	0.3nm,0.3s,baz=154,slow=1.9,SNR=3.2						
BRTR	**Keskin Array B**	**122.90**	**62**	PKP	**PKPdf**	**00 48 31.1**	**-0.5**
	0.5nm,0.8s,baz=188,slow=2.5,SNR=4.8						
BVAR	**Borovoye Array**	**148.46**	**44**	PKPbc	**PKPbc**	**00 49 22.7**	**+1.1**
	0.7nm,0.6s,baz=267,slow=3.8,SNR=4.5						
KURBB	**Kurchatov Arra**	**154.05**	**44**	PKPbc	**PKPbc**	**00 49 34.8**	**+0.2**
	0.8nm,0.6s,baz=298,slow=2.1,SNR=8.1						
KURK	**Kurchatov**	**154.06**	**44**	PKPbc	**PKPbc**	**00 49 34.8**	**+0.1**
ZALV	**Zalesovo Beam**	**155.42**	**33**	PKP	**PKPdf**	**00 49 27.5**	**-0.8**
	0.6nm,0.8s,baz=255,slow=5.8,SNR=3.7						
ZALV				PKPab	**PKPab**	**00 49 54.1**	**+0.2**
	1.2nm,0.7s,baz=274,slow=5.3,SNR=4.4						

GUC ***06*** *00:43:45.4±0.4, 33˚.74S×73˚.58W, h42km±15km, ML3.8*

IDC ***06*** *00:43:50.9±1.6, 33˚.91S×73˚.06W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/18, mbtmp3.7/3, ML4.0/1, MS3.7/1, Ms1 3.7/1, ms1mx2.8/13, Error ellipse: s-maj=70.4km s-min=28.9km az=69.0*

ISCJB ***06*** *00:43:54.0±1.3, 33˚.89S±0˚.05×73˚.11W±0˚.08, h33km, mb3.7/2, Error ellipse: s-maj=10.1km s-min=7.2km az=16.4*

ISC 06 00:43:56.0±1.4,33˚.89S±0˚.07×73˚.0W±0˚.1, h35km, n10, σ1§46/10, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**1.85**	**127**	*e*S	**Sn**	**00 44 48.7**	**+1.2**
TALC	**Talca**	**1.89**	**143**	*e*S	**Sn**	**00 44 48.7**	**+0.3**
SAN	**Santiago**	**2.02**	**78**	*e*S	**Sn**	**00 44 52.3**	**+0.6**
PEL	**Peldehue**	**2.09**	**70**	*e*P	Pn	00 44 23.8	-4.9
PEL				*e*S	**Sn**	**00 44 53.5**	**0.0**
PEL				AML	AML	00 45 00.3	
	comp=N,627nm,0.4s						
CLCH	**Cerro Calan**	**2.13**	**77**	*e*S	**Sn**	**00 44 55.0**	**+0.5**
CLCH				AML	AML	00 45 04.7	
	comp=E,426nm,0.4s						
LNCH	**Linares**	**2.27**	**149**	*e*P	Pn	00 44 26.3	-4.8
LNCH				*e*S	**Sn**	**00 44 57.1**	**-0.8**
PLCA	**Paso Flores**	**7.11**	**165**	Pn	**Pn**	**00 45 35.6**	**-1.9**
	comp=E,0.7nm,0.3s,baz=335,slow=13,SNR=16						
PLCA				Sn	**Sn**	**00 46 59.9**	**+2.8**
	baz=31,slow=18,SNR=1.3						
CPUP	**Villa Florida**	**15.52**	**65**	LR	LR	00 53 17.2	
	comp=E,294nm,19.9s,baz=208,slow=36						
TXAR	**Lajitas Array**	**69.25**	**332**	P	**P**	**00 54 59.9**	**+0.3**
	comp=E,0.3nm,0.5s,baz=155,slow=8.3,SNR=5.6						
TORD	**Torodi Ar. Bea**	**84.95**	**71**	P	**P**	**00 56 28.5**	**+0.6**
	comp=E,0.7nm,0.7s,baz=252,slow=4.3,SNR=7.4						

ISCJB ***06*** *01:04:21.8±0.9, 44˚.47N±0˚.08×149˚.10E±0˚.09, h42km, mb3.5/3, Error ellipse: s-maj=12.7km s-min=7.9km az=149.9*

IDC ***06*** *01:04:22.4±12.0, 44˚.75N×150˚.28E, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.2/31, mbtmp3.6/3, Error ellipse: s-maj=361.0km s-min=103.6km az=90.0*

SKHL ***06*** *01:04:24.6±0.8, 44˚.77N×148˚.66E, h106km±4km, mb4.2/1, msh5.1/2*

ISC 06 01:04:23.6±1.1,44˚.60N±0˚.09×149˚.02E±0˚.09, h42km, n13, σ1§46/10, mb3.6/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.03**	**308**	*i* P	**Pn**	**01 04 42.6**	**+1.0**
KUR				AMB	AMB	01 04 43.2	
	100nm,0.6s						
KUR				AMB	AMB	01 04 43.2	
	180nm,0.6s						
KUR				AMB	AMB	01 04 43.3	
	400nm,0.5s						
KUR				*i* S	**Sn**	**01 04 56.7**	**+1.9**
KUR				A	A	01 04 59.9	
	1μm,0.5s						
KUR				A	A	01 04 59.9	
	530nm,0.5s						
SHO	**Shikotan**	**1.73**	**246**	*e*P	**Pn**	**01 04 51.2**	**+0.1**
SHO				*e*S	**Sn**	**01 05 10.6**	**-1.4**
SHO				A	A	01 05 18.4	
	340nm,0.5s						
MYR	**Moyori**	**4.77**	**243**	*e*P	**Pn**	**01 05 34.3**	**+1.5**
MYR				*e*S	**Sn**	**01 06 26.6**	**-0.2**
YSS	**Yuzh-Sakhalins**	**4.97**	**300**	*e*P	**Pn**	**01 05 33.4**	**-2.2**
H11N2	**WAKE ISLAND Hy**	**28.92**	**143**	T	T	01 41 02.0	
	baz=333,slow=75,SNR=67						
H11N1	**WAKE ISLAND Hy**	**28.93**	**143**	T	T	01 41 03.8	
	baz=333,slow=75,SNR=68						
H11N3	**WAKE ISLAND Hy**	**28.94**	**143**	T	T	01 41 04.1	
	baz=333,slow=75,SNR=70						
H11S1	**WAKE ISLAND Hy**	**29.93**	**145**	T	T	01 42 19.9	
	baz=334,slow=76,SNR=77						
H11S3	**WAKE ISLAND Hy**	**29.94**	**145**	T	T	01 42 20.4	
	baz=334,slow=76,SNR=50						
H11S2	**WAKE ISLAND Hy**	**29.95**	**145**	T	T	01 42 22.7	
	baz=334,slow=76,SNR=47						
ILAR	**Eielson Array**	**40.01**	**37**	P	**P**	**01 11 52.9**	**-0.9**
	0.4nm,0.7s,baz=271,slow=8.4,SNR=5.0						
YKA	**Yellowknife Ar**	**54.34**	**35**	P	**P**	**01 13 45.5**	**+0.1**
	0.4nm,0.7s,baz=301,slow=7.1,SNR=6.3						
TXAR	**Lajitas Array**	**81.06**	**58**	P	**P**	**01 16 35.0**	**+0.6**
	0.5nm,0.5s,baz=303,slow=4.2,SNR=13						

FUNV 06 01:08:05.3,10˚.40N×69˚.62W, h5km, MW3.5, 1C-1D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIQV	**Siquisique**	**0.31**	**323**	*i* P	Pg	01 08 10.4	-1.0
CURV	**Curarigua**	**0.51**	**221**	*i* P	Pg	01 08 14.4	-0.9
CURV				*e*S	Sg	01 08 22.6	+0.5
TEPV	**Terepaima**	**0.61**	**136**	*e*P	Pg	01 08 16.4	-0.7
TEPV				*e*S	Sg	01 08 25.6	+0.6
SANV	**Sanarito**	**0.90**	**175**	*e*P	Pg	01 08 21.9	-0.9
SANV				*e*S	Sg	01 08 34.3	-0.2
QARV	**Quebrada Arrib**	**0.91**	**258**	*e*P	Pg	01 08 22.7	-0.2
QARV				*e*S	Sg	01 08 35.4	+0.6
JACV	**Jacura**	**1.03**	**49**	*e*P	Pg	01 08 24.0	-1.2
JACV				*e*S	Sg	01 08 38.9	+0.2
DABV	**Dabajuro**	**1.12**	**297**	*e*P	Pg	01 08 26.7	-0.2
MAPV	**Macapo**	**1.28**	**116**	*e*P	Pn	01 08 28.3	-1.6
BAUV	**El Baul**	**2.13**	**133**	*e*P	Pn	01 08 41.6	+0.1
BAUV				*e*S	Sn	01 09 08.0	-0.3
VIGV	**El Vigia**	**2.32**	**228**	*e*P	Pn	01 08 44.2	0.0
SOCV	**Socops**	**2.43**	**210**	*e*P	Pn	01 08 45.6	-0.2
SOCV				*e*S	Sn	01 09 14.3	-1.7
VIRV	**Villa del Rosa**	**2.74**	**272**	*e*P	Pn	01 08 48.8	-1.2
MERV	**Las Mercedes**	**3.47**	**109**	*e*P	Pn	01 08 59.1	-0.9
CAPV	**Capacho**	**3.66**	**227**	*e*P	Pn	01 09 01.8	-1.2
CUPV	**Cœpira**	**3.79**	**95**	*e*P	Pn	01 09 03.6	-0.9

ISCJB ***06*** *01:52:33.0±0.8, 6˚.97N±0˚.09×73˚.00W±0˚.08, h166km, mb3.3/3, Error ellipse: s-maj=14.2km s-min=7.5km az=140.7*

IDC ***06*** *01:52:33.4±2.9, 6˚.67N×73˚.16W, h166km±21km, mb3.1/3, mb1 3.4/4, mb1mx3.0/33, mbtmp3.6/4, Error ellipse: s-maj=59.8km s-min=25.3km az=96.0*

FUNV ***06*** *01:52:34.3, 6˚.88N×73˚.12W, h162km, MW3.7*

ISC 06 01:52:32.8±1.0, 6˚.85N±0˚.09×73˚.02W±0˚.09, h166km, n16, σ1§99/23, mb3.4/3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.23**	**35**	*e*P	**Pn**	**01 53 01.9**	**+0.6**
CAPV				*e*S	**Sn**	**01 53 22.2**	**-1.1**
ROSC	**El Rosal**	**2.37**	**214**	P	**Pn**	**01 53 13.2**	**-0.4**
	22nm,0.3s,baz=274,slow=4.9,SNR=48						
ROSC				S	**Sn**	**01 53 41.1**	**-4.1**
	17nm,0.3s,baz=89,slow=16,SNR=9.9						
VIGV	**El Vigia**	**2.57**	**39**	*e*P	**Pn**	**01 53 16.4**	**+0.8**
VIGV				*e*S	**Sn**	**01 53 47.3**	**-1.5**
SOCV	**Socops**	**2.57**	**56**	*e*P	**Pn**	**01 53 16.7**	**+1.0**
SOCV				*e*S	**Sn**	**01 53 48.7**	**-0.1**
VIRV	**Villa del Rosa**	**3.68**	**9**	*e*P	**Pn**	**01 53 28.7**	**-0.8**
VIRV				*e*S	**Sn**	**01 54 10.0**	**-3.6**
QARV	**Quebrada Arrib**	**4.15**	**36**	*e*P	**Pn**	**01 53 36.4**	**+0.9**
QARV				*e*S	**Sn**	**01 54 21.0**	**-3.5**
CURV	**Curarigua**	**4.36**	**44**	*e*P	**Pn**	**01 53 38.6**	**+0.4**
CURV				*e*S	**Sn**	**01 54 26.3**	**-3.1**
DABV	**Dabajuro**	**4.68**	**30**	*e*P	**Pn**	**01 53 43.0**	**+0.6**
BAUV	**El Baul**	**5.35**	**67**	*e*S	**Sn**	**01 54 48.8**	**-3.7**
MONV	**Montecano**	**5.90**	**30**	*e*P	**Pn**	**01 53 58.2**	**-0.2**
BIRV	**Birongo**	**7.58**	**61**	*e*P	**Pn**	**01 54 20.1**	**-0.6**
TXAR	**Lajitas Array**	**36.52**	**312**	P	**P**	**01 59 23.8**	**+1.2**
	0.1nm,0.4s,baz=126,slow=12,SNR=4.8						
SCHQ	**Schefferville**	**48.11**	**5**	P	**P**	**02 00 57.4**	**+1.8**
	1.7nm,0.6s,baz=200,slow=4.1,SNR=3.7						
YKA	**Yellowknife Ar**	**63.27**	**340**	P	**P**	**02 02 44.4**	**+0.9**
	0.3nm,0.6s,baz=133,slow=6.6,SNR=11						
ASAR	**Alice Springs**	**149.21**	**234**	PKPbc	**PKPbc**	**02 12 02.0**	**-0.6**
	0.5nm,0.8s,baz=180,slow=2.1,SNR=3.9						
WRA	**Warramunga Arr**	**150.44**	**241**	PKPbc	**PKPbc**	**02 12 05.7**	**+0.1**
	0.3nm,0.3s,baz=94,slow=2.1,SNR=2.8						

OTT ***06*** *02:03:49.8±0.2, 68˚.53N×67˚.78W, h18km, MN3.6/17, 191km northwest from Qikiqtarjuaq, Nu Baffin Island Seismic Zone, Nt.*

ISC 06 02:03:46.0±0.8, 68˚.58N±0˚.06×67˚.88W±0˚.05, h10km, n24, σ2§47/35, Baffin Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMBN	**Cumberland Cam**	**3.20**	**154**	PN	**Pn**	**02 04 38.3**	**+2.1**
CMBN				SN	**Sn**	**02 05 14.4**	**+0.1**
CMBN				Trac		02 05 28.7	
	comp=Z,49nm,0.2s						
FRB	**Frobisher Bay**	**4.86**	**184**	PN	**Pn**	**02 05 01.4**	**+2.4**
FRB				SN	**Sn**	**02 05 53.9**	**-1.4**
FRB				Trac		02 06 19.4	
	comp=Z,30nm,0.2s						
FRB				LG	Lg	02 06 20.3	
ILON	**Igloolik, Nuna**	**5.08**	**285**	PN	Pn	02 05 05.2	+3.1
ILON				SN	**Sn**	**02 06 01.4**	**+0.7**
ILON				LG	Lg	02 06 30.5	
ILON				Trac		02 06 33.0	
	comp=Z,54nm,0.4s						
GIFN	**Gifford Fjord,**	**5.09**	**293**	PN	**Pn**	**02 05 05.0**	**+2.9**
GIFN				SN	**Sn**	**02 06 01.3**	**+0.5**
GIFN				LG	Lg	02 06 30.6	
GIFN				Trac		02 06 33.4	
	comp=Z,67nm,0.3s						
LAIN	**Lailor River,**	**5.69**	**283**	PN	Pn	02 05 14.1	+3.7
LAIN				SN	**Sn**	**02 06 15.4**	**-0.4**
LAIN				Trac		02 06 49.5	
	comp=Z,38nm,0.3s						
LAIN				LG	Lg	02 06 50.9	
AP3N	**Apex site 3 Nu**	**6.02**	**286**	PN	**Pn**	**02 05 17.6**	**+2.7**
AP3N				SN	**Sn**	**02 06 23.6**	**-0.2**
AP3N				LG	Lg	02 06 58.1	
AP3N				Trac		02 06 59.5	
	comp=Z,23nm,0.2s						
ILULI	**Ilulissat**	**6.09**	**76**	SN	**Sn**	**02 06 23.3**	**-2.1**
SFJD	**Kangerlussuaq**	**6.73**	**96**	*i* P	**Pn**	**02 05 27.6**	**+3.0**
SFJD				*e*S	**Sn**	**02 06 37.9**	**-3.2**
SFJD	**Kangerlussuaq**	**6.73**	**96**	PN	**Pn**	**02 05 27.2**	**+2.6**
SFJD				SN	Sn	02 06 35.6	-5.5
SFJD				Trac		02 06 41.2	
	comp=Z,138nm,0.9s						
QILN	**Qililugaq Expl**	**7.31**	**263**	PN	**Pn**	**02 05 35.5**	**+2.9**
QILN				SN	**Sn**	**02 06 53.2**	**-2.3**
QILN				LG	Lg	02 07 36.9	
QILN				Trac		02 07 40.4	
	comp=Z,21nm,0.3s						
WAGN	**Wager Bay**	**8.77**	**262**	PN	**Pn**	**02 05 54.6**	**+2.1**
WAGN				SN	**Sn**	**02 07 25.7**	**-5.6**
WAGN				LG	Lg	02 08 25.1	
WAGN				Trac		02 08 27.8	
	comp=Z,20nm,0.3s						
AKVQ	**Akulivik**	**8.95**	**214**	PN	**Pn**	**02 05 56.8**	**+1.7**
AKVQ				SN	**Sn**	**02 07 32.7**	**-3.0**
AKVQ				Trac		02 07 56.9	
	comp=Z,60nm,1.2s						
AKVQ				LG

3C-3D, Error ellipse: s-maj=3.1km s-min=1.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.46**	**30**	PN	Pn	02 16 11.2	-0.2
MSZ				SN	Sn	02 16 24.7	-0.2
MSZ				AML	AML	02 16 27.0	
MSZ				AML	AML	02 16 27.1	
MLZ	**Mavora Lakes**	**0.48**	**125** ⇑	PN	Pn	02 16 11.4	-0.2
MLZ				SN	Sn	02 16 24.7	-0.6
MLZ				AML	AML	02 16 27.6	
WHZ	**Wether Hill Ro**	**0.85**	**164**	PN	Pn	02 16 14.2	-0.2
WHZ				AML	AML	02 16 30.4	
WHZ				AML	AML	02 16 30.5	
WKZ	**Wanaka**	**1.03**	**77** ⇑	PN	Pn	02 16 16.1	+0.1
WKZ				SN	Sn	02 16 33.0	0.0
WKZ				AML	AML	02 16 34.2	
WKZ				AML	AML	02 16 34.3	
WKZ				AML	AML	02 16 34.3	
EAZ	**Earnscleugh**	**1.21**	**98** ⇑	PN	Pn	02 16 17.8	0.0
EAZ				SN	Sn	02 16 35.3	-1.0
EAZ				AML	AML	02 16 35.7	
EAZ				AML	AML	02 16 36.3	
EAZ				AML	AML	02 16 37.0	
JCZ	**Jackson Bay**	**1.29**	**40**	PN	Pn	02 16 18.1	-0.8
JCZ				SN	Sn	02 16 36.7	-1.4
JCZ				AML	AML	02 16 37.3	
TUZ	**Tuapeka**	**1.67**	**123**	PN	Pn	02 16 23.2	+0.1
TUZ				SN	Sn	02 16 43.9	-1.7
APZ	**The Paps**	**1.78**	**172** ⇓	PN	Pn	02 16 23.8	-0.7
APZ				AML	AML	02 16 49.6	
SYZ	**Scrubby Hill**	**1.81**	**144** ⇓	PN	Pn	02 16 24.8	0.0
SYZ				AML	AML	02 16 48.1	
SYZ				AML	AML	02 16 48.2	
SYZ				AML	AML	02 16 49.6	
SYZ				AML	AML	02 16 50.1	
LBZ	**Lake Benmore**	**1.96**	**70**	PN	Pn	02 16 25.1	-1.5
LBZ				AML	AML	02 16 49.7	
LBZ				AML	AML	02 16 49.9	
ODZ	**Otahua Downs**	**2.15**	**90** ⇓	PN	Pn	02 16 28.0	-1.0
RPZ	**Rata Peaks**	**2.82**	**62** *e*	PN	Pn	02 16 35.1	-2.5
RPZ				AML	AML	02 17 09.1	
RPZ				AML	AML	02 17 09.7	
WVZ	**Waitaha Valley**	**3.01**	**50**	PN	Pn	02 16 37.4	-2.6
MQZ	**McQueen's Vall**	**3.86**	**71**	PN	Pn	02 16 49.8	-1.4
DSZ	**Denniston Nort**	**4.51**	**44** *e*	PN	Pn	02 16 56.9	-3.2
QRZ	**Quartz Range**	**5.57**	**42** *e*	PN	Pn	02 17 11.2	-3.0

IDC ***06*** *02:15:57.5±1.3, 0.˚09N×98.˚24E, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.7/37, mbtmp3.8/10, ML4.1/1, Error ellipse: s-maj=47.1km s-min=18.5km az=58.0*

ISCJB ***06*** *02:16:02.1±0.9, 0.˚2N±0.˚1×98.˚32E±0.˚08, h43km, mb3.8/8, Error ellipse: s-maj=14.9km s-min=11.2km az=4.9*

DJA ***06*** *02:16:08.5±0.9, 0˚N±7.˚×9˚9E±˚, h27km±12km, M3.8/5, MLv3.8/5*

ISC 06 02:16:04.6±1.2, **0.˚3N**±0.˚1×**98.˚48E**±0.˚07, **h43km, n13, σ1§37/14, mb3.8/8, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**1.22**	**64**	P	**Pn**	**02 16 27.5**	**+2.3**
MNSI				S	**Sn**	**02 16 42.0**	**+1.5**
GSI	**Gunungsitoli**	**1.38**	**319**	P	**Pn**	**02 16 30.0**	**+2.6**
GSI				S	**Sn**	**02 16 45.9**	**+1.4**
PDSI	**Padang**	**2.30**	**121**	P	Pn	02 16 45.9	+5.8
PSI	**Prapat**	**2.56**	**10**	Pn	**Pn**	**02 16 43.4**	**-0.4**
	34nm,0.3s,baz=157,slow=15,SNR=84						
CMAR	**Chiang Mai Arr**	**18.09**	**1**	P	**P**	**02 20 11.4**	**-1.4**
	baz=192,slow=12,SNR=6.4						
WRA	**Warramunga Arr**	**40.45**	**122**	P	**P**	**02 23 38.5**	**-0.9**
	0.6nm,0.8s,baz=306,slow=8.9,SNR=2.8						
ASAR	**Alice Springs**	**41.81**	**127**	P	**P**	**02 23 50.6**	**+0.1**
	0.4nm,0.5s,baz=300,slow=7.9,SNR=3.9						
SONM	**Songino Array**	**47.88**	**7**	P	**P**	**02 24 38.4**	**-0.1**
	1.0nm,0.5s,baz=190,slow=8.7,SNR=8.8						
MKAR	**Makanchi Array**	**48.46**	**345**	P	**P**	**02 24 42.9**	**0.0**
	1.4nm,0.7s,baz=178,slow=7.3,SNR=17						
KURBB	**Kurchatov Array**	**52.97**	**344**	P	**P**	**02 25 16.4**	**-0.3**
	0.3nm,0.5s,baz=161,slow=7.7,SNR=4.9						
ZALV	**Zalesovo Beam**	**54.69**	**350**	P	**P**	**02 25 28.8**	**-0.5**
	1.1nm,0.4s,baz=191,slow=6.3,SNR=5.1						
BVAR	**Borovoye Array**	**57.56**	**340**	P	**P**	**02 25 49.0**	**-0.8**
	1.2nm,0.6s,baz=134,slow=8.5,SNR=5.5						
BRTR	**Keskin Array B**	**70.69**	**312**	P	**P**	**02 27 15.6**	**-0.9**
	0.4nm,0.8s,baz=111,slow=6.9,SNR=4.0						

JMA 06 02:18:33.2±0.2, **30.˚68N**×**142.˚03E, h23km, M3.7, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.07**	**323**	*e*S	Sn	02 19 57.7	+1.4
CBIJ	**Chichi jima**	**3.57**	**178**	P	Pn	02 19 29.0	+1.8
BSO1	**Boso 1**	**4.06**	**348**	*e*S	Sn	02 20 21.7	+2.2
BSO2	**Boso 2**	**4.20**	**346**	*e*S	Sn	02 20 27.9	+4.4
BSO3	**Boso 3**	**4.30**	**343**	P	Pn	02 19 39.5	+2.6
BSO3				*e*S	Sn	02 20 29.9	+3.7
BSO4	**Boso 4**	**4.53**	**342**	P	Pn	02 19 44.9	+4.7
JRY	**Ryogami san**	**5.93**	**335**	P	Pn	02 20 03.3	+3.6
JRY				*e*S	Sn	02 21 07.2	+0.3
JFK	**Kawauchi**	**6.74**	**352**	*e*S	Sn	02 21 23.0	-3.8
JMK	**Ichinoseki**	**8.28**	**356**	*e*S	Sn	02 21 59.6	-5.0

IDC ***06*** *02:21:09.2±2.1, 7.˚79S×118.˚96E, h0km, mb3.4/2, mb1 3.8/5, mb1mx3.5/24, mbtmp3.6/5, ML3.7/3, Error ellipse: s-maj=62.6km s-min=23.6km az=61.0*

ISCJB ***06*** *02:21:11.9±0.7, 7.˚74S±0.˚04×118.˚85E±0.˚06, h34km, mb3.6/2, Error ellipse: s-maj=8.7km s-min=5.7km az=173.4*

DJA ***06*** *02:21:13.5±1.3, 8˚S±2˚×11˚9E±˚, h33km±16km, M3.6/8, MLv3.6/8*

ISC 06 02:21:12.4±1.0, **7.˚84S**±0.˚05×**118.˚88E**±0.˚06, **h34km, n13, σ1§52/16, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.86**	**164**	P	**Pb**	**02 21 44.2**	**-1.7**
WBSI				S	**Sb**	**02 22 07.8**	**-1.0**
WSI	**Waingapu**	**2.30**	**142**	S	**Sb**	**02 22 18.7**	**-2.6**
BSSI	**Bau Bau, Buton**	**2.32**	**44**	P	**Pn**	**02 21 48.2**	**-0.1**
BSSI				S	**Sn**	**02 22 15.3**	**-0.4**
BKSI	**Bulukumba**	**2.79**	**26**	P	**Pn**	**02 21 54.6**	**-0.1**
BASI	**Baing, Sumba**	**2.90**	**145**	P	**Pn**	**02 21 58.2**	**+2.0**
EDFI	**Ende, Flores**	**2.93**	**108**	P	**Pn**	**02 21 58.1**	**+1.4**
EDFI				S	**Sn**	**02 22 32.0**	**+1.3**
KAPI	**Kappang**	**2.94**	**17**	Pn	**Pn**	**02 21 56.7**	**0.0**
	3.0nm,0.3s,baz=226,slow=6.6,SNR=16						
BNSI	**Bone**	**3.63**	**20**	P	**Pn**	**02 22 05.4**	**-0.8**
SRBI	**Singaraja**	**3.64**	**266**	P	**Pn**	**02 22 06.0**	**-0.4**
BATI	**Baumata**	**5.28**	**117**	Pn	**Pn**	**02 22 27.1**	**-1.8**
	4.9nm,0.3s,baz=315,slow=1.4,SNR=2.5						
WRA	**Warramunga Arr**	**19.21**	**130**	P	**Pn**	**02 25 34.3**	**-0.5**
	0.3nm,0.3s,baz=304,slow=12,SNR=4.6						
ASAR	**Alice Springs**	**21.34**	**139**	P	**P**	**02 25 59.0**	**+2.2**
	1.6nm,0.3s,baz=313,slow=8.6,SNR=22						
MKAR	**Makanchi Array**	**63.38**	**333**	P	**P**	**02 31 40.1**	**+1.7**
	0.1nm,0.4s,baz=152,slow=6.5,SNR=2.4						

RSPR 06 02:35:45.1, 17.˚95N×68.˚05W, h42km±17km, MD2.6, 2C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.64**	**331** ⇑	*e*P	Pn	02 35 56.4	-1.4
PCDR	**Punta Cana, DR**	**0.64**	**331**	*e*S	Sn	02 36 06.1	-0.8
CRPR	**Cabo Rojo, PR**	**0.90**	**86** ⇓	*e*P	Pn	02 36 00.6	-0.7
CRPR	**Cabo Rojo, PR**	**0.90**	**86**	*e*S	Sn	02 36 11.6	-1.5
LSP	**Las Mesas**	**0.95**	**76** ⇓	*e*P	Pn	02 36 01.2	-0.8
DR12	**Loma Pena Alta**	**1.51**	**304** ⇑	*e*P	Pn	02 36 08.4	-1.4
DR12				*e*S	Sn	02 36 27.1	-1.2

CSEM ***06*** *02:39:30.1±0.4, 50.˚23N×19.˚03E, h1km, Error ellipse: s-maj=25.7km s-min=5.8km az=177.0*

PRU 06 02:39:30.7, 50.˚15N×19.˚06E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.48**	**81**	*e*Pg	Pg	02 39 39.8	-0.1
OJC				*e*Sg	Sg	02 39 46.2	0.0
OJC	**Ojcow**	**0.48**	**81**	*e*Pg	Pg	02 39 39.8	-0.1
OJC				*e*Sg	Sg	02 39 46.2	0.0
OKC	**Ostrava-Krasne**	**0.67**	**242**	*e*SG	Sg	02 39 52.0	-0.2
OKC	**Ostrava-Krasne**	**0.67**	**242**	Sg	Sg	02 39 52.0	-0.2
KRLC	**Kraliky**	**1.47**	**268**	*e*SG	Sg	02 40 17.9	-0.2
KRLC	**Kraliky**	**1.47**	**268**	Sg	Sg	02 40 17.9	-0.2
DPC	**Dobruska-Polom**	**1.77**	**278**	*e*PG	Pn	02 40 02.8	+0.2
DPC				*e*SG	Sg	02 40 27.4	-0.3
DPC	**Dobruska-Polom**	**1.77**	**278**	Pg	Pn	02 40 02.8	+0.2
DPC				Sg	Sg	02 40 27.4	-0.3

IDC ***06*** *02:42:42.4±0.2, 18.˚09S×70.˚61W, h0km, mb6.2/37, mb1 6.2/38, mb1mx6.2/38, mbtmp6.2/38, ML4.6/2, MS5.9/29, Ms1 5.9/29, ms1mx5.8/31, Error ellipse: s-maj=10.4km s-min=7.9km az=63.0*

LDG ***06*** *02:42:43.7±0.3, 17.˚76S×70.˚47W, h10km, Mb6.6/46, Ms5.9/12, Error ellipse: s-maj=15.7km s-min=8.1km az=42.0*

NEIC ***06*** *02:42:44.0±0.0, 18.˚37S×70.˚95W, h50km, Moment Tensor Solution. s25 Moment tensor: Scale 10¹⁸Nm; Mrr2.10; Mθθ-0.05; Mϕϕ-2.04; Mrθ 0.76; Mθϕ 0.48; Mϕr-1.70; Best double couple: Mo2.80000×10¹⁸ NP1:ϕs159.00000°, δ65.00000°, λ.83.00000°. NP2:ϕs354.00000°, δ25.00000°, λ103.00000°. Principal axes: T 2.8200, Plg68.0000°, Azm57.0000°; N 0.0200, Plg5.0000°, Azm162.0000°; P -2.8300, Plg20.0000°, Azm254.0000°;*

NEIC ***06*** *02:42:47.9±0.1, 18.˚06S×70.˚55W, h37km, mb6.7/289. ME6.4, MS5.9/152, MW6.2, MW6.1, MW6.2, ML6.5(GUC), ML6.5(ARE) Error ellipse: s-maj=3.3km s-min=2.2km az=60.0, Moment Tensor Solution. s68 Moment tensor: Scale 10¹⁸Nm; Mrr1.72; Mθθ-0.31; Mϕϕ-1.42; Mrθ0.37; Mθϕ0.04; Mϕr-0.18; Best double couple: Mo1.60000×10¹⁸ NP1:ϕs7.00000°, δ42.00000°, λ.104.00000°. NP2: ϕs168.00000°, δ49.00000°, λ77.00000°. Principal axes: T 1.7900, Plg79.0000°, Azm17.0000°; N -0.3700, Plg9.0000°, Azm176.0000°; P -1.4300, Plg3.0000°, Azm266.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Eleven people injured, some buildings slightly damaged [V], utilities disrupted and landslides in the Tacna area, Peru. Felt [IV] at Moquegua and Ilo; [III] at Arequipa, Juliaca and Puno; [II] at Puerto Maldonado. Also felt at Acari, Ayaviri, Camana, Chivay and Tarata. Felt [V] at Arica; [IV] Alto Hospicio, Camina, Iquique and Pozo Almonte; [III] at Huara; [II] at Pica and Quillagua, Chile. Also felt at Antofagasta and Tocopilla. Felt [III] at La Paz and Oruro, Bolivia. Also felt at Cochabamba and El Alto.

ISCJB ***06*** *02:42:47.2±0.1, 17.˚98S±0.˚02×70.˚65W±0.˚02, h42km, mb6.5/459, MS5.9/201 Error ellipse: s-maj=3.4km s-min=2.2km az=35.9*

MOS ***06*** *02:42:47.7±0.8, 17.˚70S×70.˚60W, h34km, mb6.9/122, MS5.9/61, Error ellipse: s-maj=7.2km s-min=5.1km az=89.1*

GCMT ***06*** *02:42:47.9±0.1, 18.˚32S×71.˚25W, h53km, MW6.2/127, Moment Tensor Solution. s126,c284; s127,c425; Duration: 3ˢ1 Moment tensor: Scale 10¹⁸Nm; Mrr2.26±.02; Mθθ0.28±.01; Mϕϕ-2.54±.02; Mrθ0.46±.01; Mθϕ0.63±.01; Mϕr-0.69±.02; Best double couple: Mo2.60700×10¹⁸ NP1:ϕs160.00000°, δ54.00000°, λ80.00000°. NP2:ϕs357.00000°, δ37.00000°, λ104.00000°. Principal axes: T 2.4220, Plg78.0000°, Azm33.0000°; N 0.3740, Plg8.0000°, Azm166.0000°; P -2.7910, Plg9.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

GUC ***06*** *02:42:48.1±0.5, 18.˚32S×70.˚77W, h39km±3km, ML6.5*

BJI ***06*** *02:42:48.0, 18.˚00S×70.˚50W, h37km, mB6.4/58, Ms6.3/76, Ms7 6.2/72*

NEIC ***06*** *02:43:02.9±0.0, 18.˚22S×70.˚75W, h44km, Moment Tensor Solution. s116 Moment tensor: Scale 10¹⁸Nm; Mrr2.49; Mθθ0.07; Mϕϕ-2.55; Mrθ0.18; Mθϕ0.36; Mϕr-1.23; Best double couple: Mo2.80000×10¹⁸ NP1:ϕs172.00000°, δ58.00000°, λ90.00000°. NP2:ϕs353.00000°, δ32.00000°, λ90.00000°. Principal axes: T 2.7800, Plg76.0000°, Azm81.0000°; N 0.1100, Plg0.0000°, Azm172.0000°; P -2.8900, Plg13.0000°, Azm262.0000°;*

ISC 06 02:42:48.5±0.3, **18.˚10S**±0.˚02×**70.˚59W**±0.˚03, **h47km**±2km, **h46km: pP-P, n2129, σ1§42/2580, mb6.6/445, MS5.9/206, 624C-277D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNMC	**Minimini**	**1.39**	**138** ⇓	*i*P	**Pn**	**02 43 13.6**	**+1.8**
MNMC				*i* S	**Sn**	**02 43 32.5**	**+3.3**
MNMC				AML	AML	02 43 41.0	
	comp=N,842μm,0.4s						
PSGC	**Pisagua**	**1.56**	**164** ⇑	*i*P	**Pn**	**02 43 13.0**	**-0.9**
PSGC				*i* S	**Sn**	**02 43 31.6**	**-1.3**
ARE	**Arequipa**	**1.84**	**332** ⇑	*i*P	**Pn**	**02 43 18.6**	**+0.7**
ARE	**Arequipa**	**1.84**	**332** ⇑	*i*P	**Pn**	**02 43 18.6**	**+0.7**
ARE				*i* S	Sn	02 43 46.6	+6.4
PATCX	**Punta Patache**	**2.74**	**171** ⇑	*i*P	**Pn**	**02 43 29.1**	**-1.0**
PATCX				AML	AML	02 44 23.4	
	comp=N,127μm,0.7s						
I08BO	**LAS PENAS INFR**	**2.77**	**48**	Pg	Pn	02 43 45.0	+14
	baz=222,slow=29,SNR=5.4						
I08BO				*i*		03 01 00.1	
	baz=220,slow=318,SNR=1.6						
PB01	**IPOC Station P**	**3.11**	**161** ⇑	*i*P	**Pn**	**02 43 34.9**	**-0.2**
PB01				*i* S	**Sn**	**02 44 10.5**	**-0.6**
PB01				AML	AML	02 44 31.5	
	comp=E,134μm,0.3s						
PB07	**IPOC Station P**	**3.67**	**170** ⇑	*i*P	**Pn**	**02 43 42.1**	**-0.8**
PB07				AML	AML	02 44 39.8	
	comp=E,91μm,0.7s						
PB09	**IPOC Station P**	**3.89**	**161** ⇑	*i*P	**Pn**	**02 43 46.3**	**+0.4**
PB09				*i* S	**Sn**	**02 44 30.6**	**+0.1**
LVC	**Limon Verde**	**4.76**	**161**	Pn	**Pn**	**02 43 58.3**	**+0.4**
	comp=E,14μm,0.3s,baz=358,slow=9.3,SNR=2527						
LVC				Sn	Sn	02 45 02.6	+10
	comp=E,83μm,0.3s,baz=248,slow=19,SNR=7.7						
LVC				LR	LR	02 45 05.9	
	comp=E,128μm,20.6s,baz=339,slow=30						
LVC	**Limon Verde**	**4.76**	**161**	*e*Pn	**Pn**	**02 43 58.3**	**+0.4**
LVC				*e*S	Sn	02 45 02.9	+11
CEN1	**Los Morros**	**5.28**	**176** ⇑	*i*P	**Pn**	**02 44 03.7**	**-1.3**
CEN1				*i* S	**Sn**	**02 45 04.1**	**-0.5**
NNA	**Nana**	**8.57**	**314**	Pn	**Pn**	**02 44 50.3**	**+0.3**
	comp=E,3μm,0.5s,SNR=12						
NNA	**Nana**	**8.57**	**314**	Pn	**Pn**	**02 44 48.8**	**-1.2**
	comp=E,15nm,0.3s,baz=155,slow=13,SNR=29						
NNA				Sn	Sn	02 46 36.8	+11
	comp=E,73nm,0.3s,baz=54,slow=22,SNR=12						
NNA	**Nana**	**8.57**	**314**	*e*P	**Pn**	**02 44 50.3**	**+0.3**
NNA	**Nana**	**8.57**	**314**	*e*Pn	**Pn**	**02 44 50.3**	**+0.3**
NNA				*e*S	Sn	02 46 36.3	+11
SIV	**San Ignacio**	**9.34**	**78**	Pn	**Pn**	**02 45 03.2**	**+2.6**
	comp=E,228nm,0.3s,baz=266,slow=13,SNR=1666						
SIV				Sn	Sn	02 46 56.5	+12
	baz=195,slow=20,SNR=2.5						
SIV				LR	LR	02 49 28.8	
	comp=E,191μm,19.7s,baz=266,slow=43						
SIV	**San Ignacio**	**9.34**	**78**	Pn	**Pn**	**02 45 03.2**	**+2.6**
SIV				Sn	Sn	02 46 56.5	+12
LCO	**Las Campanas**	**10.87**	**181**	*e*Pn	Pn	02 45 17.7	-3.9
LCO				*e*S	Sn	02 47 15.5	-6.5
SAML	**Samuel**	**11.59**	**39**	*e*Pn	**Pn**	**02 45 32.4**	**+1.0**
ATAH	**Atahualpa**	**13.29**	**324**	Pn	**Pn**	**02 45 55.0**	**+0.1**
	comp=E,1.7nm,0.3s,baz=142,slow=9.3,SNR=19						
ATAH				Sn	**Sn**	**02 48 25.5**	**+3.9**
	comp=E,2.5nm,0.3s,baz=101,slow=5.1,SNR=2.0						
ATAH				LR	LR	02 51 24.1	
	comp=E,98μm,18.8s,baz=157,slow=39						
ATAH	**Atahualpa**	**13.29**	**324**	Pn	**Pn**	**02 45 55.0**	**+0.1**
ATAH				Sn	**Sn**	**02 48 25.5**	**+3.9**
CFAA	**Coronel Fontan**	**13.62**	**171**	Pn	Pn	02 45 54.6	-4.4
	comp=E,0.7nm,0.3s,baz=346,slow=13,SNR=95						
CFAA				Sn	Sn	02 48 36.6	+7.8
	comp=E,1.4nm,0.3s,baz=305,slow=12,SNR=2.4						
CFAA				LR	LR	02 51 34.6	
	comp=E,5μm,20.1s,baz=340,slow=39						
CFAA	**Coronel Fontan**	**13.62**	**171**	Pn	Pn	02 45 54.6	-4.4
CFAA				Sn	Sn	02 48 36.6	+7.8
CPUP	**Villa Florida**	**14.75**	**126**	Pn	**Pn**	**02 46 12.1**	**-2.1**
	comp=E,0.4nm,0.3s,baz=304,slow=12,SNR=43						
CPUP				Sn	**Sn**	**02 49 00.7**	**+4.2**
	comp=E,0.9nm,0.3s,baz=0.0,slow=20,SNR=1.7						
CPUP				LR	LR	02 53 10.4	
	comp=E,286μm,20.8s,baz=306,slow=42						
CPUP				P3KPbc		03 21 39.9	
	comp=E,0.0nm,0.3s,baz=6.4,slow=2.6,SNR=4.0						
CPUP	**Villa Florida**	**14.75**	**126**	*e*P	**Pn**	**02 46 11.7**	**-2.5**
CPUP				*e*S	**S**	**02 49 08.2**	**-4.9**
CPUP				pmax	pmax		
	comp=Z,2.0nm,1.2s						
CPUP	**Villa Florida**	**14.75**	**126**	*e*Pn	**Pn**	**02 46 11.7**	**-2.5**
	comp=Z,1.6nm,1.2s						
CPUP				*e*S	**S**	**02 49 08.2**	**-4.9**
CPUP				*e*		03 21 39.9	
I41PY	**VILLA FLORIDA**	**14.77**	**126**	*i*		04 06 00.0	
	baz=300,slow=309,SNR=0.6						
OTAV	**Otavalo**	**19.79**	**336**	*e*Pn	**Pn**	**02 47 17.2**	**-0.2**
	comp=Z,4μm,1.5s						
OTAV				*e*S	**S**	**02 50 54.6**	**-1.8**
PTGA	**Pitinga**	**20.17**	**32**	P	**P**	**02 47 19.7**	**+0.6**
	comp=Z,357nm,0.3s,baz=210,slow=14,SNR=541						
PTGA				S	**S**	**02 51 00.9**	**-2.3**
	comp=Z,131nm,1.0s,baz=144,slow=19,SNR=4.1						
PTGA				LR	LR	02 56 05.3	
	comp=Z,99μm,18.1s,baz=212,slow=40						
PTGA	**Pitinga**	**20.17**	**32**	*e*P	**P**	**02 47 19.4**	**+0.3**
	comp=Z,756nm,0.8s						
PTGA				*e*S	**S**	**02 51 01.9**	**-1.2**
TRQA	**Tornquist**	**21.27**	**161**	*e*P	**P**	**02 47 30.5**	**-0.4**
	comp=Z,3μm,1.4s						
TRQA				*e*S	**S**	**02 51 24.8**	**+0.2**
TRQA				LR	LR		
	comp=Z,50μm,21.0s						
BDFB	**Brasilia**	**21.74**	**87**	P	**P**	**02 47 36.2**	**0.0**
	comp=Z,561nm,1.1s,baz=256,slow=10,SNR=186						
BDFB				S	**S**	**02 51 34.7**	**+0.3**
	comp=Z,48nm,0.9s,baz=279,slow=19,SNR=1.3						
BDFB				LR	LR	02 56 47.0	
	comp=Z,40μm,21.5s,baz=260,slow=39						
BDFB				P3KPbc		03 21 29.5	
	comp=Z,1.7nm,0.7s,baz=51,slow=4.2,SNR=5.2						
BDFB	**Brasilia**	**21.74**	**87**	*e*P	**P**	**02 47 36.0**	**-0.2**
BDFB				S	**S**	**02 51 34.7**	**+0.3**
BDFB				*e*		03 21 29.5	
PLCA	**Paso Flores**	**22.56**	**180**	P	**P**	**02 47 43.9**	**-0.9**
	comp=Z,1μm,1.1s,baz=2.1,slow=12,SNR=254						
PLCA				PcP	**PcP**	**02 51 37.5**	**+0.5**
	comp=Z,76nm,1.0s,baz=341,slow=6.4,SNR=3.9						
PLCA				S	**S**	**02 51 43.3**	**-5.7**
	comp=Z,43nm,1.1s,baz=343,slow=14,SNR=1.7						
PLCA				PKiKP	**PKiKP**	**02 59 22.0**	**-0.2**
	comp=Z,13nm,1.1s,baz=7.2,slow=15,SNR=4.4						
PLCA				P3KPbc		03 21 21.4	
	comp=Z,8.2nm,1.0s,baz=160,slow=3.5,SNR=7.5						
PLCA	**Paso Flores**	**22.56**	**180**	*e*P	**P**	**02 47 44.0**	**-0.8**
PLCA				S	**S**	**02 51 43.3**	**-5.7**
PLCA				pmax	pmax		
	comp=Z,2μm,1.2s						
PLCA	**Paso Flores**	**22.56**	**180**	*e*P	**P**	**02 47 44.0**	**-0.8**
	comp=Z,2μm,1.2s						
PLCA				PcP	**PcP**	**02 51 37.5**	**+0.5**
PLCA				*e*PcP	PcP	02 51 38.3	+1.4
PLCA				S	**S**	**02 51 43.3**	**-5.7**
PLCA				PKiKP	**PKiKP**	**02 59 22.0**	**-0.2**
PLCA				*e*		03 21 21.4	
ROSC	**El Rosal**	**23.10**	**350**	P	**P**	**02 47 50.1**	**-0.8**
	comp=Z,142nm,0.6s,baz=170,slow=2.3,SNR=79						
ROSC				S	**S**	**02 52 05.2**	**+6.1**
	comp=Z,38nm,0.8s,baz=261,slow=18,SNR=2.9						
ROSC				LR	LR	02 58 04.5	
	comp=Z,39μm,21.1s,baz=196,slow=40						
ROSC	**El Rosal**	**23.10**	**350**	*e*P	**P**	**02 47 50.5**	**-0.4**
ROSC				S	**S**	**02 51 59.6**	**+0.5**
PAYG	**Puerto Ayora**	**25.97**	**310**	*e*P	**P**	**02 48 17.8**	**+0.9**
PAYG				*e*PcP	**PcP**	**02 51 46.1**	**+1.4**
PAYG				LR	LR		
	comp=Z,29μm,20.0s						
SDV	**Santo Domingo**	**26.81**	**360**	*e*P	**P**	**02 48 23.4**	**-1.2**
	comp=Z,522nm,0.8s						
SDV				*e*S	**S**	**02 52 57.7**	**-0.2**
SDV				LR	LR		
	comp=Z,58μm,19.0s						
BCIP	**Isla Barro Col**	**28.59**	**341**	*e*P	**P**	**02 48 41.9**	**+1.6**
	comp=Z,1μm,1.2s						
BCIP				*e*PcP	**PcP**	**02 51 52.0**	**+1.2**
BCIP				LR	LR		
	comp=Z,35μm,22.0s						
PCRV	**Puerto La Cruz**	**28.70**	**12**	P	**P**	**02 48 41.7**	**+0.3**
	comp=Z,135nm,0.5s,baz=214,slow=3.4,SNR=70						
PCRV				LR	LR	03 01 15.6	
	comp=Z,66μm,20.0s,baz=194,slow=39						
PCRV	**Puerto La Cruz**	**28.70**	**12**	P	**P**	**02 48 41.7**	**+0.3**
ACR	**Cerro Adams**	**29.34**	**334**	*e*P	**P**	**02 48 50.1**	**+3.0**
TPP	**Pointe-a-Pierr**	**29.64**	**18**	*e*	**P**	**02 48 52.5**	**+2.9**
TBH	**Brigand Hill**	**29.91**	**19**	*e*	**P**	**02 48 54.7**	**+2.5**
TRN	**Trinidad (W)**	**29.97**	**18**	*e*	**P**	**02 48 53.9**	**+1.4**
BUS	**Buena Vista**	**30.40**	**334**	*e*P	**P**	**02 48 59.0**	**+2.1**
QCR	**Quepos**	**30.45**	**333**	*e*P	**P**	**02 48 58.6**	**+1.7**
BOT	**Bacolet**	**30.66**	**19**	*e*	**P**	**02 49 00.5**	**+1.8**
TPR	**Prospect**	**30.66**	**19**	*e*	**P**	**02 49 00.8**	**+2.0**
TOSP	**Speyside**	**30.85**	**20**	*e*P	**P**	**02 49 00.8**	**+0.5**
TOSP	**Speyside**	**30.85**	**20** ⇑	*i*P	**P**

comp=Z,542nm,0.8s
FDF ePcP PcP 02 52 06.3 +1.2
FDF LR LR
comp=Z,26µm,20.0s
SVN Savane Anatole 34.02 16 eP P 02 49 26.6 -1.6
DSHT Scott's Head 34.32 16 e P 02 49 30.1 -0.6
DBCT Belle View Cho 34.38 16 e P 02 49 30.9 -0.4
MDN Morne-Daniel 34.42 16 e P 02 49 30.6 -1.0
DLPL La Plaine 34.47 16 e P 02 49 30.0 -2.0
BBL Barber's Block 34.60 16⇑iP P 02 49 31.2 -2.0
TBG Guadaloupe-3 34.87 15 eP P 02 49 33.2 -2.2
EFI East Falkland 34.94 166 P P 02 49 35.8 +0.1
comp=Z,3µm,1.2s,SNR=14
EFI East Falkland 34.94 166*c iP* P 02 49 34.9 -0.8
EFI pmax pmax
comp=Z,1µm,1.2s
EFI MLR MLR
comp=Z,49µm,17.0s
EFI East Falkland 34.94 166 eP P 02 49 35.9 +0.2
comp=Z,904nm,1.3s
EFI ePcP PcP 02 52 08.2 +0.8
EFI LR LR
comp=Z,17µm,20.0s
HMG Houelmont 34.98 15⇑iP P 02 49 34.3 -2.1
SCG Saint Claude 35.03 15 eP P 02 49 34.6 -2.2
TAG Tarade 35.04 15 eP P 02 49 35.3 -1.8
ECG Echelle 35.05 15⇑iP P 02 49 35.0 -2.2
LKG Breislack 35.05 15⇑iP P 02 49 34.7 -2.5
MLG Mont-d'or 35.05 15⇑iP P 02 49 34.5 -2.5
FNG Fond-Bernard 35.05 15⇑iP P 02 49 35.0 -2.2
CRG Carmichael 35.06 15 eP P 02 49 35.2 -2.1
SSG Sans Toucher 35.08 15⇑iP P 02 49 35.3 -2.2
LZG Guadaloupe-1 35.11 15 eP P 02 49 36.0 -1.6
DEG La Desirade 35.46 16 eP P 02 49 37.6 -3.0
H05N1 Guadeloupe/Mar 35.46 16 P P 02 49 37.6 -2.9
SNR=65
MBWH 35.59 14⇑iP P 02 49 38.8 -2.9
VSM San Miguel 35.86 330 eP P 02 49 46.0 +1.7
RCBR Riachuelo 35.98 75 P P 02 49 45.7 +0.6
comp=Z,184nm,0.7s,baz=233,slow=10.0,SNR=81
RCBR PcP PcP 02 52 11.7 +0.4
comp=Z,106nm,0.8s,baz=243,slow=3.8,SNR=4.8
RCBR LR LR 03 05 38.5
comp=Z,44µm,19.2s,baz=235,slow=38
RCBR Riachuelo 35.98 75 eP P 02 49 45.3 +0.2
RCBR ePcP PcP 02 52 11.9 +0.6
ICMP Isla Caja de M 35.98 7 eP P 02 49 44.2 -0.8
CRPR Cabo Rojo, PR 36.04 6 eP P 02 49 44.3 -1.1
comp=Z,2µm,0.9s
CDVI St. Croix 36.08 9 eP P 02 49 44.0 -1.8
CDVI ePcP PcP 02 52 12.0 +0.7
OBIP Obispado Ponce 36.12 6 eP P 02 49 45.3 -0.9
comp=Z,1µm,0.9s
OBIP eS S 02 55 17.7 -5.0
CELP Cerrillos 36.16 6 eP P 02 49 45.5 -1.0
CELP eS S 02 55 21.6 -1.6
PCJ Portland Cotta 36.19 349 *i P* P 02 49 47.1 +0.3
LSP Las Mesas 36.21 6 eP P 02 49 46.0 -1.0
SABA Saba 36.22 12⇑iP P 02 49 45.3 -1.8
YHJ Yallahs 36.23 350 *i P* P 02 49 47.0 -0.2
SJG San Juan 36.24 7 eP P 02 49 41.8 -5.4
SJG pmax pmax
comp=Z,2µm,0.9s
SJG MLR MLR
comp=Z,21µm,20.0s
SJG San Juan 36.24 7 eP P 02 49 41.8 -5.4
comp=Z,2µm,0.9s
SJG LR LR
comp=Z,21µm,20.0s
HUMP Col San Antoni 36.31 8 eP P 02 49 46.6 -1.2
SDD Santo Domingo 36.33 1 eP P 02 49 47.6 -0.3
comp=Z,3µm,1.6s
LRS Lares 36.35 6 eP P 02 49 47.0 -1.1
LRS ePcP PcP 02 52 13.2 +1.0
HOJ Hope 36.38 350 *i P* P 02 49 49.4 +1.0
LFRS El Faro 36.41 329 eP P 02 49 50.2 +1.4
AOPR Arecibo Observ 36.41 6 eP P 02 49 47.4 -1.3
PCDR Punta Cana, DR 36.45 4 eP P 02 49 48.7 -0.2
GWJ Greenwich 36.45 350 *i P* P 02 49 49.1 0.0
STH Stony Hill 36.46 350 *i P* P 02 49 49.4 +0.2
MCJ Malvern 36.47 349 *i P* P 02 49 50.0 +0.8
AGPR Aguadilla, PR 36.49 6 eP P 02 49 47.8 -1.5
comp=Z,1µm,0.8s
LBRS Las Brisas 36.50 329 eP P 02 49 51.0 +1.4
ANWB Willy Bob 36.58 14⇑iP P 02 49 46.4 -3.7
ANWB Willy Bob 36.58 14 eP P 02 49 47.0 -3.1
comp=Z,2µm,1.1s
ANWB ePcP PcP 02 52 13.4 +0.6
ANWB LR LR
comp=Z,20µm,20.0s
USHA Ushuaia 36.70 178 P P 02 49 50.9 +0.1
comp=Z,215nm,1.1s,baz=340,slow=5.9,SNR=28
USHA PcP PcP 02 52 13.5 +0.9
comp=Z,76nm,0.8s,baz=328,slow=1.3,SNR=3.8
USHA LR LR 03 05 56.2
comp=Z,14µm,19.4s,baz=342,slow=38
USHA Ushuaia 36.70 178 P P 02 49 50.9 +0.1
USHA PcP PcP 02 52 13.5 +0.9
CVJ Coleyville 36.74 349 *i P* P 02 49 52.3 +0.7
MTDJ Mount Denham 36.74 349 eP P 02 49 52.2 +0.7
comp=Z,923nm,0.8s
MTDJ LR LR
comp=Z,22µm,22.0s
RPN Rapa Nui 36.76 249 P P 02 49 51.5 -0.2
comp=Z,149nm,1.1s,baz=86,slow=11,SNR=2.7
RPN Rapa Nui 36.76 249 P P 02 49 51.5 -0.2
BBJ Bamboo Saint A 36.84 349 *i P* P 02 49 52.8 +0.4
SDDR Presa de Saban 36.85 359 eP P 02 49 51.3 -1.2
comp=Z,353nm,1.1s
SDDR LR LR
comp=Z,34µm,20.0s
SBLS San Blas 36.87 328 eP P 02 49 53.8 +0.9
RTR El Retiro 36.93 328 eP P 02 49 54.7 +1.4
MBJ Montego Bay 36.97 348 *i P* P 02 49 55.5 +2.0
SMN1 Samana, DR 37.07 2 eP P 02 49 53.1 -1.3
SMN1 eS S 02 55 32.9 -4.3
RBDL Robledal 37.14 328 eP P 02 49 56.2 +1.1
IXG Ixpaco 37.58 327 eP P 02 50 01.0 +2.2
NBG Las Nubes 37.87 328 eP P 02 50 04.7 +3.3
MRL Marmol 37.95 329 eP P 02 50 03.0 +1.0
FUG Fuego 3 38.01 327⇓eP P 02 50 05.5 +3.0
GTBY Guantanamo Bay 38.05 353 eP P 02 50 02.0 -0.5
comp=Z,309nm,1.1s
GTBY LR LR
comp=Z,15µm,20.0s
JAT Jato 38.32 326⇓eP P 02 50 08.6 +3.7
GRTK Grand Turk 39.37 359 eP P 02 50 13.1 -0.5
comp=Z,2µm,1.0s
GRTK LR LR
comp=Z,30µm,20.0s
TEIG Tepich 41.85 335 P P 02 50 34.1 0.0
comp=Z,727nm,0.8s,baz=154,slow=6.1,SNR=334
TEIG LR LR 03 08 55.2
comp=Z,21µm,20.0s,baz=155,slow=38
TEIG Tepich 41.85 335 eP P 02 50 34.1 0.0
comp=Z,983nm,0.9s
TEIG ePcP PcP 02 52 29.7 +0.3
CMIG Matias Romero 42.36 324 P P 02 50 38.8 +0.5
comp=Z,272nm,1.0s,baz=138,slow=6.3,SNR=160
CMIG PcP PcP 02 52 32.5 +1.3
comp=Z,47nm,0.8s,baz=140,slow=5.5,SNR=3.2
CMIG LR LR 03 07 26.7
comp=Z,13µm,20.9s,baz=142,slow=35
CMIG Matias Romero 42.36 324 P P 02 50 38.8 +0.5
CMIG PcP PcP 02 52 32.5 +1.3
HOPE Hope Point 44.61 152 P P 02 50 57.0 +1.0
comp=Z,5µm,1.1s,SNR=22
HOPE Hope Point 44.61 152 eP P 02 50 57.3 +1.3
comp=Z,2µm,1.4s
HOPE *e* 02 52 39.5
HOPE LR LR
comp=Z,16µm,21.0s
PMSA Palmer Station 46.85 176 eP P 02 51 14.5 +1.0
comp=Z,699nm,1.4s
PMSA ePcP PcP 02 52 46.8 +1.0
PMSA LR LR
comp=Z,5µm,20.0s
BBSR BB Station 50.50 6 eP P 02 51 41.3 -0.5
comp=Z,778nm,0.9s
BBSR LR LR
comp=Z,5µm,20.0s
TIGA Tifton 50.81 346 eP P 02 51 44.6 +0.4
comp=Z,358nm,1.7s
TIGA ePcP PcP 02 52 59.0 -1.6
TIGA Tifton 50.81 346⇑P P 02 51 44.4 +0.2
baz=51,SNR=220
BRAL Brewton 51.33 342 eP P 02 51 49.5 +1.3
comp=Z,3µm,1.0s
BRAL LR LR
comp=Z,6µm,21.0s
CSU Charleston Sou 51.60 350 eP P 02 51 50.7 +0.6
035Z Hargill 51.72 328⇑P P 02 51 51.9 +0.7
baz=52,SNR=60
035Z ⇓S S 02 59 10.8 +1.3
baz=52
NHSC New Hope 51.73 350 eP P 02 51 52.1 +1.0
comp=Z,11µm,1.0s
NHSC ePcP PcP 02 53 04.8 +0.8
NHSC LR LR
comp=Z,8µm,19.0s
035A Encino 52.12 328⇑P P 02 51 54.9 +0.7
baz=52,SNR=60
936A North Padre Is 52.14 330⇓P P 02 51 54.9 +0.7
baz=52
034A Hebbronville 52.52 328⇓P P 02 51 57.9 +0.7
baz=53,SNR=178
KVTX Kingsville 52.53 329 eP P 02 51 58.5 +1.3
comp=Z,3µm,1.3s
KVTX ePcP PcP 02 53 10.2 +3.1
KVTX LR LR
comp=Z,6µm,19.0s
738A Farr-Stevens R 52.57 332⇑P P 02 51 59.0 +1.5
baz=53,SNR=6.1
GOGA Godfrey 52.67 346 eP P 02 51 57.6 -0.5
GOGA *e* 02 53 07.9
GOGA pmax pmax
comp=Z,669nm,1.0s
GOGA MLR MLR
comp=Z,9µm,21.0s
GOGA Godfrey 52.67 346 eP P 02 51 57.6 -0.5
comp=Z,670nm,1.0s
GOGA ePcP PcP 02 53 07.9 +0.3
GOGA LR LR
comp=Z,9µm,21.0s
934A Benavides 52.88 329⇑P P 02 52 00.7 +0.9
baz=53,SNR=107
835A Beeville 53.11 330⇓P P 02 52 02.6 +1.2
baz=53,SNR=146
LRAL Lakeview Retre 53.21 343 eP P 02 52 01.2 -0.9
comp=Z,26nm,0.6s
LRAL ePcP PcP 02 53 10.5 +1.0
933A Laredo 53.27 328⇓P P 02 52 02.8 +0.2
baz=54,SNR=197
539A Cross D Ranch, 53.27 334⇑P P 02 52 03.9 +1.3
baz=54,SNR=43
736A Circle Diamond 53.31 331⇑P P 02 52 04.4 +1.5
baz=54,SNR=544
834A Tilden 53.33 329⇑P P 02 52 03.7 +0.6
baz=54,SNR=265
CNNC Cliffs of the 53.49 353 eP P 02 52 04.2 +0.1
comp=Z,1µm,1.4s
CNNC LR LR
comp=Z,6µm,21.0s
735A Kenedy 53.58 330⇓P P 02 52 05.5 +0.6
baz=54,SNR=110
HKT Hockley 53.61 333 eP P 02 52 05.6 +0.6
HKT *e* 02 53 13.1
HKT pmax pmax
comp=Z,2µm,1.7s
HKT Hockley 53.61 333 eP P 02 52 05.6 +0.6
comp=Z,2µm,1.7s
HKT ePcP PcP 02 53 13.1 +2.0
538A Harpers Horsep 53.69 333⇓P P 02 52 07.3 +1.6
baz=54,SNR=39
636A Smothers Creek 53.76 331⇓P P 02 52 07.2 +1.0
baz=54,SNR=391
439A Center Grove, 53.88 334⇑P P 02 52 08.2 +1.1
baz=54,SNR=84
833A Chaparral WMA, 53.91 328⇓P P 02 52 07.6 +0.3
baz=54,SNR=180
KMSC Kings Mountain 53.92 349 eP P 02 52 07.4 +0.2
comp=Z,2µm,1.0s
KMSC ePcP PcP 02 53 12.8 +0.5
KMSC Kings Mountain 53.92 349⇓P P 02 52 07.9 +0.6
baz=54,SNR=537
734A La Parita Cree 53.93 329⇓P P 02 52 07.9 +0.4
baz=54,SNR=120
537A Green Hill Far 53.93 332⇑P P 02 52 08.6 +1.1
baz=54,SNR=176
H06S1 SOCORRO T 53.97 311 P P 02 52 09.1 +1.1
SNR=7.5
H06E1 SOCORRO T-PHAS 53.98 311 P P 02 52 09.6 +1.6
SNR=37
635A Leesville 54.01 330⇑P P 02 52 08.2 +0.2
baz=54,SNR=116
340A Bronson 54.08 335⇑P P 02 52 09.5 +1.0
baz=54,SNR=114
H06N1 SOCORRO T-PHAS 54.08 311 P P 02 52 10.4 +1.7
SNR=20
438A Sam Houston St 54.15 333⇑P P 02 52 10.2 +1.2
baz=54,SNR=64
H09W1 TRISTAN DA CUN 54.16 123 P P 02 52 10.6 +1.4
H09N1 TRISTAN DA CUN 54.17 123 P P 02 52 10.4 +1.2
TRIS Tristan da Cun 54.17 123 eP P 02 52 10.4 +1.1
comp=Z,388nm,0.9s
TRIS LR LR
comp=Z,7µm,20.0s
832A Faith Ranch, C 54.17 328⇓P P 02 52 09.3 +0.1
baz=54,SNR=344
733A Divot King Ran 54.19 329⇑P P 02 52 09.6 +0.2
baz=54,SNR=275
536A Bastrop 54.26 332⇓P P 02 52 10.4 +0.5
baz=54,SNR=57
339A Huntington 54.27 335⇑P P 02 52 10.5 +0.6
baz=54,SNR=61
634A China Grove, S 54.28 330⇓P P 02 52 10.1 +0.1
baz=54,SNR=84
535A Dale 54.46 331⇓P P 02 52 11.6 +0.3
baz=55,SNR=95
437A Phantom Ranch, 54.50 333⇓P P 02 52 12.4 +0.8
baz=55,SNR=37
732A Laxson Ranch, 54.53 328⇑P P 02 52 12.1 +0.2
baz=55,SNR=349
338A Crockett 54.60 334⇓P P 02 52 13.3 +1.0
baz=55,SNR=232
NATX Nacogdoches 54.69 335 eP P 02 52 13.8 +0.9
comp=Z,4µm,1.8s
NATX ePcP PcP 02 53 17.3 +2.1
NATX LR LR
comp=Z,8µm,21.0s
436A Wall Ranch, Ga 54.74 332⇓P P 02 52 14.2 +0.9
baz=55,SNR=51
633A Saathoff Ranch 54.74 329⇑P P 02 52 13.5 +0.1
baz=55,SNR=374
337A Centerville 54.81 333⇑P P 02 52 15.3 +1.5
baz=55,SNR=69
239A Gary 54.84 335⇓P P 02 52 15.0 +1.0
baz=55,SNR=79
534A Blanco 54.88 330⇑P P 02 52 13.9 -0.4
baz=55,SNR=151
TKL Tuckaleechee C 54.90 347 P P 02 52 14.0 -0.5
comp=Z,840nm,0.9s,baz=161,slow=9.2,SNR=14
TKL S S 02 59 48.3 -4.3
comp=Z,4.9nm,0.9s,baz=180,slow=20,SNR=1.9
TKL Tuckaleechee C 54.90 347 eP P 02 52 13.9 -0.5
TKL S S 02 59 48.3 -4.3
H10S3 ASCENSION HYDR 54.95 88 P P 02 52 16.4 +1.5
baz=259,slow=11,SNR=7.7
H10S2 ASCENSION HYDR 54.97 88 P P 02 52 16.7 +1.6
baz=259,slow=11,SNR=12
H10S1 ASCENSION HYDR 54.97 88 P P 02 52 16.6 +1.5
baz=259,slow=11,SNR=17
632A Uvalde 55.08 329⇑P P 02 52 16.0 +0.2
baz=55,SNR=463
238A Jacksonville 55.09 335⇓P P 02 52 17.0 +1.2
baz=55,SNR=145
435B Jarrell 55.10 332⇓P P 02 52 16.0 +0.1
baz=55,SNR=87
533A Kerrville 55.18 330⇑P P 02 52 16.5 -0.1
baz=55,SNR=103
336A Riesel 55.28 333⇓P P 02 52 17.7 +0.4
baz=56,SNR=258
OXF Oxford 55.30 341 eP P 02 52 15.7 -1.6
OXF pmax pmax
comp=Z,2µm,1.1s
OXF Oxford 55.30 341 eP P 02 52 15.7 -1.6
comp=Z,2µm,1.1s
237A Washetta, Mont 55.37 334⇓P P 02 52 18.9 +1.0
baz=56,SNR=262
139A Bunkhouse Ranc 55.39 336⇓P P 02 52 19.1 +1.1
baz=56,SNR=65
631A Perdido Creek 55.39 328⇓P P 02 52 17.7 -0.5
baz=56,SNR=220
PTCN Pitcairn Islan 55.41 252 eP P 02 52 18.8 +0.4
comp=Z,535nm,0.9s
H10N3 ASCENSION HYDR 55.41 87 P P 02 52 20.0 +1.7
baz=237,slow=7.2,SNR=16
H10N2 ASCENSION HYDR 55.43 87 P P 02 52 20.1 +1.8
baz=237,slow=7.2,SNR=20
H10N1 ASCENSION HYDR 55.43 87 P P 02 52 19.2 +0.8
baz=237,slow=7.2,SNR=21
434A Burnet 55.44 331⇑P P 02 52 18.0 -0.4
baz=56,SNR=382
335A Moody 55.45 332⇓P P 02 52 18.9 +0.4
baz=56,SNR=346
ASCN Ascension 55.52 87 P P 02 52 21.9 +2.5
comp=Z,7µm,0.6s,SNR=18
ASCN Ascension 55.52 87 eP P 02 52 20.4 +1.0
comp=Z,539nm,0.7s
ASCN LR LR
comp=Z,8µm,21.0s
532A Rocksprings 55.65 329⇑P P 02 52 20.1 +0.2
baz=56,SNR=330
138A Matatall Enter 55.65 335⇑P P 02 52 20.9 +1.0
baz=56,SNR=92
236A Katherine and 55.67 333⇑P P 02 52 20.5 +0.4
baz=56,SNR=372
VWCC Virginia Weste 55.75 351 eP P 02 52 21.2 +0.7
VWCC ePcP PcP 02 53 19.1 -0.1
433A Art 55.77 330⇓P P 02 52 20.6 -0.2
baz=56,SNR=852
BLA Blacksburg 55.79 351 eP P 02 52 21.5 +0.7
BLA pmax pmax
comp=Z,3µm,1.4s
BLA MLR MLR
comp=Z,13µm,22.0s
BLA Blacksburg 55.79 351 eP P 02 52 21.5 +0.7
comp=Z,3µm,1.4s
BLA LR LR
comp=Z,13µm,22.0s
Z39A Irene McRaven, 55.80 336⇓P P 02 52 21.9 +1.0
baz=56,SNR=60
334A Lometa 55.86 331⇑P P 02 52 21.5 +0.1
baz=56,SNR=341
137A Heron Place, G 55.87 334⇑P P 02 52 22.7 +1.3
baz=56,SNR=412
JCT Junction City 55.88 329 eP P 02 52 21.7 0.0
JCT *e* 02 53 21.0
JCT pmax pmax
comp=Z,634nm,1.1s
JCT MLR MLR
comp=Z,3µm,19.0s
JCT Junction City 55.88 329 eP P 02 52 21.7 0.0
comp=Z,634nm,1.1s
JCT ePcP PcP 02 53 21.0 +1.0
JCT LR LR
comp=Z,3µm,19.0s
JCT Junction City 55.88 329⇑P P 02 52 21.7 0.0
baz=56,SNR=210
JSRW J. Sargeant Re 55.91 353 eP P 02 52 21.8 +0.2
JSRW ePcP PcP 02 53 21.5 +1.7
531A Rocksprings 55.99 329⇑P P 02 52 23.1 +0.7
baz=56,SNR=710
WHTX Lake Whitney, 56.07 332 eP P 02 52 23.6 +0.7
comp=Z,4µm,1.5s
WHTX Lake Whitney, 56.07 332⇓P P 02 52 23.2 +0.3
baz=56,SNR=302
Z38A Mt. Pleasant 56.13 335⇑P P 02 52 24.0 +0.8
baz=56,SNR=150
333A Richland Sprin 56.20 331⇑P P 02 52 23.8 -0.1
baz=56,SNR=400
432A Menard 56.21 330⇓P P 02 52 23.9 -0.1
baz=56,SNR=556
Z37A Pogue Cattle C 56.34 335⇑P P 02 52 25.5 +0.8
baz=57,SNR=50
WVT Waverly 56.35 343 eP P 02 52 23.3 -1.5
WVT pmax pmax
comp=Z,775nm,1.0s
WVT Waverly 56.35 343 eP P 02 52 23.3 -1.5
comp=Z,775nm,1.0s
CBN Corbin Frederi 56.36 354 eP P 02 52 25.1 +0.2
comp=Z,1µm,1.1s
CBN LR LR
comp=Z,4µm,20.0s
530A J-C Ranch, Com 56.38 328⇓P P 02 52 25.3 +0.1
baz=57,SNR=560
234A Clairette 56.38 332⇓P P 02 52 25.3 +0.1
baz=57,SNR=531
431A Sonora 56.45 329⇓P P 02 52 25.6 -0.1
baz=57,SNR=626
135A Vickery Place, 56.53 333⇑P P 02 52 26.4 +0.2
baz=57,SNR=115
HALT Halls 56.57 342 eP P 02 52 25.7 -0.7
332A Millersview 56.60 330⇓P P 02 52 26.6 -0.1
baz=57,SNR=791
HBAR Harrisburg 56.65 340 eP P 02 52 26.7 -0.2
HBAR ePcP PcP 02 53 23.9 +1.2
MIAR Mount Ida 56.73 337 eP P 02 52 27.5 -0.1
MIAR pmax pmax
comp=Z,1µm,0.6s
MIAR MLR MLR
comp=Z,4µm,20.0s
MIAR Mount Ida 56.73 337 eP P 02 52 27.5 -0.1
comp=Z,1µm,0.6s
MIAR LR LR
comp=Z,4µm,20.0s
233A Rising Star 56.74 331⇓P P 02 52 27.8 +0.1
baz=57,SNR=769
SACV Santiago Islan 56.77 58 P P 02 52 27.6 -0.6
comp=Z,1µm,0.9s,SNR=9.9
SACV Santiago Islan 56.77 58 eP P 02 52 27.7 -0.5
comp=Z,144nm,0.8s
SACV LR LR
comp=Z,5µm,22.0s
529A Stev Forest Ra 56.81 327⇑P P 02 52 28.4 +0.2
baz=57,SNR=742
134A White-Moore Ra 56.84 332⇓P P 02 52 28.5 +0.1
baz=57,SNR=169
430A Baggett Ranch, 56.84 328⇓P P 02 52 28.3 -0.2
baz=57,SNR=302
331A San Angelo 56.87 329⇓P P 02 52 28.4 -0.2
baz=57,SNR=453
GLAT Glass 56.89 342 eP P 02 52 28.4 -0.3
TXAR Lajitas Array 56.95 325 P P 02 52 28.9 -0.4
comp=Z,145nm,1.0s,baz=146,slow=8.1,SNR=607
TXAR S S 03 00 18.9 -1.4
comp=Z,1.9nm,0.9s,baz=127,slow=5.8,SNR=3.5
TXAR LR LR 03 15 54.7
comp=Z,8µm,19.9s,baz=0.0,slow=35
TXAR PKPPKP P'P'df 03 22 10.4 -7.6
comp=Z,1.2nm,1.0s,baz=80,slow=1.4,SNR=3.6
TXAR PKP2bc 03 22 27.7
comp=Z,3.3nm,1.0s,baz=342,slow=0.4,SNR=6.7
TXAR P4KPbc 03 29 40.2
comp=Z,1.3nm,0.9s,baz=148,slow=7.4,SNR=9.0
TXAR Lajitas Array 56.95 325 P P 02 52 28.9 -0.4
TXAR S S 03 00 18.9 -1.4
TXAR P'P' 03 22 10.4
TXAR ⇑*e* 03 22 27.7
TXAR *e* 03 29 40.2
232A Coleman 56.98 330⇓P P 02 52 29.5 +0.1
baz=57,SNR=833
429A Davenport Ranc 57.04 328⇑P P 02 52 30.1 +0.2
baz=57,SNR=615
LPIG La Paz 57.10 316 S S 03 00 17.5 -4.7
comp=Z,7.2nm,0.3s,baz=80,slow=6.1,SNR=2.7
Z35A Perchaven, San 57.13 333⇑P P 02 52 30.8 +0.4
baz=57,SNR=338
PVMO Portageville 57.15 342 eP P 02 52 30.8 +0.3
comp=Z,4µm,1.0s
133A Hamilton Ranch 57.24 332⇑P P 02 52 31.4 +0.1
baz=58,SNR=444
330A Mertzon 57.32 329⇑P P 02 52 31.5 -0.4
baz=58,SNR=223
231A Bronte 57.33 330⇑P P 02 52 31.5 -0.4
baz=58,SNR=132
PARMO Parma 57.40 342 eP P 02 52 32.5 +0.3
Z34A Collier Ranch, 57.45 333⇓P P 02 52 33.1 +0.5
baz=58,SNR=165
X37A Clayton 57.45 336⇑P P 02 52 33.2 +0.5
baz=58,SNR=936
SDMD Soldier's Deli 57.50 354 eP P 02 52 33.1 +0.2
comp=Z,2µm,1.0s
SDMD eS PcP 02 53 26.7 +0.6
W38A Poteau 57.55 337⇓P P 02 52 34.1 +0.7
baz=58,SNR=688
ABTX Abilene, Hawle 57.59 331 eP P 02 52 33.4 -0.3

comp=Z,2µm,1.2s
ABTX Abilene, Hawle 57.59 331 ⇓P P 02 52 33.8 +0.1
baz=58,SNR=660
230A Sterling City 57.68 329 ⇓P P 02 52 33.9 -0.4
baz=58,SNR=86
Z33A Whitaker Ranch 57.75 332 ⇑P P 02 52 35.0 +0.3
baz=58,SNR=336
329A Wagon Wheel Ra 57.78 328 ⇑P P 02 52 34.8 -0.3
baz=58,SNR=291
X36A Centrahoma 57.83 335 ⇓P P 02 52 35.0 -0.2
baz=58,SNR=138
Y34A Reagan Ranch, 57.88 333 ⇓P P 02 52 35.9 +0.2
baz=58,SNR=532
X35A Drake 57.93 334 ⇓P P 02 52 35.7 -0.3
baz=58,SNR=257
WCI Wyandotte Cave 57.94 345 eP P 02 52 35.1 -0.9
WCI pmax pmax
comp=Z,1µm,1.0s
WCI Wyandotte Cave 57.94 345 eP P 02 52 35.1 -0.9
comp=Z,1µm,1.0s
W37A Quinton 57.96 336 ⇑P P 02 52 36.5 +0.3
baz=58,SNR=596
131A Roby 57.98 330 ⇑P P 02 52 36.4 -0.1
baz=58,SNR=327
USIN University of 58.03 344 eP P 02 52 36.1 -0.5
comp=Z,3µm,1.4s
USIN ePP PP 02 54 47.8 +2.0
229A Bryant Ranch, 58.09 329 ⇑P P 02 52 36.8 -0.4
baz=58,SNR=151
Z32A Haskell 58.09 332 ⇓P P 02 52 37.3 +0.1
baz=58,SNR=186
130A Snyder 58.19 330 ⇓P P 02 52 37.7 -0.2
baz=58,SNR=241
W36A Wetumka 58.27 335 ⇑P P 02 52 38.1 -0.3
baz=58,SNR=569
Y33A Hilltop Ranch, 58.30 333 ⇓P P 02 52 38.7 +0.1
baz=58,SNR=306
Z31A Sharp Cattle R 58.40 331 ⇑P P 02 52 39.5 +0.1
baz=59,SNR=490
X34A Smith Ranch, M 58.46 334 ⇓P P 02 52 40.1 +0.3
baz=59,SNR=418
W35A Tecumseh 58.54 335 ⇑P P 02 52 39.7 -0.6
baz=59,SNR=269
228A UT Block 9, Go 58.60 328 ⇑P P 02 52 40.4 -0.5
baz=59,SNR=185
129A Stewart Farms, 58.65 329 ⇑P P 02 52 40.9 -0.3
baz=59,SNR=70
Y32A R-V Farms, Ver 58.66 332 ⇑P P 02 52 41.1 0.0
baz=59,SNR=159
CPNY Central Park 58.67 357 eP P 02 52 41.3 +0.4
comp=Z,869nm,1.1s
X33A Lawton 58.70 333 ⇑P P 02 52 40.9 -0.5
baz=59,SNR=123
TUL1 Leonard 58.78 336 eP P 02 52 42.2 +0.3
comp=Z,2µm,1.3s
TUL1 Leonard 58.78 336 ⇓P P 02 52 41.8 -0.1
baz=59,SNR=320
SSPA Standing Stone 58.82 354 eP P 02 52 42.4 +0.4
comp=Z,1µm,1.2s
Z30A Sanderson Ranc 58.83 330 ⇓P P 02 52 42.2 -0.2
baz=59,SNR=610
OLIL Olney 58.87 344 eP P 02 52 41.6 -0.8
comp=Z,2µm,1.6s
BLO Bloomington 58.89 346 eP P 02 52 41.6 -1.0
BLO pmax pmax
comp=Z,813nm,1.1s
BLO Bloomington 58.89 346 eP P 02 52 41.6 -1.0
comp=Z,813nm,1.1s
X32A Elmer 58.94 332 ⇑P P 02 52 43.0 -0.1
baz=59,SNR=192
128A Castleberry Fa 58.95 329 ⇓P P 02 52 42.8 -0.4
baz=59,SNR=172
W34A Bridge Creek, 58.98 334 eP P 02 52 43.0 -0.4
comp=Z,831nm,1.3s
W34A ePcP PcP 02 53 32.9 +0.9
W34A Bridge Creek, 58.98 334 ⇑P P 02 52 42.8 -0.5
baz=59,SNR=71
WMOK Wichita Mounta 58.98 333 eP P 02 52 42.6 -0.8
WMOK e 02 53 33.5
WMOK pmax pmax
comp=Z,7µm,0.8s
WMOK MLR MLR
comp=Z,3µm,20.0s
WMOK Wichita Mounta 58.98 333 eP P 02 52 42.6 -0.8
comp=Z,7µm,0.8s
WMOK ePcP PcP 02 53 33.5 +1.4
WMOK LR LR
comp=Z,3µm,20.0s
Y31A Rekieta Farm, 58.99 331 ⇓P P 02 52 43.5 +0.1
baz=59,SNR=455
V35A Meyer Ranch, C 59.06 335 ⇓P P 02 52 43.3 -0.6
baz=59,SNR=140
Z29A Hungry Hill Ra 59.09 330 ⇑P P 02 52 43.7 -0.5
baz=59,SNR=243
YLE Yale 59.15 358 eP P 02 52 44.8 +0.5
comp=Z,2µm,1.0s
YLE ePcP PcP 02 53 34.3 +1.8
ACSO Alum Creek Sta 59.16 349 eP P 02 52 44.4 -0.1
comp=Z,1µm,1.0s
ACSO LR LR
comp=Z,10µm,22.0s
W33A Caddo, Fort Co 59.20 334 ⇓P P 02 52 45.3 +0.4
baz=59,SNR=195
Y30A Stafford Cattl 59.21 331 ⇓P P 02 52 44.6 -0.5
baz=59,SNR=74
SLM Saint Louis 59.37 342 eP P 02 52 45.0 -0.9
SLM e 02 53 34.5
SLM pmax pmax
comp=Z,629nm,1.0s
SLM Saint Louis 59.37 342 eP P 02 52 45.0 -0.9
comp=Z,629nm,1.0s
SLM ePcP PcP 02 53 34.5 +1.0
V34A Guthrie 59.40 335 eP P 02 52 45.6 -0.6
comp=Z,1µm,1.1s
V34A ePcP PcP 02 53 35.1 +1.4
V34A Guthrie 59.40 335 ⇓P P 02 52 45.5 -0.7
baz=60,SNR=140
X31A McDonald Ranch 59.42 332 ⇑P P 02 52 46.3 -0.1
baz=60,SNR=557
Z28A Tucker Farm, M 59.44 329 ⇓P P 02 52 46.0 -0.6
baz=60,SNR=212
W32A Sentinel 59.51 333 ⇑P P 02 52 46.8 -0.3
baz=60,SNR=788
Y29A Porterfield Fa 59.56 330 ⇑P P 02 52 46.9 -0.6
baz=60,SNR=309
GDL2 Guadalupe Moun 59.57 327 eP P 02 52 48.1 +0.6
comp=Z,344nm,1.1s
X30A Coker Ranch, T 59.67 331 ⇑P P 02 52 47.6 -0.6
baz=60,SNR=143
V33A Lossen Ranch, 59.70 334 ⇓P P 02 52 48.1 -0.2
baz=60,SNR=383
MNTX Cornudas Mount 59.71 326 eP P 02 52 47.6 -0.9
comp=Z,951nm,1.4s
MNTX ePcP PcP 02 53 35.7 +0.7
MNTX LR LR
comp=Z,8µm,20.0s
MNTX Cornudas Mount 59.71 326 ⇑P P 02 52 47.8 -0.7
baz=60,SNR=507
BRYW Bryant College 59.72 359 eP P 02 52 48.5 +0.2
comp=Z,2µm,0.8s
W31A Holland Ranch, 59.87 332 ⇑P P 02 52 48.9 -0.7
baz=60,SNR=78
Y28A McKinney Farm, 59.88 330 ⇑P P 02 52 48.9 -0.8
baz=60,SNR=132
U34A Anderson Ranch 59.92 335 eP P 02 52 49.6 -0.2
comp=Z,3µm,1.5s
U34A Anderson Ranch 59.92 335 ⇑P P 02 52 49.7 -0.1
baz=60,SNR=237
V32A Arapaho 59.93 333 ⇓P P 02 52 50.1 +0.2
baz=60,SNR=130
X29A Tulia 60.06 330 ⇓P P 02 52 50.2 -0.7
baz=60,SNR=121
RKT Rikitea 60.06 253 eP P 02 52 51.4 +0.3
comp=Z,317nm,1.3s
RKT eS S 03 00 57.6 -3.4
comp=Z,24µm,30.0s
RKT eSS SS 03 04 50.4 -8.0
comp=Z,6µm,34.8s
RKT eLR LR 03 10 14.3
comp=Z,16µm,27.2s,baz=98
RKT Rikitea 60.06 253 eT T 03 56 57.8
comp=Z,35nm,0.2s
QUA2 Belchertown 60.09 358 eP P 02 52 50.8 0.0
comp=Z,740nm,1.1s
ALLY Alegheny Colle 60.10 352 eP P 02 52 51.3 +0.4
comp=Z,1µm,0.8s
W30A Crocket Farms 60.15 332 ⇑P P 02 52 51.2 -0.2
baz=60,SNR=18
U33A Lingo Farm, Me 60.15 335 ⇑P P 02 52 51.2 -0.2
baz=60,SNR=227
SFIN Lafayette 60.17 346 eP P 02 52 49.8 -1.5
comp=Z,859nm,1.0s
SFIN Lafayette 60.17 346 ⇑P P 02 52 49.9 -1.4
baz=60,SNR=123
MSTX Muleshoe 60.18 329 eP P 02 52 51.4 -0.4
comp=Z,2µm,1.2s
MSTX Muleshoe 60.18 329 ⇓P P 02 52 51.2 -0.5
baz=60,SNR=389
BINY Binghamton 60.20 355 eP P 02 52 52.2 +0.6
comp=Z,2µm,1.0s
T34A McClaskey Farm 60.29 336 P P 02 52 52.2 -0.1
baz=60
S36A Lake Cedric, C 60.30 337 ⇓P P 02 52 52.5 +0.1
baz=61
HRV Adam Dziewonsk 60.30 359 eP P 02 52 52.8 +0.5
HRV pmax pmax
comp=Z,1µm,0.8s
HRV Adam Dziewonsk 60.30 359 eP P 02 52 52.8 +0.5
comp=Z,1µm,0.8s
V31A Spring Creek L 60.32 333 ⇑P P 02 52 53.1 +0.5
baz=61,SNR=171
X28A Dimmitt 60.35 330 ⇑P P 02 52 52.4 -0.5
baz=61,SNR=62
AMTX Amarillo 60.41 331 eP P 02 52 52.6 -0.7
comp=Z,372nm,1.1s
AMTX ePcP PcP 02 53 37.2 -0.6
AMTX ePP PP 02 55 02.4 -4.7
AMTX Amarillo 60.41 331 ⇑P P 02 52 52.9 -0.4
baz=61
U32A Winter Ranch, 60.48 334 ⇓P P 02 52 53.6 0.0
baz=61,SNR=101
ERPA Erie 60.54 352 eP P 02 52 54.3 +0.4
comp=Z,2µm,0.8s
ERPA LR LR
comp=Z,14µm,22.0s
S35A Otter Creek Ra 60.54 337 ⇓P P 02 52 54.1 +0.1
baz=61,SNR=732
R37A Teagarden Farm 60.55 338 ⇑P P 02 52 53.7 -0.4
baz=61,SNR=197
W29A Amarillo 60.59 331 ⇑P P 02 52 54.0 -0.5
baz=61,SNR=116
TRY Troy 60.59 357 eP P 02 52 54.9 +0.7
comp=Z,2µm,0.9s
V30A Spur Ranch, Mi 60.69 332 ⇑P P 02 52 55.6 +0.4
baz=61,SNR=110
T33A Patterson Ranc 60.77 335 ⇓P P 02 52 55.7 +0.1
baz=61,SNR=38
R36A Gordon, Harris 60.80 338 ⇑P P 02 52 55.5 -0.2
baz=61,SNR=334
U31A Nine Bar Ranch 60.83 333 ⇓P P 02 52 55.9 -0.2
baz=61,SNR=17
S34A Willow Spring 60.85 336 ⇑P P 02 52 56.0 -0.2
baz=61,SNR=146
HDIL Hopedale 60.89 344 eP P 02 52 55.0 -1.3
comp=Z,712nm,1.2s
HDIL LR LR
comp=Z,130µm,20.0s
Q37A Longview Farm, 60.92 339 ⇑P P 02 52 56.2 -0.4
baz=61,SNR=66
W28A Vega 60.96 331 ⇓P P 02 52 56.7 -0.3
baz=61,SNR=35
S33A Kaszmaul Farm, 61.11 335 ⇓P P 02 52 57.8 -0.1
baz=61,SNR=158
T32A Huddler Ranch, 61.13 334 ⇑P P 02 52 58.2 +0.2
baz=61,SNR=195
V29A Stinnett 61.15 332 ⇑P P 02 52 58.0 -0.3
baz=61,SNR=18
ACCN Adirondack Com 61.24 357 eP P 02 52 59.1 +0.5
comp=Z,1µm,1.2s
FFD Franklin Falls 61.27 359 eP P 02 52 59.6 +0.9
comp=Z,703nm,0.8s
AAM Ann Arbor 61.29 349 eP P 02 52 58.7 -0.3
AAM pmax pmax
comp=Z,402nm,0.9s
AAM MLR MLR
comp=Z,17µm,22.0s
AAM Ann Arbor 61.29 349 eP P 02 52 58.7 -0.3
comp=Z,402nm,0.9s
AAM LR LR
comp=Z,17µm,22.0s
U30A WK&E Inc. Balk 61.31 333 ⇓P P 02 52 59.3 0.0
baz=62,SNR=61
T31A Randall Ranch, 61.37 334 ⇓P P 02 52 59.7 0.0
baz=62,SNR=182
V28A Channing 61.37 331 ⇑P P 02 52 59.8 0.0
baz=62,SNR=108
HNH Hanover 61.52 359 eP P 02 53 01.5 +1.0
comp=Z,2µm,1.6s
U29A Oasis Ranch, S 61.52 332 ⇑P P 02 53 00.9 +0.2
baz=62,SNR=18
S32A Newby Ranch, P 61.58 335 ⇑P P 02 53 01.3 +0.3
baz=62,SNR=250
121A Cookes Peak, D 61.66 325 eP P 02 53 02.7 +0.8
comp=Z,960nm,1.4s
121A Cookes Peak, D 61.66 325 ⇑P P 02 53 02.8 +0.9
baz=62,SNR=309
V27A Dan Oppiter Fa 61.66 330 ⇓P P 02 53 01.7 -0.1
baz=62,SNR=82
T30A Plains 61.70 333 ⇑P P 02 53 02.0 +0.1
baz=62,SNR=10
R33A Olander Ranch, 61.72 336 ⇑P P 02 53 01.9 -0.1
baz=62,SNR=160
S31A Mullinville 61.73 334 ⇓P P 02 53 02.4 +0.2
baz=62,SNR=176
SHEL Horse Pasture 61.75 99 P P 02 53 04.8 +2.1
comp=Z,1µm,1.2s,SNR=10.0
SHEL Horse Pasture 61.75 99 *i* P P 02 53 05.1 +2.4
SHEL Horse Pasture 61.75 99 eP P 02 53 04.0 +1.3
comp=Z,358nm,1.1s
SHEL LR LR
comp=Z,12µm,21.0s
MDV Middlebury 61.84 358 eP P 02 53 03.5 +0.9
NCB Newcomb 61.85 357 eP P 02 53 02.9 +0.1
comp=Z,1µm,1.3s
NCB LR LR
comp=Z,20µm,22.0s
U28A Mallet 61.89 331 ⇓P P 02 53 02.9 -0.4
baz=62,SNR=20
KSU1 Kansas State U 61.89 337 eP P 02 53 03.3 +0.2
comp=Z,848nm,1.0s
KSU1 LR LR
comp=Z,7µm,19.0s
KSU1 Kansas State U 61.89 337 ⇑P P 02 53 02.7 -0.4
baz=62,SNR=32
LBNH Lisbon 62.04 359 eP P 02 53 04.9 +0.9
LBNH pmax pmax
comp=Z,1µm,1.0s
LBNH MLR MLR
comp=Z,8µm,22.0s
LBNH Lisbon 62.04 359 eP P 02 53 04.9 +0.9
comp=Z,1µm,1.0s
LBNH LR LR
comp=Z,8µm,22.0s
R32A Long Quarter, 62.11 335 ⇓P P 02 53 04.8 +0.2
baz=62,SNR=165
T29A Hugoton 62.12 333 ⇑P P 02 53 05.0 +0.3
baz=62,SNR=52
S30A Montezuma 62.16 333 ⇓P P 02 53 05.1 0.0
baz=62,SNR=47
U27A Thompson Grove 62.20 331 ⇑P P 02 53 05.3 -0.1
baz=62,SNR=69
Q33A Connelly Farm, 62.26 336 ⇑P P 02 53 05.5 -0.1
baz=62,SNR=185
R31A Burdett 62.32 335 ⇓P P 02 53 06.3 +0.3
baz=63,SNR=75
WVL Waterville 62.36 1 eP P 02 53 07.0 +1.0
comp=Z,1µm,1.0s
Y22D IRIS PASSCAL I 62.37 326 ⇓P P 02 53 07.4 +0.8
baz=63
LPM Los Pinos Moun 62.40 327 eP P 02 53 07.3 +0.5
comp=Z,374nm,1.1s
S29A Ulysses 62.43 333 ⇓P P 02 53 07.2 +0.4
baz=63,SNR=69
BBTS Babate 62.44 62 P P 02 53 08.0 +0.8
comp=Z,331nm,1.0s,baz=227,slow=0.4,SNR=5.6
BBTS S S 03 01 25.9 -5.3
comp=Z,38nm,1.2s,baz=170,slow=18,SNR=1.6
BBTS Babate 62.44 62 P P 02 53 08.0 +0.8
BBTS S S 03 01 25.9 -5.3
T28A Walsh 62.45 332 ⇑P P 02 53 06.7 -0.3
baz=63,SNR=67
LENM Lemitar 62.46 326 eP P 02 53 07.7 +0.4
comp=Z,378nm,1.4s
LENM ePcP PcP 02 53 48.0 +1.7
LONY Lake Ozonia 62.52 357 eP P 02 53 07.7 +0.5
comp=Z,1µm,1.1s
LONY LR LR
comp=Z,19µm,22.0s
Q32A Meitler Ranch, 62.54 336 ⇓P P 02 53 07.4 -0.1
baz=63,SNR=236
EMMW East Machias 62.57 3 eP P 02 53 08.2 +0.7
comp=Z,994nm,1.0s
P33A Williams Farm, 62.59 337 ⇑P P 02 53 07.8 0.0
baz=63,SNR=91
R30A Dighton 62.63 334 ⇓P P 02 53 08.4 +0.2
baz=63,SNR=55
T27A Campo 62.68 331 ⇓P P 02 53 08.3 -0.3
baz=63,SNR=212
LAZ Ladron 62.73 326 eP P 02 53 09.7 +0.6
comp=Z,300nm,1.2s
S28A Manter 62.74 332 ⇑P P 02 53 09.0 0.0
baz=63,SNR=128
ANMO Albuquerque 62.80 327 *c* iP P 02 53 09.9 +0.4
ANMO pmax pmax
comp=Z,512nm,0.9s
ANMO MLR MLR
comp=Z,27µm,19.0s
ANMO Albuquerque 62.80 327 eP P 02 53 09.7 +0.2
comp=Z,951nm,1.8s
ANMO LR LR
comp=Z,7µm,20.0s
Q31A Ellis 62.88 335 ⇓P P 02 53 09.9 +0.1
baz=63,SNR=102
SADO Sadowa 63.05 353 P P 02 53 10.7 0.0
comp=Z,644nm,0.8s,baz=190,slow=6.5,SNR=485
SADO S S 03 01 29.4 -8.4
comp=Z,11nm,1.0s,baz=249,slow=8.4,SNR=2.2
SADO Sadowa 63.05 353 P P 02 53 10.7 0.0
SADO S S 03 01 29.4 -8.4
PKME Peaks-Kenny Pk 63.07 1 eP P 02 53 11.6 +0.8
comp=Z,639nm,0.9s
PKME LR LR
comp=Z,8µm,22.0s
P32A Huiting Farm, 63.10 336 ⇓P P 02 53 10.9 -0.3
baz=63,SNR=133
R29A Marienthal 63.11 333 ⇑P P 02 53 11.5 +0.1
baz=63,SNR=72
T26A Comanche Natio 63.17 331 ⇓P P 02 53 12.2 +0.3
baz=63,SNR=140
Q30A Quinter 63.19 334 ⇓P P 02 53 12.2 +0.4
baz=63,SNR=298
TUC Tucson 63.19 322 eP P 02 53 12.2 +0.2
TUC pmax pmax
comp=Z,504nm,1.6s
TUC MLR MLR
comp=Z,8µm,20.0s
TUC Tucson 63.19 322 eP P 02 53 12.2 +0.2
comp=Z,504nm,1.6s
TUC LR LR
comp=Z,8µm,20.0s
SCIA State Center 63.26 341 eP P 02 53 11.6 -0.6
comp=Z,765nm,1.0s
SCIA LR LR
comp=Z,5µm,20.0s
S27A Las Animas 63.27 332 ⇓P P 02 53 12.4 -0.1
baz=64,SNR=8.5
P31A Stockton 63.32 335 ⇓P P 02 53 12.8 +0.1
baz=64,SNR=306
R28A Tribune 63.33 333 ⇑P P 02 53 12.9 0.0
baz=64,SNR=131
JFWS Jewell Farm 63.35 344 eP P 02 53 12.0 -0.7
JFWS e 02 53 50.8
JFWS pmax pmax
comp=Z,935nm,1.2s
JFWS MLR MLR
comp=Z,6µm,22.0s
JFWS Jewell Farm 63.35 344 eP P 02 53 12.0 -0.7
comp=Z,935nm,1.2s
JFWS ePcP PcP 02 53 50.8 +1.3
JFWS LR LR
comp=Z,6µm,22.0s
Q29A Oakley 63.43 334 ⇑P P 02 53 13.5 0.0
baz=64,SNR=156
S26A Kim 63.48 331 ⇓P P 02 53 14.2 +0.3
baz=64,SNR=380
T25A Trinidad 63.52 330 ⇓P P 02 53 14.8 +0.5
baz=64,SNR=132
O32A Brockman Farm, 63.53 337 ⇑P P 02 53 13.7 -0.3
baz=64,SNR=95
P30A Selden 63.68 335 ⇑P P 02 53 15.2 +0.1
baz=64,SNR=100
R27A Eads 63.72 332 ⇓P P 02 53 15.4 0.0
baz=64,SNR=110
VNA3 Neumayer Olymp 63.79 162 P P 02 53 16.4 +1.0
O31A Woolen Ranch, 63.84 336 ⇑P P 02 53 15.9 -0.1
baz=64,SNR=54
GLMI Grayling 63.91 349 eP P 02 53 16.1 -0.3
comp=Z,2µm,1.1s
GLMI LR LR
comp=Z,20µm,22.0s
Q28A Sharon Springs 63.94 333 ⇑P P 02 53 16.8 -0.1
baz=64,SNR=108
N32A Stulken Farm, 63.97 337 ⇓P P 02 53 16.8 -0.1
baz=64,SNR=29
VNA1 Neumayer--Stat 64.00 161 P P 02 53 18.3 +1.6
VNA1 Neumayer--Stat 64.00 161 P P'P'bc 03 22 13.8 -4.1
P29A Atwood 64.01 334 ⇓P P 02 53 17.7 +0.4
baz=64,SNR=61
R26A Arlington 64.02 332 ⇓P P 02 53 17.8 +0.3
baz=64,SNR=120
214A Organ Pipe Nat 64.14 321 eP P 02 53 19.1 +0.9
comp=Z,696nm,1.3s
214A Organ Pipe Nat 64.14 321 ⇓P P 02 53 19.3 +1.0
baz=64,SNR=184
O30A MW Ranch, Wils 64.15 335 ⇑P P 02 53 18.5 +0.3
baz=64,SNR=102
KSCO Kaye Shedlock' 64.24 333 eP P 02 53 19.3 +0.4
comp=Z,1µm,1.2s
KSCO Kaye Shedlock' 64.24 333 ⇓P P 02 53 19.4 +0.5
baz=64,SNR=62
N31A Bailey Ranch, 64.27 336 ⇑P P 02 53 19.1 +0.2
baz=64,SNR=22
P28A Saint Francis 64.33 334 ⇓P P 02 53 19.7 +0.2
baz=65,SNR=29
VNA2 Neumayer--Watz 64.37 161 P P 02 53 20.3 +1.2
baz=286,slow=7.2
O29A 4D Ranch, Culb 64.40 335 ⇓P P 02 53 20.1 +0.3
baz=65,SNR=48
BGNE Belgrade 64.48 337 eP P 02 53 20.9 +0.6
comp=Z,4µm,1.0s
BGNE Belgrade 64.48 337 ⇓P P 02 53 20.3 0.0
baz=65,SNR=325
PQI Presque Isle 64.50 2 eP P 02 53 20.9 +0.7
SDCO Great Sand Dun 64.53 330 eP P 02 53 21.3 +0.4
comp=Z,2µm,0.9s
SDCO LR LR
comp=Z,4µm,21.0s
SDCO Great Sand Dun 64.53 330 ⇑P P 02 53 21.7 +0.8
baz=65,SNR=949
Q26A Hugo 64.56 332 ⇓P P 02 53 21.8 +0.8
baz=65,SNR=89
W18A Petrified Fore 64.67 325 eP P 02 53 22.5 +0.7
comp=Z,615nm,1.1s
W18A Petrified Fore 64.67 325 ⇑P P 02 53 22.7 +0.9
baz=65,SNR=116
P27A Ficken Ranch, 64.67 333 ⇑P P 02 53 22.1 +0.5
baz=65,SNR=59
N30A Hueftle Ranch, 64.69 336 ⇓P P 02 53 22.2 +0.5
baz=65,SNR=46
M31A Lambtecht Ranc 64.73 337 ⇑P P 02 53 22.3 +0.3
baz=65,SNR=38
S23A Nye Farm, Mont 64.74 329 ⇑P P 02 53 23.0 +0.7
baz=65,SNR=28
O28A Krutsinger Ran 64.80 334 ⇑P P 02 53 22.9 +0.4
baz=65,SNR=55
N29A Votaw Ranch, W 64.92 335 ⇓P P 02 53 23.7 +0.5
baz=65,SNR=74
P26A Davis Ranch, A 65.01 333 ⇓P P 02 53 24.2 +0.3
baz=65,SNR=105
R23A Moffat 65.04 330 ⇑P P 02 53 25.1 +0.8
baz=65
O27A Beecher Island 65.15 334 ⇑P P 02 53 25.6 +0.8
baz=65,SNR=162
S22A 4UR Ranch, Cre 65.17 329 ⇑P P 02 53 25.7 +0.6
baz=65
N28A Pribbeno Ranch 65.18 334 ⇑P P 02 53 25.2 +0.3
baz=65,SNR=47
M30A Dale-Ortello V 65.24 336 ⇓P P 02 53 25.7 +0.4
baz=66,SNR=12
P25A Willow Gulch B 65.33 332 ⇑P P 02 53 27.0 +0.9
baz=66,SNR=103
Q24A Divide 65.34 331 ⇑P P 02 53 26.8 +0.6
baz=66,SNR=191
L31A Butterfield Fa 65.40 337 ⇑P P 02 53 26.6 +0.4

baz=66,SNR=460
M29A Burnside Ranch 65.48 336 ⇑P P 02 53 27.2 +0.4
baz=66,SNR=38
L30A Spencer Herefo 65.53 336 ⇑P P 02 53 27.6 +0.4
baz=66,SNR=93
O26A Horse Wrangler 65.56 333 ⇓P P 02 53 28.1 +0.7
baz=66,SNR=68
MVCO Mesa Verde 65.59 327 *e*P P 02 53 28.2 +0.3
comp=Z,1μm,1.6s
MVCO LR LR
comp=Z,6μm,21.0s
MVCO Mesa Verde 65.59 327 ⇑P P 02 53 28.6 +0.7
baz=66,SNR=163
OGNE Ogallala 65.60 334 *e*P P 02 53 28.1 +0.4
comp=Z,794nm,1.2s
OGNE *e*PcP PcP 02 54 00.7 +1.8
OGNE LR LR
comp=Z,4μm,21.0s
OGNE Ogallala 65.60 334 ⇓P P 02 53 27.9 +0.3
baz=66,SNR=73
Q23A Hartsel 65.61 330 ⇑P P 02 53 28.7 +0.7
baz=66,SNR=120
N27A Anderson Farm, 65.69 334 ⇑P P 02 53 28.8 +0.5
baz=66,SNR=33
M28A Bar X Bar Ranc 65.71 335 ⇓P P 02 53 29.1 +0.7
baz=66,SNR=54
O25A Wiggins 65.80 332 ⇑P P 02 53 29.8 +0.8
baz=66,SNR=56
WUAZ Wupatki 65.86 324 *e*P P 02 53 30.4 +0.9
comp=Z,673nm,1.2s
WUAZ *e*PcP PcP 02 54 01.9 +1.7
WUAZ LR LR
comp=Z,9μm,21.0s
WUAZ Wupatki 65.86 324 ⇑P P 02 53 30.6 +1.1
baz=66,SNR=99
L29A Maesberry Ranch 65.92 336 ⇑P P 02 53 30.0 +0.3
baz=66,SNR=22
P23A Jefferson 65.98 331 ⇓P P 02 53 31.7 +1.2
baz=66,SNR=102
ECSD EROS Data Cent 65.99 340 *e*P P 02 53 29.7 -0.3
comp=Z,102nm,0.6s
ECSD LR LR
comp=Z,6μm,20.0s
ECSD EROS Data Cent 65.99 340 ⇑P P 02 53 30.0 0.0
baz=66,SNR=1000
SNAA Sanae 65.99 161 P P 02 53 31.0 +1.2
SNAA Sanae 65.99 161 P P 02 53 30.1 +0.3
comp=Z,237nm,1.1s,baz=288,slow=6.2,SNR=387
SNAA Sanae 65.99 161 *c i*P P 02 53 30.2 +0.4
SNAA pmax pmax
comp=Z,767nm,1.3s
SNAA Sanae 65.99 161 *e*P P 02 53 30.1 +0.3
comp=Z,746nm,1.0s
N26A Koester Ranch, 66.00 333 ⇑P P 02 53 30.9 +0.7
baz=66,SNR=59
COWI Conover 66.06 346 *e*P P 02 53 30.1 -0.3
comp=Z,805nm,1.3s
COWI *e*PcP PcP 02 54 00.9 +0.4
COWI LR LR
comp=Z,8μm,21.0s
K30A Basset 66.12 337 ⇓P P 02 53 31.2 +0.3
baz=66,SNR=88
GLA Glamis 66.13 320 *e*P P 02 53 32.0 +0.8
GLA *e* 02 54 02.3
GLA pmax pmax
comp=Z,1μm,1.8s
GLA Glamis 66.13 320 *e*P P 02 53 32.0 +0.8
comp=Z,1μm,1.8s
GLA *e*PcP PcP 02 54 02.3 +1.1
GLA Glamis 66.13 320 ⇑P P 02 53 32.3 +1.1
baz=66,SNR=28
SPMN Marine on St. 66.18 343 *e*P P 02 53 30.7 -0.5
comp=Z,1μm,1.0s
SPMN Marine on St. 66.18 343 ⇑P P 02 53 30.6 -0.5
baz=66,SNR=306
ISCO Idaho Springs 66.22 331 *e*P P 02 53 32.3 +0.4
ISCO pmax pmax
comp=Z,8μm,1.2s
ISCO MLR MLR
comp=Z,5μm,20.0s
ISCO Idaho Springs 66.22 331 *e*P P 02 53 32.3 +0.4
comp=Z,8μm,1.2s
ISCO LR LR
comp=Z,5μm,20.0s
ISCO Idaho Springs 66.22 331 ⇑P P 02 53 32.5 +0.6
baz=66,SNR=374
M27A Reverse DX Ran 66.23 334 ⇓P P 02 53 32.4 +0.7
baz=66,SNR=26
O24A Longmont 66.23 332 ⇑P P 02 53 32.5 +0.7
baz=66,SNR=98
L28A Connealy Angus 66.28 335 ⇓P P 02 53 32.7 +0.7
baz=66,SNR=49
PV01 Paradox Valley 66.34 328 *e*P P 02 53 33.4 +0.8
comp=Z,17μm,0.9s
PV01 *e*PP PP 02 55 57.3 -2.1
N25A Grover 66.36 333 ⇑P P 02 53 33.6 +1.0
baz=67,SNR=13
SMCO Snowmass 66.36 330 *e*P P 02 53 33.4 +0.4
comp=Z,252nm,1.0s
Y12C Blythe 66.43 321 ⇑P P 02 53 34.2 +1.2
baz=67,SNR=59
K29A Lazy Trails An 66.46 337 ⇓P P 02 53 33.5 +0.4
baz=67,SNR=224
M26A McRoberts Ranc 66.49 334 ⇓P P 02 53 34.0 +0.6
baz=67,SNR=47
PDMCI Parker Dam,Lak 66.58 322 ⇑P P 02 53 34.7 +0.8
baz=67,SNR=83
P22A Eagle 66.59 330 ⇑P P 02 53 35.0 +0.8
baz=67,SNR=213
J30A Dallas 66.64 337 ⇑P P 02 53 34.3 +0.1
baz=67,SNR=248
IBP Imperial Bould 66.64 319 ⇑P P 02 53 35.9 +1.5
baz=67,SNR=16
SWSC Sam W. Stewart 66.65 319 ⇑P P 02 53 35.7 +1.3
baz=67,SNR=33
L27A T5 Ranch, Ells 66.67 335 ⇓P P 02 53 35.3 +0.8
baz=67,SNR=8.2
O23A Lake Granby, G 66.69 331 ⇑P P 02 53 35.7 +0.8
baz=67,SNR=262
N24A Carr 66.72 332 ⇑P P 02 53 36.0 +1.1
baz=67,SNR=81
K28A Ten Mile Ranch 66.82 336 ⇑P P 02 53 36.3 +0.9
baz=67,SNR=98
M25A Palm-Egli Farm 66.86 333 ⇓P P 02 53 36.4 +0.6
baz=67,SNR=59
BC3 Big Chuckawall 66.92 320 ⇑P P 02 53 37.5 +1.2
baz=67,SNR=114
L26A Underwood Farm 66.94 334 ⇑P P 02 53 37.0 +0.7
baz=67,SNR=25
O22A Kremmling 66.94 331 ⇑P P 02 53 36.9 +0.4
baz=67,SNR=382
MONP Monument Peak, 67.00 319 ⇑P P 02 53 38.0 +1.1
baz=67,SNR=74
J29A Okreek 67.01 337 ⇑P P 02 53 37.0 +0.4
baz=67,SNR=349
BAR Barrett 67.02 319 *e*P P 02 53 37.9 +1.1
comp=Z,637nm,1.1s
IRM Iron Mountain 67.08 321 ⇑P P 02 53 38.4 +1.1
baz=67,SNR=242
I30A Oacoma 67.12 338 ⇓P P 02 53 36.9 -0.3
baz=67,SNR=15
K27A Fluecklnger Fa 67.16 335 ⇓P P 02 53 38.3 +0.8
baz=67,SNR=98
NEE2 Needles Airpor 67.19 322 ⇓P P 02 53 38.9 +1.1
baz=67
M24A Cheyenne 67.22 333 ⇑P P 02 53 39.2 +1.2
baz=68,SNR=259
N23A Red Feather La 67.25 332 ⇓P P 02 53 39.1 +0.7
baz=68,SNR=238
PHWY Pilot Hill 67.36 332 *e*P P 02 53 39.5 +0.3
comp=Z,1μm,1.6s
J28A Allard Ranch, 67.37 336 ⇑P P 02 53 39.5 +0.6
baz=68,SNR=313
N22A Wattenberg Ran 67.41 331 ⇑P P 02 53 40.4 +0.9
baz=68,SNR=162
L25A Engebretsen Ra 67.41 334 ⇑P P 02 53 40.0 +0.8
baz=68,SNR=57
BRSD Miller 67.42 338 *e*P P 02 53 39.1 +0.1
comp=Z,1μm,1.3s
BRSD Miller 67.42 338 ⇓P P 02 53 38.8 -0.3
baz=68,SNR=38
109C Camp Elliot, M 67.43 319 ⇑P P 02 53 40.6 +1.3
baz=68,SNR=45
BELC Belle Mtn. Jos 67.49 320 ⇓P P 02 53 41.0 +1.1
baz=68,SNR=91
PFO Pinyon Flats O 67.50 320 P P 02 53 41.5 +1.5
comp=Z,1μm,1.2s,SNR=49
PFO Pinyon Flats O 67.50 320 *e*P P 02 53 40.9 +0.9
PFO *e* 02 54 07.9
PFO pmax pmax
comp=Z,532nm,1.4s
PFO MLR MLR
comp=Z,9μm,22.0s
PFO Pinyon Flats O 67.50 320 *e*P P 02 53 40.9 +0.9
comp=Z,532nm,1.4s
PFO *e*PcP PcP 02 54 07.9 +0.8
PFO LR LR
comp=Z,9μm,22.0s
PFO Pinyon Flats O 67.50 320 ⇓P P 02 53 41.2 +1.2
baz=68,SNR=21
J27A Elkhorn Farm, 67.53 336 ⇑P P 02 53 41.0 +1.1
baz=68,SNR=236
I29A Vivian Onida 67.53 337 ⇑P P 02 53 39.8 -0.1
baz=68,SNR=172
K26A Motz Farm, Whi 67.53 335 ⇑P P 02 53 40.6 +0.7
baz=68,SNR=86
M23A Laramie 67.61 332 ⇓P P 02 53 41.4 +0.7
baz=68,SNR=188
LDFC Landfair 67.69 322 *e*P P 02 53 42.8 +1.6
comp=Z,741nm,1.1s
O20A White River Ci 67.72 330 *e*P P 02 53 41.9 +0.6
comp=Z,635nm,1.2s
O20A *e*PP PP 02 56 07.9 -3.5
O20A White River Ci 67.72 330 ⇓P P 02 53 42.1 +0.8
baz=68,SNR=160
L24A Wheatland 67.73 333 ⇓P P 02 53 41.7 +0.5
baz=68,SNR=60
K25A Mack Ranch, Ha 67.75 334 ⇓P P 02 53 42.2 +0.9
baz=68,SNR=16
GMRC Granite Mounta 67.81 321 ⇓P P 02 53 43.2 +1.3
baz=68,SNR=249
I28A Midland 67.84 337 ⇑P P 02 53 42.0 +0.2
baz=68,SNR=34
TAOE Nuku Hiva Isla 67.95 268 *e*T T 04 06 51.3
comp=Z,98nm,0.2s
M22A Cedar Creek Ra 67.95 331 ⇓P P 02 53 43.5 +0.7
baz=68,SNR=153
MURC Murrieta 67.96 319 ⇑P P 02 53 44.2 +1.4
baz=68,SNR=58
H07S1 FLORES T-PHASE 67.99 32 *e*P P 02 53 43.6 +0.8
H07S1 FLORES T-PHASE 67.99 32 P P 02 53 44.0 +1.2
SNR=27
J26A Sides Ranch, S 68.00 335 ⇑P P 02 53 43.7 +0.9
baz=68,SNR=79
H29A Onida 68.02 338 ⇑P P 02 53 42.8 0.0
baz=68,SNR=85
SRU San Rafael Swe 68.07 327 *e*P P 02 53 43.9 +0.4
SRU pmax pmax
comp=Z,1μm,1.5s
SRU San Rafael Swe 68.07 327 *e*P P 02 53 43.9 +0.4
comp=Z,1μm,1.5s
G30A Faulkton 68.08 339 ⇓P P 02 53 43.0 -0.2
baz=68,SNR=153
L23A Garrett 68.12 333 ⇓P P 02 53 44.4 +0.6
baz=68,SNR=78
BBRC Big Bear Solar 68.23 320 ⇑P P 02 53 46.2 +1.5
baz=68,SNR=8.5
I27A Quinn 68.23 336 ⇓P P 02 53 44.9 +0.6
baz=68,SNR=171
K24A Anderson Ranch 68.23 333 ⇓P P 02 53 45.2 +0.8
baz=68,SNR=18
HEC Hector,Ludlow 68.25 321 ⇑P P 02 53 46.0 +1.3
baz=68,SNR=54
N20A Spence Gulch, 68.28 330 ⇑P P 02 53 45.5 +0.7
baz=68,SNR=188
EYMN Ely 68.36 345 *e*P P 02 53 44.3 -0.6
comp=Z,650nm,1.2s
EYMN LR LR
comp=Z,7μm,21.0s
H28A Mission Ridge 68.36 337 ⇑P P 02 53 45.4 +0.4
baz=69,SNR=23
J25A Sunshine Ranch 68.36 335 ⇓P P 02 53 45.8 +0.7
baz=69,SNR=36
L22A Ellis Ranch, M 68.38 332 ⇑P P 02 53 46.7 +1.2
baz=69,SNR=48
SCI San Clemente I 68.40 318 ⇑P P 02 53 46.8 +1.4
baz=69,SNR=13
G29A Hoven 68.41 338 ⇓P P 02 53 45.3 0.0
baz=69,SNR=54
TUQ Turquoise Moun 68.42 321 ⇓P P 02 53 47.0 +1.3
baz=69,SNR=8.3
MSU Marysvale 68.49 326 *e*P P 02 53 47.2 +1.0
MSU pmax pmax
comp=Z,495nm,1.1s
MSU Marysvale 68.49 326 *e*P P 02 53 47.2 +1.0
comp=Z,495nm,1.1s
MVU Marysvale 68.50 326 *e*P P 02 53 47.4 +1.0
comp=Z,611nm,1.1s
MVU *e*PcP PcP 02 54 12.7 +1.4
I26A New Underwood 68.52 336 ⇑P P 02 53 46.9 +0.8
baz=69,SNR=143
TMUT Trail Mountain 68.56 327 *e*P P 02 53 47.4 +0.7
comp=Z,148nm,0.9s
CIS Catalina Islan 68.59 318 ⇑P P 02 53 47.9 +1.2
baz=69,SNR=21
K23A Bowen Ranch, D 68.61 333 ⇓P P 02 53 47.5 +0.8
baz=69,SNR=66
F30A Leola 68.66 339 ⇑P P 02 53 47.1 +0.3
baz=69,SNR=47
G28A Parade 68.66 337 ⇓P P 02 53 47.6 +0.7
baz=69,SNR=25
J24A Dixon Ranch, L 68.67 334 ⇓P P 02 53 48.3 +1.2
baz=69,SNR=102
BFSC Mount Baldy Ra 68.67 319 ⇑P P 02 53 48.5 +1.2
baz=69,SNR=109
RRX Edison Barstow 68.69 320 ⇓P P 02 53 48.8 +1.5
baz=69,SNR=25
HOR Horta 68.70 34 *e*P P 02 53 49.2 +2.0
CALA Caldeira 68.70 34 *e*P P 02 53 49.7 +2.4
SHPR Sheep Range 68.71 323 *e*P P 02 53 48.7 +1.1
comp=Z,566nm,1.0s
FMP Fort Macarthur 68.72 319 ⇑P P 02 53 48.8 +1.4
baz=69,SNR=13
H27A Howes 68.72 336 ⇓P P 02 53 47.6 +0.3
baz=69,SNR=161
PCAN Candelaria 68.73 34 *e*P P 02 53 49.0 +1.6
comp=Z,1μm,1.1s
PCED Cedros 68.73 34 *e*P P 02 53 49.4 +2.0
comp=Z,1μm,1.2s
PICO Pico 68.79 34 *e*P P 02 53 49.6 +1.7
I25A Rochford 68.85 335 ⇓P P 02 53 49.4 +1.1
baz=69,SNR=808
GSC Goldstone, Bar 68.86 321 *e*P P 02 53 49.6 +1.2
GSC pmax pmax
comp=Z,894nm,1.4s
GSC Goldstone, Bar 68.86 321 *e*P P 02 53 49.5 +1.2
comp=Z,894nm,1.4s
GSC Goldstone, Bar 68.86 321 ⇓P P 02 53 50.0 +1.6
baz=69,SNR=127
MWC Mount Wilson 68.91 319 *e*P P 02 53 50.0 +1.2
MWC pmax pmax
comp=Z,684nm,1.2s
MWC Mount Wilson 68.91 319 *e*P P 02 53 50.0 +1.2
comp=Z,684nm,1.2s
K22A Casper 68.92 332 *e*P P 02 53 49.1 +0.4
comp=Z,648nm,1.2s
K22A Casper 68.92 332 ⇑P P 02 53 49.4 +0.7
baz=69,SNR=183
F29A Eureka 68.93 339 ⇓P P 02 53 48.9 +0.4
baz=69,SNR=246
SHOC Shoshone, Teco 68.95 321 ⇓P P 02 53 49.2 +0.3
baz=69,SNR=22
PASC Pasadena Art C 68.95 319 *e*P P 02 53 50.0 +1.0
comp=Z,2μm,1.7s
H26A Fairpoint 68.97 336 ⇑P P 02 53 49.1 +0.2
baz=69,SNR=51
LIC Lamto 69.02 76 ⇑*i*P P 02 53 49.7 -0.1
comp=Z,1μm,1.5s,baz=252
LIC *e*R
comp=Z,15μm,21.0s
LIC Lamto 69.02 76 *e*P P 02 53 48.7 -1.1
comp=Z,1μm,1.7s
LIC Lamto 69.02 76 ⇑*i*P P 02 53 49.7 -0.1
comp=Z,1μm,1.5s
ROSA Rosais 69.05 34 *e*P P 02 53 51.3 +1.9
comp=Z,1μm,1.1s
RSSD Black Hills 69.06 335 *e*P P 02 53 50.1 +0.5
RSSD pmax pmax
comp=Z,384nm,1.1s
RSSD Black Hills 69.06 335 *e*P P 02 53 50.1 +0.5
comp=Z,384nm,1.1s
PMAN Manadas 69.07 35 *e*P P 02 53 51.4 +1.9
comp=Z,2μm,1.2s
I24A Kuemmerle Ranc 69.09 334 ⇑P P 02 53 50.6 +0.9
baz=69,SNR=109
DECC Green Verdugo 69.09 319 ⇓P P 02 53 51.4 +1.6
baz=69,SNR=49
J23A Dilts Ranch, B 69.10 333 ⇓P P 02 53 50.6 +0.8
baz=69,SNR=11
TIC Toumodi 69.19 75 *e*P P 02 53 49.8 -1.0
comp=Z,274nm,0.7s
E30A Jud 69.20 339 ⇓P P 02 53 50.4 +0.2
baz=70,SNR=121
K21A Alcova 69.22 332 ⇑P P 02 53 51.5 +0.9
baz=70,SNR=456
F28A McLaughlin 69.28 338 ⇑P P 02 53 51.5 +0.7
baz=70,SNR=132
EDW2 Edwards Air Fo 69.30 320 ⇑P P 02 53 52.1 +1.0
baz=70,SNR=158
G27A Dupree 69.30 337 ⇓P P 02 53 51.2 +0.3
baz=70,SNR=82
H25A Fruitdale 69.30 335 ⇑P P 02 53 51.6 +0.7
baz=70,SNR=168
MPU Maple Canyon 69.32 327 *e*P P 02 53 51.9 +0.6
comp=Z,543nm,1.2s
MPU *e*PcP PcP 02 54 14.8 +0.2
KIC Kosan Boka 69.34 76 *e*P P 02 53 50.6 -1.1
comp=Z,2μm,1.2s
DBIC Dimbokro 69.35 75 P P 02 53 52.0 +0.2
comp=Z,398nm,0.7s,baz=225,slow=5.9,SNR=522
DBIC S S 03 02 47.4 -8.2
comp=Z,5.6nm,0.9s,baz=170,slow=12,SNR=2.6
DBIC PKP2bc 03 21 58.3
comp=Z,10nm,1.0s,baz=37,slow=5.7,SNR=5.1
DBIC LR LR 03 23 55.9
comp=Z,11μm,18.9s,baz=230,slow=36
DBIC Dimbokro 69.35 75 *e*P P 02 53 51.9 +0.2
DBIC *e**PP pP 02 54 03.7 -1.5
DBIC S S 03 02 47.4 -8.2
DBIC pmax pmax
comp=Z,561nm,0.8s
DBIC Dimbokro 69.35 75 *e*P P 02 53 51.9 +0.2
comp=Z,561nm,0.8s
DBIC *e*pP pP 02 54 03.7 -1.5
DBIC S S 03 02 47.4 -8.2
DBIC ⇑*e* 03 21 58.3
PGRA Graciosa 69.41 34 *e*P P 02 53 52.9 +1.3
comp=Z,2μm,1.3s
BLG Laguna Peak, P 69.46 318 ⇑P P 02 53 53.3 +1.3
baz=70,SNR=27
G26A Maurine 69.48 336 ⇑P P 02 53 52.4 +0.4
baz=70,SNR=132
NLU North Lily Min 69.50 327 *e*P P 02 53 53.4 +1.0
comp=Z,485nm,1.3s
E29A Napoleon 69.50 339 ⇓P P 02 53 52.4 +0.4
baz=70,SNR=50
J22A Midwest 69.51 333 P P 02 53 52.4 0.0
baz=70
LRMC Laurel Mtn Rad 69.51 320 ⇑P P 02 53 53.8 +1.3
baz=70,SNR=16
I23A Meade Ranch, G 69.52 334 ⇓P P 02 53 53.0 +0.6
baz=70,SNR=14
ADH Angra Heroismo 69.55 35 *e*P P 02 53 54.5 +2.1
comp=Z,2μm,1.2s
PSMA Santa Maria 69.56 38 *e*P P 02 53 52.7 +0.1
comp=Z,745nm,1.4s
OSI Osito Audit: C 69.58 319 *e*P P 02 53 54.0 +1.2
comp=Z,221nm,0.9s
OSI Osito Audit: C 69.58 319 ⇑P P 02 53 54.1 +1.2
baz=70,SNR=20
PSMN Pico do Norte, 69.61 38 *e*P P 02 53 53.1 +0.2
comp=Z,874nm,1.7s
TPNV Topopah Spring 69.65 322 ⇑P P 02 53 55.4 +2.0
baz=70,SNR=586
JLU Jordanelle 69.66 328 *e*P P 02 53 54.3 +0.8
comp=Z,792nm,1.3s
D30A Buchanan 69.68 340 ⇑P P 02 53 53.3 +0.2
baz=70,SNR=141
FURC Furnace Creek, 69.68 322 ⇑P P 02 53 55.1 +1.8
baz=70,SNR=221
G25A Newell 69.71 336 ⇑P P 02 53 53.9 +0.5
baz=70,SNR=41
BSC Santa Cruz Isl 69.75 318 ⇑P P 02 53 54.9 +1.1
baz=70,SNR=14
F27A Lemmon 69.75 337 ⇓P P 02 53 54.2 +0.6
baz=70,SNR=466
PDA Ponta Delgada 69.78 37 *e*P P 02 53 55.3 +1.4
comp=Z,2μm,1.5s
MPMC Manual Prospec 69.78 321 ⇓P P 02 53 54.9 +0.7
baz=70,SNR=224
H24A Dirks Ranch, A 69.79 335 ⇑P P 02 53 54.1 +0.1
baz=70,SNR=226
PSET Sete Cidades 69.80 37 *e*P P 02 53 55.3 +1.2
comp=Z,2μm,1.6s
AGMN Agassiz Nation 69.85 342 *e*P P 02 53 53.4 -0.7
comp=Z,565nm,0.9s
AGMN LR LR
comp=Z,7μm,20.0s
AGMN Agassiz Nation 69.85 342 ⇑P P 02 53 54.2 +0.1
baz=70,SNR=246
GRON Grota Negra 69.87 37 *e*P P 02 53 56.6 +2.1
comp=Z,509nm,1.2s
E28A Huff 69.87 338 ⇑P P 02 53 54.9 +0.6
baz=70,SNR=147
J21A Lysite 69.88 332 ⇑P P 02 53 55.5 +0.8
baz=70,SNR=237
CTU Camp Tracy 69.88 328 *e*P P 02 53 55.1 +0.4
comp=Z,97nm,0.8s
I22A 9 Mile Ranch, 69.89 333 ⇑P P 02 53 55.1 +0.4
baz=70,SNR=479
D29A Pettibone, Tap 69.92 339 ⇓P P 02 53 54.6 0.0
baz=70,SNR=52
F26A Lodgepole 69.97 337 ⇓P P 02 53 55.4 +0.4
baz=70,SNR=375
ARVC Arvin 69.98 319 ⇓P P 02 53 56.5 +1.3
baz=70,SNR=37
H23A Clabaugh Cattl 69.98 334 ⇑P P 02 53 55.6 +0.5
baz=70,SNR=18
DAC Darwin (Calif) 69.99 321 *e*P P 02 53 56.4 +0.9
DAC pmax pmax
comp=Z,431nm,1.0s
DAC Darwin (Calif) 69.99 321 *e*P P 02 53 56.4 +0.9
comp=Z,431nm,1.0s
TCUT Toone Canyon 70.03 328 *e*P P 02 53 56.2 +0.5
comp=Z,2μm,1.7s
E27A Carson 70.06 338 ⇓P P 02 53 56.1 +0.6
baz=70,SNR=158
DUG Dugway, Tooele 70.06 327 *e*P P 02 53 56.7 +0.9
DUG pmax pmax
comp=Z,712nm,1.2s
DUG MLR MLR
comp=Z,7μm,19.0s
DUG Dugway, Tooele 70.06 327 *e*P P 02 53 56.7 +0.9
comp=Z,712nm,1.2s
DUG LR LR
comp=Z,7μm,19.0s
DUG Dugway, Tooele 70.06 327 ⇑P P 02 53 56.8 +1.0
baz=70,SNR=342
BART Pico Bartolome 70.08 37 *e*P P 02 53 57.5 +1.6
comp=Z,3μm,1.4s
SBC Santa Barbara 70.09 318 ⇓P P 02 53 57.1 +1.2
baz=70
ISA Isabella, Lake 70.11 320 *e*P P 02 53 57.3 +1.2
ISA pmax pmax
comp=Z,531nm,1.1s
ISA Isabella, Lake 70.11 320 *e*P P 02 53 57.3 +1.2
comp=Z,531nm,1.1s
ISA Isabella, Lake 70.11 320 ⇑P P 02 53 57.4 +1.3
baz=70,SNR=218
C30A Mose, Pekin 70.11 340 ⇓P P 02 53 56.2 +0.4
baz=70,SNR=126
J20A Shoshoni 70.17 332 ⇑P P 02 53 57.2 +0.9
baz=70,SNR=52
I21A Big Trails, Te 70.18 333 ⇓P P 02 53 56.7 +0.2
baz=70,SNR=589
G24A Alzada 70.21 335 ⇓P P 02 53 57.2 +0.7
baz=70,SNR=170
R11A Troy Canyon, C 70.24 324 *e*P P 02 53 58.3 +1.3
comp=Z,514nm,1.1s
R11A Troy Canyon, C 70.24 324 ⇓P P 02 53 58.7 +1.7
baz=70,SNR=631
F25A Bowman 70.33 336 ⇓P P 02 53 57.8 +0.6
baz=71,SNR=345
GRAC Grapevine Rang 70.34 322 ⇓P P 02 53 59.2 +1.8
baz=70,SNR=130
D28A Regan 70.36 339 ⇑P P 02 53 58.2 +0.8
baz=71,SNR=220
PDAR Pinedale Array 70.39 331 P P 02 53 57.6 -0.2
comp=Z,76nm,1.0s,baz=123,slow=5.5,SNR=335
PDAR S S 03 03 03.4 -3.8
comp=Z,1.6nm,1.0s,baz=122,slow=6.8,SNR=2.1
PDAR PKP2ab 03 21 50.2
comp=Z,0.8nm,0.7s,baz=8.5,slow=3.0,SNR=4.8
PDAR PKP2bc 03 21 55.9

comp=Z,17nm,1.2s,baz=346,slow=3.1,SNR=24
PDAR LR LR 03 26 12.4
comp=Z,3µm,20.9s,baz=139,slow=37
PDAR P4KPbc 03 30 40.0
comp=Z,2.2nm,1.0s,baz=133,slow=6.3,SNR=11
PDAR Pinedale Array 70.39 331 P **P** **02 53 57.6 -0.2**
PDAR S **S** **03 03 03.4 -3.8**
PDAR P'P'ab **P'P'ab** **03 21 50.2 -3.7**
PDAR ⇑e 03 21 55.9
PDAR 03 30 40.0
BW06 Boulder Array 70.39 331 eP **P** **02 53 57.7 -0.2**
comp=Z,544nm,1.5s
BW06 LR LR
comp=Z,4µm,20.0s
CWC Cottonwood Cre 70.39 321 ⇓P **P** **02 53 59.5 +1.6**
baz=71,SNR=133
H22A Clearmont 70.40 334 ⇑P **P** **02 53 58.0 +0.3**
baz=71
E26A Carlson Angus 70.42 337 ⇑P **P** **02 53 58.1 +0.4**
baz=71,SNR=147
HWUT Hardware Ranch 70.47 329 eP **P** **02 53 58.4 +0.1**
comp=Z,345nm,1.0s
HWUT LR LR
comp=Z,12µm,21.0s
G23A Biddle 70.50 335 ⇓P **P** **02 53 58.7 +0.4**
baz=71,SNR=131
J19A Crowheart 70.54 331 ⇑P **P** **02 53 59.2 +0.5**
baz=71,SNR=531
NVL N'lazarevskaya 70.56 160 eP P 02 53 54.3 -3.9
NVL e*PP pP 02 54 10.4 -1.3
NVL pmax pmax
comp=Z,858nm,1.2s
VES Vestal, Richgr 70.60 320 ⇓P **P** **02 54 00.3 +1.4**
baz=71,SNR=124
MDND Maddock 70.61 340 eP **P** **02 53 59.2 +0.5**
comp=Z,3µm,1.0s
MDND Maddock 70.61 340 ⇓P **P** **02 53 59.6 +0.8**
baz=71,SNR=340
D27A Center 70.62 338 ⇓P **P** **02 53 59.7 +0.7**
baz=71,SNR=46
F24A Ekalaka 70.65 336 ⇑P **P** **02 53 59.9 +0.7**
baz=71,SNR=560
I20A Worland 70.66 332 ⇓P **P** **02 53 59.9 +0.5**
baz=71,SNR=81
BGU Big Grassy Mou 70.71 327 eP **P** **02 54 00.2 +0.4**
comp=Z,432nm,1.1s
H21A Big Horn, Sher 70.72 333 ⇓P **P** **02 53 59.9 +0.2**
baz=71,SNR=71
B30A Myrvik Farm, E 70.73 341 ⇓P **P** **02 53 59.5 0.0**
baz=71,SNR=303
C28A Hausauer Farms 70.75 339 ⇓P **P** **02 54 00.1 +0.4**
baz=71,SNR=21
E25A Miller Ranch, 70.80 337 ⇓P **P** **02 54 00.8 +0.8**
baz=71,SNR=164
SMMC Simmler 70.83 319 ⇓P **P** **02 54 02.2 +1.7**
baz=71,SNR=62
D26A Manning 70.88 338 ⇓P **P** **02 54 01.1 +0.6**
baz=71,SNR=147
G22A Birney 70.88 334 ⇑P **P** **02 54 00.8 +0.1**
baz=71,SNR=89
TIN Tinemaha, Big 70.89 321 ⇓P **P** **02 54 02.5 +1.6**
baz=71,SNR=53
F23A Volborg 70.93 335 ⇓P **P** **02 54 01.2 +0.4**
baz=71,SNR=257
TPH Tonopah 70.98 323 eP **P** **02 54 02.5 +0.9**
TPH pmax pmax
comp=Z,513nm,1.1s
TPH Tonopah 70.98 323 eP **P** **02 54 02.5 +0.9**
comp=Z,513nm,1.1s
RCTC Rector, Farmer 71.00 320 ⇑P **P** **02 54 02.1 +0.7**
baz=71,SNR=56
H20A Greybull 71.03 333 ⇓P **P** **02 54 01.6 +0.1**
baz=71,SNR=237
B29A Wagenman Farm, 71.06 340 ⇑P **P** **02 54 02.2 +0.6**
baz=71,SNR=343
I19A Meeteetse 71.11 332 ⇑P **P** **02 54 02.6 +0.4**
baz=71,SNR=273
AHID Auburn Hatcher 71.12 330 eP **P** **02 54 02.5 +0.3**
comp=Z,529nm,1.2s
AHID LR LR
comp=Z,6µm,21.0s
C27A Sayler Ranch, 71.13 338 ⇓P **P** **02 54 02.8 +0.8**
baz=71,SNR=35
A30A Hoffart Farm, 71.15 341 ⇓P **P** **02 54 01.9 -0.1**
baz=71,SNR=194
E24A Baker 71.19 336 ⇓P **P** **02 54 03.4 +0.9**
baz=71,SNR=357
HVU Hansel Valley 71.21 328 eP **P** **02 54 03.2 +0.4**
HVU pmax pmax
comp=Z,450nm,1.1s
HVU Hansel Valley 71.21 328 eP **P** **02 54 03.2 +0.4**
comp=Z,450nm,1.1s
G21A Lodge Grass 71.27 334 ⇓P **P** **02 54 03.3 +0.3**
baz=72,SNR=93
D25A Fairfield 71.31 337 ⇑P **P** **02 54 04.2 +1.1**
baz=72,SNR=422
F22A Rosebud 71.32 334 ⇓P **P** **02 54 03.5 +0.3**
baz=72,SNR=133
B28A Dugan Ranch, T 71.38 340 ⇓P **P** **02 54 03.9 +0.4**
baz=72,SNR=180
A29A Manning Farm, 71.43 341 ⇓P **P** **02 54 03.7 0.0**
baz=72,SNR=621
C26A Wahner Farm, P 71.44 338 ⇑P **P** **02 54 04.8 +0.9**
baz=72,SNR=116
REDW Red Top Meadow 71.45 330 eP **P** **02 54 04.6 +0.3**
comp=Z,966nm,1.2s
SNOW Snow King Moun 71.48 330 eP **P** **02 54 05.3 +0.8**
comp=Z,398nm,1.3s
SNOW ePP **PP** **02 56 43.0 -0.8**
LOHW Long Hollow 71.53 330 eP **P** **02 54 05.1 +0.4**
comp=Z,609nm,1.5s
LOHW ePP **PP** **02 56 43.8 -0.3**
E23A Ismay 71.53 335 ⇑P **P** **02 54 04.7 +0.2**
baz=72,SNR=66
TPAW Teton Pass 71.60 330 eP **P** **02 54 05.6 +0.4**
comp=Z,484nm,1.4s
TPAW ePP **PP** **02 56 43.1 -1.8**
H19A Powell 71.61 332 ⇓P **P** **02 54 05.7 +0.6**
baz=72,SNR=102
ULM Lac du Bonnet 71.62 343 P **P** **02 54 04.2 -0.7**
comp=Z,352nm,0.8s,baz=154,slow=5.8,SNR=333
ULM S S 03 03 12.3 -8.2
comp=Z,6.4nm,1.0s,baz=184,slow=15,SNR=1.7
ULM PKP2ab 03 21 44.8
comp=Z,2.3nm,1.0s,baz=12,slow=9.9,SNR=2.6
ULM LR LR 03 28 16.8
comp=Z,5µm,20.6s,baz=148,slow=38
ULM P4KPbc 03 30 44.8
comp=Z,7.6nm,1.0s,baz=170,slow=1.5,SNR=6.2
ULM Lac du Bonnet 71.62 343 eP **P** **02 54 04.0 -0.8**
ULM S S 03 03 12.4 -8.2
ULM pmax pmax
comp=Z,542nm,0.9s
ULM Lac du Bonnet 71.62 343 eP **P** **02 54 04.0 -0.8**
comp=Z,542nm,0.9s
ULM S S 03 03 12.3 -8.2
ULM P'P'ab **P'P'ab** **03 21 44.8 -3.5**
ULM e 03 30 44.8
MLAC Mammoth, Mammo 71.63 321 ⇑P **P** **02 54 07.0 +1.5**
baz=72,SNR=16
B27A Peters Farms, 71.64 339 ⇓P **P** **02 54 05.8 +0.8**
baz=72,SNR=15
D24A Glendive 71.66 336 ⇑P **P** **02 54 06.4 +1.2**
baz=72,SNR=234
MOOW Moose Ponds 71.70 331 eP **P** **02 54 05.9 +0.1**
comp=Z,690nm,0.6s
MOOW ePP **PP** **02 56 45.5 -0.1**
G20A Bridger 71.70 333 ⇑P **P** **02 54 05.8 +0.1**
baz=72,SNR=136
F21A Absaloka Mine, 71.72 334 ⇓P **P** **02 54 06.3 +0.6**
baz=72,SNR=63
E22A Miles City 71.73 335 ⇑P **P** **02 54 06.1 +0.4**
baz=72,SNR=112
ELK Elko 71.74 326 eP **P** **02 54 06.7 +0.6**
ELK pmax pmax
comp=Z,303nm,1.1s
ELK Elko 71.74 326 eP **P** **02 54 06.7 +0.6**
comp=Z,303nm,1.1s
I17A Pilgrim Ck. 71.75 331 ⇑P **P** **02 54 07.5 +1.4**
baz=72,SNR=337
A28A Rude Farm, Bot 71.75 340 ⇓P **P** **02 54 06.0 +0.3**
baz=72,SNR=109
C25A Freed Ranch, W 71.76 337 ⇓P **P** **02 54 06.7 +0.9**
baz=72,SNR=185
NVAR Mina Array Bea 71.85 322 P **P** **02 54 07.9 +1.1**
comp=Z,199nm,0.9s,baz=143,slow=5.5,SNR=448
NVAR S **S** **03 03 23.5 -0.8**
comp=Z,0.7nm,0.6s,baz=109,slow=11,SNR=2.7
NVAR PKP2ab 03 21 51.9
comp=Z,1.4nm,0.8s,baz=3.2,slow=8.0,SNR=3.6
NVAR P4KPbc 03 30 46.5
comp=Z,0.6nm,0.3s,baz=116,slow=6.8,SNR=4.5
NVAR Mina Array Bea 71.85 322 P **P** **02 54 07.9 +1.1**
NVAR S **S** **03 03 23.5 -0.8**
NVAR P'P'ab **P'P'ab** **03 21 51.9 +2.8**
NVAR e 03 30 46.5
PMOZ Porto Moniz, M 71.88 45 eP **P** **02 54 08.0 +1.1**
comp=Z,876nm,1.7s
PMOZ eS **S** **03 03 24.0 -0.6**
PMOZ eLQ LQ 03 13 20.3
PMOZ eLR LR 03 17 21.1
comp=Z,3µm,20.0s
IMW Indian Meadow 71.90 330 eP **P** **02 54 07.5 +0.4**
comp=Z,625nm,1.3s
H18A Shoshone NF, C 71.91 332 ⇓P **P** **02 54 07.6 +0.6**
baz=72,SNR=335
FLWY Flagg Ranch 71.93 331 eP **P** **02 54 08.0 +0.9**
comp=Z,962nm,1.2s
B26A Jensen Ranch, 71.96 338 ⇓P **P** **02 54 07.7 +0.7**
baz=72,SNR=11
FUL Funchal 71.98 46 eP **P** **02 54 08.7 +1.3**
comp=Z,821nm,1.6s
PMAR Madeira 72.01 46 eP **P** **02 54 09.0 +1.2**
comp=Z,844nm,1.5s
C24A Savage 72.04 337 ⇑P **P** **02 54 08.7 +1.2**
baz=72,SNR=270
D23A Lindsay 72.04 336 ⇓P **P** **02 54 08.9 +1.3**
baz=72,SNR=534
LAO LASA Array 72.05 335 eP **P** **02 54 08.0 +0.4**
comp=Z,1µm,1.3s
LAO ePP **PP** **02 56 43.7 -4.7**
LAO LR LR
comp=Z,4µm,19.0s
QSPA South Pole Qui 72.08 180 eP **P** **02 54 07.9 +0.2**
comp=Z,578nm,1.2s
RLMT Red Lodge 72.08 332 eP **P** **02 54 08.6 +0.5**
comp=Z,206nm,0.9s
RLMT LR LR
comp=Z,6µm,22.0s
A27A Ledoux Ranch, 72.11 339 ⇓P **P** **02 54 08.7 +0.9**
baz=72,SNR=49
H17A Grant Village 72.11 331 eP **P** **02 54 09.8 +1.5**
comp=Z,776nm,1.7s
H17A Grant Village 72.11 331 ⇑P **P** **02 54 09.8 +1.5**
baz=72,SNR=146
F20A Billings 72.13 333 ⇑P **P** **02 54 08.7 +0.6**
baz=72,SNR=227
LKWY Lake 72.16 331 eP **P** **02 54 10.3 +1.7**
LKWY pmax pmax
comp=Z,652nm,1.2s
LKWY MLR MLR
comp=Z,8µm,20.0s
LKWY Lake 72.16 331 eP **P** **02 54 10.3 +1.7**
comp=Z,652nm,1.2s
LKWY LR LR
comp=Z,8µm,20.0s
B25A Knox Farm, Ray 72.20 338 ⇓P **P** **02 54 09.8 +1.4**
baz=72,SNR=30
E21A Keefer Ranch, 72.27 334 ⇑P **P** **02 54 09.8 +0.8**
baz=72,SNR=75
YFT Old Faithful 72.27 331 eP **P** **02 54 11.3 +2.1**
comp=Z,486nm,1.4s
A26A Wade Farm, Ken 72.33 339 ⇑P **P** **02 54 09.8 +0.6**
baz=73,SNR=152
YNR Norris Junctio 72.40 331 eP **P** **02 54 11.3 +1.3**
comp=Z,187nm,1.0s
D22A Cohagen 72.41 335 ⇑P **P** **02 54 10.9 +1.2**
baz=73,SNR=755
YMR Madison River 72.50 331 eP **P** **02 54 11.8 +1.3**
comp=Z,4µm,1.9s
F19A Roth Farm, Mol 72.52 333 ⇑P **P** **02 54 11.2 +0.7**
baz=73,SNR=351
C23A Lambert 72.55 336 ⇑P **P** **02 54 11.4 +0.9**
baz=73,SNR=235
BMN Battle Mountai 72.60 324 eP **P** **02 54 11.5 +0.4**
BMN pmax pmax
comp=Z,652nm,1.8s
BMN Battle Mountai 72.60 324 eP **P** **02 54 11.5 +0.4**
comp=Z,652nm,1.8s
PMPS Porto Santo 72.60 46 eP **P** **02 54 12.6 +1.5**
comp=Z,2µm,1.7s
SAO San Andreas Ge 72.66 319 eP **P** **02 54 12.9 +1.6**
SAO pmax pmax
comp=Z,41nm,1.0s
SAO San Andreas Ge 72.66 319 eP **P** **02 54 12.9 +1.6**
comp=Z,41nm,1.0s
D21A La Casta Ranch 72.66 335 P **P** **02 54 12.2 +0.9**
baz=73
E20A Meyer Farm, Mu 72.68 334 ⇓P **P** **02 54 12.1 +0.7**
baz=73,SNR=377
SCHQ Schefferville 72.70 2 P **P** **02 54 11.5 +0.3**
comp=Z,214nm,0.9s,baz=191,slow=4.3,SNR=155
SCHQ LR LR 03 27 42.4
comp=Z,5µm,21.0s,baz=194,slow=37
SCHQ Schefferville 72.70 2 eP **P** **02 54 11.5 +0.3**
comp=Z,822nm,1.3s
DGMT Dagmar 72.74 337 eP **P** **02 54 12.4 +0.8**
comp=Z,1µm,1.0s
DGMT LR LR
comp=Z,5µm,22.0s
DGMT Dagmar 72.74 337 ⇓P **P** **02 54 12.5 +0.9**
baz=73,SNR=225
A25A Svangstu Ranch 72.74 338 ⇓P **P** **02 54 12.4 +0.8**
baz=73,SNR=99
C22A Vida 72.78 336 ⇓P **P** **02 54 12.8 +0.9**
baz=73,SNR=401
GCMT Greycliff 72.78 332 eP **P** **02 54 12.6 +0.5**
comp=Z,92nm,1.2s
CMB Columbia Colle 72.82 321 eP **P** **02 54 13.1 +0.7**
CMB pmax pmax
comp=Z,279nm,1.4s
CMB Columbia Colle 72.82 321 eP **P** **02 54 13.1 +0.7**
comp=Z,279nm,1.4s
QLMT Earthquake Lak 72.84 331 eP **P** **02 54 14.1 +1.6**
comp=Z,221nm,2.1s
E19A Rath Farm, Rou 72.92 333 ⇓P **P** **02 54 13.6 +0.8**
baz=73,SNR=922
B23A Brockton 73.03 337 ⇓P **P** **02 54 14.5 +1.2**
baz=73,SNR=364
A24A Westby 73.05 338 ⇑P **P** **02 54 14.4 +0.9**
baz=73,SNR=261
MEH Mehetia 73.11 256 eP **P** **02 54 15.4 +0.9**
comp=Z,100nm,1.3s
MEH Mehetia 73.11 256 eT T 04 13 15.9
comp=Z,48nm,0.2s
TBI Tubuai 73.12 250 eP **P** **02 54 15.2 +0.7**
comp=Z,505nm,1.3s
TBI eS **S** **03 03 34.0 -5.1**
comp=Z,12µm,33.0s
TBI eLQ LQ 03 13 12.2
comp=Z,6µm,32.0s
TBI eLR LR 03 16 15.7
comp=Z,26µm,27.2s,baz=103
TBI Tubuai 73.12 250 eT T 04 13 16.6
comp=Z,12nm,0.2s
B22A Reddig Ranch S 73.27 336 ⇑P **P** **02 54 15.9 +1.1**
baz=74,SNR=29
C21A Desert Coulee 73.32 335 ⇑P **P** **02 54 16.1 +1.0**
baz=74,SNR=270
HLID Hailey 73.33 328 P **P** **02 54 16.7 +1.3**
HLID Hailey 73.33 328 ⇑P **P** **02 54 17.2 +1.8**
baz=74,SNR=510
VAH Vaihoa 73.35 259 eP **P** **02 54 16.9 +1.0**
comp=Z,693nm,1.1s
A23A Redstone 73.40 337 ⇑P **P** **02 54 16.6 +1.1**
baz=74,SNR=54
MCMT McKenzie Canyo 73.50 330 eP **P** **02 54 17.7 +1.2**
comp=Z,202nm,1.1s
D19A Cripps Ranch, 73.52 334 ⇑P **P** **02 54 17.0 +0.7**
baz=74,SNR=373
BOZ Bozeman (W) 73.55 331 eP **P** **02 54 17.2 +0.6**
BOZ pmax pmax
comp=Z,476nm,1.3s
BOZ MLR MLR
comp=Z,5µm,22.0s
BOZ Bozeman (W) 73.55 331 eP **P** **02 54 17.2 +0.6**
comp=Z,476nm,1.3s
BOZ LR LR
comp=Z,5µm,22.0s
C20A Veseth Ranch, 73.59 335 ⇓P **P** **02 54 17.1 +0.4**
baz=74,SNR=183
PMOR Pomariorio Ree 73.66 259 eP **P** **02 54 18.8 +1.1**
comp=Z,777nm,1.1s
SAC San Andreas 73.77 319 eP **P** **02 54 19.5 +1.6**
SAC pmax pmax
comp=Z,739nm,1.0s
SAC San Andreas 73.77 319 eP **P** **02 54 19.5 +1.6**
comp=Z,739nm,1.0s
B21A Ellsworth Farm 73.77 336 ⇑P **P** **02 54 18.7 +1.0**
baz=74,SNR=28
DLMT Dillon 73.78 331 eP **P** **02 54 18.9 +0.9**
comp=Z,518nm,1.4s
A22A Carney Farms, 73.81 337 ⇓P **P** **02 54 18.9 +1.0**
baz=74,SNR=353
MFID Camas Ranch 73.94 327 eP **P** **02 54 20.2 +1.2**
comp=Z,1µm,1.1s
C19A Slack Wire Ran 74.04 334 ⇑P **P** **02 54 20.4 +1.0**
baz=74,SNR=403
LRM Limekiln Ridge 74.06 331 eP **P** **02 54 20.3 +0.6**
comp=Z,334nm,1.5s
LRM ePP **PP** **02 57 06.5 +0.7**
B20A Solberg Farm, 74.18 335 ⇑P **P** **02 54 20.9 +0.8**
baz=74,SNR=131
A21A Bergtoll Ranch 74.19 336 ⇑P **P** **02 54 20.8 +0.6**
baz=74,SNR=32
TVO Taravao 74.23 256 eP **P** **02 54 22.2 +1.1**
comp=Z,86nm,1.3s
TVO Taravao 74.23 256 eT T 04 14 39.5
comp=Z,5.4nm,0.2s
TIAR Tiarei 74.37 256 eT T 04 14 50.3
comp=Z,16nm,0.2s
MCCM Marconi Confer 74.41 320 eP **P** **02 54 22.9 +1.3**
comp=Z,2µm,1.6s
HRY Holter Researc 74.45 332 eP **P** **02 54 22.7 +0.9**
comp=Z,694nm,1.2s
A20A Cobblestone Ra 74.50 335 ⇓P **P** **02 54 22.5 +0.6**
baz=75,SNR=72
PAE Paea 74.56 256 eP **P** **02 54 24.0 +1.0**
comp=Z,77nm,1.2s
PAE Paea 74.56 256 eT T 04 15 04.5
comp=Z,3.3nm,0.3s
EGMT Eagleton 74.56 334 eP **P** **02 54 22.7 +0.3**
comp=Z,44nm,0.4s
EGMT LR LR
comp=Z,5µm,22.0s
EGMT Eagleton 74.56 334 ⇓P **P** **02 54 22.8 +0.4**
baz=75,SNR=454
B19A Brinkman Farms 74.57 335 ⇓P **P** **02 54 22.9 +0.6**
baz=75,SNR=588
PPT2 Papeete2 74.57 256 eP **P** **02 54 24.4 +1.2**
comp=Z,311nm,1.4s
PPT2 eS **S** **03 03 51.2 -4.5**
comp=Z,16µm,27.2s
PPT2 eLQ LQ 03 13 49.4
comp=Z,7µm,28.2s
PPT2 eLR LR 03 16 57.7
comp=Z,10µm,25.2s,baz=106
PPT2 Papeete2 74.57 256 eT T 04 15 04.9
comp=Z,6.2nm,0.3s
PPT Papeete 74.58 256 P **P** **02 54 24.7 +1.5**
comp=Z,169nm,1.2s,baz=126,slow=1.2,SNR=8.7
PPT LR LR 03 20 24.4
comp=Z,8µm,18.2s,baz=100,slow=30
PPT Papeete 74.58 256 P **P** **02 54 24.7 +1.5**
WVOR Wild Horse Val 74.74 325 eP **P** **02 54 24.6 +0.9**
WVOR pmax pmax
comp=Z,905nm,1.8s
WVOR MLR MLR
comp=Z,5µm,21.0s
WVOR Wild Horse Val 74.74 325 eP **P** **02 54 24.6 +0.9**
comp=Z,905nm,1.8s
WVOR LR LR
comp=Z,5µm,21.0s
A19A Klindworth Far 74.86 335 ⇓P **P** **02 54 24.8 +0.7**
baz=75,SNR=241
HOPS Hopland Field 75.06 320 eP **P** **02 54 26.3 +1.0**
comp=Z,72nm,1.2s
CHMT Chamberlain Mo 75.24 331 eP **P** **02 54 27.2 +0.7**
comp=Z,92nm,1.2s
MSO Missoula 75.50 331 ⇓P **P** **02 54 29.1 +1.3**
baz=76,SNR=311
SLMT Seeley Lake 75.60 331 eP **P** **02 54 29.6 +1.1**
comp=Z,92nm,1.2s
BMO Blue Mountains 75.71 328 P **P** **02 54 29.8 +0.7**
WDC Whiskeytown Da 75.73 322 eP **P** **02 54 28.4 -0.8**
WDC pmax pmax
comp=Z,291nm,1.0s
WDC Whiskeytown Da 75.73 322 eP **P** **02 54 28.4 -0.8**
comp=Z,291nm,1.0s
KCPM Cahto Peak 75.80 321 eP **P** **02 54 31.4 +1.7**
comp=Z,4µm,2.5s
KIPM Iron Peak 75.81 321 eP **P** **02 54 31.7 +1.9**
comp=Z,526nm,1.1s
SWMT Swartz Lake 76.03 331 eP **P** **02 54 31.7 +0.9**
comp=Z,302nm,1.2s
N02D Trinity Center 76.08 322 ⇑P **P** **02 54 31.5 +0.2**
baz=76,SNR=93
M04C Macdoel 76.10 323 ⇑P **P** **02 54 32.3 +0.9**
baz=76,SNR=281
K05A Summer Lake 76.18 324 P **P** **02 54 33.5 +1.6**
YBMT Yellow Bay 76.30 332 eP **P** **02 54 33.4 +0.9**
comp=Z,127nm,0.9s
JTMT Jette 76.33 331 eP **P** **02 54 33.7 +1.1**
comp=Z,9µm,0.8s
M02C Callahan 76.43 322 ⇑P **P** **02 54 33.8 +0.6**
baz=77,SNR=85
F10A Beach Ranch, E 76.46 329 P **P** **02 54 34.4 +1.1**
BLMT Blacktail Moun 76.56 331 eP **P** **02 54 35.4 +1.4**
comp=Z,699nm,1.5s
YBH Yreka Blue Hor 76.56 323 eP **P** **02 54 33.9 -0.2**
YBH pmax pmax
comp=Z,290nm,1.0s
YBH Yreka Blue Hor 76.56 323 eP **P** **02 54 33.9 -0.2**
comp=Z,290nm,1.0s
K04D Chiloquin, OR 76.59 324 ⇑P **P** **02 54 35.3 +1.1**
baz=77,SNR=35
KHMM Horse Mountain 76.62 321 eP **P** **02 54 35.8 +1.4**
comp=Z,693nm,1.2s
BSMT Bassoo Peak 76.64 331 eP **P** **02 54 35.5 +1.0**
comp=Z,915nm,1.7s
J05D Fort Rock, OR 76.73 325 ⇑P **P** **02 54 36.1 +1.1**
baz=77,SNR=246
G08A Pilot Rock 76.86 327 P **P** **02 54 36.7 +1.0**
WALA Waterton Lakes 77.14 332 eP **P** **02 54 37.6 +0.5**
comp=Z,558nm,1.1s
J04D Umpqua Nationa 77.19 324 ⇑P **P** **02 54 38.8 +1.1**
baz=77,SNR=155
HUMO Hull Mountain 77.26 323 eP **P** **02 54 37.9 0.0**
comp=Z,176nm,1.0s
E09A Wood Farm, Sta 77.29 329 P **P** **02 54 38.6 +0.7**
FFC Flin Flon 77.32 342 P **P** **02 54 38.3 +0.5**
comp=Z,1µm,1.1s,SNR=66
FFC Flin Flon 77.32 342 eP **P** **02 54 37.6 -0.2**
FFC pmax pmax
comp=Z,340nm,1.1s
FFC MLR MLR
comp=Z,6µm,19.0s
FFC Flin Flon 77.32 342 eP **P** **02 54 37.6 -0.2**
comp=Z,340nm,1.1s
FFC LR LR
comp=Z,6µm,19.0s
L02D Cave Junction, 77.35 323 ⇑P **P** **02 54 39.6 +1.3**
baz=78,SNR=99
I05D Terrebonne, OR 77.48 325 ⇑P **P** **02 54 40.8 +1.7**
baz=78,SNR=226
I04A Tendick Farm, 77.71 324 ⇑P **P** **02 54 40.9 +0.6**
baz=78,SNR=147
KBO Bosley Butte 77.75 322 eP **P** **02 54 42.2 +1.5**
comp=Z,2µm,1.5s
TORD Torodi Ar. Bea 77.75 72 P **P** **02 54 41.0 -0.1**
comp=Z,924nm,0.9s,baz=262,slow=4.8,SNR=1992
TORD S **S** **03 04 25.8 -4.7**
comp=Z,3.2nm,0.9s,baz=246,slow=10,SNR=3.6
TORD PKKPbc **PKKPbc** **03 13 42.8 -0.3**
comp=Z,3.2nm,0.9s,baz=50,slow=3.4,SNR=5.8
TORD PKP2ab 03 21 23.7
comp=Z,1.5nm,1.0s,baz=72,slow=1.8,SNR=4.0
TORD LR LR 03 28 12.7
comp=Z,14µm,18.9s,baz=250,slow=35
TORD Torodi Ar. Bea 77.75 72 P **P** **02 54 41.0 -0.1**
TORD S **S** **03 04 25.8 -4.7**
TORD PKKPbc **PKKPbc** **03 13 42.8 -0.3**
TORD P'P'ab 03 21 23.7
WIW Wooded Island 77.81 328 P **P** **02 54 42.7 +2.0**
HAWA Hanford 77.91 328 eP **P** **02 54 42.6 +1.3**
comp=Z,891nm,1.1s
HAWA LR LR
comp=Z,9µm,21.0s
RSW Rattlesnake Hi 77.94 328 P **P** **02 54 42.9 +1.3**
NEW Newport 78.03 330 P **P** **02 54 42.4 +0.3**
comp=Z,86nm,1.1s,baz=137,slow=6.0,SNR=128
NEW Newport 78.03 330 eP **P** **02 54 42.3 +0.3**

NEW pmax pmax
comp=Z,176nm,1.1s
NEW MLR MLR
comp=Z,4µm,20.0s
NEW Newport 78.03 330 *e*P **P 02 54 42.3 +0.3**
comp=Z,176nm,1.1s
NEW LR LR
comp=Z,4µm,20.0s
NEW Newport 78.03 330 ⇑P **P 02 54 42.7 +0.7**
baz=78,SNR=123
D08A Wollman Farm, 78.05 329 P **P 02 54 43.2 +1.1**
G05D Wamic, OR 78.06 326 ⇑P **P 02 54 44.2 +1.9**
baz=78,SNR=128
TCBU Trout Butte 78.14 325 P **P 02 54 42.2 -0.7**
I03D Drain, OR 78.17 324 ⇑P **P 02 54 44.0 +1.2**
baz=78,SNR=77
KEBM Edson Butte 78.22 323 *e*P **P 02 54 44.9 +1.7**
comp=Z,2µm,1.2s
TRW Toppenish Ridg 78.35 327 P **P 02 54 45.4 +1.6**
COR Corvallis 78.71 325 *e*P **P 02 54 47.3 +1.5**
COR pmax pmax
comp=Z,1µm,1.1s
COR Corvallis 78.71 325 *e*P **P 02 54 47.3 +1.5**
comp=Z,1µm,1.1s
SBA Scott Base 78.87 190 *e*P **P 02 54 47.4 +1.2**
SBA pmax pmax
comp=Z,595nm,1.4s
SBA MLR MLR
comp=Z,3µm,19.0s
SBA Scott Base 78.87 190 *e*P **P 02 54 47.4 +1.2**
comp=Z,595nm,1.4s
SBA LR LR
comp=Z,3µm,19.0s
TBM Table Mountain 78.97 328 P **P 02 54 48.8 +1.5**
FCC Fort Churchill 78.98 348 *e*P **P 02 54 47.0 +0.1**
FCC pmax pmax
comp=Z,447nm,0.9s
FCC Fort Churchill 78.98 348 *e*P **P 02 54 47.0 +0.1**
comp=Z,447nm,0.9s
WTV Waterville 79.00 329 P **P 02 54 48.5 +1.1**
G03D McMinnville, O 79.09 325 ⇑P **P 02 54 49.4 +1.6**
baz=79,SNR=23
STD Studebaker Rid 79.19 326 P **P 02 54 49.6 +1.0**
LON Longmire 79.31 327 P **P 02 54 49.7 +0.5**
LON Longmire 79.31 327 P **P 02 54 49.7 +0.5**
NLW Nelson Butte 79.45 329 P **P 02 54 51.2 +1.3**
F04D Rainier, OR 79.51 326 ⇓P **P 02 54 51.9 +1.8**
baz=80,SNR=23
BMW Boistfort Moun 79.88 326 P **P 02 54 53.5 +1.3**
BMW Boistfort Moun 79.88 326 P **P 02 54 53.5 +1.3**
VNDA Vanda 79.91 190 P **P 02 54 53.0 +1.1**
comp=Z,120nm,1.1s,baz=137,slow=4.7,SNR=213
VNDA S **S 03 04 54.6 +3.0**
comp=Z,0.7nm,0.8s,baz=107,slow=19,SNR=8.1
VNDA PKKPbc **PKKPbc 03 13 36.0 -3.5**
comp=Z,3.5nm,0.9s,baz=315,slow=4.6,SNR=8.2
VNDA PKPPKP P'P'df 03 21 36.1 -7.7
comp=Z,2.4nm,1.0s,baz=310,slow=6.3,SNR=5.3
VNDA LR LR 03 23 49.0
comp=Z,3µm,21.1s,baz=134,slow=31
VNDA Vanda 79.91 190 *e*P **P 02 54 53.0 +1.1**
VNDA *e* 02 57 53.8
VNDA S **S 03 04 54.6 +3.0**
VNDA 03 13 36.0
VNDA pmax pmax
comp=Z,367nm,1.4s
VNDA Vanda 79.91 190 *e*P **P 02 54 53.0 +1.1**
comp=Z,367nm,1.4s
VNDA *e*PP **PP 02 57 53.8 +0.3**
VNDA S **S 03 04 54.6 +3.0**
VNDA PKKPbc **PKKPbc 03 13 36.0 -3.5**
VNDA P'P' 03 21 36.1
PFVI Vila Bisbo 79.97 46 *e*P **P 02 54 54.9 +2.0**
comp=Z,1µm,1.2s
PFVI Vila Bisbo 79.97 46 *e*S **S 03 04 56.2 +2.8**
PFVI Vila Bisbo 79.97 46 *e*LQ LQ 03 16 12.7
PFVI *e*LR LR 03 21 11.2
comp=Z,5µm,22.0s
EDM Edmonton 80.03 336 *e*P **P 02 54 52.6 -0.2**
EDM pmax pmax
comp=Z,2µm,1.1s
EDM Edmonton 80.03 336 *e*P **P 02 54 52.6 -0.2**
comp=Z,2µm,1.1s
MORF Marmelete 80.18 46 *e*P **P 02 54 54.4 +0.3**
MORF AMb AMB 02 54 58.6
comp=Z,1µm,1.4s
MORF *e*S **S 03 04 56.7 +1.0**
MORF Marmelete 80.18 46 *e*P **P 02 54 56.0 +1.9**
comp=Z,1µm,1.2s
MORF Marmelete 80.18 46 *e*S **S 03 04 57.6 +1.9**
MORF Marmelete 80.18 46 *e*LQ LQ 03 16 16.8
MORF *e*LR LR 03 22 04.4
comp=Z,5µm,22.0s
MORF Marmelete 80.18 46 *e*P **P 02 54 54.3 +0.3**
MORF *e*S **S 03 04 56.7 +1.0**
MORF pmax pmax
comp=Z,1µm,1.4s
SYO Syowa Base 80.23 160 ⇓*i*P **P 02 54 52.6 -1.1**
PTEO Sao Teotonio 80.26 45 *e*P **P 02 54 56.8 +2.4**
comp=Z,3µm,1.2s
JCW Jim Creek 80.32 328 P **P 02 54 54.8 +0.2**
HDW Hoodsport 80.54 327 P **P 02 54 56.8 +1.0**
PMST Lisbon--Monsan 80.58 44 *e*P **P 02 54 58.0 +1.9**
comp=Z,771nm,1.4s
LIS Lisbon 80.59 44 *e*P **P 02 54 56.5 +0.4**
LIS AMb AMB 02 54 59.4
comp=Z,624nm,0.9s
LIS *e*PP **PP 02 57 59.4 -1.1**
LIS *e*S **S 03 05 00.9 +1.1**
LIS Lisbon 80.59 44 *e*P **P 02 54 57.6 +1.5**
comp=Z,606nm,1.3s
LIS Lisbon 80.59 44 *e*P **P 02 54 56.5 +0.4**
LIS *e* 02 57 59.3
LIS *e*S **S 03 05 00.9 +1.1**
LIS pmax pmax
comp=Z,624nm,0.9s
PMAFR Mafra 80.63 44 *e*P **P 02 54 58.1 +1.7**
comp=Z,942nm,1.3s
PMAFR Mafra 80.63 44 *e*S **S 03 05 03.1 +2.9**
PMAFR Mafra 80.63 44 *e*LR LR 03 19 36.7
comp=Z,5µm,20.0s
PBDV Barranco-do-Ve 80.64 46 *e*P **P 02 54 58.6 +2.1**
comp=Z,1µm,1.3s
PBDV Barranco-do-Ve 80.64 46 *e*S **S 03 05 03.6 +3.1**
PBDV Barranco-do-Ve 80.64 46 *e*LR LR 03 22 13.4
comp=Z,5µm,18.0s
PNCL Nicolau / Gran 80.69 45 *e*P **P 02 54 58.8 +2.1**
comp=Z,1µm,1.2s
PNCL Nicolau / Gran 80.69 45 *e*S **S 03 05 03.8 +3.0**
PNCL Nicolau / Gran 80.69 45 *e*LR LR 03 20 46.7
comp=Z,5µm,20.0s
MESJ Messejana 80.75 45 *e*P **P 02 54 57.4 +0.3**
MESJ AMb AMB 02 55 00.8
comp=Z,805nm,1.5s
MESJ *e*PP **PP 02 58 01.3 -0.6**
MESJ *e*S **S 03 05 03.3 +1.7**
MESJ Messejana 80.75 45 *e*P **P 02 54 59.2 +2.2**
comp=Z,812nm,1.2s
MESJ Messejana 80.75 45 *e*P **P 02 54 57.3 +0.3**
MESJ *e* 02 58 01.2
MESJ *e*S **S 03 05 03.2 +1.7**
MESJ pmax pmax
comp=Z,805nm,1.5s
PCVE Castro Verde 80.77 46 *e*P **P 02 54 59.2 +2.1**
comp=Z,164nm,2.0s
PCVE Castro Verde 80.77 46 *e*S **S 03 05 05.8 +4.1**
PCVE Castro Verde 80.77 46 *e*LR LR 03 21 29.6
comp=Z,20µm,22.0s
NLWA Neilton Lookou 80.80 327 *e*P **P 02 54 58.4 +1.3**
comp=Z,866nm,1.1s
NLWA LR LR
comp=Z,9µm,22.0s
MDT Midelt 80.82 51 P **P 02 54 59.6 +1.9**
comp=Z,561nm,1.0s,baz=255,slow=5.2,SNR=616
MDT S **S 03 05 04.7 +2.0**
comp=Z,2.8nm,1.2s,baz=221,slow=20,SNR=1.6
MDT Midelt 80.82 51 P **P 02 54 59.6 +1.9**
MDT S **S 03 05 04.7 +2.0**
PACT Alcochete 80.83 44 *e*P **P 02 54 59.8 +2.4**
comp=Z,969nm,1.1s
PVAQ Vaqueiros 80.87 46 *e*P **P 02 54 59.6 +1.9**
comp=Z,491nm,1.5s
PVAQ Vaqueiros 80.87 46 *e*S **S 03 05 05.9 +3.1**
PVAQ Vaqueiros 80.87 46 *e*LQ LQ 03 16 22.2
PVAQ *e*LR LR 03 22 27.1
comp=Z,5µm,18.0s
EVOP Sao Brissos 81.18 45 ⇑*i*P **P 02 55 01.1 +1.8**
EVOP pmax pmax
comp=Z,1µm,1.0s
EVOP Sao Brissos 81.18 45 ⇑*i*P **P 02 55 01.1 +1.8**
comp=Z,1µm,1.0s
EVO Evora 81.25 45 ⇑*i*P **P 02 55 01.1 +1.4**
comp=Z,1µm,1.0s
EVO *e*R
comp=Z,8µm,22.8s
EVO Evora 81.25 45 *e*P **P 02 55 01.5 +1.8**
comp=Z,604nm,1.7s
PGC Sidney 81.39 328 *e*P **P 02 55 01.3 +1.2**
comp=Z,1µm,1.1s
PGC *e*PP **PP 02 58 07.4 +0.6**
PMTG Montargil 81.39 44 *e*P **P 02 55 02.1 +1.7**
comp=Z,1µm,1.2s
PMTG Montargil 81.39 44 *e*S **S 03 05 09.7 +1.6**
PMTG Montargil 81.39 44 *e*LQ LQ 03 17 04.3
PMTG *e*LR LR 03 21 50.6
comp=Z,5µm,24.0s
PTOM Tomar 81.56 44 *e*P **P 02 55 02.8 +1.5**
comp=Z,1µm,1.1s
FRB Frobisher Bay 81.59 1 P **P 02 55 00.9 +0.1**
comp=Z,247nm,1.0s,baz=188,slow=5.4,SNR=121
FRB S **S 03 05 05.5 -3.6**
comp=Z,6.7nm,1.0s,baz=261,slow=19,SNR=3.7
FRB PKKPbc **PKKPbc 03 13 33.0 -4.0**
comp=Z,9.3nm,1.0s,baz=48,slow=1.5,SNR=4.9
FRB Frobisher Bay 81.59 1 P **P 02 55 00.9 +0.1**
FRB S **S 03 05 05.5 -3.6**
FRB PKKPbc **PKKPbc 03 13 33.0 -4.0**
SUR Sutherland 81.67 121 P **P 02 55 04.4 +2.0**
comp=Z,2µm,0.8s,SNR=66
SUR Sutherland 81.67 121 *e*P **P 02 55 04.2 +1.8**
comp=Z,330nm,1.6s
SUR LR LR
comp=Z,9µm,19.0s
PESTR Estremoz 81.71 45 *e*P **P 02 55 03.9 +1.8**
comp=Z,874nm,1.4s
PESTR Estremoz 81.71 45 *e*S **S 03 05 13.6 +2.1**
PESTR Estremoz 81.71 45 *e*LQ LQ 03 17 22.2
PESTR *e*LR LR 03 21 11.2
comp=Z,4µm,24.0s
PBAR Barrancos 81.73 45 *e*P **P 02 55 03.9 +1.7**
comp=Z,1µm,1.4s
PBAR Barrancos 81.73 45 *e*S **S 03 05 14.1 +2.5**
PBAR Barrancos 81.73 45 *e*LQ LQ 03 17 26.3
PBAR *e*LR LR 03 21 56.1
comp=Z,12µm,20.0s
PCAS Casmilo, Conde 81.73 43 *e*P **P 02 55 03.7 +1.5**
comp=Z,541nm,1.1s
PCAS Casmilo, Conde 81.73 43 *e*S **S 03 05 14.0 +2.4**
PCAS Casmilo, Conde 81.73 43 *e*LQ LQ 03 17 02.9
PCAS *e*LR LR 03 21 43.0
comp=Z,5µm,18.0s
PMRV Marv??o 82.13 44 *e*P **P 02 55 05.3 +1.0**
comp=Z,240nm,1.8s
PMRV Marv??o 82.13 44 *e*S **S 03 05 17.4 +1.6**
PMRV Marv??o 82.13 44 *e*LQ LQ 03 17 08.3
PMRV *e*LR LR 03 20 27.0
comp=Z,4µm,22.0s
PTO Porto 82.23 42 *e*P **P 02 55 06.6 +1.8**
comp=Z,859nm,1.8s
PCBR Castelo Branco 82.29 44 *e*P **P 02 55 06.3 +1.2**
comp=Z,398nm,1.9s
PVIS Viseu 82.47 43 *e*P **P 02 55 07.4 +1.3**
comp=Z,764nm,1.7s
MTE Manteigas 82.53 43 *e*P **P 02 55 07.7 +1.2**
comp=Z,745nm,1.3s
MTE Manteigas 82.53 43 *e*S **S 03 05 21.9 +2.0**
MTE Manteigas 82.53 43 *e*LQ LQ 03 17 03.0
MTE *e*LR LR 03 22 01.2
comp=Z,7µm,22.0s
MTE Manteigas 82.53 43 *e*P **P 02 55 07.7 +1.2**
comp=Z,521nm,1.0s
MTE LR LR
comp=Z,7µm,20.0s
TSUM Tsumeb 82.55 108 *e*P **P 02 55 08.4 +1.2**
comp=Z,846nm,1.0s
TSUM LR LR
comp=Z,11µm,20.0s
PVRL Vila Real 82.88 43 *e*P **P 02 55 09.6 +1.4**
comp=Z,905nm,1.4s
POLO Lamas de Olo 82.88 42 *e*P **P 02 55 09.6 +1.3**
comp=Z,348nm,1.4s
POLO Lamas de Olo 82.88 42 *e*S **S 03 05 26.2 +2.7**
POLO Lamas de Olo 82.88 42 *e*LQ LQ 03 17 09.9
POLO *e*LR LR 03 21 54.1
comp=Z,4µm,20.0s
PGAV Gavieira, Arco 82.88 42 *e*P **P 02 55 09.7 +1.4**
comp=Z,994nm,1.8s
PGAV Gavieira, Arco 82.88 42 *e*S **S 03 05 23.5 0.0**
PGAV Gavieira, Arco 82.88 42 *e*LQ LQ 03 18 02.3
PGAV *e*LR LR 03 20 38.6
comp=Z,9µm,20.0s
PCAB Cabril 82.90 42 *e*P **P 02 55 09.6 +1.3**
comp=Z,1µm,1.2s
MVO Moncorvo 83.26 43 *e*P **P 02 55 11.7 +1.5**
comp=Z,1µm,1.5s
MVO Moncorvo 83.26 43 *e*S **S 03 05 27.7 +0.4**
MVO Moncorvo 83.26 43 *e*LQ LQ 03 17 18.9
MVO *e*LR LR 03 22 08.7
comp=Z,7µm,20.0s
PBRG Braganca 83.78 42 *e*P **P 02 55 14.4 +1.6**
comp=Z,2µm,1.6s
PBRG Braganca 83.78 42 *e*S **S 03 05 31.3 -1.2**
PBRG Braganca 83.78 42 *e*LR LR 03 20 50.8
comp=Z,8µm,20.0s
MSKU Masuku 83.97 90 S **S 03 05 32.9 -2.7**
comp=Z,8.2nm,0.7s,baz=221,slow=20,SNR=2.4
PAB San Pablo 84.23 45 *e*P **P 02 55 16.7 +1.5**
PAB pmax pmax
comp=Z,1µm,0.9s
PAB MLR MLR
comp=Z,6µm,22.0s
PAB San Pablo 84.23 45 *e*P **P 02 55 16.7 +1.5**
comp=Z,1µm,0.9s
PAB LR LR
comp=Z,6µm,22.0s
ESDC Sonseca Array 84.55 45 P **P 02 55 18.2 +1.4**
comp=Z,462nm,0.9s,baz=251,slow=5.3,SNR=1087
ESDC PKiKP **PKiKP 03 00 31.1 +0.8**
comp=Z,0.9nm,0.6s,baz=289,slow=3.9,SNR=3.3
ESDC S **S 03 05 39.6 -0.7**
comp=Z,0.5nm,0.8s,baz=263,slow=10,SNR=2.9
ESDC PKKPbc **PKKPbc 03 13 28.0 -0.9**
comp=Z,3.2nm,1.0s,baz=18,slow=4.0,SNR=6.4
ESDC PKPPKP **P'P'df 03 21 30.5 -1.5**
comp=Z,1.1nm,0.9s,baz=94,slow=2.4,SNR=5.1
ESDC LR LR 03 29 43.4
comp=Z,4µm,21.6s,baz=235,slow=33
ESDC Sonseca Array 84.55 45 P **P 02 55 18.2 +1.4**
ESDC PKiKP **PKiKP 03 00 31.1 +0.8**
ESDC S **S 03 05 39.6 -0.7**
ESDC PKKPbc **PKKPbc 03 13 28.0 -0.9**
ESDC P'P' 03 21 30.5
ESLA Sonseca Array 84.55 45 *e*P **P 02 55 18.2 +1.4**
comp=Z,332nm,1.1s
TAM Tamanrasset 84.73 64 *e*P **P 02 55 19.7 +1.4**
TAM pmax pmax
comp=Z,471nm,1.1s
TAM MLR MLR
comp=Z,8µm,21.0s
TAM Tamanrasset 84.73 64 *e*P **P 02 55 19.7 +1.4**
comp=Z,471nm,1.1s
TAM LR LR
comp=Z,8µm,21.0s
USTO Oran 85.14 50 P **P 02 55 21.0 +1.2**
SFJD Kangerlussuaq 86.13 8 ⇑*i*P **P 02 55 24.4 +0.4**
comp=Z,375nm,1.1s
SFJD Kangerlussuaq 86.13 8 *i*S **S 03 05 51.9 -2.7**
comp=Z,4µm,21.0s
SFJD Kangerlussuaq 86.13 8 P **P 02 55 24.0 +0.1**
comp=Z,170nm,1.0s,baz=206,slow=6.1,SNR=59
SFJD Kangerlussuaq 86.13 8 ⇑*i*P **P 02 55 24.4 +0.4**
SFJD *i*S **S 03 05 51.9 -2.7**
SFJD pmax pmax
comp=Z,380nm,1.1s
SFJD MLR MLR
comp=Z,4µm,21.0s
SFJD Kangerlussuaq 86.13 8 *e*P **P 02 55 24.4 +0.4**
comp=Z,336nm,1.1s
SFJD LR LR
comp=Z,5µm,22.0s
ETRT Tiaret 86.35 51 P **P 02 55 27.2 +1.2**
EANR 'Ain N'Sour 86.44 51 P **P 02 55 28.3 +2.0**
ECHA Ech Chlef 86.72 50 P **P 02 55 29.2 +1.6**
EBNR Beni Rached 86.90 50 P **P 02 55 30.6 +2.0**
YKA Yellowknife Ar 87.47 341 P **P 02 55 31.0 +0.4**
comp=Z,1µm,0.8s,baz=135,slow=4.9,SNR=3958
YKA PKiKP **PKiKP 03 00 34.1 -0.1**
comp=Z,2.5nm,0.6s,baz=142,slow=1.9,SNR=7.4
YKA PKKPbc **PKKPbc 03 13 20.2 -2.7**
comp=Z,2.5nm,0.6s,baz=323,slow=3.6,SNR=27
YKA PKPPKP P'P'df 03 21 17.4 -7.0
comp=Z,1.0nm,1.0s,baz=312,slow=2.3,SNR=4.2
YKA Yellowknife Ar 87.47 341 P **P 02 55 31.0 +0.4**
YKA Yellowknife Ar 87.47 341 P **P 02 55 31.0 +0.4**
YKA PKiKP **PKiKP 03 00 34.1 -0.1**
YKA PKKPbc **PKKPbc 03 13 20.2 -2.7**
YKA P'P' 03 21 17.4
XMAS Kiritimati 87.64 273 *e*P **P 02 55 33.5 +1.0**
comp=Z,535nm,1.2s
XMAS LR LR
comp=Z,10µm,19.0s
LBTB Lobatse 87.89 115 *e*P **P 02 55 34.3 +0.5**
LBTB pmax pmax
comp=Z,468nm,1.4s
LBTB Lobatse 87.89 115 *e*P **P 02 55 34.3 +0.5**
comp=Z,468nm,1.4s
EMHD Djebel Mahouad 87.91 51 P **P 02 55 35.2 +1.7**
SJPF Ste Jean 87.98 43 ⇑*i*P **P 02 55 34.7 +1.2**
comp=Z,1µm,1.1s
SJPF Ste Jean 87.98 43 ⇑*i*P **P 02 55 34.7 +1.2**
SJPF pmax pmax
comp=Z,1µm,1.1s
SJPF Ste Jean 87.98 43 ⇑*i*P **P 02 55 34.7 +1.2**
comp=Z,1µm,1.1s
OSSF Osses 88.02 43 ⇑*e*P **P 02 55 34.8 +1.1**
MAW Mawson 88.03 164 P **P 02 55 33.9 +0.6**
comp=Z,443nm,1.0s,baz=224,slow=6.3,SNR=377
MAW PKKPbc **PKKPbc 03 13 18.3 -2.1**
comp=Z,2.9nm,0.7s,baz=351,slow=2.3,SNR=7.1
MAW LR LR 03 36 19.1
comp=Z,3µm,18.8s,baz=229,slow=36
MAW Mawson 88.03 164 *e*P **P 02 55 33.8 +0.4**
MAW pmax pmax
comp=Z,142nm,1.1s
MAW Mawson 88.03 164 *e*P **P 02 55 33.8 +0.4**
comp=Z,142nm,1.1s
MAW PKKPbc **PKKPbc 03 13 18.3 -2.1**
LARF Larrau 88.10 43 ⇑*e*P **P 02 55 36.0 +1.8**
ILULI Ilulissat 88.18 7 ⇑*i*P **P 02 55 34.5 +0.7**
comp=Z,828nm,1.3s
ILULI Ilulissat 88.18 7 *i*S **S 03 06 10.3 -3.9**
comp=Z,6µm,23.0s
ORDF Ordiarp 88.21 43 ⇑*e*P **P 02 55 35.7 +1.1**
ATE Arette 88.31 43 ⇑*e*P **P 02 55 36.5 +1.4**
ETSF Etsaut 88.32 44 ⇑*i*P **P 02 55 36.3 +1.1**
comp=Z,1µm,1.3s
ETSF Etsaut 88.32 44 ⇑*i*P **P 02 55 36.3 +1.1**
ETSF pmax pmax
comp=Z,1µm,1.3s
ETSF Etsaut 88.32 44 ⇑*i*P **P 02 55 36.3 +1.1**
comp=Z,1µm,1.3s
REYF Montagne du Re 88.50 44 ⇑*e*P **P 02 55 37.9 +1.8**
H02S1 DAWSON INLET T 88.68 328 P **P 02 55 37.1 +0.5**
SNR=15
VIEF Viey 88.70 44 ⇑*e*P **P 02 55 38.8 +1.8**
H02N1 VAN INLET T-PH 88.74 328 P **P 02 55 37.5 +0.5**
LABF Labassere 88.80 44 ⇑*e*P **P 02 55 39.0 +1.5**
CCA1 Carnmenellis 88.94 36 ⇑*e*P **P 02 55 37.7 -0.2**
CCA1 AMB AMB 02 55 39.4
comp=Z,380nm,1.5s
EPF Esparros 88.97 44 ⇑*i*P **P 02 55 39.2 +0.9**
comp=Z,698nm,1.2s
EPF Esparros 88.97 44 ⇑*i*P **P 02 55 39.2 +0.9**
EPF pmax pmax
comp=Z,698nm,1.2s
EPF Esparros 88.97 44 ⇑*i*P **P 02 55 39.2 +0.9**
comp=Z,698nm,1.2s
QUIF Quistinic 89.01 38 ⇑*i*P **P 02 55 38.3 +0.1**
comp=Z,1µm,1.4s
QUIF Quistinic 89.01 38 ⇑*i*P **P 02 55 38.3 +0.1**
QUIF pmax pmax
comp=Z,1µm,1.4s
QUIF Quistinic 89.01 38 ⇑*i*P **P 02 55 38.3 +0.1**
comp=Z,1µm,1.4s
ROSF Rostrenen 89.15 38 ⇑*i*P **P 02 55 39.1 +0.2**
comp=Z,1µm,1.2s
ROSF Rostrenen 89.15 38 ⇑*i*P **P 02 55 39.1 +0.2**
ROSF pmax pmax
comp=Z,1µm,1.2s
ROSF Rostrenen 89.15 38 ⇑*i*P **P 02 55 39.1 +0.2**
comp=Z,1µm,1.2s
MELF Melles 89.18 44 ⇑*e*P **P 02 55 41.3 +2.0**
SALF Salau 89.41 44 ⇑*e*P **P 02 55 42.3 +1.9**
MLS Moulis 89.44 44 ⇑*e*P **P 02 55 42.0 +1.6**
SGMF Saint Gilles 89.53 38 ⇑*i*P **P 02 55 40.6 -0.1**
comp=Z,1µm,1.5s
SGMF Saint Gilles 89.53 38 ⇑*i*P **P 02 55 40.6 -0.1**
SGMF pmax pmax
comp=Z,1µm,1.5s
SGMF Saint Gilles 89.53 38 ⇑*i*P **P 02 55 40.6 -0.1**
comp=Z,1µm,1.5s
SET Setif 89.73 52 P **P 02 55 45.0 +3.0**
CKHR Kef el Ahmar 89.74 52 P **P 02 55 43.6 +1.4**
HTL Hartland 89.76 35 ⇑*e*P **P 02 55 42.0 +0.3**
HTL AMB AMB 02 55 43.0
comp=Z,254nm,2.3s
HTL AMS AMS 03 29 19.6
comp=Z,5µm,24.8s
DYA Yadsworthy 89.79 36 ⇑*e*P **P 02 55 41.9 +0.1**
DYA AMB AMB 02 55 43.0
comp=Z,315nm,1.6s
DYA AMS AMS 03 28 21.2
comp=Z,3µm,27.6s
VALF Valcebollere 89.82 45 ⇑*e*P **P 02 55 43.8 +1.4**
DSB Dublin 89.89 33 *e*P **P 02 55 42.6 +0.4**
comp=Z,330nm,1.0s
CARF Carcanieres 90.01 45 ⇑*e*P **P 02 55 44.5 +1.3**
LFF La Frestale 90.06 42 ⇑*i*P **P 02 55 43.7 +0.5**
comp=Z,2µm,1.2s
LFF La Frestale 90.06 42 ⇑*i*P **P 02 55 43.7 +0.5**
LFF pmax pmax
comp=Z,2µm,1.2s
LFF La Frestale 90.06 42 ⇑*i*P **P 02 55 43.7 +0.5**
comp=Z,2µm,1.2s
HEX Exmoor 90.17 35 ⇑*e*P **P 02 55 44.2 +0.6**
JSA Saint Aubin 90.20 38 ⇑*e*P **P 02 55 43.9 +0.2**
JSA AMB AMB 02 55 45.0
comp=Z,375nm,1.2s
JSA AMS AMS 03 29 02.8
comp=Z,6µm,27.5s
DFRA Djebel Bou Aff 90.22 52 P **P 02 55 46.0 +1.7**
MFF Saint Martin d 90.23 41 ⇑*i*P **P 02 55 44.3 +0.3**
comp=Z,2µm,1.6s
MFF Saint Martin d 90.23 41 ⇑*i*P **P 02 55 44.3 +0.3**
MFF pmax pmax
comp=Z,2µm,1.6s
MFF Saint Martin d 90.23 41 ⇑*i*P **P 02 55 44.3 +0.3**
comp=Z,2µm,1.6s
FILF Fillols 90.25 45 ⇑*e*P **P 02 55 45.1 +0.8**
MTLF Montolieu 90.34 44 ⇑*i*P **P 02 55 44.9 +0.3**
comp=Z,1µm,1.5s
MTLF Montolieu 90.34 44 ⇑*i*P **P 02 55 44.9 +0.3**
MTLF pmax pmax
comp=Z,1µm,1.5s
MTLF Montolieu 90.34 44 ⇑*i*P **P 02 55 44.9 +0.3**
comp=Z,1µm,1.5s
WRAK Wrangell Islan 90.38 331 *e*P **P 02 55 45.0 +0.6**
comp=Z,481nm,1.3s
WRAK LR LR
comp=Z,4µm,21.0s
LRDF Laroque-de-Fa 90.39 45 ⇑*e*P **P 02 55 45.6 +0.7**
CTEI Djebel Teioual 90.43 52 P **P 02 55 46.0 +0.6**
SJAF Saint Jean de 90.43 45 ⇑*e*P **P 02 55 46.1 +1.0**
DLBC Dease Lake 90.47 333 PKKPbc PKKPbc 03 13 12.8 -2.6
comp=Z,7.2nm,1.1s,baz=285,slow=6.2,SNR=5.7
DLBC Dease Lake 90.47 333 *e*P **P 02 55 45.6 +0.7**
comp=Z,874nm,1.1s
DLBC *e*PP **PP 02 59 22.0 +1.8**
DLBC PKKPbc **PKKPdf 03 13 12.8 +0.9**
LPW Lampeter 90.53 34 ⇑*e*P **P 02 55 44.6 -0.7**
LPW AMB AMB 02 55 46.5
comp=Z,378nm,1.1s
CASM Ain Smara 90.57 52 P **P 02 55 46.5 +0.6**
GRR Gorron 90.60 39 ⇑*i*P **P 02 55 45.6 -0.1**
comp=Z,995nm,1.0s
GRR Gorron 90.60 39 ⇑*i*P **P 02 55 45.6 -0.1**

GRR pmax pmax
comp=Z,995nm,1.0s
GRR Gorron 90.60 39⇑*i*P P 02 55 45.6 -0.1
comp=Z,995nm,1.0s
GMM Mts of Mourne 90.62 32⇑*i*P P 02 55 45.4 -0.2
RJF Les Rejaudoux 90.71 42⇑*i*P P 02 55 46.5 +0.2
comp=Z,2µm,1.6s
RJF *e*R
comp=Z,9µm,21.0s
RJF Les Rejaudoux 90.71 42⇑*i*P P 02 55 46.5 +0.2
RJF pmax pmax
comp=Z,2µm,1.6s
RJF Les Rejaudoux 90.71 42⇑*i*P P 02 55 46.5 +0.2
comp=Z,2µm,1.6s
BORG Borgarnes 90.72 19 P P 02 55 48.7 +2.9
comp=Z,2µm,1.4s,SNR=16
BORG Borgarnes 90.72 19 P P 02 55 48.6 +2.7
comp=Z,250nm,1.1s,baz=228,slow=2.8,SNR=40
BORG Borgarnes 90.72 19 *e*P P 02 55 48.2 +2.3
BORG *e* 02 59 16.1
BORG pmax pmax
comp=Z,2µm,2.0s
BORG MLR MLR
comp=Z,5µm,22.0s
BORG Borgarnes 90.72 19 *e*P P 02 55 48.1 +2.3
comp=Z,2µm,2.0s
BORG *e*PP PP 02 59 16.1 -5.9
BORG LR LR
comp=Z,5µm,22.0s
YRE Yr Eifl 90.77 34⇑*i*P P 02 55 46.1 -0.2
CKFL Kef-Lekhel 90.79 52 P P 02 55 48.0 +1.0
YRC Rhoscolyn 90.83 33⇑*e*P P 02 55 46.7 +0.1
CAF Calviac 90.91 43⇑*i*P P 02 55 47.7 +0.5
comp=Z,1µm,1.4s
CAF Calviac 90.91 43⇑*i*P P 02 55 47.7 +0.5
CAF pmax pmax
comp=Z,1µm,1.4s
CAF Calviac 90.91 43⇑*i*P P 02 55 47.7 +0.5
comp=Z,1µm,1.4s
WLF1 Llynfaes 90.94 33 *e*P P 02 55 47.3 +0.2
WLF1 AMB AMB 02 55 48.4
comp=Z,370nm,1.2s
YLL Llanberis 90.98 34⇑*e*P P 02 55 46.9 -0.5
FLN La Foliniere 90.99 38⇑*i*P P 02 55 47.6 +0.1
comp=Z,1µm,1.2s,baz=239
FLN *e*R
comp=Z,6µm,21.5s
FLN La Foliniere 90.99 38⇑*i*P P 02 55 47.6 +0.1
FLN pmax pmax
comp=Z,1µm,1.2s
FLN La Foliniere 90.99 38⇑*i*P P 02 55 47.6 +0.1
comp=Z,1µm,1.2s
CAEH `Ain El Ouahch 91.03 52 P P 02 55 48.6 +0.6
WME Myndd Eilian 91.04 33⇑*i*P P 02 55 47.5 0.0
MCH1 Michaelchurch 91.06 35⇑*e*P P 02 55 47.2 -0.5
MCH1 AMB AMB 02 55 48.6
comp=Z,322nm,2.0s
MONM Monmouth 91.09 35⇑*e*P P 02 55 47.8 0.0
MONM AMB AMB 02 55 49.0
comp=Z,349nm,1.1s
LDF La Druitiere 91.13 39⇑*i*P P 02 55 48.1 0.0
comp=Z,874nm,1.0s
LDF La Druitiere 91.13 39⇑*i*P P 02 55 48.1 0.0
LDF pmax pmax
comp=Z,874nm,1.0s
LDF La Druitiere 91.13 39⇑*i*P P 02 55 48.1 0.0
comp=Z,874nm,1.0s
OLDB Oldbury-Upon-S 91.14 35⇑*e*P P 02 55 47.8 -0.3
OLDB AMB AMB 02 55 49.0
comp=Z,230nm,2.3s
BATH Bath 91.16 36⇑*e*P P 02 55 47.8 -0.4
WPM1 Penmaenmawr 91.18 33 *i*P P 02 55 48.1 -0.1
ABSA Djebel Ababsia 91.31 52 *i*P P 02 55 50.4 +1.0
HLM1 Long Mynd 91.37 34⇑*e*P P 02 55 49.0 -0.1
HLM1 AMB AMB 02 55 50.2
comp=Z,305nm,1.4s
HLM1 AMS AMS 03 30 33.8
comp=Z,7µm,25.8s
FOEL Foel Wylfa 91.37 34⇑*e*P P 02 55 49.1 -0.1
FOEL AMB AMB 02 55 50.4
comp=Z,407nm,1.4s
FOEL AMS AMS 03 31 14.7
comp=Z,7µm,23.9s
CMAH Djebel Manchou 91.40 52 P P 02 55 50.6 +0.8
STRD Stroud 91.41 35⇑*e*P P 02 55 49.1 -0.3
STRD AMB AMB 02 55 50.3
comp=Z,398nm,1.2s
POHA Pohakuloa 91.42 290 *e*P P 02 55 50.6 +0.1
comp=Z,182nm,1.0s
POHA LR LR
comp=Z,5µm,22.0s
SWN1 Swindon 91.49 36⇑*e*P P 02 55 49.5 -0.2
SWN1 AMB AMB 02 55 50.8
comp=Z,402nm,1.5s
GAL1 Galloway 91.56 32⇑*e*P P 02 55 50.0 0.0
GAL1 AMB AMB 02 55 51.2
comp=Z,352nm,1.1s
GAL1 AMS AMS 03 27 49.9
comp=Z,4µm,27.4s
TCF Toulx Ste Croi 91.57 42⇑*i*P P 02 55 50.3 0.0
comp=Z,689nm,1.5s
TCF Toulx Ste Croi 91.57 42⇑*i*P P 02 55 50.3 0.0
TCF pmax pmax
comp=Z,689nm,1.5s
TCF Toulx Ste Croi 91.57 42⇑*i*P P 02 55 50.3 0.0
comp=Z,689nm,1.5s
WOL Wolverton 91.72 36⇑*e*P P 02 55 50.0 -0.8
WOL AMB AMB 02 55 51.6
comp=Z,290nm,1.6s
LASF Ste Croix 91.73 44⇑*i*P P 02 55 51.8 +0.7
comp=Z,800nm,1.6s
LASF Ste Croix 91.73 44⇑*i*P P 02 55 51.8 +0.7
comp=Z,800nm,1.6s
LBL Lubilhac 91.80 43⇑*e*P P 02 55 52.7 +1.3
PYM Petit Puy Mans 91.85 42⇑*e*P P 02 55 52.7 +1.0
STNC Stoke 92.00 34⇑*e*P P 02 55 52.3 +0.3
STNC AMB AMB 02 55 53.7
comp=Z,648nm,1.3s
AGO Saint Agoulin 92.05 42⇑*e*P P 02 55 53.4 +0.9
PGBU Glenifferbraes 92.14 31⇑*e*P P 02 55 52.8 +0.2
PGBU AMB AMB 02 55 54.0
comp=Z,387nm,2.0s
KESW Keswick, Cumbr 92.24 33⇑*e*P P 02 55 53.6 +0.5
KESW AMB AMB 02 55 54.8
comp=Z,738nm,1.1s
KESW AMS AMS 03 30 11.9
comp=Z,5µm,27.3s
HYF Humbligny 92.24 41⇑*i*P P 02 55 53.6 +0.3
HYF Humbligny 92.24 41⇑*i*P P 02 55 53.6 +0.3
PLDF La Plantade 92.33 42⇑*e*P P 02 55 54.9 +1.0
KPL Plockton 92.34 29⇑*e*P P 02 55 54.2 +0.8
KPL AMB AMB 02 55 55.1
comp=Z,271nm,1.5s
KPL AMS AMS 03 31 46.2
comp=Z,7µm,23.7s
KSB Sheil Bridge 92.39 30⇑*i*P P 02 55 53.8 +0.1
EAB Aberfoyle 92.39 31⇑*i*P P 02 55 53.4 -0.4
HMNX Herstmonceux 92.40 37⇑*e*P P 02 55 54.5 +0.6
HMNX AMB AMB 02 55 55.7
comp=Z,615nm,1.3s
HMNX AMS AMS 03 31 29.9
comp=Z,5µm,25.5s
LHO Holmfirth 92.40 34⇑*e*P P 02 55 54.4 +0.4
DRV Dumont d'Urvil 92.46 192 P P 02 55 23.0 -31
DRV Dumont d'Urvil 92.46 192 S SKSac 03 05 54.0 -30
DRV SS SS 03 12 48.0 -17
DRV L L 03 19 00.0
DRV R 03 25 00.0
AVF Avril sur Loir 92.49 41⇑*i*P P 02 55 54.4 -0.1
comp=Z,931nm,1.8s
AVF Avril sur Loir 92.49 41⇑*i*P P 02 55 54.4 -0.1
AVF pmax pmax
comp=Z,931nm,1.8s
AVF Avril sur Loir 92.49 41⇑*i*P P 02 55 54.4 -0.1
comp=Z,931nm,1.8s
ECK Cauldkaine Hil 92.51 32⇑*i*P P 02 55 53.7 -0.7
ESK Eskdalemuir 92.53 32 P P 02 55 55.6 +1.1
comp=Z,1µm,1.1s,SNR=31
ESK Eskdalemuir 92.53 32 *e*P P 02 55 54.7 +0.3
ESK AMB AMB 02 55 55.7
comp=Z,326nm,1.5s
ESK AMS AMS 03 28 16.5
comp=Z,3µm,27.6s
ESK Eskdalemuir 92.53 32 *i*P P 02 55 55.0 +0.5
ESK Eskdalemuir 92.53 32 *e*P P 02 55 54.9 +0.4
comp=Z,299nm,1.2s
ESK LR LR
comp=Z,4µm,21.0s
KEST Kesra 92.53 53 P P 02 55 55.9 +0.9
comp=Z,37nm,0.9s,baz=146,slow=3.1,SNR=74
KEST PKKPbc **PKKPbc 03 13 08.5 -0.5**
comp=Z,4.4nm,0.9s,baz=294,slow=7.1,SNR=6.4
KEST LR LR 03 37 30.7
comp=Z,1µm,21.8s,baz=214,slow=36
KEST Kesra 92.53 53 *e*P P 02 55 56.0 +0.9
KEST PKKPbc **PKKPbc 03 13 08.5 -0.5**
EKA Eskdalemuir Ar 92.56 32 P P 02 55 54.6 0.0
comp=Z,113nm,0.9s,baz=238,slow=4.8,SNR=178
EKA LR LR 03 34 19.3
comp=Z,3µm,20.9s,baz=250,slow=34
EKA Eskdalemuir Ar 92.56 32 P P 02 55 54.6 0.0
VIVF Saint-Julien-l 92.57 44⇑*i*P P 02 55 55.7 +0.7
comp=Z,1µm,1.7s
VIVF Saint-Julien-l 92.57 44⇑*i*P P 02 55 55.7 +0.7
VIVF pmax pmax
comp=Z,1µm,1.7s
VIVF Saint-Julien-l 92.57 44⇑*i*P P 02 55 55.7 +0.7
comp=Z,1µm,1.7s
KAC Achnashellach 92.59 29⇑*i*P P 02 55 55.0 +0.3
SSB Saint Sauveur 92.65 43 *e*P P 02 55 56.2 +0.8
SSB pmax pmax
comp=Z,323nm,1.3s
SSB MLR MLR
comp=Z,7µm,20.0s
SSB Saint Sauveur 92.65 43 *e*P P 02 55 56.2 +0.8
comp=Z,323nm,1.3s
SSB LR LR
comp=Z,7µm,20.0s
SSF Saint Saulge 92.70 41⇑*i*P P 02 55 55.2 -0.2
comp=Z,718nm,1.8s
SSF Saint Saulge 92.70 41⇑*i*P P 02 55 55.2 -0.2
SSF pmax pmax
comp=Z,718nm,1.8s
SSF Saint Saulge 92.70 41⇑*i*P P 02 55 55.2 -0.2
comp=Z,718nm,1.8s
HPK Haverah Park 92.71 34⇑*e*P P 02 55 55.6 +0.3
HPK AMB AMB 02 55 56.8
comp=Z,506nm,1.6s
HPK AMS AMS 03 32 17.3
comp=Z,6µm,22.8s
SMF Signal de Mont 92.74 42⇑*i*P P 02 55 55.8 +0.1
comp=Z,1µm,1.6s
SMF Signal de Mont 92.74 42⇑*i*P P 02 55 55.8 +0.1
SMF pmax pmax
comp=Z,1µm,1.6s
SMF Signal de Mont 92.74 42⇑*i*P P 02 55 55.8 +0.1
comp=Z,1µm,1.6s
SMRF Simiane la Rot 92.83 45⇑*i*P P 02 55 57.3 +1.1
comp=Z,763nm,1.5s
SMRF Simiane la Rot 92.83 45⇑*i*P P 02 55 57.3 +1.1
comp=Z,763nm,1.5s
EBL Broad Law 92.83 32⇑*i*P P 02 55 55.6 -0.2
KULLO Kullorsuaq 92.86 4⇑*i*P P 02 55 56.3 +0.8
comp=Z,350nm,1.2s
KULLO *i* 02 56 08.2
KULLO Kullorsuaq 92.86 4 *i*S SKKSac 03 06 43.5 +0.1
comp=Z,4µm,25.0s
SUMG Summit 92.97 9⇑*i*P P 02 55 58.3 +1.7
comp=Z,541nm,1.0s
SUMG *i* 02 56 11.6
comp=Z,8µm,21.0s
SUMG Summit 92.97 9⇑*i*P P 02 55 58.3 +1.7
SUMG *i* 02 56 11.6
SUMG pmax pmax
comp=Z,540nm,1.0s
SUMG MLR MLR
comp=Z,8µm,21.0s
SUMG Summit 92.97 9 *e*P P 02 55 57.9 +1.3
comp=Z,820nm,1.2s
ELSH Elham, Standar 92.97 37⇑*e*P P 02 55 56.7 +0.1
ELSH AMB AMB 02 55 58.0
comp=Z,425nm,1.1s
MDO Dochfour 93.00 30⇑*e*P P 02 55 56.7 +0.2
LOR Lormes 93.00 41⇑*i*P P 02 55 56.6 -0.3
comp=Z,1µm,1.8s,baz=240
LOR *e*R
comp=Z,9µm,22.8s
LOR Lormes 93.00 41⇑*i*P P 02 55 56.6 -0.3
LOR pmax pmax
comp=Z,1µm,1.8s
LOR Lormes 93.00 41⇑*i*P P 02 55 56.6 -0.3
comp=Z,1µm,1.8s
ESY Stoneypath 93.11 32⇑*e*P P 02 55 57.2 +0.1
LCP Cassop 93.14 33⇑*i*P P 02 55 57.5 +0.2
LMK Market Rasen 93.17 34⇑*e*P P 02 55 57.7 +0.3
LMK AMB AMB 02 55 59.0
comp=Z,825nm,1.2s
EDU Dundee 93.22 31⇑*i*P P 02 55 57.7 +0.1
LMR La Mourre 93.22 45⇑*i*P P 02 55 58.5 +0.6
comp=Z,1µm,1.8s
LMR La Mourre 93.22 45⇑*i*P P 02 55 58.5 +0.6
LMR pmax pmax
comp=Z,1µm,1.8s
LMR La Mourre 93.22 45⇑*i*P P 02 55 58.5 +0.6
comp=Z,1µm,1.8s
MENF Mencas 93.31 38⇑*e*P P 02 55 58.3 +0.2
MVH1 Achvaich 93.32 29⇑*i*P P 02 55 58.2 +0.2
ORIF Oris-en-Rattie 93.39 44⇑*i*P P 02 55 59.9 +1.1
comp=Z,1µm,1.5s
ORIF *e*R
comp=Z,8µm,20.2s
ORIF Oris-en-Rattie 93.39 44⇑*i*P P 02 55 59.9 +1.1
ORIF pmax pmax
comp=Z,1µm,1.5s
ORIF Oris-en-Rattie 93.39 44⇑*i*P P 02 55 59.9 +1.1
comp=Z,1µm,1.5s
FRF La Foret Royal 93.39 45⇑*i*P P 02 55 59.3 +0.6
comp=Z,1µm,1.8s
FRF La Foret Royal 93.39 45⇑*i*P P 02 55 59.3 +0.6
FRF pmax pmax
comp=Z,1µm,1.8s
FRF La Foret Royal 93.39 45⇑*i*P P 02 55 59.3 +0.6
comp=Z,1µm,1.8s
LSZ Lusaka 93.39 107 *e*P P 02 56 00.8 +1.2
LSZ *e* 02 59 43.5
LSZ pmax pmax
comp=Z,308nm,1.9s
LSZ MLR MLR
comp=Z,12µm,20.0s
LSZ Lusaka 93.39 107 *e*P P 02 56 00.8 +1.2
comp=Z,308nm,1.9s
LSZ *e*PP **PP 02 59 43.5 -0.6**
LSZ LR LR
comp=Z,12µm,20.0s
GRN Grenoble 93.42 43⇑*e*P P 02 56 00.4 +1.4
MCD Coleburn Disti 93.59 30⇑*e*P P 02 55 59.0 -0.3
CALN Calern 93.63 45⇑*e*P P 02 56 01.3 +1.3
DRUM Mains of Drumt 93.64 31⇑*e*P P 02 55 59.5 0.0
DRUM AMB AMB 02 56 00.8
comp=Z,275nm,1.9s
DRUM AMS AMS 03 32 23.2
comp=Z,7µm,25.3s
GDM Grand'Maison 93.65 44⇑*e*P P 02 56 01.2 +1.1
BIGH Upper Bighouse 93.72 29⇑*e*P P 02 55 59.6 -0.3
BIGH AMB AMB 02 56 01.4
comp=Z,529nm,1.6s
SURF Saint Ours 93.84 44⇑*e*P P 02 56 02.5 +1.5
MVIF Mont Vial 93.86 45⇑*e*P P 02 56 02.2 +1.1
RES Resolute Bay 93.86 354 P P 02 55 59.9 -0.2
comp=Z,56nm,0.8s,baz=165,slow=0.4
RES PKKPbc **PKKPdf 03 13 03.8 -2.2**
baz=246,slow=20
RES Resolute Bay 93.86 354 P P 02 55 59.9 -0.2
RES PKKPbc **PKKPdf 03 13 03.8 -2.2**
VSL Villasalto 93.86 50 *e*P P 02 56 01.3 +0.3
comp=Z,93nm,1.3s
VSL *e*PP **PP 02 59 44.9 -2.4**
VSL LR LR
comp=Z,2µm,22.0s
MLA1 Latheron 93.89 29⇑*i*P P 02 56 01.0 +0.4
MBDF Montbardon 93.91 44⇑*i*P P 02 56 02.1 +0.8
comp=Z,637nm,1.6s
MBDF Montbardon 93.91 44⇑*i*P P 02 56 02.1 +0.8
MBDF pmax pmax
comp=Z,637nm,1.6s
MBDF Montbardon 93.91 44⇑*i*P P 02 56 02.1 +0.8
comp=Z,637nm,1.6s
REVF Revere 93.95 45⇑*e*P P 02 56 02.4 +1.1
BNI Bardonecchia 93.97 44 *e*P P 02 56 02.4 +0.9
BNI pmax pmax
comp=Z,152nm,1.4s
BNI MLR MLR
comp=Z,9µm,20.0s
BNI Bardonecchia 93.97 44 *e*P P 02 56 02.4 +0.9
comp=Z,152nm,1.4s
BNI LR LR
comp=Z,9µm,20.0s
TOUF Mont Tournerai 93.97 45⇑*e*P P 02 56 02.7 +1.1
SBF Sospel 94.04 45⇑*i*P P 02 56 02.2 +0.4
comp=Z,1µm,1.7s
SBF Sospel 94.04 45⇑*i*P P 02 56 02.2 +0.4
SBF pmax pmax
comp=Z,1µm,1.7s
SBF Sospel 94.04 45⇑*i*P P 02 56 02.2 +0.4
comp=Z,1µm,1.7s
AUTN L'Aution 94.08 45⇑*e*P P 02 56 03.1 +0.9
SFTF Sexfontaines 94.10 41⇑*i*P P 02 56 01.9 0.0
comp=Z,2µm,1.8s,baz=242
SFTF Sexfontaines 94.10 41⇑*i*P P 02 56 01.9 0.0
comp=Z,2µm,1.8s
KIP Kipapa 94.15 291 *i*P P 02 56 03.3 +0.6
KIP pmax pmax
comp=Z,97nm,1.7s
KIP Kipapa 94.15 291 PFAKE 02 56 10.0 +7.3
KIP LR LR
comp=Z,3µm,21.0s
CABF La Chapelle 94.16 42⇑*i*P P 02 56 02.6 +0.3
comp=Z,688nm,1.6s
CABF La Chapelle 94.16 42⇑*i*P P 02 56 02.6 +0.3
CABF pmax pmax
comp=Z,689nm,1.6s
CABF La Chapelle 94.16 42⇑*i*P P 02 56 02.6 +0.3
comp=Z,688nm,1.6s
SAOF Saorge 94.16 45⇑*e*P P 02 56 03.4 +1.1
LPL La Plagne 94.17 43⇑*i*P P 02 56 03.5 +0.9
comp=Z,932nm,1.6s
LPL La Plagne 94.17 43⇑*i*P P 02 56 03.5 +0.9
LPL pmax pmax
comp=Z,932nm,1.6s
LPL La Plagne 94.17 43⇑*i*P P 02 56 03.5 +0.9
comp=Z,932nm,1.6s
LPG La Plagne 94.18 43⇑*i*P P 02 56 03.7 +1.0
comp=Z,1µm,1.6s
LPG La Plagne 94.18 43⇑*i*P P 02 56 03.7 +1.0
LPG pmax pmax
comp=Z,1µm,1.6s
LPG La Plagne 94.18 43⇑*i*P P 02 56 03.7 +1.0
comp=Z,1µm,1.6s
MEZF Maizieres J'vi 94.22 40⇑*i*P P 02 56 02.6 +0.2
comp=Z,2µm,1.9s,baz=254
MEZF Maizieres J'vi 94.22 40⇑*i*P P 02 56 02.6 +0.2
comp=Z,2µm,1.9s
GIMEL St. Georges / 94.24 42⇑*i*Pdiff P 02 56 03.1 +0.4
comp=Z,14nm,0.2s
BAIF Baives 94.32 39⇑*i*P P 02 56 02.9 +0.1
comp=Z,718nm,1.8s
BAIF Baives 94.32 39⇑*i*P P 02 56 02.9 +0.1
BAIF pmax pmax
comp=Z,718nm,1.8s
BAIF Baives 94.32 39⇑*i*P P 02 56 02.9 +0.1
comp=Z,718nm,1.8s
EMV Vieux Emosson 94.48 43⇑*i*Pdiff P 02 56 04.6 +0.6
comp=Z,23nm,0.2s
BRANT Les Verrieres 94.53 42⇑*i*Pdiff P 02 56 04.6 +0.6
comp=Z,22nm,0.2s
SNF Seneffe 94.54 38 P P 02 56 04.1 +0.3
SNF AP **pP 02 56 16.9 -0.8**
SALAN Lac Salanfe 94.56 43⇑*i*Pdiff P 02 56 04.8 +0.5
comp=Z,16nm,0.2s
DOU Dourbes 94.56 39 P P 02 56 04.0 +0.1
comp=Z,169nm,2.1s
DOU AP **pP 02 56 17.0 -0.9**
AIGLE Aigle 94.61 43⇑*i*Pdiff P 02 56 04.8 +0.4
comp=Z,18nm,0.2s
PGF Pioggiola 94.64 47⇑*i*P P 02 56 04.9 +0.2
comp=Z,574nm,1.7s
PGF Pioggiola 94.64 47⇑*i*P P 02 56 04.9 +0.2
PGF pmax pmax
comp=Z,575nm,1.7s
PGF Pioggiola 94.64 47⇑*i*P P 02 56 04.9 +0.2
comp=Z,574nm,1.7s
PAGF Fort de Pagny 94.66 40⇑*i*P P 02 56 04.9 +0.5
comp=Z,572nm,1.9s,baz=248
PAGF Fort de Pagny 94.66 40⇑*i*P P 02 56 04.9 +0.5
comp=Z,572nm,1.9s
GRYON Gryon 94.68 43⇑*i*Pdiff P 02 56 05.3 +0.5
comp=Z,11nm,0.2s
UCC Uccle 94.69 38 P P 02 56 04.6 +0.1
comp=Z,442nm,2.4s
UCC AP **pP 02 56 16.9 -1.5**
THEF They Montfort 94.70 41⇑*e*P P 02 56 05.3 +0.7
GIVF Givet 94.70 39⇑*i*P P 02 56 04.8 +0.2
comp=Z,2µm,1.9s
GIVF Givet 94.70 39⇑*i*P P 02 56 04.8 +0.2
GIVF pmax pmax
comp=Z,2µm,1.9s
GIVF Givet 94.70 39⇑*i*P P 02 56 04.8 +0.2
comp=Z,2µm,1.9s
MIR Mirnyy 94.72 173 *e*P P 02 56 13.0 +8.6
MIR pmax pmax
comp=Z,12nm,0.1s
TORNY Torny/Romont 94.78 42⇑*i*Pdiff P 02 56 05.6 +0.5
comp=Z,32nm,0.2s
HAU Haudompre 94.84 41⇑*i*P P 02 56 05.3 0.0
comp=Z,528nm,1.5s
HAU *e*R
comp=Z,9µm,22.0s
HAU Haudompre 94.84 41⇑*i*P P 02 56 05.3 0.0
HAU pmax pmax
comp=Z,528nm,1.5s
HAU Haudompre 94.84 41⇑*i*P P 02 56 05.3 0.0
comp=Z,528nm,1.5s
SENIN Lac Senin/Sane 94.85 43⇑*i*Pdiff P 02 56 06.3 +0.7
comp=Z,13nm,0.2s
LOMF Lomont 94.90 42⇑*e*P P 02 56 06.4 +0.7
HYT Haines Junctio 94.96 333 *e*P P 02 56 05.9 +0.3
comp=Z,251nm,0.8s
HYT *e*PP **PP 02 59 57.2 +1.7**
LKBD Leukerbad 95.07 43⇑*i*Pdiff P 02 56 07.1 +0.5
comp=Z,18nm,0.2s
HINF Hinteralfeld 95.09 41⇑*i*P P 02 56 06.2 -0.3
comp=Z,594nm,1.6s
HINF Hinteralfeld 95.09 41⇑*i*P P 02 56 06.2 -0.3
HINF pmax pmax
comp=Z,594nm,1.6s
HINF Hinteralfeld 95.09 41⇑*i*P P 02 56 06.2 -0.3
comp=Z,594nm,1.6s
BCLA Clavier 95.10 39 P P 02 56 06.4 0.0
comp=Z,144nm,2.1s
BCLA AP **pP 02 56 19.2 -1.1**
WIMIS Wimmis 95.16 43⇑*i*Pdiff P 02 56 07.4 +0.5
comp=Z,8.4nm,0.2s
MMK Mattmark 95.17 43⇑*i*Pdiff P 02 56 08.0 +0.9
comp=Z,21nm,0.2s
BOURR Bourrignon 95.17 42⇑*i*Pdiff P 02 56 07.2 +0.3
comp=Z,13nm,0.2s
MOF Molkenrain 95.28 41⇑*e*P P 02 56 07.8 +0.4
WLF Walferdange 95.33 39 P P 02 56 08.6 +1.1
comp=Z,324nm,1.9s
WLF AP **pP 02 56 20.8 -0.6**
WLF Walferdange 95.33 39 *e*P P 02 56 08.3 +0.8
comp=Z,753nm,1.6s
WLF *e*PXPXdf **P'P'df 03 21 14.6 +3.3**
WLF Walferdange 95.33 39 *e*P P 02 56 08.0 +0.5
WLF pmax pmax
comp=Z,699nm,1.6s
WLF MLR MLR
comp=Z,6µm,22.0s
WLF Walferdange 95.33 39 *e*P P 02 56 08.0 +0.5
comp=Z,699nm,1.6s
WLF LR LR
comp=Z,6µm,22.0s
URZ Urewera 95.38 227 PKKPbc PKKPbc 03 12 58.5 -2.4
comp=Z,11nm,0.9s,baz=344,slow=3.6,SNR=6.8
URZ Urewera 95.38 227 *e*P P 02 56 09.0 +0.9
comp=Z,254nm,1.7s
URZ PKKPbc **PKKPdf 03 12 58.5 -2.0**
ECH Echery 95.42 41⇑*e*P P 02 56 08.6 +0.6
ECH Echery 95.42 41 *e*P P 02 56 08.0 +0.1
ECH pmax pmax
comp=Z,244nm,1.2s
ECH MLR MLR
comp=Z,5µm,22.0s
ECH Echery 95.42 41 *e*P P 02 56 08.0 +0.1
comp=Z,244nm,1.2s
ECH LR LR
comp=Z,5µm,22.0s
BALST Balsthal 95.45 42⇑*i*Pdiff P 02 56 08.5 +0.3

comp=Z,19nm,0.2s
BEBN Eben Emael 95.47 38 P **P** 02 56 08.4 +0.4
BEBN AP **pP** **02 56 20.6 -1.4**
HASLI Hasliberg/Brie 95.54 43⇑*i*Pdiff **P** **02 56 09.2 +0.6**
comp=Z,27nm,0.2s
SNZO South Karori 95.54 223 PFAKE 02 56 20.0 +11
SNZO LR LR
comp=Z,10µm,22.0s
CDF Champ du Feu 95.57 41⇑*i*P **P** **02 56 08.7 0.0**
comp=Z,798nm,1.6s
CDF Champ du Feu 95.57 41⇑*i*P **P** **02 56 08.7 0.0**
CDF pmax pmax
comp=Z,798nm,1.6s
CDF Champ du Feu 95.57 41⇑*i*P **P** **02 56 08.7 0.0**
comp=Z,798nm,1.6s
MEM Membach 95.59 39 P **P** **02 56 09.1 +0.4**
comp=Z,80nm,1.5s
RAO Raoul Island 95.60 237 LR LR 03 30 45.3
comp=Z,3µm,19.8s,baz=122,slow=30
HGN Heimansgroeve 95.60 38 *e*P **P** **02 56 08.6 -0.1**
comp=Z,439nm,1.5s
HGN *e*pP **pP** **02 56 21.8 -0.8**
HGN *es*P **sP** **02 56 26.8 -1.0**
HGN *e*PP **PP** **03 00 02.1 +1.5**
HGN *e*SKS **SKSac** **03 06 36.2 -4.6**
HGN *e*S **PS** **03 08 44.9 -1.4**
KHZ Kahutara 95.73 222 *e*P **P** **02 56 10.9 +1.2**
comp=Z,543nm,1.9s
BNALP Bannalp 95.75 43⇑*i*Pdiff **P** **02 56 09.3 -0.4**
comp=Z,17nm,0.2s
FUSIO Fusio 95.76 43⇑*i*Pdiff **P** **02 56 09.9 +0.2**
comp=Z,23nm,0.2s
SULZ Cheisacher 95.78 42⇑*i*Pdiff **P** **02 56 10.2 +0.6**
comp=Z,24nm,0.2s
MUGIO Muggio 95.83 44⇑*i*Pdiff **P** **02 56 10.4 +0.5**
comp=Z,20nm,0.2s
CASY Casey 95.88 180 *e*P **P** **02 56 10.8 +1.1**
comp=Z,367nm,1.7s
CASY LR LR
comp=Z,6µm,20.0s
MUO Muotathal 95.92 43⇑*i*Pdiff **P** **02 56 11.1 +0.6**
ZUR Degenried 96.02 42⇑*i*Pdiff **P** **02 56 11.3 +0.6**
comp=Z,721nm,2.1s
AFI Afiamalu 96.06 253 PFAKE 02 56 20.0 +8.3
AFI LR LR
comp=Z,5µm,19.0s
CLTB Caltabellotta 96.08 53 *e*P **P** **02 56 12.3 +1.0**
comp=Z,47nm,1.2s
CLTB LR LR
comp=Z,2µm,20.0s
FLACH Flaach 96.08 42⇑*i*Pdiff **P** **02 56 11.3 +0.3**
comp=Z,15nm,0.2s
LANF Langenberg 96.09 40⇑*e*P **P** **02 56 11.8 +0.8**
SLE Schleitheim 96.10 42⇑*i*Pdiff **P** **02 56 11.3 +0.2**
comp=Z,29nm,0.2s
LLS Linth-Limmern 96.12 43⇑*i*Pdiff **P** **02 56 11.7 +0.3**
comp=Z,10nm,0.2s
VLC Villacollemand 96.14 46 *e*P **P** **02 56 11.4 +0.1**
comp=Z,209nm,1.5s
VLC *e*PP PP 02 59 56.0 -9.0
VLC LR LR
comp=Z,2µm,21.0s
TRULL Truellikon 96.18 42⇑*i*Pdiff **P** **02 56 11.9 +0.5**
comp=Z,20nm,0.2s
BFO Black Forest 96.19 41 P **P** **02 56 11.2 -0.2**
comp=Z,320nm,0.9s,SNR=22
BFO Black Forest 96.19 41 *e*P **P** **02 56 11.6 +0.1**
comp=Z,897nm,2.8s
BFO *e*PP **PP** **03 00 03.6 -1.7**
BFO *e*PKKPdf **PKKPbc** **03 12 58.7 -1.0**
BFO *e*PKKPab PKKPdf 03 13 30.5 +29
BFO *e*PXPxdf **P'P'df** **03 21 12.7 +2.8**
BFO Black Forest 96.19 41 *e*P **P** **02 56 11.3 -0.2**
BFO pmax pmax
comp=Z,103nm,1.3s
BFO MLR MLR
comp=Z,4µm,21.0s
BFO Black Forest 96.19 41 *e*P **P** **02 56 11.3 -0.1**
comp=Z,103nm,1.3s
BFO LR LR
comp=Z,4µm,21.0s
TUE Stuetta 96.21 43 PFAKE 02 56 20.0 +8.1
TUE LR LR
comp=Z,5µm,22.0s
WILA Wila 96.25 42⇑*i*Pdiff **P** **02 56 12.3 +0.5**
comp=Z,33nm,0.2s
VDL Val di Lei 96.28 43⇑*i*Pdiff **P** **02 56 12.4 +0.2**
comp=Z,15nm,0.2s
STEIN Stein am Rhein 96.31 42⇑*i*Pdiff **P** **02 56 12.5 +0.5**
comp=Z,30nm,0.2s
WEIN Weingarten 96.34 42⇑*i*Pdiff **P** **02 56 12.6 +0.5**
comp=Z,36nm,0.2s
PLONS Plons/SG 96.43 43⇑*i*Pdiff **P** **02 56 13.1 +0.4**
comp=Z,16nm,0.2s
WTSB Winterswijk 96.55 37 *e*P **P** **02 56 13.2 +0.3**
comp=Z,804nm,1.7s
WTSB *e*pP **pP** **02 56 26.1 -0.7**
WTSB *es*P **sP** **02 56 31.3 -0.8**
WDD Wield Dalam 96.56 55 PFAKE 02 56 30.0 +17
WDD LR LR
comp=Z,7µm,20.0s
LIENZ Kamor/St.Gall 96.58 42⇑*i*Pdiff **P** **02 56 13.9 +0.4**
comp=Z,26nm,0.2s
RPZ Rata Peaks 96.60 220 PKKPbc PKKPbc 03 12 57.5 -0.4
comp=Z,26nm,0.9s,baz=345,slow=3.6,SNR=4.1
RPZ LR LR 03 29 36.7
comp=Z,7µm,21.5s,baz=110,slow=29
RPZ Rata Peaks 96.60 220 PKKPbc PKKPbc 03 12 57.5 -0.4
BERNI Berninapass 96.63 43⇑*i*Pdiff **P** **02 56 14.4 +0.6**
comp=Z,21nm,0.2s
BUG Bochum-Univer 96.64 38 *e*P **P** **02 56 14.1 +0.8**
comp=Z,746nm,1.7s
BUG *e*PKKPab PKKPdf 03 13 29.5 +29
BUG *e*PXPxdf **P'P'df** **03 21 11.8 +3.1**
DAVOX Davos/Dischmat 96.66 43⇑*i*Pdiff **P** **02 56 14.5 +0.6**
comp=Z,24nm,0.2s
DAVOX Davos/Dischmat 96.66 43 P **P** **02 56 14.4 +0.5**
comp=Z,68nm,0.7s,baz=237,slow=4.1,SNR=93
DAVOX PKKPbc **PKKPbc** **03 12 56.2 -2.4**
comp=Z,2.1nm,0.6s,baz=304,slow=17,SNR=4.1
DAVOX Davos/Dischmat 96.66 43 P **P** **02 56 14.4 +0.5**
DAVOX PKKPbc **PKKPbc** **03 12 56.2 -2.4**
DAVA Damuels 96.83 43 *i* P **P** **02 56 15.1 +0.5**
comp=Z,1µm,3.3s,SNR=46
FUORN Ofenpass-Fuorn 96.86 43⇑*i*Pdiff **P** **02 56 15.3 +0.5**
comp=Z,318nm,2.0s
STU Stuttgart 96.89 41 *e*P **P** **02 56 15.2 +0.7**
comp=Z,241nm,1.1s
STU *e*PP **PP** **03 00 09.7 -0.9**
STU *e*PKKPdf **PKKPbc** **03 12 57.1 -0.7**
STU *e*PKKPab PKKPdf 03 13 28.2 +28
STU *e*PXPxdf **P'P'df** **03 21 11.0 +2.4**
STU Stuttgart 96.89 41 *e*P **P** **02 56 15.3 +0.7**
STU pmax pmax
comp=Z,203nm,1.0s
STU Stuttgart 96.89 41 *e*P **P** **02 56 15.3 +0.7**
comp=Z,203nm,1.0s
TNS Taunus Mts 96.92 39 *e*P **P** **02 56 15.4 +0.7**
comp=Z,212nm,1.2s
TNS *e*PP **PP** **03 00 10.8 0.0**
TNS *e*PKKPdf **PKKPbc** **03 12 57.8 -0.1**
TNS *e*PKKPab PKKPdf 03 13 28.1 +28
TNS *e*PXPxdf **P'P'df** **03 21 11.5 +3.0**
IBBN Ibbenburen 97.22 37 *e*P Pdif 02 56 17.1 +1.1
comp=Z,1µm,2.2s
IBBN *e*PP **PP** **03 00 12.6 -0.4**
IBBN *e*PKKPab PKKPdf 03 13 27.1 +28
IBBN *e*PXPxdf **P'P'df** **03 21 10.8 +3.2**
INK Inuvik 97.22 341 P **P** **02 56 14.8 -0.8**
comp=Z,136nm,1.0s,baz=104,slow=5.0,SNR=169
INK PP **PP** **03 00 10.7 -1.9**
comp=Z,18nm,1.1s,baz=123,slow=7.3,SNR=3.4
INK PKKPbc **PKKPbc** **03 12 56.0 -1.5**
comp=Z,11nm,0.8s,baz=310,slow=1.5,SNR=11
INK PKKPab PKKPdf 03 13 24.7 +25
comp=Z,17nm,1.1s,baz=244,slow=8.7,SNR=7.3
INK Inuvik 97.22 341 *e*P Pdif 02 56 15.7 0.0
INK *e* 03 00 11.2
INK pmax pmax
comp=Z,232nm,1.1s
INK Inuvik 97.22 341 *e*P Pdif 02 56 15.7 +0.1
comp=Z,232nm,1.1s
INK *e*PP **PP** **03 00 11.2 -1.4**
INK PKKPbc **PKKPbc** **03 12 56.0 -1.5**
INK PKKPab PKKPdf 03 13 24.7 +25
DAWY Dawson 97.24 336 *e*P **P** **02 56 15.7 -0.2**
comp=Z,108nm,1.2s
FETA Feichten 97.29 43 *i* P Pdif 02 56 17.2 +0.5
comp=Z,928nm,2.7s,SNR=44
RETA Reutte 97.46 43 *i* P Pdif 02 56 17.7 +0.4
comp=Z,1µm,3.3s,SNR=36
CRZF Crozet Islands 97.47 144 P P 02 55 56.0 -21
CRZF PP PP 02 59 38.0 -36
CRZF S **SKSac** **03 06 45.0 -6.1**
CRZF SS SS 03 13 19.0 -58
CRZF R 03 29 00.0
MOTA Moosalm 97.64 43⇓*i*P Pdif 02 56 18.5 +0.2
comp=Z,309nm,1.6s,SNR=44
AQU L'Aquila 97.67 48 *e*P Pdif 02 56 19.5 +1.1
AQU pmax pmax
comp=Z,598nm,1.8s
AQU MLR MLR
comp=Z,4µm,22.0s
AQU L'Aquila 97.67 48 *e*P Pdif 02 56 19.4 +1.1
comp=Z,598nm,1.8s
AQU LR LR
comp=Z,4µm,22.0s
WATA Walderalm 97.94 43⇑*i*P Pdif 02 56 19.9 +0.3
comp=Z,585nm,1.8s,SNR=39
WTTA Wattenberg 97.95 43 *i* PcP Pdif 02 56 20.3 +0.6
comp=Z,1µm,2.4s,SNR=60
FUR Furstenfeldbru 98.00 42 *e*P Pdif 02 56 20.6 +0.9
comp=Z,242nm,1.1s
FUR *e*PP **PP** **03 00 18.0 -1.2**
FUR *e*PXPXdf **P'P'df** **03 21 09.1 +2.5**
UBBA Unterbreizbach 98.05 39 *e*P Pdif 02 56 20.6 +1.0
comp=Z,322nm,1.8s
UBBA *e*PP **PP** **03 00 18.2 -1.1**
UBBA *e*PXPXdf **P'P'df** **03 21 08.9 +2.8**
BMRM Bremner River 98.15 332 *e*P **P** **02 56 19.5 -0.5**
comp=Z,101nm,1.4s
EGAK Eagle 98.24 336 *e*P **P** **02 56 20.2 -0.1**
comp=Z,99nm,1.2s
EGAK *e* 03 00 10.7
EGAK LR LR
comp=Z,7µm,21.0s
CEL Celeste 98.30 53 *e*P **P** **02 56 20.7 -0.6**
comp=Z,30nm,0.9s
CEL LR LR
comp=Z,4µm,20.0s
KMY Karmoy 98.34 30⇑*i*P Pdif 02 56 21.6 +0.8
KMY IAmb IAmb 02 56 22.7
comp=Z,131nm,0.9s
ABTA Abfaltersbach 98.37 44⇓*i*Pdiff Pdif 02 56 21.8 +0.3
comp=Z,980nm,3.3s,SNR=37
JMIC Jan Mayen 98.38 17 *e*P Pdif 02 56 24.0 +3.2
GRFO Grafenberg 98.44 41 *e*P Pdif 02 56 22.4 +0.8
GRFO pmax pmax
comp=Z,172nm,1.4s
GRFO Grafenberg 98.44 41 *e*P Pdif 02 56 22.4 +0.8
comp=Z,172nm,1.4s
GRF Grafenberg Arr 98.44 41 *e*P Pdif 02 56 22.6 +1.0
comp=Z,279nm,1.5s
GRF *e*PP **PP** **03 00 21.4 -1.1**
GRF *e*PKKPab PKKPdf 03 13 21.2 +24
GRF *e*PXPXdf **P'P'df** **03 21 08.7 +3.1**
GRF *e*L L 03 37 01.7
comp=Z,7µm,21.8s
CLZ Clausthal 98.59 38 *e*P Pdif 02 56 23.3 +1.0
comp=Z,256nm,1.4s
CLZ *e*PP **PP** **03 00 24.0 +0.3**
CLZ *e*PKKPab PKKPdf 03 13 20.7 +24
CLZ *e*PXPXdf **P'P'df** **03 21 08.4 +3.2**
NRDL Niedersach Rie 98.64 38 *e*P Pdif 02 56 23.7 +1.4
comp=Z,704nm,2.1s
NRDL *e*PP **PP** **03 00 23.5 -0.3**
NRDL *e*PKKPdf **PKKPbc** **03 12 52.7 -0.2**
NRDL *e*PKKPab PKKPdf 03 13 20.8 +24
NRDL *e*PXPXdf **P'P'df** **03 21 08.2 +3.3**
CUC Castrocucco 98.73 51 *e*P **P** **02 56 22.9 -0.2**
comp=Z,28nm,1.0s
CUC LR LR
comp=Z,4µm,20.0s
DIV Divide 98.74 332 *e*P **P** **02 56 22.1 -0.6**
comp=Z,64nm,1.0s
SUE Sulen 98.78 28⇑*i*P Pdif 02 56 23.3 +0.5
BER Bergen 98.80 29⇑*i*P Pdif 02 56 23.8 +0.9
BER IAmb IAmb 02 56 25.3
comp=Z,218nm,1.2s
BER *e*SKSac **SKSac** **03 07 02.6 +5.8**
RUND Rundenannen 98.83 29 *e*P Pdif 02 56 23.8 +0.7
RJOB Jochberg 98.85 43 *e*P Pdif 02 56 24.1 +0.6
comp=Z,913nm,3.0s
RJOB *e*PP **PP** **03 00 23.8 -1.9**
RJOB *e*PKKPdf **PKKPbc** **03 12 49.6 -2.8**
RJOB *e*PKKPab PKKPdf 03 13 18.6 +22
RJOB *e*PXPXdf **P'P'df** **03 21 07.4 +2.3**
DOT Dot Lake 98.95 334 *e*P **P** **02 56 23.1 -0.4**
comp=Z,80nm,1.3s
MOX Moxa 98.97 40 *e*P Pdif 02 56 24.9 +1.0
comp=Z,151nm,1.6s
MOX *e*PP **PP** **03 00 25.1 -1.4**
MOX *e*PKKPdf **PKKPbc** **03 12 51.7 -0.4**
MOX *e*PKKPab PKKPdf 03 13 18.6 +23
MOX *e*PXPXdf **P'P'df** **03 21 07.3 +2.7**
MOX *e*L L 03 37 08.5
comp=Z,6µm,21.7s
SNART Snartemo 98.99 31⇑*i*P Pdif 02 56 25.1 +1.3
SNART IAmb IAmb 02 56 26.0
comp=Z,86nm,0.8s
BLS5 Blasjo 98.99 30⇑*i*P Pdif 02 56 25.2 +1.4
BLS5 IAmb IAmb 02 56 26.3
comp=Z,66nm,1.1s
KBA Koelnbreinsper 99.01 43 *i* Pdiff **Pdif** **02 56 24.6 +0.2**
comp=Z,598nm,3.4s,SNR=15
ROTZ Rotzenmuhle 99.07 41 *e*P **Pdif** **02 56 25.6 +1.2**
comp=Z,131nm,1.2s
ROTZ *e*PP **PP** **03 00 25.7 -1.6**
ROTZ *e*PKKPab PKKPdf 03 13 18.6 +23
ROTZ *e*PXPXdf **P'P'df** **03 21 07.3 +2.9**
MYKA Terra Mystica 99.08 44⇑*i*Pdiff **Pdif** **02 56 25.0 +0.4**
comp=Z,940nm,3.7s,SNR=16
FOO Floro 99.11 28 *e*P **Pdif** **02 56 25.2 +1.0**
JAVS Javornik 99.15 45 *e*Pdiff **Pdif** **02 56 23.8 -1.2**
TIP Timpagrande 99.21 52 *e*P **Pdif** **02 56 25.1 -0.2**
comp=Z,14nm,0.8s
TIP LR LR
comp=Z,4µm,21.0s
BSEG Bad Segeberg 99.21 36 *e*P **Pdif** **02 56 25.8 +1.0**
comp=Z,167nm,1.0s
BSEG *e*PP **PP** **03 00 27.6 -0.6**
BSEG *e*PKKPdf **PKKPbc** **03 12 51.3 -0.1**
BSEG *e*PKKPab PKKPdf 03 13 18.2 +23
BSEG *e*PXPXdf **P'P'df** **03 21 07.3 +3.6**
ODD1 Odda 99.24 30⇑*i*P **Pdif** **02 56 25.9 +0.9**
ODD1 IAmb IAmb 02 56 27.6
comp=Z,91nm,0.9s
PAX Paxson 99.28 333 *e*P **Pdif** **02 56 24.5 -0.6**
PAX pmax pmax
comp=Z,123nm,1.4s
PAX Paxson 99.28 333 *e*P **Pdif** **02 56 24.5 -0.6**
comp=Z,123nm,1.4s
WET Wettzell 99.31 41 *e*P **Pdif** **02 56 26.2 +0.7**
comp=Z,109nm,1.1s
WET *e*PP **PP** **03 00 27.6 -1.6**
WET *e*PKKPab PKKPdf 03 13 17.3 +22
WET *e*PXPXdf **P'P'df** **03 21 07.0 +2.9**
NVLJ Novalja 99.33 46 P **Pdif** **02 56 26.5 +0.9**
NKC Novy Kostel 99.36 40⇑*e*PDIFF **Pdif** **02 56 26.7 +1.0**
NKC *ex* x 02 56 32.9
NKC *e*pP **pP** **02 56 39.9 +0.3**
NKC *e*PP **PP** **03 00 28.0 -1.5**
NKC *e*SKS **SKSac** **03 07 02.7 +2.5**
NKC *es*P **SP** **03 09 17.8 -3.1**
NKC *ex* x 03 13 16.9
NKC *e*SS **SS** **03 14 46.7 +1.8**
NKC *e*PKPPKP **P'P'df** **03 21 02.8 -1.1**
NKC AMS AMS 03 37 40.0
comp=Z,6µm,22.7s
NKC Novy Kostel 99.36 40 *e*P **Pdif** **02 56 26.7 +1.0**
NKC *e* 02 56 39.9
NKC *e* 03 00 28.0
NKC *e* 03 07 02.7
NKC *e*SP SP 03 09 17.8 -3.1
NKC *e*SS **SS** **03 14 46.7 +1.8**
NKC MLR MLR
comp=Z,6µm,22.7s
MUD Monsted U'grnd 99.38 34⇑*i*P **Pdif** **02 56 26.9 +1.4**
comp=Z,521nm,1.3s
comp=Z,7µm,23.0s
MUD Monsted U'grnd 99.38 34⇑*i*P **Pdif** **02 56 26.9 +1.4**
MUD pmax pmax
comp=Z,520nm,1.3s
MUD MLR MLR
comp=Z,7µm,23.0s
TANN Tannenbergstha 99.42 40 *e*P **Pdif** **02 56 27.2 +1.2**
comp=Z,204nm,1.4s
TANN *e*PP **PP** **03 00 28.6 -1.4**
TANN *e*PKKPab PKKPdf 03 13 16.6 +21
TANN *e*PXPXdf **P'P'df** **03 21 06.7 +2.9**
HYA Hoyanger 99.47 29⇑*i*P **Pdif** **02 56 26.5 +0.7**
LJU Ljubljana 99.50 45 *i* Pdiff **Pdif** **02 56 26.7 +0.3**
LJU *e*SKSac **SKSac** **03 07 01.3 +0.2**
LJU *e* 03 07 26.2
LJU *e*Sdiff S 03 08 16.3 +21
LJU *i* SP **SP** **03 09 23.0 +0.3**
LJU *e*SS **SS** **03 14 46.5 -0.6**
DAG Danmarks Havn 99.52 11⇑*i*P **Pdif** **02 56 26.3 +0.5**
comp=Z,42nm,1.0s
comp=Z,7µm,24.0s
DAG Danmarks Havn 99.52 11 *i* P **PKKPbc** **03 12 47.4 -3.8**
comp=Z,31nm,1.1s
DAG *i* 03 13 12.6
DAG Danmarks Havn 99.52 11⇑*i*P **Pdif** **02 56 26.3 +0.5**
DAG pmax pmax
comp=Z,42nm,1.0s
DAG MLR MLR
comp=Z,8µm,24.0s
HOMB Homborsund 99.61 32⇑*i*P **Pdif** **02 56 27.7 +1.1**
OBKA Obir 99.65 44⇑*i*Pdiff **Pdif** **02 56 26.9 -0.2**
comp=Z,889nm,2.9s,SNR=12
GEC2 GERESS Array S 99.74 42 *e*P **Pdif** **02 56 27.9 +0.4**
comp=Z,75nm,1.0s
GEC2 *e*PP **PP** **03 00 30.9 -1.7**
GEC2 *e*PKKPdf **PKKPbc** **03 12 49.4 -0.5**
GEC2 *e*PKKPab PKKPdf 03 13 15.3 +21
GEC2 *e*PXPXdf **P'P'df** **03 21 05.9 +2.5**
GERES GERESS Array B 99.74 42 P **Pdif** **02 56 28.2 +0.7**
comp=Z,27nm,0.8s,baz=242,slow=2.9,SNR=174
GERES PP PP 03 00 22.8 -10
comp=Z,3.2nm,0.8s,baz=209,slow=7.3,SNR=3.7
GERES PKKPbc **PKKPbc** **03 12 47.1 -2.8**
comp=Z,7.0nm,1.0s,baz=98,slow=1.9,SNR=16
GERES PKKPab PKKPdf 03 13 13.9 +19
comp=Z,4.5nm,1.1s,baz=90,slow=4.0,SNR=6.3
GERES PKPPKP **P'P'df** **03 21 02.5 -0.9**
comp=Z,1.0nm,0.8s,baz=103,slow=2.9,SNR=6.9
GERES LR LR 03 41 48.9
comp=Z,2µm,18.9s,baz=236,slow=36
GERES GERESS Array B 99.74 42 P **Pdif** **02 56 28.2 +0.7**
GERES PP PP 03 00 22.8 -10
GERES PKKPbc **PKKPbc** **03 12 47.1 -2.8**
GERES PKKPab PKKPdf 03 13 13.9 +19
GERES P'P' 03 21 02.5
KHC Kasperske Hory 99.75 42⇑*e*PDIFF **Pdif** **02 56 28.5 +1.0**
KHC *e*pP **pP** **02 56 41.0 -0.4**
KHC *e*PP PP 03 00 26.5 -6.0
KHC *e*PKKP **PKKPbc** **03 12 48.5 -1.3**
KHC *ex* x 03 13 15.0
KHC Kasperske Hory 99.75 42 *e*P **Pdif** **02 56 28.5 +1.0**
KHC *e* 02 56 41.0
MOA Molln 99.83 43 *i* Pdiff **Pdif** **02 56 28.2 +0.3**
comp=Z,991nm,3.8s,SNR=36
BOJS Bojanci 99.84 45 *e*Pdiff **Pdif** **02 56 28.8 +0.9**
BOJS *e*PP **PP** **03 00 31.2 -2.1**
BOJS *e*SKSac **SKSac** **03 07 02.3 -0.4**
BOJS *e*PS **PS** **03 09 31.0 -1.6**
CLL Collm 100.00 39 *e*P **Pdif** **02 56 29.5 +1.0**
comp=Z,126nm,1.3s
CLL *e*PP **PP** **03 00 33.8 -0.5**
CLL *e*PKKPab PKKPdf 03 13 13.8 +20
CLL *e*PXPXdf **P'P'df** **03 21 05.2 +2.7**
CLL Collm 100.00 39⇑*i*Pdif **Pdif** **02 56 29.1 +0.6**
comp=Z,124nm,1.3s
CLL *e*Pmax 02 56 31.0
CLL *ep*Pdif **pPdif** **02 56 42.0 -0.4**
CLL *e*(sPdif) 02 56 48.0
CLL *e*PP **PP** **03 00 33.0 -1.3**
comp=Z,28nm,1.2s
CLL *e* 03 01 10.0
CLL *e*SKSac SKSac 03 07 11.0 +7.8
CLL *e*Sdif Sdif 03 08 12.0 +13
CLL *e*PS **PS** **03 09 31.0 -3.0**
CLL *e*PPS PPS 03 10 20.0
CLL *e*SS **SS** **03 15 00.0 +6.3**
CLL *e* 03 16 24.0
CLL *e*(SSS) 03 19 18.0
CLL *e*PKPPKPd **P'P'df** **03 21 05.0 +2.5**
CLL *e*SSSS 03 22 06.0
CLL Lmax 03 41 00.0
CLL Collm 100.00 39 *i* P **Pdif** **02 56 29.1 +0.6**
CLL *e* 02 56 42.0
CLL *e* 03 00 33.0
CLL *e* 03 07 11.0
CLL pmax pmax
comp=Z,124nm,1.3s
SOKA Soboth 100.01 44 *i* Pdiff **Pdif** **02 56 29.1 +0.4**
comp=Z,572nm,4.2s,SNR=9.1
PERS Pernice 100.06 44 *i* Pdiff **Pdif** **02 56 29.1 +0.1**
PERS *i* 03 07 29.2
SEW Seward 100.09 330 *e*Pdif **Pdif** **02 56 28.1 -0.5**
comp=Z,55nm,1.1s
FBE Freiberg 100.11 40 *e*PKKPab 03 13 14.1
FBE *e*PXPXdf **P'P'df** **03 21 05.4 +3.0**
AKN Aaknes 100.18 28 *e*P **Pdif** **02 56 30.3 +1.3**
AKN IAmb IAmb 02 56 31.5
comp=Z,469nm,2.5s
AKN IAMs_20 IAMs_20 03 37 35.5
comp=Z,5µm,20.0s
BRG Berggiesshubel 100.45 40⇑*i*P x 02 58 31.4
comp=Z,179nm,1.5s
BRG PP **PP** **03 00 32.7 -5.1**
comp=Z,45nm,1.8s
BRG SKS 03 07 10.0
BRG SDIF **SKSac** **03 07 33.0 -6.9**
BRG PS **PS** **03 09 36.0 -2.9**
BRG PKKP PKKPdf 03 13 12.3 +19
comp=Z,37nm,1.3s
BRG SS SS 03 15 12.0 +12
BRG PKPPKP **P'P'df** **03 21 03.9 +2.1**
comp=Z,87nm,2.2s
comp=Z,6µm,21.1s
comp=N,2µm,21.0s
comp=E,4µm,21.0s
BRG Berggiesshubel 100.45 40 *e*P **Pdif** **02 56 31.4 +0.9**
comp=Z,178nm,1.5s
BRG *e*PP **PP** **03 00 37.6 -0.2**
BRG *e*PKKPab PKKPdf 03 13 12.0 +19
BRG *e*PXPXdf **P'P'df** **03 21 04.6 +2.8**
ARSA Arzberg 100.49 44⇑*i*Pdiff **Pdif** **02 56 31.2 +0.4**
comp=Z,383nm,2.6s,SNR=17
ILAR Eielson Array 100.51 335 P **Pdif** **02 56 29.9 -0.5**
comp=Z,9.7nm,1.0s,baz=142,slow=3.8,SNR=72
ILAR PP PP 03 00 29.1 -8.7
comp=Z,8.3nm,1.1s,baz=99,slow=6.2,SNR=4.2
ILAR S **SKSac** **03 07 05.4 +0.2**
comp=Z,0.4nm,0.9s,baz=79,slow=11,SNR=3.0
ILAR PKKPbc **PKKPbc** **03 12 45.2 -2.9**
comp=Z,4.9nm,0.9s,baz=281,slow=3.2,SNR=15
ILAR Eielson Array 100.51 335 P **Pdif** **02 56 29.9 -0.5**
ILAR PP PP 03 00 29.1 -8.7
ILAR S **SKSac** **03 07 05.4 +0.2**
ILAR PKKPbc **PKKPbc** **03 12 45.2 -2.9**
RC01 Rabbit Creek A 100.53 331 *e*Pdif **Pdif** **02 56 30.2 -0.4**
comp=Z,54nm,1.2s
RC01 *e*PP **PP** **03 00 37.2 -0.9**
PRA Prague 100.54 41⇑*e*PDIFF **Pdif** **02 56 32.0 +1.1**
PRA *e*PP **PP** **03 00 37.1 -1.3**
PRA *e*SKS 03 07 10.1
PRA *e*SP **SP** **03 09 30.7 -2.8**
PRA *e*PKKP **PKKPbc** **03 12 46.1 -1.4**
PRA *ex* x 03 13 11.8
PRA *e*SS **SS** **03 15 02.8 +1.5**
PRA AMS AMS 03 38 10.0
comp=Z,6µm,20.7s
PRA Prague 100.54 41 *e*P **Pdif** **02 56 32.8 +1.9**
PRA *e* 03 00 38.1
PRA *e* 03 07 10.8
PRA *e*SP SP 03 09 33.1 -0.4
PRA *e*SS **SS** **03 15 05.8 +4.5**
PRA MLR MLR
comp=Z,6µm,22.1s
KONO Kongsberg 100.58 31⇑*i*P **Pdif** **02 56 30.9 +0.1**
KONO *e*PP **PP** **03 00 36.8 -1.7**
KONO *e*SKSac **SKSac** **03 07 09.9 +4.2**

KONO **Kongsberg** 100.58 31 *e*P **Pdif** 02 56 31.7 +0.9
KONO *e* 03 00 35.8
KONO pmax pmax
comp=Z,287nm,2.0s
KONO MLR MLR
comp=Z,7µm,20.0s
KONO Kongsberg 100.58 31 *e*Pdif **Pdif** 02 56 31.7 +0.9
comp=Z,287nm,2.0s
KONO *e*PP **PP** 03 00 35.8 -2.7
KONO LR LR
comp=Z,7µm,20.0s
PRU Pruhonice 100.58 41⇑*e*PDIFF **Pdif** 02 56 32.0 +0.9
PRU *e*pP pP 02 56 44.7 -0.4
PRU *ex* x 02 56 51.4
PRU *e*PP **PP** 03 00 37.1 -1.7
PRU *e*SKS 03 07 10.4
PRU *e*SP **SP** 03 09 31.2 -2.8
PRU *e*PKKP **PKKPbc** 03 12 46.1 -1.3
PRU *ex* x 03 13 10.8
PRU *e*SS **SS** 03 15 03.8 +1.9
PRU *ex* x 03 20 56.8
PRU *e*PKPPKP **P'P'df** 03 21 03.8 +2.2
PRU AMS AMS 03 38 00.0
comp=Z,6µm,21.8s
PRU Pruhonice 100.58 41 *e*P **Pdif** 02 56 32.0 +0.9
PRU *e* 03 00 37.1
PRU *e* 03 07 10.4
PRU *e*SP SP 03 09 31.2 -2.8
PRU *e*SS **SS** 03 15 03.8 +1.9
PRU MLR MLR
comp=Z,6µm,21.8s
LLD Lille Linde 100.68 35 *i* P **Pdif** 02 56 32.8 +1.5
LLD Lille Linde 100.68 35 *i* P **Pdif** 02 56 32.8 +1.5
GOPC GO Pecny, Ondr 100.72 41⇑*e*PDIFF **Pdif** 02 56 32.8 +1.1
GOPC *e*pP pP 02 56 45.6 -0.2
GOPC *ex* x 02 56 52.6
GOPC *e*PP **PP** 03 00 38.1 -1.7
GOPC *e*SKS 03 07 10.8
GOPC *e*SP **SP** 03 09 33.1 -2.4
GOPC *ex* x 03 13 10.7
GOPC *e*SS **SS** 03 15 05.8 +2.0
GOPC *e*PKPPKP **P'P'df** 03 21 03.1 +1.7
GOPC AMS AMS 03 38 10.0
comp=Z,6µm,22.1s
PVCC Panska Ves 100.74 40⇑*e*PDIFF **Pdif** 02 56 32.7 +0.9
PVCC *e*pP pP 02 56 45.9 +0.1
PVCC *ex* x 02 56 53.0
PVCC *e*PP **PP** 03 00 38.4 -1.6
PVCC *e*SKS 03 07 11.1
PVCC *e*SP **SP** 03 09 32.6 -3.1
PVCC *e*PKKP **PKKPbc** 03 12 47.3 +0.3
PVCC *ex* x 03 13 11.1
PVCC *e*SS **SS** 03 15 06.5 +2.4
PVCC *e*PKPPKP **P'P'df** 03 20 59.9 -1.4
PVCC AMS AMS 03 38 20.0
comp=Z,7µm,21.8s
PVCC Panska Ves 100.74 40 *e*P **Pdif** 02 56 32.7 +0.9
PVCC *e* 03 00 38.4
PVCC *e* 03 07 11.1
PVCC *e*SP SP 03 09 32.6 -3.1
PVCC *e*SS **SS** 03 15 06.5 +2.4
PVCC MLR MLR
comp=Z,7µm,21.8s
RUE Ruedersdorf 100.79 38 *e*P **Pdif** 02 56 33.1 +1.2
comp=Z,174nm,1.6s
RUE *e*PP **PP** 03 00 39.3 -0.9
RUE *e*PKKPab PKKPdf 03 13 10.9 +18
RUE *e*PXPXdf **P'P'df** 03 21 04.1 +3.2
RUE Ruedersdorf 100.79 38 *e*Pdif **Pdif** 02 56 32.1 +0.3
comp=Z,22nm,0.9s
STON Ston 100.86 48 P **Pdif** 02 56 33.5 +1.1
CONA Conrad Observa 100.89 43⇑*i*Pdiff **Pdif** 02 56 33.1 +0.5
comp=Z,643nm,2.9s,SNR=26
COP Copenhagen 100.89 35⇑*i*P **Pdif** 02 56 34.1 +1.8
comp=Z,67nm,0.9s
COP *i* 02 56 45.8
comp=Z,2µm,24.0s
COP Copenhagen 100.89 35⇑*i*P **Pdif** 02 56 34.1 +1.8
COP pmax pmax
comp=Z,67nm,0.9s
COP MLR MLR
comp=Z,2µm,24.0s
COLA College 100.93 335 *e*P **Pdif** 02 56 32.1 -0.2
COLA pmax pmax
comp=Z,109nm,1.2s
COLA MLR MLR
comp=Z,4µm,22.0s
COLA College 100.93 335 *e*Pdif **Pdif** 02 56 32.1 -0.2
comp=Z,110nm,1.2s
COLA *e*PP PP 03 00 30.4 -11
COLA LR LR
comp=Z,4µm,22.0s
KDAK Kodiak Island 100.94 327 *e*P **Pdif** 02 56 32.0 -0.5
KDAK pmax pmax
comp=Z,59nm,1.2s
KDAK MLR MLR
comp=Z,2µm,21.0s
KDAK Kodiak Island 100.94 327 *e*Pdif **Pdif** 02 56 31.9 -0.5
comp=Z,59nm,1.2s
KDAK LR LR
comp=Z,2µm,21.0s
TREC Trest 101.00 42 ⇑AMS AMS 03 36 30.0
comp=Z,4µm,22.1s
MCK McKinley 101.01 334 *e*P **Pdif** 02 56 32.5 -0.2
MCK pmax pmax
comp=Z,90nm,1.5s
MCK McKinley 101.01 334 *e*Pdif **Pdif** 02 56 32.5 -0.2
comp=Z,90nm,1.5s
MCK *e*PP PP 03 00 30.9 -11
OHAK Old Harbor 101.15 327 *e*Pdif **Pdif** 02 56 33.2 -0.1
comp=Z,105nm,1.2s
OSL Oslo 101.21 30 *e*P **Pdif** 02 56 35.2 +1.6
OSL IAmb IAmb 02 56 36.2
comp=Z,158nm,1.0s
SOP Sopron 101.28 43⇑*e*Pdiff **Pdif** 02 56 34.9 +0.7
TRF Thorofare Moun 101.50 333 *e*Pdif **Pdif** 02 56 34.5 -0.6
comp=Z,8.6nm,0.1s
TRF *e*PP PP 03 00 38.8 -6.7
NAO01 NORSAR Array S 101.54 30 *e*Pdif **Pdif** 02 56 36.8 +1.7
comp=Z,27nm,1.0s
UPC Upice 101.63 41⇑*e*PDIFF **Pdif** 02 56 37.7 +2.0
UPC *e*pP pP 02 56 49.1 -0.8
UPC *ex* x 03 13 07.2
UPC *e*PKPPKP **P'P'df** 03 21 02.8 +3.2
UPC Upice 101.63 41 *e*P **Pdif** 02 56 37.7 +2.0
VRAC Vranov 101.70 42 P **Pdif** 02 56 37.0 +0.9
comp=Z,22nm,0.9s,baz=250,slow=5.5,SNR=34
VRAC PP PP 03 00 40.7 -6.5
comp=Z,11nm,1.0s,baz=246,slow=10,SNR=6.7
VRAC PKKPab PKKPdf 03 13 06.0 +15
comp=Z,3.8nm,0.8s,baz=73,slow=2.7,SNR=7.7
VRAC Vranov 101.70 42 P **Pdif** 02 56 37.0 +0.9
VRAC Vranov 101.70 42 ⇓*i*P **Pdif** 02 56 37.7 +1.6
VRAC Vranov 101.70 42 P **Pdif** 02 56 37.0 +0.9
VRAC PP PP 03 00 40.7 -6.5
VRAC PKKPab PKKPdf 03 13 06.0 +15
NB2 NORSAR Subarra 101.75 29 P **Pdif** 02 56 37.4 +1.3
comp=Z,92nm,1.2s,baz=258,slow=4.6
NB2 NORSAR Subarra 101.75 29 P **Pdif** 02 56 37.4 +1.3
baz=258,slow=4.6
NOA NORSAR Array B 101.75 29 P **Pdif** 02 56 37.0 +0.9
comp=Z,20nm,0.9s,baz=254,slow=4.4,SNR=38
NOA PP **PP** 03 00 46.8 -0.5
comp=Z,3.2nm,0.9s,baz=269,slow=8.4,SNR=4.0
NOA PKKPbc **PKKPbc** 03 12 41.4 -3.1
comp=Z,9.7nm,1.1s,baz=260,slow=2.9,SNR=12
NOA PKKP **PKKPdf** 03 12 52.9 +1.7
comp=Z,2.0nm,0.8s,baz=259,slow=2.9,SNR=4.8
NOA PKKPab 03 13 04.0
comp=Z,7.0nm,1.0s,baz=72,slow=4.4,SNR=8.6
NOA PKPPKP **P'P'df** 03 20 56.4 -2.1
comp=Z,2.3nm,1.0s,baz=261,slow=3.4,SNR=4.6
NOA NORSAR Array B 101.75 29 P **Pdif** 02 56 37.0 +0.9
NOA PP **PP** 03 00 46.8 -0.5
NOA PKKPbc **PKKPbc** 03 12 41.4 -3.1
NOA PKKP **PKKPdf** 03 12 52.9 +1.7
NOA PKKPab 03 13 04.0
NOA P'P' 03 20 56.4
DPC Dobruska-Polom 101.78 41⇑*i*PDIFF **Pdif** 02 56 37.6 +1.1
DPC *e*pP pP 02 56 50.3 -0.4
DPC *ex* x 02 56 57.3
DPC *e*PP **PP** 03 00 45.6 -2.3
DPC *e*SKS 03 07 20.2
DPC *e*SP **SP** 03 09 40.2 -6.6
DPC *e*PKKP **PKKPbc** 03 12 42.3 -1.7
DPC *ex* x 03 13 06.3
DPC *e*SS **SS** 03 15 22.4 +3.7
DPC *ex* x 03 20 55.0
DPC *e*PKPPKP **P'P'df** 03 21 02.5 +3.1
DPC AMS AMS 03 38 50.0
DPC Dobruska-Polom 101.78 41⇑*i*P **Pdif** 02 56 37.6 +1.1
DPC *e* 03 00 45.6
DPC *e*SS SS 03 15 22.4 +3.7
KTH Kantishna Hill 101.80 333 *e*Pdif **Pdif** 02 56 36.1 -0.2
comp=Z,7µm,0.9s
KTH *e*PP PP 03 00 39.5 -8.2
NC602 NORSAR Array S 101.82 30⇑*i*P **Pdif** 02 56 37.2 +0.9
KSP Ksiaz 101.88 40 *e*P **Pdif** 02 56 38.1 +1.2
KSP *e*PP PP 03 00 36.4 -12
KSP LMZ LR 03 37 45.5
KSP Ksiaz 101.88 40⇑*e*P **Pdif** 02 56 38.2 +1.3
TBLU Trondheim 101.94 27 *e* **SP** 03 09 47.9 +0.1
KRLC Kraliky 102.00 41⇑*i*PDIFF **Pdif** 02 56 39.0 +1.5
KRLC *ex* x 02 56 52.7
KRLC *e*PKKP **PKKPbc** 03 12 42.3 -1.0
KRLC *ex* x 03 13 05.0
KRLC *ex* x 03 20 53.1
KRLC *e*PKPPKP **P'P'df** 03 21 00.8 +1.8
KRLC Kraliky 102.00 41⇑*i*P **Pdif** 02 56 39.0 +1.5
BSD Bornholm Skovb 102.11 36⇑*i*P **Pdif** 02 56 38.8 +1.1
comp=Z,19nm,0.9s
comp=Z,5µm,28.0s
BSD Bornholm Skovb 102.11 36⇑*i*P **Pdif** 02 56 38.8 +1.1
BSD pmax pmax
comp=Z,19nm,0.9s
PKST T"'s 102.15 44⇑*e*Pdiff **Pdif** 02 56 38.7 +0.5
PKS9 Tamasi 102.16 45⇓*e*Pdiff **Pdif** 02 56 39.9 +1.7
PPLA Purkeypile 102.17 332 *e*Pdif **Pdif** 02 56 37.6 -0.4
comp=Z,162nm,1.4s
PKSM Moragy 102.31 45 ⇓*i*P **Pdif** 02 56 40.4 +1.5
PKSM Moragy 102.31 45 ⇓*i*P **Pdif** 02 56 40.4 +1.5
PKSM Moragy 102.31 45 ⇓*i*P **PKKPbc** 03 12 41.6 -0.6
PKSM Moragy 102.31 45⇑*e*Pdiff **Pdif** 02 56 39.9 +1.0
JAN Janina 102.40 52 P **Pdif** 02 56 40.1 +0.6
MORC Moravsky Berou 102.41 42 ⇓P **Pdif** 02 56 41.1 +1.8
MORC Moravsky Berou 102.41 42 ⇓*i*P **Pdif** 02 56 41.1 +1.8
MORC Moravsky Berou 102.41 42 ⇓*i*P **PKKPbc** 03 12 41.7 -0.4
MORC Moravsky Berou 102.41 42 *e*Pdif **Pdif** 02 56 40.5 +1.2
comp=Z,189nm,1.6s
RLS Riolos of Patr 102.50 54 P **Pdif** 02 56 41.1 +1.2
PHP Peshkopia 102.55 50 P **Pdif** 02 56 41.4 +1.3
KBN Korca 102.57 51 P **Pdif** 02 56 41.7 +1.4
COLD Coldfoot 102.57 337 *e*Pdif **Pdif** 02 56 39.9 +0.4
comp=Z,34nm,1.1s
COLD *e*PP **PP** 03 00 50.4 -2.9
DRO Drossia 102.66 54 P **Pdif** 02 56 41.5 +0.8
OHR Ohrid 102.69 51 *e*P **Pdif** 02 56 42.1 +1.4
HFS Hagfors 102.70 31 P **Pdif** 02 56 41.3 +1.1
comp=Z,17nm,0.8s,baz=194,slow=2.4,SNR=38
HFS PP **PP** 03 00 49.8 -4.6
comp=Z,9.6nm,0.8s,baz=258,slow=6.8,SNR=7.0
HFS Hagfors 102.70 31 P **Pdif** 02 56 41.3 +1.1
HFS PP **PP** 03 00 49.8 -4.6
NEST Nestorio 102.72 51 P **Pdif** 02 56 41.7 +0.8
DIVS Divibare 102.77 48 P **Pdif** 02 56 42.2 +1.1
DIVS Divibare 102.77 48 ⇓*i*P **Pdif** 02 56 42.9 +1.8
DIVS Divibare 102.77 48 ⇓*i*P **PKKPbc** 03 12 37.2 -3.7
OKC Ostrava-Krasne 102.81 42⇑*e*PDIFF **Pdif** 02 56 42.5 +1.5
OKC *e*pP 02 56 55.2
OKC *ex* x 02 57 01.5
OKC *e*PP **PP** 03 00 53.0 -2.5
OKC *e*SKS 03 07 24.1
OKC *e*SP **SP** 03 09 57.5 -0.1
OKC *e*PKKP **PKKPbc** 03 12 40.6 -0.3
OKC *ex* x 03 13 01.7
OKC *e*SS **SS** 03 15 25.7 -7.0
OKC AMS AMS 03 37 50.0
comp=Z,3µm,23.1s
OKC Ostrava-Krasne 102.81 42 *e*P **Pdif** 02 56 42.5 +1.5
OKC *e* 03 00 53.0
OKC *e* 03 07 24.1
OKC *e*SP SP 03 09 57.5 -0.2
OKC *e*SS **SS** 03 15 25.7 -7.0
OKC MLR MLR
comp=Z,3µm,23.1s
BUD Budapest 102.85 44⇑*e*Pdiff **Pdif** 02 56 41.8 +0.6
RAC Raciborz 102.89 41 *e*P **Pdif** 02 56 43.0 +1.7
RAC *e* 03 00 53.5
RAC *e* 03 07 20.4
EFP Efpalio 102.92 54 P **Pdif** 02 56 42.9 +1.1
VYHS Vyhne 102.95 43 *e*P **Pdif** 02 56 40.8 -0.9
VYHS *e* 03 07 18.4
VYHS *e* 03 10 01.9
VYHS pmax pmax
comp=Z,27nm,1.2s
VYHS Vyhne 102.95 43 PDIF **Pdif** 02 56 40.8 -0.9
VYHS *e* 03 00 27.2
EVR Evrytania 102.95 53 P **Pdif** 02 56 43.6 +1.6
NSS Namsos 103.01 26 *e*P **Pdif** 02 56 42.8 +1.3
GKP Gorka Klasztor 103.01 38 *e*P **Pdif** 02 56 43.2 +1.4
GKP LMZ LR 03 36 30.5
GKP Gorka Klasztor 103.01 38⇑*e*P **Pdif** 02 56 43.2 +1.4
KLV Kalavryta, Ach 103.02 54 P **Pdif** 02 56 44.0 +1.7
FNA Florina 103.04 51 P **Pdif** 02 56 42.9 +0.6
VLX Vlachokerasia 103.05 55 P **Pdif** 02 56 44.5 +2.0
KALE Kalithea 103.09 54 P **Pdif** 02 56 43.9 +1.3
GUR Goura 103.15 54 P **Pdif** 02 56 44.0 +1.1
KZN Kozani 103.23 52 P **Pdif** 02 56 43.9 +0.7
THL Klokotos Trika 103.25 52 P **Pdif** 02 56 43.6 +0.4
VLI Veliai 103.34 56 P **Pdif** 02 56 44.7 +1.0
SKO Skopje 103.34 50 P **Pdif** 02 56 43.2 -0.4
SKO Skopje 103.34 50 *e*P **Pdif** 02 56 45.0 +1.4
AGG Agios Georgios 103.37 53 P **Pdif** 02 56 44.2 +0.4
DSF Desfina 103.39 54 P **Pdif** 02 56 44.0 0.0
ANKY Antikythira Is 103.44 56 P **Pdif** 02 56 45.4 +1.3
PSZ Piszkesteto 103.52 44 ⇓P **Pdif** 02 56 45.9 +1.6
PSZ Piszkesteto 103.52 44 ⇓*i*P **Pdif** 02 56 45.9 +1.6
PSZ Piszkesteto 103.52 44 ⇓*i*P **PKKPbc** 03 12 38.2 -0.6
PSZ Piszkesteto 103.52 44 *e*Pdif **Pdif** 02 56 44.6 +0.3
comp=Z,59nm,1.8s
PSZ LR LR
comp=Z,3µm,22.0s
PSZ Piszkesteto 103.52 44⇑*e*Pdiff **Pdif** 02 56 45.2 +0.9
AXAR Agios Charalam 103.57 53 P **Pdif** 02 56 45.4 +0.7
IM04 Indian Mountai 103.62 335 *e*Pdif **Pdif** 02 56 43.5 -0.8
IM04 *e*PP PP 03 00 50.0 -11
LTK Loutraki 103.65 54 P **Pdif** 02 56 45.0 0.0
MSVF Nonsavu 103.70 246 PFAKE 02 57 00.0 +14
MSVF LR LR
comp=Z,8µm,21.0s
LIT Litokhoron 103.72 52 P **Pdif** 02 56 45.4 +0.1
LKR Lokris 103.81 54 P **Pdif** 02 56 45.1 -0.6
KARN Karanos 103.83 57 P **Pdif** 02 56 45.7 -0.2
OJC Ojcow 103.93 41 *e*P **Pdif** 02 56 47.2 +1.2
OJC *e*PP PKiKP 03 00 52.9 -10
OJC LMZ LR 03 38 36.8
OJC Ojcow 103.93 41⇑*e*P **Pdif** 02 56 47.2 +1.2
KECS Kecovo 104.02 43 *e*P **Pdif** 02 56 47.4 +1.0
KECS pmax pmax
comp=Z,15nm,1.6s
KECS Kecovo 104.02 43 PDIF **Pdif** 02 56 47.4 +1.0
VAY Valandovo 104.04 51 P **Pdif** 02 56 47.1 +0.5
VAY Valandovo 104.04 51 *e*P **Pdif** 02 56 48.3 +1.7
VAM Vamos 104.06 57 P **Pdif** 02 56 45.4 -1.5
NIE Niedzica 104.10 42 *e*P **Pdif** 02 56 48.7 +1.9
NIE LMZ LR 03 40 31.7
NIE Niedzica 104.10 42⇑*e*P **Pdif** 02 56 48.7 +1.9
XOR Xorichti 104.10 53 P **Pdif** 02 56 47.0 0.0
NEO Neokhori 104.11 53 P **Pdif** 02 56 47.0 -0.1
THE Thessaloniki 104.19 52 P **Pdif** 02 56 47.3 0.0
ATH Athens Observa 104.22 54 P **Pdif** 02 56 47.5 0.0
BZS Buzias 104.22 46 ⇓P **Pdif** 02 56 49.2 +1.8
BZS Buzias 104.22 46 ⇓*i*P **Pdif** 02 56 49.2 +1.8
BZS Buzias 104.22 46⇑*i*P **PP** 03 01 05.2 -1.0
BZS Buzias 104.22 46⇑*i*P **PKKPbc** 03 12 36.2 -0.3
KNT Kendrikon 104.25 51 P **Pdif** 02 56 48.2 +0.6
MRKA Markates 104.27 54 P **Pdif** 02 56 48.5 +0.7
ATHU Athens Univers 104.27 54 P **Pdif** 02 56 48.9 +1.1
SKIA Skiathos 104.27 53 P **Pdif** 02 56 48.2 +0.4
HORT Hortiatis 104.28 52 P **Pdif** 02 56 48.2 +0.3
PTL Penteli 104.34 54 P **Pdif** 02 56 48.8 +0.6
PAF Port-aux-Franc 104.39 155 PP PP 03 00 43.0 -23
PAF SS SS 03 15 24.0 -29
PAF Port-aux-Franc 104.39 155 PFAKE 02 57 00.0 +12
PAF LR LR
comp=Z,5µm,22.0s
LOF Lofoten 104.47 23 *e*P **Pdif** 02 56 49.0 +1.1
SIVA Sivas 104.47 58 P **Pdif** 02 56 49.8 +1.1
PLG Polygyros 104.50 52 P **Pdif** 02 56 49.5 +0.7
SOH Sokhos 104.52 51 P **Pdif** 02 56 49.6 +0.7
PAIG Paliouri 104.58 52 P **Pdif** 02 56 48.8 -0.3
AOS Alonnisos 104.58 53 P **Pdif** 02 56 48.9 -0.2
IDI Anoyia 104.58 57 Pdiff **Pdif** 02 56 50.1 +0.8
comp=Z,22nm,0.8s,baz=208,slow=6.5,SNR=15
IDI PP **PKiKP** 03 01 03.4 -1.8
comp=Z,15nm,0.6s,baz=174,slow=5.9,SNR=5.0
IDI PKKPbc **PKKPbc** 03 12 33.1 -2.0
comp=Z,5.6nm,0.8s,baz=84,slow=21,SNR=7.1
IDI PKKPab **PKKPab** 03 12 52.6 +0.7
comp=Z,24nm,1.0s,baz=96,slow=7.4,SNR=11
IDI Anoyia 104.58 57 Pdif **Pdif** 02 56 50.1 +0.8
IDI PP **PKiKP** 03 01 03.4 -1.8
IDI PKKPbc **PKKPbc** 03 12 33.1 -2.0
IDI PKKPab **PKKPab** 03 12 52.6 +0.7
STHS Stebnicka Huta 104.69 42 *e*P **Pdif** 02 56 51.1 +1.7
STHS pmax pmax
comp=Z,12nm,1.6s
STHS Stebnicka Huta 104.69 42 PDIF **Pdif** 02 56 51.1 +1.7
STHS *e*PP **PP** 03 01 10.2 +0.6
CRVS Cervenica-Dubn 104.74 43 *e*P **Pdif** 02 56 51.0 +1.4
CRVS *e* 03 10 19.4
CRVS pmax pmax
comp=Z,43nm,1.5s
CRVS Cervenica-Dubn 104.74 43 PDIF **Pdif** 02 56 51.0 +1.4
CRVS Cervenica-Dubn 104.74 43 *e*PKP **PKiKP** 03 01 03.9 -1.0
CRVS *e* 03 07 45.6
CRVS *e*SP SP 03 10 19.4 +1.4
SRS Serrai 104.75 51 P **Pdif** 02 56 50.7 +0.8
VTS Vitosha 104.75 50 ⇑P **Pdif** 02 56 51.2 +1.2
VTS Vitosha 104.75 50 ⇑*i*P **Pdif** 02 56 51.2 +1.2
VTS Vitosha 104.75 50 ⇑*i*P **PKKPbc** 03 12 34.8 -0.2
VTS Vitosha 104.75 50 *e*P **Pdif** 02 56 47.1 -2.9
BEL Belsk 104.85 40 *e*P **Pdif** 02 56 51.9 +1.9
BEL *e*PP **PKiKP** 03 01 04.0 -1.0
BEL LMZ LR 03 40 38.1
BEL Belsk 104.85 40⇑*e*P **Pdif** 02 56 52.0 +1.9
OUR Ouranopolis 104.89 52 P **Pdif** 02 56 50.4 -0.1
MMB Musomiste 104.94 51 ⇓P **Pdif** 02 56 52.4 +1.7
MMB Musomiste 104.94 51 ⇓*i*P **Pdif** 02 56 52.4 +1.7
MMB Musomiste 104.94 51⇑*i*P **PKKPbc** 03 12 33.2 -1.0
MMB Musomiste 104.94 51 *e*P **Pdif** 02 56 50.0 -0.7
NVR Nevrokopi 105.00 51 P **Pdif** 02 56 51.3 +0.3
LAST Lasithi 105.03 58 P **Pdif** 02 56 52.5 +1.2
DRGR 105.18 45 ⇓P **Pdif** 02 56 53.0 +1.3
DRGR 105.18 45 ⇓*i*P **Pdif** 02 56 53.0 +1.3
DRGR 105.18 45 ⇓*i*P **PKKPbc** 03 12 31.6 -2.1
UZH Uzhgorod 105.23 43 *e*P **Pdif** 02 56 51.5 -0.3
UZH *e* 03 01 21.7
UZH *e* 03 03 23.3
UZH *e*S **Sdif** 03 08 38.3 -4.8
UZH *e* 03 10 23.3
UZH *e* 03 16 07.0
UZH *e* 03 19 57.3
SANT Santorini 105.26 56 PFAKE 03 01 20.0
SANT LR LR
comp=Z,3µm,22.0s
KOLS Kolonicke sedl 105.27 43 *e*P **Pdif** 02 56 50.2 -1.8
KOLS *e* 03 01 11.3
KOLS *e* 03 10 17.7
KOLS Kolonicke sedl 105.27 43 PDIF **Pdif** 02 56 50.2 -1.8
KOLS *e*PP **PP** 03 01 11.3 -2.6
KOLS *e* 03 07 46.5
KOLS *e*SP SP 03 10 17.7 -5.8
MPEP Malo Peshtene 105.28 49 *e*P **Pdif** 02 56 52.0 -0.2
TRPA Tarpa 105.31 44⇑*i*P **Pdif** 02 56 53.0 +1.2
TRPA Tarpa 105.31 44⇑*i*P **PKiKP** 03 01 07.7 +1.8
TRPA Tarpa 105.31 44⇑*i*P **PKKPbc** 03 12 32.3 -1.0
KAVA Kavala 105.41 51 P **Pdif** 02 56 51.4 -1.4
APE Apeiranthos 105.45 56 P **Pdif** 02 56 52.8 -0.3
APE Apeiranthos 105.45 56 ⇓*i*P **PKiKP** 03 01 07.4 +0.7
KWP Kalwaria Pacla 105.67 42 *e*P **Pdif** 02 56 55.2 +1.5
KWP *e*PP **PKiKP** 03 01 07.7 +1.1
KWP LMZ LR 03 41 20.3
KWP Kalwaria Pacla 105.67 42⇑*e*P **Pdif** 02 56 55.2 +1.5
KWP Kalwaria Pacla 105.67 42 ⇓*i*P **Pdif** 02 56 56.0 +2.3
KWP Kalwaria Pacla 105.67 42⇑*i*P **PKiKP** 03 01 08.6 +2.0
KWP Kalwaria Pacla 105.67 42 ⇓*i*P **PKKPbc** 03 12 31.9 -0.3
KWP Kalwaria Pacla 105.67 42 *e*Pdif **Pdif** 02 56 55.0 +1.3
comp=Z,45nm,1.3s
KWP *e*PKPdf **PKiKP** 03 01 08.4 +1.8
KWP LR LR
comp=Z,2µm,20.0s
LOT Lotru 105.67 47⇑*i*P **PKKPbc** 03 12 31.3 -0.9
LIA Limnos Island 105.71 53 P **Pdif** 02 56 55.0 +0.9
PLD Plovdiv 105.75 50 P **Pdif** 02 56 55.0 +0.7
PLD Plovdiv 105.75 50 *e*P **Pdif** 02 56 55.0 +0.7
BMR Baia Mare 105.86 44⇑*i*P **PKiKP** 03 01 07.3 +0.3
SMTH Samothraki Isl 106.08 52 P **Pdif** 02 56 55.7 -0.1
SIGR SIGRI 106.10 53 P **Pdif** 02 56 56.6 +0.7
CHOS Chios island 106.10 54 P **Pdif** 02 56 56.3 +0.3
KDZ Kurdzhali 106.20 51 ⇓P **Pdif** 02 56 57.1 +0.8
KDZ Kurdzhali 106.20 51 ⇓*i*P **Pdif** 02 56 57.1 +0.8
KDZ Kurdzhali 106.20 51 ⇓*i*P **PKiKP** 03 01 08.8 +0.9
KBS Kingsbay 106.20 12 *e*P **Pdif** 02 56 57.0 +1.6
KBS *e*PP **PP** 03 01 19.0 -1.0
KBS Kingsbay 106.20 12 PFAKE 03 01 20.0
KBS LR LR
comp=Z,3µm,20.0s
ARR Arges 106.26 47 ⇓*i*P **Pdif** 02 56 57.4 +0.9
ARR Arges 106.26 47 ⇓*i*P **PKiKP** 03 01 09.2 +1.3
ARR Arges 106.26 47⇑*i*P **PKKPbc** 03 12 28.9 -1.4
PRK Paraskevi 106.42 53 P **Pdif** 02 56 57.1 -0.2
KARP Karpathos 106.45 57 P **Pdif** 02 56 58.1 +0.5
ALN Alexandroupoli 106.54 52 P **Pdif** 02 56 58.1 +0.3
LVV L'vov 106.55 42 *i* P **Pdif** 02 56 58.8 +1.2
VOIR 106.56 47 ⇑P **Pdif** 02 56 59.9 +2.0
VOIR 106.56 47⇑*i*P **Pdif** 02 56 59.9 +2.0
KMBO Kilima Mbogo 106.58 97 Pdiff **Pdif** 02 57 02.9 +3.9
comp=Z,0.7nm,0.3s,baz=238,slow=8.4,SNR=4.6
KMBO PKKPbc **PKKPbc** 03 12 29.2 +0.7
comp=Z,1.0nm,0.3s,baz=45,slow=1.5,SNR=4.3
KMBO PKKPab **PKKPab** 03 12 46.5 +1.6
comp=Z,10nm,1.0s,baz=47,slow=7.3,SNR=9.7
KMBO Kilima Mbogo 106.58 97 P **Pdif** 02 57 02.9 +3.9
KMBO MLR MLR
comp=Z,5µm,20.0s
KMBO Kilima Mbogo 106.58 97 Pdif **Pdif** 02 57 02.9 +3.9
KMBO PKKPbc **PKKPbc** 03 12 29.2 +0.7
KMBO PKKPab **PKKPab** 03 12 46.5 +1.6
KMBO LR LR
comp=Z,5µm,20.0s
SMG Samos 106.59 55 P **Pdif** 02 56 58.8 +0.7
SUW Suwalki 106.62 38 *e*P **Pdif** 02 56 58.7 +0.9
SUW *e*PP **PKiKP** 03 01 09.0 +0.8
SUW LMZ LR 03 39 09.7
SUW Suwalki 106.62 38⇑*e*P **Pdif** 02 56 58.8 +0.9
SUW Suwalki 106.62 38 *e*PKPdf 03 01 09.2
HSPB Hornsund (broa 106.63 14 ⇓*i*P **Pdif** 02 56 59.1 +1.8
TRO Tromso 106.64 21⇑*i*P **Pdif** 02 56 58.1 +0.6
TRO *e*SS SS 03 16 27.0 +2.9
SZH Strazhica 106.84 49 *e*P **Pdif** 02 56 59.0 -0.1
DOPR Dopca 106.88 46 ⇓*i*P **Pdif** 02 57 00.6 +1.4
DOPR Dopca 106.88 46⇑*i*P **PKKPbc** 03 12 28.2 -0.2
SPA0 Spitsbergen Ar 106.96 12 *e*P **Pdif** 02 57 00.4 +1.5
SPITS Spitsbergen Ar 106.96 12 Pdiff **Pdif** 02 56 59.4 +0.5
comp=Z,3.9nm,0.8s,baz=205,slow=6.4,SNR=4.5
SPITS PP PKiKP 03 01 14.9 +6.6
comp=Z,8.3nm,0.9s,baz=224,slow=6.0,SNR=3.3
SPITS Spitsbergen Ar 106.96 12 Pdif **Pdif** 02 56 59.4 +0.5
SPITS PP PKiKP 03 01 14.8 +6.6
BUR08 Bucovina Ar. S 107.00 45 *e*Pdif **Pdif** 02 57 01.7 +1.9
BUR08 *e*PKPdf **PKiKP** 03 01 07.1 -2.2
BURAR Bucovina Array 107.00 45 ⇓P **Pdif** 02 57 02.3 +2.5
BURAR Bucovina Array 107.00 45 ⇓*i*P **Pdif** 02 57 02.3 +2.5
BURAR Bucovina Array 107.00 45⇑*i*P **PKiKP** 03 01 10.1 +0.8
BURAR Bucovina Array 107.00 45 ⇓*i*P **PKKPab** 03 12 43.5 +2.7
MLR Muntele Rosu 107.19 47 Pdiff **Pdif** 02 57 01.3 +0.5
comp=Z,0.9nm,0.6s,baz=57,slow=1.7,SNR=10
MLR Muntele Rosu 107.19 47 ⇓P **Pdif** 02 57 01.7 +0.9
MLR Muntele Rosu 107.19 47 ⇓*i*P **Pdif** 02 57 01.7 +0.9
MLR Muntele Rosu 107.19 47⇑*i*P **PKiKP** 03 01 04.9 -4.8
MLR Muntele Rosu 107.19 47⇑*i*P **PKKPbc** 03 12 26.4 -1.1
MLR Muntele Rosu 107.19 47 Pdif **Pdif** 02 57 01.3 +0.5
ARG Arkhangelos 107.34 57 P **Pdif** 02 57 02.5 +1.0
PLOR Plostina 107.73 47 ⇓P **Pdif** 02 57 06.5 +3.4
PLOR Plostina 107.73 47 ⇓*i*P **Pdif** 02 57 06.4 +3.4

PLOR	Plostina	107.73	47	⇑	iP	PKiKP	03 01 11.3	+0.7	
PLOR	Plostina	107.73	47	⇑	iP	PKKPbc	03 12 25.7	0.0	
VRI	Vrincioaia	107.79	47	⇓	iP	Pdif	02 57 03.5	+0.2	
VRI	Vrincioaia	107.79	47	⇓	iP	Pdif	02 57 03.5	+0.2	
VRI	Vrincioaia	107.79	47	⇓	iP	PKiKP	03 01 11.2	+0.5	
VRI	Vrincioaia	107.79	47	⇑	iP	PKKPab	03 12 38.4	+1.1	
TESR	Tescani	107.82	46	⇑	iP	PKiKP	03 01 11.2	+0.5	
TESR	Tescani	107.82	46	⇑	iP	PKKPab	03 12 38.7	+1.6	
KULA	Kula-Manisa	108.14	55		P	Pdif	02 57 04.7	-0.4	
MSAB	Monastry St. A	108.32	49	⇓	iP	Pdif	02 57 06.0	+0.4	
MSAB	Monastry St. A	108.32	49	⇓	iP	PKKPbc	03 12 23.6	-0.1	
PSN	Preselentsi	108.52	49	⇑	P	Pdif	02 57 07.3	+0.8	
PSN	Preselentsi	108.52	49	⇑	iP	Pdif	02 57 07.3	+0.8	
PSN	Preselentsi	108.52	49	⇑	iP	PKiKP	03 01 13.3	+1.2	
PSN	Preselentsi	108.52	49	⇓	iP	PKKPbc	03 12 23.1	0.0	
PSN	Preselentsi	108.52	49		eP	Pdif	02 57 05.5	-1.0	
TLB	Topalu	108.54	48	⇓	iP	PKiKP	03 01 13.4	+1.3	
TLB	Topalu	108.54	48	⇑	iP	PKKPbc	03 12 23.3	+0.3	
ABPO	Ambohimpanom	108.66	118		PFAKE		03 01 30.0		
ABPO					LR	LR			
	comp=Z,6μm,19.0s								
CFR	Carcaliu	108.68	48	⇓	iP	PKiKP	03 01 13.5	+1.2	
CFR	Carcaliu	108.68	48	⇑	iP	PKKPbc	03 12 22.0	-0.6	
HOPEN	Hopen	108.78	14		eP	Pdif	02 57 08.1	+1.2	
TIRR	Tirgusor	108.79	48	⇑	iP	PKiKP	03 01 13.6	+1.1	
TIRR	Tirgusor	108.79	48	⇓	iP	PKKPbc	03 12 20.8	-1.4	
TIRR	Tirgusor	108.79	48		ePKPdf	PKiKP	03 01 13.1	+0.5	
NACGM	Naroch	108.81	37		eP	Pdif	02 57 06.0	-1.6	
ISK	Istanbul-Kandi	108.82	52		P	Pdif	02 57 07.8	-0.1	
MANR	Mangalia	108.83	49	⇑	iP	PKiKP	03 01 14.1	+1.5	
FINES	FINESS Array B	108.89	30		Pdiff	Pdif	02 57 09.0	+1.3	
	comp=Z,2.2nm,1.0s,baz=331,slow=7.4,SNR=7.4								
FINES					PKiKP	PKiKP	03 01 13.0	+0.8	
	comp=Z,3.8nm,0.9s,baz=177,slow=2.8,SNR=5.2								
FINES					PP	PP	03 01 28.7	-11	
	comp=Z,5.1nm,0.7s,baz=254,slow=7.1,SNR=4.5								
FINES					PKKPbc	PKKPbc	03 12 20.3	-2.1	
	comp=Z,14nm,0.9s,baz=102,slow=8.0,SNR=15								
FINES					PKKPab	PKKPab	03 12 33.8	+2.0	
	comp=Z,5.2nm,0.7s,baz=103,slow=6.1,SNR=6.4								
FINES					PKPPKP	P'P'df	03 20 44.1	-0.8	
	comp=Z,2.2nm,0.8s,baz=129,slow=5.4,SNR=7.2								
FINES	FINESS Array B	108.89	30		Pdif	Pdif	02 57 09.0	+1.3	
FINES					PKiKP	PKiKP	03 01 13.0	+0.8	
FINES					PP	PP	03 01 28.7	-11	
FINES					PKKPbc	PKKPbc	03 12 20.3	-2.1	
FINES					PKKPab	PKKPab	03 12 33.8	+2.0	
FINES					P'P'		03 20 44.1		
FIA1	FINESS Array S	108.89	30		ePdif	Pdif	02 57 08.9	+1.1	
FIA1					PKPdf	PKiKP	03 01 12.8	+0.6	
FIA1					ePP	PP	03 01 38.6	-1.4	
LEOM	Leova	108.91	46	⇓	iP	PKiKP	03 01 13.5	+0.8	
ARCES	ARCESS Array B	108.94	22		Pdiff	Pdif	02 57 06.7	-1.1	
	comp=Z,11nm,1.0s,baz=318,slow=4.9,SNR=15								
ARCES					PP	PP	03 01 33.0	-7.2	
	comp=Z,8.4nm,0.8s,baz=278,slow=8.5,SNR=6.0								
ARCES					PKKPbc	PKKPbc	03 12 19.2	-3.3	
	comp=Z,5.0nm,1.0s,baz=28,slow=5.5,SNR=4.4								
ARCES					PKKPab	PKKPab	03 12 32.6	+1.1	
	comp=Z,7.8nm,0.7s,baz=102,slow=5.1,SNR=7.6								
ARCES	ARCESS Array B	108.94	22		Pdif	Pdif	02 57 06.7	-1.1	
ARCES					PP	PP	03 01 33.0	-7.2	
ARCES					PKKPbc	PKKPbc	03 12 19.2	-3.3	
ARCES					PKKPab	PKKPab	03 12 32.6	+1.1	
ARED	ARCESS Array S	108.94	22		eP	Pdif	02 57 07.5	-0.3	
TLCR		109.16	48	⇓	iP	PKiKP	03 01 14.0	+0.8	
TLCR		109.16	48	⇑	iP	PKKPbc	03 12 21.0	-0.1	
ALT	Altintas	109.34	54		P	Pdif	02 57 08.1	-2.4	
TNA	Tin City	109.35	334		ePdif	Pdif	02 57 10.6	+0.9	
KIS	Kishinev	109.36	46		eP	Pdif	02 57 11.0	+0.8	
KIS	Kishinev	109.36	46		i PKP	PKiKP	03 01 14.0	+0.5	
KIS	Kishinev	109.36	46		ePP	PP	03 01 38.0	-5.9	
KIS					eSKS	SKSac	03 08 00.0	+14	
KIS					eSKKS	SKKSac	03 09 42.0	+59	
KIS	Kishinev	109.36	46		ePPS	PPS	03 12 30.0		
KIS					LRM	MLR	03 41 05.0		
	comp=Z,3μm,23.0s								
KIS	Kishinev	109.36	46		eP	Pdif	02 57 11.0	+0.8	
KIS					e		03 04 02.0		
KIS					ePS	PS	03 11 12.0	+0.3	
MICGM	Minsk	109.42	38		ePKP	PKiKP	03 01 05.0	-10	
KEV	Kevo	109.46	21		eP	Pdif	02 57 10.1	0.0	
KEV					MLR	MLR			
	comp=Z,5μm,21.0s								
KEV	Kevo	109.46	21		ePdif	Pdif	02 57 10.1	0.0	
KEV					LR	LR			
	comp=Z,5μm,21.0s								
ISP	Isparta	109.49	56		P	Pdif	02 57 11.6	+0.4	
ISP	Isparta	109.49	56		PFAKE		03 01 30.0		
ISP					LR	LR			
	comp=Z,3μm,20.0s								
AK02	Malin Array Si	109.94	42		ePKPdf	PKiKP	03 01 14.7	+0.2	
AK02					ePP	PP	03 01 44.4	-3.6	
KIEV	Kiev	109.95	42		ePKPdf	PKiKP	03 01 14.5	0.0	
KIEV					ePP	PP	03 01 45.3	-2.7	
KIEV					LR	LR			
	comp=Z,3μm,21.0s								
AK01	Malin Array Si	109.95	42		ePKPdf	PKiKP	03 01 14.9	+0.4	
AK01					ePP	PP	03 01 45.0	-3.1	
AKASG	Malin Array Be	109.96	42		Pdiff	Pdif	02 57 12.0	-0.7	
	comp=Z,0.3nm,0.3s,baz=256,slow=4.6,SNR=12								
AKASG					PKiKP	PKiKP	03 01 14.6	0.0	
	comp=Z,19nm,0.7s,baz=268,slow=2.8,SNR=48								
AKASG					PP	PP	03 01 42.4	-5.7	
	comp=Z,21nm,1.0s,baz=254,slow=8.4,SNR=6.6								
AKASG					PKKPbc	PKKPbc	03 12 16.9	-1.8	
	comp=Z,7.1nm,0.8s,baz=72,slow=3.2,SNR=16								
AKASG					PKKPab	PKKPab	03 12 28.6	+1.2	
	comp=Z,11nm,0.9s,baz=74,slow=4.0,SNR=18								
AKASG	Malin Array Be	109.96	42		Pdif	Pdif	02 57 12.0	-0.7	
AKASG					PKiKP	PKiKP	03 01 14.6	0.0	
AKASG					PP	PP	03 01 42.4	-5.7	
AKASG					PKKPbc	PKKPbc	03 12 16.9	-1.8	
AKASG					PKKPab	PKKPab	03 12 28.6	+1.2	
AKBB	Malin Array Si	109.96	42		ePKPdf	PKiKP	03 01 14.2	-0.3	
AKBB					ePP	PP	03 01 45.5	-2.6	
TAU	Tasmania Unive	110.00	209		PFAKE		03 01 30.0		
TAU					LR	LR			
	comp=Z,7μm,21.0s								
PPCY	Paphos	110.53	59		P	PKiKP	03 01 16.9	+0.8	
AKMC	Akamas	110.54	59		P	PKiKP	03 01 16.5	+0.3	
ALFC	Alevga	110.78	59		P	PKiKP	03 01 17.5	+0.8	
SZAC	Souni-Zanaja	110.95	59		P	PKiKP	03 01 18.6	+1.6	
GAMB	Gambell	110.98	332		ePKPdf	PKiKP	03 01 17.4	+1.3	
CSS	Prodhromos	111.35	59		P	PKiKP	03 01 19.4	+1.7	
CSS	Prodhromos	111.35	59		ePKPdf	PKiKP	03 01 18.5	+0.8	
CSS					LR	LR			
	comp=Z,452nm,20.0s								
DZM	Mont Dzumac	111.39	237		ePdif	Pdif	02 57 22.4	+2.4	
	comp=Z,416nm,27.1s								
DZM	Mont Dzumac	111.39	237		eSP	SP	03 11 19.7	-6.1	
	comp=Z,4μm,31.1s								
DZM					eSS	SS	03 17 27.1	-2.5	
	comp=Z,8μm,32.2s								
DZM	Mont Dzumac	111.39	237		eLR	LR	03 34 05.2		
	comp=Z,9μm,28.2s								
ANTO	Ankara	111.50	54	⇑	PKIKP	PKiKP	03 01 19.1	+1.2	
ANTO	Ankara	111.50	54	⇑	iP	PKiKP	03 01 19.1	+1.2	
ANTO	Ankara	111.50	54		ePKPdf	PKiKP	03 01 18.6	+0.7	
ANTO					LR	LR			
	comp=Z,2μm,21.0s								
APA	Apatity	111.92	24	⇑	iP	Pdif	02 57 23.2	+2.1	
APA					i PPP	PPP	03 04 24.0		
APA					pmax	pmax			
	comp=Z,22nm,1.0s								
PHNC	Paralimni	111.92	59		P	PKiKP	03 01 21.7	+2.9	
EIL	Elat	111.95	65		PKiKP	PKiKP	03 01 20.3	+1.3	
	comp=Z,41nm,0.8s,baz=318,slow=3.7,SNR=30								
EIL	Elat	111.95	65		PKiKP	PKiKP	03 01 20.3	+1.3	
BR131	Keskin Array S	112.14	54		ePKPdf	PKiKP	03 01 20.0	+0.8	
BR131					ePP	PP	03 02 02.2	-2.1	
BRTR	Keskin Array B	112.14	54		Pdiff	Pdif	02 57 25.3	+2.3	
	comp=Z,1.0nm,0.9s,baz=235,slow=4.4,SNR=7.6								
BRTR					PKiKP	PKiKP	03 01 20.0	+0.8	
	comp=Z,37nm,1.0s,baz=179,slow=3.0,SNR=57								
BRTR					PP	PP	03 02 02.6	-1.7	
	comp=Z,14nm,0.9s,baz=232,slow=7.4,SNR=4.6								
BRTR					PKKPbc	PKKPbc	03 12 07.3	-4.1	
	comp=Z,2.5nm,1.0s,baz=126,slow=6.3,SNR=5.0								
BRTR					PKKPab	PKKPab	03 12 19.6	+1.1	
	comp=Z,12nm,0.9s,baz=112,slow=3.8,SNR=20								
BRTR	Keskin Array B	112.14	54		Pdif	Pdif	02 57 25.2	+2.3	
BRTR					PKiKP	PKiKP	03 01 20.0	+0.8	
BRTR					PP	PP	03 02 02.6	-1.7	
BRTR					PKKPbc	PKKPbc	03 12 07.3	-4.1	
BRTR					PKKPab	PKKPab	03 12 19.6	+1.1	
LVZ	Lovozero	112.36	23		i PKiKP	PKiKP	03 01 19.3	+0.6	
LVZ	Lovozero	112.36	23		PFAKE		03 01 30.0		
LVZ					LR	LR			
	comp=Z,4μm,22.0s								
MMAI	Mount Meron Ar	112.80	61		PKiKP	PKiKP	03 01 21.9	+1.3	
	comp=Z,31nm,0.6s,baz=46,slow=2.4,SNR=59								
MMAI					PP	PP	03 02 07.8	-1.4	
	comp=Z,35nm,1.2s,baz=268,slow=5.8,SNR=4.5								
MMAI	Mount Meron Ar	112.80	61		PKiKP	PKiKP	03 01 21.9	+1.3	
MMAI					PP	PP	03 02 07.8	-1.4	
SIM	Simferopol'	112.88	48		i PKiKP	PKiKP	03 01 21.4	+1.1	
SIM					e		03 02 08.0		
SIM					e		03 08 22.0		
SIM					eSS	SS	03 17 58.0	+8.8	
SIM					pmax	pmax			
	comp=Z,120nm,11.1s								
SIM					MLR	MLR			
	comp=E,2μm,19.1s								
ADK	Adak	113.94	319		PFAKE		03 01 30.0		
ADK					LR	LR			
	comp=Z,3μm,19.0s								
ASF	Jabal al Asfar	113.95	62		PKiKP	PKiKP	03 01 24.6	+1.7	
	comp=Z,51nm,0.9s,baz=166,slow=1.2,SNR=74								
ASF					PKKPab	PKKPab	03 12 13.4	+2.7	
	comp=Z,18nm,1.0s,baz=358,slow=1.4,SNR=14								
ASF	Jabal al Asfar	113.95	62		PKiKP	PKiKP	03 01 24.6	+1.7	
ASF					PKKPab	PKKPab	03 12 13.4	+2.7	
TMCR	Tamitsa	114.24	27		ePKIKP	PKPdf	03 01 22.9	+0.6	
TMCR					e		03 02 20.3		
OBN	Obninsk	114.45	37		PKP	PKPdf	03 01 23.8	+0.9	
	comp=Z,80nm,0.7s,baz=7.8,slow=0.3,SNR=25								
OBN					PP	PP	03 02 18.0	-2.0	
	comp=Z,10nm,0.4s,baz=167,slow=2.4,SNR=6.3								
OBN					PKKPbc	PKKPbc	03 12 02.2	-1.6	
	comp=Z,24nm,0.8s,baz=326,slow=2.4,SNR=6.7								
OBN					PKKPab	PKKPab	03 12 08.8	+1.4	
	comp=Z,8.9nm,0.5s,baz=115,slow=4.4,SNR=6.9								
OBN	Obninsk	114.45	37	c	i PKIKP	PKPdf	03 01 23.1	+0.2	
OBN					i		03 02 17.5		
OBN					ePPP	PPP	03 04 51.4		
OBN	Obninsk	114.45	37		ePKPdf	PKPdf	03 01 23.7	+0.8	
OBN					PP	PP	03 02 18.0	-2.0	
OBN					ePP	PP	03 02 18.3	-1.7	
OBN					PKKPbc	PKKPbc	03 12 02.2	-1.6	
OBN					PKKPab	PKKPab	03 12 08.8	+1.4	
OBN					LR	LR			
	comp=Z,5μm,21.0s								
RER	Riviere de l'E	114.53	124		PFAKE		03 01 40.0	+16	
RER					LR	LR			
	comp=Z,4μm,20.0s								
MOS	Moscow	115.01	36		ePKIKP	PKPdf	03 01 24.4	+0.4	
MOS					ePPP	PPP	03 04 45.9		
MOS					e		03 08 31.8		
MOS					ePS	PKKPbc	03 12 00.3	-1.6	
MOS					MLR	MLR			
	comp=Z,4μm,20.0s								
ANN	Anapa	115.23	48	c	i PKIKP	PKPdf	03 01 25.1	+0.3	
ANN					i		03 02 23.0		
ANN					i PS	PKKPab	03 12 04.8	+0.5	
KLMR	Klimovskoe	115.42	31	c	i PKIKP	PKPdf	03 01 25.0	+0.4	
KLMR					*PP	PP	03 02 22.7	-3.9	
KLMR							03 12 09.8		
TARA	Tarawa	115.56	263		PFAKE		03 01 40.0	+14	
TARA					LR	LR			
	comp=Z,5μm,20.0s								
MALT	Malatya	115.75	56	⇑	PKIKP	PKPdf	03 01 27.8	+1.6	
MALT	Malatya	115.75	56	⇑	iP	PKPdf	03 01 27.8	+1.6	
MALT	Malatya	115.75	56	⇓	iP	PKKPab	03 12 05.1	+2.6	
LPSR	Galich'ya Gora	116.00	40		ePKIKP	PKPdf	03 01 26.6	+0.6	
LPSR					e		03 02 27.8		
LPSR					eSP	SP	03 12 07.8	+1.2	
LPSR					ePS	PS	03 12 14.6	+1.6	
LPSR					pmax	pmax			
	comp=Z,670nm,3.0s								
LPSR					pmax	pmax			
	comp=N,30nm,1.4s								
LPSR					pmax	pmax			
	comp=E,190nm,1.6s								
VSR	Storozhevoye	116.24	41		ePKIKP	PKPdf	03 01 26.9	+0.4	
VSR					e		03 02 28.9		
VSR					ePS	PS	03 12 15.9	+0.7	
VSR					eSS	SS	03 18 25.3	-7.7	
VSR					pmax	pmax			
	comp=Z,980nm,4.0s								
VSR					pmax	pmax			
	comp=N,170nm,4.9s								
VSR					pmax	pmax			
	comp=E,610nm,3.3s								
VORD	Divnogorie	116.34	42		ePKIKP	PKPdf	03 01 26.9	+0.2	
VORD					e		03 02 29.7		
VORD					ePS	PS	03 12 16.7	+0.6	
VORD					eSS	SS	03 18 27.9	-6.3	
VORD					pmax	pmax			
	comp=Z,710nm,3.5s								
VORD					pmax	pmax			
	comp=N,80nm,2.2s								
VORD					pmax	pmax			
	comp=E,530nm,3.3s								
AIS	Amsterdam Isla	116.85	152		PP	PP	03 02 25.0	-11	
AIS					SP	SP	03 11 58.0	-16	
AIS					SS	SS	03 18 46.0	+6.6	
AIS					L	L	03 31 00.0		
AIS					R		03 38 00.0		
SOC	Sochi	116.87	50	c	i PKIKP	PKPdf	03 01 28.5	+0.5	
SOC					ePS	PKKPdf	03 12 23.2	+1.1	
DAMY	Dhamar	117.78	83		ePKPdf	PKPdf	03 01 33.2	+2.2	
PRGR	Permogore	118.16	29		ePKIKP	PKPdf	03 01 31.1	+1.2	
PRGR					e*PP	PP	03 02 44.6	-1.0	
CHVG	Ch'k'valeri	118.61	51		P	PKPdf	03 01 32.0	+0.6	
BILL	Bilibino	118.79	339	c	i PKIKP	PKPdf	03 01 31.3	+0.3	
BILL					i		03 02 47.1		
BILL					ePPP	PPP	03 05 22.1		
BILL	Bilibino	118.79	339		ePKPdf	PKPdf	03 01 31.1	+0.1	
BILL					ePP	PP	03 02 46.6	-3.2	
KIV	Kislovodsk	119.01	49		i P	Pdif	02 57 52.3	-1.0	
KIV					e		03 01 32.9		
KIV					e		03 02 50.6		
KIV					ePPP	PPP	03 05 26.1		
KIV					ePS	PS	03 12 43.1	+2.3	
KIV					eSS	SS	03 19 13.3	+3.7	
KIV					MLR	MLR			
	comp=Z,2μm,20.0s								
KIV	Kislovodsk	119.01	49	⇓	iP	PKPdf	03 01 33.0	+0.8	
	SNR=34								
KIV	Kislovodsk	119.01	49		ePKPdf	PKPdf	03 01 33.0	+0.8	
KIV					ePP	PP	03 02 46.7	-5.6	
KIV					LR	LR			
	comp=Z,2μm,19.0s								
KBZ	Khabaz	119.17	50		PKP	PKPdf	03 01 33.8	+1.4	
	comp=Z,148nm,0.8s,baz=56,slow=24,SNR=191								
KBZ					PP	PP	03 02 50.8	-2.6	
	comp=Z,11nm,0.8s,baz=233,slow=20,SNR=2.6								
KBZ					PKKPbc	PKKPbc	03 11 44.9	-1.8	
	comp=Z,14nm,1.0s,baz=56,slow=24,SNR=14								
KBZ	Khabaz	119.17	50		PKP	PKPdf	03 01 33.8	+1.4	
KBZ					PP	PP	03 02 50.8	-2.6	
KBZ					PKKPbc	PKKPbc	03 11 44.9	-1.8	
GOF	Gofitskoye	119.21	48		ePKIKP	PKPdf	03 01 32.5	0.0	
ONI	Oni	119.62	51		P	PKPdf	03 01 34.3	+0.9	
NCK	Nalchik	119.69	50	c	i PKIKP	PKPdf	03 01 34.6	+1.1	
AKH	Akhalkalaki	119.69	52		P	PKPdf	03 01 34.5	+0.7	
ZEI	Tsey	119.95	51		i PKIKP	PKPdf	03 01 35.1	+0.9	
ZEI					e		03 02 55.1		
RAYN	Ar Rayn	120.43	73		ePKPdf	PKPdf	03 01 36.3	+0.8	
DUS	Dusheti	120.57	51		P	PKPdf	03 01 37.6	+2.3	
TBLG	Delisi	120.61	52		P	PKPdf	03 01 35.7	+0.4	
SEAG	Tbilisi Sea	120.66	52		P	PKPdf	03 01 36.1	+0.7	
GNI	Garni	120.67	54		PKP	PKPdf	03 01 37.2	+1.5	
	comp=Z,73nm,0.6s,baz=275,slow=0.5,SNR=66								
GNI					PP	PP	03 03 01.3	-2.7	
	comp=Z,3.4nm,0.4s,baz=344,slow=20,SNR=1.5								
GNI					PKKPbc	PKKPab	03 11 40.6	-0.4	
	comp=Z,2.9nm,0.4s,baz=164,slow=9.0,SNR=6.6								
GNI	Garni	120.67	54	c	i PKIKP	PKPdf	03 01 36.8	+1.1	
GNI	Garni	120.67	54	⇓	iP	PKPdf	03 01 37.1	+1.5	
	SNR=11								
GNI	Garni	120.67	54		ePKPdf	PKPdf	03 01 36.5	+0.8	
GNI					PKP	PKPdf	03 01 37.2	+1.5	
GNI					PP	PP	03 03 01.4	-2.7	
GNI					PKKPbc	PKKPab	03 11 40.6	-0.4	
GNI					LR	LR			
	comp=Z,1μm,20.0s								
EIDS	Eidsvold	120.75	224		ePKPdf	PKPdf	03 01 36.2	+0.1	
STKA	Stephens Creek	121.51	212		PKP	PKPdf	03 01 37.3	-0.2	
	comp=Z,43nm,0.9s,baz=111,slow=2.9,SNR=83								
STKA					PP	PP	03 03 06.7	-1.8	
	comp=Z,3.1nm,0.7s,baz=129,slow=14,SNR=1.7								
STKA					PKKPbc	PKKPbc	03 11 36.6	-1.5	
	comp=Z,14nm,0.6s,baz=330,slow=3.9,SNR=31								
STKA	Stephens Creek	121.51	212		ePKPdf	PKPdf	03 01 37.2	-0.2	
STKA					PP	PP	03 03 06.7	-1.8	
STKA					PKKPbc	PKKPbc	03 11 36.6	-1.5	
MSEY	Mahe Island	122.22	108		PFAKE		03 01 50.0	+11	
MSEY					LR	LR			
	comp=Z,8μm,22.0s								
MAK	Makhachkala	122.58	50		i PKIKP	PKPdf	03 01 40.1	+1.1	
MAK					ePPP	PPP	03 05 53.7		
MAK					e		03 08 51.4		
MAK					ePS	PS	03 13 06.7	-5.7	
MAK					eSS	SS	03 19 58.3	+3.2	
HNR	Honiara	123.11	245		PFAKE		03 01 50.0	+9.1	
HNR					LR	LR			
	comp=Z,4μm,22.0s								
BBOO	Buckleboo	123.33	207		ePKPdf	PKPdf	03 01 40.7	-0.2	
SOKR	Solikamsk	124.02	29	c	i PKIKP	PKPdf	03 01 42.1	+0.9	
SOKR							03 03 22.5		
SOKR					PS	PS	03 13 24.5	+0.1	
SOKR					SS	SS	03 20 14.4	+2.4	
SOKR					SSS	SSS	03 24 49.2		
SOKR					MLR	MLR			
	comp=Z,1μm,19.0s								
TIXI	Tiksi	125.23	353		ePKIKP	PKPdf	03 01 43.3	+0.1	
TIXI					MLR	MLR			
	comp=Z,6μm,22.0s								
TIXI	Tiksi	125.23	353		ePKPdf	PKPdf	03 01 43.3	+0.1	
TIXI					LR	LR			
	comp=Z,6μm,22.0s								
H11N3	WAKE ISLAND Hyl	125.81	282		PKP	PKPdf	03 01 46.8	+1.2	
	baz=194,slow=8.1,SNR=8.3								
H11N3					T	T	05 19 36.1		
	baz=98,slow=74								
H11S2	WAKE ISLAND Hyl	125.81	280		PKP	PKPdf	03 01 46.3	+0.6	
	baz=141								
H11S2					T	T	05 19 42.2		
	baz=100,slow=75								
H11S1	WAKE ISLAND Hyl	125.82	280		PKP	PKPdf	03 01 47.1	+1.4	
	baz=141,slow=74,SNR=3.2								
H11S1					T	T	05 19 40.8		
	baz=100,slow=75								
H11N2	WAKE ISLAND Hyl	125.82	282		PKP	PKPdf	03 01 47.3	+1.7	
	baz=194,slow=8.1,SNR=3.5								
H11N2					T	T	05 19 39.1		
	baz=98,slow=74								
H11N1	WAKE ISLAND Hyl	125.82	282		PKP	PKPdf	03 01 47.1	+1.5	
	baz=194,slow=8.1,SNR=5.4								
H11N1					T	T	05 19 39.3		
	baz=98,slow=74,SNR=7628								
H11S3	WAKE ISLAND Hyl	125.83	280		PKP	PKPdf	03 01 46.5	+0.8	
	baz=141,slow=74,SNR=3.9								
H11S3					T	T	05 19 43.5		
	baz=100,slow=75								
WAKE	Wake Island	125.98	281		ePKPdf	PKPdf	03 01 46.9	+0.7	
WAKE					LR	LR			
	comp=Z,6μm,20.0s								
ARU	Arti	126.18	32		i PKIKP	PKPdf	03 01 46.5	+1.0	
ARU							03 03 40.8		
ARU							03 08 48.0		
ARU					SP	SP	03 13 36.7	-0.1	
ARU					PS	PS	03 13 46.1	+2.5	
ARU	Arti	126.18	32		ePKPdf	PKPdf	03 01 46.7	+1.2	
ARU					ePP	PP	03 03 38.5	-1.7	
ARU					LR	LR			
	comp=Z,3μm,21.0s								
SEY	Seymchan	126.36	337		PKP	PKPdf	03 01 47.1	+1.5	
	comp=Z,262nm,0.9s,baz=111,slow=1.7,SNR=208								
SEY					PKKPbc	PKKPab	03 11 16.9	+1.5	
	comp=Z,2.2nm,0.5s,baz=186,slow=1.1,SNR=5.3								
SEY	Seymchan	126.36	337

SNR=12
JMDO P **PKiKP** **03 01 57.9 -0.5**
SNR=11
SMDO Samad 131.85 75 P **PKiKP** **03 01 58.0 -0.5**
SNR=41
SMDO P **PKPdf** **03 01 58.3 +0.9**
SNR=37
AS31 Alice Springs 132.10 211 *e*PKPdf **PKPdf** **03 01 55.9 -2.0**
ASAR Alice Springs 132.10 211 PKhKP PKPpre 03 01 39.1
comp=Z,4.5nm,0.9s,baz=141,slow=2.2,SNR=14
ASAR PKP **PKPdf** **03 01 58.0 +0.1**
comp=Z,66nm,0.8s,baz=128,slow=1.8,SNR=71
ASAR PP **PP** **03 04 15.7 -2.9**
comp=Z,17nm,1.2s,baz=148,slow=6.0,SNR=4.7
ASAR PKKP **PKKPdf** **03 11 48.4 -3.7**
comp=Z,3.7nm,0.7s,baz=336,slow=1.3,SNR=9.0
ASAR SKKPbc **SP** **03 14 26.1 -3.1**
comp=Z,7.6nm,0.9s,baz=332,slow=4.2,SNR=5.3
ASAR Alice Springs 132.10 211 PKPpre PKPpre 03 01 39.1
ASAR PKP **PKPdf** **03 01 58.0 +0.1**
ASAR PP **PP** **03 04 15.7 -2.9**
ASAR PKKP **PKKPdf** **03 11 48.4 -3.7**
ASAR SKKPbc **SP** **03 14 26.1 -3.1**
WBK Wadi Bani Khal 132.67 76 P **PKiKP** **03 02 00.7 +0.7**
SNR=21
BRVK Borovoye 133.75 32 PKIKP **PKPdf** **03 02 00.4 +0.4**
BRVK pmax pmax
comp=Z,436nm,1.5s
BRVK Borovoye 133.75 32 *e*PKPdf **PKPdf** **03 02 01.4 +1.4**
BRVK *e*PP **PP** **03 04 27.6 -1.7**
PMG Port Moresby 133.79 237 PKP **PKPdf** **03 02 01.3 +0.1**
PMG Port Moresby 133.79 237 *c i*PKIKP **PKPdf** **03 02 01.7 +0.5**
PMG Port Moresby 133.79 237 PKP **PKPdf** **03 02 01.3 +0.1**
PMG *e*PKPdf **PKiKP** **03 02 02.2 -0.3**
PMG LR LR
comp=Z,4μm,19.0s
BVAR Borovoye Array 133.82 32 PKP **PKPdf** **03 02 02.0 +1.9**
comp=Z,49nm,0.7s,baz=270,slow=2.5,SNR=74
BVAR PP **PP** **03 04 27.3 -2.5**
comp=Z,14nm,0.9s,baz=308,slow=7.3,SNR=7.0
BVAR SKKPbc SKKPbc 03 14 24.5 -17
comp=Z,6.0nm,1.1s,baz=116,slow=6.6,SNR=4.0
BVAR Borovoye Array 133.82 32 PKP **PKPdf** **03 02 02.0 +1.9**
BVAR PP **PP** **03 04 27.3 -2.5**
BVAR SKKPbc SKKPbc 03 14 24.5 -17
YAK Yakutsk 133.86 347 PKhKP PKPpre 03 01 46.4
comp=Z,17nm,0.4s,baz=317,slow=1.2,SNR=2.6
YAK PKP **PKPdf** **03 02 00.1 +0.2**
comp=Z,42nm,0.5s,baz=108,slow=0.2,SNR=18
YAK Yakutsk 133.86 347 *i* PKIKP **PKPdf** **03 01 58.6 -1.3**
YAK *e* 03 04 26.8
YAK *e*PPP PPP 03 07 22.9
YAK *e* 03 09 02.0
YAK *e*PS **PS** **03 14 43.6 -6.1**
YAK pmax pmax
comp=N,192nm,1.6s
YAK pmax pmax
comp=Z,565nm,2.8s
YAK pmax pmax
comp=E,186nm,2.8s
YAK MLR MLR
comp=N,3μm,22.0s
YAK MLR MLR
comp=Z,4μm,21.0s
YAK MLR MLR
comp=E,2μm,27.0s
YAK Yakutsk 133.86 347 PKPpre PKPpre 03 01 46.4
YAK PKP **PKPdf** **03 02 00.1 +0.2**
YAK *e*PKPdf **PKiKP** **03 02 00.8 -0.4**
YAK *e*PP PP 03 04 21.1 -8.4
YAK LR LR
comp=Z,2μm,22.0s
COEN Coen 133.92 229 *e*PKPdf **PKPdf** **03 02 02.1 +0.7**
COEN *e*PP **PP** **03 04 27.4 -3.5**
WRA Warramunga Arr 134.97 214 PKhKP PKPpre 03 01 47.0
comp=Z,8.5nm,0.8s,baz=139,slow=3.2,SNR=20
WRA PKP **PKPdf** **03 02 03.2 -0.1**
comp=Z,79nm,0.6s,baz=143,slow=1.8,SNR=53
WRA SKPbc **SKPbc** **03 05 30.1 -0.1**
comp=Z,16nm,1.1s,baz=150,slow=3.0,SNR=3.9
WRA SKKPbc SKKPbc 03 14 10.6 -24
comp=Z,7.0nm,1.0s,baz=318,slow=3.0,SNR=5.0
WRA Warramunga Arr 134.97 214 PKPpre PKPpre 03 01 47.0
WRA PKP **PKPdf** **03 02 03.2 -0.1**
WRA SKPbc **SKPbc** **03 05 30.1 -0.1**
WRA SKKPbc SKKPbc 03 14 10.6 -24
WRAB Tennant Creek 134.98 214 *c i*PKIKP **PKPdf** **03 02 03.4 +0.1**
WRAB pmax pmax
comp=Z,2μm,2.5s
WRAB Tennant Creek 134.98 214 *e*PKPpre PKPpre 03 01 47.2
WRAB *e*PKPdf **PKPdf** **03 02 03.2 -0.1**
DGAR Diego Garcia 135.58 122 PFAKE 03 02 20.0 +15
DGAR LR LR
comp=Z,5μm,21.0s
OTUK Ortayu 137.47 37 PKIKP **PKPdf** **03 02 08.0 +0.9**
KUR Kuril'sk 138.14 319 *c i*PKHKP PKPpre 03 01 59.0
KKAR Karatay Array 138.79 44 *e*PKHKP PKPpre 03 02 04.8
KKAR *e* 03 02 11.3
KKAR Karatay Array 138.79 44 *e*PKPpre PKPpre 03 02 04.8
KKAR *e*PKPdf **PKiKP** **03 02 11.3 -0.6**
KURK Kurchatov 139.26 30 *e*PKHKP PKPpre 03 02 02.1
KURK 03 02 10.6
KURK *e* 03 05 02.2
KURK Kurchatov 139.26 30 *e*PKPpre PKPpre 03 02 02.1
KURK PKP **PKPdf** **03 02 10.6 +0.4**
KURK *e*PKPdf **PKiKP** **03 02 11.9 -0.6**
KURK *e*PP **PP** **03 05 02.2 -1.5**
KURK SKKPbc SKKPbc 03 14 06.2 -15
KURBB Kurchatov Arra 139.28 30 PKP **PKPdf** **03 02 10.6 +0.3**
comp=Z,88nm,0.9s,baz=310,slow=2.7,SNR=41
KURBB PP **PP** **03 05 02.2 -1.7**
comp=Z,29nm,1.2s,baz=315,slow=6.6,SNR=10
KURBB SKKPbc SKKPbc 03 14 06.2 -15
comp=Z,17nm,1.1s,baz=137,slow=5.1,SNR=5.4
ZALV Zalesovo Beam 139.49 22 PKhKP PKPpre 03 02 01.5
comp=Z,64nm,0.9s,baz=308,slow=4.1,SNR=56
ZALV PKP **PiKiP** **03 02 12.1 -0.8**
comp=Z,231nm,0.9s,baz=316,slow=2.4,SNR=36
ZALV SKPbc **SKiKP** **03 05 45.9 +0.6**
comp=Z,18nm,1.0s,baz=308,slow=4.7,SNR=2.5
ZALV PKKPbc 03 10 23.3
comp=Z,4.5nm,0.9s,baz=243,slow=1.6,SNR=3.6
ZALV SKKPbc SKKPbc 03 13 55.7 -25
comp=Z,6.7nm,0.9s,baz=106,slow=4.8,SNR=4.6
ZALV Zalesovo Beam 139.49 22 PKPpre PKPpre 03 02 01.5
ZALV PKP **PiKiP** **03 02 12.1 -0.8**
ZALV SKPbc **SKiKP** **03 05 45.9 +0.6**
ZALV PKKPbc 03 10 23.3
ZALV SKKPbc SKKPbc 03 13 55.7 -25
CLNS Chul'man 139.62 347 *e*PKIKP **PKPdf** **03 02 10.2 -0.6**
CLNS MLR MLR
comp=N,2μm,19.0s
CLNS MLR MLR
comp=E,2μm,21.0s
CLNS MLR MLR
comp=Z,3μm,23.0s
MBWA Marble Bar 139.70 195 *e*PKPpre PKPpre 03 02 02.0
MBWA *e*PKPdf **PKPdf** **03 02 12.1 +0.1**
YUK Yuzh-Kuril'sk 139.97 318 PKHKP PKPpre 03 01 51.0
YUK *i* SS SS 03 23 26.8 -0.1
BOD Bodaibo 140.19 356 *e*PKHKP PKPpre 03 02 02.6
BOD pmax pmax
comp=Z,72nm,1.5s
YSS Yuzh-Sakhalins 140.29 324 ⇑ *i*PKHKP PKPpre 03 02 04.3
YSS *i* 03 02 13.3
YSS *i* 03 05 13.0
YSS *e*SS SS 03 23 36.0 +5.8
YSS pmax pmax
comp=Z,2μm,5.0s
YSS MLR MLR
comp=N,2μm,19.0s
YSS MLR MLR
comp=Z,2μm,19.0s
YSS Yuzh-Sakhalins 140.29 324 *e*PKPpre PKPpre 03 02 03.8
YSS *e*PKPdf **PKPdf** **03 02 13.4 +1.2**
YSS *e*PP PP 03 04 55.9 -14
KBL Kabul 140.57 57 *e*PKHKP PKPpre 03 02 07.5
KBL *e* 03 02 14.6
KBL *e* 03 05 10.4
KBL Kabul 140.57 57 *e*PKPpre PKPpre 03 02 07.5
KBL *e*PKPdf **PKPdf** **03 02 14.6 +1.1**
KBL *e*PP **PP** **03 05 10.4 -2.7**
EKS2 Erkin-Say 141.14 43 P **PKPdf** **03 02 09.1 -5.0**
SNR=19
EKS2 Erkin-Say 141.14 43 *e*PKHKP PKPpre 03 02 09.8
EKS2 *e* 03 02 16.3
EKS2 MLR MLR
comp=Z,4μm,22.0s
EKS2 Erkin-Say 141.14 43 *e*PKPpre PKPpre 03 02 09.8
EKS2 *e*PKPdf **PKiKP** **03 02 16.2 -0.6**
EKS2 LR LR
comp=Z,4μm,22.0s
USP Ospenovka 141.31 42 P **PKPdf** **03 02 16.9 +2.6**
SNR=23
USP Ospenovka 141.31 42 *i* PKIKP **PKPdf** **03 02 16.9 +2.6**
AML Almayashu 141.33 44 P **PKPdf** **03 02 10.3 -4.5**
SNR=24
FRU Bishkek 141.60 43 *i* PKHKP PKPpre 03 02 08.0
FRU pmax pmax
comp=Z,640nm,2.0s
AAK Ala-Archa 141.62 43 P **PKPdf** **03 02 12.8 -2.2**
SNR=25
AAK Ala-Archa 141.62 43 PKhKP PKPpre 03 02 10.6
comp=Z,27nm,0.9s,baz=248,slow=2.5,SNR=41
AAK SKKPbc SKKPbc 03 13 49.6 -22
comp=Z,6.3nm,0.9s,baz=182,slow=6.2,SNR=4.8
AAK Ala-Archa 141.62 43 *c*PKIKP **PKPdf** **03 02 16.7 +1.7**
AAK Ala-Archa 141.62 43 PKPpre PKPpre 03 02 10.6
AAK *e*PKPpre PKPpre 03 02 10.9
AAK *e*PKPdf **PKiKP** **03 02 16.9 -1.0**
AAK *e*PP PP 03 05 12.8 -6.1
AAK SKKPbc SKKPbc 03 13 49.6 -22
AAK LR LR
comp=Z,4μm,22.0s
UCH Uchtor 141.82 43 P **PKPdf** **03 02 11.9 -3.8**
SNR=48
KBK Karagaybulak 141.90 43 P **PKPdf** **03 02 13.5 -2.0**
SNR=27
ASAJ Asahikawa 141.96 320 PKhKP PKPpre 03 02 09.8
comp=Z,96nm,1.0s,baz=90,slow=9.1,SNR=23
ASAJ Asahikawa 141.96 320 *e*PKPpre PKPpre 03 02 09.8
ASAJ *e*PKPdf **PKPdf** **03 02 16.7 +1.4**
ASAJ *e*PP **PP** **03 05 19.8 -0.8**
TKM2 Tokmak 2 142.18 42 P PKPpre 03 02 12.4
SNR=31
TKM2 Tokmak 2 142.18 42 *e*PKHKP PKPpre 03 02 12.4
TKM2 *e* 03 02 17.1
TKM2 MLR MLR
comp=Z,3μm,20.0s
TKM2 Tokmak 2 142.18 42 *e*PKPpre PKPpre 03 02 12.4
TKM2 *e*PKPdf **PKPdf** **03 02 17.1 +1.0**
TKM2 LR LR
comp=Z,3μm,20.0s
KZA Kyzart 142.38 43 P **PKPdf** **03 02 15.2 -1.5**
SNR=26
BHJ Bhuj 142.53 75 *e*P **PKPdf** **03 02 15.2 -1.8**
ERM Erimo 142.68 317 *i* PKIKP **PKPdf** **03 02 18.4 +1.7**
ERM Erimo 142.68 317 *e*PKPdf PKPpre 03 02 13.0
ERM LR LR
comp=Z,4μm,21.0s
ULHL Ulahol 142.93 42 P **PKPdf** **03 02 16.6 -0.9**
SNR=77
JAY Jayapura 142.99 240 PKhKP PKPpre 03 02 14.2
comp=Z,96nm,1.0s,baz=160,slow=1.8,SNR=40
JAY Jayapura 142.99 240 PKPpre PKPpre 03 02 14.2
HABR Khabarovsk 143.23 331 *de*PKIKP PKPbc 03 02 15.6 +1.1
HABR *i* 03 02 20.8
HABR *e* 03 02 27.9
HABR *e* 03 05 27.4
HABR 03 09 22.5
HABR *e*SS SS 03 24 06.9 +2.9
HABR *e*SSS SSS 03 29 28.4
MK31 Makanchi Array 143.70 32 PKHKP PKPpre 03 02 15.3
MK31 pmax pmax
comp=Z,353nm,1.0s
MKAR Makanchi Array 143.70 32 PKP PKPbc 03 02 16.8 +0.9
comp=Z,142nm,0.9s,baz=336,slow=3.7,SNR=256
MKAR SKKPbc SKKPbc 03 13 40.4 -23
comp=Z,18nm,1.0s,baz=185,slow=5.6,SNR=8.7
MKAR Makanchi Array 143.70 32 PKP PKPbc 03 02 16.8 +0.9
MKAR SKKPbc SKKPbc 03 13 40.4 -23
KSH Kashi 144.06 47 ⇑ *i*PKP PKPbc 03 02 18.4 +1.0
KSH pPKP pPKPdf 03 02 28.9 -4.9
KSH PP **PP** **03 05 32.0 -1.7**
KSH PKS **PKSdf** **03 05 52.6 -2.5**
KSH SKS **SKSdf** **03 09 22.8 -2.5**
KSH LN
comp=Z,1μm,17.9s
KSH LE
comp=Z,3μm,21.5s
KSH LZ
comp=Z,5μm,24.1s
HVS Khovu-Aksy 144.75 17 ⇑ *i*PKIKP **PKPdf** **03 02 19.7 -0.5**
GUMO Guam 145.63 268 PKPbc **PKPdf** **03 02 22.3 -0.3**
comp=Z,1μm,0.8s,baz=179,slow=1.6,SNR=14
GUMO Guam 145.63 268 PKIKP **PKPdf** **03 02 22.3 -0.3**
GUMO MLR MLR
comp=Z,373nm,20.0s
GUMO Guam 145.63 268 PKPbc **PKPdf** **03 02 22.3 -0.3**
GUMO *e*PKPdf **PKPbc** **03 02 22.7 -0.2**
GUMO LR LR
comp=Z,373nm,20.0s
IRK Irkutsk 145.69 6 ⇑ *i*PKIKP **PKPab** **03 02 22.3 -0.1**
IRK *e* 03 05 41.2
MOY Mondy 145.85 9 *e*PKIKP **PKPab** **03 02 23.8 +0.7**
GOA Goa 145.86 89 *e*P **PKPdf** **03 02 22.7 -0.2**
CIT Chita 145.99 355 *e*PKP2 **PKPab** **03 02 24.0 +0.4**
CIT *e* 03 05 44.4
CIT pmax pmax
comp=Z,4μm,2.0s
TLY Talaya 146.18 6 PKPbc **PKPab** **03 02 24.7 +0.4**
comp=Z,198nm,0.7s,baz=354,slow=1.2,SNR=139
TLY Talaya 146.18 6 *c i*PKP2 **PKPbc** **03 02 23.8 +0.2**
TLY *e* 03 05 45.3
TLY *e* 03 18 20.2
TLY *e*SSS SSS 03 30 09.8
TLY pmax pmax
comp=Z,2μm,2.0s
TLY MLR MLR
comp=Z,4μm,23.0s
TLY Talaya 146.18 6 *e*PKPdf **PKPab** **03 02 24.4 +0.2**
TLY PKPbc **PKPab** **03 02 24.6 +0.4**
TLY LR LR
comp=Z,3μm,22.0s
POO Poona 146.27 84 *e*P **PKPdf** **03 02 23.2 -0.4**
POO *i* PKPP 03 02 24.0
POO *i* PP **PP** **03 05 45.0 -2.8**
MNGI Mangalore 146.31 94 *ex* PKPpre 03 02 12.2
DLH Dalhousie 146.68 58 *e*P **PKPbc** **03 02 26.0 +0.1**
DHRM DHARAMSHALA 147.03 58 *e*P **PKPdf** **03 02 24.2 -0.6**
TRD Trivandrum 147.06 103 *e*P **PKPdf** **03 02 24.2 -0.9**
BHK Bhakra 147.37 60 *ex* **PKPab** **03 02 28.0 -1.6**
BHK *ex* x 03 02 54.6
ZAK Zakamensk 147.42 7 *e*PKP2 **PKPbc** **03 02 26.5 -0.7**
ZAK pmax pmax
comp=Z,530nm,1.4s
COCO West Island 147.45 157 *i* PKP2 **PKPab** **03 02 29.9 -0.2**
COCO West Island 147.45 157 *e*PKPdf **PKPbc** **03 02 27.1 -1.1**
COCO *e*PKPbc **PKPab** **03 02 29.6 -0.6**
COCO LR LR
comp=Z,3μm,20.0s
SDNR Sundarnagar 147.80 59 *e*P **PKPbc** **03 02 27.4 -1.4**
USRK Ussuriysk Ar. 147.80 329 PKPbc **PKPdf** **03 02 26.8 +1.3**
comp=Z,608nm,0.9s,baz=37,slow=1.6,SNR=119
HIA Hailar 147.80 347 *c i*PKIKP **PKPdf** **03 02 25.8 +0.5**
HIA Hailar 147.80 347 *e*PKPdf **PKPdf** **03 02 26.1 +0.7**
HIA *e* 03 05 54.9
HIA LR LR
comp=Z,3μm,21.0s
SMLA Simla 148.07 60 *i* P **PKPdf** **03 02 25.9 -0.3**
KKR Kurukshetra 148.09 62 *e*P **PKPdf** **03 02 27.6 +1.3**
KUDL Kundal 148.20 66 ⇑ *i*P **PKPdf** **03 02 25.2 -1.3**
BHGR Bahadurgarh 148.48 64 *e*P **PKPdf** **03 02 26.7 -0.3**
WMQ Urumqi 148.50 31 PKPbc **PKPdf** **03 02 27.8 +1.1**
WMQ pPKP **pPKPdf** **03 02 38.4 -2.7**
WMQ sPKP 03 02 42.2
WMQ PKS **PP** **03 06 00.0 +0.7**
WMQ PP PP 03 06 04.9 +5.6
WMQ SKS **SKSdf** **03 09 30.1 -1.2**
WMQ SKKS **SKKSac** **03 12 47.7 +0.3**
WMQ SS **SS** **03 25 06.8 +2.6**
WMQ LN
comp=Z,4μm,23.8s
WMQ LE
comp=Z,4μm,23.8s
WMQ LZ
comp=Z,4μm,24.0s
CBIJ Chichi jima 148.52 292 PKP **PKPdf** **03 02 27.1 0.0**
CBIJ *e*PKPdf **PKPbc** **03 02 27.4 -3.4**
CBIJ PKPbc **PKiKP** **03 02 30.7 -1.6**
JCJ Chichijima 148.52 292 PKP **PKPdf** **03 02 27.1 0.0**
comp=Z,1μm,1.0s,baz=176,slow=1.4,SNR=12
JCJ PKPbc **PKPbc** **03 02 30.7 -0.1**
comp=Z,1μm,1.0s,baz=120,slow=3.8,SNR=11
BATI Baumata 148.55 208 PKP **PKPdf** **03 02 28.6 +1.0**
comp=Z,1μm,1.1s,baz=192,slow=5.7,SNR=8.4
BATI PKPbc **PKPbc** **03 02 31.8 +0.6**
comp=Z,718nm,1.0s,baz=169,slow=1.9,SNR=42
BATI Baumata 148.55 208 PKP **PKPdf** **03 02 28.6 +1.0**
BATI PKPbc **PKPbc** **03 02 31.8 +0.6**
MDJ Mudanjiang 148.62 332 PKPbc **PKPdf** **03 02 27.4 +0.6**
MDJ PP **PP** **03 06 01.1 +1.3**
MDJ SS SS 03 25 07.1 +1.9
MDJ LN
comp=Z,2μm,37.2s
MDJ LE
comp=Z,2μm,29.3s
MDJ LZ
comp=Z,3μm,32.9s
MDJ Mudanjiang 148.62 332 *e*PKPdf **PKPdf** **03 02 27.4 +0.6**
MDJ *e*PKPbc **PKPbc** **03 02 31.1 +0.6**
MDJ LR LR
comp=Z,4μm,22.0s
VLA Vladivostok 148.63 327 *c i*PKIKP **PKPdf** **03 02 27.5 +0.7**
SOEI Soe 148.68 209 *e*PKPdf **PKPdf** **03 02 28.9 +1.0**
SOEI *e*PKPbc **PiKiP** **03 02 33.0 -0.1**
MJAR Matsushiro Arr 148.68 312 PKP **PKPdf** **03 02 27.5 +0.4**
comp=Z,889nm,1.0s,baz=139,slow=0.1,SNR=139
MJAR PKPbc **PKPbc** **03 02 31.6 +0.6**
comp=Z,789nm,0.9s,baz=105,slow=1.7,SNR=302
MJAR PP **PP** **03 05 58.6 -2.4**
comp=Z,8.3nm,1.1s,baz=84,slow=2.0,SNR=3.5
MJAR Matsushiro Arr 148.68 312 PKP **PKPdf** **03 02 27.5 +0.4**
MJAR PKPbc **PKPbc** **03 02 31.6 +0.6**
MJAR PP **PP** **03 05 58.5 -2.4**
MAJO Matsushiro 148.68 312 *c i*PKIKP **PKPdf** **03 02 27.5 +0.4**
MAJO Matsushiro 148.68 312 *e*PKPdf **PKPdf** **03 02 28.2 +1.0**
MAJO *e*PKPbc **PiKiP** **03 02 31.9 -0.5**
MAJO LR LR
comp=Z,7μm,21.0s
MAT Matsushiro 148.68 312 PKP **PKPdf** **03 02 27.3 +0.2**
SONA Sohna 148.69 65 *e*P **PKPdf** **03 02 27.9 +0.5**
JHJ2 Mitsune 148.91 305 *e*PKPdf **PKPdf** **03 02 28.2 +0.6**
JHJ2 *e*PKPbc **PKPbc** **03 02 32.0 +0.4**
BISR Bishrakh 148.93 64 *e*P **PKPdf** **03 02 26.4 -1.3**
DDI Dehra Dun 149.03 61 *e*P **PKPbc** **03 02 30.4 -1.7**
URV Uravakonda 149.04 91 *e*PKPbc **PKPdf** **03 02 29.3 +1.0**
URV *e*PKiKP **PiKiP** **03 02 33.3 -0.4**
URV *e*PP **PP** **03 06 02.1 -2.0**
URV *e* 03 20 20.4
URV *e*SS SS 03 25 13.8 +0.5
FAKI Fak Fak 149.30 229 *e*PKPdf **PKPdf** **03 02 30.1 +1.3**
FAKI *e*PKPbc **PiKiP** **03 02 34.0 -0.3**
AGRA Agra 149.64 67 *e*P **PKPdf** **03 02 29.4 +0.5**
BHPL Bhopal 149.67 75 *e*P **PKPdf** **03 02 30.4 +1.2**
PALK Pallekele 150.04 107 *e*PKIKP **PKPdf** **03 02 30.9 +0.9**
PALK *e* 03 02 36.1
PALK Pallekele 150.04 107 ⇓ *i*P **PKPdf** **03 02 31.1 +1.1**
SNR=22
PALK Pallekele 150.04 107 *e*PKPdf **PKPdf** **03 02 30.9 +0.9**
PALK *e*PKPbc **PiKiP** **03 02 36.1 +0.2**
SONM Songino Array 150.24 4 PKP **PKPdf** **03 02 30.4 +1.0**
comp=Z,47nm,1.0s,baz=284,slow=0.3,SNR=173
SONM PKPbc **PiKiP** **03 02 35.4 0.0**
comp=Z,218nm,0.9s,baz=328,slow=1.4,SNR=114
SONM PP **PP** **03 06 08.6 -0.2**
comp=Z,16nm,1.0s,baz=332,slow=4.1,SNR=4.4
SONM Songino Array 150.24 4 PKP **PKPdf** **03 02 30.4 +1.0**
SONM PKPbc **PiKiP** **03 02 35.4 0.0**
SONM PP **PP** **03 06 08.6 -0.2**
ULN Ulaanbaatar 150.25 3 PKPdf **PKPdf** **03 02 30.9 +1.4**
ULN *e*PKPbc **PiKiP** **03 02 35.9 +0.5**
ULN *e* 03 06 02.4
ULN LR LR
comp=Z,3μm,22.0s
MMRI Maumere 150.57 207 *e*PKPdf **PKPdf** **03 02 31.0 +0.3**
MMRI *e*PKPbc **PKPbc** **03 02 36.3 +0.1**
HYB Hyderabad 150.62 87 *i* PKP **PKPdf** **03 02 30.0 -0.8**
HYB *es*PKP 03 03 10.0
HYB *e*PP **PP** **03 06 16.0 +2.8**
HYB *e* 03 09 31.0
HYB Hyderabad 150.62 87 *e*P **PKPdf** **03 02 32.0 +1.3**
HYBB Hyderabad (bro 150.62 86 *e*PKPdf **PKPdf** **03 02 31.3 +0.6**
HYBB *e*PKiKP **PiKiP** **03 02 36.8 -0.2**
HYBB *e*PKPab **PKPab** **03 02 43.6 +0.5**
HYBB *e* 03 02 50.9
HYBB *e*PP **PP** **03 06 10.1 -3.1**
CN2 Changchun 151.03 336 PKPbc **PKPdf** **03 02 30.0 -0.6**
CN2 *e*PP **PP** **03 06 17.5 +3.9**
CN2 *e*SS SS 03 25 33.5 +1.7
CN2 PPMZ
comp=Z,300nm,6.0s
CN2 LN
comp=Z,3μm,21.0s
CN2 LE
comp=Z,1μm,21.0s
CN2 LZ
comp=Z,430nm,22.0s
PTH Pithoragarh 151.04 61 *ex* **PKPbc** **03 02 36.4 -0.7**
PTH *ex* **PP** **03 06 13.8 -1.5**
LGTI Lohaghat 151.09 62 *ex* **PiKiP** **03 02 38.7 +1.2**
LGTI *ex* **PP** **03 06 19.7 +4.4**
SKHT Srikalahasti 151.13 94 *e*PKPdf **PKPdf** **03 02 33.0 +1.5**
SKHT *e*PKiKP **PiKiP** **03 02 38.6 +0.7**
SKHT *e*PKPab **PKPab** **03 02 44.3 -0.9**
SKHT *e* 03 20 21.1
NJS Nagarjunasagar 151.23 88 *e*PKPdf **PKPdf** **03 02 32.4 +0.7**
NJS *e*PKiKP **PiKiP** **03 02 38.1 -0.1**
NJS *e*PP **PP** **03 06 13.9 -2.8**
NGP Nagpur 151.26 79 *e*P **PKPdf** **03 02 31.5 -0.1**
XMIS Christmas Isla 151.36 172 *e*PKPdf **PKPdf** **03 02 33.5 +1.5**
XMIS *e*PKPbc **PiKiP** **03 02 38.5 0.0**
MDRS Chennai 151.48 96 *ex* **PiKiP** **03 02 40.0 +1.3**
JAGI Jajag, Banyuwa 153.19 190 *e*PKPdf **PKPdf** **03 02 34.5 -0.2**
JAGI *e*PKPbc **PKPbc** **03 02 41.6 -0.6**
SNY Shenyang 153.43 336 ⇑ *i*PKPbc **PKPdf** **03 02 34.3 +0.1**
SNY PP **PP** **03 06 29.0 +1.8**
SNY SS SS 03 25 55.6 -2.6
SNY PPMZ
comp=Z,2μm,12.0s
SNY LN
comp=Z,2μm,21.2s
SNY LE
comp=Z,3μm,22.0s
SNY LZ
comp=Z,4μm,24.5s
KOLN Koldanda 154.40 63 *e*P **PKPdf** **03 02 36.7 +0.4**
comp=Z,823nm,1.7s
CISI Cisompet, Garu 154.46 176 *e*PKPdf **PKPdf** **03 02 37.2 +0.6**
CISI *e*PKPbc **PiKiP** **03 02 45.4 +0.4**
KSRS Korea Array 154.79 324 PKP **PKPdf** **03 02 37.5 +1.3**
comp=Z,139nm,1.0s,baz=47,slow=1.5,SNR=165
KSRS PKPbc **PiKiP** **03 02 46.0 +1.2**
comp=Z,134nm,1.0s,baz=37,slow=1.7,SNR=32
KSRS PKPab **PKPab** **03 03 00.9 +1.0**
comp=Z,109nm,0.9s,baz=59,slow=4.7,SNR=8.3
KSRS PP **PP** **03 06 35.1 -0.2**
comp=Z,18nm,1.1s,baz=30,slow=5.9,SNR=5.4
KSAR Wonju Array Be 154.82 324 PKIKP **PKPdf** **03 02 37.5 +1.2**
KSAR 03 02 46.1
KSAR 03 03 01.0
KSAR 03 06 35.1
KSAR Wonju Array Be 154.82 324 PKP **PKPdf** **03 02 37.5 +1.2**
KSAR PKPbc **PiKiP** **03 02 46.0 +1.1**
KSAR PKPab **PKPab** **03 03 00.9 +0.8**
KSAR PP **PP** **03 06 35.1 -0.3**
KAPI Kappang 154.87 205 PKP **PKPdf** **03 02 37.7 +0.6**
comp=Z,76nm,1.0s,baz=240,slow=4.9,SNR=13
KAPI PKPbc **PiKiP** **03 02 46.9 +1.2**
comp=Z,84nm,0.8s,baz=214,slow=3.1,SNR=16
KAPI PKPab **PKPab** **03 03 02.1 +1.2**
comp=Z,458nm,1.0s,baz=246,slow=2.4,SNR=24
KAPI Kappang 154.87 205 PKP **PKPdf** **03 02 37.7 +0.6**
KAPI *e*PKPdf **PKPdf** **03 02 38.0 +0.9**
KAPI *e*PKPbc **PKPbc** **03 02 46.6 +0.8**
KAPI PKPbc **PiKiP** **03 02 46.9 +1.2**
KAPI *e*PKPab **PKPab** **03 03 01.9 +1.0**
KAPI PKPab **PKPab** **03 03 02.1 +1.2**
KAPI LR LR
comp=Z,2μm,22.0s
SMRI Semarang 154.99 182 *e*PKPdf **PKPdf** **03 02 38.6 +1.3**

SMRI ePKPbc **PKiKP** **03 02 47.1 +1.0**
SMRI ePKPab **PKPab** **03 03 02.9 +1.6**
LEM Lembang 155.17 176 PKP **PKPdf** **03 02 38.9 +1.2**
comp=Z,186nm,1.0s,baz=140,slow=2.4,SNR=43
LEM PKPbc PKPbc 03 02 47.7
comp=Z,215nm,0.8s,baz=147,slow=5.7,SNR=19
LEM PKPab **PKPab** **03 03 03.2 +0.9**
comp=Z,274nm,0.9s,baz=147,slow=4.3,SNR=14
LEM PP **PP** **03 06 38.1 +1.3**
comp=Z,159nm,1.1s,baz=165,slow=8.1,SNR=8.0
LEM Lembang 155.17 176 PKP **PKPdf** **03 02 38.9 +1.2**
LEM PKPbc PKPbc 03 02 47.7
LEM PKPab **PKPab** **03 03 03.2 +0.9**
LEM PP **PP** **03 06 38.1 +1.3**
VIS Vishakhapatnam 155.18 87 eP **PKPdf** **03 02 37.6 +0.3**
GKN Gorkha 155.20 62 eP **PKPdf** **03 02 37.7 +0.3**
comp=Z,953nm,1.2s
INCN Inchon 155.48 325 ePKPdf **PKPdf** **03 02 37.4 +0.1**
INCN ePKPab **PKPab** **03 03 03.8 +0.9**
INCN LR LR
comp=Z,3μm,21.0s
JNU Nakatsue 155.61 312 PKP **PKPdf** **03 02 37.8 +0.2**
comp=Z,54nm,1.1s,baz=61,slow=4.1,SNR=11
JNU PKPbc PKPbc 03 02 47.0
comp=Z,93nm,1.0s,baz=35,slow=6.1,SNR=16
JNU PKPab **PKPab** **03 03 03.5 -0.3**
comp=Z,125nm,0.9s,baz=3.2,slow=4.2,SNR=10
JNU Nakatsue 155.61 312 ePKPdf **PKPdf** **03 02 37.5 -0.1**
JNU PKP **PKPdf** **03 02 37.8 +0.2**
JNU PKPbc PKPbc 03 02 47.0
JNU PKPab **PKPab** **03 03 03.5 -0.3**
JNU ePKPab PKPab 03 03 03.8 0.0
DMN Daman 155.72 63 eP **PKPdf** **03 02 38.3 +0.1**
comp=Z,556nm,1.7s
KKN Kakani 155.81 62 eP **PKPdf** **03 02 38.6 +0.3**
comp=Z,592nm,1.7s
CHLP Challavanipeta 155.93 85 ePKPdf **PKPdf** **03 02 39.0 +0.7**
CHLP ePKPab **PKPab** **03 03 06.6 +1.1**
CHLP epPKPab **pPKPab** **03 03 16.8 -2.7**
CHLP ePP **PP** **03 06 41.0 -2.1**
PKIN Phulchoki 155.98 63 eP **PKPdf** **03 02 39.1 +0.6**
PKI Pulchoki 155.99 63 eP **PKPdf** **03 02 38.3 -0.3**
comp=Z,638nm,1.9s
GUN Gumba 156.28 61 eP **PKPdf** **03 02 39.3 +0.3**
comp=Z,712nm,1.7s
JIRN Jiri 156.62 62 eP **PKPdf** **03 02 39.4 -0.1**
comp=Z,511nm,1.7s
DL2 Dalian 156.70 335 ⇑iPKP **PKPdf** **03 02 39.0 +0.3**
DL2 PP **PP** **03 06 46.3 +0.8**
DL2 SS SS 03 26 32.4 -1.2
DL2 LE
comp=Z,930nm,21.6s
DL2 LZ
comp=Z,1μm,19.6s
MNAI Manna 156.79 163 ePKPdf **PKPdf** **03 02 39.2 -0.4**
MNAI ePKPab **PKPab** **03 03 09.9 +0.8**
LUWI Luwuk 156.88 216 ePKPdf **PKPdf** **03 02 40.2 +0.5**
LUWI ePKPab **PKPab** **03 03 09.9 +0.4**
GTA Gaotai 157.19 19 ⇑PKP **PKPdf** **03 02 40.7 +1.1**
GTA pPKP **pPKPdf** **03 02 51.2 -2.8**
GTA sPKP 03 02 55.0
GTA PP **PP** **03 06 52.9 +4.7**
GTA SKS **SKSdf** **03 09 41.3 -0.7**
GTA SKKS **SKKSac** **03 13 37.4 +2.7**
GTA SS **SS** **03 26 41.0 +2.1**
GTA PPMZ
comp=Z,3μm,8.6s
GTA LN
comp=Z,2μm,23.3s
GTA LE
comp=Z,2μm,23.3s
GTA LZ
comp=Z,4μm,24.7s
RAMN Ramite 157.19 63 eP **PKPdf** **03 02 40.6 +0.5**
comp=Z,1μm,1.6s
HHC Hu-ho-hao-te 157.25 356 ePKP **PKPdf** **03 02 41.1 +1.5**
HHC pPKP **pPKPdf** **03 02 52.0 -2.0**
HHC sPKP 03 02 55.3
HHC PKS **PKSdf** **03 06 13.0 -0.4**
HHC SS SS 03 26 38.5 -0.6
HHC PPMZ
comp=Z,4μm,9.2s
HHC LN
comp=Z,4μm,21.1s
HHC LE
comp=Z,2μm,21.8s
HHC LZ
comp=Z,6μm,21.4s
BOK Bokaro 157.32 72 eP **PKPdf** **03 02 39.7 -0.4**
BJI Beijing 157.36 346 PKP **PKPdf** **03 02 40.3 +0.7**
BJI SS SS 03 26 43.9 +3.7
BJI PPMZ
comp=Z,2μm,9.5s
BJI LN
comp=Z,3μm,24.7s
BJI LE
comp=Z,2μm,25.2s
BJI LZ
comp=Z,5μm,24.7s
BJT Baijiatuau 157.39 346 ePKIKP **PKPdf** **03 02 40.8 +1.2**
BJT MLR MLR
comp=Z,3μm,20.0s
BJT Baijiatuau 157.39 346 ePKPdf **PKPdf** **03 02 40.8 +1.2**
BJT ePKPab **PKPab** **03 03 11.4 +0.4**
BJT LR LR
comp=Z,3μm,20.0s
BTO Baotou 157.56 359 ePKP **PKPdf** **03 02 39.8 -0.2**
ODAN Odare 157.88 63 eP **PKPdf** **03 02 41.2 +0.2**
comp=Z,717nm,1.5s
TAPN Taplejung 157.99 61 eP **PKPdf** **03 02 41.4 +0.2**
comp=Z,869nm,1.8s
GSI Gunungsitoli 159.66 144 ePKPdf **PKPdf** **03 02 44.0 +0.8**
GSI ePKPab **PKPab** **03 03 22.9 +1.4**
LSA Lhasa 159.73 52 PKP **PKPdf** **03 02 43.7 +0.3**
LSA Lhasa 159.73 52 ePKIKP **PKPdf** **03 02 44.9 +1.5**
LSA e 03 07 02.5
LSA MLR MLR
comp=Z,3μm,20.0s
LSA Lhasa 159.73 52 ePKPdf **PKPdf** **03 02 44.9 +1.5**
LSA ePKPab **PKPab** **03 03 23.6 +1.4**
LSA ePP **PP** **03 07 02.5 -1.2**
LSA LR LR
comp=Z,3μm,20.0s
TIY Taiyuan 160.28 353 ePKP **PKPdf** **03 02 44.0 +0.8**
TIY PKPab **PKPab** **03 03 24.5 +0.8**
TIY PP **PP** **03 07 04.2 -0.6**
TIY SS SS 03 27 13.5 +2.3
TIY PPMZ
comp=Z,3μm,5.1s
TIY LN
comp=Z,4μm,21.4s
TIY LE
comp=Z,1μm,18.0s
TIY LZ
comp=Z,4μm,25.7s
BKNI Bangkinang 160.52 154 ePKPdf **PKPdf** **03 02 43.6 -0.4**
BKNI ePKPab **PKPab** **03 03 25.6 +0.4**
JOW Kunigami 160.54 300 PKP **PKPdf** **03 02 44.0 +0.3**
baz=77,slow=2.0
JOW Kunigami 160.54 300 PKP **PKPdf** **03 02 44.0 +0.3**
JOW ePKPdf **PKPdf** **03 02 44.8 +1.1**
JOW ePKPab **PKPab** **03 03 25.7 +0.4**
TIA Tai'an 160.71 341 PKP **PKPdf** **03 02 44.5 +0.8**
TIA PP **PP** **03 07 06.2 -1.0**
TIA SKKS 03 13 50.0
TIA LN
comp=Z,2μm,25.9s
TIA LE
comp=Z,2μm,21.7s
TIA LZ
comp=Z,4μm,25.3s
DAV Davao City (W) 160.81 237 ePKPdf **PKPdf** **03 02 44.6 +0.2**
DAV ePKPab **PKPab** **03 03 27.9 +1.2**
CMBY CAMPBELL BAY 161.31 124 eP **PKPdf** **03 02 43.9 -1.0**
LZH Lanzhou 161.41 14 ⇑PKP **PKPdf** **03 02 46.3 +1.7**
LZH pPKP **pPKPdf** **03 02 57.5 -1.6**
LZH sPKP 03 03 01.6
LZH PKS **PKSdf** **03 06 18.4 +0.4**
LZH PP **PP** **03 07 12.0 +0.9**
LZH SKS **SKSdf** **03 09 47.0 +0.9**
LZH SKKS **SKKSac** **03 14 00.2 +3.3**
LZH SS **SS** **03 27 26.5 +3.0**
LZH PPMZ
comp=Z,1μm,7.4s
LZH LN
comp=Z,3μm,19.0s
LZH LE
comp=Z,2μm,17.2s
LZH LZ
comp=Z,5μm,20.5s
PSI Prapat 161.65 145 PKP **PKPdf** **03 02 45.2 -0.2**
comp=Z,71nm,1.1s,baz=219,slow=2.0,SNR=110
PSI PKPab **PKPab** **03 03 31.3 +0.9**
comp=Z,143nm,0.9s,baz=202,slow=4.4,SNR=22
PSI Prapat 161.65 145 PKP **PKPdf** **03 02 45.2 -0.2**
PSI PKPab **PKPab** **03 03 31.3 +0.9**
SHL Shillong 162.12 62 *i* PKP **PKPdf** **03 02 46.0 +0.3**
SHL ePP **PP** **03 07 15.0 -1.6**
LHMI Lhok Sumawe 162.34 135 ePKPdf **PKPdf** **03 02 46.8 +0.8**
LHMI ePKPab **PKPab** **03 03 35.0 +1.7**
PBA Port Blair 162.67 109 eP PKPdf 03 02 45.6 -0.7
SSE Sheshan 163.22 323 ⇑PKP **PKPdf** **03 02 47.2 +0.9**
FRIM Kepong 163.38 152 ⇑P **PKPdf** **03 02 47.0 0.0**
DGPR DIGLIPUR 163.39 105 eP **PKPdf** **03 02 47.5 +0.5**
KSM Kuching 163.46 183 ⇑P **PKPdf** **03 02 48.0 +0.9**
KSM Kuching 163.46 183 ePKPdf **PKPdf** **03 02 47.8 +0.7**
KSM ePKPab **PKPab** **03 03 38.8 +0.8**
KSM ePP **PP** **03 07 22.0 +0.5**
KSM LR LR
comp=Z,3μm,22.0s
NJ2 Nanjing 163.70 330 ePKP **PKPdf** **03 02 47.6 +0.9**
NJ2 pPKP **pPKPdf** **03 02 59.8 -1.4**
NJ2 sPKP 03 03 06.2
NJ2 PKPab **PKPab** **03 03 39.4 +0.7**
NJ2 PP **PP** **03 07 24.3 +0.9**
NJ2 PPMZ
comp=Z,6μm,10.6s
NJ2 LN
comp=Z,4μm,31.7s
NJ2 LE
comp=Z,1μm,25.3s
NJ2 LZ
comp=Z,1μm,26.0s
TSM Tawau 163.98 212 ⇓P **PKPdf** **03 02 49.3 +1.7**
XAN Xi'an 164.12 1 PKP **PKPdf** **03 02 48.0 +0.8**
XAN sPKP 03 03 00.4
XAN PKS **PKSdf** **03 06 19.9 -0.3**
XAN PP **PP** **03 07 26.1 +1.0**
XAN SKS **SKSdf** **03 09 47.0 -1.0**
XAN SKKS **SKKSac** **03 14 08.0 -2.5**
XAN LN
comp=Z,3μm,27.4s
XAN LE
comp=Z,740nm,22.5s
XAN LZ
comp=Z,1μm,26.4s
IMP Imphal 164.13 63 *ex* **PKPdf** **03 02 48.0 +0.5**
IMP *ex* **PP** **03 07 29.0 +1.9**
IPM Ipoh 164.17 148 ePKPdf **PKPdf** **03 02 48.0 +0.2**
IPM ePKPab **PKPab** **03 03 41.5 +0.2**
SBUM Sibu 164.21 190 ⇑P **PKPdf** **03 02 49.2 +1.4**
KULM Kulim 164.66 145 ePKPdf **PKPdf** **03 02 48.5 +0.3**
KULM ePKPab **PKPab** **03 03 43.9 +0.5**
KULM ePP **PP** **03 07 26.6 -2.1**
KULM LR LR
comp=Z,7μm,22.0s
BTM Bintulu 164.76 194 ⇓P **PKPdf** **03 02 49.3 +1.1**
YOJ Yonaguni jima 165.84 299 ePKIKP **PKPdf** **03 02 49.3 +0.5**
YOJ Yonaguni jima 165.84 299 ePKPdf **PKPdf** **03 02 49.3 +0.5**
TRTT Trang 166.09 136 P **PKPdf** **03 02 49.3 0.0**
comp=Z,131nm,2.9s,comp=Z,4μm
TRTT Trang 166.09 136 P **PKPab** **03 03 50.3 +0.5**
SKLT Songkhla 166.17 141 P **PKPdf** **03 02 49.7 +0.3**
comp=Z,184nm,1.8s,comp=Z,4μm
SKLT Songkhla 166.17 141 P **PKPab** **03 03 51.9 +1.8**
comp=Z,141nm,2.3s
CD2 Chengdu 166.25 21 PKP **PKPdf** **03 02 50.0 +0.9**
CD2 pPKP **pPKPdf** **03 03 02.0 -1.5**
CD2 PKPab **PKPab** **03 03 51.9 +1.9**
CD2 PKS **PKSdf** **03 06 20.6 -1.3**
CD2 PP **PP** **03 07 37.8 +1.3**
CD2 SKS **SKSdf** **03 09 51.1 +1.5**
CD2 SKKS **SKKSac** **03 14 23.4 +2.0**
CD2 SS **SS** **03 28 15.5 +2.2**
CD2 PPMZ
comp=Z,4μm,10.7s
CD2 LN
comp=Z,2μm,23.8s
CD2 LE
comp=Z,2μm,19.0s
CD2 LZ
comp=Z,4μm,25.0s
SURT Suratani 166.26 130 P **PKPab** **03 03 51.6 +1.1**
comp=Z,104nm,1.3s
KKM Kota Kinabalu 166.31 210 ePKPdf **PKPdf** **03 02 50.6 +0.9**
KKM ePKPab **PKPab** **03 03 50.6 -0.1**
KKM LR LR
comp=Z,3μm,22.0s
WHN Wuhan 166.82 341 PKP **PKPdf** **03 02 50.3 +0.9**
WHN PKPab **PKPab** **03 03 52.0 -0.5**
WHN LN
comp=Z,6μm,20.4s
WHN LE
comp=Z,3μm,23.0s
WHN LZ
comp=Z,10μm,25.7s
TATO Taipei 166.85 303 ePKPdf **PKPdf** **03 02 50.5 +0.9**
TATO ePKPab **PKPab** **03 03 51.6 -1.4**
TATO LR LR
comp=Z,4μm,22.0s
YHNB Yeheng 167.08 302 ePKPdf **PKPdf** **03 02 50.5 +0.6**
YHNB LR LR
comp=Z,4μm,21.0s
NACB Ninganchiao 167.13 300 ePKPdf **PKPdf** **03 02 49.9 0.0**
YULB Yu-li 167.70 297 ePKPdf **PKPdf** **03 02 49.8 -0.6**
SSLB Suanglung 167.82 300 ePKPdf **PKPdf** **03 02 51.2 +0.8**
ENH Enshi 167.88 360 ePKPdf **PKPdf** **03 02 50.9 +0.6**
ENH ePKPab **PKPab** **03 03 57.4 +0.3**
ENH LR LR
comp=Z,3μm,22.0s
TPUB Ta-pu 168.30 298 ePKPdf **PKPdf** **03 02 52.8 +2.1**
QZH Quanzhou 169.08 310 *i* PKP **PKPdf** **03 02 52.7 +1.6**
QZH PKPab **PKPab** **03 04 01.0 -1.8**
QZH PP **PP** **03 07 50.8 -1.2**
QZH SS SS 03 28 49.0 +5.4
QZH PPMZ
comp=Z,4μm,6.1s
QZH LN
comp=Z,4μm,19.1s
QZH LE
comp=Z,2μm,15.8s
QZH LZ
comp=Z,13μm,27.0s
MHMT Maesarieng 169.08 88 P **PKPdf** **03 02 52.1 +0.8**
comp=Z,132nm,1.4s,comp=Z,2μm
KHLT Khaolaem Dam 169.11 106 P **PKPdf** **03 02 52.0 +0.6**
comp=Z,110nm,1.6s,comp=Z,2μm
SRDT SRDT 169.44 109 P **PKPdf** **03 02 52.3 +0.7**
comp=Z,887nm,1.4s,comp=Z,16μm
SZP Santa 169.47 269 ePKPdf **PKPdf** **03 02 52.9 +1.3**
SZP ePKPab **PKPab** **03 04 07.1 +2.3**
CHTO Chiang Mai 170.04 84 P **PKPdf** **03 02 51.9 0.0**
comp=Z,658nm,1.6s,comp=Z,17μm
CHTO Chiang Mai 170.04 84 P **PKPdf** **03 02 51.9 0.0**
comp=Z,658nm,1.6s,comp=Z,17μm
CHTO Chiang Mai 170.04 84 ePKIKP **PKPdf** **03 02 51.8 -0.1**
CHTO *e* 03 04 07.3
CHTO MLR MLR
comp=Z,3μm,20.0s
CHTO Chiang Mai 170.04 84 ePKPdf **PKPdf** **03 02 51.8 -0.1**
CHTO ePKPab **PKPab** **03 04 07.3 -0.1**
CHTO LR LR
comp=Z,3μm,20.0s
CMMT Chiang Mai 170.04 84 P **PKPdf** **03 02 51.7 -0.2**
comp=Z,190nm,1.6s,comp=Z,5μm
CMMT Chiang Mai 170.04 84 P **PKPdf** **03 02 51.7 -0.2**
comp=Z,190nm,1.6s,comp=Z,5μm
CM31 Chiang Mai Arr 170.05 86 ePKPdf **PKPdf** **03 02 52.9 +1.0**
CM31 ePKPab **PKPab** **03 04 08.3 +0.9**
CMAR Chiang Mai Arr 170.05 86 PKP **PKPdf** **03 02 52.2 +0.3**
comp=Z,39nm,1.0s,baz=272,slow=1.6,SNR=166
CMAR PKPab **PKPab** **03 04 08.2 +0.7**
comp=Z,68nm,0.8s,baz=274,slow=6.0,SNR=39
CMAR PP **PP** **03 07 58.0 +0.1**
comp=Z,30nm,1.1s,baz=278,slow=6.1,SNR=7.4
CMAR Chiang Mai Arr 170.05 86 PKP **PKPdf** **03 02 52.2 +0.3**
CMAR PKPab **PKPab** **03 04 08.2 +0.7**
CMAR PP **PP** **03 07 58.0 +0.1**
UTHA Uthaitani 170.13 103 P **PKPdf** **03 02 52.5 +0.5**
comp=Z,38nm,1.2s,comp=Z,440nm
KMI Kunming 170.65 40 ⇑PKP **PKPdf** **03 02 52.9 +0.5**
KMI pPKP **pPKPdf** **03 03 05.4 -1.4**
KMI sPKP 03 03 12.3
GYA Guiyang 171.30 17 *i* PKP **PKPdf** **03 02 52.8 +0.3**
GYA sPKP 03 03 08.0
GYA PKPab **PKPab** **03 04 13.8 +1.3**
GYA PKS **PKSdf** **03 06 23.2 -1.9**
GYA PP **PP** **03 08 02.0 -0.1**
GYA SKKS 03 14 47.0
GYA SS **SS** **03 29 04.5 +0.9**
GYA PPMZ
comp=Z,3μm,9.6s
GYA LN
comp=Z,2μm,22.7s
GYA LE
comp=Z,4μm,23.0s
GYA LZ
comp=Z,3μm,22.0s
PBKT Sadao Pong 171.79 99 P **PKPdf** **03 02 52.7 -0.1**
comp=Z,246nm,1.4s,comp=Z,5μm
LOEI Loei 172.22 93 P **PKPdf** **03 02 52.7 -0.3**
CHAI Chaiyaphum 172.57 106 P **PKPdf** **03 02 53.4 +0.2**
DLV T Lat 173.82 172 ePKPdf **PKPdf** **03 02 54.6 +0.6**
GZH Guangzhou 173.82 324 PKP **PKPdf** **03 02 54.9 +1.4**
GZH SKKS 03 14 57.8
GZH LN
comp=Z,3μm,17.6s
GZH LE
comp=Z,3μm,18.0s
HKC Hong Kong Obse 173.88 314 ⇑PKPdf **PKPdf** **03 02 56.0 +2.4**
QIZ Qiongzhong 178.99 336 PKP **PKPdf** **03 02 55.4 +0.7**
QIZ sPKP 03 03 08.6
QIZ PKPab 03 04 47.5
QIZ PP **PP** **03 08 39.6 +0.5**
QIZ SS SS 03 30 19.5 +2.1
QIZ PPMZ
comp=Z,3μm,7.8s
QIZ LN
comp=Z,3μm,25.0s
QIZ LZ
comp=Z,5μm,26.8s
QIZ Qiongzhong 178.99 336 ePKPdf **PKPdf** **03 02 54.2 -0.6**
QIZ LR LR
comp=Z,4μm,21.0s

*IDC **06** 02:52:39.4±4.6,36°.04N×70°.63E,h168km±35km, mb3.4/4, mb1 3.5/9,mb1mx3.2/67,mbtmp4.0/9,MS4.4/1,Ms1 4.4/1, ms1mx3.4/31,Error ellipse: s-maj=54.9km s-min=18.7km az=158.0*
*ISCJB **06** 02:52:44.1±0.5,36°.49N±0°.03×70°.75E±0°.08,h204km, mb3.3/3, Error ellipse: s-maj=9.2km s-min=4.0km az=166.3*
*NNC **06** 02:52:46.4±6.1,37°.11N×70°.10E,h0km,mb4.5,mpv4.3, Error ellipse: s-maj=52.0km s-min=32.7km az=170.0*
ISC 06 02:52:43.8±0.7,**36°.50N**±0°.05×**70°.54E**±0°.07,**h204**km,**n42, σ1§76/48,mb3.3/3,4C-8D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC h m s	ISC
CEP	**Cherat**	**2.90**	**157**	⇓P		**Pn**	**02 53 33.4 +0.8**
CEP				S		**S**	**02 54 09.0 -1.2**
CHCP	**Chirah Chowk**	**3.61**	**141**	⇓P		**Pn**	**02 53 41.6 +0.6**
THW	**Thamme Wali**	**3.83**	**165**	⇓P		**Pn**	**02 53 44.3 +0.6**
SFK	**Sufi-Kurgan** 37nm,0.5s	**4.21**	**33**	⇓Pn		**Pn**	**02 53 49.4 +0.9**
SFK				⇓Sn		**S**	**02 54 37.9 -1.1**
AML	**Almayashu** 64nm,0.5s SNR=110	**6.13**	**23**	P		**Pn**	**02 54 13.9 +0.9**
UCH	**Uchtor** SNR=58	**6.49**	**27**	P		**Pn**	**02 54 18.6 +0.8**
KK31	**Karatay Array** 8.6nm,0.5s,baz=173,slow=11,SNR=48	**6.59**	**360**	Pn		**Pn**	**02 54 20.1 +1.4**
KK31				Sn		**S**	**02 55 29.2 -4.6**
EKS2	**Erkin-Say** SNR=16	**6.64**	**21**	P		**Pn**	**02 54 20.5 +1.1**
KZA	**Kyzart** SNR=23	**6.66**	**32**	P		**Pn**	**02 54 19.7 -0.2**
AAK	**Ala-Archa** 14nm,0.7s	**6.84**	**25**	⇑Pn		**Pn**	**02 54 23.0 +1.0**
AAK				⇑Sn		**S**	**02 55 36.7 -3.2**
AAK	**Ala-Archa** SNR=20 23nm,0.6s	**6.84**	**25**	P		**Pn**	**02 54 23.1 +1.1**
AAK	**Ala-Archa** 3.0nm,0.3s,baz=192,slow=7.1,SNR=53	**6.84**	**25**	P		**Pn**	**02 54 23.1 +1.0**
AAK				S		**S**	**02 55 37.9 -2.0**
KBK	**Karagaybulak** SNR=16 1.7nm,0.3s,baz=231,slow=7.9,SNR=14	**7.03**	**28**	P		**Pn**	**02 54 25.6 +1.2**
ULHL	**Ulahol** SNR=11	**7.24**	**36**	P		**Pn**	**02 54 27.5 +0.3**
CHMS	**Chumysh** SNR=6.7	**7.25**	**25**	P		**Pn**	**02 54 28.1 +0.9**
USP	**Ospenovka** SNR=6.2	**7.41**	**23**	P		**Pn**	**02 54 29.7 +0.4**
TKM2	**Tokmak 2** 55nm,1.1s	**7.50**	**30**	⇑Pn		**Pn**	**02 54 30.8 +0.2**
TKM2				⇑Sn		**S**	**02 55 51.6 -4.1**
TKM2	**Tokmak 2** 10nm,0.8s SNR=55	**7.50**	**30**	P		**Pn**	**02 54 31.4 +0.7**
GEYT	**Alibeck** 0.8nm,0.3s,baz=93,slow=8.9,SNR=5.2	**10.01**	**282**	P		**Pn**	**02 55 01.2 -1.9**
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=232,slow=14,SNR=23	**13.51**	**37**	P		**Pn**	**02 55 47.8 +0.4**
KOLN	**Koldanda** 22nm,0.5s	**14.07**	**125**	eP		**Pn**	**02 55 53.3 -1.3**
GKN	**Gorkha** 21nm,0.3s	**14.62**	**121**	eP		**Pn**	**02 55 59.8 -1.6**
AB31	**Akbulak array** 4.5nm,0.8s,baz=144,slow=12,SNR=34	**14.91**	**332**	⇓Pn		**P**	**02 56 06.1 +0.9**
AB31				⇓Sn		**S**	**02 58 46.6 -3.0**
DMN	**Daman** 29nm,0.5s	**15.19**	**122**	eP		**Pn**	**02 56 07.5 -0.9**
KKN	**Kakani** 14nm,0.4s	**15.20**	**121**	eP		**Pn**	**02 56 07.3 -1.2**
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=207,slow=11,SNR=9.1	**15.24**	**20**	P		**Pn**	**02 56 07.1 -1.4**
PKIN	**Phulchoki** 17nm,0.4s	**15.41**	**121**	eP		**Pn**	**02 56 09.9 -1.2**
PKI	**Pulchoki** 29nm,0.6s	**15.42**	**121**	eP		**Pn**	**02 56 09.7 -1.6**
GUN	**Gumba** 30nm,0.7s	**15.54**	**119**	eP		**P**	**02 56 11.8 -1.0**
JIRN	**Jiri** 34nm,0.3s	**15.91**	**119**	eP		**P**	**02 56 16.7 -0.2**
BVA0	**Borovoye Array** 0.9nm,0.6s,baz=0.0,slow=0.1,SNR=9.0	**16.52**	**360**	Pn		**Pn**	**02 56 28.4 +4.5**
BVAR	**Borovoye Array** 0.6nm,0.3s,baz=157,slow=9.2,SNR=10.0	**16.52**	**360**	P		**Pn**	**02 56 26.1 +2.2**
AKTO	**Aktyubinsk** 6.4nm,0.9s	**16.60**	**331**	⇓Pn		**Pn**	**02 56 27.4 +2.6**
AKTO	**Aktyubinsk** 0.4nm,0.3s,baz=143,slow=9.4,SNR=17	**16.60**	**331**	P		**Pn**	**02 56 27.3 +2.4**
RAMN	**Ramite** 24nm,0.6s	**16.64**	**120**	eP		**P**	**02 56 24.9 +0.2**
TAPN	**Taplejung** 12nm,0.3s	**17.18**	**117**	eP		**Pn**	**02 56 32.3 +0.1**
ODAN	**Odare** 25nm,0.7s	**17.24**	**119**	eP		**Pn**	**02 56 33.1 +0.1**
ZALV	**Zalesovo Beam** 3.5nm,0.3s,baz=220,slow=11,SNR=28	**20.07**	**25**	P		**P**	**02 57 02.9 +1.5**
SONM	**Songino Array** 0.1nm,0.3s,baz=252,slow=7.4,SNR=2.4	**28.64**	**55**	P		**P**	**02 58 22.2 +0.8**
ASAJ	**Asahikawa** comp=Z,354nm,19.5s,baz=46,slow=36	**53.87**	**58**	LR		LR	03 24 40.1
TORD	**Torodi Ar. Bea** 3.1nm,1.0s,baz=54,slow=6.0,SNR=6.8	**65.34**	**268**	P		**P**	**03 03 04.2 -0.3**
YKA	**Yellowknife Ar** 0.2nm,0.3s,baz=348,slow=5.3,SNR=4.1	**81.26**	**2**	P		**P**	**03 04 38.5 +1.9**

*IDC **06** 02:58:00.8±0.7,18°.15S×70°.64W,h0km,mb4.3/11, mb1 4.4/11,mb1mx4.2/20,mbtmp4.3/11,Error ellipse: s-maj=29.1km s-min=21.0km az=96.0*
*NEIC **06** 02:58:06.5±0.5,18°.15S×70°.51W,h35km,mb4.1/1, Error ellipse: s-maj=18.0km s-min=10.0km az=70.0*
*ISCJB **06** 02:58:07.6±0.5,18°.16S±0°.07×70°.55W±0°.09,h58km,*

mb4.2/10, Error ellipse: s-maj=14.1km s-min=8.2km az=143.7

ISC 06 02:58:09.2±0.6, 18°18S±0.07×70°56W±0.10, h58km, n29, σ1.9s48/24, mb4.3/10, 1C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**1.93**	**332**	*i*P	**Pn**	**02 58 38.2**	**-1.7**
ARE				*i* S	**Sn**	**02 59 05.8**	**+2.6**
LVC	**Limon Verde**	**4.67**	**161**	Pn	**Pn**	**02 59 17.6**	**+0.2**
	251nm,0.3s,baz=357,slow=9.8,SNR=238						
LVC				Lg	Lg	03 00 26.4	
	878nm,0.3s,baz=197,slow=14,SNR=6.6						
LVC	**Limon Verde**	**4.67**	**161**	*e*Pn	**Pn**	**02 59 17.3**	**-0.1**
LVC				Lg	Lg	03 00 26.4	
NNA	**Nana**	**8.64**	**315**	Pn	**Pn**	**03 00 11.3**	**-0.4**
	0.6nm,0.3s,baz=194,slow=12,SNR=1.7						
NNA				Sn	**Sn**	**03 01 52.3**	**+4.5**
	1.0nm,0.3s,baz=108,slow=20,SNR=2.4						
SIV	**San Ignacio**	**9.33**	**78**	Pn	**Pn**	**03 00 23.4**	**+2.3**
	1.7nm,0.3s,baz=278,slow=14,SNR=12						
PTGA	**Pitinga**	**20.22**	**32**	P	**P**	**03 02 38.4**	**-1.2**
	6.0nm,0.3s,baz=314,slow=22,SNR=14						
PTGA	**Pitinga**	**20.22**	**32**	*e*P	**P**	**03 02 38.6**	**-1.0**
	7.2nm,0.8s						
PLCA	**Paso Flores**	**22.48**	**180**	P	**P**	**03 03 03.2**	**-0.5**
	4.5nm,1.0s,baz=35,slow=9.5,SNR=3.1						
TXAR	**Lajitas Array**	**57.03**	**325**	P	**P**	**03 07 47.9**	**-1.5**
	0.2nm,0.5s,baz=155,slow=8.1,SNR=4.4						
DBIC	**Dimbokro**	**69.34**	**75**	P	**P**	**03 09 10.8**	**-0.4**
	2.3nm,0.5s,baz=239,slow=6.7,SNR=6.3						
ULM	**Lac du Bonnet**	**71.70**	**343**	P	**P**	**03 09 24.9**	**+0.2**
	1.5nm,0.4s,baz=146,slow=11,SNR=3.4						
QSPA	**South Pole Qui**	**71.99**	**180**	P	**P**	**03 09 26.6**	**0.0**
	4.6nm,1.0s,baz=194,slow=8.3,SNR=5.4						
TORD	**Toradi Ar. Bea**	**77.75**	**72**	P	**P**	**03 09 59.9**	**-0.7**
	5.4nm,0.7s,baz=260,slow=5.4,SNR=54						
MDT	**Midelt**	**80.85**	**51**	P	**P**	**03 10 18.0**	**+0.8**
	2.3nm,0.9s,baz=248,slow=5.4,SNR=1.5						
ESDC	**Sonseca Array**	**84.59**	**45**	P	**P**	**03 10 37.5**	**+1.0**
	2.3nm,0.9s,baz=244,slow=5.4,SNR=7.6						
YKA	**Yellowknife Ar**	**87.56**	**341**	P	**P**	**03 10 49.9**	**-0.5**
	4.3nm,0.6s,baz=135,slow=4.9,SNR=5.1						
MAW	**Mawson**	**87.94**	**164**	P	**P**	**03 10 52.4**	**+0.1**
	1.5nm,0.5s,baz=192,slow=9.3,SNR=3.6						
H11N3	**WAKE ISLAND Hyd**	**125.85**	**282**	T	T	05 34 56.9	
	baz=98,slow=74,SNR=46						
H11S2	**WAKE ISLAND Hyd**	**125.85**	**280**	T	T	05 34 57.2	
	baz=100,slow=75,SNR=33						
H11S1	**WAKE ISLAND Hyd**	**125.86**	**280**	T	T	05 35 00.3	
	baz=100,slow=75,SNR=41						
H11N2	**WAKE ISLAND Hyd**	**125.86**	**282**	T	T	05 34 57.3	
	baz=98,slow=74,SNR=38						
H11N1	**WAKE ISLAND Hyd**	**125.86**	**282**	T	T	05 34 58.2	
	baz=98,slow=74,SNR=38						
H11S3	**WAKE ISLAND Hyd**	**125.87**	**280**	T	T	05 34 58.9	
	baz=100,slow=75,SNR=41						
ASAR	**Alice Springs**	**132.04**	**211**	PKP	**PKPdf**	**03 17 16.0**	**-1.1**
	0.8nm,1.0s,baz=356,slow=3.9,SNR=4.3						
WRA	**Warramunga Arr**	**134.92**	**214**	PKP	**PKPdf**	**03 17 22.4**	**-0.2**
	0.7nm,0.4s,baz=139,slow=1.7,SNR=4.4						
ZALV	**Zalesovo Beam**	**139.55**	**22**	PKP	**PKPdf**	**03 17 29.4**	**-0.6**
	0.5nm,0.4s,baz=338,slow=3.1,SNR=2.3						
MKAR	**Makanchi Array**	**143.76**	**32**	PKP	PKPbc	03 17 35.7	+0.2
	0.5nm,0.8s,baz=328,slow=4.3,SNR=4.0						
MJAR	**Matsushiro Arr**	**148.76**	**312**	PKPbc	**PKPbc**	**03 17 49.4**	**-1.1**
	1.1nm,0.6s,baz=94,slow=2.2,SNR=4.9						
SONM	**Songino Array**	**150.32**	**4**	PKPbc	**PKPbc**	**03 17 53.5**	**-0.6**
	1.0nm,0.8s,baz=341,slow=1.6,SNR=3.3						

TAP 06 03:03:42.4, 21°24N×120°13E, h48km±2km, ML3.9, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWK1	**Hengchun**	**0.94**	**42**	*e*P	Pn	03 04 00.0	+0.7
	baz=42						
TWK1				*e*S	Sn	03 04 13.0	+1.3
	baz=42						
HEN	**Hengchun**	**0.95**	**37**	*e*P	Pn	03 04 00.4	+1.0
	baz=37						
HEN				*e*S	Sn	03 04 12.5	+0.6
	baz=37						
TSEB	**Hengchuen, Pin**	**0.97**	**47**	*e*P	Pn	03 04 00.2	+0.5
	baz=45						
TSEB				*e*S	Sn	03 04 13.4	+0.9
	baz=45						
TWP	**Hsiaoliuchiu**	**1.12**	**11**	*e*P	Pn	03 04 03.4	+1.6
	baz=11						
TWP				*e*S	Sn	03 04 19.3	+3.2
	baz=11						
SCZT	**Fangliau**	**1.22**	**22**	*e*P	Pn	03 04 02.5	-0.5
	baz=22						
SCZT				*e*S	Sn	03 04 19.1	+0.8
	baz=22						
EAST	**Anshuo**	**1.32**	**30**	*e*P	Pn	03 04 05.1	+0.6
	baz=30						
EAST				*e*S	Sn	03 04 22.0	+0.9
	baz=30						
TAW	**Tawu**	**1.32**	**32**	*e*P	Pn	03 04 05.2	+0.7
	baz=32						
TAW				*e*S	Sn	03 04 21.5	+0.5
	baz=32						
KAU	**Kaohsiung**	**1.33**	**7**	*e*S	Sn	03 04 21.7	+0.5
	baz=7.0						
SGLT	**Jiouru**	**1.52**	**13**	*e*S	Sn	03 04 27.4	+1.7
	baz=13						
LAY	**Lan-yu**	**1.54**	**59**	*e*P	Pn	03 04 07.3	-0.2
	baz=59						
LAY				*e*S	Sn	03 04 27.7	+1.2
	baz=59						
ECL	**Taimali**	**1.55**	**29**	*e*P	Pn	03 04 07.4	-0.2
	baz=29						
ECL				*e*S	Sn	03 04 26.7	+0.1
	baz=29						
SSD	**Sandimen**	**1.57**	**17**	*e*P	Pn	03 04 07.5	-0.4
	baz=17						
SSD				*e*S	Sn	03 04 27.1	0.0
	baz=17						
TWM1	**Shoushan**	**1.60**	**10**	*e*P	Pn	03 04 10.3	+2.0
	baz=10.0						
TWM1				*e*S	Sn	03 04 31.4	+3.5
	baz=10.0						
TTN	**Taitung**	**1.78**	**32**	*e*S	Sn	03 04 35.1	+3.0
	baz=32						
SGST	**Jiashian**	**1.88**	**13**	*e*P	Pn	03 04 12.6	+0.5
	baz=13						
SGST				*e*S	Sn	03 04 35.2	+0.5
	baz=13						
CHN1	**Nanshi**	**1.97**	**11**	*e*P	Pn	03 04 13.8	+0.4
	baz=10.0						
CHN1				*e*S	Sn	03 04 37.5	+0.6
	baz=10.0						
STYT	**Tauyuan**	**2.00**	**17**	*e*P	Pn	03 04 14.6	+0.8
	baz=17						
STYT				*e*S	Sn	03 04 38.7	+1.0
	baz=17						
TWK	**Hsinying**	**2.04**	**9**	*e*P	Pn	03 04 15.1	+0.7
	baz=9.0						
TWK				*e*S	Sn	03 04 39.4	+0.6
	baz=9.0						
WTP	**Ta-pu**	**2.05**	**13**	*e*P	Pn	03 04 15.6	+1.1
	baz=12						
WTP				*e*S	Sn	03 04 39.8	+0.9
	baz=12						
WDGT	**Dungji**	**2.06**	**348**	*e*P	Pn	03 04 15.3	+0.8
	baz=347						
WDGT				*e*S	Sn	03 04 37.1	-1.9
	baz=347						
CHN4	**Tsaushan**	**2.15**	**11**	*e*P	Pn	03 04 16.4	+0.6
	baz=11						
CHN4				*e*S	Sn	03 04 41.5	+0.3
	baz=11						
CHKT	**Chengkung**	**2.18**	**32**	*e*P	Pn	03 04 17.2	+1.0
	baz=31						
CHKT				*e*S	Sn	03 04 42.9	+0.9
	baz=31						
ALS	**Alishan**	**2.35**	**15**	*e*P	Pn	03 04 19.8	+0.9
	baz=15						
ALS				*e*S	Sn	03 04 47.7	+1.0
	baz=15						
TWF1	**Yuli**	**2.37**	**27**	*e*P	Pn	03 04 20.9	+2.1
	baz=27						
TWF1				*e*S	Sn	03 04 47.4	+0.8
	baz=27						
YUS	**Yu-Shan**	**2.37**	**19**	*e*P	Pn	03 04 20.4	+1.0
	baz=18						
YUS				*e*S	Sn	03 04 48.9	+1.2
	baz=18						
PNG	**Penghu**	**2.38**	**347**	*e*P	Pn	03 04 19.6	+0.7
	baz=347						
PNG				*e*S	Sn	03 04 46.0	-0.9
	baz=347						
CHN5	**Tsauling**	**2.40**	**12**	*e*P	Pn	03 04 20.0	+0.6
	baz=12						
CHN5				*e*S	Sn	03 04 48.4	+0.8
	baz=12						
WGK	**Gukeng**	**2.47**	**9**	*e*S	Sn	03 04 48.7	-0.4
	baz=9.0						
WDT	**Danda**	**2.67**	**20**	*e*P	Pn	03 04 25.0	+1.6
	baz=20						
WDT				*e*S	Sn	03 04 55.8	+0.9
	baz=20						
SMLT	**Sun Moon Lake**	**2.73**	**15**	*e*P	Pn	03 04 24.2	+0.3
	baz=15						
SMLT				*e*S	Sn	03 04 56.8	+1.1
	baz=15						
TYC	**Yuchr**	**2.74**	**14**	*e*P	Pn	03 04 24.8	+0.9
	baz=14						
TYC				*e*S	Sn	03 04 57.2	+1.6
	baz=14						
ESL	**Shilin**	**2.83**	**25**	*e*P	Pn	03 04 26.8	+1.6
	baz=25						
ESL				*e*S	Sn	03 04 58.8	+0.7
	baz=25						
WHF	**Hehuan Shan**	**3.08**	**20**	*e*P	Pn	03 04 31.3	+2.2
	baz=20						
WHF				*e*S	Sn	03 05 05.3	+0.2
	baz=20						
TWT	**Tachien**	**3.15**	**18**	*e*P	Pn	03 04 31.7	+1.9
	baz=17						
TWT				*e*S	Sn	03 05 07.9	+1.6
	baz=17						
NNS	**Nan Shan**	**3.39**	**20**	*e*P	Pn	03 04 35.1	+2.2
	baz=19						
KNM	**Kinmen**	**3.53**	**334**	*e*P	Pn	03 04 37.2	+2.5
	baz=331						
KNM				*e*S	Sn	03 05 16.0	+0.8
	baz=331						
NSK	**Sanguang**	**3.60**	**18**	*e*P	Pn	03 04 37.4	+1.6
	baz=18						

IDC 06 03:24:09.7±1.6, 3°40S×135°81E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/23, mbtmp3.8/3, Error ellipse: s-maj=86.2km s-min=34.0km az=88.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.50**	**185**	Pn	Pn	03 27 57.4	-5.5
	0.1nm,0.3s,baz=358,slow=13,SNR=3.2						
WRA				Sn	Sn	03 30 46.3	-21
	0.1nm,0.3s,baz=3.1,slow=23,SNR=4.0						
ASAR	**Alice Springs**	**20.23**	**185**	P	P	03 28 46.6	-0.1
	7.0nm,0.7s,baz=9.9,slow=10,SNR=57						
MKAR	**Makanchi Array**	**68.59**	**324**	P	P	03 35 14.6	0.0
	0.3nm,0.5s,baz=116,slow=5.6,SNR=4.1						
ILAR	**Eielson Array**	**87.66**	**25**	P	P	03 36 60.0	0.0
	0.6nm,1.1s,baz=269,slow=4.7,SNR=4.7						

*NEIC **06** 04:16:48.4, 35°96N×117°34W, h2km, ML3.7(PAS), After PAS.*
NEIC Felt [III] at Trona. Also felt at Ridgecrest.

ISC 06 04:16:47.8±1.0, 35°96N±0.02×117°31W±0.02, h7km±9km, n54, σ1.9s32/93, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPMC	**Manual Prospec**	**0.18**	**305**	P	**Pg**	**04 16 51.3**	**-0.2**
	baz=0.2						
MPMC				S	**Sg**	**04 16 53.9**	**-0.1**
	baz=0.2						
DAC	**Darwin (Calif)**	**0.40**	**324**	*e*Pg	**Pg**	**04 16 55.5**	**-0.1**
DAC				*e*S	**Sg**	**04 17 00.6**	**-0.2**
LRMC	**Laurel Mtn Rad**	**0.57**	**213**	P	**Pg**	**04 16 58.9**	**+0.1**
	baz=0.6						
LRMC				S	**Sg**	**04 17 06.4**	**+0.2**
	baz=0.6						
FURC	**Furnace Creek,**	**0.63**	**35**	P	**Pg**	**04 17 00.7**	**+0.7**
	baz=0.6						
FURC				S	**Sg**	**04 17 09.3**	**+1.2**
	baz=0.6						
GSC	**Goldstone, Bar**	**0.77**	**148**	*e*Pg	**Pg**	**04 17 03.1**	**+0.5**
GSC				*e*S	**Sb**	**04 17 15.3**	**+0.9**
GSC	**Goldstone, Bar**	**0.77**	**148**	P	**Pg**	**04 17 03.2**	**+0.5**
	baz=0.8						
GSC				S	**Sg**	**04 17 13.8**	**+1.1**
	baz=0.8						
CWC	**Cottonwood Cre**	**0.79**	**308**	P	**Pg**	**04 17 03.0**	**0.0**
	baz=0.8						
CWC				S	**Sg**	**04 17 13.3**	**+0.1**
	baz=0.8						
SHOC	**Shoshone, Teco**	**0.84**	**94**	P	**Pb**	**04 17 05.3**	**+0.5**
	baz=0.9						
ISA	**Isabella, Lake**	**0.99**	**253**	*e*Pg	**Pg**	**04 17 06.5**	**-0.3**
ISA				*e*S	**Sg**	**04 17 19.4**	**-0.3**
ISA	**Isabella, Lake**	**0.99**	**253**	P	**Pg**	**04 17 06.5**	**-0.3**
	baz=1.0						
ISA				S	**Sg**	**04 17 19.2**	**-0.5**
	baz=1.0						
GRAC	**Grapevine Rang**	**1.04**	**357**	P	**Pg**	**04 17 07.9**	**0.0**
	baz=1.0						
RRX	**Edison Barstow**	**1.10**	**167**	P	**Pb**	**04 17 09.1**	**-0.2**
	baz=1.1						
RRX				S	**Sn**	**04 17 25.0**	**-0.3**
	baz=1.1						
EDW2	**Edwards Air Fo**	**1.21**	**208**	P	**Pb**	**04 17 10.3**	**-0.8**
	baz=1.2						
EDW2				S	**Sg**	**04 17 27.4**	**+0.7**
	baz=1.2						
TUQ	**Turquoise Moun**	**1.24**	**114**	P	**Pn**	**04 17 11.6**	**-0.1**
	baz=1.3						
TUQ				S	**Sb**	**04 17 28.9**	**+1.0**
	baz=1.3						
TPNV	**Topopah Spring**	**1.31**	**40**	P	**Pn**	**04 17 12.8**	**+0.1**
	baz=1.3						
TPNV				S	**Sb**	**04 17 30.3**	**+0.4**
	baz=1.3						
HEC	**Hector,Ludlow**	**1.38**	**144**	P	**Pn**	**04 17 13.2**	**-0.4**
	baz=1.4						
HEC				S	**Sn**	**04 17 32.1**	**0.0**
	baz=1.4						
VES	**Vestal, Richgr**	**1.45**	**266**	Pb	**Pn**	**04 17 14.3**	**-0.1**
	baz=1.4						
VES				S	**Sn**	**04 17 33.1**	**-0.6**
	baz=1.4						
ARVC	**Arvin**	**1.49**	**237**	S	**Sn**	**04 17 34.5**	**-0.3**
	baz=1.5						
RCTC	**Rector, Farmer**	**1.60**	**283**	Pb	**Pb**	**04 17 17.4**	**-0.4**
	baz=1.6						
RCTC				Sb	**Sb**	**04 17 38.4**	**+0.1**
	baz=1.6						
BFSC	**Mount Baldy Ra**	**1.74**	**190**	Sb	**Sb**	**04 17 42.8**	**+0.6**
	baz=1.7						
OSI	**Osito Audit: C**	**1.77**	**221**	*e*Pn	**Pb**	**04 17 19.9**	**-0.7**
OSI				*e*S	**Sg**	**04 17 46.1**	**+1.4**
OSI	**Osito Audit: C**	**1.77**	**221**	Sb	**Sg**	**04 17 44.2**	**-0.5**
	baz=1.8						
GMRC	**Granite Mounta**	**1.79**	**131**	P	**Pn**	**04 17 18.3**	**-1.0**
	baz=1.8						
GMRC				Sb	**Sb**	**04 17 45.3**	**+1.6**
	baz=1.8						
SHPR	**Sheep Range**	**1.82**	**72**	*e*Pn	**Pn**	**04 17 20.2**	**+0.5**
SHPR				*e*S	**Sn**	**04 17 43.5**	**+0.2**
MWC	**Mount Wilson**	**1.83**	**200**	*e*Pn	**Pn**	**04 17 20.7**	**+0.8**
MWC				*e*S	**Sg**	**04 17 46.8**	**0.0**
PASC	**Pasadena Art C**	**1.92**	**202**	*e*Pn	**Pn**	**04 17 21.3**	**+0.4**
PASC				*e*S	**Sb**	**04 17 46.4**	**-1.0**
LDFC	**Landfair**	**2.00**	**115**	*e*Pn	**Pn**	**04 17 22.7**	**+0.6**
LDFC				*e*S	**Sb**	**04 17 50.9**	**+1.2**
TPH	**Tonopah**	**2.12**	**2**	*e*Pn	**Pn**	**04 17 24.9**	**+1.0**
TPH				*e*Pg	**Pg**	**04 17 29.1**	**+0.7**
TPH				*e*S	**Sg**	**04 17 55.5**	**-0.4**
BELC	**Belle Mtn. Jos**	**2.23**	**151**	P	**Pn**	**04 17 25.3**	**-0.1**
	baz=2.2						
BELC				Sb	**Sb**	**04 17 58.7**	**+2.4**
	baz=2.2						
SMMC	**Simmler**	**2.29**	**254**	Pb	**Pb**	**04 17 28.7**	**-0.7**
	baz=2.3						
MURC	**Murrieta**	**2.35**	**178**	P	**Pn**	**04 17 27.2**	**+0.3**
	baz=2.4						
PFO	**Pinyon Flats O**	**2.44**	**163**	*e*Pn	**Pn**	**04 17 28.1**	**-0.2**
PFO				*e*Pg	**Pb**	**04 17 33.8**	**+1.6**
PFO				*e*S	**Sn**	**04 17 56.2**	**-2.3**
	baz=2.5						
NEE2	**Needles Airpor**	**2.50**	**118**	Pb	**Pb**	**04 17 33.7**	**+0.7**
	baz=2.5						
IRM	**Iron Mountain**	**2.52**	**135**	P	**Pn**	**04 17 28.6**	**-0.7**
	baz=2.5						
BC3	**Big Chuckawall**	**2.76**	**146**	P	**Pn**	**04 17 31.9**	**-0.7**
	baz=2.8						
R11A	**Troy Canyon, C**	**2.76**	**29**	*e*Pn	**Pn**	**04 17 33.9**	**+1.2**
R11A				*e*Pg	**Pb**	**04 17 39.5**	**+2.0**
R11A	**Troy Canyon, C**	**2.76**	**29**	P	**Pn**	**04 17 32.7**	**+0.1**
	baz=2.8						
R11A				Sb	**Sb**	**04 18 14.1**	**+2.4**
	baz=2.8						
109C	**Camp Elliot, M**	**3.06**	**177**	P	**Pn**	**04 17 37.0**	**+0.3**
	baz=3.1						
CMB	**Columbia Colle**	**3.22**	**311**	Pn	**Pn**	**04 17 39.9**	**+1.0**
CMB				*e*Pg	**Pg**	**04 17 48.0**	**-1.5**
CMB				*e*S	**Sb**	**04 18 26.1**	**+1.2**
BAR	**Barrett**	**3.31**	**171**	*e*P	**Pn**	**04 17 41.3**	**+1.2**
SAO	**San Andreas Ge**	**3.44**	**285**	*e*Pn	Pb	04 17 45.5	-3.6
SAO				*e*S	**Sg**	**04 18 36.9**	**-1.3**
BMN	**Battle Mountai**	**4.47**	**1**	Pn	**Pn**	**04 17 58.0**	**+1.8**
BMN				*e*S	**Sg**	**04 19 10.8**	**-0.5**
MVU	**Marysvale**	**4.80**	**56**	Pn	**Pn**	**04 18 03.0**	**+2.2**
MVU				*e*Pg	Pg	04 18 17.3	-2.4
MVU				*e*S	**Sg**	**04 19 17.7**	**-4.2**
WUAZ	**Wupatki**	**4.85**	**93**	*e*Pn	**Pn**	**04 18 00.8**	**-0.5**
WUAZ				*e*Pg	Pb	04 18 18.0	+4.8
WUAZ				*e*S	**Sg**	**04 19 20.8**	**-2.7**
ELK	**Elko**	**5.05**	**18**	*e*Pn	**Pn**	**04 18 04.4**	**+0.1**
	6.3nm,0.4s						
ELK				*e*Pg	**Pg**	**04 18 22.1**	**-2.5**
ELK				*e*S	**Sg**	**04 19 26.6**	**-3.4**
214	**Organ Pipe Nat**	**5.47**	**136**	Pn	**Pn**	**04 17 59.2**	**-11**
DUG	**Dugway, Tooele**	**5.52**	**39**	*e*Pn	**Pn**	**04 18 12.7**	**+2.1**
	9.1nm,0.8s						
DUG				*e*Pg	Pg	04 18 30.8	-2.8
DUG				*e*S	Sg	04 19 39.5	-5.6
MPU	**Maple Canyon**	**6.04**	**46**	Pn	Pn	04 18 21.5	+3.7
MPU				*e*Pg	**Pg**	**04 18 43.3**	**-0.2**
MPU				*e*S	**Sg**	**04 19 58.1**	**-3.7**
WDC	**Whiskeytown Da**	**6.18**	**320**	Pn	Pn	04 18 23.8	+4.2
WDC				*e*S	Sg	04 19 59.3	-7.0
W18A	**Petrified Fore**	**6.23**	**96**	Pn	**Pn**	**04 18 21.6**	**+1.1**
	16nm,0.8s						
W18A				*e*Pg	**Pg**	**04 18 45.3**	**-1.9**
W18A				*e*S	**Sg**	**04 20 05.5**	**-2.4**
TUC	**Tucson**	**6.52**	**122**	*e*Pn	**Pn**	**04 18 24.5**	**+0.2**
	1.5nm,0.6s						
TUC				*e*S	Sg	04 20 10.8	-6.3
HVU	**Hansel Valley**	**6.80**	**30**	Pn	**Pn**	**04 18 30.2**	**+2.0**
HVU				*e*Pg	**Pg**	**04 18 58.2**	**+0.1**
HVU				*e*S	Sg	04 20 20.6	-5.7
MVCO	**Mesa Verde**	**7.20**	**77**	Pn	**Pn**	**04 18 35.7**	**+1.9**
	20nm,0.9s						
MVCO				*e*Pg	Pg	04 19 01.7	-4.0
MVCO				*e*S	**Sg**	**04 20 35.5**	**-3.5**

*ATH **06** 04:35:06.3, 34°27N×25°06E, h31km±2km, MD3.6/10*
*CSEM **06** 04:35:07.4±0.5, 34°31N×25°11E, h18km±2km, ML2.9, Error ellipse: s-maj=6.4km s-min=3.7km az=174.0*
*THE **06** 04:35:09.6, 34°35N×25°11E, h26km±4km, ML2.9/1, Error ellipse: s-maj=4.4km s-min=1.2km az=198.0*

ISC 06 04:35:08.8±2.4, 34°4N±0.1×25°10E±0.04, h26km±13km, n34, σ0.9s60/56, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.70**	**340**	P	**Pb**	**04 35 22.4**	**0.0**
SIVA				S	**Sn**	**04 35 33.2**	**+0.1**
SIVA	**Sivas**	**0.70**	**340**	*e*PN	**Pb**	**04 35 22.4**	**0.0**
SIVA				*e*SN	**Sn**	**04 35 32.8**	**-0.3**
SIVA	**Sivas**	**0.70**	**340**	P	**Pb**	**04 35 22.4**	**0.0**
SIVA				*e*Sn	**Sn**	**04 35 32.8**	**-0.3**
SIVA				S	**Sn**	**04 35 33.2**	**+0.1**
LAST	**Lasithi**	**0.86**	**21**	P	**Pb**	**04 35 24.1**	**-1.1**
LAST				S	**Sb**	**04 35 36.5**	**+0.1**
LAST	**Lasithi**	**0.86**	**21**	*e*PB	**Pb**	**04 35 24.0**	**-1.1**
LAST				*e*SN	**Sn**	**04 35 38.3**	**+1.1**
LAST	**Lasithi**	**0.86**	**21**	P	**Pb**	**04 35 24.1**	**-1.1**
LAST				S	**Sb**	**04 35 36.5**	**+0.1**
LAST				*e*Sn	**Sn**	**04 35 38.3**	**+1.1**
NPS	**Neapolis**	**1.00**	**25**	P	**Pn**	**04 35 26.5**	**-0.7**
NPS				S	**Sn**	**04 35 40.4**	**-0.1**
NPS	**Neapolis**	**1.00**	**25**	*e*PN	**Pn**	**04 35 27.2**	**0.0**
NPS				*e*SN	**Sn**	**04 35 41.2**	**+0.7**
NPS	**Neapolis**	**1.00**	**25**	P	**Pn**	**04 35 26.5**	**-0.7**
NPS	**Neapolis**	**1.00**	**25**	*e*Pn	**Pn**	**04 35 27.2**	**0.0**
NPS				S	**Sn**	**04 35 40.4**	**-0.1**
NPS				*e*Sn	**Sn**	**04 35 41.2**	**+0.7**
ZKR	**Zakros**	**1.19**	**50**	P	**Pn**	**04 35 29.3**	**-0.5**
ZKR				S	**Sn**	**04 35 44.9**	**-0.3**
ZKR	**Zakros**	**1.19**	**50**	*e*PN	**Pn**	**04 35 29.3**	**-0.5**
ZKR				*e*SN	**Sb**	**04 35 47.3**	**+1.6**
ZKR	**Zakros**	**1.19**	**50**	P	**Pn**	**04 35 29.3**	**-0.5**
ZKR				S	**Sn**	**04 35 44.9**	**-0.3**
ZKR				*e*Sn	**Sb**	**04 35 47.3**	**+1.6**
VAM	**Vamos**	**1.28**	**325**	P	**Pn**	**04 35 30.7**	**-0.4**
VAM				S	**Sn**	**04 35 46.8**	**-0.7**
VAM	**Vamos**	**1.28**	**325**	*e*PN	**Pn**	**04 35 30.7**	**-0.4**
VAM	**Vamos**	**1.28**	**325**	P	**Pn**	**04 35 30.7**	**-0.4**
VAM				S	**Sn**	**04 35 46.8**	**-0.7**
KARP	**Karpathos**	**2.07**	**54**	P	**Pn**	**04 35 42.2**	**+0.3**
KARP	**Karpathos**	**2.07**	**54**	*e*PN	**Pn**	**04 35 42.0**	**+0.1**
KARP	**Karpathos**	**2.07**	**54**	*e*Pn	**Pn**	**04 35 42.0**	**+0.1**
THR5	**Thira Island,**	**2.07**	**6**	P	**Pn**	**04 35 41.9**	**0.0**
THR5	**Thira Island,**	**2.07**	**6**	P	**Pn**	**04 35 41.9**	**0.0**
ANKY	**Antikythira Is**	**2.11**	**316**	*e*PN	**Pn**	**04 35 42.2**	**-0.3**
ANKY	**Antikythira Is**	**2.11**	**316**	*e*Pn	**Pn**	**04 35 42.2**	**-0.3**
KYTH	**Kithira**	**2.56**	**319**	*e*PN	**Pn**	**04 35 48.6**	**0.0**
KYTH	**Kithira**	**2.56**	**319**	*e*Pn	**Pn**	**04 35 48.6**	**0.0**
APE	**Apeiranthos**	**2.73**	**7**	P	**Pn**	**04 35 50.3**	**-0.7**
APE				S	**Sn**	**04 36 23.0**

ODBI	Odobesti	0.44	64	⇑	*i*	P	Pn	04 51 17.7 +1.2
ODBI					*i*	S	Sn	04 51 31.6 +0.8
ODBI	Odobesti	0.44	64	⇑	*e*	P	Pn	04 51 17.7 +1.2
ODBI					*i*	S	Sn	04 51 31.6 +0.8
ISR	Istrita	0.45	175	⇑	*i*	P	Pn	04 51 17.1 +0.4
ISR	Istrita	0.45	175	⇑	*e*	P	Pn	04 51 17.1 +0.4
ISR					*i*	S	Sn	04 51 31.4 +0.3
ISR	Istrita	0.45	175	⇑	*e*	P	Pn	04 51 17.1 +0.4
ISR					*i*	S	Sn	04 51 31.4 +0.3
PETR	Petresti	0.54	73	⇑	*i*	P	Pn	04 51 17.9 +0.8
PETR	Petresti	0.54	73	⇑	*e*	P	Pn	04 51 17.9 +0.8
PETR					*i*	S	Sn	04 51 31.6 -0.2
PETR	Petresti	0.54	73	⇑	*e*	P	Pn	04 51 17.9 +0.8
PETR					*i*	S	Sn	04 51 31.6 -0.2
SECR		0.61	209	⇑	*i*	P	Pn	04 51 18.1 +0.5
SECR		0.61	209	⇑	*e*	P	Pn	04 51 18.1 +0.5
SECR					*i*	S	Sn	04 51 32.8 +0.2
SECR		0.61	209	⇑	*e*	P	Pn	04 51 18.1 +0.5
SECR					*i*	S	Sn	04 51 32.8 +0.2
PLAR	PLOIESTI	0.73	207	⇑	*i*	P	Pn	04 51 19.2 +0.8
PLAR	PLOIESTI	0.73	207	⇑	*e*	P	Pn	04 51 19.2 +0.8
PLAR					*i*	S	Sn	04 51 34.6 +0.5
PLAR	PLOIESTI	0.73	207	⇑	*e*	P	Pn	04 51 19.2 +0.8
PLAR					*i*	S	Sn	04 51 34.6 +0.5
PGOR	Pogoanele	0.75	152		*e*	S	Sn	04 51 34.6 +0.3
PGOR	Pogoanele	0.75	152		*i*	S	Sn	04 51 34.6 +0.3
PGOR	Pogoanele	0.75	152		*i*	S	Sn	04 51 34.6 +0.3
DOPR	Dopca	0.87	298	⇑	*i*	P	Pn	04 51 19.9 +0.4
DOPR	Dopca	0.87	298	⇑	*e*	P	Pn	04 51 19.9 +0.4
DOPR					*i*	S	Sn	04 51 35.0 -1.1
DOPR	Dopca	0.87	298	⇑	*e*	P	Pn	04 51 19.9 +0.4
DOPR					*i*	S	Sn	04 51 35.0 -1.1
SULR		0.91	191	⇑	*i*	P	Pn	04 51 20.5 +0.7
SULR		0.91	191	⇑	*e*	P	Pn	04 51 20.5 +0.7
SULR					*i*	S	Sn	04 51 36.8 +0.2
SULR		0.91	191	⇑	*e*	P	Pn	04 51 20.5 +0.7
SULR					*i*	S	Sn	04 51 36.8 +0.2
TESR	Tescani	0.95	7	⇓	*i*	P	Pn	04 51 20.6 +0.4
TESR	Tescani	0.95	7	⇓	*e*	P	Pn	04 51 20.6 +0.4
TESR					*i*	S	Sn	04 51 35.7 -1.7
TESR	Tescani	0.95	7	⇓	*e*	P	Pn	04 51 20.6 +0.4
TESR					*i*	S	Sn	04 51 35.7 -1.7
VOIR		1.02	263	⇑	*i*	P	Pn	04 51 21.4 +0.4
VOIR		1.02	263	⇑	*e*	P	Pn	04 51 21.4 +0.4
VOIR					*i*	S	Sn	04 51 37.2 -1.4
VOIR		1.02	263	⇑	*e*	P	Pn	04 51 21.4 +0.4
VOIR					*i*	S	Sn	04 51 37.2 -1.4
MTUR	Matau	1.06	252	⇓	*i*	P	Pn	04 51 22.1 +0.7
MTUR	Matau	1.06	252	⇓	*e*	P	Pn	04 51 22.1 +0.7
MTUR	Matau	1.06	252	⇓	*e*	P	Pn	04 51 22.1 +0.7
AMRR	Amara	1.13	148	⇑	*i*	P	Pn	04 51 22.5 +0.6
AMRR	Amara	1.13	148	⇑	*e*	P	Pn	04 51 22.5 +0.6
AMRR					*i*	S	Sn	04 51 39.6 -0.7
AMRR	Amara	1.13	148	⇑	*e*	P	Pn	04 51 22.5 +0.6
AMRR					*i*	S	Sn	04 51 39.6 -0.7
CIOR	Ciorogarla	1.20	201	⇓	*i*	P	Pn	04 51 23.1 +0.5
CIOR	Ciorogarla	1.20	201	⇓	*e*	P	Pn	04 51 23.1 +0.5
CIOR					*i*	S	Sn	04 51 41.0 -0.6
CIOR	Ciorogarla	1.20	201	⇓	*e*	P	Pn	04 51 23.1 +0.5
CIOR					*i*	S	Sn	04 51 41.0 -0.6
CFR	Carcaliu	1.23	108	⇑	*i*	P	Pn	04 51 22.9 +0.1
CFR	Carcaliu	1.23	108	⇑	*e*	P	Pn	04 51 22.9 +0.1
CFR					*i*	S	Sn	04 51 39.8 -2.2
CFR	Carcaliu	1.23	108	⇑	*e*	P	Pn	04 51 22.9 +0.1
BUC1	Bucharest	1.27	195	⇑	*i*	P	Pn	04 51 23.9 +0.6
BUC1	Bucharest	1.27	195	⇑	*e*	P	Pn	04 51 23.9 +0.6
BUC1					*i*	S	Sn	04 51 41.9 -0.8
BUC1	Bucharest	1.27	195	⇑	*e*	P	Pn	04 51 23.9 +0.6
BUC1					*i*	S	Sn	04 51 41.9 -0.8
ARR	Arges	1.32	262	⇑	*i*	P	Pn	04 51 25.2 +1.3
ARR	Arges	1.32	262	⇑	*e*	P	Pn	04 51 25.2 +1.3
ARR					*i*	S	Sn	04 51 43.2 -0.7
ARR	Arges	1.32	262	⇑	*e*	P	Pn	04 51 25.2 +1.3
ARR					*i*	S	Sn	04 51 43.2 -0.7
TLB	Topalu	1.48	131	⇓	*i*	P	Pn	04 51 25.9 +0.4
TLB	Topalu	1.48	131	⇓	*e*	P	Pn	04 51 25.9 +0.4
TLB					*i*	S	Sn	04 51 44.7 -2.1
TLB	Topalu	1.48	131	⇓	*e*	P	Pn	04 51 25.9 +0.4
HUMR	Humele	1.49	226	⇑	*i*	P	Pn	04 51 26.2 +0.4
HUMR	Humele	1.49	226	⇑	*e*	P	Pn	04 51 26.2 +0.4
HUMR					*i*	S	Sn	04 51 46.4 -0.7
HUMR	Humele	1.49	226	⇑	*e*	P	Pn	04 51 26.2 +0.4
HUMR					*i*	S	Sn	04 51 46.4 -0.7
LEOM	Leova	1.52	53	⇑	*i*	P	Pn	04 51 26.9 +0.9
LEOM	Leova	1.52	53	⇑	*e*	P	Pn	04 51 26.9 +0.9
LEOM					*i*	S	Sn	04 51 47.7 0.0
LEOM	Leova	1.52	53	⇑	*e*	P	Pn	04 51 26.9 +0.9
LEOM					*i*	S	Sn	04 51 47.7 0.0
CVD	Cernavoda	1.67	138	⇓	*i*	P	Pn	04 51 27.8 +0.1
CVD	Cernavoda	1.67	138	⇓	*e*	P	Pn	04 51 27.8 +0.1
CVD					*i*	S	Sn	04 51 49.2 -1.4
CVD	Cernavoda	1.67	138	⇓	*e*	P	Pn	04 51 27.8 +0.1
CVD					*i*	S	Sn	04 51 49.2 -1.4
TLCR		1.68	102	⇑	*i*	P	Pn	04 51 28.7 +0.8
TLCR		1.68	102	⇑	*e*	P	Pn	04 51 28.7 +0.8
TLCR					*i*	S	Sn	04 51 50.4 -0.6
TLCR		1.68	102	⇑	*e*	P	Pn	04 51 28.7 +0.8
TLCR					*i*	S	Sn	04 51 50.4 -0.6
MSAB	Monastry St. A	1.76	147	⇓	*i*	P	Pn	04 51 29.4 +0.6
MSAB	Monastry St. A	1.76	147	⇓	*e*	P	Pn	04 51 29.4 +0.6
MSAB					*i*	S	Sn	04 51 51.9 -0.6
MSAB	Monastry St. A	1.76	147	⇓	*e*	P	Pn	04 51 29.4 +0.6
MSAB					*i*	S	Sn	04 51 51.9 -0.6
TIRR	Tirgusor	1.76	128	⇓	*i*	P	Pn	04 51 29.3 +0.5
TIRR	Tirgusor	1.76	128	⇓	*e*	P	Pn	04 51 29.3 +0.5
TIRR					*i*	S	Sn	04 51 50.7 -1.9
TIRR	Tirgusor	1.76	128	⇓	*e*	P	Pn	04 51 29.3 +0.5
IAS	Iasi	1.79	24		*e*	S	Sn	04 51 52.5 -0.6
IAS	Iasi	1.79	24		*i*	S	Sn	04 51 52.5 -0.6
IAS	Iasi	1.79	24		*i*	S	Sn	04 51 52.5 -0.6
LOT	Lotru	1.92	267	⇑	*i*	P	Pn	04 51 31.2 +0.4
LOT	Lotru	1.92	267	⇑	*e*	P	Pn	04 51 31.2 +0.4
LOT					*i*	S	Sn	04 51 55.1 -1.0
LOT	Lotru	1.92	267	⇑	*e*	P	Pn	04 51 31.2 +0.4
LOT					*i*	S	Sn	04 51 55.1 -1.0
ZIMR		2.07	203		*e*	S	Sn	04 51 57.8 -1.5
ZIMR		2.07	203		*i*	S	Sn	04 51 57.8 -1.5
EFOR	EFORIE	2.13	134		*e*	S	Sn	04 52 00.0 -0.6
EFOR	EFORIE	2.13	134		*i*	S	Sn	04 52 00.0 -0.6
EFOR	EFORIE	2.13	134		*i*	S	Sn	04 52 00.0 -0.6
BURAR	Bucovina Array	2.23	337	⇓	*i*	P	Pn	04 51 37.1 +2.6
BURAR	Bucovina Array	2.23	337	⇓	*e*	P	Pn	04 51 37.1 +2.6
BURAR	Bucovina Array	2.23	337	⇓	*e*	P	Pn	04 51 37.1 +2.6
PSN	Preselentsi	2.24	147	⇓	*i*	P	Pn	04 51 35.7 +1.0
PSN	Preselentsi	2.24	147	⇓	*e*	P	Pn	04 51 35.7 +1.0
PSN					*i*	S	Sn	04 52 03.1 +0.1
PSN	Preselentsi	2.24	147		*i*	P	Pn	04 51 35.6 +0.9
PSN	Preselentsi	2.24	147		*i*	P	Pn	04 51 35.6 +0.9
PSN					*i*	S	Sn	04 52 03.1 +0.1
MANR	Mangalia	2.31	139	⇑	*i*	P	Pn	04 51 36.0 +0.6
MANR	Mangalia	2.31	139	⇑	*e*	P	Pn	04 51 36.0 +0.6
MANR					*i*	S	Sn	04 52 03.2 -1.2
MANR	Mangalia	2.31	139	⇑	*e*	P	Pn	04 51 36.0 +0.6
MANR					*i*	S	Sn	04 52 03.2 -1.2
SZH	Strazhica	2.34	190		*i*	P	Pn	04 51 36.4 +0.5
SZH	Strazhica	2.34	190		*e*	P	Pn	04 51 36.4 +0.5
PRD	Provadia	2.46	164		*i*	P	Pn	04 51 38.5 +1.1
PRD	Provadia	2.46	164		*e*	P	Pn	04 51 38.5 +1.1
PVL	Pavlikeni	2.49	200		*i*	P	Pn	04 51 39.8 +2.0
PVL	Pavlikeni	2.49	200		*e*	P	Pn	04 51 39.8 +2.0
SRE	Strehaia	2.50	250	⇑	*i*	P	Pn	04 51 38.5 +0.7
SRE	Strehaia	2.50	250	⇑	*e*	P	Pn	04 51 38.5 +0.7
SRE					*i*	S	Sn	04 52 07.8 -0.9
SRE	Strehaia	2.50	250	⇑	*e*	P	Pn	04 51 38.5 +0.7
SRE					*i*	S	Sn	04 52 07.8 -0.9
GZR	Gura Zlata	2.62	267	⇑	*i*	P	Pn	04 51 40.9 +1.5
GZR	Gura Zlata	2.62	267	⇑	*e*	P	Pn	04 51 40.9 +1.5
GZR	Gura Zlata	2.62	267	⇑	*e*	P	Pn	04 51 40.9 +1.5
CHRU	Chernivtsi	2.76	352		*i*	P	Pn	04 51 40.8 -0.3
CHRU					*e*	S	Sn	04 52 14.0 -0.6
DRGR		2.90	296	⇑	*i*	P	Pn	04 51 43.6 +0.6
DRGR		2.90	296	⇑	*e*	P	Pn	04 51 43.6 +0.6
DRGR		2.90	296	⇑	*e*	P	Pn	04 51 43.6 +0.6
KSV	Kosov	2.91	341		*i*	P	Pn	04 51 43.4 +0.2
KSV						Pm		04 51 46.4
KSV					*e*	S	Sn	04 52 17.6 -0.7
KSV						Sm		04 52 20.6
RAK	Rakhov	2.94	328		*i*	P	Pn	04 51 42.9 -0.6
RAK						Pm		04 51 45.9
RAK					*e*	S	Sn	04 52 18.1 -0.8
RAK						Sm		04 52 25.7
MPEP	Malo Peshtene	2.96	223		*i*	P	Pn	04 51 44.4 +0.6
NSLU	Nyzhne Selyshc	2.98	333		*i*	P	Pn	04 51 49.0 +5.1
NSLU					*e*	S	Sn	04 52 28.2 +8.5
KMPD	K-Podol'skiy	2.99	360		*i*	P	Pn	04 51 44.2 0.0
KMPD					*i*	S	Sn	04 52 19.5 -0.6
NDNU	Novodnistrovsk	3.08	11		*i*	P	Pn	04 51 45.4 +0.1
NDNU						Pm		04 51 46.4
NDNU					*i*	S	Sn	04 52 21.6 -0.6
NDNU						Sm		04 52 24.8
KORU	Korolevo	3.46	320		*e*	P	Pn	04 51 50.7 +0.4
KORU					*i*	S	Sn	04 52 31.1 +0.1
TRSU	Trosnyk	3.50	317		*e*	P	Pn	04 51 51.5 +0.7
TRSU					*i*	S	Sn	04 52 31.5 -0.4
MEZ	Mezhgor'ye	3.58	326		*i*	P	Pn	04 51 52.3 +0.5
MEZ					*e*	S	Sn	04 52 33.9 +0.1
ZAPS	Zavoj	3.59	232		*e*	Pn	Pn	04 51 52.4 +0.3
BRIU	Brid	3.65	321		*i*	P	Pn	04 51 53.2 +0.5
BRIU					*i*	S	Sn	04 52 35.6 +0.2
BERU	Beregovo	3.75	317		*e*	P	Pn	04 51 54.9 +0.9
BERU					*i*	S	Sn	04 52 37.7 0.0
VTS	Vitosha	3.80	220		*i*	P	Pn	04 51 55.0 0.0
VTS	Vitosha	3.80	220		*i*	P	Pn	04 51 55.0 0.0
MUKU	Mukachevo	3.88	319		*e*	P	Pn	04 51 56.4 +0.6
MUKU					*e*	S	Sn	04 52 41.4 +0.5
RZN	Rozhen	4.09	199		*i*	P	Pn	04 51 59.9 +1.1
RZN	Rozhen	4.09	199		*i*	P	Pn	04 51 59.9 +1.1
TRUS	Trudelj	4.53	255		*e*	Pn	Pn	04 52 03.6 -0.8
IVAS	Ivanjica	4.95	248		*e*	Pn	Pn	04 52 10.2 +0.1
PCIG		0.57	115		*i*	P	Pn	05 37 36.6 -1.3
PCIG					*e*	S	Sn	05 37 46.9 -1.7
CMIG	Matias Romero	1.57	316		*e*	P	Pn	05 37 48.4 -1.3
CCIG	Comitan	1.59	78		*e*	P	Pn	05 37 48.8 -1.3
THIG		1.77	126		*e*	P	Pn	05 37 51.0 -1.3

GUC 06 04:55:06.1±0.3, 33°.57S×72°.09W, h39km±2km, ML3.6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
					Op	ISC	h	m	s ISC
IHA	Instituto Hidr	0.66	35	*e*P		Pn	04	55	18.8 -0.3
IHA				*e*S		Sn	04	55	28.5 +0.3
TACH	Talagante	0.97	95	*e*P		Pn	04	55	23.7 +0.5
TACH				*e*S		Sn	04	55	36.9 +1.1
SAN	Santiago	1.20	85	*e*P		Pn	04	55	27.5 +1.1
SAN				*e*S		Sn	04	55	43.6 +2.0
STL	Santa Lucia	1.22	84	*e*P		Pn	04	55	27.6 +0.8
STL				*e*S		Sn	04	55	44.2 +2.1
PEL	Peldehue	1.25	70	*e*P		Pn	04	55	28.4 +1.2
PEL				*e*S		Sn	04	55	45.1 +2.2
PEL				AML		AML	04	55	54.6
	comp=N,3μm,0.7s								
CLCH	Cerro Calan	1.31	83	*e*P		Pn	04	55	29.1 +1.1
CLCH				*e*S		Sn	04	55	46.7 +2.3
CLCH				AML		AML	04	55	56.4
	comp=N,1μm,0.6s								
SJCH	San Jose de Ma	1.45	93	*e*P		Pn	04	55	31.4 +1.4
SJCH				*e*S		Sn	04	55	50.6 +2.7

DJA 06 05:20:21.5±0.5, 1°.N±4°.×122°.2E±°, h80km±6km, M3.9/7, MLv3.9/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
					Op	ISC	h	m	s ISC
MRSI	Marisa	0.34	244	P		Pn	05	20	35.7 +1.6
MRSI				S		Sn	05	20	46.5 +3.2
KMSI	Cibinong	1.73	92	P		Pn	05	20	50.5 +0.7
KMSI				S		Sn	05	21	12.3 +0.9
LUWI	Luwuk	1.74	163	P		Pn	05	20	50.4 +0.4
LUWI				S		Sn	05	21	12.6 +1.0
MPSI	Mapaga	2.37	263	P		Pn	05	20	58.9 +0.6
PCI	Palu	2.85	238	P		Pn	05	21	03.8 -1.1
TTSI	Tana Toraja	4.38	214	P		Pn	05	21	25.9 +0.2

IDC 06 05:21:33.9±1.5, 25°.86N×109°.91W, h0km, mb3.2/1, mb1 3.6/3, mb1mx3.3/24, mbtmp3.2/3, ML3.8/2, MS3.7/1, Ms1 3.7/1, ms1mx3.1/15, Error ellipse: s-maj=35.1km s-min=12.7km az=106.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
					Op	ISC	h	m	s ISC
LPIG	La Paz	1.79	192	Pg		Pn	05	22	05.2 -0.9
	5.7nm,0.3s,baz=8.1,slow=7.1,SNR=6.6								
LPIG				Lg		Lg	05	22	31.8
	13nm,0.3s,baz=32,slow=15,SNR=6.1								
TXAR	Lajitas Array	6.53	57	Pn		Pn	05	23	11.9 +0.5
	0.4nm,0.3s,baz=235,slow=13,SNR=25								
TXAR				Pg		Pg	05	23	41.6 +2.4
	0.3nm,0.3s,baz=232,slow=14,SNR=6.1								
TXAR				Sn		Sn	05	24	26.8 +0.1
	0.3nm,0.3s,baz=230,slow=27,SNR=3.2								
TXAR				Lg		Lg	05	25	02.6
	0.4nm,0.3s,baz=233,slow=27,SNR=3.6								
PDAR	Pinedale Array	16.86	1	Pn		P	05	25	33.9 0.0
	0.0nm,0.3s,baz=167,slow=13,SNR=2.6								
DLBC	Dease Lake	35.51	342	LR		LR	05	43	42.7
	comp=Z,111nm,20.5s,baz=250,slow=37								
ILAR	Eielson Array	45.54	339	P		P	05	29	55.3 +0.2
	0.3nm,0.9s,baz=138,slow=8.5,SNR=3.7								

MAN 06 05:33:17, 7°.41N×121°.76E, h9km, mb4.9, ML3.9, MS3.9
MAN INTENSITY II - ZAMBOANGA CITY,
IDC 06 05:33:18.1±1.0, 7°.58N×121°.97E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.6/41, mbtmp3.9/7, Error ellipse: s-maj=37.7km s-min=19.5km az=53.0
ISCJB 06 05:33:21.6±0.6, 7°.53N±0°.07×121°.97E±0°.06, h33km, mb3.8/7, Error ellipse: s-maj=10.9km s-min=8.3km az=165.8

ISC 06 05:33:23.3±0.8, 7°.58N±0°.09×122°.04E±0°.08, h35km, n15, σ1s09/14, mb3.8/6, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
					Op	ISC	h	m	s ISC
IPIL	Ipil	0.56	68	⇑ *i*	P	Pn	05	33	33.7 -1.1
IPIL				*i*	S	Sn	05	33	42.2 -0.8
PAGZ	Pagadian	1.35	78	*e*	P	Pn	05	33	47.1 +1.5
CTBH	Cotabato--PC H	2.21	99	⇑	P	Pn	05	33	58.5 +1.0
CGP	Cagayan de Oro	2.77	71	⇓ *e*	P	Pn	05	34	10.4 +5.2
CGP				*e*S		Sn	05	34	48.4 +11
BUKP	Musuan	3.01	84	*e*	P	Pn	05	34	09.0 +0.5
GUIM	Jordan	3.08	10	*e*	P	Pn	05	34	09.2 -0.2
RCP	Roxas	4.02	10	⇑ *e*	P	Pn	05	34	24.5 +2.2
PSI	Prapat	23.50	260	P		P	05	38	30.1 -0.3
	2.0nm,0.4s,baz=54,slow=7.4,SNR=5.8								
CMAR	Chiang Mai Arr	24.94	298	P		P	05	38	42.1 -1.4
	0.5nm,0.3s,baz=134,slow=9.0,SNR=6.7								
WRA	Warramunga Arr	29.91	156	P		P	05	39	27.6 -0.4
	1.2nm,0.7s,baz=337,slow=9.6,SNR=7.8								
ASAR	Alice Springs	33.14	160	P		P	05	39	57.4 +0.8
	1.0nm,0.6s,baz=339,slow=7.5,SNR=12								
STKA	Stephens Creek	43.45	156	P		P	05	41	22.8 -0.2
	1.6nm,0.8s,baz=334,slow=11,SNR=2.8								
KURBB	Kurchatov Arra	56.02	328	P		P	05	42	58.5 +0.1
	0.3nm,0.3s,baz=122,slow=8.0,SNR=5.8								
YKA	Yellowknife Ar	97.88	23	P		Pdif	05	46	55.5 +0.3
	0.2nm,0.6s,baz=296,slow=4.0,SNR=3.2								
TXAR	Lajitas Array	122.73	48	PKP		PKPdf	05	52	16.8 +0.5
	0.5nm,0.8s,baz=275,slow=0.9,SNR=6.3								

IDC 06 05:34:32.5±8.3, 30°.25N×141°.37E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/37, mbtmp3.5/4, ML3.0/1, Error ellipse: s-maj=311.9km s-min=24.4km az=66.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
					Op	ISC	h	m	s ISC
JCJ	Chichijima	3.22	167	Pn		Pn	05	35	24.1 -0.2
	1.6nm,0.3s,baz=267,slow=19,SNR=2.5								
JCJ				Sn		Sn	05	36	04.3 +0.8
	baz=285,slow=20								
MKAR	Makanchi Array	47.96	307	P		P	05	43	12.7 -0.2
	0.3nm,0.6s,baz=98,slow=8.3,SNR=2.7								
WRA	Warramunga Arr	50.36	189	P		P	05	43	31.4 0.0
	0.6nm,0.4s,baz=6.8,slow=7.6,SNR=7.1								
ASAR	Alice Springs	54.08	188	P		P	05	43	59.0 -0.1
	0.3nm,0.6s,baz=1.5,slow=4.5,SNR=4.2								

MEX 06 05:37:23.4±0.3, 15°.95N×93°.75W, h81km±10km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
					Op	ISC	h	m	s ISC

BJI 06 05:40:26.1, 1°.51N×96°.60E, h15km, mb4.8/40, mB4.9/29, Ms4.3/18, Ms7 3.9/15
IDC 06 05:40:30.5±0.6, 2°.13N×96°.78E, h0km, mb4.3/21, mb1 4.4/23, mb1mx4.3/30, mbtmp4.3/23, ML4.2/2, MS3.8/7, Ms1 3.8/7, ms1mx3.4/38, Error ellipse: s-maj=18.9km s-min=13.0km az=43.0
ISCJB 06 05:40:32.3±0.3, 2°.00N±0°.03×96°.68E±0°.03, h28km, mb4.4/40, MS3.8/7, Error ellipse: s-maj=5.4km s-min=3.6km az=38.6
NEIC 06 05:40:32.0±0.2, 2°.07N×96°.72E, h10km, mb4.6/10, Error ellipse: s-maj=5.8km s-min=3.9km az=220.0
MOS 06 05:40:33.2±0.9, 2°.09N×96°.74E, h33km, mb4.7/19, Error ellipse: s-maj=12.4km s-min=6.7km az=102.8
KLM 06 05:40:33.6, 2°.00N×96°.62E, h30km, mb4.6, ML4.2, MS5.3
DJA 06 05:40:34.7±0.4, 2°.N±3°.×97°.7E±°, h32km±7km, M4.6/15, mb4.6/6, mB5.3/3, MLv4.6/15, Mw(mB)4.7/3

ISC 06 05:40:34.2±0.4, 2°.07N±0°.04×96°.73E±0°.04, h28km, n136, σ1s56/159, mb4.4/40, MS3.8/7, 8C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
					Op	ISC	h	m	s ISC
SNSI	Sinabang, Aceh	0.52	310	P		Pn	05	40	46.5 +0.6
SNSI				S		Sn	05	40	55.5 +1.7
GSI	Gunungsitoli	1.14	132	P		Pn	05	40	54.3 -0.1
GSI				S		Sn	05	41	08.2 -0.9
GSI	Gunungsitoli	1.14	132	*e*Pg		Pn	05	40	54.5 +0.1
KCSI	Kotacane, Aceh	1.78	36	P		Pn	05	41	04.0 +0.8
KCSI				S		Sb	05	41	27.4 -0.7
PSI	Prapat	2.31	72	Pn		Pn	05	41	10.8 +0.2
	9.5nm,0.3s,baz=258,slow=7.3,SNR=56								
PSI				LR		LR	05	42	00.2
	comp=Z,717nm,20.6s,baz=292,slow=40								
TSI	Tuntungan	2.32	52	P		Pn	05	41	11.8 +1.2
TSI				S		Sn	05	41	40.1 +1.9
MNSI	Mandailing Nat	3.12	114	P		Pn	05	41	22.6 +1.0
MNSI				S		Sn	05	41	57.9 -0.1
LHMI	Lhok Sumawe	3.15	4	P		Pn	05	41	23.5 +1.5
LHMI	Lhok Sumawe	3.15	4	*e*Pn		Pn	05	41	22.7 +0.7
BSI	Banda Aceh	3.69	337	P		Pn	05	41	28.4 -1.1
BSI				S		Sn	05	42	09.7 -2.4
BKNI	Bangkinang	4.64	112	P		Pn	05	41	42.8 +0.2
BKNI	Bangkinang	4.64	112	*e*Pn		Pn	05	41	42.6 0.0
PDSI	Padang	4.76	128	P		Pn	05	41	48.3 +4.0
IPM	Ipoh	4.91	61	⇑P		Pn	05	41	47.8 +1.5
IPM	Ipoh	4.91	61	*e*Pn		Pn	05	41	47.5 +1.2
KULM	Kulim	5.05	51	⇓P		Pn	05	41	48.9 +0.7
KULM	Kulim	5.05	51	*e*Pn		Pn	05	41	48.2 0.0
SDSI	Sungai Dareh	5.57	122	P		Pn	05	41	54.3 -1.0
	39nm,0.7s,11μm0.2nm								
PKDT	Phuket	6.00	15	P		Pn	05	42	05.2 +4.0
	42nm,0.7s,1μm0.4nm								
SKLT	Songkhla	6.38	37	P		Pn	05	42	06.6 +0.2
	68nm,1.1s,658nm0.2nm						

LZH LE
comp=Z,290nm,12.0s
LZH LZ
comp=Z,360nm,15.6s
NJ2 Nanjing 36.38 33 *e*P **P 05 47 35.6 -0.7**
NJ2 PMZ
comp=Z,40nm,0.5s
GTA Gaotai 37.27 4 P **P 05 47 43.8 -0.1**
GTA pP **pP 05 47 48.4 -3.8**
GTA sP **sP 05 47 50.8 -4.8**
GTA S **S 05 53 32.5 +2.8**
GTA SS **SnSn 05 56 05.9 -0.7**
GTA PMZ
comp=Z,26nm,1.3s
GTA PMZ
comp=Z,120nm,6.2s
GTA LN
comp=Z,160nm,18.5s
GTA LE
comp=Z,260nm,17.6s
GTA LZ
comp=Z,95nm,17.1s
H01W3 Cape Leeuwin H 40.22 158 T T 06 30 54.3
baz=334,slow=76,SNR=18
H01W2 Cape Leeuwin H 40.24 158 T T 06 30 57.7
baz=334,slow=76,SNR=15
H01W1 Cape Leeuwin H 40.24 158 T T 06 30 58.2
baz=334,slow=76,SNR=15
HHC Hu-ho-hao-te 40.87 17 *e*P **P 05 48 16.8 +2.9**
HHC sP **sP 05 48 23.0 -2.7**
HHC PP **PnPn 05 49 58.3 +5.5**
HHC S **S 05 54 29.5 +5.8**
HHC SS **SS 05 57 26.8 +1.0**
HHC PMZ
comp=Z,16nm,0.9s
HHC PMZ
comp=Z,75nm,5.7s
HHC LN
comp=Z,210nm,13.6s
HHC LE
comp=Z,230nm,14.5s
HHC LZ
comp=Z,190nm,12.8s
BJI Beijing 41.72 23 P **P 05 48 21.6 +0.8**
BJI PMZ
comp=Z,21nm,1.0s
KSH Kashi 41.79 336 P **P 05 48 20.4 -1.2**
KSH *es*P sP 05 48 27.4 -6.0
KSH PP **PP 05 49 59.8 +1.3**
KSH PcS **PcS 05 54 08.3 -0.8**
KSH S **S 05 54 36.0 -1.5**
KSH PMZ
comp=Z,5.0nm,1.1s
KSH PMZ
comp=Z,90nm,6.2s
KSH LN
comp=Z,130nm,8.9s
KSH LE
comp=Z,90nm,5.5s
KSH LZ
comp=Z,120nm,5.7s
WMQ Urumqi 42.34 350 *e*P **P 05 48 27.5 +1.6**
WMQ pP **pP 05 48 32.0 -2.3**
WMQ sP **sP 05 48 34.5 -3.2**
WMQ PMZ
comp=Z,9.0nm,0.8s
WMQ PMZ
comp=Z,17nm,4.4s
WMQ LN
comp=Z,84nm,17.2s
WMQ LE
comp=Z,65nm,16.4s
WRA Warramunga Arr 42.90 122 P **P 05 48 30.4 -0.3**
comp=Z,3.1nm,0.7s,baz=301,slow=9.1,SNR=19
WRA PcP **PcP 05 50 20.9 -0.5**
comp=Z,1.0nm,0.9s,baz=328,slow=3.0,SNR=3.2
WRA Warramunga Arr 42.90 122 *i* P **P 05 48 30.2 -0.5**
WRA pmax pmax
comp=Z,4.0nm,0.6s
WRAB Tennant Creek 42.90 122 *e*P **P 05 48 30.8 0.0**
WRAB pmax pmax
comp=Z,3.0nm,0.6s
WRAB Tennant Creek 42.90 122 *e*P **P 05 48 30.8 0.0**
comp=Z,3.2nm,0.6s
AS31 Alice Springs 44.29 127 *e*P **P 05 48 41.9 -0.1**
ASAR Alice Springs 44.29 128 P **P 05 48 42.2 +0.2**
ASAR PcP **PcP 05 50 26.9 +0.8**
comp=Z,0.6nm,0.7s,baz=306,slow=3.1,SNR=3.4
TKM2 Tokmak 2 44.84 338 *e*P **P 05 48 47.3 +1.0**
TKM2 pmax pmax
comp=Z,14nm,1.3s
TKM2 Tokmak 2 44.84 338 *e*P **P 05 48 47.3 +1.0**
comp=Z,14nm,1.3s
AAK Ala-Archa 45.02 337 *e*P **P 05 48 48.5 +0.9**
AAK pmax pmax
comp=Z,14nm,1.5s
AAK Ala-Archa 45.02 337 *e*P **P 05 48 48.5 +0.9**
comp=Z,14nm,1.5s
EKS2 Erkin-Say 45.33 336 *e*P **P 05 48 51.5 +1.4**
EKS2 pmax pmax
comp=Z,4.0nm,0.8s
EKS2 Erkin-Say 45.33 336 *e*P **P 05 48 51.5 +1.4**
comp=Z,3.9nm,0.8s
KSAR Wonju Array Be 45.38 35 P **P 05 48 50.1 -0.3**
KSAR Wonju Array Be 45.38 35 P **P 05 48 50.0 -0.3**
KSRS Korea Array 45.41 35 P **P 05 48 50.0 -0.5**
comp=Z,6.4nm,0.8s,baz=227,slow=9.0,SNR=13
KSRS LR LR 06 08 05.8
comp=Z,117nm,20.9s,baz=200,slow=36
MK31 Makanchi Array 46.29 346 *i* P **P 05 48 57.4 0.0**
MK31 pmax pmax
comp=N,13nm,0.8s
MKAR Makanchi Array 46.29 346 P **P 05 48 57.5 0.0**
comp=N,10nm,0.8s,baz=195,slow=7.5,SNR=92
MKAR LR LR 06 12 15.5
comp=N,96nm,18.8s,baz=130,slow=41
SONM Songino Array 46.35 9 P **P 05 48 58.2 +0.2**
comp=N,8.8nm,0.8s,baz=191,slow=8.8,SNR=18
ULN Ulaanbaatar 46.48 10 *e*P **P 05 48 59.1 0.0**
ULN pmax pmax
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 46.48 10 *e*P **P 05 48 59.1 0.0**
comp=Z,6.3nm,1.0s
KK31 Karatay Array 47.07 334 *i* P **P 05 49 04.3 +0.7**
KK31 pmax pmax
comp=N,1.0nm,0.4s
KKAR Karatay Array 47.07 334 *e*P **P 05 49 04.5 +0.9**
KKAR Karatay Array 47.07 334 *e*P **P 05 49 04.5 +0.9**
ZAK Zakamensk 48.46 6 ||*i*P **P 05 49 14.2 -0.1**
ZAK *e* 05 51 09.4
ZAK pmax pmax
comp=Z,4.0nm,1.7s
TLY Talaya 49.78 6 *e*P **P 05 49 25.2 +0.9**
TLY *e* 05 51 15.5
TLY pmax pmax
comp=Z,6.0nm,1.1s
TLY MLR MLR
comp=Z,130nm,24.0s
GEYT Alibeck 50.25 320 P **P 05 49 29.1 +1.0**
comp=Z,2.1nm,0.5s,baz=123,slow=5.3,SNR=2.6
GEYT LR LR 06 12 23.9
comp=Z,76nm,19.5s,baz=320,slow=38
KURK Kurchatov 50.84 345 *e*P **P 05 49 32.4 +0.1**
KURK pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 50.84 345 *e*P **P 05 49 32.4 +0.1**
comp=Z,6.8nm,0.8s
HIA Hailar 50.98 19 *e*P **P 05 49 33.6 +0.2**
HIA pmax pmax
comp=Z,9.0nm,0.8s
MDJ Mudanjiang 51.34 30 P **P 05 49 37.4 +1.1**
MDJ PMZ
comp=Z,10.0nm,1.1s
MDJ PMZ
comp=Z,81nm,3.6s
MJAR Matsushiro Arr 51.37 43 P **P 05 49 36.2 -0.4**
comp=Z,3.0nm,0.7s,baz=216,slow=6.7,SNR=8.4
USRK Ussuriysk Ar. 52.28 32 P **P 05 49 43.2 0.0**
comp=Z,3.3nm,0.8s,baz=256,slow=7.7,SNR=5.1
ZAA0 Zalesovo Array 52.63 351 *e*P **P 05 49 45.7 +0.1**
ZALV Zalesovo Beam 52.63 351 P **P 05 49 46.2 +0.6**
comp=Z,16nm,0.7s,baz=180,slow=6.0,SNR=62
OPO Ambohidratompo 52.86 245 P **P 05 49 50.1 +2.0**
comp=Z,2.1nm,0.7s,baz=0.3,slow=5.6,SNR=3.6
NVS Novosibirsk 53.74 350 ||*i*P **P 05 49 52.5 -1.3**
NVS pmax pmax
comp=N,6.0nm,0.9s
NVS pmax pmax
comp=E,7.0nm,0.9s
NVS pmax pmax
comp=Z,10.0nm,0.9s
RAYN Ar Rayn 53.94 298 *e*P **P 05 49 55.9 +0.1**
comp=Z,3.0nm,0.8s
STKA Stephens Creek 54.29 132 P **P 05 49 57.8 -0.4**
comp=Z,3.1nm,0.8s,baz=326,slow=11,SNR=4.2
BVA0 Borovoye Array 55.28 341 *i* P **P 05 50 04.1 -0.9**
BVA0 pmax pmax
comp=N,3.0nm,0.7s
BVAR Borovoye Array 55.28 341 P **P 05 50 05.1 0.0**
comp=N,2.6nm,0.7s,baz=137,slow=9.3,SNR=14
BRVK Borovoye 55.34 341 *e*P **P 05 50 06.1 +0.6**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
BRVK Borovoye 55.34 341 *e*P **P 05 50 06.1 +0.6**
comp=Z,7.2nm,1.0s
KLR Kul'dur 55.70 27 *e*P P 05 50 04.7 -3.4
AB31 Akbulak array 56.53 332 *i* P **P 05 50 14.0 0.0**
ABKAR Akbulak array 56.53 332 *e*P **P 05 50 14.0 0.0**
comp=Z,7.3nm,0.9s
BOD Bodaibo 57.25 11 *e*P **P 05 50 18.3 -0.7**
BOD pmax pmax
comp=Z,4.0nm,1.0s
ZEI Tsey 62.04 318 *e*P **P 05 50 51.9 -0.7**
ZEI pmax pmax
comp=Z,4.0nm,0.8s
ARU Arti 62.20 337 *c i*P **P 05 50 52.4 -0.7**
ARU S **S 05 59 16.5 -0.4**
ARU pmax pmax
comp=Z,7.0nm,1.7s
KBZ Khabaz 63.11 319 P **P 05 50 59.8 +0.4**
comp=Z,2.3nm,0.8s,baz=53,slow=20,SNR=8.1
KIV Kislovodsk 63.34 319 *e*P **P 05 51 01.7 +0.6**
KIV pmax pmax
comp=Z,9.0nm,1.1s
YAK Yakutsk 64.72 16 *e*P **P 05 51 08.5 -1.1**
YAK pmax pmax
comp=Z,22nm,0.9s
BRTR Keskin Array B 68.18 312 P **P 05 51 32.1 -0.4**
comp=Z,0.8nm,0.7s,baz=118,slow=1.8,SNR=5.5
BRTR Keskin Array B 68.18 312 *ce*P **P 05 51 32.0 -0.4**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
OBN Obninsk 71.64 328 ||*e*P **P 05 51 51.8 -1.3**
OBN *i* 05 52 12.2
OBN *i* 05 54 30.9
OBN *e*S **S 06 01 10.6 -0.2**
OBN pmax pmax
comp=Z,10.0nm,0.4s
OBN MLR MLR
comp=Z,39nm,19.0s
TIXI Tiksi 72.42 10 *e*P **P 05 51 56.8 -0.7**
TIXI pmax pmax
comp=Z,8.0nm,1.7s
SEY Seymchan 73.15 23 *e*P **P 05 52 02.8 +0.7**
AKASG Malin Array Be 74.28 322 P **P 05 52 08.3 -0.6**
comp=Z,1.2nm,0.6s,baz=93,slow=4.6,SNR=7.0
AKASG Malin Array Be 74.28 322 *ce*P **P 05 52 08.6 -0.4**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 79.01 332 P **P 05 52 35.8 +0.3**
comp=Z,2.4nm,0.6s,baz=112,slow=8.5,SNR=10.0
FINES FINESS Array B 79.01 332 *ce*P **P 05 52 36.0 +0.5**
FINES pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 81.56 340 P **P 05 52 49.5 +0.5**
comp=Z,3.1nm,0.9s,baz=102,slow=5.1,SNR=9.2
DPC Dobruska-Polom 82.28 320 *e*P P 05 53 02.2 +8.9
URZ Urewera 83.72 129 LR LR 06 31 43.3
comp=Z,95nm,20.4s,baz=360,slow=37
GERES GERESS Array B 83.85 319 P **P 05 53 02.5 +0.9**
comp=Z,0.5nm,0.3s,baz=94,slow=7.4,SNR=8.9
NOA NORSAR Array B 86.02 331 P **P 05 53 12.6 +0.5**
comp=Z,0.7nm,0.8s,baz=95,slow=5.4,SNR=3.1
TORD Torodi Ar. Bea 94.43 283 P **P 05 53 54.7 +2.2**
comp=Z,0.4nm,0.9s,baz=71,slow=4.9,SNR=2.4
PDAR Pinedale Array 129.46 25 PKP **PKPdf 05 59 41.4 +0.3**
comp=Z,0.3nm,0.7s,baz=352,slow=1.4,SNR=3.1
TXAR Lajitas Array 143.17 31 PKhKP PKPpre 06 00 03.1
comp=Z,0.3nm,0.6s,baz=340,slow=1.9,SNR=5.6
CPUP Villa Florida 145.32 224 PKPbc **PKPdf 06 00 10.8 +0.5**
comp=Z,0.8nm,1.0s,baz=90,slow=20,SNR=2.3
CFAA Coronel Fontan 147.38 204 PKPbc **PKPab 06 00 17.8 -0.2**
comp=Z,0.1nm,0.5s,baz=78,slow=9.3,SNR=2.8

*IDC **06** 05:43:17.4±0.9,35.10S×72.48W,h0km,mb4.2/8, mb1 4.1/11,mb1mx4.0/19,mbtmp4.0/11,ML3.8/3,MS3.3/1, Ms1 3.3/1,ms1mx2.8/22,Error ellipse: s-maj=30.3km s-min=19.5km az=104.0*
*ISCJB **06** 05:43:18.9±1.7,35.15S±0.05×72.57W±0.10,h22km±12km, mb4.1/12,MS3.3/1,Error ellipse: s-maj=13.8km s-min=7.2km az=16.4*
*NEIC **06** 05:43:22.0,35.21S×72.35W,h35km,mb4.3/3, ML4.7(GUC),After GUC.*
NEIC Felt [IV] at Constitucion, Pencahue and San Javier; [III] at Cauquenes, Parral, Retiro and Talca.
*GUC **06** 05:43:22.6±0.8,35.21S×72.35W,h35km±7km,ML4.7*
ISC 06 05:43:21.0±2.2,35.20S±0.05×72.45W±0.09,h24km±14km, n40,σ1°05/38,mb4.1/12,3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
TALC	**Talca**	**0.70**	**107**	||*e*P	**Pb**	**05 43 34.4**	**-0.1**
TALC					*e*S	**Sb**	**05 43 43.4**	**-0.3**
LNCH	**Linares**	**0.95**	**133**	||*e*P	**Pn**	**05 43 39.0**	**+0.1**
LNCH					*e*S	**Sn**	**05 43 51.1**	**-0.5**
NICH	**Los Niches**	**1.02**	**79**	||*i*P	**Pn**	**05 43 39.8**	**-0.1**
NICH					*e*S	**Sn**	**05 43 52.5**	**-0.9**
TACH	**Talagante**	**1.99**	**39**	*e*P		**Pn**	**05 43 53.9**	**+0.7**
PCH	**Pirque**	**2.25**	**46**	*e*P		**Pn**	**05 43 58.0**	**+1.2**
SAN	**Santiago**	**2.29**	**41**	*e*P		**Pn**	**05 43 59.4**	**+2.1**
CLCH	**Cerro Calan**	**2.40**	**42**	*e*P		**Pn**	**05 43 59.5**	**+0.6**
CLCH				*e*P		Pb	05 44 00.4	-3.1
CLCH				*e*S		**Sn**	**05 44 28.5**	**+1.0**
CLCH				AML		AML	05 44 43.0	
comp=E,5μm,0.6s								
PEL	**Peldehue**	**2.52**	**36**	*e*P		**Pn**	**05 44 01.9**	**+1.3**
PEL				*e*S		**Sn**	**05 44 32.3**	**+1.8**
PEL				AML		AML	05 44 42.8	
comp=N,4μm,0.6s								
CFAA	**Coronel Fontan**	**5.03**	**46**	Pn		**Pn**	**05 44 35.2**	**+0.2**
comp=N,0.8nm,0.3s,baz=205,slow=3.7,SNR=172								
CFAA				Lg		Lg	05 45 45.9	
comp=N,1.0nm,0.3s,baz=303,slow=19,SNR=5.6								
PLCA	**Paso Flores**	**5.72**	**165**	Pn		**Pn**	**05 44 47.1**	**+2.5**
comp=N,2.3nm,0.3s,baz=339,slow=11,SNR=71								
PLCA				Lg		Lg	05 46 15.1	
comp=N,2.6nm,0.3s,baz=323,slow=19,SNR=4.7								
PLCA	**Paso Flores**	**5.72**	**165**	*e*Pn		**Pn**	**05 44 45.7**	**+1.1**
comp=N,32nm,0.8s								
PLCA				Lg		Lg	05 46 15.1	
LCO	**Las Campanas**	**6.35**	**14**	*e*Pn		**Pn**	**05 44 53.0**	**-0.3**
comp=N,21nm,0.3s								
LCO				*e*Sn		**Sn**	**05 46 04.0**	**-1.2**
TRQA	**Tornquist**	**8.89**	**112**	*e*Pn		**Pn**	**05 45 30.1**	**+2.1**
comp=N,17nm,0.9s								
LVC	**Limon Verde**	**12.92**	**15**	Lg		Lg	05 49 44.8	
comp=N,11nm,0.3s,baz=279,slow=10,SNR=4.0								
LVC	**Limon Verde**	**12.92**	**15**	*e*Pn		**Pn**	**05 46 21.9**	**-1.5**
LVC				Lg		Lg	05 49 44.8	
CPUP	**Villa Florida**	**15.71**	**60**	Pn		**Pn**	**05 47 01.8**	**+1.1**
comp=N,0.0nm,0.3s,baz=251,slow=8.7,SNR=3.0								
SIV	**San Ignacio**	**21.67**	**31**	P		**P**	**05 48 09.6**	**-0.5**
comp=N,17nm,0.7s,baz=221,slow=10,SNR=52								
SAML	**Samuel**	**27.47**	**20**	*e*P		**P**	**05 49 04.6**	**-0.8**
comp=N,1.9nm,1.1s								
BDFB	**Brasilia**	**29.30**	**55**	P		**P**	**05 49 20.8**	**-1.1**
comp=N,1.8nm,0.8s,baz=226,slow=4.0,SNR=4.3								
PTGA	**Pitinga**	**36.22**	**21**	P		**P**	**05 50 21.3**	**-0.9**
comp=N,4.5nm,0.7s,baz=202,slow=11,SNR=8.2								
SDV	**Santo Domingo**	**43.88**	**3**	P		**P**	**05 51 25.1**	**-0.8**
comp=N,2.5nm,0.8s								
RCBR	**Riachuelo**	**44.57**	**58**	P		**P**	**05 51 31.6**	**+0.2**
comp=N,18nm,1.3s								
SNAA	**Sanae**	**50.61**	**157**	LR		LR	06 13 39.7	
comp=N,25nm,18.6s,baz=113,slow=36								
QSPA	**South Pole Qui**	**55.04**	**180**	P		**P**	**05 52 51.4**	**+0.9**
comp=N,4.6nm,1.0s,baz=156,slow=1.1,SNR=13								
TXAR	**Lajitas Array**	**70.62**	**331**	P		**P**	**05 54 35.0**	**+0.4**
comp=N,0.4nm,0.5s,baz=156,slow=8.8,SNR=8.3								
DBIC	**Dimbokro**	**75.89**	**71**	P		**P**	**05 55 06.0**	**+0.1**
comp=N,7.2nm,0.9s,baz=216,slow=8.9,SNR=5.4								
ECSD	**EROS Data Cent**	**81.59**	**343**	*e*P		**P**	**05 55 36.5**	**0.0**
comp=N,1.4nm,0.7s								
PDAR	**Pinedale Array**	**84.68**	**334**	P		**P**	**05 55 52.5**	**-0.4**
comp=N,0.3nm,0.6s,baz=165,slow=3.7,SNR=3.5								
TORD	**Torodi Ar. Bea**	**84.94**	**70**	P		**P**	**05 55 54.3**	**-0.2**
comp=N,0.9nm,0.8s,baz=264,slow=5.1,SNR=8.5								
H11S2	**WAKE ISLAND Hyl**	**25.41**	**269**	T		T	08 20 30.0	
baz=117								
H11S1	**WAKE ISLAND Hyl**	**25.42**	**269**	T		T	08 20 23.7	
baz=117								
H11S3	**WAKE ISLAND Hyl**	**25.42**	**269**	T		T	08 20 24.8	
baz=117								
H11N3	**WAKE ISLAND Hyl**	**25.85**	**270**	T		T	08 20 52.6	
baz=118								
H11N1	**WAKE ISLAND Hyl**	**25.86**	**270**	T		T	08 20 49.9	
baz=118								
H11N2	**WAKE ISLAND Hyl**	**25.87**	**270**	T		T	08 20 50.5	
baz=118								
BVAR	**Borovoye Array**	**148.38**	**44**	PKPbc		**PKPdf**	**06 03 02.7**	**+1.4**
comp=N,0.3nm,0.3s,baz=268,slow=6.6,SNR=3.0								
AAK	**Ala-Archa**	**153.35**	**64**	PKPbc		**PKPbc**	**06 03 17.4**	**+0.2**
comp=N,0.6nm,0.4s,baz=185,slow=20,SNR=4.9								
KURBB	**Kurchatov Arra**	**153.97**	**45**	PKPbc		**PKPbc**	**06 03 17.5**	**-0.4**
comp=N,0.3nm,0.6s,baz=296,slow=2.9,SNR=4.1								
KURK	**Kurchatov**	**153.98**	**45**	PKPbc		**PKPbc**	**06 03 17.5**	**-0.5**
ZALV	**Zalesovo Beam**	**155.42**	**33**	PKPab		**PKPab**	**06 03 37.4**	**-0.1**
comp=N,0.4nm,0.3s,baz=296,slow=4.6,SNR=2.8								

*CSEM **06** 05:48:16.9,34.09N×26.36E,h16km,MD3.5*
ATH 06 05:48:16.9,34.09N×26.36E,h16km±5km,MD3.5/4,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ZKR	**Zakros**	**1.03**	**353**	*e*PN		Pb	05 48 36.5	+0.1
ZKR	**Zakros**	**1.03**	**353**	*e*Pn		Pb	05 48 36.5	+0.1
LAST	**Lasithi**	**1.29**	**326**	*e*PN		Pb	05 48 41.1	+0.1
LAST				*e*SN		Sg	05 48 59.5	+0.6
LAST	**Lasithi**	**1.29**	**326**	*e*Pn		Pb	05 48 41.1	+0.1
LAST				*e*Sn		Sg	05 48 59.5	+0.6
NPS	**Neapolis**	**1.32**	**332**	*e*PN		Pb	05 48 41.8	+0.4
NPS				*e*SN		Sb	05 48 58.8	+0.7
NPS	**Neapolis**	**1.32**	**332**	*e*Pn		Pb	05 48 41.8	+0.4
NPS				*e*Sn		Sb	05 48 58.8	+0.7
SIVA	**Sivas**	**1.58**	**306**	*e*PN		Pb	05 48 45.9	+0.2
SIVA				*e*SN		Sg	05 49 08.2	+0.4
SIVA	**Sivas**	**1.58**	**306**	*e*Pn		Pb	05 48 45.9	+0.2
SIVA				*e*Sn		Sg	05 49 08.2	+0.4
VAM	**Vamos**	**2.21**	**307**	*e*PN		Pb	05 48 55.0	-1.5
VAM	**Vamos**	**2.21**	**307**	*e*Pn		Pb	05 48 55.0	-1.5

*IDC **06** 05:55:54.5±6.9,36.77N×70.48E,h179km±43km,mb2.8/2, mb1 2.9/6,mb1mx2.8/38,mbtmp3.5/6,Error ellipse: s-maj=132.2km s-min=31.8km az=139.0*
*ISCJB **06** 05:55:56.6±1.5,36.8N±0.1×70.9E±0.1,h200km,mb3.0/2, Error ellipse: s-maj=14.9km s-min=10.6km az=157.4*
*NNC **06** 05:56:00.5±5.9,37.00N×71.12E,h0km,mb3.8,mpv3.4, Error ellipse: s-maj=50.0km s-min=19.8km az=172.0*
ISC 06 05:55:56.2±1.6,36.8N±0.2×70.8E±0.2,h200km,n11, σ1°09/14,5C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
DZET	**Dzherino**	**2.55**	**324**	||P	Pn	05 56 43.1	+2.5
7.6nm,0.4s								
DZET				⇑S		Sn	05 57 17.5	+2.0
67nm,0.4s								
SFK	**Sufi-Kurgan**	**3.89**	**33**	⇑P		**Pn**	**05 56 58.1**	**+1.4**
2.6nm,0.3s								
SFK				⇑S		**Sn**	**05 57 44.0**	**-0.4**
22nm,0.5s								
KK31	**Karatay Array**	**6.33**	**358**	P		Pn	05 57 29.9	+2.2
0.3nm,0.2s,baz=175,slow=12,SNR=9.0								
KK31				⇓S		**Sn**	**05 58 39.7**	**-0.4**
5.9nm,0.5s,baz=189,slow=22,SNR=18								
AAK	**Ala-Archa**	**6.53**	**25**	⇓P		**Pn**	**05 57 31.9**	**+1.5**
1.6nm,0.3s								
AAK				⇓S		**Sn**	**05 58 43.9**	**-1.1**
3.7nm,0.5s								
AAK	**Ala-Archa**	**6.53**	**25**	P		**Pn**	**05 57 31.1**	**+0.8**
1.8nm,0.3s,baz=223,slow=7.9,SNR=12								
AAK				S		**Sn**	**05 58 45.0**	**0.0**
0.6nm,0.3s,baz=138,slow=24,SNR=9.1								
TKM2	**Tokmak 2**	**7.18**	**30**	⇑P		**Pn**	**05 57 39.7**	**+0.8**
8.9nm,0.8s								
TKM2				⇑S		**Sn**	**05 58 59.3**	**-1.2**
2.8nm,0.7s								
MKAR	**Makanchi Array**	**13.19**	**37**	P		**Pn**	**05 58 55.3**	**-0.6**
0.1nm,0.3s,baz=229,slow=13,SNR=4.1								
KURBB	**Kurchatov Arra**	**14.93**	**20**	P		**P**	**05 59 17.0**	**-1.1**
0.1nm,0.3s,baz=204,slow=12,SNR=3.1								
ZALV	**Zalesovo Beam**	**19.75**	**25**	P		**P**	**06 00 11.5**	**+0.9**
2.3nm,0.3s,baz=226,slow=12,SNR=6.6								
TORD	**Torodi Ar. Bea**	**65.53**	**268**	P		**P**	**06 06 17.4**	**-1.0**
0.2nm,0.4s,baz=46,slow=6.2,SNR=7.2								
YKA	**Yellowknife Ar**	**80.99**	**3**	P		**P**	**06 07 49.1**	**+1.1**
0.1nm,0.4s,baz=351,slow=5.2,SNR=5.2								

*BJI **06** 05:59:50.4,21.26N×101.54E,h6km,ML4.0/4,Ms3.3/1, Ms7 3.0/1*
*ISCJB **06** 05:59:52.6±1.4,21.39N±0.06×101.88E±0.08,h10km, Error ellipse: s-maj=11.1km s-min=6.9km az=152.6*
*PLV **06** 05:59:54.0±1.6,21.28N×101.84E,h9km±9km,MD3.1, ML3.3*
ISC 06 05:59:53.9±1.7,21.31N±0.06×101.83E±0.10,h10km,n8, σ1°07/15,Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SPV	**Sa-pa**	**2.13**	**61**	*e*Pg		**Pg**	**06 00 35.1**	**+0.4**
TTVN	**Tram Tau**	**2.36**	**86**	*e*Pn		**Pn**	**06 00 32.8**	**0.0**
TTVN				*e*Pg		**Pg**	**06 00 39.1**	**-0.1**
TTVN				AML		AML	06 01 19.1	
comp=N,166nm,0.5s								
MCVV	**Moc Chau**	**2.68**	**100**	*e*Pn		**Pn**	**06 00 37.2**	**-0.1**
MCVV				*e*Pg		**Pg**	**06 00 44.1**	**-1.4**
VTVB	**Vinh Tuy**	**3.00**	**71**	*e*Pn		**Pn**	**06 00 41.5**	**-0.2**
VTVB				*e*Sg		**Sg**	**06 01 30.9**	**+0.4**
HBVN	**Hoa-Binh**	**3.33**	**98**	*e*Pn		**Pn**	**06 00 45.8**	**-0.2**
HBVN				*e*Sg		**Sg**	**06 01 41.2**	**+0.3**
CCVB	**Con Cuong**	**3.64**	**128**	*e*Pg		**Pg**	**06 01 04.3**	**+0.6**
CCVB				*e*Sg		**Sg**	**06 01 50.4**	**-0.6**
KMI	**Kunming**	**3.89**	**12**	Pg		**Pb**	**06 01 03.7**	**+1.0**
KMI				Sg		**Sg**	**06 01 57.7**	**-1.1**
KMI				SMN				
comp=N,32nm,0.9s								
KMI				SME				
comp=N,42nm,1.0s								
KMI				LN				
comp=N,210nm,6.1s								
KMI				LE				
comp=N,230nm,6.7s								
KMI				LZ				
comp=N,190nm,10.3s								
LZH	**Lanzhou**	**14.83**	**6**	*e*P		**Pn**	**06 03 22.5**	**-1.4**
LZH				pP		P	06 03 24.7	-5.1
LZH				sP			06 03 27.2	
LZH				*e*PP		**PnPn**	**06 03 34.6**	**+2.6**

*ISCJB **06** 06:01:57.5±0.9,33.40S±0.04×71.95W±0.08,h36km±13km, mb3.9/3,Error ellipse: s-maj=11.2km s-min=6.2km az=10.5*
*NEIC **06** 06:01:58.0,33.46S×71.87W,h31km,mb3.9/1, ML4.0(GUC),After GUC.*
NEIC Felt [II] at El Quisco and San Antonio.
*GUC **06** 06:01:58.0±0.6,33.46S×71.87W,h31km±4km,MD3.8, ML4.0*
*IDC **06** 06:02:01.9±3.3,33.63S×71.80W,h63km±30km,mb3.7/2, mb1 3.8/4,mb1mx3.6/15,mbtmp3.8/4,ML3.6/2,Error ellipse: s-maj=39.6km s-min=33.5km az=105.0*
ISC 06 06:01:58.5±1.2,33.45S±0.04×71.81W±0.06,h29km±9km, n18,σ0°72/26,mb4.0/3,4C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
IHA	**Instituto Hidr**	**0.45**	**19**	⇓*i*P		**Pb**	**06 02 07.8**	**-0.3**

IHA *i* S **Sb** **06 02 15.0 +0.5**
TACH **Talagante** **0.76** **106** ⇑ *i* P **Pb** **06 02 12.2 -1.0**
SAN **Santiago** **0.96** **91** ⇑ *i* P **Pn** **06 02 16.1 0.0**
SAN *i* S **Sn** **06 02 29.5 +0.7**
PEL **Peldehue** **0.99** **72** ⇑ *i* P **Pn** **06 02 16.8 +0.3**
PEL *i* S **Sb** **06 02 31.0 +1.1**
PEL AML AML 06 02 35.0
comp=E,8μm,0.5s
CLCH **Cerro Calan** **1.07** **88** ⇓ *i* P **Pn** **06 02 17.9 +0.3**
CLCH *i* S **Sb** **06 02 33.0 +0.9**
CLCH AML AML 06 02 39.3
comp=N,5μm,0.6s
CLCH AML AML 06 02 40.0
comp=N,6μm,0.7s
PCH **Pirque** **1.10** **99** *e*P **Pn** **06 02 18.0 0.0**
PCH *e*S **Sb** **06 02 33.7 +0.7**
NICH **Los Niches** **1.62** **163** ⇓ *i* P **Pn** **06 02 25.9 +0.7**
NICH *i* S **Sb** **06 02 47.0 -1.0**
LNCH **Linares** **2.40** **176** ⇑ *i* P **Pn** **06 02 36.1 +0.3**
LNCH *i* S **Sn** **06 03 05.6 +1.4**
CFAA **Coronel Fontan** **3.54** **60** P **Pn** 06 02 55.7 +4.2
comp=N,1.4nm,0.3s,baz=229,slow=14,SNR=25
CFAA S **Sb** **06 03 43.4 +0.5**
comp=N,3.2nm,0.3s,baz=144,slow=22,SNR=14
LCO **Las Campanas** **4.53** **12** *e*Pn **Pn** **06 03 04.0 -1.3**
LCO *e*Sn **Sn** **06 03 57.3 +0.2**
PLCA **Paso Flores** **7.34** **172** P **Pn** **06 03 44.0 +0.2**
comp=N,0.5nm,0.3s,baz=345,slow=14,SNR=12
PLCA **Paso Flores** **7.34** **172** *e*Pn **Pn** **06 03 44.5 +0.7**
TRQA **Tornquist** **9.22** **123** Pn **Pn** **06 04 09.0 -0.5**
SAML **Samuel** **25.65** **20** *e*P **P** **06 07 25.5 -0.2**
comp=N,3.0nm,0.8s
TXAR **Lajitas Array** **69.35** **330** P **P** **06 13 04.0 +0.5**
comp=N,0.8nm,0.6s,baz=152,slow=8.5,SNR=17
TORD **Torodi Ar. Bea** **83.84** **70** P **P** **06 14 25.2 -0.5**
comp=N,1.1nm,0.7s,baz=240,slow=4.8,SNR=7.5
ZALV **Zalesovo Beam** **153.66** **32** PKPbc **PKPbc** **06 21 53.6 -0.3**
comp=N,0.7nm,0.4s,baz=298,slow=3.1,SNR=4.1
MKAR **Makanchi Array** **156.26** **48** PKPab **PKPab** **06 22 17.6 -0.5**
comp=N,0.3nm,0.6s,baz=264,slow=4.3,SNR=4.1

BJI **06** *06:14:43.3,4.7*7*S×100.9*7*E,h14km,mb4.8/37,mB4.9/24, Ms4.5/20,Ms7 4.2/17*
ISCJB **06** *06:14:45.6±0.9,4.3*6*S±0.0*4*×100.8*7*E±0.0*3*,h8km±6km, mb4.5/43,MS4.0/3,Error ellipse: s-maj=6.8km s-min=3.9km az=31.1*
DJA **06** *06:14:48.8±0.4,4.7S±3.3×10.1E±.°,h10km,M5.0/23, mb4.7/17,mB5.6/9,MLv4.8/23,Mw(mB)5.1/9*
MOS **06** *06:14:49.5±1.0,4.2*7*S×100.9*9*E,h33km,mb4.6/19,Error ellipse: s-maj=13.4km s-min=7.5km az=109.3*
IDC **06** *06:14:50.9±0.7,4.1*6*S×101.0*6*E,h24km±3km,mb4.4/21, mb1 4.5/24,mb1mx4.3/30,mbtmp4.5/24,ML4.4/2,MS3.5/3, Ms1 3.5/3,ms1mx2.9/44,Error ellipse: s-maj=23.2km s-min=11.2km az=47.0*
NEIC **06** *06:14:50.1±2.3,4.3*1*S×100.9*6*E,h22km±15km,mb4.6/11, Error ellipse: s-maj=14.5km s-min=4.9km az=47.0*
ISC 06 06:14:49.2±0.5,4.39S±0.05×100.89E±0.05,h19km±1km, h18km:pP-P,n140,σ1§59/178,mb4.5/43,MS4.0/3,5C, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**1.83**	**47**	P		**Pn**		**06 15 18.2**	**-1.5**
MASI				S		**Sn**		**06 15 41.6**	**-0.8**
MNAI	**Manna**	**2.06**	**89**	P		**Pn**		**06 15 22.5**	**-0.4**
MNAI				S		**Sn**		**06 15 48.2**	**+0.1**
MNAI	**Manna**	**2.06**	**89**	*e*Pn		**Pn**		**06 15 21.7**	**-1.1**
MNAI				*e*Sn		**Sn**		**06 15 45.8**	**-2.3**
LHSI	**Lahat**	**2.68**	**78**	P		**Pn**		**06 15 31.5**	**0.0**
LHSI				S		**Sn**		**06 16 03.4**	**-0.1**
LWLI	**Liwa**	**3.22**	**101**	P		**Pn**		**06 15 38.7**	**-0.2**
LWLI				S		**Sn**		**06 16 16.1**	**-0.7**
MDSI	**Maura Dua**	**3.28**	**92**	P		**Pn**		**06 15 39.3**	**-0.3**
MDSI				S		**Sn**		**06 16 15.3**	**-2.9**
SDSI	**Sungai Dareh**	**3.48**	**9**	P		**Pn**		**06 15 41.9**	**-0.5**
PDSI	**Padang**	**3.48**	**353**	P		**Pn**		**06 15 41.3**	**-1.2**
KASI	**Kota Agung**	**3.76**	**108**	P		**Pn**		**06 15 44.6**	**-1.7**
KASI				S		**Sn**		**06 16 26.3**	**-3.9**
JMBI	**JAMBI**	**3.88**	**45**	P		**Pn**		**06 15 46.7**	**-1.2**
KLI	**Kotabumi**	**3.98**	**97**	P		**Pn**		**06 15 48.7**	**-0.6**
PMBI	**Palembang**	**4.13**	**70**	P		**Pn**		**06 15 49.8**	**-1.6**
PMBI	**Palembang**	**4.13**	**70**	*e*Pg		**Pg**		**06 16 08.4**	**-0.1**
BLSI	**Bandar Lampung**	**4.45**	**103**	P		**Pn**		**06 15 56.2**	**+0.5**
BKNI	**Bangkinang**	**4.69**	**2**	P		**Pn**		**06 15 57.7**	**-1.4**
BKNI	**Bangkinang**	**4.69**	**2**	*e*Pn		**Pn**		**06 15 57.6**	**-1.4**
CGJI	**Cibinong** 131nm,0.7s,5μm0.5nm	**5.26**	**115**	P		**Pn**		**06 16 05.4**	**-1.6**
MNSI	**Mandailing Nat** 57nm,0.8s,3μm0.4nm	**5.32**	**346**	P		**Pn**		**06 16 08.7**	**+1.0**
DSRI	**Dabo** 285nm,0.9s,1.3nm	**5.35**	**44**	P		**Pn**		**06 16 07.4**	**-0.8**
PPBI	**Pangkal Pinang** 63nm,1.0s,15μm0.9nm	**5.68**	**67**	P		**Pn**		**06 16 14.0**	**+1.2**
CBJI	**Citeko** 177nm,0.8s,12μm1.3nm	**6.26**	**109**	P		Pn		06 16 24.9	+4.2
GSI	**Gunungsitoli**	**6.55**	**330**	*e*Pn		**Pn**		**06 16 23.5**	**-1.2**
MYKOM	**Kota Tinggi**	**6.81**	**26**	*e*Pn		**Pn**		**06 16 28.0**	**-0.3**
LEM	**Lembang** 145nm,1.2s,0.5nm	**7.12**	**110**	P		Pn		**06 16 34.3**	**+1.7**
LEM	**Lembang** 9.9nm,0.3s,baz=119,slow=23,SNR=6.4	**7.12**	**110**	Pn		Pn		**06 16 34.2**	**+1.7**
LEM				LR		LR		06 19 43.6	
	comp=Z,509nm,20.5s,baz=203,slow=42								
PSI	**Prapat** 4.7nm,0.3s,baz=157,slow=8.2,SNR=14	**7.41**	**345**	Pn		**Pn**		**06 16 35.6**	**-0.9**
PSI				LR		LR		06 19 07.8	
	comp=Z,216nm,19.1s,baz=150,slow=36								
CISI	**Cisompet, Garu** 142nm,0.8s,10μm0.6nm	**7.57**	**115**	P		**Pn**		**06 16 37.3**	**-1.4**
CISI	**Cisompet, Garu**	**7.57**	**115**	*e*Pn		**Pn**		**06 16 37.0**	**-1.7**
KCSI	**Kotacane, Aceh** 28nm,0.6s,3μm	**8.45**	**338**	P		**Pn**		**06 16 50.6**	**-0.2**
KPJI	**Karang Pucung** 48nm,0.8s,2μm	**8.51**	**110**	P		**Pn**		**06 16 52.3**	**+0.7**
COCO	**West Island**	**8.73**	**207**	*i* P		**Pn**		**06 16 56.6**	**+2.0**
IPM	**Ipoh**	**8.81**	**1**	*e*Pn		**Pn**		**06 16 56.0**	**+0.3**
KULM	**Kulim** 14nm,0.9s	**9.62**	**359**	*e*Pn		**Pn**		**06 17 06.5**	**-0.3**
SMRI	**Semarang**	**9.86**	**106**	P		Pn		06 17 21.9	+12
BSI	**Banda Aceh** 47nm,0.6s,1μm	**11.30**	**330**	P		**Pn**		**06 17 27.8**	**-2.0**
SKLT	**Songkhla** 16nm,1.0s	**11.49**	**359**	P		**Pn**		**06 17 31.0**	**-1.4**
TRTT	**Trang**	**12.20**	**354**	P		**P**		**06 17 52.3**	**-2.3**
SBUM	**Sibu**	**13.20**	**59**	*e*Pn		**Pn**		**06 17 58.0**	**+2.1**
BBKI	**Banjar Baru**	**13.95**	**87**	P		P		06 18 20.8	+6.8
CHBT	**CHBT** 34nm,0.9s,3μm	**17.09**	**5**	P		**Pn**		**06 18 48.0**	**+0.7**
KAPI	**Kappang** baz=273,slow=8.0,SNR=8.0	**18.81**	**93**	P		**Pn**		**06 19 08.5**	**0.0**
KAPI	**Kappang** 17nm,0.8s	**18.81**	**93**	*e*P		**Pn**		**06 19 08.4**	**0.0**
SPSI	**Sidrap Palu** 35nm,1.0s	**18.83**	**89**	P		**P**		**06 19 07.2**	**-1.0**
TTSI	**Tana Toraja**	**18.93**	**87**	P		**Pn**		**06 19 14.1**	**+4.1**
BNSI	**Bone** 34nm,1.2s	**19.16**	**91**	P		**Pn**		**06 19 12.3**	**-0.4**
BKSI	**Bulukumba**	**19.18**	**94**	P		Pn		06 19 20.8	+7.8
PCI	**Palu**	**19.23**	**80**	P		**Pn**		**06 19 15.1**	**+1.4**
MPSI	**Mapaga**	**19.56**	**77**	P		**Pn**		**06 19 17.5**	**-0.1**
UTHA	**Uthaitani** 3.0nm,0.9s	**19.87**	**356**	P		**Pn**		**06 19 24.3**	**+3.1**
PBKT	**Sadao Pong** 15nm,1.0s	**20.82**	**0**	P		**P**		**06 19 29.6**	**-0.3**
SKNT	**Sakolnakorn** 16nm,0.9s	**21.45**	**8**	P		**P**		**06 19 34.2**	**-2.4**
MRSI	**Marisa**	**21.58**	**78**	P		**P**		**06 19 38.2**	**+0.1**
LOEI	**Loei** 14nm,1.1s	**21.76**	**1**	P		**P**		**06 19 37.8**	**-2.2**
LUWI	**Luwuk** 86nm,1.0s	**22.10**	**82**	*e*P		**P**		**06 19 43.3**	**-0.4**
CM31	**Chiang Mai Arr** 5.7nm,0.6s	**22.78**	**355**	*e*P		**P**		**06 19 50.9**	**0.0**
CMAR	**Chiang Mai Arr** 14nm,0.8s,baz=186,slow=8.8,SNR=63	**22.78**	**355**	P		**P**		**06 19 48.5**	**-2.4**
CMMT	**Chiang Mai**	**23.14**	**355**	P		**P**		**06 19 53.7**	**-0.9**
CHTO	**Chiang Mai** 77nm,1.1s	**23.14**	**355**	P		**P**		**06 19 53.7**	**-0.9**
CHTO	**Chiang Mai**	**23.14**	**355**	*e*P		**P**		**06 19 53.9**	**-0.7**
CHTO					pmax	pmax			
	comp=Z,15nm,1.0s								
CHTO	**Chiang Mai**	**23.14**	**355**	*e*P		**P**		**06 19 53.9**	**-0.7**
	comp=Z,15nm,1.0s								
QIZ	**Qiongzhong**	**24.88**	**20**	P		**P**		**06 20 11.9**	**+0.8**
QIZ				*e*P		**pP**		**06 20 14.9**	**-1.9**
QIZ				S		**S**		**06 24 36.5**	**+3.0**
QIZ				PMZ					
	comp=Z,22nm,1.6s								
KMI	**Kunming**	**29.39**	**3**	P		**P**		**06 20 52.0**	**+0.2**
KMI				*e*P		**sP**		**06 20 59.7**	**-0.1**
KMI				PMZ					
	comp=Z,12nm,0.8s								
KMI				LN					
	comp=Z,98nm,19.9s								
KMI				LE					
	comp=Z,250nm,19.0s								
KMI				LZ					
	comp=Z,190nm,14.8s								
GYA	**Guiyang**	**31.17**	**10**	⇑ *i* P		**P**		**06 21 06.4**	**-1.0**
GYA				PP		**PnPn**		**06 22 13.0**	**+3.6**
GYA				S		**S**		**06 26 15.4**	**+2.7**
GYA				ScP		**ScP**		**06 27 42.3**	**-2.3**
GYA				SS		**SnSn**		**06 28 01.8**	**+6.5**
GYA				PMZ					
	comp=Z,20nm,0.8s								
GYA				PMZ					
	comp=Z,90nm,4.6s								
GYA				LN					
	comp=Z,360nm,15.0s								
GYA				LE					
	comp=Z,310nm,16.2s								
GYA				LZ					
	comp=Z,260nm,15.6s								
H01W3	**Cape Leeuwin H** baz=337,slow=76,SNR=67	**32.73**	**160**	T		T		06 55 58.3	
H01W2	**Cape Leeuwin H** baz=337,slow=76,SNR=84	**32.74**	**160**	T		T		06 55 44.7	
H01W1	**Cape Leeuwin H** baz=337,slow=76,SNR=62	**32.75**	**160**	T		T		06 56 00.3	
CD2	**Chengdu**	**35.21**	**4**	*e*P		**P**		**06 21 44.9**	**+2.4**
WRA	**Warramunga Arr** comp=Z,4.4nm,0.7s,baz=298,slow=11,SNR=28	**36.05**	**118**	P		**P**		**06 21 49.5**	**-0.4**
WRAB	**Tennant Creek**	**36.06**	**118**	*e*P		**P**		**06 21 49.9**	**-0.1**
WRAB				pmax		pmax			
	comp=Z,9.0nm,0.8s								
WRAB	**Tennant Creek** comp=Z,9.0nm,0.8s	**36.06**	**118**	*e*P		**P**		**06 21 49.9**	**-0.1**
WHN	**Wuhan**	**37.04**	**19**	P		**P**		**06 21 57.2**	**-0.9**
ASAR	**Alice Springs** comp=Z,4.0nm,0.5s,baz=297,slow=7.7,SNR=41	**37.16**	**124**	P		**P**		**06 21 59.9**	**+0.6**
AS31	**Alice Springs**	**37.16**	**124**	*e*P		**P**		**06 21 59.3**	**-0.1**
XAN	**Xi'an**	**38.97**	**11**	P		**P**		**06 22 12.8**	**-1.6**
XAN				pP		**pP**		**06 22 19.0**	**-1.2**
XAN				PMZ					
	comp=Z,6.0nm,0.9s								
XAN				PMZ					
	comp=Z,24nm,6.1s								
NJ2	**Nanjing**	**40.07**	**24**	*e*P		**P**		**06 22 23.2**	**-0.3**
NJ2				S		**S**		**06 28 32.0**	**+3.2**
NJ2				PMZ					
	comp=Z,40nm,0.6s								
NJ2				LN					
	comp=Z,220nm,16.6s								
NJ2				LE					
	comp=Z,400nm,22.6s								
NJ2				LZ					
	comp=Z,360nm,16.7s								
LZH	**Lanzhou**	**40.36**	**4**	*e*P		**P**		**06 22 26.1**	**0.0**
LZH				pP		**pP**		**06 22 30.5**	**-1.4**
LZH				sP		**sP**		**06 22 33.0**	**-1.2**
LZH				*e*PP		**PnPn**		**06 24 03.0**	**0.0**
LZH				*e*S		**S**		**06 28 35.0**	**+1.6**
LZH				sS		**sS**		**06 28 42.3**	**-0.7**
LZH				PMZ					
	comp=Z,38nm,1.3s								
LZH				PMZ					
	comp=Z,130nm,4.9s								
LZH				LN					
	comp=Z,170nm,12.6s								
LZH				LE					
	comp=Z,310nm,13.0s								
LZH				LZ					
	comp=Z,400nm,16.0s								
GTA	**Gaotai**	**43.59**	**359**	*e*P		**P**		**06 22 52.6**	**+0.2**
GTA				pP		**pP**		**06 22 57.2**	**-1.1**
GTA				sP		**sP**		**06 22 59.7**	**-0.9**
GTA				S		**S**		**06 29 22.6**	**+1.5**
GTA				sS		**sS**		**06 29 30.0**	**-0.7**
GTA				SS		**SS**		**06 32 31.0**	**-5.4**
GTA				PMZ					
	comp=Z,8.0nm,1.3s								
GTA				PMZ					
	comp=Z,96nm,5.2s								
GTA				LN					
	comp=Z,200nm,15.2s								
GTA				LE					
	comp=Z,280nm,16.9s								
GTA				LZ					
	comp=Z,120nm,17.6s								
HHC	**Hu-ho-hao-te**	**46.07**	**11**	*e*P		P		06 23 17.9	+5.8
HHC				pP		pP		06 23 22.0	+4.0
HHC				PP		**PP**		**06 25 04.6**	**+4.2**
HHC				S		S		06 30 10.0	+13
HHC				sS		sS		06 30 11.9	+5.3
HHC	**Hu-ho-hao-te**	**46.07**	**11**	SS		SS		06 33 21.8	-0.6
HHC				pmax		pmax			
	comp=Z,23nm,1.0s								
HHC				pmax		pmax			
	comp=Z,110nm,6.0s								
HHC				LR		LR			
	comp=N,210nm,14.8s								
HHC				LR		LR			
	comp=E,180nm,14.1s								
HHC				LR		LR			
	comp=Z,250nm,15.0s								
BJI	**Beijing**	**46.39**	**16**	P		**P**		**06 23 14.6**	**+0.1**
BJI				S		**S**		**06 30 05.4**	**+4.1**
BJI				PMZ					
	comp=Z,18nm,0.5s								
BJI				LN					
	comp=Z,94nm,20.5s								
BJI				LE					
	comp=Z,200nm,20.5s								
CTA	**Charters Tower** comp=Z,8.3nm,0.9s,baz=67,slow=12,SNR=3.7	**46.81**	**113**	P		**P**		**06 23 18.1**	**-0.1**
JNU	**Nakatsue** comp=Z,4.8nm,0.6s,baz=121,slow=3.9,SNR=4.0	**46.89**	**35**	P		**P**		**06 23 16.7**	**-1.9**
STKA	**Stephens Creek** comp=Z,4.1nm,0.8s,baz=305,slow=9.3,SNR=6.4	**46.92**	**131**	P		**P**		**06 23 20.2**	**+1.4**
STKA				pP		**pP**		**06 23 27.6**	**+2.9**
	comp=Z,7.4nm,0.7s,baz=300,slow=8.9,SNR=8.7								
STKA	**Stephens Creek**	**46.92**	**131**	*e*P		**P**		**06 23 19.2**	**+0.3**
STKA				*PP		**pP**		**06 23 27.7**	**+2.9**
STKA				pmax		pmax			
	comp=Z,2.0nm,0.7s								
STKA	**Stephens Creek** comp=Z,1.6nm,0.7s	**46.92**	**131**	*e*P		**P**		**06 23 19.1**	**+0.3**
STKA				pP		**pP**		**06 23 27.6**	**+2.9**
KSAR	**Wonju Array Be**	**48.61**	**29**	P		**P**		**06 23 30.8**	**-1.1**
KSAR				*PP		**pP**		**06 23 38.8**	**+1.1**
KSAR	**Wonju Array Be**	**48.61**	**29**	P		**P**		**06 23 30.8**	**-1.1**
KSAR				pP		**pP**		**06 23 38.8**	**+1.1**
KSRS	**Korea Array** comp=Z,3.3nm,0.5s,baz=215,slow=7.9,SNR=8.2	**48.64**	**29**	P		**P**		**06 23 30.8**	**-1.3**
KSRS				pP		**pP**		**06 23 38.8**	**+0.9**
	comp=Z,4.0nm,0.9s,baz=210,slow=7.0,SNR=4.6								
KSH	**Kashi**	**49.36**	**335**	P		**P**		**06 23 37.0**	**-0.7**
KSH				*e*pP		**pP**		**06 23 41.2**	**-2.4**
KSH				*e*PP		**PP**		**06 25 31.0**	**-1.0**
KSH				S		**S**		**06 30 40.9**	**-2.8**
KSH				ScS		**ScS**		**06 33 25.6**	**-3.5**
KSH				PMZ					
	comp=Z,67nm,5.1s								
KSH				LN					
	comp=Z,100nm,6.3s								
KSH				LE					
	comp=Z,80nm,5.2s								
KSH				LZ					
	comp=Z,140nm,6.6s								
WMQ	**Urumqi**	**49.44**	**347**	P		**P**		**06 23 39.1**	**+0.9**
WMQ				pP		**pP**		**06 23 43.6**	**-0.5**
WMQ				sP		**sP**		**06 23 46.1**	**-0.3**
WMQ				PP		**PP**		**06 25 33.7**	**+1.1**
WMQ				S		**S**		**06 30 45.0**	**+0.4**
WMQ				ScS		**ScS**		**06 33 28.7**	**-0.6**
WMQ				PMZ					
	comp=Z,25nm,1.0s								
WMQ				PMZ					
	comp=Z,120nm,5.0s								
WMQ				LN					
	comp=Z,67nm,22.0s								
WMQ				LE					
	comp=Z,79nm,21.8s								
WMQ				LZ					
	comp=Z,46nm,20.4s								
SONM	**Songino Array** comp=Z,12nm,0.8s,baz=186,slow=9.1,SNR=21	**52.23**	**5**	P		**P**		**06 23 59.5**	**+0.3**
ULN	**Ulaanbaatar**	**52.31**	**5**	*c e*P		**P**		**06 23 59.9**	**0.0**
ULN				pmax		pmax			
	comp=Z,13nm,1.2s								
ULN	**Ulaanbaatar**	**52.31**	**5**	*e*P		**P**		**06 23 59.8**	**0.0**
TKM2	**Tokmak 2**	**52.37**	**337**	*e*P		**P**		**06 24 01.2**	**+0.8**
TKM2				pmax		pmax			
	comp=Z,9.0nm,0.6s								
TKM2	**Tokmak 2** comp=Z,8.9nm,0.6s	**52.37**	**337**	*e*P		**P**		**06 24 01.2**	**+0.8**
AAK	**Ala-Archa**	**52.57**	**336**	*e*P		**P**		**06 24 00.4**	**-1.5**
AAK				pmax		pmax			
	comp=Z,5.0nm,1.7s								
EKS2	**Erkin-Say**	**52.89**	**335**	*e*P		**P**		**06 24 05.0**	**+0.8**
EKS2				pmax		pmax			
	comp=Z,9.0nm,0.7s								
EKS2	**Erkin-Say** comp=Z,8.9nm,0.7s	**52.89**	**335**	*e*P		**P**		**06 24 05.0**	**+0.8**
MKAR	**Makanchi Array** comp=Z,12nm,0.8s,baz=178,slow=7.2,SNR=92	**53.55**	**344**	P		**P**		**06 24 09.1**	**+0.2**
MAT	**Matsushiro**	**53.59**	**37**	P		**P**		**06 24 06.5**	**-2.8**
MJAR	**Matsushiro Arr** comp=Z,5.1nm,0.8s,baz=219,slow=7.7,SNR=13	**53.59**	**37**	P		**P**		**06 24 06.7**	**-2.6**
ZAK	**Zakamensk**	**54.59**	**2**	*e*P		**P**		**06 24 14.7**	**-1.8**
ZAK				*e*				06 25 19.2	
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.0s								
KKAR	**Karatay Array**	**54.67**	**333**	*e*P		**P**		**06 24 16.8**	**-0.3**
KKAR				pmax		pmax			
	comp=Z,1.0nm,0.5s								
KKAR	**Karatay Array** comp=Z,0.7nm,0.5s	**54.67**	**333**	*e*P		**P**		**06 24 16.8**	**-0.3**
MDJ	**Mudanjiang**	**55.15**	**25**	P		**P**		**06 24 21.1**	**+0.6**
MDJ				PMZ					
	comp=Z,7.0nm,0.9s								
USRK	**Ussuriysk Ar.** comp=Z,15nm,0.8s,baz=219,slow=6.1,SNR=26	**55.85**	**27**	P		**P**		**06 24 24.6**	**-1.0**
TLY	**Talaya**	**55.90**	**2**	*e*P		P		06 24 18.6	-7.2
TLY				*e*				06 24 26.4	
TLY				pmax		pmax			
	comp=Z,8.0nm,1.0s								
TLY				MLR		MLR			
	comp=Z,115nm,17.0s								
TLY	**Talaya**	**55.90**	**2**	*e*P		**P**		**06 24 26.6**	**+0.8**
GEYT	**Alibeck** comp=Z,2.1nm,0.6s,baz=104,slow=6.1,SNR=3.4	**57.84**	**321**	P		**P**		**06 24 40.2**	**+0.3**
ZAA0	**Zalesovo Array**	**59.67**	**349**	*e*P		**P**		**06 24 51.5**	**-0.7**
ZALV	**Zalesovo Beam** comp=Z,10.0nm,0.6s,baz=180,slow=5.3,SNR=51	**59.67**	**349**	P		**P**		**06 24 51.7**	**-0.5**
ZALV				pP		**pP**		**06 24 59.4**	**+1.2**
	comp=Z,4.9nm,0.5s,baz=161,slow=5.7,SNR=12								
ZALV				LR		LR		06 52 48.7	
	comp=Z,62nm,20.6s,baz=74,slow=38								
KLR	**Kul'dur**	**59.76**	**23**	*e*P		P		06 24 47.7	-5.2
BVAR	**Borovoye Array** comp=Z,3.8nm,0.5s,baz=144,slow=9.1,SNR=21	**62.72**	**340**	P		**P**		**06 25 12.6**	**-0.4**
BVAR				pP		**pP**		**06 25 20.2**	**+1.2**
	comp=Z,5.1nm,0.8s,baz=142,slow=9.2,SNR=11								
BRVK	**Borovoye**	**62.78**	**340**	*e*P		**P**		**06 25 12.9**	**-0.4**
BRVK				pmax		pmax			
	comp=Z,2.0nm,0.6s								
BRVK	**Borovoye**	**62.78**	**340**	*e*P		**P**		**06 25 12.4**	**-0.9**
BOD	**Bodaibo**	**62.90**	**8**	*e*P		**P**		**06 25 12.0**	**-2.0**
BOD				pmax		pmax			
	comp=Z,4.0nm,0.9s								
ABKAR	**Akbulak array** comp=Z,5.1nm,0.7s	**64.15**	**332**	*e*P		**P**		**06 25 22.2**	**-0.2**
ZEI	**Tsey**	**69.61**	**319**	*e*P		**P**		**06 25 56.6**	**-1.1**
ZEI				pmax		pmax			
	comp=Z,3.0nm,0.9s								
ARU	**Arti**	**69.74**	**336**	*c i*P		**P**		**06 25 57.6**	**-0.3**
ARU								06 28 34.4	
ARU				S		**S**		**06 35 06.7**	**+0.8**
ARU				SS		SS		06 39 25.7	-8.9
ARU				pmax		pmax			
	comp=Z,7.0nm,1.2s								
ARU	**Arti** comp=Z,3.2nm,0.4s	**69.74**	**336**	*e*P		**P**		**06 25 57.5**	**-0.3**
KBZ	**Khabaz** comp=Z,1.4nm,0.7s,baz=236,slow=24,SNR=5.1	**70.69**	**319**	P		**P**		**06 26 04.6**	**+0.7**
PETK	**Petropavlovsk-** comp=Z,3.0nm,0.9s,baz=210,slow=5.0,SNR=4.8	**74.43**	**32**	P		**P**		**06 26 24.7**	**-1.4**
BRTR	**Keskin Array B** comp=Z,1.0nm,0.6s,baz=127,slow=7.1,SNR=7.0	**75.58**	**313**	P		**P**		**06 26 33.3**	**+0.1**
BRTR				pP		**pP**		**06 26 40.8**	**+1.4**
	comp=Z,1.2nm,0.6s,baz=133,slow=7.7,SNR=6.3								
SEY	**Seymchan** comp=Z,0.8nm,0.3s,baz=238,slow=5.9,SNR=9.2	**77.50**	**22**	P		**P**		**06 26 42.3**	**-1.1**
TIXI	**Tiksi** 2.4.0nm,0.8s	**78.06**	**9**	*e*P		**P**		**06 26 44.6**	**-1.7**
TIXI				pmax		pmax			
	comp=Z,4.0nm,0.8s								
OBN	**Obninsk**	**79.28**	**328**	*c e*P		**P**		**06 26 53.1**	**-0.2**
OBN				*i*				06 27 00.9	
OBN				*i*				06 29 52.2	
OBN				*i* PPP		PPP		06 31 40.1	
OBN				*e*S		S		06 36 43.3	-9.4
OBN				pmax		pmax			
	comp=Z,5.0nm,1.2s								
KLMR	**Klimovskoe**	**80.35**	**334**	*e*P		**P**		**06 27 00.3**	**+1.2**
KLMR				pmax		pmax			
	comp=Z,9.0nm,0.9s								
BUR08	**Bucovina Ar. S**	**83.65**	**319**	P		**P**		**06 27 18.3**	**+1.4**
FINES	**FINESS Array B** comp=Z,1.3nm,0.6s,baz=111,slow=10,SNR=4.7	**86.63**	**332**	P		**P**		**06 27 31.6**	**+0.3**
FINES	**FINESS Array B**	**86.63**	**332**	*c e*P		**P**		**06 27 32.0**	**+0.7**
FINES				pmax		pmax			
	comp=Z,1.0nm,0.6s								
ARCES	**ARCESS Array B** comp=Z,1.9nm,0.8s,baz=93,slow=7.3,SNR=5.7	**89.01**	**340**	P		**P**		**06 27 43.2**	**+0.6**
GERES	**GERESS Array B** comp=Z,0.

TXAR	**Lajitas Array**	**86.30**	**56**	P		**P**	**06 30 18.4**	**-0.1**	
	0.6nm,0.9s,baz=210,slow=8.1,SNR=6.0								
ILAR	**Eielson Array**	**89.99**	**12**	P		P	06 30 31.2	-3.9	
	0.8nm,0.9s,baz=204,slow=4.8,SNR=5.5								
CMAR	**Chiang Mai Arr**	**93.09**	**289**	P		**P**	**06 30 52.1**	**+1.6**	
	1.0nm,0.4s,baz=127,slow=2.9,SNR=14								
YKA	**Yellowknife Ar**	**97.57**	**24**	P		**P**	**06 31 09.6**	**-0.3**	
	0.2nm,0.8s,baz=237,slow=4.3,SNR=3.1								
ARCES	**ARCESS Array B**	**131.53**	**350**	PKP		**PKPdf**	**06 36 47.8**	**-0.2**	
	0.7nm,0.7s,baz=15,slow=3.7,SNR=3.9								
AKASG	**Malin Array Be**	**146.11**	**332**	PKPbc		**PKPdf**	**06 37 13.9**	**-1.2**	
	2.8nm,0.7s,baz=41,slow=4.1,SNR=9.9								
BRTR	**Keskin Array B**	**150.10**	**311**	PKPbc		**PKPbc**	**06 37 25.9**	**-1.3**	
	1.8nm,0.8s,baz=64,slow=1.1,SNR=10								

*ISCJB **06** 06:32:26.3±0.3, 18°.09S±0°.04×70°.75W±0°.06, h40km, mb4.3/18, MS3.3/1, Error ellipse: s-maj=9.5km s-min=4.1km az=153.6*
*IDC **06** 06:32:28.7±1.5, 18°.15S×70°.67W, h46km±16km, mb4.0/13, mb1 4.1/16, mb1mx3.9/36, mbtmp4.2/16, ML3.3/4, MS3.5/1, Ms1 3.5/1, ms1mx2.6/28, Error ellipse: s-maj=18.5km s-min=11.7km az=62.0*
*GUC **06** 06:32:28.0±0.7, 18°.30S×70°.80W, h40km±9km, ML4.3*
*NEIC **06** 06:32:29.4±0.7, 18°.12S×70°.70W, h56km±6km, mb4.6/6, Error ellipse: s-maj=9.5km s-min=6.2km az=65.0*
NEIC Felt [III] at Arica and [II] at Putre.

ISC 06 06:32:27.9±0.5, 18°.18S±0°.05×70°.79W±0°.07, h40km, n47, σ1§25/48, mb4.4/18, 3C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNMC	**Minimini**	**1.48**	**130**	⇓*eP*	**Pn**	**06 32 53.5**	**+1.2**
MNMC				*eS*	**Sn**	**06 33 12.1**	**+1.6**
MNMC				AML	AML	06 33 20.0	
	comp=E,12μm,0.3s						
PSGC	**Pisagua**	**1.55**	**156**	⇑*eP*	**Pn**	**06 32 52.9**	**-0.1**
PSGC				*eS*	**Sn**	**06 33 12.2**	**+0.2**
ARE	**Arequipa**	**1.83**	**338**	⇑*iP*	**Pn**	**06 32 58.6**	**+1.4**
ARE				*i* S	**Sn**	**06 33 19.7**	**+0.4**
PATCX	**Punta Patache**	**2.70**	**167**	*eP*	**Pn**	**06 33 09.0**	**+0.1**
PATCX				AML	AML	06 34 09.8	
	comp=E,1μm,0.6s						
PB01	**IPOC Station P**	**3.10**	**157**	⇑*eP*	**Pn**	**06 33 14.9**	**+0.4**
PB01				*eS*	**Sn**	**06 33 50.2**	**-0.2**
PB01				AML	AML	06 34 10.4	
	comp=E,848nm,0.5s						
LVC	**Limon Verde**	**4.75**	**159**	P	**Pn**	**06 33 38.4**	**+1.1**
	comp=E,610nm,0.3s,baz=4.3,slow=8.1,SNR=312						
LVC				S	**Sn**	**06 34 31.8**	**+0.6**
	comp=E,820nm,0.3s,baz=108,slow=20,SNR=4.4						
CEN1	**Los Morros**	**5.22**	**174**	*eP*	**Pn**	**06 33 45.6**	**+2.1**
CEN1				*eS*	**Sn**	**06 34 42.4**	**-0.1**
ANCH	**Antofagasta**	**5.49**	**176**	*eP*	**Pn**	**06 33 45.8**	**-1.4**
ANCH				*eS*	**Sn**	**06 34 45.4**	**-3.7**
NNA	**Nana**	**8.48**	**316**	P	**Pn**	**06 34 29.9**	**+1.6**
	comp=E,0.9nm,0.3s,baz=135,slow=16,SNR=2.2						
NNA				S	**Sn**	**06 36 04.7**	**+1.8**
	comp=E,1.2nm,0.3s,baz=96,slow=19,SNR=2.1						
SIV	**San Ignacio**	**9.54**	**78**	P	**Pn**	**06 34 44.0**	**+1.1**
	comp=E,2.8nm,0.3s,baz=267,slow=17,SNR=41						
SAML	**Samuel**	**11.78**	**40**	*ePn*	**Pn**	**06 35 13.7**	**+0.2**
	comp=E,3.5nm,0.5s						
CFAA	**Coronel Fontan**	**13.57**	**171**	P	**Pn**	**06 35 40.7**	**+2.8**
	comp=E,0.0nm,0.3s,baz=346,slow=12,SNR=3.5						
CPUP	**Villa Florida**	**14.86**	**125**	P	**Pn**	**06 35 56.4**	**+1.1**
	comp=E,0.0nm,0.3s,baz=298,slow=17,SNR=2.6						
OTAV	**Otavalo**	**19.79**	**337**	*eP*	**P**	**06 36 53.9**	**-1.5**
	comp=E,7.1nm,0.9s						
PTGA	**Pitinga**	**20.34**	**33**	P	**P**	**06 36 59.7**	**-1.2**
	comp=E,4.1nm,0.3s,baz=210,slow=17,SNR=12						
PTGA				LR	LR	06 45 43.5	
	comp=E,127nm,18.9s,baz=185,slow=39						
PTGA	**Pitinga**	**20.34**	**33**	P	**P**	**06 36 59.7**	**-1.2**
	comp=E,1.5nm,1.1s						
BDFB	**Brasilia**	**21.93**	**87**	P	**P**	**06 37 15.9**	**-2.4**
	comp=E,2.2nm,0.5s,baz=252,slow=10,SNR=4.8						
PLCA	**Paso Flores**	**22.48**	**180**	P	**P**	**06 37 23.9**	**0.0**
	comp=E,3.2nm,0.8s,baz=3.1,slow=11,SNR=6.8						
PCRV	**Puerto La Cruz**	**28.82**	**13**	P	**P**	**06 38 22.4**	**-0.1**
	comp=E,7.9nm,0.8s,baz=241,slow=3.2,SNR=5.6						
SJG	**San Juan**	**36.35**	**7**	*eP*	**P**	**06 39 26.7**	**-1.4**
	comp=E,8.0nm,0.6s						
MIAR	**Mount Ida**	**56.73**	**338**	*eP*	**P**	**06 42 07.2**	**-0.5**
	comp=E,2.8nm,0.7s						
TXAR	**Lajitas Array**	**56.90**	**326**	P	**P**	**06 42 09.0**	**-0.1**
	comp=E,0.5nm,0.7s,baz=150,slow=10,SNR=6.7						
BINY	**Binghamton**	**60.26**	**356**	*eP*	**P**	**06 42 32.3**	**+0.1**
	comp=E,18nm,1.4s						
SDCO	**Great Sand Dun**	**64.50**	**330**	*eP*	**P**	**06 43 01.0**	**+0.1**
	comp=E,1.6nm,0.6s						
DBIC	**Dimbokro**	**69.56**	**75**	P	**P**	**06 43 32.7**	**-0.5**
	comp=E,4.4nm,0.8s,baz=246,slow=6.7,SNR=5.4						
PDAR	**Pinedale Array**	**70.36**	**331**	P	**P**	**06 43 36.7**	**-1.1**
	comp=E,0.3nm,0.3s,baz=106,slow=6.7,SNR=3.4						
ULM	**Lac du Bonnet**	**71.64**	**343**	P	**P**	**06 43 44.0**	**-1.1**
	comp=E,2.3nm,0.5s,baz=188,slow=4.8,SNR=5.2						
NVAR	**Mina Array Bea**	**71.80**	**322**	P	**P**	**06 43 48.5**	**+1.8**
	comp=E,0.6nm,0.7s,baz=150,slow=6.2,SNR=3.7						
SCHQ	**Schefferville**	**72.79**	**2**	P	**P**	**06 43 53.2**	**+1.3**
	comp=E,2.6nm,0.7s,baz=252,slow=6.4,SNR=4.7						
TOA0	**Torodi Ar. Sit**	**77.96**	**72**	*eP*	**P**	**06 44 21.3**	**-1.2**
TORD	**Torodi Ar. Bea**	**77.96**	**72**	P	**P**	**06 44 21.1**	**-1.3**
	comp=E,2.7nm,0.5s,baz=258,slow=5.3,SNR=48						
EDM	**Edmonton**	**80.02**	**336**	*eP*	**P**	**06 44 32.1**	**-0.9**
	comp=E,8.2nm,0.8s						
ESDC	**Sonseca Array**	**84.75**	**45**	P	**P**	**06 44 58.7**	**+0.7**
	comp=E,0.7nm,0.5s,baz=245,slow=5.4,SNR=6.2						
YKA	**Yellowknife Ar**	**87.48**	**341**	P	**P**	**06 45 10.7**	**-0.2**
	comp=E,8.4nm,0.6s,baz=134,slow=4.9,SNR=224						
MAW	**Mawson**	**88.00**	**164**	P	**P**	**06 45 13.6**	**+0.2**
	comp=E,2.8nm,0.8s,baz=239,slow=4.6,SNR=4.4						
H11S2	**WAKE ISLAND Hy**	**125.63**	**280**	T	T	09 09 15.3	
	baz=100,slow=75,SNR=195						
H11N3	**WAKE ISLAND Hy**	**125.63**	**282**	T	T	09 09 16.1	
	baz=99,slow=75,SNR=54						
H11S1	**WAKE ISLAND Hy**	**125.64**	**280**	T	T	09 09 34.9	
	baz=100,slow=75,SNR=157						
H11N2	**WAKE ISLAND Hy**	**125.65**	**282**	T	T	09 09 38.1	
	baz=99,slow=75,SNR=67						
H11N1	**WAKE ISLAND Hy**	**125.65**	**282**	T	T	09 09 28.8	
	baz=99,slow=75,SNR=22						
H11S3	**WAKE ISLAND Hy**	**125.65**	**280**	T	T	09 09 34.3	
	baz=100,slow=75,SNR=238						
ASAR	**Alice Springs**	**131.93**	**211**	PKP	**PKPdf**	**06 51 37.5**	**-0.4**
	comp=E,0.5nm,0.4s,baz=131,slow=2.0,SNR=6.4						
WRA	**Warramunga Arr**	**134.80**	**214**	PKP	**PKPdf**	**06 51 43.2**	**-0.1**
	comp=E,0.9nm,0.4s,baz=142,slow=1.7,SNR=12						
ZALV	**Zalesovo Beam**	**139.63**	**22**	PKP	**PKPdf**	**06 51 51.4**	**+0.3**
	comp=E,0.5nm,0.3s,baz=304,slow=3.1,SNR=4.0						
MKAR	**Makanchi Array**	**143.87**	**32**	PKP	PKPab	06 51 56.8	+0.7
	comp=E,0.9nm,0.8s,baz=338,slow=1.6,SNR=6.4						
USRK	**Ussuriysk Ar.**	**147.77**	**329**	PKPbc	**PKPbc**	**06 52 09.2**	**+0.7**
	comp=E,6.3nm,0.9s,baz=61,slow=3.6,SNR=7.9						
MJAR	**Matsushiro Arr**	**148.59**	**311**	PKPbc	**PKPbc**	**06 52 11.0**	**0.0**
	comp=E,3.2nm,0.7s,baz=97,slow=1.5,SNR=9.5						

*IDC **06** 06:34:54.4±2.6, 5°.98S×148°.22E, h84km±21km, mb3.9/9, mb1 4.1/10, mb1mx3.8/36, mbtmp4.2/10, MS3.7/2, Ms1 3.7/2, ms1mx2.9/27, Error ellipse: s-maj=38.5km s-min=14.4km az=101.0*

ISC 06 06:34:51.0±0.9, 6°.1S±0°.1×148°.5E±0°.3, h60km, n15, σ1§30/16, mb4.3/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**14.09**	**189**	P	**P**	**06 38 12.7**	**-0.9**
	0.4nm,0.3s,baz=352,slow=16,SNR=5.3						
WRA	**Warramunga Arr**	**19.45**	**224**	P	**P**	**06 39 13.0**	**+0.2**
	10nm,0.3s,baz=50,slow=11,SNR=360						
WRA				PcP	**PcP**	**06 43 32.1**	**-0.2**
	0.1nm,0.3s,baz=41,slow=2.2,SNR=4.7						
WRA				ScP	**ScP**	**06 47 01.0**	**-2.3**
	0.1nm,0.3s,baz=30,slow=2.2,SNR=2.9						
ASAR	**Alice Springs**	**22.40**	**217**	P	**P**	**06 39 45.6**	**+0.9**
	50nm,0.6s,baz=51,slow=9.2,SNR=606						
ASAR				PcP	**PcP**	**06 43 38.6**	**+0.8**
	1.7nm,0.7s,baz=41,slow=2.6,SNR=5.8						
ASAR				ScP	**ScP**	**06 47 08.5**	**-1.9**
	1.3nm,0.9s,baz=45,slow=2.8,SNR=5.9						
BATI	**Baumata**	**24.88**	**259**	LR	LR	06 53 27.9	
	comp=Z,232nm,18.2s,baz=140,slow=45						
STKA	**Stephens Creek**	**26.46**	**193**	P	**P**	**06 40 24.1**	**+1.6**
	5.7nm,0.6s,baz=358,slow=9.2,SNR=19						
MJAR	**Matsushiro Arr**	**43.47**	**348**	P	**P**	**06 42 48.5**	**+0.2**
	1.0nm,0.4s,baz=171,slow=9.7,SNR=7.4						
USRK	**Ussuriysk Ar.**	**52.20**	**345**	P	**P**	**06 43 56.3**	**+0.6**
	2.0nm,0.5s,baz=165,slow=7.6,SNR=5.0						
PETK	**Petropavlovsk-**	**59.48**	**6**	P	**P**	**06 44 49.0**	**+1.4**
	2.0nm,0.4s,baz=185,slow=8.7,SNR=2.5						
MKAR	**Makanchi Array**	**78.48**	**320**	P	**P**	**06 46 44.0**	**-1.7**
	0.2nm,0.4s,baz=96,slow=10,SNR=5.9						
KURBB	**Kurchatov Arra**	**82.16**	**323**	P	**P**	**06 47 04.8**	**-0.4**
	0.3nm,0.5s,baz=101,slow=5.6,SNR=4.7						
ILAR	**Eielson Array**	**84.98**	**23**	P	**P**	**06 47 18.2**	**-1.2**
	2.2nm,0.7s,baz=251,slow=4.9,SNR=30						
BVAR	**Borovoye Array**	**87.68**	**324**	LR	LR	07 29 04.1	
	comp=Z,31nm,19.8s,baz=254,slow=37						
YKA	**Yellowknife Ar**	**98.56**	**28**	P	Pdif	06 48 24.7	+1.8
	0.1nm,0.7s,baz=269,slow=4.5,SNR=4.6						
TORD	**Torodi Ar. Bea**	**146.51**	**285**	PKPbc	**PKPdf**	**06 54 25.6**	**+0.5**
	0.6nm,0.5s,baz=80,slow=3.4,SNR=9.2						
BDFB	**Brasilia**	**152.95**	**143**	PKPbc	**PKPbc**	**06 54 43.5**	**+0.8**
	3.9nm,0.6s,baz=318,slow=3.9,SNR=8.2						

*ISCJB **06** 06:37:15.6±0.4, 32°.65N±0°.04×115°.85W±0°.03, h8km±4km, Error ellipse: s-maj=6.1km s-min=3.9km az=174.1*
*NEIC **06** 06:37:16.3, 32°.70N×115°.87W, h5km, ML3.0(PAS), After PAS.*
*ECX **06** 06:37:16.6±0.7, 32°.70N×115°.88W, h3km, MD2.9, ML3.1*
*MEX **06** 06:37:18.0±0.4, 32°.68N×115°.85W, h13km±15km, MD3.6*

ISC 06 06:37:15.0±0.9, 32°.70N±0°.03×115°.86W±0°.02, h16km±6km, n27, σ0§50/36, 11C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUH	**Yuha Desert**	**0.07**	**230**	⇑*iP*	**Pg**	**06 37 17.9**	**-0.3**
SGL	**Mount Signal**	**0.12**	**113**	⇑*iP*	**Pg**	**06 37 18.9**	**+0.2**
WESC	**Westside Schoo**	**0.12**	**59**	⇑*iP*	**Pb**	**06 37 19.0**	**+0.1**
WESC				*eS*	**Sb**	**06 37 21.8**	**+0.2**
COK	**Cook Ranch**	**0.19**	**35**	⇑*iP*	**Pb**	**06 37 20.2**	**+0.1**
RMX	**La Rumorosa**	**0.21**	**244**	⇑*eP*	**Pg**	**06 37 20.3**	**+0.3**
RMX				*eS*	**Sg**	**06 37 23.3**	**-0.1**
RMX				AML	AML	06 37 23.8	
	comp=N,4μm,0.2s						
RMX				*e*		06 37 23.8	
CRR	**Carrizo Plain**	**0.21**	**333**	⇓*iP*	**Pg**	**06 37 20.2**	**+0.2**
DREC	**Desert Rsrch C**	**0.36**	**72**	⇓*eP*	**Pb**	**06 37 23.9**	**+0.9**
CPBX	**Cerro Prieto**	**0.54**	**121**	*eP*	**Pb**	**06 37 26.8**	**+0.7**
MBIG	**Mexicali**	**0.62**	**117**	*eP*	**Pb**	**06 37 28.4**	**+0.8**
BAR	**Barrett**	**0.69**	**269**	*ePg*	**Pg**	**06 37 28.7**	**+0.2**
BAR				*eSg*	**Sg**	**06 37 37.6**	**0.0**
BAR	**Barrett**	**0.69**	**269**	⇑*iP*	**Pb**	**06 37 28.8**	**+0.1**
RDX	**Rancho Dawling**	**0.77**	**186**	⇓*eP*	**Pg**	**06 37 30.1**	**+0.1**
RDX				⇓*e*		06 37 41.6	
RDX				AML	AML	06 37 41.6	
	comp=N,493nm,0.2s						
CBX	**Cerro Bola**	**0.78**	**241**	*i* P	**Pb**	**06 37 30.7**	**+0.4**
CBX				*eS*	**Sg**	**06 37 40.6**	**-0.1**
CBX	**Cerro Bola**	**0.78**	**241**	*i* P	**Pb**	**06 37 30.7**	**+0.4**
CBX				*eS*	**Sg**	**06 37 40.6**	**-0.1**
CBX	**Cerro Bola**	**0.78**	**241**	*eP*	**Pb**	**06 37 30.7**	**+0.4**
CBX				*eS*	**Sb**	**06 37 41.0**	**+0.3**
CBX				⇓*e*		06 37 42.7	
CBX				AML	AML	06 37 42.7	
	comp=E,831nm,0.2s						
SDRC	**San Diego Road**	**0.92**	**273**	⇑*eP*	**Pb**	**06 37 32.6**	**0.0**
GLA	**Glamis**	**0.94**	**67**	*ePg*	**Pb**	**06 37 32.7**	**-0.2**
GLA				*eSg*	**Sb**	**06 37 45.3**	**+0.2**
PBX	**Punta Banda**	**1.20**	**218**	*eP*	**Pb**	**06 37 37.9**	**+0.4**
ECNX	**Esteban Cantu**	**1.21**	**212**	*eP*	**Pb**	**06 37 38.0**	**+0.4**
ZAX	**El Zacaton**	**1.23**	**197**	*eP*	**Pb**	**06 37 38.2**	**+0.3**
ZAX				AML	AML	06 37 56.3	
	comp=E,413nm,0.4s						
ZAX				⇓*e*		06 37 56.3	
ECBX	**El Chinero**	**1.40**	**151**	*eP*9	**Pn**	**06 37 38.8**	**-1.0**
ECBX				*eS*	**Sn**	**06 37 57.7**	**-0.2**
ECBX				⇑*e*		06 37 60.0	
ECBX				AML	AML	06 37 60.0	
	comp=N,229nm,0.2s						
SPIG	**San Pedro Mart**	**1.68**	**169**	*eP*	**Pn**	**06 37 43.2**	**-0.9**
SPIG	**San Pedro Mart**	**1.68**	**169**	*eP*	**Pn**	**06 37 43.2**	**-0.9**
SPIG	**San Pedro Mart**	**1.68**	**169**	⇑*eP*	**Pg**	**06 37 47.4**	**+0.1**
SPX	**San Pedro Mart**	**1.68**	**168**	*eP*	**Pn**	**06 37 43.8**	**-0.2**
SPX	**San Pedro Mart**	**1.68**	**168**	⇑*eP*	**Pg**	**06 37 47.5**	**+0.1**
MWC	**Mount Wilson**	**2.39**	**310**	*ePn*	**Pb**	**06 37 57.9**	**+0.1**
MWC				*eSn*	**Sb**	**06 38 28.5**	**+1.4**

DJA 06 06:41:47.6±2.4, 10°S±8°×117°E±°, h32km±31km, M4.3/13, mb4.3/4, mB4.7/1, MLv4.3/13, Mw(mB)3.9/1, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGBI	**Denpasar**	**2.31**	**308**	P	Pn	06 42 23.5	0.0
DNP	**Denpasar**	**2.35**	**311**	P	Pn	06 42 23.6	-0.4
DNP				S	Sn	06 42 53.5	+1.7
WBSI	**Waikabubak, Su**	**2.43**	**76**	P	Pn	06 42 24.7	-0.5
WBSI				S	Sn	06 42 55.9	+2.0
SRBI	**Singaraja**	**2.77**	**320**	P	Pn	06 42 30.8	+0.9
SRBI				S	Sn	06 43 03.2	+0.9
JAGI	**Jajag, Banyuwa**	**3.31**	**302**	P	Pn	06 42 36.9	-0.4
JAGI				S	Sn	06 43 15.8	+0.1
ABJI	**Asem Bagus**	**3.66**	**311**	P	Pn	06 42 43.3	+1.3
GMJI	**Gumukmas**	**4.02**	**299**	P	Pn	06 42 46.8	-0.1
BSSI	**Bau Bau, Buton**	**5.34**	**41**	P	Pn	06 43 04.7	-0.5
	65nm,1.0s,0.3nm						
BKSI	**Bulukumba**	**5.78**	**33**	P	Pn	06 43 11.0	-0.2
	30nm,0.8s,635nm0.1nm						
PCJI	**Pacitan**	**6.10**	**289**	P	Pn	06 43 16.4	+0.8

*BJI **06** 06:51:10.5, 4°.87S×100°.81E, h18km, mb4.7/33, mB4.9/22, Ms4.6/15, Ms7 4.2/11*
*ISCJB **06** 06:51:11.3±1.2, 4°.44S±0°.05×100°.89E±0°.04, h0km±7km, mb4.5/26, MS3.7/9, Error ellipse: s-maj=8.9km s-min=4.5km az=34.3*
*DJA **06** 06:51:14.3±0.5, 4°.S±3°×10°.1E±°, h10km, M5.0/16, mb5.0/7, mB5.7/3, MLv4.9/16, Mw(mB)5.3/3, Mwp6.3/1*
*IDC **06** 06:51:17.8±0.8, 4°.18S×101°.07E, h25km±2km, mb4.2/12, mb1 4.3/15, mb1mx4.1/36, mbtmp4.4/15, ML4.3/3, MS3.6/9, Ms1 3.6/9, ms1mx3.3/39, Error ellipse: s-maj=26.3km s-min=11.6km az=48.0*
*NEIC **06** 06:51:17.5±0.5, 4°.32S×100°.99E, h26km±3km, mb4.7/6, Error ellipse: s-maj=11.0km s-min=6.2km az=224.0*
*MOS **06** 06:51:19.0±1.5, 3°.91S×101°.35E, h33km, mb4.7/14, Error ellipse: s-maj=16.3km s-min=8.2km az=110.1*

ISC 06 06:51:16.4±0.5, 4°.37S±0°.06×100°.92E±0°.06, h20km±1km, h20km:pP-P, n131, σ1§66/164, mb4.5/26, MS3.7/9, 2C-1D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASI	**Maura Aman, Be**	**1.80**	**47**	P	**Pn**	**06 51 45.4**	**-1.0**
MASI				S	**Sb**	**06 52 10.8**	**-0.1**
MNAI	**Manna**	**2.03**	**90**	P	**Pn**	**06 51 49.5**	**0.0**
MNAI	**Manna**	**2.03**	**90**	*ePn*	**Pn**	**06 51 48.4**	**-1.1**
LHSI	**Lahat**	**2.66**	**78**	P	**Pn**	**06 51 58.8**	**+0.7**
MDSI	**Maura Dua**	**3.25**	**92**	P	**Pn**	**06 52 06.0**	**-0.3**
MDSI				S	**Sn**	**06 52 42.5**	**-2.0**
SDSI	**Sungai Dareh**	**3.46**	**8**	P	**Pn**	**06 52 07.9**	**-1.3**
PDSI	**Padang**	**3.47**	**352**	P	**Pn**	**06 52 08.1**	**-1.3**
KASI	**Kota Agung**	**3.74**	**108**	P	**Pn**	**06 52 12.6**	**-0.5**
JMBI	**JAMBI**	**3.85**	**45**	P	**Pn**	**06 52 13.5**	**-1.0**
KLI	**Kotabumi**	**3.96**	**97**	P	**Pn**	**06 52 14.3**	**-1.7**
PMBI	**Palembang**	**4.11**	**70**	P	**Pn**	**06 52 16.2**	**-1.9**
PMBI	**Palembang**	**4.11**	**70**	*ePn*	**Pn**	**06 52 17.3**	**-0.8**
BKNI	**Bangkinang**	**4.67**	**1**	P	**Pn**	**06 52 25.8**	**-0.1**
BKNI	**Bangkinang**	**4.67**	**1**	*ePn*	**Pn**	**06 52 26.6**	**+0.8**
CGJI	**Cibinong**	**5.25**	**115**	P	**Pn**	**06 52 32.1**	**-1.7**
	157nm,0.7s,0.6nm						
DSRI	**Dabo**	**5.32**	**43**	P	**Pn**	**06 52 34.7**	**-0.1**
	195nm,0.9s,5μm1.1nm						
GSI	**Gunungsitoli**	**6.55**	**329**	*ePn*	**Pn**	**06 52 52.6**	**+0.8**
MYKOM	**Kota Tinggi**	**6.79**	**26**	*ePn*	**Pn**	**06 52 54.9**	**-0.1**
CNJI	**Cibinong**	**6.83**	**116**	P	**Pn**	**06 52 54.3**	**-1.3**
	109nm,0.9s,0.4nm						
LEM	**Lembang**	**7.10**	**110**	Pn	**Pn**	**06 53 01.0**	**+1.6**
	6.9nm,0.3s,baz=127,slow=8.0,SNR=3.6						
LEM				Sn	**Sn**	**06 54 22.4**	**+2.8**
	7.2nm,0.3s,baz=311,slow=20,SNR=2.0						
LEM				LR	LR	06 56 20.2	
	comp=Z,514nm,18.8s,baz=190,slow=43						
PSI	**Prapat**	**7.40**	**344**	Pn	**Pn**	**06 53 02.3**	**-1.2**
	2.4nm,0.3s,baz=142,slow=9.3,SNR=3.8						
PSI	**Prapat**	**7.40**	**344**	*eP*	**Pn**	**06 53 02.7**	**-0.8**
PSI	**Prapat**	**7.40**	**344**	*ePn*	**Pn**	**06 53 02.6**	**-0.8**
CISI	**Cisompet, Garu**	**7.55**	**115**	P	**Pn**	**06 53 04.0**	**-1.5**
	106nm,0.6s,17μm1.6nm						
CISI	**Cisompet, Garu**	**7.55**	**115**	*ePn*	**Pn**	**06 53 03.4**	**-2.1**
CMJI	**Cimerak**	**8.22**	**115**	P	**Pn**	**06 53 13.6**	**-1.0**
	77nm,0.8s						
KPJI	**Karang Pucung**	**8.49**	**111**	P	**Pn**	**06 53 17.8**	**-0.6**
	44nm,0.8s,2μm						
IPM	**Ipoh**	**8.80**	**1**	*ePn*	**Pn**	**06 53 23.8**	**+1.2**
KULM	**Kulim**	**9.60**	**358**	*ePn*	**Pn**	**06 53 33.7**	**0.0**
BSI	**Banda Aceh**	**11.30**	**330**	P	**Pn**	**06 53 56.2**	**-0.7**
SBUM	**Sibu**	**13.17**	**59**	*ePn*	**Pn**	**06 54 24.6**	**+2.1**
KAPI	**Kappang**	**18.78**	**93**	P	**P**	**06 55 34.9**	**+0.3**
	1.4nm,0.3s,baz=249,slow=8.6,SNR=4.8						
CM01	**Chiang Mai Arr**	**22.73**	**355**	*eP*	**P**	**06 56 16.7**	**-0.7**
CMAR	**Chiang Mai Arr**	**22.77**	**355**	P	**P**	**06 56 15.8**	**-2.0**
	10nm,0.9s,baz=183,slow=8.7,SNR=30						
CMAR				LR	LR	07 06 34.6	
	comp=Z,253nm,18.0s,baz=185,slow=41						
CHTO	**Chiang Mai**	**23.12**	**355**	*eP*	**P**	**06 56 21.2**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,14nm,1.3s						
CHTO	**Chiang Mai**	**23.12**	**355**	*eP*	**P**	**06 56 21.2**	**-0.3**
	comp=Z,14nm,1.3s						
QIZ	**Qiongzhong**	**24.86**	**20**	P	**P**	**06 56 39.9**	**+2.0**
QIZ				sP	**sP**	**06 56 44.1**	**-2.3**
QIZ				S	**S**	**07 01 05.2**	**+5.2**
QIZ				PMZ			
	comp=Z,13nm,1.3s						
TNTI	**Ternate**	**26.92**	**80**	*eP*	**P**	**06 56 54.6**	**-2.0**
TNTI				*es*P	**sP**	**06 57 03.8**	**-1.3**
KMI	**Kunming**	**29.37**	**3**	P	**P**	**06 57 19.7**	**+1.1**
KMI				PMZ			
	comp=Z,14nm,0.8s						
KMI				LN			
	comp=Z,100nm,19.7s						
KMI				LE			
	comp=Z,400nm,19.4s						
KMI				LZ			
	comp=Z,250nm,13.9s						
GYA	**Guiyang**	**31.15**	**10**	⇑*iP*	**P**	**06 57 35.4**	**+1.2**
GYA				PP	**PP**	**06 58 40.7**	**-4.1**
GYA				S	**S**	**07 02 42.8**	**+3.5**
GYA				ScP	**ScP**	**07 04 12.0**	**+0.6**
GYA				SS	**SnSn**	**07 04 30.6**	**+8.8**
GYA				PMZ			
	comp=Z,20nm,0.8s						
GYA				PMZ			
	comp=Z,90nm,4.6s						
GYA				LN			
	comp=Z,340nm,15.4s						
GYA				LE			
	comp=Z,340nm,16.7s						
GYA				LZ			
	comp=Z,280nm,15.8s						
H01W3	**Cape Leeuwin H**	**32.74**	**160**	T	T	07 32 11.7	
	baz=337,slow=76,SNR=100						
H01W2	**Cape Leeuwin H**	**32.75**	**160**	T	T	07 32 13.1	
	baz=337,slow=76,SNR=113						
H01W1	**Cape Leeuwin H**	**32.75**	**160**	T	T	07 32 13.7	
	baz=337,slow=76,SNR=83						
ODAN	**Odare**	**33.70**	**338**	*eP*	**P**	**06 57 58.1**	**+1.4**
	comp=Z,34nm,0.8s						
TAPN	**Taplejung**	**34.02**	**339**	*eP*	**P**	**06 58 01.4**	**+1.8**
	comp=Z,38nm,0.8s						
RAMN	**Ramite**

KSH				ScS	**ScS**	07 09 52.9	-3.1		
KSH				PMZ					
	comp=Z,5.0nm,0.6s								
KSH				PMZ					
	comp=Z,36nm,4.5s								
KSH				LN					
	comp=Z,120nm,7.1s								
KSH				LE					
	comp=Z,92nm,5.8s								
KSH				LZ					
	comp=Z,150nm,6.4s								
WMQ	**Urumqi**	**49.43**	**347**	P	**P**	07 00 06.4	+1.3		
WMQ				pP	**pP**	07 00 10.9	-0.5		
WMQ				sP	**sP**	07 00 13.4	-0.4		
WMQ				PP	**PP**	07 02 01.0	+1.5		
WMQ				S	**S**	07 07 12.3	+0.9		
WMQ				ScS	**ScS**	07 09 56.0	-0.2		
WMQ				PMZ					
	comp=Z,16nm,0.9s								
WMQ				PMZ					
	comp=Z,87nm,4.0s								
WMQ				LN					
	comp=Z,78nm,22.4s								
WMQ				LE					
	comp=Z,87nm,23.2s								
SONM	**Songino Array**	**52.21**	**5**	P	**P**	07 00 26.6	+0.5		
	comp=Z,6.3nm,0.7s,baz=186,slow=8.8,SNR=11								
SONM				pP	**pP**	07 00 33.6	+1.3		
	comp=Z,3.0nm,0.7s,baz=189,slow=8.5,SNR=3.3								
SONA1	**Songino Array**	**52.22**	**5**	*e*P	**P**	07 00 26.1	-0.1		
ULN	**Ulaanbaatar**	**52.30**	**5**	*e*P	**P**	07 00 26.4	-0.4		
ULN				pmax	pmax				
	comp=Z,7.0nm,1.2s								
ULN	**Ulaanbaatar**	**52.30**	**5**	*e*P	**P**	07 00 27.0	+0.2		
	comp=Z,5.0nm,0.9s								
TKM2	**Tokmak 2**	**52.36**	**337**	*e*P	**P**	07 00 28.3	+0.9		
TKM2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
TKM2	**Tokmak 2**	**52.36**	**337**	*e*P	**P**	07 00 28.3	+0.9		
	comp=Z,10.0nm,0.7s								
AAK	**Ala-Archa**	**52.57**	**336**	*e*P	**P**	07 00 28.2	-0.7		
AAK				pmax	pmax				
	comp=Z,3.0nm,1.0s								
EKS2	**Erkin-Say**	**52.89**	**335**	*e*P	**P**	07 00 32.3	+1.1		
EKS2				pmax	pmax				
	comp=Z,9.0nm,0.7s								
EKS2	**Erkin-Say**	**52.89**	**335**	*e*P	**P**	07 00 32.3	+1.1		
	comp=Z,8.8nm,0.7s								
MK01	**Makanchi Array**	**53.52**	**344**	*e*P	**P**	07 00 35.6	-0.1		
MKAR	**Makanchi Array**	**53.55**	**344**	P	**P**	07 00 35.8	-0.1		
	comp=Z,5.7nm,0.7s,baz=181,slow=6.9,SNR=53								
MKAR				pP	**pP**	07 00 43.1	+0.9		
	comp=Z,4.8nm,0.7s,baz=187,slow=7.3,SNR=11								
MJAR	**Matsushiro Arr**	**53.56**	**37**	P	**P**	07 00 33.6	-2.5		
	comp=Z,4.2nm,0.8s,baz=221,slow=8.1,SNR=9.5								
MJAR				pP	**pP**	07 00 41.4	-1.1		
	comp=Z,3.7nm,0.9s,baz=216,slow=7.9,SNR=3.3								
ZAK	**Zakamensk**	**54.58**	**2**	*e*P	**P**	07 00 43.0	-0.4		
ZAK				pmax	pmax				
	comp=Z,2.0nm,0.8s								
MDJ	**Mudanjiang**	**55.13**	**25**	P	**P**	07 00 49.2	+1.9		
MDJ				PMZ					
	comp=Z,14nm,1.9s								
USRK	**Ussuriysk Ar.**	**55.83**	**27**	P	**P**	07 00 51.5	-0.9		
	comp=Z,11nm,0.8s,baz=212,slow=5.1,SNR=19								
USRK				pP	**pP**	07 00 58.6	-0.1		
	comp=Z,11nm,0.6s,baz=212,slow=5.1,SNR=12								
TLY	**Talaya**	**55.89**	**2**	*e*P	**P**	07 00 53.1	+0.4		
TLY				pmax	pmax				
	comp=Z,4.0nm,0.9s								
TLY				MLR	MLR				
	comp=Z,116nm,16.0s								
GEYT	**Alibeck**	**57.85**	**321**	P	**P**	07 01 07.4	+0.5		
	comp=Z,0.8nm,0.4s,baz=150,slow=6.3,SNR=3.3								
GEYT				pP	**pP**	07 01 15.7	+2.4		
	comp=Z,1.6nm,0.4s,baz=154,slow=8.0,SNR=3.0								
KURK	**Kurchatov**	**58.13**	**343**	*e*P	**P**	07 01 08.0	-0.6		
KURK				pmax	pmax				
	comp=Z,17nm,1.2s								
KURK	**Kurchatov**	**58.13**	**343**	*e*P	**P**	07 01 08.0	-0.6		
	comp=Z,17nm,1.2s								
ZAA0	**Zalesovo Array**	**59.66**	**349**	*e*P	**P**	07 01 18.3	-0.8		
ZALV	**Zalesovo Beam**	**59.66**	**349**	P	**P**	07 01 18.1	-1.0		
	comp=Z,5.3nm,0.7s,baz=187,slow=5.6,SNR=28								
ZALV				pP	**pP**	07 01 26.3	+0.8		
	comp=Z,8.1nm,0.7s,baz=153,slow=5.4,SNR=14								
KLR	**Kul'dur**	**59.73**	**23**	*e*P	P	07 01 15.0	-4.7		
BRVK	**Borovoye**	**62.78**	**340**	*e*P	**P**	07 01 40.5	+0.2		
BRVK				pmax	pmax				
	comp=Z,2.0nm,0.7s								
BRVK	**Borovoye**	**62.78**	**340**	*e*P	**P**	07 01 40.0	-0.3		
	comp=Z,5.4nm,0.7s								
BOD	**Bodaibo**	**62.89**	**8**	*e*P	**P**	07 01 38.1	-2.8		
ABKAR	**Akbulak array**	**64.15**	**331**	*e*P	**P**	07 01 48.7	-0.7		
ARU	**Arti**	**69.74**	**336**	*d i*P	**P**	07 02 25.2	+0.3		
ARU						07 04 55.9			
ARU				S	**S**	07 11 32.4	-0.3		
ARU				SS	**SS**	07 15 56.5	-5.0		
ARU				pmax	pmax				
	comp=Z,7.0nm,2.5s								
KIV	**Kislovodsk**	**70.93**	**319**	*e*P	**P**	07 02 33.8	+1.2		
KIV				pmax	pmax				
	comp=Z,3.0nm,0.8s								
MMAI	**Mount Meron Ar**	**72.17**	**307**	LR	LR	07 34 11.1			
	comp=Z,62nm,20.4s,baz=165,slow=36								
BRTR	**Keskin Array B**	**75.59**	**313**	P	**P**	07 03 00.3	0.0		
	comp=Z,0.6nm,0.5s,baz=116,slow=4.3,SNR=3.6								
BRTR				pP	**pP**	07 03 07.8	+1.0		
	comp=Z,1.5nm,0.6s,baz=134,slow=6.5,SNR=7.9								
BRTR	**Keskin Array B**	**75.59**	**313**	*ce*P	**P**	07 03 01.7	+1.4		
BR231	**Keskin MP Arra**	**76.26**	**313**	*e*P	P	07 03 01.1	-2.9		
SEY	**Seymchan**	**77.48**	**22**	P	**P**	07 03 08.9	-1.3		
	comp=Z,4.7nm,1.1s,baz=214,slow=0.9,SNR=3.5								
SEY				pP	**pP**	07 03 17.1	+0.4		
	comp=Z,1.2nm,0.5s,baz=142,slow=19,SNR=2.3								
TIXI	**Tiksi**	**78.05**	**9**	*e*P	**P**	07 03 12.4	-0.8		
TIXI				pmax	pmax				
	comp=Z,2.0nm,0.6s								
AKASG	**Malin Array Be**	**81.91**	**322**	pP	pP	07 03 41.4	+0.3		
	comp=Z,0.7nm,0.4s,baz=89,slow=4.4,SNR=2.5								
MLR	**Muntele Rosu**	**82.65**	**317**	pP	pP	07 03 48.1	+2.8		
	comp=Z,0.4nm,0.6s,baz=135,slow=6.3,SNR=2.2								
BUR04	**Bucovina Ar. S**	**83.64**	**319**	*e*P	**P**	07 03 45.1	+1.3		
KOLS	**Kolonicke sedl**	**85.84**	**320**	*e*P	P	07 04 01.7	+6.9		
KOLS	**Kolonicke sedl**	**85.84**	**320**	*e*	P	07 04 01.7	+6.9		
CRVS	**Cervenica-Dubn**	**86.36**	**319**	*e*P	P	07 04 01.5	+4.2		
CRVS				pmax	pmax				
	comp=Z,29nm,2.7s								
CRVS	**Cervenica-Dubn**	**86.36**	**319**	*e*	P	07 04 01.5	+4.2		
FINES	**FINESS Array B**	**86.63**	**332**	pP	**pP**	07 04 06.8	+1.9		
	comp=Z,1.0nm,0.5s,baz=100,slow=5.8,SNR=4.2								
FINES				LR	LR	07 47 29.5			
	comp=Z,30nm,18.6s,baz=156,slow=39								
GERES	**GERESS Array B**	**91.43**	**319**	pP	**pP**	07 04 30.6	+2.5		
	comp=Z,0.7nm,0.6s,baz=104,slow=3.5,SNR=2.5								
GERES				LR	LR	07 49 53.0			
	comp=Z,26nm,19.7s,baz=56,slow=38								
NOA	**NORSAR Array B**	**93.65**	**331**	LR	LR	07 50 18.7			
	comp=Z,14nm,20.2s,baz=165,slow=38								
YKA	**Yellowknife Ar**	**116.35**	**18**	PKP	**PKPdf**	07 09 58.2	-0.1		
	comp=Z,0.2nm,0.8s,baz=306,slow=3.1,SNR=2.8								
YKA				pPKP	pPKPdf	07 10 05.9	+0.7		
	comp=Z,0.2nm,0.7s,baz=329,slow=2.7,SNR=3.5								
SMCO	**Snowmass**	**137.11**	**32**	*e*PKPdf	**PKPdf**	07 10 38.1	-1.0		
V34A	**Guthrie**	**144.37**	**26**	*e*PKPdf	PKPbc	07 10 50.6	+0.5		
WMOK	**Wichita Mounta**	**144.70**	**29**	*e*PKIKP	**PKPab**	07 10 50.7	-0.4		
WMOK	**Wichita Mounta**	**144.70**	**29**	*e*PKPdf	**PKPab**	07 10 50.7	-0.4		
TUL1	**Leonard**	**145.04**	**24**	*e*PKPbc	**PKPbc**	07 10 51.0	-1.2		
ABTX	**Abilene, Hawle**	**145.94**	**32**	*e*PKPdf	**PKPab**	07 10 56.0	+0.3		
TX31	**Lajitas Ar. Si**	**145.96**	**40**	*e*PKPdf	**PKPbc**	07 10 55.8	+0.2		
TXAR	**Lajitas Array**	**145.96**	**40**	PKPbc	**PKPab**	07 10 56.0	-0.1		
	comp=Z,5.2nm,0.9s,baz=279,slow=1.7,SNR=49								
TXAR				pPKPbc	pPKPbc	07 11 04.4	+2.1		
	comp=Z,4.0nm,0.7s,baz=318,slow=1.2,SNR=18								
PBMO	**Poplar Bluff**	**146.11**	**16**	*e*PKPdf	**PKPdf**	07 10 54.8	+0.1		
PBMO				*ep*PKPab	pPKPab	07 11 03.0	+0.1		
MIAR	**Mount Ida**	**147.10**	**22**	*e*PKP2	**PKPbc**	07 10 58.8	+0.2		
MIAR	**Mount Ida**	**147.10**	**22**	*e*PKPdf	**PKPbc**	07 10 58.8	+0.2		
WVT	**Waverly**	**147.39**	**13**	*e*PKP2	**PKPbc**	07 10 58.9	-0.4		
WVT	**Waverly**	**147.39**	**13**	*e*PKPdf	**PKPbc**	07 10 58.9	-0.4		
JCT	**Junction City**	**147.50**	**35**	*e*PKP2	**PKPbc**	07 11 00.1	+0.2		
JCT	**Junction City**	**147.50**	**35**	*e*PKPbc	**PKPbc**	07 11 00.1	+0.2		
SWET	**Sewanee**	**148.66**	**11**	*e*PKPdf	**PKPbc**	07 11 01.9	-0.9		
SWET				*ep*PKPab	**pPKPab**	07 11 10.6	-2.4		
CPCT	**Cooper Cave**	**148.67**	**9**	*e*PKPdf	**PKPbc**	07 11 03.1	+0.4		
CPCT				*ep*PKPab	**pPKPab**	07 11 10.9	-2.1		
KMSC	**Kings Mountain**	**149.31**	**4**	*e*PKPbc	**PKPbc**	07 11 04.4	0.0		

IDC ***06*** *07:14:21.5±0.9,0.7°77S×122.°41E, h0km, mb4.0/8, mb1 4.2/9, mb1mx3.9/39, mbtmp4.0/9, ML4.5/1, MS3.4/2, Ms1 3.4/2, ms1mx2.7/30, Error ellipse: s-maj=39.1km s-min=15.1km az=66.0*

NEIC ***06*** *07:14:24.0±1.1, 0.°74S×122.°40E, h16km±7km, mb4.2/2, Error ellipse: s-maj=15.2km s-min=6.4km az=59.0*

ISCJB ***06*** *07:14:25.0±0.6, 0.°79S±0.°03×122.°46E±0.°04, h37km±7km, mb4.0/1, Error ellipse: s-maj=6.5km s-min=5.1km az=142.5*

DJA ***06*** *07:14:25.4±0.2, 1°S±2°×12°2E±°, h10km, M4.6/15, mb4.9/3, mB4.9/1, MLv4.5/15, Mw(mB)4.2/1*

ISC 06 07:14:24.7±0.8, 0.°74S±0.°04×122.°44E±0.°05, h19km±2km, n31, σ0°77/43, mb4.1/11, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.44**	**132**	P	**Pg**	07 14 33.6	-0.2
LUWI				S	**Sb**	07 14 41.2	+1.0
LUWI	**Luwuk**	**0.44**	**132**	*e*Pg	**Pg**	07 14 33.7	-0.2
LUWI				*e*Sg	**Sg**	07 14 40.1	+0.1
MRSI	**Marisa**	**1.31**	**337**	P	Pn	07 14 43.9	-4.2
MRSI				S	**Sg**	07 15 07.6	+0.3
KMSI	**Cibinong**	**2.02**	**50**	P	**Pg**	07 15 03.0	-0.6
KMSI				S	**Sg**	07 15 29.4	-0.4
TOLI	**Toli-Toli**	**2.48**	**318**	*e*Pn	**Pn**	07 15 02.8	-1.3
TOLI				*e*Sn	**Sn**	07 15 34.3	+0.4
PCI	**Palu**	**2.61**	**266**	P	**Pn**	07 15 05.7	-0.2
PCI				S	**Sn**	07 15 38.8	+1.6
MPSI	**Mapaga**	**2.76**	**293**	P	**Pn**	07 15 08.5	+0.5
MPSI				S	**Sn**	07 15 42.3	+1.4
TTSI	**Tana Toraja**	**3.48**	**229**	P	**Pn**	07 15 17.4	-0.5
TTSI				S	**Sn**	07 15 58.5	-0.1
SPSI	**Sidrap Palu**	**4.17**	**220**	P	**Pn**	07 15 27.1	-0.3
SPSI				S	**Sn**	07 16 15.2	-0.4
BNSI	**Bone**	**4.32**	**213**	P	**Pn**	07 15 29.7	+0.3
BNSI				S	**Sn**	07 16 20.3	+1.0
BBSI	**Bau Bau**	**4.71**	**178**	P	**Pn**	07 15 35.3	+0.4
KAPI	**Kappang**	**5.02**	**212**	Pn	**Pn**	07 15 38.5	-0.6
	17nm,0.3s,baz=12,slow=11,SNR=58						
KAPI				Sn	**Sn**	07 16 35.0	-1.7
	7.0nm,0.3s,baz=203,slow=22,SNR=12						
KAPI				LR	LR	07 17 58.3	
	comp=Z,516nm,18.1s,baz=30,slow=44						
KAPI	**Kappang**	**5.02**	**212**	*e*Pn	**Pn**	07 15 38.5	-0.6
KAPI				*e*Sn	**Sn**	07 16 35.7	-1.0
BKSI	**Bulukumba**	**5.10**	**207**	P	**Pn**	07 15 40.2	0.0
NLAI	**Namlea**	**5.27**	**118**	P	**Pn**	07 15 44.5	+2.0
	58nm,0.7s,1µm0.3nm						
BKB	**Balikpapan**	**5.57**	**265**	P	**Pn**	07 15 47.0	+0.4
	100nm,0.8s,0.4nm						
BSSI	**Bau Bau, Buton**	**5.71**	**200**	P	**Pn**	07 15 49.1	+0.6
BATI	**Baumata**	**9.48**	**173**	LR	LR	07 21 27.9	
	comp=Z,180nm,18.8s,baz=156,slow=45						
WRAB	**Tennant Creek**	**22.35**	**149**	*e*P	**P**	07 19 22.5	+0.8
	12nm,0.8s						
WRA	**Warramunga Arr**	**22.35**	**149**	P	**P**	07 19 21.0	-0.8
	11nm,0.8s,baz=331,slow=10,SNR=38						
AS31	**Alice Springs**	**25.35**	**155**	*e*P	**P**	07 19 50.6	-0.2
ASAR	**Alice Springs**	**25.35**	**155**	P	**P**	07 19 50.6	-0.1
	3.6nm,0.7s,baz=330,slow=7.8,SNR=48						
CMAR	**Chiang Mai Arr**	**29.96**	**311**	P	**P**	07 20 31.8	-0.3
	0.9nm,0.3s,baz=114,slow=8.0,SNR=2.9						
STKA	**Stephens Creek**	**35.87**	**152**	P	**P**	07 21 23.2	-0.3
	3.1nm,0.7s,baz=320,slow=8.6,SNR=5.0						
GTA	**Gaotai**	**45.02**	**335**	*e*P	**P**	07 22 40.2	+0.8
GTA				pP	**pP**	07 22 45.2	-0.1
GTA				sP	**sP**	07 22 48.7	+1.0
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MKAR	**Makanchi Array**	**58.95**	**329**	P	**P**	07 24 22.6	-0.3
	comp=Z,0.3nm,0.5s,baz=120,slow=8.5,SNR=6.5						
ZALV	**Zalesovo Beam**	**62.76**	**336**	P	**P**	07 24 48.5	-0.1
	comp=Z,0.4nm,0.3s,baz=131,slow=7.9,SNR=3.2						
KURBB	**Kurchatov Arra**	**63.33**	**330**	P	**P**	07 24 52.4	-0.1
	comp=Z,0.5nm,0.8s,baz=122,slow=6.0,SNR=4.7						
KURK	**Kurchatov**	**63.34**	**330**	*e*P	**P**	07 24 52.0	-0.6
	comp=Z,2.4nm,0.8s						
VNDA	**Vanda**	**79.59**	**172**	P	**P**	07 26 29.6	-0.5
	comp=Z,0.8nm,0.7s,baz=307,slow=6.3,SNR=5.2						
SMCO	**Snowmass**	**120.91**	**43**	*e*Pdif	**Pdif**	07 29 42.1	-0.4

ISCJB ***06*** *08:01:58.9±0.8, 55.°8S±0.°2×128.°2W±0.°3, h10km, mb3.9/9, MS3.9/6, Error ellipse: s-maj=27.0km s-min=17.0km az=144.3*

IDC ***06*** *08:01:58.8±1.1, 55.°65S×128.°28W, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/30, mbtmp3.8/5, MS3.8/6, Ms1 3.8/6, ms1mx3.6/12, Error ellipse: s-maj=40.2km s-min=28.1km az=153.0*

NEIC ***06*** *08:02:00.1±0.6, 55.°63S×128.°32W, h10km, mb4.4/4, Error ellipse: s-maj=21.9km s-min=15.3km az=138.0*

ISC 06 08:02:00.3±0.9, 55.°6S±0.°2×128.°3W±0.°2, h10km, n27, σ1°01/11, mb3.8/9, MS3.8/6, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBA	**Scott Base**	**31.14**	**202**	*e*P	**P**	08 08 18.1	-0.3
	4.3nm,1.0s						
VNDA	**Vanda**	**32.16**	**203**	LR	LR	08 18 00.5	
	comp=Z,72nm,20.2s,baz=112,slow=30						
VNDA	**Vanda**	**32.16**	**203**	*e*P	**P**	08 08 27.2	-0.3
	14nm,2.1s						
RKT	**Rikitea**	**32.86**	**349**	*e*LR	LR	08 17 02.0	
	193nm,30.0s						
RKT	**Rikitea**	**32.86**	**349**	*e*T	T	08 42 39.8	
	2.4nm,0.3s						
QSPA	**South Pole Qui**	**34.53**	**180**	P	**P**	08 08 49.4	+0.9
	4.1nm,1.0s,baz=93,slow=4.6,SNR=8.6						
TVO	**Taravao**	**41.02**	**329**	*e*T	T	08 52 58.9	
	3.5nm,0.1s						
PPT	**Papeete**	**41.31**	**328**	LR	LR	08 21 42.2	
	comp=Z,83nm,21.1s,baz=132,slow=29						
VAH	**Vaihoa**	**42.98**	**332**	*e*T	T	08 55 25.0	
	13nm,0.3s						
CFAA	**Coronel Fontan**	**47.86**	**86**	P	**P**	08 10 37.0	-1.2
	0.2nm,0.4s,baz=355,slow=13,SNR=7.9						
MAW	**Mawson**	**56.79**	**185**	LR	LR	08 34 15.3	
	comp=Z,76nm,19.1s,baz=241,slow=34						
CPUP	**Villa Florida**	**58.04**	**91**	LR	LR	08 33 21.1	
	comp=Z,673nm,18.7s,baz=202,slow=32						
CPUP	**Villa Florida**	**58.04**	**91**	*e*P	**P**	08 11 53.5	+0.3
	0.2nm,1.3s						
STKA	**Stephens Creek**	**64.40**	**251**	LR	LR	08 37 24.0	
	comp=Z,58nm,18.2s,baz=40,slow=33						
ASAR	**Alice Springs**	**75.03**	**250**	P	**P**	08 13 41.8	-0.2
	0.9nm,0.9s,baz=149,slow=7.4,SNR=5.0						
WRA	**Warramunga Arr**	**77.82**	**253**	P	**P**	08 13 57.7	-0.1
	0.6nm,0.7s,baz=156,slow=4.9,SNR=3.0						
WRAB	**Tennant Creek**	**77.82**	**253**	*e*P	**P**	08 13 57.9	+0.1
	6.4nm,1.1s						
TXAR	**Lajitas Array**	**87.22**	**21**	P	**P**	08 14 48.2	+1.7
	0.4nm,0.8s,baz=188,slow=5.3,SNR=4.9						
H11S2	**WAKE ISLAND Hy**	**91.85**	**301**	T	T	09 57 07.5	
	baz=148,slow=74						
H11S3	**WAKE ISLAND Hy**	**91.86**	**301**	T	T	09 57 01.8	
	baz=148,slow=74						
H11S1	**WAKE ISLAND Hy**	**91.86**	**301**	T	T	09 57 12.5	
	baz=148						
H11N3	**WAKE ISLAND Hy**	**92.80**	**301**	T	T	09 58 11.4	
	baz=146						
H11N1	**WAKE ISLAND Hy**	**92.80**	**301**	T	T	09 58 25.7	
	baz=146						
H11N2	**WAKE ISLAND Hy**	**92.81**	**301**	T	T	09 58 13.4	
	baz=146						
PDAR	**Pinedale Array**	**99.32**	**14**	LR	LR	08 52 45.6	
	comp=Z,30nm,19.0s,baz=206,slow=31						
TIXI	**Tiksi**	**145.21**	**327**	*e*PKPbc	**PKPbc**	08 21 34.5	-1.5
ZAA0	**Zalesovo Array**	**160.93**	**279**	*e*PKPdf	**PKPdf**	08 21 58.9	-0.5

NIED ***06*** *08:08:00, 31.°50N×140.°60E, h110km, Mw4.7 Best double couple: M0 1.47000×10^16 NP1:φs 64.00000°, δ32.00000°, λ150.00000°. NP2:φs 180.00000°, δ74.00000°, λ61.00000°.*

SZGRF ***06*** *08:08:25.3, 30.°97N×140.°54E, h33km, mb5.1, Southeast of Honshu, Japan*

BJI ***06*** *08:08:27.4, 31.°14N×140.°78E, h114km, mb4.8/57, mB4.8/34*

ISCJB ***06*** *08:08:32.7±0.5, 31.°29N±0.°03×140.°04E±0.°03, h107km±3km, mb4.9/164, Error ellipse: s-maj=4.4km s-min=3.9km az=171.1*

JMA ***06*** *08:08:34.8±0.2, 31.°50N×140.°59E, h111km±2km, M4.5*

IDC ***06*** *08:08:34.9±0.6, 31.°30N×140.°07E, h116km±4km, mb4.3/30, mb1 4.4/32, mb1mx4.4/36, mbtmp4.7/32, MS3.3/15, Ms1 3.3/15, ms1mx3.1/37, Error ellipse: s-maj=11.3km s-min=9.4km az=94.0*

NEIC ***06*** *08:08:35.8±0.4, 31.°40N×140.°02E, h119km±3km, mb4.8/105, MW4.7(NIED), Error ellipse: s-maj=4.2km s-min=3.0km az=157.0*

MOS ***06*** *08:08:37.7±0.8, 31.°71N×139.°96E, h135km, mb4.9/54, Error ellipse: s-maj=9.0km s-min=4.3km az=112.5*

ISC 06 08:08:34.7±0.4, 31.°38N±0.°04×140.°17E±0.°04, h115km±2km, h115km:pP-P, n541, σ1°19/606, mb4.8/174, 23C-49D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**1.72**	**349**	P	**Pn**	08 09 04.6	+0.1
JHCJ				S	**Sn**	08 09 26.8	-0.4
JHJ2	**Mitsune**	**1.76**	**350**	P	**Pn**	08 09 05.1	+0.2
JHJ2				S	**Sn**	08 09 28.9	+1.0
JHJ2	**Mitsune**	**1.76**	**350**	*e*Pn	**Pn**	08 09 05.1	+0.2
JHJ2				*e*Sn	**Sn**	08 09 28.5	+0.5
JKO	**Kozu shima**	**2.94**	**343**	P	**Pn**	08 09 21.1	+1.1
JKO				S	**Sn**	08 09 58.3	+3.4
JNIO	**Niijimaoohara**	**3.07**	**346**	P	**Pn**	08 09 22.5	+0.8
TK02	**Tokai 2**	**3.27**	**322**	P	**Pn**	08 09 27.2	+3.0
BSO1	**Boso 1**	**3.34**	**12**	S	**Sn**	08 10 00.7	-2.9
BSO3	**Boso 3**	**3.43**	**5**	P	**Pn**	08 09 25.2	-1.0
BSO4	**Boso 4**	**3.61**	**2**	P	**Pn**	08 09 28.0	-0.8
BSO4				S	**Sn**	08 10 09.7	-0.9
TTO1	**TONANKAI O.B.S**	**3.63**	**309**	P	**Pn**	08 09 32.0	+3.0
JOD2	**Odawara 2**	**3.98**	**347**	P	**Pn**	08 09 34.3	+0.4
JHMK	**Hamakita**	**3.98**	**330**	P	**Pn**	08 09 35.5	+1.7
CBIJ	**Chichi jima**	**4.61**	**157**	P	Pn	08 09 38.8	-3.6
CBIJ	**Chichi jima**	**4.61**	**157**	*e*Pn	Pn	08 09 38.9	-3.5
CBIJ				*e*Sn	**Sn**	08 10 30.8	-4.2
JCJ	**Chichijima**	**4.61**	**157**	P	Pn	08 09 38.8	-3.7
	baz=294,slow=20						
JCJ				S	**Sn**	08 10 30.6	-4.4
	246nm,0.3s,baz=282,slow=20,SNR=8.1						
MJAR	**Matsushiro Arr**	**5.40**	**343**	P	**Pn**	08 09 52.9	-0.2
	18nm,0.3s,baz=162,slow=12,SNR=83						
MAJO	**Matsushiro**	**5.41**	**343**	*e*P	**Pn**	08 09 53.5	+0.5
MAJO				*e*		08 10 53.1	
MAJO	**Matsushiro**	**5.41**	**343**	*e*Pn	**Pn**	08 09 53.5	+0.5
MAJO				*e*Sn	**Sn**	08 10 53.1	-0.9
MAT	**Matsushiro**	**5.41**	**343**	P	**Pn**	08 09 53.0	0.0
MAT				S	**Sn**	08 10 55.4	+1.3
JNU	**Nakatsue**	**8.06**	**285**	P	Pn	08 10 33.9	+4.8
	4.8nm,0.3s,baz=118,slow=8.1,SNR=32						
JNU				LR	LR	08 12 37.0	
	comp=Z,103nm,20.7s,baz=122,slow=30						
ERM	**Erimo**	**10.88**	**12**	*e*P	Pn	08 11 03.2	-3.9
ERM				pmax	pmax		
	comp=Z,67nm,1.7s						
ERM	**Erimo**	**10.88**	**12**	*e*Pn	Pn	08 11 03.6	-3.4
KSRS	**Korea Array**	**11.79**	**304**	P	Pn	08 11 22.9	+3.8
	comp=Z,1.1nm,0.3s,baz=114,slow=14,SNR=81						
KSRS				LR	LR	08 15 47.2	
	comp=Z,84nm,19.3s,baz=107,slow=37						
KSRS				ScP	**ScP**	08 20 19.6	0.0
	comp=Z,0.3nm,0.3s,baz=50,slow=1.6,SNR=5.6						
KSAR	**Wonju Array Be**	**11.81**	**304**	P	Pn	08 11 22.9	+3.5
KSAR	**Wonju Array Be**	**11.81**	**304**	P	Pn	08 11 22.9	+3.5
KSAR				ScP	**ScP**	08 20 19.6	0.0
INCN	**Inchon**	**12.72**	**302**	*e*Pn	Pn	08 11 26.3	-5.1
ASAJ	**Asahikawa**	**12.86**	**8**	P	Pn	08 11 29.3	-3.8
	comp=

HIA Hailar 23.58 325 eP P 08 13 34.2 -0.6
comp=Z,56nm,0.6s
HHC Hu-ho-hao-te 24.88 300 eP P 08 13 46.3 -0.4
HHC pP pP 08 14 13.9 +2.3
HHC sP sP 08 14 21.1 -4.0
HHC PP PnPn 08 14 29.9 +3.0
HHC S S 08 17 57.2 -4.2
HHC PMZ
comp=Z,20nm,1.0s
HHC PMZ
comp=Z,100nm,5.3s
PETK Petropavlovsk- 25.17 25 P P 08 13 48.7 -0.4
comp=Z,4.9nm,0.8s,baz=210,slow=8.3,SNR=4.2
ENH Enshi 26.34 276 eP P 08 13 59.8 -0.1
comp=Z,12nm,0.7s
XAN Xi'an 26.38 284 P P 08 14 00.0 -0.3
XAN pP pP 08 14 23.4 -1.9
XAN sP sP 08 14 36.4 -2.3
XAN PMZ
comp=Z,12nm,0.9s
H11N2 WAKE ISLAND Hy 26.68 109 T T 08 41 50.3
baz=300,slow=75,SNR=14
H11N1 WAKE ISLAND Hy 26.69 109 T T 08 41 50.0
baz=300,slow=75,SNR=14
H11N3 WAKE ISLAND Hy 26.70 109 T T 08 42 16.1
baz=300,slow=75,SNR=12
H11S3 WAKE ISLAND Hy 27.17 112 T T 08 42 55.8
baz=304,slow=75,SNR=84
H11S1 WAKE ISLAND Hy 27.17 112 T T 08 42 56.6
baz=304,slow=75,SNR=181
H11S2 WAKE ISLAND Hy 27.18 112 T T 08 42 53.7
baz=304,slow=75,SNR=144
CLNS Chul'man 27.59 342 eP P 08 14 12.0 +1.2
CLNS e 08 14 59.9
CLNS e 08 17 30.9
CLNS eS S 08 18 43.6 -0.1
CLNS pmax pmax
comp=Z,124nm,0.9s
CLNS pmax pmax
comp=N,79nm,1.0s
CLNS pmax pmax
comp=E,26nm,0.8s
CLNS pmax pmax
comp=Z,5.0nm,0.8s
CLNS pmax pmax
comp=E,12nm,0.9s
CLNS pmax pmax
comp=N,6.0nm,0.7s
CLNS smax smax
comp=N,31nm,11.8s
CLNS smax smax
comp=E,68nm,14.1s
GYA Guiyang 29.67 269 P P 08 14 29.7 0.0
GYA pP pP 08 14 55.0 0.0
GYA sP sP 08 15 08.4 +0.1
GYA PP PnPn 08 15 30.2 -0.1
GYA S S 08 19 13.7 -3.4
GYA PMZ
comp=E,10.0nm,0.8s
QIZ Qiongzhong 29.96 253 P P 08 14 31.6 -0.7
QIZ sP sP 08 15 09.3 -1.6
QIZ S S 08 19 21.2 -0.5
QIZ sS sS 08 20 03.6 -2.2
QIZ PMZ
comp=E,24nm,2.3s
ULN Ulaanbaatar 30.07 313 d iP P 08 14 33.4 +0.3
ULN pmax pmax
comp=Z,14nm,0.6s
ULN Ulaanbaatar 30.07 313 eP P 08 14 33.2 +0.1
comp=Z,17nm,0.7s
LZH Lanzhou 30.46 289 eP P 08 14 36.8 +0.1
LZH pP pP 08 15 01.6 -0.4
LZH sP sP 08 15 15.0 -0.4
LZH PP PnPn 08 15 41.2 +0.8
LZH eS S 08 19 27.4 -2.1
LZH PMZ
comp=Z,25nm,1.0s
LZH PMZ
comp=Z,140nm,5.8s
SONM Songino Array 30.47 312 P P 08 14 36.9 +0.3
comp=Z,12nm,0.7s,baz=110,slow=8.5,SNR=25
SONM PcP PcP 08 17 34.0 +0.9
comp=Z,1.7nm,0.4s,baz=125,slow=2.3,SNR=5.2
SONM ScP ScP 08 21 04.4 -0.5
comp=Z,2.0nm,0.7s,baz=116,slow=3.4,SNR=4.3
CD2 Chengdu 31.08 279 eP P 08 14 41.5 -0.6
CD2 pP pP 08 15 08.7 +1.3
CD2 sP sP 08 15 21.7 +0.9
CD2 PP PnPn 08 15 50.8 +2.5
CD2 S S 08 19 39.9 +0.8
CD2 sS sS 08 20 22.1 -1.2
CD2 PMZ
comp=Z,20nm,1.1s
CD2 PMZ
comp=Z,50nm,8.3s
YAK Yakutsk 31.41 351 P P 08 14 45.0 +0.5
comp=Z,65nm,0.7s,baz=338,slow=1.1,SNR=6.5
YAK LR LR 08 27 21.3
comp=Z,53nm,20.4s,baz=184,slow=36
YAK Yakutsk 31.41 351 eP P 08 14 43.8 -0.7
YAK pmax pmax
comp=E,8.0nm,1.4s
YAK pmax pmax
comp=Z,59nm,1.1s
YAK pmax pmax
comp=N,25nm,1.6s
BOD Bodaibo 31.95 334 ⇑ iP P 08 14 49.4 +0.1
BOD pmax pmax
comp=Z,33nm,1.0s
SEY Seymchan 32.53 10 P P 08 14 55.1 +0.9
comp=Z,4.2nm,0.6s,baz=197,slow=7.7,SNR=18
ZAK Zakamensk 33.28 316 eP P 08 15 01.4 +0.2
ZAK e 08 16 09.0
ZAK pmax pmax
comp=Z,9.0nm,1.1s
KMI Kunming 33.44 269 P P 08 15 04.5 +1.5
KMI PMZ
comp=Z,12nm,0.5s
TLY Talaya 33.55 318 P P 08 15 04.2 +0.8
comp=Z,7.3nm,0.7s,baz=124,slow=5.2,SNR=19
TLY PcP PcP 08 17 42.2 +0.9
comp=Z,2.4nm,0.6s,baz=186,slow=2.8,SNR=3.9
TLY ScP ScP 08 21 15.0 -0.2
comp=Z,2.1nm,0.7s,baz=209,slow=2.6,SNR=5.2
TLY LR LR 08 29 11.9
comp=Z,87nm,18.9s,baz=114,slow=37
TLY Talaya 33.55 318 eP P 08 15 04.3 +0.8
TLY eS S 08 20 13.4 -3.6
TLY e 08 21 03.2
TLY pmax pmax
comp=Z,10.0nm,0.9s
TLY MLR MLR
comp=Z,87nm,15.0s
TLY Talaya 33.55 318 eP P 08 15 04.2 +0.8
comp=Z,7.5nm,0.7s
TLY PcP PcP 08 17 42.2 +0.9
TLY ScP ScP 08 21 15.0 -0.2
GTA Gaotai 33.64 295 eP P 08 15 03.9 -0.5
GTA pP pP 08 15 31.6 +1.6
GTA sP sP 08 15 44.0 +0.7
GTA PcP PcP 08 17 43.2 +1.3
GTA S S 08 20 15.4 -3.4
GTA ScP ScP 08 21 16.0 +0.1
GTA PMZ
comp=Z,5.0nm,1.2s
GTA PMZ
comp=Z,46nm,5.5s
GTA LN
comp=Z,200nm,16.9s
GTA LE
comp=Z,230nm,16.6s
GTA LZ
comp=Z,140nm,16.4s
MOY Mondy 35.09 317 eP P 08 15 17.0 +0.3
CHTO Chiang Mai 39.16 261 eP P 08 15 51.1 -0.3
CHTO pmax pmax
comp=Z,7.0nm,0.7s
CHTO Chiang Mai 39.16 261 eP P 08 15 51.1 -0.3
comp=Z,6.9nm,0.7s
CMAR Chiang Mai Arr 39.32 261 P P 08 15 52.8 +0.1
comp=Z,2.0nm,0.4s,baz=52,slow=7.6,SNR=11
CMAR PcP PcP 08 18 00.4 +1.2
comp=Z,0.8nm,0.3s,baz=43,slow=1.4,SNR=5.9
CMAR ScP ScP 08 21 39.8 +2.6
comp=Z,1.1nm,0.3s,baz=45,slow=2.7,SNR=9.7
CMAR LR LR 08 31 53.2
comp=Z,49nm,20.6s,baz=54,slow=36
TIXI Tiksi 40.79 355 ceP P 08 16 04.1 -0.1
TIXI pmax pmax
comp=Z,26nm,0.9s
TIXI Tiksi 40.79 355 eP P 08 16 04.2 +0.1
comp=Z,24nm,0.8s
WMQ Urumqi 42.73 302 P P 08 16 21.1 +0.6
WMQ pP pP 08 16 46.6 -0.2
WMQ sP sP 08 16 59.6 -0.3
WMQ PMZ
comp=Z,14nm,0.7s
WMQ PMZ
comp=Z,130nm,4.4s
WMQ LN
comp=Z,79nm,23.0s
WMQ LE
comp=Z,180nm,24.0s
WMQ LZ
comp=Z,48nm,22.6s
ZAA0 Zalesovo Array 45.14 317 eP P 08 16 38.9 -0.6
ZALV Zalesovo Beam 45.14 317 P P 08 16 38.8 -0.7
comp=Z,3.1nm,0.3s,baz=102,slow=7.9,SNR=11
ZALV PcP PcP 08 18 17.8 -0.2
comp=Z,13nm,0.5s,baz=115,slow=3.0,SNR=21
ZALV ScP ScP 08 21 58.7 -1.1
comp=Z,2.9nm,0.7s,baz=96,slow=4.5,SNR=8.0
ZALV LR LR 08 36 39.8
comp=Z,43nm,18.8s,baz=70,slow=37
TAPN Taplejung 45.55 279 eP P 08 16 42.7 -0.7
comp=Z,14nm,0.4s
TAPN Taplejung 45.55 279 eP ScP 08 22 09.3 +6.9
ODAN Odare 45.97 278 eP P 08 16 45.8 -0.9
comp=Z,25nm,0.4s
ODAN Odare 45.97 278 eP ScP 08 22 08.5 +4.4
comp=Z,6.8nm,0.2s
NVS Novosibirsk 46.17 318 ⇓ iP P 08 16 46.2 -1.3
NVS pmax pmax
comp=N,2.0nm,0.7s
NVS pmax pmax
comp=E,3.0nm,0.7s
NVS pmax pmax
comp=Z,6.0nm,0.7s
MK31 Makanchi Array 46.46 307 i P P 08 16 49.2 -0.8
MK31 pmax pmax
comp=N,8.0nm,0.5s
MKAR Makanchi Array 46.46 307 P P 08 16 49.3 -0.7
comp=N,6.8nm,0.6s,baz=90,slow=6.3,SNR=62
MKAR PcP PcP 08 18 23.3 +0.5
comp=N,1.1nm,0.3s,baz=80,slow=3.5,SNR=9.0
MKAR ScP ScP 08 22 04.8 -0.7
comp=N,2.0nm,0.5s,baz=82,slow=5.5,SNR=17
MKAR LR LR 08 37 33.5
comp=N,37nm,18.4s,baz=106,slow=37
RAMN Ramite 46.61 279 eP P 08 16 51.0 -0.7
comp=N,37nm,0.7s
RAMN Ramite 46.61 279 eP ScP 08 22 07.8 +1.0
comp=N,7.6nm,0.7s
JIRN Jiri 46.73 280 eP P 08 16 52.5 -0.3
comp=N,36nm,0.4s
JIRN Jiri 46.73 280 eP ScP 08 22 08.3 +0.8
comp=N,6.2nm,0.7s
GUN Gumba 46.92 280 eP P 08 16 53.6 -0.6
PKI Pulchoki 47.42 280 eP P 08 16 57.1 -1.0
comp=N,4.9nm,0.4s
PKIN Phulchoki 47.43 280 eP P 08 16 57.4 -0.7
comp=N,6.8nm,0.6s
KKN Kakani 47.46 280 eP P 08 16 58.2 -0.1
comp=N,10nm,0.4s
DMN Daman 47.66 280 eP P 08 16 59.2 -0.7
comp=N,9.3nm,0.5s
PMBI Palembang 47.93 231 eP P 08 17 02.3 +0.6
comp=N,385nm,0.5s
GKN Gorkha 47.93 281 eP P 08 17 01.7 -0.1
comp=N,10nm,0.4s
PDGK Podgornoye 48.71 302 P P 08 17 05.9 -1.5
PDGK pmax pmax
comp=Z,12nm,0.7s
KURK Kurchatov 48.78 312 P P 08 17 07.5 -0.3
KURK 08 18 31.0
KURK pmax pmax
comp=Z,22nm,0.6s
KURK pmax pmax
comp=Z,2.0nm,0.4s
KURK pmax pmax
comp=N,1.0nm,0.7s
KURK Kurchatov 48.78 312 eP P 08 17 06.9 -0.8
comp=N,51nm,0.8s
KURK PcP PcP 08 18 31.0 +0.1
KURK ScP ScP 08 22 14.2 -1.0
KURBB Kurchatov Arra 48.84 312 P P 08 17 07.5 -0.8
comp=N,22nm,0.6s,baz=90,slow=7.4,SNR=260
KURBB PcP PcP 08 18 31.0 -0.1
comp=N,1.8nm,0.4s,baz=99,slow=2.9,SNR=3.6
KURBB ScP ScP 08 22 14.2 -1.3
comp=N,0.9nm,0.7s,baz=96,slow=2.9,SNR=5.1
KOLN Koldanda 48.88 281 eP P 08 17 09.0 -0.1
comp=N,16nm,0.8s
GSI Gunungsitoli 50.12 242 eP P 08 17 17.8 -0.6
comp=N,43nm,1.1s
WRAB Tennant Creek 51.32 187 eP P 08 17 25.9 -1.4
WRAB pmax pmax
comp=Z,17nm,0.9s
WRAB Tennant Creek 51.32 187 eP P 08 17 25.9 -1.4
comp=Z,17nm,0.9s
WRA Warramunga Arr 51.33 187 P P 08 17 25.9 -1.5
comp=Z,1.3nm,0.4s,baz=4.4,slow=7.6,SNR=22
WRA pP pP 08 17 53.2 -1.4
comp=Z,14nm,0.6s,baz=5.0,slow=7.6,SNR=14
WRA ScP ScP 08 22 25.2 -1.2
comp=Z,3.2nm,0.9s,baz=5.4,slow=4.8,SNR=8.8
TKM2 Tokmak 2 51.59 302 eP P 08 17 28.7 -0.7
TKM2 pmax pmax
comp=Z,4.0nm,0.6s
TKM2 Tokmak 2 51.59 302 eP P 08 17 28.7 -0.7
comp=Z,4.1nm,0.6s
KSH Kashi 51.95 298 ⇓ iP P 08 17 35.0 +3.0
KSH pP pP 08 18 01.8 +2.5
KSH esP sP 08 18 14.0 +1.8
KSH PcS PcS 08 22 42.7 +1.3
KSH S S 08 24 48.2 +1.8
KSH ScS ScS 08 27 10.6 -0.2
KSH PMZ
comp=Z,8.0nm,0.9s
KSH PMZ
comp=Z,59nm,5.1s
KSH LN
comp=Z,92nm,4.5s
KSH LE
comp=Z,87nm,5.9s
KSH LZ
comp=Z,160nm,5.3s
RSO Redoubt South 52.04 35 eP P 08 17 33.0 +0.6
KDAK Kodiak Island 52.07 39 ceP P 08 17 32.5 +0.1
KDAK Kodiak Island 52.07 39 eP P 08 17 32.9 +0.5
comp=Z,64nm,1.6s
AAK Ala-Archa 52.44 302 P P 08 17 34.9 -0.8
comp=Z,2.9nm,0.6s,baz=89,slow=5.3,SNR=10
AAK PcP PcP 08 18 45.2 +0.4
comp=Z,5.2nm,0.6s,baz=121,slow=5.0,SNR=8.4
AAK Ala-Archa 52.44 302 ceP P 08 17 35.0 -0.6
AAK pmax pmax
comp=Z,8.0nm,0.7s
PPLA Purkeypile 52.44 32 eP P 08 17 36.9 +1.6
comp=Z,11nm,0.6s
CAST Castle Rocks 52.52 32 eP P 08 17 37.6 +1.9
comp=Z,8.2nm,1.0s
KTH Kantishna Hill 53.05 32 eP P 08 17 41.0 +1.3
comp=Z,8.2nm,1.2s
TRF Thorofare Moun 53.33 32 eP P 08 17 43.3 +1.5
comp=Z,6.1nm,0.6s
BVA0 Borovoye Array 53.74 315 i P P 08 17 43.5 -1.3
BVA0 pmax pmax
comp=N,8.0nm,0.8s
BVAR Borovoye Array 53.74 315 P P 08 17 44.4 -0.4
comp=N,8.3nm,0.6s,baz=99,slow=7.8,SNR=41
BVAR PcP PcP 08 18 49.8 +0.4
comp=N,6.0nm,0.5s,baz=101,slow=3.1,SNR=9.3
BVAR ScP ScP 08 22 35.6 -0.9
comp=N,1.3nm,0.6s,baz=91,slow=5.8,SNR=5.7
BRVK Borovoye 53.80 315 d iP P 08 17 44.7 -0.5
BRVK pmax pmax
comp=Z,10.0nm,0.9s
BRVK Borovoye 53.80 315 eP P 08 17 44.9 -0.3
comp=Z,9.1nm,0.7s
BRVK ePcP PcP 08 18 50.1 +0.6
PMR Palmer 53.83 34 eP P 08 17 45.8 +0.6
PMR pmax pmax
comp=Z,9.0nm,0.8s
PMR Palmer 53.83 34 eP P 08 17 45.8 +0.6
comp=Z,9.1nm,0.8s
MCK McKinley 53.95 31 eP P 08 17 47.1 +1.0
MCK pmax pmax
comp=Z,10.0nm,1.1s
MCK McKinley 53.95 31 eP P 08 17 47.1 +1.0
comp=Z,10nm,1.1s
ILAR Eielson Array 54.85 30 P P 08 17 52.5 -0.2
comp=Z,2.9nm,0.8s,baz=273,slow=5.7,SNR=40
AS31 Alice Springs 55.06 187 eP P 08 17 53.7 -0.9
AS31 epP pP 08 18 21.9 -0.3
ASAR Alice Springs 55.06 187 P P 08 17 53.3 -1.3
comp=Z,1.5nm,0.4s,baz=8.9,slow=7.8,SNR=13
ASAR pP pP 08 18 20.8 -1.4
comp=Z,5.1nm,0.5s,baz=360,slow=5.0,SNR=13
ASAR ScP ScP 08 22 42.2 -0.4
comp=Z,0.6nm,0.6s,baz=0.9,slow=4.7,SNR=5.1
KK31 Karatay Array 55.21 303 i P P 08 17 54.5 -1.1
KK31 pmax pmax
comp=N,5.0nm,0.4s
KKAR Karatay Array 55.21 303 eP P 08 17 55.1 -0.5
KKAR e 08 18 55.6
KKAR pmax pmax
comp=Z,4.0nm,0.5s
KKAR Karatay Array 55.21 303 eP P 08 17 55.1 -0.5
comp=Z,4.3nm,0.5s
KKAR ePcP PcP 08 18 55.6 +0.4
DIV Divide 55.46 35 eP P 08 17 58.6 +1.4
comp=Z,12nm,1.1s
EYAK Cordova Ski Ar 55.50 35 eP P 08 17 58.6 +1.3
comp=Z,14nm,0.9s
BMRM Bremner River 56.03 35 eP P 08 18 02.1 +0.9
comp=Z,17nm,0.8s
RAGM Ragged Mountai 56.05 35 eP P 08 18 03.0 +1.6
comp=Z,33nm,1.3s
DOT Dot Lake 56.12 31 eP P 08 17 58.7 -3.0
comp=Z,6.9nm,0.7s
EGAK Eagle 57.31 30 eP P 08 18 10.4 +0.3
comp=Z,22nm,1.9s
EIDS Eidsvold 57.38 168 eP P 08 18 14.8 +3.8
DZET Dzherino 57.51 299 P P 08 18 11.5 -0.6
DZET pmax pmax
comp=Z,24nm,0.4s
DAWY Dawson 58.14 31 eP P 08 18 17.2 +1.1
KBL Kabul 58.61 294 eP P 08 18 19.5 -0.5
KBL pmax pmax
comp=Z,18nm,0.8s
KBL Kabul 58.61 294 eP P 08 18 19.5 -0.5
comp=Z,18nm,0.8s
SVE Sverdlovsk 58.79 321 eP P 08 18 20.6 +0.1
SVE pmax pmax
comp=Z,23nm,0.9s
HYT Haines Junctio 59.49 34 eP P 08 18 27.6 +2.1
INK Inuvik 59.90 25 P P 08 18 28.5 +0.5
comp=Z,2.5nm,0.6s,baz=284,slow=5.1,SNR=6.8
ARU Arti 59.99 321 d iP P 08 18 28.5 -0.3
ARU 08 19 12.2
ARU 08 20 37.5
ARU S S 08 26 34.1 +2.0
ARU pmax pmax
comp=Z,28nm,1.0s
ARU Arti 59.99 321 eP P 08 18 28.0 -0.8
comp=Z,37nm,1.1s
SKAG Skagway 60.84 36 eP P 08 18 36.5 +2.1
AB31 Akbulak array 60.89 312 i P P 08 18 34.4 -0.6
AB31 pmax pmax
comp=N,15nm,0.5s
ABKAR Akbulak array 60.89 312 eP P 08 18 34.6 -0.4
AKTO Aktyubinsk 61.77 314 P P 08 18 40.4 -0.6
AKTO pmax pmax
comp=Z,17nm,0.7s
STKA Stephens Creek 62.92 179 P P 08 18 49.1 +0.4
comp=Z,1.8nm,0.7s,baz=18,slow=9.6,SNR=2.1
DLBC Dease Lake 63.76 36 P P 08 18 55.5 +1.5
comp=Z,3.4nm,0.9s,baz=287,slow=7.6,SNR=8.2
DLBC Dease Lake 63.76 36 eP P 08 18 56.3 +2.2
GEYT Alibeck 65.75 301 P P 08 19 07.4 0.0
comp=Z,2.1nm,0.4s,baz=0.0,slow=7.4,SNR=4.8
SPA0 Spitsbergen Ar 65.87 349 ⇓ iP P 08 19 08.4 +1.0
SPA0 IAmb IAmb 08 19 09.7
comp=Z,16nm,0.8s
SPITS Spitsbergen Ar 65.87 349 P P 08 19 08.4 +1.0
comp=Z,14nm,0.7s,baz=96,slow=7.6,SNR=79
HSPB Hornsund (broa 66.76 348 eP P 08 19 14.6 +1.5
HSPB IAmb IAmb 08 19 15.1
comp=Z,33nm,0.8s
TMCR Tamitsa 67.24 332 eP P 08 19 17.0 +0.8
TMCR pmax pmax
comp=Z,67nm,1.4s
BJO Bjornoya 67.62 346 eP P 08 19 19.2 +0.7
KLMR Klimovskoe 68.01 329 eP P 08 19 21.4 +0.2
KLMR pmax pmax
comp=Z,18nm,0.5s
KEV Kevo 68.37 340 eP P 08 19 24.3 +1.0
KEV pmax pmax
comp=Z,38nm,0.7s
KEV Kevo 68.37 340 eP P 08 19 24.3 +1.0
comp=Z,38nm,0.7s
ARCES ARCESS Array B 68.93 340 P P 08 19 27.7 +0.9
comp=Z,48nm,0.7s,baz=75,slow=7.5,SNR=185
ARCES LR LR 08 53 18.7
comp=Z,28nm,21.4s,baz=70,slow=39
ARE0 ARCESS Array S 68.93 340 eP P 08 19 27.9 +1.1
ARE0 IAmb IAmb 08 19 28.9
comp=Z,42nm,0.7s
ARE0 ARCESS Array S 68.93 340 eP P 08 19 27.8 +1.0
YKA Yellowknife Ar 69.23 29 P P 08 19 28.9 +0.2
comp=Z,0.8nm,0.4s,baz=299,slow=6.2,SNR=25
YKA pP pP 08 19 58.6 +1.2
comp=Z,1.7nm,0.7s,baz=297,slow=6.4,SNR=6.2
IGLO Ghaloghah 69.46 301 eP P 08 19 31.2 +0.3
IANJ Anjilo 69.83 300 eP P 08 19 33.5 +0.3
KTK1 Kautokeino 69.89 340 eP P 08 19 34.3 +1.6
ISHM Shahmirzad 70.14 300 eP P 08 19 36.6 +1.4
DAG Danmarks Havn 71.31 355 i P P 08 19 41.7 +0.6
comp=Z,23nm,1.2s
DAG Danmarks Havn 71.31 355 eP P 08 19 41.7 +0.6
DAG pmax pmax
comp=Z,36nm,1.2s
A05A Maple Falls 71.70 43 eP P 08 19 45.5 +1.5
MBW Mount Baker 71.91 44 P P 08 19 46.8 +1.3
LPSR Galich'ya Gora 72.01 321 eP P 08 19 45.4 -0.3
LPSR pmax pmax
comp=Z,40nm,0.8s
LPSR pmax pmax
comp=N,6.0nm,0.5s
LPSR pmax pmax
comp=E,10.0nm,1.1s
OBN Obninsk 72.03 324 d iP P 08 19 45.9 +0.1
OBN e 08 20 01.4
OBN e 08 22 28.7
OBN eS S 08 28 46.8 -11
OBN pmax pmax
comp=Z,57nm,1.2s
JCW Jim Creek 72.16 44 P P 08 19 48.3 +1.5
B06A Marblemount 72.27 44 eP P 08 19 49.1 +1.7
comp=Z,13nm,0.8s
VSR Storozhevoye 72.53 320 eP P 08 19 49.2 +0.3
VSR pmax pmax
comp=Z,20nm,0.4s
VSR pmax pmax
comp=N,10.0nm,0.6s
VSR pmax pmax
comp=E,20nm,0.6s
PUL Pulkovo 72.55 330 eP P 08 19 50.6 +1.8
PUL pmax pmax
comp=Z,111nm,0.4s
VORD Divnogorie 72.58 319 eP P 08 19 49.2 0.0
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,40nm,0.6s
VORD pmax pmax
comp=Z,20nm,0.6s
TDL Tradedollar La 72.83 46 P P 08 19 52.5 +1.6
F04A Amboy 72.90 46 eP P 08 19 53.0 +1.8
IPAR Pars 72.91 295 eP P 08 19 51.1 -0.8
ISRV Sarvestan 73.07 294 eP P 08 19 51.7 -1.2
GOF Gofitskoye 73.13 313 eP P 08 19 52.6 +0.1
LOF Lofoten 73.19 342 eP P 08 19 52.8 +0.3
IPIR Pirpir 73.29 298 eP P 08 19 52.8 -1.3
FIA1 FINESS Array S 73.34 333 eP P 08 19 53.7 +0.3
FINES FINESS Array B 73.34 333 P P 08 19 53.7 +0.2

comp=Z,27nm,0.4s,baz=76,slow=5.1,SNR=245
FINES LR LR 08 56 46.5
comp=Z,19nm,20.4s,baz=34,slow=39
LTY Liberty 73.35 45 *e*P **P 08 19 54.9 +1.0**
ETW Entiat 73.38 44 P **P 08 19 55.3 +1.1**
TBM Table Mountain 73.43 45 P **P 08 19 55.8 +1.4**
IHRS Heris 73.55 305 *e*P **P 08 19 55.5 +0.1**
WTV Waterville 73.56 44 P **P 08 19 56.2 +1.1**
B08A Colville Reser 73.61 43 *e*P **P 08 19 56.4 +1.0**
H04A Detroit Lake 73.62 47 *e*P **P 08 19 56.6 +1.1**
ZEI Tsey 73.63 310 *e*P **P 08 19 54.9 -0.9**
ZEI pmax pmax
comp=Z,21nm,1.0s
KBZ Khabaz 73.84 312 P **P 08 19 57.4 +0.7**
comp=Z,40nm,0.8s,baz=56,slow=24,SNR=112
KIV Kislovodsk 73.86 312 *e*P **P 08 19 57.1 +0.1**
KIV pmax pmax
comp=Z,60nm,1.1s
KIV MLR MLR
comp=Z,36nm,18.0s
KIV Kislovodsk 73.86 312 *e*P **P 08 19 58.1 +1.1**
comp=Z,45nm,0.8s
IKAZ Kazeroun 73.88 295 *e*P **P 08 19 56.8 -0.9**
SAW Saint Andrews 73.89 44 P **P 08 19 58.1 +1.1**
GNI Garni 74.29 308⇓*i*P **P 08 20 00.4 +0.7**
GNI pmax pmax
comp=Z,19nm,1.7s
GNI Garni 74.29 308 *e*P **P 08 20 01.1 +1.5**
comp=Z,14nm,0.9s
IMRD Marand 74.30 306 *e*P **P 08 19 59.6 -0.2**
MOR8 Moi Rana 74.31 340⇓*i*P **P 08 19 58.6 -0.5**
MOR8 IAmb IAmb 08 19 59.4
comp=Z,73nm,0.6s
HAWA Hanford 74.45 45 *e*P **P 08 20 01.5 +1.3**
comp=Z,4.3nm,0.7s
EDM Edmonton 74.45 37 *e*P **P 08 20 00.8 +0.7**
EDM Edmonton 74.45 37 *e*P **P 08 20 00.8 +0.7**
OD2 Odessa Site #2 74.45 44 P **P 08 20 01.3 +1.1**
KONS Konsvik 74.46 341 *e*P **P 08 20 00.8 +1.0**
KONS IAmb IAmb 08 20 01.6
comp=Z,13nm,0.8s
D08A Wollman Farm, 74.49 44 *e*P **P 08 20 01.9 +1.5**
C09A Chrisman Ranch 74.50 43 *e*P **P 08 20 01.8 +1.3**
STOK Stokkvaagen 74.60 341 *e*P **P 08 20 01.4 +0.7**
YBH Yreka Blue Hor 74.68 50 P **P 08 20 03.2 +1.4**
comp=Z,4.4nm,0.8s,baz=354,slow=3.1,SNR=8.7
VSU Vasula 74.81 330*d*i*P* **P 08 20 02.5 +0.4**
NEW Newport 74.94 42 *e*P **P 08 20 04.2 +1.1**
NEW pmax pmax
comp=Z,9.0nm,1.0s
NEW Newport 74.94 42 *e*P **P 08 20 04.2 +1.1**
comp=Z,9.3nm,1.0s
E09A Wood Farm, Sta 75.22 44 *e*P **P 08 20 06.0 +1.3**
G08A Pilot Rock 75.34 46 *e*P **P 08 20 06.6 +1.1**
K05A Summer Lake 75.38 49 *e*P **P 08 20 07.7 +1.7**
SOC Sochi 75.93 313 *e*P **P 08 20 07.8 -0.9**
SOC *e* 08 23 06.7
SOC *e*S **S 08 29 42.4 +0.3**
SOC *e*SS **SS 08 34 32.3 -3.8**
SOC pmax pmax
comp=Z,29nm,0.7s
F10A Beach Ranch, E 76.04 45 *e*P **P 08 20 11.3 +1.8**
SUMG Summit 76.32 360⇓*i*P **P 08 20 12.7 +1.7**
comp=Z,19nm,1.0s
SUMG Summit 76.32 360⇓*i*P **P 08 20 12.7 +1.7**
SUMG pmax pmax
comp=Z,19nm,1.0s
SUMG Summit 76.32 360 *e*P **P 08 20 12.7 +1.7**
comp=Z,16nm,0.9s
WALA Waterton Lakes 76.35 41 *e*P **P 08 20 12.5 +1.3**
BMO Blue Mountains 76.57 46 *e*P **P 08 20 13.7 +1.2**
BMO pmax pmax
comp=Z,6.0nm,0.6s
BMO Blue Mountains 76.57 46 *e*P **P 08 20 13.7 +1.2**
comp=Z,6.1nm,0.6s
ANN Anapa 76.73 314 *e*P **P 08 20 13.3 +0.1**
ANN pmax pmax
comp=Z,93nm,1.3s
WVOR Wild Horse Val 76.97 48 *e*P **P 08 20 16.3 +1.4**
WVOR pmax pmax
comp=Z,5.0nm,0.8s
WVOR Wild Horse Val 76.97 48 *e*P **P 08 20 16.2 +1.4**
comp=Z,4.5nm,0.8s
SWMT Swartz Lake 77.13 42 *e*P **P 08 20 16.9 +1.3**
MSO Missoula 77.53 43 *e*P **P 08 20 18.7 +0.8**
comp=Z,3.4nm,0.9s
SLMT Seeley Lake 77.57 42 *e*P **P 08 20 18.8 +0.7**
CHMT Chamberlain Mo 77.88 42 *e*P **P 08 20 20.5 +0.5**
comp=Z,1.4nm,0.5s
CMB Columbia Colle 78.05 53 *e*P **P 08 20 21.8 +1.0**
CMB pmax pmax
comp=Z,20nm,1.4s
CMB Columbia Colle 78.05 53 *e*P **P 08 20 21.8 +1.0**
comp=Z,20nm,1.4s
AKASG Malin Array Be 78.15 323 P **P 08 20 21.0 0.0**
comp=Z,20nm,0.4s,baz=49,slow=5.9,SNR=162
AKASG LR LR 08 57 15.4
comp=Z,38nm,18.9s,baz=65,slow=37
AKASG Malin Array Be 78.15 323 P **P 08 20 21.0 0.0**
AKBB Malin Array Si 78.15 323 *e*P **P 08 20 21.0 0.0**
AKBB Malin Array Si 78.15 323 *e*P **P 08 20 21.0 0.0**
AK01 Malin Array Si 78.16 323 *e*P **P 08 20 21.1 0.0**
KIEV Kiev 78.16 323*d*i*P* **P 08 20 21.0 0.0**
KIEV Kiev 78.16 323 *e*P **P 08 20 21.1 0.0**
AK02 Malin Array Si 78.18 323 *e*P **P 08 20 21.3 +0.1**
MFID Camas Ranch 78.23 46 *e*P **P 08 20 23.2 +1.4**
comp=Z,7.4nm,0.6s
SIM Simferopol' 78.65 316 *e*P **P 08 20 24.7 +0.8**
SIM pmax pmax
comp=Z,28nm,0.6s
HRY Holter Researc 78.81 42 *e*P **P 08 20 26.3 +1.4**
BMN Battle Mountai 78.92 49 *e*P **P 08 20 27.1 +1.4**
BMN pmax pmax
comp=Z,5.0nm,0.8s
BMN Battle Mountai 78.92 49 *e*P **P 08 20 27.1 +1.4**
comp=Z,5.0nm,0.8s
LRM Limekiln Ridge 78.95 43 *e*P **P 08 20 27.3 +1.4**
LRM *e*pP **pP 08 20 57.7 +2.5**
NB2 NORSAR Subarra 79.00 337 P **P 08 20 25.8 +0.2**
comp=Z,21nm,0.5s,baz=43,slow=5.3
NB2 NORSAR Subarra 79.00 337 P **P 08 20 25.8 +0.2**
baz=43,slow=5.3
NOA NORSAR Array B 79.00 337 P **P 08 20 25.8 +0.2**
comp=Z,20nm,0.5s,baz=45,slow=5.6,SNR=128
NOA PP **PP 08 23 23.8 -1.6**
comp=Z,3.2nm,0.8s,baz=45,slow=8.6,SNR=6.4
NOA LR LR 08 58 21.1
comp=Z,16nm,19.2s,baz=345,slow=38
HLID Hailey 79.02 46 *e*P **P 08 20 27.4 +1.2**
comp=Z,4.3nm,0.9s
FFC Flin Flon 79.03 31 *e*pP pP 08 20 57.5 +2.3
SUW Suwalki 79.10 328 *e*P **P 08 20 26.4 +0.2**
SUW Suwalki 79.10 328 *e*P **P 08 20 26.4 +0.2**
NC602 NORSAR Array S 79.11 337⇓*i*P **P 08 20 26.1 -0.1**
NA001 NORSAR Array S 79.25 337 *e*P **P 08 20 26.9 0.0**
comp=Z,21nm,0.8s
NVAR Mina Array Bea 79.25 52 P **P 08 20 28.8 +1.1**
comp=Z,6.6nm,0.6s,baz=293,slow=5.8,SNR=46
NVAR pP **pP 08 20 59.1 +2.2**
comp=Z,1.6nm,0.7s,baz=322,slow=5.7,SNR=2.3
MALT Malatya 79.46 308⇑*i*P **P 08 20 30.2 +1.6**
BOZ Bozeman (W) 79.52 43 *e*P **P 08 20 30.0 +1.1**
BOZ pmax pmax
comp=Z,4.0nm,0.8s
BOZ Bozeman (W) 79.52 43 *e*P **P 08 20 30.0 +1.1**
comp=Z,3.6nm,0.8s
ELK Elko 80.03 48 *e*P **P 08 20 33.5 +1.7**
ELK pmax pmax
comp=Z,4.0nm,0.8s
ELK Elko 80.03 48 *e*P **P 08 20 33.5 +1.7**
comp=Z,4.4nm,0.8s
QLMT Earthquake Lak 80.10 43 *e*P **P 08 20 33.8 +1.7**
TPH Tonopah 80.16 51 *e*P **P 08 20 33.9 +1.3**
TPH pmax pmax
comp=Z,6.0nm,1.0s
TPH Tonopah 80.16 51 *e*P **P 08 20 33.9 +1.3**
comp=Z,5.5nm,1.0s
YMR Madison River 80.46 43 *e*P **P 08 20 36.0 +2.0**
comp=Z,8.3nm,0.8s
GCMT Greycliff 80.57 42 *e*P **P 08 20 35.9 +1.4**
comp=Z,2.8nm,0.8s
H17A Grant Village 80.85 43 *e*P **P 08 20 38.7 +2.5**
comp=Z,8.3nm,0.8s
IMW Indian Meadow 80.92 44 *e*P **P 08 20 38.8 +2.2**
comp=Z,5.3nm,0.6s

FLWY Flagg Ranch 80.96 44 *e*P **P 08 20 39.1 +2.5**
comp=Z,6.9nm,0.9s
HVU Hansel Valley 81.01 46 *e*P **P 08 20 38.8 +1.9**
HVU pmax pmax
comp=Z,10μm,0.7s
HVU Hansel Valley 81.01 46 *e*P **P 08 20 38.8 +1.9**
comp=Z,87μm,0.7s
FXWY Fox Creek 81.02 44 *e*P **P 08 20 38.7 +1.6**
comp=Z,19nm,1.8s
MOOW Moose Ponds 81.12 44 *e*P **P 08 20 39.0 +1.4**
comp=Z,32nm,2.6s
TPAW Teton Pass 81.15 44 *e*P **P 08 20 39.8 +2.0**
comp=Z,5.3nm,0.8s
LOHW Long Hollow 81.28 44 *e*P **P 08 20 40.1 +1.7**
comp=Z,52nm,3.0s
TPNV Topopah Spring 81.42 52 *e*P **P 08 20 40.0 +0.8**
TPNV pmax pmax
comp=Z,14nm,0.6s
TPNV Topopah Spring 81.42 52 *e*P **P 08 20 40.0 +0.8**
comp=Z,14nm,0.6s
TLCR 81.60 318⇑*i*P **P 08 20 40.5 +0.8**
BEL Belsk 81.61 327 *i*P **P 08 20 40.5 +0.9**
BEL Belsk 81.61 327⇓*i*P **P 08 20 40.6 +0.9**
BR131 Keskin Array S 81.83 312 *e*P **P 08 20 41.6 +0.3**
comp=Z,16nm,0.6s
BRTR Keskin Array B 81.83 312 P **P 08 20 41.6 +0.3**
comp=Z,23nm,0.7s,baz=106,slow=4.1,SNR=124
BRTR Keskin Array B 81.83 312*ce*P **P 08 20 41.7 +0.4**
BRTR pmax pmax
comp=Z,25nm,0.7s
HWUT Hardware Ranch 81.85 46 *e*P **P 08 20 42.8 +1.3**
comp=Z,5.8nm,0.8s
RAYN Ar Rayn 81.85 292 *e*P **P 08 20 41.7 +0.2**
comp=Z,15nm,0.5s
DUG Dugway, Tooele 81.87 48 *e*P **P 08 20 42.8 +1.3**
DUG pmax pmax
comp=Z,6.0nm,0.6s
DUG Dugway, Tooele 81.87 48 *e*P **P 08 20 42.8 +1.3**
comp=Z,6.2nm,0.6s
GSC Goldstone, Bar 81.93 54 *e*P **P 08 20 42.9 +1.1**
GSC pmax pmax
comp=Z,6.0nm,0.9s
GSC Goldstone, Bar 81.93 54 *e*P **P 08 20 42.9 +1.1**
comp=Z,5.9nm,0.9s
CFR Carcaliu 81.99 319⇑*i*P **P 08 20 42.3 +0.5**
TESR Tescani 82.01 320⇓*i*P **P 08 20 42.3 +0.4**
KWP Kalwaria Pacla 82.12 324 *e*P **P 08 20 43.3 +0.9**
KWP Kalwaria Pacla 82.12 324⇓*e*P **P 08 20 43.3 +0.9**
KWP Kalwaria Pacla 82.12 324⇓*i*P **P 08 20 43.4 +1.0**
KWP Kalwaria Pacla 82.12 324 *e*P **P 08 20 43.4 +1.0**
comp=Z,79nm,1.1s
TIRR Tirgusor 82.27 318 *e*P **P 08 20 43.6 +0.4**
TIRR pmax pmax
comp=Z,12nm,1.0s
TIRR Tirgusor 82.27 318⇓*i*P **P 08 20 43.8 +0.6**
TIRR Tirgusor 82.27 318 *e*P **P 08 20 43.6 +0.4**
comp=Z,12nm,1.0s
ANTO Ankara 82.29 312 *e*P **P 08 20 44.5 +0.9**
ANTO Ankara 82.29 312⇑*i*P **P 08 20 44.2 +0.6**
ANTO Ankara 82.29 312 *e*P **P 08 20 44.5 +0.9**
VRI Vrincioaia 82.36 320⇑*i*P **P 08 20 44.8 +1.0**
SHPR Sheep Range 82.39 52 *e*P **P 08 20 45.8 +1.4**
BW06 Boulder Array 82.40 44 *e*P **P 08 20 45.0 +0.7**
comp=Z,1.8nm,0.7s
PDAR Pinedale Array 82.40 44 P **P 08 20 44.8 +0.5**
comp=Z,2.1nm,0.7s,baz=309,slow=3.0,SNR=26
PDAR pP **pP 08 21 15.4 +1.6**
comp=Z,0.9nm,0.6s,baz=306,slow=3.1,SNR=2.7
TLB Topalu 82.40 318⇓*i*P **P 08 20 44.6 +0.7**
HARR Harsova 82.40 318⇓*i*P **P 08 20 44.7 +0.8**
PLOR Plostina 82.42 320⇓*i*P **P 08 20 46.4 +2.3**
NLU North Lily Min 82.48 48 *e*P **P 08 20 45.8 +1.1**
comp=Z,5.4nm,0.9s
JLU Jordanelle 82.50 47 *e*P **P 08 20 45.2 +0.3**
comp=Z,43nm,1.9s
KOLS Kolonicke sedl 82.79 324 *e*P **P 08 20 46.4 +0.5**
KOLS pmax pmax
comp=Z,9.0nm,0.9s
KOLS Kolonicke sedl 82.79 324 *e*P **P 08 20 46.4 +0.5**
MSAB Monastry St. A 82.82 318⇑*i*P **P 08 20 47.5 +1.4**
PSN Preselentsi 82.86 317⇓*i*P **P 08 20 47.3 +0.9**
ISR Istrita 82.92 319⇓*i*P **P 08 20 46.8 +0.1**
BMR Baia Mare 82.97 323⇑*i*P **P 08 20 47.6 +0.7**
UZH Uzhgorod 82.97 324 *e*P **P 08 20 48.0 +1.2**
STHS Stebnicka Huta 82.98 325 *e*P **P 08 20 47.5 +0.6**
STHS pmax pmax
comp=Z,8.0nm,0.7s
STHS Stebnicka Huta 82.98 325 *e*P **P 08 20 47.5 +0.6**
MLR Muntele Rosu 83.03 320⇓*i*P **P 08 20 47.6 +0.2**
DOPR Dopca 83.04 320⇑*i*P **P 08 20 48.9 +1.6**
PFO Pinyon Flats O 83.09 55 *e*P **P 08 20 48.4 +0.5**
PFO pmax pmax
comp=Z,15nm,1.2s
PFO Pinyon Flats O 83.09 55 *e*P **P 08 20 48.4 +0.5**
comp=Z,15nm,1.2s
PPT2 Papeete2 83.11 115 *e*LR LR 08 21 01.8
comp=Z,130nm,25.8s
OJC Ojcow 83.15 326 *e*P **P 08 20 48.4 +0.7**
OJC Ojcow 83.15 326⇓*e*P **P 08 20 48.4 +0.7**
TRPA Tarpa 83.17 323⇓*i*P **P 08 20 48.6 +0.8**
CRVS Cervenica-Dubn 83.21 324 *e*P **P 08 20 48.9 +0.8**
CRVS pmax pmax
comp=Z,20nm,1.7s
CRVS Cervenica-Dubn 83.21 324 *e*P **P 08 20 48.9 +0.8**
MSU Marysvale 83.23 49 *e*P **P 08 20 50.2 +1.5**
MSU pmax pmax
comp=Z,3.0nm,0.7s
MSU Marysvale 83.23 49 *e*P **P 08 20 50.2 +1.5**
comp=Z,3.0nm,0.7s
SECR 83.24 319⇓*i*P **P 08 20 49.8 +1.5**
TMUT Trail Mountain 83.40 48 *e*P **P 08 20 50.5 +0.9**
comp=Z,2.9nm,0.6s
VOIR 83.55 320⇑*i*P **P 08 20 50.8 +0.8**
ARR Arges 83.83 320⇓*i*P **P 08 20 52.9 +1.5**
SRU San Rafael Swe 83.94 48 *e*P **P 08 20 53.3 +1.1**
SRU pmax pmax
comp=Z,9.0nm,0.8s
SRU San Rafael Swe 83.94 48 *e*P **P 08 20 53.3 +1.1**
comp=Z,9.3nm,0.8s
DRGR 83.95 322⇓*i*P **P 08 20 51.9 -0.1**
KECS Kecovo 83.97 324 *e*P **P 08 20 52.5 +0.5**
KECS pmax pmax
comp=Z,4.0nm,1.0s
KECS Kecovo 83.97 324 *e*P **P 08 20 52.5 +0.5**
OKC Ostrava-Krasne 84.19 327⇓*e*P **P 08 20 53.3 +0.3**
OKC Ostrava-Krasne 84.19 327 *e*P **P 08 20 53.3 +0.3**
LOT Lotru 84.25 321⇑*i*P **P 08 20 54.5 +0.9**
K22A Casper 84.25 43 *e*P **P 08 20 54.7 +0.9**
comp=Z,62nm,2.7s
KSP Ksiaz 84.35 328 *e*P **P 08 20 54.6 +0.8**
KSP Ksiaz 84.35 328⇓*e*P **P 08 20 54.6 +0.8**
MORC Moravsky Berou 84.52 327 *e*P **P 08 20 54.5 -0.3**
MORC pmax pmax
comp=Z,4.0nm,0.4s
MORC Moravsky Berou 84.52 327⇓*i*P **P 08 20 55.4 +0.6**
MORC Moravsky Berou 84.52 327 *e*P **P 08 20 54.5 -0.3**
comp=Z,3.9nm,0.4s
BSEG Bad Segeberg 84.62 333 *e*P **P 08 20 55.8 +0.7**
comp=Z,49nm,0.9s
PSZ Piszkesteto 84.65 324 *e*P **P 08 20 56.3 +0.8**
PSZ pmax pmax
comp=Z,9.0nm,0.9s
PSZ Piszkesteto 84.65 324⇓*i*P **P 08 20 56.3 +0.8**
PSZ Piszkesteto 84.65 324 *e*P **P 08 20 56.3 +0.8**
comp=Z,9.0nm,0.9s
KRLC Kraliky 84.67 327⇓*e*P **P 08 20 55.7 +0.2**
KRLC Kraliky 84.67 327 *e*P **P 08 20 55.7 +0.2**
DPC Dobruska-Polom 84.69 328⇓*i*P **P 08 20 56.4 +0.8**
DPC Dobruska-Polom 84.69 328⇓*i*P **P 08 20 56.4 +0.8**
DPC Dobruska-Polom 84.69 328 *e*P **P 08 20 56.3 +0.8**
UPC Upice 84.72 328⇓*e*P **P 08 20 56.5 +0.8**
UPC Upice 84.72 328 *e*P **P 08 20 56.5 +0.8**
CSS Prodhromos 84.72 308 *e*P **P 08 20 56.2 +0.2**
comp=Z,11nm,0.7s
O20A White River Ci 84.76 46 *e*P **P 08 20 57.2 +0.9**
comp=Z,9.3nm,0.8s
VYHS Vyhne 84.78 325 *e*P **P 08 20 56.7 +0.6**
VYHS pmax pmax
comp=Z,9.0nm,1.2s
VYHS Vyhne 84.78 325 *e*P **P 08 20 56.7 +0.6**
GZR Gura Zlata 84.82 321⇓*i*P **P 08 20 57.5 +1.1**
VRAC Vranov 85.29 327⇓*i*P **P 08 20 59.1 +0.5**
PVCC Panska Ves 85.35 329⇓*e*P **P 08 20 59.8 +1.0**
PVCC Panska Ves 85.35 329 *e*P **P 08 20 59.8 +1.0**

BRG Berggiesshubel 85.38 329⇓*i*P **P 08 20 59.3 +0.3**
comp=Z,10nm,0.8s
BRG Berggiesshubel 85.38 329 *e*P **P 08 20 59.3 +0.3**
comp=Z,10.0nm,0.8s
CLL Collm 85.47 330 *e*P **P 08 20 59.5 +0.1**
comp=Z,12nm,0.7s
CLL Collm 85.47 330 *i*P **P 08 20 58.6 -0.8**
comp=Z,10.0nm,0.7s
CLL *i*PcP **PcP 08 21 00.6 -1.6**
comp=Z,12nm,0.7s
CLL *e*PP **PP 08 24 18.0 -0.5**
CLL Collm 85.47 330 *e*P **P 08 20 59.1 -0.3**
CLL pmax pmax
comp=Z,12nm,0.7s
CLL Collm 85.47 330 *e*P **P 08 20 59.1 -0.3**
comp=Z,12nm,0.7s
N23A Red Feather La 85.68 44 *e*P **P 08 21 02.8 +1.8**
comp=Z,5.8nm,0.8s
GOPC GO Pecny, Ondr 85.69 328⇓*e*P **P 08 21 01.2 +0.6**
PRA Prague 85.74 328 *e*P **P 08 21 01.2 +0.4**
PRU Pruhonice 85.75 328⇓*e*P **P 08 21 01.4 +0.6**
PRU *e*PCP **PcP 08 21 03.9 +0.4**
PRU Pruhonice 85.75 328 *e*P **P 08 21 01.4 +0.6**
CLZ Clausthal 86.18 331 *e*P **P 08 21 03.4 +0.5**
comp=Z,12nm,1.1s
PKSM Moragy 86.43 324⇓*i*P **P 08 21 03.5 -0.7**
CONA Conrad Observa 86.61 326⇑*i*PcP **P 08 21 05.9 +0.7**
comp=Z,3.5nm,0.6s
MMB Musomiste 86.74 318⇓*i*P **P 08 21 05.8 -0.1**
IBBN Ibbenburen 86.86 333 *e*P **P 08 21 06.4 +0.2**
comp=Z,45nm,1.4s
ROTZ Rotzenmuhle 86.95 329 *e*P **P 08 21 07.2 +0.5**
comp=Z,11nm,1.4s
GEC2 GERESS Array S 86.95 328 *e*P **P 08 21 06.7 -0.2**
comp=Z,4.0nm,0.7s
GERES GERESS Array B 86.95 328 P **P 08 21 06.5 -0.3**
comp=Z,2.2nm,0.5s,baz=46,slow=5.8,SNR=16
GERES PP **PP 08 24 32.7 +2.0**
comp=Z,0.6nm,0.3s,baz=39,slow=8.6,SNR=4.1
GERES LR LR 09 02 26.9
comp=Z,21nm,19.4s,baz=76,slow=37
SRS Serrai 87.12 317 *e*P **P 08 21 07.5 -0.2**
DIVS Divibare 87.16 321⇓*i*P **P 08 21 07.8 -0.2**
OUR Ouranopolis 87.39 317 *e*P **P 08 21 09.0 0.0**
MOA Molln 87.42 327⇓*i*PcP **PcP 08 21 10.6 -0.4**
comp=Z,2.0nm,0.5s
GRF Grafenberg Arr 87.43 330 *e*P **P 08 21 10.8 +1.7**
comp=Z,42nm,1.8s
KNT Kendrikon 87.49 318 *e*P **P 08 21 10.0 +0.5**
PLG Polygyros 87.68 317 *e*P **P 08 21 09.5 -1.0**
PERS Pernice 87.88 326 *i*P **P 08 21 11.1 -0.2**
SOKA Soboth 87.89 326⇓*i*PcP **P 08 21 11.1 -0.3**
comp=Z,6.3nm,0.9s
EKA Eskdalemuir Ar 88.10 340 P **P 08 21 12.2 +0.1**
comp=Z,0.6nm,0.3s,baz=45,slow=4.7,SNR=9.2
RJOB Jochberg 88.18 328 *e*P **P 08 21 12.8 +0.1**
comp=Z,6.0nm,0.7s
KBA Koelnbreinsper 88.41 327⇑*i*PcP **P 08 21 14.3 +0.3**
comp=Z,5.8nm,0.6s
LIT Litokhoron 88.42 317 *e*P **P 08 21 13.0 -0.9**
KARP Karpathos 88.44 311 *e*P **P 08 21 14.0 -0.1**
VISS Visnje 88.61 325 *i*P **P 08 21 14.1 -0.6**
BOJS Bojanci 88.62 325 *e*P **P 08 21 14.2 -0.6**
MRKA Markates 88.67 316 *e*P **P 08 21 13.0 -2.1**
SMIA Simia 88.79 316 *e*P **P 08 21 14.5 -1.2**
JAVS Javornik 88.92 326 *i*P **P 08 21 15.4 -0.8**
ECSD EROS Data Cent 89.01 37 *e*P **P 08 21 17.6 +0.9**
comp=Z,50nm,2.5s
ABTA Abfaltersbach 89.04 327⇑*i*P **P 08 21 16.1 -0.7**
comp=Z,4.8nm,0.5s
ANMO Albuquerque 89.04 49 *e*P **P 08 21 14.5 -2.7**
ANMO pmax pmax
comp=Z,4.0nm,1.0s
LKR Lokris 89.06 316 *e*P **P 08 21 15.0 -1.9**
ZKR Zakros 89.31 311 *e*P **P 08 21 18.0 -0.2**
MAKR Makrakomi, Fth 89.34 317 *e*P **P 08 21 16.5 -1.8**
LTK Loutraki 89.48 315 *e*P **P 08 21 17.0 -2.0**
DSF Desfina 89.50 316 *e*P **P 08 21 16.5 -2.6**
NPS Neapolis 89.61 312 *e*P **P 08 21 19.0 -0.6**
FETA Feichten 89.65 328⇑*i*PcP **P 08 21 19.6 -0.2**
comp=Z,6.0nm,0.8s
DID Didima 89.66 315 *e*P **P 08 21 17.0 -2.8**
BFO Black Forest 89.71 330 *e*P **P 08 21 19.6 -0.2**
comp=Z,11nm,1.0s
BFO Black Forest 89.71 330*ce*P **P 08 21 20.2 +0.4**
LAST Lasithi 89.75 312 *e*P **P 08 21 20.0 -0.4**
DAVA Damuels 89.83 329⇓*i*PcP **P 08 21 20.7 +0.1**
comp=Z,9.9nm,0.6s
DSL Palaion Diasel 89.86 317 *e*P **P 08 21 19.5 -1.2**
GUR Goura 89.92 316 *e*P **P 08 21 19.5 -1.6**
KLV Kalavryta, Ach 89.96 316 *e*P **P 08 21 19.5 -1.7**
BAIF Baives 90.01 333 *e*P **P 08 21 20.9 -0.2**
BAIF Baives 90.01 333 *e*P **P 08 21 20.9 -0.2**
BAIF Baives 90.01 333 *e*P **P 08 21 20.9 -0.2**
CDF Champ du Feu 90.09 331 *e*P **P 08 21 21.5 -0.2**
comp=Z,15nm,0.8s
CDF Champ du Feu 90.09 331 *e*P **P 08 21 21.5 -0.2**
CDF pmax pmax
comp=Z,15nm,0.8s
CDF Champ du Feu 90.09 331 *e*P **P 08 21 21.5 -0.2**
comp=Z,15nm,0.8s
PDO Prodromos 90.17 317 *e*P **P 08 21 23.5 +1.4**
KEK Kerkira 90.22 318 *e*P **P 08 21 23.5 +1.2**
SIVA Sivas 90.27 312 *e*P **P 08 21 22.0 -0.6**
VLI Veliai 90.35 314 *e*P **P 08 21 21.0 -2.0**
RLS Riolos of Patr 90.36 316 *e*P P 08 21 19.5 -3.5
VAM Vamos 90.41 313 *e*P **P 08 21 22.0 -1.3**
PAGF Fort de Pagny 90.61 332 *e*P **P 08 21 24.1 +0.1**
PAGF Fort de Pagny 90.61 332 *e*P **P 08 21 24.1 +0.1**
ITM Ithomi 90.66 315 *e*P **P 08 21 25.5 +1.0**
TUE Stuetta 90.69 328 *e*P **P 08 21 24.6 -0.1**
comp=Z,8.8nm,1.1s
HINF Hinteralfeld 90.73 331 *e*P **P 08 21 24.6 0.0**
HINF Hinteralfeld 90.73 331 *e*P **P 08 21 24.6 0.0**
HINF Hinteralfeld 90.73 331 *e*P **P 08 21 24.6 0.0**
HAU Haudompre 90.79 331 *e*P **P 08 21 24.3 -0.6**
HAU Haudompre 90.79 331 *e*P **P 08 21 24.3 -0.6**
HAU Haudompre 90.79 331 *e*P **P 08 21 24.3 -0.6**
PYL PYLOS 90.96 315 *e*P **P 08 21 24.0 -1.8**
SFTF Sexfontaines 91.17 332 *e*P **P 08 21 26.5 -0.1**
comp=Z,24nm,0.8s
SFTF Sexfontaines 91.17 332 *e*P **P 08 21 26.5 -0.1**
comp=Z,24nm,0.8s
CABF La Chapelle 92.00 330 *e*P **P 08 21 30.2 -0.4**
comp=Z,7.1nm,0.5s
CABF La Chapelle 92.00 330 *e*P **P 08 21 30.2 -0.4**
CABF pmax pmax
comp=Z,7.0nm,0.5s
CABF La Chapelle 92.00 330 *e*P **P 08 21 30.2 -0.4**
comp=Z,7.1nm,0.5s
LOR Lormes 92.40 332 *e*P **P 08 21 32.0 -0.3**
comp=Z,22nm,0.9s
LOR Lormes 92.40 332 *e*P **P 08 21 32.0 -0.3**
LOR pmax pmax
comp=Z,22nm,0.9s
LOR Lormes 92.40 332 *e*P **P 08 21 32.0 -0.3**
comp=Z,22nm,0.9s
LPL La Plagne 92.58 329 *e*P **P 08 21 33.2 -0.3**
comp=Z,17nm,0.7s
LPL La Plagne 92.58 329 *e*P **P 08 21 33.2 -0.3**
LPL pmax pmax
comp=Z,17nm,0.7s
LPL La Plagne 92.58 329 *e*P **P 08 21 33.2 -0.3**
comp=Z,17nm,0.7s
LPG La Plagne 92.59 329 *e*P **P 08 21 33.3 -0.3**
comp=Z,18nm,0.6s
LPG La Plagne 92.59 329 *e*P **P 08 21 33.3 -0.3**
LPG pmax pmax
comp=Z,18nm,0.6s
LPG La Plagne 92.59 329 *e*P **P 08 21 33.3 -0.3**
comp=Z,18nm,0.6s
SSF Saint Saulge 92.70 332 *e*P **P 08 21 33.6 -0.1**
comp=Z,22nm,0.8s
SSF Saint Saulge 92.70 332 *e*P **P 08 21 33.6 -0.1**
SSF pmax pmax
comp=Z,23nm,0.8s
SSF Saint Saulge 92.70 332 *e*P **P 08 21 33.6 -0.1**
comp=Z,22nm,0.8s
FLN La Foliniere 92.82 335 *e*P **P 08 21 33.9 -0.3**
comp=Z,15nm,0.7s
FLN La Foliniere 92.82 335 *e*P **P 08 21 33.9 -0.3**
FLN pmax pmax
comp=Z,15nm,0.7s
FLN La Foliniere 92.82 335 *e*P **P 08 21 33.9 -0.3**
comp=Z,15nm,0.7s

LDF	**La Druitiere**	**92.83**	**335**	*eP*	**P**	**08 21 34.0**	**-0.2**
	comp=Z,23nm,0.7s							
LDF	**La Druitiere**	**92.83**	**335**	*eP*	**P**	**08 21 34.0**	**-0.2**
LDF				pmax	pmax			
	comp=Z,23nm,0.7s							
LDF	**La Druitiere**	**92.83**	**335**	*eP*	**P**	**08 21 34.0**	**-0.2**
	comp=Z,23nm,0.7s							
HYF	**Humbligny**	**92.88**	**333**	*eP*	**P**	**08 21 34.8**	**+0.3**
HYF	**Humbligny**	**92.88**	**333**	*eP*	**P**	**08 21 34.8**	**+0.3**
SMF	**Signal de Mont**	**92.91**	**332**	*eP*	**P**	**08 21 34.4**	**-0.3**
	comp=Z,20nm,0.7s							
SMF	**Signal de Mont**	**92.91**	**332**	*eP*	**P**	**08 21 34.4**	**-0.3**
SMF				pmax	pmax			
	comp=Z,20nm,0.7s							
SMF	**Signal de Mont**	**92.91**	**332**	*eP*	**P**	**08 21 34.4**	**-0.3**
	comp=Z,20nm,0.7s							
AVF	**Avril sur Loir**	**92.99**	**332**	*eP*	**P**	**08 21 34.9**	**-0.1**
	comp=Z,46nm,0.8s							
AVF	**Avril sur Loir**	**92.99**	**332**	*eP*	**P**	**08 21 34.9**	**-0.1**
AVF				pmax	pmax			
	comp=Z,46nm,0.8s							
AVF	**Avril sur Loir**	**92.99**	**332**	*eP*	**P**	**08 21 34.9**	**-0.1**
	comp=Z,46nm,0.8s							
MBDF	**Montbardon**	**93.18**	**329**	*eP*	**P**	**08 21 35.2**	**-1.0**
	comp=Z,9.5nm,0.8s							
MBDF	**Montbardon**	**93.18**	**329**	*eP*	**P**	**08 21 35.2**	**-1.0**
MBDF				pmax	pmax			
	comp=Z,10.0nm,0.8s							
MBDF	**Montbardon**	**93.18**	**329**	*eP*	**P**	**08 21 35.2**	**-1.0**
	comp=Z,9.5nm,0.8s							
GRR	**Gorron**	**93.27**	**335**	*eP*	**P**	**08 21 36.3**	**+0.1**
	comp=Z,38nm,0.7s							
GRR	**Gorron**	**93.27**	**335**	*eP*	**P**	**08 21 36.3**	**+0.1**
GRR				pmax	pmax			
	comp=Z,38nm,0.7s							
GRR	**Gorron**	**93.27**	**335**	*eP*	**P**	**08 21 36.3**	**+0.1**
	comp=Z,38nm,0.7s							
ORIF	**Oris-en-Rattie**	**93.42**	**329**	*eP*	**P**	**08 21 36.7**	**-0.5**
ORIF	**Oris-en-Rattie**	**93.42**	**329**	*eP*	**P**	**08 21 36.7**	**-0.5**
ORIF	**Oris-en-Rattie**	**93.42**	**329**	*eP*	**P**	**08 21 36.7**	**-0.5**
TCF	**Toulx Ste Croi**	**93.85**	**332**	*eP*	**P**	**08 21 39.0**	**0.0**
	comp=Z,19nm,0.7s							
TCF	**Toulx Ste Croi**	**93.85**	**332**	*eP*	**P**	**08 21 39.0**	**0.0**
TCF				pmax	pmax			
	comp=Z,19nm,0.7s							
TCF	**Toulx Ste Croi**	**93.85**	**332**	*eP*	**P**	**08 21 39.0**	**0.0**
	comp=Z,19nm,0.7s							
SGMF	**Saint Gilles**	**93.98**	**336**	*eP*	**P**	**08 21 39.7**	**+0.2**
	comp=Z,24nm,1.0s							
SGMF	**Saint Gilles**	**93.98**	**336**	*eP*	**P**	**08 21 39.7**	**+0.2**
SGMF				pmax	pmax			
	comp=Z,24nm,1.0s							
SGMF	**Saint Gilles**	**93.98**	**336**	*eP*	**P**	**08 21 39.7**	**+0.2**
	comp=Z,24nm,1.0s							
VIVF	**Saint-Julien-l**	**94.00**	**330**	*eP*	**P**	**08 21 39.3**	**-0.4**
	comp=Z,25nm,0.9s							
VIVF	**Saint-Julien-l**	**94.00**	**330**	*eP*	**P**	**08 21 39.3**	**-0.4**
VIVF				pmax	pmax			
	comp=Z,25nm,0.9s							
VIVF	**Saint-Julien-l**	**94.00**	**330**	*eP*	**P**	**08 21 39.3**	**-0.4**
	comp=Z,25nm,0.9s							
ROSF	**Rostrenen**	**94.16**	**337**	*eP*	**P**	**08 21 40.6**	**+0.3**
ROSF	**Rostrenen**	**94.16**	**337**	*eP*	**P**	**08 21 40.6**	**+0.3**
ROSF	**Rostrenen**	**94.16**	**337**	*eP*	**P**	**08 21 40.6**	**+0.3**
SMRF	**Simiane la Rot**	**94.30**	**329**	*eP*	**P**	**08 21 40.9**	**-0.3**
SMRF	**Simiane la Rot**	**94.30**	**329**	*eP*	**P**	**08 21 40.9**	**-0.3**
LMR	**La Mourre**	**94.39**	**328**	*eP*	**P**	**08 21 40.6**	**-0.9**
LMR	**La Mourre**	**94.39**	**328**	*eP*	**P**	**08 21 40.6**	**-0.9**
LMR	**La Mourre**	**94.39**	**328**	*eP*	**P**	**08 21 40.6**	**-0.9**
TXAR	**Lajitas Array**	**94.40**	**52**	P	**P**	**08 21 43.1**	**+1.1**
	comp=Z,7.0nm,0.7s,baz=299,slow=3.2,SNR=137							
MFF	**Saint Martin d**	**94.51**	**334**	*eP*	**P**	**08 21 42.3**	**+0.3**
	comp=Z,39nm,1.1s							
MFF	**Saint Martin d**	**94.51**	**334**	*eP*	**P**	**08 21 42.3**	**+0.3**
MFF				pmax	pmax			
	comp=Z,39nm,1.1s							
MFF	**Saint Martin d**	**94.51**	**334**	*eP*	**P**	**08 21 42.3**	**+0.3**
	comp=Z,39nm,1.1s							
RJF	**Les Rejaudoux**	**94.94**	**332**	*eP*	**P**	**08 21 44.2**	**+0.2**
	comp=Z,20nm,0.9s							
RJF	**Les Rejaudoux**	**94.94**	**332**	*eP*	**P**	**08 21 44.2**	**+0.2**
RJF				pmax	pmax			
	comp=Z,20nm,0.9s							
RJF	**Les Rejaudoux**	**94.94**	**332**	*eP*	**P**	**08 21 44.2**	**+0.2**
	comp=Z,20nm,0.9s							
CAF	**Calviac**	**95.03**	**332**	*eP*	**P**	**08 21 44.9**	**+0.4**
CAF	**Calviac**	**95.03**	**332**	*eP*	**P**	**08 21 44.9**	**+0.4**
CAF	**Calviac**	**95.03**	**332**	*eP*	**P**	**08 21 44.9**	**+0.4**
LFF	**La Frestale**	**95.55**	**332**	*eP*	**P**	**08 21 47.4**	**+0.6**
	comp=Z,13nm,0.6s							
LFF	**La Frestale**	**95.55**	**332**	*eP*	**P**	**08 21 47.4**	**+0.6**
LFF				pmax	pmax			
	comp=Z,13nm,0.6s							
LFF	**La Frestale**	**95.55**	**332**	*eP*	**P**	**08 21 47.4**	**+0.6**
	comp=Z,13nm,0.6s							
TORD	**Torodi Ar. Bea**	**120.44**	**311**	PKP	**PKPdf**	**08 27 12.9**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=39,slow=1.5,SNR=37							
DBIC	**Dimbokro**	**129.52**	**312**	PKP	**PKPdf**	**08 27 31.1**	**+0.5**
	comp=Z,2.1nm,0.5s,baz=69,slow=1.5,SNR=6.0							
TIC	**Toumodi**	**129.65**	**313**	*e*PKP2	SKPab	08 30 41.6	-0.4
	comp=Z,6.0nm,0.2s							
KIC	**Kosan Boka**	**129.69**	**312**	*e*PKP2	SKPab	08 30 42.0	-0.1
	comp=Z,35nm,1.0s							
LIC	**Lamto**	**129.97**	**312**	*e*PKP2	SKPab	08 30 43.0	-0.3
	comp=Z,42nm,1.1s							
SAML	**Samuel**	**148.86**	**49**	*e*PKPdf	**PKPdf**	**08 28 05.2**	**-0.2**
SAML				*e*PKPbc	**PKPbc**	**08 28 10.0**	**+0.5**
SAML				*e*PKPab	**PKPab**	**08 28 14.1**	**+0.4**

HEL 06 08:28:01.3±0.2, 59.32N×27.12E, h0km, ML1.7, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VSU	**Vasula**	**0.88**	**193**	*eP*		Pg	08 28 17.7	-0.5
VSU				*eS*		Sg	08 28 28.2	-1.3
VJF	**Virojoki**	**1.25**	**10**	*eP*		Pg	08 28 24.2	-1.0
VJF				*eSB*		Sg	08 28 41.3	0.0
PVF	**Pernaja**	**1.39**	**333**	*ePG*		Pg	08 28 27.3	-0.5
PVF				*eS*		Sg	08 28 44.9	-0.9
PVF				MSG			08 28 44.9	
	comp=Z,2.6nm,0.2s							
SRPE	**Suurupi**	**1.41**	**277**	*ePG*		Pn	08 28 27.5	-0.6
SRPE				*eS*		Sg	08 28 45.5	-1.0
MEF	**Metsahovi**	**1.65**	**304**	*ePG*		Pn	08 28 31.6	+0.2
MEF				*eSG*		Sn	08 28 52.9	-0.4
MEF				MSG			08 28 52.9	
	comp=Z,4.7nm,0.2s							
MTSE	**Matsula**	**1.81**	**252**	*eP*		Pn	08 28 33.9	+0.2
MTSE				*eS*		Sn	08 28 56.8	-0.6
FIA0	**FINESS Array S**	**2.20**	**347**	*eP*		Pn	08 28 39.6	+0.6
FIA0				*ePB*		Pb	08 28 40.5	-1.4
FIA0				*eS*		Sn	08 29 08.0	+1.1
FIA0				*eSG*		Sb	08 29 09.9	+0.3
FIA0				MSG			08 29 10.7	
	comp=Z,4.1nm,0.2s							
KAF	**Kangasniemi**	**2.83**	**352**	*eP*		Pn	08 28 49.0	+1.2
KAF				*eS*		Sn	08 29 23.3	+0.7
KAF				*eSG*		Sb	08 29 29.0	+1.0
KAF				MSG			08 29 29.9	
	comp=Z,2.0nm,0.2s							
SLIT	**Slitere, Latvi**	**3.05**	**238**	*eSB*		Sb	08 29 33.0	-1.0
KEF	**Keuruu**	**3.07**	**340**	*eP*		Pn	08 28 52.8	+1.8
KEF				*eSG*		Sb	08 29 36.4	+1.7
KEF				MSG			08 29 36.4	
	comp=Z,1.2nm,0.2s							
RAF	**Rauma**	**3.18**	**305**	*eP*		Pn	08 28 54.1	+1.7
SUF	**Sumiainen**	**3.45**	**353**	*eP*		Pn	08 28 57.2	+1.1
JOF	**Joensuu**	**4.15**	**28**	*eP*		Pn	08 29 06.7	+0.9
VAF	**Ylistaro**	**4.31**	**332**	*eSG*		Sg	08 30 15.6	-4.2
VAF				MSG			08 30 16.4	
	comp=Z,1.5nm,0.2s							

*ISCJB **06** 08:37:29.8±0.6,5.19S±0.05×129.60E±0.07,h200km, mb3.3/1,Error ellipse: s-maj=9.5km s-min=6.6km az=157.1*
*IDC **06** 08:37:34.5±4.7,5.18S×129.25E,h283km±52km,mb3.1/1, mb1 3.3/3,mb1mx3.0/24,mbtmp3.9/3,Error ellipse: s-maj=119.8km s-min=14.6km az=71.0*
*DJA **06** 08:37:34.8±1.0,5.7S±7.7×13.0E±.4,h214km±7km,M3.5/7, MLv3.5/7*

ISC 06 08:37:29.2±1.0,5.19S±0.07×129.63E±0.07,h200km,n10, o2810/14,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BNDI	**Bandanaira**	**0.72**	**23**	P		Pn	08 38 03.0	+5.7
BNDI				S		Sn	08 38 27.1	+7.9
MSAI	**Masohi**	**1.96**	**339**	P		**Pn**	**08 38 07.3**	**-0.1**
MSAI				S		**Sn**	**08 38 37.5**	**+0.4**
AAI	**Ambon**	**2.07**	**316**	P		**Pn**	**08 38 10.7**	**+2.2**
NLAI	**Namlea**	**3.18**	**307**	P		**Pn**	**08 38 23.8**	**+2.8**
NLAI				S		**Sn**	**08 39 02.3**	**+0.8**
FAKI	**Fak Fak**	**3.45**	**49**	P		**Pn**	**08 38 27.3**	**+3.0**
FAKI				S		**Sn**	**08 39 08.9**	**+1.4**
SWI	**Sorong**	**4.60**	**21**	P		**Pn**	**08 38 38.8**	**+0.2**
SWI				S		**Sn**	**08 39 29.1**	**-4.1**
SANI	**Sanana**	**4.79**	**311**	P		**Pn**	**08 38 40.0**	**-1.0**
WRA	**Warramunga Arr**	**15.36**	**163**	P		P	08 40 56.7	+0.5
	0.7nm,0.3s,baz=346,slow=12,SNR=48							
WRA				S		**S**	**08 43 45.9**	**-0.7**
	0.4nm,0.3s,baz=333,slow=22,SNR=6.1							
ASAR	**Alice Springs**	**18.83**	**168**	P		**Pn**	**08 41 35.6**	**-1.4**
	0.7nm,0.3s,baz=350,slow=12,SNR=49							
ASAR				S		**S**	**08 44 55.7**	**-1.9**
	0.2nm,0.3s,baz=349,slow=25,SNR=11							
MKAR	**Makanchi Array**	**66.52**	**327**	P		P	08 47 52.9	-4.7
	0.3nm,0.4s,baz=117,slow=9.3,SNR=5.4							

*BJI **06** 08:40:21.1,26.04S×176.89W,h77km,mb5.1/21, mB5.3/15,Ms5.2/6,Ms7 4.8/6*
*MOS **06** 08:40:27.4±2.0,25.55S×177.76W,h102km,mb4.9/15, Error ellipse: s-maj=13.7km s-min=9.7km az=61.0*
*ISCJB **06** 08:40:33.5±0.2,26.54S±0.03×177.58W±0.06,h179km, mb4.5/41,Error ellipse: s-maj=8.6km s-min=2.7km az=20.7*
*NEIC **06** 08:40:34.8±1.2,26.09S×177.67W,h170km±12km, mb4.6/27,Error ellipse: s-maj=15.6km s-min=6.0km az=161.0*
*IDC **06** 08:40:35.0±0.9,26.15S×177.47W,h176km±8km,mb4.2/14, mb1 4.4/16,mb1mx4.3/19,mbtmp4.7/16,Error ellipse: s-maj=14.2km s-min=12.9km az=114.0*

ISC 06 08:40:35.2±0.5,26.20S±0.08×177.52W±0.09, h176km±4km,h176km;pP-P,n250,o096/255,mb4.6/41, 25C-25D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**3.06**	**187**	P		**Pn**	**08 41 23.5**	**-0.8**
	523nm,0.3s,baz=97,slow=4.2,SNR=35							
RAO				S		**Sn**	**08 42 03.7**	**+0.8**
	707nm,0.3s,baz=122,slow=19,SNR=10.0							
RAO	**Raoul Island**	**3.06**	**187**	*eP*		**Pn**	**08 41 23.8**	**-0.6**
RAO				*e*			08 42 04.6	
RAO	**Raoul Island**	**3.06**	**187**	*e*Pn		**Pn**	**08 41 23.8**	**-0.6**
RAO				*e*Sn		**Sn**	**08 42 04.6**	**+1.7**
MXZ	**Matakaoa Point**	**11.87**	**196**	*e*PN		Pn	08 43 11.2	-7.8
MXZ				*e*SN		Sn	08 45 19.5	-11
WMGZ	**Waiomatatini S**	**12.09**	**196**	*e*PN		Pn	08 45 25.3	-11
HAZ	**Te Kaha**	**12.19**	**198**	PN		Pn	08 43 14.5	-8.5
HAZ				SN		Sn	08 45 26.4	-12
PUZ	**Puketiti**	**12.37**	**196**	SN		Sn	08 45 27.4	-15
TWGZ	**Tauwhareparae**	**12.53**	**197**	SN		Sn	08 45 35.8	-11
MWZ	**Matawai**	**12.80**	**198**	SN		Sn	08 45 42.3	-11
TKGZ	**Te Karaka**	**12.81**	**197**	SN		Sn	08 45 42.3	-11
URZ	**Urewera**	**12.85**	**199**	P		Pn	08 43 25.7	-5.8
	0.5nm,0.3s,baz=257,slow=3.2,SNR=12							
URZ				S		Sn	08 45 42.1	-12
	2.7nm,0.3s,baz=117,slow=23,SNR=16							
URZ	**Urewera**	**12.85**	**199**	*e*PN		Pn	08 43 22.6	-8.9
URZ				SN		Sn	08 45 41.3	-13
RIGZ	**Rimuhau**	**13.09**	**197**	SN		Sn	08 45 48.3	-12
SNGZ	**Shannon Statio**	**13.27**	**198**	*e*PN		Pn	08 43 28.6	-8.3
SNGZ				SN		Sn	08 45 51.8	-13
AFI	**Afiamalu**	**13.36**	**25**	*eP*		Pn	08 43 27.6	-11
AFI				*e*			08 45 42.1	
AFI	**Afiamalu**	**13.36**	**25**	*e*Pn		Pn	08 43 27.6	-11
AFI				*e*Sn		Sn	08 45 42.1	-25
KNZ	**Kokohu**	**13.41**	**196**	SN		Sn	08 45 53.5	-14
ARHZ	**Aropaoanui**	**13.82**	**198**	SN		Sn	08 46 06.1	-11
PXZ	**Pawanui**	**14.57**	**197**	SN		Sn	08 46 19.5	-16
DZM	**Mont Dzumac**	**15.21**	**282**	P		**P**	**08 44 02.1**	**0.0**
	1.1nm,0.3s,baz=273,slow=23,SNR=11							
BFZ	**Birch Farm**	**15.35**	**198**	SN		Sn	08 46 36.3	-18
MRZ	**Mangatainoka R**	**15.52**	**200**	*e*PN		**Pn**	**08 44 00.9**	**-3.8**
MRZ				SN		Sn	08 46 39.5	-19
THZ	**Tophouse**	**17.42**	**205**	SN		S	08 47 25.3	-13
CTZ	**Chatham Island**	**17.51**	**178**	SN		S	08 47 32.0	-8.0
MQZ	**McQueen's Vall**	**19.21**	**202**	SN		S	08 48 01.9	-12
TBI	**Tubuai**	**25.61**	**90**	*eT*		T	08 46 32.8	
	34nm,0.3s							
CTA	**Charters Tower**	**33.79**	**273**	P		**P**	**08 47 01.6**	**+1.0**
	18nm,0.6s,baz=100,slow=12,SNR=22							
CTAO	**Charters Tower**	**33.79**	**273**	*eP*		**P**	**08 46 59.6**	**-1.0**
CTAO				pmax		pmax		
	comp=Z,16nm,0.5s							
CTAO	**Charters Tower**	**33.79**	**273**	*eP*		**P**	**08 46 59.6**	**-1.0**
	comp=Z,16nm,0.5s							
STKA	**Stephens Creek**	**36.04**	**251**	P		**P**	**08 47 20.6**	**+0.9**
	comp=Z,1.2nm,0.5s,baz=97,slow=13,SNR=8.9							
AS31	**Alice Springs**	**43.92**	**262**	*eP*		**P**	**08 48 24.2**	**-0.5**
AS31				*ep*P		**pP**	**08 49 04.7**	**+1.5**
ASAR	**Alice Springs**	**43.92**	**262**	P		**P**	**08 48 24.4**	**-0.4**
	comp=Z,4.6nm,0.5s,baz=92,slow=7.1,SNR=46							
ASAR				pP		**pP**	**08 49 03.8**	**+0.5**
	comp=Z,4.2nm,0.9s,baz=105,slow=8.7,SNR=4.6							
ASAR				PcP		**PcP**	**08 50 07.5**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=104,slow=5.8,SNR=4.8							
WRAB	**Tennant Creek**	**44.52**	**268**	*eP*		**P**	**08 48 28.7**	**-0.9**
WRAB				*e**PP		**pP**	**08 49 09.1**	**+1.0**
WRAB				pmax		pmax		
	comp=Z,7.0nm,0.6s							
WRAB	**Tennant Creek**	**44.52**	**268**	*eP*		**P**	**08 48 28.7**	**-0.9**
	comp=Z,7.2nm,0.6s							
WRAB				*ep*P		**pP**	**08 49 09.1**	**+1.0**
WRA	**Warramunga Arr**	**44.53**	**268**	P		**P**	**08 48 28.7**	**-0.9**
	comp=Z,12nm,0.6s,baz=103,slow=8.0,SNR=87							
WRA				pP		**pP**	**08 49 10.2**	**+2.0**
	comp=Z,4.2nm,0.8s,baz=104,slow=8.3,SNR=3.8							
WRA				PcP		**PcP**	**08 50 09.9**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=116,slow=3.4,SNR=4.7							
MJAR	**Matsushiro Arr**	**75.06**	**324**	P		**P**	**08 51 56.3**	**-1.3**
	comp=Z,2.7nm,0.8s,baz=157,slow=6.4,SNR=6.1							
MAW	**Mawson**	**76.38**	**200**	P		**P**	**08 52 06.1**	**+1.5**
	comp=Z,1.7nm,0.7s,baz=270,slow=8.1,SNR=6.1							
MAW				pP		**pP**	**08 52 46.8**	**-0.5**
	comp=Z,1.9nm,0.6s,baz=127,slow=4.0,SNR=2.7							
SSLB	**Suanglung**	**77.51**	**304**	*eP*		**P**	**08 52 10.7**	**-0.9**
	comp=Z,13nm,0.9s							
YSS	**Yuzh-Sakhalins**	**81.17**	**334**	*eP*		**P**	**08 52 31.1**	**+0.3**
YSS				pmax		pmax		
	comp=Z,30nm,0.8s							
SYO	**Syowa Base**	**81.29**	**193**	*e*PcP		PcP	08 52 42.8	+5.9
KSRS	**Korea Array**	**81.45**	**319**	P		**P**	**08 52 31.7**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=138,slow=5.7,SNR=5.5							
KSAR	**Wonju Array Be**	**81.46**	**319**	P		**P**	**08 52 31.7**	**-0.9**
KSAR	**Wonju Array Be**	**81.46**	**319**	P		**P**	**08 52 31.7**	**-0.9**
PETK	**Petropavlovsk-**	**81.87**	**345**	P		**P**	**08 52 33.7**	**-0.6**
	comp=Z,11nm,0.9s,baz=111,slow=9.3,SNR=19							
SNAA	**Sanae**	**82.33**	**178**	P		pP	08 53 18.5	-1.6
SNAA	**Sanae**	**82.33**	**178**	*eP*		P	08 52 44.8	+8.0
SNAA				pmax		pmax		
	comp=Z,6.0nm,1.2s							
VNA3	**Neumayer Olymp**	**82.45**	**176**	P		pP	08 53 18.7	-2.0
VNA2	**Neumayer--Watz**	**82.89**	**177**	P		pP	08 53 21.0	-2.0
	baz=200,slow=3.0							
ISA	**Isabella, Lake**	**83.02**	**45**	*eP*		**P**	**08 52 42.1**	**+1.2**
ISA	**Isabella, Lake**	**83.02**	**45**	*eP*		**P**	**08 52 42.1**	**+1.2**
CMB	**Columbia Colle**	**83.36**	**42**	*eP*		**P**	**08 52 42.9**	**+0.4**
CMB				pmax		pmax		
	comp=Z,11nm,0.9s							
CMB	**Columbia Colle**	**83.36**	**42**	*eP*		**P**	**08 52 42.9**	**+0.4**
	comp=Z,11nm,0.9s							
WDC	**Whiskeytown Da**	**83.79**	**39**	*eP*		**P**	**08 52 45.3**	**+0.7**
WDC	**Whiskeytown Da**	**83.79**	**39**	*eP*		**P**	**08 52 45.3**	**+0.7**
NJ2	**Nanjing**	**83.86**	**310**	*eP*		**P**	**08 52 44.3**	**-0.8**
NJ2				PMZ				
	comp=Z,20nm,1.0s							
GSC	**Goldstone, Bar**	**83.86**	**46**	*eP*		**P**	**08 52 46.3**	**+1.1**
GSC				pmax		pmax		
	comp=Z,12nm,1.1s							
GSC	**Goldstone, Bar**	**83.86**	**46**	*eP*		**P**	**08 52 46.3**	**+1.1**
	comp=Z,12nm,1.1s							
USRK	**Ussuriysk Ar.**	**83.92**	**326**	P		**P**	**08 52 44.9**	**-0.2**
	comp=Z,5.1nm,0.8s,baz=122,slow=5.0,SNR=8.6							
YBH	**Yreka Blue Hor**	**84.47**	**38**	*eP*		**P**	**08 52 49.0**	**+0.9**
YBH				pmax		pmax		
	comp=Z,9.0nm,0.8s							
YBH	**Yreka Blue Hor**	**84.47**	**38**	*eP*		**P**	**08 52 49.0**	**+0.9**
	comp=Z,8.9nm,0.8s							
NVAR	**Mina Array Bea**	**84.87**	**43**	P		**P**	**08 52 50.8**	**+0.4**
	comp=Z,9.6nm,0.7s,baz=222,slow=8.6,SNR=60							
HUMO	**Hull Mountain**	**84.93**	**37**	*eP*		**P**	**08 52 51.3**	**+1.0**
TPNV	**Topopah Spring**	**85.23**	**45**	*eP*		**P**	**08 52 53.2**	**+1.1**
TPNV				pmax		pmax		
	comp=Z,11nm,1.1s							
TPNV	**Topopah Spring**	**85.23**	**45**	*eP*		**P**	**08 52 53.2**	**+1.1**
	comp=Z,11nm,1.1s							
TPH	**Tonopah**	**85.31**	**43**	*eP*		**P**	**08 52 53.3**	**+0.8**
TPH				pmax		pmax		
	comp=Z,13nm,0.8s							
TPH	**Tonopah**	**85.31**	**43**	*eP*		**P**	**08 52 53.3**	**+0.8**
	comp=Z,12nm,0.8s							
MDJ	**Mudanjiang**	**85.42**	**325**	P		**P**	**08 52 53.2**	**+0.6**
MDJ				PMZ				
	comp=Z,14nm,1.0s							
MDJ				PMZ				
	comp=Z,240nm,3.6s							
SHPR	**Sheep Range**	**85.66**	**46**	*eP*		**P**	**08 52 55.5**	**+1.3**
K05A	**Summer Lake**	**86.14**	**38**	*eP*		**P**	**08 52 57.5**	**+1.0**
TUC	**Tucson**	**86.16**	**51**	*eP*		**P**	**08 52 57.4**	**+0.7**
TUC	**Tucson**	**86.16**	**51**	*eP*		**P**	**08 52 57.4**	**+0.7**
BMN	**Battle Mountai**	**86.78**	**42**	*eP*		**P**	**08 52 58.9**	**-0.8**
BMN	**Battle Mountai**	**86.78**	**42**	*eP*		**P**	**08 52 58.9**	**-0.8**
WVOR	**Wild Horse Val**	**87.22**	**39**	*eP*		**P**	**08 53 00.6**	**-1.0**
WVOR				pmax		pmax		
	comp=Z,3.0nm,0.8s							
WVOR	**Wild Horse Val**	**87.22**	**39**	*eP*		**P**	**08 53 00.6**	**-1.0**
	comp=Z,3.0nm,0.8s							
KLR	**Kul'dur**	**87.64**	**329**	*eP*		P	08 52 59.6	-3.7
I07A	**Izee**	**87.79**	**38**	*eP*		**P**	**08 53 05.1**	**+0.8**
TDL	**Tradedollar La**	**87.85**	**35**	P		**P**	**08 53 05.6**	**+1.1**
ELK	**Elko**	**88.17**	**42**	*eP*		**P**	**08 53 06.8**	**+0.5**
ELK				pmax		pmax		
	comp=Z,64nm,2.8s							
ELK	**Elko**	**88.17**	**42**	*eP*		**P**	**08 53 06.8**	**+0.5**
	comp=Z,64nm,2.8s							
LON	**Longmire**	**88.33**	**35**	*eP*		**P**	**08 53 07.1**	**+0.4**
LON	**Longmire**	**88.33**	**35**	*eP*		**P**	**08 53 07.1**	**+0.4**
D05A	**Enumclaw**	**88.53**	**34**	*eP*		**P**	**08 53 08.8**	**+1.3**
NAC	**Naches**	**88.82**	**35**	P		**P**	**08 53 09.8**	**+0.8**
G08A	**Pilot Rock**	**88.87**	**37**	*eP*		**P**	**08 53 09.9**	**+0.6**
RSW	**Rattlesnake Hi**	**89.24**	**36**	P		**P**	**08 53 11.9**	**+0.9**
LTY	**Liberty**	**89.25**	**35**	*eP*		**P**	**08 53 11.2**	**+0.2**
SNIWA	**Snively Ranch**	**89.25**	**36**	P		**P**	**08 53 12.0**	**+1.0**
HAWA	**Hanford**	**89.27**	**36**	*eP*		**P**	**08 53 11.8**	**+0.7**
	comp=Z,16nm,1.1s							
GBB	**Gable Butte**	**89.36**	**36**	P		**P**	**08 53 12.3**	**+0.9**
MFID	**Camas Ranch**	**89.44**	**40**	*eP*		**P**	**08 53 12.4**	**+0.3**
	comp=Z,6.5nm,1.0s							
BMO	**Blue Mountains**	**89.50**	**38**	*eP*		**P**	**08 53 12.6**	**+0.3**
	comp=Z,4.4nm,0.9s							
MBW	**Mount Baker**	**89.64**	**33**	P		**P**	**08 53 13.5**	**+0.6**
B06A	**Marblemount**	**89.67**	**33**	*eP*		**P**	**08 53 13.4**	**+0.6**
	comp=Z,15nm,1.1s							
MNTX	**Cornudas Mount**	**89.70**	**54**	*eP*		**P**	**08 53 14.1**	**+0.6**
	comp=Z,4.6nm,0.9s							
TXAR	**Lajitas Array**	**89.76**	**57**	P		**P**	**08 53 14.2**	**+0.3**
	comp=Z,1.8nm,0.9s,baz=212,slow=6.8,SNR=19							
GYA	**Guiyang**	**89.84**	**300**	*eP*		**P**	**08 53 15.6**	**+1.2**
GYA				PMZ				
	comp=Z,10.0nm,1.0s							
LAZ	**Ladron**	**89.86**	**51**	*eP*		**P**	**08 53 15.9**	**+1.5**
	comp=Z,3.1nm,1.3s							

LZH				*e*PP	**PP**	**08 57 42.3**	**+0.2**	
LZH				PMZ				
	comp=Z,18nm,1.5s							
LZH				PMZ				
	comp=Z,81nm,9.0s							
LZH				LN				
	comp=Z,200nm,17.6s							
LZH				LE				
	comp=Z,220nm,18.0s							
LZH				LZ				
	comp=Z,230nm,19.8s							
YKA	**Yellowknife Ar**	**101.48**	**25**	P	**Pdif**	**08 54 05.3**	**-0.9**	
	comp=Z,0.3nm,0.7s,baz=236,slow=4.6,SNR=6.6							
ZALV	**Zalesovo Beam**	**115.15**	**320**	PKP	**PKPdf**	**08 58 53.6**	**-1.4**	
	comp=Z,1.5nm,0.6s,baz=119,slow=1.1,SNR=8.5							
MKAR	**Makanchi Array**	**115.36**	**312**	PKP	**PKPdf**	**08 58 54.4**	**-1.3**	
	comp=Z,1.2nm,0.8s,baz=76,slow=0.9,SNR=12							
KSH	**Kashi**	**118.41**	**303**	*e*PKP	**PKPdf**	**08 59 02.2**	**+0.3**	
KSH				PP	**PP**	**09 00 21.6**	**+0.2**	
KSH				PKS	**PKSdf**	**09 02 37.5**	**-1.2**	
KSH				SKS	**SKSdf**	**09 06 03.1**	**+5.6**	
KSH				PPMZ				
	comp=Z,61nm,5.5s							
KSH				LN				
	comp=Z,160nm,10.3s							
KSH				LE				
	comp=Z,160nm,8.8s							
KSH				LZ				
	comp=Z,330nm,12.4s							
KURK	**Kurchatov**	**118.41**	**315**	*e*PKIKP	**PKPdf**	**08 59 00.4**	**-1.0**	
KURK	**Kurchatov**	**118.41**	**315**	*e*PKPdf	**PKPdf**	**08 59 00.4**	**-1.0**	
KKAR	**Karatay Array**	**123.04**	**306**	*e*PKIKP	**PKPdf**	**08 59 10.2**	**-0.4**	
KKAR	**Karatay Array**	**123.04**	**306**	*e*PKPdf	**PKPdf**	**08 59 10.2**	**-0.4**	
BVAR	**Borovoye Array**	**123.65**	**318**	PKP	**PKPdf**	**08 59 10.9**	**-0.5**	
	comp=Z,3.6nm,0.6s,baz=90,slow=1.5,SNR=21							
ARU	**Arti**	**130.06**	**323**	*i* PKIKP	**PKPdf**	**08 59 22.7**	**-0.8**	
ARU						09 06 25.6		
ABKAR	**Akbulak array**	**130.42**	**313**	*e*PKPdf	**PKPdf**	**08 59 25.4**	**+0.9**	
GEYT	**Alibeck**	**132.05**	**298**	PKP	**PKPdf**	**08 59 28.5**	**+0.6**	
	comp=Z,1.1nm,0.2s,baz=88,slow=4.8,SNR=2.8							
ARCES	**ARCESS Array B**	**134.58**	**349**	PKP	**PKPdf**	**08 59 31.4**	**-0.3**	
	comp=Z,4.8nm,0.7s,baz=48,slow=1.3,SNR=13							
FINES	**FINESS Array B**	**141.33**	**342**	PKhKP	PKPpre	08 59 37.7		
	comp=Z,1.3nm,0.5s,baz=48,slow=2.8,SNR=8.8							
OBN	**Obninsk**	**141.90**	**329**	*ce*PKHKP	PKPpre	08 59 41.0		
OBN				pmax	pmax			
	comp=Z,9.0nm,0.5s							
ZEI	**Tsey**	**142.48**	**307**	*i* PKHKP	PKPpre	08 59 42.3		
ZEI				pmax	pmax			
	comp=Z,3.0nm,0.6s							
NB2	**NORSAR Subarra**	**144.67**	**353**	PKP	**PKPab**	**08 59 48.6**	**-0.9**	
	comp=Z,36nm,0.8s,baz=10,slow=3.5							
NB2	**NORSAR Subarra**	**144.67**	**353**	PKP	**PKPab**	**08 59 48.6**	**-0.9**	
	baz=10,slow=3.5							
NOA	**NORSAR Array B**	**144.67**	**353**	PKP	**PKPab**	**08 59 48.2**	**-1.2**	
	comp=Z,26nm,0.8s,baz=15,slow=2.4,SNR=86							
NAO01	**NORSAR Array S**	**144.89**	**353**	*e*PKPdf	PKPbc	08 59 49.6	-0.6	
KONO	**Kongsberg**	**146.20**	**354**	*e*PKP2	**PKPdf**	**08 59 53.5**	**+0.7**	
KONO	**Kongsberg**	**146.20**	**354**	*e*PKPdf	**PKPdf**	**08 59 53.5**	**+0.7**	
MALT	**Malatya**	**147.49**	**301**	⇓*i*PKP2	**PKPbc**	**08 59 59.4**	**+0.7**	
MALT	**Malatya**	**147.49**	**307**	⇓*i*P	**PKPbc**	**08 59 59.4**	**+0.7**	
AKASG	**Malin Array Be**	**148.12**	**327**	PKPbc	**PKPbc**	**08 59 58.6**	**-1.1**	
	comp=Z,11nm,0.6s,baz=44,slow=4.0,SNR=44							
AKBB	**Malin Array Si**	**148.12**	**327**	*e*PKP2	**PKPab**	**09 00 02.1**	**-1.0**	
AKBB	**Malin Array Si**	**148.12**	**327**	*e*PKPbc	**PKPbc**	**08 59 58.7**	**-1.0**	
AKBB				*e*PKPab	**PKPab**	**09 00 02.1**	**-1.0**	
AK01	**Malin Array Si**	**148.13**	**327**	*e*PKPbc	**PKPbc**	**08 59 59.1**	**-0.7**	
AK01				*e*PKPab	**PKPab**	**09 00 02.5**	**-0.7**	
KIEV	**Kiev**	**148.13**	**327**	*d i*PKP2	**PKPbc**	**08 59 58.9**	**-0.9**	
KIEV	**Kiev**	**148.13**	**327**	*e*PKPbc	**PKPbc**	**08 59 58.7**	**-1.0**	
KIEV				*e*PKPab	**PKiKP**	**09 00 02.2**	**+0.8**	
AK02	**Malin Array Si**	**148.15**	**327**	*e*PKPbc	**PKPbc**	**08 59 59.0**	**-0.8**	
AK02				*e*PKPab	**PKPab**	**09 00 02.5**	**-0.7**	
SUW	**Suwalki**	**148.27**	**337**	*e*PKP	**PKPdf**	**08 59 54.4**	**-2.0**	
SUW	**Suwalki**	**148.27**	**337**	*e*PKHKP	**PKPdf**	**08 59 54.5**	**-2.0**	
SIM	**Simferopol'**	**148.47**	**315**	*i* PKP2	PKPab	09 00 13.0	+8.2	
SIM				pmax	pmax			
	comp=Z,16nm,0.6s							
EKA	**Eskdalemuir Ar**	**150.60**	**7**	PKPbc	**PKPbc**	**09 00 04.9**	**-0.8**	
	comp=Z,1.5nm,0.5s,baz=336,slow=2.3,SNR=8.1							
EKA				PKPab	**PKPab**	**09 00 11.9**	**-1.2**	
	comp=Z,4.2nm,0.6s,baz=349,slow=3.1,SNR=13							
BR131	**Keskin Array S**	**150.75**	**305**	*e*PKPbc	**PKPbc**	**09 00 06.3**	**-0.6**	
BR131				*e*PKPab	**PKPab**	**09 00 14.5**	**0.0**	
BRTR	**Keskin Array B**	**150.75**	**305**	PKPbc	**PKPbc**	**09 00 06.2**	**-0.6**	
	comp=Z,4.7nm,0.6s,baz=104,slow=1.7,SNR=23							
BEL	**Belsk**	**150.88**	**336**	*e*PKP	**PKPbc**	**09 00 06.9**	**+0.4**	
BEL	**Belsk**	**150.88**	**336**	*e*PKIKP	**PKPbc**	**09 00 06.9**	**+0.4**	
ANTO	**Ankara**	**151.32**	**306**	*e*PKIKP	**PKPdf**	**09 00 04.4**	**+2.5**	
ANTO				*e*		09 00 17.3		
ANTO	**Ankara**	**151.32**	**306**	⇓*e*PKIKP	**PKPbc**	**09 00 08.2**	**+0.2**	
ANTO	**Ankara**	**151.32**	**306**	⇓*i*P	**PKPbc**	**09 00 08.2**	**+0.2**	
ANTO	**Ankara**	**151.32**	**306**	*e*PKPdf	**PKPdf**	**09 00 04.4**	**+2.5**	
ANTO				*e*PKPbc	**PKiKP**	**09 00 08.4**	**0.0**	
ANTO				*e*PKPab	**PKPab**	**09 00 17.3**	**+0.5**	
TLCR		**151.63**	**319**	⇓PKIKP	**PKPbc**	**09 00 08.3**	**-0.1**	
TLCR		**151.63**	**319**	⇓*i*P	**PKPbc**	**09 00 08.3**	**-0.1**	
KWP	**Kalwaria Pacla**	**151.86**	**332**	*e*PKP	**PKPbc**	**09 00 09.0**	**+0.1**	
KWP	**Kalwaria Pacla**	**151.86**	**332**	⇓PKIKP	**PKPbc**	**09 00 08.9**	**+0.1**	
KWP	**Kalwaria Pacla**	**151.86**	**332**	⇓*i*P	**PKPbc**	**09 00 08.9**	**+0.1**	
CFR	**Carcaliu**	**152.03**	**319**	⇑PKIKP	**PKPbc**	**09 00 09.1**	**-0.2**	
CFR	**Carcaliu**	**152.03**	**319**	⇑*i*P	**PKPbc**	**09 00 09.1**	**-0.2**	
TESR	**Tescani**	**152.09**	**323**	⇓*i*P	**PKPbc**	**09 00 08.9**	**-0.6**	
BUR08	**Bucovina Ar. S**	**152.12**	**326**	*e*PKPbc	**PKPbc**	**09 00 10.2**	**+0.5**	
BUR08				*e*PKPab	**PKPab**	**09 00 20.0**	**+0.1**	
BURAR	**Bucovina Array**	**152.13**	**326**	⇑PKIKP	**PKPbc**	**09 00 10.2**	**+0.6**	
BURAR	**Bucovina Array**	**152.13**	**326**	⇑*i*P	**PKPbc**	**09 00 10.2**	**+0.6**	
TIRR	**Tirgusor**	**152.26**	**318**	⇓PKIKP	**PKPbc**	**09 00 09.8**	**-0.1**	
TIRR	**Tirgusor**	**152.26**	**318**	⇓*i*P	**PKPbc**	**09 00 09.8**	**-0.1**	
TIRR	**Tirgusor**	**152.26**	**318**	*e*PKPbc	**PKPbc**	**09 00 09.6**	**-0.3**	
TIRR				*e*PKPab	**PKPab**	**09 00 19.2**	**-1.3**	
HARR	**Harsova**	**152.43**	**319**	⇓PKIKP	**PKPbc**	**09 00 11.1**	**+0.9**	
HARR	**Harsova**	**152.43**	**319**	⇓*i*P	**PKPbc**	**09 00 11.1**	**+0.9**	
VRI	**Vrincioaia**	**152.44**	**322**	⇓PKIKP	**PKPbc**	**09 00 10.1**	**-0.2**	
VRI	**Vrincioaia**	**152.44**	**322**	⇓*i*P	**PKPbc**	**09 00 10.1**	**-0.2**	
PLOR	**Plostina**	**152.49**	**322**	⇑PKIKP	**PKPbc**	**09 00 09.8**	**-0.6**	
PLOR	**Plostina**	**152.49**	**322**	⇑*i*P	**PKPbc**	**09 00 09.8**	**-0.6**	
OJC	**Ojcow**	**152.56**	**335**	*e*PKP	**PKPbc**	**09 00 10.3**	**-0.1**	
OJC	**Ojcow**	**152.56**	**335**	*e*PKIKP	**PKPbc**	**09 00 10.3**	**-0.1**	
PSN	**Preselentsi**	**152.81**	**316**	⇓PKIKP	**PKPbc**	**09 00 11.7**	**+0.6**	
PSN	**Preselentsi**	**152.81**	**316**	⇓*i*P	**PKPbc**	**09 00 11.6**	**+0.5**	
NIE	**Niedzica**	**153.01**	**334**	*e*PKP	**PKPbc**	**09 00 12.1**	**+0.6**	
NIE	**Niedzica**	**153.01**	**334**	*e*PKIKP	**PKPbc**	**09 00 12.2**	**+0.7**	
TRPA	**Tarpa**	**153.05**	**330**	⇓*i*P	**PKPbc**	**09 00 11.6**	**+0.1**	
MLR	**Muntele Rosu**	**153.10**	**322**	⇓PKIKP	**PKPbc**	**09 00 12.0**	**+0.1**	
MLR	**Muntele Rosu**	**153.10**	**322**	⇓*i*P	**PKPbc**	**09 00 12.0**	**+0.1**	
DOPR	**Dopca**	**153.11**	**323**	⇑*i*P	**PKPbc**	**09 00 12.4**	**+0.6**	
KSP	**Ksiaz**	**153.22**	**340**	*e*PKP	**PKPbc**	**09 00 11.8**	**0.0**	
KSP	**Ksiaz**	**153.22**	**340**	*e*PKIKP	**PKPbc**	**09 00 11.8**	**0.0**	
OKC	**Ostrava-Krasne**	**153.48**	**337**	⇑*e*PKP	**PKPbc**	**09 00 12.7**	**+0.3**	
OKC				*e*PKPAB	**PKPab**	**09 00 25.1**	**-0.3**	
OKC	**Ostrava-Krasne**	**153.48**	**337**	*e*PKIKP	**PKPbc**	**09 00 12.7**	**+0.3**	
OKC				*e*		09 00 25.1		
VOIR		**153.63**	**323**	⇓*i*P	PKPab	09 00 20.5	-5.8	
DPC	**Dobruska-Polom**	**153.64**	**340**	⇑*e*PKP	**PKPbc**	**09 00 13.4**	**+0.6**	
DPC				*ex*	x	09 00 20.1		
DPC				*e*PKPAB	**PKPab**	**09 00 26.1**	**0.0**	
DPC	**Dobruska-Polom**	**153.64**	**340**	*e*PKIKP	**PKPbc**	**09 00 13.4**	**+0.6**	
DPC				*e*		09 00 20.1		
CLL	**Collm**	**153.68**	**345**	⇓*i*PKPbc	**PKPbc**	**09 00 12.7**	**-0.1**	
	comp=Z,9.0nm,0.8s							
CLL				*i*		09 00 20.5		
CLL				*i* PKPab	**PKPab**	**09 00 25.5**	**-0.6**	
	comp=Z,10.0nm,0.8s							
CLL	**Collm**	**153.68**	**345**	⇓*i*PKIKP	**PKPbc**	**09 00 12.7**	**-0.1**	
CLL				*i*		09 00 25.5		
CLL				pmax	pmax			
	comp=Z,9.0nm,0.8s							
CLL				MLR	MLR			
	comp=Z,300nm,21.9s							
KRLC	**Kraliky**	**153.74**	**339**	⇑*e*PKP	**PKPbc**	**09 00 13.0**	**0.0**	
KRLC	**Kraliky**	**153.74**	**339**	*e*PKIKP	**PKPbc**	**09 00 13.0**	**0.0**	
BRG	**Berggiesshubel**	**153.85**	**343**	*i* PKP	**PKPbc**	**09 00 13.0**	**-0.1**	
	comp=Z,6.4nm,0.7s							
BRG				*i*		09 00 26.6		
	comp=Z,8.6nm,0.8s							
ARR	**Arges**	**153.90**	**323**	⇑*i*P	PKPab	09 00 21.3	-6.2	
PVCC	**Panska Ves**	**154.00**	**342**	⇑*e*PKP	**PKPbc**	**09 00 14.1**	**+0.6**	
PVCC				*e*PKPAB	**PKPab**	**09 00 27.7**	**+0.2**	
PVCC	**Panska Ves**	**154.00**	**342**	*e*PKIKP	**PKPbc**	**09 00 14.1**	**+0.6**	
PVCC				*e*		09 00 27.7		
PSZ	**Piszkesteto**	**154.37**	**332**	⇑PKP2	**PKPab**	**09 00 30.0**	**+0.7**	
PSZ	**Piszkesteto**	**154.37**	**332**	⇑*i*P	**PKPab**	**09 00 30.0**	**+0.7**	
PRA	**Prague**	**154.45**	**342**	*e*PKIKP	**PKPbc**	**09 00 14.8**	**+0.4**	
PRA				*e*		09 00 29.6		
PRA				MLR	MLR			
	comp=Z,200nm,15.4s							
JMB	**Yambol**	**154.45**	**316**	⇑PKIKP	**PKPdf**	**09 00 06.1**	**-0.1**	
JMB	**Yambol**	**154.45**	**316**	⇑*i*P	**PKPdf**	**09 00 06.1**	**-0.1**	
GOPC	**GO Pecny, Ondr**	**154.49**	**341**	⇑*e*PKP	**PKPbc**	**09 00 14.8**	**+0.2**	
GOPC				*e*PKPAB	**PKPab**	**09 00 29.6**	**-0.1**	
PRU	**Pruhonice**	**154.49**	**342**	⇑*e*PKP	**PKPbc**	**09 00 16.0**	**+1.4**	
PRU				*ex*	x	09 00 22.2		
PRU				*e*PKPAB	**PKPab**	**09 00 26.9**	**-2.8**	
PRU				*ex*	x	09 00 29.6		
PRU	**Pruhonice**	**154.49**	**342**	*e*PKIKP	**PKPbc**	**09 00 16.0**	**+1.4**	
PRU				*e*		09 00 26.9		
NKC	**Novy Kostel**	**154.81**	**345**	⇑*e*PKP	**PKPbc**	**09 00 15.5**	**+0.2**	
NKC				*ex*	x	09 00 23.8		
NKC				*e*PKPAB	**PKPab**	**09 00 30.3**	**-0.7**	
NKC	**Novy Kostel**	**154.81**	**345**	*e*PKIKP	**PKPbc**	**09 00 15.5**	**+0.2**	
NKC				*e*		09 00 30.3		
KHC	**Kasperske Hory**	**155.53**	**342**	*e*PKPAB	**PKPab**	**09 00 33.5**	**-0.7**	
KHC	**Kasperske Hory**	**155.53**	**342**	*e*PKP2	**PKPab**	**09 00 33.5**	**-0.7**	
GERES	**GERESS Array B**	**155.76**	**342**	PKPab	**PKPab**	**09 00 34.9**	**-0.4**	
	comp=Z,1.5nm,0.7s,baz=28,slow=4.4,SNR=7.9							
CONA	**Conrad Observa**	**155.90**	**338**	⇑*i*PKPab	**PKPab**	**09 00 35.8**	**-0.1**	
	comp=Z,6.5nm,0.8s							
VTS	**Vitosha**	**156.44**	**319**	⇑PKP2	**PKPab**	**09 00 39.2**	**+0.7**	
VTS	**Vitosha**	**156.44**	**319**	⇑*i*P	**PKPab**	**09 00 39.2**	**+0.7**	
MMB	**Musomiste**	**156.71**	**317**	⇑PKP2	**PKPab**	**09 00 39.7**	**+0.1**	
MMB	**Musomiste**	**156.71**	**317**	⇑*i*P	**PKPab**	**09 00 39.7**	**+0.1**	
ESDC	**Sonseca Array**	**165.52**	**20**	PKPab	**PKPab**	**09 01 17.9**	**-0.1**	
	comp=Z,0.2nm,0.3s,baz=345,slow=2.9,SNR=4.4							
TORD	**Torodi Ar. Bea**	**166.99**	**177**	PKP	**PKPdf**	**09 00 20.1**	**-0.4**	
	comp=Z,0.6nm,0.7s,baz=78,slow=0.8,SNR=4.7							
TORD				PKPab	**PKPab**	**09 01 25.0**	**0.0**	
	comp=Z,0.8nm,1.0s,baz=182,slow=4.1,SNR=2.8							
TORD				pPKPab	**pPKPab**	**09 02 08.9**	**-0.3**	
	comp=Z,2.8nm,1.1s,baz=185,slow=3.5,SNR=6.2							

IDC ***06*** *08:57:02.9±0.8, 55.49S×128.41W, h0km, mb4.3/7, mb1 4.4/7, mb1mx4.2/15, mbtmp4.3/7, MS4.1/7, Ms1 4.1/7, ms1mx3.8/17, Error ellipse: s-maj=32.6km s-min=23.5km az=117.0*

ISCJB ***06*** *08:57:03.1±0.8, 55.5S±0.1×128.6W±0.3, h10km, mb4.3/10, MS4.3/8, Error ellipse: s-maj=27.1km s-min=18.6km az=9.1*

NEIC ***06*** *08:57:04.4±0.4, 55.45S×128.49W, h10km, mb4.5/3, Error ellipse: s-maj=17.8km s-min=12.9km az=102.0*

ISC 06 08:57:04.4±0.7, 55.4S±0.1×128.5W±0.2, h10km, n42, σ0s77/22, mb4.2/10, MS4.1/8, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBA	**Scott Base**	**31.29**	**202**	P	**P**	**09 03 23.7**	**-0.3**
	13nm,1.4s						
VNDA	**Vanda**	**32.32**	**202**	P	**P**	**09 03 30.9**	**-2.0**
	1.3nm,0.4s,baz=275,slow=12,SNR=14						
VNDA				LR	LR	09 14 12.2	
	comp=Z,169nm,19.8s,baz=86,slow=32						
RKT	**Rikitea**	**32.62**	**349**	*e*LR	LR	09 12 07.4	
	683nm,27.5s,baz=169						
RKT	**Rikitea**	**32.62**	**349**	*e*T	T	09 37 44.6	
	4.3nm,0.3s						
QSPA	**South Pole Qui**	**34.75**	**180**	P	**P**	**09 03 55.1**	**+0.6**
	11nm,1.0s,baz=94,slow=6.1,SNR=20						
QSPA				LR	LR	09 16 41.7	
	comp=Z,597nm,18.3s,baz=62,slow=34						
QSPA	**South Pole Qui**	**34.75**	**180**	*e*P	**P**	**09 03 55.5**	**+1.0**
TBI	**Tubuai**	**35.60**	**326**	*e*LR	LR	09 13 23.4	
	321nm,28.8s,baz=156						
TBI	**Tubuai**	**35.60**	**326**	*e*T	T	09 41 32.9	
	44nm,0.3s						
PLCA	**Paso Flores**	**40.19**	**93**	LR	LR	09 16 55.2	
	comp=Z,261nm,20.4s,baz=230,slow=30						
PPT2	**Papeete2**	**41.05**	**329**	*e*LQ	LQ	09 14 13.4	
	311nm,24.8s						
PPT2				*e*LR	LR	09 15 57.3	
	460nm,26.0s,baz=162						
PPT	**Papeete**	**41.07**	**329**	LR	LR	09 17 01.7	
	comp=Z,188nm,20.0s,baz=149,slow=29						
VAH	**Vaihoa**	**42.74**	**332**	*e*T	T	09 50 25.9	
	28nm,0.3s						
PMOR	**Pomariorio Ree**	**43.03**	**332**	*e*T	T	09 50 48.2	
	6.1nm,0.3s						
SNAA	**Sanae**	**47.60**	**160**	LR	LR	09 25 16.9	
	comp=Z,116nm,19.0s,baz=188,slow=36						
SNAA	**Sanae**	**47.60**	**160**	*e*P	**P**	**09 05 40.3**	**+0.5**
	4.6nm,0.9s						
CPUP	**Villa Florida**	**58.16**	**91**	LR	LR	09 28 27.2	
	comp=Z,3μm,18.6s,baz=225,slow=32						
STKA	**Stephens Creek**	**64.36**	**251**	P	**P**	**09 07 40.8**	**+0.6**
	2.9nm,0.9s,baz=333,slow=5.9,SNR=4.4						
BDFB	**Brasilia**	**71.89**	**91**	LR	LR	09 36 47.0	
	comp=Z,426nm,19.6s,baz=218,slow=33						
ROSC	**El Rosal**	**74.73**	**57**	LR	LR	09 35 58.4	
	comp=Z,9nm,19.6s,baz=262,slow=31						
ASAR	**Alice Springs**	**74.99**	**250**	P	**P**	**09 08 46.5**	**+0.6**
	1.7nm,0.8s,baz=138,slow=6.1,SNR=10.0						
H01W1	**Cape Leeuwin H**	**75.36**	**229**	T	T	10 32 33.4	
	baz=147,slow=76,SNR=5.9						
H01W2	**Cape Leeuwin H**	**75.37**	**229**	T	T	10 32 29.0	
	baz=147,slow=76,SNR=5.7						
H01W3	**Cape Leeuwin H**	**75.38**	**229**	T	T	10 32 39.3	
	baz=147,slow=76,SNR=5.9						
WRA	**Warramunga Arr**	**77.77**	**253**	P	**P**	**09 09 02.2**	**+0.5**
	1.9nm,0.8s,baz=141,slow=5.3,SNR=12						
WRAB	**Tennant Creek**	**77.77**	**253**	P	**P**	**09 09 00.7**	**-1.0**
	2.3nm,0.9s						
TXAR	**Lajitas Array**	**87.06**	**22**	P	**P**	**09 09 50.2**	**+0.4**
	1.3nm,0.9s,baz=178,slow=6.9,SNR=3.4						
H11S2	**WAKE ISLAND Hy**	**91.64**	**301**	T	T	10 52 17.7	
	baz=147						
H11S3	**WAKE ISLAND Hy**	**91.65**	**301**	T	T	10 52 23.2	
	baz=147						
H11S1	**WAKE ISLAND Hy**	**91.65**	**301**	T	T	10 52 18.7	
	baz=147						
ANMO	**Albuquerque**	**91.98**	**18**	P	**P**	**09 10 12.4**	**-0.5**
	0.9nm,0.7s,baz=190,slow=6.1,SNR=4.3						
H11N3	**WAKE ISLAND Hy**	**92.58**	**302**	T	T	10 53 15.9	
	baz=144,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**92.59**	**302**	T	T	10 53 29.7	
	baz=144,slow=75,SNR=11						
H11N2	**WAKE ISLAND Hy**	**92.60**	**302**	T	T	10 53 17.3	
	baz=144,slow=75,SNR=11						
ILAR	**Eielson Array**	**120.70**	**351**	PKP	**PKPdf**	**09 15 55.0**	**+0.1**
	0.8nm,0.8s,baz=182,slow=1.9,SNR=9.7						
CMAR	**Chiang Mai Arr**	**128.64**	**244**	PKP	**PKPdf**	**09 16 12.6**	**+1.0**
	0.5nm,0.3s,baz=184,slow=2.4,SNR=3.8						
TIXI	**Tiksi**	**144.96**	**327**	*e*PKPbc	**PKPab**	**09 16 39.4**	**+0.1**
SONM	**Songino Array**	**145.89**	**281**	PKPbc	**PKPab**	**09 16 43.8**	**+0.1**
	2.2nm,0.9s,baz=119,slow=1.8,SNR=3.4						
RAYN	**Ar Rayn**	**147.83**	**170**	*e*PKPdf	**PKPdf**	**09 16 45.6**	**-0.8**
RAYN				*e*PKPbc	**PKPbc**	**09 16 49.0**	**-0.3**
RAYN				*e*PKPab	**PKiKP**	**09 16 51.3**	**+0.1**
TLY	**Talaya**	**149.40**	**285**	PKPbc	**PKPbc**	**09 16 51.7**	**-0.8**
	0.9nm,0.4s,baz=15,slow=19,SNR=3.2						
EKA	**Eskdalemuir Ar**	**149.63**	**67**	PKPbc	**PKPbc**	**09 16 52.9**	**+0.1**
	1.5nm,0.6s,baz=245,slow=3.0,SNR=4.1						
MKAR	**Makanchi Array**	**158.97**	**259**	PKPab	**PKPab**	**09 17 38.1**	**0.0**
	0.7nm,0.9s,baz=104,slow=6.1,SNR=6.1						
BRTR	**Keskin Array B**	**160.30**	**135**	PKPab	**PKPab**	**09 17 43.4**	**-0.8**
	2.0nm,0.9s,baz=190,slow=4.4,SNR=9.6						

CSEM ***06*** *08:58:35.3, 37.26N×28.23E, h14km, MD2.8*

ISK 06 08:58:35.3, 37.26N×28.23E, h14km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.13**	**160**	*e*PG	Pg	08 58 38.7	-0.2
YER				*e*SG	Sg	08 58 41.5	+0.2
YER	**Yerkesik**	**0.13**	**160**	*e*Pg	Pg	08 58 38.7	-0.2
YER				*e*Sg	Sg	08 58 41.5	+0.2
DALY	**Dalyan (Mu˘la**	**0.56**	**142**	*e*PG	Pb	08 58 47.1	+0.3
DALY				*e*SG	Sb	08 58 55.7	+1.1
DALY	**Dalyan (Mu˘la**	**0.56**	**142**	*e*Pg	Pb	08 58 47.1	+0.3
DALY				*e*Sg	Sb	08 58 55.7	+1.1
AYDB	**Zeytinkoy-Aydi**	**0.74**	**339**	*e*PG	Pb	08 58 50.5	+0.3
AYDB	**Zeytinkoy-Aydi**	**0.74**	**339**	*e*Pg	Pb	08 58 50.5	+0.3
DAT	**Datca**	**0.74**	**225**	*e*PG	Pb	08 58 50.5	+0.3
DAT	**Datca**	**0.74**	**225**	*e*Pg	Pb	08 58 50.5	+0.4
BODT	**Bodrum**	**0.76**	**255**	*e*PG	Pg	08 58 50.1	0.0
BODT	**Bodrum**	**0.76**	**255**	*e*Pg	Pg	08 58 50.1	0.0
FETY	**Fethiye**	**0.93**	**132**	*e*PG	Pb	08 58 53.1	-0.1
FETY	**Fethiye**	**0.93**	**132**	*e*Pg	Pb	08 58 53.1	-0.1
KULA	**Kula-Manisa**	**1.30**	**15**	*e*PN	Pb	08 58 59.8	+0.1
KULA	**Kula-Manisa**	**1.30**	**15**	*e*Pn	Pb	08 58 59.8	+0.1
ELL	**Elmali**	**1.44**	**110**	*e*PN	Pn	08 59 00.9	-0.2
ELL	**Elmali**	**1.44**	**110**	*e*Pn	Pn	08 59 00.9	-0.2

DDA 06 08:58:42.9, 39.40N×30.47E, h7km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SEYT	**Eskypehyr**	**0.32**	**68**	*i* P	Pg	08 58 47.8	-1.6
SEYT				*i* S	Sg	08 58 54.4	+0.7
BORA	**Eskisehir**	**0.48**	**358**	*i* P	Pg	08 58 50.3	-2.1
BORA				*i* S	Sg	08 58 59.8	+1.1
ULDT	**Uludag**	**1.27**	**306**	*i* P	Pg	08 59 07.5	-0.1
ULDT				*i* S	Sn	08 59 24.6	-0.2

ISCJB ***06*** *09:01:39.9±0.3, 32.71N±0.02×115.83W±0.02, h11km±2km, Error ellipse: s-maj=3.2km s-min=2.3km az=7.1*

MEX ***06*** *09:01:40.1±0.3, 32.90N×115.86W, h4km±19km, MD3.4*

NEIC ***06*** *09:01:41.0, 32.71N×115.88W, h2km, ML4.2(PAS), ML4.4(ECX), After PAS.*

NEIC Felt [III] at San Diego; [II] at Chula Vista, El Centro, Escondido and La Mesa. Also felt at Alpine, Bonita, Boulevard, Campo, Carlsbad, Coronado, El Cajon, Fallbrook, Jacumba, Julian, Ocotillo, Poway, Ramona, Redondo Beach, San Bernardino, Spring Valley and Valley Center. Felt at Mexicali, Baja California.

ECX ***06*** *09:01:41.5±0.6, 32.71N×115.89W, h3km, MD4.1, ML4.3*

ISC 06 09:01:40.6±0.8, 32.70N±0.02×115.85W±0.02, h13km±6km, n75, σ1s14/100, 11C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WESC	**Westside Schoo**	**0.12**	**56**	⇑*e*P	**Pg**	**09 01 43.9**	**0.0**
WESC				*e*S	**Sg**	**09 01 46.8**	**+0.8**
IBP	**Imperial Bould**	**0.21**	**261

	baz=3.7								
ISA					Sb	**Sb**	09 03 32.5	+2.5	
	baz=3.7								
SHPR	**Sheep Range**	**3.84**	**8**	*e*Pn		**Pn**	**09 02 39.6**	**-0.1**	
DAC	**Darwin (Calif)**	**3.85**	**338**	*e*Pn		**Pn**	**09 02 39.4**	**-0.5**	
TPNV	**Topopah Spring**	**4.26**	**356**	P		**Pn**	**09 02 45.4**	**+0.1**	
	baz=4.3								
TUC	**Tucson**	**4.29**	**94**	*e*Pn		**Pn**	**09 02 44.8**	**-1.0**	
WUAZ	**Wupatki**	**4.66**	**52**	*e*Pn		**Pn**	**09 02 51.6**	**+0.8**	
WUAZ	**Wupatki**	**4.66**	**52**	P		**Pn**	**09 02 51.8**	**+1.0**	
	baz=4.7								
W18A	**Petrified Fore**	**5.63**	**63**	*e*Pn		**Pn**	**09 03 05.7**	**+1.5**	
	comp=E,54nm,0.6s								
W18A	**Petrified Fore**	**5.63**	**63**	P		**Pn**	**09 03 05.7**	**+1.5**	
	baz=5.6								
CMB	**Columbia Colle**	**6.49**	**326**	*e*Pn		**Pn**	**09 03 16.6**	**+0.6**	
	comp=E,7.3nm,0.7s								
MSU	**Marysvale**	**6.53**	**26**	*e*Pn		Pn	09 03 21.3	+4.7	
	comp=E,11nm,0.6s								
MVCO	**Mesa Verde**	**7.53**	**51**	*e*Pn		**Pn**	**09 03 33.2**	**+2.9**	
	comp=E,23nm,0.6s								
MVCO	**Mesa Verde**	**7.53**	**51**	P		**Pn**	**09 03 33.4**	**+3.1**	
	baz=7.5								
Y22D	**IRIS PASSCAL I**	**7.59**	**77**	P		**Pn**	**09 03 32.3**	**+1.2**	
	baz=7.6								
ANMO	**Albuquerque**	**8.13**	**71**	*e*Pn		**Pn**	**09 03 40.1**	**+1.5**	
	comp=E,5.3nm,0.7s								
MNTX	**Cornudas Mount**	**8.92**	**94**	*e*Pn		**Pn**	**09 03 49.5**	**+0.2**	
	comp=E,5.0nm,0.7s								
MNTX	**Cornudas Mount**	**8.92**	**94**	P		**Pn**	**09 03 49.8**	**+0.5**	
	baz=8.9								
SDCO	**Great Sand Dun**	**9.85**	**56**	*e*Pn		**Pn**	**09 04 03.9**	**+1.8**	
	comp=E,3.5nm,0.8s								
SDCO	**Great Sand Dun**	**9.85**	**56**	P		**Pn**	**09 04 04.2**	**+2.0**	
	baz=9.9								
MSTX	**Muleshoe**	**11.01**	**80**	*e*Pn		**Pn**	**09 04 20.9**	**+2.9**	
	comp=E,28nm,0.8s								

BJI ***06*** *09:13:03.9, 4.°37S×100.°98E, h35km, mb5.5/77, mB5.3/59, Ms5.3/81, Ms7 5.0/72*

IDC ***06*** *09:13:04.5±0.3, 3.°84S×101.°05E, h0km, mb5.0/47, mb1 5.1/49, mb1mx5.0/55, mbtmp5.0/49, ML4.9/2, MS4.6/24, Ms1 4.6/24, ms1mx4.5/38, Error ellipse: s-maj=11.6km s-min=10.0km az=54.0*

KLM ***06*** *09:13:08.4, 3.°94S×100.°76E, h42km, mb5.4, ML5.3, MS6.1*

GCMT ***06*** *09:13:08.9±0.3, 4.°23S×100.°51E, h36km±1km, MW5.2/62, Moment Tensor Solution. s58,c86; s62,c76; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr5.47±.23; Mθθ-2.22±.15; Mφφ-3.25±.20; Mr4.32±.23; Mθφ2.64±.12; Mφr-1.34±.23; Best double couple: Mo7.05300×10^16^ NP1:ϕs121.00000°, δ65.00000°, λ.74.00000°. NP2: ϕs336.00000°, δ30.00000°, λ121.00000°. Principal axes: T 7.4100, Plg66.0000°, Azm2.0000°; N -0.7140, Plg15.0000°, Azm128.0000°; P -6.6970, Plg18.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB ***06*** *09:13:08.7±0.5, 3.°85S±0.°03×101.°03E±0.°02, h41km±3km, mb5.2/135, MS4.7/39 Error ellipse: s-maj=5.2km s-min=3.0km az=41.7*

DJA ***06*** *09:13:08.2±0.7, 4.°5±2.°×10.°1E±.°, h25km±7km, M5.0/33, mb5.4/33, mB5.5/24, MLv5.5/5, Mw(mB)4.9/24, Mwp6.4/1*

SZGRF ***06*** *09:13:08.7, 4.°30S×100.°94E, h33km, mb5.1, MS4.5, Southwest of Sumatera, Indonesia*

MOS ***06*** *09:13:08.2±1.0, 3.°73S×101.°10E, h33km, mb5.5/47, MS4.8/15, Error ellipse: s-maj=9.3km s-min=4.4km az=114.7*

NEIC ***06*** *09:13:08.9±0.5, 3.°88S×101.°00E, h28km±3km, mb5.3/49, Error ellipse: s-maj=5.6km s-min=3.8km az=222.0*

ISC 06 09:13:09.3±0.3, 3.°96S±0.°03×100.°91E±0.°03, h34km, h34km:pP-P, n935, σ1s38/1010, mb5.2/136, MS4.7/41, 202C-160D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**1.56**	**59**	P	**Pn**	**09 13 34.4**	**-0.3**
MASI				S	**Sb**	**09 13 57.3**	**+0.2**
MNAI	**Manna**	**2.08**	**101**	P	**Pn**	**09 13 42.1**	**+0.3**
MNAI				S	**Sn**	**09 14 08.9**	**+2.3**
MNAI	**Manna**	**2.08**	**101**	*e*Pn	**Pn**	**09 13 41.5**	**-0.4**
LHSI	**Lahat**	**2.61**	**87**	P	**Pn**	**09 13 50.3**	**+1.2**
LHSI				S	**Sn**	**09 14 22.5**	**+2.8**
SDSI	**Sungai Dareh**	**3.06**	**10**	P	**Pn**	**09 13 55.8**	**+0.6**
PDSI	**Padang**	**3.06**	**352**	P	**Pn**	**09 13 54.6**	**-0.8**
PDSI				S	**Sn**	**09 14 29.8**	**-1.1**
MDSI	**Maura Dua**	**3.30**	**99**	P	**Pn**	**09 13 59.1**	**+0.5**
MDSI				S	**Sn**	**09 14 38.8**	**+2.1**
LWLI	**Liwa**	**3.31**	**109**	P	**Pn**	**09 13 59.0**	**+0.1**
LWLI				S	**Sn**	**09 14 38.6**	**+1.5**
JMBI	**JAMBI**	**3.58**	**50**	P	**Pn**	**09 14 01.7**	**-0.7**
KASI	**Kota Agung**	**3.90**	**114**	P	**Pn**	**09 14 06.3**	**-0.5**
PMBI	**Palembang**	**3.99**	**75**	P	**Pn**	**09 14 07.9**	**-0.2**
PMBI	**Palembang**	**3.99**	**75**	*e*Pn	**Pn**	**09 14 08.6**	**+0.4**
KLI	**Kotabumi**	**4.04**	**103**	P	**Pn**	**09 14 09.2**	**+0.5**
BKNI	**Bangkinang**	**4.26**	**2**	P	**Pn**	**09 14 11.5**	**-0.3**
BKNI	**Bangkinang**	**4.26**	**2**	*e*Pn	**Pn**	**09 14 11.6**	**-0.3**
BLSI	**Bandar Lampung**	**4.54**	**108**	P	**Pn**	**09 14 16.0**	**+0.3**
MNSI	**Mandailing Nat**	**4.91**	**344**	P	**Pn**	**09 14 19.9**	**-0.8**
DSRI	**Dabo**	**5.04**	**47**	P	**Pn**	**09 14 23.0**	**+0.4**
CGJI	**Cibinong**	**5.44**	**119**	P	**Pn**	**09 14 26.7**	**-1.4**
CGJI				S	Sn	09 15 22.6	-7.0
PPBI	**Pangkal Pinang**	**5.52**	**71**	P	**Pn**	**09 14 29.4**	**+0.3**
SBJI	**Serang**	**5.63**	**113**	P	**Pn**	**09 14 31.2**	**+0.6**
TPRI	**Tanjung Pinang**	**6.05**	**37**	P	**Pn**	**09 14 36.9**	**+0.5**
TNG	**Tangerang**	**6.12**	**111**	P	**Pn**	**09 14 37.7**	**+0.3**
	1μm,1.1s,4.0nm						
TNG	**Tangerang**	**6.12**	**111**	P	**Pn**	**09 14 38.3**	**+0.9**
GSI	**Gunungsitoli**	**6.20**	**327**	P	**Pn**	**09 14 39.5**	**+1.0**
GSI	**Gunungsitoli**	**6.20**	**327**	*e*Pn	**Pn**	**09 14 37.2**	**-1.3**
SKJI	**Sukabumi**	**6.38**	**119**	P	**Pb**	**09 14 58.0**	**-1.7**
KGM	**Kluang**	**6.41**	**22**	⇑P	**Pn**	**09 14 42.2**	**+0.9**
MYKOM	**Kota Tinggi**	**6.43**	**27**	⇓P	**Pn**	**09 14 42.2**	**+0.6**
MYKOM	**Kota Tinggi**	**6.43**	**27**	*e*Pn	**Pn**	**09 14 41.9**	**+0.3**
PSI	**Prapat**	**7.00**	**344**	Pn	**Pn**	**09 14 46.9**	**-2.8**
	22nm,0.3s,baz=160,slow=12,SNR=48						
PSI				Sn	**Sn**	**09 16 13.8**	**+5.5**
	2.3nm,0.3s,baz=270,slow=20,SNR=2.4						
CNJI	**Cibinong**	**7.03**	**119**	P	**Pn**	**09 14 47.9**	**-1.9**
FRIM	**Kepong**	**7.19**	**6**	⇑P	**Pn**	**09 14 51.8**	**-0.3**
LEM	**Lembang**	**7.26**	**113**	P	**Pn**	**09 14 54.6**	**+1.4**
	392nm,0.9s,4μm1.3nm						
LEM	**Lembang**	**7.26**	**113**	Pn	**Pn**	**09 14 54.1**	**+0.9**
	38nm,0.3s,baz=207,slow=11,SNR=16						
LEM				Sn	**Sn**	**09 16 19.3**	**+4.7**
	baz=105,slow=20,SNR=3.5						
LEM				LR	LR	09 18 18.1	
	comp=Z,5μm,19.1s,baz=256,slow=44						
CISI	**Cisompet, Garu**	**7.74**	**118**	P	**Pn**	**09 14 58.1**	**-1.7**
CISI	**Cisompet, Garu**	**7.74**	**118**	*e*Pn	**Pn**	**09 14 57.9**	**-1.9**
JCJI	**Jatiwangi**	**7.75**	**109**	P	Pn	09 15 09.9	+10
TSI	**Tuntungan**	**7.78**	**342**	P	**Pn**	**09 15 02.6**	**+2.5**
SNSI	**Sinabang, Aceh**	**7.81**	**324**	P	**Pn**	**09 15 01.8**	**+1.2**
KCSI	**Kotacane, Aceh**	**8.07**	**337**	P	**Pn**	**09 15 04.8**	**+0.6**
IPM	**Ipoh**	**8.39**	**1**	⇑P	**Pn**	**09 15 08.4**	**-0.1**
IPM	**Ipoh**	**8.39**	**1**	*e*Pn	**Pn**	**09 15 09.4**	**+0.8**
CMJI	**Cimerak**	**8.41**	**117**	P	**Pn**	**09 15 06.7**	**-2.1**
KPJI	**Karang Pucung**	**8.66**	**113**	P	**Pn**	**09 15 12.8**	**+0.6**
COCO	**West Island**	**9.11**	**206**	Pn	**Pn**	**09 15 16.5**	**-2.0**
	5μm,0.8s,SNR=8.4						
COCO	**West Island**	**9.11**	**206**	*i* P	**Pn**	**09 15 16.5**	**-2.0**
COCO	**West Island**	**9.11**	**206**	*e*Pn	**Pn**	**09 15 16.2**	**-2.3**
KULM	**Kulim**	**9.20**	**358**	⇑P	**Pn**	**09 15 19.1**	**-0.6**
KULM	**Kulim**	**9.20**	**358**	*e*Pn	**Pn**	**09 15 18.8**	**-0.8**
LHMI	**Lhok Sumawe**	**9.95**	**337**	P	**Pn**	**09 15 31.0**	**+1.0**
LHMI	**Lhok Sumawe**	**9.95**	**337**	*e*Pn	**Pn**	**09 15 31.2**	**+1.2**
SMRI	**Semarang**	**9.97**	**108**	P	**Pn**	**09 15 31.9**	**+1.6**
SMRI	**Semarang**	**9.97**	**108**	*e*Pn	**Pn**	**09 15 30.8**	**+0.5**
	317nm,0.9s						
UGM	**Wanagama**	**10.34**	**113**	P	Pn	09 15 46.8	+11
UGM	**Wanagama**	**10.34**	**113**	*e*Pn	**Pn**	**09 15 35.8**	**+0.5**
WOJI	**Wonogiri, Jawa**	**10.68**	**112**	P	**Pn**	**09 15 40.9**	**+0.9**
PBKI	**Pangkalan Bun**	**10.82**	**84**	P	**Pn**	**09 15 43.7**	**+1.8**
KSM	**Kuching**	**10.84**	**60**	*e*Pn	**Pn**	**09 15 42.8**	**+0.7**
BSI	**Banda Aceh**	**10.94**	**329**	P	**Pn**	**09 15 42.6**	**-1.0**
PCJI	**Pacitan**	**11.04**	**113**	P	Pn	09 15 54.3	+9.4
SKLT	**Songkhla**	**11.06**	**359**	P	**Pn**	**09 15 44.1**	**-1.1**
	108nm,1.0s,1μm						
STKI	**Sintang**	**11.29**	**69**	P	Pn	09 15 51.7	+3.3
PWJI	**Pagerwojo**	**11.56**	**111**	P	**Pn**	**09 15 51.5**	**-0.5**
	104nm,1.0s						
TRTT	**Trang**	**11.78**	**354**	P	**Pn**	**09 15 53.0**	**-2.1**
	68nm,0.7s,1μm						
GRJI	**Gresik**	**11.89**	**105**	P	**Pn**	**09 15 55.9**	**-0.6**
PKDT	**Phuket**	**12.05**	**348**	P	**P**	**09 16 11.4**	**+0.2**
SBUM	**Sibu**	**12.98**	**61**	⇑P	**Pn**	**09 16 14.0**	**+2.5**
SBUM	**Sibu**	**12.98**	**61**	*e*Pn	**Pn**	**09 16 14.0**	**+2.5**
SURT	**Suratani**	**13.01**	**351**	P	**P**	**09 16 22.5**	**+0.7**
ABJI	**Asem Bagus**	**13.79**	**107**	P	**Pn**	**09 16 24.6**	**+2.1**
JAGI	**Jajag, Banyuwa**	**13.90**	**109**	P	**Pn**	**09 16 25.6**	**+1.5**
JAGI	**Jajag, Banyuwa**	**13.90**	**109**	*e*Pn	**Pn**	**09 16 22.8**	**-1.3**
	121nm,0.9s						
BBKI	**Banjar Baru**	**13.91**	**88**	P	Pn	09 16 27.7	+3.5
CHBT	**CHBT**	**16.67**	**5**	P	**Pn**	**09 16 58.3**	**-2.1**
	110nm,0.6s						
DLV	**T Lat**	**17.51**	**25**	*e*P	**P**	**09 17 14.3**	**+2.3**
KKM	**Kota Kinabalu**	**18.23**	**57**	⇑P	**P**	**09 17 19.3**	**-0.6**
KKM	**Kota Kinabalu**	**18.23**	**57**	*e*Pn	**P**	**09 17 18.4**	**-1.5**
	59nm,0.8s						
SRDT	**SRDT**	**18.28**	**354**	P	Pn	09 17 28.2	+7.8
KHLT	**Khaolaem Dam**	**18.78**	**353**	P	**Pn**	**09 17 26.2**	**-0.3**
	27nm,0.9s,351nm						
KAPI	**Kappang**	**18.82**	**94**	Pn	**P**	**09 17 25.9**	**-0.4**
	694nm,0.8s,SNR=20						
KAPI	**Kappang**	**18.82**	**94**	P	**P**	**09 17 25.4**	**-0.9**
	4.3nm,0.3s,baz=266,slow=12,SNR=46						
KAPI	**Kappang**	**18.82**	**94**	*e*P	**P**	**09 17 24.2**	**-2.0**
	27nm,1.0s						
SPSI	**Sidrap Palu**	**18.82**	**91**	P	**P**	**09 17 25.4**	**-0.9**
	220nm,1.0s,2μm						
TSM	**Tawau**	**18.83**	**64**	⇑P	**P**	**09 17 26.5**	**+0.1**
TTSI	**Tana Toraja**	**18.90**	**88**	P	**P**	**09 17 27.1**	**-0.1**
	123nm,1.0s,2μm						
PCI	**Palu**	**19.15**	**81**	P	**P**	**09 17 29.8**	**-0.2**
	258nm,1.1s,3μm124μm						
BNSI	**Bone**	**19.15**	**92**	P	**P**	**09 17 29.8**	**-0.2**
	213nm,1.1s,2μm						
WBSI	**Waikabubak, Su**	**19.19**	**108**	P	**P**	**09 17 28.3**	**-2.2**
	230nm,1.0s,3μm						
BKSI	**Bulukumba**	**19.20**	**95**	P	**P**	**09 17 29.4**	**-1.1**
	210nm,1.1s,2μm						
KDM	**Kudat**	**19.22**	**56**	⇓P	**Pn**	**09 17 31.6**	**-0.2**
UTHA	**Uthaitani**	**19.45**	**356**	P	**P**	**09 17 33.8**	**+0.7**
	21nm,0.8s,147nm						
MPSI	**Mapaga**	**19.45**	**78**	P	**P**	**09 17 32.9**	**-0.3**
	205nm,1.0s,1μm						
CHAI	**Chaiyaphum**	**19.77**	**3**	P	**P**	**09 17 35.7**	**-0.9**
	29nm,0.7s,218nm						
KHON	**Khomkaen**	**20.26**	**5**	P	**P**	**09 17 41.0**	**-1.0**
	53nm,0.8s						
PBKT	**Sadao Pong**	**20.40**	**0**	P	**P**	**09 17 42.1**	**-1.4**
	38nm,0.7s,1μm						
TOLI	**Toli-Toli**	**20.50**	**76**	*e*Pn	Pn	09 17 47.3	+0.2
	276nm,0.8s						
SKNT	**Sakolnakorn**	**21.02**	**8**	P	**P**	**09 17 48.2**	**-2.1**
	113nm,0.7s,3μm						
LOEI	**Loei**	**21.34**	**1**	P	**P**	**09 17 51.1**	**-2.5**
	47nm,0.9s,2μm						
MRSI	**Marisa**	**21.48**	**79**	P	**P**	**09 17 53.1**	**-2.1**
BBSI	**Bau Bau**	**21.64**	**95**	P	**P**	**09 17 55.3**	**-1.7**
	261nm,1.0s,2μm						
MMRI	**Maumere**	**21.70**	**103**	*e*P	**P**	**09 17 55.7**	**-1.9**
	43nm,0.6s						
LUWI	**Luwuk**	**22.03**	**83**	P	P	09 18 06.1	+4.9
LUWI	**Luwuk**	**22.03**	**83**	*e*P	**P**	**09 18 00.1**	**-1.1**
	376nm,1.1s						
MHMT	**Maesarieng**	**22.19**	**352**	P	**P**	**09 18 02.1**	**-0.7**
	45nm,0.9s,568nm						
CMAR	**Chiang Mai Arr**	**22.36**	**355**	P	**P**	**09 18 02.1**	**-2.5**
	58nm,0.7s,baz=185,slow=9.9,SNR=26						
CMAR				PcP	**PcP**	**09 22 00.5**	**+1.2**
	6.2nm,0.8s,baz=208,slow=3.3,SNR=10						
CMAR				ScP	**ScP**	**09 25 35.2**	**+0.7**
	0.5nm,0.3s,baz=209,slow=2.8,SNR=4.9						
CMAR				LR	LR	09 27 50.1	
	comp=Z,1μm,20.5s,baz=186,slow=40						
CMMT	**Chiang Mai**	**22.71**	**355**	P	**P**	**09 18 07.8**	**-0.6**
	66nm,0.9s,1μm						
CHTO	**Chiang Mai**	**22.71**	**355**	P	**P**	**09 18 07.8**	**-0.6**
	224nm,0.9s,3μm						
CHTO	**Chiang Mai**	**22.71**	**355**	*e*P	**P**	**09 18 07.6**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,27nm,0.7s						
CHTO	**Chiang Mai**	**22.71**	**355**	*e*P	**P**	**09 18 07.6**	**-0.8**
	comp=Z,27nm,0.7s						
BATI	**Baumata**	**23.41**	**107**	P	**P**	**09 18 15.0**	**-0.5**
	comp=Z,125nm,1.0s						
BATI	**Baumata**	**23.41**	**107**	P	**P**	**09 18 14.2**	**-1.3**
	comp=Z,62nm,0.5s,baz=243,slow=4.5,SNR=6.4						
SOEI	**Soe**	**23.89**	**105**	*e*P	**P**	**09 18 17.2**	**-3.0**
	comp=Z,134nm,0.8s						
QIZ	**Qiongzhong**	**24.48**	**21**	P	**P**	**09 18 25.1**	**-0.4**
QIZ				sP	**sP**	**09 18 38.8**	**-0.5**
QIZ				S	**S**	**09 22 45.8**	**+2.1**
QIZ				sS	**sS**	**09 23 01.1**	**+1.4**
QIZ				PMZ			
	comp=Z,66nm,1.4s						
QIZ				PMZ			
	comp=Z,500nm,7.8s						
QIZ				LN			
	comp=Z,2μm,15.0s						
QIZ				LZ			
	comp=Z,2μm,21.0s						
QIZ	**Qiongzhong**	**24.48**	**21**	*e*P	**P**	**09 18 25.5**	**0.0**
	comp=Z,47nm,0.8s						
MBWA	**Marble Bar**	**25.04**	**135**	*e*pP	pP	09 18 37.2	-3.0
SANI	**Sanana**	**25.12**	**86**	P	**P**	**09 18 29.3**	**-2.0**
	comp=Z,63nm,1.0s,comp=Z,896nm						
MDRS	**Chennai**	**26.60**	**310**	*e*P	**pP**	**09 18 58.2**	**+3.8**
MDRS				*e*x	x	09 19 55.2	
MDRS				*e*x	x	09 20 10.2	
MDRS				*e*x	x	09 22 19.2	
MDRS				*e*x	x	09 22 40.2	
MDRS				*e*x	x	09 23 38.2	
MDRS				*e*x	x	09 24 16.2	
MDRS				*e*x	x	09 25 47.2	
RCP	**Roxas**	**26.64**	**54**	⇓*e*P	**P**	**09 18 45.0**	**-0.1**
LBMI	**Labuha**	**26.77**	**84**	P	**P**	**09 18 44.7**	**-1.6**
	comp=Z,246nm,0.9s,comp=Z,2μm						
TNTI	**Ternate**	**26.86**	**80**	*e*P	**P**	**09 18 44.5**	**-2.6**
	comp=Z,58nm,0.8s						
SKHT	**Srikalahasti**	**27.42**	**310**	*e*P	**P**	**09 18 53.7**	**+1.6**
SKHT				*e*S	**S**	**09 23 33.4**	**+3.0**
SKHT				IVMs_BB	IVMs_BB	09 28 26.1	
	comp=Z,653nm,21.5s						
CHLP	**Challavanipeta**	**27.82**	**324**	*e*P	**P**	**09 18 56.8**	**+1.1**
CHLP				*e*S	**S**	**09 23 39.2**	**+2.5**
CHLP				IVMs_BB	IVMs_BB	09 31 50.0	
	comp=Z,426nm,15.1s						
KMI	**Kunming**	**28.97**	**3**	P	**P**	**09 19 06.5**	**+0.5**
KMI				pP	**pP**	**09 19 14.6**	**-1.2**
KMI				sP	**sP**	**09 19 17.2**	**-2.7**
KMI				PP	**PnPn**	**09 20 03.9**	**+5.3**
KMI				S	S	09 24 01.1	+6.1
KMI				PMZ			
	comp=Z,34nm,0.9s						
KMI				PMZ			
	comp=Z,250nm,5.2s						
KMI				LN			
	comp=Z,720nm,24.9s						
KMI				LE			
	comp=Z,3μm,18.8s						
KMI				LZ			
	comp=Z,3μm,14.2s						
IMP	**Imphal**	**29.37**	**347**	*e*P	**P**	**09 19 09.5**	**+0.1**
IMP				*e*x	x	09 19 18.5	
IMP				*e*x	x	09 19 47.0	
GZH	**Guangzhou**	**29.50**	**24**	P	P	09 19 16.1	+5.6
GZH				PP	**PP**	**09 20 22.8**	**+5.3**
GZH				S	S	09 24 21.7	+19
GZH				LR	LR		
	comp=N,2μm,13.3s						
GZH				LR	LR		
	comp=E,2μm,13.5s						
NJS	**Nagarjunasagar**	**29.52**	**314**	*e*P	**P**	**09 19 11.8**	**+1.0**
NJS				*e*pP	**pP**	**09 19 19.4**	**-1.2**
NJS				*e*		09 20 17.4	
NJS				*e*PcP	**PcP**	**09 22 16.7**	**+0.9**
NJS				*e*S	**S**	**09 24 04.9**	**+1.4**
NJS				IVMs_BB	IVMs_BB	09 31 58.7	
	comp=Z,539nm,19.5s						
URV	**Uravakonda**	**30.03**	**309**	*e*P	**P**	**09 19 16.1**	**+0.7**
URV				*e*		09 25 35.6	
URV				IVMs_BB	IVMs_BB	09 31 37.5	
	comp=Z,498nm,17.5s						
HYB	**Hyderabad**	**30.63**	**315**	*i* P	**P**	**09 19 20.0**	**-0.7**
SHL	**Shillong**	**30.63**	**344**	*e*P	**P**	**09 19 21.0**	**+0.3**
SHL				*e*S	S	09 24 45.0	+24
HYBB	**Hyderabad (bro**	**30.63**	**315**	*e*P	**P**	**09 19 20.9**	**+0.2**
GYA	**Guiyang**	**30.75**	**10**	⇑*i*P	**P**	**09 19 21.1**	**-0.6**
GYA				pP	**pP**	**09 19 34.2**	**+2.7**
GYA				PP	**PnPn**	**09 20 26.8**	**+4.4**
GYA				PcP	**PcP**	**09 22 20.0**	**+1.1**
GYA				S	**S**	**09 24 24.5**	**+1.7**
GYA				sS	**sS**	**09 24 40.0**	**+1.0**
GYA				SS	**SnSn**	**09 26 10.4**	**+7.4**
GYA				PMZ			
	comp=Z,100nm,0.8s						
GYA				PMZ			
	comp=Z,190nm,5.0s						
GYA				LN			
	comp=Z,870nm,15.8s						
GYA				LE			
	comp=Z,640nm,16.2s						
GYA				LZ			
	comp=Z,780nm,15.9s						
RPR	**Rampur**	**31.10**	**318**	*e*P	**P**	**09 19 25.6**	**+0.9**
RPR				*e*S	**S**	**09 24 26.7**	**-1.5**
RPR				IVMs_BB	IVMs_BB	09 31 09.6	
	comp=Z,398nm,21.9s						
FAKI	**Fak Fak**	**31.30**	**89**	P	P	09 19 19.0	-7.6
FAKI	**Fak Fak**	**31.30**	**89**	*e*P	**P**	**09 19 25.4**	**-1.2**
	comp=Z,53nm,1.0s						
H01W3	**Cape Leeuwin H**	**33.12**	**160**	T	T	09 54 24.2	
	baz=337,slow=76,SNR=75						
H01W2	**Cape Leeuwin H**	**33.14**	**160**	T	T	09 54 25.2	
	baz=337,slow=76,SNR=81						
H01W1	**Cape Leeuwin H**	**33.14**	**160**	T	T	09 54 25.4	
	baz=337,slow=76,SNR=80						
ODAN	**Odare**	**33.31**	**338**	*e*P	**P**	**09 19 45.5**	**+1.2**
	comp=Z,209nm,0.7s						
QZH	**Quanzhou**	**33.48**	**30**	⇑*i*P	**P**	**09 19 44.9**	**-0.6**
QZH				S	**S**	**09 25 08.1**	**+3.0**
QZH				PMZ			
	comp=Z,470nm,3.3s						
QZH				LN			
	comp=Z,2μm,15.0s						
QZH				LE			
	comp=Z,1μm,12.2s						
QZH				LZ			
	comp=Z,2μm,15.8s						
TAPN	**Taplejung**	**33.64**	**338**	*e*P	**P**	**09 19 48.7**	**+1.5**
	comp=Z,480nm,0.9s						
YULB	**Yu-li**	**33.69**	**35**	*e*P	**P**	**09 19 48.5**	**+1.2**
	comp=Z,13nm,0.8s						
RAMN	**Ramite**	**33.70**	**337**	*e*P	**P**	**09 19 49.2**	**+1.5**
	comp=Z,130nm,0.6s						
SSLB	**Suanglung**	**33.80**	**34**	*e*P	**P**	**09 19 47.5**	**-0.9**
	comp=Z,16nm,0.7s						
NACB	**Ninganchiao**	**34.47**	**35**	*e*P	**P**	**09 19 53.6**	**-0.5**
	comp=Z,34nm,0.9s						
JIRN	**Jiri**	**34.50**	**337**	*e*P	**P**	**09 19 56.1**	**+1.3**
	comp=Z,292nm,0.7s						
YHNB	**Yeheng**	**34.73**	**34**	P	**P**	**09 19 55.4**	**-1.1**
	comp=Z,25nm,1.0s						
PKI	**Pulchoki**	**34.73**	**335**	*e*P	**P**	**09 19 57.7**	**+0.9**
	comp=Z,50nm,0.6s						
PKIN	**Phulchoki**	**34.74**	**335**	*e*P	**P**	**09 19 58.0**	**+1.2**
	comp=Z,49nm,0.7s						
LSA	**Lhasa**	**34.75**	**345**	P	**P**	**09 19 57.5**	**+0.4**
LSA	**Lhasa**	**34.75**	**345**	*e*P	**P**	**09 19 57.5**	**+0.4**
LSA				pmax	pmax		
	comp=Z,17nm,0.6s						
LSA	**Lhasa**	**34.75**	**345**	*e*P	**P**	**09 19 57.5**	**+0.4**
	comp=Z,17nm,0.6s						
CD2	**Chengdu**	**34.78**	**4**	*e*P	**P**	**09 19 55.8**	**-1.0**
CD2				pP	**pP**	**09 20 03.3**	**-3.4**
CD2				sP	**sP**	**09 20 06.9**	**-3.9**
CD2				PP	**PP**	**09 21 17.1**	**+0.9**
CD2				PcP	**PcP**	**09 22 28.4**	**-1.5**
CD2				S	**S**	**09 25 23.2**	**-2.1**
CD2				ScS	**ScS**	**09 30 17.0**	**+0.6**
CD2				PMZ			
	comp=Z,130nm,0.7s						
CD2				PMZ			
	comp=Z,270nm,11.8s						
CD2				LN			
	comp=Z,4μm,16.6s						
CD2				LE			
	comp=Z,5μm,17.8s						
CD2				LZ			
	comp=Z,4μm,17.8s						
GUN	**Gumba**	**34.84**	**336**	*e*P	**P**	**09 19 59.1**	**+1.4**
	comp=Z,246nm,0.6s						
DMN	**Daman**	**34.89**	**335**	*e*P	**P**	**09 19 59.0**	**+0.9**
	comp=Z,76nm,0.9s						
KKN	**Kakani**	**34.98**	**335**	*e*P	**P**	**09 19 59.7**	**+0.9**
	comp=Z,108nm,0.7s						

SSE PMZ
comp=Z,150nm,5.5s
SSE LN
comp=Z,1μm,14.5s
SSE LE
comp=Z,370nm,14.5s
SSE LZ
comp=Z,1μm,15.1s
LZH Lanzhou 39.94 4 ⇑P P 09 20 41.0 +0.4
LZH pP pP 09 20 50.7 +0.2
LZH sP sP 09 20 54.5 -0.1
LZH PP PnPn 09 22 19.0 +2.7
LZH PcP PcP 09 22 46.5 +0.8
LZH PcS PcS 09 26 34.2 -1.9
LZH S S 09 26 44.6 +0.9
LZH sS sS 09 27 00.0 -0.1
LZH SS SS 09 29 36.0 -5.3
LZH ScS ScS 09 30 44.0 -1.5
LZH PMZ
comp=Z,190nm,1.3s
LZH PMZ
comp=Z,460nm,5.2s
LZH LN
comp=Z,3μm,14.0s
LZH LE
comp=Z,2μm,13.0s
LZH LZ
comp=Z,3μm,16.8s
TIA Tai'an 42.75 19 ⇑P P 09 21 02.4 -1.1
TIA S S 09 27 26.6 +1.5
TIA PMZ
comp=Z,40nm,0.8s
TIA PMZ
comp=Z,340nm,4.2s
TIA LN
comp=Z,1μm,18.1s
TIA LE
comp=Z,2μm,18.4s
TIY Taiyuan 42.83 13 *e*P P 09 21 03.9 -0.3
TIY pP pP 09 21 18.4 +4.2
TIY PMZ
comp=Z,47nm,0.6s
TIY PMZ
comp=Z,290nm,6.1s
TIY LN
comp=Z,1μm,13.6s
TIY LE
comp=Z,830nm,13.9s
TIY LZ
comp=Z,850nm,11.8s
GTA Gaotai 43.17 359 ⇑P P 09 21 07.3 +0.3
GTA pP pP 09 21 17.0 0.0
GTA sP sP 09 21 20.9 -0.2
GTA PcP PcP 09 22 55.9 -0.3
GTA S S 09 27 32.7 +1.2
GTA sS sS 09 27 49.1 +1.1
GTA SS SS 09 30 40.1 -5.1
GTA PMZ
comp=Z,51nm,2.0s
GTA PMZ
comp=Z,430nm,7.4s
GTA LN
comp=Z,2μm,17.1s
GTA LE
comp=Z,2μm,18.5s
GTA LZ
comp=Z,3μm,16.1s
BTO Baotou 45.13 10 *e*P P 09 21 22.1 -0.6
HHC Hu-ho-hao-te 45.65 11 *e*P P 09 21 27.4 +0.6
HHC pP pP 09 21 37.0 +0.1
HHC sP sP 09 21 41.7 +0.8
HHC PP PP 09 23 11.7 -2.4
HHC S S 09 28 08.4 +0.9
HHC SS ScS 09 31 21.7 +1.1
HHC PMZ
comp=Z,79nm,1.0s
HHC PMZ
comp=Z,340nm,5.6s
HHC LN
comp=Z,2μm,13.1s
HHC LE
comp=Z,1μm,13.9s
HHC LZ
comp=Z,2μm,13.7s
BJT Baijiatuau 45.96 16 *e*P P 09 21 29.1 0.0
BJT pmax pmax
comp=Z,45nm,0.6s
BJT Baijiatuau 45.96 16 *e*P P 09 21 29.1 0.0
comp=Z,45nm,0.6s
BJI Beijing 45.98 16 P P 09 21 29.0 -0.2
BJI PP PP 09 23 18.4 +0.9
BJI S S 09 28 15.0 +3.0
BJI sS sS 09 28 30.7 +2.1
BJI PMZ
comp=Z,65nm,0.8s
BJI PMZ
comp=Z,270nm,5.4s
BJI LN
comp=Z,2μm,18.0s
BJI LE
comp=Z,680nm,18.5s
BJI LZ
comp=Z,1μm,21.4s
PMG Port Moresby 46.22 99 *e*P P 09 21 32.2 +0.6
PMG pmax pmax
comp=Z,174nm,1.2s
JNU Nakatsue 46.53 35 P P 09 21 32.7 -1.1
comp=Z,73nm,0.8s
JNU Nakatsue 46.53 35 *e*P P 09 21 32.6 -1.2
comp=Z,31nm,0.9s
DL2 Dalian 46.76 22 *e*P P 09 21 39.5 +4.2
DL2 S S 09 28 30.6 +7.5
DL2 PMZ
comp=Z,39nm,1.4s
DL2 PMZ
comp=Z,250nm,2.9s
DL2 LE
comp=Z,700nm,16.7s
DL2 LZ
comp=Z,790nm,12.8s
CTAO Charters Tower 46.96 114 *e*P P 09 21 36.9 -0.5
CTAO pmax pmax
comp=Z,60nm,1.0s
CTAO Charters Tower 46.96 114 *e*P P 09 21 36.9 -0.5
comp=Z,60nm,1.0s
STKA Stephens Creek 47.18 131 P P 09 21 39.5 +0.6
comp=Z,19nm,0.9s,baz=305,slow=7.4,SNR=34
STKA LR LR 09 41 20.0
comp=Z,1μm,21.9s,baz=296,slow=36
KSAR Wonju Array Be 48.23 29 P P 09 21 46.4 -0.5
KSAR 09 23 14.1
KSAR Wonju Array Be 48.23 29 P P 09 21 46.4 -0.5
KSAR PcP PcP 09 23 14.1 +0.4
KSRS Korea Array 48.26 29 P P 09 21 46.4 -0.7
comp=Z,33nm,0.9s,baz=219,slow=7.5,SNR=62
KSRS PcP PcP 09 23 14.1 +0.3
comp=Z,4.3nm,0.9s,baz=208,slow=2.6,SNR=4.8
KBL Kabul 48.65 325 *e*P P 09 21 50.5 +0.1
KBL pmax pmax
comp=Z,14nm,0.6s
KBL Kabul 48.65 325 *e*P P 09 21 50.5 +0.1
comp=Z,14nm,0.6s
KSH Kashi 48.98 334 P P 09 21 52.1 -0.7
KSH pP pP 09 22 02.0 -1.0
KSH PP PP 09 23 45.3 -1.3
KSH PcS PcS 09 27 11.9 -1.0
KSH S S 09 28 51.9 -3.1
KSH sS sS 09 29 08.5 -3.3
KSH ScS ScS 09 31 39.0 -3.7
KSH SS SS 09 32 17.8 -8.6
KSH PMZ
comp=Z,140nm,2.2s
KSH LN
comp=Z,630nm,19.3s
KSH LE
comp=Z,960nm,20.3s
KSH LZ
comp=Z,1μm,22.2s
WMQ Urumqi 49.03 347 P P 09 21 53.8 +0.8
WMQ pP pP 09 22 03.7 +0.5
WMQ sP sP 09 22 07.6 +0.4
WMQ PcP PcP 09 23 18.0 +1.5
WMQ PP PP 09 23 47.2 +0.3
WMQ ScP ScP 09 27 08.9 -0.4
WMQ S S 09 28 54.8 -0.6
WMQ sS sS 09 29 11.6 -0.6
WMQ ScS ScS 09 31 41.1 -1.6
WMQ SS SS 09 32 21.4 -5.5
WMQ PMZ
comp=Z,74nm,0.7s
WMQ PMZ
comp=Z,450nm,4.0s
WMQ LN
comp=Z,660nm,17.6s
WMQ LE
comp=Z,750nm,20.0s
WMQ LZ
comp=Z,580nm,24.0s
CBIJ Chichi jima 50.41 50 *e*P P 09 22 03.6 -0.1
comp=Z,375nm,2.5s
PDGK Podgornoye 50.89 340 P P 09 22 07.9 +0.9
PDGK pmax pmax
comp=Z,73nm,0.8s
ULHL Ulahol 51.16 337 P P 09 22 09.9 +0.6
SNR=22
ULHL Ulahol 51.16 337 *i*P P 09 22 09.9 +0.6
KZA Kyzart 51.42 336 P P 09 22 12.3 +0.8
SNR=28
KZA Kyzart 51.42 336 *i*P P 09 22 12.3 +0.8
SONM Songino Array 51.80 5 P P 09 22 14.9 +0.9
comp=Z,75nm,0.7s,baz=186,slow=9.4,SNR=163
SONM PcP PcP 09 23 26.3 -0.4
comp=Z,11nm,0.8s,baz=188,slow=4.4,SNR=3.6
UCH Uchtor 51.85 335 P P 09 22 15.4 +0.6
SNR=13
UCH Uchtor 51.85 335 *i*P P 09 22 15.4 +0.6
ULN Ulaanbaatar 51.89 5*c i*P P 09 22 15.0 +0.3
ULN pmax pmax
comp=Z,44nm,0.8s
ULN Ulaanbaatar 51.89 5 *e*P P 09 22 15.2 +0.6
comp=Z,39nm,0.7s
TKM2 Tokmak 2 51.98 337 P P 09 22 16.1 +0.6
SNR=108
TKM2 Tokmak 2 51.98 337 *i*P P 09 22 16.1 +0.6
TKM2 Tokmak 2 51.98 337 *e*P P 09 22 16.0 +0.5
comp=Z,60nm,0.7s
KBK Karagaybulak 52.02 336 P P 09 22 16.9 +1.2
SNR=17
KBK Karagaybulak 52.02 336 *i*P P 09 22 16.9 +1.2
AML Almayashu 52.12 334 P P 09 22 17.4 +0.7
SNR=20
AML Almayashu 52.12 334 *i*P P 09 22 17.4 +0.7
AAK Ala-Archa 52.19 335 P P 09 22 17.9 +0.9
comp=Z,93nm,0.8s,SNR=10
AAK Ala-Archa 52.19 335 P P 09 22 17.9 +0.9
SNR=11
AAK Ala-Archa 52.19 335 P P 09 22 17.4 +0.4
comp=Z,11nm,0.9s,baz=140,slow=6.6,SNR=26
AAK LR LR 09 47 04.0
comp=Z,1μm,20.5s,baz=132,slow=39
AAK Ala-Archa 52.19 335*c i*P P 09 22 17.6 +0.6
AAK pmax pmax
comp=Z,96nm,2.5s
AAK Ala-Archa 52.19 335 *e*P P 09 22 17.1 +0.1
comp=Z,15nm,0.9s
PAF Port-aux-Franc 52.20 205 P P 09 22 15.0 -1.7
PAF S S 09 29 35.0 -4.1
PAF SS SS 09 33 24.0 +7.1
PAF R 09 37 00.0
FRU Bishkek 52.30 336 *e*P P 09 22 18.0 +0.3
FRU pmax pmax
comp=Z,250nm,3.0s
CHMS Chumysh 52.39 336 P P 09 22 18.5 +0.2
SNR=11
CHMS Chumysh 52.39 336 *i*P P 09 22 18.5 +0.2
CN2 Changchun 52.43 22 *e*P P 09 22 16.6 -1.9
CN2 *e*sP sP 09 22 34.5 +1.7
CN2 *e*S S 09 29 38.9 -3.5
CN2 PMZ
comp=Z,10.0nm,0.7s
CN2 PMZ
comp=Z,200nm,3.0s
CN2 LN
comp=Z,1μm,17.0s
CN2 LE
comp=Z,1μm,17.0s
CN2 LZ
comp=Z,390nm,19.0s
EKS2 Erkin-Say 52.51 335 P P 09 22 20.2 +0.8
SNR=63
EKS2 Erkin-Say 52.51 335 *i*P P 09 22 20.2 +0.8
EKS2 Erkin-Say 52.51 335 *e*P P 09 22 20.2 +0.8
comp=Z,61nm,0.8s
EIDS Eidsvold 52.61 119 *e*P P 09 22 20.7 +0.5
comp=Z,27nm,1.0s
USP Ospenovka 52.71 336 P P 09 22 21.1 +0.3
SNR=17
USP Ospenovka 52.71 336 *i*P P 09 22 21.0 +0.3
MK31 Makanchi Array 53.15 344 *i*P P 09 22 23.6 -0.3
MK31 pmax pmax
comp=N,62nm,0.7s
MKAR Makanchi Array 53.15 344 P P 09 22 23.8 0.0
comp=N,56nm,0.7s,baz=183,slow=6.9,SNR=422
MKAR LR LR 09 49 25.8
comp=N,415nm,18.1s,baz=146,slow=41
MKAR Makanchi Array 53.15 344*c e*P P 09 22 23.7 -0.2
MKAR pmax pmax
comp=Z,56nm,0.7s
MAJO Matsushiro 53.24 38*c i*P P 09 22 22.5 -2.2
MAJO pmax pmax
comp=Z,194nm,1.0s
MAJO Matsushiro 53.24 38 *e*P P 09 22 22.8 -2.0
comp=Z,24nm,0.8s
MAT Matsushiro 53.24 38 P P 09 22 22.6 -2.1
MAT S S 09 30 04.6 +11
MJAR Matsushiro Arr 53.24 38 P P 09 22 22.7 -2.1
comp=Z,38nm,0.8s,baz=214,slow=7.6,SNR=113
MJAR PcP PcP 09 23 32.1 -0.1
comp=Z,6.3nm,0.8s,baz=204,slow=4.4,SNR=4.1
ZAK Zakamensk 54.17 2 *e*P P 09 22 31.0 -0.3
ZAK pmax pmax
comp=Z,14nm,0.8s
KK31 Karatay Array 54.30 333 *i*P P 09 22 31.3 -1.1
KK31 pmax pmax
comp=N,5.0nm,0.5s
KKAR Karatay Array 54.30 333 *e*P P 09 22 31.6 -0.7
KKAR Karatay Array 54.30 333 *e*P P 09 22 31.6 -0.7
OPO Ambohidratompo 54.43 250 P P 09 22 36.3 +2.4
comp=N,6.8nm,0.8s,baz=67,slow=6.1,SNR=9.2
OPO LR LR 09 40 03.7
comp=N,665nm,21.9s,baz=87,slow=30
ARMA Armidale 54.54 125 *e*P P 09 22 36.5 +2.0
comp=N,44nm,1.0s
VLA Vladivostok 54.58 28 *i*P P 09 22 32.8 -1.5
VLA pmax pmax
comp=Z,23nm,0.9s
MDJ Mudanjiang 54.76 25 P P 09 22 35.9 +0.3
MDJ pP pP 09 22 44.7 -1.2
MDJ sP sP 09 22 48.4 -1.5
MDJ S S 09 30 18.9 +4.9
MDJ sS sS 09 30 30.9 0.0
MDJ PMZ
comp=Z,18nm,0.9s
MDJ PMZ
comp=Z,340nm,4.6s
MDJ LN
comp=Z,730nm,19.7s
MDJ LE
comp=Z,570nm,19.2s
MDJ LZ
comp=Z,560nm,21.6s
IMYA Miami 55.31 320 *e*P P 09 22 39.4 -0.5
MOY Mondy 55.41 0 *e*P P 09 22 40.4 0.0
MOY pmax pmax
comp=Z,48nm,3.4s
USRK Ussuriysk Ar. 55.47 27 P P 09 22 40.1 -0.6
comp=Z,86nm,0.8s,baz=220,slow=5.9,SNR=114
USRK LR LR 09 48 06.3
comp=Z,851nm,19.0s,baz=214,slow=38
TLY Talaya 55.48 2 P P 09 22 41.2 +0.5
comp=Z,256nm,0.7s,SNR=22
TLY Talaya 55.48 2 P P 09 22 41.5 +0.7
comp=Z,26nm,0.7s,baz=215,slow=7.2,SNR=47
TLY LR LR 09 49 43.1
comp=Z,678nm,19.6s,baz=186,slow=40
TLY Talaya 55.48 2 *e*P P 09 22 41.4 +0.7
TLY *e* 09 24 41.5
TLY *e*PPP PPP 09 26 01.4
TLY *e*S S 09 30 13.8 -10
TLY pmax pmax
comp=Z,36nm,0.9s
TLY MLR MLR
comp=Z,1μm,15.0s
TLY Talaya 55.48 2 *e*P P 09 22 41.4 +0.7
comp=Z,30nm,0.7s
HIA Hailar 55.48 15⇓*i*P P 09 22 40.2 -0.6
HIA pmax pmax
comp=Z,11nm,0.8s
HIA Hailar 55.48 15 *e*P P 09 22 40.2 -0.6
comp=Z,17nm,0.8s
IMOG Moghan 55.66 319 *e*P P 09 22 42.5 -0.1
IBAF Bafgh 55.76 313 *e*P P 09 22 43.4 +0.1
IRK Irkutsk 56.07 2 *e*P P 09 22 42.0 -2.9
IRK pmax pmax
comp=Z,62nm,2.9s
IAKL Akhelmad 56.33 320 *e*P P 09 22 46.8 -0.6
ISRV Sarvestan 56.53 309 *e*P P 09 22 48.6 -0.5
IPAR Pars 56.80 310 *e*P P 09 22 51.0 +0.1
GEYT Alibeck 57.53 320 P P 09 22 55.9 +0.3
comp=Z,19nm,0.8s,baz=145,slow=5.4,SNR=26
GEYT LR LR 09 48 37.5
comp=Z,468nm,21.1s,baz=125,slow=37
ISHV Shirvan 57.56 320 *e*P P 09 22 56.1 0.0
KURBB Kurchatov Arra 57.68 343 P P 09 22 56.1 -0.2
comp=Z,46nm,0.8s,baz=164,slow=6.6,SNR=61
OTUK Ortayu 57.68 338 P P 09 22 56.0 -0.4
OTUK pmax pmax
comp=Z,35nm,0.8s
KURK Kurchatov 57.73 343 P P 09 22 56.0 -0.7
comp=Z,344nm,0.7s,SNR=33
KURK Kurchatov 57.73 343 *e*P P 09 22 56.5 -0.2
KURK Kurchatov 57.73 343 *e*P P 09 22 56.5 -0.2
HNR Honiara 58.83 99 *e*P P 09 23 03.6 -1.5
HNR pmax pmax
comp=Z,141nm,0.9s
HNR Honiara 58.83 99 *e*P P 09 23 03.6 -1.5
comp=Z,141nm,0.9s
IANJ Anjilo 58.95 316 *e*P P 09 23 05.5 -0.3
ZAA0 Zalesovo Array 59.25 349 *e*P P 09 23 06.9 -0.4
ZALV Zalesovo Beam 59.25 349 P P 09 23 06.9 -0.3
comp=Z,93nm,0.8s,baz=172,slow=6.1,SNR=272
ZALV LR LR 09 51 22.2
comp=Z,812nm,22.0s,baz=74,slow=39
ZALV Zalesovo Beam 59.25 349 *i*P P 09 23 06.9 -0.3
ZALV pmax pmax
comp=Z,95nm,0.7s
KLR Kul'dur 59.36 23 *e*P P 09 23 03.6 -4.5
IGLO Ghaloghah 59.55 317 *e*P P 09 23 09.5 -0.4
ISHM Shahmirzad 59.56 316 *e*P P 09 23 10.2 +0.1
CRZF Crozet Islands 59.88 217 P P 09 23 04.0 -7.7
CRZF S S 09 31 07.0 -14
CRZF L L 09 37 00.0
CRZF R 09 40 00.0
IALA Alasht 60.03 316 *e*P P 09 23 14.2 +0.8
HABR Khabarovsk 60.12 26 *e*P P 09 23 10.8 -2.5
HABR *e**PP pP 09 23 21.0 -2.6
HABR *e*SP 09 23 25.1
HABR *e* 09 23 56.3
HABR *e* 09 26 46.3
HABR S S 09 31 21.6 -2.6
HABR *e*SS x 09 31 39.0
HABR 09 32 58.8
HABR *e*SS SS 09 35 21.0 -0.7
HABR pmax pmax
comp=Z,142nm,2.5s
HABR MLR MLR
comp=Z,757nm,20.0s
KRAR Krasnoyarsk 60.13 355 *e*P P 09 23 11.2 -2.0
KRAR pmax pmax
comp=Z,60nm,0.5s
NVS Novosibirsk 60.41 348⇑*i*P P 09 23 13.3 -1.8
NVS *e*S S 09 31 22.3 -5.4
NVS pmax pmax
comp=N,13nm,0.7s
NVS pmax pmax
comp=E,9.0nm,0.7s
NVS pmax pmax
comp=Z,19nm,0.7s
NVS smax smax
comp=N,21nm,2.2s
NVS smax smax
comp=E,32nm,2.0s
RAYN Ar Rayn 60.48 300 *e*P P 09 23 17.0 +0.7
comp=E,4.4nm,0.9s
ASAJ Asahikawa 60.73 33 P P 09 23 16.7 -0.9
comp=E,18nm,0.8s,baz=236,slow=6.9,SNR=7.7
IRAZ Razeghan 61.74 314 *e*P P 09 23 25.4 +0.5
BVA0 Borovoye Array 62.33 340 *i*P P 09 23 27.6 -0.6
BVA0 pmax pmax
comp=N,29nm,0.7s
BVAR Borovoye Array 62.33 340 P P 09 23 27.3 -0.9
comp=N,45nm,0.7s,baz=146,slow=8.7,SNR=75
BVAR LR LR 09 54 01.3
comp=N,404nm,19.1s,baz=156,slow=40
BRVK Borovoye 62.39 340 P P 09 23 27.5 -1.1
comp=N,279nm,0.7s,SNR=6.3
BRVK Borovoye 62.39 340*c i*P P 09 23 27.9 -0.7
BRVK pmax pmax
comp=Z,34nm,0.8s
BRVK Borovoye 62.39 340 *e*P P 09 23 27.2 -1.4
comp=Z,32nm,0.7s
BOD Bodaibo 62.48 8⇓*i*P P 09 23 28.6 -0.5
BOD pmax pmax
comp=Z,34nm,0.9s
YSS Yuzh-Sakhalins 62.67 31⇑*e*P P 09 23 29.8 -0.8
YSS *e* 09 23 44.0
YSS *e*S S 09 31 53.0 -3.7
YSS pmax pmax
comp=Z,60nm,1.0s
YSS MLR MLR
comp=Z,300nm,18.0s
YSS Yuzh-Sakhalins 62.67 31 *e*P P 09 23 30.2 -0.3
comp=Z,61nm,0.9s
YSS *e*pP pP 09 23 42.0 +1.0
KMBO Kilima Mbogo 63.64 271 P P 09 23 39.5 +1.5
comp=Z,0.7nm,0.3s,baz=63,slow=11,SNR=2.5
CLNS Chul'man 63.67 14 *e*P P 09 23 36.3 -0.8
CLNS pmax pmax
comp=Z,26nm,1.0s
CLNS pmax pmax
comp=N,11nm,0.8s
CLNS pmax pmax
comp=E,11nm,0.9s
CLNS MLR MLR
comp=E,573nm,16.0s
CLNS MLR MLR
comp=Z,1μm,14.0s
CLNS MLR MLR
comp=N,1μm,14.0s
AB31 Akbulak array 63.79 331 *i*P P 09 23 37.1 -0.8
AB31 pmax pmax
comp=N,29nm,0.7s
ABKAR Akbulak array 63.79 331 *e*P P 09 23 37.5 -0.4
IDHR Dehrash 64.01 312 *e*P P 09 23 39.0 -1.0
ISRB Sarab 64.48 315 *e*P P 09 23 43.1 +0.1
AKTO Aktyubinsk 65.50 331 P P 09 23 48.6 -0.6
comp=N,5.7nm,0.7s,baz=112,slow=8.3,SNR=22
AKTO LR LR 09 54 46.0
comp=N,369nm,21.8s,baz=137,slow=38
AKTO Aktyubinsk 65.50 331 P P 09 23 48.2 -0.9
AKTO pmax pmax
comp=Z,44nm,1.4s
DZM Mont Dzumac 65.87 112 *e*S S 09 32 36.4 -1.0
comp=Z,531nm,28.8s
DZM Mont Dzumac 65.87 112 *e*LR LR 09 43 38.4
comp=Z,1μm,23.4s
MAK Makhachkala 67.05 320 *e*P P 09 23 57.7 -1.4
MAK *e* 09 24 26.0
MAK *e*PPP PPP 09 28 04.0
MAK *e*S S 09 32 49.6 -1.1
MAK pmax pmax
comp=Z,46nm,0.8s
TBLG Delisi 68.27 318 P P 09 24 07.6 +0.6
MAW Mawson 68.62 195 P P 09 24 10.2 +1.5
comp=Z,4.7nm,0.8s,baz=34,slow=8.5,SNR=9.1
MAW LR LR 09 47 32.3
comp=Z,928nm,21.6s,baz=56,slow=30
MAW Mawson 68.62 195 *e*P P 09 24 09.8 +1.2
MAW pmax pmax
comp=Z,2.0nm,1.1s
MAW Mawson 68.62 195 *e*P P 09 24 09.8 +1.2
comp=Z,2.5nm,1.1s
SVE Sverdlovsk 68.83 338*de*P P 09 24 10.4 +0.3
SVE *e* 09 26 42.1
SVE pmax pmax
comp=Z,45nm,0.9s

SVE MLR MLR
comp=Z,1µm,22.0s
H11N1 WAKE ISLAND Hy 68.93 67 P **P** **09 24 09.5 -1.7**
baz=258,slow=6.3,SNR=9.5
H11N2 WAKE ISLAND Hy 68.94 67 P **P** **09 24 10.1 -1.2**
baz=258,slow=6.3,SNR=6.0
H11N3 WAKE ISLAND Hy 68.95 67 P **P** **09 24 10.4 -0.9**
baz=258,slow=6.3,SNR=9.4
ZEI Tsey 69.30 319 *e*P **P** **09 24 13.3 -0.3**
ZEI pmax pmax
comp=Z,28nm,0.8s
ARU Arti 69.36 336*c i*P **P** **09 24 13.0 -0.4**
ARU 09 24 34.0
ARU 09 26 49.5
ARU S **S** **09 33 19.8 +2.0**
ARU SS **SS** **09 37 42.0 -3.4**
ARU pmax pmax
comp=Z,46nm,1.7s
ARU MLR MLR
comp=Z,617nm,18.0s
ARU Arti 69.36 336 *e*P **P** **09 24 13.2 -0.2**
comp=Z,21nm,0.9s
YAK Yakutsk 69.41 14 P **P** **09 24 12.1 -1.5**
comp=Z,71nm,0.6s,baz=37,slow=0.5,SNR=20
YAK LR LR 09 58 23.0
comp=Z,937nm,18.4s,baz=246,slow=39
YAK Yakutsk 69.41 14 *e*P **P** **09 24 11.4 -2.1**
YAK *e**PP **pP** **09 24 20.0 -4.1**
YAK *e* 09 24 34.9
YAK *e* 09 26 44.1
YAK *e*PPP PPP 09 28 25.7
YAK *e*S **S** **09 33 13.4 -4.7**
YAK *e* 09 34 09.0
YAK pmax pmax
comp=E,14nm,1.2s
YAK pmax pmax
comp=Z,82nm,0.8s
YAK pmax pmax
comp=N,16nm,1.2s
YAK pmax pmax
comp=Z,203nm,6.4s
YAK smax smax
comp=N,125nm,5.7s
YAK smax smax
comp=E,55nm,2.4s
YAK MLR MLR
comp=Z,1µm,20.0s
YAK MLR MLR
comp=E,588nm,17.0s
YAK MLR MLR
comp=N,656nm,15.0s
YAK Yakutsk 69.41 14 *e*P **P** **09 24 11.8 -1.8**
comp=N,97nm,0.7s
ONI Oni 69.51 318 P **P** **09 24 15.9 +1.1**
KBZ Khabaz 70.38 319 P **P** **09 24 20.2 +0.3**
comp=N,22nm,0.7s,baz=236,slow=24,SNR=55
ASF Jabal al Asfar 70.47 306 P **P** **09 24 22.6 +1.7**
comp=N,12nm,0.8s,baz=63,slow=3.3,SNR=19
KIV Kislovodsk 70.61 319 *e*P **P** **09 24 21.9 +0.4**
KIV *e* 09 24 42.2
KIV *e*S **S** **09 33 34.1 +0.9**
KIV pmax pmax
comp=Z,21nm,0.8s
KIV MLR MLR
comp=Z,199nm,17.0s
KIV Kislovodsk 70.61 319 *e*P **P** **09 24 22.4 +0.9**
comp=Z,20nm,0.7s
MALT Malatya 71.32 313 ⇑P **P** **09 24 26.9 +0.9**
MALT Malatya 71.32 313 ⇑*i*P **P** **09 24 26.9 +0.9**
EIL Elat 71.34 303 P **P** **09 24 27.4 +1.3**
comp=Z,18nm,0.7s,baz=33,slow=1.9,SNR=21
MMAI Mount Meron Ar 71.92 306 P **P** **09 24 31.2 +1.5**
comp=Z,12nm,0.7s,baz=99,slow=7.4,SNR=12
SOKR Solikamsk 72.23 338*c i*P **P** **09 24 31.1 +0.4**
SOKR pmax pmax
comp=Z,50nm,0.9s
SOKR MLR MLR
comp=Z,810nm,24.0s
SOC Sochi 72.41 318 *e*P **P** **09 24 31.5 -0.7**
SOC *e* 09 27 17.3
SOC *e*S **S** **09 33 50.9 -2.9**
SOC *e*SSS SSS 09 41 48.1
SOC pmax pmax
comp=Z,25nm,0.6s
SOC MLR MLR
comp=Z,382nm,21.0s
PETK Petropavlovsk- 74.06 32 P **P** **09 24 40.5 -1.3**
comp=Z,11nm,0.8s,baz=216,slow=7.1,SNR=17
CSS Prodhromos 74.13 308 *e*P **P** **09 24 42.1 -0.5**
comp=Z,4.6nm,0.9s
ANN Anapa 74.40 319 P **P** **09 24 41.7 -2.2**
ANN pmax pmax
comp=Z,25nm,1.2s
PET Petropavlovsk 74.52 32⇓*i*P **P** **09 24 43.2 -1.2**
PET *e*S **SKiKP** **09 34 11.0 +2.8**
PET *e*PS PnS 09 34 38.7 -16
PET *e*SSS SSS 09 42 07.9
PET pmax pmax
comp=Z,53nm,0.7s
PET pmax pmax
comp=Z,200nm,17.4s
PET Petropavlovsk 74.52 32 *e*P **P** **09 24 43.8 -0.6**
comp=Z,36nm,0.8s
LBTB Lobatse 75.03 245 P **P** **09 24 49.2 +1.1**
comp=Z,3.2nm,0.9s,baz=98,slow=7.1,SNR=4.3
BRTR Keskin Array B 75.31 313 P **P** **09 24 48.8 -0.6**
comp=Z,15nm,0.7s,baz=124,slow=7.3,SNR=84
BRTR LR LR 10 00 09.3
comp=Z,278nm,20.7s,baz=110,slow=38
BRTR Keskin Array B 75.31 313*ce*P **P** **09 24 49.0 -0.5**
BRTR pmax pmax
comp=Z,15nm,0.7s
VORD Divnogorie 75.72 325 *e*P **P** **09 24 50.8 -0.5**
VORD pmax pmax
comp=Z,7.0nm,0.8s
VORD pmax pmax
comp=N,40nm,1.4s
VORD pmax pmax
comp=E,70nm,1.4s
VSR Storozhevoye 75.89 325 *e*P **P** **09 24 51.4 -1.0**
VSR pmax pmax
comp=Z,30nm,0.8s
VSR pmax pmax
comp=N,50nm,1.5s
VSR pmax pmax
comp=E,10.0nm,0.7s
ANTO Ankara 75.97 313 *e*P **P** **09 24 53.0 -0.2**
ANTO pmax pmax
comp=Z,12nm,0.8s
ANTO Ankara 75.97 313 *e*P **P** **09 24 53.0 -0.2**
comp=Z,12nm,0.8s
BKZ Black Stump Fm 76.33 129 *e*P **P** **09 24 55.8 +0.5**
comp=Z,55nm,0.7s
LPSR Galich'ya Gora 76.62 326 *e*P P 09 24 52.1 -4.3
LPSR pmax pmax
comp=Z,10.0nm,0.8s
LPSR pmax pmax
comp=N,5.0nm,0.5s
LPSR pmax pmax
comp=E,8.0nm,0.6s
SEY Seymchan 77.10 22 P **P** **09 24 58.6 -0.3**
comp=E,18nm,0.8s,baz=231,slow=8.8,SNR=68
TIXI Tiksi 77.64 9⇑*i*P **P** **09 25 00.1 -1.7**
TIXI pmax pmax
comp=Z,35nm,1.0s
TIXI MLR MLR
comp=Z,934nm,19.0s
TIXI Tiksi 77.64 9 *e*P **P** **09 25 00.1 -1.7**
comp=Z,24nm,0.7s
PRGR Permogore 77.82 336 *e*P **P** **09 25 03.3 +0.3**
PRGR pmax pmax
comp=Z,76nm,0.7s
MOS Moscow 78.64 329 *e*P **P** **09 25 07.3 -0.3**
OBN Obninsk 78.93 328 P **P** **09 25 09.4 +0.2**
comp=Z,27nm,0.7s,baz=122,slow=3.9,SNR=8.0
OBN LR LR 10 04 17.8
comp=Z,310nm,20.4s,baz=107,slow=39
KARP Karpathos 79.17 307 *e*P **P** **09 25 12.0 +0.9**
SUR Sutherland 79.53 238 P **P** **09 25 15.0 +1.6**
comp=Z,5.1nm,0.8s,baz=67,slow=9.7,SNR=2.0
ZKR Zakros 79.83 307 *e*P P 09 25 23.5 +8.9
KLMR Klimovskoe 79.98 334 *e*P **P** **09 25 15.1 +0.3**
KLMR pmax pmax
comp=Z,24nm,0.8s
VNDA Vanda 80.07 169 P **P** **09 25 16.1 +0.9**
comp=Z,2.9nm,1.0s,baz=292,slow=5.9,SNR=7.7

VNDA LR LR 09 56 36.8
comp=Z,412nm,19.3s,baz=302,slow=33
NPS Neapolis 80.34 307 *e*P **P** **09 25 18.5 +1.1**
PSN Preselentsi 80.35 315 ⇓P **P** **09 25 17.8 +0.6**
PSN Preselentsi 80.35 315⇓*i*P **P** **09 25 17.8 +0.6**
TIRR Tirgusor 80.39 316 ⇑P **P** **09 25 17.8 +0.4**
TIRR Tirgusor 80.39 316⇑*i*P **P** **09 25 17.8 +0.4**
TIRR Tirgusor 80.39 316 *e*P **P** **09 25 17.8 +0.4**
comp=Z,22nm,0.5s
LAST Lasithi 80.43 306 *e*P **P** **09 25 19.0 +1.0**
CHOS Chios island 80.65 310 *e*P **P** **09 25 20.0 +0.9**
PRK Paraskevi 80.68 311 *e*P **P** **09 25 20.0 +0.9**
TLB Topalu 80.68 316 ⇑P **P** **09 25 19.5 +0.5**
TLB Topalu 80.68 316⇑*i*P **P** **09 25 19.5 +0.5**
CFR Carcaliu 80.77 317 ⇑P **P** **09 25 19.8 +0.4**
CFR Carcaliu 80.77 317⇑*i*P **P** **09 25 19.8 +0.4**
HARR Harsova 80.78 316 ⇑P **P** **09 25 19.8 +0.3**
HARR Harsova 80.78 316⇑*i*P **P** **09 25 19.8 +0.3**
IDI Anoyia 80.92 306 P **P** **09 25 21.4 +0.8**
comp=Z,14nm,0.7s,baz=88,slow=6.0,SNR=24
SIVA Sivas 80.94 306 *e*P **P** **09 25 22.0 +1.4**
ALN Alexandroupoli 81.22 312 *e*P **P** **09 25 22.5 +0.6**
VAM Vamos 81.50 307 *e*P **P** **09 25 23.0 -0.6**
AKASG Malin Array Be 81.58 322 P **P** **09 25 23.2 -0.4**
comp=Z,2.9nm,0.7s,baz=86,slow=4.9,SNR=14
AKASG LR LR 10 05 51.0
comp=Z,256nm,21.4s,baz=70,slow=39
KIEV Kiev 81.59 322 *e*P **P** **09 25 23.5 -0.2**
KIEV *e**PP **pP** **09 25 38.0 +3.6**
KIEV pmax pmax
comp=Z,6.0nm,0.8s
KIEV Kiev 81.59 322 *e*P **P** **09 25 23.4 -0.2**
comp=Z,6.4nm,0.8s
KIEV *e*pP **pP** **09 25 38.0 +3.6**
VRI Vrincioaia 81.90 317 ⇓P **P** **09 25 26.8 +1.3**
VRI Vrincioaia 81.90 317⇓*i*P **P** **09 25 26.8 +1.3**
PLOR Plostina 81.95 317 ⇑P **P** **09 25 26.6 +0.8**
PLOR Plostina 81.95 317⇑*i*P **P** **09 25 26.6 +0.8**
TMCR Tamitsa 82.09 337 *e*P **P** **09 25 26.0 0.0**
TMCR pmax pmax
comp=Z,46nm,0.7s
TESR Tescani 82.11 318⇓*i*P **P** **09 25 27.2 +0.6**
PTL Penteli 82.27 309 *e*P **P** **09 25 28.0 +0.4**
ANKY Antikythira Is 82.31 307 *e*P **P** **09 25 29.5 +1.7**
MLR Muntele Rosu 82.34 317 P **P** **09 25 28.3 +0.3**
comp=Z,2.5nm,0.9s,baz=95,slow=2.6,SNR=16
MLR Muntele Rosu 82.34 317 ⇑P **P** **09 25 28.5 +0.5**
MLR Muntele Rosu 82.34 317⇑*i*P **P** **09 25 28.5 +0.5**
TSUM Tsumeb 82.41 251 P **P** **09 25 30.1 +1.3**
comp=Z,1.9nm,0.9s,baz=261,slow=3.8,SNR=3.4
MRKA Markates 82.61 310 *e*P **P** **09 25 27.0 -2.4**
DID Didima 82.66 308 *e*P **P** **09 25 29.0 -0.7**
VLI Veliai 82.75 308 *e*P **P** **09 25 32.0 +1.9**
PAIG Paliouri 82.78 311 *e*P **P** **09 25 30.5 +0.3**
DOPR Dopca 82.83 317⇑*i*P **P** **09 25 31.4 +1.0**
NVR Nevrokopi 82.92 312 *e*P **P** **09 25 30.5 -0.5**
VOIR 82.94 317 ⇑P **P** **09 25 32.6 +1.6**
VOIR 82.94 317⇑*i*P **P** **09 25 32.6 +1.6**
PGB Panagyurishte 82.94 314 *i* P **P** **09 25 31.0 -0.1**
LTK Loutraki 82.96 309 *e*P **P** **09 25 30.5 -0.7**
NEO Neokhori 83.00 310 *e*P **P** **09 25 34.5 +3.1**
PLG Polygyros 83.04 311 *e*P **P** **09 25 31.5 -0.1**
LKR Lokris 83.05 310 *e*P **P** **09 25 31.5 -0.1**
MMB Musomiste 83.07 313 ⇓P **P** **09 25 32.1 +0.4**
MMB Musomiste 83.07 313⇓*i*P **P** **09 25 32.1 +0.4**
SRS Serrai 83.08 312 *e*P **P** **09 25 31.5 -0.2**
SOH Sokhos 83.20 312 *e*P **P** **09 25 32.5 +0.1**
VLX Vlachokerasia 83.31 308 *e*P **P** **09 25 33.5 +0.4**
BURAR Bucovina Array 83.32 319 ⇑P **P** **09 25 34.2 +1.2**
BURAR Bucovina Array 83.32 319⇑*i*P **P** **09 25 34.2 +1.2**
AXAR Agios Charalam 83.34 310 *e*P **P** **09 25 33.0 -0.1**
HORT Hortiatis 83.34 311 *e*P **P** **09 25 33.0 -0.2**
DSF Desfina 83.38 309 *e*P **P** **09 25 32.5 -0.9**
MPEP Malo Peshtene 83.42 314 *i* P **P** **09 25 34.0 +0.6**
GUR Goura 83.43 309 *e*P **P** **09 25 34.0 +0.2**
MICGM Minsk 83.45 326 *e* **P** **09 25 32.0 -1.3**
MNK Minsk 83.47 326 *e*P **P** **09 25 32.0 -1.4**
KNT Kendrikon 83.60 312 *e*P **P** **09 25 34.0 -0.4**
KLV Kalavryta, Ach 83.60 309 *e*P **P** **09 25 34.5 -0.1**
ITM Ithomi 83.63 308 *e*P P 09 25 41.0 +6.3
AGG Agios Georgios 83.64 310 *e*P **P** **09 25 34.0 -0.7**
VTS Vitosha 83.65 313 ⇑P **P** **09 25 35.1 +0.3**
VTS Vitosha 83.65 313⇑*i*P **P** **09 25 35.1 +0.3**
VTS Vitosha 83.65 313 *i* P **P** **09 25 34.0 -0.8**
KALE Kalithea 83.67 309 *e*P **P** **09 25 35.0 +0.1**
LIT Litokhoron 83.71 311 *e*P **P** **09 25 35.0 0.0**
MAKR Makrakomi, Fth 83.79 310 *e*P **P** **09 25 35.0 -0.5**
DRO Drossia 83.93 309 *e*P **P** **09 25 38.0 +1.8**
THL Klokotos Trika 83.97 310 *e*P **P** **09 25 36.0 -0.3**
EVR Evrytania 84.02 310 *e*P **P** **09 25 37.0 +0.3**
RLS Riolos of Patr 84.14 309 *e*P **P** **09 25 36.5 -0.7**
PDO Prodromos 84.44 309 *e*P P 09 25 47.0 +8.2
DSL Palaion Diasel 84.60 310 *e*P **P** **09 25 40.5 +0.9**
NEST Nestorio 84.85 311 *e*P **P** **09 25 40.5 -0.4**
LKD2 Lefkada island 84.88 309 *e*P **P** **09 25 43.5 +2.5**
LVZ Lovozero 84.92 340 P **P** **09 25 40.4 -0.2**
comp=Z,227nm,0.8s,SNR=7.6
LVZ Lovozero 84.92 340 *e*P **P** **09 25 40.2 -0.4**
LVZ pmax pmax
comp=Z,73nm,2.5s
LVZ Lovozero 84.92 340 *e*P **P** **09 25 40.2 -0.4**
comp=Z,29nm,0.8s
VSU Vasula 85.15 330*c i*P **P** **09 25 42.1 +0.3**
TRPA Tarpa 85.19 319⇓*i*P **P** **09 25 43.6 +1.3**
APA Apatity 85.23 339⇓*i*P **P** **09 25 42.0 -0.1**
APA *i* S **S** **09 36 05.0 -4.6**
APA pmax pmax
comp=Z,10.0nm,0.8s
APA MLR MLR
comp=Z,600nm,16.0s
IGT Igoumenitsa 85.25 310 *e*P **P** **09 25 43.5 +0.7**
BZS Buzias 85.34 316 ⇑P **P** **09 25 43.6 +0.5**
BZS Buzias 85.34 316⇑*i*P **P** **09 25 43.6 +0.5**
KOLS Kolonicke sedl 85.52 320 *e*P **P** **09 25 45.2 +1.2**
KOLS pmax pmax
comp=Z,18nm,0.8s
KOLS Kolonicke sedl 85.52 320 *e*P **P** **09 25 45.2 +1.2**
KEK Kerkira 85.69 310 *e*P **P** **09 25 45.5 +0.5**
SUW Suwalki 86.00 325 *e*P **P** **09 25 46.0 -0.2**
SUW *e**PP **pP** **09 25 57.1 +0.2**
SUW pmax pmax
comp=Z,80nm,1.0s
SUW Suwalki 86.00 325 *e*P **P** **09 25 46.0 -0.2**
comp=Z,80nm,1.0s
SUW *e*pP **pP** **09 25 57.1 +0.2**
QSPA South Pole Qui 86.01 180 P **P** **09 25 47.4 +1.2**
comp=Z,3.2nm,1.0s,baz=270,slow=3.0,SNR=5.8
DIVS Divibare 86.22 315⇓*i*P **P** **09 25 48.5 +0.9**
FINES FINESS Array B 86.26 332 P **P** **09 25 47.5 +0.2**
comp=Z,11nm,0.8s,baz=104,slow=8.0,SNR=33
FINES LR LR 10 08 52.2
comp=Z,280nm,20.2s,baz=114,slow=39
FINES FINESS Array B 86.26 332*ce*P **P** **09 25 47.7 +0.4**
FINES pmax pmax
comp=Z,11nm,0.7s
STHS Stebnicka Huta 86.28 320 *e*P **P** **09 25 48.9 +1.2**
STHS pmax pmax
comp=Z,6.0nm,0.8s
STHS Stebnicka Huta 86.28 320 *e*P **P** **09 25 48.9 +1.2**
KECS Kecovo 86.61 319 *e*P **P** **09 25 49.9 +0.6**
KECS pmax pmax
comp=Z,4.0nm,0.7s
KECS Kecovo 86.61 319 *e*P **P** **09 25 49.9 +0.6**
PSZ Piszkesteto 86.90 318 *e*P **P** **09 25 51.7 +0.8**
PSZ pmax pmax
comp=Z,7.0nm,0.9s
PSZ Piszkesteto 86.90 318 *e*P **P** **09 25 51.7 +0.8**
comp=Z,6.6nm,0.9s
VYHS Vyhne 87.69 319 *e*P **P** **09 25 54.6 0.0**
VYHS Vyhne 87.69 319 *e*P **P** **09 25 54.6 0.0**
KEV Kevo 88.17 340 *e*P **P** **09 25 56.6 +0.3**
KEV pmax pmax
comp=Z,16nm,0.9s
KEV Kevo 88.17 340 *e*P **P** **09 25 56.6 +0.3**
comp=Z,16nm,0.9s
OKC Ostrava-Krasne 88.33 320 *e*P **P** **09 25 58.8 +1.2**
OKC *e*S **S** **09 36 40.5 +0.1**
OKC AMS AMS 10 16 30.0
comp=Z,200nm,15.9s
OKC Ostrava-Krasne 88.33 320 *e*P **P** **09 25 58.8 +1.2**
OKC *e*S **S** **09 36 40.5 +0.1**
OKC MLR MLR
comp=Z,200nm,15.9s
ARCES ARCESS Array B 88.61 340 P **P** **09 25 59.0 +0.5**
comp=Z,18nm,0.7s,baz=101,slow=5.1,SNR=56
ARCES LR LR 10 09 54.2
comp=Z,824nm,21.7s,baz=101,slow=38
ARCES ARCESS Array B 88.61 340 P **P** **09 25 59.0 +0.5**
MORC Moravsky Berou 88.71 320 ⇑P **P** **09 26 00.3 +0.8**
MORC Moravsky Berou 88.71 320⇑*i*P **P** **09 26 00.3 +0.8**
KRLC Kraliky 89.24 320 *e*P **P** **09 26 02.6 +0.7**
KRLC *e*pP **pP** **09 26 10.3 -2.4**
KRLC *e*sP **sP** **09 26 17.3 +0.7**
KRLC Kraliky 89.24 320 *e*P **P** **09 26 02.6 +0.7**
KRLC *e* 09 26 10.3
KRLC *e* 09 26 17.3
DPC Dobruska-Polom 89.56 320 *e*P **P** **09 26 04.5 +1.1**
DPC *e*pP **pP** **09 26 13.1 -1.2**
DPC *ex* x 09 26 20.2
DPC *e*S **S** **09 36 54.6 +2.5**
DPC AMS AMS 10 12 40.0
DPC Dobruska-Polom 89.56 320 *e*P **P** **09 26 04.5 +1.1**
DPC *e* 09 26 13.1
DPC *e* 09 26 20.2
DPC *e*S **S** **09 36 54.6 +2.5**
DPC Dobruska-Polom 89.56 320 *e*P **P** **09 26 04.7 +1.2**
SOKA Soboth 90.02 317⇑*i*PcP **PcP** **09 26 06.8 -0.1**
comp=Z,9.7nm,0.8s
GOPC GO Pecny, Ondr 90.50 320 *e*S **S** **09 36 57.0 -3.7**
GOPC AMS AMS 10 16 30.0
comp=Z,200nm,15.4s
SNAA Sanae 90.57 198 *e*P **P** **09 26 08.6 +0.9**
SNAA pmax pmax
comp=Z,4.0nm,0.9s
SNAA Sanae 90.57 198 *e*pP pP 09 26 18.5 -0.1
PRU Pruhonice 90.67 320 *e*P **P** **09 26 09.6 +1.1**
PRU *ex* x 09 26 24.9
PRU *e*SKS **SKSac** **09 36 37.1 -0.6**
PRU *e*S **S** **09 37 01.8 -0.3**
PRU AMS AMS 10 15 50.0
comp=Z,200nm,15.9s
PRU Pruhonice 90.67 320 *e*P **P** **09 26 09.6 +1.1**
PRU *e* 09 26 24.9
PRU *e* 09 36 37.1
PRU *e*S **S** **09 37 01.8 -0.3**
PRU MLR MLR
comp=Z,200nm,15.9s
GEC2 GERESS Array S 91.11 319 *e*P **P** **09 26 12.0 +1.2**
comp=Z,8.0nm,0.8s
GERES GERESS Array B 91.11 319 P **P** **09 26 11.4 +0.7**
comp=Z,4.6nm,0.7s,baz=90,slow=5.3,SNR=20
GERES LR LR 10 12 13.8
comp=Z,134nm,19.5s,baz=80,slow=39
BRG Berggiesshubel 91.13 321 *e*P **P** **09 26 11.7 +1.0**
comp=Z,7.3nm,1.0s
BRG *e* 09 26 26.1
comp=Z,6.2nm,1.0s
BRG Berggiesshubel 91.13 321 *e*P **P** **09 26 12.1 +1.5**
comp=Z,7.0nm,1.0s
RJOB Jochberg 91.63 318 *e*P **P** **09 26 13.7 +0.6**
comp=Z,10.0nm,1.2s
WET Wettzell 91.68 319 *e*P **P** **09 26 14.6 +1.3**
comp=Z,8.0nm,0.8s
CLL Collm 91.75 321 *e*P **P** **09 26 14.5 +1.0**
comp=Z,5.0nm,1.1s
CLL Collm 91.75 321 *e*P **P** **09 26 14.0 +0.5**
comp=Z,5.0nm,1.0s
CLL *e*S **S** **09 37 11.0 -0.9**
CLL Lm MLR 10 12 00.0
comp=Z,300nm,21.9s
CLL Collm 91.75 321 *e*P **P** **09 26 14.0 +0.5**
CLL *e*S **S** **09 37 11.0 -0.9**
CLL pmax pmax
comp=Z,5.0nm,1.0s
CLL MLR MLR
comp=Z,300nm,21.9s
ABTA Abfaltersbach 91.75 317⇓*i*P **P** **09 26 13.1 -0.6**
comp=Z,5.0nm,0.9s
HFS Hagfors 92.02 330 P **P** **09 26 14.7 +0.2**
comp=Z,11nm,0.8s,baz=108,slow=4.7,SNR=25
NKC Novy Kostel 92.03 320 AMS AMS 10 13 20.0
comp=Z,200nm,22.8s
ROTZ Rotzenmuhle 92.15 320 *e*P **P** **09 26 17.1 +1.7**
comp=Z,5.0nm,0.9s
MOX Moxa 92.58 320 *e*P **P** **09 26 18.6 +1.2**
comp=Z,17nm,2.1s
MOX *e*L L 10 15 23.9
comp=Z,196nm,20.0s
SPITS Spitsbergen Ar 92.73 348 P **P** **09 26 16.9 -0.6**
comp=Z,7.8nm,0.8s,baz=85,slow=4.8,SNR=6.1
GRF Grafenberg Arr 92.79 319 *e*P **P** **09 26 19.8 +1.4**
comp=Z,8.0nm,0.8s
GRF *e*L L 10 17 38.0
comp=Z,152nm,21.2s
RETA Reutte 92.99 317⇑*i*P **P** **09 26 19.8 +0.4**
comp=Z,5.5nm,0.8s
NB2 NORSAR Subarra 93.29 331 P **P** **09 26 20.2 -0.3**
comp=Z,2.2nm,0.7s,baz=95,slow=5.3
NOA NORSAR Array B 93.29 331 P **P** **09 26 20.1 -0.3**
comp=Z,3.4nm,0.8s,baz=94,slow=4.5,SNR=13
NOA LR LR 10 14 43.0
comp=Z,98nm,18.1s,baz=105,slow=40
KEST Kesra 93.56 305 P **P** **09 26 23.7 +1.4**
comp=Z,1.6nm,0.8s,baz=273,slow=4.7,SNR=4.3
NRDL Niedersach Rie 93.60 322 *e*P **P** **09 26 23.2 +1.3**
comp=Z,65nm,2.5s
TUE Stuetta 93.92 316 *e*P **P** **09 26 25.9 +2.0**
comp=Z,432nm,0.5s
TNA Tin City 94.06 25 *e*P **P** **09 26 23.5 -0.4**
comp=Z,3.3nm,0.8s
TNS Taunus Mts 94.60 320 *e*P **P** **09 26 27.9 +1.2**
comp=Z,7.0nm,1.0s
IM04 Indian Mountai 99.81 24 *e*Pdif **Pdif** **09 26 49.8 -0.1**
TORD Torodi Ar. Bea 99.85 283 P **Pdif** **09 26 51.9 +0.8**
comp=Z,0.2nm,0.4s,baz=90,slow=5.8,SNR=2.5
TORD LR LR 10 11 21.2
comp=Z,287nm,18.5s,baz=65,slow=35
ILAR Eielson Array 102.92 24 Pdiff **Pdif** **09 27 02.0 -1.8**
comp=Z,0.3nm,0.8s,baz=297,slow=4.0,SNR=4.5
ILAR PKKP **PKKPdf** **09 43 10.6 -0.8**
comp=Z,0.3nm,0.8s,baz=79,slow=1.9,SNR=4.2
ILAR Eielson Array 102.92 24 P **Pdif** **09 27 02.0 -1.8**
TBI Tubuai 106.32 116 *e*LR LR 10 02 23.6
comp=Z,642nm,23.8s
PPT2 Papeete2 107.29 110 *e*LR LR 10 02 52.8
comp=Z,434nm,25.2s
YKA Yellowknife Ar 115.97 17 PKP **PKPdf** **09 31 47.2 -1.1**
comp=Z,2.3nm,0.8s,baz=324,slow=1.9,SNR=35
RKT Rikitea 119.23 119 *e*LR LR 10 08 15.1
comp=Z,352nm,28.0s
A05A Maple Falls 122.16 32 *e*PKPdf **PKPdf** **09 32 00.8 +0.2**
JCW Jim Creek 122.72 33 P **PKPdf** **09 32 02.9 +1.0**
B06A Marblemount 122.76 32 *e*PKPdf **PKPdf** **09 32 02.7 +0.9**
EDM Edmonton 123.41 24 *e*PKIKP **PKPdf** **09 32 01.1 -1.9**
EDM Edmonton 123.41 24 *e*PKPdf **PKPdf** **09 32 01.1 -1.9**
LON Longmire 123.63 34 *e*PKIKP **PKPdf** **09 32 04.3 +0.7**
LON Longmire 123.63 34 *e*PKPdf **PKPdf** **09 32 04.3 +0.7**
TDL Tradedollar La 123.63 35 P **PKPdf** **09 32 04.7 +0.9**
FL2 Flat Top 2 123.65 35 P **PKPdf** **09 32 05.0 +1.2**
G03D McMinnville, O 123.67 36⇓P **PKPdf** **09 32 04.6 +0.9**
baz=124
F04A Amboy 123.76 35 *e*PKPdf **PKPdf** **09 32 04.7 +0.9**
ETW Entiat 123.93 33 P **PKPdf** **09 32 04.6 +0.3**
LTY Liberty 123.96 33 *e*PKPdf **PKPdf** **09 32 04.6 +0.3**
B08A Colville Reser 123.99 31 *e*PKPdf **PKPdf** **09 32 04.5 +0.2**
FCC Fort Churchill 124.11 9 *e*PKIKP **PKPdf** **09 32 03.5 -0.6**
FCC Fort Churchill 124.11 9 *e*PKPdf **PKPdf** **09 32 03.5 -0.6**
EBG Ellensburg 124.22 33 P **PKPdf** **09 32 05.9 +1.1**
I03D Drain, OR 124.44 38⇓P **PKPdf** **09 32 05.9 +0.7**
baz=124
H04A Detroit Lake 124.60 36 *e*PKPdf **PKPdf** **09 32 06.0 +0.5**
G05D Wamic, OR 124.79 35⇑P **PKPdf** **09 32 06.6 +0.7**
baz=125
C09A Chrisman Ranch 124.89 31 *e*PKPdf **PKPdf** **09 32 06.6 +0.6**
I04A Tendick Farm, 124.96 37⇑P **PKPdf** **09 32 06.9 +0.6**
baz=125
D08A Wollman Farm, 125.02 32 *e*PKPdf **PKPdf** **09 32 07.1 +0.8**
L02D Cave Junction, 125.09 40⇓P **PKPdf** **09 32 07.0 +0.5**
baz=125
HAWA Hanford 125.11 33 *e*PKPdf **PKPdf** **09 32 07.2 +0.8**
H2OWA Water 125.16 33 P **PKPdf** **09 32 07.6 +1.1**
NEW Newport 125.18 30 *e*PKIKP **PKPdf** **09 32 08.5 +1.9**
NEW Newport 125.18 30 *e*PKPdf **PKPdf** **09 32 08.5 +1.9**
NEW Newport 125.18 30⇓P **PKPdf** **09 32 07.2 +0.6**
baz=125,SNR=5.1
G06A Carlson Farm, 125.18 35 *e*PKPdf **PKPdf** **09 32 07.6 +1.0**
HUMO Hull Mountain 125.26 39 *e*PKPdf **PKPdf** **09 32 08.2 +1.3**

I05D	Terrebonne, OR baz=125	125.29	36	⇑P	PKPdf	09 32 07.8	+0.9
J04D	Umpqua Nationa baz=125	125.44	38	⇑P	PKPdf	09 32 08.3	+0.9
J05D	Fort Rock, OR baz=126	125.95	37	⇑P	PKPdf	09 32 09.4	+1.1
M02C	Callahan baz=126	125.97	40	⇓P	PKPdf	09 32 09.6	+1.2
K04D	Chiloquin, OR baz=126	126.00	38	⇓P	PKPdf	09 32 09.1	+0.7
FFC	Flin Flon	126.09	16	ePKIKP	PKPdf	09 32 07.5	-0.6
FFC	Flin Flon	126.09	16	ePKPdf	PKPdf	09 32 07.5	-0.6
G08A	Pilot Rock	126.10	34	ePKPdf	PKPdf	09 32 09.3	+0.8
N02D	Trinity Center baz=126	126.28	40	⇓P	PKPdf	09 32 10.0	+1.1
M04C	Macdoel baz=126	126.41	39	⇓P	PKPdf	09 32 09.9	+0.7
K05A	Summer Lake	126.47	38	ePKPdf	PKPdf	09 32 10.7	+1.3
BSMT	Bassoo Peak	126.62	29	ePKPdf	PKPdf	09 32 10.1	+0.6
F10A	Beach Ranch, E	126.62	32	ePKPdf	PKPdf	09 32 09.8	+0.4
SWMT	Swartz Lake	127.24	29	ePKPdf	PKPdf	09 32 11.2	+0.5
SLMT	Seeley Lake	127.67	29	ePKPdf	PKPdf	09 32 11.9	+0.3
MSO	Missoula	127.74	30	ePKPdf	PKPdf	09 32 11.7	+0.1
MSO	Missoula baz=128,SNR=13	127.74	30	⇓P	PKPdf	09 32 11.8	+0.1
SCHQ	Schefferville comp=Z,4.0nm,0.8s,baz=297,slow=4.5,SNR=4.6	128.32	351	PKP	PKPdf	09 32 12.2	-0.1
A19A	Klindworth Far baz=128,SNR=6.7	128.56	25	⇑P	PKPdf	09 32 13.6	+0.5
EGMT	Eagleton	128.83	26	ePKPdf	PKPdf	09 32 14.8	+1.2
EGMT	Eagleton baz=129	128.83	26	⇑P	PKPdf	09 32 14.3	+0.7
B19A	Brinkman Farms baz=129	128.85	25	⇑P	PKPdf	09 32 14.1	+0.5
A20A	Cobblestone Ra baz=129	128.94	24	⇓P	PKPdf	09 32 14.8	+1.0
MFID	Camas Ranch	129.02	34	ePKPdf	PKPdf	09 32 15.3	+1.1
B20A	Solberg Farm, baz=129,SNR=8.3	129.25	25	⇓P	PKPdf	09 32 15.0	+0.6
A21A	Bergtoll Ranch baz=129	129.25	23	⇓P	PKPdf	09 32 15.1	+0.8
CMB	Columbia Colle	129.35	42	ePKIKP	PKPdf	09 32 15.6	+0.8
CMB	Columbia Colle	129.35	42	ePKPdf	PKPdf	09 32 15.6	+0.8
C19A	Slack Wire Ran baz=129,SNR=6.7	129.35	26	⇑P	PKPdf	09 32 15.4	+0.8
DLMT	Dillon	129.43	30	ePKPdf	PKPdf	09 32 16.6	+1.7
A22A	Carney Farms, baz=129	129.65	23	⇓P	PKPdf	09 32 15.3	+0.2
B21A	Ellsworth Farm baz=129	129.67	24	⇓P	PKPdf	09 32 15.9	+0.8
HLID	Hailey	129.71	33	ePKPdf	PKPdf	09 32 16.5	+1.0
HLID	Hailey baz=130	129.71	33	⇓P	PKPdf	09 32 16.5	+1.0
BOZ	Bozeman (W)	129.71	29	ePKIKP	PKPdf	09 32 16.2	+0.8
BOZ	Bozeman (W)	129.71	29	ePKPdf	PKPdf	09 32 16.2	+0.8
C20A	Veseth Ranch, baz=130,SNR=8.4	129.82	25	⇑P	PKPdf	09 32 16.3	+0.8
D19A	Cripps Ranch, baz=130	129.86	26	⇑P	PKPdf	09 32 16.1	+0.5
C21A	Desert Coulee baz=130,SNR=5.7	130.11	24	⇓P	PKPdf	09 32 16.6	+0.6
B22A	Reddig Ranch S baz=130	130.18	23	⇓P	PKPdf	09 32 17.7	+1.6
QLMT	Earthquake Lak	130.39	30	ePKPdf	PKPdf	09 32 19.2	+2.3
A24A	Westby baz=130	130.42	21	⇑P	PKPdf	09 32 17.3	+0.8
B23A	Brockton baz=130	130.43	22	⇓P	PKPdf	09 32 17.1	+0.5
E19A	Rath Farm, Rou baz=130	130.44	27	⇓P	PKPdf	09 32 17.2	+0.5
NVAR	Mina Array Bea comp=Z,4.6nm,0.8s,baz=256,slow=2.3,SNR=20	130.51	41	PKP	PKPdf	09 32 18.5	+1.2
NVAR	comp=Z,1.8nm,0.8s,baz=270,slow=2.7,SNR=5.5			SKPbc	SKPbc	09 35 38.7	+0.3
C22A	Vida baz=130,SNR=7.2	130.67	24	⇓P	PKPdf	09 32 17.9	+0.8
E20A	Meyer Farm, Mu baz=130	130.70	26	⇑P	PKPdf	09 32 17.6	+0.4
A25A	Svangstu Ranch baz=130	130.73	21	⇓P	PKPdf	09 32 18.0	+0.9
DGMT	Dagmar baz=130	130.73	22	⇑P	PKPdf	09 32 17.9	+0.7
YMR	Madison River	130.74	30	ePKPdf	PKPdf	09 32 19.6	+2.1
C23A	Lambert baz=131	130.90	23	⇓P	PKPdf	09 32 18.2	+0.7
YFT	Old Faithful	130.96	30	ePKPdf	PKPdf	09 32 21.4	+3.4
D22A	Cohagen baz=131,SNR=15	131.03	24	⇓P	PKPdf	09 32 18.7	+0.9
ELK	Elko	131.05	36	ePKIKP	PKPdf	09 32 19.9	+1.6
ELK	Elko	131.05	36	ePKPdf	PKPdf	09 32 19.9	+1.6
H17A	Grant Village	131.13	30	ePKPdf	PKPdf	09 32 21.6	+3.2
E21A	Keefer Ranch, baz=131	131.13	25	⇓P	PKPdf	09 32 18.3	+0.3
A26A	Wade Farm, Ken baz=131	131.13	20	⇑P	PKPdf	09 32 19.0	+1.1
A27A	Ledoux Ranch, baz=131	131.35	19	⇓P	PKPdf	09 32 18.8	+0.5
H18A	Shoshone NF, C baz=131	131.37	29	⇓P	PKPdf	09 32 18.6	-0.1
LAO	LASA Array	131.38	25	ePKPdf	PKPdf	09 32 20.2	+1.8
D23A	Lindsay baz=131,SNR=11	131.40	24	⇑P	PKPdf	09 32 19.3	+0.8
TPH	Tonopah	131.41	41	ePKIKP	PKPdf	09 32 20.6	+1.6
TPH	Tonopah	131.41	41	ePKPdf	PKPdf	09 32 20.6	+1.6
C24A	Savage baz=131,SNR=5.8	131.42	23	⇓P	PKPdf	09 32 19.4	+0.9
FXWY	Fox Creek	131.44	31	ePKPdf	PKPdf	09 32 20.6	+1.6
I17A	Pilgrim Ck. baz=131	131.47	30	⇓P	PKPdf	09 32 19.4	+0.5
MOOW	Moose Ponds	131.51	31	ePKPdf	PKPdf	09 32 20.8	+1.8
TPAW	Teton Pass	131.59	31	ePKPdf	PKPdf	09 32 20.1	+0.9
G20A	Bridger baz=131	131.65	27	⇓P	PKPdf	09 32 20.0	+0.9
LOHW	Long Hollow	131.68	31	ePKPdf	PKPdf	09 32 20.1	+0.8
E22A	Miles City baz=131	131.69	25	⇓P	PKPdf	09 32 19.9	+0.9
H19A	Powell baz=132,SNR=9.7	131.70	28	⇑P	PKPdf	09 32 20.2	+1.0
C25A	Freed Ranch, W baz=132	131.71	22	⇓P	PKPdf	09 32 19.9	+0.9
ULM	Lac du Bonnet comp=Z,13nm,0.8s,baz=340,slow=2.1,SNR=18	131.75	14	PKP	PKPdf	09 32 18.9	0.0
HVU	Hansel Valley	131.79	34	ePKIKP	PKPdf	09 32 20.5	+1.0
HVU	Hansel Valley	131.79	34	ePKPdf	PKPdf	09 32 20.5	+1.0
D24A	Glendive baz=132	131.80	23	⇓P	PKPdf	09 32 20.2	+1.0
E23A	Ismay baz=132,SNR=6.3	131.91	24	⇓P	PKPdf	09 32 20.6	+1.1
A29A	Manning Farm, baz=132	132.02	18	⇓P	PKPdf	09 32 19.9	+0.4
C26A	Wahner Farm, P baz=132	132.03	21	⇑P	PKPdf	09 32 19.9	+0.3
B28A	Dugan Ranch, T baz=132	132.08	19	⇓P	PKPdf	09 32 20.3	+0.6
F22A	Rosebud baz=132	132.08	25	⇑P	PKPdf	09 32 20.4	+0.6
G21A	Lodge Grass baz=132	132.10	27	⇑P	PKPdf	09 32 20.2	+0.3
D25A	Fairfield baz=132	132.15	22	⇓P	PKPdf	09 32 20.5	+0.6
I19A	Meeteetse baz=132	132.17	29	⇓P	PKPdf	09 32 20.3	+0.1
DAC	Darwin (Calif)	132.17	43	ePKIKP	PKPdf	09 32 22.3	+1.9
DAC	Darwin (Calif)	132.17	43	ePKPdf	PKPdf	09 32 22.3	+1.9
E24A	Baker baz=132,SNR=6.9	132.26	23	⇓P	PKPdf	09 32 21.0	+0.9
A30A	Hoffart Farm, baz=132	132.28	17	⇓P	PKPdf	09 32 20.4	+0.4
R11A	Troy Canyon, C	132.30	39	ePKPdf	PKPdf	09 32 22.1	+1.4
R11A	Troy Canyon, C baz=132	132.30	39	⇑P	PKPdf	09 32 21.2	+0.6
H20A	Greybull baz=132,SNR=8.1	132.30	28	⇑P	PKPdf	09 32 20.8	+0.5
MPMC	Manual Prospec baz=132	132.36	43	⇓P	PKPdf	09 32 21.4	+0.6
F23A	Volborg baz=132,SNR=6.5	132.49	25	⇑P	PKPdf	09 32 21.1	+0.5
G22A	Birney baz=132	132.51	26	⇑P	PKPdf	09 32 21.0	+0.3
LRMC	Laurel Mtn Rad baz=132	132.53	44	⇑P	PKPdf	09 32 21.0	-0.1
I20A	Worland baz=132,SNR=16	132.65	28	⇓P	PKPdf	09 32 21.2	+0.2
E25A	Miller Ranch, baz=132,SNR=10	132.66	23	⇑P	PKPdf	09 32 21.6	+0.7
J19A	Crowheart	132.71	30	⇓P	PKPdf	09 32 21.3	+0.1
B30A	Myrvik Farm, E baz=132	132.71	17	⇑P	PKPdf	09 32 21.1	+0.2
F24A	Ekalaka baz=132,SNR=7.2	132.79	24	⇓P	PKPdf	09 32 21.5	+0.3
PDAR	Pinedale Array comp=Z,2.1nm,0.8s,baz=304,slow=0.3,SNR=4.3	132.82	31	PKP	PKPdf	09 32 21.3	-0.2
PDAR	comp=Z,0.6nm,0.8s,baz=12,slow=4.6,SNR=3.0			SKPbc	SKPbc	09 35 46.0	-0.6
DUG	Dugway, Tooele	132.82	35	ePKIKP	PKPdf	09 32 23.6	+2.1
DUG	Dugway, Tooele	132.82	35	ePKPdf	PKPdf	09 32 23.6	+2.1
MDND	Maddock	132.85	19	ePKPdf	PKPdf	09 32 21.3	+0.2
MDND	Maddock baz=133	132.85	19	⇑P	PKPdf	09 32 21.6	+0.5
E26A	Carlson Angus baz=133	133.04	22	⇑P	PKPdf	09 32 22.3	+0.7
D28A	Regan baz=133,SNR=6.8	133.10	20	⇑P	PKPdf	09 32 22.4	+0.8
J20A	Shoshoni baz=133,SNR=11	133.12	29	⇓P	PKPdf	09 32 22.5	+0.5
I21A	Big Trails, Te baz=133,SNR=7.1	133.15	28	⇓P	PKPdf	09 32 22.5	+0.5
G24A	Alzada baz=133	133.22	24	⇓P	PKPdf	09 32 22.2	+0.1
GSC	Goldstone, Bar	133.24	43	ePKIKP	PKPdf	09 32 24.5	+2.2
GSC	Goldstone, Bar	133.24	43	ePKPdf	PKPdf	09 32 24.5	+2.2
C30A	Mose, Pekin baz=133	133.34	18	⇑P	PKPdf	09 32 21.9	-0.2
NLU	North Lily Min	133.41	35	ePKPdf	PKPdf	09 32 25.1	+2.4
E27A	Carson baz=133	133.41	21	⇓P	PKPdf	09 32 22.9	+0.6
H23A	Clabaugh Cattl baz=133	133.42	26	⇑P	PKPdf	09 32 22.8	+0.4
J21A	Lysite baz=133,SNR=6.8	133.43	28	⇑P	PKPdf	09 32 22.9	+0.3
I22A	9 Mile Ranch, baz=133	133.46	27	⇓P	PKPdf	09 32 23.0	+0.4
F26A	Lodgepole baz=133,SNR=8.3	133.49	23	⇓P	PKPdf	09 32 23.0	+0.6
AGMN	Agassiz Nation	133.55	15	ePKPdf	PKPdf	09 32 22.6	+0.2
AGMN	Agassiz Nation baz=133	133.55	15	⇓P	PKPdf	09 32 22.4	0.0
D29A	Pettibone, Tap baz=133	133.55	19	⇑P	PKPdf	09 32 22.5	0.0
E28A	Huff baz=133	133.60	21	⇑P	PKPdf	09 32 23.1	+0.5
H24A	Dirks Ranch, A baz=133,SNR=8.1	133.63	25	⇑P	PKPdf	09 32 23.3	+0.5
SHPR	Sheep Range	133.66	41	ePKPdf	PKPdf	09 32 24.9	+1.7
F27A	Lemmon baz=134	133.71	22	⇑P	PKPdf	09 32 22.7	-0.2
D30A	Buchanan baz=134	133.78	19	⇓P	PKPdf	09 32 23.1	+0.2
E29A	Napoleon baz=134	133.96	20	⇓P	PKPdf	09 32 23.3	0.0
G26A	Maurine baz=134	133.98	23	⇑P	PKPdf	09 32 23.9	+0.5
K21A	Alcova baz=134	134.06	29	⇑P	PKPdf	09 32 23.7	-0.1
G27A	Dupree baz=134	134.16	22	⇑P	PKPdf	09 32 24.2	+0.4
F28A	McLaughlin baz=134	134.18	21	⇑P	PKPdf	09 32 23.9	+0.2
E30A	Jud baz=134	134.26	19	⇑P	PKPdf	09 32 24.5	+0.6
MVU	Marysvale	134.28	37	ePKPdf	PKPdf	09 32 26.0	+1.6
I24A	Kuemmerle Ranc baz=134	134.31	26	⇓P	PKPdf	09 32 23.9	-0.2
K22A	Casper	134.40	28	ePKPdf	PKPdf	09 32 24.4	0.0
K22A	Casper baz=134,SNR=7.1	134.40	28	⇓P	PKPdf	09 32 24.4	0.0
F29A	Eureka baz=134	134.54	20	⇑P	PKPdf	09 32 24.5	+0.1
I25A	Rochford baz=134	134.57	25	⇑P	PKPdf	09 32 24.5	-0.2
J24A	Dixon Ranch, L baz=134	134.72	26	⇓P	PKPdf	09 32 24.7	-0.2
H27A	Howes baz=134	134.73	23	⇓P	PKPdf	09 32 24.6	-0.2
K23A	Bowen Ranch, D baz=134	134.74	28	⇓P	PKPdf	09 32 24.5	-0.5
G28A	Parade baz=135	134.80	22	⇑P	PKPdf	09 32 24.6	-0.3
F30A	Leola baz=135	134.81	20	⇑P	PKPdf	09 32 24.7	-0.2
SRU	San Rafael Swe	134.86	35	ePKIKP	PKPdf	09 32 26.3	+0.9
SRU	San Rafael Swe	134.86	35	ePKPdf	PKPdf	09 32 26.3	+0.9
N20A	Spence Gulch, baz=135	134.88	31	⇑P	PKPdf	09 32 25.7	+0.2
EYMN	Ely	134.90	12	ePKPdf	PKPdf	09 32 26.6	+1.6
L22A	Ellis Ranch, M baz=135	134.91	29	⇑P	PKPdf	09 32 25.9	+0.5
I26A	New Underwood baz=135	134.92	24	⇑P	PKPdf	09 32 25.7	+0.5
H28A	Mission Ridge baz=135	135.10	22	⇓P	PKPdf	09 32 25.5	0.0
K24A	Anderson Ranch baz=135	135.13	27	⇑P	PKPdf	09 32 26.1	+0.3
L23A	Garrett baz=135,SNR=6.1	135.20	28	⇑P	PKPdf	09 32 26.1	+0.1
I27A	Quinn baz=135	135.21	24	⇑P	PKPdf	09 32 26.2	+0.5
M22A	Cedar Creek Ra baz=135	135.31	30	⇓P	PKPdf	09 32 26.3	0.0
G30A	Faulkton baz=135,SNR=8.2	135.39	20	⇓P	PKPdf	09 32 26.4	+0.4
O20A	White River Ci	135.40	32	ePKPdf	PKPdf	09 32 27.1	+0.7
O20A	White River Ci baz=135	135.40	32	⇓P	PKPdf	09 32 26.5	+0.1
J26A	Sides Ranch, S baz=135	135.42	25	⇑P	PKPdf	09 32 26.7	+0.6
H29A	Onida baz=135	135.44	22	⇑P	PKPdf	09 32 26.5	+0.4
I28A	Midland baz=135,SNR=6.1	135.62	23	⇑P	PKPdf	09 32 27.0	+0.5
M23A	Laramie baz=135	135.69	29	⇑P	PKPdf	09 32 27.2	+0.3
N22A	Wattenberg Ran baz=136	135.83	30	⇓P	PKPdf	09 32 27.5	+0.2
K26A	Motz Farm, Whi baz=136	135.87	26	⇓P	PKPdf	09 32 27.1	0.0
I29A	Vivian Onida baz=136	135.93	22	⇓P	PKPdf	09 32 27.4	+0.4
L25A	Engebretsen Ra baz=136	135.96	27	⇓P	PKPdf	09 32 27.9	+0.6
N23A	Red Feather La baz=136	136.01	30	⇑P	PKPdf	09 32 28.1	+0.5
BRSD	Miller	136.05	21	ePKPdf	PKPdf	09 32 29.3	+2.1
BRSD	Miller baz=136	136.05	21	⇓P	PKPdf	09 32 28.5	+1.3
J28A	Allard Ranch, baz=136,SNR=6.9	136.08	23	⇓P	PKPdf	09 32 27.7	+0.3
M24A	Cheyenne baz=136	136.11	28	⇓P	PKPdf	09 32 27.9	+0.2
K27A	Fleckinger Fa baz=136	136.27	25	⇑P	PKPdf	09 32 28.2	+0.4
I30A	Oacoma baz=136	136.34	21	⇑P	PKPdf	09 32 28.8	+1.0
J29A	Okreek baz=136	136.45	23	⇓P	PKPdf	09 32 28.9	+0.8
O23A	Lake Granby, G baz=136	136.55	30	⇓P	PKPdf	09 32 28.6	-0.1
N24A	Carr baz=136	136.58	29	⇓P	PKPdf	09 32 29.4	+0.8
K28A	Ten Mile Ranch baz=136	136.62	24	⇑P	PKPdf	09 32 29.4	+1.0
WUAZ	Wupatki baz=136	136.70	39	⇑P	PKPdf	09 32 29.8	+0.9
SMCO	Snowmass	136.77	32	ePKPdf	PKPdf	09 32 24.2	-5.0
J30A	Dallas baz=137,SNR=5.2	136.83	22	⇑P	PKPdf	09 32 29.9	+1.2
ISCO	Idaho Springs baz=137	137.01	30	⇓P	PKPdf	09 32 30.4	+0.9
MVCO	Mesa Verde	137.32	35	ePKPdf	PKPdf	09 32 31.3	+1.2
K30A	Basset baz=137	137.34	22	⇓P	PKPdf	09 32 30.4	+0.7
O25A	Wiggins baz=137	137.50	29	⇓P	PKPdf	09 32 30.8	+0.6
Q23A	Hartsel baz=137	137.57	31	⇑P	PKPdf	09 32 31.3	+0.7
S22A	4UR Ranch, Cre baz=138	137.89	33	⇑P	PKPdf	09 32 31.5	+0.3
L30A	Spencer Herefo baz=138	137.92	23	⇑P	PKPdf	09 32 31.7	+0.9
P25A	Willow Gulch B baz=138	137.95	29	⇑P	PKPdf	09 32 31.6	+0.5
W18A	Petrified Fore	137.98	39	ePKPdf	PKPdf	09 32 33.2	+1.8
W18A	Petrified Fore baz=138	137.98	39	⇑P	PKPdf	09 32 32.2	+0.9
R23A	Moffat baz=138	138.10	32	⇑P	PKPdf	09 32 32.2	+0.6
O27A	Beecher Island baz=138	138.21	27	⇓P	PKPdf	09 32 32.4	+0.9
N28A	Pribbeno Ranch baz=138	138.22	26	⇑P	PKPdf	09 32 31.9	+0.4
P26A	Davis Ranch, A baz=138	138.31	29	⇑P	PKPdf	09 32 32.3	+0.5
SDCO	Great Sand Dun baz=138	138.60	32	⇑P	PKPdf	09 32 33.3	+0.8
Q26A	Hugo baz=138	138.72	29	⇓P	PKPdf	09 32 32.9	+0.4
BGNE	Belgrade	138.99	22	ePKPdf	PKPdf	09 32 28.4	-4.3
BGNE	Belgrade baz=139	138.99	22	⇓P	PKPdf	09 32 33.4	+0.6
TUC	Tucson	139.05	43	ePKIKP	PKPdf	09 32 35.0	+1.8
TUC	Tucson	139.05	43	ePKPdf	PKPdf	09 32 35.0	+1.8
R26A	Arlington baz=139	139.24	30	⇓P	PKPdf	09 32 33.6	+0.2
R27A	Eads baz=139	139.57	29	⇓P	PKPdf	09 32 34.2	+0.2
O31A	Woolen Ranch, baz=139	139.60	24	⇓P	PKPdf	09 32 34.5	+0.6
T25A	Trinidad	139.63	32	ePKPdf	PKPdf	09 32 31.6	-2.8
S26A	Kim baz=140,SNR=6.1	139.75	30	⇓P	PKPdf	09 32 34.7	+0.2
Q29A	Oakley baz=140,SNR=9.1	139.94	27	⇓P	PKPdf	09 32 35.0	+0.4
R28A	Tribune baz=140	140.00	28	⇑P	PKPdf	09 32 35.2	+0.4
T26A	Comanche Natio baz=140	140.03	31	⇑P	PKPdf	09 32 35.1	0.0
ANMO	Albuquerque	140.08	36	ePKIKP	PKPdf	09 32 30.3	-4.9
ANMO	Albuquerque	140.08	36	ePKPdf	PKPdf	09 32 30.2	-4.9
P31A	Stockton baz=140,SNR=6.9	140.11	25	⇓P	PKPdf	09 32 34.9	0.0
Q30A	Quinter baz=140,SNR=6.5	140.21	26	⇑P	PKPdf	09 32 34.9	-0.3
T27A	Campo baz=140,SNR=5.2	140.56	30	⇓P	PKPdf	09 32 36.1	+0.2
R30A	Dighton baz=140	140.75	27	⇓P	PKPdf	09 32 36.5	+0.3
T28A	Walsh baz=141	140.82	30	⇓P	PKPdf	09 32 36.8	+0.5
U27A	Thompson Grove baz=141	141.00	31	⇑P	PKPdf	09 32 36.5	-0.2
R31A	Burdett baz=141,SNR=8.8	141.08	26	⇑P	PKPdf	09 32 37.0	+0.4
S32A	Newby Ranch, P baz=142,SNR=7.2	141.83	26	⇑P	PKPdf	09 32 39.1	+1.1
KSPA	Keystone Colle	142.45	356	ePKPdf	PKPdf	09 32 37.9	-1.1
AMTX	Amarillo	142.78	31	ePKPdf	PKPdf	09 32 38.3	-1.6
X28A	Dimmitt baz=143,SNR=9.7	142.79	32	⇑P	PKPdf	09 32 37.1	-2.8
MSTX	Muleshoe	142.89	34	ePKPdf	PKPdf	09 32 37.2	-3.0
MSTX	Muleshoe baz=143,SNR=6.9	142.89	34	⇑P	PKPdf	09 32 37.5	-2.6
U32A	Winter Ranch, baz=143,SNR=9.2	142.89	27	⇓P	PKPdf	09 32 36.8	-3.2
R37A	Teagarden Farm baz=143	142.92	21	⇑P	PKPdf	09 32 36.9	-3.0
S35A	Otter Creek Ra baz=143	142.92	23	⇓P	PKPdf	09 32 37.0	-2.9
MNTX	Cornudas Mount	142.97	39	ePKPdf	PKPdf	09 32 37.5	-2.7
MNTX	Cornudas Mount baz=143	142.97	39	⇑P	PKPdf	09 32 37.8	-2.4
S36A	Lake Cedric, C baz=143	143.16	22	⇑P	PKPbc	09 32 37.7	+0.5
Y28A	McKinney Farm, baz=143,SNR=7.2	143.22	33	⇑P	PKPbc	09 32 38.0	+0.3
CPUP	Villa Florida comp=Z,0.1nm,0.5s,baz=270,slow=6.1,SNR=3.1	143.25	214	PKP	PKPdf	09 32 39.9	-0.9
U33A	Lingo Farm, Me baz=143	143.25	26	⇑P	PKPbc	09 32 38.0	+0.5
V32A	Arapaho baz=143,SNR=5.8	143.42	28	⇓P	PKPbc	09 32 38.2	+0.1
W31A	Holland Ranch, baz=143,SNR=9.9	143.42	29	⇓P	PKPbc	09 32 38.4	+0.3
SSPA	Standing Stone	143.47	358	ePKPdf	PKPbc	09 32 37.7	-0.3
U34A	Anderson Ranch baz=143,SNR=8.6	143.49	25	⇓P	PKPbc	09 32 38.3	+0.1
X30A	Coker Ranch, T baz=143	143.54	31	⇓P	PKPbc	09 32 39.1	+0.7
Y29A	Porterfield Fa baz=143,SNR=7.9	143.57	33	⇑P	PKPbc	09 32 39.1	+0.4
Z28A	Tucker Farm, M baz=143,SNR=6.4	143.61	34	⇓P	PKPbc	09 32 39.3	+0.5
V33A	Lossen Ranch, baz=143,SNR=8.4	143.68	27	⇑P	PKPbc	09 32 38.9	+0.1
W32A	Sentinel baz=144,SNR=20	143.81	29	⇑P	PKPbc	09 32 40.0	+0.8
X31A	McDonald Ranch baz=144,SNR=37	143.85	30	⇑P	PKPbc	09 32 39.8	+0.5
Y30A	Stafford Cattl baz=144	143.97	32	⇓P	PKPbc	09 32 40.1	+0.3
Z29A	Hungry Hill Ra baz=144,SNR=16	144.01	33	⇑P	PKPbc	09 32 40.5	+0.5
V34A	Guthrie baz=144,SNR=21	144.01	26	⇓P	PKPbc	09 32 39.8	+0.1
128A	Castleberry Fa baz=144,SNR=5.6	144.05	35	⇓P	PKPbc	09 32 40.7	+0.6
W33A	Caddo, Fort Co baz=144,SNR=49	144.15	28	⇑P	PKPbc	09 32 41.1	+0.8
Y31A	Rekieta Farm, baz=144	144.23	31	⇓P	PKPbc	09 32 40.8	+0.3
Z30A	Sanderson Ranc baz=144,SNR=12	144.30	33	⇑P	PKPbc	09 32 41.0	+0.1
228A	UT Block 9, Go baz=144,SNR=9.2	144.36	35	⇓P	PKPbc	09 32 41.2	+0.1
V35A	Meyer Ranch, C baz=144,SNR=26	144.36	25	⇑P	PKPbc	09 32 41.0	+0.2
129A	Stewart Farms, baz=144,SNR=25	144.39	34	⇑P	PKPbc	09 32 41.8	+0.6
W34A	Bridge Creek,	144.40	27	ePKPdf	PKPbc	09 32 41.1	+0.1
W34A	Bridge Creek, baz=144,SNR=19	144.40	27	⇑P	PKPbc	09 32 41.4	+0.3
OLIL	Olney	144.43	12	ePKPdf	PKPab	09 32 40.7	0.0
Y32A	R-V Farms, Ver baz=144,SNR=11	144.61	30	⇑P	PKPbc	09 32 41.7	0.0
X33A	Lawton baz=144,SNR=17	144.64	28	⇓P	PKPab	09 32 41.2	-0.5
TUL1	Leonard	144.67	24	ePKPdf	PKPab	09 32 41.6	-0.1
TUL1	Leonard baz=144,SNR=50	144.67	24	⇑P	PKPbc	09 32 41.8	0.0
Z31A	Sharp Cattle R baz=145	144.80	31	⇑P	PKPbc	09 32 42.6	+0.2
W35A	Tecumse

ABTX	Abilene, Hawle	145.60	32	ePKPab	PKPdf	09 32 44.6	-0.2
ABTX	Abilene, Hawle	145.60	32	⇓P	PKPab	09 32 45.5	+0.2
	baz=145,SNR=31						
TXAR	Lajitas Array	145.66	40	PKPbc	PKPab	09 32 45.9	+0.2
	comp=Z,71nm,0.8s,baz=293,slow=1.4,SNR=614						
330A	Mertzon	145.69	35	⇓P	PKPab	09 32 45.9	+0.2
	baz=146,SNR=71						
PBMO	Poplar Bluff	145.72	16	ePKPdf	PKPdf	09 32 44.3	-0.5
231A	Bronte	145.77	33	⇓P	PKPab	09 32 45.8	-0.1
	baz=146,SNR=24						
429A	Davenport Ranc	145.85	37	⇓P	PKPab	09 32 46.2	-0.1
	baz=146,SNR=48						
Z34A	Collier Ranch,	145.87	29	⇓P	PKPab	09 32 46.0	-0.2
	baz=146,SNR=13						
W38A	Poteau	145.90	23	⇑P	PKPab	09 32 46.4	+0.2
	baz=146,SNR=19						
X37A	Clayton	145.98	24	⇑P	PKPbc	09 32 46.2	+0.1
	baz=146,SNR=18						
133A	Hamilton Ranch	145.99	31	⇓P	PKPab	09 32 46.7	0.0
	baz=146,SNR=100						
PARMO	Parma	146.01	15	ePKPab	PKPbc	09 32 46.3	+0.2
529A	Stev Forest Ra	146.01	38	⇓P	PKPab	09 32 46.8	-0.2
	baz=146,SNR=45						
430A	Baggett Ranch,	146.12	36	⇑P	PKPab	09 32 47.1	-0.2
	baz=146,SNR=47						
232A	Coleman	146.17	32	⇓P	PKPab	09 32 47.3	-0.2
	baz=146,SNR=76						
331A	San Angelo	146.19	34	⇑P	PKPbc	09 32 46.9	+0.1
	baz=146,SNR=23						
Z35A	Perchaven, San	146.22	28	⇑P	PKPab	09 32 47.2	-0.3
	baz=146,SNR=18						
JSRW	J. Sargeant Re	146.41	358	ePKPab	PKPbc	09 32 47.0	-0.2
134A	White-Moore Ra	146.44	30	⇓P	PKPab	09 32 47.9	-0.4
	baz=146,SNR=19						
233A	Rising Star	146.47	31	⇑P	PKPab	09 32 48.2	-0.3
	baz=146,SNR=80						
332A	Millersview	146.51	33	⇑P	PKPab	09 32 48.5	-0.3
	baz=146,SNR=163						
530A	J-C Ranch, Com	146.53	36	⇑P	PKPab	09 32 48.5	-0.4
	baz=146,SNR=106						
UTMT	University of	146.54	14	ePKPab	PKPbc	09 32 47.8	+0.2
431A	Sonora	146.56	35	⇑P	PKPbc	09 32 48.0	+0.1
	baz=146,SNR=28						
GNAR	Gosnell	146.59	16	ePKPab	PKPab	09 32 48.5	-0.3
MIAR	Mount Ida	146.73	22	ePKP2	PKPdf	09 32 47.1	+0.5
MIAR	Mount Ida	146.73	22	ePKPdf	PKPdf	09 32 47.1	+0.5
135A	Vickery Place,	146.78	29	⇑P	PKPbc	09 32 48.3	-0.2
	baz=146						
HBAR	Harrisburg	146.79	17	ePKPab	PKPbc	09 32 48.9	+0.5
HALT	Halls	146.83	15	ePKPab	PKPbc	09 32 48.6	+0.1
VWCC	Virginia Weste	146.87	1	ePKPab	PKPbc	09 32 48.6	0.0
234A	Clairette	146.87	30	⇓P	PKPbc	09 32 48.8	0.0
	baz=147,SNR=11						
432A	Menard	146.87	34	⇓P	PKPbc	09 32 48.8	-0.1
	baz=147,SNR=35						
333A	Richland Sprin	146.96	32	⇑P	PKPbc	09 32 49.2	+0.1
	baz=147,SNR=124						
UALR	University of	146.97	20	ePKPab	PKPbc	09 32 48.3	-0.6
531A	Rocksprings	146.98	36	⇑P	PKPbc	09 32 49.2	+0.1
	baz=147,SNR=61						
WVT	Waverly	146.99	13	ePKIKP	PKPdf	09 32 46.3	-0.7
WVT	Waverly	146.99	13	ePKPdf	PKPdf	09 32 46.3	-0.7
Z37A	Pogue Cattle C	147.07	26	⇓P	PKPbc	09 32 49.9	+0.6
	baz=147						
JCT	Junction City	147.17	34	ePKP2	PKPdf	09 32 48.4	+0.9
JCT	Junction City	147.17	34	ePKPdf	PKPdf	09 32 48.4	+0.9
JCT	Junction City	147.17	34	⇓P	PKPbc	09 32 49.9	+0.2
	baz=147,SNR=39						
WHTX	Lake Whitney,	147.22	30	ePKPab	PKPbc	09 32 50.0	+0.3
WHTX	Lake Whitney,	147.22	30	⇓P	PKPbc	09 32 49.9	+0.1
	baz=147						
Z38A	Mt. Pleasant	147.30	25	⇑P	PKPab	09 32 51.6	-0.1
	baz=147,SNR=8.0						
433A	Art	147.35	33	⇑P	PKPbc	09 32 50.3	+0.2
	baz=147,SNR=21						
334A	Lometa	147.35	31	⇑P	PKPbc	09 32 50.5	+0.3
	baz=147,SNR=40						
532A	Rocksprings	147.37	35	⇓P	PKPbc	09 32 51.1	+0.8
	baz=147,SNR=36						
631A	Perdido Creek	147.51	37	⇑P	PKPbc	09 32 51.5	+0.8
	baz=147,SNR=38						
137A	Heron Place, G	147.52	27	⇓P	PKPbc	09 32 50.4	-0.2
	baz=147						
Z39A	Irene McRaven,	147.64	24	⇑P	PKPab	09 32 53.2	+0.1
	baz=147,SNR=9.0						
236A	Katherine and	147.66	28	⇑P	PKPab	09 32 52.8	-0.3
	baz=147,SNR=8.2						
434A	Burnet	147.74	32	⇑P	PKPbc	09 32 51.4	+0.1
	baz=148,SNR=37						
138A	Matatall Enter	147.76	26	⇓P	PKPbc	09 32 51.9	+0.7
	baz=148,SNR=5.4						
335A	Moody	147.81	30	⇓P	PKPbc	09 32 52.0	+0.6
	baz=148,SNR=20						
533A	Kerrville	147.91	34	⇑P	PKPbc	09 32 52.3	+0.5
	baz=148,SNR=23						
632A	Uvalde	147.91	35	⇓P	PKPbc	09 32 52.4	+0.7
	baz=148,SNR=22						
237A	Washetta, Mont	148.00	27	⇓P	PKPbc	09 32 52.3	+0.4
	baz=148						
336A	Riesel	148.01	29	⇑P	PKPbc	09 32 52.7	+0.8
	baz=148,SNR=16						
139A	Bunkhouse Ranc	148.04	25	⇓P	PKPbc	09 32 52.3	+0.4
	baz=148						
435B	Jarrell	148.13	31	⇑P	PKPbc	09 32 52.0	-0.3
	baz=148						
534A	Blanco	148.25	33	⇓P	PKPbc	09 32 52.8	+0.2
	baz=148,SNR=24						
CPCT	Cooper Cave	148.27	8	ePKPdf	PKPdf	09 32 50.1	+1.0
633A	Saathoff Ranch	148.29	35	⇑P	PKPbc	09 32 53.5	+0.8
	baz=148,SNR=22						
238A	Jacksonville	148.31	27	⇑P	PKPbc	09 32 53.0	+0.4
	baz=148						
732A	Laxson Ranch,	148.37	37	⇑P	PKPbc	09 32 53.1	+0.2
	baz=148						
337A	Centerville	148.53	28	⇑P	PKPbc	09 32 53.5	+0.2
	baz=148						
436A	Wall Ranch, Ga	148.54	30	⇑P	PKPbc	09 32 54.4	+1.1
	baz=148,SNR=5.5						
239A	Gary	148.58	26	⇑P	PKPbc	09 32 54.3	+1.0
	baz=148,SNR=11						
BBSR	BB Station	148.68	336	ePKPab	PKPbc	09 32 54.4	+0.8
832A	Faith Ranch, C	148.69	37	⇑P	PKPbc	09 32 54.3	+0.5
	baz=148						
535A	Dale	148.73	32	⇑P	PKPbc	09 32 54.5	+0.6
	baz=148,SNR=7.6						
338A	Crockett	148.77	27	⇑P	PKPbc	09 32 54.7	+0.9
	baz=148,SNR=5.8						
733A	Divot King Ran	148.78	36	⇓P	PKPbc	09 32 54.5	+0.6
	baz=149						
437A	Phantom Ranch,	148.81	29	⇓P	PKPbc	09 32 54.8	+0.8
	baz=149						
634A	China Grove, S	148.81	34	⇑P	PKPbc	09 32 55.1	+1.0
	baz=149						
CNNC	Cliffs of the	148.86	358	ePKPab	PKPbc	09 32 54.8	+0.8
KMSC	Kings Mountain	148.91	4	ePKPdf	PKPdf	09 32 51.2	+1.0
KMSC	Kings Mountain	148.91	4	⇑P	PKPbc	09 32 54.2	+0.1
	baz=149						
536A	Bastrop	148.96	31	⇓P	PKPbc	09 32 55.2	+0.8
	baz=149,SNR=6.8						
833A	Chaparral WMA,	149.01	36	⇓P	PKPbc	09 32 55.7	+1.1
	baz=149,SNR=23						
734A	La Parita Cree	149.11	35	⇑P	PKPbc	09 32 55.8	+1.0
	baz=149,SNR=11						
339A	Huntington	149.13	26	⇓P	PKPbc	09 32 55.7	+0.9
	baz=149						
635A	Leesville	149.13	33	⇑P	PKPbc	09 32 56.1	+1.2
	baz=149,SNR=17						
438A	Sam Houston St	149.20	28	⇑P	PKPbc	09 32 56.2	+1.2
	baz=149,SNR=11						
537A	Green Hill Far	149.34	30	⇑P	PKPbc	09 32 56.8	+1.4
	baz=149,SNR=7.0						
340A	Bronson	149.34	25	⇑P	PKPbc	09 32 56.2	+0.9
	baz=149,SNR=14						
636A	Smothers Creek	149.44	32	⇑P	PKPbc	09 32 57.2	+1.6
	baz=149,SNR=38						
439A	Center Grove,	149.49	27	⇓P	PKPbc	09 32 57.1	+1.4
	baz=149,SNR=7.8						
735A	Kenedy	149.52	34	⇑P	PKPbc	09 32 57.7	+1.9
	baz=149,SNR=12						
933A	Laredo	149.61	37	⇓P	PKPbc	09 32 57.9	+1.8
	baz=149,SNR=8.7						
538A	Harpers Horsep	149.63	29	⇓P	PKPbc	09 32 57.9	+1.8
	baz=149						
834A	Tilden	149.66	36	⇓P	PKPbc	09 32 57.7	+1.5
	baz=149,SNR=9.3						
HKT	Hockley	149.68	30	ePKP2	PKPbc	09 32 57.0	+0.9
HKT	Hockley	149.68	30	ePKPab	PKPbc	09 32 57.0	+0.9
JSC	Jenkinsville	149.77	4	ePKP2	PKPbc	09 32 56.5	+0.2
JSC	Jenkinsville	149.77	4	ePKPab	PKPbc	09 32 56.5	+0.2
736A	Circle Diamond	149.85	33	⇓P	PKPbc	09 32 59.0	+2.3
	baz=150,SNR=21						
VBMS	Vicksburg	149.92	20	ePKPab	PKPbc	09 32 57.2	+0.5
835A	Beeville	149.95	34	⇑P	PKPbc	09 32 59.0	+2.1
	baz=150,SNR=7.6						
934A	Benavides	150.07	36	⇑P	PKPbc	09 32 59.3	+2.1
	baz=150,SNR=12						
539A	Cross D Ranch,	150.09	28	⇑P	PKPbc	09 32 59.5	+2.3
	baz=150,SNR=9.9						
034A	Hebbronville	150.36	37	⇑P	PKPbc	09 33 00.2	+2.2
	baz=150,SNR=16						
GOGA	Godfrey	150.42	7	ePKIKP	PKPbc	09 32 57.8	-0.1
GOGA	Godfrey	150.42	7	ePKPdf	PKPbc	09 32 57.8	-0.1
KVTX	Kingsville	150.47	35	ePKPab	PKPbc	09 33 00.5	+2.3
035A	Encino	150.81	37	⇓P	PKPbc	09 33 01.1	+2.1
	baz=151,SNR=9.4						
NHSC	New Hope	150.99	2	ePKPab	PKPbc	09 32 59.8	+0.5
035Z	Hargill	151.18	37	⇓P	PKPbc	09 33 02.2	+2.3
	baz=151						
RGRS	Roger Stewart	151.19	2	ePKPdf	PKPbc	09 33 00.1	+0.5
LVC	Limon Verde	151.78	200	ePKPab	PKPab	09 33 09.3	-1.1
BRAL	Brewton	152.07	15	ePKPab	PKPbc	09 33 02.7	+0.9
TIGA	Tifton	152.34	8	⇑P	PKPbc	09 33 03.1	+0.8
	baz=152						

IDC 06 09:13:58.8±3.0, 53.55N×87.84E, h0km, mb1 2.9/2, mb1mx2.8/30, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=26.4km s-min=16.0km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.84	284	*i*				09 26 00.0	
	baz=100,slow=336,SNR=4.7								
ZALV	Zalesovo Beam	1.84	284	Pn		Pn	Pn	09 14 31.6	+0.1
	1.9nm,0.3s,baz=102,slow=15,SNR=17								
ZALV				Lg		Lg	Lg	09 14 56.8	
	2.0nm,0.3s,baz=100,slow=29,SNR=8.7								
KURBB	Kurchatov Arra	6.45	247	Pn		Pn	Pn	09 15 35.3	+0.5
	0.1nm,0.3s,baz=63,slow=14,SNR=4.0								
KURBB				Lg		Lg	Lg	09 17 24.1	
	0.0nm,0.3s,baz=62,slow=34,SNR=6.9								
MKAR	Makanchi Array	7.65	210	Pn		Pn	Pn	09 15 52.8	+1.4
	0.2nm,0.3s,baz=41,slow=16,SNR=6.9								
MKAR				Sn		Sn	Sn	09 17 17.6	-1.1
	0.1nm,0.3s,baz=23,slow=22,SNR=4.5								

*IDC **06** 09:28:58.3±1.2, 40.03S×78.44E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.9/21, mbtmp4.0/6, MS4.2/7, Ms1 4.2/7, ms1mx3.7/33, Error ellipse: s-maj=38.2km s-min=26.5km az=91.0*

*ISCJB **06** 09:28:59.6±1.4, 40.1S±0.2×78.6E±0.3, h14km, mb4.1/6, MS4.2/7, Error ellipse: s-maj=36.2km s-min=24.5km az=23.1*

ISC 06 09:29:00.7±1.2, 40.1S±0.2×78.5E±0.3, h14km, n16, σ0s73/9, mb4.1/6, MS4.2/7, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	28.62	91	T		T	T	10 04 45.5	
	baz=249,slow=74,SNR=97								
H01W3	Cape Leeuwin H	28.63	91	T		T	T	10 04 50.1	
	baz=249,slow=74,SNR=84								
H01W1	Cape Leeuwin H	28.64	91	T		T	T	10 04 47.1	
	baz=249,slow=74,SNR=66								
ASAR	Alice Springs	49.05	88	P		P	P	09 37 48.1	+0.6
	0.8nm,0.8s,baz=230,slow=5.7,SNR=6.6								
ASAR				LR		LR	LR	09 56 27.9	
	comp=Z,335nm,18.8s,baz=268,slow=34								
VNDA	Vanda	49.85	164	P		P	P	09 37 52.4	-0.4
	1.8nm,0.9s,baz=258,slow=5.3,SNR=6.7								
QSPA	South Pole Qui	50.11	180	P		P	P	09 37 55.4	+0.3
	6.8nm,1.1s,baz=268,slow=5.0,SNR=9.7								
QSPA				LR		LR	LR	09 57 33.9	
	comp=Z,608nm,21.7s,baz=323,slow=34								
STKA	Stephens Creek	50.78	102	P		P	P	09 38 00.5	-0.1
	2.6nm,0.9s,baz=233,slow=5.1,SNR=3.3								
KAPI	Kappang	50.91	58	LR		LR	LR	09 55 06.3	
	comp=Z,141nm,20.0s,baz=208,slow=31								
WRA	Warramunga Arr	51.49	84	P		P	P	09 38 05.7	-0.2
	0.7nm,0.8s,baz=233,slow=7.2,SNR=4.0								
JAY	Jayapura	67.33	73	LR		LR	LR	10 06 27.9	
	comp=Z,123nm,21.4s,baz=226,slow=33								
MKAR	Makanchi Array	86.53	3	P		P	P	09 41 43.3	+0.6
	1.0nm,0.8s,baz=193,slow=5.9,SNR=13								
MKAR				LR		LR	LR	10 18 15.0	
	comp=Z,85nm,19.2s,baz=154,slow=34								
DBIC	Dimbokro	89.17	279	LR		LR	LR	10 19 47.4	
	comp=Z,133nm,18.4s,baz=78,slow=34								
ZALV	Zalesovo Beam	93.78	4	LR		LR	LR	10 22 08.4	
	comp=Z,71nm,20.9s,baz=248,slow=34								
ILAR	Eielson Array	144.11	31	PKP		PKPdf	PKPdf	09 48 35.2	+0.4
	0.1nm,0.6s,baz=306,slow=3.1,SNR=2.4								
INK	Inuvik	146.82	21	PKPbc		PKPdf	PKPdf	09 48 39.5	+0.2
	0.7nm,0.3s,baz=20,slow=4.3,SNR=7.7								
YKA	Yellowknife Ar	156.17	15	PKPab		PKPab	PKPab	09 49 20.1	-1.4
	0.2nm,0.8s,baz=331,slow=3.7,SNR=3.0								

NEIC 06 09:42:37.6±0.6, 19.69N×71.68W, h10km, mb4.2/1, Error ellipse: s-maj=10.9km s-min=6.3km az=179.0, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SDDR	Presa de Saban	0.80	152	ePg		Pg	Pg	09 42 50.9	-2.3
SDDR				eSg		Sg	Sg	09 43 00.2	-3.3
PAPH	Port-au-Prince	1.30	207	ePn		Pn	Pn	09 43 01.7	-0.3
PAPH				eSn		Sg	Sg	09 43 20.1	+0.4
LGNH	LØogne	1.47	217	ePn		Pb	Pb	09 43 05.0	0.0
LGNH				eSn		Sg	Sg	09 43 24.4	-0.5
JAKH	Jacmel	1.65	209	ePn		Pb	Pb	09 43 07.4	-0.7
JAKH				eSn		Sn	Sn	09 43 27.8	-0.1
GRTK	Grand Turk	1.88	16	ePn		Pn	Pn	09 43 07.7	-2.2
GRTK				eSn		Sn	Sn	09 43 32.9	-0.8
SDD	Santo Domingo	2.07	126	ePn		Pn	Pn	09 43 11.6	-0.9
SMN1	Samana, DR	2.33	102	ePn		Pn	Pn	09 43 14.7	-1.4
SMN1				eSn		Sn	Sn	09 43 42.9	-1.8
GTBY	Guantanamo Bay	3.24	275	ePn		Pn	Pn	09 43 28.4	-0.1
PCDR	Punta Cana, DR	3.33	110	ePn		Pn	Pn	09 43 29.3	-0.5
AGPR	Aguadilla, PR	4.49	105	ePn		Pn	Pn	09 43 44.1	-1.6
LSP	Las Mesas	4.60	108	ePn		Pn	Pn	09 43 48.6	+1.3
CRPR	Cabo Rojo, PR	4.64	110	ePn		Pn	Pn	09 43 48.5	+0.7
LRS	Lares	4.78	106	ePn		Pn	Pn	09 43 51.1	+1.3
AOPR	Arecibo Observ	4.85	105	ePn		Pn	Pn	09 43 52.1	+1.4
OBIP	Obispado Ponce	5.08	108	ePn		Pn	Pn	09 43 56.2	+2.3
	53nm,0.4s								
CELP	Cerrillos	5.09	108	ePn		Pn	Pn	09 43 54.7	+0.7
ICMP	Isla Caja de M	5.20	109	ePn		Pn	Pn	09 43 55.8	+0.3
SJG	San Juan	5.46	106	ePn		Pn	Pn	09 43 59.8	+0.6
	51nm,0.4s								
HUMP	Col San Antoni	5.73	105	ePn		Pn	Pn	09 44 02.4	-0.4
MTDJ	Mount Denham	5.73	256	ePn		Pn	Pn	09 44 03.2	+0.2
SDV	Santo Domingo	10.79	174	ePn		Pn	Pn	09 45 10.8	-1.8
TEIG	Tepich	15.62	275	Pn		Pn	Pn	09 46 18.6	+0.7
	7.2nm,0.5s								

*ISCJB **06** 09:46:39.4±1.2, 55.2S±0.1×129.4W±0.5, h10km, mb4.0/5, MS4.3/11, Error ellipse: s-maj=39.1km s-min=18.7km az=174.3*

*IDC **06** 09:46:39.1±1.0, 55.38S×129.25W, h0km, mb4.0/4, mb1 4.3/4, mb1mx4.0/13, mbtmp4.0/4, MS4.3/11, Ms1 4.3/11, ms1mx4.1/21, Error ellipse: s-maj=39.6km s-min=33.3km az=106.0*

*GCMT **06** 09:46:48.0±0.3, 55.45S×127.97W, h25km±1km, MW5.0/74, Moment Tensor Solution. s24,c26; s74,c94; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr0.23±.21; Mθθ1.89±.20; Mφφ-2.12±.19; Mrθ0.30±.36; Mθφ3.45±.14; Mφr1.64±.39; Best double couple: M=4.32200×10^16 NP1:φs15.00000°, δ90.00000°, λ157.00000°. NP2: φs105.00000°, δ67.00000°, λ0.00000°. Principal axes: T 4.1820, Plg16.0000°, Azm328.0000°; N 0.2760, Plg67.0000°, Azm194.0000°; P -4.4620, Plg16.0000°, Azm62.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 06 09:46:40.6±1.0, 55.2S±0.1×129.2W±0.3, h10km, n28, σ1s27/10, mb4.0/5, MS4.3/11, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	31.56	35	LR		LR	LR	10 00 59.5	
	comp=Z,103nm,20.1s,baz=152,slow=27								
RKT	Rikitea	32.32	350	eLR		LR	LR	10 01 39.8	
	974nm,27.8s,baz=166								
RKT	Rikitea	32.32	350	*e*T		T	T	10 27 17.4	
	4.1nm,0.3s								
VNDA	Vanda	32.38	202	P		P	P	09 53 11.7	+2.0
	1.8nm,1.0s,baz=88,slow=8.9,SNR=5.2								
USHA	Ushuaia	33.89	115	LR		LR	LR	10 02 36.0	
	comp=Z,576nm,21.9s,baz=71,slow=28								
QSPA	South Pole Qui	34.98	180	P		P	P	09 53 30.6	-2.0
	3.5nm,0.9s,baz=108,slow=0.7,SNR=7.8								
TBI	Tubuai	35.18	327	eLR		LR	LR	10 02 58.9	
	771nm,27.0s,baz=162								
TBI	Tubuai	35.18	327	*e*T		T	T	10 31 05.9	
	30nm,0.3s								
RPZ	Rata Peaks	39.30	261	LR		LR	LR	10 06 47.4	
	comp=Z,633nm,20.2s,baz=184,slow=31								
PPT2	Papeete2	40.64	329	*e*S		S	P	10 00 29.7	-0.7
	142nm,28.5s								
PPT2				*e*LR		LR	LR	10 05 30.6	
	972nm,25.8s,baz=168								
PPT	Papeete	40.66	329	LR		LR	LR	10 07 08.3	
	comp=Z,346nm,18.1s,baz=188,slow=30								
VAH	Vaihoa	42.34	333	*e*T		T	T	10 39 59.1	
	20nm,0.3s								
PMOR	Pomariorio Ree	42.63	333	*e*T		T	T	10 40 21.3	
	1.8nm,0.2s								
MAW	Mawson	57.18	185	LR		LR	LR	10 17 52.4	
	comp=Z,155nm,21.3s,baz=170,slow=33								
CPUP	Villa Florida	58.58	92	LR		LR	LR	10 18 13.0	
	comp=Z,2μm,18.1s,baz=204,slow=32								
ATAH	Atahualpa	62.59	60	LR		LR	LR	10 17 46.5	
	comp=Z,283nm,18.2s,baz=226,slow=30								
STKA	Stephens Creek	64.05	251	LR		LR	LR	10 19 22.5	
	comp=Z,185nm,21.8s,baz=192,slow=31								
BDFB	Brasilia	72.31	92	LR		LR	LR	10 27 44.7	
	comp=Z,303nm,19.1s,baz=160,slow=34								
ASAR	Alice Springs	74.68	251	P		P	P	09 58 20.4	+0.2
	1.5nm,0.9s,baz=154,slow=5.3,SNR=6.2								
ASAR				LR		LR	LR	10 26 51.4	
	comp=Z,202nm,19.3s,baz=153,slow=32								
WRA	Warramunga Arr	77.44	253	P		P	P	09 58 35.5	-0.5
	1.1nm,0.8s,baz=140,slow=5.2,SNR=6.3								
WRA				LR		LR	LR	10 29 30.0	
	comp=Z,121nm,20.2s,baz=240,slow=33								
TXAR	Lajitas Array	87.00	22	P		P	P	09 59 26.7	+1.0
	0.9nm,1.0s,baz=181,slow=6.0,SNR=6.8								
H11S2	WAKE ISLAND Hy	91.16	301	T		T	T	11 41 49.0	
	baz=146,slow=76,SNR=12								
H11S3	WAKE ISLAND Hy	91.18	301	T		T	T	11 42 04.6	
	baz=146,slow=76,SNR=8.9								
H11S1	WAKE ISLAND Hy	91.18	301	T		T	T	11 42 03.1	
	baz=146,slow=76,SNR=8.2								
ILAR	Eielson Array	120.40	351	PKP		PKPdf	PKPdf	10 05 29.9	-0.7
	0.7nm,0.7s,baz=197,slow=1.9,SNR=10								
SONM	Songino Array	145.44	281	PKPbc		PKPab	PKPab	10 06 18.8	+0.6
	3.9nm,1.1s,baz=132,slow=2.1,SNR=3.5								
MKAR	Makanchi Array	158.61	260	PKPab		PKPab	PKPab	10 07 12.1	-0.7
	0.4nm,0.8s,baz=130,slow=2.3,SNR=3.3								
BRTR	Keskin Array B	160.75	136	PKPab		PKPab	PKPab	10 07 22.4	+0.1
	1.6nm,0.9s,baz=188,slow=5.8,SNR=6.9								

IDC 06 09:48:42.9±2.7, 54.03N×87.39E, h0km, mb1 3.2/3, mb1mx3.1/31, mbtmp3.2/3, ML2.9/3, 1C-4D, Error ellipse: s-maj=23.1km s-min=13.5km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	1.52	268	*i*				09 59 00.0	
	baz=84,slow=332,SNR=3.8								
ZALV	Zalesovo Beam	1.52	268	Pg		Pn	Pn	09 49 09.1	-2.2
	5.6nm,0.3s,baz=85,slow=17,SNR=67								
ZALV				Lg		Lg	Lg	09 49 33.1	
	7.0nm,0.3s,baz=86,slow=25,SNR=17								
KURK	Kurchatov	6.31	242	⇓P		Pn	Pn	09 50 14.9	-2.2
	1.6nm,1.2s								
KURK				⇓Sn		Sn	Sn	09 51 27.4	-2.5
	2.3nm,1.0s								
KURK				⇓Lg		Lg	Lg	09 52 00.6	
	8.3nm,0.8s								
KURBB	Kurchatov Arra	6.41	241	Pn		Pn	Pn	09 50 18.4	-0.1
	0.1nm,0.3s,baz=57,slow=14,SNR=5.1								
KURBB				Sn		Sn	Sn	09 51 26.1	-6.2
	0.1nm,0.3s,baz=164,slow=24,SNR=4.7								
KURBB				Lg		Lg	Lg	09 52 06.1	
	0.1nm,0.3s,baz=53,slow=33,SNR=10.0				

*IDC **06** 09:52:57.1±1.4,34˚.08S×72˚.26W,h0km,mb3.5/3, mb1 3.8/4,mb1mx3.7/22,mbtmp3.6/4,ML4.0/1,MS2.2/1, Ms1 2.2/1,ms1mx2.2/22,Error ellipse: s-maj=48.5km s-min=32.5km az=80.0*

*ISCJB **06** 09:53:00.5±1.6,34˚.35S±0˚.06×72˚.11W±0˚.09,h18km±11km, mb3.5/2, Error ellipse: s-maj=14.9km s-min=5.6km az=32.3*

*GUC **06** 09:53:01.5±0.5,34˚.37S×72˚.04W,h42km±3km, ML4.2*

ISC 06 09:53:00.2±0.9,34˚.29S±0˚.06×72˚.1W±0˚.1,h21km±4km,n23, σ1§18/25,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**1.02**	**135**	*eP*	**Pn**	**09 53 18.3**	**-1.1**
NICH				*eS*	**Sb**	**09 53 31.3**	**-1.0**
TACH	**Talagante**	**1.17**	**58**	*eP*	**Pn**	**09 53 21.7**	**+0.4**
SAN	**Santiago**	**1.47**	**56**	*eP*	**Pb**	**09 53 27.0**	**+0.1**
SAN				*eS*	**Sb**	**09 53 45.9**	**+0.8**
PCH	**Pirque**	**1.49**	**64**	*eP*	**Pb**	**09 53 27.2**	**-0.1**
STL	**Santa Lucia**	**1.49**	**56**	*eP*	**Pb**	**09 53 27.0**	**-0.3**
STL				*eS*	**Sb**	**09 53 46.5**	**+0.7**
LACH	**Col Las Americ**	**1.56**	**58**	*eP*	**Pb**	**09 53 28.3**	**-0.2**
LACH				*eS*	**Sb**	**09 53 48.5**	**+0.6**
CLCH	**Cerro Calan**	**1.59**	**56**	*eP*	**Pb**	**09 53 28.7**	**-0.2**
CLCH				*eS*	**Sb**	**09 53 49.2**	**+0.6**
CLCH				AML	AML	09 53 56.3	
	comp=E,5μm,0.8s						
SJCH	**San Jose de Ma**	**1.60**	**67**	*eP*	**Pn**	**09 53 28.5**	**+1.0**
SJCH				*eS*	**Sn**	**09 53 48.9**	**+1.3**
PEL	**Peldehue**	**1.65**	**47**	*eP*	**Pb**	**09 53 29.9**	**-0.1**
PEL				*eS*	**Sb**	**09 53 51.3**	**+0.9**
COCH	**Cobquecura**	**1.92**	**196**	*eP*	**Pn**	**09 53 32.2**	**+0.5**
COCH				*eS*	**Sn**	**09 53 55.7**	**+0.5**
CFAA	**Coronel Fontan**	**4.22**	**52**	Pn	Pn	09 54 07.2	+3.8
	comp=E,0.6nm,0.3s,baz=234,slow=15,SNR=30						
CFAA				Sn	**Sb**	**09 55 01.2**	**-3.1**
	comp=E,1.4nm,0.3s,baz=90,slow=19,SNR=2.7						
CFAA				LR	LR	09 55 57.1	
	comp=E,30nm,20.9s,baz=217,slow=43						
PLCA	**Paso Flores**	**6.55**	**170**	Pn	**Pn**	**09 54 37.6**	**+2.1**
	comp=E,0.7nm,0.3s,baz=348,slow=13,SNR=17						
PLCA				Lg	Lg	09 56 17.9	
	comp=E,0.5nm,0.3s,baz=78,slow=19,SNR=2.3						
SIV	**San Ignacio**	**20.75**	**31**	P	**P**	**09 57 38.4**	**-1.3**
	comp=E,1.5nm,0.7s,baz=201,slow=13,SNR=4.3						
TXAR	**Lajitas Array**	**69.95**	**331**	P	**P**	**10 04 08.8**	**-1.2**
	comp=E,0.1nm,0.5s,baz=153,slow=8.0,SNR=2.1						
TORD	**Torodi Ar. Bea**	**84.37**	**70**	P	**P**	**10 05 32.2**	**+0.9**
	comp=E,1.2nm,0.8s,baz=250,slow=3.5,SNR=6.4						
H11S2	**WAKE ISLAND Hyl**	**25.70**	**269**	T	T	12 30 27.6	
	baz=119						
H11S1	**WAKE ISLAND Hyl**	**25.71**	**269**	T	T	12 30 28.1	
	baz=118						
H11S3	**WAKE ISLAND Hyl**	**25.72**	**269**	T	T	12 30 28.7	
	baz=118						
H11N3	**WAKE ISLAND Hyl**	**26.12**	**270**	T	T	12 30 54.6	
	baz=121,slow=76,SNR=5.6						
H11N1	**WAKE ISLAND Hyl**	**26.13**	**270**	T	T	12 30 58.4	
	baz=121,slow=76,SNR=14						
H11N2	**WAKE ISLAND Hyl**	**26.14**	**270**	T	T	12 30 57.9	
	baz=121,slow=76,SNR=5.5						
ZALV	**Zalesovo Beam**	**154.50**	**33**	PKPbc	**PKPbc**	**10 12 59.6**	**+0.9**
	comp=E,0.4nm,0.3s,baz=313,slow=5.1,SNR=3.1						
MKAR	**Makanchi Array**	**157.00**	**49**	PKPab	**PKPab**	**10 13 23.0**	**-1.2**
	comp=E,0.2nm,0.5s,baz=289,slow=6.7,SNR=2.9						

*IDC **06** 09:54:49.3±1.2,35˚.09S×73˚.05W,h0km,mb3.9/5, mb1 4.1/5,mb1mx4.0/14,mbtmp3.9/5,Error ellipse: s-maj=47.1km s-min=33.4km az=75.0*

*GUC **06** 09:54:51.7±0.7,35˚.13S×73˚.23W,h47km±16km,ML4.5*

*ISCJB **06** 09:54:52.2±0.8,35˚.14S±0˚.06×73˚.24W±0˚.07,h33km, mb3.8/5,Error ellipse: s-maj=9.0km s-min=8.3km az=30.0*

ISC 06 09:54:54.2±0.9,35˚.21S±0˚.07×73˚.14W±0˚.09,h35km,n11, σ1§03/15,mb3.9/5,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.96**	**163**	*eP*	**Pn**	**09 55 10.6**	**-0.6**
COCH				*eS*	**Sn**	**09 55 24.7**	**+1.0**
TALC	**Talca**	**1.25**	**99**	*eP*	**Pn**	**09 55 14.5**	**-0.6**
TALC				*eS*	**Sn**	**09 55 31.7**	**+1.1**
NICH	**Los Niches**	**1.58**	**83**	*eP*	**Pn**	**09 55 18.6**	**-1.0**
NICH				*eS*	**Sn**	**09 55 39.3**	**+0.4**
NICH				AML	AML	09 55 50.4	
	comp=N,11μm,0.7s						
LNV	**Longovilo**	**1.90**	**49**	*eP*	**Pn**	**09 55 24.7**	**+0.7**
LNV				*eS*	**Sn**	**09 55 47.6**	**+0.9**
SIV	**San Ignacio**	**21.98**	**32**	P	**P**	**09 59 43.5**	**-1.7**
	comp=N,5.2nm,1.1s,baz=218,slow=1.0,SNR=3.2						
TXAR	**Lajitas Array**	**70.36**	**332**	P	**P**	**10 06 05.0**	**+0.5**
	comp=N,0.5nm,0.7s,baz=151,slow=8.6,SNR=7.0						
MAW	**Mawson**	**72.28**	**164**	P	**P**	**10 06 16.5**	**+1.1**
	comp=N,2.5nm,0.9s,baz=234,slow=8.7,SNR=3.6						
PDAR	**Pinedale Array**	**84.44**	**334**	P	**P**	**10 07 22.2**	**-0.9**
	comp=N,0.5nm,1.0s,baz=139,slow=6.0,SNR=3.9						
TORD	**Torodi Ar. Bea**	**85.47**	**71**	P	**P**	**10 07 27.9**	**-0.7**
	comp=N,1.0nm,1.1s,baz=242,slow=3.1,SNR=3.7						
BVAR	**Borovoye Array**	**148.78**	**44**	PKPbc	**PKPbc**	**10 14 38.7**	**+1.4**
	comp=N,0.4nm,0.5s,baz=253,slow=4.4,SNR=4.3						
MKAR	**Makanchi Array**	**158.24**	**50**	PKPab	**PKPab**	**10 15 21.3**	**-0.1**
	comp=N,0.2nm,0.6s,baz=264,slow=2.6,SNR=2.8						

*IDC **06** 10:03:05.8±1.4,12˚.45S×166˚.12E,h0km,mb3.8/8, mb1 4.0/9,mb1mx3.8/36,mbtmp3.8/9,ML3.2/1,Error ellipse: s-maj=43.4km s-min=24.1km az=116.0*

*ISCJB **06** 10:03:09.8±1.0,12˚.64S±0˚.07×166˚.1E±0˚.2,h40km, mb3.8/8,Error ellipse: s-maj=28.6km s-min=9.9km az=172.9*

ISC 06 10:03:11.4±1.1,12˚.54S±0˚.09×166˚.2E±0˚.2,h40km,n10, σ1§37/11,mb3.9/8,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.48**	**178**	P	**Pn**	**10 05 25.5**	**-0.1**
	0.2nm,0.3s,baz=329,slow=16,SNR=4.2						
DZM				Sn	**Sn**	**10 07 10.4**	**-0.5**
	baz=127,slow=19,SNR=2.4						
STKA	**Stephens Creek**	**29.68**	**226**	P	**P**	**10 09 15.2**	**+1.7**
	1.4nm,0.8s,baz=41,slow=9.3,SNR=2.9						
WRA	**Warramunga Arr**	**31.40**	**252**	P	**P**	**10 09 27.4**	**-1.5**
	0.9nm,1.1s,baz=83,slow=8.9,SNR=3.3						
ASAR	**Alice Springs**	**32.53**	**246**	P	**P**	**10 09 38.2**	**-0.6**
	0.4nm,0.8s,baz=69,slow=9.4,SNR=4.1						
MJAR	**Matsushiro Arr**	**55.48**	**333**	P	**P**	**10 12 41.5**	**-0.9**
	1.0nm,0.7s,baz=170,slow=9.0,SNR=4.1						
CMAR	**Chiang Mai Arr**	**73.10**	**294**	P	**P**	**10 14 39.7**	**+1.6**
	0.6nm,0.3s,baz=131,slow=4.9,SNR=3.2						
ILAR	**Eielson Array**	**84.79**	**18**	P	**P**	**10 15 42.5**	**+1.3**
	0.1nm,0.5s,baz=224,slow=6.3,SNR=3.6						
MKAR	**Makanchi Array**	**94.89**	**317**	P	**P**	**10 16 29.2**	**-0.2**
	0.8nm,0.9s,baz=117,slow=2.3,SNR=7.0						
ZALV	**Zalesovo Beam**	**95.01**	**324**	P	**P**	**10 16 28.8**	**-1.0**
	0.4nm,0.4s,baz=152,slow=6.4,SNR=3.4						
ARCES	**ARCESS Array B**	**117.88**	**345**	PKP	**PKPdf**	**10 21 51.3**	**-1.8**
	1.8nm,1.1s,baz=52,slow=1.5,SNR=4.2						

*IDC **06** 10:14:05.8±4.8,15˚.80N×98˚.61W,h0km,mb3.6/5, mb1 3.9/8,mb1mx3.7/29,mbtmp3.6/8,ML3.4/3,MS3.5/4, Ms1 3.6/4,ms1mx3.1/28,Error ellipse: s-maj=91.1km s-min=23.6km az=9.0*

*ISCJB **06** 10:14:12.3±0.6,16˚.34N±0˚.05×98˚.43W±0˚.03,h35km±7km, mb3.5/4,MS4.0/1,Error ellipse: s-maj=8.4km s-min=4.1km az=23.3*

*MEX **06** 10:14:13.7±0.6,16˚.32N×98˚.46W,h12km±4km,MD4.4*

*NEIC **06** 10:14:13.7,16˚.32N×98˚.46W,h12km,MD4.4(MEX),After MEX.*

ISC 06 10:14:12.3±1.1,16˚.34N±0˚.05×98˚.46W±0˚.03,h25km±8km, n57,σ1§10/73,mb3.5/4,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.32**	**81**	*i* P	**Pb**	**10 14 19.9**	**+0.2**
PNIG				*i* S	**Sb**	**10 14 24.6**	**-0.2**
PNIG	**Pinotepa**	**0.32**	**81**	*i* P	**Pb**	**10 14 19.9**	**+0.2**
PNIG				*i* S	**Sb**	**10 14 24.6**	**-0.2**
TLIG	**Tlapa**	**1.22**	**355**	*eP*	**Pn**	**10 14 32.9**	**-1.0**
TLIG				*i* S	**Sn**	**10 14 47.6**	**-2.0**
HMTT	**Tlapaneco**	**1.45**	**356**	*eP*	**Pn**	**10 14 36.7**	**-0.4**
ACP2	**Acapulco**	**1.47**	**291**	*eP*	**Pn**	**10 14 36.6**	**-0.5**
VHO	**Vista Hermosa**	**1.81**	**66**	*eP*	**Pn**	**10 14 42.6**	**+0.7**
VHO				*eS*	**Sn**	**10 15 03.2**	**-1.0**
VHO	**Vista Hermosa**	**1.81**	**66**	*eP*	**Pn**	**10 14 42.6**	**+0.7**
VHO				*eS*	**Sn**	**10 15 03.2**	**-1.0**
OXBJ	**Oaxaca**	**1.81**	**66**	*eP*	**Pn**	**10 14 42.1**	**0.0**
CAIG	**El Cayaco**	**1.87**	**292**	*eP*	**Pn**	**10 14 41.9**	**-0.8**
CAIG				*eS*	**Sn**	**10 15 05.0**	**-0.4**
CAIG	**El Cayaco**	**1.87**	**292**	*eP*	**Pn**	**10 14 41.9**	**-0.8**
CAIG				*eS*	**Sn**	**10 15 05.0**	**-0.4**
MEIG	**Mezcala**	**1.93**	**325**	*eP*	**Pn**	**10 14 43.5**	**0.0**
MEIG				*eS*	**Sn**	**10 15 07.0**	**0.0**
MEIG	**Mezcala**	**1.93**	**325**	*eP*	**Pn**	**10 14 43.5**	**0.0**
MEIG				*eS*	**Sn**	**10 15 07.0**	**0.0**
PLIG	**Platanillo**	**2.27**	**334**	*eP*	**Pn**	**10 14 48.8**	**+0.5**
PLIG				*eS*	**Sn**	**10 15 14.8**	**-0.7**
PLIG	**Platanillo**	**2.27**	**334**	*eP*	**Pn**	**10 14 48.8**	**+0.5**
PLIG				*eS*	**Sn**	**10 15 14.8**	**-0.7**
TPIG	**Tehuac#an**	**2.32**	**27**	*eP*	**Pn**	**10 14 49.4**	**+0.4**
TPIG				*eS*	**Sn**	**10 15 15.6**	**-1.2**
TPIG	**Tehuac#an**	**2.32**	**27**	*eP*	**Pn**	**10 14 49.4**	**+0.4**
TPIG				*eS*	**Sn**	**10 15 15.6**	**-1.2**
HUIG	**Huatulco**	**2.33**	**104**	*eP*	**Pn**	**10 14 49.0**	**0.0**
HUIG				*i* S	**Sn**	**10 15 15.5**	**-1.4**
HUIG	**Huatulco**	**2.33**	**104**	*eP*	**Pn**	**10 14 49.0**	**0.0**
HUIG				*i* S	**Sn**	**10 15 15.5**	**-1.4**
ARIG	**Puente Sto Nin**	**2.64**	**317**	*eP*	**Pn**	**10 14 54.2**	**+0.9**
ARIG				*eS*	**Sn**	**10 15 24.4**	**-0.2**
PPM	**Popocatepetl**	**2.72**	**357**	*eP*	**Pn**	**10 14 55.1**	**+0.4**
PPM	**Popocatepetl**	**2.72**	**357**	*eP*	**Pn**	**10 14 55.1**	**+0.4**
MAVM	**Malinalco, Edo**	**2.78**	**339**	*eP*	**Pn**	**10 14 55.9**	**+0.5**
AMVM	**AMECAMECA**	**2.79**	**354**	*eP*	**Pn**	**10 14 55.9**	**+0.3**
MZVM		**2.93**	**346**	*eP*	**Pn**	**10 15 00.3**	**+3.1**
UNM	**Universidad Na**	**3.05**	**347**	*eP*	**Pn**	**10 14 58.9**	**-0.2**
UNM				*eS*	**Sn**	**10 15 36.0**	**+1.0**
UNM	**Universidad Na**	**3.05**	**347**	*eP*	**Pn**	**10 14 58.9**	**-0.2**
UNM				*eS*	**Sn**	**10 15 36.0**	**+1.0**
ZIIG	**Zihuatanejo**	**3.14**	**294**	*eP*	**Pn**	**10 15 00.9**	**+0.8**
ZIIG	**Zihuatanejo**	**3.14**	**294**	*eP*	**Pn**	**10 15 00.9**	**+0.8**
PBIG	**Penon de los B**	**3.14**	**349**	*eP*	**Pb**	**10 15 07.5**	**+0.1**
TOVM	**TOLUCA**	**3.15**	**339**	*eP*	**Pn**	**10 15 03.0**	**+2.4**
IIO	**Organos**	**3.24**	**356**	*eP*	**Pb**	**10 15 07.0**	**-2.4**
IIO	**Organos**	**3.24**	**356**	*eP*	**Pb**	**10 15 07.0**	**-2.4**
PTVM	**Pico Tres Padr**	**3.29**	**349**	*eP*	Pn	10 15 06.6	+4.1
PTVM	**Pico Tres Padr**	**3.29**	**349**	*eP*	Pn	10 15 06.6	+4.1
AZVM	**Cuida Lopez Ma**	**3.32**	**346**	*eP*	**Pn**	**10 15 06.0**	**+3.1**
VTVM	**Tizayuca**	**3.42**	**355**	*eP*	Pn	10 15 07.9	+3.6
CMIG	**Matias Romero**	**3.51**	**77**	*eP*	**Pn**	**10 15 05.3**	**+0.1**
CMIG				*eS*	**Sn**	**10 15 44.4**	**-1.5**
CMIG	**Matias Romero**	**3.51**	**77**	Pn	**Pn**	**10 15 05.1**	**-0.1**
	2.3nm,0.3s,baz=257,slow=14,SNR=41						
CMIG				Pg	**Pb**	**10 15 16.0**	**+2.4**
	10nm,0.3s,baz=245,slow=12,SNR=27						
CMIG				Lg	Lg	10 16 00.5	
	18nm,0.3s,baz=7.0,slow=23,SNR=3.8						
CMIG				LR	LR	10 16 41.7	
	comp=Z,325nm,19.9s,baz=309,slow=41						
CMIG	**Matias Romero**	**3.51**	**77**	*eP*	**Pn**	**10 15 05.3**	**+0.1**
CMIG				*eS*	**Sn**	**10 15 44.4**	**-1.5**
ZUVM	**ZUMPANGO**	**3.52**	**350**	*eP*	Pb	10 15 11.0	-3.0
ATVM	**ATLACOMULCO**	**3.65**	**339**	*eP*	**Pb**	**10 15 18.5**	**+0.2**
DEIG	**Demacu**	**3.98**	**352**	*eP*	**Pb**	**10 15 22.1**	**+0.3**
DEIG				*eS*	**Sn**	**10 15 58.2**	**+0.3**
DEIG	**Demacu**	**3.98**	**352**	*eP*	**Pb**	**10 15 22.1**	**+0.3**
DEIG				*eS*	**Sn**	**10 15 58.2**	**+0.3**
MOIG	**Morelia**	**4.21**	**322**	*eP*	Pn	10 15 19.9	+4.8
MOIG				*i* S	**Sn**	**10 16 02.5**	**-1.1**
MOIG	**Morelia**	**4.21**	**322**	*eP*	Pn	10 15 19.9	+4.8
MOIG				*i* S	**Sn**	**10 16 02.5**	**-1.1**
PCIG		**5.08**	**96**	*eP*	**Pn**	**10 15 27.0**	**+0.2**
PCIG		**5.08**	**96**	*eP*	**Pn**	**10 15 27.0**	**+0.2**
TEIG	**Tepich**	**10.42**	**67**	Pn	**Pn**	**10 16 40.4**	**+0.3**
	0.7nm,0.3s,baz=237,slow=2.0,SNR=1.8						
TEIG				Sn	Sn	10 18 28.2	-7.8
	1.0nm,0.3s,baz=11,slow=15,SNR=6.1						
H06E1	**SOCORRO T-PHAS**	**12.13**	**283**	T	T	10 29 15.1	
	SNR=7.4						
LPIG	**La Paz**	**13.53**	**307**	LR	LR	10 22 03.1	
	comp=Z,165nm,20.6s,baz=219,slow=35						
TXAR	**Lajitas Array**	**13.79**	**341**	Pn	**P**	**10 17 32.1**	**-2.5**
	0.0nm,0.3s,baz=166,slow=15,SNR=2.6						
TXAR				Lg	Lg	10 21 25.7	
	0.0nm,0.3s,baz=160,slow=22,SNR=2.9						
TXAR				LR	LR	10 23 27.4	
	comp=Z,201nm,20.9s,baz=0.0,slow=39						
ANMO	**Albuquerque**	**19.87**	**340**	P	**Pn**	**10 18 43.3**	**-0.2**
	1.6nm,0.8s,baz=162,slow=12,SNR=7.8						
PDAR	**Pinedale Array**	**28.00**	**342**	P	**P**	**10 20 03.3**	**+1.9**
	1.0nm,1.1s,baz=144,slow=9.5,SNR=5.5						
NVAR	**Mina Array Bea**	**28.07**	**325**	P	**P**	**10 20 02.3**	**+0.3**
	1.6nm,0.9s,baz=142,slow=8.9,SNR=3.5						
LPAZ	**La Paz**	**44.12**	**136**	LR	LR	10 37 57.1	
	comp=Z,175nm,21.2s,baz=9.5,slow=33						
YKA	**Yellowknife Ar**	**47.48**	**350**	P	**P**	**10 22 45.6**	**+0.8**
	0.4nm,0.8s,baz=158,slow=7.4,SNR=6.2						
ILAR	**Eielson Array**	**58.29**	**338**	P	**P**	**10 24 05.4**	**+0.8**
	0.5nm,0.9s,baz=135,slow=6.3,SNR=6.2						

IDC 06 10:16:02.0±1.1,55˚.63S×129˚.32W,h0km,mb3.5/3, mb1 3.9/3,mb1mx3.6/17,mbtmp3.5/3,MS3.7/1,Ms1 3.7/1, ms1mx3.3/12,Error ellipse: s-maj=105.6km s-min=27.7km az=158.0,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPT	**Papeete**	**41.00**	**330**	LR	LR	10 35 59.7	
	comp=Z,94nm,18.6s,baz=340,slow=29						
LPAZ	**La Paz**	**60.52**	**75**	P	P	10 26 14.7	0.0
	baz=235,slow=9.7						
ASAR	**Alice Springs**	**74.49**	**251**	P	P	10 27 42.8	+0.5
	0.4nm,0.8s,baz=155,slow=6.8,SNR=3.2						
WRA	**Warramunga Arr**	**77.27**	**253**	P	P	10 27 58.0	-0.1
	0.5nm,0.8s,baz=145,slow=5.4,SNR=3.4						
TXAR	**Lajitas Array**	**87.42**	**22**	P	P	10 28 51.5	+0.7
	0.2nm,0.8s,baz=188,slow=5.2,SNR=3.4						
ILAR	**Eielson Array**	**120.82**	**351**	PKP	PKPdf	10 34 52.9	-1.5
	0.3nm,0.7s,baz=181,slow=1.2,SNR=5.2						

MAN 06 10:24:09,17˚.58N×120˚.00E,h23km,mb4.6,ML3.5,MS3.4, 2C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIPP	**Brgy, Tapao**	**0.56**	**52**	*i* P	Pb	10 24 20.1	-0.1
SIPP				*eS*	Sn	10 24 31.0	+0.9
ABRA	**Dolores**	**0.69**	**84**	*eP*	Pb	10 24 22.5	+0.2
PIP	**Pasuquin**	**0.95**	**38**	*i* P	Pb	10 24 26.5	-0.4
APYP	**Conner**	**1.22**	**76**	*eP*	Pn	10 24 30.9	+0.2
APYP				*eS*	Sb	10 24 47.0	+0.2
BALP	**Baler**	**2.37**	**140**	*eP*	Pn	10 24 47.0	+0.5

*NDI **06** 10:28:57.2±2.6,33˚.27N×70˚.70E,h33km,ML5.0, mb5.0(NEIC)*

*NNC **06** 10:28:59.6±7.3,32˚.53N×71˚.25E,h58km±60km,mb4.4, mpv4.7,Error ellipse: s-maj=53.4km s-min=49.9km az=136.0*

*IDC **06** 10:28:59.1±0.7,33˚.01N×71˚.35E,h0km,mb4.3/24, mb1 4.5/29,mb1mx4.3/47,mbtmp4.3/29,ML4.2/5,MS3.5/3, Ms1 3.5/3,ms1mx2.8/52,Error ellipse: s-maj=18.2km s-min=12.3km az=25.0*

*ISCJB **06** 10:29:02.2±0.2,32˚.96N±0˚.02×71˚.29E±0˚.03,h33km, mb4.5/60,MS3.8/5,Error ellipse: s-maj=3.9km s-min=2.9km az=42.5*

*LDG **06** 10:29:05.0±0.1,32˚.79N×71˚.67E,h90km,Mb4.7/25, Ms3.3/7,Error ellipse: s-maj=15.9km s-min=4.5km az=27.0*

*NEIC **06** 10:29:06.4±1.1,33˚.11N×71˚.33E,h51km±9km,mb5.0/30, Error ellipse: s-maj=9.2km s-min=5.2km az=176.0*

*BJI **06** 10:29:08.6,33˚.47N×71˚.37E,h48km,mb4.6/20,mB4.5/12, ML4.4/3,Ms3.9/10,Ms7 3.7/10*

*MOS **06** 10:29:09.5±1.0,33˚.47N×71˚.20E,h74km,mb5.0/27,Error ellipse: s-maj=7.0km s-min=4.0km az=103.4*

ISC 06 10:29:04.3±0.4,32˚.96N±0˚.04×71˚.25E±0˚.04,h35km,n263, σ1§48/273,mb4.6/60,MS3.6/5,53C-21D,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.43**	**311**	*eP*	**Pn**	**10 29 43.7**	**+2.0**
KBL	**Kabul**	**2.43**	**311**	*eP*	**Pn**	**10 29 43.7**	**+2.0**
DHRM	**DHARAMSHALA**	**4.32**	**98**	*eP*	**Pn**	**10 30 08.9**	**+1.3**
DHRM				*eS*	**Sn**	**10 30 59.0**	**+2.2**
DHRM				AML	AML	10 31 23.9	
	comp=E,3μm,0.7s						
DHRM				AML	AML	10 31 24.2	
	comp=N,3μm,0.6s						
SMLA	**Simla**	**5.34**	**108**	*i* P	**Pn**	**10 30 22.6**	**+1.2**
SMLA				*eS*	**Sn**	**10 31 22.9**	**+1.1**
SMLA				AML	AML	10 31 25.0	
	comp=E,7μm,0.2s						
SMLA				AML	AML	10 31 25.4	
	comp=N,11μm,0.3s						
KKR	**Kurukshetra**	**5.62**	**121**	*eP*	**Pn**	**10 30 25.5**	**+0.2**
DZET	**Dzherino**	**6.16**	**342**	⇓Pn	**Pn**	**10 30 32.6**	**-0.2**
	comp=N,34nm,0.7s						
DZET				⇑Sn	Sn	10 31 52.0	+10
	comp=N,44nm,0.6s						
DZET	**Dzherino**	**6.16**	**342**	P	**Pn**	**10 30 32.6**	**-0.2**
DZET				pmax	pmax		
	comp=Z,34nm,0.7s						
BHGR	**Bahadurgarh**	**6.48**	**130**	*eP*	**Pn**	**10 30 37.4**	**+0.2**
KUDL	**Kundal**	**6.59**	**135**	*eP*	**Pn**	**10 30 37.1**	**-1.5**
KUDL				*eS*	**Sn**	**10 31 54.6**	**+2.1**
AYAN	**Aya Nagar**	**6.74**	**130**	*eP*	**Pn**	**10 30 40.8**	**+0.1**
AYAN				*ex*	**Sn**	**10 31 55.0**	**-1.3**
SONA	**Sohna**	**6.87**	**132**	*eP*	**Pn**	**10 30 41.9**	**-0.6**
SONA				*ex*	**Sn**	**10 31 57.3**	**-2.2**
BISR	**Bishrakh**	**6.89**	**128**	*eP*	**Pn**	**10 30 44.1**	**+1.4**
SFK	**Sufi-Kurgan**	**7.27**	**14**	⇑Pn	**Pn**	**10 30 50.7**	**+2.5**
	comp=Z,32nm,0.5s						
SFK				⇓Sn	Sn	10 32 16.3	+6.7
	comp=Z,49nm,0.6s						
KSH	**Kashi**	**7.57**	**29**	P	Pn	10 30 48.4	-3.9
KSH				S	Sn	10 32 02.7	-14
KSH				PMZ			
	comp=Z,43nm,0.7s						
KSH				SMN			
	comp=Z,200nm,0.5s						
KSH				SME			
	comp=Z,180nm,0.8s						
AGRA	**Agra**	**8.13**	**133**	*eP*	**Pn**	**10 30 58.4**	**-1.4**
AGRA				*ex*	x	10 32 44.9	
AML	**Almayashu**	**9.36**	**11**	P	**Pn**	**10 31 17.6**	**+0.7**
	SNR=176						
AML	**Almayashu**	**9.36**	**11**	*i* P	**Pn**	**10 31 17.7**	**+0.7**
UCH	**Uchtor**	**9.61**	**15**	P	**Pn**	**10 31 20.7**	**+0.2**
	SNR=77						
UCH	**Uchtor**	**9.61**	**15**	*i* P	**Pn**	**10 31 20.6**	**+0.2**
KZA	**Kyzart**	**9.64**	**18**	P	**Pn**	**10 31 21.6**	**+0.8**
	SNR=24						
KZA	**Kyzart**	**9.64**	**18**	*i* P	**Pn**	**10 31 21.6**	**+0.8**
BHJ	**Bhuj**	**9.77**	**189**	*eP*	**Pn**	**10 31 19.4**	**-2.8**
BHJ				*eS*	**Sn**	**10 33 10.8**	**+0.1**
EKS2	**Erkin-Say**	**9.89**	**11**	P	**Pn**	**10 31 24.9**	**+0.9**
	SNR=41						
EKS2	**Erkin-Say**	**9.89**	**11**	*i* P	**Pn**	**10 31 24.9**	**+0.9**
AAK	**Ala-Archa**	**9.99**	**14**	⇓Pn	**Pn**	**10 31 25.8**	**+0.3**
	comp=Z,23nm,0.6s						
AAK				⇑Sn	**Sn**	**10 33 18.6**	**+2.2**
	comp=Z,20nm,0.8s						
AAK	**Ala-Archa**	**9.99**	**14**	P	**Pn**	**10 31 26.0**	**+0.6**
	SNR=35						
AAK	**Ala-Archa**	**9.99**	**14**	Pn	**Pn**	**10 31 25.7**	**+0.3**
	comp=Z,7.8nm,0.3s,baz=166,slow=6.6,SNR=67						
AAK				Sn	**Sn**	**10 33 13.9**	**-2.5**
	comp=Z,0.5nm,0.3s,baz=196,slow=20,SNR=2.6						
AAK	**Ala-Archa**	**9.99**	**14**	*c iP*	**Pn**	**10 31 26.0**	**+0.6**
AAK				pmax	pmax		
	comp=Z,87nm,0.8s						
AAK	**Ala-Archa**	**9.99**	**14**	*e*Pn	**Pn**	**10 31 26.1**	**+0.7**
AAK				Sn	**Sn**	**10 33 13.9**	**-2.5**
ULHL	**Ulahol**	**10.08**	**22**	P	**Pn**	**10 31 27.4**	**+0.8**
	SNR=13						
ULHL	**Ulahol**	**10.08**	**22**	*i* P	**Pn**	**10 31 27.4**	**+0.8**
KBK	**Karagaybulak**	**10.11**	**16**	P	**Pn**	**10 31 29.5**	**+2.4**
	SNR=12						
KBK	**Karagaybulak**	**10.11**	**16**

NJS ⇑eSn S 10 36 35.0 +0.8
NJS IVMs_BB IVMs_BB 10 39 56.2
comp=Z,399nm,7.5s
AB31 Akbulak array 18.34 336 P P 10 33 12.5 -3.1
comp=Z,4.3nm,0.6s,baz=146,slow=11,SNR=64
AB31 Akbulak array 18.34 336 *i* P P 10 33 12.5 -3.1
AB31 pmax pmax
comp=N,3.0nm,0.4s
CHLP Challavanipeta 18.42 138 *e*P P 10 33 15.4 -1.1
CHLP *e*Sn S 10 36 44.0 -1.0
CHLP IVMsBB 10 40 58.4
comp=Z,406nm,4.7s
KURBB Kurchatov Arra 18.45 15 Pn P 10 33 13.2 -3.5
comp=Z,0.6nm,0.3s,baz=204,slow=11,SNR=25
KURK Kurchatov 18.56 15 ⇑P P 10 33 14.5 -3.3
comp=Z,11nm,1.1s
KURK Kurchatov 18.56 15 *e*P P 10 33 15.3 -2.6
KURK pmax pmax
comp=Z,15nm,0.7s
KURK Kurchatov 18.56 15 *e*P P 10 33 15.3 -2.6
comp=Z,15nm,0.7s
URV Uravakonda 18.74 162 *e*P P 10 33 17.8 -2.4
URV *e*Sn S 10 36 52.1 +0.4
URV IVMs_BB IVMs_BB 10 40 40.4
comp=Z,763nm,7.8s
AKTO Aktyubinsk 20.01 335 ⇑P P 10 33 32.4 -1.4
comp=Z,7.1nm,0.6s
AKTO Aktyubinsk 20.01 335 P P 10 33 32.6 -1.2
comp=Z,1.0nm,0.3s,baz=149,slow=11,SNR=18
BVA0 Borovoye Array 20.07 358 ⇓P P 10 33 32.6 -1.8
comp=Z,7.2nm,0.6s,baz=180,slow=11,SNR=7.6
BVA0 Borovoye Array 20.07 358 *i* P P 10 33 31.9 -2.5
BVA0 pmax pmax
comp=N,7.0nm,0.6s
BVAR Borovoye Array 20.07 358 P P 10 33 33.0 -1.4
comp=N,7.5nm,0.5s,baz=174,slow=9.3,SNR=27
BRVK Borovoye 20.10 358 ⇑P P 10 33 33.8 -1.0
comp=N,18nm,0.9s
BRVK Borovoye 20.10 358 ⇓*i*P P 10 33 34.2 -0.6
BRVK pmax pmax
comp=Z,23nm,1.7s
BRVK Borovoye 20.10 358 *e*P P 10 33 33.8 -1.0
comp=Z,11nm,0.9s
IMP Imphal 21.44 106 *ex* P 10 33 51.0 +1.5
GNI Garni 22.42 296 P P 10 34 01.5 +1.4
comp=Z,5.0nm,0.4s,baz=121,slow=2.0,SNR=9.4
GNI Garni 22.42 296*c i*P P 10 34 02.2 +2.1
GNI pmax pmax
comp=Z,38nm,1.7s
GNI Garni 22.42 296 *e*P P 10 34 02.7 +2.6
comp=Z,33nm,0.9s
ZALV Zalesovo Beam 23.10 21 P P 10 34 05.2 -1.6
comp=Z,21nm,0.5s,baz=216,slow=11,SNR=115
NVS Novosibirsk 23.45 18 *e*P P 10 34 08.7 -1.6
NVS *e*S S 10 38 09.6 -12
NVS pmax pmax
comp=N,6.0nm,0.7s
NVS pmax pmax
comp=Z,8.0nm,0.7s
NVS smax smax
comp=E,10.0nm,1.2s
ZEI Tsey 23.63 302 *e*P P 10 34 12.1 -0.2
ZEI pmax pmax
comp=Z,10.0nm,1.4s
GTA Gaotai 23.88 66 *e*P P 10 34 19.8 +5.2
GTA pP pP 10 34 24.1 -0.4
GTA PMZ
comp=Z,8.0nm,1.7s
RAYN Ar Rayn 24.50 254 *e*P P 10 34 21.9 +1.4
comp=Z,2.0nm,0.7s
NEY Neytrino 24.58 303 *e*P P 10 34 23.9 +2.7
KBZ Khabaz 24.59 304 P P 10 34 21.3 +0.4
comp=Z,5.6nm,0.8s,baz=56,slow=24,SNR=20
KIV Kislovodsk 24.80 305 *e*P P 10 34 24.3 +1.3
KIV pmax pmax
comp=Z,10.0nm,1.0s
ARU Arti 25.06 343*c i*P P 10 34 24.7 -0.4
ARU 10 34 54.4
ARU S S 10 38 43.8 -3.2
ARU SS SnSn 10 39 33.3 -4.5
ARU pmax pmax
comp=Z,9.0nm,0.7s
ARU Arti 25.06 343 *e*P P 10 34 24.4 -0.7
comp=Z,9.9nm,0.5s
LZH Lanzhou 26.96 74 *e*P P 10 34 44.1 +1.3
LZH pP pP 10 35 00.2 +7.4
LZH sP sP 10 35 09.0 +12
LZH PMZ
comp=Z,21nm,1.2s
LZH PMZ
comp=Z,52nm,4.8s
LZH LN
comp=Z,280nm,12.7s
LZH LE
comp=Z,280nm,13.0s
LZH LZ
comp=Z,330nm,16.5s
CD2 Chengdu 27.60 85 *e*P P 10 34 52.8 +4.4
CHTO Chiang Mai 28.51 113 *e*P P 10 35 02.3 +5.8
CHTO pmax pmax
comp=Z,13nm,1.5s
CHTO Chiang Mai 28.51 113 *e*P P 10 35 02.3 +5.8
comp=Z,13nm,1.5s
KMI Kunming 28.54 98 P P 10 35 04.7 +7.7
KMI PMZ
comp=Z,9.0nm,0.8s
CMAR Chiang Mai Arr 28.71 113 P P 10 34 58.7 +0.4
comp=Z,4.3nm,1.0s,baz=296,slow=9.4,SNR=14
SONM Songino Array 30.31 50 P P 10 35 14.1 +1.7
comp=Z,2.2nm,0.7s,baz=238,slow=8.3,SNR=2.8
ULN Ulaanbaatar 30.74 50 *e*P P 10 35 17.3 +1.1
ULN pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 30.88 293 P P 10 35 18.0 +0.5
comp=Z,6.3nm,0.6s,baz=113,slow=9.8,SNR=36
BRTR Keskin Array B 30.88 293*ce*P P 10 35 18.2 +0.7
BRTR pmax pmax
comp=Z,6.0nm,0.6s
OBN Obninsk 32.82 323⇓*e*P P 10 35 35.6 +1.4
OBN *e* 10 36 43.4
OBN *e*S S 10 40 48.9 0.0
OBN pmax pmax
comp=Z,6.0nm,1.0s
OBN MLR MLR
comp=Z,78nm,22.0s
HHC Hu-ho-hao-te 32.95 64 *e*P P 10 35 36.8 +1.1
HHC pP pP 10 35 54.4 +8.7
HHC PP PP 10 36 48.9 -1.5
HHC PcP PcP 10 38 22.3 +3.0
HHC S S 10 40 47.8 -3.7
HHC PMZ
comp=Z,19nm,0.8s
HHC PMZ
comp=Z,68nm,5.1s
HHC LN
comp=Z,180nm,12.5s
HHC LE
comp=Z,120nm,11.5s
HHC LZ
comp=Z,120nm,11.1s
KLMR Klimovskoe 34.70 333 *e*P P 10 35 50.0 -0.4
KLMR pmax pmax
comp=Z,6.0nm,0.6s
AKASG Malin Array Be 35.41 313 P P 10 35 56.2 -0.5
comp=Z,1.0nm,0.4s,baz=87,slow=7.1,SNR=4.7
KIEV Kiev 35.42 313 ⇓P P 10 35 57.2 +0.4
VRI Vrincioaia 36.28 304 ⇓P P 10 36 05.8 +1.6
VRI Vrincioaia 36.28 304 ⇓*i*P P 10 36 05.8 +1.6
PLOR Plostina 36.33 304 ⇑P P 10 36 06.5 +1.8
PLOR Plostina 36.33 304 ⇑*i*P P 10 36 06.5 +1.8
TESR Tescani 36.39 305 ⇓*i*P P 10 36 06.4 +1.2
MLR Muntele Rosu 36.80 303 P P 10 36 10.7 +1.9
comp=Z,6.5nm,0.6s,baz=106,slow=0.6,SNR=52
MLR Muntele Rosu 36.80 303 ⇓P P 10 36 11.2 +2.4
MLR Muntele Rosu 36.80 303 ⇓*i*P P 10 36 11.2 +2.4
DOPR Dopca 37.22 304 ⇓*i*P P 10 36 13.8 +1.6
VOIR 37.42 303 ⇓P P 10 36 14.9 +0.9
VOIR 37.42 303 ⇓*i*P P 10 36 14.9 +0.9
BURAR Bucovina Array 37.48 307 ⇑P P 10 36 16.0 +1.5
BURAR Bucovina Array 37.48 307 ⇑*i*P P 10 36 16.0 +1.5
ARR Arges 37.71 303 ⇓*i*P P 10 36 17.8 +1.3
VTS Vitosha 38.73 299 ⇑P P 10 36 21.5 -3.6
VTS Vitosha 38.73 299 ⇑*i*P P 10 36 21.5 -3.6
DRGR 39.12 305 ⇑P P 10 36 29.8 +1.5
DRGR 39.12 305 ⇑*i*P P 10 36 29.8 +1.5

KOLS Kolonicke sedl 39.57 309 *e*P P 10 36 33.8 +1.9
KOLS Kolonicke sedl 39.57 309 *e*P P 10 36 33.8 +1.9
FINES FINESS Array B 40.57 328 P P 10 36 40.0 0.0
comp=Z,1.4nm,0.5s,baz=113,slow=13,SNR=9.9
FINES FINESS Array B 40.57 328 P P 10 36 40.0 0.0
DPC Dobruska-Polom 43.52 310 *e*P P 10 37 05.5 +1.2
DPC *ex* x 10 37 10.9
DPC *ex* x 10 37 21.8
DPC Dobruska-Polom 43.52 310 *e*P P 10 37 05.5 +1.2
DPC *e* 10 37 21.8
DPC Dobruska-Polom 43.52 310 *e*P P 10 37 05.7 +1.4
ARCES ARCESS Array B 44.51 339 P P 10 37 11.8 -0.2
comp=Z,5.1nm,0.6s,baz=112,slow=8.3,SNR=26
PRU Pruhonice 44.65 310 *e*P P 10 37 14.5 +1.2
PRU Pruhonice 44.65 310 *e*P P 10 37 14.5 +1.2
PRA Prague 44.72 310 *e*P P 10 37 15.8 +1.9
PRA Prague 44.72 310 *e*P P 10 37 15.8 +1.9
PRA MLR MLR
comp=Z,1μm,19.8s
MOA Molln 44.87 307⇓*i*P P 10 37 16.0 +0.8
comp=Z,9.0nm,0.6s
GERES GERESS Array B 45.21 308 P P 10 37 19.0 +1.0
comp=Z,1.3nm,0.7s,baz=99,slow=8.2,SNR=10
GERES GERESS Array B 45.21 308 P P 10 37 19.0 +1.0
CLL Collm 45.64 312 *e*pP pP 10 37 33.0 +1.5
CLL Collm 45.64 312 *e*P P 10 37 20.0 -1.1
HFS Hagfors 46.02 324 P P 10 37 24.1 +0.2
comp=Z,2.3nm,0.5s,baz=97,slow=9.7,SNR=10
MDJ Mudanjiang 46.04 58 P P 10 37 24.9 +0.5
MDJ PMZ
comp=Z,18nm,2.1s
MDJ PMZ
comp=Z,220nm,3.2s
NB2 NORSAR Subarra 47.37 325 P P 10 37 34.0 -0.6
comp=Z,3.6nm,1.1s,baz=100,slow=7.9
NOA NORSAR Array B 47.37 325 P P 10 37 34.0 -0.6
comp=Z,1.0nm,0.7s,baz=104,slow=7.3,SNR=6.8
NOA LR LR 11 01 06.4
comp=Z,34nm,18.7s,baz=290,slow=41
NOA NORSAR Array B 47.37 325 P P 10 37 34.0 -0.6
DAVA Damuels 47.87 306⇓*i*P P 10 37 38.9 0.0
comp=Z,13nm,1.1s
TIXI Tiksi 48.99 21 *e*P P 10 37 46.6 -0.3
TIXI pmax pmax
comp=Z,2.0nm,0.8s
TIXI MLR MLR
comp=Z,59nm,16.0s
TIXI Tiksi 48.99 21 *e*P P 10 37 46.4 -0.5
comp=Z,2.4nm,0.8s
PGF Pioggiola 49.16 300 *e*P P 10 37 48.1 -0.7
PGF Pioggiola 49.16 300 *e*P P 10 37 48.1 -0.7
PGF Pioggiola 49.16 300 *e*P P 10 37 48.1 -0.7
CDF Champ du Feu 49.50 308 *e*P P 10 37 51.1 -0.2
CDF Champ du Feu 49.50 308 *e*P P 10 37 51.1 -0.2
CDF Champ du Feu 49.50 308 *e*P P 10 37 51.1 -0.2
HINF Hinteralfeld 49.85 307 *e*P P 10 37 53.6 -0.3
comp=Z,12nm,0.9s
HINF Hinteralfeld 49.85 307 *e*P P 10 37 53.6 -0.3
HINF pmax pmax
comp=Z,12nm,0.9s
HINF Hinteralfeld 49.85 307 *e*P P 10 37 53.6 -0.3
comp=Z,12nm,0.9s
SBF Sospel 50.05 302 *e*P P 10 37 55.2 -0.3
comp=Z,28nm,0.7s
SBF Sospel 50.05 302 *e*P P 10 37 55.2 -0.3
SBF pmax pmax
comp=Z,28nm,0.7s
SBF Sospel 50.05 302 *e*P P 10 37 55.2 -0.3
comp=Z,28nm,0.7s
HAU Haudompre 50.16 308 *e*P P 10 37 56.4 +0.2
HAU *e*R
comp=Z,83nm,21.5s
HAU Haudompre 50.16 308 *e*P P 10 37 56.4 +0.2
HAU Haudompre 50.16 308 *e*P P 10 37 56.4 +0.2
LPG La Plagne 50.25 304 *e*P P 10 37 57.3 0.0
comp=Z,21nm,0.7s
LPG La Plagne 50.25 304 *e*P P 10 37 57.3 0.0
LPG pmax pmax
comp=Z,21nm,0.7s
LPG La Plagne 50.25 304 *e*P P 10 37 57.3 0.0
comp=Z,21nm,0.7s
LPL La Plagne 50.26 304⇑*i*P P 10 37 57.4 +0.1
comp=Z,20nm,0.6s
LPL La Plagne 50.26 304⇑*i*P P 10 37 57.4 +0.1
LPL pmax pmax
comp=Z,20nm,0.6s
LPL La Plagne 50.26 304⇑*i*P P 10 37 57.4 +0.1
comp=Z,20nm,0.6s
MBDF Montbardon 50.37 303⇑*i*P P 10 37 57.4 -0.6
comp=Z,12nm,0.7s
MBDF Montbardon 50.37 303⇑*i*P P 10 37 57.4 -0.6
MBDF pmax pmax
comp=Z,12nm,0.7s
MBDF Montbardon 50.37 303⇑*i*P P 10 37 57.4 -0.6
comp=Z,12nm,0.7s
KEST Kesra 50.44 291 *e*P P 10 37 59.3 +0.7
comp=Z,5.0nm,0.6s,baz=70,slow=1.3,SNR=16
KEST Kesra 50.44 291 *e*P P 10 37 59.8 +1.2
CABF La Chapelle 50.53 306 *e*P P 10 37 59.5 +0.3
comp=Z,32nm,1.1s
CABF La Chapelle 50.53 306 *e*P P 10 37 59.5 +0.3
CABF pmax pmax
comp=Z,32nm,1.1s
CABF La Chapelle 50.53 306 *e*P P 10 37 59.5 +0.3
comp=Z,32nm,1.1s
FRF La Foret Royal 50.66 302 *e*P P 10 38 00.0 -0.1
FRF La Foret Royal 50.66 302 *e*P P 10 38 00.0 -0.1
FRF La Foret Royal 50.66 302 *e*P P 10 38 00.0 -0.1
SPITS Spitsbergen Ar 50.98 347 P P 10 38 02.3 +0.3
comp=Z,1.6nm,0.4s,baz=103,slow=12,SNR=9.6
SFTF Sexfontaines 51.00 308 *e*P P 10 38 03.0 +0.4
comp=Z,10nm,0.7s
SFTF Sexfontaines 51.00 308 *e*P P 10 38 03.0 +0.4
comp=Z,10nm,0.7s
SMRF Simiane la Rot 51.35 303 *e*P P 10 38 04.9 -0.3
SMRF Simiane la Rot 51.35 303 *e*P P 10 38 04.9 -0.3
SMF Signal de Mont 52.05 306⇑*i*P P 10 38 10.5 0.0
comp=Z,11nm,0.5s
SMF Signal de Mont 52.05 306⇑*i*P P 10 38 10.5 0.0
SMF pmax pmax
comp=Z,11nm,0.5s
SMF Signal de Mont 52.05 306⇑*i*P P 10 38 10.5 0.0
comp=Z,11nm,0.5s
SSF Saint Saulge 52.21 307 *e*P P 10 38 11.5 -0.1
SSF Saint Saulge 52.21 307 *e*P P 10 38 11.5 -0.1
SSF Saint Saulge 52.21 307 *e*P P 10 38 11.5 -0.1
AVF Avril sur Loir 52.36 306⇑*i*P P 10 38 12.6 -0.1
comp=Z,17nm,1.0s
AVF Avril sur Loir 52.36 306⇑*i*P P 10 38 12.6 -0.1
AVF pmax pmax
comp=Z,17nm,1.0s
AVF Avril sur Loir 52.36 306⇑*i*P P 10 38 12.6 -0.1
comp=Z,17nm,1.0s
LASF Ste Croix 52.54 303 *e*P P 10 38 14.4 +0.3
LASF Ste Croix 52.54 303 *e*P P 10 38 14.4 +0.3
TCF Toulx Ste Croi 53.23 306⇑*i*P P 10 38 19.7 +0.5
comp=Z,15nm,1.0s
TCF Toulx Ste Croi 53.23 306⇑*i*P P 10 38 19.7 +0.5
TCF pmax pmax
comp=Z,15nm,1.0s
TCF Toulx Ste Croi 53.23 306⇑*i*P P 10 38 19.7 +0.5
comp=Z,15nm,1.0s
CAF Calviac 53.61 304⇑*i*P P 10 38 22.5 +0.5
comp=Z,12nm,0.8s
CAF Calviac 53.61 304⇑*i*P P 10 38 22.5 +0.5
CAF pmax pmax
comp=Z,12nm,0.8s
CAF Calviac 53.61 304⇑*i*P P 10 38 22.5 +0.5
comp=Z,12nm,0.8s
MTLF Montolieu 53.86 302⇑*i*P P 10 38 23.9 +0.1
comp=Z,8.0nm,0.7s
MTLF Montolieu 53.86 302⇑*i*P P 10 38 23.9 +0.1
MTLF pmax pmax
comp=Z,8.0nm,0.7s
MTLF Montolieu 53.86 302⇑*i*P P 10 38 23.9 +0.1
comp=Z,8.0nm,0.7s
RJF Les Rejaudoux 53.91 305⇑*i*P P 10 38 24.8 +0.7
comp=Z,7.4nm,0.7s
RJF *e*R
comp=Z,77nm,21.5s
RJF Les Rejaudoux 53.91 305⇑*i*P P 10 38 24.8 +0.7
RJF pmax pmax
comp=Z,7.0nm,0.7s
RJF Les Rejaudoux 53.91 305⇑*i*P P 10 38 24.8 +0.7
comp=Z,7.4nm,0.7s

MJAR Matsushiro Arr 54.12 66 P P 10 38 26.1 +0.3
comp=Z,1.7nm,0.9s,baz=291,slow=9.3,SNR=4.4
LDF La Druitiere 54.33 309 *e*P P 10 38 27.1 0.0
comp=Z,12nm,0.6s
LDF La Druitiere 54.33 309 *e*P P 10 38 27.1 0.0
LDF pmax pmax
comp=Z,12nm,0.6s
LDF La Druitiere 54.33 309 *e*P P 10 38 27.1 0.0
comp=Z,12nm,0.6s
LFF La Frestale 54.53 305⇑*i*P P 10 38 29.1 +0.5
comp=Z,17nm,0.5s
LFF La Frestale 54.53 305⇑*i*P P 10 38 29.1 +0.5
LFF pmax pmax
comp=Z,17nm,0.5s
LFF La Frestale 54.53 305⇑*i*P P 10 38 29.1 +0.5
comp=Z,17nm,0.5s
FLN La Foliniere 54.53 310 *e*P P 10 38 28.5 -0.1
comp=Z,13nm,0.6s
FLN *e*R
comp=Z,90nm,18.8s
FLN La Foliniere 54.53 310 *e*P P 10 38 28.5 -0.1
FLN pmax pmax
comp=Z,13nm,0.6s
FLN La Foliniere 54.53 310 *e*P P 10 38 28.5 -0.1
comp=Z,13nm,0.6s
MFF Saint Martin d 54.76 307 *e*P P 10 38 30.1 -0.2
comp=Z,4.5nm,0.5s
MFF Saint Martin d 54.76 307 *e*P P 10 38 30.1 -0.2
MFF pmax pmax
comp=Z,5.0nm,0.5s
MFF Saint Martin d 54.76 307 *e*P P 10 38 30.1 -0.2
comp=Z,4.5nm,0.5s
GRR Gorron 54.85 309 *e*P P 10 38 30.8 -0.1
comp=Z,8.0nm,0.5s
GRR Gorron 54.85 309 *e*P P 10 38 30.8 -0.1
GRR pmax pmax
comp=Z,8.0nm,0.5s
GRR Gorron 54.85 309 *e*P P 10 38 30.8 -0.1
comp=Z,8.0nm,0.5s
EKA Eskdalemuir Ar 55.01 318 P P 10 38 31.6 -0.3
comp=Z,1.0nm,0.5s,baz=89,slow=6.8,SNR=5.3
EPF Esparros 55.27 303 *e*P P 10 38 34.5 +0.4
EPF Esparros 55.27 303 *e*P P 10 38 34.5 +0.4
EPF Esparros 55.27 303 *e*P P 10 38 34.5 +0.4
ETSF Etsaut 55.94 303⇑*i*P P 10 38 39.1 +0.1
comp=Z,6.4nm,0.6s
ETSF Etsaut 55.94 303⇑*i*P P 10 38 39.1 +0.1
ETSF pmax pmax
comp=Z,6.0nm,0.6s
ETSF Etsaut 55.94 303⇑*i*P P 10 38 39.1 +0.1
comp=Z,6.4nm,0.6s
SGMF Saint Gilles 55.98 309 *e*P P 10 38 39.3 +0.2
comp=Z,7.9nm,0.5s
SGMF Saint Gilles 55.98 309 *e*P P 10 38 39.3 +0.2
SGMF pmax pmax
comp=Z,8.0nm,0.5s
SGMF Saint Gilles 55.98 309 *e*P P 10 38 39.3 +0.2
comp=Z,7.9nm,0.5s
OPO Ambohidratompo 56.17 208 LR LR 10 59 55.6
comp=Z,47nm,20.4s,baz=147,slow=33
ROSF Rostrenen 56.43 309⇑*i*P P 10 38 42.4 +0.1
comp=Z,12nm,0.6s
ROSF Rostrenen 56.43 309⇑*i*P P 10 38 42.4 +0.1
ROSF pmax pmax
comp=Z,12nm,0.6s
ROSF Rostrenen 56.43 309⇑*i*P P 10 38 42.4 +0.1
comp=Z,12nm,0.6s
QUIF Quistinic 56.46 309 *e*P P 10 38 42.4 -0.1
comp=Z,5.7nm,0.5s
QUIF Quistinic 56.46 309 *e*P P 10 38 42.4 -0.1
QUIF pmax pmax
comp=Z,6.0nm,0.5s
QUIF Quistinic 56.46 309 *e*P P 10 38 42.4 -0.1
comp=Z,5.7nm,0.5s
SEY Seymchan 57.26 33 *e*P P 10 38 49.4 +1.5
BILL Bilibino 61.70 25⇓*e*P P 10 39 19.2 +0.7
BILL *e* 10 40 03.4
BILL *e* 10 41 36.6
BILL *e*SS SS 10 51 29.0 -11
BILL pmax pmax
comp=Z,9.0nm,2.4s
SUMG Summit 64.48 342 *i* P P 10 39 38.1 +0.8
comp=Z,5.4nm,0.9s
SUMG Summit 64.48 342 *i* P P 10 39 38.1 +0.8
SUMG pmax pmax
comp=Z,5.0nm,0.9s
SUMG Summit 64.48 342 *e*P P 10 39 38.1 +0.8
comp=Z,113nm,2.9s
TORD Torodi Ar. Bea 65.90 270 P P 10 39 45.7 -1.2
comp=Z,3.4nm,0.9s,baz=44,slow=5.3,SNR=17
INK Inuvik 77.36 9 P P 10 40 55.1 +0.2
comp=Z,2.0nm,0.4s,baz=334,slow=6.2,SNR=5.0
COLA College 77.82 16 *e*P P 10 40 57.8 +0.2
COLA College 77.82 16 *e*P P 10 40 57.8 +0.2
ILAR Eielson Array 78.12 16 P P 10 40 58.5 -0.8
comp=Z,0.9nm,0.5s,baz=301,slow=5.1,SNR=15
WRA Warramunga Arr 79.95 122 P P 10 41 10.3 +0.3
comp=Z,3.7nm,0.6s,baz=323,slow=5.0,SNR=76
DAWY Dawson 80.32 13 *e*P P 10 41 11.3 -0.1
ASAR Alice Springs 82.06 125 P P 10 41 21.4 +0.2
comp=Z,2.2nm,0.7s,baz=312,slow=5.1,SNR=41
YKA Yellowknife Ar 84.77 3 P P 10 41 34.3 -0.2
comp=Z,1.7nm,0.5s,baz=349,slow=5.2,SNR=48
YKA Yellowknife Ar 84.77 3 P P 10 41 34.3 -0.2
YKA pmax pmax
comp=Z,2.0nm,0.5s
SCHQ Schefferville 85.43 337 P P 10 41 38.0 0.0
comp=Z,1.7nm,0.7s,baz=14,slow=12,SNR=3.7
TXAR Lajitas Array 117.86 355 PKP **PKPdf** 10 47 47.1 -0.4
comp=Z,0.1nm,0.5s,baz=292,slow=0.5,SNR=2.5

IDC 06 10:46:01.6±3.5, 53.60N×87.94E, h0km, mb1 3.0/2, mb1mx2.9/30, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=36.4km s-min=23.1km az=78.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**282**	*i*		10 58 30.0	
	baz=98,slow=331,SNR=9.2						
ZALV	**Zalesovo Beam**	**1.89**	**282**	Pn	Pn	10 46 35.2	+0.1
	2.5nm,0.3s,baz=97,slow=16,SNR=18						
ZALV				Sn	Sb	10 47 01.4	+0.4
	3.6nm,0.3s,baz=102,slow=24,SNR=31						
KURBB	**Kurchatov Arra**	**6.52**	**247**	Pn	Pn	10 47 39.0	+0.3
	0.2nm,0.3s,baz=61,slow=14,SNR=18						
KURBB				Lg	Lg	10 49 27.9	
	0.1nm,0.3s,baz=59,slow=30,SNR=7.4						
MKAR	**Makanchi Array**	**7.72**	**210**	Pn	Pn	10 47 56.5	+1.3
	0.1nm,0.3s,baz=24,slow=11,SNR=4.2						

GUC 06 10:46:25.7±0.7, 35.15S×72.43W, h55km±17km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.69**	**111**	*e*P	Pn	10 46 40.3	+0.7
TALC				*e*S	Sn	10 46 51.6	+1.8
LNCH	**Linares**	**0.97**	**136**	*e*P	Pn	10 46 45.5	+2.3
LNCH				*e*S	Sn	10 47 00.1	+4.0
NICH	**Los Niches**	**0.99**	**82**	*e*P	Pn	10 46 44.9	+1.5
NICH				*e*S	Sn	10 46 58.3	+1.7
COCH	**Cobquecura**	**1.03**	**197**	*e*P	Pn	10 46 44.2	+0.3
COCH				*e*S	Sn	10 46 58.6	+1.3
CLCH	**Cerro Calan**	**2.34**	**42**	*e*P	Pn	10 47 03.7	+1.7
CLCH				*e*S	Sn	10 47 29.2	-0.4
CLCH				AML	AML	10 47 34.3	
	comp=E,244nm,0.2s						
PEL	**Peldehue**	**2.46**	**36**	AML	AML	10 47 37.6	
	comp=N,346nm,0.6s						

*IDC **06** 10:51:34.5±1.0, 2.88N×92.40E, h0km, mb4.1/12, mb1 4.3/14, mb1mx3.9/52, mbtmp4.2/14, ML4.4/2, MS3.5/9, Ms1 3.5/9, ms1mx3.2/49, Error ellipse: s-maj=35.5km s-min=16.7km az=43.0*
*NEIC **06** 10:51:36.1±0.4, 2.92N×92.44E, h10km, mb4.2/4, Error ellipse: s-maj=8.6km s-min=5.1km az=206.0*
*ISCJB **06** 10:51:37.7±0.5, 2.92N±0.06×92.54E±0.04, h33km, mb4.2/14, MS3.5/6, Error ellipse: s-maj=8.9km s-min=4.3km az=25.3*
*KLM **06** 10:51:37.4, 3.00N×92.37E, h50km, mb4.6, ML4.4, MS5.4*

*DJA **06** 10:51:47.8±1.6,3°N±5°×9°3E±1°1,h10km,M4.8/3, MLv4.8/3*

ISC 06 10:51:39.7±0.7,2°97N±0°08×92°56E±0°06,h35km,n85, σ1°20/74,mb4.3/14,MS3.5/6,5C-1D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**3.70**	**47**	P	Pn	10 52 43.7	+9.2
BSI				S	**Sn**	**10 53 13.6**	**-3.4**
SNSI	**Sinabang, Aceh**	**3.80**	**98**	P	**Pn**	**10 52 36.1**	**+0.3**
SNSI				S	**Sn**	**10 53 14.8**	**-4.6**
LHMI	**Lhok Sumawe**	**4.92**	**63**	P	**Pn**	**10 52 52.4**	**+1.3**
LHMI	**Lhok Sumawe** 146nm,0.3s	**4.92**	**63**	*e*Pn	**Pn**	**10 52 52.0**	**+0.9**
KCSI	**Kotacane, Aceh**	**5.23**	**84**	P	**Pn**	**10 52 57.5**	**+2.0**
GSI	**Gunungsitoli**	**5.28**	**108**	P	**Pn**	**10 52 56.5**	**+0.4**
GSI	**Gunungsitoli** 227nm,0.6s	**5.28**	**108**	*e*Pn	**Pn**	**10 52 56.5**	**+0.4**
TSI	**Tuntungan**	**6.02**	**85**	P	**Pn**	**10 53 09.0**	**+2.7**
PSI	**Prapat**	**6.36**	**91**	Pn	**Pn**	**10 53 12.1**	**+1.0**
PSI	28nm,0.3s,baz=312,slow=7.0,SNR=69			Sn	**Sn**	**10 54 20.4**	**-2.2**
PSI	14nm,0.3s,baz=0.3,slow=15,SNR=6.5			LR	LR	10 56 01.2	
PKDT	comp=Z,305nm,19.1s,baz=267,slow=41 **Phuket**	**7.54**	**49**	P	**Pn**	**10 53 27.6**	**+0.3**
KULM	**Kulim**	**8.39**	**74**	⇑P	**Pn**	**10 53 39.4**	**+0.5**
KULM	**Kulim** 110nm,0.9s	**8.39**	**74**	*e*Pn	**Pn**	**10 53 39.1**	**+0.2**
IPM	**Ipoh**	**8.58**	**80**	⇓P	**Pn**	**10 53 42.2**	**+0.7**
IPM	**Ipoh** 24nm,0.4s	**8.58**	**80**	*e*Pn	**Pn**	**10 53 41.8**	**+0.3**
TRTT	**Trang**	**8.59**	**55**	P	**Pn**	**10 53 41.6**	**0.0**
SURT	**Suratani**	**8.59**	**46**	P	**Pn**	**10 53 42.2**	**+0.6**
BKNI	**Bangkinang**	**8.87**	**107**	P	Pn	10 53 40.7	-4.8
SKLT	**Songkhla**	**9.04**	**62**	P	**Pn**	**10 53 48.6**	**+0.7**
FRIM	**Kepong**	**9.05**	**88**	⇑P	**Pn**	**10 53 48.3**	**+0.3**
KTGM	**Kuala Trenggan**	**10.80**	**77**	⇑P	**Pn**	**10 54 12.3**	**+0.3**
PALK	**Pallekele** 55nm,0.4s	**12.56**	**290**	*e*Pn	**Pn**	**10 54 33.9**	**-2.2**
LHSI	**Lahat**	**12.87**	**122**	P	P	10 54 54.7	+4.1
MDSI	**Maura Dua**	**13.77**	**122**	P	**Pn**	**10 54 52.8**	**+0.2**
UTHA	**Uthaitani** 4.9nm,0.9s	**14.23**	**28**	P	**P**	**10 55 07.1**	**+1.4**
PBKT	**Sadao Pong** 12nm,1.3s	**15.84**	**31**	P	**Pn**	**10 55 20.9**	**+0.7**
CHAI	**Chaiyaphum** 4.7nm,1.0s	**15.85**	**35**	P	**P**	**10 55 24.6**	**+0.9**
SKHT	**Srikalahasti**	**16.61**	**311**	*e*P	**Pn**	**10 55 29.1**	**-0.8**
SKHT				*e*		10 58 17.8	
CM31	**Chiang Mai Arr**	**16.61**	**22**	*e*Pn	**Pn**	**10 55 29.7**	**-0.3**
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=218,slow=13,SNR=15	**16.61**	**22**	Pn	**Pn**	**10 55 29.2**	**-0.8**
CMAR	comp=Z,195nm,18.1s,baz=212,slow=41			LR	LR	11 03 08.8	
UTTA	**Uttaradit** 3.6nm,0.9s	**16.64**	**28**	P	**P**	**10 55 33.6**	**+1.1**
LOEI	**Loei** 11nm,1.4s	**16.78**	**30**	P	**P**	**10 55 35.4**	**+1.3**
LAMP	**Lampang** 4.6nm,1.2s	**16.93**	**24**	P	P	10 55 43.8	+8.0
CHTO	**Chiang Mai** 46nm,1.0s	**16.94**	**21**	P	P	10 55 42.3	+6.5
CHTO	**Chiang Mai** 5.5nm,0.9s	**16.94**	**21**	*e*Pn	**P**	**10 55 35.4**	**-0.4**
CMMT	**Chiang Mai** 8.0nm,1.3s	**16.94**	**21**	P	P	10 55 42.3	+6.5
CHLP	**Challavanipeta**	**17.54**	**332**	*e*Pn	**Pn**	**10 55 40.5**	**-1.1**
CHLP				*ep*P	**P**	**10 55 44.1**	**+1.7**
CHLP				*e*Sn	Sn	10 58 38.0	-18
KSM	**Kuching**	**17.80**	**94**	⇑P	**Pn**	**10 55 43.7**	**-1.2**
KSM	**Kuching** 4.9nm,0.8s	**17.80**	**94**	*e*Pn	**P**	**10 55 47.0**	**+1.7**
SKNT	**Sakolnakorn**	**17.87**	**38**	P	**P**	**10 55 46.1**	**-0.1**
LEM	**Lembang** comp=Z,110nm,18.1s,baz=356,slow=37	**17.91**	**123**	LR	LR	11 02 40.9	
NJS	**Nagarjunasagar**	**18.76**	**317**	*e*P	**P**	**10 55 55.2**	**-0.7**
NJS				*e*Sn	Sn	10 59 12.8	-13
SBUM	**Sibu**	**19.64**	**91**	⇑P	**P**	**10 56 05.0**	**-0.6**
HYB	**Hyderabad**	**19.88**	**317**	*i* P	**P**	**10 56 07.5**	**-0.7**
HYBB	**Hyderabad (bro**	**19.88**	**317**	*e*P	**P**	**10 56 07.2**	**-1.0**
HYBB				*e*S	**S**	**10 59 49.9**	**-0.4**
RPR	**Rampur**	**20.44**	**322**	*e*P	Pn	10 56 16.1	-0.5
IMP	**Imphal**	**21.73**	**3**	*ex*	**P**	**10 56 30.0**	**+1.9**
MTKI	**Muara Teweh, K**	**22.66**	**100**	P	P	10 56 54.4	+16
ODAN	**Odare** 55nm,1.2s	**24.27**	**349**	*e*P	**P**	**10 56 54.5**	**+0.5**
RAMN	**Ramite** 59nm,0.9s	**24.52**	**347**	*e*P	**P**	**10 56 57.5**	**+1.2**
TAPN	**Taplejung**	**24.68**	**350**	*e*P	**P**	**10 56 58.4**	**+0.6**
JIRN	**Jiri** 22nm,0.4s	**25.29**	**347**	*e*P	**P**	**10 57 04.3**	**+0.8**
PKI	**Pulchoki** 62nm,1.3s	**25.40**	**345**	*e*P	**P**	**10 57 05.2**	**+0.8**
PKIN	**Phulchoki** 10nm,0.8s	**25.41**	**345**	*e*P	**P**	**10 57 05.3**	**+0.9**
DMN	**Daman**	**25.52**	**344**	*e*P	**P**	**10 57 06.3**	**+0.9**
GUN	**Gumba** 26nm,0.2s	**25.61**	**346**	*e*P	**P**	**10 57 05.1**	**-1.2**
KKN	**Kakani** 31nm,1.1s	**25.64**	**345**	*e*P	**P**	**10 57 07.3**	**+0.8**
GKN	**Gorkha** 49nm,0.9s	**26.02**	**344**	*e*P	**P**	**10 57 10.3**	**+0.5**
KOLN	**Koldanda** 57nm,1.2s	**26.10**	**342**	*e*P	**P**	**10 57 11.3**	**+0.7**
LSA	**Lhasa** 27nm,0.9s	**26.62**	**357**	*e*P	**P**	**10 57 17.0**	**+1.4**
KAPI	**Kappang** comp=Z,160nm,18.6s,baz=294,slow=37	**28.30**	**106**	LR	LR	11 09 06.8	
AAK	**Ala-Archa** 0.6nm,0.3s,baz=150,slow=6.2,SNR=4.1	**42.66**	**340**	P	**P**	**10 59 34.2**	**+1.0**
H01W3	**Cape Leeuwin H** baz=331	**42.76**	**154**	T	T	11 45 19.8	
H01W2	**Cape Leeuwin H** baz=331	**42.77**	**154**	T	T	11 45 15.4	
H01W1	**Cape Leeuwin H** baz=331	**42.78**	**154**	T	T	11 45 19.8	
MK31	**Makanchi Array**	**44.55**	**350**	*e*P	**P**	**10 59 48.5**	**+0.3**
MKAR	**Makanchi Array** 4.1nm,0.8s,baz=195,slow=8.8,SNR=43	**44.55**	**350**	P	**P**	**10 59 48.5**	**+0.3**
WRA	**Warramunga Arr** 0.9nm,0.8s,baz=298,slow=8.7,SNR=8.1	**46.91**	**121**	P	**P**	**11 00 07.7**	**+0.5**
WRAB	**Tennant Creek** 8.8nm,1.2s	**46.91**	**121**	*e*P	**P**	**11 00 07.5**	**+0.3**
GEYT	**Alibeck** 2.6nm,0.3s,baz=154,slow=8.2,SNR=8.3	**46.94**	**322**	P	**P**	**11 00 07.1**	**-0.1**
KSAR	**Wonju Array Be**	**47.18**	**39**	P	**P**	**11 00 10.9**	**+1.9**
KSRS	**Korea Array** 1.5nm,0.9s,baz=224,slow=6.6,SNR=2.9	**47.21**	**39**	P	**P**	**11 00 10.9**	**+1.7**
KSRS	comp=Z,40nm,19.9s,baz=210,slow=37			LR	LR	11 20 36.6	
ASAR	**Alice Springs** 0.4nm,0.3s,baz=299,slow=7.4,SNR=20	**48.17**	**126**	P	**P**	**11 00 17.6**	**+0.6**
AS31	**Alice Springs**	**48.17**	**126**	*e*P	**P**	**11 00 17.3**	**+0.3**
KURBB	**Kurchatov Arra** 3.3nm,0.8s,baz=171,slow=7.4,SNR=38	**48.94**	**348**	P	**P**	**11 00 22.5**	**+0.1**
KURK	**Kurchatov**	**49.01**	**348**	P	**P**	**11 00 22.5**	**-0.4**
ZAA0	**Zalesovo Array**	**51.21**	**354**	*e*P	**P**	**11 00 39.9**	**+0.4**
ZALV	**Zalesovo Beam** 4.0nm,0.4s,baz=189,slow=8.2,SNR=32	**51.21**	**354**	P	**P**	**11 00 40.2**	**+0.7**
ZALV	comp=Z,51nm,18.5s,baz=246,slow=43			LR	LR	11 27 57.9	
GUMO	**Guam** comp=Z,29nm,20.0s,baz=204,slow=34	**52.72**	**75**	LR	LR	11 21 36.5	
MJAR	**Matsushiro Arr** comp=Z,44nm,21.9s,baz=185,slow=35	**53.65**	**46**	LR	LR	11 23 15.5	
BRTR	**Keskin Array B** 0.5nm,0.7s,baz=119,slow=10,SNR=4.4	**64.51**	**319**	P	**P**	**11 02 13.3**	**-0.1**
BRTR	comp=Z,38nm,19.5s,baz=318,slow=38			LR	LR	11 32 20.3	
FINES	**FINESS Array B** 2.1nm,0.8s,baz=104,slow=13,SNR=6.4	**76.31**	**333**	P	**P**	**11 03 24.4**	**-0.5**
ARCES	**ARCESS Array B** 0.9nm,0.8s,baz=92,slow=7.2,SNR=3.7	**79.33**	**341**	P	**P**	**11 03 42.0**	**+0.5**
GERES	**GERESS Array B** 2.7nm,0.8s,baz=91,slow=4.2,SNR=12	**80.44**	**319**	P	**P**	**11 03 48.8**	**+0.7**
KEST	**Kesra**	**82.77**	**305**	*e*P	**P**	**11 04 00.3**	**-0.3**
TXAR	**Lajitas Array** 0.1nm,0.5s,baz=201,slow=0.8,SNR=2.6	**144.31**	**25**	PKP	PKPbc	11 11 12.4	+1.1

*CSEM **06** 10:56:56.1±0.5,35°94N×22°08E,h2km,MD3.5,Error ellipse: s-maj=10.9km s-min=5.4km az=34.0*
*THE **06** 10:56:58.3,36°05N×22°14E,h2km±1km,ML3.5/3,Error ellipse: s-maj=1.8km s-min=1.1km az=17.0*
*ATH **06** 10:56:58.0,36°09N×22°05E,h18km±1km,MD3.5/23*

ISC 06 10:56:56.8±1.9,36°01N±0°07×22°04E±0°05,h0km±12km, n62,σ0°71/77,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KYTH	**Kithira**	**0.85**	**71**	*e*PN	**Pg**	**10 57 13.8**	**+0.7**
KYTH	**Kithira**	**0.85**	**71**	*e*Pn	**Pg**	**10 57 13.8**	**+0.7**
PYL	**PYLOS**	**0.92**	**345**	P	**Pb**	**10 57 15.7**	**+0.1**
PYL				S	**Sb**	**10 57 28.7**	**+0.4**
PYL	**PYLOS**	**0.92**	**345**	*e*PN	**Pb**	**10 57 15.6**	**0.0**
PYL				*e*SN	**Sg**	**10 57 26.3**	**0.0**
PYL	**PYLOS**	**0.92**	**345**	P	**Pb**	**10 57 15.7**	**+0.1**
PYL				S	**Sb**	**10 57 28.7**	**+0.4**
VLI	**Veliai**	**1.01**	**45**	P	**Pg**	**10 57 15.8**	**-0.4**
VLI				S	**Sg**	**10 57 29.7**	**+0.3**
VLI	**Veliai**	**1.01**	**45**	*e*PB	**Pg**	**10 57 15.6**	**-0.6**
VLI				*e*SN	**Sg**	**10 57 29.9**	**+0.5**
VLI	**Veliai**	**1.01**	**45**	P	**Pg**	**10 57 15.8**	**-0.4**
VLI				S	**Sg**	**10 57 29.7**	**+0.3**
ANKY	**Antikythira Is**	**1.03**	**97**	*e*PN	**Pb**	**10 57 17.7**	**+0.2**
ANKY				*e*SB	**Sb**	**10 57 32.4**	**+0.8**
ANKY	**Antikythira Is**	**1.03**	**97**	*e*Pn	**Pb**	**10 57 17.7**	**+0.2**
ANKY				*e*Sb	**Sb**	**10 57 32.4**	**+0.8**
ITM	**Ithomi**	**1.17**	**356**	P	**Pg**	**10 57 19.4**	**+0.1**
ITM				S	**Sb**	**10 57 36.0**	**+0.3**
ITM	**Ithomi**	**1.17**	**356**	*e*PN	**Pg**	**10 57 18.7**	**-0.6**
ITM				*e*SN	**Sg**	**10 57 34.1**	**-0.4**
ITM	**Ithomi**	**1.17**	**356**	*e*Pn	**Pg**	**10 57 18.7**	**-0.6**
ITM	**Ithomi**	**1.17**	**356**	P	**Pg**	**10 57 19.4**	**+0.1**
ITM				S	**Sb**	**10 57 36.0**	**+0.3**
VLX	**Vlachokerasia**	**1.39**	**11**	P	**Pg**	**10 57 22.6**	**-0.8**
VLX				S	**Sn**	**10 57 42.3**	**-0.2**
VLX	**Vlachokerasia**	**1.39**	**11**	*e*PN	**Pg**	**10 57 22.6**	**-0.8**
VLX	**Vlachokerasia**	**1.39**	**11**	P	**Pg**	**10 57 22.6**	**-0.8**
VLX				S	**Sn**	**10 57 42.3**	**-0.2**
AMT	**Artemida-Makis**	**1.54**	**350**	P	**Pn**	**10 57 25.3**	**-0.3**
AMT	**Artemida-Makis**	**1.54**	**350**	*e*PN	**Pn**	**10 57 25.3**	**-0.3**
AMT				*e*SN	**Sb**	**10 57 46.0**	**-0.4**
AMT	**Artemida-Makis**	**1.54**	**350**	P	**Pn**	**10 57 25.3**	**-0.3**
AMT				*e*Sn	**Sb**	**10 57 46.0**	**-0.4**
DID	**Didima**	**1.78**	**32**	*e*PN	**Pn**	**10 57 29.0**	**+0.2**
DID	**Didima**	**1.78**	**32**	*e*Pn	**Pn**	**10 57 29.0**	**+0.2**
VAM	**Vamos**	**1.86**	**108**	*e*PN	**Pb**	**10 57 31.7**	**+0.1**
GUR	**Goura**	**1.94**	**7**	P	**Pn**	**10 57 31.2**	**+0.1**
GUR	**Goura**	**1.94**	**7**	*e*PN	**Pn**	**10 57 31.1**	**0.0**
GUR	**Goura**	**1.94**	**7**	*e*Pn	**Pn**	**10 57 31.1**	**0.0**
DRO	**Drossia**	**1.96**	**352**	*e*PN	**Pn**	**10 57 31.8**	**+0.6**
DRO	**Drossia**	**1.96**	**352**	*e*Pn	**Pn**	**10 57 31.8**	**+0.6**
KLV	**Kalavryta, Ach**	**2.03**	**2**	*e*PN	**Pn**	**10 57 33.1**	**+0.8**
KLV	**Kalavryta, Ach**	**2.03**	**2**	*e*Pn	**Pn**	**10 57 33.1**	**+0.8**
RLS	**Riolos of Patr**	**2.10**	**348**	*e*PB	**Pn**	**10 57 32.2**	**-0.9**
RLS	**Riolos of Patr**	**2.10**	**348**	*e*Pb	**Pn**	**10 57 32.2**	**-0.9**
LTK	**Loutraki**	**2.14**	**20**	*e*PN	**Pn**	**10 57 34.4**	**+0.6**
LTK	**Loutraki**	**2.14**	**20**	*e*Pn	**Pn**	**10 57 34.4**	**+0.6**
KALE	**Kalithea**	**2.38**	**2**	*e*PN	**Pn**	**10 57 37.9**	**+0.8**
KALE	**Kalithea**	**2.38**	**2**	*e*Pn	**Pn**	**10 57 37.9**	**+0.8**
EFP	**Efpalio**	**2.42**	**358**	*e*PN	**Pn**	**10 57 38.3**	**+0.8**
EFP	**Efpalio**	**2.42**	**358**	*e*Pn	**Pn**	**10 57 38.3**	**+0.8**
DSF	**Desfina**	**2.43**	**9**	*e*PN	**Pn**	**10 57 38.3**	**+0.5**
DSF	**Desfina**	**2.43**	**9**	*e*Pn	**Pn**	**10 57 38.3**	**+0.5**
VLS	**Valsamata**	**2.46**	**332**	*e*PB	**Pn**	**10 57 38.6**	**+0.5**
VLS	**Valsamata**	**2.46**	**332**	*e*Pb	**Pn**	**10 57 38.6**	**+0.5**
LKR	**Lokris**	**2.75**	**16**	*e*PN	**Pn**	**10 57 42.4**	**+0.3**
LKR	**Lokris**	**2.75**	**16**	*e*Pn	**Pn**	**10 57 42.4**	**+0.3**
EVR	**Evrytania**	**2.91**	**356**	*e*PB	**Pn**	**10 57 46.5**	**+2.1**
EVR	**Evrytania**	**2.91**	**356**	*e*Pb	**Pn**	**10 57 46.5**	**+2.1**
MRKA	**Markates**	**2.96**	**24**	*e*PN	**Pn**	**10 57 45.4**	**+0.4**
MRKA	**Markates**	**2.96**	**24**	*e*Pn	**Pn**	**10 57 45.4**	**+0.4**
LKD2	**Lefkada island**	**2.98**	**339**	*e*PN	**Pn**	**10 57 45.7**	**+0.3**
LKD2	**Lefkada island**	**2.98**	**339**	*e*Pn	**Pn**	**10 57 45.7**	**+0.3**
MAKR	**Makrakomi, Fth**	**3.00**	**1**	*e*PN	**Pn**	**10 57 46.1**	**+0.5**
MAKR	**Makrakomi, Fth**	**3.00**	**1**	*e*Pn	**Pn**	**10 57 46.1**	**+0.5**
APE	**Apeiranthos**	**3.00**	**68**	*e*PN	**Pn**	**10 57 43.3**	**-2.4**
APE	**Apeiranthos**	**3.00**	**68**	*e*Pn	**Pn**	**10 57 43.3**	**-2.4**
SMIA	**Simia**	**3.01**	**18**	*e*PN	**Pn**	**10 57 45.7**	**-0.1**
SMIA	**Simia**	**3.01**	**18**	*e*Pn	**Pn**	**10 57 45.7**	**-0.1**
AGG	**Agios Georgios**	**3.02**	**4**	*e*PN	**Pn**	**10 57 46.0**	**+0.2**
AGG	**Agios Georgios**	**3.02**	**4**	*e*Pn	**Pn**	**10 57 46.0**	**+0.2**
DSL	**Palaion Diasel**	**3.21**	**347**	*e*PN	**Pn**	**10 57 48.3**	**-0.1**
DSL	**Palaion Diasel**	**3.21**	**347**	*e*Pn	**Pn**	**10 57 48.3**	**-0.1**
KEK	**Kerkira**	**4.10**	**335**	*e*PN	**Pn**	**10 58 00.6**	**-0.1**
KEK	**Kerkira**	**4.10**	**335**	*e*Pn	**Pn**	**10 58 00.6**	**-0.1**

*CSEM **06** 10:57:41.6±0.3,39°91N×29°23E,h1km,MD2.7,Error ellipse: s-maj=11.0km s-min=8.9km az=105.0,Mining explosion.*

DDA 06 10:57:44.0,39°66N×29°45E,h7km,MD2.7,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULDT	**Uludag**	**0.53**	**334**	*i* P	Pg	10 57 54.5	-0.1
ULDT				*i* S	Sg	10 58 02.8	+1.0
ULDT	**Uludag**	**0.53**	**334**	*i* P	Pg	10 57 54.5	-0.1
ULDT				*i* S	Sg	10 58 02.8	+1.1
GDZ	**Gediz**	**0.58**	**177**	*i* P	Pg	10 57 55.3	0.0
GDZ				*i* S	Sg	10 58 03.7	+0.8
BORA	**Eskisehir**	**0.81**	**74**	*i* P	Pg	10 57 59.6	0.0
BORA				*i* S	Sn	10 58 13.0	-1.2
BORA	**Eskisehir**	**0.81**	**74**	*i* P	Pg	10 57 59.6	0.0
BORA				*i* S	Sn	10 58 13.0	-1.2
DEMI	**Demirci**	**0.84**	**223**	*i* P	Pg	10 58 00.3	0.0
DEMI	**Demirci**	**0.84**	**223**	*i* P	Pg	10 58 00.3	+0.1
MANT	**Manisa**	**1.36**	**211**	*i* P	Pn	10 58 09.7	0.0
MANT				*i* S	Sb	10 58 26.1	-1.8
MANT	**Manisa**	**1.36**	**211**	*i* P	Pn	10 58 09.7	0.0
MANT				*i* S	Sb	10 58 26.1	-1.8

BUC 06 10:58:48.5±0.4,44°34N×28°30E,h8km±5km,MD1.6/2, 6C-5D,Error ellipse: s-maj=1.4km s-min=0.6km az=115.0,Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIRR	**Tirgusor**	**0.14**	**36**	⇑*i* P	Pg	10 58 50.9	-0.6
TIRR				*i* S	Sg	10 58 52.6	-1.0
TIRR	**Tirgusor**	**0.14**	**36**	⇑*i* P	Pg	10 58 50.9	-0.6
TIRR				*i* S	Sg	10 58 52.6	-1.0
TIRR	**Tirgusor**	**0.14**	**36**	⇑*i* P	Pg	10 58 50.9	-0.6
TLB	**Topalu**	**0.30**	**323**	⇓*i* P	Pg	10 58 54.8	+0.3
TLB	**Topalu**	**0.30**	**323**	S	Sg	10 58 59.3	+0.8
TLB	**Topalu**	**0.30**	**323**	⇓*i* P	Pg	10 58 54.8	+0.3
TLB				*i* S	Sg	10 58 59.3	+0.8
TLB	**Topalu**	**0.30**	**323**	⇓*i* P	Pg	10 58 54.8	+0.3
MSAB	**Monastry St. A**	**0.42**	**233**	⇓*i* P	Pg	10 58 57.2	+0.5
MSAB	**Monastry St. A**	**0.42**	**233**	S	Sg	10 59 03.3	+1.0
MSAB	**Monastry St. A**	**0.42**	**233**	⇓*i* P	Pg	10 58 57.2	+0.5
MSAB				*i* S	Sg	10 59 03.3	+1.0
HARR	**Harsova**	**0.43**	**323**	⇑*i* P	Pg	10 58 57.0	+0.1
HARR	**Harsova**	**0.43**	**323**	⇑*i* P	Pg	10 58 57.0	+0.1
HARR	**Harsova**	**0.43**	**323**	⇑*i* P	Pg	10 58 57.0	+0.1

*ISN **06** 11:11:34.1±1.6,30°88N×54°20E,h0km±999km,ML3.6*
*THR **06** 11:11:51.7±0.3,28°36N×50°82E,h37km±7km,ML3.8*
*IDC **06** 11:11:51.6±1.0,28°35N×50°98E,h0km,mb3.8/16, mb1 3.9/17,mb1mx3.7/56,mbtmp3.8/17,ML3.3/1,Error ellipse: s-maj=24.3km s-min=19.5km az=178.0*
*ISCJB **06** 11:11:52.5±0.6,28°49N±0°05×51°01E±0°04,h10km, mb3.8/16,Error ellipse: s-maj=7.4km s-min=5.3km az=172.8*
*TEH **06** 11:11:54.3,28°51N×50°97E,h5km,ML3.5*
*CSEM **06** 11:11:55.4±0.7,28°51N×50°95E,h20km,ML3.5,Error ellipse: s-maj=16.1km s-min=8.9km az=22.0*

ISC 06 11:11:53.8±0.7,28°46N±0°06×50°92E±0°05,h10km,n45, σ1°07/50,mb3.8/16,Persian Gulf

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKAZ	**Kazeroun**	**1.54**	**31**	*e*Pg	**Pn**	**11 12 20.5**	**-1.2**
IKAZ				*e*Sg	**Sn**	**11 12 40.4**	**-1.5**
IKAZ	comp=Z,21µm,0.2s			*e*		11 12 46.4	
IKAZ	**Kazeroun**	**1.54**	**31**	*e*Pg	**Pn**	**11 12 20.5**	**-1.2**
IKAZ				*e*Sg	**Sn**	**11 12 40.4**	**-1.5**
SHI	**Shiraz**	**1.82**	**49**	*e*Pn	**Pn**	**11 12 25.5**	**+0.1**
SHI				*e*Sg	**Sb**	**11 12 49.2**	**-1.2**
SHI				*e*		11 12 57.5	
GHIR	comp=Z,7µm,0.2s **Ghir-Karzin**	**1.83**	**95**	*e*Pg	**Pn**	**11 12 26.1**	**+0.7**
GHIR				*e*Sg	**Sb**	**11 12 51.1**	**+0.8**
GHIR	comp=E,1µm,0.6s			AML	AML	11 13 04.4	
GHIR	**Ghir-Karzin**	**1.83**	**95**	*e*Pg	**Pn**	**11 12 26.1**	**+0.7**
GHIR	comp=E,1µm,0.6s			*e*Sg	**Sb**	**11 12 51.1**	**+0.8**
ISRV	**Sarvestan**	**2.13**	**64**	*e*Pn	**Pn**	**11 12 29.4**	**-0.3**
ISRV	comp=Z,5µm,0.3s			*e*	**Sg**	**11 13 05.2**	**+2.9**
ISRV	**Sarvestan**	**2.13**	**64**	*e*Pn	**Pn**	**11 12 29.4**	**-0.3**
IPAR	**Pars**	**2.31**	**53**	*e*Pn	**Pn**	**11 12 31.8**	**-0.4**
IPAR	comp=Z,3µm,0.4s			*e*		11 13 15.4	
IPAR	**Pars**	**2.31**	**53**	*e*Pn	**Pn**	**11 12 31.8**	**-0.4**
ISAD	**Sadrabad**	**4.19**	**34**	*e*Pn	**Pn**	**11 12 58.3**	**+0.2**
ISAD	comp=Z,470nm,0.3s			*e*	**Sg**	**11 14 10.1**	**+1.6**
ISAD	**Sadrabad**	**4.19**	**34**	*e*Pn	**Pn**	**11 12 58.3**	**+0.2**
IPIR	**Pirpir**	**4.21**	**360**	*e*Pn	**Pn**	**11 12 57.9**	**-0.5**
IPIR	comp=Z,359nm,0.2s			*e*	**Sn**	**11 13 50.8**	**+3.0**
IPIR	**Pirpir**	**4.21**	**360**	*e*Pn	**Pn**	**11 12 57.9**	**-0.5**
IMEH	**Mehriz**	**4.34**	**47**	*e*Pn	**Pn**	**11 13 00.2**	**+0.2**
IMEH	comp=Z,394nm,0.3s			*e*	Pg	11 13 19.8	+3.0
IMEH	**Mehriz**	**4.34**	**47**	*e*Pn	**Pn**	**11 13 00.2**	**+0.2**
NASN	**Na'in**	**4.62**	**20**	*e*Pn	**Pn**	**11 13 03.2**	**-0.8**
NASN	**Na'in**	**4.62**	**20**	*e*Pn	**Pn**	**11 13 03.2**	**-0.8**
NSR	**Nassriya**	**4.88**	**303**	*e*PN	x	11 13 16.8	
NSR				*e*SN	x	11 14 29.9	
IKLH	**Kolahrood**	**4.88**	**6**	*e*Pn	**Pn**	**11 13 08.9**	**+1.4**
IKLH	**Kolahrood**	**4.88**	**6**	*e*Pn	**Pn**	**11 13 08.9**	**+1.4**
IBAF	**Bafgh** comp=Z,167nm,0.2s	**5.09**	**51**	*e*	Sn	11 13 55.2	-14
KRBR	**Kerman**	**5.32**	**72**	*e*Pn	**Pn**	**11 13 12.8**	**-0.8**
KRBR	comp=E,39nm,0.4s			AML	AML	11 14 15.0	
KRBR	comp=N,35nm,0.4s			AML	AML	11 14 18.8	
KRBR	**Kerman** comp=N,35nm,0.4s	**5.32**	**72**	*e*Pn	**Pn**	**11 13 12.8**	**-0.8**
IBDR	**Badra**	**6.32**	**318**	*e*PN	x	11 13 26.0	
IBDR				*i* Sn	x	11 14 42.0	
BHD	**Baghdad**	**7.39**	**312**	*e*PN	x	11 13 42.3	
BHD				*e*SN	x	11 15 13.2	
BHD	**Baghdad** SNR=39	**7.39**	**312**	*e*Pn	**Pn**	**11 13 42.3**	**+0.6**
TABS	**Tabas**	**7.42**	**44**	*e*Pn	**Pn**	**11 13 41.6**	**-0.6**
TABS	**Tabas**	**7.42**	**44**	*e*Pn	**Pn**	**11 13 41.6**	**-0.6**
BRTR	**Keskin Array B** comp=N,0.1nm,0.3s,baz=133,slow=12,SNR=5.0	**18.17**	**313**	P	**P**	**11 16 07.5**	**+0.9**
AKTO	**Aktyubinsk** comp=N,1.7nm,0.6s,baz=193,slow=12,SNR=7.2	**22.60**	**12**	P	**P**	**11 16 54.9**	**+0.5**
AAK	**Ala-Archa** comp=N,1.8nm,0.7s,baz=207,slow=4.5,SNR=3.5	**23.73**	**47**	P	**P**	**11 17 06.9**	**+0.7**
BVAR	**Borovoye Array** comp=N,1.1nm,0.4s,baz=218,slow=8.8,SNR=8.0	**28.45**	**25**	P	**P**	**11 17 49.7**	**+1.0**
KURBB	**Kurchatov Arra** comp=N,0.5nm,0.8s,baz=236,slow=8.3,SNR=3.1	**30.41**	**36**	P	**P**	**11 18 06.7**	**+0.7**
MKAR	**Makanchi Array** comp=N,0.8nm,0.8s,baz=244,slow=13,SNR=8.4	**30.57**	**45**	P	**P**	**11 18 07.3**	**-0.3**
MKAR	comp=N,0.1nm,0.5s,baz=290,slow=4.3,SNR=3.2			PcP	**PcP**	**11 21 04.9**	**-1.2**
ZALV	**Zalesovo Beam** comp=N,0.8nm,0.4s,baz=249,slow=7.8,SNR=5.9	**35.48**	**35**	P	**P**	**11 18 50.4**	**+0.1**
FINES	**FINESS Array B** comp=N,0.6nm,0.4s,baz=170,slow=8.5,SNR=4.3	**36.90**	**340**	P	**P**	**11 19 01.5**	**-0.8**
NOA	**NORSAR Array B** comp=N,0.4nm,0.5s,baz=129,slow=9.1,SNR=3.1	**41.95**	**332**	P	**P**	**11

JIZZ S **Sg** **11 17 47.1 +0.1**
JHK Hiroka 0.42 130 P **Pg** **11 17 50.0 -0.1**
JHK S **Sg** **11 17 55.9 0.0**
JSD Sado 0.58 332 P **Pb** **11 17 53.1 -0.1**
JSD S **Sb** **11 18 01.1 -0.1**
JNS Sasagawa 0.63 62 P **Pb** **11 17 53.9 -0.1**
JNS S **Sg** **11 18 02.6 +0.2**
JFY Yanaizu 0.88 97 P **Pb** **11 17 58.0 -0.2**
JFY S **Sb** **11 18 09.3 -0.4**
JKT Katashina 0.91 146 P **Pb** **11 17 58.7 -0.1**
JKT S **Sb** **11 18 10.6 0.0**
JSZ Suzu 1.00 266 P **Pb** **11 18 00.1 -0.1**
JSZ S **Sn** **11 18 13.8 -0.4**
MAT Matsushiro 1.03 198 P **Pn** **11 18 00.9 -0.2**
MAT S **Sg** **11 18 15.1 +0.2**
MAT Matsushiro 1.03 198 P **Pn** **11 18 00.9 -0.2**
MAT S **Sg** **11 18 14.8 -0.1**
MJAR Matsushiro Arr 1.03 198 Pg **Pn** **11 18 00.9 -0.2**
29nm,0.3s,baz=12,slow=15,SNR=233
MJAR Lg Lg 11 18 14.9
25nm,0.3s,baz=13,slow=28,SNR=20
JAW Awa shima 1.06 28 P **Pb** **11 18 01.2 -0.1**
KSRS Korea Array 8.50 273 Pn Pn 11 19 47.0 +3.3
0.4nm,0.3s,baz=93,slow=15,SNR=5.2
WRA Warramunga Arr 57.30 185 P **P** **11 27 29.1 +0.8**
0.5nm,0.7s,baz=1.7,slow=8.0,SNR=5.3

SZGRF ***06*** *11:24:18.9,20˚.74S×169˚.31E,h33km, Vanuatu Islands*
IDC ***06*** *11:24:19.5±0.5, 18˚.74S×168˚.56E,h0km,mb4.6/26, mb1 4.7/27,mb1mx4.6/38,mbtmp4.6/27,ML4.4/1,MS4.1/5, Ms1 4.1/5,ms1mx3.8/21,Error ellipse: s-maj=16.8km s-min=12.5km az=101.0*
BJI ***06*** *11:24:27.5, 18˚.42S×168˚.59E,h57km,mb4.9/44,mB5.1/31, Ms5.2/18,Ms7 4.9/20*
ISCJB ***06*** *11:24:27.5±1.9, 18˚.81S±0˚.05×168˚.41E±0˚.05,h66km±17km, mb4.6/54,Error ellipse: s-maj=8.6km s-min=7.4km az=3.3*
NEIC ***06*** *11:24:28.6±0.6, 18˚.77S×168˚.38E,h65km±5km,mb5.1/18, Error ellipse: s-maj=7.6km s-min=6.8km az=146.0*
MOS ***06*** *11:24:29.3±1.0, 18˚.73S×168˚.36E,h82km,mb5.0/15,Error ellipse: s-maj=11.2km s-min=9.8km az=179.8*
ISC 06 11:24:28.4±0.4, **18˚.88S**±0˚.06×**168˚.45E**±0˚.07, **h65**km±2km, **h65**km**:pP-P,n274,**σ1s**27**/284**,mb4.7**/55**,20C-2D,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**3.69**	**210**	Pn		Pn	11 25 19.6	-3.5
	29nm,0.3s,baz=114,slow=4.6,SNR=116							
DZM				Sn		**Sn**	**11 26 01.1**	**-4.4**
	134nm,0.3s,baz=120,slow=23,SNR=16							
MSVF	**Nonsavu**	**9.19**	**84**	*e*P		Pn	11 26 42.2	+3.9
MSVF	**Nonsavu**	**9.19**	**84**	*e*Pn		Pn	11 26 42.2	+3.9
HNR	**Honiara**	**12.49**	**318**	P		Pn	11 27 28.0	+4.6
RAO	**Raoul Island**	**16.16**	**132**	LR		LR	11 32 01.4	
	comp=Z,273nm,18.6s,baz=138,slow=28							
OUZ	**Omahuta**	**16.91**	**165**	*e*P		**P**	**11 28 24.6**	**+2.9**
	14nm,1.0s							
EIDS	**Eidsvold**	**17.34**	**245**	*e*P		**P**	**11 28 27.9**	**+1.3**
	44nm,1.1s							
AFI	**Afiamalu**	**19.59**	**78**	*e*P		**Pn**	**11 28 54.2**	**+0.8**
AFI				pmax		pmax		
	comp=Z,166nm,1.2s							
AFI	**Afiamalu**	**19.59**	**78**	*e*Pn		**Pn**	**11 28 54.2**	**+0.8**
	comp=Z,166nm,1.2s							
URZ	**Urewera**	**20.73**	**160**	P		**P**	**11 29 04.0**	**+0.4**
	comp=Z,24nm,0.7s,baz=322,slow=3.2,SNR=14							
URZ				LR		LR	11 36 13.4	
	comp=Z,617nm,20.1s,baz=356,slow=34							
URZ	**Urewera**	**20.73**	**160**	*e*P		Pn	11 29 05.1	-1.5
CTA	**Charters Tower**	**20.96**	**263**	P		**P**	**11 29 07.2**	**+0.9**
	comp=Z,24nm,1.0s,baz=104,slow=12,SNR=5.8							
CTAO	**Charters Tower**	**20.96**	**263**	*e*P		Pn	11 29 08.2	-1.3
CTAO				pmax		pmax		
	comp=Z,34nm,1.0s							
CTAO	**Charters Tower**	**20.96**	**263**	*e*P		Pn	11 29 08.2	-1.3
	comp=Z,34nm,1.0s							
BKZ	**Black Stump Fm**	**21.39**	**163**	*e*P		**P**	**11 29 12.5**	**+1.8**
	comp=Z,53nm,1.1s							
KHZ	**Kahutara**	**23.86**	**171**	*e*P		**P**	**11 29 35.9**	**+0.2**
	comp=Z,54nm,0.9s							
RPZ	**Rata Peaks**	**24.86**	**176**	P		**P**	**11 29 45.6**	**+0.8**
	comp=Z,14nm,0.6s,baz=283,slow=5.3,SNR=8.5							
RPZ				LR		LR	11 39 25.4	
	comp=Z,508nm,18.5s,baz=8.5,slow=36							
STKA	**Stephens Creek**	**27.42**	**237**	P		**P**	**11 30 08.5**	**+0.5**
	comp=Z,3.9nm,0.5s,baz=78,slow=11,SNR=22							
JAY	**Jayapura**	**31.66**	**298**	LR		LR	11 43 07.2	
	comp=Z,329nm,20.5s,baz=167,slow=36							
BBOO	**Buckleboo**	**32.14**	**238**	*e*P		**P**	**11 30 47.1**	**-2.8**
WRAB	**Tennant Creek**	**32.15**	**262**	*e*P		**P**	**11 30 51.6**	**+1.5**
WRAB				pmax		pmax		
	comp=Z,12nm,1.1s							
WRA	**Warramunga Arr**	**32.16**	**262**	P		**P**	**11 30 48.8**	**-1.4**
	comp=Z,1.5nm,0.3s,baz=88,slow=8.3,SNR=69							
WRA				PcP		**PcP**	**11 33 37.9**	**0.0**
	comp=Z,1.5nm,0.8s,baz=86,slow=2.8,SNR=4.7							
AS31	**Alice Springs**	**32.49**	**255**	*e*P		**P**	**11 30 52.5**	**-0.6**
ASAR	**Alice Springs**	**32.50**	**255**	P		**P**	**11 30 52.5**	**-0.6**
	comp=Z,13nm,0.8s,baz=84,slow=8.7,SNR=158							
FORT	**Forrest**	**38.33**	**244**	*e*P		**P**	**11 31 43.1**	**0.0**
	comp=Z,30nm,0.9s							
MBWA	**Marble Bar**	**45.70**	**259**	*e*pP		pP	11 32 57.1	-2.5
CBIJ	**Chichi jima**	**52.32**	**330**	P		**P**	**11 33 32.8**	**-0.9**
JCJ	**Chichijima**	**52.32**	**330**	P		**P**	**11 33 32.8**	**-0.9**
	comp=Z,25nm,0.8s,baz=144,slow=19,SNR=3.5							
VNDA	**Vanda**	**58.77**	**182**	P		**P**	**11 34 19.7**	**+0.4**
	comp=Z,3.2nm,1.0s,baz=4.4,slow=8.3,SNR=11							
VNDA	**Vanda**	**58.77**	**182**	*e*P		**P**	**11 34 20.0**	**+0.7**
VNDA	**Vanda**	**58.77**	**182**	*e*P		**P**	**11 34 20.0**	**+0.7**
SBA	**Scott Base**	**59.02**	**180**	*e*P		**P**	**11 34 22.8**	**+1.8**
SBA				pmax		pmax		
	comp=Z,24nm,1.0s							
SBA	**Scott Base**	**59.02**	**180**	*e*P		**P**	**11 34 22.8**	**+1.8**
	comp=Z,24nm,1.0s							
MJAR	**Matsushiro Arr**	**62.09**	**333**	P		**P**	**11 34 41.5**	**-1.0**
	comp=Z,15nm,0.9s,baz=166,slow=7.3,SNR=31							
MAJO	**Matsushiro**	**62.09**	**333**	*e*P		**P**	**11 34 41.8**	**-0.7**
MAJO				pmax		pmax		
	comp=Z,36nm,1.2s							
MAJO	**Matsushiro**	**62.09**	**333**	*e*P		**P**	**11 34 41.8**	**-0.7**
	comp=Z,36nm,1.2s							
MAT	**Matsushiro**	**62.09**	**333**	P		**P**	**11 34 41.5**	**-1.0**
JNU	**Nakatsue**	**62.94**	**325**	P		**P**	**11 34 47.1**	**-1.1**
	comp=Z,19nm,1.1s,baz=131,slow=6.6,SNR=4.2							
YHNB	**Yeheng**	**63.05**	**312**	*e*P		**P**	**11 34 48.3**	**-0.9**
	comp=Z,34nm,1.3s							
YUK	**Yuzh-Kuril'sk**	**65.94**	**342**	*c i*P		P	11 35 03.8	-3.7
YUK				*i* PPP		PPP	11 39 14.0	
YUK				*i* S		**S**	**11 43 47.2**	**-2.6**
YUK				MLR		MLR		
	comp=N,1μm,28.0s							
YUK				MLR		MLR		
	comp=E,730nm,28.0s							
YUK				MLR		MLR		
	comp=Z,192nm,28.0s							
ASAJ	**Asahikawa**	**67.01**	**340**	P		**P**	**11 35 15.0**	**+0.6**
	comp=Z,41nm,0.8s,baz=221,slow=5.8,SNR=15							
KSRS	**Korea Array**	**67.79**	**326**	P		**P**	**11 35 19.1**	**-0.3**
	comp=Z,2.4nm,0.9s,baz=147,slow=7.0,SNR=6.2							
KSAR	**Wonju Array Be**	**67.80**	**326**	P		**P**	**11 35 19.1**	**-0.4**
KSAR	**Wonju Array Be**	**67.80**	**326**	P		**P**	**11 35 19.1**	**-0.4**
COCO	**West Island**	**68.94**	**264**	*e*pP		pP	11 35 49.5	+4.9
NJ2	**Nanjing**	**69.44**	**316**	*e*P		**P**	**11 35 31.4**	**+1.6**
NJ2				S		**S**	**11 44 34.0**	**+1.8**
NJ2				PMZ				
	comp=Z,60nm,0.8s							
NJ2				LN				
	comp=Z,340nm,10.2s							
NJ2				LE				
	comp=Z,580nm,12.4s							
NJ2				LZ				
	comp=Z,730nm,13.7s							
YSS	**Yuzh-Sakhalins**	**69.50**	**342**	*e*P		**P**	**11 35 30.1**	**+0.3**
YSS				*e*PP		**pP**	**11 35 49.0**	**+1.6**
YSS				*e*S		**S**	**11 44 30.0**	**-2.4**
YSS				pmax		pmax		
	comp=Z,40nm,1.0s							
YSS				MLR		MLR		
	comp=Z,200nm,17.0s							
YSS	**Yuzh-Sakhalins**	**69.50**	**342**	*e*P		**P**	**11 35 30.9**	**+1.1**
USRK	**Ussuriysk Ar.**	**71.08**	**333**	P		**P**	**11 35 39.7**	**+0.2**
	comp=Z,5.2nm,0.8s,baz=149,slow=5.4,SNR=6.4							
QSPA	**South Pole Qui**	**71.17**	**180**	*e*P		**P**	**11 35 41.0**	**+0.8**
	comp=Z,32nm,1.2s							
PET	**Petropavlovsk**	**72.10**	**354**	*e*P		**P**	**11 35 45.7**	**+0.2**
PET				*e*S		**S**	**11 45 06.0**	**+3.7**
PET				pmax		pmax		
	comp=Z,18nm,1.1s							
PETK	**Petropavlovsk-**	**72.29**	**353**	P		**P**	**11 35 45.8**	**-0.8**
	comp=Z,3.2nm,0.8s,baz=149,slow=7.1,SNR=13							
GSI	**Gunungsitoli**	**72.37**	**278**	*e*P		**P**	**11 35 48.0**	**0.0**
MDJ	**Mudanjiang**	**72.46**	**332**	P		**P**	**11 35 48.3**	**+0.5**
MDJ				PMZ				
	comp=Z,23nm,1.2s							
MDJ				PMZ				
	comp=Z,220nm,3.3s							
SKNT	**Sakolnakorn**	**72.71**	**295**	P		**P**	**11 35 50.6**	**+0.6**
	comp=Z,29nm,1.1s,comp=Z,2μm							
TIA	**Tai'an**	**73.18**	**319**	P		**P**	**11 35 52.7**	**+0.3**
TIA				PMZ				
	comp=Z,10.0nm,1.3s							
TIA				PMZ				
	comp=Z,170nm,4.1s							
TIA				LN				
	comp=Z,390nm,8.7s							
TIA				LE				
	comp=Z,390nm,8.6s							
TIA				LZ				
	comp=Z,770nm,8.2s							
CN2	**Changchun**	**73.77**	**329**	*e*P		**P**	**11 35 55.8**	**+0.2**
CN2				PMZ				
	comp=Z,20nm,1.2s							
NONG	**Nongkai**	**73.91**	**296**	P		**P**	**11 35 59.7**	**+2.7**
	comp=Z,11nm,1.2s,comp=Z,1μm							
GYA	**Guiyang**	**75.01**	**305**	P		**P**	**11 36 05.0**	**+1.6**
GYA				pP		**pP**	**11 36 24.3**	**+3.2**
GYA				PP		**PP**	**11 38 55.4**	**+3.2**
GYA				S		**S**	**11 45 37.0**	**+0.5**
GYA				SKS		**SKSac**	**11 46 02.4**	**-4.7**
GYA				sS		**SKKSac**	**11 46 08.0**	**+0.6**
GYA				SS		**SS**	**11 50 28.9**	**+2.1**
GYA				PMZ				
	comp=Z,20nm,1.0s							
GYA				PMZ				
	comp=Z,120nm,6.0s							
GYA				LN				
	comp=Z,570nm,19.6s							
GYA				LE				
	comp=Z,490nm,20.2s							
GYA				LZ				
	comp=Z,530nm,19.5s							
PBKT	**Sadao Pong**	**75.13**	**294**	P		P	11 36 11.0	+6.9
	comp=Z,7.3nm,2.0s							
LOEI	**Loei**	**75.28**	**295**	P		**P**	**11 36 05.9**	**+1.0**
	comp=Z,14nm,1.1s							
UTTA	**Uttaradit**	**75.99**	**294**	P		P	11 36 17.0	+8.0
	comp=Z,3.4nm,0.4s							
BJI	**Beijing**	**76.19**	**321**	P		**P**	**11 36 10.6**	**+1.0**
BJI				S		**S**	**11 45 52.2**	**+3.4**
BJI				PMZ				
	comp=Z,14nm,1.2s							
BJI				PMZ				
	comp=Z,170nm,4.8s							
BJI				LN				
	comp=Z,320nm,5.2s							
BJI				LE				
	comp=Z,280nm,7.0s							
BJI				LZ				
	comp=Z,160nm,22.5s							
NANT	**Nan**	**76.32**	**296**	P		**P**	**11 36 12.1**	**+1.3**
	comp=Z,28nm,0.7s							
LAMP	**Lampang**	**77.11**	**295**	P		**P**	**11 36 17.3**	**+2.0**
	comp=Z,4.7nm,0.8s							
CRAI	**Chiangrai**	**77.21**	**297**	P		**P**	**11 36 17.8**	**+1.9**
	comp=Z,10nm,0.9s							
XAN	**Xi'an**	**77.32**	**313**	P		**P**	**11 36 16.9**	**+0.7**
XAN				sP		**sP**	**11 36 40.0**	**-1.2**
XAN				PMZ				
	comp=Z,5.0nm,1.0s							
XAN				PMZ				
	comp=Z,23nm,6.6s							
KMI	**Kunming**	**77.45**	**302**	P		**P**	**11 36 19.2**	**+1.8**
KMI				pP		**PcP**	**11 36 29.1**	**+1.5**
KMI				sP		sP	11 36 36.1	-6.2
KMI				PMZ				
	comp=Z,40nm,1.2s							
KMI				PMZ				
	comp=Z,130nm,3.1s							
CMAR	**Chiang Mai Arr**	**77.68**	**294**	P		**P**	**11 36 20.1**	**+1.6**
	comp=Z,3.9nm,0.8s,baz=132,slow=4.6,SNR=23							
CMAR	**Chiang Mai Arr**	**77.68**	**294**	*ce*P		**P**	**11 36 20.1**	**+1.6**
CMAR				pmax		pmax		
	comp=Z,4.0nm,0.8s							
CMMT	**Chiang Mai**	**77.82**	**295**	P		**P**	**11 36 20.8**	**+1.5**
	comp=Z,13nm,1.7s							
CHTO	**Chiang Mai**	**77.83**	**295**	P		**P**	**11 36 20.9**	**+1.6**
	comp=Z,45nm,1.8s							
CHTO	**Chiang Mai**	**77.83**	**295**	*e*P		**P**	**11 36 20.6**	**+1.2**
CHTO				pmax		pmax		
	comp=Z,108nm,2.8s							
CHTO	**Chiang Mai**	**77.83**	**295**	*e*P		**P**	**11 36 20.6**	**+1.2**
	comp=Z,108nm,2.8s							
CMAI	**Chiengmai2**	**78.21**	**296**	P		**P**	**11 36 22.8**	**+1.2**
	comp=Z,8.4nm,1.2s							
MAW	**Mawson**	**78.49**	**202**	P		**P**	**11 36 23.6**	**+1.5**
	comp=Z,5.9nm,0.7s,baz=117,slow=6.3,SNR=13							
CD2	**Chengdu**	**79.43**	**308**	P		**P**	**11 36 29.1**	**+1.1**
CD2				pP		**pP**	**11 36 44.1**	**-1.7**
CD2				PP		**PP**	**11 39 33.0**	**+3.8**
CD2				S		**S**	**11 46 24.5**	**+0.3**
CD2				PMZ				
	comp=Z,30nm,1.0s							
CD2				PMZ				
	comp=Z,70nm,7.1s							
CD2				LN				
	comp=Z,190nm,10.7s							
CD2				LZ				
	comp=Z,210nm,14.3s							
HHC	**Hu-ho-hao-te**	**79.47**	**320**	*e*P		**P**	**11 36 28.7**	**+0.7**
HHC				pP		**pP**	**11 36 45.0**	**-0.8**
HHC				sP		**sP**	**11 36 52.7**	**-0.3**
HHC				PP		**PP**	**11 39 29.3**	**0.0**
HHC				S		**S**	**11 46 23.1**	**-1.2**
HHC				sS		**sS**	**11 46 53.4**	**-1.2**
HHC				SS		**SS**	**11 51 31.4**	**-2.2**
HHC				PMZ				
	comp=Z,31nm,1.3s							
HHC				PMZ				
	comp=Z,170nm,8.0s							
HHC				LN				
	comp=Z,350nm,17.6s							
HHC				LE				
	comp=Z,530nm,17.3s							
HHC				LZ				
	comp=Z,420nm,17.5s							
HIA	**Hailar**	**80.43**	**330**	*e*P		**P**	**11 36 33.1**	**+0.2**
HIA				pmax		pmax		
	comp=Z,11nm,1.0s							
LZH	**Lanzhou**	**81.94**	**312**	*e*P		**P**	**11 36 43.0**	**+1.6**
LZH				pP		**pP**	**11 37 01.3**	**+2.0**
LZH				sP		**sP**	**11 37 08.7**	**+2.3**
LZH				*e*PP		**PP**	**11 39 52.1**	**+2.1**
LZH				*e*S		**S**	**11 46 52.6**	**+2.1**
LZH				*e*SS		**SS**	**11 52 13.0**	**+2.1**
LZH				PMZ				
	comp=Z,21nm,1.5s							
LZH				PMZ				
	comp=Z,110nm,7.2s							
LZH				LN				
	comp=Z,310nm,16.3s							
LZH				LE				
	comp=Z,380nm,17.0s							
LZH				LZ				
	comp=Z,510nm,19.6s							
SEY	**Seymchan**	**82.52**	**353**	P		**P**	**11 36 42.9**	**-0.7**
	comp=Z,6.5nm,0.9s,baz=150,slow=4.9,SNR=21							
SVW2	**Sparrevohn**	**84.77**	**17**	*e*P		**P**	**11 36 56.8**	**+1.6**
RSO	**Redoubt South**	**85.05**	**18**	*e*P		**P**	**11 36 58.9**	**+2.1**
SYO	**Syowa Base**	**85.07**	**196**	*e*P		**P**	**11 36 55.2**	**-1.5**
ULN	**Ulaanbaatar**	**86.13**	**324**	*c i*P		**P**	**11 37 02.7**	**+0.2**
ULN				pmax		pmax		
	comp=Z,16nm,1.0s							
ULN	**Ulaanbaatar**	**86.13**	**324**	*e*P		**P**	**11 37 02.9**	**+0.4**
	comp=Z,17nm,1.0s							
YAK	**Yakutsk**	**86.31**	**343**	LR		LR	12 10 46.7	
	comp=Z,162nm,21.7s,baz=150,slow=32							
YAK	**Yakutsk**	**86.31**	**343**	*e*P		**P**	**11 37 01.6**	**-1.1**
YAK				pmax		pmax		
	comp=Z,37nm,1.3s							
GTA	**Gaotai**	**86.34**	**314**	P		**P**	**11 37 04.5**	**+0.9**
GTA				pP		**pP**	**11 37 21.1**	**-0.6**
GTA				sP		**sP**	**11 37 28.3**	**-0.5**
GTA				SKS		**SKSac**	**11 47 22.7**	**-1.8**
GTA				S		**S**	**11 47 33.7**	**-0.6**
GTA				sS		**sS**	**11 48 03.1**	**-1.9**
GTA				PMZ				
	comp=Z,13nm,1.2s							
GTA				PMZ				
	comp=Z,110nm,5.5s							
GTA				LN				
	comp=Z,130nm,17.3s							
GTA				LE				
	comp=Z,250nm,17.8s							
GTA				LZ				
	comp=Z,360nm,18.0s							
SONM	**Songino Array**	**86.49**	**323**	P		**P**	**11 37 04.3**	**+0.2**
	comp=Z,10nm,0.9s,baz=117,slow=3.8,SNR=18							
PTRM	**Twisseleman Ran**	**86.55**	**51**	*e*pP		pP	11 37 22.2	-0.5
BILL	**Bilibino**	**86.68**	**359**	*i*P		**P**	**11 37 03.7**	**-0.8**
BILL				*i* S		**S**	**11 47 32.9**	**-3.2**
BILL				pmax		pmax		
	comp=Z,10.0nm,1.2s							
BILL				MLR		MLR		
	comp=Z,212nm,19.0s							
BILL	**Bilibino**	**86.68**	**359**	*e*P		**P**	**11 37 03.2**	**-1.2**
	comp=Z,4.2nm,0.9s							
N02D	**Trinity Center**	**87.21**	**45**	P		**P**	**11 37 08.6**	**+0.9**
	baz=87							
M02C	**Callahan**	**87.30**	**45**	P		**P**	**11 37 08.6**	**+0.4**
	baz=88							
CMB	**Columbia Colle**	**87.47**	**48**	*e*P		**P**	**11 37 09.2**	**+0.1**
CMB				pmax		pmax		
	comp=Z,10.0nm,1.0s							
CMB	**Columbia Colle**	**87.47**	**48**	*e*P		**P**	**11 37 09.2**	**+0.1**
	comp=Z,10.0nm,1.0s							
YBH	**Yreka Blue Hor**	**87.56**	**44**	P		**P**	**11 37 09.3**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=142,slow=5.9,SNR=4.6							
BFSC	**Mount Baldy Ra**	**87.85**	**53**	P		**P**	**11 37 10.8**	**-0.2**
	baz=88							
EDW2	**Edwards Air Fo**	**87.86**	**52**	P		**P**	**11 37 11.2**	**+0.2**
	baz=88							
PFO	**Pinyon Flats O**	**88.50**	**54**	P		**P**	**11 37 13.7**	**-0.5**
	baz=89							
J04D	**Umpqua Nationa**	**88.65**	**43**	P		**P**	**11 37 14.4**	**-0.4**
	baz=89							
BOD	**Bodaibo**	**88.69**	**334**	*e*P		**P**	**11 37 13.0**	**-1.2**
BOD				pmax		pmax		
	comp=Z,7.0nm,1.3s							
NVAR	**Mina Array Bea**	**89.12**	**49**	P		**P**	**11 37 16.5**	**-0.6**
	comp=Z,2.0nm,0.9s,baz=235,slow=8.2,SNR=7.8							
K05A	**Summer Lake**	**89.21**	**44**	*e*P		**P**	**11 37 17.9**	**+0.5**
J05D	**Fort Rock, OR**	**89.24**	**43**	P		**P**	**11 37 17.7**	**+0.2**
	baz=89							
SNAA	**Sanae**	**89.49**	**183**	*c i*P		**P**	**11 37 17.9**	**-0.2**
SNAA				pmax		pmax		
	comp=Z,21nm,1.0s							
SNAA	**Sanae**	**89.49**	**183**	*e*P		**P**	**11 37 17.7**	**-0.4**
GLA	**Glamis**	**89.53**	**55**	*e*P		P	11 37 22.6	+3.7
GLA				pmax		pmax		
	comp=Z,8.0nm,0.8s							
GLA	**Glamis**	**89.53**	**55**	*e*P		P	11 37 22.6	+3.7
	comp=Z,8.5nm,0.8s							
ZAK	**Zakamensk**	**89.57**	**324**	*e*P		**P**	**11 37 17.2**	**-1.6**
ZAK				pmax		pmax		
	comp=Z,6.0nm,1.4s							
TUQ	**Turquoise Moun**	**89.64**	**52**	P		**P**	**11 37 19.4**	**0.0**
	baz=90							
I05D	**Terrebonne, OR**	**89.65**	**42**	P		**P**	**11 37 19.2**	**0.0**
	baz=90							
TPNV	**Topopah Spring**	**90.00**	**51**	*e*P		**P**	**11 37 21.6**	**+0.4**
TPNV				pmax		pmax		
	comp=Z,5.0nm,0.9s							
TPNV	**Topopah Spring**	**90.00**	**51**	*e*P		**P**	**11 37 21.6**	**+0.4**
	comp=Z,4.8nm,0.9s							
TPNV	**Topopah Spring**	**90.00**	**51**	P		**P**	**11 37 21.1**	**-0.1**
	baz=90							
Y12C	**Blythe**	**90.04**	**54**	P		**P**	**11 37 21.3**	**+0.1**
	baz=90							
TLY	**Talaya**	**90.04**	**326**	P		**P**	**11 37 20.3**	**-0.5**
	comp=Z,2.9nm,0.7s,baz=163,slow=7.3,SNR=6.4							
TLY	**Talaya**	**90.04**	**326**	*e*P		**P**	**11 37 19.5**	**-1.3**
TLY				pmax		pmax		
	comp=Z,8.0nm,1.0s							
G05D	**Wamic, OR**	**90.08**	**42**	P		**P**	**11 37 21.1**	**0.0**
	baz=90							
VNA3	**Neumayer Olymp**	**90.11**	**181**	P		**P**	**11 37 20.8**	**-0.1**
ILAR	**Eielson Array**	**90.11**	**18**	P		**P**	**11 37 18.2**	**-2.5**
	comp=Z,1.3nm,0.8s,baz=239,slow=4.9,SNR=15							
VNA2	**Neumayer--Watz**	**90.39**	**181**	P		**P**	**11 37 22.7**	**+0.5**
	baz=164,slow=4.0							
PDMCI	**Parker Dam,Lak**	**90.54**	**54**	P		**P**	**11 37 24.1**	**+0.6**
	baz=91							
TAPN	**Taplejung**	**90.66**	**299**	*e*P		**P**	**11 37 23.6**	**-1.0**
VNA1	**Neumayer--Stat**	**90.68**	**181**	P		**P**	**11 37 24.0**	**+0.5**
I07A	**Izee**	**90.72**	**43**	*e*P		**P**	**11 37 24.3**	**0.0**
ODAN	**Odare**	**90.75**	**298**	*e*P		**P**	**11 37 25.3**	**+0.3**
	comp=Z,9.8nm,0.7s							
R11A	**Troy Canyon, C**	**91.04**	**50**	P		**P**	**11 37 25.9**	**-0.1**
	baz=91							
LTY	**Liberty**	**91.38**	**40**	*e*P		**P**	**11 37 27.1**	**-0.1**
RAMN	**Ramite**	**91.44**	**298**	*e*P		**P**	**11 37 28.3**	**+0.1**
G08A	**Pilot Rock**	**91.59**	**42**	*e*P		**P**	**11 37 28.4**	**+0.1**
EGAK	**Eagle**	**91.83**	**19**	*e*P		**P**	**11 37 28.0**	**-0.8**
	comp=Z,76nm,3.0s							
JIRN	**Jiri**	**92.03**	**298**	*e*P		**P**	**11 37 30.8**	**-0.3**
DLBC	**Dease Lake**	**92.06**	**28**	P		**P**	**11 37 29.2**	**-0.9**
	comp=Z,1.7nm,0.9s,baz=228,slow=14,SNR=4.9							
ELK	**Elko**	**92.22**	**48**	P		**P**	**11 37 30.8**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=297,slow=5.5,SNR=4.4							
GUN	**Gumba**	**92.38**	**299**	*e*P		**P**	**11 37 32.2**	**-0.4**
TUC	**Tucson**	**92.43**	**57**	*e*P		**P**	**11 37 33.2**	**+0.7**
TUC	**Tucson**	**92.43**	**57**	*e*P		**P**	**11 37 33.2**	**+0.7**
PKI	**Pulchoki**	**92.65**	**298**	*e*P		**P**	**11 37 33.8**	**-0.1**
	comp=Z,17nm,1.1s							
PKIN	**Phulchoki**	**92.67**	**298**	*e*P		**P**	**11 37 34.4**	**+0.5**
KKN	**Kakani**	**92.83**	**298**	*e

comp=Z,6.8nm,0.5s,baz=71,slow=1.7,SNR=87
ARE0 ARCESS Array S 124.53 345 *e*PKPdf **PKPdf 11 43 18.7 -1.0**
KLMR Klimovskoe 124.87 332 *e*PKIKP **PKPdf 11 43 20.3 -0.2**
KLMR pmax pmax
comp=Z,16nm,1.0s
ZEI Tsey 127.81 310 *i* PKIKP **PKPdf 11 43 25.6 -1.4**
ZEI pmax pmax
comp=Z,4.0nm,1.0s
LPSR Galich'ya Gora 128.49 323 *e*PKIKP **PKPdf 11 43 27.7 +0.1**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
LPSR pmax pmax
comp=N,3.0nm,0.5s
LPSR pmax pmax
comp=E,10.0nm,1.4s
OBN Obninsk 128.79 327⇑ *i*PKIKP **PKPdf 11 43 28.2 +0.1**
OBN *i* 11 45 37.6
OBN *e*SS SS 12 03 23.4 +35
OBN pmax pmax
comp=Z,6.0nm,0.4s
VSR Storozhevoye 128.84 321 *e*PKIKP **PKPdf 11 43 26.9 -1.5**
VSR pmax pmax
comp=Z,7.0nm,0.7s
VSR pmax pmax
comp=N,20nm,1.2s
VSR pmax pmax
comp=E,7.0nm,0.6s
VORD Divnogorie 128.85 321 *e*PKIKP **PKPdf 11 43 26.8 -1.6**
VORD pmax pmax
comp=Z,9.0nm,1.2s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,9.0nm,0.7s
FINES FINESS Array B 129.97 337 PKP **PKPdf 11 43 29.7 -0.4**
comp=E,12nm,1.2s,baz=107,slow=7.4,SNR=10
BDFB Brasilia 130.35 131 PKP **PKPdf 11 43 32.1 -0.3**
comp=E,6.1nm,0.8s,baz=239,slow=3.7,SNR=6.6
AKASG Malin Array Be 134.77 324 PKP **PKPdf 11 43 39.1 -0.5**
comp=E,1.2nm,0.7s,baz=62,slow=2.4,SNR=6.6
NB2 NORSAR Subarra134.90 345 PKPdf **PKPdf 11 43 39.8 +0.2**
comp=Z,2.0nm,0.7s,baz=31,slow=1.9
NOA NORSAR Array B 134.90 345 PKP **PKPdf 11 43 39.8 +0.2**
comp=Z,4.3nm,0.9s,baz=34,slow=2.0,SNR=7.3
BRTR Keskin Array B 136.01 308 PKhKP PKPpre 11 43 34.5
comp=Z,0.3nm,0.5s,baz=4.4,slow=7.5,SNR=2.8
BRTR PKP **PKiKP 11 43 43.4 -0.7**
comp=Z,1.1nm,0.9s,baz=106,slow=4.1,SNR=5.8
BRTR Keskin Array B 136.01 308*c* *i*PKIKP **PKPdf 11 43 43.0 +0.5**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
KOLS Kolonicke sedl 139.51 326 *e*PKIKP **PKPdf 11 43 49.2 +0.8**
KOLS Kolonicke sedl 139.51 326 *e*PKP **PKPdf 11 43 49.2 +0.8**
CRVS Cervenica-Dubn 139.96 326 *e*PKIKP **PKPdf 11 43 48.0 -1.3**
CRVS Cervenica-Dubn 139.96 326 *e*PKP **PKPdf 11 43 48.0 -1.3**
DPC Dobruska-Polom 141.55 331 *e*PKP **PKPdf 11 43 51.3 -0.8**
DPC *ex* x 11 44 03.2
DPC Dobruska-Polom 141.55 331 *e*PKIKP **PKPdf 11 43 51.3 -0.8**
BRG Berggiesshubel 142.22 334 *e*PKP **PKPdf 11 43 48.7 -4.5**
comp=Z,7.6nm,1.4s
CLL Collm 142.28 335 *e*PKPdf **PKPdf 11 43 51.0 -2.3**
CLL Collm 142.28 335 *e*PKIKP **PKPdf 11 43 51.0 -2.3**
GOPC GO Pecny, Ondr 142.56 332 *e*PKP **PKPdf 11 43 50.4 -3.5**
PRA Prague 142.60 332 *e*PKIKP **PKPdf 11 43 50.4 -3.5**
PRU Pruhonice 142.61 332 *e*PKP **PKPdf 11 43 50.8 -3.2**
PRU Pruhonice 142.61 332 *e*PKIKP **PKPdf 11 43 50.8 -3.2**
NKC Novy Kostel 143.33 334 *e*PKP PKPbc 11 43 52.5 0.0
NKC Novy Kostel 143.33 334 *e*PKIKP PKPbc 11 43 52.5 0.0
MOX Moxa 143.35 335 *e*PKPbc PKPbc 11 43 53.0 +0.5
CONA Conrad Observa 143.45 329⇑ *i*PKPdf PKPbc 11 43 53.8 +0.8
comp=Z,13nm,0.9s
ROTZ Rotzenmuhle 143.78 334 *e*PKPbc PKPbc 11 43 54.2 +0.4
GEC2 GERESS Array S 143.82 331 *e*PKPbc PKPbc 11 43 54.8 +0.7
GERES GERESS Array B 143.82 331 PKP PKPbc 11 43 54.3 +0.2
comp=Z,3.1nm,0.7s,baz=339,slow=10.0,SNR=14
WET Wettzell 143.97 333 *e*PKPbc PKPbc 11 43 54.6 +0.2
GRF Grafenberg Arr 144.25 335 *e*PKPbc PKPbc 11 43 55.5 +0.3
MOA Molln 144.28 330⇑ *i*PKPdf PKPbc 11 43 56.0 +0.6
comp=Z,24nm,1.1s,SNR=5.6
LHO Holmfirth 144.59 350 *e*P PKPbc 11 43 56.3 +0.1
SOKA Soboth 144.72 328⇑ *i*PKPdf PKPbc 11 43 56.9 0.0
comp=Z,18nm,0.8s,SNR=7.8
TNS Taunus Mts 144.89 338 *e*PKPbc PKPbc 11 43 57.6 +0.3
SHEL Horse Pasture 144.91 190 *i* PKIKP **PKPdf 11 44 01.2 +2.1**
RJOB Jochberg 145.05 331 *e*PKPbc **PKPdf 11 43 58.2 -0.2**
OBKA Obir 145.07 328⇑ *i*PKPdf **PKPbc 11 43 58.0 -0.1**
comp=Z,31nm,0.8s,SNR=5.1
WME Myndd Eilian 145.09 352 *e*P **PKPbc 11 43 57.2 -0.5**
WPM1 Penmaenmawr 145.18 352 *e*P **PKPbc 11 43 57.3 -0.8**
WLF1 Llynfaes 145.21 352 *e*P **PKPbc 11 43 57.4 -0.7**
WLF1 AMB AMB 11 43 58.6
comp=Z,45nm,1.1s
KBA Koelnbreinsper 145.26 330⇑ *i*PKPdf **PKPbc 11 43 58.3 -0.5**
comp=Z,35nm,1.0s,SNR=14
YRC Rhoscolyn 145.27 353 *e*P **PKPbc 11 43 57.5 -0.7**
HGN Heimansgroeve 145.28 340 *e*PKP **PKPbc 11 43 57.7 -0.7**
comp=Z,42nm,1.1s
YLL Llanberis 145.33 352 *e*P **PKPbc 11 43 57.9 -0.6**
BEBN Eben Emael 145.34 341 PKP **PKPbc 11 43 58.5 0.0**
BOJS Bojanci 145.39 326 *e*PKPdf PKPdf 11 43 52.6 -6.4
BOJS *i* PKPbc **PKPab 11 43 59.5 +0.3**
MEM Membach 145.40 340 PKP **PKPbc 11 43 58.8 0.0**
FUR Furstenfeldbru 145.40 333 *e*PKPbc **PKPab 11 43 59.6 +0.4**
VISS Visnje 145.41 327 *i* PKPdf PKPdf 11 43 51.8 -7.2
VISS *i* PKPbc **PKPab 11 43 59.1 -0.1**
FOEL Foel Wylfa 145.44 351 *e*P **PKPdf 11 43 58.3 -0.5**
FOEL AMB AMB 11 43 59.2
comp=Z,62nm,1.0s
FOEL AMB AMB 12 50 17.8
comp=Z,1μm,25.9s
MYKA Terra Mystica 145.44 329⇑ *i*PKPdf **PKPdf 11 43 58.8 -0.3**
comp=Z,21nm,0.6s,SNR=7.2
YRE Yr Eifl 145.51 352 *e*P **PKPdf 11 43 58.2 -0.7**
JAVS Javornik 145.74 328 *i* PKPbc **PKPdf 11 43 59.9 +0.2**
HLM1 Long Mynd 145.75 351 *e*P **PKPdf 11 43 59.2 -0.2**
HLM1 AMB AMB 11 44 00.6
comp=Z,34nm,0.9s
HLM1 AMS AMS 12 50 16.3
comp=Z,1μm,26.6s
BCLA Clavier 145.78 341 PKP **PKPbc 11 43 60.0 -0.1**
STU Stuttgart 145.79 335 *e*PKPbc **PKPab 11 44 00.7 +0.1**
STU Stuttgart 145.79 335 *e*PKP2 **PKPdf 11 43 59.3 -0.3**
STU Stuttgart 145.79 335 *e*PKPdf **PKPdf 11 43 59.3 -0.3**
ABTA Abfaltersbach 145.90 330⇑ *i*PKPAb **PKPdf 11 43 59.8 -0.1**
comp=Z,66nm,1.0s,SNR=15
WTTA Wattenberg 145.93 331⇓ *i*PKPAb **PKPbc 11 44 00.8 0.0**
comp=Z,51nm,1.0s,SNR=11
SNF Seneffe 146.01 342 PKP **PKPbc 11 44 00.6 -0.1**
MOTA Moosalm 146.10 332 *i* PKPAb **PKPbc 11 44 01.3 -0.1**
comp=Z,45nm,1.0s,SNR=16
SSW Stow on the Wo 146.11 349 *e*P **PKPbc 11 44 00.7 -0.3**
RETA Reutte 146.15 332 *i* PKPAb **PKPbc 11 44 01.3 0.0**
comp=Z,21nm,1.1s,SNR=5.2
SKP1 Kophill 146.15 348 *e*P **PKPdf 11 43 59.5 -0.5**
LANF Langenberg 146.15 337 PKP **PKPbc 11 44 01.6 +0.4**
WLF Walferdange 146.16 339 PKP **PKPab 11 44 02.0 +0.1**
WLF Walferdange 146.16 339 *e*PKPbc **PKPab 11 44 02.2 +0.3**
WLF Walferdange 146.16 339 *e*PKP2 **PKPdf 11 43 59.3 -0.9**
WLF Walferdange 146.16 339 *e*PKPdf **PKPdf 11 43 59.3 -0.9**
MCH1 Michaelchurch 146.27 350 *e*P **PKPdf 11 44 00.8 +0.6**
MCH1 AMB AMB 11 44 01.6
comp=Z,45nm,1.2s
DOU Dourbes 146.28 341 PKP **PKPbc 11 44 01.4 -0.2**
LPW Lampeter 146.32 352 *e*P **PKPbc 11 44 01.0 -0.6**
LPW AMB AMB 11 44 02.3
comp=Z,49nm,1.2s
STRD Stroud 146.35 349 *e*P **PKPbc 11 44 01.2 -0.5**
STRD AMB AMB 11 44 01.8
comp=Z,83nm,1.1s
MONM Monmouth 146.40 350 *e*P **PKPdf 11 44 00.1 -0.3**
MONM AMB AMB 11 44 01.9
comp=Z,39nm,1.1s
BFO Black Forest 146.49 336 *e*PKPbc **PKPbc 11 44 02.4 +0.1**
BFO Black Forest 146.49 336*c* *i*PKP2 **PKPbc 11 44 02.5 +0.2**
BFO Black Forest 146.49 336 *e*PKPdf **PKPbc 11 44 02.0 -0.3**
FETA Feichten 146.52 332⇑ *i*PKPAb **PKPbc 11 44 02.7 +0.1**
comp=Z,36nm,0.8s,SNR=18
WOL Wolverton 146.62 348 *e*P **PKPbc 11 44 01.9 -0.6**
WOL AMB AMB 11 44 02.7
comp=Z,74nm,0.9s
DAVA Damuels 146.68 333⇑ *i*PKPAb **PKPbc 11 44 03.1 0.0**
comp=Z,37nm,0.8s,SNR=12
ECH Echery 147.03 337 PKP **PKPbc 11 44 03.5 -0.3**
ECH Echery 147.03 337 *e*PKIKP **PKPdf 11 44 00.9 -0.8**
ECH Echery 147.03 337 *e*PKPdf **PKPdf 11 44 00.9 -0.8**
MOF Molkenrain 147.34 336 PKP **PKPbc 11 44 04.6 -0.2**
THEF They Montfort 147.44 338 PKP **PKPbc 11 44 05.1 +0.1**
HTL Hartland 147.47 352 *e*P **PKPbc 11 44 04.1 -0.8**
HTL AMS AMS 12 51 36.0
comp=Z,1μm,19.4s
LOMF Lomont 147.87 336 PKP **PKPbc 11 44 06.6 +0.4**
DYA Yadsworthy 147.93 351 *e*P **PKPdf 11 44 04.5 +1.4**
DYA AMS AMS 12 50 12.5
comp=Z,1μm,23.0s
TIP Timpagrande 148.25 316 *e*PKPbc **PKPbc 11 44 06.1 -1.4**
CEL Celeste 149.30 315 *e*PKPbc **PKPbc 11 44 10.1 -0.1**
RSL Roselend 149.31 335 PKP **PKPbc 11 44 10.2 +0.1**
BNI Bardonecchia 149.81 334 *e*PKP2 **PKPbc 11 44 11.5 +0.2**
BNI Bardonecchia 149.81 334 *e*PKPbc **PKPbc 11 44 11.5 +0.2**
PLDF La Plantade 150.21 338 PKP **PKPbc 11 44 13.5 +1.3**
SAOF Saorge 150.28 332 PKP **PKPbc 11 44 12.2 -0.1**
AGO Saint Agoulin 150.31 339 PKP **PKPbc 11 44 13.5 +1.2**
AUTN L'Aution 150.33 332 PKP **PKPbc 11 44 12.4 -0.3**
TOUF Mont Tournerai 150.39 332 PKP **PKPbc 11 44 12.6 -0.2**
SSB Saint Sauveur 150.47 337 PKP **PKPbc 11 44 13.0 +0.2**
SSB Saint Sauveur 150.47 337 *e*PKPbc **PKPbc 11 44 12.6 -0.1**
MVIF Mont Vial 150.53 332 PKP **PKPbc 11 44 12.6 -0.5**
COLF Collangettes 150.58 338 PKP **PKPbc 11 44 13.4 +0.4**
PYM Petit Puy Mans 150.61 339 PKP **PKPbc 11 44 14.4 +1.3**
CALN Calern 150.76 332 PKP **PKPbc 11 44 13.5 -0.1**
LBL Lubilhac 150.98 338 PKP **PKPbc 11 44 15.6 +1.6**
KEST Kesra 155.06 317 PKP **PKPdf 11 44 16.0 +1.6**
comp=Z,0.9nm,0.8s,baz=170,slow=5.9,SNR=2.9
ESDC Sonseca Array 158.26 344 PKPab **PKPab 11 44 52.4 -0.3**
comp=Z,0.2nm,0.3s,baz=4.4,slow=3.1,SNR=6.7
TORD Torodi Ar. Bea 166.06 248 PKP **PKPdf 11 44 26.0 -0.9**
comp=Z,4.0nm,1.0s,baz=344,slow=0.5,SNR=12
TORD PKPab **PKPab 11 45 27.7 +0.2**
comp=Z,2.1nm,0.9s,baz=106,slow=3.8,SNR=5.3

IDC ***06*** *11:35:28.1±0.4, 55.32S×128.11W, h0km, mb4.7/14, mb1 4.8/14, mb1mx4.8/21, mbtmp4.7/14, MS5.5/11, Ms1 5.5/11, ms1mx5.0/16, Error ellipse: s-maj=16.8km s-min=13.2km az=162.0*

ISCJB ***06*** *11:35:29.2±0.2, 55.58S±0.04×127.88W±0.10, h10km, mb5.1/51, MS5.6/185, Error ellipse: s-maj=8.1km s-min=5.7km az=1.4*

NEIC ***06*** *11:35:29.5±0.2, 55.73S×127.94W, h10km, mb5.5/32, MS5.6/165, Error ellipse: s-maj=10.2km s-min=8.3km az=141.0*

GCMT ***06*** *11:35:29.5±0.1, 55.49S×128.15W, h12km, MW5.8/135, Moment Tensor Solution. s115,c232; s135,c392; Duration: 20 Moment tensor: Scale 10^17Nm; Mrr=0.81±.05; Mθθ5.26±.06; Mϕϕ=4.45±.05; Mrθ0.06±.14; Mθϕ5.02±.05; Mϕr-0.52±.14; Best double couple: M07.00600×10^17 NP1:ϕs22.00000°, δ87.00000°, λ-176.00000°. NP2:ϕs292.00000°, δ86.00000°, λ-3.00000°. Principal axes: T 7.3910, Plg1.0000°, Azm157.0000°; N -0.7660, Plg85.0000°, Azm55.0000°; P -6.6220, Plg5.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

MOS ***06*** *11:35:29.1±1.1, 55.57S×128.00W, h10km, mb5.7/14, MS5.5/21 Error ellipse: s-maj=25.6km s-min=12.0km az=80.7*

BJI ***06*** *11:35:31.2, 55.50S×127.90W, h10km, mB5.8/28, Ms5.7/30, Ms7 5.5/31*

AWI ***06*** *11:35:34.2, 55.50S×127.90W*

ISC 06 11:35:30.2±0.2, 55.50S±0.06×127.84W±0.06, h10km, n661, σ1°56/536, mb5.2/50, MS5.6/188, 52C-52D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PTCN	**Pitcairn Islan**	**30.44**	**356**		PFAKE		11 42 00.0	+17
PTCN					LR	LR		
comp=Z,14μm,19.0s								
SBA	**Scott Base**	**31.37**	**202**	*e*P	**P**	**P**	**11 41 52.2**	**+1.8**
SBA					pmax	pmax		
comp=Z,147nm,2.0s								
SBA					MLR	MLR		
comp=Z,3μm,20.0s								
SBA	**Scott Base**	**31.37**	**202**	*e*P	**P**	**P**	**11 41 52.2**	**+1.8**
comp=Z,147nm,2.0s								
SBA					LR	LR		
comp=Z,3μm,20.0s								
PMSA	**Palmer Station**	**31.71**	**133**	P	**P**	**P**	**11 41 53.6**	**0.0**
PMSA					LR	LR		
comp=Z,12μm,22.0s								
VNDA	**Vanda**		**32.40**	**202**	P	**P**	**11 42 01.6**	**+2.2**
comp=Z,12nm,0.9s,baz=90,slow=8.4,SNR=35								
VNDA					PcP	**PcP**	**11 44 47.9**	**+1.4**
comp=Z,6.6nm,1.0s,baz=62,slow=0.3,SNR=4.9								
VNDA					LR	LR	11 51 60.0	
comp=Z,2μm,18.1s,baz=81,slow=30								
VNDA	**Vanda**		**32.40**	**202**	P	**P**	**11 42 01.7**	**+2.2**
VNDA							11 44 47.9	
VNDA	**Vanda**		**32.40**	**202**	P	**P**	**11 42 01.6**	**+2.2**
VNDA					PcP	**PcP**	**11 44 47.9**	**+1.4**
RKT	**Rikitea**	**32.77**	**348**	*e*S	**S**	**S**	**11 47 21.3**	**+1.4**
comp=Z,2μm,28.2s								
RKT					eLR	LR	11 50 34.9	
comp=Z,32μm,28.0s,baz=172								
RKT	**Rikitea**	**32.77**	**348**	*e*T	T	T	12 16 12.4	
comp=Z,28nm,0.2s								
USHA	**Ushuaia**	**33.04**	**114**	P	**P**	**P**	**11 42 08.2**	**+2.8**
comp=Z,8.0nm,0.8s,baz=282,slow=9.3,SNR=2.5								
USHA	**Ushuaia**	**33.04**	**114**	P	**P**	**P**	**11 42 08.2**	**+2.8**
QSPA	**South Pole Qui**	**34.68**	**180**	P	**P**	**P**	**11 42 20.8**	**+1.1**
comp=Z,26nm,1.0s,baz=102,slow=3.6,SNR=37								
QSPA					PcP	**PcP**	**11 44 53.9**	**+0.6**
comp=Z,3.0nm,1.0s,baz=121,slow=5.9,SNR=2.6								
QSPA	**South Pole Qui**	**34.68**	**180**	P	**P**	**P**	**11 42 20.8**	**+1.1**
QSPA					PcP	**PcP**	**11 44 53.9**	**+0.6**
QSPA					LR	LR		
comp=Z,18μm,19.0s								
TBI	**Tubuai**	**35.88**	**325**	*e*S	**S**	**S**	**11 48 09.4**	**+1.4**
comp=Z,1μm,30.8s								
TBI					eLQ	LQ	11 50 35.7	
comp=Z,4μm,23.8s								
TBI					eLR	LR	11 52 04.8	
comp=Z,24μm,26.2s,baz=162								
TBI	**Tubuai**	**35.88**	**325**	*e*T	T	T	12 20 07.7	
comp=Z,303nm,0.3s								
SNZO	**South Karori**	**39.52**	**266**		PFAKE		11 43 10.0	+9.2
SNZO					LR	LR		
comp=Z,12μm,20.0s								
PLCA	**Paso Flores**	**39.81**	**93**	P	**P**	**P**	**11 43 05.3**	**+2.0**
comp=Z,7.4nm,1.1s,baz=250,slow=7.6,SNR=2.4								
PLCA					LR	LR	11 55 36.0	
comp=Z,3μm,19.6s,baz=228,slow=30								
PLCA	**Paso Flores**	**39.81**	**93**	*e*P	**P**	**P**	**11 43 06.3**	**+2.9**
PLCA	**Paso Flores**	**39.81**	**93**	P	**P**	**P**	**11 43 05.3**	**+2.0**
BKZ	**Black Stump Fm**	**39.94**	**270**	*e*P	P	P	11 43 09.3	+4.9
comp=Z,55nm,1.3s								
EFI	**East Falkland**	**40.01**	**115**		PFAKE		11 43 20.0	+15
EFI					LR	LR		
comp=Z,7μm,20.0s								
MEH	**Mehetia**	**40.59**	**330**	*e*T	T	T	12 26 01.7	
comp=Z,26nm,0.2s								
TVO	**Taravao**	**41.03**	**328**	*e*T	T	T	12 26 34.5	
comp=Z,4.4nm,0.3s								
PAE	**Paea**	**41.24**	**328**	*e*P	**P**	**P**	**11 43 17.0**	**+1.7**
comp=Z,23nm,1.3s								
PAE	**Paea**	**41.24**	**328**	*e*T	T	T	12 26 43.1	
comp=Z,2.5nm,0.3s								
TIAR	**Tiarei**	**41.27**	**328**	*e*T	T	T	12 26 47.0	
comp=Z,4.8nm,0.2s								
PPT2	**Papeete2**	**41.31**	**328**	*e*P	**P**	**P**	**11 43 17.5**	**+1.6**
comp=Z,118nm,1.3s								
PPT2					eS	**S**	**11 49 31.8**	**+1.7**
comp=Z,2μm,25.5s								
PPT2					eLQ	LQ	11 52 34.7	
comp=Z,8μm,25.2s								
PPT2					eLR	LR	11 54 34.9	
comp=Z,31μm,26.2s,baz=167								
PPT2	**Papeete2**	**41.31**	**328**	*e*T	T	T	12 26 38.1	
comp=Z,5.0nm,0.3s								
PPT	**Papeete**	**41.33**	**328**	LR	LR	LR	11 56 00.7	
comp=Z,9μm,20.1s,baz=159,slow=30								
DRV	**Dumont d'Urvil**	**41.77**	**217**	S	S	S	11 49 11.0	-25
DRV					L	L	11 52 00.0	
DRV					R		11 54 00.0	
VAH	**Vaihoa**	**42.98**	**331**	*e*P	**P**	**P**	**11 43 32.0**	**+2.6**
comp=Z,188nm,1.3s								
VAH	**Vaihoa**	**42.98**	**331**	*e*T	T	T	12 29 00.7	
comp=Z,222nm,0.3s								
PMOR	**Pomariorio Ree**	**43.28**	**331**	*e*T	T	T	12 29 22.9	
comp=Z,32nm,0.3s								
RAO	**Raoul Island**	**44.04**	**285**		PFAKE		11 43 50.0	+12
RAO					LR	LR		
comp=Z,3μm,20.0s								
VNA3	**Neumayer Olymp**	**46.27**	**157**		P	**P**	**11 43 55.3**	**+0.1**
TRQA	**Tornquist**	**46.49**	**97**	*e*P	P	**P**	**11 43 59.7**	**+2.4**
comp=Z,146nm,1.8s								
TRQA					LR	LR		
comp=Z,3μm,19.0s								
VNA2	**Neumayer--Watz**	**47.01**	**157**		P	**P**	**11 44 01.3**	**+0.3**
baz=217,slow=8.9								
VNA1	**Neumayer--Stat**	**47.02**	**157**		P	**P**	**11 44 01.8**	**+0.8**
SNAA	**Sanae**	**47.40**	**159**		P	**P**	**11 44 04.7**	**+0.6**
comp=Z,1.8nm,0.8s,baz=205,slow=12,SNR=12								
SNAA	**Sanae**	**47.40**	**159**	*c* *i*P		**P**	**11 44 03.5**	**-0.6**
SNAA					pmax	pmax		
comp=Z,8.0nm,1.0s								
SNAA	**Sanae**	**47.40**	**159**	*e*P	**P**	**P**	**11 44 03.1**	**-1.0**
comp=Z,110nm,1.9s								
LCO	**Las Campanas**	**48.15**	**81**		PFAKE		11 44 20.0	+9.3
LCO					LR	LR		
comp=Z,9μm,22.0s								
HOPE	**Hope Point**	**48.83**	**129**	*e*P	**P**	**P**	**11 44 16.0**	**+0.8**
HOPE					LR	LR		
comp=Z,6μm,20.0s								
NVL	**N'lazarevskaya**	**50.79**	**164**	*e*P	**P**	**P**	**11 44 31.1**	**+1.2**
NVL				*e*			11 45 46.8	
NVL				*e*			11 46 26.1	
NVL				*e*PPP		PPP	11 47 28.0	
NVL				*e*S		**S**	**11 51 46.1**	**+1.0**
NVL					pmax	pmax		
comp=Z,7.0nm,0.6s								
CASY	**Casey**	**50.85**	**206**	*e*P	**P**	**P**	**11 44 33.0**	**+2.6**
comp=Z,30nm,1.1s								
CASY					LR	LR		
comp=Z,3μm,22.0s								
TAU	**Tasmania Unive**	**53.45**	**246**		PFAKE		11 45 00.0	+10
TAU					LR	LR		
comp=Z,11μm,19.0s								
LVC	**Limon Verde**	**54.15**	**78**	*e*P	**P**	**P**	**11 44 55.8**	**+0.1**
comp=Z,50nm,1.4s								
LVC					LR	LR		
comp=Z,4μm,22.0s								
SYO	**Syowa Base**	**55.46**	**175**⇑	*e*P	**P**	**P**	**11 45 02.0**	**-2.3**
MSVF	**Nonsavu**	**55.47**	**290**		PFAKE		11 45 20.0	+15
MSVF					LR	LR		
comp=Z,3μm,20.0s								
MAW	**Mawson**	**56.95**	**185**	P	**P**	**P**	**11 45 14.7**	**-0.3**
comp=Z,10nm,0.9s,baz=168,slow=6.4,SNR=16								
MAW	**Mawson**	**56.95**	**185**	P	**P**	**P**	**11 45 14.7**	**-0.3**
MAW	**Mawson**	**56.95**	**185**	P	P	**P**	**11 45 14.7**	**-0.3**
CPUP	**Villa Florida**	**57.78**	**90**	P	P	**P**	**11 45 20.2**	**-1.2**
comp=Z,5.3nm,1.2s,baz=244,slow=4.6,SNR=8.1								
CPUP					LR	LR	12 07 05.0	
comp=Z,55μm,18.3s,baz=227,slow=33								
CPUP	**Villa Florida**	**57.78**	**90**	*e*P	**P**	**P**	**11 45 20.5**	**-0.9**
CPUP	**Villa Florida**	**57.78**	**90**	*e*P	**P**	**P**	**11 45 20.5**	**-0.9**
comp=Z,1.8nm,1.5s								
CAN	**Canberra**	**58.08**	**253**		PFAKE		11 45 30.0	+6.5
CAN					LR	LR		
comp=Z,6μm,19.0s								
DZM	**Mont Dzumac**	**58.38**	**277**	*e*LQ	LQ	LQ	12 00 05.4	
comp=Z,5μm,26.0s								
DZM				*e*LR	LR	LR	12 02 33.9	
comp=Z,11μm,22.6s								
NNA	**Nana**	**58.66**	**63**		PFAKE		11 45 40.0	+12
NNA					LR	LR		
comp=Z,2μm,19.0s								
XMAS	**Kiritimati**	**62.27**	**326**		PFAKE		11 46 00.0	+7.7
XMAS					LR	LR		
comp=Z,8μm,20.0s								
PAYG	**Puerto Ayora**	**62.57**	**43**		PFAKE		11 46 10.0	+16
PAYG					LR	LR		
comp=Z,4μm,20.0s								
EIDS	**Eidsvold**	**64.52**	**262**	*e*P	**P**	**P**	**11 46 09.2**	**+2.0**
comp=Z,35nm,1.1s								
STKA	**Stephens Creek**	**64.69**	**250**	P	**P**	**P**	**11 46 07.4**	**-0.8**
comp=Z,8.7nm,0.8s,baz=126,slow=8.6,SNR=19								
STKA					LR	LR	12 08 26.5	
comp=Z,5μm,21.6s,baz=147,slow=31								
STKA	**Stephens Creek**	**64.69**	**250**	*e*P	**P**	**P**	**11 46 07.6**	**-0.6**
STKA	**Stephens Creek**	**64.69**	**250**	P	**P**	**P**	**11 46 07.4**	**-0.8**
BBOO	**Buckleboo**	**66.89**	**246**	*e*P	**P**	**P**	**11 46 22.8**	**+0.4**
comp=Z,51nm,1.1s								
SAML	**Samuel**	**68.43**	**74**	*e*P	**P**	**P**	**11 46 31.1**	**-1.1**
comp=Z,18nm,1.5s								
SAML					LR	LR		
comp=Z,3μm,22.0s								
OTAV	**Otavalo**	**68.47**	**55**	*e*P	**P**	**P**	**11 46 34.1**	**+1.1**
OTAV					LR	LR		
comp=Z,3μm,20.0s								
CTAO	**Charters Tower**	**71.40**	**262**	*e*P	**P**	**P**	**11 46 49.7**	**-0.8**
CTAO					MLR	MLR		
comp=Z,4μm,21.0s								
CTAO	**Charters Tower**	**71.40**	**262**	*e*P	**P**	**P**	**11 46 49.7**	**-0.8**
CTAO					LR	LR		
comp=Z,4μm,21.0s								
BDFB	**Brasilia**	**71.51**	**91**	P	**P**	**P**	**11 46 50.4**	**-0.9**
comp=Z,1.5nm,0.4s,baz=157,slow=6.0,SNR=3.1								
BDFB					LR	LR	12 15 05.5	
comp=Z,7μm,19.6s,baz=206,slow=33								
BDFB	**Brasilia**	**71.51**	**91**	P	**P**	**P**	**11 46 50.4**	**-0.9**
BDFB	**Brasilia**	**71.51**	**91**	P	**P**	**P**	**11 46 50.4**	**-0.9**
HNR	**Honiara**	**72.22**	**279**		PFAKE		11 47 10.0	+15
HNR					LR	LR		
comp=Z,1μm,20.0s								
FORT	**Forrest**	**72.58**	**241**	*e*P	**P**	**P**	**11 46 57.8**	**+0.4**
PAF	**Port-aux-Franc**	**74.43**	**192**	S	**SKiKP**	**P**	**11 56 28.0**	**-6.0**
PAF				SS	SS	SS	12 01 14.0	-13
PAF				L	L		12 06 00.0	
PAF				R			12 11 00.0	
ROSC	**El Rosal**	**74.46**	**56**	P	**P**	**P**	**11 47 09.2**	**+0.2**
comp=Z,14nm,0.8s,baz=287,slow=19,SNR=12								
ROSC					LR	LR	12 14 06.5	
comp=Z,3μm,19.2s,baz=210,slow=31								
ROSC	**El Rosal**	**74.46**	**56**	P	**P**	**P**	**11 47 09.2**	**+0.2**
JTS	**JuntasAbangare**	**74.67**	**44**	*e*P	**P**	**P**	**11 47 10.7**	**+0.9**
JTS					pmax	pmax		
comp=Z,26nm,1.0s								
JTS	**JuntasAbangare**	**74.67**	**44**	*e*P	**P**	**P**	**11 47 11.6**	**+1.7**
JTS					LR	LR		
comp=Z,3μm,21.0s								
AS31	**Alice Springs**	**75.32**	**250**	*e*P	**P**	**P**	**11 47 11.5**	**-2.2**
ASAR	**Alice Springs**	**75.32**	**250**	P	**P**	**P**	**11 47 11.8**	**-1.8**
comp=Z,16nm,0.9s,baz=139,slow=5.5,SNR=31								
ASAR					LR	LR	12 15 53.5	
comp

SLBS Sierra La Lagu 80.34 17 eP P 11 47 42.6 +1.3
comp=Z,31nm,1.2s
KIP Kipapa 80.81 332 PFAKE 11 48 00.0 +16
KIP LR LR
comp=Z,6µm,19.0s
TEIG Tepich 82.57 37 eP P 11 47 53.7 +0.6
comp=Z,44nm,1.1s
TEIG LR LR
comp=Z,1µm,20.0s
MBWA Marble Bar 84.69 240 eP P 11 48 04.6 +0.3
comp=Z,30nm,1.0s
MBWA LR LR
comp=Z,3µm,19.0s
MTDJ Mount Denham 84.85 47 PFAKE 11 48 20.0 +15
MTDJ LR LR
comp=Z,2µm,20.0s
035Z Hargill 85.51 27 ⇓P P 11 48 08.8 +0.8
baz=86
034A Hebbronville 85.93 26 ⇓P P 11 48 11.0 +1.0
baz=86
035A Encino 85.96 26 ⇑P P 11 48 11.0 +0.8
baz=86
933A Laredo 86.31 25 ⇓P P 11 48 12.9 +1.0
baz=87
RCBR Riachuelo 86.34 95 PFAKE 11 48 20.0 +7.4
RCBR LR LR
comp=Z,2µm,20.0s
934A Benavides 86.49 26 ⇓P P 11 48 13.6 +0.8
baz=87
KVTX Kingsville 86.59 26 PFAKE 11 48 20.0 +6.7
KVTX LR LR
comp=Z,2µm,19.0s
832A Faith Ranch, C 86.79 24 ⇓P P 11 48 14.6 +0.3
baz=87
833A Chaparral WMA, 86.97 25 ⇑P P 11 48 15.4 +0.3
baz=88
GRGR Grenville 86.97 64 PFAKE 11 48 30.0 +15
GRGR LR LR
comp=Z,2µm,19.0s
834A Tilden 86.98 26 ⇓P P 11 48 15.3 +0.1
baz=88
TXAR Lajitas Array 86.99 21 P P 11 48 15.1 -0.3
comp=Z,3.7nm,0.9s,baz=191,slow=5.6,SNR=30
TXAR LR LR 12 18 35.7
comp=Z,871nm,21.2s,baz=0.0,slow=30
TXAR Lajitas Array 86.99 21 P P 11 48 15.1 -0.3
TXAR Lajitas Array 86.99 21 P P 11 48 15.1 -0.3
835A Beeville 87.32 26 ⇑P P 11 48 17.1 +0.3
baz=88
733A Divot King Ran 87.37 25 ⇑P P 11 48 17.5 +0.5
baz=88
GTBY Guantanamo Bay 87.39 49 PFAKE 11 48 30.0 +13
GTBY LR LR
comp=Z,1µm,21.0s
734A La Parita Cree 87.67 25 ⇓P P 11 48 18.3 -0.2
baz=88
631A Perdido Creek 87.74 24 ⇓P P 11 48 19.3 +0.4
baz=88,SNR=20
735A Kenedy 87.86 26 ⇑P P 11 48 19.6 +0.2
baz=88
632A Uvalde 88.01 24 ⇓P P 11 48 20.3 +0.2
baz=89
214A Organ Pipe Nat 88.05 13 eP P 11 48 20.5 +0.2
comp=Z,62nm,1.4s
214A Organ Pipe Nat 88.05 13 ⇑P P 11 48 21.2 +0.9
baz=89,SNR=16
529A Stev Forest Ra 88.06 22 ⇓P P 11 48 21.2 +0.8
baz=89,SNR=39
633A Saathoff Ranch 88.11 25 ⇓P P 11 48 20.9 +0.3
baz=89,SNR=22
736A Circle Diamond 88.15 27 ⇓P P 11 48 21.0 +0.3
baz=89
SDDR Presa de Saban 88.23 52 PFAKE 11 48 30.0 +8.5
SDDR LR LR
comp=Z,999nm,20.0s
634A China Grove, S 88.23 25 ⇓P P 11 48 21.5 +0.3
baz=89
530A J-C Ranch, Com 88.28 23 ⇓P P 11 48 22.6 +1.1
baz=89,SNR=19
635A Leesville 88.38 26 ⇑P P 11 48 22.5 +0.7
baz=89
SUR Sutherland 88.45 154 PFAKE 11 48 30.0 +7.3
SUR LR LR
comp=Z,3µm,20.0s
531A Rocksprings 88.47 23 ⇑P P 11 48 23.1 +0.8
baz=89,SNR=11
SCI San Clemente I 88.48 8 ⇑P P 11 48 23.0 +0.7
baz=89
109C Camp Elliot, M 88.52 9 ⇓P P 11 48 22.6 +0.3
baz=89
532A Rocksprings 88.58 24 ⇓P P 11 48 23.2 +0.4
baz=89
MONP Monument Peak, 88.58 10 ⇓P P 11 48 23.3 +0.3
baz=89
429A Davenport Ranc 88.61 22 ⇑P P 11 48 23.5 +0.5
baz=89,SNR=20
636A Smothers Creek 88.65 27 ⇑P P 11 48 23.5 +0.4
baz=89
TUC Tucson 88.67 14 eP P 11 48 23.7 +0.4
TUC pmax pmax
comp=Z,65nm,1.5s
TUC MLR MLR
comp=Z,2µm,19.0s
TUC Tucson 88.67 14 eP P 11 48 23.7 +0.4
comp=Z,65nm,1.5s
TUC LR LR
comp=Z,2µm,19.0s
SWSC Sam W. Stewart 88.69 10 ⇑P P 11 48 23.6 +0.4
baz=89
533A Kerrville 88.73 25 ⇓P P 11 48 23.4 -0.1
baz=89
JAY Jayapura 88.77 267 LR LR 12 25 13.9
comp=Z,1µm,18.8s,slow=34
534A Blanco 88.82 25 ⇑P P 11 48 23.7 -0.2
baz=89
BBGH Gun Hill 88.90 65 PFAKE 11 48 40.0 +15
BBGH LR LR
comp=Z,4µm,22.0s
GLA Glamis 88.90 11 eP P 11 48 26.8 +2.5
GLA pmax pmax
comp=Z,34nm,1.3s
GLA Glamis 88.90 11 eP P 11 48 26.8 +2.5
comp=Z,34nm,1.3s
GLA Glamis 88.90 11 ⇓P P 11 48 24.4 +0.2
baz=90
430A Baggett Ranch, 88.91 23 ⇑P P 11 48 25.1 +0.6
baz=90,SNR=13
CIS Catalina Islan 88.92 8 ⇑P P 11 48 24.5 +0.2
baz=90
JCT Junction City 88.94 24 eP P 11 48 25.2 +0.7
JCT pmax pmax
comp=Z,72nm,1.4s
JCT MLR MLR
comp=Z,622nm,20.0s
JCT Junction City 88.94 24 eP P 11 48 25.2 +0.7
comp=Z,72nm,1.4s
JCT LR LR
comp=Z,622nm,20.0s
431A Sonora 88.95 23 ⇑P P 11 48 24.5 -0.1
baz=90,SNR=31
MNTX Cornudas Mount 88.96 19 PFAKE 11 48 40.0 +15
MNTX LR LR
comp=Z,2µm,20.0s
MURC Murrieta 89.21 9 ⇑P P 11 48 26.0 +0.3
baz=90
PFO Pinyon Flats O 89.29 9 eP P 11 48 27.3 +1.1
PFO pmax pmax
comp=Z,131nm,2.2s
PFO MLR MLR
comp=Z,3µm,20.0s
PFO Pinyon Flats O 89.29 9 eP P 11 48 27.3 +1.1
comp=Z,131nm,2.2s
PFO LR LR
comp=Z,3µm,20.0s
PFO Pinyon Flats O 89.29 9 ⇑P P 11 48 25.5 -0.7
baz=90
432A Menard 89.32 24 ⇑P P 11 48 25.4 -1.0
baz=90
121A Cookes Peak, D 89.35 17 eP P 11 48 26.8 +0.2
comp=Z,32nm,1.4s
121A Cookes Peak, D 89.35 17 ⇑P P 11 48 26.8 +0.2
baz=90,SNR=11
433A Art 89.37 24 ⇑P P 11 48 27.2 +0.7
baz=90,SNR=13
HKT Hockley 89.41 27 eP P 11 48 28.9 +2.3
HKT Hockley 89.41 27 eP P 11 48 28.9 +2.3
329A Wagon Wheel Ra 89.43 22 ⇓P P 11 48 26.1 -0.7
baz=90
FDF Fort de France 89.43 63 PFAKE 11 48 40.0 +13
FDF LR LR
comp=Z,2µm,19.0s
BC3 Big Chuckawall 89.43 10 ⇑P P 11 48 26.3 -0.5
baz=90
330A Mertzon 89.52 23 ⇓P P 11 48 27.3 0.0
baz=90,SNR=18
331A San Angelo 89.59 23 ⇓P P 11 48 27.1 -0.4
baz=90
434A Burnet 89.62 25 ⇓P P 11 48 27.1 -0.6
baz=90
Y12C Blythe 89.62 11 ⇑P P 11 48 27.2 -0.4
baz=90
GDL2 Guadalupe Moun 89.64 20 eP P 11 48 29.6 +1.7
BELC Belle Mtn. Jos 89.72 10 ⇑P P 11 48 27.8 -0.4
baz=90
435B Jarrell 89.76 26 ⇑P P 11 48 30.6 +2.3
baz=90
332A Millersview 89.82 24 ⇓P P 11 48 28.4 -0.2
baz=90,SNR=8.8
SJG San Juan 89.86 57 PFAKE 11 48 40.0 +11
SJG LR LR
comp=Z,2µm,21.0s
229A Bryant Ranch, 89.93 22 ⇓P P 11 48 29.3 +0.2
baz=90
333A Richland Sprin 89.94 24 ⇓P P 11 48 28.5 -0.7
baz=90
IRM Iron Mountain 89.96 10 ⇓P P 11 48 28.8 -0.4
baz=90
334A Lometa 90.13 25 ⇑P P 11 48 30.2 +0.2
baz=91
PDMCI Parker Dam,Lak 90.21 11 ⇓P P 11 48 30.7 +0.4
baz=91
231A Bronte 90.22 23 ⇓P P 11 48 30.4 -0.1
baz=91
232A Coleman 90.33 24 ⇑P P 11 48 31.2 +0.2
baz=91,SNR=8.7
EDW2 Edwards Air Fo 90.42 8 ⇓P P 11 48 32.4 +1.0
baz=91
128A Castleberry Fa 90.42 21 ⇑P P 11 48 31.4 -0.1
baz=91,SNR=15
HEC Hector,Ludlow 90.51 9 ⇑P P 11 48 34.2 +2.4
baz=91
GRTK Grand Turk 90.52 51 PFAKE 11 48 40.0 +8.0
GRTK LR LR
comp=Z,865nm,20.0s
336A Riesel 90.52 26 ⇑P P 11 48 32.1 +0.2
baz=91
129A Stewart Farms, 90.56 22 ⇓P P 11 48 33.0 +0.9
baz=91
233A Rising Star 90.63 24 ⇑P P 11 48 35.3 +3.0
baz=91
130A Snyder 90.72 22 ⇓P P 11 48 33.0 +0.2
baz=91
GSC Goldstone, Bar 90.94 9 eP P 11 48 36.1 +2.3
GSC pmax pmax
comp=Z,31nm,1.6s
GSC Goldstone, Bar 90.94 9 eP P 11 48 36.1 +2.3
comp=Z,31nm,1.6s
GSC Goldstone, Bar 90.94 9 ⇓P P 11 48 34.8 +1.0
baz=92
WHTX Lake Whitney, 90.95 25 eP P 11 48 33.5 -0.3
Y22D IRIS PASSCAL I 91.00 17 ⇓P P 11 48 35.7 +1.5
baz=92
ABTX Abilene, Hawle 91.04 24 eP P 11 48 35.6 +1.4
comp=Z,87nm,1.9s
LENM Lemitar 91.08 17 eP P 11 48 36.3 +1.7
Z28A Tucker Farm, M 91.08 21 ⇑P P 11 48 34.1 -0.5
baz=92,SNR=7.5
TUQ Turquoise Moun 91.15 10 ⇑P P 11 48 36.5 +1.6
baz=92
ISA Isabella, Lake 91.16 8 eP P 11 48 34.6 -0.2
ISA pmax pmax
comp=Z,11nm,1.1s
ISA Isabella, Lake 91.16 8 eP P 11 48 34.6 -0.2
comp=Z,11nm,1.1s
ISA Isabella, Lake 91.16 8 ⇑P P 11 48 35.8 +1.0
baz=92
Z29A Hungry Hill Ra 91.20 22 ⇓P P 11 48 35.3 +0.2
baz=92
LPM Los Pinos Moun 91.28 17 eP P 11 48 36.0 +0.5
LAZ Ladron 91.28 17 eP P 11 48 36.6 +1.0
comp=Z,25nm,1.8s
VES Vestal, Richgr 91.29 7 ⇓P P 11 48 36.4 +1.1
baz=92
Z30A Sanderson Ranc 91.35 22 ⇓P P 11 48 35.9 +0.2
baz=92
134A White-Moore Ra 91.35 25 ⇓P P 11 48 35.2 -0.4
baz=92
NATX Nacogdoches 91.44 28 PFAKE 11 48 50.0 +14
NATX LR LR
comp=Z,2µm,21.0s
SHOC Shoshone, Teco 91.58 9 ⇑P P 11 48 38.4 +1.8
baz=92
W18A Petrified Fore 91.58 15 ⇑P P 11 48 37.8 +0.8
baz=92
Z31A Sharp Cattle R 91.59 23 ⇑P P 11 48 37.1 +0.2
baz=92
ANWB Willy Bob 91.60 61 PFAKE 11 48 50.0 +13
ANWB LR LR
comp=Z,2µm,20.0s
MPMC Manual Prospec 91.63 8 ⇓P P 11 48 38.7 +1.5
baz=92
MSTX Muleshoe 91.67 21 eP P 11 48 38.2 +1.0
comp=Z,15nm,1.2s
MSTX Muleshoe 91.67 21 ⇑P P 11 48 38.8 +1.6
baz=92
Y28A McKinney Farm, 91.71 21 ⇓P P 11 48 38.3 +0.9
baz=92
WUAZ Wupatki 91.75 13 eP P 11 48 39.8 +2.1
comp=Z,19nm,1.1s
WUAZ LR LR
comp=Z,3µm,21.0s
Y29A Porterfield Fa 91.78 22 ⇓P P 11 48 40.0 +2.3
baz=92
Z33A Whitaker Ranch 91.87 24 ⇓P P 11 48 39.0 +1.0
baz=92
ANMO Albuquerque 91.93 17 P P 11 48 37.7 -0.8
comp=Z,6.3nm,1.0s,baz=185,slow=6.3,SNR=20
ANMO Albuquerque 91.93 17 eP P 11 48 37.8 -0.8
ANMO pmax pmax
comp=Z,21nm,1.1s
ANMO MLR MLR
comp=Z,954nm,21.0s
ANMO Albuquerque 91.93 17 eP P 11 48 37.8 -0.8
comp=Z,21nm,1.1s
ANMO LR LR
comp=Z,954nm,21.0s
H11S2 WAKE ISLAND Hy 92.00 300 T T 13 30 46.6
baz=144,slow=76,SNR=158
H11S3 WAKE ISLAND Hy 92.01 300 T T 13 30 42.1
baz=144,slow=76,SNR=73
H11S1 WAKE ISLAND Hy 92.02 300 T T 13 30 30.7
baz=144,slow=76,SNR=65
Y31A Rekieta Farm, 92.19 23 ⇑P P 11 48 40.5 +1.0
baz=93
SHPR Sheep Range 92.28 10 eP P 11 48 41.6 +1.5
comp=Z,36nm,1.6s
X28A Dimmitt 92.31 21 ⇓P P 11 48 41.1 +0.9
baz=93
TPNV Topopah Spring 92.62 9 eP P 11 48 43.8 +2.1
TPNV pmax pmax
comp=Z,106nm,2.5s
TPNV Topopah Spring 92.62 9 eP P 11 48 43.8 +2.1
comp=Z,106nm,2.5s
WAKE Wake Island 92.70 301 PFAKE 11 48 50.0 +7.8
WAKE LR LR
comp=Z,1µm,20.0s
AMTX Amarillo 92.77 21 eP P 11 48 43.4 +1.0
comp=Z,17nm,1.0s
X32A Elmer 92.84 23 ⇓P P 11 48 42.8 +0.3
baz=93
X31A McDonald Ranch 92.89 23 ⇑P P 11 48 41.7 -1.1
baz=94
H11N3 WAKE ISLAND Hy 92.94 301 T T 13 31 40.9
baz=147,slow=76,SNR=30
H11N1 WAKE ISLAND Hy 92.95 301 T T 13 31 45.9
baz=147,slow=76,SNR=38
H11N2 WAKE ISLAND Hy 92.96 301 T T 13 31 43.1
baz=147,slow=76,SNR=26
BRAL Brewton 92.96 34 PFAKE 11 48 50.0 +6.8
BRAL LR LR
comp=Z,966nm,19.0s
W29A Amarillo 93.01 21 ⇑P P 11 48 44.3 +0.9
baz=94
WMOK Wichita Mounta 93.26 24 PFAKE 11 49 00.0 +16
WMOK LR LR
comp=Z,884nm,19.0s
X35A Drake 93.36 25 ⇓P P 11 48 48.0 +3.0
baz=94
W32A Sentinel 93.53 23 ⇑P P 11 48 48.0 +2.3
baz=94
TPH Tonopah 93.65 8 eP P 11 48 47.7 +1.3
TPH pmax pmax
comp=Z,7.0nm,1.0s
TPH Tonopah 93.65 8 eP P 11 48 47.7 +1.3
comp=Z,7.1nm,1.0s
SHEL Horse Pasture 93.79 125 PFAKE 11 49 00.0 +12
SHEL LR LR
comp=Z,1µm,21.0s
MVCO Mesa Verde 93.82 15 eP P 11 48 47.3 +0.1
comp=Z,26nm,1.4s
MVCO LR LR
comp=Z,2µm,21.0s
NVAR Mina Array Bea 93.92 7 P P 11 48 49.8 +2.2
comp=Z,0.4nm,0.4s,baz=210,slow=7.0,SNR=3.6
NVAR Mina Array Bea 93.92 7 P P 11 48 49.8 +2.2
MIAR Mount Ida 94.36 28 PFAKE 11 49 00.0 +10
MIAR LR LR
comp=Z,683nm,20.0s
MSU Marysvale 94.60 12 eP P 11 48 51.4 +0.6
MSU pmax pmax
comp=Z,10.0nm,1.2s
MSU Marysvale 94.60 12 eP P 11 48 51.4 +0.6
comp=Z,9.6nm,1.2s
S22A 4UR Ranch, Cre 94.60 17 ⇑P P 11 48 54.4 +3.4
baz=95
T26A Comanche Natio 94.61 19 ⇓P P 11 48 52.3 +1.5
baz=95
W38A Poteau 94.61 27 ⇓P P 11 48 54.3 +3.7
baz=95
T27A Campo 94.67 20 ⇑P P 11 48 51.9 +0.9
baz=95
SDCO Great Sand Dun 94.83 18 PFAKE 11 49 00.0 +8.0
SDCO LR LR
comp=Z,1µm,22.0s
R28A Tribune 96.09 20 ⇓P P 11 49 01.1 +3.6
baz=97
DUG Dugway, Tooele 96.19 12 PFAKE 11 49 10.0 +12
DUG LR LR
comp=Z,2µm,20.0s
GOGA Godfrey 96.35 36 PFAKE 11 49 10.0 +11
GOGA LR LR
comp=Z,825nm,20.0s
ASCN Ascension 96.42 114 PFAKE 11 49 10.0 +10
ASCN LR LR
comp=Z,2µm,19.0s
Q28A Sharon Springs 96.78 20 ⇓P P 11 49 04.9 +4.3
baz=97
ISCO Idaho Springs 96.81 17 PFAKE 11 49 10.0 +9.0
ISCO LR LR
comp=Z,2µm,19.0s
O22A Kremmling 97.01 16 ⇑P Pdif 11 49 03.2 +1.2
baz=98
M04C Macdoel 97.05 5 ⇓P Pdif 11 49 07.5 +5.6
baz=98
NHSC New Hope 97.21 39 PFAKE 11 49 10.0 +7.4
NHSC LR LR
comp=Z,1µm,19.0s
HWUT Hardware Ranch 97.72 12 PFAKE 11 49 20.0 +15
HWUT LR LR
comp=Z,2µm,20.0s
WVOR Wild Horse Val 97.88 7 PFAKE 11 49 20.0 +14
WVOR LR LR
comp=Z,3µm,20.0s
KSU1 Kansas State U 97.93 24 PFAKE 11 49 20.0 +14
KSU1 LR LR
comp=Z,736nm,22.0s
KAPI Kappang 98.32 249 PFAKE 11 49 20.0 +12
KAPI LR LR
comp=Z,3µm,20.0s
OGNE Ogallala 98.56 19 PFAKE 11 49 20.0 +11
OGNE LR LR
comp=Z,2µm,19.0s
AHID Auburn Hatcher 98.92 12 PFAKE 11 49 20.0 +10
AHID LR LR
comp=Z,2µm,20.0s
BW06 Boulder Array 99.12 14 PFAKE 11 49 20.0 +8.8
BW06 LR LR
comp=Z,4µm,22.0s
PDAR Pinedale Array 99.12 14 P Pdif 11 49 12.7 +1.5
comp=Z,0.4nm,0.9s,baz=282,slow=4.3,SNR=3.2
PDAR LR LR 12 25 51.2
comp=Z,3µm,19.9s,baz=202,slow=30
PDAR Pinedale Array 99.12 14 P Pdif 11 49 12.7 +1.5
HLID Hailey 99.35 10 PFAKE 11 49 20.0 +7.9
HLID LR LR
comp=Z,1µm,20.0s
GUMO Guam 99.55 280 PFAKE 11 49 20.0 +6.6
GUMO LR LR
comp=Z,105nm,20.0s
CNNC Cliffs of the 99.94 40 PFAKE 11 49 30.0 +15
CNNC LR LR
comp=Z,1µm,19.0s
TSUM Tsumeb 100.02 147 PFAKE 11 49 30.0 +14
TSUM LR LR
comp=Z,2µm,22.0s
BMO Blue Mountains 100.38 8 PFAKE 11 49 30.0 +13
BMO LR LR
comp=Z,2µm,22.0s
LKWY Lake 100.78 13 PFAKE 11 49 30.0 +11
LKWY LR LR
comp=Z,3µm,21.0s
BLA Blacksburg 100.83 37 PFAKE 11 49 30.0 +11
BLA LR LR
comp=Z,1µm,20.0s
HDIL Hopedale 101.16 29 PFAKE 11 49 30.0 +10
HDIL LR LR
comp=Z,62µm,21.0s
SCIA State Center 101.41 26 PFAKE 11 49 30.0 +8.9
SCIA LR LR
comp=Z,885nm,22.0s
RLMT Red Lodge 101.47 13 PFAKE 11 49 30.0 +8.4
RLMT LR LR
comp=Z,3µm,20.0s
BOZ Bozeman (W) 101.70 12 PFAKE 11 49 30.0 +7.5
BOZ LR LR
comp=Z,2µm,20.0s
HAWA Hanford 101.76 6 PFAKE 11 49 30.0 +7.5
HAWA LR LR
comp=Z,2µm,21.0s
ECSD EROS Data Cent 102.35 23 PFAKE 11 49 40.0 +15
ECSD LR LR
comp=Z,977nm,20.0s
NLWA Neilton Lookou 102.58 3 PFAKE 11 49 40.0 +14
NLWA LR LR
comp=Z,2µm,20.0s
ACSO Alum Creek Sta 102.73 34 PFAKE 11 49 40.0 +13
ACSO LR LR
comp=Z,3µm,20.0s
BBSR BB Station 102.75 51 PFAKE 11 49 40.0 +13
BBSR LR LR
comp=Z,846nm,22.0s
CBN Corbin Frederi 102.78 39 PFAKE 11 49 40.0 +13
CBN LR LR
comp=Z,1µm,19.0s
COCO West Island 102.89 225 PFAKE 11 49 40.0 +12
COCO LR LR
comp=Z,1µm,20.0s
JFWS Jewell Farm 103.10 27 PFAKE 11 49 40.0 +11
JFWS LR LR
comp=Z,874nm,22.0s
LAO LASA Array 103.44 15 PFAKE 11 49 40.0 +10
LAO LR LR
comp=Z,1µm,20.0s
RER Riviere de l'E 103.59 183 PFAKE 11 49 40.0 +8.4
RER LR LR
comp=Z,4µm,21.0s
NEW Newport 103.78 7 PFAKE 11 49 40.0 +8.5
NEW LR LR
comp=Z,2µm,19.0s
EGMT Eagleton 104.27 12 PFAKE 11 49 50.0 +16
EGMT LR LR
comp=Z,2µm,19.0s
AAM Ann Arbor 104.40 32 PFAKE 11 49 50.0 +16
AAM LR LR
comp=Z,924nm,21.0s
DAV Davao City (W) 105.17 260 PFAKE 11 54 00.0
DAV LR LR
comp=Z,2µm,21.0s
ERPA Erie 105.39 35 PFAKE 11 54 00.0
ERPA LR LR
comp=Z,634nm,21.0s

DGMT Dagmar 105.48 16 PFAKE 11 54 00.0
DGMT LR LR
comp=Z,770nm,21.0s
ABPO Ambohimpanom 105.66 175 PFAKE 11 54 00.0
ABPO LR LR
comp=Z,9μm,21.0s
COWI Conover 106.36 27 PFAKE 11 54 10.0
COWI LR LR
comp=Z,877nm,21.0s
GLMI Grayling 106.42 31 PFAKE 11 54 10.0
GLMI LR LR
comp=Z,1μm,20.0s
LSZ Lusaka 106.65 156 PFAKE 11 54 10.0
LSZ LR LR
comp=Z,4μm,21.0s
BINY Binghamton 106.81 38 PFAKE 11 54 10.0
BINY LR LR
comp=Z,1μm,20.0s
AGMN Agassiz Nation 106.85 22 PFAKE 11 54 10.0
AGMN LR LR
comp=Z,2μm,19.0s
EYMN Ely 107.50 25 PFAKE 11 54 10.0
EYMN LR LR
comp=Z,606nm,19.0s
H02S1 DAWSON INLET T108.41 357 T T 13 51 19.0
SNR=33
H02N1 VAN INLET T-PH 108.46 357 T T 13 51 16.6
SNR=26
KSM Kuching 108.73 244 PFAKE 11 54 10.0
KSM LR LR
comp=Z,1μm,20.0s
NCB Newcomb 108.98 38 PFAKE 11 54 10.0
NCB LR LR
comp=Z,2μm,21.0s
LONY Lake Ozonia 109.43 37 PFAKE 11 54 10.0
LONY LR LR
comp=Z,1μm,20.0s
KKM Kota Kinabalu 109.48 252 PFAKE 11 54 10.0
KKM LR LR
comp=Z,2μm,20.0s
LBNH Lisbon 110.03 39 PFAKE 11 54 10.0
LBNH LR LR
comp=Z,1μm,19.0s
SACV Santiago Islan 110.26 93 PFAKE 11 54 10.0
SACV LR LR
comp=Z,1μm,21.0s
WRAK Wrangell Islan 111.62 357 PFAKE 11 54 10.0
WRAK LR LR
comp=Z,3μm,20.0s
PKME Peaks-Kenny Pk 111.87 40 PFAKE 11 54 20.0
PKME LR LR
comp=Z,851nm,19.0s
FFC Flin Flon 111.89 16 PFAKE 11 54 20.0
FFC LR LR
comp=Z,2μm,21.0s
KDAK Kodiak Island 114.68 346 PFAKE 11 54 20.0 +11
KDAK LR LR
comp=Z,6μm,20.0s
DGAR Diego Garcia 115.08 202 PFAKE 11 54 20.0 +8.4
DGAR LR LR
comp=Z,2μm,19.0s
KULM Kulim 116.80 237 PFAKE 11 54 30.0 +15
KULM LR LR
comp=Z,925nm,21.0s
YKA Yellowknife Ar 118.11 7 PKP **PKPdf 11 54 14.2 -1.6**
comp=Z,1.8nm,1.1s,baz=212,slow=1.8,SNR=6.3
YKA PP **PP 11 55 35.8 +3.9**
comp=Z,1.5nm,1.2s,baz=191,slow=6.1,SNR=7.0
YKA PKKPbc **PKKPbc 12 04 36.4 +1.4**
comp=Z,0.4nm,0.8s,baz=2.8,slow=3.6,SNR=4.8
YKA Yellowknife Ar 118.11 7 PKIKP **PKPdf 11 54 14.2 -1.6**
YKA 11 55 35.9
YKA Yellowknife Ar 118.11 7 PKP **PKPdf 11 54 14.2 -1.6**
YKA PP **PP 11 55 35.9 +3.9**
YKA PKKPbc **PKKPbc 12 04 36.4 +1.4**
MSEY Mahe Island 119.97 184 PFAKE 11 54 30.0 +8.9
MSEY LR LR
comp=Z,3μm,21.0s
EGAK Eagle 120.38 353 *e*PKPdf **PKPdf 11 54 19.4 -0.7**
EGAK LR LR
comp=Z,4μm,20.0s
ILAR Eielson Array 120.83 351 PKP **PKPdf 11 54 20.1 -0.9**
comp=Z,4.7nm,0.8s,baz=200,slow=1.9,SNR=37
ILAR Eielson Array 120.83 351 PKIKP **PKPdf 11 54 20.1 -0.9**
ILAR Eielson Array 120.83 351 PKP **PKPdf 11 54 20.1 -0.9**
COLA College 121.02 350 *e*PKIKP **PKPdf 11 54 21.0 -0.3**
COLA MLR MLR
comp=Z,3μm,22.0s
COLA College 121.02 350 *e*PKPdf **PKPdf 11 54 21.0 -0.3**
COLA LR LR
comp=Z,3μm,22.0s
MJAR Matsushiro Arr 121.27 290 PKP **PKPdf 11 54 22.1 -0.7**
comp=Z,2.1nm,0.9s,baz=184,slow=2.7,SNR=5.2
MJAR Matsushiro Arr 121.27 290 PKIKP **PKPdf 11 54 22.1 -0.7**
MJAR Matsushiro Arr 121.27 290 PKP **PKPdf 11 54 22.1 -0.7**
MAJO Matsushiro 121.27 290 PFAKE 11 54 30.0 +7.2
MAJO LR LR
comp=Z,861nm,21.0s
MAT Matsushiro 121.27 290 PKP **PKPdf 11 54 23.2 +0.4**
MBAR Mbarara 121.40 155 PFAKE 11 54 30.0 +6.0
MBAR LR LR
comp=Z,831nm,20.0s
YHNB Yeheng 121.67 268 PFAKE 11 54 30.0 +6.0
YHNB LR LR
comp=Z,997nm,21.0s
TATO Taipei 121.84 268 PFAKE 11 54 30.0 +5.8
TATO LR LR
comp=Z,876nm,21.0s
KMBO Kilima Mbogo 122.25 162 PFAKE 11 54 40.0 +14
KMBO LR LR
comp=Z,1μm,20.0s
TORD Torodi Ar. Bea 122.59 117 PKP **PKPdf 11 54 25.1 -0.9**
comp=Z,1.2nm,0.7s,baz=219,slow=1.1,SNR=5.7
TORD PKKPab **PKKPab 12 04 19.9 -0.7**
comp=Z,1.2nm,1.0s,baz=94,slow=2.8,SNR=3.9
TORD Torodi Ar. Bea 122.59 117 PKP **PKPdf 11 54 25.1 -0.9**
TORD PKKPab **PKKPab 12 04 19.9 -0.7**
IM04 Indian Mountai 122.74 348 *e*PKPdf **PKPdf 11 54 24.7 0.0**
ERM Erimo 122.75 298 PFAKE 11 54 40.0 +15
ERM LR LR
comp=Z,1μm,20.0s
QIZ Qiongzhong 123.66 254 PKP **PKPdf 11 54 28.3 +0.4**
QIZ PP **PP 11 56 11.3 +1.1**
QIZ SS SS 12 12 59.1 +1.0
QIZ PPMZ
comp=Z,400nm,8.8s
QIZ LZ
comp=Z,1μm,23.1s
QIZ Qiongzhong 123.66 254 PFAKE 11 54 40.0 +12
QIZ LR LR
comp=Z,641nm,20.0s
PET Petropavlovsk 123.90 316 *e*PKIKP **PKPdf 11 54 27.3 +0.1**
PET pmax pmax
comp=Z,28nm,1.3s
PET Petropavlovsk 123.90 316 PFAKE 11 54 40.0 +13
PET LR LR
comp=Z,2μm,21.0s
PEA0B Petropavlovsk- 124.34 315 *e*PKPdf **PKPdf 11 54 26.2 -1.9**
PETK Petropavlovsk- 124.34 315 PKP **PKPdf 11 54 26.5 -1.6**
comp=Z,11nm,0.9s,baz=102,slow=1.9,SNR=13
PETK Petropavlovsk- 124.34 315 PKIKP **PKPdf 11 54 26.5 -1.6**
PETK Petropavlovsk- 124.34 315 PKP **PKPdf 11 54 26.5 -1.6**
YSS Yuzn-Sakhalins 126.51 302 *e*PKIKP **PKPdf 11 54 34.2 +1.8**
YSS MLR MLR
comp=Z,500nm,19.0s
YSS Yuzn-Sakhalins 126.51 302 PFAKE 11 54 40.0 +7.6
YSS LR LR
comp=Z,381nm,19.0s
SSE Sheshan 126.68 273 *e*PKP PKPdf 11 54 39.2 +5.9
SSE SS SS 12 13 43.7 +7.5
SSE PPMZ
comp=Z,250nm,7.9s
SSE LN
comp=Z,630nm,23.2s
SSE LE
comp=Z,89nm,23.2s
SSE LZ
comp=Z,750nm,23.9s
INCN Inchon 128.28 282 PFAKE 11 54 50.0 +14
INCN LR LR
comp=Z,889nm,19.0s
CM31 Chiang Mai Arr 128.95 243 *e*PKPdf **PKPdf 11 54 37.2 -0.8**
CMAR Chiang Mai Arr 128.95 243 PKP **PKPdf 11 54 38.7 +0.7**
comp=Z,4.3nm,1.0s,baz=193,slow=2.5,SNR=12
CMAR Chiang Mai Arr 128.95 243 PKIKP **PKPdf 11 54 38.7 +0.7**
CMAR Chiang Mai Arr 128.95 243 PKP **PKPdf 11 54 38.7 +0.7**
CHTO Chiang Mai 129.25 243 *e*PKIKP **PKPdf 11 54 38.5 -0.1**
CHTO MLR MLR
comp=Z,1μm,21.0s
CHTO Chiang Mai 129.25 243 *e*PKPdf **PKPdf 11 54 38.5 -0.1**
CHTO LR LR
comp=Z,1μm,21.0s
WHN Wuhan 130.15 267 PKPbc PKPdf 11 54 32.6 -7.3
WHN PP **PP 11 56 54.0 +0.8**
WHN PKS PKSdf 11 58 02.2 -14
WHN Wuhan 130.15 267 SS SS 12 14 24.7 +5.5
WHN LR LR
comp=N,410nm,10.9s
WHN LR LR
comp=E,1μm,18.2s
WHN LR LR
comp=Z,3μm,27.0s
GYA Guiyang 131.34 256 *e*Pdif **Pdif 11 51 35.8 +1.0**
GYA PKP **PKPdf 11 54 42.0 -0.5**
GYA PP **PP 11 57 05.6 +4.5**
GYA PKS **PKSdf 11 58 19.2 0.0**
GYA SKKS 12 03 55.4
GYA SS **SS 12 14 35.5 +1.6**
GYA PPMZ
comp=Z,180nm,7.8s
GYA LN
comp=Z,170nm,22.0s
GYA LE
comp=Z,150nm,23.6s
GYA LZ
comp=Z,180nm,21.2s
MDJ Mudanjiang 131.61 291 PKP **PKPdf 11 54 43.1 +0.9**
MDJ Mudanjiang 131.61 291 PFAKE 11 54 50.0 +7.8
MDJ LR LR
comp=Z,1μm,22.0s
BILL Bilibino 132.42 332 *e*PKIKP **PKPdf 11 54 42.4 -0.6**
BILL Bilibino 132.42 332 *e*PKPdf **PKPdf 11 54 42.4 -0.6**
KMI Kunming 132.43 252 PKP **PKPdf 11 54 46.7 +2.0**
KMI sPKP 11 54 50.7
KMI PP **PP 11 57 08.2 +0.1**
KMI PKS **PKSdf 11 58 16.3 -5.2**
KMI SKKS 12 04 04.0
KMI PPMZ
comp=Z,350nm,8.7s
KMI LN
comp=Z,360nm,20.6s
KMI LE
comp=Z,570nm,20.6s
KMI LZ
comp=Z,540nm,25.3s
TAM Tamanrasset 132.63 114 *e*PKIKP **PKPdf 11 54 45.0 -0.1**
TAM MLR MLR
comp=Z,1μm,21.0s
TAM Tamanrasset 132.63 114 *e*PKPdf **PKPdf 11 54 45.0 -0.1**
TAM LR LR
comp=Z,1μm,21.0s
ENH Enshi 132.70 262 PFAKE 11 55 00.0 +15
ENH LR LR
comp=Z,355nm,22.0s
SEY Seymchan 133.24 322 *e*PKIKP **PKPdf 11 54 44.1 -0.6**
SFJD Kangerlussuaq 134.97 33 PFAKE 11 55 00.0 +12
SFJD LR LR
comp=Z,1μm,20.0s
BJT Baijiatuan 135.91 277 PFAKE 11 55 00.0 +10
BJT LR LR
comp=Z,734nm,20.0s
BJI Beijing 135.92 277 PKP **PKPdf 11 54 51.3 +0.9**
BJI SS SS 12 15 30.0 +0.9
BJI LN
comp=Z,650nm,24.4s
BJI LE
comp=Z,230nm,27.7s
BJI LZ
comp=Z,700nm,30.4s
CD2 Chengdu 136.39 258 *e*PKP **PKPdf 11 54 54.1 +2.4**
CD2 PKS **PKSdf 11 58 23.5 -4.6**
CD2 SKKS 12 04 26.6
CD2 PPMZ
comp=Z,550nm,8.8s
CD2 LN
comp=Z,540nm,19.0s
CD2 LE
comp=Z,660nm,17.8s
CD2 LZ
comp=Z,900nm,28.5s
MTE Manteigas 138.60 86 PFAKE 11 55 10.0 +14
MTE LR LR
comp=Z,819nm,20.0s
HHC Hu-ho-hao-te 139.07 275 *e*PKP **PKPdf 11 54 54.3 -2.1**
HHC PKS **PKSdf 11 58 28.4 -4.1**
HHC SKS **SKSdf 12 02 00.5 -6.2**
HHC SKKS **SKKSac 12 04 42.9 -0.3**
HHC SS **SS 12 16 08.3 +1.5**
HHC PPMZ
comp=Z,250nm,9.3s
HHC LN
comp=Z,450nm,20.6s
HHC LE
comp=Z,890nm,20.5s
HHC LZ
comp=Z,1μm,21.0s
HIA Hailar 139.77 290 PFAKE 11 55 10.0 +13
HIA LR LR
comp=Z,857nm,19.0s
PAB San Pablo 139.84 89 PFAKE 11 55 10.0 +12
PAB LR LR
comp=Z,999nm,22.0s
ESDC Sonseca Array 140.15 89 PKP **PKPdf 11 54 58.7 +0.3**
comp=Z,1.5nm,0.7s,baz=264,slow=1.5,SNR=4.6
ESDC Sonseca Array 140.15 89 PKP **PKPdf 11 54 58.7 +0.3**
LZH Lanzhou 140.17 263 *e*PKP PKPdf 11 54 52.3 -6.4
LZH pPKP PKiKP 11 54 55.4 -5.8
LZH sPKP 11 54 56.8
LZH PP **PP 11 57 56.0 -0.7**
LZH PKS PKSdf 11 58 26.1 -8.7
LZH SKKS 12 04 42.5
SUMG Summit 141.47 29 *e*PKIKP **PKPdf 11 54 59.6 -0.6**
SUMG Summit 141.47 29 *e*PKPdf **PKPdf 11 54 59.6 -0.6**
YAK Yakutsk 141.55 312 PFAKE 11 55 10.0 +10
YAK LR LR
comp=Z,944nm,19.0s
ODAN Odare 141.70 236 *e*P **PKPdf 11 55 00.6 -1.2**
comp=Z,48nm,1.1s
TAPN Taplejung 141.96 237 *e*P **PKPdf 11 54 58.8 -3.5**
comp=Z,69nm,1.6s
RAMN Ramite 142.15 235 *e*P **PKPdf 11 55 01.5 -1.1**
comp=Z,41nm,1.2s
LSA Lhasa 142.20 243 PFAKE 11 55 10.0 +7.1
LSA LR LR
comp=Z,822nm,20.0s
JIRN Jiri 142.94 235 *e*P **PKPdf 11 55 01.7 -2.5**
comp=Z,42nm,1.3s
PKIN Phulchoki 143.24 234 *e*P PKPbc 11 55 01.1 -0.5
KKN Kakani 143.47 234 *e*P PKPbc 11 55 02.3 +0.1
GKN Gorkha 143.95 234 *e*P PKPab 11 55 02.4 -0.5
comp=Z,58nm,1.1s
SJPF Ste Jean 143.95 87 *e*PKIKP PKPbc 11 55 03.0 +0.1
comp=Z,181nm,1.8s
SJPF Ste Jean 143.95 87 *e*PKIKP PKPbc 11 55 03.0 +0.1
SJPF Ste Jean 143.95 87 *e*PKPdf PKPbc 11 55 03.0 +0.1
ETSF Etsaut 144.20 88 *e*PKIKP PKPbc 11 55 04.6 +0.9
comp=Z,65nm,1.3s
ETSF Etsaut 144.20 88 *e*PKIKP PKPbc 11 55 04.6 +0.9
ETSF Etsaut 144.20 88 *e*PKPdf PKPbc 11 55 04.6 +0.9
KOLN Koldanda 144.22 232 *e*P **PKPab 11 55 02.8 -1.2**
comp=Z,44nm,1.1s
BORG Borgarnes 144.31 45 PFAKE 11 55 20.0 +15
BORG LR LR
comp=Z,1μm,20.0s
REYF Montagne du Re 144.40 88 PKP **PKPdf 11 55 06.0 +0.1**
CIT Chita 144.58 291 *e*PKIKP **PKPab 11 55 03.4 -1.0**
GTA Gaotai 144.78 263 ⇑PKP **PKPab 11 55 05.3 -0.3**
GTA sPKP 11 55 12.9
GTA PP **PP 11 58 27.1 +2.5**
GTA SKS **SKSdf 12 02 13.0 -2.8**
GTA SKKS **SKKSac 12 05 15.4 -1.0**
GTA SS **SS 12 17 14.1 +1.1**
GTA PPMZ
comp=Z,370nm,7.8s
GTA LN
comp=Z,490nm,20.9s
GTA LE
comp=Z,470nm,20.4s
GTA LZ
comp=Z,690nm,20.4s
EPF Esparros 144.79 89 *e*PKIKP **PKPab 11 55 05.1 -0.4**
comp=Z,126nm,1.4s
EPF Esparros 144.79 89 *e*PKIKP **PKPab 11 55 05.1 -0.4**
EPF Esparros 144.79 89 *e*PKPdf **PKPab 11 55 05.1 -0.4**
KEST Kesra 144.86 106 PKPbc **PKPab 11 55 05.4 -0.6**
comp=Z,7.8nm,0.9s,baz=263,slow=2.2,SNR=12
KEST Kesra 144.86 106 *e*P **PKPab 11 55 05.1 -0.9**
KEST PKPbc PKPbc 11 55 05.4 -0.6
MELF Melles 144.93 89 PKP PKPbc 11 55 06.4 +0.3
SALF Salau 145.10 90 PKP **PKPab 11 55 06.8 +0.1**
MLS Moulis 145.18 89 PKP **PKPbc 11 55 06.7 -0.1**
TIXI Tiksi 145.23 327 *d*iPKP2 **PKPbc 11 55 04.1 -1.9**
TIXI Tiksi 145.23 327 *e*PKPdf **PKPbc 11 55 04.6 -1.4**
TIXI LR LR
comp=Z,2μm,19.0s
QUIF Quistinic 145.72 79 *e*PKIKP **PKPdf 11 55 06.1 -1.7**
comp=Z,201nm,1.6s
QUIF Quistinic 145.72 79 *e*PKIKP **PKPdf 11 55 06.1 -1.7**
QUIF Quistinic 145.72 79 *e*PKPdf **PKPdf 11 55 06.1 -1.7**
FILF Fillols 145.76 91 PKP **PKPab 11 55 09.5 +0.4**
ROSF Rostrenen 145.89 78 *e*PKIKP **PKPdf 11 55 06.5 -1.6**
comp=Z,243nm,1.8s
ROSF Rostrenen 145.89 78 *e*PKIKP **PKPdf 11 55 06.5 -1.6**
ROSF Rostrenen 145.89 78 *e*PKPdf **PKPdf 11 55 06.5 -1.6**
ULN Ulaanbaatar 145.93 281 *i* PKIKP **PKPdf 11 55 07.3 -1.1**
ULN pmax pmax
comp=Z,44nm,1.7s
ULN Ulaanbaatar 145.93 281 *e*PKPdf **PKPdf 11 55 07.3 -1.1**
ULN LR LR
comp=Z,736nm,20.0s
MTLF Montolieu 146.06 90 *e*PKIKP **PKPdf 11 55 06.0 -2.6**
comp=Z,21nm,0.9s
MTLF Montolieu 146.06 90 *e*PKIKP **PKPdf 11 55 06.0 -2.6**
MTLF Montolieu 146.06 90 *e*PKPdf **PKPdf 11 55 06.0 -2.6**
LFF La Frestale 146.19 86 *e*PKIKP **PKPdf 11 55 06.4 -2.3**
LFF La Frestale 146.19 86 *e*PKIKP **PKPdf 11 55 06.4 -2.3**
LFF La Frestale 146.19 86 *e*PKPdf **PKPdf 11 55 06.4 -2.3**
SGMF Saint Gilles 146.24 79 *e*PKIKP **PKPdf 11 55 07.8 -0.9**
SGMF Saint Gilles 146.24 79 *e*PKIKP **PKPdf 11 55 07.8 -0.9**
SGMF Saint Gilles 146.24 79 *e*PKPdf **PKPdf 11 55 07.8 -0.9**
SONM Songino Array 146.28 280 PKPbc **PKPdf 11 55 08.3 -0.7**
comp=Z,28nm,0.9s,baz=143,slow=3.5,SNR=16
SONM Songino Array 146.28 280 PKIKP **PKPdf 11 55 08.3 -0.7**
SONM Songino Array 146.28 280 PKPbc **PKPdf 11 55 08.3 -0.7**
MFF Saint Martin d 146.67 83 *e*PKIKP **PKPdf 11 55 06.5 -3.0**
comp=Z,81nm,1.3s
MFF Saint Martin d 146.67 83 *e*PKPdf **PKPdf 11 55 06.5 -3.0**
AJM Ajmer 146.71 219 *e*P **PKPdf 11 55 11.0 +0.7**
RJF Les Rejaudoux 146.85 86 *e*PKIKP **PKPdf 11 55 08.0 -1.9**
comp=Z,70nm,1.2s
RJF *e*R
comp=Z,1μm,19.0s
RJF Les Rejaudoux 146.85 86 *e*PKIKP **PKPdf 11 55 08.0 -1.9**
RJF Les Rejaudoux 146.85 86 *e*PKPdf **PKPdf 11 55 08.0 -1.9**
CAF Calviac 146.94 87 *e*PKIKP **PKPdf 11 55 08.7 -1.4**
comp=Z,82nm,1.4s
CAF Calviac 146.94 87 *e*PKIKP **PKPdf 11 55 08.7 -1.4**
CAF Calviac 146.94 87 *e*PKPdf **PKPdf 11 55 08.7 -1.4**
BOD Bodaibo 146.97 300 *e*PKIKP **PKPdf 11 55 09.1 -0.5**
BOD pmax pmax
comp=Z,37nm,1.0s
GRR Gorron 147.26 80 *e*PKIKP **PKPdf 11 55 08.8 -1.6**
comp=Z,84nm,1.3s
GRR Gorron 147.26 80 *e*PKIKP **PKPdf 11 55 08.8 -1.6**
GRR Gorron 147.26 80 *e*PKPdf **PKPdf 11 55 08.8 -1.6**
LASF Ste Croix 147.44 90 *e*PKIKP **PKPdf 11 55 09.7 -1.2**
comp=Z,72nm,1.4s
LASF Ste Croix 147.44 90 *e*PKPdf **PKPdf 11 55 09.7 -1.2**
VSL Villasalto 147.57 101 PFAKE 11 55 20.0 +3.8
VSL LR LR
comp=Z,964nm,20.0s
FLN La Foliniere 147.68 80 *e*PKIKP **PKPdf 11 55 09.5 -1.6**
comp=Z,69nm,1.2s
FLN *e*R
comp=Z,1μm,21.2s
FLN La Foliniere 147.68 80 *e*PKIKP **PKPdf 11 55 09.5 -1.6**
FLN La Foliniere 147.68 80 *e*PKPdf **PKPdf 11 55 09.5 -1.6**
RAYN Ar Rayn 147.68 169 *e*PKPbc **PKPdf 11 55 12.5 +0.5**
NDI New Delhi 147.73 224 *ex* **PKPbc 11 55 14.0 -0.7**
WDD Wield Dalam 147.75 112 PFAKE 11 55 20.0 +3.1
WDD LR LR
comp=Z,2μm,20.0s
LDF La Druitiere 147.79 80 *e*PKIKP **PKPdf 11 55 09.9 -1.4**
LDF La Druitiere 147.79 80 *e*PKIKP **PKPdf 11 55 09.9 -1.4**
LDF La Druitiere 147.79 80 *e*PKPdf **PKPdf 11 55 09.9 -1.4**
LBL Lubilhac 147.79 88 PKP **PKPbc 11 55 15.7 +1.2**
TCF Toulx Ste Croi 147.82 85 *e*PKIKP **PKPdf 11 55 10.1 -1.4**
comp=Z,108nm,1.5s
TCF Toulx Ste Croi 147.82 85 *e*PKIKP **PKPdf 11 55 10.1 -1.4**
TCF Toulx Ste Croi 147.82 85 *e*PKPdf **PKPdf 11 55 10.1 -1.4**
PYM Petit Puy Mans 147.96 87 PKP **PKPbc 11 55 16.1 +1.2**
AGO Saint Agoulin 148.21 86 PKP **PKPab 11 55 17.7 -0.8**
COLF Collangettes 148.22 88 PKP **PKPbc 11 55 16.7 +1.2**
CLTB Caltabellotta 148.32 108 PFAKE 11 55 20.0 +0.7
CLTB LR LR
comp=Z,880nm,20.0s
SMRF Simiane la Rot 148.36 92 *e*PKIKP **PKPdf 11 55 10.8 -1.7**
comp=Z,97nm,1.4s
SMRF Simiane la Rot 148.36 92 *e*PKPdf **PKPdf 11 55 10.8 -1.7**
PLDF La Plantade 148.44 87 PKP **PKPbc 11 55 16.9 +0.8**
LMR La Mourre 148.49 93 *e*PKIKP **PKPdf 11 55 11.1 -1.5**
comp=Z,85nm,1.3s
LMR La Mourre 148.49 93 *e*PKPdf **PKPdf 11 55 11.1 -1.5**
SSB Saint Sauveur 148.56 89 PFAKE 11 55 20.0 0.0
SSB LR LR
comp=Z,878nm,20.0s
FRF La Foret Royal 148.71 93 *e*PKIKP **PKPdf 11 55 11.4 -1.6**
comp=Z,67nm,1.2s
FRF La Foret Royal 148.71 93 *e*PKPdf **PKPdf 11 55 11.4 -1.6**
AVF Avril sur Loir 148.76 85 *e*PKIKP **PKPdf 11 55 11.0 -1.9**
AVF Avril sur Loir 148.76 85 *e*PKPdf **PKPdf 11 55 11.0 -1.9**
SMF Signal de Mont 148.95 86 *e*PKIKP **PKPdf 11 55 11.8 -1.5**
comp=Z,86nm,1.4s
SMF Signal de Mont 148.95 86 *e*PKPdf **PKPdf 11 55 11.8 -1.5**
CALN Calern 148.97 93 PKP **PKPbc 11 55 17.4 -0.3**
SSF Saint Saulge 149.00 85 *e*PKIKP **PKPdf 11 55 11.7 -1.6**
comp=Z,36nm,1.3s
SSF Saint Saulge 149.00 85 *e*PKPdf **PKPdf 11 55 11.7 -1.6**
MVIF Mont Vial 149.21 93 PKP **PKPdf 11 55 15.7 +1.7**
ESK Eskdalemuir 149.27 67 *i* PKP2 **PKPbc 11 55 19.2 +1.4**
ESK Eskdalemuir 149.27 67 PFAKE 11 55 20.0 +2.2
ESK LR LR
comp=Z,1μm,20.0s
LOR Lormes 149.31 85 *e*PKIKP **PKPdf 11 55 12.4 -1.5**
comp=Z,104nm,1.6s
LOR *e*R
comp=Z,1μm,21.5s
LOR Lormes 149.31 85 *e*PKPdf **PKPdf 11 55 12.4 -1.5**
TOUF Mont Tournerai 149.33 93 PKP **PKPab 11 55 21.4 -2.0**
ZAK Zakamensk 149.36 282 *e*PKIKP **PKPdf 11 55 13.7 -0.3**
ZAK pmax pmax
comp=Z,25nm,1.4s
SAOF Saorge 149.49 93 PKP **PKPbc 11 55 18.6 -0.2**
BNI Bardonecchia 149.64 91 *e*PKP2 **PKPbc 11 55 18.9 -0.3**
BNI MLR MLR
comp=Z,1μm,21.0s
BNI Bardonecchia 149.64 91 *e*PKPbc **PKPbc 11 55 18.9 -0.3**
BNI LR LR
comp=Z,1μm,21.0s
IRK Irkutsk 149.70 286 *e*PKHKP **PKPdf 11 55 13.4 -0.9**
IRK pmax pmax
comp=Z,93nm,2.6s
TLY Talaya 149.78 285 PKPbc **PKPbc 11 55 17.4 -1.9**
comp=Z,10nm,0.9s,baz=179,slow=3.6,SNR=15
TLY PKPab **PKPab 11 55 24.0 -0.8**
comp=Z,23nm,1.0s,baz=248,slow=4.2,SNR=16
TLY Talaya 149.78 285 ⇑*i*PKHKP **PKPbc 11 55 17.6 -1.6**
TLY pmax pmax
comp=Z,48nm,1.3s
TLY Talaya 149.78 285 *e*PKPbc **PKPbc 11 55 18.6 -0.7**
TLY PKPab **PKPab 11 55 23.9 -0.8**
TLY LR LR
comp=Z,1μm,21.0s
LPL La Plagne 149.94 90 *e*PKIKP **PKPdf 11 55 13.9 -1.3**
comp=Z,78nm,1.4s
LPL La Plagne 149.94 90 *e*PKIKP **PKPdf 11 55 13.9 -1.3**
LPL La Plagne 149.94 90 *e*PKPdf **PKPdf 11 55 13.9 -1.3**
CABF La Chapelle 150.21 88 *e*PKIKP **PKPdf 11 55 14.3 -1.1**
comp=Z,60nm,1.4s
CABF La Chapelle 150.21 88 *e*PKIKP **PKPdf 11 55 14.3 -1.1**
CABF La Chapelle 150.21 88 *e*PKPdf **PKPdf 11 55 14.3 -1.1**
CEL Celeste 150.26 110 *e*PKPbc **PKPbc 11 55 20.8 -0.1**
CEL LR LR
comp=Z,2μm,20.0s

SFTF	**Sexfontaines**	**150.49**	**84**	*e*PKIKP	**PKPdf**	**11 55 14.2**	**-1.5**
SFTF	**Sexfontaines**	**150.49**	**84**	*e*PKPdf	**PKPdf**	**11 55 14.2**	**-1.5**
BAIF	**Baives**	**150.97**	**81**	*e*PKIKP	**PKPdf**	**11 55 14.7**	**-1.6**
	comp=Z,26nm,0.9s						
BAIF	**Baives**	**150.97**	**81**	*e*PKIKP	**PKPdf**	**11 55 14.7**	**-1.6**
BAIF	**Baives**	**150.97**	**81**	*e*PKPdf	**PKPdf**	**11 55 14.7**	**-1.6**
THEF	**They Montfort**	**151.04**	**85**	PKP	**PKPbc**	**11 55 23.0**	**+0.7**
LOMF	**Lomont**	**151.04**	**87**	PKP	**PKPbc**	**11 55 23.4**	**+0.9**
HAU	**Haudompre**	**151.12**	**86**	*e*PKIKP	**PKPdf**	**11 55 15.0**	**-1.7**
HAU				*e*R			
	comp=Z,2µm,22.2s						
HAU	**Haudompre**	**151.12**	**86**	*e*PKIKP	**PKPdf**	**11 55 15.0**	**-1.7**
HAU	**Haudompre**	**151.12**	**86**	*e*PKPdf	**PKPdf**	**11 55 15.0**	**-1.7**
VLC	**Villacollemand**	**151.20**	**96**	PFAKE		11 55 30.0	-0.9
VLC				LR	LR		
	comp=Z,1µm,19.0s						
DOU	**Dourbes**	**151.21**	**81**	PKPbc	**PKPbc**	**11 55 23.5**	**+0.8**
SNF	**Seneffe**	**151.23**	**80**	PKPbc	**PKPbc**	**11 55 22.0**	**-0.7**
MOY	**Mondy**	**151.24**	**283**	*e*PKIKP	**PKPbc**	**11 55 23.6**	**+0.8**
MOY				pmax	pmax		
	comp=Z,58nm,3.2s						
HINF	**Hinteralfeld**	**151.31**	**86**	*e*PKIKP	**PKPdf**	**11 55 15.3**	**-1.7**
HINF	**Hinteralfeld**	**151.31**	**86**	*e*PKIKP	**PKPdf**	**11 55 15.3**	**-1.7**
HINF	**Hinteralfeld**	**151.31**	**86**	*e*PKPdf	**PKPdf**	**11 55 15.3**	**-1.7**
GIVF	**Givet**	**151.34**	**81**	*e*PKIKP	**PKPdf**	**11 55 15.4**	**-1.5**
	comp=Z,132nm,1.5s						
GIVF	**Givet**	**151.34**	**81**	*e*PKIKP	**PKPdf**	**11 55 15.4**	**-1.5**
GIVF	**Givet**	**151.34**	**81**	*e*PKPdf	**PKPdf**	**11 55 15.4**	**-1.5**
TIP	**Timpagrande**	**151.39**	**110**	*e*PKPdf	**PKPdf**	**11 55 17.0**	**-0.5**
TIP				*e*PKPbc	**PKPbc**	**11 55 22.9**	**-0.7**
TIP				LR	LR		
	comp=Z,840nm,22.0s						
EIL	**Elat**	**151.41**	**147**	PKP	**PKPdf**	**11 55 18.0**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=255,slow=5.7,SNR=4.1						
EIL				PKPab	**PKPab**	**11 55 30.5**	**-1.5**
	comp=Z,13nm,0.9s,baz=235,slow=3.5,SNR=9.0						
EIL	**Elat**	**151.41**	**147**	PKP	**PKPdf**	**11 55 18.0**	**+0.3**
EIL				PKPab	**PKPab**	**11 55 30.5**	**-1.5**
CUC	**Castrocucco**	**151.47**	**108**	PFAKE		11 55 30.0	-2.1
CUC				LR	LR		
	comp=Z,1µm,21.0s						
MOF	**Molkenrain**	**151.49**	**87**	PKP	**PKPbc**	**11 55 24.1**	**+0.6**
ECH	**Echery**	**151.70**	**86**	PKP	**PKPbc**	**11 55 24.7**	**+0.8**
ECH	**Echery**	**151.70**	**86**	*e*PKIKP	**PKPdf**	**11 55 17.7**	**+0.1**
ECH				*e*		11 55 23.6	
ECH				MLR	MLR		
	comp=Z,1µm,22.0s						
ECH	**Echery**	**151.70**	**86**	*e*PKPdf	**PKPdf**	**11 55 17.6**	**+0.1**
ECH				*e*PKPbc	**PKPbc**	**11 55 23.6**	**-0.3**
ECH				LR	LR		
	comp=Z,1µm,22.0s						
AQU	**L'Aquila**	**151.75**	**101**	PFAKE		11 55 30.0	-3.2
AQU				LR	LR		
	comp=Z,1µm,21.0s						
CDF	**Champ du Feu**	**151.87**	**86**	*e*PKIKP	**PKPdf**	**11 55 16.6**	**-1.3**
CDF	**Champ du Feu**	**151.87**	**86**	*e*PKIKP	**PKPdf**	**11 55 16.6**	**-1.3**
CDF	**Champ du Feu**	**151.87**	**86**	*e*PKPdf	**PKPdf**	**11 55 16.6**	**-1.3**
WLF	**Walferdange**	**151.87**	**83**	PFAKE		11 55 30.0	-3.5
WLF				LR	LR		
	comp=Z,1µm,20.0s						
TUE	**Stuetta**	**151.99**	**91**	PFAKE		11 55 30.0	-4.3
TUE				LR	LR		
	comp=Z,2µm,20.0s						
MEM	**Membach**	**152.25**	**81**	PKPbc	**PKPbc**	**11 55 24.9**	**-0.1**
BFO	**Black Forest**	**152.42**	**87**	*e*PKIKP	**PKPbc**	**11 55 22.5**	**-3.0**
BFO				MLR	MLR		
	comp=Z,1µm,21.0s						
BFO	**Black Forest**	**152.42**	**87**	*e*PKPbc	**PKPbc**	**11 55 22.5**	**-3.0**
BFO				LR	LR		
	comp=Z,1µm,21.0s						
LANF	**Langenberg**	**152.46**	**85**	PKP	**PKPbc**	**11 55 25.4**	**-0.2**
DAVA	**Damuels**	**152.74**	**90**	⇓*i*PKPbc	**PKPbc**	**11 55 26.1**	**-0.3**
	comp=Z,11nm,0.8s						
KBS	**Kingsbay**	**152.98**	**16**	PFAKE		11 55 30.0	+4.1
KBS				LR	LR		
	comp=Z,1µm,21.0s						
FETA	**Feichten**	**153.08**	**91**	⇑*i*sPKPdf	**PKPdf**	**11 55 24.2**	**+4.4**
	comp=Z,18nm,1.1s						
SANT	**Santorini**	**153.61**	**125**	PFAKE		11 55 30.0	+1.5
SANT				LR	LR		
	comp=Z,1µm,20.0s						
ASF	**Jabal al Asfar**	**154.33**	**149**	PKP	**PKPdf**	**11 55 21.8**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=159,slow=2.0,SNR=7.0						
ASF	**Jabal al Asfar**	**154.33**	**149**	PKIKP	**PKPdf**	**11 55 21.8**	**-0.2**
ASF	**Jabal al Asfar**	**154.33**	**149**	PKP	**PKPdf**	**11 55 21.8**	**-0.2**
WMQ	**Urumqi**	**154.49**	**258**	*e*PKPbc	**PKPdf**	**11 55 23.2**	**+1.4**
WMQ				PKS	**PKSdf**	**11 58 56.1**	**+0.2**
WMQ				PP	**PP**	**11 59 25.4**	**+4.7**
WMQ				SKS	**SKSdf**	**12 02 23.2**	**-5.0**
WMQ				SKKS	**SKKSac**	**12 06 08.2**	**-1.7**
WMQ				SS	**SS**	**12 19 01.7**	**+0.4**
WMQ				PPMZ			
	comp=Z,96nm,11.2s						
WMQ				LN			
	comp=Z,540nm,24.2s						
WMQ				LE			
	comp=Z,900nm,22.8s						
UBBA	**Unterbreizbach**	**154.59**	**83**	*e*PKPdf	**PKPdf**	**11 55 25.6**	**+4.1**
GRF	**Grafenberg Arr**	**154.75**	**86**	*e*L	L	13 15 04.5	
	comp=Z,1µm,20.2s						
CLZ	**Clausthal**	**155.25**	**81**	*e*PKPdf	**PKPdf**	**11 55 23.8**	**+1.2**
ROTZ	**Rotzenmuhle**	**155.35**	**87**	*e*PKPdf	**PKPdf**	**11 55 22.7**	**0.0**
WET	**Wettzell**	**155.43**	**88**	*e*PKPdf	**PKPdf**	**11 55 24.3**	**+1.4**
MOX	**Moxa**	**155.43**	**84**	*e*L	L	13 12 24.5	
	comp=Z,1µm,19.3s						
CSS	**Prodhromos**	**155.70**	**140**	PFAKE		11 55 30.0	+6.3
CSS				LR	LR		
	comp=Z,353nm,21.0s						
NKC	**Novy Kostel**	**155.71**	**86**	*e*PKPDF	**PKPdf**	**11 55 26.4**	**+3.2**
NKC				*ex*	x	11 55 35.9	
NKC				*e*PKPAB	PKPab	11 55 56.8	+7.0
NKC				*e*SS	SS	12 19 23.7	+9.3
NKC				AMS	AMS	13 14 50.0	
	comp=Z,1µm,19.9s						
NKC	**Novy Kostel**	**155.71**	**86**	*e*PKIKP	**PKPdf**	**11 55 26.4**	**+3.2**
NKC				MLR	MLR		
	comp=Z,1µm,19.9s						
GEC2	**GERESS Array S**	**155.74**	**90**	*e*PKPdf	**PKPdf**	**11 55 24.3**	**+0.9**
GERES	**GERESS Array B**	**155.74**	**90**	PKP	**PKPdf**	**11 55 22.6**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=316,slow=9.3,SNR=4.5						
GERES	**GERESS Array B**	**155.74**	**90**	PKIKP	**PKPdf**	**11 55 22.6**	**-0.8**
GERES	**GERESS Array B**	**155.74**	**90**	PKP	**PKPdf**	**11 55 22.6**	**-0.8**
TANN	**Tannenbergstha**	**155.80**	**85**	*e*PKPdf	**PKPdf**	**11 55 24.9**	**+1.5**
KBL	**Kabul**	**156.00**	**216**	*e*PKIKP	**PKPdf**	**11 55 24.2**	**-0.2**
KBL	**Kabul**	**156.00**	**216**	*e*PKPdf	**PKPdf**	**11 55 24.2**	**-0.2**
CONA	**Conrad Observa**	**156.49**	**94**	⇑*i*PKPdf	**PKPdf**	**11 55 24.1**	**-0.3**
	comp=Z,5.8nm,0.7s						
CLL	**Collm**	**156.51**	**84**	*e*PKPdf	**PKPdf**	**11 55 25.6**	**+1.4**
CLL	**Collm**	**156.51**	**84**	*e*PKPdf	**PKPdf**	**11 55 25.0**	**+0.8**
CLL				*e*		11 55 43.0	
CLL				*e*PKPab	**PKPab**	**11 55 55.0**	**+1.9**
	comp=Z,43nm,1.9s						
CLL				*e*PP	PP	11 59 39.0	+7.2
CLL				*e*PPP	PPP	12 03 12.0	
CLL				*e*SS	SS	12 19 24.0	+1.1
CLL				*e*SSP	SSP	12 20 15.0	
CLL				*e*SSS	SSS	12 25 24.0	
CLL				Lm	MLR	13 14 00.0	
	comp=Z,1µm,21.0s						
CLL	**Collm**	**156.51**	**84**	Lm	MLR	13 14 00.0	
	comp=Z,1µm,21.0s						
CLL	**Collm**	**156.51**	**84**	*e*PKIKP	**PKPdf**	**11 55 25.0**	**+0.8**
CLL				pmax	pmax		
	comp=Z,43nm,1.9s						
CLL				MLR	MLR		
	comp=Z,1µm,21.0s						
PRA	**Prague**	**156.76**	**88**	*e*SS	SS	12 19 26.5	+0.9
PRA				AMS	AMS	13 16 50.0	
	comp=Z,1µm,19.8s						
PRA	**Prague**	**156.76**	**88**	*e*PKIKP	**PKPdf**	**11 55 27.3**	**+2.8**
PRA				*e*		11 59 42.1	
PRA				*e*SS	SS	12 19 28.6	+3.0
PRA				MLR	MLR		
	comp=Z,1µm,21.6s						
PRU	**Pruhonice**	**156.78**	**88**	*e*PKPDF	**PKPdf**	**11 55 28.8**	**+4.2**
PRU				*ex*	x	11 55 42.9	
PRU				*ex*	x	11 56 06.3	
PRU				*e*PP	PP	11 59 41.8	+8.4
PRU				*e*SKKS		12 09 58.7	
PRU				*e*SS	**SS**	**12 19 26.6**	**+0.7**
PRU				AMS	AMS	13 19 10.0	
	comp=Z,900nm,21.0s						
PRU	**Pruhonice**	**156.78**	**88**	*e*PKIKP	**PKPdf**	**11 55 28.8**	**+4.2**
PRU				*e*		11 59 41.8	
PRU				*e*SS	SS	12 19 26.6	+0.7
PRU				MLR	MLR		
	comp=Z,900nm,21.0s						
BRG	**Berggiesshubel**	**156.85**	**86**	*e*PKP	**PKPdf**	**11 55 26.3**	**+1.6**
	comp=Z,48nm,1.9s						
BRG				*e*		11 55 43.7	
	comp=Z,43nm,1.8s						
BRG				PP	PP	11 59 51.0	+17
BRG				SKKS		12 10 04.0	
BRG				SS	SS	12 19 18.0	-8.6
	comp=Z,894nm,17.4s						
	comp=N,600nm,19.3s						
	comp=E,710nm,19.3s						
BRG	**Berggiesshubel**	**156.85**	**86**	*e*PKPdf	**PKPdf**	**11 55 26.2**	**+1.6**
GOPC	**GO Pecny, Ondr**	**156.89**	**88**	*e*PKPDF	**PKPdf**	**11 55 27.3**	**+2.5**
GOPC				*e*PP	PP	11 59 42.1	+8.1
GOPC				*e*SKKS		12 09 58.5	
GOPC				*e*SS	**SS**	**12 19 28.6**	**+1.5**
GOPC				AMS	AMS	13 18 20.0	
	comp=E,1µm,21.6s						
TREC	**Trest**	**156.98**	**90**	AMS	AMS	13 13 40.0	
	comp=E,1µm,22.3s						
PVCC	**Panska Ves**	**157.05**	**87**	AMS	AMS	13 17 50.0	
	comp=E,1µm,22.8s						
ISP	**Isparta**	**157.07**	**131**	PFAKE		11 55 40.0	+14
ISP				LR	LR		
	comp=Z,1µm,20.0s						
KONO	**Kongsberg**	**157.11**	**62**	PFAKE		11 55 40.0	+15
KONO				LR	LR		
	comp=Z,1µm,21.0s						
KSH	**Kashi**	**157.49**	**235**	PKP	**PKPdf**	**11 55 26.3**	**+0.3**
KSH				PKS	**PKSdf**	**11 58 59.2**	**-0.6**
KSH				SKS	**SKSdf**	**12 02 31.2**	**-0.6**
KSH				LN			
	comp=Z,120nm,7.4s						
KSH				LE			
	comp=Z,250nm,14.1s						
KSH				LZ			
	comp=Z,1µm,24.1s						
DPC	**Dobruska-Polom**	**157.96**	**89**	*e*PKPDF	**PKPdf**	**11 55 27.6**	**+1.5**
DPC				*ex*	x	11 55 35.9	
DPC				*ex*	x	11 55 45.7	
DPC				*e*PKPAB	**PKPab**	**11 55 58.8**	**-0.7**
DPC				*e*PP	PP	11 59 48.3	+8.3
DPC				*e*SS	SS	12 19 47.6	+8.9
DPC				AMS	AMS	13 19 20.0	
DPC	**Dobruska-Polom**	**157.96**	**89**	*e*PKIKP	**PKPdf**	**11 55 27.6**	**+1.5**
DPC				*e*		11 55 35.9	
DPC				*e*		11 55 58.8	
DPC				*e*		11 59 48.3	
NOA	**NORSAR Array B**	**158.06**	**59**	PKP	**PKPdf**	**11 55 25.4**	**-0.5**
	comp=Z,1.9nm,1.0s,baz=280,slow=1.0,SNR=2.1						
NOA				PKPab	**PKPab**	**11 55 58.5**	**-1.1**
	comp=Z,1.7nm,0.8s,baz=266,slow=4.4,SNR=4.2						
NOA	**NORSAR Array B**	**158.06**	**59**	PKIKP	**PKPdf**	**11 55 25.4**	**-0.5**
NOA						11 55 58.5	
NOA	**NORSAR Array B**	**158.06**	**59**	PKP	**PKPdf**	**11 55 25.4**	**-0.5**
NOA				PKPab	**PKPab**	**11 55 58.5**	**-1.1**
VYHS	**Vyhne**	**158.48**	**95**	*e*PKIKP	**PKPdf**	**11 55 27.6**	**+0.8**
VYHS	**Vyhne**	**158.48**	**95**	*e*PKP	**PKPdf**	**11 55 27.6**	**+0.8**
OKC	**Ostrava-Krasne**	**158.76**	**91**	*e*PKPDF	**PKPdf**	**11 55 29.2**	**+2.2**
OKC				*e*PP	PP	11 59 38.2	-6.0
OKC				*e*SS	SS	12 19 49.9	+2.9
OKC				AMS	AMS	13 13 50.0	
	comp=Z,800nm,18.2s						
OKC	**Ostrava-Krasne**	**158.76**	**91**	*e*PKIKP	**PKPdf**	**11 55 29.2**	**+2.2**
OKC				*e*SS	SS	12 19 49.9	+2.9
OKC				MLR	MLR		
	comp=Z,800nm,18.2s						
PSZ	**Piszkesteto**	**158.77**	**97**	PFAKE		11 55 40.0	+13
PSZ				LR	LR		
	comp=Z,2µm,22.0s						
MKAR	**Makanchi Array**	**159.33**	**258**	PKP	**PKPdf**	**11 55 27.1**	**-0.8**
	comp=Z,1.5nm,1.0s,baz=256,slow=8.5,SNR=4.8						
MKAR				PKPab	**PKPab**	**11 56 04.1**	**-1.4**
	comp=Z,7.3nm,1.0s,baz=172,slow=2.5,SNR=12						
MKAR				PP	**PP**	**11 59 47.2**	**-0.1**
	comp=Z,1.6nm,0.9s,baz=186,slow=4.9,SNR=5.4						
MKAR	**Makanchi Array**	**159.33**	**258**	PKIKP	**PKPdf**	**11 55 27.1**	**-0.8**
MKAR						11 56 04.1	
MKAR						11 59 47.2	
MKAR	**Makanchi Array**	**159.33**	**258**	PKP	**PKPdf**	**11 55 27.1**	**-0.8**
MKAR				PKPab	**PKPab**	**11 56 04.1**	**-1.4**
MKAR				PP	**PP**	**11 59 47.2**	**-0.1**
ANTO	**Ankara**	**159.75**	**132**	PFAKE		11 55 40.0	+11
ANTO				LR	LR		
	comp=Z,1µm,21.0s						
BRTR	**Keskin Array B**	**159.98**	**134**	PKP	**PKPdf**	**11 55 28.6**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=149,slow=3.6,SNR=5.6						
BRTR				PKPab	**PKPab**	**11 56 08.4**	**-0.2**
	comp=Z,4.3nm,0.7s,baz=188,slow=4.8,SNR=11						
BRTR	**Keskin Array B**	**159.98**	**134**	PKIKP	**PKPdf**	**11 55 28.6**	**-0.4**
BRTR						11 56 08.4	
BRTR	**Keskin Array B**	**159.98**	**134**	PKP	**PKPdf**	**11 55 28.6**	**-0.4**
BRTR				PKPab	**PKPab**	**11 56 08.4**	**-0.2**
CRVS	**Cervenica-Dubn**	**160.18**	**97**	*e*PKIKP	**PKPdf**	**11 55 33.5**	**+4.8**
CRVS	**Cervenica-Dubn**	**160.18**	**97**	*e*PKP	**PKPdf**	**11 55 33.5**	**+4.8**
TKM2	**Tokmak 2**	**160.30**	**240**	PFAKE		11 55 40.0	+11
TKM2				LR	LR		
	comp=Z,1µm,19.0s						
UZH	**Uzhgorod**	**160.51**	**98**	*e*PKIKP	**PKPdf**	**11 55 30.6**	**+1.6**
UZH				*i*		11 55 38.8	
UZH				*e*		12 02 32.8	
UZH				*e*		12 03 41.4	
AAK	**Ala-Archa**	**160.62**	**238**	PKPab	**PKPab**	**11 56 10.7**	**-0.7**
	comp=Z,10nm,0.9s,baz=144,slow=4.5,SNR=15						
AAK				PP	**PP**	**11 59 58.1**	**+3.8**
	comp=Z,3.6nm,1.0s,baz=82,slow=3.5,SNR=5.0						
AAK	**Ala-Archa**	**160.62**	**238**	PKP2	**PKPab**	**11 56 10.7**	**-0.7**
AAK						11 59 58.1	
AAK				MLR	MLR		
	comp=Z,1µm,22.0s						
AAK	**Ala-Archa**	**160.62**	**238**	PKPab	**PKPab**	**11 56 10.7**	**-0.7**
AAK				PP	**PP**	**11 59 58.1**	**+3.8**
AAK				LR	LR		
	comp=Z,1µm,22.0s						
KOLS	**Kolonicke sedl**	**160.65**	**97**	*e*PKIKP	**PKPdf**	**11 55 33.7**	**+4.5**
KOLS	**Kolonicke sedl**	**160.65**	**97**	*e*PKP	**PKPdf**	**11 55 33.7**	**+4.5**
FRU	**Bishkek**	**160.71**	**238**	*e*PKP2	PKPab	11 56 06.0	-5.6
EKS2	**Erkin-Say**	**160.98**	**237**	PFAKE		11 55 40.0	+10
EKS2				LR	LR		
	comp=Z,1µm,20.0s						
ZALV	**Zalesovo Beam**	**161.16**	**279**	PKP	**PKPdf**	**11 55 28.6**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=122,slow=1.9,SNR=3.6						
ZALV				PKPab	**PKPab**	**11 56 11.2**	**-2.1**
	comp=Z,4.5nm,0.8s,baz=106,slow=4.8,SNR=7.0						
ZALV	**Zalesovo Beam**	**161.16**	**279**	PKIKP	**PKPdf**	**11 55 28.6**	**-1.0**
ZALV						11 56 11.2	
ZALV	**Zalesovo Beam**	**161.16**	**279**	PKP	**PKPdf**	**11 55 28.6**	**-1.0**
ZALV				PKPab	**PKPab**	**11 56 11.2**	**-2.1**
KWP	**Kalwaria Pacla**	**161.25**	**96**	PFAKE		11 55 40.0	+10
KWP				LR	LR		
	comp=Z,1µm,20.0s						
ARCES	**ARCESS Array B**	**161.56**	**30**	PKPab	**PKPab**	**11 56 13.7**	**-0.9**
	comp=Z,3.9nm,0.9s,baz=291,slow=5.1,SNR=5.7						
ARCES	**ARCESS Array B**	**161.56**	**30**	PKP2	**PKPab**	**11 56 13.7**	**-0.9**
ARCES	**ARCESS Array B**	**161.56**	**30**	PKPab	**PKPab**	**11 56 13.7**	**-0.9**
BUR08	**Bucovina Ar. S**	**161.58**	**104**	*e*PKPdf	**PKPdf**	**11 55 30.8**	**+0.3**
KEV	**Kevo**	**161.84**	**28**	PFAKE		11 55 40.0	+10
KEV				LR	LR		
	comp=Z,2µm,21.0s						
GEYT	**Alibeck**	**161.97**	**195**	PKPab	**PKPab**	**11 56 17.4**	**+0.2**
	comp=Z,1.3nm,0.3s,baz=232,slow=7.3,SNR=4.4						
NVS	**Novosibirsk**	**162.31**	**281**	*e*PKP2	**PKPab**	**11 56 16.1**	**-2.1**
NVS				pmax	pmax		
	comp=Z,80nm,2.5s						
NVS				pmax	pmax		
	comp=N,26nm,2.0s						
KURK	**Kurchatov**	**163.46**	**264**	PKIKP	**PKPdf**	**11 55 30.1**	**-1.9**
KURK				MLR	MLR		
	comp=Z,1µm,19.0s						
KURK	**Kurchatov**	**163.46**	**264**	PKP	**PKPdf**	**11 55 30.1**	**-1.9**
KURK				LR	LR		
	comp=Z,1µm,19.0s						
KURBB	**Kurchatov Arra**	**163.46**	**264**	PKP	**PKPdf**	**11 55 30.1**	**-1.9**
	comp=Z,0.6nm,0.8s,baz=176,slow=0.4,SNR=9.9						
GNI	**Garni**	**163.87**	**159**	PFAKE		11 55 40.0	+7.0
GNI				LR	LR		
	comp=Z,2µm,21.0s						
SIM	**Simferopol'**	**164.41**	**125**	*i* PKIKP	PKPdf	11 55 43.3	+10
SIM				*e*		12 00 18.0	
SIM				*e*PPS	PPS	12 13 51.0	
SIM				*e*SS	SS	12 21 43.0	+58
SIM				pmax	pmax		
	comp=Z,80nm,10.1s						
LVZ	**Lovozero**	**165.14**	**26**	PFAKE		11 55 40.0	+7.0
LVZ				LR	LR		
	comp=Z,2µm,20.0s						
KIEV	**Kiev**	**165.43**	**100**	PFAKE		11 55 40.0	+6.3
KIEV				LR	LR		
	comp=Z,2µm,21.0s						
AKASG	**Malin Array Be**	**165.44**	**100**	PKP	**PKPdf**	**11 55 33.2**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=283,slow=0.8,SNR=12						
AKASG				PKPab	**PKPab**	**11 56 31.3**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=250,slow=4.8,SNR=2.5						
AKASG	**Malin Array Be**	**165.44**	**100**	PKIKP	**PKPdf**	**11 55 33.3**	**-0.5**
AKASG						11 56 31.3	
AKASG	**Malin Array Be**	**165.44**	**100**	PKP	**PKPdf**	**11 55 33.2**	**-0.5**
AKASG				PKPab	**PKPab**	**11 56 31.3**	**-0.8**
SOC	**Sochi**	**165.63**	**141**	*e*PKIKP	**PKPdf**	**11 55 36.8**	**+2.6**
SOC				*e*		12 00 24.9	
SOC				*e*		12 02 29.5	
SOC				*e*PPP	PPP	12 04 14.5	
SOC				*e*SS	SS	12 20 56.3	-1.2
MNK	**Minsk**	**166.02**	**84**	*e*PKIKP	**PKPdf**	**11 55 33.0**	**-1.1**
MICGM	**Minsk**	**166.05**	**84**	*e*	**PKPdf**	**11 55 33.0**	**-1.1**
KBZ	**Khabaz**	**166.79**	**149**	PKP	**PKPdf**	**11 55 34.9**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=53,slow=20,SNR=3.5						
KBZ				PKPab	**PKPab**	**11 56 38.1**	**0.0**
	comp=Z,3.0nm,0.8s,baz=236,slow=24,SNR=7.9						
KBZ	**Khabaz**	**166.79**	**149**	PKIKP	**PKPdf**	**11 55 34.9**	**-0.1**
KBZ						11 56 38.2	
KBZ	**Khabaz**	**166.79**	**149**	PKP	**PKPdf**	**11 55 34.9**	**-0.1**
KBZ				PKPab	**PKPab**	**11 56 38.1**	**0.0**
KIV	**Kislovodsk**	**166.94**	**148**	*e*PKIKP	**PKPdf**	**11 55 35.6**	**+0.3**
KIV				*e*		12 00 25.9	
KIV				*e*SS	SS	12 21 06.1	-4.7
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KIV	**Kislovodsk**	**166.94**	**148**	PFAKE		11 55 50.0	+15
KIV				LR	LR		
	comp=Z,1µm,21.0s						
MAK	**Makhachkala**	**167.09**	**165**	*e*PKIKP	**PKPdf**	**11 55 33.6**	**-1.7**
MAK				*e*		12 02 35.7	
MAK				*e*SS	SS	12 21 18.6	+6.9
MAK				*e*SSS	SSS	12 27 40.0	
MAK				pmax	pmax		
	comp=Z,31nm,0.3s						
BVAR	**Borovoye Array**	**169.06**	**264**	PKP	**PKPdf**	**11 55 35.1**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=48,slow=2.1,SNR=3.6						
BVAR				PKPab	**PKPab**	**11 56 46.0**	**-2.1**
	comp=Z,2.1nm,0.7s,baz=113,slow=3.4,SNR=9.1						
BVAR				PP	**PP**	**12 00 39.5**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=84,slow=6.1,SNR=5.0						
BVAR	**Borovoye Array**	**169.06**	**264**	PKIKP	**PKPdf**	**11 55 35.1**	**-1.3**
BVAR						11 56 46.0	
BVAR						12 00 39.5	
BVAR	**Borovoye Array**	**169.06**	**264**	PKP	**PKPdf**	**11 55 35.1**	**-1.3**
BVAR				PKPab	**PKPab**	**11 56 46.0**	**-2.1**
BVAR				PP	**PP**	**12 00 39.5**	**+1.1**
BRVK	**Borovoye**	**169.13**	**265**	PFAKE		11 55 50.0	+14
BRVK				LR	LR		
	comp=Z,2µm,22.0s						
OBN	**Obninsk**	**171.10**	**86**	PKP	**PKPdf**	**11 55 36.8**	**-0.6**
	comp=Z,9.2nm,0.5s,baz=237,slow=6.5,SNR=3.9						
OBN	**Obninsk**	**171.10**	**86**	PKP	**PKPdf**	**11 55 36.8**	**-0.6**
OBN				LR	LR		
	comp=Z,2µm,20.0s						
KLMR	**Klimovskoe**	**171.44**	**46**	*e*PKIKP	**PKPdf**	**11 55 38.8**	**+1.4**
KLMR				pmax	pmax		
	comp=Z,20nm,1.5s						
ABKAR	**Akbulak array**	**172.14**	**220**	*e*PKPdf	**PKPdf**	**11 55 37.8**	**-0.4**
AKTO	**Aktyubinsk**	**173.81**	**217**	PKP	**PKPdf**	**11 55 38.1**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=20,slow=3.4,SNR=5.1						
AKTO				PKPab	**PKPab**	**11 57 08.7**	**-0.5**
	comp=Z,3.4nm,0.9s,baz=124,slow=4.4,SNR=8.0						
AKTO	**Aktyubinsk**	**173.81**	**217**	PKIKP	**PKPdf**	**11 55 38.1**	**-0.7**
AKTO						11 57 08.7	
AKTO	**Aktyubinsk**	**173.81**	**217**	PKP	**PKPdf**	**11 55 38.1**	**-0.7**
AKTO				PKPab	**PKPab**	**11 57 08.7**	**-0.5**
ARU	**Arti**	**176.28**	**287**	*i* PKIKP	**PKPdf**	**11 55 37.2**	**-2.1**
ARU						12 02 40.9	
ARU	**Arti**	**176.28**	**287**	*e*PKPdf	**PKPdf**	**11 55 37.4

HARR	**Harsova**	**0.39**	**225**	⇑*i*P	Pb	11 38 42.8	+0.2
HARR	**Harsova**	**0.39**	**225**	⇑*i*P	Pb	11 38 42.8	+0.2
TLCR		**0.42**	**58**	S	Sb	11 38 49.6	+0.5
TLCR		**0.42**	**58**	*i* S	Sb	11 38 49.6	+0.5
TLB	**Topalu**	**0.43**	**207**	⇑*i*P	Pb	11 38 43.4	+0.2
TLB	**Topalu**	**0.43**	**207**	⇑*i*P	Pb	11 38 43.4	+0.2
TLB				*i* S	Sb	11 38 49.8	+0.5
TIRR	**Tirgusor**	**0.51**	**172**	⇑*i*P	Pb	11 38 45.0	+0.4
TIRR	**Tirgusor**	**0.51**	**172**	⇑*i*P	Pb	11 38 45.0	+0.4
TIRR				*i* S	Sb	11 38 51.7	0.0

CSEM ***06*** *11:41:37.5, 60.99N×15.34E, h0km, ML1.2, Mining explosion.*

UPP 06 11:41:37.5, 60.99N×15.34E, h0km, ML1.2, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROTU	**Roteberg**	**0.49**	**28**	P	Pg	11 41 46.8	-0.6
ROTU				S	Sg	11 41 53.3	+0.1
IGGU	**Iggoen**	**0.97**	**96**	P	Pg	11 41 55.6	-0.5
HUDU	**Hudiksvall**	**1.14**	**48**	P	Pg	11 41 58.8	-0.5
ARNU	**Arnoeviken**	**1.21**	**53**	P	Pg	11 42 00.1	-0.5
HASU	**Hassela**	**1.32**	**27**	P	Pg	11 42 02.0	-0.7
FLYU	**Flymyra**	**1.52**	**123**	P	Pn	11 42 05.5	-0.4
GRAU	**Graesoe**	**1.71**	**111**	P	Pn	11 42 08.7	+0.3

IDC ***06*** *12:04:42.7±1.6, 40.64N×51.77E, h0km, mb3.8/6, mb1 3.9/13, mb1mx3.7/46, mbtmp3.9/13, ML3.9/6, MS4.2/2, Ms1 4.2/2, ms1mx3.1/38, Error ellipse: s-maj=30.3km s-min=10.8km az=162.0*

MOS ***06*** *12:04:45.5±1.4, 41.15N×51.86E, h10km, mb4.1/7, Error ellipse: s-maj=10.7km s-min=8.7km az=79.3*

CSEM ***06*** *12:04:47.9±0.3, 40.83N×52.04E, h40km, mb3.9/7, Error ellipse: s-maj=10.5km s-min=3.9km az=152.0*

ISCJB ***06*** *12:04:47.4±0.4, 40.89N±0.05×51.94E±0.04, h47km, mb3.7/11, MS4.8/2, Error ellipse: s-maj=7.4km s-min=3.1km az=160.4*

AZER ***06*** *12:04:48.2±8.4, 40.57N×51.89E, h41km, Error ellipse: s-maj=6.6km s-min=3.4km az=299.0*

NNC ***06*** *12:04:59.2±17.0, 41.23N×53.81E, h0km, mb4.1, Error ellipse: s-maj=151.7km s-min=109.4km az=59.0*

ISC 06 12:04:47.9±0.6, 40.79N±0.05×52.00E±0.04, h47km, n101, σ1858/121, mb3.8/11, 21C-22D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALA	**Gala**	**1.46**	**256**	⇓Pg	**Pn**	**12 05 13.0**	**+1.3**
GALA	**Gala**	**1.46**	**256**	Pg	**Pn**	**12 05 13.0**	**+1.3**
NDR	**Nardaran**	**1.55**	**263**	⇑Pg	**Pn**	**12 05 13.2**	**+0.2**
NDR				⇑Sg	Sn	12 05 38.4	+6.6
NDR	**Nardaran**	**1.55**	**263**	Pg	**Pn**	**12 05 13.2**	**+0.2**
GOBA	**Gobu** SNR=8.2	**1.77**	**258**	⇓Pg	**Pn**	**12 05 18.2**	**+2.1**
GOBA				⇑Sg	**Sn**	**12 05 42.4**	**+5.0**
GOBA	**Gobu** SNR=8.2	**1.77**	**258**	Pg	**Pn**	**12 05 18.2**	**+2.1**
ATGJ	**Altiaghaj** SNR=23	**2.33**	**273**	⇑Pn	**Pn**	**12 05 25.2**	**+1.4**
ATGJ				⇑Sn	**Sn**	**12 05 54.1**	**+2.9**
ATGJ	**Altiaghaj** SNR=23	**2.33**	**273**	Pn	**Pn**	**12 05 25.2**	**+1.4**
ATGJ				Sn	**Sn**	**12 05 54.1**	**+2.9**
ALIB	**Äli-Bayra**	**2.44**	**251**	⇑Pn	**Pn**	**12 05 25.7**	**+0.6**
ALIB	**Äli-Bayra**	**2.44**	**251**	Pn	**Pn**	**12 05 25.7**	**+0.6**
PQL	**Pirkuli** SNR=21	**2.59**	**271**	⇓Pn	**Pn**	**12 05 28.5**	**+1.1**
PQL				⇓Sn	**Sn**	**12 05 59.2**	**+1.4**
PQL	**Pirkuli** SNR=21	**2.59**	**271**	Pn	**Pn**	**12 05 28.5**	**+1.1**
PQL				Sn	**Sn**	**12 05 59.2**	**+1.4**
QUBA	**Quba, Azerbaij** SNR=11	**2.71**	**283**	Pn	**Pn**	**12 05 30.8**	**+1.7**
QUBA	**Quba, Azerbaij** SNR=11	**2.71**	**283**	Pn	**Pn**	**12 05 30.8**	**+1.7**
SAAT	**Saatly**	**2.89**	**252**	⇓Pn	**Pn**	**12 05 32.9**	**+1.5**
SAAT	**Saatly**	**2.89**	**252**	Pn	**Pn**	**12 05 32.9**	**+1.5**
IML	**Ismayilli** SNR=8.2	**2.90**	**271**	Pn	**Pn**	**12 05 32.4**	**+0.8**
IML				⇓Sn	**Sn**	**12 06 05.9**	**+0.6**
IML	**Ismayilli** SNR=8.2	**2.90**	**271**	Pn	**Pn**	**12 05 32.4**	**+0.8**
IML				Sn	**Sn**	**12 06 05.9**	**+0.6**
KDMR	**Kurdemir**	**2.94**	**263**	⇓Pn	**Pn**	**12 05 32.8**	**+0.7**
KDMR	**Kurdemir**	**2.94**	**263**	Pn	**Pn**	**12 05 32.8**	**+0.7**
GLBA	**Clilabad** SNR=25	**3.17**	**242**	⇑Pn	**Pn**	**12 05 35.8**	**+0.5**
GLBA				⇓Sn	**Sn**	**12 06 09.9**	**-2.0**
GLBA	**Clilabad** SNR=25	**3.17**	**242**	Pn	**Pn**	**12 05 35.8**	**+0.5**
GLBA				Sn	**Sn**	**12 06 09.9**	**-2.0**
LKRN	**Lenkeran, Azer** SNR=9.7	**3.24**	**231**	⇓Pn	**Pn**	**12 05 36.2**	**0.0**
LKRN				⇑Sn	**Sn**	**12 06 10.3**	**-3.1**
LKRN	**Lenkeran, Azer** SNR=9.7	**3.24**	**231**	Pn	**Pn**	**12 05 36.2**	**0.0**
LRK	**Lerik** SNR=31	**3.54**	**234**	⇑Pn	**Pn**	**12 05 40.1**	**-0.5**
LRK				⇑Sn	**Sn**	**12 06 17.2**	**-4.1**
LRK	**Lerik** SNR=31	**3.54**	**234**	Pn	**Pn**	**12 05 40.1**	**-0.5**
SEKA	**Sheki** SNR=30	**3.66**	**278**	⇑Pn	**Pn**	**12 05 42.5**	**+0.4**
SEKA				⇓Sn	**Sn**	**12 06 24.0**	**0.0**
SEKA	**Sheki** SNR=30	**3.66**	**278**	Pn	**Pn**	**12 05 42.5**	**+0.4**
SEKA				Sn	**Sn**	**12 06 24.0**	**0.0**
BRDA	**Brd**	**3.71**	**263**	⇓Pn	**Pn**	**12 05 43.0**	**+0.3**
BRDA				⇓Sn	**Sn**	**12 06 25.3**	**+0.1**
BRDA	**Brd**	**3.71**	**263**	Pn	**Pn**	**12 05 43.0**	**+0.3**
BRDA				Sn	**Sn**	**12 06 25.3**	**+0.1**
MNGR	**Mingechevir, A** SNR=3.4	**3.73**	**271**	⇓Pn	**Pn**	**12 05 43.2**	**+0.2**
MNGR				⇑Sn	**Sn**	**12 06 26.1**	**+0.4**
MNGR	**Mingechevir, A** SNR=3.4	**3.73**	**271**	Pn	**Pn**	**12 05 43.2**	**+0.2**
MNGR				Sn	**Sn**	**12 06 26.1**	**+0.4**
ZKTA	**Zakatala** SNR=6.6	**4.15**	**284**	⇓Pn	**Pn**	**12 05 49.4**	**+0.7**
ZKTA				⇓Sn	**Sn**	**12 06 34.9**	**-1.0**
GANJ	**Ganja** SNR=10.0	**4.32**	**270**	⇑Pn	**Pn**	**12 05 49.8**	**-1.3**
GANJ				⇓Sn	**Sn**	**12 06 36.9**	**-3.2**
GANJ	**Ganja** SNR=10.0	**4.32**	**270**	Pn	**Pn**	**12 05 49.8**	**-1.3**
QZX	**Qazax, Azerbai** SNR=5.4	**5.03**	**275**	Pn	**Pn**	**12 06 00.2**	**-0.6**
QZX	**Qazax, Azerbai** SNR=5.4	**5.03**	**275**	Pn	**Pn**	**12 06 00.2**	**-0.6**
NAX	**Nakhchivan**	**5.25**	**254**	⇓Pn	**Pn**	**12 06 03.2**	**-0.7**
NAX				⇑Sn	**Sn**	**12 07 02.9**	**-0.3**
NAX	**Nakhchivan**	**5.25**	**254**	Pn	**Pn**	**12 06 03.2**	**-0.7**
NAX				Sn	**Sn**	**12 07 02.9**	**-0.3**
GEYT	**Alibeck** 3.0nm,0.3s,baz=307,slow=15,SNR=8.9	**5.53**	**119**	Pn	Pn	12 06 11.3	+3.6
GEYT	1.9nm,0.3s,baz=272,slow=12,SNR=4.8			Sn	**Sn**	**12 07 06.5**	**-3.5**
GEYT	0.8nm,0.3s,baz=295,slow=41,SNR=2.7			Lg	Lg	12 07 45.4	
GNI	**Garni** 2.6nm,0.3s,baz=343,slow=2.4,SNR=6.6	**5.58**	**266**	Pn	**Pn**	**12 06 08.1**	**-0.3**
GNI	2.3nm,0.3s,baz=299,slow=15,SNR=4.4			Sn	**Sn**	**12 07 06.9**	**-4.3**
GNI	**Garni**	**5.58**	**266**	*e*P	**Pn**	**12 06 09.1**	**+0.7**
GNI	**Garni**	**5.58**	**266**	*e*P	**Pn**	**12 06 09.1**	**+0.7**
KBZ	**Khabaz** 0.6nm,0.3s,baz=56,slow=24,SNR=18	**7.37**	**297**	Pn	**Pn**	**12 06 31.2**	**-1.6**
KBZ	3.1nm,0.3s,baz=56,slow=24,SNR=7.9			Sn	Sn	12 07 45.8	-9.2
KBZ	**Khabaz**	**7.37**	**297**	P	**Pn**	**12 06 31.2**	**-1.6**
KBZ						12 07 45.8	
KBZ	comp=Z,1.0nm,0.3s			pmax	pmax		
KBZ	comp=N,3.0nm,0.3s			smax	smax		
KIV	**Kislovodsk**	**7.59**	**298**	*e*P	**Pn**	**12 06 33.8**	**-2.1**
KIV				*e*S	**Sn**	**12 07 57.0**	**-3.6**
KIV	comp=Z,4.0nm,0.6s			pmax	pmax		
KIV				MLR	MLR		
	comp=Z,35nm,7.0s						
AB31	**Akbulak array** comp=Z,0.4nm,0.3s,baz=205,slow=13	**10.16**	**31**	⇑Pn	**Pn**	**12 07 10.5**	**-0.5**
AB31	comp=Z,5.8nm,0.4s,baz=193,slow=23,SNR=8.9			Sn	**Sn**	**12 09 00.0**	**-3.4**
AB31	**Akbulak array** comp=Z,0.4nm,0.3s	**10.16**	**31**	Pn	**Pn**	**12 07 10.5**	**-0.5**
AB31	comp=Z,5.8nm,0.4s,SNR=8.9			Sn	**Sn**	**12 09 00.0**	**-3.4**
AKTK	**Aktyubinsk** comp=Z,2.0nm,0.3s	**10.52**	**22**	P	**Pn**	**12 07 16.1**	**+0.1**
AKTO	**Aktyubinsk** comp=Z,3.3nm,0.4s	**10.52**	**22**	⇓Pn	**Pn**	**12 07 15.7**	**-0.2**
AKTO	comp=Z,29nm,0.9s			⇑Sn	Sn	12 09 05.7	-6.6
AKTO	**Aktyubinsk** comp=Z,2.2nm,0.3s,baz=203,slow=14,SNR=17	**10.52**	**22**	Pn	**Pn**	**12 07 16.1**	**+0.1**
AKTO	comp=Z,3.9nm,0.3s,baz=13,slow=23,SNR=18			Sn	Sn	12 09 04.8	-7.5
AKTO	**Aktyubinsk** comp=N,4.0nm,0.3s	**10.52**	**22**	P	**Pn**	**12 07 16.1**	**+0.1**
AKTO	comp=N,3.9nm,0.4s			Sn	Sn	12 09 05.7	-6.6
KK31	**Karatay Array** comp=N,29nm,0.9s	**13.97**	**74**	⇓Pn	**Pn**	**12 08 03.0**	**-0.1**
KK31	comp=N,1.5nm,0.6s,baz=290,slow=12,SNR=8.3			⇑Sn	Sn	12 10 25.9	-11
KK31	**Karatay Array** comp=N,1.5nm,0.6s,SNR=8.3	**13.97**	**74**	Pn	**Pn**	**12 08 03.0**	**-0.1**
KK31	comp=N,2.9nm,0.6s,SNR=6.4			Sn	Sn	12 10 25.9	-11
BRTR	**Keskin Array B** comp=N,0.1nm,0.3s,baz=80,slow=10,SNR=4.9	**14.07**	**272**	Pn	**Pn**	**12 08 05.5**	**+0.9**
BRTR	comp=N,328nm,21.3s,baz=26,slow=39			LR	LR	12 13 47.2	
BRTR	**Keskin Array B**	**14.07**	**272**	*i* P	**Pn**	**12 08 06.8**	**+2.2**
BRTR	comp=Z,1.0nm,0.4s			pmax	pmax		
ASF	**Jabal al Asfar** comp=Z,0.3nm,0.3s,baz=28,slow=7.5,SNR=4.9	**14.87**	**239**	Pn	**P**	**12 08 20.4**	**+0.4**
ARU	**Arti**	**16.23**	**13**	*d* iP	**Pn**	**12 08 31.0**	**-1.4**
ARU				S	Sn	12 11 23.2	-8.1
ARU	comp=Z,9.0nm,1.7s			pmax	pmax		
AAK	**Ala-Archa** comp=Z,0.4nm,0.3s,baz=219,slow=4.2,SNR=4.3	**16.89**	**76**	P	**P**	**12 08 43.5**	**+1.0**
AAK	**Ala-Archa**	**16.89**	**76**	*e*P	**P**	**12 08 45.8**	**+3.3**
AAK	comp=Z,7.0nm,1.2s			pmax	pmax		
AAK	**Ala-Archa** comp=Z,7.0nm,1.2s	**16.89**	**76**	*e*P	**P**	**12 08 45.8**	**+3.3**
BRVK	**Borovoye** comp=Z,8.0nm,1.0s	**17.44**	**39**	⇓P	**P**	**12 08 47.7**	**-0.6**
BRVK	comp=Z,10nm,0.9s			⇑S	Sn	12 11 51.8	-8.9
BRVK	**Borovoye** comp=Z,4.0nm,1.0s	**17.44**	**39**	*e*P	**P**	**12 08 49.2**	**+0.9**
BRVK	comp=Z,7.0nm,1.2s			pmax	pmax		
BRVK	**Borovoye** comp=Z,8.0nm,1.0s	**17.44**	**39**	P	**P**	**12 08 47.7**	**-0.6**
BRVK	comp=Z,10nm,0.9s			S	Sn	12 11 51.8	-8.9
BVA0	**Borovoye Array** comp=Z,3.7nm,0.7s,baz=230,slow=41,SNR=19	**17.48**	**39**	P	**P**	**12 08 48.5**	**-0.2**
BVA0	comp=Z,4.7nm,0.8s,baz=226,slow=26,SNR=7.8			⇑S	Sn	12 11 52.9	-8.6
BVA0	**Borovoye Array** comp=Z,3.7nm,0.7s,SNR=19	**17.48**	**39**	P	**P**	**12 08 48.5**	**-0.2**
BVA0	comp=Z,4.7nm,0.8s,SNR=7.8			S	Sn	12 11 52.9	-8.6
BVAR	**Borovoye Array** comp=Z,1.0nm,0.3s,baz=226,slow=9.9,SNR=15	**17.48**	**39**	P	**P**	**12 08 49.0**	**+0.3**
BVAR	comp=Z,0.2nm,0.3s,baz=245,slow=17,SNR=3.2			S	Sn	12 11 49.0	-12
BVAR	**Borovoye Array**	**17.48**	**39**	P	**P**	**12 08 49.0**	**+0.3**
BVAR	comp=Z,1.0nm,0.3s			S	Sn	12 11 49.0	-13
BVAR	comp=Z,1.0nm,0.3s			pmax	pmax		
BVAR	**Borovoye Array** comp=Z,1.0nm,0.3s	**17.48**	**39**	P	**P**	**12 08 49.0**	**+0.3**
OBN	**Obninsk**	**17.61**	**330**	⇑*e*P	**Pn**	**12 08 49.2**	**-0.4**
OBN	comp=Z,3.0nm,0.8s			pmax	pmax		
OBN	comp=Z,118nm,18.0s			MLR	MLR		
OBN	**Obninsk** comp=Z,118nm,18.0s	**17.61**	**330**	*e*P	**Pn**	**12 08 49.2**	**-0.4**
AKASG	**Malin Array Be** comp=Z,1.4nm,0.3s,baz=113,slow=12,SNR=6.1	**18.67**	**310**	P	**P**	**12 09 00.4**	**-1.4**
AKASG	**Malin Array Be**	**18.67**	**310**	*e*P	**Pn**	**12 09 03.4**	**+0.9**
AKASG				*e*S	**Sn**	**12 12 27.1**	**-3.1**
AKASG	comp=Z,1.0nm,0.3s			pmax	pmax		
AKASG	comp=N,1.0nm,0.3s			smax	smax		
AKASG	**Malin Array Be** comp=N,1.0nm,0.3s	**18.67**	**310**	*e*P	**Pn**	**12 09 03.4**	**+0.9**
KIEV	**Kiev**	**18.67**	**310**	*e*P	**Pn**	**12 09 03.0**	**+0.4**
KIEV	**Kiev**	**18.67**	**310**	*e*P	**Pn**	**12 09 03.0**	**+0.4**
KURBB	**Kurchatov Arra** comp=N,4.2nm,0.6s,baz=253,slow=11,SNR=33	**20.87**	**53**	P	Pn	12 09 28.6	-0.1
KURK	**Kurchatov**	**20.95**	**53**	P	Pn	12 09 28.6	-1.1
KURK	comp=Z,4.0nm,0.6s			pmax	pmax		
KURK	**Kurchatov** comp=Z,4.0nm,0.6s	**20.95**	**53**	P	Pn	12 09 28.6	-1.1
KLMR	**Klimovskoe** comp=Z,15nm,1.5s	**21.51**	**343**	*e*P	**P**	**12 09 32.5**	**0.0**
KLMR				pmax	pmax		
KLMR	**Klimovskoe** comp=Z,15nm,1.5s	**21.51**	**343**	*e*P	**P**	**12 09 32.5**	**0.0**
IDI	**Anoyia** comp=Z,1.8nm,0.3s,baz=351,slow=5.8,SNR=9.1	**22.01**	**264**	P	**P**	**12 09 36.0**	**-2.1**
MKAR	**Makanchi Array** comp=Z,0.4nm,0.5s,baz=258,slow=16,SNR=6.0	**22.59**	**64**	P	**P**	**12 09 47.0**	**+2.7**
MKAR	**Makanchi Array**	**22.59**	**64**	*e*P	P	12 09 49.0	+4.8
ZALV	**Zalesovo Beam** comp=Z,1.0nm,0.5s,baz=262,slow=10,SNR=8.0	**25.57**	**48**	P	**P**	**12 10 14.5**	**+2.4**
ZALV	**Zalesovo Beam**	**25.57**	**48**	*e*P	**P**	**12 10 14.5**	**+2.4**
ZALV	comp=Z,1.0nm,0.5s			pmax	pmax		
FINES	**FINESS Array B** comp=Z,1.2nm,0.3s,baz=139,slow=12,SNR=11	**26.00**	**331**	P	**P**	**12 10 17.5**	**+1.5**
FINES	**FINESS Array B**	**26.00**	**331**	*e*P	**P**	**12 10 17.9**	**+1.9**
FINES	comp=Z,1.0nm,0.3s			pmax	pmax		
FINES	**FINESS Array B** comp=Z,1.0nm,0.3s	**26.00**	**331**	*e*P	**P**	**12 10 17.9**	**+1.9**
ARCES	**ARCESS Array B** comp=Z,2.1nm,1.1s,baz=142,slow=9.2,SNR=4.7	**31.99**	**343**	P	**P**	**12 11 09.5**	**+0.4**
ARCES	**ARCESS Array B**	**31.99**	**343**	P	**P**	**12 11 09.5**	**+0.4**
ARCES	comp=Z,2.0nm,1.1s			pmax	pmax		
ULN	**Ulaanbaatar** comp=Z,3.0nm,1.7s	**39.28**	**61**	⇑*e*P	P	12 12 15.5	+3.4
ULN				pmax	pmax		
TIXI	**Tiksi** comp=Z,1.0nm,1.2s	**47.79**	**25**	*e*P	**P**	**12 13 21.1**	**+1.2**
TIXI				pmax	pmax		
TIXI	**Tiksi** comp=Z,1.0nm,1.2s	**47.79**	**25**	*e*P	**P**	**12 13 21.1**	**+1.2**
USRK	**Ussuriysk Ar.** comp=Z,583nm,20.9s,baz=121,slow=40	**56.83**	**58**	LR	LR	12 42 59.5	
BILL	**Bilibino**	**60.95**	**23**	⇓*e*P	**P**	**12 14 56.8**	**+1.2**
BILL				*e*		12 15 42.3	
BILL				*e*		12 17 12.4	
BILL				*e*S	S	12 23 29.9	+20
BILL	comp=Z,2.0nm,1.2s			pmax	pmax		
BILL	comp=Z,1μm,19.0s			MLR	MLR		
BILL	**Bilibino** comp=Z,2.0nm,1.2s	**60.95**	**23**	*e*P	**P**	**12 14 56.8**	**+1.2**
ILAR	**Eielson Array** comp=Z,0.5nm,1.0s,baz=348,slow=3.9,SNR=3.8	**73.74**	**8**	P	**P**	**12 16 16.3**	**-0.2**
ILAR	**Eielson Array**	**73.74**	**8**	P	**P**	**12 16 16.3**	**-0.2**
ILAR	comp=Z,1.0nm,1.0s			pmax	pmax		
YKA	**Yellowknife Ar** comp=Z,0.4nm,0.8s,baz=6.6,slow=6.7,SNR=5.4	**76.50**	**354**	P	**P**	**12 16 31.8**	**-0.6**

WEL 06 12:14:34.1±0.4, 36.64S×177.08E, h12km, ML4.1/8, 3C-1D, Error ellipse: s-maj=3.4km s-min=2.2km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.89**	**174**	P*	Pb	12 14 51.7	+0.2
WIZ				S*	Sg	12 14 59.6	-3.4
WIZ				S*	Sb	12 14 59.7	-3.7
MYRZ	**Mayor Island**	**0.93**	**226**	P*	Pg	12 14 51.0	-1.1
MYRZ				S*	Sg	12 15 02.9	-1.3
KUZ	**Kuaotunu**	**1.10**	**264**	⇑P*	Pb	12 14 53.4	-1.6
KUZ				S*	Sb	12 15 08.2	-1.1
KUZ				S*	Sg	12 15 08.3	-1.3
KUZ				AML	AML	12 15 11.8	
HAZ	**Te Kaha**	**1.25**	**153**	⇑P*	Pn	12 14 54.5	-2.8
TGRZ	**Tauranga**	**1.27**	**211**	P*	Pn	12 14 55.9	-1.8
TGRZ				AML	AML	12 15 13.8	
TGRZ				AML	AML	12 15 26.8	
OPRZ	**Ohinepanea**	**1.27**	**199**	⇓P*	Pn	12 14 55.3	-2.4
MXZ	**Matakaoa Point**	**1.35**	**134**	P*	Pn	12 14 56.4	-2.4
MXZ				AML	AML	12 15 13.9	
MXZ				AML	AML	12 15 13.9	
MXZ				AML	AML	12 15 23.1	
MXZ				AML	AML	12 15 23.1	
MARZ	**Manawahe**	**1.38**	**193**	P*	Pn	12 14 57.2	-2.1
KARZ	**Kaharoa**	**1.53**	**206**	P*	Pn	12 15 01.1	-0.3
MKRZ	**Makatiti**	**1.57**	**198**	*e*P*	Pg	12 15 04.1	-0.3
MKRZ				AML	AML	12 15 22.2	
WMGZ	**Waiomatatini S**	**1.59**	**138**	PN	Pn	12 15 01.7	-0.4
MKAZ	**Moumakai**	**1.60**	**252**	PN	Pn	12 15 01.4	-0.9
MKAZ				SN	Sn	12 15 22.9	0.0
MKAZ				AML	AML	12 15 24.0	
URZ	**Urewera**	**1.62**	**179**	P*	Pn	12 15 00.4	-2.0
URZ				AML	AML	12 15 27.8	
URZ				AML	AML	12 15 31.0	
TOZ	**Tahuroa Road**	**1.67**	**229**	P*	Pn	12 15 02.2	-0.9
TOZ				S*	Sn	12 15 24.0	-0.3
TWRZ	**Tauwhareparae**	**1.69**	**155**	PN	Pn	12 15 03.3	0.0
PUZ	**Puketiti**	**1.71**	**147**	PN	Pn	12 15 03.7	-0.1
PUZ				AML	AML	12 15 30.8	
PUZ				AML	AML	12 15 31.9	
MWZ	**Matawai**	**1.73**	**168**	P*	Pn	12 15 02.0	-2.1
MWZ				AML	AML	12 15 34.7	
MTAZ	**Motutapu**	**1.75**	**265**	PN	Pb	12 15 05.4	-0.7
ETAZ	**East Tamaki Re**	**1.75**	**259**	PN	Pn	12 15 04.0	-0.4
ABAZ	**Army Bay**	**1.81**	**271**	PN	Pb	12 15 06.8	-0.3
KBAZ	**Karaka Road Bo**	**1.81**	**255**	⇑PN	Pb	12 15 06.5	-0.8
RAGZ	**Rawiri**	**1.87**	**172**	P*	Pn	12 15 04.7	-1.4
RVAZ	**Riverhead Bore**	**2.01**	**266**	PN	Pn	12 15 07.9	0.0
WTAZ	**Waiatarua**	**2.03**	**261**	*e*PN	Pn	12 15 08.0	-0.2
TLZ	**Tolley Road**	**2.08**	**216**	P*	Pn	12 15 07.6	-1.3
WCZ	**Waipu Caves**	**2.32**	**287**	PN	Pn	12 15 11.9	-0.1
HIZ	**Hauiti**	**2.57**	**223**	PN	Pn	12 15 15.1	-0.6

WEL 06 12:15:21.7±0.5, 36.66S×177.08E, h12km, ML3.9/5, 1C, Error ellipse: s-maj=4.4km s-min=3.1km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.87**	**174**	*e*P*	Pb	12 15 38.9	+0.1
WIZ				S*	Sg	12 15 46.8	-3.1
WIZ				S*	Sb	12 15 47.2	-3.1
MYRZ	**Mayor Island**	**0.92**	**227**	P*	Pn	12 15 41.5	+1.0
MYRZ				S*	Sg	12 15 50.1	-0.8
KUZ	**Kuaotunu**	**1.10**	**265**	⇑P*	Pb	12 15 41.4	-1.3
KUZ				S*	Sb	12 15 55.5	-1.5
KUZ				AML	AML	12 15 58.4	
HAZ	**Te Kaha**	**1.23**	**153**	P*	Pn	12 15 43.0	-1.7
TGRZ	**Tauranga**	**1.25**	**211**	*e*P*	Pn	12 15 43.4	-1.6
TGRZ				AML	AML	12 16 00.9	
TGRZ				AML	AML	12 16 01.6	
OPRZ	**Ohinepanea**	**1.25**	**200**	*e*P*	Pn	12 15 44.4	-0.7
MXZ	**Matakaoa Point**	**1.33**	**133**	P*	Pn	12 15 43.7	-2.4
MXZ				AML	AML	12 16 07.5	
MXZ				AML	AML	12 16 10.6	
MKAZ	**Moumakai**	**1.60**	**253**	PN	Pn	12 15 49.7	-0.1
MKAZ				SN	Sn	12 16 10.4	0.0
MKAZ				AML	AML	12 16 12.1	
TOZ	**Tahuroa Road**	**1.65**	**229**	S*	Sn	12 16 11.3	-0.4
MWZ	**Matawai**	**1.71**	**168**	AML	AML	12 16 21.8	
MWZ				AML	AML	12 16 27.2	
ETAZ	**East Tamaki Re**	**1.75**	**260**	*e*PN	Pg	12 15 57.5	+2.1
ETAZ				SN	Sb	12 16 15.5	-0.4

NEIC ***06*** *12:20:02.9, 36.74S×177.10E, h5km, ML4.3(WEL), After WEL.*

WEL 06 12:20:02.6±0.2, 36.73S×177.11E, h5km, ML4.3/8, 1C, Error ellipse: s-maj=2.0km s-min=1.1km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.80**	**175**	P*	Pg	12 20 17.8	-0.2
WIZ				S*	Sg	12 20 28.0	-0.3
WIZ	**White Island**	**0.80**	**175**	P*	Pg	12 20 17.8	-0.2
MYRZ	**Mayor Island**	**0.89**	**231**	P*	Pg	12 20 18.4	-1.2
MYRZ				S*	Sg	12 20 30.9	-0.2
KUZ	**Kuaotunu**	**1.11**	**269**	AML	AML	12 20 36.4	
KUZ				AML	AML	12 20 36.9	
HAZ	**Te Kaha**	**1.16**	**152**	P*	Pg	12 20 22.6	-2.2
HAZ				S*	Sg	12 20 37.4	-2.5
OPRZ	**Ohinepanea**	**1.20**	**201**	P*	Pg	12 20 23.4	-2.2
OPRZ	**Ohinepanea**	**1.20**	**201**	P*	Pg	12 20 23.1	-2.4
TGRZ	**Tauranga**	**1.21**	**214**	⇑P*	Pg	12 20 23.9	-1.8
TGRZ				AML	AML	12 20 50.8	
TGRZ				AML	AML	12 20 54.7	
TGRZ	**Tauranga**	**1.21**	**214**	P*	Pg	12 20 23.9	-1.8
MXZ	**Matakaoa Point**	**1.27**	**131**	P*	Pg	12 20 24.4	-2.6
MXZ				S*	Sg	12 20 40.8	-2.6
MXZ				AML	AML	12 20 42.4	
MXZ				AML	AML	12 20 42.4	
MXZ				AML	AML	12 20 51.3	
MXZ	**Matakaoa Point**	**1.27**	**131**	P*	Pg	12 20 24.9	-2.6
MXZ				S*	Sg	12 20 41.5	-2.0
MARZ	**Manawahe**	**1.30**	**195**	P*	Pn	12 20 25.1	-2.3
MARZ	**Manawahe**	**1.30**	**195**	P*	Pn	12 20 25.1	-2.3
KARZ	**Kaharoa**	**1.46**	**208**	P*	Pn	12 20 27.3	-2.4
KARZ	**Kaharoa**	**1.46**	**208**	P*	Pn	12 20 27.6	-2.0
WMGZ	**Waiomatatini S**	**1.51**	**137**	PN	Pn	12 20 29.

WTAZ	**Waiatarua**	**2.04**	**264**	PN	Pn	12 20 37.6	0.0	
WTAZ	**Waiatarua**	**2.04**	**264**	Pn	Pn	12 20 37.7	+0.1	
SNGZ	**Shannon Statio**	**2.06**	**175**	PN	Pn	12 20 38.6	+0.7	
WCZ	**Waipu Caves**	**2.37**	**289**	PN	Pn	12 20 40.0	-2.0	
WCZ	**Waipu Caves**	**2.37**	**289**	Pn	Pn	12 20 40.0	-2.0	
BKZ	**Black Stump Fm**	**2.48**	**191**	P*	Pn	12 20 45.0	+1.3	
BKZ	**Black Stump Fm**	**2.48**	**191**	P*	Pn	12 20 45.0	+1.3	
HIZ	**Hauiti**	**2.52**	**224**	PN	Pn	12 20 43.0	-1.2	
HIZ				AML	AML	12 21 32.0		
HIZ				AML	AML	12 21 39.4		
WNVZ	**Wahianoa**	**2.85**	**204**	*e*P*	Pb	12 20 51.7	-2.5	
WNVZ	**Wahianoa**	**2.85**	**204**	P*	Pb	12 20 52.5	-1.8	
OUZ	**Omahuta**	**3.22**	**297**	*e*PN	Pn	12 20 52.1	-1.7	
OUZ	**Omahuta**	**3.22**	**297**	Pn	Pn	12 20 51.6	-2.2	
BFZ	**Birch Farm**	**4.00**	**189**	*e*PN	Pn	12 21 05.7	+1.2	
BFZ	**Birch Farm**	**4.00**	**189**	Pn	Pn	12 21 04.9	+0.3	

IDC ***06*** *12:23:33.0±1.4, 33°.99N×25°.00E, h0km, mb3.6/3, mb1 3.7/6, mb1mx3.5/42, mbtmp3.6/6, ML4.0/3, Error ellipse: s-maj=26.8km s-min=22.8km az=114.0*
ISCJB ***06*** *12:23:34.5±0.8, 33°.88N±0°.05×25°.01E±0°.07, h20km, mb3.5/3, Error ellipse: s-maj=8.0km s-min=7.2km az=177.7*
CSEM ***06*** *12:23:38.0, 34°.09N×24°.94E, h39km, MD3.5*
ATH ***06*** *12:23:38.0, 34°.08N×24°.94E, h40km±5km, MD3.5/9*

ISC 06 12:23:36.8±1.1, 34°.03N±0°.07×25°.00E±0°.05, h20km, n29, σ1§17/37, mb3.6/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**1.00**	**351**	*e*P	**Pb**	**12 23 55.4**	**0.0**
SIVA				*e*S	**Sn**	**12 24 10.0**	**+0.9**
SIVA	**Sivas**	**1.00**	**351**	*e*Pb	**Pb**	**12 23 55.4**	**0.0**
SIVA				*e*Sn	**Sn**	**12 24 10.0**	**+0.9**
GVD	**Gavdhos**	**1.10**	**317**	*e*P	**Pb**	**12 23 59.0**	**+1.8**
GVD	**Gavdhos**	**1.10**	**317**	*e*Pn	**Pb**	**12 23 59.0**	**+1.8**
LAST	**Lasithi**	**1.20**	**19**	*e*P	**Pn**	**12 23 58.7**	**+0.2**
LAST				*e*S	**Sn**	**12 24 14.7**	**+0.5**
LAST	**Lasithi**	**1.20**	**19**	*e*Pb	**Pn**	**12 23 58.7**	**+0.2**
LAST				*e*Sn	**Sn**	**12 24 14.7**	**+0.5**
IDI	**Anoyia**	**1.26**	**356**	Pn	**Pn**	**12 23 58.9**	**-0.4**
	12nm,0.3s,baz=178,slow=18,SNR=42						
IDI				Sn	**Sb**	**12 24 16.9**	**+1.2**
	28nm,0.3s,baz=192,slow=18,SNR=9.8						
NPS	**Neapolis**	**1.33**	**22**	*e*P	**Pb**	**12 24 01.0**	**-0.1**
NPS	**Neapolis**	**1.33**	**22**	*e*Pb	**Pb**	**12 24 01.0**	**-0.1**
ZKR	**Zakros**	**1.48**	**43**	*e*P	**Pb**	**12 24 04.2**	**+0.6**
ZKR	**Zakros**	**1.48**	**43**	*e*Pb	**Pb**	**12 24 04.2**	**+0.6**
VAM	**Vamos**	**1.52**	**335**	*e*P	**Pn**	**12 24 03.0**	**+0.1**
VAM	**Vamos**	**1.52**	**335**	*e*Pb	**Pn**	**12 24 03.0**	**+0.1**
KARN	**Karanos**	**1.63**	**327**	*e*P	**Pn**	**12 24 04.6**	**+0.2**
KARN	**Karanos**	**1.63**	**327**	*e*Pn	**Pn**	**12 24 04.6**	**+0.2**
KARP	**Karpathos**	**2.34**	**49**	*e*P	**Pn**	**12 24 15.6**	**+1.5**
KARP				*e*S	**Sn**	**12 24 44.1**	**+1.8**
KARP	**Karpathos**	**2.34**	**49**	*e*Pn	**Pn**	**12 24 15.6**	**+1.5**
KARP				*e*Sn	**Sn**	**12 24 44.1**	**+1.8**
KYTH	**Kithira**	**2.76**	**325**	*e*P	**Pn**	**12 24 21.3**	**+1.4**
KYTH	**Kithira**	**2.76**	**325**	*e*Pn	**Pn**	**12 24 21.3**	**+1.4**
APE	**Apeiranthos**	**3.06**	**8**	*e*P	**Pn**	**12 24 24.3**	**+0.2**
APE	**Apeiranthos**	**3.06**	**8**	*e*Pn	**Pn**	**12 24 24.3**	**+0.2**
DID	**Didima**	**3.75**	**338**	*e*P	**Pn**	**12 24 34.8**	**+1.2**
DID				*e*S	**Sn**	**12 25 14.6**	**-2.6**
DID	**Didima**	**3.75**	**338**	*e*Pn	**Pn**	**12 24 34.8**	**+1.2**
DID				*e*Sn	**Sn**	**12 25 14.6**	**-2.6**
EIL	**Elat**	**9.52**	**114**	Pn	**Pn**	**12 25 51.9**	**-0.8**
	0.6nm,0.3s,baz=299,slow=10,SNR=6.0						
EIL				Sn	Sn	12 27 30.6	-8.4
	0.8nm,0.3s,baz=38,slow=18,SNR=4.3						
AKASG	**Malin Array Be**	**16.95**	**9**	Pn	**Pn**	**12 27 31.6**	**-0.9**
	0.7nm,0.3s,baz=204,slow=11,SNR=4.7						
GERES	**GERESS Array B**	**17.02**	**334**	Pn	**P**	**12 27 34.4**	**-0.9**
	0.3nm,0.3s,baz=142,slow=10.0,SNR=2.2						
TORD	**Torodi Ar. Bea**	**29.67**	**231**	P	**P**	**12 29 40.3**	**-0.9**
	0.3nm,0.5s,baz=34,slow=8.3,SNR=3.6						
ARCES	**ARCESS Array B**	**35.56**	**0**	P	P	12 30 28.9	-3.4
	1.0nm,0.7s,baz=168,slow=9.0,SNR=5.6						
KURBB	**Kurchatov Arra**	**41.94**	**50**	P	**P**	**12 31 25.1**	**-0.9**
	0.7nm,0.6s,baz=277,slow=8.7,SNR=8.8						

WEL 06 12:24:00.2±0.4, 36°.63S×177°.09E, h5km, ML3.8/5, Error ellipse: s-maj=3.9km s-min=2.2km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYRZ	**Mayor Island**	**0.94**	**226**	P*	Pg	12 24 17.5	-0.7
MYRZ				S*	Sg	12 24 29.7	-0.8
KUZ	**Kuaotunu**	**1.10**	**264**	P*	Pg	12 24 20.5	-0.9
KUZ				S*	Sg	12 24 34.2	-1.5
KUZ				AML	AML	12 24 35.9	
HAZ	**Te Kaha**	**1.25**	**154**	P*	Pg	12 24 21.6	-2.6
TGRZ	**Tauranga**	**1.28**	**211**	*e*P*	Pn	12 24 22.7	-2.0
TGRZ				AML	AML	12 24 46.0	
TGRZ				AML	AML	12 24 48.7	
OPRZ	**Ohinepanea**	**1.28**	**199**	P*	Pn	12 24 21.9	-2.9
MXZ	**Matakaoa Point**	**1.35**	**134**	P*	Pn	12 24 23.1	-2.5
MXZ				AML	AML	12 24 41.3	
MARZ	**Manawahe**	**1.39**	**194**	*e*P*	Pn	12 24 24.9	-1.4
KARZ	**Kaharoa**	**1.54**	**206**	*e*P*	Pn	12 24 28.3	-0.1
WMGZ	**Waiomatatini S**	**1.59**	**139**	*e*PN	Pn	12 24 29.2	+0.2
MKAZ	**Moumakai**	**1.61**	**252**	PN	Pn	12 24 28.6	-0.7
MKAZ				SN	Sn	12 24 49.2	-1.3
MKAZ				AML	AML	12 24 50.7	
MKAZ				AML	AML	12 24 50.8	
URZ	**Urewera**	**1.63**	**179**	*e*P*	Pn	12 24 26.7	-2.8
TOZ	**Tahuroa Road**	**1.68**	**229**	*e*P*	Pn	12 24 28.7	-1.5
TOZ				S*	Sn	12 24 50.0	-2.0
TWGZ	**Tauwhareparae**	**1.70**	**156**	*e*PN	Pb	12 24 31.6	-0.4
PUZ	**Puketiti**	**1.71**	**147**	PN	Pn	12 24 31.0	+0.3
MWZ	**Matawai**	**1.74**	**168**	*e*P*	Pn	12 24 28.2	-2.9
MWZ				AML	AML	12 25 01.6	
MTAZ	**Motutapu**	**1.76**	**264**	*e*PN	Pb	12 24 32.1	-0.8
ETAZ	**East Tamaki Re**	**1.76**	**259**	PN	Pn	12 24 31.8	+0.4
ABAZ	**Army Bay**	**1.81**	**270**	*e*PN	Pb	12 24 33.5	-0.4
ABAZ				SN	Sb	12 24 56.8	-0.1
KBAZ	**Karaka Road Bo**	**1.82**	**255**	*e*PN	Pn	12 24 32.9	+0.7
KBAZ				SN	Sn	12 24 55.9	+0.3
RVAZ	**Riverhead Bore**	**2.02**	**265**	*e*PN	Pn	12 24 34.4	-0.5

WEL ***06*** *12:26:37.6±0.4, 36°.68S×177°.07E, h5km, ML4.3/11, Error ellipse: s-maj=3.5km s-min=1.8km az=0.0*
WEL Felt in the Coromandel region.
NEIC ***06*** *12:26:38.7, 36°.75S×177°.10E, h5km, ML4.2(WEL), After WEL.*
IDC ***06*** *12:26:42.5±4.4, 37°.18S×177°.04E, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.8/17, mbtmp3.9/3, Error ellipse: s-maj=105.1km s-min=19.8km az=66.0*

ISC 06 12:26:36.7±1.4, 36°.75S±0°.05×177°.11E±0°.03, h10km±11km, n55, σ0§62/59, mb3.6/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.78**	**175**	P*	**Pn**	**12 26 53.3**	**-0.5**
WIZ				S*	**Sn**	**12 27 05.2**	**-0.3**
WIZ	**White Island**	**0.78**	**175**	P*	**Pn**	**12 26 53.3**	**-0.5**
MYRZ	**Mayor Island**	**0.87**	**232**	P*	**Pn**	**12 26 54.6**	**-0.5**
KUZ	**Kuaotunu**	**1.11**	**270**	P*	**Pb**	**12 26 57.6**	**-0.4**
KUZ				S*	**Sg**	**12 27 11.7**	**-0.9**
KUZ				AML	AML	12 27 12.3	
OPRZ	**Ohinepanea**	**1.18**	**202**	P*	**Pn**	**12 26 58.9**	**-0.3**
OPRZ	**Ohinepanea**	**1.18**	**202**	P*	**Pn**	**12 26 59.0**	**-0.3**
TGRZ	**Tauranga**	**1.19**	**214**	P*	**Pb**	**12 26 59.0**	**-0.4**
TGRZ				AML	AML	12 27 29.2	
TGRZ				AML	AML	12 27 30.5	
TGRZ	**Tauranga**	**1.19**	**214**	P*	**Pg**	**12 26 59.5**	**-0.1**
MXZ	**Matakaoa Point**	**1.26**	**131**	P*	**Pb**	**12 27 00.4**	**-0.1**
MXZ				S*	**Sb**	**12 27 16.3**	**-0.4**
MXZ				S*	**Sg**	**12 27 16.9**	**-0.3**
MXZ	**Matakaoa Point**	**1.26**	**131**	P*	**Pb**	**12 27 00.4**	**-0.1**
MXZ				S*	**Sn**	**12 27 17.4**	**+0.1**
MARZ	**Manawahe**	**1.28**	**195**	P*	**Pg**	**12 27 01.0**	**-0.3**
MARZ	**Manawahe**	**1.28**	**195**	P*	**Pg**	**12 27 01.0**	**-0.3**
KARZ	**Kaharoa**	**1.44**	**208**	*e*P*	**Pg**	**12 27 05.1**	**+0.6**
KARZ	**Kaharoa**	**1.44**	**208**	P*	**Pb**	**12 27 03.5**	**-0.3**
MKRZ	**Makatiti**	**1.48**	**200**	*e*P*	**Pg**	**12 27 06.4**	**+1.4**
MKRZ				AML	AML	12 27 23.8	
MKRZ				AML	AML	12 27 26.0	
MKRZ	**Makatiti**	**1.48**	**200**	P*	**Pg**	**12 27 06.7**	**+1.6**
WMGZ	**Waiomatatini S**	**1.49**	**136**	PN	**Pg**	**12 27 05.7**	**+0.4**
URZ	**Urewera**	**1.51**	**180**	P*	**Pn**	**12 27 03.8**	**+0.1**
URZ				AML	AML	12 27 16.9	
URZ				AML	AML	12 27 50.9	
URZ	**Urewera**	**1.51**	**180**	Pn	**Pn**	**12 27 04.0**	**+0.2**
	8.3nm,0.3s,baz=338,slow=5.3,SNR=13						
URZ				Sn	**Sn**	**12 27 23.2**	**-0.3**
	16nm,0.3s,baz=64,slow=21,SNR=7.1						
URZ	**Urewera**	**1.51**	**180**	P*	**Pb**	**12 27 04.3**	**-0.4**
URZ				Sn	**Sn**	**12 27 23.2**	**-0.3**
TWGZ	**Tauwhareparae**	**1.58**	**154**	PN	**Pg**	**12 27 08.7**	**+1.6**
MKAZ	**Moumakai**	**1.59**	**256**	PN	**Pn**	**12 27 05.0**	**0.0**
MKAZ				AML	AML	12 27 27.9	
MKAZ				AML	AML	12 27 31.7	
MKAZ	**Moumakai**	**1.59**	**256**	Pn	**Pn**	**12 27 05.2**	**+0.2**
UTU	**Utuhina**	**1.60**	**207**	*e*P*	**Pg**	**12 27 07.4**	**0.0**
UTU				AML	AML	12 27 24.8	
UTU				AML	AML	12 27 49.0	
UTU	**Utuhina**	**1.60**	**207**	P*	Pg	12 27 11.4	+4.0
PUZ	**Puketiti**	**1.61**	**146**	*e*PN	**Pg**	**12 27 07.6**	**0.0**
PUZ				AML	AML	12 27 44.2	
PUZ				AML	AML	12 27 46.6	
PUZ	**Puketiti**	**1.61**	**146**	Pn	**Pg**	**12 27 07.8**	**+0.2**
TOZ	**Tahuroa Road**	**1.61**	**232**	*e*P*	**Pn**	**12 27 05.4**	**+0.2**
TOZ	**Tahuroa Road**	**1.61**	**232**	P*	**Pn**	**12 27 05.5**	**+0.3**
MWZ	**Matawai**	**1.62**	**168**	P*	**Pn**	**12 27 05.6**	**+0.2**
MWZ				AML	AML	12 27 48.7	
MWZ				AML	AML	12 27 53.4	
MWZ	**Matawai**	**1.62**	**168**	P*	**Pb**	**12 27 06.0**	**-0.7**
ETAZ	**East Tamaki Re**	**1.76**	**263**	PN	**Pn**	**12 27 07.7**	**+0.5**
ETAZ				SN	**Sg**	**12 27 32.0**	**-1.2**
MTAZ	**Motutapu**	**1.76**	**268**	PN	**Pb**	**12 27 09.1**	**-0.1**
MTAZ	**Motutapu**	**1.76**	**268**	Pn	**Pb**	**12 27 09.2**	**+0.1**
GRRZ	**Galatos Road**	**1.78**	**206**	*e*P*	**Pg**	**12 27 12.5**	**+1.6**
KBAZ	**Karaka Road Bo**	**1.81**	**258**	*e*PN	**Pn**	**12 27 08.6**	**+0.7**
ABAZ	**Army Bay**	**1.83**	**274**	*e*PN	**Pb**	**12 27 10.4**	**0.0**
HBAZ	**Herne Bay Bore**	**1.91**	**266**	*e*PN	**Pb**	**12 27 11.7**	**0.0**
TLZ	**Tolley Road**	**2.01**	**218**	P*	**Pn**	**12 27 11.6**	**+0.8**
RIGZ	**Rimuhau**	**2.02**	**165**	*e*PN	**Pb**	**12 27 14.2**	**+0.6**
RVAZ	**Riverhead Bore**	**2.03**	**269**	*e*PN	**Pn**	**12 27 11.7**	**+0.8**
KNZ	**Kokohu**	**2.31**	**169**	Pn	**Pg**	**12 27 21.3**	**+0.3**
WCZ	**Waipu Caves**	**2.37**	**289**	*e*PN	**Pn**	**12 27 15.6**	**0.0**
WCZ	**Waipu Caves**	**2.37**	**289**	Pn	**Pn**	**12 27 15.8**	**+0.1**
BKZ	**Black Stump Fm**	**2.46**	**191**	*e*P*	**Pb**	**12 27 21.0**	**-0.1**
BKZ				AML	AML	12 27 54.4	
BKZ	**Black Stump Fm**	**2.46**	**191**	P*	**Pb**	**12 27 21.1**	**0.0**
HIZ	**Hauiti**	**2.51**	**225**	PN	**Pn**	**12 27 18.6**	**+1.0**
HIZ				AML	AML	12 28 07.8	
HIZ				AML	AML	12 28 15.1	
HIZ	**Hauiti**	**2.51**	**225**	Pn	**Pn**	**12 27 18.8**	**+1.2**
WNVZ	**Wahianoa**	**2.84**	**204**	*e*P*	**Pb**	**12 27 27.9**	**+0.4**
WNVZ	**Wahianoa**	**2.84**	**204**	P*	**Pb**	**12 27 28.0**	**+0.5**
OUZ	**Omahuta**	**3.23**	**297**	PN	**Pn**	**12 27 28.1**	**+0.6**
OUZ	**Omahuta**	**3.23**	**297**	Pn	**Pn**	**12 27 27.4**	**-0.1**
ASAR	**Alice Springs**	**39.23**	**277**	P	P	12 34 12.6	+7.2
	0.8nm,0.6s,baz=120,slow=8.2,SNR=7.8						
WRA	**Warramunga Arr**	**40.83**	**282**	P	P	12 34 25.8	+7.1
	0.8nm,0.6s,baz=122,slow=7.7,SNR=4.2						
CMAR	**Chiang Mai Arr**	**91.78**	**292**	P	P	12 39 54.2	+9.2
	0.6nm,0.5s,baz=164,slow=4.5,SNR=4.0						

WEL 06 12:38:54.2±0.3, 36°.61S×177°.09E, h5km, ML3.7/7, Error ellipse: s-maj=2.9km s-min=1.5km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYRZ	**Mayor Island**	**0.96**	**225**	P*	Pg	12 39 11.9	-0.7
MYRZ				S*	Sg	12 39 24.7	-0.4
KUZ	**Kuaotunu**	**1.11**	**262**	P*	Pg	12 39 15.2	-0.3
KUZ				S*	Sg	12 39 29.6	-0.3
KUZ				AML	AML	12 39 29.7	
KUZ				AML	AML	12 39 30.0	
KUZ				AML	AML	12 39 31.7	
HAZ	**Te Kaha**	**1.28**	**154**	P*	Pn	12 39 16.1	-2.7
TGRZ	**Tauranga**	**1.30**	**210**	*e*P*	Pn	12 39 16.8	-2.3
TGRZ				AML	AML	12 39 42.8	
OPRZ	**Ohinepanea**	**1.31**	**199**	P*	Pn	12 39 16.5	-2.7
MXZ	**Matakaoa Point**	**1.37**	**135**	P*	Pn	12 39 17.8	-2.1
MXZ				S*	Sb	12 39 34.8	-3.3
MKAZ	**Moumakai**	**1.62**	**251**	PN	Pn	12 39 22.3	-1.2
MKAZ				SN	Sn	12 39 44.5	-0.3
MKAZ				AML	AML	12 39 45.5	
URZ	**Urewera**	**1.65**	**179**	P*	Pn	12 39 21.6	-2.3
TOZ	**Tahuroa Road**	**1.69**	**228**	P*	Pn	12 39 23.5	-0.9
TWGZ	**Tauwhareparae**	**1.72**	**156**	PN	Pb	12 39 26.2	-0.3
PUZ	**Puketiti**	**1.74**	**148**	PN	Pn	12 39 25.7	+0.6
ETAZ	**East Tamaki Re**	**1.77**	**258**	PN	Pn	12 39 25.5	0.0
ETAZ				SN	Sb	12 39 49.5	-0.2
KBAZ	**Karaka Road Bo**	**1.83**	**254**	PN	Pb	12 39 27.5	-0.7
OUZ	**Omahuta**	**3.15**	**295**	PN	Pn	12 39 45.6	+1.1

IDC ***06*** *12:54:36.2±0.8, 22°.56S×175°.23W, h0km, mb3.9/8, mb1 4.1/8, mb1mx4.0/24, mbtmp3.9/8, Error ellipse: s-maj=33.0km s-min=21.8km az=145.0*
ISCJB ***06*** *12:54:39.8±0.7, 22°.8S±0°.1×175°.3W±0°.2, h33km, mb3.9/8, Error ellipse: s-maj=25.3km s-min=17.1km az=39.7*

ISC 06 12:54:41.2±0.7, 22°.7S±0°.2×175°.2W±0°.2, h33km, n14, σ1§24/14, mb3.8/8, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**16.81**	**201**	Pn	**Pn**	**12 58 31.0**	**-3.0**
	0.0nm,0.3s,baz=110,slow=8.1,SNR=3.3						
URZ				Sn	Sn	13 01 27.2	-13
	0.3nm,0.3s,baz=144,slow=19,SNR=4.8						
STKA	**Stephens Creek**	**39.22**	**247**	P	**P**	**13 02 07.2**	**+0.7**
	0.7nm,0.4s,baz=90,slow=13,SNR=3.5						
ASAR	**Alice Springs**	**46.56**	**258**	P	**P**	**13 03 05.9**	**-0.3**
	0.8nm,0.6s,baz=92,slow=7.7,SNR=16						
WRA	**Warramunga Arr**	**46.89**	**263**	P	**P**	**13 03 08.0**	**-0.8**
	0.5nm,0.5s,baz=96,slow=8.3,SNR=18						
VNDA	**Vanda**	**55.93**	**186**	P	**P**	**13 04 17.3**	**+1.7**
	1.3nm,0.9s,baz=358,slow=6.9,SNR=4.9						
MAW	**Mawson**	**80.32**	**199**	P	**P**	**13 06 50.2**	**+1.6**
	2.6nm,0.7s,baz=112,slow=9.9,SNR=4.5						
NVAR	**Mina Array Bea**	**80.92**	**42**	P	**P**	**13 06 52.1**	**-0.4**
	0.8nm,0.9s,baz=215,slow=7.0,SNR=4.0						
VNA3	**Neumayer Olymp**	**85.72**	**175**	P	**P**	**13 07 16.4**	**-0.2**
TXAR	**Lajitas Array**	**86.12**	**56**	P	**P**	**13 07 18.3**	**-1.0**
	1.0nm,1.0s,baz=235,slow=4.4,SNR=6.4						
VNA2	**Neumayer--Watz**	**86.19**	**176**	P	**P**	**13 07 18.8**	**-0.1**
	baz=122,slow=1.2						
ILAR	**Eielson Array**	**89.95**	**12**	P	**P**	**13 07 36.8**	**+0.2**
	0.3nm,0.8s,baz=223,slow=5.4,SNR=4.8						
AKASG	**Malin Array Be**	**146.21**	**332**	PKPbc	**PKPdf**	**13 14 17.3**	**+0.4**
	0.5nm,0.4s,baz=40,slow=4.8,SNR=2.5						
BRTR	**Keskin Array B**	**150.26**	**311**	PKPbc	**PKPbc**	**13 14 29.4**	**+0.1**
	0.2nm,0.3s,baz=4.4,slow=1.9,SNR=2.9						
TORD	**Torodi Ar. Bea**	**170.01**	**162**	PKPab	**PKPab**	**13 16 01.2**	**-0.1**
	0.7nm,0.9s,baz=228,slow=1.7,SNR=3.3						

MDD ***06*** *12:55:46.1±2.9, 37°.58N×15°.43W, h0km, mb3.9/8, Error ellipse: s-maj=30.2km s-min=22.4km az=32.0, PRXIMO SOLUCIN POBRE*
INMG ***06*** *12:55:46.6±1.1, 37°.23N×15°.89W, h10km, ML2.4, Error ellipse: s-maj=11.8km s-min=8.3km az=14.0*
CSEM ***06*** *12:55:49.4±0.5, 37°.58N×15°.12W, h10km, ML3.3/5, Error ellipse: s-maj=12.0km s-min=8.0km az=25.0*

ISC 06 12:55:46.9±3.9, 37°.6N±0°.1×15°.3W±0°.2, h10km, n49, σ1§38/81, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMOZ	**Porto Moniz, M**	**4.99**	**199**	*e*Sn	Sn	12 57 32.1	-28
PMOZ				A	A	12 58 00.0	
	21nm,0.6s						
PMOZ	**Porto Moniz, M**	**4.99**	**199**	S	Sn	12 57 32.1	-28
	21nm,0.6s						
PFVI	**Vila Bisbo**	**5.16**	**93**	*e*Pn	**Pn**	**12 57 04.7**	**+0.5**
PFVI				*e*Sn	**Sn**	**12 58 02.3**	**-1.4**
PFVI				A	A	12 58 06.2	
	4.5nm,0.5s						
PFVI	**Vila Bisbo**	**5.16**	**93**	P	**Pn**	**12 57 04.6**	**+0.5**
	1.4nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**12 58 02.3**	**-1.4**
	1.6nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.16**	**93**	P	**Pn**	**12 57 04.6**	**+0.5**
	1.4nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**12 58 02.3**	**-1.4**
	1.6nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**5.21**	**88**	*e*Sn	**Sn**	**12 58 03.6**	**-1.3**
PTEO				A	A	12 58 12.7	
	4.8nm,0.6s						
PTEO	**Sao Teotonio**	**5.21**	**88**	S	**Sn**	**12 58 03.6**	**-1.3**
	2.4nm,0.6s						
PTEO	**Sao Teotonio**	**5.21**	**88**	S	**Sn**	**12 58 03.6**	**-1.3**
	2.4nm,0.6s						
PACT	**Alcochete**	**5.22**	**75**	*e*Sn	**Sn**	**12 58 07.0**	**+1.9**
PACT				A	A	12 58 22.2	
	39nm,0.4s						
PACT	**Alcochete**	**5.22**	**75**	*e*Sn	**Sn**	**12 58 07.0**	**+1.9**
	39nm,0.4s						
MORF	**Marmelete**	**5.28**	**91**	*e*Pn	**Pn**	**12 57 06.4**	**+0.5**
MORF				*e*Sn	**Sn**	**12 58 05.8**	**-1.0**
MORF				A	A	12 58 15.4	
	1.6nm,0.2s						
MORF	**Marmelete**	**5.28**	**91**	P	**Pn**	**12 57 06.4**	**+0.5**
MORF				S	**Sn**	**12 58 05.8**	**-1.0**
	1.6nm,0.2s						
MORF	**Marmelete**	**5.28**	**91**	P	**Pn**	**12 57 06.4**	**+0.5**
MORF				S	**Sn**	**12 58 05.8**	**-1.0**
	1.6nm,0.2s						
PNCL	**Nicolau / Gran**	**5.37**	**82**	*e*Pn	**Pn**	**12 57 07.8**	**+0.8**
PNCL				*e*Sn	**Sn**	**12 58 09.5**	**+0.6**
PNCL				A	A	12 58 17.9	
	1.1nm,0.1s						
PNCL	**Nicolau / Gran**	**5.37**	**82**	*e*Pn	**Pn**	**12 57 07.8**	**+0.8**
PNCL				*e*Sn	**Sn**	**12 58 09.5**	**+0.6**
	1.1nm,0.1s						
PMTG	**Montargil**	**5.74**	**73**	*e*Pn	**Pn**	**12 57 13.4**	**+1.2**
PMTG				*e*Sn	**Sn**	**12 58 19.2**	**+1.1**
PMTG				A	A	12 58 27.4	
	1.5nm,0.5s						
PMTG	**Montargil**	**5.74**	**73**	*e*Pn	**Pn**	**12 57 13.4**	**+1.2**
PMTG				*e*Sn	**Sn**	**12 58 19.2**	**+1.1**
	1.5nm,0.5s						
PCVE	**Castro Verde**	**5.75**	**87**	*e*Pn	**Pn**	**12 57 12.6**	**+0.4**
PCVE				*e*Sn	**Sn**	**12 58 17.1**	**-1.2**
PCVE				A	A	12 58 29.4	
	0.1nm,0.6s						
PCVE	**Castro Verde**	**5.75**	**87**	P	**Pn**	**12 57 12.6**	**+0.4**
PCVE				S	**Sn**	**12 58 17.1**	**-1.2**
	0.1nm,0.6s						
PCVE	**Castro Verde**	**5.75**	**87**	P	**Pn**	**12 57 12.6**	**+0.4**
PCVE				S	**Sn**	**12 58 17.1**	**-1.2**
	0.1nm,0.6s						
PCAS	**Casmilo, Conde**	**5.85**	**63**	*e*Pn	**Pn**	**12 57 15.3**	**+1.7**
PCAS				*e*Sn	**Sn**	**12 58 21.4**	**+0.8**
PCAS				A	A	12 58 27.1	
	4.0nm,0.5s						
PCAS	**Casmilo, Conde**	**5.85**	**63**	*e*Pn	**Pn**	**12 57 15.3**	**+1.7**
PCAS				*e*Sn	**Sn**	**12 58 21.4**	**+0.8**
	4.0nm,0.5s						
PVAQ	**Vaqueiros**	**6.02**	**89**	*e*Pn	**Pn**	**12 57 16.2**	**+0.3**
PVAQ				*e*Sn	**Sn**	**12 58 23.6**	**-1.2**
PVAQ				A	A	12 58 28.3	
	1.4nm,0.1s						
PVAQ	**Vaqueiros**	**6.02**	**89**	P	**Pn**	**12 57 16.2**	**+0.3**
PVAQ				S	**Sn**	**12 58 23.6**	**-1.2**
	1.4nm,0.1s						
PVAQ	**Vaqueiros**	**6.02**	**89**	P	**Pn**	**12 57 16.2**	**+0.3**
PVAQ				S	**Sn**	**12 58 23.6**	**-1.2**
	1.4nm,0.1s						
EGRO	**El Granado**	**6.20**	**88**	P	**Pn**	**12 57 19.9**	**+1.6**
	0.5nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**12 58 28.8**	**-0.4**
	0.7nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**6.20**	**88**	P	**

*ISCJB **06** 12:58:47.5±1.1, 7°.3N±0°.1×92°.4E±0°.2, h24km, mb3.9/7, Error ellipse: s-maj=31.0km s-min=16.8km az=149.5*

ISC 06 12:58:49.5±1.4, **7°.3N**±0°.2×**92°.4E**±0°.2, **h24**km, **n8**, σ**0**:**82**/**8**, **mb3.7**/**7**, **Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.81**	**29**	Pn	**Pn**	**13 01 50.8**	**+0.4**
	0.1nm,0.3s,baz=233,slow=13,SNR=9.5						
MKAR	**Makanchi Array**	**40.32**	**349**	P	**P**	**13 06 24.3**	**-0.7**
	0.2nm,0.4s,baz=201,slow=7.7,SNR=3.5						
GEYT	**Alibeck**	**43.51**	**320**	P	**P**	**13 06 52.0**	**+0.8**
	1.4nm,0.5s,baz=111,slow=8.2,SNR=2.2						
KURBB	**Kurchatov Arra**	**44.73**	**347**	P	**P**	**13 07 00.4**	**-0.3**
	6.6nm,0.2s,baz=152,slow=4.2,SNR=4.0						
ZALV	**Zalesovo Beam**	**46.94**	**354**	P	**P**	**13 07 17.0**	**-1.1**
	0.2nm,0.3s,baz=138,slow=12,SNR=2.4						
BVAR	**Borovoye Array**	**49.01**	**343**	P	**P**	**13 07 33.5**	**-0.8**
	0.2nm,0.3s,baz=161,slow=9.2,SNR=2.7						
WRA	**Warramunga Arr**	**49.35**	**124**	P	**P**	**13 07 37.1**	**-0.2**
	1.2nm,0.9s,baz=307,slow=8.2,SNR=7.5						
ASAR	**Alice Springs**	**50.88**	**128**	P	**P**	**13 07 49.2**	**+0.2**
	0.6nm,0.7s,baz=303,slow=7.9,SNR=9.6						

*SKO **06** 13:02:21.6, 40°.92N×22°.86E, h15km, M1.8, ML2.0*

*CSEM **06** 13:02:23.2±0.1, 40°.99N×22°.85E, h10km, MD2.8, Error ellipse: s-maj=3.1km s-min=2.2km az=75.0*

ATH 06 13:02:23.2, 40°.99N×22°.86E, h4km, **MD2.8**/**8**, **Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNT	**Kendrikon**	**0.17**	**10**	*e*Pg	Pg	13 02 27.0	+0.3
KNT				*e*Sg	Sg	13 02 29.3	+0.3
KNT	**Kendrikon**	**0.17**	**10**	*e*Pg	Pg	13 02 27.0	+0.3
KNT				*e*Sg	Sg	13 02 29.3	+0.3
THE	**Thessaloniki**	**0.37**	**167**	*e*PG	Pg	13 02 30.6	+0.3
THE				*e*SG	Sg	13 02 35.5	+0.5
THE	**Thessaloniki**	**0.37**	**167**	*e*Pg	Pg	13 02 30.6	+0.3
THE				*e*Sg	Sg	13 02 35.5	+0.5
VAY	**Valandovo**	**0.40**	**327**	*i* Pg	Pg	13 02 31.1	+0.3
VAY				*i* Sg	Sg	13 02 36.9	+0.8
VAY				*e*Lg	Lg	13 02 36.9	
	comp=N,131nm,0.3s						
VAY				*e*Lg	Lg	13 02 37.2	
	comp=E,101nm,0.2s						
VAY	**Valandovo**	**0.40**	**327**	*i* Pg	Pg	13 02 31.1	+0.2
VAY				*i* Sg	Sg	13 02 36.8	+0.7
VAY				*e*Lg	Lg	13 02 37.2	
	comp=E,101nm,0.2s						
SOH	**Sokhos**	**0.41**	**114**	*e*PG	Pg	13 02 31.3	+0.1
SOH				*e*SG	Sg	13 02 36.9	+0.3
SOH	**Sokhos**	**0.41**	**114**	*e*Pg	Pg	13 02 31.3	+0.1
SOH				*e*Sg	Sg	13 02 36.9	+0.3
HORT	**Hortiatis**	**0.43**	**155**	*e*PG	Pg	13 02 31.9	+0.2
HORT				*e*SG	Sg	13 02 38.0	+0.6
HORT	**Hortiatis**	**0.43**	**155**	*e*Pg	Pg	13 02 31.9	+0.2
HORT				*e*Sg	Sg	13 02 38.0	+0.6
SRS	**Serrai**	**0.57**	**77**	*e*PG	Pg	13 02 34.0	-0.2
SRS				*e*SG	Sg	13 02 41.9	+0.3
SRS	**Serrai**	**0.57**	**77**	*e*Pg	Pg	13 02 34.0	-0.2
SRS				*e*Sg	Sg	13 02 41.9	+0.3
PLG	**Polygyros**	**0.76**	**144**	*e*PB	Pg	13 02 37.8	-0.1
PLG				*e*SG	Sg	13 02 48.7	+0.9
PLG	**Polygyros**	**0.76**	**144**	*e*Pb	Pg	13 02 37.8	-0.1
PLG				*e*Sg	Sg	13 02 48.7	+0.9
LIT	**Litokhoron**	**0.93**	**198**	*e*PG	Pg	13 02 41.0	-0.1
LIT				*e*SG	Sg	13 02 53.2	-0.1
LIT	**Litokhoron**	**0.93**	**198**	*e*Pg	Pg	13 02 41.0	-0.1
LIT				*e*Sg	Sg	13 02 53.2	-0.1
OUR	**Ouranopolis**	**1.08**	**127**	*e*PG	Pg	13 02 43.9	+0.1
OUR	**Ouranopolis**	**1.08**	**127**	*e*Pg	Pg	13 02 43.9	+0.1
KAVA	**Kavala**	**1.25**	**89**	*e*PN	Pn	13 02 48.0	+0.5
KAVA				*e*SB	Sg	13 03 02.9	-0.6
KAVA	**Kavala**	**1.25**	**89**	*e*Pn	Pn	13 02 48.0	+0.5
KAVA				*e*Sb	Sg	13 03 02.9	-0.6

*ATH **06** 13:06:04.8, 41°.35N×20°.22E, h9km±1km, MD3.9/43, ML4.2*

*MOS **06** 13:06:05.4±1.4, 41°.01N×19°.99E, h16km, mb4.4/10, Error ellipse: s-maj=5.5km s-min=3.8km az=97.8*

*BEO **06** 13:06:05.8±0.6, 40°.97N×20°.29E, h0km, ML3.8/1*

*PRU **06** 13:06:05.2, 40°.79N×20°.28E, h10km, M4.3*

*IDC **06** 13:06:05.4±0.7, 41°.03N×20°.26E, h0km, mb3.9/20, mb1 4.0/28, mb1mx4.0/47, mbtmp3.9/28, ML3.9/8, Error ellipse: s-maj=13.8km s-min=10.7km az=16.0*

*LDG **06** 13:06:06.3±0.2, 41°.14N×20°.18E, h2km, Ml4.1/7, ms4.0/1, Error ellipse: s-maj=5.9km s-min=3.6km az=24.0*

*CSEM **06** 13:06:07.5±0.1, 41°.14N×20°.19E, h5km, mb4.4/7, Ms3.8, Error ellipse: s-maj=3.0km s-min=1.7km az=51.0*

*NEIC **06** 13:06:07.5, 41°.20N×20°.32E, h1km, mb4.3/3, ML4.1(SKO), ML4.0(TIR), ML4.1(THE), After THE.*

NEIC Felt at Tirana.

*TIR **06** 13:06:07.2±3.1, 41°.20N×20°.30E, h20km±31km, ML4.0*

*PDG **06** 13:06:07.3±0.8, 41°.17N×20°.22E, h9km±1km, MD4.1/10, ML4.1/12, Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*

*THE **06** 13:06:07.5, 41°.20N×20°.32E, h1km, ML4.1/14, Error ellipse: s-maj=0.9km s-min=0.4km az=333.0*

*SKO **06** 13:06:07.0, 41°.18N×20°.32E, h9km, M3.7, ML4.1*

*ISCJB **06** 13:06:07.0±0.3, 41°.17N±0°.01×20°.16E±0°.02, h15km±2km, mb4.1/26, Error ellipse: s-maj=2.2km s-min=1.4km az=143.9*

*VIE **06** 13:06:09.0±0.4, 41°.17N×20°.04E, h10km, mb3.6/12, Ms3.8/12, Error ellipse: s-maj=5.4km s-min=2.9km az=54.0*
25 km SE of Tirana

*SZGRF **06** 13:06:08.2, 40°.95N×20°.20E, h10km, mb4.3,*
Greece-Albania border region

ISC 06 13:06:07.0±0.9, **41°.17N**±0°.01×**20°.28E**±0°.01, **h5**km±6km, **n572**, σ**1**°**49**/**726**, **mb4.2**/**26**, **61C-50D**, **Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.36**	**300**	*i* PG	**Pg**	**13 06 13.9**	**0.0**
TIR				*i* SG	**Sg**	**13 06 20.0**	**+1.3**
TIR	**Tirane**	**0.36**	**300**	P	**Pg**	**13 06 14.0**	**0.0**
TIR				S	**Sg**	**13 06 20.3**	**+1.6**
TIR	**Tirane**	**0.36**	**300**	*e*Pg	**Pg**	**13 06 14.0**	**0.0**
TIR				*e*Sg	**Sb**	**13 06 20.5**	**-1.3**
TIR	**Tirane**	**0.36**	**300**	*e*P	**Pg**	**13 06 14.1**	**+0.1**
TIR				*e*		13 06 19.7	
TIR	**Tirane**	**0.36**	**300**	*i* Pg	**Pg**	**13 06 13.9**	**0.0**
	SNR=111						
TIR				*e*S	**Sg**	**13 06 19.7**	**+1.1**
TIR				*i* Sg	**Sg**	**13 06 20.0**	**+1.3**
	SNR=111						
TIR	**Tirane**	**0.36**	**300**	*e*Pg	**Pg**	**13 06 14.1**	**+0.1**
TIR				*e*Sg	**Sg**	**13 06 19.7**	**+1.1**
OHR	**Ohrid**	**0.40**	**98**	⇑*i*Pg	**Pg**	**13 06 14.5**	**-0.3**
OHR				*i* Sg	**Sg**	**13 06 21.5**	**+1.6**
OHR				*e*Lg	Lg	13 06 21.7	
	comp=N,12μm,0.5s						
OHR				*e*Lg	Lg	13 06 22.3	
	comp=E,14μm,0.5s						
OHR	**Ohrid**	**0.40**	**98**	⇑*i*P	**Pg**	**13 06 13.9**	**-0.9**
OHR	**Ohrid**	**0.40**	**98**	⇑*i*Pg	**Pg**	**13 06 14.4**	**-0.3**
OHR				*e*Lg	Lg	13 06 22.3	
	comp=E,14μm,0.5s						
OHR	**Ohrid**	**0.40**	**98**	⇑*i*Pg	**Pg**	**13 06 13.9**	**-0.9**
OHR				*i* Sg	**Sg**	**13 06 21.0**	**+1.0**
OHR				*e*Lg	Lg	13 06 21.2	
PHP	**Peshkopia**	**0.53**	**13**	*i* PG	**Pg**	**13 06 17.6**	**+0.4**
PHP				*i* SG	**Sb**	**13 06 26.9**	**+0.1**
PHP	**Peshkopia**	**0.53**	**13**	P	**Pg**	**13 06 17.6**	**+0.4**
PHP				S	**Sg**	**13 06 24.2**	**+0.1**
PHP	**Peshkopia**	**0.53**	**13**	P	**Pg**	**13 06 17.7**	**+0.4**
PHP				S	**Sb**	**13 06 26.4**	**-0.4**
PHP	**Peshkopia**	**0.53**	**13**	P	**Pg**	**13 06 17.6**	**+0.4**
PHP				S	**Sg**	**13 06 24.2**	**+0.1**
PHP				*i* Sg	**Sb**	**13 06 26.9**	**+0.1**
	SNR=105						
PHP	**Peshkopia**	**0.53**	**13**	P	**Pg**	**13 06 17.7**	**+0.5**
PHP				S	**Sb**	**13 06 26.4**	**-0.4**
KBN	**Korca**	**0.67**	**144**	*i* PG	**Pg**	**13 06 20.5**	**+0.6**
KBN				*i* SG	**Sn**	**13 06 32.9**	**-1.3**
KBN	**Korca**	**0.67**	**144**	P	**Pg**	**13 06 19.9**	**0.0**
KBN				S	**Sb**	**13 06 30.1**	**-0.7**
KBN	**Korca**	**0.67**	**144**	P	**Pg**	**13 06 19.9**	**0.0**
KBN	**Korca**	**0.67**	**144**	*i* Pg	**Pg**	**13 06 20.5**	**+0.6**
	SNR=99						
KBN				S	**Sb**	**13 06 30.1**	**-0.7**
KBN				*i* Sg	**Sn**	**13 06 32.8**	**-1.3**
	SNR=99						
VLO	**Vlora**	**0.92**	**220**	*i* PG	**Pb**	**13 06 25.5**	**+0.1**
VLO				*i* SG	**Sn**	**13 06 42.5**	**+2.4**
VLO	**Vlora**	**0.92**	**220**	P	**Pb**	**13 06 25.3**	**-0.1**
VLO				S	**Sn**	**13 06 39.8**	**-0.3**
VLO	**Vlora**	**0.92**	**220**	P	**Pb**	**13 06 25.3**	**-0.1**
FNA	**Florina**	**0.92**	**114**	P	**Pg**	**13 06 24.5**	**-0.1**
FNA				S	**Sb**	**13 06 37.8**	**-0.2**
FNA	**Florina**	**0.92**	**114**	*e*PB	**Pg**	**13 06 24.6**	**-0.1**
FNA				*e*SB	**Sn**	**13 06 39.2**	**-1.0**
FNA	**Florina**	**0.92**	**114**	P	**Pg**	**13 06 24.5**	**-0.1**
FNA				S	**Sb**	**13 06 37.8**	**-0.2**
FNA	**Florina**	**0.92**	**114**	P	**Pg**	**13 06 24.5**	**-0.1**
FNA				S	**Sb**	**13 06 37.8**	**-0.2**
FNA				*e*Sb	**Sn**	**13 06 39.2**	**-1.0**
FNA	**Florina**	**0.92**	**114**	P	**Pg**	**13 06 24.5**	**-0.1**
FNA				S	**Sb**	**13 06 37.8**	**-0.2**
PUK	**Puka**	**0.92**	**342**	*i* PG	**Pg**	**13 06 24.6**	**-0.1**
PUK				*i* SG	**Sn**	**13 06 39.6**	**-0.7**
PUK	**Puka**	**0.92**	**342**	*i* Pg	**Pg**	**13 06 24.6**	**-0.1**
	SNR=96						
PUK				*i* Sg	**Sn**	**13 06 39.6**	**-0.7**
	SNR=96						
NEST	**Nestorio**	**0.96**	**142**	P	**Pg**	**13 06 25.2**	**-0.2**
NEST				S	**Sb**	**13 06 39.5**	**+0.4**
NEST	**Nestorio**	**0.96**	**142**	*e*PB	**Pb**	**13 06 26.3**	**+0.2**
NEST				*e*SB	**Sn**	**13 06 42.1**	**+0.9**
NEST	**Nestorio**	**0.96**	**142**	P	**Pg**	**13 06 25.2**	**-0.2**
NEST	**Nestorio**	**0.96**	**142**	*e*Pb	**Pb**	**13 06 26.3**	**+0.2**
NEST				S	**Sb**	**13 06 39.5**	**+0.4**
NEST				*e*Sb	**Sn**	**13 06 42.1**	**+0.9**
ULC	**Ulcinj**	**1.11**	**316**	⇑*i*Pg	**Pg**	**13 06 26.8**	**-1.5**
ULC				*e*Sg	**Sn**	**13 06 45.1**	**+0.2**
ULC	**Ulcinj**	**1.11**	**316**	*i* P	**Pg**	**13 06 27.0**	**-1.3**
ULC	**Ulcinj**	**1.11**	**316**	*i* P	**Pg**	**13 06 27.0**	**-1.3**
ULC				*e*Sg	**Sn**	**13 06 45.1**	**+0.2**
ULC	**Ulcinj**	**1.11**	**316**	*i* Pg	**Pg**	**13 06 27.0**	**-1.3**
SKO	**Skopje**	**1.19**	**47**	P	**Pg**	**13 06 29.7**	**-0.1**
SKO	**Skopje**	**1.19**	**47**	*e*Pg	**Pb**	**13 06 29.9**	**-0.1**
SKO				*e*Sg	**Sb**	**13 06 45.9**	**+0.3**
SKO	**Skopje**	**1.19**	**47**	*i* Pg	**Pg**	**13 06 29.5**	**-0.2**
SKO				*i* Sg	**Sn**	**13 06 46.3**	**-0.5**
SKO				*e*Lg	Lg	13 06 50.1	
	comp=N,5μm,0.4s						
SKO	**Skopje**	**1.19**	**47**	*i* P	**Pg**	**13 06 29.0**	**-0.8**
SKO				*i*		13 06 45.7	
SKO	**Skopje**	**1.19**	**47**	P	**Pg**	**13 06 29.7**	**-0.1**
SKO				*e*Sg	**Sb**	**13 06 45.9**	**+0.3**
SKO				*e*Lg	Lg	13 06 50.1	
	comp=N,5μm,0.4s						
SKO	**Skopje**	**1.19**	**47**	*i* Pg	**Pg**	**13 06 29.0**	**-0.8**
SKO				*i* Sg	**Sb**	**13 06 45.7**	**+0.1**
SKO				*e*Lg	Lg	13 06 49.6	
BCI	**Bajram Curri**	**1.21**	**353**	*i* PG	**Pg**	**13 06 29.1**	**-1.0**
BCI				*i* SG	**Sn**	**13 06 48.5**	**+1.2**
BCI	**Bajram Curri**	**1.21**	**353**	*i* Pg	**Pg**	**13 06 29.1**	**-1.0**
	SNR=94						
BCI				*i* Sg	**Sn**	**13 06 48.5**	**+1.2**
	SNR=94						
DRME	**Dracevica, Mon**	**1.30**	**322**	⇑*i*Pg	**Pn**	**13 06 30.8**	**-1.1**
DRME				*e*Sg	**Sn**	**13 06 52.0**	**+2.3**
DRME	**Dracevica, Mon**	**1.30**	**322**	⇑*i*Pg	**Pn**	**13 06 30.8**	**-1.1**
DRME				*e*Sg	**Sn**	**13 06 52.0**	**+2.3**
SRN	**Sarande**	**1.30**	**189**	*i* PG	**Pg**	**13 06 32.4**	**+0.3**
SRN				*i* SG	**Sn**	**13 06 52.2**	**+2.5**
SRN	**Sarande**	**1.30**	**189**	P	**Pb**	**13 06 32.0**	**0.0**
SRN				S	**Sn**	**13 06 52.1**	**+2.4**
SRN	**Sarande**	**1.30**	**189**	P	**Pb**	**13 06 32.0**	**0.0**
SRN	**Sarande**	**1.30**	**189**	*i* Pg	**Pg**	**13 06 32.4**	**+0.3**
	SNR=93						
SRN				*i* Sg	**Sn**	**13 06 52.2**	**+2.5**
	SNR=93						
SRN	**Sarande**	**1.30**	**189**	P	**Pg**	**13 06 33.0**	**+0.9**
KZN	**Kozani**	**1.43**	**127**	P	**Pn**	**13 06 33.8**	**+0.2**
KZN				S	**Sg**	**13 06 54.1**	**+1.3**
KZN	**Kozani**	**1.43**	**127**	*e*PG	**Pb**	**13 06 34.0**	**-0.1**
KZN				*e*SB	**Sg**	**13 06 55.5**	**+2.7**
KZN	**Kozani**	**1.43**	**127**	P	**Pn**	**13 06 33.8**	**+0.2**
KZN				S	**Sg**	**13 06 54.1**	**+1.3**
KZN	**Kozani**	**1.43**	**127**	P	**Pn**	**13 06 33.8**	**+0.2**
KZN				S	**Sg**	**13 06 54.1**	**+1.3**
KZN				*e*Sb	**Sg**	**13 06 55.5**	**+2.7**
KZN	**Kozani**	**1.43**	**127**	P	**Pn**	**13 06 33.8**	**+0.2**
KZN				S	**Sg**	**13 06 54.1**	**+1.3**
PVY	**Plav**	**1.44**	**351**	⇓*i*Pg	**Pn**	**13 06 35.5**	**+0.4**
PVY				*e*Sg	**Sg**	**13 06 57.4**	**+4.0**
PVY	**Plav**	**1.44**	**351**	⇓*i*Pg	**Pn**	**13 06 33.5**	**-0.4**
PVY				*e*Sg	**Sg**	**13 06 57.4**	**+4.0**
PDG	**Podgorica**	**1.47**	**329**	P	**Pn**	**13 06 33.6**	**-0.6**
PDG				S	**Sg**	**13 06 55.1**	**+0.8**
PDG	**Podgorica**	**1.47**	**329**	*e*Pg	**Pn**	**13 06 33.8**	**-0.4**
PDG				*e*Sg	**Sg**	**13 06 57.9**	**+3.5**
PDG	**Podgorica**	**1.47**	**329**	P	**Pn**	**13 06 33.6**	**-0.6**
PDG				S	**Sg**	**13 06 55.1**	**+0.8**
PDG				*e*Sg	**Sg**	**13 06 56.9**	**+2.5**
TTG	**Podgorica**	**1.47**	**329**	⇑*i*Pg	**Pn**	**13 06 34.0**	**-0.2**
TTG				*e*Sg	**Sg**	**13 06 56.9**	**+2.5**
TTG	**Podgorica**	**1.47**	**329**	*i* P	**Pn**	**13 06 33.8**	**-0.4**
TTG	**Podgorica**	**1.47**	**329**	*i* Pn	**Pn**	**13 06 33.8**	**-0.4**
TTG	**Podgorica**	**1.47**	**329**	*i* Pn	**Pn**	**13 06 33.8**	**-0.4**
KEK	**Kerkira**	**1.50**	**194**	P	**Pb**	**13 06 35.4**	**+0.1**
KEK				S	**Sg**	**13 06 57.3**	**+2.1**
KEK	**Kerkira**	**1.50**	**194**	*e*PB	**Pg**	**13 06 36.1**	**+0.3**
KEK				*e*SB	**Sg**	**13 06 58.9**	**+3.7**
KEK	**Kerkira**	**1.50**	**194**	P	**Pb**	**13 06 35.4**	**+0.1**
KEK	**Kerkira**	**1.50**	**194**	*e*Pb	**Pg**	**13 06 36.1**	**+0.3**
KEK				S	**Sg**	**13 06 57.3**	**+2.1**
BUM	**Brajici-Budva**	**1.53**	**318**	⇑*i*Pg	**Pn**	**13 06 35.0**	**-0.1**
BUM				*e*Sg	**Sg**	**13 06 58.4**	**+2.1**
BUM	**Brajici-Budva**	**1.53**	**318**	⇑*i*Pg	**Pn**	**13 06 35.0**	**-0.1**
BUM				*e*Sg	**Sg**	**13 06 58.4**	**+2.1**
JAN	**Janina**	**1.57**	**164**	P	**Pb**	**13 06 36.6**	**0.0**
JAN				S	**Sg**	**13 06 58.4**	**+0.8**
JAN	**Janina**	**1.57**	**164**	*e*PG	**Pg**	**13 06 38.8**	**+1.6**
JAN				*e*SN	**Sg**	**13 07 02.1**	**+4.5**
JAN	**Janina**	**1.57**	**164**	P	**Pb**	**13 06 36.6**	**0.0**
JAN	**Janina**	**1.57**	**164**	*e*Pg	**Pg**	**13 06 38.8**	**+1.6**
JAN				S	**Sg**	**13 06 58.4**	**+0.8**
IGT	**Igoumenitsa**	**1.64**	**178**	P	**Pb**	**13 06 37.6**	**-0.1**
IGT				S	**Sg**	**13 07 00.5**	**+0.2**
IGT	**Igoumenitsa**	**1.64**	**178**	*e*PN	**Pg**	**13 06 38.2**	**-0.2**
IGT				*e*SN	**Sg**	**13 07 02.4**	**+2.8**
IGT	**Igoumenitsa**	**1.64**	**178**	P	**Pb**	**13 06 37.6**	**-0.1**
IGT	**Igoumenitsa**	**1.64**	**178**	*e*Pn	**Pg**	**13 06 38.2**	**-0.2**
IGT				S	**Sg**	**13 07 00.5**	**+0.9**
IGT				*e*Sn	**Sg**	**13 07 02.4**	**+2.8**
BEY	**Berane**	**1.73**	**351**	⇓*i*Pn	**Pb**	**13 06 38.8**	**-0.4**
BEY				*e*Sn	**Sg**	**13 07 03.8**	**+1.4**
IVA	**Berane**	**1.73**	**351**	⇓*i*Pn	**Pb**	**13 06 38.8**	**-0.4**
IVA				*e*Sn	**Sg**	**13 07 03.8**	**+1.4**
VAY	**Valandovo**	**1.74**	**84**	P	**Pn**	**13 06 37.5**	**-0.3**
VAY				S	**Sn**	**13 07 00.6**	**+0.3**
VAY	**Valandovo**	**1.74**	**84**	*e*Pn	**Pn**	**13 06 37.6**	**-0.3**
VAY	**Valandovo**	**1.74**	**84**	*i* Pn	**Pn**	**13 06 37.9**	**+0.1**
VAY				*e*Lg	Lg	13 07 08.3	
	comp=N,2μm,0.9s						
VAY	**Valandovo**	**1.74**	**84**	*e*Pn	**Pn**	**13 06 37.6**	**-0.3**
VAY				S	**Sn**	**13 07 00.6**	**+0.3**
VAY				*e*Lg	Lg	13 07 08.3	
	comp=N,2μm,0.9s						
HCY	**Herceg Novi**	**1.84**	**314**	⇑*i*Pn	**Pn**	**13 06 39.4**	**+0.1**
HCY				*e*Sn	**Sg**	**13 07 06.5**	**+0.2**
HCY	**Herceg Novi**	**1.84**	**314**	⇑*i*Pn	**Pn**	**13 06 39.4**	**+0.1**
HCY				*e*Sn	**Sg**	**13 07 06.5**	**+0.2**
NKME	**Niksic**	**1.88**	**329**	⇓*i*Pn	**Pb**	**13 06 41.0**	**-0.8**
NKME				*e*Sn	**Sg**	**13 07 07.5**	**+0.2**
NKME	**Niksic**	**1.88**	**329**	⇓*i*Pn	**Pb**	**13 06 41.0**	**-0.8**
NKME				*e*Sn	**Sg**	**13 07 07.5**	**+0.2**
NKY	**Niksic**	**1.90**	**330**	⇓*i*Pn	**Pb**	**13 06 41.1**	**+0.9**
NKY				*e*Sn	**Sb**	**13 07 07.4**	**+1.1**
NKY	**Niksic**	**1.90**	**330**	⇓*i*Pn	**Pn**	**13 06 41.1**	**+0.9**
NKY				*e*Sn	**Sb**	**13 07 07.4**	**+1.1**
KNT	**Kendrikon**	**1.98**	**89**	P	**Pn**	**13 06 41.2**	**0.0**
KNT				S	**Sb**	**13 07 07.4**	**-1.1**
KNT	**Kendrikon**	**1.98**	**89**	*e*PN	**Pn**	**13 06 41.8**	**+0.6**
KNT				*e*SN	**Sb**	**13 07 07.7**	**-0.8**
KNT	**Kendrikon**	**1.98**	**89**	P	**Pn**	**13 06 41.2**	**0.0**
KNT	**Kendrikon**	**1.98**	**89**	*e*Pn	**Pn**	**13 06 41.8**	**+0.6**
KNT				S	**Sb**	**13 07 07.4**	**-1.1**
LIT				*e*Sn	**Sb**	**13 07 07.4**	**-1.1**
LIT	**Litokhoron**	**2.00**	**122**	P	**Pn**	**13 06 41.5**	**+0.1**
LIT	**Litokhoron**	**2.00**	**122**	*e*PN	**Pn**	**13 06 42.0**	**+0.6**
LIT				*e*SN	**Sg**	**13 07 11.1**	**0.0**
LIT	**Litokhoron**	**2.00**	**122**	P	**Pn**	**13 06 41.5**	**+0.1**
LIT	**Litokhoron**	**2.00**	**122**	*e*Pn	**Pn**	**13 06 42.0**	**+0.6**
LIT				*e*Sn	**Sg**	**13 07 11.1**	**0.0**
BARS	**Barje**	**2.01**	**34**	*e*Pn	**Pn**	**13 06 42.2**	**+0.6**
BARS				*e*Sn	**Sg**	**13 07 10.9**	**-0.6**
THL	**Klokotos Trika**	**2.08**	**140**	P	**Pn**	**13 06 43.3**	**+0.7**
THL				S	**Sb**	**13 07 10.4**	**-1.0**
THL	**Klokotos Trika**	**2.08**	**140**	P	**Pn**	**13 06 43.3**	**+0.7**
THL				S	**Sb**	**13 07 10.4**	**-1.0**
SJES	**Sjenica**	**2.10**	**354**	*e*Pn	**Pb**	**13 06 45.6**	**-0.1**
SJES				*e*Sg	**Sg**	**13 07 18.1**	**+3.5**
SJES	**Sjenica**	**2.10**	**354**	*e*Pn	**Pb**	**13 06 45.6**	**-0.1**
SJES				*e*Sg	**Sg**	**13 07 18.1**	**+3.5**
THE	**Thessaloniki**	**2.11**	**104**	P	**Pn**	**13 06 42.7**	**-0.2**
THE				S	**Sb**	**13 07 10.6**	**-1.5**
THE	**Thessaloniki**	**2.11**	**104**	*e*PN	**Pn**	**13 06 43.3**	**+0.4**
THE				*e*SG	**Sn**	**13 07 10.3**	**+0.8**
THE	**Thessaloniki**	**2.11**	**104**	P	**Pn**	**13 06 42.7**	**-0.2**
THE	**Thessaloniki**	**2.11**	**104**	*e*Pn	**Pn**	**13 06 43.3**	**+0.4**
THE				S	**Sb**	**13 07 10.6**	**-1.5**
TREB	**Trebinje**	**2.11**	**318**	*e*Sn	**Sg**	**13 07 14.5**	**-0.3**
DSL	**Palaion Diasel**	**2.13**	**163**	P	**Pb**	**13 06 45.2**	**-0.9**
DSL	**Palaion Diasel**	**2.13**	**163**	*e*PN	**Pb**	**13 06 46.0**	**-0.1**
DSL				*e*SN	**Sg**	**13 07 15.4**	**0.0**
DSL	**Palaion Diasel**	**2.13**	**163**	P	**Pb**	**13 06 45.2**	**-0.9**
DSL	**Palaion Diasel**	**2.13**	**163**	*e*Pn	**Pb**	**13 06 46.0**	**-0.1**
DSL				*e*Sn	**Sg**	**13 07 15.4**	**0.0**
SELS	**Selova**	**2.14**	**17**	*e*Pn	**Pb**	**13 06 45.4**	**-0.9**
SELS				*e*Sn	**Sg**	**13 07 15.5**	**-0.3**
BRY	**Bratogost**	**2.16**	**324**	⇑*i*PN	**Pn**	**13 06 44.9**	**+1.1**
BRY				*e*Sn	**Sb**	**13 07 13.9**	**0.0**
BRY	**Bratogost**	**2.16**	**324**	⇑*i*Pn	**Pn**	**13 06 44.9**	**+1.1**
BRY				*e*Sn	**Sb**	**13 07 13.9**	**0.0**
HORT	**Hortiatis**	**2.22**	**104**	P	**Pn**	**13 06 44.3**	**-0.2**
HORT	**Hortiatis**	**2.22**	**104**	*e*PN	**Pn**	**13 06 44.6**	**+0.1**
HORT				*e*SG	**Sn**	**13 07 13.0**	**+0.7**
HORT	**Hortiatis**	**2.22**	**104**	P	**Pn**	**13 06 44.3**	**-0.2**
HORT	**Hortiatis**	**2.22**	**104**	*e*Pn	**Pn**	**13 06 44.6**	**+0.1**
PLE	**Pljevlja**	**2.26**	**343**	⇑*i*Pn	**Pn**	**13 06 45.9**	**+0.8**
PLE				*e*Sn	**Sb**	**13 07 16.2**	**-0.4**
PLE	**Pljevlja**	**2.26**	**343**	⇑*i*Pn	**Pn**	**13 06 45.9**	**+0.8**
PLE				*e*Sn	**Sb**	**13 07 16.2**	**-0.4**
UPM	**Unac-Piva**	**2.27**	**334**	⇓*i*Pn	**Pn**	**13 06 45.6**	**+0.2**
UPM				*e*Sn	**Sb**	**13 07 16.4**	**-0.7**
UPM	**Unac-Piva**	**2.27**	**334**	⇓*i*Pn	**Pn**	**13 06 45.6**	**+0.2**
UPM				*e*Sn	**Sb**	**13 07 16.4**	**-0.7**
SOH	**Sokhos**	**2.35**	**97**	P	**Pn**	**13 06 46.8**	**+0.4**
SOH	**Sokhos**	**2.35**	**97**	*e*PN	**Pn**	**13 06 47.5**	**+1.1**
SOH	**Sokhos**	**2.35**	**97**	P	**Pn**	**13 06 46.8**	**+0.4**
SOH	**Sokhos**	**2.35**	**97**	*e*Pn	**Pn**	**13 06 47.5**	**+1.1**

CDT Castel del Mon 3.02 270 ePn Pn 13 06 54.7 -0.9
KFL Anninata 3.08 172 P Pn 13 06 57.0 +0.7
KFL Anninata 3.08 172 P Pn 13 06 57.0 +0.7
KALE Kalithea 3.12 152 P Pn 13 06 56.8 -0.2
KALE Kalithea 3.12 152 ePB Pb 13 07 00.2 -2.9
KALE Kalithea 3.12 152 P Pn 13 06 56.8 -0.2
KALE Kalithea 3.12 152 ePb Pb 13 07 00.2 -2.9
SKIA Skiathos 3.16 128 P Pn 13 06 58.0 +0.6
SKIA S Sn 13 07 37.1 +1.6
SKIA Skiathos 3.16 128 ePN Pn 13 06 59.3 +1.9
SKIA eSN Sb 13 07 39.2 -3.2
SKIA Skiathos 3.16 128 P Pn 13 06 58.0 +0.6
SKIA Skiathos 3.16 128 ePn Pn 13 06 59.3 +1.9
SKIA S Sn 13 07 37.1 +1.6
SKIA eSn Sb 13 07 39.2 -3.2
KAVA Kavala 3.21 92 P Pn 13 06 58.2 +0.1
KAVA Kavala 3.21 92 ePN Pn 13 06 58.5 +0.4
KAVA Kavala 3.21 92 P Pn 13 06 58.2 +0.1
KAVA Kavala 3.21 92 ePn Pn 13 06 58.5 +0.4
DSF Desfina 3.25 147 P Pn 13 06 59.8 +1.0
DSF S Sn 13 07 39.9 +2.0
DSF Desfina 3.25 147 ePN Pn 13 07 00.8 +2.0
DSF eSN Sb 13 07 42.7 -2.6
DSF Desfina 3.25 147 P Pn 13 06 59.8 +1.0
DSF Desfina 3.25 147 ePn Pn 13 07 00.8 +2.0
DSF S Sn 13 07 39.9 +2.0
DSF eSn Sb 13 07 42.7 -2.6
LKR Lokris 3.27 139 P Pn 13 06 59.6 +0.6
LKR Lokris 3.27 139 ePN Pn 13 06 59.9 +0.9
LKR Lokris 3.27 139 P Pn 13 06 59.6 +0.6
LKR Lokris 3.27 139 ePn Pn 13 06 59.9 +0.9
MS1 Monte Sant'Ang 3.30 281 ePn Pn 13 06 58.5 -0.8
TIP Timpagrande 3.35 235 ePn Pn 13 06 58.3 +1.8
DRO Drossia 3.40 161 ePN Pn 13 07 03.3 +2.6
DRO Drossia 3.40 161 ePn Pn 13 07 03.3 +2.6
AOS Alonnisos 3.41 125 P Pn 13 07 01.4 +0.6
AOS Alonnisos 3.41 125 ePN Pn 13 07 02.8 +2.0
AOS Alonnisos 3.41 125 P Pn 13 07 01.4 +0.6
AOS Alonnisos 3.41 125 ePn Pn 13 07 02.8 +2.0
PLD Plovdiv 3.45 73 P Pn 13 07 02.1 +0.8
PLD Plovdiv 3.45 73 P Pn 13 07 02.1 +0.8
MRKA Markates 3.54 133 P Pn 13 07 03.5 +0.8
MRKA Markates 3.54 133 ePN Pn 13 07 05.1 +2.4
MRKA Markates 3.54 133 P Pn 13 07 03.5 +0.8
MRKA Markates 3.54 133 ePn Pn 13 07 05.1 +2.4
CUC Castrocucco 3.59 252 ePn Pn 13 07 03.0 -0.4
LTK Loutraki 3.77 146 ePN Pn 13 07 07.5 +1.7
LTK Loutraki 3.77 146 ePn Pn 13 07 07.5 +1.7
DJES Djerdap 3.86 24 ePn Pn 13 07 07.1 0.0
DJES eSn Sn 13 07 54.5 +1.7
KDZ Kurdzhali 3.90 81 ⇓iP Pn 13 07 07.3 -0.2
KDZ Kurdzhali 3.90 81 ⇓iP Pn 13 07 07.3 -0.2
LIA Limnos Island 3.95 107 P Pn 13 07 09.0 +0.8
LIA Limnos Island 3.95 107 ePN Pn 13 07 09.4 +1.2
LIA Limnos Island 3.95 107 P Pn 13 07 09.0 +0.8
LIA Limnos Island 3.95 107 ePn Pn 13 07 09.4 +1.2
FGSL Fruska Gora 4.00 355 ePn Pn 13 07 10.5 +1.5
FGSL eSn Sn 13 07 59.5 +3.3
FRGS Fruska Gora 4.00 355 ePn Pn 13 07 10.5 +1.5
FRGS eSn Sn 13 07 59.5 +3.2
SMTH Samothraki Isl 4.05 98 P Pn 13 07 10.7 +1.1
SMTH Samothraki Isl 4.05 98 P Pn 13 07 10.7 +1.1
SRE Strehaia 4.10 31 ⇓iP Pn 13 07 12.8 +2.5
SRE Strehaia 4.10 31 ⇓iP Pn 13 07 12.8 +2.5
ATH Athens Observa 4.16 139 ePN Pn 13 07 14.3 +3.2
ATH Athens Observa 4.16 139 ePn Pn 13 07 14.3 +3.2
PTL Penteli 4.17 137 ePN Pn 13 07 13.6 +2.3
PTL Penteli 4.17 137 ePn Pn 13 07 13.6 +2.3
ALN Alexandroupoli 4.37 92 P Pn 13 07 14.4 +0.3
ALN Alexandroupoli 4.37 92 ePN Pn 13 07 14.6 +0.5
ALN Alexandroupoli 4.37 92 ePn Pn 13 07 14.6 +0.5
CEL Celeste 4.46 231 ePn Pn 13 07 14.0 -1.3
BZS Buzias 4.55 12⇑iP Pn 13 07 18.1 +1.6
BZS Buzias 4.55 12⇑iP Pn 13 07 18.1 +1.6
BZS S Sn 13 08 10.6 +0.8
GZR Gura Zlata 4.60 23⇓iP Pn 13 07 18.3 +1.1
GZR Gura Zlata 4.60 23⇓iP Pn 13 07 18.3 +1.1
GZR S Sn 13 08 13.4 +2.3
SIGR SIGRI 4.70 113 ePN Pn 13 07 21.8 +3.3
SIGR SIGRI 4.70 113 ePn Pn 13 07 21.8 +3.3
UDBI Udbina 4.72 317 ePn Pn 13 07 20.3 +1.4
UDBI Sn Sn 13 08 13.7 -0.3
UDBI Udbina 4.72 317 ePn Pn 13 07 20.2 +1.4
UDBI Sn Sn 13 08 13.7 -0.3
LOT Lotru 4.98 30⇑iP Pn 13 07 23.0 +0.5
LOT Lotru 4.98 30⇑iP Pn 13 07 23.0 +0.5
LOT S Sn 13 08 22.2 +1.7
PKSM Moragy 5.18 347⇓iP Pn 13 07 27.7 +2.6
PKSM Moragy 5.18 347⇓iP Pn 13 07 27.7 +2.6
PKSM eSn Sn 13 08 26.3 +1.1
PKSM S Sn 13 08 28.3 +3.1
PKSM Moragy 5.18 347⇓epPn Pn 13 07 27.8 +2.6
PKSM eSn Sn 13 08 26.3 +1.1
SIRR Siria 5.19 11 S Sn 13 08 27.5 +1.9
SIRR Siria 5.19 11 S Sn 13 08 27.5 +1.9
NVLJ Novalja 5.22 312 ePn Pn 13 07 25.8 0.0
NVLJ Sn Sn 13 08 25.5 -0.8
NVLJ Novalja 5.22 312 ePn Pn 13 07 25.7 0.0
NVLJ Sn Sn 13 08 25.4 -0.8
CHOS Chios island 5.25 120 ePN Pn 13 07 28.8 +2.6
CHOS Chios island 5.25 120 ePn Pn 13 07 28.8 +2.6
ARR Arges 5.26 36⇓iP Pn 13 07 29.8 +3.4
ARR Arges 5.26 36⇓iP Pn 13 07 29.8 +3.4
AQU L'Aquila 5.28 285 eP Pn 13 07 25.2 -1.3
AQU L'Aquila 5.28 285 eP Pn 13 07 25.2 -1.3
AQU L'Aquila 5.28 285 ePn Pn 13 07 25.2 -1.3
VOIR 5.51 38⇓iP Pn 13 07 31.1 +1.4
VOIR 5.51 38⇓iP Pn 13 07 31.1 +1.4
PKS9 Tamasi 5.60 346⇓ePn Pn 13 07 33.5 +2.5
PKS9 Tamasi 5.60 346⇓epPn Pn 13 07 33.5 +2.5
PKS9 e 13 08 39.5
BOJS Bojanci 5.67 321 iPn Pn 13 07 32.6 +0.8
BOJS iSn Sn 13 08 36.0 -1.4
BOJS Bojanci 5.67 321 Pn Pn 13 07 32.7 +0.8
BOJS iSn Sn 13 08 36.0 -1.4
APE Apeiranthos 5.78 133 ePN Pn 13 07 35.2 +1.7
APE Apeiranthos 5.78 133 eP Pn 13 07 34.2 +0.7
APE Apeiranthos 5.78 133⇓iP Pn 13 07 35.2 +1.7
APE Apeiranthos 5.78 133 eP Pn 13 07 34.2 +0.7
APE Apeiranthos 5.78 133 ePn Pn 13 07 35.2 +1.7
DRGR 5.89 17⇑iP Pn 13 07 36.4 +1.4
DRGR 5.89 17⇑iP Pn 13 07 36.4 +1.4
DRGR S Sn 13 08 43.9 +1.1
PKS7 Kunszentmiklos 5.93 353⇑ePn Pn 13 07 39.1 +3.7
PKS7 Kunszentmiklos 5.93 353⇑epPn Pn 13 07 39.1 +3.7
PKS7 e 13 08 51.4
MLR Muntele Rosu 5.98 42 Pn Pn 13 07 39.2 +2.9
comp=N,0.4nm,0.3s,baz=146,slow=18,SNR=14
MLR Sn Sn 13 08 48.9 +3.7
comp=N,0.1nm,0.3s,baz=106,slow=20,SNR=2.3
MLR Muntele Rosu 5.98 42⇓iP Pn 13 07 39.1 +2.9
ISR Istrita 6.05 47⇑iP Pn 13 07 40.6 +3.5
ISR Istrita 6.05 47⇑iP Pn 13 07 40.6 +3.5
DOPR Dopca 6.06 36⇑iP Pn 13 07 40.0 +2.7
DOPR Dopca 6.06 36⇑iP Pn 13 07 40.0 +2.7
DOPR S Sn 13 08 49.8 +2.7
CEY Cerknica 6.24 319 iPn Pn 13 07 40.0 +0.2
CEY Cerknica 6.24 319 iPn Pn 13 07 40.0 +0.2
MSAB Monastry St. A 6.29 60⇓iP Pn 13 07 41.9 +1.6
MSAB Monastry St. A 6.29 60⇓iP Pn 13 07 41.9 +1.6
PKST T"s 6.30 346 epPn Pn 13 07 44.5 +4.0
SKDS Skadanscina 6.32 316 iPn Pn 13 07 40.9 +0.1
SKDS Skadanscina 6.32 316 iPn Pn 13 07 40.9 +0.1
CSKK Cs˙‡kako 6.36 348 e Sn 13 09 00.3 +6.0
PKSG 6.37 348 ePn Pn 13 07 45.0 +3.6
PKSG 6.37 348 epPn Pn 13 07 45.0 +3.6
PSN Preselentsi 6.37 64⇓iP Pn 13 07 42.5 +1.0
PSN Preselentsi 6.37 64⇓iP Pn 13 07 42.5 +1.0
CLTB Caltabellotta 6.54 239 ePn Pn 13 07 44.5 +0.6
PLOR Plostina 6.58 43⇑iP Pn 13 07 46.0 +1.5
PLOR Plostina 6.58 43⇑iP Pn 13 07 46.0 +1.5
VRI Vrincioaia 6.63 43⇑iP Pn 13 07 47.3 +2.2
VRI Vrincioaia 6.63 43⇑iP Pn 13 07 47.3 +2.2
TLB Topalu 6.65 57⇑iP Pn 13 07 45.6 +0.3
TLB Topalu 6.65 57⇑iP Pn 13 07 45.6 +0.3
SOKA Soboth 6.68 327⇑iPn Pn 13 07 46.3 +0.5
SNR=7.1
SOKA ⇓iSn Sn 13 09 02.2 -0.2
SOKA Soboth 6.68 327 Pn Pn 13 07 46.3 +0.5
SNR=7.1
SOKA Sn Sn 13 09 02.2 -0.2
PSZ Piszkesteto 6.75 358 eP Pn 13 07 48.6 +1.8
PSZ Piszkesteto 6.75 358⇓iP Pn 13 07 49.1 +2.3
PSZ Piszkesteto 6.75 358 eP Pn 13 07 48.6 +1.8
PSZ Piszkesteto 6.75 358⇓ePn Pn 13 07 49.3 +2.5
PSZ S Sn 13 09 06.5 +2.4
PSZ eSn Sn 13 09 07.8 +3.7
PSZ Piszkesteto 6.75 358 ePn Pn 13 07 48.6 +1.8
PSZ Piszkesteto 6.75 358⇓epPn Pn 13 07 49.3 +2.5
PSZ eSn Sn 13 09 07.8 +3.7
OBKA Obir 6.75 324 ePn Pn 13 07 47.8 +0.9
OBKA eSn Sn 13 09 02.6 -1.6
OBKA Obir 6.75 324⇑iPn Pn 13 07 46.6 -0.2
OBKA ⇑iSn Sn 13 09 04.1 -0.1
OBKA Obir 6.75 324 Pn Pn 13 07 46.6 -0.2
OBKA Sn Sn 13 09 04.1 -0.1
TIRR Tirgusor 6.83 59 eP Pn 13 07 47.0 -0.7
TIRR Tirgusor 6.83 59⇑iP Pn 13 07 48.7 +1.0
TIRR Tirgusor 6.83 59⇑iP Pn 13 07 48.7 +1.0
TIRR Tirgusor 6.83 59 ePn Pn 13 07 47.0 -0.7
IDI Anoyia 6.90 147 Pn Pn 13 07 48.7 -0.2
comp=N,1.8nm,0.3s,baz=314,slow=15,SNR=11
IDI Sn Sn 13 09 02.1 -5.8
comp=N,0.5nm,0.3s,baz=49,slow=20,SNR=2.1
ARSA Arzberg 6.97 332 ePn Pn 13 07 51.0 +1.2
ARSA Arzberg 6.97 332⇓iPn Pn 13 07 50.2 +0.4
SNR=8.2
ARSA ⇑iSn Sn 13 09 09.1 -0.3
ARSA Arzberg 6.97 332 Pn Pn 13 07 50.2 +0.4
SNR=8.2
ARSA Sn Sn 13 09 09.1 -0.3
CFR Carcaliu 7.00 52⇑iP Pn 13 07 50.3 +0.1
TRPA Tarpa 7.14 12⇑iP Pn 13 07 55.2 +3.1
TRPA Tarpa 7.14 12⇑iP Pn 13 07 55.2 +3.1
MYKA Terra Mystica 7.26 321⇓iPn Pn 13 07 54.0 +0.2
MYKA Terra Mystica 7.26 321 Pn Pn 13 07 54.0 +0.2
KECS Kecovo 7.31 1 eP Pn 13 07 57.9 +3.4
KECS Kecovo 7.31 1 eP Pn 13 07 57.9 +3.4
KECS Kecovo 7.31 1 ePN Pn 13 07 57.9 +3.4
BURAR Bucovina Array 7.35 27⇑iP Pn 13 07 57.6 +2.6
BURAR Bucovina Array 7.35 27⇑iP Pn 13 07 57.6 +2.6
BUR08 Bucovina Ar. S 7.37 27 ePn Pn 13 07 54.7 -0.6
VYHS Vyhne 7.39 353 eP Pn 13 07 58.4 +3.8
VYHS e 13 09 20.8
VYHS smax smax
comp=N,11nm,0.7s
VYHS Vyhne 7.39 353 eS Sn 13 09 20.8 +1.0
comp=N,11nm,0.7s
VYHS Vyhne 7.39 353 ePN Pn 13 07 59.4 +3.8
VYHS eSN Sn 13 09 20.8 +1.0
VYHS eSG Sb 13 09 29.4 -15
UZH Uzhgorod 7.60 10 eP Pn 13 08 00.2 +1.9
UZH Uzhgorod 7.60 10 eP Pn 13 08 00.2 +1.9
KBA Koelnbreinsper 7.73 322 ePn Pn 13 08 00.9 +0.6
KBA eSn Sn 13 09 27.7 -0.5
KBA Koelnbreinsper 7.73 322⇓iPn Pn 13 08 00.1 -0.2
SNR=5.8
KBA ⇑iSn Sn 13 09 27.3 -0.9
KBA Koelnbreinsper 7.73 322 Pn Pn 13 08 00.1 -0.2
SNR=5.8
KBA eSn Sn 13 09 27.7 -0.5
CRVS Cervenica-Dubn 7.78 6 eP Pn 13 08 03.2 +2.4
CRVS Cervenica-Dubn 7.78 6 eP Pn 13 08 03.2 +2.4
CRVS Cervenica-Dubn 7.78 6 ePN Pn 13 08 03.2 +2.4
CRVS e 13 08 58.3
KOLS Kolonicke sedl 7.89 10 eP Pn 13 08 04.9 +2.5
KOLS Kolonicke sedl 7.89 10 eP Pn 13 08 04.9 +2.5
KOLS Kolonicke sedl 7.89 10 ePN Pn 13 08 04.9 +2.5
ABTA Abfaltersbach 7.90 317⇑iPn Pn 13 08 02.5 -0.1
ABTA ⇑iSn Sn 13 09 31.1 -1.3
ABTA Abfaltersbach 7.90 317 Pn Pn 13 08 02.5 -0.1
ABTA Sn Sn 13 09 31.1 -1.3
JAVC Velka Javorina 7.91 347 ePn Pn 13 08 07.1 +4.5
MOA Molln 7.94 329 ePn Pn 13 08 06.1 +3.1
MOA eSn Sn 13 09 33.0 -0.2
MOA Molln 7.94 329⇑iPn Pn 13 08 04.1 +1.1
SNR=7.1
MOA ⇑iSn Sn 13 09 34.9 +1.7
MOA Molln 7.94 329 Pn Pn 13 08 04.1 +1.1
SNR=7.1
MOA eSn Sn 13 09 33.0 -0.2
RJOB Jochberg 8.47 323 ePn Pn 13 08 11.9 +1.6
RJOB Jochberg 8.47 323 ePn Pn 13 08 11.9 +1.6
PGF Pioggiola 8.53 283 eP Pn 13 08 08.9 -2.3
PGF Pioggiola 8.53 283 ePn Pn 13 08 08.9 -2.3
PGF Pioggiola 8.53 283 eP Pn 13 08 08.9 -2.3
PGF Pioggiola 8.53 283 ePn Pn 13 08 08.9 -2.3
VRAC Vranov 8.54 344 Pn Pn 13 08 14.6 +3.3
comp=N,0.6nm,0.3s,baz=181,slow=7.9,SNR=3.7
VRAC Sn Sn 13 09 49.0 +1.0
comp=N,0.4nm,0.3s,baz=212,slow=19,SNR=2.2
WTTA Wattenberg 8.69 317 ePn Pn 13 08 14.2 +0.7
WTTA eSn Sn 13 09 49.1 -2.9
WTTA Wattenberg 8.69 317⇑iPn Pn 13 08 13.7 +0.2
WTTA Wattenberg 8.69 317 Pn Pn 13 08 13.7 +0.2
WTTA eSn Sn 13 09 49.1 -2.9
WATA Walderalm 8.77 318⇓iPn Pn 13 08 13.8 -0.8
SNR=18
WATA ⇓iSn Sn 13 09 53.1 -0.7
WATA Walderalm 8.77 318 Pn Pn 13 08 13.8 -0.8
SNR=18
WATA Sn Sn 13 09 53.1 -0.7
MORC Moravsky Berou 8.82 348 ePn Pn 13 08 20.0 +4.9
MORC Moravsky Berou 8.82 348 eP Pn 13 08 12.3 -2.8
MORC Moravsky Berou 8.82 348⇓iP Pn 13 08 17.3 +2.2
MORC Moravsky Berou 8.82 348⇓iP Pn 13 08 17.3 +2.2
MORC Moravsky Berou 8.82 348 ePn Pn 13 08 12.3 -2.8
GEC2 GERESS Array S 8.97 331 eP Pn 13 08 17.8 +0.5
GEC2 GERESS Array S 8.97 331 ePn Pn 13 08 17.8 +0.5
GERES GERESS Array B 8.97 331 Pn Pn 13 08 18.0 +0.7
comp=N,0.8nm,0.3s,baz=155,slow=9.7,SNR=14
GERES Sn Sn 13 09 57.4 -1.3
comp=N,0.7nm,0.3s,baz=149,slow=21,SNR=3.6
FETA Feichten 9.02 314⇓iPn Pn 13 08 17.7 -0.3
FETA ⇑iSn Sn 13 09 59.0 -1.0
FETA Feichten 9.02 314 Pn Pn 13 08 17.7 -0.3
FETA Sn Sn 13 09 59.0 -1.0
MOTA Moosalm 9.02 316⇑iPn Pn 13 08 17.8 -0.2
SNR=12
MOTA ⇑iSn Sn 13 09 59.1 -0.9
MOTA Moosalm 9.02 316 Pn Pn 13 08 17.8 -0.2
SNR=12
MOTA Sn Sn 13 09 59.1 -0.9
KRLC Kraliky 9.23 346 ePN Pn 13 08 22.9 +2.1
KRLC Kraliky 9.23 346 eP Pn 13 08 22.9 +2.1
KRLC Kraliky 9.23 346 Pn Pn 13 08 22.9 +2.1
KHC Kasperske Hory 9.26 332 ePN Pn 13 08 21.5 +0.4
KHC ex x 13 08 26.0
KHC ex x 13 09 04.0
KHC Kasperske Hory 9.26 332 eP Pn 13 08 21.5 +0.4
KHC Kasperske Hory 9.26 332 Pn Pn 13 08 21.5 +0.4
DAVOX Davos/Dischmat 9.36 310 Pn Pn 13 08 24.7 +2.0
comp=N,2.8nm,0.3s,baz=315,slow=6.9,SNR=6.9
DAVOX Sn Sn 13 10 03.6 -4.7
comp=N,1.0nm,0.3s,baz=198,slow=20,SNR=3.0
DAVOX Davos/Dischmat 9.36 310 P Pn 13 08 24.7 +2.0
DAVOX 13 10 03.7
DAVOX pmax pmax
comp=Z,3.0nm,0.3s
DAVOX smax smax
comp=N,1.0nm,0.3s
DPC Dobruska-Polom 9.59 345 ePN Pn 13 08 27.4 +1.8
DPC ex x 13 08 34.3
DPC eSN Sn 13 10 13.8 +0.1
DPC ex x 13 10 17.4
DPC Dobruska-Polom 9.59 345 eP Pn 13 08 27.4 +1.8
DPC e 13 10 17.4
DPC Dobruska-Polom 9.59 345 Pn Pn 13 08 27.4 +1.8
DPC Sn Sn 13 10 13.8 +0.1
DAVA Damuels 9.64 313 ePn Pn 13 08 27.1 +0.6
DAVA Damuels 9.64 313⇓iPn Pn 13 08 26.9 +0.4
DAVA ⇓iSn Sn 13 10 13.8 -1.5
DAVA Damuels 9.64 313 Pn Pn 13 08 26.9 +0.4
DAVA Sn Sn 13 10 13.8 -1.5
KEST Kesra 10.14 241 Pn Pn 13 08 35.0 +1.7
comp=N,0.1nm,0.3s,baz=126,slow=5.8,SNR=5.8
BRTR Keskin Array B 10.29 94 Pn Pn 13 08 35.4 0.0
comp=N,0.2nm,0.3s,baz=264,slow=10,SNR=4.2
BRTR Keskin Array B 10.29 94 ceP Pn 13 08 38.7 +3.3
BRTR pmax pmax
comp=Z,1.0nm,0.4s
BRTR Keskin Array B 10.29 94 eP Pn 13 08 38.7 +3.3
comp=Z,1.0nm,0.4s
FRF La Foret Royal 10.37 288 eP Pn 13 08 38.4 +2.1
FRF La Foret Royal 10.37 288 eP Pn 13 08 38.4 +2.1
FRF La Foret Royal 10.37 288 eP Pn 13 08 38.4 +2.1
MBDF Montbardon 10.52 294 ePn Pn 13 08 35.0 -3.5
MBDF eSn Sn 13 10 26.6 -10
comp=Z,18nm,0.7s
MBDF Montbardon 10.52 294 eP Pn 13 08 35.0 -3.5
MBDF e 13 10 26.6
MBDF Montbardon 10.52 294 ePn Pn 13 08 35.0 -3.5
MBDF eSn Sn 13 10 26.6 -10
SPAK Spaichingen-Ko 10.72 314 eP Pn 13 08 40.7 -0.5
LPG La Plagne 10.76 298 ePn Pn 13 08 40.3 -1.6
LPG eSn Sn 13 10 31.3 -12
comp=Z,12nm,0.5s
LPG La Plagne 10.76 298 eP Pn 13 08 40.3 -1.6
LPG e 13 10 31.3
LPG La Plagne 10.76 298 ePn Pn 13 08 40.3 -1.6
LPG La Plagne 10.76 298 ePn Pn 13 08 40.3 -1.6
LPG eSn Sn 13 10 31.3 -12
LPL La Plagne 10.78 298 eP Pn 13 08 39.5 -2.6
LPL eSn Sn 13 10 32.0 -11
comp=Z,18nm,0.4s
LPL La Plagne 10.78 298 eP Pn 13 08 39.5 -2.6
LPL e 13 10 32.0
LPL La Plagne 10.78 298 ePn Pn 13 08 39.5 -2.6
LPL La Plagne 10.78 298 ePn Pn 13 08 39.5 -2.6
LPL eSn Sn 13 10 32.0 -11
RSL Roselend 10.90 299 eP Pn 13 08 43.5 -0.3
RSL Roselend 10.90 299 eP Pn 13 08 43.5 -0.3
STU Stuttgart 10.92 318 eP Pn 13 08 42.3 -1.5
STU Stuttgart 10.92 318 eP Pn 13 08 42.3 -1.5
STU Stuttgart 10.92 318 ePn Pn 13 08 42.3 -1.5
FELD Feldberg im Sc 11.02 312 eP Pn 13 08 44.3 -1.1
BFO Black Forest 11.10 314 ceP Pn 13 08 46.0 -0.4
BFO Black Forest 11.10 314 eP Pn 13 08 46.0 -0.4
BFO Black Forest 11.10 314 ePn Pn 13 08 43.0 -3.4
ORIF Oris-en-Rattie 11.18 294 eP Pn 13 08 49.9 +2.4
ORIF eSn Sn 13 10 42.1 -11
comp=Z,6.4nm,0.4s
ORIF Oris-en-Rattie 11.18 294 eP Pn 13 08 49.9 +2.4
ORIF Oris-en-Rattie 11.18 294 eP Pn 13 08 49.9 +2.4
KIEV Kiev 11.37 30 eP Pn 13 08 55.2 +5.3
AKASG Malin Array Be 11.38 30 ceP Pn 13 08 52.2 +2.1
comp=Z,0.3nm,0.3s,baz=219,slow=13,SNR=9.6
AKASG Malin Array Be 11.38 30 ceP Pn 13 08 55.5 +5.4
AKASG pmax pmax
comp=Z,1.0nm,0.4s
LOMF Lomont 11.45 307 eP Pn 13 08 49.8 -1.3
LOMF Lomont 11.45 307 eP Pn 13 08 49.8 -1.3
MOF Molkenrain 11.51 310 eP Pn 13 08 51.0 -1.0
MOF Molkenrain 11.51 310 eP Pn 13 08 51.0 -1.0
CABF La Chapelle 11.59 303 ePn Pn 13 08 50.4 -2.7
CABF La Chapelle 11.59 303 eP Pn 13 08 50.4 -2.7
CABF La Chapelle 11.59 303 ePn Pn 13 08 50.4 -2.7
CABF La Chapelle 11.59 303 ePn Pn 13 08 50.4 -2.7
HINF Hinteralfeld 11.65 309 ePn Pn 13 08 51.1 -2.9
HINF eSn Sn 13 10 53.3 -11
comp=Z,4.2nm,0.4s
HINF Hinteralfeld 11.65 309 eP Pn 13 08 51.1 -2.9
HINF Hinteralfeld 11.65 309 ePn Pn 13 08 51.1 -2.9
HINF eSn Sn 13 10 53.3 -11
ECH Echery 11.69 311 eP Pn 13 08 54.4 0.0
ECH Echery 11.69 311 eP Pn 13 08 51.9 -2.5
ECH Echery 11.69 311 eP Pn 13 08 54.4 0.0
ECH Echery 11.69 311 ePn Pn 13 08 51.9 -2.5
CDF Champ du Feu 11.73 312 ePn Pn 13 08 52.2 -2.8
CDF eSn Sn 13 10 55.4 -11
comp=Z,2.3nm,0.4s
CDF Champ du Feu 11.73 312 eP Pn 13 08 52.2 -2.8
CDF Champ du Feu 11.73 312 ePn Pn 13 08 52.2 -2.8
CDF eSn Sn 13 10 55.4 -11
HAU Haudompre 12.04 309 ePn Pn 13 08 57.2 -2.1
HAU eSn Sn 13 11 02.6 -11
comp=Z,9.7nm,0.4s
HAU Haudompre 12.04 309 eP Pn 13 08 57.2 -2.1
HAU Haudompre 12.04 309 ePn Pn 13 08 57.2 -2.1
HAU Haudompre 12.04 309 ePn Pn 13 08 57.2 -2.1
HAU eSn Sn 13 11 02.6 -11
THEF They Montfort 12.36 310 eP Pn 13 09 02.7 -0.9
THEF They Montfort 12.36 310 eP Pn 13 09 02.7 -0.9
SMF Signal de Mont 13.05 300 ePn Pn 13 09 09.6 -3.3
SMF Signal de Mont 13.05 300 eP Pn 13 09 09.6 -3.3
SMF Signal de Mont 13.05 300 ePn Pn 13 09 09.6 -3.3
LOR Lormes 13.25 303 ePn Pn 13 09 13.0 -2.7
baz=119
LOR Lormes 13.25 303 eP Pn 13 09 13.0 -2.7
LOR Lormes 13.25 303 ePn Pn 13 09 13.0 -2.7
LOR Lormes 13.25 303 ePn Pn 13 09 13.0 -2.7
VORD Divnogorie 16.39 47 eP P 13 10 02.1 +1.6
VORD pmax pmax
comp=Z,10.0nm,1.2s
VORD pmax pmax
comp=N,8.0nm,0.6s
VORD pmax pmax
comp=E,30nm,0.9s
VORD Divnogorie 16.39 47 eP P 13 10 02.1 +1.6
comp=E,8.0nm,0.6s
VSR Storozhevoye 16.45 46 eP P 13 10 01.6 +0.4
VSR pmax pmax
comp=Z,8.0nm,0.6s
VSR pmax pmax
comp=N,6.0nm,0.4s
VSR pmax pmax
comp=E,20nm,1.7s
VSR Storozhevoye 16.45 46 eP P 13 10 01.6 +0.4
comp=E,6.0nm,0.4s
EIL Elat 16.55 129 Pn Pn 13 09 59.3 -0.5
comp=E,0.4nm,0.3s,baz=333,slow=18,SNR=2.6
KIV Kislovodsk 16.74 73 eP Pn 13 10 02.4 +0.2
KIV pmax pmax
comp=Z,6.0nm,1.0s
NEY Neytrino 16.75 75 eP P 13 10 05.3 +0.5
NEY Neytrino 16.75 75 eP P 13 10 05.3 +0.5
KBZ Khabaz 16.88 74 Pn P 13 10 08.5 +2.4
comp=Z,1.0nm,0.3s,baz=236,slow=24,SNR=5.0
OBN Obninsk 17.62 32⇑eP P 13 10 15.0 +0.9
OBN pmax pmax
comp=Z,11nm,1.2s
OBN MLR MLR
comp=Z,1μm,22.0s
OBN Obninsk 17.62 32 eP P 13 10 15.0 +0.9
comp=Z,1μm,22.0s
ZEI Tsey 17.63 77 eP P 13 10 19.4 +4.8
ZEI pmax pmax
comp=Z,5.0nm,0.9s
ZEI Tsey 17.63 77 eP P 13 10 19.4 +4.8
comp=Z,5.0nm,0.9s
VSU Vasula 17.79 11 eP P 13 10 18.6 +2.7
VSU Vasula 17.79 11 eP P 13 10 18.6 +2.7
ESDC Sonseca Array 18.51 273 P P 13 10 23.3 -0.8
comp=Z,0.3nm,0.3s,baz=71,slow=11,SNR=2.9
GNI Garni 18.58 85 eP Pn 13 10 28.2 +3.0
GNI pmax pmax
comp=Z,8.0nm,1.3s
GNI Garni 18.58 85 eP Pn 13 10 28.2 +3.0
comp=Z,8.0nm,1.3s
HFS Hagfors 19.42 350 P Pn 13 10 34.4 -0.6
comp=Z,0.6nm,0.3s,baz=165,slow=13,SNR=13
FINES FINESS Array B 20.61 8 P P 13 10 46.2 -0.5
comp=Z,1.1nm,0.4s,baz=161,slow=13,SNR=5.8
FINES FINESS Array B 20.61 8 eP Pn 13 10 50.9 +1.9
FINES FINESS Array B 20.61 8 eP Pn 13 10 50.9 +1.9
NB2 NORSAR Subarra 20.66 347 P P 13 10 46.3 -1.1
comp=Z,2.4nm,0.6s,baz=164,slow=11
NB2 NORSAR Subarra 20.66 347 P P 13 10 46.3 -1.1
comp=Z,2.4nm,0.6s,SNR=9.9
NOA NORSAR Array B 20.66 347 P P 13 10 46.7 -0.7
comp=Z,2.0nm,0.6s,baz=155,slow=10,SNR=8.2
EKA Eskdalemuir Ar 20.94 321 P P 13 10 50.6 +0.2
comp=Z,2.2nm,0.6s,baz=118,slow=10,SNR=6.7
MDT Midelt 21.50 255 P P 13 10 54.5 -2.3
comp=Z,1.3nm,0.8s,baz=6.3,slow=9.2,SNR=3.1
TAM Tamanrasset 22.13 219 eP P 13 11 03.3 -0.4
TAM pmax pmax
comp=Z,7.0nm,1.0s
TAM Tamanrasset 22.13 219 eP P 13 11 03.3 -0.4
comp=Z,7.0nm,1.0s
TAM Tamanrasset 22.13 219 eP P 13 11 03.3 -0.4
comp=Z,6.9nm,1.0s
KLMR Klimovskoe 22.96 24 eP P 13 11 10.6 -1.4
KLMR pmax pmax
comp=Z,18nm,1.5s
AKTK Aktyubinsk 27.63 58 P P 13 11 55.1 -0.2

AKTO	**Aktyubinsk**	**27.63**	**58**	P		**P**		**13 11 55.1**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=262,slow=11,SNR=4.4								
ARCES	**ARCESS Array B**	**28.56**	**4**	P		**P**		**13 12 02.7**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=191,slow=9.9,SNR=8.1								
ABKAR	**Akbulak array**	**28.82**	**60**	*e*P		**P**		**13 12 05.6**	**-0.3**
	comp=Z,8.3nm,0.6s								
ARU	**Arti**	**29.02**	**45**	*d i*P		**P**		**13 12 09.3**	**+1.7**
ARU								13 13 01.2	
ARU				S		**S**		**13 17 03.9**	**+4.9**
ARU				pmax	pmax				
	comp=Z,6.0nm,1.7s								
ARU	**Arti**	**29.02**	**45**	*i* P		**P**		**13 12 09.3**	**+1.7**
	comp=Z,6.0nm,1.7s								
TORD	**Torodi Ar. Bea**	**32.30**	**216**	P		**P**		**13 12 36.3**	**-0.6**
	comp=Z,3.3nm,0.9s,baz=30,slow=9.0,SNR=20								
BRVK	**Borovoye**	**35.34**	**53**	*e*P		**P**		**13 13 03.8**	**+0.7**
BRVK				pmax	pmax				
	comp=Z,6.0nm,0.9s								
BRVK	**Borovoye**	**35.34**	**53**	*e*P		**P**		**13 13 03.8**	**+0.7**
	comp=Z,6.0nm,0.9s								
BRVK	**Borovoye**	**35.34**	**53**	*e*P		**P**		**13 13 03.3**	**+0.2**
	comp=Z,4.4nm,0.8s								
BVAR	**Borovoye Array**	**35.41**	**53**	P		**P**		**13 13 04.0**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=280,slow=4.4,SNR=13								
KURBB	**Kurchatov Arra**	**40.66**	**56**	P		**P**		**13 13 47.5**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=290,slow=9.8,SNR=11								
KURK	**Kurchatov**	**40.70**	**56**	P		**P**		**13 13 47.5**	**-0.8**
KURK	**Kurchatov**	**40.70**	**56**	P		**P**		**13 13 47.5**	**-0.8**
NVS	**Novosibirsk**	**42.82**	**49**	*e*P		**P**		**13 14 05.2**	**-0.4**
NVS	**Novosibirsk**	**42.82**	**49**	*e*P		**P**		**13 14 05.2**	**-0.4**
ZAA0	**Zalesovo Array**	**43.88**	**50**	*e*P		**P**		**13 14 14.2**	**0.0**
ZALV	**Zalesovo Beam**	**43.88**	**50**	P		**P**		**13 14 14.0**	**-0.1**
	comp=Z,5.8nm,0.5s,baz=278,slow=8.8,SNR=39								
MK31	**Makanchi Array**	**43.95**	**61**	*e*P		**P**		**13 14 14.6**	**-0.3**
MK31	**Makanchi Array**	**43.95**	**61**	*e*P		**P**		**13 14 14.6**	**-0.3**
MK31	**Makanchi Array**	**43.95**	**61**	*e*P		**P**		**13 14 14.6**	**-0.3**
MKAR	**Makanchi Array**	**43.95**	**61**	P		**P**		**13 14 14.2**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=279,slow=9.7,SNR=7.4								
KOLN	**Koldanda**	**52.82**	**84**	*e*P		**P**		**13 15 22.4**	**-1.4**
	comp=Z,13nm,0.9s								
GKN	**Gorkha**	**53.48**	**83**	*e*P		**P**		**13 15 27.1**	**-1.4**
	comp=Z,23nm,0.7s								
DMN	**Daman**	**54.04**	**83**	*e*P		**P**		**13 15 31.6**	**-1.2**
	comp=Z,18nm,0.7s								
KKN	**Kakani**	**54.07**	**83**	*e*P		**P**		**13 15 31.5**	**-1.5**
	comp=Z,15nm,0.6s								
PKIN	**Phulchoki**	**54.27**	**83**	*e*P		**P**		**13 15 33.0**	**-1.5**
	comp=Z,6.3nm,0.7s								
PKI	**Pulchoki**	**54.29**	**83**	*e*P		**P**		**13 15 33.2**	**-1.4**
	comp=Z,14nm,0.7s								
GUN	**Gumba**	**54.46**	**82**	*e*P		**P**		**13 15 34.7**	**-1.2**
	comp=Z,33nm,0.9s								
JIRN	**Jiri**	**54.82**	**82**	*e*P		**P**		**13 15 37.4**	**-1.2**
	comp=Z,22nm,0.7s								
TLY	**Talaya**	**55.43**	**49**	*i* P		**P**		**13 15 43.4**	**+1.2**
TLY				pmax	pmax				
	comp=Z,5.0nm,0.8s								
TLY	**Talaya**	**55.43**	**49**	*i* P		**P**		**13 15 43.4**	**+1.2**
	comp=Z,5.0nm,0.8s								
RAMN	**Ramite**	**55.51**	**83**	*e*P		**P**		**13 15 41.9**	**-1.5**
	comp=Z,42nm,0.7s								
ZAK	**Zakamensk**	**55.76**	**50**	*e*P		**P**		**13 15 43.3**	**-1.4**
ZAK				pmax	pmax				
	comp=Z,2.0nm,1.4s								
TAPN	**Taplejung**	**56.12**	**82**	*e*P		**P**		**13 15 46.6**	**-1.3**
	comp=Z,20nm,0.9s								
ODAN	**Odare**	**56.15**	**82**	*e*P		**P**		**13 15 46.7**	**-1.3**
	comp=Z,25nm,0.8s								
SONM	**Songino Array**	**58.73**	**52**	P		**P**		**13 16 05.5**	**-0.3**
	comp=Z,3.2nm,0.8s,baz=290,slow=8.7,SNR=7.1								
ULN	**Ulaanbaatar**	**59.11**	**52**	*ce*P		**P**		**13 16 08.7**	**+0.3**
ULN				pmax	pmax				
	comp=Z,4.0nm,1.2s								
ULN	**Ulaanbaatar**	**59.11**	**52**	*e*P		**P**		**13 16 08.7**	**+0.3**
	comp=Z,4.0nm,1.2s								
BILL	**Bilibino**	**68.15**	**13**	*i*P		**P**		**13 17 10.4**	**+2.8**
BILL				*i*				13 17 33.1	
BILL				*e*				13 19 37.2	
BILL				pmax	pmax				
	comp=Z,3.0nm,1.2s								
BILL	**Bilibino**	**68.15**	**13**	*i* P		**P**		**13 17 10.4**	**+2.8**
	comp=Z,3.0nm,1.2s								
BILL	**Bilibino**	**68.15**	**13**	*i* PcP		**PcP**		**13 17 33.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**69.68**	**83**	P		**P**		**13 17 16.3**	**-1.7**
	comp=Z,1.6nm,0.7s,baz=307,slow=8.1,SNR=12								
CMAR	**Chiang Mai Arr**	**69.68**	**83**	*i* P		**P**		**13 17 16.2**	**-1.7**
CMAR				pmax	pmax				
	comp=Z,2.0nm,0.7s								
YKA	**Yellowknife Ar**	**70.52**	**340**	P		**P**		**13 17 21.4**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=41,slow=5.7,SNR=6.3								
ULM	**Lac du Bonnet**	**73.19**	**323**	P		**P**		**13 17 39.8**	**+1.2**
	comp=Z,2.6nm,0.6s,baz=38,slow=9.4,SNR=3.8								
ILAR	**Eielson Array**	**73.92**	**354**	P		**P**		**13 17 42.5**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=7.1,slow=5.3,SNR=5.0								
KSAR	**Wonju Array Be**	**77.57**	**51**	P		**P**		**13 18 03.5**	**-0.5**
KSAR	**Wonju Array Be**	**77.57**	**51**	P		**P**		**13 18 03.5**	**-0.5**
KSAR	**Wonju Array Be**	**77.57**	**51**	P		**P**		**13 18 03.5**	**-0.5**
KSRS	**Korea Array**	**77.59**	**51**	P		**P**		**13 18 03.5**	**-0.6**
	comp=Z,3.1nm,0.6s,baz=314,slow=5.1,SNR=11								
KSRS	**Korea Array**	**77.59**	**51**	P		**P**		**13 18 03.5**	**-0.6**
KSRS				pmax	pmax				
	comp=Z,3.0nm,0.6s								
MJAR	**Matsushiro Arr**	**84.03**	**46**	P		**P**		**13 18 40.2**	**+1.6**
	comp=Z,1.1nm,0.8s,baz=332,slow=5.0,SNR=3.7								
PDAR	**Pinedale Array**	**84.98**	**325**	P		**P**		**13 18 43.5**	**0.0**
	comp=Z,0.8nm,0.9s,baz=90,slow=5.9,SNR=3.9								
TXAR	**Lajitas Array**	**92.78**	**314**	P		**P**		**13 19 20.6**	**-0.2**
	comp=Z,1.1nm,1.0s,baz=75,slow=4.7,SNR=6.0								
WRA	**Warramunga Arr**	**120.79**	**90**	PKP		**PKPdf**		**13 24 58.7**	**-1.8**
	comp=Z,0.5nm,0.7s,baz=317,slow=1.8,SNR=3.4								
ASAR	**Alice Springs**	**122.63**	**94**	PKP		**PKPdf**		**13 25 02.3**	**-1.7**
	comp=Z,1.0nm,0.7s,baz=319,slow=1.5,SNR=13								

IDC 06 13:14:36.2±13.0, 20°21S×177°43W, h479km±165km, mb3.1/8, mb1 3.4/9, mb1mx3.2/24, mbtmp4.0/9, Error ellipse: s-maj=62.8km s-min=24.6km az=17.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**18.60**	**194**	P		P	13 18 22.3	-0.8
	1.3nm,0.3s,baz=266,slow=3.5,SNR=11							
URZ				S		S	13 21 27.0	-1.1
	0.1nm,0.3s,baz=162,slow=19,SNR=1.6							
STKA	**Stephens Creek**	**38.39**	**244**	P		P	13 21 16.4	+0.8
	1.8nm,0.5s,baz=100,slow=12,SNR=3.1							
JAY	**Jayapura**	**44.46**	**288**	P		P	13 22 04.3	+0.2
	8.2nm,0.7s,baz=79,slow=16,SNR=2.9							
ASAR	**Alice Springs**	**45.10**	**256**	P		P	13 22 09.2	+0.2
	1.4nm,0.5s,baz=96,slow=7.6,SNR=42							
ASAR				S		S	13 28 07.9	-4.8
	0.8nm,0.8s,baz=94,slow=16,SNR=5.2							
WRA	**Warramunga Arr**	**45.17**	**262**	P		P	13 22 08.8	-0.8
	0.7nm,0.4s,baz=97,slow=7.8,SNR=35							
NVAR	**Mina Array Bea**	**80.45**	**43**	P		P	13 25 58.7	+1.0
	0.1nm,0.3s,baz=238,slow=6.3,SNR=3.5							
TXAR	**Lajitas Array**	**86.45**	**57**	P		P	13 26 29.0	+1.3
	0.2nm,0.6s,baz=218,slow=6.9,SNR=3.2							
ILAR	**Eielson Array**	**87.92**	**13**	P		P	13 26 32.2	-1.4
	0.2nm,0.4s,baz=223,slow=6.5,SNR=6.5							
PDAR	**Pinedale Array**	**88.39**	**43**	P		P	13 26 35.6	-1.2
	0.3nm,0.7s,baz=264,slow=3.5,SNR=2.8							

IDC 06 13:40:20.0±3.7, 5°77S×153°30E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.3/22, mbtmp3.4/2, Error ellipse: s-maj=182.9km s-min=47.9km az=124.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.20**	**231**	P		P	13 45 28.2	-0.6
	1.1nm,0.8s,baz=55,slow=9.2,SNR=6.7							
ASAR	**Alice Springs**	**25.80**	**224**	P		P	13 45 52.9	-0.1
	0.5nm,0.7s,baz=56,slow=9.2,SNR=4.8							
TORD	**Torodi Ar. Bea**	**151.07**	**287**	PKPbc		PKPbc	14 00 16.3	+0.1
	0.5nm,0.9s,baz=107,slow=3.3,SNR=2.6							

IDC 06 14:01:42.4±11.0, 18°45S×177°79W, h553km±107km, mb2.9/4, mb1 3.2/4, mb1mx2.9/19, mbtmp3.9/4, Error ellipse: s-maj=118.0km s-min=44.0km az=130.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**38.89**	**242**	P		P	14 08 21.2	+0.3
	0.9nm,0.3s,baz=78,slow=7.5,SNR=8.8							
WRA	**Warramunga Arr**	**45.12**	**260**	P		P	14 09 09.6	-0.5
	1.0nm,0.4s,baz=98,slow=6.9,SNR=34							
WRA				PcP		PcP	14 10 38.9	0.0
	0.1nm,0.3s,baz=96,slow=4.9,SNR=4.0							
ASAR	**Alice Springs**	**45.22**	**255**	P		P	14 09 10.6	-0.3
	1.2nm,0.4s,baz=91,slow=8.1,SNR=61							
ASAR				PcP		PcP	14 10 39.0	-0.3
	0.2nm,0.5s,baz=102,slow=4.1,SNR=6.0							
ILAR	**Eielson Array**	**86.28**	**13**	P		P	14 13 25.4	0.0
	0.1nm,0.5s,baz=218,slow=5.9,SNR=5.1							
ARCES	**ARCESS Array B**	**126.95**	**350**	PKP		PKPdf	14 19 42.5	-0.6
	1.0nm,0.8s,baz=38,slow=1.6,SNR=3.5							

*MOS **06** 14:26:54.7±0.9, 15°.08N×120°.09E, h33km, mb4.6/10, Error ellipse: s-maj=17.9km s-min=7.5km az=112.2*
*MAN **06** 14:26:57, 15°.15N×119°.81E, h14km, mb5.4, ML4.4, MS4.7*
*ISCJB **06** 14:26:59.8±0.4, 15°.15N±0°.03×120°.05E±0°.05, h75km±4km, mb4.2/40, Error ellipse: s-maj=7.7km s-min=4.4km az=175.9*
*NEIC **06** 14:27:02.3±0.7, 15°.16N×120°.18E, h86km±7km, mb4.6/5, Error ellipse: s-maj=8.5km s-min=4.8km az=77.0*
*IDC **06** 14:27:02.2±4.0, 15°.14N×120°.17E, h84km±38km, mb4.0/32, mb1 4.1/32, mb1mx4.0/38, mbtmp4.3/32, MS3.3/6, Ms1 3.4/6, ms1mx2.9/50, Error ellipse: s-maj=15.8km s-min=10.3km az=70.0*
*BJI **06** 14:27:03.1, 15°.20N×120°.10E, h86km, mb4.5/4, mB4.4/4, Ms4.4/2, Ms7 4.0/2*

ISC 06 14:27:01.4±0.6, 15°.07N±0°.04×120°.12E±0°.06, h78km±5km, n109, σ1°30/118, mb4.4/40, 15C-8D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SCZP	**Santa Cruz**	**0.73**	**344**	*e*P		P*n*	14 27 09.6	-7.6
SCZP				*e*S		S*n*	14 27 19.4	-10
PCPH	**Palayan**	**1.06**	**62**	*i*P		**Pn**	**14 27 19.3**	**-1.8**
PCPH				*i* S		**Sn**	**14 27 35.3**	**-0.5**
TGY	**Tagaytay City**	**1.24**	**140**	*i*P		**Pn**	**14 27 25.3**	**+1.8**
TGY				*i* S		**Sn**	**14 27 42.0**	**+2.1**
BOLP	**Bolinao**	**1.32**	**351**	*e*P		Pn	14 27 18.7	-5.7
LUBP	**Lubang**	**1.33**	**175**	*e*P		**Pn**	**14 27 22.6**	**-1.9**
BALP	**Baler**	**1.55**	**64**	*e*P		**Pn**	**14 27 27.2**	**-0.1**
BALP				*e*S		**Sn**	**14 27 43.1**	**-3.9**
LQP	**Lukban**	**1.67**	**125**	*i*P		**Pn**	**14 27 31.0**	**+2.0**
PGP	**Puerto Galera**	**1.75**	**153**	*i*P		**Pn**	**14 27 30.6**	**+0.5**
PGP				*i* S		Sn	14 28 01.7	+10
CAUP	**Cauayan**	**2.48**	**41**	*e*P		**Pn**	**14 27 40.0**	**+0.3**
SZP	**Santa**	**2.49**	**7**	*e*Pn		**Pn**	**14 27 38.1**	**-1.7**
SZP				*e*Sn		**Sn**	**14 28 11.0**	**+1.7**
ABRA	**Dolores**	**2.63**	**12**	*e*P		**Pn**	**14 27 40.4**	**-1.3**
SJMP	**San Jose**	**2.77**	**159**	*e*P		**Pn**	**14 27 45.3**	**+1.7**
SIPP	**Brgy, Tapao**	**2.86**	**6**	*i*P		**Pn**	**14 27 47.0**	**+2.2**
SIPP				*i* S		**Sn**	**14 28 22.0**	**+3.8**
APYP	**Conner**	**2.98**	**21**	*e*P		**Pn**	**14 27 45.6**	**-0.9**
BUSP	**Coron**	**3.05**	**179**	*e*P		**Pn**	**14 27 47.5**	**+0.1**
BUSP				*e*S		Sn	14 28 15.2	-7.7
CVP	**Callao Caves**	**3.09**	**32**	*e*P		**Pn**	**14 27 46.6**	**-1.3**
OTRP	**Odiongan**	**3.26**	**145**	*e*P		Pn	14 27 55.8	+5.5
PIP	**Pasuquin**	**3.27**	**8**	*i*P		**Pn**	**14 27 48.2**	**-2.3**
PIP				*e*S		**Sn**	**14 28 30.9**	**+2.5**
ENPP	**El Nido**	**3.90**	**190**	*e*P		**Pn**	**14 27 58.2**	**-0.8**
CUYO	**Cuyo Island**	**4.28**	**168**	*e*P		**Pn**	**14 28 04.7**	**+0.4**
TPUB	**Ta-pu**	**8.20**	**3**	*e*Pn		**Pn**	**14 28 58.5**	**+0.7**
	20nm,0.8s							
YULB	**Yu-li**	**8.36**	**7**	*e*Pn		**Pn**	**14 28 59.3**	**-0.5**
	8.9nm,0.5s							
YULB				*e*Sn		**Sn**	**14 30 31.3**	**-1.2**
QIZ	**Qiongzhong**	**10.59**	**293**	P		Pn	14 29 25.7	-4.6
QIZ				S		**Sn**	**14 31 25.5**	**-1.7**
QIZ				LR		LR		
	comp=E,140nm,18.5s							
QIZ				LR		LR		
	comp=Z,320nm,17.6s							
LUWI	**Luwuk**	**16.22**	**170**	Pn		**P**	**14 30 46.5**	**+0.1**
	comp=Z,31nm,0.6s							
WHN	**Wuhan**	**16.29**	**342**	P		**Pn**	**14 30 43.9**	**-1.5**
KAPI	**Kappang**	**19.96**	**181**	P		**Pn**	**14 31 30.2**	**+0.4**
	comp=Z,8.7nm,0.6s,baz=316,slow=3.8,SNR=6.7							
KAPI				LR		LR	14 39 42.7	
	comp=Z,88nm,18.7s,baz=351,slow=38							
CMAR	**Chiang Mai Arr**	**20.55**	**282**	P		**P**	**14 31 35.1**	**+1.2**
	comp=Z,3.3nm,0.8s,baz=101,slow=8.3,SNR=22							
CMAR				LR		LR	14 39 26.3	
	comp=Z,84nm,19.4s,baz=78,slow=36							
CMAR	**Chiang Mai Arr**	**20.55**	**282**	*ce*P		Pn	14 31 38.7	+1.8
CMAR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KSAR	**Wonju Array Be**	**23.33**	**16**	P		**P**	**14 32 01.9**	**-0.9**
KSAR	**Wonju Array Be**	**23.33**	**16**	P		**P**	**14 32 01.9**	**-0.9**
KSRS	**Korea Array**	**23.35**	**16**	P		**P**	**14 32 01.9**	**-1.1**
	comp=Z,2.6nm,0.8s,baz=200,slow=11,SNR=6.6							
KSRS				LR		LR	14 41 47.8	
	comp=Z,35nm,18.1s,baz=201,slow=38							
CBIJ	**Chichi jima**	**23.77**	**56**	P		**P**	**14 32 06.0**	**-0.9**
JCJ	**Chichijima**	**23.77**	**56**	P		**P**	**14 32 06.0**	**-0.9**
	comp=Z,16nm,0.4s,baz=99,slow=19,SNR=7.6							
BATI	**Baumata**	**25.36**	**172**	P		**P**	**14 32 22.2**	**+0.8**
	comp=Z,35nm,0.6s,baz=15,slow=3.4,SNR=11							
HHC	**Hu-ho-hao-te**	**26.75**	**345**	*e*P		**P**	**14 32 35.1**	**+1.2**
HHC				pP		**pP**	**14 32 53.5**	**+1.6**
HHC				sP		**sP**	**14 33 02.1**	**+1.1**
HHC				PP		**PnPn**	**14 33 22.7**	**+3.3**
HHC				S		**S**	**14 37 03.8**	**-0.3**
HHC				sS		**sS**	**14 37 34.6**	**-0.7**
HHC				PMZ				
	comp=Z,32nm,0.6s							
HHC				PMZ				
	comp=Z,110nm,6.0s							
HHC				LN				
	comp=Z,720nm,13.6s							
HHC				LE				
	comp=Z,520nm,14.7s							
HHC				LZ				
	comp=Z,380nm,14.8s							
MJAR	**Matsushiro Arr**	**26.79**	**34**	P		**P**	**14 32 34.2**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=213,slow=8.4,SNR=4.7							
JAY	**Jayapura**	**26.84**	**129**	LR		LR	14 42 37.4	
	comp=Z,50nm,21.2s,baz=304,slow=35							
ULN	**Ulaanbaatar**	**34.45**	**344**	*e*P		**P**	**14 33 40.3**	**-1.4**
ULN				pmax	pmax			
	comp=Z,1.0nm,1.0s							
SONM	**Songino Array**	**34.59**	**344**	P		**P**	**14 33 42.6**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=164,slow=10,SNR=4.2							
ASAJ	**Asahikawa**	**34.70**	**29**	P		**P**	**14 33 43.1**	**-0.7**
	comp=Z,33nm,1.3s,baz=228,slow=11,SNR=8.4							
WRAB	**Tennant Creek**	**37.49**	**158**	*e*P		**P**	**14 34 06.4**	**-1.4**
WRAB				pmax	pmax			
	comp=Z,13nm,1.0s							
WRAB	**Tennant Creek**	**37.49**	**158**	*e*P		P	14 34 04.1	-3.7
	comp=Z,25nm,1.4s							
WRA	**Warramunga Arr**	**37.50**	**158**	P		**P**	**14 34 07.1**	**-0.8**
	comp=Z,5.7nm,0.7s,baz=338,slow=9.3,SNR=46							
WRA	**Warramunga Arr**	**37.50**	**158**	*i* P		**P**	**14 34 07.0**	**-0.8**
WRA				pmax	pmax			
	comp=Z,6.0nm,0.7s							
AS31	**Alice Springs**	**40.79**	**160**	*e*P		**P**	**14 34 35.4**	**+0.1**
ASAR	**Alice Springs**	**40.79**	**160**	P		**P**	**14 34 35.4**	**0.0**
	comp=Z,2.2nm,0.4s,baz=339,slow=7.0,SNR=40							
CTA	**Charters Tower**	**43.37**	**143**	P		**P**	**14 34 58.0**	**+1.6**
	comp=Z,2.9nm,0.6s,baz=340,slow=8.0,SNR=4.1							
CTA	**Charters Tower**	**43.37**	**143**	P		**P**	**14 34 58.0**	**+1.6**
MK31	**Makanchi Array**	**44.61**	**323**	*e*P		**P**	**14 35 05.2**	**-0.8**
MK31	**Makanchi Array**	**44.61**	**323**	*e*P		**P**	**14 35 05.2**	**-0.8**
MKAR	**Makanchi Array**	**44.61**	**323**	P		**P**	**14 35 05.7**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=147,slow=6.9,SNR=7.9							
MKAR				PcP		**PcP**	**14 36 48.5**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=132,slow=2.1,SNR=3.9							
MKAR	**Makanchi Array**	**44.61**	**323**	*ce*P		**P**	**14 35 05.9**	**-0.1**
ZALV	**Zalesovo Beam**	**47.59**	**332**	P		**P**	**14 35 28.6**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=128,slow=6.6,SNR=6.4							
ZALV	**Zalesovo Beam**	**47.59**	**332**	*i* P		**P**	**14 35 31.2**	**+1.9**
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.5s							
PEA0B	**Petropavlovsk-**	**48.11**	**30**	*e*P		**P**	**14 35 31.0**	**-2.3**
PETK	**Petropavlovsk-**	**48.11**	**30**	P		**P**	**14 35 33.4**	**0.0**
	comp=Z,5.5nm,0.8s,baz=211,slow=7.5,SNR=19							
KURBB	**Kurchatov Arra**	**48.75**	**326**	P		**P**	**14 35 38.1**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=122,slow=8.5,SNR=10							
KURK	**Kurchatov**	**48.75**	**326**	*e*P		**P**	**14 35 38.2**	**0.0**
KURK	**Kurchatov**	**48.75**	**326**	*e*P		**P**	**14 35 38.2**	**0.0**
STKA	**Stephens Creek**	**51.02**	**156**	P		**P**	**14 35 55.4**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=344,slow=7.5,SNR=4.6							
SEY	**Seymchan**	**52.88**	**18**	*e*P		**P**	**14 36 09.1**	**0.0**
BVAR	**Borovoye Array**	**54.33**	**325**	P		**P**	**14 36 19.3**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=128,slow=9.7,SNR=5.4							
BRVK	**Borovoye**	**54.41**	**325**	*e*P		**P**	**14 36 20.9**	**+0.5**
BRVK				pmax	pmax			
	comp=Z,3.0nm,0.8s							
TIXI	**Tiksi**	**56.81**	**3**	*e*P		**P**	**14 36 36.5**	**-0.8**
TIXI				pmax	pmax			
	comp=Z,4.0nm,1.2s							
TIXI	**Tiksi**	**56.81**	**3**	*e*P		**P**	**14 36 36.2**	**-1.0**
	comp=Z,1.5nm,0.3s							
GEYT	**Alibeck**	**58.89**	**305**	P		**P**	**14 36 53.2**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=99,slow=8.9,SNR=3.7							
ABKAR	**Akbulak array**	**59.34**	**319**	*e*P		**P**	**14 36 54.3**	**-1.1**
	comp=Z,0.7nm,0.4s							
AKTO	**Aktyubinsk**	**60.81**	**320**	P		**P**	**14 37 05.3**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=87,slow=11,SNR=7.1							
ARU	**Arti**	**61.94**	**326**	*c i*P		**P**	**14 37 12.2**	**-0.7**
ARU				S		**S**	**14 45 36.0**	**+5.1**
ARU				SS		**SS**	**14 49 32.7**	**-1.5**
ARU				pmax	pmax			
	comp=Z,3.0nm,0.8s							
RAYN	**Ar Rayn**	**70.26**	**290**	*e*P		**P**	**14 38 06.1**	**-0.8**
	comp=Z,4.2nm,0.8s							
KBZ	**Khabaz**	**70.56**	**311**	P		**P**	**14 38 08.2**	**0.0**
	comp=Z,1.3nm,0.8s,baz=56,slow=24,SNR=4.3							
KIV	**Kislovodsk**	**70.70**	**312**	*e*P		**P**	**14 38 10.0**	**+0.7**
KIV				pmax	pmax			
	comp=Z,7.0nm,0.9s							
KLMR	**Klimovskoe**	**72.39**	**330**	*e*P		**P**	**14 38 18.8**	**-0.2**
KLMR				pmax	pmax			
	comp=Z,4.0nm,0.7s							
KDAK	**Kodiak Island**	**75.96**	**33**	*ce*P		**P**	**14 38 40.2**	**+0.4**
ARCES	**ARCESS Array B**	**77.61**	**339**	P		**P**	**14 38 49.0**	**+0.1**
	comp=Z,3.3nm,0.5s,baz=76,slow=6.8,SNR=53							
ARCES	**ARCESS Array B**	**77.61**	**339**	*e*P		**P**	**14 38 48.7**	**-0.2**
ILAR	**Eielson Array**	**77.77**	**26**	P		**P**	**14 38 49.0**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=257,slow=6.0,SNR=6.3							
BRTR	**Keskin Array B**	**77.87**	**308**	P		**P**	**14 38 51.9**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=140,slow=6.3,SNR=5.2							
BRTR	**Keskin Array B**	**77.87**	**308**	*ce*P		**P**	**14 38 51.2**	**+0.1**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
SPITS	**Spitsbergen Ar**	**78.14**	**348**	P		**P**	**14 38 52.1**	**+0.3**
	comp=Z,2.3nm,0.5s,baz=89,slow=7.6,SNR=19							
FINES	**FINESS Array B**	**78.82**	**331**	P		**P**	**14 38 55.6**	**-0.1**
	comp=Z,2.9nm,0.5s,baz=68,slow=4.6,SNR=26							
FINES	**FINESS Array B**	**78.82**	**331**	*ce*P		**P**	**14 38 55.5**	**-0.1**
FINES				pmax	pmax			
	comp=Z,3.0nm,0.5s							
AKASG	**Malin Array Be**	**79.06**	**320**	P		**P**	**14 38 56.8**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=70,slow=5.2,SNR=4.5							
TESR	**Tescani**	**81.58**	**316**	*i*P		**P**	**14 39 11.5**	**+0.6**
VRI	**Vrincioaia**	**81.67**	**315**	P		**P**	**14 39 12.6**	**+1.2**
VRI	**Vrincioaia**	**81.67**	**315**	*i*P		**P**	**14 39 12.6**	**+1.2**
BURAR	**Bucovina Array**	**82.28**	**317**	P		**P**	**14 39 15.1**	**+0.5**
BURAR	**Bucovina Array**	**82.28**	**317**	*i*P		**P**	**14 39 15.1**	**+0.5**
BUR08	**Bucovina Ar. S**	**82.28**	**317**	*e*P		**P**	**14 39 13.5**	**-1.2**
MLR	**Muntele Rosu**	**82.29**	**315**	P		**P**	**14 39 14.7**	**0.0**
	comp=Z,0.9nm,0.6s,baz=117,slow=1.5,SNR=8.5							
MLR	**Muntele Rosu**	**82.29**	**315**	P		**P**	**14 39

*GUC **06** 14:28:20.5±0.5,35.03S×71.92W,h40km±2km, ML4.0*
ISC 06 14:28:18.3±1.8,35°04S±0'.04×72°10W±0'.09,h29km±13km, n14,σ1°05/23,3C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.52**	**133**	*i*P	**Pn**	**14 28 30.5**	**+0.7**
TALC				*i* S	**Sn**	**14 28 37.8**	**+0.2**
NICH	**Los Niches**	**0.71**	**87**	↓*i*P	**Pb**	**14 28 32.2**	**0.0**
NICH				*i* S	**Sb**	**14 28 41.0**	**-0.6**
LNCH	**Linares**	**0.90**	**153**	↑*i*P	**Pn**	**14 28 36.2**	**+1.3**
LNCH				*i* S	**Sn**	**14 28 48.6**	**+1.6**
LNV	**Longovilo**	**1.22**	**28**	↓*i*P	**Pb**	**14 28 41.0**	**+0.1**
LNV				*i* S	**Sb**	**14 28 56.6**	**+0.4**
CHCH	**Chadas Angostu**	**1.63**	**47**	↑*i*P	**Pn**	**14 28 45.9**	**+0.8**
CHCH				*i* S	**Sn**	**14 29 05.6**	**+0.6**
SAN	**Santiago**	**1.98**	**37**	↓*i*P	**Pn**	**14 28 51.4**	**+1.4**
SAN				*i* S	**Sn**	**14 29 15.1**	**+1.3**
CLCH	**Cerro Calan**	**2.09**	**39**	↑*i*P	**Pn**	**14 28 52.8**	**+1.3**
CLCH				*i* S	**Sn**	**14 29 17.9**	**+1.4**
CLCH	comp=N,1µm,0.3s			AML	AML	14 29 23.9	
CLCH	comp=N,2µm,0.4s			AML	AML	14 29 24.5	
PEL	**Peldehue**	**2.23**	**32**	*e*P	**Pn**	**14 28 55.0**	**+1.6**
PEL	comp=N,1µm,0.4s			AML	AML	14 29 28.6	
PLCA	**Paso Flores**	**5.81**	**168**	*e*Pn	**Pn**	**14 29 43.5**	**+0.9**
PLCA				*e*Sn	**Sn**	**14 30 48.8**	**+0.5**
LCO	**Las Campanas** comp=N,7.5nm,0.3s	**6.13**	**12**	*e*Pn	**Pn**	**14 29 46.7**	**-0.5**
LCO				*e*Sn	**Sn**	**14 30 55.2**	**-1.3**
TRQA	**Tornquist**	**8.68**	**113**	*e*Pn	**Pn**	**14 30 21.2**	**-0.7**
LVC	**Limon Verde**	**12.70**	**14**	*e*Pn	**Pn**	**14 31 16.4**	**-0.8**
SNAA	**Sanae** comp=N,1.5nm,0.9s	**50.64**	**158**	*e*P	**P**	**14 37 14.3**	**-0.1**
QSPA	**South Pole Qui** comp=N,2.0nm,1.1s	**55.20**	**180**	*e*P	**P**	**14 37 47.5**	**-0.7**

DJA 06 14:31:01.9±0.8,8°S±5'×10°7E±°,h21km±7km,M3.6/7, MLv3.6/7,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.78**	**40**	P	Pb	14 31 16.9	0.0
CISI				S	Sb	14 31 27.3	+0.2
CNJI	**Cibinong**	**0.86**	**348**	P	Pb	14 31 17.8	-0.4
CNJI				S	Sb	14 31 28.6	-0.7
CMJI	**Cimerak**	**1.19**	**72**	P	Pn	14 31 22.7	-0.6
CMJI				S	Sb	14 31 37.2	-1.5
LEM	**Lembang**	**1.36**	**13**	P	Pn	14 31 25.9	0.0
LEM				S	Sb	14 31 44.1	+0.1
KPJI	**Karang Pucung**	**1.80**	**63**	P	Pn	14 31 32.3	+0.5
CGJI	**Cibinong**	**2.22**	**314**	P	Pn	14 31 36.6	-0.9

*ISCJB **06** 14:38:19.6±0.3,37.70N±0'.03×98.73E±0'.04,h10km, mb4.0/22,MS3.2/4, Error ellipse: s-maj=4.3km s-min=4.1km az=135.8*
*IDC **06** 14:38:20.0±0.7,37.73N×98.90E,h0km,mb3.8/13, mb1 4.0/18,mb1mx3.8/34,mbtmp3.9/18,ML3.6/5,MS3.2/5, Ms1 3.2/5,ms1mx2.9/43,Error ellipse: s-maj=23.2km s-min=14.3km az=48.0*
*BJI **06** 14:38:21.4,37.62N×98.79E,h10km,mb4.3/7,mB4.6/2, ML4.4/20,Ms4.1/9,Ms7 3.9/11*
*MOS **06** 14:38:23.1±1.2,37.76N×98.91E,h33km,mb4.2/17,Error ellipse: s-maj=16.2km s-min=8.3km az=109.9*
ISC 06 14:38:21.4±0.4,37°65N±0'.05×98°78E±0'.04,h10km,n72, σ1°58/72,mb4.1/22,MS3.2/4,2C-1D,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**1.94**	**24**	↓Pg	**Pb**	**14 38 57.0**	**+0.1**
GTA				Sg	**Sg**	**14 39 23.5**	**-0.2**
GTA	2µm,0.8s			SMN			
GTA	1µm,1.6s			SME			
LZH	**Lanzhou**	**4.35**	**109**	Pn	**Pn**	**14 39 30.4**	**+2.7**
LZH				Pg	**Pg**	**14 39 41.5**	**-3.2**
LZH				Sn	**Sn**	**14 40 19.3**	**+0.8**
LZH				Sg	**Sg**	**14 40 36.1**	**-4.9**
LZH	830nm,1.0s			SMN			
LZH	1µm,1.1s			SME			
LZH	2µm,6.0s			LN			
LZH	1µm,5.1s			LE			
LZH	1µm,7.0s			LZ			
CD2	**Chengdu**	**7.88**	**147**	*e*P	Pn	14 40 20.1	+4.0
CD2				S	**Sn**	**14 41 49.1**	**+3.8**
CD2	80nm,1.6s			SMN			
CD2	80nm,1.1s			SME			
CD2	550nm,10.8s			LZ			
HHC	**Hu-ho-hao-te**	**10.42**	**68**	*e*P	**Pn**	**14 40 52.1**	**+1.2**
HHC				sP		14 40 57.2	
HHC				S	**Sn**	**14 42 49.8**	**+2.1**
HHC				SS	**SnSn**	**14 43 03.8**	**+4.5**
HHC	33nm,1.0s			PMZ			
HHC	140nm,6.3s			PMZ			
HHC	700nm,12.3s			LN			
HHC	620nm,12.3s			LE			
HHC	570nm,11.1s			LZ			
WMQ	**Urumqi**	**10.43**	**310**	P	**Pn**	**14 40 50.6**	**-0.3**
WMQ				PP	**PnPn**	**14 40 59.0**	**+0.4**
WMQ				S	**Sn**	**14 42 48.2**	**+0.4**
WMQ				SS	**SnSn**	**14 43 01.5**	**+2.0**
WMQ				PcP	**PcP**	**14 46 55.7**	**-0.8**
WMQ				PcS	**PcS**	**14 50 28.0**	**-2.0**
WMQ	34nm,0.6s			PMZ			
WMQ	830nm,10.2s			LN			
WMQ	650nm,10.2s			LE			
SONM	**Songino Array** 1.1nm,0.3s,baz=213,slow=10,SNR=15	**11.61**	**26**	Pn	**Pn**	**14 41 06.0**	**-1.2**
SONM	0.1nm,0.3s,baz=198,slow=30,SNR=3.6			Lg	Lg	14 44 20.6	
ULN	**Ulaanbaatar**	**11.88**	**28**	*e*P	**Pn**	**14 41 10.9**	**0.0**
ULN	comp=Z,4.0nm,0.7s			pmax	pmax		
ZAK	**Zakamensk**	**13.13**	**13**	*e*P	P	14 41 33.8	-4.4
ZAK	comp=Z,3.0nm,1.1s			pmax	pmax		
TAPN	**Taplejung** comp=Z,16nm,0.8s	**13.87**	**225**	*e*P	**Pn**	**14 41 39.4**	**+1.1**
MOY	**Mondy**	**14.11**	**6**	*e*P	P	14 41 56.1	+7.1
ODAN	**Odare**	**14.43**	**225**	*e*P	**Pn**	**14 41 45.7**	**-0.2**
TLY	**Talaya** comp=Z,0.0nm,0.3s,baz=45,slow=17,SNR=2.1	**14.45**	**12**	Lg	Lg	14 45 51.4	
JIRN	**Jiri** comp=Z,34nm,0.6s	**14.53**	**230**	*e*P	**Pn**	**14 41 47.1**	**-0.3**
GUN	**Gumba** comp=Z,27nm,0.5s	**14.54**	**232**	*e*P	**Pn**	**14 41 47.5**	**-0.1**
WHN	**Wuhan**	**14.71**	**114**	P	**P**	**14 41 58.4**	**+2.8**
WHN				S	**S**	**14 44 49.8**	**-1.6**
WHN	comp=N,450nm,5.0s			LR	LR		
WHN	comp=E,440nm,4.0s			LR	LR		
WHN	comp=Z,570nm,10.0s			LR	LR		
KKN	**Kakani**	**15.01**	**233**	*e*P	**Pn**	**14 41 52.0**	**-1.7**
PKI	**Pulchoki** comp=Z,19nm,0.7s	**15.08**	**232**	*e*P	**Pn**	**14 41 53.3**	**-1.5**
PKIN	**Phulchoki** comp=Z,14nm,0.7s	**15.08**	**232**	*e*P	**Pn**	**14 41 53.4**	**-1.4**
MKAR	**Makanchi Array** comp=Z,0.5nm,0.3s,baz=119,slow=15,SNR=21	**15.23**	**312**	Pn Sn	**Pn** Sn	**14 41 54.3** 14 44 37.2	**-2.2** -7.9
MKAR	comp=Z,0.1nm,0.3s,baz=137,slow=18,SNR=2.8						
MKAR	comp=Z,37nm,21.8s,baz=118,slow=39			LR	LR	14 48 09.8	
MKAR	**Makanchi Array**	**15.23**	**312**	*i* P	**Pn**	**14 41 55.2**	**-1.2**
MKAR	comp=Z,1.0nm,0.5s			pmax	pmax		
DMN	**Daman** comp=Z,19nm,0.7s	**15.24**	**233**	*e*P	**Pn**	**14 41 55.3**	**-1.6**
GKN	**Gorkha** comp=Z,18nm,0.6s	**15.27**	**235**	*e*P	**Pn**	**14 41 55.1**	**-2.1**
ZALV	**Zalesovo Beam** comp=Z,1.0nm,0.3s,baz=146,slow=11,SNR=18	**18.93**	**334**	P	**P**	**14 42 42.2**	**0.0**
ZALV	**Zalesovo Beam**	**18.93**	**334**	*i* P	**Pn**	**14 42 43.5**	**+0.7**
ZALV	comp=Z,10.0nm,0.8s			pmax	pmax		
CMAR	**Chiang Mai Arr** comp=Z,0.0nm,0.3s,baz=350,slow=9.8,SNR=10	**19.12**	**180**	P	**Pn**	**14 42 46.2**	**+0.9**
CMAR	comp=Z,62nm,19.1s,baz=177,slow=39			LR	LR	14 50 52.3	
AAK	**Ala-Archa** comp=Z,0.2nm,0.3s,baz=88,slow=5.8,SNR=5.6	**19.20**	**293**	P	**Pn**	**14 42 46.7**	**+0.4**
AAK	**Ala-Archa**	**19.20**	**293**	*e*P	**Pn**	**14 42 47.2**	**+0.8**
AAK	comp=Z,17nm,1.2s			pmax	pmax		
KURBB	**Kurchatov Arra** comp=Z,0.2nm,0.3s,baz=123,slow=12,SNR=29	**19.40**	**318**	P	**P**	**14 42 47.2**	**-0.2**
KURK	**Kurchatov**	**19.41**	**319**	P	**P**	**14 42 47.2**	**-0.2**
NVS	**Novosibirsk**	**20.20**	**333**	*e*P	**P**	**14 42 55.5**	**-0.6**
NVS	comp=Z,6.0nm,1.0s			pmax	pmax		
NVS	comp=N,5.0nm,1.2s			pmax	pmax		
KSRS	**Korea Array** comp=N,14nm,0.8s,baz=279,slow=8.6,SNR=34	**23.07**	**81**	P	**P**	**14 43 27.6**	**+0.6**
KSRS	comp=N,95nm,19.7s,baz=279,slow=39			LR	LR	14 53 15.1	
KSRS	**Korea Array**	**23.07**	**81**	P	**P**	**14 43 27.6**	**+0.6**
KSRS	comp=Z,14nm,0.8s			pmax	pmax		
KSRS	comp=Z,95nm,19.7s			MLR	MLR		
BHPL	**Bhopal**	**23.27**	**238**	*e*P	**P**	**14 43 27.9**	**-1.3**
BVAR	**Borovoye Array** comp=Z,0.7nm,0.5s,baz=120,slow=9.9,SNR=6.3	**24.97**	**317**	P	**P**	**14 43 45.3**	**+0.4**
BVAR	**Borovoye Array**	**24.97**	**317**	P	**P**	**14 43 45.3**	**+0.4**
BVAR	comp=Z,1.0nm,0.5s			pmax	pmax		
BRVK	**Borovoye**	**25.04**	**317**	*e*P	**P**	**14 43 45.9**	**+0.4**
BRVK	comp=Z,4.0nm,1.2s			pmax	pmax		
USRK	**Ussuriysk Ar.** comp=Z,51nm,19.5s,baz=267,slow=37	**25.81**	**65**	LR	LR	14 54 08.9	
JNU	**Nakatsue** comp=Z,71nm,20.7s,baz=340,slow=40	**26.48**	**90**	LR	LR	14 55 48.2	
AKTO	**Aktyubinsk** comp=Z,0.8nm,0.6s,baz=91,slow=14,SNR=2.1	**31.56**	**307**	P	**P**	**14 44 44.8**	**+1.0**
AKTO	**Aktyubinsk**	**31.56**	**307**	P	**P**	**14 44 44.8**	**+1.0**
AKTO	comp=Z,1.0nm,0.6s			pmax	pmax		
ARU	**Arti**	**32.60**	**318**	*c* iP	**P**	**14 44 53.0**	**+0.2**
ARU				S	**S**	**14 50 04.0**	**-4.3**
ARU	comp=Z,3.0nm,0.8s			pmax	pmax		
YSS	**Yuzh-Sakhalins**	**33.45**	**60**	*e*P	P	14 45 08.6	+8.3
YSS	comp=Z,37nm,1.7s			pmax	pmax		
TIXI	**Tiksi**	**37.40**	**15**	*e*P	P	14 45 38.1	+4.1
TIXI	comp=Z,3.0nm,1.7s			pmax	pmax		
KIV	**Kislovodsk**	**42.23**	**297**	*e*P	P	14 46 18.2	+3.6
KIV	comp=Z,4.0nm,0.8s			pmax	pmax		
KIV	comp=Z,43nm,16.0s			MLR	MLR		
KLMR	**Klimovskoe**	**43.20**	**322**	*e*P	**P**	**14 46 22.9**	**+0.8**
KLMR	comp=Z,8.0nm,0.8s			pmax	pmax		
OBN	**Obninsk**	**44.73**	**314**	*e*P	**P**	**14 46 37.2**	**+2.7**
OBN	comp=Z,4.0nm,1.0s			pmax	pmax		
LVZ	**Lovozero**	**46.05**	**332**	*e*P	P	14 46 48.8	+3.9
LVZ	comp=Z,28nm,1.2s			pmax	pmax		
ARCES	**ARCESS Array B** comp=Z,0.6nm,0.7s,baz=85,slow=10.0,SNR=6.5	**49.48**	**334**	P	**P**	**14 47 11.2**	**-0.2**
ARCES	**ARCESS Array B**	**49.48**	**334**	P	**P**	**14 47 11.2**	**-0.2**
ARCES	comp=Z,1.0nm,0.7s			pmax	pmax		
FINES	**FINESS Array B** comp=Z,1.6nm,0.6s,baz=98,slow=10.0,SNR=5.9	**49.70**	**323**	P	**P**	**14 47 13.1**	**0.0**
FINES	**FINESS Array B**	**49.70**	**323**	P	**P**	**14 47 13.1**	**0.0**
FINES	comp=Z,2.0nm,0.6s			pmax	pmax		
BRTR	**Keskin Array B** comp=Z,0.8nm,0.7s,baz=98,slow=7.6,SNR=4.4	**49.87**	**294**	P	**P**	**14 47 15.9**	**+1.0**
BRTR	**Keskin Array B**	**49.87**	**294**	P	**P**	**14 47 16.0**	**+1.0**
BRTR	comp=Z,1.0nm,0.7s			pmax	pmax		
HFS	**Hagfors** comp=Z,1.6nm,0.8s,baz=93,slow=12,SNR=3.0	**55.90**	**323**	P	**P**	**14 47 59.0**	**0.0**
HFS	**Hagfors**	**55.90**	**323**	P	**P**	**14 47 59.0**	**0.0**
HFS	comp=Z,2.0nm,0.8s			pmax	pmax		
NB2	**NORSAR Subarra** comp=Z,1.6nm,0.6s,baz=68,slow=6.9	**56.79**	**324**	P	**P**	**14 48 05.7**	**+0.3**
NOA	**NORSAR Array B** comp=Z,0.8nm,0.7s,baz=71,slow=7.0,SNR=3.7	**56.79**	**324**	P	**P**	**14 48 05.1**	**-0.3**
NOA	**NORSAR Array B**	**56.79**	**324**	P	**P**	**14 48 05.1**	**-0.3**
NOA	comp=Z,1.0nm,0.7s			pmax	pmax		
DPC	**Dobruska-Polom**	**57.74**	**311**	*e*P	P	14 48 17.0	+4.7
DPC	**Dobruska-Polom**	**57.74**	**311**	*e*P	P	14 48 17.0	+4.7
ILAR	**Eielsen Array** comp=Z,0.5nm,0.7s,baz=292,slow=5.4,SNR=5.7	**65.84**	**25**	P	**P**	**14 49 04.8**	**-1.7**
ILAR	**Eielsen Array**	**65.84**	**25**	P	**P**	**14 49 04.9**	**-1.7**
ILAR	comp=Z,1.0nm,0.7s			pmax	pmax		
ESK	**Eskdalemuir**	**66.12**	**322**	*i* P	**P**	**14 49 10.4**	**+1.9**
WRA	**Warramunga Arr** comp=Z,1.4nm,0.8s,baz=342,slow=6.5,SNR=9.6	**66.34**	**143**	P	**P**	**14 49 10.0**	**-0.3**
WRA	**Warramunga Arr**	**66.34**	**143**	P	**P**	**14 49 10.0**	**-0.3**
WRA	comp=Z,1.0nm,0.8s			pmax	pmax		
INK	**Inuvik** comp=Z,0.7nm,0.7s,baz=338,slow=5.2,SNR=3.5	**67.41**	**19**	P	**P**	**14 49 15.8**	**-0.6**
INK	**Inuvik**	**67.41**	**19**	P	**P**	**14 49 15.9**	**-0.6**
INK	comp=Z,1.0nm,0.7s			pmax	pmax		
KDAK	**Kodiak Island**	**67.81**	**33**	*ce*P	P	14 49 25.1	+5.9
ASAR	**Alice Springs** comp=Z,0.8nm,0.6s,baz=333,slow=6.6,SNR=9.1	**69.36**	**146**	P	**P**	**14 49 29.5**	**+0.2**
ASAR	**Alice Springs**	**69.36**	**146**	P	**P**	**14 49 29.5**	**+0.2**
ASAR	comp=Z,1.0nm,0.6s			pmax	pmax		
ESDC	**Sonseca Array** comp=Z,0.2nm,0.3s,baz=44,slow=6.2,SNR=3.8	**75.43**	**309**	P	P	14 50 10.0	+4.5
YKA	**Yellowknife Ar** comp=Z,0.1nm,0.4s,baz=338,slow=6.1,SNR=4.3	**76.65**	**15**	P	**P**	**14 50 11.5**	**-0.4**

IDC 06 14:41:53.1±2.6,16°45S×173°34W,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.7/20,mbtmp3.7/3,MS3.5/6,Ms1 3.5/6, ms1mx3.3/23,Error ellipse: s-maj=208.3km s-min=33.5km az=155.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete** comp=Z,70nm,20.2s,baz=150,slow=33	**22.75**	**96**	LR	LR	14 54 16.7	
CTA	**Charters Tower** comp=Z,212nm,20.1s,baz=216,slow=34	**38.48**	**258**	LR	LR	15 03 42.5	
H11S2	**WAKE ISLAND Hy** baz=149,slow=76,SNR=7.9	**39.89**	**330**	T	T	15 30 07.9	
H11S3	**WAKE ISLAND Hy** baz=149,slow=76,SNR=7.3	**39.90**	**330**	T	T	15 30 11.3	
H11S1	**WAKE ISLAND Hy** baz=149,slow=76,SNR=8.4	**39.91**	**330**	T	T	15 30 21.0	
H11N3	**WAKE ISLAND Hy** baz=150,slow=76,SNR=9.0	**40.84**	**331**	T	T	15 31 33.1	
H11N1	**WAKE ISLAND Hy** baz=150,slow=76,SNR=12	**40.85**	**331**	T	T	15 31 30.6	
H11N2	**WAKE ISLAND Hy** baz=150,slow=76,SNR=14	**40.86**	**331**	T	T	15 31 38.4	
WRA	**Warramunga Arr** 0.3nm,0.6s,baz=96,slow=8.5,SNR=5.5	**49.67**	**258**	P	P	14 50 47.1	-0.1
ASAR	**Alice Springs** 1.5nm,0.6s,baz=87,slow=8.0,SNR=19	**49.85**	**253**	P	P	14 50 48.6	0.0
ASAR				LR	LR	15 09 37.2	
MJAR	**Matsushiro Arr** comp=Z,28nm,21.4s,baz=130,slow=30	**69.77**	**320**	LR	LR	15 17 19.4	
KSRS	**Korea Array** comp=Z,25nm,21.9s,baz=182,slow=30	**76.94**	**316**	LR	LR	15 20 32.7	
TXAR	**Lajitas Array** 0.5nm,0.8s,baz=213,slow=4.1,SNR=3.1	**81.14**	**56**	P	P	14 54 11.2	+0.2
CMAR	**Chiang Mai Arr** comp=Z,12nm,18.0s,baz=205,slow=36	**93.00**	**288**	LR	LR	15 37 41.5	
BRTR	**Keskin Array B** 0.4nm,0.6s,baz=106,slow=3.1,SNR=3.7	**147.00**	**320**	PKPbc	PKPdf	15 01 37.0	+0.7

*ISCJB **06** 14:46:26.8±0.6,25.09S±0'.08×179.8E±0'.1,h501km, mb3.8/10,Error ellipse: s-maj=15.3km s-min=11.0km az=11.0*
*IDC **06** 14:46:27.4±2.4,25.14S×179.85E,h501km±25km, mb3.4/10,mb1 3.6/13,mb1mx3.4/22,mbtmp4.2/13,Error ellipse: s-maj=21.2km s-min=17.7km az=19.0*
ISC 06 14:46:27.2±0.7,25°2S±0'.1×180°0E±0'.1,h501km,n15, σ1°14/18,mb3.6/10,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 0.4nm,0.3s,baz=90,slow=24,SNR=6.4	**12.77**	**281**	P	**P**	**14 49 15.0**	**+1.0**
DZM	0.2nm,0.3s,baz=90,slow=24,SNR=8.5			S	**S**	**14 51 33.0**	**+1.5**
URZ	**Urewera** 0.3nm,0.3s,baz=347,slow=19,SNR=3.9	**13.30**	**190**	P	**P**	**14 49 20.0**	**+0.8**
URZ	0.3nm,0.3s,baz=100,slow=7.1,SNR=4.4			S	**S**	**14 51 40.6**	**-0.5**
RPZ	**Rata Peaks** 0.7nm,0.3s,baz=27,slow=4.5,SNR=3.8	**19.91**	**199**	P	**P**	**14 50 24.0**	**-0.8**
CTA	**Charters Tower** 9.2nm,0.3s,baz=99,slow=11,SNR=24	**31.47**	**272**	P	**P**	**14 52 07.0**	**-0.3**
STKA	**Stephens Creek** 2.8nm,0.4s,baz=95,slow=10,SNR=27	**34.24**	**250**	P	**P**	**14 52 30.4**	**-0.3**
ASAR	**Alice Springs** 2.1nm,0.3s,baz=93,slow=7.1,SNR=93	**41.81**	**262**	P	**P**	**14 53 31.6**	**-1.0**
WRA	**Warramunga Arr** 6.1nm,0.8s,baz=100,slow=6.9,SNR=262	**42.30**	**268**	P	**P**	**14 53 35.0**	**-1.6**
QSPA	**South Pole Qui** 1.0nm,0.7s,baz=47,slow=7.7,SNR=6.6	**64.94**	**180**	P	**P**	**14 56 17.6**	**+0.9**
NVAR	**Mina Array Bea** 0.4nm,0.5s,baz=221,slow=9.5,SNR=2.6	**85.67**	**44**	P	**P**	**14 58 13.1**	**+0.3**
CMAR	**Chiang Mai Arr** 0.4nm,0.6s,baz=132,slow=2.6,SNR=4.1	**89.93**	**290**	P	**P**	**14 58 33.4**	**+0.5**
TXAR	**Lajitas Array** 0.8nm,0.8s,baz=216,slow=6.2,SNR=6.3	**91.12**	**58**	P	**P**	**14 58 39.4**	**+1.1**
ILAR	**Eielson Array** 0.2nm,0.9s,baz=243,slow=6.0,SNR=2.9	**93.25**	**14**	P	**P**	**14 58 46.3**	**-0.9**
PDAR	**Pinedale Array** 0.3nm,0.7s,baz=259,slow=4.3,SNR=2.4	**93.61**	**44**	P	**P**	**14 58 50.6**	**+0.9**
ARCES	**ARCESS Array B** 1.1nm,0.9s,baz=81,slow=3.8,SNR=4.6	**133.09**	**348**	PKP SKPbc	**PKPdf SKPbc**	**15 04 42.8** **15 07 25.1**	**-1.8** **-0.3**
ARCES	2.6nm,1.0s,baz=35,slow=3.3,SNR=4.3						
FINES	**FINESS Array B** 0.8nm,0.8s,baz=116,slow=6.3,SNR=4.2	**139.61**	**341**	SKPbc	**SKPbc**	**15 07 43.1**	**-1.9**

*ISCJB **06** 14:48:31.4±0.6,17.9S±0'.1×178.5W±0'.1,h579km, mb3.8/18,Error ellipse: s-maj=22.8km s-min=12.1km az=142.9*
*IDC **06** 14:48:33.4±3.4,17.95S×178.48W,h592km±39km, mb3.4/18,mb1 3.6/18,mb1mx3.5/25,mbtmp4.3/18,Error ellipse: s-maj=20.4km s-min=14.1km az=131.0*
ISC 06 14:48:32.2±0.6,17°9S±0'.2×178°4W±0'.1,h579km,n44, σ0°72/45,mb3.9/18,4C-8D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower** 3.1nm,0.7s,baz=100,slow=12,SNR=4.5	**33.41**	**261**	P	**P**	**14 54 24.5**	**+0.3**
STKA	**Stephens Creek** 1.2nm,0.7s,baz=103,slow=14,SNR=2.7	**38.59**	**241**	P	**P**	**14 55 07.5**	**+0.8**
WRA	**Warramunga Arr** 1.4nm,0.5s,baz=96,slow=7.1,SNR=14	**44.60**	**260**	P	**P**	**14 55 53.7**	**-0.5**
WRA	0.5nm,0.4s,baz=95,slow=3.5,SNR=5.5			PcP	**PcP**	**14 57 23.8**	**-0.6**
ASAR	**Alice Springs** 3.6nm,0.6s,baz=86,slow=8.9,SNR=32	**44.76**	**254**	P	**P**	**14 55 55.3**	**-0.1**
ASAR	1.2nm,0.5s,baz=102,slow=3.9,SNR=7.8			PcP	**PcP**	**14 57 24.4**	**-0.5**
MJAR	**Matsushiro Arr** 1.2nm,0.5s,baz=156,slow=5.4,SNR=4.8	**67.91**	**323**	P	**P**	**14 58 33.8**	**-0.1**
QSPA	**South Pole Qui** 3.2nm,0.8s,baz=36,slow=5.9,SNR=13	**72.12**	**180**	P	**P**	**14 58 58.2**	**-0.4**
PETK	**Petropavlovsk-** 3.5nm,0.7s,baz=131,slow=7.5,SNR=8.7	**73.69**	**345**	P	**P**	**14 59 07.5**	**+0.1**
YBH	**Yreka Blue Hor** 2.4nm,0.5s,baz=124,slow=4.5,SNR=6.2	**78.56**	**39**	P	**P**	**14 59 35.7**	**+1.1**
NVAR	**Mina Array Bea** 1.8nm,0.7s,baz=224,slow=8.6,SNR=10	**79.46**	**44**	P	**P**	**14 59 40.6**	**+1.0**
ELK	**Elko** 1.9nm,0.9s,baz=207,slow=11,SNR=5.7	**82.69**	**43**	P	**P**	**14 59 55.9**	**-0.3**
SEY	**Seymchan** 2.7nm,0.6s,baz=163,slow=6.1,SNR=11	**83.79**	**347**	P	**P**	**15 00 00.6**	**-0.2**
MAW	**Mawson** 1.9nm,0.8s,baz=104,slow=5.5,SNR=3.5	**83.83**	**200**	P	**P**	**15 00 00.9**	**-0.2**
ILAR	**Eielson Array** 1.1nm,0.4s,baz=220,slow=5.0,SNR=27	**85.92**	**13**	P	**P**	**15 00 09.9**	**-1.2**
TXAR	**Lajitas Array** 2.9nm,0.8s,baz=220,slow=6.0,SNR=28	**86.03**	**58**	P	**P**	**15 00 14.2**	**+1.5**
PDAR	**Pinedale Array** 1.5nm,0.6s,baz=248,slow=1.5,SNR=16	**87.39**	**43**	P	**P**	**15 00 18.9**	**0.0**
CMAR	**Chiang Mai Arr** 0.5nm,0.4s,baz=108,slow=2.6,SNR=6.2	**88.86**	**290**	P	**P**	**15 00 26.9**	**+1.0**
INK	**Inuvik** 1.6nm,0.8s,baz=214,slow=6.3,SNR=6.2	**91.92**	**15**	P	**P**	**15 00 38.1**	**-0.7**
YKA	**Yellowknife Ar** 0.6nm,0.7s,baz=245,slow=4.4,SNR=7.6	**94.36**	**25**	P	**P**	**15 00 49.6**	**-0.6**
BVAR	**Borovoye Array** 0.9nm,0.5s,baz=48,slow=0.9,SNR=6.9	**116.84**	**321**	PKP	**PKPdf**	**15 06 10.0**	**-1.3**
ARCES	**ARCESS Array B** 1.8nm,0.7s,baz=23,slow=4.9,SNR=9.5	**126.33**	**350**	PKP	**PKPdf**	**15 06 28.1**	**-1.0**
FINES	**FINESS Array B** 0.7nm,0.5s,baz=105,slow=3.0,SNR=5.1	**133.20**	**344**	PKP	**PKPdf**	**15 06 41.4**	**-0.9**
NOA	**NORSAR Array B** 0.3nm,0.6s,baz=343,slow=1.4,SNR=2.4	**136.39**	**353**	PKP	**PKPdf**	**15 06 49.1**	**+0.7**
AKASG	**Malin Array Be** 0.6nm,0.5s,baz=38,slow=2.9,SNR=5.3	**140.57**	**332**	PKP	**PKPdf**	**15 06 57.7**	**+1.5**
BURAR	**Bucovina Array**	**144.62**	**332**	↓*i*P	PKPbc	15 07 04.3	+0.4
TESR	**Tescani**	**144.76**	**329**	↑*i*P	**PKPdf**	**15 07 04.1**	**+0.3**
BRTR	**Keskin Array B** 2.7nm,0.8s,baz=134,slow=3.6,SNR=12	**144.78**	**315**	PKP	**PKPdf**	**15 07 04.3**	**+0.1**
CFR	**Carcaliu**	**144.94**	**327**	↑*i*P	**PKPdf**	**15 07 04.6**	**+0.6**
TRPA	**Tarpa**	**145.35**	**335**	↑*i*P	**PKPbc**	**15 07 05.9**	**0.0**
CLL	**Collm** comp=Z,11nm,0.8s	**145.48**	**347**	↑*i*PKP	**PKPdf**	**15 07 05.7**	**+0.9**
DPC	**Dobruska-Polom**	**145.56**	**343**	*e*P	**PKPbc**	**15 07 06.7**	**+0.1**
DPC				*ex*	x	15 07 08.8	
BRG	**Berggiesshubel** comp=Z,4.4nm,0.8s	**145.68**	**346**	*i* P	**PKPbc**	**15 07 06.6**	**-0.2**
DOPR	**Dopca**	**145.76**	**330**	↓*i*P	**PKPbc**	**15 07 07.7**	**+0.5**
MLR	**Muntele Rosu**	**145.84**	**329**	↓*i*P	**PKPbc**	**15 07 08.2**	**+0.6**
PVCC	**Panska Ves**	**145.85**	**345**	*e*P	**PKPbc**	**15 07 07.2**	**-0.1**
MMAI	**Mount Meron Ar** comp=Z,3.8nm,0.5s,baz=82,slow=6.0,SNR=8.6	**146.13**	**303**	PKPbc	**PKPbc**	**15 07 08.8**	**+0.1**
DRGR					**PKPbc**	**15 07 09.1**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**1.53**	**138**	*i*P	**Pn**	**14 51 51.4**	**+0.3**
PSGC				*i* S	**Sn**	**14 52 09.1**	**-0.8**
PB11	**IPOC Station P**	**1.96**	**132**	*i*P	**Pn**	**14 51 57.4**	**+0.3**
PB11				*i* S	**Sn**	**14 52 20.7**	**+0.2**
PB11				AML	AML	14 52 25.5	
	comp=E,5μm,0.3s						
PATCX	**Punta Patache**	**2.55**	**157**	*i*P	**Pn**	**14 52 07.3**	**+2.1**
PATCX				AML	AML	14 52 51.9	
	comp=E,299nm,0.5s						
PB01	**IPOC Station P**	**3.04**	**148**	*i*P	**Pn**	**14 52 13.0**	**+1.2**
PB01				*i* S	**Sn**	**14 52 47.6**	**+0.5**
PB01				AML	AML	14 53 03.4	
	comp=N,273nm,0.3s						
PB09	**IPOC Station P**	**3.80**	**151**	*e*P	**Pn**	**14 52 24.8**	**+2.4**
PB09				*i* S	**Sn**	**14 53 08.1**	**+2.1**
LVC	**Limon Verde**	**4.66**	**153**	*e*Pn	**Pn**	**14 52 35.1**	**+0.8**
LVC				*e*Sn	**Sn**	**14 53 23.1**	**-4.2**
LCO	**Las Campanas**	**10.51**	**178**	Pn	**Pn**	**14 53 54.8**	**+0.2**
TRQA	**Tornquist**	**21.12**	**159**	*e*P	**P**	**14 56 06.6**	**-1.4**
TKL	**Tuckaleechee C**	**55.12**	**348**	*e*P	**P**	**15 00 55.1**	**+0.1**
SNAA	**Sanae**	**65.84**	**161**	*e*P	**P**	**15 02 07.1**	**-0.7**
	comp=N,1.6nm,0.8s						
QSPA	**South Pole Qui**	**71.71**	**180**	*e*P	**P**	**15 02 44.5**	**0.0**
	comp=N,3.6nm,1.5s						
TORD	**Torodi Ar. Bea**	**78.42**	**72**	P	P	15 03 19.9	-4.0
	comp=N,0.9nm,0.8s,baz=260,slow=5.0,SNR=4.6						
YKA	**Yellowknife Ar**	**87.62**	**341**	P	**P**	**15 04 09.8**	**-0.6**
	comp=N,1.5nm,0.6s,baz=134,slow=4.8,SNR=26						
ASAR	**Alice Springs**	**131.48**	**211**	PKP	**PKPdf**	**15 10 36.1**	**+0.2**
	comp=N,0.1nm,0.6s,baz=140,slow=1.6,SNR=5.2						
WRA	**Warramunga Arr**	**134.34**	**215**	PKP	**PKPdf**	**15 10 42.8**	**+1.5**
	comp=N,0.2nm,0.3s,baz=138,slow=1.6,SNR=8.4						

*ISN **06** 15:06:58.4±1.7,26°.28N×54°.49E,h11km±999km, ML3.8*
*THR **06** 15:07:11.3±0.3,26°.77N×53°.86E,h16km±4km, ML3.8*
*IDC **06** 15:07:12.5±1.3,26°.97N×53°.88E,h0km, mb3.8/19, mb1 3.9/23,mb1mx3.9/36,mbtmp3.8/23,ML3.6/2,MS3.0/1, Ms1 3.0/1,ms1mx2.3/43,Error ellipse: s-maj=28.0km s-min=16.0km az=176.0*
*TEH **06** 15:07:13.6,26°.80N×53°.65E,h14km, ML3.8*
*CSEM **06** 15:07:16.4±0.3,27°.12N×53°.80E,h10km, ML3.8,Error ellipse: s-maj=7.7km s-min=6.2km az=143.0*

ISC 06 15:07:13.0±0.6,26°.85N±0°.05×53°.69E±0°.05,h10km,n58, σ1º33/62,mb3.7/19,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.56**	**337**	*e*Pg	**Pn**	**15 07 42.5**	**+1.5**
GHIR				*e*Sg	**Sg**	**15 08 05.2**	**+1.9**
GHIR				AML	AML	15 08 07.2	
	comp=N,2μm,0.7s						
GHIR				AML	AML	15 08 11.8	
	comp=E,1μm,0.8s						
GHIR	**Ghir-Karzin**	**1.56**	**337**	*e*Pg	**Pn**	**15 07 42.5**	**+1.5**
GHIR				*e*Sg	**Sg**	**15 08 05.2**	**+1.9**
BNDS	**Bandar-Abbas**	**2.28**	**76**	*e*Pg	**Pn**	**15 07 50.5**	**-0.4**
BNDS				AML	AML	15 08 37.6	
	comp=N,296nm,0.5s						
BNDS	**Bandar-Abbas**	**2.28**	**76**	*e*Pg	**Pn**	**15 07 50.5**	**-0.4**
ISRV	**Sarvestan**	**2.57**	**349**	*e*Pn	**Pn**	**15 07 55.7**	**+0.6**
ISRV				*e*Sg	**Sg**	**15 08 35.5**	**-0.3**
ISRV	**Sarvestan**	**2.57**	**349**	*e*Pn	**Pn**	**15 07 55.7**	**+0.6**
ISRV				*e*Sg	**Sg**	**15 08 35.5**	**-0.3**
IBND	**Bandar-abas**	**2.61**	**76**	*e*Pn	**Pn**	**15 07 56.1**	**+0.9**
IBND				*e*		15 09 00.0	
	comp=E,6μm,0.2s						
IBND	**Bandar-abas**	**2.61**	**76**	*e*Pn	**Pn**	**15 07 56.1**	**+0.9**
IPAR	**Pars**	**3.04**	**349**	*e*Pn	**Pn**	**15 08 01.9**	**+0.5**
IPAR				*e*		15 08 58.1	
	comp=Z,3μm,0.5s						
IPAR	**Pars**	**3.04**	**349**	*e*Pn	**Pn**	**15 08 01.9**	**+0.5**
IKAZ	**Kazeroun**	**3.34**	**331**	*e*Pn	**Pn**	**15 08 06.0**	**+0.3**
IKAZ				*e*		15 09 23.2	
	comp=Z,3μm,0.3s						
IKAZ	**Kazeroun**	**3.34**	**331**	*e*Pn	**Pn**	**15 08 06.0**	**+0.3**
SLWS		**3.42**	**234**	P	Pg	15 08 31.0	+12
SLWS		**3.42**	**234**	P	Pg	15 08 30.5	+12
BTHS		**3.79**	**223**	P	**Pb**	**15 08 18.0**	**-2.1**
BTHS		**3.79**	**223**	P	**Pb**	**15 08 18.4**	**-1.6**
BOQSS		**3.99**	**257**	P	**Pb**	**15 08 21.0**	**-2.5**
BOQSS				S	**Sb**	**15 09 09.0**	**-2.8**
BOQSS		**3.99**	**257**	P	**Pb**	**15 08 20.7**	**-2.8**
KRBR	**Kerman**	**4.13**	**40**	*e*Pn	**Pn**	**15 08 15.6**	**-0.8**
KRBR				AML	AML	15 09 21.7	
	comp=N,102nm,0.7s						
KRBR				AML	AML	15 09 22.3	
	comp=E,82nm,0.2s						
KRBR	**Kerman**	**4.13**	**40**	*e*Pn	**Pn**	**15 08 15.6**	**-0.8**
IMEH	**Mehriz**	**4.60**	**10**	*e*Pn	**Pn**	**15 08 22.9**	**+0.1**
IMEH				*e*		15 09 19.7	
	comp=Z,426nm,0.1s						
IMEH	**Mehriz**	**4.60**	**10**	*e*Pn	**Pn**	**15 08 22.9**	**+0.1**
IBAF	**Bafgh**	**5.00**	**19**	*e*Pn	**Pn**	**15 08 27.7**	**-0.6**
IBAF				*e*		15 08 29.1	
	comp=Z,397nm,0.1s						
IBAF	**Bafgh**	**5.00**	**19**	*e*Pn	**Pn**	**15 08 27.7**	**-0.6**
ISAD	**Sadrabad**	**5.05**	**360**	*e*Pn	**Pn**	**15 08 30.0**	**+1.0**
ISAD				*e*Sn	**Sn**	**15 09 24.7**	**-2.9**
ISAD				*e*		15 09 27.4	
	comp=Z,701nm,0.2s						
ISAD	**Sadrabad**	**5.05**	**360**	*e*Pn	**Pn**	**15 08 30.0**	**+1.0**
ISAD				*e*Sn	**Sn**	**15 09 24.7**	**-2.9**
IZEF	**Zefreh**	**6.14**	**349**	*e*Pn	**Pn**	**15 08 43.6**	**-0.5**
IZEF				*e*		15 09 52.3	
	comp=Z,373nm,0.2s						
IZEF	**Zefreh**	**6.14**	**349**	*e*Pn	**Pn**	**15 08 43.6**	**-0.5**
IPIR	**Pirpir**	**6.30**	**338**	*e*Pn	**Pn**	**15 08 45.8**	**-0.5**
IPIR				*e*		15 10 01.5	
	comp=Z,228nm,0.2s						
IPIR	**Pirpir**	**6.30**	**338**	*e*Pn	**Pn**	**15 08 45.8**	**-0.5**
NSR	**Nassriya**	**7.81**	**304**	*e*Pn	x	15 09 06.0	
NSR				*e*Sn	x	15 10 35.0	
NSR	**Nassriya**	**7.81**	**304**	*e*Pn	**Pn**	**15 09 06.0**	**-0.7**
	SNR=5.0						
NSR				*e*Sn	**Sn**	**15 10 35.0**	**-0.1**
	SNR=5.0						
IBDR	**Badra**	**9.17**	**315**	*e*Pn	x	15 09 25.0	
IBDR				*e*Sn	x	15 11 10.0	
BHD	**Baghdad**	**10.29**	**311**	*e*PN	x	15 09 43.0	
BHD				*e*SN	x	15 11 35.6	
BHD	**Baghdad**	**10.29**	**311**	*e*Pn	**Pn**	**15 09 43.0**	**+2.3**
	SNR=52						
BHD				*e*Sn	**Sn**	**15 11 35.6**	**-0.6**
	SNR=52						
GNI	**Garni**	**15.21**	**333**	Pn	**P**	**15 10 53.1**	**+0.1**
	comp=Z,1.6nm,0.3s,baz=272,slow=3.7,SNR=5.6						
ASF	**Jabal al Asfar**	**15.55**	**294**	Pn	**Pn**	**15 10 53.8**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=248,slow=5.4,SNR=2.7						
MMAI	**Mount Meron Ar**	**16.99**	**296**	P	**P**	**15 11 13.8**	**+1.0**
	comp=Z,1.3nm,0.3s,baz=116,slow=20,SNR=3.8						
KBZ	**Khabaz**	**18.98**	**335**	P	**Pn**	**15 11 36.2**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=56,slow=24,SNR=6.7						
BRTR	**Keskin Array B**	**21.06**	**313**	P	**P**	**15 11 59.4**	**+2.1**
	comp=Z,1.6nm,0.7s,baz=140,slow=11,SNR=7.0						
AAK	**Ala-Archa**	**23.15**	**42**	P	**P**	**15 12 20.1**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=200,slow=3.7,SNR=3.8						
AKTO	**Aktyubinsk**	**23.78**	**7**	P	**P**	**15 12 25.8**	**0.0**
	comp=Z,2.3nm,0.6s,baz=164,slow=12,SNR=10						
AKTO				LR	LR	15 22 34.6	
	comp=Z,36nm,19.9s,baz=246,slow=39						
IDI	**Anoyia**	**25.99**	**296**	P	**P**	**15 12 48.6**	**+2.5**
	comp=Z,4.2nm,0.7s,baz=100,slow=11,SNR=6.5						
MLR	**Muntele Rosu**	**28.90**	**317**	P	**P**	**15 13 14.2**	**+2.1**
	comp=Z,0.4nm,0.6s,baz=137,slow=18,SNR=3.0						
BVAR	**Borovoye Array**	**28.96**	**21**	P	**P**	**15 13 12.2**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=208,slow=8.4,SNR=8.8						
MKAR	**Makanchi Array**	**30.08**	**41**	P	**P**	**15 13 21.8**	**-0.8**
	comp=Z,2.0nm,0.6s,baz=240,slow=14,SNR=5.9						
AKASG	**Malin Array Be**	**30.25**	**328**	P	**P**	**15 13 23.0**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=134,slow=8.1,SNR=3.9						
KURBB	**Kurchatov Arra**	**30.38**	**32**	P	**P**	**15 13 24.3**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=234,slow=8.8,SNR=6.0						
ZALV	**Zalesovo Beam**	**35.47**	**32**	P	**P**	**15 14 08.0**	**-1.5**
	comp=Z,2.9nm,0.7s,baz=237,slow=8.6,SNR=16						
FINES	**FINESS Array B**	**39.25**	**339**	P	**P**	**15 14 41.2**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=144,slow=9.3,SNR=11						
NOA	**NORSAR Array B**	**44.51**	**332**	P	**P**	**15 15 23.7**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=118,slow=7.7,SNR=2.7						
ARCES	**ARCESS Array B**	**45.77**	**347**	P	**P**	**15 15 34.2**	**-0.2**
	comp=Z,2.6nm,1.0s,baz=139,slow=7.8,SNR=4.8						
SONM	**Songino Array**	**45.84**	**48**	P	**P**	**15 15 35.4**	**0.0**
	comp=Z,0.8nm,0.6s,baz=270,slow=10,SNR=2.3						
TORD	**Torodi Ar. Bea**	**50.40**	**265**	P	**P**	**15 16 14.0**	**+3.1**
	comp=Z,0.4nm,0.5s,baz=64,slow=7.5,SNR=7.7						
KSRS	**Korea Array**	**62.28**	**60**	P	**P**	**15 17 35.5**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=298,slow=6.4,SNR=2.6						
ILAR	**Eielson Array**	**87.28**	**9**	P	**P**	**15 19 59.6**	**0.0**
	comp=Z,0.2nm,0.7s,baz=335,slow=4.0,SNR=2.5						
YKA	**Yellowknife Ar**	**90.48**	**355**	P	**P**	**15 20 15.3**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=6.0,slow=5.1,SNR=6.3						
ASAR	**Alice Springs**	**92.30**	**115**	P	**P**	**15 20 23.5**	**-0.3**
	comp=Z,0.7nm,1.1s,baz=295,slow=4.8,SNR=3.4						

*ISCJB **06** 15:14:20.9±0.6,18°.01S±0°.09×175°.2W±0°.1,h200km, mb4.0/14,Error ellipse: s-maj=16.8km s-min=10.8km az=27.9*
*NEIC **06** 15:14:20.2±1.2,18°.05S×175°.15W,h176km±12km, mb4.2/8, Error ellipse: s-maj=14.9km s-min=9.7km az=122.0*
*IDC **06** 15:14:25.8±3.6,18°.32S×175°.15W,h225km±29km, mb3.8/6, mb1 4.0/6,mb1mx3.5/26,mbtmp4.3/6,Error ellipse: s-maj=30.4km s-min=13.5km az=107.0*

ISC 06 15:14:23.7±0.9,18°.25S±0°.1×175°.2W±0°.2,h200km,n22, σ1º76/22,mb4.1/14,1D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.41**	**38**	*e*Pn	Pn	15 15 37.3	-6.1
AFI				*e*S	Sn	15 16 31.2	-15
URZ	**Urewera**	**21.07**	**197**	P	**P**	**15 18 51.9**	**-0.4**
	3.1nm,0.3s,baz=292,slow=3.7,SNR=8.6						
URZ				S	**S**	**15 22 32.0**	**-2.8**
	4.5nm,0.9s,baz=37,slow=20,SNR=2.8						
CTAO	**Charters Tower**	**36.40**	**261**	P	**P**	**15 21 08.4**	**-0.9**
	3.5nm,0.7s						
STKA	**Stephens Creek**	**41.17**	**242**	P	**P**	**15 21 48.9**	**+0.2**
	1.4nm,0.4s,baz=93,slow=11,SNR=10						
WRAB	**Tennant Creek**	**47.56**	**259**	*e*P	**P**	**15 22 38.7**	**-0.8**
	3.3nm,0.5s						
WRA	**Warramunga Arr**	**47.57**	**259**	P	**P**	**15 22 39.0**	**-0.6**
	2.7nm,0.4s,baz=97,slow=7.4,SNR=101						
WRA				PcP	**PcP**	**15 24 05.9**	**-0.3**
	0.3nm,0.4s,baz=91,slow=3.4,SNR=3.4						
AS31	**Alice Springs**	**47.64**	**254**	*i*P	**P**	**15 22 39.3**	**-0.8**
AS31				pP	**pP**	**15 23 27.7**	**+3.9**
ASAR	**Alice Springs**	**47.64**	**254**	P	**P**	**15 22 39.6**	**-0.4**
	14nm,0.5s,baz=92,slow=8.1,SNR=469						
ASAR				PcP	**PcP**	**15 24 06.3**	**-0.2**
	1.1nm,1.0s,baz=104,slow=4.0,SNR=3.6						
SBA	**Scott Base**	**60.32**	**184**	*e*P	**P**	**15 24 12.7**	**+1.8**
	5.0nm,1.2s						
VNDA	**Vanda**	**60.41**	**186**	P	**P**	**15 24 12.3**	**+0.8**
	1.2nm,0.9s						
MJAR	**Matsushiro Arr**	**70.01**	**322**	P	**P**	**15 25 13.6**	**-0.1**
	1.8nm,0.6s,baz=161,slow=6.0,SNR=5.1						
MAJO	**Matsushiro**	**70.01**	**322**	P	**P**	**15 25 13.2**	**-0.5**
	6.6nm,0.9s						
QSPA	**South Pole Qui**	**71.84**	**180**	*e*P	**P**	**15 25 24.2**	**-0.3**
	2.8nm,0.8s						
YULB	**Yu-li**	**74.51**	**301**	P	P	15 25 39.0	-1.7
KSM	**Kuching**	**75.75**	**276**	P	P	15 25 44.2	-3.7
	6.2nm,0.8s						
ILAR	**Eielson Array**	**85.53**	**12**	P	**P**	**15 26 37.2**	**-1.5**
	0.5nm,0.6s,baz=224,slow=5.7,SNR=13						
SDCO	**Great Sand Dun**	**85.88**	**48**	*e*P	P	15 26 38.7	-2.7
	9.3nm,1.2s						
BVAR	**Borovoye Array**	**119.00**	**321**	PKP	**PKPdf**	**15 32 47.1**	**-1.2**
	0.4nm,0.4s,baz=108,slow=3.2,SNR=4.3						
ARCES	**ARCESS Array B**	**127.13**	**351**	PKP	**PKPdf**	**15 33 02.5**	**-0.9**
	0.8nm,0.7s,baz=336,slow=1.5,SNR=6.4						
FINES	**FINESS Array B**	**134.27**	**346**	PKP	**PKPdf**	**15 33 14.7**	**-2.4**
	0.8nm,0.8s,baz=71,slow=5.0,SNR=3.3						
BRTR	**Keskin Array B**	**147.13**	**317**	PKPbc	**PKPdf**	**15 33 43.1**	**+2.1**
	1.2nm,0.7s,baz=136,slow=4.7,SNR=6.4						
GERES	**GERESS Array B**	**148.61**	**349**	PKPbc	**PKPdf**	**15 33 46.9**	**+3.7**
	0.4nm,0.4s,baz=25,slow=3.2,SNR=3.4						

*ISCJB **06** 15:34:44.8±0.4,74°.33N±0°.03×93°.3W±0°.1,h10km, mb4.2/5, Error ellipse: s-maj=5.7km s-min=3.5km az=44.8*
*OTT **06** 15:34:49.5±0.1,74°.50N×93°.52W,h18km, MN4.2/23, 45km southeast from Resolute, Nu Boothia Ungava Seismic Zone.*
*NEIC **06** 15:34:49.5,74°.50N×93°.52W,h18km, mb3.8/8, MN4.2(OTT),After OTT.*

ISC 06 15:34:46.3±0.6,74°.48N±0°.05×93°.28W±0°.05,h10km,n48, σ2º04/56,mb4.2/5,Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RES	**Resolute Bay**	**0.48**	**297**	PG	**Pn**	**15 34 58.4**	**-0.8**
RES				SG	**Sb**	**15 35 03.7**	**-0.2**
RES				Trac		15 35 07.2	
	comp=Z,2μm,0.1s						
RES	**Resolute Bay**	**0.48**	**297**	Pg	**Pn**	**15 34 58.4**	**-0.8**
AP3N	**Apex site 3 Nu**	**5.73**	**147**	PN	**Pn**	**15 36 14.2**	**+2.9**
AP3N				SN	**Sn**	**15 37 17.1**	**+0.1**
AP3N				LG	Lg	15 37 45.9	
AP3N				Trac		15 37 51.0	
	comp=Z,198nm,0.3s						
AP3N	**Apex site 3 Nu**	**5.73**	**147**	Pn	**Pn**	**15 36 14.2**	**+2.9**
GIFN	**Gifford Fjord,**	**5.73**	**136**	PN	**Pn**	**15 36 13.5**	**+2.3**
GIFN				SN	**Sn**	**15 37 15.6**	**-1.3**
GIFN				LG	Lg	15 37 46.4	
GIFN				Trac		15 37 55.8	
	comp=Z,127nm,0.3s						
GIFN	**Gifford Fjord,**	**5.73**	**136**	Pn	**Pn**	**15 36 13.5**	**+2.3**
EUNU	**Eureka**	**5.80**	**12**	PN	**Pn**	**15 36 14.1**	**+1.9**
EUNU				SN	**Sn**	**15 37 15.8**	**-3.0**
EUNU				Trac		15 37 23.7	
	comp=Z,52nm,0.5s						
LAIN	**Lailor River,**	**6.19**	**146**	PN	**Pn**	**15 36 20.2**	**+2.7**
LAIN				SN	**Sn**	**15 37 26.3**	**-1.9**
LAIN				LG	Lg	15 37 58.4	
LAIN				Trac		15 38 11.5	
	comp=Z,138nm,0.3s						
ILON	**Igloolik, Nuna**	**6.23**	**140**	PN	**Pn**	**15 36 21.0**	**+2.9**
ILON				SN	**Sn**	**15 37 28.9**	**-0.4**
ILON				LG	Lg	15 38 01.9	
ILON				Trac		15 38 11.0	
	comp=Z,305nm,0.5s						
STLN	**Stellar Camp,**	**7.21**	**179**	PN	**Pn**	**15 36 34.2**	**+2.7**
STLN				SN	**Sn**	**15 37 51.4**	**-1.8**
STLN				LG	Lg	15 38 29.8	
STLN				Trac		15 38 39.0	
	comp=Z,295nm,0.5s						
BULN	**Bullion Camp,**	**8.12**	**180**	PN	**Pn**	**15 36 46.2**	**+2.2**
BULN				SN	**Sn**	**15 38 13.2**	**-2.5**
BULN				LG	Lg	15 38 55.6	
BULN				Trac		15 39 04.2	
	comp=Z,236nm,0.7s						
QILN	**Qililugaq Expl**	**8.19**	**160**	PN	**Pn**	**15 36 47.7**	**+2.8**
QILN				SN	**Sn**	**15 38 13.8**	**-3.4**
QILN				LG	Lg	15 38 59.7	
QILN				Trac		15 39 05.4	
	comp=Z,105nm,0.4s						
WAGN	**Wager Bay**	**8.74**	**170**	PN	**Pn**	**15 36 54.6**	**+2.2**
WAGN				SN	**Sn**	**15 38 26.4**	**-4.4**
WAGN				LG	Lg	15 39 15.2	
WAGN				Trac		15 39 37.6	
	comp=Z,113nm,0.3s						
NUNN	**Nunuq Camp, NU**	**9.34**	**174**	PN	**Pn**	**15 37 02.1**	**+1.5**
NUNN				SN	**Sn**	**15 38 41.8**	**-3.8**
NUNN				LG	Lg	15 39 32.4	
NUNN				Trac		15 39 46.8	
	comp=Z,92nm,0.3s						
KULLO	**Kullorsuaq**	**9.53**	**72**	PN	**Pn**	**15 37 03.9**	**+0.7**
KULLO				SN	**Sn**	**15 38 46.0**	**-4.2**
KULLO				Trac		15 39 13.4	
	comp=Z,37nm,0.7s						
SEDN	**First Sedna Si**	**11.31**	**175**	PN	**Pn**	**15 37 28.3**	**+0.7**
SEDN				SN	Sn	15 39 27.4	-6.4
SEDN				LG	Lg	15 40 35.1	
SEDN				Trac		15 40 54.2	
	comp=Z,81nm,0.6s						
JOSN	**Second Sedna S**	**11.39**	**176**	PN	**Pn**	**15 37 30.6**	**+1.9**
JOSN				SN	Sn	15 39 28.7	-7.0
JOSN				LG	Lg	15 40 39.1	
JOSN				Trac		15 40 54.1	
	comp=Z,169nm,1.0s						
COKN	**Cook Lake**	**12.49**	**214**	PN	**Pn**	**15 37 44.4**	**+0.6**
COKN				LG	Lg	15 41 06.0	
COKN				Trac		15 41 22.1	
	comp=Z,77nm,0.7s						
CTLN	**Castor Lake**	**12.73**	**230**	PN	**Pn**	**15 37 47.5**	**+0.5**
CTLN				SN	Sn	15 39 59.9	-8.7
CTLN				LG	Lg	15 41 17.4	
CTLN				Trac		15 41 29.4	
	comp=Z,58nm,0.8s						
SNLN	**Sandy Lake, NW**	**12.75**	**211**	PN	**Pn**	**15 37 46.9**	**-0.3**
SNLN				SN	Sn	15 40 02.4	-6.5
SNLN				LG	Lg	15 41 15.7	
SNLN				Trac		15 41 27.6	
	comp=Z,85nm,0.6s						
WHFN	**White Fish Lak**	**12.94**	**210**	PN	**Pn**	**15 37 49.7**	**-0.1**
WHFN				SN	Sn	15 40 06.0	-7.5
WHFN				LG	Lg	15 41 19.3	
WHFN				Trac		15 41 31.6	
	comp=Z,158nm,1.0s						
CMBN	**Cumberland Cam**	**13.02**	**118**	PN	**Pn**	**15 37 49.9**	**-1.0**
CMBN				SN	Sn	15 40 03.1	-12
CMBN				LG	Lg	15 41 30.8	
CMBN				Trac		15 41 41.0	
	comp=Z,94nm,0.8s						
ROMN	**Roman Lake**	**13.25**	**233**	PN	**Pn**	**15 37 54.0**	**-0.1**
ROMN				SN	Sn	15 40 12.8	-8.5
ROMN				LG	Lg	15 41 42.6	
ROMN				Trac		15 41 49.0	
	comp=Z,63nm,0.6s						
GALN	**Gameti Lake**	**13.28**	**231**	PN	**Pn**	**15 37 54.0**	**-0.5**
GALN				SN	Sn	15 40 13.2	-8.7
GALN				LG	Lg	15 41 32.6	
GALN				Trac		15 41 56.6	
	comp=Z,47nm,0.6s						
GDLN	**Gardenia Lake,**	**13.32**	**207**	PN	**Pn**	**15 37 54.4**	**-0.6**
GDLN				SN	Sn	15 40 12.4	-11
GDLN				LG	Lg	15 41 30.6	
GDLN				Trac		15 41 42.8	
	comp=Z,69nm,0.6s						
ARVN	**Arviat, NU**	**13.46**	**182**	PN	**P**	**15 38 05.3**	**-1.0**
ARVN				SN	Sn	15 40 18.6	-7.6
ARVN				LG	Lg	15 41 40.8	
ARVN				Trac		15 41 44.8	
	comp=Z,103nm,0.7s						
FRB	**Frobisher Bay**	**13.75**	**128**	PN	**Pn**	**15 37 59.8**	**-1.1**
FRB				SN	Sn	15 40 26.7	-6.6
FRB				LG	Lg	15 41 54.5	
FRB				Trac		15 42 02.1	
	comp=Z,45nm,0.5s						
INK	**Inuvik**	**13.96**	**264**	PN	**Pn**	**15 38 02.9**	**-0.9**
INK				SN	Sn	15 40 29.0	-10
INK				LG	Lg	15 41 37.8	
INK				Trac		15 42 19.9	
	comp=Z,14nm,0.7s						
INK	**Inuvik**	**13.96**	**264**	*e*Pn	**Pn**	**15 38 03.2**	**-0.6**
	4.9nm,0.5s						
INK				*e*Sn	Sn	15 40 28.5	-10
YKW3	**Yellowknife Ar**	**14.14**	**224**	PN	**Pn**	**15 38 05.6**	**-0.7**
YKW3				SN	Sn	15 40 32.5	-11
YKW3				LG	Lg	15 41 57.5	
YKW3				Trac		15 42 13.3	
	comp=Z,46nm,0.6s						
SUMG	**Summit**	**15.19**	**70**	*e*Pn	**Pn**	**15 38 20.7**	**-0.1**
SUMG				*e*Sn	Sn	15 40 56.2	-13
SFJD	**Kangerlussuaq**	**15.55**	**97**	Pn	**Pn**	**15 38 25.7**	**+0.6**
FCC	**Fort Churchill**	**15.79**	**182**	*e*Pn	**Pn**	**15 38 27.0**	**-1.3**
	5.9nm,1.4s						
FCC				*e*Sn	Sn	15 41 10.3	-13
FCC				*e*Lg	Lg	15 42 52.0	
EGAK	**Eagle**	**18.64**	**264**	*e*Pn	**P**	**15 39 02.3**	**-1.3**
	2.1nm,0.6s						
COLD	**Coldfoot**	**19.21**	**278**	*e*Pn	**Pn**	**15 39 11.4**	**+0.5**
	3.4nm,0.9s						
FFC	**Flin Flon**	**20.14**	**195**	*e*P	Pn	15 39 23.5	+1.6
	4.2nm,0.8s						
DOT	**Dot Lake**	**20.31**	**265**	*e*P	Pn	15 39 23.2	-0.8
	4.5nm,0.9s						
MENT	**Mentasta**	**20.80**	**263**	*e*P	**P**	**15 39 25.5**	**-1.7**
HYT	**Haines Junctio**	**20.92**	**253**	*e*P	Pn	15 39 36.5	+5.3
IM04	**Indian Mountai**	**21.11**	**278**	*e*P	**P**	**15 39 32.5**	**+2.0**
DLBC	**Dease Lake**	**21.16**	**241**	*e*P	**P**	**15 39 29.6**	**-1.6**
SKAG	**Skagway**	**21.55**	**249**	*e*P	**P**	**15 39 36.4**	**+1.2**
SCHQ	**Schefferville**	**22.33**	**137**	P	**P**	**15 39 47.5**	**+3.8**
	4.4nm,0.8s						
EDM	**Edmonton**	**22.84**	**212**	*e*P	**P**	**15 39 52.2**	**+3.0**
SML	**Sawmill**	**22.96**	**266**	*e*P	**P**	**15 39 50.9**	**+0.5**
	1.8nm,1.0s						
TNA	**Tin City**	**25.12**	**289**	P	P	15 40 05.2	-5.4
	6.1nm,0.6s						
RSSD	**Black Hills**	**30.83**	**195**	*e*P	**P**	**15 40 59.8**	**-2.4**
	2.1nm,0.6s						
NCB	**Newcomb**	**31.78**	**153**	*e*P	**P**	**15 41 12.3**	**+2.0**
	22nm,1.1s						

*ISCJB **06** 15:38:31.6±0.2,59°.94N±0°.02×

KELA	**Mount Kelaz**	**2.68**	**237**	P		**Pn**	15 39 14.1	**-0.3**
SCM	**Sheep Creek Mo**	**2.76**	**45**	P		**Pn**	15 39 15.4	**-0.1**
VLZ	**Valdez**	**2.79**	**63**	P		**Pn**	15 39 15.4	**-0.5**
EYAK	**Cordova Ski Ar**	**2.91**	**76**	P		**Pn**	15 39 16.2	**-1.2**
OHAK	**Old Harbor**	**2.91**	**200**	P		**Pn**	15 39 15.9	**-1.6**
PPLA	**Purkeypile**	**2.96**	**354**	*e*Pn		**Pn**	15 39 18.2	**-0.1**
DIV	**Divide**	**3.05**	**65**	Pn		**Pn**	15 39 18.6	**-0.8**
KLU	**Klutina**	**3.13**	**58**	P		**Pn**	15 39 20.1	**-0.3**
HUR	**Hurricane**	**3.15**	**15**	P		**Pn**	15 39 22.0	**+1.3**
PLK3	**Peulik 3**	**3.38**	**230**	P		**Pn**	15 39 23.9	**0.0**
GOAT	**Goat Mountain**	**3.41**	**77**	P		**Pn**	15 39 23.3	**-1.0**
RAGM	**Ragged Mountai**	**3.42**	**80**	P		**Pn**	15 39 23.1	**-1.3**
PS12	**TAPS Pump St12**	**3.46**	**61**	P		**Pn**	15 39 24.0	**-0.9**
PLK4	**Peulik 4**	**3.46**	**229**	P		**Pn**	15 39 24.9	**-0.1**
CAST	**Castle Rocks**	**3.48**	**355**	P		**Pn**	15 39 24.7	**-0.5**
TRF	**Thorofare Moun**	**3.54**	**9**	P		**Pn**	15 39 26.0	**-0.2**
BMRM	**Bremner River**	**3.54**	**71**	P		**Pn**	15 39 24.9	**-1.2**
KTH	**Kantishna Hill**	**3.61**	**4**	*e*Pn		**Pn**	15 39 26.9	**-0.1**
RND	**Reindeer**	**3.67**	**19**	P		**Pn**	15 39 28.4	**+0.5**
TT01	**Tatalina**	**3.67**	**325**	P		**Pn**	15 39 27.4	**-0.4**
DHY	**Denali Highway**	**3.69**	**30**	P		**Pn**	15 39 28.9	**+0.8**
NICHA	**Nichawak Mount**	**3.77**	**83**	P		**Pn**	15 39 28.0	**-1.1**
SUCK	**Suckling Hills**	**3.86**	**85**	P		**Pn**	15 39 30.2	**-0.2**
BERG	**Berg Lake**	**3.90**	**80**	P		**Pn**	15 39 30.8	**-0.2**
HARP	**HAARP**	**3.92**	**49**	P		**Pn**	15 39 31.3	**+0.2**
MCK	**McKinley**	**3.97**	**17**	*e*Pn		**Pn**	15 39 32.4	**+0.6**
MCK	**McKinley**	**3.97**	**17**	*e*Pn		**Pn**	15 39 32.3	**+0.5**
GLB	**Gilahina Butte**	**4.04**	**65**	P		**Pn**	15 39 32.3	**-0.6**
WASW	**Wrangell South**	**4.07**	**58**	P		**Pn**	15 39 33.5	**+0.1**
GRIN	**Grindle Hills**	**4.09**	**82**	P		**Pn**	15 39 33.0	**-0.5**
BGLC	**Bering Glacier**	**4.11**	**84**	P		**Pn**	15 39 33.7	**0.0**
KHIT	**Khitrov Hills**	**4.11**	**80**	P		**Pn**	15 39 32.5	**-1.7**
VRDI	**Verde Repeater**	**4.15**	**69**	P		**Pn**	15 39 33.5	**-1.0**
PAX	**Paxson**	**4.17**	**41**	*e*Pn		**Pn**	15 39 33.8	**-0.8**
PAX	**Paxson**	**4.17**	**41**	P		**Pn**	15 39 34.2	**-0.4**
BWN	**Browne**	**4.33**	**12**	P		**Pn**	15 39 36.3	**-0.3**
KULT	**Kultieth River**	**4.39**	**83**	P		**Pn**	15 39 36.4	**-1.3**
MCARA	**McCarthy VSAT**	**4.39**	**67**	P		**Pn**	15 39 37.1	**-0.5**
PS10	**TAPS Pump St10**	**4.40**	**36**	P		**Pn**	15 39 38.2	**+0.4**
BARK	**Barkley Ridge**	**4.50**	**81**	P		**Pn**	15 39 38.0	**-1.2**
ISLE	**Juniper Island**	**4.59**	**78**	P		**Pn**	15 39 39.0	**-1.4**
PTPK	**Patty Peak**	**4.61**	**71**	P		**Pn**	15 39 40.1	**-0.6**
KIAG	**Kiagna River**	**4.61**	**74**	P		**Pn**	15 39 40.3	**-0.4**
DDM	**Donnelly Dome**	**4.66**	**32**	P		**Pn**	15 39 42.4	**+1.0**
BAGL	**Bagley Icefiel**	**4.71**	**80**	P		**Pn**	15 39 41.5	**-0.3**
MESA	**MESA**	**4.77**	**83**	P		**Pn**	15 39 42.5	**-0.5**
WRH	**Wood River Hil**	**4.79**	**18**	P		**Pn**	15 39 43.0	**0.0**
GRNC	**Granite Creek**	**4.89**	**77**	P		**Pn**	15 39 43.4	**-1.2**
BARN	**Barnard Glacie**	**4.97**	**73**	P		**Pn**	15 39 43.5	**-2.2**
CCB	**Clear Creek Bu**	**5.01**	**18**	P		**Pn**	15 39 45.6	**-0.2**
RKAV	**Rock Avalanche**	**5.07**	**82**	P		**Pn**	15 39 47.0	**0.0**
PS08	**TAPS Pump Stn8**	**5.08**	**23**	P		**Pn**	15 39 47.2	**+0.3**
MLY	**Manley**	**5.09**	**3**	P		**Pn**	15 39 46.8	**-0.4**
DOT	**Dot Lake**	**5.10**	**40**	P		**Pn**	15 39 47.0	**-0.3**
TABL	**Table Mountain**	**5.17**	**80**	P		**Pn**	15 39 47.6	**-0.9**
CHX	**Chaix Hills**	**5.20**	**84**	P		**Pn**	15 39 48.7	**+0.1**
COLA	**College**	**5.20**	**17**	*e*Pn		**Pn**	15 39 47.1	**-1.5**
MDM	**Murphy Dome**	**5.23**	**15**	P		**Pn**	15 39 49.1	**+0.1**
IL1	**Eielson Array**	**5.27**	**22**	P		**Pn**	15 39 49.0	**-0.6**
ILAR	**Eielson Array**	**5.27**	**22**	P		**Pn**	15 39 49.5	**0.0**
	4.0nm,0.3s,baz=205,slow=14,SNR=110							
ILAR				S		**Sn**	15 40 45.0	**-3.9**
	9.6nm,0.3s,baz=208,slow=24,SNR=9.7							
SCRK	**Sand Creek**	**5.35**	**38**	P		**Pn**	15 39 50.5	**-0.3**
SAMH	**Samovar Hills**	**5.36**	**84**	P		**Pn**	15 39 51.2	**+0.3**
GCSA	**Galena City Sc**	**5.42**	**335**	P		**Pn**	15 39 51.9	**+0.4**
PS06	**TAPS Pump Stn6**	**5.96**	**7**	P		**Pn**	15 39 59.5	**+0.6**
IM3	**Indian Mountai**	**6.13**	**351**	P		**Pn**	15 40 01.6	**+0.4**
EGAK	**Eagle**	**6.80**	**40**	*e*Pn		**Pn**	15 40 10.0	**-0.3**
	13nm,0.6s							
HYT	**Haines Junctio**	**6.97**	**77**	*e*Pn		**Pn**	15 40 12.6	**-0.3**
COLD	**Coldfoot**	**7.31**	**4**	P		**Pn**	15 40 16.7	**-0.6**
BM3	**Burnt Mountain**	**8.07**	**19**	P		**Pn**	15 40 27.2	**-0.5**
SKAG	**Skagway**	**8.18**	**87**	*e*Pn		**Pn**	15 40 29.0	**-0.2**
SSLW	**Shishaldin Wes**	**8.59**	**238**	P		**Pn**	15 40 34.4	**-0.5**
BESE	**Bessie Mountai**	**8.62**	**92**	P		**Pn**	15 40 35.5	**+0.2**
SIT	**Sitka**	**8.94**	**102**	P		**Pn**	15 40 38.2	**-1.3**
TNA	**Tin City**	**9.38**	**314**	*e*Pn		**Pn**	15 40 45.2	**-0.3**
TNA				eSn		Sn	15 42 21.6	-7.3
UNV	**Unalaska Valle**	**10.24**	**240**	*e*Pn		**Pn**	15 40 55.8	**-1.5**
GAMB	**Gambell**	**10.27**	**300**	*e*Pn		**Pn**	15 40 57.9	**+0.3**
CRAG	**Craig**	**10.78**	**107**	*e*Pn		Pn	15 40 59.6	-5.1
	23nm,0.7s							
DLBC	**Dease Lake**	**11.09**	**89**	P		**Pn**	15 41 09.6	**+0.7**
	8.4nm,0.3s,baz=283,slow=7.2,SNR=54							
DLBC				S		**Sn**	15 43 08.7	**-2.3**
	0.7nm,0.3s,baz=137,slow=19,SNR=2.6							
DLBC	**Dease Lake**	**11.09**	**89**	*e*Pn		**Pn**	15 41 09.0	**+0.1**
DLBC				S		**Sn**	15 43 08.7	**-2.3**
BBB	**Bella Bella**	**15.12**	**111**	P		**Pn**	15 42 03.5	**+1.1**
	0.3nm,0.3s,baz=317,slow=13,SNR=7.2							
BBB				S		**Sn**	15 44 44.5	**-4.3**
	0.2nm,0.3s,baz=347,slow=14,SNR=2.7							
SEY	**Seymchan**	**26.27**	**301**	P		**P**	15 44 00.0	**-0.9**
	0.6nm,0.4s,baz=57,slow=8.9,SNR=4.7							
PETK	**Petropavlovsk-**	**28.23**	**279**	P		**P**	15 44 17.6	**-1.0**
	2.0nm,0.8s,baz=75,slow=13,SNR=8.7							
ELK	**Elko**	**29.52**	**114**	P		P	15 44 33.7	+3.4
	1.1nm,0.5s,baz=353,slow=7.6,SNR=4.6							
ELK				pP		pP	15 44 51.8	+3.2
	0.9nm,0.5s,baz=126,slow=1.9,SNR=3.3							
NVAR	**Mina Array Bea**	**30.04**	**121**	P		**P**	15 44 37.1	**+2.2**
	0.6nm,0.7s,baz=327,slow=9.7,SNR=3.4							
PDAR	**Pinedale Array**	**30.64**	**105**	P		**P**	15 44 43.0	**+2.7**
	0.7nm,0.9s,baz=0.0,slow=6.5,SNR=4.9							
SPITS	**Spitsbergen Ar**	**41.90**	**4**	P		**P**	15 46 14.5	**-0.9**
	2.4nm,0.8s,baz=2.8,slow=5.9,SNR=3.1							
TXAR	**Lajitas Array**	**44.25**	**112**	P		**P**	15 46 37.3	**+2.4**
	0.7nm,0.8s,baz=337,slow=6.1,SNR=7.4							
TXAR				pP		**pP**	15 46 56.0	**+2.0**
	0.1nm,0.4s,baz=332,slow=7.2,SNR=1.9							
JCT	**Junction City**	**45.13**	**107**	*e*P		**P**	15 46 43.5	**+1.7**
	9.6nm,0.8s							
ARCES	**ARCESS Array B**	**50.77**	**1**	pP		pP	15 47 44.1	-0.2
	1.0nm,0.7s,baz=353,slow=6.7,SNR=1.9							
SONM	**Songino Array**	**55.43**	**307**	P		**P**	15 48 00.8	**+1.3**
	1.8nm,0.7s,baz=34,slow=5.4,SNR=4.7							
SONM				pP		**pP**	15 48 20.9	**+1.7**
	1.8nm,0.8s,baz=32,slow=8.7,SNR=4.0							
ZALV	**Zalesovo Beam**	**57.85**	**324**	P		**P**	15 48 15.2	**-1.1**
	0.4nm,0.5s,baz=32,slow=8.8,SNR=3.8							
ZALV				pP		**pP**	15 48 35.2	**-1.0**
	0.7nm,0.6s,baz=26,slow=4.8,SNR=2.9							
FINES	**FINESS Array B**	**58.90**	**1**	pP		pP	15 48 42.2	-1.2
	0.5nm,0.4s,baz=1.4,slow=7.6,SNR=2.0							
MKAR	**Makanchi Array**	**64.94**	**322**	P		**P**	15 49 03.5	**-0.8**
	0.1nm,0.4s,baz=328,slow=4.5,SNR=3.6							
AKASG	**Malin Array Be**	**69.69**	**360**	P		**P**	15 49 34.0	**-0.1**
	0.5nm,0.4s,baz=6.8,slow=6.7,SNR=3.1							
AKASG				pP		**pP**	15 49 54.5	**-0.1**
	0.4nm,0.3s,baz=2.6,slow=6.1,SNR=4.8							

GUC 06 15:57:20.5±0.4, 33°.97S×72°.44W, h78km±10km, ML3.9, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**1.16**	**35**	*e*P	Pn	15 57 40.9	-0.5
NICH	**Los Niches**	**1.43**	**136**	*e*P	Pn	15 57 44.4	-0.4
NICH				*e*S	Sn	15 58 02.9	-0.3
RCDM	**Rinconada Maip**	**1.45**	**71**	*e*P	Pn	15 57 44.6	-0.5
RCDM				*e*S	Sn	15 58 02.9	-0.7
TALC	**Talca**	**1.57**	**155**	*e*P	Pn	15 57 46.4	-0.2
TALC				*e*S	Sn	15 58 06.2	-0.1
SAN	**Santiago**	**1.57**	**71**	*e*P	Pn	15 57 46.4	-0.3
SAN				*e*S	Sn	15 58 06.2	-0.3
SAN				*e*S	Sn	15 58 06.5	-0.1
STL	**Santa Lucia**	**1.59**	**71**	*e*P	Pn	15 57 46.8	-0.2
STL				*e*S	Sn	15 58 06.8	-0.2
PCH	**Pirque**	**1.64**	**78**	*e*P	Pn	15 57 47.7	-0.1
PEL	**Peldehue**	**1.68**	**61**	*e*P	Pn	15 57 48.2	0.0
PEL				*e*S	Sn	15 58 09.1	-0.2
PEL				AML	AML	15 58 19.2	
	comp=E,4μm,0.5s						
CLCH	**Cerro Calan**	**1.69**	**71**	*e*P	Pn	15 57 48.1	-0.2
CLCH				*e*S	Sn	15 58 08.9	-0.5
CLCH				AML	AML	15 58 15.9	
	comp=E,1μm,3.2s						
SJCH	**San Jose de Ma**	**1.77**	**80**	*e*P	Pn	15 57 49.1	-0.2
SJCH				*e*S	Sn	15 58 11.0	-0.4
SJCH				AML	AML	15 58 21.7	
	comp=N,1μm,0.6s						

COCH	**Cobquecura**	**2.17**	**187**	*e*P		Pn	15 57 54.5	0.0
COCH				*e*S		Sn	15 58 18.4	-2.2

*SZGRF **06** 16:02:51.3, 18°.06S×177°.78W, h33km, Fiji Islands region*
*IDC **06** 16:03:44.7±2.4, 17°.67S×178°.76W, h480km±28km, mb3.6/14, mb1 3.9/14, mb1mx3.6/31, mbtmp4.5/14, Error ellipse: s-maj=20.1km s-min=12.4km az=158.0*
*ISCJB **06** 16:03:48.8±0.6, 17°.95S±0°.1×178°.8W±0°.1, h550km, mb4.0/13, Error ellipse: s-maj=19.8km s-min=12.6km az=150.3*

ISC 06 16:03:50.3±0.7, 17°.8S±0°.2×178°.8W±0°.1, h550km, n38, σ1°35/39, mb4.0/13, 4C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**20.67**	**189**	P	**P**	16 07 50.8	**-1.4**
	6.8nm,0.7s,baz=290,slow=1.3,SNR=12						
PPT	**Papeete**	**27.80**	**94**	P	**P**	16 08 53.9	**-1.8**
	20nm,0.4s,baz=177,slow=19,SNR=4.3						
CTA	**Charters Tower**	**33.12**	**260**	P	**P**	16 09 40.2	**-1.4**
	2.8nm,0.6s,baz=90,slow=9.6,SNR=5.6						
STKA	**Stephens Creek**	**38.37**	**241**	P	**P**	16 10 25.6	**+0.8**
	6.8nm,0.5s,baz=90,slow=9.9,SNR=35						
WRA	**Warramunga Arr**	**44.31**	**260**	P	**P**	16 11 10.8	**-1.2**
	1.3nm,0.6s,baz=98,slow=7.2,SNR=28						
ASAR	**Alice Springs**	**44.48**	**254**	P	**P**	16 11 12.9	**-0.4**
	16nm,0.5s,baz=89,slow=8.0,SNR=643						
ASAR				ScP	**ScP**	16 15 50.4	**+5.6**
	0.5nm,0.7s,baz=100,slow=4.6,SNR=5.0						
MJAR	**Matsushiro Arr**	**67.65**	**324**	P	**P**	16 13 52.0	**-0.8**
	2.7nm,0.7s,baz=164,slow=6.7,SNR=9.5						
PETK	**Petropavlovsk-**	**73.53**	**345**	P	**P**	16 14 26.5	**-0.6**
	6.0nm,0.8s,baz=139,slow=8.5,SNR=12						
NVAR	**Mina Array Bea**	**79.61**	**44**	P	**P**	16 15 01.6	**+0.6**
	2.0nm,0.7s,baz=223,slow=9.0,SNR=13						
ILAR	**Eielson Array**	**85.89**	**13**	P	**P**	16 15 30.4	**-1.2**
	2.2nm,0.7s,baz=227,slow=5.2,SNR=16						
TXAR	**Lajitas Array**	**86.24**	**58**	P	**P**	16 15 36.2	**+1.9**
	2.6nm,0.8s,baz=220,slow=6.4,SNR=36						
PDAR	**Pinedale Array**	**87.53**	**44**	P	**P**	16 15 40.5	**+0.2**
	1.5nm,0.7s,baz=223,slow=1.3,SNR=13						
CMAR	**Chiang Mai Arr**	**88.54**	**290**	P	**P**	16 15 46.6	**+1.5**
	0.7nm,1.0s,baz=134,slow=2.6,SNR=4.8						
YKA	**Yellowknife Ar**	**94.41**	**25**	P	**P**	16 16 10.4	**-0.7**
	1.1nm,0.7s,baz=246,slow=4.4,SNR=16						
ARCES	**ARCESS Array B**	**126.18**	**350**	PKP	**PKPdf**	16 21 52.0	**+2.2**
	1.3nm,0.9s,baz=57,slow=4.5,SNR=4.3						
AKASG	**Malin Array Be**	**140.34**	**332**	PKP	**PKPdf**	16 22 17.0	**+0.2**
	0.1nm,0.3s,baz=41,slow=3.3,SNR=3.7						
BURAR	**Bucovina Array**	**144.39**	**332**	⇑*i*P	**PKPab**	16 22 25.4	**+0.8**
BRTR	**Keskin Array B**	**144.49**	**315**	PKP	**PKPab**	16 22 24.9	**-0.3**
	1.2nm,0.6s,baz=117,slow=4.3,SNR=8.4						
NRDL	**Niedersach Rie**	**144.72**	**351**	*e*PKPbc	PKPbc	16 22 24.5	-0.2
IBBN	**Ibbenburen**	**145.22**	**353**	*e*PKPbc	**PKPab**	16 22 26.7	**-0.7**
CLZ	**Clausthal**	**145.31**	**350**	*e*PKPbc	**PKPab**	16 22 27.2	**-0.7**
CLL	**Collm**	**145.32**	**347**	*e*PKPbc	**PKPab**	16 22 26.9	**-0.9**
CLL	**Collm**	**145.32**	**347**	⇑*i*PKPbc	**PKPbc**	16 22 26.8	**+0.2**
	comp=Z,10.0nm,0.7s						
CLL				*i* PKPab	**PKPab**	16 22 28.0	**+0.2**
	comp=Z,10.0nm,1.0s						
DPC	**Dobruska-Polom**	**145.38**	**343**	*e*PKP	**PKPab**	16 22 27.2	**-1.0**
DPC				*ex*	x	16 22 29.2	
DPC				*ex*	x	16 22 32.6	
BRG	**Berggiesshubel**	**145.51**	**346**	*i* P	**PKPab**	16 22 27.7	**-1.0**
	comp=Z,5.4nm,0.8s						
BRG	**Berggiesshubel**	**145.51**	**346**	*e*PKPbc	**PKPab**	16 22 27.7	**-1.0**
DOPR	**Dopca**	**145.53**	**330**	⇑*i*P	**PKPab**	16 22 28.3	**-0.6**
DRGR		**146.12**	**333**	⇑*i*P	**PKPbc**	16 22 29.5	**+0.3**
PRU	**Pruhonice**	**146.19**	**345**	*e*PKP	**PKPbc**	16 22 29.4	**+0.2**
PRU				*ex*	x	16 22 31.7	
MOX	**Moxa**	**146.23**	**348**	*e*PKPbc	**PKPbc**	16 22 29.3	**0.0**
ARR	**Arges**	**146.32**	**330**	⇓*i*P	**PKPab**	16 22 31.0	**-1.1**
ROTZ	**Rotzenmuhle**	**146.94**	**347**	*e*PKPbc	**PKPbc**	16 22 32.0	**+0.8**
TNS	**Taunus Mts**	**147.18**	**351**	*e*PKPbc	**PKPbc**	16 22 32.4	**+0.5**
GEC2	**GERESS Array S**	**147.45**	**345**	*e*PKPbc	**PKPbc**	16 22 33.1	**+0.4**
GERES	**GERESS Array B**	**147.45**	**345**	PKPbc	**PKPbc**	16 22 33.2	**+0.4**
	comp=Z,2.4nm,0.6s,baz=36,slow=3.4,SNR=14						
WLF	**Walferdange**	**148.00**	**354**	*e*PKPbc	**PKPbc**	16 22 35.1	**+1.1**
RJOB	**Jochberg**	**148.71**	**345**	*e*PKPbc	**PKPbc**	16 22 37.0	**+1.1**
BFO	**Black Forest**	**149.04**	**351**	*e*PKPbc	**PKPbc**	16 22 36.6	**0.0**

*ISCJB **06** 16:04:34.0±0.5, 36°.83S±0°.04×73°.98W±0°.08, h10km, mb4.4/14, MS3.8/3, Error ellipse: s-maj=9.3km s-min=5.8km az=14.5*
*IDC **06** 16:04:34.2±0.9, 36°.86S×73°.92W, h0km, mb4.2/9, mb1 4.2/13, mb1mx4.2/20, mbtmp4.1/13, ML3.7/3, MS3.9/5, Ms1 3.9/5, ms1mx3.4/19, Error ellipse: s-maj=26.7km s-min=16.0km az=85.0*
*NEIC **06** 16:04:34.6±5.6, 36°.76S×73°.91W, h3km±33km, mb4.7/9, ML4.7(GUC), Error ellipse: s-maj=21.5km s-min=9.7km az=82.0*
NEIC Felt [III] at Concepcion and Penco.
*GUC **06** 16:04:35.7±0.3, 36°.72S×74°.09W, h16km±7km, ML4.8*

ISC 06 16:04:35.9±0.5, 36°.84S±0°.04×73°.77W±0°.07, h10km, n53, σ1°22/57, mb4.3/14, MS3.7/3, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.53**	**90**	⇓*i*P	**Pn**	16 04 50.2	**+0.7**
CCSP				*i* S	**Sn**	16 05 00.9	**+2.3**
CCSP				AML	AML	16 05 04.2	
	comp=N,58μm,0.5s						
LNCH	**Linares**	**2.01**	**61**	*e*P	**Pb**	16 05 12.2	**-0.4**
LNCH				AML	AML	16 05 55.8	
	comp=N,9μm,0.5s						
TALC	**Talca**	**2.25**	**51**	*e*P	**Pb**	16 05 15.1	**-1.6**
NICH	**Los Niches**	**2.76**	**49**	*e*P	**Pn**	16 05 21.8	**+1.5**
NICH				*e*S	**Sb**	16 05 57.0	**-2.3**
CLCH	**Cerro Calan**	**4.34**	**39**	*e*P	**Pn**	16 05 43.0	**+0.9**
CLCH				*e*S	**Sn**	16 06 34.3	**+1.5**
PEL	**Peldehue**	**4.48**	**35**	⇓*i*P	**Pn**	16 05 44.5	**+0.6**
PEL				*i* S	**Sn**	16 06 36.9	**+0.9**
PLCA	**Paso Flores**	**4.63**	**148**	Pn	**Pn**	16 05 47.2	**+1.2**
	comp=N,1.8nm,0.3s,baz=324,slow=9.5,SNR=41						
PLCA				Lg	Lg	16 07 03.3	
	comp=N,6.9nm,0.3s,baz=347,slow=8.6,SNR=5.7						
PLCA				LR	LR	16 07 36.3	
	comp=N,800nm,18.6s,baz=325,slow=39						
PLCA	**Paso Flores**	**4.63**	**148**	*e*Pn	**Pn**	16 05 47.0	**+1.0**
PLCA				*e*Pb	**Pb**	16 05 56.7	**-0.5**
PLCA				*e*Pg	**Pg**	16 06 03.8	**-0.8**
PLCA				*e*Sg	**Sg**	16 07 01.7	**-2.8**
PLCA				Lg	Lg	16 07 03.3	
CFAA	**Coronel Fontan**	**6.95**	**43**	Pn	**Pn**	16 06 18.6	**+0.7**
	comp=N,0.6nm,0.3s,baz=216,slow=12,SNR=25						
CFAA				Sn	**Sn**	16 07 36.6	**-0.4**
	comp=N,0.2nm,0.3s,baz=43,slow=18,SNR=2.6						
CFAA				LR	LR	16 09 11.8	
	comp=N,30nm,20.9s,baz=238,slow=39						
LCO	**Las Campanas**	**8.22**	**19**	*e*Pn	Pn	16 06 26.2	-9.3
	comp=N,21nm,0.8s						
TRQA	**Torquist**	**9.46**	**101**	*e*Pn	**Pn**	16 06 54.7	**+2.5**
	comp=N,12nm,0.8s						
LVC	**Limon Verde**	**14.79**	**18**	Pn	**Pn**	16 08 06.4	**+1.0**
	comp=N,8.9nm,0.3s,baz=182,slow=9.0,SNR=3.2						
LVC	**Limon Verde**	**14.79**	**18**	*e*Pn	Pn	16 08 01.9	-3.6
CPUP	**Villa Florida**	**17.47**	**58**	P	**P**	16 08 41.3	**+0.4**
	comp=N,0.0nm,0.3s,baz=236,slow=9.5,SNR=4.6						
CPUP				LR	LR	16 16 32.1	
	comp=N,2μm,19.0s,baz=219,slow=41						
CPUP	**Villa Florida**	**17.47**	**58**	*e*Pn	**Pn**	16 08 38.1	**-1.6**
EFI	**East Falkland**	**18.55**	**148**	*e*P	**Pn**	16 08 53.6	**+0.8**
	comp=N,104nm,1.3s						
SIV	**San Ignacio**	**23.63**	**32**	P	**P**	16 09 47.6	**+0.2**
	comp=N,8.4nm,0.9s,baz=226,slow=11,SNR=14						
SIV				LR	LR	16 20 57.6	
	comp=N,261nm,19.3s,baz=268,slow=42						
SAML	**Samuel**	**29.39**	**22**	*e*P	**P**	16 10 39.2	**-0.1**
	comp=N,5.0nm,1.1s						
BDFB	**Brasilia**	**31.12**	**54**	P	**P**	16 10 55.5	**+0.6**
	comp=N,1.1nm,0.3s,baz=177,slow=8.7,SNR=3.0						
PTGA	**Pitinga**	**38.14**	**23**	P	**P**	16 11 55.9	**+0.5**
	comp=N,4.8nm,0.6s,baz=200,slow=9.3,SNR=8.1						
SDV	**Santo Domingo**	**45.58**	**4**	*e*P	**P**	16 12 56.2	**-0.2**
	comp=N,5.3nm,0.7s						
BCIP	**Isla Barro Col**	**46.12**	**352**	P	**P**	16 12 59.0	**-1.4**
VNA3	**Neumayer Olymp**	**47.29**	**157**	P	**P**	16 13 08.8	**-0.3**
VNA2	**Neumayer--Watz**	**47.97**	**156**	P	**P**	16 13 14.8	**+0.5**
	baz=287,slow=8.1						
SNAA	**Sanae**	**49.51**	**157**	P	**P**	16 13 27.5	**+1.2**

SNAA	**Sanae**	**49.51**	**157**	*e*P		**P**	16 13 26.8	**+0.5**
	comp=N,10nm,1.0s							
FDF	**Fort de France**	**52.66**	**15**	P		**P**	16 13 51.7	**+1.2**
	comp=N,71nm,1.0s							
QSPA	**South Pole Qui**	**53.40**	**180**	P		**P**	16 13 55.8	**+0.2**
	comp=N,2.6nm,1.0s,baz=141,slow=1.9,SNR=6.5							
QSPA	**South Pole Qui**	**53.40**	**180**	*e*P		**P**	16 13 55.8	**+0.2**
	comp=N,5.3nm,0.9s							
AGPR	**Aguadilla, PR**	**55.37**	**8**	P		P	16 14 06.4	-3.8
TEIG	**Tepich**	**58.39**	**344**	P		**P**	16 14 32.0	**+0.4**
MAW	**Mawson**	**70.86**	**164**	P		**P**	16 15 51.4	**-1.1**
	comp=N,2.1nm,0.8s,baz=185,slow=8.2,SNR=3.6							
MAW				LR		LR	16 48 03.5	
	comp=N,43nm,18.6s,baz=237,slow=37							
MAW	**Mawson**	**70.86**	**164**	*e*P		P	16 15 48.8	-3.7
	comp=N,1.8nm,1.2s							
TXAR	**Lajitas Array**	**71.56**	**333**	P		**P**	16 15 57.7	**+0.4**
	comp=N,0.8nm,0.7s,baz=151,slow=8.8,SNR=6.9							
DBIC	**Dimbokro**	**77.42**	**72**	P		**P**	16 16 32.9	**+1.3**
	comp=N,6.4nm,0.7s,baz=179,slow=4.6,SNR=11							
DBIC	**Dimbokro**	**77.42**	**72**	*e*P		**P**	16 16 31.9	**+0.3**
	comp=N,7.2nm,0.7s							
TSUM	**Tsumeb**	**79.79**	**106**	P		**P**	16 16 46.2	**+1.4**
	comp=N,8.3nm,0.7s							
PDAR	**Pinedale Array**	**85.68**	**334**	P		**P**	16 17 14.6	**-0.4**
	comp=N,0.4nm,0.7s,baz=127,slow=5.7,SNR=3.3							
TOAO	**Torodi Ar. Sit**	**86.49**	**71**	*e*P		**P**	16 17 18.7	**-0.6**
TORD	**Torodi Ar. Bea**	**86.49**	**71**	P		**P**	16 17 19.6	**+0.3**
	comp=N,1.7nm,0.8s,baz=216,slow=5.3,SNR=9.7							
DZM	**Mont Dzumac**	**98.43**	**234**	LR		LR	16 58 09.9	
	comp=N,37nm,18.2s,baz=183,slow=33							
ABKAR	**Akbul

CTAO Charters Tower 25.23 137 *e*P **P** **16 44 10.6 +1.9**
CTAO pmax pmax
comp=Z,13nm,0.7s
CTAO Charters Tower 25.23 137 *e*P **P** **16 44 10.6 +1.9**
comp=Z,13nm,0.7s
TPUB Ta-pu 26.16 344 *e*P **P** **16 44 14.8 -2.2**
comp=Z,12nm,0.8s
SSLB Suanglung 26.54 345 *e*P **P** **16 44 17.5 -2.9**
comp=Z,13nm,1.0s
YHNB Yeheng 27.28 346 *e*P **P** **16 44 25.8 -1.4**
comp=Z,13nm,0.8s
IPM Ipoh 27.89 283 *e*P **P** **16 44 33.5 +0.8**
comp=Z,11nm,0.8s
KULM Kulim 28.43 285 P **P** **16 44 37.9 +0.3**
comp=Z,4.1nm,0.7s
FORT Forrest 28.67 180 *e*P **P** **16 44 38.6 -0.8**
comp=Z,65nm,0.7s
PSI Prapat 29.64 279 P **P** **16 44 48.3 -0.1**
comp=Z,4.1nm,0.5s,baz=147,slow=8.2,SNR=7.7
STKA Stephens Creek 32.34 158 P **P** **16 45 11.7 -0.2**
comp=Z,4.9nm,0.7s,baz=318,slow=9.3,SNR=13
LOEI Loei 32.84 307 P **P** **16 45 15.6 -0.9**
comp=Z,17nm,1.3s,comp=Z,679nm
NANT Nan 34.00 309 P **P** **16 45 27.6 +1.0**
comp=Z,17nm,0.7s
WHN Wuhan 34.91 339 P **P** **16 45 35.1 +0.9**
NJ2 Nanjing 34.96 346 *e*P **P** **16 45 34.5 -0.1**
NJ2 PMZ
comp=Z,20nm,1.0s
CMAR Chiang Mai Arr 35.21 306 P **P** **16 45 36.8 -0.2**
comp=Z,0.6nm,0.6s,baz=135,slow=8.0,SNR=9.2
CMAR LR LR 17 02 24.8
comp=Z,21nm,18.6s,baz=198,slow=41
CMAR Chiang Mai Arr 35.21 306 *i* P **P** **16 45 37.7 +0.7**
CMAR pmax pmax
comp=Z,1.0nm,0.9s
CMMT Chiang Mai 35.39 307 P **P** **16 45 39.5 +0.9**
comp=Z,8.4nm,1.4s
CHTO Chiang Mai 35.40 307 P **P** **16 45 39.5 +0.9**
comp=Z,18nm,1.8s
CHTO Chiang Mai 35.40 307 *e*P **P** **16 45 37.7 -0.9**
CHTO pmax pmax
comp=Z,4.0nm,0.8s
CHTO Chiang Mai 35.40 307 *e*P **P** **16 45 37.7 -0.9**
comp=Z,3.9nm,0.8s
KMI Kunming 36.51 319 P **P** **16 45 50.0 +1.7**
KMI pP **pP** **16 46 00.8 +2.8**
KMI PMZ
comp=Z,9.0nm,1.6s
KMI PMZ
comp=Z,48nm,7.0s
KMI LN
comp=Z,290nm,14.2s
KMI LE
comp=Z,750nm,13.3s
KMI LZ
comp=Z,690nm,13.3s
ENH Enshi 36.68 332 P **P** **16 45 49.1 -0.4**
KSAR Wonju Array Be 39.20 360 P **P** **16 46 11.1 +0.5**
KSAR Wonju Array Be 39.20 360 P **P** **16 46 11.1 +0.5**
KSRS Korea Array 39.21 360 P **P** **16 46 11.1 +0.4**
comp=Z,3.6nm,0.8s,baz=177,slow=9.9,SNR=13
KSRS LR LR 17 01 13.7
comp=Z,48nm,20.3s,baz=188,slow=35
MAJO Matsushiro 39.42 13 *e*P **P** **16 46 11.4 -1.1**
MAJO pmax pmax
comp=Z,14nm,0.9s
MAJO Matsushiro 39.42 13 *e*P **P** **16 46 11.4 -1.1**
comp=Z,14nm,0.9s
MAT Matsushiro 39.42 13 P **P** **16 46 11.5 -1.0**
MJAR Matsushiro Arr 39.42 13 P **P** **16 46 11.8 -0.7**
comp=Z,6.3nm,0.6s,baz=187,slow=9.9,SNR=20
MJAR LR LR 17 00 58.8
comp=Z,50nm,21.8s,baz=165,slow=34
CD2 Chengdu 40.11 327 *e*P **P** **16 46 18.3 -0.1**
CD2 pP **pP** **16 46 31.1 +3.0**
CD2 PP **PnPn** **16 47 54.8 +0.1**
CD2 S **S** **16 52 20.8 -2.0**
CD2 sS **sS** **16 52 42.2 +3.4**
CD2 PMZ
comp=Z,10.0nm,0.8s
CD2 LE
comp=Z,110nm,13.1s
XAN Xi'an 40.13 335 P **P** **16 46 17.7 -0.8**
XAN PMZ
comp=Z,8.0nm,0.7s
LZH Lanzhou 44.13 331 *e*P **P** **16 46 51.8 +0.5**
LZH pP **pP** **16 47 04.2 +3.1**
LZH sP **sP** **16 47 09.5 +4.5**
LZH PP **PcP** **16 48 36.7 +0.7**
LZH PMZ
comp=Z,26nm,1.5s
LZH PMZ
comp=Z,75nm,5.6s
LZH LN
comp=Z,370nm,14.2s
LZH LE
comp=Z,380nm,13.7s
LZH LZ
comp=Z,430nm,18.0s
HHC Hu-ho-hao-te 45.22 342 *e*P **P** **16 46 59.7 -0.1**
HHC pP **pP** **16 47 11.6 +2.0**
HHC sP **sP** **16 47 15.4 +1.9**
HHC PP **PP** **16 48 49.7 +3.8**
HHC S **S** **16 53 33.5 -4.2**
HHC sS sS 16 54 01.0 +7.1
HHC PMZ
comp=Z,28nm,1.0s
HHC PMZ
comp=Z,80nm,6.1s
HHC LN
comp=Z,190nm,15.5s
HHC LE
comp=Z,650nm,15.5s
USRK Ussuriysk Ar. 46.07 4 P **P** **16 47 07.0 +0.7**
comp=Z,8.7nm,0.6s,baz=191,slow=6.6,SNR=18
MDJ Mudanjiang 46.38 1 P **P** **16 47 09.3 +0.6**
MDJ pP **pP** **16 47 20.8 +2.2**
MDJ PcS **PcS** **16 52 38.3 +0.5**
MDJ S **S** **16 53 49.2 -4.9**
MDJ PMZ
comp=Z,19nm,1.2s
MDJ PMZ
comp=Z,130nm,3.3s
MDJ Mudanjiang 46.38 1 *e*P **P** **16 47 09.0 +0.3**
comp=Z,15nm,1.0s
LSA Lhasa 47.36 315 P **P** **16 47 17.9 +0.7**
LSA Lhasa 47.36 315 *e*P **P** **16 47 17.9 +0.7**
LSA pmax pmax
comp=Z,14nm,0.7s
LSA Lhasa 47.36 315 *e*P **P** **16 47 17.9 +0.7**
comp=Z,14nm,0.7s
ASAJ Asahikawa 47.65 14 P **P** **16 47 19.4 +0.9**
comp=Z,13nm,0.9s,baz=200,slow=12,SNR=3.7
TAPN Taplejung 48.65 310 *e*P **P** **16 47 27.1 +0.1**
comp=Z,22nm,0.5s
ODAN Odare 48.65 309 *e*P **P** **16 47 27.0 0.0**
comp=Z,32nm,0.7s
GTA Gaotai 48.71 331 P **P** **16 47 27.2 +0.1**
GTA pP **pP** **16 47 39.7 +2.7**
GTA sP **sP** **16 47 44.6 +3.6**
GTA S **S** **16 54 26.1 -1.6**
GTA sS **sS** **16 54 46.7 +2.7**
GTA SS **SS** **16 57 52.7 -5.8**
GTA PMZ
comp=Z,12nm,1.4s
GTA PMZ
comp=Z,67nm,4.3s
GTA LN
comp=Z,61nm,16.6s
GTA LE
comp=Z,69nm,15.4s
GTA LZ
comp=Z,77nm,16.9s
RAMN Ramite 49.31 309 *e*P **P** **16 47 32.5 +0.4**
comp=Z,81nm,0.7s
JIRN Jiri 49.97 309 *e*P **P** **16 47 37.2 0.0**
comp=Z,30nm,0.6s
GUN Gumba 50.33 309 *e*P **P** **16 47 39.9 -0.1**
comp=Z,49nm,0.7s
YSS Yuzh-Sakhalins 50.36 13 P **P** **16 47 38.1 -1.2**
YSS pmax pmax
comp=Z,66nm,1.2s
YSS Yuzh-Sakhalins 50.36 13 P **P** **16 47 38.1 -1.2**
comp=Z,66nm,1.2s
PKI Pulchoki 50.54 309 *e*P **P** **16 47 41.0 -0.5**
comp=Z,16nm,0.7s
PKIN Phulchoki 50.55 309 *e*P **P** **16 47 40.9 -0.6**
comp=Z,6.7nm,0.6s
KKN Kakani 50.74 309 *e*P **P** **16 47 42.5 -0.4**
comp=Z,22nm,0.7s
DMN Daman 50.79 309 *e*P **P** **16 47 43.2 -0.1**
comp=Z,31nm,0.7s
GKN Gorkha 51.34 309 *e*P **P** **16 47 47.0 -0.3**
comp=Z,33nm,0.7s
KOLN Koldanda 52.05 308 *e*P **P** **16 47 52.8 +0.1**
comp=Z,77nm,0.7s
ULN Ulaanbaatar 52.94 342 *c i*P **P** **16 47 58.7 -0.1**
ULN pmax pmax
comp=Z,10.0nm,1.0s
ULN Ulaanbaatar 52.94 342 *e*P **P** **16 47 58.7 -0.1**
comp=Z,9.4nm,1.0s
SONM Songino Array 53.12 342 P **P** **16 47 59.2 -0.9**
comp=Z,3.5nm,0.8s,baz=157,slow=8.7,SNR=12
ZAK Zakamensk 56.34 341 *e*P **P** **16 48 21.2 -2.2**
ZAK pmax pmax
comp=Z,2.0nm,1.2s
WMQ Urumqi 58.21 326 P **P** **16 48 37.1 +0.4**
WMQ pP **pP** **16 48 49.8 +3.0**
WMQ sP **sP** **16 48 55.1 +4.4**
WMQ PcS **PcS** **16 53 27.4 -1.9**
WMQ PMZ
comp=Z,19nm,0.9s
WMQ PMZ
comp=Z,160nm,4.8s
WMQ LN
comp=Z,26nm,21.8s
WMQ LE
comp=Z,57nm,22.6s
PETK Petropavlovsk- 60.17 20 P **P** **16 48 50.3 +0.3**
comp=Z,2.0nm,0.7s,baz=189,slow=8.7,SNR=3.9
BOD Bodaibo 60.66 351 *e*P **P** **16 48 52.6 -0.6**
BOD pmax pmax
comp=Z,12nm,1.5s
MKAR Makanchi Array 63.05 326 P **P** **16 49 08.9 -0.6**
comp=Z,10nm,0.8s,baz=159,slow=5.1,SNR=106
MKAR Makanchi Array 63.05 326 P **P** **16 49 09.0 -0.6**
KSH Kashi 63.12 317 P **P** **16 49 10.6 +0.3**
KSH pP **pP** **16 49 23.5 +3.0**
KSH PP **PP** **16 51 30.4 +1.0**
KSH PcS 16 53 50.1
KSH S **S** **16 57 34.6 -4.8**
KSH ScS **SKSac** **16 58 55.4 -5.7**
KSH PMZ
comp=Z,5.0nm,0.7s
KSH PMZ
comp=Z,120nm,4.7s
KSH LN
comp=Z,51nm,5.5s
KSH LE
comp=Z,100nm,5.2s
KSH LZ
comp=Z,140nm,5.5s
YAK Yakutsk 63.82 1 *e*P **P** **16 49 13.8 -0.5**
YAK pmax pmax
comp=Z,19nm,0.7s
YAK Yakutsk 63.82 1 *e*P **P** **16 49 14.4 +0.1**
comp=Z,33nm,0.7s
KZA Kyzart 64.80 319 P **P** **16 49 22.0 +0.3**
SNR=11
KZA Kyzart 64.80 319 *i*P **P** **16 49 22.0 +0.3**
TKM2 Tokmak 2 64.97 320 P **P** **16 49 22.3 -0.3**
SNR=8.9
TKM2 Tokmak 2 64.97 320 *e*P **P** **16 49 22.3 -0.3**
TKM2 pmax pmax
comp=Z,7.0nm,0.8s
TKM2 Tokmak 2 64.97 320 *e*P **P** **16 49 22.3 -0.3**
comp=Z,6.7nm,0.8s
UCH Uchtor 65.35 319 P **P** **16 49 25.8 +0.5**
SNR=11
UCH Uchtor 65.35 319 *i*P **P** **16 49 25.8 +0.5**
CASY Casey 65.40 188 P **P** **16 49 20.8 -3.8**
comp=Z,7.8nm,1.2s
AAK Ala-Archa 65.55 319 P **P** **16 49 26.3 0.0**
comp=Z,3.0nm,0.8s,baz=139,slow=5.6,SNR=10
AAK Ala-Archa 65.55 319 *e*P **P** **16 49 25.9 -0.4**
AAK pmax pmax
comp=Z,9.0nm,1.2s
AAK Ala-Archa 65.55 319 *e*P **P** **16 49 26.0 -0.3**
comp=Z,4.0nm,0.9s
USP Ospenovka 65.85 320 P **P** **16 49 27.3 -0.8**
SNR=14
USP Ospenovka 65.85 320 *i*P **P** **16 49 27.2 -0.8**
AML Almayashu 65.85 318 P **P** **16 49 28.8 +0.4**
SNR=6.2
AML Almayashu 65.85 318 *i*P **P** **16 49 28.8 +0.4**
EKS2 Erkin-Say 66.04 319 P **P** **16 49 29.3 0.0**
SNR=5.2
EKS2 Erkin-Say 66.04 319 *i*P **P** **16 49 29.3 0.0**
EKS2 Erkin-Say 66.04 319 *e*P **P** **16 49 28.9 -0.4**
comp=Z,7.3nm,0.8s
KBL Kabul 66.17 309 P **P** **16 49 29.3 -1.2**
KBL pmax pmax
comp=Z,4.0nm,0.6s
KBL Kabul 66.17 309 P **P** **16 49 29.3 -1.2**
comp=Z,4.4nm,0.6s
ZAA0 Zalesovo Array 66.29 334 *e*P **P** **16 49 28.8 -1.7**
ZALV Zalesovo Beam 66.29 334 P **P** **16 49 28.9 -1.5**
comp=Z,1.9nm,0.6s,baz=114,slow=5.0,SNR=15
ZALV Zalesovo Beam 66.29 334 P **P** **16 49 29.0 -1.5**
SEY Seymchan 67.24 12 *e*P **P** **16 49 36.7 +0.3**
KURK Kurchatov 67.30 328 *e*P **P** **16 49 36.1 -0.9**
KURK *e* 16 49 52.3
KURK pmax pmax
comp=Z,19nm,0.8s
KURK Kurchatov 67.30 328 *e*P **P** **16 49 36.0 -0.9**
comp=Z,19nm,0.8s
KURK *e* 16 49 52.3
NVS Novosibirsk 67.57 334 *e*P P **16 49 33.8 -4.9**
NVS *e* 16 58 51.5
KKAR Karatay Array 68.39 318 *e*P **P** **16 49 43.4 -0.7**
KKAR Karatay Array 68.39 318 *e*P **P** **16 49 43.4 -0.7**
BVAR Borovoye Array 72.86 328 P **P** **16 50 10.2 -0.9**
comp=Z,4.0nm,0.7s,baz=142,slow=7.5,SNR=23
BRVK Borovoye 72.93 328 *e*P **P** **16 50 10.2 -1.3**
BRVK pmax pmax
comp=Z,12nm,1.1s
BRVK Borovoye 72.93 328 *e*P **P** **16 50 10.2 -1.3**
comp=Z,12nm,1.1s
TIXI Tiksi 73.47 0 *e*P **P** **16 50 13.3 -1.0**
TIXI pmax pmax
comp=Z,6.0nm,0.8s
TIXI Tiksi 73.47 0 *e*P **P** **16 50 13.3 -1.0**
comp=Z,5.8nm,0.8s
GEYT Alibeck 75.60 310 P **P** **16 50 26.6 -0.8**
comp=Z,0.7nm,0.4s,baz=65,slow=6.8,SNR=3.4
ABKAR Akbulak array 77.46 321 *e*P **P** **16 50 36.2 -1.5**
VNDA Vanda 77.64 173 P **P** **16 50 39.1 +1.0**
comp=Z,5.9nm,0.7s,baz=317,slow=6.6,SNR=38
VNDA LR LR 17 25 50.6
comp=Z,50nm,18.3s,baz=308,slow=36
VNDA Vanda 77.64 173 *e*P **P** **16 50 38.9 +0.7**
VNDA pmax pmax
comp=Z,6.0nm,0.7s
VNDA Vanda 77.64 173 *e*P **P** **16 50 38.9 +0.7**
comp=Z,5.5nm,0.7s
SBA Scott Base 78.54 172 *e*P **P** **16 50 44.9 +1.7**
SBA pmax pmax
comp=Z,4.0nm,0.8s
SBA Scott Base 78.54 172 *e*P **P** **16 50 44.9 +1.7**
comp=Z,4.5nm,0.8s
MAW Mawson 78.98 201 P **P** **16 50 46.1 +0.4**
comp=Z,4.5nm,0.9s,baz=58,slow=7.1,SNR=6.1
ARU Arti 80.50 328 *d i*P **P** **16 50 53.1 -1.1**
ARU 16 53 53.5
ARU S **S** **17 00 59.1 +0.8**
ARU SS **SS** **17 06 14.3 +3.4**
ARU pmax pmax
comp=Z,14nm,2.5s
ARU Arti 80.50 328 P **P** **16 50 52.1 -2.1**
QSPA South Pole Qui 87.99 180 P **P** **16 51 33.2 +1.0**
comp=Z,2.9nm,0.5s,baz=270,slow=0.7,SNR=29
QSPA South Pole Qui 87.99 180 *e*P **P** **16 51 32.6 +0.4**
comp=Z,3.5nm,0.6s
ILAR Eielson Array 89.58 25 P **P** **16 51 38.2 -1.3**
comp=Z,0.3nm,0.6s,baz=229,slow=3.5,SNR=4.0
ARCES ARCESS Array B 96.25 340 P **P** **16 52 08.5 -1.7**
comp=Z,1.9nm,0.9s,baz=90,slow=5.4,SNR=6.2
FINES FINESS Array B 97.50 332 P **P** **16 52 13.9 -2.0**
comp=Z,0.8nm,0.8s,baz=108,slow=12,SNR=3.1
TORD Torodi Ar. Bea 125.92 285 PKP **PKPdf** **16 57 45.2 -0.1**
comp=Z,0.4nm,0.7s,baz=196,slow=2.8,SNR=3.6
CPUP Villa Florida 151.38 170 PKPbc **PKPbc** **16 58 37.7 +1.0**
comp=Z,0.6nm,0.8s,baz=108,slow=4.1,SNR=5.2

IDC ***06*** *16:49:33.7±1.4,2˚.03N×96˚.63E,h0km,mb4.0/9, mb1 4.1/11,mb1mx3.8/30,mbtmp4.0/11,ML3.7/2,MS3.0/2, Ms1 3.0/2,ms1mx2.6/34,Error ellipse: s-maj=42.6km s-min=17.4km az=51.0*
ISCJB ***06*** *16:49:35.8±0.6,2˚.07N±0˚.07×96˚.58E±0˚.07,h28km, mb4.1/15,MS3.3/1,Error ellipse: s-maj=12.5km s-min=6.8km az=42.3*
DJA ***06*** *16:49:37.3±0.9,2˚N±6˚×.9˚7E±˚,h51km±8km,M4.1/7, mb4.3/3,mB5.4/1,MLv4.0/7,Mw(mB)4.8/1*
NEIC ***06*** *16:49:39.2±1.2,2˚.08N×96˚.69E,h40km±9km,mb4.1/6, Error ellipse: s-maj=15.3km s-min=5.6km az=62.0*

ISC 06 16:49:37.5±0.8,2˚.08N±0˚.09×96˚.67E±0˚.07,h28km,n46, σ1§10/41,mb4.2/15,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.47**	**313**	P		P	**Pn**	**16 49 49.0**	**+0.6**
SNSI				S		S	**Sn**	**16 49 57.8**	**+1.9**
GSI	**Gunungsitoli**	**1.19**	**131**	P		**Pb**		**16 49 59.7**	**+0.2**
GSI	**Gunungsitoli**	**1.19**	**131**	*e*Pn		**Pb**		**16 49 58.9**	**-0.6**
TSI	**Tuntungan**	**2.36**	**53**	P		Pn		**16 50 14.7**	**+0.3**
PSI	**Prapat**	**2.36**	**72**	Pn		**Pn**		**16 50 15.1**	**+0.5**
	4.0nm,0.3s,baz=267,slow=9.9,SNR=10								
PSI				LR		LR		16 51 04.2	
	comp=Z,176nm,18.9s,baz=298,slow=38								
LHMI	**Lhok Sumawe**	**3.14**	**5**	P		**Pn**		**16 50 26.1**	**+1.0**
LHMI	**Lhok Sumawe**	**3.14**	**5**	*e*Pn		**Pn**		**16 50 26.3**	**+1.1**
MNSI	**Mandailing Nat**	**3.18**	**114**	P		**Pn**		**16 50 26.8**	**+1.1**
BSI	**Banda Aceh**	**3.66**	**338**	P		**Pn**		**16 50 30.6**	**-1.7**
IPM	**Ipoh**	**4.96**	**61**	*e*Pn		**Pn**		**16 50 51.3**	**+1.1**
KULM	**Kulim**	**5.09**	**51**	*e*Pn		**Pn**		**16 50 52.6**	**+0.5**
	44nm,0.8s								
CM31	**Chiang Mai Arr**	**16.43**	**8**	*e*Pn		**P**		**16 53 28.5**	**-0.3**
	5.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**16.43**	**8**	Pn		**Pn**		**16 53 26.1**	**-0.1**
	0.3nm,0.3s,baz=197,slow=11,SNR=51								
CHTO	**Chiang Mai**	**16.78**	**7**	*e*Pn		**Pn**		**16 53 31.3**	**+0.7**
KKM	**Kota Kinabalu**	**19.89**	**78**	P		**P**		**16 54 03.0**	**-4.0**
ODAN	**Odare**	**26.20**	**341**	*e*P		**P**		**16 55 11.2**	**+0.9**
	10nm,0.6s								
TAPN	**Taplejung**	**26.55**	**342**	*e*P		**P**		**16 55 14.6**	**+1.1**
	23nm,1.0s								
JIRN	**Jiri**	**27.34**	**339**	*e*P		**P**		**16 55 20.7**	**0.0**
	16nm,0.8s								
PKIN	**Phulchoki**	**27.55**	**338**	*e*P		**P**		**16 55 22.0**	**-0.5**
GUN	**Gumba**	**27.68**	**339**	*e*P		**P**		**16 55 22.7**	**-1.0**
	12nm,0.7s								
LSA	**Lhasa**	**27.96**	**350**	*e*P		**P**		**16 55 26.7**	**+0.3**
	4.6nm,0.9s								
GKN	**Gorkha**	**28.23**	**337**	*e*P		**P**		**16 55 26.3**	**-2.1**
KOLN	**Koldanda**	**28.44**	**335**	*e*P		P		16 55 26.6	-3.7
	7.3nm,0.7s								
H01W3	**Cape Leeuwin H**	**40.26**	**158**	T		T		17 40 03.7	
	baz=334,slow=76,SNR=9.4								
H01W2	**Cape Leeuwin H**	**40.27**	**158**	T		T		17 40 00.6	
	baz=334,slow=76,SNR=10								
H01W1	**Cape Leeuwin H**	**40.27**	**158**	T		T		17 40 04.2	
	baz=334,slow=76,SNR=12								
WRA	**Warramunga Arr**	**42.95**	**122**	P		**P**		**16 57 34.6**	**+0.2**
	1.3nm,0.6s,baz=301,slow=9.1,SNR=11								
WRAB	**Tennant Creek**	**42.95**	**122**	P		**P**		**16 57 34.6**	**+0.2**
ASAR	**Alice Springs**	**44.35**	**127**	P		**P**		**16 57 46.1**	**+0.5**
	0.6nm,0.8s,baz=299,slow=7.9,SNR=11								
TKM2	**Tokmak 2**	**44.81**	**338**	*e*P		**P**		**16 57 49.1**	**-0.1**
AAK	**Ala-Archa**	**44.98**	**337**	P		**P**		**16 57 52.9**	**+2.3**
	0.7nm,0.4s,baz=208,slow=13,SNR=3.1								
AAK	**Ala-Archa**	**44.98**	**337**	P		**P**		**16 57 51.0**	**+0.3**
KSAR	**Wonju Array Be**	**45.40**	**35**	P		**P**		**16 57 54.1**	**+0.3**
KSRS	**Korea Array**	**45.43**	**35**	P		**P**		**16 57 54.1**	**+0.1**
	0.3nm,0.4s,baz=227,slow=7.7,SNR=4.2								
MKAR	**Makanchi Array**	**46.26**	**346**	P		**P**		**16 58 00.8**	**+0.3**
	3.5nm,0.7s,baz=188,slow=7.4,SNR=44								
SONM	**Songino Array**	**46.35**	**9**	P		**P**		**16 58 02.1**	**+0.9**
	2.3nm,0.8s,baz=189,slow=9.4,SNR=8.5								
ULN	**Ulaanbaatar**	**46.48**	**10**	*e*P		**P**		**16 58 02.0**	**-0.3**
	1.3nm,0.8s								
KURBB	**Kurchatov Arra**	**50.75**	**345**	P		**P**		**16 58 35.7**	**+0.8**
	2.2nm,0.7s,baz=166,slow=6.9,SNR=25								
KURK	**Kurchatov**	**50.81**	**345**	*e*P		**P**		**16 58 35.4**	**+0.1**
	5.5nm,1.3s								
ZAA0	**Zalesovo Array**	**52.61**	**351**	*e*P		**P**		**16 58 48.8**	**0.0**
ZALV	**Zalesovo Beam**	**52.61**	**351**	P		**P**		**16 58 49.1**	**+0.4**
	5.3nm,0.6s,baz=178,slow=7.4,SNR=35								
BVAR	**Borovoye Array**	**55.25**	**341**	P		**P**		**16 59 08.2**	**+0.1**
	1.2nm,0.7s,baz=138,slow=9.4,SNR=6.8								
ABKAR	**Akbulak array**	**56.49**	**332**	*e*P		**P**		**16 59 17.6**	**+0.6**
	2.3nm,0.9s								
AKTO	**Aktyubinsk**	**58.21**	**332**	P		P		16 59 33.2	+4.0
	0.8nm,0.6s,baz=101,slow=8.7,SNR=4.9								
YAK	**Yakutsk**	**64.73**	**17**	P		**P**		**17 00 12.1**	**-0.9**
	7.8nm,0.8s								
NOA	**NORSAR Array B**	**85.98**	**331**	LR		LR		17 43 55.3	
	comp=Z,11nm,19.6s,baz=80,slow=38								

IDC ***06*** *16:53:41.0±1.6,2˚.18N×96˚.86E,h0km,mb3.5/6,mb1 3.5/7, mb1mx3.3/45,mbtmp3.4/7,ML2.6/1,Error ellipse: s-maj=53.3km s-min=19.9km az=48.0*

ISC 06 16:53:46.2±1.5,2˚.4N±0˚.2×97˚.2E±0˚.2,h28km,n7,σ0§52/7, mb3.5/6,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.78**	**77**	Pn		**Pn**	**Pb**	**16 54 18.3**	**0.0**
	1.8nm,0.3s,baz=262,slow=7.8,SNR=4.9								
WRA	**Warramunga Arr**	**42.69**	**123**	P		**P**		**17 01 40.9**	**-0.1**
	0.3nm,0.5s,baz=302,slow=9.1,SNR=3.0								
ASAR	**Alice Springs**	**44.13**	**128**	P		**P**		**17 01 52.5**	**-0.1**
	0.3nm,1.0s,baz=302,slow=7.9,SNR=4.2								
MKAR	**Makanchi Array**	**46.09**	**346**	P		**P**		**17 02 06.8**	**-0.9**
	0.5nm,0.7s,baz=175,slow=6.1,SNR=6.7								
KURBB	**Kurchatov Arra**	**50.58**	**345**	P		**P**		**17 02 42.5**	**+0.2**
	0.2nm,0.4s,baz=156,slow=7.0,SNR=3.6								
ZALV	**Zalesovo Beam**	**52.38**	**351**	P		**P**		**17 02 56.0**	**+0.2**
	0.5nm,0.3s,baz=178,slow=7.4,SNR=4.3								
ARCES	**ARCESS Array B**	**81.41**	**340**	P		**P**		**17 06 00.6**	**+0.4**
	0.8nm,0.8s,baz=90,slow=5.1,SNR=5.8								

IDC 06 17:12:20.2±1.2,3˚.25N×127˚.65E,h0km,mb3.7/5, mb1 3.8/5,mb1mx3.5/24,mbtmp3.7/5,Error ellipse: s-maj=66.7km s-min=20.9km az=76.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.96**	**164**	P		P	P	17 17 36.4	-0.1
	0.3nm,0.3s,baz=343,slow=10,SNR=12								
ASAR	**Alice Springs**	**27.44**	**167**	P		P		17 18 08.3	+0.3
	0.3nm,0.6s,baz=356,slow=8.5,SNR=5.7								
STKA	**Stephens Creek**	**37.36**	**160**	P		P		17 19 34.4	-0.4
	0.9nm,0.6s,baz=340,slow=6.9,SNR=4.8								
PETK	**Petropavlovsk-**	**55.53**	**21**	P		P		17 21 56.7	-0.4
	1.2nm,0.8s,baz=191,slow=6.8,SNR=3.5								
MKAR	**Makanchi Array**	**58.47**	**325**	P		P		17 22 18.4	+0.2
	2.1nm,1.1s,baz=108,slow=9.3,SNR=6.9								

NIED ***06*** *17:14:00,43˚.50N×147˚.20E,h62km,Mw3.8 Best double couple: M0 5.55000×10^14 NP1:φ=212.00000°,δ16.00000°, λ35.00000°. NP2:φ=88.00000°,δ81.00000°,λ103.00000°.*
SKHL ***06*** *17:14:54.9±0.7,43˚.64N×147˚.37E,h76km±5km,mb4.7/3*
ISCJB ***06*** *17:14:54.8±0.6,43˚.66N±0˚.05×147˚.22E±0˚.06,h69km±4km, mb3.8/20,Error ellipse: s-maj=9.2km s-min=4.9km az=139.8*
MOS ***06*** *17:14:55.5±0.9,43˚.72N×147˚.17E,h74km,mb4.2/11,Error ellipse: s-maj=14.6km s-min=10.6km az=96.2*
JMA ***06*** *17:14:55.7±0.2,43˚.55N×147˚.18E,h43km,M4.2*
IDC ***06*** *17:14:56.7±2.9,43˚.76N×147˚.20E,h69km±25km,mb3.5/17, mb1 3.8/20,mb1mx3.7/29,mbtmp3.8/20,Error ellipse: s-maj=21.1km s-min=15.9km az=152.0*

ISC 06 17:14:55.9±0.7,43˚.65N±0˚.05×147˚.27E±0˚.05,h66km±4km, n80,σ1§11/96,mb3.8/20,2C-2D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.39**	**305**	*e*P		**P**	**Pn**	**17 15 06.9**	**-0.4**
SHO				AMB		AMB		17 15 07.1	
	280nm,0.2s								
SHO				*e*S		**Sn**		**17 15 14.7**	**-0.9**

SHO A A 17 15 15.3
4µm,0.4s
YUK Yuzh-Kuril'sk 1.09 291 *d* iPN **Pn 17 15 14.1 -1.2**
YUK *i* S **Sn 17 15 28.1 -1.7**
YUK pmax pmax
comp=Z,964nm,0.2s
YUK pmax pmax
comp=N,269nm,0.1s
YUK pmax pmax
comp=E,237nm,0.1s
YUK smax smax
comp=N,3µm,0.2s
YUK smax smax
comp=E,2µm,0.2s
YUK Yuzh-Kuril'sk 1.09 291 *i* P **Pn 17 15 14.2 -1.1**
YUK AMB AMB 17 15 15.6
comp=E,70nm,0.2s
YUK AMB AMB 17 15 15.6
comp=E,80nm,0.2s
YUK AMB AMB 17 15 15.6
comp=E,550nm,0.2s
YUK *i* S **Sn 17 15 29.2 -0.6**
YUK A A 17 15 30.6
comp=E,2µm,0.5s
YUK A A 17 15 30.6
comp=E,2µm,0.5s
NEM2 Nemuro 2 1.15 256 P **Pn 17 15 14.7 -1.3**
NEM2 *eS* **Sn 17 15 28.2 -2.9**
JRA Rausu 1.59 281 P **Pn 17 15 21.4 -0.4**
JRA *eS* **Sn 17 15 40.6 -0.8**
KUR Kuril'sk 1.64 15 ⇓ iPN **Pn 17 15 22.1 -0.5**
KUR *i* S **Sn 17 15 41.6 -1.2**
KUR pmax pmax
comp=Z,118nm,0.4s
KUR pmax pmax
comp=N,49nm,0.2s
KUR pmax pmax
comp=E,94nm,0.2s
KUR smax smax
comp=N,1µm,0.2s
KUR smax smax
comp=E,482nm,0.1s
KUR Kuril'sk 1.64 15 *i* P **Pn 17 15 22.1 -0.5**
KUR AMB AMB 17 15 26.4
comp=E,200nm,0.8s
KUR *i* S **Sn 17 15 42.0 -0.8**
KUR A A 17 15 42.7
comp=E,2µm,0.6s
KUR A A 17 15 42.7
comp=E,2µm,0.6s
JNK Nakash 1.86 269 P **Pn 17 15 24.7 -0.8**
JAK Akkeshi 1.99 252 P **Pn 17 15 26.3 -0.9**
JAK *eS* **Sn 17 15 49.1 -2.0**
JTKR Abashiri--Toko 2.46 279 P **Pn 17 15 33.9 +0.3**
JAR Ashorobuto 2.58 263 P **Pn 17 15 35.2 0.0**
JAR *eS* **Sn 17 16 04.8 -0.6**
JOB Onbets 2.62 255 P **Pn 17 15 35.5 -0.3**
JOB *eS* **Sn 17 16 05.5 -0.9**
JMP Maruseppu 2.86 279 P **Pn 17 15 39.6 +0.6**
JCH Churui 3.04 252 P **Pn 17 15 40.6 -1.0**
JCH *eS* **Sn 17 16 14.7 -2.1**
JKA Kamikawa-asahi 3.41 280 *eP* **Pn 17 15 48.0 +1.4**
ASAJ Asahikawa 3.41 280 P **Pn 17 15 48.0 +1.4**
comp=E,2.5nm,0.3s,baz=158,slow=13,SNR=14
ASAJ S Sn 17 16 33.0 +7.1
comp=E,2.4nm,0.3s,baz=223,slow=19,SNR=4.2
ERM Erimo 3.44 243 *ePN* **Pn 17 15 48.1 +1.2**
ERM Erimo 3.44 243 *eP* **Pn 17 15 48.1 +1.2**
JFR Furan 3.44 264 P **Pn 17 15 48.5 +1.4**
JNBK Urakawa-nobuka 3.59 249 P **Pn 17 15 48.5 -0.5**
JNBK *eS* **Sn 17 16 28.3 -1.8**
JSE Soyaes 3.61 293 P **Pn 17 15 50.0 +0.7**
YSS Yuzh-Sakhalins 4.59 318 ⇑ iPN **Pn 17 16 03.1 +0.4**
YSS *eS* **Sn 17 16 54.1 -0.6**
YSS smax smax
comp=E,20nm,0.9s
YSS Yuzh-Sakhalins 4.59 318 *i* P **Pn 17 16 03.1 +0.4**
YSS *eS* **Sn 17 16 54.1 -0.6**
YSS A A 17 16 56.0
comp=E,200nm,0.9s
TYV Tymovskoe 7.87 338 *eP* **Pn 17 16 48.0 +0.5**
SKR Severo-Kuril's 9.26 37 *eP* **Pn 17 17 04.0 -2.5**
HABR Khabarovsk 9.77 304 *ePN* Pn 17 17 28.9 +15
HABR pmax pmax
comp=N,28nm,1.3s
NKL Nikolayevsk 10.47 338 *eP* **Pn 17 17 23.5 +0.6**
PETK Petropavlovsk- 11.72 32 P **Pn 17 17 38.1 -2.0**
comp=N,0.4nm,0.3s,baz=199,slow=14,SNR=14
EKMR Ekimchan 13.38 320 *eP* **Pn 17 18 03.4 +0.8**
BMKR Bomnak 16.31 319 *eP* **Pn 17 18 40.0 -0.5**
SEY Seymchan 19.55 7 P **P 17 19 15.6 -2.3**
comp=N,0.2nm,0.3s,baz=190,slow=12,SNR=8.4
HHC Hu-ho-hao-te 26.46 276 *eP* **P 17 20 27.2 +0.5**
HHC pP **pP 17 20 43.8 +1.4**
HHC sP **sP 17 20 52.4 +2.2**
HHC PP **PnPn 17 21 12.6 +2.9**
HHC S **S 17 24 52.2 -3.6**
HHC sS **sS 17 25 23.6 +0.7**
HHC pmax pmax
comp=Z,24nm,0.6s
HHC pmax pmax
comp=Z,110nm,6.0s
HHC LR LR
comp=N,230nm,13.6s
HHC LR LR
comp=E,230nm,13.6s
HHC LR LR
comp=Z,160nm,14.8s
H11N2 WAKE ISLAND Hy 28.96 139 T T 17 51 38.6
baz=330,slow=76,SNR=270
H11N1 WAKE ISLAND Hy 28.98 139 T T 17 51 34.9
baz=330,slow=76,SNR=286
H11N3 WAKE ISLAND Hy 28.98 139 T T 17 51 31.6
baz=330,slow=76,SNR=306
H11S1 WAKE ISLAND Hy 29.93 141 T T 17 52 52.7
baz=331,slow=76,SNR=674
H11S3 WAKE ISLAND Hy 29.93 141 T T 17 52 46.6
baz=331,slow=76,SNR=779
H11S2 WAKE ISLAND Hy 29.95 141 T T 17 52 45.4
baz=331,slow=76,SNR=316
KDAK Kodiak Island 39.25 47 *i* P **P 17 22 17.8 +0.2**
KDAK Kodiak Island 39.25 47 *i* P **P 17 22 17.8 +0.2**
COLA College 41.10 36 *eP* **P 17 22 34.0 +1.2**
COLA College 41.10 36 *eP* **P 17 22 34.0 +1.2**
ZALV Zalesovo Beam 41.13 307 P **P 17 22 32.5 -0.7**
comp=Z,0.3nm,0.4s,baz=98,slow=10,SNR=2.6
ILAR Eielson Array 41.52 36 P **P 17 22 36.6 +0.4**
comp=Z,1.7nm,0.5s,baz=270,slow=7.3,SNR=18
ILAR Eielson Array 41.52 36 P **P 17 22 36.7 +0.4**
ILAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 44.71 298 P **P 17 23 02.4 +0.1**
comp=Z,0.6nm,0.6s,baz=78,slow=7.5,SNR=5.4
MKAR Makanchi Array 44.71 298 P **P 17 23 02.4 +0.1**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
INK Inuvik 46.45 30 P **P 17 23 16.6 +1.0**
comp=Z,2.1nm,0.3s,baz=227,slow=11,SNR=13
INK Inuvik 46.45 30 P **P 17 23 16.6 +1.0**
INK pmax pmax
comp=Z,2.0nm,0.3s
BRVK Borovoye 49.69 310 *eP* **P 17 23 39.9 -0.9**
BRVK pmax pmax
comp=Z,1.0nm,1.2s
BRVK Borovoye 49.69 310 *eP* **P 17 23 39.9 -0.9**
ARU Arti 54.48 317 *c* iP **P 17 24 16.5 +0.2**
ARU 17 26 18.0
ARU S **S 17 31 50.8 +0.8**
ARU SS **SS 17 35 32.5 -0.1**
ARU pmax pmax
comp=Z,3.0nm,1.2s
ARU Arti 54.48 317 *i* P **P 17 24 16.5 +0.2**
YKA Yellowknife Ar 55.84 34 P **P 17 24 26.7 +0.7**
comp=Z,0.7nm,0.6s,baz=298,slow=6.8,SNR=7.4
YKA Yellowknife Ar 55.84 34 P **P 17 24 26.7 +0.7**
YKA pmax pmax
comp=Z,1.0nm,0.6s
ARCES ARCESS Array B 59.38 340 P **P 17 24 50.4 -0.3**
comp=Z,2.4nm,1.0s,baz=48,slow=6.5,SNR=11
ARCES ARCESS Array B 59.38 340 *eP* **P 17 24 50.0 -0.7**
ARCES ARCESS Array B 59.38 340 *eP* **P 17 24 50.0 -0.7**
WRA Warramunga Arr 64.38 194 P **P 17 25 25.3 +0.5**
comp=Z,0.7nm,0.8s,baz=12,slow=6.7,SNR=3.2
WRA Warramunga Arr 64.38 194 P **P 17 25 25.3 +0.5**
WRA pmax pmax
comp=Z,1.0nm,0.9s
FINES FINESS Array B 65.01 333 P **P 17 25 27.2 -1.2**
comp=Z,0.9nm,0.5s,baz=48,slow=7.5,SNR=9.7
FINES FINESS Array B 65.01 333 *i* P **P 17 25 27.5 -1.0**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 65.01 333 *i* P **P 17 25 27.5 -1.0**
NVAR Mina Array Bea 67.56 53 P **P 17 25 45.4 -0.1**
comp=Z,0.4nm,0.6s,baz=290,slow=3.7,SNR=3.2
ASAR Alice Springs 68.10 193 P **P 17 25 49.8 +1.2**
comp=Z,0.2nm,0.8s,baz=12,slow=4.7,SNR=3.6
NB2 NORSAR Subarra 69.73 339 P **P 17 25 57.8 -0.6**
comp=Z,1.6nm,0.4s,baz=31,slow=6.5
NOA NORSAR Array B 69.73 339 P **P 17 25 58.0 -0.4**
comp=Z,1.6nm,0.4s,baz=33,slow=6.5,SNR=15
NOA NORSAR Array B 69.73 339 P **P 17 25 58.0 -0.4**
NOA pmax pmax
comp=Z,2.0nm,0.4s
NOA NORSAR Array B 69.73 339 *eP* **P 17 25 58.0 -0.4**
PDAR Pinedale Array 69.91 50 P **P 17 26 00.1 +0.1**
comp=Z,0.2nm,0.4s,baz=354,slow=1.8,SNR=2.8
KBZ Khabaz 69.94 312 P **P 17 26 00.7 +0.8**
comp=Z,0.5nm,0.4s,baz=56,slow=24,SNR=3.5
KBZ Khabaz 69.94 312 P **P 17 26 00.7 +0.8**
KBZ pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 71.72 324 P **P 17 26 10.1 -0.5**
comp=Z,1.5nm,0.6s,baz=39,slow=5.7,SNR=4.9
AKASG Malin Array Be 71.72 324 *i* P **P 17 26 10.1 -0.5**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
KIEV Kiev 71.73 324 *eP* **P 17 26 11.5 +0.9**
BRTR Keskin Array B 77.68 314 P **P 17 26 45.2 -0.3**
comp=Z,0.4nm,0.5s,baz=102,slow=5.0,SNR=3.2
GERES GERESS Array B 79.29 331 P **P 17 26 54.1 0.0**
comp=Z,0.3nm,0.4s,baz=46,slow=7.0,SNR=3.4
TXAR Lajitas Array 82.63 56 P **P 17 27 13.0 +0.8**
comp=Z,0.2nm,0.6s,baz=282,slow=3.2,SNR=4.7
TXAR pP **pP 17 27 29.7 -0.6**
comp=Z,0.7nm,0.6s,baz=306,slow=4.1,SNR=9.2
TXAR Lajitas Array 82.63 56 P **P 17 27 13.0 +0.8**
TXAR *PP **pP 17 27 29.7 -0.6**
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR Lajitas Array 82.63 56 *eP* **P 17 27 13.0 +0.8**

MOS ***06*** *17:17:40.6±0.8,55.85N×110.75E,h12km,mb4.4/1, Error ellipse: s-maj=14.2km s-min=8.7km az=68.9*
BYKL ***06*** *17:17:41.9±0.2,55.85N×110.75E,h17km±3km*
ISC 06 17:17:41.5±1.0,55.85N±0.03×110.73E±0.02,h12km±8km, n44,σ1.9s94/86,6C-6D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMO	**Kumora**	**0.27**	**83**	*i*	iPg	**Pg**	**Pg**	**17 17 47.5**	**+0.4**
KMO					*e*Sg	**Sg**	**Sg**	**17 17 51.6**	**+0.8**
KMO					Pmax				
	393nm,0.1s								
KMO					Smax				
	2µm,0.2s								
YOA	**Uoyan**	**0.62**	**63**	⇑ *i*	iPg	**Pg**	**Pg**	**17 17 53.5**	**-0.2**
YOA					*e*Sg	**Sb**	**Sb**	**17 18 02.8**	**-0.3**
YOA					*e*Sb	**Sn**	**Sn**	**17 18 05.9**	**-0.3**
YOA					Pmax				
	444nm,0.2s								
YOA					max				
	8µm,0.2s								
YOA	**Uoyan**	**0.62**	**63**	⇓ *i*	PG	**Pg**	**Pg**	**17 17 53.6**	**-0.2**
YOA					*i*			17 18 03.4	
YOA					pmax	pmax			
	comp=Z,502nm,0.1s								
YOA					smax	smax			
	comp=N,8µm,0.3s								
NIZ	**Nizh Angarsk**	**0.68**	**264**	⇓ *i*	iPg	**Pg**	**Pg**	**17 17 55.0**	**+0.4**
NIZ					*e*Sg	**Sb**	**Sb**	**17 18 04.9**	**+0.4**
NIZ					Pmax				
	comp=N,44nm,0.1s								
NIZ					Smax				
	comp=N,659nm,0.3s								
NIZ	**Nizh Angarsk**	**0.68**	**264**	*e*	PG	**Pg**	**Pg**	**17 17 55.0**	**+0.4**
NIZ					*e*			17 18 04.9	
NIZ					pmax	pmax			
	comp=Z,51nm,0.3s								
NIZ					smax	smax			
	comp=N,572nm,0.2s								
YLYR	**Ulyunkhan**	**1.01**	**166**	⇑ *i*	iPg	**Pb**	**Pb**	**17 18 00.3**	**-0.7**
YLYR					*e*Sg	**Sg**	**Sg**	**17 18 14.4**	**+0.2**
YLYR					*e*Sb	**Sn**	**Sn**	**17 18 18.5**	**+2.8**
YLYR					Pmax				
	comp=N,298nm,0.3s								
YLYR					max				
	comp=N,787nm,0.3s								
YLYR	**Ulyunkhan**	**1.01**	**166**	⇑ *i*	PG	**Pb**	**Pb**	**17 18 00.3**	**-0.7**
YLYR					*e*			17 18 13.4	
YLYR					pmax	pmax			
	comp=Z,299nm,0.2s								
YLYR					smax	smax			
	comp=E,794nm,0.3s								
SVKR	**Severomuysk**	**1.61**	**79**	⇓ *i*	iPg	**Pb**	**Pb**	**17 18 10.6**	**-0.6**
SVKR					*e*Sg	**Sg**	**Sg**	**17 18 33.0**	**-0.4**
SVKR					Pmax				
	comp=E,670nm,0.4s								
SVKR					Smax				
	comp=E,2µm,0.3s								
SVKR	**Severomuysk**	**1.61**	**79**	*e*	PN	**Pb**	**Pb**	**17 18 10.6**	**-0.6**
SVKR					*e*			17 18 33.3	
SVKR					pmax	pmax			
	comp=Z,669nm,0.4s								
SVKR					smax	smax			
	comp=N,2µm,0.8s								
UKT	**Uakit**	**1.68**	**101**	⇓ *i*	iPg	**Pb**	**Pb**	**17 18 11.6**	**-0.9**
UKT					*e*Sg	**Sb**	**Sb**	**17 18 34.0**	**+0.4**
UKT					Pmax				
	comp=N,85nm,0.1s								
UKT					Smax				
	comp=N,657nm,0.1s								
UKT	**Uakit**	**1.68**	**101**	*e*	PN	**Pb**	**Pb**	**17 18 11.6**	**-0.9**
UKT					*e*			17 18 32.1	
UKT					pmax	pmax			
	comp=Z,54nm,0.2s								
UKT					smax	smax			
	comp=N,659nm,0.1s								
SYVR	**Suvo**	**2.24**	**191**	*e*	Pn	**Pn**	**Pn**	**17 18 19.1**	**+0.6**
SYVR					*e*Pg	**Pb**	**Pb**	**17 18 21.7**	**-0.2**
SYVR					*e*			17 18 27.4	
SYVR					*e*Sg	**Sb**	**Sb**	**17 18 51.2**	**+1.6**
SYVR					max				
	comp=N,103nm,0.6s								
SYVR					Smax				
	comp=N,308nm,1.0s								
SYVR	**Suvo**	**2.24**	**191**	*e*	PN	**Pn**	**Pn**	**17 18 19.0**	**+0.6**
SYVR					*e*			17 18 21.6	
SYVR					*e*			17 18 51.3	
SYVR					pmax	pmax			
	comp=Z,107nm,0.5s								
SYVR					smax	smax			
	comp=E,311nm,0.8s								
BOD	**Bodaibo**	**2.67**	**41**	*e*	Pn	**Pn**	**Pn**	**17 18 24.8**	**+0.5**
BOD					*e*Pg	**Pb**	**Pb**	**17 18 28.8**	**-0.4**
BOD					*e*Sn	**Sn**	**Sn**	**17 18 56.4**	**-0.1**
BOD					*e*Sg	**Sb**	**Sb**	**17 19 02.8**	**+1.0**
BOD					Pmax				
	comp=E,30nm,0.2s								
BOD					Smax				
	comp=E,315nm,0.3s								
BOD	**Bodaibo**	**2.67**	**41**	*e*	PN	**Pn**	**Pn**	**17 18 24.0**	**-0.3**
BOD					*e*			17 18 28.5	
MXMB	**Maximikha**	**2.84**	**205**	*e*	Pn	**Pn**	**Pn**	**17 18 27.9**	**+1.2**
MXMB					*e*Pg	**Pb**	**Pb**	**17 18 32.5**	**+0.3**
MXMB					*e*Sg	**Sg**	**Sg**	**17 19 11.1**	**-1.7**
MXMB					Pmax				
	comp=E,63nm,0.3s								
MXMB					Smax				
	comp=E,624nm,0.7s								
NLYR	**Nelyaty**	**2.85**	**75**	⇓ *i*	Pn	**Pn**	**Pn**	**17 18 27.2**	**+0.3**
NLYR					*e*Pg	**Pb**	**Pb**	**17 18 33.9**	**+1.5**
NLYR					*e*PgPg	**Pg**	**Pg**	**17 18 36.5**	**+0.3**
NLYR					*e*Sg	**Sb**	**Sb**	**17 19 10.0**	**+2.8**
NLYR					max				
	comp=E,75nm,0.6s								
NLYR					Smax				
	comp=E,284nm,0.7s								
NLYR	**Nelyaty**	**2.85**	**75**	*e*	PN	**Pn**	**Pn**	**17 18 27.2**	**+0.3**
NLYR					*e*			17 18 33.3	
NLYR					*e*			17 19 09.1	
NLYR					pmax	pmax			
	comp=Z,75nm,0.7s								
NLYR					smax	smax			
	comp=N,284nm,0.8s								
OGRR	**Ongureny**	**2.87**	**221**	⇑ *i*	Pn	**Pn**	**Pn**	**17 18 28.0**	**+0.9**
OGRR					*e*Pg	**Pb**	**Pb**	**17 18 33.6**	**+1.0**
OGRR					*e*Sg	**Sb**	**Sb**	**17 19 10.3**	**+2.8**
OGRR					Pmax				
	comp=N,41nm,0.2s								
OGRR					Smax				
	comp=N,223nm,0.3s								
OGRR	**Ongureny**	**2.87**	**221**	*e*	PN	**Pn**	**Pn**	**17 18 27.9**	**+0.9**
OGRR					*e*			17 18 33.4	
OGRR					*e*			17 19 10.8	
OGRR					pmax	pmax			
	comp=Z,41nm,0.3s								
OGRR					smax	smax			
	comp=E,308nm,0.9s								
VTMR	**Vitim**	**3.73**	**14**	*e*	Pn	**Pn**	**Pn**	**17 18 38.7**	**-0.1**
VTMR					*e*Pg	**Pb**	**Pb**	**17 18 48.6**	**+1.4**
VTMR					*e*Sn	**Sn**	**Sn**	**17 19 22.2**	**-0.4**
VTMR					*e*Sg	**Sg**	**Sg**	**17 19 37.6**	**-3.5**
ZRHB	**Zarechye**	**3.92**	**214**	*e*	Pn	**Pn**	**Pn**	**17 18 42.8**	**+1.3**
ZRHB					*e*Pg	**Pb**	**Pb**	**17 18 51.7**	**+1.2**
ZRHB					*e*Sg	**Sg**	**Sg**	**17 19 43.7**	**-3.5**
ZRHB					Pmax				
	comp=E,50nm,0.4s								
ZRHB					Smax				
	comp=E,390nm,0.8s								
TRG	**Tyrgan**	**4.02**	**221**	⇑ *i*	Pn	**Pn**	**Pn**	**17 18 43.8**	**+0.8**
TRG					*e*Pg	**Pb**	**Pb**	**17 18 53.1**	**+0.8**
TRG					*e*Sn	**Sn**	**Sn**	**17 19 28.9**	**-1.1**
TRG					*e*Sg	**Sb**	**Sb**	**17 19 45.8**	**+4.9**
TRG					Pmax				
	comp=E,14nm,0.3s								
TRG					Smax				
	comp=E,111nm,0.4s								
TRG	**Tyrgan**	**4.02**	**221**	*e*	PN	**Pn**	**Pn**	**17 18 43.7**	**+0.8**
TRG					*e*			17 18 53.9	
TRG					*e*S	**Sn**	**Sn**	**17 19 30.6**	**+0.6**
TRG					*e*			17 19 45.9	
TRG					pmax	pmax			
	comp=Z,15nm,0.4s								
TRG					smax	smax			
	comp=E,114nm,0.4s								
CIT	**Chita**	**4.19**	**155**	*e*	Sg	**Sg**	**Sg**	**17 19 51.5**	**-4.4**
CIT					Smax				
	comp=E,101nm,0.2s								
CIT	**Chita**	**4.19**	**155**	*e*	PN	**Pn**	**Pn**	**17 18 46.3**	**+1.1**
CIT					*e*			17 18 56.7	
CIT					*e*S	**Sn**	**Sn**	**17 19 35.0**	**+0.9**
CIT					*e*			17 19 51.4	
CIT					pmax	pmax			
	comp=Z,28nm,0.5s								
CIT					smax	smax			
	comp=E,142nm,1.1s								
CRS	**Chara**	**4.32**	**73**	*e*	PN	**Pn**	**Pn**	**17 18 47.4**	**+0.4**
CRS					*e*			17 19 00.0	
CRS					*e*			17 19 55.1	
CRS					pmax	pmax			
	comp=Z,34nm,0.4s								
CRS					smax	smax			
	comp=E,122nm,0.5s								
UUDB	**Ulan-Yde**	**4.39**	**206**	*e*	Pn	**Pn**	**Pn**	**17 18 49.4**	**+1.5**
UUDB					*e*Pg	**Pb**	**Pb**	**17 19 00.0**	**+1.5**
UUDB					*e*Sg	**Sg**	**Sg**	**17 19 57.8**	**-4.5**
UUDB					Pmax				
	comp=E,28nm,0.7s								
UUDB					Smax				
	comp=E,138nm,1.2s								
KAB	**Kabansk**	**4.51**	**214**	*e*	Sn	**Sn**	**Sn**	**17 19 40.2**	**-1.7**
KAB					*e*Sg	**Sg**	**Sg**	**17 20 01.0**	**-5.1**
KAB					Smax				
	comp=E,249nm,0.7s								
KAB	**Kabansk**	**4.51**	**214**	*e*	PN	**Pb**	**Pb**	**17 19 03.0**	**+2.5**
KAB					*e*			17 20 02.7	
KAB					pmax	pmax			
	comp=Z,30nm,0.4s								
KAB					smax	smax			
	comp=E,244nm,1.6s								
HRMR	**Khuramsha**	**4.79**	**209**	⇑ *i*	Pn	**Pn**	**Pn**	**17 18 54.4**	**+0.9**
HRMR					*e*Pg	**Pb**	**Pb**	**17 19 08.1**	**+2.7**
HRMR					*e*Sg	**Sg**	**Sg**	**17 20 10.2**	**-5.0**
HRMR					Pmax				
	comp=E,36nm,0.5s								
HRMR					Smax				
	comp=E,260nm,0.5s								
IRK	**Irkutsk**	**5.25**	**229**	*e*	Pg	**Pb**	**Pb**	**17 19 15.8**	**+2.6**
IRK					*e*Sn	**Sn**	**Sn**	**17 19 59.0**	**-1.1**
IRK					*e*Sg	**Sg**	**Sg**	**17 20 24.9**	**-5.0**
IRK					Pmax				
	comp=E,46nm,0.1s								
IRK					Smax				
	comp=E,167nm,0.4s								
TUP	**Tupik**	**5.48**	**101**	*i*	Pn	**Pn**	**Pn**	**17 19 02.8**	**-0.2**
TUP					*e*Sg	Sg	Sg	17 20 30.8	-6.6
TUP					Smax				
	comp=E,106nm,0.7s								
TUP	**Tupik**	**5.48**	**101**	*e*	PN	**Pn**	**Pn**	**17 19 02.6**	**-0.4**
TUP					*e*			17 19 18.7	
TUP					*e*S	**Sn**	**Sn**	**17 20 04.7**	**-1.2**
TUP					*e*			17 20 29.5	
TUP					pmax	pmax			
	comp=Z,2.0nm,0.6s								
TUP					smax	smax			
	comp=N,106nm,1.0s								
TLY	**Talaya**	**5.92**	**228**	*e*	PN	Pb		17 19 28.5	+3.8
TLY					*e*S	**Sn**	**Sn**	**17 20 16.4**	**-0.4**
TLY					*e*			17 20 43.2	
TLY					pmax	pmax			
	comp=Z,4.0nm,0.3s								
TLY					smax	smax			
	comp=E,57nm,1.0s								
KPC	**Khapcheranga**	**6.24**	**170**	*e*	Pn	**Pn**	**Pn**	**17 19 13.2**	**-0.3**
KPC					*e*Pg	**Pb**	**Pb**	**17 19 32.6**	**+2.5**
KPC					*e*Sg	Sg	Sg	17 20 54.6	-7.1
KPC					Pmax				
	comp=E,7.0nm,0.5s								
KPC					Smax				
	comp=E,50nm,1.3s								
KPC	**Khapcheranga**	**6.24**	**170**	*e*	PN	**Pn**	**Pn**	**17 19 13.4**	**-0.1**
KPC					*e*			17 19 32.7	
KPC					*e*			17 20 56.6	
KPC					pmax	pmax			
	comp=Z,12nm,0.7s								
KPC					smax	smax			
	comp=E,47nm,1.3s								
ARS	**Arshan**	**6.29**	**235**	*e*	Pn	**Pn**	**Pn**	**17 19 14.8**	**+0.6**
ARS					*e*Sn	**Sn**	**Sn**	**17 20 22.7**	**-3.3**
ARS					*e*Sg	Sg	Sg	17 20 56.1	-7.3
ARS					Smax				
	comp=E,197nm,0.9s								
ARS	**Arshan**	**6.29**	**235**	*e*	PN	**Pn**	**Pn**	**17 19 15.4**	**+1.2**
ARS					*e*			17 19 35.8	
ARS					*e*S	**Sn**	**Sn**	**17 20 23.6**	**-2.4**
ARS					*e*			17 20 57.7	
ARS					pmax	pmax			
	comp=Z,12nm,0.5s								
ARS					smax	smax			
	comp=E,196nm,0.9s								
ZAK	**Zakamensk**	**7.08**	**222**	*e*	Pn	**Pn**	**Pn**	**17 19 25.4**	**+0.5**
ZAK					*e*Pg	Pb		17 19 48.5	+4.1
ZAK					*e*Sg	Sg	Sg	17 21 20.2	-8.3
ZAK					Pmax				
	comp=E,3.0nm,0.4s								
ZAK					Smax				
	comp=E,38nm,1.2s								
ZAK	**Zakamensk**	**7.08**	**222**	*e*	PG	Pb		17 19 47.8	+3.4
ZAK					*e*S	Sb		17 21 17.9	+9.2
ZAK					pmax	pmax			
	comp=Z,3.0nm,0.4s								
ZAK					smax	smax			
	comp=N,38nm,1.2s								
MOY	**Mondy**	**7.13**	**238**	*e*	Pn	**Pn**	**Pn**	**17 19 27.4**	**+1.7**
MOY					*e*			17 19 32.0	
MOY					*e*Sn	**Sn**	**Sn**	**17 20 43.0**	**-3.7**
MOY					*e*Sg	Sg	Sg	17 21 23.1	-7.2
MOY					Smax				
	comp=N,85nm,1.8s								
MOY	**Mondy**	**7.13**	**238**	*e*	PN	**Pn**	**Pn**	**17 19 28.0**	**+2.3**
MOY					*e*			17 19 50.4	
MOY					*e*			17 21 20.3	
MOY					pmax	pmax			

comp=Z,8.0nm,0.5s
MOY smax smax
comp=E,2µm,1.2s
ORL Orlik 7.21 247 *e*Pn **Pn 17 19 28.7 +1.9**
ORL *e* 17 19 32.8
ORL *e*Sn **Sn 17 20 45.8 -2.9**
ORL *e*Sg Sg 17 21 26.1 -6.8
ORL Smax
comp=E,43nm,1.3s

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*ISCJB **06** 17:31:33.8±0.5, 32°39'N±0'.03×115°38'W±0'.04, h22km±4km, Error ellipse: s-maj=6.1km s-min=5.2km az=40.7*
*NEIC **06** 17:31:34.5, 32°32'N×115°43'W, h3km, ML3.0(PAS), After PAS.*
*ECX **06** 17:31:35.4±0.7, 32°35'N×115°44'W, h4km, MD2.9, ML3.1*
*MEX **06** 17:31:36.2±0.3, 32°45'N×115°30'W, h21km±27km, MD3.6*

ISC 06 17:31:33.9±0.9, **32°35'N**±0'.03×**115°42'W**±0'.03, **h18**km±5km, **n25**, σ0**°60**/35, **3C-3D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.12**	**55**	*e*P	**Pg**	**17 31 37.7**	**-0.1**
CPBX				*e*S	**Sg**	**17 31 40.3**	**-0.1**
CPBX				AML	AML	17 31 43.5	
	comp=E,30µm,0.2s						
CPBX				⇓*e*		17 31 43.5	
MBIG	**Mexicali**	**0.20**	**73**	*e*P	**Pg**	**17 31 39.2**	**+0.5**
MBIG				*e*S	**Sg**	**17 31 41.6**	**-0.5**
SGL	**Mount Signal**	**0.39**	**320**	⇓*i*P	**Pg**	**17 31 42.2**	**+0.2**
WESC	**Westside Schoo**	**0.49**	**328**	*e*P	**Pg**	**17 31 44.3**	**+0.6**
YUH	**Yuha Desert**	**0.52**	**305**	⇑*i*P	**Pg**	**17 31 44.2**	**-0.1**
EMSC	**East Mesa**	**0.54**	**43**	*e*P2	**Pg**	**17 31 45.7**	**+1.0**
COK	**Cook Ranch**	**0.56**	**333**	*e*P2	**Pg**	**17 31 45.8**	**+0.7**
COA	**Coachella**	**0.57**	**26**	*e*P2	**Pg**	**17 31 46.1**	**+0.7**
RDX	**Rancho Dawling**	**0.61**	**227**	*e*P	**Pg**	**17 31 46.2**	**+0.2**
RDX				*e*S	**Sg**	**17 31 54.3**	**+0.1**
RDX				⇑*e*		17 31 57.8	
RDX				AML	AML	17 31 57.8	
	comp=N,598nm,0.4s						
RMX	**La Rumorosa**	**0.61**	**295**	*e*P	**Pg**	**17 31 45.9**	**-0.1**
RMX				*e*S	**Sg**	**17 31 54.1**	**-0.1**
RMX				AML	AML	17 31 54.7	
	comp=N,706nm,0.2s						
RMX				⇓*e*		17 31 54.7	
ECBX	**El Chinero**	**0.93**	**160**	*e*P9	**Pg**	**17 31 51.3**	**-0.6**
ECBX				*e*S	**Sb**	**17 32 03.9**	**+0.4**
ECBX				⇑*e*		17 32 05.8	
ECBX				AML	AML	17 32 05.8	
	comp=E,546nm,0.2s						
CBX	**Cerro Bola**	**1.05**	**268**	*e*P	**Pb**	**17 31 54.1**	**+0.5**
CBX				*i* S	**Sb**	**17 32 07.9**	**+0.8**
CBX	**Cerro Bola**	**1.05**	**268**	*e*P	**Pb**	**17 31 54.1**	**+0.5**
CBX				*i* S	**Sb**	**17 32 07.9**	**+0.8**
CBX	**Cerro Bola**	**1.05**	**268**	*e*P	**Pb**	**17 31 54.0**	**+0.3**
CBX				*e*S	**Sb**	**17 32 07.7**	**+0.6**
ZAX	**El Zacaton**	**1.10**	**221**	*e*P	**Pb**	**17 31 54.6**	**+0.1**
ZAX				*e*S	**Sb**	**17 32 09.3**	**+0.7**
BAR	**Barrett**	**1.11**	**288**	*e*P	**Pb**	**17 31 54.7**	**+0.1**
ECNX	**Esteban Cantu**	**1.21**	**236**	*e*P	**Pb**	**17 31 57.0**	**+0.6**
PBX	**Punta Banda**	**1.26**	**242**	*e*P	**Pb**	**17 31 57.7**	**+0.5**
SPIG	**San Pedro Mart**	**1.30**	**182**	*e*P	**Pn**	**17 31 57.6**	**+0.1**
SPIG	**San Pedro Mart**	**1.30**	**182**	*e*P	**Pn**	**17 31 57.6**	**+0.1**
SPX	**San Pedro Mart**	**1.30**	**182**	*e*P	**Pn**	**17 31 57.6**	**+0.1**
SPX	**San Pedro Mart**	**1.30**	**182**	*e*P	**Pn**	**17 31 57.7**	**+0.1**
PFO	**Pinyon Flats O**	**1.53**	**326**	*e*Pn	**Pn**	**17 31 59.5**	**-1.0**
PFO				*e*Sn	**Sn**	**17 32 18.2**	**-1.8**
214A	**Organ Pipe Nat**	**2.25**	**99**	*e*Pn	**Pn**	**17 32 10.0**	**-0.3**
214A				*e*Sn	**Sg**	**17 32 45.9**	**-0.4**
GSC	**Goldstone, Bar**	**3.16**	**339**	*e*Pg	Pg	17 32 38.2	+3.7

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*ISCJB **06** 17:33:35.7±0.7, 32°37'N±0'.04×115°39'W±0'.05, h15km±9km, Error ellipse: s-maj=8.1km s-min=5.8km az=32.9*
*ECX **06** 17:33:36.6±0.5, 32°37'N×115°40'W, h4km, MD2.8, ML3.0*
*MEX **06** 17:33:38.0±0.4, 32°44'N×115°33'W, h17km±24km, MD3.5*

ISC 06 17:33:35.2±0.9, **32°35'N**±0'.04×**115°39W**±0'.03, **h13**km±8km, **n15**, σ0**°38**/22, **7D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.10**	**49**	*e*P	**Pg**	**17 33 38.4**	**+0.2**
CPBX				*e*S	**Sg**	**17 33 40.0**	**-0.4**
CPBX				AML	AML	17 33 43.5	
	comp=N,24µm,0.3s						
CPBX				⇓*e*		17 33 43.5	
MBIG	**Mexicali**	**0.17**	**71**	*e*P	**Pb**	**17 33 40.9**	**+0.6**
MBIG				*e*S	**Sb**	**17 33 43.3**	**-0.4**
SGL	**Mount Signal**	**0.41**	**317**	⇓*i*P	**Pb**	**17 33 44.1**	**-0.1**
YUH	**Yuha Desert**	**0.54**	**304**	⇓*i*P	**Pb**	**17 33 46.0**	**-0.4**
RDX	**Rancho Dawling**	**0.63**	**228**	*e*P	**Pg**	**17 33 47.8**	**+0.3**
RDX				*e*S	**Sb**	**17 33 57.1**	**+0.3**
RDX				AML	AML	17 33 59.0	
	comp=N,414nm,0.4s						
RDX				⇓*e*		17 33 59.0	
RMX	**La Rumorosa**	**0.63**	**294**	*e*P	**Pg**	**17 33 47.8**	**+0.2**
RMX				*e*S	**Sg**	**17 33 56.0**	**+0.1**
RMX				AML	AML	17 33 56.4	
	comp=N,889nm,0.2s						
RMX				⇓*e*		17 33 56.4	
ECBX	**El Chinero**	**0.92**	**161**	*e*P9	**Pg**	**17 33 52.2**	**-0.8**
ECBX				*e*S	**Sg**	**17 34 05.2**	**+0.1**
CBX	**Cerro Bola**	**1.07**	**268**	*e*P	**Pb**	**17 33 55.6**	**-0.1**
CBX				*e*S	**Sb**	**17 34 09.0**	**-0.7**
CBX	**Cerro Bola**	**1.07**	**268**	*e*P	**Pb**	**17 33 55.7**	**0.0**
CBX				⇓*e*		17 34 10.5	
CBX				AML	AML	17 34 10.5	
	comp=N,705nm,0.5s						
ZAX	**El Zacaton**	**1.12**	**222**	*e*P	**Pb**	**17 33 56.6**	**+0.2**
ZAX				*e*S	**Sb**	**17 34 11.5**	**+0.5**
ZAX				⇓*e*		17 34 15.0	
ZAX				AML	AML	17 34 15.0	
	comp=N,306nm,0.3s						
BAR	**Barrett**	**1.13**	**287**	*e*P	**Pb**	**17 33 56.5**	**-0.1**
ECNX	**Esteban Cantu**	**1.23**	**236**	*e*P	**Pn**	**17 33 58.3**	**+0.2**
PBX	**Punta Banda**	**1.28**	**242**	*e*P	**Pb**	**17 33 59.2**	**0.0**
SPIG	**San Pedro Mart**	**1.30**	**183**	*e*P	**Pn**	**17 33 59.2**	**-0.1**
SPX	**San Pedro Mart**	**1.30**	**183**	*e*P	**Pn**	**17 33 59.5**	**+0.1**

MEX 06 18:03:56.8±1.1, **16°67N×95°10W, h85**km±16km, **MD3.8, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.46**	**26**	*i* P	Pn	18 04 09.0	-1.8
CMIG				*i* S	Sn	18 04 19.4	-1.7
HUIG	**Huatulco**	**1.32**	**227**	*e*P	Pn	18 04 17.7	-2.4
HUIG				*e*S	Sn	18 04 36.5	-1.2
VHO	**Vista Hermosa**	**1.62**	**284**	*e*P	Pn	18 04 23.2	-0.8
VHO				*e*S	Sn	18 04 43.5	-1.3
PCIG		**2.04**	**118**	*e*P	Pn	18 04 28.4	-1.1
PCIG				*e*S	Sn	18 04 53.5	-0.9

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*ISCJB **06** 18:04:25.4±0.2, 43°70N±0'.01×105°33W±0'.02, h0km, mb4.1/3, MS3.8/1, Error ellipse: s-maj=1.9km s-min=1.7km az=6.3*
*IDC **06** 18:04:25.5±1.2, 43°84N×105°55W, h0km, mb3.9/3, mb1 3.8/8, mb1mx3.5/31, mbtmp3.7/8, ML3.5/5, MS3.1/5, Ms1 3.1/5, ms1mx2.7/45, Error ellipse: s-maj=26.7km s-min=7.8km az=150.0*
*NEIC **06** 18:04:33.7±0.8, 43°31N×105°91W, h0km, ML2.9, Error ellipse: s-maj=9.8km s-min=8.0km az=100.0, Suspected Mining explosion.*
NEIC 30 km [20 miles] ESE of Midwest.

ISC 06 18:04:25.7±0.6, **43°68N**±0'.02×**105°35W**±0'.02, **h0**km, **n109**, σ1**°00**/121, **mb4.1/3, 45C-43D, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G** baz=0.3,SNR=191	**0.29**	**343**	⇓P	**Pg**	**18 04 31.7**	**+0.5**
J23A	**Dilts Ranch, B** baz=0.3,SNR=216	**0.32**	**208**	P	**Pg**	**18 04 32.2**	**+0.5**
I24A	**Kuemmerle Ranc** baz=0.5,SNR=268	**0.55**	**71**	P	**Pg**	**18 04 35.8**	**-0.5**
J24A	**Dixon Ranch, L** baz=0.6,SNR=110	**0.61**	**125**	P	**Pg**	**18 04 36.8**	**-0.6**
I22A	**9 Mile Ranch,** baz=0.9,SNR=279	**0.85**	**285**	P	**Pg**	**18 04 41.9**	**-0.1**
J22A	**Midwest** baz=0.9,SNR=126	**0.86**	**252**	P	**Pg**	**18 04 41.9**	**-0.4**
H23A	**Clabaugh Cattl** baz=0.9,SNR=39	**0.88**	**358**	⇑P	**Pg**	**18 04 41.7**	**-0.8**
K24A	**Anderson Ranch** baz=1.0,SNR=375	**1.04**	**158**	⇓P	**Pg**	**18 04 44.6**	**-0.9**
J25A	**Sunshine Ranch** baz=1.1,SNR=148	**1.16**	**104**	P	**Pg**	**18 04 46.7**	**-1.2**
H22A	**Clearmont** baz=1.2,SNR=26	**1.16**	**322**	⇓P	**Pg**	**18 04 47.4**	**-0.5**
H24A	**Dirks Ranch, A** baz=1.2,SNR=202	**1.21**	**28**	⇑P	**Pg**	**18 04 47.1**	**-1.7**
I25A	**Rochford** baz=1.2,SNR=192	**1.22**	**73**	⇑P	Pg	18 04 47.4	-1.6
K22A	**Casper**	**1.34**	**220**	*e*Pg	**Pg**	**18 04 49.6**	**-1.8**
K22A	**Casper** baz=1.4	**1.34**	**220**	⇓P	**Pg**	**18 04 50.3**	**-1.1**
K22A	baz=1.4			⇑S	**Sn**	**18 05 10.3**	**-0.2**
I21A	**Big Trails, Te** baz=1.4	**1.41**	**276**	⇓P	**Pg**	**18 04 50.9**	**-1.8**
G23A	**Biddle** baz=1.5,SNR=49	**1.52**	**359**	⇓P	**Pn**	**18 04 53.0**	**-1.2**
G23A	baz=1.5			⇑S	**Sn**	**18 05 14.7**	**0.0**
K25A	**Mack Ranch, Ha** baz=1.5,SNR=108	**1.52**	**134**	⇑P	**Pn**	**18 04 53.6**	**-0.6**
H21A	**Big Horn, Sher** baz=1.5,SNR=80	**1.54**	**308**	⇑P	**Pn**	**18 04 54.1**	**-0.4**
H21A	baz=1.5			⇑S	**Sn**	**18 05 15.7**	**+0.4**
J21A	**Lysite** baz=1.6,SNR=26	**1.56**	**258**	⇓P	**Pn**	**18 04 53.8**	**-1.0**
J21A	baz=1.6			⇑S	**Sn**	**18 05 16.2**	**+0.3**
H25A	**Fruitdale** baz=1.6,SNR=35	**1.57**	**53**	⇓P	**Pn**	**18 04 54.0**	**-0.9**
H25A	baz=1.6			⇓S	**Sn**	**18 05 15.4**	**-0.6**
L23A	**Garrett** baz=1.6,SNR=140	**1.59**	**190**	P	**Pn**	**18 04 54.4**	**-0.9**
L23A	baz=1.6			⇑S	**Sg**	**18 05 16.8**	**+0.2**
L24A	**Wheatland** baz=1.7,SNR=18	**1.67**	**169**	⇑P	**Pn**	**18 04 55.7**	**-0.6**
G22A	**Birney** baz=1.7,SNR=39	**1.68**	**337**	⇓P	**Pn**	**18 04 56.2**	**-0.2**
J26A	**Sides Ranch, S** baz=1.7,SNR=60	**1.69**	**102**	⇑P	**Pn**	**18 04 56.1**	**-0.5**
K21A	**Alcova** baz=1.8,SNR=103	**1.74**	**234**	⇑P	**Pn**	**18 04 57.4**	**0.0**
K21A	baz=1.8			⇓S	**Sg**	**18 05 21.0**	**-0.6**
G24A	**Alzada** baz=1.8,SNR=46	**1.77**	**22**	⇑P	**Pn**	**18 04 57.5**	**-0.3**
L22A	**Ellis Ranch, M** baz=1.8,SNR=7.3	**1.83**	**206**	⇑P	**Pn**	**18 04 58.7**	**+0.1**
L22A	baz=1.8			⇓S	**Sb**	**18 05 23.3**	**-0.5**
I26A	**New Underwood** baz=1.8,SNR=46	**1.83**	**78**	⇑P	**Pn**	**18 04 58.4**	**-0.1**
L25A	**Engetsen Ra** baz=1.8,SNR=17	**1.83**	**146**	⇓P	**Pn**	**18 04 58.8**	**+0.3**
L25A	baz=1.8			⇑Sb	**Sb**	**18 05 24.7**	**+1.0**
K26A	**Motz Farm, Whi** baz=1.9,SNR=36	**1.87**	**121**	⇑P	**Pn**	**18 04 58.9**	**0.0**
K26A	baz=1.9			⇓Sb	**Sn**	**18 05 25.1**	**+1.9**
J20A	**Shoshoni** baz=2.0,SNR=37	**2.02**	**262**	Pb	**Pb**	**18 05 02.9**	**-0.4**
J20A	baz=2.0			⇑Sb	**Sg**	**18 05 30.9**	**+0.5**
I20A	**Worland** baz=2.0,SNR=206	**2.03**	**279**	P	**Pn**	**18 05 01.9**	**+0.6**
I20A	baz=2.0			⇑Sb	**Sg**	**18 05 30.4**	**-0.4**
G21A	**Lodge Grass** baz=2.0,SNR=61	**2.04**	**320**	⇑P	**Pn**	**18 05 01.2**	**-0.1**
G21A	baz=2.0			⇓Sb	**Sg**	**18 05 31.0**	**-0.1**
F23A	**Volborg** baz=2.0,SNR=67	**2.04**	**359**	P	**Pn**	**18 05 01.0**	**-0.3**
F23A	baz=2.0			⇓Sb	**Sb**	**18 05 30.1**	**+0.5**
G25A	**Newell** baz=2.0,SNR=28	**2.05**	**42**	⇑P	**Pn**	**18 05 01.0**	**-0.4**
G25A	baz=2.0			⇑Sb	**Sn**	**18 05 30.3**	**+2.6**
H20A	**Greybull** baz=2.1,SNR=30	**2.07**	**294**	⇓P	**Pn**	**18 05 01.7**	**-0.1**
H20A	baz=2.1			⇓S	**Sb**	**18 05 29.4**	**-1.1**
H26A	**Fairpoint** baz=2.1,SNR=20	**2.08**	**62**	⇑Pb	**Pn**	**18 05 02.8**	**+1.0**
F22A	**Rosebud** baz=2.2,SNR=118	**2.19**	**343**	⇓P	**Pn**	**18 05 03.1**	**-0.4**
F22A	baz=2.2			⇓Sb	**Sb**	**18 05 34.6**	**+0.6**
M23A	**Laramie** baz=2.2,SNR=12	**2.23**	**187**	⇑P	**Pn**	**18 05 05.0**	**+0.9**
M23A	baz=2.2			⇑Sb	**Sb**	**18 05 36.1**	**+0.9**
M24A	**Cheyenne** baz=2.3	**2.25**	**170**	⇑Pb	**Pb**	**18 05 06.7**	**-0.5**
M24A	baz=2.3			⇑Sb	**Sb**	**18 05 36.9**	**+1.3**
F24A	**Ekalaka** baz=2.2	**2.26**	**16**	⇓P	**Pn**	**18 05 04.3**	**0.0**
F24A	baz=2.2			⇓Sb	**Sb**	**18 05 36.0**	**+0.2**
L26A	**Underwood Farm** baz=2.3	**2.34**	**134**	⇑S	**Sn**	**18 05 35.4**	**+0.4**
PHWY	**Pilot Hill**	**2.38**	**182**	*e*Pn	**Pn**	**18 05 06.6**	**+0.4**
I27A	**Quinn** baz=2.4	**2.42**	**80**	⇓Sb	**Sb**	**18 05 41.3**	**+1.0**
M25A	**Palm-Egli Farm** baz=2.4	**2.44**	**157**	⇑Sb	**Sb**	**18 05 42.7**	**+1.5**
M22A	**Cedar Creek Ra** baz=2.5	**2.46**	**202**	⇓Sb	**Sg**	**18 05 43.5**	**-1.1**
J27A	**Elkhorn Farm,** baz=2.4	**2.47**	**99**	⇓Sb	**Sb**	**18 05 42.5**	**+0.5**
K27A	**Flueckinger Fa** baz=2.5	**2.48**	**112**	⇓P	**Pn**	**18 05 06.9**	**-0.4**
K27A	baz=2.5			⇑Sb	**Sb**	**18 05 43.0**	**+0.8**
F21A	**Absaloka Mine,** baz=2.5	**2.49**	**330**	⇑P	**Pn**	**18 05 06.9**	**-0.6**
F21A	baz=2.5			⇑Sb	**Sb**	**18 05 44.0**	**+1.5**
H27A	**Howes** baz=2.5	**2.54**	**67**	⇓Sb	**Sb**	**18 05 44.6**	**+0.7**
G26A	**Maurine** baz=2.5,SNR=31	**2.54**	**50**	⇓P	**Pn**	**18 05 08.5**	**+0.3**
G26A	baz=2.5			⇓Sb	**Sb**	**18 05 44.7**	**+0.7**
G20A	**Bridger** baz=2.6,SNR=162	**2.56**	**308**	⇑P	**Pn**	**18 05 08.0**	**-0.6**
G20A	baz=2.6			⇑S	**Sn**	**18 05 41.5**	**+0.9**
J19A	**Crowheart** baz=2.7,SNR=88	**2.73**	**262**	⇓P	**Pn**	**18 05 12.4**	**+1.5**
E22A	**Miles City** baz=2.8	**2.79**	**351**	⇑P	**Pn**	**18 05 10.8**	**-0.8**
E22A	baz=2.8			⇓Sb	**Sb**	**18 05 52.4**	**+1.3**
N23A	**Red Feather La** baz=2.8,SNR=13	**2.82**	**189**	⇓P	**Pn**	**18 05 13.0**	**+0.8**
N23A	baz=2.8			⇑Sb	**Sb**	**18 05 53.8**	**+1.6**
F26A	**Lodgepole** baz=2.9	**2.89**	**40**	⇑Sb	**Sb**	**18 05 54.6**	**+0.6**
F20A	**Billings** baz=2.9,SNR=42	**2.91**	**318**	⇑P	**Pn**	**18 05 12.5**	**-0.8**
E24A	**Baker** baz=3.0,SNR=29	**2.97**	**14**	⇑P	**Pn**	**18 05 14.0**	**-0.1**
G27A	**Dupree** baz=3.0,SNR=25	**2.98**	**54**	⇓P	**Pn**	**18 05 13.9**	**-0.3**
N22A	**Wattenberg Ran** baz=3.0	**2.99**	**196**	⇓Sb	**Sb**	**18 05 58.8**	**+1.6**
BW06	**Boulder Array**	**3.21**	**255**	*e*Pn	**Pn**	**18 05 17.7**	**+0.2**
PDAR	**Pinedale Array** 3.6nm,0.3s,baz=68,slow=17,SNR=54	**3.21**	**255**	Pn	**Pn**	**18 05 18.2**	**+0.7**
PDAR	15nm,0.3s,baz=68,slow=32,SNR=9.4			Lg	Lg	18 06 03.0	
H18A	**Shoshone NF, C** baz=3.3,SNR=11	**3.26**	**289**	⇓P	**Pn**	**18 05 18.0**	**-0.3**
F19A	**Roth Farm, Mol** baz=3.4,SNR=93	**3.36**	**312**	⇓P	**Pn**	**18 05 19.5**	**+0.1**
E20A	**Meyer Farm, Mu** baz=3.4	**3.44**	**326**	⇓P	**Pn**	**18 05 20.0**	**-0.5**
D23A	**Lindsay** baz=3.5,SNR=12	**3.49**	**2**	⇑P	**Pn**	**18 05 21.2**	**-0.1**
D24A	**Glendive** baz=3.5,SNR=11	**3.51**	**11**	⇑P	**Pn**	**18 05 21.7**	**+0.2**
D22A	**Cohagen** baz=3.5	**3.52**	**351**	⇓P	**Pn**	**18 05 21.2**	**-0.3**
N27A	**Anderson Farm,** baz=3.5,SNR=20	**3.55**	**143**	⇓P	**Pn**	**18 05 22.5**	**+0.4**
E19A	**Rath Farm, Rou** baz=3.7,SNR=12	**3.69**	**320**	⇓P	**Pn**	**18 05 24.1**	**0.0**
LOHW	**Long Hollow**	**3.81**	**271**	*e*Pn	**Pn**	**18 05 28.2**	**+2.3**
MOOW	**Moose Ponds**	**3.91**	**273**	*e*Pn	**Pn**	**18 05 28.8**	**+1.6**
D26A	**Manning** baz=3.9,SNR=21	**3.93**	**31**	⇑P	**Pn**	**18 05 27.0**	**-0.2**
SNOW	**Snow King Moun**	**3.94**	**269**	*e*Pn	Pn	18 05 31.4	+3.9
YNR	**Norris Junctio**	**3.97**	**287**	Pn	Pb	18 05 33.2	-3.4
REDW	**Red Top Meadow**	**4.01**	**267**	*e*Pn	**Pn**	**18 05 29.9**	**+1.2**
YFT	**Old Faithful**	**4.03**	**283**	*e*Pn	Pb	18 05 33.7	-3.9
IMW	**Indian Meadow**	**4.05**	**275**	P	**Pn**	**18 05 30.9**	**+1.6**
TPAW	**Teton Pass**	**4.08**	**269**	*e*Pn	**Pn**	**18 05 30.5**	**+1.0**
O27A	**Beecher Island** baz=4.1,SNR=8.6	**4.09**	**148**	⇓P	**Pn**	**18 05 28.9**	**-0.7**
O20A	**White River Ci**	**4.15**	**212**	*e*Pn	**Pn**	**18 05 32.6**	**+2.1**
AHID	**Auburn Hatcher**	**4.30**	**260**	*e*Pn	**Pn**	**18 05 34.9**	**+2.4**
P26A	**Davis Ranch, A** baz=4.4,SNR=9.1	**4.38**	**159**	⇓P	**Pn**	**18 05 33.9**	**+0.3**
QLMT	**Earthquake Lak**	**4.52**	**287**	P	Pn	18 05 38.9	+3.4
P27A	**Ficken Ranch,** baz=4.6,SNR=12	**4.62**	**152**	⇑P	**Pn**	**18 05 36.6**	**-0.2**
SMCO	**Snowmass**	**4.66**	**196**	Pn	**Pn**	**18 05 38.8**	**+1.1**
DGMT	**Dagmar** 61nm,0.4s	**4.86**	**9**	*e*Pn	**Pb**	**18 05 54.0**	**+2.4**
HWUT	**Hardware Ranch**	**5.03**	**248**	*e*Pn	**Pn**	**18 05 42.7**	**+0.2**
A22A	**Carney Farms,** baz=5.3,SNR=5.7	**5.33**	**356**	⇓P	**Pn**	**18 05 46.1**	**-0.4**
JLU	**Jordanelle**	**5.48**	**238**	*e*Pn	**Pn**	**18 05 50.1**	**+1.3**
MDND	**Maddock** 34nm,0.3s	**5.79**	**42**	*e*Pn	**Pb**	**18 06 09.6**	**+2.2**
R28A	**Tribune** baz=6.0,SNR=7.6	**5.97**	**152**	⇑P	**Pn**	**18 05 55.0**	**-0.3**
SRU	**San Rafael Swe** 7.3nm,0.3s	**6.00**	**222**	*e*Pn	**Pn**	**18 05 56.3**	**+0.5**
DUG	**Dugway, Tooele** 3.5nm,0.3s	**6.57**	**240**	*e*Pn	**Pn**	**18 06 05.0**	**+1.4**
MSU	**Marysvale** 7.6nm,0.9s	**7.30**	**227**	*e*Pn	**Pn**	**18 06 15.7**	**+2.0**
ELK	**Elko** 0.3nm,0.3s,baz=64,slow=4.4,SNR=5.6	**7.91**	**252**	Pn	**Pn**	**18 06 24.4**	**+2.3**
ELK	0.4nm,0.3s,baz=237,slow=15,SNR=3.6			Lg	Lg	18 08 34.1	
ANMO	**Albuquerque** 0.1nm,0.3s,baz=345,slow=6.5,SNR=4.1	**8.77**	**186**	Lg	Lg	18 09 12.1	
ULM	**Lac du Bonnet** 3.3nm,0.3s,baz=235,slow=10,SNR=24	**9.22**	**41**	Pn	Pn	18 06 37.2	-2.6
ULM	0.4nm,0.3s,baz=35,slow=6.5,SNR=2.9			Lg	Lg	18 09 09.4	
NEW	**Newport** 0.5nm,0.3s,baz=107,slow=14,SNR=2.7	**9.39**	**303**	Pn	Pn	18 06 38.4	-3.8
NEW	0.0nm,0.3s,baz=36,slow=15,SNR=3.2			Lg	Lg	18 09 08.4	
NEW	comp=Z,50nm,19.0s,baz=60,slow=43			LR	LR	18 10 57.6	
I56US	**NEWPORT INFRAS** baz=114,slow=322,SNR=4.0	**9.39**	**303**	*i*		18 59 00.0	
YBH	**Yreka Blue Hor** comp=Z,67nm,18.1s,baz=56,slow=40	**12.92**	**267**	LR	LR	18 12 56.4	
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=357,slow=33,SNR=3.1	**14.38**	**174**	Lg	Lg	18 12 04.6	
BBB	**Bella Bella** comp=Z,66nm,20.9s,baz=271,slow=40	**17.41**	**307**	LR	LR	18 15 45.2	
SADO	**Sadowa** comp=Z,30nm,20.5s,baz=144,slow=33	**18.79**	**78**	LR	LR	18 14 57.6	
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=163,slow=13,SNR=3.5	**19.61**	**347**	P	**P**	**18 08 54.2**	**-1.0**
ARCES	**ARCESS Array B** 0.7nm,0.5s,baz=332,slow=6.9,SNR=10	**61.49**	**18**	P	**P**	**18 14 42.0**	**-1.6**
FINES	**FINESS Array B** 1.2nm,0.9s,baz=317,slow=7.8,SNR=4.4	**68.10**	**23**	P	**P**	**18 15 26.2**	**-0.6**
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=348,slow=5.9,SNR=3.6	**82.36**	**354**	P	**P**	**18 16 48.7**	**-0.4**
KBZ	**Khabaz** comp=Z,34nm,19.5s,baz=146,slow=36	**88.46**	**22**	LR	LR	18 57 54.0	

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*ISCJB **06** 18:22:26.3±0.7, 32°70N±0'.06×115°88W±0'.04, h12km±5km, Error ellipse: s-maj=9.9km s-min=5.2km az=169.0*
*ECX **06** 18:22:27.3±0.6, 32°70N×115°88W, h3km, MD2.8, ML3.0*
*MEX **06** 18:22:28.8±0.9, 32°57N×115°77W, h17km±132km, MD3.5*

ISC 06 18:22:25.4±1.0, **32°69N**±0'.04×**115°84W**±0'.03, **h14**km±8km, **n17**, σ0**°81**/25, **9C, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.08**	**236**	⇑*i*P	**Pg**	**18 22 28.5**	**+0.2**
SGL	**Mount Signal**	**0.11**	**114**	⇑*i*P	**Pb**	**18 22 29.8**	**+0.5**
WESC	**Westside Schoo**	**0.12**	**55**	⇑*e*P	**Pb**	**18 22 29.9**	**+0.5**
COK	**Cook Ranch**	**0.18**	**32**	⇑*i*P	**Pb**	**18 22 31.1**	**+0.5**
RMX	**La Rumorosa**	**0.22**	**246**	*e*P	**Pg**	**18 22 30.9**	**+0.6**
RMX				*e*S	**Sg**	**18 22 33.7**	**0.0**
CPBX	**Cerro Prieto**	**0.53**	**121**	*e*P	**Pn**	**18 22 37.9**	**-0.7**
CPBX				*e*S	**Sb**	**18 22 45.5**	**+1.5**
MBIG	**Mexicali**	**0.61**	**117**	*e*P	**Pb**	**18 22 38.1**	**+0.1**
MBIG				*e*S	**Sg**	**18 22 43.3**	**-2.2**
BAR	**Barrett**	**0.70**	**269**	⇑*e*P	**Pb**	**18 22 39.5**	**+0.1**
RDX	**Rancho Dawling**	**0.77**	**186**	*e*P	**Pb**	**18 22 41.0**	**+0.3**
RDX				*e*S	**Sb**	**18 22 51.5**	**+0.4**
RDX				AML	AML	18 22 52.4	
	comp=N,415nm,0.3s						
RDX				⇑*e*		18 22 52.4	
CBX	**Cerro Bola**	**0.79**	**242**	*e*P	**Pb**	**18 22 41.2**	**+0.2**
CBX				*e*S	**Sg**	**18 22 50.0**	**-1.2**
CBX	**Cerro Bola**	**0.79**	**242**	⇑*e*P	**Pb**	**18 22 41.4**	**+0.4**
CBX				*e*S	**Sb**	**18 22 51.8**	**+0.1**
CBX				AML	AML	18 22 53.6	
	comp=E,622nm,0.3s						
CBX				⇑*e*		18 22 53.6	
PBX	**Punta Banda**	**1.21**	**219**	*e*P	**Pb**	**18 22 48.2**	**+0.1**
ECNX	**Esteban Cantu**	**1.22**	**212**	*e*P	**Pb**	**18 22 48.6**	**+0.3**
ZAX	**El Zacaton**	**1.23**	**197**	*e*P	**Pb**	**18 22 49.0**	**+0.5**
ZAX				*e*S	**Sg**	**18 23 05.4**	**+0.2**
ECBX	**El Chinero**	**1.39**	**151**	*e*P9	**Pn**	**18 22 50.6**	**+0.2**
ECBX				*e*S	**S

comp=N,80nm,0.3s
PUK Puka 0.63 325 *i* PG **Pn** **18 23 16.9 -0.7**
PUK *i* SG **Sn** **18 23 28.4 +0.9**
PUK Puka 0.63 325 *i* Pg **Pn** **18 23 16.9 -0.7**
SNR=91
PUK *i* Sg **Sn** **18 23 28.4 +0.9**
SNR=91
SKO Skopje 0.91 60 *i* Pg **Pn** **18 23 21.6 +0.2**
SKO *i* Sg **Sn** **18 23 33.8 -0.5**
SKO *eLg* Lg 18 23 34.3
comp=N,88nm,0.3s
SKO *eLg* Lg 18 23 35.6
comp=E,40nm,0.6s
SKO Skopje 0.91 60 *i* Pg **Pn** **18 23 21.5 +0.2**
SKO *i* Sg **Sn** **18 23 33.7 -0.5**
SKO *eLg* Lg 18 23 35.6
comp=E,40nm,0.6s
VAY Valandovo 1.66 96 *i* Pg **Pg** **18 23 34.8 -0.1**
VAY *i* Sg **Sg** **18 23 56.8 +0.4**
VAY *eLg* Lg 18 23 58.9
comp=E,14nm,0.5s
VAY *eLg* Lg 18 23 59.4
comp=N,12nm,0.6s
VAY Valandovo 1.66 96 *i* Pg **Pg** **18 23 34.7 -0.1**
VAY *i* Sg **Sg** **18 23 56.8 +0.4**
VAY *eLg* Lg 18 23 59.4
comp=N,12nm,0.6s

IDC 06 18:24:22.7±321.0, 56°97N×31°46E, h0km, Error ellipse: s-maj=134.6km s-min=69.4km az=97.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON 3.17**		**92**	*i*		18 43 47.8	
	baz=276,slow=328,SNR=0.4						
I26DE	**FREYUNG INFRAS13.41**		**240**	*i*		19 45 30.0	
	baz=44,slow=340,SNR=0.4						
I31KZ	**AKTYUBINSK INF 16.98**		**101**	*i*		20 10 00.0	
	baz=302,slow=317,SNR=0.5						
I48TN	**KESRA INFRASON25.89**		**225**	*i*		21 04 30.0	
	baz=26,slow=325,SNR=0.3						

*IDC **06** 18:53:07.7±0.6, 18°11N×120°09E, h0km, mb4.0/20, mb1 4.2/21, mb1mx4.1/32, mbtmp4.1/21, ML3.6/1, MS3.8/17, Ms1 3.8/17, ms1mx3.6/39, Error ellipse: s-maj=19.5km s-min=14.0km az=75.0*
*MOS **06** 18:53:10.7±1.0, 18°10N×120°05E, h33km, mb4.7/18, Error ellipse: s-maj=12.7km s-min=8.0km az=110.4*
*ISCJB **06** 18:53:11.7±0.7, 18°30N±0°03×119°92E±0°03, h30km±5km, mb4.3/46, MS3.8/17, Error ellipse: s-maj=5.7km s-min=4.8km az=32.5*
*DJA **06** 18:53:11.8±0.7, 19°N±7°×12°0E±°, h10km, M4.4/20, mb4.3/20, mB5.4/3, Mw(mB)4.8/3*
*NEIC **06** 18:53:12.1±1.2, 18°19N×120°04E, h27km±9km, mb4.4/13, Error ellipse: s-maj=8.8km s-min=5.5km az=92.0*
*BJI **06** 18:53:13.9, 18°40N×120°00E, h41km, mb4.2/17, mB4.5/12, Ms4.4/21, Ms7 4.1/19*
*MAN **06** 18:53:14, 18°19N×120°14E, h13km, mb4.9, ML3.9, MS4.0*
*BKK **06** 18:53:26.0±1.5, 18°N±9°×11°9E±1°4, h10km, M4.1/15, mb4.1/15*

ISC 06 18:53:14.7±0.5, 18°21N±0°04×119°98E±0°05, h46km±5km, n137, σ1s70/128, mb4.3/46, MS3.9/17, 5C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**0.54**	**121**	⇑*i*P	**Pn**	**18 53 23.1**	**-3.1**
SIPP				*i* S	**Sn**	**18 53 33.7**	**-0.7**
PIP	**Pasuquin**	**0.62**	**79**	⇑*i*P	**Pn**	**18 53 24.9**	**-2.5**
PIP				*e*S	**Sn**	**18 53 35.0**	**-1.4**
SZP	**Santa**	**0.80**	**145**	*e*P	**Pn**	**18 53 27.1**	**-2.5**
ABRA	**Dolores**	**0.89**	**128**	*e*P	**Pn**	**18 53 29.0**	**-1.9**
APYP	**Conner**	**1.25**	**106**	*e*P	**Pn**	**18 53 34.2**	**-1.6**
APYP				*e*S	**Sn**	**18 53 51.5**	**0.0**
CVP	**Callao Caves**	**1.83**	**106**	*e*P	**Pn**	**18 53 43.3**	**-0.4**
CVP				*e*S	**Sn**	**18 54 08.2**	**+2.5**
SGCP	**Mt. Cagua**	**1.97**	**89**	*e*P	**Pn**	**18 53 45.2**	**-0.4**
SGCP				*e*S	Sn	18 54 18.4	+9.3
CAUP	**Cauayan**	**2.16**	**125**	*e*P	**Pn**	**18 53 49.7**	**+1.4**
PCPH	**Palayan**	**2.84**	**158**	⇑*e*P	**Pn**	**18 53 57.0**	**-0.6**
BALP	**Baler**	**2.89**	**148**	*e*P	**Pn**	**18 53 58.0**	**-0.2**
TWG	**Pinlang**	**4.71**	**12**	*e*P	Pn	18 54 19.5	-3.7
TPUB	**Ta-pu**	**5.11**	**7**	*e*P	**Pn**	**18 54 26.4**	**-2.3**
	32nm,0.6s						
YULB	**Yu-li**	**5.31**	**13**	*e*P	**Pn**	**18 54 28.5**	**-3.0**
	30nm,0.6s						
SSLB	**Suanglung**	**5.63**	**9**	*e*P	**Pn**	**18 54 33.4**	**-2.5**
	22nm,0.6s						
NACB	**Ningnanchiao**	**6.13**	**14**	*e*P	**Pn**	**18 54 41.4**	**-1.3**
	14nm,0.6s						
YHNB	**Yeheng**	**6.56**	**11**	*e*P	**Pn**	**18 54 48.4**	**-0.4**
	30nm,0.8s						
GZH	**Guangzhou**	**7.88**	**309**	P	Pn	18 55 03.0	-3.8
GZH				S	Sn	18 56 26.1	-8.6
GZH				LN			
	2μm,10.7s						
GZH				LE			
	2μm,11.1s						
QIZ	**Qiongzhong**	**9.64**	**276**	P	Pn	18 55 25.3	-5.7
QIZ				S	**Sn**	**18 57 13.1**	**-4.9**
QIZ				pmax	pmax		
	comp=Z,26nm,0.8s						
QIZ				LR	LR		
	comp=N,440nm,12.8s						
QIZ				LR	LR		
	comp=Z,710nm,12.3s						
WHN	**Wuhan**	**13.31**	**338**	P	**Pn**	**18 56 21.6**	**+0.6**
WHN				S	Sn	18 58 54.9	+7.4
WHN				LN			
	comp=Z,2μm,13.6s						
WHN				LE			
	comp=Z,1μm,11.3s						
WHN				LZ			
	comp=Z,1μm,15.3s						
NJ2	**Nanjing**	**13.82**	**356**	*e*P	P	18 56 31.8	-3.5
NJ2				S	**Sn**	**18 59 04.0**	**+3.9**
NJ2				LN			
	comp=Z,2μm,15.8s						
NJ2				LE			
	comp=Z,520nm,14.5s						
NJ2				LZ			
	comp=Z,750nm,9.7s						
KHON	**Khomkaen**	**16.49**	**266**	P	**P**	**18 57 05.9**	**+0.9**
	comp=Z,9.6nm,0.9s						
TOLI	**Toli-Toli**	**17.00**	**177**	*e*P	**Pn**	**18 57 05.9**	**-3.4**
CHAI	**Chaiyaphum**	**17.35**	**265**	P	**Pn**	**18 57 13.1**	**-0.6**
	comp=Z,4.7nm,1.1s						
KMI	**Kunming**	**17.43**	**296**	P	**P**	**18 57 17.2**	**+1.6**
KMI				pP	**pP**	**18 57 29.1**	**+2.7**
KMI				PMZ			
	comp=Z,9.0nm,1.3s						
KMI				PMZ			
	comp=Z,48nm,7.0s						
KMI				LN			
	comp=Z,290nm,14.2s						
KMI				LE			
	comp=Z,750nm,13.3s						
KMI				LZ			
	comp=Z,690nm,13.3s						
JNU	**Nakatsue**	**17.79**	**31**	P	**Pn**	**18 57 18.2**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=209,slow=13,SNR=2.7						
LOEI	**Loei**	**17.83**	**271**	P	**Pn**	**18 57 15.3**	**-4.3**
CHBT	**CHBT**	**17.84**	**255**	P	**P**	**18 57 22.1**	**+2.1**
	comp=Z,16nm,1.7s						
PBKT	**Sadao Pong**	**18.21**	**268**	P	**Pn**	**18 57 26.1**	**+1.9**
	comp=Z,8.5nm,2.0s						
CRAI	**Chiangrai**	**18.62**	**279**	P	**P**	**18 57 26.1**	**-2.5**
	comp=Z,18nm,1.0s						
TNTI	**Ternate**	**18.79**	**156**	P	Pn	18 57 37.1	+5.9
	comp=Z,26nm,1.6s						
TNTI	**Ternate**	**18.79**	**156**	*e*P	**P**	**18 57 30.5**	**+0.2**
	comp=Z,32nm,1.2s						
UTHA	**Uthaitani**	**19.82**	**265**	P	**Pn**	**18 57 48.1**	**+4.5**
	comp=Z,2.5nm,1.1s						
CMAI	**Chiengmai2**	**19.86**	**278**	P	**Pn**	**18 57 48.0**	**+3.8**
	comp=Z,30nm,1.2s						
STKI	**Sintang**	**19.87**	**206**	P	**Pn**	**18 57 44.3**	**+0.2**
	comp=Z,13nm,1.6s						
CMMT	**Chiang Mai**	**19.95**	**275**	P	**P**	**18 57 43.7**	**+0.6**
	comp=Z,10nm,1.4s						
CHTO	**Chiang Mai**	**19.96**	**275**	P	**P**	**18 57 43.7**	**+0.5**
	comp=Z,46nm,1.8s						
CHTO	**Chiang Mai**	**19.96**	**275**	*e*P	**P**	**18 57 43.1**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,11nm,1.3s						
CHTO	**Chiang Mai**	**19.96**	**275**	*e*P	**P**	**18 57 43.1**	**-0.1**
	comp=Z,11nm,1.3s						
CM31	**Chiang Mai Arr**	**19.97**	**274**	*e*P	**P**	**18 57 43.7**	**+0.4**
	comp=Z,2.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**19.97**	**274**	P	**P**	**18 57 43.6**	**+0.3**
	comp=Z,3.2nm,0.8s,baz=96,slow=9.2,SNR=18						
CMAR				LR	LR	19 05 02.1	
	comp=Z,63nm,19.3s,baz=116,slow=36						
CMAR	**Chiang Mai Arr**	**19.97**	**274**	*ce*P	Pn	18 57 57.2	+12
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
LBMI	**Labuha**	**20.14**	**158**	P	Pn	18 57 52.5	+5.2
	comp=Z,21nm,1.2s						
KSAR	**Wonju Array Be**	**20.38**	**18**	P	**P**	**18 57 47.7**	**+0.1**
KSAR	**Wonju Array Be**	**20.38**	**18**	P	**P**	**18 57 47.7**	**+0.1**
KSRS	**Korea Array**	**20.41**	**18**	P	**P**	**18 57 47.7**	**-0.1**
	comp=Z,7.6nm,1.0s,baz=196,slow=11,SNR=15						
KSRS				LR	LR	19 07 04.5	
	comp=Z,138nm,18.5s,baz=215,slow=41						
MHMT	**Maesarieng**	**20.95**	**273**	P	Pn	18 57 59.6	+2.7
	comp=Z,14nm,0.8s						
SPSI	**Sidrap Palu**	**22.03**	**181**	P	**P**	**18 58 07.9**	**+2.4**
	comp=Z,24nm,1.1s						
BBKI	**Banjar Baru**	**22.12**	**194**	P	P	18 58 15.0	+8.6
	comp=Z,36nm,1.2s,comp=Z,4μm						
PBKI	**Pangkalan Bun**	**22.33**	**202**	P	P	18 58 16.7	+8.0
	comp=Z,50nm,1.1s						
SURT	**Suratani**	**22.52**	**249**	P	P	18 58 20.4	+10
	comp=Z,8.6nm,1.3s						
KAPI	**Kappang**	**23.07**	**181**	P	**P**	**18 58 16.9**	**+0.5**
	comp=Z,11nm,1.0s,baz=53,slow=22,SNR=6.4						
KAPI				LR	LR	19 07 59.7	
	comp=Z,204nm,20.1s,baz=10,slow=39						
KAPI	**Kappang**	**23.07**	**181**	*e*P	**P**	**18 58 17.5**	**+1.0**
	comp=Z,60nm,1.4s						
HHC	**Hu-ho-hao-te**	**23.70**	**344**	*e*P	**P**	**18 58 25.2**	**+2.8**
HHC				pP	**pP**	**18 58 37.1**	**+2.8**
HHC				sP	**sP**	**18 58 42.2**	**+2.3**
HHC				PP	PnPn	18 58 59.0	+7.5
HHC				S	**S**	**19 02 33.0**	**-1.3**
HHC				sS	**sS**	**19 02 50.6**	**-3.9**
HHC				PMZ			
	comp=Z,22nm,0.7s						
HHC				PMZ			
	comp=Z,140nm,6.3s						
HHC				LN			
	comp=Z,490nm,14.8s						
HHC				LE			
	comp=Z,350nm,13.6s						
HHC				LZ			
	comp=Z,410nm,15.5s						
MAJO	**Matsushiro**	**24.33**	**38**	*e*P	**P**	**18 58 29.2**	**+1.0**
MAJO				pmax	pmax		
	comp=Z,38nm,1.2s						
MJAR	**Matsushiro Arr**	**24.33**	**38**	P	**P**	**18 58 26.3**	**-1.9**
	comp=Z,1.6nm,0.8s,baz=225,slow=9.1,SNR=6.6						
GUMO	**Guam**	**24.37**	**97**	LR	LR	19 05 54.5	
	comp=Z,184nm,19.9s,baz=256,slow=32						
PSI	**Prapat**	**25.69**	**236**	P	**P**	**18 58 40.3**	**-0.5**
	comp=Z,2.4nm,0.3s,baz=162,slow=13,SNR=5.0						
PSI				LR	LR	19 08 16.7	
	comp=Z,110nm,19.4s,baz=114,slow=35						
GTA	**Gaotai**	**27.42**	**325**	*e*P	P	18 59 03.8	+7.5
GTA				pP	pP	18 59 09.4	+1.0
GTA				sP	sP	18 59 13.0	-0.9
GTA				pmax	pmax		
	comp=Z,3.0nm,1.5s						
LSA	**Lhasa**	**28.64**	**299**	*e*P	**P**	**18 59 08.8**	**+1.1**
LSA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
LSA	**Lhasa**	**28.64**	**299**	*e*P	**P**	**18 59 08.8**	**+1.1**
	comp=Z,4.4nm,1.0s						
TAPN	**Taplejung**	**31.04**	**293**	*e*P	**P**	**18 59 28.6**	**-0.1**
	comp=Z,19nm,1.2s						
ODAN	**Odare**	**31.23**	**292**	*e*P	**P**	**18 59 30.3**	**-0.1**
	comp=Z,28nm,1.2s						
ULN	**Ulaanbaatar**	**31.41**	**343**	*e*P	**P**	**18 59 32.4**	**+0.8**
SONM	**Songino Array**	**31.57**	**342**	LR	LR	19 13 13.1	
	comp=Z,169nm,18.0s,baz=52,slow=38						
RAMN	**Ramite**	**31.95**	**292**	*e*P	**P**	**18 59 36.6**	**0.0**
	comp=Z,20nm,0.6s						
JIRN	**Jiri**	**32.42**	**293**	*e*P	**P**	**18 59 40.9**	**0.0**
	comp=Z,34nm,1.4s						
GUN	**Gumba**	**32.73**	**293**	*e*P	**P**	**18 59 43.6**	**0.0**
	comp=Z,55nm,1.4s						
PKI	**Pulchoki**	**33.09**	**293**	*e*P	**P**	**18 59 46.1**	**-0.6**
	comp=Z,22nm,1.3s						
PKIN	**Phulchoki**	**33.10**	**293**	*e*P	**P**	**18 59 47.0**	**+0.2**
	comp=Z,15nm,1.2s						
KKN	**Kakani**	**33.24**	**293**	*e*P	**P**	**18 59 48.0**	**+0.1**
	comp=Z,12nm,1.0s						
DMN	**Daman**	**33.36**	**293**	*e*P	**P**	**18 59 49.0**	**0.0**
	comp=Z,18nm,1.0s						
GKN	**Gorkha**	**33.83**	**293**	*e*P	**P**	**18 59 52.2**	**-0.8**
	comp=Z,18nm,1.0s						
KOLN	**Koldanda**	**34.70**	**293**	*e*P	**P**	**19 00 00.8**	**+0.2**
	comp=Z,18nm,1.0s						
TLY	**Talaya**	**35.81**	**343**	*e*P	P	19 00 14.5	+4.9
TLY				*e*		19 01 27.0	
TLY				pmax	pmax		
	comp=Z,8.0nm,2.0s						
WRA	**Warramunga Arr**	**40.45**	**159**	P	**P**	**19 00 46.2**	**-2.7**
	comp=Z,3.8nm,0.8s,baz=342,slow=9.0,SNR=13						
MKAR	**Makanchi Array**	**42.06**	**321**	P	**P**	**19 01 02.8**	**+0.9**
	comp=Z,2.7nm,0.4s,baz=139,slow=5.5,SNR=7.1						
MKAR	**Makanchi Array**	**42.06**	**321**	*ce*P	**P**	**19 01 04.0**	**+2.1**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
AS31	**Alice Springs**	**43.78**	**161**	*e*P	**P**	**19 01 14.2**	**-1.9**
ASAR	**Alice Springs**	**43.78**	**161**	P	**P**	**19 01 14.6**	**-1.5**
	comp=Z,5.3nm,0.8s,baz=333,slow=6.9,SNR=37						
YAK	**Yakutsk**	**44.31**	**7**	*e*P	**P**	**19 01 18.0**	**-1.8**
YAK				pmax	pmax		
	comp=Z,10.0nm,1.4s						
ZALV	**Zalesovo Beam**	**44.78**	**331**	P	**P**	**19 01 24.1**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=131,slow=4.5,SNR=3.9						
AAK	**Ala-Archa**	**45.46**	**312**	*e*P	**P**	**19 01 31.8**	**+2.3**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
PETK	**Petropavlovsk-**	**45.49**	**31**	P	**P**	**19 01 29.1**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=209,slow=8.3,SNR=3.1						
PETK				LR	LR	19 22 19.7	
	comp=Z,48nm,19.9s,baz=185,slow=38						
KURK	**Kurchatov**	**46.11**	**324**	*e*P	**P**	**19 01 32.1**	**-2.2**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KURK	**Kurchatov**	**46.11**	**324**	*e*P	**P**	**19 01 32.1**	**-2.2**
	comp=Z,7.3nm,0.8s						
KURBB	**Kurchatov Arra**	**46.11**	**324**	P	**P**	**19 01 35.1**	**+0.8**
	comp=Z,2.6nm,0.7s,baz=122,slow=8.6,SNR=32						
KKAR	**Karatay Array**	**48.40**	**312**	*e*P	**P**	**19 01 52.4**	**+0.1**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KKAR	**Karatay Array**	**48.40**	**312**	*e*P	**P**	**19 01 52.4**	**+0.1**
	comp=Z,2.2nm,0.7s						
SEY	**Seymchan**	**49.96**	**19**	*e*P	**P**	**19 02 02.8**	**-1.1**
BVAR	**Borovoye Array**	**51.70**	**324**	P	**P**	**19 02 18.1**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=126,slow=11,SNR=12						
BVAR				PcP	**PcP**	**19 03 32.1**	**+2.0**
	comp=Z,0.5nm,0.6s,baz=108,slow=4.7,SNR=2.3						
BRVK	**Borovoye**	**51.78**	**324**	*e*P	**P**	**19 02 19.2**	**+1.5**
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.7s						
BRVK	**Borovoye**	**51.78**	**324**	*e*P	**P**	**19 02 18.4**	**+0.7**
	comp=Z,6.8nm,1.1s						
TIXI	**Tiksi**	**53.70**	**3**	*e*P	**P**	**19 02 31.6**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.2s						
TIXI	**Tiksi**	**53.70**	**3**	*e*P	**P**	**19 02 31.1**	**-0.4**
	comp=Z,7.5nm,1.4s						
STKA	**Stephens Creek**	**53.94**	**157**	P	**P**	**19 02 32.9**	**-1.0**
	comp=Z,8.8nm,1.0s,baz=354,slow=4.6,SNR=10						
ABKAR	**Akbulak array**	**56.93**	**317**	*e*P	**P**	**19 02 55.6**	**+0.4**
	comp=Z,1.1nm,0.6s						
GEYT	**Alibeck**	**57.00**	**304**	LR	LR	19 30 06.4	
	comp=Z,89nm,18.4s,baz=30,slow=39						
SVE	**Sverdlovsk**	**58.27**	**326**	*e*P	**P**	**19 03 06.1**	**+1.6**
SVE				pmax	pmax		
	comp=Z,13nm,1.3s						
ARU	**Arti**	**59.28**	**325**	*d i*P	**P**	**19 03 12.2**	**+0.7**
ARU						19 05 20.1	
ARU				S	**S**	**19 11 11.6**	**-4.7**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ARU	**Arti**	**59.28**	**325**	*e*P	**P**	**19 03 09.1**	**-2.4**
	comp=Z,7.9nm,1.3s						
ZEI	**Tsey**	**67.75**	**309**	*e*P	**P**	**19 04 06.4**	**-1.6**
ZEI				pmax	pmax		
	comp=Z,5.0nm,1.3s						
KBZ	**Khabaz**	**68.41**	**311**	LR	LR	19 35 56.6	
	comp=Z,109nm,22.0s,baz=149,slow=38						
KIV	**Kislovodsk**	**68.54**	**311**	*e*P	**P**	**19 04 13.3**	**+0.5**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KIV				MLR	MLR		
	comp=Z,60nm,17.0s						
VORD	**Divnogorie**	**70.25**	**318**	*e*P	**P**	**19 04 23.4**	**+0.4**
VORD				pmax	pmax		
	comp=Z,4.0nm,0.6s						
VORD				pmax	pmax		
	comp=N,10.0nm,0.8s						
VORD				pmax	pmax		
	comp=E,20nm,0.9s						
VSR	**Storozhevoye**	**70.31**	**319**	*e*P	**P**	**19 04 22.6**	**-0.8**
VSR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
VSR				pmax	pmax		
	comp=N,10.0nm,0.9s						
VSR				pmax	pmax		
	comp=E,8.0nm,0.6s						
OBN	**Obninsk**	**71.53**	**323**	*e*P	**P**	**19 04 31.7**	**+1.0**
OBN				*e*		19 04 54.8	
OBN				*e*		19 07 08.3	
OBN				pmax	pmax		
	comp=Z,5.0nm,1.2s						
IM04	**Indian Mountai**	**72.01**	**25**	*e*P	**P**	**19 04 34.5**	**+1.0**
PPLA	**Purkeypile**	**72.99**	**29**	*e*P	**P**	**19 04 40.1**	**+0.6**
KTH	**Kantishna Hill**	**73.48**	**28**	*e*P	**P**	**19 04 42.4**	**+0.1**
TRF	**Thorofare Moun**	**73.78**	**28**	*e*P	**P**	**19 04 43.9**	**-0.3**
MCK	**McKinley**	**74.33**	**28**	*e*P	**P**	**19 04 46.9**	**-0.3**
MCK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MCK	**McKinley**	**74.33**	**28**	*e*P	**P**	**19 04 46.9**	**-0.3**
	comp=Z,9.2nm,1.0s						
ARCES	**ARCESS Array B**	**74.65**	**339**	LR	LR	19 42 08.4	
	comp=Z,50nm,18.0s,baz=54,slow=39						
ILAR	**Eielson Array**	**75.03**	**26**	P	**P**	**19 04 50.7**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=280,slow=5.2,SNR=9.9						
BRTR	**Keskin Array B**	**75.85**	**307**	LR	LR	19 43 39.6	
	comp=Z,19nm,18.1s,baz=64,slow=40						
FINES	**FINESS Array B**	**76.04**	**330**	P	**P**	**19 04 56.4**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=23,slow=6.2,SNR=5.8						
FINES				LR	LR	19 39 46.7	
	comp=Z,77nm,18.1s,baz=76,slow=37						
RAO	**Raoul Island**	**76.25**	**127**	LR	LR	19 36 14.2	
	comp=Z,89nm,18.0s,baz=124,slow=34						
AKASG	**Malin Array Be**	**76.60**	**319**	P	**P**	**19 04 59.4**	**-1.0**
	comp=Z,0.1nm,0.2s,baz=63,slow=6.0,SNR=5.7						
KIEV	**Kiev**	**76.61**	**319**	*e*P	**P**	**19 05 03.3**	**+2.8**
EGAK	**Eagle**	**77.42**	**26**	*e*P	**P**	**19 05 05.0**	**+0.2**
	comp=Z,6.3nm,1.3s						
DAWY	**Dawson**	**78.36**	**26**	*e*P	**P**	**19 05 10.8**	**+0.7**
INK	**Inuvik**	**79.17**	**21**	LR	LR	19 42 14.0	
	comp=Z,312nm,21.2s,baz=138,slow=37						
MLR	**Muntele Rosu**	**80.00**	**315**	P	**P**	**19 05 19.2**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=158,slow=5.4,SNR=2.2						
NB2	**NORSAR Subarra**	**82.97**	**332**	P	**P**	**19 05 33.8**	**-1.0**
	comp=Z,7.5nm,1.4s,baz=66,slow=5.6						
NOA	**NORSAR Array B**	**82.97**	**332**	P	**P**	**19 05 34.2**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=65,slow=5.4,SNR=2.8						
NOA				LR	LR	19 47 51.8	
	comp=Z,67nm,19.4s,baz=55,slow=40						
BRG	**Berggiesshubel**	**85.76**	**322**	*e*P	**P**	**19 05 51.3**	**+2.2**
	comp=Z,4.6nm,1.0s						
BRG				*e*		19 05 58.0	
	comp=Z,21nm,2.0s						
GERES	**GERESS Array B**	**86.72**	**321**	P	**P**	**19 05 56.2**	**+2.2**
	comp=Z,0.4nm,0.7s,baz=71,slow=5.8,SNR=3.6						
GERES				LR	LR	19 45 02.3	
	comp=Z,60nm,18.6s,baz=72,slow=36						
YKA	**Yellowknife Ar**	**88.90**	**22**	P	**P**	**19 06 04.3**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=308,slow=4.6,SNR=12						
DAVOX	**Davos/Dischmat**	**89.94**	**320**	P	**P**	**19 06 09.7**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=315,slow=10.0,SNR=2.6						
EKA	**Eskdalemuir Ar**	**92.41**	**331**	LR	LR	19 50 49.0	
	comp=Z,47nm,18.8s,baz=50,slow=37						
LPG	**La Plagne**	**92.46**	**320**	*e*P	**P**	**19 06 20.2**	**-1.1**
	comp=Z,23nm,1.0s						
LPG	**La Plagne**	**92.46**	**320**	*e*P	**P**	**19 06 20.2**	**-1.1**
LPG				pmax	pmax		
	comp=Z,23nm,1.0s						
LPG	**La Plagne**	**92.46**	**320**	*e*P	**P**	**19 06 20.2**	**-1.1**
	comp=Z,23nm,1.0s						
LPL	**La Plagne**	**92.46**	**320**	*e*P	**P**	**19 06 20.2**	**-1.0**
	comp=Z,15nm,0.9s						
LPL	**La Plagne**	**92.46**	**320**	*e*P	**P**	**19 06 20.2**	**-1.0**
LPL				pmax	pmax		
	comp=Z,15nm,0.9s						
LPL	**La Plagne**	**92.46**	**320**	*e*P	**P**	**19 06 20.2**	**-1.0**
	comp=Z,15nm,0.9s						
TXAR	**Lajitas Array**	**116.70**	**42**	PKP	**PKPdf**	**19 11 55.4**	**+0.7**
	comp=Z,0.6nm,0.9s,baz=48,slow=1.9,SNR=4.7						

*NIED **06** 19:38:00, 36°40N×140°70E, h56km, Mw3.9 Best double couple: M0 8.86000×10^14 NP1:φs182.00000°, δ20.00000°, λ73.00000°. NP2:φs21.00000°, δ71.00000°, λ96.00000°.*
*IDC **06** 19:38:18.3±0.8, 36°84N×140°68E, h0km, mb3.9/18, mb1 4.0/20, mb1mx3.9/44, mbtmp3.9/20, ML3.8/1, MS2.8/2, Ms1 2.8/2, ms1mx2.4/41, Error ellipse: s-maj=18.7km s-min=14.2km az=123.0*
*MOS **06** 19:38:21.0±0.8, 36°83N×140°89E, h33km, mb4.3/11, Error ellipse: s-maj=13.6km s-min=9.6km az=104.6*
*ISCJB **06** 19:38:22.7±0.6, 36°49N±0°05×140°79E±0°06, h61km±3km, mb3.9/25, Error ellipse: s-maj=10.4km s-min=6.2km az=135.7*
*JMA **06** 19:38:23.8±0.1, 36°43N×140°69E, h53km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs34.00000°, δ77.00000°, λ86.00000°. NP2:φs231.00000°, δ14.00000°, λ107.00000°. Principal axes: T Plg58.0000°, Azm298.0000°; N Plg4.0000°, Azm34.0000°; P Plg32.0000°, Azm127.0000°;*
JMA Felt II J1.
*NEIC **06** 19:38:24.8±1.0, 36°90N×140°64E, h44km±7km, mb4.0/3 Error ellipse: s-maj=12.6km s-min=7.3km az=141.0*
NEIC Recorded [2 JMA] in Ibaraki and [1 JMA] in Chiba, Fukushima and Tochigi.

ISC 06 19:38:22.9±1.0, 36°47N±0°05×140°82E±0°06, h48km±7km, n67, σ1s20/67, mb3.9/25, 6C-5D, Near east coast of eastern Honshu

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

ASAJ	**Asahikawa**	**7.76**	**10**	P	Pn	19 40 09.4	-3.8
ASAJ						19 41 36.7	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax	smax		
	comp=N,1.0nm,0.3s						
JNU	**Nakatsue**	**8.83**	**251**	LR	LR	19 44 06.0	
	comp=N,80nm,19.4s,baz=46,slow=39						
KSRS	**Korea Array**	**10.37**	**279**	Pn	Pn	19 40 44.5	-4.4
	baz=95,slow=15,SNR=2.4						
KSRS				LR	LR	19 44 36.8	
	comp=N,38nm,18.7s,baz=54,slow=37						
KSAR	**Wonju Array Be**	**10.40**	**279**	P	Pn	19 40 44.5	-4.9
KSAR	**Wonju Array Be**	**10.40**	**279**	Pn	Pn	19 40 44.5	-4.9
YAK	**Yakutsk**	**26.52**	**348**	P	**P**	**19 43 54.2**	**-1.5**
	comp=N,3.6nm,0.4s,baz=344,slow=1.9,SNR=4.2						
ULN	**Ulaanbaatar**	**27.29**	**305**	*e*P	**P**	**19 44 03.0**	**+0.1**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.7s						
ULN	**Ulaanbaatar**	**27.29**	**305**	*e*P	**P**	**19 44 00.9**	**-2.0**
	comp=Z,1.1nm,0.6s						
SEY	**Seymchan**	**27.44**	**11**	P	**P**	**19 44 02.9**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=180,slow=20,SNR=2.1						
SONM	**Songino Array**	**27.71**	**305**	P	**P**	**19 44 05.3**	**-1.4**
	comp=Z,1.5nm,0.7s,baz=106,slow=9.8,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**28.28**	**119**	T	T	20 14 19.9	
	baz=313,slow=75,SNR=30						
H11N1	**WAKE ISLAND Hy**	**28.28**	**119**	T	T	20 14 18.4	
	baz=313,slow=75,SNR=27						
H11N3	**WAKE ISLAND Hy**	**28.29**	**119**	T	T	20 14 21.2	
	baz=313,slow=75,SNR=24						
TIXI	**Tiksi**	**35.80**	**354**	*e*P	**P**	**19 45 17.8**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**41.95**	**313**	P	**P**	**19 46 08.1**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=94,slow=6.7,SNR=11						
ZALV	**Zalesovo Beam**	**41.95**	**313**	*i* P	**P**	**19 46 09.0**	**+0.3**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**44.02**	**303**	P	**P**	**19 46 24.8**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=87,slow=6.3,SNR=13						
MKAR	**Makanchi Array**	**44.02**	**303**	*ce*P	**P**	**19 46 26.8**	**+1.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TAPN	**Taplejung**	**45.51**	**274**	*e*P	**P**	**19 46 37.2**	**-0.8**
KURK	**Kurchatov**	**45.91**	**308**	*e*P	**P**	**19 46 40.0**	**-0.5**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KURK	**Kurchatov**	**45.91**	**308**	*e*P	**P**	**19 46 40.0**	**-0.5**
	comp=Z,3.4nm,0.7s						
ODAN	**Odare**	**45.98**	**274**	*e*P	**P**	**19 46 41.3**	**-0.4**
RAMN	**Ramite**	**46.57**	**274**	*e*P	**P**	**19 46 45.3**	**-1.1**
JIRN	**Jiri**	**46.60**	**275**	*e*P	**P**	**19 46 47.0**	**+0.3**
	comp=Z,8.2nm,0.8s						
GUN	**Gumba**	**46.74**	**276**	*e*P	**P**	**19 46 47.8**	**0.0**
	comp=Z,5.1nm,0.6s						
PKIN	**Phulchoki**	**47.27**	**276**	*e*P	**P**	**19 46 51.6**	**-0.2**
	comp=Z,5.3nm,1.0s						
KKN	**Kakani**	**47.27**	**276**	*e*P	**P**	**19 46 51.7**	**-0.1**
GKN	**Gorkha**	**47.70**	**277**	*e*P	**P**	**19 46 54.9**	**-0.1**
	comp=Z,12nm,0.9s						
KOLN	**Koldanda**	**48.63**	**277**	*e*P	**P**	**19 47 03.3**	**+1.1**
COLA	**College**	**49.81**	**32**	*e*P	**P**	**19 47 08.1**	**-2.4**
COLA				pmax	pmax		
	comp=Z,12nm,1.2s						
ILAR	**Eielson Array**	**50.23**	**32**	P	**P**	**19 47 14.3**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=270,slow=6.5,SNR=15						
INK	**Inuvik**	**55.11**	**27**	P	**P**	**19 47 48.9**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=257,slow=14,SNR=4.0						
WRA	**Warramunga Arr**	**56.44**	**187**	P	P	19 48 04.8	+5.1
	comp=Z,0.4nm,0.5s,baz=2.4,slow=7.5,SNR=2.3						
ARU	**Arti**	**56.47**	**319**	*c* *i* P	**P**	**19 47 59.5**	**-0.1**
ARU						19 50 01.9	
ARU				S	**S**	**19 55 51.8**	**+4.8**
ARU				SS	**SS**	**19 59 36.6**	**+2.4**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ABKAR	**Akbulak array**	**57.94**	**310**	*e*P	**P**	**19 48 09.7**	**-0.4**
	comp=Z,1.0nm,0.6s						
GEYT	**Alibeck**	**63.69**	**299**	P	**P**	**19 48 49.5**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=102,slow=6.1,SNR=3.6						
ARCES	**ARCESS Array B**	**64.36**	**339**	P	**P**	**19 48 52.1**	**-1.2**
	comp=Z,2.0nm,0.8s,baz=57,slow=8.5,SNR=10						
YKA	**Yellowknife Ar**	**64.54**	**30**	P	**P**	**19 48 54.9**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=308,slow=7.2,SNR=3.8						
FINES	**FINESS Array B**	**69.09**	**332**	P	**P**	**19 49 23.7**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=63,slow=8.8,SNR=8.8						
FINES	**FINESS Array B**	**69.09**	**332**	*ce*P	**P**	**19 49 23.7**	**+0.2**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KBZ	**Khabaz**	**70.91**	**311**	P	**P**	**19 49 35.4**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=56,slow=24,SNR=4.5						
KIV	**Kislovodsk**	**70.92**	**311**	*e*P	**P**	**19 49 35.3**	**+0.2**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
AKASG	**Malin Array Be**	**74.45**	**322**	P	**P**	**19 49 55.3**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=48,slow=5.8,SNR=13						
AKASG	**Malin Array Be**	**74.45**	**322**	*ce*P	**P**	**19 49 54.5**	**-1.3**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KIEV	**Kiev**	**74.47**	**322**	*e*P	**P**	**19 49 55.3**	**-0.6**
NB2	**NORSAR Subarra**	**74.53**	**337**	P	**P**	**19 49 56.5**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**74.53**	**337**	P	**P**	**19 49 56.8**	**+0.7**
	comp=Z,2.4nm,0.7s,baz=39,slow=5.9,SNR=12						
PDAR	**Pinedale Array**	**78.40**	**45**	P	**P**	**19 50 19.9**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=317,slow=6.3,SNR=3.7						
BRTR	**Keskin Array B**	**78.87**	**311**	P	**P**	**19 50 22.2**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=82,slow=1.7,SNR=3.5						
BRTR	**Keskin Array B**	**78.87**	**311**	*ce*P	**P**	**19 50 22.2**	**+1.0**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CLL	**Collm**	**81.35**	**330**	*e*P	**P**	**19 50 34.0**	**-0.1**
GERES	**GERESS Array B**	**82.94**	**328**	P	**P**	**19 50 42.1**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=62,slow=6.2,SNR=3.5						
ANMO	**Albuquerque**	**85.32**	**49**	*e*P	**P**	**19 50 54.2**	**-0.9**
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.0s						

*IDC **06** 19:38:39.0±1.6, 15°.53S×173°.25W, h0km, mb3.9/7, mb1 4.2/7, mb1mx3.9/39, mbtmp3.9/7, Error ellipse: s-maj=98.3km s-min=21.0km az=147.0*
*ISCJB **06** 19:38:40.7±0.7, 15°.8S±0°.2×173°.2W±0°.2, h26km, mb3.9/10, Error ellipse: s-maj=30.4km s-min=13.1km az=43.2*
*NEIC **06** 19:38:43.6±0.4, 15°.83S×173°.13W, h35km, mb4.0/3, Error ellipse: s-maj=21.8km s-min=9.4km az=132.0*

ISC 06 19:38:42.3±0.8, 15°.8S±0°.2×173°.1W±0°.2, h26km, n20, σ0^{s}60/13, mb4.0/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.28**	**35**	*e*Pn	Pn	19 39 10.1	-8.3
RAO	**Raoul Island**	**14.10**	**197**	P	**Pn**	**19 42 00.0**	**-0.4**
H11S2	**WAKE ISLAND Hy**	**39.43**	**329**	T	T	20 27 28.0	
	baz=148,slow=74,SNR=11						
H11S3	**WAKE ISLAND Hy**	**39.45**	**329**	T	T	20 27 13.9	
	baz=148,slow=74,SNR=12						
H11S1	**WAKE ISLAND Hy**	**39.45**	**329**	T	T	20 27 48.2	
	baz=148,SNR=7.0						
H11N3	**WAKE ISLAND Hy**	**40.38**	**330**	T	T	20 28 48.6	
	baz=150,slow=76,SNR=5.7						
H11N1	**WAKE ISLAND Hy**	**40.39**	**330**	T	T	20 28 52.1	
	baz=150,slow=76,SNR=5.5						
H11N2	**WAKE ISLAND Hy**	**40.40**	**330**	T	T	20 28 47.1	
	baz=150,slow=76,SNR=4.9						
STKA	**Stephens Creek**	**44.07**	**240**	P	**P**	**19 46 49.0**	**+0.7**
	3.4nm,1.0s,baz=77,slow=7.1,SNR=3.3						
WRAB	**Tennant Creek**	**50.00**	**257**	*e*P	**P**	**19 47 34.4**	**-0.5**
	1.2nm,0.6s						
WRA	**Warramunga Arr**	**50.01**	**257**	P	**P**	**19 47 34.6**	**-0.4**
	1.0nm,0.6s,baz=91,slow=6.9,SNR=12						
ASAR	**Alice Springs**	**50.24**	**252**	P	**P**	**19 47 37.0**	**+0.3**
	2.8nm,0.5s,baz=87,slow=7.9,SNR=40						
TXAR	**Lajitas Array**	**80.61**	**56**	P	**P**	**19 50 53.8**	**+0.6**
	0.8nm,0.9s,baz=224,slow=5.2,SNR=5.7						
MCMT	**McKenzie Canyo**	**81.40**	**39**	*e*P	**P**	**19 50 57.6**	**+0.4**
	1.2nm,1.0s						
CHMT	**Chamberlain Mo**	**82.28**	**37**	*e*P	**P**	**19 51 01.5**	**-0.3**
	1.7nm,1.0s						
PDAR	**Pinedale Array**	**82.38**	**42**	P	**P**	**19 51 02.7**	**+0.3**
	0.9nm,1.0s,baz=252,slow=3.0,SNR=5.9						
ILAR	**Eielson Array**	**82.78**	**11**	P	**P**	**19 51 02.6**	**-1.0**
	0.5nm,0.8s,baz=225,slow=5.0,SNR=4.1						
YKA	**Yellowknife Ar**	**90.35**	**23**	P	**P**	**19 51 40.6**	**-0.1**
	0.4nm,0.8s,baz=240,slow=4.6,SNR=5.8						
GERES	**GERESS Array B**	**146.57**	**352**	PKPbc	**PKPbc**	**19 58 21.3**	**-0.3**
	0.4nm,0.6s,baz=72,slow=4.3,SNR=5.0						
BRTR	**Keskin Array B**	**146.63**	**321**	PKPbc	**PKPbc**	**19 58 22.9**	**+0.8**
	1.4nm,0.7s,baz=129,slow=1.8,SNR=9.7						

IDC 06 19:43:32.9±8.1, 7°.70S×128°.86E, h179km±88km, mb3.2/1, mb1 3.3/4, mb1mx3.0/36, mbtmp3.8/4, Error ellipse: s-maj=86.7km s-min=21.9km az=37.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.71**	**244**	P	Pn	19 44 56.0	-0.1
	3.4nm,0.3s,baz=92,slow=5.3,SNR=5.6						
BATI				S	Sn	19 46 02.1	+0.6
	5.1nm,0.3s,baz=110,slow=20,SNR=6.9						
WRA	**Warramunga Arr**	**13.28**	**157**	P	Pn	19 46 34.9	+0.2
	0.5nm,0.3s,baz=334,slow=12,SNR=22						
WRA				S	Sn	19 48 57.5	-4.9
	0.6nm,0.3s,baz=334,slow=22,SNR=8.6						
ASAR	**Alice Springs**	**16.59**	**164**	P	Pn	19 47 16.8	+1.2
	0.4nm,0.3s,baz=338,slow=9.6,SNR=33						
MKAR	**Makanchi Array**	**68.20**	**327**	P	P	19 54 13.9	-0.1
	0.4nm,0.5s,baz=131,slow=5.9,SNR=9.9						

IDC 06 19:53:18.6±319.0, 56°.68N×30°.91E, h0km, Error ellipse: s-maj=131.3km s-min=72.8km az=92.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**3.48**	**87**	*i*		20 14 20.0	
	baz=271,slow=321,SNR=1.0						
I26DE	**FREYUNG INFRAS**	**13.01**	**240**	*i*		21 15 00.0	
	baz=44,slow=338,SNR=0.4						
I31KZ	**AKTYUBINSK INF**	**17.23**	**100**	*i*		21 42 20.0	
	baz=301,slow=321,SNR=0.3						
I48TN	**KESRA INFRASON**	**25.46**	**224**	*i*		22 29 50.0	
	baz=26,slow=326,SNR=0.5						

*IDC **06** 19:54:03.0±2.8, 33°.39S×178°.97W, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.5/25, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=69.3km s-min=44.1km az=123.0*
*ISCJB **06** 19:54:10.8±1.8, 33°.56S±0°.08×179°.3W±0°.3, h55km, mb3.3/2, Error ellipse: s-maj=36.9km s-min=9.9km az=11.3*

ISC 06 19:54:13.0±2.3, 33°.5S±0°.1×179°.4W±0°.3, h55km, n12, σ1^{s}02/18, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.44**	**204**	*e*PN	**Pn**	**19 55 16.6**	**-1.1**
MXZ				*e*SN	**Sn**	**19 56 09.3**	**+1.2**
WMGZ	**Waiomatatini S**	**4.64**	**202**	*e*PN	**Pn**	**19 55 19.9**	**-0.6**
HAZ	**Te Kaha**	**4.80**	**208**	PN	**Pn**	**19 55 22.6**	**-0.2**
CNGZ	**Carnagh Statio**	**5.32**	**201**	*e*PN	**Pn**	**19 55 28.5**	**-1.2**
MWZ	**Matawai**	**5.41**	**206**	*e*PN	**Pn**	**19 55 31.2**	**+0.1**
MWZ				SN	**Sn**	**19 56 32.0**	**0.0**
URZ	**Urewera**	**5.51**	**210**	Pn	**Pn**	**19 55 29.9**	**-2.5**
	1.0nm,0.3s,baz=263,slow=4.0,SNR=20						
URZ				Sn	**Sn**	**19 56 33.1**	**-1.3**
	1.3nm,0.3s,baz=246,slow=20,SNR=4.1						
URZ	**Urewera**	**5.51**	**210**	PN	**Pn**	**19 55 33.0**	**+0.6**
URZ				SN	**Sn**	**19 56 34.7**	**+0.4**
RIGZ	**Rimuhau**	**5.66**	**203**	*e*PN	**Pn**	**19 55 34.5**	**0.0**
RIGZ				SN	**Sn**	**19 56 38.3**	**+0.2**
SNGZ	**Shannon Statio**	**5.87**	**206**	*e*PN	**Pn**	**19 55 37.8**	**+0.4**
SNGZ				SN	**Sn**	**19 56 44.6**	**+1.3**
ASAR	**Alice Springs**	**41.85**	**271**	P	**P**	**20 01 58.5**	**+0.7**
	0.4nm,0.8s,baz=107,slow=7.6,SNR=5.4						
WRA	**Warramunga Arr**	**43.12**	**276**	P	**P**	**20 02 07.7**	**-0.4**
	0.4nm,0.5s,baz=116,slow=8.0,SNR=8.1						
FINES	**FINESS Array B**	**147.60**	**337**	PKPbc	**PKPdf**	**20 13 48.0**	**+0.4**
	0.8nm,0.5s,baz=56,slow=3.5,SNR=9.8						

IDC 06 20:04:08.2±8.8, 17°.92S×168°.91E, h114km±63km, mb3.8/3, mb1 3.9/4, mb1mx3.5/27, mbtmp4.1/4, Error ellipse: s-maj=137.4km s-min=61.1km az=107.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.73**	**209**	P	Pn	20 05 18.1	+0.6
	0.5nm,0.3s,baz=270,slow=24,SNR=13						
DZM				S	Sn	20 06 11.5	0.0
	1.5nm,0.3s,baz=270,slow=20,SNR=2.4						
STKA	**Stephens Creek**	**28.30**	**235**	P	P	20 09 50.2	-0.9
	1.7nm,0.5s,baz=66,slow=9.1,SNR=12						
WRA	**Warramunga Arr**	**32.73**	**261**	P	P	20 10 30.4	+0.2
	0.4nm,0.3s,baz=88,slow=8.3,SNR=17						
ASAR	**Alice Springs**	**33.16**	**254**	P	P	20 10 34.4	+0.4
	3.6nm,0.4s,baz=82,slow=8.6,SNR=116						

*BJI **06** 20:07:04.6, 40°.97N×74°.75E, h7km, ML3.3/7*
*KRNET **06** 20:07:05.0±0.1, 40°.90N×74°.85E, h2km, mb3.6*
*ISCJB **06** 20:07:06.7±0.3, 40°.85N±0°.02×74°.89E±0°.04, h10km, mb3.2/2, Error ellipse: s-maj=4.5km s-min=3.1km az=19.5*
*NNC **06** 20:07:06.5±1.2, 40°.81N×74°.94E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=15.2km s-min=4.2km az=124.0*
*IDC **06** 20:07:08.6±1.7, 41°.21N×73°.65E, h0km, mb3.4/2, mb1 3.3/5, mb1mx3.2/38, mbtmp3.2/5, ML2.6/3, Error ellipse: s-maj=45.4km s-min=14.0km az=128.0*

ISC 06 20:07:05.2±0.6, 40°.87N±0°.03×74°.94E±0°.03, h10km, n52, σ1^{s}29/60, 18C-19D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALK	**Salom-Alik**	**0.85**	**271**	*e*P	**Pg**	**20 07 19.8**	**-1.9**
	baz=268						
SALK				*e*S	**Sg**	**20 07 31.1**	**-1.6**
	baz=268						
KZA	**Kyzart**	**1.23**	**11**	P	**Pn**	**20 07 28.1**	**-0.8**
	SNR=96						
KZA	**Kyzart**	**1.23**	**11**	⇑*i*P	**Pn**	**20 07 27.8**	**-1.2**
	baz=14						
KZA				⇑*i*S	**Sb**	**20 07 44.2**	**-0.8**
	baz=14						
SFK	**Sufi-Kurgan**	**1.39**	**233**	⇓P	**Pn**	**20 07 31.2**	**+0.3**
	28nm,0.5s						
SFK				⇓S	**Sg**	**20 07 50.2**	**+0.3**
	92nm,0.4s						
UCH	**Uchtor**	**1.40**	**347**	P	**Pn**	**20 07 30.8**	**-0.5**
	SNR=120						
UCH	**Uchtor**	**1.40**	**347**	⇓*i*P	**Pn**	**20 07 30.6**	**-0.7**
	baz=349						
KSH	**Kashi**	**1.56**	**149**	Pg	Pg	20 07 40.3	+5.1
KSH				Sg	Sg	20 08 04.1	+8.6
KSH				SMN			
	280nm,0.4s						
KSH				SME			
	310nm,0.4s						
AML	**Almayashu**	**1.57**	**324**	P	**Pn**	**20 07 33.9**	**+0.3**
	SNR=67						
AML	**Almayashu**	**1.57**	**324**	*e*P	**Pn**	**20 07 33.5**	**-0.1**
	baz=325						
AML				*i* S	**Sn**	**20 07 53.3**	**-0.9**
	baz=325						
ULHL	**Ulahol**	**1.69**	**35**	P	**Pb**	**20 07 36.9**	**+0.4**
	SNR=78						
ULHL	**Ulahol**	**1.69**	**35**	⇓*i*P	**Pb**	**20 07 36.5**	**-0.1**
	baz=37						
ULHL				⇓*i*S	**Sg**	**20 07 58.9**	**-0.7**
	baz=37						
BOOM	**Boomskoye usch**	**1.79**	**24**	*e*P	**Pb**	**20 07 37.6**	**-0.6**
	baz=27						
BOOM				*e*S	**Sb**	**20 08 01.0**	**+0.2**
	baz=27						
KBK	**Karagaybulak**	**1.79**	**0**	P	**Pb**	**20 07 38.2**	**-0.1**
	SNR=121						
KBK	**Karagaybulak**	**1.79**	**0**	⇑*i*P	**Pb**	**20 07 38.0**	**-0.2**
	baz=2.0						
KBK				⇑*i*S	**Sb**	**20 08 01.6**	**+0.8**
	baz=2.0						
AAK	**Ala-Archa**	**1.80**	**349**	⇑Pn	**Pb**	**20 07 38.0**	**-0.4**
	62nm,0.5s						
AAK				⇓Sn	**Sg**	**20 08 05.8**	**+2.7**
	148nm,0.8s						
AAK	**Ala-Archa**	**1.80**	**349**	P	**Pb**	**20 07 38.2**	**-0.1**
	SNR=127						
AAK	**Ala-Archa**	**1.80**	**349**	Pg	**Pb**	**20 07 38.2**	**-0.1**
	23nm,0.3s,baz=157,slow=12,SNR=137						
AAK				Lg	Lg	20 08 01.2	
	23nm,0.3s,baz=318,slow=18,SNR=18						
AAK				LR	LR	20 08 26.4	
	comp=Z,64nm,19.8s,baz=199,slow=50						
AAK	**Ala-Archa**	**1.80**	**349**	⇓*i*P	**Pb**	**20 07 37.9**	**-0.4**
	baz=351						
AAK				⇓*i*S	**Sg**	**20 08 03.0**	**-0.1**
	baz=351						
FRU	**Bishkek**	**1.98**	**353**	*e*P	**Pb**	**20 07 40.5**	**-0.9**
	baz=355						
EKS2	**Erkin-Say**	**2.00**	**335**	P	**Pb**	**20 07 41.6**	**-0.1**
	SNR=82						
EKS2	**Erkin-Say**	**2.00**	**335**	⇓*i*P	**Pb**	**20 07 41.2**	**-0.5**
	baz=336						
EKS2				⇓*i*S	**Sg**	**20 08 09.7**	**+0.3**
	baz=336						
EKS	**Erkin-Say**	**2.00**	**335**	*e*P	**Pb**	**20 07 42.1**	**+0.4**
	baz=336						
EKS				*e*S	**Sg**	**20 08 07.9**	**-1.6**
	baz=336						
KDJ	**Kajisay**	**2.10**	**52**	*e*P	**Pb**	**20 07 43.0**	**-0.6**
	baz=55						
KDJ				*e*S	**Sb**	**20 08 10.1**	**+0.2**
	baz=55						
TKM2	**Tokmak 2**	**2.11**	**13**	⇑Pn	**Pb**	**20 07 44.3**	**+0.5**
	12nm,0.3s						
TKM2				⇑Sn	**Sg**	**20 08 12.6**	**-0.6**
	152nm,0.5s						
TKM2	**Tokmak 2**	**2.11**	**13**	P	**Pb**	**20 07 44.0**	**+0.2**
	SNR=123						
TKM2	**Tokmak 2**	**2.11**	**13**	⇑*i*P	**Pb**	**20 07 44.1**	**+0.3**
	baz=15						
TKM2				⇑*i*S	**Sg**	**20 08 12.1**	**-1.0**
	baz=15						
CHMS	**Chumysh**	**2.14**	**356**	P	**Pb**	**20 07 44.3**	**+0.2**
	SNR=28						
CHMS	**Chumysh**	**2.14**	**356**	⇑*i*P	**Pb**	**20 07 44.1**	**0.0**
	baz=358						
CHMS				⇑*i*S	**Sg**	**20 08 13.1**	**-0.8**
	baz=358						
USP	**Ospenovka**	**2.42**	**352**	P	**Pb**	**20 07 49.0**	**0.0**
	SNR=162						
KNDC	**Almaty**	**2.79**	**32**	⇑Pn	**Pb**	**20 07 55.0**	**-0.3**
	42nm,0.5s						
KNDC				⇑Lg	Lg	20 08 34.5	
	350nm,1.1s						
ANVS	**Anan'yevo**	**2.80**	**46**	⇓*i*P	**Pg**	**20 07 57.2**	**-1.7**
	baz=47						
ANVS				⇓*e*S	**Sg**	**20 08 34.2**	**-0.9**
	baz=47						
KK31	**Karatay Array**	**3.99**	**306**	Pn	Pb	20 08 11.9	-3.7
	0.2nm,0.3s,baz=134,slow=12,SNR=43						
KK31				⇓Pg	Pg	20 08 16.3	-5.3
	4.3nm,0.6s,baz=120,slow=16,SNR=35						
KK31				Lg	Lg	20 09 10.0	
	18nm,0.5s,baz=128,slow=28,SNR=16						
PDGK	**Podgornoye**	**4.18**	**52**	⇓Pn	Pn	20 08 12.9	+3.9
	14nm,0.6s						
PDGK				⇓Lg	Lg	20 09 18.5	
	43nm,0.8s						
DZET	**Dzherino**	**5.14**	**248**	⇑Pn	Pn	20 08 27.5	+5.2
	10nm,0.6s						
DZET				⇑Sn	Sn	20 09 28.9	+7.2
	12nm,0.6s						
DZET				⇑Lg	Lg	20 09 49.1	
	39nm,0.7s						
CEP	**Cherat**	**7.43**	**200**	P	Pn	20 08 58.9	+5.0
CEP				S	**Sn**	**20 10 22.0**	**+3.7**
OTUK	**Ortayu**	**7.61**	**347**	⇓Pn	Pn	20 08 60.0	+3.8
	2.8nm,1.1s						
OTUK				⇓Lg	Lg	20 11 07.7	
	12nm,0.8s						
MK31	**Makanchi Array**	**7.96**	**39**	⇑Pn	Pn	20 09 04.1	+3.1
	0.8nm,0.5s,baz=231,slow=17,SNR=2.6						
MK31				⇓Lg	Lg	20 11 19.6	
	3.3nm,0.7s,baz=219,slow=25,SNR=4.4						
MKAR	**Makanchi Array**	**7.96**	**39**	Pn	Pb	20 09 12.6	-11
	0.2nm,0.3s,baz=231,slow=10,SNR=7.9						
MKAR				Lg	Lg	20 11 19.3	
	0.5nm,0.3s,baz=219,slow=30,SNR=4.5						
KURBB	**Kurchatov Arra**	**10.07**	**13**	Pn	**Pn**	**20 09 31.8**	**+1.9**
	0.0nm,0.3s,baz=204,slow=12,SNR=4.6						
KURBB				Lg	Lg	20 12 21.4	
	0.1nm,0.3s,baz=196,slow=29,SNR=5.7						
KURK	**Kurchatov**	**10.18**	**13**	⇓Sn	**Sn**	**20 11 30.7**	**+5.2**
	1.3nm,0.8s						
KURK				⇑Lg	Lg	20 12 27.8	
	9.4nm,1.1s						
ZALV	**Zalesovo Beam**	**14.68**	**24**	Pn	**P**	**20 10 38.2**	**-0.9**
	0.1nm,0.3s,baz=208,slow=11,SNR=2.6						
KOLN	**Koldanda**	**14.88**	**149**	*e*P	Pn	20 10 30.5	-5.4
	14nm,1.0s						
GKN	**Gorkha**	**15.11**	**145**	*e*P	**Pn**	**20 10 38.1**	**-0.8**
	7.1nm,0.6s						
KKN	**Kakani**	**15.57**	**144**	*e*P	**Pn**	**20 10 45.4**	**+0.3**
	4.5nm,0.6s						
GUN	**Gumba**	**15.75**	**142**	*e*P	**P**	**20 10 51.0**	**-0.5**
	6.9nm,0.7s						
PKI	**Pulchoki**	**15.82**	**144**	*e*P	**Pn**	**20 10 47.1**	**-1.3**
JIRN	**Jiri**	**16.10**	**141**	*e*P	**P**	**20 10 54.3**	**-1.1**
	5.9nm,0.4s						
RAMN	**Ramite**	**16.90**	**142**	*e*P	**Pn**	**20 10 59.4**	**-2.7**
	11

ULHL					⇓*i*S		**Sn**	**20 23 58.3**	**-0.7**
	baz=35									
AAK	**Ala-Archa**	**1.77**	**352**		⇓P		**Pn**	**20 23 37.4**	**+0.4**
	39nm,0.3s									
AAK					⇓S		**Sg**	**20 24 02.7**	**+0.1**
	215nm,1.1s									
AAK	**Ala-Archa**	**1.77**	**352**		P		**Pn**	**20 23 37.8**	**+0.8**
	SNR=57									
AAK	**Ala-Archa**	**1.77**	**352**		Pg		**Pn**	**20 23 37.6**	**+0.6**
	33nm,0.3s,baz=146,slow=8.1,SNR=87									
AAK					Lg		Lg	20 24 00.3		
	15nm,0.3s,baz=199,slow=15,SNR=5.4									
AAK	**Ala-Archa**	**1.77**	**352**	*d*	*i*P*		**Pn**	**20 23 37.4**	**+0.4**
AAK	**Ala-Archa**	**1.77**	**352**	⇑	*i*P		**Pn**	**20 23 37.4**	**+0.4**
	baz=351									
AAK					⇑*i*S		**Sg**	**20 24 05.0**	**+2.4**
	baz=351									
KBK	**Karagaybulak**	**1.78**	**3**		P		**Pn**	**20 23 37.8**	**+0.7**
	SNR=100									
KBK	**Karagaybulak**	**1.78**	**3**	*i*	PN		**Pn**	**20 23 37.8**	**+0.7**
KBK	**Karagaybulak**	**1.78**	**3**	⇓	*i*P		**Pn**	**20 23 37.5**	**+0.4**
	baz=1.0									
KBK					⇓*i*S		**Sg**	**20 24 03.4**	**+0.6**
	baz=1.0									
BOOM	**Boomskoye usch**	**1.81**	**27**	⇓	*i*P		**Pn**	**20 23 38.0**	**+0.4**
	baz=25									
BOOM					⇓*e*S		**Sn**	**20 24 01.0**	**0.0**
	baz=25									
EKS2	**Erkin-Say**	**1.95**	**336**		P		**Pb**	**20 23 41.0**	**-0.6**
	SNR=44									
EKS2	**Erkin-Say**	**1.95**	**336**	*i*	PN		**Pb**	**20 23 41.0**	**-0.6**
EKS2	**Erkin-Say**	**1.95**	**336**	*e*	P		**Pn**	**20 23 40.7**	**+1.3**
	baz=336									
EKS2					*i* S		**Sg**	**20 24 08.5**	**+0.2**
	baz=336									
EKS	**Erkin-Say**	**1.95**	**337**	*e*	P		**Pb**	**20 23 41.2**	**-0.5**
	baz=336									
EKS					*e*S		**Sb**	**20 24 06.8**	**+0.5**
	baz=336									
FRU	**Bishkek**	**1.96**	**355**	⇓	*i*P		**Pn**	**20 23 40.0**	**+0.5**
	baz=354									
FRU					⇓*e*S		**Sn**	**20 24 04.6**	**+0.2**
	baz=354									
CHMS	**Chumysh**	**2.12**	**358**		P		**Pb**	**20 23 43.8**	**-0.7**
	SNR=46									
CHMS	**Chumysh**	**2.12**	**358**	*i*	PN		**Pb**	**20 23 43.8**	**-0.7**
CHMS	**Chumysh**	**2.12**	**358**	⇑	*i*P		**Pb**	**20 23 43.6**	**-0.9**
	baz=357									
CHMS					⇑*i*S		**Sg**	**20 24 13.7**	**0.0**
	baz=357									
TKM2	**Tokmak 2**	**2.12**	**15**	⇑	Pn		**Pn**	**20 23 43.3**	**+1.5**
	74nm,0.5s									
TKM2					⇑Sn		**Sb**	**20 24 12.1**	**+0.8**
	173nm,0.5s									
TKM2	**Tokmak 2**	**2.12**	**15**		P		**Pb**	**20 23 43.6**	**-1.0**
	SNR=79									
TKM2	**Tokmak 2**	**2.12**	**15**	*i*	PN		**Pb**	**20 23 43.5**	**-1.0**
TKM2	**Tokmak 2**	**2.12**	**15**	⇑	*i*P		**Pn**	**20 23 43.3**	**+1.5**
	baz=14									
TKM2					⇑*i*S		**Sb**	**20 24 11.9**	**+0.6**
	baz=14									
CHVK	**Chauvay**	**2.13**	**250**	*e*	P		**Pg**	**20 23 46.0**	**-0.4**
	baz=253									
CHVK					*e*S		**Sg**	**20 24 15.0**	**+1.1**
	baz=253									
KDJ	**Kajisay**	**2.16**	**54**	*e*	P		**Pn**	**20 23 43.0**	**+0.6**
	baz=52									
KDJ					*e*S		**Sn**	**20 24 10.0**	**+0.4**
	baz=52									
USP	**Ospenovka**	**2.40**	**354**		P		**Pb**	**20 23 48.4**	**-0.9**
	SNR=137									
USP	**Ospenovka**	**2.40**	**354**	*i*	PN		**Pb**	**20 23 48.3**	**-0.9**
KNDC	**Almaty**	**2.83**	**34**	⇑	Pn		**Pb**	**20 23 56.7**	**+0.2**
	53nm,0.4s									
KNDC					⇓Sn		**Sg**	**20 24 34.7**	**-1.7**
	504nm,0.9s									
ANVS	**Anan'yevo**	**2.85**	**47**	⇓	*i*P		**Pb**	**20 23 56.8**	**-0.2**
	baz=45									
ANVS					⇓*e*S		**Sb**	**20 24 33.8**	**+1.6**
	baz=45									
AAA	**Alma-Ata**	**2.87**	**33**	*i*	PN		**Pb**	**20 23 56.1**	**-1.1**
AAA					*i* S		**Sb**	**20 24 33.7**	**+1.2**
AAA					pmax		pmax			
	comp=Z,149nm,0.4s									
AAA					smax		smax			
	comp=N,693nm,0.8s									
BTK	**Batken**	**3.17**	**256**	*e*	P		**Pg**	**20 24 06.0**	**-0.3**
	baz=258									
BTK					*e*S		**Sg**	**20 24 49.2**	**+1.8**
	baz=258									
KK31	**Karatay Array**	**3.91**	**306**	⇑	Pn		Pn	20 24 09.7	+3.5	
	comp=N,3.3nm,0.4s,baz=130,slow=15,SNR=42									
KK31					Lg		Lg	20 25 07.6		
	comp=N,19nm,0.5s,baz=126,slow=29,SNR=12									
PDGK	**Podgornoye**	**4.24**	**53**	⇓	Pn		**Pn**	**20 24 12.2**	**+1.5**
	comp=N,6.5nm,0.9s									
PDGK					⇓Pg		**Pb**	**20 24 23.3**	**+2.8**
	comp=N,27nm,0.5s									
PDGK					⇑Lg		Lg	20 25 19.3		
	comp=N,115nm,1.1s									
DZET	**Dzherino**	**5.06**	**248**	⇓	Pn		Pn	20 24 26.4	+4.2	
	comp=N,4.6nm,0.5s									
DZET					⇑Sn		**Sn**	**20 25 21.8**	**+0.7**
	comp=N,37nm,0.9s									
DZET					⇓Lg		Lg	20 25 44.9		
	comp=N,78nm,0.9s									
CEP	**Cherat**	**7.41**	**199**		P		Pn	20 25 00.6	+6.1	
CEP					S		Sn	20 26 26.0	+7.0	
MK31	**Makanchi Array**	**8.00**	**40**	⇓	Pn		Pn	20 25 09.1	+6.7	
	comp=N,1.5nm,0.5s,baz=232,slow=16,SNR=8.7									
MK31					⇑Lg		Lg	20 27 22.6		
	comp=N,10nm,0.8s,baz=63,slow=30,SNR=4.7									
MKAR	**Makanchi Array**	**8.00**	**40**		Pn		Pn	20 25 10.4	+8.1	
	comp=N,0.2nm,0.3s,baz=62,slow=7.7,SNR=6.6									
MKAR					Lg		Lg	20 27 16.0		
	comp=N,0.6nm,0.3s,baz=64,slow=27,SNR=7.1									
MKAR					LR		LR	20 28 26.9		
	comp=N,24nm,21.6s,baz=204,slow=39									
THW	**Thamme Wali**	**8.44**	**198**		P		Pn	20 25 13.4	+5.0	
KURBB	**Kurchatov Arra**	**10.08**	**14**		Pn		**Pn**	**20 25 30.5**	**-0.3**
	comp=N,0.0nm,0.3s,baz=202,slow=12,SNR=5.3									
KURBB					Lg		Lg	20 28 19.2		
	comp=N,0.1nm,0.3s,baz=197,slow=29,SNR=10									
KURK	**Kurchatov**	**10.19**	**14**	⇑	Lg		Lg	20 28 29.5		
	comp=N,16nm,1.1s									
KURK	**Kurchatov**	**10.19**	**14**		P		**Pn**	**20 25 30.5**	**-1.8**
AB31	**Akbulak array**	**13.43**	**314**	⇑	Pn		**Pn**	**20 26 18.6**	**+2.0**
	comp=N,0.2nm,0.5s,baz=106,slow=13,SNR=4.1									
ZALV	**Zalesovo Beam**	**14.70**	**24**		Pn		**Pn**	**20 26 37.1**	**+3.1**
	comp=N,0.1nm,0.3s,baz=222,slow=9.7,SNR=2.5									
KOLN	**Koldanda**	**14.93**	**148**	*e*	P		**Pn**	**20 26 35.9**	**-1.6**
NVS	**Novosibirsk**	**15.05**	**19**	*e*	P		**P**	**20 26 42.2**	**-1.9**
GKN	**Gorkha**	**15.16**	**145**	*e*	P		**Pn**	**20 26 37.5**	**-3.0**
	comp=N,14nm,0.7s									
KKN	**Kakani**	**15.63**	**143**	*e*	P		**Pn**	**20 26 43.4**	**-3.3**
	comp=N,9.0nm,0.7s									
DMN	**Daman**	**15.71**	**144**	*e*	P		**Pn**	**20 26 44.6**	**-3.2**
	comp=N,25nm,1.2s									
GUN	**Gumba**	**15.81**	**141**	*e*	P		**Pn**	**20 26 46.0**	**-3.1**
	comp=N,34nm,1.2s									
PKIN	**Phulchoki**	**15.87**	**143**	*e*	P		**Pn**	**20 26 46.4**	**-3.4**
	comp=N,6.9nm,0.6s									
PKI	**Pulchoki**	**15.88**	**143**	*e*	P		**Pn**	**20 26 46.5**	**-3.5**
	comp=N,11nm,0.7s									
JIRN	**Jiri**	**16.16**	**141**	*e*	P		**Pn**	**20 26 50.4**	**-3.3**
	comp=N,11nm,0.4s									
RAMN	**Ramite**	**16.96**	**141**	*e*	P		**Pn**	**20 27 00.9**	**-2.8**
	comp=N,13nm,0.6s									
TAPN	**Taplejung**	**17.17**	**138**	*e*	P		**Pn**	**20 27 03.3**	**-3.1**
ODAN	**Odare**	**17.41**	**140**	*e*	P		**Pn**	**20 27 06.1**	**-3.3**
	comp=N,28nm,0.9s									
ARU	**Arti**	**18.83**	**331**	*d*	*i*P		**Pn**	**20 27 28.2**	**+1.8**
ARU					S		**Sn**	**20 30 55.0**	**-2.3**
ARU					pmax		pmax			
	comp=Z,4.0nm,1.7s									
TLY	**Talaya**	**22.51**	**52**		LR		LR	20 37 10.3		
	comp=Z,28nm,19.2s,baz=174,slow=37									
HIA	**Hailar**	**32.40**	**60**	*e*	P		P	20 29 42.1	+6.1	
HIA					pmax		pmax			
	comp=Z,3.0nm,0.8s									
TIXI	**Tiksi**	**40.59**	**23**	*e*	P		P	20 30 49.7	+4.2	
TIXI					pmax		pmax			
	comp=Z,2.0nm,1.0s									
KSRS	**Korea Array**	**40.78**	**77**		LR		LR	20 47 34.0		
	comp=Z,20nm,18.3s,baz=135,slow=36									
GERES	**GERESS Array B**	**43.01**	**302**		P		**P**	**20 31 02.6**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=48,slow=11,SNR=2.2									
GERES	**GERESS Array B**	**43.01**	**302**	*e*	P		**P**	**20 31 08.4**	**+2.7**
GERES					pmax		pmax			
	comp=Z,1.0nm,0.8s									
TORD	**Torodi Ar. Bea**	**68.80**	**269**		P		**P**	**20 34 10.4**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=57,slow=5.1,SNR=3.5									
ILAR	**Eielson Array**	**69.73**	**18**		P		**P**	**20 34 18.1**	**+2.2**
	comp=Z,0.4nm,1.0s,baz=331,slow=7.2,SNR=3.3									
YKA	**Yellowknife Ar**	**76.70**	**4**		P		**P**	**20 34 57.1**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=347,slow=5.8,SNR=4.8									

*IDC **06** 20:23:10.5±0.8,0.°56N×126.°46E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.8/39, mbtmp4.0/9, ML3.9/1, MS3.1/2, Ms1 3.1/2, ms1mx2.6/31, Error ellipse: s-maj=43.3km s-min=16.1km az=69.0*
*ISCJB **06** 20:23:15.6±0.5, 0.°43N±0.°04×126.°23E±0.°05, h47km, mb4.1/9, Error ellipse: s-maj=7.0km s-min=5.7km az=142.7*
*DJA **06** 20:23:16.1±0.3, 0.°N±4.°×12.°6E±.°, h10km, M3.9/5, MLv3.9/5*
*NEIC **06** 20:23:17.5±0.9, 0.°45N×126.°39E, h51km±9km, mb4.3/2, Error ellipse: s-maj=10.0km s-min=8.9km az=210.0*
ISC 06 20:23:17.5±0.7, 0.°38N±0.°06×126.°26E±0.°04, h47km, n24, σ1=9.36/30, mb4.1/9, Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.18**	**71**	P	**Pn**	**20 23 36.4**	**-1.1**
TNTI				S	**Sn**	**20 23 56.4**	**+4.0**
TNTI	**Ternate**	**1.18**	**71**	*e*Pg	**Pn**	**20 23 35.8**	**-1.7**
LBMI	**Labuha**	**1.60**	**129**	P	**Pn**	**20 23 43.9**	**+0.5**
LBMI				S	**Sn**	**20 24 05.3**	**+2.4**
KMSI	**Cibinong**	**2.29**	**275**	P	**Pn**	**20 23 52.4**	**-0.3**
KMSI				S	**Sn**	**20 24 21.5**	**+1.8**
SANI	**Sanana**	**2.43**	**186**	P	**Pn**	**20 23 53.8**	**-0.9**
SANI				S	**Sn**	**20 24 23.3**	**+0.1**
NLAI	**Namlea**	**3.69**	**167**	P	**Pn**	**20 24 13.1**	**+1.1**
NLAI				S	**Sn**	**20 24 55.4**	**+1.1**
LUWI	**Luwuk**	**3.76**	**248**	P	**Pn**	**20 24 13.6**	**+0.6**
LUWI	**Luwuk**	**3.76**	**248**	*e*P	**Pn**	**20 24 15.7**	**+2.7**
MRSI	**Marisa**	**4.32**	**271**	P	**Pn**	**20 24 21.8**	**+1.1**
KAPI	**Kappang**	**8.42**	**230**	Pn	**Pn**	**20 25 17.6**	**+0.6**
	1.4nm,0.3s,baz=51,slow=6.1,SNR=8.2						
KAPI				Sn	**Sn**	**20 26 51.0**	**+0.2**
	0.6nm,0.3s,baz=241,slow=19,SNR=2.7						
KAPI				LR	LR	20 29 16.1	
	comp=Z,93nm,21.2s,baz=90,slow=42						
KSM	**Kuching**	**15.98**	**274**	*e*P	**P**	**20 27 02.0**	**-0.1**
	18nm,0.9s						
LEM	**Lembang**	**19.93**	**249**	LR	LR	20 37 19.4	
	comp=Z,62nm,19.0s,baz=248,slow=42						
WRAB	**Tennant Creek**	**21.69**	**159**	*e*P	**P**	**20 28 03.8**	**-0.7**
	16nm,1.0s						
WRA	**Warramunga Arr**	**21.69**	**159**	P	**P**	**20 28 04.1**	**-0.5**
	2.8nm,0.4s,baz=339,slow=11,SNR=75						
AS31	**Alice Springs**	**25.03**	**163**	*e*P	**P**	**20 28 38.7**	**+1.3**
ASAR	**Alice Springs**	**25.03**	**163**	P	**P**	**20 28 38.0**	**+0.7**
	2.1nm,0.3s,baz=348,slow=12,SNR=66						
STKA	**Stephens Creek**	**35.21**	**157**	P	**P**	**20 30 06.8**	**-0.5**
	1.6nm,0.5s,baz=322,slow=11,SNR=7.2						
MKAR	**Makanchi Array**	**60.05**	**327**	P	**P**	**20 33 18.6**	**-1.1**
	0.7nm,0.4s,baz=155,slow=5.8,SNR=20						
MKAR				PcP	**PcP**	**20 34 05.3**	**0.0**
	0.8nm,0.6s,baz=152,slow=2.8,SNR=4.1						
ZALV	**Zalesovo Beam**	**63.36**	**334**	P	**P**	**20 33 41.5**	**-0.2**
	0.4nm,0.3s,baz=119,slow=5.1,SNR=2.8						
KURBB	**Kurchatov Arra**	**64.31**	**328**	P	**P**	**20 33 47.1**	**-1.0**
	0.9nm,0.5s,baz=127,slow=6.5,SNR=14						
KURK	**Kurchatov**	**64.32**	**329**	P	**P**	**20 33 47.1**	**-1.0**
AKTO	**Aktyubinsk**	**75.99**	**322**	P	**P**	**20 34 59.5**	**-0.2**
	1.3nm,0.5s,baz=102,slow=8.5,SNR=3.8						
ILAR	**Eielson Array**	**88.31**	**25**	P	**P**	**20 36 02.6**	**-1.3**
	0.2nm,0.5s,baz=265,slow=4.2,SNR=3.2						
TORD	**Torodi Ar. Bea**	**123.44**	**286**	PKP	**PKPdf**	**20 42 10.8**	**+0.1**
	0.3nm,0.7s,baz=94,slow=0.7,SNR=3.4						

*IDC **06** 21:00:28.4±2.2, 4.°47S×100.°39E, h0km, mb3.6/8, mb1 3.7/8, mb1mx3.6/31, mbtmp3.6/8, Error ellipse: s-maj=78.8km s-min=19.8km az=55.0*
*ISCJB **06** 21:00:31.7±0.8, 4.°28S±0.°09×100.°70E±0.°07, h29km, mb3.7/8, Error ellipse: s-maj=13.2km s-min=8.6km az=22.0*
*DJA **06** 21:00:36.1±1.3, 4.°S±13.°×10.°1E±1.°1, h114km±27km, M3.8/7, MLv3.8/7*
ISC 06 21:00:34.1±1.1, 4.°29S±0.°10×100.°79E±0.°08, h29km, n18, σ1=9.36/19, mb3.8/8, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MASI	**Maura Aman, Be**	**1.85**	**52**	P	**Pn**	**21 01 03.0**	**-0.9**
MASI				S	**Sn**	**21 01 26.2**	**-0.1**
MNAI	**Manna**	**2.17**	**92**	P	**Pn**	**21 01 08.8**	**+0.6**
LHSI	**Lahat**	**2.77**	**80**	P	**Pn**	**21 01 17.5**	**+1.0**
LHSI				S	**Sb**	**21 01 56.9**	**+0.4**
LWLI	**Liwa**	**3.34**	**103**	P	**Pn**	**21 01 25.0**	**+0.5**
MDSI	**Maura Dua**	**3.39**	**93**	P	**Pn**	**21 01 25.3**	**+0.3**
MDSI				S	**Sn**	**21 02 03.5**	**-0.8**
KASI	**Kota Agung**	**3.90**	**108**	P	**Pn**	**21 01 32.2**	**+0.2**
KASI				S	**Sn**	**21 02 13.6**	**-3.2**
CMAR	**Chiang Mai Arr**	**22.68**	**355**	P	**P**	**21 05 31.4**	**-2.0**
	1.0nm,0.8s,baz=186,slow=9.4,SNR=9.6						
H01W3	**Cape Leeuwin H**	**32.86**	**160**	T	T	21 41 48.4	
	baz=337,slow=76,SNR=14						
H01W2	**Cape Leeuwin H**	**32.87**	**160**	T	T	21 41 45.2	
	baz=337,slow=76,SNR=14						
H01W1	**Cape Leeuwin H**	**32.87**	**160**	T	T	21 41 52.9	
	baz=337,slow=76,SNR=8.5						
WRA	**Warramunga Arr**	**36.19**	**118**	P	**P**	**21 07 34.6**	**0.0**
	0.3nm,0.4s,baz=303,slow=8.8,SNR=5.1						
ASAR	**Alice Springs**	**37.30**	**124**	P	**P**	**21 07 44.0**	**+0.1**
	0.3nm,0.6s,baz=295,slow=7.6,SNR=4.8						
SONM	**Songino Array**	**52.14**	**5**	P	**P**	**21 09 42.4**	**+0.4**
	1.3nm,0.8s,baz=188,slow=9.6,SNR=7.3						
MKAR	**Makanchi Array**	**53.43**	**344**	P	**P**	**21 09 50.2**	**-1.2**
	0.9nm,0.8s,baz=177,slow=7.3,SNR=9.5						
MJAR	**Matsushiro Arr**	**53.58**	**37**	P	**P**	**21 09 55.4**	**+2.7**
	0.3nm,0.3s,baz=228,slow=13,SNR=4.0						
KURBB	**Kurchatov Arra**	**57.96**	**343**	P	**P**	**21 10 23.8**	**0.0**
	0.8nm,0.9s,baz=155,slow=6.8,SNR=7.5						
ZALV	**Zalesovo Beam**	**59.55**	**349**	P	**P**	**21 10 33.2**	**-1.6**
	0.8nm,0.5s,baz=174,slow=4.5,SNR=5.8						
TXAR	**Lajitas Array**	**145.99**	**40**	PKPbc	**PKPab**	**21 20 13.0**	**+0.6**
	0.8nm,0.9s,baz=202,slow=0.5,SNR=6.5						

*TIR **06** 21:06:55.8±0.6, 42.°00N×20.°48E, h2km±49km, ML2.5*
*SKO **06** 21:06:58.9, 41.°99N×20.°49E, h3km, M1.1, ML1.4*
CSEM 06 21:06:58.3±0.4, 41.°97N×20.°47E, h5km, ML2.5, Error ellipse: s-maj=8.9km s-min=6.3km az=30.0, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.28**	**184**	*i* PG	Pg	21 07 03.7	-0.2
PHP				*i* SG	Sg	21 07 09.0	+1.2
PHP	**Peshkopia**	**0.28**	**184**	*i* Pg	Pg	21 07 03.7	-0.3
	SNR=95						
PHP				*i* Sg	Sg	21 07 09.0	+1.2
	SNR=95						
PUK	**Puka**	**0.44**	**280**	*i* PG	Pg	21 07 06.2	-0.7
PUK				*i* SG	Sb	21 07 14.6	-1.0
PUK	**Puka**	**0.44**	**280**	*i* Pg	Pg	21 07 06.2	-0.7
	SNR=94						
PUK				*i* Sg	Sb	21 07 14.6	-1.0
	SNR=94						
BCI	**Bajram Curri**	**0.50**	**323**	*i* PG	Pg	21 07 07.5	-0.4
BCI				*i* SG	Sb	21 07 16.2	-1.0
BCI	**Bajram Curri**	**0.50**	**323**	*i* Pg	Pg	21 07 07.5	-0.4
	SNR=93						
BCI				*i* Sg	Sb	21 07 16.2	-1.0
	SNR=93						
SKO	**Skopje**	**0.72**	**89**	*i* Pg	Pg	21 07 12.0	-0.2
SKO				*i* Sg	Sb	21 07 23.2	-0.4
SKO				*e*Lg	Lg	21 07 23.4	
	comp=N,14nm,0.2s						
SKO				*e*Lg	Lg	21 07 23.6	
	comp=E,16nm,1.1s						
SKO	**Skopje**	**0.72**	**89**	*i* Pg	Pg	21 07 12.0	-0.2
SKO				*i* Sg	Sb	21 07 23.2	-0.5
SKO				*e*Lg	Lg	21 07 23.3	
	comp=E,14nm,0.2s						

*ISCJB **06** 21:26:04.5±0.5, 32.°43N±0.°04×115.°55W±0.°04, h11km±7km,*

Error ellipse: s-maj=7.0km s-min=5.0km az=27.6
*MEX **06** 21:26:05.9±0.6, 32.°53N×115.°46W, h9km, 999km, MD3.7*
*ECX **06** 21:26:05.7±0.6, 32.°43N×115.°56W, h4km, MD2.8, ML3.0*
ISC 06 21:26:04.4±0.9, 32.°43N±0.°03×115.°55W±0.°03, h16km±9km, n19, σ1=9.36/25, 4C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.21**	**93**	*e*P9	**Pg**	**21 26 09.5**	**+0.2**
CPBX				*e*S	**Sg**	**21 26 12.8**	**+0.2**
CPBX				AML	AML	21 26 15.3	
	comp=E,16μm,0.3s						
CPBX				*e*		21 26 15.3	
MBIG	**Mexicali**	**0.30**	**94**	*e*P	**Pb**	**21 26 11.3**	**-0.1**
MBIG				*e*S	**Sg**	**21 26 13.8**	**-1.3**
ERPC	**Ernies Place**	**0.33**	**343**	*e*P2	**Pg**	**21 26 11.7**	**+0.5**
WESC	**Westside Schoo**	**0.36**	**335**	*e*P	**Pb**	**21 26 12.1**	**-0.3**
YUH	**Yuha Desert**	**0.38**	**305**	⇓*i*P	**Pg**	**21 26 12.0**	**-0.2**
COK	**Cook Ranch**	**0.45**	**341**	⇓*i*P	**Pb**	**21 26 13.8**	**-0.1**
COA	**Coachella**	**0.56**	**40**	⇑*i*P	**Pb**	**21 26 16.1**	**+0.2**
EMSC	**East Mesa**	**0.57**	**57**	⇑*i*P	**Pb**	**21 26 16.3**	**+0.3**
CRR	**Carrizo Plain**	**0.58**	**323**	⇓*i*P	**Pg**	**21 26 15.7**	**-0.1**
RDX	**Rancho Dawling**	**0.60**	**214**	⇑*e*P	**Pg**	**21 26 16.7**	**0.0**
RDX				*e*S	**Sg**	**21 26 24.7**	**+0.5**
RDX				AML	AML	21 26 25.8	
	comp=N,317nm,0.4s						
RDX				*e*		21 26 25.8	
CBX	**Cerro Bola**	**0.95**	**263**	*i* P	**Pg**	**21 26 22.7**	**-0.1**
CBX	**Cerro Bola**	**0.95**	**263**	*e*P	**Pb**	**21 26 22.4**	**-0.1**
CBX				*e*S	**Sg**	**21 26 35.2**	**0.0**
CBX				⇓*e*		21 26 38.5	
CBX				AML	AML	21 26 38.5	
	comp=N,873nm,0.6s						
BAR	**Barrett**	**0.98**	**285**	*e*P	**Pb**	**21 26 22.7**	**-0.2**
ECBX	**El Chinero**	**1.04**	**156**	*e*P9	**Pg**	**21 26 24.3**	**-0.3**
ECBX				*e*S	**Sg**	**21 26 38.2**	**0.0**
ZAX	**El Zacaton**	**1.10**	**214**	*e*P	**Pb**	**21 26 25.1**	**0.0**
ZAX				*e*S	**Sb**	**21 26 39.3**	**+0.2**
ZAX				AML	AML	21 26 42.8	
	comp=N,284nm,0.6s						
ZAX				⇑*e*		21 26 42.8	
ECNX	**Esteban Cantu**	**1.18**	**229**	*e*P	**Pb**	**21 26 26.4**	**+0.1**
PBX	**Punta Banda**	**1.21**	**236**	*e*P	**Pn**	**21 26 26.7**	**+0.1**
SPIG	**San Pedro Mart**	**1.38**	**177**	*e*P	**Pn**	**21 26 29.2**	**0.0**
SPX	**San Pedro Mart**	**1.38**	**177**	*e*P	**Pn**	**21 26 29.4**	**+0.1**
SPX				AML	AML	21 26 54.4	
	comp=N,165nm,0.4s						
SPX				⇓*e*		21 26 54.4	

*ISCJB **06** 21:28:43.3±0.4, 0.°19N±0.°07×121.°94E±0.°05, h202km, mb3.8/6, Error ellipse: s-maj=9.7km s-min=6.3km az=26.4*
*DJA **06** 21:28:44.2±0.5, 0.°N±5.°×12.°2E±.°, h175km±5km, M4.1/8, mb4.4/2, mB4.7/1, MLv3.9/8, Mw(mB)3.9/1*
*IDC **06** 21:28:47.4±4.0, 0.°10N×121.°70E, h228km±43km, mb3.5/6, mb1 3.6/7, mb1mx3.3/30, mbtmp4.1/7, Error ellipse: s-maj=66.1km s-min=12.6km az=62.0*
ISC 06 21:28:44.2±0.7, 0.°23N±0.°08×121.°87E±0.°05, h202km, n26, σ1=9.98/28, mb3.9/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.26**	**17**	P	**Pn**	**21 29 08.4**	**-2.5**
MRSI				S	**S**	**21 29 26.4**	**-5.4**
LUWI	**Luwuk**	**1.55**	**144**	P	**Pn**	**21 29 18.1**	**-0.5**
LUWI				S	**S**	**21 29 42.9**	**-2.0**
MPSI	**Mapaga**	**1.97**	**273**	P	**Pn**	**21 29 20.5**	**-2.1**
KMSI	**Cibinong**	**2.14**	**81**	P	**Pn**	**21 29 24.4**	**0.0**
KMSI				S	**S**	**21 29 53.7**	**-1.3**
PCI	**Palu**	**2.32**	**241**	P	**Pn**	**21 29 24.8**	**-1.5**
PCI				S	**S**	**21 29 55.9**	**-2.5**
SPSI	**Sidrap Palu**	**4.66**	**207**	P	Pn	21 30 01.8	+7.4
SANI	**Sanana**	**4.70**	**119**	P	**Pn**	**21 29 52.5**	**-2.4**
BNSI	**Bone**	**4.92**	**201**	P	Pn	21 30 02.4	+4.7
TNTI	**Ternate**	**5.53**	**84**	P	**Pn**	**21 30 03.9**	**-1.6**
	68nm,0.8s						
KAPI	**Kappang**	**5.62**	**202**	P	**

SJAF				S		Sn	21 46 39.9	-1.7
	0.3nm,0.1s,SNR=7.9							
SJAF	**Saint Jean de**	**3.21**	**323**	P		**Pn**	**21 46 04.7**	**+1.4**
	0.8nm,0.2s,SNR=7.9							
SJAF				S		Sn	21 46 39.9	-1.7
	0.3nm,0.1s,SNR=7.9							
EIBI	**Ibiza**	**3.34**	**255**	S		**Sn**	**21 46 42.3**	**-2.7**
	4.7nm,0.2s,SNR=7.9							
EIBI	**Ibiza**	**3.34**	**255**	S		**Sn**	**21 46 42.3**	**-2.7**
	4.7nm,0.2s,SNR=7.9							
EMIR	**Miracle**	**3.59**	**304**	P		**Pn**	**21 46 09.9**	**+1.3**
	3.2nm,0.2s,SNR=7.9							
EMIR				S		Sn	21 46 49.5	-1.6
	2.0nm,0.1s,SNR=7.9							
EMIR	**Miracle**	**3.59**	**304**	P		**Pn**	**21 46 09.9**	**+1.3**
	3.2nm,0.2s,SNR=7.9							
EMIR				S		Sn	21 46 49.5	-1.6
	2.0nm,0.1s,SNR=7.9							
EPOB	**Poblet**	**3.64**	**294**	P		**Pn**	**21 46 09.7**	**+0.4**
	0.9nm,0.1s,SNR=7.9							
EPOB				S		Sn	21 46 50.8	-1.6
	0.7nm,0.1s,SNR=7.9							
EPOB	**Poblet**	**3.64**	**294**	P		**Pn**	**21 46 09.7**	**+0.4**
	0.9nm,0.1s,SNR=7.9							
EPOB				S		Sn	21 46 50.8	-1.6
	0.7nm,0.1s,SNR=7.9							
CLLI	**Llivia**	**3.67**	**315**	P		**Pn**	**21 46 11.8**	**+2.1**
	0.4nm,0.1s,SNR=9.2							
CLLI				S		Sn	21 46 52.1	-1.0
	0.4nm,0.1s,SNR=6.2							
CLLI	**Llivia**	**3.67**	**315**	P		**Pn**	**21 46 11.8**	**+2.1**
	0.4nm,0.1s,SNR=9.2							
CLLI				S		Sn	21 46 52.1	-1.0
	0.4nm,0.1s,SNR=6.2							
CSOR	**Sort**	**4.09**	**308**	P		**Pn**	**21 46 17.8**	**+2.3**
	0.6nm,0.2s,SNR=7.9							
CSOR				S		Sn	21 47 03.3	-0.1
	1.2nm,0.2s,SNR=7.9							
CSOR	**Sort**	**4.09**	**308**	P		**Pn**	**21 46 17.8**	**+2.3**
	0.6nm,0.2s,SNR=7.9							
CSOR				S		Sn	21 47 03.3	-0.1
	1.2nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**4.59**	**277**	P		**Pn**	**21 46 25.0**	**+2.5**
	0.4nm,0.2s,SNR=7.9							
EMOS				S		Sn	21 47 13.8	-2.2
	0.9nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**4.59**	**277**	P		**Pn**	**21 46 25.0**	**+2.5**
	0.4nm,0.2s,SNR=7.9							
EMOS				S		Sn	21 47 13.8	-2.2
	0.9nm,0.2s,SNR=7.9							
ATE	**Arette**	**5.61**	**306**	P		**Pn**	**21 46 38.3**	**+2.0**
	0.1nm,0.1s,SNR=7.9							
ATE				S		Sn	21 47 38.3	-2.5
	0.5nm,0.2s,SNR=7.9							
ATE	**Arette**	**5.61**	**306**	P		**Pn**	**21 46 38.3**	**+2.0**
	0.1nm,0.1s,SNR=7.9							
ATE				S		Sn	21 47 38.3	-2.5
	0.5nm,0.2s,SNR=7.9							
ETOB	**Tobarra**	**5.62**	**259**	P		**Pn**	**21 46 39.1**	**+2.6**
	0.1nm,0.1s,SNR=7.9							
ETOB				S		Sn	21 47 38.7	-2.5
	0.7nm,0.3s,SNR=4.0							
ETOB	**Tobarra**	**5.62**	**259**	P		**Pn**	**21 46 39.1**	**+2.6**
	0.1nm,0.1s,SNR=7.9							
ETOB				S		Sn	21 47 38.7	-2.5
	0.7nm,0.3s,SNR=4.0							

NNC 06 21:57:48.2±8.3, 37.00N×71.15E, h0km, mb3.6, mpv3.3, 4C-3D, Error ellipse: s-maj=70.2km s-min=27.3km az=172.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.57**	**315**	⇓P	Pn	21 58 30.6	-0.8
	2.2nm,0.3s						
DZET				⇑S	Sn	21 59 05.1	+1.6
	26nm,0.4s						
SFK	**Sufi-Kurgan**	**3.53**	**31**	⇑P	Pn	21 58 45.5	+0.8
	1.8nm,0.3s						
SFK				⇑S	Sn	21 59 31.3	+3.9
	1.7nm,0.2s						
KK31	**Karatay Array**	**6.12**	**356**	P	Pn	21 59 19.7	-0.2
	2.0nm,0.2s,baz=176,slow=12,SNR=142						
KK31				⇓S	Sn	22 00 31.7	+1.0
	0.4nm,0.3s,baz=184,slow=24,SNR=6.0						
AAK	**Ala-Archa**	**6.19**	**24**	⇑P	Pn	21 59 19.8	-1.3
	1.3nm,0.5s						
AAK				⇓S	Sn	22 00 25.4	-7.4
	0.9nm,0.7s						

IDC 06 22:10:21.9±6.4, 23.18S×177.99W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.7/18, mbtmp4.0/2, Error ellipse: s-maj=261.3km s-min=56.5km az=147.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.98**	**259**	P	P	22 18 30.6	-0.6
	0.7nm,0.4s,baz=91,slow=7.5,SNR=13						
WRA	**Warramunga Arr**	**44.30**	**265**	P	P	22 18 34.1	+0.3
	1.4nm,0.4s,baz=103,slow=7.7,SNR=30						
AKASG	**Malin Array Be**	**145.33**	**329**	PKPbc	PKPbc	22 30 00.5	-0.8
	0.2nm,0.3s,baz=39,slow=3.4,SNR=2.5						

*CSEM **06** 22:10:56.8±0.9, 49.48N×18.32E, h2km, Error ellipse: s-maj=23.4km s-min=7.7km az=93.0*

PRU 06 22:11:00.1, 49.82N×18.47E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.21**	**275**	*e*PG	Pg	22 11 04.3	+0.1
OKC				*e*SG	Sg	22 11 07.2	+0.3
	comp=Z,13nm,0.7s						
OKC	**Ostrava-Krasne**	**0.21**	**275**	Pg	Pg	22 11 04.3	+0.1
OKC				Sg	Sg	22 11 07.2	+0.3
	13nm,0.7s						
DPC	**Dobruska-Polom**	**1.48**	**292**	*e*PG	Pn	22 11 27.0	-1.1
DPC				*e*SG	Sg	22 11 47.2	-0.7
DPC	**Dobruska-Polom**	**1.48**	**292**	Pg	Pn	22 11 27.0	-1.1
DPC				Sg	Sg	22 11 47.2	-0.7

IDC 06 23:03:04.0±3.5, 5.06N×93.59E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/29, mbtmp3.8/5, Error ellipse: s-maj=185.6km s-min=22.4km az=56.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**42.71**	**349**	P	P	23 11 02.9	+0.1
	0.3nm,0.4s,baz=181,slow=8.2,SNR=8.5						
WRA	**Warramunga Arr**	**47.13**	**123**	P	P	23 11 38.3	-0.2
	1.2nm,0.6s,baz=301,slow=9.6,SNR=6.7						
ASAR	**Alice Springs**	**48.59**	**128**	P	P	23 11 49.7	0.0
	0.7nm,0.7s,baz=298,slow=8.5,SNR=6.1						
ZALV	**Zalesovo Beam**	**49.26**	**353**	P	P	23 11 54.1	-0.3
	0.3nm,0.4s,baz=196,slow=10,SNR=2.9						
ARCES	**ARCESS Array B**	**77.71**	**340**	P	P	23 15 02.4	0.0
	1.8nm,1.0s,baz=100,slow=6.3,SNR=6.1						

*ISCJB **06** 23:10:10.0±0.7, 9.27S±0.06×107.26E±0.07, h21km, mb3.8/7, Error ellipse: s-maj=10.2km s-min=8.1km az=38.1*

*DJA **06** 23:10:14.6±0.8, 9.5S±5°×10.7E±°, h10km, M3.9/11, MLv3.9/11*

*IDC **06** 23:10:18.3±4.5, 8.91S×107.82E, h67km±32km, mb3.5/7, mb1 3.7/8, mb1mx3.4/28, mbtmp3.9/8, ML3.9/1, Error ellipse: s-maj=76.0km s-min=18.3km az=53.0*

ISC 06 23:10:11.5±0.9, 9.17S±0.07×107.41E±0.09, h21km, n25, σ0.89/28, mb3.9/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**1.65**	**14**	P	**Pb**	**23 10 40.7**	**-0.6**
CISI				S	**Sb**	**23 11 01.6**	**-0.1**
CMJI	**Cimerak**	**1.72**	**37**	P	**Pb**	**23 10 41.7**	**-0.7**
CMJI				S	**Sb**	**23 11 03.6**	**+0.1**
CNJI	**Cibinong**	**1.87**	**352**	P	**Pn**	**23 10 42.6**	**+0.4**
SKJI	**Sukabumi**	**2.31**	**339**	P	**Pn**	**23 10 48.2**	**-0.1**
LEM	**Lembang**	**2.34**	**5**	P	**Pb**	**23 10 51.5**	**-1.5**
LEM				S	**Sn**	**23 11 17.9**	**+0.9**
LEM	**Lembang**	**2.34**	**5**	P	**Pb**	**23 10 51.3**	**-1.7**
	41nm,0.3s,baz=318,slow=2.7,SNR=45						
LEM				S	**Sb**	**23 11 22.9**	**+1.3**
	20nm,0.3s,baz=156,slow=20,SNR=5.0						
KPJI	**Karang Pucung**	**2.37**	**40**	P	**Pb**	**23 10 52.8**	**-0.6**
CGJI	**Cibinong**	**3.05**	**326**	P	**Pn**	**23 10 57.9**	**-0.7**
SMRI	**Semarang**	**3.67**	**55**	P	Pn	23 11 11.8	+4.8
WRA	**Warramunga Arr**	**28.14**	**115**	P	**P**	**23 16 02.1**	**-0.4**
	0.9nm,1.1s,baz=287,slow=10,SNR=2.6						
CMAR	**Chiang Mai Arr**	**28.68**	**343**	P	**P**	**23 16 08.0**	**+0.7**
	1.3nm,0.6s,baz=176,slow=9.4,SNR=7.9						
STKA	**Stephens Creek**	**38.91**	**130**	P	**P**	**23 17 36.6**	**+0.6**
	2.3nm,1.0s,baz=304,slow=11,SNR=4.1						
ODAN	**Odare**	**40.74**	**332**	*e*P	**P**	**23 17 51.7**	**+0.3**
	7.7nm,0.6s						
TAPN	**Taplejung**	**41.02**	**333**	*e*P	**P**	**23 17 54.0**	**+0.3**
	31nm,1.2s						
JIRN	**Jiri**	**41.98**	**331**	*e*P	**P**	**23 18 02.4**	**+0.7**
	14nm,0.7s						
PKI	**Pulchoki**	**42.28**	**330**	*e*P	**P**	**23 18 03.8**	**-0.3**
PKIN	**Phulchoki**	**42.30**	**330**	*e*P	**P**	**23 18 04.7**	**+0.5**
GUN	**Gumba**	**42.34**	**331**	*e*P	**P**	**23 18 05.2**	**+0.6**
	16nm,0.8s						
DMN	**Daman**	**42.46**	**330**	*e*P	**P**	**23 18 05.2**	**-0.3**
	8.9nm,0.9s						
KKN	**Kakani**	**42.53**	**330**	*e*P	**P**	**23 18 07.0**	**+1.0**
KOLN	**Koldanda**	**43.35**	**329**	*e*P	**P**	**23 18 12.8**	**+0.1**
	9.9nm,0.8s						
MJAR	**Matsushiro Arr**	**53.90**	**31**	P	**P**	**23 19 31.3**	**-2.2**
	0.7nm,0.3s,baz=226,slow=6.8,SNR=4.0						
SONM	**Songino Array**	**56.76**	**359**	P	**P**	**23 19 55.0**	**+1.0**
	0.4nm,0.6s,baz=190,slow=7.3,SNR=4.0						
MKAR	**Makanchi Array**	**60.05**	**340**	P	**P**	**23 20 17.1**	**+0.2**
	0.6nm,0.4s,baz=191,slow=7.0,SNR=20						
ZALV	**Zalesovo Beam**	**65.72**	**346**	P	**P**	**23 20 55.1**	**+0.7**
	0.5nm,0.5s,baz=148,slow=6.8,SNR=5.2						

*BJI **06** 23:12:29.8, 48.30N×128.00W, h10km, mb4.9/10, mB4.9/5, Ms4.9/4, Ms7 4.5/4*

*IDC **06** 23:12:29.7±0.8, 48.25N×128.06W, h0km, mb4.1/15, mb1 4.4/22, mb1mx4.2/37, mbtmp4.2/22, ML4.4/6, MS3.7/26, Ms1 3.7/26, ms1mx3.6/37, Error ellipse: s-maj=19.6km s-min=8.9km az=53.0*

*PGC **06** 23:12:29.6±0.7, 48.04N×128.19W, h10km, ML3.9/33, Mw4.5, 208km Wsw of Tofino, Bc Vancouver Island, Canada Region*

*NEIC **06** 23:12:29.6, 48.04N×128.19W, h10km, mb4.5/54, MW4.5(OTT), After OTT.*

*MOS **06** 23:12:30.2±0.9, 48.28N×127.97W, h13km, mb4.6/15, Error ellipse: s-maj=8.8km s-min=4.7km az=115.4*

ISC 06 23:12:32.0±0.6, 48.16N±0.03×128.12W±0.04, h16km±3km, n689, σ1.49/766, mb4.5/37, MS3.7/19, 131C-114D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ETB	**Estevan Point**	**1.60**	**40**	Pn	**Pn**	**23 12 58.2**	**-1.4**
ETB				Sn	**Sn**	**23 13 16.4**	**-3.5**
ETB	**Estevan Point**	**1.60**	**40**	Pn	**Pn**	**23 12 58.2**	**-1.4**
ETB				Sn	**Sn**	**23 13 16.4**	**-3.5**
TOFB	**Tofino**	**1.77**	**55**	Pn	**Pn**	**23 12 59.7**	**-2.2**
TOFB				Sn	**Sn**	**23 13 21.7**	**-2.3**
EDB	**Eliza Dome**	**1.83**	**21**	Pn	**Pn**	**23 13 00.8**	**-2.0**
EDB				Sn	**Sn**	**23 13 22.7**	**-2.9**
EDB	**Eliza Dome**	**1.83**	**21**	Pn	**Pn**	**23 13 00.8**	**-2.0**
EDB				Sn	**Sn**	**23 13 22.7**	**-2.9**
OZB	**Mount Ozzard**	**1.92**	**64**	Pn	**Pn**	**23 13 01.7**	**-2.3**
OZB				Sn	**Sn**	**23 13 25.8**	**-2.0**
OZB	**Mount Ozzard**	**1.92**	**64**	⇑P	**Pn**	**23 13 01.7**	**-2.3**
OZB				Pn	**Pn**	**23 13 01.7**	**-2.3**
OZB				Sn	**Sn**	**23 13 25.8**	**-2.0**
FHRB	**Fair Harbour**	**2.00**	**19**	Pn	**Pn**	**23 13 03.6**	**-1.5**
BPBC	**Brooks Peninsu**	**2.01**	**6**	Pn	**Pn**	**23 13 02.8**	**-2.5**
BPBC				Sn	**Sn**	**23 13 26.6**	**-3.5**
BPBC	**Brooks Peninsu**	**2.01**	**6**	Pn	**Pn**	**23 13 02.8**	**-2.5**
BPBC				Sn	**Sn**	**23 13 26.6**	**-3.5**
BMSB	**Bamfield Mari**	**2.09**	**70**	Pn	**Pn**	**23 13 04.2**	**-2.1**
GDR	**Gold River**	**2.12**	**40**	Pn	**Pn**	**23 13 05.4**	**-1.4**
GDR				Sn	**Sn**	**23 13 30.6**	**-2.2**
GDR	**Gold River**	**2.12**	**40**	Pn	**Pn**	**23 13 05.4**	**-1.4**
GDR				Sn	**Sn**	**23 13 30.6**	**-2.2**
BTB	**Buttle Lake**	**2.16**	**52**	Pn	**Pn**	**23 13 05.6**	**-1.8**
BTB	**Buttle Lake**	**2.16**	**52**	Pn	**Pn**	**23 13 05.6**	**-1.8**
WOSB	**Woss**	**2.24**	**26**	Pn	**Pn**	**23 13 07.4**	**-1.1**
WOSB	**Woss**	**2.24**	**26**	Pn	**Pn**	**23 13 07.4**	**-1.1**
OCP	**Olym-Cheeka Pk**	**2.34**	**85**	Pn	**Pn**	**23 13 07.6**	**-2.1**
OCP	**Olym-Cheeka Pk**	**2.34**	**85**	Pn	**Pn**	**23 13 07.6**	**-2.1**
OCP				⇑P	**Pn**	**23 13 07.7**	**-2.1**
SPLB	**Strathcona Par**	**2.37**	**42**	Pn	**Pn**	**23 13 09.4**	**-0.8**
MGB	**Mount Grey**	**2.42**	**68**	Pn	**Pn**	**23 13 08.7**	**-2.3**
MGB	**Mount Grey**	**2.42**	**68**	⇑P	**Pn**	**23 13 08.7**	**-2.3**
MGB				Pn	**Pn**	**23 13 08.7**	**-2.3**
MWAB	**Mount Washingt**	**2.44**	**49**	Pn	**Pn**	**23 13 10.1**	**-1.1**
ALB	**Alberni**	**2.44**	**62**	Pn	**Pn**	**23 13 09.2**	**-1.9**
ALB	**Alberni**	**2.44**	**62**	P	**Pn**	**23 13 09.3**	**-1.9**
ALB	**Alberni**	**2.44**	**62**	Pn	**Pn**	**23 13 09.2**	**-1.9**
HOLB	**Holberg**	**2.48**	**360**	Pn	**Pn**	**23 13 09.3**	**-2.5**
HOLB				Sn	**Sn**	**23 13 37.7**	**-4.0**
HOLB	**Holberg**	**2.48**	**360**	Pn	**Pn**	**23 13 09.3**	**-2.5**
HOLB				Sn	**Sn**	**23 13 37.7**	**-4.0**
PFB	**Port Renfrew**	**2.49**	**79**	Pn	**Pn**	**23 13 09.2**	**-2.6**
PFB				Sn	**Sn**	**23 13 38.8**	**-3.0**
PFB	**Port Renfrew**	**2.49**	**79**	⇑P	**Pn**	**23 13 09.2**	**-2.6**
PFB				Pn	**Pn**	**23 13 09.2**	**-2.6**
PFB				Sn	**Sn**	**23 13 38.8**	**-3.0**
OFR	**Olym-F Res Ctr**	**2.51**	**94**	P	**Pn**	**23 13 09.9**	**-2.2**
OFR				Pn	Pb	23 13 10.3	-6.3
OFR				Sn	**Sn**	**23 13 41.5**	**-0.8**
TLCB	**Telegraph Cove**	**2.53**	**19**	Pn	**Pn**	**23 13 11.5**	**-0.9**
TLCB				Sn	**Sn**	**23 13 41.6**	**-1.1**
PHC	**Port Hardy**	**2.59**	**10**	Pn	**Pn**	**23 13 11.2**	**-1.9**
PHC				Sn	**Sn**	**23 13 42.0**	**-2.2**
PHC	**Port Hardy**	**2.59**	**10**	Pn	**Pn**	**23 13 11.2**	**-1.9**
PHC				P	**Pn**	**23 13 11.2**	**-1.9**
PHC				Sn	**Sn**	**23 13 42.0**	**-2.2**
CBB	**Campbell River**	**2.60**	**43**	Pn	**Pn**	**23 13 12.6**	**-0.8**
CBB				Sn	**Sn**	**23 13 42.9**	**-1.7**
CBB	**Campbell River**	**2.60**	**43**	Pn	**Pn**	**23 13 12.6**	**-0.8**
CBB				Sn	**Sn**	**23 13 42.9**	**-1.7**
NCRB	**Newcastle Ridg**	**2.62**	**30**	Pn	**Pn**	**23 13 13.4**	**-0.3**
NCRB				Sn	**Sn**	**23 13 45.0**	**-0.2**
NCRB	**Newcastle Ridg**	**2.62**	**30**	Pn	**Pn**	**23 13 13.4**	**-0.3**
NCRB				Sn	**Sn**	**23 13 45.0**	**-0.2**
YOUB	**Youbou, Lake C**	**2.67**	**72**	Pn	**Pn**	**23 13 12.4**	**-1.9**
YOUB	**Youbou, Lake C**	**2.67**	**72**	Pn	**Pn**	**23 13 12.4**	**-1.9**
OBC	**Olympics--Boni**	**2.71**	**91**	Pn	**Pn**	**23 13 12.9**	**-2.0**
OBC				Sn	**Sn**	**23 13 46.8**	**-0.6**
OBC	**Olympics--Boni**	**2.71**	**91**	Pn	**Pn**	**23 13 12.9**	**-2.0**
OBC				Sn	**Sn**	**23 13 46.8**	**-0.6**
GHNB	**Nanoose**	**2.81**	**65**	Pn	**Pn**	**23 13 14.9**	**-1.4**
TXB	**Texada**	**2.87**	**56**	Pn	**Pn**	**23 13 16.2**	**-0.9**
TXB	**Texada**	**2.87**	**56**	Pn	**Pn**	**23 13 16.2**	**-0.9**
LZB	**Mount Lazard**	**2.90**	**79**	Pn	**Pn**	**23 13 15.3**	**-2.2**
LZB	**Mount Lazard**	**2.90**	**79**	Pn	**Pn**	**23 13 15.3**	**-2.2**
NLLB	**Nanaimo Lost L**	**2.94**	**67**	Pn	**Pn**	**23 13 16.6**	**-1.4**
NLLB	**Nanaimo Lost L**	**2.94**	**67**	⇑P	**Pn**	**23 13 16.4**	**-1.5**
NLLB				Pn	**Pn**	**23 13 16.6**	**-1.4**
NLWA	**Neilton Lookou**	**2.97**	**103**	*e*Pn	**Pn**	**23 13 15.8**	**-2.6**
NLWA				*e*Sn	**Sn**	**23 13 50.6**	**-3.1**
STW	**Striped Peak**	**2.98**	**89**	Pn	**Pn**	**23 13 16.5**	**-2.0**
STW	**Striped Peak**	**2.98**	**89**	Pn	**Pn**	**23 13 16.5**	**-2.0**
OSD	**Olympics--Snow**	**2.98**	**95**	Pn	**Pn**	**23 13 16.7**	**-2.1**
OSD	**Olympics--Snow**	**2.98**	**95**	Pn	**Pn**	**23 13 16.7**	**-2.1**
BPCB	**Bare Point**	**3.03**	**74**	Pn	**Pn**	**23 13 17.9**	**-1.4**
WISH	**Wishkah**	**3.12**	**108**	Pn	**Pn**	**23 13 19.0**	**-1.5**
WISH				Sn	**Sn**	**23 13 54.4**	**-2.9**
WISH	**Wishkah**	**3.12**	**108**	Pn	**Pn**	**23 13 19.0**	**-1.5**
WISH				Sn	**Sn**	**23 13 54.4**	**-2.9**
PGC	**Sidney**	**3.15**	**79**	Pn	**Pn**	**23 13 18.8**	**-2.0**
PGC	**Sidney**	**3.15**	**79**	*e*Pn	**Pn**	**23 13 18.4**	**-2.4**
PGC				Pn	**Pn**	**23 13 18.8**	**-2.0**
SHB	**Sechelt**	**3.15**	**61**	Pn	**Pn**	**23 13 20.0**	**-0.9**
SHB	**Sechelt**	**3.15**	**61**	Pn	**Pn**	**23 13 20.0**	**-0.9**
GOBB	**Galiano Island**	**3.16**	**74**	Pn	**Pn**	**23 13 20.1**	**-1.0**
GOBB	**Galiano Island**	**3.16**	**74**	Pn	**Pn**	**23 13 20.1**	**-1.0**
VGZ	**Gonzales**	**3.21**	**84**	Pn	**Pn**	**23 13 19.3**	**-2.4**
VGZ	**Gonzales**	**3.21**	**84**	Pn	**Pn**	**23 13 19.3**	**-2.4**
SMW	**South Mountain**	**3.33**	**103**	Pn	**Pn**	**23 13 21.5**	**-2.0**
SMW				Sn	**Sn**	**23 13 59.7**	**-3.0**
SMW	**South Mountain**	**3.33**	**103**	Pn	**Pn**	**23 13 21.5**	**-2.0**
SMW				Sn	**Sn**	**23 13 59.7**	**-3.0**
SNB	**Saturna Island**	**3.35**	**78**	Pn	**Pn**	**23 13 22.4**	**-1.3**
SNB	**Saturna Island**	**3.35**	**78**	P	**Pn**	**23 13 22.3**	**-1.3**
SNB				Pn	**Pn**	**23 13 22.4**	**-1.3**
SQM	**Sequim**	**3.40**	**90**	Pn	**Pn**	**23 13 23.2**	**-1.1**
SQM	**Sequim**	**3.40**	**90**	Pn	**Pn**	**23 13 23.2**	**-1.1**
BIB	**Bowen Island**	**3.42**	**67**	Pn	**Pn**	**23 13 23.7**	**-0.8**
BIB	**Bowen Island**	**3.42**	**67**	Pn	**Pn**	**23 13 23.7**	**-0.8**
HDW	**Hoodsport**	**3.44**	**97**	Pn	**Pn**	**23 13 23.8**	**-1.3**
HDW				Sn	**Sn**	**23 14 03.0**	**-2.6**
HDW	**Hoodsport**	**3.44**	**97**	Pn	**Pn**	**23 13 23.8**	**-1.3**
HDW				Sn	**Sn**	**23 14 03.0**	**-2.6**
BLN	**Blyn Mountain**	**3.45**	**91**	Pn	**Pn**	**23 13 23.9**	**-1.2**
BLN	**Blyn Mountain**	**3.45**	**91**	Pn	**Pn**	**23 13 23.9**	**-1.2**
E03A	**Lebam**	**3.49**	**116**	Pn	**Pn**	**23 13 24.6**	**-1.0**
E03A				Sn	**Sn**	**23 14 02.3**	**-4.2**
E03A	**Lebam**	**3.49**	**116**	*e*Pn	**Pn**	**23 13 24.4**	**-1.2**
E03A				*e*Sn	**Sn**	**23 14 02.8**	**-3.7**
MCW	**Mount Constitu**	**3.56**	**80**	Pn	**Pn**	**23 13 25.2**	**-1.4**
MCW	**Mount Constitu**	**3.56**	**80**	P	**Pn**	**23 13 25.1**	**-1.4**
MCW	**Mount Constitu**	**3.56**	**80**	P	**Pn**	**23 13 25.1**	**-1.4**
MCW				Pn	**Pn**	**23 13 25.2**	**-1.4**
WPB	**Watts Point**	**3.57**	**63**	Pn	**Pn**	**23 13 25.9**	**-0.8**
WPB	**Watts Point**	**3.57**	**63**	Pn	**Pn**	**23 13 25.9**	**-0.8**
CPW	**Capitol Peak**	**3.58**	**108**	Pn	**Pn**	**23 13 25.3**	**-1.5**
CPW				Sn	**Sn**	**23 14 04.7**	**-4.0**
CPW	**Capitol Peak**	**3.58**	**108**	Pn	**Pn**	**23 13 25.3**	**-1.5**
CPW				Sn	**Sn**	**23 14 04.7**	**-4.0**
GNW	**Green Mountain**	**3.61**	**98**	Pn	**Pn**	**23 13 25.8**	**-1.4**
GNW				Sn	**Sn**	**23 14 07.2**	**-2.3**
GNW	**Green Mountain**	**3.61**	**98**	Pn	**Pn**	**23 13 25.8**	**-1.4**
GNW				Sn	**Sn**	**23 14 07.2**	**-2.3**
SVOH	**Skagit Valley**	**3.67**	**86**	Pn	**Pn**	**23 13 26.9**	**-1.1**
SVOH	**Skagit Valley**	**3.67**	**86**	Pn	**Pn**	**23 13 26.9**	**-1.1**
HNB	**Haney**	**3.83**	**71**	Pn	**Pn**	**23 13 29.2**	**-1.1**
HNB	**Haney**	**3.83**	**71**	Pn	**Pn**	**23 13 29.2**	**-1.1**
F03A	**Seaside**	**3.83**	**124**	*e*Pn	**Pn**	**23 13 31.1**	**+0.8**
F03A				*e*Sn	**Sn**	**23 14 11.5**	**-3.5**
WSLR	**Whistler**	**3.94**	**58**	Pn	**Pn**	**23 13 31.5**	**-0.3**
WSLR	**Whistler**	**3.94**	**58**	Pn	**Pn**	**23 13 31.5**	**-0.3**
CMW	**Cultus Mountai**	**4.01**	**84**	Pn	**Pn**	**23 13 31.7**	**-1.2**
CMW	**Cultus Mountai**	**4.01**	**84**	Pn	**Pn**	**23 13 31.7**	**-1.2**
BBB	**Bella Bella**	**4.03**	**0**	Pn	**Pn**	**23 13 31.6**	**-1.3**
BBB				Sn	**Sn**	**23 14 16.2**	**-3.4**
BBB	**Bella Bella**	**4.03**	**0**	Pn	**Pn**	**23 13 31.5**	**-1.3**
	36nm,0.3s,baz=203,slow=5.1,SNR=1434						
BBB				Sn	**Sn**	**23 14 15.9**	**-3.8**
	35nm,0.3s,baz=275,slow=21,SNR=22						
BBB				LR	LR	23 14 25.9	
	comp=Z,169nm,19.4s,baz=216,slow=30						
BBB	**Bella Bella**	**4.03**	**0**	Pn	**Pn**	**23 13 31.5**	**-1.3**
BBB				Pn	**Pn**	**23 13 31.6**	**-1.3**
BBB				Sn	**Sn**	**23 14 15.9**	**-3.8**
BBB				Sn	**Sn**	**23 14 16.2**	**-3.4**
F04D	**Rainier, OR**	**4.06**	**119**	⇓S	**Sn**	**23 14 17.0**	**-3.6**
	baz=4.1						
VDB	**Vedder Mountai**	**4.08**	**76**	Pn	**Pn**	**23 13 32.5**	**-1.2**
VDB	**Vedder Mountai**	**4.08**	**76**	P	**Pn**	**23 13 32.5**	**-1.2**
VDB				Pn	**Pn**	**23 13 32.5**	**-1.2**
A05A	**Maple Falls**	**4.09**	**76**	Pn	**Pn**	**23 13 32.9**	**-0.9**
A05A	**Maple Falls**	**4.09**	**76**	*e*Pn	**Pn**	**23 13 32.5**	**-1.3**
JCW	**Jim Creek**	**4.14**	**87**	Pn	**Pn**	**23 13 33.6**	**-1.0**
JCW				Sn	**Sn**	**23 14 22.1**	**-0.5**
JCW	**Jim Creek**	**4.14**	**87**	P	**Pn**	**23 13 33.2**	**-1.3**
JCW				Pn	**Pn**	**23 13 33.6**	**-1.0**
JCW				Sn	**Sn**	**23 14 22.1**	**-0.5**
MBW	**Mount Baker**	**4.18**	**79**	Pn	**Pn**	**23 13 34.7**	**-0.6**

NDB Naden 6.55 334 Pn Pn 23 14 07.8 +0.2
baz=6.4
NDB Naden 6.55 334 Pn Pn 23 14 07.8 +0.2
KBO Bosley Butte 6.55 154 ePn Pn 23 14 08.0 +0.2
C09A Chrisman Ranch 6.62 89 P Pn 23 14 07.7 -0.9
C09A Chrisman Ranch 6.62 89 ePn Pn 23 14 06.6 -2.0
HUMO Hull Mountain 6.64 145 ePn Pn 23 14 09.0 +0.2
L02D Cave Junction, 6.80 150 ⇑P Pn 23 14 11.4 +0.4
baz=6.7,SNR=37
J05D Fort Rock, OR 6.85 133 ⇑P Pn 23 14 11.9 0.0
baz=6.8,SNR=9.1
J05D ⇑S Sn 23 15 26.2 -3.4
baz=6.8
BLBC Blue River 6.90 52 P Pn 23 14 12.9 +0.2
BLBC Blue River 6.90 52 P Pn 23 14 12.9 +0.2
G08A Pilot Rock 6.92 111 ePn Pn 23 14 12.6 -0.2
G08A eSn Sn 23 15 33.4 +2.2
E09A Wood Farm, Sta 6.97 100 ePn Pn 23 14 12.5 -0.9
DOWB Downie Slide 7.06 58 P Pn 23 14 14.3 -0.3
DOWB Downie Slide 7.06 58 P Pn 23 14 14.3 -0.3
K04D Chiloquin, OR 7.12 139 ⇑P Pn 23 14 16.6 +1.1
baz=7.1,SNR=6.3
K04D ⇑S Sn 23 15 33.2 -2.9
baz=7.1
SLEB Sale Mountain 7.14 61 P Pn 23 14 15.8 -0.1
SLEB Sale Mountain 7.14 61 P Pn 23 14 15.8 -0.1
I07A Izee 7.24 121 ePn Pn 23 14 17.8 +0.6
I07A eSn Sn 23 15 34.4 -4.7
NEW Newport 7.35 85 Pn Pn 23 14 17.4 -1.2
15nm,0.3s,baz=282,slow=12,SNR=153
NEW LR LR 23 17 17.3
comp=Z,900nm,21.6s,baz=265,slow=39
NEW Newport 7.35 85 eP Pn 23 14 16.9 -1.7
NEW Newport 7.35 85 ePn Pn 23 14 16.9 -1.7
NEW Newport 7.35 85 ⇓P Pn 23 14 17.4 -1.2
baz=7.4
K05A Summer Lake 7.44 134 ePn Pn 23 14 22.5 +2.5
K05A eSn Sn 23 15 44.6 +0.6
MNB Mounoet Dainar 7.44 53 P Pn 23 14 20.5 +0.5
MNB Mounoet Dainar 7.44 53 P Pn 23 14 20.5 +0.5
YBH Yreka Blue Hor 7.48 147 Pn Pn 23 14 22.8 +2.2
4.9nm,0.3s,baz=345,slow=14,SNR=94
YBH LR LR 23 17 03.6
comp=Z,1μm,21.2s,baz=343,slow=36
YBH Yreka Blue Hor 7.48 147 eP Pn 23 14 22.3 +1.8
YBH Yreka Blue Hor 7.48 147 ePn Pn 23 14 22.3 +1.8
M02C Callahan 7.73 149 P Pn 23 14 25.9 +2.0
baz=7.7,SNR=18
F10A Beach Ranch, E 7.75 102 ePn Pn 23 14 23.0 -1.2
M04C Macdoel 7.78 143 ⇓P Pn 23 14 26.2 +1.6
baz=7.7,SNR=43
KHMM Horse Mountain 7.93 155 ePn Pn 23 14 27.3 +0.6
CRAG Craig 7.95 339 ePn Pn 23 14 26.4 -0.2
N02D Trinity Center 8.16 150 P Pn 23 14 32.0 +2.3
baz=8.1,SNR=81
BMO Blue Mountains 8.16 110 ePn Pn 23 14 29.9 +0.1
KMRM Mail Ridge 8.54 157 ePn Pn 23 14 38.0 +2.9
WDC Whiskeytown Da 8.56 150 eP Pn 23 14 37.3 +2.0
WDC Whiskeytown Da 8.56 150 ePn Pn 23 14 37.3 +2.0
WRAK Wrangell Islan 8.66 344 ePn Pn 23 14 36.7 +0.1
WVOR Wild Horse Val 8.80 127 eP Pn 23 14 40.3 +1.7
WVOR Wild Horse Val 8.80 127 ePn Pn 23 14 40.2 +1.7
BSMT Bassoo Peak 8.95 87 ePn Pn 23 14 39.1 -1.6
KIPM Iron Peak 8.99 157 ePn Pn 23 14 43.7 +2.4
KCPM Cahto Peak 9.08 157 ePn Pn 23 14 44.5 +2.1
BLMT Blacktail Moun 9.21 86 ePn Pn 23 14 43.1 -1.2
JTMT Jette 9.30 87 ePn Pn 23 14 43.4 -2.0
WALA Waterton Lakes 9.46 79 P Pn 23 14 47.2 -0.4
WALA Waterton Lakes 9.46 79 P Pn 23 14 47.2 -0.4
WALA ePn Pn 23 14 47.3 -0.3
YBMT Yellow Bay 9.46 87 ePn Pn 23 14 46.3 -1.4
SWMT Swartz Lake 9.52 89 ePn Pn 23 14 47.4 -1.1
MSO Missoula 9.69 93 ePn Pn 23 14 49.5 -1.3
MSO Missoula 9.69 93 ⇓P Pn 23 14 50.1 -0.6
baz=9.7
MFID Camas Ranch 9.81 114 ePn Pn 23 14 54.1 +1.7
HOPS Hopland Field 9.87 156 ePn Pn 23 14 55.1 +2.1
SLMT Seeley Lake 9.90 90 ePn Pn 23 14 51.1 -2.7
SIT Sitka 9.92 337 eP Pn 23 14 51.8 -1.9
SIT Sitka 9.92 337 ePn Pn 23 14 51.8 -1.9
CHMT Chamberlain Mo 10.13 92 ePn Pn 23 14 54.9 -2.0
DLBC Dease Lake 10.36 354 Pn Pn 23 15 02.0 +2.2
1.4nm,0.3s,baz=191,slow=11,SNR=60
DLBC LR LR 23 18 46.6
comp=Z,470nm,20.6s,baz=170,slow=37
DLBC Dease Lake 10.36 354 ePn Pn 23 15 01.8 +2.0
DLBC P Pn 23 15 02.0 +2.2
HLID Hailey 10.60 111 ePn Pn 23 15 03.0 -0.4
HLID Hailey 10.60 111 ⇓P Pn 23 15 03.5 +0.2
baz=11
EDM Edmonton 10.64 56 P Pn 23 15 03.0 -0.7
EDM Edmonton 10.64 56 eP Pn 23 15 02.7 -1.0
EDM Edmonton 10.64 56 ePn Pn 23 15 02.7 -1.0
EDM P Pn 23 15 03.0 -0.7
LRM Limekiln Ridge 10.96 97 ePn Pn 23 15 07.2 -1.0
BMN Battle Mountai 10.98 131 eP Pn 23 15 09.7 +1.2
BMN Battle Mountai 10.98 131 ePn Pn 23 15 09.7 +1.2
DLMT Dillon 11.01 99 ePn Pn 23 15 07.9 -1.0
MCMT McKenzie Canyo 11.04 102 ePn Pn 23 15 08.1 -1.3
HRY Holter Researc 11.13 91 ePn Pn 23 15 09.2 -1.3
FNBB Fort Nelson 11.16 14 P Pn 23 15 15.2 +4.4
FNBB Fort Nelson 11.16 14 P Pn 23 15 15.2 +4.4
CMB Columbia Colle 11.59 148 eP Pn 23 15 18.1 +1.4
CMB Columbia Colle 11.59 148 ePn Pn 23 15 18.1 +1.4
ELK Elko 11.81 124 Pn Pn 23 15 22.7 +2.8
0.1nm,0.3s,baz=357,slow=7.0,SNR=5.7
ELK LR LR 23 20 27.1
comp=Z,266nm,21.5s,baz=358,slow=40
ELK Elko 11.81 124 eP Pn 23 15 19.1 -0.8
ELK Elko 11.81 124 ePn Pn 23 15 19.1 -0.8
QLMT Earthquake Lak 11.97 100 ePn Pn 23 15 21.4 -0.7
NV01 Mina Array Sit 12.06 140 ePn Pn 23 15 25.9 +2.6
NVAR Mina Array Bea 12.06 140 Pn Pn 23 15 26.4 +3.0
0.5nm,0.3s,baz=314,slow=13,SNR=84
EGMT Eagleton 12.28 84 ePn Pn 23 15 25.0 -1.2
EGMT Eagleton 12.28 84 ⇑P Pn 23 15 25.5 -0.7
baz=12
YMR Madison River 12.34 100 ePn Pn 23 15 26.9 -0.2
SAO San Andreas Ge 12.40 154 eP Pn 23 15 28.4 +0.6
SAO San Andreas Ge 12.40 154 ePn Pn 23 15 28.4 +0.6
YNR Norris Junctio 12.51 100 ePn Pn 23 15 27.7 -1.8
HVU Hansel Valley 12.59 115 eP Pn 23 15 33.0 +2.5
HVU Hansel Valley 12.59 115 ePn Pn 23 15 33.0 +2.5
IMW Indian Meadow 12.67 103 ePn Pn 23 15 32.1 +0.4
H17A Grant Village 12.70 101 ePn Pn 23 15 29.9 -2.3
FXWY Fox Creek 12.73 104 ePn Pn 23 15 30.7 -1.7
FLWY Flagg Ranch 12.75 102 ePn Pn 23 15 33.5 +0.8
B19A Brinkman Farms 12.77 82 ⇓P Pn 23 15 32.6 -0.2
baz=13
C19A Slack Wire Ran 12.79 85 ⇑P Pn 23 15 31.8 -1.4
baz=13
GCMT Greycliff 12.82 94 ePn Pn 23 15 33.2 -0.4
TPH Tonopah 12.83 138 eP Pn 23 15 35.7 +1.9
TPH Tonopah 12.83 138 ePn Pn 23 15 35.7 +1.9
TPAW Teton Pass 12.85 105 ePn Pn 23 15 35.8 +1.7
A19A Klindworth Far 12.86 79 ⇓P Pn 23 15 33.6 -0.5
baz=13
MOOW Moose Ponds 12.86 104 ePn Pn 23 15 34.7 +0.5
I17A Pilgrim Ck. 12.90 103 ⇓P Pn 23 15 34.9 +0.2
baz=13
BGU Big Grassy Mou 12.95 118 ePn Pn 23 15 36.9 +1.4
REDW Red Top Meadow 12.97 105 ePn Pn 23 15 36.5 +0.8
D19A Cripps Ranch, 13.01 87 ⇑P Pn 23 15 36.3 +0.2
baz=13
LOHW Long Hollow 13.02 104 ePn Pn 23 15 35.2 -1.2
AHID Auburn Hatcher 13.10 108 ePn Pn 23 15 41.5 +4.0
H18A Shoshone NF, C 13.20 98 ⇓P Pn 23 15 38.5 -0.3
baz=13
E19A Rath Farm, Rou 13.23 90 ⇑P Pn 23 15 39.1 0.0
baz=13
F19A Roth Farm, Mol 13.29 93 ⇑P Pn 23 15 40.3 +0.3
baz=13
RLMT Red Lodge 13.30 96 ePn Pn 23 15 38.8 -1.4
B20A Solberg Farm, 13.38 81 ⇓P Pn 23 15 40.6 -0.6
baz=13
R11A Troy Canyon, C 13.38 133 ePn Pn 23 15 41.9 +0.5
R11A Troy Canyon, C 13.38 133 ⇓P Pn 23 15 43.0 +1.6
baz=13
A20A Cobblestone Ra 13.40 79 ⇑P Pn 23 15 40.7 -0.8
baz=13
HWUT Hardware Ranch 13.43 113 ePn Pn 23 15 42.8 +0.9
C20A Veseth Ranch, 13.49 84 ⇑P Pn 23 15 41.8 -0.8
baz=14
RCTC Rector, Farmer 13.53 148 ⇑P Pn 23 15 45.4 +2.2
baz=14
H19A Powell 13.65 98 ⇑P Pn 23 15 45.1 +0.2
baz=14
E20A Meyer Farm, Mu 13.66 90 ⇑P Pn 23 15 44.6 -0.3
baz=14
HYT Haines Junctio 13.79 340 ePn Pn 23 15 47.9 +1.1
HYT P 23 15 49.7 -5.5
CWC Cottonwood Cre 13.85 144 ⇑P Pn 23 15 50.8 +3.1
baz=14
I19A Meeteetse 13.89 100 ⇑P Pn 23 15 49.2 +1.0
baz=14
G20A Bridger 13.97 95 ⇓P Pn 23 15 48.9 -0.4
baz=14
VES Vestal, Richgr 14.01 148 ⇓P Pn 23 15 50.9 +1.2
baz=14
B21A Ellsworth Farm 14.05 81 ⇑P Pn 23 15 49.4 -0.9
baz=14
A21A Bergtoll Ranch 14.05 79 ⇓P Pn 23 15 49.5 -0.8
baz=14
C21A Desert Coulee 14.08 84 ⇑P Pn 23 15 49.6 -1.1
baz=14
BW06 Boulder Array 14.09 106 ePn Pn 23 15 53.4 +2.4
PDAR Pinedale Array 14.09 106 Pn Pn 23 15 53.5 +2.5
0.1nm,0.3s,baz=315,slow=12,SNR=20
PDAR LR LR 23 21 38.5
comp=Z,457nm,18.7s,baz=298,slow=39
J19A Crowheart 14.18 103 ⇓P Pn 23 15 53.4 +1.2
baz=14
SMMC Simmler 14.19 152 ⇑P Pn 23 15 54.5 +2.3
baz=14
DAC Darwin (Calif) 14.19 143 eP Pn 23 15 54.6 +2.2
DAC Darwin (Calif) 14.19 143 ePn Pn 23 15 54.6 +2.2
TPNV Topopah Spring 14.20 138 eP Pn 23 15 54.6 +2.1
TPNV Topopah Spring 14.20 138 ePn Pn 23 15 54.6 +2.1
TPNV Topopah Spring 14.20 138 ⇓P Pn 23 15 54.3 +1.8
baz=14
FURC Furnace Creek, 14.33 141 ⇓P Pn 23 15 56.3 +2.3
baz=14
E21A Keefer Ranch, 14.35 89 ⇓P Pn 23 15 54.8 +0.3
baz=14
H20A Greybull 14.37 97 ⇓P Pn 23 15 55.1 +0.3
baz=14
ISA Isabella, Lake 14.39 147 eP Pn 23 15 56.5 +1.5
ISA Isabella, Lake 14.39 147 ePn Pn 23 15 56.5 +1.5
ISA Isabella, Lake 14.39 147 ⇑P Pn 23 15 57.2 +2.1
baz=14
MPMC Manual Prospec 14.42 143 ⇑P Pn 23 15 57.5 +1.9
baz=14
I20A Worland 14.50 99 ⇓P Pn 23 15 58.8 +2.4
baz=14
A22A Carney Farms, 14.71 78 ⇓P Pn 23 15 58.7 -0.7
baz=15
B22A Reddig Ranch S 14.74 81 ⇑P Pn 23 15 59.1 -0.6
baz=15
ARVC Arvin 14.74 149 ⇑P Pn 23 16 01.7 +2.0
baz=15
J20A Shoshoni 14.78 102 ⇓P Pn 23 16 01.5 +1.2
baz=15
D22A Cohagen 14.81 86 ⇑P Pn 23 16 00.5 -0.2
baz=15
LRMC Laurel Mtn Rad 14.85 145 ⇑P Pn 23 16 03.1 +1.7
baz=15
C22A Vida 14.90 83 ⇓P Pn 23 16 00.9 -1.0
baz=15
H21A Big Horn, Sher 14.96 96 ⇓P Pn 23 16 03.3 +0.5
baz=15
MVU Marysvale 15.04 124 ePn Pn 23 16 03.6 -0.4
6.0nm,1.1s
MSU Marysvale 15.06 124 eP Pn 23 16 05.3 +1.1
MSU Marysvale 15.06 124 ePn Pn 23 16 05.3 +1.1
SHPR Sheep Range 15.06 136 ePn Pn 23 16 05.5 +1.4
I21A Big Trails, Te 15.10 99 ⇓P Pn 23 16 04.6 -0.1
baz=15
E22A Miles City 15.13 88 ⇑P Pn 23 16 04.1 -0.9
baz=15
J21A Lysite 15.20 101 ⇓P Pn 23 16 07.6 +1.6
baz=15
EDW2 Edwards Air Fo 15.27 147 ⇓P Pn 23 16 07.5 +0.7
baz=15
GSC Goldstone, Bar 15.35 143 eP Pn 23 16 09.7 +1.7
GSC pmax pmax
comp=Z,47nm,1.2s
GSC Goldstone, Bar 15.35 143 ePn Pn 23 16 09.7 +1.7
comp=Z,47nm,1.2s
GSC Goldstone, Bar 15.35 143 ⇓P Pn 23 16 09.9 +1.9
baz=15
C23A Lambert 15.35 83 ⇑P Pn 23 16 07.1 -0.8
baz=15
B23A Brockton 15.38 80 ⇓P Pn 23 16 07.1 -1.2
baz=15
H22A Clearmont 15.43 95 ⇑P Pn 23 16 08.7 -0.3
baz=15
D23A Lindsay 15.46 85 ⇑P Pn 23 16 08.8 -0.5
baz=16
RAGM Ragged Mountai 15.54 328 ePn Pn 23 16 10.7 +0.4
comp=Z,96nm,1.7s
SRU San Rafael Swe 15.59 119 eP Pn 23 16 11.6 +0.4
SRU pmax pmax
comp=Z,8.0nm,0.9s
SRU San Rafael Swe 15.59 119 ePn Pn 23 16 11.6 +0.4
comp=Z,8.2nm,0.9s
TUQ Turquoise Moun 15.61 140 ⇑P Pn 23 16 13.1 +1.8
baz=16
I22A 9 Mile Ranch, 15.61 98 ⇑P Pn 23 16 10.2 -1.1
baz=16
K21A Alcova 15.65 103 ⇑P Pn 23 16 12.2 +0.3
baz=16
F23A Volborg 15.69 90 ⇓P Pn 23 16 12.3 -0.1
baz=16
J22A Midwest 15.81 99 ⇑P Pn 23 16 14.4 +0.5
baz=16
KNB Kanab 15.81 129 eP Pn 23 16 15.0 +1.0
KNB pmax pmax
comp=Z,38nm,1.2s
KNB Kanab 15.81 129 ePn Pn 23 16 15.0 +1.0
comp=Z,38nm,1.2s
DGMT Dagmar 15.91 80 ePn Pn 23 16 12.8 -2.2
comp=Z,59nm,0.9s
DGMT Dagmar 15.91 80 ⇑P Pn 23 16 14.5 -0.6
baz=16
C24A Savage 15.91 83 ⇓P Pn 23 16 14.8 -0.2
baz=16
N20A Spence Gulch, 15.92 110 ⇓P Pn 23 16 16.8 +1.3
baz=16
BMRM Bremner River 15.93 330 ePn Pn 23 16 15.8 +0.5
comp=Z,33nm,1.1s
HEC Hector,Ludlow 15.95 142 ⇑P P 23 16 17.7 -1.6
baz=16
BFSC Mount Baldy Ra 15.96 147 ⇑P P 23 16 18.1 -1.4
baz=16
A24A Westby 15.98 78 ⇑P Pn 23 16 15.6 -0.4
baz=16
D24A Glendive 16.06 85 ⇑P Pn 23 16 16.5 -0.5
baz=16
K22A Casper 16.11 102 ePn Pn 23 16 17.5 -0.3
comp=Z,82nm,1.6s
K22A Casper 16.11 102 ⇓P Pn 23 16 18.0 +0.1
baz=16
YKR1 Yellowknife Ar 16.14 22 P Pn 23 16 16.8 -1.2
YKR1 Yellowknife Ar 16.14 22 P Pn 23 16 16.8 -1.2
YKB1 Yellowknife Ar 16.16 23 P Pn 23 16 16.8 -1.3
YKB1 Yellowknife Ar 16.16 23 P Pn 23 16 16.8 -1.3
YKR2 Yellowknife Ar 16.16 22 P Pn 23 16 16.6 -1.5
YKR2 Yellowknife Ar 16.16 22 P Pn 23 16 16.6 -1.5
YKB2 Yellowknife Ar 16.18 23 P Pn 23 16 17.5 -0.8
YKB2 Yellowknife Ar 16.18 23 P Pn 23 16 17.5 -0.8
YKR4 Yellowknife Ar 16.18 23 P Pn 23 16 17.2 -1.2
YKR4 Yellowknife Ar 16.18 23 P Pn 23 16 17.2 -1.2
YKB3 Yellowknife Ar 16.20 23 P Pn 23 16 17.9 -0.7
YKB3 Yellowknife Ar 16.20 23 P Pn 23 16 17.9 -0.7
YKR5 Yellowknife Ar 16.20 23 P Pn 23 16 17.5 -1.1
YKR5 Yellowknife Ar 16.20 23 P Pn 23 16 17.5 -1.1
E24A Baker 16.20 87 ⇑P Pn 23 16 18.9 0.0
baz=16
YKR6 Yellowknife Ar 16.21 23 P Pn 23 16 17.8 -1.0
YKR6 Yellowknife Ar 16.21 23 P Pn 23 16 17.8 -1.0
YKB4 Yellowknife Ar 16.21 23 P Pn 23 16 17.7 -1.1
YKB4 Yellowknife Ar 16.21 23 P Pn 23 16 17.7 -1.1
YKR7 Yellowknife Ar 16.22 23 P Pn 23 16 18.9 0.0
YKR7 Yellowknife Ar 16.22 23 P Pn 23 16 18.9 0.0
YKA Yellowknife Ar 16.23 23 Pn Pn 23 16 17.6 -1.4
comp=Z,0.2nm,0.3s,baz=211,slow=13,SNR=36
YKR8 Yellowknife Ar 16.23 23 P Pn 23 16 18.9 -0.2
YKR9 Yellowknife Ar 16.25 23 P Pn 23 16 18.2 -1.0
YKR9 Yellowknife Ar 16.25 23 P Pn 23 16 18.2 -1.0
YKB6 Yellowknife Ar 16.25 23 P Pn 23 16 18.5 -0.8
YKB6 Yellowknife Ar 16.25 23 P Pn 23 16 18.5 -0.8
LDFC Landfair 16.26 139 ePn Pn 23 16 20.2 +0.5
comp=Z,57nm,1.0s
YKB7 Yellowknife Ar 16.27 23 P Pn 23 16 18.3 -1.2
YKB7 Yellowknife Ar 16.27 23 P Pn 23 16 18.3 -1.2
GMRC Granite Mounta 16.28 141 ⇑P P 23 16 21.5 -1.4
baz=16
YKW3 Yellowknife Ar 16.29 23 P Pn 23 16 19.6 -0.1
YKW3 Yellowknife Ar 16.29 23 P Pn 23 16 19.6 -0.1
YKB8 Yellowknife Ar 16.29 23 P Pn 23 16 18.7 -1.1
YKB8 Yellowknife Ar 16.29 23 P Pn 23 16 18.7 -1.1
F24A Ekalaka 16.30 89 ⇓P P 23 16 22.1 -1.0
baz=16
YKB9 Yellowknife Ar 16.31 23 P Pn 23 16 18.9 -1.1
YKB9 Yellowknife Ar 16.31 23 P Pn 23 16 18.9 -1.1
YKB0 Yellowknife Ar 16.33 23 P Pn 23 16 19.1 -1.2
YKB0 Yellowknife Ar 16.33 23 P Pn 23 16 19.1 -1.2
O20A White River Ci 16.34 112 ePn Pn 23 16 20.9 +0.2
comp=Z,15nm,0.9s
O20A White River Ci 16.34 112 ⇓P P 23 16 22.6 -1.1
baz=16
DIV Divide 16.45 329 ePn Pn 23 16 22.7 +0.8
comp=Z,27nm,1.3s
L22A Ellis Ranch, M 16.47 104 ⇑P Pn 23 16 23.3 +0.9
baz=16
G24A Alzada 16.48 91 ⇓P Pn 23 16 20.9 -1.5
baz=16
A25A Svangstu Ranch 16.56 78 ⇑P Pn 23 16 22.7 -0.6
baz=17
B25A Knox Farm, Ray 16.62 80 ⇑P Pn 23 16 23.6 -0.5
baz=17
C25A Freed Ranch, W 16.65 82 ⇑P Pn 23 16 24.3 -0.2
baz=17
K23A Bowen Ranch, D 16.66 101 ⇓P Pn 23 16 24.5 -0.3
baz=17
M22A Cedar Creek Ra 16.68 106 ⇓P Pn 23 16 25.8 +0.7
baz=17
MURC Murrieta 16.70 147 ⇓P P 23 16 26.5 -1.0
baz=17
D25A Fairfield 16.72 84 ⇓P Pn 23 16 25.1 -0.4
baz=17
W13A Hualapai Mount 16.80 136 ⇓P P 23 16 27.9 -0.9
baz=17
BELC Belle Mtn. Jos 16.81 143 ⇓P P 23 16 28.5 -0.4
baz=17
PV09 Paradox Valley 16.81 118 ePn Pn 23 16 27.9 +0.9
E25A Miller Ranch, 16.82 86 ⇓P Pn 23 16 26.3 -0.5
baz=17
L23A Garrett 16.90 103 ⇓P Pn 23 16 27.8 -0.2
baz=17
F25A Bowman 16.94 88 ⇓P Pn 23 16 29.2 +1.0
baz=17
PV10 Paradox Valley 16.95 118 ePn P 23 16 30.9 +0.4
PFO Pinyon Flats O 16.97 145 eP Pn 23 16 29.5 +0.7
PFO pmax pmax
comp=Z,13nm,1.0s
PFO Pinyon Flats O 16.97 145 ePn Pn 23 16 29.5 +0.7
comp=Z,13nm,1.0s
PFO Pinyon Flats O 16.97 145 ⇓P P 23 16 30.1 -0.5
baz=17
IRM Iron Mountain 17.02 141 ⇓P P 23 16 31.0 -0.1
baz=17
J24A Dixon Ranch, L 17.05 98 ⇓P Pn 23 16 29.9 +0.2
baz=17
N22A Wattenberg Ran 17.09 107 ⇓P Pn 23 16 30.7 +0.4
baz=17
DAWY Dawson 17.09 343 ePn Pn 23 16 27.7 -2.3
DAWY P P 23 16 33.1 +1.5
RSSD Black Hills 17.15 95 eP Pn 23 16 29.3 -1.7
RSSD pmax pmax
comp=Z,8.0nm,0.8s
RSSD Black Hills 17.15 95 ePn Pn 23 16 29.3 -1.7
comp=Z,8.2nm,0.8s
M23A Laramie 17.21 105 ⇑P Pn 23 16 32.1 +0.3
baz=17
B26A Jensen Ranch, 17.21 80 ⇑P Pn 23 16 31.2 -0.4
baz=17
H25A Fruitdale 17.26 93 ⇑P Pn 23 16 32.9 +0.6
baz=17
A26A Wade Farm, Ken 17.27 78 ⇑P Pn 23 16 31.7 -0.6
baz=17
BC3 Big Chuckawall 17.33 142 ⇓P P 23 16 34.3 -0.3
baz=17
D26A Manning 17.34 84 ⇑P Pn 23 16 32.2 -0.9
baz=17
PDMCI Parker Dam,Lak 17.35 138 ⇑P P 23 16 34.5 -0.1
baz=17
N23A Red Feather La 17.36 107 ePn Pn 23 16 32.5 -1.2
comp=Z,13nm,0.8s
N23A Red Feather La 17.36 107 ⇑P Pn 23 16 34.1 +0.3
baz=17
O22A Kremmling 17.38 109 ⇑P Pn 23 16 34.4 +0.3
baz=17
PV01 Paradox Valley 17.39 118 ePn P 23 16 35.6 +0.3
I25A Rochford 17.39 95 ⇓P Pn 23 16 34.4 +0.4
baz=17
C26A Wahner Farm, P 17.40 81 ⇓P Pn 23 16 33.5 -0.4
baz=17
L24A Wheatland 17.44 102 ⇑P Pn 23 16 34.5 -0.1
baz=17
E26A Carlson Angus 17.46 86 ⇓P Pn 23 16 34.1 -0.6
baz=17
PHWY Pilot Hill 17.46 105 ePn Pn 23 16 35.1 0.0
comp=Z,46nm,0.8s
F26A Lodgepole 17.49 88 ⇑P Pn 23 16 35.4 +0.3
baz=18
FFC Flin Flon 17.50 58 eP Pn 23 16 32.2 -2.9
FFC pmax pmax
comp=Z,84nm,0.8s
FFC Flin Flon 17.50 58 ePn Pn 23 16 32.2 -2.9
comp=Z,84nm,0.8s
MONP Monument Peak, 17.62 146 ⇓P P 23 16 38.2 +0.2
baz=18
Y12C Blythe 17.64 140 ⇑P P 23 16 37.7 -0.2
baz=18
PAX Paxson 17.69 333 eP Pn 23 16 37.7 +0.2
PAX pmax pmax
comp=Z,16nm,1.1s
PAX Paxson 17.69 333 ePn Pn 23 16 37.7 +0.2
comp=Z,16nm,1.1s
SMCO Snowmass 17.69 113 ePn Pn 23 16 36.6 -1.4
comp=Z,10nm,0.9s
G26A Maurine 17.70 90 ⇓P Pn 23 16 37.0 -0.7
baz=18
WUAZ Wupatki 17.71 129 ePn P 23 16 38.5 -0.3
comp=Z,27nm,1.3s
O23A Lake Granby, G 17.75 108 ⇓P P 23 16 39.3 -0.1
baz=18
A27A Ledoux Ranch, 17.78 77 ⇓P Pn 23 16 38.5 -0.2
baz=18
M24A Cheyenne 17.79 103 ⇓P Pn 23 16 39.2 +0.2
baz=18
H26A Fairpoint 17.81 92 ⇑P Pn 23 16 38.8 -0.3
baz=18
DOT Dot Lake 17.82 336 ePn Pn 23 16 38.2 -0.9
comp=Z,35nm,1.7s
SWSC Sam W. Stewart 17.82 144 ⇑P P 23 16 40.3 +0.4
baz=18
B27A Peters Farms, 17.85 79 ⇑P Pn 23 16 39.6 +0.2
baz=18
K25A Mack Ranch, Ha 17.88 99 ⇓P Pn 23 16 39.6 -0.4
baz=18
F27A Lemmon 17.91 88 ⇑P Pn 23 16 39.6 -0.7
baz=18
D27A Center 17.93 83 ⇓P Pn 23 16 40.1 -0.4
baz=18
PMR Palmer 17.97 326 eP Pn 23 16 40.4 -0.3
PMR pmax pmax
comp=Z,31nm,1.4s
PMR Palmer 17.97 326 ePn Pn 23 16 40.4 -0.3
comp=Z,31nm,1.4s
I26A New Underwood 17.97 94 ⇑P Pn 23 16 40.6 -0.5
baz=18
L25A Engebretsen Ra 18.02 100 ⇑P P 23 16 42.3 +0.1
baz=18
MVCO Mesa Verde 18.05 120 ePn Pn 23 16 41.7 -0.6
comp=Z,95nm,2.5s
MVCO Mesa Verde 18.05 120 ⇓P P 23 16 43.2 +0.5
baz=18
E27A Carson 18.07 86 ⇓P Pn 23 16 42.0 -0.2
baz=18
EGAK Eagle 18.08 342 ePn Pn 23 16 42.0 -0.2
comp=Z,208nm,2.6s
J26A Sides Ranch, S 18.11 96 ⇑P P 23 16 43.2 +0.2
baz=18
G27A Dupree 18.12 89 ⇑P Pn 23 16 42.8 -0.2

baz=18
ISCO Idaho Springs 18.18 109 *e*P **P 23 16 44.1 0.0**
ISCO pmax pmax
comp=Z,7.0nm,0.9s
ISCO Idaho Springs 18.18 109 *e*Pn **P 23 16 44.0 0.0**
comp=Z,7.4nm,0.9s
ISCO Idaho Springs 18.18 109 ⇓P **P 23 16 44.2 0.0**
baz=18
H27A Howes 18.27 91 ⇑P **P 23 16 45.2 +0.4**
baz=18
P23A Jefferson 18.28 110 ⇓P **P 23 16 47.1 +1.9**
baz=18
K26A Motz Farm, Whi 18.30 98 ⇑P **Pn 23 16 44.5 -0.6**
baz=18
M25A Palm-Egli Farm 18.31 103 ⇓P **P 23 16 45.9 +0.5**
baz=18
O24A Longmont 18.34 107 ⇓P **P 23 16 46.1 +0.3**
baz=18
A28A Rude Farm, Bot 18.42 77 ⇑P **Pn 23 16 47.0 +0.5**
baz=18
B28A Dugan Ranch, T 18.43 79 ⇑P **Pn 23 16 47.3 +0.7**
baz=18
I27A Quinn 18.49 93 ⇓P **Pn 23 16 48.3 +0.9**
baz=18
D28A Regan 18.54 83 ⇑P **Pn 23 16 48.7 +0.7**
baz=18
C28A Hausauer Farms 18.55 81 ⇑P **Pn 23 16 49.7 +1.6**
baz=18
E28A Huff 18.61 85 ⇑P **P 23 16 48.6 +0.1**
baz=19
GDLN Gardenia Lake, 18.65 34 P **Pn 23 16 49.8 +0.7**
GDLN Gardenia Lake, 18.65 34 P **Pn 23 16 49.8 +0.7**
S22A 4UR Ranch, Cre 18.68 116 *e*P **P 23 16 48.1 -1.5**
comp=Z,14nm,1.3s
S22A 4UR Ranch, Cre 18.68 116 ⇓P **P 23 16 49.7 +0.1**
baz=19
F28A McLaughlin 18.74 87 ⇑P **P 23 16 49.6 -0.3**
baz=19
J27A Elkhorn Farm, 18.84 95 ⇓P **Pn 23 16 52.3 +0.6**
baz=19
G28A Parade 18.90 89 ⇑P **Pn 23 16 52.2 -0.2**
baz=19
Q24A Divide 18.95 111 *e*P **P 23 16 50.3 -2.4**
comp=Z,61nm,2.0s
MDND Maddock 19.04 80 *e*P **P 23 16 53.0 -0.2**
comp=Z,1µm,1.3s
MDND Maddock 19.04 80 ⇑P **Pn 23 16 54.5 +0.5**
baz=19
B29A Wagenman Farm, 19.09 78 ⇓P **Pn 23 16 54.5 -0.1**
baz=19
A29A Manning Farm, 19.10 77 ⇓P **Pn 23 16 54.7 0.0**
baz=19
I28A Midland 19.11 93 ⇓P **Pn 23 16 55.9 +1.0**
baz=19
D29A Pettibone, Tap 19.22 83 ⇓P **Pn 23 16 56.7 +0.5**
baz=19
J28A Allard Ranch, 19.29 94 ⇓P **Pn 23 16 56.7 -0.3**
baz=19
E29A Napoleon 19.31 84 ⇑P **P 23 16 55.8 -0.4**
baz=19
MCK McKinley 19.32 331 *e*P **Pn 23 16 57.6 +0.3**
MCK pmax pmax
comp=Z,28nm,1.1s
MCK McKinley 19.32 331 *e*P **Pn 23 16 57.6 +0.3**
comp=Z,28nm,1.1s
IL1 Eielson Array 19.47 336 *e*P **P 23 16 57.6 -0.2**
ILAR Eielson Array 19.47 336 P **Pn 23 16 58.5 -0.5**
comp=Z,0.1nm,0.3s,baz=147,slow=10,SNR=57
ILAR LR LR 23 23 37.4
comp=Z,302nm,21.2s,baz=144,slow=34
K28A Ten Mile Ranch 19.50 96 ⇑P **Pn 23 17 00.4 +0.8**
baz=20
H29A Onida 19.52 90 ⇑P **Pn 23 17 00.2 +0.4**
baz=20
TRF Thorofare Moun 19.58 330 *e*P **Pn 23 17 00.7 +0.2**
comp=Z,108nm,1.8s
I29A Vivian Onida 19.68 92 ⇓P **Pn 23 17 02.1 +0.4**
baz=20
A30A Hoffart Farm, 19.70 77 ⇑P **P 23 17 01.1 +0.7**
baz=20
D30A Buchanan 19.76 82 ⇑P **Pn 23 17 02.2 -0.5**
baz=20
B30A Myrvik Farm, E 19.77 78 ⇓P **Pn 23 17 03.2 +0.5**
baz=20
C30A Mose, Pekin 19.81 80 ⇑P **Pn 23 17 03.5 +0.3**
baz=20
E30A Jud 19.82 84 ⇑P **Pn 23 17 02.9 -0.4**
baz=20
COLA College 19.82 335 *e*P **Pn 23 17 05.0 +1.9**
COLA pmax pmax
comp=Z,47nm,1.2s
KTH Kantishna Hill 19.86 329 *e*P **P 23 17 01.7 -0.4**
comp=Z,71nm,1.7s
OGNE Ogallala 19.88 102 ⇑P **Pn 23 17 03.7 -0.5**
baz=20
PPLA Purkeypile 19.90 327 *e*P **P 23 17 01.6 -1.1**
comp=Z,79nm,1.8s
J29A Okreek 19.90 93 ⇑P **Pn 23 17 04.6 +0.3**
baz=20
214A Organ Pipe Nat 19.92 139 ⇓P **Pn 23 17 04.3 -0.3**
baz=20
F30A Leola 19.93 86 ⇓P **Pn 23 17 04.4 -0.2**
baz=20
G30A Faulkton 20.07 88 ⇑P **P 23 17 04.7 +0.2**
baz=20
CAST Castle Rocks 20.18 328 *e*P **P 23 17 05.0 -0.5**
comp=Z,10.0nm,1.0s
SVW2 Sparrevohn 20.30 320 *e*P **P 23 17 06.2 -0.7**
comp=Z,50nm,1.5s
I30A Oacoma 20.31 91 ⇑P **Pn** 23 17 08.4 -0.8
baz=20
INK Inuvik 20.39 354 P **P 23 17 08.0 +0.4**
comp=Z,8.5nm,1.0s,baz=155,slow=11,SNR=11
INK LR LR 23 25 21.3
comp=Z,266nm,19.1s,baz=168,slow=38
INK Inuvik 20.39 354 *e*P **P 23 17 05.6 -2.1**
INK pmax pmax
comp=Z,22nm,1.3s
INK Inuvik 20.39 354 *e*P **P 23 17 05.6 -2.1**
comp=Z,22nm,1.3s
R26A Arlington 20.42 110 ⇓P **Pn** 23 17 10.3 -0.3
baz=20
J30A Dallas 20.49 93 ⇓P **Pn** 23 17 12.0 +0.7
baz=20
M29A Burnside Ranch 20.52 99 ⇑P **Pn** 23 17 11.9 +0.2
baz=20
T25A Trinidad 20.54 114 ⇑P **Pn** 23 17 11.7 -0.5
baz=20
TUC Tucson 20.56 134 *e*P **P 23 17 10.7 +0.7**
TUC pmax pmax
comp=Z,31nm,1.6s
TUC Tucson 20.56 134 *e*P **P 23 17 10.7 +0.7**
comp=Z,31nm,1.6s
K30A Basset 20.68 95 ⇑P **Pn** 23 17 13.3 -0.3
baz=21
ANMO Albuquerque 20.82 121 P **Pn** 23 17 14.6 -0.7
comp=Z,4.7nm,1.1s,baz=320,slow=10,SNR=6.1
ANMO LR LR 23 24 55.2
comp=Z,150nm,19.1s,baz=312,slow=36
ANMO Albuquerque 20.82 121 *e*P **P 23 17 13.4 +0.6**
ANMO pmax pmax
comp=Z,6.0nm,1.0s
ANMO Albuquerque 20.82 121 *e*P **P 23 17 13.4 +0.6**
comp=Z,5.7nm,1.0s
S26A Kim 20.82 111 ⇓P **Pn** 23 17 14.1 -1.2
baz=21
LAZ Ladron 20.83 124 *e*P **Pn** 23 17 14.9 -0.6
R27A Eads 20.84 109 ⇓P **P 23 17 14.2 +1.2**
baz=21
N29A Votaw Ranch, W 20.86 100 ⇑P **Pn** 23 17 15.1 -0.6
baz=21
L30A Spencer Herefo 20.93 97 ⇑P **Pn** 23 17 16.1 -0.3
baz=21
ULM Lac du Bonnet 21.08 72 P **P 23 17 15.4 0.0**
ULM Lac du Bonnet 21.08 72 P **P 23 17 15.5 +0.1**
comp=Z,37nm,0.8s,baz=287,slow=10,SNR=36
ULM LR LR 23 25 46.0
comp=Z,608nm,18.2s,baz=258,slow=38
ULM Lac du Bonnet 21.08 72 *e*P **P 23 17 14.6 -0.8**
ULM 23 17 15.4
ULM pmax pmax
comp=Z,69nm,1.0s
ULM Lac du Bonnet 21.08 72 *e*P **P 23 17 14.6 -0.8**
comp=Z,68nm,1.0s
ULM P **P 23 17 15.4 0.0**
LENM Lemitar 21.09 124 *e*P **P 23 17 16.9 +1.1**
LPM Los Pinos Moun 21.18 123 *e*P **P 23 17 16.7 0.0**
BNM Barren Site 21.30 123 *e*P **P 23 17 17.8 -0.3**

AGMN Agassiz Nation 21.41 78 *e*P **P 23 17 18.6 -0.3**
comp=Z,46nm,1.0s
AGMN Agassiz Nation 21.41 78 ⇓P **P 23 17 19.1 +0.2**
baz=21
R28A Tribune 21.43 108 ⇓P **P 23 17 20.7 +1.3**
baz=21
O30A MW Ranch, Wils 21.56 101 ⇓P **P 23 17 22.3 +1.6**
baz=22
Q29A Oakley 21.66 105 ⇓P **P 23 17 23.1 +1.4**
baz=22
P30A Selden 21.77 103 ⇑P **P 23 17 24.2 +1.2**
baz=22
S28A Manter 21.82 109 ⇑P **P 23 17 24.3 +0.8**
baz=22
319A Douglas 22.05 133 ⇑P **P 23 17 27.4 +1.3**
baz=22
COLD Coldfoot 22.22 337 *e*P **P 23 17 27.2 -0.2**
comp=Z,30nm,1.6s
ECSD EROS Data Cent 22.26 90 *e*P **P 23 17 27.5 -0.6**
comp=Z,25nm,0.9s
ECSD EROS Data Cent 22.26 90 ⇑P **P 23 17 29.0 +0.9**
baz=22
P31A Stockton 22.35 102 ⇑P **P 23 17 29.9 +0.8**
baz=22
IM04 Indian Mountai 22.37 332 *e*P **P 23 17 29.3 +0.2**
R30A Dighton 22.45 106 ⇑P **P 23 17 31.8 +1.6**
baz=22
FCC Fort Churchill 22.61 49 *e*P **P 23 17 31.3 -0.4**
FCC pmax pmax
comp=Z,1µm,0.9s
FCC Fort Churchill 22.61 49 *e*P **P 23 17 31.3 -0.4**
comp=Z,1µm,0.9s
S30A Montezuma 22.71 107 ⇑P **P 23 17 34.2 +1.2**
baz=23
R31A Burdett 22.93 105 ⇑P **P 23 17 36.7 +1.4**
baz=23
Q32A Meitler Ranch, 23.17 102 ⇓P **P 23 17 38.7 +0.9**
baz=23
S31A Mullinville 23.35 106 ⇑P **P 23 17 40.9 +1.3**
baz=23
R32A Long Quarter, 23.39 104 ⇑P **P 23 17 41.5 +1.6**
baz=23
P33A Williams Farm, 23.50 100 ⇑P **P 23 17 42.0 +1.0**
baz=24
SOLO Sioux Lookout 23.53 72 P **P 23 17 41.2 0.0**
SOLO Sioux Lookout 23.53 72 P **P 23 17 41.2 0.0**
T31A Randall Ranch, 23.53 108 ⇓P **P 23 17 42.5 +1.1**
baz=24
Q33A Connelly Farm, 23.64 102 ⇓P **P 23 17 44.0 +1.6**
baz=24
MSTX Muleshoe 23.66 118 ⇑P **P 23 17 44.4 +1.7**
baz=24
R33A Olander Ranch, 23.92 103 ⇑P **P 23 17 46.1 +1.0**
baz=24
T32A Huddler Ranch, 23.97 106 ⇑P **P 23 17 45.9 +0.4**
baz=24
SPMN Marine on St. 24.27 84 *e*P **P 23 17 49.1 +0.9**
comp=Z,32nm,1.0s
SPMN Marine on St. 24.27 84 ⇑P **P 23 17 49.5 +1.3**
baz=24
S33A Kaszmaul Farm, 24.32 105 ⇓P **P 23 17 49.8 +1.0**
baz=24
EYMN Ely 24.34 77 *e*P **P 23 17 49.1 +0.3**
comp=Z,44nm,0.9s
X30A Coker Ranch, T 24.47 114 ⇑P **P 23 17 51.0 +0.8**
baz=24
Z29A Hungry Hill Ra 24.79 117 ⇑P **P 23 17 53.7 +0.6**
baz=25
S34A Willow Spring 24.84 103 ⇓P **P 23 17 54.5 +1.1**
baz=25
X31A McDonald Ranch 24.90 113 ⇓P **P 23 17 55.3 +1.2**
baz=25
U33A Lingo Farm, Me 24.93 107 ⇑P **P 23 17 56.0 +1.6**
baz=25
W32A Sentinel 25.04 111 ⇑P **P 23 17 56.8 +1.6**
baz=25
228A UT Block 9, Go 25.08 120 ⇓P **P 23 17 58.0 +2.2**
baz=25
Z30A Sanderson Ranc 25.11 116 ⇑P **P 23 17 57.3 +1.3**
baz=25
Y31A Rekieta Farm, 25.17 114 ⇓P **P 23 17 58.4 +1.8**
baz=25
V33A Lossen Ranch, 25.20 108 ⇑P **P 23 17 58.9 +2.1**
baz=25
U34A Anderson Ranch 25.30 106 ⇓P **P 23 17 59.5 +1.9**
baz=25
S35A Otter Creek Ra 25.36 103 ⇓P **P 23 17 59.7 +1.5**
baz=25
X32A Elmer 25.47 112 ⇓P **P 23 18 01.6 +2.4**
baz=25
R36A Gordon, Harris 25.54 101 ⇑P **P 23 18 01.7 +1.9**
baz=26
WMOK Wichita Mounta 25.58 111 *e*P **P 23 18 00.4 +0.2**
WMOK pmax pmax
comp=Z,7.0nm,0.8s
WMOK Wichita Mounta 25.58 111 *e*P **P 23 18 00.4 +0.2**
comp=Z,6.8nm,0.8s
Y32A R-V Farms, Ver 25.65 113 ⇑P **P 23 18 01.4 +0.6**
baz=26
130A Snyder 25.69 117 ⇓P **P 23 18 02.9 +1.6**
baz=26
S36A Lake Cedric, C 25.82 102 ⇓P **P 23 18 04.4 +2.1**
baz=26
329A Wagon Wheel Ra 25.90 121 ⇑P **P 23 18 05.1 +1.9**
baz=26
R37A Teagarden Farm 25.99 100 ⇑P **P 23 18 05.1 +1.2**
baz=26
230A Sterling City 26.11 119 ⇓P **P 23 18 07.4 +2.3**
baz=26
Y33A Hilltop Ranch, 26.15 112 ⇑P **P 23 18 05.9 +0.5**
baz=26
COWI Conover 26.41 80 *e*P **P 23 18 08.1 +0.5**
comp=Z,17nm,0.8s
330A Mertzon 26.43 119 ⇓P **P 23 18 09.9 +1.9**
baz=26
429A Davenport Ranc 26.59 122 ⇑P **P 23 18 11.7 +2.3**
baz=27
TX31 Lajitas Ar. Si 26.59 126 *e*P **P 23 18 09.8 +0.4**
TXAR Lajitas Array 26.59 126 P **P 23 18 09.9 +0.4**
comp=Z,1.4nm,0.7s,baz=312,slow=7.5,SNR=17
TXAR LR LR 23 30 42.7
comp=Z,69nm,19.6s,baz=0.0,slow=41
529A Stev Forest Ra 26.78 123 ⇑P **P 23 18 12.8 +1.6**
baz=27
GTO Geraldton 26.84 71 P **P 23 18 12.6 +1.2**
GTO Geraldton 26.84 71 P **P 23 18 12.6 +1.2**
JFWS Jewell Farm 26.84 87 *e*P **P 23 18 11.7 +0.1**
JFWS pmax pmax
comp=Z,33nm,0.8s
JFWS Jewell Farm 26.84 87 *e*P **P 23 18 11.7 +0.1**
comp=Z,33nm,0.8s
133A Hamilton Ranch 26.92 115 ⇓P **P 23 18 12.6 +0.3**
baz=27
TNA Tin City 27.20 324 *e*P **P 23 18 14.7 +0.2**
comp=Z,9.5nm,1.5s
530A J-C Ranch, Com 27.26 122 ⇑P **P 23 18 17.0 +1.5**
baz=27
431A Sonora 27.29 120 ⇓P **P 23 18 18.3 +2.6**
baz=27
233A Rising Star 27.34 115 ⇑P **P 23 18 18.8 +2.7**
baz=27
LPIG La Paz 27.85 143 LR LR 23 28 28.0
comp=Z,118nm,18.9s,baz=337,slow=34
532A Rocksprings 28.10 120 ⇓P **P 23 18 23.6 +0.6**
baz=28
631A Perdido Creek 28.25 122 ⇑P **P 23 18 25.5 +1.3**
baz=28
632A Uvalde 28.63 120 ⇓P **P 23 18 29.3 +1.6**
baz=29
KAPO Kapuskasing 29.72 70 P **P 23 18 38.3 +1.2**
KAPO Kapuskasing 29.72 70 P **P 23 18 38.3 +1.2**
RES Resolute Bay 30.12 17 P **P 23 18 40.6 +0.2**
RES Resolute Bay 30.12 17 P **P 23 18 40.6 +0.2**
RES Resolute Bay 30.12 17 P **P 23 18 40.6 +0.2**
EEO Eldee 32.78 74 P **P 23 19 04.5 +0.3**
EEO Eldee 32.78 74 P **P 23 19 04.5 +0.3**
EUNU Eureka 35.08 12 P **P 23 19 24.2 +0.5**
EUNU Eureka 35.08 12 P **P 23 19 24.2 +0.5**
MMNY Mt. Morris Dam 35.12 80 *e*P **P 23 19 24.2 -0.3**
comp=Z,46nm,0.8s
GOGA Godfrey 36.34 97 *e*P **P 23 19 34.8 -0.2**
GOGA pmax pmax
comp=Z,7.0nm,0.9s
GOGA Godfrey 36.34 97 *e*P **P 23 19 34.8 -0.2**
comp=Z,6.5nm,0.9s
KMSC Kings Mountain 36.74 93 *e*P **P 23 19 38.4 0.0**
comp=Z,72nm,0.1s

BILL Bilibino 37.60 326 ⇑*i*P **P 23 19 45.5 +0.1**
BILL *e* 23 21 07.7
BILL pmax pmax
comp=Z,7.0nm,1.4s
BILL Bilibino 37.60 326 *e*P **P 23 19 44.9 -0.5**
comp=Z,8.6nm,1.4s
SCHQ Schefferville 37.63 56 P **P 23 19 43.9 -1.9**
comp=Z,8.8nm,1.0s,baz=318,slow=8.7,SNR=4.4
SCHQ LR LR 23 35 29.1
comp=Z,546nm,18.1s,baz=286,slow=37
ODNJ Ogdensburg 38.07 80 *e*P **P 23 19 49.4 -0.2**
comp=Z,35nm,1.2s
SEY Seymchan 44.25 320 P **P 23 20 39.7 -0.4**
comp=Z,2.4nm,0.5s,baz=108,slow=7.7,SNR=9.4
TIXI Tiksi 48.94 336 *e*P **P 23 21 16.7 -0.1**
TIXI pmax pmax
comp=Z,9.0nm,2.5s
TIXI Tiksi 48.94 336 *e*P **P 23 21 16.1 -0.7**
comp=Z,6.1nm,1.1s
H11N2 WAKE ISLAND Hy 58.94 265 T T 00 26 11.0
baz=44,slow=75,SNR=558
H11N3 WAKE ISLAND Hy 58.94 265 T T 00 26 11.0
baz=44,slow=75,SNR=1219
H11N1 WAKE ISLAND Hy 58.95 265 T T 00 26 12.2
baz=44,slow=75,SNR=558
H11S1 WAKE ISLAND Hy 59.93 264 T T 00 27 23.9
baz=45,slow=75,SNR=50
H11S2 WAKE ISLAND Hy 59.94 264 T T 00 27 26.0
baz=45,slow=75,SNR=88
H11S3 WAKE ISLAND Hy 59.95 264 T T 00 27 24.5
baz=45,slow=75,SNR=30
ROSC El Rosal 62.83 115 LR LR 23 53 21.8
comp=Z,35nm,19.4s,baz=350,slow=39
MDJ Mudanjiang 65.28 310 P **P 23 23 12.5 -0.2**
MDJ PMZ
comp=Z,21nm,2.1s
MDJ PMZ
comp=Z,250nm,3.4s
NB2 NORSAR Subarra 66.31 20 P **P 23 23 20.9 +1.7**
comp=Z,1.3nm,0.8s,baz=334,slow=6.5
NOA NORSAR Array B 66.31 20 P **P 23 23 20.9 +1.7**
comp=Z,1.3nm,1.0s,baz=332,slow=6.5,SNR=4.3
NOA LR LR 23 50 32.8
comp=Z,46nm,19.5s,baz=340,slow=34
PPT Papeete 68.19 202 LR LR 23 46 37.2
comp=Z,43nm,21.9s,baz=296,slow=30
FINES FINESS Array B 68.79 13 P **P 23 23 34.5 -0.2**
comp=Z,4.8nm,0.8s,baz=357,slow=3.8,SNR=16
FINES LR LR 23 52 07.5
comp=Z,43nm,18.8s,baz=2.0,slow=35
KLMR Klimovskoe 70.88 6 *e*P **P 23 23 47.7 +0.1**
KLMR pmax pmax
comp=Z,12nm,1.5s
TLY Talaya 71.14 329 *e*P **P 23 23 49.3 -0.1**
TLY pmax pmax
comp=Z,14nm,2.5s
ULN Ulaanbaatar 73.04 325 *e*P **P 23 24 00.8 -0.2**
ULN pmax pmax
comp=Z,8.0nm,2.5s
SONM Songino Array 73.32 325 P **P 23 24 02.8 +0.2**
comp=Z,0.9nm,0.8s,baz=97,slow=5.1,SNR=6.0
NVS Novosibirsk 74.03 342 *e*P **P 23 24 04.1 -2.3**
ZALV Zalesovo Beam 74.51 341 P **P 23 24 08.0 -1.3**
comp=Z,0.8nm,0.6s,baz=32,slow=8.7,SNR=5.5
ZALV LR LR 00 00 40.6
comp=Z,45nm,18.7s,baz=70,slow=39
ARU Arti 75.63 356*d*/*i*P **P 23 24 14.8 -0.9**
ARU 23 27 02.3
ARU S **S 23 33 55.3 -0.5**
ARU pmax pmax
comp=Z,5.0nm,1.0s
ARU Arti 75.63 356 *e*P **P 23 24 14.1 -1.6**
comp=Z,4.4nm,1.0s
OBN Obninsk 76.29 9⇓*e*P **P 23 24 19.5 0.0**
OBN *i* 23 24 33.0
OBN *e* 23 27 08.9
OBN pmax pmax
comp=Z,4.0nm,1.0s
HHC Hu-ho-hao-te 76.84 318 *e*P **P 23 24 25.0 +1.9**
HHC sP **sP 23 24 30.0 -0.3**
HHC PP PP 23 27 21.3 +6.0
HHC S **S 23 34 05.3 -4.6**
HHC sS **sS 23 34 18.4 -0.3**
HHC PMZ
comp=Z,74nm,9.0s
HHC LN
comp=Z,210nm,14.1s
HHC LE
comp=Z,270nm,15.1s
HHC LZ
comp=Z,200nm,14.8s
GERES GERESS Array B 77.88 25 P **P 23 24 29.9 +1.3**
comp=Z,0.2nm,0.6s,baz=286,slow=3.7,SNR=3.2
GERES LR LR 23 59 43.4
comp=Z,46nm,18.0s,baz=347,slow=36
GERES GERESS Array B 77.88 25 P **P 23 24 30.0 +1.3**
BRVK Borovoye 77.95 349 *e*P **P 23 24 28.8 -0.1**
BRVK pmax pmax
comp=Z,5.0nm,2.5s
BRVK Borovoye 77.95 349 *e*P **P 23 24 28.1 -0.7**
comp=Z,2.6nm,0.8s
ESDC Sonseca Array 79.50 41 LR LR 23 56 35.3
comp=Z,37nm,20.0s,baz=320,slow=33
VYHS Vyhne 79.55 22 *e*P P 23 24 42.2 +4.4
VYHS Vyhne 79.55 22 *e*pP **P 23 24 42.2 +4.4**
AKASG Malin Array Be 79.61 14 P **P 23 24 37.5 -0.5**
comp=Z,0.3nm,0.2s,baz=346,slow=4.9,SNR=6.6
NJ2 Nanjing 80.22 308 *e*P **P 23 24 43.1 +1.5**
NJ2 PMZ
comp=Z,20nm,1.0s
MKAR Makanchi Array 81.78 339 P **P 23 24 48.9 -0.9**
comp=Z,1.0nm,0.7s,baz=12,slow=4.6,SNR=14
MKAR LR LR 00 03 47.7
comp=Z,44nm,19.2s,baz=24,slow=38
MKAR Makanchi Array 81.78 339 *e*P **P 23 24 48.7 -1.1**
MKAR Makanchi Array 81.78 339 *e*P **P 23 24 48.7 -1.1**
MK01 Makanchi Array 81.80 339 *e*P **P 23 24 48.7 -1.2**
BUR04 Bucovina Ar. S 81.82 18 *e*P **P 23 24 50.3 +0.2**
ABKAR Akbulak array 82.71 355 *e*P **P 23 24 53.8 -0.8**
WMQ Urumqi 83.14 335 *e*P P 23 25 00.3 +3.3
WMQ pP pP 23 25 05.1 +2.8
WMQ sP sP 23 25 07.3 +3.0
WMQ S **SKSac 23 35 18.2 0.0**
WMQ SS **SS 23 40 44.0 +5.4**
WMQ PMZ
comp=Z,7.0nm,0.6s
WMQ PMZ
comp=Z,78nm,4.8s
WMQ LN
comp=Z,38nm,21.4s
WMQ LE
comp=Z,58nm,23.2s
WMQ LZ
comp=Z,30nm,22.2s
LZH Lanzhou 84.18 320 *e*P **P 23 25 02.6 0.0**
LZH pP **PcP 23 25 05.9 -0.5**
LZH sP **sP 23 25 07.4 -2.5**
LZH *e*PP **PP 23 28 18.3 +2.1**
LZH PMZ
comp=Z,18nm,1.5s
LZH PMZ
comp=Z,57nm,8.7s
LZH LN
comp=Z,160nm,16.5s
LZH LE
comp=Z,150nm,16.0s
LZH LZ
comp=Z,200nm,19.4s
SIV San Ignacio 87.26 118 LR LR 00 08 32.9
comp=Z,23nm,19.9s,baz=298,slow=38
AAK Ala-Archa 87.41 343 *e*P **P 23 25 18.8 +0.3**
AAK pmax pmax
comp=Z,5.0nm,1.7s
KIV Kislovodsk 87.91 7 *e*P **P 23 25 19.7 -1.1**
KIV pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 88.15 7 P **P 23 25 21.7 0.0**
comp=Z,1.3nm,0.7s,baz=233,slow=20,SNR=4.5
KEST Kesra 88.25 33 LR LR 00 05 11.1
comp=Z,19nm,18.8s,baz=278,slow=36
KSH Kashi 90.12 342 P **P 23 25 33.3 +2.0**
KSH pP **pP 23 25 38.1 +1.4**
KSH sP **sP 23 25 40.2 +1.6**
KSH PP **PP 23 29 08.6 +5.0**
KSH SKS **SKSac 23 36 01.8 +0.1**
KSH S **S 23 36 23.5 -0.5**

KSH				SS	**SS**	**23 42 25.3**	**+4.4**
KSH				PMZ				
	comp=Z,42nm,5.8s							
KSH				LN				
	comp=Z,90nm,4.1s							
KSH				LE				
	comp=Z,80nm,5.9s							
KSH				LZ				
	comp=Z,150nm,5.4s							
BRTR	**Keskin Array B**	**91.01**	**14**	P	**P**	**23 25 34.7**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=330,slow=5.3,SNR=3.4							
BRTR				LR	LR	00 08 33.5		
	comp=Z,25nm,18.6s,baz=355,slow=37							
KMI	**Kunming**	**93.98**	**315**	P	**P**	**23 25 50.4**	**+0.9**
KMI				PMZ				
	comp=Z,7.0nm,1.1s							
GEYT	**Alibeck**	**94.11**	**355**	LR	LR	00 12 49.9		
	comp=Z,26nm,19.1s,baz=155,slow=38							
CPUP	**Villa Florida**	**97.47**	**121**	LR	LR	00 18 10.5		
	comp=Z,106nm,18.4s,baz=358,slow=40							

TRN 06 23:23:53.5, 15°.35N×60°.72W, h40km, MD3.6, M3.0(FDF), 10C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLPL	**La Plaine**	**0.51**	**268**	*eP*	Pn	23 24 06.0	+1.6
DLPL				*eS*	Sn	23 24 15.6	+3.5
BVM	**Bellevue**	**0.70**	**208**	*eP*	Pn	23 24 08.5	+1.4
BBL	**Barber's Block**	**0.74**	**283**	*eP*	Pn	23 24 09.5	+1.9
FDF	**Fort de France**	**0.74**	**214**	⇑*iP*	Pn	23 24 09.0	+1.4
FDF	**Fort de France**	**0.74**	**214**	⇑*iP*	Pn	23 24 09.4	+1.8
FDF				*eS*	Sn	23 24 20.7	+2.9
LPMF	**Morne Lapointe**	**0.81**	**197**	*eP*	Pn	23 24 09.3	+0.9
MVM	**Montagne Vaucl**	**0.81**	**192**	*eP*	Pn	23 24 09.5	+0.9
ZAM	**Aeronautique**	**0.83**	**201**	⇑*iP*	Pn	23 24 09.7	+1.0
TRMF	**Trois Ilets**	**0.87**	**202**	⇑*eP*	Pn	23 24 10.4	+1.1
BIM	**Bigot**	**0.90**	**202**	*eP*	Pn	23 24 11.0	+1.3
BIM				*eS*	Sn	23 24 24.1	+2.6
DEG	**La Desirade**	**1.01**	**341**	*eP*	Pn	23 24 10.8	-0.5
TBG	**Guadaloupe-3**	**1.02**	**299**	⇑*iP*	Pn	23 24 12.6	+1.3
DOG	**Dongo Capester**	**1.10**	**308**	*eP*	Pn	23 24 13.9	+1.4
PHG	**Guadaloupe-2**	**1.11**	**307**	⇑*eP*	Pn	23 24 14.2	+1.5
ECG	**Echelle**	**1.13**	**307**	⇑*iP*	Pn	23 24 14.4	+1.3
HMG	**Houelmont**	**1.13**	**304**	*eP*	Pn	23 24 14.6	+1.7
LKG	**Breislack**	**1.14**	**307**	*eP*	Pn	23 24 14.4	+1.3
LKG				*eS*	Sn	23 24 29.4	+1.7
TAG	**Tarade**	**1.14**	**307**	⇑*iP*	Pn	23 24 14.8	+1.6
CRG	**Carmichael**	**1.14**	**308**	*eP*	Pn	23 24 14.6	+1.4
SCG	**Saint Claude**	**1.14**	**306**	*eP*	Pn	23 24 14.7	+1.6
FNG	**Fond-Bernard**	**1.17**	**307**	*eP*	Pn	23 24 14.7	+1.3
SSG	**Sans Toucher**	**1.18**	**309**	⇑*iP*	Pn	23 24 14.9	+1.2
MLG	**Mont-d'or**	**1.19**	**307**	⇑*iP*	Pn	23 24 15.2	+1.5
SEG	**Port Louis**	**1.29**	**324**	*eP*	Pn	23 24 16.5	+1.4
MCLT	**Moule a Chique**	**1.65**	**187**	*eP*	Pn	23 24 21.8	+1.8
MCLT				*eS*	Sn	23 24 42.0	+2.0
MBWH		**1.98**	**315**	*eP*	Pn	23 24 26.6	+2.1
SVB	**Belmont**	**2.13**	**194**	*eP*	Pn	23 24 29.2	+2.5
SVB				*eS*	Sn	23 24 53.7	+1.8

DJA 06 23:53:55.1±0.4, 0°N±5°×122°5E±°, h10km, M4.0/9, mb4.3/2, MLv3.9/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.03**	**281**	P	Pg	23 54 14.0	-0.9
KMSI				S	Sg	23 54 27.9	-0.4
TNTI	**Ternate**	**2.41**	**80**	P	Pn	23 54 33.7	-0.9
SANI	**Sanana**	**2.60**	**157**	P	Pn	23 54 35.5	-1.8
SANI				S	Sn	23 55 03.9	-5.1
LUWI	**Luwuk**	**2.62**	**238**	P	Pn	23 54 38.0	+0.4
LUWI				S	Sn	23 55 10.8	+1.3
LBMI	**Labuha**	**2.70**	**112**	P	Pn	23 54 39.4	+0.7
LBMI				S	Sn	23 55 13.4	+1.9
MRSI	**Marisa**	**3.05**	**272**	P	Pn	23 54 42.3	-1.1
MRSI				S	Sn	23 55 11.9	-8.1
NLAI	**Namlea**	**4.16**	**150**	P	Pn	23 54 57.8	-0.9
MPSI	**Mapaga**	**5.09**	**270**	P	Pn	23 55 11.6	+0.1
	10nm,0.7s,0.0nm						
SPSI	**Sidrap Palu**	**6.76**	**230**	P	Pn	23 55 35.3	+0.8

MEX 06 23:56:01.0±0.7, 17°.29N×100°.68W, h17km±999km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.46**	**122**	*eP*	Pg	23 56 08.6	-1.8
CAIG				*i* S	Sg	23 56 15.1	-1.5
ZIIG	**Zihuatanejo**	**0.81**	**293**	*eP*	Pn	23 56 13.7	-3.0
ARIG	**Puente Sto Nin**	**1.03**	**18**	*eP*	Pb	23 56 17.4	-3.1
ARIG				*eS*	Sb	23 56 27.9	-6.0
MMIG	**Aquila**	**2.73**	**292**	*eP*	Pn	23 56 40.4	-3.6

*IDC **07** 00:19:17.2±1.9, 60°.60N×177°.54W, h0km, mb3.6/7, mb1 3.8/9, mb1mx3.6/31, mbtmp3.6/9, ML3.1/2, MS3.6/19, Ms1 3.6/19, ms1mx3.4/34, Error ellipse: s-maj=58.1km s-min=20.7km az=2.0*

*ISCJB **07** 00:19:19.3±0.9, 60°.5N±0°.2×177°.7W±0°.2, h33km, mb3.5/6, MS3.6/18, Error ellipse: s-maj=29.2km s-min=9.6km az=168.5*

ISC 07 00:19:21.5±1.2, 60°.6N±0°.3×177°.73W±0°.09, h35km, n35, σ1°24/20, mb3.5/6, MS3.7/18, Bering Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEY	**Seymchan**	**14.28**	**292**	Pn	**Pn**	**00 22 40.6**	**-0.2**
	0.3nm,0.3s,baz=135,slow=20,SNR=3.5						
ILAR	**Eielson Array**	**14.68**	**60**	Pn	**Pn**	**00 22 46.3**	**+0.1**
	0.1nm,0.3s,baz=271,slow=14,SNR=7.6						
PETK	**Petropavlovsk-**	**15.31**	**252**	Pn	**Pn**	**00 22 54.1**	**-0.6**
	0.1nm,0.3s,baz=75,slow=17,SNR=2.7						
PETK				LR	LR	00 29 23.7		
	comp=Z,45nm,18.8s,baz=58,slow=39						
INK	**Inuvik**	**20.14**	**49**	P	**P**	**00 23 51.0**	**-1.1**
	3.0nm,0.8s,baz=261,slow=11,SNR=14						
DLBC	**Dease Lake**	**23.89**	**74**	LR	LR	00 34 34.0		
	comp=Z,332nm,18.4s,baz=308,slow=38						
YAK	**Yakutsk**	**24.72**	**296**	LR	LR	00 35 37.4		
	comp=Z,226nm,18.9s,baz=79,slow=40						
BBB	**Bella Bella**	**28.09**	**85**	LR	LR	00 35 57.8		
	comp=Z,176nm,19.0s,baz=300,slow=36						
YKA	**Yellowknife Ar**	**29.09**	**58**	P	**P**	**00 25 18.7**	**+0.5**
	0.3nm,0.8s,baz=296,slow=8.3,SNR=4.4						
MJAR	**Matsushiro Arr**	**36.75**	**249**	LR	LR	00 41 28.5		
	comp=Z,28nm,20.2s,baz=35,slow=36						
KSRS	**Korea Array**	**40.92**	**261**	LR	LR	00 42 49.0		
	comp=Z,23nm,21.9s,baz=100,slow=34						
SONM	**Songino Array**	**43.63**	**289**	LR	LR	00 48 04.9		
	comp=Z,126nm,18.8s,baz=49,slow=40						
PDAR	**Pinedale Array**	**43.66**	**82**	LR	LR	00 45 20.4		
	comp=Z,53nm,18.9s,baz=310,slow=36						
ULM	**Lac du Bonnet**	**44.63**	**65**	LR	LR	00 48 10.8		
	comp=Z,67nm,18.3s,baz=346,slow=39						
ZALV	**Zalesovo Beam**	**48.42**	**308**	P	**P**	**00 28 00.5**	**+0.8**
	0.2nm,0.3s,baz=33,slow=8.6,SNR=3.6						
ZALV				LR	LR	00 50 09.9		
	comp=Z,121nm,18.2s,baz=70,slow=38						
ARCES	**ARCESS Array B**	**49.12**	**349**	LR	LR	00 51 35.8		
	comp=Z,81nm,18.1s,baz=6.5,slow=40						
BVAR	**Borovoye Array**	**54.41**	**316**	P	P	00 28 47.4	+2.9
	1.7nm,0.6s,baz=27,slow=9.7,SNR=5.6						
MKAR	**Makanchi Array**	**55.03**	**304**	P	**P**	**00 28 50.8**	**+1.7**
	0.3nm,0.5s,baz=19,slow=4.9,SNR=6.2						
MKAR				LR	LR	00 55 07.5		
	comp=Z,81nm,18.5s,baz=24,slow=39						
FINES	**FINESS Array B**	**56.94**	**347**	LR	LR	00 57 01.3		
	comp=Z,62nm,18.5s,baz=40,slow=40						
TXAR	**Lajitas Array**	**57.17**	**88**	P	**P**	**00 29 04.9**	**+0.2**
	0.3nm,0.8s,baz=320,slow=3.5,SNR=4.3						
TXAR				LR	LR	00 52 37.3		
	comp=Z,63nm,18.6s,baz=0.0,slow=35						
NOA	**NORSAR Array B**	**58.51**	**355**	LR	LR	00 53 05.4		
	comp=Z,39nm,21.5s,baz=0.0,slow=35						
HFS	**Hagfors**	**59.29**	**353**	LR	LR	00 53 59.5		
	comp=Z,61nm,20.9s,baz=354,slow=35						
AKASG	**Malin Array Be**	**66.97**	**342**	P	**P**	**00 30 09.4**	**-0.6**
	0.1nm,0.3s,baz=15,slow=6.4,SNR=3.8						
AKASG				LR	LR	01 05 24.4		
	comp=Z,64nm,18.1s,baz=25,slow=41						
TAPN	**Taplejung**	**68.75**	**288**	*eP*	**P**	**00 30 23.3**	**+1.4**
	2.5nm,0.5s						
GUN	**Gumba**	**69.13**	**290**	*eP*	**P**	**00 30 25.6**	**+1.3**
	10nm,0.7s						
JIRN	**Jiri**	**69.19**	**289**	*eP*	**P**	**00 30 26.2**	**+1.4**
	7.1nm,0.5s						
ODAN	**Odare**	**69.31**	**288**	*eP*	**P**	**00 30 24.2**	**-1.1**
	2.4nm,0.5s						
KKN	**Kakani**	**69.51**	**290**	*eP*	**P**	**00 30 26.8**	**+0.3**
	8.9nm,0.9s						
RAMN	**Ramite**	**69.60**	**289**	*eP*	**P**	**00 30 25.1**	**-2.1**
	6.8nm,0.8s						
GKN	**Gorkha**	**69.62**	**291**	*eP*	**P**	**00 30 27.9**	**+0.8**
	4.3nm,0.5s						
PKI	**Pulchoki**	**69.63**	**290**	*eP*	**P**	**00 30 27.0**	**-0.4**
	3.9nm,0.7s						
PKIN	**Phulchoki**	**69.63**	**290**	*eP*	**P**	**00 30 26.5**	**-0.9**
	3.9nm,0.7s						
DMN	**Daman**	**69.74**	**290**	*eP*	**P**	**00 30 27.6**	**-0.4**
KOLN	**Koldanda**	**70.30**	**291**	*eP*	**P**	**00 30 28.6**	**-2.8**
	17nm,0.4s						
GERES	**GERESS Array B**	**70.54**	**352**	LR	LR	01 00 44.7		
	comp=Z,27nm,21.9s,baz=53,slow=35						
BRTR	**Keskin Array B**	**76.79**	**336**	LR	LR	01 10 45.3		
	comp=Z,35nm,18.9s,baz=26,slow=40							

MAN 07 00:54:15, 9°.62N×124°.28E, h7km, mb4.9, ML3.8, MS3.8, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.41**	**280**	*eP*	Pb	00 54 24.1	-0.6
TBP				*eS*	Sb	00 54 31.1	-0.1
PLP	**Palo**	**1.68**	**24**	⇓*eP*	Pn	00 54 45.3	+0.4
PLP				*eS*	Sn	00 55 06.9	+0.2
RCP	**Roxas**	**2.45**	**322**	⇓*eP*	Pn	00 54 56.0	+0.6

*ISCJB **07** 01:20:23.8±0.3, 32°.77N±0°.02×115°.92W±0°.02, h8km±4km, Error ellipse: s-maj=3.4km s-min=2.9km az=154.2*

*NEIC **07** 01:20:26.0, 32°.69N×115°.91W, h3km, ML3.7(PAS), After PAS.*

NEIC Felt [II] at San Marcos. Also felt at Jamul, Ocotillo and San Diego.

*ECX **07** 01:20:26.3±0.6, 32°.68N×115°.90W, h3km, MD3.6, ML3.8*

*MEX **07** 01:20:27.5±0.6, 32°.76N×115°.86W, h16km±26km, MD3.8*

ISC 07 01:20:25.1±0.8, 32°.70N±0°.02×115°.89W±0°.02, h15km±6km, n40, σ1°23/62, 11C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.06**	**214**	⇑*iP*	**Pg**	**01 20 27.4**	**-0.7**
SGL	**Mount Signal**	**0.14**	**109**	⇑*iP*	**Pg**	**01 20 29.0**	**+0.1**
WESC	**Westside Schoo**	**0.14**	**64**	⇑*eP*	**Pg**	**01 20 29.3**	**+0.4**
RMX	**La Rumorosa**	**0.19**	**241**	⇑*eP*	**Pg**	**01 20 29.6**	**-0.1**
ERPC	**Ernies Place**	**0.19**	**75**	⇑*iP*	**Pb**	**01 20 30.4**	**+0.1**
COK	**Cook Ranch**	**0.20**	**41**	⇑*iP*	**Pb**	**01 20 30.4**	**0.0**
CRR	**Carrizo Plain**	**0.20**	**340**	⇓*iP*	**Pg**	**01 20 30.0**	**+0.2**
DREC	**Desert Rsrch C**	**0.39**	**73**	*eP*	**Pb**	**01 20 34.2**	**+0.6**
CPBX	**Cerro Prieto**	**0.56**	**119**	*eP*	**Pb**	**01 20 36.9**	**+0.3**
CPBX				*eS*	**Sb**	**01 20 44.6**	**+0.1**
CPBX				⇑*e*		01 20 48.0	
CPBX				AML	AML	01 20 48.0	
	comp=E,18μm,0.4s						
MBIG	**Mexicali**	**0.65**	**116**	*eP*	**Pb**	**01 20 38.4**	**+0.4**
MBIG				*eS*	**Sg**	**01 20 46.1**	**-0.3**
BAR	**Barrett**	**0.66**	**269**	*ePg*	**Pg**	**01 20 38.0**	**-0.1**
BAR				*eSg*	**Sg**	**01 20 46.5**	**-0.4**
BAR	**Barrett**	**0.66**	**269**	⇑*eP*	**Pg**	**01 20 38.1**	**0.0**
CBX	**Cerro Bola**	**0.76**	**240**	*eP*	**Pg**	**01 20 40.0**	**+0.1**
CBX				*i* S	**Sg**	**01 20 49.2**	**-0.8**
CBX	**Cerro Bola**	**0.76**	**240**	⇑*eP*	**Pg**	**01 20 40.0**	**+0.1**
CBX				*i* S	**Sg**	**01 20 49.2**	**-0.8**
CBX	**Cerro Bola**	**0.76**	**240**	⇑*eP*	**Pg**	**01 20 40.0**	**+0.1**
CBX				*eS*	**Sg**	**01 20 49.8**	**-0.2**
RDX	**Rancho Dawling**	**0.77**	**184**	*eP*	**Pg**	**01 20 39.6**	**-0.5**
RDX				*eS*	**Sg**	**01 20 49.8**	**-0.4**
SDRC	**San Diego Road**	**0.89**	**273**	*eP*	**Pb**	**01 20 41.9**	**-0.3**
GLA	**Glamis**	**0.96**	**68**	*ePg*	**Pb**	**01 20 42.8**	**-0.6**
GLA				*eSg*	**Sb**	**01 20 55.6**	**-0.3**
PFO	**Pinyon Flats O**	**1.03**	**332**	*ePn*	**Pb**	**01 20 44.0**	**-0.7**
PFO				*eSn*	**Sb**	**01 20 58.2**	**+0.2**
PBX	**Punta Banda**	**1.19**	**217**	*eP*	**Pn**	**01 20 46.6**	**-0.6**
ECNX	**Esteban Cantu**	**1.20**	**210**	*eP*	**Pn**	**01 20 47.0**	**-0.3**
ECNX				*eS*	**Sn**	**01 21 03.1**	**-0.2**
ZAX	**El Zacaton**	**1.22**	**196**	*eP*	**Pn**	**01 20 47.8**	**+0.1**
ZAX				*eS*	**Sn**	**01 21 03.9**	**-0.1**
ZAX				⇑*e*		01 21 06.5	
ZAX				AML	AML	01 21 06.5	
	comp=N,1μm,0.5s						
ECBX	**El Chinero**	**1.41**	**150**	*eP*9	**Pn**	**01 20 48.6**	**-1.5**
ECBX				⇑*e*		01 21 14.7	
ECBX				AML	AML	01 21 14.7	
	comp=E,746nm,0.6s						
SPIG	**San Pedro Mart**	**1.68**	**168**	*eP*	**Pn**	**01 20 54.6**	**+0.4**
SPIG	**San Pedro Mart**	**1.68**	**168**	*eP*	**Pn**	**01 20 54.6**	**+0.4**
SPX	**San Pedro Mart**	**1.68**	**168**	*eP*	**Pn**	**01 20 54.6**	**+0.4**
MWC	**Mount Wilson**	**2.37**	**311**	*ePn*	**Pb**	**01 21 07.4**	**-0.2**
MWC				*eSg*	**Sb**	**01 21 38.3**	**+1.6**
PASC	**Pasadena Art C**	**2.42**	**308**	*ePn*	**Pn**	**01 21 05.4**	**+1.3**
PASC				*eSg*	**Sb**	**01 21 39.4**	**+1.4**
LDFC	**Landfair**	**2.46**	**15**	*ePn*	**Pb**	**01 21 07.7**	**-1.4**
214A	**Organ Pipe Nat**	**2.70**	**105**	*ePn*	**Pn**	**01 21 07.0**	**-1.0**
214A				*ePg*	**Pg**	**01 21 18.0**	**+1.0**
GSC	**Goldstone, Bar**	**2.71**	**344**	*ePg*	**Pb**	**01 21 15.3**	**+2.0**
GSC				*eSg*	**Sg**	**01 21 51.1**	**-1.1**
DAC	**Darwin (Calif)**	**3.84**	**339**	*ePn*	**Pn**	**01 21 25.7**	**+1.9**
DAC				*ePg*	**Pg**	**01 21 36.6**	**-2.1**
DAC				*eSg*	**Sg**	**01 22 27.8**	**-0.7**
SHPR	**Sheep Range**	**3.85**	**9**	*ePn*	**Pn**	**01 21 25.3**	**+1.5**
SHPR				*ePg*	**Pg**	**01 21 37.7**	**-1.1**
SHPR				*eSg*	**Sg**	**01 22 29.2**	**+0.6**
TPNV	**Topopah Spring**	**4.25**	**356**	*ePn*	**Pn**	**01 21 28.8**	**-0.6**
TUC	**Tucson**	**4.33**	**94**	*ePn*	**Pn**	**01 21 31.4**	**+1.1**
TUC				*ePg*	**Pg**	**01 21 46.0**	**-1.9**
WUAZ	**Wupatki**	**4.68**	**52**	*ePn*	**Pn**	**01 21 37.4**	**+2.1**
WUAZ				*ePg*	**Pg**	**01 21 52.5**	**-2.3**
WUAZ				*eSg*	**Sb**	**01 22 47.3**	**+4.1**
TPH	**Tonopah**	**5.48**	**349**	*ePn*	**Pn**	**01 21 48.3**	**+2.0**
TPH				*ePg*	Pg	01 22 07.0	-3.0
TPH				*eSg*	**Sg**	**01 23 17.1**	**-3.8**
R11A	**Troy Canyon, C**	**5.65**	**2**	*ePg*	**Pg**	**01 22 11.9**	**-1.3**
R11A				*eSg*	Sg	01 23 20.1	-6.3
CMB	**Columbia Colle**	**6.47**	**327**	*ePg*	Pb	01 22 22.9	+5.5
121A	**Cookes Peak, D**	**6.84**	**89**	*ePn*	**Pn**	**01 22 05.8**	**+0.9**

*ISCJB **07** 01:22:02.4±0.2, 17°.81S±0°.08×178°.66W±0°.06, h579km, mb4.2/45, Error ellipse: s-maj=11.4km s-min=4.9km az=148.6*

*IDC **07** 01:22:03.9±2.9, 17°.81S×178°.67W, h584km±34km, mb3.6/16, mb1 3.8/17, mb1mx3.7/24, mbtmp4.5/17, Error ellipse: s-maj=17.7km s-min=14.5km az=142.0*

*NEIC **07** 01:22:03.5±0.5, 17°.74S×178°.68W, h580km±6km, mb4.3/30, Error ellipse: s-maj=16.2km s-min=5.5km az=150.0*

ISC 07 01:22:03.1±0.4, 17°.80S±0°.10×178°.57W±0°.08, h579km, n97, σ0°82/97, mb4.2/45, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.22**	**271**	*eP*	**P**	**01 23 23.2**	**+1.3**
AFI	**Afiamalu**	**7.60**	**60**	*eP*	**P**	**01 23 57.2**	**-0.8**
	95nm,0.8s						
NIUE	**Niue**	**8.30**	**100**	P	**P**	**01 24 04.0**	**-0.6**
	baz=8.2,SNR=8.2						
DZM	**Mont Dzumac**	**14.71**	**251**	P	**P**	**01 25 09.3**	**0.0**
	1.7nm,0.3s,baz=75,slow=14,SNR=20						
URZ	**Urewera**	**20.73**	**190**	P	**P**	**01 26 04.5**	**+0.3**
	8.3nm,0.5s,baz=56,slow=3.6,SNR=4.8						
URZ	**Urewera**	**20.73**	**190**	*eP*	**P**	**01 26 04.8**	**+0.7**
	11nm,0.7s						
EIDS	**Eidsvold**	**29.16**	**250**	P	**P**	**01 27 18.4**	**-0.3**
	baz=29,SNR=5.5						
EIDS	**Eidsvold**	**29.16**	**250**	*eP*	**P**	**01 27 18.5**	**-0.3**
	18nm,0.8s						
ARMA	**Armidale**	**29.86**	**240**	P	**P**	**01 27 25.4**	**+0.6**
	baz=30,SNR=11						
ARMA	**Armidale**	**29.86**	**240**	*eP*	**P**	**01 27 25.7**	**+0.8**
	14nm,0.7s						
MGCD	**Mangrove Creek**	**31.23**	**235**	P	**P**	**01 27 37.2**	**+0.8**
	baz=31,SNR=5.8						
RMQ	**Roma**	**31.40**	**248**	P	**P**	**01 27 38.7**	**+0.7**
	baz=32,SNR=8.7						
CTAO	**Charters Tower**	**33.31**	**260**	*eP*	**P**	**01 27 53.8**	**-0.5**
	20nm,0.9s						
CNB	**Canberra Magne**	**33.37**	**232**	P	**P**	**01 27 55.2**	**+0.6**
	baz=34,SNR=22						
CAN	**Canberra**	**33.64**	**232**	*eP*	**P**	**01 27 56.4**	**-0.5**
	18nm,0.9s						
PMG	**Port Moresby**	**34.29**	**280**	*eP*	**P**	**01 28 02.4**	**-0.1**
	57nm,0.9s						
CMSA	**Cobar Meteorol**	**35.07**	**240**	P	**P**	**01 28 08.8**	**+0.1**
	baz=35,SNR=30						
QLP	**Quilpie**	**35.43**	**249**	P	**P**	**01 28 11.4**	**-0.4**
	baz=36,SNR=23						
COEN	**Coen**	**36.95**	**270**	P	**P**	**01 28 24.9**	**+0.4**
	baz=37,SNR=14						
COEN	**Coen**	**36.95**	**270**	*eP*	**P**	**01 28 24.6**	**+0.1**
TOO	**Toolangi**	**37.12**	**231**	P	**P**	**01 28 26.2**	**+0.6**
	baz=37,SNR=8.1						
STKA	**Stephens Creek**	**38.54**	**241**	P	**P**	**01 28 37.6**	**+0.4**
	24nm,0.6s,baz=92,slow=9.7,SNR=63						
STKA	**Stephens Creek**	**38.54**	**241**	P	**P**	**01 28 37.7**	**+0.4**
	baz=39,SNR=44						
STKA	**Stephens Creek**	**38.54**	**241**	*eP*	**P**	**01 28 37.5**	**+0.4**
	8.4nm,1.0s						
JAY	**Jayapura**	**42.73**	**286**	P	**P**	**01 29 11.1**	**+0.4**
	25nm,0.7s,baz=165,slow=1.7,SNR=10						
BBOO	**Buckleboo**	**43.32**	**241**	P	**P**	**01 29 14.9**	**-0.2**
	baz=44,SNR=36						
BBOO	**Buckleboo**	**43.32**	**241**	*eP*	**P**	**01 29 14.9**	**-0.2**
	2.5nm,0.8s						
WRAB	**Tennant Creek**	**44.49**	**259**	*eP*	**P**	**01 29 23.3**	**-1.0**
	14nm,0.7s						
WRA	**Warramunga Arr**	**44.50**	**259**	P	**P**	**01 29 23.1**	**-1.2**
	12nm,0.7s,baz=94,slow=7.1,SNR=70						
WRA				PcP	**PcP**	**01 30 52.2**	**-2.8**
	1.2nm,0.7s,baz=88,slow=2.7,SNR=4.3						
AS31	**Alice Springs**	**44.67**	**254**	*eP*	**P**	**01 29 25.1**	**-0.6**
ASAR	**Alice Springs**	**44.67**	**254**	P	**P**	**01 29 25.2**	**-0.4**
	90nm,0.7s,baz=88,slow=8.3,SNR=588						
ASAR				PcP	**PcP**	**01 30 54.7**	**-0.8**
	2.1nm,0.7s,baz=90,slow=4.6,SNR=5.6						
KDU	**Kakadu**	**47.40**	**269**	P	**P**	**01 29 46.0**	**-0.4**
	baz=48,SNR=6.1						
WRKA	**Warakurna**	**49.73**	**252**	P	**P**	**01 30 03.1**	**-0.4**
	baz=50,SNR=82						
FORT	**Forrest**	**49.91**	**245**	P	**P**	**01 30 03.8**	**-0.9**
	baz=50,SNR=25						
FORT	**Forrest**	**49.91**	**245**	*eP*	**P**	**01 30 03.5**	**-1.1**
	24nm,0.6s						
KNRA	**Kununurra**	**50.34**	**264**	P	**P**	**01 30 07.6**	**-0.4**
	baz=50,SNR=5.9						
SOEI	**Soe**	**55.91**	**270**	P	**P**	**01 30 49.2**	**+1.5**
	baz=56,SNR=4.1						
MBWA	**Marble Bar**	**57.95**	**256**	*eP*	**P**	**01 31 00.1**	**-1.3**
	9.5nm,0.7s						
MEEK	**Meekatharra**	**58.32**	**249**	P	**P**	**01 31 02.8**	**-1.1**
	baz=58,SNR=5.0						
MORW	**Morawa**	**60.38**	**246**	P	**P**	**01 31 16.8**	**-0.7**
	baz=60,SNR=3.9						
VNDA	**Vanda**	**60.54**	**185**	P	**P**	**01 31 18.0**	**+0.4**
	0.9nm,0.9s,baz=31,slow=5.9,SNR=4.2						
MJAR	**Matsushiro Arr**	**67.73**	**323**	P	**P**	**01 32 03.3**	**-0.5**
	1.0nm,0.4s,baz=169,slow=7.4,SNR=4.9						
KKM	**Kota Kinabalu**	**68.56**	**284**	*eP*	**P**	**01 32 09.1**	**-0.3**
	10nm,0.8s						
UGM	**Wanagama**	**69.49**	**268**	P	**P**	**01 32 15.1**	**+0.1**
	baz=70,SNR=3.6						
KSM	**Kuching**	**72.52**	**277**	P	**P**	**01 32 33.3**	**+0.7**
	baz=73,SNR=5.1						
KSM	**Kuching**	**72.52**	**277**	*eP*	**P**	**01 32 33.0**	**+0.5**
	9.1nm,0.8s						
YBH	**Yreka Blue Hor**	**78.54**	**39**	P	**P**	**01 33 06.5**	**+1.0**
	3.8nm,0.7s,baz=232,slow=1.6,SNR=9.0						
WAKR	**Walker**	**78.75**	**43**	*eP*	**P**	**01 33 07.5**	**+0.7**
	9.4nm,1.3s						
NVAR	**Mina Array Bea**	**79.46**	**44**	P	**P**	**01 33 11.5**	**+1.0**
	3.1nm,0.8s,baz=226,slow=9.3,SNR=16						
TPH	**Tonopah**	**79.99**	**45**	*eP*	**P**	**01 33 14.6**	**+1.3**
	8.1nm,1.2s						
K05A	**Summer Lake**	**80.22**	**39**	*eP*	**P**	**01 33 15.6**	**+1.2**
H04A	**Detroit Lake**	**80.60**	**37**	*eP*	**P**	**01 33 16.8**	**+0.7**
WVOR	**Wild Horse Val**	**81.43**	**40**	*eP*	**P**	**01 33 21.5**	**+0.9**
	9.0nm,1.0s						
I07A	**Izee**	**81.82**	**39**	*eP*	**P**	**01 33 23.6**	**+1.1**
ELK	**Elko**

Ms1 2.9/1,ms1mx2.5/13,Error ellipse: s-maj=140.7km s-min=33.3km az=68.0

ISC 07 01:46:07.4±1.0,7°24S±0.0°8×129°7E±0.0°1,h10km,n9, σ1$49/7,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.99**	**31**	P	Pb	01 47 29.5	-5.5
	baz=5.1,SNR=3.7						
FAKI				S	**Sn**	**01 48 20.9**	**+0.6**
	baz=5.1,SNR=3.3						
KDU	**Kakadu**	**6.07**	**153**	P	Pn	01 47 42.4	+5.1
	baz=6.2,SNR=29						
KDU				S	**Sn**	**01 48 46.3**	**-0.5**
	baz=6.2,SNR=3.2						
KNRA	**Kununurra**	**8.44**	**186**	P	Pn	01 48 14.6	+4.8
	baz=8.5,SNR=8.4						
LUWI	**Luwuk**	**9.24**	**311**	P	**Pn**	**01 48 20.6**	**-0.3**
	baz=9.1,SNR=3.4						
KAPI	**Kappang**	**10.13**	**282**	LR	LR	01 52 05.1	
	comp=Z,71nm,21.8s,baz=194,slow=36						
WRA	**Warramunga Arr**	**13.41**	**161**	Pn	**Pn**	**01 49 18.0**	**+0.1**
	0.4nm,0.3s,baz=342,slow=13,SNR=12						
WRA				Sn	Sn	01 51 35.7	-12
	0.1nm,0.3s,baz=342,slow=22,SNR=3.0						
ASAR	**Alice Springs**	**16.83**	**167**	Pn	**P**	**01 50 04.2**	**-1.2**
	0.2nm,0.3s,baz=342,slow=9.4,SNR=6.4						
WRKA	**Warakurna**	**17.75**	**184**	P	**P**	**01 50 18.2**	**+2.5**
	baz=18,SNR=3.8						
MKAR	**Makanchi Array**	**68.26**	**327**	P	**P**	**01 57 08.1**	**-0.5**
	0.2nm,0.4s,baz=108,slow=4.5,SNR=3.7						

*ISCJB **07** 01:54:02.5±0.5,52°.84S×0°.08×26°.8E±0°.2,h10km, mb3.9/14,MS3.4/8,Error ellipse: s-maj=20.6km s-min=9.6km az=161.9*

*IDC **07** 01:54:02.3±0.7,52°.90S×26°.82E,h0km,mb4.0/12, mb1 4.1/12,mb1mx4.0/21,mbtmp4.0/12,MS3.4/8, Ms1 3.4/8,ms1mx3.2/27,Error ellipse: s-maj=28.3km s-min=16.0km az=71.0*

*NEIC **07** 01:54:04.0±0.3,52°.85S×26°.86E,h10km,mb4.2/6,Error ellipse: s-maj=14.5km s-min=7.8km az=77.0*

ISC 07 01:54:03.8±0.5,52°.90S±0°.09×26°.9E±0°.1,h10km,n35, σ1$03/32,mb4.0/14,MS3.3/8,South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.97**	**346**	LR	LR	02 04 51.7	
	comp=Z,152nm,21.7s,baz=144,slow=31						
SUR	**Sutherland**	**20.97**	**346**	*e*P	**P**	**01 58 47.5**	**+0.3**
	13nm,1.2s						
MAW	**Mawson**	**22.68**	**144**	P	**P**	**01 59 05.1**	**+0.2**
	4.0nm,0.9s,baz=282,slow=8.6,SNR=6.1						
MAW				S	**S**	**02 03 10.2**	**-2.5**
	0.6nm,0.5s,baz=260,slow=18,SNR=4.1						
SNAA	**Sanae**	**22.90**	**204**	P	**P**	**01 59 08.0**	**+0.7**
	3.4nm,1.2s,baz=54,slow=18,SNR=4.9						
SNAA				LR	LR	02 05 54.0	
	comp=Z,46nm,19.6s,baz=10.0,slow=31						
SNAA	**Sanae**	**22.90**	**204**	*e*P	**P**	**01 59 09.8**	**+2.5**
	21nm,1.4s						
LBTB	**Lobatse**	**27.86**	**358**	P	**P**	**01 59 53.4**	**-0.2**
	2.4nm,0.9s,baz=99,slow=13,SNR=3.2						
LBTB				LR	LR	02 08 35.5	
	comp=Z,120nm,20.5s,baz=166,slow=31						
TSUM	**Tsumeb**	**34.40**	**344**	P	**P**	**02 00 51.7**	**+0.4**
	1.5nm,0.8s,baz=156,slow=19,SNR=2.5						
QSPA	**South Pole Qui**	**37.32**	**180**	P	**P**	**02 01 17.1**	**+1.1**
	2.0nm,0.5s,baz=205,slow=4.8,SNR=19						
LSZ	**Lusaka**	**37.55**	**2**	*e*P	**P**	**02 01 18.1**	**-0.1**
	3.2nm,0.9s						
VNDA	**Vanda**	**46.89**	**168**	P	**P**	**02 02 32.5**	**-1.1**
	0.8nm,0.6s,baz=230,slow=7.3,SNR=9.3						
VNDA				LR	LR	02 21 27.1	
	comp=Z,38nm,21.1s,baz=276,slow=35						
VNDA	**Vanda**	**46.89**	**168**	*e*P	**P**	**02 02 34.5**	**+1.0**
	0.9nm,0.7s						
MSKU	**Masuku**	**52.25**	**343**	LR	LR	02 23 44.8	
	comp=Z,40nm,19.7s,baz=181,slow=34						
H10S2	**ASCENSION HYDR**	**55.16**	**307**	T	T	03 03 19.9	
	baz=157						
H10S3	**ASCENSION HYDR**	**55.18**	**307**	T	T	03 03 18.8	
	baz=157,slow=74,SNR=4.3						
H10S1	**ASCENSION HYDR**	**55.18**	**307**	T	T	03 03 19.4	
	baz=157,slow=74,SNR=4.4						
PLCA	**Paso Flores**	**62.76**	**238**	LR	LR	02 26 51.6	
	comp=Z,15nm,21.9s,baz=148,slow=31						
CPUP	**Villa Florida**	**66.05**	**258**	P	**P**	**02 04 48.9**	**-1.8**
	0.1nm,0.5s,baz=173,slow=8.1,SNR=3.5						
CPUP				LR	LR	02 28 55.1	
	comp=Z,112nm,18.1s,baz=184,slow=32						
CPUP	**Villa Florida**	**66.05**	**258**	*e*P	**P**	**02 04 49.0**	**-1.6**
	0.5nm,1.4s						
TORD	**Torodi Ar. Bea**	**69.25**	**334**	P	**P**	**02 05 10.7**	**-0.1**
	1.4nm,0.9s,baz=172,slow=6.4,SNR=7.1						
STKA	**Stephens Creek**	**78.31**	**128**	P	**P**	**02 06 04.1**	**+0.1**
	1.3nm,0.7s,baz=313,slow=19,SNR=2.3						
ASAR	**Alice Springs**	**81.09**	**117**	P	**P**	**02 06 19.4**	**+0.2**
	1.3nm,0.8s,baz=211,slow=5.3,SNR=7.3						
SAML	**Samuel**	**82.97**	**265**	*e*P	**P**	**02 06 29.3**	**+0.2**
	2.1nm,0.8s						
WRA	**Warramunga Arr**	**84.34**	**116**	P	**P**	**02 06 36.3**	**+0.1**
	2.2nm,0.9s,baz=213,slow=4.4,SNR=8.5						
BRTR	**Keskin Array B**	**92.43**	**5**	P	**P**	**02 07 15.1**	**+0.8**
	0.5nm,0.9s,baz=168,slow=7.4,SNR=3.2						
BRTR				LR	LR	02 50 59.8	
	comp=Z,10nm,18.1s,baz=125,slow=37						
WVT	**Waverly**	**132.22**	**277**	*e*PKPdf	**PKPdf**	**02 13 18.6**	**+1.3**
YSS	**Yuzh-Sakhalins**	**139.53**	**72**	*e*PKPdf	**PKPdf**	**02 13 30.7**	**+0.1**
MNTX	**Cornudas Mount**	**139.75**	**258**	*e*PKPdf	**PKPdf**	**02 13 30.4**	**-1.1**
ULM	**Lac du Bonnet**	**145.12**	**289**	*e*PKPbc	**PKPbc**	**02 13 39.9**	**-0.1**
FCC	**Fort Churchill**	**147.29**	**304**	*e*PKPbc	**PKPbc**	**02 13 45.8**	**-0.4**
PDAR	**Pinedale Array**	**149.49**	**268**	PKPbc	**PKPbc**	**02 13 52.0**	**-0.8**
	0.3nm,0.3s,baz=132,slow=4.2,SNR=4.0						
LOHW	**Long Hollow**	**150.59**	**269**	*e*PKPbc	**PKPbc**	**02 13 55.3**	**-0.1**
TPAW	**Teton Pass**	**150.74**	**268**	*e*PKPdf	**PKPdf**	**02 13 50.0**	**-0.3**
TPAW				*e*PKPbc	**PKPbc**	**02 13 55.9**	**+0.1**
MOOW	**Moose Ponds**	**150.75**	**269**	*e*PKPbc	**PKPbc**	**02 13 55.0**	**-0.7**
MOOW				*e*PKPab	**PKPab**	**02 14 01.4**	**-1.6**
NVAR	**Mina Array Bea**	**152.02**	**253**	PKPbc	**PKPbc**	**02 13 59.2**	**+0.3**
	0.5nm,0.6s,baz=158,slow=4.3,SNR=4.1						
YKA	**Yellowknife Ar**	**157.62**	**311**	PKPab	**PKPab**	**02 14 31.9**	**+0.7**
	1.0nm,0.8s,baz=82,slow=5.0,SNR=17						

NEIC 07 02:10:32.9±0.5,18°.51N×72°.71W,h10km,mb4.1/5,Error ellipse: s-maj=9.9km s-min=6.5km az=199.0,Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGNH	**LØogne**	**0.10**	**87**	*e*Pn	Pg	02 10 36.2	+0.8
JAKH	**Jacmel**	**0.32**	**146**	*e*Pn	Pg	02 10 39.4	0.0
PAPH	**Port-au-Prince**	**0.39**	**88**	*e*Pn	Pg	02 10 40.5	-0.2
SDDR	**Presa de Saban**	**1.43**	**70**	*e*Pn	Pn	02 10 57.4	-1.6
SDD	**Santo Domingo**	**2.65**	**91**	*e*Pn	Pn	02 11 18.1	+2.4
GTBY	**Guantanamo Bay**	**2.67**	**302**	*e*Pn	Pn	02 11 15.2	-0.9
GTBY				*e*Sg	Sb	02 11 55.1	+1.3
SMN1	**Samana, DR**	**3.32**	**78**	*e*Pn	Pn	02 11 26.4	+1.4
GRTK	**Grand Turk**	**3.34**	**26**	*e*Pn	Pn	02 11 25.2	0.0
MTDJ	**Mount Denham**	**4.59**	**267**	*e*Pn	Pn	02 11 43.5	+0.9
AGPR	**Aguadilla, PR**	**5.31**	**90**	*e*Pn	Pn	02 11 53.2	+0.8
CRPR	**Cabo Rojo, PR**	**5.34**	**94**	*e*Pn	Pn	02 11 52.1	-0.6
	20nm,0.8s						
LSP	**Las Mesas**	**5.35**	**93**	*e*Pn	Pn	02 11 50.1	-2.9
CELP	**Cerrillos**	**5.84**	**93**	*e*Pn	Pn	02 11 59.9	+0.3
SDV	**Santo Domingo**	**9.77**	**168**	*e*Pn	Pn	02 12 53.4	-0.5
	6.2nm,0.4s						
ODNJ	**Ogdensburg**	**22.56**	**356**	*e*P	P	02 15 32.7	-0.5
	14nm,1.1s						
WMOK	**Wichita Mounta**	**28.25**	**310**	*e*P	P	02 16 26.6	+0.3
	1.7nm,0.7s						
SAML	**Samuel**	**28.86**	**160**	*e*P	P	02 16 31.5	-0.3
	0.8nm,0.6s						
ULM	**Lac du Bonnet**	**36.68**	**335**	*e*P	P	02 17 40.6	+0.8
	5.2nm,1.3s						
O20A	**White River Ci**	**37.38**	**313**	*e*P	P	02 17 45.8	-0.4
	2.8nm,0.7s						

*DDA **07** 02:18:15.7,36°.93N×27°.65E,h7km,MD2.6*

*CSEM **07** 02:18:16.0±0.2,36°.93N×27°.59E,h15km,MD2.4,Error ellipse: s-maj=7.1km s-min=5.7km az=56.0*

ISK 07 02:18:15.9,36°.91N×27°.58E,h19km,MD2.4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.18**	**181**	*e*PG	Pb	02 18 20.1	+0.2
DAT				*e*SG	Sg	02 18 25.4	+1.2
DAT	**Datca**	**0.18**	**181**	*e*Pg	Pb	02 18 20.1	+0.2
DAT				*e*Sg	Sg	02 18 25.4	+1.2
BDRM	**Kayabasi**	**0.19**	**325**	*i* P	Pb	02 18 20.2	+0.2
BDRM				*i* S	Sg	02 18 24.3	+0.1
BDRM	**Kayabasi**	**0.19**	**325**	*i* P	Pb	02 18 20.2	+0.2
BDRM				*i* S	Sg	02 18 24.3	+0.1
BODT	**Bodrum**	**0.26**	**305**	*e*PG	Pg	02 18 22.1	+0.2
BODT				*e*SG	Sg	02 18 27.0	+0.9
BODT	**Bodrum**	**0.26**	**305**	*e*Pg	Pg	02 18 22.1	+0.1
BODT				*e*Sg	Sg	02 18 27.0	+0.9
AYDN	**Tasoluk**	**0.79**	**18**	*i* S	Sb	02 18 41.3	-0.1
AYDN	**Tasoluk**	**0.79**	**18**	*i* P	Pn	02 18 32.3	+0.2
AYDN				*i* S	Sb	02 18 41.3	-0.1
TURN	**Turunc**	**0.82**	**92**	*i* P	Pb	02 18 24.9	-6.7
TURN				*i* S	Sb	02 18 33.9	-8.3
DALY	**Dalyan (Mu¨la**	**0.87**	**96**	*e*PG	Pn	02 18 33.2	+0.1
DALY	**Dalyan (Mu¨la**	**0.87**	**96**	*e*Pg	Pn	02 18 33.2	+0.2
AYDB	**Zeytinkoy-Aydi**	**1.06**	**13**	*e*PG	Pg	02 18 36.4	-0.3
AYDB	**Zeytinkoy-Aydi**	**1.06**	**13**	*e*Pg	Pg	02 18 36.4	-0.3
FETY	**Fethiye**	**1.24**	**102**	*e*PN	Pb	02 18 38.7	0.0
FETY	**Fethiye**	**1.24**	**102**	*e*Pn	Pb	02 18 38.7	0.0

*IDC **07** 02:19:16.4±0.9,42°.95N×18°.10E,h0km,mb3.7/10, mb1 3.8/18,mb1mx3.7/33,mbtmp3.6/18,ML3.4/8,MS2.6/5, Ms1 2.6/5,ms1mx2.3/49,Error ellipse: s-maj=18.2km s-min=11.5km az=40.0*

*ISCJB **07** 02:19:17.9±0.3,43°.08N±0°.01×18°.11E±0°.02,h13km±2km, mb3.6/10,MS3.2/1,Error ellipse: s-maj=2.3km s-min=1.6km az=135.6*

*SKO **07** 02:19:17.9,43°.11N×18°.07E,h0km,M3.2,ML3.8*

*TIR **07** 02:19:17.8,43°.23N×18°.23E,h18km,ML3.7*

*LDG **07** 02:19:18.9±0.1,43°.13N×18°.26E,h2km,Ml3.8/11,Error ellipse: s-maj=3.3km s-min=2.0km az=26.0*

*THE **07** 02:19:18.8,43°.05N×18°.14E,h0km±3km,ML3.6/7,Error ellipse: s-maj=5.3km s-min=2.0km az=276.0*

*SZGRF **07** 02:19:18.8,42°.86N×18°.44E,h10km,mb4.1,Northwestern Balkan Peninsula*

*CSEM **07** 02:19:19.9±0.1,43°.09N×18°.20E,h10km,ML3.8,Ms3.7, Error ellipse: s-maj=2.9km s-min=2.0km az=46.0*

*PDG **07** 02:19:19.3±0.6,43°.06N×18°.21E,h10km,MD3.8/11, ML3.8/8,Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*

*VIE **07** 02:19:19.9±0.6,43°.09N×18°.19E,h10km,mb3.3/10, ML3.4/6,Ms3.7/4,Error ellipse: s-maj=8.3km s-min=4.0km az=69.0 85 km SSW of Sarajevo*

*BEO **07** 02:19:19.3±0.3,43°.04N×18°.09E,h10km±2km,ML3.5/1*

*PRU **07** 02:19:20.9,43°.19N×18°.37E,h0km*

ISC 07 02:19:18.7±0.9,43°.09N±0°.02×18°.19E±0°.02,h11km±6km, n335,σ1$66/449,mb3.6/10,54C-38D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRY	**Bratogost**	**0.32**	**126**	↑*i*Pg	**Pg**	**02 19 25.1**	**-0.1**
BRY				*e*Sg	**Sg**	**02 19 30.1**	**+0.5**
BRY	**Bratogost**	**0.32**	**126**	↑*i*Pg	**Pg**	**02 19 25.1**	**-0.1**
BRY				*e*Sg	**Sg**	**02 19 30.1**	**+0.5**
TREB	**Trebinje**	**0.39**	**162**	*e*Pg	**Pg**	**02 19 26.3**	**-0.2**
TREB				*e*Sg	**Sg**	**02 19 32.3**	**+0.6**
TREB	**Trebinje**	**0.39**	**162**	*e*Pg	**Pg**	**02 19 26.3**	**-0.2**
TREB				*e*Sg	**Sg**	**02 19 32.3**	**+0.6**
STON	**Ston**	**0.42**	**239**	*i* Pg	**Pg**	**02 19 26.5**	**-0.5**
STON				Sg	**Sg**	**02 19 32.9**	**+0.4**
STON	**Ston**	**0.42**	**239**	*e*Pg	**Pg**	**02 19 26.5**	**-0.5**
STON	**Ston**	**0.42**	**239**	*e*Pg	**Pg**	**02 19 26.5**	**-0.5**
STON				Sg	**Sg**	**02 19 32.9**	**+0.4**
UPM	**Unac-Piva**	**0.54**	**78**	↓*i*Pg	**Pg**	**02 19 29.3**	**0.0**
UPM				*e*Sg	**Sb**	**02 19 37.9**	**-0.3**
UPM	**Unac-Piva**	**0.54**	**78**	↓*i*Pg	**Pg**	**02 19 29.3**	**0.0**
UPM				*e*Sg	**Sb**	**02 19 37.9**	**-0.3**
NKME	**Niksic**	**0.65**	**120**	↑*i*Pg	**Pg**	**02 19 30.6**	**-0.7**
NKME				*e*Sg	**Sb**	**02 19 41.0**	**-0.2**
NKME	**Niksic**	**0.65**	**120**	↑*i*Pg	**Pg**	**02 19 30.6**	**-0.7**
NKME				*e*Sg	**Sb**	**02 19 41.0**	**-0.2**
NKY	**Niksic**	**0.66**	**115**	↓*i*Pg	**Pg**	**02 19 31.1**	**-0.3**
NKY				*e*Sg	**Sb**	**02 19 41.5**	**+0.1**
NKY	**Niksic**	**0.66**	**115**	↓*i*Pg	**Pg**	**02 19 31.1**	**-0.3**
NKY				*e*Sg	**Sb**	**02 19 41.5**	**+0.1**
HCY	**Herceg Novi**	**0.68**	**160**	↑*i*Pg	**Pg**	**02 19 30.9**	**-1.0**
HCY				*e*Sg	**Sb**	**02 19 41.7**	**-0.4**
HCY	**Herceg Novi**	**0.68**	**160**	↑*i*Pg	**Pg**	**02 19 30.9**	**-1.0**
HCY				*e*Sg	**Sb**	**02 19 41.7**	**-0.4**
PLE	**Pljevlja**	**0.91**	**74**	↑*i*Pg	**Pb**	**02 19 36.5**	**-0.1**
PLE				*e*Sg	**Sn**	**02 19 50.5**	**-0.3**
PLE	**Pljevlja**	**0.91**	**74**	↑*i*Pg	**Pb**	**02 19 36.5**	**-0.1**
PLE				*e*Sg	**Sn**	**02 19 50.5**	**-0.3**
BUM	**Brajici-Budva**	**0.95**	**146**	↑*i*Pg	**Pg**	**02 19 35.9**	**-1.1**
BUM				*e*Sg	**Sb**	**02 19 50.7**	**+1.0**
BUM	**Brajici-Budva**	**0.95**	**146**	↑*i*Pg	**Pg**	**02 19 35.9**	**-1.1**
BUM				*e*Sg	**Sb**	**02 19 50.7**	**+1.0**
PDG	**Podgorica**	**1.03**	**130**	P	**Pg**	**02 19 37.2**	**-1.3**
PDG				S	**Sn**	**02 19 53.6**	**+0.1**
PDG	**Podgorica**	**1.03**	**130**	*e*Pg	**Pg**	**02 19 37.4**	**-1.1**
PDG				*e*Sg	**Sn**	**02 19 53.5**	**+0.1**
PDG	**Podgorica**	**1.03**	**130**	*e*Pg	**Pg**	**02 19 37.4**	**-1.1**
PDG				*e*Sg	**Sn**	**02 19 53.5**	**+0.1**
TTG	**Podgorica**	**1.03**	**130**	↓*i*Pg	**Pg**	**02 19 37.1**	**-1.4**
TTG				*e*Sg	**Sn**	**02 19 54.2**	**+0.8**
HAPS	**Han Pijesak,Bl**	**1.14**	**29**	*e*Pg	**Pn**	**02 19 41.3**	**+0.6**
HAPS				*e*Sg	**Sn**	**02 19 58.5**	**+2.1**
HAPS	**Han Pijesak,Bl**	**1.14**	**29**	*e*Pg	**Pn**	**02 19 41.3**	**+0.6**
HAPS				*e*Sg	**Sn**	**02 19 58.5**	**+2.1**
DRME	**Dracevica, Mon**	**1.17**	**140**	↑*i*Pg	**Pg**	**02 19 39.8**	**-1.3**
DRME				*e*Sg	**Sn**	**02 19 58.4**	**+1.5**
DRME	**Dracevica, Mon**	**1.17**	**140**	↑*i*Pg	**Pg**	**02 19 39.8**	**-1.3**
DRME				*e*Sg	**Sn**	**02 19 58.4**	**+1.5**
BBLS	**Lazići**	**1.18**	**48**	*e*Pg	**Pn**	**02 19 42.0**	**+0.8**
BBLS				*e*Sg	**Sn**	**02 20 00.7**	**+3.4**
BBLS	**Lazići**	**1.18**	**48**	*e*Pg	**Pn**	**02 19 42.0**	**+0.8**
BBLS				*e*Sg	**Sn**	**02 20 00.7**	**+3.4**
BEY	**Berane**	**1.27**	**99**	↑*i*Pg	**Pb**	**02 19 42.8**	**0.0**
BEY				*e*Sg	**Sn**	**02 20 02.9**	**+3.3**
IVA	**Berane**	**1.27**	**99**	↑*i*Pg	**Pb**	**02 19 42.8**	**0.0**
IVA				*e*Sg	**Sn**	**02 20 02.9**	**+3.3**
SJES	**Sjenica**	**1.32**	**82**	*e*Pg	**Pg**	**02 19 44.2**	**+0.1**
SJES				*e*Sg	**Sn**	**02 20 03.1**	**+2.3**
ULC	**Ulcinj**	**1.37**	**145**	↓*i*Pg	**Pn**	**02 19 43.4**	**-0.4**
ULC				*e*Sg	**Sg**	**02 20 04.7**	**+1.8**
PVY	**Plav**	**1.40**	**110**	↓*i*Pg	**Pg**	**02 19 45.1**	**+0.2**
PVY				*e*Sg	**Sg**	**02 20 06.7**	**+3.0**
PVY	**Plav**	**1.40**	**110**	↓*i*Pg	**Pb**	**02 19 45.1**	**+0.2**
PVY				*e*Sg	**Sg**	**02 20 06.7**	**+3.0**
IVAS	**Ivanjica**	**1.52**	**71**	*e*Pn	**Pg**	**02 19 47.3**	**-0.5**
IVAS				*e*Sn	**Sg**	**02 20 07.6**	**+0.1**
IVAS	**Ivanjica**	**1.52**	**71**	*e*Pn	**Pg**	**02 19 47.3**	**-0.5**
IVAS				*e*Sn	**Sg**	**02 20 07.6**	**+0.1**
BCI	**Bajram Curri**	**1.56**	**117**	*i* PN	**Pg**	**02 19 48.3**	**-0.4**
PUK	**Puka**	**1.64**	**129**	*i* PN	**Pg**	**02 19 49.5**	**-0.6**
DIVS	**Divibare**	**1.66**	**52**	P	**Pn**	**02 19 48.5**	**+0.7**
DIVS				S	**Sg**	**02 20 12.8**	**+0.8**
DIVS	**Divibare**	**1.66**	**52**	*e*Pn	**Pb**	**02 19 48.9**	**-0.4**
DIVS				*e*Sn	**Sg**	**02 20 12.5**	**+0.5**
DIVS	**Divibare**	**1.66**	**52**	↑*i*P	**Pn**	**02 19 48.7**	**+0.9**
DIVS	**Divibare**	**1.66**	**52**	S	**Sb**	**02 20 10.6**	**+0.4**
DIVS	**Divibare**	**1.66**	**52**	P	**Pn**	**02 19 48.5**	**+0.7**
DIVS	**Divibare**	**1.66**	**52**	*e*Pn	**Pb**	**02 19 48.9**	**-0.4**
DIVS				*e*Sn	**Sg**	**02 20 12.5**	**+0.5**
TEKS	**Tekeris**	**1.75**	**33**	*e*Pn	**Pn**	**02 19 49.9**	**+0.8**
TEKS				*e*Sn	**Sg**	**02 20 14.9**	**-0.2**
TEKS	**Tekeris**	**1.75**	**33**	*e*Pn	**Pn**	**02 19 49.9**	**+0.8**
TEKS				*e*Sn	**Sg**	**02 20 14.9**	**-0.2**
BLY	**Banja Luka**	**1.81**	**337**	*e*Pn	**Pb**	**02 19 51.5**	**-0.3**
BLY				*e*Sg	**Sg**	**02 20 17.4**	**+0.5**
BLY	**Banja Luka**	**1.81**	**337**	*e*Pn	**Pb**	**02 19 51.5**	**-0.3**
BLY				*e*Sg	**Sg**	**02 20 17.4**	**+0.5**
GRUS	**Gruza**	**2.01**	**66**	*e*Pn	**Pn**	**02 19 53.7**	**+1.2**
GRUS	**Gruza**	**2.01**	**66**	*e*Pn	**Pn**	**02 19 53.7**	**+1.2**
SELS	**Selova**	**2.15**	**86**	*e*Pn	**Pn**	**02 19 55.7**	**+1.1**
SELS	**Selova**	**2.15**	**86**	*e*Pn	**Pn**	**02 19 55.7**	**+1.1**
MS1	**Monte Sant'Ang**	**2.16**	**231**	*e*Pn	**Pb**	**02 19 58.3**	**+0.4**
PHP	**Peshkopia**	**2.18**	**129**	*i* PN	**Pb**	**02 19 57.7**	**-0.6**
PHP	**Peshkopia**	**2.18**	**129**	P	**Pb**	**02 19 57.5**	**-0.8**
BAI	**Bari**	**2.21**	**207**	*e*Pn	**Pb**	**02 19 58.3**	**-0.3**
BAI					Sn	**Sg**	**02 20 29.8**	**+0.2**
UDBI	**Udbina**	**2.27**	**310**	*e*Pn	**Pb**	**02 19 59.7**	**0.0**
UDBI					Sn	**Sb**	**02 20 29.8**	**+2.1**
UDBI	**Udbina**	**2.27**	**310**	*e*Pn	**Pb**	**02 19 59.7**	**0.0**
UDBI					Sn	**Sb**	**02 20 29.8**	**+2.1**
PE1	**Pezze di Greco**	**2.35**	**194**	*e*Pn	**Pb**	**02 20 01.2**	**+0.1**
FGSL	**Fruska Gora**	**2.38**	**29**	*e*Pn	**Pn**	**02 19 58.8**	**+1.2**
FRGS	**Fruska Gora**	**2.38**	**29**	*e*Pn	**Pn**	**02 19 58.8**	**+1.2**
CDT	**Castel del Mon**	**2.46**	**216**	*e*Pn	**Pn**	**02 19 59.8**	**+1.0**
SG1	**Sgolgore (BA)**	**2.51**	**207**	*e*Pn	**Pb**	**02 20 03.7**	**-0.2**
SKO	**Skopje**	**2.65**	**114**	P	**Pn**	**02 20 03.5**	**+2.1**
SKO				S	**Sb**	**02 20 37.8**	**-1.0**
SKO	**Skopje**	**2.65**	**114**	*i* Pn	**Pb**	**02 20 04.1**	**-2.1**
SKO				*e*Sg	**Sb**	**02 20 40.0**	**+1.2**
SKO				*e*Lg	Lg	02 20 47.1	
	comp=E,959nm,1.9s						
SKO				*e*Lg	Lg	02 20 52.3	
	comp=N,441nm,1.0s						
SKO	**Skopje**	**2.65**	**114**	P	**Pn**	**02 20 03.5**	**+2.1**
SKO	**Skopje**	**2.65**	**114**	*i* Pn	**Pb**	**02 20 04.1**	**-2.1**
SKO				S	**Sb**	**02 20 37.8**	**-1.0**
SKO				*e*Sg	**Sb**	**02 20 40.0**	**+1.2**
SKO				*e*Lg	Lg	02 20 52.2	
	comp=N,441nm,1.0s						
BARS	**Barje**	**2.68**	**95**	*e*Pn	**Pn**	**02 20 03.4**	**+1.6**
BARS				*e*Sn	**Sb**	**02 20 37.7**	**-1.9**
BARS	**Barje**	**2.68**	**95**	*e*Pn	**Pn**	**02 20 03.4**	**+1.6**
BARS				*e*Sn	**Sb**	**02 20 37.7**	**-1.9**
SISC	**Sisak**	**2.71**	**332**	*e*Pn	**Pn**	**02 20 03.2**	**+1.0**
SISC				Sn	**Sb**	**02 20 40.1**	**-0.4**
SISC	**Sisak**	**2.71**	**332**	*e*Pn	**Pn**	**02 20 03.2**	**+1.0**
SISC				Sn	**Sb**	**02 20 40.1**	**-0.4**
OHR	**Ohrid**	**2.77**	**135**	*i* Pn	**Pn**	**02 20 05.2**	**+2.0**
OHR				*e*Sg	**Sg**	**02 20 51.1**	**+3.3**
OHR				*e*Lg	Lg	02 20 53.9	
	comp=E,413nm,0.7s						
OHR				*e*Lg	Lg	02 20 55.2	
	comp=N,321nm,0.6s						
OHR	**Ohrid**	**2.77**	**135**	*i* Pn	**Pn**	**02 20 05.1**	**+2.0**
OHR				*e*Sg	**Sg**	**02 20 51.1**	**+3.3**
OHR				*e*Lg	Lg	02 20 55.2	
	comp=N,321nm,0.6s						
NVLJ	**Novalja**	**2.81**	**303**	*e*Pn	**Pn**	**02 20 06.3**	**+2.7**
NVLJ					Sn	**Sn**	**02 20 40.7**	**+3.2**
NVLJ	**Novalja**	**2.81**	**303**	*e*Pn	**Pn**	**02 20 06.3**	**+2.7**
NVLJ					Sn	**Sn**	**02 20 40.7**	**+3.2**
BOLS	**Boljevac**	**2.84**	**74**	*e*Pn	**Pn**	**02 20 05.2**	**+1.2**
BOLS	**Boljevac**	**2.84**	**74**	*e*Pn	**Pn**	**02 20 05.2**	**+1.2**
PKSM	**Moragy**	**3.14**	**6**	↑*i*P	**Pn**	**02 20 08.4**	**+0.4**
PKSM	**Moragy**	**3.14**	**6**	↑*i*Pn	**Pn**	**02 20 08.4**	**+0.4**
PKSM				*e*Sn	**Sn**	**02 20 47.3**	**+1.8**
PKSM	**Moragy**	**3.14**	**6**	↑*e*pn	**Pn**	**02 20 08.5**	**+0.4**
PKSM				*e*sn	**Sn**	**02 20 47.3**	**+1.8**
KBN	**Korca**	**3.14**	**141**	P	**Pn**	**02 20 10.8**	**+2.6**
KBN	**Korca**	**3.14**	**141**	P	**Pn**	**02 20 10.8**	**+2.6**
BOJS	**Bojanci**	**3.20**	**320**	*i* Pn	**Pn**	**02 20 11.8**	**+2.8**
BOJS				*e*Sn	**

DEV	**Deva**	**4.38**	**49**	S	**Sn**	**02 21 15.9**	**-0.3**
LIT	**Litokhoron**	**4.40**	**131**	*e*PN	**Pn**	**02 20 26.9**	**+1.5**
BUD	**Budapest**	**4.43**	**7**	*e*Sn	**Sn**	**02 21 19.4**	**+2.0**
BUD	**Budapest**	**4.43**	**7**	*e*	**Sn**	**02 21 19.4**	**+2.0**
HORT	**Hortiatis**	**4.44**	**122**	*e*PN	**Pn**	**02 20 27.1**	**+1.1**
SOH	**Sokhos**	**4.47**	**119**	P	**Pn**	**02 20 28.1**	**+1.6**
SOH	**Sokhos**	**4.47**	**119**	*e*PN	**Pn**	**02 20 27.6**	**+1.1**
SOH	**Sokhos**	**4.47**	**119**	P	**Pn**	**02 20 28.1**	**+1.6**
SRS	**Serrai**	**4.48**	**114**	P	**Pn**	**02 20 28.5**	**+2.0**
SRS				S	**Sn**	**02 21 21.5**	**+2.8**
SRS	**Serrai**	**4.48**	**114**	*e*PN	**Pn**	**02 20 28.7**	**+2.2**
SRS	**Serrai**	**4.48**	**114**	P	**Pn**	**02 20 28.5**	**+2.0**
SRS				S	**Sn**	**02 21 21.5**	**+2.8**
DSL	**Palaion Diasel**	**4.52**	**150**	*e*PN	**Pn**	**02 20 27.5**	**+0.3**
THL	**Klokotos Trika**	**4.55**	**139**	P	**Pn**	**02 20 28.2**	**+0.7**
THL				S	**Sn**	**02 21 22.5**	**+2.1**
THL	**Klokotos Trika**	**4.55**	**139**	*e*PN	**Pn**	**02 20 28.3**	**+0.7**
THL	**Klokotos Trika**	**4.55**	**139**	P	**Pn**	**02 20 28.2**	**+0.7**
THL				S	**Sn**	**02 21 22.5**	**+2.1**
NVR	**Nevrokopi**	**4.56**	**110**	P	**Pn**	**02 20 30.0**	**+2.3**
NVR				S	**Sn**	**02 21 24.8**	**+4.1**
NVR	**Nevrokopi**	**4.56**	**110**	*e*PN	**Pn**	**02 20 30.2**	**+2.5**
NVR	**Nevrokopi**	**4.56**	**110**	P	**Pn**	**02 20 30.0**	**+2.3**
NVR				S	**Sn**	**02 21 24.8**	**+4.1**
ARSA	**Arzberg**	**4.57**	**337**	⇑*i*Pn	**Pn**	**02 20 29.3**	**+1.6**
	SNR=30						
ARSA				⇑*i*Sn	**Sn**	**02 21 22.4**	**+1.6**
ARSA	**Arzberg**	**4.57**	**337**	Pn	**Pn**	**02 20 29.3**	**+1.6**
	SNR=30						
ARSA				Sn	**Sn**	**02 21 22.4**	**+1.6**
LKD2	**Lefkada island**	**4.69**	**156**	P	**Pn**	**02 20 29.1**	**-0.3**
LKD2	**Lefkada island**	**4.69**	**156**	*e*PN	**Pn**	**02 20 28.6**	**-0.8**
LKD2	**Lefkada island**	**4.69**	**156**	P	**Pn**	**02 20 29.1**	**-0.3**
SOP	**Sopron**	**4.73**	**347**	*e*Pn	**Pn**	**02 20 31.5**	**+1.5**
SOP				*e*Sn	**Sn**	**02 21 27.3**	**+2.4**
SOP	**Sopron**	**4.73**	**347**	*e*pn	**Pn**	**02 20 31.5**	**+1.5**
SOP				*e*sn	**Sn**	**02 21 27.3**	**+2.4**
PLG	**Polygyros**	**4.78**	**123**	P	**Pn**	**02 20 32.5**	**+1.8**
PLG	**Polygyros**	**4.78**	**123**	*e*PN	**Pn**	**02 20 32.4**	**+1.8**
PLG	**Polygyros**	**4.78**	**123**	P	**Pn**	**02 20 32.5**	**+1.8**
DRGR		**4.90**	**39**	⇓*i*P	**Pn**	**02 20 33.4**	**+1.0**
DRGR		**4.90**	**39**	⇓*i*P	**Pn**	**02 20 33.4**	**+1.0**
DRGR				S	**Sn**	**02 21 30.4**	**+1.3**
PSZ	**Piszkesteto**	**4.98**	**13**	⇑*i*P	**Pn**	**02 20 33.5**	**+0.1**
PSZ	**Piszkesteto**	**4.98**	**13**	⇑*i*P	**Pn**	**02 20 33.5**	**+0.1**
PSZ	**Piszkesteto**	**4.98**	**13**	⇓*e*Pn	**Pn**	**02 20 33.9**	**+0.5**
PSZ				S	**Sn**	**02 21 29.8**	**-1.1**
PSZ				*e*Sn	**Sn**	**02 21 30.1**	**-0.8**
PSZ	**Piszkesteto**	**4.98**	**13**	⇓*e*pn	**Pn**	**02 20 33.9**	**+0.5**
PSZ				*e*sn	**Sn**	**02 21 30.1**	**-0.8**
EVR	**Evrytania**	**4.99**	**145**	*e*PN	**Pn**	**02 20 35.5**	**+1.9**
PDO	**Prodromos**	**5.03**	**152**	*e*PN	**Pn**	**02 20 33.7**	**-0.4**
MAKR	**Makrakomi, Fth**	**5.05**	**142**	*e*PN	**Pn**	**02 20 35.1**	**+0.7**
CONA	**Conrad Observa**	**5.11**	**342**	⇑*i*Pn	**Pn**	**02 20 37.6**	**+2.4**
CONA				⇓*i*Sn	**Sn**	**02 21 34.1**	**-0.1**
CONA	**Conrad Observa**	**5.11**	**342**	Pn	**Pn**	**02 20 37.6**	**+2.4**
CONA				Sn	**Sn**	**02 21 34.1**	**-0.1**
AGG	**Agios Georgios**	**5.13**	**141**	P	**Pn**	**02 20 36.4**	**+0.9**
AGG	**Agios Georgios**	**5.13**	**141**	*e*PN	**Pn**	**02 20 36.0**	**+0.5**
AGG	**Agios Georgios**	**5.13**	**141**	P	**Pn**	**02 20 36.4**	**+0.9**
OUR	**Ouranopolis**	**5.14**	**120**	*e*PN	**Pn**	**02 20 36.8**	**+1.2**
KAVA	**Kavala**	**5.16**	**112**	*e*PN	**Pn**	**02 20 38.6**	**+2.8**
ARR	**Arges**	**5.16**	**62**	⇓*i*P	**Pn**	**02 20 38.2**	**+2.2**
ARR	**Arges**	**5.16**	**62**	S	**Sn**	**02 21 38.1**	**+2.5**
ARR	**Arges**	**5.16**	**62**	⇓*i*P	**Pn**	**02 20 38.2**	**+2.2**
PAIG	**Paliouri**	**5.20**	**126**	*e*PN	**Pn**	**02 20 36.8**	**+0.4**
VLS	**Valsamata**	**5.24**	**159**	*e*PN	**Pn**	**02 20 35.0**	**-2.0**
KBA	**Koelnbreinsper**	**5.26**	**321**	*e*Pn	**Pn**	**02 20 40.3**	**+2.9**
KBA				*e*Sn	**Sn**	**02 21 39.6**	**+1.6**
KBA	**Koelnbreinsper**	**5.26**	**321**	⇑*i*Pn	**Pn**	**02 20 38.7**	**+1.4**
KBA				⇑*i*Sn	**Sn**	**02 21 39.8**	**+1.8**
KBA	**Koelnbreinsper**	**5.26**	**321**	Pn	**Pn**	**02 20 38.7**	**+1.4**
KBA				Sn	**Sn**	**02 21 39.8**	**+1.8**
XOR	**Xorichti**	**5.30**	**133**	*e*PN	**Pn**	**02 20 38.2**	**+0.4**
NEO	**Neokhori**	**5.36**	**133**	*e*PN	**Pn**	**02 20 38.7**	**0.0**
MDB	**Medias**	**5.37**	**53**	S	**Sn**	**02 21 42.4**	**+1.8**
MDB	**Medias**	**5.37**	**53**	S	**Sn**	**02 21 42.4**	**+1.8**
VYHS	**Vyhne**	**5.42**	**5**	*e*PN	**Pn**	**02 20 40.2**	**+0.7**
VYHS				*e*SN	**Sn**	**02 21 38.8**	**-3.1**
ABTA	**Abfaltersbach**	**5.44**	**314**	⇓*i*Pn	**Pn**	**02 20 41.0**	**+1.2**
	SNR=6.0						
ABTA				⇑*i*Sn	**Sn**	**02 21 44.6**	**+2.2**
ABTA	**Abfaltersbach**	**5.44**	**314**	Pn	**Pn**	**02 20 41.0**	**+1.2**
	SNR=6.0						
ABTA				Sn	**Sn**	**02 21 44.6**	**+2.2**
EFP	**Efpalio**	**5.45**	**148**	*e*PN	**Pn**	**02 20 40.4**	**+0.6**
VOIR		**5.46**	**62**	⇑*i*P	Pn	02 20 44.1	+4.0
VOIR		**5.46**	**62**	S	**Sn**	**02 21 45.8**	**+2.9**
VOIR		**5.46**	**62**	S	**Sn**	**02 21 45.8**	**+2.9**
AXAR	**Agios Charalam**	**5.49**	**140**	*e*PN	**Pn**	**02 20 41.6**	**+1.2**
MOA	**Molln**	**5.50**	**331**	*e*Pn	Pn	02 20 44.3	+3.8
MOA				*e*Sn	**Sn**	**02 21 46.2**	**+2.4**
MOA	**Molln**	**5.50**	**331**	⇓*i*Pn	**Pn**	**02 20 42.8**	**+2.2**
	SNR=7.8						
MOA				⇓*i*Sn	**Sn**	**02 21 44.9**	**+1.1**
MOA	**Molln**	**5.50**	**331**	Pn	**Pn**	**02 20 42.8**	**+2.2**
	SNR=7.8						
MOA				Sn	**Sn**	**02 21 44.9**	**+1.1**
KDZ	**Kurdzhali**	**5.55**	**103**	⇑*i*P	**Pn**	**02 20 41.0**	**-0.2**
KDZ	**Kurdzhali**	**5.55**	**103**	⇑*i*P	**Pn**	**02 20 41.0**	**-0.2**
KALE	**Kalithea**	**5.57**	**146**	*e*PN	**Pn**	**02 20 41.8**	**+0.2**
SKIA	**Skiathos**	**5.59**	**133**	*e*PN	**Pn**	**02 20 39.6**	**-2.2**
RLS	**Riolos of Patr**	**5.61**	**152**	*e*PN	**Pn**	**02 20 41.9**	**-0.2**
KECS	**Kecovo**	**5.63**	**16**	*e*Pn	**Pn**	**02 20 42.8**	**+0.5**
KECS	**Kecovo**	**5.63**	**16**	*e*PN	**Pn**	**02 20 42.8**	**+0.5**
SMIA	**Simia**	**5.67**	**136**	*e*PN	**Pn**	**02 20 43.8**	**+0.9**
LKR	**Lokris**	**5.74**	**139**	*e*PN	**Pn**	**02 20 44.0**	**+0.1**
DRO	**Drossia**	**5.79**	**151**	*e*PN	**Pn**	**02 20 43.5**	**-1.1**
KLV	**Kalavryta, Ach**	**5.88**	**148**	*e*PN	**Pn**	**02 20 46.0**	**+0.2**
TRPA	**Tarpa**	**5.89**	**30**	⇑*i*P	**Pn**	**02 20 46.8**	**+0.9**
TRPA	**Tarpa**	**5.89**	**30**	S	**Sn**	**02 21 51.6**	**-1.8**
TRPA	**Tarpa**	**5.89**	**30**	⇑*i*P	**Pn**	**02 20 46.8**	**+0.9**
MRKA	**Markates**	**5.99**	**135**	*e*PN	**Pn**	**02 20 48.0**	**+0.6**
RJOB	**Jochberg**	**6.00**	**323**	*e*Pn	**Pn**	**02 20 50.4**	**+3.0**
RJOB	**Jochberg**	**6.00**	**323**	*e*Pn	**Pn**	**02 20 50.4**	**+3.0**
GUR	**Goura**	**6.04**	**147**	*e*PN	**Pn**	**02 20 47.5**	**-0.6**
MLR	**Muntele Rosu**	**6.07**	**64**	Pn	Pn	02 20 51.6	+3.2
	comp=N,0.1nm,0.3s,baz=232,slow=11,SNR=6.8						
MLR				Sn	**Sn**	**02 21 57.5**	**-0.3**
	comp=N,0.0nm,0.3s,baz=300,slow=8.1,SNR=2.1						
MLR	**Muntele Rosu**	**6.07**	**64**	⇑*i*P	**Pn**	**02 20 49.3**	**+0.9**
MLR	**Muntele Rosu**	**6.07**	**64**	⇑*i*P	**Pn**	**02 20 49.3**	**+0.9**
MLR				S	**Sn**	**02 22 00.2**	**+2.3**
SMTH	**Samothraki Isl**	**6.08**	**113**	*e*PN	**Pn**	**02 20 49.6**	**+1.0**
AMT	**Artemida-Makis**	**6.17**	**153**	*e*PN	**Pn**	**02 20 49.8**	**0.0**
WTTA	**Wattenberg**	**6.23**	**314**	*e*Pn	**Pn**	**02 20 53.4**	**+2.7**
WTTA				*e*Sn	**Sn**	**02 22 04.0**	**+2.0**
WTTA	**Wattenberg**	**6.23**	**314**	⇑*i*Pn	**Pn**	**02 20 52.4**	**+1.7**
	SNR=7.8						
WTTA	**Wattenberg**	**6.23**	**314**	Pn	**Pn**	**02 20 52.4**	**+1.7**
	SNR=7.8						
WTTA				*e*Sn	**Sn**	**02 22 04.0**	**+2.0**
LTK	**Loutraki**	**6.24**	**143**	*e*PN	Pn	02 20 45.3	-5.4
CRVS	**Cervenica-Dubn**	**6.24**	**20**	*e*Pn	**Pn**	**02 20 52.5**	**+1.7**
CRVS	**Cervenica-Dubn**	**6.24**	**20**	*e*PN	**Pn**	**02 20 52.5**	**+1.7**
ALN	**Alexandroupoli**	**6.25**	**108**	*e*PN	**Pn**	**02 20 53.2**	**+2.3**
WATA	**Walderalm**	**6.31**	**315**	⇓*i*Pn	**Pn**	**02 20 53.4**	**+1.6**
	SNR=15						
WATA				⇑*i*Sn	**Sn**	**02 22 06.6**	**+2.8**
WATA	**Walderalm**	**6.31**	**315**	Pn	**Pn**	**02 20 53.4**	**+1.6**
	SNR=15						
WATA				Sn	**Sn**	**02 22 06.6**	**+2.8**
VRAC	**Vranov**	**6.32**	**350**	Sn	**Sn**	**02 22 03.5**	**-0.3**
	comp=N,0.7nm,0.3s,baz=244,slow=18,SNR=4.6						
KOLS	**Kolonicke sedl**	**6.50**	**25**	*e*Pn	**Pn**	**02 20 56.2**	**+1.9**
KOLS	**Kolonicke sedl**	**6.50**	**25**	*e*PN	**Pn**	**02 20 56.2**	**+1.9**
KOLS				*e*SN	Sn	02 21 57.8	-11
GEC2	**GERESS Array S**	**6.55**	**333**	*e*Pn	**Pn**	**02 20 58.1**	**+3.1**
GEC2	**GERESS Array S**	**6.55**	**333**	*e*Pn	**Pn**	**02 20 58.1**	**+3.1**
GERES	**GERESS Array B**	**6.55**	**333**	Pn	**Pn**	**02 20 57.4**	**+2.4**
	comp=N,1.0nm,0.3s,baz=157,slow=14,SNR=28						
GERES				Sn	**Sn**	**02 22 10.2**	**+0.5**
	comp=N,3.7nm,0.3s,baz=159,slow=30,SNR=22						
GERES				LR	LR	02 23 09.4	
	comp=N,8.2nm,20.6s,baz=59,slow=35						
ITM	**Ithomi**	**6.56**	**153**	*e*Pn	**Pn**	**02 20 55.0**	**-0.2**
MOTA	**Moosalm**	**6.56**	**313**	⇑*i*Pn	**Pn**	**02 20 57.5**	**+2.2**
	SNR=12						
MOTA				⇑*i*Sn	**Sn**	**02 22 12.1**	**+1.9**
MOTA	**Moosalm**	**6.56**	**313**	Pn	**Pn**	**02 20 57.5**	**+2.2**
	SNR=12						
MOTA				Sn	**Sn**	**02 22 12.1**	**+1.9**
STHS	**Stebnicka Huta**	**6.67**	**17**	*e*Pn	**Pn**	**02 20 57.3**	**+0.6**
STHS	**Stebnicka Huta**	**6.67**	**17**	*e*PN	**Pn**	**02 20 57.3**	**+0.6**
NAIG	**Nisos Aigina**	**6.69**	**141**	*e*PN	**Pn**	**02 20 57.3**	**+0.4**
MORC	**Moravsky Berou**	**6.70**	**356**	⇓*i*P	**Pn**	**02 20 57.8**	**+0.7**
MORC	**Moravsky Berou**	**6.70**	**356**	⇓*i*P	**Pn**	**02 20 57.8**	**+0.7**
MORC	**Moravsky Berou**	**6.70**	**356**	*e*Pn	**Pn**	**02 20 58.9**	**+1.8**
MORC				S	**Sn**	**02 22 13.0**	**-0.4**
MORC				*e*Sn	**Sn**	**02 22 14.8**	**+1.4**
BURAR	**Bucovina Array**	**6.71**	**45**	⇑*i*P	**Pn**	**02 20 58.9**	**+1.7**
BURAR	**Bucovina Array**	**6.71**	**45**	⇑*i*P	**Pn**	**02 20 58.9**	**+1.7**
BURAR				S	**Sn**	**02 22 15.5**	**+1.9**
VRI	**Vrincioaia**	**6.71**	**63**	⇓*i*P	Pn	02 21 01.2	+4.0
VRI	**Vrincioaia**	**6.71**	**63**	S	**Sn**	**02 22 15.7**	**+2.1**
VRI	**Vrincioaia**	**6.71**	**63**	S	**Sn**	**02 22 15.7**	**+2.1**
PYL	**PYLOS**	**6.76**	**155**	*e*PN	**Pn**	**02 20 55.9**	**-2.0**
PGF	**Pioggiola**	**6.78**	**269**	*e*Pn	**Pn**	**02 20 57.6**	**-0.6**
PGF	**Pioggiola**	**6.78**	**269**	*e*Pn	**Pn**	**02 20 57.6**	**-0.6**
DID	**Didima**	**6.78**	**144**	*e*PN	**Pn**	**02 20 57.0**	**-1.2**
KHC	**Kasperske Hory**	**6.84**	**334**	*e*PN	**Pn**	**02 21 02.0**	**+3.1**
KHC				*e*SN	**Sn**	**02 22 17.5**	**+0.8**
KHC	**Kasperske Hory**	**6.84**	**334**	Pn	**Pn**	**02 21 02.0**	**+3.1**
KHC				Sn	**Sn**	**02 22 17.5**	**+0.8**
DAVOX	**Davos/Dischmat**	**6.95**	**305**	Pn	**Pn**	**02 21 02.1**	**+1.4**
	comp=N,1.4nm,0.3s,baz=120,slow=20,SNR=13						
DAVOX				Sn	**Sn**	**02 22 21.7**	**+1.9**
	comp=N,1.6nm,0.3s,baz=164,slow=18,SNR=2.8						
DAVOX				LR	LR	02 24 20.1	
	comp=N,29nm,18.7s,baz=124,slow=44						
MSAB	**Monastry St. A**	**7.07**	**79**	⇑*i*P	**Pn**	**02 21 03.9**	**+1.8**
MSAB	**Monastry St. A**	**7.07**	**79**	⇑*i*P	**Pn**	**02 21 03.9**	**+1.8**
MSAB				S	**Sn**	**02 22 25.3**	**+2.9**
WET	**Wettzell**	**7.09**	**331**	*e*Sn	**Sn**	**02 22 22.6**	**-0.3**
WET	**Wettzell**	**7.09**	**331**	*e*Sn	**Sn**	**02 22 22.6**	**-0.3**
DAVA	**Damuels**	**7.21**	**308**	*e*Pn	**Pn**	**02 21 07.3**	**+3.1**
DAVA	**Damuels**	**7.21**	**308**	⇑*i*Pn	**Pn**	**02 21 05.6**	**+1.4**
DAVA				⇓*i*Sn	**Sn**	**02 22 28.0**	**+1.9**
DAVA	**Damuels**	**7.21**	**308**	Pn	**Pn**	**02 21 05.6**	**+1.4**
DAVA				Sn	**Sn**	**02 22 28.0**	**+1.9**
PRU	**Pruhonice**	**7.34**	**341**	*e*PN	**Pn**	**02 21 07.3**	**+1.5**
PRU	**Pruhonice**	**7.34**	**341**	Pn	**Pn**	**02 21 07.3**	**+1.5**
DPC	**Dobruska-Polom**	**7.37**	**351**	*e*SN	**Sn**	**02 22 27.2**	**-2.7**
KYTH	**Kithira**	**7.76**	**150**	*e*PN	**Pn**	**02 21 11.6**	**0.0**
ROTZ	**Rotzenmuhle**	**7.85**	**330**	*e*Sn	**Sn**	**02 22 39.5**	**-2.1**
SBF	**Sospel**	**7.86**	**279**	*e*Pn	**Pn**	**02 21 12.7**	**-0.3**
SBF				*e*Sn	**Sn**	**02 22 37.3**	**-4.6**
	comp=N,29nm,0.8s						
SBF	**Sospel**	**7.86**	**279**	*e*Pn	**Pn**	**02 21 12.7**	**-0.3**
BRG	**Berggiesshubel**	**8.31**	**341**	SG	Sb	02 23 17.3	-4.0
	comp=N,5.3nm,0.9s						
TANN	**Tannenbergstha**	**8.31**	**334**	*e*Sn	**Sn**	**02 22 52.0**	**-1.0**
MBDF	**Montbardon**	**8.40**	**285**	*e*Pn	**Pn**	**02 21 19.5**	**-1.0**
MBDF				*e*Sn	**Sn**	**02 22 50.7**	**-4.7**
	comp=N,16nm,0.8s						
FRF	**La Foret Royal**	**8.43**	**277**	*e*Pn	**Pn**	**02 21 19.8**	**-0.9**
FRF				*e*Sn	Sn	02 22 50.2	-5.6
	comp=N,7.3nm,0.6s						
LMR	**La Mourre**	**8.53**	**276**	*e*P	Pn	02 21 26.5	+4.4
LMR	**La Mourre**	**8.53**	**276**	*e*P	Pn	02 21 26.5	+4.4
LPG	**La Plagne**	**8.55**	**290**	*e*Pn	**Pn**	**02 21 22.2**	**-0.4**
LPG				*e*Sn	**Sn**	**02 22 53.9**	**-5.3**
	comp=N,30nm,0.8s						
LPG	**La Plagne**	**8.55**	**290**	*e*Pn	**Pn**	**02 21 22.2**	**-0.4**
LPL	**La Plagne**	**8.56**	**290**	*e*Pn	**Pn**	**02 21 22.7**	**-0.1**
LPL				*e*Sn	Sn	02 22 54.0	-5.5
	comp=N,15nm,0.6s						
LPL	**La Plagne**	**8.56**	**290**	*e*Pn	**Pn**	**02 21 22.7**	**-0.1**
BFO	**Black Forest**	**8.66**	**311**	*e*Pn	**Pn**	**02 21 25.4**	**+1.5**
BFO				*e*Sn	**Sn**	**02 23 00.4**	**-1.1**
BFO	**Black Forest**	**8.66**	**311**	*e*Pn	**Pn**	**02 21 25.4**	**+1.5**
MOX	**Moxa**	**8.79**	**332**	*e*Sn	**Sn**	**02 23 04.7**	**0.0**
MOX	**Moxa**	**8.79**	**332**	*e*Sn	**Sn**	**02 23 04.7**	**0.0**
ORIF	**Oris-en-Rattie**	**9.06**	**286**	*e*Pn	**Pn**	**02 21 29.0**	**-0.4**
ORIF				*e*Sn	Sn	02 23 05.3	-6.1
	comp=N,11nm,0.6s						
ORIF	**Oris-en-Rattie**	**9.06**	**286**	*e*Pn	**Pn**	**02 21 29.0**	**-0.4**
HINF	**Hinteralfeld**	**9.26**	**305**	*e*Pn	**Pn**	**02 21 30.9**	**-1.2**
HINF				*e*Sn	Sn	02 23 09.8	-6.4
	comp=N,2.9nm,0.3s						
CABF	**La Chapelle**	**9.29**	**296**	*e*Pn	**Pn**	**02 21 30.5**	**-2.0**
CDF	**Champ du Feu**	**9.29**	**309**	*e*Pn	**Pn**	**02 21 31.8**	**-0.9**
CDF				*e*Sn	Sn	02 23 09.8	-7.4
	comp=N,4.6nm,0.6s						
CDF	**Champ du Feu**	**9.29**	**309**	*e*Pn	**Pn**	**02 21 31.8**	**-0.9**
IDI	**Anoyia**	**9.37**	**144**	Pn	Pn	02 21 30.5	-3.1
	comp=N,0.2nm,0.3s,baz=288,slow=6.2,SNR=9.6						
IDI				Sn	Sn	02 23 10.3	-8.7
	comp=N,0.9nm,0.3s,baz=301,slow=18,SNR=5.7						
HAU	**Haudompre**	**9.65**	**305**	*e*Pn	**Pn**	**02 21 36.2**	**-1.2**
HAU				*e*Sn	Sn	02 23 19.7	-6.0
	comp=N,9.3nm,0.6s						
VIVF	**Saint-Julien-l**	**9.90**	**285**	*e*Pn	**Pn**	**02 21 40.0**	**-0.9**
KEST	**Kesra**	**10.03**	**226**	Pn	**Pn**	**02 21 42.6**	**-0.2**
	comp=N,0.0nm,0.3s,baz=208,slow=17,SNR=2.3						
SMF	**Signal de Mont**	**10.78**	**294**	*e*P	Pn	02 21 57.7	+4.7
SMF				*e*Sn	Sn	02 23 46.8	-6.8
	comp=N,6.6nm,0.6s						
LOR	**Lormes**	**10.94**	**297**	*e*Pn	**Pn**	**02 21 54.3**	**-0.8**
	baz=115						
LOR				*e*Sn	Sn	02 23 50.6	-6.8
	comp=N,3.4nm,0.4s						
LOR	**Lormes**	**10.94**	**297**	*e*Pn	**Pn**	**02 21 54.3**	**-0.8**
AVF	**Avril sur Loir**	**11.14**	**294**	*e*Pn	**Pn**	**02 21 56.9**	**-1.0**
MMAI	**Mount Meron Ar**	**16.85**	**121**	Pn	**P**	**02 23 16.2**	**-0.5**
	comp=N,0.4nm,0.3s,baz=325,slow=12,SNR=5.1						
OBN	**Obninsk**	**16.95**	**38**	LR	LR	02 30 55.6	
	comp=N,28nm,19.6s,baz=276,slow=41						
HFS	**Hagfors**	**17.29**	**352**	P	**P**	**02 23 21.3**	**+0.1**
	comp=N,0.1nm,0.3s,baz=161,slow=18,SNR=3.3						
HFS				LR	LR	02 30 27.1	
	comp=N,24nm,20.5s,baz=348,slow=38						
NB2	**NORSAR Subarra**	**18.46**	**349**	P	**Pn**	**02 23 35.3**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=164,slow=11						
NB2	**NORSAR Subarra**	**18.46**	**349**	P	**Pn**	**02 23 35.3**	**+1.0**
	comp=Z,1.2nm,0.6s,SNR=6.8						
NOA	**NORSAR Array B**	**18.46**	**349**	P	**Pn**	**02 23 34.8**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=170,slow=8.3,SNR=4.4						
EKA	**Eskdalemuir Ar**	**18.47**	**319**	P	**P**	**02 23 34.5**	**+0.2**
	baz=120,slow=8.2,SNR=3.4						
FINES	**FINESS Array B**	**18.98**	**12**	P	**P**	**02 23 40.1**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=200,slow=16,SNR=5.1						
GEYT	**Ailbeck**	**30.59**	**86**	P	**P**	**02 25 33.0**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=254,slow=5.2,SNR=3.1						
TORD	**Torodi Ar. Bea**	**33.06**	**210**	P	**P**	**02 25 53.4**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=18,slow=9.2,SNR=6.0						
BVAR	**Borovoye Array**	**35.54**	**55**	P	**P**	**02 26 15.4**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=290,slow=4.2,SNR=3.2						
DBIC	**Dimbokro**	**41.57**	**216**	LR	LR	02 44 40.7	
	comp=Z,30nm,18.1s,baz=103,slow=37						
SONM	**Songino Array**	**58.77**	**52**	P	**P**	**02 29 16.4**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=314,slow=9.2,SNR=2.9						
INK	**Inuvik**	**66.92**	**349**	P	**P**	**02 30 08.9**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=9.4,slow=6.7,SNR=3.6						
YKA	**Yellowknife Ar**	**68.17**	**338**	P	**P**	**02 30 17.9**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=39,slow=5.4,SNR=10						
CMAR	**Chiang Mai Arr**	**70.98**	**82**	P	**P**	**02 30 35.9**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=304,slow=6.9,SNR=6.5						
ILAR	**Eielson Array**	**71.84**	**353**	P	**P**	**02 30 40.4**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=360,slow=6.2,SNR=5.2						
PDAR	**Pinedale Array**	**82.51**	**324**	P	**P**	**02 31 41.8**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=23,slow=5.0,SNR=2.5						
TXAR	**Lajitas Array**	**90.33**	**312**	P	**P**	**02 32 19.9**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=68,slow=4.6,SNR=3.8						

MOS ***07*** *02:20:50.8±1.4,44°.14N×148°.91E,h41km,mb4.2/3, Error ellipse: s-maj=24.8km s-min=20.3km az=106.8*
JMA ***07*** *02:20:57.9±0.5,44°.01N×147°.90E,h0km,M4.1*
SKHL ***07*** *02:20:58.5±0.1,44°.50N×148°.10E,h85km±5km,mb5.0/2, msh5.2/2*

ISC 07 02:20:56.9±2.3, 44°.32N±0°.08×148°.3E±0°.1, h48km±17km, n20, σ1s26/27, mb3.6/3, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.96**	**342**	⇑*i*P		**Pn**	**Pn**	**02 21 14.5**	**+0.5**
KUR				*i*	S	**Sn**	**Sn**	**02 21 26.5**	**-0.1**
KUR					pmax	pmax			
	comp=N,297nm,0.1s								
KUR					pmax	pmax			
	comp=E,62nm,0.1s								
KUR					pmax	pmax			
	comp=Z,32nm,0.1s								
KUR					smax	smax			
	comp=E,287nm,0.4s								
KUR					smax	smax			
	comp=N,306nm,0.5s								
KUR	**Kuril'sk**	**0.96**	**342**	*i*	P	**Pn**		**02 21 14.6**	**+0.6**
KUR					AMB	AMB		02 21 15.2	
	comp=N,410nm,0.4s								
KUR				*i*	S	**Sn**		**02 21 26.6**	**0.0**
KUR					A	A		02 21 29.0	
	comp=N,570nm,0.5s								
KUR					A	A		02 21 29.0	
	comp=N,300nm,0.5s								
YUK	**Yuzh-Kuril'sk**	**1.76**	**262**	*d*	PN	**Pn**		**02 21 25.8**	**+0.9**
YUK					pmax	pmax			
	comp=N,150nm,0.2s								
YUK					pmax	pmax			
	comp=E,135nm,0.2s								
YUK					pmax	pmax			
	comp=Z,315nm,0.2s								
YUK	**Yuzh-Kuril'sk**	**1.76**	**262**	*i*	P	**Pn**		**02 21 25.8**	**+0.9**
YUK					AMB	AMB		02 21 27.0	
	comp=Z,150nm,0.2s								
YUK					AMB	AMB		02 21 27.0	
	comp=Z,140nm,0.2s								
YUK					AMB	AMB		02 21 27.0	
	comp=Z,320nm,0.2s								
YUK				*i*	S	**Sn**		**02 21 46.3**	**+0.2**
YUK					A	A		02 21 50.0	

DJA 07 02:57:43.5±0.7,9°S±3°×11°3E±°, h21km±8km, M4.5/15, mb4.9/2, MLv4.3/15

ISC 07 02:57:43.2±0.8, 9°29S±0°08×113°01E±0°04, h48km±8km, n37, σ1§38/42, mb4.0/9, MS3.3/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GMJI	**Gumukmas**	**1.09**	**23**	P	**Pn**	**02 58 01.4**	**-0.7**
GMJI				S	**Sn**	**02 58 14.9**	**-1.2**
JAGI	**Jajag, Banyuwa**	**1.39**	**54**	P	**Pn**	**02 58 06.0**	**-0.1**
JAGI				S	**Sn**	**02 58 23.4**	**+0.1**
BLJI	**Banyuglugur**	**1.64**	**21**	P	**Pn**	**02 58 10.7**	**+1.2**
BLJI				S	**Sn**	**02 58 31.0**	**+1.6**
PWJI	**Pagerwojo**	**1.73**	**316**	P	**Pn**	**02 58 10.4**	**-0.5**
PWJI				S	**Sn**	**02 58 31.8**	**0.0**
ABJI	**Asem Bagus**	**1.91**	**39**	P	**Pn**	**02 58 15.5**	**+2.2**
PCJI	**Pacitan**	**2.11**	**301**	P	**Pn**	**02 58 15.8**	**-0.3**
IGBI	**Denpasar**	**2.16**	**78**	P	**Pn**	**02 58 16.9**	**+0.3**
DNP	**Denpasar**	**2.25**	**75**	P	**Pn**	**02 58 19.9**	**+1.9**
KMMI	**Kalianget**	**2.41**	**23**	P	**Pn**	**02 58 22.5**	**+2.3**
GRJI	**Gresik**	**2.41**	**347**	P	Pn	02 58 32.9	+13
SRBI	**Singaraja**	**2.48**	**61**	P	**Pn**	**02 58 22.4**	**+1.3**
WOJI	**Wonogiri, Jawa**	**2.52**	**305**	P	**Pn**	**02 58 22.2**	**+0.6**
TBJI	**Tambak Boyo**	**2.71**	**335**	P	**Pn**	**02 58 25.6**	**+1.4**
UGM	**Wanagama**	**2.81**	**299**	P	**Pn**	**02 58 26.9**	**+1.2**
UGM				S	**Sn**	**02 58 59.7**	**+1.2**
SMRI	**Semarang**	**3.38**	**311**	P	**Pn**	**02 58 35.0**	**+1.5**
BWJI	**Bawean**	**3.43**	**354**	P	**Pn**	**02 58 35.3**	**+1.1**
UWJI	**Ujung Watu**	**3.51**	**324**	P	**Pn**	**02 58 36.6**	**+1.4**
KPJI	**Karang Pucung**	**4.48**	**295**	P	**Pn**	**02 58 50.7**	**+2.1**
CMJI	**Cimerak**	**4.75**	**288**	P	**Pn**	**02 58 53.7**	**+1.4**
CISI	**Cisompet, Garu** 164nm,0.7s	**5.42**	**288**	P	**Pn**	**02 59 02.7**	**+1.1**
CNJI	**Cibinong**	**6.14**	**288**	P	**Pn**	**02 59 13.0**	**+1.6**
WBSI	**Waikabubak, Su**	**6.30**	**94**	P	**Pn**	**02 59 15.3**	**+1.7**
WSI	**Waingapu**	**7.20**	**94**	P	Pn	02 59 36.7	+11
BASI	**Baing, Sumba**	**7.51**	**98**	P	**Pn**	**02 59 31.7**	**+1.5**
CGJI	**Cibinong**	**7.72**	**290**	P	**Pn**	**02 59 34.6**	**+1.5**
KAPI	**Kappang** 1.8nm,0.3s,baz=231,slow=6.1,SNR=5.3	**7.92**	**58**	P	**Pn**	**02 59 36.8**	**+1.0**
KAPI				S	**Sn**	**03 01 01.0**	**-3.1**
PPBI	**Pangkal Pinang** 0.9nm,0.3s,baz=297,slow=4.5,SNR=4.0	**9.84**	**316**	P	Pn	03 00 08.6	+6.5
WRA	**Warramunga Arr** 2.1nm,0.7s,baz=295,slow=11,SNR=9.6	**23.17**	**120**	P	**P**	**03 02 45.5**	**-0.3**
WRA				pP	**pP**	**03 02 56.9**	**-0.4**
ASAR	**Alice Springs** 2.2nm,0.7s,baz=296,slow=11,SNR=6.3	**24.56**	**128**	P	**P**	**03 02 59.5**	**+0.8**
ASAR				pP	**pP**	**03 03 12.2**	**+1.0**
CMAR	**Chiang Mai Arr** 2.7nm,0.6s,baz=302,slow=8.7,SNR=9.0	**30.87**	**333**	P	**P**	**03 03 54.7**	**-0.4**
CMAR				LR	LR	03 17 02.8	
STKA	**Stephens Creek** comp=Z,17nm,18.0s,baz=275,slow=38	**34.75**	**134**	P	**P**	**03 04 30.0**	**+1.0**
STKA	1.5nm,0.8s,baz=324,slow=12,SNR=3.8			LR	LR	03 19 25.5	
SONM	**Songino Array** comp=Z,65nm,18.6s,baz=211,slow=37	**57.17**	**355**	P	**P**	**03 07 24.2**	**-1.0**
MKAR	0.7nm,0.5s,baz=176,slow=6.9,SNR=5.0			LR	LR	03 33 14.0	
RPZ	**Rata Peaks** comp=Z,34nm,20.6s,baz=262,slow=35	**60.71**	**135**	LR	LR	03 33 14.0	
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=152,slow=6.5,SNR=6.0	**62.19**	**337**	P	**P**	**03 07 58.6**	**-1.1**
MKAR	comp=Z,15nm,18.7s,baz=176,slow=40			LR	LR	03 39 12.1	
KURBB	**Kurchatov Arra** 0.2nm,0.5s,baz=151,slow=6.2,SNR=3.2	**66.75**	**337**	P	**P**	**03 08 27.9**	**-1.5**
ZALV	**Zalesovo Beam** 0.7nm,0.5s,baz=134,slow=4.2,SNR=3.5	**67.36**	**342**	P	**P**	**03 08 32.2**	**-0.9**
BRTR	**Keskin Array B** 0.9nm,0.8s,baz=131,slow=6.8,SNR=6.8	**87.80**	**311**	P	**P**	**03 10 28.5**	**+0.9**
BRTR	0.7nm,0.8s,baz=122,slow=6.0,SNR=3.4			pP	**pP**	**03 10 40.3**	**-1.5**

IDC 07 03:02:16.8±3.9, 16°75S×178°72W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/19, mbtmp3.8/3, MS4.4/1, Ms1 4.4/1, ms1mx2.9/27, Error ellipse: s-maj=283.8km s-min=32.8km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.5nm,0.7s,baz=93,slow=7.9,SNR=13	**44.56**	**258**	P	P	03 10 30.5	-0.4
ASAR	**Alice Springs** 2.2nm,0.3s,baz=88,slow=8.1,SNR=28	**44.83**	**253**	P	P	03 10 33.1	+0.1
JCJ	**Chichijima** comp=Z,356nm,20.3s,baz=127,slow=32	**57.79**	**318**	LR	LR	03 32 53.9	
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=220,slow=6.5,SNR=3.1	**78.80**	**44**	P	P	03 14 21.9	0.0

GUC 07 03:08:56.9±0.3, 33°82S×71°90W, h28km±3km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCDM	**Rinconada Maip**	**0.97**	**70**	*e*P	Pb	03 09 15.2	0.0
RCDM				*e*S	Sb	03 09 29.2	+1.5
SAN	**Santiago**	**1.10**	**71**	*e*P	Pb	03 09 17.5	+0.1
SAN				*e*S	Sb	03 09 33.0	+1.7
STL	**Santa Lucia**	**1.12**	**70**	*e*P	Pb	03 09 18.0	+0.2
STL				*e*S	Sb	03 09 34.1	+2.1
FSR	**Penalolen**	**1.20**	**74**	*e*P	Pb	03 09 18.9	-0.2
FSR				*e*S	Sb	03 09 35.9	+1.7
CLCH	**Cerro Calan**	**1.22**	**70**	*e*P	Pb	03 09 19.3	-0.1
CLCH				*e*S	Sb	03 09 36.4	+1.5
CLCH	comp=E,1μm,0.6s			AML	AML	03 09 43.9	
PEL	**Peldehue**	**1.22**	**57**	*e*P	Pb	03 09 19.3	-0.1
PEL				*e*S	Sb	03 09 36.6	+1.7
PEL	comp=E,3μm,0.6s			AML	AML	03 09 39.2	
SJCH	**San Jose de Ma**	**1.30**	**82**	*e*P	Pb	03 09 20.7	-0.2
SJCH				*e*S	Sb	03 09 38.9	+1.6

ISCJB 07 03:38:47.9±0.7, 32°31N±0°06×140°6E±0°2, h97km, mb3.6/3, Error ellipse: s-maj=21.2km s-min=5.5km az=163.3

IDC 07 03:38:49.4±2.3, 32°30N×140°59E, h91km±24km, mb3.3/3, mb1 3.4/5, mb1mx3.1/36, mbtmp3.7/5, Error ellipse: s-maj=90.8km s-min=15.3km az=72.0

JMA 07 03:38:50.9±0.5, 32°49N×140°59E, h87km, M3.3

ISC 07 03:38:49.6±1.0, 32°33N±0°07×140°6E±0°2, h97km, n19, σ1§01/17, mb3.6/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**1.00**	**319**	P	**Pn**	**03 39 08.8**	**-1.0**
JHJ2	**Mitsune**	**1.02**	**321**	P	**Pn**	**03 39 09.6**	**-0.4**
JHJ2				S	**Sn**	**03 39 23.3**	**-2.0**
BSO3	**Boso 3**	**2.47**	**359**	P	**Pn**	**03 39 27.7**	**-0.3**
BSO3				S	**Sn**	**03 39 56.2**	**-1.3**
JIM2	**Oshima 3**	**2.57**	**338**	P	**Pn**	**03 39 29.0**	**-0.6**
JOD2	**Odawara 2**	**3.18**	**337**	P	**Pn**	**03 39 37.4**	**-0.4**
JYN	**Shimob**	**3.59**	**332**	P	**Pn**	**03 39 43.8**	**+0.5**
JRY	**Ryogami san**	**3.94**	**340**	P	**Pn**	**03 39 47.8**	**-0.1**
MJAR	**Matsushiro Arr** 1.6nm,0.3s,baz=164,slow=12,SNR=12	**4.64**	**336**	P	**Pn**	**03 39 57.4**	**0.0**
MAT	**Matsushiro**	**4.64**	**336**	P	**Pn**	**03 39 57.7**	**+0.2**
MAT				*e*S	**Sn**	**03 40 51.9**	**+1.7**
JCJ	**Chichijima** 4.8nm,0.3s,baz=0.0,slow=20,SNR=3.8	**5.39**	**165**	P	**Pn**	**03 40 08.3**	**+0.6**
JCJ	5.5nm,0.3s,baz=287,slow=19,SNR=3.2			S	**Sn**	**03 41 06.9**	**-1.6**
H11N2	**WAKE ISLAND Hy** baz=304,slow=75,SNR=5.3	**26.68**	**112**	T	T	04 13 14.3	
H11N1	**WAKE ISLAND Hy** baz=304,slow=75,SNR=5.7	**26.69**	**112**	T	T	04 13 11.9	
H11N3	**WAKE ISLAND Hy** baz=304,slow=75,SNR=5.0	**26.70**	**112**	T	T	04 13 15.2	
H11S3	**WAKE ISLAND Hy** baz=305,slow=75,SNR=6.0	**27.21**	**114**	T	T	04 13 41.9	
H11S1	**WAKE ISLAND Hy** baz=305,slow=75,SNR=6.7	**27.22**	**114**	T	T	04 13 39.6	
H11S2	**WAKE ISLAND Hy** baz=305,slow=75,SNR=4.0	**27.23**	**114**	T	T	04 13 44.9	
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=90,slow=7.9,SNR=3.7	**46.18**	**306**	P	**P**	**03 47 04.9**	**+0.3**
WRA	**Warramunga Arr** 0.6nm,1.0s,baz=5.5,slow=7.6,SNR=2.6	**52.31**	**187**	P	**P**	**03 47 52.0**	**+0.6**
FINES	**FINESS Array B** 2.6nm,0.9s,baz=69,slow=7.6,SNR=3.9	**72.67**	**333**	P	**P**	**03 50 06.7**	**+0.2**

SKO 07 04:12:58.4, 41°75N×22°62E, h23km, M1.4, ML1.8
ATH 07 04:12:59.3, 41°73N×22°67E, h4km, MD2.9/7
BEO 07 04:12:59.6±0.4, 41°78N×22°57E, h0km, ML1.8/6
THE 07 04:12:59.1, 41°76N×22°70E, h3km±2km, ML2.1/4, Error ellipse: s-maj=2.4km s-min=0.9km az=49.0

CSEM 07 04:12:58.2±0.1, 41°79N±22°61E, h15km, ML1.6, 2C, Error ellipse: s-maj=3.9km s-min=1.9km az=61.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAY	**Valandovo**	**0.47**	**183**	P	Pg	04 13 07.2	-0.4
VAY				S	Sg	04 13 13.7	-0.3
VAY	**Valandovo**	**0.47**	**183**	↑*i* Pg	Pg	04 13 07.3	-0.3
VAY				*e*Sg	Sg	04 13 13.7	-0.3
VAY	**Valandovo**	**0.47**	**183**	*i* Pg	Pg	04 13 07.7	+0.1
VAY				*i* Sg	Sg	04 13 14.3	+0.3
VAY				*e*Lg	Lg	04 13 14.5	
VAY	comp=E,125nm,0.7s			*e*Lg	Lg	04 13 15.9	
VAY	**Valandovo** comp=N,79nm,0.2s	**0.47**	**183**	↑*i* Pg	Pg	04 13 07.3	-0.3
VAY				S	Sg	04 13 13.7	-0.3
VAY				*e*Lg	Lg	04 13 15.8	
KNT	**Kendrikon** comp=N,79nm,0.2s	**0.67**	**161**	P	Pg	04 13 11.0	-0.3
KNT				S	Sg	04 13 19.8	-0.4
KNT	**Kendrikon**	**0.67**	**161**	*e*PG	Pg	04 13 11.0	-0.3
KNT				*e*SG	Sg	04 13 18.8	-1.4
KNT	**Kendrikon**	**0.67**	**161**	P	Pg	04 13 11.0	-0.3
KNT				*e*Sb	Sg	04 13 18.8	-1.4
KNT				S	Sb	04 13 19.8	-0.9
SKO	**Skopje**	**0.89**	**282**	*i* Pg	Pn	04 13 16.7	+0.5
SKO				*i* Sg	Sn	04 13 29.1	+0.3
SKO				*e*Lg	Lg	04 13 30.8	
SKO	comp=N,23nm,0.9s			*e*Lg	Lg	04 13 32.2	
SKO	**Skopje** comp=E,12nm,0.5s	**0.89**	**282**	*i* Pg	Pn	04 13 16.6	+0.4
SKO				*i* Sg	Sn	04 13 29.0	+0.2
SKO				*e*Lg	Lg	04 13 32.1	
VTS	**Vitosha**	**0.91**	**29**	P	Pn	04 13 16.5	-0.3
VTS				S	Sg	04 13 28.7	+0.4
VTS	**Vitosha**	**0.91**	**29**	*e*Pg	Pn	04 13 17.7	+0.9
VTS				*e*Sg	Sg	04 13 28.7	+0.4
VTS	**Vitosha**	**0.91**	**29**	P	Pn	04 13 16.5	-0.3
VTS	**Vitosha**	**0.91**	**29**	*e*Pg	Pn	04 13 17.7	+0.9
VTS				S	Sg	04 13 28.7	+0.4
SRS	**Serrai**	**1.00**	**132**	P	Pb	04 13 17.0	-0.3
SRS				S	Sb	04 13 29.8	-0.6
SRS	**Serrai**	**1.00**	**132**	*e*PB	Pb	04 13 16.8	-0.5
SRS				*e*SB	Sg	04 13 30.8	0.0
SRS	**Serrai**	**1.00**	**132**	P	Pb	04 13 17.0	-0.3
SRS				S	Sb	04 13 29.8	-0.6
SRS				*e*Sg	Sg	04 13 30.8	0.0
NVR	**Nevrokopi**	**1.04**	**115**	P	Pb	04 13 18.0	0.0
NVR				S	Sb	04 13 31.1	-0.4
NVR	**Nevrokopi**	**1.04**	**115**	*e*PG	Pb	04 13 17.6	-0.4
NVR				*e*SG	Sb	04 13 30.6	-0.9
NVR	**Nevrokopi**	**1.04**	**115**	*e*Pb	Pb	04 13 17.6	-0.4
NVR	**Nevrokopi**	**1.04**	**115**	P	Pb	04 13 18.0	0.0
NVR				*e*Sb	Sb	04 13 30.6	-0.9
NVR				S	Sg	04 13 31.1	-1.0
SOH	**Sokhos**	**1.12**	**150**	P	Pg	04 13 19.8	-0.2
SOH				S	Sb	04 13 34.1	+0.2
SOH	**Sokhos**	**1.12**	**150**	*e*PG	Pn	04 13 19.7	+0.2
SOH				*e*SG	Sb	04 13 33.5	-0.4
SOH	**Sokhos**	**1.12**	**150**	*e*Pn	Pn	04 13 19.7	+0.2
SOH				*e*Sb	Sb	04 13 33.5	-0.4
SOH				S	Sn	04 13 34.1	-0.6
BARS	**Barje**	**1.18**	**330**	*e*Pg	Pb	04 13 20.6	+0.3
BARS				*e*Sg	Sg	04 13 36.4	0.0
BARS	**Barje**	**1.18**	**330**	*e*Pg	Pb	04 13 20.6	+0.3
BARS				*e*Sg	Sg	04 13 36.4	0.0
HORT	**Hortiatis**	**1.25**	**162**	*e*PB	Pb	04 13 21.8	+0.1
HORT				*e*SB	Sb	04 13 37.6	-0.1
HORT	**Hortiatis**	**1.25**	**162**	*e*Pb	Pb	04 13 21.8	+0.1
HORT				*e*Sb	Sb	04 13 37.6	-0.1
FNA	**Florina**	**1.37**	**223**	*e*PB	Pg	04 13 24.7	0.0
FNA	**Florina**	**1.37**	**223**	*e*Pb	Pg	04 13 24.7	0.0
ZAPS	**Zavoj**	**1.48**	**1**	*e*Pg	Pg	04 13 27.0	+0.3
ZAPS				*e*Sg	Sg	04 13 46.5	+0.4
PLG	**Polygyros**	**1.56**	**156**	P	Pb	04 13 26.2	-0.6
PLG				S	Sb	04 13 47.0	+0.7
PLG	**Polygyros**	**1.56**	**156**	*e*PB	Pb	04 13 26.4	-0.4
PLG				*e*SB	Sb	04 13 46.3	0.0
PLG	**Polygyros**	**1.56**	**156**	P	Pb	04 13 26.2	-0.6
PLG				*e*Sb	Sb	04 13 46.3	0.0
PLG				S	Sg	04 13 47.0	-1.4
SELS	**Selova**	**1.80**	**323**	*e*Pg	Pg	04 13 32.0	-0.8
SELS				*e*Sg	Sg	04 13 56.4	+0.2
GRUS	**Gruza**	**2.51**	**327**	*e*Pg	Pg	04 13 45.0	-1.4
GRUS	**Gruza**	**2.51**	**327**	*e*Pg	Pg	04 13 45.0	-1.4
IVAS	**Ivanjica**	**2.54**	**315**	*e*Pg	Pg	04 13 46.3	-0.7
IVAS	**Ivanjica**	**2.54**	**315**	*e*Pg	Pg	04 13 46.3	-0.7
DIVS	**Divibare**	**3.00**	**321**	*e*Pg	Pg	04 13 54.5	-1.3
DIVS				*e*Sg	Sg	04 14 34.0	-0.7
DIVS	**Divibare**	**3.00**	**321**	*e*Pg	Pg	04 13 54.5	-1.3
DIVS				*e*Sg	Sg	04 14 34.0	-0.7

DHMR 07 04:14:06.5±1.6, 12°01N×44°48E, h3km±10km, ML3.7, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**1.27**	**344**	*i* P	Pg	04 14 31.1	0.0
TRBA				*i* S	Sb	04 14 48.2	-0.1
TRBA	comp=Z,1μm,0.3s			AML	AML	04 14 50.2	
DHBB	**Dhamar BB**	**2.55**	**358**	*i* P	Pn	04 14 51.2	+2.0
DHBB				*i* S	Sb	04 15 26.3	+0.9
HAJJ	**Hajjah**	**3.77**	**347**	*i* P	Pn	04 15 07.4	+1.6
HAJJ				*i* S	Sb	04 15 56.7	-3.6
HAJJ	comp=Z,330nm,0.3s			AML	AML	04 16 12.3	

IDC 07 04:16:28.1±1.9, 37°16N×141°19E, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.3/32, mbtmp3.6/4, ML3.3/2, Error ellipse: s-maj=42.4km s-min=30.1km az=82.0

ISCJB 07 04:16:38.9±0.7, 37°18N±0°05×140°46E±0°06, h88km±5km, mb3.5/2, Error ellipse: s-maj=10.3km s-min=6.1km az=145.3

JMA 07 04:16:39.6, 37°18N×140°43E, h83km±1km, M3.2
Broadband fault plane solution: P waves. NP1: φs247.00000°, δ66.00000°, λ-116.00000°. NP2: φs118.00000°, δ35.00000°, λ-45.00000°. Principal axes: T Plg17.0000°, Azm356.0000°; N Plg24.0000°, Azm258.0000°; P Plg60.0000°, Azm118.0000°;
JMA Felt I J1.

ISC 07 04:16:39.7±1.1, 37°19N±0°06×140°47E±0°05, h83km±8km, n23, σ0§84/26, 1C-7D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.28**	**108**	↓↓P	**Pn**	**04 16 52.4**	**+0.1**
ONAJ				S	**Sn**	**04 17 01.7**	**+0.1**
JFT	**Otama**	**0.35**	**343**	↓↓P	**Pn**	**04 16 52.6**	**-0.1**
JFT				S	**Sn**	**04 17 02.5**	**+0.3**
JFK	**Kawauchi**	**0.37**	**61**	↓↓P	**Pn**	**04 16 52.9**	**+0.1**
JFK				S	**Sn**	**04 17 02.7**	**+0.2**
JFY	**Yanaizu**	**0.65**	**290**	↓↓P	**Pn**	**04 16 54.8**	**-0.3**
JMM	**Marumori**	**0.72**	**21**	P	**Pn**	**04 16 56.1**	**+0.2**
JMM				S	**Sn**	**04 17 08.0**	**+0.1**
JKT	**Katashina**	**1.06**	**247**	↓↓P	**Pn**	**04 17 00.0**	**+0.2**
JNS	**Sasagawa**	**1.11**	**305**	↓↓P	**Pn**	**04 16 59.6**	**-0.6**
JNS				S	**Sn**	**04 17 15.1**	**-0.5**
JAG	**Ashikaga**	**1.11**	**227**	↑↑P	**Pn**	**04 17 00.4**	**+0.1**
JAG				S	**Sn**	**04 17 15.7**	**0.0**
JHK	**Hiroka**	**1.16**	**273**	↓↓P	**Pn**	**04 17 00.6**	**-0.2**
JHK				S	**Sn**	**04 17 16.5**	**-0.2**
JOU	**Okura**	**1.19**	**8**	P	**Pn**	**04 17 01.7**	**+0.5**
JIZZ	**Izumozaki**	**1.44**	**284**	P	**Pn**	**04 17 04.8**	**+0.4**
JIO	**Ouri**	**1.45**	**29**	P	**Pn**	**04 17 04.4**	**0.0**
JIO				S	**Sn**	**04 17 23.7**	**+0.6**
MJAR	**Matsushiro Arr** 3.9nm,0.3s,baz=62,slow=11,SNR=33	**1.92**	**251**	P	**Pn**	**04 17 10.9**	**+0.2**
MJAR				S	**Sn**	**04 17 37.4**	**+3.2**
MAT	**Matsushiro**	**1.92**	**251**	P	**Pn**	**04 17 11.0**	**+0.3**
MAT				S	**Sn**	**04 17 33.1**	**-1.2**
ASAJ	**Asahikawa** 0.6nm,0.3s,baz=61,slow=33,SNR=1.3	**7.11**	**12**	Pn	Pn	04 18 14.2	-6.8
SONM	**Songino Array** 0.4nm,0.5s,baz=106,slow=9.6,SNR=2.8	**27.07**	**304**	P	**P**	**04 22 15.3**	**+0.8**
H11N2	**WAKE ISLAND Hy** baz=312,slow=75,SNR=6.7	**28.88**	**120**	T	T	04 52 42.3	
H11N1	**WAKE ISLAND Hy** baz=312,slow=75,SNR=8.9	**28.89**	**120**	T	T	04 52 42.1	
H11N3	**WAKE ISLAND Hy** baz=312,slow=75,SNR=6.4	**28.90**	**120**	T	T	04 52 42.8	
H11S1	**WAKE ISLAND Hy** baz=314,slow=75,SNR=14	**29.58**	**122**	T	T	04 53 33.8	
H11S3	**WAKE ISLAND Hy** baz=314,slow=75,SNR=9.5	**29.58**	**122**	T	T	04 53 32.2	
H11S2	**WAKE ISLAND Hy** baz=314,slow=75,SNR=8.9	**29.60**	**122**	T	T	04 53 32.2	
WRA	**Warramunga Arr** 0.5nm,0.4s,baz=5.2,slow=7.4,SNR=14	**57.12**	**187**	P	**P**	**04 26 16.5**	**-1.1**

DJA 07 04:22:34.5±1.0, 8°S±7°×10°6E±°, h23km±8km, M3.9/7, MLv3.9/7, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKJI	**Sukabumi**	**0.70**	**42**	P	Pb	04 22 48.2	+0.1
SKJI				S	Sb	04 22 57.9	+0.5
SKJI	**Sukabumi**	**0.70**	**42**	P	Pb	04 22 48.2	+0.1
CGJI	**Cibinong**	**0.99**	**337**	P	Pb	04 22 52.0	-1.0
CGJI				S	Sb	04 23 05.2	-0.4
CGJI	**Cibinong** 2μm,0.4s,35μm	**0.99**	**337**	P	Pb	04 22 51.9	-1.1
CGJI	2μm,0.4s,35μm			S	Sb	04 23 05.2	-0.4
CNJI	**Cibinong**	**1.06**	**78**	P	Pn	04 22 53.0	-1.0
CNJI				S	Sn	04 23 08.0	-0.1
CNJI	**Cibinong**	**1.06**	**78**	P	Pn	04 22 53.0	-1.0
CNJI				S	Sn	04 23 08.7	+0.6
CBJI	**Citeko**	**1.34**	**35**	P	Pn	04 22 55.8	-2.0
SBJI	**Serang**	**1.40**	**2**	P	Pn	04 22 58.5	-0.2
SBJI	**Serang**	**1.40**	**2**	P	Pb	04 23 00.4	+0.4
LEM	**Lembang**	**1.68**	**65**	P	Pb	04 23 05.6	+0.7
LEM	**Lembang** 657nm,0.8s,8μm	**1.68**	**65**	P	Pb	04 23 05.2	+0.3
CISI	**Cisompet, Garu**	**1.72**	**91**	P	Pn	04 23 02.4	-0.7
CISI	**Cisompet, Garu**	**1.72**	**91**	P	Pb	04 23 06.2	+0.7
BLSI	**Bandar Lampung**	**2.30**	**339**	P	Pn	04 23 11.4	+0.3
CMJI	**Cimerak**	**2.36**	**96**	P	Pn	04 23 09.8	-2.1
KASI	**Kota Agung**	**2.54**	**322**	P	Pn	04 23 14.4	+0.1
KPJI	**Karang Pucung**	**2.83**	**86**	P	Pn	04 23 18.7	+0.3
LWLI	**Liwa**	**3.20**	**321**	P	Pn	04 23 23.4	-0.2
MDSI	**Maura Dua**	**3.57**	**328**	P	Pn	04 23 28.4	-0.1

ISCJB 07 04:31:37.9±1.0, 13°06N±0°03×145°18E±0°02, h23km±6km, mb5.2/193, MS5.1/201, Error ellipse: s-maj=4.7km s-min=3.5km az=169.2

MOS 07 04:31:38.7±1.1, 13°06N×145°23E, h33km, mb5.5/55, MS5.0/36, Error ellipse: s-maj=8.5km s-min=5.0km az=105.4

BJI 07 04:31:38.2, 12°84N×145°35E, h39km, mb5.0/58, mB5.3/56, Ms5.3/72, Ms7 5.0/66

GCMT 07 04:31:40.7±0.1, 12°82N×145°47E, h16km, MW5.4/90, Moment Tensor Solution. s78,c126; s90,c165; Duration: 1§2 Moment tensor: Scale 10^17 Nm; Mrr0.79±.03; Mθθ-0.27±.02; Mφφ-0.51±.02; Mrθ-0.14±.06; Mθφ-0.92±.02; Mφr0.80±.06; Best double couple: M0 1.40100×10^17 NP1:φs10.00000°, δ67.00000°, λ52.00000°. NP2:φs254.00000°, δ43.00000°, λ146.00000°. Principal axes: T 1.3580, Plg52.0000°, Azm235.0000°; N 0.0870, Plg35.0000°, Azm27.0000°; P -1.4450, Plg14.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

NEIC 07 04:31:40.7±0.1, 13°00N×145°25E, h35km, mb5.3/128, MS5.2/157 Error ellipse: s-maj=4.3km s-min=3.4km az=127.0

NEIC Felt at Apra Harbor, Barrigada, Dededo, Hagatna, Hagatna Heights, Santa Rita and Yigo.

DJA 07 04:31:41.9±2.9, 13°N±18°×14°5E±4°3, h56km±16km, M5.2/4, mb5.5/4, mB6.0/4, MLv4.9/1, Mw(mB)5.6/4

IDC 07 04:31:42.1±0.9, 12°98N×145°37E, h50km±6km, mb4.7/37, mb1 4.8/39, mb1mx4.7/48, mbtmp4.9/39, MS4.9/25, Ms1 4.9/25, ms1mx4.8/33, Error ellipse: s-maj=12.9km s-min=8.2km az=75.0

ISC 07 04:31:42.0±0.3, 13°01N±0°03×145°25E±0°04, h46km±2km, h46km:pP-P, n698, σ1§48/712, mb5.3/204, MS5.2/202, 106C-53D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam** 2μm,0.3s,baz=64,slow=2.9,SNR=521	**0.69**	**327**	P	**Pn**	**04 31 56.1**	**+0.6**
GUMO	5μm,0.3s,baz=149,slow=13,SNR=24			S	**Sn**	**04 32 09.7**	**+4.5**
GUMO	**Guam**	**0.69**	**327**	*e*P	**Pn**	**04 31 55.4**	**-0.1**
GUMO				S	**Sn**	**04 32 09.7**	**+4.5**
GUMO	**Guam**	**0.69**	**327**	*e*Pn	**Pn**	**04 31 55.4**	**-0.1**
GUMO				S	**Sn**	**04 32 09.7**	**+4.5**
CBIJ	**Chichi jima**	**14.31**	**349**	*e*Pn	**Pn**	**04 35 01.4**	**-0.5**
JCJ	**Chichijima**	**14.31**	**349**	P	**Pn**	**04 35 01.4**	**-0.5**
JAY	**Jayapura** 0.5nm,0.3s,baz=338,slow=19,SNR=3.3	**16.07**	**197**	P	**Pn**	**04 35 23.4**	**-1.7**
SMPI	**Sarmi**	**16.26**	**204**	P	**Pn**	**04 35 27.8**	**+0.5**
GENI	**Genyem**	**16.30**	**198**	P	**Pn**	**04 35 28.7**	**+0.8**
RKPI

comp=Z,3μm,19.0s
MAT Matsushiro 24.27 346 P P 04 36 52.8 -2.2
MAT S S **04 41 11.4 +0.6**
SANI Sanana 24.28 233 P P **04 36 55.3 +0.1**
YULB Yu-li 24.95 298 *e*P P **04 37 01.2 -0.1**
comp=Z,20nm,0.7s
YHNB Yeheng 25.35 301 PFAKE 04 37 20.0 +15
YHNB LR LR
comp=Z,9μm,20.0s
TATO Taipei 25.38 301 PFAKE 04 37 20.0 +15
TATO LR LR
comp=Z,8μm,19.0s
SSLB Suanglung 25.39 298 *e*P P **04 37 04.3 -0.9**
comp=Z,153nm,1.5s
MRSI Marisa 26.25 243 P P **04 37 12.7 -0.4**
LUWI Luwuk 26.31 240 P P **04 37 12.6 -1.1**
LUWI Luwuk 26.31 240 *e*P P **04 37 12.9 -0.8**
comp=Z,850nm,1.3s
COEN Coen 26.87 184 *e*P P **04 37 18.3 -0.3**
QZH Quanzhou 27.81 299 ⇑*i*P P **04 37 25.3 -1.7**
QZH S S **04 42 03.0 -4.0**
QZH LN
comp=Z,4μm,16.7s
QZH LE
comp=Z,3μm,12.2s
QZH LZ
comp=Z,6μm,19.5s
TSM Tawau 28.39 255 ⇑P P **04 37 33.8 +1.4**
SSE Sheshan 28.55 313 P P **04 37 31.3 -2.3**
SSE PP **PnPn 04 38 26.1 +1.0**
SSE S S **04 42 16.9 -1.7**
SSE sS **sS 04 42 36.4 -2.7**
SSE PMZ
comp=Z,39nm,0.8s
SSE PMZ
comp=Z,230nm,8.0s
SSE LN
comp=Z,860nm,22.1s
SSE LE
comp=Z,1μm,22.1s
SSE LZ
comp=Z,1μm,23.2s
KDM Kudat 28.62 261 ⇑P P **04 37 36.0 +1.6**
KSRS Korea Array 28.85 331 P P **04 37 35.4 -0.8**
comp=Z,7.3nm,0.8s,baz=141,slow=10.0,SNR=24
KSRS PcP **PcP 04 40 46.7 +1.8**
comp=Z,26nm,1.1s,baz=156,slow=2.2,SNR=22
KSRS ScP **ScP 04 44 25.1 +2.4**
comp=Z,0.6nm,0.3s,baz=130,slow=1.9,SNR=3.6
KSAR Wonju Array Be 28.86 331 P P **04 37 35.4 -0.9**
KSAR 04 40 46.7
KSAR Wonju Array Be 28.86 331 P P **04 37 35.4 -0.9**
KSAR PcP **PcP 04 40 46.7 +1.8**
KSAR ScP **ScP 04 44 25.1 +2.3**
ERM Erimo 28.96 357 PFAKE 04 37 50.0 +13
ERM LR LR
comp=Z,3μm,19.0s
KKM Kota Kinabalu 29.44 259 ⇑P P **04 37 43.1 +1.3**
KKM Kota Kinabalu 29.44 259 *e*P P **04 37 42.8 +0.9**
comp=Z,106nm,1.5s
KKM LR LR
comp=Z,1μm,19.0s
INCN Inchon 29.51 329 PFAKE 04 37 50.0 +7.9
INCN LR LR
comp=Z,2μm,19.0s
TARA Tarawa 29.75 111 PFAKE 04 38 00.0 +16
TARA LR LR
comp=Z,3μm,19.0s
NJ2 Nanjing 30.74 312 *e*P P **04 37 54.3 +1.3**
NJ2 pP **pP 04 38 04.6 -0.6**
NJ2 sP **sP 04 38 09.1 -1.6**
NJ2 S S **04 42 56.0 +3.0**
NJ2 sS **sS 04 43 13.5 0.0**
NJ2 PMZ
comp=Z,40nm,1.0s
NJ2 PMZ
comp=Z,420nm,10.6s
NJ2 LN
comp=Z,2μm,24.0s
NJ2 LE
comp=Z,2μm,27.1s
NJ2 LZ
comp=Z,2μm,20.3s
SOEI Soe 30.75 224 *e*P P **04 37 53.0 -0.4**
comp=Z,112nm,1.1s
YUK Yuzh-Kuril'sk 30.92 1*c i*P P 04 37 44.3 -10
YUK *e* 04 38 55.8
YUK *i* SS SS 04 44 34.1 -35
YUK MLR MLR
comp=N,3μm,22.0s
YUK MLR MLR
comp=Z,2μm,22.0s
KAPI Kappang 31.02 236 P P **04 37 55.7 0.0**
comp=Z,29nm,1.1s,baz=39,slow=5.7,SNR=6.5
KAPI LR LR 04 51 38.6
comp=Z,772nm,20.0s,baz=39,slow=38
KAPI Kappang 31.02 236 *e*P P **04 37 56.0 +0.4**
comp=Z,10nm,1.3s
KAPI LR LR
comp=Z,1μm,20.0s
GZH Guangzhou 31.89 293 P P **04 38 02.5 -0.7**
GZH LN
comp=Z,1μm,16.1s
GZH LE
comp=Z,4μm,16.3s
KUR Kuril'sk 32.19 3 *e*P P 04 38 02.0 -3.6
KUR *e*S S **04 43 13.8 -1.5**
KUR pmax pmax
comp=Z,226nm,1.2s
CTA Charters Tower 32.91 178 P P **04 38 11.6 -0.5**
comp=Z,19nm,1.1s,baz=351,slow=9.6,SNR=5.4
CTAO Charters Tower 32.91 178 *e*P P **04 38 11.3 -0.8**
CTAO pmax pmax
comp=Z,42nm,1.2s
CTAO MLR MLR
comp=Z,1μm,21.0s
CTAO Charters Tower 32.91 178 *e*P P **04 38 11.3 -0.8**
comp=Z,42nm,1.2s
CTAO LR LR
comp=Z,1μm,21.0s
USRK Ussuriysk Ar. 33.10 342 P P **04 38 15.3 +1.8**
comp=Z,3.2nm,0.7s,baz=214,slow=9.2,SNR=5.0
USRK LR LR 04 50 28.6
comp=Z,2μm,20.1s,baz=144,slow=34
DL2 Dalian 33.21 325 *e*P P **04 38 14.7 +0.1**
DL2 S S **04 43 32.9 +1.6**
DL2 PMZ
comp=Z,24nm,1.0s
DL2 PMZ
comp=Z,190nm,5.9s
DL2 LE
comp=Z,900nm,17.2s
DL2 LZ
comp=Z,1μm,16.2s
BTM Bintulu 33.26 256 ⇓P P **04 38 16.3 +0.9**
WHN Wuhan 33.42 306 ⇑*i*P P **04 38 17.7 +1.1**
WHN pP **pP 04 38 29.2 +0.4**
WHN PP **PnPn 04 39 27.1 -1.6**
WHN S S 04 43 41.0 +6.2
WHN PMZ
comp=Z,520nm,10.1s
WHN LN
comp=Z,5μm,15.2s
WHN LE
comp=Z,8μm,21.2s
WHN LZ
comp=Z,7μm,19.5s
YSS Yuzh-Sakhalins 33.90 357 *e*P P **04 38 18.0 -2.5**
YSS *e* 04 39 56.0
YSS *e*S S **04 43 38.0 -3.8**
YSS MLR MLR
comp=E,2μm,18.0s
YSS MLR MLR
comp=Z,2μm,18.0s
YSS MLR MLR
comp=N,2μm,16.0s
YSS Yuzh-Sakhalins 33.90 357 PFAKE 04 38 30.0 +10
YSS LR LR
comp=Z,734nm,21.0s
MDJ Mudanjiang 34.23 340 P P **04 38 24.9 +1.5**
MDJ pP **pP 04 38 37.2 +1.6**
MDJ sP **sP 04 38 42.3 +1.2**
MDJ PP **PP 04 39 44.3 +2.8**
MDJ PcP **PcP 04 41 01.3 +2.1**
MDJ S S **04 43 49.9 +3.0**
MDJ PMZ
comp=Z,15nm,1.4s
MDJ PMZ
comp=Z,380nm,4.5s
MDJ LN
comp=Z,2μm,20.3s
MDJ LE
comp=Z,2μm,16.6s
MDJ LZ
comp=Z,3μm,18.3s
MDJ Mudanjiang 34.23 340 *e*P P **04 38 23.5 +0.1**
comp=Z,12nm,0.8s
MDJ LR LR
comp=Z,3μm,22.0s
TIA Tai'an 34.24 317 ⇑P P **04 38 23.2 -0.4**
TIA PMZ
comp=Z,400nm,10.6s
TIA LN
comp=Z,4μm,17.7s
TIA LE
comp=Z,3μm,19.3s
TIA LZ
comp=Z,6μm,18.1s
SBUM Sibu 34.32 255 ⇑P P **04 38 25.8 +1.2**
SBUM Sibu 34.32 255 *e*P P **04 38 25.6 +1.0**
comp=Z,231nm,1.4s
WRAB Tennant Creek 34.45 198 P P **04 38 25.0 -0.5**
WRAB Tennant Creek 34.45 198*ce*P P **04 38 24.8 -0.7**
comp=Z,308nm,0.6s,SNR=9.3
WRAB pmax pmax
comp=Z,144nm,1.4s
WRAB Tennant Creek 34.45 198 *e*P P **04 38 24.2 -1.3**
comp=Z,142nm,1.5s
WRAB LR LR
comp=Z,2μm,21.0s
WRA Warramunga Arr 34.46 198 P P **04 38 24.1 -1.6**
comp=Z,14nm,0.6s,baz=22,slow=9.7,SNR=102
WRA LR LR 04 52 22.1
comp=Z,1μm,20.6s,baz=20,slow=36
QIZ Qiongzhong 34.51 285 P P **04 38 26.4 +0.3**
QIZ pP **pP 04 38 37.1 -1.4**
QIZ sP **sP 04 38 42.7 -1.3**
QIZ PP **PP 04 39 44.9 -0.1**
QIZ S S **04 43 52.3 +0.3**
QIZ sS **sS 04 44 11.7 -0.9**
QIZ PMZ
comp=Z,44nm,1.7s
QIZ LN
comp=Z,1μm,18.9s
QIZ LZ
comp=Z,3μm,18.0s
QIZ Qiongzhong 34.51 285 *e*P P **04 38 26.5 +0.3**
comp=Z,25nm,1.1s
QIZ LR LR
comp=Z,3μm,19.0s
CN2 Changchun 35.09 335 *e*P P 04 38 34.9 +4.1
CN2 *e*S S **04 44 04.4 +4.2**
CN2 SS **SnSn 04 46 25.1 +5.3**
CN2 PMZ
comp=Z,20nm,1.0s
CN2 PMZ
comp=Z,400nm,3.0s
CN2 LN
comp=Z,2μm,18.0s
CN2 LE
comp=Z,1μm,18.0s
CN2 LZ
comp=Z,500nm,14.0s
DLV T Lat 35.90 272 *e*P P **04 38 38.9 +0.5**
HABR Khabarovsk 36.36 349 *e*P P **04 38 38.8 -2.8**
HABR *e**PP pP 04 38 48.3 -5.7
HABR *e*SP 04 38 52.6
HABR *e* 04 40 01.2
HABR *e* 04 41 02.4
HABR *e*S S **04 44 18.4 -1.1**
HABR *e*SS x 04 44 34.7
HABR *e*SS **SnSn 04 46 48.4 -1.9**
HABR *e* 04 48 52.5
HABR pmax pmax
comp=Z,66nm,1.9s
HABR MLR MLR
comp=Z,2μm,19.0s
KSM Kuching 36.45 255 ⇑P P **04 38 43.7 +0.9**
KSM Kuching 36.45 255 *e*P P **04 38 43.7 +0.9**
comp=Z,276nm,1.4s
KSM LR LR
comp=Z,893nm,21.0s
BJT Baijiatuau 37.12 322 PFAKE 04 39 00.0 +12
BJT LR LR
comp=Z,2μm,20.0s
BJI Beijing 37.13 322 P P **04 38 47.7 -0.6**
BJI sP **sP 04 39 04.0 -2.1**
BJI PP **PnPn 04 40 14.5 +0.2**
BJI PcP **PcP 04 41 09.1 +1.2**
BJI S S 04 44 38.9 +7.4
BJI sS **sS 04 44 56.7 +4.5**
BJI PMZ
comp=Z,22nm,1.7s
BJI PMZ
comp=Z,460nm,6.2s
BJI LN
comp=Z,2μm,18.4s
BJI LE
comp=Z,1μm,17.6s
BJI LZ
comp=Z,1μm,20.8s
ENH Enshi 37.22 303 *e*P P **04 38 48.3 -0.9**
comp=Z,4.5nm,0.4s
ENH LR LR
comp=Z,1μm,20.0s
JAGI Jajag, Banyuwa 37.55 237 *e*P P **04 38 51.9 -0.3**
comp=Z,185nm,1.4s
KLR Kul'dur 37.80 346 *e*P P 04 38 48.8 -5.0
KLR *e* 04 41 06.8
KLR MLR MLR
comp=E,900nm,12.5s
KLR MLR MLR
comp=Z,3μm,12.5s
AS31 Alice Springs 38.10 197 *e*P P **04 38 56.2 -0.5**
ASAR Alice Springs 38.10 197 P P **04 38 56.0 -0.7**
comp=Z,15nm,1.1s,baz=28,slow=6.8,SNR=30
ASAR LR LR 04 54 35.9
comp=Z,1μm,20.4s,baz=18,slow=36
TIY Taiyuan 38.20 316 *e*P P **04 38 59.1 +1.6**
TIY PMZ
comp=Z,320nm,4.8s
TIY LN
comp=Z,1μm,15.2s
TIY LE
comp=Z,2μm,14.8s
TIY LZ
comp=Z,4μm,18.8s
GYA Guiyang 38.55 296 ⇑*i*P P **04 39 01.2 +0.5**
GYA pP **pP 04 39 14.0 +0.9**
GYA PP **PnPn 04 40 33.6 +1.8**
GYA PcP **PcP 04 41 14.3 +1.6**
GYA S S **04 44 54.2 +0.5**
GYA ScP **ScP 04 44 58.5 +1.3**
GYA sS **sS 04 45 15.0 +0.5**
GYA PMZ
comp=Z,40nm,0.8s
GYA PMZ
comp=Z,160nm,4.8s
GYA LN
comp=Z,3μm,16.8s
GYA LE
comp=Z,2μm,17.4s
GYA LZ
comp=Z,4μm,17.2s
SKR Severo-Kuril's 38.60 11 *e*P P **04 38 58.5 -2.0**
SKR *e* 04 41 12.0
SKR *e*SSS SSS 04 47 37.0
SKR *e*PS x 04 48 08.0
SKR pmax pmax
comp=Z,90nm,1.0s
SKR MLR MLR
comp=Z,2μm,18.0s
SKR MLR MLR
comp=N,2μm,20.0s
SKR MLR MLR
comp=E,1μm,20.0s
XAN Xi'an 39.05 309 P P **04 39 04.0 -0.6**
XAN sP **sP 04 39 20.3 -2.2**
XAN PP **PnPn 04 40 39.6 +2.0**
XAN PcP **PcP 04 41 15.4 +1.3**
XAN S S **04 45 03.2 +2.4**
XAN ScS **ScS 04 49 06.1 -4.2**
XAN PMZ
comp=E,98nm,9.3s
XAN LN
comp=E,870nm,19.3s
XAN LE
comp=E,510nm,19.7s
XAN LZ
comp=E,870nm,17.9s
SKNT Sakolnakorn 40.01 281 P P **04 39 13.8 +1.0**
comp=E,61nm,1.2s,comp=E,2μm
HHC Hu-ho-hao-te 40.45 320 *e*P P **04 39 15.6 -0.7**
HHC sP **sP 04 39 36.2 +2.0**
HHC PP **PnPn 04 40 53.9 -0.3**
HHC S S **04 45 20.3 -1.5**
HHC PMZ
comp=E,29nm,0.8s
HHC PMZ
comp=E,380nm,5.4s
HHC LN
comp=E,1μm,18.5s
HHC LE
comp=E,2μm,18.1s
HHC LZ
comp=E,3μm,15.9s
DZM Mont Dzumac 40.59 149 *e*S S **04 45 29.1 +5.0**
comp=E,994nm,23.6s
DZM *e*LR LR 04 50 41.3
comp=E,2μm,25.1s
PETK Petropavlovsk- 41.21 11 P P **04 39 21.4 -0.8**
comp=E,5.3nm,0.7s,baz=165,slow=7.7,SNR=6.3
BTO Baotou 41.31 318 *e*P P **04 39 20.9 -2.5**
PET Petropavlovsk 41.32 12 *e*P P **04 39 20.3 -2.8**
PET *e*S S **04 45 31.8 -2.3**
PET pmax pmax
comp=Z,200nm,8.4s
PET Petropavlovsk 41.32 12 PFAKE 04 39 30.0 +6.9
PET LR LR
comp=Z,1μm,21.0s
KMI Kunming 41.78 293 P P **04 39 29.2 +1.6**
KMI pP **pP 04 39 43.2 +3.1**
KMI PP **PP 04 41 04.1 -0.7**
KMI PcP **PcP 04 41 25.3 +2.0**
KMI S S 04 45 51.4 +9.2
KMI PMZ
comp=Z,20nm,1.1s
KMI PMZ
comp=Z,320nm,8.9s
KMI LN
comp=Z,490nm,14.9s
KMI LE
comp=Z,1μm,21.3s
KMI LZ
comp=Z,1μm,21.3s
CHBT CHBT 41.81 275 P P **04 39 29.4 +1.8**
comp=Z,97nm,1.0s,comp=Z,3μm
HIA Hailar 41.82 335 *e*P P **04 39 28.1 +0.8**
HIA pmax pmax
comp=Z,7.0nm,0.4s
HIA MLR MLR
comp=Z,2μm,20.0s
HIA Hailar 41.82 335 *e*P P **04 39 28.1 +0.8**
comp=Z,6.7nm,0.4s
HIA LR LR
comp=Z,2μm,20.0s
CHAI Chaiyaphum 41.94 279 P P **04 39 29.6 +0.9**
comp=Z,14nm,1.1s,comp=Z,238nm
CD2 Chengdu 42.12 302 P P **04 39 29.9 -0.1**
CD2 pP **pP 04 39 43.0 +0.4**
CD2 PP **PP 04 41 09.4 +1.2**
CD2 S S **04 45 43.0 -3.7**
CD2 sS **sS 04 46 05.5 -2.1**
CD2 ScS **ScS 04 49 27.4 -1.4**
CD2 PMZ
comp=Z,20nm,1.1s
CD2 PMZ
comp=Z,460nm,9.5s
CD2 LN
comp=Z,2μm,15.5s
CD2 LE
comp=Z,2μm,16.6s
CD2 LZ
comp=Z,2μm,15.5s
MBWA Marble Bar 42.21 217 *e*P P **04 39 29.9 -0.9**
comp=Z,47nm,1.4s
LEM Lembang 42.27 244 P P **04 39 32.0 +0.5**
comp=Z,50nm,1.0s,baz=64,slow=8.0,SNR=11
CISI Cisompet, Garu 42.44 243 *e*P P **04 39 31.6 -1.2**
MYKOM Kota Tinggi 42.47 258 *e*P P **04 39 33.9 +0.8**
LOEI Loei 42.60 282 P P **04 39 31.7 -2.4**
comp=Z,26nm,1.5s
UTTA Uttaradit 43.28 282 P P **04 39 40.4 +0.8**
comp=Z,7.7nm,1.2s,comp=Z,81nm
ARMA Armidale 43.61 172 *e*P P **04 39 42.6 +0.5**
comp=Z,42nm,1.3s
LZH Lanzhou 43.67 309 ⇑P P **04 39 43.2 +0.5**
LZH pP **pP 04 39 55.6 +0.3**
LZH sP **sP 04 40 01.0 +0.3**
LZH PP **PP 04 41 26.3 +1.3**
LZH PcP **PcP 04 41 30.2 +0.9**
LZH ScP **ScP 04 45 17.3 0.0**
LZH PcS **PcS 04 45 22.1 -0.2**
LZH S S **04 46 09.0 -0.6**
LZH sS **sS 04 46 30.4 -0.3**
LZH ScS **ScS 04 49 36.3 -2.3**
LZH PMZ
comp=Z,57nm,1.2s
LZH PMZ
comp=Z,370nm,7.0s
LZH LN
comp=Z,1μm,15.0s
LZH LE
comp=Z,1μm,13.4s
LZH LZ
comp=Z,3μm,17.8s
LAMP Lampang 44.16 283 P P **04 39 48.3 +1.7**
comp=Z,5.4nm,1.2s,comp=Z,71nm
SKLT Songkhla 44.28 267 P P **04 39 49.3 +1.7**
comp=Z,45nm,1.6s,comp=Z,864nm
UTHA Uthaitani 44.40 279 P P **04 39 50.2 +1.6**
comp=Z,20nm,1.1s,comp=Z,177nm
IPM Ipoh 44.47 263 *e*P P **04 39 49.6 +0.4**
KULM Kulim 44.64 264 *e*P P **04 39 52.0 +1.5**
comp=Z,168nm,1.6s
KULM LR LR
comp=Z,2μm,20.0s
CMAI Chiengmai2 44.73 285 P P **04 39 52.2 +0.8**
comp=Z,36nm,1.4s,comp=Z,736nm
STKA Stephens Creek 44.77 184 P P **04 39 49.9 -1.3**
comp=Z,19nm,1.0s,baz=344,slow=8.6,SNR=15
STKA LR LR 05 00 05.8
comp=Z,2μm,18.2s,baz=5.7,slow=38
STKA Stephens Creek 44.77 184 *e*P P **04 39 49.7 -1.5**
STKA pmax pmax
comp=Z,9.0nm,1.3s
STKA Stephens Creek 44.77 184 *e*P P **04 39 49.7 -1.5**
comp=Z,8.9nm,1.3s
SRDT SRDT 44.79 277 P P **04 39 54.3 +2.6**
comp=Z,100nm,1.7s,comp=Z,10μm
CMMT Chiang Mai 44.81 284 P P **04 39 52.2 +0.4**
comp=Z,46nm,1.6s,comp=Z,632nm
CHTO Chiang Mai 44.81 284 P P **04 39 52.3 +0.4**
comp=Z,60nm,2.0s,comp=Z,2μm
CHTO Chiang Mai 44.81 284 *e*P P **04 39 52.7 +0.8**
CHTO pmax pmax
comp=Z,34nm,1.6s
CHTO MLR MLR
comp=Z,1μm,19.0s
CHTO Chiang Mai 44.81 284 *e*P P **04 39 52.6 +0.8**
comp=Z,34nm,1.6s
CHTO LR LR
comp=Z,1μm,19.0s
CM31 Chiang Mai Arr 44.81 283 *e*P P **04 39 52.0 +0.2**
comp=Z,5.1nm,0.3s
CMAR Chiang Mai Arr 44.81 283 P P **04 39 52.8 +0.9**
comp=Z,12nm,0.7s,baz=80,slow=6.1,SNR=64
CMAR PcP **PP 04 41 35.3 -1.9**
comp=Z,8.0nm,0.8s,baz=78,slow=2.6,SNR=8.7
CMAR LR LR 04 59 08.7
comp=Z,1μm,18.4s,baz=90,slow=37
TRTT Trang 45.06 268 P P **04 39 56.1 +2.3**
comp=Z,60nm,1.5s,comp=Z,767nm
KHLT Khaolaem Dam 45.27 278 P P **04 39 57.5 +2.0**
comp=Z,25nm,1.4s,comp=Z,383nm
MNAI Manna 45.41 250 *e*P P **04 39 55.3 -1.4**
SURT Suratani 45.74 270 P P **04 40 01.2 +2.0**

comp=Z,15nm,1.3s,comp=Z,404nm
MHMT Maesarieng 45.77 283 P **P** **04 40 00.6 +1.1**
comp=Z,32nm,1.4s,comp=Z,594nm
BBOO Buckleboo 46.40 191 *e*P **P** **04 40 03.7 -0.4**
comp=Z,4.6nm,1.2s
CLNS Chul'man 46.44 345 *e*P **P** **04 40 01.4 -2.8**
CLNS pmax pmax
comp=Z,16nm,0.9s
CLNS pmax pmax
comp=N,10.0nm,0.7s
CLNS MLR MLR
comp=Z,580nm,17.0s
CLNS MLR MLR
comp=N,911nm,18.0s
FORT Forrest 46.57 201 *e*P **P** **04 40 05.2 -0.2**
comp=N,149nm,1.8s
PSI Prapat 46.91 262 P **P** **04 40 08.9 +0.3**
comp=N,6.8nm,0.6s,baz=179,slow=2.5,SNR=8.0
PSI Prapat 46.91 262 P **P** **04 40 09.0 +0.3**
ULN Ulaanbaatar 47.07 325*c i*P **P** **04 40 09.3 -0.1**
ULN pmax pmax
comp=Z,34nm,1.7s
ULN Ulaanbaatar 47.07 325 *e*P **P** **04 40 09.9 +0.5**
comp=Z,49nm,1.6s
ULN *e*PcP **PcP** **04 41 41.6 +0.8**
ULN LR LR
comp=Z,2µm,20.0s
SONM Songino Array 47.42 325 P **P** **04 40 11.9 -0.2**
comp=Z,4.5nm,0.6s,baz=136,slow=7.1,SNR=38
SONM PcP **PcP** **04 41 43.1 +1.1**
comp=Z,9.1nm,1.0s,baz=148,slow=4.5,SNR=6.8
SONM ScP **ScP** **04 45 37.7 +5.1**
comp=Z,3.9nm,1.0s,baz=116,slow=3.4,SNR=7.4
SONM LR LR 05 00 08.6
comp=Z,3µm,19.7s,baz=108,slow=36
GTA Gaotai 47.84 312 *e*P **P** **04 40 15.3 -0.2**
GTA pP **pP** **04 40 28.0 -0.2**
GTA sP **sP** **04 40 33.1 -0.5**
GTA PcP **PcP** **04 41 44.6 +0.9**
GTA ScP **ScP** **04 45 37.0 +2.5**
GTA S **S** **04 47 07.7 -1.7**
GTA sS **sS** **04 47 28.6 -2.0**
GTA SS SS 04 50 31.1 -7.3
GTA PMZ
comp=Z,16nm,1.6s
GTA PMZ
comp=Z,410nm,6.2s
GTA LN
comp=Z,1µm,19.5s
GTA LE
comp=Z,1µm,19.0s
GTA LZ
comp=Z,1µm,19.5s
CAN Canberra 48.20 176 PFAKE 04 40 30.0 +12
CAN LR LR
comp=Z,1µm,20.0s
ADK Adak 49.37 30 PFAKE 04 40 40.0 +13
ADK LR LR
comp=Z,1µm,20.0s
SEY Seymchan 50.11 4 P **P** **04 40 31.1 -1.2**
comp=Z,1.4nm,0.3s,baz=191,slow=6.1,SNR=10
YAK Yakutsk 50.22 351 *e*P **P** **04 40 32.9 -0.2**
YAK *e**PP **pP** **04 40 44.7 -1.2**
YAK *e* 04 41 52.9
YAK *e* 04 42 26.5
YAK *e*PPP PPP 04 43 24.3
YAK *e*S **S** **04 47 42.2 +0.4**
YAK *e* 04 50 16.4
YAK pmax pmax
comp=Z,91nm,1.3s
YAK pmax pmax
comp=N,58nm,1.3s
YAK pmax pmax
comp=E,13nm,1.4s
YAK pmax pmax
comp=Z,12nm,0.6s
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=E,35nm,1.6s
YAK smax smax
comp=N,76nm,2.2s
YAK smax smax
comp=E,89nm,2.3s
YAK MLR MLR
comp=Z,1µm,19.0s
YAK MLR MLR
comp=N,1µm,20.0s
YAK MLR MLR
comp=E,365nm,18.0s
YAK Yakutsk 50.22 351 *e*P **P** **04 40 32.3 -0.8**
comp=E,149nm,1.4s
YAK LR LR
comp=Z,1µm,19.0s
ZAK Zakamensk 50.52 326⇑ *i*P **P** **04 40 35.1 -0.7**
ZAK *e* 04 41 53.9
ZAK *e* 04 47 45.7
ZAK *e* 04 50 23.5
ZAK pmax pmax
comp=Z,18nm,1.4s
TLY Talaya 51.04 328 P **P** **04 40 40.1 +0.6**
comp=Z,4.3nm,0.5s,baz=156,slow=8.1,SNR=5.4
TLY PcP **PcP** **04 41 56.3 +1.3**
comp=Z,6.3nm,0.7s,baz=163,slow=10,SNR=3.8
TLY Talaya 51.04 328 *e*P **P** **04 40 39.7 +0.1**
TLY *e* 04 41 55.7
TLY *e*S **S** **04 47 58.1 +4.4**
TLY *e* 04 50 28.9
TLY pmax pmax
comp=Z,35nm,1.5s
TLY MLR MLR
comp=Z,834nm,17.0s
TLY Talaya 51.04 328 P **P** **04 40 40.1 +0.6**
TLY PcP **PcP** **04 41 56.3 +1.3**
TLY LR LR
comp=Z,1µm,20.0s
MOY Mondy 52.43 327 *e*P **P** **04 40 50.2 +0.1**
MOY pmax pmax
comp=Z,55nm,2.6s
LSA Lhasa 52.59 297 P **P** **04 40 51.7 -0.4**
LSA Lhasa 52.59 297 *e*P **P** **04 40 53.1 +1.0**
LSA pmax pmax
comp=Z,30nm,1.0s
LSA MLR MLR
comp=Z,1µm,20.0s
LSA Lhasa 52.59 297 *e*P **P** **04 40 53.1 +1.0**
comp=Z,30nm,1.0s
LSA LR LR
comp=Z,1µm,20.0s
KIP Kipapa 54.59 73 PFAKE 04 41 20.0 +14
KIP LR LR
comp=Z,1µm,20.0s
RAO Raoul Island 55.04 140 PFAKE 04 41 20.0 +11
RAO LR LR
comp=Z,1µm,19.0s
TAPN Taplejung 55.43 294 *e*P **P** **04 41 12.2 -0.4**
comp=Z,176nm,1.4s
UNV Unalaska Valle 55.61 32 *e*P **P** **04 41 13.5 +0.5**
ODAN Odare 55.69 294 *e*P **P** **04 41 14.2 -0.2**
comp=Z,186nm,1.3s
RAMN Ramite 56.40 294 *e*P **P** **04 41 18.8 -0.7**
comp=Z,226nm,1.4s
JIRN Jiri 56.79 295 *e*P **P** **04 41 22.9 +0.5**
comp=Z,31nm,0.5s
POHA Pohakuloa 56.97 75 PFAKE 04 41 40.0 +16
POHA LR LR
comp=Z,605nm,19.0s
GUN Gumba 57.07 295 *e*P **P** **04 41 24.9 +0.5**
comp=Z,166nm,1.1s
PKI Pulchoki 57.48 294 *e*P **P** **04 41 27.1 -0.1**
PKIN Phulchoki 57.49 294 *e*P **P** **04 41 27.3 +0.1**
KKN Kakani 57.60 295 *e*P **P** **04 41 27.6 -0.3**
comp=Z,63nm,1.2s
XMAS Kiritimati 57.72 96 PFAKE 04 41 40.0 +11
XMAS LR LR
comp=Z,2µm,20.0s
DMN Daman 57.75 294 *e*P **P** **04 41 28.7 -0.3**
comp=Z,117nm,1.2s
WMQ Urumqi 57.81 314 P **P** **04 41 30.2 +1.3**
WMQ pP **pP** **04 41 42.9 +0.9**
WMQ sP **sP** **04 41 48.2 +0.9**
WMQ PcP **PcP** **04 42 22.5 +1.3**
WMQ PP **PP** **04 43 40.0 +2.6**
WMQ ScP **ScP** **04 46 17.9 +0.3**
WMQ S **S** **04 49 23.7 -1.4**
WMQ sS **sS** **04 49 44.5 -2.3**
WMQ ScS **ScS** **04 51 12.8 -2.0**
WMQ SS **SS** **04 53 15.9 -0.3**
WMQ PMZ
comp=Z,30nm,1.2s
WMQ PMZ
comp=Z,350nm,5.2s
WMQ LN
comp=Z,1µm,16.0s
WMQ LE
comp=Z,1µm,15.4s
WMQ LZ
comp=Z,1µm,23.2s
GKN Gorkha 58.17 295 *e*P **P** **04 41 31.3 -0.6**
comp=Z,226nm,1.2s
GAMB Gambell 58.88 21 *e*P **P** **04 41 35.0 -0.9**
comp=Z,45nm,1.2s
CHLP Challavanipeta 58.92 284 *e*P **P** **04 41 37.9 +0.8**
CHLP IAmb IAmb 04 41 39.1
comp=Z,93nm,1.1s
URZ Urewera 59.09 151 *e*P **P** **04 41 36.5 -1.2**
comp=Z,38nm,1.3s
KOLN Koldanda 59.09 295 *e*P **P** **04 41 37.7 -0.6**
TIXI Tiksi 59.45 354 *e*P **P** **04 41 38.2 -1.5**
TIXI pmax pmax
comp=Z,8.0nm,1.0s
TIXI MLR MLR
comp=Z,917nm,20.0s
TIXI Tiksi 59.45 354 *e*P **P** **04 41 38.0 -1.8**
TIXI LR LR
comp=Z,723nm,19.0s
BKZ Black Stump Fm 59.53 152 *e*P **P** **04 41 40.3 -0.6**
comp=Z,34nm,1.2s
SNZO South Karori 60.51 155 PFAKE 04 42 00.0 +13
SNZO LR LR
comp=Z,2µm,19.0s
RPZ Rata Peaks 61.17 159 *e*pP pP 04 42 06.0 +1.0
TNA Tin City 61.26 20 *e*P **P** **04 41 51.9 -0.3**
comp=Z,37nm,1.2s
MK31 Makanchi Array 62.16 316 *i* P **P** **04 41 58.9 +0.2**
MK31 pmax pmax
comp=N,1.0nm,0.2s
MK31 Makanchi Array 62.16 316 *e*P **P** **04 41 59.2 +0.5**
MKAR Makanchi Array 62.16 316 P **P** **04 41 59.0 +0.3**
comp=N,4.7nm,0.6s,baz=114,slow=3.0,SNR=46
MKAR S **S** **04 50 23.7 +2.8**
comp=N,0.7nm,1.1s,baz=125,slow=12,SNR=3.5
MKAR LR LR 05 10 41.7
comp=N,1µm,18.2s,baz=91,slow=38
MKAR PKPPKP **P'P'df** **05 11 09.4 +0.9**
comp=N,0.4nm,0.9s,baz=324,slow=4.1,SNR=4.0
ZAA0 Zalesovo Array 62.31 325 *e*P **P** **04 41 59.0 -0.5**
ZALV Zalesovo Beam 62.31 325 P **P** **04 41 59.3 -0.2**
comp=N,4.1nm,0.6s,baz=66,slow=3.7,SNR=17
ZALV PcP **PcP** **04 42 38.4 -0.5**
comp=N,28nm,1.1s,baz=116,slow=3.4,SNR=11
ZALV S **S** **04 50 23.6 +1.2**
comp=N,0.8nm,0.6s,baz=127,slow=9.5,SNR=3.7
ZALV LR LR 05 08 19.7
comp=N,1µm,21.4s,baz=70,slow=35
ZALV PKPPKP **P'P'df** **05 11 09.8 +1.9**
comp=N,0.5nm,0.3s,baz=51,slow=4.7,SNR=4.4
RPR Rampur 63.39 285 *e*P **P** **04 42 07.3 -0.1**
RPR IAmb IAmb 04 42 08.4
comp=Z,66nm,1.3s
SKHT Srikalahasti 63.58 279 *e*P **P** **04 42 09.3 +0.7**
SKHT IAmb IAmb 04 42 10.4
comp=Z,127nm,1.3s
SKHT *e*S **S** **04 50 40.0 +0.5**
NJS Nagarjunasagar 63.62 282 *e*P **P** **04 42 09.1 +0.2**
NJS IAmb IAmb 04 42 10.2
comp=Z,107nm,1.1s
PALK Pallekele 63.66 272 *e*P **P** **04 42 09.7 +0.5**
PALK pmax pmax
comp=Z,54nm,1.4s
PALK Pallekele 63.66 272 *e*P **P** **04 42 09.7 +0.5**
comp=Z,54nm,1.4s
OHAK Old Harbor 63.83 32 *e*P **P** **04 42 11.7 +2.2**
SVW2 Sparrevohn 64.01 28 *e*P **P** **04 42 11.2 +0.5**
HYB Hyderabad 64.24 283 *i* P **P** **04 42 12.0 -1.0**
HYB *e*S **S** **04 50 52.0 +4.3**
HYBB Hyderabad (bro 64.24 283 *e*P **P** **04 42 12.7 -0.3**
HYBB IAmb IAmb 04 42 14.0
comp=Z,94nm,1.2s
HYBB *e*S **S** **04 50 49.7 +2.0**
KDAK Kodiak Island 64.36 32*c e*P **P** **04 42 13.8 +0.8**
KDAK Kodiak Island 64.36 32 PFAKE 04 42 30.0 +17
KDAK LR LR
comp=Z,2µm,19.0s
NDI New Delhi 64.72 296 *e*P **P** **04 42 15.5 -0.4**
RSO Redoubt South 65.10 29 *e*P **P** **04 42 19.5 +1.5**
KURK Kurchatov 65.27 320 P **P** **04 42 18.3 -0.7**
comp=Z,123nm,1.1s,SNR=24
KURK Kurchatov 65.27 320 *e*P **P** **04 42 18.5 -0.5**
KURK S **S** **04 50 59.9 +0.7**
KURK pmax pmax
comp=Z,113nm,1.3s
KURK MLR MLR
comp=Z,3µm,19.0s
KURK Kurchatov 65.27 320 *e*P **P** **04 42 18.5 -0.5**
comp=Z,113nm,1.3s
KURK S **S** **04 50 59.9 +0.7**
KURK LR LR
comp=Z,3µm,19.0s
KURBB Kurchatov Arra 65.31 320 P **P** **04 42 19.4 +0.2**
comp=Z,21nm,1.0s,baz=101,slow=6.5,SNR=71
KURBB S **S** **04 50 59.9 +0.2**
comp=Z,2.9nm,1.2s,baz=100,slow=11,SNR=4.1
URV Uravakonda 65.77 281 *e*P **P** **04 42 22.6 -0.4**
URV IAmb IAmb 04 42 23.9
comp=Z,74nm,1.1s
KSH Kashi 65.89 308 P **P** **04 42 25.9 +2.4**
KSH pP **pP** **04 42 38.5 +1.8**
KSH sP **sP** **04 42 44.2 +2.2**
KSH PP **PP** **04 44 53.3 +4.5**
KSH PcS 04 46 59.9
KSH S **S** **04 51 07.6 +0.1**
KSH ScS **SKSac** **04 52 14.4 -1.5**
KSH PMZ
comp=Z,10.0nm,1.2s
KSH PMZ
comp=Z,390nm,7.1s
KSH LN
comp=Z,540nm,15.9s
KSH LE
comp=Z,880nm,18.4s
KSH LZ
comp=Z,970nm,19.6s
PPLA Purkeypile 66.14 26 *e*P **P** **04 42 24.8 +0.1**
comp=Z,80nm,1.2s
TKM2 Tokmak 2 66.38 311 *e*P **P** **04 42 26.7 +0.1**
TKM2 pmax pmax
comp=Z,31nm,1.6s
TKM2 MLR MLR
comp=Z,915nm,20.0s
TKM2 Tokmak 2 66.38 311 *e*P **P** **04 42 26.7 +0.1**
comp=Z,31nm,1.6s
TKM2 LR LR
comp=Z,915nm,20.0s
IM04 Indian Mountai 66.56 23 *e*P **P** **04 42 26.3 -0.8**
SEW Seward 66.57 30 *e*P **P** **04 42 27.8 +0.6**
comp=Z,23nm,0.7s
RC01 Rabbit Creek A 66.70 29 *e*P **P** **04 42 28.3 +0.2**
comp=Z,39nm,0.8s
KTH Kantishna Hill 66.89 26 *e*P **P** **04 42 28.9 -0.4**
comp=Z,173nm,1.3s
FRU Bishkek 67.09 311 *e*P **P** **04 42 34.0 +3.0**
FRU *e* 04 42 58.0
FRU *e* 04 45 00.0
FRU MLR MLR
comp=E,1µm,20.0s
TRF Thorofare Moun 67.13 26 *e*P **P** **04 42 30.1 -0.8**
comp=E,87nm,1.3s
AAK Ala-Archa 67.17 311 P **P** **04 42 32.0 +0.4**
comp=E,0.9nm,0.4s,baz=81,slow=8.3,SNR=4.5
AAK Ala-Archa 67.17 311 *e*P **P** **04 42 31.9 +0.3**
AAK pmax pmax
comp=Z,9.0nm,1.2s
AAK Ala-Archa 67.17 311 *e*P **P** **04 42 32.4 +0.8**
comp=Z,5.2nm,1.0s
AAK LR LR
comp=Z,1µm,19.0s
EKS2 Erkin-Say 67.70 311 *e*P **P** **04 42 35.3 +0.3**
EKS2 pmax pmax
comp=Z,11nm,1.4s
EKS2 MLR MLR
comp=Z,2µm,19.0s
EKS2 Erkin-Say 67.70 311 *e*P **P** **04 42 35.2 +0.3**
comp=Z,11nm,1.4s
EKS2 LR LR
comp=Z,2µm,19.0s
MCK McKinley 67.79 26 *e*P **P** **04 42 33.3 -1.7**
MCK pmax pmax
comp=Z,92nm,1.4s
MCK McKinley 67.79 26 *e*P **P** **04 42 33.3 -1.7**
comp=Z,92nm,1.4s
COLD Coldfoot 68.34 22 *e*P **P** **04 42 38.9 +0.6**
comp=Z,101nm,1.2s
COLA College 68.56 25*c i*P **P** **04 42 37.6 -2.1**
COLA College 68.56 25 *e*P **P** **04 42 38.2 -1.5**
comp=Z,75nm,1.3s
COLA LR LR
comp=Z,1µm,20.0s
POO Poona 68.56 285 *e*P **P** **04 42 39.0 -1.6**
DIV Divide 68.58 29 *e*P **P** **04 42 39.6 -0.4**
comp=Z,40nm,1.1s
ILAR Eielson Array 68.93 25 P **P** **04 42 40.0 -2.0**
comp=Z,28nm,0.9s,baz=259,slow=4.5,SNR=159
ILAR LR LR 05 10 13.7
comp=Z,969nm,21.9s,baz=262,slow=34
ILAR PKPPKP **P'P'df** **05 10 53.3 -3.2**
comp=Z,1.0nm,1.1s,baz=146,slow=1.1,SNR=5.1
ILAR Eielson Array 68.93 25 P **P** **04 42 40.0 -2.0**
BMRM Bremner River 69.10 29 *e*P **P** **04 42 43.4 +0.2**
comp=Z,49nm,1.1s
PAX Paxson 69.11 27 *e*P **P** **04 42 42.5 -0.8**
PAX pmax pmax
comp=Z,46nm,1.1s
PAX Paxson 69.11 27 *e*P **P** **04 42 42.5 -0.8**
comp=Z,46nm,1.1s
DOT Dot Lake 69.88 27 *e*P **P** **04 42 47.6 -0.3**
comp=Z,98nm,1.2s
KKAR Karatay Array 70.11 311 *e*P **P** **04 42 49.7 -0.1**
KKAR pmax pmax
comp=Z,20nm,1.1s
KKAR Karatay Array 70.11 311 *e*P **P** **04 42 49.7 -0.1**
comp=Z,20nm,1.1s
BVA0 Borovoye Array 70.61 322 *i* P **P** **04 42 52.1 -0.5**
BVA0 pmax pmax
comp=N,165nm,1.6s
BVAR Borovoye Array 70.61 322 P **P** **04 42 52.8 +0.2**
comp=N,6.3nm,0.3s,baz=101,slow=7.7,SNR=78
BVAR LR LR 05 15 31.4
comp=N,2µm,18.9s,baz=92,slow=37
BRVK Borovoye 70.68 322 P **P** **04 42 52.8 -0.2**
comp=N,174nm,1.3s,SNR=19
BRVK Borovoye 70.68 322*c i*P **P** **04 42 52.6 -0.4**
BRVK pmax pmax
comp=Z,59nm,1.2s
BRVK Borovoye 70.68 322 *e*P **P** **04 42 53.2 +0.2**
comp=Z,99nm,1.4s
BRVK LR LR
comp=Z,2µm,19.0s
PPT Papeete 71.14 114 LR LR 05 08 01.3
comp=Z,1µm,20.4s,baz=327,slow=31
PPT2 Papeete2 71.14 114 *e*S **S** **04 52 14.7 +4.3**
comp=Z,964nm,27.5s
PPT2 Papeete2 71.14 114 *e*LR LR 05 04 17.2
comp=Z,2µm,21.5s,baz=298
EGAK Eagle 71.33 26 *e*P **P** **04 42 56.7 -0.1**
comp=Z,145nm,1.5s
EGAK LR LR
comp=Z,1µm,20.0s
KBL Kabul 71.46 302 *e*P **P** **04 42 58.6 +0.3**
KBL pmax pmax
comp=Z,35nm,1.4s
KBL Kabul 71.46 302 *e*P **P** **04 42 58.6 +0.3**
comp=Z,35nm,1.4s
HYT Haines Junctio 72.52 30 *e*P **P** **04 43 04.2 +0.1**
comp=Z,47nm,1.0s
TBI Tubuai 73.36 119 *e*S **SKiKP** **04 52 39.3 +2.1**
comp=Z,658nm,28.6s
TBI Tubuai 73.36 119 *e*LR LR 05 05 10.8
comp=Z,949nm,32.2s,baz=305
SKAG Skagway 73.52 32 *e*P **P** **04 43 10.9 +1.1**
INK Inuvik 74.76 22 P **P** **04 43 16.1 -0.8**
comp=Z,79nm,1.1s,baz=259,slow=6.5,SNR=66
INK Inuvik 74.76 22 *e*P **P** **04 43 15.6 -1.3**
INK pmax pmax
comp=Z,75nm,1.0s
INK Inuvik 74.76 22 *e*P **P** **04 43 15.6 -1.3**
comp=Z,75nm,1.0s
WRAK Wrangell Islan 75.07 35 *e*P **P** **04 43 19.4 +0.5**
WRAK LR LR
comp=Z,1µm,19.0s
DLBC Dease Lake 76.27 33 *e*P **P** **04 43 26.2 +0.4**
comp=Z,80nm,1.3s
SVE Sverdlovsk 76.28 326 *e*P **P** **04 43 26.5 +0.6**
SVE *e*S **S** **04 53 03.9 -3.1**
SVE pmax pmax
comp=Z,80nm,1.3s
SVE MLR MLR
comp=Z,2µm,19.0s
AB31 Akbulak array 77.22 318 *e*P **P** **04 43 30.8 -0.5**
AB31 pmax pmax
comp=N,4.0nm,0.4s
ABKAR Akbulak array 77.22 318 *e*P **P** **04 43 31.3 0.0**
comp=N,25nm,1.0s
ARU Arti 77.45 325 P **P** **04 43 32.2 -0.3**
comp=N,222nm,1.2s,SNR=7.7
ARU Arti 77.45 325*c i*P **P** **04 43 32.0 -0.5**
ARU *e* 04 46 22.9
ARU S **S** **04 53 20.6 +0.8**
ARU SSS SSS 05 01 38.1
ARU pmax pmax
comp=Z,59nm,1.2s
ARU MLR MLR
comp=Z,1µm,18.0s
ARU Arti 77.45 325 *e*P **P** **04 43 31.9 -0.5**
comp=Z,62nm,1.3s
ARU LR LR
comp=Z,978nm,19.0s
SOKR Solikamsk 78.12 329*c i*P **P** **04 43 36.2 +0.2**
SOKR S **S** **04 53 28.5 +1.8**
SOKR pmax pmax
comp=Z,80nm,1.3s
SOKR MLR MLR
comp=Z,1µm,19.0s
AKTO Aktyubinsk 78.34 319 P **P** **04 43 37.7 +0.1**
comp=Z,7.6nm,0.9s,baz=79,slow=6.6,SNR=18
GEYT Alibeck 79.90 307 P **P** **04 43 47.5 +1.1**
comp=Z,2.8nm,0.5s,baz=35,slow=16,SNR=8.2
GEYT PKPPKP **P'P'df** **05 10 35.1 -3.0**
comp=Z,2.4nm,0.2s,baz=271,slow=5.2,SNR=7.7
GEYT LR LR 05 22 05.6
comp=Z,601nm,20.2s,baz=95,slow=38
NLWA Neilton Lookou 81.14 43 *e*P **P** **04 43 54.9 +2.1**
comp=Z,65nm,1.5s
NLWA LR LR
comp=Z,577nm,19.0s
I03D Drain, OR 82.14 47 ⇓P **P** **04 43 58.5 +0.4**
baz=82
L02D Cave Junction, 82.23 49 ⇓P **P** **04 43 59.2 +0.5**
baz=82
JCW Jim Creek 82.29 42 P **P** **04 43 59.8 +1.0**
KHMM Horse Mountain 82.37 50 *e*P **P** **04 43 59.9 +0.3**
comp=Z,30nm,1.2s
FL2 Flat Top 2 82.38 44 P P 04 44 03.8 +4.3
TDL Tradedollar La 82.44 44 P **P** **04 44 00.4 +0.6**
HUMO Hull Mountain 82.62 48 *e*P **P** **04 44 01.3 +0.6**
comp=Z,40nm,1.3s
LON Longmire 82.64 44 *e*P **P** **04 44 01.9 +1.1**
LON pmax pmax
comp=Z,15nm,1.2s
LON Longmire 82.64 44 *e*P **P** **04 44 01.9 +1.1**
comp=Z,15nm,1.2s
I04A Tendick Farm, 82.79 47 ⇑P **P** **04 44 02.1 +0.6**
baz=83
M02C Callahan 82.93 49 ⇓P **P** **04 44 03.1 +0.7**
baz=83
YBH Yreka Blue Hor 82.97 49 *e*P **P** **04 44 03.4 +0.8**
YBH pmax pmax
comp=Z,30nm,1.3s
YBH Yreka Blue Hor 82.97 49 *e*P **P** **04 44 03.4 +0.8**
comp=Z,30nm,1.3s
J04D Umpqua Nationa 83.11 47 ⇓P **P** **04 44 03.3 -0.2**
baz=83
N02D Trinity Center 83.12 50 ⇑P **P** **04 44 03.4 0.0**
baz=83
CASY Casey 83.13 193 PFAKE 04 44 10.0 +7.4
CASY LR LR
comp=Z,2µm,19.0s
PRGR Permogore 83.18 332 *e*P **P** **04 44 03.2 +0.1**
PRGR pmax pmax

comp=Z,311nm,1.6s
YKA **Yellowknife Ar** 83.20 27 P P 04 44 02.6 -0.6
comp=Z,5.7nm,0.4s,baz=285,slow=5.1,SNR=182
YKA S S 04 54 18.4 -1.4
comp=Z,0.1nm,0.6s,baz=295,slow=10.0,SNR=4.3
G05D **Wamic, OR** 83.28 45 ⇓P P 04 44 04.4 +0.3
baz=83
NAC **Naches** 83.31 44 P P 04 44 06.8 +2.5
WDC **Whiskeytown Da** 83.32 50 eP P 04 44 04.9 +0.6
WDC pmax pmax
comp=Z,15nm,1.1s
WDC **Whiskeytown Da** 83.32 50 eP P 04 44 04.9 +0.6
comp=Z,15nm,1.1s
M04C **Macdoel** 83.60 49 ⇓P P 04 44 06.4 +0.5
baz=84
J05D **Fort Rock, OR** 83.73 47 ⇑P P 04 44 07.0 +0.4
baz=84
ALE **Alert** 83.78 4 P P 04 44 05.3 -0.6
comp=Z,149nm,1.1s,SNR=6.7
LBCM **Butte Creek Ri** 84.15 50 P P 04 44 09.2 +0.4
HAWA **Hanford** 84.25 44 eP P 04 44 10.6 +1.6
comp=Z,25nm,1.4s
HAWA LR LR
comp=Z,617nm,20.0s
SPITS **Spitsbergen Ar** 84.68 351 P P 04 44 11.9 +1.3
comp=Z,8.4nm,0.7s,baz=96,slow=5.1,SNR=12
KBS **Kingsbay** 84.83 352 PFAKE 04 44 20.0 +8.8
KBS LR LR
comp=Z,542nm,19.0s
NEW **Newport** 85.41 42 eP P 04 44 13.8 -1.0
NEW pmax pmax
comp=Z,18nm,0.9s
NEW MLR MLR
comp=Z,774nm,20.0s
NEW **Newport** 85.41 42 eP P 04 44 13.8 -1.0
comp=Z,18nm,0.9s
NEW LR LR
comp=Z,774nm,20.0s
NEW **Newport** 85.41 42 ⇑P P 04 44 15.1 +0.3
baz=85
CMB **Columbia Colle** 85.48 52 eP P 04 44 15.2 -0.2
CMB pmax pmax
comp=Z,20nm,1.2s
CMB **Columbia Colle** 85.48 52 eP P 04 44 15.2 -0.2
comp=Z,20nm,1.2s
LVZ **Lovozero** 85.57 339 P P 04 44 14.5 -0.7
comp=Z,366nm,1.2s,SNR=5.0
LVZ **Lovozero** 85.57 339 eP P 04 44 14.5 -0.7
LVZ pmax pmax
comp=Z,97nm,1.2s
LVZ **Lovozero** 85.57 339 PFAKE 04 44 30.0 +15
LVZ LR LR
comp=Z,969nm,20.0s
TMCR **Tamitsa** 85.72 335 eP P 04 44 14.1 -1.8
TMCR pmax pmax
comp=Z,20nm,0.7s
WVOR **Wild Horse Val** 85.78 48 eP P 04 44 16.8 -0.1
WVOR pmax pmax
comp=Z,25nm,1.4s
WVOR MLR MLR
comp=Z,1μm,19.0s
WVOR **Wild Horse Val** 85.78 48 eP P 04 44 16.8 -0.1
comp=Z,25nm,1.4s
WVOR LR LR
comp=Z,1μm,19.0s
RKT **Rikitea** 85.87 115 eS S 04 54 50.4 +2.7
comp=Z,631nm,27.8s
RKT eSS SS 05 00 28.1 +1.9
comp=Z,244nm,27.2s
RKT **Rikitea** 85.87 115 eLR LR 05 10 34.2
comp=Z,1μm,22.5s,baz=293
WAKR **Walker** 86.11 52 eP P 04 44 19.4 +0.8
comp=Z,26nm,1.5s
BMO **Blue Mountains** 86.13 45 eP P 04 44 18.4 -0.1
BMO pmax pmax
comp=Z,49nm,1.5s
BMO MLR MLR
comp=Z,1μm,20.0s
BMO **Blue Mountains** 86.13 45 eP P 04 44 18.4 -0.1
comp=Z,49nm,1.5s
BMO LR LR
comp=Z,1μm,20.0s
APA **Apatity** 86.14 339 ⇑*i* P P 04 44 17.4 -0.5
APA *i* PPP PPP 04 49 32.0
APA *i* S S 04 54 44.0 -4.8
APA pmax pmax
comp=Z,108nm,1.2s
APA MLR MLR
comp=Z,600nm,16.0s
KLMR **Klimovskoe** 86.23 332 *c i* P P 04 44 17.1 -1.4
KLMR eS SKSac 04 54 36.8 -4.0
KLMR pmax pmax
comp=Z,99nm,1.2s
EDM **Edmonton** 86.39 36 eP P 04 44 19.5 -0.1
EDM pmax pmax
comp=Z,60nm,1.1s
EDM **Edmonton** 86.39 36 eP P 04 44 19.5 -0.1
comp=Z,60nm,1.1s
MAK **Makhachkala** 86.82 313 eP P 04 44 19.5 -2.3
MAK e 04 47 46.4
MAK ePPP PPP 04 49 37.9
MAK eS SKSac 04 54 43.8 -1.4
MAK eSS SS 05 00 40.8 +2.2
MAK eSSS SSS 05 04 16.4
MAK pmax pmax
comp=Z,16nm,0.5s
MAK MLR MLR
comp=Z,1μm,20.0s
NVAR **Mina Array Bea** 86.99 51 P P 04 44 23.3 +0.3
comp=Z,5.7nm,0.9s,baz=263,slow=5.8,SNR=20
VES **Vestal, Richgr** 87.00 54 ⇓P P 04 44 23.6 +0.7
baz=87
BSMT **Bassoo Peak** 87.03 42 eP P 04 44 22.2 -0.8
comp=Z,46nm,1.2s
KEV **Kevo** 87.18 342 eP P 04 44 21.9 -1.1
KEV **Kevo** 87.18 342 eP P 04 44 22.5 -0.5
KEV pmax pmax
comp=Z,102nm,1.1s
KEV MLR MLR
comp=Z,655nm,22.0s
KEV **Kevo** 87.18 342 eP P 04 44 22.5 -0.5
comp=Z,102nm,1.1s
KEV LR LR
comp=Z,655nm,22.0s
WALA **Waterton Lakes** 87.25 40 eP P 04 44 24.6 +0.7
comp=Z,80nm,1.4s
BLMT **Blacktail Moun** 87.26 41 eP P 04 44 24.4 +0.2
comp=Z,23nm,0.9s
BMN **Battle Mountai** 87.30 49 eP P 04 44 25.2 +0.8
BMN pmax pmax
comp=Z,7.0nm,0.9s
BMN **Battle Mountai** 87.30 49 eP P 04 44 25.2 +0.8
comp=Z,7.3nm,0.9s
ARVC **Arvin** 87.38 55 ⇑P P 04 44 25.6 +0.9
baz=87
JTMT **Jette** 87.39 42 eP P 04 44 25.4 +0.7
comp=Z,21nm,1.5s
ISA **Isabella, Lake** 87.53 54 ⇓P P 04 44 26.4 +0.8
baz=87
YBMT **Yellow Bay** 87.53 41 eP P 04 44 25.8 +0.5
comp=Z,11nm,1.0s
MFID **Camas Ranch** 87.53 46 eP P 04 44 25.1 -0.3
comp=Z,36nm,1.1s
SWMT **Swartz Lake** 87.64 42 eP P 04 44 27.6 +1.7
comp=Z,8.1nm,1.1s
ARCES **ARCESS Array B** 87.75 342 P P 04 44 25.5 -0.3
comp=Z,80nm,1.0s,baz=64,slow=4.2,SNR=71
ARCES LR LR 05 26 53.3
comp=Z,557nm,20.6s,baz=65,slow=38
ARE0 **ARCESS Array S** 87.75 342 ⇑*i* P P 04 44 25.1 -0.6
ARE0 IAmb IAmb 04 44 27.4
comp=Z,110nm,1.1s
ARE0 **ARCESS Array S** 87.75 342 eP P 04 44 25.4 -0.3
MSO **Missoula** 87.87 42 ⇓P P 04 44 27.7 +0.7
baz=88
TPH **Tonopah** 87.90 52 eP P 04 44 27.7 +0.3
TPH pmax pmax
comp=Z,12nm,1.1s
TPH **Tonopah** 87.90 52 eP P 04 44 27.7 +0.3
comp=Z,12nm,1.1s
SLMT **Seeley Lake** 88.04 42 eP P 04 44 28.8 +0.9
comp=Z,43nm,1.7s
DAC **Darwin (Calif)** 88.07 53 eP P 04 44 27.9 -0.4
DAC pmax pmax
comp=Z,16nm,1.2s
DAC **Darwin (Calif)** 88.07 53 eP P 04 44 27.9 -0.4
comp=Z,16nm,1.2s
EDW2 **Edwards Air Fo** 88.11 55 ⇑P P 04 44 28.8 +0.6
baz=88
LRMC **Laurel Mtn Rad** 88.19 54 ⇑P P 04 44 28.8 0.0
baz=88
MPMC **Manual Prospec** 88.20 54 ⇓P P 04 44 28.2 -0.7
baz=88,SNR=20
CHMT **Chamberlain Mo** 88.30 42 eP P 04 44 28.4 -0.7
comp=Z,16nm,1.5s
HLID **Hailey** 88.48 46 eP P 04 44 30.3 +0.3
comp=Z,17nm,1.2s
HLID LR LR
comp=Z,919nm,21.0s
HLID **Hailey** 88.48 46 ⇑P P 04 44 29.6 -0.4
baz=88
FURC **Furnace Creek,** 88.59 53 ⇑P P 04 44 30.4 0.0
baz=88
ELK **Elko** 88.67 49 eP P 04 44 31.2 +0.2
ELK pmax pmax
comp=Z,25nm,1.1s
ELK **Elko** 88.67 49 eP P 04 44 31.2 +0.2
comp=Z,25nm,1.1s
HEF **Hetta** 88.92 342 eP P 04 44 30.4 -1.0
GSC **Goldstone, Bar** 88.94 54 ⇑P P 04 44 32.0 -0.2
baz=89,SNR=14
TPNV **Topopah Spring** 88.94 52 ⇓P P 04 44 32.2 -0.1
baz=89,SNR=8.2
MOS **Moscow** 89.00 327 eP P 04 44 30.3 -1.6
MOS pmax pmax
comp=Z,200nm,1.4s
MOS pmax pmax
comp=Z,129nm,1.2s
MURC **Murrieta** 89.06 56 ⇑P P 04 44 33.5 +0.7
baz=89
R11A **Troy Canyon, C** 89.07 51 eP P 04 44 33.1 +0.2
comp=Z,24nm,1.4s
R11A **Troy Canyon, C** 89.07 51 ⇑P P 04 44 33.2 +0.3
baz=89,SNR=18
LRM **Limekiln Ridge** 89.15 43 eP P 04 44 33.3 +0.1
comp=Z,85nm,1.0s
MCMT **McKenzie Canyo** 89.19 44 eP P 04 44 32.6 -0.8
comp=Z,4.4nm,1.0s
SHOC **Shoshone, Teco** 89.19 53 ⇑P P 04 44 34.5 +1.1
baz=89
DLMT **Dillon** 89.20 44 eP P 04 44 34.0 +0.7
comp=Z,15nm,1.2s
HRY **Holter Researc** 89.29 42 eP P 04 44 34.6 +1.0
comp=Z,6.3nm,0.7s
109C **Camp Elliot, M** 89.32 57 ⇑P P 04 44 34.7 +0.8
baz=89
GOF **Gofitskoye** 89.33 316 eP P 04 44 32.8 -0.9
LPSR **Galich'ya Gora** 89.42 324 eP P 04 44 32.9 -1.0
LPSR pmax pmax
comp=N,50nm,1.6s
LPSR pmax pmax
comp=E,110nm,1.6s
LPSR pmax pmax
comp=Z,180nm,1.6s
LPSR pmax pmax
comp=N,30nm,1.4s
LPSR pmax pmax
comp=E,60nm,1.4s
LPSR pmax pmax
comp=Z,140nm,1.4s
LPSR MLR MLR
comp=N,310nm,21.0s
LPSR MLR MLR
comp=E,1μm,21.0s
LPSR MLR MLR
comp=Z,1μm,21.0s
ZEI **Tsey** 89.42 314 eP P 04 44 31.5 -3.0
ZEI pmax pmax
comp=Z,25nm,1.4s
KIF **Kilpisjarvi** 89.43 343 eP P 04 44 32.6 -1.1
HEC **Hector,Ludlow** 89.44 54 ⇑P P 04 44 35.3 +0.8
baz=89
TRO **Tromso** 89.58 344 eP P 04 44 32.5 -1.8
TRO IAmb IAmb 04 44 33.4
comp=Z,62nm,1.2s
GNI **Garni** 89.58 311 P P 04 44 34.9 -0.3
comp=Z,2.1nm,0.3s,baz=184,slow=5.6,SNR=7.9
GNI **Garni** 89.58 311 *c i* P P 04 44 34.7 -0.5
GNI pmax pmax
comp=Z,26nm,1.2s
GNI **Garni** 89.58 311 eP P 04 44 34.0 -1.3
comp=Z,33nm,1.3s
GNI LR LR
comp=Z,673nm,20.0s
TUQ **Turquoise Moun** 89.60 54 ⇑P P 04 44 35.8 +0.5
baz=90
PFO **Pinyon Flats O** 89.66 56 PFAKE 04 44 50.0 +14
PFO LR LR
comp=Z,1μm,20.0s
PFO **Pinyon Flats O** 89.66 56 ⇑P P 04 44 35.9 +0.2
baz=90
OBN **Obninsk** 89.79 327 P P 04 44 34.9 -0.7
comp=Z,27nm,0.4s,baz=73,slow=1.9,SNR=28
OBN **Obninsk** 89.79 327 *c i* P P 04 44 34.5 -1.1
OBN *e* 04 48 15.4
OBN *i* S SKSac 04 55 06.0 +3.6
OBN eSS SS 05 01 17.5 -3.5
OBN pmax pmax
comp=Z,154nm,1.2s
OBN MLR MLR
comp=Z,1μm,19.0s
OBN **Obninsk** 89.79 327 eP P 04 44 34.3 -1.3
comp=Z,136nm,1.3s
OBN LR LR
comp=Z,1μm,21.0s
KBZ **Khabaz** 89.83 315 P P 04 44 35.8 -0.3
comp=Z,14nm,1.2s,baz=236,slow=23,SNR=26
KBZ LR LR 05 30 11.2
comp=Z,704nm,18.4s,baz=187,slow=39
MONP **Monument Peak,** 89.88 56 ⇑P P 04 44 36.3 -0.5
baz=90
DAG **Danmarks Havn** 89.89 356 *i* P P 04 44 34.3 -1.4
comp=Z,16nm,0.9s
DAG **Danmarks Havn** 89.89 356 *i* P P 04 44 34.3 -1.4
DAG pmax pmax
comp=Z,13nm,0.9s
SHPR **Sheep Range** 89.90 53 eP P 04 44 37.2 +0.4
comp=Z,29nm,1.3s
KIV **Kislovodsk** 89.91 315 *c i* P P 04 44 35.5 -1.1
KIV *i* 04 44 42.8
KIV *e* 04 48 09.1
KIV *i* S SKSac 04 55 04.0 +0.1
KIV pmax pmax
comp=Z,31nm,1.3s
KIV **Kislovodsk** 89.91 315 eP P 04 44 35.9 -0.7
comp=Z,26nm,1.0s
KIV LR LR
comp=Z,772nm,20.0s
BELC **Belle Mtn. Jos** 89.92 55 ⇑P P 04 44 36.6 -0.3
baz=90
GMRC **Granite Mounta** 89.98 54 ⇓P P 04 44 37.4 +0.2
baz=90
QLMT **Earthquake Lak** 90.15 44 eP P 04 44 38.5 +0.7
comp=Z,2.4nm,1.1s
HVU **Hansel Valley** 90.16 47 eP P 04 44 38.6 +0.7
HVU pmax pmax
comp=Z,69nm,1.6s
HVU **Hansel Valley** 90.16 47 eP P 04 44 38.6 +0.7
comp=Z,69nm,1.6s
EGMT **Eagleton** 90.20 40 PFAKE 04 44 50.0 +12
EGMT LR LR
comp=Z,496nm,20.0s
EGMT **Eagleton** 90.20 40 ⇑P P 04 44 38.0 +0.2
baz=90
BGU **Big Grassy Mou** 90.23 48 eP P 04 44 39.8 +1.6
comp=Z,18nm,1.5s
PAF **Port-aux-Franc** 90.27 219 P P 04 44 35.0 -2.8
PAF PP PP 04 47 46.0 -26
PAF S SKSac 04 55 04.0 -1.2
PAF SS SS 05 01 14.0 -15
PAF L L 05 08 00.0
PAF R 05 15 00.0
BC3 **Big Chuckawall** 90.45 55 ⇑P P 04 44 39.7 +0.3
baz=90
YMR **Madison River** 90.51 44 eP P 04 44 40.7 +1.2
comp=Z,49nm,1.5s
A19A **Klindworth Far** 90.52 39 ⇓P P 04 44 39.5 +0.2
baz=90
IRM **Iron Mountain** 90.56 55 ⇑P P 04 44 40.4 +0.7
baz=90
B19A **Brinkman Farms** 90.56 40 ⇓P P 04 44 40.0 +0.5
baz=90
DUG **Dugway, Tooele** 90.61 49 eP P 04 44 39.6 -0.4
DUG pmax pmax
comp=Z,27nm,1.3s
DUG MLR MLR
comp=Z,851nm,19.0s
DUG **Dugway, Tooele** 90.61 49 eP P 04 44 39.6 -0.4
comp=Z,27nm,1.3s
DUG LR LR
comp=Z,851nm,19.0s
DUG **Dugway, Tooele** 90.61 49 ⇑P P 04 44 40.9 +0.9
baz=90
C19A **Slack Wire Ran** 90.74 41 ⇑P P 04 44 40.8 +0.5
baz=91
IMW **Indian Meadow** 90.78 45 eP P 04 44 42.3 +1.4
comp=Z,13nm,1.3s
IMW ePP PP 04 48 16.5 -0.1
MSEY **Mahe Island** 90.82 265 PFAKE 04 44 50.0 +8.7
MSEY LR LR
comp=Z,396nm,19.0s
H17A **Grant Village** 90.86 44 ⇓P P 04 44 42.2 +0.9
baz=91
VNDA **Vanda** 90.87 176 P P 04 44 39.8 -0.2
comp=Z,1.4nm,0.9s,baz=342,slow=5.5,SNR=4.9
VNDA LR LR 05 24 14.1
comp=Z,111nm,19.9s,baz=345,slow=35
VNDA **Vanda** 90.87 176 eP P 04 44 40.2 +0.1
VNDA pmax pmax
comp=Z,10.0nm,1.4s
VNDA **Vanda** 90.87 176 eP P 04 44 40.2 +0.1
comp=Z,9.6nm,1.4s
FLWY **Flagg Ranch** 90.88 44 eP P 04 44 41.3 0.0
comp=Z,59nm,1.5s
TPAW **Teton Pass** 90.90 45 eP P 04 44 42.5 +1.1
comp=Z,28nm,1.7s
LKWY **Lake** 90.93 44 PFAKE 04 44 50.0 +8.4
LKWY LR LR
comp=Z,508nm,19.0s
MOOW **Moose Ponds** 90.96 45 eP P 04 44 42.4 +0.7
comp=Z,15nm,1.3s
GCMT **Greycliff** 91.01 43 eP P 04 44 42.2 +0.4
comp=Z,28nm,1.8s
AHID **Auburn Hatcher** 91.03 46 PFAKE 04 44 50.0 +8.0
AHID LR LR
comp=Z,1μm,22.0s
A20A **Cobblestone Ra** 91.04 39 ⇑P P 04 44 42.2 +0.5
baz=91
SNOW **Snow King Moun** 91.05 45 eP P 04 44 41.8 -0.3
comp=Z,4.1nm,0.9s
D19A **Cripps Ranch,** 91.05 41 ⇑P P 04 44 42.7 +0.9
baz=91
HWUT **Hardware Ranch** 91.07 47 eP P 04 44 41.9 -0.3
comp=Z,29nm,1.4s
HWUT LR LR
comp=Z,955nm,22.0s
GLA **Glamis** 91.12 56 eP P 04 44 41.5 -0.9
GLA pmax pmax
comp=Z,10.0nm,0.8s
GLA **Glamis** 91.12 56 eP P 04 44 41.5 -0.9
comp=Z,10.0nm,0.8s
GLA **Glamis** 91.12 56 ⇑P P 04 44 42.8 +0.4
baz=91
B20A **Solberg Farm,** 91.14 40 ⇑P P 04 44 43.3 +1.1
baz=91
Y12C **Blythe** 91.17 55 ⇑P P 04 44 43.0 +0.5
baz=91
W13A **Hualapai Mount** 91.29 54 ⇓P P 04 44 43.4 +0.1
baz=91
PDMCI **Parker Dam,Lak** 91.32 54 ⇓P P 04 44 44.1 +0.9
baz=91
E19A **Rath Farm, Rou** 91.35 42 ⇓P P 04 44 44.0 +0.8
baz=91
H18A **Shoshone NF, C** 91.39 44 ⇓P P 04 44 43.8 +0.2
baz=91
C20A **Veseth Ranch,** 91.41 40 ⇑P P 04 44 43.5 +0.1
baz=91,SNR=10.0
KULLO **Kullorsuaq** 91.46 6 *i* P P 04 44 42.4 -0.6
comp=Z,31nm,1.2s
F19A **Roth Farm, Mol** 91.46 42 ⇓P P 04 44 44.0 +0.2
baz=91
JLU **Jordanelle** 91.47 48 eP P 04 44 44.8 +0.6
comp=Z,50nm,1.8s
RLMT **Red Lodge** 91.50 43 eP P 04 44 42.7 -1.4
comp=Z,52nm,1.8s
RLMT LR LR
comp=Z,642nm,21.0s
SBA **Scott Base** 91.52 176 PFAKE 04 44 50.0 +6.9
SBA LR LR
comp=Z,592nm,20.0s
MVU **Marysvale** 91.56 50 eP P 04 44 44.3 -0.3
comp=Z,5.5nm,1.0s
MSU **Marysvale** 91.59 50 eP P 04 44 45.4 +0.7
MSU pmax pmax
comp=Z,8.0nm,1.1s
MSU **Marysvale** 91.59 50 eP P 04 44 45.4 +0.7
comp=Z,8.0nm,1.1s
A21A **Bergtoll Ranch** 91.61 39 ⇑P P 04 44 44.9 +0.6
baz=92
B21A **Ellsworth Farm** 91.77 39 ⇓P P 04 44 45.8 +0.7
baz=92
FIA1 **FINESS Array S** 91.84 335 eP P 04 44 43.7 -1.3
FINES **FINESS Array B** 91.84 335 P P 04 44 43.9 -1.1
comp=Z,22nm,0.8s,baz=75,slow=4.4,SNR=48
FINES LR LR 05 29 42.1
comp=Z,561nm,19.6s,baz=54,slow=38
H19A **Powell** 91.84 43 ⇓P P 04 44 46.8 +1.2
baz=92
C21A **Desert Coulee** 91.94 40 ⇑P P 04 44 47.1 +1.2
baz=92
F20A **Billings** 92.00 42 ⇓P P 04 44 47.4 +1.1
baz=92
I19A **Meeteetse** 92.06 44 ⇑P P 04 44 47.3 +0.6
baz=92
113A **Mohawk Valley,** 92.06 56 ⇑P P 04 44 47.4 +0.7
baz=92
SOC **Sochi** 92.07 316 eP P 04 44 44.1 -2.4
SOC eS SKSac 04 55 14.7 -1.3
SOC ePS PS 04 56 57.1 -3.9
SOC pmax pmax
comp=Z,5.0nm,0.5s
FFC **Flin Flon** 92.10 32 eP P 04 44 45.9 -0.5
FFC pmax pmax
comp=Z,27nm,1.4s
FFC MLR MLR
comp=Z,850nm,20.0s
FFC **Flin Flon** 92.10 32 eP P 04 44 45.9 -0.5
comp=Z,27nm,1.4s
FFC LR LR
comp=Z,850nm,20.0s
BW06 **Boulder Array** 92.10 45 PFAKE 04 45 00.0 +13
BW06 LR LR
comp=Z,1μm,19.0s
PDAR **Pinedale Array** 92.10 45 P P 04 44 46.0 -1.0
comp=Z,0.5nm,0.6s,baz=16,slow=3.1,SNR=5.6
PDAR PKKPbc PKKPbc 05 02 07.9 +4.0
comp=Z,0.5nm,1.0s,baz=92,slow=4.5,SNR=3.9
PDAR LR LR 05 24 06.4
comp=Z,770nm,19.1s,baz=318,slow=34
G20A **Bridger** 92.17 43 ⇓P P 04 44 47.7 +0.6
baz=92
J19A **Crowheart** 92.28 45 ⇓P P 04 44 48.1 +0.4
baz=92,SNR=8.8
E21A **Keefer Ranch,** 92.43 41 ⇓P P 04 44 48.8 +0.7
baz=92
B22A **Reddig Ranch S** 92.45 39 ⇑P P 04 44 49.4 +1.2
baz=92
Z14A **Wintersburg** 92.54 55 ⇓P P 04 44 50.0 +1.1
baz=92
I20A **Worland** 92.67 44 ⇑P P 04 44 50.1 +0.7
baz=93
C22A **Vida** 92.73 40 ⇑P P 04 44 50.3 +0.8
baz=93
D22A **Cohagen** 92.77 40 ⇑P P 04 44 50.6 +0.9
baz=93
G21A **Lodge Grass** 92.83 42 ⇓P P 04 44 50.6 +0.5
baz=93
LAO **LASA Array** 92.92 41 eP P 04 44 51.5 +1.0
comp=Z,23nm,1.1s
LAO LR LR
comp=Z,594nm,20.0s
B23A **Brockton** 93.00 39 ⇓P P 04 44 51.2 +0.4
baz=93
214A **Organ Pipe Nat** 93.07 56 eP P 04 44 52.3 +0.9
comp=Z,13nm,1.2s
214A **Organ Pipe Nat** 93.07 56 ⇓P P 04 44 51.9 +0.5
baz=93
VSU **Vasula** 93.11 332 *d i* P P 04 44 50.2 -0.7
WUAZ **Wupatki** 93.13 53 eP P 04 44 52.5 +0.8
comp=Z,10nm,0.9s
WUAZ LR LR
comp=Z,890nm,20.0s

WUAZ Wupatki 93.13 53 ⇑P P 04 44 51.6 -0.2
baz=93
C23A Lambert 93.14 40 ⇓P P 04 44 51.5 0.0
baz=93,SNR=9.2
H21A Big Horn, Sher 93.16 43 ⇑P P 04 44 52.2 +0.5
baz=93
ANN Anapa 93.17 317 *e*P P 04 44 53.2 +1.7
ANN *e* 04 48 32.8
ANN *e*PS **PS** 04 57 03.6 -10
ANN pmax pmax
comp=Z,54nm,1.4s
ANN MLR MLR
comp=Z,566nm,19.0s
E22A Miles City 93.19 41 ⇑P P 04 44 52.1 +0.4
baz=93
F22A Rosebud 93.24 42 ⇓P P 04 44 52.2 +0.2
baz=93
I21A Big Trails, Te 93.29 44 ⇑P P 04 44 52.7 +0.4
baz=93
D23A Lindsay 93.37 40 ⇓P P 04 44 53.0 +0.5
baz=93,SNR=7.5
X16A Lo Mia Camp, P 93.42 54 ⇓P P 04 44 53.7 +0.5
baz=93
STOK Stokkvaagen 93.43 343 *e*P **P** 04 44 51.9 -0.3
STOK IAmb IAmb 04 44 53.5
comp=Z,104nm,1.3s
DGMT Dagmar 93.48 39 PFAKE 04 45 00.0 +7.0
DGMT LR LR
comp=Z,1μm,20.0s
DGMT Dagmar 93.48 39 ⇑P P 04 44 54.0 +1.0
baz=93
E23A Ismay 93.58 41 ⇑P P 04 44 54.3 +0.9
baz=93
RAYN Ar Rayn 93.60 295 P P 04 44 48.1 -5.9
comp=Z,48nm,1.2s,SNR=5.3
RAYN Ar Rayn 93.60 295 *e*P **P 04 44 52.9 -1.1**
comp=Z,20nm,1.3s
C24A Savage 93.72 40 ⇓P P 04 44 54.7 +0.6
baz=94
K21A Alcova 93.74 45 ⇓P P 04 44 54.9 +0.4
baz=94
I22A 9 Mile Ranch, 93.80 43 ⇑P P 04 44 55.3 +0.6
baz=94
FCC Fort Churchill 93.91 27 *e*P **P 04 44 54.2 -0.4**
FCC Fort Churchill 93.91 27 *e*P **P 04 44 54.2 -0.4**
J22A Midwest 93.98 44 ⇓P P 04 44 56.3 +0.7
baz=94
G23A Biddle 94.03 42 ⇑P P 04 44 56.7 +1.1
baz=94
PV01 Paradox Valley 94.39 49 *e*P **P 04 44 57.4 -0.3**
X18A Snowflake 94.55 53 ⇓P P 04 44 59.0 +0.6
baz=94
D25A Fairfield 94.56 40 ⇑P P 04 44 59.4 +1.5
baz=94
SUMG Summit 94.57 1 *i* P P 04 44 56.6 -1.3
comp=Z,15nm,1.2s
SUMG Summit 94.57 1 *i* P **P 04 44 56.6 -1.3**
SUMG pmax pmax
comp=Z,15nm,1.2s
SUMG Summit 94.57 1 *e*P **P 04 44 56.9 -1.1**
comp=Z,85nm,2.2s
TUC Tucson 94.60 56 *e*P **P 04 44 59.2 +0.7**
TUC *e* 04 48 46.5
TUC pmax pmax
comp=Z,6.0nm,1.2s
TUC MLR MLR
comp=Z,998nm,20.0s
TUC Tucson 94.60 56 *e*P **P 04 44 59.2 +0.7**
comp=Z,6.3nm,1.2s
TUC *e*PP **PP** 04 48 46.5 -0.2
TUC LR LR
comp=Z,998nm,20.0s
A26A Wade Farm, Ken 94.60 38 ⇑P P 04 44 58.6 +0.5
baz=94
MVCO Mesa Verde 94.76 50 PFAKE 04 45 10.0 +11
MVCO LR LR
comp=Z,971nm,19.0s
E25A Miller Ranch, 94.78 40 ⇑P P 04 45 00.4 +1.4
baz=95
MALT Malatya 94.81 311 ⇑P P 04 44 59.7 +0.3
MALT Malatya 94.81 311 ⇑*i*P **P 04 44 59.7 +0.3**
NSS Namsos 95.01 342 ⇑*i*P **P 04 44 58.1 -1.4**
NSS IAmb IAmb 04 45 00.3
comp=Z,36nm,1.1s
O22A Kremmling 95.14 47 ⇑P P 04 45 01.9 +0.8
baz=95
SMCO Snowmass 95.19 48 *e*P **P 04 45 01.0 -0.5**
comp=Z,5.9nm,1.1s
P22A Eagle 95.20 48 ⇑P P 04 45 02.5 +1.2
baz=95
SIM Simferopol' 95.28 318 *e*P **P 04 45 00.8 -0.4**
SIM *e* 04 48 56.0
SIM S **S 04 56 09.0 -4.6**
SIM *e*PS **PS 04 57 34.0 -2.4**
SIM pmax pmax
comp=Z,12nm,0.7s
E26A Carlson Angus 95.38 40 ⇑P P 04 45 02.9 +1.2
baz=95
F26A Lodgepole 95.51 41 ⇓P P 04 45 04.0 +1.6
baz=95
I25A Rochford 95.58 43 ⇓P P 04 45 03.5 +0.6
baz=96
AKASG Malin Array Be 95.70 325 P **P 04 45 01.4 -1.6**
comp=Z,8.0nm,1.0s,baz=50,slow=4.7,SNR=8.8
AKASG LR LR 05 31 04.7
comp=Z,2μm,19.1s,baz=50,slow=37
AKBB Malin Array Si 95.70 325 *e*P **P 04 45 01.2 -1.8**
AKBB Malin Array Si 95.70 325 *e*P **P 04 45 01.2 -1.8**
AK01 Malin Array Si 95.71 325 *e*P **P 04 45 01.1 -2.0**
KIEV Kiev 95.71 325*c i*P **P 04 45 01.0 -2.0**
KIEV Kiev 95.71 325 *e*P **P 04 45 01.4 -1.6**
comp=Z,32nm,1.4s
KIEV LR LR
comp=Z,2μm,19.0s
AK02 Malin Array Si 95.73 325 *e*P **P 04 45 00.9 -2.2**
G26A Maurine 95.79 41 ⇓P P 04 45 04.8 +1.1
baz=96
F27A Lemmon 95.91 40 ⇓P P 04 45 05.2 +1.0
baz=96
ISCO Idaho Springs 95.94 47 PFAKE 04 45 20.0 +15
ISCO LR LR
comp=Z,1μm,20.0s
E27A Carson 95.96 40 ⇑P P 04 45 05.2 +0.8
baz=96
G27A Dupree 96.18 41 ⇑P P 04 45 06.7 +1.3
baz=96
A29A Manning Farm, 96.25 37 ⇓P P 04 45 06.6 +1.1
baz=96
B29A Wagenman Farm, 96.39 37 ⇑P P 04 45 07.0 +0.8
baz=96
A30A Hoffart Farm, 96.78 36 ⇑P P 04 45 08.8 +0.8
baz=97
SDCO Great Sand Dun 96.80 49 PFAKE 04 45 20.0 +11
SDCO LR LR
comp=Z,599nm,21.0s
121A Cookes Peak, D 96.92 54 ⇓P P 04 45 10.3 +1.2
baz=97
ANMO Albuquerque 97.11 52 PFAKE 04 45 20.0 +10
ANMO LR LR
comp=Z,808nm,20.0s
ULM Lac du Bonnet 97.50 35 LR LR 05 29 51.3
comp=Z,1μm,18.5s,baz=295,slow=36
KIS Kishinev 97.70 322 *e*P **P 04 45 10.0 -2.1**
KIS Kishinev 97.70 322 *e*PP PP 04 49 12.0 +2.1
NB2 NORSAR Subarra 97.72 339 P **P 04 45 10.9 -1.1**
comp=Z,23nm,1.1s,baz=56,slow=5.1
NB2 NORSAR Subarra 97.72 339 P **P 04 45 10.9 -1.1**
baz=56,slow=5.1
NOA NORSAR Array B 97.72 339 P **P 04 45 10.7 -1.3**
comp=Z,13nm,1.0s,baz=52,slow=4.3,SNR=17
NOA LR LR 05 32 37.8
comp=Z,555nm,20.1s,baz=35,slow=37
BR131 Keskin Array S 97.73 314 *e*P **P 04 45 11.6 -1.0**
comp=Z,2.7nm,0.9s
BRTR Keskin Array B 97.73 314 P **P 04 45 11.4 -1.3**
comp=Z,6.5nm,1.1s,baz=90,slow=3.7,SNR=23
BRTR LR LR 05 33 29.3
comp=Z,372nm,21.1s,baz=50,slow=38
NAO01 NORSAR Array S 97.97 339 *e*P **P 04 45 11.7 -1.4**
comp=Z,18nm,1.1s
OGNE Ogallala 97.99 45 PFAKE 04 45 30.0 +16
OGNE LR LR
comp=Z,956nm,19.0s
ANTO Ankara 98.27 314 PFAKE 04 45 30.0 +15
ANTO LR LR
comp=Z,564nm,22.0s
AGMN Agassiz Nation 98.50 36 PFAKE 04 45 30.0 +14
AGMN LR LR
comp=Z,2μm,20.0s
AGMN Agassiz Nation 98.50 36 ⇓Pdiff Pdif 04 45 16.2 +0.4
baz=98
J30A Dallas 98.66 42 ⇑Pdiff Pdif 04 45 17.5 +0.9
baz=98
MAW Mawson 99.04 203 LR LR 05 25 52.5
comp=Z,351nm,22.0s,baz=62,slow=33
MNTX Cornudas Mount 99.12 55 PFAKE 04 45 30.0 +11
MNTX LR LR
comp=Z,1μm,19.0s
MNTX Cornudas Mount 99.12 55 ⇓Pdiff **Pdif 04 45 19.5 +0.6**
baz=99
TESR Tescani 99.24 322 ⇓*i*P **Pdif 04 45 18.7 -0.4**
KONO Kongsberg 99.28 339 PFAKE 04 45 30.0 +11
KONO LR LR
comp=Z,780nm,20.0s
VRI Vrincioaia 99.51 322 ⇑P **Pdif 04 45 20.5 +0.2**
VRI Vrincioaia 99.51 322 ⇑*i*P **Pdif 04 45 20.5 +0.2**
BUR08 Bucovina Ar. S 99.51 324 *e*P **Pdif 04 45 19.8 -0.6**
BURAR Bucovina Array 99.52 324 ⇑P **Pdif 04 45 20.7 +0.3**
BURAR Bucovina Array 99.52 324 ⇑*i*P **Pdif 04 45 20.7 +0.3**
KWP Kalwaria Pacla 99.85 326 *e*P **Pdif 04 45 21.0 -0.7**
KWP Kalwaria Pacla 99.85 326 ⇑P **Pdif 04 45 21.8 +0.1**
KWP Kalwaria Pacla 99.85 326 ⇑*i*P **Pdif 04 45 21.8 +0.1**
KWP Kalwaria Pacla 99.85 326 *e*Pdif **Pdif 04 45 21.0 -0.7**
KWP LR LR
comp=Z,1μm,20.0s
CSS Prodhromos 99.86 309 PFAKE 04 45 30.0 +7.9
CSS LR LR
comp=Z,133nm,19.0s
MLR Muntele Rosu 100.17 321 ⇑P **Pdif 04 45 16.5 -6.9**
MLR Muntele Rosu 100.17 321 ⇑*i*P **Pdif 04 45 16.5 -6.9**
ECSD EROS Data Cent 100.31 41 PFAKE 04 45 40.0 +16
ECSD LR LR
comp=Z,668nm,20.0s
BSD Bornholm Skovb 100.33 334 *i* P Pdif 04 45 12.9 -11
comp=Z,97nm,1.0s
comp=Z,700nm,15.0s
BSD Bornholm Skovb 100.33 334 *i* P Pdif 04 45 12.9 -11
BSD pmax pmax
comp=Z,97nm,1.0s
BSD MLR MLR
comp=Z,710nm,15.0s
KOLS Kolonicke sedl 100.47 326 *e*P **Pdif 04 45 24.3 -0.2**
KOLS Kolonicke sedl 100.47 326 PDIF **Pdif 04 45 24.3 -0.2**
UZH Uzhgorod 100.63 326 ⇑*i*P **Pdif 04 45 24.3 -0.9**
ISP Isparta 100.74 313 PFAKE 04 45 40.0 +14
ISP LR LR
comp=Z,461nm,20.0s
STHS Stebnicka Huta 100.76 327 *e*P **Pdif 04 45 26.3 +0.5**
STHS Stebnicka Huta 100.76 327 PDIF **Pdif 04 45 26.3 +0.5**
TRPA Tarpa 100.77 325 ⇑*i*P **Pdif 04 45 26.1 +0.3**
CRVS Cervenica-Dubn 100.93 326 *e*P **Pdif 04 45 26.2 -0.4**
CRVS Cervenica-Dubn 100.93 326 PDIF **Pdif 04 45 26.2 -0.4**
ARR Arges 101.03 322 ⇑*i*P **Pdif 04 45 27.4 +0.2**
EYMN Ely 101.17 35 PFAKE 04 45 40.0 +12
EYMN LR LR
comp=Z,1μm,19.0s
NIE Niedzica 101.25 327 *e*P **Pdif 04 45 28.2 +0.2**
NIE Niedzica 101.25 327 *e*P **Pdif 04 45 28.2 +0.2**
TXAR Lajitas Array 101.37 56 P **Pdif 04 45 28.8 -0.2**
comp=Z,1.3nm,1.1s,baz=245,slow=2.6,SNR=5.1
DRGR 101.40 324 ⇑P **Pdif 04 45 28.7 -0.1**
DRGR 101.40 324 ⇑*i*P **Pdif 04 45 28.7 -0.1**
ABPO Ambohimpanom 101.61 253 PFAKE 04 45 40.0 +10
ABPO LR LR
comp=Z,354nm,20.0s
KECS Kecovo 101.70 326 *e*P **Pdif 04 45 29.6 -0.4**
KECS Kecovo 101.70 326 PDIF **Pdif 04 45 29.6 -0.4**
OKC Ostrava-Krasne 102.14 328 *e*SKS **SKSac 04 56 13.0 +5.2**
OKC AMS AMS 05 38 20.0
comp=Z,800nm,20.2s
PSZ Piszkesteto 102.35 326 ⇑P **Pdif 04 45 33.4 +0.4**
PSZ Piszkesteto 102.35 326 ⇑*i*P **Pdif 04 45 33.4 +0.4**
PSZ Piszkesteto 102.35 326 *e*Pdif **Pdif 04 45 32.8 -0.3**
comp=Z,18nm,1.1s
PSZ LR LR
comp=Z,1μm,22.0s
PSZ Piszkesteto 102.35 326 ⇓*e*Pdiff **Pdif 04 45 32.7 -0.3**
KSU1 Kansas State U 102.54 45 PFAKE 04 45 50.0 +16
KSU1 LR LR
comp=Z,992nm,20.0s
VYHS Vyhne 102.58 327 *e*P **Pdif 04 45 34.0 +0.1**
VYHS Vyhne 102.58 327 PDIF **Pdif 04 45 34.0 +0.1**
DPC Dobruska-Polom 102.75 329 *e*PP PP 04 49 56.3 +8.3
DPC *ex* x 04 50 02.2
DPC *e*SKS 04 56 16.4
DPC AMS AMS 05 35 30.0
WMOK Wichita Mounta 102.98 49 PFAKE 04 45 50.0 +14
WMOK LR LR
comp=Z,779nm,20.0s
SCIA State Center 103.39 41 PFAKE 04 45 50.0 +12
SCIA LR LR
comp=Z,840nm,20.0s
PVCC Panska Ves 103.49 330 AMS AMS 05 36 40.0
comp=Z,1μm,18.4s
COWI Conover 103.55 36 PFAKE 04 45 50.0 +12
COWI LR LR
comp=Z,2μm,19.0s
BRG Berggiesshubel 103.57 331 PDIFF **Pdif 04 45 36.1 -2.1**
comp=Z,2.1nm,0.8s
BRG SKS 04 56 20.0
BRG SDIFF **Sdif 04 57 24.0 +0.7**
BRG PS **PS 04 59 08.0 +3.0**
BRG SS SS 05 04 50.0 +15
comp=N,365nm,18.2s
comp=E,563nm,16.4s
comp=Z,921nm,17.3s
BRG Berggiesshubel 103.57 331 P **Pdif 04 45 36.1 -2.1**
BRG 04 56 20.0
BRG S **Sdif 04 57 24.0 +0.7**
BRG PS **PS 04 59 08.0 +3.0**
BRG SS SS 05 04 50.0 +15
BRG pmax pmax
comp=Z,2.0nm,0.8s
BRG MLR MLR
comp=N,365nm,18.2s
BRG MLR MLR
comp=E,563nm,16.4s
BRG MLR MLR
comp=Z,921nm,17.3s
CLL Collm 103.72 331 *e*Pdif **Pdif 04 45 38.0 -0.9**
comp=Z,10.0nm,1.4s
CLL *e*PP **PP 04 49 54.0 -1.2**
CLL *e*PPP PPP 04 52 06.0
CLL *e*SKSac **SKSac 04 56 15.0 -0.1**
CLL *e*Sdif **Sdif 04 57 28.0 +3.4**
CLL *e*PS **PS 04 59 03.0 -3.6**
CLL *e*PPS PPS 04 59 57.0
CLL *e*(SS) 05 05 04.0
CLL *e*SSS SSS 05 08 36.0
CLL *e* 05 10 00.0
CLL LmV 05 40 00.0
comp=Z,1μm,18.3s
CLL Collm 103.72 331 *e*P **Pdif 04 45 38.0 -0.9**
CLL *e* 04 56 15.0
CLL *e*S **Sdif 04 57 28.0 +3.4**
CLL pmax pmax
comp=Z,10.0nm,1.4s
CLL MLR MLR
comp=Z,1μm,18.3s
GOPC GO Pecny, Ondr 103.78 330 AMS AMS 05 36 20.0
comp=Z,800nm,18.5s
PRU Pruhonice 103.86 330 *e*SKS **SKSac 04 56 17.3 +1.5**
PRU *ex* x 05 05 06.9
PRU AMS AMS 05 40 40.0
comp=Z,1μm,16.5s
JCT Junction City 104.00 54 PFAKE 04 45 50.0 +9.3
JCT LR LR
comp=Z,855nm,19.0s
PKSM Moragy 104.05 325 ⇑P **Pdif 04 45 40.5 +0.1**
PKSM Moragy 104.05 325 ⇑*i*P **Pdif 04 45 40.5 +0.1**
PKSM Moragy 104.05 325 ⇓*e*Pdiff **Pdif 04 45 40.0 -0.4**
DIVS Divibare 104.49 323 ⇑*i*P **Pdif 04 45 42.5 -0.1**
JFWS Jewell Farm 104.70 39 PFAKE 04 45 50.0 +6.5
JFWS LR LR
comp=Z,982nm,20.0s
NKC Novy Kostel 104.71 331 AMS AMS 05 37 10.0
comp=Z,700nm,16.5s
KHC Kasperske Hory 104.89 329 *e*PDIFF **Pdif 04 45 44.0 -0.2**
KHC Kasperske Hory 104.89 329 *e*P **Pdif 04 45 44.0 -0.2**
GERES GERESS Array B 105.02 329 Pdiff **Pdif 04 45 43.2 -1.6**
comp=Z,0.6nm,0.7s,baz=72,slow=4.3,SNR=4.4
HDIL Hopedale 106.61 40 PFAKE 04 50 10.0
HDIL LR LR
comp=Z,12μm,21.0s
KVTX Kingsville 106.74 56 PFAKE 04 50 10.0
KVTX LR LR
comp=Z,1μm,19.0s
GLMI Grayling 106.85 35 PFAKE 04 50 10.0
GLMI LR LR
comp=Z,1μm,20.0s
MIAR Mount Ida 106.87 48 PFAKE 04 50 10.0
MIAR LR LR
comp=Z,1μm,20.0s
ESK Eskdalemuir 106.94 342 PFAKE 04 50 10.0
ESK LR LR
comp=Z,642nm,20.0s
NATX Nacogdoches 107.40 51 PFAKE 04 50 20.0
NATX LR LR
comp=Z,1μm,19.0s
339A Huntington 107.68 51 ⇑Pdiff **PKiKP 04 50 05.8 +1.1**
baz=108
KMBO Kilima Mbogo 107.79 273 PFAKE 04 50 20.0
KMBO LR LR
comp=Z,353nm,21.0s
BFO Black Forest 107.97 331 PFAKE 04 50 20.0
BFO LR LR
comp=Z,635nm,20.0s
WLF Walferdange 107.98 333 PFAKE 04 50 20.0
WLF LR LR
comp=Z,681nm,20.0s
ECH Echery 108.59 332 PFAKE 04 50 20.0
ECH LR LR
comp=Z,416nm,19.0s
TUE Stuetta 108.79 329 PFAKE 04 50 20.0
TUE LR LR
comp=Z,2μm,19.0s
AAM Ann Arbor 108.98 36 PFAKE 04 50 20.0
AAM LR LR
comp=Z,2μm,21.0s
TIP Timpagrande 109.32 320 PFAKE 04 50 20.0
TIP LR LR
comp=Z,307nm,21.0s
AQU L'Aquila 109.38 324 PFAKE 04 50 20.0
AQU LR LR
comp=Z,1μm,20.0s
CUC Castrocucco 109.42 321 PFAKE 04 50 20.0
CUC LR LR
comp=Z,412nm,21.0s
VLC Villacollemand 109.85 327 PFAKE 04 50 20.0
VLC LR LR
comp=Z,1μm,19.0s
CEL Celeste 110.41 320 PFAKE 04 50 20.0
CEL LR LR
comp=Z,528nm,21.0s
ACSO Alum Creek Sta 110.68 38 PFAKE 04 50 20.0
ACSO LR LR
comp=Z,1μm,22.0s
BNI Bardonecchia 111.12 330 PFAKE 04 50 20.0
BNI LR LR
comp=Z,2μm,19.0s
ERPA Erie 111.17 35 PFAKE 04 50 20.0
ERPA LR LR
comp=Z,1μm,20.0s
SSB Saint Sauveur 111.97 331 PFAKE 04 50 20.0
SSB LR LR
comp=Z,402nm,19.0s
LONY Lake Ozonia 112.20 30 PFAKE 04 50 20.0
LONY LR LR
comp=Z,784nm,20.0s
CLTB Caltabellotta 112.50 320 PFAKE 04 50 30.0
CLTB LR LR
comp=Z,191nm,20.0s
WDD Wield Dalam 112.71 318 PFAKE 04 50 30.0
WDD LR LR
comp=Z,352nm,21.0s
NCB Newcomb 112.86 30 PFAKE 04 50 30.0
NCB LR LR
comp=Z,891nm,19.0s
BINY Binghamton 113.26 32 PFAKE 04 50 30.0
BINY LR LR
comp=Z,1μm,21.0s
BRAL Brewton 113.39 48 PFAKE 04 50 30.0
BRAL LR LR
comp=Z,1μm,20.0s
VSL Villasalto 113.56 324 PFAKE 04 50 30.0
VSL LR LR
comp=Z,472nm,19.0s
LBNH Lisbon 113.74 28 PFAKE 04 50 30.0
LBNH LR LR
comp=Z,1μm,20.0s
MBAR Mbarara 114.00 275 PFAKE 04 50 30.0
MBAR LR LR
comp=Z,727nm,19.0s
PKME Peaks-Kenny Pk 114.12 26 PFAKE 04 50 30.0 +14
PKME LR LR
comp=Z,1μm,21.0s
BLA Blacksburg 114.14 39 PFAKE 04 50 30.0 +13
BLA LR LR
comp=Z,799nm,20.0s
GOGA Godfrey 114.53 44 PFAKE 04 50 30.0 +12
GOGA LR LR
comp=Z,1μm,19.0s
CBN Corbin Frederi 115.29 36 PFAKE 04 50 30.0 +11
CBN LR LR
comp=Z,2μm,20.0s
EMMW East Machias 115.33 25 *e*PKPdf **PKPdf 04 50 19.8 +1.0**
KEST Kesra 116.07 321 PKP **PKPdf 04 50 17.9 -2.7**
comp=Z,0.6nm,0.4s,baz=68,slow=2.9,SNR=9.5
NHSC New Hope 116.90 42 PFAKE 04 50 30.0 +7.8
NHSC LR LR
comp=Z,688nm,20.0s
CNNC Cliffs of the 116.98 39 PFAKE 04 50 30.0 +7.7
CNNC LR LR
comp=Z,1μm,19.0s
TEIG Tepich 117.85 59 PFAKE 04 50 40.0 +16
TEIG LR LR
comp=Z,531nm,21.0s
LSZ Lusaka 119.12 260 *e*PKIKP **PKPdf 04 50 26.2 -0.8**
LSZ MLR MLR
comp=Z,272nm,19.0s
LSZ Lusaka 119.12 260 *e*PKPdf **PKPdf 04 50 26.2 -0.8**
LSZ LR LR
comp=Z,272nm,19.0s
PAB San Pablo 120.54 333 PFAKE 04 50 40.0 +11
PAB LR LR
comp=Z,714nm,19.0s
MTE Manteigas 121.17 336 PFAKE 04 50 40.0 +10
MTE LR LR
comp=Z,718nm,19.0s
LBTB Lobatse 122.11 249 *e*PKIKP **PKPdf 04 50 33.9 +1.3**
LBTB Lobatse 122.11 249 *e*PKPdf **PKPdf 04 50 33.9 +1.3**
JTS JuntasAbangare 125.04 67 PFAKE 04 50 50.0 +12
JTS LR LR
comp=Z,393nm,20.0s
BBSR BB Station 126.55 32 PFAKE 04 50 50.0 +9.3
BBSR LR LR
comp=Z,470nm,22.0s
TAM Tamanrasset 126.88 312 *e*PKIKP **PKPdf 04 50 43.8 +1.9**
TAM MLR MLR
comp=Z,211nm,20.0s
TAM Tamanrasset 126.88 312 *e*PKPdf **PKPdf 04 50 43.8 +1.9**
TAM LR LR
comp=Z,211nm,20.0s
MTDJ Mount Denham 127.61 55 PFAKE 04 50 50.0 +6.7
MTDJ LR LR
comp=Z,377nm,19.0s
GTBY Guantanamo Bay 128.53 51 PFAKE 04 51 00.0 +15
GTBY LR LR
comp=Z,586nm,21.0s
BCIP Isla Barro Col 130.09 66 PFAKE 04 51 00.0 +12
BCIP LR LR
comp=Z,438nm,20.0s
GRTK Grand Turk 130.47 47 PFAKE 04 51 00.0 +12
GRTK LR LR
comp=Z,583nm,20.0s
SDDR Presa de Saban 131.97 49 PFAKE 04 51 00.0 +8.5
SDDR LR LR
comp=Z,493nm,20.0s
OTAV Otavalo 134.72 77 PFAKE 04 51 10.0 +13
OTAV LR LR
comp=Z,403nm,20.0s
TOA0 Torodi Ar. Sit 135.50 304 *e*PKPdf **PKPdf 04 50 59.8 +1.6**
TOA0 *e*SKP 04 54 30.5
TORD Torodi Ar. Bea 135.50 304 PKhKP PKPpre 04 50 45.6
comp=Z,1.8nm,1.1s,baz=31,slow=1.9,SNR=5.5
TORD PKP **PKPdf 04 50 56.9 -1.3**

comp=Z,8.9nm,1.2s,baz=66,slow=1.0,SNR=27
SJG San Juan 136.22 46 PFAKE 04 51 10.0 +11
SJG LR LR
comp=Z,502nm,21.0s
SDV Santo Domingo 138.24 60 PFAKE 04 51 20.0 +17
SDV LR LR
comp=Z,367nm,22.0s
PLCA Paso Flores 138.25 138 PKP **PKPdf 04 51 03.0 +0.4**
comp=Z,4.3nm,1.1s,baz=156,slow=6.1,SNR=3.8
PLCA Paso Flores 138.25 138 *e*PKIKP **PKPdf 04 51 02.7 +0.1**
PLCA Paso Flores 138.25 138 *e*PKPdf **PKPdf 04 51 02.7 +0.1**
NNA Nana 138.92 93 PFAKE 04 51 20.0 +15
NNA LR LR
comp=Z,706nm,20.0s
ANWB Willy Bob 139.48 42 PFAKE 04 51 20.0 +15
ANWB LR LR
comp=Z,675nm,21.0s
FDF Fort de France 142.01 44 PFAKE 04 51 20.0 +10
FDF LR LR
comp=Z,490nm,20.0s
LCO Las Campanas 143.03 121 *e*PKPdf **PKPdf 04 51 11.3 -0.6**
LCO LR LR
comp=Z,536nm,19.0s
GRGR Grenville 143.44 48 PFAKE 04 51 20.0 +7.4
GRGR LR LR
comp=Z,615nm,21.0s
CFAA Coronel Fontan 144.12 127 PKP PKPbc 04 51 11.5 0.0
comp=Z,1.9nm,1.0s,baz=243,slow=2.5,SNR=18
BBGH Gun Hill 144.22 44 PFAKE 04 51 30.0 +16
BBGH LR LR
comp=Z,1µm,22.0s
DBIC Dimbokro 144.44 302 PKP **PKPdf 04 51 13.9 -0.5**
comp=Z,86nm,1.0s,baz=37,slow=3.6,SNR=54
DBIC Dimbokro 144.44 302 *e*PKIKP PKPbc 04 51 13.6 +0.7
DBIC Dimbokro 144.44 302 *e*PKPdf PKPbc 04 51 13.6 +0.7
TRQA Tornquist 145.23 141 *e*PKPbc **PKPdf 04 51 15.1 0.0**
TRQA LR LR
comp=Z,337nm,19.0s
LVC Limon Verde 146.17 111 PKPbc **PKPab 04 51 19.3 +0.1**
comp=Z,115nm,1.1s,baz=271,slow=3.9,SNR=11
LVC Limon Verde 146.17 111 *e*PKPbc **PKPab 04 51 19.5 +0.3**
LVC LR LR
comp=Z,558nm,20.0s
SACV Santiago Islan 150.09 338 *e*PKPbc **PKPbc 04 51 28.8 0.0**
SACV LR LR
comp=Z,348nm,21.0s
SAML Samuel 151.80 85 *e*PKPdf **PKPdf 04 51 26.2 -0.2**
SAML *e*PKPbc **PKPbc 04 51 32.9 +0.1**
SAML LR LR
comp=Z,379nm,20.0s
PTGA Pitinga 152.19 66 PKP **PKPdf 04 51 26.0 -1.0**
comp=Z,2.7nm,0.8s
PTGA PKPbc **PKiKP 04 51 34.3 +0.3**
PTGA Pitinga 152.19 66 *e*PKPdf **PKPdf 04 51 27.3 +0.2**
PTGA PKPbc **PKiKP 04 51 34.3 +0.3**
SIV San Ignacio 154.35 100 PKP **PKPdf 04 51 30.8 +0.8**
comp=Z,1.1nm,0.8s,baz=336,slow=3.5,SNR=3.2
SIV PKPbc **PKPbc 04 51 38.1 -0.2**
comp=Z,3.3nm,1.0s,baz=255,slow=2.3,SNR=5.9
CPUP Villa Florida 155.00 125 PKPbc PKPbc 04 51 39.7 +0.3
comp=Z,0.7nm,0.9s,baz=274,slow=11,SNR=3.4
CPUP Villa Florida 155.00 125 *e*PKIKP **PKPdf 04 51 30.6 0.0**
CPUP *e* 04 51 39.4
CPUP Villa Florida 155.00 125 *e*PKPdf **PKPdf 04 51 30.6 0.0**
CPUP *e*PKPbc PKPbc 04 51 39.4 0.0
ASCN Ascension 159.33 282 PFAKE 04 51 50.0 +14
ASCN LR LR
comp=Z,1µm,22.0s
BDFB Brasilia 166.88 103 PKP **PKPdf 04 51 43.8 +0.1**
comp=Z,1.2nm,0.4s,baz=350,slow=3.0,SNR=4.6
RCBR Riachuelo 172.77 9 PFAKE 04 52 00.0 +13
RCBR LR LR
comp=Z,453nm,20.0s

*ISCJB **07** 04:33:20.0±0.5,9°.23S±0°.04×113°.04E±0°.02,h66km±4km, mb4.3/17, Error ellipse: s-maj=6.9km s-min=3.7km az=7.4*
*DJA **07** 04:33:20.3±0.6,9°.3S±3°×11°.3E±°, h25km±7km, M4.6/16, mb4.8/1, MLv4.5/16*
*NEIC **07** 04:33:21.4±0.7,9°.16S×113°.10E, h60km±6km, mb4.7/7, Error ellipse: s-maj=11.2km s-min=6.6km az=197.0*
*IDC **07** 04:33:22.6±3.8,9°.11S×113°.21E, h65km±39km, mb4.0/10, mb1 4.1/11, mb1mx3.8/40, mbtmp4.3/11, Error ellipse: s-maj=38.6km s-min=19.3km az=41.0*
ISC 07 04:33:20.3±0.9, 9°.30S±0°.05×113°.06E±0°.03, h52km±9km, n68, σ1§54/84, mb4.6/17, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GMJI	**Gumukmas**	**1.08**	**21**	P	**Pn**	**04 33 38.3**	**-1.0**
GMJI				S	**Sn**	**04 33 51.3**	**-2.0**
JAGI	**Jajag, Banyuwa**	**1.35**	**53**	P	**Pn**	**04 33 43.0**	**+0.1**
JAGI				S	**Sn**	**04 33 59.3**	**-0.6**
JAGI	**Jajag, Banyuwa** baz=1.4,SNR=211	**1.35**	**53**	P	**Pn**	**04 33 42.8**	**-0.2**
JAGI				S	**Sn**	**04 33 59.8**	**-0.1**
	baz=1.4,SNR=14						
JAGI	**Jajag, Banyuwa**	**1.35**	**53**	*e*Pn	**Pn**	**04 33 42.6**	**-0.3**
JAGI				*e*Sn	**Sn**	**04 33 59.7**	**-0.1**
BLJI	**Banyuglugur**	**1.63**	**19**	P	**Pn**	**04 33 47.9**	**+1.2**
BLJI				S	**Sn**	**04 34 07.5**	**+1.0**
PWJI	**Pagerwojo**	**1.77**	**315**	P	**Pn**	**04 33 47.6**	**-1.0**
PWJI				S	**Sn**	**04 34 08.0**	**-2.0**
ABJI	**Asem Bagus**	**1.89**	**38**	P	**Pn**	**04 33 52.1**	**+1.9**
IGBI	**Denpasar**	**2.11**	**77**	P	**Pn**	**04 33 53.7**	**+0.4**
IGBI				S	**Sn**	**04 34 18.6**	**+0.2**
PCJI	**Pacitan**	**2.16**	**300**	P	**Pn**	**04 33 52.5**	**-1.4**
PCJI				S	**Sn**	**04 34 17.8**	**-1.7**
DNP	**Denpasar**	**2.21**	**74**	P	**Pn**	**04 33 55.9**	**+1.3**
DNP				S	**Sn**	**04 34 24.8**	**+4.0**
KMMI	**Kalianget**	**2.41**	**22**	P	**Pn**	**04 33 57.5**	**+0.2**
KMMI				S	**Sn**	**04 34 25.5**	**0.0**
GRJI	**Gresik**	**2.43**	**346**	P	**Pn**	**04 33 58.7**	**+1.0**
GRJI				S	**Sn**	**04 34 30.9**	**+4.6**
SRBI	**Singaraja**	**2.44**	**61**	P	**Pn**	**04 33 59.0**	**+1.2**
SRBI				S	**Sn**	**04 34 25.3**	**-1.2**
WOJI	**Wonogiri, Jawa**	**2.56**	**304**	P	**Pn**	**04 33 59.0**	**-0.4**
WOJI				S	**Sn**	**04 34 30.4**	**+1.0**
TBJI	**Tambak Boyo**	**2.74**	**334**	S	**Sn**	**04 34 35.9**	**+2.2**
UGM	**Wanagama**	**2.86**	**299**	P	**Pn**	**04 34 03.4**	**-0.1**
UGM				S	**Sn**	**04 34 37.8**	**+1.0**
UGM	**Wanagama** baz=2.9,SNR=42	**2.86**	**299**	P	**Pn**	**04 34 03.5**	**0.0**
UGM				S	**Sn**	**04 34 37.1**	**+0.3**
	baz=2.9,SNR=6.0						
SMRI	**Semarang**	**3.42**	**311**	P	**Pn**	**04 34 11.8**	**+0.6**
SMRI	**Semarang** baz=3.5,SNR=6.3	**3.42**	**311**	P	**Pn**	**04 34 13.8**	**+2.6**
SMRI				S	Sn	04 35 07.9	+17
	baz=3.5,SNR=4.4						
SMRI	**Semarang**	**3.42**	**311**	*e*Pn	**Pn**	**04 34 12.3**	**+1.1**
BWJI	**Bawean**	**3.44**	**353**	P	**Pn**	**04 34 11.9**	**+0.4**
UWJI	**Ujung Watu**	**3.54**	**324**	P	**Pn**	**04 34 13.0**	**+0.1**
KPJI	**Karang Pucung**	**4.53**	**295**	P	**Pn**	**04 34 27.5**	**+1.1**
CMJI	**Cimerak**	**4.80**	**288**	P	**Pn**	**04 34 30.4**	**+0.3**
CISI	**Cisompet, Garu**	**5.47**	**288**	P	**Pn**	**04 34 36.5**	**-2.9**
CISI	**Cisompet, Garu** baz=5.5,SNR=5.2	**5.47**	**288**	P	**Pn**	**04 34 41.8**	**+2.4**
CISI	**Cisompet, Garu** 120nm,0.6s	**5.47**	**288**	*e*Pn	**Pn**	**04 34 39.6**	**+0.2**
CISI				*e*Sn	**Sn**	**04 35 41.7**	**+0.7**
LEM	**Lembang**	**5.92**	**294**	P	**Pn**	**04 34 45.9**	**+0.2**
LEM	**Lembang** baz=25,slow=9.5,SNR=8.1	**5.92**	**294**	P	**Pn**	**04 34 47.7**	**+2.0**
LEM				S	**Sn**	**04 35 57.5**	**+5.2**
	4.4nm,0.3s,baz=314,slow=19,SNR=6.1						
BBKI	**Banjar Baru**	**6.06**	**17**	P	**Pn**	**04 34 48.2**	**+0.8**
CNJI	**Cibinong**	**6.19**	**288**	P	**Pn**	**04 34 49.8**	**+0.6**
WBSI	**Waikabubak, Su**	**6.26**	**94**	P	**Pn**	**04 34 51.3**	**+1.1**
MMRI	**Maumere**	**9.09**	**87**	*e*Pn	**Pn**	**04 35 27.6**	**-1.4**
MNAI	**Manna** baz=11,SNR=4.9	**11.16**	**295**	P	**Pn**	**04 35 57.6**	**+0.3**
MNAI	**Manna**	**11.16**	**295**	*e*Pn	**Pn**	**04 35 57.0**	**-0.3**
LUWI	**Luwuk**	**12.67**	**50**	*e*Pn	**Pn**	**04 36 18.8**	**+0.9**
GIRL	**Giralia** baz=13,SNR=6.9	**13.32**	**175**	P	**Pn**	**04 36 26.5**	**-0.3**
GIRL				S	Sn	04 38 47.5	-5.9
	baz=13,SNR=3.8						
MEEK	**Meekatharra** baz=18,SNR=11	**18.03**	**164**	P	**Pn**	**04 37 28.2**	**+0.9**
WRKA	**Warakurna** baz=21,SNR=6.5	**21.34**	**139**	P	**P**	**04 38 06.3**	**+3.0**
WRKA				S	**S**	**04 41 54.4**	**-3.2**
	baz=21,SNR=3.4						
ASAR	**Alice Springs**	**24.52**	**128**	P	**P**	**04 38 36.5**	**+1.3**
	5.5nm,0.8s,baz=303,slow=8.2,SNR=43						
AS31	**Alice Springs**	**24.52**	**128**	*e*P	**P**	**04 38 36.1**	**+1.0**
FORT	**Forrest** baz=26,SNR=6.8	**25.54**	**149**	P	**P**	**04 38 46.2**	**+1.9**
FORT	**Forrest** 25nm,0.9s	**25.54**	**149**	*e*P	**P**	**04 38 45.5**	**+1.3**
CMAR	**Chiang Mai Arr** 1.6nm,0.6s,baz=170,slow=7.9,SNR=14	**30.90**	**333**	P	**P**	**04 39 32.6**	**+0.5**
CRAI	**Chiangrai** 18nm,1.6s,778nm	**31.89**	**337**	P	**P**	**04 39 38.2**	**-2.7**
MANU	**Manus Island** baz=35,SNR=5.2	**34.87**	**80**	S	**S**	**04 45 36.1**	**+1.4**
HMDM	**Hanimaadhoo** baz=43,SNR=4.0	**42.82**	**290**	P	P	04 41 07.0	-6.6
KSAR	**Wonju Array Be**	**48.52**	**16**	P	**P**	**04 41 58.8**	**+0.7**
KSRS	**Korea Array** 2.0nm,0.7s,baz=200,slow=8.2,SNR=2.2	**48.54**	**16**	P	**P**	**04 41 58.8**	**+0.5**
MJAR	**Matsushiro Arr** 3.5nm,0.6s,baz=204,slow=8.3,SNR=6.5	**51.36**	**26**	P	**P**	**04 42 17.8**	**-2.0**
USRK	**Ussuriysk Ar.** 7.3nm,0.8s,baz=218,slow=8.3,SNR=8.2	**55.94**	**16**	P	**P**	**04 42 52.8**	**-0.3**
ULN	**Ulaanbaatar**	**57.16**	**355**	*e*P	**P**	**04 43 00.7**	**-1.2**
SONM	**Songino Array** 2.2nm,0.5s,baz=173,slow=8.1,SNR=7.1	**57.18**	**355**	P	**P**	**04 43 01.5**	**-0.5**
KBL	**Kabul**	**60.30**	**319**	*e*P	P	04 43 18.5	-5.7
YSS	**Yuzh-Sakhalins**	**61.94**	**23**	*e*P	**P**	**04 43 33.9**	**-0.7**
TKM2	**Tokmak 2** 7.3nm,1.0s	**62.18**	**330**	*e*P	**P**	**04 43 35.8**	**-0.9**
MKAR	**Makanchi Array** 0.8nm,0.4s,baz=133,slow=7.3,SNR=0.9	**62.22**	**337**	P	**P**	**04 43 36.2**	**-0.4**
AAK	**Ala-Archa** 12nm,1.4s	**62.53**	**329**	*e*P	**P**	**04 43 37.2**	**-1.7**
EKS2	**Erkin-Say** 5.3nm,0.9s	**62.92**	**328**	*e*P	**P**	**04 43 39.6**	**-1.9**
KURBB	**Kurchatov Arra** 0.5nm,0.4s,baz=97,slow=7.0,SNR=0.9	**66.78**	**337**	P	**P**	**04 44 07.1**	**+0.8**
KURK	**Kurchatov**	**66.82**	**337**	P	**P**	**04 44 07.0**	**+0.6**
ZALV	**Zalesovo Beam** 2.3nm,0.5s,baz=131,slow=5.5,SNR=2.8	**67.38**	**342**	P	**P**	**04 44 09.4**	**-0.6**
BRVK	**Borovoye** 9.2nm,1.2s	**71.98**	**334**	*e*P	**P**	**04 44 36.7**	**-1.6**
ABKAR	**Akbulak arra**	**74.52**	**327**	*e*P	**P**	**04 44 53.0**	**-0.4**
BR131	**Keskin Array S** 1.7nm,0.7s	**87.84**	**311**	*e*P	**P**	**04 46 04.6**	**+0.1**
BRTR	**Keskin Array B** 2.0nm,0.8s,baz=128,slow=6.6,SNR=6.6	**87.84**	**311**	P	**P**	**04 46 05.0**	**+0.5**
SNAA	**Sanae** 2.6nm,0.7s	**89.09**	**197**	*e*P	**P**	**04 46 11.2**	**+1.5**
WVT	**Waverly**	**147.22**	**32**	*e*PKPbc	**PKPbc**	**04 52 58.4**	**+0.1**

*ISCJB **07** 04:40:59.5±0.5,27°.11N±0°.05×140°.7E±0°.1,h43km, mb3.6/12, Error ellipse: s-maj=13.4km s-min=6.3km az=170.1*
*IDC **07** 04:40:59.8±0.7,27°.05N×140°.31E,h415km±7km, mb3.3/12, mb1 3.5/13, mb1mx3.2/37, mbtmp4.1/13, Error ellipse: s-maj=17.6km s-min=16.1km az=92.0*
*JMA **07** 04:41:01.3±0.2,27°.28N×140°.90E,h431km, M4.0*
ISC 07 04:41:01.2±0.7, 27°.11N±0°.07×140°.7E±0°.1, h443km, n25, σ1§93/32, mb3.7/12, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.37**	**90**	P	**P**	**04 41 56.3**	**-1.7**
CBIJ				S	**S**	**04 42 40.6**	**-3.4**
JCJ	**Chichijima** 51nm,0.3s,baz=349,slow=20,SNR=71	**1.37**	**90**	P	**P**	**04 41 56.4**	**-1.6**
JCJ				S	**S**	**04 42 40.1**	**-3.9**
	34nm,0.3s,baz=259,slow=22,SNR=8.0						
JHHJ	**Haha-jima-NKT**	**1.45**	**109**	P	**P**	**04 41 57.3**	**-1.0**
JHHJ				S	**S**	**04 42 41.5**	**-3.1**
BSO1	**Boso 1**	**7.53**	**2**	P	**P**	**04 42 51.1**	**+0.4**
BSO1				S	**S**	**04 44 18.4**	**-2.1**
BSO3	**Boso 3**	**7.67**	**359**	P	**P**	**04 42 51.9**	**-0.6**
BSO3				S	**S**	**04 44 20.5**	**-3.3**
BSO4	**Boso 4**	**7.86**	**358**	P	**P**	**04 42 55.0**	**+0.3**
BSO4				S	**S**	**04 44 24.8**	**-3.1**
JIE	**Ise**	**8.01**	**336**	P	**P**	**04 42 57.3**	**+0.8**
JRY	**Ryogami san**	**9.00**	**351**	P	**P**	**04 43 06.6**	**-0.7**
JRY				S	**S**	**04 44 48.3**	**-2.8**
JHO	**Hitachi**	**9.47**	**360**	P	**P**	**04 43 12.3**	**-0.1**
JHO				S	**S**	**04 44 57.5**	**-3.0**
MJAR	**Matsushiro Arr** 1.1nm,0.3s,baz=164,slow=11,SNR=5.4	**9.63**	**348**	P	**P**	**04 43 13.9**	**-0.2**
SEY	**Seymchan** 1.2nm,0.2s,baz=22,slow=22,SNR=3.7	**36.65**	**9**	P	**P**	**04 47 30.0**	**+1.9**
PSI	**Prapat** 3.3nm,0.5s,baz=11,slow=9.9,SNR=3.6	**46.65**	**246**	P	**P**	**04 48 47.5**	**-1.1**
WRA	**Warramunga Arr** 0.6nm,0.8s,baz=6.2,slow=7.9,SNR=5.0	**47.17**	**188**	P	**P**	**04 48 52.0**	**-0.3**
ZALV	**Zalesovo Beam** 0.8nm,0.5s,baz=116,slow=6.7,SNR=2.7	**48.58**	**319**	P	**P**	**04 49 01.5**	**-1.0**
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=90,slow=11,SNR=3.8	**49.41**	**310**	P	**P**	**04 49 08.6**	**-0.2**
KURBB	**Kurchatov Arra** 2.4nm,0.5s,baz=92,slow=7.7,SNR=16	**52.05**	**314**	P	**P**	**04 49 27.9**	**-0.2**
ILAR	**Eielson Array** 0.6nm,0.6s,baz=242,slow=6.2,SNR=7.6	**58.36**	**29**	P	**P**	**04 50 13.9**	**+1.8**
YKA	**Yellowknife Ar** 0.9nm,0.6s,baz=297,slow=6.0,SNR=19	**72.78**	**28**	P	**P**	**04 51 45.0**	**+2.1**
ARCES	**ARCESS Array B** 1.2nm,0.5s,baz=72,slow=8.6,SNR=25	**73.08**	**341**	P	**P**	**04 51 45.8**	**+1.2**
FINES	**FINESS Array B** 5.0nm,0.4s,baz=79,slow=4.8,SNR=46	**77.33**	**333**	P	**P**	**04 52 08.8**	**+0.3**
NVAR	**Mina Array Bea** 0.5nm,0.6s,baz=291,slow=5.6,SNR=5.8	**81.58**	**51**	P	P	04 52 35.5	+3.6
NB2	**NORSAR Subarra** comp=Z,1.4nm,0.5s,baz=49,slow=4.6	**83.08**	**338**	P	**P**	**04 52 38.6**	**-0.3**
NOA	**NORSAR Array B** comp=Z,2.2nm,0.5s,baz=54,slow=6.6,SNR=9.5	**83.08**	**338**	P	**P**	**04 52 39.0**	**+0.1**
TORD	**Torodi Ar. Bea** comp=Z,0.2nm,0.4s,baz=34,slow=1.2,SNR=8.7	**123.53**	**310**	PKP	**PKPdf**	**04 59 08.5**	**+0.5**
PLCA	**Paso Flores** comp=Z,1.2nm,0.5s,baz=305,slow=1.0,SNR=7.4	**150.93**	**126**	PKPbc	**PKPbc**	**05 00 05.3**	**+2.4**

*CSEM **07** 04:43:32.9±0.2,38°.84N×25°.95E, h5km, MD3.0, Error ellipse: s-maj=5.4km s-min=2.4km az=74.0*
*ISK **07** 04:43:32.7,38°.86N×25°.99E, h6km, MD3.0*
*DDA **07** 04:43:32.2,38°.85N×25°.93E, h5km, MD2.9*
*ISCJB **07** 04:43:32.4±0.6,38°.85N±0°.02×25°.93E±0°.05, h1km±5km, Error ellipse: s-maj=6.2km s-min=2.8km az=161.2*
*ATH **07** 04:43:32.6,38°.86N×26°.03E, h13km±1km, MD3.0/4*
*THE **07** 04:43:32.9,38°.85N×25°.98E, h11km±1km, ML2.4/5, Error ellipse: s-maj=1.8km s-min=0.6km az=78.0*
ISC 07 04:43:33.0±0.9, 38°.84N±0°.02×25°.95E±0°.03, h13km±9km, n60, σ0§68/94, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIGR	**SIGRI**	**0.38**	**349**	*e*PG	**Pg**	**04 43 40.5**	**-0.1**
SIGR				*e*SG	**Sg**	**04 43 46.2**	**+0.5**
SIGR	**SIGRI**	**0.38**	**349**	P	**Pg**	**04 43 40.7**	**+0.1**
SIGR				S	**Sg**	**04 43 45.9**	**+0.2**
SIGR	**SIGRI**	**0.38**	**349**	*e*PB	**Pg**	**04 43 40.7**	**+0.1**
SIGR	**SIGRI**	**0.38**	**349**	*e*Pg	**Pg**	**04 43 40.5**	**-0.1**
SIGR				S	**Sg**	**04 43 45.9**	**+0.2**
SIGR				*e*Sg	**Sg**	**04 43 46.2**	**+0.5**
CHOS	**Chios island**	**0.46**	**169**	*e*PG	**Pg**	**04 43 42.5**	**+0.3**
CHOS				*e*SG	**Sb**	**04 43 49.5**	**-0.4**
CHOS	**Chios island**	**0.46**	**169**	P	**Pg**	**04 43 42.1**	**-0.1**
CHOS				S	**Sg**	**04 43 48.4**	**0.0**
CHOS	**Chios island**	**0.46**	**169**	*e*PB	**Pg**	**04 43 42.1**	**-0.1**
CHOS	**Chios island**	**0.46**	**169**	P	**Pg**	**04 43 42.1**	**-0.1**
CHOS	**Chios island**	**0.46**	**169**	*e*Pg	**Pg**	**04 43 42.5**	**+0.3**
CHOS				S	**Sg**	**04 43 48.4**	**0.0**
CHOS				*e*Sg	**Sb**	**04 43 49.5**	**-0.4**
PRK	**Paraskevi**	**0.48**	**32**	P	**Pg**	**04 43 42.2**	**-0.3**
PRK				S	**Sg**	**04 43 48.4**	**-0.4**
PRK	**Paraskevi**	**0.48**	**32**	P	**Pg**	**04 43 42.2**	**-0.3**
PRK				S	**Sg**	**04 43 48.4**	**-0.4**
URLA	**Izmir**	**0.70**	**133**	*i* P	**Pb**	**04 43 46.9**	**-0.3**
URLA				*i* S	**Sb**	**04 43 57.0**	**+0.3**
URLA	**Izmir**	**0.70**	**133**	*i* P	**Pb**	**04 43 46.9**	**-0.3**
URLA				*i* S	**Sb**	**04 43 57.0**	**+0.3**
AYVA	**Ayvalik**	**0.74**	**51**	*i* P	**Pg**	**04 43 46.7**	**-0.8**
AYVA				*i* S	**Sb**	**04 43 57.6**	**-0.4**
AYVA	**Ayvalik**	**0.74**	**51**	*i* P	**Pg**	**04 43 46.7**	**-0.8**
AYVA				*i* S	**Sb**	**04 43 57.6**	**-0.4**
ZEY	**˙zmir**	**0.74**	**144**	*i* P	**Pg**	**04 43 46.9**	**-0.5**
ZEY				*i* S	**Sb**	**04 43 58.4**	**+0.5**
BLCB	**Balcova**	**0.97**	**118**	*e*PG	**Pb**	**04 43 51.3**	**-0.5**
BLCB				*e*SG	**Sb**	**04 44 04.8**	**+0.3**
BLCB	**Balcova**	**0.97**	**118**	*e*Pg	**Pb**	**04 43 51.3**	**-0.5**
BLCB				*e*Sg	**Sb**	**04 44 04.8**	**+0.3**
BOZC	**Bozcaada**	**1.00**	**5**	*i* P	**Pg**	**04 43 51.5**	**-0.9**
BOZC				*i* S	**Sb**	**04 44 06.2**	**+0.8**
EZN	**Ezine**	**1.03**	**17**	*e*PG	**Pg**	**04 43 52.0**	**-0.8**
EZN	**Ezine**	**1.03**	**17**	*e*Pg	**Pg**	**04 43 52.0**	**-0.8**
IZM	**Izmir**	**1.12**	**113**	*e*PN	**Pg**	**04 43 54.1**	**-0.6**
IZM	**Izmir**	**1.12**	**113**	*e*Pn	**Pg**	**04 43 54.1**	**-0.6**
LIA	**Limnos Island**	**1.21**	**331**	P	**Pg**	**04 43 55.3**	**-1.0**
LIA				S	**Sg**	**04 44 11.3**	**-0.8**
LIA	**Limnos Island**	**1.21**	**331**	*e*PG	**Pg**	**04 43 55.4**	**-0.9**
LIA				*e*SB	**Sb**	**04 44 12.3**	**+0.9**
LIA	**Limnos Island**	**1.21**	**331**	*e*Pg	**Pg**	**04 43 55.4**	**-0.9**
LIA				S	**Sg**	**04 44 11.3**	**-0.8**
LIA				*e*Sb	**Sb**	**04 44 12.3**	**+0.9**
SMG	**Samos**	**1.33**	**148**	P	**Pn**	**04 43 56.2**	**-1.2**
SMG				S	**Sb**	**04 44 14.5**	**-0.4**
SMG	**Samos**	**1.33**	**148**	*e*PB	**Pn**	**04 43 57.3**	**-0.1**
SMG				*e*SB	**Sb**	**04 44 15.1**	**+0.2**
SMG	**Samos**	**1.33**	**148**	P	**Pn**	**04 43 56.2**	**-1.2**
SMG	**Samos**	**1.33**	**148**	*e*Pb	**Pn**	**04 43 57.3**	**-0.1**
SMG				S	**Sb**	**04 44 14.5**	**-0.4**
SMG				*e*Sb	**Sb**	**04 44 15.1**	**+0.2**
GADA	**Gvkgeada**	**1.35**	**359**	*e*PN	**Pn**	**04 43 58.0**	**+0.5**
GADA	**Gvkgeada**	**1.35**	**359**	*e*Pn	**Pn**	**04 43 58.1**	**+0.5**
GCAM	**G?zelcaml?**	**1.53**	**138**	*i* P	**Pg**	**04 44 01.7**	**-0.6**
GCAM				*i* S	**Sg**	**04 44 22.3**	**+0.2**
GCAM	**G?zelcaml?**	**1.53**	**138**	*i* P	**Pg**	**04 44 01.7**	**-0.6**
GCAM				*i* S	**Sg**	**04 44 22.3**	**+0.2**
BALY	**Balya**	**1.58**	**55**	*i* P	**Pn**	**04 44 00.7**	**-0.1**
BALY				*i* S	**Sg**	**04 44 25.1**	**+1.2**
BALY	**Balya**	**1.58**	**55**	*i* P	**Pn**	**04 44 00.7**	**-0.1**
BALY				*i* S	**Sg**	**04 44 25.1**	**+1.2**
GELI	**Tayfur-Gelibol**	**1.61**	**15**	*e*PN	**Pb**	**04 44 02.3**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.61**	**15**	*e*Pn	**Pb**	**04 44 02.3**	**-0.3**
LPK	**Lapseki**	**1.65**	**22**	*e*PN	**Pb**	**04 44 02.7**	**-0.7**
LPK	**Lapseki**	**1.65**	**22**	*e*Pn	**Pb**	**04 44 02.7**	**-0.7**
SMTH	**Samothraki Isl**	**1.66**	**349**	*e*PB	**Pb**	**04 44 03.3**	**-0.2**
SMTH				*e*SB	**Sg**	**04 44 26.0**	**-0.4**
SMTH	**Samothraki Isl**	**1.66**	**349**	*e*Pb	**Pb**	**04 44 03.3**	**-0.2**
SMTH				*e*Sb	**Sg**	**04 44 26.0**	**-0.4**
BALB	**Balikesir**	**1.70**	**61**	*e*PN	**Pb**	**04 44 03.6**	**-0.6**
BALB	**Balikesir**	**1.70**	**61**	*e*Pn	**Pb**	**04 44 03.6**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.77**	**120**	*e*PN	**Pn**	**04 44 03.1**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.77**	**120**	*e*Pn	**Pn**	**04 44 03.1**	**-0.5**
APE	**Apeiranthos**	**1.80**	**191**	*e*PN	**Pb**	**04 44 05.9**	**0.0**
APE	**Apeiranthos**	**1.80**	**191**	*e*Pn	**Pb**	**04 44 05.9**	**0.0**
KRBG	**Karabiga-Canak**	**1.87**	**34**	*e*PN	**Pn**	**04 44 05.8**	**+1.0**
KRBG	**Karabiga-Canak**	**1.87**	**34**	*e*Pn	**Pn**	**04 44 05.8**	**+1.0**
ERIK	**Erikli-Kesan**	**1.88**	**13**	*e*PN	**Pn**	**04 44 04.8**	**-0.1**
ERIK	**Erikli-Kesan**	**1.88**	**13**	*e*Pn	**Pn**	**04 44 04.8**	**-0.1**
AYDN	**Tasoluk**	**1.93**	**127**	*i* P	**Pn**	**04 44 06.7**	**+1.1**
AYDN				*i* S	**Sg**	**04 44 36.0**	**+1.0**
AYDN	**Tasoluk**	**1.93**	**127**	*i* P	**Pn**	**04 44 06.7**	**+1.1**
AYDN				*i* S	**Sg**	**04 44 36.0**	**+1.0**
ALN	**Alexandroupoli**	**2.06**	**2**	*e*PN	**Pn**	**04 44 08.6**	**+1.3**
ALN	**Alexandroupoli**	**2.06**	**2**	*e*Pn	**Pn**	**04 44 08.6**	**+1.3**
RKY	**Sarkoy-Tekirda**	**2.07**	**27**	*e*PN	**Pn**	**04 44 08.9**	**+1.2**
RKY	**Sarkoy-Tekirda**	**2.07**	**27**	*e*Pn	**Pn**	**04 44 08.9**	**+1.2**
TVSB	**Tavsanli**	**2.80**	**76**	*e*PN	**Pn**	**04 44 19.3**	**+1.6**
TVSB	**Tavsanli**	**2.80**	**76**	*e*Pn	**Pn**	**04 44 19.3**	**+1.6**

*ISCJB **07** 04:58:47.5±0.4,40°.72N±0°.02×29°.22E±0°.04, h11km, Error ellipse: s-maj=4.8km s-min=3.3km az=163.9*
*ISK **07** 04:58:47.0,40°.71N×29°.23E, h11km, MD2.6*
*CSEM **07** 04:58:47.7±0.1,40°.73N×29°.22E, h10km, MD2.6, Error ellipse: s-maj=3.5km s-min=2.5km az=70.0*
*DDA **07** 04:58:48.5,40°.71N×29°.22E, h7km, MD2.5*
ISC 07 04:58:47.7±0.9, 40°.73N±0°.02×29°.22E±0°.02, h11km, n34, σ0§64/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUY	**Buyukada**	**0.15**	**327**	*i* P	**Pb**	**04 58 52.4**	**-0.1**
BUY				*i* S	**Sg**	**04 58 55.1**	**+1.6**
BUY	**Buyukada**	**0.15**	**327**	*i* P	**Pb**	**04 58 52.4**	**-0.1**
BUY				*i* S	**Sg**	**04 58 55.1**	**+1.6**
GEMT	**Gemlik**	**0.29**	**185**	*e*PG	**Pg**	**04 58 53.7**	**+0.1**
GEMT				*e*SG	**Sg**	**04 58 57.2**	**-0.4**
GEMT	**Gemlik**	**0.29**	**185**	*e*Pg	**Pg**	**04 58 53.7**	**+0.1**
GEMT				*e*Sg	**Sg

ellipse: s-maj=11.8km s-min=7.5km az=99.7
*ISCJB **07** 05:45:59.8±0.9, 12°.75N±0°.05×144°.20E±0°.03, h50km±7km, mb4.6/85, MS3.6/11, Error ellipse: s-maj=7.7km s-min=4.5km az=169.1*
*NEIC **07** 05:46:00.8±1.1, 12°.69N×144°.24E, h49km±10km, mb4.7/51, Error ellipse: s-maj=7.1km s-min=5.7km az=147.0*
NEIC Felt at Dededo, Santa Rita and Tamuning.
*DJA **07** 05:46:00.4±0.5, 13°.1N×144°.4E±°, h10km, M4.6/9, mb4.8/9, mB6.0/1, MLv4.5/1, Mw(mB)5.6/1*
*IDC **07** 05:46:01.6±1.2, 12°.74N×144°.41E, h62km±10km, mb4.1/20, mb1 4.2/20, mb1mx4.1/33, mbtmp4.4/20, MS3.6/11, Ms1 3.7/11, ms1mx3.4/30, Error ellipse: s-maj=19.2km s-min=12.4km az=92.0*

ISC 07 05:46:00.9±0.5, 12°.78N±0°.06×144°.24E±0°.05, h49km±2km, h49km:pP-P,n254,σ1§16/282, mb4.7/85, MS3.7/11, 46C-40D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.01**	**37**	P		**Pn**	**05 46 19.1**	**+0.2**
	594nm,0.3s,baz=39,slow=2.1,SNR=144							
GUMO				S		**Sn**	**05 46 32.9**	**+0.9**
	880nm,0.3s,baz=22,slow=21,SNR=13							
GUMO	**Guam**	**1.01**	**37**	*e*Pn		**Pn**	**05 46 19.1**	**+0.2**
GUMO				S		**Sn**	**05 46 32.9**	**+0.9**
GUMO				*e*Sn		Sn	05 46 33.4	+1.4
JAY	**Jayapura**	**15.59**	**193**	LR		LR	05 54 10.8	
	comp=Z,380nm,20.9s,baz=356,slow=31							
JOW	**Kunigami**	**20.49**	**315**	*e*P		Pn	05 50 37.7	+0.3
	16nm,0.9s							
H11S3	**WAKE ISLAND Hy**	**22.34**	**72**	T		T	06 14 05.8	
	baz=258,slow=75,SNR=79							
H11S1	**WAKE ISLAND Hy**	**22.36**	**72**	T		T	06 14 03.0	
	baz=258,slow=75,SNR=45							
H11S2	**WAKE ISLAND Hy**	**22.36**	**72**	T		T	06 14 04.3	
	baz=258,slow=75,SNR=37							
H11N1	**WAKE ISLAND Hy**	**22.80**	**69**	T		T	06 14 40.6	
	baz=255,slow=75,SNR=84							
H11N2	**WAKE ISLAND Hy**	**22.81**	**69**	T		T	06 14 41.2	
	baz=255,slow=75,SNR=82							
H11N3	**WAKE ISLAND Hy**	**22.82**	**69**	T		T	06 14 41.7	
	baz=255,slow=75,SNR=74							
JNU	**Nakatsue**	**23.65**	**331**	P		**P**	**05 51 07.9**	**-0.1**
	14nm,0.8s,baz=96,slow=2.8,SNR=5.6							
JNU				LR		LR	05 58 43.2	
	comp=Z,111nm,21.5s,baz=206,slow=32							
JNU	**Nakatsue**	**23.65**	**331**	*e*P		**P**	**05 51 09.0**	**+1.0**
	16nm,1.3s							
YULB	**Yu-li**	**24.20**	**299**	*e*P		**P**	**05 51 13.2**	**+0.2**
	23nm,1.1s							
MJAR	**Matsushiro Arr**	**24.28**	**348**	P		**P**	**05 51 12.3**	**-1.4**
	3.2nm,0.8s,baz=159,slow=8.7,SNR=4.7							
MJAR				LR		LR	06 00 19.1	
	comp=Z,228nm,18.2s,baz=170,slow=35							
MAJO	**Matsushiro**	**24.28**	**348**	⇓*e*P		**P**	**05 51 13.8**	**+0.1**
MAJO				pmax		pmax		
	comp=Z,84nm,1.2s							
SSLB	**Suanglung**	**24.64**	**300**	*e*P		**P**	**05 51 18.6**	**+1.4**
	comp=Z,81nm,1.7s							
MRSI	**Marisa**	**25.26**	**243**	P		**P**	**05 51 25.0**	**+2.2**
LUWI	**Luwuk**	**25.34**	**239**	P		**P**	**05 51 27.0**	**+3.4**
LUWI	**Luwuk**	**25.34**	**239**	*e*P		**P**	**05 51 22.6**	**-1.0**
	comp=Z,106nm,1.0s							
MPSI	**Mapaga**	**27.11**	**245**	P		**P**	**05 51 41.9**	**+2.3**
KSRS	**Korea Array**	**28.58**	**332**	P		**P**	**05 51 52.1**	**-0.3**
	comp=Z,3.5nm,0.9s,baz=149,slow=9.9,SNR=4.7							
KSRS				PcP		**PcP**	**05 55 03.5**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=187,slow=3.1,SNR=4.4							
KSRS				LR		LR	06 02 19.6	
	comp=Z,110nm,20.3s,baz=162,slow=34							
KSAR	**Wonju Array Be**	**28.59**	**332**	P		**P**	**05 51 52.1**	**-0.4**
KSAR							05 55 03.5	
KSAR	**Wonju Array Be**	**28.59**	**332**	P		**P**	**05 51 52.1**	**-0.4**
KSAR				PcP		**PcP**	**05 55 03.5**	**+0.7**
ERM	**Erimo**	**29.15**	**358**	⇑*e*P		**P**	**05 51 55.8**	**-1.6**
ERM				pmax		pmax		
	comp=Z,145nm,2.9s							
NJ2	**Nanjing**	**30.18**	**314**	*e*P		**P**	**05 52 09.0**	**+2.3**
NJ2				PMZ				
	comp=Z,20nm,0.6s							
WHN	**Wuhan**	**32.78**	**307**	P		**P**	**05 52 32.0**	**+2.5**
WHN				S		**S**	**05 57 44.8**	**+1.6**
WHN				LR		LR		
	comp=Z,460nm,22.5s							
USRK	**Ussuriysk Ar.**	**33.03**	**344**	LR		LR	06 05 12.3	
	comp=Z,86nm,19.4s,baz=153,slow=35							
SBUM	**Sibu**	**33.31**	**255**	*e*P		**P**	**05 52 34.9**	**+0.5**
	comp=Z,19nm,1.5s							
QIZ	**Qiongzhong**	**33.62**	**285**	P		**P**	**05 52 37.4**	**+0.3**
QIZ				pP		**pP**	**05 52 48.0**	**-1.9**
QIZ				sP		**sP**	**05 52 53.3**	**-2.4**
QIZ				PP		**PP**	**05 53 53.5**	**-0.3**
QIZ				S		**S**	**05 57 57.3**	**+0.7**
QIZ				sS		**sS**	**05 58 16.5**	**-1.6**
QIZ				PMZ				
	comp=Z,24nm,1.8s							
QIZ				LZ				
	comp=Z,180nm,17.1s							
WRAB	**Tennant Creek**	**33.93**	**197**	⇓*i*P		**P**	**05 52 39.0**	**-0.7**
WRAB				pmax		pmax		
	comp=Z,45nm,1.7s							
WRAB	**Tennant Creek**	**33.93**	**197**	*e*P		**P**	**05 52 38.7**	**-0.9**
	comp=Z,10nm,0.9s							
WRA	**Warramunga Arr**	**33.94**	**197**	P		**P**	**05 52 38.8**	**-1.0**
	comp=Z,5.0nm,0.8s,baz=22,slow=9.7,SNR=40							
WRA				LR		LR	06 05 43.4	
	comp=Z,128nm,21.4s,baz=125,slow=35							
WRA	**Warramunga Arr**	**33.94**	**197**	*i* P		**P**	**05 52 38.7**	**-1.0**
WRA				pmax		pmax		
	comp=Z,6.0nm,0.7s							
BJI	**Beijing**	**36.71**	**323**	P		**P**	**05 53 03.6**	**+0.3**
BJI				PMZ				
	comp=Z,18nm,0.8s							
BJI				LN				
	comp=Z,190nm,10.2s							
BJI				LE				
	comp=Z,160nm,9.8s							
AS31	**Alice Springs**	**37.60**	**196**	*e*P		**P**	**05 53 09.6**	**-1.5**
ASAR	**Alice Springs**	**37.60**	**196**	P		**P**	**05 53 10.0**	**-1.1**
	comp=Z,2.4nm,0.6s,baz=20,slow=11,SNR=24							
ASAR				PcP		**PcP**	**05 55 28.6**	**+0.3**
	comp=Z,2.7nm,1.0s,baz=38,slow=2.7,SNR=5.8							
ASAR				LR		LR	06 07 56.5	
	comp=Z,116nm,20.2s,baz=4.5,slow=35							
GYA	**Guiyang**	**37.77**	**297**	P		**P**	**05 53 13.8**	**+1.1**
GYA				pP		**pP**	**05 53 26.2**	**+0.5**
GYA				PP		**PnPn**	**05 54 42.6**	**+1.4**
GYA				PcP		**PcP**	**05 55 30.0**	**+1.1**
GYA				S		**S**	**05 59 00.4**	**+0.1**
GYA				sS		**sS**	**05 59 22.6**	**+0.6**
GYA				SS		**SnSn**	**06 01 37.7**	**-6.3**
GYA				PMZ				
	comp=Z,20nm,0.8s							
GYA				PMZ				
	comp=Z,120nm,5.0s							
GYA				LN				
	comp=Z,820nm,17.8s							
GYA				LE				
	comp=Z,740nm,18.0s							
GYA				LZ				
	comp=Z,660nm,17.5s							
SKNT	**Sakolnakorn**	**39.09**	**281**	P		**P**	**05 53 25.2**	**+1.5**
	comp=Z,11nm,0.9s							
TPI	**Tanjungpandan**	**39.47**	**249**	P		**P**	**05 53 27.8**	**+0.8**
HHC	**Hu-ho-hao-te**	**40.00**	**320**	*e*P		**P**	**05 53 33.2**	**+2.1**
HHC				PP		**PnPn**	**05 55 08.7**	**+1.2**
HHC				PMZ				
	comp=Z,20nm,1.1s							
HHC				PMZ				
	comp=Z,140nm,5.2s							
HHC				LN				
	comp=Z,230nm,14.8s							
HHC				LE				
	comp=Z,320nm,17.3s							
HHC				LZ				
	comp=Z,210nm,16.0s							
KMI	**Kunming**	**40.97**	**294**	P		**P**	**05 53 41.4**	**+1.9**
KMI				PMZ				
	comp=Z,12nm,0.7s							
CHAI	**Chaiyaphum**	**41.01**	**280**	P		**P**	**05 53 41.1**	**+1.4**
	comp=Z,3.6nm,0.9s,comp=Z,122nm							
CD2	**Chengdu**	**41.40**	**302**	⇑*i*P		**P**	**05 53 43.4**	**+0.6**
CD2				pP		**pP**	**05 53 55.7**	**-0.2**
CD2				sP		**sP**	**05 54 01.1**	**-0.5**
CD2				S		**S**	**05 59 51.8**	**-2.8**
CD2				sS		**sS**	**06 00 17.8**	**+1.3**
CD2				PMZ				
	comp=Z,40nm,0.7s							
CD2				PMZ				
	comp=Z,80nm,6.4s							
CD2				LN				
	comp=Z,200nm,16.8s							
CD2				LZ				
	comp=Z,180nm,12.0s							
MBWA	**Marble Bar**	**41.44**	**216**	*e*P		**P**	**05 53 42.7**	**-0.4**
	comp=Z,10nm,0.8s							
MYKOM	**Kota Tinggi**	**41.45**	**258**	*e*P		**P**	**05 53 44.5**	**+1.1**
	comp=Z,15nm,0.8s							
HIA	**Hailar**	**41.62**	**336**	⇓*e*P		**P**	**05 53 43.0**	**-1.3**
HIA				pmax		pmax		
	comp=Z,3.0nm,0.5s							
PETK	**Petropavlovsk-**	**41.64**	**12**	PcP		**PcP**	**05 55 39.9**	**-0.6**
	comp=Z,4.3nm,0.9s,baz=178,slow=8.5,SNR=4.9							
PETK				LR		LR	06 07 53.4	
	comp=Z,73nm,21.8s,baz=208,slow=32							
PET	**Petropavlovsk**	**41.77**	**13**	*e*P		**P**	**05 53 45.8**	**+0.5**
PET				pmax		pmax		
	comp=Z,31nm,1.0s							
PBKT	**Sadao Pong**	**41.97**	**281**	P		**P**	**05 53 49.2**	**+1.6**
	comp=Z,18nm,0.8s,comp=Z,2μm							
UTTA	**Uttaradit**	**42.37**	**282**	P		**P**	**05 53 51.8**	**+1.0**
	comp=Z,4.1nm,0.8s							
CRAI	**Chiangrai**	**42.61**	**286**	P		**P**	**05 53 50.0**	**-2.8**
	comp=Z,15nm,1.1s,comp=Z,23μm							
CGJI	**Cibinong**	**42.88**	**245**	P		**P**	**05 53 53.3**	**-1.6**
LZH	**Lanzhou**	**43.06**	**310**	*e*P		**P**	**05 53 55.8**	**-0.6**
LZH				pP		**pP**	**05 54 08.5**	**-1.0**
LZH				sP		**sP**	**05 54 14.0**	**-1.2**
LZH				*e*PP		**PP**	**05 55 38.3**	**+1.3**
LZH				*e*S		**S**	**06 00 18.0**	**-1.1**
LZH				sS		**sS**	**06 00 37.8**	**-3.2**
LZH				PMZ				
	comp=Z,25nm,1.3s							
LZH				PMZ				
	comp=Z,96nm,6.0s							
LZH				LN				
	comp=Z,530nm,14.0s							
LZH				LE				
	comp=Z,260nm,13.4s							
LZH				LZ				
	comp=Z,600nm,17.9s							
SKLT	**Songkhla**	**43.28**	**267**	P		**P**	**05 54 01.3**	**+3.1**
	comp=Z,18nm,0.8s							
MDSI	**Maura Dua**	**43.34**	**249**	P		**P**	**05 53 58.4**	**-0.3**
UTHA	**Uthaitani**	**43.47**	**279**	P		**P**	**05 54 01.3**	**+1.6**
	comp=Z,4.8nm,0.8s							
LWLI	**Liwa**	**43.66**	**249**	P		**P**	**05 54 01.8**	**+0.4**
LHSI	**Lahat**	**43.68**	**250**	P		**P**	**05 54 02.2**	**+0.8**
CMAI	**Chiengmai2**	**43.84**	**285**	P		**P**	**05 54 03.7**	**+0.8**
	comp=Z,13nm,1.0s							
CMAR	**Chiang Mai Arr**	**43.90**	**283**	P		**P**	**05 54 03.8**	**+0.6**
	comp=Z,5.6nm,0.5s,baz=80,slow=6.9,SNR=8.2							
CMAR				PcP		**PcP**	**05 55 49.6**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=82,slow=1.4,SNR=5.9							
CMAR				LR		LR	06 12 13.2	
	comp=Z,97nm,19.6s,baz=136,slow=36							
STKA	**Stephens Creek**	**44.47**	**183**	P		**P**	**05 54 05.6**	**-1.8**
	comp=Z,1.9nm,0.4s,baz=4.5,slow=9.2,SNR=9.1							
STKA	**Stephens Creek**	**44.47**	**183**	*e*P		**P**	**05 54 05.5**	**-2.0**
	comp=Z,0.5nm,0.5s							
MHMT	**Maesarieng**	**44.86**	**283**	P		P	05 54 14.5	+3.6
	comp=Z,9.0nm,0.6s							
ULN	**Ulaanbaatar**	**46.70**	**326**	⇑*e*P		**P**	**05 54 25.3**	**+0.1**
ULN				pmax		pmax		
	comp=Z,6.0nm,1.0s							
ULN	**Ulaanbaatar**	**46.70**	**326**	*e*P		**P**	**05 54 25.1**	**-0.1**
	comp=Z,5.2nm,0.9s							
KCSI	**Kotacane, Aceh**	**46.84**	**263**	P		P	05 54 29.9	+3.4
SONM	**Songino Array**	**47.05**	**326**	P		**P**	**05 54 27.8**	**0.0**
	comp=Z,1.9nm,0.6s,baz=149,slow=9.7,SNR=10.0							
GTA	**Gaotai**	**47.26**	**312**	*e*P		**P**	**05 54 31.2**	**+1.6**
GTA				pP		**pP**	**05 54 43.7**	**+0.8**
GTA				sP		**sP**	**05 54 48.8**	**+0.2**
GTA				PcP		**PcP**	**05 56 01.3**	**+1.0**
GTA				S		**S**	**06 01 19.7**	**+0.1**
GTA				sS		**sS**	**06 01 40.8**	**-1.0**
GTA				SS		**SS**	**06 04 40.6**	**-6.9**
GTA				PMZ				
	comp=Z,5.0nm,1.5s							
GTA				PMZ				
	comp=Z,62nm,5.2s							
GTA				LN				
	comp=Z,210nm,16.6s							
GTA				LE				
	comp=Z,260nm,15.7s							
GTA				LZ				
	comp=Z,100nm,16.6s							
ZAK	**Zakamensk**	**50.17**	**327**	*e*P		**P**	**05 54 51.3**	**-0.5**
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.1s							
YAK	**Yakutsk**	**50.29**	**351**	*e*P		**P**	**05 54 51.5**	**-0.8**
SEY	**Seymchan**	**50.42**	**5**	*e*P		**P**	**05 54 53.3**	**0.0**
TLY	**Talaya**	**50.72**	**328**	*e*P		**P**	**05 54 53.6**	**-2.2**
TLY				pmax		pmax		
	comp=Z,2.0nm,0.6s							
LSA	**Lhasa**	**51.83**	**298**	*e*P		**P**	**05 55 06.4**	**+1.4**
LSA				pmax		pmax		
	comp=Z,6.0nm,0.6s							
LSA	**Lhasa**	**51.83**	**298**	*e*P		**P**	**05 55 06.3**	**+1.4**
	comp=Z,5.8nm,0.6s							
TAPN	**Taplejung**	**54.62**	**294**	*e*P		**P**	**05 55 24.4**	**-1.0**
	comp=Z,16nm,0.2s							
ODAN	**Odare**	**54.88**	**294**	*e*P		**P**	**05 55 27.0**	**-0.2**
	comp=Z,20nm,1.0s							
RAMN	**Ramite**	**55.59**	**294**	*e*P		**P**	**05 55 31.7**	**-0.6**
	comp=Z,28nm,0.9s							
JIRN	**Jiri**	**55.99**	**295**	*e*P		**P**	**05 55 35.4**	**+0.1**
	comp=Z,8.9nm,0.5s							
GUN	**Gumba**	**56.28**	**295**	*e*P		**P**	**05 55 37.3**	**0.0**
	comp=Z,27nm,0.7s							
PKI	**Pulchoki**	**56.68**	**295**	*e*P		**P**	**05 55 39.9**	**-0.3**
PKIN	**Phulchoki**	**56.69**	**295**	*e*P		**P**	**05 55 40.2**	**0.0**
	comp=Z,4.6nm,0.6s							
KKN	**Kakani**	**56.80**	**295**	*e*P		**P**	**05 55 40.3**	**-0.6**
	comp=Z,11nm,0.8s							
DMN	**Daman**	**56.95**	**295**	*e*P		**P**	**05 55 41.4**	**-0.6**
	comp=Z,12nm,0.9s							
WMQ	**Urumqi**	**57.26**	**314**	*e*P		**P**	**05 55 45.9**	**+2.2**
WMQ				pP		**pP**	**05 55 58.6**	**+1.3**
WMQ				sP		**sP**	**05 56 03.9**	**+1.0**
WMQ				PcP		**PcP**	**05 56 39.8**	**+2.2**
WMQ				PMZ				
	comp=Z,10.0nm,0.8s							
WMQ				PMZ				
	comp=Z,64nm,4.2s							
WMQ				LN				
	comp=Z,37nm,18.6s							
WMQ				LE				
	comp=Z,53nm,18.0s							
GKN	**Gorkha**	**57.38**	**295**	*e*P		**P**	**05 55 44.7**	**-0.2**
	comp=Z,16nm,0.7s							
KOLN	**Koldanda**	**58.29**	**295**	*e*P		**P**	**05 55 51.3**	**-0.1**
	comp=Z,23nm,0.9s							
PYUN	**Piuthan**	**58.84**	**295**	*e*P		**P**	**05 55 55.0**	**-0.2**
	comp=Z,48nm,0.7s							
TIXI	**Tiksi**	**59.58**	**354**	⇓*e*P		**P**	**05 55 58.4**	**-0.8**
TIXI				pmax		pmax		
	comp=Z,4.0nm,2.5s							
MK31	**Makanchi Array**	**61.65**	**316**	*e*P		**P**	**05 56 14.5**	**+0.6**
MK31	**Makanchi Array**	**61.65**	**316**	*e*P		**P**	**05 56 14.5**	**+0.6**
MKAR	**Makanchi Array**	**61.65**	**316**	P		**P**	**05 56 14.6**	**+0.7**
	comp=Z,3.4nm,0.8s,baz=106,slow=3.9,SNR=29							
ZALV	**Zalesovo Beam**	**61.93**	**325**	P		**P**	**05 56 15.6**	**+0.1**
	comp=Z,2.1nm,0.5s,baz=108,slow=6.6,SNR=5.5							
ZALV				LR		LR	06 22 57.5	
	comp=Z,58nm,20.5s,baz=68,slow=36							
ZALV	**Zalesovo Beam**	**61.93**	**325**	*i* P		**P**	**05 56 16.2**	**+0.7**
ZALV				pmax		pmax		
	comp=Z,2.0nm,0.5s							
KURK	**Kurchatov**	**64.81**	**320**	*e*P		**P**	**05 56 34.1**	**-0.6**
KURK				pmax		pmax		
	comp=Z,12nm,0.8s							
KURK	**Kurchatov**	**64.81**	**320**	*e*P		**P**	**05 56 34.1**	**-0.6**
	comp=Z,12nm,0.8s							
KURBB	**Kurchatov Arra**	**64.85**	**320**	P		**P**	**05 56 34.6**	**-0.3**
	comp=Z,7.3nm,0.7s,baz=104,slow=6.5,SNR=41							
KDAK	**Kodiak Island**	**65.08**	**32**	*i* P		**P**	**05 56 35.6**	**-0.6**
KSH	**Kashi**	**65.25**	**308**	*e*P		**P**	**05 56 41.0**	**+3.1**
KSH				sP		**sP**	**05 56 59.4**	**+2.1**
KSH				PP		PP	05 59 07.5	+5.7
KSH				PcS			06 01 15.6	
KSH				S		**S**	**06 05 20.6**	**+2.5**
KSH				sS		**sS**	**06 05 42.4**	**+1.2**
KSH				PMZ				
	comp=Z,78nm,4.6s							
KSH				LN				
	comp=Z,90nm,5.9s							
KSH				LE				
	comp=Z,120nm,5.8s							
KSH				LZ				
	comp=Z,180nm,4.7s							
TKM2	**Tokmak 2**	**65.79**	**311**	*e*P		**P**	**05 56 42.0**	**+0.5**
TKM2				pmax		pmax		
	comp=Z,3.0nm,0.7s							
TKM2	**Tokmak 2**	**65.79**	**311**	*e*P		**P**	**05 56 42.0**	**+0.5**
	comp=Z,3.2nm,0.7s							
AAK	**Ala-Archa**	**66.58**	**311**	P		**P**	**05 56 47.4**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=105,slow=6.2,SNR=6.1							
AAK	**Ala-Archa**	**66.58**	**311**	*e*P		**P**	**05 56 47.2**	**+0.7**
AAK				pmax		pmax		
	comp=Z,13nm,2.5s							
AAK	**Ala-Archa**	**66.58**	**311**	*e*P		**P**	**05 56 46.7**	**+0.3**
	comp=Z,1.7nm,0.7s							
TRF	**Thorofare Moun**	**67.77**	**26**	*e*P		**P**	**05 56 52.9**	**-0.7**
	comp=Z,8.7nm,1.4s							
KKAR	**Karatay Array**	**69.53**	**311**	*e*P		**P**	**05 57 05.4**	**+0.6**
KKAR				pmax		pmax		
	comp=Z,3.0nm,0.5s							
KKAR	**Karatay Array**	**69.53**	**311**	*e*P		**P**	**05 57 05.4**	**+0.6**
	comp=Z,5.5nm,0.5s							
ILAR	**Eielson Array**	**69.56**	**25**	P		**P**	**05 57 01.7**	**-2.8**
	comp=Z,0.4nm,0.3s,baz=253,slow=5.6,SNR=19							
BVAR	**Borovoye Array**	**70.18**	**322**	P		**P**	**05 57 08.7**	**+0.1**
	comp=Z,4.7nm,0.8s,baz=107,slow=7.9,SNR=23							
BRVK	**Borovoye**	**70.25**	**322**	*c i*P		**P**	**05 57 09.0**	**0.0**
BRVK				*i* *PP		**pP**	**05 57 23.0**	**+0.1**
BRVK				pmax		pmax		
	comp=Z,4.0nm,0.8s							
BRVK	**Borovoye**	**70.25**	**322**	*e*P		**P**	**05 57 09.5**	**+0.5**
	comp=Z,4.1nm,0.8s							
KBL	**Kabul**	**70.75**	**302**	*e*P		**P**	**05 57 11.3**	**-1.3**
KBL				pmax		pmax		
	comp=Z,9.0nm,1.0s							
KBL	**Kabul**	**70.75**	**302**	*e*P		**P**	**05 57 11.3**	**-1.3**
	comp=Z,8.9nm,1.0s							
HYT	**Haines Junctio**	**73.21**	**30**	*e*P		**P**	**05 57 26.9**	**+0.1**
ABKAR	**Akbulak array**	**76.73**	**318**	*e*P		**P**	**05 57 46.6**	**-0.5**
	comp=Z,5.1nm,0.8s							
DLBC	**Dease Lake**	**76.99**	**33**	*e*P		**P**	**05 57 48.6**	**0.0**
	comp=Z,4.7nm,1.0s							
GEYT	**Alibeck**	**79.24**	**307**	P		**P**	**05 58 01.9**	**+0.5**
	comp=Z,2.3nm,0.3s,baz=169,slow=3.0,SNR=5.9							
L02D	**Cave Junction,**	**83.13**	**48**	⇑P		**P**	**05 58 22.4**	**+0.5**
	baz=83							
I04A	**Tendick Farm,**	**83.67**	**47**	⇑P		**P**	**05 58 25.0**	**+0.3**
	baz=84							
M02C	**Callahan**	**83.83**	**49**	⇑P		**P**	**05 58 26.5**	**+0.9**
	baz=84							
YKA	**Yellowknife Ar**	**83.86**	**27**	P		**P**	**05 58 24.2**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=286,slow=5.0,SNR=29							
YBH	**Yreka Blue Hor**	**83.86**	**49**	*e*P		**P**	**05 58 26.6**	**+0.8**
YBH				pmax		pmax		
	comp=Z,7.0nm,0.9s							
YBH	**Yreka Blue Hor**	**83.86**	**49**	*e*P		**P**	**05 58 26.6**	**+0.8**
	comp=Z,7.1nm,0.9s							
J04D	**Umpqua Nationa**	**84.00**	**47**	⇑P		**P**	**05 58 27.4**	**+0.8**
	baz=84							
N02D	**Trinity Center**	**84.02**	**49**	⇓P		**P**	**05 58 27.5**	**+0.9**
	baz=84							
LTY	**Liberty**	**84.15**	**43**	*e*P		**P**	**05 58 27.1**	**-0.1**
I05D	**Terrebonne, OR**	**84.31**	**46**	⇑P		**P**	**05 58 28.4**	**+0.4**
	baz=84							
K04D	**Chiloquin, OR**	**84.38**	**48**	⇑P		**P**	**05 58 29.1**	**+0.6**
	baz=84							
M04C	**Macdoel**	**84.49**	**49**	⇓P		**P**	**05 58 29.9**	**+0.8**
	baz=84							
J05D	**Fort Rock, OR**	**84.61**	**47**	⇓P		**P**	**05 58 30.1**	**+0.5**
	baz=85							
K05A	**Summer Lake**	**84.98**	**47**	*e*P		**P**	**05 58 31.8**	**+0.3**
I07A	**Izee**	**85.66**	**46**	*e*P		**P**	**05 58 35.6**	**+0.8**
NEW	**Newport**	**86.24**	**41**	*e*P		**P**	**05 58 37.4**	**-0.1**
NEW				pmax		pmax		
	comp=Z,12nm,0.8s							
NEW	**Newport**	**86.24**	**41**	*e*P		**P**	**05 58 37.4**	**-0.1**
	comp=Z,12nm,0.8s							
NEW	**Newport**	**86.24**	**41**	⇓P		**P**	**05 58 37.4**	**-0.1**
	baz=86							
WVOR	**Wild Horse Val**	**86.67**	**47**	*e*P		**P**	**05 58 40.2**	**+0.3**
WVOR				pmax		pmax		
	comp=Z,5.0nm,0.9s							
WVOR	**Wild Horse Val**	**86.67**	**47**	*e*P		**P**	**05 58 40.1**	**+0.3**
	comp=Z,4.6nm,0.9s							
BMO	**Blue Mountains**	**86.99**	**45**	*e*P		**P**	**05 58 41.0**	**-0.3**
BMO				pmax		pmax		
	comp=Z,9.0nm,1.0s							
BMO	**Blue Mountains**	**86.99**	**45**	*e*P		**P**	**05 58 41.0**	**-0.3**
	comp=Z,9.5nm,1.0s							
EDM	**Edmonton**	**87.16**	**36**	*e*P		**P**	**05 58 41.7**	**-0.2**
EDM	**Edmonton**	**87.16**	**36**	*e*P		**P**	**05 58 41.7**	**-0.2**
ARCES	**ARCESS Array B**	**87.67**	**342**	P		**P**	**05 58 44.0**	**+0.1**
	comp=Z,2.6nm,0.9s,baz=69,slow=7.9,SNR=5.1							
BSMT	**Bassoo Peak**	**87.86**	**41**	*e*P		**P**	**05 58 45.6**	**0.0**
NVAR	**Mina Array Bea**	**87.90**	**51**	P		**P**	**05 58 45.5**	**-0.5**
	comp=Z,4.6nm,0.9s,baz=267,slow=5.9,SNR=20							
WALA	**Waterton Lakes**	**88.07**	**40**	*e*P		**P**	**05 58 46.5**	**0.0**
	comp=Z,4.2nm,1.1s							
MFID	**Camas Ranch**	**88.40**	**46**	*e*P		**P**	**05 58 48.6**	**+0.5**
	comp=

PFO	**Pinyon Flats O**	**90.61**	**55**	ǁP		**P**	**05 58 59.0**	**+0.3**
	baz=91							
MONP	**Monument Peak,**	**90.83**	**56**	⇑P		**P**	**05 59 00.1**	**+0.3**
	baz=91							
BELC	**Belle Mtn. Jos**	**90.86**	**55**	⇑P		**P**	**05 59 00.2**	**+0.3**
	baz=91							
GMRC	**Granite Mounta**	**90.92**	**54**	⇑P		**P**	**05 59 00.7**	**+0.5**
	baz=91							
QLMT	**Earthquake Lak**	**91.00**	**44**	*e*P		**P**	**05 59 00.9**	**+0.6**
	comp=Z,0.9nm,1.0s							
HVU	**Hansel Valley**	**91.04**	**47**	*e*P		**P**	**05 59 00.8**	**+0.3**
HVU				pmax		pmax		
	comp=Z,3.0nm,1.1s							
HVU	**Hansel Valley**	**91.04**	**47**	*e*P		**P**	**05 59 00.8**	**+0.3**
	comp=Z,2.9nm,1.1s							
LDFC	**Landfair**	**91.27**	**54**	*e*P		**P**	**05 59 03.1**	**+1.4**
A19A	**Klindworth Far**	**91.32**	**39**	ǁP		**P**	**05 59 01.5**	**-0.1**
	baz=91							
YMR	**Madison River**	**91.36**	**44**	*e*P		**P**	**05 59 02.9**	**+0.8**
	comp=Z,6.4nm,0.8s							
BC3	**Big Chuckawall**	**91.40**	**55**	ǁP		**P**	**05 59 02.1**	**-0.2**
	baz=91							
IRM	**Iron Mountain**	**91.50**	**55**	ǁP		**P**	**05 59 03.1**	**+0.4**
	baz=92							
DUG	**Dugway, Tooele**	**91.50**	**48**	*e*P		**P**	**05 59 02.5**	**-0.2**
DUG				pmax		pmax		
	comp=Z,2.0nm,0.8s							
DUG	**Dugway, Tooele**	**91.50**	**48**	*e*P		**P**	**05 59 02.5**	**-0.2**
	comp=Z,1.5nm,0.8s							
DUG	**Dugway, Tooele**	**91.50**	**48**	ǁP		**P**	**05 59 03.0**	**+0.2**
	baz=91							
YFT	**Old Faithful**	**91.52**	**44**	*e*P		**P**	**05 59 05.0**	**+2.1**
	comp=Z,4.8nm,0.6s							
YNR	**Norris Junctio**	**91.54**	**44**	*e*P		**P**	**05 59 04.9**	**+1.9**
	comp=Z,16nm,1.2s							
C19A	**Slack Wire Ran**	**91.56**	**40**	ǁP		**P**	**05 59 03.5**	**+0.7**
	baz=92							
FINES	**FINESS Array B**	**91.64**	**335**	P		**P**	**05 59 01.0**	**-1.6**
	comp=Z,1.5nm,0.5s,baz=94,slow=3.9,SNR=8.4							
IMW	**Indian Meadow**	**91.64**	**44**	*e*P		**P**	**05 59 04.0**	**+0.6**
	comp=Z,5.2nm,1.2s							
FXWY	**Fox Creek**	**91.66**	**45**	*e*P		**P**	**05 59 04.0**	**+0.5**
	comp=Z,2.6nm,1.1s							
H17A	**Grant Village**	**91.72**	**44**	*e*P		**P**	**05 59 06.0**	**+2.2**
	comp=Z,7.7nm,1.0s							
H17A	**Grant Village**	**91.72**	**44**	ǁP		**P**	**05 59 05.9**	**+2.2**
	baz=92							
FLWY	**Flagg Ranch**	**91.74**	**44**	*e*P		**P**	**05 59 04.6**	**+0.7**
	comp=Z,7.4nm,1.1s							
MOOW	**Moose Ponds**	**91.82**	**44**	*e*P		**P**	**05 59 04.1**	**-0.1**
	comp=Z,4.6nm,1.3s							
D19A	**Cripps Ranch,**	**91.87**	**41**	⇑P		**P**	**05 59 03.7**	**-0.5**
	baz=92,SNR=6.4							
AHID	**Auburn Hatcher**	**91.90**	**45**	*e*P		**P**	**05 59 04.9**	**+0.3**
	comp=Z,13nm,0.4s							
Y12C	**Blythe**	**92.11**	**55**	⇑P		**P**	**05 59 05.6**	**+0.1**
	baz=92							
E19A	**Rath Farm, Rou**	**92.18**	**41**	⇑P		**P**	**05 59 05.6**	**-0.1**
	baz=92							
W13A	**Hualapai Mount**	**92.22**	**53**	⇑P		**P**	**05 59 06.8**	**+0.5**
	baz=92							
C20A	**Veseth Ranch,**	**92.23**	**40**	⇑P		**P**	**05 59 05.4**	**-0.4**
	baz=92,SNR=8.2							
H18A	**Shoshone NF, C**	**92.23**	**43**	⇑P		**P**	**05 59 06.6**	**+0.4**
	baz=92							
PDMCI	**Parker Dam,Lak**	**92.26**	**54**	ǁP		**P**	**05 59 06.7**	**+0.6**
	baz=92							
F19A	**Roth Farm, Mol**	**92.30**	**42**	ǁP		**P**	**05 59 06.7**	**+0.5**
	baz=92							
RLMT	**Red Lodge**	**92.34**	**43**	*e*P		**P**	**05 59 06.8**	**+0.2**
	comp=Z,2.0nm,0.7s							
B21A	**Ellsworth Farm**	**92.57**	**39**	⇑P		**P**	**05 59 07.6**	**+0.3**
	baz=92							
E20A	**Meyer Farm, Mu**	**92.59**	**41**	ǁP		**P**	**05 59 07.5**	**-0.1**
	baz=92							
H19A	**Powell**	**92.69**	**43**	⇑P		**P**	**05 59 09.0**	**+0.9**
	baz=93							
C21A	**Desert Coulee**	**92.75**	**40**	ǁP		**P**	**05 59 08.0**	**-0.3**
	baz=93							
RAYN	**Ar Rayn**	**92.80**	**295**	*e*P		**P**	**05 59 07.3**	**-1.7**
	comp=Z,2.0nm,0.7s							
I19A	**Meeteetse**	**92.91**	**44**	⇑P		**P**	**05 59 10.0**	**+0.8**
	baz=93							
PDAR	**Pinedale Array**	**92.97**	**45**	P		**P**	**05 59 09.0**	**-0.6**
	comp=Z,0.7nm,0.9s,baz=318,slow=2.0,SNR=5.7							
G20A	**Bridger**	**93.00**	**42**	ǁP		**P**	**05 59 08.9**	**-0.7**
	baz=93,SNR=5.4							
A22A	**Carney Farms,**	**93.03**	**38**	ǁP		**P**	**05 59 09.1**	**-0.4**
	baz=93							
J19A	**Crowheart**	**93.14**	**44**	ǁP		**P**	**05 59 09.6**	**-0.7**
	baz=93,SNR=10.0							
E21A	**Keefer Ranch,**	**93.25**	**41**	⇑P		**P**	**05 59 10.4**	**-0.2**
	baz=93							
H20A	**Greybull**	**93.41**	**43**	⇑P		**P**	**05 59 11.5**	**+0.1**
	baz=93							
I20A	**Worland**	**93.52**	**44**	⇑P		**P**	**05 59 11.6**	**-0.3**
	baz=94							
C22A	**Vida**	**93.54**	**39**	⇑P		**P**	**05 59 11.2**	**-0.7**
	baz=94							
D22A	**Cohagen**	**93.59**	**40**	ǁP		**P**	**05 59 12.1**	**+0.1**
	baz=94							
G21A	**Lodge Grass**	**93.66**	**42**	ǁP		**P**	**05 59 12.4**	**-0.2**
	baz=94							
LAO	**LASA Array**	**93.74**	**41**	*e*P		**P**	**05 59 12.7**	**-0.1**
	comp=Z,15nm,1.0s							
B23A	**Brockton**	**93.80**	**39**	ǁP		**P**	**05 59 13.0**	**0.0**
	baz=94							
C23A	**Lambert**	**93.95**	**39**	⇑P		**P**	**05 59 13.0**	**-0.7**
	baz=94,SNR=6.3							
H21A	**Big Horn, Sher**	**94.00**	**43**	ǁP		**P**	**05 59 14.3**	**+0.1**
	baz=94,SNR=5.6							
E22A	**Miles City**	**94.01**	**41**	ǁP		**P**	**05 59 13.3**	**-0.7**
	baz=94,SNR=6.9							
214A	**Organ Pipe Nat**	**94.02**	**56**	ǁP		**P**	**05 59 14.8**	**+0.4**
	baz=94							
WUAZ	**Wupatki**	**94.05**	**52**	*e*P		**P**	**05 59 15.6**	**+1.0**
	comp=Z,4.1nm,0.9s							
WUAZ	**Wupatki**	**94.05**	**52**	⇑P		**P**	**05 59 15.2**	**+0.6**
	baz=94							
F22A	**Rosebud**	**94.07**	**41**	ǁP		**P**	**05 59 14.2**	**-0.1**
	baz=94							
I21A	**Big Trails, Te**	**94.14**	**44**	ǁP		**P**	**05 59 14.4**	**-0.4**
	baz=94							
D23A	**Lindsay**	**94.19**	**40**	⇑P		**P**	**05 59 13.8**	**-1.1**
	baz=94,SNR=5.2							
A24A	**Westby**	**94.21**	**38**	ǁP		**P**	**05 59 14.6**	**-0.3**
	baz=94							
G22A	**Birney**	**94.26**	**42**	⇑P		**P**	**05 59 15.2**	**-0.1**
	baz=94							
C24A	**Savage**	**94.53**	**39**	ǁP		**P**	**05 59 16.7**	**+0.3**
	baz=94							
K21A	**Alcova**	**94.60**	**45**	⇑P		**P**	**05 59 16.8**	**-0.3**
	baz=94							
F23A	**Volborg**	**94.64**	**41**	ǁP		**P**	**05 59 17.0**	**0.0**
	baz=95							
J22A	**Midwest**	**94.83**	**44**	⇑P		**P**	**05 59 17.8**	**-0.2**
	baz=95							
G23A	**Biddle**	**94.86**	**42**	ǁP		**P**	**05 59 17.7**	**-0.3**
	baz=95							
AKASG	**Malin Array Be**	**95.32**	**325**	*i* P		**P**	**05 59 21.7**	**+1.9**
E25A	**Miller Ranch,**	**95.59**	**40**	ǁP		**P**	**05 59 20.9**	**-0.4**
	baz=96							
N23A	**Red Feather La**	**96.17**	**46**	⇑P		**P**	**05 59 24.0**	**-0.3**
	baz=96							
E26A	**Carlson Angus**	**96.19**	**40**	ǁP		**P**	**05 59 24.1**	**+0.1**
	baz=96							
H25A	**Fruitdale**	**96.26**	**42**	⇑P		**P**	**05 59 24.5**	**+0.1**
	baz=96							
G26A	**Maurine**	**96.61**	**41**	⇑P		**P**	**05 59 26.0**	**0.0**
	baz=96							
F27A	**Lemmon**	**96.73**	**40**	⇑P		**P**	**05 59 26.5**	**0.0**
	baz=97							
E27A	**Carson**	**96.77**	**39**	⇑P		**P**	**05 59 26.3**	**-0.3**
	baz=97							
G27A	**Dupree**	**97.00**	**41**	⇑P		**P**	**05 59 27.5**	**-0.2**
	baz=97							
NOA	**NORSAR Array B**	**97.59**	**339**	LR		LR	06 45 11.0	
	comp=Z,26nm,21.8s,baz=15,slow=36							
TORD	**Torodi Ar. Bea**	**134.81**	**303**	PKP		**PKPdf**	**06 05 15.3**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=48,slow=2.2,SNR=8.1							
PLCA	**Paso Flores**	**138.73**	**139**	PKP		**PKPdf**	**06 05 21.7**	**-0.4**
	comp=Z,3.2nm,1.1s,baz=157,slow=4.0,SNR=2.9							
DBIC	**Dimbokro**	**143.72**	**300**	PKP		PKPab	06 05 28.6	+0.1
	comp=Z,12nm,0.8s,baz=43,slow=4.1,SNR=11							
TRQA	**Tornquist**	**145.66**	**142**	*e*PKPdf		**PKPbc**	**06 05 34.5**	**-0.3**

DJA 07 05:57:04.8±0.9, 9°S±4°×11°3E±°, h28km±9km, M3.7/4, MLv3.7/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GMJI	**Gumukmas**	**1.24**	**21**	P		Pn	05 57 26.4	+0.1
GMJI				S		Sn	05 57 39.8	-2.3
JAGI	**Jajag, Banyuwa**	**1.49**	**50**	P		Pn	05 57 30.7	+0.9
JAGI				S		Sn	05 57 48.2	-0.1
BLJI	**Banyuglugur**	**1.78**	**19**	P		Pn	05 57 34.5	+0.7
BLJI				S		Sn	05 57 57.1	+1.6
PWJI	**Pagerwojo**	**1.84**	**320**	P		Pn	05 57 35.8	+1.3
PWJI				S		Sn	05 57 56.8	-0.1
ABJI	**Asem Bagus**	**2.04**	**37**	P		Pn	05 57 37.5	+0.2
PCJI	**Pacitan**	**2.19**	**304**	P		Pn	05 57 39.5	+0.2
PCJI				S		Sn	05 58 06.8	+1.4
IGBI	**Denpasar**	**2.21**	**74**	P		Pn	05 57 39.7	+0.1
IGBI				S		Sn	05 58 05.1	-0.9
DNP	**Denpasar**	**2.31**	**71**	P		Pn	05 57 39.8	-1.2
DNP				S		Sb	05 58 12.4	-1.6
KMMI	**Kalianget**	**2.56**	**22**	P		Pn	05 57 45.2	+0.7
KMMI				S		Sb	05 58 18.7	-2.4
GRJI	**Gresik**	**2.56**	**348**	P		Pn	05 57 44.8	+0.3
GRJI				S		Sn	05 58 17.2	+2.5
SRBI	**Singaraja**	**2.57**	**59**	P		Pn	05 57 45.2	+0.6
SRBI				S		Sn	05 58 15.7	+0.8
WOJI	**Wonogiri, Jawa**	**2.60**	**308**	P		Pn	05 57 47.4	+2.4
WOJI				S		Sn	05 58 16.8	+1.2
TBJI	**Tambak Boyo**	**2.84**	**336**	P		Pn	05 57 48.6	+0.2
UGM	**Wanagama**	**2.88**	**302**	P		Pn	05 57 49.3	+0.4
UGM				S		Sn	05 58 24.3	+1.6
SMRI	**Semarang**	**3.47**	**313**	P		Pn	05 57 57.1	0.0

IDC 07 06:00:28.3±1.2, 55°51S×26°85W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.7/14, mbtmp3.9/3, Error ellipse: s-maj=63.0km s-min=28.3km az=91.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MAW	**Mawson**	**40.47**	**144**	P		P	06 08 08.2	+0.1
	1.2nm,0.8s,baz=256,slow=8.4,SNR=1.9							
VNDA	**Vanda**	**47.12**	**183**	P		P	06 09 01.1	-0.3
	1.0nm,0.6s,baz=184,slow=6.3,SNR=12							
TORD	**Torodi Ar. Bea**	**72.49**	**29**	P		P	06 11 56.6	-0.1
	1.7nm,0.7s,baz=199,slow=6.1,SNR=12							
YKA	**Yellowknife Ar**	**135.90**	**318**	PKP		PKPdf	06 19 48.8	-0.7
	0.1nm,0.6s,baz=124,slow=2.2,SNR=1.6							
ILAR	**Eielson Array**	**149.90**	**312**	PKPbc		PKPbc	06 20 18.8	-0.2
	0.6nm,0.8s,baz=123,slow=1.5,SNR=7.6							

*BJI **07** 06:03:50.3, 13°.13N×144°.67E, h127km, mb4.8/24, mB5.2/16*
*DJA **07** 06:03:53.0±2.1, 14°N±15°×14°5E±3°.0, h151km±6km, M4.2/2, mb4.8/2, MLv3.9/1*
*MOS **07** 06:03:53.3±1.0, 13°.33N×144°.32E, h128km, mb4.8/28, Error ellipse: s-maj=12.4km s-min=7.0km az=87.6*
*ISCJB **07** 06:03:53.8±0.5, 13°.33N±0°.04×144°.32E±0°.03, h129km±4km, mb4.6/97, Error ellipse: s-maj=6.0km s-min=5.4km az=173.5*
*IDC **07** 06:03:54.4±0.4, 13°.36N×144°.59E, h129km±3km, mb4.1/18, mb1 4.4/20, mb1mx4.2/31, mbtmp4.6/20, MS3.2/4, Ms1 3.2/4, ms1mx3.0/32, Error ellipse: s-maj=18.4km s-min=9.9km az=88.0*
*NEIC **07** 06:03:55.1±0.6, 13°.35N×144°.38E, h129km±5km, mb4.8/76, Error ellipse: s-maj=5.7km s-min=3.9km az=110.0*

ISC 07 06:03:54.9±0.4, 13°.36N±0°.05×144°.44E±0°.06, h128km±2km, n325, σ0°98/354, mb4.7/96, 58C-62D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**0.47**	**61**	P		**Pn**	**06 04 14.3**	**+0.7**
	3μm,0.3s,baz=232,slow=0.9,SNR=1107							
GUMO				S		**Sn**	**06 04 27.7**	**+0.1**
	3μm,0.3s,baz=126,slow=23,SNR=23							
CBIJ	**Chichi jima**	**13.83**	**352**	P		**Pn**	**06 07 06.9**	**+1.3**
JCJ	**Chichijima**	**13.83**	**352**	P		**Pn**	**06 07 06.9**	**+1.3**
JCJ				LR		LR	06 11 16.4	
	comp=Z,126nm,20.8s,baz=164,slow=32							
JAY	**Jayapura**	**16.20**	**193**	P		**Pn**	**06 07 35.6**	**+0.2**
	0.8nm,0.3s,baz=354,slow=9.4,SNR=8.1							
SMPI	**Sarmi**	**16.28**	**201**	P		**P**	**06 07 40.1**	**+3.2**
FAKI	**Fak Fak**	**20.20**	**218**	P		Pn	06 08 21.4	-1.6
FAKI	**Fak Fak**	**20.20**	**218**	*e*P		**P**	**06 08 20.3**	**+0.5**
	42nm,0.9s							
JOW	**Kunigami**	**20.22**	**314**	*e*P		**P**	**06 08 15.7**	**-4.2**
	11nm,0.7s							
H11S3	**WAKE ISLAND Hy**	**21.98**	**74**	T		T	06 31 35.6	
	baz=251,slow=74,SNR=19							
H11S1	**WAKE ISLAND Hy**	**22.00**	**74**	T		T	06 31 37.4	
	baz=195,slow=74,SNR=7.3							
H11S2	**WAKE ISLAND Hy**	**22.00**	**74**	T		T	06 31 21.8	
	SNR=7.0							
H11N1	**WAKE ISLAND Hy**	**22.41**	**71**	T		T	06 32 07.1	
	baz=257,slow=75,SNR=12							
H11N2	**WAKE ISLAND Hy**	**22.42**	**71**	T		T	06 31 53.2	
	baz=257,slow=75,SNR=8.3							
H11N3	**WAKE ISLAND Hy**	**22.43**	**71**	T		T	06 31 49.8	
	baz=257,slow=75,SNR=14							
PMG	**Port Moresby**	**22.78**	**173**	⇑*e*P		**P**	**06 08 44.2**	**-2.5**
PMG				pmax		pmax		
	comp=Z,102nm,0.8s							
JNU	**Nakatsue**	**23.24**	**330**	P		**P**	**06 08 51.5**	**+0.5**
	comp=Z,9.5nm,0.8s,baz=150,slow=14,SNR=3.1							
MJAR	**Matsushiro Arr**	**23.75**	**347**	P		**P**	**06 08 55.8**	**+0.2**
	comp=Z,22nm,0.8s,baz=166,slow=9.0,SNR=44							
MJAR				LR		LR	06 16 07.1	
	comp=Z,116nm,20.8s,baz=105,slow=31							
MAJO	**Matsushiro**	**23.75**	**347**	*e*P		**P**	**06 08 55.1**	**-0.5**
MAJO				pmax		pmax		
	comp=Z,37nm,0.8s							
MAJO	**Matsushiro**	**23.75**	**347**	*e*P		**P**	**06 08 55.1**	**-0.5**
	comp=Z,37nm,0.8s							
MAT	**Matsushiro**	**23.75**	**347**	P		**P**	**06 08 55.6**	**0.0**
MAT				S		**S**	**06 13 03.0**	**+1.5**
YULB	**Yu-li**	**24.09**	**298**	*e*P		**P**	**06 08 58.8**	**0.0**
	comp=Z,9.7nm,0.8s							
SSLB	**Suanglung**	**24.52**	**298**	*e*P		**P**	**06 09 03.4**	**+0.7**
	comp=Z,20nm,0.9s							
MRSI	**Marisa**	**25.70**	**242**	P		**P**	**06 09 15.5**	**+2.0**
COEN	**Coen**	**27.17**	**183**	*e*P		**P**	**06 09 26.2**	**-0.3**
	comp=Z,24nm,0.8s							
KSRS	**Korea Array**	**28.16**	**331**	P		**P**	**06 09 35.0**	**-0.2**
	comp=Z,3.6nm,0.8s,baz=141,slow=9.5,SNR=11							
KSRS				LR		LR	06 19 40.5	
	comp=Z,48nm,19.5s,baz=204,slow=34							
KSAR	**Wonju Array Be**	**28.17**	**331**	P		**P**	**06 09 35.0**	**-0.3**
KSAR	**Wonju Array Be**	**28.17**	**331**	P		**P**	**06 09 35.0**	**-0.3**
NJ2	**Nanjing**	**29.93**	**313**	*e*P		**P**	**06 09 49.7**	**-1.2**
NJ2				PMZ				
	comp=Z,40nm,0.9s							
USRK	**Ussuriysk Ar.**	**32.53**	**343**	P		**P**	**06 10 13.9**	**+0.2**
	comp=Z,3.6nm,0.6s,baz=140,slow=12,SNR=7.0							
WHN	**Wuhan**	**32.58**	**307**	P		**P**	**06 10 17.0**	**+2.7**
CTA	**Charters Tower**	**33.29**	**177**	P		**P**	**06 10 20.2**	**-0.2**
	comp=Z,9.8nm,0.7s,baz=347,slow=10,SNR=8.0							
CTAO	**Charters Tower**	**33.29**	**177**	*e*P		**P**	**06 10 20.3**	**-0.2**
CTAO				pmax		pmax		
	comp=Z,15nm,0.9s							
CTAO	**Charters Tower**	**33.29**	**177**	*e*P		**P**	**06 10 20.3**	**-0.2**
	comp=Z,15nm,0.9s							
SBUM	**Sibu**	**33.66**	**254**	*e*P		**P**	**06 10 24.3**	**+0.5**
	comp=Z,5.5nm,0.6s							
WRAB	**Tennant Creek**	**34.54**	**197**	*d* iP		**P**	**06 10 30.2**	**-1.1**
WRAB				pmax		pmax		
	comp=Z,83nm,0.9s							
WRAB	**Tennant Creek**	**34.54**	**197**	*e*P		**P**	**06 10 30.6**	**-0.8**
	comp=Z,34nm,0.9s							
WRA	**Warramunga Arr**	**34.56**	**197**	P		**P**	**06 10 30.8**	**-0.7**
	comp=Z,22nm,0.8s,baz=18,slow=9.4,SNR=74							
WRA	**Warramunga Arr**	**34.56**	**197**	*i* P		**P**	**06 10 30.7**	**-0.7**
WRA				pmax		pmax		
	comp=Z,23nm,0.8s							
BJI	**Beijing**	**36.37**	**322**	P		**P**	**06 10 46.5**	**-0.2**
BJI				PMZ				
	comp=Z,19nm,0.8s							
GYA	**Guiyang**	**37.69**	**296**	P		**P**	**06 10 58.0**	**-0.3**
GYA				pP		**pP**	**06 11 26.5**	**-0.1**
GYA				sP		**sP**	**06 11 41.3**	**+0.1**
GYA				PP		**PP**	**06 12 28.0**	**+1.1**
GYA				PcP		**PcP**	**06 13 14.0**	**+1.0**
GYA				S		**S**	**06 16 37.5**	**-1.7**
GYA				ScP		**ScP**	**06 16 49.8**	**+1.0**
GYA				sS		**sS**	**06 17 26.4**	**-2.1**
GYA				PMZ				
	comp=Z,20nm,0.8s							
GYA				PMZ				
	comp=Z,120nm,5.2s							
AS31	**Alice Springs**	**38.22**	**196**	*e*P		**P**	**06 11 01.6**	**-0.9**
ASAR	**Alice Springs**	**38.22**	**196**	P		**P**	**06 11 02.1**	**-0.4**
	comp=Z,6.3nm,0.5s,baz=20,slow=13,SNR=84							
HHC	**Hu-ho-hao-te**	**39.67**	**320**	*e*P		**P**	**06 11 14.2**	**-0.4**
HHC				PP		**PnPn**	**06 12 53.8**	**+1.1**
HHC				S		**S**	**06 17 09.2**	**+0.5**
HHC				SS		**SS**	**06 20 06.8**	**-2.4**
HHC				PMZ				
	comp=Z,24nm,0.8s							
HHC				PMZ				
	comp=Z,160nm,3.6s							
PETK	**Petropavlovsk-**	**41.03**	**12**	LR		LR	06 26 00.4	
	comp=Z,14nm,21.8s,baz=295,slow=32							
PET	**Petropavlovsk**	**41.16**	**13**	*e*P		**P**	**06 11 26.3**	**-0.1**
HIA	**Hailar**	**41.17**	**335**	ǁ *i* P		**P**	**06 11 26.9**	**+0.2**
HIA				pmax		pmax		
	comp=Z,12nm,0.9s							
CD2	**Chengdu**	**41.26**	**302**	*e*P		**P**	**06 11 26.7**	**-1.1**
CD2				pP		**pP**	**06 11 53.1**	**-3.4**
CD2				sP		**sP**	**06 12 08.6**	**-2.4**
CD2				S		**S**	**06 17 29.1**	**-3.3**
CD2				PMZ				
	comp=Z,10.0nm,1.0s							
MBWA	**Marble Bar**	**42.02**	**216**	*e*P		**P**	**06 11 33.5**	**-0.4**
	comp=Z,32nm,0.6s							
LZH	**Lanzhou**	**42.84**	**309**	*e*P		**P**	**06 11 42.0**	**+1.3**
LZH				pP		**pP**	**06 12 10.2**	**+0.6**
LZH				sP		**sP**	**06 12 24.7**	**+0.7**
LZH				PP		**PP**	**06 13 25.0**	**+2.4**
LZH				PcP		**PcP**	**06 13 31.2**	**+1.7**
LZH				PMZ				
	comp=Z,26nm,1.3s							
LZH				PMZ				
	comp=Z,97nm,6.2s							
CMAR	**Chiang Mai Arr**	**43.96**	**283**	P		**P**	**06 11 50.2**	**+0.5**
	comp=Z,4.1nm,0.7s,baz=83,slow=6.0,SNR=21							
CMAR				PcP		**PcP**	**06 13 33.7**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=80,slow=1.9,SNR=5.7							
CMAR				ScP		**ScP**	**06 17 14.9**	**+1.4**
	comp=Z,0.8nm,0.3s,baz=72,slow=2.9,SNR=7.2							
ARMA	**Armidale**	**44.07**	**171**	*e*P		**P**	**06 11 50.6**	**+0.2**
	comp=Z,18nm,1.0s							
STKA	**Stephens Creek**	**45.06**	**183**	P		**P**	**06 11 57.4**	**-0.8**
	comp=Z,28nm,0.7s,baz=358,slow=7.6,SNR=73							
STKA	**Stephens Creek**	**45.06**	**183**	*e*P		**P**	**06 11 57.3**	**-0.8**
STKA				pmax		pmax		
	comp=Z,5.0nm,0.8s							
STKA	**Stephens Creek**	**45.06**	**183**	*e*P		**P**	**06 11 57.3**	**-0.8**
	comp=Z,4.7nm,0.8s							
ULN	**Ulaanbaatar**	**46.33**	**326**	*d* iP		**P**	**06 12 08.4**	**+0.2**
ULN				pmax		pmax		
	comp=Z,6.0nm,1.8s							
BBOO	**Buckleboo**	**46.60**	**190**	*e*P		**P**	**06 12 09.6**	**-0.6**
	comp=Z,0.9nm,0.6s							
FORT	**Forrest**	**46.63**	**200**	*e*P		**P**	**06 12 10.0**	**-0.4**
	comp=Z,26nm,0.7s							
SONM	**Songino Array**	**46.68**	**325**	P		**P**	**06 12 10.8**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=142,slow=8.7,SNR=11							
SONM				ScP		**ScP**	**06 17 22.5**	**-1.9**
	comp=Z,3.1nm,0.7s,baz=138,slow=3.8,SNR=14							
GTA	**Gaotai**	**47.02**	**312**	*e*P		**P**	**06 12 14.5**	**+0.9**
GTA				pP		**pP**	**06 12 43.4**	**+0.4**
GTA				sP		**sP**	**06 12 57.8**	**+0.5**
GTA				PMZ				
	comp=Z,5.0nm,1.5s							
YAK	**Yakutsk**	**49.74**	**351**	*e*P		**P**	**06 12 34.8**	**+0.9**
SEY	**Seymchan**	**49.82**	**5**	*e*P		**P**	**06 12 34.4**	**-0.1**
TLY	**Talaya**	**50.33**	**328**	*e*P		**P**	**06 12 39.3**	**+0.7**
TLY				*e*			06 13 08.7	
TLY				pmax		pmax		
	comp=Z,3.0nm,1.2s							
LSA	**Lhasa**	**51.73**	**297**	*e*P		**P**	**06 12 49.0**	**-1.0**
LSA				pmax		pmax		
	comp=Z,8.0nm,0.7s							
LSA	**Lhasa**	**51.73**	**297**	*e*P		**P**	**06 12 49.0**	**-1.0**
	comp=Z,7.8nm,0.7s							
ODAN	**Odare**	**54.83**	**293**	*e*P		**P**	**06 13 12.0**	**-0.4**
	comp=Z,7.3nm,0.6s							
RAMN	**Ramite**	**55.53**	**294**	*e*P		**P**	**06 13 17.8**	**+0.3**
	comp=Z,7.8nm,0.3s							
GUN	**Gumba**	**56.21**	**295**	*e*P		**P**	**06 13 22.1**	**-0.3**
	comp=Z,15nm,0.7s							
PKIN	**Phulchoki**	**56.63**	**294**	*e*P		**P**	**06 13 25.1**	**-0.2**
	comp=Z,1.8nm,0.3s							
KKN

COLA pmax pmax
comp=Z,27nm,1.4s
DIV Divide 68.66 29 *e*P **P 06 14 44.1 -0.2**
comp=Z,2.7nm,0.4s
ILAR Eielson Array 68.95 25 P **P 06 14 43.6 -2.3**
comp=Z,3.9nm,0.7s,baz=251,slow=5.7,SNR=59
PAX Paxson 69.16 27 *e*P **P 06 14 46.6 -0.9**
PAX pmax pmax
comp=Z,33nm,1.9s
PAX Paxson 69.16 27 *e*P **P 06 14 46.5 -0.9**
comp=Z,33nm,1.9s
BMRM Bremner River 69.18 30 *e*P **P 06 14 47.3 -0.3**
comp=Z,29nm,1.4s
BRVK Borovoye 69.92 322 *d i*P **P 06 14 51.4 -0.7**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
DOT Dot Lake 69.92 27 *e*P **P 06 14 50.8 -1.2**
comp=Z,5.8nm,0.6s
EGAK Eagle 71.36 26 *e*P **P 06 15 00.6 -0.1**
comp=Z,2.5nm,0.8s
DAWY Dawson 72.03 27 *e*P **P 06 15 04.4 -0.3**
HYT Haines Junctio 72.61 30 *e*P **P 06 15 08.3 0.0**
INK Inuvik 74.73 22 *e*P **P 06 15 19.5 -0.9**
INK pmax pmax
comp=Z,18nm,1.3s
INK Inuvik 74.73 22 *e*P **P 06 15 19.5 -0.9**
comp=Z,18nm,1.3s
DLBC Dease Lake 76.40 33 *e*P **P 06 15 30.5 +0.3**
ABKAR Akbulak array 76.43 318 *e*P **P 06 15 30.2 -0.3**
comp=Z,0.6nm,0.3s
ARU Arti 76.72 325 *d i*P **P 06 15 32.8 +0.9**
ARU S **S 06 25 12.2 +3.9**
ARU SS **SS 06 30 02.3 -4.0**
ARU pmax pmax
comp=Z,1.0nm,0.6s
NLWA Neilton Lookou 81.43 43 *e*P **P 06 15 59.2 +1.3**
comp=Z,29nm,1.4s
E03A Lebam 81.79 44 *e*P **P 06 16 00.8 +1.1**
G03D McMinnville, O 82.25 45 ⇓P **P 06 16 02.4 +0.3**
baz=82
A05A Maple Falls 82.30 42 *e*P **P 06 16 02.8 +0.5**
I03D Drain, OR 82.48 47 ⇓P **P 06 16 03.7 +0.4**
baz=82
L02D Cave Junction, 82.60 49 ⇓P **P 06 16 04.6 +0.5**
baz=83
FL2 Flat Top 2 82.68 44 P **P 06 16 05.5 +1.0**
D05A Enumclaw 82.73 43 *e*P **P 06 16 05.8 +1.2**
TDL Tradedollar La 82.74 44 P **P 06 16 05.7 +0.9**
KHMM Horse Mountain 82.75 50 *e*P **P 06 16 06.0 +1.0**
comp=Z,16nm,0.8s
LON Longmire 82.94 44 *e*P **P 06 16 05.3 -0.4**
LON pmax pmax
comp=Z,3.0nm,0.9s
LON Longmire 82.94 44 *e*P **P 06 16 05.3 -0.4**
comp=Z,2.7nm,0.9s
HUMO Hull Mountain 82.98 48 *e*P **P 06 16 07.2 +1.2**
comp=Z,9.9nm,0.9s
H04A Detroit Lake 83.10 46 *e*P **P 06 16 06.8 +0.2**
YKA Yellowknife Ar 83.25 27 P **P 06 16 06.1 -0.8**
comp=Z,3.0nm,0.7s,baz=286,slow=5.1,SNR=9.8
VLL Laurance Lake 83.29 45 P **P 06 16 08.5 +0.8**
M02C Callahan 83.30 49 ⇑P **P 06 16 08.2 +0.4**
baz=83
YBH Yreka Blue Hor 83.33 49 *e*P **P 06 16 08.7 +0.8**
YBH pmax pmax
comp=Z,15nm,0.8s
YBH Yreka Blue Hor 83.33 49 *e*P **P 06 16 08.7 +0.8**
comp=Z,15nm,0.8s
J04D Umpqua Nationa 83.46 47 ⇓P **P 06 16 08.9 +0.2**
baz=83
N02D Trinity Center 83.49 50 ⇓P **P 06 16 09.3 +0.6**
baz=83
BUOR Burton Butte 83.56 48 P **P 06 16 10.0 +0.8**
G05D Wamic, OR 83.59 45 ⇑P **P 06 16 09.4 +0.3**
baz=84
LTY Liberty 83.59 43 *e*P **P 06 16 08.7 -0.4**
NAC Naches 83.60 44 P **P 06 16 09.9 +0.7**
TBM Table Mountain 83.66 43 P **P 06 16 10.0 +0.5**
WDC Whiskeytown Da 83.70 50 *e*P **P 06 16 10.4 +0.7**
WDC pmax pmax
comp=Z,7.0nm,0.8s
WDC Whiskeytown Da 83.70 50 *e*P **P 06 16 10.4 +0.7**
comp=Z,6.8nm,0.8s
I05D Terrebonne, OR 83.77 46 ⇑P **P 06 16 10.0 0.0**
baz=84
K04D Chiloquin, OR 83.84 48 ⇑P **P 06 16 10.7 +0.1**
baz=84
M04C Macdoel 83.96 49 ⇑P **P 06 16 11.4 +0.2**
baz=84
J05D Fort Rock, OR 84.07 47 ⇓P **P 06 16 12.5 +0.7**
baz=84
SAW Saint Andrews 84.33 42 P **P 06 16 12.8 0.0**
MDW Midway 84.34 44 P **P 06 16 13.6 +0.7**
MDW Midway 84.34 44 P **P 06 16 13.6 +0.7**
K05A Summer Lake 84.44 48 *e*P **P 06 16 14.4 +0.8**
HAWA Hanford 84.55 44 *e*P **P 06 16 14.2 +0.3**
comp=Z,6.7nm,0.7s
C09A Chrisman Ranch 85.04 42 *e*P **P 06 16 16.8 +0.5**
I07A Izee 85.11 46 *e*P **P 06 16 17.2 +0.3**
G08A Pilot Rock 85.20 45 *e*P **P 06 16 17.8 +0.4**
E09A Wood Farm, Sta 85.45 43 *e*P **P 06 16 18.8 +0.4**
NEW Newport 85.67 42 *e*P **P 06 16 19.7 +0.2**
NEW pmax pmax
comp=Z,16nm,0.8s
NEW Newport 85.67 42 *e*P **P 06 16 19.6 +0.2**
comp=Z,16nm,0.8s
NEW Newport 85.67 42 ⇑P **P 06 16 19.3 -0.3**
baz=86
CMB Columbia Colle 85.89 52 *e*P **P 06 16 21.5 +0.7**
CMB pmax pmax
comp=Z,9.0nm,0.9s
CMB Columbia Colle 85.89 52 *e*P **P 06 16 21.5 +0.7**
comp=Z,9.0nm,0.9s
WVOR Wild Horse Val 86.13 47 *e*P **P 06 16 22.4 +0.4**
WVOR pmax pmax
comp=Z,9.0nm,0.9s
WVOR Wild Horse Val 86.13 47 *e*P **P 06 16 22.4 +0.4**
comp=Z,9.1nm,0.9s
F10A Beach Ranch, E 86.20 44 *e*P **P 06 16 23.2 +0.9**
BMO Blue Mountains 86.44 45 *e*P **P 06 16 23.4 0.0**
BMO pmax pmax
comp=Z,19nm,0.9s
BMO Blue Mountains 86.44 45 *e*P **P 06 16 23.4 0.0**
comp=Z,19nm,0.9s
WAKR Walker 86.50 51 *e*P **P 06 16 24.6 +0.6**
EDM Edmonton 86.58 36 *e*P **P 06 16 22.9 -0.9**
EDM Edmonton 86.58 36 *e*P **P 06 16 22.9 -0.9**
SMMC Simmler 86.84 55 ⇑P **P 06 16 26.4 +0.9**
baz=87
ARCES ARCESS Array B 87.17 342 P **P 06 16 27.2 +0.8**
comp=Z,0.8nm,0.6s,baz=60,slow=7.2,SNR=3.5
BSMT Bassoo Peak 87.29 41 *e*P **P 06 16 28.2 +0.6**
NVAR Mina Array Bea 87.39 51 P **P 06 16 29.0 +0.7**
comp=Z,10.0nm,0.8s,baz=268,slow=5.8,SNR=62
NVAR PP PP 06 20 02.0 +7.8
comp=Z,0.2nm,0.8s,baz=274,slow=5.8,SNR=3.6
VES Vestal, Richgr 87.44 54 ⇑P **P 06 16 28.3 0.0**
baz=87
WALA Waterton Lakes 87.49 40 *e*P **P 06 16 29.0 +0.5**
comp=Z,5.2nm,0.9s
BLMT Blacktail Moun 87.52 41 *e*P **P 06 16 29.3 +0.6**
JTMT Jette 87.65 41 *e*P **P 06 16 29.4 +0.2**
ARVC Arvin 87.82 55 ⇑P **P 06 16 30.5 +0.4**
baz=88
MFID Camas Ranch 87.86 46 *e*P **P 06 16 30.8 +0.5**
comp=Z,23nm,0.9s
ISA Isabella, Lake 87.96 54 *e*P **P 06 16 31.0 +0.1**
ISA pmax pmax
comp=Z,5.0nm,1.2s
ISA Isabella, Lake 87.96 54 *e*P **P 06 16 31.0 +0.1**
comp=Z,5.2nm,1.2s
ISA Isabella, Lake 87.96 54 ⇑P **P 06 16 31.2 +0.3**
baz=88
CWC Cottonwood Cre 88.07 53 ⇓P **P 06 16 32.1 +0.5**
baz=88
TPH Tonopah 88.30 51 *e*P **P 06 16 33.3 +0.7**
TPH pmax pmax
comp=Z,14nm,0.8s
TPH Tonopah 88.30 51 *e*P **P 06 16 33.3 +0.7**
comp=Z,14nm,0.8s
GRAC Grapevine Rang 88.47 52 ⇓P **P 06 16 33.7 +0.5**
baz=88
DAC Darwin (Calif) 88.49 53 *e*P **P 06 16 34.4 +0.8**
DAC pmax pmax
comp=Z,10.0nm,1.1s
DAC Darwin (Calif) 88.49 53 *e*P **P 06 16 34.4 +0.8**
comp=Z,10nm,1.1s
EDW2 Edwards Air Fo 88.55 55 ⇓P **P 06 16 34.2 +0.5**
baz=88
CIS Catalina Islan 88.60 56 ⇑P **P 06 16 34.2 +0.3**
baz=88
MPMC Manual Prospec 88.63 53 ⇓P **P 06 16 33.7 -0.5**
baz=89
HLID Hailey 88.80 46 *e*P **P 06 16 35.3 +0.5**
comp=Z,10.0nm,0.9s
HLID Hailey 88.80 46 ⇓P **P 06 16 35.1 +0.3**
baz=89
FURC Furnace Creek, 89.01 53 ⇓P **P 06 16 36.6 +0.9**
baz=89
ELK Elko 89.03 48 *e*P **P 06 16 36.7 +0.6**
ELK pmax pmax
comp=Z,13nm,0.8s
ELK Elko 89.03 48 *e*P **P 06 16 36.7 +0.6**
comp=Z,13nm,0.8s
TPNV Topopah Spring 89.35 52 *e*P **P 06 16 38.2 +0.7**
TPNV pmax pmax
comp=Z,14nm,0.8s
TPNV Topopah Spring 89.35 52 *e*P **P 06 16 38.2 +0.7**
comp=Z,14nm,0.8s
TPNV Topopah Spring 89.35 52 ⇑P **P 06 16 38.2 +0.7**
baz=89
GSC Goldstone, Bar 89.37 54 *e*P **P 06 16 38.6 +1.0**
GSC pmax pmax
comp=Z,13nm,0.8s
GSC Goldstone, Bar 89.37 54 *e*P **P 06 16 38.6 +1.0**
comp=Z,13nm,0.8s
GSC Goldstone, Bar 89.37 54 ⇑P **P 06 16 38.0 +0.5**
baz=89,SNR=10
LRM Limekiln Ridge 89.44 43 *e*P **P 06 16 38.3 +0.4**
comp=Z,34nm,1.0s
R11A Troy Canyon, C 89.46 51 *e*P **P 06 16 38.4 +0.4**
comp=Z,12nm,1.5s
R11A Troy Canyon, C 89.46 51 ⇑P **P 06 16 38.6 +0.5**
baz=89
MCMT McKenzie Canyo 89.49 44 *e*P **P 06 16 38.3 +0.2**
comp=Z,2.8nm,1.3s
MURC Murrieta 89.52 56 ⇓P **P 06 16 38.9 +0.7**
baz=90
BBRC Big Bear Solar 89.56 55 ⇓P **P 06 16 39.3 +0.7**
baz=90
SHOC Shoshone, Teco 89.62 53 ⇓P **P 06 16 39.2 +0.6**
baz=90
109C Camp Elliot, M 89.79 56 ⇓P **P 06 16 40.3 +0.8**
baz=90
HEC Hector,Ludlow 89.88 54 ⇑P **P 06 16 40.3 +0.3**
baz=90
TUQ Turquoise Moun 90.03 54 ⇑P **P 06 16 40.7 0.0**
baz=90
PFO Pinyon Flats O 90.11 55 ⇑P **P 06 16 41.6 +0.5**
baz=90
SHPR Sheep Range 90.32 52 *e*P **P 06 16 43.1 +1.1**
MONP Monument Peak, 90.34 56 ⇓P **P 06 16 42.8 +0.5**
baz=90,SNR=6.2
BELC Belle Mtn. Jos 90.37 55 ⇓P **P 06 16 42.7 +0.4**
baz=90
GMRC Granite Mounta 90.42 54 ⇓P **P 06 16 42.7 +0.1**
baz=90,SNR=14
QLMT Earthquake Lak 90.44 44 *e*P **P 06 16 43.7 +1.2**
HVU Hansel Valley 90.50 47 *e*P **P 06 16 43.5 +0.7**
HVU pmax pmax
comp=Z,9.0nm,1.1s
HVU Hansel Valley 90.50 47 *e*P **P 06 16 43.5 +0.7**
comp=Z,8.5nm,1.1s
A19A Klindworth Far 90.75 39 ⇑P **P 06 16 43.7 +0.1**
baz=91
YMR Madison River 90.81 44 *e*P **P 06 16 45.4 +1.1**
comp=Z,16nm,1.1s
SWSC Sam W. Stewart 90.83 56 ⇓P **P 06 16 45.1 +0.8**
baz=91
BC3 Big Chuckawall 90.90 55 ⇓P **P 06 16 45.4 +0.7**
baz=91,SNR=6.1
DUG Dugway, Tooele 90.97 48 *e*P **P 06 16 45.3 +0.3**
DUG pmax pmax
comp=Z,8.0nm,1.1s
DUG Dugway, Tooele 90.97 48 *e*P **P 06 16 45.3 +0.3**
comp=Z,8.4nm,1.1s
DUG Dugway, Tooele 90.97 48 ⇓P **P 06 16 45.5 +0.5**
baz=91
YFT Old Faithful 90.97 44 *e*P **P 06 16 47.6 +2.6**
comp=Z,3.4nm,0.4s
YNR Nonis Junctio 90.98 44 *e*P **P 06 16 47.7 +2.6**
comp=Z,34nm,1.6s
C19A Slack Wire Ran 90.99 40 ⇑P **P 06 16 45.1 +0.3**
baz=91
IRM Iron Mountain 91.00 55 ⇑P **P 06 16 45.5 +0.4**
baz=91,SNR=8.6
IMW Indian Meadow 91.08 44 *e*P **P 06 16 46.4 +0.8**
comp=Z,6.7nm,0.8s
FXWY Fox Creek 91.11 45 *e*P **P 06 16 46.3 +0.6**
comp=Z,3.8nm,0.9s
H17A Grant Village 91.16 44 *e*P **P 06 16 48.5 +2.5**
comp=Z,12nm,1.1s
H17A Grant Village 91.16 44 ⇓P **P 06 16 47.6 +1.6**
baz=91
FLWY Flagg Ranch 91.18 44 *e*P **P 06 16 47.1 +1.1**
comp=Z,9.7nm,0.8s
FINES FINESS Array B 91.19 335 P **P 06 16 43.9 -1.5**
comp=Z,1.6nm,0.9s,baz=140,slow=9.2,SNR=4.1
TPAW Teton Pass 91.21 45 *e*P **P 06 16 46.7 +0.5**
comp=Z,22nm,1.9s
MOOW Moose Ponds 91.27 44 *e*P **P 06 16 46.8 +0.4**
comp=Z,3.8nm,0.9s
VNDA Vanda 91.27 176 P **P 06 16 44.3 -0.9**
comp=Z,2.2nm,0.8s,baz=328,slow=5.9,SNR=12
VNDA Vanda 91.27 176 *e*P **P 06 16 45.6 +0.4**
VNDA pmax pmax
comp=Z,2.0nm,0.8s
VNDA Vanda 91.27 176 *e*P **P 06 16 45.6 +0.4**
comp=Z,2.4nm,0.8s
A20A Cobblestone Ra 91.27 39 ⇑P **P 06 16 47.1 +1.1**
baz=91
I17A Pilgrim Ck. 91.32 44 ⇓P **P 06 16 47.6 +0.9**
baz=91
REDW Red Top Meadow 91.32 45 *e*P **P 06 16 47.0 +0.3**
comp=Z,4.1nm,1.0s
LOHW Long Hollow 91.41 45 *e*P **P 06 16 47.3 +0.3**
comp=Z,1.8nm,0.7s
GLA Glamis 91.58 56 ⇓P **P 06 16 48.3 +0.5**
baz=92
E19A Rath Farm, Rou 91.62 41 ⇑P **P 06 16 47.6 -0.1**
baz=92
Y12C Blythe 91.62 55 ⇓P **P 06 16 48.6 +0.7**
baz=92,SNR=5.4
C20A Veseth Ranch, 91.65 40 ⇓P **P 06 16 47.9 +0.1**
baz=92,SNR=7.8
H18A Shoshone NF, C 91.68 43 ⇑P **P 06 16 48.4 +0.2**
baz=92
W13A Hualapai Mount 91.72 53 ⇑P **P 06 16 49.3 +0.6**
baz=92
F19A Roth Farm, Mol 91.73 42 ⇓P **P 06 16 48.4 +0.1**
baz=92
PDMCI Parker Dam,Lak 91.76 54 ⇑P **P 06 16 49.2 +0.7**
baz=92,SNR=5.5
JLU Jordanelle 91.82 48 *e*P **P 06 16 49.6 +0.6**
comp=Z,5.9nm,0.9s
A21A Bergtoll Ranch 91.84 39 ⇑P **P 06 16 48.7 +0.1**
baz=92
MVU Marysvale 91.94 50 *e*P **P 06 16 50.8 +1.1**
comp=Z,2.3nm,0.7s
B21A Ellsworth Farm 92.00 39 ⇑P **P 06 16 49.5 +0.1**
baz=92
E20A Meyer Farm, Mu 92.02 41 ⇓P **P 06 16 49.6 0.0**
baz=92
H19A Powell 92.13 43 ⇑P **P 06 16 51.0 +0.8**
baz=92,SNR=5.3
C21A Desert Coulee 92.18 40 ⇑P **P 06 16 49.9 -0.3**
baz=92
F20A Billings 92.27 42 ⇓P **P 06 16 50.9 +0.1**
baz=92
I19A Meeteetse 92.35 44 ⇓P **P 06 16 51.8 +0.4**
baz=92,SNR=5.7
BW06 Boulder Array 92.42 45 *e*P **P 06 16 51.1 -0.7**
comp=Z,1.5nm,0.8s
PDAR Pinedale Array 92.42 45 P **P 06 16 51.2 -0.6**
comp=Z,1.3nm,0.7s,baz=280,slow=1.8,SNR=14
PDAR PP **PP 06 20 32.5 -1.5**
comp=Z,0.6nm,0.8s,baz=294,slow=1.5,SNR=5.5
G20A Bridger 92.44 42 ⇑P **P 06 16 51.9 +0.3**
baz=92,SNR=5.2
A22A Carney Farms, 92.45 38 ⇑P **P 06 16 50.5 -1.0**
baz=92
113A Mohawk Valley, 92.51 56 ⇓P **P 06 16 52.6 +0.5**
baz=92
J19A Crowheart 92.59 45 ⇓P **P 06 16 52.8 +0.3**
baz=92,SNR=18
E21A Keefer Ranch, 92.68 41 ⇓P **P 06 16 52.7 0.0**
baz=93
SRU San Rafael Swe 92.99 49 *e*P **P 06 16 54.7 +0.3**
SRU pmax pmax
comp=Z,3.0nm,0.7s
SRU San Rafael Swe 92.99 49 *e*P **P 06 16 54.6 +0.3**
comp=Z,3.1nm,0.7s
D22A Cohagen 93.02 40 ⇑P **P 06 16 54.3 +0.1**
baz=93
G21A Lodge Grass 93.10 42 ⇑P **P 06 16 55.1 +0.4**
baz=93
LAO LASA Array 93.17 41 *e*P **P 06 16 55.1 +0.2**
comp=Z,16nm,0.9s
J20A Shoshoni 93.22 44 ⇓P **P 06 16 55.5 +0.2**
baz=93
B23A Brockton 93.22 39 ⇓P **P 06 16 54.8 -0.2**
baz=93
C23A Lambert 93.37 39 ⇑P **P 06 16 55.8 0.0**
baz=93,SNR=5.2
H21A Big Horn, Sher 93.44 43 ⇑P **P 06 16 57.1 +0.9**
baz=93,SNR=11
E22A Miles City 93.44 41 ⇑P **P 06 16 55.9 -0.3**
baz=93,SNR=7.0
F22A Rosebud 93.50 41 ⇑P **P 06 16 56.4 0.0**
baz=93
214A Organ Pipe Nat 93.53 56 ⇑P **P 06 16 57.6 +0.8**
baz=94
WUAZ Wupatki 93.54 52 *e*P **P 06 16 58.0 +1.1**
comp=Z,5.9nm,0.9s
WUAZ Wupatki 93.54 52 ⇑P **P 06 16 57.8 +0.8**
baz=94,SNR=5.8
I21A Big Trails, Te 93.58 44 ⇑P **P 06 16 56.7 -0.3**
baz=94,SNR=6.5
D23A Lindsay 93.61 40 ⇓P **P 06 16 57.1 +0.2**
baz=94
A24A Westby 93.63 38 ⇑P **P 06 16 56.5 -0.4**
baz=94
G22A Birney 93.70 42 ⇑P **P 06 16 57.3 -0.1**
baz=94
DGMT Dagmar 93.70 38 ⇑P **P 06 16 56.5 -0.7**
baz=94
E23A Ismay 93.83 41 ⇓P **P 06 16 58.0 +0.1**
baz=94
X16A Lo Mia Camp, P 93.84 53 ⇑P **P 06 16 59.0 +0.6**
baz=94
C24A Savage 93.95 39 ⇓P **P 06 16 58.5 +0.1**
baz=94
N20A Spence Gulch, 94.01 47 ⇓P **P 06 16 58.9 -0.2**
baz=94
K21A Alcova 94.05 45 ⇓P **P 06 16 59.2 0.0**
baz=94
F23A Volborg 94.07 41 ⇓P **P 06 16 58.9 -0.2**
baz=94
I22A 9 Mile Ranch, 94.09 43 ⇓P **P 06 16 59.4 +0.1**
baz=94
A25A Svangstu Ranch 94.15 38 ⇑P **P 06 16 59.3 0.0**
baz=94
J22A Midwest 94.28 44 ⇓P **P 06 16 59.9 -0.3**
baz=94,SNR=7.7
O20A White River Ci 94.28 47 ⇓P **P 06 17 00.3 0.0**
baz=94
G23A Biddle 94.29 42 ⇓P **P 06 16 59.9 -0.2**
baz=94
PV10 Paradox Valley 94.33 49 *e*P **P 06 17 00.6 -0.1**
comp=Z,26nm,0.3s
F24A Ekalaka 94.64 41 ⇑P **P 06 17 01.4 -0.3**
baz=94
PV01 Paradox Valley 94.76 49 *e*P **P 06 17 01.9 -0.8**
comp=Z,273nm,0.9s
A26A Wade Farm, Ken 94.81 37 ⇓P **P 06 17 02.2 -0.2**
baz=95
AKASG Malin Array Be 94.96 325 PP PP 06 20 53.6 +0.4
comp=Z,0.7nm,0.4s,baz=96,slow=10,SNR=5.1
X18A Snowflake 94.97 53 ⇑P **P 06 17 03.3 -0.3**
baz=95
H24A Dirks Ranch, A 95.02 42 ⇑P **P 06 17 02.7 -0.8**
baz=95
K23A Bowen Ranch, D 95.11 44 ⇑P **P 06 17 04.0 0.0**
baz=95
F25A Bowman 95.23 40 ⇓P **P 06 17 03.6 -0.7**
baz=95
D26A Manning 95.39 39 ⇓P **P 06 17 05.0 -0.1**
baz=95
O22A Kremmling 95.48 47 ⇓P **P 06 17 06.0 0.0**
baz=95
SMCO Snowmass 95.54 48 *e*P **P 06 17 06.3 -0.1**
comp=Z,2.6nm,0.9s
RSSD Black Hills 95.61 42 *e*P **P 06 17 06.1 -0.3**
RSSD pmax pmax
comp=Z,5.0nm,1.0s
RSSD Black Hills 95.61 42 *e*P **P 06 17 06.1 -0.3**
comp=Z,4.5nm,1.0s
E26A Carlson Angus 95.62 40 ⇑P **P 06 17 06.1 0.0**
baz=96
N23A Red Feather La 95.62 46 ⇓P **P 06 17 06.7 +0.2**
baz=96
F26A Lodgepole 95.76 40 ⇑P **P 06 17 07.0 +0.2**
baz=96
I25A Rochford 95.86 42 ⇑P **P 06 17 06.9 -0.6**
baz=96
G26A Maurine 96.05 41 ⇑P **P 06 17 07.9 -0.2**
baz=96
F27A Lemmon 96.16 40 ⇓P **P 06 17 08.9 +0.4**
baz=96
S22A 4UR Ranch, Cre 96.19 49 ⇑P **P 06 17 08.8 -0.4**
baz=96
E27A Carson 96.19 39 ⇑P **P 06 17 08.9 +0.2**
baz=96
P23A Jefferson 96.28 47 ⇓P **P 06 17 10.6 +0.9**
baz=96
K25A Mack Ranch, Ha 96.35 44 ⇑P **P 06 17 10.5 +0.8**
baz=96
G27A Dupree 96.43 41 ⇑P **P 06 17 09.7 -0.2**
baz=96
Q23A Hartsel 96.47 48 ⇓P **P 06 17 10.6 +0.1**
baz=96
SDCO Great Sand Dun 97.16 49 *e*P Pdif 06 17 13.7 +0.1
comp=Z,1.3nm,0.9s
SDCO Great Sand Dun 97.16 49 ⇓P **P 06 17 13.5 0.0**
baz=97
TXAR Lajitas Array 101.83 56 P **Pdif 06 17 31.4 -3.0**
comp=Z,0.3nm,0.8s,baz=251,slow=3.8,SNR=4.5
TORD Torodi Ar. Bea 144.65 304 PKP **PKPdf 06 22 58.8 -0.5**
comp=Z,0.9nm,0.7s,baz=29,slow=3.3,SNR=5.2
TORD SKPbc **SKPbc 06 26 15.2 -2.7**
comp=Z,2.7nm,0.9s,baz=38,slow=2.9,SNR=12
SAML Samuel 152.55 84 *e*PKPbc **PKPbc 06 23 37.3 0.0**
SAML *e*PKPab **PKPab 06 23 47.6 -0.6**

MAN 07 06:05:41,13°54N×120°94E,h29km,mb4.5,ML3.3,MS3.2, 1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.04**	**159**	⇑*e*P	Pb	06 05 42.2	-3.8
LUBP	**Lubang**	**0.70**	**286**	*e*P	Pn	06 05 55.8	+0.9
LUBP				*e*S	Sn	06 06 05.8	+0.9
SJMP	**San Jose**	**1.08**	**171**	*e*P	Pb	06 06 01.2	0.0
SJMP				*e*S	Sb	06 06 14.9	0.0

ISCJB ***07*** *06:54:51.9±0.5, 11°.91N±0°.02×61°.47W±0°.04, h96km±6km, Error ellipse: s-maj=7.0km s-min=3.7km az=14.9*
FUNV ***07*** *06:54:51.5, 11°.84N×61°.29W, h16km, MW3.5*
TRN ***07*** *06:54:52.5, 11°.91N×61°.37W, h79km, MD3.8, M3.9(FDF)*
ISC 07 06:54:52.7±1.3, 11°.91N±0°.03×61°.45W±0°.06, h90km±9km, n33, σ0°76/48, 3C-2D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRW	**Mount Saint Ca**	**0.33**	**321**	*e*P	**Pn**	**06 55 06.5**	**0.0**
GRHS	**Sauteurs**	**0.37**	**329**	⇑*i*P	**Pn**	**06 55 06.5**	**-0.1**
GRHS				*e*S	**Sn**	**06 55 16.3**	**-0.6**
GRSS	**Sisters**	**0.42**	**338**	*e*P	**Pn**	**06 55 07.1**	**+0.2**
GRSS				*e*S	**Sn**	**06 55 17.4**	**0.0**
TPR	**Prospect**	**0.97**	**137**	*e*P	**Pn**	**06 55 11.4**	**-0.7**
TPR				*e*S	**Sn**	**06 55 26.1**	**-0.6**
BOT	**Bacolet**	**1.03**	**136**	*e*P	**Pn**	**06 55 12.4**	**-0.3**
TCE	**Chacachacare**	**1.24**	**194**	*e*P	**Pn**	**06 55 15.7**	**+0.4**
TCE				*e*S	**Sn**	**06 55 33.4**	**+1.2**
TRN	**Trinidad (W)**	**1.25**	**178**	*e*P	**Pn**	**06 55 15.6**	**+0.2**
TRN				*i*S	**Sn**	**06 55 32.5**	**0.0**
SVB	**Belmont**	**1.37**	**8**	*e*P	**Pn**	**06 55 16.7**	**-0.2**
SVB				*e*S	**Sn**	**06 55 35.4**	**+0.2**
TBH	**Brigand Hill**	**1.46**	**165**	*e*P	**Pn**	**06 55 18.9**	**+0.8**

TBH				*e*S	**Sn**	06 55 37.5	+0.4	
GUIV	**Guiria**	**1.46**	**211**⇓	*e*P	**Pn**	06 55 17.4	-0.6	
GUIV				*e*S	**Sn**	06 55 37.4	+0.3	
TPP	**Pointe-a-Pierr**	**1.58**	**180**	*e*P	**Pn**	06 55 20.7	+1.1	
TPP				*e*S	**Sn**	06 55 40.5	+0.8	
MCLT	**Moule a Chique**	**1.86**	**15**	*e*P	**Pn**	06 55 24.4	+1.3	
MCLT				*e*S	**Sn**	06 55 46.5	+0.2	
CRUV	**Carupano**	**2.14**	**235**	*e*P	**Pn**	06 55 26.9	+0.1	
CRUV				*e*S	**Sn**	06 55 52.7	0.0	
GUNV	**Guanoco**	**2.27**	**220**⇓	*e*P	**Pn**	06 55 28.7	+0.1	
GUNV				*e*S	**Sn**	06 55 55.9	0.0	
TRMF	**Trois Ilets**	**2.64**	**8**	*e*P	**Pn**	06 55 34.1	+0.5	
ZAM	**Aeronautique**	**2.68**	**9**	*e*P	**Pn**	06 55 34.5	+0.4	
LPMF	**Morne Lapointe**	**2.69**	**10**	*e*P	**Pn**	06 55 34.6	+0.4	
FDF	**Fort de France**	**2.83**	**6**	*e*P	**Pn**	06 55 36.6	+0.6	
FDF				*e*S	**Sn**	06 56 08.2	-1.1	
BVM	**Bellevue**	**2.84**	**8**	*e*P	**Pn**	06 55 36.9	+0.7	
ORIV	**Oritupano**	**3.41**	**215**	*e*P	**Pn**	06 55 43.9	0.0	
ORIV				*e*S	**Sn**	06 56 21.4	-2.0	
PCRV	**Puerto La Cruz**	**3.57**	**242**⇑	*e*P	**Pn**	06 55 46.6	+0.6	
PRGV	**PARIAGUAN**	**4.43**	**225**	*e*P	**Pn**	06 55 57.6	-0.1	
CUPV	**Cœpira**	**4.64**	**247**⇑	*e*P	**Pn**	06 56 02.1	+1.5	
CUPV				*e*S	**Sn**	06 56 53.6	+0.4	
BIRV	**Birongo**	**4.94**	**254**	*e*P	**Pn**	06 56 04.5	0.0	
MERV	**Las Mercedes**	**5.45**	**242**	*e*P	**Pn**	06 56 11.5	0.0	
LUEV	**Luepa**	**6.02**	**180**	*e*P	**Pn**	06 56 17.3	-2.2	
TURV	**Turiamo**	**6.43**	**258**	*e*P	**Pn**	06 56 25.4	+0.4	
BAUV	**El Baul**	**7.12**	**246**	*e*P	**Pn**	06 56 34.2	-0.1	
MAPV	**Macapo**	**7.18**	**254**	*e*P	**Pn**	06 56 36.3	+1.1	
TEPV	**Terepaima**	**7.84**	**257**	*e*P	**Pn**	06 56 43.4	-0.8	
SANV	**Sanarito**	**8.30**	**254**	*e*P	**Pn**	06 56 50.4	-0.1	
MONV	**Montecano**	**8.34**	**271**	*e*P	**Pn**	06 56 51.3	+0.3	
SOCV	**Socops**	**9.94**	**250**	*e*P	**Pn**	06 57 12.1	-0.7	

BJI 07 07:03:21.1, 31°.28N×103°.53E, h19km, ML3.5/12, Ms3.2/1, Ms7 3.1/1, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.42**	**152**	Pg	Pg	07 03 28.5	-1.3
CD2				Sg	Sg	07 03 34.6	-1.1
CD2	6μm,0.5s			SMN			
CD2	10μm,0.5s			SME			
LZH	**Lanzhou**	**4.80**	**3**	*e*Pg	Pb	07 04 48.1	+3.2
LZH				Sg	Sg	07 05 51.2	-4.5
LZH	75nm,1.1s			SMN			
LZH	43nm,1.1s			SME			
LZH	160nm,6.3s			LN			
LZH	160nm,6.5s			LE			
LZH	180nm,8.2s			LZ			
XAN	**Xi'an**	**5.31**	**57**	Pg	Pb	07 04 54.7	+1.2
XAN				Sg	Sb	07 06 01.4	+4.5
XAN	75nm,0.9s			SMN			
XAN	28nm,0.9s			SME			
GYA	**Guiyang**	**5.53**	**149**	*e*Pn	Pn	07 04 41.9	-0.8
GYA				Sn	Sn	07 05 46.2	+0.3
GYA				Sg	Sb	07 06 07.7	+4.2
GYA	60nm,0.8s			SMN			
GYA	60nm,0.8s			SME			

IDC 07 07:03:34.1±29.0, 21°.54S×173°.31W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/26, mbtmp4.0/4, Error ellipse: s-maj=530.6km s-min=167.2km az=75.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.76**	**265**	P	P	07 10 52.9	+0.8
STKA	3.3nm,0.4s,baz=88,slow=10,SNR=6.8 **Stephens Creek**	**41.33**	**246**	P	P	07 11 20.7	-1.1
ASAR	0.6nm,0.4s,baz=107,slow=11,SNR=2.8 **Alice Springs**	**48.56**	**257**	P	P	07 12 19.3	-0.2
WRA	0.6nm,0.5s,baz=103,slow=7.4,SNR=7.8 **Warramunga Arr**	**48.80**	**262**	P	P	07 12 21.2	-0.2
	0.7nm,0.4s,baz=94,slow=8.4,SNR=7.3						

*IDC **07** 07:11:39.9±5.0, 25°.20S×69°.47E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.7/34, mbtmp3.9/6, MS3.7/1, Ms1 3.7/1, ms1mx3.0/38, Error ellipse: s-maj=148.8km s-min=35.0km az=53.0*

ISC 07 07:11:42.0±4.7, 25°.2S±0°.6×69°.6E±0°.8, h10km, n7, σ0°.44/6, mb3.9/6, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**21.76**	**283**	LR	LR	07 22 52.6	
	comp=Z,198nm,19.9s,baz=177,slow=31						
CMAR	**Chiang Mai Arr**	**51.94**	**36**	P	**P**	**07 20 51.5**	**+0.2**
	0.8nm,0.3s,baz=219,slow=7.0,SNR=1.4						
ASAR	**Alice Springs**	**58.09**	**103**	P	**P**	**07 21 36.4**	**+0.3**
	0.5nm,0.8s,baz=256,slow=7.3,SNR=4.1						
WRA	**Warramunga Arr**	**59.56**	**99**	P	**P**	**07 21 45.7**	**-0.5**
	0.9nm,0.9s,baz=252,slow=7.5,SNR=3.9						
MKAR	**Makanchi Array**	**72.53**	**9**	P	**P**	**07 23 08.7**	**-0.3**
	0.8nm,0.6s,baz=192,slow=6.9,SNR=12						
SONM	**Songino Array**	**79.84**	**24**	P	**P**	**07 23 50.5**	**-0.1**
	0.3nm,0.6s,baz=205,slow=6.6,SNR=3.8						
ZALV	**Zalesovo Beam**	**79.87**	**9**	P	**P**	**07 23 50.8**	**+0.3**
	1.3nm,0.5s,baz=207,slow=6.0,SNR=2.7						

MEX 07 07:16:10.3±0.3, 28°.06N×112°.11W, h5km±10km, MD3.8, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.74**	**189**	*i* P	Pg	07 16 23.4	-1.2
SRIG				*i* S	Sg	07 16 33.6	-0.7
HSIG		**1.40**	**46**	*e*P	Pn	07 16 32.8	-3.7

KRSC 07 07:23:37.2±0.9, 55°.66N×161°.18E, h142km±8km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZGR	**Bezymyannyi-Gr**	**0.40**	**316**	P	Pn	07 23 58.3	+1.0
BZGR				S	Sn	07 24 14.3	+1.8
ZLN	**Zelenaya**	**0.42**	**330**	P	Pn	07 23 58.8	+1.4
BZMR	**Bezymyannaya**	**0.48**	**306**	P	Pn	07 23 58.5	+0.8
BZWR	**Bezymyannyi-We**	**0.49**	**309**	P	Pn	07 23 58.6	+0.8
LGNR	**Loginova**	**0.51**	**327**	P	Pn	07 23 59.0	+1.0
CIRR	**Tsirk**	**0.52**	**332**	P	Pn	07 23 58.8	+0.9
KMNR	**Kamenistaya**	**0.54**	**281**	P	Pn	07 23 59.2	+1.2
KMNR				S	Sn	07 24 15.3	+1.5
KIRR	**Kirishev**	**0.56**	**302**	P	Pn	07 23 58.8	+0.7
KIRR				S	Sn	07 24 14.6	+0.5
KPT	**Kopyto**	**0.62**	**300**	P	Pn	07 23 59.2	+0.7
KRSR	**Krestovskiy**	**0.66**	**329**	P	Pn	07 23 58.5	-0.2
KRSR				S	Sn	07 24 14.7	-0.4
TUMR	**Tumrok**	**0.70**	**238**	P	Pn	07 24 00.5	+1.5
TUMR				S	Sn	07 24 16.8	+1.3
KLY	**Klyuchi**	**0.72**	**336**	P	Pn	07 23 59.3	+0.4
KLY				S	Sn	07 24 15.7	+0.2
KZV	**Kizimen**	**0.74**	**223**	P	Pn	07 24 00.5	+1.1
KZV				S	Sn	07 24 17.2	+1.0
KOZ	**Kozyrevsk**	**0.84**	**299**	P	Pn	07 24 00.6	+0.7
BDR	**Baidarnaya**	**0.91**	**1**	P	Pn	07 24 01.6	+1.0
BDR				S	Sn	07 24 18.8	+0.4
SMKR	**Semkarok**	**0.94**	**10**	P	Pn	07 24 01.9	+1.1
SMKR				S	Sn	07 24 19.8	+1.0
SRKR	**Sorokina**	**1.00**	**360**	P	Pn	07 24 02.0	+0.7
SRKR				S	Sn	07 24 20.3	+0.6
SRDR	**Sredinnyy**	**1.06**	**309**	P	Pn	07 24 02.1	+0.3
KBTR	**Krutoberegovo**	**1.07**	**58**	P	Pn	07 24 03.1	+1.3
KBTR				S	Sn	07 24 21.6	+1.0
MKZ	**Mys Kozlova**	**1.15**	**164**	P	Pn	07 24 03.7	+1.2
MKZ				S	Sn	07 24 23.3	+1.5
ESO	**Esso**	**1.43**	**282**	P	Pn	07 24 05.8	+0.4
ESO				S	Sn	07 24 27.0	+0.1
SPN	**Mys Shipunski**	**2.65**	**195**	P	Pn	07 24 20.0	+0.2
SPN				S	Sn	07 24 51.2	-1.4
NLC	**Nalytchevo**	**2.71**	**204**	P	Pn	07 24 21.4	+0.8
NLC				S	Sn	07 24 53.9	0.0
GNL	**Ganaly**	**2.72**	**225**	P	Pn	07 24 22.5	+1.6
KRX	**Arik**	**2.73**	**214**	P	Pn	07 24 23.1	+2.0
SDLR	**Sedlovina**	**2.73**	**210**	P	Pn	07 24 22.9	+1.9
KRER	**Koryakskii**	**2.75**	**212**	P	Pn	07 24 23.4	+2.0
BKI	**Bering**	**2.77**	**97**	P	Pn	07 24 23.4	+2.2
BKI				S	Sn	07 24 55.9	+0.8
SMAR	**Somma**	**2.77**	**211**	P	Pn	07 24 23.0	+1.4
AVH	**Avacha**	**2.79**	**212**	P	Pn	07 24 23.8	+2.1
KOK	**Koryaka**	**2.80**	**213**	P	Pn	07 24 24.1	+2.3
UGLR	**Uglovaya**	**2.81**	**210**	P	Pn	07 24 23.8	+1.8
RUS	**Russkaya**	**3.59**	**207**	P	Pn	07 24 31.8	-0.1
MTVR	**Mutnovka**	**3.64**	**210**	P	Pn	07 24 34.3	+1.6
OSSR	**Ossora**	**3.74**	**15**	P	Pn	07 24 35.2	+1.5
ASAK	**Asacha**	**3.81**	**212**	P	Pn	07 24 36.2	+1.4
MIPR	**Malaya Ipel'ka**	**4.28**	**219**	P	Pn	07 24 42.3	+1.4

IGQ 07 07:32:14±0.5, 2°.04S×80°.12W, h3km±112km, Mb4.1, 4C-3D, Error ellipse: s-maj=5.0km s-min=1.3km az=6.9, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIS	**Cerro-Chispas-**	**1.15**	**328**	P	Pg	07 32 36.3	+0.1
ISPT	**Isla de la Pla**	**1.23**	**309**	S	Sb	07 32 54.6	+0.5
ISPT	**Isla de la Pla**	**1.23**	**309**	P	Pg	07 32 37.1	-0.4
PECV	**Mancha de Ca P**	**1.25**	**3**	P	Pn	07 32 39.8	+1.2
RIOE	**Riobamba**	**1.52**	**79**	P	Pg	07 32 43.6	+0.1
IGUA	**Igualata**	**1.58**	**70**	S	Sn	07 33 05.0	-0.2
IGUA	**Igualata**	**1.58**	**70**	P	Pg	07 32 45.5	+0.5
BMAS	**Trigal station**	**1.73**	**72**	⇑P	Pb	07 32 46.5	-0.4
ARRY	**Arrayan**	**1.75**	**72**	P	Pb	07 32 47.6	+0.3
JUI6	**Juive**	**1.76**	**70**	P	Pg	07 32 48.6	+0.4
PAT1	**Patacocha**	**1.76**	**73**	P	Pb	07 32 47.2	-0.5
BPAT	**Tungurahua Vol**	**1.77**	**73**	P	Pb	07 32 47.1	-0.7
RETU	**Refugio**	**1.77**	**71**	P	Pg	07 32 49.0	+0.3
RUN5	**Runtun**	**1.81**	**70**	P	Pb	07 32 48.1	-0.1
ULBA	**Ulba**	**1.81**	**71**	P	Pb	07 32 48.0	-0.3
BULB	**Ulba Tungurahu**	**1.81**	**71**	⇑P	Pb	07 32 48.0	-0.3
BRUN	**Tungurahua Vol**	**1.81**	**70**	⇓P	Pb	07 32 48.1	-0.3
MACE	**Macas**	**1.93**	**96**	⇑P	Pb	07 32 49.4	-0.8
MACE	**Macas**	**1.93**	**96**	⇑S	Sn	07 33 13.8	+0.6
MAG1	**Magdalena**	**1.98**	**10**	P	Pn	07 32 48.4	-0.1
PISA	**Pisayambo**	**1.99**	**61**	P	Pb	07 32 52.1	+0.5
PISA	**Pisayambo**	**1.99**	**61**	S	Sg	07 33 19.8	+0.7
PAST	**Pastocalle**	**1.99**	**48**	S	Sg	07 33 18.5	-0.5
PAST	**Pastocalle**	**1.99**	**48**	P	Pb	07 32 51.9	+0.4
CAMI	**Rancho Maria**	**2.11**	**50**	P	Pg	07 32 54.6	-0.5
BMOR	**Cotopaxi Volca**	**2.11**	**52**	P	Pb	07 32 54.0	+0.3
BTAM	**Cotopaxi Volca**	**2.19**	**52**	P	Pb	07 32 55.3	+0.2
TAMB	**Tambo**	**2.20**	**53**	P	Pb	07 32 55.3	+0.1
VC1	**Cotopaxi 1**	**2.21**	**51**	P	Pb	07 32 56.8	-0.3
PITA	**Cotopaxi Volc**	**2.24**	**49**	P	Pb	07 32 55.3	-0.5
JUA2	**San Juan 2**	**2.36**	**40**	P	Pb	07 32 56.9	-1.0
TERV	**Terraza Guagua**	**2.39**	**39**	P	Pn	07 32 56.2	+1.3
GGP	**Refugio Guagua**	**2.40**	**40**	P	Pb	07 32 56.9	-1.8
PINO	**Pino**	**2.40**	**39**	P	Pn	07 32 56.9	+1.8
GOLV	**Golondrinas**	**2.44**	**24**	P	Pn	07 32 55.5	+0.6
YANA	**Yana**	**2.46**	**39**	P	Pn	07 32 56.2	+0.5
ANTI	**Antisana**	**2.52**	**51**	P	Pb	07 33 00.5	-0.1
OTAV	**Otavalo**	**2.81**	**36**	⇓P	Pn	07 33 01.4	+0.9
OTAV	**Otavalo**	**2.81**	**36**	⇓S	Sn	07 33 35.2	-0.1
CAYR	**Refugio Cayamb**	**2.94**	**46**	P	Pb	07 33 07.8	-0.1
COTA	**Cotacachi**	**2.96**	**37**	P	Pb	07 33 05.7	-2.4
CAYA	**Cayambe**	**2.99**	**46**	P	Pb	07 33 08.0	-0.6
LITE	**Lita**	**3.33**	**32**	P	Pn	07 33 09.7	+2.5

*BJI **07** 07:39:22.4, 3°.24N×128°.39E, h118km, mb5.9/85, mB5.8/55*
*MOS **07** 07:39:24.7±1.1, 3°.72N×127°.98E, h102km, mb5.9/90, MS4.3/24, Error ellipse: s-maj=7.9km s-min=4.4km az=115.9*
*ISCJB **07** 07:39:25.6±0.3, 3°.59N±0°.01×128°.08E±0°.02, h115km±2km, mb5.7/219, Error ellipse: s-maj=3.0km s-min=2.3km az=168.5*
*IDC **07** 07:39:25.4±0.5, 3°.61N×128°.04E, h99km±3km, mb5.4/45, mb1 5.4/47, mb1mx5.3/50, mbtmp5.7/47, MS4.2/25, Ms1 4.2/25, ms1mx4.1/33, Error ellipse: s-maj=10.4km s-min=6.9km az=76.0*
*KLM **07** 07:39:30.0, 3°.42N×127°.81E, h105km, mb5.7, MS6.3*
*GCMT **07** 07:39:29.8±0.1, 3°.68N×127°.94E, h115km, MW5.5/121, Moment Tensor Solution. s110,c158; s121,c243; Duration: 1s4 Moment tensor: Scale 10¹⁷Nm; Mrr2.09±.03; Mθθ0.51±.03; Mϕϕ-2.60±.04; Mrθ0.24±.02; Mθϕ0.74±.03; Mϕr0.16±.03; Best double couple: Mo2.45500×10¹⁷ NP1:ϕs357.00000°, δ47.00000°, λ104.00000°. NP2:ϕs157.00000°, δ45.00000°, λ75.00000°. Principal axes: T 2.1410, Plg80.0000°, Azm341.0000°; N 0.6250, Plg10.0000°, Azm168.0000°; P -2.7680, Plg1.0000°, Azm77.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*DJA **07** 07:39:29.6±0.3, 3°.N±2°×12°.8E±°, h112km±2km, M5.6/114, mb5.8/114, mB6.0/86, MLv6.2/14, Mw(mB)5.6/86, Mwp5.9/2*
*NEIC **07** 07:39:29.8±0.1, 3°.56N×127°.98E, h140km, mb5.7/112, MW5.6, Error ellipse: s-maj=3.8km s-min=3.0km az=68.0, Moment Tensor Solution. s18 Moment tensor: Scale 10¹⁷Nm; Mrr2.60; Mθθ0.14; Mϕϕ-2.73; Mrθ-0.53; Mθϕ 1.36; Mϕr0.26; Best double couple: Mo3.00000×10¹⁷ NP1: ϕs170.00000°, δ42.00000°, λ107.00000°. NP2: ϕs328.00000°, δ50.00000°, λ76.00000°. Principal axes: T 2.7100, Plg78.0000°, Azm178.0000°; N 0.6000, Plg10.0000°, Azm336.0000°; P -3.3100, Plg4.0000°, Azm67.0000°;*

ISC 07 07:39:27.5±0.2, 3°.57N±0°.02×128°.08E±0°.03, h120km±1km, h120km:pP-P,n1456,σ1s30/1655, mb5.7/222, 290C-225D, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.55**	**273**	P	**Pn**	**07 40 06.3**	**-1.6**
SGSI				S	**Sn**	**07 40 34.9**	**-4.1**
TNTI	**Ternate**	**2.87**	**194**	P	**Pn**	**07 40 11.8**	**-0.3**
TNTI				S	**Sn**	**07 40 42.9**	**-3.5**
TNTI	**Ternate**	**2.87**	**194**	*e*Pn	**Pn**	**07 40 12.5**	**+0.4**
TNTI				*e*Sn	**Sn**	**07 40 48.6**	**+2.2**
MATI	**Mati**	**3.82**	**332**	*e*P	**Pn**	**07 40 25.3**	**+0.7**
GSPH	**General Santos**	**4.00**	**309**⇑	*i*P	**Pn**	**07 40 24.6**	**-2.6**
GSPH				*i* S	**Sn**	**07 41 12.5**	**-0.9**
LBMI	**Labuha**	**4.22**	**188**	P	**Pn**	**07 40 30.2**	**+0.2**
LBMI				S	**Sn**	**07 41 19.8**	**+1.3**
DAV	**Davao City (W)**	**4.28**	**325**	*e*Pn	**Pn**	**07 40 33.3**	**+2.4**
BIPH	**Bislig**	**4.89**	**340**⇓	*i*P	Pn	07 40 32.5	-6.6
BIPH				*i* S	Sn	07 41 25.7	-9.1
KMSI	**Cibinong**	**5.06**	**234**	P	**Pn**	**07 40 40.0**	**-1.3**
KMSI				S	**Sn**	**07 41 36.8**	**-1.9**
BUKP	**Musuan**	**5.23**	**325**	*e*P	**Pn**	**07 40 43.5**	**-0.2**
CTBH	**Cotabato--PC H**	**5.27**	**314**	*e*P	**Pn**	**07 40 42.1**	**-2.0**
SWI	**Sorong**	**5.43**	**144**	P	**Pn**	**07 40 46.9**	**+0.6**
SWI	2μm,0.7s,44μm14nm			S	**Sn**	**07 41 45.3**	**-2.4**
SWI	2μm,0.7s,44μm14nm **Sorong**	**5.43**	**144**	P	**Pn**	**07 40 46.9**	**+0.6**
SWI	baz=5.4,SNR=129			S	**Sn**	**07 41 47.4**	**-0.3**
GTOI	baz=5.4,SNR=18 **Gorontalo**	**5.84**	**240**	P	**Pn**	**07 40 51.0**	**-0.8**
BUTP	**Butuan**	**5.90**	**336**	*e*P	**Pn**	**07 40 53.8**	**+1.2**
CGP	**Cagayan de Oro**	**5.91**	**325**⇓	*e*P	**Pn**	**07 40 53.9**	**+1.1**
CGP				*e*S	**Sn**	**07 41 58.2**	**-1.1**
SANI	**Sanana**	**5.96**	**201**	P	**Pn**	**07 40 50.8**	**-2.6**
SANI	2μm,0.9s,39μm7.8nm			S	Sn	07 41 51.0	-9.4
PAGZ	2μm,0.9s,39μm7.8nm **Pagadian**	**6.32**	**313**	*e*P	**Pn**	**07 40 56.4**	**-2.0**
PAGZ				*e*S	Px	07 41 21.2	
SCPH	**Surigao**	**6.69**	**338**	*e*P	**Pn**	**07 41 06.4**	**+3.1**
SCPH				*e*S	Sn	07 42 03.9	-14
NLAI	**Namlea**	**6.83**	**188**	P	**Pn**	**07 41 05.2**	**0.0**
DCPH	**Dipolog City**	**6.85**	**317**	*e*P	**Pn**	**07 41 05.5**	**+0.1**
MRSI	**Marisa**	**6.86**	**244**	P	**Pn**	**07 41 04.5**	**-1.1**
ZMPH	10μm,1.1s,99μm28nm **Zamboanga City**	**6.87**	**300**⇓	*i*P	**Pn**	**07 41 03.2**	**-2.5**
ZMPH				*i* S	**Sn**	**07 42 18.1**	**-4.4**
IPIL	**Ipil**	**6.90**	**308**	*e*P	**Pn**	**07 41 04.1**	**-2.1**
MSAI	**Masohi**	**6.92**	**173**	P	**Pn**	**07 41 07.8**	**+1.4**
LUWI	218nm,1.2s,3μm0.9nm **Luwuk**	**7.00**	**229**	P	**Pn**	**07 41 05.1**	**-2.5**
LUWI	4μm,1.1s,39μm26nm **Luwuk**	**7.00**	**229**	P	**Pn**	**07 41 05.6**	**-1.9**
LUWI	baz=6.9,SNR=95 **Luwuk**	**7.00**	**229**	*e*Pn	**Pn**	**07 41 05.7**	**-1.9**
LUWI				*e*Sn	**Sn**	**07 42 29.6**	**+3.7**
AAI	**Ambon**	**7.21**	**179**	P	**Pn**	**07 41 11.4**	**+1.1**
AAI	1μm,0.9s,8μm3.5nm **Ambon**	**7.21**	**179**	P	**Pn**	**07 41 12.8**	**+2.5**
MSLP	baz=7.1,SNR=9.2 **Maasin**	**7.26**	**334**	*e*P	**Pn**	**07 41 12.2**	**+1.1**
I39PW	**PALAU INFRASON**	**7.55**	**58**	P	**Pn**	**07 41 15.0**	**0.0**
TOLI	baz=204,slow=15,SNR=0.4 **Toli-Toli**	**7.67**	**252**	*e*Pn	**Pn**	**07 41 15.2**	**-1.4**
TOLI				*e*Sn	**Sn**	**07 42 36.8**	**-5.2**
FAKI	**Fak Fak**	**7.67**	**147**	P	**Pn**	**07 41 15.6**	**-1.1**
FAKI	**Fak Fak**	**7.67**	**147**	P	**Pn**	**07 41 17.3**	**+0.6**
FAKI	baz=7.6,SNR=88			S	**Sn**	**07 42 41.3**	**-0.8**
FAKI	baz=7.6,SNR=6.6 **Fak Fak**	**7.67**	**147**	*e*Pn	**Pn**	**07 41 17.5**	**+0.8**
FAKI				*e*Sn	**Sn**	**07 42 40.5**	**-1.6**
RKPI	**Ransiki, Papua**	**7.91**	**129**	P	Pn	07 41 24.2	+4.3
PLP	2μm,0.8s,21μm10nm **Palo**	**8.15**	**338**⇓	*e*P	**Pn**	**07 41 21.2**	**-1.9**
BNDI	**Bandanaira**	**8.24**	**167**	P	**Pn**	**07 41 26.4**	**+2.1**
MPSI	2μm,1.4s,15μm **Mapaga**	**8.78**	**249**	P	**Pn**	**07 41 30.6**	**-1.0**
GUIM	1μm,1.0s,13μm **Jordan**	**8.88**	**322**	*e*P	**Pn**	**07 41 32.4**	**-0.6**
PCI	**Palu**	**9.36**	**242**	P	**Pn**	**07 41 38.4**	**-1.0**
RCP	4μm,0.8s,29μm **Roxas**	**9.54**	**327**⇑	*e*P	**Pn**	**07 41 42.1**	**+0.2**
SRPI	**Serui, Papua**	**9.78**	**123**	P	Pn	07 41 50.5	+5.3
CUYO	**Cuyo Island**	**10.07**	**316**	*e*P	**Pn**	**07 41 47.1**	**-1.9**
TSM	**Tawau**	**10.21**	**274**	⇓P	**Pn**	**07 41 49.5**	**-1.4**
TTSI	**Tana Toraja**	**10.55**	**232**	P	**Pn**	**07 41 53.0**	**-2.5**
SPSI	2μm,0.8s,14μm18μm **Sidrap Palu**	**11.18**	**228**	P	**Pn**	**07 42 01.3**	**-2.6**
BNSI	1μm,0.8s,10μm **Bone**	**11.23**	**225**	P	**Pn**	**07 42 02.0**	**-2.6**
SGKI	763nm,0.9s,6μm **Sangatta, Kali**	**11.23**	**249**	P	Pn	07 42 00.2	-4.5
KDM	2μm,0.9s,21μm **Kudat**	**11.68**	**287**	⇑P	**Pn**	**07 42 10.6**	**0.0**
BKSI	**Bulukumba**	**11.88**	**222**	P	**Pn**	**07 42 10.8**	**-2.4**
KAPI	421nm,1.1s,5μm **Kappang**	**11.91**	**224**	Pn	**Pn**	**07 42 11.2**	**-2.5**
KAPI	3μm,0.9s,SNR=76 **Kappang**	**11.91**	**224**	P	**Pn**	**07 42 11.1**	**-2.5**
KAPI	28nm,0.3s,baz=52,slow=9.6,SNR=152			S	Sn	07 44 18.2	-6.6
KAPI	14nm,0.3s,baz=125,slow=22,SNR=7.4			LR	LR	07 47 36.7	
SAUI	comp=Z,1μm,18.3s,baz=61,slow=41 **Saumlaki**	**11.91**	**164**	P	**Pn**	**07 42 15.4**	**+1.7**
SAUI	**Saumlaki**	**11.91**	**164**	*e*Pn	**Pn**	**07 42 12.0**	**-1.7**
SMPI	**Sarmi**	**11.97**	**117**	P	**Pn**	**07 42 17.1**	**+2.6**
KKM	449nm,1.3s,8μm **Kota Kinabalu**	**12.07**	**282**	P	**Pn**	**07 42 15.0**	**-0.9**
KKM	baz=12,SNR=20 **Kota Kinabalu**	**12.07**	**282**	*e*Pn	**Pn**	**07 42 14.8**	**-1.1**
BKB	**Balikpapan**	**12.16**	**247**	P	**Pn**	**07 42 15.9**	**-1.0**
BSSI	2μm,1.3s,18μm **Bau Bau, Buton**	**12.26**	**218**	P	**Pn**	**07 42 19.2**	**+0.9**
MMRI	**Maumere**	**13.45**	**206**	P	**Pn**	**07 42 33.2**	**-0.5**
MMRI	836nm,0.8s,8μm **Maumere**	**13.45**	**206**	*e*P	**P**	**07 42 40.4**	**+1.6**
GENI	615nm,0.8s **Genyem**	**13.54**	**117**	P	**P**	**07 42 40.3**	**+0.5**
KBKI	**Kotabaru**	**13.72**	**240**	P	**Pn**	**07 42 35.4**	**-1.8**
SOEI	777nm,1.4s,9μm **Soe**	**13.77**	**196**	P	**Pn**	**07 42 39.5**	**+1.6**
SOEI	520nm,0.9s,5μm **Soe**	**13.77**	**196**	P	**Pn**	**07 42 39.9**	**+1.9**
SOEI	baz=14,SNR=12 **Soe**	**13.77**	**196**	*e*Pn	**Pn**	**07 42 39.5**	**+1.6**
EDFI	**Ende, Flores**	**13.79**	**207**	P	**Pn**	**07 42 37.6**	**-0.6**
MTKI	454nm,0.8s,5μm47μm **Muara Teweh, K**	**13.91**	**251**	P	**Pn**	**07 42 39.8**	**+0.1**
JAY	1μm,1.2s,18μm **Jayapura**	**13.99**	**115**	P	**P**	**07 42 47.2**	**+2.4**
JAY	**Jayapura**	**13.99**	**115**	P	**Pn**	**07 42 42.4**	**+1.7**
JAY	3.4nm,0.3s,baz=225,slow=13,SNR=4.0 baz=269,slow=24,SNR=5.8			S	**Sn**	**07 45 16.8**	**+1.5**
JAY	comp=Z,2μm,18.5s,baz=294,slow=36			LR	LR	07 47 51.8	
JAY	**Jayapura**	**13.99**	**115**	P	**Pn**	**07 42 42.4**	**+1.7**
JAY				S	**Sn**	**07 45 16.8**	**+1.5**
JAY	comp=Z,3.0nm,0.3s			pmax	pmax		
JAY	comp=Z,2μm,18.5s			MLR	MLR		
BBKI	**Banjar Baru**	**14.96**	**242**	P	**Pn**	**07 42 52.2**	**-0.8**
BTM	comp=Z,518nm,0.9s,comp=

TWG	Pinlang	20.31	341	*e*P		P	07 43 51.7	-2.4	
	comp=Z,226nm,0.4s								
PCJI	Pacitan	20.51	235	P		P	07 43 56.3	-0.1	
	comp=Z,980nm,1.0s,comp=Z,9μm								
SMRI	Semarang	20.52	239	P		P	07 43 56.3	-0.2	
	comp=Z,327nm,1.0s								
SMRI	Semarang	20.52	239	P		P	07 43 56.8	+0.3	
	baz=20,SNR=5.8								
SMRI	Semarang	20.52	239	*e*P		P	07 43 54.4	-2.2	
	comp=Z,361nm,0.9s								
WOJI	Wonogiri, Jawa	20.52	236	P		P	07 43 57.4	+0.9	
	comp=Z,340nm,1.0s								
YULB	Yu-li	20.77	342	*e*P		P	07 43 56.4	-2.7	
	comp=Z,87nm,0.8s								
UGM	Wanagama	20.90	237	P		P	07 43 59.5	-1.1	
UGM	Wanagama	20.90	237	P		P	07 44 00.1	-0.5	
	baz=21,SNR=18								
TPUB	Ta-pu	20.90	340	*e*P		P	07 43 59.0	-1.5	
	comp=Z,372nm,1.0s								
DLV	T Lat	21.11	294	*e*P		P	07 44 03.5	+0.5	
	comp=Z,316nm,1.2s								
SSLB	Suanglung	21.25	342	*e*P		P	07 44 03.2	-1.0	
	comp=Z,229nm,0.8s								
SSLB				*e*S		S	07 47 55.8	+2.1	
YOJ	Yonaguni jima	21.34	347	*e*P		P	07 44 05.2	0.0	
YOJ				pmax	pmax				
	comp=Z,245nm,0.8s								
YOJ	Yonaguni jima	21.34	347	*e*P		P	07 44 05.2	0.0	
	comp=Z,244nm,0.8s								
TPI	Tanjungpandan	21.36	253	P		P	07 44 04.6	-0.9	
	comp=Z,191nm,1.1s,comp=Z,2μm								
NACB	Ninganchiao	21.42	344	*e*P		P	07 44 06.1	0.0	
	comp=Z,173nm,0.9s								
YHNB	Yeheng	21.95	344	*e*P		P	07 44 10.9	-0.8	
	comp=Z,440nm,0.8s								
KPJI	Karang Pucung	21.96	240	P		P	07 44 10.0	-1.9	
	comp=Z,279nm,1.0s,comp=Z,3μm								
JCJI	Jatiwangi	22.16	243	P		P	07 44 16.0	+2.1	
	comp=Z,308nm,0.9s								
TATO	Taipei	22.21	344	*e*P		P	07 44 15.6	+1.2	
	comp=Z,200nm,0.9s								
CMJI	Cimerak	22.60	240	P		P	07 44 17.8	-0.5	
	comp=Z,228nm,1.1s,comp=Z,3μm								
PPBI	Pangkal Pinang	22.66	256	P		P	07 44 18.5	-0.4	
	comp=Z,115nm,0.9s,comp=Z,5μm								
LEM	Lembang	22.89	240	P		P	07 44 22.0	+0.7	
	comp=Z,345nm,1.0s,comp=Z,3μm								
LEM	Lembang	22.89	243	P		P	07 44 22.4	+1.1	
	comp=Z,214nm,0.8s,baz=41,slow=7.6,SNR=16								
LEM	Lembang	22.89	243	P		P	07 44 22.4	+1.1	
LEM				pmax	pmax				
	comp=Z,214nm,0.8s								
LEM	Lembang	22.89	243	P		P	07 44 23.2	+1.9	
	baz=23,SNR=7.4								
COEN	Coen	22.96	140	P		P	07 44 20.3	-1.6	
	baz=23,SNR=6.9								
COEN	Coen	22.96	140	*e*P		P	07 44 20.3	-1.6	
	comp=Z,12nm,1.0s								
PMG	Port Moresby	22.97	124	*d i*P		P	07 44 21.8	-0.2	
PMG				pmax	pmax				
	comp=Z,166nm,1.0s								
PMG	Port Moresby	22.97	124	*e*P		P	07 44 22.7	+0.8	
	comp=Z,53nm,1.1s								
CISI	Cisompet, Garu	23.04	241	P		P	07 44 22.4	-0.3	
	comp=Z,298nm,0.9s								
CISI	Cisompet, Garu	23.04	241	*e*P		P	07 44 20.8	-1.9	
	comp=Z,631nm,1.4s								
QZH	Quanzhou	23.13	338	⇑*i*P		P	07 44 23.0	-0.3	
QZH				sP		sP	07 44 59.5	-2.2	
QZH				S		S	07 48 24.6	-1.0	
QZH				PMZ					
	comp=Z,870nm,1.0s								
QZH				PMZ					
	comp=Z,4μm,3.8s								
JOW	Kunigami	23.14	0	P		P	07 44 23.9	+0.5	
	comp=Z,78nm,1.0s,baz=184,slow=6.4								
JOW	Kunigami	23.14	0	*e*P		P	07 44 22.9	-0.4	
	comp=Z,484nm,1.0s								
CBJI	Citeko	23.40	245	P		P	07 44 28.4	+2.5	
	comp=Z,540nm,0.3s								
CNJI	Cibinong	23.53	243	P		P	07 44 26.1	-1.0	
	comp=Z,458nm,1.0s,comp=Z,4μm								
QIZ	Qiongzhong	23.53	312	P		P	07 44 27.2	+0.1	
QIZ				pP		pP	07 44 53.2	+2.0	
QIZ				S		S	07 48 33.6	+1.4	
QIZ				sS		sS	07 49 17.9	+1.8	
QIZ				PMZ					
	comp=Z,300nm,1.6s								
QIZ				PMZ					
	comp=Z,830nm,5.4s								
QIZ				LN					
	comp=Z,2μm,16.6s								
QIZ				LZ					
	comp=Z,1μm,25.9s								
QIZ	Qiongzhong	23.53	312	*e*P		P	07 44 27.0	-0.1	
	comp=Z,775nm,1.5s								
TPRI	Tanjung Pinang	23.68	264	P		P	07 44 30.0	+1.5	
	comp=Z,237nm,1.2s								
DSRI	Dabo	23.83	261	P		P	07 44 29.8	0.0	
	comp=Z,240nm,1.2s,comp=Z,6μm								
SBJI	Serang	23.93	246	P		P	07 44 32.4	+1.6	
	comp=Z,288nm,1.2s,comp=Z,7μm								
GZH	Guangzhou	24.08	325	P		P	07 44 34.6	+2.6	
GZH				PcP		PcP	07 48 12.5	+2.0	
GZH				S		S	07 48 44.0	+3.0	
GZH				SS		SnSn	07 49 46.1	+10	
GZH				PMZ					
	comp=Z,2μm,5.1s								
WRAB	Tennant Creek	24.15	165	P		P	07 44 31.3	-1.4	
	comp=Z,5μm,0.9s								
WRAB	Tennant Creek	24.15	165	*c i*P		P	07 44 31.6	-1.0	
WRAB				pmax	pmax				
	comp=Z,2μm,0.9s								
WRAB	Tennant Creek	24.15	165	*e*P		P	07 44 31.6	-1.0	
	comp=Z,581nm,0.9s								
WRA	Warramunga Arr	24.16	165	P		P	07 44 31.6	-1.1	
	comp=Z,348nm,0.6s,baz=344,slow=10,SNR=741								
WRA				pP		pP	07 44 56.5	-1.3	
	comp=Z,170nm,0.8s,baz=343,slow=11,SNR=4.2								
WRA				S		S	07 48 38.4	-3.9	
	comp=Z,12nm,0.9s,baz=346,slow=16,SNR=3.2								
WRA				ScP		ScP	07 51 38.8	+0.4	
	comp=Z,11nm,1.0s,baz=345,slow=3.6,SNR=6.9								
WRA				PKiKP		PKiKP	07 55 52.4	-1.2	
	comp=Z,2.0nm,1.1s,baz=282,slow=1.5,SNR=5.5								
WRA	Warramunga Arr	24.16	165	P		P	07 44 31.6	-1.1	
WRA				*PP		pP	07 44 56.5	-1.3	
WRA				S		S	07 48 38.4	-3.9	
WRA				pmax	pmax				
	comp=Z,348nm,0.6s								
WRA				pmax	pmax				
	comp=Z,170nm,0.8s								
WRA				smax	smax				
	comp=N,12nm,0.9s								
WRA				pmax	pmax				
	comp=N,11nm,1.0s								
WRA				pmax	pmax				
	comp=Z,2.0nm,1.1s								
PMBI	Palembang	24.17	255	P		P	07 44 36.7	+3.8	
	comp=Z,795nm,1.0s,comp=Z,61μm								
MYKOM	Kota Tinggi	24.26	266	⇓P		P	07 44 34.6	+0.8	
MYKOM	Kota Tinggi	24.26	266	*e*P		P	07 44 34.3	+0.5	
	comp=Z,282nm,0.9s								
BTDF	Bukit Timah Da	24.38	265	P		P	07 44 36.1	+1.2	
	baz=24,SNR=20								
BTDF				S		S	07 48 57.8	+12	
	baz=24,SNR=5.3								
BLSI	Bandar Lampung	24.47	249	P		P	07 44 38.5	+2.8	
	comp=Z,576nm,1.0s								
CGJI	Cibinong	24.53	246	P		P	07 44 35.4	-0.8	
	comp=Z,239nm,0.8s,comp=Z,3μm								
KLI	Kotabumi	24.66	250	P		P	07 44 38.2	+0.8	
	comp=Z,255nm,0.9s,comp=Z,5μm								
KGM	Kluang	24.78	267	⇓P		P	07 44 39.4	+1.0	
JMBI	JAMBI	24.96	258	P		P	07 44 44.4	+4.2	
MDSI	Maura Dua	25.18	252	P		P	07 44 42.2	+0.1	
	comp=Z,156nm,0.9s,comp=Z,3μm								
KASI	Kota Agung	25.22	249	P		P	07 44 43.5	+1.0	
	comp=Z,198nm,0.8s,comp=Z,2μm								
LWLI	Liwa	25.46	251	P		P	07 44 45.6	+0.8	
	comp=Z,194nm,0.7s,comp=Z,11μm								
LHSI	Lahat	25.61	254	P		P	07 44 47.3	+1.3	
	comp=Z,182nm,0.9s,comp=Z,3μm								
MBWA	Marble Bar	25.90	198	*e*P		P	07 44 48.1	-0.3	
	comp=Z,152nm,0.9s								
XMI	Christmas Isla	26.28	238	P		P	07 44 53.3	+1.2	
	baz=26,SNR=4.6								
FRIM	Kepong	26.41	270	⇑P		P	07 44 54.0	+0.8	
QIS	Mount Isa	26.51	155	P		P	07 44 53.0	-1.0	
	baz=26,SNR=45								
MASI	Maura Aman, Be	26.67	256	P		P	07 44 57.7	+2.1	
	comp=Z,545nm,0.9s,comp=Z,8μm								
IPM	Ipoh	27.00	273	⇓P		P	07 44 59.5	+0.9	
IPM	Ipoh	27.00	273	*e*P		P	07 44 58.3	-0.2	
	comp=Z,237nm,1.3s								
CBIJ	Chichi jima	27.01	29	*e*P		P	07 44 57.2	-1.2	
	comp=Z,209nm,0.8s								
JCJ	Chichijima	27.01	29	P		P	07 44 57.1	-1.3	
	comp=Z,408nm,0.8s,baz=86,slow=12,SNR=24								
JCJ				LR		LR	07 56 23.8		
	comp=Z,426nm,18.8s,baz=138,slow=38								
CHBT	CHBT	27.04	291	P		P	07 44 59.2	+0.3	
	comp=Z,127nm,1.1s,comp=Z,4μm								
SKNT	Sakolnakorn	27.15	301	P		P	07 44 59.8	0.0	
	comp=Z,639nm,1.4s,comp=Z,7μm								
BKNI	Bangkinang	27.21	264	P		P	07 45 01.8	+1.4	
	comp=Z,354nm,1.0s,comp=Z,3μm								
BKNI	Bangkinang	27.21	264	*e*P		P	07 45 00.7	+0.3	
	comp=Z,282nm,0.9s								
KULM	Kulim	27.40	275	⇓P		P	07 45 03.4	+1.3	
KULM	Kulim	27.40	275	*e*P		P	07 45 02.5	+0.5	
	comp=Z,120nm,1.1s								
SKLT	Songkhla	27.57	279	P		P	07 45 04.3	+0.7	
	comp=Z,46nm,1.2s,comp=Z,1μm								
AS31	Alice Springs	27.66	168	*e*P		P	07 45 03.3	-0.9	
AS31				*e*PcP		PcP	07 48 18.8	+0.1	
ASAR	Alice Springs	27.66	168	P		P	07 45 03.5	-0.8	
	comp=Z,39nm,0.7s,baz=5.9,slow=7.5,SNR=219								
ASAR				PcP		PcP	07 48 19.1	+0.4	
	comp=Z,34nm,0.7s,baz=353,slow=2.5,SNR=13								
ASAR				ScP		ScP	07 51 48.6	+0.1	
	comp=Z,5.2nm,0.8s,baz=350,slow=4.0,SNR=5.0								
ASAR				PKiKP		PKiKP	07 55 54.8	-0.7	
	comp=Z,2.5nm,0.8s,baz=52,slow=1.1,SNR=6.7								
ASAR				LR		LR	07 57 52.5		
	comp=Z,720nm,18.6s,baz=340,slow=40								
ASAR				P3KPbc			08 17 29.1		
	comp=Z,1.1nm,0.9s,baz=156,slow=3.8,SNR=9.7								
KHON	Khomkaen	27.87	299	P		P	07 45 06.7	+0.4	
	comp=Z,146nm,1.0s,comp=Z,1μm								
PDSI	Padang	27.96	261	P		P	07 45 07.0	-0.1	
SSE	Sheshan	28.14	347	P		P	07 45 09.1	+0.6	
SSE				S		S	07 49 44.3	-0.7	
SSE				sS		sS	07 50 34.5	+3.9	
SSE				PcS		PcS	07 51 58.9	-3.2	
SSE				PMZ					
	comp=Z,110nm,1.1s								
SSE				PMZ					
	comp=Z,240nm,3.8s								
SSE				LN					
	comp=Z,150nm,24.2s								
SSE				LE					
	comp=Z,260nm,23.8s								
SSE				LZ					
	comp=Z,270nm,23.4s								
WRKA	Warakurna	28.43	180	P		P	07 45 10.3	-0.8	
	baz=28,SNR=137								
CHAI	Chaiyaphum	28.44	297	P		P	07 45 11.1	-0.2	
	comp=Z,98nm,0.9s,comp=Z,776nm								
MNSI	Mandailing Nat	28.61	265	P		P	07 45 12.9	+0.1	
	comp=Z,55nm,0.9s,comp=Z,9μm								
PSI	Prapat	29.12	269	P		P	07 45 17.6	+0.1	
	comp=Z,78nm,1.0s,baz=77,slow=2.7,SNR=39								
PSI				PcP		PcP	07 48 22.4	-0.3	
	comp=Z,40nm,0.9s,baz=191,slow=5.2,SNR=6.0								
PSI	Prapat	29.12	269	P		P	07 45 17.6	+0.1	
PSI							07 48 22.4		
PSI				pmax	pmax				
	comp=Z,78nm,1.0s								
PSI				pmax	pmax				
	comp=Z,40nm,0.9s								
GIRL	Giralia	29.35	207	P		P	07 45 20.4	+1.2	
	baz=29,SNR=18								
CTA	Charters Tower	29.52	143	P		P	07 45 21.5	+0.7	
	comp=Z,7.2nm,0.6s,baz=342,slow=12,SNR=3.0								
CTA				ScP		ScP	07 51 56.1	+1.7	
	comp=Z,15nm,0.9s,baz=114,slow=19,SNR=4.4								
CTA	Charters Tower	29.52	143	P		P	07 45 21.5	+0.7	
CTA							07 51 56.1		
CTA				pmax	pmax				
	comp=Z,7.0nm,0.6s								
CTA				pmax	pmax				
	comp=N,15nm,0.9s								
CTAO	Charters Tower	29.52	143	*e*P		P	07 45 20.4	-0.4	
CTAO				pmax	pmax				
	comp=Z,40nm,1.1s								
CTAO	Charters Tower	29.52	143	*e*P		P	07 45 20.4	-0.4	
	comp=Z,40nm,1.1s								
JNU	Nakatsue	29.52	5	P		P	07 45 20.6	-0.2	
	comp=Z,238nm,1.0s,baz=200,slow=3.0,SNR=56								
JNU	Nakatsue	29.52	5	*e*P		P	07 45 20.5	-0.2	
	comp=Z,117nm,1.0s								
JNU				*e*PcP		PcP	07 48 23.7	+0.5	
SURT	Suratani	29.58	282	P		P	07 45 21.8	+0.3	
	comp=Z,23nm,1.1s,comp=Z,296nm								
PBKT	Sadao Pong	29.60	298	P		P	07 45 21.9	+0.4	
	comp=Z,258nm,1.2s,comp=Z,3μm								
NJ2	Nanjing	29.63	344	*e*P		P	07 45 23.4	+1.7	
NJ2				pP		pP	07 45 50.9	+3.1	
NJ2				sP		sP	07 46 04.3	+2.6	
NJ2				S		S	07 50 10.0	+1.6	
NJ2				sS		sS	07 50 57.0	+2.9	
NJ2				PMZ					
	comp=Z,70nm,0.7s								
NJ2				PMZ					
	comp=Z,720nm,10.5s								
NJ2				LN					
	comp=Z,750nm,24.1s								
NJ2				LE					
	comp=Z,700nm,24.2s								
NJ2				LZ					
	comp=Z,860nm,29.6s								
KSJJU	Jeju	29.75	357	P		P	07 45 23.1	+0.4	
	SNR=15								
KSJJU	Jeju	29.75	357	P		P	07 45 23.1	+0.4	
	SNR=15								
WHN	Wuhan	29.80	336	⇑*i*P		P	07 45 24.6	+1.4	
WHN				pP		pP	07 45 49.1	-0.3	
WHN				sP		sP	07 46 01.7	-1.5	
WHN				S		S	07 50 10.8	-0.3	
WHN				PMZ					
	comp=Z,2μm,4.6s								
WHN				LZ					
	comp=Z,2μm,20.4s								
PKDT	Phuket	29.90	280	P		P	07 45 24.6	+0.4	
	comp=Z,77nm,1.0s,comp=Z,2μm								
KCSI	Kotacane, Aceh	30.25	271	P		P	07 45 27.5	+0.1	
	comp=Z,83nm,1.2s								
UTTA	Uttaradit	30.43	300	P		P	07 45 29.4	+0.5	
	comp=Z,34nm,1.0s,comp=Z,295nm								
GSI	Gunungsitoli	30.55	267	P		P	07 45 29.2	-0.9	
	comp=Z,213nm,0.9s								
GSI	Gunungsitoli	30.55	267	*e*P		P	07 45 28.8	-1.3	
	comp=Z,171nm,0.9s								
UTHA	Uthaitani	30.59	295	P		P	07 45 30.7	+0.3	
	comp=Z,57nm,0.9s,comp=Z,430nm								
GYA	Guiyang	30.64	320	⇑*i*P		P	07 45 31.6	+0.8	
GYA				pP		pP	07 46 01.0	+3.9	
GYA				sP		sP	07 46 16.4	+5.5	
GYA				PP		PnPn	07 46 38.8	+3.1	
GYA				PcP		PcP	07 48 26.7	+0.3	
GYA				S		S	07 50 25.2	+0.5	
GYA				sS		sS	07 51 14.0	+3.6	
GYA				ScP		ScP	07 51 57.8	-0.4	
GYA				PcS		PcS	07 52 10.3	-0.3	
GYA				ScS		ScS	07 55 52.2	-2.8	
GYA				PMZ					
	comp=Z,40nm,1.0s								
GYA				PMZ					
	comp=Z,160nm,5.6s								
KSWAN	Wando	30.69	358	P		P	07 45 31.5	+0.5	
	SNR=6.7								
KSWAN	Wando	30.69	358	P		P	07 45 31.5	+0.5	
	SNR=6.7								
NANT	Nan	30.75	302	P		P	07 45 32.2	+0.4	
	comp=Z,222nm,0.8s,comp=Z,4μm								
KSJDO	Jindo	30.79	357	P		P	07 45 32.1	+0.2	
	SNR=46								
KSJDO	Jindo	30.79	357	P		P	07 45 32.1	+0.2	
	SNR=46								
KSHUK	Heuksando	31.06	356	P		P	07 45 34.2	0.0	
	SNR=51								
KSHUK	Heuksando	31.06	356	P		P	07 45 34.2	0.0	
	SNR=51								
KSNAH	Namhae	31.09	360	P		P	07 45 35.0	+0.5	
	SNR=5.1								
KSNAH	Namhae	31.09	360	P		P	07 45 35.0	+0.5	
	SNR=5.1								
KHLT	Khaolaem Dam	31.13	293	P		P	07 45 35.7	+0.6	
	comp=Z,64nm,1.1s,comp=Z,645nm								
MEEK	Meekatharra	31.39	196	P		P	07 45 36.7	-0.6	
	baz=31,SNR=73								
KSKWJ	Gwangju	31.45	358	P		P	07 45 37.9	+0.2	
	SNR=13								
KSKWJ	Gwangju	31.45	358	P		P	07 45 37.9	+0.2	
	SNR=13								
KSGWJ	Gwangju-acc	31.47	358	P		P	07 45 39.3	+1.6	
	SNR=6.9								
KSGWJ	Gwangju-acc	31.47	358	P		P	07 45 39.3	+1.6	
	SNR=6.9								
KSBUS	Busan	31.54	2	P		P	07 45 38.5	+0.1	
	SNR=8.1								
KSBUS	Busan	31.54	2	P		P	07 45 38.5	+0.1	
	SNR=8.1								
LAMP	Lampang	31.55	300	P		P	07 45 39.6	+0.8	
	comp=Z,43nm,1.0s,comp=Z,361nm								
CRAI	Chiangrai	31.67	304	P		P	07 45 36.1	-3.7	
	comp=Z,84nm,1.1s								
SNSI	Sinabang, Aceh	31.73	269	P		P	07 45 42.3	+1.9	
	comp=Z,182nm,1.0s,comp=Z,7μm								
KSJEU	Jeongeup	31.79	358	P		P	07 45 40.4	-0.2	
	SNR=82								
KSJEU	Jeongeup	31.79	358	P		P	07 45 40.7	+0.1	
	SNR=18								
ENH	Enshi	31.85	328	*e*P		P	07 45 41.7	+0.4	
	comp=Z,74nm,1.0s								
ENH				*e*PcP		PcP	07 48 29.7	+0.2	
KSDAG	Daegu	32.05	1	P		P	07 45 43.0	+0.1	
	SNR=6.6								
KSDAG	Daegu	32.05	1	P		P	07 45 43.0	+0.1	
	SNR=6.6								
CM31	Chiang Mai Arr	32.12	300	*e*P		P	07 45 44.7	+0.9	
	comp=Z,24nm,0.7s								
CMAR	Chiang Mai Arr	32.12	300	P		P	07 45 44.9	+1.1	
	comp=Z,49nm,0.9s,baz=120,slow=7.6,SNR=249								
CMAR				pP		pP	07 46 07.7	-2.3	
	comp=Z,22nm,0.8s,baz=113,slow=7.5,SNR=3.7								
CMAR				PcP		PcP	07 48 31.8	+1.4	
	comp=Z,24nm,0.9s,baz=112,slow=0.6,SNR=9.8								
CMAR				ScP		ScP	07 52 05.3	+2.2	
	comp=Z,4.1nm,0.9s,baz=91,slow=1.6,SNR=5.6								
CMAR				PKiKP		PKiKP	07 55 57.5	-1.0	
	comp=Z,1.8nm,0.7s,baz=262,slow=1.3,SNR=6.2								
CMAR				LR		LR	07 58 58.3		
	comp=Z,586nm,21.2s,baz=114,slow=37								
CMAR				P3KPbc			08 17 15.2		
	comp=Z,0.5nm,0.3s,baz=287,slow=5.4,SNR=7.7								
CMAR	Chiang Mai Arr	32.12	300	P		P	07 45 44.9	+1.1	
CMAR				*PP		pP	07 46 07.7	-2.3	
CMAR							07 48 31.8		
CMAR				*i*			07 55 57.5		
CMAR				pmax	pmax				
	comp=Z,49nm,0.9s								
CMAR				pmax	pmax				
	comp=Z,22nm,0.8s								
CMAR				pmax	pmax				
	comp=Z,24nm,1.0s								
CMAR				pmax	pmax				
	comp=N,4.0nm,1.0s								
CMAR				pmax	pmax				
	comp=Z,2.0nm,0.7s								
CMAR				MLR	MLR				
	comp=Z,586nm,21.2s								
KSJEO	Jeonju	32.22	359	P		P	07 45 44.4	0.0	
	SNR=30								
KSJEO	Jeonju	32.22	359	P		P	07 45 44.4	0.0	
	SNR=30								
CMMT	Chiang Mai	32.26	300	P		P	07 45 45.3	+0.3	
	comp=Z,175nm,1.2s,comp=Z,2μm								
CHTO	Chiang Mai	32.26	300	P		P	07 45 45.3	+0.3	
	comp=Z,609nm,1.3s,comp=Z,8μm								
CHTO	Chiang Mai	32.26	300	*e*P		P	07 45 45.4	+0.4	
CHTO				*e*			07 48 31.2		
CHTO				pmax	pmax				
	comp=Z,207nm,1.4s								
CHTO	Chiang Mai	32.26	300	*e*P		P	07 45 45.4	+0.4	
	comp=Z,208nm,1.4s								
CHTO				*e*PcP		PcP	07 48 31.2	+0.5	
KSGUS	GUNSAN	32.33	358	P		P	07 45 45.3	-0.1	
	SNR=9.8								
KMI	Kunming	32.46	314	P		P	07 45 48.2	+1.3	
KMI				pP		pP	07 46 11.4	-1.8	
KMI				PcP		PcP	07 48 33.2	+1.7	
KMI				S		S	07 50 55.2	+2.0	
KMI				PMZ					
	comp=Z,100nm,1.1s								
KMI				PMZ					
	comp=Z,560nm,4.9s								
KMI				LN					
	comp=Z,440nm,11.6s								
KMI				LE					
	comp=Z,480nm,13.0s								
KMI				LZ					
	comp=Z,760nm,23.7s								
KSPHA	Pohang	32.49	2	P		P	07 45 46.9	+0.1	
	SNR=8.5								
KSCPR	CHUPUNGNYEONG	32.50	360	P		P	07 45 46.8	0.0	
	SNR=13								
KSCPR	CHUPUNGNYEONG	32.50	360	P		P	07 45 46.8	0.0	
	SNR=13								
KSEUS	ULSEONG	32.63	1	P		P	07 45 48.4	+0.5	
	SNR=7.4								
KSTEJ	Daejeon	32.65	359	P		P	07 45 48.1	-0.1	
	SNR=15								
KSTEJ	Daejeon	32.65	359	P		P	07 45 48.1	-0.1	
	SNR=15								
CMAI	Chiengmai2	32.65	302	P		P	07 45 48.9	+0.3	
	comp=Z,84nm,1.4s,comp=Z,1μm								
KSSAJ	Sangju	32.68	0	P		P	07 45 48.7	+0.3	
	SNR=6.0								
KSKOJ	Gongju	32.76	359	P		P	07 45 49.0	0.0	
	SNR=8.8								
KSBON	Boeun	32.77	360	P		P	07 45 49.8	+0.6	
	SNR=14								
MHMT	Maesarieng	32.89	298	P		P	07 45 51.2	+0.7	
	comp=Z,145nm,1.0s								
KSCEJ	CHEONGJU	32.91	359	P		P	07 45 51.1	+0.7	
	SNR=13								

SNR=18
TIA Tai'an 34.02 344 ⇑P P 07 45 59.9 -0.2
TIA S S 07 51 17.3 +0.6
TIA LN
comp=Z,360nm,18.6s
TIA LE
comp=Z,600nm,25.7s
TIA LZ
comp=Z,460nm,25.1s
MAJO Matsushiro 34.12 15 *c iP* **P 07 45 59.0 -1.9**
MAJO pmax pmax
comp=Z,3μm,1.6s
MAJO Matsushiro 34.12 15 *e*P **P 07 45 59.3 -1.6**
comp=Z,244nm,0.9s
MAJO *e*PcP **PcP 07 48 36.1 +0.5**
MAT Matsushiro 34.12 15 P P 07 45 59.3 -1.6
MAT S S 07 51 15.0 -3.2
MJAR Matsushiro Arr 34.12 15 P P 07 45 59.3 -1.6
comp=Z,129nm,0.8s,baz=184,slow=9.6,SNR=169
MJAR PcP PcP 07 48 36.4 +0.8
comp=Z,30nm,0.8s,baz=182,slow=3.4,SNR=11
MJAR S S 07 51 11.7 -6.5
comp=Z,4.9nm,0.9s,baz=194,slow=14,SNR=5.7
MJAR LR LR 07 56 51.9
comp=Z,481nm,21.8s,baz=205,slow=31
MJAR Matsushiro Arr 34.12 15 P P 07 45 59.3 -1.6
MJAR 07 48 36.4
MJAR S S 07 51 11.7 -6.5
MJAR pmax pmax
comp=Z,129nm,0.8s
MJAR pmax pmax
comp=Z,30nm,0.8s
MJAR smax smax
comp=N,5.0nm,0.9s
FORT Forrest 34.15 180 P P 07 46 00.5 -0.8
baz=34,SNR=46
FORT Forrest 34.15 180 *e*P P 07 46 00.0 -1.2
comp=N,189nm,0.7s
FORT *e*PcP **PcP 07 48 35.8 +0.1**
CMBY CAMPBELL BAY 34.17 277 *e*P P 07 46 00.1 -1.6
CMBY AMB AMB 07 46 03.6
comp=Z,53nm,0.4s
MORW Morawa 34.44 199 P P 07 46 03.5 -0.3
baz=34,SNR=89
XAN Xi'an 35.18 332 P P 07 46 10.4 +0.3
XAN sP **sP 07 46 53.7 +3.2**
XAN PP **PP 07 47 32.5 +0.1**
XAN PcP **PcP 07 48 39.3 +0.5**
XAN S S 07 51 32.8 -1.9
XAN PMZ
comp=Z,170nm,1.2s
XAN PMZ
comp=Z,150nm,6.0s
XAN LN
comp=Z,410nm,27.8s
XAN LE
comp=Z,83nm,19.3s
XAN LZ
comp=Z,200nm,27.7s
KMBL Kambalda 35.24 189 P P 07 46 10.1 -0.4
baz=35,SNR=31
CD2 Chengdu 35.58 323 ⇑ *i*P P 07 46 13.7 +0.1
CD2 PP **PP 07 47 35.8 -1.0**
CD2 PcP **PcP 07 48 40.6 +0.5**
CD2 S S 07 51 40.6 -0.3
CD2 sS **sS 07 52 29.4 +2.3**
CD2 SS **SnSn 07 54 10.5 -4.5**
CD2 PMZ
comp=Z,200nm,0.8s
CD2 PMZ
comp=Z,550nm,6.2s
CD2 LN
comp=Z,670nm,13.1s
CD2 LE
comp=Z,740nm,16.7s
CD2 LZ
comp=Z,770nm,19.0s
DL2 Dalian 35.66 351 ⇑ *i*P P 07 46 14.5 +0.4
DL2 PcP **PcP 07 48 40.8 +0.8**
DL2 PMZ
comp=Z,220nm,0.9s
DL2 PMZ
comp=Z,280nm,4.4s
DL2 LZ
comp=Z,530nm,13.7s
BLDU Ballidu 35.68 197 P P 07 46 14.0 -0.4
baz=36,SNR=102
RMQ Roma 35.95 147 P P 07 46 17.5 +0.7
baz=36,SNR=5.8
RMQ S S 07 52 19.8 +33
baz=36,SNR=4.5
DGPR DIGLIPUR 36.01 288 *e*P P 07 46 15.4 -2.0
DGPR AMB AMB 07 46 31.9
comp=Z,43nm,3.0s
EIDS Eidsvold 36.41 143 P P 07 46 21.4 +0.7
baz=36,SNR=12
EIDS Eidsvold 36.41 143 *e*P P 07 46 21.7 +1.1
comp=Z,40nm,1.0s
TIY Taiyuan 36.88 339 *e*P P 07 46 25.0 +0.4
TIY PP **PP 07 47 51.7 +0.6**
TIY S S 07 51 58.4 -2.2
TIY PMZ
comp=Z,100nm,0.8s
TIY PMZ
comp=Z,600nm,5.2s
BBOO Buckleboo 36.96 169 P P 07 46 24.8 -0.5
baz=37,SNR=151
BBOO Buckleboo 36.96 169 *e*P P 07 46 24.7 -0.5
comp=Z,10nm,0.8s
BBOO *e*PcP **PcP 07 48 44.4 +0.3**
STKA Stephens Creek 37.52 161 P P 07 46 29.7 -0.3
comp=Z,137nm,0.6s,baz=340,slow=7.7,SNR=442
STKA PcP **PcP 07 48 46.4 +0.6**
comp=Z,31nm,0.7s,baz=351,slow=3.1,SNR=3.0
STKA LR LR 08 04 09.4
comp=Z,337nm,18.0s,baz=335,slow=40
STKA Stephens Creek 37.52 161 P P 07 46 29.7 -0.3
STKA 07 48 46.4
STKA pmax pmax
comp=Z,137nm,0.6s
STKA pmax pmax
comp=Z,31nm,0.7s
STKA MLR MLR
comp=Z,337nm,18.0s
STKA Stephens Creek 37.52 161 P P 07 46 29.2 -0.7
baz=38,SNR=239
STKA Stephens Creek 37.52 161 *e*P P 07 46 30.1 +0.1
comp=Z,26nm,0.7s
STKA PcP **PcP 07 48 46.4 +0.6**
BJT Baijiatuau 37.85 345 *e*P P 07 46 32.6 -0.1
BJT *e* 07 48 47.9
BJT pmax pmax
comp=Z,364nm,0.8s
BJT Baijiatuau 37.85 345 *e*P P 07 46 32.6 -0.1
comp=Z,364nm,0.8s
BJT *e*PcP **PcP 07 48 47.9 +1.2**
BJI Beijing 37.87 345 P P 07 46 32.8 0.0
BJI pP **pP 07 46 59.6 0.0**
BJI sP **sP 07 47 13.5 +0.1**
BJI PcP **PcP 07 48 47.9 +1.2**
BJI S S 07 52 14.0 -1.3
BJI sS sS 07 53 07.7 +5.8
BJI PMZ
comp=Z,470nm,1.1s
BJI LN
comp=Z,260nm,15.6s
BJI LE
comp=Z,650nm,20.0s
BJI LZ
comp=Z,320nm,35.6s
SNY Shenyang 38.31 355 ⇑P P 07 46 36.4 0.0
SNY S S 07 52 20.0 -1.8
SNY PMZ
comp=Z,82nm,1.0s
SNY PMZ
comp=Z,700nm,4.3s
SNY LN
comp=Z,340nm,3.8s
SNY LE
comp=Z,490nm,4.4s
SNY LZ
comp=Z,300nm,4.4s
CMSA Cobar Meteorol 38.73 156 P P 07 46 40.2 +0.1
baz=39,SNR=26
IMP Imphal 39.05 306 *ex* x 07 47 05.0
IMP *ex* PcP **07 48 50.0 -0.9**

LZH Lanzhou 39.34 328 ⇑P P 07 46 47.1 +1.7
LZH pP **pP 07 47 15.0 +2.7**
LZH sP **sP 07 47 29.5 +3.5**
LZH PP **PnPn 07 48 24.2 +2.2**
LZH ScP **ScP 07 52 30.1 +0.7**
LZH S S 07 52 39.0 +1.2
LZH sS **sS 07 53 28.0 +3.4**
LZH SS **SS 07 55 32.1 -4.3**
LZH ScS **ScS 07 56 39.4 -2.3**
LZH PMZ
comp=Z,570nm,1.3s
LZH PMZ
comp=Z,1μm,6.5s
LZH LN
comp=Z,1μm,16.0s
LZH LE
comp=Z,1μm,16.8s
LZH LZ
comp=Z,2μm,18.0s
RKGY Rocky Gully 39.38 194 P P 07 46 46.7 +1.2
baz=40,SNR=46
VLA Vladivostok 39.53 4 ⇑ *i*P P 07 46 47.0 +0.4
VLA pmax pmax
comp=Z,557nm,2.2s
HHC Hu-ho-hao-te 39.99 340 *e*P P 07 46 51.4 +0.8
HHC pP **pP 07 47 15.2 -2.5**
HHC sP **sP 07 47 33.6 +2.3**
HHC PP **PP 07 48 26.3 +1.3**
HHC S S 07 52 42.5 -4.8
HHC SS **SS 07 55 43.8 -5.4**
HHC PMZ
comp=Z,150nm,0.6s
HHC PMZ
comp=Z,580nm,4.7s
HHC LN
comp=Z,850nm,14.8s
HHC LE
comp=Z,990nm,14.8s
HHC LZ
comp=Z,840nm,17.3s
CN2 Changchun 40.13 357 *e*P P 07 46 51.1 -0.5
CN2 *e*pP **pP 07 47 19.4 +0.7**
CN2 *e*sP **sP 07 47 34.3 +2.0**
CN2 *e*S S 07 52 53.7 +4.5
CN2 PMZ
comp=Z,20nm,0.9s
CN2 PMZ
comp=Z,400nm,3.0s
CN2 LN
comp=Z,500nm,10.0s
CN2 LE
comp=Z,500nm,10.0s
CN2 LZ
comp=Z,500nm,10.0s
BTO Baotou 40.31 339 *e*P P 07 46 52.8 -0.5
H01W3 Cape Leeuwin H 40.43 198 P P 07 46 55.7 +1.8
baz=33,slow=8.8,SNR=22
H01W1 Cape Leeuwin H 40.43 198 P P 07 46 55.6 +1.6
baz=33,slow=8.8,SNR=25
H01W2 Cape Leeuwin H 40.45 198 P P 07 46 55.6 +1.6
baz=33,slow=8.8,SNR=19
H11S3 WAKE ISLAND Hy 40.57 66 T T 08 30 19.9
baz=253,slow=75,SNR=22
H11S1 WAKE ISLAND Hy 40.59 66 T T 08 30 21.4
baz=253,slow=75,SNR=18
H11S2 WAKE ISLAND Hy 40.59 66 T T 08 30 20.4
baz=253,slow=75,SNR=48
ERM Erimo 40.59 17 P P 07 46 56.1 +0.7
comp=Z,987nm,0.9s,SNR=9.9
ERM Erimo 40.59 17 *d iP* P 07 46 56.3 +0.9
ERM pmax pmax
comp=Z,251nm,1.5s
ERM Erimo 40.59 17 *e*P P 07 46 56.5 +1.1
comp=Z,138nm,0.9s
ARMA Armidale 40.60 148 P P 07 46 56.1 +0.2
baz=41,SNR=4.2
ARMA Armidale 40.60 148 *e*P P 07 46 56.4 +0.6
comp=Z,44nm,0.7s
USRK Ussuriysk Ar. 40.61 4 P P 07 46 55.8 +0.2
comp=Z,189nm,0.8s,baz=191,slow=7.6,SNR=216
USRK LR LR 08 03 02.2
comp=Z,282nm,20.9s,baz=151,slow=35
MDJ Mudanjiang 40.90 2 P P 07 46 58.5 +0.6
MDJ pP **pP 07 47 26.1 +1.0**
MDJ sP **sP 07 47 38.6 -0.1**
MDJ PcP **PcP 07 48 57.4 +1.1**
MDJ ScP **ScP 07 52 34.3 -0.7**
MDJ PcS **PcS 07 52 46.6 -0.6**
MDJ S S 07 53 03.4 +2.8
MDJ sS **sS 07 53 50.1 +2.5**
MDJ PMZ
comp=Z,270nm,0.9s
MDJ PMZ
comp=Z,300nm,3.5s
MDJ LN
comp=Z,170nm,19.7s
MDJ LE
comp=Z,210nm,30.6s
MDJ LZ
comp=Z,290nm,27.6s
MDJ Mudanjiang 40.90 2 *e*P P 07 46 58.3 +0.3
comp=Z,201nm,0.8s
SHL Shillong 41.06 306 *e*P P 07 47 00.1 +0.3
SHL AMB AMB 07 47 00.6
comp=Z,166nm,0.8s
H11N1 WAKE ISLAND Hy 41.12 64 T T 08 31 31.2
baz=250,slow=75,SNR=5.6
H11N2 WAKE ISLAND Hy 41.12 64 T T 08 31 29.6
baz=250,slow=75,SNR=3.3
H11N3 WAKE ISLAND Hy 41.13 64 T T 08 31 30.9
baz=250,slow=75,SNR=5.3
YNG Young 42.25 155 P P 07 47 10.2 +1.1
baz=42,SNR=5.2
ASAJ Asahikawa 42.37 16 P P 07 47 10.7 +0.8
comp=Z,157nm,0.8s,baz=222,slow=12,SNR=55
ASAJ Asahikawa 42.37 16 P P 07 47 10.7 +0.8
ASAJ pmax pmax
comp=Z,157nm,0.8s
ASAJ Asahikawa 42.37 16 *e*P P 07 47 10.6 +0.7
comp=Z,122nm,1.0s
YUK Yuzh-Kuril'sk 43.26 19 *c iP* P 07 47 10.6 -6.4
YUK *i* S S 07 53 28.8 -6.4
YUK *i* SS **ScS 07 57 04.2 -0.6**
YUK pmax pmax
comp=Z,438nm,1.3s
YUK pmax pmax
comp=N,126nm,1.4s
YUK pmax pmax
comp=E,366nm,1.4s
CAN Canberra 43.38 155 *e*P P 07 47 19.3 +1.0
CAN pmax pmax
comp=Z,40nm,1.0s
CAN Canberra 43.38 155 *e*P P 07 47 19.3 +1.0
comp=Z,40nm,1.0s
CNB Canberra Magne 43.53 154 P P 07 47 20.6 +1.1
baz=44,SNR=9.7
LSA Lhasa 43.56 311 P P 07 47 21.4 +1.1
LSA Lhasa 43.56 311 *e*P P 07 47 21.8 +1.5
LSA *e* 07 49 06.3
LSA pmax pmax
comp=Z,249nm,1.3s
LSA Lhasa 43.56 311 *e*P P 07 47 21.8 +1.5
comp=Z,249nm,1.3s
LSA *e*PcP **PcP 07 49 06.3 +0.2**
GTA Gaotai 43.94 328 ⇑P P 07 47 23.7 +0.9
GTA pP **pP 07 47 48.9 -1.3**
GTA sP **sP 07 48 01.9 -1.9**
GTA PcP **PP 07 49 07.5 0.0**
GTA ScP **ScP 07 52 48.8 +1.2**
GTA PcS **PcS 07 52 58.9 -1.0**
GTA S S 07 53 46.8 +1.2
GTA sS **sS 07 54 31.2 -1.8**
GTA SS SS 07 56 58.5 -8.3
GTA PMZ
comp=Z,340nm,1.2s
GTA PMZ
comp=Z,1μm,5.2s
GTA LN
comp=Z,410nm,17.6s
GTA LE
comp=Z,540nm,18.1s
GTA LZ
comp=Z,520nm,18.0s
TOO Toolangi 44.01 160 P P 07 47 24.4 +1.1
baz=44,SNR=21
MILA Mila 44.93 156 P P 07 47 32.0 +1.4
baz=45,SNR=8.4
YSS Yuzh-Sakhalins 45.05 14 *α iP* P 07 47 31.0 -0.3
YSS *e* 07 49 10.8
YSS *e*S S 07 53 57.0 -4.2
YSS *e* 07 54 41.0
YSS pmax pmax
comp=Z,290nm,0.8s
YSS pmax pmax
comp=Z,1μm,4.0s
YSS Yuzh-Sakhalins 45.05 14 *e*P P 07 47 31.6 +0.3
comp=Z,259nm,0.7s
HABR Khabarovsk 45.14 7 *de*P P 07 47 29.2 -2.7
HABR *e*SP 07 48 07.6
HABR *e* 07 49 07.8
HABR *e* 07 49 16.4
HABR *e*S S 07 54 00.5 -1.8
HABR *e*SS x 07 54 44.4
HABR *e* 07 57 14.6
HABR *e*SSS SSS 07 58 24.7
HABR pmax pmax
comp=Z,97nm,1.9s
HABR pmax pmax
comp=N,92nm,1.9s
HABR pmax pmax
comp=E,97nm,1.9s
HABR MLR MLR
comp=Z,483nm,19.0s
TAPN Taplejung 45.20 306 *e*P P 07 47 33.9 +0.7
comp=Z,408nm,1.1s
ODAN Odare 45.26 305 *e*P P 07 47 34.2 +0.6
comp=Z,324nm,1.0s
BOK Bokaro 45.40 300 *e*P P 07 47 35.7 +1.2
BOK AMB AMB 07 47 36.0
comp=Z,88nm,1.6s
CHLP Challavanipeta 45.53 292 *e*P P 07 47 36.6 +1.1
CHLP IAmb IAmb 07 47 37.7
comp=Z,127nm,1.2s
CHLP *e* 07 48 01.8
CHLP *e*sP **sP 07 48 19.6 +3.0**
CHLP *e*PcP **PcP 07 49 12.2 -0.2**
CHLP *e*S S 07 54 09.9 +1.0
CHLP *e*SS **SS 07 57 36.4 +1.8**
KLR Kul'dur 45.60 3 ⇓ *i*P P 07 47 31.7 -3.9
KLR pmax pmax
comp=E,34nm,1.2s
KLR pmax pmax
comp=Z,110nm,1.2s
RAMN Ramite 45.95 305 *e*P P 07 47 39.8 +0.8
comp=Z,581nm,1.2s
VIS Vishakhapatnam 46.03 291 *i* P P 07 47 39.6 +0.2
HIA Hailar 46.09 352 *e*P P 07 47 39.3 -0.2
HIA pmax pmax
comp=Z,206nm,1.6s
HIA Hailar 46.09 352 *e*P P 07 47 39.3 -0.2
comp=Z,206nm,1.6s
JIRN Jiri 46.56 305 *e*P P 07 47 44.6 +0.6
comp=Z,261nm,1.0s
GUN Gumba 46.91 306 *e*P P 07 47 47.3 +0.6
comp=Z,457nm,0.9s
PKI Pulchoki 47.16 305 *e*P P 07 47 48.7 +0.1
comp=Z,357nm,1.4s
PKIN Phulchoki 47.17 305 *e*P P 07 47 48.6 0.0
comp=Z,78nm,0.9s
PALK Pallekele 47.29 277 *i* P P 07 47 50.7 +1.3
PALK Pallekele 47.29 277 *e*P P 07 47 49.4 -0.1
KKN Kakani 47.35 305 *e*P P 07 47 50.3 +0.3
comp=Z,313nm,1.1s
DMN Daman 47.42 305 *e*P P 07 47 50.8 +0.2
comp=Z,312nm,1.1s
ULN Ulaanbaatar 47.70 341 *c iP* P 07 47 52.5 +0.3
ULN pmax pmax
comp=Z,161nm,1.0s
ULN Ulaanbaatar 47.70 341 *e*P P 07 47 52.7 +0.5
comp=Z,137nm,0.9s
SONM Songino Array 47.89 340 P P 07 47 53.8 +0.1
comp=Z,50nm,0.7s,baz=153,slow=8.7,SNR=36
SONM PcP **PcP 07 49 20.5 +0.2**
comp=Z,21nm,0.9s,baz=154,slow=5.7,SNR=4.1
SONM LR LR 08 09 53.5
comp=Z,397nm,19.8s,baz=148,slow=38
SONM Songino Array 47.89 340 P P 07 47 53.8 +0.1
SONM 07 49 20.5
SONM pmax pmax
comp=Z,50nm,0.7s
SONM pmax pmax
comp=Z,21nm,0.9s
SONM MLR MLR
comp=Z,397nm,19.8s
GKN Gorkha 47.96 305 *e*P P 07 47 54.8 +0.2
comp=Z,325nm,1.2s
KOLN Koldanda 48.72 304 *e*P P 07 48 01.3 +0.8
comp=Z,652nm,0.9s
SKHT Srikalahasti 48.78 285 *e*P P 07 48 01.5 +0.6
SKHT IAmb IAmb 07 48 02.8
comp=Z,131nm,1.0s
SKHT *e* 07 48 28.9
SKHT *e*PcP **PcP 07 49 24.7 +0.7**
SKHT *e* 07 54 57.2
SKHT *e* 07 58 32.5
MOO Moorlands 48.96 161 P P 07 48 02.9 +1.2
baz=49,SNR=5.0
PYUN Piuthan 49.35 304 *e*P P 07 48 06.2 +1.0
comp=Z,938nm,1.0s
TAU Tasmania Unive 49.43 161 *e*P P 07 48 05.7 +0.5
TAU pmax pmax
comp=Z,104nm,1.1s
TAU Tasmania Unive 49.43 161 *e*P P 07 48 05.7 +0.5
comp=Z,104nm,1.1s
NJS Nagarjunasagar 49.58 289 *e*P P 07 48 07.2 +0.3
NJS IAmb IAmb 07 48 08.4
comp=Z,203nm,1.4s
NJS *e* 07 48 33.9
NJS *e*PcP **PcP 07 49 27.1 +0.1**
NJS *e*S S 07 55 04.0 -2.2
NJS *e*SS **SS 07 58 39.7 -0.4**
CIT Chita 49.79 348 *e*P P 07 48 08.5 +0.5
CIT *e* 07 49 26.2
CIT *e* 07 50 06.7
CIT pmax pmax
comp=Z,229nm,1.9s
RPR Rampur 50.01 292 *e*P P 07 48 10.6 +0.4
RPR IAmb IAmb 07 48 11.2
comp=Z,81nm,0.9s
RPR *e* 07 48 37.6
RPR *e*sP sP 07 48 59.8 +8.2
RPR *e*PcP **PcP 07 49 28.4 -0.1**
RPR *e*S S 07 55 13.0 +0.7
RPR *e* 07 58 39.7
HYB Hyderabad 50.44 290 *i* P P 07 48 13.0 -0.4
HYB *e*pP **pP 07 48 46.0 +4.5**
HYB *e*S S 07 55 14.0 -4.3
HYB Hyderabad 50.44 290 *e*P P 07 48 13.6 +0.1
HYB AMB AMB 07 48 13.8
comp=Z,182nm,2.5s
HYBB Hyderabad (bro 50.44 290 *e*P P 07 48 13.8 +0.4
HYBB *e* 07 48 39.0
HYBB *e*pP pP 07 48 48.3 +6.7
HYBB *e*PcP **PcP 07 49 30.0 -0.2**
HYBB *e*S S 07 55 15.4 -2.9
HYBB *e* 07 58 56.2
NGP Nagpur 50.72 294 *e*P P 07 48 15.6 +0.1
NGP AMB AMB 07 48 16.6
comp=Z,95nm,3.8s
TRD Trivandrum 51.04 278 *e*P P 07 48 18.1 +0.1
URV Uravakonda 51.29 286 *e*P P 07 48 19.7 -0.1
URV IAmb IAmb 07 48 20.9
comp=Z,223nm,1.1s
URV *e*PcP **PcP 07 49 33.1 -0.2**
URV *e*S S 07 55 29.3 -0.8
LGTI Lohaghat 52.08 305 *ex* P 07 48 33.1 +7.7
TLY Talaya 52.11 341 P P 07 48 25.8 +0.5
comp=Z,224nm,1.3s,SNR=10
TLY Talaya 52.11 341 P P 07 48 25.9 +0.5
comp=Z,10nm,0.6s,baz=174,slow=6.3,SNR=24
TLY Talaya 52.11 341 *e*P P 07 48 25.3 0.0
TLY *e*S S 07 55 35.2 -5.0
TLY pmax pmax
comp=Z,83nm,1.6s
TLY MLR MLR
comp=Z,269nm,21.0s
TLY Talaya 52.11 341 *e*P P 07 48 25.9 +0.5
comp=Z,60nm,1.2s
IRK Irkutsk 52.40 342 *e*P P 07 48 25.1 -2.3
IRK *e* 07 50 21.7
IRK pmax pmax

comp=Z,192nm,2.0s
AKL Akola 52.48 293 *e*P **P 07 48 29.0 +0.3**
AKL AMB AMB 07 48 30.8
comp=Z,324nm,0.8s
BHPL Bhopal 52.68 297 *e*P **P 07 48 30.1 +0.1**
BHPL AMB AMB 07 48 30.7
comp=Z,201nm,1.3s
MOY Mondy 53.00 339 *e*P **P 07 48 32.6 +0.6**
MOY pmax pmax
comp=Z,260nm,2.0s
CLNS Chul'man 53.18 358 *e*P **P 07 48 32.8 -0.3**
CLNS *e**PP pP 07 48 55.7 -5.8
CLNS *e* 07 49 38.2
CLNS *e* 07 50 30.2
CLNS *e*PPP PPP 07 51 38.1
CLNS *e*S **S 07 55 58.6 +4.0**
CLNS *e**SS **sS 07 56 44.8 +1.3**
CLNS pmax pmax
comp=Z,52nm,0.7s
CLNS pmax pmax
comp=E,24nm,0.9s
CLNS pmax pmax
comp=N,49nm,1.0s
CLNS pmax pmax
comp=Z,16nm,1.0s
CLNS pmax pmax
comp=N,21nm,1.2s
CLNS pmax pmax
comp=E,17nm,0.9s
CLNS smax smax
comp=E,89nm,11.7s
CLNS smax smax
comp=N,170nm,12.1s
MSVF Nonsavu 53.62 115 *e*P **P 07 48 38.5 +1.4**
MSVF pmax pmax
comp=Z,59nm,1.0s
MSVF Nonsavu 53.62 115 *e*P **P 07 48 38.5 +1.4**
comp=Z,59nm,1.0s
WMQ Urumqi 53.63 324 P **P 07 48 37.7 +1.0**
WMQ pP **pP 07 49 07.2 +2.1**
WMQ sP **sP 07 49 21.5 +3.1**
WMQ PcP **PcP 07 49 42.5 +0.8**
WMQ PP **PP 07 50 41.7 +2.9**
WMQ ScP **ScP 07 53 26.1 -2.5**
WMQ PcS **PcS 07 53 40.6 -0.3**
WMQ S **S 07 55 59.5 -1.8**
WMQ sS **sS 07 56 51.1 +0.9**
WMQ ScS **ScS 07 58 10.9 -3.6**
WMQ SS **SKiKP 07 59 41.3 +2.0**
WMQ PMZ
comp=Z,470nm,1.0s
WMQ PMZ
comp=Z,2μm,4.6s
WMQ LN
comp=Z,470nm,20.0s
WMQ LE
comp=Z,540nm,18.4s
WMQ LZ
comp=Z,580nm,24.0s
DDI Dehra Dun 54.16 305 *e*P **P 07 48 41.5 +0.7**
DDI AMB AMB 07 48 43.2
comp=Z,608nm,1.0s
NDI New Delhi 54.34 303 *i* P **P 07 48 41.0 -1.0**
NDI *e*S **S 07 56 10.0 -1.1**
GOA Goa 54.65 286 *e*P **P 07 48 44.4 0.0**
GOA AMB AMB 07 48 45.1
comp=Z,167nm,0.7s
POO Poona 55.03 290 *e*P **P 07 48 46.7 -0.6**
POO AMB AMB 07 48 47.4
comp=Z,208nm,0.7s
PEA0B Petropavlovsk- 55.08 21 *e*P **P 07 48 47.2 +0.2**
PETK Petropavlovsk- 55.08 21 P **P 07 48 47.3 +0.3**
comp=Z,64nm,0.6s,baz=187,slow=7.1,SNR=104
PETK Petropavlovsk- 55.08 21 P **P 07 48 47.3 +0.3**
PETK pmax pmax
comp=Z,64nm,0.6s
SMLA Simla 55.15 306 *e*P **P 07 48 48.4 +0.6**
SMLA AMB AMB 07 48 49.2
comp=Z,658nm,1.6s
SMLA *i*S **S 07 56 20.1 -1.7**
PET Petropavlovsk 55.37 22 *e*P **P 07 48 48.1 -0.8**
PET *e*S **S 07 56 24.3 +0.3**
PET pmax pmax
comp=Z,800nm,2.3s
PET pmax pmax
comp=Z,126nm,1.6s
PET MLR MLR
comp=Z,300nm,19.0s
PET Petropavlovsk 55.37 22 *e*P **P 07 48 48.2 -0.7**
comp=Z,331nm,1.6s
SDNR Sundarnagar 55.43 306 *e*P **P 07 48 50.6 +0.7**
HVS Khovu-Aksy 55.46 334*d i*P **P 07 48 50.7 +0.9**
HVS pmax pmax
comp=Z,1μm,1.2s
AJM Ajmer 55.92 300 *ex* **P 07 48 53.0 -0.5**
DHRM DHARAMSHALA 56.22 307 *e*P **P 07 48 56.0 +0.3**
DHRM AMB AMB 07 48 57.5
comp=Z,1μm,1.2s
DLH Dalhousie 56.58 307 *e*P **P 07 48 59.0 +0.7**
YAK Yakutsk 58.34 1 P **P 07 49 09.6 -0.1**
comp=Z,159nm,0.7s,baz=299,slow=0.2,SNR=42
YAK LR LR 08 13 55.5
comp=Z,192nm,20.2s,baz=191,slow=36
YAK Yakutsk 58.34 1 *e*P **P 07 49 08.0 -1.8**
YAK *e**PP **pP 07 49 36.2 -2.4**
YAK *e* 07 49 59.4
YAK *e* 07 51 17.9
YAK *e*S **S 07 57 00.5 -2.3**
YAK *e* 07 58 45.3
YAK pmax pmax
comp=Z,327nm,1.1s
YAK pmax pmax
comp=N,149nm,1.4s
YAK pmax pmax
comp=E,23nm,1.3s
YAK pmax pmax
comp=Z,18nm,0.7s
YAK pmax pmax
comp=N,35nm,1.4s
YAK pmax pmax
comp=E,86nm,2.3s
YAK smax smax
comp=N,77nm,2.0s
YAK smax smax
comp=E,139nm,2.8s
YAK Yakutsk 58.34 1 *e*P **P 07 49 09.7 -0.1**
comp=E,288nm,0.8s
MK31 Makanchi Array 58.46 325 *e*P **P 07 49 11.6 +0.6**
MK31 Makanchi Array 58.46 325 *e*P **P 07 49 11.6 +0.6**
MKAR Makanchi Array 58.46 325 P **P 07 49 11.5 +0.5**
comp=E,165nm,0.8s,baz=165,slow=5.0,SNR=1211
MKAR PcP **PcP 07 49 59.5 -0.9**
comp=E,47nm,0.9s,baz=150,slow=2.7,SNR=3.8
MKAR ScP **ScP 07 53 50.2 +0.5**
comp=E,5.9nm,1.0s,baz=106,slow=4.3,SNR=5.6
MKAR S **S 07 57 06.3 +1.4**
comp=E,2.0nm,1.1s,baz=111,slow=7.9,SNR=5.1
MKAR LR LR 08 16 11.1
comp=E,431nm,19.2s,baz=120,slow=38
MKAR Makanchi Array 58.46 325 P **P 07 49 11.5 +0.5**
MKAR 07 49 59.5
MKAR S **S 07 57 06.4 +1.4**
MKAR pmax pmax
comp=Z,165nm,0.8s
MKAR pmax pmax
comp=Z,47nm,0.9s
MKAR pmax pmax
comp=N,6.0nm,1.0s
MKAR smax smax
comp=N,2.0nm,1.1s
MKAR MLR MLR
comp=Z,431nm,19.3s
KSH Kashi 59.11 315⇑ *i*P **P 07 49 17.7 +1.9**
KSH pP **pP 07 49 47.7 +3.1**
KSH PP **PP 07 51 31.4 +3.7**
KSH PcS **PcS 07 54 05.0 -0.3**
KSH S **S 07 57 13.7 -0.2**
KSH sS **sS 07 58 06.0 +2.4**
KSH PMZ
comp=Z,400nm,1.2s
KSH LN
comp=Z,190nm,8.5s
KSH LE
comp=Z,110nm,4.7s
KSH LZ
comp=Z,200nm,7.9s
BHJ Bhuj 59.67 295 *e*P **P 07 49 20.1 +0.4**
BHJ AMB AMB 07 49 21.2
comp=Z,393nm,1.0s
ULHL Ulahol 60.05 318 P **P 07 49 23.3 +1.1**
SNR=9.0
WHZ Wether Hill Ro 60.61 149 *e*P **P 07 49 25.7 +0.1**
comp=Z,760nm,2.9s
KZA Kyzart 60.65 317 P **P 07 49 28.0 +1.4**
SNR=7.2
TKM2 Tokmak 2 60.76 318 P **P 07 49 27.9 +0.7**
SNR=195
TKM2 Tokmak 2 60.76 318 *e*P **P 07 49 27.8 +0.7**
TKM2 pmax pmax
comp=Z,153nm,0.8s
TKM2 Tokmak 2 60.76 318 *e*P **P 07 49 27.8 +0.7**
comp=Z,153nm,0.8s
RPZ Rata Peaks 60.86 146 *e*P **P 07 49 27.8 +0.4**
comp=Z,59nm,0.8s
KBK Karagaybulak 61.09 318 P **P 07 49 30.3 +1.1**
SNR=84
UCH Uchtor 61.21 317 P **P 07 49 31.7 +1.3**
SNR=350
ZAA0 Zalesovo Array 61.35 333 *e*P **P 07 49 29.7 -0.8**
ZALV Zalesovo Beam 61.35 333 P **P 07 49 29.7 -0.8**
comp=Z,99nm,0.9s,baz=111,slow=6.5,SNR=148
ZALV S **S 07 57 40.3 -1.3**
comp=Z,2.4nm,0.8s,baz=143,slow=13,SNR=4.1
ZALV LR LR 08 18 03.6
comp=Z,225nm,19.4s,baz=70,slow=38
ZALV PKP2bc 08 18 49.9
comp=Z,2.9nm,0.8s,baz=268,slow=4.0,SNR=5.6
ZALV Zalesovo Beam 61.35 333 P **P 07 49 29.7 -0.8**
ZALV S **S 07 57 40.3 -1.3**
ZALV pmax pmax
comp=Z,99nm,1.0s
ZALV smax smax
comp=N,2.0nm,0.8s
ZALV MLR MLR
comp=Z,225nm,19.4s
CHMS Chumysh 61.36 318 P **P 07 49 31.4 +0.5**
SNR=51
FRU Bishkek 61.38 318 *i* P **P 07 49 31.0 0.0**
FRU *i* 07 49 55.0
FRU *e* 07 51 47.0
FRU pmax pmax
comp=Z,270nm,2.0s
AAK Ala-Archa 61.38 317 P **P 07 49 32.6 +1.4**
comp=Z,501nm,1.0s,SNR=52
AAK Ala-Archa 61.38 317 P **P 07 49 31.8 +0.6**
SNR=56
AAK Ala-Archa 61.38 317 P **P 07 49 32.1 +0.9**
comp=Z,42nm,0.9s,baz=103,slow=5.5,SNR=109
AAK Ala-Archa 61.38 317*c i*P **P 07 49 31.9 +0.7**
AAK *i* *PP **pP 07 49 57.2 -3.1**
AAK pmax pmax
comp=Z,391nm,1.6s
AAK Ala-Archa 61.38 317 *e*P **P 07 49 32.0 +0.7**
comp=Z,107nm,1.1s
URZ Urewera 61.51 137 *e*P **P 07 49 31.5 -0.4**
comp=Z,222nm,2.2s
KHZ Kahutara 61.52 143 *e*P **P 07 49 31.4 -0.4**
comp=Z,34nm,1.0s
BKZ Black Stump Fm 61.57 139 *e*P **P 07 49 32.1 -0.3**
comp=Z,58nm,0.8s
USP Ospenovka 61.64 318 P **P 07 49 33.4 +0.7**
SNR=233
AML Almayashu 61.73 317 P **P 07 49 34.9 +1.1**
SNR=8.6
EKS2 Erkin-Say 61.88 317 P **P 07 49 35.6 +1.1**
SNR=7.0
EKS2 Erkin-Say 61.88 317 *e*P **P 07 49 35.6 +1.1**
EKS2 pmax pmax
comp=Z,227nm,0.9s
EKS2 Erkin-Say 61.88 317 *e*P **P 07 49 35.6 +1.1**
comp=Z,227nm,0.9s
SEY Seymchan 61.90 12 P **P 07 49 35.0 +1.0**
comp=Z,72nm,1.0s,baz=218,slow=5.7,SNR=120
SEY Seymchan 61.90 12 P **P 07 49 35.0 +1.0**
SEY pmax pmax
comp=Z,72nm,1.0s
KURK Kurchatov 62.60 327 P **P 07 49 39.9 +0.9**
comp=Z,1μm,0.8s
KURK Kurchatov 62.60 327 P **P 07 49 39.1 +0.1**
KURK *PP **pP 07 50 03.1 -5.0**
KURK S S 07 57 51.5 -6.0
KURK pmax pmax
comp=Z,253nm,0.9s
KURK pmax pmax
comp=Z,59nm,0.8s
KURK smax smax
comp=N,1.0nm,0.9s
KURK Kurchatov 62.60 327 *e*P **P 07 49 39.1 +0.1**
comp=N,469nm,1.0s
KURBB Kurchatov Arra 62.60 327 P **P 07 49 39.0 +0.1**
comp=N,252nm,0.9s,baz=124,slow=5.6,SNR=1381
KURBB pP **pP 07 50 03.1 -5.0**
comp=N,59nm,0.8s,baz=127,slow=5.5,SNR=4.1
KURBB S S 07 57 51.5 -6.1
comp=N,0.7nm,0.8s,baz=122,slow=14,SNR=4.1
NVS Novosibirsk 62.63 333⇑ *i*P **P 07 49 38.4 -0.6**
NVS *i* 07 50 02.4
NVS *e*S **S 07 57 55.9 -1.8**
NVS pmax pmax
comp=N,134nm,1.3s
NVS pmax pmax
comp=Z,32nm,1.3s
NVS pmax pmax
comp=E,142nm,1.2s
NVS smax smax
comp=N,72nm,2.9s
NVS smax smax
comp=E,47nm,2.2s
KBL Kabul 62.69 307 *e*P **P 07 49 40.5 +0.3**
KBL pmax pmax
comp=Z,186nm,1.0s
KBL Kabul 62.69 307 P **P 07 49 40.5 +0.3**
baz=63,SNR=19
KBL Kabul 62.69 307 *e*P **P 07 49 40.5 +0.3**
comp=Z,186nm,1.0s
KK31 Karatay Array 64.27 317 *i* P **P 07 49 49.9 -0.3**
KK31 pmax pmax
comp=N,227nm,0.9s
KKAR Karatay Array 64.27 317 *e*P **P 07 49 49.7 -0.5**
KKAR pmax pmax
comp=Z,329nm,1.1s
KKAR Karatay Array 64.27 317 *e*P **P 07 49 49.7 -0.5**
comp=Z,329nm,1.1s
ADK Adak 66.35 34 *e*P **P 07 50 03.3 0.0**
ADK pmax pmax
comp=Z,247nm,1.8s
ADK Adak 66.35 34 *e*P **P 07 50 03.3 0.0**
comp=Z,247nm,1.8s
TIXI Tiksi 67.99 0*c i*P **P 07 50 11.9 -1.4**
TIXI pmax pmax
comp=Z,188nm,1.2s
TIXI Tiksi 67.99 0 *e*P **P 07 50 11.5 -1.8**
comp=Z,147nm,1.0s
BVA0 Borovoye Array 68.19 327 P **P 07 50 14.3 -0.7**
BVA0 pmax pmax
comp=Z,398nm,1.1s
BVAR Borovoye Array 68.19 327 P **P 07 50 14.9 -0.1**
comp=Z,181nm,0.9s,baz=124,slow=7.4,SNR=515
BVAR pP **PcP 07 50 39.3 -0.7**
comp=Z,88nm,1.1s,baz=110,slow=8.1,SNR=4.2
BVAR LR LR 08 21 36.8
comp=Z,157nm,20.1s,baz=88,slow=37
BVAR Borovoye Array 68.19 327 P **P 07 50 14.9 -0.1**
BVAR *PP **PcP 07 50 39.3 -0.7**
BVAR pmax pmax
comp=Z,181nm,0.9s
BVAR pmax pmax
comp=Z,88nm,1.1s
BVAR MLR MLR
comp=Z,157nm,20.1s
BRVK Borovoye 68.26 327 P **P 07 50 15.8 +0.4**
comp=Z,2μm,0.9s,SNR=84
BRVK Borovoye 68.26 327*c i*P **P 07 50 15.3 -0.1**
BRVK pmax pmax
comp=Z,391nm,1.3s
BRVK Borovoye 68.26 327 *e*P **P 07 50 15.2 -0.1**
comp=Z,296nm,1.0s
WBK Wadi Bani Khal 69.36 293 P **P 07 50 23.2 +0.3**
SNR=10
IDAH Dahanechah 69.79 303 *e*P **P 07 50 26.9 +1.4**
JMDO Jabal Madar 70.14 292 P **P 07 50 27.8 +0.2**
SNR=17
SMDO Samad 70.24 293 P **P 07 50 28.2 -0.1**
SNR=9.2
IKOO Kooshah 70.46 303 *e*P **P 07 50 30.7 +1.0**
ITEG Tejag 70.74 304 *e*P **P 07 50 32.5 +1.2**
HOQ Hoqain 70.96 294 P **P 07 50 33.1 +0.5**
SNR=12
BSY Bisya 71.00 293 P **P 07 50 33.0 +0.2**
SNR=11
IAKL Akhelmad 71.32 307 *e*P **P 07 50 35.5 +0.7**
ARQ Araqi 71.66 293 P **P 07 50 37.2 +0.4**
SNR=30
ISFR Sfrayin 71.99 308 *e*P **P 07 50 40.0 +1.1**
GEYT Alibeck 72.05 309 P **P 07 50 39.7 +0.8**
comp=Z,144nm,0.8s,baz=132,slow=2.2,SNR=227
GEYT LR LR 08 27 55.8
comp=Z,159nm,19.0s,baz=120,slow=40
UOSS Wadi Hilu 72.07 295 P **P 07 50 38.9 -0.3**
comp=Z,339nm,0.8s,SNR=7.0
HATD Hatta, Dubai 72.13 295⇓ *i*P **P 07 50 39.8 +0.2**
SNR=21
ASHO Ashiyiah 72.19 295 P **P 07 50 40.1 +0.1**
SNR=7.8
SHAO Shalim 72.22 288 P **P 07 50 40.9 +0.7**
SNR=14
ISHV Shirvan 72.30 308 *e*P **P 07 50 42.0 +1.4**
PAF Port-aux-Franc 72.52 215 P P 07 50 25.0 -16
PAF S S 07 59 39.0 -17
PAF L L 08 09 00.0
PAF R 08 12 00.0
NAZ Nazwa, Dubai 72.57 295 *i*P **P 07 50 42.1 0.0**
SNR=14
FAQ Al Faqa, Dubai 72.61 295⇑ *i*P **P 07 50 42.5 0.0**
SNR=21
UNV Unalaska Valle 72.80 34 *e*P **P 07 50 43.8 +0.9**
comp=Z,267nm,1.8s
ASUD Al Ashush, Dub 72.84 295⇑ *i*P **P 07 50 44.4 +0.6**
SNR=7.6
MSEY Mahe Island 72.99 264 *i*P **P 07 50 46.5 +1.6**
AB31 Akbulak array 73.13 321 P **P 07 50 44.2 -0.8**
AB31 pmax pmax
comp=Z,155nm,1.0s
ABKAR Akbulak array 73.13 321 *e*P **P 07 50 44.8 -0.2**
comp=Z,188nm,1.1s
IBAF Bafgh 73.25 302 *e*P **P 07 50 46.5 +0.2**
RBK Rabkut 73.56 287 P **P 07 50 48.0 -0.2**
SNR=24
KIP Kipapa 73.73 69⇑ *e*P **P 07 50 49.9 +0.9**
KIP pmax pmax
comp=Z,142nm,1.5s
GAMB Gambell 74.00 24 *e*P **P 07 50 50.3 +0.6**
comp=Z,80nm,0.9s
IMEH Mehriz 74.04 301 *e*P **P 07 50 51.0 0.0**
ICHK Chekchek 74.30 302 *e*P **P 07 50 52.6 +0.1**
ABTO Aybut 74.42 287 P **P 07 50 53.0 -0.3**
SNR=26
AKTO Aktyubinsk 74.62 321 P **P 07 50 53.3 -0.3**
comp=Z,89nm,0.8s,baz=100,slow=7.0,SNR=346
AKTO Aktyubinsk 74.62 321 P **P 07 50 53.2 -0.5**
AKTO pmax pmax
comp=Z,161nm,1.0s
SVE Sverdlovsk 74.80 328*d i*P **P 07 50 54.2 -0.4**
SVE pmax pmax
comp=Z,216nm,1.1s
FALS False Pass 74.82 34 *e*P **P 07 50 54.3 -0.3**
comp=Z,23nm,0.6s
ISAD Sadrabad 74.88 302 *e*P **P 07 50 55.4 -0.5**
RER Riviere de l'E 74.89 247 *e*P **P 07 50 56.6 +0.7**
comp=Z,129nm,1.1s
IANJ Anjilo 75.05 306 *e*P **P 07 50 56.8 +0.1**
ISRV Sarvestan 75.16 299 *e*P **P 07 50 57.8 +0.2**
IGLO Ghaloghah 75.23 307 *e*P **P 07 50 58.1 +0.4**
IPAR Pars 75.25 300 *e*P **P 07 50 57.3 -0.8**
IKIA Kiasar 75.31 306 *e*P **P 07 50 58.6 +0.3**
ARU Arti 75.79 328 P **P 07 50 59.6 -0.6**
comp=Z,765nm,0.9s,SNR=26
ARU Arti 75.79 328*c i*P **P 07 50 59.0 -1.2**
ARU *PP **pP 07 51 25.3 -5.1**
ARU 07 53 51.8
ARU PPP PPP 07 55 37.0
ARU S **S 08 00 33.4 +1.0**
ARU *SS **ScS 08 01 09.6 +6.2**
ARU pmax pmax
comp=Z,128nm,1.0s
ARU Arti 75.79 328 *e*P **P 07 50 59.3 -1.0**
comp=Z,110nm,0.9s
ILAS Lasjerd 75.81 305 *e*P **P 07 51 01.2 +0.1**
IALA Aiasht 76.00 306 *e*P **P 07 51 02.6 +0.3**
IFIR Firoozkooh 76.01 306 *e*P **P 07 51 02.2 0.0**
TNA Tin City 76.22 23 *e*P **P 07 51 02.9 +0.4**
comp=Z,23nm,1.0s
IKAZ Kazeroun 76.29 300 *e*P **P 07 51 04.0 -0.1**
IPRN Peran 76.40 306 *e*P **P 07 51 04.3 0.0**
SDPT Sand Point 76.58 34 *e*P **P 07 51 04.7 +0.1**
comp=Z,104nm,0.7s
IVRN Varamin 76.78 305 *e*P **P 07 51 06.6 +0.2**
IPIR Pirpir 77.30 303 *e*P **P 07 51 08.0 -1.6**
SOKR Solikamsk 77.52 330*c i*P **P 07 51 08.9 -0.9**
SOKR pmax pmax
comp=Z,80nm,1.3s
SOKR MLR MLR
comp=Z,350nm,23.0s
CHGN Chignik 77.92 33 *e*P **P 07 51 11.9 -0.2**
SVW2 Sparrevohn 80.30 29 *e*P **P 07 51 25.6 +0.6**
MAK Makhachkala 80.68 313 *e*P **P 07 51 27.3 -0.1**
MAK *e**PP pP 07 51 49.9 -8.0
MAK *e**SP sP 07 52 00.9 -10
MAK *e* 07 54 36.0
MAK *e*PPP PPP 07 56 26.8
MAK *e*S **S 08 01 28.3 +3.1**
MAK *e**SS sS 08 02 08.0 -10
MAK *e*SS **SS 08 06 36.8 -3.9**
MAK pmax pmax
comp=Z,148nm,2.1s
OHAK Old Harbor 80.86 33 *e*P **P 07 51 28.7 +0.7**
IDHR Dehrash 81.15 304 *e*P **P 07 51 29.2 -1.2**
KDAK Kodiak Island 81.31 32 P **P 07 51 30.6 +0.2**
comp=Z,362nm,1.0s,SNR=10
KDAK Kodiak Island 81.31 32 *e*P **P 07 51 31.1 +0.7**
KDAK pmax pmax
comp=Z,148nm,1.3s
KDAK Kodiak Island 81.31 32 *e*P **P 07 51 31.1 +0.7**
comp=Z,148nm,1.3s
RSO Redoubt South 81.57 29 *e*P **P 07 51 31.6 -0.4**
RAYN Ar Rayn 81.78 293 P **P 07 51 33.3 -0.5**
comp=Z,74nm,0.9s,SNR=80
RAYN Ar Rayn 81.78 293 *e*P **P 07 51 33.5 -0.3**
comp=Z,113nm,0.9s
IM04 Indian Mountai 81.93 24 *e*P **P 07 51 34.3 +0.7**
PPLA Purkeypile 82.16 27 *e*P **P 07 51 35.2 +0.2**
comp=Z,191nm,1.5s
CAST Castle Rocks 82.28 27 *e*P **P 07 51 36.0 +0.6**
ABPO Ambohimpanom 82.52 250 *e*P **P 07 51 37.3 -0.5**
ABPO pmax pmax
comp=Z,41nm,0.8s
ABPO Ambohimpanom 82.52 250 *e*P **P 07 51 37.3 -0.5**
comp=Z,41nm,0.8s
GNI Garni 82.62 310 P **P 07 51 38.7 +0.8**
comp=Z,42nm,1.0s,baz=238,slow=1.0,SNR=23
GNI Garni 82.62 310*c i*P **P 07 51 38.3 +0.4**
GNI pmax pmax
comp=Z,107nm,1.6s
GNI Garni 82.62 310⇓ *i*P **P 07 51 38.8 +0.8**
SNR=12
SEAG Tbilisi Sea 82.62 311 P **P 07 51 37.0 -0.7**
TBLG Delisi 82.67 311 P **P 07 51 38.2 +0.2**
KTH Kantishna Hill 82.81 26 *e*P **P 07 51 38.1 -0.2**
comp=Z,197nm,1.3s
KZR Kazreti 82.90 311 P **P 07 51 39.2 0.0**
DAMY Dhamar 83.01 284 P **P 07 51 42.1 +1.5**
baz=83,SNR=6.3
DAMY Dhamar 83.01 284 *e*P **P 07 51 41.6 +1.0**
comp=Z,112nm,1.0s
DHBB Dhamar BB 83.01 284 *e*P **P 07 51 42.0 +1.4**
TRF Thorofare Moun 83.08 27 *e*P **P 07 51 39.7 -0.2**
comp=Z,102nm,1.0s
VNDA Vanda 83.10 173 P **P 07 51 39.8 +0.5**
comp=Z,45nm,0.8s,baz=318,slow=6.0,SNR=116
VNDA PKP2ab 08 17 52.1
comp=Z,0.6nm,0.6s,baz=312,slow=1.9,SNR=8.4
VNDA Vanda 83.10 173 *e*P **P 07 51 39.9 +0.5**
VNDA pmax pmax
comp=Z,42nm,0.8s
VNDA Vanda 83.10 173 *e*P **P 07 51 39.9 +0.5**
comp=Z,42nm,0.8s
VNDA P'P'ab 08 17 52.1

RC01 **Rabbit Creek A** 83.11 29 *e*P P 07 51 39.6 -0.2
comp=Z,53nm,0.8s
CRZF **Crozet Islands** 83.12 223 P P 07 51 17.0 -23
CRZF S SKiKP 08 01 03.0 +42
CRZF R 08 18 00.0
SEW **Seward** 83.17 30 *e*P P 07 51 40.6 +0.5
comp=Z,263nm,1.6s
CLDR **Caldiran** 83.23 309 *e*P P 07 51 41.9 +0.6
PRGR **Permogore** 83.29 332⇑*i*P P 07 51 40.1 -0.5
PRGR pmax pmax
comp=Z,298nm,1.1s
ZEI **Tsey** 83.32 312 *e*P P 07 51 38.4 -3.1
ZEI pmax pmax
comp=Z,72nm,0.9s
TRBA **At Turbah** 83.32 283⇑*e*P P 07 51 42.5 +0.4
HKR **Hakkari** 83.35 307 *e*P P 07 51 41.8 -0.1
HAKT **HAKKARI** 83.38 307 *i*P P 07 51 41.9 -0.1
CUKT **Cukurca** 83.45 307 *e*P P 07 51 42.1 -0.1
EAK **Akyaka** 83.50 310 *i*P P 07 51 43.8 +1.4
COLD **Coldfoot** 83.52 23 *e*P P 07 51 43.2 +1.4
comp=Z,255nm,1.1s
AKH **Akhalkalaki** 83.59 311 *e*P P 07 51 43.8 +0.9
ONI **Oni** 83.64 312 P P 07 51 43.7 +0.6
MCK **McKinley** 83.71 26 *e*P P 07 51 42.7 -0.1
MCK pmax pmax
comp=Z,429nm,1.5s
MCK **McKinley** 83.71 26 *e*P P 07 51 42.7 -0.1
comp=Z,429nm,1.5s
PPT **Papeete** 83.78 108 LR LR 08 23 52.1
comp=Z,73nm,20.3s,baz=301,slow=32
PPT2 **Papeete2** 83.79 108 *e*S S 08 01 58.8 +0.8
comp=Z,257nm,27.5s
PPT2 **Papeete2** 83.79 108 *e*LQ LQ 08 14 45.6
comp=Z,1µm,31.5s
PPT2 *e*LR LR 08 18 22.8
comp=Z,853nm,32.5s
GEVA **Gevas** 83.90 308 *i*P P 07 51 45.1 +0.5
KARS **Kars** 83.90 310 *e*P P 07 51 45.6 +1.1
AGRB **Hanur-Agry** 83.96 309 *e*P P 07 51 46.0 +1.2
GOF **Gofitskoye** 83.98 315 *e*P P 07 51 44.1 -0.5
SBA **Scott Base** 83.99 172 *e*P P 07 51 45.4 +1.5
SBA pmax pmax
comp=Z,52nm,1.2s
SBA **Scott Base** 83.99 172 *e*P P 07 51 45.4 +1.5
comp=Z,52nm,1.2s
KBZ **Khabaz** 84.07 313 LR LR 08 34 53.2
comp=Z,53nm,18.3s,baz=138,slow=40
MAW **Mawson** 84.07 200 P P 07 51 45.3 +0.8
comp=Z,54nm,0.9s,baz=68,slow=5.2,SNR=82
MAW **Mawson** 84.07 200 *e*P P 07 51 45.1 +0.6
MAW pmax pmax
comp=Z,34nm,1.3s
MAW **Mawson** 84.07 200 P P 07 51 45.3 +0.8
baz=84,SNR=35
MAW **Mawson** 84.07 200 *e*P P 07 51 45.1 +0.6
comp=Z,34nm,1.3s
TUTA **Tutak** 84.09 309 *i*P P 07 51 45.3 -0.3
KIV **Kislovodsk** 84.22 314 P P 07 51 46.7 +0.7
comp=Z,320nm,1.1s,SNR=14
KIV **Kislovodsk** 84.22 314 *e*P P 07 51 46.1 +0.1
KIV **Kislovodsk** 84.22 314*c i*P P 07 51 45.4 -0.6
KIV *i* 07 52 13.4
KIV *i*S S 08 01 58.1 -3.5
KIV *e*SS SS 08 07 39.9 +6.5
KIV pmax pmax
comp=Z,180nm,2.0s
KIV **Kislovodsk** 84.22 314⇓*i*P P 07 51 45.9 -0.1
SNR=27
KIV **Kislovodsk** 84.22 314 *e*P P 07 51 46.3 +0.3
comp=Z,55nm,0.9s
COLA **College** 84.27 25*c i*P P 07 51 44.6 -0.9
COLA pmax pmax
comp=Z,188nm,1.7s
COLA **College** 84.27 25 *e*P P 07 51 44.7 -0.9
comp=Z,35nm,1.2s
EATA **Eleskirt** 84.34 310 *i*P P 07 51 47.8 +0.8
TBI **Tubuai** 84.49 114 *e*S S 08 02 04.7 0.0
comp=Z,405nm,32.5s
TBI **Tubuai** 84.49 114 *e*LQ LQ 08 15 05.6
comp=Z,453nm,27.0s
TBI *e*LR LR 08 18 39.3
comp=Z,978nm,36.5s
CHVG **Ch'k'valeri** 84.66 312 *e*P P 07 51 48.2 +0.2
CHVG **Ch'k'valeri** 84.66 312 P P 07 51 50.2 +2.1
ILAR **Eielson Array** 84.67 25 P P 07 51 46.1 -1.5
comp=Z,18nm,1.0s,baz=268,slow=3.5,SNR=86
ILAR pP pP 07 52 12.4 -6.0
comp=Z,2.5nm,0.9s,baz=133,slow=44,SNR=7.0
ILAR PP PP 07 55 01.6 -3.4
comp=Z,13nm,1.1s,baz=256,slow=6.4,SNR=8.5
ILAR PKKPbc PKKPbc 08 09 56.6 -3.1
comp=Z,2.7nm,0.8s,baz=27,slow=1.6,SNR=21
ILAR LR LR 08 30 34.2
comp=Z,70nm,19.0s,baz=276,slow=36
ILAR **Eielson Array** 84.67 25 P P 07 51 46.2 -1.5
ILAR *PP pP 07 52 12.4 -6.0
ILAR 07 55 01.6
ILAR pmax pmax
comp=Z,18nm,1.0s
ILAR pmax pmax
comp=Z,3.0nm,0.9s
ILAR pmax pmax
comp=Z,13nm,1.2s
ILAR MLR MLR
comp=Z,70nm,19.0s
EKAR **Karacoban** 84.67 309 *i*P P 07 51 50.1 +1.6
DAGI **Agillar** 84.78 311 *i*P P 07 51 49.4 +0.5
HOMI **Horasan** 84.79 310 *i*P P 07 51 49.7 +0.6
DDEM **Demirkent** 84.91 311 *i*P P 07 51 49.8 +0.3
DBAD **Bademkaya** 84.95 311 *i*P P 07 51 50.4 +0.7
DBOC **Borcka** 84.97 311 *i*P P 07 51 49.6 -0.1
EYAK **Cordova Ski Ar** 85.03 30 *e*P P 07 51 50.7 +1.2
DIV **Divide** 85.03 29 *e*P P 07 51 50.6 +0.9
comp=Z,306nm,1.1s
VRTB **Varto-Mus** 85.15 309 *e*P P 07 51 52.4 +1.6
ERZM **Erzurum** 85.21 310 *i*P P 07 51 52.2 +0.9
EZM **Erzurum** 85.21 310 *e*P P 07 51 52.3 +1.0
PAX **Paxson** 85.23 27 *e*P P 07 51 50.8 +0.2
PAX pmax pmax
comp=Z,60nm,1.0s
PAX **Paxson** 85.23 27 *e*P P 07 51 50.8 +0.2
comp=Z,60nm,1.0s
BNGL **BINGOL** 85.39 309 *i*P P 07 51 53.4 +1.3
RAGM **Ragged Mountai** 85.56 30 *e*P P 07 51 53.6 +1.4
BMRM **Bremner River** 85.60 29 *e*P P 07 51 53.4 +1.0
comp=Z,113nm,1.0s
BNGB **Bing¶ll** 85.75 309 *e*P P 07 51 54.5 +0.8
KOPT **Kop Dagi** 85.88 310 *i*P P 07 51 55.3 +0.7
DOT **Dot Lake** 85.88 27 *e*P P 07 51 53.4 -0.3
comp=Z,50nm,1.3s
MAZI **Mazidag** 85.97 307 *e*P P 07 51 55.1 +0.2
BAYT **Ayd¨–ntepe-Bay** 86.14 310 *e*P P 07 51 56.4 +0.6
DYBB **Diyarbakir** 86.20 308 *e*P P 07 51 56.7 +0.8
KLMR **Klimovskoe** 86.21 331*c i*P P 07 51 53.9 -1.4
KLMR *e*PP pP 07 52 22.7 -3.4
KLMR *e* 07 55 16.6
KLMR S SKSac 08 02 07.7 -2.5
KLMR pmax pmax
comp=Z,108nm,0.8s
SOC **Sochi** 86.38 313 *e*P P 07 51 55.0 -1.6
SOC *e* 07 55 20.1
SOC *e*S S 08 02 14.2 -8.3
SOC pmax pmax
comp=Z,81nm,0.9s
VORD **Divnogorie** 86.49 321 *e*P P 07 51 55.4 -1.5
VORD pmax pmax
comp=E,170nm,0.9s
VORD pmax pmax
comp=Z,120nm,0.9s
VORD pmax pmax
comp=N,90nm,0.8s
VOR **Voronezh** 86.53 321 P P 07 51 54.0 -3.1
VOR pmax pmax
comp=Z,300nm,1.2s
VSR **Storozhevoye** 86.56 321 *e*P P 07 51 55.8 -1.5
VSR pmax pmax
comp=Z,140nm,0.9s
VSR pmax pmax
comp=N,10.0nm,0.5s
VSR pmax pmax
comp=E,120nm,1.1s
LPSR **Galich'ya Gora** 86.67 322 *e*P P 07 51 56.8 -1.0
LPSR *e*SP sP 07 52 38.0 -3.3
LPSR *e*S SKSac 08 02 13.4 -0.1
LPSR pmax pmax
comp=N,10.0nm,0.9s
LPSR pmax pmax
comp=E,20nm,0.9s
LPSR pmax pmax
comp=Z,130nm,0.9s
LPSR smax smax
comp=N,30nm,1.8s
LPSR smax smax
comp=E,130nm,1.8s
LPSR smax smax
comp=Z,10.0nm,1.8s
PTK **Pertek** 86.76 309 *e*P P 07 51 59.6 +0.8
KELT **Kelkit** 86.82 310 *i*P P 07 51 59.4 +0.3
TMCR **Tamitsa** 86.83 334 *e*P P 07 51 56.7 -1.6
TMCR *e* 07 55 19.3
TMCR pmax pmax
comp=Z,63nm,1.1s
SVRC **Sivrice-ELAZID** 86.85 308 *e*P P 07 51 59.7 +0.5
ELZG **Elazig** 87.09 308 *i*P P 07 52 01.3 +0.9
EGAK **Eagle** 87.13 25 *e*P P 07 51 59.2 -0.6
comp=Z,19nm,0.9s
ESPY **Espiye-Giresun** 87.20 311 *e*P P 07 51 59.7 -0.9
URFA **Urfa** 87.27 307 *e*P P 07 52 01.5 +0.3
MOS **Moscow** 87.33 326 *e*P P 07 51 59.2 -1.7
MOS *e*PP pP 07 52 26.7 -5.1
MOS *e* 07 55 25.9
MOS pmax pmax
comp=Z,200nm,1.1s
MOS pmax pmax
comp=Z,196nm,1.0s
MALT **Malatya** 87.54 308 *e*P P 07 52 02.8 +0.4
MALT **Malatya** 87.54 308 ⇑*e*P P 07 52 02.9 +0.4
MALT **Malatya** 87.54 308⇑*i*P P 07 52 02.9 +0.4
GRSN **GIRESUNGRSN** 87.55 311 *i*P P 07 52 00.7 -1.6
SUSE **Susehri** 87.63 310 *i*P P 07 52 02.9 0.0
DAWY **Dawson** 87.93 26 *e*P P 07 52 03.6 0.0
OBN **Obninsk** 87.97 325 P P 07 52 02.6 -1.3
comp=Z,921nm,1.3s,SNR=7.1
OBN **Obninsk** 87.97 325 P P 07 52 02.6 -1.3
comp=Z,153nm,1.0s,baz=30,slow=1.9,SNR=46
OBN **Obninsk** 87.97 325*c i*P P 07 52 02.3 -1.6
OBN *e* 07 55 33.4
OBN *i*S S 08 02 38.5 +1.3
OBN *i*SS SS 08 08 33.1 +5.8
OBN pmax pmax
comp=Z,245nm,1.3s
OBN MLR MLR
comp=Z,163nm,17.0s
OBN **Obninsk** 87.97 325 *e*P P 07 52 02.7 -1.3
comp=Z,575nm,1.6s
ANN **Anapa** 87.97 315*c i*P P 07 52 02.6 -1.6
ANN *e*PP pP 07 52 32.3 -2.8
ANN *e* 07 55 27.2
ANN pmax pmax
comp=Z,159nm,0.9s
LVZ **Lovozero** 88.02 338*c i*P P 07 52 02.1 -1.9
LVZ pmax pmax
comp=Z,98nm,1.3s
LVZ **Lovozero** 88.02 338 *e*P P 07 52 02.5 -1.4
comp=Z,133nm,1.4s
DARE **Darende-Malaty** 88.27 308 *e*P P 07 52 06.2 +0.4
GZT **Gaziantep** 88.27 307 *i*P P 07 52 06.2 +0.2
RSDY **Resadiye-TOKAT** 88.29 310 *e*P P 07 52 06.0 +0.1
APA **Apatity** 88.52 338⇑*i*P P 07 52 05.0 -1.3
APA *i* *PP pP 07 52 28.0 -9.3
APA *i* 07 55 34.0
APA *e*S S 08 02 39.0 -3.0
APA pmax pmax
comp=Z,52nm,1.0s
APA MLR MLR
comp=Z,400nm,24.0s
SVSK **Karacayir** 88.57 310 *e*P P 07 52 07.7 +0.6
TOKT **Tokat** 88.89 310 *e*P P 07 52 08.5 -0.2
HYT **Haines Junctio** 89.07 29 *e*P P 07 52 09.3 +0.1
ASF **Jabal al Asfar** 89.12 302 P P 07 52 10.7 +0.6
comp=Z,56nm,0.9s,baz=48,slow=2.4,SNR=105
ASF pP pP 07 52 36.1 -4.9
comp=Z,9.8nm,0.9s,baz=68,slow=2.1,SNR=2.0
ASF **Jabal al Asfar** 89.12 302 P P 07 52 10.7 +0.6
ASF *PP pP 07 52 36.1 -4.9
ASF pmax pmax
comp=Z,56nm,0.9s
ASF pmax pmax
comp=Z,10.0nm,0.9s
KVT **Kavak** 89.22 311 *e*P P 07 52 10.0 -0.2
TAHT **Tahtakopru-Hat** 89.43 306 *e*P P 07 52 11.1 -0.2
YAYL **Yayladag** 89.52 306 *i*P P 07 52 08.6 -3.2
KOZT **Kozan** 89.64 307 *e*P P 07 52 11.6 -0.6
CEYT **Ceyhan** 89.74 307 *e*P P 07 52 12.8 +0.1
INK **Inuvik** 89.82 22 P P 07 52 11.4 -0.9
comp=Z,35nm,1.2s,baz=281,slow=6.8,SNR=24
INK pP pP 07 52 38.3 -5.0
comp=Z,32nm,1.2s,baz=244,slow=7.4,SNR=5.8
INK PKKPbc PKKPdf 08 09 44.2 +2.1
comp=Z,7.2nm,0.8s,baz=46,slow=3.3,SNR=9.6
INK **Inuvik** 89.82 22 *e*P P 07 52 11.5 -0.9
INK *PP pP 07 52 38.3 -5.0
INK pmax pmax
comp=Z,51nm,1.3s
INK **Inuvik** 89.82 22 *e*P P 07 52 11.5 -0.9
comp=Z,51nm,1.3s
INK pP pP 07 52 38.3 -5.0
INK PKKPbc PKKPdf 08 09 44.2 +2.1
BOYT **Boyabat** 90.05 311 *i*P P 07 52 13.2 -0.9
SIM **Simferopol'** 90.31 315*ce*P P 07 52 14.1 -1.1
SIM *e**PP pP 07 52 50.0 +3.8
SIM *e* 07 55 57.0
SIM *e*S S 08 03 07.0 +7.4
SIM *e*PS PnS 08 04 50.0 +27
SIM pmax pmax
comp=Z,83nm,0.9s
MMAI **Mount Meron Ar** 90.32 303 P P 07 52 15.7 +0.1
comp=Z,45nm,0.9s,baz=76,slow=7.0,SNR=12
CORM **Corum** 90.36 310 *e*P P 07 52 15.5 -0.1
KEV **Kevo** 90.50 340 *e*P P 07 52 13.5 -2.0
KEV pmax pmax
comp=Z,25nm,1.0s
KEV **Kevo** 90.50 340 *e*P P 07 52 13.5 -2.0
comp=Z,25nm,1.0s
CDAG **Cicekdag** 90.61 310 *i*P P 07 52 15.8 -1.1
SIT **Sitka** 90.62 33 *e*P P 07 52 17.5 +1.2
SIT **Sitka** 90.62 33 *e*P P 07 52 17.5 +1.2
MERS **Mersin** 90.73 307 *e*P P 07 52 15.8 -1.6
KMBO **Kilima Mbogo** 90.89 269 P P 07 52 18.8 0.0
comp=Z,21nm,1.1s,baz=52,slow=5.8,SNR=18
KMBO LR LR 08 33 44.7
comp=Z,71nm,18.6s,baz=98,slow=36
KMBO **Kilima Mbogo** 90.89 269 P P 07 52 18.8 0.0
KMBO pmax pmax
comp=Z,21nm,1.1s
KMBO MLR MLR
comp=Z,71nm,18.6s
SPITS **Spitsbergen Ar** 90.90 349 P P 07 52 15.4 -1.9
comp=Z,43nm,1.0s,baz=100,slow=7.9,SNR=4.7
SPITS **Spitsbergen Ar** 90.90 349 P P 07 52 15.4 -1.9
SPITS pmax pmax
comp=Z,43nm,1.0s
EIL **Elat** 90.97 300 P P 07 52 18.7 +0.1
comp=Z,48nm,0.9s,baz=0.5,slow=2.5,SNR=34
EIL **Elat** 90.97 300 P P 07 52 18.8 +0.1
baz=91,SNR=18
ARCES **ARCESS Array B** 91.06 340 P P 07 52 16.8 -1.4
comp=Z,41nm,0.8s,baz=76,slow=6.4,SNR=92
ARCES pP pP 07 52 43.4 -5.8
comp=Z,21nm,0.8s,baz=74,slow=5.2,SNR=5.2
ARCES LR LR 08 38 03.9
comp=Z,138nm,18.9s,baz=70,slow=39
ARCES **ARCESS Array B** 91.06 340 P P 07 52 16.8 -1.4
ARCES *PP pP 07 52 43.4 -5.8
ARCES pmax pmax
comp=Z,41nm,0.8s
ARCES pmax pmax
comp=Z,21nm,0.8s
ARE0 **ARCESS Array S** 91.06 340 *e*P P 07 52 16.7 -1.4
BR131 **Keskin Array S** 91.16 310 *e*P P 07 52 17.3 -2.1
comp=Z,14nm,0.9s
BRTR **Keskin Array B** 91.16 310 P P 07 52 17.9 -1.5
comp=Z,12nm,0.8s,baz=104,slow=5.2,SNR=62
BRTR PP PP 07 55 54.5 -3.3
comp=Z,5.2nm,1.0s,baz=120,slow=7.3,SNR=3.8
BRTR PKKPbc PKKPbc 08 09 41.4 -1.7
comp=Z,1.0nm,0.8s,baz=228,slow=3.1,SNR=5.0
BRTR LR LR 08 37 38.5
comp=Z,56nm,21.3s,baz=82,slow=38
BRTR **Keskin Array B** 91.16 310 P P 07 52 17.9 -1.5
BRTR 07 55 54.5
BRTR pmax pmax
comp=Z,12nm,0.8s
BRTR pmax pmax
comp=Z,5.0nm,1.0s
BRTR pmax pmax
comp=Z,1.0nm,0.8s
AFSR **Af'ar-Bala (A** 91.62 309 *e*P P 07 52 20.4 -1.1
ANTO **Ankara** 91.79 310 *e*P P 07 52 20.1 -2.2
ANTO **Ankara** 91.79 310 ⇑P P 07 52 22.0 -0.3
ANTO **Ankara** 91.79 310⇑*i*P P 07 52 22.0 -0.3
ANTO **Ankara** 91.79 310 *e*P P 07 52 21.0 -1.3
comp=Z,14nm,0.8s
CSS **Prodhromos** 91.87 305 *e*P P 07 52 22.8 +0.1
CSS **Prodhromos** 91.87 305 *e*P P 07 52 21.9 -0.7
comp=Z,22nm,1.1s
BCAM **Yenicaga** 92.24 311 *i*P P 07 52 23.2 -1.2
WRAK **Wrangell Islan** 92.34 33 *e*P P 07 52 24.6 +0.3
comp=Z,49nm,1.0s
KDHN **Kadinhani** 92.46 309 *i*P P 07 52 23.4 -2.1
GAZI **Gazipasa** 92.56 306 *i*P P 07 52 24.3 -1.6
FIA1 **FINESS Array S** 92.61 332 *e*P P 07 52 23.4 -2.0
FINES **FINESS Array B** 92.61 332 P P 07 52 23.5 -1.9
comp=Z,13nm,0.8s,baz=116,slow=8.7,SNR=27
FINES PP PP 07 56 06.5 -1.8
comp=Z,17nm,1.1s,baz=100,slow=5.8,SNR=6.2
FINES LR LR 08 37 42.3
comp=Z,188nm,18.7s,baz=98,slow=38
FINES **FINESS Array B** 92.61 332 P P 07 52 23.5 -1.9
FINES 07 56 06.5
FINES pmax pmax
comp=Z,13nm,0.8s
FINES pmax pmax
comp=Z,17nm,1.1s
FINES MLR MLR
comp=Z,188nm,18.7s
SYO **Syowa Base** 92.76 201⇓*e*P P 07 52 25.0 -0.9
SYO **Syowa Base** 92.76 201⇓*i*PcP P 07 52 26.0 +0.1
H02S1 **DAWSON INLET T** 92.82 36 T T 09 36 07.5
SNR=22
AKASG **Malin Array Be** 92.87 321 P P 07 52 25.1 -1.8
comp=Z,37nm,0.8s,baz=70,slow=4.1,SNR=118
AKASG PP PP 07 56 09.5 -1.1
comp=Z,5.7nm,0.9s,baz=68,slow=7.7,SNR=6.0
AKASG PKKPbc PKKPbc 08 09 43.1 +4.1
comp=Z,0.2nm,0.2s,baz=270,slow=1.9,SNR=4.3
AKASG LR LR 08 37 13.8
comp=Z,143nm,19.9s,baz=35,slow=37
AKASG **Malin Array Be** 92.87 321 P P 07 52 25.1 -1.8
AKASG 07 56 09.5
AKASG 08 09 43.1
AKASG pmax pmax
comp=Z,37nm,0.9s
AKASG pmax pmax
comp=Z,6.0nm,0.9s
AKASG MLR MLR
comp=Z,143nm,20.0s
AKBB **Malin Array Si** 92.87 321 *e*P P 07 52 24.9 -2.0
AKBB **Malin Array Si** 92.87 321 *e*P P 07 52 24.9 -2.0
AK01 **Malin Array Si** 92.87 321 *e*P P 07 52 24.7 -2.1
KIEV **Kiev** 92.88 321*c i*P P 07 52 24.8 -2.1
KIEV **Kiev** 92.88 321 *e*P P 07 52 24.8 -2.1
comp=Z,42nm,0.9s
AK02 **Malin Array Si** 92.88 321 *e*P P 07 52 24.8 -2.1
VSU **Vasula** 92.90 329*c i*P P 07 52 25.0 -1.8
VSU pmax pmax
comp=Z,185nm,1.2s
MNK **Minsk** 93.06 325⇓*e*P P 07 52 24.0 -3.7
MNK pmax pmax
comp=Z,60nm,1.0s
DLBC **Dease Lake** 93.19 31 P P 07 52 28.2 -0.1
comp=Z,11nm,0.9s,baz=295,slow=4.3,SNR=33
DLBC **Dease Lake** 93.19 31 *e*P P 07 52 28.6 +0.3
SEYT **Eskypehyr** 93.32 310 *i*P P 07 52 27.8 -1.6
BOLV **Bolvadin** 93.35 309 *i*P P 07 52 28.6 -0.9
QSPA **South Pole Qui** 93.47 180 *e*P P 07 52 29.8 +0.4
comp=Z,70nm,0.9s
KIS **Kishinev** 93.72 317 *e*P P 07 52 29.0 -1.9
KIS *e*pP pP 07 53 11.0 +9.1
KIS **Kishinev** 93.72 317 *e*PP PP 07 56 24.0 +6.6
TLCR 94.01 316 ⇑P P 07 52 31.7 -0.5
TLCR 94.01 316⇑*i*P P 07 52 31.6 -0.6
TIRR **Tirgusor** 94.41 315 ⇑P P 07 52 33.1 -1.0
TIRR **Tirgusor** 94.41 315⇑*i*P P 07 52 33.1 -1.0
TIRR **Tirgusor** 94.41 315 *e*P P 07 52 32.5 -1.6
comp=Z,28nm,1.0s
CFR **Carcaliu** 94.48 316 ⇓P P 07 52 33.4 -1.0
CFR **Carcaliu** 94.48 316⇓*i*P P 07 52 33.4 -1.0
ULDT **Uludag** 94.55 311 *i*P P 07 52 33.8 -1.3
MSAB **Monastry St. A** 94.89 315⇑*i*P P 07 52 35.5 -0.8
PETR **Petresti** 95.02 316⇑*i*P P 07 52 37.7 +0.9
GRER 95.26 316⇑*i*P P 07 52 39.3 +1.3
TESR **Tescani** 95.27 317⇑*i*P P 07 52 37.1 -0.9
VRI **Vrincioaia** 95.34 317 ⇑P P 07 52 37.9 -0.5
VRI **Vrincioaia** 95.34 317⇑*i*P P 07 52 37.9 -0.5
PLOR **Plostina** 95.39 317 ⇑P P 07 52 37.9 -0.8
PLOR **Plostina** 95.39 317⇑*i*P P 07 52 37.9 -0.8
TURN **Turunc** 95.44 307 *i*P P 07 52 38.6 -0.4
ISR **Istrita** 95.61 316 ⇑P P 07 52 39.2 -0.4
ISR **Istrita** 95.61 316⇑*i*P P 07 52 39.2 -0.4
SUW **Suwalki** 95.83 325 *e*P P 07 52 38.8 -1.5
SUW **Suwalki** 95.83 325 *e*P P 07 52 38.9 -1.4
SART **Tekirdag** 95.93 311 *i*P P 07 52 39.9 -1.3
MLR **Muntele Rosu** 95.95 316 P P 07 52 40.1 -1.2
comp=Z,8.4nm,0.9s,baz=20,slow=2.5,SNR=31
MLR **Muntele Rosu** 95.95 316 ⇓P P 07 52 40.7 -0.6
MLR **Muntele Rosu** 95.95 316⇓*i*P P 07 52 40.7 -0.6
BURAR **Bucovina Array** 96.02 318 ⇑P P 07 52 40.8 -0.7
BURAR **Bucovina Array** 96.02 318⇑*i*P P 07 52 40.8 -0.7
BUR08 **Bucovina Ar. S** 96.02 318 *e*P P 07 52 40.4 -1.2
DOPR **Dopca** 96.24 317⇑*i*P P 07 52 41.8 -0.7
LVV **L'vov** 96.31 321 *i*P P 07 52 42.2 -0.4
VOIR 96.58 316 ⇑P P 07 52 43.3 -0.8
VOIR 96.58 316⇑*i*P P 07 52 43.3 -0.8
ARR **Arges** 96.88 316⇑*i*P P 07 52 45.2 -0.2
KDZ **Kurdzhali** 97.07 313 ⇑P P 07 52 44.9 -1.4
KDZ **Kurdzhali** 97.07 313⇑*i*P P 07 52 44.9 -1.4
KWP **Kalwaria Pacla** 97.19 321 *e*P P 07 52 45.6 -1.0
KWP **Kalwaria Pacla** 97.19 321 ⇑P P 07 52 46.6 0.0
KWP **Kalwaria Pacla** 97.19 321⇑*i*P P 07 52 46.6 0.0
KWP **Kalwaria Pacla** 97.19 321 *e*P P 07 52 45.7 -1.0
comp=Z,38nm,1.0s
CJR **Cluj-Napoca** 97.29 318 ⇓P Pdif 07 52 47.4 +0.1
CJR **Cluj-Napoca** 97.29 318⇓*i*P Pdif 07 52 47.4 +0.1
LOT **Lotru** 97.45 317⇑*i*P P 07 52 47.3 -0.8
KOLS **Kolonicke sedl** 97.63 320 *e*P P 07 52 48.0 -0.7
KOLS pmax pmax
comp=Z,12nm,1.3s
KOLS **Kolonicke sedl** 97.63 320 *e*P P 07 52 48.0 -0.7
KOLS *e*PP PP 07 56 52.0 +4.4
UZH **Uzhgorod** 97.69 320⇓*i*P P 07 52 48.3 -0.6
UZH *e* 07 53 16.8
UZH *e* 07 53 26.0
RKT **Rikitea** 97.78 113 *e*LR LR 08 24 49.1
comp=Z,676nm,37.5s
DRGR 97.86 318 ⇓P P 07 52 48.9 -0.9
DRGR 97.86 318⇓*i*P P 07 52 48.9 -0.9
GZR **Gura Zlata** 98.15 317 ⇑P P 07 52 50.2 -0.9
GZR **Gura Zlata** 98.15 317⇑*i*P P 07 52 50.2 -0.9
CRVS **Cervenica-Dubn** 98.16 320 *e*P P 07 52 50.4 -0.6
CRVS pmax pmax
comp=Z,37nm,1.1s
CRVS **Cervenica-Dubn** 98.16 320 *e*P P 07 52 50.4 -0.6
STHS **Stebnicka Huta** 98.16 321 *e*P P 07 52 50.6 -0.5
STHS **Stebnicka Huta** 98.16 321 *e*P P 07 52 50.6 -0.5
MMB **Musomiste** 98.32 313 ⇑P P 07 52 50.2 -1.8
MMB **Musomiste** 98.32 313⇑*i*P P 07 52 50.2 -1.8
VTS **Vitosha** 98.48 314 ⇑P P 07 52 51.4 -1.4
VTS **Vitosha** 98.48 314⇑*i*P P 07 52 51.4 -1.4
SIRR **Siria** 98.70 318⇓*i*P P 07 52 53.2 -0.3
NIE **Niedzica** 98.75 321 *e*P P 07 52 53.4 -0.3
NIE **Niedzica** 98.75 321 *e*P P 07 52 53.4 -0.3
OJC **Ojcow** 98.84 322 *e*P P 07 52 53.1 -1.0
OJC **Ojcow** 98.84 322 *e*P P 07 52 53.2 -0.9
KECS **Kecovo** 98.89 320 *e*P P 07 52 53.7 -0.6
KECS pmax pmax
comp=Z,7.0nm,0.9s
KECS **Kecovo** 98.89 320 *e*P P 07 52 53.7 -0.6
KECS *e*PP PP 07 56 57.0 -0.2
YKA **Yellowknife Ar** 99.09 25 P Pdif 07 52 54.5 -0.3
comp=Z,7.1nm,0.9s,baz=299,slow=4.7,SNR=72
YKA pP pP 07 53 21.1 -4.9
comp=Z,7.0nm,1.1s,baz=297,slow=4.8,SNR=5.7

YKA PP PP 07 56 50.0 -8.2
comp=Z,4.1nm,1.2s,baz=304,slow=6.5,SNR=5.7
YKA PKiKP **PKiKP** **07 57 22.2 -2.3**
comp=Z,3.9nm,1.0s,baz=301,slow=1.6,SNR=12
YKA PKKPbc **PKKPbc** **08 09 18.9 -3.7**
comp=Z,2.3nm,0.8s,baz=116,slow=2.8,SNR=16
NB2 NORSAR Subarra 99.53 334 P **Pdif** **07 52 54.8 -2.1**
comp=Z,22nm,0.9s,baz=66,slow=4.6
NB2 NORSAR Subarra 99.53 334 P **Pdif** **07 52 54.8 -2.1**
baz=66,slow=4.6
NOA NORSAR Array B 99.53 334 P **Pdif** **07 52 54.8 -2.1**
comp=Z,13nm,0.9s,baz=65,slow=4.6,SNR=29
NOA pP pP 07 53 21.8 -6.3
comp=Z,5.9nm,0.9s,baz=64,slow=4.6,SNR=5.4
NOA PP PP 07 56 48.5 -13
comp=Z,2.2nm,0.9s,baz=74,slow=7.9,SNR=4.1
NOA PKKPbc **PKKPbc** **08 09 19.3 -2.1**
comp=Z,1.7nm,0.9s,baz=67,slow=3.3,SNR=3.6
NOA LR LR 08 42 47.9
comp=Z,126nm,20.7s,baz=90,slow=38
VYHS Vyhne 99.94 320 *e*PP PP 07 57 04.5 -0.7
OKC Ostrava-Krasne 99.97 322 *e*PP PP 07 57 07.3 +2.0
OKC AMS AMS 08 40 50.0
comp=Z,100nm,17.3s
BSD Bornholm Skovb 100.08 328 *i* P PKKPbc 08 09 13.5 -6.1
comp=Z,50nm,0.9s
MORC Moravsky Berou 100.37 322 ⇑P **Pdif** **07 53 00.3 -0.6**
MORC Moravsky Berou 100.37 322 ⇑*i*P **Pdif** **07 53 00.3 -0.6**
MORC Moravsky Berou 100.37 322 *e*Pdif **Pdif** **07 53 00.3 -0.6**
comp=Z,46nm,1.8s
DIVS Divibare 100.39 316 ⇑*i*P **Pdif** **07 53 00.4 -0.8**
LSZ Lusaka 100.46 255 *e*P **Pdif** **07 53 01.7 -0.4**
LSZ pmax pmax
comp=Z,36nm,1.5s
LSZ Lusaka 100.46 255 *e*Pdif **Pdif** **07 53 01.7 -0.4**
comp=Z,36nm,1.5s
KSP Ksiaz 100.78 323 *e*P **Pdif** **07 53 02.3 -0.4**
KSP Ksiaz 100.78 323 *e*P **Pdif** **07 53 02.3 -0.4**
I03D Drain, OR 100.84 44 ⇓PKiKP **PKiKP** **07 57 29.1 +0.9**
baz=101
DPC Dobruska-Polom 100.93 323 *e*PDIFF **Pdif** **07 53 03.0 -0.4**
DPC *e*PP **PP** **07 57 15.4 +2.8**
DPC AMS AMS 08 41 30.0
DPC Dobruska-Polom 100.93 323 *e*P **Pdif** **07 53 03.0 -0.4**
DPC *e* 07 57 15.4
I04A Tendick Farm, 101.47 44 ⇑PKiKP **PKiKP** **07 57 30.5 +1.0**
baz=102
G05D Wamic, OR 101.80 42 ⇑PKiKP **PKiKP** **07 57 31.6 +1.6**
baz=102
M02C Callahan 101.81 47 ⇓PKiKP **PKiKP** **07 57 31.3 +1.1**
baz=102
J04D Umpqua Nationa 101.83 45 ⇓PKiKP **PKiKP** **07 57 31.4 +1.0**
baz=102
PVCC Panska Ves 101.92 323 *e*PP PP 07 57 21.5 +1.6
GOPC GO Pecny, Ondr 102.00 323 *e*PDIFF **Pdif** **07 53 08.1 -0.1**
GOPC *e*PP **PP** **07 57 22.3 +1.7**
GOPC AMS AMS 08 42 10.0
comp=Z,200nm,19.8s
CONA Conrad Observa 102.01 320 ⇓*i*PP PP 07 57 22.3 +1.4
comp=Z,22nm,1.3s
N02D Trinity Center 102.03 47 ⇑PKiKP **PKiKP** **07 57 31.6 +1.0**
baz=102
I05D Terrebonne, OR 102.05 43 ⇓PKiKP **PKiKP** **07 57 31.4 +0.8**
baz=102
PRU Pruhonice 102.13 323 *e*PDIFF **Pdif** **07 53 08.2 -0.5**
PRU *e*pP 07 53 43.5
PRU *e*PP **PP** **07 57 23.9 +2.4**
PRU AMS AMS 08 42 10.0
comp=Z,200nm,19.4s
PRU Pruhonice 102.13 323 *e*P **Pdif** **07 53 08.2 -0.5**
PRU *e* 07 57 23.9
PRU MLR MLR
comp=Z,200nm,19.4s
PRA Prague 102.16 323 *e*P **Pdif** **07 53 08.1 -0.7**
PRA *e* 07 57 22.3
PRA MLR MLR
comp=Z,200nm,19.8s
BRG Berggiesshubel 102.17 324 P **Pdif** **07 53 08.5 -0.3**
BRG 07 57 16.0
BRG S **Sdif** **08 04 38.0 -3.7**
BRG pmax pmax
comp=Z,17nm,1.0s
BRG MLR MLR
comp=N,140nm,16.9s
BRG MLR MLR
comp=E,118nm,23.4s
BRG MLR MLR
comp=Z,228nm,20.6s
J05D Fort Rock, OR 102.43 44 ⇑PKiKP **PKiKP** **07 57 32.7 +1.3**
baz=102
CLL Collm 102.56 324 *e*Pdif **Pdif** **07 53 10.0 -0.5**
comp=Z,11nm,1.1s
CLL *e* 07 57 18.0
CLL *e*PP **PP** **07 57 26.0 +1.3**
comp=Z,13nm,1.0s
CLL *es*PP 07 58 06.0
CLL *e*PPP PPP 07 59 30.0
CLL *e*PPPP 08 01 24.0
CLL *e*Sdif Sdif 08 04 43.0 -1.9
CLL *e*SP **SP** **08 06 20.0 +0.9**
CLL *e* 08 06 56.0
CLL *e*PPS PPS 08 07 18.0
CLL *e*SS **SS** **08 11 58.0 +3.9**
CLL LmV 08 50 00.0
comp=Z,200nm,20.0s
CLL Collm 102.56 324 *e*P **Pdif** **07 53 10.0 -0.5**
CLL *e*S **Sdif** **08 04 43.0 -1.9**
CLL pmax pmax
comp=Z,11nm,1.1s
CLL MLR MLR
comp=Z,200nm,20.0s
SOKA Soboth 102.96 319 ⇓*i*PP PP 07 57 24.6 -3.4
comp=Z,14nm,1.2s
BSEG Bad Segeberg 103.01 328 *e*PP PP 07 57 28.4 +0.5
KHC Kasperske Hory 103.02 322 *ex* x 07 53 24.0
KHC *e*PP **PKiKP** **07 57 31.0 -1.1**
KHC Kasperske Hory 103.02 322 *e*P Pdif 07 53 24.0 +11
KHC *e* 07 57 31.0
GEC2 GERESS Array S 103.05 322 *e*PP PP 07 57 28.4 -0.2
GERES GERESS Array B 103.05 322 Pdiff **Pdif** **07 53 09.2 -3.7**
comp=Z,3.3nm,0.8s,baz=83,slow=5.5,SNR=13
GERES PP **PKiKP** **07 57 30.7 -1.6**
comp=Z,3.5nm,0.8s,baz=72,slow=6.3,SNR=9.7
GERES GERESS Array B 103.05 322 P **Pdif** **07 53 09.2 -3.7**
GERES 07 57 30.7
GERES pmax pmax
comp=Z,3.0nm,0.8s
GERES pmax pmax
comp=Z,4.0nm,0.8s
TANN Tannenbergstha 103.21 324 *e*PP PP 07 57 29.7 0.0
WET Wettzell 103.44 322 *e*PP PP 07 57 32.2 +0.8
SUMG Summit 103.50 356 *i* P PP 07 57 21.5 -10
SUMG Summit 103.50 356 *i* P **PKKPbc** **08 09 07.6 -3.1**
comp=Z,8.5nm,1.0s
NEW Newport 103.52 39 Pdiff **Pdif** **07 53 14.8 -0.2**
comp=Z,2.8nm,1.0s,baz=106,slow=4.3,SNR=4.1
NEW Newport 103.52 39 P **Pdif** **07 53 14.8 -0.2**
NEW pmax pmax
comp=Z,3.0nm,1.0s
ROTZ Rotzenmuhle 103.61 323 *e*PP PP 07 57 34.3 +1.7
MOX Moxa 103.62 324 *e*PP PP 07 57 32.8 +0.1
KBA Koelnbreinsper 103.90 320 ⇑*i*PKiKP **PKiKP** **07 57 32.9 -1.1**
comp=Z,19nm,1.2s
RJOB Jochberg 104.01 321 *e*PP PP 07 57 36.5 +0.8
GRF Grafenberg Arr 104.23 323 *e*PP PP 07 57 39.4 +2.2
FUR Furstenfeldbru 104.80 322 *e*PP PP 07 57 41.5 0.0
WTTA Wattenberg 104.92 321 ⇑*i*PP PP 07 57 40.8 -1.9
comp=Z,32nm,1.2s
MOTA Moosalm 105.22 321 ⇓*i*PKiKP **PKiKP** **07 57 33.9 -2.4**
comp=Z,22nm,1.0s
SNAA Sanae 105.39 194 P **PP** **07 57 46.0 +0.7**
SNAA Sanae 105.39 194 P **PKKPbc** **08 09 01.7 -2.9**
FETA Feichten 105.58 321 ⇑*i*PKiKP **PKiKP** **07 57 38.2 +1.1**
comp=Z,24nm,1.1s
SWMT Swartz Lake 105.75 38 *e*PKPdif **PKiKP** **07 57 36.9 -0.4**
NVAR Mina Array Bea 106.01 48 Pdiff **Pdif** **07 53 26.2 -0.3**
comp=Z,1.2nm,1.0s,baz=256,slow=6.1,SNR=4.2
NVAR PKiKP **PKiKP** **07 57 38.4 +0.2**
comp=Z,1.6nm,0.7s,baz=274,slow=2.4,SNR=5.7
NVAR PKKPbc **PKKPbc** **08 09 02.0 +0.2**
comp=Z,1.7nm,0.8s,baz=143,slow=4.9,SNR=10.0
MSO Missoula 106.06 39 ⇑PKiKP **PKiKP** **07 57 37.4 -0.4**
baz=106
SBC Santa Barbara 106.08 53 ⇑PKiKP **PKiKP** **07 57 37.4 -0.7**
baz=106

MFID Camas Ranch 106.12 43 *e*PKPdf **PKiKP** **07 57 39.4 +1.3**
SLMT Seeley Lake 106.17 39 *e*PKPdf **PKiKP** **07 57 37.5 -0.7**
TIN Tinemaha, Big 106.49 50 ⇓PKiKP **PKiKP** **07 57 38.9 -0.1**
baz=106
BFO Black Forest 106.53 323 *e*PP PP 07 57 53.1 -1.1
VNA2 Neumayer--Watz 106.99 194 P **PKiKP** **07 57 39.7 +0.9**
baz=48,slow=0.6
VNA2 Neumayer--Watz 106.99 194 P **PKKPbc** **08 08 56.2 -3.3**
baz=309,slow=4.7
HLID Hailey 107.02 42 *e*PKPdf **PKiKP** **07 57 41.1 +1.2**
HLID Hailey 107.02 42 ⇓PKiKP **PKiKP** **07 57 41.0 +1.2**
baz=107
VNA3 Neumayer Olymp 107.31 193 P **PKiKP** **07 57 40.9 +1.5**
VNA3 Neumayer Olymp 107.31 193 P **PKKPbc** **08 08 55.1 -3.5**
EDW2 Edwards Air Fo 107.32 52 ⇓PKiKP **PKiKP** **07 57 42.0 +1.5**
baz=107
MPMC Manual Prospec 107.36 51 ⇓PKiKP **PKiKP** **07 57 41.7 +1.0**
baz=107
LRMC Laurel Mtn Rad 107.38 51 ⇑PKiKP **PKiKP** **07 57 42.0 +1.3**
baz=107
VNA1 Neumayer--Stat 107.39 194 P **PKKPbc** **08 08 55.7 -2.6**
ELK Elko 107.48 45 *e*PKPdf **PKiKP** **07 57 41.3 +0.4**
MCMT McKenzie Canyo 107.56 41 *e*PKPdf **PKiKP** **07 57 41.4 +0.5**
HINF Hinteralfeld 107.64 323 *e*PKiKP **PKiKP** **07 57 40.4 -0.3**
HINF Hinteralfeld 107.64 323 *e*PKPdf **PKiKP** **07 57 40.4 -0.3**
FURC Furnace Creek, 107.71 50 ⇑PKiKP **PKiKP** **07 57 43.0 +1.9**
baz=108
BFSC Mount Baldy Ra 107.77 52 ⇑PKiKP **PKiKP** **07 57 43.3 +1.8**
baz=108
HAU Haudompre 107.86 323 *e*PKiKP **PKiKP** **07 57 41.0 -0.1**
HAU Haudompre 107.86 323 *e*PKPdf **PKiKP** **07 57 41.0 -0.1**
PAGF Fort de Pagny 107.98 324 *e*PKiKP **PKiKP** **07 57 41.3 +0.1**
PAGF Fort de Pagny 107.98 324 *e*PKPdf **PKiKP** **07 57 41.3 +0.1**
R11A Troy Canyon, C 108.06 48 *e*PKPdf **PKiKP** **07 57 42.9 +0.9**
R11A Troy Canyon, C 108.06 48 ⇑PKiKP **PKiKP** **07 57 43.6 +1.6**
baz=108
EGMT Eagleton 108.11 37 *e*PKPdf **PKiKP** **07 57 41.5 -0.1**
EGMT Eagleton 108.11 37 ⇑PKiKP **PKiKP** **07 57 43.1 +1.4**
baz=108
GSC Goldstone, Bar 108.12 51 ⇓PKiKP **PKiKP** **07 57 42.9 +0.9**
baz=108
A19A Klindworth Far 108.29 36 ⇑PKiKP **PKiKP** **07 57 42.8 +0.9**
baz=108
MURC Murrieta 108.32 53 ⇑PKiKP **PKiKP** **07 57 42.3 -0.1**
baz=108
BBRC Big Bear Solar 108.35 52 ⇓PKiKP **PKiKP** **07 57 43.8 +1.1**
baz=108
B19A Brinkman Farms 108.39 36 ⇓PKiKP **PKiKP** **07 57 42.6 +0.5**
baz=108
PGF Pioggiola 108.47 317 *e*PKiKP **PKiKP** **07 57 42.4 -0.1**
comp=Z,71nm,1.2s
PGF Pioggiola 108.47 317 *e*PKPdf **PKiKP** **07 57 42.4 -0.1**
HEC Hector,Ludlow 108.64 52 ⇑PKiKP **PKiKP** **07 57 44.3 +1.3**
baz=109
CABF La Chapelle 108.65 322 ⇑*i*PKiKP **PKiKP** **07 57 43.0 +0.3**
comp=Z,23nm,1.2s
CABF La Chapelle 108.65 322 ⇑*i*PKPdf **PKiKP** **07 57 43.0 +0.3**
C19A Slack Wire Ran 108.67 37 ⇓PKiKP **PKiKP** **07 57 44.5 +1.8**
baz=109
HVU Hansel Valley 108.82 44 *e*PKPdf **PKiKP** **07 57 44.0 +0.7**
PFO Pinyon Flats O 108.91 53 ⇓PKiKP **PKiKP** **07 57 44.0 +0.4**
baz=109
B20A Solberg Farm, 108.94 36 ⇓PKiKP **PKiKP** **07 57 43.8 +0.7**
baz=109
MBDF Montbardon 109.05 320 ⇑*i*PKiKP **PKiKP** **07 57 44.4 +0.8**
comp=Z,7.8nm,0.8s
MBDF Montbardon 109.05 320 ⇑*i*PKPdf **PKiKP** **07 57 44.4 +0.8**
BELC Belle Mtn. Jos 109.15 52 ⇓PKiKP **PKiKP** **07 57 44.9 +0.8**
baz=109
MONP Monument Peak, 109.16 54 ⇑PKiKP **PKiKP** **07 57 45.1 +0.9**
baz=109
GMRC Granite Mounta 109.17 51 ⇓PKiKP **PKiKP** **07 57 45.5 +1.4**
baz=109
GCMT Grayeliff 109.18 39 *e*PKPdf **PKiKP** **07 57 44.3 +0.5**
C20A Veseth Ranch, 109.30 36 ⇓PKiKP **PKiKP** **07 57 44.7 +0.8**
baz=109
DUG Dugway, Tooele 109.40 45 ⇓PKiKP **PKiKP** **07 57 44.9 +0.5**
baz=109
E19A Rath Farm, Rou 109.42 38 ⇓PKiKP **PKiKP** **07 57 45.1 +1.0**
baz=109
REDW Red Top Meadow 109.48 41 *e*PKPdf **PKiKP** **07 57 45.3 +0.8**
SNOW Snow King Moun 109.50 41 *e*PKPdf **PKiKP** **07 57 45.5 +0.9**
B21A Ellsworth Farm 109.53 35 ⇑PKiKP **PKiKP** **07 57 45.1 +0.9**
baz=110
LOHW Long Hollow 109.53 41 *e*PKPdf **PKiKP** **07 57 44.8 +0.2**
ORIF Oris-en-Rattie 109.53 320 *e*PKiKP **PKiKP** **07 57 44.4 0.0**
ORIF Oris-en-Rattie 109.53 320 *e*PKPdf **PKiKP** **07 57 44.4 0.0**
SWSC Sam W. Stewart 109.64 53 ⇓PKiKP **PKiKP** **07 57 45.4 +0.6**
baz=110
H18A Shoshone NF, C 109.68 40 ⇑PKiKP **PKiKP** **07 57 45.4 +0.5**
baz=110
BC3 Big Chuckawall 109.69 52 ⇑PKiKP **PKiKP** **07 57 45.7 +0.6**
baz=110
LOR Lormes 109.69 323 ⇑*i*PKiKP **PKiKP** **07 57 44.6 +0.1**
comp=Z,7.2nm,0.8s
LOR Lormes 109.69 323 ⇑*i*PKPdf **PKiKP** **07 57 44.6 +0.1**
IRM Iron Mountain 109.77 52 ⇑PKiKP **PKiKP** **07 57 46.0 +1.0**
baz=110
C21A Desert Coulee 109.78 36 ⇑PKiKP **PKiKP** **07 57 45.8 +1.0**
baz=110
SMF Signal de Mont 110.00 323 *e*PKiKP **PKiKP** **07 57 45.0 -0.1**
comp=Z,10nm,0.9s
SMF Signal de Mont 110.00 323 *e*PKPdf **PKiKP** **07 57 45.0 -0.1**
SSF Saint Saulge 110.00 323 ⇑*i*PKiKP **PKiKP** **07 57 45.3 +0.2**
comp=Z,14nm,0.8s
SSF Saint Saulge 110.00 323 ⇑*i*PKPdf **PKiKP** **07 57 45.3 +0.2**
H19A Powell 110.12 40 ⇑PKiKP **PKiKP** **07 57 45.6 0.0**
baz=110
B22A Reddig Ranch S 110.18 35 ⇑PKiKP **PKiKP** **07 57 46.1 +0.6**
baz=110
AVF Avril sur Loir 110.23 323 ⇑*i*PKiKP **PKiKP** **07 57 45.3 -0.2**
comp=Z,7.2nm,0.8s
AVF Avril sur Loir 110.23 323 ⇑*i*PKPdf **PKiKP** **07 57 45.3 -0.2**
VIVF Saint-Julien-l 110.33 321 *e*PKiKP **PKiKP** **07 57 46.0 +0.2**
VIVF Saint-Julien-l 110.33 321 *e*PKiKP **PKiKP** **07 57 46.0 +0.2**
VIVF Saint-Julien-l 110.33 321 *e*PKPdf **PKiKP** **07 57 46.0 +0.2**
G20A Bridger 110.35 39 ⇑PKiKP **PKiKP** **07 57 46.5 +0.5**
baz=110
Y12C Blythe 110.40 52 ⇓PKiKP **PKiKP** **07 57 46.2 0.0**
baz=110
E21A Keefer Ranch, 110.42 37 ⇓PKiKP **PKiKP** **07 57 46.6 +0.6**
baz=110
W13A Hualapai Mount 110.45 51 ⇑PKiKP **PKiKP** **07 57 46.8 +0.2**
baz=110
MVU Marysvale 110.48 47 *e*PKPdf **PKiKP** **07 57 47.8 +1.2**
MSU Marysvale 110.50 47 *e*PKiKP **PKiKP** **07 57 47.8 +1.2**
MSU Marysvale 110.50 47 *e*PKPdf **PKiKP** **07 57 47.8 +1.2**
C22A Vida 110.53 36 ⇓PKiKP **PKiKP** **07 57 46.6 +0.4**
baz=110
PDAR Pinedale Array 110.59 42 PKiKP **PKiKP** **07 57 46.8 +0.1**
comp=Z,1.8nm,0.7s,baz=160,slow=2.3,SNR=13
PDAR PKKPbc **PKKPbc** **08 08 46.1 -1.5**
comp=Z,3.2nm,0.8s,baz=101,slow=5.0,SNR=20
PDAR PKKPab **PKKPab** **08 08 56.1 -1.8**
comp=Z,6.5nm,0.9s,baz=103,slow=6.5,SNR=18
D22A Cohagen 110.66 36 ⇓PKiKP **PKiKP** **07 57 47.0 +0.6**
baz=111
B23A Brockton 110.67 35 ⇓PKiKP **PKiKP** **07 57 46.8 +0.5**
baz=111
J19A Crowheart 110.70 41 ⇑PKiKP **PKiKP** **07 57 46.9 +0.2**
baz=111
KEST Kesra 110.76 310 PP PP 07 58 22.3 -3.1
comp=Z,1.9nm,0.9s,baz=48,slow=11,SNR=3.5
H20A Greybull 110.83 39 ⇓PKiKP **PKiKP** **07 57 47.2 +0.3**
baz=111
LAO LASA Array 110.86 37 *e*PKPdf **PKiKP** **07 57 47.9 +1.1**
C23A Lambert 110.91 35 ⇑PKiKP **PKiKP** **07 57 47.5 +0.6**
baz=111
G21A Lodge Grass 110.98 38 ⇑PKiKP **PKiKP** **07 57 47.6 +0.5**
baz=111
A24A Westby 110.99 34 ⇑PKiKP **PKiKP** **07 57 47.4 +0.5**
baz=111
I20A Worland 110.99 40 ⇓PKiKP **PKiKP** **07 57 47.9 +0.6**
baz=111
E22A Miles City 111.15 37 ⇑PKiKP **PKiKP** **07 57 47.8 +0.4**
baz=111
TCF Toulx Ste Croi 111.16 323 ⇑*i*PKiKP **PKiKP** **07 57 47.6 +0.2**
comp=Z,17nm,0.8s
TCF Toulx Ste Croi 111.16 323 ⇑*i*PKiKP **PKiKP** **07 57 47.6 +0.2**
TCF Toulx Ste Croi 111.16 323 ⇑*i*PKPdf **PKiKP** **07 57 47.6 +0.2**
LASF Ste Croix 111.21 320 ⇑*i*PKiKP **PKiKP** **07 57 47.7 +0.2**
LASF Ste Croix 111.21 320 ⇑*i*PKPdf **PKiKP** **07 57 47.7 +0.2**
F22A Rosebud 111.29 38 ⇓PKiKP **PKiKP** **07 57 47.8 +0.2**
baz=111
J20A Shoshoni 111.29 41 ⇑PKiKP **PKiKP** **07 57 48.0 +0.2**
baz=111
113A Mohawk Valley, 111.32 53 ⇑PKiKP **PKiKP** **07 57 48.6 +0.6**
baz=111
H21A Big Horn, Sher 111.36 39 ⇑PKiKP **PKiKP** **07 57 48.0 0.0**
baz=111
SRU San Rafael Swe 111.45 46 *e*PKiKP **PKiKP** **07 57 48.8 +0.5**
SRU San Rafael Swe 111.45 46 *e*PKPdf **PKiKP** **07 57 48.8 +0.5**
A25A Svangstu Ranch 111.47 34 ⇑PKiKP **PKiKP** **07 57 48.2 +0.3**
baz=111
C24A Savage 111.49 35 ⇓PKiKP **PKiKP** **07 57 48.8 +0.8**
baz=111
E23A Ismay 111.50 37 ⇓PKiKP **PKiKP** **07 57 48.7 +0.7**
baz=112
G22A Birney 111.55 38 ⇓PKiKP **PKiKP** **07 57 47.9 -0.3**
baz=112
I21A Big Trails, Te 111.59 40 ⇑PKiKP **PKiKP** **07 57 48.2 -0.2**
baz=112
D24A Glendive 111.76 36 ⇓PKiKP **PKiKP** **07 57 48.7 +0.2**
baz=112
F23A Volborg 111.84 37 ⇓PKiKP **PKiKP** **07 57 49.1 +0.3**
baz=112
CAF Calviac 111.93 322 ⇑*i*PKiKP **PKiKP** **07 57 49.3 +0.5**
comp=Z,25nm,1.1s
CAF Calviac 111.93 322 ⇑*i*PKiKP **PKiKP** **07 57 49.3 +0.5**
CAF Calviac 111.93 322 ⇑*i*PKPdf **PKiKP** **07 57 49.3 +0.5**
C25A Freed Ranch, W 112.06 35 ⇑PKiKP **PKiKP** **07 57 49.9 +0.8**
baz=112
E24A Baker 112.06 36 ⇑PKiKP **PKiKP** **07 57 49.7 +0.6**
baz=112
I22A 9 Mile Ranch, 112.07 39 ⇓PKiKP **PKiKP** **07 57 49.3 0.0**
baz=112
A26A Wade Farm, Ken 112.08 33 ⇓PKiKP **PKiKP** **07 57 49.2 +0.2**
baz=112
K21A Alcova 112.17 41 ⇑PKiKP **PKiKP** **07 57 49.9 +0.3**
baz=112
WUAZ Wupatki 112.22 49 *e*PKPdf **PKiKP** **07 57 51.0 +1.1**
WUAZ Wupatki 112.22 49 ⇓PKiKP **PKiKP** **07 57 51.0 +1.1**
baz=112
J22A Midwest 112.30 40 ⇓PKiKP **PKiKP** **07 57 49.3 -0.5**
baz=112
N20A Spence Gulch, 112.30 43 ⇓PKiKP **PKiKP** **07 57 50.3 +0.3**
baz=112
214A Organ Pipe Nat 112.35 53 ⇑PKiKP **PKiKP** **07 57 50.1 +0.1**
baz=112
F24A Ekalaka 112.35 37 ⇑PKiKP **PKiKP** **07 57 49.6 -0.1**
baz=112
MFF Saint Martin d 112.40 324 ⇑*i*PKiKP **PKiKP** **07 57 49.6 0.0**
comp=Z,30nm,1.1s
MFF Saint Martin d 112.40 324 ⇑*i*PKiKP **PKiKP** **07 57 49.6 0.0**
MFF Saint Martin d 112.40 324 ⇑*i*PKPdf **PKiKP** **07 57 49.6 0.0**
H23A Clabaugh Cattl 112.42 38 ⇑PKiKP **PKiKP** **07 57 50.6 +0.7**
baz=112
X16A Lo Mia Camp, P 112.57 50 ⇑PKiKP **PKiKP** **07 57 51.9 +1.3**
baz=113
MTLF Montolieu 112.60 320 ⇑*i*PKiKP **PKiKP** **07 57 50.2 +0.1**
comp=Z,19nm,1.0s
MTLF Montolieu 112.60 320 ⇑*i*PKiKP **PKiKP** **07 57 50.2 +0.1**
MTLF Montolieu 112.60 320 ⇑*i*PKPdf **PKiKP** **07 57 50.2 +0.1**
O20A White River Ci 112.62 44 *e*PKPdf **PKiKP** **07 57 51.5 +0.9**
O20A White River Ci 112.62 44 ⇓PKiKP **PKiKP** **07 57 51.2 +0.6**
baz=113
E25A Miller Ranch, 112.63 36 ⇑PKiKP **PKiKP** **07 57 51.3 +1.2**
baz=113
K22A Casper 112.63 41 *e*PKPdf **PKiKP** **07 57 50.4 -0.1**
K22A Casper 112.63 41 ⇓PKiKP **PKiKP** **07 57 50.5 +0.1**
baz=113
C26A Wahner Farm, P 112.65 34 ⇓PKiKP **PKiKP** **07 57 50.2 0.0**
baz=113
H24A Dirks Ranch, A 112.85 38 ⇑PKiKP **PKiKP** **07 57 50.8 +0.1**
baz=113
SGMF Saint Gilles 112.86 327 ⇑*i*PKiKP **PKiKP** **07 57 50.3 -0.1**
comp=Z,19nm,0.9s
SGMF Saint Gilles 112.86 327 ⇑*i*PKiKP **PKiKP** **07 57 50.3 -0.1**
SGMF Saint Gilles 112.86 327 ⇑*i*PKPdf **PKiKP** **07 57 50.3 -0.1**
D26A Manning 112.90 35 ⇓PKiKP **PKiKP** **07 57 51.0 +0.3**
baz=113
F25A Bowman 112.90 36 ⇑PKiKP **PKiKP** **07 57 50.8 +0.1**
baz=113
L22A Ellis Ranch, M 112.98 41 ⇓PKiKP **PKiKP** **07 57 51.3 +0.1**
baz=113
A28A Rude Farm, Bot 113.03 32 ⇓PKiKP **PKiKP** **07 57 51.0 +0.2**
baz=113
C27A Sayler Ranch, 113.05 34 ⇓PKiKP **PKiKP** **07 57 51.1 +0.2**
baz=113
K23A Bowen Ranch, D 113.17 40 ⇓PKiKP **PKiKP** **07 57 51.4 0.0**
baz=113
M22A Cedar Creek Ra 113.17 42 ⇑PKiKP **PKiKP** **07 57 51.7 +0.1**
baz=113
E26A Carlson Angus 113.19 35 ⇓PKiKP **PKiKP** **07 57 51.4 +0.2**
baz=113
PV01 Paradox Valley 113.25 46 *e*PKPdf **PKiKP** **07 57 52.9 +1.1**
B28A Dugan Ranch, T 113.25 33 ⇑PKiKP **PKiKP** **07 57 51.5 +0.2**
baz=113
I24A Kuemmerle Ranc 113.25 39 ⇓PKiKP **PKiKP** **07 57 51.0 -0.6**
baz=113
G25A Newell 113.31 37 ⇑PKiKP **PKiKP** **07 57 51.3 -0.3**
baz=113
QUIF Quistinic 113.39 327 *e*PKiKP **PKiKP** **07 57 51.4 -0.1**
comp=Z,10nm,0.7s
QUIF Quistinic 113.39 327 *e*PKiKP **PKiKP** **07 57 51.4 -0.1**
QUIF Quistinic 113.39 327 *e*PKPdf **PKiKP** **07 57 51.4 -0.1**
F26A Lodgepole 113.40 36 ⇓PKiKP **PKiKP** **07 57 51.8 +0.2**
baz=113
L23A Garrett 113.42 41 ⇓PKiKP **PKiKP** **07 57 51.4 -0.6**
baz=113
RSSD Black Hills 113.49 38 *e*PKiKP **PKiKP** **07 57 51.7 -0.4**
RSSD Black Hills 113.49 38 *e*PKPdf **PKiKP** **07 57 51.7 -0.4**
J24A Dixon Ranch, L 113.50 39 ⇓PKiKP **PKiKP** **07 57 51.6 -0.4**
baz=113
N22A Wattenberg Ran 113.54 42 ⇑PKiKP **PKiKP** **07 57 51.9 -0.5**
baz=114
A29A Manning Farm, 113.57 32 ⇓PKiKP **PKiKP** **07 57 51.7 -0.1**
baz=114
W18A Petrified Fore 113.61 49 *e*PKPdf **PKiKP** **07 57 54.1 +1.6**
W18A Petrified Fore 113.61 49 ⇑PKiKP **PKiKP** **07 57 52.5 0.0**
baz=114
X18A Snowflake 113.67 50 ⇓PKiKP **PKiKP** **07 57 53.6 +0.9**
baz=114
MVCO Mesa Verde 113.69 47 *e*PKPdf **PKiKP** **07 57 54.4 +1.7**
MVCO Mesa Verde 113.69 47 ⇓PKiKP **PKiKP** **07 57 53.8 +1.1**
baz=114
K24A Anderson Ranch 113.70 40 ⇓PKiKP **PKiKP** **07 57 52.1 -0.4**
baz=114
I25A Rochford 113.73 38 ⇓PKiKP **PKiKP** **07 57 52.3 -0.2**
baz=114
E27A Carson 113.73 35 ⇓PKiKP **PKiKP** **07 57 52.6 +0.3**
baz=114
G26A Maurine 113.75 37 ⇑PKiKP **PKiKP** **07 57 52.5 +0.1**
baz=114
F27A Lemmon 113.77 36 ⇑PKiKP **PKiKP** **07 57 52.7 +0.3**
baz=114
O22A Kremmling 113.77 43 ⇑PKiKP **PKiKP** **07 57 52.8 -0.1**
baz=114
B29A Wagenman Farm, 113.78 32 ⇑PKiKP **PKiKP** **07 57 52.7 +0.5**
baz=114
TUC Tucson 113.84 52 *e*PKiKP **PKiKP** **07 57 54.1 +1.2**
TUC Tucson 113.84 52 *e*PKPdf **PKiKP** **07 57 54.1 +1.2**
N23A Red Feather La 113.84 42 ⇑PKiKP **PKiKP** **07 57 53.2 +0.3**
baz=114
D28A Regan 113.86 34 ⇑PKiKP **PKiKP** **07 57 52.7 +0.2**
baz=114
P22A Eagle 113.89 44 ⇑PKiKP **PKiKP** **07 57 53.6 +0.6**
baz=114
SMCO Snowmass 113.92 44 *e*PKPdf **PKiKP** **07 57 54.3 +0.9**
H26A Fairpoint 114.00 37 ⇓PKiKP **PKiKP** **07 57 53.2 +0.3**
baz=114
J25A Sunshine Ranch 114.01 39 ⇑PKiKP PKPdf 07 57 52.9 0.0
baz=114
MDND Maddock 114.01 33 ⇑PKiKP PKPdf 07 57 52.3 -0.4
baz=114
A30A Hoffart Farm, 114.05 32 ⇑PKiKP PKPdf 07 57 52.6 -0.2
baz=114
G27A Dupree 114.10 36 ⇑PKiKP PKPdf 07 57 53.0 0.0
baz=114
O23A Lake Granby, G 114.18 43 ⇑PKiKP **PKiKP** **07 57 54.3 +0.6**
baz=114
I26A New Underwood 114.26 38 ⇑PKiKP PKPdf 07 57 52.7 -0.7
baz=114
M24A Cheyenne 114.31 41 ⇓PKiKP **PKiKP** **07 57 54.0 +0.3**
baz=114
B30A Myrvik Farm, E 114.34 32 ⇓PKiKP PKPdf 07 57 52.8 -0.5
baz=114
K25A Mack Ranch, Ha 114.36 40 ⇑PKiKP PKPdf 07 57 53.7 0.0
baz=114
H27A Howes 114.41 37 ⇑PKiKP PKPdf 07 57 53.4 -0.3
baz=114
ULM Lac du Bonnet 114.45 29 PKP PKPdf 07 57 52.1 -1.3

comp=Z,5.4nm,0.7s,baz=306,slow=1.3,SNR=8.2
ULM PKKPbc **PKKPbc** 08 08 36.7 +2.0
comp=Z,11nm,0.7s,baz=138,slow=3.9,SNR=13
D29A **Pettibone, Tap** 114.48 34 ⇑PKiKP PKPdf 07 57 54.1 +0.4
baz=114
F28A **McLaughlin** 114.50 35 ⇑PKiKP PKPdf 07 57 53.7 0.0
baz=114
J26A **Sides Ranch, S** 114.50 39 ⇓PKiKP **PKiKP** **07 57 53.6 -0.3**
baz=114
L25A **Engebretsen Ra** 114.53 40 ⇑PKiKP **PKiKP** **07 57 54.0 0.0**
baz=114
ISCO **Idaho Springs** 114.58 43 *e*PKIKP PKPdf 07 57 54.9 +0.5
ISCO **Idaho Springs** 114.58 43 *e*PKPdf PKPdf 07 57 54.9 +0.4
ISCO **Idaho Springs** 114.58 43 ⇓PKiKP PKPdf 07 57 54.5 +0.1
baz=114
N24A **Carr** 114.58 42 ⇑PKiKP PKPdf 07 57 54.7 +0.5
baz=114
ETSF **Etsaut** 114.58 321 ⇑*i*PKIKP PKPdf 07 57 54.8 +0.8
comp=Z,20nm,1.1s
ETSF **Etsaut** 114.58 321 ⇑*i*PKIKP PKPdf 07 57 54.8 +0.8
ETSF **Etsaut** 114.58 321 ⇑*i*PKPdf PKPdf 07 57 54.8 +0.8
P23A **Jefferson** 114.62 44 ⇓PKiKP PKPdf 07 57 55.2 +0.6
baz=115
C30A **Mose, Pekin** 114.71 33 ⇑PKiKP PKPdf 07 57 54.3 +0.2
baz=115
I27A **Quinn** 114.73 38 ⇑PKiKP **PKiKP** **07 57 54.2 -0.1**
baz=115
K26A **Motz Farm, Whi** 114.75 39 ⇓PKiKP **PKiKP** **07 57 53.6 -0.8**
baz=115
Q23A **Hartsel** 114.84 44 ⇑PKiKP PKPdf 07 57 56.0 +1.0
baz=115
G28A **Parade** 114.86 36 ⇓PKiKP **PKiKP** **07 57 54.4 -0.1**
baz=115
SJPF **Ste Jean** 114.89 321 *e*PKIKP PKPdf 07 57 54.3 -0.2
comp=Z,11nm,0.9s
SJPF **Ste Jean** 114.89 321 *e*PKIKP PKPdf 07 57 54.3 -0.2
SJPF **Ste Jean** 114.89 321 *e*PKPdf PKPdf 07 57 54.3 -0.2
D30A **Buchanan** 114.92 33 ⇑PKiKP PKPdf 07 57 54.5 0.0
baz=115
F29A **Eureka** 115.06 35 ⇑PKiKP **PKiKP** **07 57 54.6 -0.2**
baz=115
R23A **Moffat** 115.17 45 ⇓PKiKP **PKPdf** **07 57 56.4 +0.8**
baz=115
E30A **Jud** 115.19 34 ⇓PKiKP **PKPdf** **07 57 55.1 0.0**
baz=115
J27A **Elkhorn Farm,** 115.20 38 ⇓PKiKP **PKPdf** **07 57 55.3 +0.1**
baz=115
Q24A **Divide** 115.28 44 ⇑PKiKP **PKiKP** **07 57 55.7 -0.1**
baz=115
I28A **Midland** 115.31 37 ⇓PKiKP **PKiKP** **07 57 54.9 -0.4**
baz=115
K27A **Flueckinger Fa** 115.34 39 ⇓PKiKP **PKiKP** **07 57 55.2 -0.4**
baz=115
319A **Douglas** 115.37 53 ⇑PKiKP **PKPdf** **07 57 56.9 +0.9**
baz=115
G29A **Hoven** 115.38 36 ⇓PKiKP **PKiKP** **07 57 55.0 -0.4**
baz=115
M26A **McRoberts Ranc** 115.41 40 ⇓PKiKP **PKiKP** **07 57 55.5 -0.2**
baz=115
F30A **Leola** 115.52 35 ⇑PKiKP **PKiKP** **07 57 55.5 -0.2**
baz=115
H29A **Onida** 115.53 36 ⇓PKiKP **PKiKP** **07 57 55.6 -0.1**
baz=116
J28A **Allard Ranch,** 115.58 38 ⇓PKiKP **PKiKP** **07 57 55.5 -0.4**
baz=116
SDCO **Great Sand Dun** 115.60 45 *e*PKPdf **PKPdf** **07 57 56.9 +0.5**
SDCO **Great Sand Dun** 115.60 45 ⇓PKiKP **PKPdf** **07 57 56.5 +0.1**
baz=116
L27A **T5 Ranch, Ells** 115.62 39 ⇑PKiKP **PKiKP** **07 57 55.5 -0.6**
baz=116
AGMN **Agassiz Nation** 115.72 31 ⇓PKiKP **PKiKP** **07 57 55.4 -0.5**
baz=116
I29A **Vivian Onida** 115.81 37 ⇑PKiKP **PKiKP** **07 57 56.0 -0.3**
baz=116
G30A **Faulkton** 115.86 35 ⇑PKiKP **PKiKP** **07 57 56.0 -0.4**
baz=116
K28A **Ten Mile Ranch** 115.88 38 ⇑PKiKP **PKiKP** **07 57 56.2 -0.4**
baz=116
121A **Cookes Peak, D** 116.11 51 *e*PKPdf **PKPdf** **07 57 58.5 +1.0**
121A **Cookes Peak, D** 116.11 51 ⇑PKiKP **PKPdf** **07 57 58.4 +1.0**
baz=116
ANMO **Albuquerque** 116.14 48 *e*PKIKP **PKPdf** **07 57 58.2 +0.8**
ANMO **Albuquerque** 116.14 48 *e*PKPdf **PKPdf** **07 57 58.2 +0.8**
N27A **Anderson Farm,** 116.14 41 ⇓PKiKP **PKPdf** **07 57 57.0 -0.1**
baz=116
J29A **Okreek** 116.14 37 ⇓PKiKP **PKPdf** **07 57 56.9 -0.1**
baz=116
P26A **Davis Ranch, A** 116.23 42 ⇑PKiKP **PKiKP** **07 57 57.5 +0.1**
baz=116
BRSD **Miller** 116.37 36 *e*PKPdf **PKPdf** **07 57 57.3 0.0**
BRSD **Miller** 116.37 36 ⇓PKiKP **PKPdf** **07 57 56.9 -0.4**
baz=116
I30A **Oacoma** 116.40 37 ⇓PKiKP **PKPdf** **07 57 57.3 -0.2**
baz=116
Q26A **Hugo** 116.42 43 ⇓PKiKP **PKiKP** **07 57 58.1 +0.2**
baz=116
O27A **Beecher Island** 116.49 41 ⇓PKiKP **PKPdf** **07 57 57.8 -0.1**
baz=116
K29A **Lazy Trails An** 116.50 38 ⇓PKiKP **PKPdf** **07 57 57.7 0.0**
baz=116
T25A **Trinidad** 116.65 45 ⇑PKiKP **PKiKP** **07 57 58.9 +0.5**
baz=117
J30A **Dallas** 116.69 37 ⇑PKiKP **PKPdf** **07 57 57.7 -0.3**
baz=117
P27A **Ficken Ranch,** 116.74 42 ⇓PKiKP **PKPdf** **07 57 58.1 -0.3**
baz=117
R26A **Arlington** 116.77 44 ⇓PKiKP **PKiKP** **07 57 58.5 +0.1**
baz=117
L29A **Maesberg Ranch** 116.79 39 ⇓PKiKP **PKPdf** **07 57 57.9 -0.5**
baz=117
N28A **Pribbeno Ranch** 116.85 40 ⇓PKiKP **PKPdf** **07 57 58.4 -0.1**
baz=117
KSCO **Kaye Shedlock'** 116.98 43 ⇓PKiKP **PKiKP** **07 57 58.9 +0.1**
baz=117
K30A **Basset** 116.98 38 ⇑PKiKP **PKPdf** **07 57 58.5 -0.1**
baz=117
O28A **Krutsinger Ran** 116.99 41 ⇑PKiKP **PKiKP** **07 57 58.9 +0.1**
baz=117
M29A **Burnside Ranch** 116.99 39 ⇓PKiKP **PKPdf** **07 57 58.7 0.0**
baz=117
S26A **Kim** 117.08 44 ⇓PKiKP **PKiKP** **07 57 59.5 +0.4**
baz=117
T26A **Comanche Natio** 117.21 45 ⇑PKiKP **PKiKP** **07 57 60.0 +0.5**
baz=117
R27A **Eads** 117.23 43 ⇑PKiKP **PKiKP** **07 57 60.0 +0.6**
baz=117
P28A **Saint Francis** 117.28 42 ⇓PKiKP **PKPdf** **07 57 59.2 -0.2**
baz=117
L30A **Spencer Herefo** 117.32 38 ⇓PKiKP **PKPdf** **07 57 58.5 -0.8**
baz=117
N29A **Votaw Ranch, W** 117.37 40 ⇓PKiKP **PKPdf** **07 57 59.1 -0.4**
baz=117
M30A **Dale-Ortello V** 117.45 39 ⇓PKiKP **PKiKP** **07 57 59.8 +0.2**
baz=117
Q28A **Sharon Springs** 117.49 42 ⇓PKiKP **PKPdf** **07 57 59.8 0.0**
baz=117
O29A **4D Ranch, Culb** 117.62 41 ⇑PKiKP **PKPdf** **07 57 59.8 -0.2**
baz=118
N30A **Hueftle Ranch,** 117.72 40 ⇑PKiKP **PKPdf** **07 58 00.0 -0.1**
baz=118
L31A **Butterfield Fa** 117.74 38 ⇑PKiKP **PKPdf** **07 57 59.6 -0.5**
baz=118
P29A **Atwood** 117.81 41 ⇑PKiKP **PKPdf** **07 58 00.1 -0.2**
baz=118
R28A **Tribune** 117.87 43 ⇓PKiKP **PKiKP** **07 58 00.7 +0.2**
baz=118
T27A **Campo** 117.88 45 ⇑PKiKP **PKPdf** **07 58 00.5 -0.2**
baz=118
O30A **MW Ranch, Wils** 118.08 40 ⇓PKiKP **PKPdf** **07 58 00.8 0.0**
baz=118
U27A **Thompson Grove** 118.11 45 ⇑PKiKP **PKiKP** **07 58 01.5 +0.4**
baz=118
M31A **Lambtecht Ranc** 118.12 39 ⇓PKiKP **PKPdf** **07 58 00.3 -0.6**
baz=118
ECSD **EROS Data Cent** 118.15 35 *e*PKPdf **PKPdf** **07 58 00.5 -0.3**
ECSD **EROS Data Cent** 118.15 35 ⇑PKiKP **PKPdf** **07 58 00.8 0.0**
baz=118
Q29A **Oakley** 118.15 42 ⇑PKiKP **PKiKP** **07 58 01.2 +0.1**
baz=118
TAM **Tamanrasset** 118.15 298 *e*PKIKP **PKPdf** **07 58 02.2 +0.6**
TAM **Tamanrasset** 118.15 298 *e*PKPdf **PKPdf** **07 58 02.2 +0.6**
S28A **Manter** 118.19 44 ⇓PKiKP **PKiKP** **07 58 01.2 0.0**
baz=118
T28A **Walsh** 118.27 44 ⇓PKiKP **PKiKP** **07 58 01.5 +0.1**
baz=118
R29A **Marienthal** 118.28 42 ⇓PKiKP **PKiKP** **07 58 01.8 +0.5**
baz=118
P30A **Selden** 118.29 41 ⇓PKiKP **PKPdf** **07 58 01.1 -0.1**
baz=118
MNTX **Cornudas Mount** 118.31 51 *e*PKPdf **PKPdf** **07 58 02.5 +1.0**
MNTX **Cornudas Mount** 118.31 51 ⇑PKiKP **PKiKP** **07 58 02.3 +0.8**
baz=118
V27A **Dan Oppiter Fa** 118.42 46 ⇓PKiKP **PKiKP** **07 58 02.2 +0.5**
baz=118
ESDC **Sonseca Array** 118.46 319 PKP **PKPdf** **07 58 01.9 +0.3**
comp=Z,1.4nm,0.6s,baz=30,slow=3.4,SNR=11
ESDC PP **PP** **07 59 16.6 -2.8**
comp=Z,7.1nm,1.0s,baz=59,slow=7.1,SNR=6.1
ESDC PKKPbc **PKKPbc** 08 08 19.9 -0.5
comp=Z,0.5nm,0.4s,baz=245,slow=4.3,SNR=7.9
U28A **Mallet** 118.56 45 ⇑PKiKP **PKPdf** **07 58 01.7 -0.3**
baz=118
BGNE **Belgrade** 118.60 38 *e*PKPdf **PKPdf** **07 58 01.4 -0.4**
BGNE **Belgrade** 118.60 38 ⇑PKiKP **PKPdf** **07 58 01.3 -0.4**
baz=118
Q30A **Quinter** 118.61 42 ⇓PKiKP **PKiKP** **07 58 02.1 +0.2**
baz=119
S29A **Ulysses** 118.71 43 ⇓PKiKP **PKPdf** **07 58 02.0 -0.1**
baz=119
PAB **San Pablo** 118.78 319 *e*PKIKP **PKPdf** **07 58 02.6 +0.3**
PAB **San Pablo** 118.78 319 *e*PKPdf **PKPdf** **07 58 02.6 +0.3**
T29A **Hugoton** 118.82 44 ⇓PKiKP **PKiKP** **07 58 02.7 +0.2**
baz=119
V28A **Channing** 118.86 46 ⇓PKiKP **PKiKP** **07 58 03.2 +0.6**
baz=119
P31A **Stockton** 118.87 41 ⇑PKiKP **PKiKP** **07 58 02.4 0.0**
baz=119
N32A **Stulken Farm,** 118.87 39 ⇓PKiKP **PKPdf** **07 58 01.9 -0.4**
baz=119
W28A **Vega** 119.11 46 ⇓PKiKP **PKiKP** **07 58 03.6 +0.5**
baz=119
Q31A **Ellis** 119.14 41 ⇓PKiKP **PKiKP** **07 58 03.0 0.0**
baz=119
O32A **Brockman Farm,** 119.17 39 ⇑PKiKP **PKPdf** **07 58 02.3 -0.6**
baz=119
U29A **Oasis Ranch, S** 119.19 44 ⇑PKiKP **PKPdf** **07 58 02.9 -0.2**
baz=119
MSTX **Muleshoe** 119.30 48 *e*PKPdf **PKPdf** **07 58 03.7 +0.3**
MSTX **Muleshoe** 119.30 48 ⇑PKiKP **PKPdf** **07 58 03.8 +0.3**
baz=119
V29A **Stinnett** 119.30 45 ⇓PKiKP **PKiKP** **07 58 03.9 +0.5**
baz=119
SPMN **Marine on St.** 119.31 32 *e*PKPdf **PKPdf** **07 58 02.6 -0.4**
SPMN **Marine on St.** 119.31 32 ⇓PKiKP **PKPdf** **07 58 02.9 0.0**
baz=119
P32A **Huiting Farm,** 119.32 40 ⇑PKiKP **PKiKP** **07 58 03.4 +0.1**
baz=119
T30A **Plains** 119.40 44 ⇑PKiKP **PKiKP** **07 58 03.9 +0.3**
baz=119
R31A **Burdett** 119.44 42 ⇑PKiKP **PKiKP** **07 58 03.8 +0.2**
baz=119
X28A **Dimmitt** 119.46 47 ⇑PKiKP **PKiKP** **07 58 04.4 +0.6**
baz=119
MVO **Moncorvo** 119.56 322 PKPdf **PKPdf** **07 58 04.3 +0.6**
W29A **Amarillo** 119.57 46 ⇓PKiKP **PKiKP** **07 58 04.3 +0.3**
baz=120
U30A **WK&E Inc. Balk** 119.58 44 ⇑PKiKP **PKiKP** **07 58 04.5 +0.6**
baz=120
AMTX **Amarillo** 119.66 46 ⇑PKiKP **PKiKP** **07 58 04.5 +0.3**
baz=120
Q32A **Meitler Ranch,** 119.69 41 ⇓PKiKP **PKiKP** **07 58 04.1 +0.1**
baz=120
Y28A **McKinney Farm,** 119.71 47 ⇑PKiKP **PKiKP** **07 58 04.6 +0.3**
baz=120
PGAV **Gavieira, Arco** 119.83 324 PKPdf PKPdf 07 58 24.5 +20
PCAB **Cabril** 119.84 323 PKPdf **PKPdf** **07 58 04.8 +0.7**
X29A **Tulia** 119.86 47 ⇑PKiKP **PKiKP** **07 58 04.9 +0.3**
baz=120
Z28A **Tucker Farm, M** 119.89 48 ⇓PKiKP **PKPdf** **07 58 04.5 0.0**
baz=120
POLO **Lamas de Olo** 119.90 323 PKPdf **PKPdf** **07 58 04.9 +0.5**
R32A **Long Quarter,** 119.90 41 ⇓PKiKP **PKiKP** **07 58 04.8 +0.4**
baz=120
PVRL **Vila Real** 119.91 323 PKPdf **PKPdf** **07 58 05.2 +0.9**
V30A **Spur Ranch, Mi** 119.94 45 ⇓PKiKP **PKiKP** **07 58 05.4 +0.7**
baz=120
128A **Castleberry Fa** 120.13 49 ⇓PKiKP **PKiKP** **07 58 05.3 +0.2**
baz=120
S32A **Newby Ranch, P** 120.14 42 ⇑PKiKP **PKiKP** **07 58 05.2 +0.2**
baz=120
Y29A **Porterfield Fa** 120.16 47 ⇓PKiKP **PKiKP** **07 58 05.6 +0.5**
baz=120
Q33A **Connelly Farm,** 120.16 40 ⇑PKiKP **PKiKP** **07 58 04.9 0.0**
baz=120
U31A **Nine Bar Ranch** 120.22 44 ⇓PKiKP **PKiKP** **07 58 05.7 +0.6**
baz=120
228A **UT Block 9, Go** 120.27 49 ⇑PKiKP **PKiKP** **07 58 05.8 +0.4**
baz=120
MTE **Manteigas** 120.33 322 PKPdf **PKPdf** **07 58 06.0 +0.8**
MTE **Manteigas** 120.33 322 *e*PKPdf **PKPdf** **07 58 05.5 +0.3**
PVIS **Viseu** 120.35 322 PKPdf **PKPdf** **07 58 06.0 +0.8**
Z29A **Hungry Hill Ra** 120.41 48 ⇓PKiKP **PKiKP** **07 58 05.8 +0.2**
baz=120
T32A **Huddler Ranch,** 120.43 43 ⇑PKiKP **PKiKP** **07 58 05.7 +0.2**
baz=120
R33A **Olander Ranch,** 120.44 41 ⇓PKiKP **PKiKP** **07 58 05.5 0.0**
baz=120
X30A **Coker Ranch, T** 120.46 46 ⇓PKiKP **PKiKP** **07 58 06.1 +0.4**
baz=120
SCHQ **Schefferville** 120.50 10 PKP **PKPdf** **07 58 04.9 -0.1**
comp=Z,9.4nm,0.8s,baz=21,slow=4.5,SNR=8.0
SCHQ PKKPab **PKKPbc** 08 08 12.9 -0.4
comp=Z,4.8nm,1.0s,baz=128,slow=3.3,SNR=3.7
V31A **Spring Creek L** 120.53 44 ⇓PKiKP **PKiKP** **07 58 06.2 +0.4**
baz=120
COWI **Conover** 120.58 29 *e*PKPdf **PKPdf** **07 58 05.2 -0.2**
129A **Stewart Farms,** 120.59 49 ⇓PKiKP **PKiKP** **07 58 06.2 +0.1**
baz=121
PCBR **Castelo Branco** 120.61 321 PKPdf **PKPdf** **07 58 06.4 +0.8**
TXAR **Lajitas Array** 120.63 53 PKP **PKPdf** **07 58 06.7 +0.5**
comp=Z,9.6nm,0.8s,baz=246,slow=0.5,SNR=117
TXAR PKKPab **PKKPbc** 08 08 12.4 +0.3
comp=Z,2.8nm,0.8s,baz=138,slow=6.3,SNR=18
Y30A **Stafford Cattl** 120.72 47 ⇓PKiKP **PKiKP** **07 58 06.5 +0.3**
baz=121
W31A **Holland Ranch,** 120.75 45 ⇓PKiKP **PKiKP** **07 58 06.8 +0.6**
baz=121
PMRV **Marv??o** 120.80 321 PKPdf **PKPdf** **07 58 06.5 +0.5**
U32A **Winter Ranch,** 120.80 43 ⇑PKiKP **PKiKP** **07 58 06.6 +0.4**
baz=121
Z30A **Sanderson Ranc** 120.83 48 ⇓PKiKP **PKPdf** **07 58 06.3 0.0**
baz=121
KSU1 **Kansas State U** 120.89 40 *e*PKPdf **PKPdf** **07 58 06.2 0.0**
KSU1 **Kansas State U** 120.89 40 ⇑PKiKP **PKiKP** **07 58 06.4 +0.1**
baz=121
229A **Bryant Ranch,** 120.93 49 ⇓PKiKP **PKPdf** **07 58 06.6 0.0**
baz=121
T33A **Patterson Ranc** 120.94 42 ⇓PKiKP **PKiKP** **07 58 07.0 +0.5**
baz=121
X31A **McDonald Ranch** 121.01 46 ⇑PKiKP **PKiKP** **07 58 06.8 +0.1**
baz=121
329A **Wagon Wheel Ra** 121.02 50 ⇓PKiKP **PKiKP** **07 58 07.1 +0.2**
baz=121
V32A **Arapaho** 121.11 44 ⇓PKiKP **PKiKP** **07 58 07.2 +0.3**
baz=121
PCAS **Casmilo, Conde** 121.12 322 PKPdf **PKPdf** **07 58 06.9 +0.3**
Y31A **Rekieta Farm,** 121.14 47 ⇑PKiKP **PKiKP** **07 58 07.3 +0.3**
baz=121
SCIA **State Center** 121.24 35 *e*PKPdf **PKPdf** **07 58 06.8 0.0**
PESTR **Estremoz** 121.25 320 PKPdf **PKPdf** **07 58 07.6 +0.7**
130A **Snyder** 121.27 48 ⇓PKiKP **PKiKP** **07 58 07.4 0.0**
baz=121
W32A **Sentinel** 121.28 45 ⇓PKiKP **PKiKP** **07 58 07.5 +0.2**
baz=121
PBAR **Barrancos** 121.29 319 PKPdf **PKPdf** **07 58 07.4 +0.4**
S34A **Willow Spring** 121.35 41 ⇑PKiKP **PKPdf** **07 58 07.2 0.0**
baz=121
U33A **Lingo Farm, Me** 121.38 43 ⇓PKiKP **PKiKP** **07 58 07.3 -0.1**
baz=121
529A **Stev Forest Ra** 121.44 51 ⇑PKiKP **PKiKP** **07 58 08.3 +0.6**
baz=121
429A **Davenport Ranc** 121.47 51 ⇓PKiKP **PKiKP** **07 58 08.3 +0.6**
baz=122
230A **Sterling City** 121.49 49 ⇑PKiKP **PKiKP** **07 58 07.9 +0.1**
baz=122
PMTG **Montargil** 121.53 321 PKPdf **PKPdf** **07 58 07.9 +0.5**
Z31A **Sharp Cattle R** 121.54 47 ⇓PKiKP **PKiKP** **07 58 07.9 +0.1**
baz=122
V33A **Lossen Ranch,** 121.58 44 ⇑PKiKP **PKiKP** **07 58 08.0 +0.2**
baz=122
X32A **Elmer** 121.61 46 ⇓PKiKP **PKiKP** **07 58 08.2 +0.3**
baz=122
131A **Roby** 121.67 48 ⇑PKiKP **PKiKP** **07 58 08.2 +0.1**
baz=122
330A **Mertzon** 121.67 50 ⇑PKiKP **PKPdf** **07 58 07.9 -0.1**
baz=122
Y32A **R-V Farms, Ver** 121.71 46 ⇓PKiKP **PKiKP** **07 58 08.1 0.0**
baz=122
EVO **Evora** 121.71 320 ⇑*i*PKIKP **PKPdf** **07 58 08.6 +0.8**
comp=Z,107nm,1.2s
EVO **Evora** 121.71 320 PKPdf **PKPdf** **07 58 08.8 +1.0**
U34A **Anderson Ranch** 121.77 43 *e*PKPdf **PKPdf** **07 58 07.7 -0.2**
U34A **Anderson Ranch** 121.77 43 ⇑PKiKP **PKiKP** **07 58 08.1 -0.1**
baz=122
EVOP **Sao Brissos** 121.78 320 ⇑*i*PKIKP **PKPdf** **07 58 08.6 +0.7**
EVOP **Sao Brissos** 121.78 320 ⇑*i*PKPdf **PKPdf** **07 58 08.6 +0.7**
WMOK **Wichita Mounta** 121.81 45 *e*PKIKP **PKPdf** **07 58 08.0 -0.1**
WMOK **Wichita Mounta** 121.81 45 *e*PKPdf **PKPdf** **07 58 08.0 -0.1**
W33A **Caddo, Fort Co** 121.81 44 ⇓PKiKP **PKPdf** **07 58 08.7 +0.4**
baz=122
S35A **Otter Creek Ra** 121.88 41 ⇓PKiKP **PKiKP** **07 58 08.3 0.0**
baz=122
430A **Baggett Ranch,** 121.90 50 ⇑PKiKP **PKiKP** **07 58 08.9 +0.2**
baz=122
Z32A **Haskell** 122.03 47 ⇑PKiKP **PKiKP** **07 58 09.1 +0.3**
baz=122
R36A **Gordon, Harris** 122.04 40 ⇑PKiKP **PKPdf** **07 58 08.1 -0.4**
baz=122
231A **Bronte** 122.07 49 ⇓PKiKP **PKiKP** **07 58 08.9 0.0**
baz=122
X33A **Lawton** 122.10 45 ⇑PKiKP **PKiKP** **07 58 08.9 +0.1**
baz=122
V34A **Guthrie** 122.11 43 *e*PKPdf **PKPdf** **07 58 08.8 +0.1**
V34A **Guthrie** 122.11 43 ⇑PKiKP **PKiKP** **07 58 08.9 +0.1**
baz=122
530A **J-C Ranch, Com** 122.11 51 ⇓PKiKP **PKiKP** **07 58 09.6 +0.5**
baz=122
PVAQ **Vaqueiros** 122.17 319 PKPdf **PKPdf** **07 58 09.3 +0.6**
JFWS **Jewell Farm** 122.23 33 *e*PKIKP **PKPdf** **07 58 08.0 -0.7**
JFWS **Jewell Farm** 122.23 33 *e*PKPdf **PKPdf** **07 58 08.0 -0.7**
ABTX **Abilene, Hawle** 122.24 48 *e*PKPdf **PKPdf** **07 58 09.6 +0.5**
ABTX **Abilene, Hawle** 122.24 48 ⇑PKiKP **PKiKP** **07 58 09.4 +0.2**
baz=122
MESJ **Messejana** 122.24 320 *e*P **PKPdf** **07 58 09.4 +0.6**
MESJ **Messejana** 122.24 320 PKPdf **PKPdf** **07 58 09.6 +0.8**
W34A **Bridge Creek,** 122.25 44 *e*PKPdf **PKPdf** **07 58 09.0 +0.1**
W34A **Bridge Creek,** 122.25 44 ⇓PKiKP **PKiKP** **07 58 09.2 +0.1**
baz=122
331A **San Angelo** 122.28 49 ⇑PKiKP **PKPdf** **07 58 09.0 -0.2**
baz=122
PNCL **Nicolau / Gran** 122.28 320 PKPdf **PKPdf** **07 58 09.6 +0.7**
Y33A **Hilltop Ranch,** 122.29 46 ⇓PKiKP **PKiKP** **07 58 09.3 +0.1**
baz=122
S36A **Lake Cedric, C** 122.33 40 ⇑PKiKP **PKiKP** **07 58 09.1 -0.1**
baz=122
Q37A **Longview Farm,** 122.38 39 ⇓PKiKP **PKPdf** **07 58 08.3 -0.7**
baz=122
PBDV **Barranco-do-Ve** 122.40 319 PKPdf **PKPdf** **07 58 10.1 +0.9**
431A **Sonora** 122.43 50 ⇓PKiKP **PKiKP** **07 58 09.8 +0.1**
baz=122
R37A **Teagarden Farm** 122.48 39 ⇓PKiKP **PKPdf** **07 58 08.9 -0.4**
baz=122
X34A **Smith Ranch, M** 122.54 45 ⇑PKiKP **PKiKP** **07 58 10.3 +0.6**
baz=122
Z33A **Whitaker Ranch** 122.55 46 ⇓PKiKP **PKiKP** **07 58 10.2 +0.4**
baz=122
232A **Coleman** 122.59 48 ⇑PKiKP **PKiKP** **07 58 10.2 +0.2**
baz=123
V35A **Meyer Ranch, C** 122.61 43 ⇑PKiKP **PKiKP** **07 58 09.9 +0.1**
baz=123
531A **Rocksprings** 122.72 51 ⇓PKiKP **PKiKP** **07 58 10.7 +0.5**
baz=123
PTEO **Sao Teotonio** 122.74 320 PKPdf **PKPdf** **07 58 10.4 +0.6**
332A **Millersview** 122.76 49 ⇑PKiKP **PKiKP** **07 58 10.6 +0.3**
baz=123
133A **Hamilton Ranch** 122.78 47 ⇑PKiKP **PKiKP** **07 58 10.6 +0.4**
baz=123
MORF **Marmelete** 122.83 319 *e*P **PKPdf** **07 58 10.7 +0.6**
MORF **Marmelete** 122.83 319 PKPdf **PKPdf** **07 58 11.3 +1.3**
W35A **Tecumseh** 122.92 44 ⇓PKiKP **PKiKP** **07 58 10.5 0.0**
baz=123
Y34A **Reagan Ranch,** 122.93 45 ⇓PKiKP **PKiKP** **07 58 10.5 0.0**
baz=123
432A **Menard** 122.96 49 ⇓PKiKP **PKiKP** **07 58 10.7 0.0**
baz=123
631A **Perdido Creek** 123.03 51 ⇑PKiKP **PKiKP** **07 58 11.2 +0.4**
baz=123
PFVI **Vila Bisbo** 123.05 319 PKPdf **PKPdf** **07 58 11.5 +1.1**
233A **Rising Star** 123.08 48 ⇑PKiKP **PKiKP** **07 58 11.1 +0.2**
baz=123
Z34A **Collier Ranch,** 123.12 46 ⇑PKiKP **PKiKP** **07 58 11.0 +0.1**
baz=123
JCT **Junction City** 123.14 50 *e*PKIKP **PKPdf** **07 58 11.1 +0.3**
JCT **Junction City** 123.14 50 *e*PKPdf **PKPdf** **07 58 11.1 +0.3**
JCT **Junction City** 123.14 50 ⇓PKiKP **PKPdf** **07 58 11.1 +0.3**
baz=123
532A **Rocksprings** 123.23 50 ⇓PKiKP **PKiKP** **07 58 11.2 -0.1**
baz=123
TUL1 **Leonard** 123.23 42 *e*PKPdf **PKPdf** **07 58 10.7 -0.1**
TUL1 **Leonard** 123.23 42 ⇑PKiKP **PKiKP** **07 58 11.1 0.0**
baz=123
X35A **Drake** 123.25 44 ⇓PKiKP **PKPdf** **07 58 10.7 -0.2**
baz=123
333A **Richland Sprin** 123.36 49 ⇑PKiKP **PKiKP** **07 58 11.5 +0.1**
baz=123
W36A **Wetumka** 123.37 43 ⇓PKiKP **PKiKP** **07 58 11.5 +0.2**
baz=123
134A **White-Moore Ra** 123.41 47 ⇑PKiKP **PKiKP** **07 58 11.9 +0.4**
baz=123
433A **Art** 123.55 49 ⇑PKiKP **PKiKP** **07 58 11.7 -0.1**
baz=124
X36A **Centrahoma** 123.59 44 ⇓PKiKP **PKiKP** **07 58 11.9 +0.1**
baz=124
632A **Uvalde** 123.60 51 ⇓PKiKP **PKiKP** **07 58 12.4 +0.4**
baz=124
Z35A **Perchaven, San** 123.62 46 ⇓PKiKP **PKiKP** **07 58 12.1 +0.3**
baz=124
234A **Clairette** 123.66 47 ⇑PKiKP **PKiKP** **07 58 12.1 +0.1**
baz=124
GLMI **Grayling** 123.67 28 *e*PKPdf **PKPdf** **07 58 11.9 +0.5**
732A **Laxson Ranch,** 123.81 52 ⇑PKiKP **PKiKP** **07 58 12.8 +0.5**
baz=124
135A **Vickery Place,** 123.91 47 ⇓PKiKP **PKiKP** **07 58 13.0 +0.5**
baz=124
W37A **Quinton** 123.91 43 ⇓PKiKP **PKiKP** **07 58 12.7 +0.3**
baz=124
334A **Lometa** 123.91 48 ⇓PKiKP **PKiKP** **07 58 12.6 +0.1**
baz=124
533A **Kerrville** 123.92 50 ⇓PKiKP **PKiKP** **07 58 12.5 -0.1**
baz=124
832A **Faith Ranch, C** 124.01 52 ⇓PKiKP **PKiKP** **07 58 13.4 +0.6**
baz=124
633A **Saathoff Ranch** 124.10 51 ⇑PKiKP **PKiKP** **07 58 13.3 +0.3**
baz=124
434A **Burnet** 124.14 49 ⇑PKiKP **PKPdf** **07 58 12.7 0.0**
baz=124
WHTX **Lake Whitney,** 124.16 47 *e*PKPdf **PKPdf** **07 58 13.4 +0.8**
WHTX **Lake Whitney,** 124.16 47 ⇓PKiKP **PKiKP** **07 58 13.2 +0.2**
baz=124
TOA0 **Torodi Ar. Sit** 124.25 288 *e*PKPdf **PKPdf** **07 58 13.0 -0.2**
TORD **Torodi Ar. Bea** 124.25 288 PKP **PKPdf** **07 58 13.0 -0.2**
comp=Z,38nm,0.8s,baz=53,slow=2.0,SNR=162
TORD PP **PP** 08 00 02.3 +2.6
comp=Z,8.3nm,1.0s,baz=62,slow=5.6,SNR=5.3
TORD PKKPbc **PKKPab** 08 07 58.3 +0.4
comp=Z,0.9nm,0.6s,baz=215,slow=1.2,SNR=5.4
X37A **Clayton** 124.26 43 ⇑PKiKP **PKiKP** **07 58 13.1 0.0**
baz=124
733A **Divot King Ran** 124.34 52 ⇓PKiKP **PKiKP** **07 58 14.0 +0.6**
baz=124
534A **Blanco** 124.37 50 ⇓PKiKP **PKiKP** **07 58 13.6 +0.1**
baz=124
833A **Chaparral WMA,** 124.45 52 ⇑PKiKP **PKiKP** **07 58 14.4 +0.8**
baz=124
335A **Moody** 124.54 48 ⇑PKiKP **PKiKP** **07 58 14.1 +0.3**
baz=124
W38A **Poteau** 124.56 42 ⇓PKiKP **PKiKP** **07 58 13.8 +0.1**
baz=124
435B **Jarrell** 124.67 48 ⇑PKiKP **PKiKP** **07 58 14.3 +0.3**
baz=125
634A **China Grove, S** 124.77 50 ⇓PKiKP **PKiKP** **07 58 15.1 +0.9**
baz=125
236A **Katherine and** 124.83 47 ⇑PKiKP **PKiKP** **07 58 14.8 +0.5**
baz=125
Z37A **Pogue Cattle C** 124.84 45 ⇓PKiKP **PKiKP** **07 58 15.0 +0.7**
baz=125
933A **Laredo** 124.86 53 ⇓PKiKP **PKiKP** **07 58 15.5 +1.0**
baz=125
734A **La Parita Cree** 124.86 51 ⇑PKiKP **PKiKP** **07 58 15.2 +0.8**
baz=125
336A **Riesel** 124.92 47 ⇑PKiKP **PKiKP** **07 58 14.8 +0.3**
baz=125

535A	**Dale** baz=125	**125.05**	**49**	⇓PKiKP	**PKiKP**	**07 58 15.4**	**+0.6**
137A	**Heron Place, G** baz=125	**125.07**	**46**	⇓PKiKP	**PKiKP**	**07 58 15.8**	**+1.0**
834A	**Tilden** baz=125	**125.20**	**52**	⇓PKiKP	**PKiKP**	**07 58 16.1**	**+1.0**
635A	**Leesville** baz=125	**125.21**	**50**	⇑PKiKP	**PKiKP**	**07 58 15.8**	**+0.7**
Z38A	**Mt. Pleasant** baz=125	**125.26**	**44**	⇓PKiKP	**PKiKP**	**07 58 15.6**	**+0.5**
436A	**Wall Ranch, Ga** baz=125	**125.27**	**48**	⇑PKiKP	**PKiKP**	**07 58 15.9**	**+0.8**
237A	**Washetta, Mont** baz=125	**125.35**	**46**	⇓PKiKP	**PKiKP**	**07 58 15.8**	**+0.5**
536A	**Bastrop** baz=125	**125.41**	**49**	⇑PKiKP	**PKiKP**	**07 58 16.6**	**+1.1**
735A	**Kenedy** baz=125	**125.44**	**51**	⇑PKiKP	**PKiKP**	**07 58 16.7**	**+1.1**
934A	**Benavides** baz=126	**125.46**	**52**	⇓PKiKP	**PKiKP**	**07 58 17.1**	**+1.5**
MIAR	**Mount Ida**	**125.50**	**42**	*e*PKiKP	**PKPdf**	**07 58 15.6**	**+0.4**
MIAR	**Mount Ida**	**125.50**	**42**	*e*PKPdf	**PKPdf**	**07 58 15.6**	**+0.4**
138A	**Matatall Enter** baz=126	**125.51**	**45**	⇑PKiKP	**PKiKP**	**07 58 16.8**	**+1.2**
034A	**Hebbronville** baz=126	**125.57**	**53**	⇑PKiKP	**PKiKP**	**07 58 17.1**	**+1.2**
337A	**Centerville** baz=126	**125.66**	**47**	⇓PKiKP	**PKiKP**	**07 58 16.8**	**+0.8**
835A	**Beeville** baz=126	**125.69**	**51**	⇑PKiKP	**PKiKP**	**07 58 17.5**	**+1.5**
SFIN	**Lafayette** baz=126	**125.69**	**33**	⇑PKiKP	**PKiKP**	**07 58 16.2**	**+0.5**
636A	**Smothers Creek** baz=126	**125.71**	**50**	⇑PKiKP	**PKiKP**	**07 58 17.5**	**+1.4**
437A	**Phantom Ranch,** baz=126	**125.72**	**48**	⇓PKiKP	**PKiKP**	**07 58 17.0**	**+0.9**
736A	**Circle Diamond** baz=126	**125.96**	**50**	⇑PKiKP	**PKiKP**	**07 58 18.3**	**+1.8**
537A	**Green Hill Far** baz=126	**125.97**	**49**	⇓PKiKP	**PKiKP**	**07 58 17.9**	**+1.3**
139A	**Bunkhouse Ranc** baz=126	**125.99**	**45**	⇑PKiKP	**PKiKP**	**07 58 17.2**	**+0.6**
AAM	**Ann Arbor**	**126.04**	**29**	*e*PKiKP	**PKPdf**	**07 58 15.7**	**-0.2**
AAM	**Ann Arbor**	**126.04**	**29**	*e*PKPdf	**PKPdf**	**07 58 15.7**	**-0.2**
338A	**Crockett** baz=126	**126.05**	**47**	⇑PKiKP	**PKiKP**	**07 58 17.5**	**+0.8**
035A	**Encino** baz=126	**126.09**	**53**	⇓PKiKP	**PKiKP**	**07 58 18.2**	**+1.3**
OLIL	**Olney**	**126.27**	**35**	*e*PKPdf	**PKPdf**	**07 58 17.3**	**+0.8**
239A	**Gary** baz=126	**126.30**	**45**	⇓PKiKP	**PKiKP**	**07 58 17.5**	**+0.3**
035Z	**Hargill** baz=126	**126.33**	**53**	⇑PKiKP	**PKiKP**	**07 58 17.7**	**+0.3**
HKT	**Hockley**	**126.40**	**48**	*e*PKiKP	**PKPdf**	**07 58 17.9**	**+1.0**
HKT	**Hockley**	**126.40**	**48**	*e*PKPdf	**PKPdf**	**07 58 17.9**	**+1.0**
538A	**Harpers Horsep** baz=126	**126.51**	**48**	⇓PKiKP	**PKiKP**	**07 58 18.5**	**+0.8**
339A	**Huntington** baz=127	**126.61**	**46**	⇓PKiKP	**PKiKP**	**07 58 18.0**	**+0.2**
PARMO	**Parma**	**126.67**	**38**	*e*PKPdf	**PKPdf**	**07 58 17.1**	**-0.2**
BLO	**Bloomington**	**126.85**	**33**	*e*PKiKP	**PKPdf**	**07 58 17.5**	**-0.1**
BLO	**Bloomington**	**126.85**	**33**	*e*PKPdf	**PKPdf**	**07 58 17.5**	**-0.1**
GNAR	**Gosnell**	**126.95**	**39**	*e*PKPdf	**PKPdf**	**07 58 19.1**	**+1.2**
340A	**Bronson** baz=127	**127.04**	**46**	⇓PKiKP	**PKiKP**	**07 58 18.9**	**+0.2**
USHA	**Ushuaia** comp=Z,30nm,0.8s,baz=164,slow=2.0,SNR=20	**127.16**	**168**	PKP	**PKPdf**	**07 58 18.8**	**+1.1**
GLAT	**Glass**	**127.20**	**38**	*e*PKPdf	**PKPdf**	**07 58 18.8**	**+0.5**
WCI	**Wyandotte Cave**	**127.64**	**34**	*e*PKiKP	**PKPdf**	**07 58 19.2**	**0.0**
WCI	**Wyandotte Cave**	**127.64**	**34**	*e*PKPdf	**PKPdf**	**07 58 19.2**	**0.0**
ERPA	**Erie**	**127.88**	**26**	*e*PKPdf	**PKPdf**	**07 58 19.3**	**-0.2**
ACSO	**Alum Creek Sta**	**127.94**	**30**	*e*PKPdf	**PKPdf**	**07 58 19.2**	**-0.5**
WVT	**Waverly**	**128.19**	**37**	*e*PKiKP	**PKPdf**	**07 58 19.5**	**-0.7**
WVT	**Waverly**	**128.19**	**37**	*e*PKPdf	**PKPdf**	**07 58 19.5**	**-0.7**
OXF	**Oxford**	**128.25**	**40**	*e*PKiKP	**PKPdf**	**07 58 20.4**	**0.0**
OXF	**Oxford**	**128.25**	**40**	*e*PKPdf	**PKPdf**	**07 58 20.4**	**0.0**
NCB	**Newcomb**	**128.61**	**21**	*e*PKPdf	**PKPdf**	**07 58 20.9**	**0.0**
BINY	**Binghamton**	**129.48**	**23**	*e*PKPdf	**PKPdf**	**07 58 23.1**	**+0.6**
SSPA	**Standing Stone**	**130.00**	**26**	*e*PKPdf	**PKPdf**	**07 58 23.7**	**+0.1**
LRAL	**Lakeview Retre**	**130.74**	**40**	*e*PKPdf	**PKPdf**	**07 58 24.7**	**-0.5**
TKL	**Tuckaleechee C** comp=Z,7.1nm,0.7s,baz=195,slow=2.3,SNR=6.8	**130.89**	**35**	SKPbc	**SKPab**	**08 01 40.2**	**+1.1**
TKL	**Tuckaleechee C**	**130.89**	**35**	*e*PKiKP	**PKPdf**	**07 58 25.3**	**-0.1**
TKL	**Tuckaleechee C**	**130.89**	**35**	*e*PKPdf	**PKPdf**	**07 58 25.3**	**-0.1**
TKL				SKPbc	**SKPab**	**08 01 40.2**	**+1.1**
PMAR	**Madeira**	**130.98**	**320**	PKPdf	**PKPdf**	**07 58 27.2**	**+1.3**
BLA	**Blacksburg**	**131.53**	**31**	*e*PKiKP	**PKPdf**	**07 58 26.4**	**-0.3**
BLA	**Blacksburg**	**131.53**	**31**	*e*PKPdf	**PKPdf**	**07 58 26.4**	**-0.3**
KIC	**Kosan Boka** comp=Z,85nm,0.9s	**131.87**	**282**	*e*PKiKP	**PKPdf**	**07 58 27.9**	**+0.1**
DBIC	**Dimbokro** comp=Z,31nm,0.9s,baz=69,slow=2.3,SNR=18	**131.93**	**282**	PKP	**PKPdf**	**07 58 28.3**	**+0.4**
DBIC				SKPbc	**SKPbc**	**08 01 43.5**	**+0.3**
DBIC	comp=Z,8.4nm,0.8s,baz=70,slow=5.4,SNR=6.2 **Dimbokro**	**131.93**	**282**	*e*PKiKP	**PKPdf**	**07 58 27.5**	**-0.4**
DBIC	**Dimbokro**	**131.93**	**282**	*e*PKPdf	**PKPdf**	**07 58 27.5**	**-0.4**
DBIC				PKP	**PKPdf**	**07 58 28.3**	**+0.4**
DBIC				SKPbc	**SKPbc**	**08 01 43.5**	**+0.3**
BRAL	**Brewton**	**132.00**	**42**	*e*PKPdf	**PKPdf**	**07 58 29.5**	**+1.8**
TIC	**Toumodi** comp=Z,61nm,0.9s	**132.09**	**282**	*e*PKiKP	**PKPdf**	**07 58 28.2**	**-0.1**
LIC	**Lamto** comp=Z,74nm,1.0s	**132.18**	**282**	⇑*i*PKiKP	**PKPdf**	**07 58 28.3**	**-0.1**
LIC	**Lamto** comp=Z,101nm,1.0s	**132.18**	**282**	*e*PKiKP	**PKPdf**	**07 58 28.1**	**-0.3**
LIC	**Lamto**	**132.18**	**282**	⇑*i*PKPdf	**PKPdf**	**07 58 28.3**	**-0.1**
CBN	**Corbin Frederi**	**132.22**	**27**	*e*PKPdf	**PKPdf**	**07 58 28.8**	**+0.9**
KMSC	**Kings Mountain** baz=132	**132.62**	**33**	⇓PKiKP	**PKiKP**	**07 58 29.3**	**-0.5**
GOGA	**Godfrey**	**132.66**	**37**	*e*PKiKP	**PKPdf**	**07 58 29.9**	**+1.1**
GOGA	**Godfrey**	**132.66**	**37**	*e*PKPdf	**PKPdf**	**07 58 29.9**	**+1.1**
CMIG	**Matias Romero** comp=Z,15nm,0.7s,baz=270,slow=1.8,SNR=24	**132.88**	**63**	PKP	**PKPdf**	**07 58 30.0**	**+0.4**
CMIG				SKPbc	**SKPab**	**08 01 47.7**	**-0.4**
TEIG	**Tepich** comp=Z,12nm,0.7s,baz=300,slow=4.0,SNR=7.1	**137.19**	**55**	PKP	**PKPdf**	**07 58 38.3**	**+0.7**
PLCA	**Paso Flores** comp=Z,5.9nm,1.0s,baz=238,slow=6.1,SNR=6.5	**139.37**	**158**	PKhKP	PKPpre	07 58 33.1	
PLCA				SKPbc	**SKPbc**	**08 02 06.9**	**+1.2**
PLCA	**Paso Flores**	**139.37**	**158**	*e*PKHKP	PKPpre	07 58 32.7	
PLCA				*e*		07 58 42.7	
PLCA	**Paso Flores**	**139.37**	**158**	*e*PKPpre	PKPpre	07 58 32.7	
PLCA				PKPpre	PKPpre	07 58 33.1	
PLCA				*e*PKPdf	**PKiKP**	**07 58 42.7**	**-0.8**
PLCA				SKPbc	**SKPbc**	**08 02 06.9**	**+1.2**
JTS	**JuntasAbangare** comp=Z,61nm,0.9s,baz=312,slow=3.5,SNR=49	**144.34**	**67**	PKP	**PKPdf**	**07 58 50.3**	**-0.4**
JTS	**JuntasAbangare**	**144.34**	**67**	*e*PKiKP	PKPbc	07 58 50.0	+0.7
JTS	**JuntasAbangare**	**144.34**	**67**	*e*PKPdf	PKPbc	07 58 50.0	+0.6
JTS				PKP	**PKPdf**	**07 58 50.3**	**-0.4**
TRQA	**Tornquist**	**144.46**	**166**	*e*PKPdf	PKPbc	07 58 49.1	+0.1
SACV	**Santiago Islan**	**146.45**	**304**	*e*PKPbc	**PKPbc**	**07 58 55.2**	**-0.6**
CVJ	**Coleyville**	**146.74**	**49**	*i* P	**PKPbc**	**07 58 56.0**	**-0.6**
MTDJ	**Mount Denham**	**146.74**	**49**	*e*PKPbc	**PKPbc**	**07 58 56.6**	**0.0**
MCJ	**Malvern**	**146.81**	**49**	*i* P	**PKPab**	**07 58 57.6**	**-0.7**
BBJ	**Bamboo Saint A**	**146.84**	**48**	*i* P	**PKPab**	**07 58 57.7**	**-0.7**
STH	**Stony Hill**	**147.38**	**48**	*i* P	**PKPdf**	**07 58 56.2**	**+0.4**
GTBY	**Guantanamo Bay**	**147.38**	**43**	*e*PKPbc	**PKPbc**	**07 58 58.8**	**+0.6**
HOJ	**Hope**	**147.46**	**48**	*i* P	**PKPbc**	**07 58 59.2**	**+0.7**
CFAA	**Coronel Fontan** comp=Z,9.7nm,0.9s,baz=245,slow=3.1,SNR=35	**148.16**	**153**	PKP	**PKPdf**	**07 58 56.8**	**0.0**
CFAA				PKPbc	**PKPbc**	**07 59 00.4**	**+0.3**
GRTK	comp=Z,7.4nm,0.7s,baz=215,slow=2.8,SNR=59 **Grand Turk**	**148.77**	**36**	*e*PKPdf	**PKPdf**	**07 58 58.3**	**+0.4**
GRTK				*e*PKPbc	**PKPbc**	**07 59 02.5**	**+0.6**
LCO	**Las Campanas**	**149.04**	**147**	*e*PKPdf	**PKPdf**	**07 58 59.2**	**+0.7**
LCO				*e*PKPbc	**PKiKP**	**07 59 03.5**	**-0.5**
LCO				*e*PKPab	**PKPab**	**07 59 08.5**	**+1.4**
BCIP	**Isla Barro Col**	**149.44**	**65**	*e*PKPdf	**PKPdf**	**07 58 58.5**	**-0.7**
BCIP				*e*PKPbc	**PKPbc**	**07 59 04.1**	**+0.3**
SDDR	**Presa de Saban**	**150.58**	**40**	*e*PKPdf	**PKPdf**	**07 59 01.6**	**+0.7**
SDDR				*e*PKPbc	**PKPbc**	**07 59 06.4**	**-0.1**
SMN1	**Samana, DR**	**151.67**	**36**	*e*PKPdf	**PKPdf**	**07 59 03.1**	**+0.5**
SMN1				*e*PKPbc	**PKiKP**	**07 59 09.9**	**+0.6**
OTAV	**Otavalo**	**153.22**	**82**	*e*PKPdf	**PKPdf**	**07 59 06.1**	**+0.5**
OTAV				*e*PKPbc	**PKiKP**	**07 59 13.5**	**+0.3**
ATAH	**Atahualpa** comp=Z,32nm,1.1s,baz=259,slow=3.0,SNR=15	**153.41**	**99**	PKP	**PKPdf**	**07 59 07.5**	**+1.8**
LRS	**Lares**	**153.77**	**34**	*e*PKPdf	**PKPdf**	**07 59 05.1**	**-0.5**
NNA	**Nana** comp=Z,21nm,1.0s,baz=320,slow=9.3,SNR=5.5	**153.95**	**110**	PKP	**PKPdf**	**07 59 06.4**	**+0.3**
NNA	**Nana**	**153.95**	**110**	*e*PKPdf	**PKPdf**	**07 59 06.3**	**+0.3**
NNA				*e*PKPbc	**PKiKP**	**07 59 15.3**	**+1.2**
CELP	**Cerrillos**	**154.09**	**33**	*e*PKPdf	**PKPdf**	**07 59 06.5**	**+0.4**
CELP				*e*PKPbc	**PKiKP**	**07 59 14.6**	**+0.3**
OBIP	**Obispado Ponce**	**154.10**	**34**	*e*PKPdf	**PKPdf**	**07 59 05.6**	**-0.5**
ICMP	**Isla Caja de M**	**154.27**	**34**	*e*PKPdf	**PKPdf**	**07 59 06.4**	**+0.1**
SJG	**San Juan**	**154.29**	**33**	*e*PKiKP	**PKPdf**	**07 59 06.3**	**0.0**
SJG	**San Juan**	**154.29**	**33**	*e*PKPdf	**PKPdf**	**07 59 06.3**	**0.0**
SJG				*e*PKPbc	**PKiKP**	**07 59 14.9**	**+0.2**
STVI	**Saint Thomas**	**154.72**	**30**	*e*PKPdf	**PKPdf**	**07 59 06.5**	**-0.4**
STVI				*e*PKPab	**PKPab**	**07 59 29.9**	**-0.7**
LVC	**Limon Verde** comp=Z,17nm,0.8s,baz=249,slow=3.4,SNR=5.4	**154.91**	**140**	PKP	**PKPdf**	**07 59 08.2**	**+0.8**
LVC				PKPab	**PKPab**	**07 59 34.0**	**+2.2**
LVC	comp=Z,103nm,0.8s,baz=228,slow=3.3,SNR=17 **Limon Verde**	**154.91**	**140**	PKP	**PKPdf**	**07 59 08.2**	**+0.8**
LVC				*e*PKPdf	**PKPdf**	**07 59 08.6**	**+1.1**
LVC				*e*PKPab	**PKPab**	**07 59 34.0**	**+2.2**
CDVI	**St. Croix**	**155.32**	**30**	*e*PKPdf	**PKPdf**	**07 59 07.6**	**-0.1**
ROSC	**El Rosal** comp=Z,14nm,0.8s,baz=127,slow=5.1,SNR=15	**156.10**	**70**	PKP	**PKPdf**	**07 59 09.7**	**+0.2**
ROSC				PKPab	**PKPab**	**07 59 39.7**	**+2.2**
CPUP	comp=Z,4.6nm,0.9s,baz=18,slow=0.2,SNR=25 **Villa Florida**	**156.78**	**168**	PKP	**PKPdf**	**07 59 10.1**	**+0.7**
CPUP				PKPab	**PKPab**	**07 59 40.0**	**+0.7**
CPUP	comp=Z,9.7nm,0.9s,baz=211,slow=4.9,SNR=13 **Villa Florida**	**156.78**	**168**	*e*PKIKP	**PKPdf**	**07 59 09.7**	**+0.3**
CPUP				*e*		07 59 39.5	
CPUP	**Villa Florida**	**156.78**	**168**	*e*PKPdf	**PKPdf**	**07 59 09.7**	**+0.3**
CPUP				PKP	**PKPdf**	**07 59 10.1**	**+0.7**
CPUP				*e*PKPab	**PKPab**	**07 59 39.5**	**+0.3**
CPUP				PKPab	PKPab	07 59 40.0	+0.7
SDV	**Santo Domingo**	**157.62**	**56**	*e*PKPdf	**PKPdf**	**07 59 10.8**	**-0.3**
SDV				*e*PKPab	**PKPab**	**07 59 40.0**	**-3.7**
FDF	**Fort de France**	**159.65**	**26**	*e*P	**PKPdf**	**07 59 13.9**	**+0.6**
FDF	**Fort de France**	**159.65**	**26**	⇓*e*PKiKP	**PKPdf**	**07 59 13.1**	**-0.2**
FDF	**Fort de France**	**159.65**	**26**	⇓*e*PKP	**PKPdf**	**07 59 13.1**	**-0.2**
LPAZ	**La Paz** baz=34,slow=2.7	**159.66**	**130**	PKP	**PKPdf**	**07 59 14.7**	**+0.7**
ZAM	**Aeronautique**	**159.84**	**26**	*e*P	**PKPdf**	**07 59 14.4**	**+1.0**
TRMF	**Trois Ilets**	**159.87**	**27**	*e*P	**PKPdf**	**07 59 14.4**	**+1.0**
BIM	**Bigot**	**159.88**	**27**	*e*P	**PKPdf**	**07 59 13.3**	**-0.2**
PCRV	**Puerto La Cruz** comp=Z,13nm,1.0s,baz=180,slow=1.7,SNR=3.2	**161.38**	**43**	PKP	**PKPdf**	**07 59 13.3**	**-1.9**
SIV	**San Ignacio** comp=Z,23nm,1.0s,baz=203,slow=1.6,SNR=17	**164.72**	**145**	PKP	**PKPdf**	**07 59 19.0**	**+0.7**
SIV				PKPab	**PKPab**	**08 00 14.6**	**+0.3**
BDFB	comp=Z,12nm,0.9s,baz=228,slow=6.2,SNR=6.6 **Brasilia**	**167.40**	**198**	PKP	**PKPdf**	**07 59 21.1**	**+0.6**
BDFB	comp=Z,21nm,1.0s,baz=80,slow=1.5,SNR=30			PKPab	**PKPab**	**08 00 25.8**	**-0.2**
BDFB	comp=Z,9.1nm,0.8s,baz=110,slow=3.4,SNR=6.3			PP	**PP**	**08 04 12.7**	**-0.4**
SAML	comp=Z,7.7nm,1.1s,baz=118,slow=1.9,SNR=3.9 **Samuel**	**167.60**	**116**	*e*PKPdf	**PKPdf**	**07 59 20.8**	**+0.1**
SAML				*e*PKPab	**PKPab**	**08 00 27.2**	**0.0**
PTGA	**Pitinga** comp=Z,19nm,1.0s,baz=302,slow=1.2,SNR=22	**171.48**	**71**	PKP	**PKPdf**	**07 59 22.9**	**-0.1**
PTGA	comp=Z,29nm,0.9s,baz=270,slow=3.2,SNR=16			PKPab	**PKPab**	**08 00 44.8**	**+0.3**
PTGA	comp=Z,6.8nm,1.2s,baz=297,slow=3.4,SNR=8.0			PP	**PP**	**08 04 33.6**	**-2.0**
PTGA	**Pitinga**	**171.48**	**71**	*e*PKPdf	**PKPdf**	**07 59 22.8**	**-0.2**
PTGA				PKP		07 59 22.9	
PTGA				PKPab	**PKPab**	**08 00 44.8**	**+0.3**
PTGA				*e*PKPab	PKPab	08 00 45.0	+0.4
PTGA				PP	**PP**	**08 04 33.6**	**-2.0**

*ATH **07** 07:49:45.5,41.°20N×24.°27E,h5km±2km,MD3.0/11*
*CSEM **07** 07:49:46.1±0.2,41.°13N×24.°26E,h2km,ML1.8,Error ellipse: s-maj=3.3km s-min=2.9km az=11.0*
THE 07 07:49:46.2,41.°13N×24.°27E,h4km±3km,ML1.8/3,Error ellipse: s-maj=3.1km s-min=1.0km az=278.0, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAVA	**Kavala**	**0.23**	**126**	P	Pg	07 49 50.1	-0.6
KAVA				S	Sg	07 49 53.9	+0.2
KAVA	**Kavala**	**0.23**	**126**	*e*PG	Pg	07 49 50.2	-0.5
KAVA	**Kavala**	**0.23**	**126**	*e*Pg	Pg	07 49 50.2	-0.5
KAVA				S	Sg	07 49 53.9	+0.2
NVR	**Nevrokopi**	**0.38**	**306**	P	Pg	07 49 52.2	-1.3
NVR				S	Sg	07 49 57.7	-0.8
NVR	**Nevrokopi**	**0.38**	**306**	*e*PB	Pg	07 49 52.3	-1.2
NVR	**Nevrokopi**	**0.38**	**306**	*e*Pb	Pg	07 49 52.3	-1.2
NVR				S	Sg	07 49 57.7	-0.8
SRS	**Serrai**	**0.51**	**269**	P	Pg	07 49 56.0	-0.1
SRS				S	Sg	07 50 03.5	+0.8
SRS	**Serrai**	**0.51**	**269**	*e*PB	Pg	07 49 55.9	-0.2
SRS				*e*SB	Sg	07 50 03.5	+0.8
SRS	**Serrai**	**0.51**	**269**	P	Pg	07 49 56.0	-0.1
SRS				S	Sg	07 50 03.5	+0.8
SOH	**Sokhos**	**0.76**	**246**	P	Pb	07 50 01.6	-0.5
SOH				S	Sb	07 50 11.9	-0.9
SOH	**Sokhos**	**0.76**	**246**	*e*PG	Pg	07 50 00.5	-0.3
SOH				*e*SB	Sb	07 50 12.0	-0.8
SOH	**Sokhos**	**0.76**	**246**	*e*Pg	Pg	07 50 00.5	-0.3
SOH	**Sokhos**	**0.76**	**246**	P	Pb	07 50 01.6	-0.5
SOH				S	Sb	07 50 11.9	-0.9
OUR	**Ouranopolis**	**0.83**	**195**	P	Pg	07 50 02.2	+0.2
OUR				S	Sg	07 50 13.6	+0.9
OUR	**Ouranopolis**	**0.83**	**195**	*e*PG	Pg	07 50 02.3	+0.3
OUR				*e*SB	Sb	07 50 15.0	+0.4
OUR	**Ouranopolis**	**0.83**	**195**	*e*Pg	Pg	07 50 02.3	+0.3
OUR				S	Sg	07 50 13.6	+0.9
OUR				*e*Sb	Sb	07 50 15.0	+0.4
PLG	**Polygyros**	**0.98**	**220**	*e*PB	Pg	07 50 04.6	-0.5
PLG				*e*SB	Sb	07 50 19.0	-0.2
PLG	**Polygyros**	**0.98**	**220**	*e*Pb	Pg	07 50 04.6	-0.5
PLG				*e*Sb	Sb	07 50 19.0	-0.2
PLD	**Plovdiv**	**1.02**	**18**	P	Pg	07 50 05.8	-0.1
PLD				S	Sb	07 50 21.2	+0.8
PLD	**Plovdiv**	**1.02**	**18**	P	Pg	07 50 05.8	-0.1
PLD				S	Sb	07 50 21.2	+0.8
HORT	**Hortiatis**	**1.03**	**239**	*e*PG	Pg	07 50 05.5	-0.7
HORT				*e*SB	Sb	07 50 20.8	0.0
HORT	**Hortiatis**	**1.03**	**239**	*e*Pg	Pg	07 50 05.5	-0.7
HORT				*e*Sb	Sb	07 50 20.8	0.0
KNT	**Kendrikon**	**1.03**	**272**	*e*PB	Pg	07 50 05.3	-0.8
KNT				*e*SB	Sg	07 50 19.8	+0.3
KNT	**Kendrikon**	**1.03**	**272**	*e*Pb	Pg	07 50 05.3	-0.8
KNT				*e*Sb	Sg	07 50 19.8	+0.3
THE	**Thessaloniki**	**1.11**	**244**	*e*PG	Pg	07 50 06.8	-0.6
THE	**Thessaloniki**	**1.11**	**244**	*e*Pg	Pg	07 50 06.8	-0.6
SMTH	**Samothraki Isl**	**1.17**	**124**	*e*PB	Pg	07 50 08.5	-0.1
SMTH	**Samothraki Isl**	**1.17**	**124**	*e*Pb	Pg	07 50 08.5	-0.1
PAIG	**Paliouri**	**1.28**	**201**	P	Pg	07 50 09.8	-1.0
PAIG	**Paliouri**	**1.28**	**201**	*e*PB	Pb	07 50 11.3	+0.4
PAIG				*e*SB	Sn	07 50 30.0	+1.4
PAIG	**Paliouri**	**1.28**	**201**	P	Pg	07 50 09.8	-1.0
PAIG	**Paliouri**	**1.28**	**201**	*e*Pb	Pb	07 50 11.3	+0.4
PAIG				*e*Sb	Sn	07 50 30.0	+1.4
VAY	**Valandovo**	**1.29**	**279**	*e*Pg	Pb	07 50 11.9	+0.8
VAY				*e*Sg	Sg	07 50 27.7	-0.1
VAY	**Valandovo**	**1.29**	**279**	*e*Pg	Pb	07 50 11.8	+0.7
VAY				*e*Sg	Sg	07 50 27.7	-0.1
ALN	**Alexandroupoli**	**1.37**	**99**	P	Pn	07 50 11.8	-0.3
ALN				S	Sb	07 50 30.3	+0.1
ALN	**Alexandroupoli**	**1.37**	**99**	*e*PB	Pn	07 50 11.8	-0.3
ALN				*e*SB	Sb	07 50 30.3	+0.1
ALN	**Alexandroupoli**	**1.37**	**99**	P	Pn	07 50 11.8	-0.3
ALN				S	Sb	07 50 30.3	+0.1
LIA	**Limnos Island**	**1.42**	**150**	*e*PB	Pg	07 50 13.6	+0.2
LIA	**Limnos Island**	**1.42**	**150**	*e*Pb	Pg	07 50 13.6	+0.2
VTS	**Vitosha**	**1.66**	**332**	P	Pn	07 50 16.7	+0.4
VTS				S	Sb	07 50 39.4	+0.4
VTS	**Vitosha**	**1.66**	**332**	P	Pn	07 50 16.7	+0.4
VTS				S	Sb	07 50 39.4	+0.4

IDC 07 08:01:38.6±3.5,53.°51N×91.°28E,h0km,mb1 3.2/2, mb1mx3.0/53,mbtmp3.2/2,ML2.9/2,Error ellipse: s-maj=33.1km s-min=23.7km az=7.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=92,slow=326,SNR=4.2	**3.86**	**279**	*i*		08 24 45.0	
ZALV	**Zalesovo Beam** 1.7nm,0.3s,baz=91,slow=15,SNR=10	**3.86**	**279**	Pn	Pn	08 02 40.2	+1.0
ZALV				Sn	Sb	08 03 31.4	-3.5
TLY	**Talaya** 0.0nm,0.3s,baz=202,slow=6.6,SNR=3.3	**7.75**	**99**	Lg	Lg	08 05 41.0	
KURBB	**Kurchatov Arra** baz=67,slow=26,SNR=10	**8.37**	**255**	Sn	Sn	08 05 14.2	-2.0
KURBB				Lg	Lg	08 05 57.6	
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=38,slow=14,SNR=6.8	**8.86**	**224**	Pn	Pn	08 03 48.1	+0.3
MKAR				Sn	Sn	08 05 27.4	-1.0
MKAR	0.1nm,0.3s,baz=40,slow=25,SNR=4.3			Lg	Lg	08 06 14.6	
SONM	0.3nm,0.3s,baz=38,slow=24,SNR=4.9 **Songino Array** 0.1nm,0.3s,baz=294,slow=25,SNR=5.2	**11.14**	**115**	Lg	Lg	08 07 33.8	

IDC 07 08:23:54.5±2.0,2.°92S×145.°62E,h0km,mb3.1/3, mb1 3.5/3,mb1mx3.3/25,mbtmp3.1/3,Error ellipse: s-maj=411.8km s-min=28.9km az=118.0,Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=37,slow=11,SNR=17	**20.18**	**212**	P	P	08 28 29.9	-1.0
ASAR	**Alice Springs** 0.3nm,0.6s,baz=33,slow=13,SNR=4.1	**23.53**	**208**	P	P	08 29 07.5	+0.9
ILAR	**Eielson Array** 0.3nm,0.8s,baz=234,slow=6.2,SNR=4.0	**83.22**	**23**	P	P	08 36 22.6	0.0

*KRSC **07** 08:41:56.7±2.4,49.°58N×156.°64E,h101km±39km,ML4.2*
*ISCJB **07** 08:41:57.6±0.5,49.°83N±0.°07×155.°8E±0.°2,h123km, mb3.7/13,Error ellipse: s-maj=16.8km s-min=4.7km az=32.2*
*MOS **07** 08:41:58.8±1.1,50.°28N×155.°21E,h142km,mb4.0/1,Error ellipse: s-maj=36.3km s-min=8.6km az=60.6*
*IDC **07** 08:42:00.9±2.4,50.°21N×155.°11E,h144km±22km, mb3.4/13,mb1 3.7/14,mb1mx3.4/46,mbtmp3.8/14,Error ellipse: s-maj=30.0km s-min=10.8km az=143.0*
ISC 07 08:41:58.7±0.7,49.°8N±0.°1×155.°9E±0.°1,h123km,n49, σ1°56/63,mb3.6/13,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.88**	**10**	P	**Pn**	**08 42 20.1**	**+0.4**
SKR				S	**Sn**	**08 42 36.3**	**+0.6**
PAU	**Pauzhetka**	**1.75**	**20**	P	**Pn**	**08 42 29.2**	**0.0**
PAU				S	**Sn**	**08 42 52.3**	**-0.2**
PAU	**Pauzhetka**	**1.75**	**20**	PN	**Pn**	**08 42 29.2**	**0.0**
PAU				S	**Sn**	**08 42 52.3**	**-0.2**
MIPR	**Malaya Ipel'ka**	**2.52**	**13**	P	**Pn**	**08 42 37.9**	**-0.9**
MTVR	**Mutnovka**	**3.04**	**28**	P	**Pn**	**08 42 46.4**	**+0.8**
MTVR				S	**Sn**	**08 43 22.7**	**+0.9**
GRL	**Gorelyy**	**3.07**	**26**	P	**Pn**	**08 42 46.8**	**+0.9**
GRL

CMSA	**Cobar Meteorol**	**30.85**	**248**	P		**P**	**08 49 16.9**	**+1.1**
	baz=32,SNR=7.0								
CTA	**Charters Tower**	**31.00**	**270**	P		**P**	**08 49 17.6**	**+0.3**
	4.6nm,0.4s,baz=87,slow=10,SNR=9.2								
QLP	**Quilpie**	**31.98**	**257**	P		**P**	**08 49 26.4**	**+0.9**
	baz=33,SNR=3.8								
ASAR	**Alice Springs**	**41.60**	**261**	P		**P**	**08 50 44.5**	**-0.1**
	1.2nm,0.5s,baz=100,slow=6.5,SNR=16								
WRA	**Warramunga Arr**	**41.95**	**266**	P		**P**	**08 50 46.8**	**-0.5**
	0.8nm,0.3s,baz=103,slow=8.4,SNR=134								
KDU	**Kakadu**	**45.80**	**275**	P		**P**	**08 51 16.3**	**-0.9**
	baz=47,SNR=3.4								
FORT	**Forrest**	**45.94**	**249**	P		**P**	**08 51 18.1**	**+0.1**
	baz=47,SNR=8.8								
WRKA	**Warakurna**	**46.42**	**257**	P		**P**	**08 51 21.9**	**+0.1**
	baz=47,SNR=22								
KNRA	**Kununurra**	**48.22**	**270**	P		**P**	**08 51 35.2**	**-0.1**
	baz=49,SNR=4.5								
WSI	**Waingapu**	**58.02**	**273**	P		**P**	**08 52 43.1**	**-2.0**
	baz=59,SNR=5.3								
QSPA	**South Pole Qui**	**66.37**	**180**	P		P	08 53 41.7	+3.3
	3.1nm,0.9s,baz=14,slow=0.5,SNR=14								
CISI	**Cisompet, Garu**	**70.25**	**270**	P		**P**	**08 54 01.8**	**-0.9**
	baz=71,SNR=4.4								
PDAR	**Pinedale Array**	**92.89**	**44**	P		**P**	**08 55 59.5**	**+0.7**
	0.3nm,0.6s,baz=260,slow=4.5,SNR=2.5								
AKASG	**Malin Array Be**	**144.56**	**327**	PKP		**PKPdf**	**09 02 17.5**	**-0.5**
	0.8nm,0.4s,baz=43,slow=4.1,SNR=5.7								
TORD	**Torodi Ar. Bea**	**169.28**	**192**	PKPab		**PKPab**	**09 04 07.4**	**+2.1**
	0.9nm,1.0s,baz=166,slow=5.1,SNR=3.9								

IDC 07 09:03:31.5±8.0, 31°.01S×71°.75W, h77$^{km\pm60km}$, mb3.6/2, mb1 3.5/3, mb1mx3.3/21, mbtmp3.7/3, ML3.8/1, Error ellipse: s-maj=119.6km s-min=49.1km az=105.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**9.75**	**175**	P	Pn	09 05 48.9	0.0
	0.2nm,0.3s,baz=343,slow=14,SNR=7.4						
MAW	**Mawson**	**75.97**	**164**	P	P	09 15 09.7	+0.1
	0.9nm,0.5s,baz=225,slow=2.9,SNR=5.1						
TORD	**Torodi Ar. Bea**	**82.96**	**70**	P	P	09 15 48.5	0.0
	0.4nm,0.5s,baz=254,slow=4.6,SNR=6.2						
ZALV	**Zalesovo Beam**	**151.54**	**30**	PKPbc	PKPbc	09 23 16.1	-0.2
	1.8nm,0.5s,baz=300,slow=3.2,SNR=7.3						

*ISCJB **07** 09:18:06.3±1.1, 12°.3N×0°.2×88°.1W×0°.2, h35^{km}, mb3.7/8, Error ellipse: s-maj=34.7km s-min=7.9km az=39.0*
*IDC **07** 09:18:07.8±5.1, 12°.28N×87°.99W, h33$^{km\pm41km}$, mb3.5/8, mb1 3.8/10, mb1mx3.6/42, mbtmp3.7/10, ML3.1/2, Error ellipse: s-maj=46.0km s-min=21.1km az=37.0*
ISC 07 09:18:08.2±1.2, 12°.3N±0°.2×88°.0W±0°.2, h35^{km}, n11, σ1^{s}14/13, mb3.7/8, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**3.61**	**124**	Pn	**Pn**	**09 19 00.9**	**-0.7**
	1.0nm,0.3s,baz=114,slow=23,SNR=17						
JTS				Sn	**Sn**	**09 19 44.5**	**+1.4**
	2.1nm,0.3s,baz=314,slow=22,SNR=6.7						
CMIG	**Matias Romero**	**8.17**	**306**	Pn	**Pn**	**09 20 04.9**	**+0.5**
	0.5nm,0.3s,baz=136,slow=11,SNR=8.7						
TXAR	**Lajitas Array**	**22.34**	**322**	P	**P**	**09 23 02.2**	**-0.9**
	2.1nm,1.0s,baz=145,slow=11,SNR=13						
TKL	**Tuckaleechee C**	**23.56**	**9**	P	**P**	**09 23 16.2**	**+0.7**
	3.6nm,0.9s,baz=190,slow=13,SNR=6.1						
PDAR	**Pinedale Array**	**35.64**	**332**	P	**P**	**09 25 04.2**	**+1.2**
	0.7nm,1.0s,baz=98,slow=6.3,SNR=3.8						
NVAR	**Mina Array Bea**	**37.45**	**319**	P	**P**	**09 25 20.2**	**+1.7**
	0.2nm,0.4s,baz=134,slow=5.2,SNR=3.1						
ULM	**Lac du Bonnet**	**38.38**	**352**	P	**P**	**09 25 25.2**	**-0.7**
	4.6nm,0.6s,baz=172,slow=9.1,SNR=7.8						
SCHQ	**Schefferville**	**45.57**	**17**	P	**P**	**09 26 24.6**	**0.0**
	1.8nm,0.7s,baz=204,slow=10.0,SNR=3.0						
YKA	**Yellowknife Ar**	**53.60**	**345**	P	**P**	**09 27 26.0**	**+0.4**
	0.8nm,0.8s,baz=137,slow=7.9,SNR=16						
YKA				PcP	**PcP**	**09 28 32.3**	**+0.5**
	0.3nm,0.8s,baz=139,slow=4.3,SNR=5.1						
ILAR	**Eielson Array**	**65.92**	**336**	P	**P**	**09 28 49.0**	**-1.4**
	0.3nm,0.9s,baz=93,slow=5.4,SNR=3.9						
CMAR	**Chiang Mai Arr**	**148.67**	**347**	PKPbc	**PKPbc**	**09 37 51.2**	**-1.4**
	0.7nm,0.3s,baz=347,slow=3.7,SNR=4.6						

*BJI **07** 09:23:49.6, 13°.48N×92°.48E, h30^{km}, mb4.4/26, mB4.4/19, Ms4.3/12, Ms7 4.1/7*
*MOS **07** 09:23:50.2±0.6, 13°.55N×92°.92E, h36^{km}, mb5.2/28, Error ellipse: s-maj=11.4km s-min=6.1km az=119.3*
*ISCJB **07** 09:23:51.5±0.5, 13°.67N±0°.03×92°.67E±0°.03, h35$^{km\pm5km}$, mb4.6/59, MS3.5/12, Error ellipse: s-maj=5.6km s-min=4.4km az=141.5*
*NEIC **07** 09:23:52.8±0.2, 13°.70N×92°.84E, h35^{km}, mb4.9/27, Error ellipse: s-maj=7.4km s-min=4.6km az=46.0*
*IDC **07** 09:23:52.0±0.6, 13°.59N×92°.91E, h32$^{km\pm3km}$, mb4.2/28, mb1 4.3/29, mb1mx4.2/45, mbtmp4.4/29, ML3.8/1, MS3.5/13, Ms1 3.5/13, ms1mx3.3/39, Error ellipse: s-maj=16.8km s-min=10.1km az=54.0*
*DJA **07** 09:23:55.7±0.7, 14°N±4°×9°3E±°, h98$^{km\pm12km}$, M4.4/6, mb4.4/6, MLv4.4/1*
*BKK **07** 09:24:05.2±1.5, 13°N±3°×9°4E±1°5, h10^{km}, M4.1/17, mB4.4/6, mb4.4/17, MLv4.3/11, Mw(mB)3.6/6*
ISC 07 09:23:52.5±0.4, 13°.58N±0°.04×92°.73E±0°.04, h32$^{km\pm2km}$, h32^{km}:pP-P, n229, σ1^{s}51/257, mb4.7/60, MS3.5/12, 17C-6D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DGPR	**DIGLIPUR**	**0.45**	**154**	*e*P	**Pn**	**09 24 03.8**	**+1.1**
DGPR				*e*S	**Sn**	**09 24 12.0**	**+2.4**
DGPR				AML	AML	09 24 15.6	
	comp=N,74μm,1.1s						
DGPR				AML	AML	09 24 16.1	
	comp=E,84μm,0.1s						
PBA	**Port Blair**	**1.92**	**180**	*e*P	Pn	09 24 24.9	+2.1
PBA				*e*S	Sb	09 24 48.7	-1.7
KHLT	**Khaolaem Dam**	**5.81**	**77**	P	**Pn**	**09 25 16.3**	**-0.2**
	comp=E,54nm,0.7s,comp=E,479nmcomp=E,0.2nm						
SRDT	**SRDT**	**6.25**	**82**	P	Pn	09 25 27.0	+4.5
	comp=E,131nm,0.7s,comp=E,0.5nm						
CMBY	**CAMPBELL BAY**	**6.64**	**170**	*e*S	**Sn**	**09 26 40.5**	**-1.9**
MHMT	**Maesarieng**	**6.78**	**47**	P	Pn	09 25 33.2	+3.5
UTHA	**Uthaitani**	**6.79**	**72**	P	**Pn**	**09 25 29.8**	**-0.1**
	comp=E,15nm,0.8s,comp=E,253nmcomp=E,0.1nm						
SURT	**Suratani**	**7.52**	**127**	P	**Pn**	**09 25 41.9**	**+2.0**
	comp=E,14nm,0.8s,comp=E,0.0nm						
CMAR	**Chiang Mai Arr**	**7.69**	**50**	Pn	**Pn**	**09 25 40.4**	**-2.0**
	comp=E,0.4nm,0.3s,baz=241,slow=15,SNR=18						
CMAR				Sn	Sn	09 26 59.8	-8.6
	comp=E,1.7nm,0.3s,baz=239,slow=28,SNR=12						
CMAR				LR	LR	09 29 19.9	
	comp=E,322nm,19.6s,baz=217,slow=43						
PKDT	**Phuket**	**7.89**	**135**	P	Pn	09 25 49.7	+4.6
	comp=E,102nm,0.7s,comp=E,0.9nm						
CHTO	**Chiang Mai**	**7.92**	**48**	P	Pn	09 25 51.9	+6.5
	comp=E,54nm,0.6s,comp=E,0.4nm						
CHTO	**Chiang Mai**	**7.92**	**48**	*e*P	**Pn**	**09 25 43.6**	**-1.8**
CHTO	**Chiang Mai**	**7.92**	**48**	*e*Pn	**Pn**	**09 25 43.6**	**-1.8**
CMMT	**Chiang Mai**	**7.92**	**48**	P	Pn	09 25 51.8	+6.4
	comp=E,16nm,0.6s,comp=E,0.1nm						
LAMP	**Lampang**	**8.26**	**53**	P	Pn	09 25 58.5	+8.5
	comp=E,12nm,0.7s,comp=E,91nmcomp=E,0.0nm						
BSI	**Banda Aceh**	**8.43**	**162**	P	**Pn**	**09 25 54.7**	**+2.3**
PBKT	**Sadao Pong**	**8.50**	**69**	P	**Pn**	**09 25 52.6**	**-0.7**
UTTA	**Uttaradit**	**8.60**	**60**	P	Pn	09 26 11.5	+17
CMAI	**Chiengmai2**	**8.74**	**43**	P	Pn	09 26 05.6	+8.7
	comp=E,9.5nm,0.9s,comp=E,1μmcomp=E,0.1nm						
LOEI	**Loei**	**9.11**	**64**	P	Pn	09 26 10.7	+9.0
	comp=E,19nm,0.9s,comp=E,470nmcomp=E,0.1nm						
CHAI	**Chaiyaphum**	**9.25**	**74**	P	Pn	09 26 10.0	+6.3
	comp=E,6.7nm,0.7s,comp=E,76nmcomp=E,0.0nm						
LHMI	**Lhok Sumawe**	**9.29**	**153**	P	Pn	09 26 07.4	+3.2
BWNR	**Bhubaneshwar**	**9.40**	**316**	*e*P	Pn	09 26 48.0	+42
BWNR				*ex*	x	09 27 27.0	
CHLP	**Challavanipeta**	**9.66**	**302**	*e*P	**Pn**	**09 26 08.7**	**-0.7**
CHLP				*e*Sn	Sn	09 27 45.8	-11
CRAI	**Chiangrai**	**9.86**	**47**	P	Pn	09 26 22.9	+11
	comp=E,8.5nm,0.8s						
VIS	**Vishakhapatnam**	**9.94**	**296**	*e*P	**Pn**	**09 26 12.3**	**-0.9**
VIS				*e*S	Sn	09 27 53.3	-10
VIS				*ex*	x	09 27 58.7	
	comp=E,173nm,0.3s						
VIS				*ex*	x	09 28 00.0	
	comp=N,147nm,0.4s						
KCSI	**Kotacane, Aceh**	**11.17**	**153**	P	Pn	09 26 33.7	+3.7
KULM	**Kulim**	**11.35**	**136**	*e*Pn	**Pn**	**09 26 34.7**	**+2.2**
SKNT	**Sakolnakorn**	**11.37**	**71**	P	Pn	09 26 40.3	+7.6
	comp=N,17nm,0.9s						
SHL	**Shillong**	**11.95**	**356**	*e*P	**Pn**	**09 26 41.1**	**+0.3**
SHL				*ex*	x	09 28 41.9	
IPM	**Ipoh**	**12.20**	**137**	*e*Pn	**Pn**	**09 26 43.5**	**-0.6**
IPM				*e*Sn	Sn	09 28 51.9	-7.3
PSI	**Prapat**	**12.34**	**150**	Pn	Pn	09 26 49.3	+3.2
	comp=N,0.6nm,0.3s,baz=327,slow=13,SNR=12						
PSI				LR	LR	09 31 34.1	
	comp=N,242nm,21.0s,baz=330,slow=37						
SKHT	**Srikalahasti**	**12.65**	**272**	*e*Pn	**Pn**	**09 26 52.3**	**+2.0**
SKHT				*e*Sn	Sn	09 28 58.0	-12
NJS	**Nagarjunasagar**	**13.29**	**285**	*e*Pn	**Pn**	**09 26 58.6**	**-0.4**
NJS				*e*Sn	Sn	09 29 15.2	-11
RPR	**Rampur**	**13.92**	**294**	*e*P	Pn	09 27 04.2	-3.5
RPR				*e*Sn	Sn	09 29 30.8	-10
ODAN	**Odare**	**14.12**	**340**	*e*P	Pn	09 27 06.3	-4.2
	comp=N,10.0nm,0.3s						
HYB	**Hyderabad**	**14.18**	**287**	*i* P	Pn	09 27 08.0	-3.2
HYB				*e*		09 29 35.0	
HYB				*e*S	**Sn**	**09 29 52.0**	**+4.5**
HYB	**Hyderabad**	**14.18**	**287**	*e*P	Pn	09 27 08.0	-3.2
HYB				*e*S	**Sn**	**09 29 48.0**	**+0.5**
HYB	**Hyderabad**	**14.18**	**287**	*e*P	Pn	09 27 08.0	-3.2
HYB				*e*		09 29 35.0	
HYB				*e*S	**Sn**	**09 29 48.0**	**+0.5**
HYBB	**Hyderabad (bro**	**14.18**	**287**	*e*Pn	**Pn**	**09 27 12.0**	**+0.8**
HYBB				Sn	Sn	09 29 35.9	-12
TAPN	**Taplejung**	**14.48**	**342**	*e*P	Pn	09 27 09.8	-5.6
	comp=N,17nm,0.2s						
RAMN	**Ramite**	**14.48**	**338**	*e*P	**Pn**	**09 27 13.6**	**-1.9**
	comp=N,56nm,0.6s						
JIRN	**Jiri**	**15.28**	**337**	*e*P	**Pn**	**09 27 22.9**	**-3.3**
	comp=N,46nm,0.6s						
PKI	**Pulchoki**	**15.50**	**335**	*e*P	**Pn**	**09 27 27.9**	**-1.2**
	comp=N,48nm,0.6s						
PKIN	**Phulchoki**	**15.52**	**335**	*e*P	**Pn**	**09 27 27.9**	**-1.3**
	comp=N,44nm,0.6s						
PKIN				*e*S	Sn	09 30 08.0	-12
GUN	**Gumba**	**15.62**	**337**	*e*P	**Pn**	**09 27 28.7**	**-2.0**
	comp=N,35nm,0.7s						
DMN	**Daman**	**15.66**	**334**	*e*P	**Pn**	**09 27 30.6**	**-0.5**
	comp=N,84nm,0.7s						
KKN	**Kakani**	**15.75**	**335**	*e*P	**Pn**	**09 27 31.6**	**-0.6**
	comp=N,18nm,0.5s						
MYKOM	**Kota Tinggi**	**16.07**	**136**	*e*Pn	**P**	**09 27 39.0**	**-0.3**
	comp=N,22nm,1.0s						
LSA	**Lhasa**	**16.11**	**355**	P	**P**	**09 27 40.1**	**+0.1**
GKN	**Gorkha**	**16.21**	**334**	*e*P	**Pn**	**09 27 37.4**	**-0.6**
	comp=N,24nm,0.3s						
KOLN	**Koldanda**	**16.48**	**330**	*e*P	**Pn**	**09 27 41.7**	**+0.1**
	comp=N,58nm,0.6s						
QIZ	**Qiongzhong**	**17.29**	**69**	P	**P**	**09 27 54.0**	**+1.2**
QIZ				pP	**pP**	**09 28 02.9**	**+1.6**
QIZ				sP	**sP**	**09 28 07.6**	**+2.1**
QIZ				S	**S**	**09 31 07.3**	**-3.9**
QIZ				PMZ			
	comp=N,9.0nm,1.1s						
QIZ				LZ			
	comp=N,130nm,3.1s						
DSRI	**Dabo**	**18.25**	**139**	P	**P**	**09 28 03.3**	**-0.1**
	comp=N,100nm,1.2s						
GYA	**Guiyang**	**18.30**	**43**	*e*P	**Pn**	**09 28 07.0**	**+3.0**
GYA				PMZ			
	comp=N,10.0nm,0.8s						
CD2	**Chengdu**	**20.01**	**29**	*e*P	**P**	**09 28 22.3**	**-0.3**
CD2				pP	**pP**	**09 28 30.6**	**-0.7**
CD2				sP	**sP**	**09 28 34.4**	**-1.0**
CD2				S	**S**	**09 32 00.3**	**-5.8**
CD2				sS	**Sn**	**09 32 13.6**	**+4.8**
CD2				SS	SnSn	09 32 33.9	+10
CD2				PMZ			
	comp=N,30nm,0.7s						
CD2				PMZ			
	comp=N,80nm,5.9s						
CD2				LN			
	comp=N,160nm,14.3s						
PPBI	**Pangkal Pinang**	**20.53**	**139**	P	**P**	**09 28 28.2**	**-0.1**
NDI	**New Delhi**	**20.82**	**319**	*ex*	**S**	**09 32 17.0**	**-5.0**
SMLA	**Simla**	**22.58**	**323**	*e*P	**P**	**09 28 50.7**	**+0.5**
SMLA				*e*S	**S**	**09 32 54.2**	**-1.5**
ENH	**Enshi**	**22.70**	**40**	*e*P	**P**	**09 28 49.2**	**-2.4**
	comp=N,7.0nm,0.8s						
DHRM	**DHARAMSHALA**	**23.90**	**324**	*e*P	**P**	**09 29 03.7**	**0.0**
LZH	**Lanzhou**	**24.53**	**22**	*e*P	**P**	**09 29 08.6**	**-0.8**
LZH				pP	**pP**	**09 29 18.3**	**-0.4**
LZH				sP	**sP**	**09 29 22.5**	**-0.2**
LZH				*e*PP	**PnPn**	**09 29 45.0**	**+3.8**
LZH				*e*S	**S**	**09 33 25.6**	**-2.5**
LZH				sS	**sS**	**09 33 40.0**	**-3.5**
LZH				PMZ			
	comp=N,28nm,1.0s						
LZH				PMZ			
	comp=N,120nm,4.3s						
LZH				LN			
	comp=N,740nm,12.5s						
LZH				LE			
	comp=N,630nm,13.0s						
LZH				LZ			
	comp=N,980nm,15.3s						
GTA	**Gaotai**	**26.48**	**12**	*e*P	**P**	**09 29 27.2**	**+0.3**
GTA				pP	**pP**	**09 29 36.5**	**+0.3**
GTA				sP	**sP**	**09 29 40.6**	**+0.4**
GTA				S	**S**	**09 33 57.3**	**-1.5**
GTA				sS	**sS**	**09 34 13.9**	**-0.4**
GTA				SS	**SnSn**	**09 35 09.7**	**+7.9**
GTA				PMZ			
	comp=N,5.0nm,1.2s						
GTA				PMZ			
	comp=N,120nm,5.0s						
GTA				LN			
	comp=N,98nm,17.6s						
GTA				LE			
	comp=N,94nm,17.1s						
DGAR	**Diego Garcia**	**28.99**	**225**	*e*P	**P**	**09 29 47.2**	**-2.2**
KSH	**Kashi**	**29.76**	**333**	P	**P**	**09 29 55.3**	**-0.9**
KSH				pP	**pP**	**09 30 04.7**	**-0.9**
KSH				PP	**PnPn**	**09 30 50.3**	**-2.1**
KSH				S	S	09 34 43.8	-6.7
KSH				sS	sS	09 35 00.0	-6.0
KSH				PMZ			
	comp=N,29nm,4.1s						
KSH				LN			
	comp=N,85nm,5.1s						
KSH				LE			
	comp=N,120nm,5.2s						
KSH				LZ			
	comp=N,140nm,5.4s						
NJ2	**Nanjing**	**30.16**	**48**	*e*P	**P**	**09 30 01.8**	**+2.1**
NJ2				PMZ			
	comp=N,20nm,0.8s						
WMQ	**Urumqi**	**30.44**	**353**	*e*P	**P**	**09 30 04.3**	**+2.2**
WMQ				pP	**pP**	**09 30 13.9**	**+2.4**
WMQ				sP	**sP**	**09 30 17.9**	**+2.4**
WMQ				PP	**PnPn**	**09 31 05.1**	**+3.7**
WMQ				PcP	**PcP**	**09 33 01.9**	**+0.8**
WMQ				S	**S**	**09 35 01.5**	**+0.5**
WMQ				sS	**sS**	**09 35 18.8**	**+2.2**
WMQ				PcS	**PcS**	**09 36 45.0**	**+0.2**
WMQ				PMZ			
	comp=N,11nm,0.4s						
WMQ				PMZ			
	comp=N,99nm,4.4s						
WMQ				LN			
	comp=N,63nm,21.0s						
WMQ				LE			
	comp=N,160nm,23.6s						
HHC	**Hu-ho-hao-te**	**31.77**	**28**	*e*P	P	09 30 17.6	+3.7
HHC				S	**S**	**09 35 24.8**	**+2.9**
HHC				SS	**SnSn**	**09 37 19.5**	**+8.9**
HHC				PMZ			
	comp=N,22nm,0.9s						
HHC				PMZ			
	comp=N,100nm,4.1s						
HHC				LN			
	comp=N,310nm,14.8s						
HHC				LE			
	comp=N,340nm,13.6s						
HHC				LZ			
	comp=N,280nm,13.6s						
TKM2	**Tokmak 2**	**32.76**	**336**	*e*P	**P**	**09 30 24.8**	**+2.1**
TKM2				pmax	pmax		
	comp=Z,45nm,3.0s						
TKM2	**Tokmak 2**	**32.76**	**336**	*e*P	**P**	**09 30 24.8**	**+2.1**
	comp=Z,45nm,3.0s						
AAK	**Ala-Archa**	**32.96**	**335**	LR	LR	09 45 14.7	
	comp=Z,146nm,21.4s,baz=144,slow=39						
AAK	**Ala-Archa**	**32.96**	**335**	*e*P	**P**	**09 30 25.1**	**+0.7**
AAK				pmax	pmax		
	comp=Z,15nm,1.3s						
AAK	**Ala-Archa**	**32.96**	**335**	*e*P	**P**	**09 30 25.5**	**+1.1**
	comp=Z,8.9nm,1.4s						
BJI	**Beijing**	**33.45**	**34**	P	**P**	**09 30 29.9**	**+1.5**
BJI				PMZ			
	comp=Z,8.0nm,0.5s						
MK31	**Makanchi Array**	**34.25**	**347**	*e*P	**P**	**09 30 35.2**	**-0.2**
MK31				*e**PP	**pP**	**09 30 45.6**	**+0.8**
MK31				*e**SP	**sP**	**09 30 49.9**	**+1.1**
MK31	**Makanchi Array**	**34.25**	**347**	*e*P	**P**	**09 30 35.2**	**-0.2**
MK31				*e*pP	**pP**	**09 30 45.6**	**+0.8**
MK31				*e*sP	**sP**	**09 30 49.9**	**+1.1**
MKAR	**Makanchi Array**	**34.25**	**347**	P	**P**	**09 30 35.2**	**-0.2**
	comp=Z,4.7nm,0.8s,baz=194,slow=8.8,SNR=54						
MKAR				pP	**pP**	**09 30 44.9**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=198,slow=8.9,SNR=10						
MKAR				LR	LR	09 48 11.6	
	comp=Z,67nm,19.0s,baz=168,slow=43						
MKAR	**Makanchi Array**	**34.25**	**347**	*e*P	**P**	**09 30 35.4**	**0.0**
MKAR				pP	**pP**	**09 30 44.9**	**+0.1**
MKAR				*e*ScP	ScP	09 36 42.7	-12
KKAR	**Karatay Array**	**35.09**	**331**	*e*P	**P**	**09 30 43.6**	**+0.8**
KKAR	**Karatay Array**	**35.09**	**331**	*e*P	**P**	**09 30 43.6**	**+0.8**
SONM	**Songino Array**	**36.00**	**16**	P	**P**	**09 30 50.4**	**-0.2**
	comp=Z,3.1nm,0.8s,baz=200,slow=8.4,SNR=17						
SONM				pP	**pP**	**09 30 59.8**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=192,slow=6.9,SNR=4.1						
SONM				PcP	**PcP**	**09 33 16.7**	**0.0**
	comp=Z,1.2nm,0.7s,baz=224,slow=4.1,SNR=4.5						
SONM				LR	LR	09 47 08.5	
	comp=Z,46nm,21.7s,baz=246,slow=39						
ULN	**Ulaanbaatar**	**36.20**	**16**	*ce*P	**P**	**09 30 51.9**	**-0.4**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.3s						
KURBB	**Kurchatov Arra**	**38.71**	**346**	P	**P**	**09 31 13.1**	**-0.2**
	comp=Z,7.3nm,0.8s,baz=163,slow=7.9,SNR=59						
KURK	**Kurchatov**	**38.77**	**346**	*e*P	**P**	**09 31 13.7**	**-0.1**
KURK	**Kurchatov**	**38.77**	**346**	*e*P	**P**	**09 31 13.7**	**-0.1**
TLY	**Talaya**	**39.01**	**11**	*e*P	**P**	**09 31 18.3**	**+2.5**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TLY				MLR	MLR		
	comp=Z,45nm,17.0s						
GEYT	**Alibeck**	**39.13**	**315**	P	**P**	**09 31 18.8**	**+1.6**
	comp=Z,7.5nm,0.7s,baz=134,slow=8.5,SNR=8.4						
GEYT				PcP	**PcP**	**09 33 26.8**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=124,slow=4.2,SNR=3.0						
GEYT				LR	LR	09 49 43.5	
	comp=Z,62nm,18.1s,baz=85,slow=40						
KSAR	**Wonju Array Be**	**39.28**	**46**	P	**P**	**09 31 17.0**	**-1.3**
KSAR				*PP	**pP**	**09 31 26.3**	**-1.6**
KSAR	**Wonju Array Be**	**39.28**	**46**	P	**P**	**09 31 16.9**	**-1.3**
KSAR				pP	**pP**	**09 31 26.2**	**-1.6**
KSRS	**Korea Array**	**39.31**	**46**	P	**P**	**09 31 16.9**	**-1.6**
	comp=Z,2.2nm,0.7s,baz=246,slow=7.6,SNR=8.2						
KSRS				pP	**pP**	**09 31 26.2**	**-1.9**
	comp=Z,2.5nm,0.8s,baz=246,slow=7.9,SNR=4.7						
KSRS				LR	LR	09 50 07.6	
	comp=Z,108nm,18.3s,baz=231,slow=40						
ZAA0	**Zalesovo Array**	**40.75**	**353**	*e*P	**P**	**09 31 29.6**	**-0.7**
ZAA0				*ep*P	**pP**	**09 31 40.2**	**+0.3**
ZALV	**Zalesovo Beam**	**40.75**	**353**	P	**P**	**09 31 29.4**	**-0.8**
	comp=Z,7.1nm,0.6s,baz=178,slow=8.9,SNR=32						
ZALV				pP	**pP**	**09 31 39.5**	**-0.3**
	comp=Z,3.4nm,0.6s,baz=179,slow=9.2,SNR=6.4						
ZALV				LR	LR	09 52 52.3	
	comp=Z,33nm,18.0s,baz=252,slow=43						
ZALV	**Zalesovo Beam**	**40.75**	**353**	*i* P	**P**	**09 31 29.7**	**-0.6**
ZALV				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BVAR	**Borovoye Array**	**43.17**	**340**	P	**P**	**09 31 49.7**	**-0.4**
	comp=Z,1.7nm,0.5s,baz=134,slow=8.5,SNR=14						
BRVK	**Borovoye**	**43.24**	**340**	*e*P	**P**	**09 31 50.3**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
AKTO	**Aktyubinsk**	**46.32**	**330**	P	**P**	**09 32 15.3**	**+0.1**
	comp=Z,4.1nm,0.6s,baz=124,slow=8.3,SNR=13						
AKTO				LR	LR	09 53 11.7	
	comp=Z,41nm,20.9s,slow=38						
MJAR	**Matsushiro Arr**	**46.57**	**52**	pP	**pP**	**09 32 25.1**	**-2.1**
	comp=Z,1.8nm,0.8s,baz=263,slow=7.5,SNR=4.6						
MJAR				LR	LR	09 53 47.3	
	comp=Z,52nm,18.5s,baz=265,slow=39						
GNI	**Garni**	**49.55**	**312**	*c* P	**P**	**09 32 39.8**	**-0.8**
GNI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ARU	**Arti**	**50.13**	**336**	*d* P	**P**	**09 32 44.1**	**-0.4**
ARU						09 34 38.9	
ARU				S	**S**	**09 39 54.1**	**+0.2**
ARU				SS	SS	09 43 19.7	-7.6
ARU				pmax	pmax		
	comp=Z,11nm,1

DRGR 66.55 315⇑ *i*P P 09 34 39.3 -0.2
KWP **Kalwaria Pacla** 66.84 318 *e*P P 09 34 41.1 -0.1
KWP pmax pmax
comp=Z,12nm,0.3s
KWP **Kalwaria Pacla** 66.84 318⇑ *i*P P 09 34 38.8 -2.4
KWP **Kalwaria Pacla** 66.84 318 *e*P P 09 34 41.1 -0.1
comp=Z,12nm,0.3s
FINES **FINESS Array B** 67.06 331 P P 09 34 42.0 -0.3
comp=Z,3.6nm,0.6s,baz=103,slow=8.6,SNR=10
FINES **FINESS Array B** 67.06 331 P P 09 34 42.0 -0.3
ARCES **ARCESS Array B** 69.46 340 P P 09 34 57.3 0.0
comp=Z,4.8nm,0.7s,baz=86,slow=6.3,SNR=26
ARCES LR LR 10 08 32.6
comp=Z,53nm,18.4s,baz=111,slow=39
MORC **Moravsky Berou** 70.19 318 *e*P P 09 35 02.5 +0.3
MORC pmax pmax
comp=Z,7.0nm,1.0s
MORC **Moravsky Berou** 70.19 318⇓ *i*P P 09 35 02.7 +0.5
MORC **Moravsky Berou** 70.19 318 *e*P P 09 35 02.5 +0.3
comp=Z,7.2nm,1.0s
GEC2 **GERESS Array S** 72.69 317 *e*P P 09 35 17.5 +0.1
GEC2 **GERESS Array S** 72.69 317 *e*P P 09 35 17.4 +0.1
GERES **GERESS Array B** 72.69 317 P P 09 35 17.5 +0.1
comp=Z,4.8nm,0.7s,baz=87,slow=5.5,SNR=34
HFS **Hagfors** 72.86 329 P P 09 35 17.4 -0.7
comp=Z,4.4nm,0.7s,baz=124,slow=8.0,SNR=7.2
CLL **Collm** 73.11 320 *e*P P 09 35 19.0 -0.6
CLL **Collm** 73.11 320 *e*P P 09 35 19.0 -0.6
NB2 **NORSAR Subarra** 74.11 330 P P 09 35 24.4 -1.0
comp=Z,3.9nm,0.8s,baz=90,slow=5.6
NOA **NORSAR Array B** 74.11 330 P P 09 35 24.7 -0.7
comp=Z,2.4nm,0.7s,baz=90,slow=5.8,SNR=12
NOA LR LR 10 11 02.0
comp=Z,27nm,19.8s,baz=90,slow=38
DAVOX **Davos/Dischmat** 75.36 315 P P 09 35 32.4 -0.7
comp=Z,3.4nm,0.7s,baz=331,slow=17,SNR=4.1
PGF **Pioggiola** 76.36 311 *e*P P 09 35 38.3 -0.5
comp=Z,44nm,1.2s
PGF **Pioggiola** 76.36 311 *e*P P 09 35 38.3 -0.5
PGF pmax pmax
comp=Z,44nm,1.2s
PGF **Pioggiola** 76.36 311 *e*P P 09 35 38.3 -0.5
comp=Z,44nm,1.2s
KEST **Kesra** 76.89 304 P P 09 35 42.3 +0.4
comp=Z,2.4nm,0.8s,baz=285,slow=12,SNR=5.3
CDF **Champ du Feu** 76.97 317 *e*P P 09 35 41.4 -0.7
CDF **Champ du Feu** 76.97 317 *e*P P 09 35 41.4 -0.7
CDF **Champ du Feu** 76.97 317 *e*P P 09 35 41.4 -0.7
HAU **Haudompre** 77.63 317 *e*P P 09 35 45.0 -0.8
HAU **Haudompre** 77.63 317 *e*P P 09 35 45.0 -0.8
HAU **Haudompre** 77.63 317 *e*P P 09 35 45.0 -0.8
LPG **La Plagne** 77.65 314 *e*P P 09 35 46.1 -0.1
comp=Z,20nm,0.8s
LPG **La Plagne** 77.65 314 *e*P P 09 35 46.1 -0.1
LPG pmax pmax
comp=Z,20nm,0.8s
LPG **La Plagne** 77.65 314 *e*P P 09 35 46.1 -0.1
comp=Z,20nm,0.8s
LPL **La Plagne** 77.66 314 *e*P P 09 35 46.1 -0.1
comp=Z,21nm,0.7s
LPL **La Plagne** 77.66 314 *e*P P 09 35 46.1 -0.1
LPL pmax pmax
comp=Z,21nm,0.7s
LPL **La Plagne** 77.66 314 *e*P P 09 35 46.1 -0.1
comp=Z,21nm,0.7s
CABF **La Chapelle** 77.97 315 *e*P P 09 35 47.5 -0.3
comp=Z,15nm,1.0s
CABF **La Chapelle** 77.97 315 *e*P P 09 35 47.5 -0.3
CABF pmax pmax
comp=Z,15nm,1.0s
CABF **La Chapelle** 77.97 315 *e*P P 09 35 47.5 -0.3
comp=Z,15nm,1.0s
PAGF **Fort de Pagny** 77.98 317 *e*P P 09 35 47.2 -0.5
PAGF **Fort de Pagny** 77.98 317 *e*P P 09 35 47.2 -0.5
VIVF **Saint-Julien-l** 79.19 314 *e*P P 09 35 54.1 -0.3
comp=Z,11nm,0.9s
VIVF **Saint-Julien-l** 79.19 314 *e*P P 09 35 54.1 -0.3
VIVF pmax pmax
comp=Z,11nm,0.9s
VIVF **Saint-Julien-l** 79.19 314 *e*P P 09 35 54.1 -0.3
comp=Z,11nm,0.9s
LOR **Lormes** 79.40 316 *e*P P 09 35 54.9 -0.6
comp=Z,14nm,1.0s
LOR **Lormes** 79.40 316 *e*P P 09 35 54.9 -0.6
LOR pmax pmax
comp=Z,14nm,1.0s
LOR **Lormes** 79.40 316 *e*P P 09 35 54.9 -0.6
comp=Z,14nm,1.0s
SMF **Signal de Mont** 79.50 316 *e*P P 09 35 55.4 -0.7
comp=Z,14nm,0.9s
SMF **Signal de Mont** 79.50 316 *e*P P 09 35 55.4 -0.7
SMF pmax pmax
comp=Z,14nm,0.9s
SMF **Signal de Mont** 79.50 316 *e*P P 09 35 55.4 -0.7
comp=Z,14nm,0.9s
SSF **Saint Saulge** 79.67 316 *e*P P 09 35 56.4 -0.5
comp=Z,7.5nm,0.8s
SSF **Saint Saulge** 79.67 316 *e*P P 09 35 56.4 -0.5
SSF pmax pmax
comp=Z,8.0nm,0.8s
SSF **Saint Saulge** 79.67 316 *e*P P 09 35 56.4 -0.5
comp=Z,7.5nm,0.8s
AVF **Avril sur Loir** 79.81 316 *e*P P 09 35 57.1 -0.6
comp=Z,7.3nm,0.7s
AVF **Avril sur Loir** 79.81 316 *e*P P 09 35 57.1 -0.6
AVF pmax pmax
comp=Z,7.0nm,0.7s
AVF **Avril sur Loir** 79.81 316 *e*P P 09 35 57.1 -0.6
comp=Z,7.3nm,0.7s
LASF **Ste Croix** 79.89 313 *e*P P 09 35 58.4 +0.2
comp=Z,12nm,0.8s
LASF **Ste Croix** 79.89 313 *e*P P 09 35 58.4 +0.2
comp=Z,12nm,0.8s
TCF **Toulx Ste Croi** 80.67 315 *e*P P 09 36 02.3 -0.1
comp=Z,15nm,1.0s
TCF **Toulx Ste Croi** 80.67 315 *e*P P 09 36 02.3 -0.1
TCF pmax pmax
comp=Z,15nm,1.0s
TCF **Toulx Ste Croi** 80.67 315 *e*P P 09 36 02.3 -0.1
comp=Z,15nm,1.0s
CAF **Calviac** 81.01 314 *e*P P 09 36 04.2 -0.1
comp=Z,15nm,1.1s
CAF **Calviac** 81.01 314 *e*P P 09 36 04.2 -0.1
CAF pmax pmax
comp=Z,15nm,1.1s
CAF **Calviac** 81.01 314 *e*P P 09 36 04.2 -0.1
comp=Z,15nm,1.1s
MTLF **Montolieu** 81.18 312 *e*P P 09 36 05.0 -0.2
comp=Z,7.2nm,0.7s
MTLF **Montolieu** 81.18 312 *e*P P 09 36 05.0 -0.2
MTLF pmax pmax
comp=Z,7.0nm,0.7s
MTLF **Montolieu** 81.18 312 *e*P P 09 36 05.0 -0.2
comp=Z,7.2nm,0.7s
RJF **Les Rejaudoux** 81.33 314 *e*P P 09 36 05.3 -0.6
RJF **Les Rejaudoux** 81.33 314 *e*P P 09 36 05.3 -0.6
RJF **Les Rejaudoux** 81.33 314 *e*P P 09 36 05.3 -0.6
LDF **La Druitiere** 81.81 318 *e*P P 09 36 07.8 -0.6
comp=Z,7.5nm,0.6s
LDF **La Druitiere** 81.81 318 *e*P P 09 36 07.8 -0.6
LDF pmax pmax
comp=Z,8.0nm,0.6s
LDF **La Druitiere** 81.81 318 *e*P P 09 36 07.8 -0.6
comp=Z,7.5nm,0.6s
FLN **La Foliniere** 82.01 318 *e*P P 09 36 08.9 -0.5
comp=Z,14nm,0.8s
FLN **La Foliniere** 82.01 318 *e*P P 09 36 08.9 -0.5
FLN pmax pmax
comp=Z,15nm,0.8s
FLN **La Foliniere** 82.01 318 *e*P P 09 36 08.9 -0.5
comp=Z,14nm,0.8s
EKA **Eskdalemuir Ar** 82.27 325 P P 09 36 10.8 +0.1
comp=Z,2.2nm,0.7s,baz=90,slow=7.1,SNR=4.2
EPF **Esparros** 82.59 312 *e*P P 09 36 12.5 -0.1
EPF **Esparros** 82.59 312 *e*P P 09 36 12.5 -0.1
EPF **Esparros** 82.59 312 *e*P P 09 36 12.5 -0.1
ETSF **Etsaut** 83.26 312 *e*P P 09 36 15.9 -0.3
comp=Z,16nm,1.1s
ETSF **Etsaut** 83.26 312 *e*P P 09 36 15.9 -0.3
ETSF pmax pmax
comp=Z,17nm,1.1s
ETSF **Etsaut** 83.26 312 *e*P P 09 36 15.9 -0.3
comp=Z,16nm,1.1s
SGMF **Saint Gilles** 83.47 318 *e*P P 09 36 16.6 -0.4
comp=Z,21nm,1.0s
SGMF **Saint Gilles** 83.47 318 *e*P P 09 36 16.6 -0.4
SGMF pmax pmax
comp=Z,21nm,1.0s
SGMF **Saint Gilles** 83.47 318 *e*P P 09 36 16.6 -0.4
SJPF **Ste Jean** 83.69 313 *e*P P 09 36 18.2 -0.1
SJPF **Ste Jean** 83.69 313 *e*P P 09 36 18.2 -0.1
SJPF **Ste Jean** 83.69 313 *e*P P 09 36 18.2 -0.1
QUIF **Quistinic** 83.94 318 *e*P P 09 36 18.7 -0.7
QUIF **Quistinic** 83.94 318 *e*P P 09 36 18.7 -0.7
QUIF **Quistinic** 83.94 318 *e*P P 09 36 18.7 -0.7
ESDC **Sonseca Array** 86.50 310 P P 09 36 32.6 +0.1
comp=Z,2.3nm,0.8s,baz=33,slow=4.0,SNR=8.4
IM04 **Indian Mountai** 86.89 22 *e*P P 09 36 33.5 -0.3
TORD **Torodi Ar. Bea** 87.96 283 P P 09 36 40.4 +0.4
comp=Z,2.3nm,0.9s,baz=76,slow=4.7,SNR=10
PPLA **Purkeypile** 88.93 25 *e*P P 09 36 43.8 0.0
comp=Z,3.5nm,0.7s
ILAR **Eielson Array** 90.00 22 P P 09 36 47.5 -1.1
comp=Z,1.0nm,0.7s,baz=300,slow=4.4,SNR=19
ILAR PP PP 09 40 13.3 -7.9
comp=Z,0.2nm,0.9s,baz=312,slow=8.3,SNR=2.5
PDAR **Pinedale Array** 120.31 19 PKP **PKPdf** 09 42 40.3 -0.7
comp=Z,0.4nm,0.5s,baz=51,slow=4.7,SNR=3.9
NVAR **Mina Array Bea** 120.66 28 PKP **PKPdf** 09 42 42.4 +0.6
comp=Z,0.9nm,0.7s,baz=253,slow=2.5,SNR=8.4
NVAR pPKP **pPKPdf** 09 42 52.4 -0.1
comp=Z,0.7nm,0.8s,baz=284,slow=1.8,SNR=4.3
ANMO **Albuquerque** 128.42 20 PKP **PKPdf** 09 42 57.4 +0.6
comp=Z,0.8nm,0.8s,baz=314,slow=11,SNR=3.8
ANMO **Albuquerque** 128.42 20*c* *i*PKIKP **PKPdf** 09 42 57.6 +0.9
ANMO pmax pmax
comp=Z,24nm,2.5s
TXAR **Lajitas Array** 134.49 20 PKP **PKPdf** 09 43 09.2 +0.9
comp=Z,0.3nm,0.5s,baz=15,slow=1.1,SNR=5.6
TXAR pPKP **pPKPdf** 09 43 19.4 +0.4
comp=Z,0.3nm,0.5s,baz=153,slow=1.8,SNR=3.3

IDC 07 09:33:38.7±2.3, 12.78N×87.70W, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.5/37, mbtmp3.5/5, ML3.0/2, MS2.7/1, Ms1 2.7/1, ms1mx2.3/29, Error ellipse: s-maj=79.9km s-min=27.9km az=45.0, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**3.65**	**132**	Pn	Pn	09 34 36.6	0.0
	0.9nm,0.3s,baz=287,slow=21,SNR=10						
JTS				Sn	Sn	09 35 16.5	-3.9
	3.0nm,0.3s,baz=210,slow=22,SNR=4.8						
JTS				LR	LR	09 36 25.3	
	comp=Z,106nm,20.0s,baz=108,slow=46						
CMIG	**Matias Romero**	**8.16**	**303**	Pn	Pn	09 35 38.0	-0.6
	0.2nm,0.3s,baz=68,slow=11,SNR=5.0						
TXAR	**Lajitas Array**	**22.17**	**320**	P	P	09 38 36.9	+0.3
	0.4nm,0.5s,baz=143,slow=11,SNR=5.3						
ULM	**Lac du Bonnet**	**37.96**	**351**	P	P	09 40 58.1	0.0
	1.9nm,0.5s,baz=153,slow=6.8,SNR=3.6						
YKA	**Yellowknife Ar**	**53.24**	**345**	P	P	09 42 58.5	-0.3
	0.3nm,0.7s,baz=138,slow=7.8,SNR=9.5						

*JMA **07** 09:36:19.9±0.1, 24.83N×122.03E, h45km, M3.0*
*TAP **07** 09:36:19.7, 24.82N×122.08E, h11km, ML3.5, B*
ISC 07 09:36:19.3±0.9, 24.83N±0.03×122.13E±0.02, h12km±7km, n53, σ0s77/87, 3C-5D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS		**0.18**	**274**	⇓ *i*P	**Pg**	**09 36 23.3**	**0.0**
	baz=280						
EGS				*i* S	**Sg**	**09 36 25.7**	**-0.3**
	baz=280						
TWB1	**Santiao Chiao**	**0.22**	**324**	⇓ *i*P	**Pg**	**09 36 24.6**	**+0.7**
	baz=342						
TWB1				S	**Sg**	**09 36 27.8**	**+0.7**
	baz=342						
TWC	**Suao**	**0.34**	**229**	⇓ *i*P	**Pg**	**09 36 25.9**	**-0.2**
	baz=220						
TWC				S	**Sg**	**09 36 29.3**	**-1.4**
	baz=220						
ILA	**Ilan**	**0.35**	**259**	P	**Pb**	**09 36 27.1**	**-0.4**
	baz=257						
ILA				*e*S	**Sg**	**09 36 31.9**	**+0.8**
	baz=257						
NWF	**Wu-fen Shan**	**0.40**	**307**	⇓ *i*P	**Pb**	**09 36 28.0**	**-0.3**
	baz=305						
NWF				*e*S	**Sb**	**09 36 33.9**	**-0.5**
	baz=305						
TWE	**Neicheng**	**0.44**	**255**	*e*P	**Pg**	**09 36 27.7**	**-0.2**
	baz=252						
TWE				*e*S	**Sg**	**09 36 33.5**	**-0.1**
	baz=252						
TWA	**Mucha**	**0.52**	**287**	*e*P	**Pb**	**09 36 29.6**	**-0.7**
	baz=279						
TWA				*e*S	**Sg**	**09 36 35.5**	**-0.8**
	baz=279						
ENA	**Nanau**	**0.54**	**221**	*e*P	**Pg**	**09 36 29.5**	**-0.2**
	baz=207						
ENA				*e*S	**Sg**	**09 36 36.5**	**-0.3**
	baz=207						
ENTT	**Nioudou**	**0.55**	**250**	*e*P	**Pg**	**09 36 29.8**	**-0.2**
	baz=245						
ENTT				*e*S	**Sg**	**09 36 36.3**	**-0.9**
	baz=245						
TAP1	**Taipei**	**0.59**	**291**	*e*P	**Pb**	**09 36 31.6**	**+0.1**
	baz=292						
TAP	**Taipei**	**0.60**	**290**	*e*P	**Pn**	**09 36 33.6**	**-0.1**
	baz=292						
EHP	**Heping Village**	**0.63**	**214**	*e*P	**Pg**	**09 36 31.2**	**-0.3**
	baz=208						
TWY	**Chenhua**	**0.65**	**313**	P	**Pn**	**09 36 33.0**	**-1.4**
	baz=309						
TWS1	**Kuangyinshan**	**0.70**	**293**	*e*P	**Pn**	**09 36 34.7**	**-0.3**
	baz=295						
NSK	**Sanguang**	**0.72**	**258**	⇑ *i*P	**Pg**	**09 36 32.6**	**-0.6**
	baz=255						
NSK				*e*S	**Sg**	**09 36 40.9**	**-1.8**
	baz=255						
NNS	**Nan Shan**	**0.79**	**241**	*e*P	**Pg**	**09 36 34.2**	**-0.4**
	baz=243						
PCYT	**Pengchaiyu**	**0.80**	**356**	*e*P	**Pn**	**09 36 36.7**	**+0.4**
	baz=11						
JYNG	**Yonagunijimaku**	**0.83**	**117**	P	**Pn**	**09 36 36.8**	**0.0**
JYNG				S	**Sn**	**09 36 48.5**	**-0.6**
NCU	**National Centr**	**0.87**	**279**	*e*P	**Pn**	**09 36 37.3**	**0.0**
	baz=271						
YOJ	**Yonaguni jima**	**0.88**	**115**	P	**Pn**	**09 36 37.3**	**-0.2**
YOJ				S	**Sn**	**09 36 49.6**	**-0.7**
YOJ	**Yonaguni jima**	**0.88**	**115**	P	**Pn**	**09 36 37.3**	**-0.2**
	baz=113						
TWD	**Chiawan**	**0.89**	**213**	*e*P	**Pg**	**09 36 36.4**	**-0.1**
	baz=199						
TWD				*e*S	**Sg**	**09 36 47.3**	**-0.9**
	baz=199						
HWA	**Hwalien**	**0.98**	**209**	*e*P	**Pn**	**09 36 39.3**	**+0.5**
	baz=210						
TWT	**Tachien**	**1.04**	**237**	*e*P	**Pn**	**09 36 40.3**	**+0.4**
	baz=222						
TWT				*e*S	**Sg**	**09 36 53.4**	**+0.4**
	baz=222						
WHF	**Hehuan Shan**	**1.04**	**229**	⇓ *i*P	**Pg**	**09 36 39.1**	**-0.3**
	baz=223						
WHF				S	**Sg**	**09 36 52.0**	**-1.2**
	baz=223						
NSTT	**Nanjuang**	**1.05**	**259**	P	**Pn**	**09 36 40.0**	**+0.2**
	baz=256						
NSTT				*e*S	**Sn**	**09 36 54.8**	**+0.4**
	baz=256						
ESL	**Shilin**	**1.20**	**212**	*e*P	**Pn**	**09 36 41.5**	**-0.4**
	baz=207						
NSY	**Sanyi**	**1.31**	**252**	P	**Pg**	**09 36 45.4**	**+0.9**
	baz=240						
NSY				*e*S	**Sg**	**09 37 03.4**	**+1.8**
	baz=240						
TWQ1	**Liyutan**	**1.33**	**249**	*e*P	**Pg**	**09 36 45.2**	**+0.4**
	baz=237						
TWQ1				*e*S	**Sg**	**09 37 04.0**	**+2.0**
	baz=237						
WDT	**Danda**	**1.41**	**221**	⇑ *i*P	**Pb**	**09 36 45.6**	**-0.1**
	baz=223						
WDT				*e*S	**Sn**	**09 37 03.0**	**-0.6**
	baz=223						
SMLT	**Sun Moon Lake**	**1.47**	**230**	*e*P	**Pb**	**09 36 46.8**	**+0.2**
	baz=225						
TYC	**Yuchr**	**1.48**	**232**	*e*P	**Pb**	**09 36 46.9**	**+0.1**
	baz=217						
TYC				*e*S	**Sg**	**09 37 07.8**	**+0.8**
	baz=217						
TCU	**Taichung**	**1.49**	**243**	*e*P	**Pg**	**09 36 48.2**	**+0.3**
	baz=239						
TCU				*e*S	**Sg**	**09 37 09.4**	**+2.1**
	baz=239						
EHY	**Hungye**	**1.51**	**209**	*e*P	**Pn**	**09 36 46.5**	**+0.3**
	baz=203						
TWF1	**Yuli**	**1.66**	**207**	*e*P	**Pn**	**09 36 49.0**	**+0.8**
	baz=212						
TWF1				*e*S	**Sg**	**09 37 12.5**	**-0.2**
	baz=212						
HATJ	**Hateruma jima**	**1.71**	**117**	P	**Pn**	**09 36 49.3**	**+0.4**
HATJ				*e*S	**Sn**	**09 37 11.4**	**+0.7**
YUS	**Yu-Shan**	**1.72**	**219**	⇑ P	**Pb**	**09 36 51.5**	**+0.5**
	baz=196						
YUS				*e*S	**Sb**	**09 37 13.7**	**+0.9**
	baz=196						
ALS	**Alishan**	**1.79**	**223**	P	**Pb**	**09 36 53.0**	**+0.8**
	baz=199						
ALS				*e*S	**Sg**	**09 37 17.4**	**+0.5**
	baz=199						
CHN5	**Tsauling**	**1.81**	**227**	*e*P	**Pg**	**09 36 53.4**	**-0.6**
	baz=221						
CHN5				*e*S	**Sg**	**09 37 18.1**	**+0.6**
	baz=221						
JKRS	**Kuro-shima**	**1.81**	**109**	P	**Pn**	**09 36 50.9**	**+0.6**
JKRS				*e*S	**Sn**	**09 37 14.0**	**+0.8**
JIJ	**Ishigaki jima**	**1.89**	**104**	P	**Pn**	**09 36 51.8**	**+0.4**
JIJ				*e*S	**Sn**	**09 37 14.4**	**-0.8**
ELDTW	**Lidau**	**1.93**	**212**	*e*P	**Pb**	**09 36 55.3**	**+0.8**
	baz=191						
JISG	**Ishigakijimahi**	**2.00**	**97**	P	**Pb**	**09 36 54.7**	**-0.9**
JISG				*e*S	**Sg**	**09 37 24.5**	**+1.0**
CHN4	**Tsaushan**	**2.04**	**224**	P	**Pb**	**09 36 56.9**	**+0.7**
	baz=201						
CHN4				*e*S	**Sg**	**09 37 25.1**	**+0.3**
	baz=201						
STYT	**Tauyuan**	**2.08**	**217**	*e*P	**Pb**	**09 36 56.9**	**-0.2**
	baz=209						
WTP	**Ta-pu**	**2.10**	**222**	*e*P	**Pb**	**09 36 57.1**	**-0.2**
	baz=199						
WTP				*e*S	**Sg**	**09 37 26.3**	**-0.5**
	baz=199						
TWK	**Hsinying**	**2.17**	**224**	*e*P	**Pb**	**09 36 57.9**	**-0.6**
	baz=212						
TWK				*e*S	**Sg**	**09 37 28.2**	**-0.7**
	baz=212						
CHN1	**Nanshi**	**2.20**	**222**	*e*P	**Pb**	**09 36 58.6**	**-0.5**
	baz=211						
CHN1				*e*S	**Sg**	**09 37 28.9**	**-1.1**
	baz=211						
TWG	**Pinlang**	**2.23**	**206**	*e*P	**Pb**	**09 36 59.3**	**-0.1**
	baz=184						
SGST	**Jiashian**	**2.25**	**219**	*e*P	**Pb**	**09 36 59.4**	**-0.4**
	baz=208						
SGST				*e*S	**Sg**	**09 37 30.4**	**-1.1**
	baz=208						
SSD	**Sandimen**	**2.49**	**214**	*e*P	**Pb**	**09 37 02.3**	**-1.7**
	baz=205						
EAST	**Anshuo**	**2.71**	**206**	*e*P	**Pn**	**09 37 04.6**	**+1.9**
	baz=188						
WDGT	**Dungji**	**2.75**	**236**	*e*P	**Pn**	**09 37 03.6**	**+0.4**
	baz=228						

*DDA **07** 09:40:14.4, 39.26N×27.91E, h7km, MD2.8*
*CSEM **07** 09:40:14.8±0.2, 39.23N×27.90E, h10km, MD2.6, Error ellipse: s-maj=4.0km s-min=3.3km az=91.0*
ISK 07 09:40:14.3, 39.23N×27.87E, h10km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKHS	**Akhisar**	**0.35**	**187**	*i* P	Pg	09 40 21.9	+0.6
AKHS				*i* S	Sb	09 40 28.2	-0.1
AKHS	**Akhisar**	**0.35**	**187**	*i* P	Pg	09 40 21.9	+0.6
AKHS				*i* S	Sb	09 40 28.2	-0.1
AKS	**Akhisar**	**0.35**	**187**	*e*PG	Pg	09 40 21.8	+0.5
AKS	**Akhisar**	**0.35**	**187**	*e*Pg	Pg	09 40 21.8	+0.5
BALB	**Balikesir**	**0.41**	**2**	*e*PG	Pg	09 40 22.9	+0.4
BALB				*e*SG	Sb	09 40 29.3	-0.7
BALB	**Balikesir**	**0.41**	**2**	*e*Pg	Pg	09 40 22.9	+0.5
BALB				*e*Sg	Sb	09 40 29.3	-0.7
BALY	**Balya**	**0.55**	**340**	*i* P	Pg	09 40 25.3	+0.3
BALY				*i* S	Sg	09 40 33.0	+0.7
BALY	**Balya**	**0.55**	**340**	*i* P	Pg	09 40 25.3	+0.2
BALY				*i* S	Sg	09 40 33.0	+0.7
DEMI	**Demirci**	**0.69**	**105**	*i* P	Pg	09 40 27.6	-0.1
DEMI				*i* S	Sg	09 40 36.9	+0.1
DEMI	**Demirci**	**0.69**	**105**	*i* P	Pg	09 40 27.6	-0.1
DEMI				*i* S	Sg	09 40 36.9	0.0
AYVA	**Ayvalik**	**0.92**	**275**	*i* P	Pn	09 40 33.2	0.0
AYVA				*i* S	Sn	09 40 46.9	+0.5
AYVA	**Ayvalik**	**0.92**	**275**	*i* P	Pn	09 40 33.2	0.0
AYVA				*i* S	Sn	09 40 46.9	+0.4
IZM	**Izmir**	**0.95**	**210**	*e*PG	Pb	09 40 33.0	0.0
IZM				*e*SG	Sn	09 40 46.9	-0.6
IZM	**Izmir**	**0.95**	**210**	*e*Pg	Pb	09 40 33.0	0.0
IZM				*e*Sg	Sn	09 40 46.9	-0.6
BLCB	**Balcova**	**1.06**	**218**	*e*PG	Pn	09 40 35.2	0.0
BLCB				*e*SG	Sn	09 40 50.0	0.0
BLCB	**Balcova**	**1.06**	**218**	*e*Pg	Pn	09 40 35.2	0.0
BLCB				*e*Sg	Sn	09 40 50.0	0.0
KCTX	**Karacabey (Bur**	**1.10**	**20**	*e*PN	Pb	09 40 35.4	-0.2
KCTX	**Karacabey (Bur**	**1.10**	**20**	*e*Pn	Pb	09 40 35.4	-0.1
EDC	**Edincik**	**1.12**	**360**	*e*PN	Pn	09 40 36.0	-0.1
EDC	**Edincik**	**1.12**	**360**	*e*Pn	Pn	09 40 36.0	0.0
ORLT	**Orhaneli**	**1.14**	**44**	*e*PN	Pn	09 40 36.8	+0.3
ORLT	**Orhaneli**	**1.14**	**44**	*e*Pn	Pn	09 40 36.8	+0.4
KRBG	**Karabiga-Canak**	**1.24**	**340**	*e*PN	Pg	09 40 38.5	+0.3
KRBG	**Karabiga-Canak**	**1.24**	**340**	*e*Pn	Pg	09 40 38.5	+0.3
TVSB	**Tavsanli**	**1.26**	**79**	*e*PN	Pg	09 40 38.6	0.0
TVSB	**Tavsanli**	**1.26**	**79**	*e*Pn	Pg	09 40 38.6	0.0
GDZ	**Gediz**	**1.26**	**96**	*i* P	Pg	09 40 38.8	0.0
GDZ				*i* S	Sn	09 40 55.5	+0.1
GDZ	**Gediz**	**1.26**	**96**	*i* P	Pg	09 40 38.8	0.0
GDZ				*i* S	Sn	09 40 55.5	+0.1
AYDB	**Zeytinkoy-Aydi**	**1.28**	**179**	*e*PN	Pb	09 40 38.8	+0.1
AYDB	**Zeytinkoy-Aydi**	**1.28**	**179**	*e*Pn	Pb	09 40 38.8	+0.1
EZN	**Ezine**	**1.33**	**297**	*e*PN	Pn	09 40 39.1	+0.1
EZN	**Ezine**	**1.33**	**297**	*e*Pn	Pn	09 40 39.1	+0.2
SART	**Tekirdag**	**1.55**	**340**	*i* P	Pg	09 40 43.9	-0.3
SART	**Tekirdag**	**1.55**	**340**	*i* P	Pg	09 40 43.9	-0.3
SART				*i* S	Sb	09 41 02.9	-0.1

*IDC **07** 09:41:53.0±1.9, 31.47N×49.55E, h0km, mb3.7/10, mb1 3.8/13, mb1mx3.7/43, mbtmp3.7/13, ML3.5/3, Error ellipse: s-maj=42.7km s-min=20.2km az=163.0*
*ISCJB **07** 09:41:55.5±0.6, 31.37N±0.05×49.50E±0.05, h25km, mb3.6/10, Error ellipse: s-maj=7.5km s-min=5.5km az=7.9*
*CSEM **07** 09:41:57.4±0.7, 31.46N×49.60E, h19km±6km, ML3.6, Error ellipse: s-maj=12.7km s-min=6.8km az=41.0*
*TEH **07** 09:41:58.6, 31.38N×49.56E, h28km, ML3.7*
*THR **07** 09:41:58.5±0.3, 31.73N×49.75E, h14km±4km, ML3.6*
ISC 07 09:41:56.9±0.8, 31.44N±0.06×49.63E±0.04, h25km, n62, σ1s55/61, mb3.4/10, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**0.97**	**313**	*e*Pg	**Pb**	**09 42 15.3**	**+0.4**
SHGR				AML	AML	09 42 37.4	
	comp=N,2μm,0.6s						
SHGR				AML	AML	09 42 45.2	
	comp=E,1μm,0.5s						
SHGR	**Shooshtar-Gavs**	**0.97**	**313**	*e*Pg	**Pb**	**09 42 15.4**	**+0.4**
	comp=E,1μm,0.5s						
IPIR	**Pirpir**	**1.64**	**41**	*e*Pn	**Pn**	**09 42 23.8**	**-0.6**
IPIR				*e*Sn	**Sb**	**09 42 47.7**	**+0.8**
IPIR				*e*		09 42 48.1	
	comp=Z,11μm,0.3s						
IPIR	**Pirpir**	**1.64**	**41**	*e*Pn	**Pn**	**09 42 23.8**	**-0.6**
IPIR				*e*Sn	**Sb**	**09 42 47.7**	**+0.8**
IGAR	**Gharneh**	**2.26**	**64**	*e*Pn	**Pb**	**09 42 36.1**	**-1.1**
IGAR				*e*		09 43 09.0	
	comp

QAM	**Ghamsar**	**2.77**	**33**	*e*Pn	**Pn**	**09 42 42.6**	**+2.7**
QAM				*e*		09 43 23.1	
	comp=Z,7μm,0.3s						
NASN	**Na'in**	**3.02**	**63**	*e*Pn	**Pn**	**09 42 45.2**	**+1.9**
NASN	**Na'in**	**3.02**	**63**	*e*Pn	**Pn**	**09 42 45.2**	**+1.9**
NSR	**Nassriya**	**3.02**	**263**	*e*PN	x	09 42 51.7	
NSR				*e*SN	x	09 43 11.2	
IKOM	**Komasi**	**3.26**	**327**	*e*Pn	**Pn**	**09 42 48.5**	**+2.0**
IKOM				*e*		09 43 59.9	
	comp=Z,1μm,0.2s						
IKOM	**Komasi**	**3.26**	**327**	*e*Pn	**Pn**	**09 42 48.5**	**+2.0**
GHVR	**GHOM**	**3.34**	**24**	*e*Pn	**Pn**	**09 42 48.0**	**+0.5**
GHVR				*e*Sg	**Sb**	**09 43 32.7**	**-2.9**
GHVR				AML	AML	09 43 44.5	
	comp=N,142nm,0.8s						
GHVR				AML	AML	09 43 48.4	
	comp=E,210nm,0.7s						
GHVR	**GHOM**	**3.34**	**24**	*e*Pn	**Pn**	**09 42 48.0**	**+0.5**
ISAD	**Sadrabad**	**3.49**	**81**	*e*Pn	**Pn**	**09 42 51.5**	**+1.7**
ISAD				*e*		09 43 51.1	
	comp=Z,909nm,0.3s						
ISAD	**Sadrabad**	**3.49**	**81**	*e*Pn	**Pn**	**09 42 51.5**	**+1.7**
IBDR	**Badra**	**3.55**	**299**	*e*PG	x	09 43 10.7	
IBDR				*e*SG	x	09 43 42.6	
ISRV	**Sarvestan**	**3.64**	**123**	*e*Pn	**Pn**	**09 42 53.7**	**+1.7**
ISRV				*e*		09 44 11.5	
	comp=Z,2μm,0.6s						
ISRV	**Sarvestan**	**3.64**	**123**	*e*Pn	**Pn**	**09 42 53.7**	**+1.7**
IVRN	**Varamin**	**3.95**	**26**	*e*Pn	**Pn**	**09 42 57.7**	**+1.7**
IVRN				*e*		09 42 58.2	
	comp=Z,981nm,0.2s						
IVRN	**Varamin**	**3.95**	**26**	*e*Pn	**Pn**	**09 42 57.7**	**+1.7**
IRAZ	**Razeghan**	**3.96**	**4**	*e*Pn	**Pn**	**09 42 58.1**	**+1.9**
IRAZ				*e*		09 44 05.3	
	comp=Z,2μm,0.3s						
IRAZ	**Razeghan**	**3.96**	**4**	*e*Pn	**Pn**	**09 42 58.1**	**+1.9**
ICHK	**Chekchek**	**4.14**	**78**	*e*Pn	**Pn**	**09 43 00.3**	**+1.6**
ICHK				*e*		09 44 19.1	
	comp=Z,820nm,0.4s						
ICHK	**Chekchek**	**4.14**	**78**	*e*Pn	**Pn**	**09 43 00.3**	**+1.6**
IDHR	**Dehrash**	**4.24**	**321**	*e*Pn	**Pn**	**09 43 00.7**	**+0.7**
IDHR				*e*		09 43 53.2	
	comp=Z,1μm,0.2s						
IDHR	**Dehrash**	**4.24**	**321**	*e*Pn	**Pn**	**09 43 00.7**	**+0.7**
IMEH	**Mehriz**	**4.26**	**89**	*e*Pn	**Pn**	**09 43 02.7**	**+2.4**
IMEH				*e*		09 44 23.9	
	comp=Z,280nm,0.5s						
IMEH	**Mehriz**	**4.26**	**89**	*e*Pn	**Pn**	**09 43 02.7**	**+2.4**
IMHD	**Mahdasht**	**4.32**	**11**	*e*Pn	**Pn**	**09 43 02.3**	**+1.3**
IMHD				*e*		09 44 16.4	
	comp=N,962nm,0.2s						
IMHD	**Mahdasht**	**4.32**	**11**	*e*Pn	**Pn**	**09 43 02.3**	**+1.3**
DAMV	**Damavand**	**4.61**	**24**	*e*Pn	**Pn**	**09 43 06.0**	**+0.8**
DAMV				AML	AML	09 44 27.1	
	comp=E,60nm,0.6s						
DAMV				AML	AML	09 44 32.0	
	comp=N,48nm,0.7s						
DAMV	**Damavand**	**4.61**	**24**	*e*Pn	**Pn**	**09 43 06.0**	**+0.8**
	comp=N,48nm,0.7s						
CHTH	**Charan**	**4.62**	**15**	*e*Pn	**Pn**	**09 43 06.2**	**+0.8**
CHTH	**Charan**	**4.62**	**15**	*e*Pn	**Pn**	**09 43 06.2**	**+0.8**
IFIR	**Firoozkooh**	**4.93**	**31**	*e*Pn	**Pn**	**09 43 11.4**	**+1.8**
IFIR				*e*		09 43 13.1	
	comp=Z,429nm,0.1s						
IFIR	**Firoozkooh**	**4.93**	**31**	*e*Pn	**Pn**	**09 43 11.4**	**+1.8**
IBAF	**Bafgh**	**5.07**	**87**	*e*Pn	**Pn**	**09 43 13.1**	**+1.6**
IBAF				*e*		09 45 20.5	
	comp=Z,184nm,0.2s						
IBAF	**Bafgh**	**5.07**	**87**	*e*Pn	**Pn**	**09 43 13.1**	**+1.6**
ISHM	**Shahmirzad**	**5.32**	**34**	*e*Pn	**Pn**	**09 43 16.4**	**+1.4**
ISHM				*e*		09 43 18.1	
	comp=Z,1μm,0.1s						
IALA	**Alasht**	**5.33**	**29**	*e*Pn	**Pn**	**09 43 17.4**	**+2.2**
IALA				*e*		09 43 18.3	
	comp=Z,740nm,0.1s						
IALA	**Alasht**	**5.33**	**29**	*e*Pn	**Pn**	**09 43 17.4**	**+2.2**
IKRK	**Kirkuk**	**5.93**	**313**	*e*PN	x	09 43 37.2	
IKRK				*e*SN	x	09 44 27.4	
IGLO	**Ghaloghah**	**6.13**	**34**	*e*Pn	**Pn**	**09 43 28.3**	**+2.3**
IGLO				*e*		09 45 42.1	
	comp=Z,474nm,0.2s						
MSL	**Mosul**	**7.33**	**314**	*e*PN	x	09 43 55.9	
MSL				*e*SN	x	09 45 03.0	
GEYT	**Alibeck**	**9.52**	**45**	Pn	**Pn**	**09 44 14.9**	**+2.5**
	comp=Z,2.8nm,0.3s,baz=233,slow=11,SNR=25						
ASF	**Jabal al Asfar**	**10.86**	**277**	Pn	**Pn**	**09 44 29.5**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=51,slow=6.5,SNR=3.3						
BRTR	**Keskin Array B**	**15.40**	**307**	Pn	**Pn**	**09 45 34.3**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=122,slow=13,SNR=12						
AKTO	**Aktyubinsk**	**19.98**	**16**	P	**P**	**09 46 26.7**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=202,slow=12,SNR=4.5						
MLR	**Muntele Rosu**	**23.14**	**314**	P	**P**	**09 47 01.1**	**-0.2**
	comp=Z,0.7nm,0.9s,baz=261,slow=10,SNR=3.3						
AKASG	**Malin Array Be**	**24.49**	**328**	P	**P**	**09 47 12.7**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=133,slow=9.1,SNR=4.4						
BVAR	**Borovoye Array**	**26.30**	**29**	P	**P**	**09 47 31.3**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=232,slow=7.1,SNR=4.2						
KURBB	**Kurchatov Arra**	**28.74**	**40**	P	**P**	**09 47 50.6**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=249,slow=7.7,SNR=2.6						
MKAR	**Makanchi Array**	**29.36**	**49**	P	**P**	**09 47 59.8**	**+2.0**
	comp=Z,0.5nm,0.9s,baz=262,slow=10.0,SNR=3.4						
FINES	**FINESS Array B**	**33.72**	**340**	P	**P**	**09 48 35.1**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=101,slow=7.2,SNR=7.5						
TORD	**Torodi Ar. Bea**	**47.54**	**259**	P	**P**	**09 50 30.0**	**-0.4**
	comp=Z,1.6nm,0.9s,baz=56,slow=6.9,SNR=6.1						
SPITS	**Spitsbergen Ar**	**49.06**	**351**	P	**P**	**09 50 41.5**	**+0.2**
	comp=Z,8.6nm,1.1s,baz=170,slow=8.8,SNR=4.4						
ILAR	**Eielson Array**	**83.23**	**7**	P	**P**	**09 54 20.1**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=332,slow=5.1,SNR=2.9						
YKA	**Yellowknife Ar**	**85.54**	**353**	P	**P**	**09 54 31.8**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=14,slow=5.8,SNR=5.6						

*ISCJB **07** 09:43:56.5±0.8, 31°.37N±0°.08×49°.39E±0°.08, h10km, mb3.7/5, Error ellipse: s-maj=11.7km s-min=9.4km az=157.7*
*IDC **07** 09:43:56.7±2.4, 31°.60N×49°.43E, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.5/40, mbtmp3.8/7, ML3.7/2, MS2.6/1, Ms1 2.6/1, ms1mx2.1/35, Error ellipse: s-maj=60.4km s-min=25.3km az=147.0*
*CSEM **07** 09:43:58.6, 31°.34N×49°.51E, h3km, ML3.8*
*TEH **07** 09:43:58.6, 31°.34N×49°.51E, h3km, ML3.8*

ISC 07 09:43:58.1±1.0, 31°.37N±0°.07×49°.53E±0°.06, h10km, n25, σ1§46/25, mb3.6/5, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IPIR	**Pirpir**	**1.75**	**41**	*e*Pn		**Pn**	**09 44 27.6**	**-1.2**
IPIR				*e*			09 44 50.9	
	comp=Z,10μm,0.3s							
IPIR	**Pirpir**	**1.75**	**41**	*e*Pn		**Pn**	**09 44 27.6**	**-1.2**
IKAZ	**Kazeroun**	**2.55**	**128**	*e*Pn		**Pn**	**09 44 40.7**	**+0.8**
IKAZ				*e*			09 45 30.6	
	comp=Z,4μm,0.2s							
IKAZ	**Kazeroun**	**2.55**	**128**	*e*Pn		**Pn**	**09 44 40.7**	**+0.8**
IKLH	**Kolahrood**	**2.60**	**41**	*e*Pn		**Pn**	**09 44 42.6**	**+2.1**
IKLH				*e*Sn		**Sn**	**09 45 13.9**	**+1.5**
IKLH				*e*			09 45 17.5	
	comp=N,10μm,0.2s							
IKLH	**Kolahrood**	**2.60**	**41**	*e*Pn		**Pn**	**09 44 42.6**	**+2.1**
IKLH				*e*Sn		**Sn**	**09 45 13.9**	**+1.5**
IZEF	**Zefreh**	**2.82**	**57**	*e*		**Sg**	**09 45 29.0**	**+0.3**
	comp=Z,1μm,0.2s							
QAM	**Ghamsar**	**2.88**	**34**	*e*Pn		**Pn**	**09 44 46.1**	**+1.9**
QAM				*e*			09 45 26.2	
	comp=Z,7μm,0.2s							
ISAD	**Sadrabad**	**3.59**	**80**	*e*Pn		**Pn**	**09 44 55.2**	**+1.1**
ISAD				*e*			09 45 42.6	
	comp=Z,804nm,0.2s							
ISAD	**Sadrabad**	**3.59**	**80**	*e*Pn		**Pn**	**09 44 55.2**	**+1.1**
IVRN	**Varamin**	**4.05**	**26**	*e*Pn		**Pn**	**09 45 00.7**	**+0.4**
IVRN				*e*			09 45 01.0	
	comp=Z,915nm,0.2s							
IVRN	**Varamin**	**4.05**	**26**	*e*Pn		**Pn**	**09 45 00.7**	**+0.4**
IDHR	**Dehrash**	**4.24**	**322**	*e*Pn		**Pn**	**09 45 04.1**	**+1.1**
IDHR	**Dehrash**	**4.24**	**322**	*e*Pn		**Pn**	**09 45 04.1**	**+1.1**
IMHD	**Mahdasht**	**4.40**	**12**	*e*Pn		**Pn**	**09 45 05.6**	**+0.4**
IMHD				*e*			09 46 22.0	
	comp=N,1μm,0.4s							
IMHD	**Mahdasht**	**4.40**	**12**	*e*Pn		**Pn**	**09 45 05.6**	**+0.4**
GEYT	**Alibeck**	**9.63**	**45**	Pn		**Pn**	**09 46 16.4**	**-0.4**
	comp=N,1.9nm,0.3s,baz=242,slow=12,SNR=7.8							
EIL	**Elat**	**12.68**	**266**	LR		LR	09 51 41.4	
	comp=N,26nm,19.0s,baz=270,slow=37							

BRTR	**Keskin Array B**	**15.37**	**307**	Pn	**Pn**	**09 47 38.3**	**+3.1**
	comp=N,0.1nm,0.3s,baz=134,slow=12,SNR=5.2						
AKTO	**Aktyubinsk**	**20.07**	**16**	P	**P**	**09 48 29.5**	**-2.0**
	comp=N,0.1nm,0.3s,baz=212,slow=15,SNR=11						
AKASG	**Malin Array Be**	**24.50**	**328**	P	**P**	**09 49 15.6**	**-1.9**
	comp=N,0.4nm,0.4s,baz=134,slow=8.3,SNR=3.9						
KURBB	**Kurchatov Arra**	**28.85**	**40**	P	**P**	**09 49 55.8**	**-0.8**
	comp=N,0.3nm,0.6s,baz=239,slow=9.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**47.44**	**259**	P	**P**	**09 52 33.4**	**+0.2**
	comp=N,1.1nm,0.9s,baz=58,slow=8.4,SNR=3.5						
SPITS	**Spitsbergen Ar**	**49.11**	**351**	P	**P**	**09 52 43.9**	**-1.5**
	comp=N,6.8nm,1.0s,baz=67,slow=3.7,SNR=4.4						
YKA	**Yellowknife Ar**	**85.59**	**353**	P	P	09 56 34.1	-2.2
	comp=N,0.3nm,0.6s,baz=10,slow=5.6,SNR=4.9						

MEX 07 09:46:17.8±0.5, 14°.99N×92°.01W, h140km±6km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.26**	**252**	*e*P	Pn	09 46 35.3	-1.7
THIG				*i* S	Sn	09 46 49.6	-1.8
CCIG	**Comitan**	**1.29**	**354**	*e*P	Pn	09 46 43.6	-1.0
CCIG				*i* S	Sn	09 47 03.1	-2.1
PCIG		**1.37**	**301**	*i* P	Pn	09 46 44.0	-1.2
PCIG				*i* S	Sn	09 47 04.1	-1.9

*NAO **07** 09:46:32.7±1.3, 67°.56N×34°.06E, ML2.9*
*HEL **07** 09:46:33.1±0.3, 67°.72N×34°.10E, h0km, ML2.4, ML2.1(UPP), Explosion*
*KOLA **07** 09:46:33.4, 67°.63N×34°.04E, h0km*
*UPP **07** 09:46:33.6, 67°.61N×34°.08E, h0km, ML2.1, Suspected Mining explosion.*
*CSEM **07** 09:46:35.3±0.4, 67°.65N×33°.64E, h2km, ML2.9, Error ellipse: s-maj=7.5km s-min=5.1km az=87.0, Mining explosion.*

ISC 07 09:46:30.2±1.7, 67°.57N±0°.04×34°.32E±0°.08, h0km, n62, σ1§45/101, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
APA	**Apatity**	**0.35**	**270**	P		**Pg**	**09 46 37.9**	**+1.0**
APA				S		**Sg**	**09 46 41.2**	**-0.2**
APA0	**Apatity Array**	**0.51**	**274**	Pg		**Pg**	**09 46 37.6**	**-2.3**
APA0				Pg		**Pg**	**09 46 40.2**	**+0.3**
	baz=96,slow=16							
APA0				Lg		Lg	09 46 41.5	
APA0				Lg		Lg	09 46 46.3	
	baz=84,slow=37							
APA0				Rg		Rg	09 46 48.9	
	baz=84,slow=37							
APA0	**Apatity Array**	**0.51**	**274**	Pg		**Pg**	**09 46 40.2**	**+0.3**
	baz=96,slow=16							
APA0				Lg		Lg	09 46 46.3	
	baz=84,slow=37							
APA0				Rg		Rg	09 46 48.9	
	baz=84,slow=37							
APA0	**Apatity Array**	**0.51**	**274**	P		**Pg**	**09 46 40.6**	**+0.6**
APA0				S		**Sg**	**09 46 45.8**	**-0.7**
APA0	**Apatity Array**	**0.51**	**274**	Pg		**Pg**	**09 46 40.2**	**+0.3**
	baz=96,slow=14,SNR=493							
APA0				Lg		Lg	09 46 41.5	
	baz=84,slow=35							
VRF	**Varrio**	**1.81**	**278**	*e*P		**Pn**	**09 47 03.5**	**+0.8**
VRF				*e*S		**Sn**	**09 47 24.8**	**-1.5**
VRF	**Varrio**	**1.81**	**278**	P		**Pn**	**09 47 03.4**	**+0.8**
VRF				S		**Sn**	**09 47 24.7**	**-1.5**
KU6	**Riekki**	**2.34**	**230**	*e*P		**Pb**	**09 47 13.6**	**+0.3**
KU6				*e*S		**Sb**	**09 47 42.9**	**+0.2**
KU6				MSG			09 47 47.0	
	comp=Z,18nm,0.2s							
KU6	**Riekki**	**2.34**	**230**	P		**Pb**	**09 47 13.5**	**+0.3**
KU6				S		**Sb**	**09 47 42.9**	**+0.2**
MSF	**Maaselka**	**2.68**	**234**	*e*P		**Pb**	**09 47 18.9**	**0.0**
MSF				*e*PG		**Pg**	**09 47 22.0**	**+0.5**
MSF				*e*SG		**Sg**	**09 47 55.2**	**-1.0**
MSF	**Maaselka**	**2.68**	**234**	P		**Pb**	**09 47 18.9**	**0.0**
SGF	**Sodankyl**	**3.00**	**271**	*e*P		**Pn**	**09 47 20.8**	**+1.8**
SGF				*e*S		**Sn**	**09 47 56.0**	**+0.4**
SGF	**Sodankyl**	**3.00**	**271**	P		**Pn**	**09 47 20.7**	**+1.8**
SGF				S		**Sn**	**09 47 55.9**	**+0.4**
KEV	**Kevo**	**3.46**	**313**	*e*P		**Pn**	**09 47 27.1**	**+2.0**
KEV				*e*SG		**Sb**	**09 48 14.5**	**-0.1**
KEV	**Kevo**	**3.46**	**313**	P		**Pn**	**09 47 27.1**	**+2.0**
KEV				Sg		**Sb**	**09 48 14.5**	**-0.1**
ARA0	**ARCESS Array S**	**3.79**	**305**	Pn		**Pn**	**09 47 30.9**	**+1.2**
	baz=122,slow=16							
ARA0				Sn		**Sn**	**09 48 13.9**	**-1.1**
	baz=121,slow=28							
ARA0				Lg		Lg	09 48 23.9	
	baz=119,slow=37							
ARA0	**ARCESS Array S**	**3.79**	**305**	Pn		**Pn**	**09 47 30.9**	**+1.2**
	baz=122,slow=16							
ARA0				Sn		**Sn**	**09 48 13.9**	**-1.1**
	baz=121,slow=28							
ARA0				Lg		Lg	09 48 23.9	
	baz=119,slow=37							
ARA0	**ARCESS Array S**	**3.79**	**305**	Pn		**Pn**	**09 47 30.9**	**+1.2**
	baz=122,slow=15,SNR=723							
ARA0				Sn		**Sn**	**09 48 13.9**	**-1.1**
	baz=121,slow=28,SNR=7.9							
ARA0				Lg		Lg	09 48 23.9	
	SNR=50							
ARE0	**ARCESS Array S**	**3.79**	**305**	*e*P		**Pn**	**09 47 31.0**	**+1.2**
ARE0	**ARCESS Array S**	**3.79**	**305**	P		**Pn**	**09 47 30.9**	**+1.2**
HEF	**Hetta**	**4.10**	**287**	*e*P		**Pn**	**09 47 35.4**	**+1.4**
HEF	**Hetta**	**4.10**	**287**	P		**Pn**	**09 47 35.4**	**+1.4**
OUL	**Oulu**	**4.22**	**238**	*e*P		**Pn**	**09 47 38.6**	**+3.0**
OUL	**Oulu**	**4.22**	**238**	P		**Pn**	**09 47 38.6**	**+3.0**
KTK1	**Kautokeino**	**4.36**	**294**	*e*P		**Pn**	**09 47 40.2**	**+2.6**
KTK1				*e*S		**Sn**	**09 48 27.3**	**-1.8**
KTK1				IAML			09 48 48.4	
	comp=N,20nm,0.1s							
KTK1	**Kautokeino**	**4.36**	**294**	*e*P		**Pn**	**09 47 40.2**	**+2.6**
	SNR=49							
KTK1				*e*S		**Sn**	**09 48 27.3**	**-1.8**
	SNR=49							
KJN	**Kajaani**	**4.43**	**221**	*e*P		Pn	09 47 42.2	+3.6
KJN	**Kajaani**	**4.43**	**221**	P		Pn	09 47 42.2	+3.6
KALU	**Kalix**	**4.68**	**254**	*e*P		**Pn**	**09 47 44.0**	**+2.1**
KALU				*e*S		**Sn**	**09 47 38.4**	**+0.9**
KALU	**Kalix**	**4.68**	**254**	P		**Pn**	**09 47 44.0**	**+2.1**
KALU				S		**Sn**	**09 47 38.7**	**+0.9**
KALU	**Kalix**	**4.68**	**254**	P		**Pn**	**09 47 44.0**	**+2.1**
KALU				S		**Sn**	**09 48 37.8**	**+0.9**
LANU	**Lannavaara**	**4.70**	**282**	*e*P		**Pn**	**09 47 43.3**	**+1.0**
LANU	**Lannavaara**	**4.70**	**282**	P		**Pn**	**09 47 43.3**	**+1.0**
LANU	**Lannavaara**	**4.70**	**282**	P		**Pn**	**09 47 43.3**	**+1.0**
MASU	**Masugnsbyn**	**4.73**	**274**	*e*P		**Pn**	**09 47 43.8**	**+1.1**
MASU	**Masugnsbyn**	**4.73**	**274**	P		**Pn**	**09 47 43.8**	**+1.1**
MASU	**Masugnsbyn**	**4.73**	**274**	P		**Pn**	**09 47 43.8**	**+1.1**
ERTU	**Ertsjaerv**	**4.86**	**263**	*e*P		**Pn**	**09 47 46.0**	**+1.6**
ERTU				*e*S		**Sn**	**09 48 40.7**	**-0.5**
ERTU	**Ertsjaerv**	**4.86**	**263**	P		**Pn**	**09 47 46.0**	**+1.6**
ERTU				S		**Sn**	**09 48 40.7**	**-0.5**
ERTU	**Ertsjaerv**	**4.86**	**263**	P		**Pn**	**09 47 46.0**	**+1.6**
ERTU				S		**Sn**	**09 48 40.7**	**-0.5**
KUA	**Kurravaara**	**5.33**	**281**	*e*P		**Pn**	**09 47 51.6**	**+0.8**
KUA				*e*S		**Sn**	**09 48 50.5**	**-2.3**
KUA	**Kurravaara**	**5.33**	**281**	P		**Pn**	**09 47 51.6**	**+0.8**
KUA				S		**Sn**	**09 48 50.5**	**-2.3**
KUA	**Kurravaara**	**5.33**	**281**	P		**Pn**	**09 47 51.6**	**+0.8**
KUA				S		**Sn**	**09 48 50.5**	**-2.3**
DUNU	**Dundret**	**5.33**	**271**	*e*P		**Pn**	**09 47 52.5**	**+1.5**
DUNU				*e*S		**Sn**	**09 48 52.2**	**-0.9**
DUNU	**Dundret**	**5.33**	**271**	P		**Pn**	**09 47 52.4**	**+1.5**
DUNU				S		**Sn**	**09 48 52.2**	**-0.9**
DUNU	**Dundret**	**5.33**	**271**	P		**Pn**	**09 47 52.5**	**+1.5**
DUNU				S		**Sn**	**09 48 52.2**	**-0.9**
HARU	**Harads**	**5.45**	**261**	*e*P		**Pn**	**09 47 52.9**	**+0.4**
HARU				*e*S		**Sn**	**09 48 55.3**	**-0.5**
HARU	**Harads**	**5.45**	**261**	P		**Pn**	**09 47 52.9**	**+0.4**
HARU				S		**Sn**	**09 48 55.3**	**-0.5**
HARU	**Harads**	**5.45**	**261**	P		**Pn**	**09 47 52.9**	**+0.4**
HARU				S		**Sn**	**09 48 55.3**	**-0.5**
SJUU	**Sjulsmark**	**5.49**	**254**	*e*P		**Pn**	**09 47 53.9**	**+0.9**
SJUU	**Sjulsmark**	**5.49**	**254**	P		**Pn**	**09 47 53.9**	**+0.9**
SJUU	**Sjulsmark**	**5.49**	**254**	P		**Pn**	**09 47 53.9**	**+0.9**
NIKU	**Nikkaluokta**	**5.82**	**280**	*e*P		**Pn**	**09 47 59.0**	**+1.3**
NIKU				*e*S		**Sn**	**09 49 02.4**	**-2.6**
NIKU	**Nikkaluokta**	**5.82**	**280**	P		**Pn**	**09 47 58.9**	**+1.3**
NIKU				S		**Sn**	**09 49 02.4**	**-2.6**
SALU	**Saltoluokta**	**6.08**	**275**	*e*P		**Pn**	**09 48 03.0**	**+1.7**
SALU				*e*S		**Sn**	**09 49 09.7**	**-1.7**
SALU	**Saltoluokta**	**6.08**	**275**	P		**Pn**	**09 48 02.9**	**+1.7**
SALU				S		**Sn**	**09 49 09.7**	**-1.7**
SALU	**Saltoluokta**	**6.08**	**275**	P		**Pn**	**09 48 03.0**	**+1.7**
SALU				S		**Sn**	**09 49 09.7**	**-1.7**
FIA0	**FINESS Array S**	**7.10**	**214**	Pn		**Pn**	**09 48 15.2**	**0.0**
FIA0				Sn		**Sn**	**09 49 33.0**	**-3.4**
	baz=39,slow=18							
FIA0				Lg		Lg	09 50 09.6	
	baz=20,slow=22							
FIA0	**FINESS Array S**	**7.10**	**214**	Pn		**Pn**	**09 48 15.2**	**0.0**
FIA0				Sn		**Sn**	**09 49 33.0**	**-3.4**
	baz=39,slow=18							
FIA0				Lg		Lg	09 50 09.6	
	baz=20,slow=22							
SPA0	**Spitsbergen Ar**	**11.79**	**342**	Pn		**Pn**	**09 49 19.3**	**-0.1**
	baz=134,slow=14							
SPA0	**Spitsbergen Ar**	**11.79**	**342**	Pn		**Pn**	**09 49 19.3**	**-0.1**
	baz=134,slow=14							

*BJI **07** 10:38:11.0, 24°.90S×70°.00E, h10km, mb4.9/36, mB5.1/24, Ms4.8/21, Ms7 4.5/20*
*IDC **07** 10:38:11.6±0.4, 24°.91S×69°.99E, h0km, mb4.7/28, mb1 4.7/28, mb1mx4.6/39, mbtmp4.7/28, MS4.0/23, Ms1 4.0/23, ms1mx3.9/34, Error ellipse: s-maj=15.0km s-min=12.7km az=54.0*
*MOS **07** 10:38:11.5±1.3, 24°.87S×69°.91E, h10km, mb5.5/34, Error ellipse: s-maj=12.2km s-min=5.8km az=109.2*
*ISCJB **07** 10:38:12.9±0.2, 24°.94S±0°.04×69°.93E±0°.05, h19km, mb5.0/104, MS4.1/24, Error ellipse: s-maj=7.3km s-min=6.0km az=28.8*
*NEIC **07** 10:38:12.8±0.3, 24°.87S×69°.87E, h10km, mb5.2/38, Error ellipse: s-maj=11.9km s-min=9.5km az=223.0*
*GCMT **07** 10:38:12.8±0.2, 24°.64S×69°.85E, h13km±1km, MW5.0/94, Moment Tensor Solution. s28,c35; s94,c136; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_T=-3.13±.18; $M_{\theta\theta}$0.31±.10; $M_{\phi\phi}$2.82±.12; $M_{r\theta}$0.12±.33; $M_{\theta\phi}$-1.13±.08; $M_{r\phi}$1.29±.28; Best double couple: $M_0$3.44700×10^{16} NP1:ϕ_s169.00000°, δ56.00000°, λ-79.00000°. NP2: ϕ_s329.00000°, δ36.00000°, λ-106.00000°. Principal axes: T 3.4610, Plg10.0000°, Azm251.0000°; N -0.0270, Plg9.0000°, Azm342.0000°; P -3.4320, Plg76.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 07 10:38:14.8±0.3, 24°.92S±0°.06×69°.83E±0°.07, h19km, n559, σ1§19/615, mb5.2/103, MS4.1/24, 125C-119D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ABPO	**Ambohimpanom**	**21.76**	**281**	*e*P		**P**	**10 43 07.1**	**+1.5**
ABPO				pmax		pmax		
	comp=Z,25nm,1.1s							
ABPO	**Ambohimpanom**	**21.76**	**281**	*e*P		**P**	**10 43 07.1**	**+1.5**
	comp=Z,25nm,1.1s							
OPO	**Ambohidratompo**	**21.95**	**282**	P		**P**	**10 43 10.1**	**+2.5**
	comp=Z,29nm,1.1s,baz=94,slow=11,SNR=15							
OPO				LR		LR	10 49 19.0	
	comp=Z,930nm,21.6s,baz=108,slow=30							
KMBO	**Kilima Mbogo**	**39.37**	**302**	P		**P**	**10 45 45.0**	**+1.3**
	comp=Z,7.1nm,0.9s,baz=103,slow=4.9,SNR=9.5							
KMBO				LR		LR	10 58 16.6	
	comp=Z,178nm,21.5s,baz=100,slow=30							
KMBO	**Kilima Mbogo**	**39.37**	**302**	*ce*P		**P**	**10 45 44.5**	**+0.9**
KMBO				pmax		pmax		
	comp=Z,7.0nm,0.9s							
KMBO	**Kilima Mbogo**	**39.37**	**302**	*e*P		**P**	**10 45 45.1**	**+1.5**
H01W2	**Cape Leeuwin H**	**39.40**	**115**	T		T	11 27 25.8	
	baz=272,slow=75,SNR=7.1							
H01W3	**Cape Leeuwin H**	**39.40**	**115**	T		T	11 27 35.8	
	baz=272,slow=75,SNR=7.2							
H01W1	**Cape Leeuwin

KMI LE
comp=Z,220nm,21.0s
KMI LZ
comp=Z,200nm,19.6s
KBL pmax pmax
comp=Z,280nm,19.4s
KBL Kabul 59.14 359 *e*P **P 10 48 14.4 0.0**
KBL pmax pmax
comp=Z,220nm,1.0s
KBL Kabul 59.14 359 *e*P **P 10 48 14.4 0.0**
comp=Z,200nm,1.0s
WRA Warramunga Arr 59.35 99 P **P 10 48 15.2 -0.9**
comp=Z,11nm,0.8s,baz=255,slow=7.0,SNR=29
WRA LR LR 11 11 27.1
comp=Z,422nm,19.6s,baz=265,slow=34
WRAB Tennant Creek 59.37 99 P **P 10 48 16.6 +0.4**
comp=Z,167nm,0.8s,SNR=6.8
WRAB Tennant Creek 59.37 99*c i*P **P 10 48 15.8 -0.4**
WRAB pmax pmax
comp=Z,70nm,1.5s
WRAB Tennant Creek 59.37 99 *e*P **P 10 48 15.6 -0.6**
comp=Z,27nm,0.9s
SNAA Sanae 61.11 200 P **P 10 48 28.1 +0.8**
SNAA Sanae 61.11 200 P **P 10 48 27.6 +0.2**
comp=Z,2.5nm,0.9s,baz=119,slow=5.9,SNR=12
SNAA Sanae 61.11 200 *e*P **P 10 48 28.3 +0.9**
SNAA Sanae 61.11 200 *e*P **P 10 48 28.3 +0.9**
GYA Guiyang 62.24 37 P P 10 48 39.0 +3.4
GYA PP PP 10 50 58.2 +5.3
GYA ScP **ScP 10 53 19.4 +2.9**
GYA S **S 10 57 04.8 +4.0**
GYA SKS **SKSac 10 58 27.0 -0.1**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,130nm,5.0s
GYA LN
comp=Z,520nm,22.5s
GYA LE
comp=Z,490nm,20.4s
GYA LZ
comp=Z,540nm,21.2s
STKA Stephens Creek 62.48 114 LR LR 11 11 44.0
comp=Z,250nm,21.3s,baz=220,slow=32
VNA2 Neumayer--Watz 62.50 201 P **P 10 48 37.6 +1.0**
baz=91,slow=8.1
VNA1 Neumayer--Stat 62.77 202 P **P 10 48 39.8 +1.4**
VNA3 Neumayer Olymp 63.25 201 P **P 10 48 42.4 +0.7**
GEYT Alibeck 63.48 350 LR LR 11 13 24.0
comp=Z,119nm,20.7s,baz=165,slow=33
SWI Sorong 63.87 78 P P 10 48 53.7 +7.1
CD2 Chengdu 64.32 32 *e*P **P 10 48 50.4 +1.2**
CD2 sP **sP 10 48 59.1 +1.4**
CD2 PP **PP 10 51 12.5 +1.4**
CD2 S **S 10 57 27.7 +1.2**
CD2 sS **sS 10 57 36.0 -0.7**
CD2 SS **SS 11 01 39.2 +2.3**
CD2 PMZ
comp=Z,10.0nm,0.8s
CD2 PMZ
comp=Z,110nm,8.3s
CD2 LN
comp=Z,270nm,20.2s
CD2 LZ
comp=Z,230nm,15.6s
KSH Kashi 64.36 5 P P 10 48 46.1 -3.3
KSH pP pP 10 48 50.6 -5.0
KSH sP sP 10 48 53.0 -4.8
KSH *e*PP **PP 10 51 07.5 -3.9**
KSH S S 10 57 17.6 -9.2
KSH ScS SKSac 10 58 35.3 -7.3
KSH PMZ
comp=Z,180nm,5.1s
KSH LN
comp=Z,86nm,4.8s
KSH LE
comp=Z,110nm,5.0s
KSH LZ
comp=Z,160nm,6.1s
QSPA South Pole Qui 65.20 180 P **P 10 48 54.8 +0.1**
comp=Z,15nm,0.8s,baz=276,slow=2.1,SNR=63
QSPA South Pole Qui 65.20 180 *e*P **P 10 48 54.6 -0.1**
comp=Z,17nm,0.9s
VNDA Vanda 66.29 166 P **P 10 49 00.8 -0.6**
comp=Z,6.4nm,0.8s,baz=276,slow=6.9,SNR=34
VNDA LR LR 11 15 35.7
comp=Z,109nm,18.1s,baz=266,slow=34
VNDA Vanda 66.29 166 *e*P **P 10 49 01.1 -0.3**
VNDA Vanda 66.29 166 *e*P **P 10 49 01.1 -0.3**
AML Almayashu 66.81 3 P **P 10 49 04.8 -0.7**
SNR=9.1
AML Almayashu 66.81 3 *i*P **P 10 49 04.8 -0.7**
KZA Kyzart 66.85 4 P **P 10 49 05.9 +0.1**
SNR=6.0
KZA Kyzart 66.85 4 *i*P **P 10 49 05.9 +0.1**
ULHL Ulahol 67.09 5 P **P 10 49 06.9 -0.2**
SNR=20
ULHL Ulahol 67.09 5 *i*P **P 10 49 06.9 -0.2**
SBA Scott Base 67.27 167 *e*P **P 10 49 08.5 +0.9**
SBA pmax pmax
comp=Z,112nm,2.5s
SBA Scott Base 67.27 167 *e*P **P 10 49 08.5 +0.9**
comp=Z,112nm,2.5s
EKS2 Erkin-Say 67.34 3 P **P 10 49 09.2 +0.7**
SNR=6.4
EKS2 Erkin-Say 67.34 3 *i*P **P 10 49 09.2 +0.7**
EKS2 Erkin-Say 67.34 3 *e*P **P 10 49 08.6 +0.1**
comp=Z,10nm,1.0s
AAK Ala-Archa 67.36 4 P **P 10 49 08.6 -0.1**
comp=Z,51nm,1.0s,SNR=5.5
AAK Ala-Archa 67.36 4 P **P 10 49 09.0 +0.3**
SNR=7.5
AAK Ala-Archa 67.36 4*d i*P **P 10 49 08.5 -0.1**
AAK Ala-Archa 67.36 4 *e*P **P 10 49 08.9 +0.3**
comp=Z,11nm,1.0s
FRU Bishkek 67.56 4 *e*P **P 10 49 09.0 -0.8**
KKAR Karatay Array 67.69 1 *e*P **P 10 49 10.6 0.0**
KKAR pmax pmax
comp=Z,8.0nm,0.8s
KKAR Karatay Array 67.69 1 *e*P **P 10 49 10.6 0.0**
comp=Z,8.4nm,0.8s
TKM2 Tokmak 2 67.71 5 P **P 10 49 10.7 -0.3**
SNR=25
TKM2 Tokmak 2 67.71 5 *i*P **P 10 49 10.7 -0.3**
TKM2 Tokmak 2 67.71 5 *e*P **P 10 49 10.2 -0.8**
comp=Z,18nm,0.8s
USP Ospenovka 67.99 4 P **P 10 49 12.4 -0.2**
SNR=11
USP Ospenovka 67.99 4 *i*P **P 10 49 12.3 -0.2**
LZH Lanzhou 68.66 29 *e*P **P 10 49 20.1 +3.1**
LZH pP **pP 10 49 23.3 +0.1**
LZH sP **sP 10 49 24.9 -0.6**
LZH *e*PP PP 10 51 54.5 +5.4
LZH *e*S **S 10 58 23.3 +4.1**
LZH sS **sS 10 58 30.2 +0.8**
LZH PMZ
comp=Z,25nm,1.4s
LZH PMZ
comp=Z,120nm,8.3s
LZH LN
comp=Z,730nm,15.7s
LZH LE
comp=Z,460nm,14.5s
LZH LZ
comp=Z,950nm,18.3s
GNI Garni 68.83 340*ce*P **P 10 49 19.5 +1.5**
GNI pmax pmax
comp=Z,20nm,1.0s
GNI Garni 68.83 340 *e*P **P 10 49 19.1 +1.1**
comp=Z,22nm,1.1s
WHN Wuhan 69.72 40 P P 10 49 29.8 +6.3
WHN S S 10 58 40.4 +8.9
WHN LR LR
comp=Z,540nm,21.8s
GTA Gaotai 69.86 24 ⇑P **P 10 49 24.6 +0.2**
GTA pP **pP 10 49 29.4 -1.2**
GTA sP **sP 10 49 31.6 -1.3**
GTA S **S 10 58 33.3 +0.1**
GTA sS **sS 10 58 41.4 -2.0**
GTA SS **SS 11 03 04.4 +1.6**
GTA PMZ
comp=Z,9.0nm,2.0s
GTA PMZ
comp=Z,110nm,5.0s
GTA LN
comp=Z,150nm,19.5s
GTA LE
comp=Z,130nm,19.5s
GTA LZ
comp=Z,190nm,21.4s
CTA Charters Tower 69.91 103 P **P 10 49 24.9 -0.2**
comp=Z,7.1nm,0.9s,baz=333,slow=4.5,SNR=3.8
WMQ Urumqi 70.34 14 P **P 10 49 27.0 -0.1**
WMQ pP **pP 10 49 31.7 -1.7**
WMQ sP **sP 10 49 34.0 -1.6**
WMQ PcP **PcP 10 49 48.8 +0.2**
WMQ PP **PP 10 52 04.6 +1.2**
WMQ S **S 10 58 37.9 -0.6**
WMQ sS **sS 10 58 45.0 -3.8**
WMQ ScS **SKSac 10 59 26.4 -1.3**
WMQ SS **SS 11 03 09.3 -0.6**
WMQ PMZ
comp=Z,31nm,1.0s
WMQ PMZ
comp=Z,260nm,4.6s
WMQ LN
comp=Z,150nm,21.2s
WMQ LE
comp=Z,240nm,24.2s
WMQ LZ
comp=Z,120nm,20.8s
ZEI Tsey 71.49 340 *e*P P 10 49 29.7 -4.6
ZEI pmax pmax
comp=Z,18nm,2.0s
MK31 Makanchi Array 72.26 9 *e*P **P 10 49 37.8 -0.8**
MK31 Makanchi Array 72.26 9 *e*P **P 10 49 37.8 -0.8**
MKAR Makanchi Array 72.26 9 P **P 10 49 38.1 -0.5**
comp=Z,23nm,0.8s,baz=221,slow=8.6,SNR=125
MKAR LR LR 11 20 07.1
comp=Z,89nm,18.3s,baz=172,slow=35
MKAR Makanchi Array 72.26 9 *e*P **P 10 49 38.0 -0.6**
BR131 Keskin Array S 72.64 332 *e*P **P 10 49 41.6 +0.4**
comp=Z,3.1nm,0.8s
BRTR Keskin Array B 72.64 332 P **P 10 49 41.5 +0.2**
comp=Z,8.4nm,1.1s,baz=155,slow=6.6,SNR=25
BRTR LR LR 11 18 40.9
comp=Z,59nm,21.4s,baz=118,slow=33
KBZ Khabaz 72.65 340 P **P 10 49 41.4 +0.4**
comp=Z,4.9nm,0.9s,baz=236,slow=24,SNR=13
KBZ LR LR 11 19 17.8
comp=Z,64nm,19.2s,baz=128,slow=34
KIV Kislovodsk 72.92 340*d i*P **P 10 49 43.0 +0.3**
KIV pmax pmax
comp=Z,17nm,1.0s
NJ2 Nanjing 73.48 42 *e*P **P 10 49 46.4 +0.2**
NJ2 PMZ
comp=Z,40nm,0.7s
ANN Anapa 75.44 337 *e*P **P 10 49 57.9 +0.7**
ANN pmax pmax
comp=Z,35nm,1.0s
KURK Kurchatov 75.70 6 P **P 10 49 58.7 +0.1**
comp=Z,124nm,0.9s,SNR=36
KURK Kurchatov 75.70 6 *e*P **P 10 49 58.4 -0.2**
KURK pmax pmax
comp=Z,41nm,0.9s
KURK Kurchatov 75.70 6 *e*P **P 10 49 58.4 -0.2**
comp=Z,41nm,0.9s
HHC Hu-ho-hao-te 76.06 31 *e*P **P 10 50 02.5 +1.5**
HHC S **S 10 59 43.8 +0.2**
HHC SS **SS 11 04 39.8 +2.4**
HHC PMZ
comp=Z,21nm,0.8s
HHC PMZ
comp=Z,83nm,4.1s
HHC LN
comp=Z,260nm,17.3s
HHC LE
comp=Z,280nm,14.8s
HHC LZ
comp=Z,220nm,12.3s
TORD Torodi Ar. Bea 76.43 292 P **P 10 50 03.8 +0.3**
comp=Z,7.5nm,0.9s,baz=119,slow=5.3,SNR=24
BVAR Borovoye Array 77.62 0 P **P 10 50 09.2 -0.2**
comp=Z,9.4nm,0.7s,baz=167,slow=7.4,SNR=35
BVAR LR LR 11 23 13.9
comp=Z,93nm,19.0s,baz=240,slow=35
BRVK Borovoye 77.65 0 P **P 10 50 09.8 +0.2**
comp=Z,117nm,0.8s,SNR=7.7
BRVK Borovoye 77.65 0*d i*P **P 10 50 08.6 -1.0**
BRVK pmax pmax
comp=Z,17nm,0.9s
BRVK Borovoye 77.65 0 *e*P **P 10 50 08.9 -0.6**
comp=Z,15nm,0.8s
BJI Beijing 77.72 35 P **P 10 50 11.3 +1.1**
BJI S S 11 00 07.6 +6.1
BJI PMZ
comp=Z,9.0nm,0.6s
BJI LN
comp=Z,290nm,19.9s
BJI LE
comp=Z,250nm,19.5s
BJI LZ
comp=Z,200nm,26.6s
TAM Tamanrasset 78.36 302 *e*P **P 10 50 15.9 +1.5**
TAM pmax pmax
comp=Z,7.0nm,1.1s
TAM Tamanrasset 78.36 302 *e*P **P 10 50 15.9 +1.5**
comp=Z,7.4nm,1.1s
TIRR Tirgusor 78.75 331 ⇑P **P 10 50 16.4 +0.6**
TIRR Tirgusor 78.75 331*i*P **P 10 50 16.4 +0.6**
TIRR Tirgusor 78.75 331 *e*P **P 10 50 16.3 +0.4**
comp=Z,25nm,1.0s
KIC Kosan Boka 78.82 282 *e*P **P 10 50 17.8 +0.8**
comp=Z,42nm,1.2s
LIC Lamto 79.01 282 *e*P **P 10 50 16.8 -1.2**
comp=Z,54nm,1.5s
DBIC Dimbokro 79.06 283 P **P 10 50 18.0 -0.3**
comp=Z,5.9nm,0.9s,baz=123,slow=11,SNR=4.0
DBIC LR LR 11 23 54.2
comp=Z,245nm,18.2s,baz=108,slow=35
DBIC Dimbokro 79.06 283 P **P 10 50 18.0 -0.3**
TIC Toumodi 79.19 283 *e*P **P 10 50 19.6 +0.5**
comp=Z,30nm,0.2s
CFR Carcaliu 79.44 331 ⇑P **P 10 50 20.2 +0.6**
CFR Carcaliu 79.44 331*i*P **P 10 50 20.2 +0.6**
SONM Songino Array 79.53 24 P **P 10 50 20.3 0.0**
comp=Z,6.0nm,0.8s,baz=208,slow=4.8,SNR=25
SONM LR LR 11 24 08.9
comp=Z,174nm,21.5s,baz=244,slow=35
ZAA0 Zalesovo Array 79.61 9 *e*P **P 10 50 19.7 -0.6**
ZALV Zalesovo Beam 79.61 9 P **P 10 50 19.7 -0.6**
comp=Z,31nm,0.8s,baz=204,slow=4.8,SNR=87
ZALV LR LR 11 25 22.5
comp=Z,74nm,19.2s,baz=250,slow=36
ULN Ulaanbaatar 79.80 24*d i*P **P 10 50 21.0 -0.8**
ULN pmax pmax
comp=Z,21nm,1.7s
ULN Ulaanbaatar 79.80 24 *e*P **P 10 50 21.4 -0.4**
comp=Z,5.8nm,0.6s
ISR Istrita 80.10 330 ⇑P **P 10 50 25.0 +1.7**
ISR Istrita 80.10 330*i*P **P 10 50 25.0 +1.7**
NVS Novosibirsk 80.27 8 ⇓*i*P **P 10 50 22.5 -1.4**
NVS pmax pmax
comp=N,14nm,0.9s
NVS pmax pmax
comp=Z,31nm,0.9s
NVS pmax pmax
comp=E,5.0nm,0.8s
VRI Vrincioaia 80.60 331 ⇑P **P 10 50 26.9 +1.0**
VRI Vrincioaia 80.60 331*i*P **P 10 50 26.9 +1.0**
ZAK Zakamensk 80.61 21 *e*P **P 10 50 23.8 -2.2**
ZAK pmax pmax
comp=Z,4.0nm,2.0s
PLOR Plostina 80.62 331 ⇑P **P 10 50 27.0 +1.0**
PLOR Plostina 80.62 331*i*P **P 10 50 27.0 +1.0**
MLR Muntele Rosu 80.65 330 ⇑P **P 10 50 27.3 +0.9**
MLR Muntele Rosu 80.65 330*i*P **P 10 50 27.3 +0.9**
VOIR 81.02 330 ⇓P **P 10 50 28.2 0.0**
VOIR 81.02 330 ⇓*i*P **P 10 50 28.2 0.0**
ARR Arges 81.15 330*i*P **P 10 50 29.0 0.0**
DOPR Dopca 81.27 330*i*P **P 10 50 29.6 +0.1**
ARU Arti 81.59 354 P **P 10 50 31.4 +0.5**
comp=Z,117nm,0.8s,SNR=5.5
ARU Arti 81.59 354*c i*P **P 10 50 30.9 0.0**
ARU 10 53 33.5
ARU S **S 11 00 42.7 +0.9**
ARU pmax pmax
comp=Z,35nm,1.7s
ARU Arti 81.59 354 *e*P **P 10 50 31.1 +0.2**
comp=Z,286nm,2.7s
SVE Sverdlovsk 81.80 355 ⇓*i*P **P 10 50 32.7 +0.7**
SVE pmax pmax
comp=Z,40nm,1.4s
GZR Gura Zlata 82.04 329 ⇑P **P 10 50 34.2 +0.6**
GZR Gura Zlata 82.04 329*i*P **P 10 50 34.2 +0.6**
DIVS Divibare 82.46 326*i*P **P 10 50 36.8 +0.9**
BURAR Bucovina Array 82.61 331 ⇓P **P 10 50 37.7 +1.1**
BURAR Bucovina Array 82.61 331 ⇓*i*P **P 10 50 37.7 +1.1**
KSAR Wonju Array Be 82.61 43 P **P 10 50 35.8 -0.9**
KSAR Wonju Array Be 82.61 43 P **P 10 50 35.8 -0.9**
KSRS Korea Array 82.64 43 P **P 10 50 35.8 -1.0**
comp=Z,1.9nm,0.8s,baz=229,slow=4.3,SNR=7.1
KSRS LR LR 11 26 38.1
comp=Z,94nm,18.7s,baz=230,slow=35
BZS Buzias 82.76 328 ⇑P **P 10 50 37.7 +0.4**
BZS Buzias 82.76 328*i*P **P 10 50 37.7 +0.4**
KEST Kesra 83.09 315 P **P 10 50 40.7 +1.3**
comp=Z,4.9nm,1.1s,baz=259,slow=2.7,SNR=5.9
KEST LR LR 11 26 04.4
comp=Z,37nm,20.8s,baz=226,slow=34
KEST Kesra 83.09 315 *e*P **P 10 50 41.7 +2.3**
DRGR 83.11 330 ⇑P **P 10 50 39.8 +0.6**
DRGR 83.11 330*i*P **P 10 50 39.8 +0.6**
AKASG Malin Array Be 83.40 335 P **P 10 50 39.6 -0.9**
comp=Z,8.0nm,0.7s,baz=137,slow=4.4,SNR=41
KIEV Kiev 83.40 335*d i*P **P 10 50 39.9 -0.6**
KIEV Kiev 83.40 335 *e*P **P 10 50 40.0 -0.4**
comp=Z,13nm,0.9s
TRPA Tarpa 84.18 330*i*P **P 10 50 45.1 +0.6**
PKSM Moragy 84.63 327 ⇑P **P 10 50 47.5 +0.6**
PKSM Moragy 84.63 327*i*P **P 10 50 47.5 +0.6**
PKSM Moragy 84.63 327 *e*P **P 10 50 47.2 +0.3**
OBN Obninsk 84.65 342*d i*P **P 10 50 46.7 0.0**
OBN pmax pmax
comp=Z,11nm,0.5s
UZH Uzhgorod 84.66 331 *e*P **P 10 50 44.2 -2.7**
UZH *i* 10 50 46.5
UZH *e* 10 50 51.9
LVV L'vov 84.80 332 *e*P **P 10 50 47.6 0.0**
SOKR Solikamsk 84.89 353⇑*i*P **P 10 50 49.1 +1.3**
SOKR pmax pmax
comp=Z,30nm,0.9s
KOLS Kolonicke sedl 84.89 331 *e*P **P 10 50 48.8 +0.6**
KOLS pmax pmax
comp=Z,7.0nm,1.0s
KOLS Kolonicke sedl 84.89 331 *e*P **P 10 50 48.8 +0.6**
MOS Moscow 84.90 342 *e*P **P 10 50 47.4 -0.6**
KWP Kalwaria Pacla 85.22 331 *e*P **P 10 50 49.9 +0.1**
KWP Kalwaria Pacla 85.22 331 ⇑P **P 10 50 50.6 +0.8**
KWP Kalwaria Pacla 85.22 331*i*P **P 10 50 50.5 +0.8**
CRVS Cervenica-Dubn 85.23 330 *e*P **P 10 50 50.3 +0.4**
CRVS pmax pmax
comp=Z,7.1nm,2.7s
CRVS Cervenica-Dubn 85.23 330 *e*P **P 10 50 50.3 +0.4**
KECS Kecovo 85.37 330 *e*P **P 10 50 50.5 0.0**
KECS pmax pmax
comp=Z,4.0nm,0.8s
KECS Kecovo 85.37 330 *e*P **P 10 50 50.5 0.0**
PKSG 85.58 328 *e*P **P 10 50 51.8 +0.2**
CSKK Cs˘ťkako 85.62 328 *e*P **P 10 50 52.4 +0.6**
PKST T˘s 85.66 328 *e*P **P 10 50 52.0 0.0**
STHS Stebnicka Huta 85.71 331 *e*P **P 10 50 52.6 +0.3**
STHS Stebnicka Huta 85.71 331 *e*P **P 10 50 52.5 +0.3**
GOLS Golise 86.01 325 *e*P **P 10 50 54.1 +0.3**
VYHS Vyhne 86.15 329 *e*P **P 10 50 54.9 +0.5**
VYHS pmax pmax
comp=Z,5.0nm,1.0s
VYHS Vyhne 86.15 329 *e*P **P 10 50 54.9 +0.5**
OJC Ojcow 86.94 330 *e*P **P 10 50 58.0 -0.2**
OJC Ojcow 86.94 330 *e*P **P 10 50 58.1 -0.2**
CADS Cadrg 87.14 325 *i*P **P 10 50 59.0 -0.4**
CONA Conrad Observa 87.19 327 *i*P **P 10 50 59.8 +0.2**
comp=Z,20nm,0.9s,SNR=12
OKC Ostrava-Krasne 87.41 329 *e*P **P 10 51 00.6 +0.1**
OKC *ex* x 10 51 08.1
OKC Ostrava-Krasne 87.41 329 *e*P **P 10 51 00.6 +0.1**
OKC *e* 10 51 08.1
PGF Pioggiola 87.44 320 *e*P **P 10 50 58.6 -2.4**
PGF Pioggiola 87.44 320 *e*P **P 10 50 58.6 -2.4**
PGF Pioggiola 87.44 320 *e*P **P 10 50 58.6 -2.4**
MORC Moravsky Berou 87.65 329 ⇑P **P 10 51 02.3 +0.5**
MORC Moravsky Berou 87.65 329*i*P **P 10 51 02.3 +0.5**
KBA Koelnbreinsper 87.90 325*i*P **P 10 51 02.2 -1.0**
comp=Z,9.5nm,1.0s
MOA Molln 87.93 326 *i*P **P 10 51 03.4 +0.3**
comp=Z,23nm,0.9s,SNR=11
ABTA Abfaltersbach 88.12 325 *i*P **P 10 51 04.7 +0.6**
comp=Z,24nm,1.1s,SNR=11
PRGR Permogore 88.44 349 *e*P **P 10 51 04.7 -0.4**
PRGR pmax pmax
comp=Z,46nm,0.8s
RJOB Jochberg 88.61 325 *e*P **P 10 51 05.7 -0.7**
comp=Z,15nm,0.9s
DPC Dobruska-Polom 88.62 329 *e*P **P 10 51 06.7 +0.4**
DPC *ex* x 10 51 14.3
DPC Dobruska-Polom 88.62 329 *e*P **P 10 51 06.7 +0.4**
DPC *e* 10 51 14.3
DPC Dobruska-Polom 88.62 329 *e*P **P 10 51 06.9 +0.5**
MJAR Matsushiro Arr 88.80 48 LR LR 11 30 53.3
comp=Z,68nm,18.4s,baz=155,slow=36
GEC2 GERESS Array S 88.87 327 *e*P **P 10 51 06.9 -0.8**
comp=Z,8.0nm,1.1s
GEC2 GERESS Array S 88.87 327 *e*P **P 10 51 07.2 -0.4**
GEC2 GERESS Array S 88.87 327 *e*P **P 10 51 07.2 -0.4**
GERES GERESS Array B 88.87 327 P **P 10 51 07.2 -0.4**
comp=Z,2.6nm,0.3s,baz=123,slow=4.9,SNR=18
GERES LR LR 11 31 44.1
comp=Z,17nm,18.5s,baz=232,slow=36
WTTA Wattenberg 88.91 325 *i*P **P 10 51 08.0 0.0**
comp=Z,29nm,1.3s,SNR=7.9
KLMR Klimovskoe 88.95 346 *e*P **P 10 51 07.7 +0.1**
KLMR pmax pmax
comp=Z,52nm,0.9s
KSP Ksiaz 88.97 329 *e*P **P 10 51 08.7 +0.8**
KSP Ksiaz 88.97 329 *e*P **P 10 51 08.7 +0.8**
WATA Walderalm 88.99 325⇓*i*P **P 10 51 07.8 -0.5**
comp=Z,18nm,1.0s
GOPC GO Pecny, Ondr 89.05 328 *e*P **P 10 51 08.9 +0.5**
GOPC *ex* x 10 51 15.5
KHC Kasperske Hory 89.12 327 *e*P **P 10 51 08.0 -0.7**
KHC Kasperske Hory 89.12 327 *e*P **P 10 51 08.0 -0.7**
SBF Sospel 89.14 320 *e*P **P 10 51 06.7 -2.3**
comp=Z,41nm,0.9s
SBF Sospel 89.14 320 *e*P **P 10 51 06.7 -2.3**
SBF pmax pmax
comp=Z,41nm,0.9s
SBF Sospel 89.14 320 *e*P **P 10 51 06.7 -2.3**
comp=Z,41nm,0.9s
USRK Ussuriysk Ar. 89.21 39 P **P 10 51 08.8 -0.3**
comp=Z,2.4nm,0.8s,baz=249,slow=6.9,SNR=4.0
USRK LR LR 11 29 21.2
comp=Z,107nm,20.9s,baz=217,slow=34
PRU Pruhonice 89.22 328 *e*P **P 10 51 09.5 +0.4**
PRU Pruhonice 89.22 328 *e*P **P 10 51 09.5 +0.4**
FETA Feichten 89.23 324 *i*P **P 10 51 09.9 +0.5**
comp=Z,29nm,0.9s,SNR=17
MOTA Moosalm 89.24 324⇑*i*P **P 10 51 09.7 +0.2**
comp=Z,14nm,0.8s,SNR=7.5
PRA Prague 89.33 328 *e*P **P 10 51 08.9 -0.7**
PRA *e* 10 51 15.5
LMR La Mourre 89.38 319 *e*P **P 10 51 07.6 -2.4**
comp=Z,54nm,1.4s
LMR La Mourre 89.38 319 *e*P **P 10 51 07.6 -2.4**
LMR pmax pmax
comp=Z,54nm,1.4s
LMR La Mourre 89.38 319 *e*P **P 10 51 07.6 -2.4**
comp=Z,54nm,1.4s
FRF La Foret Royal 89.43 320 *e*P **P 10 51 07.2 -3.1**
comp=Z,26nm,1.0s
FRF La Foret Royal 89.43 320 *e*P **P 10 51 07.2 -3.1**
FRF pmax pmax
comp=Z,26nm,1.0s
FRF La Foret Royal 89.43 320 *e*P **P 10 51 07.2 -3.1**
comp=Z,26nm,1.0s
WET Wettzell 89.48 327 *e*P **P 10 51 09.6 -0.8**
comp=Z,7.0nm,1.0s
RETA Reutte 89.51 324 *i*P **P 10 51 11.1 +0.4**
comp=Z,22nm,1.3s,SNR=6.8
DAVA Damuels 89.85 324 *i*P **P 10 51 12.6 +0.3**
comp=Z,27nm,0.9s,SNR=12
MBDF Montbardon 90.04 321 *e*P **P 10 51 10.6 -2.7**
comp=Z,33nm,1.1s
MBDF Montbardon 90.04 321 *e*P **P 10 51 10.6 -2.7**
MBDF pmax pmax
comp=Z,33nm,1.1s
MBDF Montbardon 90.04 321 *e*P **P 10 51 10.6 -2.7**

	comp=Z,33nm,1.1s									
BRG	**Berggiesshubel**	**90.09**	**328**	*e*P		**P**		10 51 13.9	+0.7	
	comp=Z,5.5nm,0.9s									
BRG	**Berggiesshubel**	**90.09**	**328**	*e*P		**P**		10 51 13.6	+0.4	
	comp=Z,6.0nm,0.9s									
BRG	**Berggiesshubel**	**90.09**	**328**	*e*P		**P**		10 51 13.9	+0.7	
BRG				pmax		pmax				
	comp=Z,6.0nm,0.9s									
ROTZ	**Rotzenmuhle**	**90.22**	**327**	*e*P		**P**		10 51 13.4	-0.4	
	comp=Z,4.0nm,1.1s									
BNI	**Bardonecchia**	**90.28**	**321**	*e*P		**P**		10 51 15.1	+0.7	
BNI				pmax		pmax				
	comp=Z,34nm,1.9s									
BNI	**Bardonecchia**	**90.28**	**321**	*e*P		**P**		10 51 15.1	+0.7	
	comp=Z,34nm,1.9s									
SMRF	**Simiane la Rot**	**90.30**	**319**	*e*P		**P**		10 51 11.4	-3.0	
SMRF	**Simiane la Rot**	**90.30**	**319**	*e*P		**P**		10 51 11.4	-3.0	
NKC	**Novy Kostel**	**90.40**	**327**	*e*P		**P**		10 51 15.4	+0.7	
NKC				*ex*		x		10 51 22.6		
NKC	**Novy Kostel**	**90.40**	**327**	*e*P		**P**		**10 51 15.4**	**+0.7**	
NKC				*e*				10 51 22.6		
LPG	**La Plagne**	**90.50**	**321**	*e*P		**P**		10 51 12.8	-2.8	
	comp=Z,7.1nm,0.8s									
LPG	**La Plagne**	**90.50**	**321**	*e*P		**P**		10 51 12.8	-2.8	
LPG				pmax		pmax				
	comp=Z,7.0nm,0.8s									
LPG	**La Plagne**	**90.50**	**321**	*e*P		**P**		10 51 12.8	-2.8	
	comp=Z,7.1nm,0.8s									
TANN	**Tannenbergstha**	**90.51**	**327**	*e*P		**P**		10 51 15.1	-0.1	
	comp=Z,6.0nm,1.2s									
LPL	**La Plagne**	**90.53**	**321**	*e*P		**P**		10 51 12.9	-2.7	
	comp=Z,13nm,1.0s									
LPL	**La Plagne**	**90.53**	**321**	*e*P		**P**		10 51 12.9	-2.7	
LPL				pmax		pmax				
	comp=Z,13nm,1.0s									
LPL	**La Plagne**	**90.53**	**321**	*e*P		**P**		10 51 12.9	-2.7	
	comp=Z,13nm,1.0s									
GRF	**Grafenberg Arr**	**90.66**	**326**	*e*P		**P**		10 51 16.1	+0.2	
	comp=Z,12nm,0.8s									
ORIF	**Oris-en-Rattie**	**90.67**	**320**	*e*P		**P**		10 51 13.4	-2.7	
	comp=Z,22nm,1.2s									
ORIF				*e*R						
	comp=Z,48nm,19.0s									
ORIF	**Oris-en-Rattie**	**90.67**	**320**	*e*P		**P**		10 51 13.4	-2.7	
ORIF				pmax		pmax				
	comp=Z,22nm,1.2s									
ORIF	**Oris-en-Rattie**	**90.67**	**320**	*e*P		**P**		10 51 13.4	-2.7	
	comp=Z,22nm,1.2s									
CLL	**Collm**	**90.83**	**328**	*e*P		**P**		10 51 17.0	+0.4	
	comp=Z,4.0nm,1.1s									
CLL	**Collm**	**90.83**	**328**	*e*P		**P**		10 51 17.0	+0.4	
	comp=Z,10.0nm,1.3s									
CLL	**Collm**	**90.83**	**328**	*e*P		**P**		10 51 17.0	+0.4	
CLL				pmax		pmax				
	comp=Z,10.0nm,1.3s									
MOX	**Moxa**	**91.07**	**327**	*e*P		**P**		10 51 18.0	+0.2	
	comp=Z,20nm,2.0s									
MDT	**Midelt**	**91.20**	**306**	P		**P**		10 51 19.9	+1.0	
	comp=Z,8.3nm,1.1s,baz=128,slow=7.2,SNR=6.3									
BFO	**Black Forest**	**91.32**	**324**	*e*P		**P**		10 51 19.2	+0.2	
	comp=Z,6.0nm,1.1s									
BFO	**Black Forest**	**91.32**	**324**	*i* P		**P**		10 51 20.5	+1.5	
VIVF	**Saint-Julien-l**	**91.33**	**320**	*e*P		**P**		10 51 16.8	-2.4	
	comp=Z,14nm,1.2s									
VIVF	**Saint-Julien-l**	**91.33**	**320**	*e*P		**P**		10 51 16.8	-2.4	
VIVF				pmax		pmax				
	comp=Z,14nm,1.2s									
VIVF	**Saint-Julien-l**	**91.33**	**320**	*e*P		**P**		10 51 16.8	-2.4	
	comp=Z,14nm,1.2s									
LASF	**Ste Croix**	**91.38**	**319**	*e*P		**P**		10 51 16.6	-2.8	
	comp=Z,40nm,1.4s									
LASF	**Ste Croix**	**91.38**	**319**	*e*P		**P**		10 51 16.6	-2.8	
	comp=Z,40nm,1.4s									
MTLF	**Montolieu**	**91.97**	**318**	*e*P		**P**		10 51 19.2	-2.9	
	comp=Z,16nm,1.2s									
MTLF	**Montolieu**	**91.97**	**318**	*e*P		**P**		10 51 19.2	-2.9	
MTLF				pmax		pmax				
	comp=Z,16nm,1.2s									
MTLF	**Montolieu**	**91.97**	**318**	*e*P		**P**		10 51 19.2	-2.9	
	comp=Z,16nm,1.2s									
CLZ	**Clausthal**	**92.43**	**328**	*e*P		**P**		10 51 25.8	+1.7	
	comp=Z,13nm,1.1s									
CAF	**Calviac**	**92.92**	**319**	*e*P		**P**		10 51 23.3	-3.2	
	comp=Z,11nm,1.0s									
CAF	**Calviac**	**92.92**	**319**	*e*P		**P**		10 51 23.3	-3.2	
CAF				pmax		pmax				
	comp=Z,11nm,1.0s									
CAF	**Calviac**	**92.92**	**319**	*e*P		**P**		10 51 23.3	-3.2	
	comp=Z,11nm,1.0s									
FINES	**FINESS Array B**	**93.00**	**341**	P		**P**		10 51 25.9	-0.5	
	comp=Z,4.2nm,1.0s,baz=89,slow=7.5,SNR=5.1									
FINES				LR		LR		11 31 45.8		
	comp=Z,33nm,21.3s,baz=182,slow=34									
SFTF	**Sexfontaines**	**93.03**	**323**	*e*P		**P**		10 51 24.2	-2.7	
	comp=Z,30nm,1.2s									
SFTF	**Sexfontaines**	**93.03**	**323**	*e*P		**P**		10 51 24.2	-2.7	
	comp=Z,30nm,1.2s									
LOR	**Lormes**	**93.16**	**321**	*e*P		**P**		10 51 24.8	-2.7	
	comp=Z,7.5nm,0.9s									
LOR				*e*R						
	comp=Z,44nm,19.0s									
LOR	**Lormes**	**93.16**	**321**	*e*P		**P**		10 51 24.8	-2.7	
LOR				pmax		pmax				
	comp=Z,8.0nm,0.9s									
LOR	**Lormes**	**93.16**	**321**	*e*P		**P**		10 51 24.8	-2.7	
	comp=Z,7.5nm,0.9s									
SSF	**Saint Saulge**	**93.25**	**321**	*e*P		**P**		10 51 25.1	-2.8	
	comp=Z,18nm,1.1s									
SSF	**Saint Saulge**	**93.25**	**321**	*e*P		**P**		10 51 25.1	-2.8	
SSF				pmax		pmax				
	comp=Z,18nm,1.1s									
SSF	**Saint Saulge**	**93.25**	**321**	*e*P		**P**		10 51 25.1	-2.8	
	comp=Z,18nm,1.1s									
RJF	**Les Rejaudoux**	**93.45**	**319**	*e*P		**P**		10 51 25.7	-3.2	
	comp=Z,23nm,1.1s									
RJF				*e*R						
	comp=Z,66nm,20.2s									
RJF	**Les Rejaudoux**	**93.45**	**319**	*e*P		**P**		10 51 25.7	-3.2	
RJF				pmax		pmax				
	comp=Z,23nm,1.1s									
RJF	**Les Rejaudoux**	**93.45**	**319**	*e*P		**P**		10 51 25.7	-3.2	
	comp=Z,23nm,1.1s									
ETSF	**Etsaut**	**93.46**	**316**	*e*P		**P**		10 51 26.1	-3.0	
	comp=Z,10nm,0.9s									
ETSF	**Etsaut**	**93.46**	**316**	*e*P		**P**		10 51 26.1	-3.0	
ETSF				pmax		pmax				
	comp=Z,10.0nm,0.9s									
ETSF	**Etsaut**	**93.46**	**316**	*e*P		**P**		10 51 26.1	-3.0	
	comp=Z,10nm,0.9s									
TCF	**Toulx Ste Croi**	**93.57**	**320**	*e*P		**P**		10 51 26.8	-2.6	
TCF	**Toulx Ste Croi**	**93.57**	**320**	*e*P		**P**		10 51 26.8	-2.6	
TCF	**Toulx Ste Croi**	**93.57**	**320**	*e*P		**P**		10 51 26.8	-2.6	
SJPF	**Ste Jean**	**93.99**	**316**	*e*P		**P**		10 51 28.4	-3.0	
	comp=Z,28nm,1.3s									
SJPF	**Ste Jean**	**93.99**	**316**	*e*P		**P**		10 51 28.4	-3.0	
SJPF				pmax		pmax				
	comp=Z,28nm,1.3s									
SJPF	**Ste Jean**	**93.99**	**316**	*e*P		**P**		10 51 28.4	-3.0	
	comp=Z,28nm,1.3s									
ESDC	**Sonseca Array**	**94.07**	**312**	P		**P**		10 51 32.1	+0.2	
	comp=Z,0.5nm,0.5s,baz=88,slow=3.2,SNR=8.6									
ARCES	**ARCESS Array B**	**99.43**	**346**	P		**Pdif**		10 51 55.1	-0.3	
	comp=Z,2.4nm,0.9s,baz=125,slow=4.5,SNR=4.0									
ARCES				LR		LR		11 36 26.4		
	comp=Z,50nm,20.8s,baz=159,slow=35									
IM04	**Indian Mountai**	**130.65**	**22**	*e*PKPdf		**PKPdf**		**10 57 24.1**	**+0.2**	
ILAR	**Eielson Array**	**133.67**	**21**	PKP		**PKPdf**		**10 57 28.8**	**-0.8**	
	comp=Z,1.1nm,0.9s,baz=324,slow=4.1,SNR=12									
ILAR				PP		**PP**		**10 59 55.1**	**-3.3**	
	comp=Z,0.4nm,0.9s,baz=328,slow=6.4,SNR=3.6									
INK	**Inuvik**	**134.34**	**12**	*e*PKIKP		**PKPdf**		**10 57 29.2**	**-1.4**	
INK	**Inuvik**	**134.34**	**12**	*e*PKPdf		**PKPdf**		**10 57 29.2**	**-1.4**	
EGAK	**Eagle**	**135.41**	**18**	*e*PKPdf		**PKPdf**		**10 57 30.7**	**-2.1**	
SCHQ	**Schefferville**	**136.38**	**325**	PKP		**PKPdf**		**10 57 36.5**	**+1.7**	
	comp=Z,3.2nm,0.7s,baz=15,slow=4.1,SNR=4.8									
YKA	**Yellowknife Ar**	**142.32**	**3**	PKhKP		PKPpre		10 57 39.8		
	comp=Z,0.8nm,0.7s,baz=348,slow=3.4,SNR=15									
YKA				PKP		**PKPdf**		**10 57 45.2**	**-0.3**	
	comp=Z,2.0nm,0.7s,baz=341,slow=3.0,SNR=17									
YKA				PP		**PP**		**11 00 46.8**	**-5.0**	
	comp=Z,1.7nm,0.9s,baz=349,slow=7.0,SNR=8.7									
DLBC	**Dease Lake**	**143.67**	**18**	*e*PKPdf		PKPbc		10 57 46.1	+0.5	
FCC	**Fort Churchill**	**144.32**	**346**	*e*PKIKP		**PKPab**		**10 57 46.8**	**-0.3**	
FCC	**Fort Churchill**	**144.32**	**346**	*e*PKPdf		**PKPab**		**10 57 46.8**	**-0.3**	
MDV	**Middlebury**	**144.44**	**312**	*e*PKPdf		PKPbc		10 57 48.9	+0.7	
WRAK	**Wrangell Islan**	**144.65**	**21**	*e*PKPdf		**PKPab**		**10 57 48.2**	**-0.2**	
ACCN	**Adirondack Com**	**144.98**	**311**	*e*PKPdf		PKPbc		10 57 50.1	+0.1	
LONY	**Lake Ozonia**	**145.15**	**313**	*e*PKPbc		**PKPbc**		**10 57 49.9**	**-0.7**	
TRY	**Troy**	**145.19**	**310**	*e*PKPbc		**PKPab**		**10 57 50.9**	**0.0**	
BINY	**Binghamton**	**146.99**	**310**	*e*PKPbc		**PKPdf**		**10 57 55.1**	**+0.9**	
SSPA	**Standing Stone**	**148.88**	**308**	*e*PKPbc		**PKPbc**		**10 58 00.7**	**-0.6**	
SSPA				*e*PKPab		**PKPab**		**10 58 04.0**	**-1.2**	
FFC	**Flin Flon**	**149.62**	**351**	*e*PKIKP		**PKPdf**		**10 57 56.1**	**-2.0**	
FFC				*e*				10 58 01.9		
FFC				*e*				10 58 07.5		
FFC	**Flin Flon**	**149.62**	**351**	*e*PKPdf		**PKPdf**		**10 57 56.1**	**-2.0**	
FFC				*e*PKPbc		**PKPbc**		**10 58 01.9**	**-0.8**	
FFC				*e*PKPab		**PKPab**		**10 58 07.5**	**-0.2**	
ERPA	**Erie**	**149.77**	**312**	*e*PKPdf		**PKPdf**		**10 57 58.0**	**-0.7**	
ERPA				*e*PKPbc		**PKiKP**		**10 58 04.0**	**-0.5**	
ERPA				*e*PKPab		**PKPab**		**10 58 08.1**	**-0.7**	
ALLY	**Alegheny Colle**	**150.07**	**311**	*e*PKPdf		**PKPdf**		**10 57 58.6**	**-0.6**	
ALLY				*e*PKPbc		**PKPbc**		**10 58 04.7**	**+0.4**	
ALLY				*e*PKPab		**PKPab**		**10 58 09.8**	**-0.4**	
GLMI	**Grayling**	**151.33**	**320**	*e*PKPbc		**PKPbc**		**10 58 06.3**	**-0.8**	
GLMI				*e*PKPab		**PKPab**		**10 58 15.6**	**+0.4**	
EDM	**Edmonton**	**151.64**	**4**	*e*PKIKP		**PKPdf**		**10 58 00.9**	**-0.5**	
EDM				*e*				10 58 07.4		
EDM				*e*				10 58 14.2		
EDM	**Edmonton**	**151.64**	**4**	*e*PKPdf		**PKPdf**		**10 58 00.9**	**-0.5**	
EDM				*e*PKPbc		**PKPbc**		**10 58 07.4**	**-0.2**	
EDM				*e*PKPab		**PKPab**		**10 58 14.2**	**-2.0**	
BLA	**Blacksburg**	**151.85**	**303**	*e*PKIKP		**PKPdf**		**10 58 02.1**	**-0.1**	
BLA				*e*				10 58 09.0		
BLA	**Blacksburg**	**151.85**	**303**	*e*PKPdf		**PKPdf**		**10 58 02.1**	**-0.1**	
BLA				*e*PKPbc		**PKiKP**		**10 58 09.0**	**0.0**	
BLA				*e*PKPab		**PKPab**		**10 58 18.5**	**+0.7**	
ULM	**Lac du Bonnet**	**152.39**	**340**	PKPbc		**PKPbc**		**10 58 08.8**	**-0.6**	
	comp=Z,22nm,0.7s,baz=30,slow=2.3,SNR=35									
ULM	**Lac du Bonnet**	**152.39**	**340**	*e*PKIKP		**PKPdf**		**10 58 01.9**	**-0.6**	
ULM				*e*				10 58 08.5		
ULM								10 58 08.8		
ULM	**Lac du Bonnet**	**152.39**	**340**	*e*PKPdf		**PKPdf**		**10 58 01.9**	**-0.6**	
ULM				*e*PKPbc		**PKPbc**		**10 58 08.5**	**-0.8**	
ULM				PKPbc		**PKPbc**		**10 58 08.8**	**-0.6**	
EYMN	**Ely**	**152.69**	**332**	*e*PKPbc		**PKPbc**		**10 58 09.7**	**-0.4**	
COWI	**Conover**	**152.96**	**327**	*e*PKPdf		**PKPdf**		**10 58 03.3**	**-0.2**	
COWI				*e*PKPbc		**PKPbc**		**10 58 10.4**	**-0.3**	
COWI				*e*PKPab		**PKPab**		**10 58 22.2**	**+0.2**	
KMSC	**Kings Mountain**	**153.12**	**299**	*e*PKPdf		**PKPdf**		**10 58 03.5**	**-0.5**	
KMSC				*e*PKPbc		**PKPbc**		**10 58 11.1**	**-0.4**	
KMSC				*e*PKPab		**PKPab**		**10 58 21.5**	**-1.6**	
KMSC	**Kings Mountain**	**153.12**	**299**	⇓PKPab		**PKPab**		**10 58 24.1**	**+1.0**	
	baz=153									
AGMN	**Agassiz Nation**	**154.08**	**338**	⇓PKPab		**PKPab**		**10 58 26.5**	**-0.1**	
	baz=154									
A30A	**Hoffart Farm,**	**154.28**	**342**	⇑PKPab		**PKPab**		**10 58 27.6**	**+0.2**	
	baz=154									
A29A	**Manning Farm,**	**154.55**	**343**	⇓PKPab		**PKPab**		**10 58 28.5**	**-0.1**	
	baz=154									
B30A	**Myrvik Farm, E**	**154.73**	**341**	⇑PKPab		**PKPab**		**10 58 29.4**	**0.0**	
	baz=155									
B29A	**Wagenman Farm,**	**155.00**	**343**	⇑PKPab		**PKPab**		**10 58 31.0**	**+0.4**	
	baz=155									
A26A	**Wade Farm, Ken**	**155.23**	**347**	⇑PKPab		**PKPab**		**10 58 32.0**	**+0.5**	
	baz=155									
GOGA	**Godfrey**	**155.25**	**296**	*e*PKIKP		**PKPdf**		**10 58 07.1**	**0.0**	
GOGA				*e*				10 58 15.7		
GOGA	**Godfrey**	**155.25**	**296**	*e*PKPdf		**PKPdf**		**10 58 07.1**	**0.0**	
GOGA				*e*PKPbc		PKPbc		10 58 15.7		
GOGA				*e*PKPab		**PKPab**		**10 58 32.5**	**+0.3**	
B28A	**Dugan Ranch, T**	**155.28**	**344**	⇓PKPab		**PKPab**		**10 58 32.2**	**+0.5**	
	baz=155									
SPMN	**Marine on St.**	**155.36**	**330**	⇑PKPab		**PKPab**		**10 58 33.0**	**+0.9**	
	baz=155									
C30A	**Mose, Pekin**	**155.45**	**341**	⇑PKPab		**PKPab**		**10 58 32.5**	**0.0**	
	baz=155									
A24A	**Westby**	**155.56**	**350**	⇓PKPab		**PKPab**		**10 58 33.1**	**+0.2**	
	baz=156									
MDND	**Maddock**	**155.64**	**343**	⇑PKPab		**PKPab**		**10 58 33.5**	**+0.2**	
	baz=156									
A23A	**Redstone**	**155.65**	**352**	⇓PKPab		**PKPab**		**10 58 33.6**	**+0.3**	
	baz=156									
A22A	**Carney Farms,**	**155.74**	**353**	⇓PKPab		**PKPab**		**10 58 33.9**	**+0.2**	
	baz=156									
B26A	**Jensen Ranch,**	**155.77**	**347**	⇓PKPab		**PKPab**		**10 58 34.2**	**+0.4**	
	baz=156									
A19A	**Klindworth Far**	**156.01**	**358**	⇓PKPab		**PKPab**		**10 58 34.8**	**-0.1**	
	baz=156									
A20A	**Cobblestone Ra**	**156.02**	**356**	⇓PKPab		**PKPab**		**10 58 35.2**	**+0.2**	
	baz=156									
DGMT	**Dagmar**	**156.03**	**350**	⇓PKPab		**PKPab**		**10 58 35.2**	**+0.2**	
	baz=156									
D30A	**Buchanan**	**156.06**	**341**	⇓PKPab		**PKPab**		**10 58 35.8**	**+0.7**	
	baz=156									
NEW	**Newport**	**156.06**	**12**	⇑PKPab		**PKPab**		**10 58 35.2**	**+0.1**	
	baz=156									
B23A	**Brockton**	**156.15**	**351**	⇑PKPab		**PKPab**		**10 58 36.2**	**+0.7**	
	baz=156									
C26A	**Wahner Farm, P**	**156.26**	**346**	⇓PKPab		**PKPab**		**10 58 36.4**	**+0.4**	
	baz=156									
B21A	**Ellsworth Farm**	**156.41**	**355**	⇓PKPab		**PKPab**		**10 58 36.8**	**+0.2**	
	baz=156									
B22A	**Reddig Ranch S**	**156.44**	**353**	⇓PKPab		**PKPab**		**10 58 37.2**	**+0.5**	
	baz=156									
B20A	**Solberg Farm,**	**156.47**	**356**	⇑PKPab		**PKPab**		**10 58 37.6**	**+0.8**	
	baz=156									
C25A	**Freed Ranch, W**	**156.60**	**348**	⇑PKPab		**PKPab**		**10 58 38.1**	**+0.6**	
	baz=156									
D27A	**Center**	**156.81**	**345**	⇓PKPab		**PKPab**		**10 58 38.7**	**+0.4**	
	baz=157									
C23A	**Lambert**	**156.83**	**351**	⇓PKPab		**PKPab**		**10 58 38.3**	**0.0**	
	baz=157									
C22A	**Vida**	**156.97**	**353**	⇑PKPab		**PKPab**		**10 58 40.8**	**+1.7**	
	baz=157									
C24A	**Savage**	**156.98**	**350**	⇓PKPab		**PKPab**		**10 58 39.8**	**+0.7**	
	baz=157									
C21A	**Desert Coulee**	**157.01**	**355**	⇓PKPab		**PKPab**		**10 58 39.7**	**+0.5**	
	baz=157									
D26A	**Manning**	**157.09**	**346**	⇑PKPab		**PKPab**		**10 58 40.2**	**+0.6**	
	baz=157									
E28A	**Huff**	**157.10**	**343**	⇓PKPab		**PKPab**		**10 58 40.5**	**+0.9**	
	baz=157									
D25A	**Fairfield**	**157.16**	**348**	⇓PKPab		**PKPab**		**10 58 40.5**	**+0.7**	
	baz=157									
C20A	**Veseth Ranch,**	**157.19**	**356**	⇑PKPab		**PKPab**		**10 58 40.7**	**+0.7**	
	baz=157									
C19A	**Slack Wire Ran**	**157.22**	**358**	⇓PKPab		**PKPab**		**10 58 40.8**	**+0.7**	
	baz=157									
D24A	**Glendive**	**157.37**	**350**	⇑PKPab		**PKPab**		**10 58 41.4**	**+0.7**	
	baz=157									
E27A	**Carson**	**157.46**	**344**	⇓PKPab		**PKPab**		**10 58 41.8**	**+0.6**	
	baz=157									
D22A	**Cohagen**	**157.59**	**353**	⇓PKPab		**PKPab**		**10 58 42.3**	**+0.6**	
	baz=158									
E26A	**Carlson Angus**	**157.63**	**346**	⇑PKPab		**PKPab**		**10 58 42.1**	**+0.2**	
	baz=158									
D19A	**Cripps Ranch,**	**157.78**	**358**	⇓PKPab		**PKPab**		**10 58 43.6**	**+1.1**	
	baz=158									
E25A	**Miller Ranch,**	**157.79**	**348**	⇓PKPab		**PKPab**		**10 58 43.3**	**+0.7**	
	baz=158									
E24A	**Baker**	**157.90**	**349**	⇓PKPab		**PKPab**		**10 58 44.4**	**+1.3**	
	baz=158									
G30A	**Faulkton**	**157.95**	**339**	⇓PKPab		**PKPab**		**10 58 43.9**	**+0.6**	
	baz=158									
F27A	**Lemmon**	**158.09**	**345**	⇓PKPab		**PKPab**		**10 58 44.6**	**+0.6**	
	baz=158									
E23A	**Ismay**	**158.12**	**351**	⇑PKPab		**PKPab**		**10 58 45.1**	**+1.1**	
	baz=158									
ECSD	**EROS Data Cent**	**158.21**	**333**	*e*PKPdf		**PKPdf**		**10 58 09.7**	**-0.9**	
ECSD				*e*PKPab		**PKPab**		**10 58 44.8**	**+0.3**	
ECSD	**EROS Data Cent**	**158.21**	**333**	⇓PKPab		**PKPab**		**10 58 45.0**	**+0.5**	
	baz=158									
HRY	**Holter Researc**	**158.22**	**3**	*e*PKPdf		**PKPdf**		**10 58 10.3**	**-0.4**	
HRY				*e*PKPab		**PKPab**		**10 58 43.8**	**-0.7**	
F26A	**Lodgepole**	**158.26**	**346**	⇓PKPab		**PKPab**		**10 58 45.5**	**+0.8**	
	baz=158									
E22A	**Miles City**	**158.26**	**352**	⇓PKPab		**PKPab**		**10 58 45.7**	**+1.1**	
	baz=158									
F25A	**Bowman**	**158.36**	**347**	⇑PKPab		**PKPab**		**10 58 45.8**	**+0.7**	
	baz=158									
E20A	**Meyer Farm, Mu**	**158.40**	**356**	⇓PKPab		**PKPab**		**10 58 45.4**	**+0.1**	
	baz=158									
E19A	**Rath Farm, Rou**	**158.48**	**357**	⇑PKPab		**PKPab**		**10 58 45.5**	**-0.1**	
	baz=158									
BRSD	**Miller**	**158.49**	**338**	⇓PKPab		**PKPab**		**10 58 45.6**	**-0.1**	
	baz=158									
G27A	**Dupree**	**158.53**	**344**	⇑PKPab		**PKPab**		**10 58 46.2**	**+0.4**	
	baz=158									
G28A	**Parade**	**158.54**	**342**	⇑PKPab		**PKPab**		**10 58 46.5**	**+0.6**	
	baz=158									
I05D	**Terrebonne, OR**	**158.60**	**22**	⇑PKPab		**PKPab**		**10 58 45.8**	**-0.4**	
	baz=158									
F24A	**Ekalaka**	**158.62**	**349**	⇑PKPab		**PKPab**		**10 58 46.6**	**+0.3**	
	baz=158									
I04A	**Tendick Farm,**	**158.68**	**25**	⇑PKPab		**PKPab**		**10 58 46.2**	**-0.4**	
	baz=159									
G26A	**Maurine**	**158.77**	**345**	⇑PKPab		**PKPab**		**10 58 46.9**	**0.0**	
	baz=159									
F23A	**Volborg**	**158.90**	**351**	⇓PKPab		**PKPab**		**10 58 47.6**	**+0.2**	
	baz=159									
G25A	**Newell**	**159.05**	**347**	⇑PKPab		**PKPab**		**10 58 48.2**	**+0.1**	
	baz=159									
F19A	**Roth Farm, Mol**	**159.09**	**358**	⇓PKPab		**PKPab**		**10 58 48.7**	**+0.4**	
	baz=159									
F20A	**Billings**	**159.10**	**356**	⇓PKPab		**PKPab**		**10 58 48.6**	**+0.2**	
	baz=159									
J04D	**Umpqua Nationa**	**159.26**	**25**	⇑PKPab		**PKPab**		**10 58 49.1**	**-0.2**	
	baz=159									
H27A	**Howes**	**159.26**	**344**	⇓PKPab		**PKPab**		**10 58 49.2**	**+0.2**	
	baz=159									
G23A	**Biddle**	**159.40**	**350**	⇓PKPab		**PKPab**		**10 58 49.8**	**+0.2**	
	baz=159									
G22A	**Birney**	**159.51**	**352**	⇓PKPab		**PKPab**		**10 58 50.8**	**+0.7**	
	baz=159									
DLMT	**Dillon**	**159.51**	**5**	*e*PKPdf		**PKPdf**		**10 58 11.9**	**-0.4**	
DLMT				*e*PKPab		**PKPab**		**10 58 50.0**	**-0.2**	
J05D	**Fort Rock, OR**	**159.55**	**24**	⇓PKPab		**PKPab**		**10 58 50.6**	**+0.1**	
	baz=160									
H25A	**Fruitdale**	**159.63**	**346**	⇑PKPab		**PKPab**		**10 58 50.9**	**+0.2**	
	baz=160									
G20A	**Bridger**	**159.69**	**356**	⇓PKPab		**PKPab**		**10 58 50.9**	**0.0**	
	baz=160									
H24A	**Dirks Ranch, A**	**159.70**	**348**	⇑PKPab		**PKPab**		**10 58 51.0**	**0.0**	
	baz=160									
I26A	**New Underwood**	**160.03**	**344**	⇓PKPab		**PKPab**		**10 58 53.1**	**+0.7**	
	baz=160									
H22A	**Clearmont**	**160.13**	**352**	⇓PKPab		**PKPab**		**10 58 53.0**	**+0.2**	
	baz=160									
J28A	**Allard Ranch,**	**160.14**	**341**	⇓PKPab		**PKPab**		**10 58 53.7**	**+0.8**	
	baz=160									
H21A	**Big Horn, Sher**	**160.18**	**353**	⇓PKPab		**PKPab**		**10 58 53.1**	**0

N20A	**Spence Gulch,** baz=164	**164.05**	**355**	⇑PKPab	**PKPab**	**10 59 10.5**	**+0.2**
V35A	**Meyer Ranch, C** baz=164	**164.23**	**316**	⇑PKPab	**PKPab**	**10 59 11.4**	**+0.3**
O24A	**Longmont** baz=164	**164.25**	**345**	⇓PKPab	**PKPab**	**10 59 11.5**	**+0.4**
P26A	**Davis Ranch, A** baz=164	**164.31**	**340**	⇓PKPab	**PKPab**	**10 59 11.7**	**+0.2**
O23A	**Lake Granby, G** baz=164	**164.34**	**348**	⇓PKPab	**PKPab**	**10 59 12.2**	**+0.5**
O22A	**Kremmling** baz=164	**164.50**	**350**	⇓PKPab	**PKPab**	**10 59 12.7**	**+0.3**
V34A	**Guthrie** baz=165	**164.61**	**318**	⇓PKPab	**PKPab**	**10 59 13.5**	**+0.8**
DUG	**Dugway, Tooele** baz=164	**164.61**	**8**	⇓PKPab	**PKPab**	**10 59 12.5**	**-0.2**
X36A	**Centrahoma** baz=165	**164.64**	**312**	⇓PKPab	**PKPab**	**10 59 14.0**	**+1.1**
ISCO	**Idaho Springs**	**164.68**	**347**	*e*PKIKP	**PKPdf**	**10 58 17.5**	**-0.4**
ISCO	**Idaho Springs**	**164.68**	**347**	*e*PKPdf	**PKPdf**	**10 58 17.5**	**-0.4**
ISCO	**Idaho Springs** baz=165	**164.68**	**347**	⇑PKPab	**PKPab**	**10 59 13.6**	**+0.4**
O20A	**White River Ci** baz=165	**164.75**	**354**	⇑PKPab	**PKPab**	**10 59 13.5**	**+0.2**
R28A	**Tribune** baz=165	**164.86**	**334**	⇑PKPab	**PKPab**	**10 59 14.0**	**+0.2**
NVAR	**Mina Array Bea** comp=Z,1.6nm,0.9s,baz=214,slow=1.5,SNR=8.5	**164.87**	**25**	PKP	**PKPdf**	**10 58 18.2**	**+0.2**
NVAR	comp=Z,2.5nm,0.8s,baz=304,slow=3.5,SNR=14			PKPab	**PKPab**	**10 59 13.9**	**-0.1**
P22A	**Eagle** baz=165	**165.09**	**350**	⇑PKPab	**PKPab**	**10 59 14.8**	**-0.1**
P23A	**Jefferson** baz=165	**165.13**	**347**	⇑PKPab	**PKPab**	**10 59 15.2**	**0.0**
S29A	**Ulysses** baz=165	**165.18**	**331**	⇑PKPab	**PKPab**	**10 59 15.4**	**+0.2**
R26A	**Arlington** baz=165	**165.49**	**338**	⇓PKPab	**PKPab**	**10 59 16.9**	**+0.3**
S28A	**Manter** baz=166	**165.54**	**333**	⇑PKPab	**PKPab**	**10 59 17.4**	**+0.6**
V32A	**Arapaho** baz=166	**165.59**	**321**	⇑PKPab	**PKPab**	**10 59 17.7**	**+0.6**
X34A	**Smith Ranch, M** baz=166	**165.60**	**315**	⇑PKPab	**PKPab**	**10 59 18.3**	**+1.2**
T29A	**Hugoton** baz=166	**165.64**	**330**	⇑PKPab	**PKPab**	**10 59 17.3**	**+0.1**
R11A	**Troy Canyon, C** baz=166	**165.85**	**18**	⇑PKPab	**PKPab**	**10 59 17.8**	**-0.4**
R23A	**Moffat** baz=166	**166.27**	**345**	⇓PKPab	**PKPab**	**10 59 20.7**	**+0.5**
MSU	**Marysvale**	**166.34**	**7**	*e*PKIKP	**PKPdf**	**10 58 20.7**	**+1.5**
MSU				*e*		10 59 19.8	
MSU	**Marysvale**	**166.34**	**7**	*e*PKPdf	**PKPdf**	**10 58 20.7**	**+1.5**
MSU				*e*PKPab	**PKPab**	**10 59 19.8**	**-0.6**
Y33A	**Hilltop Ranch,** baz=166	**166.48**	**315**	⇓PKPab	**PKPab**	**10 59 21.6**	**+0.6**
SDCO	**Great Sand Dun** baz=166	**166.61**	**344**	⇓PKPab	**PKPab**	**10 59 21.7**	**-0.1**
X32A	**Elmer** baz=167	**166.63**	**318**	⇓PKPab	**PKPab**	**10 59 22.3**	**+0.6**
U28A	**Mallet** baz=167	**166.70**	**331**	⇑PKPab	**PKPab**	**10 59 21.4**	**-0.6**
S22A	**4UR Ranch, Cre** baz=167	**166.90**	**348**	⇑PKPab	**PKPab**	**10 59 23.0**	**0.0**
TPNV	**Topopah Spring** baz=167	**166.93**	**22**	⇑PKPab	**PKPab**	**10 59 22.9**	**-0.2**
134A	**White-Moore Ra** baz=167	**166.95**	**308**	⇑PKPab	**PKPab**	**10 59 23.8**	**+0.6**
Y32A	**R-V Farms, Ver** baz=167	**167.00**	**317**	⇑PKPab	**PKPab**	**10 59 23.9**	**+0.6**
FURC	**Furnace Creek,** baz=167	**167.14**	**25**	⇓PKPab	**PKPab**	**10 59 23.9**	**+0.2**
V28A	**Channing** baz=167	**167.22**	**329**	⇑PKPab	**PKPab**	**10 59 24.7**	**+0.4**
MPMC	**Manual Prospec** baz=167	**167.24**	**28**	⇑PKPab	**PKPab**	**10 59 24.5**	**0.0**
SBC	**Santa Barbara** baz=167	**167.41**	**39**	⇓PKPab	**PKPab**	**10 59 25.1**	**0.0**
Z32A	**Haskell** baz=167	**167.47**	**314**	⇑PKPab	**PKPab**	**10 59 26.0**	**+0.5**
X30A	**Coker Ranch, T** baz=168	**167.54**	**322**	⇓PKPab	**PKPab**	**10 59 26.3**	**+0.5**
334A	**Lometa** baz=168	**167.69**	**304**	⇑PKPab	**PKPab**	**10 59 27.3**	**+0.7**
Z31A	**Sharp Cattle R** baz=168	**167.89**	**316**	⇑PKPab	**PKPab**	**10 59 28.2**	**+0.8**
232A	**Coleman** baz=168	**168.43**	**309**	⇑PKPab	**PKPab**	**10 59 30.7**	**+0.8**
433A	**Art** baz=169	**168.61**	**303**	⇑PKPab	**PKPab**	**10 59 30.4**	**-0.2**
BFSC	**Mount Baldy Ra** baz=169	**168.66**	**33**	⇑PKPab	**PKPab**	**10 59 30.2**	**-0.6**
Y28A	**McKinney Farm,** baz=169	**168.70**	**324**	⇑PKPab	**PKPab**	**10 59 31.4**	**+0.5**
Z29A	**Hungry Hill Ra** baz=169	**168.88**	**320**	⇑PKPab	**PKPab**	**10 59 32.3**	**+0.6**
MSTX	**Muleshoe** baz=169	**168.92**	**326**	⇓PKPab	**PKPab**	**10 59 32.6**	**+0.7**
GMRC	**Granite Mounta** baz=169	**169.08**	**25**	⇑PKPab	**PKPab**	**10 59 32.3**	**-0.2**
934A	**Benavides** baz=169	**169.21**	**287**	⇓PKPab	**PKPab**	**10 59 34.3**	**+0.9**
Z28A	**Tucker Farm, M** baz=169	**169.25**	**323**	⇓PKPab	**PKPab**	**10 59 33.8**	**+0.4**
JCT	**Junction City**	**169.28**	**303**	*e*PKIKP	**PKPdf**	**10 58 21.8**	**+0.5**
JCT				*e*		10 59 33.1	
JCT	**Junction City**	**169.28**	**303**	*e*PKPdf	**PKPdf**	**10 58 21.8**	**+0.5**
JCT				*e*PKPab	**PKPab**	**10 59 33.1**	**-0.5**
W13A	**Hualapai Mount** baz=169	**169.36**	**17**	⇓PKPab	**PKPab**	**10 59 33.6**	**-0.2**
WUAZ	**Wupatki**	**169.39**	**5**	*e*PKPdf	**PKPdf**	**10 58 19.6**	**-1.7**
WUAZ	**Wupatki** baz=169	**169.39**	**5**	⇑PKPab	**PKPab**	**10 59 34.3**	**+0.4**
532A	**Rocksprings** baz=170	**169.52**	**302**	⇓PKPab	**PKPab**	**10 59 35.1**	**+0.4**
330A	**Mertzon** baz=170	**169.77**	**311**	⇓PKPab	**PKPab**	**10 59 36.5**	**+0.7**
IRM	**Iron Mountain** baz=170	**169.83**	**24**	⇓PKPab	**PKPab**	**10 59 36.2**	**+0.4**
W18A	**Petrified Fore** baz=170	**169.83**	**358**	⇓PKPab	**PKPab**	**10 59 36.4**	**+0.6**
229A	**Bryant Ranch,** baz=170	**169.84**	**316**	⇑PKPab	**PKPab**	**10 59 36.5**	**+0.5**
531A	**Rocksprings** baz=170	**169.99**	**304**	⇑PKPab	**PKPab**	**10 59 37.6**	**+0.8**
228A	**UT Block 9, Go** baz=170	**170.22**	**319**	⇓PKPab	**PKPab**	**10 59 38.2**	**+0.5**
329A	**Wagon Wheel Ra** baz=170	**170.26**	**314**	⇑PKPab	**PKPab**	**10 59 38.4**	**+0.5**
832A	**Faith Ranch, C** baz=170	**170.28**	**292**	⇓PKPab	**PKPab**	**10 59 39.0**	**+0.9**
631A	**Perdido Creek** baz=170	**170.36**	**300**	⇑PKPab	**PKPab**	**10 59 39.2**	**+0.8**
X18A	**Snowflake** baz=170	**170.43**	**359**	⇑PKPab	**PKPab**	**10 59 39.0**	**+0.5**
X16A	**Lo Mia Camp, P** baz=170	**170.47**	**6**	⇓PKPab	**PKPab**	**10 59 39.0**	**+0.3**
GLA	**Glamis** baz=171	**170.93**	**26**	⇑PKPab	**PKPab**	**10 59 41.8**	**+1.1**
113A	**Mohawk Valley,** baz=172	**171.57**	**21**	⇓PKPab	**PKPab**	**10 59 42.7**	**-0.7**
MNTX	**Cornudas Mount**	**172.04**	**329**	*e*PKPdf	**PKPdf**	**10 58 23.2**	**+0.6**
MNTX	**Cornudas Mount** baz=172	**172.04**	**329**	⇓PKPab	**PKPab**	**10 59 45.9**	**+0.2**
121A	**Cookes Peak, D** baz=172	**172.13**	**345**	⇑PKPab	**PKPab**	**10 59 47.0**	**+0.9**
TXAR	**Lajitas Array** comp=Z,1.3nm,0.9s,baz=172,slow=1.2,SNR=9.4	**172.73**	**309**	PKP	**PKPdf**	**10 58 22.3**	**-0.9**
TXAR	comp=Z,1.9nm,1.0s,baz=57,slow=3.6,SNR=8.2			PKPab	**PKPab**	**10 59 50.6**	**+1.6**

*IDC **07** 10:41:41.0±0.9, 31°.24S×177°.97W, h0km, mb4.8/5, mb1 4.9/5, mb1mx4.2/20, mbtmp4.8/5, MS5.0/1, Ms1 5.0/1, ms1mx3.2/20, Error ellipse: s-maj=26.8km s-min=21.2km az=100.0*

*ISCJB **07** 10:41:43.3±0.9, 31°.76S±0°.04×177°.9W±0°.1, h35km, mb4.6/7, Error ellipse: s-maj=17.8km s-min=4.9km az=8.2*

*NEIC **07** 10:41:47.0±1.5, 31°.38S×177°.95W, h43km±12km, mb4.9/2, Error ellipse: s-maj=19.9km s-min=12.7km az=113.0*

ISC 07 10:41:45.6±0.8, 31°.56S±0°.07×178°.0W±0°.1, h35km, n62, σ1§67/59, mb4.8/7, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 54nm,0.3s,baz=270,slow=20,SNR=2.5	**2.30**	**2**	Pn	Pn	10 42 16.4	-4.6
RAO				Sn	**Sn**	**10 42 43.7**	**-4.4**
	553nm,0.3s,baz=73,slow=19,SNR=9.3						
RAO	**Raoul Island**	**2.30**	**2**	*e*Pn	**Pn**	**10 42 20.1**	**-0.9**
RAO				*e*Sn	Sn	10 42 41.7	-6.4
MXZ	**Matakaoa Point**	**6.71**	**206**	PN	**Pn**	**10 43 20.0**	**-1.6**
MXZ				*e*SN	**Sn**	**10 44 34.7**	**-2.2**
WMGZ	**Waiomatatini S**	**6.90**	**204**	PN	**Pn**	**10 43 24.1**	**-0.1**
HAZ	**Te Kaha**	**7.08**	**208**	PN	**Pn**	**10 43 26.2**	**-0.5**
HAZ				SN	**Sn**	**10 44 46.5**	**+0.5**
PUZ	**Puketiti**	**7.18**	**204**	PN	**Pn**	**10 43 25.9**	**-2.3**
PUZ				SN	**Sn**	**10 44 45.8**	**-2.7**
TWGZ	**Tauwhareparae**	**7.38**	**205**	PN	**Pn**	**10 43 30.0**	**-0.8**
TWGZ				SN	**Sn**	**10 44 52.9**	**-0.4**
CNGZ	**Carnagh Statio**	**7.57**	**203**	PN	**Pn**	**10 43 32.0**	**-1.4**
TKGZ	**Te Karaka**	**7.66**	**205**	PN	**Pn**	**10 43 32.9**	**-1.7**
TKGZ				*e*SN	**Sn**	**10 44 58.7**	**-1.4**
MWZ	**Matawai**	**7.69**	**207**	PN	**Pn**	**10 43 33.0**	**-2.0**
MWZ				*e*SN	**Sn**	**10 45 00.7**	**-0.2**
URZ	**Urewera** 2.3nm,0.3s,baz=293,slow=4.3,SNR=18	**7.79**	**210**	Pn	**Pn**	**10 43 35.7**	**-0.8**
URZ				Sn	**Sn**	**10 45 02.1**	**-1.2**
	5.3nm,0.3s,baz=55,slow=21,SNR=8.7						
URZ	**Urewera**	**7.79**	**210**	PN	**Pn**	**10 43 34.7**	**-1.7**
URZ				SN	**Sn**	**10 45 02.2**	**-1.2**
URZ	**Urewera**	**7.79**	**210**	*e*Pn	**Pn**	**10 43 37.6**	**+1.2**
URZ				*e*Sn	**Sn**	**10 45 03.4**	**0.0**
OUZ	**Omahuta**	**7.90**	**240**	PN	Pn	10 43 43.5	+5.5
OUZ	**Omahuta** 19nm,0.5s	**7.90**	**240**	*e*Pn	Pn	10 43 43.5	+5.5
OUZ				*e*Sn	Sn	10 45 16.4	+10
RIGZ	**Rimuhau**	**7.92**	**205**	PN	**Pn**	**10 43 36.7**	**-1.6**
RIGZ				SN	**Sn**	**10 45 05.6**	**-1.1**
KNZ	**Kokohu**	**8.23**	**204**	PN	**Pn**	**10 43 39.5**	**-3.1**
KNZ				SN	**Sn**	**10 45 11.3**	**-3.0**
BKZ	**Black Stump Fm**	**8.81**	**209**	PN	**Pn**	**10 43 47.6**	**-3.0**
BKZ				SN	**Sn**	**10 45 25.2**	**-3.4**
MRZ	**Mangatainoka R**	**10.45**	**208**	*e*PN	Pn	10 44 07.5	-5.4
MRZ				SN	Sn	10 46 00.7	-8.1
TCW	**Tory Channel**	**11.46**	**211**	*e*SN	Sn	10 46 23.6	-10
CTZ	**Chatham Island**	**12.21**	**175**	*e*PN	**Pn**	**10 44 35.7**	**-1.2**
CTZ				SN	Sn	10 46 40.1	-12
MQZ	**McQueen's Vall**	**14.19**	**209**	*e*SN	Sn	10 47 25.6	-14
TBI	**Tubuai** 11nm,0.4s	**26.57**	**79**	*e*T	T	11 14 53.6	
PAE	**Paea** 3.4nm,0.3s	**29.22**	**68**	*e*T	T	11 17 46.2	
PPT2	**Papeete2** 130nm,28.5s	**29.26**	**68**	*e*LR	LR	10 55 03.3	
PPT2	**Papeete2** 3.8nm,0.4s	**29.26**	**68**	*e*T	T	11 17 50.0	
PPT	**Papeete** comp=Z,23nm,18.3s,baz=4.0,slow=35	**29.27**	**68**	LR	LR	10 58 36.1	
CMSA	**Cobar Meteorol** baz=30,SNR=12	**30.84**	**260**	P	**P**	**10 48 00.5**	**+2.1**
VAH	**Vaihoa** 13nm,0.3s	**32.13**	**67**	*e*T	T	11 21 19.5	
QLP	**Quilpie** baz=32,SNR=10.0	**33.25**	**269**	P	**P**	**10 48 20.7**	**+1.1**
CTA	**Charters Tower** 13nm,0.7s,baz=106,slow=10,SNR=14	**33.98**	**281**	P	**P**	**10 48 27.4**	**+1.3**
CTAO	**Charters Tower** 10nm,0.6s	**33.98**	**281**	*e*P	**P**	**10 48 28.0**	**+1.9**
STKA	**Stephens Creek** 3.4nm,0.5s,baz=106,slow=10,SNR=20	**34.22**	**259**	P	**P**	**10 48 29.6**	**+1.6**
STKA	**Stephens Creek** baz=33,SNR=14	**34.22**	**259**	P	**P**	**10 48 29.8**	**+1.9**
STKA	**Stephens Creek**	**34.22**	**259**	*e*P	**P**	**10 48 29.9**	**+1.9**
BBOO	**Buckleboo** baz=38,SNR=12	**38.65**	**256**	P	**P**	**10 49 06.0**	**+0.1**
COEN	**Coen** baz=39,SNR=6.2	**39.58**	**287**	P	**P**	**10 49 15.3**	**+1.5**
AS31	**Alice Springs**	**43.04**	**268**	*e*P	**P**	**10 49 42.5**	**+0.3**
ASAR	**Alice Springs** 11nm,0.5s,baz=107,slow=8.0,SNR=159	**43.04**	**268**	P	**P**	**10 49 42.5**	**+0.4**
WRAB	**Tennant Creek** 8.6nm,0.5s	**44.13**	**273**	*e*P	**P**	**10 49 51.4**	**+0.5**
WRA	**Warramunga Arr** 22nm,0.7s,baz=111,slow=8.1,SNR=147	**44.13**	**273**	P	**P**	**10 49 51.2**	**+0.2**
WRKA	**Warakurna** baz=47,SNR=16	**47.33**	**264**	P	**P**	**10 50 15.4**	**-0.8**
KNRA	**Kununurra** baz=50,SNR=5.4	**50.78**	**275**	P	**P**	**10 50 43.7**	**+1.0**
QSPA	**South Pole Qui** 3.0nm,0.8s,baz=37,slow=0.8,SNR=8.5	**58.56**	**180**	P	P	10 51 42.4	+3.9
WSI	**Waingapu** baz=60,SNR=4.0	**60.91**	**277**	P	**P**	**10 51 53.6**	**-1.7**
SNAA	**Sanae**	**77.00**	**178**	P	**P**	**10 53 36.8**	**+2.4**
VNA3	**Neumayer Olymp**	**77.16**	**176**	P	**P**	**10 53 37.4**	**+2.2**
VNA2	**Neumayer--Watz** baz=180,slow=4.5	**77.59**	**177**	P	**P**	**10 53 40.2**	**+2.5**
VNA1	**Neumayer--Stat**	**77.82**	**177**	P	**P**	**10 53 40.6**	**+1.7**
NVAR	**Mina Array Bea** 0.3nm,0.8s,baz=214,slow=11,SNR=2.8	**89.10**	**43**	P	P	10 54 42.2	+4.8
CPUP	**Villa Florida** comp=Z,584nm,19.0s,baz=182,slow=32	**99.28**	**129**	LR	LR	11 34 11.7	
HBAR	**Harrisburg**	**105.63**	**58**	*e*Pdif	**Pdif**	**10 55 51.4**	**-0.8**
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=254,slow=4.4,SNR=4.5	**118.50**	**310**	PKP	**PKPdf**	**11 00 28.6**	**-0.7**
BVAR	**Borovoye Array** 1.1nm,0.4s,baz=46,slow=4.2,SNR=7.5	**127.21**	**315**	PKP	**PKPdf**	**11 00 45.7**	**-0.2**
ARCES	**ARCESS Array B** 1.7nm,1.0s,baz=54,slow=2.1,SNR=4.6	**139.71**	**347**	PKhKP	PKPpre	11 01 01.9	
FINES	**FINESS Array B** 8.6nm,0.7s,baz=67,slow=2.5,SNR=24	**146.22**	**339**	PKPbc	**PKPbc**	**11 01 21.4**	**-0.1**
NB2	**NORSAR Subarra1** comp=Z,16nm,1.7s,baz=16,slow=2.7	**149.89**	**351**	PKP	**PKPbc**	**11 01 31.7**	**+0.3**
NOA	**NORSAR Array B** comp=Z,2.3nm,0.7s,baz=14,slow=4.2,SNR=7.1	**149.89**	**351**	PKPbc	**PKPbc**	**11 01 32.0**	**+0.6**
AKASG	**Malin Array Be** comp=Z,3.8nm,0.7s,baz=58,slow=2.2,SNR=8.7	**152.20**	**321**	PKPbc	**PKPbc**	**11 01 37.2**	**+0.1**
AK02	**Malin Array Si**	**152.23**	**321**	*e*PKPbc	**PKPbc**	**11 01 37.4**	**+0.2**
BRTR	**Keskin Array B** comp=Z,0.8nm,0.5s,baz=124,slow=3.5,SNR=5.1	**153.12**	**296**	PKPbc	**PKPbc**	**11 01 39.4**	**-0.4**
TORD	**Torodi Ar. Bea** comp=Z,1.0nm,0.6s,baz=191,slow=4.4,SNR=10	**161.68**	**179**	PKPab	**PKPab**	**11 02 30.2**	**+1.8**

CASC 07 10:48:42.7±3.4, 10°.36N×82°.67W, h36km±999km, MD3.9, 3C-1D, North of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URSC	**Urasca**	**1.21**	**244**	*e*P	Pn	10 49 03.1	-0.2
URSC				*e*S	Sn	10 49 18.3	-0.3
BUS	**Buena Vista**	**1.33**	**233**	*e*P	Pn	10 49 05.5	+0.1
BUS				*e*S	Sn	10 49 22.6	+0.3
CTCR	**Cotoan**	**1.46**	**183**	⇑*e*P	Pn	10 49 07.7	+0.9
BRU	**Baru**	**1.55**	**176**	*e*P	Pn	10 49 16.7	+8.4
BRU				*e*S	Sn	10 49 29.1	+1.5
TBS2		**1.56**	**179**	*e*P	Pn	10 49 09.1	+0.9
TBS2				*e*S	Sn	10 49 27.1	-0.1
QCR	**Quepos**	**1.74**	**238**	*e*P	Pn	10 49 11.7	+1.4
QCR				*e*S	Sn	10 49 32.6	+1.3
ACR	**Cerro Adams**	**1.77**	**196**	*e*P	Pn	10 49 12.1	+1.2
ACR				*e*S	Sn	10 49 33.8	+1.7
CGA2	**Cerro Gallo 2**	**1.80**	**259**	*e*P	Pn	10 49 11.9	+0.6
CGA2				*e*S	Sn	10 49 32.7	-0.3
JTS	**JuntasAbangare**	**2.24**	**268**	⇑*e*P	Pn	10 49 17.4	0.0
JTS				*e*S	Sn	10 49 45.2	+1.3
CAO	**Cobano**	**2.48**	**255**	*e*P	Pn	10 49 22.8	+2.2
BCIP	**Isla Barro Col**	**3.04**	**113**	⇓*e*P	Pn	10 49 28.6	+0.4
BCIP				*e*S	Sn	10 50 00.6	-2.8
ZANG	**Zanguenga, Cho**	**3.10**	**117**	⇑*e*P	Pn	10 49 29.0	-0.1
ZANG				*e*S	Sn	10 50 03.3	-1.6

*IDC **07** 11:15:03.2±3.0, 5°.59N×82°.48W, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.7/28, mbtmp3.7/5, ML4.5/1, Error ellipse: s-maj=115.6km s-min=30.6km az=40.0*

*CASC **07** 11:15:04.2±2.5, 5°.50N×82°.70W, h5km±41km*

*UPA **07** 11:15:04.6, 5°.30N×82°.91W, h68km, MW4.6*

*UCR **07** 11:15:04.2, 5°.55N×82°.74W, h0km*

ISC 07 11:15:04.8±1.4, 5°.4N±0°.1×82°.74W±0°.07, h15km, n18, σ1§36/28, mb3.5/4, 2C-4D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**3.25**	**352**	*e*P	**Pn**	**11 15 54.0**	**-1.4**
ACR				*e*S	**Sn**	**11 16 32.5**	**-1.4**
TBS2		**3.37**	**1**	*e*P	**Pn**	**11 15 58.0**	**+1.0**
CTCR	**Cotoan**	**3.47**	**360**	⇑*i*P	**Pn**	**11 15 57.9**	**-0.6**
CTCR				*e*S	**Sn**	**11 16 39.7**	**+0.3**
QCR	**Quepos**	**4.24**	**341**	⇓*i*P	**Pn**	**11 16 08.0**	**-0.8**
QCR				*e*S	**Sn**	**11 16 58.6**	**+0.5**
BUS	**Buena Vista**	**4.25**	**346**	⇓*e*P	**Pn**	**11 16 09.0**	**-0.4**
BUS				*e*S	**Sn**	**11 16 59.9**	**+1.0**
URSC	**Urasca**	**4.52**	**347**	⇓*e*P	**Pn**	**11 16 12.9**	**0.0**
URSC				*e*S	**Sn**	**11 17 05.9**	**+0.5**
ZANG	**Zanguenga, Cho**	**4.53**	**39**	*e*P	**Pn**	**11 16 13.3**	**+0.4**
ZANG				*e*S	**Sn**	**11 17 04.7**	**-0.7**
BCIP	**Isla Barro Col**	**4.72**	**37**	*e*P	**Pn**	**11 16 14.8**	**-0.6**
BCIP				*e*S	**Sn**	**11 17 09.1**	**-0.8**
CAO	**Cobano**	**4.87**	**331**	*e*P	**Pn**	**11 16 16.9**	**-0.7**
CAO				*e*S	**Sn**	**11 17 08.5**	**-5.3**
CGA2	**Cerro Gallo 2**	**4.89**	**340**	⇑*e*P	**Pn**	**11 16 17.6**	**-0.4**
CGA2				*e*S	**Sn**	**11 17 16.3**	**+1.9**
JCR	**Jicaral**	**5.00**	**332**	⇓*i*P	**Pn**	**11 16 18.9**	**-0.6**
JTS	**JuntasAbangare**	**5.33**	**336**	*e*P	**Pn**	**11 16 23.6**	**-0.2**
JTS				*e*S	**Sn**	**11 17 26.0**	**+1.0**
JTS	**JuntasAbangare** 16nm,0.3s,baz=111,slow=17,SNR=111	**5.33**	**336**	Pn	**Pn**	**11 16 23.7**	**-0.2**
JTS				Sn	**Sn**	**11 17 26.3**	**+1.3**
	22nm,0.3s,baz=295,slow=22,SNR=21						
H06E1	**SOCORRO T-PHAS** SNR=11	**30.53**	**298**	T	T	11 53 30.4	
NVAR	**Mina Array Bea** 0.7nm,0.8s,baz=140,slow=7.6,SNR=4.5	**46.05**	**321**	P	**P**	**11 23 29.8**	**+1.4**
YKA	**Yellowknife Ar** 0.3nm,0.7s,baz=142,slow=6.5,SNR=5.9	**61.61**	**344**	P	**P**	**11 25 21.2**	**-0.2**
ILAR	**Eielson Array** 0.2nm,0.6s,baz=75,slow=2.7,SNR=4.1	**74.30**	**336**	P	**P**	**11 26 41.5**	**+0.1**
TORD	**Torodi Ar. Bea** 0.2nm,0.6s,baz=294,slow=5.3,SNR=3.3	**83.38**	**77**	P	**P**	**11 27 31.8**	**-0.4**

MEX 07 11:21:33.2±1.1, 17°.15N×100°.78W, h17km±999km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.50**	**101**	*e*P	Pg	11 21 42.1	-1.2
CAIG				*i* S	Sg	11 21 47.7	-2.3
ZIIG	**Zihuatanejo**	**0.80**	**305**	*i* P	Pb	11 21 45.5	-3.1
ZIIG				*e*S	Sb	11 21 55.9	-3.3
ARIG	**Puente Sto Nin**	**1.20**	**20**	*i* P	Pn	11 21 52.3	-3.0
ARIG				*i* S	Sb	11 22 05.5	-5.4
TLIG	**Tlapa**	**2.16**	**79**	*e*P	Pn	11 22 07.3	-1.3

*BJI **07** 11:44:44.5, 10°.70S×123°.79E, h37km, mb5.1/52, mB5.2/33, Ms4.8/36, Ms7 4.4/34*

*GCMT **07** 11:44:46.4±0.2, 10°.41S×123°.73E, h17km, MW5.0/83, Moment Tensor Solution. s46,c66; s83,c130; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.71±.17; Mθθ-4.47±.11; Mφφ0.76±.14; Mrθ0.92±.25; Mθφ0.51±.10; Mφr-0.65±.43; Best double couple: M=4.27800×10^16 NP1:φs105.00000°, δ52.00000°, λ103.00000°. NP2: φs265.00000°, δ39.00000°, λ74.00000°. Principal axes: T 3.9240, Plg78.0000°, Azm63.0000°; N 0.7140, Plg10.0000°, Azm277.0000°; P -4.6330, Plg7.0000°, Azm186.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **07** 11:44:46.4±1.3, 10°.41S×123°.50E, h11km±7km, mb5.2/18 Error ellipse: s-maj=7.2km s-min=5.8km az=214.0*

*IDC **07** 11:44:47.3±0.9, 10°.31S×123°.58E, h20km±5km, mb4.6/27, mb1 4.6/29, mb1mx4.5/41, mbtmp4.7/29, ML4.3/2, MS4.3/10, Ms1 4.2/10, ms1mx3.9/23, Error ellipse: s-maj=17.0km s-min=11.6km az=73.0*

*ISCJB **07** 11:44:48.3±0.4, 10°.56S±0°.02×123°.70E±0°.02, h53km±3km, mb4.9/75, MS4.3/10, Error ellipse: s-maj=4.2km s-min=3.7km az=21.6*

*MOS **07** 11:44:48.1±1.4, 10°.20S×123°.57E, h33km, mb5.3/26, Error ellipse: s-maj=11.4km s-min=7.0km az=127.1*

*DJA **07** 11:44:49.5±0.1, 11°.S±2°×12°.4E±°, h10km, M5.0/91, mb5.1/91, mB5.5/43, MLv5.1/17, Mw(mB)5.0/43, Mwp6.0/1*

*AUST **07** 11:45:07.2, 11°.00S×123°.00E, h200km*

ISC 07 11:44:49.1±0.5, 10°.49S±0°.03×123°.58E±0°.03, h34km±1km, n360, σ1§77/376, mb4.9/72, MS4.4/10, 15C-8D, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.30**	**15**	P	Pn	11 44 51.5	-5.4
BATI	**Baumata** baz=216,slow=6.5	**0.30**	**15**	Pg	Pn	11 44 52.0	-4.9
SOEI	**Soe**	**1.00**	**43**	P	**Pn**	**11 45 05.9**	**-0.8**
SOEI				S	**Sb**	**11 45 21.6**	**+0.7**
SOEI	**Soe** baz=1.0,SNR=1000	**1.00**	**43**	P	**Pn**	**11 45 05.5**	**-1.2**
SOEI	**Soe**	**1.00**	**43**	*e*Pn	**Pn**	**11 45 06.0**	**-0.8**
SOEI				*e*Sn	**Sb**	**11 45 23.2**	**+2.3**
MMRI	**Maumere**	**2.27**	**324**	P	**Pn**	**11 45 24.5**	**+0.3**
MMRI				S	**Sb**	**11 45 57.1**	**-0.2**
MMRI	**Maumere**	**2.27**	**324**	*e*Pn	**Pn**	**11 45 25.3**	**+1.1**
MMRI				*e*Sn	**Sn**	**11 45 50.1**	**-1.0**
EDFI	**Ende, Flores**	**2.55**	**313**	P	**Pn**	**11 45 28.0**	**-0.1**
EDFI				S	**Sb**	**11 46 04.1**	**-1.1**
BASI	**Baing, Sumba**	**2.97**	**275**	P	**Pn**	**11 45 34.7**	**+0.9**
WSI	**Waingapu**	**3.34**	**284**	P	**Pn**	**11 45 41.2**	**+2.3**
WSI	**Waingapu** baz=3.4,SNR=8.5	**3.34**	**284**	P	**Pn**	**11 45 41.2**	**+2.3**
WBSI	**Waikabubak, Su**	**4.21**	**281**	P	**Pn**	**11 45 51.3**	**+0

GMJI **Gumukmas** 10.24 282 P Pn 11 47 17.6 +3.8
69nm,1.9s
KBKI **Kotabaru** 10.26 314 P Pn 11 47 18.3 +4.3
26nm,1.0s
LBMI **Labuha** 10.54 22 P Pn 11 47 21.8 +4.0
112nm,1.2s,2µm
KMSI **Cibinong** 11.00 2 P Pn 11 47 28.2 +4.0
172nm,1.4s
MRSI **Marisa** 11.02 351 P **Pn** **11 47 25.9 +1.5**
57nm,1.0s,899nm
BBKI **Banjar Baru** 11.14 308 P Pn 11 47 30.2 +4.2
77nm,1.3s,4µm
MBWA **Marble Bar** 11.23 199 *e*Pn **Pn** **11 47 26.1 -1.1**
MBWA *e*Sn **Sn** **11 49 29.6 -2.1**
MPSI **Mapaga** 11.37 341 P Pn 11 47 33.3 +4.1
42nm,1.0s,657nm
FAKI **Fak Fak** 11.43 49 P Pn 11 47 35.4 +5.4
94nm,1.2s,1µm
FAKI **Fak Fak** 11.43 49 P **Pn** **11 47 29.6 -0.4**
baz=12,SNR=17
FAKI S **Sn** **11 49 35.8 -0.8**
baz=12,SNR=5.9
FAKI 11.43 49 *e*Pn **Pn** **11 47 28.9 -1.1**
FAKI *e*Sn **Sn** **11 49 39.7 +3.1**
TNTI **Ternate** 11.81 19 P Pn 11 47 42.1 +6.9
170nm,1.3s,2µm
TNTI **Ternate** 11.81 19 *e*Pn **Pn** **11 47 36.1 +1.0**
TNTI *e*Sn **Sn** **11 49 45.5 -0.4**
WOJI **Wonogiri, Jawa** 12.77 281 P Pn 11 47 52.6 +4.2
97nm,1.1s
UGM **Wanagama** 13.14 280 P **Pn** **11 47 53.1 -0.4**
baz=13,SNR=6.9
RKPI **Ransiki, Papua** 13.80 50 P **Pn** **11 48 03.9 +1.5**
109nm,0.8s,29µm
WRA **Warramunga Arr** 13.99 133 Pn Pn 11 47 59.9 -5.2
6.7nm,0.3s,baz=308,slow=15,SNR=215
WRA Sn Sn 11 50 27.0 -12
9.0nm,0.3s,baz=304,slow=22,SNR=15
WRA LR LR 11 54 23.5
comp=Z,1µm,19.9s,baz=310,slow=41
WRAB **Tennant Creek** 13.99 133 Pn Pn 11 48 00.2 -4.8
392nm,0.7s,SNR=44
KPJI **Karang Pucung** 14.81 281 P P 11 48 27.5 +5.9
GIRL **Giralia** 15.03 215 P **Pn** **11 48 19.1 +0.1**
baz=15,SNR=21
WRKA **Warakurna** 15.14 163 P **Pn** **11 48 17.2 -3.4**
baz=15,SNR=165
WRKA S Sn 11 50 58.0 -9.2
baz=15,SNR=6.0
CISI **Cisompet, Garu** 15.84 279 P P 11 48 42.6 +9.4
CISI **Cisompet, Garu** 15.84 279 P **P** **11 48 35.4 +2.2**
baz=16,SNR=7.8
CISI **Cisompet, Garu** 15.84 279 *e*Pn **Pn** **11 48 27.4 -2.4**
146nm,0.6s
CISI *e*Sn **Sn** **11 51 27.1 +2.6**
STKI **Sintang** 15.97 310 P **P** **11 48 36.5 +2.0**
43nm,0.5s
LEM **Lembang** 16.20 282 P **P** **11 48 38.4 +1.2**
207nm,0.8s,3µm
LEM **Lembang** 16.20 282 Pn **Pn** **11 48 33.4 -1.0**
1.5nm,0.3s,baz=121,slow=12,SNR=4.7
LEM **Lembang** 16.20 282 P **P** **11 48 41.0 +3.8**
baz=16,SNR=3.1
AS31 **Alice Springs** 16.39 144 *e*Pn **Pn** **11 48 32.5 -4.1**
AS31 *e*Sn Sn 11 51 27.8 -10
ASAR **Alice Springs** 16.39 144 Pn **Pn** **11 48 33.2 -3.4**
5.7nm,0.3s,baz=322,slow=13,SNR=103
ASAR Sn Sn 11 51 28.1 -9.4
6.5nm,0.3s,baz=320,slow=24,SNR=12
ASAR LR LR 11 54 37.2
comp=Z,1µm,21.9s,baz=314,slow=36
CNJI **Cibinong** 16.56 280 P **P** **11 48 43.1 +2.0**
167nm,1.2s,2µm
MMPI **Merauke** 16.69 85 P **P** **11 48 44.8 +2.2**
346nm,0.8s
MEEK **Meekatharra** 16.73 196 P **Pn** **11 48 39.6 -1.3**
baz=17,SNR=115
CBJI **Citeko** 17.04 282 P **P** **11 48 47.2 +0.8**
220nm,0.9s
SBUM **Sibu** 17.13 318 *e*Pn **Pn** **11 48 45.8 -0.1**
SKJI **Sukabumi** 17.18 280 P **P** **11 48 51.4 +3.4**
324nm,1.3s,4µm
SMPI **Sarmi** 17.24 62 P **P** **11 48 51.4 +2.8**
83nm,1.0s
TPI **Tanjungpandan** 17.58 295 P sP 11 49 08.9 +3.2
CTBH **Cotabato--PC H** 17.61 2 *i*P **P** **11 48 54.4 +1.7**
KSM **Kuching** 17.77 311 P **Pn** **11 48 53.4 -0.6**
baz=18,SNR=7.2
KSM **Kuching** 17.77 311 *e*Pn **Pn** **11 48 53.0 -1.0**
KSM *e*Sn Sn 11 52 02.9 -8.3
SBJI **Serang** 17.80 283 P **P** **11 48 58.8 +3.9**
151nm,0.9s,4µm
KKM **Kota Kinabalu** 17.99 336 P **P** **11 48 57.4 +0.4**
baz=18,SNR=13
KKM **Kota Kinabalu** 17.99 336 *e*Pn **Pn** **11 48 56.5 -0.3**
CGJI **Cibinong** 18.10 281 P **P** **11 49 00.1 +1.9**
138nm,0.7s,3µm
GENI **Genyem** 18.24 66 P **Pn** **11 49 04.0 +4.3**
184nm,0.9s,2µm
QIS **Mount Isa** 18.38 125 P **P** **11 48 57.8 -3.4**
baz=18,SNR=27
JAY **Jayapura** 18.76 66 P sP 11 49 21.7 +3.0
JAY **Jayapura** 18.76 66 P **P** **11 49 04.4 -1.0**
0.8nm,0.3s,baz=176,slow=15,SNR=3.3
PPBI **Pangkal Pinang** 19.20 294 P **Pn** **11 49 12.4 +1.0**
17nm,1.0s,6µm
KLI **Kotabumi** 19.38 285 P **Pn** **11 49 15.0 +1.5**
204nm,1.3s
COEN **Coen** 19.45 102 ⇓P **P** **11 49 13.1 +0.1**
baz=19,SNR=6.4
COEN **Coen** 19.45 102 *e*P **Pn** **11 49 15.1 +0.7**
4.1nm,0.8s
COEN *e*S S 11 52 40.8 -10
KASI **Kota Agung** 19.53 283 P **Pn** **11 49 15.4 +0.1**
727nm,1.0s,7µm
MORW **Morawa** 19.78 200 P **Pn** **11 49 17.8 -0.3**
baz=20,SNR=18
MORW S S 11 52 46.1 -12
baz=20,SNR=5.7
LWLI **Liwa** 20.09 284 P Pn 11 49 21.3 -0.8
160nm,0.8s
MDSI **Maura Dua** 20.14 286 P **P** **11 49 21.0 +0.6**
45nm,1.1s,706nm
FORT **Forrest** 20.61 169 P **P** **11 49 26.6 +1.2**
baz=21,SNR=19
FORT **Forrest** 20.61 169 *e*P **P** **11 49 26.2 +0.8**
76nm,0.6s
FORT *e*S **S** **11 53 10.5 -3.6**
KMBL **Kambalda** 20.83 184 P **P** **11 49 28.4 +0.6**
baz=21,SNR=13
LHSI **Lahat** 20.97 287 P Pn 11 49 31.0 -1.2
190nm,1.0s,2µm
BLDU **Ballidu** 21.02 197 P **P** **11 49 30.7 +0.9**
baz=21,SNR=15
BLDU S S 11 53 13.1 -9.0
baz=21,SNR=4.5
MNAI **Manna** 21.33 285 P **P** **11 49 32.7 -0.7**
baz=21,SNR=11
DSRI **Dabo** 21.35 297 P P 11 49 38.8 +5.2
110nm,1.2s
TPRI **Tanjung Pinang** 22.09 300 P **P** **11 49 43.7 +2.2**
51nm,1.2s
MASI **Maura Aman, Be** 22.40 288 P **P** **11 49 48.3 +3.4**
228nm,1.3s,3µm
MYKOM **Kota Tinggi** 23.12 301 *e*P **P** **11 49 50.8 -1.6**
PMG **Port Moresby** 23.25 89 ⇓*e*P **P** **11 49 51.8 -1.8**
PMG pmax pmax
comp=Z,215nm,1.7s
CTA **Charters Tower** 23.83 116 P **P** **11 50 00.2 +1.0**
comp=Z,35nm,1.1s,baz=284,slow=17,SNR=5.2
CTA LR LR 12 00 30.7
comp=Z,1µm,18.6s,baz=290,slow=40
CTAO **Charters Tower** 23.83 116 *e*P **P** **11 49 59.9 +0.6**
CTAO **Charters Tower** 23.83 116 *e*P **P** **11 49 59.9 +0.6**
BBOO **Buckleboo** 25.01 155 P **P** **11 50 10.5 +0.6**
baz=25,SNR=44
BBOO **Buckleboo** 25.01 155 *e*P **P** **11 50 10.8 +0.9**
comp=Z,32nm,0.6s
QLP **Quilpie** 25.22 132 P **P** **11 50 14.4 +2.5**
baz=25,SNR=8.6
MNSI **Mandailing Nat** 26.38 294 P **P** **11 50 24.7 +2.2**
comp=Z,22nm,0.9s,comp=Z,2µm
STKA **Stephens Creek** 27.02 145 P **P** **11 50 28.4 +0.3**
comp=Z,3.7nm,0.5s,baz=315,slow=9.5,SNR=13
STKA LR LR 12 01 00.8
comp=Z,1µm,20.8s,baz=317,slow=36
STKA **Stephens Creek** 27.02 145 *e*P **P** **11 50 29.4 +1.3**
STKA **Stephens Creek** 27.02 145 ⇓P **P** **11 50 29.1 +1.0**
baz=27,SNR=8.4
STKA **Stephens Creek** 27.02 145 *e*P **P** **11 50 29.4 +1.3**
PSI **Prapat** 27.88 297 P **P** **11 50 34.5 -1.6**
comp=Z,3.1nm,0.3s,baz=140,slow=8.9,SNR=8.7
PSI LR LR 12 03 48.3
comp=Z,1µm,18.1s,baz=127,slow=41
KCSI **Kotacane, Aceh** 29.23 297 P **P** **11 50 47.5 -0.5**
comp=Z,20nm,0.8s
CMSA **Cobar Meteorol** 29.28 139 ⇑P **P** **11 50 50.4 +2.1**
baz=29,SNR=7.8
TRTT **Trang** 29.95 307 P **P** **11 50 54.7 +0.3**
comp=Z,15nm,1.2s
CHBT **CHBT** 31.29 317 P **P** **11 51 06.1 0.0**
comp=Z,16nm,1.2s,comp=Z,3µm
QIZ **Qiongzhong** 32.31 335 P **P** **11 51 16.3 +1.2**
QIZ pP **pP** **11 51 25.2 +0.2**
QIZ sP **sP** **11 51 28.4 -0.8**
QIZ S **S** **11 56 30.1 +3.3**
QIZ PMZ
comp=Z,30nm,1.4s
TOO **Toolangi** 33.40 147 P **P** **11 51 27.5 +3.0**
baz=33,SNR=5.4
SKNT **Sakolnakorn** 33.47 324 P **P** **11 51 24.3 -1.0**
comp=Z,14nm,1.8s,comp=Z,2µm
KHON **Khomkaen** 33.66 322 P **P** **11 51 27.0 +0.1**
comp=Z,8.1nm,0.9s,comp=Z,772nm
CHAI **Chaiyaphum** 33.84 321 P **P** **11 51 27.9 -0.6**
comp=Z,12nm,1.0s,comp=Z,96nm
PBKT **Sadao Pong** 34.98 320 P **P** **11 51 37.3 -1.0**
comp=Z,21nm,1.1s,comp=Z,1µm
UTHA **Uthaitani** 35.23 317 P **P** **11 51 40.4 -0.2**
comp=Z,6.8nm,1.0s,comp=Z,126nm
KHLT **Khaolaem Dam** 35.29 315 P P 11 51 45.0 +4.0
comp=Z,5.7nm,1.2s
HNR **Honiara** 35.82 92 *e*P **P** **11 51 47.7 +2.0**
HNR pmax pmax
comp=Z,45nm,0.8s
HNR **Honiara** 35.82 92 *e*P **P** **11 51 47.7 +2.0**
comp=Z,45nm,0.8s
LAMP **Lampang** 37.28 321 P **P** **11 51 57.9 -0.1**
comp=Z,10nm,0.9s,comp=Z,71nm
CMAR **Chiang Mai Arr** 37.67 320 P **P** **11 52 00.1 -1.2**
comp=Z,12nm,0.9s,baz=143,slow=6.6,SNR=52
CMAR PcP **PcP** **11 54 20.5 +2.1**
comp=Z,4.3nm,0.5s,baz=182,slow=2.8,SNR=5.9
CMMT **Chiang Mai** 37.93 320 P **P** **11 52 02.8 -0.7**
comp=Z,27nm,1.1s
CHTO **Chiang Mai** 37.93 320 P **P** **11 52 02.8 -0.7**
comp=Z,92nm,1.1s
CHTO **Chiang Mai** 37.93 320 *e*P **P** **11 52 02.5 -1.1**
CHTO pmax pmax
comp=Z,12nm,0.9s
CHTO **Chiang Mai** 37.93 320 *e*P **P** **11 52 02.5 -1.1**
comp=Z,12nm,0.9s
MHMT **Maesarieng** 38.12 318 P P 11 52 11.6 +6.5
comp=Z,6.5nm,1.2s,comp=Z,354nm
CMAI **Chiengmai2** 38.70 321 P **P** **11 52 09.3 -0.9**
comp=Z,8.9nm,1.1s,comp=Z,1µm
GYA **Guiyang** 40.24 336 ⇑*i*P **P** **11 52 21.1 -1.8**
GYA pP **pP** **11 52 35.0 +2.0**
GYA PP **PnPn** **11 54 02.8 +3.0**
GYA ScP **ScP** **11 58 13.0 -0.3**
GYA S **S** **11 58 30.2 +2.1**
GYA SS **SS** **12 01 23.6 -3.8**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,4.9s
GYA LN
comp=Z,560nm,18.6s
GYA LE
comp=Z,520nm,19.0s
GYA LZ
comp=Z,590nm,18.4s
KMI **Kunming** 40.82 330 P **P** **11 52 28.4 +0.6**
KMI S **S** **11 58 40.1 +3.1**
KMI PMZ
comp=Z,16nm,1.3s
KMI PMZ
comp=Z,120nm,3.6s
KMI LN
comp=Z,260nm,23.2s
KMI LE
comp=Z,620nm,20.7s
KMI LZ
comp=Z,350nm,17.7s
CBIJ **Chichi jima** 41.50 25 P **P** **11 52 30.4 -2.8**
JCJ **Chichijima** 41.50 25 P **P** **11 52 30.4 -2.8**
comp=Z,74nm,0.9s,baz=107,slow=20,SNR=6.2
WHN **Wuhan** 41.76 348 ⇑*i*P P 11 52 39.8 +4.7
WHN S S 11 58 57.1 +6.9
WHN LR LR
comp=Z,760nm,17.4s
NJ2 **Nanjing** 42.55 354 *e*P **P** **11 52 41.0 -0.6**
DZM **Mont Dzumac** 42.58 111 *e*LR LR 12 04 39.8
comp=Z,741nm,22.2s
DZM **Mont Dzumac** 42.58 111 LR LR 12 10 14.5
comp=Z,577nm,20.2s,baz=356,slow=36
JNU **Nakatsue** 43.93 9 P **P** **11 52 51.6 -1.1**
comp=Z,8.5nm,0.9s,baz=30,slow=20,SNR=2.9
CD2 **Chengdu** 45.36 336 ⇓*i*P **P** **11 53 03.0 -1.2**
CD2 pP **pP** **11 53 14.4 0.0**
CD2 PP **PP** **11 54 52.5 +1.6**
CD2 S **S** **11 59 37.8 -5.2**
CD2 SS **ScS** **12 02 59.2 +0.6**
CD2 PMZ
comp=Z,40nm,0.8s
CD2 PMZ
comp=Z,100nm,5.9s
CD2 LN
comp=Z,530nm,19.0s
CD2 LE
comp=Z,560nm,17.8s
CD2 LZ
comp=Z,480nm,22.6s
XAN **Xi'an** 46.43 343 P **P** **11 53 10.0 -2.6**
XAN PMZ
comp=Z,6.0nm,0.7s
XAN PMZ
comp=Z,21nm,4.6s
KSAR **Wonju Array Be** 47.85 5 P **P** **11 53 22.4 -1.2**
KSAR **Wonju Array Be** 47.85 5 P **P** **11 53 22.4 -1.2**
KSRS **Korea Array** 47.87 5 P **P** **11 53 22.4 -1.4**
comp=Z,3.7nm,0.9s,baz=177,slow=9.9,SNR=11
KSRS LR LR 12 14 13.5
comp=Z,59nm,21.0s,baz=195,slow=37
MJAR **Matsushiro Arr** 48.77 16 P **P** **11 53 28.4 -2.4**
comp=Z,4.2nm,0.8s,baz=186,slow=8.8,SNR=10
MAJO **Matsushiro** 48.77 16 ⇓*e*P **P** **11 53 30.3 -0.4**
MAJO pmax pmax
comp=Z,140nm,1.2s
MAJO **Matsushiro** 48.77 16 *e*P **P** **11 53 30.5 -0.2**
comp=Z,32nm,1.3s
SKHT **Srikalahasti** 49.74 298 *e*P **P** **11 53 38.2 -0.3**
LZH **Lanzhou** 49.93 339 *e*P **P** **11 53 39.0 -0.8**
LZH sP **sP** **11 53 53.5 -0.6**
LZH *e*PP **PP** **11 55 35.1 0.0**
LZH *e*S **S** **12 00 46.0 -2.1**
LZH sS **sS** **12 01 03.5 -1.5**
LZH *e*SS **SS** **12 04 15.9 -5.6**
LZH PMZ
comp=Z,42nm,1.5s
LZH PMZ
comp=Z,200nm,8.0s
LZH LN
comp=Z,650nm,16.0s
LZH LE
comp=Z,460nm,15.2s
LZH LZ
comp=Z,870nm,18.1s
LSA **Lhasa** 50.73 323 P **P** **11 53 45.8 -0.5**
LSA **Lhasa** 50.73 323 *e*P **P** **11 53 46.0 -0.3**
LSA pmax pmax
comp=Z,40nm,1.0s
LSA **Lhasa** 50.73 323 *e*P **P** **11 53 46.0 -0.3**
comp=Z,40nm,1.0s
BJI **Beijing** 50.74 353 P **P** **11 53 43.7 -1.9**
BJI S **S** **12 01 04.2 +5.3**
BJI PMZ
comp=Z,26nm,0.5s
BJI LN
comp=Z,240nm,21.9s
BJI LE
comp=Z,220nm,17.3s
BJI LZ
comp=Z,230nm,27.2s
ODAN **Odare** 51.12 317 *e*P **P** **11 53 48.8 -0.2**
comp=Z,90nm,1.1s
TAPN **Taplejung** 51.23 318 *e*P **P** **11 53 50.0 0.0**
comp=Z,144nm,0.9s
NJS **Nagarjunasagar** 51.38 301 *e*P **P** **11 53 49.5 -1.4**
RAMN **Ramite** 51.71 317 *e*P **P** **11 53 53.5 0.0**
comp=Z,141nm,1.0s
HHC **Hu-ho-hao-te** 52.28 348 *e*P P 11 54 00.8 +3.5
HHC PP **PP** **11 56 00.1 +3.9**
HHC S **S** **12 01 24.4 +4.1**
HHC SS **SS** **12 04 59.0 +0.5**
HHC PMZ
comp=Z,22nm,0.8s
HHC PMZ
comp=Z,180nm,3.6s
HHC LN
comp=Z,200nm,17.3s
HHC LE
comp=Z,290nm,13.6s
HHC LZ
comp=Z,280nm,14.8s
HYB **Hyderabad** 52.43 302 *i*P **P** **11 53 56.0 -2.7**
HYBB **Hyderabad (bro** 52.43 302 *e*P **P** **11 53 57.4 -1.3**
HYBB *e*S **S** **12 01 23.9 +1.0**
JIRN **Jiri** 52.45 317 *e*P **P** **11 53 58.8 -0.3**
comp=Z,60nm,0.9s
GUN **Gumba** 52.82 317 *e*P **P** **11 54 01.6 -0.2**
comp=Z,195nm,1.2s
PKI **Pulchoki** 52.91 317 *e*P **P** **11 54 01.0 -1.5**
comp=Z,32nm,0.6s
PKIN **Phulchoki** 52.93 317 *e*P **P** **11 54 01.2 -1.3**
comp=Z,18nm,0.7s
KKN **Kakani** 53.14 317 *e*P **P** **11 54 03.7 -0.4**
comp=Z,59nm,1.0s
DMN **Daman** 53.14 316 *e*P **P** **11 54 03.6 -0.5**
comp=Z,53nm,1.0s
GKN **Gorkha** 53.71 316 *e*P **P** **11 54 07.0 -1.2**
KOLN **Koldanda** 54.28 315 *e*P **P** **11 54 11.1 -1.3**
comp=Z,47nm,1.1s
GTA **Gaotai** 54.35 337 ⇑P **P** **11 54 11.7 -0.9**
GTA pP **pP** **11 54 19.3 -3.6**
GTA S **S** **12 01 47.4 -1.1**
GTA SS **SS** **12 05 29.3 -2.0**
GTA PMZ
comp=Z,22nm,1.5s
GTA PMZ
comp=Z,79nm,5.9s
GTA LN
comp=Z,240nm,21.4s
GTA LE
comp=Z,240nm,21.8s
GTA LZ
comp=Z,260nm,22.3s
USRK **Ussuriysk Ar.** 54.97 7 P **P** **11 54 15.7 -1.0**
comp=Z,5.8nm,0.4s,baz=200,slow=7.1,SNR=21
MDJ **Mudanjiang** 55.12 5 P **P** **11 54 20.1 +2.2**
MDJ pP **pP** **11 54 29.1 +0.9**
MDJ sP **sP** **11 54 32.8 +0.5**
MDJ PcP **PcP** **11 55 20.2 +1.3**
MDJ PP **PP** **11 56 21.1 -0.5**
MDJ ScP **ScP** **11 59 16.2 +1.1**
MDJ PcS **PcS** **11 59 20.8 +2.1**
MDJ S **S** **12 02 02.6 +4.2**
MDJ PMZ
comp=Z,39nm,1.5s
MDJ PMZ
comp=Z,470nm,4.1s
MDJ LN
comp=Z,120nm,29.3s
MDJ LE
comp=Z,100nm,20.7s
MDJ LZ
comp=Z,180nm,31.0s
MDJ **Mudanjiang** 55.12 5 *e*P **P** **11 54 17.2 -0.6**
comp=Z,89nm,1.4s
DRV **Dumont d'Urvil** 57.20 172 S **S** **12 02 28.0 +2.6**
DRV SS **SS** **12 06 14.0 -0.7**
DRV R 12 11 00.0
PAF **Port-aux-Franc** 58.62 218 S S 12 02 51.0 +6.3
PAF SS SS 12 06 46.0 +8.2
PAF L L 12 09 00.0
PAF R 12 11 00.0
ULN **Ulaanbaatar** 59.93 347 ⇑*e*P **P** **11 54 50.8 -1.1**
ULN pmax pmax
comp=Z,24nm,2.5s
ULN **Ulaanbaatar** 59.93 347 *e*P **P** **11 54 51.1 -0.8**
comp=Z,5.5nm,0.6s
SONM **Songino Array** 60.05 347 P **P** **11 54 51.8 -0.9**
comp=Z,5.5nm,0.4s,baz=158,slow=8.2,SNR=36
WMQ **Urumqi** 63.14 332 P **P** **11 55 13.7 +0.2**
WMQ PcP **PcP** **11 55 50.9 0.0**
WMQ PP **PP** **11 57 34.6 +1.8**
WMQ ScP 11 59 51.4
WMQ PcS 11 59 53.2
WMQ S **S** **12 03 42.5 +0.1**
WMQ ScS **SKSac** **12 05 03.1 -0.9**
WMQ SS **SS** **12 07 50.2 +1.0**
WMQ PMZ
comp=Z,32nm,1.2s
WMQ PMZ
comp=Z,210nm,4.6s
WMQ LN
comp=Z,270nm,23.6s
WMQ LE
comp=Z,450nm,23.4s
WMQ LZ
comp=Z,190nm,24.2s
ZAK **Zakamensk** 63.16 346 ⇑*i*P **P** **11 55 11.7 -1.9**
ZAK pmax pmax
comp=Z,6.0nm,1.3s
TLY **Talaya** 64.28 346 P **P** **11 55 19.6 -1.3**
comp=Z,6.1nm,0.4s,baz=188,slow=7.6,SNR=10
TLY **Talaya** 64.28 346 *e*P **P** **11 55 20.8 0.0**
TLY *e*S **S** **12 03 55.0 -1.2**
TLY pmax pmax
comp=Z,28nm,1.4s
TLY MLR MLR
comp=Z,107nm,18.0s
TLY **Talaya** 64.28 346 *e*P **P** **11 55 20.6 -0.3**
IRK **Irkutsk** 64.66 347 *e*P P 11 55 15.5 -7.8
IRK pmax pmax
comp=Z,40nm,1.9s
MOY **Mondy** 64.92 345 *e*P **P** **11 55 24.7 -0.4**
MOY pmax pmax
comp=Z,40nm,1.7s
KSH **Kashi** 66.53 321 P **P** **11 55 35.3 -0.5**
KSH pP **pP** **11 55 45.6 -0.8**
KSH *e*PP **PP** **11 58 03.3 +0.5**
KSH S **S** **12 04 22.2 -2.4**
KSH ScS **SKSac** **12 05 25.4 -4.7**
KSH SS **SS** **12 08 37.7 -4.7**
KSH PMZ
comp=Z,48nm,1.0s
KSH LN
comp=Z,120nm,4.4s
KSH LE
comp=Z,120nm,5.4s
KSH LZ
comp=Z,200nm,6.2s
MK31 **Makanchi Array** 67.90 331 *e*P **P** **11 55 43.7 -0.5**
MK31 **Makanchi Array** 67.90 331 *e*P **P** **11 55 43.7 -0.5**
MKAR **Makanchi Array** 67.90 331 P **P** **11 55 42.8 -1.5**
comp=Z,15nm,0.5s,baz=152,slow=5.5,SNR=200
KBL **Kabul** 68.36 314 *e*P **P** **11 55 46.8 -0.8**
KBL pmax pmax
comp=Z,36nm,1.0s
KBL **Kabul** 68.36 314 *e*P **P** **11 55 46.8 -0.8**
comp=Z,36nm,1.0s
KZA **Kyzart** 68.53 323 P **P** **11 55 48.7 -0.1**
SNR=19
TKM2 **Tokmak 2** 68.85 324 P **P** **11 55 49.8 -0.8**
SNR=12
TKM2 **Tokmak 2** 68.85 324 *e*P **P** **11 55 49.9 -0.6**
TKM2 pmax pmax
comp=Z,11nm,0.8s
TKM2 **Tokmak 2** 68.85 324 *e*P **P** **11 55 49.9 -0.6**
comp=Z,11nm,0.8s
UCH **Uchtor** 69.06 323 P **P** **11 55 52.0 -0.1**
SNR=13
KBK **Karagaybulak** 69.07 324 P **P** **11 55 52.0 +0.2**
SNR=7.9
AAK **Ala-Archa** 69.32 323 P **P** **11 55 53.6 +0.3**
comp=Z,156nm,0.7s,SNR=10
AAK **Ala-Archa** 69.32 323 P **P** **11 55 53.3 0.0**

SNR=15
AAK Ala-Archa 69.32 323 P P 11 55 52.5 -0.9
comp=Z,11nm,0.5s,baz=121,slow=5.4,SNR=36
AAK Ala-Archa 69.32 323 *ce*P **P 11 55 52.7 -0.6**
AAK pmax pmax
comp=Z,98nm,1.7s
AAK Ala-Archa 69.32 323 *e*P **P 11 55 53.0 -0.3**
MAW Mawson 69.42 201 P **P 11 55 54.0 +0.6**
comp=Z,2.4nm,0.5s,baz=94,slow=2.9,SNR=12
MAW Mawson 69.42 201 P **P 11 55 54.0 +0.6**
AML Almayashu 69.49 323 P **P 11 55 54.6 -0.1**
SNR=23
USP Ospenovka 69.70 324 P **P 11 55 54.2 -1.3**
SNR=22
PEA0B Petropavlovsk- 69.73 21 *e*P **P 11 55 55.6 +0.2**
PETK Petropavlovsk- 69.73 21 P **P 11 55 54.9 -0.6**
comp=Z,5.8nm,0.6s,baz=210,slow=4.2,SNR=32
EKS2 Erkin-Say 69.76 323 P **P 11 55 55.7 -0.3**
SNR=14
EKS2 Erkin-Say 69.76 323 *e*P **P 11 55 55.7 -0.3**
EKS2 pmax pmax
comp=Z,23nm,1.0s
EKS2 Erkin-Say 69.76 323 *e*P **P 11 55 55.7 -0.3**
comp=Z,23nm,1.0s
VNDA Vanda 69.84 172 P **P 11 55 56.5 +0.6**
comp=Z,0.6nm,0.5s,baz=311,slow=8.7,SNR=11
PET Petropavlovsk 70.00 22 *e*P P 11 56 10.7 +14
PET *e* 11 58 31.7
KKAR Karatay Array 71.97 322 *e*P **P 11 56 08.4 -0.9**
KKAR pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 71.97 322 *e*P **P 11 56 08.4 -0.9**
comp=Z,2.1nm,0.5s
ZAA0 Zalesovo Array 72.10 337 *e*P **P 11 56 07.9 -1.9**
ZALV Zalesovo Beam 72.10 337 P **P 11 56 07.9 -1.9**
comp=Z,26nm,0.6s,baz=135,slow=4.5,SNR=116
KURBB Kurchatov Arra 72.36 332 P **P 11 56 10.2 -1.2**
comp=Z,12nm,1.0s,baz=134,slow=5.1,SNR=46
KURK Kurchatov 72.38 332 P **P 11 56 10.6 -1.0**
comp=Z,94nm,1.2s,SNR=9.0
KURK Kurchatov 72.38 332 *e*P **P 11 56 10.5 -1.0**
KURK Kurchatov 72.38 332 *e*P **P 11 56 10.5 -1.0**
YAK Yakutsk 72.45 3 *e*P **P 11 56 09.9 -1.8**
YAK *e**PP pP 11 56 16.4 -6.0
YAK *e* 11 56 27.6
YAK *e*PPP PPP 12 00 33.0
YAK *e*S **S 12 05 29.3 -3.8**
YAK *e* 12 06 16.4
YAK *e*SS **SS 12 10 06.0 -6.5**
YAK pmax pmax
comp=Z,65nm,1.1s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK pmax pmax
comp=N,25nm,1.3s
YAK pmax pmax
comp=Z,32nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.2s
YAK pmax pmax
comp=N,25nm,1.4s
YAK smax smax
comp=N,71nm,4.2s
YAK smax smax
comp=E,123nm,3.9s
YAK Yakutsk 72.45 3 *e*P **P 11 56 11.0 -0.7**
comp=E,66nm,0.9s
NVS Novosibirsk 73.38 337⇓ *i*P **P 11 56 14.8 -2.6**
NVS pmax pmax
comp=Z,27nm,0.9s
NVS pmax pmax
comp=N,19nm,1.2s
NVS pmax pmax
comp=E,20nm,1.0s
IDAH Dahanechah 74.36 308 *e*P **P 11 56 24.6 +0.7**
SEY Seymchan 76.51 13 *i*P **P 11 56 35.2 -0.1**
IKRD Kardeh 77.00 312 *e*P P 11 56 35.6 -3.3
ISFR Sfrayin 77.49 312 *e*P **P 11 56 42.4 +0.7**
GEYT Alibeck 77.75 313 P **P 11 56 43.0 +0.1**
comp=E,8.1nm,0.6s,baz=132,slow=2.2,SNR=17
BVAR Borovoye Array 77.78 330 P **P 11 56 41.8 -0.8**
comp=E,1.8nm,0.6s,baz=139,slow=6.8,SNR=13
BRVK Borovoye 77.85 330 *di*P **P 11 56 42.5 -0.5**
BRVK pmax pmax
comp=Z,11nm,1.2s
ISHV Shirvan 77.89 312 *e*P **P 11 56 44.6 +0.7**
ISRV Sarvestan 78.54 303 *e*P **P 11 56 48.1 +0.3**
IPAR Pars 78.75 303 *e*P **P 11 56 49.8 +0.9**
QSPA South Pole Qui 79.51 180 P **P 11 56 53.4 +1.2**
comp=Z,3.7nm,0.8s,baz=239,slow=0.2,SNR=26
IANJ Anjilo 79.96 309 *e*P **P 11 56 55.6 +0.3**
IGLO Ghaloghah 80.38 310 *e*P **P 11 56 57.8 +0.3**
ISHM Shahmirzad 80.55 309 *e*P **P 11 56 59.1 +0.5**
IPRN Peran 81.42 309 *e*P **P 11 57 03.1 +0.1**
TIXI Tiksi 82.04 2⇓ *i*P **P 11 57 03.9 -1.4**
TIXI pmax pmax
comp=Z,20nm,1.0s
TIXI Tiksi 82.04 2 *e*P **P 11 57 04.0 -1.2**
comp=Z,28nm,1.1s
DAMY Dhamar 82.34 286 *e*P **P 11 57 11.4 +2.9**
comp=Z,24nm,1.2s
AKTO Aktyubinsk 83.05 324 P **P 11 57 09.9 -1.1**
comp=Z,8.9nm,0.6s,baz=114,slow=4.7,SNR=24
TBI Tubuai 83.15 112 *e*LR LR 12 23 25.4
comp=Z,223nm,33.2s
RAYN Ar Rayn 83.42 295 P **P 11 57 14.6 +1.0**
comp=Z,132nm,0.6s,SNR=13
RAYN Ar Rayn 83.42 295 *e*P **P 11 57 14.7 +1.0**
comp=Z,21nm,0.9s
PPT2 Papeete2 83.91 107 *e*LR LR 12 23 51.7
comp=Z,302nm,25.0s
SVE Sverdlovsk 84.56 331⇑ *e*P **P 11 57 18.1 -0.5**
SVE pmax pmax
comp=Z,33nm,1.2s
ARU Arti 85.40 330 *di*P **P 11 57 22.5 -0.3**
ARU 12 00 41.8
ARU S S 12 07 44.3 -7.0
ARU pmax pmax
comp=Z,18nm,2.5s
ARU Arti 85.40 330 *e*P **P 11 57 22.2 -0.5**
comp=Z,15nm,1.0s
ISRB Sarab 85.47 310 *e*P **P 11 57 25.0 +1.1**
IHRS Heris 86.08 310 *e*P **P 11 57 27.1 +0.2**
KMBO Kilima Mbogo 86.19 270 P **P 11 57 28.3 +0.2**
comp=Z,1.2nm,0.3s,baz=352,slow=18,SNR=2.8
MAK Makhachkala 87.09 314 *e*P **P 11 57 32.3 +0.9**
MAK *e* 12 00 53.6
MAK PPP PPP 12 02 49.9
MAK S **SKSac 12 07 55.4 -0.8**
MAK pmax pmax
comp=Z,22nm,0.6s
MAK MLR MLR
comp=Z,265nm,23.0s
GNI Garni 88.30 311 P **P 11 57 38.4 +0.8**
comp=Z,2.0nm,0.3s,baz=159,slow=8.6,SNR=3.6
GNI Garni 88.30 311⇑ *e*P **P 11 57 38.5 +0.9**
GNI pmax pmax
comp=Z,12nm,1.2s
ZEI Tsey 89.59 314 *e*P **P 11 57 43.6 0.0**
ZEI pmax pmax
comp=Z,21nm,1.4s
KBZ Khabaz 90.53 314 P **P 11 57 48.8 +1.1**
comp=Z,2.3nm,0.9s,baz=53,slow=20,SNR=7.8
KBZ LR LR 12 43 48.5
comp=Z,61nm,22.0s,baz=142,slow=39
NEY Neytrino 90.54 314 *i*P **P 11 57 46.8 -1.2**
KIV Kislovodsk 90.73 315 *e*P P 11 57 43.1 -5.7
KIV pmax pmax
comp=Z,5.0nm,0.7s
ASF Jabal al Asfar 92.73 302 P **P 11 57 58.8 +0.4**
comp=Z,0.8nm,0.4s,baz=68,slow=0.6,SNR=5.9
VORD Divnogorie 94.49 321 *e*P **P 11 58 05.1 -0.7**
VORD pmax pmax
comp=Z,7.0nm,0.9s
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.8s
VSR Storozhevoye 94.62 321 *e*P **P 11 58 05.6 -0.8**
VSR pmax pmax
comp=Z,6.0nm,0.9s
VSR pmax pmax
comp=N,30nm,1.2s
VSR pmax pmax
comp=E,10.0nm,1.0s
BRTR Keskin Array B 96.57 309 *ce*P **P 11 58 18.2 +2.4**
BRTR pmax pmax
comp=Z,1.0nm,0.3s
OBN Obninsk 96.82 325 LR LR 12 48 16.9
comp=Z,49nm,20.0s,baz=92,slow=39
OBN Obninsk 96.82 325⇑ *i*P **P 11 58 16.1 -0.2**
OBN pmax pmax
comp=Z,11nm,0.4s
COLD Coldfoot 98.13 23 *e*P Pdif 11 58 22.9 +0.9
comp=Z,2.7nm,1.1s
ILAR Eielson Array 99.21 26 P **Pdif 11 58 25.4 -1.5**
comp=Z,1.1nm,1.1s,baz=269,slow=4.3,SNR=6.6
ILAR PP **PP 12 02 26.4 -3.4**
comp=Z,1.0nm,1.0s,baz=250,slow=6.5,SNR=4.1
KIEV Kiev 100.80 320⇑ *e*P **Pdif 11 58 32.9 -1.3**
ARCES ARCESS Array B 102.59 339 P **Pdif 11 58 39.9 -2.0**
comp=Z,2.3nm,0.9s,baz=95,slow=7.6,SNR=3.7
SPITS Spitsbergen Ar 103.71 348 Pdiff **Pdif 11 58 45.2 -1.5**
comp=Z,8.1nm,1.0s,baz=69,slow=7.9,SNR=3.3
CLL Collm 110.97 321 *e*SKKSac SKKSac 12 11 00.0 +2.6
CLL *e*PPS PPS 12 14 36.0
CLL *e*SS **SS 12 19 28.0 +1.8**
YKA Yellowknife Ar 113.64 26 PKiKP **PKiKP 12 03 24.5 +1.0**
comp=Z,0.6nm,0.9s,baz=305,slow=2.6,SNR=5.8
NVAR Mina Array Bea 118.42 52 PKP **PKPdf 12 03 36.2 +2.4**
comp=Z,1.0nm,0.8s,baz=262,slow=3.1,SNR=5.2
TPH Tonopah 119.32 52 *e*PKIKP **PKPdf 12 03 37.3 +1.8**
TPH Tonopah 119.32 52 *e*PKPdf **PKPdf 12 03 37.3 +1.8**
HLID Hailey 120.21 46 *e*PKPdf **PKPdf 12 03 39.1 +2.0**
HLID Hailey 120.21 46 P **PKPdf 12 03 39.4 +2.4**
baz=120
EGMT Eagleton 121.89 39 *e*PKPdf **PKPdf 12 03 41.3 +1.3**
NEE2 Needles Airpor 121.96 56 P **PKPdf 12 03 42.2 +1.8**
baz=122
A19A Klindworth Far 122.17 38 P **PKPdf 12 03 41.9 +1.4**
baz=122
DUG Dugway, Tooele 122.23 49 *e*PKIKP **PKPdf 12 03 42.6 +1.7**
DUG Dugway, Tooele 122.23 49 *e*PKPdf **PKPdf 12 03 42.6 +1.7**
C19A Slack Wire Ran 122.44 39 P **PKPdf 12 03 42.7 +1.7**
baz=122
TPAW Teton Pass 122.64 45 *e*PKPdf **PKPdf 12 03 43.8 +1.9**
REDW Red Top Meadow 122.75 45 *e*PKPdf **PKPdf 12 03 44.0 +2.1**
SNOW Snow King Moun 122.79 45 *e*PKPdf **PKPdf 12 03 44.6 +2.5**
B20A Solberg Farm, 122.80 38 P **PKPdf 12 03 43.3 +1.6**
baz=123
LOHW Long Hollow 122.84 45 *e*PKPdf **PKPdf 12 03 44.0 +1.9**
E19A Rath Farm, Rou 123.08 41 P **PKPdf 12 03 43.3 +1.0**
baz=123
TORD Torodi Ar. Bea 123.16 279 PKP **PKPdf 12 03 44.1 +0.9**
comp=Z,0.8nm,0.4s,baz=48,slow=1.7,SNR=21
F19A Roth Farm, Mol 123.20 42 P **PKPdf 12 03 43.6 +1.0**
baz=123
C21A Desert Coulee 123.62 39 P **PKPdf 12 03 44.6 +1.4**
baz=124
PDAR Pinedale Array 123.84 45 PKP **PKPdf 12 03 45.6 +1.6**
comp=Z,1.2nm,0.9s,baz=0.0,slow=0.4,SNR=5.8
A22A Carney Farms, 123.84 37 P **PKPdf 12 03 45.5 +1.8**
baz=124
G20A Bridger 123.91 42 P **PKPdf 12 03 45.5 +1.5**
baz=124
J19A Crowheart 124.03 44 P **PKPdf 12 03 45.1 +0.8**
baz=124
C22A Vida 124.39 38 P **PKPdf 12 03 46.2 +1.4**
baz=124
I20A Worland 124.42 43 P **PKPdf 12 03 46.2 +1.2**
baz=124
D22A Cohagen 124.46 39 P **PKPdf 12 03 46.1 +1.2**
baz=124
J20A Shoshoni 124.66 44 P **PKPdf 12 03 46.8 +1.3**
baz=125
C23A Lambert 124.80 38 P **PKPdf 12 03 47.2 +1.7**
baz=125
A24A Westby 125.00 36 P **PKPdf 12 03 47.4 +1.5**
baz=125
I21A Big Trails, Te 125.04 43 P **PKPdf 12 03 47.4 +1.1**
baz=125
J21A Lysite 125.10 44 P **PKPdf 12 03 47.8 +1.4**
baz=125
ESDC Sonseca Array 125.28 311 PKP **PKPdf 12 03 49.0 +2.3**
comp=Z,0.1nm,0.3s,baz=76,slow=4.2,SNR=4.4
N20A Spence Gulch, 125.37 47 P **PKPdf 12 03 49.3 +2.2**
baz=125
C24A Savage 125.38 38 P **PKPdf 12 03 48.4 +1.8**
baz=125
K21A Alcova 125.49 45 P **PKPdf 12 03 48.1 +0.9**
baz=126
I22A 9 Mile Ranch, 125.55 43 P **PKPdf 12 03 48.9 +1.7**
baz=126
O20A White River Ci 125.61 48 *e*PKPdf **PKPdf 12 03 49.8 +2.2**
O20A White River Ci 125.61 48 P **PKPdf 12 03 49.5 +2.0**
baz=126
J22A Midwest 125.73 43 P **PKPdf 12 03 48.8 +1.2**
baz=126
PV01 Paradox Valley 125.95 50 *e*PKPdf **PKPdf 12 03 50.7 +2.4**
MVCO Mesa Verde 126.26 51 *e*PKPdf **PKPdf 12 03 52.1 +3.2**
N22A Wattenberg Ran 126.68 47 P **PKPdf 12 03 51.1 +1.5**
baz=127
I25A Rochford 127.33 42 P **PKPdf 12 03 51.9 +1.2**
baz=127
S22A 4UR Ranch, Cre 127.38 50 P **PKPdf 12 03 53.1 +2.0**
baz=127
ISCO Idaho Springs 127.62 47 P **PKPdf 12 03 53.7 +2.2**
baz=128
G27A Dupree 127.89 40 P **PKPdf 12 03 53.2 +1.7**
baz=128
A30A Hoffart Farm, 128.23 34 P **PKPdf 12 03 53.8 +1.8**
baz=128
SDCO Great Sand Dun 128.38 50 *e*PKPdf **PKPdf 12 03 55.7 +2.7**
SDCO Great Sand Dun 128.38 50 P **PKPdf 12 03 55.5 +2.5**
baz=128
ANMO Albuquerque 128.47 54⇑ *i*PKIKP **PKPdf 12 03 55.9 +2.8**
ANMO pmax pmax
comp=Z,14nm,1.0s
ANMO Albuquerque 128.47 54 *e*PKPdf **PKPdf 12 03 56.0 +2.8**
MNTX Cornudas Mount 130.16 57 *e*PKPdf **PKPdf 12 03 59.5 +3.3**
MNTX Cornudas Mount 130.16 57 P **PKPdf 12 03 58.5 +2.2**
baz=130
TXAR Lajitas Array 132.15 60 PKP **PKPdf 12 04 02.0 +1.8**
comp=Z,0.7nm,0.9s,baz=296,slow=0.9,SNR=6.7
TXAR SKP 12 07 32.4
comp=Z,0.7nm,0.8s,baz=304,slow=2.1,SNR=5.0
TXAR Lajitas Array 132.15 60 PKIKP **PKPdf 12 04 02.0 +1.8**
JCT Junction City 135.10 57 *e*PKIKP **PKPdf 12 04 07.6 +2.0**
JCT Junction City 135.10 57 *e*PKPdf **PKPdf 12 04 07.6 +2.0**
LRAL Lakeview Retre 144.04 47 *e*PKPdf **PKPdf 12 04 20.7 -1.0**
TKL Tuckaleechee C 144.72 40 *e*PKIKP **PKPdf 12 04 22.6 -0.2**
TKL Tuckaleechee C 144.72 40 *e*PKPdf **PKPdf 12 04 22.6 -0.2**
LVC Limon Verde 144.89 160 *e*PKPbc **PKPdf 12 04 25.3 +1.5**
BRAL Brewton 145.01 50 *e*PKPbc **PKPdf 12 04 25.2 +1.7**
HRV Adam Dziewonsk 145.47 20 *e*PKIKP **PKPab 12 04 25.6 +1.5**
HRV Adam Dziewonsk 145.47 20 *e*PKPbc **PKPab 12 04 25.6 +1.5**
BLA Blacksburg 145.72 35 *e*PKIKP **PKPab 12 04 25.5 +0.2**
BLA Blacksburg 145.72 35 *e*PKPbc **PKPab 12 04 25.5 +0.2**
SDMD Soldier's Deli 145.94 29 *e*PKPbc **PKPab 12 04 26.6 +0.7**
CPNY Central Park 146.07 24 *e*PKPbc **PKPab 12 04 27.5 +1.1**
GOGA Godfrey 146.29 43 *e*PKP2 **PKPab 12 04 27.9 +0.4**
GOGA Godfrey 146.29 43 *e*PKPbc **PKPab 12 04 27.9 +0.4**
KMSC Kings Mountain 146.58 39 *e*PKPdf **PKPdf 12 04 26.7 +0.7**
KMSC *e*PKPbc **PKPab 12 04 28.6 0.0**
KMSC *e*PKPab **PiKiKP 12 04 29.6 -0.8**
JSRW J. Sargeant Re 146.75 32 *e*PKPbc **PKPab 12 04 28.6 -0.5**
JSRW *e*PKPab **PiKiKP 12 04 30.2 -0.4**
BDFB Brasilia 152.73 198 PKPbc **PKPbc 12 04 44.3 +0.8**
comp=Z,2.7nm,0.5s,baz=48,slow=4.8,SNR=4.5

*ISCJB **07** 11:46:07.7±1.8, 10°.44S±0°.08×124°.1E±0°.1, h21km±14km, mb4.7/14, Error ellipse: s-maj=21.9km s-min=7.7km az=145.4*
*IDC **07** 11:46:11.6±1.1, 10°.24S×123°.58E, h23km±7km, mb4.6/14, mb1 4.5/15, mb1mx4.3/40, mbtmp4.7/15, ML4.6/1, Error ellipse: s-maj=32.2km s-min=23.3km az=118.0*
ISC 07 11:46:08.9±1.8, 10°.53S±0°.10×123°.9E±0°.1, h15km±11km, n20, σ1$71/22, mb4.9/14, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**0.39**	**324**	Pg	**Pg**	**11 46 16.1**	**-0.7**
baz=211,slow=5.9							
KAPI	**Kappang**	**6.84**	**323**	Pn	Pn	11 47 51.3	+2.5
8.4nm,0.3s,baz=179,slow=6.1,SNR=4.5							
WRA	**Warramunga Arr**	**13.75**	**134**	Pn	**Pn**	**11 49 23.7**	**+0.2**
3.8nm,0.3s,baz=299,slow=14,SNR=3.3							
WRA				Sn	**Sn**	**11 51 52.9**	**-3.1**
7.7nm,0.3s,baz=310,slow=24,SNR=3.2							
ASAR	**Alice Springs**	**16.18**	**145**	Pn	**Pn**	**11 49 57.4**	**+1.4**
3.7nm,0.3s,baz=317,slow=11,SNR=4.8							
ASAR				Sn	**Sn**	**11 52 52.7**	**-2.6**
3.5nm,0.3s,baz=320,slow=23,SNR=2.7							
LEM	**Lembang**	**16.51**	**282**	Pn	**P**	**11 50 04.0**	**+1.1**
8.3nm,0.3s,baz=350,slow=19,SNR=2.6							
JAY	**Jayapura**	**18.48**	**66**	P	**Pn**	**11 50 28.6**	**+3.8**
1.9nm,0.3s,baz=248,slow=9.3,SNR=4.2							
JCJ	**Chichijima**	**41.39**	**25**	P	**P**	**11 53 53.5**	**-1.2**
24nm,0.5s,baz=286,slow=19							
KSRS	**Korea Array**	**47.87**	**4**	P	**P**	**11 54 45.7**	**-0.6**
1.3nm,0.7s,baz=180,slow=9.5,SNR=4.9							
KSRS				PcP	**PcP**	**11 56 16.2**	**+1.4**
1.0nm,0.5s,baz=185,slow=3.2,SNR=4.4							
MJAR	**Matsushiro Arr**	**48.72**	**15**	P	**P**	**11 54 51.9**	**-1.0**
1.6nm,0.5s,baz=189,slow=9.6,SNR=5.2							
USRK	**Ussuriysk Ar.**	**54.96**	**7**	P	**P**	**11 55 39.0**	**-0.3**
5.3nm,0.4s,baz=190,slow=7.2,SNR=12							
SONM	**Songino Array**	**60.15**	**346**	P	**P**	**11 56 15.2**	**-0.8**
4.8nm,0.5s,baz=160,slow=8.2,SNR=13							
TLY	**Talaya**	**64.38**	**346**	P	**P**	**11 56 43.4**	**-0.8**
3.9nm,0.5s,baz=186,slow=12,SNR=6.0							
MKAR	**Makanchi Array**	**68.08**	**331**	P	**P**	**11 57 07.1**	**-0.9**
7.0nm,0.5s,baz=140,slow=6.2,SNR=15							
MAW	**Mawson**	**69.50**	**201**	P	**P**	**11 57 18.5**	**+2.0**
2.4nm,0.5s,baz=126,slow=12,SNR=6.6							
AAK	**Ala-Archa**	**69.53**	**323**	P	**P**	**11 57 16.5**	**-0.8**
8.8nm,0.6s,baz=118,slow=6.3,SNR=7.9							
PETK	**Petropavlovsk-**	**69.64**	**21**	P	**P**	**11 57 18.4**	**+0.8**
3.7nm,0.5s,baz=210,slow=4.5,SNR=14							
ZALV	**Zalesovo Beam**	**72.25**	**337**	P	**P**	**11 57 31.6**	**-1.8**
15nm,0.6s,baz=141,slow=4.9,SNR=14							
KURBB	**Kurchatov Arra**	**72.53**	**332**	P	**P**	**11 57 34.0**	**-1.2**
2.4nm,0.6s,baz=140,slow=5.3,SNR=4.8							
SEY	**Seymchan**	**76.47**	**13**	P	**P**	**11 57 58.8**	**+1.0**
10nm,0.5s,baz=201,slow=5.3,SNR=18							
AKTO	**Aktyubinsk**	**83.25**	**324**	P	**P**	**11 58 34.4**	**-0.5**
4.0nm,0.6s,baz=108,slow=9.2,SNR=4.9							

GUC 07 11:54:22.5±0.4, 34°.59S×72°.44W, h6km±2km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**1.04**	**141**	*e*P	Pg	11 54 42.5	0.0
NICH	**Los Niches**	**1.08**	**113**	*e*P	Pg	11 54 43.4	+0.1
NICH				*e*S	Sn	11 54 58.7	-0.6
LNCH	**Linares**	**1.43**	**152**	*e*P	Pn	11 54 48.8	-0.2
LNCH				*e*S	Sg	11 55 08.6	0.0
COCH	**Cobquecura**	**1.57**	**190**	*e*P	Pn	11 54 50.7	-0.1
COCH				*e*S	Sb	11 55 12.3	+0.4
CLCH	**Cerro Calan**	**1.98**	**54**	*e*P	Pn	11 54 57.7	+1.1
CLCH				*e*S	Sb	11 55 24.6	+0.7
CLCH				AML	AML	11 55 37.3	
	comp=E,631nm,1.0s						
PEL	**Peldehue**	**2.05**	**46**	*e*P	Pn	11 54 58.7	+1.1
PEL				*e*S	Sb	11 55 26.3	+0.3
PEL				AML	AML	11 55 32.9	
	comp=N,917nm,0.4s						

*ISCJB **07** 11:54:53.7±1.1, 18°.4S±0°.1×177°.6W±0°.2, h500km, mb3.8/8, Error ellipse: s-maj=27.6km s-min=14.9km az=31.9*
*IDC **07** 11:54:56.5±7.0, 18°.48S×177°.50W, h526km±87km, mb3.4/9, mb1 3.5/10, mb1mx3.2/33, mbtmp4.3/10, Error ellipse: s-maj=34.4km s-min=28.1km az=24.0*
ISC 07 11:54:54.4±1.3, 18°.5S±0°.2×177°.4W±0°.2, h500km, n18, σ1$61/18, mb3.9/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**15.56**	**254**	P	**P**	**11 58 12.6**	**+2.0**
0.6nm,0.3s,baz=270,slow=20,SNR=6.5							
URZ	**Urewera**	**20.26**	**193**	P	**P**	**11 58 55.2**	**-0.1**
2.4nm,0.3s,baz=279,slow=3.2,SNR=10							
CNB	**Canberra Magne**	**33.83**	**234**	P	**P**	**12 00 56.6**	**+2.0**
baz=34,SNR=7.9							
CTA	**Charters Tower**	**34.29**	**261**	P	**P**	**12 00 58.2**	**-0.4**
3.2nm,0.4s,baz=108,slow=14,SNR=6.4							
CMSA	**Cobar Meteorol**	**35.69**	**241**	P	**P**	**12 01 11.1**	**+1.0**
baz=36,SNR=8.5							
QLP	**Quilpie**	**36.22**	**250**	P	**P**	**12 01 14.8**	**+0.2**
baz=36,SNR=6.3							
STKA	**Stephens Creek**	**39.18**	**242**	P	**P**	**12 01 40.0**	**+1.2**
4.7nm,0.7s,baz=74,slow=4.4,SNR=9.8							
STKA	**Stephens Creek**	**39.18**	**242**	P	**P**	**12 01 40.0**	**+1.2**
baz=39,SNR=8.3							
MMPI	**Meraube**	**42.14**	**278**	S	**S**	**12 07 48.8**	**+2.7**
baz=42,SNR=3.0							
WRA	**Warramunga Arr**	**45.46**	**260**	P	**P**	**12 02 27.1**	**-1.4**
2.6nm,0.4s,baz=97,slow=6.9,SNR=57							
ASAR	**Alice Springs**	**45.55**	**255**	P	**P**	**12 02 28.6**	**-0.5**
5.9nm,0.4s,baz=91,slow=8.0,SNR=62							
KDU	**Kakadu**	**48.50**	**269**	P	**P**	**12 02 50.5**	**-0.9**
baz=48,SNR=4.1							
WRKA	**Warakurna**	**50.57**	**252**	P	**P**	**12 03 06.1**	**-0.6**
baz=51,SNR=6.5							
WRKA				S	**S**	**12 09 40.1**	**-3.6**
baz=51,SNR=5.3							
MEEK	**Meekatharra**	**59.11**	**250**	P	**P**	**12 04 05.5**	**-1.2**
baz=59,SNR=3.8							
MJAR	**Matsushiro Arr**	**68.95**	**323**	P	**P**	**12 05 08.0**	**-1.1**
0.5nm,0.5s,baz=112,slow=9.7,SNR=2.3							
PETK	**Petropavlovsk-**	**74.50**	**345**	P	P	12 05 39.4	-1.6
1.0nm,0.5s,baz=120,slow=7.5,SNR=4.0							
SEY	**Seymchan**	**84.57**	**347**	P	**P**	**12 06 34.3**	**+0.3**
1.0nm,0.5s,baz=307,slow=20,SNR=7.4							
ILAR	**Eielson Array**	**86.25**	**13**	P	**P**	**12 06 42.8**	**+0.7**
0.4nm,0.4s,baz=220,slow=4.9,SNR=21							

*ISCJB **07** 12:02:00.6±0.3, 32°.35N±0°.02×115°.27W±0°.03, h19km±3km, Error ellipse: s-maj=3.7km s-min=3.4km az=39.1*
*NEIC **07** 12:02:01.3, 32°.32N×115°.32W, h14km, MD4.1(MEX), ML3.8(PAS), After PAS.*
*MEX **07** 12:02:02.2±0.5, 32°.45N×115°.12W, h17km±6km, MD4.1*
*ECX **07** 12:02:02.1±0.6, 32°.35N×115°.32W, h5km, MD3.8, ML4.0*
ISC 07 12:02:00.5±0.8, 32°.32N±0°.02×115°.31W±0°.02, h13km±6km, n38, σ1$18/61, 6C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.10**	**2**⇓	*e*P	**Pg**	**12 02 03.6**	**+0.1**
CPBX				*e*S	**Sg**	**12 02 04.8**	**-0.9**
MBIG	**Mexicali**	**0.13**	**46**	*e*P	**Pb**	**12 02 04.5**	**-0.3**
MBIG				*i*S	**Sg**	**12 02 06.8**	**+0.6**
SGL	**Mount Signal**	**0.48**	**313**⇓	*i*P	**Pg**	**12 02 10.3**	**+0.2**
ERPC	**Ernies Place**	**0.52**	**325**⇓	*i*P	**Pg**	**12 02 11.2**	**-0.3**
COA	**Coachella**	**0.57**	**16**⇑	*i*P	**Pb**	**12 02 12.1**	**-0.2**
WESC	**Westside Schoo**	**0.57**	**321**	*e*P	**Pb**	**12 02 12.0**	**-0.3**
YUH	**Yuha Desert**	**0.62**	**303**⇓	*i*P	**Pg**	**12 02 12.4**	**-0.1**
COK	**Cook Ranch**	**0.64**	**327**⇓	*i*P	**Pg**	**12 02 13.0**	**0.0**
RDX	**Rancho Dawling**	**0.66**	**234**⇑	*e*P	**Pb**	**12 02 14.0**	**0.0**
RDX				*e*S	**Sg**	**12 02 23.1**	**+0.9**
YMD	**Yuma Desert**	**0.69**	**70**⇑	*i*P	**Pg**	**12 02 14.1**	**+0.2**
GLA	**Glamis**	**0.84**	**29**	*e*Pg	**Pg**	**12 02 15.7**	**-1.0**
GLA				*e*Sg	**Sg**	**12 02 27.5**	**-0.3**
ECBX	**El Chinero**	**0.87**	**165**	*e*P9	**Pg**	**12 02 16.4**	**-0.9**
ECBX				*e*S	**Sg**	**12 02 28.3**	**-0.4**
ZAX	**El Zacaton**	**1.15**	**226**	*e*P	**Pb**	**12 02 22.3**	**+0.1**
ZAX				*e*S	**Sn**	**12 02 38.0**	**+0.1**
ZAX				⇑ *e*		12 02 42.7	
ZAX				AML	AML	12 02 42.7	
	comp=E,5μm,0.6s						
CBX	**Cerro Bola**	**1.15**	**270**	*e*P	**Pb**	**12 02 22.3**	**+0.1**
CBX				*e*S	**Sg**	**12 02 37.7**	**+0.1**
CBX	**Cerro Bola**	**1.15**	**270**	*e*P	**Pb**	**12 02 22.3**	**+0.1**
CBX				*e*S	**Sg**	**12 02 37.7**	**+0.1**
CBX	**Cerro Bola**	**1.15**	**270**	*e*P	**Pb**	**12 02 22.0**	**-0.2**
CBX				*e*S	**Sb**	**12 02 37.4**	**+0.2**
CBX				⇑ *e*		12 02 43.2	
CBX				AML	AML	12 02 43.2	
	comp=E,3μm,0.7s						
BAR	**Barrett**	**1.21**	**288**	*e*Pn	**Pn**	**12 02 23.1**	**-0.1**
BAR				*e*Sn	**Sb**	**12 02 38.2**	**-0.6**
BAR	**Barrett**	**1.21**	**288**	*e*P	**Pn**	**12 02 22.8**	**-0.3**
SPIG	**San Pedro Mart**	**1.27**	**186**	*e*P	**Pn**	**12 02 24.2**	**-0.1**
SPIG				*e*S	**Sb**	**12 02 41.1**	**+0.2**
SPIG	**San Pedro Mart**	**1.27**	**186**	*e*P	**Pn**	**12 02 24.2**	**-0.1**
SPIG				*e*S	**Sb**	**12 02 41.1**	**+0.2**
SPIG	**San Pedro Mart**	**1.27**	**186**	*e*P	**Pn**	**12 02 24.2**	**-0.1**
SPX	**San Pedro Mart**	**1.27**	**186**	*e*P	**Pn**	**12 02 24.2**	**-0.1**
SPX				*e*S	**Sb**	**12 02 40.2**	**-0.7**

SPX	**San Pedro Mart**	**1.27**	**186**	*e*P	**Pn**	12 02 24.2	**-0.1**
SPX				*e*S	**Sg**	**12 02 43.2**	**+1.5**
SPX				⇑*e*		12 02 48.9	
SPX				AML	AML	12 02 48.9	
	comp=E,1μm,0.5s						
ECNX	**Esteban Cantu**	**1.28**	**239**	*e*P	**Pn**	**12 02 24.4**	**+0.3**
PBX	**Punta Banda**	**1.33**	**245**	*e*P	**Pn**	**12 02 25.1**	**+0.3**
PFO	**Pinyon Flats O**	**1.61**	**324**	*e*Pn	**Pn**	**12 02 27.0**	**-1.8**
PFO				*e*Sn	**Sn**	**12 02 45.7**	**-3.8**
214A	**Organ Pipe Nat**	**2.15**	**99**	*e*Pn	**Pn**	**12 02 34.6**	**-1.4**
214A				*e*Sn	**Sn**	**12 03 00.5**	**-2.1**
LDFC	**Landfair**	**2.76**	**3**	*e*Pn	**Pn**	**12 02 44.4**	**-0.1**
LDFC				*e*Sn	**Sn**	**12 03 18.1**	**+0.3**
MWC	**Mount Wilson**	**2.99**	**310**	*e*Pn	**Pn**	**12 02 46.9**	**-0.9**
MWC				*e*Sn	**Sn**	**12 03 23.6**	**+0.1**
PASC	**Pasadena Art C**	**3.04**	**308**	*e*Pn	**Pn**	**12 02 48.7**	**+0.4**
PASC				*e*Sn	**Sn**	**12 03 26.9**	**+2.4**
GSC	**Goldstone, Bar**	**3.23**	**338**	*e*Pg	**Pg**	**12 03 02.8**	**+0.5**
TUC	**Tucson**	**3.83**	**89**	*e*Pn	**Pn**	**12 02 58.7**	**-0.5**
TUC				*e*Sn	**Sn**	**12 03 46.7**	**+2.5**
DAC	**Darwin (Calif)**	**4.38**	**335**	Pn	Pn	12 03 10.6	+3.7
DAC				*e*Sn	**Sn**	**12 03 54.0**	**-3.9**
W18A	**Petrified Fore**	**5.42**	**57**	*e*Pn	**Pn**	**12 03 23.0**	**+1.8**
	comp=E,19nm,0.4s						
R11A	**Troy Canyon, C**	**6.02**	**358**	Pn	**Pn**	**12 03 32.2**	**+2.7**
	comp=E,11nm,1.0s						
R11A				*e*Sn	**Sn**	**12 04 38.0**	**-0.3**
121A	**Cookes Peak, D**	**6.37**	**86**	*e*Pn	**Pn**	**12 03 34.9**	**+0.8**
	comp=E,17nm,0.4s						
121A				*e*Sn	**Sn**	**12 04 45.8**	**-1.0**
MVU	**Marysvale**	**6.67**	**21**	*e*Pn	**Pn**	**12 03 40.1**	**+1.7**
	comp=E,6.5nm,0.5s						
MVU				*e*Sg	**Sg**	**12 05 36.1**	**+1.5**
MSU	**Marysvale**	**6.69**	**22**	*e*Pn	**Pn**	**12 03 39.9**	**+1.3**
	comp=E,12nm,0.6s						

MEX 07 12:22:05.9±1.0, 14°51N×93°95W, h12km±242km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.38**	**31**	*i* P	Pn	12 22 27.6	-3.4
PCIG				*e*S	Sn	12 22 43.5	-5.8
THIG		**1.67**	**76**	*e*P	Pn	12 22 29.1	-5.9
CCIG	**Comitan**	**2.48**	**44**	*e*P	Pn	12 22 43.4	-3.0
CCIG				*e*S	Sn	12 23 13.0	-3.8

*ISCJB **07** 12:25:23.2±0.4, 0°.22S±0°.05×122°.97E±0°.05, h162km, mb3.5/6, Error ellipse: s-maj=7.3km s-min=6.1km az=43.3*
*DJA **07** 12:25:24.6±0.5, 0°.3S×12°.3E±°, h116km±6km, M4.2/13, mb4.2/3, mB5.3/1, MLv4.2/13, Mw(mB)4.7/1*
*IDC **07** 12:25:26.6±5.3, 0°.30S×122°.71E, h168km±49km, mb3.2/6, mb1 3.4/7, mb1mx3.2/41, mbtmp3.7/7, Error ellipse: s-maj=53.4km s-min=15.2km az=55.0*
ISC 07 12:25:23.9±0.7, 0°.21S±0°.06×123°.00E±0°.05, h162km, n27, σ2s08/30, mb3.6/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.86**	**195**	P	Pn	12 25 45.8	-3.0
LUWI				S	Sn	12 26 02.2	-5.7
KMSI	**Cibinong**	**1.25**	**52**	P	**Pn**	**12 25 50.4**	**-1.6**
KMSI				S	**Sn**	**12 26 12.1**	**-1.5**
MRSI	**Marisa**	**1.26**	**303**	P	Pn	12 25 47.4	-4.6
MRSI				S	Sn	12 26 04.9	-8.7
MPSI	**Mapaga**	**3.15**	**280**	P	**Pn**	**12 26 11.7**	**-1.9**
MPSI				S	**Sn**	**12 26 46.9**	**-5.2**
PCI	**Palu**	**3.24**	**258**	P	**Pn**	**12 26 13.3**	**-1.4**
PCI				S	**Sn**	**12 26 56.7**	**+2.5**
SANI	**Sanana**	**3.51**	**122**	P	**Pn**	**12 26 16.4**	**-1.8**
SANI				S	**Sn**	**12 26 55.5**	**-4.8**
TTSI	**Tana Toraja**	**4.25**	**228**	P	**Pn**	**12 26 27.1**	**-0.6**
TTSI				S	**Sn**	**12 27 15.3**	**-2.2**
SPSI	**Sidrap Palu**	**4.94**	**221**	P	**Pn**	**12 26 36.8**	**+0.1**
BNSI	**Bone**	**5.07**	**215**	P	**Pn**	**12 26 39.1**	**+0.6**
	33nm,1.3s,0.1nm						
NLAI	**Namlea**	**5.09**	**126**	P	**Pn**	**12 26 39.6**	**+0.9**
	56nm,0.9s,4μm1.3nm						
KAPI	**Kappang**	**5.77**	**214**	P	**Pn**	**12 26 47.5**	**-0.2**
	2.5nm,0.3s,baz=315,slow=4.3,SNR=7.4						
KAPI				S	**Sn**	**12 27 50.8**	**-2.7**
	0.9nm,0.3s,baz=245,slow=19,SNR=3.4						
WRA	**Warramunga Arr**	**22.54**	**151**	P	**P**	**12 30 12.4**	**+1.9**
	1.3nm,0.6s,baz=326,slow=11,SNR=25						
ASAR	**Alice Springs**	**25.61**	**156**	P	**P**	**12 30 41.0**	**+2.6**
	0.4nm,0.7s,baz=336,slow=8.2,SNR=8.6						
CMAR	**Chiang Mai Arr**	**30.04**	**309**	P	**P**	**12 31 19.4**	**+1.4**
	0.7nm,0.3s,baz=131,slow=7.2,SNR=6.6						
STKA	**Stephens Creek**	**36.08**	**153**	P	P	12 32 13.6	+3.5
	1.1nm,0.8s,baz=331,slow=12,SNR=3.2						
ODAN	**Odare**	**43.56**	**311**	*e*P	**P**	**12 33 14.6**	**+2.4**
	6.2nm,0.5s						
RAMN	**Ramite**	**44.20**	**311**	*e*P	**P**	**12 33 19.1**	**+1.7**
	10nm,0.6s						
JIRN	**Jiri**	**44.88**	**311**	*e*P	**P**	**12 33 23.9**	**+1.0**
	6.4nm,0.3s						
GUN	**Gumba**	**45.25**	**311**	*e*P	**P**	**12 33 26.7**	**+0.9**
	8.5nm,0.3s						
PKIN	**Phulchoki**	**45.44**	**311**	*e*P	**P**	**12 33 28.1**	**+0.9**
	2.9nm,0.6s						
KKN	**Kakani**	**45.64**	**311**	*e*P	**P**	**12 33 29.6**	**+0.9**
DMN	**Daman**	**45.68**	**310**	*e*P	**P**	**12 33 30.1**	**+1.0**
	2.8nm,0.4s						
GKN	**Gorkha**	**46.24**	**311**	*e*P	**P**	**12 33 33.7**	**+0.4**
	4.4nm,0.4s						
KOLN	**Koldanda**	**46.91**	**310**	*e*P	**P**	**12 33 39.0**	**+0.4**
	2.7nm,0.3s						
MKAR	**Makanchi Array**	**58.78**	**328**	P	**P**	**12 35 06.4**	**+1.3**
	0.3nm,0.4s,baz=133,slow=7.8,SNR=8.1						
VNDA	**Vanda**	**80.05**	**172**	P	**P**	**12 37 17.3**	**+2.3**
	0.3nm,0.6s,baz=329,slow=4.4,SNR=4.2						
TORD	**Torodi Ar. Bea**	**120.46**	**285**	PKP	**PKPdf**	**12 43 57.6**	**+0.4**
	0.4nm,0.6s,baz=111,slow=3.2,SNR=3.8						

*ISCJB **07** 12:35:18.8±0.2, 24°.43S±0°.05×179°.83E±0°.05, h517km, mb4.4/39, Error ellipse: s-maj=7.2km s-min=5.2km az=150.0*
*IDC **07** 12:35:18.8±0.9, 24°.30S×179°.86E, h512km±8km, mb3.7/14, mb1 3.9/16, mb1mx3.7/30, mbtmp4.6/16, Error ellipse: s-maj=12.4km s-min=10.7km az=168.0*
*NEIC **07** 12:35:19.9±0.9, 24°.41S×179°.84E, h518km±10km, mb4.4/26, Error ellipse: s-maj=12.2km s-min=8.8km az=129.0*
*SZGRF **07** 12:35:21.8, 23°.94S×179°.74E, h534km, South of Fiji Islands*
ISC 07 12:35:19.3±0.4, 24°45S±0°.06×179°90E±0°.07, h517km, n102, σ1s35/118, mb4.3/39, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.16**	**158**	P	**P**	**12 36 48.9**	**+0.4**
	35nm,0.3s,baz=234,slow=19,SNR=2.9						
MSVF	**Nonsavu**	**6.91**	**345**	*e*P	**P**	**12 37 04.8**	**-0.5**
MSVF				*e*S	**S**	**12 38 35.1**	**+3.1**
DZM	**Mont Dzumac**	**12.59**	**278**	P	**P**	**12 38 06.2**	**+2.0**
	2.4nm,0.3s,baz=89,slow=24,SNR=37						
DZM	**Mont Dzumac**	**12.59**	**278**	*e*P	**P**	**12 38 06.2**	**+2.0**
	251nm,1.5s						
DZM				*e*S	**S**	**12 40 16.8**	**-3.3**
URZ	**Urewera**	**13.97**	**189**	P	**P**	**12 38 17.9**	**-0.3**
	1.1nm,0.3s,baz=62,slow=1.8,SNR=11						
URZ				S	**S**	**12 40 43.2**	**-2.6**
	1.8nm,0.3s,baz=356,slow=22,SNR=11						
URZ	**Urewera**	**13.97**	**189**	*e*P	**P**	**12 38 17.8**	**-0.4**
	3.0nm,0.4s						
ARMA	**Armidale**	**25.75**	**250**	P	**P**	**12 40 10.4**	**+1.8**
	baz=26,SNR=6.9						
EIDS	**Eidsvold**	**26.13**	**262**	P	**P**	**12 40 12.6**	**+0.7**
	baz=26,SNR=5.3						
TARA	**Tarawa**	**26.53**	**344**	*e*P	**P**	**12 40 15.6**	**+0.1**
MGCD	**Mangrove Creek**	**26.62**	**244**	P	**P**	**12 40 18.2**	**+2.1**
	baz=27,SNR=5.4						
RMQ	**Roma**	**28.16**	**259**	P	**P**	**12 40 31.3**	**+1.7**
	baz=28,SNR=6.0						
CNB	**Canberra Magne**	**28.50**	**241**	P	**P**	**12 40 34.8**	**+2.1**
	baz=29,SNR=9.0						
CMSA	**Cobar Meteorol**	**30.93**	**249**	P	**P**	**12 40 54.2**	**+0.6**
	baz=31,SNR=34						
CTA	**Charters Tower**	**31.39**	**271**	P	**P**	**12 40 58.6**	**+0.9**
	28nm,0.4s,baz=95,slow=12,SNR=24						
CTAO	**Charters Tower**	**31.39**	**271**	*e*P	**P**	**12 40 58.1**	**+0.4**
	32nm,0.5s						
TOO	**Toolangi**	**32.07**	**238**	P	**P**	**12 41 04.5**	**+1.1**
	baz=32,SNR=5.4						
QLP	**Quilpie**	**32.19**	**259**	P	**P**	**12 41 04.9**	**+0.4**
	baz=32,SNR=12						
STKA	**Stephens Creek**	**34.44**	**249**	P	**P**	**12 41 24.1**	**+0.7**
	5.7nm,0.6s,baz=95,slow=10,SNR=38						
STKA	**Stephens Creek**	**34.44**	**249**	P	**P**	**12 41 24.1**	**+0.7**
	baz=35,SNR=25						
PMG	**Port Moresby**	**34.59**	**290**	*e*P	**P**	**12 41 25.0**	**+0.1**
	16nm,0.6s						
BBOO	**Buckleboo**	**39.15**	**248**	P	**P**	**12 42 01.8**	**-0.4**
	baz=40,SNR=6.0						
MMPI	**Merauke**	**40.91**	**286**	P	**P**	**12 42 18.9**	**+2.4**
	baz=41,SNR=3.1						
AS31	**Alice Springs**	**41.86**	**261**	*e*P	**P**	**12 42 23.9**	**-0.1**
ASAR	**Alice Springs**	**41.86**	**261**	P	**P**	**12 42 23.9**	**-0.1**
	3.5nm,0.5s,baz=95,slow=6.9,SNR=104						
ASAR				ScP	**ScP**	**12 47 10.3**	**+1.3**
	1.8nm,0.8s,baz=116,slow=4.0,SNR=6.9						
ASAR				S	**S**	**12 48 03.5**	**-1.0**
	0.8nm,0.7s,baz=98,slow=17,SNR=4.9						
WRAB	**Tennant Creek**	**42.27**	**267**	*e*P	**P**	**12 42 26.7**	**-0.6**
	12nm,0.5s						
WRA	**Warramunga Arr**	**42.28**	**267**	P	**P**	**12 42 26.7**	**-0.7**
	13nm,0.5s,baz=102,slow=8.3,SNR=249						
WRA				ScP	**ScP**	**12 47 14.2**	**+3.5**
	8.5nm,0.9s,baz=103,slow=4.0,SNR=24						
WRA				S	**S**	**12 48 08.6**	**-2.1**
	3.1nm,1.0s,baz=104,slow=14,SNR=6.0						
JAY	**Jayapura**	**43.65**	**294**	P	**P**	**12 42 37.7**	**-0.5**
	13nm,0.5s,baz=222,slow=2.3,SNR=11						
FORT	**Forrest**	**46.03**	**250**	P	**P**	**12 42 55.5**	**-0.8**
	baz=46,SNR=22						
FORT	**Forrest**	**46.03**	**250**	*e*P	**P**	**12 42 55.4**	**-0.8**
	20nm,0.6s						
FORT				*e*pP	**pP**	**12 44 35.8**	**+3.7**
KDU	**Kakadu**	**46.25**	**276**	P	**P**	**12 42 57.2**	**-0.8**
	baz=47,SNR=6.0						
WRKA	**Warakurna**	**46.63**	**258**	P	**P**	**12 43 00.6**	**-0.4**
	baz=47,SNR=71						
KNRA	**Kununurra**	**48.59**	**270**	P	**P**	**12 43 15.7**	**0.0**
	baz=49,SNR=30						
SBA	**Scott Base**	**53.82**	**183**	*e*P	**P**	**12 43 55.5**	**+2.8**
	10nm,0.9s						
VNDA	**Vanda**	**53.82**	**185**	P	**P**	**12 43 54.0**	**+1.3**
	1.6nm,0.7s,baz=360,slow=6.5,SNR=8.0						
VNDA				PcP	**PcP**	**12 44 50.9**	**+0.6**
	1.5nm,0.6s,baz=9.8,slow=6.0,SNR=6.9						
VNDA				ScP	**ScP**	**12 47 59.4**	**+0.8**
	1.9nm,1.2s,baz=353,slow=4.9,SNR=4.2						
MEEK	**Meekatharra**	**54.87**	**254**	P	**P**	**12 44 00.1**	**-0.8**
	baz=55,SNR=3.5						
MORW	**Morawa**	**56.60**	**250**	P	**P**	**12 44 12.6**	**-0.4**
	baz=57,SNR=5.7						
QSPA	**South Pole Qui**	**65.63**	**180**	P	**P**	**12 45 12.9**	**+1.1**
	16nm,0.7s,baz=1.2,slow=0.6,SNR=140						
QSPA	**South Pole Qui**	**65.63**	**180**	*e*P	**P**	**12 45 12.8**	**+1.1**
	15nm,0.8s						
QSPA				*e*pP	**pP**	**12 46 58.0**	**+0.4**
SMRI	**Semarang**	**68.43**	**272**	*e*P	P	12 45 24.9	-4.9
	428nm,1.8s						
MAW	**Mawson**	**77.20**	**200**	P	**P**	**12 46 19.8**	**+0.6**
	3.9nm,0.5s,baz=136,slow=6.4,SNR=22						
MAW	**Mawson**	**77.20**	**200**	P	**P**	**12 46 19.9**	**+0.7**
	baz=77,SNR=12						
PETK	**Petropavlovsk-**	**79.61**	**347**	P	**P**	**12 46 32.5**	**+0.2**
	0.5nm,0.5s,baz=224,slow=12,SNR=4.7						
SYO	**Syowa Base**	**82.45**	**193**	⇑*e*P	**P**	**12 46 44.4**	**-2.4**
ISA	**Isabella, Lake**	**83.47**	**46**	*e*P	**P**	**12 46 53.3**	**+0.7**
	5.0nm,0.8s						
OHCM	**Honcut**	**83.79**	**42**	*e*P	**P**	**12 46 54.8**	**+0.9**
SNAA	**Sanae**	**84.12**	**179**	P	**P**	**12 46 54.7**	**-0.5**
VNA3	**Neumayer Olymp**	**84.33**	**177**	P	**P**	**12 46 55.6**	**-0.6**
GSC	**Goldstone, Bar**	**84.37**	**47**	*e*P	**P**	**12 46 57.6**	**+0.6**
	4.0nm,0.8s						
GLA	**Glamis**	**84.45**	**50**	*e*P	**P**	**12 46 58.7**	**+1.3**
	14nm,1.0s						
YBH	**Yreka Blue Hor**	**84.57**	**39**	P	**P**	**12 46 58.5**	**+0.6**
	2.3nm,0.9s,baz=327,slow=3.2,SNR=5.4						
VNA2	**Neumayer--Watz**	**84.75**	**178**	P	**P**	**12 46 57.9**	**-0.3**
	baz=189,slow=3.7						
HUMO	**Hull Mountain**	**84.99**	**39**	*e*P	**P**	**12 47 01.0**	**+1.2**
	6.4nm,1.2s						
NVAR	**Mina Array Bea**	**85.21**	**44**	P	**P**	**12 47 00.9**	**-0.3**
	2.0nm,0.8s,baz=227,slow=8.2,SNR=14						
TPH	**Tonopah**	**85.69**	**45**	*e*P	**P**	**12 47 03.7**	**+0.2**
	5.1nm,0.9s						
LHMI	**Lhok Sumawe**	**85.75**	**278**	P	**P**	**12 47 02.7**	**-1.4**
	baz=86,SNR=3.3						
TUC	**Tucson**	**86.93**	**52**	*e*P	**P**	**12 47 10.9**	**+1.5**
	8.3nm,0.9s						
BMN	**Battle Mountai**	**87.06**	**43**	*e*P	**P**	**12 47 09.5**	**-0.4**
	4.7nm,0.5s						
WVOR	**Wild Horse Val**	**87.39**	**41**	*e*P	**P**	**12 47 11.9**	**+0.6**
	6.4nm,1.1s						
I07A	**Izee**	**87.88**	**39**	*e*P	**P**	**12 47 14.1**	**+0.6**
PLCA	**Paso Flores**	**87.95**	**134**	P	**P**	**12 47 14.8**	**+0.6**
	2.1nm,0.7s,baz=238,slow=9.5,SNR=3.0						
LON	**Longmire**	**88.25**	**36**	*e*P	**P**	**12 47 15.4**	**+0.2**
MVU	**Marysvale**	**89.20**	**47**	*e*P	**P**	**12 47 21.2**	**+1.1**
	2.3nm,0.9s						
121A	**Cookes Peak, D**	**89.22**	**54**	*e*P	**P**	**12 47 21.3**	**+1.1**
	1.6nm,0.8s						
MFID	**Camas Ranch**	**89.64**	**41**	*e*P	**P**	**12 47 22.3**	**+0.5**
	4.8nm,0.9s						
F10A	**Beach Ranch, E**	**90.30**	**38**	*e*P	**P**	**12 47 24.6**	**-0.1**
HLID	**Hailey**	**90.57**	**41**	*e*P	**P**	**12 47 26.4**	**+0.3**
	2.3nm,0.9s						
HVU	**Hansel Valley**	**90.60**	**44**	*e*P	**P**	**12 47 26.8**	**+0.5**
	73μm,0.7s						
SRU	**San Rafael Swe**	**90.64**	**47**	*e*P	**P**	**12 47 27.1**	**+0.4**
	6.1nm,0.8s						
TRF	**Thorofare Moun**	**90.71**	**13**	*e*P	**P**	**12 47 25.1**	**-1.2**
	67nm,2.8s						
HHC	**Hu-ho-hao-te**	**90.74**	**315**	*e*P	P	12 47 20.1	-6.9
HHC				pmax	pmax		
	comp=Z,21nm,1.3s						
HHC				pmax	pmax		
	comp=Z,83nm,4.0s						
MVCO	**Mesa Verde**	**91.05**	**49**	*e*P	**P**	**12 47 28.7**	**+0.1**
	comp=Z,22nm,1.7s						
MVCO				*e*pP	**pP**	**12 49 21.8**	**-1.6**
SKAG	**Skagway**	**91.35**	**21**	*e*P	**P**	**12 47 30.2**	**+1.1**
	comp=Z,4.2nm,1.1s						
ILAR	**Eielson Array**	**92.59**	**14**	P	**P**	**12 47 33.0**	**-1.7**
	comp=Z,0.4nm,0.7s,baz=226,slow=5.4,SNR=11						
TPAW	**Teton Pass**	**92.65**	**43**	*e*P	**P**	**12 47 37.0**	**+1.1**
	comp=Z,4.3nm,1.4s						
SMCO	**Snowmass**	**93.06**	**48**	*e*P	**P**	**12 47 35.1**	**-3.0**
	comp=Z,4.3nm,0.6s						
SMCO				*e*pP	**pP**	**12 49 31.5**	**-1.5**
PDAR	**Pinedale Array**	**93.15**	**44**	P	**P**	**12 47 37.5**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=15,slow=0.7,SNR=7.5						
YKA	**Yellowknife Ar**	**100.90**	**25**	PKKPbc	PKKPbc	13 04 21.4	-2.7
	comp=Z,0.2nm,0.5s,baz=38,slow=2.5,SNR=5.5						
KURK	**Kurchatov**	**115.54**	**316**	*e*PKPdf	**PKPdf**	**12 53 01.2**	**-0.9**
KURBB	**Kurchatov Arra**	**115.58**	**316**	PKP	**PKPdf**	**12 53 00.6**	**-1.6**
	comp=Z,1.2nm,0.6s,baz=90,slow=1.8,SNR=13						
BVAR	**Borovoye Array**	**120.79**	**318**	PKP	**PKPdf**	**12 53 10.9**	**-1.2**
	comp=Z,1.8nm,0.6s,baz=27,slow=0.7,SNR=8.9						
SPITS	**Spitsbergen Ar**	**125.66**	**356**	PKP	**PKPdf**	**12 53 20.3**	**-0.6**
	comp=Z,15nm,1.0s,baz=99,slow=5.3,SNR=6.1						
ARCES	**ARCESS Array B**	**132.41**	**348**	PKP	**PKPdf**	**12 53 32.9**	**-1.0**
	comp=Z,1.7nm,0.6s,baz=44,slow=1.3,SNR=15						
ARCES				SKP		12 56 13.1	
	comp=Z,4.9nm,1.1s,baz=46,slow=3.5,SNR=5.3						
FINES	**FINESS Array B**	**138.94**	**341**	PKhKP	PKPpre	12 53 37.9	
	comp=Z,2.0nm,0.8s,baz=48,slow=2.8,SNR=7.8						
FINES				PKP	**PKPdf**	**12 53 46.5**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=124,slow=2.7,SNR=7.4						
FINES				SKPbc	**SKPbc**	**12 56 32.5**	**+0.1**
	comp=Z,3.5nm,0.7s,baz=29,slow=4.4,SNR=10						
NB2	**NORSAR Subarra**	**142.61**	**351**	PKP	**PKPdf**	**12 53 49.0**	**-3.8**
	comp=Z,0.6nm,0.5s,baz=9.1,slow=2.9						
NOA	**NORSAR Array B**	**142.61**	**351**	PKhKP	PKPpre	12 53 48.6	
	comp=Z,2.1nm,0.9s,baz=16,slow=4.8,SNR=4.5						
HFS	**Hagfors**	**143.07**	**349**	PKP	PKPab	12 53 50.3	-0.8
	comp=Z,8.3nm,0.4s,baz=64,slow=3.4,SNR=43						
AKASG	**Malin Array Be**	**145.38**	**327**	PKPbc	**PKPdf**	**12 53 57.9**	**+0.1**
	comp=Z,2.9nm,0.5s,baz=44,slow=3.6,SNR=14						
AKASG				SKPbc	**SKPbc**	**12 56 48.3**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=46,slow=2.2,SNR=6.4						
BRTR	**Keskin Array B**	**147.83**	**306**	PKPbc	**PKPbc**	**12 54 04.6**	**-1.6**
	comp=Z,1.8nm,0.7s,baz=139,slow=4.7,SNR=9.1						
BRTR				pPKPbc	**pPKPbc**	**12 56 03.6**	**-3.1**
	comp=Z,0.5nm,0.6s,baz=76,slow=6.1,SNR=3.0						
MMAI	**Mount Meron Ar**	**147.84**	**294**	PKPbc	**PKPbc**	**12 54 07.2**	**+0.9**
	comp=Z,4.7nm,0.5s,baz=67,slow=6.4,SNR=8.8						
EKA	**Eskdalemuir Ar**	**149.07**	**3**	PKPbc	**PKPbc**	**12 54 07.2**	**-1.3**
	comp=Z,1.7nm,0.4s,baz=0.1,slow=3.6,SNR=7.0						
BUR08	**Bucovina Ar. S**	**149.36**	**325**	*e*PKPbc	**PKPbc**	**12 54 10.4**	**+0.8**
BUR08				*e*PKPab	**PKPab**	**12 54 16.6**	**+0.1**
MLR	**Muntele Rosu**	**150.29**	**321**	PKPbc	**PKPbc**	**12 54 11.4**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=94,slow=2.0,SNR=3.8						
CLL	**Collm**	**151.35**	**343**	*e*PKPbc	**PKPbc**	**12 54 13.7**	**-0.3**
CLL				*e*pPKPbc	**pPKPbc**	**12 56 18.8**	**+3.4**
CLL	**Collm**	**151.35**	**343**	*i* PKPbc	**PKPbc**	**12 54 13.7**	**-0.3**
	comp=Z,12nm,0.8s						
CLL				*e*PKPab	**PKPab**	**12 54 24.0**	**-0.6**
CLL				*e*pPKPab	**pPKPab**	**12 56 19.0**	**-2.1**
BRG	**Berggiesshubel**	**151.48**	**341**	*i* PKP	**PKPbc**	**12 54 14.1**	**-0.2**
	comp=Z,6.6nm,0.6s						
BRG	**Berggiesshubel**	**151.48**	**341**	*e*PKPbc	**PKPbc**	**12 54 14.1**	**-0.2**
CLZ	**Clausthal**	**151.50**	**346**	*e*PKPbc	**PKPbc**	**12 54 14.3**	**-0.1**
FBE	**Freiberg**	**151.60**	**342**	*e*PKPbc	**PKPbc**	**12 54 14.4**	**-0.2**
WERD	**Werda**	**152.32**	**343**	*e*PKPbc	**PKPbc**	**12 54 15.9**	**-0.4**
PLN	**Plauen**	**152.33**	**343**	*e*PKPbc	**PKPbc**	**12 54 15.9**	**-0.3**
GERES	**GERESS Array B**	**153.34**	**339**	PKPbc	**PKPbc**	**12 54 17.4**	**-1.3**
	comp=Z,0.8nm,0.8s,baz=42,slow=2.2,SNR=4.8						
TORD	**Torodi Ar. Bea**	**168.63**	**189**	PKP	**PKPdf**	**12 54 25.9**	**-1.5**
	comp=Z,2.4nm,1.1s,baz=143,slow=1.6,SNR=6.3						
TORD				PKPab	**PKPab**	**12 55 40.6**	**0.0**
	comp=Z,3.2nm,0.9s,baz=180,slow=3.6,SNR=13						

WEL 07 12:48:48.2±0.3, 37°.85S×176°.23E, h155km±3km, ML3.5/14, 3C-1D, Error ellipse: s-maj=2.8km s-min=2.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.81**	**121**	PN	Pn	12 49 12.2	+0.2
URZ				SN	Sn	12 49 30.2	+0.1
URZ				AML	AML	12 49 31.4	
MWZ	**Matawai**	**1.14**	**116**	PN	Pn	12 49 14.7	0.0
MWZ				SN	Sn	12 49 34.5	-0.4
HAZ	**Te Kaha**	**1.24**	**86**	PN	Pn	12 49 15.4	-0.1
HAZ				*e*SN	Sn	12 49 35.8	-0.6
RAHZ	**Arahi**	**1.26**	**148**	PN	Pn	12 49 16.2	+0.4
SNGZ	**Shannon Statio**	**1.28**	**137**	PN	Pn	12 49 16.3	+0.3
BKZ	**Black Stump Fm**	**1.33**	**171**	⇑PN	Pn	12 49 16.1	-0.4
TWVZ	**Taurewa**	**1.37**	**207**	PN	Pn	12 49 17.2	+0.3
TKGZ	**Te Karaka**	**1.41**	**115**	PN	Pn	12 49 17.4	+0.2
WHHZ	**Waihua**	**1.46**	**147**	*e*PN	Pn	12 49 17.7	0.0
RIGZ	**Rimuhau**	**1.48**	**126**	PN	Pn	12 49 18.2	+0.2
TUVZ	**Tukino**	**1.48**	**197**	PN	Pn	12 49 18.1	0.0
FWVZ	**Far West T-bar**	**1.50**	**200**	PN	Pn	12 49 18.7	+0.3
ARHZ	**Aropaoanui**	**1.53**	**157**	PN	Pn	12 49 18.5	0.0
WNVZ	**Wahianoa**	**1.56**	**198**	PN	Pn	12 49 18.7	-0.3
PUZ	**Puketiti**	**1.62**	**98**	PN	Pn	12 49 19.0	-0.4
KNZ	**Kokohu**	**1.63**	**136**	PN	Pn	12 49 19.1	-0.3
MCHZ	**McNeill Hill**	**1.63**	**167**	*e*PN	Pn	12 49 19.5	0.0
BHHZ	**Black Hill Sta**	**1.64**	**184**	⇑PN	Pn	12 49 18.9	-0.8
MTVZ	**Mangateitei**	**1.64**	**201**	PN	Pn	12 49 19.5	-0.2
MXZ	**Matakaoa Point**	**1.68**	**81**	PN	Pn	12 49 20.2	+0.2
MXZ				*e*SN	Sn	12 49 45.9	+1.5
CNGZ	**Carnagh Statio**	**1.69**	**113**	PN	Pn	12 49

σ1$00/58, mb4.3/6, MS3.8/7, 2C, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WHZ	**Wether Hill Ro**	**1.31**	**77**	⇑P N	**Pn**	**13 10 08.4**	**+0.4**
WHZ				*e*SN	**Sg**	**13 10 26.4**	**+0.4**
WHZ				AML	AML	13 10 32.4	
WHZ	**Wether Hill Ro**	**1.31**	**77**	*e*P	**Pn**	**13 10 08.5**	**+0.5**
WHZ				*e*Sn	**Sb**	**13 10 24.4**	**-0.7**
APZ	**The Paps**	**1.44**	**117**	⇑P N	**Pn**	**13 10 09.7**	**-0.1**
APZ				*e*SN	**Sn**	**13 10 28.5**	**-0.2**
APZ				AML	AML	13 10 30.0	
MLZ	**Mavora Lakes**	**1.67**	**60**	PN	**Pn**	**13 10 13.9**	**+0.9**
MLZ				AML	AML	13 10 42.9	
MLZ				AML	AML	13 10 42.9	
MSZ	**Milford Sound**	**1.98**	**40**	PN	**Pn**	**13 10 17.7**	**+0.4**
MSZ				AML	AML	13 10 55.0	
MSZ				AML	AML	13 10 55.4	
MSZ				AML	AML	13 10 58.1	
MSZ				AML	AML	13 11 00.2	
SYZ	**Scrubby Hill**	**2.12**	**100**	PN	**Pn**	**13 10 19.9**	**+0.8**
SYZ				*e*SN	**Sn**	**13 10 46.3**	**+1.0**
SYZ				AML	AML	13 10 50.2	
SYZ				AML	AML	13 10 50.2	
SYZ				AML	AML	13 10 53.4	
EAZ	**Earnscleugh**	**2.43**	**68**	*e*PN	**Pn**	**13 10 25.4**	**+1.9**
EAZ				AML	AML	13 10 58.5	
EAZ				AML	AML	13 10 60.0	
EAZ				AML	AML	13 11 00.9	
EAZ				AML	AML	13 11 08.6	
WKZ	**Wanaka**	**2.45**	**57**	PN	**Pb**	**13 10 26.3**	**-1.7**
WKZ				AML	AML	13 11 05.7	
WKZ				AML	AML	13 11 05.8	
WKZ				AML	AML	13 11 10.5	
TUZ	**Tuapeka**	**2.46**	**86**	PN	**Pn**	**13 10 24.9**	**+1.2**
JCZ	**Jackson Bay**	**2.83**	**42**	PN	**Pn**	**13 10 31.4**	**+2.5**
JCZ				AML	AML	13 11 18.9	
JCZ				AML	AML	13 11 22.5	
ODZ	**Otahua Downs**	**3.38**	**72**	PN	**Pn**	**13 10 36.7**	**+0.2**
ODZ	**Otahua Downs**	**3.38**	**72**	*e*Pn	**Pn**	**13 10 37.1**	**+0.6**
ODZ				*e*Sn	**Sn**	**13 11 17.0**	**+0.6**
LBZ	**Lake Benmore**	**3.39**	**59**	PN	**Pn**	**13 10 37.7**	**+1.0**
LBZ				AML	AML	13 11 44.2	
LBZ				AML	AML	13 11 47.7	
RPZ	**Rata Peaks**	**4.29**	**56**	*e*PN	**Pn**	**13 10 49.2**	**+0.2**
RPZ				AML	AML	13 12 03.4	
RPZ				AML	AML	13 12 14.4	
RPZ	**Rata Peaks**	**4.29**	**56**	Pn	**Pn**	**13 10 49.3**	**+0.3**
	4.3nm,0.3s,baz=254,slow=6.5,SNR=41						
RPZ				Sn	**Sn**	**13 11 39.5**	**+0.5**
	14nm,0.3s,baz=239,slow=24,SNR=6.8						
RPZ				LR	LR	13 12 52.1	
	comp=Z,3μm,18.1s,baz=250,slow=44						
RPZ	**Rata Peaks**	**4.29**	**56**	*e*Pn	**Pn**	**13 10 48.8**	**-0.3**
RPZ				*e*Pg	**Pg**	**13 11 06.6**	**+0.5**
RPZ				*e*Sn	**Sn**	**13 11 38.9**	**-0.1**
RPZ				*e*Sg	**Sg**	**13 12 01.4**	**-0.2**
WVZ	**Waitaha Valley**	**4.54**	**48**	PN	**Pn**	**13 10 54.7**	**+2.4**
WVZ				AML	AML	13 12 00.0	
OXZ	**Oxford**	**5.10**	**58**	*e*PN	**Pn**	**13 10 59.6**	**-0.5**
MQZ	**McQueen's Vall**	**5.26**	**64**	PN	**Pn**	**13 11 02.8**	**+0.5**
LTZ	**Lake Taylor**	**5.57**	**54**	AML	AML	13 12 13.5	
LTZ				AML	AML	13 12 13.5	
KHZ	**Kahutara**	**6.53**	**57**	PN	**Pn**	13 11 23.7	+4.0
THZ	**Tophouse**	**6.60**	**50**	PN	**Pn**	**13 11 23.2**	**+2.4**
THZ				AML	AML	13 12 48.1	
THZ				AML	AML	13 12 57.0	
QRZ	**Quartz Range**	**7.11**	**43**	PN	**Pn**	**13 11 28.7**	**+1.0**
URZ	**Urewera**	**11.36**	**50**	Pn	**Pn**	**13 12 26.4**	**+0.4**
	0.6nm,0.3s,baz=237,slow=7.3,SNR=8.5						
URZ	**Urewera**	**11.36**	**50**	*e*Pn	**Pn**	**13 12 26.9**	**+0.9**
URZ				*e*Sn	**Sn**	**13 14 31.8**	**-1.0**
MOO	**Moorlands**	**14.06**	**279**	P	**Pn**	**13 13 02.9**	**0.0**
	baz=14,SNR=3.8						
MILA	**Mila**	**15.61**	**300**	P	**Pn**	**13 13 22.7**	**-1.1**
	baz=16,SNR=16						
TOO	**Toolangi**	**17.58**	**292**	P	**Pn**	**13 13 49.1**	**+0.4**
	baz=18,SNR=18						
CMSA	**Cobar Meteorol**	**21.53**	**306**	P	**P**	**13 14 34.6**	**+1.7**
	baz=22,SNR=6.3						
STKA	**Stephens Creek**	**23.70**	**299**	LR	LR	13 22 31.9	
	comp=Z,181nm,20.8s,baz=192,slow=33						
EIDS	**Eidsvold**	**24.02**	**325**	P	**P**	**13 14 57.9**	**-0.8**
	62nm,1.8s						
ASAR	**Alice Springs**	**34.32**	**300**	P	**P**	**13 16 29.7**	**-0.6**
	2.0nm,0.8s,baz=131,slow=9.0,SNR=12						
ASAR				ScP	**ScP**	**13 22 50.9**	**-0.1**
	0.3nm,0.9s,baz=127,slow=5.9,SNR=3.8						
ASAR				LR	LR	13 30 05.3	
	comp=Z,178nm,18.4s,baz=146,slow=36						
WRKA	**Warakurna**	**36.83**	**292**	P	**P**	**13 16 51.5**	**-0.4**
	baz=38,SNR=7.4						
WRA	**Warramunga Arr**	**36.93**	**304**	P	**P**	**13 16 51.9**	**-0.8**
	2.8nm,0.9s,baz=138,slow=7.8,SNR=11						
H01W1	**Cape Leeuwin H**	**40.41**	**267**	T	T	14 00 07.4	
	baz=122,slow=75,SNR=403						
H01W2	**Cape Leeuwin H**	**40.42**	**267**	T	T	14 00 17.0	
	baz=122,slow=75,SNR=306						
H01W3	**Cape Leeuwin H**	**40.43**	**267**	T	T	14 00 08.7	
	baz=122,slow=75,SNR=375						
QSPA	**South Pole Qui**	**43.93**	**180**	P	**P**	**13 17 51.6**	**+1.3**
	4.1nm,1.0s,baz=283,slow=1.9,SNR=11						
PPT	**Papeete**	**46.37**	**67**	LR	LR	13 32 06.7	
	comp=Z,70nm,21.9s,baz=239,slow=29						
JAY	**Jayapura**	**48.84**	**325**	P	**P**	**13 18 26.8**	**-2.6**
	18nm,0.8s,baz=189,slow=3.3,SNR=6.5						
MAW	**Mawson**	**52.88**	**208**	LR	LR	13 40 08.8	
	comp=Z,105nm,18.3s,baz=59,slow=34						
KAPI	**Kappang**	**57.32**	**301**	LR	LR	13 45 45.4	
	comp=Z,75nm,18.3s,baz=221,slow=38						
SNAA	**Sanae**	**62.18**	**184**	P	**P**	**13 20 05.2**	**+0.7**
VNA3	**Neumayer Olymp**	**62.83**	**182**	P	**P**	**13 20 09.1**	**+0.2**
VNA2	**Neumayer--Watz**	**63.09**	**182**	P	**P**	**13 20 11.1**	**+0.5**
	baz=160,slow=5.4						
VNA1	**Neumayer--Stat**	**63.39**	**182**	P	**P**	**13 20 12.1**	**-0.5**
LEM	**Lembang**	**63.56**	**289**	LR	LR	13 48 12.3	
	comp=Z,145nm,20.6s,baz=180,slow=36						
CMAR	**Chiang Mai Arr**	**88.32**	**299**	P	**P**	**13 22 35.7**	**+0.2**
	1.4nm,0.8s,baz=157,slow=2.6,SNR=11						
CMAR				LR	LR	14 05 16.2	
	comp=Z,31nm,18.2s,baz=190,slow=38						
YKA	**Yellowknife Ar**	**125.25**	**34**	PKP	**PKPdf**	**13 28 44.3**	**+1.1**
	0.1nm,0.6s,baz=268,slow=1.2,SNR=3.9						
TORD	**Torodi Ar. Bea**	**144.53**	**207**	PKP	**PKPab**	**13 29 18.6**	**-0.2**
	1.8nm,0.8s,baz=170,slow=0.1,SNR=8.8						
BR131	**Keskin Array S**	**145.06**	**277**	*e*PKPdf	**PKPbc**	**13 29 20.2**	**-0.1**
BRTR	**Keskin Array B**	**145.06**	**277**	PKP	**PKPbc**	**13 29 20.2**	**-0.1**
	5.5nm,0.9s,baz=141,slow=4.7,SNR=24						
SCHQ	**Schefferville**	**145.98**	**56**	PKPbc	**PKPdf**	**13 29 21.6**	**-0.2**
	2.4nm,0.6s,baz=135,slow=8.6,SNR=3.4						
ARCES	**ARCESS Array B**	**149.57**	**334**	PKPbc	**PKPbc**	**13 29 31.9**	**0.0**
	4.5nm,0.9s,baz=40,slow=2.1,SNR=14						
AKASG	**Malin Array Be**	**151.37**	**295**	PKPbc	**PKPbc**	**13 29 36.4**	**-0.3**
	1.6nm,0.6s,baz=79,slow=2.5,SNR=6.9						
FINES	**FINESS Array B**	**152.47**	**318**	PKPbc	**PKPbc**	**13 29 40.6**	**+1.8**
	1.5nm,0.7s,baz=117,slow=6.6,SNR=4.3						
GERES	**GERESS Array B**	**161.23**	**288**	PKPab	**PKPab**	**13 30 27.5**	**0.0**
	0.3nm,0.2s,baz=111,slow=5.4,SNR=3.6						

*IDC **07** 13:11:05.4±2.1,24˚.38S×179˚.95E, h484km±22km, mb3.5/12, mb1 3.7/13, mb1mx3.5/31, mbtmp4.3/13, Error ellipse: s-maj=18.3km s-min=16.9km az=166.0*

*ISCJB **07** 13:11:07.3±0.5,24˚.40S±0˚.08×179˚.84E±0˚.07, h517km, mb3.8/12, Error ellipse: s-maj=11.0km s-min=7.6km az=146.8*

ISC 07 13:11:08.0±0.6, 24˚.50S±0˚.10×179˚.96E±0˚.09, h517km, n34, σ1$29/37, mb3.6/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**10.83**	**62**	S	**S**	**13 15 33.8**	**-0.9**
	baz=11,SNR=4.0						
DZM	**Mont Dzumac**	**12.65**	**278**	P	**P**	**13 13 54.1**	**+0.6**
	1.5nm,0.3s,baz=89,slow=23,SNR=13						
URZ	**Urewera**	**13.93**	**189**	P	**P**	**13 14 06.4**	**-0.2**
	0.7nm,0.3s,baz=307,slow=10,SNR=5.1						
URZ				S	**S**	**13 16 32.9**	**-1.0**
	1.4nm,0.3s,baz=344,slow=24,SNR=11						
ARMA	**Armidale**	**25.78**	**250**	P	**P**	**13 15 58.8**	**+1.3**
	baz=26,SNR=9.3						
EIDS	**Eidsvold**	**26.18**	**262**	P	**P**	**13 16 01.3**	**+0.3**
	baz=26,SNR=3.5						
MGCD	**Mangrove Creek**	**26.65**	**244**	P	**P**	**13 16 06.5**	**+1.5**
	baz=26,SNR=7.1						
RMQ	**Roma**	**28.20**	**259**	P	**P**	**13 16 20.1**	**+1.3**
	baz=28,SNR=6.1						
CNB	**Canberra Magne**	**28.52**	**241**	P	**P**	**13 16 22.8**	**+1.2**
	baz=28,SNR=5.6						
CMSA	**Cobar Meteorol**	**30.96**	**249**	P	**P**	**13 16 42.8**	**+0.2**
	baz=31,SNR=14						
CTA	**Charters Tower**	**31.44**	**271**	P	**P**	**13 16 47.0**	**0.0**
	21nm,0.5s,baz=97,slow=12,SNR=39						
TOO	**Toolangi**	**32.09**	**238**	P	**P**	**13 16 52.9**	**+0.6**
	baz=32,SNR=9.5						
QLP	**Quilpie**	**32.24**	**259**	P	**P**	**13 16 53.3**	**-0.3**
	baz=32,SNR=20						
STKA	**Stephens Creek**	**34.47**	**249**	P	**P**	**13 17 12.4**	**0.0**
	9.6nm,0.6s,baz=86,slow=10.0,SNR=18						
STKA	**Stephens Creek**	**34.47**	**249**	P	**P**	**13 17 12.6**	**+0.2**
	baz=34,SNR=7.7						
COEN	**Coen**	**36.17**	**280**	P	**P**	**13 17 28.8**	**+2.0**
	baz=36,SNR=7.6						
BBOO	**Buckleboo**	**39.18**	**248**	P	**P**	**13 17 50.2**	**-0.9**
	baz=39,SNR=30						
ASAR	**Alice Springs**	**41.90**	**261**	P	**P**	**13 18 12.4**	**-0.7**
	4.3nm,0.5s,baz=94,slow=7.1,SNR=25						
ASAR				ScP	**ScP**	**13 23 00.2**	**+2.3**
	0.6nm,0.7s,baz=145,slow=4.6,SNR=4.5						
WRA	**Warramunga Arr**	**42.33**	**267**	P	**P**	**13 18 15.2**	**-1.3**
	11nm,0.6s,baz=101,slow=8.3,SNR=91						
WRA				ScP	**ScP**	**13 23 03.5**	**+3.8**
	3.1nm,0.9s,baz=101,slow=3.9,SNR=12						
FORT	**Forrest**	**46.07**	**250**	P	**P**	**13 18 44.0**	**-1.3**
	baz=46,SNR=38						
KDU	**Kakadu**	**46.30**	**276**	P	**P**	**13 18 46.0**	**-1.3**
	baz=46,SNR=6.5						
WRKA	**Warakurna**	**46.67**	**258**	P	**P**	**13 18 49.1**	**-0.9**
	baz=46,SNR=20						
KNRA	**Kununurra**	**48.65**	**270**	P	**P**	**13 19 04.3**	**-0.5**
	baz=49,SNR=18						
MEEK	**Meekatharra**	**54.91**	**254**	P	**P**	**13 19 48.6**	**-1.4**
	baz=55,SNR=5.9						
BLDU	**Ballidu**	**55.77**	**249**	P	**P**	**13 19 54.9**	**-1.0**
	baz=56,SNR=13						
MORW	**Morawa**	**56.63**	**250**	P	**P**	**13 20 00.9**	**-1.0**
	baz=56,SNR=11						
WSI	**Waingapu**	**58.50**	**274**	P	**P**	**13 20 12.5**	**-2.3**
	baz=58,SNR=3.5						
QSPA	**South Pole Qui**	**65.59**	**180**	P	**P**	**13 21 01.4**	**+1.2**
	0.6nm,0.6s,baz=18,slow=12,SNR=2.9						
MJAR	**Matsushiro Arr**	**72.36**	**326**	P	**P**	**13 21 40.1**	**-1.1**
	0.6nm,0.6s,baz=183,slow=8.0,SNR=4.8						
MAW	**Mawson**	**77.18**	**200**	P	**P**	**13 22 08.3**	**+0.5**
	0.6nm,0.5s,baz=169,slow=5.2,SNR=6.9						
KSRS	**Korea Array**	**78.68**	**320**	P	**P**	**13 22 16.7**	**+0.4**
	0.6nm,0.9s,baz=111,slow=6.7,SNR=6.3						
NVAR	**Mina Array Bea**	**85.21**	**44**	P	**P**	**13 22 49.7**	**-0.2**
	0.8nm,0.8s,baz=220,slow=8.3,SNR=5.0						
CMAR	**Chiang Mai Arr**	**89.69**	**290**	P	**P**	**13 23 12.7**	**+1.5**
	1.2nm,0.8s,baz=126,slow=4.6,SNR=6.1						
TXAR	**Lajitas Array**	**90.78**	**58**	P	**P**	**13 23 16.6**	**+0.5**
	1.3nm,0.8s,baz=214,slow=6.4,SNR=17						
PDAR	**Pinedale Array**	**93.14**	**44**	P	**P**	**13 23 26.4**	**-0.4**
	0.1nm,0.3s,baz=131,slow=2.7,SNR=4.0						

IDC 07 13:18:03.1±13.0, 50˚.39N×153˚.65E, h0km, mb3.4/4, mb1 3.9/4, mb1mx3.4/39, mbtmp3.4/4, Error ellipse: s-maj=343.9km s-min=111.1km az=91.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILAR	**Eielson Array**	**33.53**	**42**	P	P	13 24 44.0	0.0
	0.3nm,0.8s,baz=267,slow=9.2,SNR=5.7						
YKA	**Yellowknife Ar**	**47.82**	**39**	P	P	13 26 41.3	-0.5
	0.3nm,0.5s,baz=300,slow=6.9,SNR=4.8						
PDAR	**Pinedale Array**	**62.35**	**56**	P	P	13 28 27.8	+0.3
	0.6nm,0.7s,baz=336,slow=3.3,SNR=5.5						
TXAR	**Lajitas Array**	**75.42**	**62**	P	P	13 29 48.8	-0.1
	0.3nm,0.6s,baz=291,slow=4.8,SNR=4.2						

DJA 07 13:31:02.5±1.0, 9˚S±8˚×117˚E±˚, h14km±6km, M3.7/8, MLv3.7/8, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**1.93**	**104**	P	Pn	13 31 33.8	-1.2
WBSI				S	Sn	13 31 57.2	-2.0
DNP	**Denpasar**	**2.31**	**282**	P	Pg	13 31 50.5	+3.7
DNP				S	Sb	13 32 11.2	-1.1
IGBI	**Denpasar**	**2.34**	**278**	P	Pn	13 31 40.8	+0.2
IGBI				S	Sn	13 32 10.2	+1.0
SRBI	**Singaraja**	**2.50**	**295**	P	Pn	13 31 42.1	-0.6
JAGI	**Jajag, Banyuwa**	**3.37**	**282**	P	Pn	13 31 55.0	+0.2

*IDC **07** 13:35:40.6±1.1, 26˚.47N×128˚.76E, h0km, mb3.5/6, mb1 3.7/8, mb1mx3.6/44, mbtmp3.5/8, ML3.5/2, Error ellipse: s-maj=34.1km s-min=24.0km az=83.0*

*ISCJB **07** 13:35:41.9±1.0, 26˚.43N±0˚.04×128˚.96E±0˚.04, h26km±7km, mb3.5/7, Error ellipse: s-maj=7.8km s-min=4.9km az=44.3*

*JMA **07** 13:35:42.3±0.3, 26˚.47N×128˚.96E, h24km, M3.4*

ISC 07 13:35:41.5±1.7, 26˚.45N±0˚.05×128˚.97E±0˚.04, h9km±10km, n26, σ1$33/34, mb3.7/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**0.73**	**302**	P	**Pg**	**13 35 55.7**	**+0.1**
JOW				S	**Sg**	**13 36 05.7**	**+0.6**
JNTH	**Nagotoyohara**	**0.85**	**275**	P	**Pb**	**13 35 58.7**	**+0.3**
JNTH				S	**Sg**	**13 36 08.7**	**-0.3**
JOKE	**Okinoerabujima**	**0.98**	**339**	P	**Pb**	**13 36 10.2**	**-0.4**
JOKE				S	**Sg**	**13 36 12.4**	**-0.7**
JIH	**Iheya**	**1.07**	**304**	P	**Pb**	**13 36 01.7**	**-0.5**
JIH				S	**Sb**	**13 36 15.3**	**-0.9**
JJT2	**Tamagusuku 2**	**1.14**	**255**	P	**Pb**	**13 36 02.8**	**-0.5**
JTK	**Tokunoshima**	**1.34**	**359**	P	**Pn**	**13 36 05.0**	**-1.3**
JTK				*e*S	**Sb**	**13 36 20.8**	**-3.1**
JAGN	**Aguni-jima**	**1.55**	**276**	P	**Pn**	**13 36 08.3**	**-0.9**
JAMN	**Amaminishikomi**	**1.80**	**6**	P	**Pn**	**13 36 12.8**	**+0.1**
JKE	**Kume jima 2**	**1.96**	**267**	P	**Pn**	**13 36 14.2**	**-0.7**
JAM	**Amami Oshima**	**2.04**	**16**	P	**Pn**	**13 36 16.1**	**+0.1**
JAM				*e*S	**Sn**	**13 36 40.0**	**-1.5**
JZK	**Kikaishima**	**2.07**	**25**	P	**Pn**	**13 36 17.2**	**+0.9**
JMZ	**Minamidaito 2**	**2.12**	**107**	P	**Pn**	**13 36 16.3**	**-0.8**
JMZ				S	**Sn**	**13 36 40.3**	**-3.2**
JOGS	**Gusukube**	**3.63**	**243**	P	**Pn**	**13 36 38.0**	**+0.2**
JOGS				*e*S	**Sn**	**13 37 19.4**	**-1.3**
JIKM	**Ikemajima**	**3.68**	**247**	*e*S	**Sn**	**13 37 20.8**	**-1.3**
JIRB	**Irabujima**	**3.78**	**246**	P	**Pn**	**13 36 39.6**	**-0.4**
JTJ	**Tarama**	**4.25**	**246**	P	**Pn**	**13 36 46.6**	**+0.2**
JISG	**Ishigakijimahi**	**4.60**	**247**	P	**Pn**	**13 36 49.8**	**-1.3**
JISG				*e*S	Sn	13 37 37.9	-6.7
JNU	**Nakatsue**	**6.86**	**14**	Pn	**Pn**	**13 37 24.2**	**+2.0**
	1.4nm,0.3s,baz=226,slow=3.1,SNR=32						
KSRS	**Korea Array**	**11.01**	**356**	Pn	**Pn**	**13 38 20.2**	**+1.1**
	0.1nm,0.3s,baz=170,slow=16,SNR=4.2						
SONM	**Songino Array**	**27.74**	**326**	P	**P**	**13 41 33.1**	**+2.7**
	0.7nm,0.4s,baz=113,slow=11,SNR=4.5						
MKAR	**Makanchi Array**	**41.89**	**312**	P	**P**	**13 43 31.7**	**-0.4**
	0.1nm,0.6s,baz=354,slow=1.4,SNR=3.1						
ZALV	**Zalesovo Beam**	**42.48**	**322**	P	**P**	**13 43 34.9**	**-1.8**
	0.5nm,0.4s,baz=116,slow=8.7,SNR=3.1						
WRA	**Warramunga Arr**	**46.41**	**173**	P	**P**	**13 44 09.5**	**+1.0**
	0.4nm,0.3s,baz=353,slow=8.7,SNR=7.4						
ILAR	**Eielson Array**	**63.94**	**28**	P	**P**	**13 46 14.8**	**+0.3**
	0.3nm,0.7s,baz=257,slow=5.5,SNR=7.4						
BRTR	**Keskin Array B**	**77.42**	**308**	P	**P**	**13 47 37.9**	**+0.5**
	0.6nm,0.6s,baz=81,slow=7.6,SNR=4.2						
YKA	**Yellowknife Ar**	**78.05**	**25**	P	**P**	**13 47 41.5**	**+1.3**
	0.5nm,0.7s,baz=302,slow=5.3,SNR=7.3						

MAN 07 13:37:25, 17˚.94N×120˚.44E, h21km, mb3.9, ML2.6, MS2.2, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIPP	**Brgy, Tapao**	**0.02**	**136**	⇓*i*P	Pb	13 37 29.3	+0.7
SIPP				*e*S	Sb	13 37 35.9	+4.7
ABRA	**Dolores**	**0.38**	**138**	*e*P	Pn	13 37 35.1	-0.2
ABRA				*e*S	Sn	13 37 42.4	+0.4
PIP	**Pasuquin**	**0.42**	**23**	⇓*i*P	Pb	13 37 32.4	-1.3
PIP				*i* S	Sb	13 37 37.9	-1.6
APYP	**Conner**	**0.76**	**95**	*e*P	Pb	13 37 36.3	-3.3
APYP				*e*S	Sb	13 37 44.5	-5.0
CAUP	**Cauayan**	**1.65**	**127**	*e*P	Pb	13 37 54.0	-0.7

IDC 07 13:38:50.5±2.0, 1˚.08N×126˚.59E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/41, mbtmp3.3/3, Error ellipse: s-maj=175.2km s-min=24.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.23**	**160**	P	P	13 43 47.7	-1.3
	0.6nm,0.6s,baz=339,slow=11,SNR=15						
ASAR	**Alice Springs**	**25.61**	**164**	P	P	13 44 22.6	+0.9
	0.3nm,0.3s,baz=347,slow=12,SNR=11						
MKAR	**Makanchi Array**	**59.65**	**326**	P	P	13 48 56.5	-0.1
	0.2nm,0.5s,baz=119,slow=6.7,SNR=4.2						

MEX 07 13:49:34.3±0.6, 16˚.46N×96˚.55W, h67km±12km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**0.64**	**344**	*e*P	Pn	13 49 47.5	-1.1
VHO				*i* S	Sn	13 49 56.9	-2.1
HUIG	**Huatulco**	**0.81**	**148**	*e*P	Pn	13 49 48.8	-1.5
HUIG				*i* S	Sn	13 50 00.3	-1.8
PNIG	**Pinotepa**	**1.51**	**268**	*e*P	Pn	13 49 57.2	-2.2
PNIG				*i* S	Sn	13 50 16.7	-1.7

*ISCJB **07** 14:14:53.4±2.3, 30˚.63S±0˚.08×72˚.1W±0˚.3, h54km±22km, mb4.0/2, Error ellipse: s-maj=38.9km s-min=12.0km az=9.7*

*NEIC **07** 14:14:58.0, 30˚.64S×71˚.42W, h57km, mb4.0/2, After GUC. NEIC Felt [II] at Monte Patria, Ovalle and Punitaqui.*

*GUC **07** 14:14:58.7±0.6, 30˚.64S×71˚.42W, h57km±11km, ML3.4*

ISC 07 14:14:54.8±2.1, 30˚.61S±0˚.06×72˚.1W±0˚.2, h43km±23km, n11, σ1$08/15, 1C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSCH	**La Serena**	**1.00**	**46**	⇑*i*P	**Pn**	**14 15 13.5**	**+1.0**
LSCH				*i* S	**Sn**	**14 15 24.7**	**-0.7**
LCO	**Las Campanas**	**1.99**	**37**	⇓*i*P	**Pn**	**14 15 27.4**	**+1.2**
LCO				*i* S	**Sn**	**14 15 49.4**	**-0.7**
LCO				AML	AML	14 15 51.0	
	comp=E,466nm,0.3s						
LCO	**Las Campanas**	**1.99**	**37**	*e*Pn	**Pn**	**14 15 25.9**	**-0.4**
LCO				*e*Sn	**Sn**	**14 15 48.6**	**-1.6**
VACH	**Vallenar**	**2.33**	**30**	*e*P	**Pn**	**14 15 32.6**	**+1.9**
VACH				*i* S	**Sn**	**14 15 58.6**	**+0.4**
ROCH	**El Roble**	**2.52**	**159**	*e*P	**Pn**	**14 15 33.6**	**+0.1**
ROCH				*e*S	**Sn**	**14 16 02.3**	**-0.8**
ROCH				AML	AML	14 16 14.2	
	comp=N,207nm,0.4s						
PEL	**Peldehue**	**2.79**	**155**	AML	AML	14 16 18.4	
	comp=E,321nm,0.3s						
LVC	**Limon Verde**	**8.45**	**20**	Pn	**Pn**	**14 16 54.2**	**-0.7**
PLCA	**Paso Flores**	**10.18**	**173**	Pn	**Pn**	**14 17 18.1**	**-0.2**
TRQA	**Tornquist**	**11.16**	**134**	Pn	**Pn**	**14 17 33.0**	**+1.1**
SNAA	**Sanae**	**54.73**	**159**	P	**P**	**14 24 18.9**	**-0.6**
	comp=E,2.4nm,1.3s						
QSPA	**South Pole Qui**	**59.61**	**180**	P	**P**	**14 24 54.7**	**+0.6**
	comp=E,1.6nm,1.2s						

*ISCJB **07** 14:16:48.7±0.3, 26˚.07N±0˚.07×124˚.48E±0˚.05, h206km±5km, mb3.5/14, Error ellipse: s-maj=12.7km s-min=4.6km az=147.1*

*IDC **07** 14:16:51.0±2.1, 26˚.13N×124˚.51E, h213km±20km, mb3.3/14, mb1 3.5/16, mb1mx3.3/54, mbtmp3.9/16, Error ellipse: s-maj=17.3km s-min=13.0km az=77.0*

*JMA **07** 14:16:50.3±0.2, 26˚.09N×124˚.44E, h194km, M4.0*

ISC 07 14:16:49.9±0.7, 26˚.05N±0˚.08×124˚.53E±0˚.06, h206km±7km, n37, σ1$32/57, mb3.6/14, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKM	**Ikemajima**	**1.30**	**150**	P	**Pn**	**14 17 23.2**	**+0.6**
JIKM				S	**S**	**14 17 47.6**	**0.0**
JIRB	**Irabujima**	**1.35**	**154**	P	**Pn**	**14 17 23.2**	**+0.2**
JIRB				S	**S**	**14 17 47.4**	**-1.0**
JMJ	**Miyako jima 2**	**1.41**	**151**	P	**Pn**	**14 17 24.2**	**+0.7**
JMJ				S	**S**	**14 17 48.9**	**-0.4**
JTJ	**Tarama**	**1.42**	**174**	P	**Pn**	**14 17 23.6**	**+0.1**
JTJ				S	**S**	**14 17 48.1**	**-1.2**
JISG	**Ishigakijimahi**	**1.47**	**188**	P	**P

az=175.9
*NEIC **07** 14:20:22.5, 57˚.34N×150˚.19W, h31km, ML3.4(AEIC), After AEIC.*
ISC 07 14:20:22.7±1.1, 57˚.36N±0˚.08×150˚.22W±0˚.05, h35km, n91, σ0s71/97, mb3.8/3, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**1.34**	**290**	P	**Pn**	**14 20 44.1**	**-0.8**
KDAK				S	**Sn**	**14 20 60.0**	**-1.6**
OHAK	**Old Harbor**	**1.67**	**267**	P	**Pn**	**14 20 47.8**	**-1.6**
HOM	**Homer**	**2.43**	**343**	P	**Pn**	**14 21 00.1**	**+0.2**
HOM				S	**Sn**	**14 21 29.2**	**+1.0**
BRLK	**Bradley Lake**	**2.44**	**352**	P	**Pn**	**14 20 59.4**	**-0.7**
AUI	**Augustine Isla**	**2.61**	**321**	P	**Pn**	**14 21 02.6**	**+0.3**
AUI				S	**Sn**	**14 21 33.8**	**+1.1**
AUP	**Augustine Pinn**	**2.63**	**321**	P	**Pn**	**14 21 03.2**	**+0.6**
KABR	**Katmai Barrier**	**2.66**	**289**	P	**Pn**	**14 21 03.1**	**-0.1**
KAKN	**Katmai Knife C**	**2.76**	**292**	P	**Pn**	**14 21 04.5**	**0.0**
KAKN				S	**Sn**	**14 21 35.3**	**-1.2**
SEW	**Seward**	**2.78**	**8**	P	**Pn**	**14 21 03.8**	**-0.9**
OPT	**Oil Point**	**2.79**	**327**	P	**Pn**	**14 21 05.1**	**+0.2**
KCE	**Katmai Mt Cerb**	**2.80**	**291**	P	**Pn**	**14 21 05.6**	**+0.6**
MCNL	**McNeil River**	**2.85**	**312**	P	**Pn**	**14 21 05.8**	**+0.1**
KVTA	**Katmai Vly 10**	**2.90**	**292**	P	**Pn**	**14 21 06.9**	**+0.5**
MID	**Middleton Isla**	**2.91**	**43**	P	**Pn**	**14 21 05.8**	**-0.7**
MID				S	**Sn**	**14 21 38.8**	**-1.4**
ILW	**Iliamna West**	**3.11**	**332**	P	**Pn**	**14 21 09.9**	**+0.5**
KELA	**Mount Kelaz**	**3.14**	**293**	P	**Pn**	**14 21 09.8**	**+0.1**
SLKM	**Skilak Lake**	**3.16**	**360**	P	**Pn**	**14 21 09.2**	**-0.8**
PLK4	**Peulik 4**	**3.33**	**277**	P	**Pn**	**14 21 12.3**	**0.0**
RSO	**Redoubt South**	**3.38**	**338**	*e*Pn	**Pn**	**14 21 12.5**	**-0.6**
RSO				*e*Sn	**Sn**	**14 21 51.8**	**-0.2**
RDWB	**Redoubt West**	**3.42**	**338**	P	**Pn**	**14 21 12.8**	**-0.8**
PTE	**Portage**	**3.57**	**9**	P	**Pn**	**14 21 15.2**	**-0.3**
RC01	**Rabbit Creek A**	**3.75**	**4**	P	**Pn**	**14 21 17.6**	**-0.4**
FIB	**Fire Island**	**3.82**	**0**	P	**Pn**	**14 21 18.8**	**-0.2**
GLI	**Glacier Island**	**3.88**	**23**	P	**Pn**	**14 21 19.1**	**-0.7**
EYAK	**Cordova Ski Ar**	**3.95**	**34**	P	**Pn**	**14 21 20.5**	**-0.2**
CKL	**Chakachamna La**	**4.00**	**345**	P	**Pn**	**14 21 21.5**	**-0.1**
SUA	**Susitna One**	**4.13**	**356**	P	**Pn**	**14 21 22.5**	**-0.9**
JPK	**Jack Peak**	**4.15**	**25**	P	**Pn**	**14 21 23.4**	**-0.2**
RAGM	**Ragged Mountai**	**4.15**	**41**	P	**Pn**	**14 21 23.9**	**-0.1**
STLK	**Strandline Lak**	**4.24**	**349**	P	**Pn**	**14 21 24.6**	**-0.2**
VLZ	**Valdez**	**4.28**	**26**	P	**Pn**	**14 21 25.5**	**+0.2**
PMR	**Palmer**	**4.29**	**7**	P	**Pn**	**14 21 25.0**	**-0.3**
GOAT	**Goat Mountain**	**4.30**	**39**	P	**Pn**	**14 21 25.9**	**+0.2**
SUCK	**Suckling Hills**	**4.32**	**48**	P	**Pn**	**14 21 26.1**	**+0.3**
NICHA	**Nichawak Mount**	**4.35**	**46**	P	**Pn**	**14 21 26.5**	**+0.3**
DIV	**Divide**	**4.42**	**29**	P	**Pn**	**14 21 27.3**	**0.0**
BERG	**Berg Lake**	**4.55**	**45**	P	**Pn**	**14 21 28.9**	**-0.1**
GRIN	**Grindle Hills**	**4.63**	**48**	P	**Pn**	**14 21 30.6**	**+0.5**
BMRM	**Bremner River**	**4.63**	**36**	P	**Pn**	**14 21 30.3**	**+0.1**
SVW2	**Sparrevohn**	**4.65**	**326**	P	**Pn**	**14 21 29.7**	**-0.8**
KLU	**Klutina**	**4.69**	**26**	P	**Pn**	**14 21 31.0**	**0.0**
SCM	**Sheep Creek Mo**	**4.72**	**17**	P	**Pn**	**14 21 31.8**	**+0.4**
KHIT	**Khitrov Hills**	**4.76**	**46**	P	**Pn**	**14 21 31.9**	**0.0**
KULT	**Kultieth River**	**4.86**	**50**	P	**Pn**	**14 21 33.5**	**+0.2**
BARK	**Barkley Ridge**	**5.04**	**49**	P	**Pn**	**14 21 36.1**	**+0.3**
MESA	**MESA**	**5.10**	**53**	P	**Pn**	**14 21 37.3**	**-0.1**
VRDI	**Verde Repeater**	**5.20**	**39**	P	**Pn**	**14 21 38.2**	**0.0**
ISLE	**Juniper Island**	**5.21**	**48**	P	**Pn**	**14 21 38.4**	**+0.2**
GLB	**Gilahina Butte**	**5.24**	**36**	P	**Pn**	**14 21 39.0**	**+0.5**
BAGL	**Bagley Icefiel**	**5.25**	**50**	P	**Pn**	**14 21 38.9**	**+0.3**
PS11	**TAPS Pump St11**	**5.31**	**25**	P	**Pn**	**14 21 40.4**	**+1.0**
KIAG	**Kiagna River**	**5.40**	**45**	P	**Pn**	**14 21 40.9**	**+0.1**
MCARA	**McCarthy VSAT**	**5.46**	**39**	P	**Pn**	**14 21 41.8**	**+0.3**
CHX	**Chaix Hills**	**5.46**	**56**	P	**Pn**	**14 21 42.0**	**+0.4**
RKAV	**Rock Avalanche**	**5.47**	**54**	P	**Pn**	**14 21 42.3**	**+0.5**
WASW	**Wrangell South**	**5.51**	**31**	P	**Pn**	**14 21 42.8**	**+0.4**
GRNC	**Granite Creek**	**5.53**	**49**	P	**Pn**	**14 21 42.8**	**+0.2**
PTPK	**Patty Peak**	**5.53**	**43**	P	**Pn**	**14 21 42.9**	**+0.3**
TABL	**Table Mountain**	**5.63**	**53**	P	**Pn**	**14 21 44.4**	**+0.4**
PPLA	**Purkeypile** 7.9nm,0.6s	**5.64**	**351**	*e*Pn	**Pn**	**14 21 44.4**	**+0.2**
HARP	**HAARP**	**5.67**	**25**	P	**Pn**	**14 21 45.5**	**+1.1**
BARN	**Barnard Glacie**	**5.75**	**46**	P	**Pn**	**14 21 45.1**	**-0.6**
RND	**Reindeer**	**6.11**	**6**	P	**Pn**	**14 21 50.3**	**-0.1**
PAX	**Paxson**	**6.11**	**21**	P	**Pn**	**14 21 50.9**	**+0.5**
TRF	**Thorofare Moun**	**6.12**	**360**	P	**Pn**	**14 21 50.3**	**-0.3**
CAST	**Castle Rocks**	**6.15**	**352**	P	**Pn**	**14 21 51.1**	**+0.1**
KTH	**Kantishna Hill**	**6.23**	**357**	P	**Pn**	**14 21 52.1**	**+0.1**
TT01	**Tatalina**	**6.28**	**335**	P	**Pn**	**14 21 52.1**	**-0.6**
MCK	**McKinley**	**6.43**	**5**	P	**Pn**	**14 21 54.7**	**-0.1**
DOT	**Dot Lake** 8.1nm,0.5s	**7.00**	**23**	*e*Pn	**Pn**	**14 22 02.3**	**-0.4**
DOT				*e*Sn	**Sn**	**14 23 20.9**	**-0.1**
BCA3	**Beaver Creek A**	**7.10**	**33**	P	**Pn**	**14 22 04.0**	**0.0**
WRH	**Wood River Hil**	**7.21**	**7**	P	**Pn**	**14 22 06.0**	**+0.5**
PS08	**TAPS Pump Stn8**	**7.40**	**11**	P	**Pn**	**14 22 07.1**	**-0.9**
COB	**Clear Creek Bu**	**7.41**	**8**	P	**Pn**	**14 22 07.2**	**-1.0**
HYT	**Haines Junctio**	**7.41**	**57**	P	**Pn**	**14 22 08.8**	**+0.4**
ILAR	**Eielson Airray** 0.4nm,0.3s,baz=191,slow=13,SNR=18	**7.61**	**11**	Pn	**Pn**	**14 22 09.9**	**-1.0**
ILAR	1.2nm,0.3s,baz=191,slow=21,SNR=11			Sn	**Sn**	**14 23 32.9**	**-3.0**
ILB	**Eielson Airray**	**7.61**	**11**	P	**Pn**	**14 22 10.7**	**-0.3**
IL1	**Eielson Airray**	**7.61**	**11**	P	**Pn**	**14 22 10.8**	**-0.2**
COLA	**College** 4.4nm,0.6s	**7.63**	**8**	*e*Pn	**Pn**	**14 22 10.6**	**-0.6**
MDM	**Murphy Dome**	**7.69**	**6**	P	**Pn**	**14 22 12.5**	**+0.5**
SIT	**Sitka**	**8.09**	**86**	P	**Pn**	**14 22 15.4**	**-2.1**
SKAG	**Skagway**	**8.10**	**69**	P	**Pn**	**14 22 18.1**	**+0.5**
EGAK	**Eagle** 2.3nm,0.6s	**8.63**	**27**	*e*Pn	**Pn**	**14 22 24.6**	**-0.4**
BM3	**Burnt Mountain**	**10.42**	**12**	P	**Pn**	**14 22 48.1**	**-1.4**
DLBC	**Dease Lake** 0.6nm,0.3s,baz=210,slow=17,SNR=11	**10.79**	**76**	Pn	**Pn**	**14 22 55.5**	**+0.9**
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=268,slow=11,SNR=16	**18.40**	**59**	P	**Pn**	**14 24 35.6**	**+1.0**
ELK	**Elko** comp=Z,49nm,19.2s,baz=0.0,slow=34	**27.89**	**111**	LR	LR	14 35 56.1	
SEY	**Seymchan** 0.8nm,0.5s,baz=169,slow=10,SNR=3.8	**28.25**	**305**	P	**P**	**14 26 12.2**	**+0.2**
PETK	**Petropavlovsk-** 1.8nm,0.9s,baz=80,slow=13,SNR=6.8	**29.39**	**284**	P	**P**	**14 26 21.9**	**-0.3**
TXAR	**Lajitas Array** comp=Z,18nm,19.9s,baz=0.0,slow=32	**42.69**	**111**	LR	LR	14 43 13.3	
SONM	**Songino Array** 1.2nm,0.7s,baz=52,slow=8.8,SNR=5.3	**57.56**	**309**	P	**P**	**14 30 09.4**	**+0.9**

*ISN **07** 14:21:34.2±2.1, 36˚.54N×42˚.88E, h0km±8km, ML3.6*
*ISCJB **07** 14:21:35.5±1.2, 36˚.34N±0˚.03×42˚.86E±0˚.05, h7km±9km, Error ellipse: s-maj=6.7km s-min=4.7km az=158.9*
*ISK **07** 14:21:35.2, 36˚.39N×42˚.82E, h4km, ML3.6*
*CSEM **07** 14:21:36.1±0.2, 36˚.39N×42˚.88E, h2km, ML3.6, Error ellipse: s-maj=5.7km s-min=4.4km az=62.0*
*DDA **07** 14:21:36.1, 36˚.48N×42˚.69E, h7km, MD3.5*
ISC 07 14:21:34.8±1.5, 36˚.42N±0˚.03×42˚.77E±0˚.04, h0km±12km, n43, σ1s43/46, Iraq

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSL	**Mosul**	**0.28**	**95**	*e*PG	x	14 21 38.9	
MSL				*e*SG	x	14 21 42.0	
CUKT	**Cukurca**	**1.06**	**39**	*e*PG	**Pg**	**14 21 56.2**	**+1.1**
CUKT				*e*SG	**Sb**	**14 22 11.5**	**+0.8**
CUKT	**Cukurca**	**1.06**	**39**	*e*Pg	**Pg**	**14 21 56.3**	**+1.1**
CUKT				*e*Sg	**Sb**	**14 22 11.5**	**+0.8**
SIRN	**S˘–rnak**	**1.11**	**345**	*i* P	**Pn**	**14 21 57.0**	**-0.7**
SIRN				*i* S	**Sn**	**14 22 13.1**	**-0.6**
SIRN	**S˘–rnak**	**1.11**	**345**	*i* P	**Pn**	**14 21 57.0**	**-0.7**
SIRN				*i* S	**Sn**	**14 22 13.1**	**-0.6**
HAKT	**HAKKARI**	**1.36**	**33**	*i* P	**Pn**	**14 22 01.6**	**+0.3**
HAKT				*i* S	**Sn**	**14 22 20.7**	**+0.6**
HAKT	**HAKKARI**	**1.36**	**33**	*i* P	**Pn**	**14 22 01.6**	**+0.3**
HAKT				*i* S	**Sn**	**14 22 20.7**	**+0.6**
HKR	**Hakkari**	**1.39**	**34**	PN	**Pn**	**14 22 02.1**	**+0.5**
HKR	**Hakkari**	**1.39**	**34**	*i* Pn	**Pn**	**14 22 02.1**	**+0.5**
IKRK	**Kirkuk**	**1.63**	**128**	*e*Pn	x	14 22 05.0	
IKRK				*e*Sn	x	14 22 27.0	
MARD	**Mardin**	**1.83**	**300**	*i* P	**Pb**	**14 22 08.4**	**-0.7**
MARD				*i* S	**Sg**	**14 22 33.7**	**+0.2**
BEST	**Besiri**	**1.89**	**321**	*i* P	**Pb**	**14 22 09.9**	**-0.4**
BEST				*i* S	**Sg**	**14 22 35.1**	**-0.5**
GEVA	**Gevas**	**1.90**	**7**	*i* P	**Pg**	**14 22 11.3**	**+0.1**
GEVA	**Gevas**	**1.90**	**7**	*i* P	**Pg**	**14 22 11.3**	**+0.1**
TATV	**Tatvan**	**2.12**	**349**	*i* P	**Pg**	**14 22 15.3**	**-0.2**
TATV	**Tatvan**	**2.12**	**349**	*i* P	**Pg**	**14 22 15.3**	**-0.2**
MAZI	**Mazidag**	**2.13**	**300**	*e*PN	**Pb**	**14 22 12.5**	**-1.8**
MAZI	**Mazidag**	**2.13**	**300**	*e*Pn	**Pb**	**14 22 12.5**	**-1.8**
SVAN	**Silvan-Diyarba**	**2.13**	**325**	*e*PN	**Pb**	**14 22 14.2**	**-0.1**
TVAN	**Van**	**2.16**	**13**	*i* P	**Pn**	**14 22 12.4**	**+0.1**
TVAN	**Van**	**2.16**	**13**	*i* P	**Pn**	**14 22 12.4**	**+0.1**
DIY	**Diyarbakir**	**2.51**	**307**	*e*Pn	**Pb**	**14 22 20.6**	**-0.1**
DYBB	**Diyarbakir**	**2.60**	**307**	*e*PN	**Pb**	**14 22 20.6**	**-1.7**
BINT	**Bingol**	**3.04**	**324**	*e*Pn	**Pb**	**14 22 26.9**	**-3.0**
BNGB	**Bing˘ll**	**3.05**	**328**	*e*PN	**Pb**	**14 22 26.9**	**-3.1**
AGRB	**Hanur-Agry**	**3.15**	**3**	*e*PN	**Pn**	**14 22 27.7**	**+1.8**
AGRB	**Hanur-Agry**	**3.15**	**3**	*e*Pn	**Pn**	**14 22 27.7**	**+1.8**
URFA	**Urfa**	**3.32**	**289**	*e*PN	Pn	14 22 30.7	+2.6
URFA	**Urfa**	**3.32**	**289**	*e*Pn	Pn	14 22 30.7	+2.6
SVRC	**Sivrice-ELAZID**	**3.38**	**306**	*e*PN	**Pn**	**14 22 30.5**	**+1.5**
SVRC	**Sivrice-ELAZID**	**3.38**	**306**	*e*Pn	**Pn**	**14 22 30.5**	**+1.5**
BHD	**Baghdad**	**3.41**	**157**	*e*PN	x	14 22 29.4	
BHD				*e*SN	x	14 23 08.2	
BHD	**Baghdad** SNR=39	**3.41**	**157**	*e*Pn	**Pn**	**14 22 29.4**	**+0.2**
BHD	SNR=39			*e*Sn	**Sn**	**14 23 08.2**	**-2.2**
PTK	**Pertek**	**3.64**	**314**	*e*PN	**Pn**	**14 22 34.7**	**+2.1**
PTK	**Pertek**	**3.64**	**314**	*e*Pn	**Pn**	**14 22 34.7**	**+2.1**
EZM	**Erzurum**	**3.65**	**343**	*e*PN	**Pn**	**14 22 34.5**	**+1.8**
MALT	**Malatya**	**3.94**	**300**	*e*PN	**Pn**	**14 22 38.9**	**+2.3**
MALT	**Malatya**	**3.94**	**300**	*e*Pn	**Pn**	**14 22 38.9**	**+2.3**
RTB	**Rutbah**	**3.94**	**212**	*e*Pn	x	14 22 38.0	
RTB				*e*Sn	x	14 23 25.0	
RTB	**Rutbah** SNR=3.0	**3.94**	**212**	*e*Pn	**Pn**	**14 22 38.0**	**+1.4**
RTB	SNR=3.0			*e*Sn	**Sn**	**14 23 25.0**	**+1.4**
IBDR	**Badra**	**4.21**	**141**	*e*PN	x	14 22 40.9	
IBDR				*e*SN	x	14 23 27.4	
NSR	**Nassriya**	**6.08**	**152**	*e*PN	x	14 23 07.4	
NSR				*e*Sn	x	14 24 14.0	
NSR	**Nassriya** SNR=39	**6.08**	**152**	*e*Pn	**Pn**	**14 23 07.4**	**+1.4**
NSR	SNR=3.0			*e*Sn	**Sn**	**14 24 14.0**	**-2.3**

*ISCJB **07** 14:45:33.6±0.6, 5˚.54S±0˚.03×147˚.27E±0˚.04, h177km±5km, mb4.1/21, Error ellipse: s-maj=6.6km s-min=5.2km az=17.1*
*BJI **07** 14:45:33.1, 5˚.60S×147˚.37E, h177km, mb4.7/13, mB4.7/6*
*IDC **07** 14:45:34.9±0.8, 5˚.52S×147˚.07E, h178km±7km, mb3.7/12, mb1 4.0/14, mb1mx3.8/27, mbtmp4.3/14, MS3.4/2, Ms1 3.4/2, ms1mx2.9/20, Error ellipse: s-maj=16.1km s-min=8.6km az=104.0*
*NEIC **07** 14:45:34.8±1.2, 5˚.58S×147˚.28E, h182km±12km, mb4.3/9, Error ellipse: s-maj=11.5km s-min=10.2km az=122.0*
*DJA **07** 14:45:36.9±0.8, 6˚S±5˚×14˚7E±˚, h77km±32km, M5.3/8, mb5.2/8, mB5.6/5, MLv5.5/4, Mw(mB)5.1/5*
ISC 07 14:45:35.1±0.4, 5˚.61S±0˚.04×147˚.25E±0˚.06, h177km±3km, h177km:pP-P, n86, σ1s53/103, mb4.1/21, 1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island** baz=3.5,SNR=34	**3.54**	**2**	P	**Pn**	**14 46 30.6**	**+0.3**
PMG	**Port Moresby**	**3.78**	**181**	*e*Pn	**Pn**	**14 46 32.8**	**-0.5**
PMG				*e*Sn	**Sn**	**14 47 17.7**	**-1.1**
RABL	**Rabaul** baz=5.1,SNR=162	**5.10**	**74**	P	**Pn**	**14 46 50.3**	**+0.1**
JAY	**Jayapura** 137nm,1.0s,2µm0.7nm	**7.21**	**295**	P	**Pn**	**14 47 17.2**	**-0.9**
JAY	**Jayapura** 19nm,0.3s,baz=149,slow=7.1,SNR=87	**7.21**	**295**	P	**Pn**	**14 47 15.9**	**-2.2**
MMPI	**Merauke** 489nm,0.6s,1.8nm	**7.38**	**247**	P	**Pn**	**14 47 21.8**	**+1.6**
MMPI	489nm,0.6s,1.8nm			S	**Sn**	**14 48 43.4**	**+0.1**
GENI	**Genyem** 309nm,1.1s,3µm0.9nm	**7.67**	**293**	P	**Pn**	**14 47 21.9**	**-2.2**
COEN	**Coen** baz=9.3,SNR=87	**9.22**	**205**	P	**Pn**	**14 47 46.7**	**+2.2**
COEN	baz=9.3,SNR=4.6			S	**Sn**	**14 49 27.3**	**+0.1**
COEN	**Coen**	**9.22**	**205**	*e*Pn	**Pn**	**14 47 45.3**	**+0.8**
COEN				*e*Sn	**Sn**	**14 49 28.0**	**+0.7**
SMPI	**Sarmi** 81nm,1.2s	**9.24**	**293**	P	**Pn**	**14 47 42.4**	**-2.4**
SRPI	**Serui, Papua** 256nm,0.6s,4µm	**11.59**	**288**	P	**Pn**	**14 48 16.4**	**+1.0**
HNR	**Honiara**	**13.15**	**108**	*e*Pn	**Pn**	**14 48 35.0**	**-0.3**
RKPI	**Ransiki, Papua** 63nm,0.8s,12µm	**13.66**	**287**	P	**P**	**14 48 43.7**	**-1.0**
CTA	**Charters Tower** 4.8nm,0.3s,baz=358,slow=14,SNR=42	**14.43**	**184**	P	**P**	**14 48 53.9**	**+0.7**
CTAO	**Charters Tower**	**14.43**	**184**	Pn	**Pn**	**14 48 50.8**	**-0.5**
FAKI	**Fak Fak** baz=15,SNR=7.5	**15.19**	**280**	P	**Pn**	**14 48 58.8**	**-2.0**
FAKI	**Fak Fak** 71nm,1.4s	**15.19**	**280**	*e*Pn	**Pn**	**14 49 00.5**	**-0.3**
KDU	**Kakadu** baz=16,SNR=44	**16.19**	**243**	P	**P**	**14 49 11.8**	**-0.9**
KDU	baz=16,SNR=7.3			S	**S**	**14 52 08.1**	**-4.2**
QIS	**Mount Isa** baz=17,SNR=86	**16.61**	**206**	P	**Pn**	**14 49 19.0**	**+1.1**
WRAB	**Tennant Creek** 245nm,1.1s	**18.98**	**220**	*e*P	**P**	**14 49 43.7**	**+0.5**
WRA	**Warramunga Arr** 24nm,0.3s,baz=50,slow=12,SNR=460	**18.99**	**220**	P	**P**	**14 49 44.2**	**+0.8**
WRA	baz=40,slow=20,SNR=10			S	**S**	**14 53 08.4**	**-1.2**
EIDS	**Eidsvold** baz=20,SNR=11	**19.99**	**170**	P	**Pn**	**14 49 55.9**	**-2.0**
EIDS	**Eidsvold** 26nm,0.8s	**19.99**	**170**	*e*P	**P**	**14 49 54.3**	**+0.3**
KNRA	**Kununurra** baz=21,SNR=52	**20.72**	**240**	P	**P**	**14 50 01.3**	**-0.6**
KNRA	baz=21,SNR=7.2			S	**S**	**14 53 41.2**	**-2.4**
RMQ	**Roma** baz=21,SNR=14	**20.81**	**176**	P	**P**	**14 50 04.9**	**+2.1**
QLP	**Quilpie** baz=21,SNR=84	**21.06**	**188**	P	**P**	**14 50 06.5**	**+1.1**
AS31	**Alice Springs**	**22.08**	**214**	*e*P	**P**	**14 50 16.7**	**+0.7**
ASAR	**Alice Springs** 69nm,0.5s,baz=46,slow=8.4,SNR=2495	**22.08**	**214**	P	**P**	**14 50 16.8**	**+0.7**
ASAR	3.7nm,0.8s,baz=26,slow=17,SNR=4.0			S	**S**	**14 54 05.2**	**-1.6**
ASAR	comp=Z,120nm,18.6s,baz=40,slow=39			LR	LR	14 59 53.1	
SOEI	**Soe** baz=23,SNR=3.6	**23.14**	**258**	P	**P**	**14 50 34.4**	**+4.4**
ARMA	**Armidale** baz=25,SNR=34	**25.02**	**171**	P	**P**	**14 50 44.3**	**+1.3**
ARMA	**Armidale** 22nm,0.6s	**25.02**	**171**	*e*P	**P**	**14 50 42.2**	**-0.8**
WRKA	**Warakurna** baz=27,SNR=313	**26.52**	**221**	P	**P**	**14 50 56.4**	**0.0**
WRKA	baz=27,SNR=3.4			S	S	14 55 38.5	+21
STKA	**Stephens Creek** 4.2nm,0.7s,baz=6.6,slow=9.7,SNR=15	**26.67**	**191**	P	**P**	**14 50 58.0**	**+0.5**
STKA	**Stephens Creek** baz=27,SNR=12	**26.67**	**191**	P	**P**	**14 50 57.9**	**+0.3**
STKA	**Stephens Creek** 4.6nm,0.9s	**26.67**	**191**	*e*P	**P**	**14 50 57.2**	**-0.4**
BBOO	**Buckleboo** baz=29,SNR=13	**29.01**	**200**	P	**P**	**14 51 18.8**	**+0.4**
BBOO	**Buckleboo**	**29.01**	**200**	*e*P	**P**	**14 51 17.6**	**-0.8**
CNB	**Canberra Magne** baz=30,SNR=7.6	**29.63**	**176**	P	**P**	**14 51 25.0**	**+1.0**
FORT	**Forrest** baz=31,SNR=14	**30.86**	**213**	P	**P**	**14 51 35.4**	**+0.6**
FORT	**Forrest** 40nm,0.7s	**30.86**	**213**	*e*P	**P**	**14 51 33.3**	**-1.5**
MEEK	**Meekatharra** baz=34,SNR=47	**34.39**	**229**	P	**P**	**14 52 05.7**	**+0.1**
KMBL	**Kambalda** baz=35,SNR=10	**34.96**	**220**	P	**P**	**14 52 10.6**	**+0.2**
MORW	**Morawa** baz=38,SNR=20	**37.62**	**228**	P	**P**	**14 52 32.7**	**-0.2**
BLDU	**Ballidu** baz=38,SNR=18	**37.98**	**225**	P	**P**	**14 52 35.9**	**-0.1**
RKGY	**Rocky Gully** baz=40,SNR=5.8	**40.19**	**220**	P	**P**	**14 52 55.3**	**+1.0**
URZ	**Urewera** 5.9nm,0.5s,baz=269,slow=6.1,SNR=11	**42.33**	**144**	P	**P**	**14 53 12.6**	**+1.0**
MJAR	**Matsushiro Arr**	**42.77**	**349**	P	**P**	**14 53 14.0**	**-1.2**
	1.2nm,0.7s,baz=176,slow=8.5,SNR=4.0						
NJ2	**Nanjing**	**46.19**	**326**	*e*P	**P**	**14 53 42.1**	**-0.2**
NJ2	20nm,0.6s			PMZ			
KSRS	**Korea Array** 0.8nm,0.7s,baz=134,slow=10,SNR=3.5	**46.48**	**339**	P	**P**	**14 53 44.2**	**-0.2**
KSRS	0.6nm,0.3s,baz=157,slow=9.0,SNR=3.5			pP	**pP**	**14 54 23.1**	**-0.4**
WHN	**Wuhan**	**47.79**	**321**	P	**P**	**14 53 55.0**	**+0.3**
CMAR	**Chiang Mai Arr** 0.5nm,0.8s,baz=109,slow=6.8,SNR=4.6	**53.28**	**298**	P	**P**	**14 54 37.5**	**+1.3**
CMAR	1.7nm,0.9s,baz=114,slow=6.0,SNR=4.7			pP	**pP**	**14 55 13.8**	**-2.4**
CD2	**Chengdu**	**55.18**	**314**	*e*P	**P**	**14 54 50.9**	**+1.2**
CD2	10.0nm,0.7s			PMZ			
HHC	**Hu-ho-hao-te**	**56.63**	**328**	*e*P	**P**	**14 55 00.3**	**+0.4**
HHC				sP	**sP**	**14 55 58.4**	**-1.4**
HHC				S	S	15 02 30.6	-7.6
HHC				SS	**SS**	**15 06 28.0**	**-0.9**
HHC	19nm,1.1s			PMZ			
HHC	99nm,4.1s			PMZ			
LZH	**Lanzhou**	**58.08**	**319**	*e*P	**P**	**14 55 11.8**	**+1.7**
LZH				pP	**pP**	**14 55 51.3**	**+0.4**
LZH				sP	**sP**	**14 56 10.5**	**+0.2**
LZH				*e*PP	**PP**	**14 57 25.0**	**+4.1**
LZH	21nm,1.2s			PMZ			
LZH	75nm,8.1s			PMZ			
LZH	260nm,15.3s			LN			
LZH	250nm,15.6s			LE			
LZH	300nm,18.7s			LZ			
PETK	**Petropavlovsk-** 5.1nm,0.9s,baz=147,slow=6.5,SNR=5.5	**59.16**	**7**	P	**P**	**14 55 16.9**	**-0.1**
GTA	**Gaotai**	**62.60**	**320**	⇓P	**P**	**14 55 42.1**	**+1.4**
GTA				pP	**pP**	**14 56 23.4**	**+1.3**
GTA				sP	**sP**	**14 56 42.4**	**+1.1**
GTA	5.0nm,1.4s			PMZ			
SONM	**Songino Array** 1.2nm,0.8s,baz=20,slow=4.7,SNR=3.7	**64.18**	**331**	P	**P**	**14 55 49.9**	**-1.0**
TAPN	**Taplejung** 19nm,0.9s	**66.14**	**303**	*e*P	pP	14 56 44.6	-1.4
ODAN	**Odare** 16nm,0.9s	**66.24**	**302**	*e*P	pP	14 56 46.2	-0.4
RAMN	**Ramite** 8.3nm,0.9s	**66.94**	**302**	*e*P	pP	14 56 50.1	-1.0
JIRN	**Jiri** 18nm,1.2s	**67.52**	**303**	*e*P	pP	14 56 53.3	-1.6
GUN	**Gumba** 23nm,0.9s	**67.86**	**303**	*e*P	pP	14 56 55.2	-1.9
KKN	**Kakani** 17nm,0.8s	**68.32**	**303**	*e*P	pP	14 56 57.5	-2.4
DMN	**Daman** 29nm,1.0s	**68.41**	**302**	*e*P	pP	14 56 58.8	-1.7
KOLN	**Koldanda** 17nm,0.8s	**69.73**	**302**	*e*P	pP	14 57 06.8	-1.9
VNDA	**Vanda** 1.4nm,0.8s,baz=339,slow=7.0,SNR=9.5	**72.29**	**177**	P	**P**	**14 56 41.1**	**+0.5**
WMQ	**Urumqi**	**72.66**	**319**	*e*P	**P**	**14 56 44.4**	**+0.8**
WMQ				pP	**pP**	**14 57 26.6**	**+0.5**
WMQ				sP	**sP**	**14 57 45.5**	**+0.5**
WMQ	10.0nm,0.5s			PMZ			
WMQ	100nm,4.8s			PMZ			
WMQ	38nm,21.0s			LN			
WMQ	42nm,22.2s			LE			
WMQ	11nm,19.8s			LZ			
MK31	**Makanchi Array**	**77.35**	**320**	*e*P	**P**	**14 57 09.2**	**-1.1**
MKAR	**Makanchi Array** 1.3nm,0.9s,baz=151,slow=2.8,SNR=11	**77.35**	**320**	P	**P**	**14 57 09.3**	**-1.0**
MKAR	1.7nm,0.9s,baz=116,slow=3.4,SNR=3.6			pP	**pP**	**14 57 51.1**	**-2.3**
MKAR	comp=Z,17nm,21.6s,baz=166,slow=34			LR	LR	15 29 47.1	
MKAR	**Makanchi Array**	**77.35**	**320**	*e*P	**P**	**14 57 10.3**	**-0.1**
ZALV	**Zalesovo Beam** 1.5nm,0.7s,baz=91,slow=6.0,SNR=8.0	**78.81**	**328**	P	**P**	**14 57 16.2**	**-1.9**
KSH	**Kashi**	**79.30**	**312**	*e*P	**P**	**14 57 23.1**	**+1.8**
KSH				sP	**sP**	**14 58 24.7**	**+1.4**
KSH				PP	**PP**	**15 00 27.6**	**+3.8**
KSH				S	**S**	**15 07 08.4**	**+1.2**
KSH				sS	**sS**	**15 08 23.7**	**+1.3**
KSH	29nm,3.2s			PMZ			
KSH	100nm,5.0s			LN			
KSH	74nm,4.6s			LE			
KSH	140

EKS	**Erkin-Say**	**1.16**	**20**	⇓*i*P	**Pb**	**15 14 57.0**	**-0.7**
	baz=21							
EKS				⇓*e*S	**Sb**	**15 15 11.8**	**-1.3**
	baz=21							
AAK	**Ala-Archa**	**1.40**	**41**	⇑P	**Pb**	**15 15 01.6**	**-0.4**
	17nm,0.5s							
AAK				⇑S	**Sb**	**15 15 20.0**	**-0.4**
	61nm,0.6s							
AAK	**Ala-Archa**	**1.40**	**41**	⇓P	**Pb**	**15 15 01.8**	**-0.2**
	27nm,0.2s,SNR=53							
AAK				⇑S	**Sg**	**15 15 20.7**	**+0.5**
	68nm,0.2s							
AAK	**Ala-Archa**	**1.40**	**41**	⇑*i*P	**Pb**	**15 15 01.6**	**-0.4**
	baz=41							
AAK				⇑*i*S	**Sb**	**15 15 19.9**	**-0.4**
	baz=41							
KZA	**Kyzart**	**1.58**	**71**	⇓P	**Pb**	**15 15 05.3**	**+0.1**
	25nm,0.2s,SNR=58							
KZA	**Kyzart**	**1.58**	**71**	⇑*i*P	**Pb**	**15 15 05.2**	**+0.1**
	baz=71							
KZA				⇑*i*S	**Sg**	**15 15 26.8**	**+0.9**
	baz=71							
SFK	**Sufi-Kurgan**	**1.58**	**173**	⇓P	**Pb**	**15 15 04.7**	**-0.4**
	11nm,0.3s							
SFK				⇑S	**Sg**	**15 15 26.6**	**+0.6**
FRU	**Bishkek**	**1.61**	**39**	⇓*i*P	**Pn**	**15 15 04.0**	**-0.4**
	baz=39							
FRU				⇓*e*S	**Sb**	**15 15 26.0**	**-0.2**
	baz=39							
CHVK	**Chauvay**	**1.65**	**208**	*e*P	**Pb**	**15 15 05.2**	**-0.9**
	baz=209							
CHVK				*e*S	**Sb**	**15 15 27.2**	**-0.1**
	baz=209							
KBK	**Karagaybulak**	**1.66**	**49**	⇓P	**Pg**	**15 15 06.8**	**-0.1**
	26nm,0.1s,SNR=30							
KBK	**Karagaybulak**	**1.66**	**49**	⇑*i*P	**Pb**	**15 15 06.6**	**+0.2**
	baz=49							
KBK				⇑*i*S	**Sg**	**15 15 29.2**	**+0.7**
	baz=49							
CHMS	**Chumysh**	**1.80**	**38**	⇓P	**Pb**	**15 15 08.9**	**+0.2**
	24nm,0.1s,SNR=18							
CHMS	**Chumysh**	**1.80**	**38**	⇓*i*P	**Pb**	**15 15 08.9**	**+0.2**
	baz=38							
CHMS				⇓*i*S	**Sg**	**15 15 32.8**	**-0.2**
	baz=38							
USP	**Ospenovka**	**1.92**	**29**	⇑P	**Pb**	**15 15 10.5**	**-0.3**
	28nm,0.2s,SNR=46							
USP	**Ospenovka**	**1.92**	**29**	⇑*i*P	**Pb**	**15 15 10.3**	**-0.5**
	baz=29							
USP				⇑*i*S	**Sg**	**15 15 35.8**	**-1.0**
	baz=29							
NRN	**Naryn**	**2.08**	**93**	⇓*i*P	**Pg**	**15 15 14.6**	**-0.3**
	baz=93							
NRN				⇓*e*S	**Sg**	**15 15 43.0**	**+1.1**
	baz=93							
TKM2	**Tokmak 2**	**2.20**	**52**	⇑Pg	**Pb**	**15 15 14.9**	**-0.6**
	21nm,0.3s							
TKM2				⇓Lg	Lg	15 15 45.1		
TKM2	**Tokmak 2**	**2.20**	**52**	⇓P	**Pb**	**15 15 15.2**	**-0.4**
	18nm,0.2s,SNR=44							
TKM2	**Tokmak 2**	**2.20**	**52**	⇑*i*P	**Pb**	**15 15 15.0**	**-0.6**
	baz=52							
TKM2				⇑*i*S	**Sb**	**15 15 44.2**	**+0.9**
	baz=52							
BOOM	**Boomskoye usch**	**2.21**	**65**	*e*P	**Pb**	**15 15 15.6**	**-0.1**
	baz=65							
BOOM				*e*S	**Sg**	**15 15 46.0**	**+0.1**
	baz=65							
ULHL	**Ulahol**	**2.34**	**73**	⇓P	**Pb**	**15 15 17.8**	**-0.1**
	5.7nm,0.2s,SNR=21							
ULHL	**Ulahol**	**2.34**	**73**	⇑*i*P	**Pb**	**15 15 17.6**	**-0.3**
	baz=72							
ULHL				⇑*i*S	**Sg**	**15 15 49.0**	**-1.1**
	baz=72							
BTK	**Batken**	**2.39**	**231**	*e*P	**Pb**	**15 15 19.0**	**+0.3**
	baz=231							
BTK				*e*S	**Sg**	**15 15 51.0**	**-0.8**
	baz=231							
KK31	**Karatay Array**	**2.53**	**308**	Pn	**Pn**	**15 15 17.7**	**+0.7**
	2.3nm,0.3s,baz=130,slow=13,SNR=120							
KK31				Lg	Lg	15 15 52.7		
	24nm,0.4s,baz=127,slow=28,SNR=12							
KDJ	**Kajisay**	**2.99**	**78**	*e*P	**Pb**	**15 15 27.6**	**-1.5**
	baz=78							
KDJ				*e*S	**Sb**	**15 16 08.6**	**+2.5**
	baz=78							
DZET	**Dzherino**	**4.37**	**232**	⇓Pn	**Pn**	**15 15 44.1**	**+1.6**
	2.4nm,0.4s							
DZET				⇑Sn	**Sn**	**15 16 34.7**	**+0.8**
	18nm,0.6s							

GUC 07 16:01:41.4±0.3, 33°89S×70°33W, h115km±1km, ML3.6, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJCH	**San Jose de Ma**	**0.25**	**355**	*e*P	Pn	16 01 57.2	-0.6
SJCH				*e*S	Sn	16 02 09.6	-0.4
CHCH	**Chadas Angostu**	**0.27**	**261**	*e*P	Pn	16 01 57.9	+0.1
CHCH				*e*S	Sn	16 02 10.5	+0.4
PCH	**Pirque**	**0.31**	**330**	*e*P	Pn	16 01 58.2	+0.2
PCH				*e*S	Sn	16 02 10.9	+0.5
CACH	**El Canelo**	**0.32**	**225**	*e*P	Pn	16 01 58.4	+0.4
CACH				*e*S	Sn	16 02 11.4	+0.9
SAN	**Santiago**	**0.52**	**328**	*e*P	Pn	16 01 59.1	+0.1
SAN				*e*S	Sn	16 02 12.3	+0.1
CLCH	**Cerro Calan**	**0.53**	**341**	*e*P	Pn	16 01 59.3	+0.2
CLCH				*e*S	Sn	16 02 12.9	+0.5
CLCH				AML	AML	16 02 14.6	
	comp=E,2μm,0.2s						
STL	**Santa Lucia**	**0.53**	**330**	*e*P	Pn	16 01 58.2	-0.8
STL				*e*S	Sn	16 02 11.5	-0.8
RCDM	**Rinconada Maip**	**0.57**	**315**	*e*P	Pn	16 01 59.5	+0.2
RCDM				*e*S	Sn	16 02 13.3	+0.5
PEL	**Peldehue**	**0.81**	**338**	*e*P	Pn	16 02 01.4	+0.2
PEL				*e*S	Sn	16 02 16.7	+0.5
PEL				AML	AML	16 02 17.5	
	comp=N,3μm,1.5s						
LNV	**Longovilo**	**0.90**	**266**	*e*P	Pn	16 02 02.1	+0.1
LNV				*e*S	Sn	16 02 17.9	+0.3

*IDC **07** 16:09:48.6±0.9, 29°.07N×51°.30E, h0km, mb3.8/17, mb1 3.9/20, mb1mx3.8/38, mbtmp3.7/20, ML3.3/3, MS3.2/2, Ms1 3.2/2, ms1mx2.3/37, Error ellipse: s-maj=21.7km s-min=16.5km az=3.0*

*ISCJB **07** 16:09:50.2±0.4, 29°.13N±0°.04×51°.17E±0°.05, h17km, mb3.7/19, MS3.1/2, Error ellipse: s-maj=7.3km s-min=4.7km az=147.3*

*THR **07** 16:09:51.5±0.3, 29°.24N×51°.27E, h15km, ML3.7*

*CSEM **07** 16:09:51.5±0.3, 29°.19N×51°.30E, h2km, ML3.6, Ms3.7, Error ellipse: s-maj=10.0km s-min=4.5km az=66.0*

*TEH **07** 16:09:54.1, 29°.33N×51°.33E, h5km, ML3.6*

*DSN **07** 16:09:59.5±13.0, 29°.05N×51°.95E, h15km, mb3.5/7, ML4.6/4, Ms3.7/2, Error ellipse: s-maj=8.4km s-min=4.4km az=15.0*

ISC 07 16:09:51.9±0.6, 29°.20N±0°.05×51°.30E±0°.06, h17km, n76, σ1°50/75, mb3.7/19, 4C-2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAZ	**Kazeroun**	**0.75**	**39**	*e*	**Sn**	**16 10 19.7**	**+0.5**
	comp=Z,58μm,0.3s						
IKAZ				*e*Pg	**Pb**	**16 10 04.5**	**-2.2**
IKAZ	**Kazeroun**	**0.75**	**39**	*e*Pg	**Pb**	**16 10 04.5**	**-2.2**
SHI	**Shiraz**	**1.15**	**67**	*e*Pg	**Pg**	**16 10 13.8**	**-0.4**
SHI				*e*		16 10 19.0	
	comp=Z,14μm,0.2s						
SHI	**Shiraz**	**1.15**	**67**	*e*Pg	**Pg**	**16 10 13.8**	**-0.4**
IPAR	**Pars**	**1.66**	**67**	*e*Pn	**Pb**	**16 10 22.4**	**+0.2**
IPAR				*e*		16 10 53.7	
	comp=Z,8μm,0.4s						
IPAR	**Pars**	**1.66**	**67**	*e*Pn	**Pb**	**16 10 22.4**	**+0.2**
GHIR	**Ghir-Karzin**	**1.74**	**121**	*e*Pg	**Pb**	**16 10 24.1**	**+0.6**
GHIR				AML	AML	16 10 54.7	
	comp=E,2μm,0.7s						
GHIR				AML	AML	16 11 02.5	
	comp=N,2μm,0.7s						
GHIR	**Ghir-Karzin**	**1.74**	**121**	*e*Pg	**Pb**	**16 10 24.1**	**+0.6**
	comp=N,2μm,0.7s						
ISAD	**Sadrabad**	**3.40**	**37**	*e*Pn	**Pn**	**16 10 46.8**	**+2.3**
ISAD				*e*		16 11 52.7	
	comp=Z,2μm,0.4s						
ISAD	**Sadrabad**	**3.40**	**37**	*e*Pn	**Pn**	**16 10 46.8**	**+2.3**
IPIR	**Pirpir**	**3.49**	**354**	*e*Pn	**Pn**	**16 10 46.5**	**+0.7**
IPIR				*e*		16 11 30.6	
	comp=Z,822nm,0.2s						
IPIR	**Pirpir**	**3.49**	**354**	*e*Pn	**Pn**	**16 10 46.5**	**+0.7**
IMEH	**Mehriz**	**3.60**	**52**	*e*Pn	Pn	16 10 50.7	+3.4
IMEH				*e*		16 11 00.4	
	comp=Z,1μm,0.3s						
IMEH	**Mehriz**	**3.60**	**52**	*e*Pn	Pn	16 10 50.7	+3.4
IZEF	**Zefreh**	**3.79**	**13**	*e*Pn	**Pn**	**16 10 51.5**	**+1.6**
IZEF				*e*Sn	**Sn**	**16 11 33.1**	**-1.1**
IZEF				*e*		16 11 40.0	
	comp=Z,400nm,0.3s						
IZEF	**Zefreh**	**3.79**	**13**	*e*Pn	**Pn**	**16 10 51.4**	**+1.6**
NASN	**Na'in**	**3.82**	**19**	*e*Pn	**Pn**	**16 10 51.7**	**+1.4**
NASN				AML	AML	16 11 39.9	
	comp=E,48nm,0.9s						
NASN	**Na'in**	**3.82**	**19**	*e*Pn	**Pn**	**16 10 51.7**	**+1.4**
	comp=E,48nm,0.9s						
ICHK	**Chekchek**	**4.05**	**41**	*e*Pn	**Pn**	**16 10 54.9**	**+1.5**
ICHK				*e*		16 11 25.1	
	comp=Z,758nm,0.3s						
ICHK	**Chekchek**	**4.05**	**41**	*e*Pn	**Pn**	**16 10 54.8**	**+1.5**
IKLH	**Kolahrood**	**4.12**	**3**	*e*Pn	**Pn**	**16 10 56.5**	**+2.1**
IKLH				*e*		16 11 00.7	
	comp=Z,704nm,0.1s						
IKLH	**Kolahrood**	**4.12**	**3**	*e*Pn	**Pn**	**16 10 56.4**	**+2.1**
IBAF	**Bafgh**	**4.39**	**56**	*e*	**Pg**	**16 11 17.9**	**+1.8**
	comp=Z,726nm,0.2s						
QAM	**Ghamsar**	**4.55**	**1**	*e*			
	comp=Z,1μm,0.1s						
QAM				*e*Pn	**Pn**	**16 11 01.3**	**+1.1**
KRBR	**Kerman**	**4.82**	**79**	*e*Pn	**Pn**	**16 11 06.3**	**+2.3**
KRBR				AML	AML	16 12 14.2	
	comp=E,54nm,0.9s						
KRBR	**Kerman**	**4.82**	**79**	*e*Pn	**Pn**	**16 11 06.3**	**+2.3**
	comp=E,54nm,0.9s						
GHVR	**GHOM**	**5.27**	**360**	*e*Pn	**Pn**	**16 11 11.5**	**+1.5**
GHVR				AML	AML	16 12 16.2	
	comp=N,70nm,0.5s						
GHVR				AML	AML	16 12 16.9	
	comp=E,26nm,1.0s						
GHVR	**GHOM**	**5.27**	**360**	*e*Pn	**Pn**	**16 11 11.5**	**+1.5**
	comp=E,26nm,1.0s						
ASAO	**Ashtian**	**5.44**	**349**	*e*Pn	**Pn**	**16 11 13.9**	**+1.4**
ASAO	**Ashtian**	**5.44**	**349**	*e*Pn	**Pn**	**16 11 13.9**	**+1.4**
BANOM	**Banah**	**5.51**	**125**	P	**Pn**	**16 11 13.6**	**+0.4**
	SNR=17						
BANOM	**Banah**	**5.51**	**125**	⇑*i*P	**Pn**	**16 11 13.6**	**+0.4**
	SNR=17						
BANOM				⇓S	**Sn**	**16 12 11.7**	**-4.5**
NAZ	**Nazwa, Dubai**	**5.72**	**136**	P	**Pn**	**16 11 17.2**	**+1.1**
NAZ	**Nazwa, Dubai**	**5.72**	**136**	⇑P	**Pn**	**16 11 17.2**	**+1.1**
ASUD	**Al Ashush, Dub**	**5.80**	**141**	P	**Pn**	**16 11 19.0**	**+1.7**
	SNR=38						
ASUD	**Al Ashush, Dub**	**5.80**	**141**	⇑*i*P	**Pn**	**16 11 19.0**	**+1.7**
	SNR=38						
FAQ	**Al Faqa, Dubai**	**5.86**	**138**	P	**Pn**	**16 11 19.9**	**+1.9**
FAQ	**Al Faqa, Dubai**	**5.86**	**138**	⇑P	**Pn**	**16 11 19.9**	**+1.9**
IKOM	**Komasi**	**5.92**	**328**	*e*Pn	**Pn**	**16 11 20.4**	**+1.4**
IKOM				*e*		16 12 31.8	
	comp=Z,372nm,0.2s						
IKOM	**Komasi**	**5.92**	**328**	*e*Pn	**Pn**	**16 11 20.4**	**+1.4**
HATD	**Hatta, Dubai**	**6.13**	**134**	P	**Pn**	**16 11 23.0**	**+1.3**
HATD	**Hatta, Dubai**	**6.13**	**134**	⇓P	**Pn**	**16 11 23.0**	**+1.3**
ASHO	**Ashiyiah**	**6.18**	**136**	P	**Pn**	**16 11 23.4**	**+0.9**
	SNR=12						
ASHO	**Ashiyiah**	**6.18**	**136**	*i* P	**Pn**	**16 11 23.4**	**+0.9**
	SNR=12						
IDMV	**Damavand**	**6.39**	**5**	*e*Pn	**Pn**	**16 11 27.0**	**+1.4**
IDMV				*e*		16 12 43.0	
	comp=Z,187nm,0.2s						
IDMV	**Damavand**	**6.39**	**5**	*e*Pn	**Pn**	**16 11 27.0**	**+1.4**
IFIR	**Firoozkooh**	**6.54**	**10**	*e*Pn	**Pn**	**16 11 28.5**	**+0.8**
IFIR				*e*		16 12 49.4	
	comp=N,172nm,0.4s						
IFIR	**Firoozkooh**	**6.54**	**10**	*e*Pn	**Pn**	**16 11 28.5**	**+0.8**
IDHR	**Dehrash**	**6.89**	**324**	*e*Pn	**Pn**	**16 11 33.7**	**+1.3**
IDHR				*e*		16 11 34.8	
	comp=E,651nm,0.1s						
GEYT	**Alibeck**	**10.40**	**31**	Pn	**Pn**	**16 12 22.6**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=219,slow=13,SNR=4.1						
KBZ	**Khabaz**	**15.99**	**337**	Pn	**P**	**16 13 40.1**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=236,slow=24,SNR=6.2						
BRTR	**Keskin Array B**	**17.92**	**311**	P	**Pn**	**16 13 59.8**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=133,slow=10.0,SNR=3.9						
AAK	**Ala-Archa**	**22.99**	**48**	P	**P**	**16 14 59.1**	**+3.2**
	comp=Z,2.1nm,0.8s,baz=218,slow=5.5,SNR=7.2						
MLR	**Muntele Rosu**	**25.75**	**316**	P	**P**	**16 15 24.7**	**+3.0**
	comp=Z,0.6nm,0.6s,baz=224,slow=9.9,SNR=5.5						
AKASG	**Malin Array Be**	**27.15**	**328**	P	**P**	**16 15 32.8**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=132,slow=9.2,SNR=5.8						
BVAR	**Borovoye Array**	**27.64**	**25**	P	**P**	**16 15 39.8**	**+1.3**
	comp=Z,1.1nm,0.7s,baz=211,slow=8.3,SNR=7.9						
OBN	**Obninsk**	**27.99**	**342**	LR	LR	16 27 22.8	
	comp=Z,33nm,19.6s,baz=268,slow=38						
GKN	**Gorkha**	**29.24**	**84**	*e*P	P	16 15 57.1	+3.8
	comp=Z,2.9nm,0.3s						
KURBB	**Kurchatov Arra**	**29.62**	**36**	P	**P**	**16 15 57.5**	**+1.3**
	comp=Z,0.9nm,0.8s,baz=237,slow=9.2,SNR=11						
DMN	**Daman**	**29.72**	**85**	*e*P	**P**	**16 15 57.6**	**-0.1**
MKAR	**Makanchi Array**	**29.82**	**45**	P	**P**	**16 15 58.4**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=246,slow=9.1,SNR=6.3						
PKIN	**Phulchoki**	**29.98**	**85**	*e*P	**P**	**16 16 00.5**	**+0.5**
PKI	**Pulchoki**	**29.99**	**85**	*e*P	**P**	**16 15 59.9**	**-0.2**
ZALV	**Zalesovo Beam**	**34.68**	**35**	P	**P**	**16 16 41.0**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=252,slow=10,SNR=5.8						
FINES	**FINESS Array B**	**36.32**	**340**	P	**P**	**16 16 54.1**	**-0.3**
	comp=Z,3.9nm,1.0s,baz=170,slow=13,SNR=3.5						
NOA	**NORSAR Array B**	**41.45**	**332**	P	**P**	**16 17 37.1**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=123,slow=8.4,SNR=2.9						
ARCES	**ARCESS Array B**	**43.02**	**347**	P	**P**	**16 17 50.5**	**+0.3**
	comp=Z,1.9nm,0.9s,baz=174,slow=7.1,SNR=6.8						
CMAR	**Chiang Mai Arr**	**44.61**	**93**	P	**P**	**16 18 02.8**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=286,slow=9.9,SNR=3.3						
SONM	**Songino Array**	**45.92**	**50**	P	**P**	**16 18 12.3**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=236,slow=6.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	**48.57**	**262**	P	**P**	**16 18 34.6**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=58,slow=8.2,SNR=8.2						
DBIC	**Dimbokro**	**57.34**	**259**	P	**P**	**16 19 39.8**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=35,slow=9.9,SNR=3.0						
KSRS	**Korea Array**	**62.95**	**60**	P	**P**	**16 20 16.4**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=284,slow=6.5,SNR=3.6						
KSRS				LR	LR	16 51 54.5	
	comp=Z,22nm,19.8s,baz=260,slow=40						
ILAR	**Eielson Array**	**85.27**	**8**	P	**P**	**16 22 27.4**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=318,slow=3.9,SNR=4.5						
YKA	**Yellowknife Ar**	**87.93**	**354**	P	**P**	**16 22 40.1**	**-0.3**
	comp=Z,0.4nm,0.9s,baz=6.8,slow=4.6,SNR=5.3						
WRA	**Warramunga Arr**	**93.72**	**111**	P	**P**	**16 23 07.6**	**-0.5**
	comp=Z,0.2nm,0.7s,baz=317,slow=3.6,SNR=2.9						
ASAR	**Alice Springs**	**95.19**	**114**	P	**P**	**16 23 13.4**	**-1.5**
	comp=Z,0.4nm,0.8s,baz=307,slow=4.2,SNR=6.1						

*ISCJB **07** 16:19:09.8±1.7, 34°.02S±0°.05×72°.39W±0°.10, h28km±12km, mb3.9/2, MS3.6/3, Error ellipse: s-maj=14.9km s-min=7.0km az=25.1*

*IDC **07** 16:19:09.1±1.8, 34°.00S×72°.04W, h0km, mb4.2/2, mb1 3.8/4, mb1mx3.6/24, mbtmp3.7/4, ML3.4/2, MS3.6/5, Ms1 3.6/5, ms1mx3.2/19, Error ellipse: s-maj=64.6km s-min=36.2km az=110.0*

*GUC **07** 16:19:11.7±0.9, 34°.05S×72°.28W, h39km±4km, ML4.2*

ISC 07 16:19:09.5±2.2, 34°.02S±0°.05×72°.22W±0°.10, h9km±11km, n17, σ0°53/23, MS3.4/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.68**	**85**	*e*P	**Pn**	**16 19 25.0**	**-0.3**
NICH	**Los Niches**	**1.28**	**140**	*e*P	**Pb**	**16 19 33.6**	**-0.1**
NICH				*e*S	**Sg**	**16 19 50.6**	**0.0**
NICH				AML	AML	16 19 53.4	
	comp=N,7μm,2.2s						
RCDM	**Rinconada Maip**	**1.29**	**66**	*e*P	**Pg**	**16 19 34.1**	**-0.3**
RCDM				*e*S	**Sn**	**16 19 51.4**	**+0.2**
CHCH	**Chadas Angostu**	**1.31**	**87**	*e*P	**Pg**	**16 19 34.6**	**0.0**
SAN	**Santiago**	**1.42**	**67**	*e*P	**Pg**	**16 19 36.3**	**-0.4**
SAN				*e*S	**Sb**	**16 19 54.5**	**+0.2**
TALC	**Talca**	**1.46**	**161**	*e*P	**Pn**	**16 19 35.9**	**0.0**
TALC				*e*S	**Sn**	**16 19 54.3**	**-0.8**
PCH	**Pirque**	**1.48**	**75**	*e*P	**Pb**	**16 19 37.1**	**-0.1**
PCH				*e*S	**Sb**	**16 19 56.5**	**+0.4**
CLCH	**Cerro Calan**	**1.54**	**67**	*e*P	**Pb**	**16 19 38.3**	**+0.1**
CLCH				*e*S	**Sb**	**16 19 58.0**	**+0.2**
CLCH				AML	AML	16 20 07.9	
	comp=E,3μm,0.6s						
PEL	**Peldehue**	**1.55**	**56**	*e*P	**Pg**	**16 19 38.9**	**-0.4**
PEL				*e*S	**Sg**	**16 19 59.8**	**+0.3**
PEL				AML	AML	16 20 07.5	
	comp=E,7μm,0.7s						
PLCA	**Paso Flores**	**6.83**	**169**	Pn	**Pn**	**16 20 50.8**	**+0.9**
	comp=E,0.4nm,0.3s,baz=340,slow=12,SNR=13						
PLCA				LR	LR	16 23 42.8	
	comp=E,185nm,20.5s,baz=342,slow=40						
CPUP	**Villa Florida**	**14.98**	**63**	Pn	**Pn**	**16 22 42.0**	**+0.6**
	comp=E,0.0nm,0.3s,baz=236,slow=16,SNR=2.4						
CPUP				LR	LR	16 29 04.9	
	comp=E,759nm,18.6s,baz=200,slow=40						
BDFB	**Brasilia**	**28.47**	**56**	P	**P**	**16 25 04.5**	**-0.7**
	comp=E,1.5nm,0.3s,baz=225,slow=10.0,SNR=3.2						
BDFB				LR	LR	16 37 29.2	
	comp=E,96nm,18.1s,baz=1.5,slow=39						
TXAR	**Lajitas Array**	**69.68**	**331**	LR	LR	16 55 16.5	
	comp=E,24nm,20.7s,baz=0.0,slow=31						
RPZ	**Rata Peaks**	**83.53**	**221**	LR	LR	17 02 12.8	
	comp=E,68nm,19.0s,baz=206,slow=31						
TORD	**Torodi Ar. Bea**	**84.36**	**70**	P	**P**	**16 31 42.4**	**0.0**
	comp=E,0.4nm,0.7s,baz=248,slow=3.5,SNR=5.6						
BVAR	**Borovoye Array**	**147.40**	**43**	PKPbc	**PKPab**	**16 38 54.0**	**-1.1**
	comp=E,0.6nm,0.5s,baz=316,slow=4.1,SNR=4.3						
ZALV	**Zalesovo Beam**	**154.33**	**32**	PKPbc	**PKPbc**	**16 39 09.8**	**+0.3**
	comp=E,1.1nm,0.6s,baz=319,slow=1.7,SNR=5.9						
ZALV				PKPab	**PKPab**	**16 39 24.6**	**+0.9**
	comp=E,0.5nm,0.4s,baz=302,slow=3.2,SNR=2.8						

WEL 07 16:20:13.6±0.7, 44°.87S×167°.48E, h5km, ML3.6/10, 2C-3D, Error ellipse: s-maj=6.5km s-min=2.1km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.38**	**58**	⇑PG	Pg	16 20 20.6	-0.4
MSZ				SG	Sg	16 20 25.6	-0.3
MSZ				AML	AML	16 20 25.8	
MSZ				AML	AML	16 20 25.8	
MSZ				AML	AML	16 20 26.0	
MLZ	**Mavora Lakes**	**0.68**	**134**	⇓P*	Pg	16 20 27.2	+0.3
MLZ				*e*SG	Sg	16 20 36.2	+0.3
MLZ				AML	AML	16 20 38.5	
WHZ	**Wether Hill Ro**	**1.07**	**162**	P*	Pg	16 20 33.4	-0.9
WHZ				S*	Sg	16 20 47.5	-0.8
WHZ				AML	AML	16 20 50.0	
WKZ	**Wanaka**	**1.10**	**88**	P*	Pg	16 20 34.4	-0.4
WKZ				AML	AML	16 20 50.8	
WKZ				AML	AML	16 20 51.6	
WKZ				AML	AML	16 20 51.9	
WKZ				AML	AML	16 20 55.5	
JCZ	**Jackson Bay**	**1.22**	**49**	P*	Pg	16 20 36.6	-0.5
JCZ				AML	AML	16 20 57.1	
JCZ				AML	AML	16 21 02.4	
EAZ	**Earnscleugh**	**1.35**	**106**	⇑PN	Pn	16 20 38.7	-0.4
EAZ				AML	AML	16 20 59.1	
EAZ				AML	AML	16 20 59.2	
EAZ				AML	AML	16 21 03.8	
TUZ	**Tuapeka**	**1.86**	**126**	⇓PN	Pn	16 20 47.1	+0.9
APZ	**The Paps**	**1.99**	**170**	PN	Pn	16 20 48.1	0.0
APZ				AML	AML	16 21 16.9	
APZ				AML	AML	16 21 19.7	
LBZ	**Lake Benmore**	**1.99**	**77**	PN	Pn	16 20 48.6	+0.6
LBZ				AML	AML	16 21 20.1	
LBZ				AML	AML	16 21 21.8	
SYZ	**Scrubby Hill**	**2.03**	**146**	⇓PN	Pn	16 20 48.9	+0.5
SYZ				AML	AML	16 21 16.8	
SYZ				AML	AML	16 21 16.8	
SYZ				AML	AML	16 21 20.9	
SYZ				AML	AML	16 21 21.0	
ODZ	**Otahua Downs**	**2.25**	**95**	PN	Pn	16 20 52.4	+0.8
HHSZ	**Highcliff Hill**	**2.42**	**116**	PN	Pb	16 20 56.2	-1.5
RPZ	**Rata Peaks**	**2.82**	**67**	PN	Pn	16 21 00.1	+0.7
RPZ				AML	AML	16 21 40.4	
RPZ				AML	AML	16 21 50.9	
OXZ	**Oxford**	**3.63**	**66**	PN	Pn	16 21 09.8	-0.7
LTZ	**Lake Taylor**	**4.05**	**61**	PN	Pn	16 21 17.1	+0.8
THZ	**Tophouse**	**5.03**	**54**	*e*PN	Pn	16 21 28.8	-1.0
QRZ	**Quartz Range**	**5.49**	**44**	*e*PN	Pn	16 21 34.5	-1.5

*ISCJB **07** 17:08:56.2±0.3, 23°.95S±0°.05×180°.00E±0°.06, h518km, mb4.3/39, Error ellipse: s-maj=7.9km s-min=5.8km az=142.3*

*BJI **07** 17:08:56.4, 24°.00S×180°.00W, h524km, mb4.6/6, mB4.6/3*

*IDC **07** 17:08:57.0±1.2, 23°.91S×179°.95W, h516km±12km, mb3.5/17, mb1 3.7/18, mb1mx3.6/31, mbtmp4.4/18, Error ellipse: s-maj=14.5km s-min=11.6km az=154.0*

*NEIC **07** 17:08:57.4±0.

JAY	Jayapura	43.57	293	P	P	17 16 15.2	+0.1	
	18nm,0.5s,baz=141,slow=3.2,SNR=12							
FORT	Forrest	46.29	250	P	P	17 16 35.4	-0.5	
	baz=47,SNR=98							
FORT	Forrest	46.29	250	*eP*	P	17 16 35.3	-0.5	
	80nm,0.6s							
KDU	Kakadu	46.31	275	P	P	17 16 35.6	-0.5	
	baz=47,SNR=20							
WRKA	Warakurna	46.83	258	P	P	17 16 40.0	0.0	
	baz=48,SNR=186							
WRKA				S	S	17 22 51.1	-1.3	
	baz=48,SNR=3.7							
KNRA	Kununurra	48.70	270	P	P	17 16 54.0	-0.1	
	baz=50,SNR=41							
VNDA	Vanda	54.28	185	P	P	17 17 33.3	-0.3	
	5.7nm,1.4s							
SOEI	Soe	54.87	275	P	P	17 17 40.3	+1.5	
	baz=56,SNR=4.7							
MEEK	Meekatharra	55.10	253	P	P	17 17 39.4	-0.8	
	baz=56,SNR=14							
BLDU	Ballidu	56.01	248	P	P	17 17 45.9	-0.4	
	baz=57,SNR=26							
TNTI	Ternate	56.68	288	*eP*	P	17 17 50.7	-0.5	
	31nm,0.9s							
MORW	Morawa	56.86	250	P	P	17 17 52.0	-0.3	
	baz=58,SNR=26							
GIRL	Giralia	59.91	257	P	P	17 18 13.9	+1.0	
	baz=61,SNR=3.5							
CASY	Casey	60.03	206	*eP*	P	17 18 12.0	-1.0	
	2.5nm,0.5s							
QSPA	South Pole Qui	66.09	180	P	P	17 18 52.9	+0.7	
	2.2nm,1.0s,baz=352,slow=0.6,SNR=9.0							
QSPA	South Pole Qui	66.09	180	*eP*	P	17 18 52.5	+0.4	
	5.3nm,1.2s							
UGM	Wanagama	68.12	271	P	P	17 19 05.2	-0.3	
	baz=68,SNR=4.3							
KKM	Kota Kinabalu	68.95	287	*eP*	P	17 19 10.2	-0.4	
	12nm,0.5s							
MJAR	Matsushiro Arr	71.99	326	P	P	17 19 28.0	+0.1	
	2.4nm,1.0s,baz=163,slow=7.9,SNR=5.0							
KSM	Kuching	72.14	280	*eP*	P	17 19 28.8	-0.5	
	11nm,0.6s							
MAW	Mawson	77.67	200	P	P	17 19 59.7	+0.4	
	1.5nm,0.6s,baz=111,slow=8.8,SNR=8.0							
KSRS	Korea Array	78.33	320	P	P	17 20 03.7	+0.4	
	1.5nm,0.7s,baz=136,slow=6.2,SNR=9.9							
PETK	Petropavlovsk-	79.20	347	P	P	17 20 10.1	+2.5	
	1.2nm,0.7s,baz=145,slow=5.3,SNR=2.6							
NJ2	Nanjing	80.74	311	*eP*	P	17 20 16.0	-0.1	
NJ2				PMZ				
	30nm,0.8s							
USRK	Ussuriysk Ar.	80.86	327	P	P	17 20 16.4	0.0	
	1.3nm,0.6s,baz=54,slow=3.3,SNR=4.1							
ISA	Isabella, Lake	83.08	46	*eP*	P	17 20 27.6	-0.6	
	4.8nm,0.8s							
CMB	Columbia Colle	83.26	43	*eP*	P	17 20 28.5	-0.4	
WDC	Whiskeytown Da	83.52	40	*eP*	P	17 20 30.3	+0.2	
	3.6nm,0.8s							
YBH	Yreka Blue Hor	84.15	39	P	P	17 20 33.2	-0.2	
	2.5nm,0.8s,baz=197,slow=11,SNR=5.4							
NVAR	Mina Array Bea	84.81	44	P	P	17 20 36.5	-0.3	
	1.1nm,0.7s,baz=226,slow=8.3,SNR=9.4							
TPH	Tonopah	85.29	45	*eP*	P	17 20 38.4	-0.7	
	1.1nm,0.6s							
TUC	Tucson	86.56	52	*eP*	P	17 20 45.7	+0.5	
	5.9nm,0.9s							
I07A	Izee	87.45	39	*eP*	P	17 20 49.5	+0.3	
ELK	Elko	88.08	43	P	P	17 20 52.1	-0.2	
	0.8nm,0.6s,baz=191,slow=4.7,SNR=4.9							
PLCA	Paso Flores	88.18	134	P	P	17 20 54.4	+1.6	
	1.0nm,0.7s,baz=242,slow=1.9,SNR=3.2							
G08A	Pilot Rock	88.49	38	*eP*	P	17 20 54.0	+0.1	
MFID	Camas Ranch	89.22	41	*eP*	P	17 20 57.0	-0.4	
	5.0nm,0.9s							
CMAR	Chiang Mai Arr	89.58	290	P	P	17 21 01.1	+1.6	
	1.0nm,0.4s,baz=137,slow=3.8,SNR=15							
CHTO	Chiang Mai	89.73	291	*eP*	P	17 21 01.0	+0.8	
	1.3nm,0.8s							
HLID	Hailey	90.16	41	*eP*	P	17 21 01.9	+0.1	
	2.0nm,0.9s							
HVU	Hansel Valley	90.20	44	*eP*	P	17 21 02.0	0.0	
	62µm,0.8s							
TXAR	Lajitas Array	90.47	58	P	P	17 21 03.7	+0.2	
	2.3nm,0.7s,baz=214,slow=6.4,SNR=37							
HHC	Hu-ho-hao-te	90.50	315	*eP*	P	17 21 05.7	+2.3	
HHC				PMZ				
	71nm,8.8s							
ILAR	Eielson Array	92.12	14	P	P	17 21 08.1	-2.0	
	0.3nm,0.8s,baz=228,slow=3.5,SNR=3.6							
PDAR	Pinedale Array	92.75	44	P	P	17 21 12.8	-1.1	
	1.0nm,0.8s,baz=225,slow=1.7,SNR=8.3							
LZH	Lanzhou	93.45	308	⇓P	P	17 21 16.8	-0.3	
LZH				PP	PP	17 25 16.0	+5.3	
LZH				PMZ				
	15nm,1.6s							
LZH				PMZ				
	56nm,9.5s							
KSH	Kashi	115.34	304	*e*PKP	PKPdf	17 26 38.8	-1.0	
KSH				PP	PP	17 27 56.5	+5.8	
KSH				PKS	PKSdf	17 30 14.4	-2.1	
KSH				PPMZ				
	82nm,5.5s							
ARCES	ARCESS Array B	131.99	348	PKP	PKPdf	17 27 09.2	-1.3	
	1.8nm,0.8s,baz=316,slow=5.1,SNR=4.5							
ARCES				SKPbc	SKPbc	17 29 47.1	-1.1	
	2.9nm,0.9s,baz=27,slow=3.3,SNR=6.7							
FINES	FINESS Array B	138.54	341	PKhKP	PKPpre	17 27 16.1		
	3.2nm,1.0s,baz=56,slow=1.2,SNR=2.6							
FINES				PKP	PKiKP	17 27 24.1	-1.1	
	1.5nm,0.8s,baz=5.7,slow=1.7,SNR=3.1							
FINES				SKPbc	SKPbc	17 30 07.4	-1.3	
	2.4nm,0.7s,baz=80,slow=3.1,SNR=12							
HFS	Hagfors	142.65	349	PKhKP	PKPpre	17 27 26.2		
	0.8nm,0.3s,baz=67,slow=5.0,SNR=8.9							
AKASG	Malin Array Be	145.06	327	PKPbc	PKPdf	17 27 34.4	-0.4	
	0.5nm,0.4s,baz=48,slow=4.0,SNR=7.5							
AKASG				SKPbc	SKPbc	17 30 24.4	-0.9	
	2.0nm,0.6s,baz=45,slow=2.9,SNR=9.0							
ASF	Jabal al Asfar	146.59	292	PKPbc	PKPbc	17 27 40.7	+0.1	
	1.7nm,0.9s,baz=92,slow=4.8,SNR=4.3							
BRTR	Keskin Array B	147.65	307	PKPbc	PKPbc	17 27 42.2	-1.1	
	0.9nm,0.5s,baz=123,slow=5.3,SNR=4.2							
MMAI	Mount Meron Ar	147.76	294	PKPbc	PKPbc	17 27 44.1	+0.4	
	2.7nm,0.4s,baz=76,slow=7.0,SNR=18							
EIL	Elat	148.40	288	PKPbc	PKPbc	17 27 45.1	-0.2	
	2.4nm,0.8s,baz=127,slow=5.3,SNR=4.1							
KOLS	Kolonicke sedl	149.57	330	*e*PKP	PKPab	17 27 52.5	-2.3	

*IDC **07** 17:22:56.9±1.7,43.°90N×105.°34W,h0km,mb1 3.5/2, mb1mx3.2/44,mbtmp3.3/2,ML3.3/2,Error ellipse: s-maj=45.7km s-min=8.6km az=149.0*

*ISCJB **07** 17:22:59.2±0.2,44.°06N±0.°01×105.°38W±0.°02,h0km,Error ellipse: s-maj=2.4km s-min=2.1km az=167.9*

*NEIC **07** 17:22:59.4±0.6,44.°10N×105.°24W,h0km,ML3.0,Error ellipse: s-maj=9.2km s-min=7.1km az=178.0,Suspected Mining explosion.*

NEIC 30 km [20 miles] SE of Gillette.

ISC 07 17:22:59.2±0.7,44.°08N±0.°02×105.°37W±0.°02,h0km,n85, σ0.89/92,31C-27D,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	Meade Ranch, G	0.14	209	P	Pg	17 23 02.4	+0.6
	baz=0.2,SNR=524						
H23A	Clabaugh Cattl	0.48	358	⇑P	Pg	17 23 09.1	+0.7
	baz=0.5,SNR=6.9						
I24A	Kuemmerle Ranc	0.58	112	⇓P	Pg	17 23 10.9	+0.6
	baz=0.5,SNR=15						
J23A	Dilts Ranch, B	0.69	191	⇑P	Pg	17 23 12.4	+0.1
	baz=0.7,SNR=50						
I22A	9 Mile Ranch,	0.82	257	⇑P	Pg	17 23 14.8	-0.2
	baz=0.9,SNR=154						
H22A	Clearmont	0.87	307	⇓P	Pg	17 23 16.2	+0.3
	baz=0.9,SNR=31						
H22A				⇑Sb	Sb	17 23 30.1	+0.5
	baz=0.9						
H24A	Dirks Ranch, A	0.89	41	⇓P	Pg	17 23 16.3	+0.1
	baz=0.8,SNR=135						
J24A	Dixon Ranch, L	0.91	145	P	Pg	17 23 16.9	+0.3
	baz=0.9,SNR=74						
RSSD	Black Hills	0.96	87	*e*Pg	Pg	17 23 17.7	0.0
J22A	Midwest	1.04	231	⇑P	Pg	17 23 18.6	-0.6
	baz=1.1,SNR=115						
J22A				⇓S	Sg	17 23 32.7	0.0
	baz=1.1						
G23A	Biddle	1.12	359	⇓P	Pg	17 23 20.5	-0.2
	baz=1.1,SNR=24						
I25A	Rochford	1.18	92	⇓P	Pg	17 23 21.9	0.0
	baz=1.1,SNR=65						
G22A	Birney	1.32	330	⇓P	Pg	17 23 24.2	-0.2
	baz=1.3,SNR=25						
G22A				⇑S	Sb	17 23 42.8	+0.5
	baz=1.3						
H21A	Big Horn, Sher	1.32	295	⇑P	Pg	17 23 24.3	-0.1
	baz=1.4,SNR=25						
J25A	Sunshine Ranch	1.33	121	⇓P	Pg	17 23 24.3	-0.3
	baz=1.3,SNR=46						
K23A	Bowen Ranch, D	1.34	188	⇓P	Pg	17 23 24.8	0.0
	baz=1.4,SNR=12						
K23A				⇓S	Sn	17 23 44.0	+0.2
	baz=1.4						
H25A	Fruitdale	1.38	66	⇑P	Pg	17 23 25.3	-0.4
	baz=1.3,SNR=16						
I21A	Big Trails, Te	1.41	260	⇑P	Pn	17 23 25.4	-0.9
	baz=1.5,SNR=176						
K24A	Anderson Ranch	1.42	163	⇓P	Pn	17 23 25.6	-0.7
	baz=1.4,SNR=41						
G24A	Alzada	1.42	28	⇓P	Pn	17 23 26.1	-0.3
	baz=1.4,SNR=24						
F23A	Volborg	1.64	359	⇑P	Pn	17 23 29.4	0.0
	baz=1.6,SNR=100						
K22A	Casper	1.66	211	⇓P	Pn	17 23 29.4	-0.2
	baz=1.7,SNR=94						
K22A				⇑S	Sn	17 23 51.7	0.0
	baz=1.7						
J21A	Lysite	1.67	245	P	Pn	17 23 29.2	-0.7
	baz=1.8,SNR=104						
G21A	Lodge Grass	1.74	312	⇑P	Pn	17 23 30.9	+0.2
	baz=1.8,SNR=43						
G21A				⇑Sb	Sg	17 23 56.1	+1.0
	baz=1.8						
I26A	New Underwood	1.81	91	⇑Pg	Pg	17 23 33.6	-0.3
	baz=1.7,SNR=13						
F22A	Rosebud	1.81	340	⇑P	Pn	17 23 31.9	+0.2
	baz=1.8,SNR=19						
F22A				⇓Sb	Sg	17 23 57.9	+0.4
	baz=1.8						
K25A	Mack Ranch, Ha	1.83	143	⇑Pb	Pb	17 23 33.3	-0.3
	baz=1.8,SNR=51						
K25A				⇓Sb	Sg	17 23 58.1	+0.1
	baz=1.8						
J26A	Sides Ranch, S	1.83	114	⇓Pb	Pb	17 23 33.3	-0.4
	baz=1.7,SNR=20						
F24A	Ekalaka	1.89	20	⇓Pb	Pb	17 23 34.2	-0.4
	baz=1.8,SNR=41						
F24A				⇑Sb	Sg	17 24 00.4	+0.7
	baz=1.8						
H20A	Greybull	1.93	283	P	Pn	17 23 33.8	+0.4
	baz=2.0,SNR=70						
H20A				⇑S	Sn	17 23 59.2	+0.8
	baz=2.0						
L23A	Garrett	1.98	187	P	Pn	17 23 34.5	+0.4
	baz=2.0,SNR=88						
K21A	Alcova	1.99	224	⇑P	Pn	17 23 34.5	+0.2
	baz=2.1,SNR=47						
K21A				⇑S	Sn	17 24 00.3	+0.3
	baz=2.1						
I20A	Worland	1.99	267	⇑P	Pn	17 23 34.5	+0.3
	baz=2.1,SNR=97						
I20A				⇓S	Sn	17 24 00.9	+0.9
	baz=2.1						
L24A	Wheatland	2.06	171	⇓P	Pn	17 23 35.6	+0.4
	baz=2.1,SNR=16						
J20A	Shoshoni	2.10	251	⇓Pb	Pb	17 23 37.6	-0.6
	baz=2.2,SNR=26						
K26A	Motz Farm, Whi	2.11	130	⇑Pb	Pb	17 23 37.8	-0.6
	baz=2.0,SNR=12						
K26A				⇑Sb	Sg	17 24 06.5	-0.4
	baz=2.0						
F21A	Absaloka Mine,	2.14	325	⇑Sb	Sb	17 24 07.2	+1.2
	baz=2.2						
L25A	Engebretsen Ra	2.18	151	⇑Sb	Sg	17 24 08.1	-1.1
	baz=2.2						
L22A	Ellis Ranch, M	2.19	201	⇓P	Pn	17 23 38.0	+1.0
	baz=2.2,SNR=43						
F25A	Bowman	2.29	36	⇓P	Pn	17 23 39.8	+1.5
	baz=2.2,SNR=7.1						
F25A				⇓Sb	Sg	17 24 11.9	-0.9
	baz=2.2						
G20A	Bridger	2.33	300	P	Pn	17 23 38.6	-0.3
	baz=2.4,SNR=46						
E24A	Baker	2.59	16	⇑P	Pn	17 23 43.0	+0.6
	baz=2.5,SNR=9.2						
E24A				⇓Sb	Sb	17 24 20.4	+1.4
	baz=2.5						
F26A	Lodgepole	2.61	46	⇑Sb	Sb	17 24 20.5	+0.9
	baz=2.5						
F20A	Billings	2.62	312	P	Pn	17 23 42.4	-0.4
	baz=2.7,SNR=17						
H19A	Powell	2.66	284	⇓P	Pn	17 23 44.2	+0.8
	baz=2.7,SNR=8.3						
LAO	LASA Array	2.68	347	*e*Pn	Pn	17 23 43.9	+0.3
PHWY	Pilot Hill	2.78	181	*e*Pn	Pn	17 23 45.0	-0.2
RLMT	Red Lodge	2.97	292	*e*Pn	Pn	17 23 47.7	0.0
F19A	Roth Farm, Mol	3.10	306	⇑P	Pn	17 23 49.6	+0.2
	baz=3.2,SNR=20						
H18A	Shoshone NF, C	3.13	282	⇑P	Pn	17 23 51.0	+0.9
	baz=3.2,SNR=9.3						
PDAR	Pinedale Array	3.32	248	Pn	Pn	17 23 53.4	+0.8
	2.1nm,0.3s,baz=76,slow=14,SNR=32						
PDAR				Pg	Pb	17 23 58.2	-0.8
	4.2nm,0.3s,baz=72,slow=19,SNR=65						
PDAR				Lg	Lg	17 24 40.5	
	6.0nm,0.3s,baz=71,slow=35,SNR=14						
BW06	Bolder Array	3.32	248	*e*Pn	Pb	17 23 57.5	-1.6
E19A	Rather Farm, Rou	3.39	316	P	Pn	17 23 53.6	+0.2
	baz=3.4,SNR=9.9						
GCMT	Greycliff	3.50	301	*e*Pn	Pn	17 23 55.1	+0.2
C22A	Vida	3.69	355	⇑P	Pn	17 23 58.3	+0.9
	baz=3.7,SNR=14						
C23A	Lambert	3.73	2	⇑P	Pn	17 23 59.2	+1.2
	baz=3.7,SNR=23						
H17A	Grant Village	3.75	277	*e*Pn	Pn	17 24 00.0	+1.5
LOHW	Long Hollow	3.81	265	*e*Pn	Pn	17 24 01.5	+2.1
FLWY	Flagg Ranch	3.84	272	*e*Pn	Pn	17 23 59.8	+0.1
YNR	Norris Junctio	3.86	261	*e*Pn	Pn	17 24 01.4	+1.4
MOOW	Moose Ponds	3.90	267	*e*Pn	Pn	17 24 00.1	-0.4
YFT	Old Faithful	3.94	277	*e*Pn	Pn	17 24 05.1	+3.9
SNOW	Snow King Moun	3.95	263	Pn	Pb	17 24 07.2	-2.6
IMW	Indian Meadow	4.02	269	*e*Pn	Pn	17 24 04.2	+1.9
REDW	Red Top Meadow	4.04	262	*e*Pn	Pn	17 24 06.7	+4.2
TPAW	Teton Pass	4.08	264	*e*Pn	Pn	17 23 58.9	-4.2
ISCO	Idaho Springs	4.28	182	*e*Pn	Pn	17 24 07.7	+1.9
QLMT	Earthquake Lak	4.40	282	*e*Pn	Pn	17 24 11.4	+4.0
DGMT	Dagmar	4.47	10	*e*Pn	Pb	17 24 16.6	-1.9
EGMT	Eagleton	4.99	324	*e*Pn	Pn	17 24 16.4	+1.0
	17nm,0.7s						
SMCO	Snowmass	5.04	194	*e*Pn	Pn	17 24 20.2	+3.8
	5.3nm,0.8s						
HRY	Holter Researc	5.26	302	*e*Pn	Pn	17 24 20.5	+1.4
	2.0nm,0.4s						
LRM	Limekiln Ridge	5.32	292	*e*Pn	Pn	17 24 21.1	+1.0
	12nm,0.3s						
TCUT	Toone Canyon	5.35	238	*e*Pn	Pn	17 24 21.0	+0.5
	16nm,0.7s						
MCMT	McKenzie Canyo	5.41	281	*e*Pn	Pn	17 24 25.9	+4.6
	1.0nm,0.3s						
KSCO	Kaye Shedlock'	5.46	157	Pn	Pn	17 24 16.2	-5.7
HVU	Hansel Valley	5.90	250	Pn	Pn	17 24 28.6	+0.6
	4.2nm,0.8s						
R26A	Arlington	5.95	165	⇓P	Pn	17 24 28.8	+0.2
	baz=6.0,SNR=7.3						
SRU	San Rafael Swe	6.29	220	*e*Pn	Pn	17 24 33.4	+0.1
	2.8nm,0.3s						
ECSD	EROS Data Cent	6.34	90	*e*Pn	Pn	17 24 32.3	-1.5
	3.7nm,0.6s						
DUG	Dugway, Tooele	6.75	237	*e*Pn	Pn	17 24 40.2	+0.5
	4.5nm,0.5s						
DUG	Dugway, Tooele	6.75	237	⇓P	Pn	17 24 40.0	+0.3
	baz=6.8,SNR=17						
I10CA	LAC DU BONNET	8.83	43	*i*		18 16 00.0	
	baz=226,slow=338,SNR=2.9						
ULM	Lac du Bonnet	8.94	43	Pn	Pn	17 25 06.5	-3.0
	0.9nm,0.3s,baz=224,slow=13,SNR=8.0						
ULM				Lg	Lg	17 27 36.7	
	0.2nm,0.3s,baz=302,slow=19,SNR=6.9						
I56US	NEWPORT INFRAS	9.16	301	*i*		18 17 30.0	
	baz=115,slow=328,SNR=1.1						

*BJI **07** 17:46:10.7,44.°40N×129.°40W,h10km,mb5.1/31, mB5.4/30,Ms5.4/28,Ms7 5.0/26*

*IDC **07** 17:46:10.7±0.8,44.°22N×129.°58W,h0km,mb4.2/23, mb1 4.4/27,mb1mx4.3/39,mbtmp4.3/27,ML4.0/4,MS4.8/43, Ms1 4.8/43,ms1mx4.7/48,Error ellipse: s-maj=23.7km s-min=10.9km az=22.0*

*ISCJB **07** 17:46:14.0±0.7,44.°44N±0.°02×129.°34W±0.°02,h18km±4km, mb4.9/120,MS4.9/170,Error ellipse: s-maj=3.6km s-min=1.9km az=138.4*

*GCMT **07** 17:46:13.9±0.1,44.°11N×129.°69W,h15km,MW5.5/128, Moment Tensor Solution. s91,c151; s128,c231; Duration: 1ŝ3 Moment tensor: Scale 10^17^Nm; Mrr-0.26±.03; Mθθ-1.71±.03; Mϕϕ1.97±.03; Mrθ-0.01±.05; Mθϕ-1.02±.03; Mϕr0.04±.04; Best double couple: M◎2.10400×10^17^ NP1:ϕs300.00000°,δ89.00000°, λ179.00000°. NP2:ϕs31.00000°,δ89.00000°,λ1.00000°. Principal axes: T 2.2340, Plg1.0000°, Azm255.0000°; N -0.2610, Plg89.0000°, Azm82.0000°; P -1.9740, Plg0.0000°, Azm346.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **07** 17:46:13.9±0.2,44.°36N×129.°47W,h10km,mb5.1/88, MS4.9/124,MW5.5 Error ellipse: s-maj=4.9km s-min=2.3km az=36.0,Moment Tensor Solution. s16 Moment tensor: Scale 1017Nm; Mrr0.30; Mθθ-2.08; Mϕϕ1.78; Mrt-0.72; Mθϕ-0.64; Mtr-0.20; Best double couple: M◎2.20000×10^17^ NP1:ϕs35.00000°,δ82.00000°, λ-13.00000°. NP2:ϕs127.00000°,δ77.00000°, λ-171.00000°. Principal axes: T 1.8900, Plg3.0000°, Azm81.0000°; N 0.5000, Plg74.0000°, Azm183.0000°; P -2.3900, Plg15.0000°, Azm350.0000°;*

*MOS **07** 17:46:13.8±1.0,44.°40N×129.°40W,h22km,mb5.4/49, MS4.9/19 Error ellipse: s-maj=6.0km s-min=4.5km az=117.3*

*SZGRF **07** 17:46:19.4,44.°88N×130.°34W,h33km,mb4.9,MS4.8,Off coast of Oregon, United States*

ISC 07 17:46:14.2±0.5,44.°42N±0.°05×129.°46W±0.°04,h11km±2km, h11km:pP-P,n1043,σ1ŝ43/962,mb5.0/121,MS4.9/174, 240C-203D,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	Edson Butte	4.03	111	*e*Pn	Pn	17 47 11.5	-4.3
RNO	Roman Nose	4.14	95	P	Pn	17 47 14.9	-2.5
MPOR	Mary's Peak	4.23	87	P	Pn	17 47 16.8	-1.9
KMOR	Kings Mountain	4.40	72	P	Pn	17 47 19.6	-1.4
COR	Corvallis	4.40	86	*e*P	Pn	17 47 19.8	-1.1
COR	Corvallis	4.40	86	*e*Pn	Pn	17 47 19.8	-1.1
KBO	Bosley Butte	4.41	118	*e*Pn	Pn	17 47 20.7	-0.4
F03A	Seaside	4.43	68	*e*Pn	Pn	17 47 20.8	-0.6
I03D	Drain, OR	4.46	97	⇓P	Pn	17 47 19.2	-2.5
	baz=4.4,SNR=64						
I03D				⇓S	Sn	17 48 13.3	-0.3
	baz=4.4						
G03D	McMinnville, O	4.48	78	⇓P	Pn	17 47 19.4	-2.5
	baz=4.5,SNR=18						
G03D				⇑S	Sn	17 48 12.6	-1.3
	baz=4.5						
E03A	Lebam	4.66	61	*e*Pn	Pn	17 47 23.6	-0.8
L02D	Cave Junction,	4.83	116	⇑P	Pn	17 47 25.1	-1.8
	baz=4.8,SNR=12						
L02D				⇓S	Sn	17 48 24.1	+1.3
	baz=4.8						
BMW	Boistfort Moun	4.84	63	P	Pn	17 47 25.9	-1.1
BMW	Boistfort Moun	4.84	63	P	Pn	17 47 25.9	-1.1
F04D	Rainier, OR	4.84	68	⇑P	Pn	17 47 25.7	-1.3
	baz=4.9,SNR=9.0						
NLWA	Neilton Lookou	4.90	51	*e*Pn	Pn	17 47 27.1	-0.7
BROR	Big Rock Looko	5.03	89	P	Pn	17 47 28.7	-0.8
HUMO	Hull Mountain	5.06	109	*e*Pn	Pn	17 47 27.5	-2.5
I04A	Tendick Farm,	5.11	95	⇑P	Pn	17 47 27.4	-3.3
	baz=5.1,SNR=63						
I04A				⇓S	Sn	17 48 30.6	+0.9
	baz=5.1						
BBOR	Butler Butte	5.15	105	P	Pn	17 47 30.1	-1.2
J04D	Umpqua Nationa	5.44	100	⇑P	Pn	17 47 33.0	-2.4
	baz=5.4,SNR=73						
TDL	Tradedollar La	5.45	67	P	Pn	17 47 34.8	-0.7
HDW	Hoodsport	5.50	52	P	Pn	17 47 36.4	+0.2
KHMM	Horse Mountain	5.51	128	*e*Pn	Pn	17 47 34.5	-1.8
BPO	Bald Peter	5.56	85	P	Pn	17 47 37.4	+0.4
YBH	Yreka Blue Hor	5.62	116	Pn	Pn	17 47 36.0	-1.8
	1.0nm,0.3s,baz=313,slow=11,SNR=13						
YBH				LR	LR	17 49 30.8	
	comp=Z,7µm,19.6s,baz=304,slow=36						
YBH	Yreka Blue Hor	5.62	116	*e*P	Pn	17 47 35.0	-2.8
YBH	Yreka Blue Hor	5.62	116	*e*Pn	Pn	17 47 35.0	-2.8
VBEM	Beaver Butte	5.64	81	P	Pn	17 47 38.0	-0.1
M02C	Callahan	5.71	120	⇑P	Pn	17 47 38.6	-0.4
	baz=5.7,SNR=14						
M02C				⇓S	Sn	17 48 45.6	+1.0
	baz=5.7						
I05D	Terrebonne, OR	5.82	88	⇓P	Pn	17 47 38.5	-2.0
	baz=5.8,SNR=15						
I05D				⇓S	Sn	17 48 46.8	-0.3
	baz=5.8						
RVC	Mount Rainier-	5.82	62	P	Pn	17 47 40.4	0.0
G05D	Wamic, OR	5.85	79	⇑P	Pn	17 47 38.6	-2.2
	baz=5.8,SNR=42						
LON	Longmire	5.85	64	*e*P	Pn	17 47 40.1	-0.8
LON				*e*		17 48 46.1	
LON	Longmire	5.85	64	*e*Pn	Pn	17 47 40.1	-0.8
LON				*e*Sn	Sn	17 48 46.1	-1.8
K04D	Chiloquin, OR	5.88	105	⇓P	Pn	17 47 39.7	-1.7
	baz=5.9						
K04D				⇑S	Sn	17 48 48.6	-0.1
	baz=5.9						
D05A	Enumclaw	5.91	59	*e*Pn	Pn	17 47 42.2	+0.7
PGC	Sidney	5.92	42	*e

	baz=9.4,SNR=15								
WAKR	**Walker**	9.56	125	*e*Pn	Pn	17 48 33.9	+2.0		
BMN	**Battle Mountai**	9.88	110	*e*P	Pn	17 48 39.4	+3.1		
BMN	**Battle Mountai**	9.88	110	*e*Pn	Pn	17 48 39.4	+3.1		
MFID	**Camas Ranch**	9.89	91	*e*Pn	Pn	17 48 36.4	+0.1		
NV01	**Mina Array Sit**	10.29	122	*e*Pn	Pn	17 48 43.2	+1.3		
NVAR	**Mina Array Bea**	10.29	122	Pn	Pn	17 48 43.6	+1.7		
	0.5nm,0.3s,baz=285,slow=14,SNR=21								
MLAC	**Mammoth, Mammo**	10.50	127	⇓P	Pn	17 48 44.3	-0.5		
	baz=10								
BSMT	**Bassoo Peak**	10.74	66	*e*Pn	Pn	17 48 47.7	-0.4		
HLID	**Hailey**	10.88	89	*e*Pn	Pn	17 48 50.7	+0.8		
HLID	**Hailey**	10.88	89	⇑P	Pn	17 48 50.4	+0.5		
	baz=11,SNR=47								
JTMT	**Jette**	11.05	67	*e*Pn	Pn	17 48 52.2	0.0		
BLMT	**Blacktail Moun**	11.06	66	*e*Pn	Pn	17 48 52.1	-0.2		
ELK	**Elko**	11.11	104	Pn	Pn	17 48 55.0	+1.9		
	0.1nm,0.3s,baz=356,slow=4.2,SNR=33								
ELK				LR	LR	17 53 11.1			
	comp=Z,6µm,21.6s,baz=5.5,slow=38								
ELK	**Elko**	11.11	104	*e*P	Pn	17 48 54.2	+1.1		
ELK	**Elko**	11.11	104	*e*Pn	Pn	17 48 54.2	+1.1		
MSO	**Missoula**	11.13	72	*e*Pn	Pn	17 48 53.6	+0.3		
MSO	**Missoula**	11.13	72	⇑P	Pn	17 48 53.3	0.0		
	baz=11,SNR=28								
TPH	**Tonopah**	11.17	120	*e*P	Pn	17 48 56.3	+2.3		
TPH	**Tonopah**	11.17	120	*e*Pn	Pn	17 48 56.3	+2.3		
SWMT	**Swartz Lake**	11.19	69	*e*Pn	Pn	17 48 54.4	+0.2		
RCTC	**Rector, Farmer**	11.23	133	⇓P	Pn	17 48 55.2	+0.6		
	baz=11								
TIN	**Tinemaha, Big**	11.25	127	⇑P	Pn	17 48 56.6	+1.7		
	baz=11								
YBMT	**Yellow Bay**	11.25	67	*e*Pn	Pn	17 48 54.7	-0.3		
CRAG	**Craig**	11.31	349	*e*Pn	Pn	17 48 58.0	+2.5		
SLMT	**Seeley Lake**	11.49	70	*e*Pn	Pn	17 48 57.6	-0.6		
CHMT	**Chamberlain Mo**	11.61	72	*e*Pn	Pn	17 48 59.3	-0.7		
VES	**Vestal, Richgr**	11.67	134	⇑P	Pn	17 49 00.1	-0.5		
	baz=12								
VES				⇑S	Sn	17 51 13.8	+3.0		
	baz=12								
CWC	**Cottonwood Cre**	11.77	129	⇓P	Pn	17 49 04.5	+2.4		
	baz=12								
GRAC	**Grapevine Rang**	11.78	125	⇓P	Pn	17 49 05.4	+3.2		
	baz=12								
MCMT	**McKenzie Canyo**	11.85	82	*e*Pn	Pn	17 49 03.4	+0.2		
DLMT	**Dillon**	12.00	80	*e*Pn	Pn	17 49 06.5	+1.3		
R11A	**Troy Canyon, C**	12.05	115	*e*Pn	Pn	17 49 08.2	+2.2		
R11A	**Troy Canyon, C**	12.05	115	⇓P	Pn	17 49 07.3	+1.4		
	baz=12,SNR=15								
R11A				⇓S	Sn	17 51 21.4	+1.0		
	baz=12								
LRM	**Limekiln Ridge**	12.10	77	*e*Pn	Pn	17 49 06.6	-0.1		
ISA	**Isabella, Lake**	12.13	132	*e*P	Pn	17 49 06.1	-0.9		
ISA	**Isabella, Lake**	12.13	132	*e*Pn	Pn	17 49 06.0	-0.9		
ISA	**Isabella, Lake**	12.13	132	⇑P	Pn	17 49 06.7	-0.3		
	baz=12,SNR=17								
ISA				⇑S	Sn	17 51 24.7	+2.5		
	baz=12								
WRAK	**Wrangell Islan**	12.15	352	⇓*i*Pn	Pn	17 49 11.2	+4.1		
DAC	**Darwin (Calif)**	12.16	128	*e*P	Pn	17 49 08.0	+0.5		
DAC	**Darwin (Calif)**	12.16	128	*e*Pn	Pn	17 49 08.0	+0.5		
ARVC	**Arvin**	12.36	135	⇑P	Pn	17 49 12.7	+2.7		
	baz=12								
ARVC				⇑S	Sn	17 51 29.7	+2.1		
	baz=12								
MPMC	**Manual Prospec**	12.37	128	⇑P	Pn	17 49 11.0	+0.6		
	baz=12,SNR=10								
MPMC				⇓S	Sn	17 51 30.7	+2.5		
	baz=12								
FURC	**Furnace Creek,**	12.44	125	⇓P	Pn	17 49 11.9	+0.7		
	baz=12,SNR=26								
HVU	**Hansel Valley**	12.48	96	⇑*e*P	Pn	17 49 13.0	+1.2		
HVU	**Hansel Valley**	12.48	96	⇑*e*Pn	Pn	17 49 13.0	+1.2		
TPNV	**Topopah Spring**	12.49	122	*e*P	Pn	17 49 14.6	+2.7		
TPNV	**Topopah Spring**	12.49	122	*e*Pn	Pn	17 49 14.6	+2.7		
TPNV	**Topopah Spring**	12.49	122	⇓P	Pn	17 49 12.8	+0.8		
	baz=12,SNR=17								
TPNV				⇓S	Sn	17 51 33.1	+2.0		
	baz=12								
HRY	**Holter Researc**	12.56	73	*e*Pn	Pn	17 49 13.0	+0.1		
BGU	**Big Grassy Mou**	12.58	100	*e*Pn	Pn	17 49 13.8	+0.5		
LRMC	**Laurel Mtn Rad**	12.69	131	⇓P	Pn	17 49 17.1	+2.5		
	baz=13								
LRMC				⇓S	Sn	17 51 35.1	-0.8		
	baz=13								
OSI	**Osito Audit: C**	12.81	136	⇓P	Pn	17 49 18.3	+2.0		
	baz=13								
OSI				⇓S	Sn	17 51 40.7	+1.8		
	baz=13								
QLMT	**Earthquake Lak**	12.85	82	*e*Pn	Pn	17 49 18.1	+1.2		
EDW2	**Edwards Air Fo**	12.98	133	P	Pn	17 49 18.0	-0.6		
	baz=13,SNR=15								
EDW2				⇑S	Sn	17 51 46.6	+3.6		
	baz=13								
DUG	**Dugway, Tooele**	13.02	103	*e*P	Pn	17 49 19.6	+0.4		
DUG	**Dugway, Tooele**	13.02	103	*e*Pn	Pn	17 49 19.6	+0.4		
DUG	**Dugway, Tooele**	13.02	103	⇑P	Pn	17 49 19.0	-0.2		
	baz=13,SNR=7.8								
BLG	**Laguna Peak, P**	13.06	139	⇑P	Pn	17 49 20.9	+1.4		
	baz=13								
SHOC	**Shoshone, Teco**	13.18	126	⇑P	Pn	17 49 22.6	+1.4		
	baz=13,SNR=6.3								
SIT	**Sitka**	13.18	346	*e*P	Pn	17 49 17.5	-3.6		
SIT	**Sitka**	13.18	346	*e*Pn	Pn	17 49 17.5	-3.6		
YMR	**Madison River**	13.20	82	⇑*e*Pn	Pn	17 49 23.4	+1.7		
FXWY	**Fox Creek**	13.29	87	*e*Pn	Pn	17 49 25.2	+2.2		
DECC	**Green Verdugo**	13.30	136	⇓P	Pn	17 49 24.1	+1.2		
	baz=13								
GSC	**Goldstone, Bar**	13.30	129	*e*P	Pn	17 49 23.5	+0.5		
GSC	**Goldstone, Bar**	13.30	129	*e*Pn	Pn	17 49 23.5	+0.5		
GSC	**Goldstone, Bar**	13.30	129	⇑P	Pn	17 49 23.7	+0.7		
	baz=13,SNR=19								
IMW	**Indian Meadow**	13.31	86	*e*Pn	Pn	17 49 25.2	+2.0		
YFT	**Old Faithful**	13.31	83	*e*Pn	Pn	17 49 25.6	+2.4		
TPAW	**Teton Pass**	13.37	88	⇑*e*Pn	Pn	17 49 25.5	+1.5		
YNR	**Norris Junctio**	13.39	82	*e*Pn	Pn	17 49 25.5	+1.1		
AHID	**Auburn Hatcher**	13.41	91	⇑*e*Pn	Pn	17 49 25.9	+1.4		
SHPR	**Sheep Range**	13.44	121	*e*Pn	Pn	17 49 27.3	+2.4		
FLWY	**Flagg Ranch**	13.45	85	⇑*e*Pn	Pn	17 49 26.7	+1.6		
MWC	**Mount Wilson**	13.46	135	*e*P	P	17 49 30.9	-3.7		
MWC	**Mount Wilson**	13.46	135	*e*Pn	P	17 49 30.9	-3.7		
REDW	**Red Top Meadow**	13.46	88	*e*Pn	Pn	17 49 27.1	+1.8		
MOOW	**Moose Ponds**	13.47	86	⇑*e*Pn	Pn	17 49 26.3	+0.9		
H17A	**Grant Village**	13.50	83	⇑*e*Pn	Pn	17 49 28.0	+2.2		
H17A	**Grant Village**	13.50	83	⇑P	Pn	17 49 28.7	+2.8		
	baz=14,SNR=26								
RRX	**Edison Barstow**	13.51	131	⇓P	Pn	17 49 26.6	+0.9		
	baz=14								
SNOW	**Snow King Moun**	13.51	88	⇑*e*Pn	Pn	17 49 27.7	+1.7		
I17A	**Pilgrim Ck.**	13.56	86	⇑P	Pn	17 49 28.5	+1.8		
	baz=14,SNR=27								
LOHW	**Long Hollow**	13.60	87	⇑*e*Pn	Pn	17 49 28.9	+1.8		
NLU	**North Lily Min**	13.63	103	*e*Pn	Pn	17 49 27.5	-0.1		
BFSC	**Mount Baldy Ra**	13.65	134	⇑P	Pn	17 49 26.5	-1.3		
	baz=14,SNR=8.3								
TCUT	**Toone Canyon**	13.66	98	⇑*e*Pn	Pn	17 49 28.8	+0.8		
	150nm,1.6s								
TUQ	**Turquoise Moun**	13.71	126	⇑P	Pn	17 49 30.6	+2.0		
	baz=14								
FMP	**Fort Macarthur**	13.75	137	⇓P	Pn	17 49 31.1	+2.1		
	baz=14								
EDM	**Edmonton**	13.76	45	*e*P	Pn	17 49 29.2	+0.1		
EDM	**Edmonton**	13.76	45	*e*Pn	Pn	17 49 29.2	+0.1		
JLU	**Jordanelle**	13.82	100	*e*Pn	Pn	17 49 30.1	0.0		
HEC	**Hector,Ludlow**	13.91	129	⇑P	Pn	17 49 31.3	0.0		
	baz=14,SNR=15								
MPU	**Maple Canyon**	13.92	102	*e*Pn	Pn	17 49 31.6	+0.1		
BBRC	**Big Bear Solar**	14.02	132	⇓P	Pn	17 49 34.6	+1.7		
	baz=14								
DLBC	**Dease Lake**	14.04	359	Pn	P	17 49 37.3	-3.6		
	0.6nm,0.3s,baz=179,slow=13,SNR=22								
DLBC					LR	LR	17 54 22.6		
	comp=Z,12µm,20.1s,baz=176,slow=34								
DLBC	**Dease Lake**	14.04	359	*e*Pn	Pn	17 49 34.4	+1.4		
GCMT	**Greycliff**	14.04	77	*e*Pn	Pn	17 49 34.9	+1.7		
EGMT	**Eagleton**	14.10	68	*e*Pn	Pn	17 49 33.5	-0.4		
EGMT	**Eagleton**	14.10	68	⇑P	Pn	17 49 33.4	-0.4		
	baz=14,SNR=14								
H18A	**Shoshone NF, C**	14.12	82	⇑P	Pn	17 49 34.6	+0.4		
	baz=14,SNR=5.4								
MVU	**Marysvale**	14.21	109	*e*Pn	Pn	17 49 36.3	+0.8		
MSU	**Marysvale**	14.23	109	*e*P	Pn	17 49 36.9	+1.1		
MSU	**Marysvale**	14.23	109	*e*Pn	Pn	17 49 36.9	+1.1		
GMRC	**Granite Mounta**	14.33	128	⇓P	Pn	17 49 37.6	+0.6		
	baz=14,SNR=9.2								
RLMT	**Red Lodge**	14.36	80	*e*Pn	Pn	17 49 38.3	+0.8		
MURC	**Murrieta**	14.39	135	⇓P	Pn	17 49 37.3	-0.5		
	baz=14								
LDFC	**Landfair**	14.43	125	*e*Pn	Pn	17 49 39.2	+0.8		
BW06	**Boulder Array**	14.51	90	*e*Pn	Pn	17 49 40.7	+1.0		
PDAR	**Pinedale Array**	14.52	90	Pn	Pn	17 49 42.0	+2.3		
	0.0nm,0.3s,baz=297,slow=13,SNR=16								
PDAR					LR	LR	17 55 22.2		
	comp=Z,9µm,19.5s,baz=284,slow=38								
PDAR	**Pinedale Array**	14.52	90	Pn	Pn	17 49 42.0	+2.3		
TMUT	**Trail Mountain**	14.52	104	*e*Pn	Pn	17 49 40.4	+0.5		
C19A	**Slack Wire Ran**	14.54	70	P	Pn	17 49 40.6	+0.7		
	baz=14,SNR=63								
F19A	**Roth Farm, Mol**	14.55	77	⇓P	Pn	17 49 39.8	-0.2		
	baz=14,SNR=8.3								
BESE	**Bessie Mountai**	14.57	349	*e*Pn	P	17 49 43.5	-3.1		
H19A	**Powell**	14.60	82	⇑P	Pn	17 49 41.9	+1.1		
	baz=15,SNR=14								
KNB	**Kanab**	14.61	115	*e*P	Pn	17 49 42.4	+1.5		
KNB	**Kanab**	14.61	115	*e*Pn	Pn	17 49 42.4	+1.5		
D19A	**Cripps Ranch,**	14.61	72	⇑P	Pn	17 49 41.4	+0.5		
	baz=15,SNR=40								
E19A	**Rath Farm, Rou**	14.65	75	⇓P	Pn	17 49 41.2	-0.2		
	baz=15,SNR=12								
I19A	**Meeteetse**	14.68	84	⇓P	Pn	17 49 42.2	+0.3		
	baz=15,SNR=9.4								
B19A	**Brinkman Farms**	14.70	67	⇑P	Pn	17 49 41.9	-0.1		
	baz=15								
BELC	**Belle Mtn. Jos**	14.71	130	⇑P	Pn	17 49 42.3	-0.1		
	baz=15,SNR=12								
PFO	**Pinyon Flats O**	14.77	133	Pn	Pn	17 49 42.2	-0.8		
	134nm,1.2s,SNR=6.1								
PFO	**Pinyon Flats O**	14.77	133	*e*P	Pn	17 49 42.0	-1.0		
PFO	**Pinyon Flats O**	14.77	133	*e*Pn	Pn	17 49 42.0	-1.0		
PFO	**Pinyon Flats O**	14.77	133	⇑P	Pn	17 49 41.6	-1.4		
	baz=15								
J19A	**Crowheart**	14.77	87	⇓P	Pn	17 49 44.1	+1.0		
	baz=15,SNR=13								
A19A	**Klindworth Far**	14.90	65	⇑P	Pn	17 49 43.7	-1.1		
	baz=15								
NEE2	**Needles Airpor**	14.94	125	⇑P	Pn	17 49 47.7	+2.4		
	baz=15								
IRM	**Iron Mountain**	15.06	128	⇑P	Pn	17 49 46.7	-0.3		
	baz=15,SNR=18								
SRU	**San Rafael Swe**	15.08	104	*e*P	Pn	17 49 47.7	+0.4		
SRU	**San Rafael Swe**	15.08	104	*e*Pn	Pn	17 49 47.7	+0.4		
G20A	**Bridger**	15.10	79	⇓P	Pn	17 49 47.5	+0.1		
	baz=15,SNR=7.2								
E20A	**Meyer Farm, Mu**	15.11	75	⇓P	Pn	17 49 46.6	-0.9		
	baz=15								
F20A	**Billings**	15.11	77	⇑P	Pn	17 49 47.0	-0.6		
	baz=15								
W13A	**Hualapai Mount**	15.14	123	⇓P	Pn	17 49 50.0	+1.8		
	baz=15								
C20A	**Veseth Ranch,**	15.24	70	⇓P	Pn	17 49 48.4	-0.8		
	baz=15,SNR=11								
BC3	**Big Chuckawall**	15.27	130	⇑P	Pn	17 49 50.1	+0.3		
	baz=15,SNR=15								
B20A	**Solberg Farm,**	15.30	67	⇓P	Pn	17 49 49.3	-0.8		
	baz=15,SNR=13								
I20A	**Worland**	15.31	84	⇓P	Pn	17 49 52.0	+1.8		
	baz=15,SNR=6.3								
H20A	**Greybull**	15.32	82	⇑P	Pn	17 49 51.9	+1.5		
	baz=15,SNR=10.0								
MONP	**Monument Peak,**	15.35	134	⇓P	Pn	17 49 49.0	-1.8		
	baz=15,SNR=16								
BAR	**Barrett**	15.38	135	*e*Pn	Pn	17 49 51.0	-0.2		
	258nm,2.1s								
A20A	**Cobblestone Ra**	15.43	66	⇓P	Pn	17 49 50.2	-1.5		
	baz=15,SNR=16								
J20A	**Shoshoni**	15.45	86	⇑P	Pn	17 49 52.4	+0.4		
	baz=15,SNR=20								
SKAG	**Skagway**	15.48	349	*e*Pn	P	17 49 55.4	-1.3		
	471nm,2.4s								
PDMCI	**Parker Dam,Lak**	15.54	125	⇑P	Pn	17 49 53.9	+0.6		
	baz=16,SNR=7.5								
SWSC	**Sam W. Stewart**	15.63	133	⇑P	Pn	17 49 53.5	-0.9		
	baz=16								
IBP	**Imperial Bould**	15.70	134	⇓P	Pn	17 49 55.0	-0.3		
	baz=16								
Y12C	**Blythe**	15.72	128	⇓P	Pn	17 49 55.9	+0.4		
	baz=16								
G21A	**Lodge Grass**	15.80	79	⇑P	Pn	17 49 57.4	+0.8		
	baz=16								
F21A	**Absaloka Mine,**	15.82	77	⇑P	Pn	17 49 56.3	-0.6		
	baz=16								
E21A	**Keefer Ranch,**	15.83	74	⇑P	Pn	17 49 57.8	+0.8		
	baz=16,SNR=7.4								
C21A	**Desert Coulee**	15.86	70	⇑P	Pn	17 49 56.5	-0.9		
	baz=16,SNR=8.4								
J21A	**Lysite**	15.90	86	⇓P	Pn	17 49 58.0	-0.1		
	baz=16,SNR=34								
I21A	**Big Trails, Te**	15.93	84	⇓P	Pn	17 49 58.6	+0.3		
	baz=16,SNR=36								
B21A	**Ellsworth Farm**	15.97	68	⇑P	Pn	17 49 57.9	-0.8		
	baz=16								
H21A	**Big Horn, Sher**	15.98	81	⇑P	Pn	17 50 00.1	+1.1		
	baz=16,SNR=5.9								
N20A	**Spence Gulch,**	16.00	96	⇓P	Pn	17 49 58.5	-0.8		
	baz=16,SNR=49								
GLA	**Glamis**	16.07	130	*e*P	Pn	17 50 00.5	+0.4		
GLA				pmax	pmax				
	comp=Z,78nm,1.3s								
GLA	**Glamis**	16.07	130	*e*Pn	Pn	17 50 00.5	+0.4		
	comp=Z,78nm,1.3s								
GLA	**Glamis**	16.07	130	⇓P	Pn	17 49 59.7	-0.3		
	baz=16								
A21A	**Bergtoll Ranch**	16.10	66	⇓P	Pn	17 49 58.9	-1.5		
	baz=16								
K21A	**Alcova**	16.20	89	⇑P	Pn	17 50 00.0	-1.8		
	baz=16,SNR=6.9								
O20A	**White River Ci**	16.26	98	*e*Pn	Pn	17 50 01.9	-0.8		
	comp=Z,156nm,1.3s								
O20A	**White River Ci**	16.26	98	⇓P	Pn	17 50 02.7	0.0		
	baz=16,SNR=7.3								
PV09	**Paradox Valley**	16.33	104	*e*Pn	Pn	17 50 03.8	+0.2		
LAO	**LASA Array**	16.42	74	*e*Pn	Pn	17 50 04.1	-0.4		
	comp=Z,298nm,1.7s								
F22A	**Rosebud**	16.43	77	⇑P	Pn	17 50 04.7	+0.1		
	baz=16								
WUAZ	**Wupatki**	16.44	117	*e*Pn	P	17 50 06.2	-1.5		
	comp=Z,92nm,1.2s								
WUAZ	**Wupatki**	16.44	117	⇑P	Pn	17 50 05.6	+0.6		
	baz=16,SNR=18								
G22A	**Bixby**	16.45	79	⇓P	Pn	17 50 04.3	-0.7		
	baz=16								
PV10	**Paradox Valley**	16.45	104	*e*Pn	P	17 50 07.4	-0.5		
D22A	**Cohagen**	16.45	72	⇓P	Pn	17 50 05.1	+0.1		
	baz=16,SNR=9.0								
H22A	**Clearmont**	16.48	81	⇑P	Pn	17 50 04.3	-1.0		
	baz=16,SNR=12								
I22A	**9 Mile Ranch,**	16.49	84	⇓P	Pn	17 50 05.1	-0.4		
	baz=16,SNR=22								
PV05	**Paradox Valley**	16.55	105	*e*Pn	Pn	17 50 07.0	+0.6		
J22A	**Midwest**	16.58	85	⇑P	Pn	17 50 06.3	-0.4		
	baz=16,SNR=39								
E22A	**Miles City**	16.61	75	⇑P	Pn	17 50 06.7	-0.2		
	baz=17								
B22A	**Reddig Ranch S**	16.63	68	⇓P	Pn	17 50 07.0	-0.2		
	baz=17								
C22A	**Vida**	16.67	70	⇑P	Pn	17 50 07.5	-0.2		
	baz=17								
K22A	**Casper**	16.71	88	*e*Pn	P	17 50 10.1	-0.6		
	comp=Z,98nm,1.4s								
K22A	**Casper**	16.71	88	⇑P	Pn	17 50 06.9	-1.5		
	baz=17								
A22A	**Carney Farms,**	16.76	66	⇓P	Pn	17 50 07.9	-0.9		
	baz=17,SNR=18								
113A	**Mohawk Valley,**	16.87	128	⇓P	Pn	17 50 10.2	0.0		
	baz=17								
PV01	**Paradox Valley**	16.89	105	*e*Pn	Pn	17 50 10.2	-0.5		
L22A	**Ellis Ranch, M**	16.94	90	⇓P	Pn	17 50 09.8	-1.5		
	baz=17,SNR=14								
M22A	**Cedar Creek Ra**	17.00	92	⇑P	Pn	17 50 10.9	-1.2		
	baz=17,SNR=12								
F23A	**Volborg**	17.03	77	⇑P	Pn	17 50 11.2	-1.0		
	baz=17,SNR=14								
E23A	**Ismay**	17.06	74	⇓P	Pn	17 50 13.0	+0.4		
	baz=17								
G23A	**Biddle**	17.08	79	⇓P	Pn	17 50 12.3	-0.7		
	baz=17								
X16A	**Lo Mia Camp, P**	17.10	120	⇓P	P	17 50 14.3	-0.7		
	baz=17,SNR=12								
HYT	**Haines Junctio**	17.12	347	*e*Pn	P	17 50 14.8	-0.3		
C23A	**Lambert**	17.15	70	⇑P	Pn	17 50 13.4	-0.2		
	baz=17,SNR=25								
H23A	**Clabaugh Cattl**	17.15	81	⇑P	Pn	17 50 13.1	-0.7		
	baz=17								
I23A	**Meade Ranch, G**	17.20	83	⇓P	Pn	17 50 13.8	-0.8		
	baz=17								
J23A	**Dilts Ranch, B**	17.24	85	⇓P	Pn	17 50 15.7	+0.6		
	baz=17								
N22A	**Wattenberg Ran**	17.30	94	⇓P	Pn	17 50 15.0	-0.9		
	baz=17,SNR=27								
B23A	**Brockton**	17.31	68	⇑P	Pn	17 50 15.2	-0.6		
	baz=17								
K23A	**Bowen Ranch, D**	17.33	87	⇓P	Pn	17 50 15.4	-0.8		
	baz=17								
MVCO	**Mesa Verde**	17.39	107	*e*Pn	Pn	17 50 16.9	-0.1		
	comp=Z,451nm,1.8s								
MVCO	**Mesa Verde**	17.39	107	⇑P	Pn	17 50 16.7	-0.4		
	baz=17,SNR=20								
A23A	**Redstone**	17.43	66	⇑P	Pn	17 50 16.3	-0.9		
	baz=17								
L23A	**Garrett**	17.44	89	⇑P	Pn	17 50 15.7	-1.9		
	baz=17,SNR=9.6								
O22A	**Kremmling**	17.46	96	P	Pn	17 50 17.5	-0.4		
	baz=17,SNR=79								
P22A	**Eagle**	17.52	98	⇓P	Pn	17 50 17.8	-0.8		
	baz=18								
SMCO	**Snowmass**	17.54	100	*e*Pn	Pn	17 50 18.2	-0.8		
	comp=Z,48nm,1.1s								
M23A	**Laramie**	17.61	91	⇓P	Pn	17 50 18.1	-1.6		
	baz=18								
N23A	**Red Feather La**	17.63	93	*e*Pn	Pn	17 50 19.6	-0.5		
	comp=Z,185nm,1.4s								
N23A	**Red Feather La**	17.63	93	⇓P	Pn	17 50 18.4	-1.6		
	baz=18,SNR=20								
C24A	**Savage**	17.65	71	⇑P	Pn	17 50 19.7	-0.3		
	baz=18,SNR=15								
F24A	**Ekalaka**	17.69	77	⇑P	Pn	17 50 19.8	-0.7		
	baz=18								
D24A	**Glendive**	17.72	72	⇑P	P	17 50 21.9	+0.3		
	baz=18								
H24A	**Dirks Ranch, A**	17.73	80	⇓P	Pn	17 50 20.3	-0.7		
	baz=18,SNR=17								
E24A	**Baker**	17.74	74	⇓P	Pn	17 50 21.2	0.0		
	baz=18								
W18A	**Petrified Fore**	17.74	115	*e*Pn	P	17 50 22.3	+0.2		
	comp=Z,208nm,1.5s								
W18A	**Petrified Fore**	17.74	115	⇑P	P	17 50 21.8	-0.3		
	baz=18								
G24A	**Alzada**	17.75	78	⇓P	Pn	17 50 21.3	0.0		
	baz=18								
I24A	**Kuemmerle Ranc**	17.82	83	⇓P	Pn	17 50 21.7	-0.4		
	baz=18								
DGMT	**Dagmar**	17.84	68	*e*Pn	P	17 50 23.3	+0.3		
	comp=Z,364nm,1.6s								
DGMT	**Dagmar**	17.84	68	⇑P	Pn	17 50 22.1	-0.2		
	baz=18								
PHWY	**Pilot Hill**	17.85	92	*e*Pn	Pn	17 50 21.8	-0.9		
	comp=Z,313nm,2.5s								
O23A	**Lake Granby, G**	17.89	95	⇑P	Pn	17 50 22.3	-0.9		
	baz=18,SNR=28								
J24A

DIV **Divide** 19.33 336 *eP* Pn 17 50 40.1 -0.2
comp=Z,164nm,1.7s
L26A **Underwood Farm** 19.34 88 ⇓P P 17 50 39.5 -0.1
baz=19
F27A **Lemmon** 19.37 76 ⇓P P 17 50 40.2 +0.3
baz=19,SNR=5.2
M26A **McRoberts Ranc** 19.46 90 ⇓P P 17 50 40.4 -0.5
baz=19
G27A **Dupree** 19.49 77 ⇑P P 17 50 41.1 0.0
baz=19,SNR=9.3
H27A **Howes** 19.49 80 ⇓P P 17 50 41.5 +0.3
baz=19
N26A **Koester Ranch,** 19.60 91 ⇑P P 17 50 42.0 -0.5
baz=20
I27A **Quinn** 19.61 81 ⇑P P 17 50 41.3 -1.1
baz=20
KDAK **Kodiak Island** 19.61 321 *eP* Pn 17 50 44.0 +0.4
KDAK pmax pmax
comp=Z,222nm,1.5s
KDAK **Kodiak Island** 19.61 321 *eP* Pn 17 50 44.0 +0.4
comp=Z,222nm,1.5s
C27A **Sayler Ranch,** 19.63 70 ⇓P P 17 50 43.0 +0.4
baz=20
D27A **Center** 19.63 72 ⇑P P 17 50 43.0 +0.4
baz=20
OHAK **Old Harbor** 19.64 319 *eP* P 17 50 42.8 +0.2
comp=Z,509nm,1.8s
E27A **Carson** 19.64 74 ⇑P P 17 50 43.1 +0.3
baz=20,SNR=6.0
KLU **Klutina** 19.66 336 *eP* Pn 17 50 45.8 +1.5
comp=Z,344nm,2.2s
O26A **Horse Wrangler** 19.74 93 ⇓P P 17 50 44.6 +0.6
baz=20
K27A **Flueckinger Fa** 19.77 85 ⇑P Pn 17 50 45.9 +0.1
baz=20
SEW **Seward** 19.78 330 *eP* Pn 17 50 45.7 +0.1
comp=Z,262nm,1.7s
B27A **Peters Farms,** 19.79 68 ⇓P P 17 50 44.8 +0.4
baz=20
J27A **Elkhorn Farm,** 19.80 84 ⇑P Pn 17 50 46.3 +0.1
baz=20
A27A **Ledoux Ranch,** 19.82 67 ⇑P Pn 17 50 45.8 -0.4
baz=20,SNR=5.8
L27A **T5 Ranch, Ells** 19.88 87 ⇑P Pn 17 50 46.4 -0.7
baz=20
LAZ **Ladron** 19.88 113 *eP* Pn 17 50 47.0 -0.2
P26A **Davis Ranch, A** 19.97 95 ⇓P Pn 17 50 47.8 -0.4
baz=20,SNR=7.2
M27A **Reverse DX Ran** 19.98 89 ⇑P P 17 50 46.5 -0.1
baz=20
ANMO **Albuquerque** 20.01 110 P Pn 17 50 48.6 -0.3
comp=Z,11nm,1.0s,baz=309,slow=11,SNR=11
ANMO LR LR 17 58 51.1
comp=Z,3μm,21.4s,baz=304,slow=38
ANMO **Albuquerque** 20.01 110 *eP* P 17 50 46.3 -0.8
ANMO pmax pmax
comp=Z,75nm,2.5s
ANMO **Albuquerque** 20.01 110 *eP* P 17 50 47.0 -0.1
comp=Z,268nm,2.8s
YKA **Yellowknife Ar** 20.06 20 P Pn 17 50 48.3 -0.5
comp=Z,14nm,0.9s,baz=212,slow=11,SNR=42
BRLK **Bradley Lake** 20.09 327 *eP* Pn 17 50 49.9 +0.5
comp=Z,154nm,1.7s
Q26A **Hugo** 20.10 97 P P 17 50 48.5 +0.6
baz=20,SNR=21
N27A **Anderson Farm,** 20.10 91 ⇓P P 17 50 47.8 -0.1
baz=20
LENM **Lemitar** 20.13 113 *eP* Pn 17 50 50.1 -0.1
Y22D **IRIS PASSCAL I** 20.22 113 ⇑P P 17 50 49.0 -0.2
baz=20
F28A **McLaughlin** 20.22 76 ⇓P P 17 50 49.8 +0.7
baz=20
H28A **Mission Ridge** 20.23 79 ⇑P P 17 50 49.5 +0.3
baz=20
E28A **Huff** 20.23 74 ⇑P P 17 50 49.9 +0.7
baz=20
G28A **Parade** 20.24 78 ⇑P Pn 17 50 50.7 -0.6
baz=20
I28A **Midland** 20.25 81 ⇓P P 17 50 50.0 +0.6
baz=20,SNR=6.6
T25A **Trinidad** 20.26 102 *eP* P 17 50 50.6 +0.8
comp=Z,104nm,1.1s
T25A **Trinidad** 20.26 102 P P 17 50 50.6 +0.8
baz=20,SNR=35
LPM **Los Pinos Moun** 20.27 112 *eP* Pn 17 50 50.8 -1.1
D28A **Regan** 20.28 72 ⇑P Pn 17 50 50.7 -0.9
baz=20
MENT **Mentasta** 20.30 341 *eP* Pn 17 50 51.7 0.0
J28A **Allard Ranch,** 20.32 83 ⇑P P 17 50 50.4 +0.3
baz=20
SCM **Sheep Creek Mo** 20.35 335 *eP* Pn 17 50 52.6 +0.1
SCM **Sheep Creek Mo** 20.35 335 *eP* Pn 17 50 52.6 +0.1
O27A **Beecher Island** 20.36 93 ⇓P P 17 50 50.9 +0.2
baz=20
BNM **Barren Site** 20.37 112 *eP* Pn 17 50 52.0 -1.1
C28A **Hausauer Farms** 20.38 70 ⇓P P 17 50 51.5 +0.7
baz=20
K28A **Ten Mile Ranch** 20.39 85 ⇓P P 17 50 51.2 +0.2
baz=20
B28A **Dugan Ranch, T** 20.39 68 ⇓P P 17 50 51.7 +0.8
baz=20,SNR=7.8
R26A **Arlington** 20.41 98 P Pn 17 50 52.5 -0.9
baz=20,SNR=19
OGNE **Ogallala** 20.42 90 P P 17 50 52.2 +0.9
comp=Z,77nm,1.1s
OGNE LR LR
comp=Z,6μm,19.0s
OGNE **Ogallala** 20.42 90 ⇓P P 17 50 51.2 -0.1
baz=20
FFC **Flin Flon** 20.46 50 P P 17 50 51.3 -0.2
comp=Z,339nm,1.2s,SNR=19
FFC **Flin Flon** 20.46 50 *eP* P 17 50 52.0 +0.5
FFC pmax pmax
comp=Z,56nm,1.0s
FFC MLR MLR
comp=Z,8μm,20.0s
FFC **Flin Flon** 20.46 50 *eP* P 17 50 52.0 +0.5
comp=Z,56nm,1.0s
FFC LR LR
comp=Z,8μm,20.0s
A28A **Rude Farm, Bot** 20.46 67 ⇑P P 17 50 52.1 +0.4
baz=20
L28A **Connealy Angus** 20.46 87 ⇑P P 17 50 52.4 +0.6
baz=20
DAWY **Dawson** 20.48 347 *eP* Pn 17 50 53.9 0.0
P27A **Ficken Ranch,** 20.52 94 ⇑P P 17 50 52.7 +0.2
baz=20
RC01 **Rabbit Creek A** 20.57 331 *eP* P 17 50 53.8 +1.1
comp=Z,183nm,1.6s
121A **Cookes Peak, D** 20.64 118 *eP* P 17 50 54.3 +0.5
comp=Z,127nm,1.3s
121A **Cookes Peak, D** 20.64 118 ⇑P P 17 50 54.7 +0.9
baz=21,SNR=26
KSCO **Kaye Shedlock'** 20.70 96 *eP* P 17 50 54.4 0.0
comp=Z,652nm,2.4s
KSCO **Kaye Shedlock'** 20.70 96 ⇓P P 17 50 53.6 -0.8
baz=21
S26A **Kim** 20.70 100 P Pn 17 50 55.5 -1.3
baz=21,SNR=14
M28A **Bar X Bar Ranc** 20.75 89 ⇑P P 17 50 55.1 +0.2
baz=21
PAX **Paxson** 20.75 339 *eP* Pn 17 50 56.2 -1.0
PAX pmax pmax
comp=Z,285nm,2.2s
PAX **Paxson** 20.75 339 *eP* Pn 17 50 56.2 -1.0
comp=Z,285nm,2.2s
H29A **Onida** 20.81 79 ⇓P P 17 50 56.4 +1.0
baz=21
T26A **Comanche Natio** 20.82 101 P P 17 50 56.5 +0.7
baz=21,SNR=24
I29A **Vivian Onida** 20.85 81 ⇑P Pn 17 50 57.3 -1.2
baz=21
N28A **Pribbeno Ranch** 20.86 91 ⇓P P 17 50 55.6 -0.5
baz=21
R27A **Eads** 20.88 98 P P 17 50 56.5 +0.2
baz=21,SNR=20
O28A **Krutsinger Ran** 20.88 92 ⇑P P 17 50 55.9 -0.5
baz=21
F29A **Eureka** 20.90 76 ⇑P P 17 50 56.1 -0.4
baz=21
MDND **Maddock** 20.91 70 P P 17 50 56.0 -0.5
comp=Z,205nm,1.4s
MDND **Maddock** 20.91 70 ⇑P P 17 50 55.4 -1.0
baz=21
G29A **Hoven** 20.92 77 ⇓P P 17 50 57.3 +0.6
baz=21
D29A **Pettibone, Tap** 20.95 72 ⇑P P 17 50 56.6 -0.4
baz=21
E29A **Napoleon** 20.95 74 ⇓P P 17 50 56.6 -0.4
baz=21
J29A **Okreek** 20.97 83 ⇓P P 17 50 56.8 -0.4
baz=21
DOT **Dot Lake** 20.99 342 *eP* Pn 17 50 59.1 -0.8
comp=Z,98nm,1.5s
B29A **Wagenman Farm,** 21.06 68 ⇑P P 17 50 58.9 +0.7
baz=21
S27A **Las Animas** 21.07 99 ⇑P P 17 50 58.7 +0.2
baz=21
P28A **Saint Francis** 21.10 94 ⇑P P 17 50 58.6 -0.1
baz=21
K29A **Lazy Trails An** 21.12 84 ⇓P P 17 50 59.2 +0.2
baz=21
A29A **Manning Farm,** 21.15 67 P P 17 50 59.7 +0.7
baz=21,SNR=12
L29A **Maesberg Ranch** 21.20 86 ⇓P P 17 50 58.9 -0.8
baz=21
M29A **Burnside Ranch** 21.22 88 ⇓P P 17 50 58.5 -1.5
baz=21
Q28A **Sharon Springs** 21.24 95 ⇑P P 17 51 00.2 -0.1
baz=21
SCRK **Sand Creek** 21.26 342 *eP* P 17 51 01.5 +1.3
EGAK **Eagle** 21.43 346 *eP* P 17 51 03.5 +1.6
comp=Z,246nm,2.1s
EGAK LR LR
comp=Z,4μm,21.0s
SPU **Mount Spurr** 21.46 329 *eP* P 17 51 05.2 +2.9
E30A **Jud** 21.46 74 ⇑P P 17 51 01.1 -1.4
baz=21
N29A **Votaw Ranch, W** 21.47 90 ⇑P P 17 51 00.8 -1.9
baz=21
G30A **Faulkton** 21.47 77 ⇑P P 17 51 02.9 +0.3
baz=21
T27A **Campo** 21.49 101 P P 17 51 03.5 +0.6
baz=21,SNR=19
I30A **Oaoma** 21.50 81 ⇑P P 17 51 02.8 -0.1
baz=21
D30A **Buchanan** 21.52 72 ⇑P P 17 51 02.7 -0.4
baz=22,SNR=11
DDM **Donnelly Dome** 21.53 340 *eP* P 17 51 05.3 +2.2
comp=Z,453nm,1.6s
R28A **Tribune** 21.55 97 ⇓P P 17 51 03.2 -0.4
baz=22,SNR=8.7
J30A **Dallas** 21.58 82 ⇑P P 17 51 02.3 -1.5
baz=22
O29A **4D Ranch, Culb** 21.58 91 ⇑P P 17 51 02.7 -1.1
baz=22
K30A **Basset** 21.65 84 ⇓P P 17 51 03.7 -0.8
baz=22
C30A **Mose, Pekin** 21.67 70 ⇑P P 17 51 03.3 -1.4
baz=22
P29A **Atwood** 21.68 93 ⇓P P 17 51 04.1 -0.8
baz=22
BRSD **Miller** 21.72 79 *eP* P 17 51 04.0 -1.3
comp=Z,100nm,1.0s
BRSD **Miller** 21.72 79 ⇑P P 17 51 03.8 -1.5
baz=22
U27A **Thompson Grove** 21.72 102 ⇓P P 17 51 04.4 -1.1
baz=22
B30A **Myrvik Farm, E** 21.75 68 ⇑P P 17 51 05.2 -0.3
baz=22,SNR=13
A30A **Hoffart Farm,** 21.76 67 ⇑P P 17 51 04.6 -1.0
baz=22,SNR=7.3
L30A **Spicer Herefo** 21.77 86 ⇓P P 17 51 05.0 -0.8
baz=22
M30A **Dale-Ortello V** 21.78 87 ⇑P P 17 51 04.8 -1.2
baz=22
CHGN **Chignik** 21.79 313 *eP* P 17 51 07.6 +1.9
S28A **Manter** 21.82 99 ⇓P P 17 51 06.1 -0.4
baz=22
N30A **Hueftle Ranch,** 21.85 89 ⇓P P 17 51 04.5 -2.2
baz=22
T28A **Walsh** 21.89 100 ⇓P P 17 51 07.5 +0.3
baz=22
Q29A **Oakley** 21.92 95 ⇑P P 17 51 07.1 -0.4
baz=22
R29A **Marienthal** 22.00 96 ⇑P P 17 51 07.6 -0.8
baz=22
RND **Reindeer** 22.02 337 *eP* P 17 51 10.0 +1.7
RND **Reindeer** 22.02 337 *eP* P 17 51 10.0 +1.7
V27A **Dan Oppiter Fa** 22.05 104 ⇓P P 17 51 08.3 -0.7
baz=22
O30A **MW Ranch, Wils** 22.09 91 ⇓P P 17 51 08.9 -0.5
baz=22
U28A **Mallet** 22.16 102 ⇓P P 17 51 09.1 -1.1
baz=22,SNR=13
P30A **Selden** 22.19 92 ⇓P P 17 51 08.9 -1.5
baz=22,SNR=6.5
MCK **McKinley** 22.29 337 *eP* P 17 51 11.3 +0.1
MCK **McKinley** 22.29 337 *eP* P 17 51 11.3 +0.1
L31A **Butterfield Fa** 22.34 85 ⇓P P 17 51 11.1 -0.8
baz=22
S29A **Ulysses** 22.36 98 ⇓P P 17 51 11.8 -0.5
baz=22
Q30A **Quinter** 22.43 94 ⇑P P 17 51 13.2 +0.2
baz=22
T29A **Hugoton** 22.45 99 ⇓P P 17 51 12.4 -0.8
baz=22
TRF **Thorofare Moun** 22.47 335 *eP* P 17 51 14.2 +0.9
M31A **Lambtecht Ranc** 22.48 87 ⇑P P 17 51 10.5 -3.0
baz=22
V28A **Channing** 22.48 103 ⇓P P 17 51 12.5 -1.1
baz=22,SNR=5.6
ILAR **Eielson Array** 22.60 340 P P 17 51 15.8 +1.4
comp=Z,15nm,1.1s,baz=154,slow=7.2,SNR=40
ILAR PcP PcP 17 55 09.0 +1.9
comp=Z,1.0nm,0.9s,baz=172,slow=3.2,SNR=4.4
ILAR LR LR 17 58 35.6
comp=Z,4μm,20.4s,baz=160,slow=33
O31A **Woolen Ranch,** 22.63 90 ⇑P P 17 51 13.5 -1.5
baz=23
WRH **Wood River Hil** 22.65 339 *eP* P 17 51 15.9 +0.9
N31A **Bailey Ranch,** 22.66 88 ⇑P P 17 51 13.5 -1.9
baz=23
PPLA **Purkeypile** 22.67 333 *eP* P 17 51 16.0 +0.6
comp=Z,446nm,1.9s
R30A **Dighton** 22.67 96 ⇓P P 17 51 15.1 -0.5
baz=23
MNTX **Cornudas Mount** 22.72 116 *eP* P 17 51 16.1 0.0
comp=Z,190nm,2.1s
MNTX LR LR
comp=Z,1μm,21.0s
MNTX **Cornudas Mount** 22.72 116 ⇑P P 17 51 16.3 +0.3
baz=23,SNR=17
CCB **Clear Creek Bu** 22.72 339 *eP* P 17 51 15.9 +0.1
KTH **Kantishna Hill** 22.74 335 *eP* P 17 51 16.5 +0.5
SVW2 **Sparrevohn** 22.75 326 *eP* P 17 51 16.0 -0.1
comp=Z,103nm,1.7s
W28A **Vega** 22.75 104 ⇓P P 17 51 16.0 -0.4
baz=23
BWN **Browne** 22.78 337 *eP* P 17 51 17.8 +1.4
U29A **Oasis Ranch, S** 22.80 101 ⇓P P 17 51 16.8 -0.1
baz=23
S30A **Montezuma** 22.82 97 ⇑P P 17 51 15.2 -1.9
baz=23
P31A **Stockton** 22.82 92 ⇓P P 17 51 15.2 -1.9
baz=23
V29A **Stinnett** 22.91 102 ⇓P P 17 51 17.7 -0.4
baz=23
COLA **College** 22.92 340 *deP* P 17 51 18.6 +0.8
COLA pmax pmax
comp=Z,295nm,2.5s
COLA **College** 22.92 340 *eP* P 17 51 18.7 +0.9
comp=Z,392nm,2.3s
COLA LR LR
comp=Z,4μm,21.0s
CAST **Castle Rocks** 23.00 334 *eP* P 17 51 19.0 +0.2
Q31A **Ellis** 23.01 93 ⇑P P 17 51 17.5 -1.5
baz=23,SNR=8.5
T30A **Plains** 23.04 99 ⇑P P 17 51 17.9 -1.5
baz=23
BGNE **Belgrade** 23.05 87 ⇓P P 17 51 19.0 -0.5
baz=23
MSTX **Muleshoe** 23.07 108 *eP* P 17 51 18.8 -1.0
comp=Z,51nm,1.4s
MSTX **Muleshoe** 23.07 108 ⇓P P 17 51 19.5 -0.3
baz=23
MDM **Murphy Dome** 23.08 340 *eP* P 17 51 20.7 +1.1
N32A **Stulken Farm,** 23.16 88 ⇑P P 17 51 19.4 -1.1
baz=23
X28A **Dimmitt** 23.16 106 ⇑P P 17 51 18.9 -1.7
baz=23
U30A **WK&E Inc. Balk** 23.20 100 ⇑P P 17 51 18.9 -2.1
baz=23
R31A **Burdett** 23.20 95 ⇓P P 17 51 19.6 -1.4
baz=23,SNR=5.2
W29A **Amarillo** 23.21 104 ⇓P P 17 51 20.5 -0.7
baz=23
AMTX **Amarillo** 23.31 105 *eP* P 17 51 21.2 -1.0
comp=Z,56nm,0.9s
AMTX **Amarillo** 23.31 105 ⇑P P 17 51 20.9 -1.3
baz=23
P32A **Huiting Farm,** 23.34 91 ⇓P P 17 51 21.4 -1.0
baz=23,SNR=8.7
O32A **Brockman Farm,** 23.34 89 ⇓P P 17 51 20.7 -1.8
baz=23
ULM **Lac du Bonnet** 23.36 64 P P 17 51 21.6 -0.9
comp=Z,13nm,0.8s,baz=279,slow=10,SNR=12
ULM LR LR 18 00 15.8
comp=Z,5μm,20.6s,baz=271,slow=36
ULM **Lac du Bonnet** 23.36 64 *eP* P 17 51 21.1 -1.4
ULM pmax pmax
comp=Z,38nm,0.9s
ULM **Lac du Bonnet** 23.36 64 *eP* P 17 51 21.1 -1.4
comp=Z,38nm,0.9s
AGMN **Agassiz Nation** 23.39 69 *eP* P 17 51 21.7 -1.1
comp=Z,103nm,1.4s
AGMN LR LR
comp=Z,5μm,19.0s
AGMN **Agassiz Nation** 23.39 69 ⇑P P 17 51 21.9 -0.9
baz=23,SNR=10.0
Y28A **McKinney Farm,** 23.46 107 ⇑P P 17 51 22.2 -1.5
baz=23,SNR=9.4
ECSD **EROS Data Cent** 23.52 80 *eP* P 17 51 23.1 -1.0
comp=Z,558nm,2.6s
ECSD LR LR
comp=Z,2μm,22.0s
ECSD **EROS Data Cent** 23.52 80 ⇑P P 17 51 22.9 -1.3
baz=24,SNR=18
S31A **Mullinville** 23.52 96 ⇑P P 17 51 23.0 -1.3
baz=24
X29A **Tulia** 23.54 105 ⇑P P 17 51 23.7 -0.8
baz=24
V30A **Spur Ranch, Mi** 23.55 102 ⇑P P 17 51 23.4 -1.2
baz=24,SNR=8.6
Q32A **Meitler Ranch,** 23.61 92 ⇑P P 17 51 24.2 -0.9
baz=24
T31A **Randall Ranch,** 23.62 98 ⇓P P 17 51 23.6 -1.6
baz=24
Z28A **Tucker Farm, M** 23.72 109 ⇑P P 17 51 24.7 -1.6
baz=24
R32A **Long Quarter,** 23.73 94 ⇓P P 17 51 24.9 -1.3
baz=24
MLY **Manley** 23.80 338 *eP* P 17 51 27.4 +0.7
U31A **Nine Bar Ranch** 23.84 99 ⇓P P 17 51 26.7 -0.7
baz=24
S32A **Newby Ranch, P** 23.88 96 ⇓P P 17 51 27.0 -0.7
baz=24
Y29A **Porterfield Fa** 23.88 107 ⇓P P 17 51 27.2 -0.6
baz=24
W30A **Crocket Farms** 23.93 103 ⇓P P 17 51 28.2 0.0
baz=24
INK **Inuvik** 24.04 356 P P 17 51 30.1 +1.3
comp=Z,11nm,1.0s,baz=176,slow=12,SNR=18
INK LR LR 17 59 58.3
comp=Z,3μm,21.8s,baz=176,slow=34
INK **Inuvik** 24.04 356 *eP* P 17 51 28.9 0.0
INK **Inuvik** 24.04 356 *eP* P 17 51 28.9 0.0
128A **Castleberry Fa** 24.05 110 ⇑P P 17 51 28.8 -0.6
baz=24,SNR=9.7
P33A **Williams Farm,** 24.06 91 ⇑P P 17 51 30.0 +0.6
baz=24
X30A **Coker Ranch, T** 24.11 105 ⇓P P 17 51 29.2 -0.7
baz=24,SNR=5.6
T32A **Huddler Ranch,** 24.12 97 ⇓P P 17 51 29.2 -0.7
baz=24
Q33A **Connelly Farm,** 24.13 92 ⇑P P 17 51 27.8 -2.2
baz=24
V31A **Spring Creek L** 24.14 101 ⇓P P 17 51 29.1 -1.1
baz=24
Z29A **Hungry Hill Ra** 24.20 108 ⇓P P 17 51 29.8 -1.0
baz=24,SNR=9.8
228A **UT Block 9, Go** 24.29 111 ⇑P P 17 51 31.0 -0.6
baz=24
R33A **Olander Ranch,** 24.30 94 ⇑P P 17 51 31.5 -0.1
baz=24
W31A **Holland Ranch,** 24.37 102 ⇓P P 17 51 31.9 -0.4
baz=24
Y30A **Stafford Cattl** 24.41 106 ⇑P P 17 51 32.0 -0.7
baz=24
U32A **Winter Ranch,** 24.44 99 ⇓P P 17 51 32.1 -0.7
baz=24
129A **Stewart Farms,** 24.46 109 ⇓P P 17 51 32.6 -0.6
baz=24
Z30A **Sanderson Ranc** 24.58 107 ⇑P P 17 51 34.0 -0.3
baz=24
S33A **Kaszmaul Farm,** 24.59 95 ⇑P P 17 51 33.5 -0.8
baz=24
X31A **McDonald Ranch** 24.63 103 ⇓P P 17 51 34.0 -0.7
baz=25,SNR=5.4
T33A **Patterson Ranc** 24.65 96 ⇓P P 17 51 34.4 -0.4
baz=25
V32A **Arapaho** 24.73 100 ⇑P P 17 51 35.5 0.0
baz=25
Y31A **Rekieta Farm,** 24.80 105 ⇑P P 17 51 34.8 -1.3
baz=25,SNR=7.4
W32A **Sentinel** 24.89 101 ⇓P P 17 51 36.3 -0.7
baz=25,SNR=5.6
229A **Bryant Ranch,** 24.90 111 ⇓P P 17 51 36.2 -0.9
baz=25
KSU1 **Kansas State U** 24.96 91 *eP* P 17 51 38.9 +1.3
comp=Z,62nm,1.2s
KSU1 LR LR
comp=Z,7μm,19.0s
KSU1 **Kansas State U** 24.96 91 ⇑P P 17 51 36.8 -0.7
baz=25
U33A **Lingo Farm, Me** 25.04 98 ⇓P P 17 51 36.9 -1.4
baz=25,SNR=6.8
329A **Wagon Wheel Ra** 25.09 112 ⇑P P 17 51 39.0 +0.2
baz=25
130A **Snyder** 25.10 108 ⇓P P 17 51 37.6 -1.3
baz=25
S34A **Willow Spring** 25.18 94 ⇑P P 17 51 38.1 -1.4
baz=25,SNR=6.0
V33A **Lossen Ranch,** 25.21 99 ⇑P P 17 51 38.5 -1.4
baz=25,SNR=9.5
X32A **Elmer** 25.23 103 P P 17 51 40.5 +0.5
baz=25,SNR=16
Y32A **R-V Farms, Ver** 25.34 104 ⇑P P 17 51 41.9 +0.8
baz=25
IM04 **Indian Mountai** 25.35 337 *eP* P 17 51 40.5 -0.3
TX31 **Lajitas Ar. Si** 25.40 118 *eP* P 17 51 40.6 -1.0
COLD **Coldfoot** 25.40 341 *eP* P 17 51 42.7 +1.5
comp=Z,129nm,1.9s
TXAR **Lajitas Array** 25.40 118 P P 17 51 40.8 -0.9
comp=Z,1.8nm,0.8s,baz=297,slow=7.9,SNR=17
TXAR LR LR 18 02 21.2
comp=Z,1μm,18.8s,baz=0.0,slow=38
WMOK **Wichita Mounta** 25.41 102 *eP* P 17 51 41.0 -0.7
WMOK MLR MLR
comp=Z,3μm,22.0s
WMOK **Wichita Mounta** 25.41 102 *eP* P 17 51 41.0 -0.7
WMOK LR LR
comp=Z,3μm,22.0s
230A **Sterling City** 25.42 110 ⇓P P 17 51 40.9 -0.9
baz=25
W33A **Caddo, Fort Co** 25.42 101 ⇓P P 17 51 41.5 -0.3
baz=25
131A **Roby** 25.44 107 ⇓P P 17 51 41.1 -0.9
baz=25
U34A **Anderson Ranch** 25.45 97 *eP* P 17 51 41.7 -0.3
U34A **Anderson Ranch** 25.45 97 ⇓P P 17 51 40.6 -1.4
baz=25
LPIG **La Paz** 25.60 136 LR LR 18 00 33.4
comp=Z,2μm,19.5s,baz=320,slow=34
330A **Mertzon** 25.67 111 ⇓P P 17 51 42.5 -1.6
baz=26,SNR=7.7
429A **Davenport Ranc** 25.69 113 P P 17 51 45.5 +1.2
baz=26,SNR=19
Z32A **Haskell** 25.71 105 ⇑P P 17 51 44.5 +0.1
baz=26,SNR=12
X33A **Lawton** 25.71 102 ⇓P P 17 51 45.5 +1.1
baz=26
UNV **Unalaska Valle** 25.74 305 *eP* P 17 51 46.0 +1.6
V34A **Guthrie** 25.75 98 *eP* P 17 51 43.7 -1.1
V34A **Guthrie** 25.75 98 ⇑P P 17 51 44.1 -0.7
baz=26,SNR=5.1
S35A **Otter Creek Ra** 25.76 94 ⇑P P 17 51 45.8 +1.0
baz=26
529A **Stev Forest Ra** 25.80 114 ⇓P P 17 51 46.2 +0.9
baz=26,SNR=23
FCC **Fort Churchill** 25.87 44 *eP* P 17 51 45.9 +0.4
FCC pmax pmax
comp=Z,41nm,1.1s
FCC **Fort Churchill** 25.87 44 *eP* P 17 51 45.9 +0.4

comp=Z,41nm,1.1s
W34A Bridge Creek, 25.87 100 *e*P P **17 51 45.8 0.0**
W34A Bridge Creek, 25.87 100 ⇑P P **17 51 46.9 +1.1**
baz=26,SNR=5.7
SPMN Marine on St. 25.87 75 *e*P P **17 51 46.4 +0.7**
Y33A Hilltop Ranch, 25.91 103 ⇓P P **17 51 46.3 +0.1**
baz=26
231A Bronte 25.93 109 ⇓P P **17 51 47.3 +0.8**
baz=26
ABTX Abilene, Hawle 25.98 107 *e*P P **17 51 46.6 -0.3**
comp=Z,73nm,1.4s
ABTX Abilene, Hawle 25.98 107 ⇓P P **17 51 48.1 +1.2**
baz=26
430A Baggett Ranch, 26.02 112 ⇑P P **17 51 46.8 -0.5**
baz=26,SNR=13
R36A Gordon, Harris 26.07 92 ⇓P P **17 51 46.5 -1.1**
baz=26
X34A Smith Ranch, M 26.15 101 ⇓P P **17 51 47.7 -0.7**
baz=26
Z33A Whitaker Ranch 26.21 105 ⇑P P **17 51 48.7 -0.3**
baz=26
331A San Angelo 26.24 110 ⇓P P **17 51 49.0 -0.2**
baz=26,SNR=8.7
S36A Lake Cedric, C 26.26 93 ⇓P P **17 51 48.6 -0.7**
baz=26
V35A Meyer Ranch, C 26.27 98 ⇓P P **17 51 49.4 0.0**
baz=26
EYMN Ely 26.34 69 *e*P P **17 51 49.9 -0.1**
comp=Z,46nm,1.3s
EYMN LR LR
comp=Z,5μm,21.0s
530A J-C Ranch, Com 26.36 113 ⇑P P **17 51 50.2 -0.1**
baz=26,SNR=11
232A Coleman 26.41 108 ⇑P P **17 51 50.2 -0.6**
baz=26,SNR=8.0
SCIA State Center 26.42 83 PFAKE 17 52 00.0 +9.3
SCIA LR LR
comp=Z,3μm,21.0s
133A Hamilton Ranch 26.49 106 P P **17 51 52.5 +1.0**
baz=26,SNR=5.1
431A Sonora 26.51 111 ⇓P P **17 51 51.5 -0.2**
baz=26,SNR=7.6
W35A Tecumseh 26.55 99 ⇑P P **17 51 51.6 -0.3**
baz=26
Y34A Reagan Ranch, 26.55 102 ⇑P P **17 51 51.7 -0.3**
baz=26
R37A Teagarden Farm 26.56 91 ⇑P P **17 51 51.6 -0.4**
baz=26,SNR=6.1
Q37A Longview Farm, 26.60 90 ⇑P P **17 51 52.0 -0.4**
baz=26
332A Millersview 26.65 109 ⇑P P **17 51 52.4 -0.6**
baz=27,SNR=8.0
Z34A Collier Ranch, 26.75 104 ⇑P P **17 51 53.6 -0.3**
baz=27
233A Rising Star 26.85 107 ⇑P P **17 51 54.1 -0.6**
baz=27,SNR=12
X35A Drake 26.86 101 ⇑P P **17 51 53.8 -1.0**
baz=27
531A Rocksprings 26.88 112 ⇓P P **17 51 55.2 +0.2**
baz=27,SNR=10
432A Menard 26.93 110 ⇓P P **17 51 54.2 -1.3**
baz=27,SNR=7.4
TUL1 Leonard 26.94 97 P P **17 51 54.4 -1.1**
TUL1 Leonard 26.94 97 ⇑P P **17 51 53.7 -1.8**
baz=27
W36A Wetumka 27.01 99 ⇓P P **17 51 56.5 +0.4**
baz=27
134A White-Moore Ra 27.09 105 ⇑P P **17 51 56.3 -0.6**
baz=27
JCT Junction City 27.17 111 *e*P P **17 51 57.1 -0.6**
JCT pmax pmax
comp=Z,38nm,1.2s
JCT MLR MLR
comp=Z,4μm,22.0s
JCT Junction City 27.17 111 *e*P P **17 51 57.1 -0.6**
comp=Z,38nm,1.2s
JCT LR LR
comp=Z,4μm,22.0s
JCT Junction City 27.17 111 P P **17 51 58.2 +0.5**
baz=27,SNR=6.0
333A Richland Sprin 27.20 108 ⇑P P **17 51 56.7 -1.3**
baz=27,SNR=11
X36A Centrahoma 27.21 100 ⇑P P **17 51 58.0 0.0**
baz=27
Z35A Perchaven, San 27.24 103 ⇓P P **17 51 57.2 -1.0**
baz=27
532A Rocksprings 27.33 111 ⇑P P **17 51 57.5 -1.6**
baz=27
631A Perdido Creek 27.34 113 ⇓P P **17 51 59.4 +0.3**
baz=27
234A Clairette 27.38 106 ⇑P P **17 51 58.9 -0.6**
baz=27
433A Art 27.48 109 P P **17 51 59.5 -0.9**
baz=27,SNR=31
135A Vickery Place, 27.56 104 ⇑P P **17 52 01.5 +0.4**
baz=28
632A Uvalde 27.80 112 P P **17 52 04.5 +1.2**
baz=28,SNR=7.2
WHTX Lake Whitney, 27.86 105 ⇓P P **17 52 04.2 +0.5**
baz=28
X37A Clayton 27.90 99 ⇑P P **17 52 04.1 0.0**
baz=28
533A Kerrville 27.94 111 ⇑P P **17 52 03.7 -0.9**
baz=28
434A Burnet 28.00 108 ⇑P P **17 52 03.8 -1.3**
baz=28,SNR=9.1
732A Laxson Ranch, 28.19 114 ⇑P P **17 52 05.6 -1.1**
baz=28
JFWS Jewell Farm 28.22 79 *e*P P **17 52 05.5 -1.4**
JFWS pmax pmax
comp=Z,19nm,0.7s
JFWS MLR MLR
comp=Z,2μm,22.0s
JFWS Jewell Farm 28.22 79 *e*P P **17 52 05.5 -1.4**
comp=Z,19nm,0.7s
JFWS LR LR
comp=Z,2μm,22.0s
COWI Conover 28.22 72 PFAKE 17 52 20.0 +13
COWI LR LR
comp=Z,8μm,21.0s
W38A Poteau 28.26 97 ⇓P P **17 52 06.6 -0.7**
baz=28
335A Moody 28.29 107 ⇓P P **17 52 05.7 -2.0**
baz=28
534A Blanco 28.35 110 ⇓P P **17 52 06.9 -1.2**
baz=28
Z37A Pogue Cattle C 28.45 102 ⇓P P **17 52 07.7 -1.3**
baz=28
435B Jarrell 28.49 108 ⇓P P **17 52 09.5 +0.2**
baz=28
336A Riesel 28.63 106 ⇑P P **17 52 10.4 -0.2**
baz=29
733A Divot King Ran 28.64 113 ⇑P P **17 52 10.3 -0.4**
baz=29
137A Heron Place, G 28.69 103 ⇑P P **17 52 09.8 -1.4**
baz=29
833A Chaparral WMA, 28.84 114 ⇓P P **17 52 13.2 +0.7**
baz=29
237A Washetta, Mont 28.99 104 ⇓P P **17 52 10.9 -2.9**
baz=29
436A Wall Ranch, Ga 29.03 107 ⇑P P **17 52 11.3 -2.9**
baz=29
734A La Parita Cree 29.05 112 ⇑P P **17 52 16.3 +2.0**
baz=29
138A Matatall Enter 29.12 102 ⇑P P **17 52 16.0 +1.0**
baz=29
MIAR Mount Ida 29.19 97 *e*P P **17 52 15.3 -0.3**
MIAR pmax pmax
comp=Z,98nm,1.6s
MIAR MLR MLR
comp=Z,7μm,19.0s
MIAR Mount Ida 29.19 97 *e*P P **17 52 15.3 -0.3**
comp=Z,98nm,1.6s
MIAR LR LR
comp=Z,7μm,19.0s
635A Leesville 29.22 110 ⇑P P **17 52 17.9 +2.0**
baz=29
536A Bastrop 29.27 108 ⇑P P **17 52 18.3 +1.9**
baz=29
Z39A Irene McRaven, 29.44 100 ⇓P P 17 52 21.2 +3.4
baz=29
437A Phantom Ranch, 29.45 106 ⇓P P **17 52 18.2 +0.3**
baz=29
HDIL Hopedale 29.66 83 PFAKE 17 52 30.0 +10
HDIL LR LR
comp=Z,58μm,19.0s
338A Crockett 29.71 104 ⇓P P **17 52 18.9 -1.3**
baz=30

TNA Tin City 29.81 329 *e*P P **17 52 21.2 +0.5**
comp=Z,62nm,1.8s
835A Beeville 29.90 112 ⇓P P **17 52 22.3 +0.4**
baz=30
NATX Nacogdoches 29.93 103 PFAKE 17 52 30.0 +7.8
NATX LR LR
comp=Z,3μm,21.0s
438A Sam Houston St 29.95 105 ⇓P P **17 52 25.0 +2.7**
baz=30
HKT Hockley 30.19 107 *e*P P **17 52 24.9 +0.5**
HKT pmax pmax
comp=Z,74nm,1.6s
HKT Hockley 30.19 107 *e*P P **17 52 24.9 +0.5**
comp=Z,74nm,1.6s
339A Huntington 30.25 104 ⇓P P **17 52 25.2 +0.3**
baz=30
KVTX Kingsville 30.34 113 PFAKE 17 52 40.0 +14
KVTX LR LR
comp=Z,866nm,21.0s
GAMB Gambell 30.62 324 *e*P P **17 52 28.0 +0.1**
comp=Z,24nm,1.3s
340A Bronson 30.67 103 ⇓P P **17 52 28.9 +0.2**
baz=31
035Z Hargill 30.96 115 ⇑P P **17 52 34.2 +2.9**
baz=31
OLIL Olney 31.20 86 *e*P P **17 52 33.0 -0.3**
comp=Z,72nm,1.2s
SFIN Lafayette 31.28 82 *e*P P **17 52 32.1 -1.9**
comp=Z,23nm,0.9s
GLMI Grayling 31.61 73 PFAKE 17 52 50.0 +13
GLMI LR LR
comp=Z,7μm,21.0s
OXF Oxford 32.18 94 *e*P P **17 52 41.5 -0.5**
OXF pmax pmax
comp=Z,183nm,1.0s
OXF Oxford 32.18 94 *e*P P **17 52 41.5 -0.5**
comp=Z,183nm,1.0s
POHA Pohakuloa 32.80 230 PFAKE 17 53 00.0 +12
POHA LR LR
comp=Z,2μm,21.0s
AAM Ann Arbor 33.03 77 PFAKE 17 53 00.0 +11
AAM LR LR
comp=Z,6μm,19.0s
ACSO Alum Creek Sta 34.25 80 PFAKE 17 53 10.0 +10
ACSO LR LR
comp=Z,2μm,19.0s
LRAL Lakeview Retre 34.66 94 *e*P P **17 53 02.6 -1.0**
comp=Z,17nm,1.0s
BRAL Brewton 35.72 97 PFAKE 17 53 20.0 +7.3
BRAL LR LR
comp=Z,3μm,19.0s
GOGA Godfrey 36.99 91 *e*P P **17 53 21.9 -1.7**
GOGA pmax pmax
comp=Z,32nm,1.4s
GOGA MLR MLR
comp=Z,5μm,21.0s
GOGA Godfrey 36.99 91 *e*P P **17 53 21.9 -1.7**
comp=Z,32nm,1.4s
GOGA LR LR
comp=Z,5μm,21.0s
BLA Blacksburg 37.34 84 PFAKE 17 53 40.0 +13
BLA LR LR
comp=Z,3μm,21.0s
VWCC Virginia Weste 37.64 83 *e*P P **17 53 28.3 -0.7**
KMSC Kings Mountain 37.65 87 *e*P P **17 53 27.4 -1.8**
comp=Z,14nm,0.8s
TIGA Tifton 37.95 94 ⇓P P **17 53 32.5 +0.7**
baz=38
BINY Binghamton 38.40 74 PFAKE 17 53 50.0 +15
BINY LR LR
comp=Z,8μm,19.0s
LONY Lake Ozonia 38.49 70 PFAKE 17 53 50.0 +14
LONY LR LR
comp=Z,5μm,20.0s
NCB Newcomb 38.96 71 PFAKE 17 53 50.0 +10
NCB LR LR
comp=Z,6μm,21.0s
CBN Corbin Frederi 39.06 81 PFAKE 17 53 50.0 +9.1
CBN LR LR
comp=Z,2μm,19.0s
NHSC New Hope 39.51 89 PFAKE 17 54 00.0 +15
NHSC LR LR
comp=Z,6μm,21.0s
LBNH Lisbon 40.41 69 P P **17 53 53.6 +1.4**
LBNH MLR MLR
comp=Z,5μm,20.0s
LBNH Lisbon 40.41 69 P P **17 53 53.6 +1.4**
LBNH LR LR
comp=Z,5μm,20.0s
SCHQ Schefferville 40.57 52 P P **17 53 54.2 +0.8**
comp=Z,9.2nm,1.1s,baz=263,slow=5.9,SNR=3.9
SCHQ LR LR 18 10 28.9
comp=Z,3μm,21.0s,baz=284,slow=36
TEIG Tepich 41.74 112 PFAKE 17 54 10.0 +6.7
TEIG LR LR
comp=Z,641nm,20.0s
SFJD Kangerlussuaq 45.90 32 PFAKE 17 54 50.0 +14
SFJD LR LR
comp=Z,1μm,19.0s
PET Petropavlovsk 46.34 307 *e*P P 17 54 32.6 -7.2
PET *e*S S 18 01 17.7 -8.9
PET MLR MLR
comp=Z,400nm,15.0s
PET MLR MLR
comp=Z,400nm,17.0s
PET Petropavlovsk 46.34 307 PFAKE 17 54 50.0 +10
PET LR LR
comp=Z,844nm,20.0s
SEY Seymchan 46.57 322 P P **17 54 40.4 -1.1**
comp=Z,11nm,1.1s,baz=92,slow=9.9,SNR=19
SEY LR LR 18 13 46.9
comp=Z,1μm,18.8s,baz=88,slow=36
PETK Petropavlovsk- 46.85 308 P P **17 54 42.0 -1.9**
comp=Z,3.0nm,0.7s,baz=86,slow=11,SNR=8.0
PETK LR LR 18 11 23.2
comp=Z,543nm,21.7s,baz=80,slow=32
SUMG Summit 48.60 24 *e*P P **17 54 57.4 -0.3**
SUMG pmax pmax
comp=Z,14nm,0.8s
SUMG Summit 48.60 24 *e*P P **17 54 57.4 -0.3**
comp=Z,14nm,0.8s
MTDJ Mount Denham 50.44 104 PFAKE 17 55 20.0 +8.0
MTDJ LR LR
comp=Z,798nm,20.0s
BBSR BB Station 50.93 80 PFAKE 17 55 30.0 +15
BBSR LR LR
comp=Z,428nm,19.0s
GTBY Guantanamo Bay 51.00 100 PFAKE 17 55 30.0 +14
GTBY LR LR
comp=Z,1μm,21.0s
JTS JuntasAbangare 51.19 118 PFAKE 17 55 30.0 +12
JTS LR LR
comp=Z,614nm,20.0s
TIXI Tiksi 52.00 337 *ce*P P **17 55 22.0 -0.9**
TIXI pmax pmax
comp=Z,57nm,2.5s
TIXI Tiksi 52.00 337 *e*P P **17 55 21.7 -1.2**
comp=Z,87nm,1.9s
TIXI LR LR
comp=Z,805nm,19.0s
GRTK Grand Turk 52.79 96 PFAKE 17 55 40.0 +11
GRTK LR LR
comp=Z,941nm,22.0s
TAOE Nuku Hiva Isla 53.90 193 *e*T T 18 53 16.2
comp=Z,147nm,0.2s
SDDR Presa de Saban 54.33 98 PFAKE 17 55 50.0 +9.2
SDDR LR LR
comp=Z,1μm,20.0s
KBS Kingsbay 54.83 8 PFAKE 17 56 00.0 +16
KBS LR LR
comp=Z,859nm,20.0s
BCIP Isla Barro Col 55.33 114 PFAKE 17 56 00.0 +12
BCIP LR LR
comp=Z,649nm,21.0s
SPITS Spitsbergen Ar 55.93 8 LR LR 18 20 23.0
comp=Z,700nm,18.0s,baz=340,slow=37
YAK Yakutsk 56.53 326 P P **17 55 55.3 -0.8**
comp=Z,3.8nm,0.7s,baz=42,slow=5.4,SNR=12
YAK LR LR 18 18 41.0
comp=Z,791nm,19.9s,baz=74,slow=34
YAK Yakutsk 56.53 326 *e*P P 17 55 52.8 -3.2
YAK *e**PP pP 17 56 01.5 +1.8
YAK *e* 17 57 57.5
YAK *e*PPP PPP 17 59 24.8
YAK *e*S S 18 03 41.0 -6.0
YAK *e**SS sS 18 03 54.4 +1.4

YAK *e* 18 05 36.5
YAK pmax pmax
comp=Z,14nm,1.4s
YAK pmax pmax
comp=E,9.0nm,1.5s
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax
comp=Z,110nm,4.6s
YAK pmax pmax
comp=N,95nm,4.8s
YAK pmax pmax
comp=E,213nm,4.8s
YAK smax smax
comp=E,58nm,4.6s
YAK smax smax
comp=N,104nm,5.8s
YAK MLR MLR
comp=Z,935nm,21.0s
YAK MLR MLR
comp=E,849nm,21.0s
YAK MLR MLR
comp=N,516nm,21.0s
YAK Yakutsk 56.53 326 *e*P P **17 55 54.8 -1.2**
comp=N,19nm,1.0s
PAYG Puerto Ayora 56.81 131 PFAKE 17 56 10.0 +11
PAYG LR LR
comp=Z,450nm,21.0s
BORG Borgarnes 57.70 29 PFAKE 17 56 20.0 +16
BORG LR LR
comp=Z,976nm,20.0s
H11N3 WAKE ISLAND Hy 57.74 267 T T 18 58 25.7
baz=49,slow=75,SNR=3401
H11N2 WAKE ISLAND Hy 57.74 267 T T 18 58 17.9
baz=49,slow=75,SNR=5071
H11N1 WAKE ISLAND Hy 57.76 267 T T 18 58 14.4
baz=49,slow=75,SNR=2303
YUK Yuzh-Kuril'sk 57.92 302 *c*iP P 17 56 09.6 +3.4
YUK *i*S **S** **18 04 08.3 +2.5**
YUK SS **SS** **18 08 00.5 +4.3**
WAKE Wake Island 58.21 266 PFAKE 17 56 20.0 +12
WAKE LR LR
comp=Z,2μm,20.0s
SJG San Juan 58.55 95 PFAKE 17 56 20.0 +9.1
SJG LR LR
comp=Z,697nm,19.0s
H11S1 WAKE ISLAND Hy 58.68 266 T T 18 59 26.6
baz=48,slow=76,SNR=722
H11S2 WAKE ISLAND Hy 58.69 266 T T 18 59 33.8
baz=48,slow=76,SNR=826
H11S3 WAKE ISLAND Hy 58.70 266 T T 18 59 24.6
baz=48,slow=76,SNR=687
ASAJ Asahikawa 59.84 304 LR LR 18 17 53.6
comp=Z,468nm,21.2s,baz=72,slow=32
ERM Erimo 60.70 301 PFAKE 17 56 40.0 +15
ERM LR LR
comp=Z,678nm,20.0s
PMOR Pomariorio Ree 61.48 200 *e*T T 19 02 49.2
comp=Z,47nm,0.2s
VAH Vaihoa 61.64 200 *e*T T 19 03 00.5
comp=Z,23nm,0.3s
SDV Santo Domingo 61.73 106 *e*P **P** **17 56 32.3 -0.7**
comp=Z,65nm,1.8s
SDV LR LR
comp=Z,383nm,19.0s
ANWB Willy Bob 61.97 92 PFAKE 17 56 50.0 +16
ANWB LR LR
comp=Z,1μm,22.0s
ROSC El Rosal 62.16 112 P **P** **17 56 35.8 -0.3**
comp=Z,6.2nm,0.4s,baz=347,slow=4.3,SNR=3.8
ROSC LR LR 18 25 36.5
comp=Z,278nm,21.9s,baz=1.5,slow=38
OTAV Otavalo 63.01 119 *e*P **P** **17 56 40.7 -1.2**
comp=Z,32nm,1.3s
OTAV LR LR
comp=Z,352nm,22.0s
MEH Mehetia 64.28 200 *e*T T 19 06 19.4
comp=Z,14nm,0.3s
TIAR Tiarei 64.30 201 *e*T T 19 06 20.4
comp=Z,18nm,0.2s
PPT Papeete 64.37 201 LR LR 18 17 47.5
comp=Z,168nm,21.6s,baz=1.5,slow=30
FDF Fort de France 64.37 94 PFAKE 17 57 00.0 +10
FDF LR LR
comp=Z,655nm,21.0s
PPT2 Papeete2 64.39 201 *e*S **S** **18 05 30.4 +1.9**
comp=Z,758nm,24.2s
PPT2 *e*LQ LQ 18 12 53.8
comp=Z,5μm,28.8s
PPT2 *e*LR LR 18 15 43.6
comp=Z,557nm,29.0s,baz=13
PPT2 Papeete2 64.39 201 *e*T T 19 06 26.9
comp=Z,7.3nm,0.2s
PAE Paea 64.46 201 *e*T T 19 06 32.2
comp=Z,2.9nm,0.3s
KEV Kevo 64.84 9 PFAKE 17 57 10.0 +18
KEV LR LR
comp=Z,444nm,20.0s
ARCES ARCESS Array B 64.87 9 P **P** **17 56 52.9 +0.1**
comp=Z,1.8nm,0.8s,baz=359,slow=7.3,SNR=4.3
ARCES LR LR 18 26 42.3
comp=Z,666nm,18.3s,baz=345,slow=37
GRGR Grenville 65.77 97 PFAKE 17 57 10.0 +11
GRGR LR LR
comp=Z,878nm,20.0s
USRK Ussuriysk Ar. 65.93 309 P **P** **17 56 58.3 -1.7**
comp=Z,2.6nm,0.9s,baz=18,slow=3.0,SNR=5.2
USRK LR LR 18 24 24.3
comp=Z,496nm,19.9s,baz=33,slow=35
TARA Tarawa 66.42 247 PFAKE 17 57 20.0 +16
TARA LR LR
comp=Z,4μm,22.0s
BBGH Gun Hill 66.58 94 PFAKE 17 57 20.0 +15
BBGH LR LR
comp=Z,2μm,20.0s
MDJ Mudanjiang 66.98 310 PFAKE 17 57 20.0 +13
MDJ LR LR
comp=Z,712nm,19.0s
MJAR Matsushiro Arr 67.05 299 P **P** **17 57 04.7 -2.6**
comp=Z,1.5nm,0.7s,baz=51,slow=3.9,SNR=3.6
MJAR LR LR 18 21 12.3
comp=Z,440nm,21.8s,baz=85,slow=31
MAJO Matsushiro 67.05 299 ⇑*i*P **P** **17 57 06.6 -0.7**
MAJO pmax pmax
comp=Z,117nm,1.7s
MAJO Matsushiro 67.05 299 PFAKE 17 57 20.0 +13
MAJO LR LR
comp=Z,740nm,20.0s
MAT Matsushiro 67.05 299 P **P** **17 57 06.9 -0.4**
MAT S **S** **18 06 04.8 +3.9**
LVZ Lovozero 67.37 6 *ci*P **P** **17 57 09.0 +0.1**
LVZ pmax pmax
comp=Z,24nm,1.2s
LVZ Lovozero 67.37 6 *e*P **P** **17 57 08.6 -0.2**
comp=Z,26nm,0.9s
LVZ LR LR
comp=Z,484nm,19.0s
RKT Rikitea 67.40 186 *e*S **S** **18 06 06.8 +1.9**
comp=Z,2μm,30.8s
RKT *e*LQ LQ 18 14 18.5
comp=Z,2μm,28.8s
RKT *e*LR LR 18 17 25.2
comp=Z,2μm,26.8s,baz=8.0
RKT Rikitea 67.40 186 *e*T T 19 10 10.2
comp=Z,6.6nm,0.3s
HIA Hailar 68.88 319 PFAKE 17 57 30.0 +11
HIA LR LR
comp=Z,526nm,21.0s
CIT Chita 69.67 324 *e*P **P** **17 57 24.0 +0.5**
CIT *e* 17 57 31.0
CN2 Changchun 69.76 312 *e*P P 17 57 27.6 +3.5
CN2 *e*S **S** **18 06 32.0 -0.9**
CN2 PMZ
comp=Z,20nm,0.5s
CN2 PMZ
comp=Z,300nm,5.0s
CN2 LN
comp=Z,600nm,17.0s
CN2 LE
comp=Z,500nm,17.0s
CN2 LZ
comp=Z,400nm,13.0s
TBI Tubuai 69.88 200 *e*S **S** **18 06 36.6 +2.2**
comp=Z,733nm,27.2s
TBI *e*LQ LQ 18 14 49.3
comp=Z,2μm,30.5s
TBI *e*LR LR 18 18 25.3

comp=Z,572nm,30.2s,baz=8.1
TBI Tubuai 69.88 200 *e*T T 19 13 18.7
comp=Z,28nm,0.2s
NB2 NORSAR Subarra 70.15 19 P **P 17 57 25.9 -0.4**
comp=Z,13nm,1.0s,baz=333,slow=6.2
NOA NORSAR Array B 70.15 19 P **P 17 57 26.1 -0.2**
comp=Z,2.8nm,0.8s,baz=334,slow=5.9,SNR=4.7
NOA LR LR 18 28 16.3
comp=Z,242nm,18.2s,baz=340,slow=36
NAO01 NORSAR Array S 70.24 19 *e*P **P 17 57 27.3 +0.4**
comp=Z,16nm,0.9s
JCJ Chichijima 70.47 289 LR LR 18 20 47.5
comp=Z,469nm,21.2s,baz=306,slow=30
ESK Eskdalemuir 70.72 29 PFAKE 17 57 40.0 +10
ESK LR LR
comp=Z,1μm,19.0s
EKA Eskdalemuir Ar 70.73 29 LR LR 18 26 56.8
comp=Z,703nm,18.6s,baz=290,slow=34
KONO Kongsberg 70.97 21 PFAKE 17 57 40.0 +8.7
KONO LR LR
comp=Z,813nm,21.0s
FINES FINESS Array B 72.64 12 P **P 17 57 41.1 -0.2**
comp=Z,5.2nm,1.0s,baz=354,slow=1.9,SNR=7.6
FINES LR LR 18 30 27.9
comp=Z,609nm,18.7s,baz=346,slow=36
KSRS Korea Array 72.68 306 P **P 17 57 40.0 -1.9**
comp=Z,1.1nm,0.7s,baz=61,slow=6.3,SNR=5.5
KSAR Wonju Array Be 72.71 306 P **P 17 57 40.0 -2.1**
KSAR Wonju Array Be 72.71 306 P P **17 57 40.0 -2.1**
IRK Irkutsk 73.18 329 *e*P **P 17 57 43.3 -1.4**
IRK pmax pmax
comp=Z,61nm,2.0s
INCN Inchon 73.41 306 PFAKE 17 58 00.0 +14
INCN LR LR
comp=Z,369nm,21.0s
KRAR Krasnoyarsk 73.76 337‖ *e*P **P 17 57 46.7 -1.3**
KRAR pmax pmax
comp=Z,63nm,2.5s
TLY Talaya 73.86 329 *e*P **P 17 57 48.8 +0.1**
TLY *e*S SKiKP 18 07 07.9 -9.4
TLY *e* 18 07 47.4
TLY pmax pmax
comp=Z,23nm,1.6s
TLY MLR MLR
comp=Z,552nm,15.0s
TLY Talaya 73.86 329 *e*P **P 17 57 48.4 -0.3**
comp=Z,24nm,1.4s
TLY LR LR
comp=Z,665nm,20.0s
PRGR Permogore 74.22 2 *e*P **P 17 57 51.5 +0.9**
PRGR pmax pmax
comp=Z,18nm,0.8s
KLMR Klimovskoe 74.70 6 *e*P **P 17 57 51.4 -1.9**
KLMR pmax pmax
comp=Z,17nm,1.2s
ZAK Zakamensk 75.05 328 *e*P **P 17 57 53.8 -1.9**
ZAK pmax pmax
comp=Z,6.0nm,1.6s
ULN Ulaanbaatar 75.56 325‖ *e*P **P 17 57 57.6 -1.2**
ULN pmax pmax
comp=Z,22nm,2.5s
ULN Ulaanbaatar 75.56 325 *e*P **P 17 57 57.8 -1.0**
comp=Z,29nm,1.8s
ULN LR LR
comp=Z,916nm,22.0s
SONM Songino Array 75.85 325 P **P 17 58 00.1 -0.3**
comp=Z,2.1nm,0.8s,baz=47,slow=4.0,SNR=14
SONM LR LR 18 31 13.3
comp=Z,653nm,19.5s,baz=38,slow=36
PTGA Pitinga 75.98 105 *e*P **P 17 57 59.1 -2.3**
comp=Z,44nm,1.5s
BSEG Bad Segeberg 76.17 23 *e*P **P 17 58 01.7 -0.2**
comp=Z,26nm,1.4s
BSEG *e*S S 18 07 52.5 +7.1
IBBN Ibbenburen 76.84 25 *e*P **P 17 58 05.6 -0.1**
comp=Z,44nm,1.6s
IBBN *e*S **S 18 07 57.7 +4.8**
FLN La Foliniere 77.01 32 *e*P **P 17 58 06.6 -0.2**
comp=Z,57nm,1.3s
FLN *e*R
comp=Z,989nm,22.0s
FLN La Foliniere 77.01 32 *e*P **P 17 58 06.6 -0.2**
FLN pmax pmax
comp=Z,57nm,1.3s
FLN La Foliniere 77.01 32 *e*P **P 17 58 06.6 -0.2**
comp=Z,57nm,1.3s
GRR Gorron 77.17 32 *e*P **P 17 58 07.7 0.0**
comp=Z,18nm,0.8s
GRR Gorron 77.17 32 *e*P **P 17 58 07.7 0.0**
GRR pmax pmax
comp=Z,18nm,0.8s
GRR Gorron 77.17 32 *e*P **P 17 58 07.7 0.0**
comp=Z,18nm,0.8s
NVS Novosibirsk 77.28 341‖ *i*P **P 17 58 05.4 -2.8**
NVS pmax pmax
comp=N,19nm,1.6s
NVS pmax pmax
comp=E,24nm,1.6s
NVS pmax pmax
comp=Z,50nm,1.6s
LDF La Druitiere 77.29 32 *e*P **P 17 58 07.4 -0.9**
comp=Z,92nm,1.5s
LDF La Druitiere 77.29 32 *e*P **P 17 58 07.4 -0.9**
LDF pmax pmax
comp=Z,92nm,1.5s
LDF La Druitiere 77.29 32 *e*P **P 17 58 07.4 -0.9**
comp=Z,92nm,1.5s
BJT Baijiatuan 77.31 314 PFAKE 17 58 20.0 +11
BJT LR LR
comp=Z,424nm,19.0s
NRDL Niedersach Rie 77.38 24 *e*P **P 17 58 08.4 -0.3**
comp=Z,17nm,1.3s
NRDL *e*S **S 18 08 03.9 +5.3**
BUG Bochum--Univer 77.44 26 *e*P **P 17 58 08.5 -0.6**
comp=Z,16nm,1.2s
BUG *e*S **S 18 08 05.0 +5.6**
GUMO Guam 77.56 277 LR LR 18 24 35.0
comp=Z,812nm,21.9s,baz=36,slow=30
BAIF Baives 77.62 29 *e*P **P 17 58 09.8 -0.4**
comp=Z,30nm,1.2s
BAIF Baives 77.62 29 *e*P **P 17 58 09.8 -0.4**
BAIF pmax pmax
comp=Z,30nm,1.2s
BAIF Baives 77.62 29 *e*P **P 17 58 09.8 -0.4**
comp=Z,30nm,1.2s
ZAA0 Zalesovo Array 77.73 340 *e*P **P 17 58 09.2 -1.5**
ZALV Zalesovo Beam 77.73 340 P **P 17 58 10.3 -0.3**
comp=Z,2.4nm,0.7s,baz=8.7,slow=5.4,SNR=9.7
ZALV LR LR 18 36 38.9
comp=Z,516nm,18.4s,baz=70,slow=39
GIVF Givet 77.79 28 *e*P **P 17 58 10.7 -0.4**
GIVF Givet 77.79 28 *e*P **P 17 58 10.7 -0.4**
GIVF Givet 77.79 28 *e*P **P 17 58 10.7 -0.4**
CLZ Clausthal 78.03 24 *e*P **P 17 58 12.6 +0.1**
comp=Z,16nm,1.1s
CLZ *e*S **S 18 08 11.5 +5.5**
MSVF Nonsavu 78.19 231 PFAKE 17 58 20.0 +6.2
MSVF LR LR
comp=Z,1μm,20.0s
WLF Walferdange 78.61 28 *e*P **P 17 58 15.6 -0.1**
comp=Z,47nm,2.0s
WLF *e*S S 18 08 18.8 +6.7
WLF Walferdange 78.61 28 PFAKE 17 58 30.0 +14
WLF LR LR
comp=Z,733nm,20.0s
SVE Sverdlovsk 78.77 354 *e*P **P 17 58 16.3 -0.1**
SVE pmax pmax
comp=Z,21nm,1.5s
UBBA Unterbreizbach 78.83 25 *e*P **P 17 58 16.5 -0.2**
comp=Z,15nm,1.5s
TNS Taunus Mts 78.87 26 *e*P **P 17 58 16.8 -0.4**
comp=Z,14nm,1.3s
TNS *e*S **S 18 08 20.9 +5.9**
MFF Saint Martin d 78.92 33 *e*P **P 17 58 17.7 +0.3**
comp=Z,54nm,1.5s
MFF Saint Martin d 78.92 33 *e*P **P 17 58 17.7 +0.3**
MFF pmax pmax
comp=Z,54nm,1.5s
MFF Saint Martin d 78.92 33 *e*P **P 17 58 17.7 +0.3**
comp=Z,54nm,1.5s
HHC Hu-ho-hao-te 78.98 317 *e*P **P 17 58 16.6 -1.5**
HHC PP **PP 18 01 15.3 -1.0**
HHC S S 18 08 10.9 -5.8
HHC SS **SS 18 13 18.0 -2.9**
HHC PMZ
comp=Z,27nm,0.6s
HHC PMZ
comp=Z,100nm,5.6s
HHC LN
comp=Z,540nm,17.3s
HHC LE
comp=Z,480nm,16.0s
HHC LZ
comp=Z,360nm,18.5s
MEZF Maizieres J'vi 79.23 29 *e*P **P 17 58 19.0 -0.1**
MEZF Maizieres J'vi 79.23 29 *e*P **P 17 58 19.0 -0.1**
CLL Collm 79.26 23 *e*P **P 17 58 18.5 -0.7**
comp=Z,13nm,1.1s
CLL *e*S **S 18 08 23.2 +4.2**
CLL Collm 79.26 23 *e*P **P 17 58 19.0 -0.2**
CLL *es*P **sP 17 58 25.0 +0.7**
comp=Z,10.0nm,0.9s
CLL *e*S **S 18 08 22.0 +3.0**
CLL *e* 18 10 24.0
CLL *e*SS **SS 18 13 24.0 -0.1**
CLL *e* 18 14 48.0
CLL *e*SSS SSS 18 16 54.0
CLL *e* 18 18 48.0
CLL Lm MLR 18 34 00.0
comp=N,700nm,19.4s
CLL Lm MLR 18 34 00.0
comp=E,300nm,20.1s
CLL Lm MLR 18 34 00.0
comp=Z,900nm,20.0s
CLL Collm 79.26 23 *e*P **P 17 58 19.0 -0.2**
CLL *e* 17 58 25.0
CLL *e*S **S 18 08 22.0 +3.0**
CLL MLR MLR
comp=Z,900nm,20.0s
ARU Arti 79.29 355 *c i*P **P 17 58 19.0 -0.3**
ARU 18 01 16.1
ARU S **S 18 08 21.4 +2.2**
ARU pmax pmax
comp=Z,31nm,2.5s
ARU Arti 79.29 355 *e*P **P 17 58 18.6 -0.7**
comp=Z,13nm,1.1s
ARU LR LR
comp=Z,379nm,19.0s
PAGF Fort de Pagny 79.42 28 *e*P **P 17 58 20.1 -0.1**
PAGF Fort de Pagny 79.42 28 *e*P **P 17 58 20.1 -0.1**
MOX Moxa 79.46 24 *e*P **P 17 58 19.7 -0.6**
comp=Z,10.0nm,1.2s
MOX *e*S **S 18 08 26.2 +5.0**
MOX *e*L L 18 34 49.8
comp=Z,424nm,20.6s
SFTF Sexfontaines 79.48 29 *e*P **P 17 58 20.0 -0.5**
comp=Z,89nm,1.6s
SFTF Sexfontaines 79.48 29 *e*P **P 17 58 20.0 -0.5**
comp=Z,89nm,1.6s
MOS Moscow 79.62 7 *e*P **P 17 58 21.0 0.0**
SAML Samuel 79.80 113 *e*P P 17 58 17.1 -5.5
comp=Z,20nm,1.4s
SAML LR LR
comp=Z,372nm,21.0s
LOR Lormes 79.86 30 *e*P **P 17 58 22.3 -0.3**
comp=Z,55nm,1.5s
LOR *e*R
comp=Z,1μm,22.0s
LOR Lormes 79.86 30 *e*P **P 17 58 22.3 -0.3**
LOR pmax pmax
comp=Z,55nm,1.5s
LOR Lormes 79.86 30 *e*P **P 17 58 22.3 -0.3**
comp=Z,55nm,1.5s
TANN Tannenbergstha 79.91 24 *e*P **P 17 58 22.2 -0.6**
comp=Z,7.0nm,1.2s
TANN *e*S **S 18 08 31.1 +5.1**
SSF Saint Saulge 79.91 31 *e*P **P 17 58 22.6 -0.3**
comp=Z,46nm,1.4s
SSF Saint Saulge 79.91 31 *e*P **P 17 58 22.6 -0.3**
SSF pmax pmax
comp=Z,46nm,1.4s
SSF Saint Saulge 79.91 31 *e*P **P 17 58 22.6 -0.3**
comp=Z,46nm,1.4s
BRG Berggiesshubel 79.91 23 *e*P **P 17 58 24.6 +1.8**
comp=Z,13nm,1.3s
BRG Berggiesshubel 79.91 23 S S 18 08 32.0 +6.1
BRG SS **SS 18 13 35.0 +1.1**
comp=N,535nm,19.2s
comp=E,302nm,19.7s
comp=Z,649nm,18.2s
BRG Berggiesshubel 79.91 23 *e*P **P 17 58 22.3 -0.5**
comp=Z,13nm,1.0s
BRG *e*S **S 18 08 30.4 +4.5**
BRG Berggiesshubel 79.91 23 *e*P **P 17 58 24.6 +1.8**
BRG S S 18 08 32.0 +6.1
BRG SS **SS 18 13 35.0 +1.1**
BRG pmax pmax
comp=Z,13nm,1.3s
BRG MLR MLR
comp=N,535nm,19.2s
BRG MLR MLR
comp=E,302nm,19.7s
BRG MLR MLR
comp=Z,649nm,18.2s
CDF Champ du Feu 80.07 28 *e*P **P 17 58 23.4 -0.4**
comp=Z,21nm,1.0s
CDF Champ du Feu 80.07 28 *e*P **P 17 58 23.4 -0.4**
CDF pmax pmax
comp=Z,21nm,1.0s
CDF Champ du Feu 80.07 28 *e*P **P 17 58 23.4 -0.4**
comp=Z,21nm,1.0s
TCF Toulx Ste Croi 80.08 32 *e*P **P 17 58 23.3 -0.5**
comp=Z,34nm,1.3s
TCF Toulx Ste Croi 80.08 32 *e*P **P 17 58 23.3 -0.5**
TCF pmax pmax
comp=Z,34nm,1.3s
TCF Toulx Ste Croi 80.08 32 *e*P **P 17 58 23.3 -0.5**
comp=Z,34nm,1.3s
AVF Avril sur Loir 80.08 31 *e*P **P 17 58 23.1 -0.7**
comp=Z,40nm,1.4s
AVF Avril sur Loir 80.08 31 *e*P **P 17 58 23.1 -0.7**
AVF pmax pmax
comp=Z,40nm,1.4s
AVF Avril sur Loir 80.08 31 *e*P **P 17 58 23.1 -0.7**
comp=Z,40nm,1.4s
HAU Haudompre 80.11 28 *e*P **P 17 58 23.4 -0.5**
HAU *e*R
comp=Z,881nm,20.5s
HAU Haudompre 80.11 28 *e*P **P 17 58 23.4 -0.5**
HAU Haudompre 80.11 28 *e*P **P 17 58 23.4 -0.5**
OBN Obninsk 80.13 8 *c i*P **P 17 58 23.3 -0.5**
OBN pmax pmax
comp=Z,45nm,2.5s
OBN Obninsk 80.13 8 *e*P **P 17 58 23.5 -0.3**
comp=Z,19nm,0.7s
OBN LR LR
comp=Z,536nm,19.0s
GRF Grafenberg Arr 80.19 25 *e*P **P 17 58 24.1 -0.2**
comp=Z,20nm,1.2s
GRF *e*S S 18 08 35.2 +6.3
GRF *e*L L 18 33 18.8
comp=Z,521nm,21.9s
GRFO Grafenberg 80.19 25 P **P 17 58 26.3 +2.0**
GRFO pmax pmax
comp=Z,20nm,1.2s
GRFO Grafenberg 80.19 25 P **P 17 58 26.3 +2.0**
comp=Z,20nm,1.2s
ECH Echery 80.20 28 PFAKE 17 58 40.0 +16
ECH LR LR
comp=Z,573nm,20.0s
STU Stuttgart 80.38 26 *e*P **P 17 58 24.8 -0.5**
comp=Z,10.0nm,0.5s
STU *e*S **S 18 08 35.9 +5.0**
PVCC Panska Ves 80.39 22 *e*S S 18 08 37.0 +6.0
ROTZ Rotzenmuhle 80.41 24 *e*P **P 17 58 25.1 -0.4**
comp=Z,6.0nm,1.1s
ROTZ *e*S **S 18 08 37.1 +5.8**
HINF Hinteralfeld 80.44 28 *e*P **P 17 58 25.2 -0.6**
comp=Z,34nm,1.3s
HINF Hinteralfeld 80.44 28 *e*P **P 17 58 25.2 -0.6**
HINF pmax pmax
comp=Z,34nm,1.3s
HINF Hinteralfeld 80.44 28 *e*P **P 17 58 25.2 -0.6**
comp=Z,34nm,1.3s
BFO Black Forest 80.48 27 *e*P **P 17 58 25.5 -0.5**
comp=Z,16nm,1.3s
BFO *e*S **S 18 08 36.6 +4.5**
BFO Black Forest 80.48 27 PFAKE 17 58 40.0 +14
BFO LR LR
comp=Z,467nm,19.0s
RJF Les Rejaudoux 80.64 33 *e*P **P 17 58 26.0 -0.8**
comp=Z,56nm,1.5s
RJF *e*R
comp=Z,1μm,18.5s
RJF Les Rejaudoux 80.64 33 *e*P **P 17 58 26.0 -0.8**
RJF pmax pmax
comp=Z,57nm,1.5s
RJF Les Rejaudoux 80.64 33 *e*P **P 17 58 26.0 -0.8**
comp=Z,56nm,1.5s
LFF La Frestale 80.64 33 *e*P **P 17 58 26.4 -0.4**
LFF La Frestale 80.64 33 *e*P **P 17 58 26.4 -0.4**
LFF La Frestale 80.64 33 *e*P **P 17 58 26.4 -0.4**
MTE Manteigas 80.73 41 PFAKE 17 58 40.0 +13
MTE LR LR
comp=Z,483nm,19.0s
PRA Prague 80.77 23 *e*S **S 18 08 40.8 +5.8**
PRA AMS AMS 18 35 30.0
comp=Z,1μm,19.9s
PRU Pruhonice 80.88 23 *e*P P 17 58 31.6 +3.6
PRU *ex* x 17 58 39.3
PRU *e*S **S 18 08 40.6 +4.5**
PRU AMS AMS 18 35 20.0
comp=Z,800nm,17.8s
PRU Pruhonice 80.88 23 *e*P P 17 58 31.6 +3.6
PRU *e* 17 58 39.3
PRU *e*S **S 18 08 40.6 +4.5**
PRU MLR MLR
comp=Z,800nm,17.8s
GOPC GO Pecny, Ondr 81.01 22 *e*S **S 18 08 41.5 +4.0**
GOPC AMS AMS 18 35 30.0
comp=Z,800nm,17.5s
DPC Dobruska-Polom 81.03 21 *e*P **P 17 58 29.6 +0.8**
DPC *ep*P **PcP 17 58 36.1 +0.8**
DPC *e*S S 18 08 44.4 +6.7
DPC Dobruska-Polom 81.03 21 *e*P **P 17 58 29.6 +0.8**
DPC *e* 17 58 36.1
DPC *e*S S 18 08 44.4 +6.7
SSE Sheshan 81.10 305 P **P 17 58 29.5 0.0**
SSE S **S 18 08 40.5 +1.5**
SSE PMZ
comp=Z,35nm,0.7s
SSE PMZ
comp=Z,61nm,3.2s
SSE LN
comp=Z,290nm,36.4s
SSE LE
comp=Z,280nm,37.1s
WET Wettzell 81.17 24 *e*P **P 17 58 29.0 -0.6**
comp=Z,6.0nm,1.1s
WET *e*S S 18 08 45.3 +6.1
CAF Calviac 81.17 33 *e*P **P 17 58 28.9 -0.8**
comp=Z,29nm,1.3s
CAF Calviac 81.17 33 *e*P **P 17 58 28.9 -0.8**
CAF pmax pmax
comp=Z,29nm,1.3s
CAF Calviac 81.17 33 *e*P **P 17 58 28.9 -0.8**
comp=Z,29nm,1.3s
CABF La Chapelle 81.22 29 *e*P **P 17 58 29.9 -0.1**
comp=Z,43nm,1.3s
CABF La Chapelle 81.22 29 *e*P **P 17 58 29.9 -0.1**
CABF pmax pmax
comp=Z,43nm,1.3s
CABF La Chapelle 81.22 29 *e*P **P 17 58 29.9 -0.1**
comp=Z,43nm,1.3s
KHC Kasperske Hory 81.38 24 *e*P **P 17 58 29.0 -1.7**
KHC *ep*P **PcP 17 58 37.3 +0.5**
KHC *ex* x 17 58 43.5
KHC *e*S **S 18 08 46.7 +5.3**
KHC AMS AMS 18 34 10.0
comp=Z,300nm,19.7s
KHC Kasperske Hory 81.38 24 *e*P **P 17 58 29.0 -1.7**
KHC *e* 17 58 37.3
KHC *e*S **S 18 08 46.7 +5.3**
KHC MLR MLR
comp=Z,300nm,19.7s
KRLC Kraliky 81.40 21 *e*P **P 17 58 31.5 +0.7**
KRLC *ep*P **PcP 17 58 37.7 +0.8**
KRLC Kraliky 81.40 21 *e*P **P 17 58 31.5 +0.7**
KRLC *e* 17 58 37.7
BRVK Borovoye 81.43 348 *c i*P **P 17 58 31.1 +0.2**
BRVK pmax pmax
comp=Z,37nm,2.5s
BRVK Borovoye 81.43 348 *e*P **P 17 58 32.5 +1.7**
comp=Z,44nm,1.6s
BRVK LR LR
comp=Z,772nm,22.0s
BVAR Borovoye Array 81.45 348 P **P 17 58 31.0 0.0**
comp=Z,2.4nm,0.9s,baz=15,slow=6.2,SNR=8.8
BVAR LR LR 18 36 47.7
comp=Z,674nm,20.7s,baz=30,slow=37
BVAR Borovoye Array 81.45 348 P **P 17 58 31.0 0.0**
FUR Furstenfeldbru 81.56 25 *e*P **P 17 58 31.5 -0.2**
comp=Z,14nm,0.7s
FUR *e*S **S 18 08 48.4 +5.1**
GEC2 GERESS Array S 81.67 24 *e*P **P 17 58 31.6 -0.8**
comp=Z,17nm,1.6s
GEC2 *e*S **S 18 08 49.7 +5.1**
GERES GERESS Array B 81.67 24 P **P 17 58 30.9 -1.5**
comp=Z,1.0nm,0.7s,baz=339,slow=3.3,SNR=8.3
GERES LR LR 18 34 37.1
comp=Z,604nm,21.6s,baz=333,slow=36
NJ2 Nanjing 81.75 307 *e*P P 17 58 36.9 +4.0
NJ2 PMZ
comp=Z,40nm,0.7s
TREC Trest 81.77 22 AMS AMS 18 37 00.0
comp=Z,700nm,18.3s
SSB Saint Sauveur 81.81 31 PFAKE 17 58 40.0 +6.9
SSB LR LR
comp=Z,540nm,22.0s
OKC Ostrava-Krasne 81.96 21 *e*P **P 17 58 32.9 -0.8**
OKC *ep*P **PcP 17 58 40.1 +0.8**
OKC AMS AMS 18 35 50.0
comp=Z,400nm,19.3s
OKC Ostrava-Krasne 81.96 21 *e*P **P 17 58 32.9 -0.8**
OKC *e* 17 58 40.1
OKC MLR MLR
comp=Z,400nm,19.3s
EPF Esparros 82.07 35 *e*P **P 17 58 33.6 -0.9**
comp=Z,35nm,1.6s
EPF Esparros 82.07 35 *e*P **P 17 58 33.6 -0.9**
EPF pmax pmax
comp=Z,35nm,1.6s
EPF Esparros 82.07 35 *e*P **P 17 58 33.6 -0.9**
comp=Z,35nm,1.6s
KURK Kurchatov 82.16 342 P **P 17 58 34.0 -0.7**
comp=Z,31nm,1.2s,SNR=5.9
KURK Kurchatov 82.16 342 *e*P **P 17 58 33.5 -1.2**
KURK pmax pmax
comp=Z,21nm,1.3s
KURK MLR MLR
comp=Z,838nm,21.0s
KURK Kurchatov 82.16 342 *e*P **P 17 58 33.5 -1.2**
comp=Z,21nm,1.3s
KURK LR LR
comp=Z,838nm,21.0s
LPL La Plagne 82.39 29 *e*P **P 17 58 35.7 -0.7**
LPL La Plagne 82.39 29 *e*P **P 17 58 35.7 -0.7**
LPL La Plagne 82.39 29 *e*P **P 17 58 35.7 -0.7**
RJOB Jochberg 82.41 25 *e*P **P 17 58 35.5 -0.7**
comp=Z,7.0nm,0.9s
RJOB *e*S **S 18 08 57.9 +5.8**
FETA Feichten 82.41 26‖ *i*pP **P 17 58 37.6 +1.2**
comp=Z,12nm,1.4s
LPG La Plagne 82.41 29 *e*P **P 17 58 35.8 -0.8**
LPG La Plagne 82.41 29 *e*P **P 17 58 35.8 -0.8**
LPG La Plagne 82.41 29 *e*P **P 17 58 35.8 -0.8**
TUE Stuetta 82.45 27 PFAKE 17 58 50.0 +13
TUE LR LR
comp=Z,1μm,20.0s
MTLF Montolieu 82.56 33 *e*P **P 17 58 36.5 -0.5**
MTLF Montolieu 82.56 33 *e*P **P 17 58 36.5 -0.5**
MTLF Montolieu 82.56 33 *e*P **P 17 58 36.5 -0.5**
LASF Ste Croix 82.58 32 *e*P **P 17 58 36.4 -0.7**
LASF Ste Croix 82.58 32 *e*P **P 17 58 36.4 -0.7**
BNI Bardonecchia 82.77 30 PFAKE 17 58 50.0 +12
BNI LR LR
comp=Z,833nm,20.0s
PAB San Pablo 82.90 40 PFAKE 17 58 50.0 +11
PAB LR LR
comp=Z,489nm,20.0s
ESDC Sonseca Array 82.97 39 P **P 17 58 37.9 -1.3**
comp=Z,0.1nm,0.2s,baz=324,slow=6.1,SNR=2.7
ESDC LR LR 18 33 58.2
comp=Z,524nm,18.0s,baz=340,slow=34
HNR Honiara 83.03 250 PFAKE 17 58 50.0 +10
HNR LR LR
comp=Z,2μm,20.0s

STHS	**Stebnicka Huta**	**83.10**	**19**	*e*P		**P**	**17 58 39.3**	**-0.4**
STHS	**Stebnicka Huta**	**83.10**	**19**	*e*P		**P**	**17 58 39.3**	**-0.4**
CONA	**Conrad Observa**	**83.11**	**23**	⇑*i*P		**P**	**17 58 39.8**	**-0.1**
	comp=Z,17nm,1.4s							
KWP	**Kalwaria Pacla**	**83.23**	**18**	PFAKE			17 58 50.0	+10
KWP				LR	LR			
	comp=Z,684nm,20.0s							
VYHS	**Vyhne**	**83.38**	**21**	*e*P		**P**	**17 58 43.1**	**+1.9**
VYHS				pmax	pmax			
	comp=Z,11nm,2.1s							
VYHS	**Vyhne**	**83.38**	**21**	*e*P		**P**	**17 58 43.1**	**+1.9**
AKASG	**Malin Array Be**	**83.47**	**13**	P		**P**	**17 58 40.1**	**-1.4**
	comp=Z,2.9nm,0.8s,baz=342,slow=4.5,SNR=14							
AKASG				LR	LR		18 35 33.0	
	comp=Z,630nm,21.9s,baz=325,slow=35							
KIEV	**Kiev**	**83.47**	**13**	⇑*i*P		**P**	**17 58 40.6**	**-1.0**
KIEV	**Kiev**	**83.47**	**13**	P		**P**	**17 58 40.5**	**-1.0**
	comp=Z,6.0nm,0.8s							
KIEV				LR	LR			
	comp=Z,633nm,21.0s							
AK01	**Malin Array Si**	**83.47**	**13**	*e*P		**P**	**17 58 39.9**	**-1.7**
AK02	**Malin Array Si**	**83.50**	**13**	*e*P		**P**	**17 58 39.5**	**-2.2**
CRVS	**Cervenica-Dubn**	**83.63**	**19**	*e*P		**P**	**17 58 41.8**	**-0.7**
CRVS	**Cervenica-Dubn**	**83.63**	**19**	*e*P		**P**	**17 58 41.8**	**-0.7**
KECS	**Kecovo**	**83.80**	**20**	*e*P		**P**	**17 58 44.5**	**+1.2**
KECS				pmax	pmax			
	comp=Z,2.0nm,0.7s							
KECS	**Kecovo**	**83.80**	**20**	*e*P		**P**	**17 58 44.5**	**+1.2**
SOKA	**Soboth**	**84.02**	**24**	⇑*i*P		**P**	**17 58 42.9**	**-1.6**
	comp=Z,8.5nm,1.3s							
UZH	**Uzhgorod**	**84.08**	**18**	*e*P		**P**	**17 58 42.3**	**-2.4**
UZH				*e*			17 58 46.9	
UZH				*e*			17 58 53.3	
UZH				*e*			18 03 51.7	
UZH				*i* S	S		18 09 02.0	-6.8
UZH				*i*			18 09 53.9	
PSZ	**Piszkesteto**	**84.18**	**20**	*e*P		**P**	**17 58 47.5**	**+2.1**
PSZ				pmax	pmax			
	comp=Z,49nm,1.6s							
PSZ				MLR	MLR			
	comp=Z,422nm,20.0s							
PSZ	**Piszkesteto**	**84.18**	**20**	*e*P		**P**	**17 58 47.5**	**+2.1**
	comp=Z,49nm,1.6s							
PSZ				LR	LR			
	comp=Z,422nm,20.0s							
VLC	**Villacollemand**	**84.83**	**28**	PFAKE			17 59 00.0	+11
VLC				LR	LR			
	comp=Z,677nm,19.0s							
MK31	**Makanchi Array**	**84.94**	**339**	*e*P		**P**	**17 58 47.9**	**-1.3**
MK31	**Makanchi Array**	**84.94**	**339**	*e*P		**P**	**17 58 47.9**	**-1.3**
MKAR	**Makanchi Array**	**84.94**	**339**	P		**P**	**17 58 47.1**	**-2.1**
	comp=Z,0.7nm,0.9s,baz=46,slow=6.9,SNR=6.3							
MKAR				LR	LR		18 40 31.6	
	comp=Z,441nm,18.4s,baz=24,slow=38							
MKAR	**Makanchi Array**	**84.94**	**339**	*e*P		**P**	**17 58 48.2**	**-1.0**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
TATO	**Taipei**	**85.38**	**301**	PFAKE			17 59 00.0	+8.3
TATO				LR	LR			
	comp=Z,564nm,20.0s							
WHN	**Wuhan**	**85.42**	**309**	P		**P**	**17 58 49.1**	**-2.7**
WHN				S		**S**	**18 09 18.5**	**-4.3**
WHN				LZ				
	comp=Z,680nm,17.9s							
GTA	**Gaotai**	**85.48**	**324**	*e*P		**P**	**17 58 52.2**	**+0.1**
GTA				pP		**pP**	**17 58 57.0**	**+1.1**
GTA				sP		**sP**	**17 59 59.2**	**+1.9**
GTA				SKS		**SKSac**	**18 09 13.4**	**-3.9**
GTA				S		**S**	**18 09 21.5**	**-1.9**
GTA				sS		**sS**	**18 09 29.5**	**-0.2**
GTA				SS		**SS**	**18 14 59.9**	**+2.6**
GTA				PMZ				
	comp=Z,4.0nm,2.1s							
GTA				PMZ				
	comp=Z,88nm,5.5s							
GTA				LN				
	comp=Z,640nm,21.4s							
GTA				LE				
	comp=Z,940nm,18.5s							
GTA				LZ				
	comp=Z,650nm,21.4s							
RAO	**Raoul Island**	**85.63**	**221**	LR		LR	18 28 40.4	
	comp=Z,220nm,20.9s,baz=60,slow=30							
BUR08	**Bucovina Ar. S**	**85.64**	**17**	P		**P**	**17 58 54.5**	**+1.7**
YHNB	**Yeheng**	**85.67**	**300**	PFAKE			17 59 00.0	+6.7
YHNB				LR	LR			
	comp=Z,499nm,20.0s							
WMQ	**Urumqi**	**86.11**	**334**	*e*P		**P**	**17 58 56.2**	**+1.1**
WMQ				pP		pP	17 59 04.1	+5.2
WMQ				sP		sP	17 59 07.3	+7.1
WMQ				PP		**PP**	**18 02 18.5**	**+4.0**
WMQ				SKS		**SKSac**	**18 09 17.7**	**-3.3**
WMQ				S		**SKKSac**	**18 09 28.0**	**-0.5**
WMQ				sS		**ScS**	**18 09 41.1**	**+2.8**
WMQ				SS		**SS**	**18 15 08.2**	**+2.1**
WMQ				PMZ				
	comp=Z,12nm,0.4s							
WMQ				PMZ				
	comp=Z,120nm,6.2s							
WMQ				LN				
	comp=Z,650nm,18.6s							
WMQ				LE				
	comp=Z,620nm,21.2s							
WMQ				LZ				
	comp=Z,420nm,24.2s							
LZH	**Lanzhou**	**86.44**	**319**	*e*P		**P**	**17 58 56.9**	**-0.1**
LZH				pP		**pP**	**17 59 00.2**	**-0.6**
LZH				sP		**sP**	**17 59 01.7**	**-0.4**
LZH				*e*PP		**PP**	**18 02 20.0**	**+2.4**
LZH				SKS		**SKSac**	**18 09 20.1**	**-3.4**
LZH				*e*S		**SKKSac**	**18 09 29.8**	**-1.6**
LZH				sS		**sS**	**18 09 37.0**	**-2.2**
LZH				PMZ				
	comp=Z,29nm,1.5s							
LZH				PMZ				
	comp=Z,150nm,7.8s							
LZH				LN				
	comp=Z,610nm,17.2s							
LZH				LE				
	comp=Z,380nm,17.5s							
LZH				LZ				
	comp=Z,730nm,19.7s							
AQU	**L'Aquila**	**87.43**	**27**	PFAKE			17 59 10.0	+8.4
AQU				LR	LR			
	comp=Z,842nm,20.0s							
ENH	**Enshi**	**88.28**	**312**	PFAKE			17 59 20.0	+14
ENH				LR	LR			
	comp=Z,118nm,21.0s							
DZM	**Mont Dzumac**	**88.30**	**237**	*e*LR		LR	18 26 58.5	
	comp=Z,1μm,25.1s							
VSL	**Villasalto**	**88.60**	**31**	PFAKE			17 59 20.0	+13
VSL				LR	LR			
	comp=Z,525nm,20.0s							
SIM	**Simferopol'**	**89.83**	**12**	*e*P		P	17 59 28.1	+15
SIM				*e*PS		**PS**	**18 11 12.0**	**+1.4**
SIM				*e*SS		SS	18 16 02.0	+2.2
SIM				pmax	pmax			
	comp=Z,7.0nm,0.7s							
SIM				MLR	MLR			
	comp=N,400nm,19.0s							
TKM2	**Tokmak 2**	**90.20**	**342**	*e*P		**P**	**17 59 13.4**	**-1.4**
TKM2				pmax	pmax			
	comp=Z,15nm,1.2s							
TKM2				MLR	MLR			
	comp=Z,431nm,20.0s							
TKM2	**Tokmak 2**	**90.20**	**342**	*e*P		**P**	**17 59 13.4**	**-1.4**
	comp=Z,15nm,1.2s							
TKM2				LR	LR			
	comp=Z,431nm,20.0s							
CUC	**Castrocucco**	**90.34**	**26**	PFAKE			17 59 30.0	+15
CUC				LR	LR			
	comp=Z,384nm,20.0s							
ANN	**Anapa**	**90.40**	**9**	*e*P		**P**	**17 59 12.9**	**-2.5**
ANN				*e*PS		**PS**	**18 11 25.4**	**+8.5**
ANN				MLR	MLR			
	comp=Z,352nm,16.0s							
FRU	**Bishkek**	**90.50**	**343**	*e*P		**P**	**17 59 16.0**	**0.0**
FRU				pmax	pmax			
	comp=Z,30nm,2.0s							
SACV	**Santiago Islan**	**90.58**	**68**	PFAKE			17 59 30.0	+13
SACV				LR	LR			
	comp=Z,659nm,20.0s							
AAK	**Ala-Archa**	**90.72**	**343**	⇓*e*P		**P**	**17 59 16.6**	**-0.6**
AAK				pmax	pmax			
	comp=Z,17nm,1.9s							
AAK	**Ala-Archa**	**90.72**	**343**	*e*P		**P**	**17 59 15.4**	**-1.8**
	comp=Z,13nm,1.5s							
AAK				LR	LR			
	comp=Z,832nm,19.0s							
EKS2	**Erkin-Say**	**90.85**	**343**	*e*P		**P**	**17 59 17.6**	**-0.1**
EKS2				pmax	pmax			
	comp=Z,17nm,1.5s							
EKS2				MLR	MLR			
	comp=Z,746nm,20.0s							
EKS2	**Erkin-Say**	**90.85**	**343**	*e*P		**P**	**17 59 17.6**	**-0.1**
	comp=Z,17nm,1.5s							
EKS2				LR	LR			
	comp=Z,746nm,20.0s							
KKAR	**Karatay Array**	**91.05**	**346**	P		**P**	**17 59 19.3**	**+0.8**
KKAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
KKAR	**Karatay Array**	**91.05**	**346**	P		**P**	**17 59 19.3**	**+0.8**
	comp=Z,2.3nm,0.8s							
TIP	**Timpagrande**	**91.38**	**26**	PFAKE			17 59 30.0	+10
TIP				LR	LR			
	comp=Z,394nm,19.0s							
CLTB	**Caltabellotta**	**91.67**	**29**	PFAKE			17 59 30.0	+8.4
CLTB				LR	LR			
	comp=Z,283nm,21.0s							
KIV	**Kislovodsk**	**91.73**	**6**	PFAKE			17 59 30.0	+8.2
KIV				LR	LR			
	comp=Z,460nm,20.0s							
PMG	**Port Moresby**	**91.82**	**259**	PFAKE			17 59 30.0	+7.6
PMG				LR	LR			
	comp=Z,982nm,20.0s							
KEST	**Kesra**	**91.90**	**32**	LR		LR	18 41 24.8	
	comp=Z,107nm,18.5s,baz=282,slow=36							
CEL	**Celeste**	**91.94**	**27**	PFAKE			17 59 30.0	+7.2
CEL				LR	LR			
	comp=Z,444nm,19.0s							
KBZ	**Khabaz**	**91.97**	**6**	LR		LR	18 43 57.3	
	comp=Z,323nm,18.9s,baz=326,slow=38							
GYA	**Guiyang**	**92.81**	**312**	P		**P**	**17 59 27.0**	**-0.1**
GYA				PP		**PP**	**18 03 10.6**	**+2.1**
GYA				SKS		**SKSac**	**18 09 59.4**	**-1.7**
GYA				S		**S**	**18 10 28.2**	**-4.3**
GYA				SS		**SS**	**18 16 44.0**	**-0.4**
GYA				PMZ				
	comp=Z,20nm,1.0s							
GYA				PMZ				
	comp=Z,120nm,5.0s							
GYA				LN				
	comp=Z,590nm,20.8s							
GYA				LE				
	comp=Z,540nm,21.5s							
GYA				LZ				
	comp=Z,560nm,20.4s							
KSH	**Kashi**	**93.36**	**341**	*e*P		**P**	**17 59 30.6**	**+1.2**
KSH				sP		**sP**	**17 59 37.8**	**+3.3**
KSH				*e*PP		PP	18 03 17.6	+5.3
KSH				SKS		**SKSac**	**18 10 02.9**	**-0.8**
KSH				S		**S**	**18 10 35.3**	**-1.7**
KSH				SS		**SS**	**18 16 55.5**	**+4.3**
KSH				PMZ				
	comp=Z,67nm,5.7s							
KSH				LN				
	comp=Z,200nm,9.7s							
KSH				LE				
	comp=Z,860nm,15.8s							
KSH				LZ				
	comp=Z,680nm,26.8s							
WDD	**Wield Dalam**	**93.66**	**29**	PFAKE			17 59 40.0	+9.3
WDD				LR	LR			
	comp=Z,351nm,20.0s							
ANTO	**Ankara**	**94.58**	**14**	PFAKE			17 59 50.0	+15
ANTO				LR	LR			
	comp=Z,254nm,20.0s							
BDFB	**Brasilia**	**94.83**	**107**	LR		LR	18 44 40.1	
	comp=Z,438nm,21.6s,baz=310,slow=37							
BRTR	**Keskin Array B**	**94.86**	**13**	LR		LR	18 43 49.6	
	comp=Z,210nm,21.8s,baz=356,slow=36							
DAV	**Davao City (W)**	**95.65**	**286**	PFAKE			17 59 50.0	+10
DAV				LR	LR			
	comp=Z,910nm,21.0s							
GNI	**Garni**	**95.65**	**4**	PFAKE			17 59 50.0	+10
GNI				LR	LR			
	comp=Z,305nm,19.0s							
KMI	**Kunming**	**95.95**	**314**	P		**P**	**17 59 40.8**	**-0.8**
KMI				pP		**pP**	**17 59 44.6**	**-0.8**
KMI				PMZ				
	comp=Z,10.0nm,0.6s							
KMI				LN				
	comp=Z,220nm,20.4s							
KMI				LE				
	comp=Z,340nm,17.0s							
KMI				LZ				
	comp=Z,380nm,21.2s							
ISP	**Isparta**	**96.16**	**16**	PFAKE			17 59 50.0	+7.8
ISP				LR	LR			
	comp=Z,395nm,22.0s							
CPUP	**Villa Florida**	**96.33**	**121**	LR		LR	18 46 06.2	
	comp=Z,676nm,20.8s,baz=344,slow=37							
RCBR	**Riachuelo**	**96.58**	**92**	PFAKE			18 00 00.0	+16
RCBR				LR	LR			
	comp=Z,762nm,21.0s							
QIZ	**Qiongzhong**	**96.89**	**305**	P		**P**	**17 59 45.7**	**0.0**
QIZ				S		**S**	**18 11 06.2**	**-1.9**
QIZ				PMZ				
	comp=Z,10.0nm,1.8s							
QIZ				LN				
	comp=Z,220nm,20.6s							
QIZ				LE				
	comp=Z,210nm,20.1s							
QIZ				LZ				
	comp=Z,270nm,19.5s							
QIZ	**Qiongzhong**	**96.89**	**305**	PFAKE			18 00 00.0	+14
QIZ				LR	LR			
	comp=Z,330nm,19.0s							
LSA	**Lhasa**	**97.44**	**325**	PFAKE			18 00 00.0	+11
LSA				LR	LR			
	comp=Z,692nm,20.0s							
GEYT	**Alibeck**	**97.74**	**354**	LR		LR	18 48 33.5	
	comp=Z,452nm,20.2s,baz=320,slow=38							
CSS	**Prodhromos**	**99.46**	**14**	PFAKE			18 00 10.0	+13
CSS				LR	LR			
	comp=Z,85nm,21.0s							
CTAO	**Charters Tower**	**99.86**	**252**	PFAKE			18 00 10.0	+11
CTAO				LR	LR			
	comp=Z,2μm,22.0s							
PLCA	**Paso Flores**	**99.91**	**139**	LR		LR	18 36 10.7	
	comp=Z,202nm,19.4s,baz=340,slow=30							
TAM	**Tamanrasset**	**101.47**	**42**	PFAKE			18 00 20.0	+14
TAM				LR	LR			
	comp=Z,328nm,22.0s							
TRQA	**Tornquist**	**102.21**	**132**	PFAKE			18 00 20.0	+11
TRQA				LR	LR			
	comp=Z,394nm,20.0s							
KKM	**Kota Kinabalu**	**102.75**	**292**	PFAKE			18 00 20.0	+8.0
KKM				LR	LR			
	comp=Z,506nm,20.0s							
CHTO	**Chiang Mai**	**103.12**	**313**	PFAKE			18 00 20.0	+6.5
CHTO				LR	LR			
	comp=Z,347nm,20.0s							
WRAB	**Tennant Creek**	**108.01**	**260**	PFAKE			18 04 50.0	
WRAB				LR	LR			
	comp=Z,2μm,20.0s							
KAPI	**Kappang**	**108.30**	**281**	PFAKE			18 04 50.0	
KAPI				LR	LR			
	comp=Z,258nm,20.0s							
KSM	**Kuching**	**110.06**	**293**	PFAKE			18 05 00.0	
KSM				LR	LR			
	comp=Z,452nm,21.0s							
RAYN	**Ar Rayn**	**112.23**	**5**	PFAKE			18 05 00.0	
RAYN				LR	LR			
	comp=Z,317nm,19.0s							
PMSA	**Palmer Station**	**120.16**	**153**	PFAKE			18 05 20.0	+16
PMSA				LR	LR			
	comp=Z,620nm,21.0s							
VNDA	**Vanda**	**128.62**	**195**	*e*PKIKP		**PKPdf**	**18 05 18.5**	**-1.3**
VNDA	**Vanda**	**128.62**	**195**	*e*PKPdf		**PKPdf**	**18 05 18.5**	**-1.3**
QSPA	**South Pole Qui**	**134.22**	**180**	PFAKE			18 05 40.0	+9.3
QSPA				LR	LR			
	comp=Z,1μm,21.0s							
KMBO	**Kilima Mbogo**	**135.31**	**19**	PFAKE			18 05 50.0	+15
KMBO				LR	LR			
	comp=Z,287nm,19.0s							
MSEY	**Mahe Island**	**140.18**	**352**	PFAKE			18 06 00.0	+17
MSEY				LR	LR			
	comp=Z,256nm,19.0s							
TSUM	**Tsumeb**	**142.77**	**58**	PFAKE			18 06 00.0	+12
TSUM				LR	LR			
	comp=Z,1μm,22.0s							
LSZ	**Lusaka**	**145.31**	**40**	*e*PKIKP		**PKPbc**	**18 05 51.1**	**-1.1**
LSZ				MLR	MLR			
	comp=Z,976nm,20.0s							
LSZ	**Lusaka**	**145.31**	**40**	*e*PKPdf		**PKPbc**	**18 05 51.1**	**-1.1**
LSZ				LR	LR			
	comp=Z,976nm,20.0s							
ABPO	**Ambohimpanom**	**154.52**	**7**	PFAKE			18 06 20.0	+4.7
ABPO				LR	LR			
	comp=Z,450nm,19.0s							
SYO	**Syowa Base**	**154.71**	**171**	⇓*e*PKPbc		**PKPbc**	**18 06 15.6**	**+1.7**

BJI ***07*** *17:58:29.9,9.06N,92.99E,h46km,mb4.9/51,mB4.9/37, Ms4.2/31,Ms7 4.0/29*
MOS ***07*** *17:58:30.4±1.0,9.24N,93.09E,h33km,mb5.0/26,Error ellipse: s-maj=10.3km s-min=4.9km az=109.7*
KLM ***07*** *17:58:35.5,9.39N,92.91E,h60km,mb4.7,MS5.8*
ISCJB ***07*** *17:58:35.3±0.4,9.35N±0.02,93.05E±0.03,h71km±4km, mb4.5/67,Error ellipse: s-maj=4.7km s-min=3.4km az=139.7*
NEIC ***07*** *17:58:36.8±0.7,9.40N,93.07E,h70km±6km,mb4.8/24, Error ellipse: s-maj=7.1km s-min=4.9km az=60.0*
IDC ***07*** *17:58:36.7±1.6,9.46N,93.16E,h63km±13km,mb4.1/26, mb1 4.2/28,mb1mx4.1/34,mbtmp4.4/28,MS4.1/7, Ms1 4.2/7,ms1mx3.7/39,Error ellipse: s-maj=16.7km s-min=10.3km az=51.0*
DJA ***07*** *17:58:37.0±0.7,9°N±3"x9°3E±°,h52km±33km,M4.7/11, mb4.6/11,mB5.3/4,MLv4.8/4,Mw(mB)4.7/4*
SZGRF ***07*** *17:58:37.9,9.94N,92.87E,h42km,mb4.5,Nicobar Islands, India, region*
ISC 07 17:58:34.7±0.4,9°44N±0'04,93°11E±0'04,h46km±2km, h46km:pP-P,n278,σ1$40/309,mb4.7/67,MS4.1/6,38C-9D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.23**	**351**	*e*P		Pn	17 59 12.7	+3.4
PBA				*e*S		Sn	17 59 39.8	+4.1
CMBY	**CAMPBELL BAY**	**2.54**	**161**	*e*P		Pn	17 59 17.9	+4.4
CMBY				*e*S		**Sn**	**17 59 46.1**	**+2.7**
DGPR	**DIGLIPUR**	**3.72**	**357**	*e*P		Pn	17 59 34.8	+5.1
DGPR				*e*S		**Sn**	**18 00 16.3**	**+4.0**
DGPR				AML	AML		18 00 33.6	
	comp=N,3μm,0.7s							
DGPR				AML	AML		18 00 35.0	
	comp=E,3μm,0.7s							
BSI	**Banda Aceh**	**4.48**	**151**	P		**Pn**	**17 59 42.0**	**+1.9**
BSI				S		**Sn**	**18 00 33.4**	**+2.4**
PKDT	**Phuket**	**5.39**	**106**	P		**Pn**	**17 59 54.7**	**+2.0**
	comp=E,203nm,0.6s,comp=E,5μmcomp=E,1.1nm							
SURT	**Suratani**	**5.63**	**94**	P		**Pn**	**17 59 58.4**	**+2.4**
	comp=E,102nm,0.9s,comp=E,1μmcomp=E,0.4nm							
LHMI	**Lhok Sumawe**	**5.66**	**137**	P		Pn	18 00 00.0	+3.7
	comp=E,176nm,0.8s,comp=E,2μmcomp=E,0.6nm							
LHMI				S		Sn	18 01 07.0	+7.0
	comp=E,176nm,0.8s,comp=E,2μmcomp=E,0.6nm							
LHMI	**Lhok Sumawe**	**5.66**	**137**	*e*Pn		Pn	18 00 00.1	+3.7
LHMI				*e*Sn		**Sn**	**18 01 01.4**	**+1.3**
TRTT	**Trang**	**6.70**	**103**	P		**Pn**	**18 00 12.6**	**+1.9**
	comp=E,137nm,0.6s,comp=E,2μmcomp=E,0.6nm							
KHLT	**Khaolaem Dam**	**7.55**	**45**	P		Pn	18 00 25.9	+3.5
	comp=E,52nm,1.2s,comp=E,500nmcomp=E,0.2nm							
SRDT	**SRDT**	**7.64**	**50**	P		Pn	18 00 27.2	+3.6
	comp=E,277nm,1.1s,comp=E,12μmcomp=E,0.9nm							
SKLT	**Songkhla**	**7.77**	**106**	P		Pn	18 00 34.8	+10
UTHA	**Uthaitani**	**8.68**	**45**	P		Pn	18 00 42.1	+4.4
	comp=E,24nm,0.7s,comp=E,197mcomp=E,0.1nm							
PSI	**Prapat**	**8.77**	**138**	P		Pn	18 00 43.8	+4.6
	comp=E,2.3nm,0.3s,baz=323,slow=14,SNR=14							
PSI				LR	LR		18 04 35.6	
	comp=E,664nm,20.4s,baz=308,slow=41							
PSI	**Prapat**	**8.77**	**138**	*e*P		Pn	18 00 43.3	+4.1
PSI	**Prapat**	**8.77**	**138**	*e*Pn		Pn	18 00 43.3	+4.1
GSI	**Gunungsitoli**	**9.22**	**151**	*e*Pn		**Pn**	**18 00 45.8**	**+0.6**
GSI				*e*Sn		Sn	18 02 22.1	-5.6
IPM	**Ipoh**	**9.27**	**122**	*e*Pn		**Pn**	**18 00 47.1**	**+1.1**
IPM				*e*Sn		**Sn**	**18 02 25.6**	**-3.5**
CHBT	**CHBT**	**9.63**	**69**	P		Pn	18 00 55.4	+4.6
	comp=E,25nm,1.0s,comp=E,580nm							
MHMT	**Maesarieng**	**9.87**	**28**	P		Pn	18 00 59.6	+5.5
	comp=E,17nm,1.0s,comp=E,235nm							
PBKT	**Sadao Pong**	**10.44**	**46**	P		Pn	18 01 05.5	+3.7
	comp=E,72nm,1.1s,comp=E,940nm							
FRIM	**Kepong**	**10.47**	**126**	⇑P		**Pn**	**18 01 04.7**	**+2.4**
CM01	**Chiang Mai Arr**	**10.58**	**32**	*e*Pn		**Pn**	**18 01 06.6**	**+2.8**
CM31	**Chiang Mai Arr**	**10.60**	**32**	*e*Pn		Pn	18 01 07.6	+3.5
	comp=E,15nm,0.6s							
CMAR	**Chiang Mai Arr**	**10.60**	**32**	P		**Pn**	**18 01 07.0**	**+2.9**
	comp=E,0.5nm,0.3s,baz=221,slow=15,SNR=43							
CMAR				LR	LR		18 05 12.0	
	comp=E,702nm,20.6s,baz=217,slow=37							
CMAR				ScP		**ScP**	**18 10 32.9**	**-1.4**
	comp=E,0.0nm,0.3s,baz=240,slow=2.7,SNR=6.8							
KTGM	**Kuala Trenggan**	**10.75**	**112**	⇑P		**Pn**	**18 01 08.8**	**+2.7**
CHAI	**Chaiyaphum**	**10.78**	**53**	P		Pn	18 01 11.4	+4.8
	comp=E,9.5nm,0.9s,comp=E,137nm							
CHTO	**Chiang Mai**	**10.90**	**31**	P		Pn	18 01 12.5	+4.3
	comp=E,59nm,0.8s							
CHTO	**Chiang Mai**	**10.90**	**31**	*e*P		**Pn**	**18 01 11.1**	**+2.9**
CHTO	**Chiang Mai**	**10.90**	**31**	*e*Pn		**Pn**	**18 01 11.1**	**+2.9**
CMMT	**Chiang Mai**	**10.90**	**31**	P		Pn	18 01 12.4	+4.1
	comp=E,17nm,0.7s							
UTTA	**Uttaradit**	**10.98**	**40**	P		Pn	18 01 14.0	+4.8
	comp=E,4.6nm,0.9s,comp=E,51nm							
LAMP	**Lampang**	**11.03**	**34**	P		Pn	18 01 19.6	+10
	comp=E,6.3nm,0.8s,comp=E,51nm							
LOEI	**Loei**	**11.28**	**44**	P		Pn	18 01 20.8	+7.4
	comp=E,26nm,0.8s							
KHON	**Khomkaen**	**11.69**	**53**	P		Pn	18 01 24.3	+5.3
	comp=E,12nm,0.9s							
PALK	**Pallekele**	**12.46**	**261**	*i* P		**Pn**	**18 01 32.0**	**+2.4**
PALK	**Pallekele**	**12.46**	**261**	*e*Pn		**Pn**	**18 01 27.7**	**-1.9**
PALK				*e*Sn		Sn	18 03 34.6	-13
KGM	**Kluang**	**12.55**	**125**	⇑P		**Pn**	**18 01 33.6**	**+2.9**
VIS	**Vishakhapatnam**	**12.57**	**312**	*e*P		**Pn**	**18 01 31.3**	**+0.3**
VIS				*e*S		Sn	18 03 37.3	-12
CHLP	**Challavanipeta**	**12.58**	**317**	*e*Pn		**Pn**	**18 01 30.8**	**-0.4**
CHLP				*e*Sn		Sn	18 03 38.5	-11
CRAI	**Chiangrai**	**12.82**	**32**	P		Pn	18 01 39.0	+4.6
	comp=E,35nm,1.0s,comp=E,1μm							
SKNT	**Sakolnakorn**	**12.96**	**54**	P		**P**	**18 01 46.7**	**+0.8**
	comp=E,26nm,1.5s							
MYKOM	**Kota Tinggi**	**13.11**	**125**	⇑P		**Pn**	**18 01 40.5**	**+2.1**
MYKOM	**Kota Tinggi**	**13.11**	**125**	*e*Pn		**Pn**	**18 01 39.8**	**+1.3**
SKHT	**Srikalahasti**	**13.80**	**289**	*e*Pn		**Pn**	**18 01 49.4**	**+1.6**
SKHT				*e*			18 01 50.8	
SKHT				*e*Sn		Sn	18 04 07.3	-12
ADKI	**

QIZ sP **sP** 18 03 06.5 -0.7
QIZ S **S** 18 06 22.5 +0.3
QIZ LN
comp=Z,200nm,16.7s
QIZ LE
comp=Z,150nm,22.8s
QIZ LZ
comp=Z,430nm,20.8s
KSM Kuching 18.85 114 *e*P **Pn** 18 02 53.2 +1.2
comp=Z,19nm,0.8s
JIRN Jiri 19.27 341 *e*P **Pn** 18 02 57.4 +0.1
comp=Z,32nm,0.4s
PKI Pulchoki 19.45 339 *e*P **Pn** 18 02 59.8 +0.4
comp=Z,27nm,0.7s
PKIN Phulchoki 19.45 339 *e*P **Pn** 18 03 00.2 +0.8
comp=Z,22nm,0.7s
DMN Daman 19.59 338 *e*P **Pn** 18 03 00.4 -0.6
comp=Z,53nm,0.8s
GUN Gumba 19.60 341 *e*P **Pn** 18 03 00.9 -0.3
comp=Z,90nm,0.7s
KKN Kakani 19.69 339 *e*P **Pn** 18 03 02.9 +0.7
comp=Z,28nm,0.6s
GKN Gorkha 20.12 338 *e*P Pn 18 03 06.3 -0.9
comp=Z,45nm,0.5s
SBUM Sibu 20.23 109 ⇑P **P** 18 03 07.3 +1.2
SBUM Sibu 20.23 109 *e*P **P** 18 03 07.2 +1.0
comp=Z,12nm,0.8s
LSA Lhasa 20.24 355 P **P** 18 03 06.6 -0.1
LSA Lhasa 20.24 355 *e*P **P** 18 03 06.7 0.0
LSA *e*S **S** 18 06 52.0 +0.4
LSA pmax pmax
comp=Z,21nm,0.4s
LSA Lhasa 20.24 355 *e*P **P** 18 03 06.7 0.0
comp=Z,20nm,0.4s
LSA *e*S **S** 18 06 52.0 +0.4
KOLN Koldanda 20.32 335 *e*P Pn 18 03 08.8 -0.9
comp=Z,48nm,0.7s
BTM Bintulu 20.79 106 ⇑P Pn 18 03 14.2 -0.9
GYA Guiyang 21.25 35 ⇑*i*P **P** 18 03 17.7 +0.5
GYA S **S** 18 07 08.4 -2.7
GYA PcP **PcP** 18 07 21.2 +0.1
GYA SS SnSn 18 07 47.8 +12
GYA PMZ
comp=Z,30nm,0.8s
GYA PMZ
comp=Z,110nm,4.8s
GYA LN
comp=Z,460nm,15.9s
GYA LE
comp=Z,430nm,16.5s
GYA LZ
comp=Z,470nm,15.8s
CD2 Chengdu 23.55 23 *e*P **P** 18 03 40.7 -0.5
CD2 sP **sP** 18 03 57.0 -1.4
CD2 PP **PnPn** 18 04 15.6 +5.9
CD2 S **S** 18 07 48.6 -3.5
CD2 sS **sS** 18 08 09.9 -2.4
CD2 PMZ
comp=Z,40nm,0.8s
CD2 PMZ
comp=Z,150nm,7.1s
CD2 LN
comp=Z,300nm,17.8s
CD2 LE
comp=Z,260nm,13.1s
CD2 LZ
comp=Z,270nm,15.5s
KDM Kudat 23.61 94 ⇑P **P** 18 03 42.5 +0.6
ENH Enshi 25.76 34 *e*P **P** 18 03 58.1 -3.2
comp=Z,7.3nm,0.5s
DHRM DHARAMSHALA 27.52 328 *e*P **P** 18 04 19.4 +1.9
DHRM *ex* x 18 08 48.6
LZH Lanzhou 28.27 19 *e*P **P** 18 04 23.8 -0.1
LZH pP **pP** 18 04 35.7 -0.4
LZH sP **sP** 18 04 41.3 -0.3
LZH *e*PP **PnPn** 18 05 16.0 +1.9
LZH *e*S **S** 18 09 06.4 -0.7
LZH sS **sS** 18 09 27.0 -0.5
LZH PMZ
comp=Z,33nm,1.3s
LZH PMZ
comp=Z,110nm,4.5s
LZH LN
comp=Z,410nm,12.8s
LZH LE
comp=Z,730nm,13.0s
LZH LZ
comp=Z,1μm,14.7s
XAN Xi'an 28.47 28 P **P** 18 04 24.2 -1.4
XAN pP **pP** 18 04 33.5 -4.3
XAN PMZ
comp=Z,4.0nm,1.0s
WHN Wuhan 28.87 40 P P 18 04 37.1 +8.0
GTA Gaotai 30.44 10 ⇑P **P** 18 04 43.5 +0.4
GTA pP **pP** 18 04 55.3 0.0
GTA sP **sP** 18 05 00.9 +0.1
GTA S **S** 18 09 41.0 -0.1
GTA sS **sS** 18 10 00.7 -0.8
GTA PMZ
comp=Z,19nm,1.3s
GTA PMZ
comp=Z,74nm,5.9s
GTA LN
comp=Z,94nm,18.1s
GTA LE
comp=Z,250nm,17.1s
GTA LZ
comp=Z,98nm,20.4s
NJ2 Nanjing 32.79 43 *e*P **P** 18 05 04.3 +0.6
NJ2 PMZ
comp=Z,20nm,0.6s
KSH Kashi 33.64 336 P **P** 18 05 10.6 -0.6
KSH sP **sP** 18 05 28.0 -0.9
KSH PP **PnPn** 18 06 23.5 -0.6
KSH S **S** 18 10 27.8 -3.1
KSH SS **SnSn** 18 12 32.3 -5.3
KSH PMZ
comp=Z,15nm,0.6s
KSH PMZ
comp=Z,84nm,5.4s
KSH LN
comp=Z,150nm,7.4s
KSH LE
comp=Z,100nm,5.2s
KSH LZ
comp=Z,160nm,6.5s
WMQ Urumqi 34.58 353 *e*P **P** 18 05 19.7 +0.5
WMQ pP **pP** 18 05 31.8 +0.4
WMQ sP **sP** 18 05 37.2 +0.3
WMQ S **S** 18 10 44.2 -1.0
WMQ sS **sS** 18 11 04.0 -1.7
WMQ PcS **PcS** 18 11 39.6 +0.1
WMQ PMZ
comp=Z,10.0nm,0.5s
WMQ PMZ
comp=Z,130nm,4.2s
WMQ LN
comp=Z,63nm,20.6s
WMQ LE
comp=Z,190nm,24.8s
WMQ LZ
comp=Z,130nm,24.8s
SFK Sufi-Kurgan 35.10 333 P **P** 18 05 25.0 +1.1
SFK pmax pmax
comp=Z,15nm,0.7s
HHC Hu-ho-hao-te 35.30 25 *e*P **P** 18 05 26.7 +1.2
HHC S **S** 18 10 58.1 +1.6
HHC sS **sS** 18 11 15.4 -1.7
HHC PMZ
comp=Z,23nm,1.0s
HHC PMZ
comp=Z,120nm,4.1s
HHC LN
comp=Z,460nm,16.0s
HHC LE
comp=Z,450nm,17.3s
HHC LZ
comp=Z,350nm,18.5s
PDGK Podgornoye 35.79 343 P **P** 18 05 29.8 +0.3
PDGK pmax pmax
comp=Z,6.0nm,0.7s
ULHL Ulahol 35.88 338 P **P** 18 05 31.2 +0.6
SNR=5.6
ULHL Ulahol 35.88 338 *i*P **P** 18 05 31.2 +0.6
KZA Kyzart 36.11 337 P **P** 18 05 33.9 +1.1
SNR=15
KZA Kyzart 36.11 337 *i*P **P** 18 05 33.9 +1.1
UCH Uchtor 36.52 337 P **P** 18 05 37.5 +1.1
SNR=16
UCH Uchtor 36.52 337 *i*P **P** 18 05 37.4 +1.1
TKM2 Tokmak 2 36.71 338 P **P** 18 05 38.2 +0.6
SNR=25
TKM2 Tokmak 2 36.71 338 *i*P **P** 18 05 38.2 +0.6
TKM2 pmax pmax
comp=Z,12nm,0.8s
TKM2 Tokmak 2 36.71 338 *e*P **P** 18 05 37.8 +0.2
comp=Z,11nm,0.8s
TKM2 *e*PcP **PcP** 18 07 59.8 +0.2
KBK Karagaybulak 36.72 337 P **P** 18 05 39.2 +1.6
SNR=52
KBK Karagaybulak 36.72 337 *i*P **P** 18 05 39.3 +1.6
BJT Baijiatuau 36.73 30 P **P** 18 05 38.4 +0.8
BJT pmax pmax
comp=Z,21nm,0.6s
BJT Baijiatuau 36.73 30 P **P** 18 05 38.4 +0.8
comp=Z,21nm,0.6s
BJI Beijing 36.75 30 P **P** 18 05 38.7 +1.0
BJI S **S** 18 11 18.8 +0.4
BJI sS **sS** 18 11 40.8 +1.8
BJI PMZ
comp=Z,31nm,0.5s
BJI LN
comp=Z,550nm,21.3s
BJI LE
comp=Z,500nm,19.7s
BJI LZ
comp=Z,500nm,26.3s
AML Almayashu 36.77 336 P **P** 18 05 40.3 +1.9
SNR=9.6
AML Almayashu 36.77 336 *i*P **P** 18 05 40.3 +1.9
AAK Ala-Archa 36.87 337 P **P** 18 05 40.9 +1.9
SNR=15
AAK Ala-Archa 36.87 337 *c i*P **P** 18 05 40.3 +1.3
AAK pmax pmax
comp=Z,40nm,0.8s
AAK Ala-Archa 36.87 337 *e*P **P** 18 05 39.9 +0.9
comp=Z,15nm,0.8s
AAK *e*PcP **PcP** 18 08 00.8 +0.8
FRU Bishkek 37.00 337 *e*P **P** 18 05 41.0 +1.1
FRU *e* 18 05 59.0
CHMS Chumysh 37.09 337 P **P** 18 05 41.9 +1.2
SNR=16
CHMS Chumysh 37.09 337 *i*P **P** 18 05 41.8 +1.2
EKS2 Erkin-Say 37.18 336 P **P** 18 05 43.2 +1.6
SNR=50
EKS2 Erkin-Say 37.18 336 *i*P **P** 18 05 43.1 +1.6
EKS2 Erkin-Say 37.18 336 *e*P **P** 18 05 42.7 +1.1
comp=Z,23nm,0.7s
USP Ospenovka 37.41 337 P **P** 18 05 44.3 +0.9
SNR=30
USP Ospenovka 37.41 337 *i*P **P** 18 05 44.3 +0.9
MK01 Makanchi Array 38.33 348 *e*P **P** 18 05 50.2 -0.9
MK31 Makanchi Array 38.35 348 *e*P **P** 18 05 50.7 -0.6
MK31 *e* 18 08 03.8
MK31 Makanchi Array 38.35 348 *e*P **P** 18 05 50.7 -0.6
MK31 *e*PcP **PcP** 18 08 03.8 -0.5
MKAR Makanchi Array 38.35 348 P **P** 18 05 50.9 -0.4
comp=Z,4.8nm,0.7s,baz=196,slow=8.3,SNR=59
MKAR PcP **PcP** 18 08 04.8 +0.5
comp=Z,1.1nm,0.8s,baz=197,slow=4.5,SNR=4.3
KK31 Karatay Array 38.91 333 P **P** 18 05 56.4 +0.3
KK31 pmax pmax
comp=Z,15nm,0.8s
KKAR Karatay Array 38.91 333 *e*P **P** 18 05 56.9 +0.8
KKAR Karatay Array 38.91 333 *e*P **P** 18 05 56.9 +0.8
SONM Songino Array 39.88 14 P **P** 18 06 04.4 +0.2
comp=Z,7.8nm,0.9s,baz=197,slow=7.3,SNR=38
SONM PcP **PcP** 18 08 09.8 +0.5
comp=Z,2.4nm,0.7s,baz=198,slow=3.5,SNR=6.0
SONA1 Songino Array 39.90 14 *e*P **P** 18 06 03.5 -0.8
ULN Ulaanbaatar 40.07 15 *c i*P **P** 18 06 05.1 -0.7
ULN pmax pmax
comp=Z,7.0nm,0.7s
ULN Ulaanbaatar 40.07 15 *e*P **P** 18 06 04.7 -1.1
comp=Z,8.5nm,0.9s
ZAK Zakamensk 41.68 10 *e*P P 18 06 12.9 -6.0
ZAK pmax pmax
comp=Z,3.0nm,1.5s
KSAR Wonju Array Be 41.96 43 P **P** 18 06 21.3 +0.1
KSAR Wonju Array Be 41.96 43 P **P** 18 06 21.3 +0.1
KSRS Korea Array 41.99 43 P **P** 18 06 21.3 -0.2
comp=Z,0.9nm,0.5s,baz=247,slow=8.6,SNR=7.1
JNU Nakatsue 42.01 50 LR LR 18 25 22.0
comp=Z,237nm,19.6s,baz=46,slow=38
GEYT Alibeck 42.36 318 P **P** 18 06 26.5 +1.9
comp=Z,16nm,0.7s,baz=142,slow=7.5,SNR=41
GEYT PcP **PcP** 18 08 18.6 +1.2
comp=Z,1.8nm,0.6s,baz=157,slow=4.1,SNR=2.5
OTUK Ortayu 42.45 339 P **P** 18 06 25.4 +0.2
OTUK pmax pmax
comp=Z,16nm,0.6s
MOY Mondy 42.60 7 *e*P **P** 18 06 26.5 +0.1
KURK Kurchatov 42.86 346 *e*P **P** 18 06 27.9 -0.4
KURK pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 42.86 346 *e*P **P** 18 06 27.9 -0.4
comp=Z,7.2nm,0.8s
TLY Talaya 42.99 10 LR LR 18 25 48.7
comp=Z,326nm,21.7s,baz=35,slow=38
CN2 Changchun 44.28 34 *e*P **P** 18 06 40.4 +0.5
CN2 *e*S **S** 18 13 13.2 +2.6
CN2 PMZ
comp=Z,30nm,0.5s
CN2 PMZ
comp=Z,300nm,5.0s
CN2 LN
comp=Z,700nm,16.0s
CN2 LE
comp=Z,500nm,16.0s
CN2 LZ
comp=Z,400nm,14.0s
ZAA0 Zalesovo Array 44.88 353 *e*P **P** 18 06 44.1 -0.5
ZALV Zalesovo Beam 44.88 353 P **P** 18 06 44.2 -0.4
comp=Z,2.0nm,0.4s,baz=175,slow=9.9,SNR=25
ZALV Zalesovo Beam 44.88 353 *i*P **P** 18 06 44.2 -0.4
ZALV pmax pmax
comp=Z,2.0nm,0.4s
HIA Hailar 45.51 24 *e*P **P** 18 06 49.2 -0.5
HIA Hailar 45.51 24 *e*P **P** 18 06 49.2 -0.5
NVS Novosibirsk 45.96 352 *i*P **P** 18 06 50.8 -2.3
KRAR Krasnoyarsk 46.46 360 ⇓*i*P **P** 18 06 55.7 -1.2
KRAR pmax pmax
comp=Z,47nm,1.7s
MDJ Mudanjiang 47.11 35 P **P** 18 07 03.1 +0.8
MDJ PMZ
comp=Z,12nm,2.2s
MDJ PMZ
comp=Z,280nm,3.9s
MDJ Mudanjiang 47.11 35 *e*P **P** 18 07 02.3 0.0
BVA0 Borovoye Array 47.19 341 P **P** 18 07 01.5 -1.3
BVA0 pmax pmax
comp=Z,4.0nm,0.6s
BVAR Borovoye Array 47.19 341 P **P** 18 07 02.5 -0.2
comp=Z,3.6nm,0.7s,baz=145,slow=8.5,SNR=34
BVAR PcP **PcP** 18 08 34.2 +0.5
comp=Z,1.3nm,0.7s,baz=171,slow=2.9,SNR=3.7
BRVK Borovoye 47.25 341 *c i*P **P** 18 07 02.5 -0.7
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK Borovoye 47.25 341 *e*P **P** 18 07 02.2 -1.0
comp=Z,5.7nm,0.7s
RAYN Ar Rayn 47.52 293 *e*P **P** 18 07 07.0 +1.1
comp=Z,2.1nm,0.8s
USRK Usuriysk Ar. 48.27 37 P **P** 18 07 11.4 +0.2
comp=Z,3.6nm,0.7s,baz=246,slow=6.2,SNR=9.6
MJAR Matsushiro Arr 48.90 49 P **P** 18 07 17.5 +1.2
comp=Z,1.7nm,0.8s,baz=225,slow=7.0,SNR=5.6
MJAR PcP **PcP** 18 08 40.4 +0.2
comp=Z,2.6nm,0.7s,baz=238,slow=3.5,SNR=8.0
WRA Warramunga Arr 50.00 126 P **P** 18 07 23.4 -1.4
comp=Z,4.6nm,0.5s,baz=305,slow=8.4,SNR=61
WRA PcP **PcP** 18 08 44.2 -0.2
comp=Z,2.2nm,0.6s,baz=311,slow=3.0,SNR=11
WRA ScP **ScP** 18 12 33.1 -3.5
comp=Z,0.6nm,0.6s,baz=316,slow=3.8,SNR=8.2
WRAB Tennant Creek 50.00 126 *e*P **P** 18 07 23.6 -1.3
WRAB pmax pmax
comp=Z,8.0nm,0.5s
WRAB Tennant Creek 50.00 126 *e*P **P** 18 07 23.6 -1.3
comp=Z,8.3nm,0.5s
AS31 Alice Springs 51.70 130 *e*P **P** 18 07 35.6 -2.0
AS31 *e*PcP **PcP** 18 08 50.0 -0.8
ASAR Alice Springs 51.70 130 P **P** 18 07 35.9 -1.7
comp=Z,4.5nm,0.6s,baz=300,slow=7.4,SNR=116
ASAR PcP **PcP** 18 08 50.8 +0.1
comp=Z,3.3nm,0.6s,baz=311,slow=3.5,SNR=14
ASAR ScP **ScP** 18 12 42.2 -1.6
comp=Z,0.8nm,0.9s,baz=299,slow=4.0,SNR=4.6
AS01 Alice Springs 51.73 130 *e*P **P** 18 07 35.7 -2.2
AS01 *e*PcP **PcP** 18 08 50.5 -0.3
MAK Makhachkala 51.88 318 *e*P **P** 18 07 40.5 +1.9
MAK *e* 18 09 36.4
MAK S **S** 18 15 02.1 +4.0
MAK pmax pmax
comp=Z,13nm,0.6s
GNI Garni 52.62 314 ⇑*e*P **P** 18 07 46.2 +1.7
GNI pmax pmax
comp=Z,8.0nm,1.2s
GNI Garni 52.62 314 *e*P **P** 18 07 43.3 -1.2
comp=Z,12nm,0.9s
SVE Sverdlovsk 53.58 338 ⇑*i*P **P** 18 07 51.5 +0.5
SVE pmax pmax
comp=Z,14nm,0.8s
SVE MLR MLR
comp=Z,750nm,23.0s
ARU Arti 54.06 337 *c i*P **P** 18 07 54.0 -0.5
ARU 18 09 54.9
ARU S **S** 18 15 30.3 +2.9
ARU SS **SS** 18 19 12.0 +2.7
ARU pmax pmax
comp=Z,13nm,1.7s
ARU Arti 54.06 337 *e*P **P** 18 07 53.4 -1.1
comp=Z,5.6nm,0.7s
ZEI Tsey 54.21 317 *e*P **P** 18 07 56.0 -0.1
ZEI pmax pmax
comp=Z,7.0nm,0.7s
NEY Neytrino 55.19 317 *i*P **P** 18 08 04.3 +1.1
KBZ Khabaz 55.25 317 P **P** 18 08 04.0 +0.7
comp=Z,3.4nm,0.8s,baz=56,slow=24,SNR=14
KIV Kislovodsk 55.48 318 *d i*P **P** 18 08 05.4 +0.2
KIV pmax pmax
comp=Z,14nm,0.7s
KIV Kislovodsk 55.48 318 *e*P **P** 18 08 04.7 -0.4
comp=Z,15nm,0.7s
YSS Yuzh-Sakhalins 56.20 39 ⇑*e*P **P** 18 08 10.0 -0.1
YSS pmax pmax
comp=Z,30nm,0.8s
YSS Yuzh-Sakhalins 56.20 39 *e*P **P** 18 08 10.1 0.0
comp=Z,31nm,0.7s
KMBO Kilima Mbogo 56.60 262 LR LR 18 29 07.5
comp=Z,142nm,21.4s,baz=94,slow=32
YAK Yakutsk 58.85 19 P **P** 18 08 27.6 -0.8
comp=Z,13nm,0.6s,baz=86,slow=1.7,SNR=9.2
YAK Yakutsk 58.85 19 *e*P **P** 18 08 26.4 -2.1
YAK pmax pmax
comp=Z,14nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=N,5.0nm,1.3s
VORD Divnogorie 60.36 324 *e*P **P** 18 08 38.0 -1.1
VORD pmax pmax
comp=Z,7.0nm,0.6s
VORD pmax pmax
comp=N,9.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.7s
VSR Storozhevoye 60.53 324 *e*P **P** 18 08 39.2 -1.1
VSR pmax pmax
comp=Z,8.0nm,0.8s
VSR pmax pmax
comp=N,5.0nm,0.5s
VSR pmax pmax
comp=E,7.0nm,0.6s
BR131 Keskin Array S 60.64 310 *e*P **P** 18 08 40.0 -1.4
comp=E,3.5nm,0.8s
BRTR Keskin Array B 60.64 310 P **P** 18 08 40.6 -0.9
comp=E,3.6nm,0.8s,baz=119,slow=7.4,SNR=27
BRTR Keskin Array B 60.64 310 *ce*P **P** 18 08 40.5 -0.9
BRTR pmax pmax
comp=Z,4.0nm,0.8s
STKA Stephens Creek 61.92 134 P **P** 18 08 49.4 -0.6
comp=Z,1.6nm,0.5s,baz=304,slow=3.5,SNR=10
STKA Stephens Creek 61.92 134 *e*P **P** 18 08 48.3 -1.6
STKA Stephens Creek 61.92 134 *e*P **P** 18 08 48.3 -1.6
OBN Obninsk 63.52 328 ⇑*e*P **P** 18 08 59.5 -0.7
OBN pmax pmax
comp=Z,15nm,1.7s
TIRR Tirgusor 65.44 315 ⇑P **P** 18 09 12.8 -0.1
TIRR Tirgusor 65.44 315 ⇑*i*P **P** 18 09 12.8 -0.1
CFR Carcaliu 65.77 315 ⇑P **P** 18 09 14.5 -0.6
CFR Carcaliu 65.77 315 ⇑*i*P **P** 18 09 14.5 -0.6
MSAB Monastry St. A 65.78 314 ⇑*i*P P 18 09 22.7 +7.5
TIXI Tiksi 65.91 12 *c i*P **P** 18 09 14.5 -1.0
TIXI pmax pmax
comp=Z,28nm,0.6s
TIXI Tiksi 65.91 12 *e*P **P** 18 09 14.3 -1.2
AKASG Malin Array Be 66.30 321 P **P** 18 09 17.2 -1.2
comp=Z,1.5nm,0.5s,baz=90,slow=5.3,SNR=16
AK11 Malin Array Si 66.33 321 *e*P **P** 18 09 17.5 -1.0
VRI Vrincioaia 66.87 316 ⇓P **P** 18 09 22.5 +0.3
VRI Vrincioaia 66.87 316 ⇓*i*P **P** 18 09 22.5 +0.3
PLOR Plostina 66.92 316 ⇑P **P** 18 09 23.0 +0.4
PLOR Plostina 66.92 316 ⇑*i*P **P** 18 09 23.0 +0.4
PETK Petropavlovsk- 67.34 36 LR LR 18 40 45.7
comp=Z,79nm,18.3s,baz=354,slow=38
MLR Muntele Rosu 67.35 315 ⇓P **P** 18 09 25.4 0.0
MLR Muntele Rosu 67.35 315 ⇓*i*P **P** 18 09 25.4 0.0
DOPR Dopca 67.81 316 ⇑*i*P **P** 18 09 28.6 +0.5
SEY Seymchan 67.95 25 P **P** 18 09 27.8 -0.8
comp=Z,1.1nm,0.5s,baz=275,slow=10,SNR=5.8
SEY PcP **PcP** 18 09 52.7 -2.0
comp=Z,1.7nm,0.6s,baz=258,slow=6.4,SNR=5.6
BURAR Bucovina Array 68.21 318 ⇑P **P** 18 09 31.3 +0.6
BURAR Bucovina Array 68.21 318 ⇑*i*P **P** 18 09 31.3 +0.6
BUR04 Bucovina Ar. S 68.21 318 *e*P **P** 18 09 30.1 -0.6
BUR08 Bucovina Ar. S 68.23 318 *e*P **P** 18 09 30.1 -0.7
ARR Arges 68.24 315 ⇓*i*P **P** 18 09 30.4 -0.5
VTS Vitosha 68.88 312 ⇑P P 18 09 26.7 -8.4
VTS Vitosha 68.88 312 ⇑*i*P P 18 09 26.6 -8.5
HNR Honiara 69.12 104 P **P** 18 09 34.4 -2.4
HNR Honiara 69.12 104 P **P** 18 09 34.4 -2.4
DRGR 69.77 316 ⇓P **P** 18 09 38.1 -2.3
DRGR 69.77 316 ⇓*i*P **P** 18 09 38.1 -2.3
TRPA Tarpa 70.07 318 ⇑*i*P P 18 09 34.3 -7.8
BZS Buzias 70.37 315 ⇑P **P** 18 09 44.1 +0.1
BZS Buzias 70.37 315 ⇑*i*P **P** 18 09 44.1 +0.1
FINES FINESS Array B 70.86 332 P **P** 18 09 45.9 -0.7
comp=Z,2.6nm,0.8s,baz=108,slow=6.2,SNR=7.3
CRVS Cervenica-Dubn 70.89 318 *e*P **P** 18 09 47.2 +0.1
CRVS pmax pmax
comp=Z,3.0nm,0.9s
CRVS Cervenica-Dubn 70.89 318 *e*P **P** 18 09 47.2 +0.1
KECS Kecovo 71.48 318 *e*P **P** 18 09 50.1 -0.5
KECS Kecovo 71.48 318 *e*P **P** 18 09 50.1 -0.5
PKSM Moragy 72.50 315 ⇑P **P** 18 09 56.0 -0.8
PKSM Moragy 72.50 315 ⇑*i*P **P** 18 09 56.0 -0.8
ARCES ARCESS Array B 73.46 340 P **P** 18 10 02.0 0.0
comp=Z,1.6nm,0.7s,baz=96,slow=6.1,SNR=12
MORC Moravsky Berou 73.53 319 ⇑P **P** 18 10 02.9 0.0
MORC Moravsky Berou 73.53 319 ⇑*i*P **P** 18 10 02.9 0.0
MORC Moravsky Berou 73.53 319 *e*P **P** 18 10 02.8 0.0
comp=Z,4.7nm,1.0s
MORC *e* 18 10 15.1
DPC Dobruska-Polom 74.36 320 *e*P **P** 18 10 08.5 +0.8
DPC Dobruska-Polom 74.36 320 *e*P **P** 18 10 08.5 +0.8
GEC2 GERESS Array S 75.99 318 *e*P **P** 18 10 16.8 -0.4
comp=Z,4.0nm,0.8s
GEC2 *e*PcP **PcP** 18 10 29.3 -0.1
GEC2 *e*pP **pP** 18 10 30.5 -0.1
GEC2 GERESS Array S 75.99 318 *e*P **P** 18 10 15.8 -1.4
GEC2 GERESS Array S 75.99 318 *e*P **P** 18 10 15.8 -1.4
GERES GERESS Array B 75.99 318 P **P** 18 10 17.3 +0.1
comp=Z,2.5nm,0.7s,baz=90,slow=5.3,SNR=26
WET Wettzell 76.54 318 *e*P **P** 18 10 20.1 -0.1
comp=Z,4.0nm,1.0s
WET *e*pP **pP** 18 10 32.8 -0.9
GRF Grafenberg Arr 77.62 319 *e*P **P** 18 10 26.8 +0.5
comp=Z,7.0nm,1.3s
GRF *e*pP **pP** 18 10 39.0 -0.8
NB2 NORSAR Subarra 77.88 330 P **P** 18 10 26.3 -1.2
comp=Z,0.7nm,0.6s,baz=91,slow=5.9
NOA NORSAR Array B 77.88 330 P **P** 18 10 26.2 -1.2
comp=Z,1.1nm,0.7s,baz=94,slow=5.5,SNR=5.3
SPITS Spitsbergen Ar 78.11 348 P **P** 18 10 28.5 0.0

	comp=Z,7.2nm,0.5s,baz=95,slow=9.4,SNR=31								
KEST	**Kesra**	**79.52**	**305**	P		**P**	**18 10 37.5**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=24,slow=20,SNR=4.5								
LPG	**La Plagne**	**80.80**	**315**	*e*P		**P**	**18 10 43.9**	**-0.2**
	comp=Z,10nm,0.7s								
LPL	**La Plagne**	**80.81**	**315**	*e*P		**P**	**18 10 43.9**	**-0.2**
	comp=Z,20nm,0.8s								
HAU	**Haudompre**	**80.90**	**317**	*e*P		**P**	**18 10 43.6**	**-0.6**
HAU	**Haudompre**	**80.90**	**317**	*e*P		**P**	**18 10 43.6**	**-0.6**
HAU	**Haudompre**	**80.90**	**317**	*e*P		**P**	**18 10 43.6**	**-0.6**
CABF	**La Chapelle**	**81.18**	**316**	*e*P		**P**	**18 10 45.6**	**-0.2**
	comp=Z,9.4nm,0.8s								
CABF	**La Chapelle**	**81.18**	**316**	*e*P		**P**	**18 10 45.6**	**-0.2**
CABF				pmax	pmax				
	comp=Z,9.0nm,0.8s								
CABF	**La Chapelle**	**81.18**	**316**	*e*P		**P**	**18 10 45.6**	**-0.2**
	comp=Z,9.4nm,0.8s								
SFTF	**Sexfontaines**	**81.76**	**318**	*e*P		**P**	**18 10 48.3**	**-0.5**
	comp=Z,9.1nm,0.7s								
SFTF	**Sexfontaines**	**81.76**	**318**	*e*P		**P**	**18 10 48.3**	**-0.5**
	comp=Z,9.1nm,0.7s								
LOR	**Lormes**	**82.64**	**317**	*e*P		**P**	**18 10 52.8**	**-0.6**
	comp=Z,5.9nm,0.8s								
LOR	**Lormes**	**82.64**	**317**	*e*P		**P**	**18 10 52.8**	**-0.6**
LOR				pmax	pmax				
	comp=Z,6.0nm,0.8s								
LOR	**Lormes**	**82.64**	**317**	*e*P		**P**	**18 10 52.8**	**-0.6**
	comp=Z,5.9nm,0.8s								
TORD	**Torodi Ar. Bea**	**89.25**	**283**	P		**P**	**18 11 27.0**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=80,slow=3.9,SNR=4.7								
ESDC	**Sonseca Array**	**89.44**	**310**	P		**P**	**18 11 27.2**	**0.0**
	comp=Z,0.1nm,0.3s,baz=116,slow=8.8,SNR=2.8								
IM04	**Indian Mountai**	**90.57**	**22**	*e*P		**P**	**18 11 31.9**	**+0.1**
CAST	**Castle Rocks**	**92.33**	**24**	*e*P		**P**	**18 11 40.8**	**+0.7**
MCK	**McKinley**	**93.44**	**23**	*e*P		**P**	**18 11 44.6**	**-0.5**
MCK				pmax	pmax				
	comp=Z,4.0nm,0.7s								
MCK	**McKinley**	**93.44**	**23**	*e*P		**P**	**18 11 44.6**	**-0.5**
	comp=Z,3.9nm,0.7s								
ILAR	**Eielson Array**	**93.69**	**22**	P		**P**	**18 11 45.0**	**-1.2**
	comp=Z,3.2nm,0.8s,baz=302,slow=4.2,SNR=34								
ILAR	**Eielson Array**	**93.69**	**22**	P		**P**	**18 11 45.0**	**-1.2**
PMR	**Palmer**	**94.40**	**25**	*e*P		**P**	**18 11 48.8**	**-0.7**
PMR				pmax	pmax				
	comp=Z,5.0nm,0.7s								
PMR	**Palmer**	**94.40**	**25**	*e*P		**P**	**18 11 48.8**	**-0.7**
	comp=Z,4.6nm,0.7s								
KDAK	**Kodiak Island**	**94.59**	**29**	*i* P		**P**	**18 11 51.2**	**+0.7**
VNDA	**Vanda**	**94.66**	**168**	P		**P**	**18 11 50.9**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=284,slow=9.0,SNR=7.1								
VNDA				LR		LR	18 51 29.6		
	comp=Z,330nm,18.1s,baz=50,slow=34								
VNDA	**Vanda**	**94.66**	**168**	*e*P		**P**	**18 11 49.9**	**-0.4**
VNDA				pmax	pmax				
	comp=Z,2.0nm,0.9s								
VNDA	**Vanda**	**94.66**	**168**	*e*P		**P**	**18 11 49.9**	**-0.4**
	comp=Z,2.4nm,0.9s								
SBA	**Scott Base**	**95.76**	**168**	*e*P		**P**	**18 11 56.1**	**+0.7**
SBA				pmax	pmax				
	comp=Z,3.0nm,0.8s								
SBA	**Scott Base**	**95.76**	**168**	*e*P		**P**	**18 11 56.0**	**+0.7**
	comp=Z,2.7nm,0.8s								
MENT	**Mentasta**	**95.86**	**23**	*e*P		**P**	**18 11 56.7**	**+0.5**
BMRM	**Bremner River**	**96.60**	**25**	P		**P**	**18 11 58.3**	**-1.3**
	comp=Z,3.3nm,0.8s								
YKA	**Yellowknife Ar**	**105.14**	**13**	Pdiff		**Pdif**	**18 12 37.3**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=332,slow=4.9,SNR=3.6								
YKA				PP		**PP**	**18 16 55.5**	**-2.6**
	comp=Z,1.0nm,0.7s,baz=336,slow=7.7,SNR=11								
PDAR	**Pinedale Array**	**124.07**	**20**	PKP		**PKPdf**	**18 17 28.5**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=41,slow=1.9,SNR=9.8								
NVAR	**Mina Array Bea**	**124.09**	**30**	PKP		**PKPdf**	**18 17 28.9**	**0.0**
	comp=Z,1.0nm,0.7s,baz=343,slow=1.5,SNR=8.6								
TXAR	**Lajitas Array**	**138.20**	**22**	PKP		**PKPdf**	**18 17 53.0**	**-2.7**
	comp=Z,0.6nm,0.7s,baz=331,slow=2.2,SNR=4.0								
TXAR				SKPbc		**SKPbc**	**18 21 23.3**	**-3.1**
	comp=Z,2.8nm,1.2s,baz=63,slow=2.2,SNR=7.0								
TXAR	**Lajitas Array**	**138.20**	**22**	PKIKP		**PKPdf**	**18 17 53.0**	**-2.7**
PLCA	**Paso Flores**	**145.63**	**202**	PKPbc		**PKPab**	**18 18 09.4**	**+0.3**
	comp=Z,6.3nm,0.8s,baz=143,slow=2.2,SNR=16								
CPUP	**Villa Florida**	**147.36**	**235**	PKPbc		**PKPbc**	**18 18 13.4**	**-0.7**
	comp=Z,0.1nm,0.4s,baz=27,slow=4.5,SNR=3.4								

*ISCJB **07** 18:11:04.4±0.6, 11°.41S±0°.04×117°.51E±0°.05, h34km, Error ellipse: s-maj=6.7km s-min=6.0km az=18.6*
*AUST **07** 18:11:06.2, 11°.48S×117°.42E, h25km*
*DJA **07** 18:11:13.2±1.1, 11°.5±.7°×11°.8E±°, h52km±44km, M3.9/7, MLv3.9/7*

ISC 07 18:11:06.9±1.0, 11°.42S±0°.07×117°.51E±0°.05, h34km, n13, σ2.8s12/15, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**2.56**	**47**	P		**Pn**	**18 11 45.9**	**-0.1**
WBSI				S		**Sn**	**18 12 13.5**	**-2.5**
BASI	**Baing, Sumba**	**3.24**	**69**	S		**Sn**	**18 12 31.2**	**-1.6**
WSI	**Waingapu**	**3.25**	**58**	S		**Sn**	**18 12 31.3**	**-1.6**
WSI	**Waingapu**	**3.25**	**58**	S		**Sn**	**18 12 36.8**	**+3.9**
	baz=3.4,SNR=3.3							
IGBI	**Denpasar**	**3.48**	**318**	P		**Pn**	**18 11 59.5**	**+0.9**
IGBI				S		**Sn**	**18 12 35.4**	**-3.2**
DNP	**Denpasar**	**3.54**	**320**	S		**Sn**	**18 12 39.3**	**-0.9**
SRBI	**Singaraja**	**4.01**	**325**	P		**Pn**	**18 12 08.4**	**+2.4**
GIRL	**Giralia**	**11.59**	**195**	P		**Pn**	**18 13 50.6**	**+0.6**
	baz=12,SNR=12							
GIRL				S		**Sn**	**18 15 56.5**	**-1.9**
	baz=12,SNR=4.0							
MEEK	**Meekatharra**	**15.18**	**176**	P		**Pn**	**18 14 38.2**	**-0.6**
	baz=15,SNR=10							
MEEK				S		Sn	18 17 12.5	-13
	baz=15,SNR=9.1							
WRKA	**Warakurna**	**16.97**	**144**	P		**Pn**	**18 15 01.3**	**-0.5**
	baz=17,SNR=3.9							
WRKA				S		Sn	18 17 52.2	-17
	baz=17,SNR=5.0							
MORW	**Morawa**	**17.61**	**184**	P		**Pn**	**18 15 10.3**	**+0.6**
	baz=18,SNR=19							
MORW				S		Sn	18 18 11.4	-14
	baz=18,SNR=4.6							
BLDU	**Ballidu**	**19.12**	**182**	P		**Pn**	**18 15 30.2**	**+2.1**
	baz=19,SNR=13							
RABL	**Rabaul**	**35.05**	**81**	S		S	18 23 18.0	-9.3
	baz=35,SNR=5.2							

JMA 07 18:13:06.9±0.2, 24°.37N×143°.61E, h122km, M4.1, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**2.60**	**330**	P		Pn	18 13 48.5	+0.5
JHHJ				*e*S		Sn	18 14 20.7	+1.1
CBIJ	**Chichi jima**	**3.00**	**335**	P		Pn	18 13 54.0	+0.7
CBIJ				*e*S		Sn	18 14 29.6	+0.5
JHO	**Hitachi**	**12.48**	**349**	P		Pn	18 16 02.3	+2.1
JAG	**Ashikaga**	**12.54**	**344**	P		Pn	18 16 01.6	+0.6
JAG				*e*S		Sn	18 18 00.9	-18

IDC 07 18:17:26.7±3.6, 44°.39N×129°.49W, h0km, mb2.9/2, mb1 3.5/5, mb1mx3.3/39, mbtmp3.1/5, ML3.5/3, MS3.7/2, Ms1 3.7/2, ms1mx3.3/6, Error ellipse: s-maj=72.4km s-min=21.2km az=49.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YBH	**Yreka Blue Hor**	**5.63**	**116**	Pn		Pn	18 18 54.5	+2.7
	0.1nm,0.3s,baz=302,slow=14,SNR=7.0							
NEW	**Newport**	**9.40**	**61**	LR		LR	18 23 05.5	
	comp=Z,292nm,18.8s,baz=161,slow=36							
NVAR	**Mina Array Bea**	**10.29**	**121**	Pn		Pn	18 19 56.5	+0.6
	0.1nm,0.3s,baz=279,slow=12,SNR=2.4							
PDAR	**Pinedale Array**	**14.54**	**89**	Pn		P	18 20 57.9	-2.9
	0.1nm,0.3s,baz=286,slow=17,SNR=3.0							
YKA	**Yellowknife Ar**	**20.10**	**20**	P		P	18 22 02.0	+0.5
	0.7nm,0.8s,baz=215,slow=11,SNR=6.0							
ILAR	**Eielson Array**	**22.62**	**341**	P		P	18 22 28.5	-0.3
	0.4nm,0.9s,baz=158,slow=7.8,SNR=4.9							
ULM	**Lac du Bonnet**	**23.40**	**64**	LR		LR	18 31 26.5	
	comp=Z,239nm,18.4s,baz=320,slow=36							
H11N3	**WAKE ISLAND Hy**	**57.71**	**267**	T		T	19 29 29.0	
	baz=49,slow=75,SNR=122							
H11N2	**WAKE ISLAND Hy**	**57.71**	**267**	T		T	19 29 31.0	
	baz=49,slow=75,SNR=90							
H11N1	**WAKE ISLAND Hy**	**57.73**	**267**	T		T	19 29 30.8	
	baz=49,slow=75,SNR=79							
H11S1	**WAKE ISLAND Hy**	**58.65**	**266**	T		T	19 30 41.9	
	baz=48,slow=75,SNR=23							
H11S2	**WAKE ISLAND Hy**	**58.66**	**266**	T		T	19 30 42.8	
	baz=48,slow=75,SNR=18							
H11S3	**WAKE ISLAND Hy**	**58.67**	**266**	T		T	19 30 43.3	
	baz=48,slow=75,SNR=15							

*MDD **07** 18:18:42.5±1.7, 35°.52N×11°.32W, h0km, mb4.2/5, Error ellipse: s-maj=16.1km s-min=14.0km az=142.0, PRXIMO*
*IGIL **07** 18:18:42.3, 35°.36N×11°.51W, h23km, ML2.5*
*INMG **07** 18:18:43.5±0.9, 35°.37N×11°.52W, h31km, ML2.6, Error ellipse: s-maj=5.1km s-min=3.9km az=111.0*
*CSEM **07** 18:18:46.0±0.4, 35°.64N×11°.15W, h20km, ML3.4/6, Error ellipse: s-maj=7.4km s-min=6.9km az=145.0*

ISC 07 18:18:42.8±2.7, 35°.57N±0°.09×11°.2W±0°.1, h10km, n102, σ1.9s48/172, 1C-1D, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PFVI	**Vila Bisbo**	**2.50**	**51**	*i* Pn		**Pn**	**18 19 24.3**	**+0.8**
PFVI				*e*Sn		**Sn**	**18 19 55.0**	**+1.0**
PFVI				A		A	18 19 59.2	
	15nm,0.4s							
PFVI	**Vila Bisbo**	**2.50**	**51**	⇑P		**Pn**	**18 19 24.3**	**+0.8**
	19nm,0.1s,SNR=18							
PFVI				S		**Sn**	**18 19 55.1**	**+1.0**
	13nm,0.1s,SNR=8.5							
PFVI	**Vila Bisbo**	**2.50**	**51**	P		**Pn**	**18 19 24.3**	**+0.8**
	19nm,0.1s,SNR=18							
PFVI				S		**Sn**	**18 19 55.1**	**+1.0**
	13nm,0.1s,SNR=8.5							
MORF	**Marmelete**	**2.71**	**49**	*e*P		**Pn**	**18 19 27.3**	**+0.8**
MORF				*e*S		**Sn**	**18 20 00.1**	**+0.6**
MORF				AML		AML	18 20 01.0	
	comp=N,26nm,0.1s							
MORF	**Marmelete**	**2.71**	**49**	*i* Pn		**Pn**	**18 19 27.5**	**+0.9**
MORF				*e*Sn		**Sn**	**18 20 00.5**	**+1.0**
MORF				A		A	18 20 01.4	
	comp=N,29nm,0.1s							
MORF	**Marmelete**	**2.71**	**49**	⇓P		**Pn**	**18 19 27.5**	**+0.9**
MORF				S		**Sn**	**18 20 00.5**	**+1.0**
	comp=N,29nm,0.1s							
MORF	**Marmelete**	**2.71**	**49**	P		**Pn**	**18 19 27.5**	**+0.9**
MORF				S		**Sn**	**18 20 00.5**	**+1.0**
	comp=N,29nm,0.1s							
PTEO	**Sao Teotonio**	**2.83**	**45**	*e*Pn		**Pn**	**18 19 29.0**	**+0.9**
PTEO				*e*Sn		**Sn**	**18 20 04.0**	**+1.8**
PTEO				A		A	18 20 09.1	
	comp=N,10nm,0.6s							
PTEO	**Sao Teotonio**	**2.83**	**45**	P		**Pn**	**18 19 29.0**	**+0.9**
PTEO				S		**Sn**	**18 20 04.0**	**+1.8**
	comp=N,5.1nm,0.6s							
PTEO	**Sao Teotonio**	**2.83**	**45**	P		**Pn**	**18 19 29.0**	**+0.9**
PTEO				S		**Sn**	**18 20 04.0**	**+1.8**
	comp=N,5.1nm,0.6s							
PBDV	**Barranco-do-Ve**	**3.15**	**57**	*e*Pn		**Pn**	**18 19 33.5**	**+1.0**
PBDV				*e*Sn		**Sn**	**18 20 10.8**	**+0.6**
PBDV				A		A	18 20 12.7	
	comp=N,6.9nm,0.3s							
PBDV	**Barranco-do-Ve**	**3.15**	**57**	P		**Pn**	**18 19 33.5**	**+1.0**
PBDV				S		**Sn**	**18 20 10.8**	**+0.6**
	comp=N,6.9nm,0.3s							
PBDV	**Barranco-do-Ve**	**3.15**	**57**	P		**Pn**	**18 19 33.5**	**+1.0**
PBDV				S		**Sn**	**18 20 10.8**	**+0.6**
	comp=N,6.9nm,0.3s							
PCVE	**Castro Verde**	**3.30**	**50**	*e*Pn		**Pn**	**18 19 35.6**	**+1.1**
PCVE				*e*Sn		**Sn**	**18 20 14.4**	**+0.6**
PCVE				A		A	18 20 17.2	
	comp=N,0.6nm,0.4s							
PCVE	**Castro Verde**	**3.30**	**50**	P		**Pn**	**18 19 35.6**	**+1.1**
PCVE				S		**Sn**	**18 20 14.4**	**+0.6**
	comp=N,0.6nm,0.4s							
PCVE	**Castro Verde**	**3.30**	**50**	P		**Pn**	**18 19 35.6**	**+1.1**
PCVE				S		**Sn**	**18 20 14.4**	**+0.6**
	comp=N,0.6nm,0.4s							
MESJ	**Messejana**	**3.32**	**46**	*e*P		**Pn**	**18 19 35.5**	**+0.7**
MESJ				*e*S		**Sn**	**18 20 14.6**	**+0.2**
MESJ				AML		AML	18 20 17.2	
	comp=N,9.3nm,0.2s							
MESJ	**Messejana**	**3.32**	**46**	*e*Pn		**Pn**	**18 19 35.6**	**+0.7**
MESJ				*e*Sn		**Sn**	**18 20 14.7**	**+0.3**
MESJ				A		A	18 20 18.6	
	comp=N,8.2nm,0.2s							
MESJ	**Messejana**	**3.32**	**46**	P		**Pn**	**18 19 35.6**	**+0.7**
MESJ				S		**Sn**	**18 20 14.7**	**+0.3**
	comp=N,8.2nm,0.2s							
MESJ	**Messejana**	**3.32**	**46**	P		**Pn**	**18 19 35.6**	**+0.7**
MESJ				S		**Sn**	**18 20 14.7**	**+0.3**
	comp=N,8.2nm,0.2s							
PNCL	**Nicolau / Gran**	**3.34**	**40**	*e*Pn		**Pn**	**18 19 35.7**	**+0.6**
PNCL				*e*Sn		**Sn**	**18 20 15.6**	**+0.7**
PNCL				A		A	18 20 19.9	
	comp=N,8.5nm,0.1s							
PNCL	**Nicolau / Gran**	**3.34**	**40**	*e*Pn		**Pn**	**18 19 35.7**	**+0.6**
PNCL				*e*Sn		**Sn**	**18 20 15.6**	**+0.7**
	comp=N,8.5nm,0.1s							
PVAQ	**Vaqueiros**	**3.38**	**56**	*e*Pn		**Pn**	**18 19 36.5**	**+0.9**
PVAQ				*e*Sn		**Sn**	**18 20 16.3**	**+0.5**
PVAQ				A		A	18 20 17.6	
	comp=N,11nm,0.1s							
PVAQ	**Vaqueiros**	**3.38**	**56**	P		**Pn**	**18 19 36.5**	**+0.9**
PVAQ				S		**Sn**	**18 20 16.3**	**+0.5**
	comp=N,11nm,0.1s							
PVAQ	**Vaqueiros**	**3.38**	**56**	P		**Pn**	**18 19 36.5**	**+0.9**
PVAQ				S		**Sn**	**18 20 16.3**	**+0.5**
	comp=N,11nm,0.1s							
EGRO	**El Granado**	**3.61**	**56**	P		**Pn**	**18 19 39.2**	**+0.5**
	comp=N,1.5nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**18 20 20.8**	**-0.6**
	comp=N,2.6nm,0.1s,SNR=5.9							
EGRO	**El Granado**	**3.61**	**56**	P		**Pn**	**18 19 39.2**	**+0.5**
	comp=N,1.5nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**18 20 20.8**	**-0.6**
	comp=N,2.6nm,0.1s,SNR=5.9							
PMAFR	**Mafra**	**3.73**	**24**	*e*Pn		**Pn**	**18 19 40.6**	**+0.2**
PMAFR				*e*Sn		**Sn**	**18 20 24.2**	**-0.2**
PMAFR				A		A	18 20 29.3	
	comp=N,21nm,0.2s							
PMAFR	**Mafra**	**3.73**	**24**	P		**Pn**	**18 19 40.4**	**0.0**
	comp=N,2.4nm,0.1s,SNR=7.9							
PMAFR				S		**Sn**	**18 20 23.4**	**-1.0**
	comp=N,13nm,0.2s,SNR=7.0							
PMAFR	**Mafra**	**3.73**	**24**	*e*Pn		**Pn**	**18 19 40.6**	**+0.2**
PMAFR				S		**Sn**	**18 20 23.4**	**-1.0**
	comp=N,13nm,0.2s,SNR=7.0							
PMAFR				*e*Sn		**Sn**	**18 20 24.2**	**-0.2**
	comp=N,21nm,0.2s							
PACT	**Alcochete**	**3.73**	**30**	*e*Pn		**Pn**	**18 19 41.7**	**+1.3**
PACT				*e*Sn		**Sn**	**18 20 25.6**	**+1.2**
PACT				A		A	18 20 29.1	
	comp=N,30nm,0.7s							
PACT	**Alcochete**	**3.73**	**30**	*e*Pn		**Pn**	**18 19 41.7**	**+1.3**
PACT				*e*Sn		**Sn**	**18 20 25.6**	**+1.2**
	comp=N,30nm,0.7s							
EVO	**Evora**	**3.93**	**40**	*e*Pn		**Pn**	**18 19 43.8**	**+0.6**
EVO				*e*Sn		**Sn**	**18 20 29.2**	**-0.1**
EVO				A		A	18 20 31.4	
	comp=N,14nm,0.1s							
EVO	**Evora**	**3.93**	**40**	P		**Pn**	**18 19 43.8**	**+0.6**
EVO				S		**Sn**	**18 20 29.2**	**-0.1**
	comp=N,14nm,0.1s							
EVO	**Evora**	**3.93**	**40**	P		**Pn**	**18 19 43.8**	**+0.6**
EVO				S		**Sn**	**18 20 29.2**	**-0.1**
	comp=N,14nm,0.1s							
PMTG	**Montargil**	**4.24**	**34**	*e*Pn		**Pn**	**18 19 47.7**	**+0.2**
PMTG				*e*Sn		**Sn**	**18 20 36.0**	**-1.1**
PMTG				A		A	18 20 41.6	
	comp=N,4.0nm,0.1s							
PMTG	**Montargil**	**4.24**	**34**	*e*Pn		**Pn**	**18 19 47.7**	**+0.2**
PMTG				*e*Sn		**Sn**	**18 20 36.0**	**-1.1**
	comp=N,4.0nm,0.1s							
PBAR	**Barrancos**	**4.26**	**51**	*e*Pn		**Pn**	**18 19 48.4**	**+0.7**
PBAR				*e*Sn		**Sn**	**18 20 37.3**	**-0.1**
PBAR				A		A	18 20 40.6	
	comp=N,7.6nm,0.3s							
PBAR	**Barrancos**	**4.26**	**51**	P		**Pn**	**18 19 48.4**	**+0.7**
PBAR				S		**Sn**	**18 20 37.3**	**-0.1**
	comp=N,7.6nm,0.3s							
PBAR	**Barrancos**	**4.26**	**51**	P		**Pn**	**18 19 48.4**	**+0.7**
PBAR				S		**Sn**	**18 20 37.3**	**-0.1**
	comp=N,7.6nm,0.3s							
EMIN	**Mina Concepcio**	**4.28**	**58**	P		**Pn**	**18 19 48.7**	**+0.7**
	comp=N,0.6nm,0.1s,SNR=9.9							
EMIN				S		**Sn**	**18 20 38.0**	**0.0**
	comp=N,0.9nm,0.1s,SNR=10							
EMIN	**Mina Concepcio**	**4.28**	**58**	P		**Pn**	**18 19 48.7**	**+0.7**
	comp=N,0.6nm,0.1s,SNR=9.9							
EMIN				S		**Sn**	**18 20 38.0**	**0.0**
	comp=N,0.9nm,0.1s,SNR=10							
PESTR	**Estremoz**	**4.40**	**40**	*e*Pn		**Pn**	**18 19 50.3**	**+0.6**
PESTR				*e*Sn		**Sn**	**18 20 40.0**	**-0.9**
PESTR				A		A	18 20 53.6	
	comp=N,4.0nm,0.6s							
PESTR	**Estremoz**	**4.40**	**40**	*e*Pn		**Pn**	**18 19 50.3**	**+0.6**
PESTR				*e*Sn		**Sn**	**18 20 40.0**	**-0.9**
	comp=N,4.0nm,0.6s							
ESPR	**Espera**	**4.54**	**72**	P		**Pn**	**18 19 52.5**	**+0.9**
	comp=N,0.8nm,0.1s,SNR=7.9							
ESPR				S		**Sn**	**18 20 43.4**	**-1.1**
	comp=N,6.6nm,0.2s,SNR=7.9							
ESPR	**Espera**	**4.54**	**72**	P		**Pn**	**18 19 52.5**	**+0.9**
	comp=N,0.8nm,0.1s,SNR=7.9							
ESPR				S		**Sn**	**18 20 43.4**	**-1.1**
	comp=N,6.6nm,0.2s,SNR=7.9							
PTOM	**Tomar**	**4.63**	**28**	*e*Pn		Pn	18 19 55.5	+2.7
PTOM				*e*Sn		**Sn**	**18 20 46.9**	**+0.3**
PTOM	**Tomar**	**4.63**	**28**	P		Pn	18 19 55.5	+2.7
PTOM				S		**Sn**	**18 20 46.9**	**+0.3**
PTOM	**Tomar**	**4.63**	**28**	P		Pn	18 19 55.5	+2.7
PTOM				S		**Sn**	**18 20 46.9**	**+0.3**
EBAD	**Badajoz**	**4.64**	**45**	P		**Pn**	**18 19 53.5**	**+0.6**
	comp=N,1.3nm,0.1s,SNR=8.6							
EBAD				S		**Sn**	**18 20 46.3**	**-0.6**
	comp=N,1.9nm,0.0s,SNR=6.3							
EBAD	**Badajoz**	**4.64**	**45**	P		**Pn**	**18 19 53.5**	**+0.6**
	comp=N,1.3nm,0.1s,SNR=8.6							
EBAD				S		**Sn**	**18 20 46.3**	**-0.6**
	comp=N,1.9nm,0.0s,SNR=6.3							
PMRV	**Marv??o**	**4.92**	**37**	*e*Pn		**Pn**	**18 19 57.8**	**+0.9**
PMRV				*e*Sn		**Sn**	**18 20 52.9**	**-1.0**
PMRV				A		A	18 20 58.2	
	comp=N,4.1nm,0.2s							
PMRV	**Marv??o**	**4.92**	**37**	P		**Pn**	**18 19 57.8**	**+0.9**
PMRV				S		**Sn**	**18 20 52.9**	**-1.0**
	comp=N,4.1nm,0.2s							
PMRV	**Marv??o**	**4.92**	**37**	P		**Pn**	**18 19 57.8**	**+0.9**
PMRV				S		**Sn**	**18 20 52.9**	**-1.0**
	comp=N,4.1nm,0.2s							
PCAS	**Casmilo, Conde**	**4.98**	**25**	*e*Pn		**Pn**	**18 19 58.2**	**+0.6**
PCAS				*e*Sn		**Sn**	**18 20 54.5**	**-0.7**
PCAS				A		A	18 21 00.5	
	comp=N,3.4nm,0.8s							
PCAS	**Casmilo, Conde**	**4.98**	**25**	*e*Pn		**Pn**	**18 19 58.2**	**+0.6**
PCBR	**Castelo Branco**	**5.21**	**34**	*e*Pn		**Pn**	**18 20 01.6**	**+0.9**
PCBR				*e*Sn		**Sn**	**18 20 59.5**	**-1.3**
PCBR				A		A	18 21 09.4	
	comp=N,2.2nm,0.3s							
PCBR	**Castelo Branco**	**5.21**	**34**	P		**Pn**	**18 20 01.6**	**+0.9**
PCBR				S		**Sn**	**18 20 59.5**	**-1.3**
	comp=N,1.1nm,0.3s							
PCBR	**Castelo Branco**	**5.21**	**34**	P		**Pn**	**18 20 01.6**	**+0.9**
PCBR				S		**Sn**	**18 20 59.5**	**-1.3**
	comp=N,1.1nm,0.3s							
ECAB	**El Cabril**	**5.30**	**60**	P		**Pn**	**18 20 02.6**	**+0.6**
	comp=N,0.4nm,0.1s,SNR=9.0							
ECAB				S		**Sn**	**18 21 01.2**	**-2.0**
	comp=N,1.0nm,0.1s,SNR=10							
ECAB	**El Cabril**	**5.30**	**60**	P		**Pn**	**18 20 02.6**	**+0.6**
	comp=N,0.4nm,0.1s,SNR=9.0							
ECAB				S		**Sn**	**18 21 01.2**	**-2.0**
	comp=N,1.0nm,0.1s,SNR=10							
MTE	**Manteigas**	**5.64**	**30**	*e*Sn		**Sn**	**18 21 10.2**	**-1.4**
MTE	**Manteigas**	**5.64**	**30**	S		**Sn**	**18 21 10.2**	**-1.4**
MTE	**Manteigas**	**5.64**	**30**	S		**Sn**	**18 21 10.2**	**-1.4**
PVIS	**Viseu**	**5.78**	**26**	*e*Pn		**Pn**	**18 20 10.1**	**+1.5**
PVIS				*e*Sn		**Sn**	**18 21 14.6**	**-0.4**
PVIS	**Viseu**	**5.78**	**26**	P		**Pn**	**18 20 10.1**	**+1.5**
PVIS				S		**Sn**	**18 21 14.6**	**-0.4**
PVIS	**Viseu**	**5.78**	**26**	P		**Pn**	**18 20 10.1**	**+1.5**
PVIS				S		**Sn**	**18 21 14.6**	**-0.4**
EADA

mb1 3.3/4, mb1mx3.1/36, mbtmp2.9/4, ML3.7/2, Error ellipse: s-maj=90.5km s-min=24.8km az=43.0

*ISCJB **07** 18:23:40.6±1.7, 44.6°N±0.1 × 128.9°W±0.2, h10km, mb2.8/1, Error ellipse: s-maj=20.7km s-min=11.4km az=144.1*

*NEIC **07** 18:23:41.1±1.7, 44.47°N × 128.96°W, h10km, ML2.7, Error ellipse: s-maj=21.7km s-min=12.0km az=64.0*

ISC 07 18:23:40.7±2.1, 44.5°N±0.1 × 129.1°W±0.2, h10km, n27, σ1§33/20, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KMOR	**Kings Mountain**	**4.11**	**72**	P		**Pn**	**18 24 42.5**		**-1.1**
NLWA	**Neilton Lookou**	**4.63**	**50**	*e*Pn		**Pn**	**18 24 50.2**		**-0.5**
BROR	**Big Rock Looko**	**4.75**	**91**	P		**Pn**	**18 24 51.8**		**-0.5**
HUMO	**Hull Mountain**	**4.83**	**111**	*e*Pn		**Pn**	**18 24 51.3**		**-2.2**
HBO	**Huckleberry Mo**	**4.90**	**95**	P		**Pn**	**18 24 55.8**		**+1.3**
OSD	**Olympics--Snow**	**4.99**	**46**	P		**Pn**	**18 24 55.3**		**-0.5**
FL2	**Flat Top 2**	**5.03**	**68**	P		**Pn**	**18 24 56.3**		**+0.1**
HDW	**Hoodsport**	**5.23**	**51**	P		**Pn**	**18 24 59.1**		**+0.1**
YBH	**Yreka Blue Hor**	**5.42**	**119**	Pn		**Pn**	**18 25 02.5**		**+0.9**
	0.1nm,0.3s,baz=302,slow=13,SNR=2.4								
YBH	**Yreka Blue Hor**	**5.42**	**119**	Pn		**Pn**	**18 25 01.5**		**0.0**
VFP	**Flag Point**	**5.46**	**79**	P		**Pn**	**18 25 02.6**		**+0.4**
LON	**Longmire**	**5.56**	**64**	*e*Pn		**Pn**	**18 25 02.8**		**-0.7**
PGC	**Sidney**	**5.67**	**41**	Pn		**Pn**	**18 25 02.2**		**-2.7**
FMW	**Mount Fremont**	**5.72**	**62**	P		**Pn**	**18 25 05.8**		**0.0**
HLID	**Hailey**	**10.60**	**90**	*e*Pn		Pn	18 26 16.1		+3.4
CHMT	**Chamberlain Mo**	**11.32**	**72**	Pn		**Pn**	**18 26 21.2**		**-1.4**
MCMT	**McKenzie Canyo**	**11.56**	**83**	*e*Pn		**Pn**	**18 26 27.5**		**+1.6**
ISA	**Isabella, Lake**	**11.98**	**134**	Pn		**Pn**	**18 26 29.4**		**-2.2**
PDAR	**Pinedale Array**	**14.24**	**90**	Pn		**P**	**18 27 09.4**		**-0.5**
	0.1nm,0.3s,baz=278,slow=6.3,SNR=4.0								
YKA	**Yellowknife Ar**	**19.88**	**20**	P		**Pn**	**18 28 14.8**		**+1.4**
	0.2nm,0.6s,baz=214,slow=11,SNR=3.2								
ILAR	**Eielson Array**	**22.61**	**340**	P		**P**	**18 28 42.2**		**+1.0**
	0.3nm,0.8s,baz=146,slow=9.9,SNR=4.5								
H11N3	**WAKE ISLAND Hy**	**58.02**	**267**	T		T	19 35 42.5		
	baz=49,slow=75,SNR=35								
H11N2	**WAKE ISLAND Hy**	**58.02**	**267**	T		T	19 35 42.5		
	baz=49,slow=75,SNR=28								
H11N1	**WAKE ISLAND Hy**	**58.04**	**267**	T		T	19 35 43.6		
	baz=49,slow=75,SNR=39								
H11S1	**WAKE ISLAND Hy**	**58.96**	**266**	T		T	19 36 49.8		
	baz=48,slow=75,SNR=25								
H11S2	**WAKE ISLAND Hy**	**58.97**	**266**	T		T	19 36 59.0		
	baz=48,slow=75,SNR=12								
H11S3	**WAKE ISLAND Hy**	**58.98**	**266**	T		T	19 36 52.3		
	baz=48,slow=75,SNR=21								

IDC 07 18:35:45.5±57.0, 19.28°S × 179.04°W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/39, mbtmp3.8/3, Error ellipse: s-maj=1036.0km s-min=154.7km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.45**	**243**	P			P	18 43 00.6	-0.2
	0.8nm,0.6s,baz=67,slow=7.7,SNR=3.7								
WRA	**Warramunga Arr**	**43.81**	**261**	P			P	18 43 53.6	+0.1
	0.5nm,0.3s,baz=96,slow=7.6,SNR=38								
ASAR	**Alice Springs**	**43.85**	**256**	P			P	18 43 53.5	-0.4
	0.7nm,0.6s,baz=92,slow=7.5,SNR=20								

*ISCJB **07** 18:38:22.9±0.6, 14.64°S±0.08 × 166.8°E±0.1, h67km, mb3.8/13, Error ellipse: s-maj=16.3km s-min=11.7km az=165.1*

*NEIC **07** 18:38:23.0±1.7, 14.58°S × 166.91°E, h56km±14km, mb4.1/3, Error ellipse: s-maj=17.0km s-min=11.3km az=70.0*

*IDC **07** 18:38:24.2±6.0, 14.63°S × 166.95°E, h64km±54km, mb3.8/10, mb1 4.0/11, mb1mx3.7/44, mbtmp4.0/11, ML4.6/1, Error ellipse: s-maj=35.4km s-min=22.6km az=175.0*

ISC 07 18:38:24.2±0.8, 14.6°S±0.1 × 166.9°E±0.1, h67km, n20, σ1§19/19, mb4.0/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.45**	**183**	P			**Pn**	**18 40 10.2**	**-0.1**
	9.1nm,0.3s,baz=267,slow=23,SNR=29								
HNR	**Honiara**	**8.48**	**306**	Pn			**Pn**	**18 40 23.3**	**-1.2**
URZ	**Urewera**	**25.26**	**161**	P			**P**	**18 43 43.8**	**-0.3**
	2.9nm,0.5s,baz=291,slow=8.6,SNR=4.7								
STKA	**Stephens Creek**	**28.78**	**229**	P			**P**	**18 44 16.8**	**+1.0**
	3.1nm,0.6s,baz=41,slow=7.8,SNR=14								
WRA	**Warramunga Arr**	**31.47**	**256**	P			**P**	**18 44 40.4**	**+0.6**
	0.6nm,0.5s,baz=86,slow=9.5,SNR=14								
AS31	**Alice Springs**	**32.35**	**249**	*e*P			**P**	**18 44 47.4**	**-0.1**
ASAR	**Alice Springs**	**32.35**	**249**	P			**P**	**18 44 47.8**	**+0.3**
	1.2nm,0.7s,baz=75,slow=9.2,SNR=18								
GUMO	**Guam**	**35.47**	**321**	P			**P**	**18 45 12.9**	**-1.6**
CASY	**Casey**	**63.50**	**202**	*e*P			**P**	**18 48 45.9**	**-1.2**
	1.7nm,0.5s								
CMAR	**Chiang Mai Arr**	**74.53**	**294**	P			**P**	**18 49 58.6**	**+2.4**
	0.5nm,0.8s,baz=138,slow=5.0,SNR=5.6								
CHTO	**Chiang Mai**	**74.66**	**294**	P			**P**	**18 49 58.5**	**+1.5**
	1.2nm,0.8s								
QSPA	**South Pole Qui**	**75.43**	**180**	*e*P			**P**	**18 49 59.4**	**-1.4**
	1.8nm,0.8s								
ILAR	**Eielson Array**	**86.52**	**18**	P			**P**	**18 50 58.9**	**-0.6**
	0.6nm,0.5s,baz=233,slow=5.4,SNR=7.1								
TXAR	**Lajitas Array**	**96.56**	**62**	P			**P**	**18 51 48.6**	**+1.4**
	0.2nm,0.3s,baz=242,slow=1.9,SNR=5.1								
MKAR	**Makanchi Array**	**96.83**	**316**	P			**P**	**18 51 49.6**	**+1.7**
	0.4nm,0.9s,baz=64,slow=6.6,SNR=3.7								
ZALV	**Zalesovo Beam**	**97.05**	**324**	P			**P**	**18 51 48.0**	**-0.6**
	0.2nm,0.3s,baz=108,slow=4.7,SNR=3.4								
YKA	**Yellowknife Ar**	**97.61**	**27**	P			Pdif	18 51 50.8	-0.2
	0.1nm,0.3s,baz=258,slow=4.8,SNR=2.4								
ARCES	**ARCESS Array B**	**120.02**	**345**	PKP			**PKPdf**	**18 57 06.2**	**-0.5**
	1.6nm,0.9s,baz=81,slow=2.1,SNR=17								
FINES	**FINESS Array B**	**125.45**	**338**	PKP			**PKPdf**	**18 57 17.1**	**-0.1**
	2.8nm,0.9s,baz=73,slow=1.9,SNR=3.0								
TORD	**Torodi Ar. Bea**	**165.52**	**266**	PKPab			**PKPab**	**18 59 21.5**	**+0.6**
	0.6nm,0.8s,baz=84,slow=2.3,SNR=3.1								

*IDC **07** 18:41:52.8±1.0, 44.50°N × 129.46°W, h0km, mb3.8/13, mb1 4.0/19, mb1mx3.9/46, mbtmp3.8/19, ML3.6/6, MS4.3/3, Ms1 4.3/3, ms1mx3.8/18, Error ellipse: s-maj=27.4km s-min=11.7km az=33.0*

*ISCJB **07** 18:41:53.7±0.3, 44.43°N±0.02 × 129.47°W±0.03, h13km, mb4.2/34, MS4.2/3, Error ellipse: s-maj=3.9km s-min=2.7km az=146.5*

*GCMT **07** 18:41:54.3±0.3, 44.13°N × 129.77°W, h13km±1km, MW5.1/102, Moment Tensor Solution. s24,c29; s102,c144; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.56±.17; $M_{\theta\theta}$-4.75±.18; $M_{\phi\phi}$4.19±.16; $M_{r\theta}$-2.34±.57; $M_{\theta\phi}$-2.98±.17; $M_{r\phi}$2.24±.55; Best double couple: M_o6.28200×10^{16} NP1:ϕ_s296.00000°, δ83.00000°, λ150.00000°. NP2:ϕ_s31.00000°, δ60.00000°, λ9.00000°. Principal axes: T 6.4860, Plg26.0000°, Azm249.0000°; N -0.4040, Plg59.0000°, Azm104.0000°; P -6.0790, Plg15.0000°, Azm347.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **07** 18:41:54.3±0.4, 44.40°N × 129.52°W, h10km, mb4.5/38 Error ellipse: s-maj=6.1km s-min=3.6km az=47.0*

ISC 07 18:41:55.2±0.6, 44.39°N±0.08 × 129.43°W±0.07, h13km, n438, σ1§09/404, mb4.3/34, MS4.3/3, 130C-103D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**4.00**	**111**	*e*Pn			Pn	18 42 52.6	-3.6
RNO	**Roman Nose**	**4.12**	**95**	P			**Pn**	**18 42 56.5**	**-1.5**
MPOR	**Mary's Peak**	**4.21**	**86**	P			**Pn**	**18 42 58.2**	**-1.0**
KBO	**Bosley Butte**	**4.38**	**118**	*e*Pn			**Pn**	**18 42 59.4**	**-2.0**
COR	**Corvallis**	**4.39**	**85**	*e*Pn			**Pn**	**18 42 60.0**	**-1.5**
KMOR	**Kings Mountain**	**4.39**	**71**	P			**Pn**	**18 43 00.2**	**-1.5**
F03A	**Seaside**	**4.43**	**68**	*e*Pn			**Pn**	**18 43 01.4**	**-0.6**
F03A				*e*Lg			Lg	18 44 15.7	
I03D	**Drain, OR**	**4.44**	**97**	↑P			**Pn**	**18 43 01.7**	**-0.5**
	baz=4.5,SNR=20								
G03D	**McMinnville, O**	**4.46**	**77**	↓P			**Pn**	**18 43 02.1**	**-0.5**
	baz=4.5								
NLO	**Nicolai Mounta**	**4.55**	**66**	P			**Pn**	**18 43 03.6**	**-0.2**
E03A	**Lebam**	**4.66**	**60**	*e*Pn			**Pn**	**18 43 03.9**	**-1.2**
L02D	**Cave Junction,**	**4.80**	**116**	↑P			**Pn**	**18 43 07.8**	**+0.5**
	baz=4.9,SNR=5.8								
BMW	**Boistfort Moun**	**4.84**	**62**	P			**Pn**	**18 43 06.1**	**-1.6**
F04D	**Rainier, OR**	**4.84**	**67**	↑P			**Pn**	**18 43 08.6**	**+0.9**
	baz=4.9								
NLWA	**Neilton Lookou**	**4.91**	**50**	*e*Pn			**Pn**	**18 43 07.4**	**-1.2**
OSR	**Olympics--Salm**	**4.92**	**49**	P			**Pn**	**18 43 08.5**	**-0.4**
BROR	**Big Rock Looko**	**5.01**	**89**	P			**Pn**	**18 43 09.4**	**-0.6**
HUMO	**Hull Mountain**	**5.04**	**108**	*e*Pn			**Pn**	**18 43 08.9**	**-1.5**
I04A	**Tendick Farm,**	**5.09**	**94**	↑P			**Pn**	**18 43 10.7**	**-0.5**
	baz=5.1,SNR=17								
OSD	**Olympics--Snow**	**5.26**	**47**	P			**Pn**	**18 43 12.8**	**-0.8**
MTMW	**Mount Mitchell**	**5.36**	**70**	P			**Pn**	**18 43 14.6**	**-0.3**
J04D	**Umpqua Nationa**	**5.42**	**100**	↑P			**Pn**	**18 43 16.1**	**+0.2**
	baz=5.5,SNR=25								
ESD	**East Dome**	**5.45**	**68**	P			**Pn**	**18 43 16.7**	**+0.6**
TDL	**Tradedollar La**	**5.45**	**66**	P			**Pn**	**18 43 15.8**	**-0.4**
KHMM	**Horse Mountain**	**5.48**	**128**	*e*Pn			Pn	18 43 13.0	-3.6
HDW	**Hoodsport**	**5.51**	**51**	P			**Pn**	**18 43 16.7**	**-0.2**
YBH	**Yreka Blue Hor**	**5.59**	**116**	Pn			**Pn**	**18 43 20.2**	**+2.1**
	0.3nm,0.3s,baz=281,slow=10,SNR=17								
YBH	**Yreka Blue Hor**	**5.59**	**116**	*e*Pn			**Pn**	**18 43 18.6**	**+0.5**
VBEM	**Beaver Butte**	**5.63**	**80**	P			**Pn**	**18 43 19.4**	**+0.8**
M02C	**Callahan**	**5.69**	**120**	↓P			**Pn**	**18 43 19.9**	**+0.5**
	baz=5.7								
I05D	**Terrebonne, OR**	**5.80**	**88**	↓P			**Pn**	**18 43 21.7**	**+0.7**
	baz=5.8								
RVC	**Mount Rainier-**	**5.82**	**61**	P			**Pn**	**18 43 20.9**	**-0.3**
G05D	**Wamic, OR**	**5.83**	**79**	↓P			**Pn**	**18 43 21.8**	**+0.4**
	baz=5.9,SNR=11								
LON	**Longmire**	**5.85**	**64**	*e*Pn			**Pn**	**18 43 20.0**	**-1.6**
K04D	**Chiloquin, OR**	**5.86**	**105**	↑P			**Pn**	**18 43 22.9**	**+1.2**
	baz=5.9								
D05A	**Enumclaw**	**5.91**	**59**	*e*Pn			**Pn**	**18 43 23.1**	**+0.7**
PGC	**Sidney**	**5.93**	**42**	*e*Pn			**Pn**	**18 43 21.2**	**-1.4**
KMRM	**Mail Ridge**	**5.95**	**133**	*e*Pn			**Pn**	**18 43 23.0**	**0.0**
FMW	**Mount Fremont**	**6.00**	**62**	P			**Pn**	**18 43 23.4**	**-0.5**
N02D	**Trinity Center**	**6.02**	**122**	↑P			**Pn**	**18 43 25.2**	**+1.2**
	baz=6.1								
J05D	**Fort Rock, OR**	**6.03**	**98**	↓P			**Pn**	**18 43 24.0**	**-0.2**
	baz=6.1,SNR=8.1								
M04C	**Macdoel**	**6.14**	**112**	↑P			**Pn**	**18 43 27.2**	**+1.5**
	baz=6.2								
G06A	**Carlson Farm,**	**6.31**	**79**	*e*Pn			**Pn**	**18 43 27.5**	**-0.5**
WDC	**Whiskeytown Da**	**6.36**	**124**	*e*Pn			**Pn**	**18 43 28.4**	**-0.2**
KIPM	**Iron Peak**	**6.37**	**134**	*e*Pn			**Pn**	**18 43 27.5**	**-1.3**
KCPM	**Cahto Peak**	**6.41**	**135**	*e*Pn			**Pn**	**18 43 27.4**	**-2.0**
K05A	**Summer Lake**	**6.42**	**102**	*e*Pn			**Pn**	**18 43 28.2**	**-1.5**
JCW	**Jim Creek**	**6.44**	**51**	P			**Pn**	**18 43 29.6**	**-0.1**
CMW	**Cultus Mountai**	**6.46**	**49**	P			**Pn**	**18 43 30.7**	**+0.6**
LTY	**Liberty**	**6.76**	**62**	*e*Pn			**Pn**	**18 43 33.8**	**-0.4**
A05A	**Maple Falls**	**6.84**	**45**	*e*Pn			**Pn**	**18 43 35.5**	**+0.4**
B06A	**Marblemount**	**6.87**	**50**	*e*Pn			**Pn**	**18 43 35.9**	**+0.4**
WRW	**Wenatchee Ridg**	**6.88**	**57**	P			**Pn**	**18 43 36.5**	**+0.7**
I07A	**Izee**	**7.14**	**89**	*e*Pn			**Pn**	**18 43 39.8**	**+0.4**
I07A						*e*Sn	Sn	18 44 42.1	-18
I07A	**Izee**	**7.14**	**89**	*e*Pn			Sn	18 44 42.0	-18
HOPS	**Hopland Field**	**7.19**	**136**	*e*Pn			**Pn**	**18 43 38.6**	**-1.4**
HAWA	**Hanford**	**7.25**	**71**	*e*Pn			**Pn**	**18 43 41.2**	**+0.4**
G08A	**Pilot Rock**	**7.50**	**79**	*e*Pn			**Pn**	**18 43 43.8**	**-0.5**
D08A	**Wollman Farm,**	**7.82**	**66**	*e*Pn			**Pn**	**18 43 49.0**	**+0.3**
BBB	**Bella Bella**	**7.85**	**6**	Pn			**Pn**	**18 43 48.9**	**0.0**
	1.8nm,0.3s,baz=191,slow=9.2,SNR=17								
WVOR	**Wild Horse Val**	**8.10**	**100**	*e*Pn			**Pn**	**18 43 53.4**	**+0.9**
E09A	**Wood Farm, Sta**	**8.21**	**71**	*e*Pn			**Pn**	**18 43 52.4**	**-1.7**
C09A	**Chrisman Ranch**	**8.47**	**62**	*e*Pn			**Pn**	**18 43 57.3**	**-0.3**
BMO	**Blue Mountains**	**8.66**	**83**	*e*Pn			**Pn**	**18 44 00.1**	**-0.2**
F10A	**Beech Ranch, E**	**8.77**	**75**	*e*Pn			**Pn**	**18 44 04.0**	**+2.3**
H02S1	**DAWSON INLET T**	**9.04**	**348**	T			T	18 53 30.5	
	SNR=1.7								
H02N1	**VAN INLET T-PH**	**9.10**	**348**	T			T	18 53 36.8	
CMB	**Columbia Colle**	**9.31**	**130**	*e*Pn			**Pn**	**18 44 09.4**	**+0.3**
NEW	**Newport**	**9.35**	**61**	Pn			**Pn**	**18 44 10.7**	**+1.0**
	0.9nm,0.3s,baz=230,slow=8.7,SNR=7.3								
NEW							LR	18 47 39.9	
	comp=Z,2μm,21.0s,baz=243,slow=37								
NEW	**Newport**	**9.35**	**61**	*e*Pn			**Pn**	**18 44 08.9**	**-0.8**
NEW	**Newport**	**9.35**	**61**	↓P			**Pn**	**18 44 09.9**	**+0.2**
	baz=3.4								
WAKR	**Walker**	**9.53**	**125**	*e*Pn			**Pn**	**18 44 15.0**	**+2.7**
BMN	**Battle Mountai**	**9.86**	**109**	*e*Pn			**Pn**	**18 44 18.6**	**+1.9**
MFID	**Camas Ranch**	**9.87**	**91**	*e*Pn			**Pn**	**18 44 17.7**	**+0.9**
NV01	**Mina Array Sit**	**10.26**	**122**	*e*Pn			**Pn**	**18 44 24.6**	**+2.4**
NVAR	**Mina Array Bea**	**10.26**	**122**	Pn			**Pn**	**18 44 24.7**	**+2.4**
	0.1nm,0.3s,baz=299,slow=12,SNR=14								
NV11	**Mina Array Sit**	**10.35**	**121**	*e*Pn			**Pn**	**18 44 25.0**	**+1.5**
BSMT	**Bassoo Peak**	**10.74**	**66**	*e*Pn			**Pn**	**18 44 28.7**	**-0.1**
HLID	**Hailey**	**10.86**	**89**	*e*Pn			**Pn**	**18 44 32.0**	**+1.6**
HLID	**Hailey**	**10.86**	**89**	↓P			**Pn**	**18 44 30.3**	**-0.1**
	baz=11,SNR=32								
JTMT	**Jette**	**11.05**	**67**	*e*Pn			Pn	18 44 29.5	-3.4
BLMT	**Blacktail Moun**	**11.05**	**66**	*e*Pn			**Pn**	**18 44 32.6**	**-0.5**
ELK	**Elko**	**11.08**	**104**	Pn			**Pn**	**18 44 35.7**	**+2.1**
	0.1nm,0.3s,baz=0.8,slow=3.6,SNR=15								
ELK	**Elko**	**11.08**	**104**	*e*Pn			**Pn**	**18 44 36.3**	**+2.8**
MSO	**Missoula**	**11.12**	**72**	*e*Pn			**Pn**	**18 44 34.0**	**+0.1**
MSO	**Missoula**	**11.12**	**72**	↑P			**Pn**	**18 44 34.2**	**+0.3**
	baz=11								
TPH	**Tonopah**	**11.14**	**120**	*e*Pn			**Pn**	**18 44 37.1**	**+2.8**
SWMT	**Swartz Lake**	**11.19**	**68**	*e*Pn			**Pn**	**18 44 34.5**	**-0.4**
YBMT	**Yellow Bay**	**11.25**	**67**	Pn			**Pn**	**18 44 34.7**	**-1.0**
SLMT	**Seeley Lake**	**11.48**	**70**	*e*Pn			**Pn**	**18 44 39.9**	**+1.0**
CHMT	**Chamberlain Mo**	**11.60**	**72**	*e*Pn			**Pn**	**18 44 40.5**	**-0.1**
VES	**Vestal, Richgr**	**11.64**	**134**	↓P			**Pn**	**18 44 40.7**	**-0.3**
	baz=12								
GRAC	**Grapevine Rang**	**11.75**	**125**	↓P			**Pn**	**18 44 43.4**	**+0.8**
	baz=12								
MCMT	**McKenzie Canyo**	**11.83**	**82**	*e*Pn			**Pn**	**18 44 44.6**	**+0.8**
DLMT	**Dillon**	**11.99**	**79**	*e*Pn			**Pn**	**18 44 47.9**	**+2.1**
R11A	**Troy Canyon, C**	**12.02**	**115**	*e*Pn			**Pn**	**18 44 48.2**	**+1.9**
R11A	**Troy Canyon, C**	**12.02**	**115**	↓P			**Pn**	**18 44 47.6**	**+1.2**
	baz=12,SNR=11								
LRM	**Limekiln Ridge**	**12.09**	**77**	*e*Pn			**Pn**	**18 44 47.5**	**+0.2**
ISA	**Isabella, Lake**	**12.09**	**132**	*e*Pn			**Pn**	**18 44 46.8**	**-0.5**
ISA	**Isabella, Lake**	**12.09**	**132**	↑P			**Pn**	**18 44 48.0**	**+0.7**
	baz=12								
DAC	**Darwin (Calif)**	**12.12**	**128**	Pn			**Pn**	**18 44 48.7**	**+0.9**
WRAK	**Wrangell Islan**	**12.18**	**352**	Pn			**Pn**	**18 44 47.0**	**-1.2**
MPMC	**Manual Prospec**	**12.34**	**128**	↓P			**Pn**	**18 44 52.4**	**+1.7**
	baz=12								
FURC	**Furnace Creek,**	**12.41**	**125**	↑P			**Pn**	**18 44 53.7**	**+2.2**
	baz=12,SNR=9.8								
HVU	**Hansel Valley**	**12.46**	**96**	*e*Pn			**Pn**	**18 44 53.3**	**+1.0**
TPNV	**Topopah Spring**	**12.46**	**122**	*e*Pn			Pn	18 44 57.0	+4.7
TPNV	**Topopah Spring**	**12.46**	**122**	↓P			**Pn**	**18 44 54.0**	**+1.7**
	baz=12								
HRY	**Holter Researc**	**12.55**	**73**	*e*Pn			**Pn**	**18 44 54.5**	**+1.0**
BGU	**Big Grassy Mou**	**12.56**	**100**	*e*Pn			**Pn**	**18 44 55.3**	**+1.6**
QLMT	**Earthquake Lak**	**12.84**	**82**	*e*Pn			**Pn**	**18 44 59.4**	**+1.8**
EDW2	**Edwards Air Fo**	**12.95**	**133**	↓P			**Pn**	**18 44 58.6**	**-0.3**
	baz=13								
DUG	**Dugway, Tooele**	**13.00**	**103**	*e*Pn			**Pn**	**18 45 00.8**	**+1.2**
DUG	**Dugway, Tooele**	**13.00**	**103**	↓P			**Pn**	**18 44 59.7**	**+0.1**
	baz=13								
YMR	**Madison River**	**13.18**	**82**	*e*Pn			**Pn**	**18 45 03.5**	**+1.3**
GSC	**Goldstone, Bar**	**13.27**	**129**	*e*Pn			**Pn**	**18 45 05.0**	**+1.6**
GSC	**Goldstone, Bar**	**13.27**	**129**	↓P			**Pn**	**18 45 04.6**	**+1.3**
	baz=13,SNR=6.6								
FXWY	**Fox Creek**	**13.27**	**87**	*e*Pn			**Pn**	**18 45 06.3**	**+2.8**
IMW	**Indian Meadow**	**13.29**	**86**	*e*Pn			**Pn**	**18 45 06.5**	**+2.7**
YFT	**Old Faithful**	**13.30**	**83**	*e*Pn			Pn	18 45 06.8	+3.1
TPAW	**Teton Pass**	**13.35**	**87**	*e*Pn			**Pn**	**18 45 07.4**	**+2.9**
YNR	**Norris Junctio**	**13.38**	**82**	*e*Pn			P	18 45 11.0	-3.5
SHPR	**Sheep Range**	**13.41**	**121**	*e*Pn			**Pn**	**18 45 06.2**	**+0.9**
FLWY	**Flagg Ranch**	**13.44**	**85**	*e*Pn			Pn	18 45 08.8	+3.1
REDW	**Red Top Meadow**	**13.45**	**88**	*e*Pn			**Pn**	**18 45 06.8**	**+0.9**
MOOW	**Moose Ponds**	**13.46**	**86**	*e*Pn			**Pn**	**18 45 07.7**	**+1.7**
H17A	**Grant Village**	**13.49**	**83**	*e*Pn			Pn	18 45 10.5	+4.1
H17A	**Grant Village**	**13.49**	**83**	↑P			Pn	18 45 09.7	+3.3
	baz=14,SNR=5.6								
SNOW	**Snow King Moun**	**13.50**	**87**	*e*Pn			Pn	18 45 09.7	+3.2
I17A	**Pilgrim Ck.**	**13.55**	**85**	↓P			**Pn**	**18 45 10.2**	**+2.9**
	baz=14,SNR=9.2								
LOHW	**Long Hollow**	**13.58**	**87**	*e*Pn			**Pn**	**18 45 09.4**	**+1.8**
EDM	**Edmonton**	**13.77**	**44**	*e*Pn			**Pn**	**18 45 10.2**	**+0.1**
	23nm,1.3s								
JLU	**Jordanelle**	**13.79**	**100**	*e*Pn			**Pn**	**18 45 12.4**	**+1.8**
HEC	**Hector,Ludlow**	**13.88**	**129**	↑P			**Pn**	**18 45 12.7**	**+1.0**
	baz=14,SNR=5.3								
GCMT	**Greycliff**	**14.03**	**77**	*e*Pn			**Pn**	**18 45 14.6**	**+0.8**
DLBC	**Dease Lake**	**14.07**	**359**	Pn			Pn	18 45 17.5	+3.4
	baz=180,slow=14,SNR=3.1								
DLBC	**Dease Lake**	**14.07**	**359**	*e*Pn			**Pn**	**18 45 15.9**	**+1.8**
EGMT	**Eagleton**	**14.10**	**68**	*e*Pn			**Pn**	**18 45 14.9**	**+0.3**
EGMT	**Eagleton**	**14.10**	**68**	↑P			**Pn**	**18 45 15.4**	**+0.9**
	baz=14,SNR=5.3								
H18A	**Shoshone NF, C**	**14.11**	**82**	↑P			Pn	18 45 17.9	+3.1
	baz=14,SNR=6.5								
MVU	**Marysvale**	**14.18**	**109**	*e*Pn			**Pn**	**18 45 16.6**	**+0.7**
MVU						*e*Sn	**S**	**18 48 13.0**	**-1.2**
MSU	**Marysvale**	**14.20**	**108**	*e*Pn			**Pn**	**18 45 16.6**	**+0.4**
MSU						*e*Sn	S	18 48 05.4	-9.1
GMRC	**Granite Mounta**	**14.29**	**127**	↑P			**Pn**	**18 45 19.4**	**+2.0**
	baz=14								
RLMT	**Red Lodge**	**14.35**	**80**	*e*Pn			**Pn**	**18 45 19.3**	**+1.1**
BW06	**Boulder Array**	**14.50**	**89**	*e*Pn			**P**	**18 45 24.1**	**-2.8**
PDAR	**Pinedale Array**	**14.50**	**89**	Pn			**Pn**	**18 45 23.1**	**+2.9**
	0.2nm,0.3s,baz=298,slow=13,SNR=9.3								
C19A	**Slack Wire Ran**	**14.53**	**70**	↑P			**Pn**	**18 45 22.0**	**+1.4**
	baz=14,SNR=28								
F19A	**Roth Farm, Mol**	**14.54**	**77**	↓P			**Pn**	**18 45 21.5**	**+0.8**
	baz=15								
KNB	**Kanab**	**14.58**	**115**	*e*Pn			**Pn**	**18 45 23.5**	**+2.2**
BESE	**Bessie Mountai**	**14.60**	**349**	*e*Pn			**Pn**	**18 45 23.9**	**+2.6**
D19A	**Cripps Ranch,**	**14.60**	**72**	↓P			**Pn**	**18 45 22.2**	**+0.7**
	baz=15,SNR=15								
E19A	**Rath Farm, Rou**	**14.64**	**75**	↓P			**Pn**	**18 45 22.2**	**+0.2**
	baz=15								
I19A	**Meeteetse**	**14.66**	**84**	↑P			**Pn**	**18 45 24.1**	**+1.6**
	baz=

F24A	Ekalaka baz=18	17.68	76	⇑P		P	18 46 02.2	+0.2
D24A	Glendive baz=18	17.71	72	⇑P		P	18 46 03.2	+0.9
W18A	Petrified Fore 164nm,2.3s	17.71	115	*e*Pn		P	18 46 05.3	+2.7
H24A	Dirks Ranch, A baz=18,SNR=7.1	17.72	80	⇑P		P	18 46 02.5	+0.1
I24A	Kuemmerle Ranc baz=18	17.80	83	⇓P		P	18 46 04.5	+1.0
PHWY	Pilot Hill 56nm,2.0s	17.83	92	*e*Pn		Pn	18 46 02.8	-0.5
DGMT	Dagmar 285nm,2.2s	17.84	68	*e*Pn		P	18 46 03.8	+0.2
DGMT	Dagmar baz=18	17.84	68	⇑P		P	18 46 04.6	+0.9
O23A	Lake Granby, G baz=18,SNR=8.9	17.87	95	⇑P		P	18 46 04.6	+0.2
J24A	Dixon Ranch, L baz=18,SNR=6.5	17.88	85	⇑P		Pn	18 46 04.1	+0.5
X18A	Snowflake baz=18	17.94	117	⇓P		P	18 46 06.2	+1.1
214A	Organ Pipe Nat baz=18	17.98	128	⇑P		P	18 46 06.9	+1.5
L24A	Wheatland baz=18	17.99	89	⇓P		Pn	18 46 05.6	+0.5
A24A	Westby baz=18	18.00	66	⇑P		P	18 46 06.4	+0.9
RSSD	Black Hills 20nm,1.3s	18.18	82	*e*Pn		Pn	18 46 06.4	-1.0
M24A	Cheyenne baz=18	18.24	91	⇓P		P	18 46 08.9	+0.6
ISCO	Idaho Springs 35nm,1.4s	18.24	96	*e*Pn		Pn	18 46 08.1	-0.1
ISCO	Idaho Springs baz=18,SNR=15	18.24	96	⇑P		Pn	18 46 08.6	+0.4
P23A	Jefferson baz=18,SNR=12	18.24	98	⇑P		P	18 46 08.8	+0.3
S22A	4UR Ranch, Cre 104nm,2.6s	18.26	104	*e*Pn		P	18 46 09.0	+0.3
S22A	4UR Ranch, Cre baz=18	18.26	104	⇓P		P	18 46 09.4	+0.7
D25A	Fairfield baz=18	18.39	72	⇓P		Pn	18 46 11.5	+1.6
N24A	Carr baz=18	18.40	93	⇑P		Pn	18 46 10.7	+0.6
I25A	Rochford baz=18,SNR=16	18.41	82	⇑P		Pn	18 46 10.9	+0.7
C25A	Freed Ranch, W baz=18	18.44	70	⇓P		Pn	18 46 10.6	+0.2
Q23A	Hartsel baz=18	18.44	99	⇓P		Pn	18 46 12.1	+1.3
J25A	Sunshine Ranch baz=18	18.48	84	⇓P		Pn	18 46 12.3	+1.3
A25A	Svangstu Ranch baz=19	18.59	67	⇓P		Pn	18 46 13.8	+1.6
K25A	Mack Ranch, Ha baz=19	18.61	87	⇑P		Pn	18 46 14.5	+1.9
L25A	Engebretsen Ra baz=19	18.66	88	⇑P		Pn	18 46 14.6	+1.4
R23A	Moffat baz=19	18.76	101	⇓P		Pn	18 46 15.9	+1.4
Q24A	Divide baz=19	18.90	98	⇑P		Pn	18 46 17.5	+1.1
F26A	Lodgepole baz=19	18.91	76	⇑P		Pn	18 46 17.4	+1.2
D26A	Manning baz=19	19.00	72	⇓P		Pn	18 46 17.5	+0.3
E26A	Carlson Angus baz=19	19.01	74	⇓P		Pn	18 46 18.1	+0.7
J26A	Sides Ranch, S baz=19	19.02	84	⇑P		Pn	18 46 17.9	+0.4
G26A	Maurine baz=19	19.02	78	⇑P		Pn	18 46 18.4	+0.9
SDCO	Great Sand Dun 128nm,2.8s	19.19	102	*e*P		P	18 46 19.1	+0.2
SDCO	Great Sand Dun baz=19,SNR=11	19.19	102	⇓P		P	18 46 19.5	+0.7
F27A	Lemmon baz=19	19.36	76	⇑P		Pn	18 46 21.5	-0.1
G27A	Dupree baz=20,SNR=6.2	19.48	77	⇑P		Pn	18 46 22.6	-0.3
E27A	Carson baz=20	19.63	74	⇑P		Pn	18 46 25.1	+0.3
O26A	Horse Wrangler baz=20	19.72	93	⇓P		Pn	18 46 26.1	+0.1
K27A	Flueckinger Fa baz=20	19.75	85	⇑P		P	18 46 25.8	+1.0
A27A	Ledoux Ranch, baz=20	19.82	67	⇑P		Pn	18 46 27.7	+0.8
LAZ	Ladron	19.85	113	*e*P		Pn	18 46 27.3	-0.4
P26A	Davis Ranch, A baz=20	19.95	95	⇑P		Pn	18 46 28.5	-0.2
ANMO	Albuquerque 4.3nm,1.0s,baz=326,slow=8.8,SNR=8.0	19.99	110	P		P	18 46 27.9	+0.4
ANMO	Albuquerque 80nm,2.8s	19.99	110	*e*P		P	18 46 27.3	-0.2
Q26A	Hugo baz=20	20.08	97	⇓P		P	18 46 29.6	+1.1
YKA	Yellowknife Ar 0.1nm,0.3s,baz=215,slow=11,SNR=18	20.08	20	P		P	18 46 28.0	0.0
LENM	Lemitar	20.10	113	*e*P		P	18 46 29.7	+0.9
I28A	Midland baz=20	20.23	81	⇓P		Pn	18 46 31.9	0.0
T25A	Trinidad 35nm,1.3s	20.24	102	*e*P		P	18 46 31.3	+1.1
T25A	Trinidad baz=20,SNR=12	20.24	102	⇑P		P	18 46 30.6	+0.3
LPM	Los Pinos Moun	20.24	112	*e*P		P	18 46 31.2	+1.0
J28A	Allard Ranch, baz=20	20.30	83	⇑P		Pn	18 46 32.3	-0.5
BNM	Barren Site	20.34	112	*e*P		Pn	18 46 33.0	-0.6
SCM	Sheep Creek Mo 83nm,1.9s	20.38	335	*e*P		Pn	18 46 39.8	+6.3
B28A	Dugan Ranch, T baz=20	20.39	68	⇑P		Pn	18 46 32.9	-0.8
R26A	Arlington baz=20,SNR=13	20.39	98	⇑P		P	18 46 31.9	+0.1
FFC	Flin Flon 16nm,1.0s	20.46	50	*e*P		P	18 46 32.3	0.0
319A	Douglas baz=20	20.47	123	⇑P		P	18 46 33.4	+0.8
DAWY	Dawson	20.51	347	*e*P		P	18 46 33.0	+0.2
121A	Cookes Peak, D 31nm,1.3s	20.61	118	*e*P		P	18 46 34.5	+0.2
121A	Cookes Peak, D baz=21,SNR=11	20.61	118	⇓P		P	18 46 35.1	+0.8
S26A	Kim baz=21,SNR=8.5	20.67	100	⇑P		P	18 46 35.1	+0.2
KSCO	Kaye Shedlock' 43nm,1.3s	20.68	96	P		P	18 46 35.3	+0.4
KSCO	Kaye Shedlock' baz=21	20.68	96	⇑P		P	18 46 35.7	+0.8
T26A	Comanche Natio baz=21,SNR=14	20.80	101	⇑P		P	18 46 36.4	+0.1
R27A	Eads baz=21,SNR=8.8	20.86	98	⇑P		P	18 46 37.4	+0.6
K29A	Lazy Trails An baz=21	21.11	84	⇑P		P	18 46 40.1	+0.6
A29A	Manning Farm, baz=21,SNR=5.8	21.14	67	⇑P		P	18 46 40.2	+0.4
SCRK	Sand Creek 23nm,1.8s	21.29	342	*e*P		P	18 46 41.8	+0.5
EGAK	Eagle 17nm,1.8s	21.46	346	*e*P		P	18 46 41.3	-1.7
T27A	Campo baz=22,SNR=7.7	21.46	101	⇑P		P	18 46 43.5	+0.1
D30A	Buchanan baz=22	21.51	72	⇓P		P	18 46 44.9	+1.2
R28A	Tribune baz=22	21.53	97	⇓P		P	18 46 44.7	+0.6
O29A	4D Ranch, Culb baz=22	21.56	91	⇓P		P	18 46 45.1	+0.7
P29A	Atwood baz=22	21.66	93	⇑P		P	18 46 45.6	+0.2
U27A	Thompson Grove baz=22	21.70	102	⇓P		P	18 46 46.5	+0.6
B30A	Myrvik Farm, E baz=22,SNR=6.3	21.74	68	⇑P		P	18 46 46.8	+0.7
A30A	Hoffart Farm, baz=22	21.75	67	⇓P		P	18 46 46.4	+0.1
T28A	Walsh baz=22	21.86	100	⇑P		P	18 46 48.1	+0.4
Q29A	Oakley baz=22	21.90	95	⇑P		P	18 46 48.6	+0.6
U28A	Mallet baz=22	22.14	102	⇓P		P	18 46 51.5	+0.8
P30A	Selden	22.17	92	⇓P		P	18 46 51.4	+0.5
	baz=22							
MCK	McKinley 8.3nm,1.2s	22.33	337	*e*P		P	18 46 52.9	+0.6
S29A	Ulysses baz=22	22.34	98	⇓P		P	18 46 53.6	+0.8
V28A	Channing baz=22	22.46	103	⇓P		P	18 46 55.0	+0.9
TRF	Thorofare Moun 8.2nm,1.0s	22.50	335	*e*P		P	18 46 53.7	-0.7
IL1	Eielson Array	22.63	340	*e*P		P	18 46 54.7	-0.8
ILAR	Eielson Array 2.1nm,1.2s,baz=154,slow=7.4,SNR=12	22.63	340	P		P	18 46 54.8	-0.8
WRH	Wood River Hil 26nm,1.6s	22.69	339	*e*P		P	18 46 55.6	-0.5
MNTX	Cornudas Mount 3.9nm,1.1s	22.69	116	*e*P		P	18 46 56.4	0.0
MNTX	Cornudas Mount baz=23	22.69	116	⇓P		P	18 46 56.8	+0.3
PPLA	Purkeypile 42nm,1.7s	22.70	333	*e*P		P	18 46 56.3	-0.2
CCB	Clear Creek Bu 7.7nm,1.3s	22.76	339	*e*P		P	18 46 58.4	+1.5
P31A	Stockton baz=23	22.80	92	⇓P		P	18 46 58.0	+0.4
Q31A	Ellis baz=23	22.99	93	⇓P		P	18 47 00.4	+0.8
CAST	Castle Rocks 10.0nm,1.5s	23.04	334	*e*P		P	18 47 00.0	+0.2
R31A	Burdett baz=23	23.19	95	⇓P		P	18 47 01.7	+0.2
AMTX	Amarillo 250nm,2.7s	23.29	105	*e*P		P	18 47 02.2	-0.5
AMTX	Amarillo baz=23	23.29	105	⇑P		P	18 47 03.3	+0.6
P32A	Huiting Farm, baz=23	23.32	91	⇑P		P	18 47 03.0	+0.1
ULM	Lac du Bonnet 15nm,1.1s,baz=289,slow=10,SNR=7.2	23.35	64	P		P	18 47 00.7	-2.5
ULM	comp=Z,2μm,18.7s,baz=246,slow=37				LR	LR	18 56 16.5	
ULM	Lac du Bonnet 19nm,1.1s	23.35	64	*e*P		P	18 47 01.3	-1.9
AGMN	Agassiz Nation 24nm,1.3s	23.39	68	*e*P		P	18 47 03.0	-0.5
AGMN	Agassiz Nation baz=23	23.39	68	⇓P		P	18 47 03.5	0.0
S31A	Mullinville baz=24	23.50	96	⇑P		P	18 47 05.0	+0.2
ECSD	EROS Data Cent 14nm,1.0s	23.51	80	*e*P		P	18 47 02.8	-1.9
ECSD	EROS Data Cent baz=24,SNR=5.8	23.51	80	⇑P		P	18 47 04.9	+0.1
X29A	Tulia baz=24	23.51	105	⇑P		P	18 47 05.5	+0.6
V30A	Spur Ranch, Mi baz=24	23.53	102	⇑P		P	18 47 05.6	+0.6
T31A	Randall Ranch, baz=24	23.60	98	⇑P		P	18 47 06.0	+0.3
FYU	Fort Yukon 34nm,0.6s	23.81	344	*e*P		P	18 47 07.1	-0.3
MLY	Manley 40nm,2.2s	23.83	338	*e*P		P	18 47 07.8	0.0
P33A	Williams Farm, baz=24	24.04	91	⇑P		P	18 47 10.2	+0.3
INK	Inuvik 0.7nm,0.5s,baz=144,slow=11,SNR=3.6	24.07	356	P		P	18 47 08.2	-1.6
X30A	Coker Ranch, T baz=24	24.09	105	⇓P		P	18 47 10.5	+0.1
V31A	Spring Creek L baz=24	24.12	101	⇓P		P	18 47 11.5	+0.8
Z29A	Hungry Hill Ra baz=24	24.18	108	⇓P		P	18 47 12.1	+0.8
228A	UT Block 9, Go baz=24	24.26	111	⇑P		P	18 47 12.9	+0.8
Z30A	Sanderson Ranc baz=25	24.56	107	⇑P		P	18 47 14.9	+0.2
X31A	McDonald Ranch baz=25	24.61	103	⇓P		P	18 47 15.7	+0.6
V32A	Arapaho baz=25	24.71	100	⇓P		P	18 47 16.7	+0.7
Y31A	Rekieta Farm, baz=25	24.77	105	⇑P		P	18 47 17.1	+0.5
W32A	Sentinel baz=25	24.87	101	⇓P		P	18 47 17.9	+0.5
229A	Bryant Ranch, baz=25	24.88	110	⇓P		P	18 47 17.9	+0.3
U33A	Lingo Farm, Me baz=25	25.02	98	⇑P		P	18 47 17.7	-1.1
130A	Snyder baz=25	25.07	108	⇓P		P	18 47 19.8	+0.4
S34A	Willow Spring baz=25	25.16	94	⇑P		P	18 47 20.4	+0.3
V33A	Lossen Ranch, baz=25	25.19	99	⇑P		P	18 47 20.9	+0.5
X32A	Elmer baz=25	25.21	103	⇑P		P	18 47 20.9	+0.4
Z31A	Sharp Cattle R baz=25	25.22	106	⇓P		P	18 47 21.3	+0.7
TX31	Lajitas Ar. Si	25.37	118	*e*P		P	18 47 22.8	+0.7
TXAR	Lajitas Array 1.7nm,1.1s,baz=300,slow=8.1,SNR=4.8	25.37	118	P		P	18 47 22.0	-0.2
TXAR	comp=Z,297nm,20.6s,baz=0.0,slow=37				LR	LR	18 57 22.9	
IM04	Indian Mountai	25.38	337	*e*P		P	18 47 21.0	-0.9
WMOK	Wichita Mounta 52nm,1.6s	25.39	102	*e*P		P	18 47 21.9	-0.3
230A	Sterling City baz=25	25.39	110	⇑P		P	18 47 23.1	+0.8
W33A	Caddo, Fort Co baz=25	25.40	101	⇓P		P	18 47 23.3	+1.0
T34A	McClaskey Farm baz=25	25.41	96	⇑P		P	18 47 22.5	+0.2
U34A	Anderson Ranch baz=25	25.43	97	⇑P		P	18 47 23.1	+0.6
330A	Mertzon baz=26	25.65	111	⇑P		P	18 47 24.9	+0.3
429A	Davenport Ranc baz=26,SNR=5.4	25.66	113	⇑P		P	18 47 25.1	+0.3
Z32A	Haskell baz=26	25.68	105	⇑P		P	18 47 25.3	+0.4
X33A	Lawton baz=26	25.69	102	⇑P		P	18 47 25.1	+0.2
V34A	Guthrie baz=26	25.73	98	⇓P		P	18 47 25.8	+0.5
S35A	Otter Creek Ra baz=26	25.74	94	⇑P		P	18 47 25.6	+0.3
529A	Stev Forest Ra baz=26,SNR=9.2	25.77	114	⇑P		P	18 47 26.2	+0.5
W34A	Bridge Creek, baz=26	25.85	100	⇓P		P	18 47 27.2	+0.8
FCC	Fort Churchill 12nm,1.3s	25.87	44	*e*P		P	18 47 28.5	+2.2
Y33A	Hilltop Ranch, baz=26	25.89	103	⇓P		P	18 47 26.7	-0.1
T35A	Sooner Cattle baz=26	25.94	95	⇓P		P	18 47 27.1	-0.1
ABTX	Abilene, Hawle baz=26	25.96	107	⇓P		P	18 47 27.7	+0.3
430A	Baggett Ranch, baz=26	26.00	112	⇓P		P	18 47 28.1	+0.3
Z33A	Whitaker Ranch baz=26	26.19	105	⇓P		P	18 47 30.1	+0.6
331A	San Angelo baz=26	26.21	110	⇓P		P	18 47 30.3	+0.6
S36A	Lake Cedric, C baz=26	26.24	93	⇓P		P	18 47 30.1	+0.2
V35A	Meyer Ranch, C baz=26	26.25	98	⇓P		P	18 47 30.1	+0.1
232A	Coleman baz=26	26.39	108	⇑P		P	18 47 31.2	-0.2
133A	Hamilton Ranch baz=26	26.47	106	⇑P		P	18 47 32.2	+0.2
431A	Sonora baz=26	26.48	111	⇓P		P	18 47 32.6	+0.4
Y34A	Reagan Ranch, baz=26	26.52	102	⇓P		P	18 47 32.1	-0.3
W35A	Tecumseh baz=26	26.52	99	⇓P		P	18 47 32.6	+0.1
R37A	Teagarden Farm baz=26	26.54	91	⇑P		P	18 47 32.8	+0.2
Q37A	Longview Farm, baz=27	26.58	90	⇑P		P	18 47 33.3	+0.3
332A	Millersview baz=27	26.63	109	⇑P		P	18 47 33.9	+0.4
233A	Rising Star baz=27	26.82	107	⇑P		P	18 47 35.7	+0.5
X35A	Drake baz=27	26.84	101	⇓P		P	18 47 35.1	-0.3
432A	Menard baz=27	26.91	110	⇓P		P	18 47 36.3	+0.3
TUL1	Leonard baz=27	26.92	97	⇑P		P	18 47 36.0	0.0
333A	Richland Sprin baz=27	27.18	108	⇑P		P	18 47 37.8	-0.6
X36A	Centrahoma baz=27	27.19	100	⇑P		P	18 47 38.3	-0.1
532A	Rocksprings baz=27	27.30	111	⇓P		P	18 47 39.7	+0.2
433A	Art baz=28,SNR=7.5	27.45	109	⇑P		P	18 47 40.5	-0.4
W37A	Quinton baz=28	27.56	98	⇑P		P	18 47 41.6	-0.2
434A	Burnet baz=28	27.98	108	⇓P		P	18 47 45.5	-0.1
BLO	Bloomington 16nm,0.8s	32.14	84	P		P	18 48 21.9	-0.4
OXF	Oxford 78nm,1.1s	32.16	94	*e*P		P	18 48 23.0	+0.5
CPCT	Cooper Cave	35.20	89	*e*P		P	18 48 47.1	-1.9
SEY	Seymchan 3.0nm,1.0s,baz=116,slow=7.6,SNR=4.9	46.60	322	P		P	18 50 20.3	-2.2
TAOE	Nuku Hiva Isla 52nm,0.2s	53.88	193	*e*T		T	19 48 55.5	
H11N3	WAKE ISLAND Hy baz=46	57.76	267	T		T	19 53 55.6	
H11N2	WAKE ISLAND Hy baz=46	57.76	267	T		T	19 53 56.3	
H11N1	WAKE ISLAND Hy baz=46	57.77	267	T		T	19 54 02.2	
H11S1	WAKE ISLAND Hy baz=48	58.70	266	T		T	19 55 08.0	
H11S2	WAKE ISLAND Hy baz=48	58.70	266	T		T	19 55 09.5	
H11S3	WAKE ISLAND Hy baz=48	58.71	266	T		T	19 55 11.0	
PMOR	Pomariorio Ree 23nm,0.3s	61.46	200	*e*T		T	19 58 27.1	
VAH	Vaihoa 7.5nm,0.3s	61.62	200	*e*T		T	19 58 38.0	
TIAR	Tiarei 5.6nm,0.2s	64.28	201	*e*T		T	20 01 58.0	
PPT2	Papeete2 330nm,27.8s	64.37	201	*e*LR		LR	19 11 42.8	
RKT	Rikitea 596nm,27.8s	67.37	186	*e*LR		LR	19 13 05.6	
RKT	Rikitea 2.3nm,0.2s	67.37	186	*e*T		T	20 05 52.5	
TBI	Tubuai 232nm,32.2s	69.86	200	*e*LR		LR	19 14 20.7	
TBI	Tubuai 10nm,0.2s	69.86	200	*e*T		T	20 08 56.6	
NOA	NORSAR Array B 1.0nm,0.8s,baz=333,slow=5.7,SNR=3.6	70.17	19	P		P	18 53 06.0	-1.2
FINES	FINESS Array B 3.9nm,1.0s,baz=290,slow=11,SNR=3.9	72.67	12	P		P	18 53 21.0	-1.1
KSRS	Korea Array 0.4nm,0.4s,baz=24,slow=8.2,SNR=3.4	72.71	306	P		P	18 53 22.4	-0.3
KSAR	Wonju Array Be	72.74	306	P		P	18 53 22.4	-0.5
SONM	Songino Array 0.8nm,0.7s,baz=60,slow=4.2,SNR=5.1	75.89	325	P		P	18 53 41.6	+0.3
ZALV	Zalesovo Beam 0.6nm,0.7s,baz=359,slow=5.9,SNR=4.2	77.76	340	P		P	18 53 49.0	-2.5
HHC	Hu-ho-hao-te	79.02	317	*e*P		P	18 53 57.8	-1.1
HHC					pmax	pmax		
	comp=Z,15nm,1.0s							
HHC					pmax	pmax		
	comp=Z,190nm,4.8s							
BVAR	Borovoye Array comp=Z,1.4nm,0.8s,baz=2.9,slow=3.0,SNR=6.0	81.48	348	P		P	18 54 11.9	+0.1
GERES	GERESS Array B comp=Z,0.4nm,0.6s,baz=3.8,slow=8.0,SNR=4.1	81.69	24	P		P	18 54 11.8	-1.4
KURK	Kurchatov comp=Z,3.9nm,1.1s	82.19	342	*e*P		P	18 54 14.1	-1.4
AKASG	Malin Array Be comp=Z,0.5nm,0.6s,baz=350,slow=4.9,SNR=3.1	83.49	13	P		P	18 54 18.4	-3.9
WMQ	Urumqi	86.14	334	*e*P		P	18 54 37.4	+1.4
WMQ				pP		pP	18 54 42.2	+1.9
WMQ				sP		sP	18 54 44.4	+2.6
WMQ				PP		PP	18 57 59.4	+3.9
WMQ					pmax	pmax		
	comp=Z,8.0nm,0.4s							
WMQ					pmax	pmax		
	comp=Z,85nm,3.8s							
WMQ					LR	LR		
	comp=N,140nm,20.4s							
WMQ					LR	LR		
	comp=E,120nm,23.6s							
WMQ					LR	LR		
	comp=Z,120nm,21.4s							
QSPA	South Pole Qui	134.19	180	*e*PKPpre		PKPpre	19 01 08.4	

IDC ***07*** *18:43:06.4±4.2, 12°.38S×166°.90E, h249km±41km, mb3.6/11, mb1 3.8/12, mb1mx3.5/44, mbtmp4.1/12, Error ellipse: s-maj=26.7km s-min=18.8km az=153.0*

ISC 07 18:43:02.7±0.6, 12°.5S±0°.1×167°.2E±0°.1, h220km, n24, σ0995/25, mb4.0/11, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
DZM	Mont Dzumac	9.51	184	P		P	18 45 22.0	-1.4
	0.5nm,0.3s,baz=272,slow=24,SNR=4.3							
RABL	Rabaul	17.02	298	P		Pn	18 46 49.8	+1.4
	baz=13,SNR=3.4							
EIDS	Eidsvold	19.86	228	P		P	18 47 18.9	+1.6
	baz=15,SNR=8.5							
CTA	Charters Tower	21.45	247	P		P	18 47 33.9	-0.2
	6.5nm,0.8s,baz=71,slow=10,SNR=5.7							
RMQ	Roma	22.20	229	P		P	18 47 42.6	+1.3
	baz=18,SNR=5.7							
QLP	Quilpie	25.70	234	P		P	18 48 13.3	+0.3
	baz=21,SNR=3.8							
STKA	Stephens Creek	30.41	227	P		P	18 48 55.0	+0.4
	0.9nm,0.4s,baz=48,slow=11,SNR=6.2							
STKA	Stephens Creek	30.41	227	P		P	18 48 55.7	+1.1
	baz=26,SNR=5.6							
WRA	Warramunga Arr	32.36	253	P		P	18 49 10.3	-1.5
	1.9nm,0.4s,baz=83,slow=9.0,SNR=34							
ASAR	Alice Springs	33.45	246	P		P	18 49 19.9	-1.4
	2.0nm,0.6s,baz=68,slow=9.3,SNR=42							
KNRA	Kununurra	37.38	261	P		P	18 49 54.2	-0.6
	baz=31,SNR=8.3							
WRKA	Warakurna	38.74	246	P		P	18 50 05.3	-0.8
	baz=33,SNR=11							
MEEK	Meekatharra	47.60	245	P		P	18 51 16.7	-0.2
	baz=42,SNR=3.5							
VNDA	Vanda	65.04	181	P		P	18 53 20.4	+1.3
	0.4nm,0.6s,baz=326,slow=5.1,SNR=5.0							
SEY	Seymchan	76.11	353	P		P	18 54 25.6	-0.3
	2.5nm,0.6s,baz=182,slow=3.8,SNR=7.1							
ILAR	Eielson Array	84.47	18	P		P	18 55 09.8	-0.5
	3.7nm,0.6s,baz=226,slow=4.9,SNR=48							
NVAR	Mina Array Bea	85.90	49	P		P	18 55 18.7	+0.4
	0.4nm,0.5s,baz=235,slow=7.6,SNR=3.6							
TXAR	Lajitas Array	95.29	61	P		P	18 56 02.9	+0.7
	0.3nm,0.8s,baz=233,slow=4.3,SNR=3.8							
MKAR	Makanchi Array	95.58	317	P		P	18 56 02.4	-0.6
	0.7nm,0.7s,baz=109,slow=3.7,SNR=5.9							
YKA	Yellowknife Ar	95.64	27	P		P	18 56 01.9	-0.9
	0.4nm,0.4s,baz=257,slow=4.7,SNR=7.5							
ARCES	ARCESS Array B	118.12	346	PKP		PKPdf	19 01 22.7	-0.3
	1.7nm,0.3s,baz=78,slow=2.2,SNR=53							
FINES	FINESS Array B	123.67	339	PKP		PKPdf	19 01 33.9	+0.2
	0.6nm,0.4s,baz=163,slow=2.0,SNR=7.6							
NOA	NORSAR Array B	128.50	345	PKP		PKPdf	19 01 43.7	+0.6
	0.4nm,0.4s,baz=26,slow=2.0,SNR=2.9							
ESDC	Sonseca Array	151.86	345	PKPbc		PKPbc	19 02 32.0	+0.2
	0.9nm,0.5s,baz=19,slow=3.1,SNR=8.0							
ESDC				PKPab		PKPab	19 02 42.2	+0.6
	0.7nm,0.5s,baz=17,slow=4.1,SNR=4.8							

IDC ***07*** *18:43:04.2±1.0, 44°.28N×129°.84W, h0km, mb4.0/16, mb1 4.2/22, mb1mx4.1/47, mbtmp4.0/22, ML3.6/5, MS4.1/3, Ms1 4.1/3, ms1mx3.8/12, Error ellipse: s-maj=26.4km s-min=12.3km az=32.0*

BJI ***07*** *18:43:05.6, 44°.40N×129°.50W, h10km, mb4.8/12, mB5.0/5, Ms4.9/3, Ms7 4.6/3*

ISCJB ***07*** *18:43:06.7±1.4, 44°.44N±0°.03×129°.44W±0°.05, h15km±10km, mb4.3/34, MS3.9/2, Error ellipse: s-maj=7.3km s-min=3.7km az=146.5*

NEIC ***07*** *18:43:07.3±0.4, 44°.41N×129°.55W, h10km, mb4.5/41, Error ellipse: s-maj=7.7km s-min=3.8km az=40.0*

ISC 07 18:43:08.2±0.7, 44°39N±0.08×129°45W±0.07, h15km±3km, h15km:pP-P, n249, σ1°42/228, mb4.5/35, MS3.9/3, 38C-28D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	4.01	110	*e*Pn	Pn	18 44 05.8	-3.4
KEBM				*e*Sn	Sn	18 44 46.0	-10
KBO	**Bosley Butte**	4.39	118	*e*Pn	**Pn**	**18 44 14.1**	**-0.3**
COR	**Corvallis**	4.40	85	*e*Pn	**Pn**	**18 44 13.4**	**-1.0**
COR				*e*Sn	Sn	18 44 58.3	-7.1
F03A	**Seaside**	4.44	68	*e*Pn	**Pn**	**18 44 15.1**	**+0.1**
F03A				*e*Sn	Sn	18 44 57.6	-8.8
I03D	**Drain, OR** baz=4.5	4.45	97	⇑P	**Pn**	**18 44 15.1**	**0.0**
G03D	**McMinnville, O** baz=4.5	4.48	77	⇑P	**Pn**	**18 44 16.1**	**+0.7**
E03A	**Lebam**	4.67	60	*e*Pn	**Pn**	**18 44 17.2**	**-0.8**
E03A	**Lebam**	4.67	60	*e*Sg	**Pn**	**18 44 17.0**	**-1.0**
F04D	**Rainier, OR** baz=4.9	4.85	67	⇓P	**Pn**	**18 44 20.8**	**+0.2**
NLWA	**Neilton Lookou**	4.92	50	*e*Pn	**Pn**	**18 44 19.6**	**-1.9**
HUMO	**Hull Mountain**	5.05	108	*e*Pn	**Pn**	**18 44 23.1**	**-0.3**
I04A	**Tendick Farm,** baz=5.2	5.10	94	⇑P	**Pn**	**18 44 24.6**	**+0.5**
J04D	**Umpqua Nationa** baz=5.5	5.43	100	⇑P	**Pn**	**18 44 29.6**	**+0.8**
KHMM	**Horse Mountain**	5.49	128	*e*Pn	**Pn**	**18 44 29.7**	**+0.2**
YBH	**Yreka Blue Hor** 0.6nm,0.3s,baz=268,slow=8.8,SNR=4.7	5.61	116	Pn	**Pn**	**18 44 33.8**	**+2.7**
YBH	**Yreka Blue Hor**	5.61	116	*e*Pn	**Pn**	**18 44 30.4**	**-0.7**
LON	**Longmire**	5.86	64	*e*Pn	**Pn**	**18 44 32.7**	**-1.8**
D05A	**Enumclaw**	5.92	59	*e*Pn	**Pn**	**18 44 35.7**	**+0.4**
D05A	**Enumclaw**	5.92	59	*e*Sn	**Pn**	**18 44 36.1**	**+0.9**
PGC	**Sidney**	5.94	42	*e*Pn	**Pn**	**18 44 33.1**	**-2.4**
KMRM	**Mail Ridge**	5.96	132	*e*Pn	**Pn**	**18 44 35.7**	**-0.1**
G06A	**Carlson Farm,**	6.33	79	*e*Pn	**Pn**	**18 44 40.5**	**-0.5**
G06A	**Carlson Farm,**	6.33	79	*e*Sn	**Pn**	**18 44 39.8**	**-1.1**
WDC	**Whiskeytown Da**	6.37	124	*e*Pn	**Pn**	**18 44 41.1**	**-0.4**
KIPM	**Iron Peak**	6.38	134	*e*Pn	**Pn**	**18 44 41.0**	**-0.8**
KCPM	**Cahto Peak**	6.42	135	*e*Pn	**Pn**	**18 44 40.4**	**-1.8**
K05A	**Summer Lake**	6.43	102	*e*Pn	**Pn**	**18 44 42.8**	**+0.2**
K05A	**Summer Lake**	6.43	102	*e*Sn	**Pn**	**18 44 44.1**	**+1.5**
LTY	**Liberty**	6.77	62	*e*Pn	**Pn**	**18 44 46.2**	**-0.8**
LTY	**Liberty**	6.77	62	*e*Sn	**Pn**	**18 44 46.6**	**-0.4**
A05A	**Maple Falls**	6.84	45	*e*Pn	**Pn**	**18 44 47.6**	**-0.4**
A05A	**Maple Falls**	6.84	45	*e*Sn	**Pn**	**18 44 47.3**	**-0.7**
B06A	**Marblemount**	6.87	50	*e*Pn	**Pn**	**18 44 47.4**	**-1.0**
B06A	**Marblemount**	6.87	50	*e*Sn	**Pn**	**18 44 47.5**	**-0.8**
HOPS	**Hopland Field**	7.20	136	*e*Pn	**Pn**	**18 44 52.5**	**-0.4**
HAWA	**Hanford**	7.26	71	*e*Pn	**Pn**	**18 44 52.0**	**-1.7**
G08A	**Pilot Rock**	7.51	79	*e*Pn	**Pn**	**18 44 56.5**	**-0.8**
G08A	**Pilot Rock**	7.51	79	*e*Sn	**Pn**	**18 44 56.0**	**-1.2**
D08A	**Wollman Farm,**	7.83	66	*e*Pn	**Pn**	**18 45 02.0**	**+0.5**
D08A	**Wollman Farm,**	7.83	66	*e*Sn	**Pn**	**18 45 02.6**	**+1.1**
BBB	**Bella Bella** 1.0nm,0.3s,baz=198,slow=13,SNR=10	7.85	6	Pn	**Pn**	**18 45 02.1**	**+0.4**
WVOR	**Wild Horse Val**	8.11	100	*e*Pn	**Pn**	**18 45 07.1**	**+1.6**
C09A	**Chrisman Ranch**	8.48	62	*e*Pn	**Pn**	**18 45 08.2**	**-2.2**
C09A	**Chrisman Ranch**	8.48	62	*e*Sn	**Pn**	**18 45 10.8**	**+0.4**
BMO	**Blue Mountains**	8.68	83	*e*Pn	**Pn**	**18 45 09.4**	**-3.8**
F10A	**Beach Ranch, E**	8.78	75	*e*Pn	**Pn**	**18 45 14.1**	**-0.4**
CMB	**Columbia Colle**	9.32	130	*e*Pn	**Pn**	**18 45 20.9**	**-1.1**
NEW	**Newport** 0.3nm,0.3s,baz=197,slow=5.8,SNR=4.0	9.36	61	Pn	**Pn**	**18 45 27.1**	**+4.5**
NEW	**Newport**	9.36	61	*e*Pn	**Pn**	**18 45 21.2**	**-1.4**
WAKR	**Walker**	9.54	125	*e*Pn	Pn	18 45 29.3	+4.1
SAO	**San Andreas Ge**	9.75	139	*e*Pn	**Pn**	**18 45 25.6**	**-2.2**
BMN	**Battle Mountai**	9.87	109	*e*Pn	**Pn**	**18 45 31.2**	**+1.6**
MFID	**Camas Ranch**	9.88	91	*e*Pn	**Pn**	**18 45 28.5**	**-1.3**
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=283,slow=13,SNR=6.5	10.27	122	Pn	**Pn**	**18 45 37.4**	**+2.2**
BSMT	**Bassoo Peak**	10.75	66	*e*Pn	**Pn**	**18 45 41.8**	**+0.1**
HLID	**Hailey**	10.87	89	*e*Pn	Pn	18 45 46.8	+3.4
HLID	**Hailey** baz=11	10.87	89	⇓P	**Pn**	**18 45 43.6**	**+0.3**
JTMT	**Jette**	11.06	67	*e*Pn	**Pn**	**18 45 45.9**	**+0.1**
ELK	**Elko** 0.1nm,0.3s,baz=18,slow=3.1,SNR=5.9	11.09	104	Pn	Pn	18 45 50.1	+3.6
ELK	comp=Z,1μm,20.3s,baz=350,slow=37				LR	LR	18 50 05.5	
ELK	**Elko**	11.09	104	*e*Pn	**Pn**	**18 45 48.5**	**+2.0**
MSO	**Missoula** baz=11	11.13	72	⇑P	**Pn**	**18 45 47.0**	**+0.1**
TPH	**Tonopah**	11.15	120	*e*Pn	**Pn**	**18 45 49.6**	**+2.4**
SWMT	**Swartz Lake**	11.20	68	*e*Pn	**Pn**	**18 45 48.8**	**+1.0**
SLMT	**Seeley Lake**	11.49	70	*e*Pn	**Pn**	**18 45 54.7**	**+2.9**
CHMT	**Chamberlain Mo**	11.61	72	*e*Pn	**Pn**	**18 45 54.3**	**+0.7**
WALA	**Waterton Lakes**	11.63	61	*e*Pn	**Pn**	**18 45 54.6**	**+0.9**
MCMT	**McKenzie Canyo**	11.84	82	*e*Pn	**Pn**	**18 45 58.0**	**+1.3**
LRM	**Limekiln Ridge** 108nm,1.1s	12.10	77	*e*Pn	**Pn**	**18 46 01.6**	**+1.4**
ISA	**Isabella, Lake**	12.11	132	*e*Pn	**Pn**	**18 46 01.8**	**+1.7**
ISA	**Isabella, Lake** baz=12	12.11	132	⇓P	**Pn**	**18 46 01.5**	**+1.3**
DAC	**Darwin (Calif)**	12.14	128	*e*Pn	**Pn**	**18 45 59.4**	**-1.3**
WRAK	**Wrangell Islan**	12.18	352	*e*Pn	Pn	18 46 05.1	+4.2
MPMC	**Manual Prospec** baz=12	12.35	128	⇓P	**Pn**	**18 46 04.9**	**+1.3**
HVU	**Hansel Valley** 6.7nm,1.1s	12.47	96	*e*Pn	**Pn**	**18 46 05.5**	**+0.3**
BGU	**Big Grassy Mou**	12.57	100	*e*Pn	**Pn**	**18 46 08.5**	**+1.9**
QLMT	**Earthquake Lak**	12.85	82	*e*Pn	**Pn**	**18 46 09.2**	**-1.3**
DUG	**Dugway, Tooele**	13.01	103	Pn	**Pn**	**18 46 14.3**	**+1.8**
YMR	**Madison River**	13.19	82	*e*Pn	**Pn**	**18 46 18.2**	**+3.1**
SIT	**Sitka**	13.21	346	*e*Pn	**Pn**	**18 46 17.0**	**+2.0**
GSC	**Goldstone, Bar**	13.28	129	*e*Pn	Pn	18 46 19.9	+3.6
GSC	**Goldstone, Bar** baz=13	13.28	129	⇑P	**Pn**	**18 46 17.1**	**+0.9**
IMW	**Indian Meadow**	13.31	86	*e*Pn	**Pn**	**18 46 19.6**	**+2.9**
TPAW	**Teton Pass** 24nm,1.3s	13.36	87	*e*Pn	**Pn**	**18 46 19.9**	**+2.4**
SHPR	**Sheep Range**	13.42	121	*e*Pn	**Pn**	**18 46 19.0**	**+0.8**
FLWY	**Flagg Ranch**	13.45	85	*e*Pn	Pn	18 46 22.0	+3.4
H17A	**Grant Village**	13.50	83	*e*Pn	**Pn**	**18 46 21.6**	**+2.3**
LOHW	**Long Hollow**	13.59	87	*e*Pn	**Pn**	**18 46 21.2**	**+0.7**
BFSC	**Mount Baldy Ra** baz=14	13.63	134	⇑P	**Pn**	**18 46 21.8**	**+0.8**
TUQ	**Turquoise Moun** baz=14	13.69	126	⇓P	**Pn**	**18 46 22.3**	**+0.4**
EDM	**Edmonton**	13.78	44	*e*Pn	**Pn**	**18 46 22.8**	**-0.1**
GCMT	**Greycliff**	14.04	77	*e*Pn	**P**	**18 46 34.1**	**-0.3**
DLBC	**Dease Lake**	14.07	359	*e*Pn	P	18 46 31.2	-3.3
EGMT	**Eagleton**	14.11	68	*e*Pn	**Pn**	**18 46 30.2**	**+2.8**
MVU	**Marysvale**	14.19	109	*e*Pn	**Pn**	**18 46 31.0**	**+2.2**
SCI	**San Clemente I** baz=14	14.21	140	⇑P	**Pn**	**18 46 29.3**	**+0.5**
MSU	**Marysvale**	14.21	108	*e*Pn	**Pn**	**18 46 32.3**	**+3.2**
RLMT	**Red Lodge**	14.36	80	*e*Pn	**P**	**18 46 35.7**	**-2.3**
PDAR	**Pinedale Array** baz=297,slow=6.9,SNR=4.0	14.51	89	Pn	**P**	**18 46 39.9**	**+0.1**
C19A	**Slack Wire Ran** baz=15	14.54	70	⇓P	**Pn**	**18 46 33.5**	**+0.1**
BESE	**Bessie Mountai**	14.59	349	*e*Pn	**P**	**18 46 37.8**	**-2.6**
B19A	**Brinkman Farms** baz=15	14.70	67	⇓P	**Pn**	**18 46 35.4**	**-0.2**
J19A	**Crowheart** baz=15	14.77	87	⇑P	**Pn**	**18 46 37.1**	**+0.6**
IRM	**Iron Mountain** baz=15	15.04	128	⇑P	**Pn**	**18 46 41.2**	**+1.0**
SRU	**San Rafael Swe** 66nm,1.2s	15.07	104	*e*Pn	**P**	**18 46 46.7**	**+0.8**
BC3	**Big Chuckawall** baz=15	15.25	130	⇑P	**Pn**	**18 46 44.5**	**+1.5**
MONP	**Monument Peak,** baz=15	15.32	134	⇑P	**Pn**	**18 46 45.5**	**+1.4**
A20A	**Cobblestone Ra** baz=15	15.44	66	⇑P	**Pn**	**18 46 45.5**	**+0.2**
J20A	**Shoshoni** baz=16	15.44	86	⇑P	**Pn**	**18 46 46.3**	**+0.8**
SKAG	**Skagway**	15.51	349	*e*Pn	**Pn**	**18 46 46.5**	**+0.4**
PDMCI	**Parker Dam,Lak** baz=16	15.53	125	⇑P	**Pn**	**18 46 47.1**	**+0.6**
IBP	**Imperial Bould** baz=16,SNR=8.1	15.67	134	⇑P	**Pn**	**18 46 50.4**	**+1.9**
J21A	**Lysite** baz=16,SNR=7.6	15.90	86	⇑P	**P**	**18 46 54.4**	**-0.7**
I21A	**Big Trails, Te** baz=16	15.92	84	⇓P	**Pn**	**18 46 53.4**	**+1.6**
N20A	**Spence Gulch,** baz=16	15.99	95	⇑P	**Pn**	**18 46 53.0**	**+0.3**
O20A	**White River Ci** 37nm,1.2s	16.25	98	Pn	**P**	**18 46 58.1**	**-1.1**
PV09	**Paradox Valley**	16.32	104	*e*Pn	**P**	**18 47 00.3**	**+0.4**
LAO	**LASA Array** 78nm,1.7s	16.42	74	Pn	**Pn**	**18 46 59.1**	**+1.0**
WUAZ	**Wupatki** 75nm,1.8s	16.42	116	*e*Pn	**P**	**18 46 60.0**	**-1.0**
H22A	**Clearmont** baz=16	16.48	81	⇓P	**Pn**	**18 46 58.6**	**-0.1**
PV05	**Paradox Valley**	16.54	105	*e*Pn	P	18 47 08.1	+5.8
A22A	**Carney Farms,** baz=17,SNR=8.6	16.76	66	⇓P	**Pn**	**18 47 03.2**	**+0.8**
113A	**Mohawk Valley,** baz=17	16.85	128	⇑P	**P**	**18 47 04.7**	**-0.8**
PV01	**Paradox Valley**	16.88	105	*e*Pn	**P**	**18 47 05.9**	**-0.2**
M22A	**Cedar Creek Ra** baz=17	17.00	92	⇑P	**Pn**	**18 47 05.5**	**0.0**
F23A	**Volborg** baz=17	17.03	77	⇓P	**Pn**	**18 47 06.2**	**+0.5**
HYT	**Haines Junctio**	17.15	347	*e*Pn	**P**	**18 47 08.0**	**-0.8**
MVCO	**Mesa Verde** 569nm,1.2s	17.38	107	*e*Pn	**P**	**18 47 13.9**	**+2.3**
O22A	**Kremmling** baz=18,SNR=9.7	17.45	96	⇓P	**P**	**18 47 13.1**	**+0.6**
SMCO	**Snowmass** 34nm,1.7s	17.53	99	*e*Pn	**P**	**18 47 14.6**	**+1.1**
M23A	**Laramie** baz=18	17.61	91	⇑P	**Pn**	**18 47 13.5**	**+0.4**
DGMT	**Dagmar** 56nm,1.1s	17.85	68	Pn	**Pn**	**18 47 15.7**	**-0.2**
J24A	**Dixon Ranch, L** baz=18	17.89	85	⇑P	**Pn**	**18 47 16.7**	**+0.2**
214A	**Organ Pipe Nat** baz=18	17.99	128	⇓P	**P**	**18 47 18.2**	**0.0**
ISCO	**Idaho Springs** 26nm,1.3s	18.25	96	*e*Pn	**P**	**18 47 22.5**	**+1.2**
ISCO	**Idaho Springs** baz=18	18.25	96	⇑P	**P**	**18 47 21.9**	**+0.6**
P23A	**Jefferson** baz=18	18.26	98	⇑P	**Pn**	**18 47 21.3**	**0.0**
S22A	**4UR Ranch, Cre**	18.27	103	*e*sP	sP	18 47 38.5	+11
S22A	**4UR Ranch, Cre** baz=18	18.27	103	⇓P	**Pn**	**18 47 21.3**	**-0.1**
RAGM	**Ragged Mountai**	18.44	336	*e*sP	sP	18 47 33.8	+4.6
BMRM	**Bremner River** 20nm,1.2s	18.89	337	*e*P	Pn	18 47 33.3	+4.8
TUC	**Tucson** 22nm,1.5s	18.92	123	*e*Pn	**Pn**	**18 47 30.5**	**+1.5**
SDCO	**Great Sand Dun** 9.4nm,1.0s	19.20	102	*e*P	**Pn**	**18 47 33.4**	**+0.7**
SDCO				*e*ScP	**ScP**	**18 55 27.3**	**-2.6**
DIV	**Divide**	19.36	336	*e*Pn	**Pn**	**18 47 34.0**	**-0.1**
OHAK	**Old Harbor**	19.66	319	*e*P	**Pn**	**18 47 42.3**	**+4.6**
KLU	**Klutina** 22nm,1.3s	19.69	336	*e*P	**Pn**	**18 47 40.5**	**+2.4**
A27A	**Ledoux Ranch,** baz=20	19.83	67	⇓P	**P**	**18 47 37.9**	**-0.3**
LAZ	**Ladron**	19.86	113	*e*P	**Pn**	**18 47 42.6**	**+2.1**
LAZ				*e*ScP	ScP	18 55 39.0	+7.6
ANMO	**Albuquerque** 3.0nm,0.6s,baz=327,slow=12,SNR=9.3	20.00	110	P	Pn	18 47 44.8	+2.6
ANMO				LR	LR	18 55 23.0	
	comp=Z,566nm,20.1s,baz=307,slow=36						
ANMO	**Albuquerque** 15nm,1.4s	20.00	110	*e*P	**P**	**18 47 41.3**	**+0.9**
YKA	**Yellowknife Ar** 8.2nm,1.0s,baz=215,slow=11,SNR=9.9	20.08	20	P	**P**	**18 47 41.1**	**+0.3**
BRLK	**Bradley Lake**	20.11	327	*e*pP	pP	18 47 49.3	+3.8
T25A	**Trinidad** 29nm,0.9s	20.25	102	*e*P	Pn	18 47 46.3	+1.1
T25A				*e*ScP	**ScP**	**18 55 38.2**	**+5.9**
T25A	**Trinidad** baz=20	20.25	102	⇑P	Pn	18 47 45.0	-0.2
BNM	**Barren Site**	20.35	112	*e*P	Pn	18 47 52.4	+6.0
B28A	**Dugan Ranch, T** baz=20	20.40	68	⇓P	**P**	**18 47 45.5**	**+1.1**
R26A	**Arlington** baz=20	20.40	98	⇓P	**P**	**18 47 45.8**	**+1.1**
FFC	**Flin Flon** 23nm,1.0s	20.47	50	*e*P	**P**	**18 47 45.9**	**+0.9**
319A	**Douglas** baz=20	20.48	123	⇓P	**P**	**18 47 46.5**	**+1.0**
DAWY	**Dawson** 12nm,1.2s	20.50	347	*e*P	**P**	**18 47 44.6**	**-0.9**
RC01	**Rabbit Creek A** 25nm,1.2s	20.60	331	P	P	18 47 40.2	-6.2
121A	**Cookes Peak, D** 64nm,1.4s	20.62	118	*e*P	Pn	18 47 49.0	-0.5
121A	**Cookes Peak, D** baz=21	20.62	118	⇑P	**P**	**18 47 48.3**	**+1.2**
KSCO	**Kaye Shedlock'** 18nm,0.9s	20.69	96	*e*P	**P**	**18 47 48.8**	**+1.1**
PMR	**Palmer** 26nm,1.3s	20.76	333	*e*P	Pn	18 47 49.3	-1.2
PAX	**Paxson**	20.78	339	P	Pn	18 47 53.8	+2.9
T26A	**Comanche Natio** baz=21	20.81	101	⇓P	Pn	18 47 50.7	-0.9
R27A	**Eads** baz=21,SNR=9.1	20.87	98	⇓P	**P**	**18 47 49.3**	**-0.4**
DOT	**Dot Lake** 9.9nm,1.0s	21.02	342	*e*P	P	18 47 56.6	+5.6
SCRK	**Sand Creek** 9.9nm,1.1s	21.28	342	*e*P	**P**	**18 47 56.4**	**+2.4**
EGAK	**Eagle** 30nm,1.8s	21.45	346	*e*Pn	**P**	**18 47 55.0**	**-0.6**
T27A	**Campo** baz=22	21.48	101	⇑P	**P**	**18 47 56.9**	**+0.6**
R28A	**Tribune** baz=22	21.55	97	⇓P	**P**	**18 47 56.8**	**-0.1**
DDM	**Donnelly Dome** 356nm,2.4s	21.56	340	*e*P	**P**	**18 48 01.1**	**+4.2**
B30A	**Myrvik Farm, E** baz=22,SNR=7.9	21.75	68	⇑P	**P**	**18 48 00.4**	**+1.4**
Q29A	**Oakley** baz=22	21.91	95	⇓P	**P**	**18 48 00.8**	**0.0**
MCK	**McKinley** 41nm,1.4s	22.32	337	*e*P	**P**	**18 48 05.3**	**+0.3**
TRF	**Thorofare Moun** 44nm,1.4s	22.50	335	*e*P	**P**	**18 48 06.1**	**-0.9**
IL1	**Eielson Array**	22.63	340	*e*P	**P**	**18 48 07.8**	**-0.4**
ILAR	**Eielson Array** 5.9nm,1.1s,baz=155,slow=7.7,SNR=9.2	22.63	340	P	**P**	**18 48 08.1**	**-0.1**
ILAR				PcP	**PcP**	**18 51 59.0**	**-1.5**
WRH	**Wood River Hil** 32nm,1.4s	22.68	339	*e*P	**P**	**18 48 11.1**	**+2.3**
WRH				*e*		18 55 07.0	
PPLA	**Purkeypile** 41nm,1.3s	22.69	333	*e*P	**P**	**18 48 09.1**	**+0.1**
CCB	**Clear Creek Bu** 11nm,1.2s	22.75	339	*e*P	**P**	**18 48 10.2**	**+0.7**
CCB				*e*		18 55 08.0	
KTH	**Kantishna Hill**	22.77	335	*e*P	**P**	**18 48 09.6**	**-0.2**
COLA	**College**	22.95	340	P	**P**	**18 48 10.6**	**-0.9**
CAST	**Castle Rocks** 46nm,1.8s	23.03	334	*e*P	**P**	**18 48 12.5**	**0.0**
R31A	**Burdett** baz=23	23.20	95	⇑P	**P**	**18 48 14.2**	**-0.2**
AMTX	**Amarillo** baz=23	23.30	104	⇓P	**P**	**18 48 15.6**	**+0.1**
P32A	**Huiting Farm,** baz=23	23.33	91	⇑P	**P**	**18 48 16.1**	**+0.3**
ULM	**Lac du Bonnet** 12nm,1.0s,baz=272,slow=12,SNR=4.6	23.36	64	P	**P**	**18 48 15.9**	**0.0**
ULM	**Lac du Bonnet** 25nm,1.1s	23.36	64	*e*P	**P**	**18 48 14.8**	**-1.1**
AGMN	**Agassiz Nation** 13nm,0.8s	23.40	68	P	**P**	**18 48 16.2**	**-0.1**
AGMN	**Agassiz Nation** baz=23	23.40	68	⇑P	**P**	**18 48 16.7**	**+0.4**
MLY	**Manley** 27nm,1.5s	23.82	338	*e*P	**P**	**18 48 21.1**	**+0.8**
INK	**Inuvik** 4.9nm,1.0s,baz=179,slow=9.6,SNR=5.6	24.07	356	P	**P**	**18 48 21.4**	**-1.1**
INK	**Inuvik** 18nm,1.3s	24.07	356	*e*P	**P**	**18 48 22.2**	**-0.3**
IM04	**Indian Mountai**	25.38	337	*e*P	**P**	**18 48 34.2**	**-0.3**
TX31	**Lajitas Ar. Si** TX31	25.38	118	*e*P	**P**	**18 48 36.8**	**+1.8**
TXAR	**Lajitas Array** 0.6nm,0.6s,baz=320,slow=8.3,SNR=2.7	25.38	118	P	**P**	**18 48 35.3**	**+0.4**
WMOK	**Wichita Mounta** 24nm,1.1s	25.41	102	*e*P	**P**	**18 48 35.4**	**+0.3**
WMOK				*e*ScP	ScP	18 55 55.2	+10
COLD	**Coldfoot** 15nm,1.4s	25.43	341	*e*P	**P**	**18 48 36.7**	**+1.9**
330A	**Mertzon** baz=26	25.66	111	⇑P	**P**	**18 48 37.3**	**-0.1**
429A	**Davenport Ranc** baz=26	25.67	113	⇓P	**P**	**18 48 37.2**	**-0.3**
UNV	**Unalaska Valle** 116nm,1.4s	25.76	305	*e*P	**P**	**18 48 36.4**	**-1.6**
FCC	**Fort Churchill** 44nm,1.5s	25.88	44	*e*P	**P**	**18 48 42.3**	**+3.3**
X34A	**Smith Ranch, M** baz=26	26.14	101	⇓P	**P**	**18 48 41.8**	**+0.1**
Z33A	**Whitaker Ranch** baz=26	26.20	105	⇑P	**P**	**18 48 42.4**	**+0.2**
331A	**San Angelo** baz=26	26.22	110	⇓P	**P**	**18 48 42.9**	**+0.4**
S36A	**Lake Cedric, C** baz=26	26.25	93	⇑P	**P**	**18 48 42.6**	**-0.1**
431A	**Sonora** baz=26	26.49	111	⇑P	**P**	**18 48 45.1**	**+0.1**
233A	**Rising Star** baz=27	26.84	107	⇑P	**P**	**18 48 48.3**	**+0.3**
X35A	**Drake** baz=27	26.85	101	⇓P	**P**	**18 48 48.7**	**+0.6**
432A	**Menard** baz=27	26.92	110	⇑P	**P**	**18 48 48.6**	**-0.1**
JCT	**Junction City** 10nm,1.0s	27.16	111	*e*P	**P**	**18 48 50.1**	**-0.8**
433A	**Art** baz=28	27.47	109	⇓P	**P**	**18 48 53.4**	**-0.2**
434A	**Burnet** baz=28	27.99	108	⇑P	**P**	**18 48 58.7**	**+0.4**
PBMO	**Poplar Bluff**	30.37	91	*e*PcP	**PcP**	**18 52 19.6**	**+0.6**
JSC	**Jenkinsville**	38.13	88	*e*PP	PP	18 51 59.6	+5.9
SEY	**Seymchan** 7.5nm,1.0s,baz=65,slow=7.8,SNR=3.9	46.59	322	P	**P**	**18 51 33.8**	**-1.3**
PETK	**Petropavlovsk-** 1.5nm,0.7s,baz=66,slow=8.0,SNR=2.8	46.87	308	P	**P**	**18 51 35.5**	**-1.9**
PETK				LR	LR	19 09 20.2	
	comp=Z,130nm,19.3s,baz=79,slow=34						
SUMG	**Summit** 9.2nm,0.8s	48.62	24	*e*P	**P**	**18 51 51.3**	**+0.1**
TIXI	**Tiksi** 5.8nm,0.9s	52.03	337	*e*P	**P**	**18 52 15.6**	**-0.9**
H11N3	**WAKE ISLAND Hy** baz=49,slow=75	57.75	267	T	T	19 55 11.6	
H11N2	**WAKE ISLAND Hy** baz=49,slow=75	57.75	267	T	T	19 55 11.9	
H11N1	**WAKE ISLAND Hy** baz=49,slow=75	57.76	267	T	T	19 55 12.0	
H11S1	**WAKE ISLAND Hy** baz=48,slow=76	58.68	266	T	T	19 56 22.2	
H11S2	**WAKE ISLAND Hy** baz=48,slow=76	58.69	266	T	T	19 56 24.7	
H11S3	**WAKE ISLAND Hy** baz=48,slow=76	58.70	266	T	T	19 56 23.4	
NB2	**NORSAR Subarra** comp=Z,4.2nm,0.9s,baz=335,slow=5.9	70.17	19	P	**P**	**18 54 19.8**	**0.0**
NOA	**NORSAR Array B** comp=Z,1.1nm,0.8s,baz=334,slow=5.6,SNR=3.5	70.17	19	P	**P**	**18 54 18.7**	**-1.1**
FINES	**FINESS Array B** comp=Z,2.4nm,0.8s,baz=341,slow=5.8,SNR=4.8	72.67	12	P	**P**	**18 54 34.5**	**-0.2**
SONM	**Songino Array** comp=Z,2.0nm,0.8s,baz=29,slow=4.3,SNR=7.2	75.88	325	P	**P**	**18 54 51.9**	**-2.0**
ZAA0	**Zalesovo Array**	77.75	340	*e*P	**P**	**18 55 03.2**	**-0.9**
ZALV	**Zalesovo Beam** comp=Z,1.3nm,0.6s,baz=22,slow=6.2,SNR=6.5	77.75	340	P	**P**	**18 55 02.1**	**-2.1**
HHC	**Hu-ho-hao-te**	79.01	317	*e*P	**P**	**18 55 10.9**	**-0.6**
HHC	comp=Z,80nm,4.8s			PMZ			
CLL	**Collm**	79.28	23	*e*P	**P**	**18 55 13.0**	**+0.3**
CLL	comp=Z,8.0nm,1.2s			*i* sP	**sP**	**18 55 17.0**	**-2.5**
CLL				*i* PcP	**PcP**	**18 55 20.7**	**-0.2**
CLL				*e*SSS	SSS	19 14 00.0	
CLL				*e*		19 15 48.0	
CLL	comp=Z,300nm,21.2s			Lm	MLR	19 30 00.0	
CLL	comp=Z,200nm,21.1s			Lm	MLR	20 50 00.0	
ARU	**Arti**	79.32	355	*e*P	**P**	**18 55 10.5**	**-2.3**
BRVK	**Borovoye**	81.46	348	*e*P	**P**	**18 55 22.5**	**-1.8**
BVAR	**Borovoye Array** comp=Z,1.3nm,0.6s,baz=22,slow=1.6,SNR=7.0	81.47	348	P	**P**	**18 55 23.3**	**-1.2**
GERES	**GERESS Array B** comp=Z,0.7nm,0.7s,baz=347,slow=5.5,SNR=6.3	81.70	24	P	**P**	**18 55 24.8**	**-1.0**
NJ2	**Nanjing**	81.77	307	*e*P	**P**	**18 55 27.1**	**+0.7**
NJ2	comp=Z,10.0nm,0.8s			PMZ			
KURK	**Kurchatov**	82.18	342	*e*P	**P**	**18 55 27.3**	**-0.9**
AKASG	**Malin Array Be** comp=Z,1.1nm,0.6s,baz=343,slow=4.7,SNR=7.9	83.49	13	P	**P**	**18 55 33.0**	**-2.0**
KIEV	**Kiev**	83.49	13	*e*P	**P**	**18 55 35.7**	**+0.7**
MKAR	**Makanchi Array** comp=Z,0.3nm,0.6s,baz=16,slow=5.9,SNR=4.7	84.97	339	P	**P**	**18 55 40.4**	**-2.3**
MK01	**Makanchi Array**	84.99	339	*e*P	**P**	**18 55 40.0**	**-2.7**
WMQ	**Urumqi**	86.14	334	*e*P	**P**	**18 55 50.4**	**+1.8**
WMQ				pP	**pP**	**18 55 55.2**	**+1.6**
WMQ				sP	**sP**	**18 55 57.4**	**+2.0**
WMQ				PP	**PP**	**18 59 12.4**	**+4.3**
WMQ	comp=Z,9.0nm,0.6s			PMZ			
WMQ	comp=Z,96nm,4.2s			PMZ			
WMQ	comp=Z,150nm,20.6s			LN			
WMQ	comp=Z,110nm,22.8s			LE			
WMQ	comp=Z,130nm,21.4s			LZ			
LZH	**L

HUMO	Hull Mountain	4.89	110	ePn		Pn	18 49 47.4	-2.6
ERK	Elk Rock	5.19	66	P		Pn	18 49 53.6	-0.6
HDW	Hoodsport	5.36	51	P		Pn	18 49 56.1	-0.4
KHMM	Horse Mountain	5.37	129	Pn		Pn	18 49 54.1	-2.5
VLL	Laurance Lake	5.44	76	P		Pn	18 49 57.8	+0.2
YBH	Yreka Blue Hor	5.46	117	Pn		Pn	18 50 02.1	+4.2
	0.2nm,0.3s,baz=240,slow=6.6,SNR=7.3							
YBH	Yreka Blue Hor	5.46	117	ePn		Pn	18 49 57.9	0.0
VFP	Flag Point	5.57	78	P		Pn	18 49 59.8	+0.3
LON	Longmire	5.69	63	ePn		Pn	18 50 00.7	-0.4
D05A	Enumclaw	5.75	59	ePn		Pn	18 50 02.8	+0.9
PGC	Sidney	5.80	47	ePn		Pn	18 50 01.0	-1.3
WDC	Whiskeytown Da	6.24	126	Pn		Pn	18 50 09.8	+1.3
JCW	Jim Creek	6.29	51	P		Pn	18 50 09.0	-0.3
CMW	Cultus Mountai	6.33	48	P		Pn	18 50 10.3	+0.5
LTY	Liberty	6.60	62	ePn		Pn	18 50 14.1	+0.6
TBM	Table Mountain	6.61	62	P		Pn	18 50 13.7	-0.1
RPW	Rockport	6.67	50	P		Pn	18 50 14.4	-0.1
B06A	Marblemount	6.72	50	ePn		Pn	18 50 15.1	-0.1
HOPS	Hopland Field	7.10	138	Pn		Pn	18 50 15.3	-5.0
D08A	Wollman Farm,	7.66	66	ePn		Pn	18 50 30.2	+2.2
BMO	Blue Mountains	8.50	83	ePn		Pn	18 50 38.3	-1.3
NEW	Newport	9.20	61	Pn		Pn	18 50 48.9	-0.2
CMB	Columbia Colle	9.20	131	ePn		Pn	18 50 50.2	+0.9
NVAR	Mina Array Bea	10.13	122	Pn		Pn	18 51 05.6	+3.5
	0.0nm,0.3s,baz=280,slow=14,SNR=8.0							
HLID	Hailey	10.69	89	ePn		Pn	18 51 12.6	+2.8
ELK	Elko	10.93	105	Pn		Pn	18 51 15.8	+2.8
	baz=275,slow=20,SNR=3.9							
ELK	Elko	10.93	105	Pn		Pn	18 51 13.1	+0.1
SWMT	Swartz Lake	11.03	68	ePn		Pn	18 51 15.5	+1.2
SLMT	Seeley Lake	11.32	70	ePn		Pn	18 51 15.7	-2.6
CRAG	Craig	11.35	349	Pn		Pn	18 51 20.1	+1.7
CHMT	Chamberlain Mo	11.44	72	ePn		Pn	18 51 20.7	+0.8
	5.7nm,1.4s							
MCMT	McKenzie Canyo	11.66	82	ePn		Pn	18 51 25.0	+1.9
	5.9nm,1.4s							
ISA	Isabella, Lake	11.99	133	Pn		Pn	18 51 26.6	-0.8
WRAK	Wrangell Islan	12.18	352	ePn		Pn	18 51 30.1	+0.3
HVU	Hansel Valley	12.29	97	ePn		Pn	18 51 31.8	+0.2
	13nm,1.8s							
BGU	Big Grassy Mou	12.40	101	ePn		Pn	18 51 31.7	-1.4
QLMT	Earthquake Lak	12.67	82	ePn		Pn	18 51 37.3	+0.5
IMW	Indian Meadow	13.13	86	ePn		Pn	18 51 43.5	+0.4
GSC	Goldstone, Bar	13.16	130	ePn		Pn	18 51 43.5	+0.1
TPAW	Teton Pass	13.19	88	ePn		Pn	18 51 42.9	-1.0
	2.7nm,0.5s							
FLWY	Flagg Ranch	13.27	85	ePn		Pn	18 51 46.0	+1.0
REDW	Red Top Meadow	13.28	88	Pn		Pn	18 51 45.2	0.0
	11nm,1.4s							
LOHW	Long Hollow	13.41	87	ePn		Pn	18 51 47.6	+0.6
EDM	Edmonton	13.64	44	ePn		Pn	18 51 48.3	-1.5
MVU	Marysvale	14.03	109	ePn		Pn	18 51 56.5	+1.0
	19nm,1.9s							
MSU	Marysvale	14.05	109	Pn		Pn	18 51 56.2	+0.4
RLMT	Red Lodge	14.18	80	Pn		Pn	18 51 58.4	+1.0
	3.7nm,0.9s							
PDAR	Pinedale Array	14.33	90	Pn		Pn	18 52 02.2	+2.7
	0.1nm,0.3s,baz=294,slow=14,SNR=3.6							
SRU	San Rafael Swe	14.90	104	ePn		Pn	18 52 08.1	+0.8
WUAZ	Wupatki	16.28	117	Pn		Pn	18 52 25.6	+0.4
MVCO	Mesa Verde	17.22	108	ePn		Pn	18 52 37.7	+0.5
	39nm,1.8s							
SDCO	Great Sand Dun	19.03	102	ePn		P	18 52 58.5	-0.3
	4.5nm,1.0s							
YKA	Yellowknife Ar	20.00	20	P		P	18 53 08.3	-0.5
	0.0nm,0.3s,baz=213,slow=11,SNR=4.9							
MCK	McKinley	22.37	337	P		P	18 53 35.0	+0.5
ILAR	Eielson Array	22.67	340	P		P	18 53 36.0	-1.6
	1.4nm,1.1s,baz=150,slow=8.1,SNR=7.6							
H11N3	WAKE ISLAND Hy	57.92	267	T		T	20 00 37.0	
	baz=49,slow=75,SNR=36							
H11N2	WAKE ISLAND Hy	57.93	267	T		T	20 00 39.1	
	baz=49,slow=75,SNR=39							
H11N1	WAKE ISLAND Hy	57.94	267	T		T	20 00 41.8	
	baz=49,slow=75,SNR=27							
H11S1	WAKE ISLAND Hy	58.86	266	T		T	20 01 44.7	
	baz=48,slow=75,SNR=17							
H11S2	WAKE ISLAND Hy	58.87	266	T		T	20 01 50.7	
	baz=48,slow=75,SNR=19							
H11S3	WAKE ISLAND Hy	58.88	266	T		T	20 01 45.9	
	baz=48,slow=75,SNR=13							
ZALV	Zalesovo Beam	77.79	340	P		P	19 00 32.8	-0.7
	0.4nm,0.5s,baz=46,slow=4.4,SNR=3.2							
GERES	GERESS Array B	81.60	24	P		P	19 00 54.6	+0.1
	0.2nm,0.5s,baz=344,slow=6.6,SNR=2.8							
AKASG	Malin Array Be	83.43	14	P		P	19 01 04.0	+0.3
	0.1nm,0.3s,baz=346,slow=5.1,SNR=3.2							

*IDC **07** 18:50:57.7±1.4, 44°.37N×129°.71W, h0km, mb3.3/6, mb1 3.7/10, mb1mx3.5/39, mbtmp3.4/10, ML3.4/4, MS3.8/2, Ms1 3.8/2, ms1mx3.2/11, Error ellipse: s-maj=34.2km s-min=14.9km az=36.0*

*ISCJB **07** 18:50:59.6±0.6, 44°.47N±0°.04×129°.45W±0°.07, h13km, mb3.9/8, MS4.1/3, Error ellipse: s-maj=7.1km s-min=4.9km az=161.7*

*NEIC **07** 18:50:59.7±0.9, 44°.40N×129°.60W, h10km, mb4.2/7, Error ellipse: s-maj=11.2km s-min=6.4km az=78.0*

ISC 07 18:51:01.4±0.7, 44°.54N±0°.10×129°.45W±0°.07, h13km, n123, σ1§55/113, mb3.5/8, MS4.3/3, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEBM	Edson Butte	4.07	112	ePn	Pn	18 51 58.8	-4.6
RNO	Roman Nose	4.15	97	P	Pn	18 52 02.9	-1.6
MPOR	Mary's Peak	4.22	88	P	Pn	18 52 04.3	-1.2
KMOR	Kings Mountain	4.36	73	P	Pn	18 52 06.9	-0.6
F03A	Seaside	4.39	69	ePn	Pn	18 52 07.8	+0.1
F03A				eSn	Sn	18 53 01.9	+3.3
COR	Corvallis	4.39	87	ePn	Pn	18 52 05.5	-2.2
KBO	Bosley Butte	4.46	120	ePn	Pn	18 52 09.4	+0.6
E03A	Lebam	4.60	62	ePn	Pn	18 52 10.3	-0.2
E03A				eSn	Sn	18 53 00.8	-3.0
BMW	Boistfort Moun	4.78	64	P	Pn	18 52 12.4	-0.8
NLWA	Neilton Lookou	4.82	52	ePn	Pn	18 52 13.8	+0.1
RVW	Rose Valley	4.99	69	P	Pn	18 52 16.9	+0.9
BROR	Big Rock Looko	5.02	91	P	Pn	18 52 16.2	-0.2
HUMO	Hull Mountain	5.10	110	ePn	Pn	18 52 15.2	-2.3
LVP	Lakeview Peak	5.20	70	P	Pn	18 52 19.5	+0.6
FL2	Flat Top 2	5.27	69	P	Pn	18 52 20.6	+0.7
MTMW	Mount Mitchell	5.32	71	P	Pn	18 52 21.4	+0.8
HDW	Hoodsport	5.43	53	P	Pn	18 52 23.2	+1.1
KHMM	Horse Mountain	5.58	129	ePn	Pn	18 52 19.8	-4.5
YBH	Yreka Blue Hor	5.67	117	Pn	Pn	18 52 28.5	+3.1
	0.2nm,0.3s,baz=277,slow=7.4,SNR=6.3						
YBH	Yreka Blue Hor	5.67	117	Pn	Pn	18 52 25.9	+0.5
LON	Longmire	5.79	65	ePn	Pn	18 52 26.9	-0.1
PGC	Sidney	5.83	43	ePn	Pn	18 52 28.0	+0.5
D05A	Enumclaw	5.84	60	ePn	Pn	18 52 29.4	+1.7
FMW	Mount Fremont	5.95	64	P	Pn	18 52 30.0	+0.7
KMRM	Mail Ridge	6.05	133	ePn	Pn	18 52 28.6	-2.1
HTW	Haystack Looko	6.25	56	P	Pn	18 52 34.2	+0.8
G06A	Carlson Farm,	6.30	81	ePn	Pn	18 52 32.9	-1.1
JCW	Jim Creek	6.36	52	P	Pn	18 52 36.4	+1.6
CMW	Cultus Mountai	6.38	50	P	Pn	18 52 36.9	+1.8
WDC	Whiskeytown Da	6.45	125	ePn	Pn	18 52 31.6	-4.5
K05A	Summer Lake	6.47	103	ePn	Pn	18 52 36.9	+0.4
KIPM	Iron Peak	6.48	135	ePn	Pn	18 52 34.5	-2.1
LTY	Liberty	6.70	63	ePn	Pn	18 52 39.8	+0.2
MBW	Mount Baker	6.71	48	P	Pn	18 52 41.5	+1.8
TBM	Table Mountain	6.72	64	P	Pn	18 52 41.0	+1.2
A05A	Maple Falls	6.74	46	ePn	Pn	18 52 41.0	+1.0
B06A	Marblemount	6.78	51	ePn	Pn	18 52 41.8	+1.2
I07A	Izee	7.15	90	ePn	Pn	18 52 45.6	-0.2
HAWA	Hanford	7.21	72	ePn	Pn	18 52 47.6	+1.1
HOPS	Hopland Field	7.31	137	Pn	Pn	18 52 43.9	-4.0
G08A	Pilot Rock	7.49	81	ePn	Pn	18 52 49.4	-1.0
BBB	Bella Bella	7.70	6	Pn	Pn	18 52 57.5	+4.3
	0.4nm,0.3s,baz=227,slow=5.7,SNR=3.9						
D08A	Wollman Farm,	7.78	67	ePn	Pn	18 52 53.2	-1.0
WVOR	Wild Horse Val	8.14	101	ePn	Pn	18 53 00.8	+1.5
C09A	Chrisman Ranch	8.41	63	ePn	Pn	18 53 02.6	-0.3
BMO	Blue Mountains	8.66	84	ePn	Pn	18 53 05.7	-0.7
F10A	Beach Ranch, E	8.74	76	ePn	Pn	18 53 06.8	-0.7
NEW	Newport	9.29	62	Pn	Pn	18 53 16.8	+1.7
	0.2nm,0.3s,baz=252,slow=15,SNR=3.3						
NEW				LR	LR	18 56 46.3	
	comp=Z,625nm,20.8s,baz=260,slow=36						
NEW	Newport	9.29	62	Pn	Pn	18 53 16.1	+1.1
CMB	Columbia Colle	9.42	131	ePn	Pn	18 53 16.0	-0.8
MFID	Camas Ranch	9.89	92	ePn	Pn	18 53 20.9	-2.4
BMN	Battle Mountai	9.92	110	ePn	Pn	18 53 26.0	+2.2
NV01	Mina Array Sit	10.35	122	ePn	Pn	18 53 32.8	+3.1
NVAR	Mina Array Bea	10.35	122	Pn	Pn	18 53 31.1	+1.5
	0.1nm,0.3s,baz=281,slow=14,SNR=7.5						
BSMT	Bassoo Peak	10.69	67	ePn	Pn	18 53 34.5	+0.2
HLID	Hailey	10.87	90	ePn	Pn	18 53 35.9	-0.8
JTMT	Jette	11.00	68	ePn	Pn	18 53 39.4	+0.8
ELK	Elko	11.13	105	Pn	Pn	18 53 43.2	+2.8
	0.1nm,0.3s,baz=1.6,slow=3.1,SNR=6.3						
ELK	Elko	11.13	105	ePn	Pn	18 53 42.4	+1.9
SWMT	Swartz Lake	11.15	69	ePn	Pn	18 53 40.6	+0.1
TPH	Tonopah	11.23	121	P	Pn	18 53 39.4	-2.3
SLMT	Seeley Lake	11.45	71	ePn	Pn	18 53 46.9	+2.3
WALA	Waterton Lakes	11.56	62	Pn	Pn	18 53 45.0	-1.2
CHMT	Chamberlain Mo	11.57	72	ePn	Pn	18 53 44.5	-1.9
MCMT	McKenzie Canyo	11.82	83	ePn	Pn	18 53 52.1	+2.2
DLMT	Dillon	11.97	80	ePn	Pn	18 53 51.1	-0.8
LRM	Limekiln Ridge	12.07	78	ePn	Pn	18 53 49.4	-3.8
R11A	Troy Canyon, C	12.10	116	ePn	Pn	18 53 55.5	+1.9
ISA	Isabella, Lake	12.20	133	P	Pn	18 53 55.0	+0.1
HVU	Hansel Valley	12.48	97	ePn	Pn	18 54 00.1	+1.2
BGU	Big Grassy Mou	12.60	101	ePn	Pn	18 54 01.3	+0.8
QLMT	Earthquake Lak	12.83	82	ePn	Pn	18 54 05.9	+2.3
FXWY	Fox Creek	13.28	87	ePn	Pn	18 54 12.2	+2.4
YFT	Old Faithful	13.29	84	ePn	Pn	18 54 12.5	+2.6
IMW	Indian Meadow	13.30	86	ePn	Pn	18 54 12.4	+2.3
TPAW	Teton Pass	13.36	88	ePn	Pn	18 54 13.8	+2.9
GSC	Goldstone, Bar	13.37	129	ePn	Pn	18 54 11.5	+0.5
FLWY	Flagg Ranch	13.44	85	ePn	Pn	18 54 14.9	+3.0
REDW	Red Top Meadow	13.45	88	ePn	Pn	18 54 11.7	-0.4
MOOW	Moose Ponds	13.46	87	ePn	Pn	18 54 14.6	+2.4
LOHW	Long Hollow	13.58	87	ePn	Pn	18 54 15.6	+1.7
EDM	Edmonton	13.67	45	Pn	Pn	18 54 18.4	+3.5
GCMT	Greycliff	14.02	78	ePn	Pn	18 54 22.2	+2.5
EGMT	Eagleton	14.05	69	ePn	Pn	18 54 16.3	-3.9
MVU	Marysvale	14.24	109	ePn	Pn	18 54 23.6	+0.6
MSU	Marysvale	14.26	109	ePn	Pn	18 54 24.2	+1.0
RLMT	Red Lodge	14.34	81	Pn	Pn	18 54 25.9	+1.7
	4.3nm,1.0s						
BW06	Boulder Array	14.51	90	ePn	Pn	18 54 28.2	+1.6
PDAR	Pinedale Array	14.51	90	Pn	P	18 54 30.6	-2.7
	0.1nm,0.3s,baz=280,slow=16,SNR=4.2						
KNB	Kanab	14.65	115	ePn	Pn	18 54 29.9	+1.3
SRU	San Rafael Swe	15.11	104	ePn	Pn	18 54 36.0	+1.4
PV09	Paradox Valley	16.35	105	ePn	Pn	18 54 50.5	-0.4
WUAZ	Wupatki	16.49	117	ePn	Pn	18 54 49.4	-3.2
PV05	Paradox Valley	16.58	106	ePn	Pn	18 54 53.5	-0.3
PV05				eS	S	18 58 06.9	-2.4
PV01	Paradox Valley	16.91	105	ePn	Pn	18 54 57.0	-0.9
MVCO	Mesa Verde	17.43	108	ePn	Pn	18 55 03.0	-1.4
	102nm,2.1s						
SMCO	Snowmass	17.56	100	ePn	Pn	18 55 04.0	-2.2
W18A	Petrified Fore	17.79	115	ePn	P	18 55 11.6	+2.0
	70nm,1.8s						
DGMT	Dagmar	17.79	68	Pn	P	18 55 09.8	+0.4
	18nm,1.1s						
PHWY	Pilot Hill	17.85	92	ePn	Pn	18 55 07.4	-2.3
	23nm,1.8s						
ISCO	Idaho Springs	18.27	97	ePn	P	18 55 15.3	+0.3
	40nm,2.1s						
S22A	4UR Ranch, Cre	18.31	104	ePn	Pn	18 55 14.7	-0.6
LAZ	Ladron	19.92	113	eP	Pn	18 55 33.3	-1.3
YKA	Yellowknife Ar	19.94	20	P	Pn	18 55 34.2	-0.3
	0.6nm,0.8s,baz=212,slow=11,SNR=4.5						
ANMO	Albuquerque	20.05	111	P	P	18 55 34.0	-0.5
T25A	Trinidad	20.28	103	eP	P	18 55 35.6	-1.3
	13nm,1.1s						
FFC	Flin Flon	20.38	50	eP	P	18 55 38.7	+1.1
	14nm,1.4s						
ILAR	Eielson Array	22.49	340	P	P	18 56 00.1	-0.2
	0.2nm,0.6s,baz=153,slow=8.0,SNR=2.7						
ULM	Lac du Bonnet	23.30	64	LR	LR	19 05 23.2	
	comp=Z,215nm,18.7s,baz=262,slow=37						
INK	Inuvik	23.92	356	P	P	18 56 14.7	0.0
	1.5nm,1.1s,baz=174,slow=9.1,SNR=2.9						
TXAR	Lajitas Array	25.45	118	P	P	18 56 27.9	-1.1
	0.4nm,0.8s,baz=309,slow=9.6,SNR=3.5						
BLO	Bloomington	32.14	84	eP	P	18 57 30.5	+2.0
	50nm,0.5s						
LRAL	Lakeview Retre	34.66	95	P	P	18 57 52.5	+1.9
H11N3	WAKE ISLAND Hy	57.75	266	T	T	20 02 58.9	
	baz=49,slow=75						
H11N2	WAKE ISLAND Hy	57.76	266	T	T	20 03 03.7	
	baz=49,slow=75						
H11N1	WAKE ISLAND Hy	57.77	266	T	T	20 03 04.8	
	baz=49,slow=75						
H11S1	WAKE ISLAND Hy	58.69	266	T	T	20 04 11.6	
	baz=48,slow=75						
H11S2	WAKE ISLAND Hy	58.70	266	T	T	20 04 14.7	
	baz=48,slow=75						
H11S3	WAKE ISLAND Hy	58.71	266	T	T	20 04 15.2	
	baz=48,slow=75						
SONM	Songino Array	75.76	325	P	P	19 02 44.6	-2.2
	0.1nm,0.3s,baz=20,slow=4.6,SNR=2.4						
ZALV	Zasovo Beam	77.62	340	P	P	19 02 56.2	-0.8
	0.2nm,0.4s,baz=2.2,slow=7.6,SNR=2.4						
WMQ	Urumqi	86.00	334	eP	P	19 03 41.9	+0.4
WMQ				pP	pP	19 03 46.7	+0.9
WMQ				sP	sP	19 03 48.9	+1.5
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,67nm,4.0s						
WMQ				LR	LR		
	comp=N,130nm,20.6s						
WMQ				LR	LR		
	comp=E,85nm,22.4s						
WMQ				LR	LR		
	comp=Z,94nm,21.4s						
LZH	Lanzhou	86.35	319	eP	P	19 03 43.7	+0.3
LZH				pP	pP	19 03 47.0	-0.8
LZH				sP	sP	19 03 48.5	-0.8
LZH				ePP	PP	19 07 05.6	+1.8
LZH				pmax	pmax		
	comp=Z,14nm,1.6s						
LZH				pmax	pmax		
	comp=Z,48nm,8.5s						
LZH				LR	LR		
	comp=N,100nm,16.7s						
LZH				LR	LR		
	comp=E,100nm,17.0s						
LZH				LR	LR		
	comp=Z,130nm,19.5s						

*ISCJB **07** 18:55:05.1±1.0, 44°.56N±0°.06×129°.8W±0°.1, h15km, mb2.7/1, Error ellipse: s-maj=12.7km s-min=8.6km az=161.3*

*IDC **07** 18:55:06.4±4.7, 44°.48N×129°.61W, h0km, mb2.7/2, mb1 3.5/6, mb1mx3.2/39, mbtmp3.1/6, ML2.9/3, Error ellipse: s-maj=75.1km s-min=30.5km az=64.0*

*NEIC **07** 18:55:09.7±1.2, 44°.49N×129°.47W, h10km, mb4.1/2, Error ellipse: s-maj=16.7km s-min=9.4km az=66.0*

ISC 07 18:55:05.7±0.9, 44°.5N±0°.1×129°.9W±0°.1, h15km, n34, σ1§39/34, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COR	Corvallis	4.74	87	ePn	Pn	18 56 15.0	-1.6
NLWA	Neilton Lookou	5.13	53	ePn	Pn	18 56 20.9	-1.1
HUMO	Hull Mountain	5.41	108	Pn	Pn	18 56 23.8	-2.0
YBH	Yreka Blue Hor	5.96	115	Pn	Pn	18 56 34.2	+0.7
	0.1nm,0.3s,baz=292,slow=5.4,SNR=2.9						
PGC	Sidney	6.11	45	ePn	Pn	18 56 34.6	-0.7
LON	Longmire	6.13	66	ePn	Pn	18 56 35.0	-0.8
HOPS	Hopland Field	7.51	135	Pn	Pn	18 56 54.0	-0.6
WVOR	Wild Horse Val	8.47	100	ePn	Pn	18 57 09.5	+1.6
	3.5nm,1.0s						
BMO	Blue Mountains	9.01	83	ePn	Pn	18 57 15.4	+0.1
CMB	Columbia Colle	9.65	129	eP	Pn	18 57 28.9	+4.8
	8.3nm,1.4s						
NVAR	Mina Array Bea	10.62	121	Pn	Pn	18 57 39.6	+2.2
	0.1nm,0.3s,baz=310,slow=14,SNR=3.6						
BSMT	Bassoo Peak	11.03	67	Pn	Pn	18 57 43.5	+0.5
HLID	Hailey	11.22	89	ePn	Pn	18 57 47.3	+1.7
	7.1nm,1.3s						
ELK	Elko	11.46	104	Pn	Pn	18 57 50.9	+2.0
	0.1nm,0.3s,baz=165,slow=12,SNR=4.3						
ELK	Elko	11.46	104	ePn	Pn	18 57 49.2	+0.3
SLMT	Seeley Lake	11.79	71	ePn	Pn	18 57 54.6	+1.2
	9.2nm,1.1s						
WALA	Waterton Lakes	11.89	62	ePn	Pn	18 57 55.7	+0.9
CHMT	Chamberlain Mo	11.92	72	ePn	Pn	18 57 53.5	-1.6
	1.6nm,1.0s						
MCMT	McKenzie Canyo	12.18	82	ePn	Pn	18 58 00.5	+1.8
	2.9nm,1.2s						
ISA	Isabella, Lake	12.43	131	P	Pn	18 58 02.3	+0.3
IMW	Indian Meadow	13.65	86	ePn	Pn	18 58 20.5	+1.7
	18nm,1.7s						
EGMT	Eagleton	14.40	69	ePn	Pn	18 58 31.3	+2.5
MVU	Marysvale	14.55	108	Pn	Pn	18 58 32.6	+1.4
	3.3nm,1.1s						
MSU	Marysvale	14.57	108	ePn	Pn	18 58 31.4	-0.1
	3.5nm,1.3s						
PDAR	Pinedale Array	14.86	90	Pn	P	18 58 39.1	-2.0
	baz=286,slow=6.5,SNR=3.2						
GLA	Glamis	16.38	129	Pn	Pn	18 58 55.8	+0.8
	15nm,0.5s						
WUAZ	Wupatki	16.78	116	ePn	P	18 59 02.3	-0.1
YKA	Yellowknife Ar	20.11	21	P	Pn	18 59 41.1	+0.6
	0.2nm,0.7s,baz=214,slow=11,SNR=2.9						
FFC	Flin Flon	20.68	50	eP	Pn	18 59 46.2	-1.0
	5.6nm,1.0s						
IL1	Eielson Array	22.42	341	eS	P	19 00 09.3	+5.8
MDM	Murphy Dome	22.90	340	eS	P	19 00 16.9	+8.3
TXAR	Lajitas Array	25.73	117	P	P	19 00 36.0	+0.4
	0.1nm,0.4s,baz=312,slow=7.2,SNR=3.1						
WMQ	Urumqi	85.90	334	eP	P	19 07 44.9	0.0
WMQ				pP	pP	19 07 49.7	-0.2
WMQ				sP	sP	19 07 51.9	+0.3
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.4s						
WMQ				pmax	pmax		
	comp=Z,93nm,4.4s						
WMQ				LR	LR		
	comp=N,36nm,17.2s						
WMQ				LR	LR		
	comp=E,40nm,18.0s						
WMQ				LR	LR		
	comp=Z,44nm,17.6s						
LZH	Lanzhou	86.16	319	eP	P	19 07 46.1	-0.3
LZH				pP	PcP	19 07 49.3	+0.2
LZH				sP	sP	19 07 50.8	-2.4
LZH				ePP	PP	19 11 08.5	+2.3
LZH				pmax	pmax		
	comp=Z,15nm,1.6s						
LZH				pmax	pmax		
	comp=Z,52nm,8.7s						
LZH				LR	LR		
	comp=N,150nm,16.5s						
LZH				LR	LR		
	comp=E,160nm,17.0s						
LZH				LR	LR		
	comp=Z,190nm,19.7s						

*IDC **07** 19:03:28.1±1.4, 44°.37N×129°.58W, h0km, mb3.7/12, mb1 3.9/16, mb1mx3.8/43, mbtmp3.7/16, ML3.9/3, MS3.6/11, Ms1 3.6/11, ms1mx3.4/39, Error ellipse: s-maj=32.9km s-min=14.1km az=33.0*

*ISCJB **07** 19:03:30.2±0.3, 44°.54N±0°.03×129°.47W±0°.04, h13km, mb4.2/21, MS3.7/9, Error ellipse: s-maj=4.8km s-min=3.3km az=139.6*

*NEIC **07** 19:03:30.8±0.5, 44°.51N×129°.60W, h10km, mb4.3/20, Error ellipse: s-maj=6.9km s-min=4.1km az=222.0*

ISC 07 19:03:31.6±0.6, 44°.53N±0°.08×129°.48W±0°.07, h13km, n241, σ1§06/232, mb4.2/21, MS3.5/9, 53C-50D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEBM	Edson Butte	4.08	112	ePn	Pn	19 04 29.6	-4.2
MPOR	Mary's Peak	4.24	88	P	Pn	19 04 35.1	-0.9
KMOR	Kings Mountain	4.38	73	P	Pn	19 04 37.4	-0.5
COR	Corvallis	4.42	87	ePn	Pn	19 04 37.8	-0.5
G03D	McMinnville, O	4.47	79	↑P	Pn	19 04 38.8	-0.2
	baz=4.5						
I03D	Drain, OR	4.49	99	↑P	Pn	19 04 37.6	-1.7
	baz=4.6,SNR=7.3						
NLO	Nicolai Mounta	4.53	68	P	Pn	19 04 40.7	+0.8
E03A	Lebam	4.62	62	ePn	Pn	19 04 41.2	+0.2
BMW	Boistfort Moun	4.80	64	P	Pn	19 04 43.8	+0.1
NLWA	Neilton Lookou	4.84	52	ePn	Pn	19 04 44.5	+0.3
L02D	Cave Junction,	4.90	117	↑P	Pn	19 04 44.7	-0.2
	baz=5.0						
HUMO	Hull Mountain	5.12	110	ePn	Pn	19 04 49.1	+1.2
LVP	Lakeview Peak	5.22	70	P	Pn	19 04 50.6	+1.2
FL2	Flat Top 2	5.29	69	P	Pn	19 04 51.3	+0.9
STD	Studebaker Rid	5.39	69	P

R11A **Troy Canyon, C** 12.11 116 ⇓P Pn 19 06 24.0 0.0
baz=12,SNR=6.3
ISA **Isabella, Lake** 12.22 133 ℯPn Pn 19 06 24.9 -0.4
ISA **Isabella, Lake** 12.22 133 ⇑P Pn 19 06 25.6 +0.3
baz=12
MPMC **Manual Prospec** 12.46 129 ⇓P Pn 19 06 29.4 +0.8
baz=12
HVU **Hansel Valley** 12.51 97 ℯPn Pn 19 06 30.9 +1.6
TPNV **Topopah Spring** 12.56 123 ℯPn Pn 19 06 32.1 +2.0
BGU **Big Grassy Mou** 12.62 101 ℯPn Pn 19 06 32.4 +1.5
QLMT **Earthquake Lak** 12.85 82 ℯPn Pn 19 06 35.5 +1.4
DUG **Dugway, Tooele** 13.06 104 ℯP Pn 19 06 37.4 +0.5
2.9nm,0.9s
SIT **Sitka** 13.06 346 Pn Pn 19 06 40.0 +3.3
YMR **Madison River** 13.20 83 Pn Pn 19 06 38.3 -0.5
22nm,0.3s
FXWY **Fox Creek** 13.30 87 ℯPn Pn 19 06 42.5 +2.3
YFT **Old Faithful** 13.31 84 ℯPn Pn 19 06 43.0 +2.6
IMW **Indian Meadow** 13.32 86 ℯPn Pn 19 06 43.0 +2.5
TPAW **Teton Pass** 13.38 88 ℯPn Pn 19 06 43.9 +2.5
GSC **Goldstone, Bar** 13.39 129 ℯPn Pn 19 06 42.0 +0.7
15nm,1.3s
GSC **Goldstone, Bar** 13.39 129 ⇑P Pn 19 06 42.2 +0.9
baz=13
FLWY **Flagg Ranch** 13.46 85 ℯPn Pn 19 06 44.9 +2.5
REDW **Red Top Meadow** 13.48 88 ℯPn Pn 19 06 44.0 +1.4
MOOW **Moose Ponds** 13.48 87 ℯPn Pn 19 06 43.6 +1.0
H17A **Grant Village** 13.51 84 ℯPn Pn 19 06 46.1 +3.0
16nm,1.2s
SHPR **Sheep Range** 13.51 121 ℯPn Pn 19 06 43.8 +0.7
LOHW **Long Hollow** 13.61 87 ℯPn Pn 19 06 45.5 +1.1
DLBC **Dease Lake** 13.93 359 Pn P 19 06 55.0 -1.7
0.1nm,0.3s,baz=227,slow=5.2,SNR=4.5
DLBC **Dease Lake** 13.93 359 Pn Pn 19 06 47.5 -1.0
GCMT **Greycliff** 14.04 78 Pn Pn 19 06 51.8 +1.7
14nm,1.0s
EGMT **Eagleton** 14.08 69 ℯPn Pn 19 06 52.5 +1.8
70nm,1.8s
MVU **Marysvale** 14.26 109 ℯPn Pn 19 06 54.6 +1.3
MSU **Marysvale** 14.28 109 ℯPn Pn 19 06 54.4 +0.8
40nm,1.8s
RLMT **Red Lodge** 14.36 81 ℯPn Pn 19 06 58.1 +3.4
9.1nm,0.9s
LDFC **Landfair** 14.51 126 Pn Pn 19 06 56.9 +0.2
C19A **Slack Wire Ran** 14.52 70 ⇓P Pn 19 06 57.0 +0.4
baz=15,SNR=12
PDAR **Pinedale Array** 14.53 90 Pn Pn 19 06 58.9 +1.8
0.1nm,0.3s,baz=287,slow=11,SNR=7.8
PDAR LR LR 19 12 39.9
comp=Z,378nm,18.8s,baz=290,slow=38
F19A **Roth Farm, Mol** 14.54 78 ⇑P Pn 19 06 57.6 +0.6
baz=15
D19A **Cripps Ranch,** 14.59 72 ⇓P Pn 19 07 00.3 +2.6
baz=15,SNR=9.3
E19A **Rath Farm, Rou** 14.64 75 ⇓P Pn 19 06 59.1 +0.7
baz=15
A19A **Klindworth Far** 14.87 65 ⇑P Pn 19 07 00.7 -0.8
baz=15,SNR=8.5
G20A **Bridger** 15.09 80 ⇑P Pn 19 07 04.8 +0.2
baz=15
SRU **San Rafael Swe** 15.13 104 ℯPn Pn 19 07 06.1 +1.1
32nm,1.1s
IRM **Iron Mountain** 15.15 128 ⇑P Pn 19 07 06.6 +1.3
baz=15
C20A **Veseth Ranch,** 15.22 70 ⇑P Pn 19 07 06.4 +0.3
baz=15
W13A **Hualapai Mount** 15.22 123 ⇑P Pn 19 07 07.3 +1.0
baz=15
I20A **Worland** 15.31 85 ⇓P Pn 19 07 08.1 +0.7
baz=15
BC3 **Big Chuckawall** 15.36 130 ⇑P Pn 19 07 07.1 -1.0
baz=15
SKAG **Skagway** 15.37 349 Pn Pn 19 07 06.8 -1.1
A20A **Cobblestone Ra** 15.40 66 ⇑P Pn 19 07 08.4 0.0
baz=15
MONP **Monument Peak,** 15.44 134 ⇑P Pn 19 07 08.7 -0.5
baz=16
J20A **Shoshoni** 15.46 87 ⇑P Pn 19 07 07.4 -1.9
baz=16
IBP **Imperial Bould** 15.79 134 ⇑P Pn 19 07 14.1 +0.5
baz=16
J21A **Lysite** 15.91 87 ⇓P Pn 19 07 16.6 +1.3
baz=16,SNR=9.2
I21A **Big Trails, Te** 15.93 85 ⇓P Pn 19 07 15.9 +0.3
baz=16,SNR=7.4
N20A **Spence Gulch,** 16.03 96 ⇑P Pn 19 07 17.4 +0.5
baz=16,SNR=11
O20A **White River Ci** 16.30 98 ℯPn Pn 19 07 20.8 +0.5
I22A **9 Mile Ranch,** 16.50 84 ⇑P Pn 19 07 22.4 -0.3
baz=16,SNR=7.0
WUAZ **Wupatki** 16.51 117 ℯPn P 19 07 25.6 +0.1
28nm,1.5s
WUAZ **Wupatki** 16.51 117 ⇓P Pn 19 07 23.7 +0.8
baz=16
J22A **Midwest** 16.59 86 ⇓P Pn 19 07 23.5 -0.5
baz=17
A22A **Carney Farms,** 16.73 66 ⇓P Pn 19 07 26.1 +0.6
baz=17
PV01 **Paradox Valley** 16.93 105 ℯPn Pn 19 07 28.8 +0.4
7µm,1.8s
L22A **Ellis Ranch, M** 16.96 90 ⇑P Pn 19 07 28.7 0.0
baz=17
F23A **Volborg** 17.02 78 ⇑P Pn 19 07 29.6 +0.4
baz=17
G23A **Biddle** 17.08 79 ⇑P Pn 19 07 28.8 -1.2
baz=17
C23A **Lambert** 17.12 70 ⇑P Pn 19 07 30.3 -0.3
baz=17
N22A **Wattenberg Ran** 17.33 94 ⇓P Pn 19 07 33.1 -0.2
baz=17
MVCO **Mesa Verde** 17.45 108 ℯPn Pn 19 07 34.9 +0.1
59nm,1.8s
O22A **Kremmling** 17.49 96 ⇓P Pn 19 07 35.6 +0.2
baz=18,SNR=11
N23A **Red Feather La** 17.66 94 ℯPn P 19 07 38.2 -0.2
14nm,1.1s
N23A **Red Feather La** 17.66 94 ⇓P Pn 19 07 37.5 0.0
baz=18
H24A **Dirks Ranch, A** 17.73 81 ⇓P Pn 19 07 38.1 0.0
baz=18
G24A **Alzada** 17.75 79 ⇑P Pn 19 07 38.4 0.0
baz=18
W18A **Petrified Fore** 17.81 115 ℯPn Pn 19 07 39.5 +0.3
55nm,1.6s
DGMT **Dagmar** 17.82 68 ℯPn P 19 07 40.6 +0.8
196nm,2.2s
O23A **Lake Granby, G** 17.92 96 ⇓P Pn 19 07 41.0 +0.3
baz=18,SNR=6.2
A24A **Westby** 17.98 67 ⇓P Pn 19 07 40.3 -0.8
baz=18
RSSD **Black Hills** 18.19 82 ℯPn P 19 07 44.6 +0.5
14nm,1.5s
ISCO **Idaho Springs** 18.29 97 ℯPn Pn 19 07 45.1 -0.1
14nm,1.3s
ISCO **Idaho Springs** 18.29 97 ⇓P Pn 19 07 44.5 -0.8
baz=18,SNR=6.2
P23A **Jefferson** 18.30 98 ⇓P Pn 19 07 43.9 -1.5
baz=18
I25A **Rochford** 18.43 83 ⇓P Pn 19 07 47.0 +0.2
baz=18,SNR=8.0
N24A **Carr** 18.44 93 ⇓P Pn 19 07 47.3 +0.3
baz=18
Q23A **Hartsel** 18.50 99 ⇓P Pn 19 07 48.4 +0.6
baz=18
A25A **Svangstu Ranch** 18.56 67 ⇑P Pn 19 07 48.7 +0.5
baz=19
K25A **Mack Ranch, Ha** 18.64 87 ⇓P Pn 19 07 49.6 +0.3
baz=19
R23A **Moffat** 18.82 101 ⇓P Pn 19 07 51.6 -0.1
baz=19
F26A **Lodgepole** 18.91 77 ⇑P P 19 07 52.4 +0.5
baz=19
D26A **Manning** 18.99 73 ⇑P P 19 07 52.9 +0.1
baz=19
SDCO **Great Sand Dun** 19.25 102 ℯP Pn 19 07 57.1 +0.1
11nm,1.3s
SDCO **Great Sand Dun** 19.25 102 ⇑P P 19 07 56.3 +0.4
baz=19,SNR=11
YKA **Yellowknife Ar** 19.95 20 P P 19 08 03.9 +0.8
1.1nm,0.7s,baz=213,slow=10,SNR=10
ANMO **Albuquerque** 20.07 111 P P 19 08 03.9 -0.9
1.6nm,0.8s,baz=281,slow=10,SNR=3.8
ANMO LR LR 19 15 59.6
comp=Z,100nm,19.5s,baz=323,slow=37
ANMO **Albuquerque** 20.07 111 ℯP P 19 08 04.0 -0.9
5.3nm,1.3s
Q26A **Hugo** 20.13 97 ⇓P P 19 08 05.7 +0.4
baz=20
T25A **Trinidad** 20.30 103 ℯP P 19 08 08.0 +0.6
16nm,0.9s
T25A **Trinidad** 20.30 103 ⇓P P 19 08 07.3 -0.1
baz=20,SNR=8.8
O27A **Beecher Island** 20.38 93 ⇑P P 19 08 07.9 -0.2
baz=20
FFC **Flin Flon** 20.40 50 ℯP P 19 08 09.0 +1.0
9.8nm,0.9s
R26A **Arlington** 20.45 99 ⇑P P 19 08 08.9 +0.2
baz=20
121A **Cookes Peak, D** 20.70 118 ℯP P 19 08 11.8 +0.1
9.9nm,1.0s
121A **Cookes Peak, D** 20.70 118 ⇑P P 19 08 12.7 +1.0
baz=21
KSCO **Kaye Shedlock'** 20.73 96 ℯP P 19 08 09.0 -2.8
S26A **Kim** 20.73 100 ⇑P P 19 08 12.1 +0.2
baz=21
T26A **Comanche Natio** 20.86 102 ⇑P P 19 08 13.7 +0.3
baz=21,SNR=6.0
R27A **Eads** 20.91 98 ⇑P P 19 08 13.8 0.0
baz=21,SNR=5.9
J29A **Okreek** 20.97 83 ⇑P P 19 08 14.5 +0.1
baz=21
A29A **Manning Farm,** 21.12 67 ⇓P P 19 08 16.8 +0.9
baz=21
EGAK **Eagle** 21.31 346 P P 19 08 18.3 +0.6
T27A **Campo** 21.52 101 ⇓P P 19 08 21.3 +0.8
baz=22
B30A **Myrvik Farm, E** 21.72 69 ⇓P P 19 08 23.0 +0.7
baz=22,SNR=5.4
T28A **Walsh** 21.92 100 ⇓P P 19 08 24.8 +0.1
baz=22
U28A **Mallet** 22.21 102 ⇓P P 19 08 28.3 +0.6
baz=22
TRF **Thorofare Moun** 22.36 335 ℯP P 19 08 29.9 +0.7
23nm,1.6s
ILAR **Eielson Array** 22.49 340 P P 19 08 30.8 +0.4
1.8nm,1.1s,baz=153,slow=7.3,SNR=15
ILAR LR LR 19 15 51.9
comp=Z,193nm,21.3s,baz=178,slow=33
PPLA **Purkeypile** 22.56 333 ℯP P 19 08 32.3 +1.0
58nm,2.3s
MNTX **Cornudas Mount** 22.79 116 ℯP P 19 08 33.7 -0.1
39nm,2.6s
MNTX **Cornudas Mount** 22.79 116 ⇑P P 19 08 34.7 +0.9
baz=23
CAST **Castle Rocks** 22.89 334 ℯP P 19 08 35.2 +0.5
11nm,1.6s
Q31A **Ellis** 23.03 93 ⇓P P 19 08 36.8 +0.4
baz=23
ULM **Lac du Bonnet** 23.32 64 P P 19 08 38.4 -0.8
11nm,1.1s,baz=276,slow=7.8,SNR=4.9
ULM LR LR 19 17 52.6
comp=Z,277nm,18.2s,baz=292,slow=37
P32A **Huiting Farm,** 23.36 91 ⇓P P 19 08 40.2 +0.5
baz=23
AMTX **Amarillo** 23.36 105 ⇑P P 19 08 40.2 +0.4
baz=23
Y28A **McKinney Farm,** 23.51 107 ⇓P P 19 08 41.7 +0.3
baz=24
ECSD **EROS Data Cent** 23.52 80 ℯP P 19 08 38.8 -2.4
91nm,2.3s
ECSD **EROS Data Cent** 23.52 80 ⇓P P 19 08 41.0 -0.2
baz=24
S31A **Mullinville** 23.55 97 ⇑P P 19 08 42.3 +0.7
baz=24
INK **Inuvik** 23.93 356 P P 19 08 44.0 -0.9
1.0nm,0.3s,baz=29,slow=13,SNR=4.1
INK LR LR 19 17 13.0
comp=Z,170nm,20.9s,baz=194,slow=34
Z29A **Hungry Hill Ra** 24.26 108 ⇓P P 19 08 48.4 0.0
baz=24
228A **UT Block 9, Go** 24.35 111 ⇓P P 19 08 49.8 +0.6
baz=24
Y30A **Stafford Cattl** 24.45 106 ⇑P P 19 08 50.3 +0.1
baz=24
T33A **Patterson Ranc** 24.68 97 ⇓P P 19 08 52.6 +0.5
baz=25
S34A **Willow Spring** 25.21 94 ⇓P P 19 08 57.3 +0.4
baz=25
IM04 **Indian Mountai** 25.24 337 ℯP P 19 08 58.0 +1.1
V33A **Loesen Ranch,** 25.25 99 ⇓P P 19 08 57.7 +0.4
baz=25
X32A **Elmer** 25.27 103 ⇑P P 19 08 58.1 +0.6
baz=25
COLD **Coldfoot** 25.28 341 ℯP P 19 08 58.2 +0.9
10nm,1.7s
WMOK **Wichita Mounta** 25.46 102 ℯP P 19 08 59.1 -0.1
20nm,1.3s
TXAR **Lajitas Array** 25.47 118 P P 19 08 56.3 -3.1
0.4nm,0.7s,baz=295,slow=9.0,SNR=5.4
TXAR LR LR 19 17 57.0
comp=Z,86nm,19.9s,baz=0.0,slow=34
U34A **Anderson Ranch** 25.48 97 ⇓P P 19 08 59.6 +0.2
baz=26
UNV **Unalaska Valle** 25.66 305 P P 19 08 59.6 -1.2
LPIG **La Paz** 25.69 136 LR LR 19 17 41.3
comp=Z,102nm,21.9s,baz=260,slow=33
429A **Davenport Ranc** 25.75 113 ⇑P P 19 09 02.0 +0.1
baz=26
Z32A **Haskell** 25.75 105 ⇑P P 19 09 01.9 0.0
baz=26
529A **Stev Forest Ra** 25.86 115 ⇑P P 19 09 03.2 +0.3
baz=26
W34A **Bridge Creek,** 25.91 100 ⇑P P 19 09 03.4 +0.1
baz=26
Y33A **Hilltop Ranch,** 25.95 103 ⇑P P 19 09 03.8 +0.1
baz=26
331A **San Angelo** 26.29 110 ⇓P P 19 09 06.7 -0.1
baz=26
530A **J-C Ranch, Com** 26.42 113 ⇓P P 19 09 08.4 +0.4
baz=26
133A **Hamilton Ranch** 26.54 106 ⇑P P 19 09 09.0 0.0
baz=27
431A **Sonora** 26.56 112 ⇓P P 19 09 09.1 -0.2
baz=27
R37A **Teagarden Farm** 26.58 91 ⇑P P 19 09 09.4 +0.1
baz=27
332A **Millerview** 26.71 109 ⇓P P 19 09 10.2 -0.3
baz=27
233A **Rising Star** 26.90 107 ⇑P P 19 09 11.4 -0.9
baz=27
X35A **Drake** 26.90 101 ⇑P P 19 09 11.4 -0.9
baz=27
432A **Menard** 26.99 110 ⇑P P 19 09 12.5 -0.6
baz=27
333A **Richland Sprin** 27.26 109 ⇓P P 19 09 14.8 -0.7
baz=27
OXF **Oxford** 32.21 94 ℯP P 19 09 59.1 -0.1
61nm,0.9s
BRNJ **Basking Ridge** 39.96 76 ℯP P 19 11 04.1 -1.4
SCHQ **Schefferville** 40.52 52 LR LR 19 27 36.2
comp=Z,150nm,19.3s,baz=275,slow=36
PETK **Petropavlovsk-** 46.77 308 P P 19 11 58.2 -2.1
1.6nm,0.8s,baz=309,slow=7.1,SNR=3.7
H11N3 **WAKE ISLAND Hy** 57.73 266 T T 20 15 33.2
baz=48,slow=75,SNR=126
H11N2 **WAKE ISLAND Hy** 57.73 266 T T 20 15 35.6
baz=49,slow=75,SNR=47
H11N1 **WAKE ISLAND Hy** 57.75 266 T T 20 15 36.2
baz=49,slow=75,SNR=47
H11S1 **WAKE ISLAND Hy** 58.67 266 T T 20 16 49.6
baz=48,slow=75,SNR=45
H11S2 **WAKE ISLAND Hy** 58.68 265 T T 20 16 49.6
baz=48,slow=75,SNR=38
H11S3 **WAKE ISLAND Hy** 58.69 266 T T 20 16 47.3
baz=48,slow=75,SNR=10
NOA **NORSAR Array B** 70.05 19 P P 19 14 43.0 +0.3
0.5nm,0.8s,baz=350,slow=6.8,SNR=3.3
SONM **Songino Array** 75.75 325 P P 19 15 17.1 +0.2
0.3nm,0.6s,baz=20,slow=4.7,SNR=3.6
HHC **Hu-ho-hao-te** 78.89 317 ℯP P 19 15 34.0 -0.6
HHC pmax pmax
comp=Z,13nm,1.3s
HHC pmax pmax
comp=Z,61nm,4.4s
GERES **GERESS Array B** 81.58 24 P P 19 15 48.2 -0.7
comp=Z,0.6nm,0.8s,baz=320,slow=4.5,SNR=3.5
SENIN **Lac Senin/Sane** 81.76 29 ℯP P 19 15 48.1 -2.0
AKASG **Malin Array Be** 83.36 13 P P 19 15 56.5 -1.5
comp=Z,0.4nm,0.6s,baz=359,slow=5.1,SNR=2.7
WMQ **Urumqi** 86.00 334 ℯP P 19 16 12.9 +1.3
WMQ pP pP 19 16 17.7 +1.8
WMQ sP sP 19 16 19.9 +2.4
WMQ pmax pmax
comp=Z,7.0nm,0.6s
WMQ pmax pmax
comp=Z,67nm,4.0s
WMQ LR LR
comp=N,38nm,19.6s
WMQ LR LR
comp=E,46nm,20.4s
WMQ LR LR
comp=Z,82nm,21.6s
LZH **Lanzhou** 86.34 319 ℯP P 19 16 14.3 +0.8
LZH pP pP 19 16 17.5 -0.4
LZH sP sP 19 16 19.0 -0.4
LZH ℯPP PP 19 19 36.5 +2.7
LZH pmax pmax
comp=Z,14nm,1.5s
LZH pmax pmax
comp=Z,46nm,8.6s
LZH LR LR
comp=N,130nm,16.5s
LZH LR LR
comp=E,140nm,16.1s
LZH LR LR
comp=Z,170nm,19.7s
BRTR **Keskin Array B** 94.75 13 P P 19 16 53.8 +0.9
comp=Z,0.5nm,0.8s,baz=352,slow=9.0,SNR=3.6
CASY **Casey** 141.61 214 ℯPKPdf PKPdf 19 23 01.5 +0.3

*IDC **07** 19:07:58.7±1.9, 15°.06S×173°.79W, h0km, mb3.9/5, mb1 4.3/5, mb1mx3.8/32, mbtmp3.9/5, MS3.3/1, Ms1 3.3/1, ms1mx2.8/30, Error ellipse: s-maj=115.3km s-min=23.1km az=150.0*

*ISCJB **07** 19:08:06.7±1.8, 14°.9S±0°.7×174°.0W±0°.4, h73km, mb3.7/5, Error ellipse: s-maj=116.0km s-min=22.0km az=150.6*

ISC 07 19:08:08.2±1.9, 15°.1S±0°.6×173°.8W±0°.4, h73km, n8, σ0s65/7, mb3.8/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
RAO	**Raoul Island**	14.59	194	LR	LR LR	19 16 11.9	
	comp=Z,111nm,18.9s,baz=14,slow=34						
WRA	**Warramunga Arr**	49.50	257	P	P	19 16 51.5	-0.2
	1.2nm,0.6s,baz=90,slow=7.0,SNR=20						
ASAR	**Alice Springs**	49.80	252	P	P	19 16 54.0	-0.1
	3.1nm,0.5s,baz=84,slow=7.9,SNR=62						
NVAR	**Mina Array Bea**	74.38	42	P	P	19 19 38.4	-0.1
	0.3nm,0.8s,baz=236,slow=9.7,SNR=2.3						
TXAR	**Lajitas Array**	80.79	56	P	P	19 20 14.4	+0.1
	0.5nm,0.9s,baz=220,slow=3.3,SNR=4.5						
ILAR	**Eielson Array**	82.22	11	P	P	19 20 20.4	-0.6
	1.5nm,1.1s,baz=212,slow=7.6,SNR=6.4						
BRTR	**Keskin Array B**	145.64	321	PKPbc	PKPab	19 27 39.5	+0.1
	1.1nm,0.9s,baz=64,slow=2.9,SNR=6.8						
GERES	**GERESS Array B**	145.77	351	PKPbc	PKPab	19 27 40.6	+1.1
	0.5nm,0.8s,baz=207,slow=2.4,SNR=4.1						

*ISCJB **07** 19:13:58.5±0.2, 42°.93N±0°.01×1°.44W±0°.02, h15km±1km, Error ellipse: s-maj=2.4km s-min=1.6km az=147.0*

*CSEM **07** 19:13:59.9±0.1, 42°.94N×1°.42W, h8km, ML3.7/24, Error ellipse: s-maj=2.1km s-min=1.4km az=149.0*

*LDG **07** 19:14:00.6±0.1, 42°.91N×1°.41W, h2km, Md3.4/3, Ml3.7/40, Error ellipse: s-maj=1.5km s-min=1.2km az=128.0*

*MDD **07** 19:14:00.6±0.1, 42°.89N×1°.42W, h0km, mbLg3.5/51, Error ellipse: s-maj=1.0km s-min=1.0km az=162.0, PRXIMO*

MDD EMS: III INTENSIDAD MAXIMA.

*INMG **07** 19:14:01.0±1.5, 42°.88N×1°.47W, h0km, ML3.2, Error ellipse: s-maj=2.4km s-min=2.0km az=79.0*

*STR **07** 19:14:03.8±0.2, 43°.09N×1°.23W, h5km, Ml3.8, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 07 19:13:58.5±0.2, 42°.97N±0°.01×1°.482W±0°.009, h14km±1km, n355, σ1s83/527, 9C-7D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
IUSE	**Utxeti**	0.06	241	⇑Pg	Pg	19 14 02.8	+1.5
	742nm,0.2s,SNR=18						
IUSE				Lg	Lg	19 14 05.5	
	8µm,0.3s,SNR=7.9						
IUSE	**Utxeti**	0.06	241	Pg	Pg	19 14 02.8	+1.5
	742nm,0.2s,SNR=18						
IUSE				Lg	Lg	19 14 05.5	
	8µm,0.3s,SNR=7.9						
IZUN	**Zunzarren**	0.11	170	⇓Pg	Pg	19 14 01.1	-0.7
	2µm,0.0s,SNR=18						
IZUN				Lg	Lg	19 14 01.8	
	16µm,0.1s,SNR=7.9						
IZUN	**Zunzarren**	0.11	170	Pg	Pg	19 14 01.1	-0.7
	2µm,0.0s,SNR=18						
IZUN				Lg	Lg	19 14 01.8	
	16µm,0.1s,SNR=7.9						
IPRE	**Itoiz**	0.19	151	⇑Pg	Pg	19 14 02.1	-0.8
	5µm,0.2s,SNR=18						
IPRE				Lg	Lg	19 14 03.6	
	19µm,0.2s,SNR=7.9						
IPRE	**Itoiz**	0.19	151	Pg	Pg	19 14 02.1	-0.8
	5µm,0.2s,SNR=18						
IPRE				Lg	Lg	19 14 03.6	
	19µm,0.2s,SNR=7.9						
EARA	**Aranguren**	0.21	200	⇑Pg	Pg	19 14 03.8	+0.5
	734nm,0.1s,SNR=18						
EARA				Lg	Lg	19 14 06.7	
	5µm,0.2s,SNR=5.0						
EARA	**Aranguren**	0.21	200	Pg	Pg	19 14 03.8	+0.5
	734nm,0.1s,SNR=18						
EARA				Lg	Lg	19 14 06.7	
	5µm,0.2s,SNR=5.0						
IUNC	**Uncíti**	0.22	183	⇑Pg	Pg	19 14 03.5	+0.1
	1µm,0.1s,SNR=18						
IUNC				Lg	Lg	19 14 05.9	
	12µm,0.2s,SNR=7.9						
IUNC	**Uncíti**	0.22	183	Pg	Pg	19 14 03.5	+0.1
	1µm,0.1s,SNR=18						
IUNC				Lg	Lg	19 14 05.9	
	12µm,0.2s,SNR=7.9						
IELO	**Elcoad**	0.22	126	Pg	Pg	19 14 03.0	-0.5
	542nm,0.2s,SNR=7.9						
IELO				Lg	Lg	19 14 05.5	
	9µm,0.1s,SNR=7.9						
IELO	**Elcoad**	0.22	126	Pg	Pg	19 14 03.0	-0.5
	542nm,0.2s,SNR=7.9						
IELO				Lg	Lg	19 14 05.5	
	9µm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	0.23	53	ℯPg	Pb	19 14 05.7	+1.1
SJPF				ℯSg	Sg	19 14 09.1	+2.0
	12µm,0.3s						
SJPF	**Ste Jean**	0.23	53	Pg	Pb	19 14 05.7	+1.1
SJPF				Lg	Lg	19 14 09.1	
	6µm,0.3s						
SJPF	**Ste Jean**	0.23	53	Pg	Pb	19 14 05.7	+1.1
SJPF				ℯSg	Sg	19 14 09.1	+2.0
	6µm,0.3s						
EALK	**Alkurruntz**	0.25	356	⇑Pg	Pb	19 14 07.0	+2.2
	170nm,0.2s,SNR=18						
EALK				Lg	Lg	19 14 12.2	
	4µm,0.3s,SNR=5.0						
EALK	**Alkurruntz**	0.25	356	Pg	Pb	19 14 07.0	+2.2
	170nm,0.2s,SNR=18						
EALK				Lg	Lg	19 14 12.1	
	4µm,0.3s,SNR=5.0						
IEPA	**Eparoz**	0.25	141	Pg	Pg	19 14 03.5	-0.4
	1µm,0.1s,SNR=7.9						
IEPA				Lg	Lg	19 14 06.2	
	16µm,0.2s,SNR=7.9						
IEPA	**Eparoz**	0.25	141	Pg	Pg	19 14 03.5	-0.4
	1µm,0.1s,SNR=7.9						
IEPA				Lg	Lg	19 14 06.2	
	16µm,0.2s,SNR=7.9						
OSSF	**Osses**	0.33	30	Pg	Pb	19 14 07.7	+1.6
OSSF				Sg	Sg	19 14 11.4	+1.7
OSSF	**Osses**	0.33	30	Pg	Pb	19 14 07.8	+1.6
OSSF				Lg	Lg	19 14 11.8	
OSSF	**Osses**	0.33	30	Pg	Pb	19 14 07.7	+1.6
OSSF				Sg	Sg	19 14 11.4	+1.7
YNAR	**Nardues-Alduna**	0.35	166	Pg	Pg	19 14 05.3	-0.3
	71nm,0.1s,SNR=7.9						
YNAR				Lg	Lg	19 14 09.9	
	4µm,0.3s,SNR=7.9						
YNAR	**Nardues-Alduna**	0.35	166	Pg	Pg	19 14 05.3	-0.3
	71nm,0.1s,SNR=7.9						
YNAR				Lg	Lg	19 14 09.9	
	4µm,0.3s,SNR=7.9						
LARF	**Larrau**	0.37	80	Pg	Pg	19 14 07.2	+1.2
LARF				Sg	Sg	19 14 10.8	-0.2
LARF	**Larrau**	0.37	80	Pg	Pg	19 14 07.2	+1.2
LARF				Lg	Lg	19 14 12.5	

LARF Larrau 0.37 80 Pg **Pg** **19 14 07.2 +1.2**
LARF Sg **Sg** **19 14 10.8 -0.2**
LARF Lg Lg 19 14 12.5

ORDF Ordiarp 0.47 59 Pg **Pb** **19 14 09.8 +1.3**
ORDF Sg **Sg** **19 14 12.3 -1.7**
ORDF Ordiarp 0.47 59 Pg **Pb** **19 14 09.9 +1.3**
ORDF Lg Lg 19 14 16.6
ORDF Ordiarp 0.47 59 Pg **Pb** **19 14 09.8 +1.3**
ORDF Sg **Sg** **19 14 12.3 -1.7**
ORDF Lg Lg 19 14 16.6

ATE Arette 0.58 79 Pg **Pg** **19 14 11.1 +1.2**
ATE Sg **Sg** **19 14 16.8 -0.9**
ATE Arette 0.58 79 ⇑Pg **Pg** **19 14 11.2 +1.2**
110nm,0.2s,SNR=18
ATE Lg Lg 19 14 19.1
1µm,0.3s,SNR=7.9
ATE Arette 0.58 79 Pg **Pg** **19 14 11.1 +1.2**
ATE Sg **Sg** **19 14 16.8 -0.9**
ATE Lg Lg 19 14 19.1
1µm,0.3s,SNR=7.9

ETSF Etsaut 0.68 96 *e*Pg **Pg** **19 14 12.2 +0.4**
ETSF *e*Sg **Sg** **19 14 20.4 -0.4**
635nm,0.2s
ETSF Etsaut 0.68 96 Pg **Pg** **19 14 12.2 +0.4**
ETSF Lg Lg 19 14 20.4
318nm,0.2s
ETSF Etsaut 0.68 96 Pg **Pg** **19 14 12.2 +0.4**
ETSF *e*Sg **Sg** **19 14 20.4 -0.4**
318nm,0.2s

REYF Montagne du Re 0.81 83 Pg **Pg** **19 14 14.7 +0.6**
REYF Sg **Sg** **19 14 24.0 -0.7**
REYF Montagne du Re 0.81 83 Pg **Pg** **19 14 14.5 +0.4**
REYF Lg Lg 19 14 24.7
REYF Montagne du Re 0.81 83 Pg **Pg** **19 14 14.5 +0.4**
REYF Sg **Sg** **19 14 24.0 -0.7**

VIEF Viey 1.11 94 Pg **Pg** **19 14 21.5 +1.6**
VIEF Sg **Sb** **19 14 34.7 +0.8**
VIEF Viey 1.11 94 Pg **Pb** **19 14 19.6 0.0**
VIEF Lg Lg 19 14 34.8
VIEF Viey 1.11 94 Pg **Pb** **19 14 19.5 0.0**
VIEF Sg **Sb** **19 14 34.7 +0.8**

LABF Labassere 1.14 86 Pg **Pg** **19 14 21.7 +1.2**
LABF Sg **Sb** **19 14 35.3 +0.5**
LABF Labassere 1.14 86 Pg **Pb** **19 14 20.7 +0.6**
LABF Lg Lg 19 14 37.0
LABF Labassere 1.14 86 Pg **Pb** **19 14 20.7 +0.6**
LABF Sg **Sb** **19 14 35.3 +0.5**
LABF Lg Lg 19 14 37.0

EPF Esparros 1.34 87 *e*Pg **Pb** **19 14 24.5 +1.1**
EPF *e*Sg **Sb** **19 14 41.1 +0.7**
389nm,0.2s,SNR=1.0

EPF Esparros 1.34 87 Pg **Pb** **19 14 24.5 +1.1**
EPF Lg Lg 19 14 41.1
194nm,0.2s
EPF Esparros 1.34 87 Pg **Pb** **19 14 24.5 +1.1**
EPF *e*Sg **Sb** **19 14 41.1 +0.7**
194nm,0.2s,SNR=1.0

ELAN Lanestosa 1.45 281 ⇓Pg **Pg** **19 14 28.1 +1.7**
11nm,0.1s,SNR=18
ELAN Lg Lg 19 14 50.1
108nm,0.3s,SNR=5.0
ELAN Lanestosa 1.45 281 Pg **Pg** **19 14 28.1 +1.7**
11nm,0.1s,SNR=18
ELAN Lg Lg 19 14 50.1
108nm,0.3s,SNR=5.0

ESAC San Caprasio 1.46 149 ⇓Pg **Pb** **19 14 26.0 +0.5**
412nm,0.2s,SNR=18
ESAC Lg Lg 19 14 45.6
2µm,0.3s,SNR=8.7
ESAC San Caprasio 1.46 149 Pg **Pb** **19 14 26.0 +0.5**
412nm,0.2s,SNR=18
ESAC Lg Lg 19 14 45.6
2µm,0.3s,SNR=8.7

MELF Melles 1.65 93 Pg **Pg** **19 14 31.8 +1.6**
MELF Sg **Sg** **19 14 52.1 +0.5**
MELF Melles 1.65 93 Pg **Pg** **19 14 30.6 +0.4**
MELF Lg Lg 19 14 52.0
MELF Melles 1.65 93 Pg **Pg** **19 14 30.6 +0.4**
MELF Lg Lg 19 14 52.0

MLS Moulis 1.89 90 Pg **Pg** **19 14 35.7 +0.9**
MLS Sg **Sg** **19 14 59.8 +0.5**
MLS Moulis 1.89 90 Pg **Pg** **19 14 34.8 0.0**
MLS Lg Lg 19 14 59.4
MLS Moulis 1.89 90 Pg **Pg** **19 14 35.7 +0.9**
MLS Lg Lg 19 14 59.4

SALF Salau 1.98 95 Pg **Pg** **19 14 37.8 +1.4**
SALF Sg **Sg** **19 15 03.6 +1.6**
SALF Salau 1.98 95 Pg **Pb** **19 14 35.9 +1.6**
SALF Lg Lg 19 15 01.7
SALF Salau 1.98 95 Pg **Pg** **19 14 37.8 +1.4**
SALF Lg Lg 19 15 01.7
SALF Sg **Sg** **19 15 03.6 +1.6**

CSOR Sort 2.02 106 Pn **Pb** **19 14 35.3 +0.2**
2.7nm,0.2s,SNR=78
CSOR Pg **Pg** **19 14 37.3 +0.1**
20nm,0.2s,SNR=7.9
CSOR Lg Lg 19 15 02.9
312nm,0.3s,SNR=20
CSOR Sort 2.02 106 Pn **Pb** **19 14 35.3 +0.2**
2.7nm,0.2s,SNR=78

ETOR Torete 2.19 191 ⇑Pn **Pb** **19 14 37.3 -0.8**
36nm,0.2s,SNR=18
ETOR Pg **Pg** **19 14 40.0 -0.6**
58nm,0.2s,SNR=7.9
ETOR Lg Lg 19 15 06.3
661nm,0.5s,SNR=14
ETOR Torete 2.19 191 Pn **Pb** **19 14 37.3 -0.8**
36nm,0.2s,SNR=18

GRBF Gourbit 2.22 92 Pn **Pb** **19 14 39.0 +0.5**
GRBF Lg Lg 19 15 10.1

EMIR Miracle 2.46 114 ⇑Pn **Pn** **19 14 40.7 +2.4**
13nm,0.2s,SNR=18
EMIR Pg **Pb** **19 14 45.0 +2.4**
24nm,0.2s,SNR=7.9
EMIR Sn **Sn** **19 15 09.8 +1.5**
19nm,0.1s,SNR=7.9
EMIR Lg Lg 19 15 16.8
158nm,0.2s,SNR=9.5
EMIR Miracle 2.46 114 Pn **Pn** **19 14 40.7 +2.4**
13nm,0.2s,SNR=18
EMIR Miracle 2.46 114 Pg **Pb** **19 14 45.0 +2.4**
24nm,0.2s,SNR=7.9
EMIR Sn **Sn** **19 15 09.8 +1.5**
19nm,0.1s,SNR=7.9
EMIR Lg Lg 19 15 16.8
158nm,0.2s,SNR=9.5

EPOB Poblet 2.50 130 ⇓Pn **Pn** **19 14 40.1 +1.3**
6.5nm,0.2s,SNR=18
EPOB Pg **Pb** **19 14 45.3 +2.1**
5.8nm,0.2s,SNR=7.9
EPOB Sn **Sn** **19 15 09.6 +0.4**
10.0nm,0.1s,SNR=7.9
EPOB Lg Lg 19 15 16.8
70nm,0.2s,SNR=6.7
EPOB Poblet 2.50 130 Pn **Pn** **19 14 40.1 +1.3**
6.5nm,0.2s,SNR=18
EPOB Poblet 2.50 130 Pg **Pb** **19 14 45.3 +2.1**
5.8nm,0.2s,SNR=7.9
EPOB Sn **Sn** **19 15 09.6 +0.4**
10.0nm,0.1s,SNR=7.9
EPOB Lg Lg 19 15 16.8
70nm,0.2s,SNR=6.7

LFF La Frestale 2.54 38 *e*Pn **Pn** **19 14 41.2 +1.9**
SNR=1.0

LFF La Frestale 2.54 38 *e*P **Pb** **19 14 43.6 -0.2**
LFF *e*Sn **Sn** **19 15 10.9 +0.9**
LFF *e*Sg **Sg** **19 15 20.8 +0.8**
104nm,0.3s
LFF La Frestale 2.54 38 Pn **Pn** **19 14 41.2 +1.9**
LFF Sn **Sn** **19 15 10.9 +0.9**
LFF Lg Lg 19 15 20.8
52nm,0.3s
LFF La Frestale 2.54 38 Pn **Pn** **19 14 41.2 +1.9**
LFF La Frestale 2.54 38 *e*P **Pb** **19 14 43.6 -0.2**
LFF Sn **Sn** **19 15 10.9 +0.9**
LFF *e*Sg **Sg** **19 15 20.8 +0.8**
52nm,0.3s

CLLI Llivia 2.59 100 ⇓Pn **Pb** **19 14 44.2 -0.6**
6.3nm,0.2s,SNR=18
CLLI Pg **Pg** **19 14 47.4 -0.9**
8.7nm,0.2s,SNR=7.9
CLLI Lg Lg 19 15 22.0
273nm,0.6s,SNR=19

EBR Ebro Roquetas 2.61 145 Pg **Pb** **19 14 46.4 +1.4**
85nm,0.2s,SNR=7.9
EBR Sn **Sn** **19 15 11.4 -0.3**
138nm,0.2s,SNR=7.9
EBR Lg Lg 19 15 21.6
1µm,0.7s,SNR=7.9

VALF Valcebollere 2.64 101 Pn **Pn** **19 14 43.9 +3.0**
VALF Valcebollere 2.64 101 Pg **Pg** **19 14 51.1 +1.9**
VALF Valcebollere 2.64 101 Pn **Pb** **19 14 44.7 -1.0**
VALF Sn **Sb** **19 15 17.3 -0.8**
VALF Valcebollere 2.64 101 Pn **Pn** **19 14 43.9 +3.0**
VALF Valcebollere 2.64 101 Pg **Pg** **19 14 51.1 +1.9**
CARF Carcanieres 2.65 94 Pn **Pn** **19 14 44.0 +3.1**
CARF Carcanieres 2.65 94 Pg **Pg** **19 14 50.0 +0.7**
CARF Sg **Sg** **19 15 24.8 +1.1**
CARF Carcanieres 2.65 94 Pn **Pb** **19 14 45.9 +0.1**
CARF Sn **Sb** **19 15 18.0 -0.2**
CARF Carcanieres 2.65 94 Pn **Pn** **19 14 44.0 +3.1**
CARF Carcanieres 2.65 94 Pg **Pg** **19 14 50.0 +0.7**
CARF Sg **Sg** **19 15 24.8 +1.1**

EMOS Mosqueruela 2.71 163 Pn **Pn** **19 14 44.4 +2.5**
2.0nm,0.1s,SNR=28
EMOS Pg **Pb** **19 14 48.1 +1.1**
4.1nm,0.2s,SNR=7.9
EMOS Lg Lg 19 15 24.0
101nm,0.4s,SNR=5.0
EMOS Mosqueruela 2.71 163 Pn **Pn** **19 14 44.4 +2.5**
2.0nm,0.1s,SNR=28
EMOS Lg Lg 19 15 24.0
101nm,0.4s,SNR=5.0

MTLF Montolieu 2.73 81 *e*Pn **Pn** **19 14 42.6 +0.6**
SNR=1.0
MTLF Montolieu 2.73 81 *e*P Pn 19 14 45.4 +3.4
MTLF *e*Sn **Sn** **19 15 13.9 -0.9**
84nm,0.3s,SNR=1.0

MTLF Montolieu 2.73 81 Pn **Pn** **19 14 42.6 +0.6**
MTLF Sn **Sn** **19 15 13.9 -0.9**
42nm,0.3s
MTLF Montolieu 2.73 81 Pn **Pn** **19 14 42.6 +0.6**
MTLF Montolieu 2.73 81 *e*P Pn 19 14 45.4 +3.4
MTLF *e*Sn **Sn** **19 15 13.9 -0.9**
42nm,0.3s,SNR=1.0

EARI Arriondas 2.75 278 Pn **Pb** **19 14 46.6 -0.8**
3.6nm,0.2s,SNR=35
EARI Sn **Sn** **19 15 18.4 +3.1**
10.0nm,0.3s,SNR=5.1
EARI Arriondas 2.75 278 Pn **Pb** **19 14 46.6 -0.8**
3.6nm,0.2s,SNR=35
EARI Sn **Sn** **19 15 18.4 +3.1**
10.0nm,0.3s,SNR=5.1

LRDF Laroque-de-Fa 2.95 89 Pn **Pn** **19 14 47.2 +2.2**
LRDF Laroque-de-Fa 2.95 89 Pn Pn 19 14 48.6 +3.7
LRDF Sn **Sb** **19 15 25.0 -1.8**
LRDF Laroque-de-Fa 2.95 89 Pn **Pn** **19 14 47.2 +2.2**
FILF Fillols 3.00 97 Pn **Pn** **19 14 47.0 +1.2**
FILF Fillols 3.00 97 Pg **Pg** **19 14 55.3 -0.8**
FILF Sg **Sg** **19 15 33.0 -2.0**
FILF Fillols 3.00 97 Pn **Pn** **19 14 48.2 +2.4**
FILF Sn **Sn** **19 15 25.9 +4.2**
FILF Fillols 3.00 97 Pn **Pn** **19 14 47.0 +1.2**
FILF Fillols 3.00 97 Pg **Pg** **19 14 55.3 -0.8**
FILF Sg **Sg** **19 15 33.0 -2.0**

GUD Guadarrama 3.07 222 Pn **Pn** **19 14 49.5 +2.8**
3.9nm,0.3s,SNR=39
GUD Pg **Pg** **19 14 59.5 +2.2**
3.9nm,0.2s,SNR=7.9
GUD Sn **Sn** **19 15 25.2 +1.9**
11nm,0.3s,SNR=7.9
GUD Lg Lg 19 15 36.6
53nm,0.4s,SNR=35
GUD Guadarrama 3.07 222 Pn **Pn** **19 14 49.5 +2.8**
3.9nm,0.3s,SNR=39

CFON Fontmartina 3.15 111 ⇓Pn **Pn** **19 14 50.0 +2.3**
32nm,0.2s,SNR=18
CFON Pg **Pg** **19 14 57.4 -1.3**
42nm,0.2s,SNR=7.9
CFON Lg Lg 19 15 38.4
262nm,0.3s,SNR=5.0
CFON Fontmartina 3.15 111 Pn **Pn** **19 14 50.0 +2.3**
32nm,0.2s,SNR=18

RJF Les Rejaudoux 3.18 42 *e*Pn **Pn** **19 14 49.7 +1.6**
SNR=1.0
RJF Les Rejaudoux 3.18 42 *e*P Pn 19 14 52.5 +4.4
RJF *e*Sn **Sn** **19 15 26.2 +0.5**
75nm,0.2s,SNR=1.0

RJF Les Rejaudoux 3.18 42 Pn **Pn** **19 14 49.7 +1.6**
RJF Sn **Sn** **19 15 26.2 +0.5**
0.0nm,0.2s
RJF Les Rejaudoux 3.18 42 Pn **Pn** **19 14 49.7 +1.6**
RJF Les Rejaudoux 3.18 42 *e*P Pn 19 14 52.5 +4.4
RJF *e*Sn **Sn** **19 15 26.2 +0.5**
38nm,0.2s,SNR=1.0

CAF Calviac 3.22 51 *e*Pn **Pn** **19 14 50.4 +1.7**
SNR=1.0
CAF *e*Sn **Sn** **19 15 26.9 0.0**
77nm,0.2s,SNR=1.0

CAF Calviac 3.22 51 Pn **Pn** **19 14 50.4 +1.7**
CAF Sn **Sn** **19 15 26.9 0.0**
38nm,0.2s
CAF Calviac 3.22 51 Pn **Pn** **19 14 50.4 +1.7**
CAF *e*Sn **Sn** **19 15 26.9 0.0**
38nm,0.2s,SNR=1.0

SJAF Saint Jean de 3.25 97 Pn **Pn** **19 14 51.7 +2.6**
SJAF Saint Jean de 3.25 97 Pg **Pg** **19 15 01.6 +0.8**
SJAF Sg **Sg** **19 15 44.7 +1.8**
SJAF Saint Jean de 3.25 97 Pn Pn 19 14 52.4 +3.3
3.4nm,0.2s,SNR=7.9
SJAF Pg **Pg** **19 14 59.9 -0.9**
5.1nm,0.2s,SNR=7.9
SJAF Sn **Sn** **19 15 29.0 +1.4**
1.9nm,0.2s,SNR=7.9
SJAF Lg Lg 19 15 41.8
78nm,0.4s,SNR=7.9
SJAF Saint Jean de 3.25 97 Pn **Pn** **19 14 51.7 +2.6**
SJAF Saint Jean de 3.25 97 Pg **Pg** **19 15 01.6 +0.8**
SJAF Sn **Sn** **19 15 29.0 +1.4**
1.9nm,0.2s,SNR=7.9
SJAF Lg Lg 19 15 41.8
78nm,0.4s,SNR=7.9

EJON La Jonquera 3.26 98 Pn Pn 19 14 52.5 +3.2
8.2nm,0.2s,SNR=26
EJON Pg **Pg** **19 15 00.0 -1.0**
4.0nm,0.2s,SNR=7.9
EJON Sn **Sn** **19 15 29.7 +1.8**
7.0nm,0.3s,SNR=7.9
EJON Lg Lg 19 15 41.7
155nm,0.4s,SNR=5.0
EJON La Jonquera 3.26 98 Pn Pn 19 14 52.5 +3.2
8.2nm,0.2s,SNR=26
EJON La Jonquera 3.26 98 Pg **Pg** **19 15 00.0 -1.0**
4.0nm,0.2s,SNR=7.9
EJON Sn **Sn** **19 15 29.7 +1.8**
7.0nm,0.3s,SNR=7.9
EJON Lg Lg 19 15 41.7
155nm,0.4s,SNR=5.0

MFF Saint Martin d 3.75 14 *e*Pn **Pn** **19 14 58.2 +2.3**
SNR=1.0
MFF Saint Martin d 3.75 14 *e*Pg **Pg** **19 15 10.8 +0.5**
MFF *e*Sn **Sn** **19 15 40.5 +0.6**
MFF *e*Sg **Sg** **19 15 59.8 +0.9**
40nm,0.3s,SNR=1.0

MFF Saint Martin d 3.75 14 Pn **Pn** **19 14 58.2 +2.3**
MFF Pg **Pg** **19 15 10.8 +0.5**
MFF Sn **Sn** **19 15 40.5 +0.6**
MFF Lg Lg 19 15 59.8
20nm,0.3s
MFF Saint Martin d 3.75 14 Pn **Pn** **19 14 58.2 +2.3**
MFF Saint Martin d 3.75 14 Pg **Pg** **19 15 10.8 +0.5**
MFF Sn **Sn** **19 15 40.5 +0.6**
MFF *e*Sg **Sg** **19 15 59.8 +0.9**
20nm,0.3s,SNR=1.0

ESDC Sonseca Array 3.79 210 Pn **Pn** **19 14 58.3 +1.8**
3.2nm,0.2s,baz=35,slow=13,SNR=23
ESDC Pg Pb 19 15 08.5 +3.3
0.6nm,0.3s,baz=38,slow=14,SNR=7.9
ESDC Sn **Sn** **19 15 40.5 -0.4**
3.7nm,0.2s,baz=35,slow=24,SNR=7.9
ESDC Lg Lg 19 15 60.0
32nm,0.5s,baz=30,slow=28,SNR=9.1

ESDC Sonseca Array 3.79 210 Pn **Pn** **19 14 58.3 +1.8**
3.2nm,0.2s,SNR=23
ESDC Lg Lg 19 16 00.0
32nm,0.5s,SNR=9.1

ECAL Calabor 4.02 257 Pn Pn 19 15 03.0 +3.3
8.4nm,0.3s,SNR=30
ECAL Pg **Pg** **19 15 15.9 +0.4**
15nm,0.3s,SNR=7.9
ECAL Sn **Sn** **19 15 47.7 +1.0**
20nm,0.3s,SNR=7.9
ECAL Lg Lg 19 16 10.5
68nm,0.3s,SNR=5.6
ECAL Calabor 4.02 257 Pn Pn 19 15 03.0 +3.3
8.4nm,0.3s,SNR=30

LASF Ste Croix 4.04 72 *e*Pn **Pn** **19 15 01.5 +1.6**
SNR=1.0
LASF *e*Sn **Sn** **19 15 45.4 -1.6**
135nm,0.6s,SNR=1.0
LASF Ste Croix 4.04 72 Pn **Pn** **19 15 01.5 +1.6**
LASF Sn **Sn** **19 15 45.4 -1.6**
67nm,0.6s
LASF Ste Croix 4.04 72 Pn **Pn** **19 15 01.5 +1.6**
LASF *e*Sn **Sn** **19 15 45.4 -1.6**
67nm,0.6s,SNR=1.0

PAB San Pablo 4.05 213 ⇑Pn **Pn** **19 15 02.2 +2.0**
5.1nm,0.3s,SNR=18
PAB Pg **Pg** **19 15 14.6 -1.4**
2.0nm,0.2s,SNR=7.9
PAB Sn **Sn** **19 15 46.9 -0.5**
4.6nm,0.3s,SNR=7.9
PAB Lg Lg 19 16 08.2
26nm,0.3s,SNR=7.9
PAB San Pablo 4.05 213 Pn **Pn** **19 15 02.2 +2.0**
5.1nm,0.3s,SNR=18
PAB Lg Lg 19 16 08.2
26nm,0.3s,SNR=7.9

PBRG Braganca 4.07 255 *e*Pn Pn 19 15 03.6 +3.3
PBRG *e*Sg **Sg** **19 16 10.8 +1.8**
PBRG A A 19 16 14.1
25nm,0.6s
PBRG Braganca 4.07 255 Pn Pn 19 15 03.6 +3.3
PBRG Lg Lg 19 16 10.8
12nm,0.6s
PBRG Braganca 4.07 255 Pn Pn 19 15 03.6 +3.3
PBRG *e*Sg **Sg** **19 16 10.8 +1.8**
25nm,0.6s

LBL Lubilhac 4.09 55 Pn **Pn** **19 15 02.0 +1.4**
LBL Lubilhac 4.09 55 Pn **Pn** **19 15 02.0 +1.4**
EPON Pontenova 4.16 277 Pn Pn 19 15 06.2 +4.6
2.9nm,0.2s,SNR=6.4
EPON Sn **Sn** **19 15 53.5 +3.4**
7.0nm,0.3s,SNR=7.9
EPON Pontenova 4.16 277 Pn Pn 19 15 06.2 +4.6
2.9nm,0.2s,SNR=6.4
EPON Sn **Sn** **19 15 53.5 +3.4**
7.0nm,0.3s,SNR=7.9

TCF Toulx Ste Croi 4.23 37 *e*Pn **Pn** **19 15 04.1 +1.5**
SNR=1.0
TCF *e*Sn **Sn** **19 15 52.1 +0.3**
54nm,0.3s
TCF Toulx Ste Croi 4.23 37 Pn **Pn** **19 15 04.1 +1.5**
TCF Sn **Sn** **19 15 52.1 +0.3**
27nm,0.3s
TCF Toulx Ste Croi 4.23 37 Pn **Pn** **19 15 04.1 +1.5**
TCF *e*Sn **Sn** **19 15 52.1 +0.3**
27nm,0.3s

PYM Petit Puy Mans 4.25 48 Pn **Pn** **19 15 03.8 +0.9**
PYM Petit Puy Mans 4.25 48 Pn **Pn** **19 15 03.8 +0.9**
ETOB Tobarra 4.33 181 Pn Pn 19 15 06.3 +2.4
0.8nm,0.2s,SNR=7.9
ETOB Pg Pb 19 15 18.4 +4.1
3.6nm,0.3s,SNR=7.9
ETOB Sn **Sn** **19 15 54.0 -0.2**
2.2nm,0.2s,SNR=7.9
ETOB Lg Lg 19 16 16.7
50nm,0.7s,SNR=7.9
ETOB Tobarra 4.33 181 Pn **Pn** **19 15 06.3 +2.4**
0.8nm,0.2s,SNR=7.9
ETOB Lg Lg 19 16 16.7
50nm,0.7s,SNR=7.9

EBEN Beniarda 4.37 167 Pn **Pn** **19 15 07.0 +2.4**
0.6nm,0.1s,SNR=9.8
EBEN Pg **Pg** **19 15 20.4 -1.8**
0.9nm,0.2s,SNR=7.9
EBEN Sn **Sn** **19 15 54.0 -1.3**
2.4nm,0.3s,SNR=7.9
EBEN Lg Lg 19 16 18.1
110nm,1.4s,SNR=5.0
EBEN Beniarda 4.37 167 Pn **Pn** **19 15 07.0 +2.4**
0.6nm,0.1s,SNR=9.8
EBEN Lg Lg 19 16 18.1
110nm,1.4s,SNR=5.0

EVIA Vianos 4.40 190 Pn **Pn** **19 15 07.6 +2.6**
11nm,0.2s,SNR=13
EVIA Pg Pb 19 15 20.0 +4.4
1.9nm,0.1s,SNR=7.9
EVIA Lg Lg 19 16 20.1
70nm,0.4s,SNR=5.2
EVIA Vianos 4.40 190 Pn **Pn** **19 15 07.6 +2.6**
11nm,0.2s,SNR=13
EVIA Lg Lg 19 16 20.1
70nm,0.4s,SNR=5.2

EIBI Ibiza 4.49 151 Pn **Pn** **19 15 06.7 +0.7**
7.0nm,0.2s,SNR=25
EIBI Sn **Sn** **19 15 54.7 -3.3**
6.4nm,0.2s,SNR=7.9
EIBI Lg Lg 19 16 21.9
21nm,0.7s,SNR=4.0
EIBI Ibiza 4.49 151 Pn **Pn** **19 15 06.7 +0.7**
7.0nm,0.2s,SNR=25
EIBI Lg Lg 19 16 21.9
21nm,0.7s,SNR=4.0

COLF Collangettes 4.50 54 Pn **Pn** **19 15 07.8 +1.4**
COLF Collangettes 4.50 54 Pn **Pn** **19 15 07.8 +1.4**
MVO Moncorvo 4.51 248 *e*Pn **Pn** **19 15 09.3 +2.9**
MVO *e*Sn **Sn** **19 16 00.9 +2.2**
MVO *e*Sg **Sg** **19 16 21.6 -1.6**
MVO A A 19 16 23.2
64nm,0.5s
MVO Moncorvo 4.51 248 ⇓Pn **Pn** **19 15 09.3 +2.9**
9.4nm,0.2s,SNR=18
MVO Pg **Pg** **19 15 25.0 +0.2**
20nm,0.3s,SNR=7.9
MVO Sn **Sn** **19 16 00.4 +1.7**
17nm,0.2s,SNR=7.9
MVO Lg Lg 19 16 21.1
123nm,0.7s,SNR=7.4
MVO Moncorvo 4.51 248 Pn **Pn** **19 15 09.3 +2.9**
9.4nm,0.2s,SNR=18
MVO Moncorvo 4.51 248 Pg **Pg** **19 15 25.0 +0.2**
20nm,0.3s,SNR=7.9
MVO *e*Sn **Sn** **19 16 00.9 +2.2**
MVO Lg Lg 19 16 21.1
123nm,0.7s,SNR=7.4
MVO *e*Sg **Sg** **19 16 21.6 -1.6**
64nm,0.5s

AGO Saint Agoulin 4.51 45 Pn **Pn** **19 15 08.3 +1.9**
AGO Saint Agoulin 4.51 45 Pn **Pn** **19 15 08.3 +1.9**
EPLA Plasencia 4.51 231 Pn **Pn** **19 15 08.7 +2.2**
2.5nm,0.1s,SNR=7.9
EPLA Sn **Sn** **19 15 59.3 +0.5**
4.1nm,0.2s,SNR=7.9
EPLA Lg Lg 19 16 22.5
67nm,0.7s,SNR=7.9
EPLA Plasencia 4.51 231 Pn **Pn** **19 15 08.7 +2.2**
2.5nm,0.1s,SNR=7.9
EPLA Lg Lg 19 16 22.5
67nm,0.7s,SNR=7.9

ETOS Mallorca 4.55 133 Pn **Pn** **19 15 08.0 +1.0**
1.7nm,0.2s,SNR=7.8
ETOS Sn **Sn** **19 15 57.1 -2.6**
2.4nm,0.2s,SNR=7.9
ETOS Mallorca 4.55 133 Pn **Pn** **19 15 08.0 +1.0**
1.7nm,0.2s,SNR=7.8

PLDF La Plantade 4.72 49 Pn **Pn** **19 15 10.4 +1.0**
PLDF La Plantade 4.72 49 Pn **Pn** **19 15 10.4 +1.0**
VIVF Saint-Julien-l 4.83 65 *e*Pn **Pn** **19 15 12.4 +1.6**
SNR=1.0
VIVF *e*Sn **Sn** **19 16 04.4 -2.1**
21nm,0.3s,SNR=1.0
VIVF Saint-Julien-l 4.83 65 Pn **Pn** **19 15 12.4 +1.6**
VIVF Sn **Sn** **19 16 04.4 -2.1**
11nm,0.3s
VIVF Saint-Julien-l 4.83 65 Pn **Pn** **19 15 12.4 +1.6**
VIVF *e*Sn **Sn** **19 16 04.4 -2.1**
11nm,0.3s,SNR=1.0

SSB Saint Sauveur 4.91 60 Pn **Pn** **19 15 12.4 +0.5**
SSB Saint Sauveur 4.91 60 Pn **Pn** **19 15 12.4 +0.5**
SESP Santiago Espad 4.92 190 Pn **Pn** **19 15 14.6 +2.5**
3.4nm,0.2s,SNR=7.9
SESP Pg Pb 19 15 28.9 +4.5
25nm,0.5s,SNR=7.9
SESP Sn **Sn** **19 16 08.0 -0.9**
4.9nm,0.3s,SNR=7.9
SESP Lg Lg 19 16 33.5

136nm,1.1s,SNR=7.9
SESP Santiago Espad 4.92 190 Pn **Pn** **19 15 14.6 +2.5**
3.4nm,0.2s,SNR=7.9
SESP Lg Lg 19 16 33.5

136nm,1.1s,SNR=7.9
PVRL Vila Real 4.94 252 *e*Pn Pn 19 15 15.8 +3.5
PVRL *e*Sg **Sg** **19 16 35.6 -1.3**
PVRL A A 19 16 42.5

28nm,0.6s
PVRL Vila Real 4.94 252 Pn Pn 19 15 15.8 +3.5
PVRL Lg Lg 19 16 35.6

14nm,0.6s
PVRL Vila Real 4.94 252 Pn Pn 19 15 15.8 +3.5
PVRL *e*Sg **Sg** **19 16 35.6 -1.3**

28nm,0.6s
POLO Lamas de Olo 4.96 253 *e*Pn **Pn** **19 15 15.7 +3.1**
POLO *e*Sn **Sn** **19 16 12.2 +2.4**
POLO *e*Sg **Sg** **19 16 36.2 -1.4**
POLO A A 19 16 42.0

13nm,0.5s
POLO Lamas de Olo 4.96 253 *e*Pn **Pn** **19 15 15.7 +3.1**
POLO *e*Sn **Sn** **19 16 12.2 +2.4**
POLO *e*Sg **Sg** **19 16 36.2 -1.4**

13nm,0.5s
ELOB Lobios 4.99 259 Pn **Pn** **19 15 15.8 +2.7**
2.3nm,0.2s,SNR=12
ELOB Sn **Sn** **19 16 10.8 +0.1**

2.2nm,0.2s,SNR=7.9
ELOB Lg Lg 19 16 40.4

38nm,0.7s,SNR=5.0
ELOB Lobios 4.99 259 Pn **Pn** **19 15 15.8 +2.7**
2.3nm,0.2s,SNR=12
ELOB Lg Lg 19 16 40.4

38nm,0.7s,SNR=5.0
PCAB Cabril 5.01 258 *e*Pn Pn 19 15 16.8 +3.5
PCAB *e*Sn **Sn** **19 16 12.6 +1.5**
PCAB *e*Sg **Sg** **19 16 39.7 +0.3**
PCAB A A 19 16 43.5

27nm,0.7s
PCAB Cabril 5.01 258 Pn Pn 19 15 16.8 +3.5
PCAB Sn **Sn** **19 16 12.6 +1.5**
PCAB Lg Lg 19 16 39.7

14nm,0.7s
PCAB Cabril 5.01 258 Pn Pn 19 15 16.8 +3.5
PCAB Sn **Sn** **19 16 12.6 +1.5**
PCAB *e*Sg **Sg** **19 16 39.7 +0.3**

27nm,0.7s
QUIF Quistinic 5.08 347 *e*Pn Pn 19 15 17.7 +3.5
SNR=1.0
QUIF *e*Sn **Sn** **19 16 11.0 -1.7**

42nm,0.4s,SNR=1.0
QUIF Quistinic 5.08 347 Pn Pn 19 15 17.7 +3.5
QUIF Sn **Sn** **19 16 11.0 -1.7**

21nm,0.4s
QUIF Quistinic 5.08 347 Pn Pn 19 15 17.7 +3.5
QUIF *e*Sn **Sn** **19 16 11.0 -1.7**

21nm,0.4s,SNR=1.0
EBAN Banos Encina 5.11 201 Pn **Pn** **19 15 17.0 +2.3**
5.0nm,0.3s,SNR=7.9
EBAN Pg Pb 19 15 32.9 +5.1

7.2nm,0.4s,SNR=7.9
EBAN Sn **Sn** **19 16 10.8 -2.8**

3.0nm,0.2s,SNR=7.9
EBAN Lg Lg 19 16 40.6

41nm,0.7s,SNR=7.9
EBAN Banos Encina 5.11 201 Pn **Pn** **19 15 17.0 +2.3**
5.0nm,0.3s,SNR=7.9
EBAN Lg Lg 19 16 40.6

41nm,0.7s,SNR=7.9
PGAV Gavieira, Arco 5.12 261 *e*Pn Pn 19 15 18.6 +3.7
PGAV Gavieira, Arco 5.12 261 *e*Pn Pn 19 15 18.6 +3.7
EMUR La Murta 5.13 178 Pn **Pn** **19 15 17.0 +2.1**
3.9nm,0.5s,SNR=7.9
EMUR Pg Pg 19 15 33.1 -3.6

1.4nm,0.2s,SNR=7.9
EMUR Sn **Sn** **19 16 14.3 +0.3**

5.6nm,0.3s,SNR=7.9
EMUR Lg Lg 19 16 42.8

22nm,0.7s,SNR=7.9
EMUR La Murta 5.13 178 Pn **Pn** **19 15 17.0 +2.1**
3.9nm,0.5s,SNR=7.9
EMUR Sn **Sn** **19 16 14.3 +0.3**

5.6nm,0.3s,SNR=7.9
EMUR Lg Lg 19 16 42.8

22nm,0.7s,SNR=7.9
AVF Avril sur Loir 5.13 40 *e*Pn **Pn** **19 15 17.3 +2.4**
SNR=1.0
AVF *e*Sn **Sn** **19 16 12.7 -1.3**

40nm,0.6s
AVF Avril sur Loir 5.13 40 Pn **Pn** **19 15 17.3 +2.4**
AVF Sn **Sn** **19 16 12.7 -1.3**

20nm,0.6s
AVF Avril sur Loir 5.13 40 Pn **Pn** **19 15 17.3 +2.4**
AVF *e*Sn **Sn** **19 16 12.7 -1.3**

20nm,0.6s
HYF Humbligny 5.19 33 *e*Pn **Pn** **19 15 17.3 +1.6**
HYF *e*Sn **Sn** **19 16 14.7 -0.7**
HYF Humbligny 5.19 33 Pn **Pn** **19 15 17.3 +1.6**
HYF Sn **Sn** **19 16 14.7 -0.7**
HYF Humbligny 5.19 33 Pn **Pn** **19 15 17.3 +1.6**
HYF Sn **Sn** **19 16 14.7 -0.7**
MTE Manteigas 5.22 243 *e*Sg **Sg** **19 16 43.8 -2.1**
MTE Manteigas 5.22 243 Lg Lg 19 16 43.8
MTE Manteigas 5.22 243 Lg Lg 19 16 43.8
EHUE Huescar 5.22 190 Pn **Pn** **19 15 19.0 +2.7**
1.1nm,0.2s,SNR=7.9
EHUE Lg Lg 19 16 45.8

19nm,0.7s,SNR=7.9
EHUE Huescar 5.22 190 Pn **Pn** **19 15 19.0 +2.7**
1.1nm,0.2s,SNR=7.9
EHUE Lg Lg 19 16 45.8

19nm,0.7s,SNR=7.9
SMRF Simiane la Rot 5.23 77 *e*P Pn 19 15 20.0 +3.7
SMRF *e*Sn **Sn** **19 16 13.1 -3.4**

8.1nm,0.3s,SNR=1.0
SMRF Simiane la Rot 5.23 77 Pn Pn 19 15 20.0 +3.7
SMRF Sn **Sn** **19 16 13.1 -3.4**

8.1nm,0.3s
SMRF Simiane la Rot 5.23 77 *e*P Pn 19 15 20.0 +3.7
SMRF *e*Sn **Sn** **19 16 13.1 -3.4**

4.1nm,0.3s,SNR=1.0
SMF Signal de Mont 5.27 44 *e*Pn **Pn** **19 15 18.4 +1.5**
SNR=1.0
SMF *e*Sn **Sn** **19 16 15.9 -1.6**

17nm,0.3s,SNR=1.0
SMF Signal de Mont 5.27 44 Pn **Pn** **19 15 18.4 +1.5**
SMF Sn **Sn** **19 16 15.9 -1.6**

8.4nm,0.3s
SMF Signal de Mont 5.27 44 Pn **Pn** **19 15 18.4 +1.5**
SMF *e*Sn **Sn** **19 16 15.9 -1.6**

8.4nm,0.3s,SNR=1.0
PVIS Viseu 5.29 247 *e*Pn **Pn** **19 15 19.8 +2.6**
PVIS *e*Sn **Sn** **19 16 18.5 +0.5**
PVIS *e*Sg **Sg** **19 16 46.0 -2.4**
PVIS A A 19 16 55.3

16nm,0.5s
PVIS Viseu 5.29 247 Pn **Pn** **19 15 19.8 +2.6**
PVIS Sn **Sn** **19 16 18.5 +0.5**
PVIS Lg Lg 19 16 46.0

7.8nm,0.5s
PVIS Viseu 5.29 247 Pn **Pn** **19 15 19.8 +2.6**
PVIS *e*Sn **Sn** **19 16 18.5 +0.5**
PVIS Lg Lg 19 16 46.0

7.8nm,0.5s
EQES Quesada 5.31 194 Pn **Pn** **19 15 19.9 +2.5**
2.9nm,0.3s,SNR=14
EQES Pg Pg 19 15 37.5 -2.6

2.8nm,0.4s,SNR=7.9
EQES Lg Lg 19 16 47.7

68nm,0.7s,SNR=5.0
EQES Quesada 5.31 194 Pn **Pn** **19 15 19.9 +2.5**
2.9nm,0.3s,SNR=14
EQES Lg Lg 19 16 47.7

68nm,0.7s,SNR=5.0
SGMF Saint Gilles 5.33 352 *e*Pn Pn 19 15 21.8 +4.1
SNR=1.0
SGMF *e*Sn **Sn** **19 16 18.4 -0.5**

20nm,0.5s,SNR=1.0
SGMF Saint Gilles 5.33 352 Pn Pn 19 15 21.8 +4.1
SGMF Sn **Sn** **19 16 18.4 -0.5**

10nm,0.5s
SGMF Saint Gilles 5.33 352 Pn Pn 19 15 21.8 +4.1
SGMF *e*Sn **Sn** **19 16 18.4 -0.5**

10nm,0.5s,SNR=1.0
EADA Adamuz 5.35 207 Pn **Pn** **19 15 20.6 +2.6**
2.0nm,0.2s,SNR=10
EADA Pg **Pg** **19 15 41.6 +0.7**
6.1nm,0.4s,SNR=7.9
EADA Sn **Sn** **19 16 18.8 -0.6**

2.2nm,0.2s,SNR=7.9
EADA Lg Lg 19 16 49.0

58nm,0.9s,SNR=5.0
EADA Adamuz 5.35 207 Pn **Pn** **19 15 20.6 +2.6**
2.0nm,0.2s,SNR=10
SSF Saint Saulge 5.40 39 *e*Pn **Pn** **19 15 19.9 +1.2**
SNR=1.0
SSF *e*Sn **Sn** **19 16 19.6 -1.0**

14nm,0.2s
SSF Saint Saulge 5.40 39 Pn **Pn** **19 15 19.9 +1.2**
SSF Sn **Sn** **19 16 19.6 -1.0**

7.1nm,0.2s
SSF Saint Saulge 5.40 39 Pn **Pn** **19 15 19.9 +1.2**
SSF *e*Sn **Sn** **19 16 19.6 -1.0**

7.1nm,0.2s
GRR Gorron 5.43 4 *e*Pn **Pn** **19 15 20.8 +1.8**
SNR=1.0
GRR *e*Sn **Sn** **19 16 21.0 -0.3**

20nm,0.3s,SNR=1.0
GRR Gorron 5.43 4 Pn **Pn** **19 15 20.8 +1.8**
GRR Sn **Sn** **19 16 21.0 -0.3**

10nm,0.3s
GRR Gorron 5.43 4 Pn **Pn** **19 15 20.8 +1.8**
GRR *e*Sn **Sn** **19 16 21.0 -0.3**

10nm,0.3s,SNR=1.0
PCBR Castelo Branco 5.49 237 *e*Pn **Pn** **19 15 21.8 +2.0**
PCBR *e*Sg **Sg** **19 16 52.0 -2.6**
PCBR A A 19 17 01.8

21nm,0.8s
PCBR Castelo Branco 5.49 237 Pn **Pn** **19 15 21.8 +2.0**
PCBR Lg Lg 19 16 52.0

11nm,0.8s
PCBR Castelo Branco 5.49 237 Pn **Pn** **19 15 21.8 +2.0**
PCBR Lg Lg 19 16 52.0

11nm,0.8s
EMAZ Mazaricos 5.50 272 Pn Pn 19 15 23.8 +3.8
9.5nm,0.3s,SNR=17
EMAZ Sn **Sn** **19 16 23.9 +0.8**

4.0nm,0.2s,SNR=5.8
EMAZ Mazaricos 5.50 272 Pn Pn 19 15 23.8 +3.8
9.5nm,0.3s,SNR=17
ROSF Rostrenen 5.51 347 *e*Pn **Pn** **19 15 23.0 +2.9**
SNR=1.0
ROSF *e*Sn **Sn** **19 16 22.6 -0.6**

24nm,0.5s
ROSF Rostrenen 5.51 347 Pn **Pn** **19 15 23.0 +2.9**
ROSF Sn **Sn** **19 16 22.6 -0.6**

12nm,0.5s
ROSF Rostrenen 5.51 347 Pn **Pn** **19 15 23.0 +2.9**
GORA Gorafe 5.62 193 Pn Pn 19 15 24.9 +3.3
26nm,0.3s,SNR=7.9
GORA Gorafe 5.62 193 Pn Pn 19 15 24.9 +3.3
26nm,0.3s,SNR=7.9
ORIF Oris-en-Rattie 5.66 67 *e*Pn **Pn** **19 15 23.9 +1.6**
SNR=1.0
ORIF *e*Sn **Sn** **19 16 24.9 -2.2**

15nm,0.5s
ORIF Oris-en-Rattie 5.66 67 Pn **Pn** **19 15 23.9 +1.6**
ORIF Sn **Sn** **19 16 24.9 -2.2**

7.7nm,0.5s
ORIF Oris-en-Rattie 5.66 67 Pn **Pn** **19 15 23.9 +1.6**
PMRV Marv??o 5.69 234 *e*Pn **Pn** **19 15 25.1 +2.4**
PMRV *e*Sn **Sn** **19 16 28.5 +0.7**
PMRV *e*Sg **Sg** **19 16 59.4 -1.8**
PMRV A A 19 17 10.4

22nm,0.6s
PMRV Marv??o 5.69 234 Pn **Pn** **19 15 25.1 +2.4**
PMRV Sn **Sn** **19 16 28.5 +0.7**
PMRV Lg Lg 19 16 59.4

22nm,0.6s
PMRV Marv??o 5.69 234 Pn **Pn** **19 15 25.1 +2.4**
PMRV Lg Lg 19 16 59.4

22nm,0.6s
LDF La Druitiere 5.70 9 *e*Pn **Pn** **19 15 25.1 +2.4**
SNR=1.0
LDF *e*Sn **Sn** **19 16 27.4 -0.5**

11nm,0.2s,SNR=1.0
LDF La Druitiere 5.70 9 *e*Pn **Pn** **19 15 25.1 +2.4**
SNR=1.0
LDF *e*Sn **Sn** **19 16 27.4 -0.5**

5.3nm,0.2s,SNR=1.0
LOR Lormes 5.72 40 *e*Pn **Pn** **19 15 24.3 +1.3**
baz=226,SNR=1.0
LOR *e*Sn **Sn** **19 16 27.0 -1.4**

16nm,0.3s
LOR Lormes 5.72 40 Pn **Pn** **19 15 24.3 +1.3**
LOR Sn **Sn** **19 16 27.0 -1.4**

7.8nm,0.3s
LOR Lormes 5.72 40 Pn **Pn** **19 15 24.3 +1.3**
ECAB El Cabril 5.74 213 Pn **Pn** **19 15 25.6 +2.3**
1.1nm,0.2s,SNR=9.7
ECAB Sn **Sn** **19 16 27.8 -1.1**

2.2nm,0.3s,SNR=7.9
ECAB Lg Lg 19 17 02.5

20nm,0.6s,SNR=5.0
ECAB El Cabril 5.74 213 Pn **Pn** **19 15 25.6 +2.3**
1.1nm,0.2s,SNR=9.7
ECAB Lg Lg 19 17 02.5

20nm,0.6s,SNR=5.0
FLN La Foliniere 5.83 7 *e*Pn **Pn** **19 15 27.0 +2.5**
baz=189,SNR=1.0
FLN *e*Sn **Sn** **19 16 29.9 -1.2**

9.6nm,0.2s,SNR=1.0
FLN La Foliniere 5.83 7 Pn **Pn** **19 15 27.0 +2.5**
FLN Sn **Sn** **19 16 29.9 -1.2**

4.8nm,0.2s
FLN La Foliniere 5.83 7 Pn **Pn** **19 15 27.0 +2.5**
LMR La Mourre 5.86 84 *e*P Pn 19 15 28.5 +3.6
LMR *e*Sn **Sn** **19 16 28.5 -3.3**

4.7nm,0.3s
LMR La Mourre 5.86 84 Pn Pn 19 15 28.5 +3.6
LMR Sn **Sn** **19 16 28.5 -3.3**

2.3nm,0.3s
LMR La Mourre 5.86 84 *e*P Pn 19 15 28.5 +3.6
EBAD Badajoz 5.94 227 Pn **Pn** **19 15 27.5 +1.4**
1.5nm,0.2s,SNR=12
EBAD Sn **Sn** **19 16 36.0 +2.0**

2.4nm,0.2s,SNR=7.9
EBAD Lg Lg 19 17 10.0

36nm,0.7s,SNR=5.0
EBAD Badajoz 5.94 227 Pn **Pn** **19 15 27.5 +1.4**
1.5nm,0.2s,SNR=12
EBAD Sn **Sn** **19 16 36.0 +2.0**

2.4nm,0.2s,SNR=7.9
EBAD Lg Lg 19 17 10.0

36nm,0.7s,SNR=5.0
EQUE Quentar 5.95 195 Pn Pn 19 15 29.7 +3.4
1.6nm,0.2s,SNR=14
EQUE Sn **Sn** **19 16 33.4 -1.0**

2.7nm,0.3s,SNR=7.9
EQUE Lg Lg 19 17 06.9

28nm,0.8s,SNR=5.0
EQUE Quentar 5.95 195 Pn Pn 19 15 29.7 +3.4
1.6nm,0.2s,SNR=14
EQUE Lg Lg 19 17 06.9

28nm,0.8s,SNR=5.0
FRF La Foret Royal 5.96 82 *e*P **Pn** **19 15 29.3 +2.9**
FRF *e*Sn **Sn** **19 16 30.9 -3.6**

8.5nm,0.3s
FRF La Foret Royal 5.96 82 Pn **Pn** **19 15 29.3 +2.9**
FRF Sn **Sn** **19 16 30.9 -3.6**

4.2nm,0.3s
FRF La Foret Royal 5.96 82 *e*P **Pn** **19 15 29.3 +2.9**
SELV Sierra Elvira 5.98 197 Pn **Pn** **19 15 29.2 +2.5**
1.5nm,0.3s,SNR=7.9
SELV Sn **Sn** **19 16 31.8 -3.2**

1.9nm,0.3s,SNR=7.9
SELV Lg Lg 19 17 09.3

16nm,0.6s,SNR=7.9
SELV Sierra Elvira 5.98 197 Pn **Pn** **19 15 29.2 +2.5**
1.5nm,0.3s,SNR=7.9
SELV Lg Lg 19 17 09.3

16nm,0.6s,SNR=7.9
PCAS Casmilo, Conde 6.02 243 *e*Pn **Pn** **19 15 30.2 +3.1**
PCAS *e*Sg **Sg** **19 17 10.1 -1.6**
PCAS A A 19 17 23.8

30nm,0.6s
PCAS Casmilo, Conde 6.02 243 *e*Pn **Pn** **19 15 30.2 +3.1**
EBER Berja 6.16 191 Pn **Pn** **19 15 32.1 +2.8**
4.5nm,0.4s,SNR=14
EBER Sn **Sn** **19 16 41.0 +1.3**

5.2nm,0.4s,SNR=7.9
EBER Lg Lg 19 17 14.9

99nm,1.0s,SNR=5.0
PESTR Estremoz 6.18 230 *e*Pn **Pn** **19 15 31.5 +2.1**
PESTR *e*Sn **Sn** **19 16 38.8 -1.1**
PESTR A A 19 17 20.6

18nm,0.7s
PESTR Estremoz 6.18 230 *e*Pn **Pn** **19 15 31.5 +2.1**
PTOM Tomar 6.20 240 *e*Sg **Sg** **19 17 14.9 -2.6**
PTOM A A 19 17 31.1

24nm,0.5s
PTOM Tomar 6.20 240 Lg Lg 19 17 14.9
12nm,0.5s
PTOM Tomar 6.20 240 Lg Lg 19 17 14.9
12nm,0.5s
MBDF Montbardon 6.22 71 *e*Pn **Pn** **19 15 31.1 +1.1**
SNR=1.0
MBDF *e*Sn **Sn** **19 16 38.1 -2.9**

5.4nm,0.4s
MBDF Montbardon 6.22 71 Pn **Pn** **19 15 31.1 +1.1**
MBDF Sn **Sn** **19 16 38.1 -2.9**

2.7nm,0.4s
MBDF Montbardon 6.22 71 Pn **Pn** **19 15 31.1 +1.1**
EGUA Guajares 6.34 195 Pn **Pn** **19 15 34.3 +2.8**
3.3nm,0.3s,SNR=7.9
EGUA Sn **Sn** **19 16 44.3 +0.6**

3.1nm,0.4s,SNR=7.9
EGUA Lg Lg 19 17 20.9

2.0nm,0.3s,SNR=7.9
EGUA Guajares 6.34 195 Pn **Pn** **19 15 34.3 +2.8**
3.3nm,0.3s,SNR=7.9
EGUA Sn **Sn** **19 16 44.3 +0.6**

3.1nm,0.4s,SNR=7.9
EGUA Lg Lg 19 17 20.9

2.0nm,0.3s,SNR=7.9
PBAR Barrancos 6.39 223 *e*Pn Pn 19 15 35.5 +3.3
PBAR *e*Sn **Sn** **19 16 45.7 +0.7**
PBAR *e*Sg **Sg** **19 17 20.1 -3.5**
PBAR A A 19 17 32.0

40nm,0.6s
PBAR Barrancos 6.39 223 Pn Pn 19 15 35.5 +3.3
PBAR Sn **Sn** **19 16 45.7 +0.7**
PBAR Lg Lg 19 17 20.1

40nm,0.6s
PBAR Barrancos 6.39 223 Pn Pn 19 15 35.5 +3.3
PBAR Sn **Sn** **19 16 45.7 +0.7**
PBAR Lg Lg 19 17 20.1

40nm,0.6s
PMTG Montargil 6.42 235 *e*Pn **Pn** **19 15 35.0 +2.4**
PMTG *e*Sn **Sn** **19 16 43.7 -2.0**
PMTG *e*Sg **Sg** **19 17 22.1 -2.4**
PMTG A A 19 17 29.1

17nm,0.7s
PMTG Montargil 6.42 235 *e*Pn **Pn** **19 15 35.0 +2.4**
LPL La Plagne 6.42 64 *e*P Pn 19 15 38.2 +5.3
LPL *e*Sn **Sn** **19 16 43.0 -3.1**

4.5nm,0.5s
LPL La Plagne 6.42 64 Pn Pn 19 15 38.2 +5.3
LPL Sn **Sn** **19 16 43.0 -3.1**

2.2nm,0.5s
LPG La Plagne 6.43 64 *e*P Pn 19 15 37.7 +4.7
LPG *e*Sn **Sn** **19 16 43.2 -3.1**

5.2nm,0.5s
LPG La Plagne 6.43 64 Pn Pn 19 15 37.7 +4.7
LPG Sn **Sn** **19 16 43.2 -3.1**

2.6nm,0.5s
CABF La Chapelle 6.50 53 *e*P Pn 19 15 38.3 +4.5
CABF *e*Sn **Sn** **19 16 45.3 -2.4**

5.3nm,0.4s
CABF La Chapelle 6.50 53 Pn Pn 19 15 38.3 +4.5
CABF Sn **Sn** **19 16 45.3 -2.4**

2.7nm,0.4s
EMIN Mina Concepcio 6.54 219 Pn **Pn** **19 15 35.4 +1.2**
1.1nm,0.3s,SNR=14
EMIN Sn **Sn** **19 16 46.4 -2.2**

1.1nm,0.3s,SNR=7.9
EMIN Lg Lg 19 17 26.3

10nm,0.6s,SNR=7.9
EMIN Mina Concepcio 6.54 219 Pn **Pn** **19 15 35.4 +1.2**
1.1nm,0.3s,SNR=14
EMIN Lg Lg 19 17 26.3

10nm,0.6s,SNR=7.9
EVO Evora 6.65 230 *e*Pn **Pn** **19 15 38.3 +2.5**
EVO *e*Sn **Sn** **19 16 49.3 -2.1**
EVO *e*Sg **Sg** **19 17 28.6 -3.3**

32nm,0.6s
EVO Evora 6.65 230 *e*Pn **Pn** **19 15 38.0 +2.2**
EVO Evora 6.65 230 Pn **Pn** **19 15 38.0 +2.2**
EVO Evora 6.65 230 Pn **Pn** **19 15 38.0 +2.2**
EVOP Sao Brissos 6.72 231 *e*Pn **Pn** **19 15 38.3 +1.6**
EMIJ Mijas 6.88 203 Pn **Pn** **19 15 40.0 +1.0**
5.9nm,0.7s,SNR=7.9
EMIJ Sn **Sn** **19 16 55.4 -1.7**

3.0nm,0.4s,SNR=7.9
EMIJ Lg Lg 19 17 36.2

2.0nm,0.4s,SNR=7.9
EMIJ Mijas 6.88 203 Pn **Pn** **19 15 40.0 +1.0**
5.9nm,0.7s,SNR=7.9
EMIJ Lg Lg 19 17 36.2

2.0nm,0.4s,SNR=7.9
SFTF Sexfontaines 6.95 39 *e*Pn **Pn** **19 15 41.3 +1.5**
SFTF *e*Sn **Sn** **19 16 56.2 -2.4**

11nm,0.3s
SFTF Sexfontaines 6.95 39 Pn **Pn** **19 15 41.3 +1.5**
SFTF Sn **Sn** **19 16 56.2 -2.4**

11nm,0.3s
SFTF Sexfontaines 6.95 39 Pn **Pn** **19 15 41.3 +1.5**
ESPR Espera 6.96 210 Pn Pn 19 15 43.4 +3.4
0.9nm,0.1s,SNR=7.9
ESPR Espera 6.96 210 Pn Pn 19 15 43.4 +3.4
0.9nm,0.1s,SNR=7.9
PACT Alcochete 6.98 235 *e*Pn Pn 19 15 43.5 +3.3
PACT *e*Sn **Sn** **19 17 00.3 +0.9**
PACT Alcochete 6.98 235 *e*Pn Pn 19 15 43.5 +3.3
PACT *e*Sn **Sn** **19 17 00.3 +0.9**
EGRO El Granado 7.11 222 Pn **Pn** **19 15 44.0 +1.9**
1.7nm,0.4s,SNR=7.9
EGRO Sn **Sn** **19 17 01.3 -1.4**

1.0nm,0.2s,SNR=7.9
EGRO Lg Lg 19 17 46.2

56nm,1.3s,SNR=7.9
EGRO El Granado 7.11 222 Pn **Pn** **19 15 44.0 +1.9**
1.7nm,0.4s,SNR=7.9
EGRO Lg Lg 19 17 46.2

56nm,1.3s,SNR=7.9
MEZF Maizieres J'vi 7.17 37 *e*Pn **Pn** **19 15 44.6 +1.7**
SNR=1.0
MEZF *e*Sn **Sn** **19 17 00.9 -3.2**

11nm,0.4s
MEZF Maizieres J'vi 7.17 37 Pn **Pn** **19 15 44.6 +1.7**
MEZF Sn **Sn** **19 17 00.9 -3.2**

11nm,0.4s
MEZF Maizieres J'vi 7.17 37 Pn **Pn** **19 15 44.6 +1.7**
PNCL Nicolau / Gran 7.24 230 *e*Pn **Pn** **19 15 46.4 +2.6**
PNCL *e*Sg **Sg** **19 17 48.2 -2.4**
PNCL A A 19 17 57.6

6.8nm,0.7s
PNCL Nicolau / Gran 7.24 230 *e*Pn **Pn** **19 15 46.4 +2.6**
MESJ Messejana 7.26 227 *e*Pn **Pn** **19 15 46.7 +2.6**
MESJ *e*Sn **Sn** **19 17 07.3 +0.9**
MESJ *e*Sg **Sg** **19 17 50.1 -1.3**
MESJ A A 19 18 01.9

10nm,0.7s
MESJ Messejana 7.26 227 Pn **Pn** **19 15 46.7 +2.6**
MESJ Sn **Sn** **19 17 07.3 +0.9**
MESJ Lg Lg 19 17 50.1

10nm,0.7s
MESJ Messejana 7.26 227 Pn **Pn** **19 15 46.7 +2.6**
MESJ Sn **Sn** **19 17 07.3 +0.9**
MESJ Lg Lg 19 17 50.1

10nm,0.7s
PCVE Castro Verde 7.32 225 *e*Pn **Pn** **19 15 47.1 +2.2**
PCVE *e*Sg **Sg** **19 17 49.1 -4.2**
PCVE A A 19 17 55.7

2.0nm,0.7s
PCVE Castro Verde 7.32 225 Pn **Pn** **19 15 47.1 +2.2**
PCVE Lg Lg 19 17 49.1

2.0nm,0.7s
PCVE Castro Verde 7.32 225 Pn **Pn** **19 15 47.1 +2.2**
PCVE Lg Lg 19 17 49.1

2.0nm,0.7s
PVAQ Vaqueiros 7.33 223 *e*Pn **Pn** **19 15 46.9 +1.8**

PVAQ				*e*Sn		**Sn**	**19 17 05.3**	**-2.8**
PVAQ				*e*Sg		**Sg**	**19 17 50.0**	**-3.6**
PVAQ				A		A	19 18 07.9	
	8.2nm,0.5s							
PVAQ	**Vaqueiros**	**7.33**	**223**	Pn		**Pn**	**19 15 46.9**	**+1.8**
PVAQ				Sn		**Sn**	**19 17 05.3**	**-2.8**
PVAQ				Lg		Lg	19 17 50.0	
	8.2nm,0.5s							
PVAQ	**Vaqueiros**	**7.33**	**223**	Pn		**Pn**	**19 15 46.9**	**+1.8**
PVAQ				Lg		Lg	19 17 50.0	
	8.2nm,0.5s							
HAU	**Haudompre**	**7.45**	**45**	*e*Pn		**Pn**	**19 15 47.1**	**+0.3**
HAU				*e*Sn		**Sn**	**19 17 08.9**	**-2.2**
	8.3nm,0.3s							
HAU	**Haudompre**	**7.45**	**45**	Pn		**Pn**	**19 15 47.1**	**+0.3**
HAU				Sn		**Sn**	**19 17 08.9**	**-2.2**
	4.2nm,0.3s							
HAU	**Haudompre**	**7.45**	**45**	Pn		**Pn**	**19 15 47.1**	**+0.3**
PAGF	**Fort de Pagny**	**7.52**	**40**	*e*Pn		**Pn**	**19 15 49.0**	**+1.3**
PAGF				*e*Sn		**Sn**	**19 17 09.9**	**-2.8**
	4.2nm,0.6s							
PAGF	**Fort de Pagny**	**7.52**	**40**	*e*Pn		**Pn**	**19 15 49.0**	**+1.3**
PBDV	**Barranco-do-Ve**	**7.56**	**223**	*e*Pn		**Pn**	**19 15 50.6**	**+2.3**
PBDV				*e*Sg		**Sg**	**19 18 00.9**	**-0.1**
PBDV				A		A	19 18 10.9	
	13nm,0.6s							
PBDV	**Barranco-do-Ve**	**7.56**	**223**	Pn		**Pn**	**19 15 50.6**	**+2.3**
PBDV				Lg		Lg	19 18 00.9	
	13nm,0.6s							
PBDV	**Barranco-do-Ve**	**7.56**	**223**	Pn		**Pn**	**19 15 50.6**	**+2.3**
PBDV				Lg		Lg	19 18 00.9	
	13nm,0.6s							
HINF	**Hinteralfeld**	**7.61**	**48**	*e*Pn		**Pn**	**19 15 49.6**	**+0.7**
	SNR=1.0							
HINF				*e*Sn		**Sn**	**19 17 12.1**	**-2.8**
	5.8nm,0.5s							
HINF	**Hinteralfeld**	**7.61**	**48**	Pn		**Pn**	**19 15 49.6**	**+0.7**
HINF				Sn		**Sn**	**19 17 12.1**	**-2.8**
	2.9nm,0.5s							
HINF	**Hinteralfeld**	**7.61**	**48**	Pn		**Pn**	**19 15 49.6**	**+0.7**
PGF	**Pioggiola**	**7.73**	**90**	*e*Pn		**Pn**	**19 15 51.6**	**+1.0**
	SNR=1.0							
PGF				*e*Sn		**Sn**	**19 17 13.2**	**-4.8**
	7.4nm,0.3s							
PGF	**Pioggiola**	**7.73**	**90**	Pn		**Pn**	**19 15 51.6**	**+1.0**
PGF				Sn		**Sn**	**19 17 13.2**	**-4.8**
	3.7nm,0.3s							
PGF	**Pioggiola**	**7.73**	**90**	Pn		**Pn**	**19 15 51.6**	**+1.0**
PTEO	**Sao Teotonio**	**7.75**	**228**	*e*Sg		**Sg**	**19 18 05.8**	**-1.2**
PTEO				A		A	19 18 26.2	
	15nm,0.7s							
PTEO	**Sao Teotonio**	**7.75**	**228**	Lg		Lg	19 18 05.8	
	7.7nm,0.7s							
PTEO	**Sao Teotonio**	**7.75**	**228**	*e*Sg		**Sg**	**19 18 05.8**	**-1.2**
	15nm,0.7s							
BAIF	**Baives**	**8.10**	**27**	*e*Pn		**Pn**	**19 15 58.0**	**+2.4**
	SNR=1.0							
BAIF				*e*Sn		**Sn**	**19 17 24.0**	**-2.9**
	7.2nm,0.3s							
BAIF	**Baives**	**8.10**	**27**	Pn		**Pn**	**19 15 58.0**	**+2.4**
BAIF				Sn		**Sn**	**19 17 24.0**	**-2.9**
	3.6nm,0.3s							
BAIF	**Baives**	**8.10**	**27**	Pn		**Pn**	**19 15 58.0**	**+2.4**
CDF	**Champ du Feu**	**8.19**	**45**	*e*Pn		**Pn**	**19 15 58.2**	**+1.2**
	SNR=1.0							
CDF				*e*Sn		**Sn**	**19 17 26.2**	**-3.2**
	4.3nm,0.5s							
CDF	**Champ du Feu**	**8.19**	**45**	Pn		**Pn**	**19 15 58.2**	**+1.2**
CDF				Sn		**Sn**	**19 17 26.2**	**-3.2**
	2.2nm,0.5s							
CDF	**Champ du Feu**	**8.19**	**45**	Pn		**Pn**	**19 15 58.2**	**+1.2**
GIVF	**Givet**	**8.35**	**29**	*e*Pn		**Pn**	**19 16 00.4**	**+1.4**
	SNR=1.0							
GIVF				*e*Sn		**Sn**	**19 17 30.6**	**-2.4**
	7.4nm,0.2s							
GIVF	**Givet**	**8.35**	**29**	Pn		**Pn**	**19 16 00.4**	**+1.4**
GIVF				Sn		**Sn**	**19 17 30.6**	**-2.4**
	3.7nm,0.2s							
GIVF	**Givet**	**8.35**	**29**	Pn		**Pn**	**19 16 00.4**	**+1.4**
KHC	**Kasperske Hory**	**12.13**	**54**	*e*PN		**Pn**	**19 16 53.9**	**+3.0**
KHC				*e*SN		**Sn**	**19 19 06.5**	**+0.6**
KHC				*ex*		x	19 19 10.0	

*IDC **07** 19:16:09.3±1.2,44°.15N×129°.13W,h0km,mb3.5/7, mb1 3.8/10,mb1mx3.6/36,mbtmp3.6/10,ML3.3/4,MS3.5/3, Ms1 3.5/3,ms1mx2.9/32,Error ellipse: s-maj=37.7km s-min=15.2km az=43.0*

*ISCJB **07** 19:16:10.3±0.7,44°.41N±0°.06×129°.14W±0°.09,h10km, mb3.5/7,MS3.7/1,Error ellipse: s-maj=10.6km s-min=6.9km az=139.1*

*NEIC **07** 19:16:11.4±1.0,44°.37N×129°.27W,h10km,mb3.7/3,Error ellipse: s-maj=14.1km s-min=9.0km az=52.0*

ISC 07 19:16:11.2±1.0,44°.36N±0°.09×129°.0W±0°.1,h10km,n55, σ1§99/39,mb3.8/7,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**3.67**	**112**	*e*Pn	**Pb**	**19 17 14.4**	**-1.9**
COR	**Corvallis**	**4.06**	**85**	*e*Pn	**Pn**	**19 17 14.7**	**+1.4**
BMW	**Boistfort Moun**	**4.56**	**60**	P	**Pn**	**19 17 20.6**	**+0.3**
BROR	**Big Rock Looko**	**4.67**	**89**	P	**Pn**	**19 17 23.8**	**+1.9**
NLWA	**Neilton Lookou**	**4.68**	**48**	*e*Pn	**Pn**	**19 17 21.8**	**-0.1**
HUMO	**Hull Mountain**	**4.71**	**110**	*e*Pn	**Pn**	**19 17 24.4**	**+2.1**
RVW	**Rose Valley**	**4.74**	**66**	P	**Pn**	**19 17 25.7**	**+2.9**
TDL	**Tradedollar La**	**5.16**	**65**	P	**Pn**	**19 17 30.4**	**+1.8**
KHMM	**Horse Mountain**	**5.20**	**130**	Pn	**Pn**	**19 17 31.8**	**+2.6**
YBH	**Yreka Blue Hor**	**5.28**	**118**	Pn	**Pn**	**19 17 30.2**	**-0.1**
	0.1nm,0.3s,baz=282,slow=9.7,SNR=1.9						
YBH	**Yreka Blue Hor**	**5.28**	**118**	*e*Pn	**Pn**	**19 17 33.0**	**+2.8**
	6.1nm,0.9s						
PGC	**Sidney**	**5.74**	**40**	*e*Pn	Pn	19 17 32.8	-3.6
	9.2nm,0.5s						
MBW	**Mount Baker**	**6.58**	**45**	P	**Pn**	**19 17 50.3**	**+2.2**
WVOR	**Wild Horse Val**	**7.76**	**101**	*e*Pn	Pn	19 18 09.0	+4.6
BBB	**Bella Bella**	**7.86**	**4**	Pn	**Pn**	**19 18 06.5**	**+1.1**
	0.2nm,0.3s,baz=202,slow=16,SNR=3.1						
BMO	**Blue Mountains**	**8.34**	**83**	Pn	**Pn**	**19 18 15.0**	**+2.8**
CMB	**Columbia Colle**	**9.04**	**131**	*e*Pn	**Pn**	**19 18 23.7**	**+2.0**
	9.8nm,1.3s						
NEW	**Newport**	**9.08**	**60**	LR	LR	19 21 30.3	
	comp=Z,192nm,21.0s,baz=288,slow=35						
NVAR	**Mina Array Bea**	**9.96**	**123**	Pn	**Pn**	**19 18 35.8**	**+1.3**
	0.0nm,0.3s,baz=286,slow=10,SNR=3.0						
BSMT	**Bassoo Peak**	**10.45**	**65**	*e*Pn	**Pn**	**19 18 43.6**	**+2.4**
HLID	**Hailey**	**10.52**	**89**	*e*Pn	Pn	19 18 46.9	+4.6
	5.2nm,1.0s						
ELK	**Elko**	**10.75**	**105**	Pn	Pn	19 18 52.0	+6.6
SWMT	**Swartz Lake**	**10.89**	**68**	*e*Pn	Pn	19 18 51.1	+3.9
	5.0nm,1.1s						
SLMT	**Seeley Lake**	**11.18**	**70**	*e*Pn	**Pn**	**19 18 53.8**	**+2.6**
	7.3nm,1.0s						
CHMT	**Chamberlain Mo**	**11.30**	**71**	*e*Pn	**Pn**	**19 18 53.2**	**+0.3**
	1.5nm,0.9s						
MCMT	**McKenzie Canyo**	**11.51**	**82**	Pn	**Pn**	**19 18 57.8**	**+2.0**
	4.6nm,1.4s						
ISA	**Isabella, Lake**	**11.83**	**134**	Pn	**Pn**	**19 18 59.7**	**-0.3**
GSC	**Goldstone, Bar**	**12.99**	**130**	*e*Pn	**Pn**	**19 19 17.9**	**+2.0**
TPAW	**Teton Pass**	**13.02**	**88**	*e*Pn	Pn	19 19 21.8	+5.3
	6.8nm,1.3s						
FLWY	**Flagg Ranch**	**13.11**	**85**	*e*Pn	Pn	19 19 22.2	+4.6
	13nm,1.1s						
MVU	**Marysvale**	**13.85**	**109**	*e*Pn	**P**	**19 19 35.7**	**-0.6**
	17nm,1.7s						
MSU	**Marysvale**	**13.87**	**109**	Pn	**P**	**19 19 33.5**	**-2.9**
	7.6nm,1.4s						
RLMT	**Red Lodge**	**14.02**	**80**	Pn	**P**	**19 19 36.4**	**-1.7**
	4.9nm,0.9s						
DLBC	**Dease Lake**	**14.12**	**358**	LR	LR	19 24 25.2	
	comp=Z,153nm,18.6s,baz=167,slow=35						
PDAR	**Pinedale Array**	**14.16**	**90**	Pn	**P**	**19 19 37.8**	**-1.9**
	0.1nm,0.3s,baz=291,slow=10,SNR=5.3						
SRU	**San Rafael Swe**	**14.72**	**104**	Pn	**P**	**19 19 43.6**	**-2.2**
	13nm,1.0s						
O20A	**White River Ci**	**15.91**	**98**	*e*Pn	**P**	**19 20 00.7**	**+1.7**
	12nm,0.9s						
ISCO	**Idaho Springs**	**17.90**	**97**	*e*Pn	**P**	**19 20 25.0**	**+3.8**
	4.8nm,1.0s						
SDCO	**Great Sand Dun**	**18.85**	**102**	*e*Pn	**Pn**	**19 20 34.6**	**+2.4**
	4.1nm,1.0s						
YKA	**Yellowknife Ar**	**20.00**	**20**	P	**Pn**	**19 20 45.4**	**+0.1**
	0.5nm,0.7s,baz=213,slow=11,SNR=5.4						
FFC	**Flin Flon**	**20.23**	**50**	*e*P	**P**	**19 20 43.1**	**-3.1**
ILAR	**Eielson Array**	**22.78**	**340**	P	**P**	**19 21 11.6**	**-2.0**
	0.9nm,1.1s,baz=148,slow=8.9,SNR=5.8						
TXAR	**Lajitas Array**	**25.06**	**118**	P	**P**	**19 21 36.0**	**+0.2**
	0.2nm,0.6s,baz=297,slow=8.0,SNR=2.2						
SCHQ	**Schefferville**	**40.34**	**52**	LR	LR	19 40 44.0	
	comp=Z,92nm,18.6s,baz=102,slow=36						
H11N3	**WAKE ISLAND Hy**	**58.09**	**267**	T	T	20 28 12.6	
	baz=49,slow=75,SNR=90						
H11N2	**WAKE ISLAND Hy**	**58.09**	**267**	T	T	20 28 12.8	
	baz=49,slow=75,SNR=64						
H11N1	**WAKE ISLAND Hy**	**58.11**	**267**	T	T	20 28 14.0	
	baz=49,slow=75,SNR=57						
H11S1	**WAKE ISLAND Hy**	**59.03**	**266**	T	T	20 29 24.1	
	baz=48,slow=75,SNR=38						
H11S2	**WAKE ISLAND Hy**	**59.03**	**266**	T	T	20 29 23.9	
	baz=48,slow=75,SNR=27						
H11S3	**WAKE ISLAND Hy**	**59.04**	**266**	T	T	20 29 25.4	
	baz=48,slow=75,SNR=36						
SONM	**Songino Array**	**76.11**	**325**	P	**P**	**19 27 59.8**	**+0.7**
	0.6nm,0.7s,baz=41,slow=5.0,SNR=5.0						
ZALV	**Zalesovo Beam**	**77.91**	**340**	P	**P**	**19 28 10.2**	**+1.3**
	0.4nm,0.4s,baz=33,slow=8.6,SNR=2.7						
LPAZ	**La Paz**	**81.86**	**122**	P	**P**	**19 28 30.4**	**-1.1**
	1.6nm,0.8s,baz=330,slow=2.0,SNR=2.3						
AKASG	**Malin Array Be**	**83.44**	**14**	P	**P**	**19 28 40.0**	**+1.4**
	0.5nm,0.6s,baz=351,slow=4.7,SNR=4.0						
MKAR	**Makanchi Array**	**85.13**	**339**	P	**P**	**19 28 47.0**	**-0.3**
	0.2nm,0.7s,baz=18,slow=5.3,SNR=3.1						

MAN 07 19:20:26.8±87.8nm×122°.63E±1.6km,h1km,mb4.8,ML3.7,MS3.8, 2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCPH	**Dipolog City**	**0.77**	**112**	⇓*e*P	Pg	19 20 41.3	+0.5
DCPH				*e*S	Sg	19 20 51.3	+0.6
TBP	**Tagbilaran**	**1.47**	**56**	*e*P	Pn	19 20 53.0	-0.6
GUIM	**Jordan**	**1.75**	**359**	*e*P	Pn	19 20 57.9	+0.4
GUIM				*e*S	Sb	19 21 21.2	-0.2
CGP	**Cagayan de Oro**	**2.08**	**101**	⇓*e*P	Pn	19 21 03.2	+1.1
CGP				*e*S	Sn	19 21 29.8	+1.1
CTBH	**Cotabato--PC H**	**2.29**	**136**	*i* P	Pn	19 21 05.5	+0.5
CUYO	**Cuyo Island**	**2.53**	**321**	*e*P	Pn	19 21 08.8	+0.5
MSLP	**Maasin**	**2.53**	**60**	*e*P	Pn	19 21 08.9	+0.6

KMA 07 19:23:40.0±0.1,36°.39N×128°.75E,h14km±1km,1C-7D, Error ellipse: s-maj=1.5km s-min=1.2km az=46.0,South Korea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSEUS	**ULSEONG**	**0.06**	**236**	⇓P	Pg	19 23 43.3	+0.6
	SNR=55						
KSEUS	**ULSEONG**	**0.06**	**236**	⇓P	Pg	19 23 43.3	+0.6
	SNR=55						
KSADO	**Andong**	**0.16**	**81**	⇓P	Pg	19 23 44.3	+0.3
KSADO				⇓S	Sg	19 23 46.9	+0.3
KSADO	**Andong**	**0.16**	**81**	⇓P	Pg	19 23 44.3	+0.3
KSADO				⇓S	Sg	19 23 46.9	+0.3
KSYOC	**YEONGCHEON**	**0.45**	**159**	P	Pg	19 23 48.9	0.0
	SNR=58						
KSYOC	**YEONGCHEON**	**0.45**	**159**	P	Pg	19 23 48.9	0.0
	SNR=58						
KSSAJ	**Sangju**	**0.48**	**273**	P	Pg	19 23 49.6	+0.1
	SNR=50						
KSSAJ	**Sangju**	**0.48**	**273**	P	Pg	19 23 49.6	+0.1
	SNR=50						
KSPHA	**Pohang**	**0.54**	**111**	P	Pg	19 23 50.6	0.0
	SNR=19						
KSPHA	**Pohang**	**0.54**	**111**	P	Pg	19 23 50.6	0.0
	SNR=19						
KSPHA				⇓S	Sg	19 23 57.2	-0.6
KSULJ	**Uljin**	**0.61**	**59**	P	Pg	19 23 51.7	-0.4
	SNR=139						
KSMGY	**Mungyeong**	**0.62**	**296**	⇑P	Pg	19 23 52.1	-0.1
KSDAG	**Daegu**	**0.63**	**169**	P	Pg	19 23 52.2	-0.2
	SNR=51						
KSCPR	**CHUPUNGNYEONG**	**0.65**	**255**	P	Pg	19 23 52.7	-0.1
	SNR=15						
KSBON	**Boeun**	**0.78**	**279**	P	Pg	19 23 55.2	0.0
	SNR=39						
KSCHJ	**Chungju**	**0.79**	**308**	P	Pg	19 23 55.1	-0.3
	SNR=20						
KSYOW	**Yeongwol**	**0.82**	**343**	P	Pg	19 23 55.7	-0.3
	SNR=19						
KSJEO	**Jeonju**	**1.26**	**250**	P	Pb	19 24 03.8	+0.1
	SNR=11						
KSDGY	**Daegwallycong**	**1.30**	**357**	P	Pn	19 24 04.0	0.0
	SNR=7.2						

SKHL 07 19:30:19.3±1.1,44°.95N×149°.46E,h85km±5km,mb4.5/2, msh5.2/2,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.16**	**285**	*i* P	Pn	19 30 40.0	-0.6
KUR				AMB	AMB	19 30 41.0	
	80nm,0.4s						
KUR				*e*S	Sn	19 30 56.3	-0.2
KUR				A	A	19 30 58.5	
	360nm,0.5s						
KUR				A	A	19 30 58.5	
	300nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.73**	**252**	*i* P	Pn	19 31 03.2	+2.1
YUK				AMB	AMB	19 31 03.3	
	20nm,0.3s						
YUK				AMB	AMB	19 31 03.3	
	60nm,0.3s						
YUK				*i* S	Sn	19 31 35.3	+2.1
YUK				A	A	19 31 45.7	
	200nm,0.5s						
YUK				A	A	19 31 45.7	
	310nm,0.5s						
YSS	**Yuzh-Sakhalins**	**5.09**	**296**	*e*P	Pn	19 31 35.0	+2.0
MYR	**Moyori**	**5.21**	**242**	*e*P	Pn	19 31 35.5	+0.8
MYR				*e*S	Sn	19 32 34.6	+1.2

*ISCJB **07** 19:42:40.9±1.6,44°.62N±0°.08×128°.9W±0°.2,h10km, mb2.7/1,MS2.9/1,Error ellipse: s-maj=18.2km s-min=10.2km az=155.5*

*IDC **07** 19:42:40.5±4.4,44°.51N×129°.12W,h0km,mb2.9/1, mb1 3.4/4,mb1mx3.2/42,mbtmp3.0/4,ML2.7/3,MS3.0/2, Ms1 3.1/2,ms1mx2.7/9,Error ellipse: s-maj=109.9km s-min=21.8km az=53.0*

*NEIC **07** 19:42:40.7±1.9,44°.44N×129°.06W,h10km,ML2.8,Error ellipse: s-maj=22.8km s-min=12.2km az=60.0*

ISC 07 19:42:42.8±2.1,44°.6N±0°.1×129°.0W±0°.2,h10km,n31, σ1§18/22,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**3.84**	**116**	*e*Pn	Pn	19 43 36.1	-5.9
COR	**Corvallis**	**4.10**	**89**	*e*Pn	**Pn**	**19 43 42.7**	**-2.7**
NLWA	**Neilton Lookou**	**4.54**	**51**	*e*Pn	**Pn**	**19 43 49.9**	**-1.6**
HUMO	**Hull Mountain**	**4.86**	**113**	*e*Pn	Pn	19 43 51.8	-4.2
OSD	**Olympics--Snow**	**4.88**	**47**	P	**Pn**	**19 43 55.5**	**-1.0**
FL2	**Flat Top 2**	**4.96**	**69**	P	**Pn**	**19 43 56.8**	**-0.7**
TDL	**Tradedollar La**	**5.09**	**68**	P	**Pn**	**19 43 58.5**	**-0.9**
HDW	**Hoodsport**	**5.14**	**52**	P	**Pn**	**19 43 59.2**	**-0.6**
ASR	**Mount Adams--S**	**5.46**	**71**	P	**Pn**	**19 44 04.3**	**0.0**
YBH	**Yreka Blue Hor**	**5.46**	**120**	Pn	**Pn**	**19 44 05.4**	**+1.1**
	0.1nm,0.3s,baz=275,slow=9.1,SNR=5.6						
YBH	**Yreka Blue Hor**	**5.46**	**120**	Pn	**Pn**	**19 44 03.1**	**-1.2**
LON	**Longmire**	**5.49**	**65**	P	**Pn**	**19 44 04.6**	**0.0**
PGC	**Sidney**	**5.56**	**42**	*e*Pn	**Pn**	**19 44 03.0**	**-2.5**
	9.5nm,0.8s						
JCW	**Jim Creek**	**6.07**	**52**	P	**Pn**	**19 44 12.4**	**-0.2**
RPW	**Rockport**	**6.44**	**51**	P	**Pn**	**19 44 17.7**	**0.0**
WRW	**Wenatchee Ridg**	**6.51**	**57**	P	**Pn**	**19 44 19.4**	**+0.7**
NEW	**Newport**	**8.99**	**62**	LR	LR	19 48 00.0	
	comp=Z,78nm,18.4s,baz=251,slow=35						
NVAR	**Mina Array Bea**	**10.16**	**124**	Pn	**Pn**	**19 45 08.2**	**-0.6**
	0.0nm,0.3s,baz=311,slow=14,SNR=4.6						
HLID	**Hailey**	**10.58**	**91**	Pn	**Pn**	**19 45 14.1**	**-0.5**
	4.1nm,1.4s						
SLMT	**Seeley Lake**	**11.14**	**71**	*e*Pn	**Pn**	**19 45 21.8**	**-0.4**
	5.9nm,1.0s						
CHMT	**Chamberlain Mo**	**11.26**	**73**	Pn	**Pn**	**19 45 24.3**	**+0.4**
MCMT	**McKenzie Canyo**	**11.52**	**83**	*e*Pn	**Pn**	**19 45 28.8**	**+1.2**
MVU	**Marysvale**	**14.00**	**110**	*e*Pn	**Pn**	**19 46 02.5**	**+1.1**
YKA	**Yellowknife Ar**	**19.75**	**20**	P	**P**	**19 47 12.9**	**+0.4**
	0.0nm,0.3s,baz=215,slow=11,SNR=4.2						
ILAR	**Eielson Array**	**22.50**	**340**	P	**P**	**19 47 42.4**	**+0.2**
	0.2nm,0.7s,baz=151,slow=7.8,SNR=4.8						
ILAR				LR	LR	19 54 45.2	
	comp=Z,48nm,21.5s,baz=280,slow=32						
H11N3	**WAKE ISLAND Hy**	**58.05**	**267**	T	T	20 54 41.8	
	baz=55						
H11N2	**WAKE ISLAND Hy**	**58.05**	**267**	T	T	20 54 39.3	
	baz=55						
H11N1	**WAKE ISLAND Hy**	**58.07**	**267**	T	T	20 54 43.9	
	baz=55						
H11S1	**WAKE ISLAND Hy**	**58.99**	**266**	T	T	20 55 49.6	
	baz=48						
H11S2	**WAKE ISLAND Hy**	**59.00**	**266**	T	T	20 55 50.2	
	baz=48						
H11S3	**WAKE ISLAND Hy**	**59.01**	**266**	T	T	20 55 51.6	
	baz=48						

*IDC **07** 19:42:55.5±2.8,36°.30N×70°.94E,h181km±25km,mb3.4/10, mb1 3.6/15,mb1mx3.2/47,mbtmp4.0/15,Error ellipse: s-maj=20.6km s-min=14.8km az=15.0*

*ISCJB **07** 19:42:56.6±0.3,36°.57N±0°.03×70°.89E±0°.04,h188km, mb3.6/9,Error ellipse: s-maj=5.4km s-min=3.7km az=150.0*

*NNC **07** 19:43:02.4±1.2,37°.03N×70°.82E,h210km±9km,mb3.1, mpv4.4,Error ellipse: s-maj=12.5km s-min=5.9km az=163.0*

ISC 07 19:42:56.9±0.6,36°.57N±0°.05×70°.92E±0°.06,h188km,n49, σ1§53/58,mb3.6/9,6C-7D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.78**	**324**	⇑P	**Pn**	**19 43 45.8**	**+2.3**
	13nm,0.3s						
DZET				⇑S	**Sn**	**19 44 19.8**	**0.0**
	161nm,0.5s						
CEP	**Cherat**	**2.86**	**163**	P	**Pn**	**19 43 46.9**	**+2.4**
CEP				S	**Sn**	**19 44 24.0**	**+2.5**
CHCP	**Chirah Chowk**	**3.48**	**146**	P	**Pn**	**19 43 54.2**	**+2.3**
SFK	**Sufi-Kurgan**	**3.99**	**30**	⇓P	**Pn**	**19 44 00.4**	**+2.0**
	56nm,0.3s						
SFK				⇓S	**Sn**	**19 44 46.9**	**+0.3**
	92nm,0.4s						
DLH	**Dalhousie**	**5.79**	**133**	*e*P	**Pn**	**19 44 24.0**	**+2.5**
DLH				*e*S	**Sn**	**19 45 26.0**	**-2.1**
AML	**Almayashu**	**5.96**	**20**	P	**Pn**	**19 44 25.1**	**+1.3**
	SNR=224						
UCH	**Uchtor**	**6.30**	**25**	P	**Pn**	**19 44 29.6**	**+1.4**
	SNR=36						
KZA	**Kyzart**	**6.44**	**30**	P	**Pn**	**19 44 30.7**	**+0.6**
	SNR=28						
EKS2	**Erkin-Say**	**6.47**	**19**	P	**Pn**	**19 44 31.6**	**+1.4**
	SNR=61						
KK31	**Karatay Array**	**6.53**	**357**	⇑P	**Pn**	**19 44 32.1**	**+1.2**
	5.1nm,0.2s,baz=179,slow=11,SNR=160						
KK31				S	**Sn**	**19 45 41.0**	**-4.3**
	14nm,0.4s,baz=183,slow=9.1,SNR=17						
AAK	**Ala-Archa**	**6.65**	**23**	⇓P	**Pn**	**19 44 34.1**	**+1.5**
	13nm,0.5s						
AAK				⇑S	**Sn**	**19 45 46.3**	**-2.0**
	20nm,0.6s						
AAK	**Ala-Archa**	**6.65**	**23**	P	**Pn**	**19 44 34.3**	**+1.6**
	SNR=27						
AAK	**Ala-Archa**	**6.65**	**23**	P	**Pn**	**19 44 34.2**	**+1.5**
	8.8nm,0.3s,baz=198,slow=8.3,SNR=66						
AAK				S	**Sn**	**19 45 48.2**	**-0.1**
	1.7nm,0.3s,baz=346,slow=22,SNR=12						
KBK	**Karagaybulak**	**6.83**	**26**	P	**Pn**	**19 44 36.4**	**+1.5**
	SNR=46						
ULHL	**Ulahol**	**7.01**	**34**	P	**Pn**	**19 44 38.6**	**+1.3**
	SNR=8.6						
CHMS	**Chumysh**	**7.07**	**23**	P	**Pn**	**19 44 39.3**	**+1.4**
	SNR=8.2						
USP	**Ospenovka**	**7.23**	**21**	P	**Pn**	**19 44 41.3**	**+1.2**
	SNR=28						
TKM2	**Tokmak 2**	**7.29**	**28**	⇓P	**Pn**	**19 44 42.1**	**+1.1**
	56nm,0.6s						
TKM2				⇓S	**Sn**	**19 46 01.5**	**-2.0**
	7.8nm,0.6s						
TKM2	**Tokmak 2**	**7.29**	**28**	P	**Pn**	**19 44 42.3**	**+1.2**
	SNR=128						
PDGK	**Podgornoye**	**9.42**	**42**	P	**Pn**	**19 45 08.5**	**-0.1**
GEYT	**Alibeck**	**10.30**	**281**	P	**Pn**	**19 45 20.4**	**+0.3**
	0.7nm,0.3s,baz=87,slow=9.5,SNR=8.3						
GEYT				S	**Sn**	**19 47 11.7**	**-3.2**
	0.6nm,0.3s,baz=102,slow=27,SNR=3.1						
MK31	**Makanchi Array**	**13.27**	**36**	⇓P	**Pn**	**19 45 57.5**	**-0.6**
	4.7nm,0.8s,baz=233,slow=15,SNR=23						
MKAR	**Makanchi Array**	**13.27**	**36**	P	**Pn**	**19 45 58.6**	**+0.5**
	0.3nm,0.3s,baz=224,slow=12,SNR=19						
KOLN	**Koldanda**	**13.86**	**126**	*e*P	**Pn**	**19 46 06.4**	**+0.6**
	5.1nm,0.3s						
GKN	**Gorkha**	**14.40**	**122**	*e*P	**P**	**19 46 13.7**	**-0.4**
	8.2nm,0.2s						
DMN	**Daman**	**14.97**	**123**	*e*P	**P**	**19 46 20.1**	**-0.4**

Ms1 4.1/36,ms1mx4.0/40,Error ellipse: s-maj=22.3km s-min=10.3km az=32.0

*ISCJB **07** 20:02:18.5±0.2,44°.46N±0°.02×129°.38W±0°.03,h13km, mb4.2/40,MS4.1/31,Error ellipse: s-maj=3.9km s-min=2.6km az=40.7*

*MOS **07** 20:02:18.3±1.2,44°.47N×129°.32W,h16km,mb4.6/15, Error ellipse: s-maj=7.8km s-min=5.4km az=131.9*

*GCMT **07** 20:02:18.8±0.3,44°.12N×129°.70W,h13km±1km,MW5.0/99, Moment Tensor Solution. s29,c35; s99,c133; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r0.03±.12; $M_{\theta\theta}$-3.73±.12; $M_{\phi\phi}$3.70±.12; $M_{r\theta}$-1.95±.42; $M_{\theta\phi}$-1.49±.11; $M_{\phi r}$0.52±.27; Best double couple: $M_0$4.45800×10^{16} NP1:ϕ_s125.00000°,δ84.00000°,λ-155.00000°. NP2: ϕ_s32.00000°,δ65.00000°,λ-6.00000°. Principal axes: T 4.1920, Plg13.0000°, Azm256.0000°; N 0.5340, Plg65.0000°, Azm137.0000°; P -4.7250, Plg21.0000°, Azm351.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **07** 20:02:18.8±0.4,44°.42N×129°.48W,h10km,mb4.4/39 Error ellipse: s-maj=6.4km s-min=3.7km az=220.0*

ISC 07 20:02:20.0±0.5,44°51N±0°.08×129°35W±0°.07,h13km, n434,σ1$23/402,mb4.4/40,MS4.2/31,109C-77D,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KEBM	Edson Butte	3.99	112	*e*Pn		Pn		20 03 15.7	-5.2
RNO	Roman Nose	4.08	96	P		Pn		20 03 20.0	-2.1
MPOR	Mary's Peak	4.15	88	P		Pn		20 03 21.9	-1.2
KMOR	Kings Mountain	4.30	73	P		Pn		20 03 24.4	-0.7
COR	Corvallis	4.32	87	*e*P		Pn		20 03 24.4	-1.0
COR	Corvallis	4.32	87	*e*Pn		Pn		20 03 24.4	-1.0
G03D	McMinnville, O baz=4.5,SNR=6.6	4.38	79	⇑P		Pn		20 03 25.9	-0.4
KBO	Bosley Butte	4.38	120	*e*Pn		Pn		20 03 24.3	-2.1
I03D	Drain, OR baz=4.5,SNR=24	4.40	99	P		Pn		20 03 24.6	-1.8
E03A	Lebam	4.55	61	*e*Pn		Pn		20 03 28.0	-0.4
BMW	Boistfort Moun	4.73	63	P		Pn		20 03 30.2	-0.8
BMW	Boistfort Moun	4.73	63	P		Pn		20 03 30.2	-0.8
F04D	Rainier, OR baz=4.8	4.74	68	⇑P		Pn		20 03 31.5	+0.4
NLWA	Neilton Lookou	4.79	51	*e*Pn		Pn		20 03 32.3	+0.5
L02D	Cave Junction, baz=4.8	4.81	117	⇑P		Pn		20 03 32.6	+0.5
BROR	Big Rock Looko	4.95	90	P		Pn		20 03 33.4	-0.5
HUMO	Hull Mountain	5.02	110	*e*Pn		Pn		20 03 33.0	-2.0
I04A	Tendick Farm, baz=5.1,SNR=24	5.04	96	⇑P		Pn		20 03 34.3	-1.1
LVP	Lakeview Peak	5.14	70	P		Pn		20 03 36.8	+0.1
MTMW	Mount Mitchell	5.26	71	P		Pn		20 03 38.9	+0.6
J04D	Umpqua Nationa baz=5.4,SNR=16	5.39	101	⇑P		Pn		20 03 39.7	-0.5
HDW	Hoodsport	5.39	52	P		Pn		20 03 41.1	+1.0
KHMM	Horse Mountain 14nm,1.0s	5.51	129	*e*Pn		Pn		20 03 40.0	-1.9
YBH	Yreka Blue Hor 0.3nm,0.3s,baz=299,slow=10,SNR=10	5.60	117	Pn		Pn		20 03 42.6	-0.4
VFP	Flag Point	5.66	79	P		Pn		20 03 44.3	+0.4
M02C	Callahan baz=5.7	5.70	121	⇓P		Pn		20 03 44.6	+0.3
I05D	Terrebonne, OR baz=5.8	5.74	89	⇓P		Pn		20 03 44.6	-0.3
LON	Longmire	5.74	64	*e*P		Pn		20 03 45.0	+0.1
LON	Longmire	5.74	64	*e*Pn		Pn		20 03 45.0	+0.1
G05D	Wamic, OR baz=5.8,SNR=11	5.76	80	⇓P		Pn		20 03 45.3	+0.2
D05A	Enumclaw	5.80	60	*e*Pn		Pn		20 03 47.4	+1.7
PGC	Sidney 62nm,0.8s	5.80	42	*e*Pn		Pn		20 03 45.4	-0.2
FMW	Mount Fremont	5.90	63	P		Pn		20 03 47.7	+0.5
J05D	Fort Rock, OR baz=6.1	5.99	99	⇓P		Pn		20 03 47.7	-0.8
M04C	Macdoel baz=6.2	6.13	114	⇓P		Pn		20 03 50.9	+0.5
G06A	Carlson Farm,	6.24	80	*e*Pn		Pn		20 03 52.0	+0.3
WDC	Whiskeytown Da	6.38	126	*e*P		Pn		20 03 51.2	-2.4
WDC	Whiskeytown Da	6.38	126	*e*Pn		Pn		20 03 51.2	-2.4
K05A	Summer Lake	6.39	103	*e*Pn		Pn		20 03 56.9	+2.9
KIPM	Iron Peak	6.41	135	*e*Pn		Pn		20 03 51.8	-2.4
LTY	Liberty	6.65	63	*e*Pn		Pn		20 03 58.0	+0.6
A05A	Maple Falls	6.71	45	*e*Pn		Pn		20 03 59.9	+1.8
B06A	Marblemount	6.75	51	*e*Pn		Pn		20 04 00.1	+1.5
I07A	Izee	7.08	90	*e*Pn		Pn		20 04 03.5	+0.1
HAWA	Hanford	7.16	71	*e*Pn		Pn		20 04 04.5	+0.2
HOPS	Hopland Field 22nm,1.3s	7.24	137	*e*Pn		Pn		20 04 02.1	-3.3
D08A	Wollman Farm,	7.72	67	*e*Pn		Pn		20 04 12.6	+0.5
BBB	Bella Bella 0.6nm,0.3s,baz=200,slow=13,SNR=8.2	7.72	6	Pn		Pn		20 04 15.5	+3.5
BBB	comp=Z,532nm,21.4s,baz=186,slow=32				LR	LR		20 06 24.3	
WVOR	Wild Horse Val	8.06	101	*e*P		Pn		20 04 18.2	+1.3
WVOR	Wild Horse Val	8.06	101	*e*Pn		Pn		20 04 18.2	+1.3
C09A	Chrisman Ranch	8.36	63	*e*Pn		Pn		20 04 21.5	+0.6
BMO	Blue Mountains 24nm,1.5s	8.59	83	*e*Pn		Pn		20 04 23.5	-0.5
F10A	Beach Ranch, E	8.68	76	*e*Pn		Pn		20 04 28.0	+2.7
H02S1	DAWSON INLET T SNR=7.3	8.94	348	T		T		20 12 53.9	
NEW	Newport 0.4nm,0.3s,baz=246,slow=12,SNR=5.4	9.25	62	Pn		Pn		20 04 32.8	-0.2
NEW	comp=Z,2μm,20.7s,baz=250,slow=38				LR	LR		20 08 03.8	
NEW	Newport	9.25	62	*e*P		Pn		20 04 32.0	-1.0
NEW	Newport	9.25	62	*e*Pn		Pn		20 04 32.0	-1.0
NEW	Newport baz=9.3	9.25	62	⇑P		Pn		20 04 33.9	+0.9
CMB	Columbia Colle	9.34	131	*e*P		Pn		20 04 33.2	-1.2
CMB	Columbia Colle	9.34	131	*e*Pn		Pn		20 04 33.2	-1.2
WAKR	Walker	9.55	126	*e*Pn		Pn		20 04 38.4	+1.1
MFID	Camas Ranch	9.81	92	*e*Pn		Pn		20 04 42.2	+1.4
NVAR	Mina Array Bea 0.1nm,0.3s,baz=290,slow=13,SNR=11	10.27	122	Pn		Pn		20 04 45.9	-1.3
NV11	Mina Array Sit	10.36	122	*e*Pn		Pn		20 04 46.8	-1.6
BSMT	Bassoo Peak	10.64	67	*e*Pn		Pn		20 04 52.9	+0.7
HLID	Hailey	10.80	90	*e*Pn		Pn		20 04 56.4	+2.0
HLID	Hailey baz=11	10.80	90	⇓P		Pn		20 04 56.8	+2.4
JTMT	Jette	10.95	67	*e*Pn		Pn		20 04 56.9	+0.6
BLMT	Blacktail Moun	10.95	66	*e*Pn		Pn		20 04 57.0	+0.5
MSO	Missoula	11.03	72	*e*Pn		Pn		20 04 57.6	+0.1
MSO	Missoula baz=11	11.03	72	⇑P		Pn		20 04 58.6	+1.1
ELK	Elko 0.1nm,0.3s,baz=0.1,slow=7.0,SNR=13	11.06	105	Pn		Pn		20 04 59.9	+1.9
ELK	comp=Z,1μm,21.4s,baz=0.0,slow=38				LR	LR		20 09 15.1	
ELK	Elko	11.06	105	*e*P		Pn		20 04 59.6	+1.6
ELK	Elko	11.06	105	*e*Pn		Pn		20 04 59.6	+1.6
SWMT	Swartz Lake	11.09	69	*e*Pn		Pn		20 04 59.0	+0.7
YBMT	Yellow Bay	11.15	67	*e*Pn		Pn		20 04 59.1	0.0
TPH	Tonopah	11.15	121	*e*P		Pn		20 05 00.9	+1.6
TPH	Tonopah	11.15	121	*e*Pn		Pn		20 05 00.9	+1.6
SLMT	Seeley Lake	11.39	71	*e*Pn		Pn		20 05 02.9	+0.5
CHMT	Chamberlain Mo	11.51	72	*e*Pn		Pn		20 05 03.9	-0.3
VES	Vestal, Richgr baz=12	11.68	134	⇓P		Pn		20 05 04.9	-1.4
MCMT	McKenzie Canyo 32nm,1.7s	11.76	83	*e*Pn		Pn		20 05 09.3	+1.7
DLMT	Dillon	11.91	80	*e*Pn		Pn		20 05 11.9	+2.4
LRM	Limekiln Ridge	12.00	78	*e*Pn		Pn		20 05 11.5	+0.6
R11A	Troy Canyon, C	12.02	116	*e*Pn		Pn		20 05 12.8	+1.7
R11A	Troy Canyon, C baz=12	12.02	116	⇓P		Pn		20 05 11.6	+0.5
WRAK	Wrangell Islan	12.07	352	*e*Pn		Pn		20 05 15.8	+4.3
ISA	Isabella, Lake	12.13	133	*e*P		Pn		20 05 10.9	-1.7
ISA	Isabella, Lake	12.13	133	*e*Pn		Pn		20 05 10.9	-1.7
ISA	Isabella, Lake baz=12	12.13	133	⇑P		Pn		20 05 12.3	-0.3
DAC	Darwin (Calif)	12.15	129	*e*P		Pn		20 05 13.9	+1.0
DAC	Darwin (Calif)	12.15	129	*e*Pn		Pn		20 05 13.9	+1.0
MPMC	Manual Prospec baz=12	12.37	129	⇑P		Pn		20 05 14.4	-1.4
HVU	Hansel Valley	12.41	97	*e*P		Pn		20 05 17.2	+0.8
HVU	Hansel Valley	12.41	97	*e*Pn		Pn		20 05 17.2	+0.8
FURC	Furnace Creek, baz=12	12.44	126	⇓P		Pn		20 05 18.6	+2.0
HRY	Holter Researc	12.47	74	*e*Pn		Pn		20 05 17.2	+0.1
TPNV	Topopah Spring	12.47	123	*e*P		Pn		20 05 18.9	+1.6
TPNV	Topopah Spring	12.47	123	*e*Pn		Pn		20 05 18.9	+1.6
TPNV	Topopah Spring baz=12	12.47	123	⇑P		Pn		20 05 18.5	+1.2
BGU	Big Grassy Mou	12.53	101	*e*Pn		Pn		20 05 19.2	+1.2
LRMC	Laurel Mtn Rad baz=13	12.69	131	⇓P		Pn		20 05 18.9	-1.3
QLMT	Earthquake Lak	12.77	82	*e*Pn		Pn		20 05 23.1	+1.9
DUG	Dugway, Tooele	12.97	104	*e*P		Pn		20 05 25.3	+1.3
DUG	Dugway, Tooele	12.97	104	*e*Pn		Pn		20 05 25.3	+1.3
EDW2	Edwards Air Fo baz=13	12.99	134	⇓P		Pn		20 05 22.3	-1.9
YMR	Madison River 103nm,1.8s	13.11	83	*e*Pn		Pn		20 05 27.8	+1.8
SHOC	Shoshone, Teco baz=13	13.17	126	⇓P		Pn		20 05 27.9	+1.2
FXWY	Fox Creek	13.21	87	*e*Pn		Pn		20 05 28.5	+1.2
YFT	Old Faithful 56nm,1.4s	13.22	84	*e*Pn		Pn		20 05 31.3	+3.7
IMW	Indian Meadow	13.23	86	*e*Pn		Pn		20 05 29.9	+2.2
TPAW	Teton Pass	13.29	88	*e*Pn		Pn		20 05 30.0	+1.5
GSC	Goldstone, Bar	13.30	129	*e*P		Pn		20 05 28.0	-0.5
GSC	comp=Z,22nm,1.1s				pmax	pmax			
GSC	Goldstone, Bar comp=Z,22nm,1.1s	13.30	129	*e*Pn		Pn		20 05 28.0	-0.5
GSC	Goldstone, Bar baz=13	13.30	129	⇓P		Pn		20 05 29.0	+0.5
YNR	Norris Junctio comp=Z,46nm,1.6s	13.31	83	*e*Pn		Pn		20 05 31.4	+2.7
FLWY	Flagg Ranch	13.37	85	*e*Pn		Pn		20 05 32.2	+2.6
REDW	Red Top Meadow	13.38	88	*e*Pn		Pn		20 05 30.5	+0.7
MOOW	Moose Ponds	13.39	87	*e*Pn		Pn		20 05 31.8	+1.9
H17A	Grant Village comp=Z,79nm,1.7s	13.42	84	*e*Pn		Pn		20 05 33.4	+3.2
H17A	Grant Village baz=14	13.42	84	⇑P		Pn		20 05 33.0	+2.8
SHPR	Sheep Range	13.42	122	*e*P		Pn		20 05 30.9	+0.7
SNOW	Snow King Moun comp=Z,14nm,0.9s	13.44	88	*e*Pn		Pn		20 05 33.2	+2.7
I17A	Pilgrim Ck. baz=14	13.48	86	⇓P		Pn		20 05 34.4	+3.3
LOHW	Long Hollow	13.52	87	*e*Pn		Pn		20 05 33.1	+1.6
NLU	North Lily Min	13.58	104	P		Pn		20 05 32.8	+0.3
TCUT	Toone Canyon comp=Z,54nm,1.6s	13.60	98	*e*Pn		Pn		20 05 33.9	+1.2
EDM	Edmonton	13.64	45	*e*P		Pn		20 05 34.3	+1.2
EDM	Edmonton	13.64	45	*e*Pn		Pn		20 05 34.3	+1.2
TUQ	Turquoise Moun baz=14	13.70	127	⇑P		Pn		20 05 35.2	+1.2
JLU	Jordanelle comp=Z,37nm,1.5s	13.76	100	*e*Pn		Pn		20 05 35.1	+0.2
HEC	Hector,Ludlow baz=14	13.91	130	⇑P		Pn		20 05 36.7	-0.1
GCMT	Greycliff comp=Z,33nm,1.1s	13.95	78	*e*Pn		Pn		20 05 39.9	+2.5
DLBC	Dease Lake comp=Z,0.2nm,0.3s,baz=166,slow=11,SNR=4.4	13.95	359	Pn		P		20 05 43.4	-2.0
DLBC	comp=Z,3μm,20.4s,baz=174,slow=35				LR	LR		20 10 26.4	
DLBC	Dease Lake	13.95	359	*e*Pn		P		20 05 42.5	-2.9
EGMT	Eagleton	14.00	69	*e*Pn		Pn		20 05 39.2	+1.2
EGMT	Eagleton baz=14	14.00	69	⇓P		Pn		20 05 39.6	+1.7
H18A	Shhone NF, C baz=14	14.03	82	⇑P		Pn		20 05 40.4	+1.8
MVU	Marysvale	14.16	109	*e*Pn		Pn		20 05 40.0	-0.5
MSU	Marysvale	14.19	109	*e*P		Pn		20 05 41.4	+0.7
MSU	comp=Z,59nm,1.6s				pmax	pmax			
MSU	Marysvale comp=Z,59nm,1.6s	14.19	109	*e*Pn		Pn		20 05 41.4	+0.7
RLMT	Red Lodge comp=Z,27nm,1.1s	14.27	80	Pn		Pn		20 05 44.0	+2.1
GMRC	Granite Mounta baz=14	14.32	128	⇑P		Pn		20 05 44.4	+1.9
BW06	Boulder Array comp=Z,13nm,1.3s	14.44	90	*e*Pn		Pn		20 05 45.5	+1.3
C19A	Slack Wire Ran baz=14	14.44	70	⇓P		Pn		20 05 45.1	+1.0
PDAR	Pinedale Array baz=294,slow=11,SNR=9.8	14.44	90	Pn		Pn		20 05 44.9	+0.7
PDAR	comp=Z,2μm,19.3s,baz=285,slow=38				LR	LR		20 11 26.3	
F19A	Roth Farm, Mol baz=14	14.46	77	⇓P		Pn		20 05 45.6	+1.4
TMUT	Trail Mountain	14.47	105	*e*Pn		Pn		20 05 44.7	0.0
D19A	Cripps Ranch, baz=15	14.51	72	⇓P		Pn		20 05 46.7	+1.6
E19A	Rath Farm, Rou baz=15	14.56	75	⇑P		Pn		20 05 46.1	+0.5
B19A	Brinkman Farms baz=15	14.59	67	⇓P		Pn		20 05 46.7	+0.6
I19A	Meeetse baz=15	14.59	85	⇓P		Pn		20 05 48.7	+2.5
J19A	Crowheart baz=15	14.69	88	⇑P		Pn		20 05 48.5	+0.9
BELC	Belle Mtn. Jos baz=15	14.71	131	⇓P		Pn		20 05 47.3	-0.6
PFO	Pinyon Flats O	14.77	133	*e*P		Pn		20 05 46.1	-2.6
PFO	comp=Z,14nm,1.4s				pmax	pmax			
PFO	Pinyon Flats O comp=Z,14nm,1.4s	14.77	133	*e*Pn		Pn		20 05 46.0	-2.6
A19A	Klindworth Far baz=15	14.80	65	⇓P		Pn		20 05 50.2	+1.3
G20A	Bridger baz=15	15.01	80	⇓P		Pn		20 05 51.8	0.0
E20A	Meyer Farm, Mu baz=15	15.01	75	⇓P		Pn		20 05 51.8	0.0
F20A	Billings baz=15	15.01	78	⇑P		Pn		20 05 52.2	+0.4
SRU	San Rafael Swe	15.03	105	*e*P		Pn		20 05 52.6	+0.4
SRU	comp=Z,59nm,1.1s				pmax	pmax			
SRU	San Rafael Swe comp=Z,59nm,1.1s	15.03	105	*e*Pn		Pn		20 05 52.6	+0.4
IRM	Iron Mountain baz=15	15.06	128	⇑P		Pn		20 05 52.8	+0.3
W13A	Hualapai Mount baz=15	15.13	123	⇑P		P		20 05 58.7	0.0
C20A	Veseth Ranch, baz=15	15.14	70	⇓P		Pn		20 05 54.3	+0.8
B20A	Solberg Farm, baz=15	15.20	67	⇑P		Pn		20 05 55.5	+1.3
I20A	Worland baz=15	15.22	85	⇓P		Pn		20 05 54.8	+0.1
H20A	Greybull baz=15	15.24	83	⇑P		Pn		20 05 56.7	+1.9
BC3	Big Chuckawall baz=15	15.27	130	⇑P		Pn		20 05 53.6	-1.8
A20A	Cobblestone Ra baz=15	15.32	66	⇑P		Pn		20 05 58.0	+2.1
MONP	Monument Peak, baz=15	15.36	135	⇑P		Pn		20 05 54.7	-1.9
J20A	Shoshoni baz=15	15.37	87	⇓P		Pn		20 05 58.7	+2.2
BAR	Barrett comp=Z,39nm,1.6s	15.40	136	*e*Pn		Pn		20 05 58.6	+1.7
PDMCI	Parker Dam,Lak baz=16	15.54	126	⇑P		P		20 06 02.6	-0.4
SWSC	Sam W. Stewart baz=16	15.64	133	⇓P		Pn		20 06 01.8	+1.8
Y12C	Blythe baz=16	15.71	128	⇑P		Pn		20 06 03.0	+2.0
E21A	Keefer Ranch, baz=16	15.74	75	⇑P		Pn		20 06 02.8	+1.5
J21A	Lysite baz=16	15.82	87	⇓P		Pn		20 06 04.8	+2.3
I21A	Big Trails, Te baz=16	15.84	85	⇑P		Pn		20 06 04.5	+1.7
B21A	Ellsworth Farm baz=16	15.86	68	⇓P		P		20 06 05.2	-1.4
N20A	Spence Gulch, baz=16	15.93	96	⇑P		Pn		20 06 05.1	+1.1
GLA	Glamis	16.07	130	P		Pn		20 06 07.4	+1.8
GLA	Glamis	16.07	130	Pn		Pn		20 06 07.4	+1.8
O20A	White River Ci comp=Z,33nm,0.8s	16.20	98	*e*Pn		Pn		20 06 06.8	-0.7
O20A	White River Ci baz=16	16.20	98	⇑P		Pn		20 06 09.3	+1.9
F22A	Rosebud baz=16	16.34	77	⇓P		P		20 06 10.9	-1.0
D22A	Cohagen baz=16	16.35	73	⇑P		P		20 06 11.4	-0.6
H22A	Clearmont baz=16	16.39	82	⇓P		P		20 06 12.4	-0.2
I22A	9 Mile Ranch, baz=16	16.41	84	⇑P		P		20 06 11.7	-1.0
WUAZ	Wupatki comp=Z,27nm,1.3s	16.41	117	*e*Pn		P		20 06 11.9	-1.0
WUAZ	Wupatki baz=16	16.41	117	⇑P		Pn		20 06 11.8	+1.6
J22A	Midwest baz=16	16.50	86	⇑P		P		20 06 13.0	-0.8
E22A	Miles City baz=17	16.52	75	⇑P		Pn		20 06 12.6	+1.3
B22A	Reddig Ranch S baz=17	16.53	68	⇑P		P		20 06 13.3	-0.7
C22A	Vida baz=17	16.57	70	⇓P		P		20 06 13.7	-0.7
K22A	Casper comp=Z,32nm,1.4s	16.64	88	*e*Pn		Pn		20 06 13.1	+0.1
K22A	Casper baz=17	16.64	88	⇑P		P		20 06 14.6	-0.7
A22A	Carney Farms, baz=17	16.65	66	⇑P		Pn		20 06 13.1	+0.2
PV01	Paradox Valley comp=Z,3μm,1.2s	16.84	105	*e*Pn		Pn		20 06 15.3	-0.3
L22A	Ellis Ranch, M baz=17	16.86	90	⇑P		Pn		20 06 17.1	+1.2
113A	Mohawk Valley, baz=17	16.87	129	⇓P		Pn		20 06 16.8	+1.1
F23A	Volborg baz=17	16.93	77	⇑P		Pn		20 06 17.0	+0.4
M22A	Cedar Creek Ra baz=17	16.93	93	⇑P		Pn		20 06 17.9	+1.1
E23A	Ismay baz=17	16.96	75	⇑P		Pn		20 06 17.5	+0.6
G23A	Biddle baz=17	16.99	79	⇑P		Pn		20 06 18.3	+1.0
C23A	Lambert baz=17	17.05	70	⇑P		Pn		20 06 18.0	+0.1
HYT	Haines Junctio	17.05	346	*e*Pn		P		20 06 19.9	+0.2
X16A	Lo Mia Camp, P baz=17	17.08	120	⇑P		P		20 06 20.2	-0.1
B23A	Brockton baz=17	17.21	68	⇑P		Pn		20 06 19.5	-0.5
N22A	Wattenberg Ran baz=17	17.23	94	⇓P		Pn		20 06 20.9	+0.4
MVCO	Mesa Verde comp=Z,53nm,1.3s	17.35	108	*e*Pn		Pn		20 06 22.1	+0.1
MVCO	Mesa Verde baz=17	17.35	108	⇑P		Pn		20 06 22.9	+0.9
L23A	Garrett baz=17	17.37	90	⇑P		P		20 06 24.1	+0.6
O22A	Kremmling baz=17	17.39	97	⇓P		P		20 06 24.4	+0.5
P22A	Eagle baz=18	17.46	98	⇑P		Pn		20 06 24.2	+0.8
SMCO	Snowmass comp=Z,49nm,1.6s	17.48	100	*e*Pn		P		20 06 25.3	+0.3
C24A	Savage baz=18	17.55	71	⇑P		P		20 06 25.3	0.0
N23A	Red Feather La comp=Z,36nm,1.1s	17.56	94	*e*Pn		Pn		20 06 24.7	+0.1
F24A	Ekalaka baz=18	17.59	77	⇓P		Pn		20 06 25.6	+0.8
D24A	Glendive baz=18	17.62	73	⇓P		P		20 06 26.2	+0.1
H24A	Dirks Ranch, A baz=18	17.64	80	⇑P		Pn		20 06 24.0	-1.4
E24A	Baker baz=18	17.65	74	⇑P		P		20 06 26.8	+0.4
G24A	Alzada baz=18	17.66	79	⇓P		Pn		20 06 26.5	+0.8
W18A	Petrified Fore comp=Z,45nm,1.3s	17.71	115	*e*Pn		P		20 06 29.0	+1.7
W18A	Petrified Fore baz=18	17.71	115	⇓P		P		20 06 28.4	+1.1
I24A	Kuemmerle Ranc baz=18	17.73	83	⇓P		Pn		20 06 27.1	+0.6
DGMT	Dagmar comp=Z,243nm,2.1s	17.74	68	*e*Pn		Pn		20 06 27.3	+0.7
DGMT	Dagmar baz=18	17.74	68	⇓P		P		20 06 28.1	+0.8
J24A	Dixon Ranch, L baz=18	17.81	85	⇑P		P		20 06 28.7	+0.4
O23A	Lake Granby, G baz=18	17.82	96	⇑P		P		20 06 29.2	+0.5
K24A	Anderson Ranch baz=18	17.84	87	⇑P		Pn		20 06 28.3	+0.4
A24A	Westby baz=18	17.90	67	⇑P		P		20 06 29.9	+0.8
X18A	Snowflake baz=18	17.94	117	⇑P		P		20 06 30.7	+0.8
214A	Organ Pipe Nat baz=18	18.01	128	⇓P		P		20 06 32.1	+1.7
RSSD	Black Hills	18.10	82	*e*P		Pn		20 06 29.5	-1.8
RSSD	comp=Z,20nm,1.3s				pmax	pmax			
RSSD	Black Hills comp=Z,20nm,1.3s	18.10	82	*e*Pn		Pn		20 06 29.5	-1.8
M24A	Cheyenne baz=18	18.18	91	⇑P		P		20 06 33.3	+0.8
ISCO	Idaho Springs	18.20	97	*e*P		Pn		20 06 32.3	-0.2
ISCO	comp=Z,23nm,1.1s				pmax	pmax			
ISCO	Idaho Springs comp=Z,23nm,1.1s	18.20	97	*e*Pn		Pn		20 06 32.3	-0.2
P23A	Jefferson baz=18	18.20	98	⇓P		P		20 06 33.5	+0.6
I25A	Rochford baz=18	18.34	83	⇓P		Pn		20 06 34.7	+0.6
G25A	Newell baz=18	18.38	79	⇑P		P		20 06 32.4	-2.0
B25A	Knox Farm, Ray baz=18	18.42	69	⇑P		Pn		20 06 37.2	+2.3
A25A	Swangstu Ranch baz=18	18.48	67	⇑P		Pn		20 06 36.7	+1.0
K25A	Mack Ranch, Ha baz=19	18.54	87	⇑P		Pn		20 06 38.1	+1.5
R23A	Moffat baz=19	18.72	102	⇑P		Pn		20 06 40.2	+1.3
F26A	Lodgepole baz=19	18.83	76	⇓P		Pn		20 06 41.5	+1.5
D26A	Manning baz=19	18.91	73	⇑P		Pn		20 06 42.2	+1.3
TUC	Tucson	18.92	124	*e*P		P		20 06 38.5	-2.0
TUC	comp=Z,5.0nm,1.0s				pmax	pmax			
TUC	Tucson comp=Z,5.5nm,1.0s	18.92	124	*e*Pn		P		20 06 38.5	-2.0
G26A	Maurine baz=19	18.94	78	⇑P		Pn		20 06 41.4	+0.1
SDCO	Great Sand Dun comp=Z,16nm,1.0s	19.16	102	*e*Pn		P		20 06 43.0	-0.4
SDCO	Great Sand Dun baz=19	19.16	102	⇓P		P		20 06 43.8	+0.5
F27A	Lemmon baz=19	19.28	76	⇓P		P		20 06 45.1	+0.8
G27A	Dupree baz=19	19.40	78	⇓P		Pn		20 06 47.3	+0.5
YKA	Yellowknife Ar comp=Z,0.1nm,0.3s,baz=212,slow=10,SNR=13	19.95	20	P		P		20 06 51.4	0.0
YKA	comp=Z,0.1nm,0.3s,baz=214,slow=2.1,SNR=5.3				PcP	PcP		20 11

baz=21
S26A Kim 20.64 100 ⇑P P 20 07 00.1 +0.8
baz=21
PMR Palmer 20.68 333 eP Pn 20 07 01.6 -0.2
PMR pmax pmax
comp=Z,9.0nm,0.7s
PMR Palmer 20.68 333 eP Pn 20 07 01.6 -0.1
comp=Z,9.2nm,0.7s
PAX Paxson 20.69 339 P P 20 06 55.6 -4.0
PAX pmax pmax
comp=Z,17nm,1.7s
PAX Paxson 20.69 339 P P 20 06 55.6 -4.0
comp=Z,18nm,1.7s
T26A Comanche Natio 20.76 102 ⇑P P 20 07 01.3 +0.5
baz=21
R27A Eads 20.82 98 ⇑P P 20 07 01.6 +0.4
baz=21
DOT Dot Lake 20.93 342 P P 20 07 01.9 -0.2
comp=Z,17nm,1.6s
B29A Wagenman Farm, 20.96 68 ⇓P P 20 07 03.8 +1.2
baz=21
A29A Manning Farm, 21.04 67 ⇑P P 20 07 04.3 +0.9
baz=21
RSO Redoubt South 21.22 327 eP P 20 07 06.2 +0.7
EGAK Eagle 21.36 346 eP P 20 07 06.0 -0.6
comp=Z,12nm,1.6s
T27A Campo 21.43 101 ⇑P P 20 07 08.3 +0.5
baz=22
R28A Tribune 21.49 97 ⇑P P 20 07 08.6 +0.2
baz=22
U27A Thompson Grove 21.67 103 ⇓P P 20 07 11.3 +0.9
baz=22
S28A Manter 21.76 99 ⇑P P 20 07 12.8 +1.4
baz=22
T28A Walsh 21.83 100 ⇑P P 20 07 12.5 +0.4
baz=22
Q29A Oakley 21.85 95 ⇑P P 20 07 12.6 +0.3
baz=22
P30A Selden 22.12 93 ⇓P P 20 07 16.5 +1.3
baz=22
MCK McKinley 22.24 337 eP P 20 07 16.3 +0.1
MCK pmax pmax
comp=Z,40nm,1.8s
MCK McKinley 22.24 337 eP P 20 07 16.3 +0.1
comp=Z,40nm,1.8s
S29A Ulysses 22.30 98 ⇓P P 20 07 18.1 +1.0
baz=22
TRF Thorofare Moun 22.42 335 eP P 20 07 18.4 +0.2
comp=Z,43nm,1.6s
ILAR Eielson Array 22.54 340 P P 20 07 19.1 -0.3
comp=Z,4.2nm,1.2s,baz=147,slow=7.9,SNR=17
ILAR PcP PcP 20 11 12.6 +0.2
comp=Z,0.6nm,0.7s,baz=168,slow=2.6,SNR=6.3
ILAR LR LR 20 14 39.8
comp=Z,928nm,20.4s,baz=162,slow=33
PPLA Purkeypile 22.62 332 P P 20 07 21.3 +0.9
comp=Z,30nm,1.3s
KTH Kantishna Hill 22.69 335 eP P 20 07 20.9 -0.1
comp=Z,8.2nm,1.0s
MNTX Cornudas Mount 22.69 116 eP P 20 07 20.7 -0.5
comp=Z,34nm,1.8s
MNTX Cornudas Mount 22.69 116 ⇑P P 20 07 22.3 +1.0
baz=23
CAST Castle Rocks 22.95 334 eP P 20 07 24.5 +0.7
comp=Z,14nm,1.4s
R31A Burdett 23.14 95 ⇑P P 20 07 26.9 +1.0
baz=23
ULM Lac du Bonnet 23.25 64 P P 20 07 25.5 -1.3
comp=Z,7.3nm,1.0s,baz=282,slow=12,SNR=4.6
ULM LR LR 20 16 20.0
comp=Z,888nm,20.8s,baz=248,slow=36
ULM Lac du Bonnet 23.25 64 eP P 20 07 25.6 -1.3
ULM pmax pmax
comp=Z,14nm,0.9s
ULM Lac du Bonnet 23.25 64 eP P 20 07 25.6 -1.3
comp=Z,14nm,0.9s
AMTX Amarillo 23.27 105 eP P 20 07 25.8 -1.5
comp=Z,23nm,0.9s
AGMN Agassiz Nation 23.29 69 eP P 20 07 27.6 +0.3
comp=Z,43nm,1.5s
AGMN Agassiz Nation 23.29 69 ⇓P P 20 07 28.1 +0.8
baz=23
Y28A McKinney Farm, 23.42 108 ⇓P P 20 07 28.7 0.0
baz=23
ECSD EROS Data Cent 23.43 80 eP P 20 07 28.4 -0.4
comp=Z,17nm,1.1s
ECSD EROS Data Cent 23.43 80 ⇑P P 20 07 28.8 0.0
baz=24
X29A Tulia 23.49 106 ⇓P P 20 07 29.7 +0.2
baz=24
INK Inuvik 23.96 356 P P 20 07 32.6 -0.9
comp=Z,1.1nm,0.6s,baz=184,slow=4.2,SNR=4.8
INK LR LR 20 16 24.5
comp=Z,662nm,21.8s,baz=172,slow=35
INK Inuvik 23.96 356 eP P 20 07 30.9 -2.7
INK pmax pmax
comp=Z,11nm,1.4s
INK Inuvik 23.96 356 eP P 20 07 30.9 -2.7
comp=Z,11nm,1.4s
128A Castleberry Fa 24.01 110 ⇓P P 20 07 34.1 -0.5
baz=24
X30A Coker Ranch, T 24.06 105 ⇑P P 20 07 34.3 -0.7
baz=24
Z29A Hungry Hill Ra 24.16 108 ⇓P P 20 07 35.2 -0.7
baz=24
R33A Olander Ranch, 24.23 94 ⇑P P 20 07 35.8 -0.6
baz=24
228A UT Block 9, Go 24.25 112 ⇓P P 20 07 37.0 +0.3
baz=24
129A Stewart Farms, 24.42 110 ⇑P P 20 07 38.4 +0.1
baz=24
W32A Sentinel 24.83 102 ⇓P P 20 07 42.3 +0.4
baz=25
S34A Willow Spring 25.11 94 ⇓P P 20 07 44.7 +0.3
baz=25
V33A Lossen Ranch, 25.16 99 ⇓P P 20 07 45.2 +0.4
baz=25
X32A Elmer 25.18 103 ⇑P P 20 07 46.0 +1.0
baz=25
IM04 Indian Mountai 25.30 337 eP P 20 07 45.1 -0.8
COLD Coldfoot 25.34 341 eP P 20 07 46.7 +0.6
comp=Z,17nm,1.8s
WMOK Wichita Mounta 25.36 102 eP P 20 07 46.3 -0.4
WMOK pmax pmax
comp=Z,28nm,1.0s
WMOK Wichita Mounta 25.36 102 eP P 20 07 46.3 -0.4
comp=Z,28nm,1.0s
TXAR Lajitas Array 25.37 118 P P 20 07 45.9 -1.1
comp=Z,0.6nm,0.5s,baz=342,slow=12,SNR=4.9
TXAR LR LR 20 17 53.7
comp=Z,269nm,18.5s,baz=0.0,slow=37
U34A Anderson Ranch 25.39 97 ⇓P P 20 07 47.5 +0.6
baz=25
LPIG La Paz 25.61 136 LR LR 20 16 37.2
comp=Z,434nm,19.1s,baz=298,slow=34
330A Mertzon 25.64 111 ⇑P P 20 07 49.8 +0.5
baz=26
429A Davenport Ranc 25.66 113 ⇓P P 20 07 50.3 +0.8
baz=26
Z32A Haskell 25.66 106 ⇓P P 20 07 49.1 -0.3
baz=26
V34A Guthrie 25.69 99 ⇑P P 20 07 50.1 +0.4
baz=26
FCC Fort Churchill 25.75 44 eP P 20 07 50.9 +1.0
FCC pmax pmax
comp=Z,30nm,1.5s
FCC Fort Churchill 25.75 44 eP P 20 07 50.9 +1.0
comp=Z,30nm,1.5s
529A Stev Forest Ra 25.77 115 ⇑P P 20 07 51.9 +1.4
baz=26
W34A Bridge Creek, 25.81 100 ⇓P P 20 07 51.3 +0.5
baz=26
Y33A Hilltop Ranch, 25.86 103 ⇑P P 20 07 52.2 +1.0
baz=26
231A Bronte 25.89 109 ⇑P P 20 07 51.9 +0.4
baz=26
430A Baggett Ranch, 25.99 112 ⇑P P 20 07 53.2 +0.8
baz=26
R36A Gordon, Harris 26.00 92 ⇑P P 20 07 52.8 +0.4
baz=26
Z33A Whitaker Ranch 26.16 105 ⇓P P 20 07 54.6 +0.7
baz=26
331A San Angelo 26.20 110 ⇑P P 20 07 55.1 +0.7
baz=26
V35A Meyer Ranch, C 26.21 98 ⇑P P 20 07 55.0 +0.6
baz=26
530A J-C Ranch, Com 26.33 113 ⇓P P 20 07 56.2 +0.6
baz=26

232A Coleman 26.37 108 ⇑P P 20 07 56.3 +0.4
baz=26
133A Hamilton Ranch 26.45 106 ⇓P P 20 07 57.0 +0.5
baz=26
431A Sonora 26.47 112 ⇑P P 20 07 57.2 +0.4
baz=26
R37A Teagarden Farm 26.48 91 ⇑P P 20 07 56.9 0.0
baz=26
Y34A Reagan Ranch, 26.49 103 ⇑P P 20 07 56.9 0.0
baz=26
332A Millersview 26.61 109 ⇑P P 20 07 58.5 +0.4
baz=27
233A Rising Star 26.80 107 ⇓P P 20 07 59.7 -0.1
baz=27
X35A Drake 26.81 101 ⇓P P 20 07 59.7 -0.1
baz=27
531A Rocksprings 26.84 112 ⇑P P 20 08 00.6 +0.4
baz=27
W36A Wetumka 26.95 99 ⇓P P 20 08 01.1 0.0
baz=27
JCT Junction City 27.14 111 P P 20 08 03.2 +0.4
JCT pmax pmax
comp=Z,6.0nm,0.6s
JCT Junction City 27.14 111 P P 20 08 03.2 +0.4
comp=Z,5.6nm,0.6s
JCT Junction City 27.14 111 ⇓P P 20 08 04.1 +1.2
baz=27
333A Richland Sprin 27.16 109 ⇓P P 20 08 02.7 -0.3
baz=27
434A Burnet 27.96 109 ⇑P P 20 08 10.4 +0.3
baz=28
CMIG Matias Romero 39.80 122 P P 20 09 51.0 -1.8
comp=Z,7.2nm,1.1s,baz=326,slow=8.7,SNR=5.2
SCHQ Schefferville 40.46 52 LR LR 20 26 33.1
comp=Z,566nm,20.5s,baz=278,slow=36
SEY Seymchan 46.54 322 P P 20 10 44.6 -2.2
comp=Z,3.1nm,0.8s,baz=95,slow=11,SNR=3.9
PETK Petropavlovsk- 46.85 308 P P 20 10 50.9 +1.5
comp=Z,3.9nm,0.9s,baz=80,slow=12,SNR=4.4
PETK LR LR 20 27 17.1
comp=Z,116nm,21.8s,baz=75,slow=32
SUMG Summit 48.49 24 *i* P P 20 11 03.0 +0.7
SUMG Summit 48.49 24 eP P 20 11 03.0 +0.7
TIXI Tiksi 51.95 337⇑eP P 20 11 26.1 -1.9
TIXI pmax pmax
comp=Z,8.0nm,2.5s
TIXI Tiksi 51.95 337 eP P 20 11 26.2 -1.9
comp=Z,18nm,2.0s
YAK Yakutsk 56.50 326 eP P 20 12 00.8 -0.5
H11N3 WAKE ISLAND Hy 57.82 267 T T 21 14 29.1
baz=49,slow=75,SNR=298
H11N2 WAKE ISLAND Hy 57.82 267 T T 21 14 21.7
baz=49,slow=75,SNR=343
H11N1 WAKE ISLAND Hy 57.84 267 T T 21 14 30.2
baz=49,slow=75,SNR=245
H11S1 WAKE ISLAND Hy 58.76 266 T T 21 15 33.9
baz=48,slow=75,SNR=241
H11S2 WAKE ISLAND Hy 58.77 266 T T 21 15 34.5
baz=48,slow=75,SNR=130
H11S3 WAKE ISLAND Hy 58.78 266 T T 21 15 35.3
baz=48,slow=75,SNR=132
PMOR Pomariorio Ree 61.59 200 eT T 21 18 52.7
comp=Z,20nm,0.3s
VAH Vaihoa 61.75 200 eT T 21 19 05.3
comp=Z,7.5nm,0.4s
ROSC El Rosal 62.13 113 LR LR 20 41 29.3
comp=Z,68nm,21.8s,baz=16,slow=38
TIAR Tiarei 64.41 201 eT T 21 22 21.3
comp=Z,6.2nm,0.2s
PPT Papeete 64.48 201 LR LR 20 33 19.9
comp=Z,22nm,20.1s,baz=46,slow=29
PPT2 Papeete2 64.50 201 eLR LR 20 32 02.5
comp=Z,192nm,27.2s
ARCES ARCESS Array B 64.77 10 LR LR 20 42 46.1
comp=Z,141nm,18.2s,baz=1.5,slow=38
USRK Ussuriysk Ar. 65.93 309 P P 20 13 05.3 -0.1
comp=Z,2.3nm,0.9s,baz=51,slow=7.3,SNR=3.2
USRK LR LR 20 41 38.0
comp=Z,84nm,18.3s,baz=22,slow=36
MAJO Matsushiro 67.07 299⇓eP P 20 13 10.5 -2.4
MJAR Matsushiro Arr 67.07 299 P P 20 13 14.9 +2.0
comp=Z,2.2nm,0.8s,baz=57,slow=4.6,SNR=6.7
MJAR LR LR 20 37 16.9
comp=Z,88nm,21.8s,baz=105,slow=31
RKT Rikitea 67.50 186 eLR LR 20 33 31.0
comp=Z,461nm,27.2s
RKT Rikitea 67.50 186 eT T 21 26 19.3
comp=Z,2.5nm,0.3s
TBI Tubuai 69.99 200 eS S 20 22 43.2 +2.2
comp=Z,100nm,32.0s
TBI Tubuai 69.99 200 eLR LR 20 34 30.6
comp=Z,187nm,27.8s
TBI Tubuai 69.99 200 eT T 21 29 23.0
comp=Z,10nm,0.3s
NB2 NORSAR Subarra 70.04 19 P P 20 13 30.3 -0.8
comp=Z,5.4nm,1.1s,baz=336,slow=5.9
NOA NORSAR Array B 70.04 19 P P 20 13 31.2 +0.1
comp=Z,1.9nm,0.9s,baz=334,slow=5.9,SNR=4.1
NOA LR LR 20 44 20.2
comp=Z,52nm,18.5s,baz=345,slow=36
EKA Eskdalemuir Ar 70.61 29 LR LR 20 43 57.3
comp=Z,100nm,19.8s,baz=300,slow=35
FINES FINESS Array B 72.54 12 P P 20 13 47.3 +1.2
comp=Z,1.9nm,0.7s,baz=202,slow=1.0,SNR=4.3
FINES LR LR 20 46 31.9
comp=Z,132nm,18.5s,baz=352,slow=37
KSRS Korea Array 72.69 306 P P 20 13 49.1 +1.7
comp=Z,0.7nm,0.3s,baz=46,slow=8.8,SNR=4.5
KSRS LR LR 20 44 55.4
comp=Z,41nm,19.0s,baz=49,slow=35
KSAR Wonju Array Be 72.72 306 P P 20 13 49.2 +1.6
KSAR Wonju Array Be 72.72 306 P P 20 13 49.1 +1.6
TLY Talaya 73.82 329 eP P 20 13 54.4 +0.4
ULN Ulaanbaatar 75.53 325⇑eP P 20 14 04.3 +0.2
ULN pmax pmax
comp=Z,6.0nm,2.5s
SONM Songino Array 75.82 325 P P 20 14 05.4 -0.3
comp=Z,0.8nm,0.7s,baz=41,slow=4.1,SNR=5.7
SONM LR LR 20 47 18.5
comp=Z,162nm,19.6s,baz=50,slow=36
ZALV Zalesovo Beam 77.67 340 P P 20 14 14.6 -1.2
comp=Z,0.6nm,0.6s,baz=22,slow=4.6,SNR=4.1
ZALV LR LR 20 51 52.3
comp=Z,107nm,18.9s,baz=70,slow=38
ZALV Zalesovo Beam 77.67 340 *i* P P 20 14 16.2 +0.4
ZALV pmax pmax
comp=Z,2.0nm,0.8s
HHC Hu-ho-hao-te 78.97 318 eP P 20 14 25.1 +1.7
ARU Arti 79.21 356 *d* iP P 20 14 24.8 +0.5
ARU S S 20 24 22.8 -0.8
ARU pmax pmax
comp=Z,5.0nm,1.2s
BRG Berggiesshubel 79.80 23 eP P 20 14 29.1 +1.5
comp=Z,12nm,1.7s
comp=N,138nm,18.7s
comp=E,100nm,20.5s
comp=Z,157nm,14.0s
BRG Berggiesshubel 79.80 23 eP P 20 14 29.1 +1.5
BRG pmax pmax
comp=Z,13nm,1.7s
BRG MLR MLR
comp=N,138nm,18.7s
BRG MLR MLR
comp=E,100nm,20.5s
BRG MLR MLR
comp=Z,157nm,14.0s
OBN Obninsk 80.03 8⇑eP P 20 14 29.1 +0.3
OBN pmax pmax
comp=Z,8.0nm,0.5s
DPC Dobruska-Polom 80.91 21 eP P 20 14 33.9 +0.2
DPC ex x 20 14 44.7
DPC Dobruska-Polom 80.91 21 eP P 20 14 33.9 +0.2
DPC e 20 14 44.7
KHC Kasperske Hory 81.27 24 eP P 20 14 37.2 +1.6
KHC Kasperske Hory 81.27 24 eP P 20 14 37.2 +1.6
BRVK Borovoye 81.36 348⇑eP P 20 14 34.9 -1.0
BRVK pmax pmax
comp=Z,4.0nm,0.7s
BRVK Borovoye 81.36 348 P P 20 14 34.2 -1.7
comp=Z,4.4nm,0.8s
BVAR Borovoye Array 81.37 348 P P 20 14 35.5 -0.6
comp=Z,0.7nm,0.7s,baz=21,slow=9.5,SNR=6.2
BVAR LR LR 20 52 51.7
comp=Z,158nm,20.4s,baz=64,slow=37
GERES GERESS Array B 81.56 24 P P 20 14 36.7 -0.5
comp=Z,0.4nm,0.7s,baz=336,slow=5.9,SNR=4.2
GERES LR LR 20 50 41.3
comp=Z,131nm,21.5s,baz=332,slow=36
KURK Kurchatov 82.09 342 eP P 20 14 38.1 -1.8
KURK pmax pmax
comp=Z,7.0nm,1.2s
KURK Kurchatov 82.09 342 eP P 20 14 38.1 -1.8
comp=Z,6.7nm,1.2s
LPAZ La Paz 82.18 122 P P 20 14 39.6 -1.8
comp=Z,3.3nm,0.9s,baz=339,slow=6.6
ESDC Sonseca Array 82.85 39 LR LR 20 49 53.7
comp=Z,94nm,18.4s,baz=330,slow=34
AKASG Malin Array Be 83.36 14 P P 20 14 44.9 -1.6
comp=Z,0.2nm,0.3s,baz=349,slow=4.7,SNR=8.4
AKASG LR LR 20 51 36.2
comp=Z,150nm,21.6s,baz=295,slow=36
AKASG Malin Array Be 83.36 14 *e* P P 20 14 46.0 -0.4
KIEV Kiev 83.36 14⇑eP P 20 14 45.4 -1.0
MKAR Makanchi Array 84.89 339 P P 20 14 53.1 -1.3
comp=Z,0.3nm,0.6s,baz=12,slow=4.8,SNR=3.4
MKAR LR LR 20 56 35.4
comp=Z,121nm,18.1s,baz=16,slow=38
WMQ Urumqi 86.06 334 eP P 20 15 00.9 +0.6
WMQ pP pP 20 15 05.7 +1.1
WMQ sP sP 20 15 07.9 +1.7
WMQ PMZ
comp=Z,84nm,4.4s
WMQ LN
comp=Z,39nm,18.2s
WMQ LE
comp=Z,42nm,18.6s
LZH Lanzhou 86.42 319 eP P 20 15 01.9 -0.4
LZH pP PcP 20 15 05.2 +0.4
LZH sP sP 20 15 06.7 -1.5
LZH ePP PP 20 18 25.0 +2.1
LZH PMZ
comp=Z,15nm,1.5s
LZH PMZ
comp=Z,53nm,9.0s
LZH LN
comp=Z,130nm,17.0s
LZH LE
comp=Z,140nm,16.7s
LZH LZ
comp=Z,160nm,19.4s
JAY Jayapura 91.70 268 LR LR 20 51 08.5
comp=Z,96nm,19.3s,slow=32
KEST Kesra 91.78 32 LR LR 20 56 58.5
comp=Z,24nm,18.9s,baz=288,slow=36
KBZ Khabaz 91.88 6 LR LR 21 00 01.0
comp=Z,64nm,18.7s,baz=144,slow=38
BRTR Keskin Array B 94.76 13 LR LR 20 59 53.7
comp=Z,49nm,20.8s,baz=6.5,slow=36
BDFB Brasilia 94.78 107 LR LR 21 00 54.8
comp=Z,92nm,21.2s,baz=326,slow=37
GEYT Alibeck 97.66 354 LR LR 21 04 17.1
comp=Z,71nm,20.3s,baz=310,slow=38
PLCA Paso Flores 99.93 139 LR LR 20 53 06.6
comp=Z,43nm,21.3s,baz=287,slow=30

*ISCJB **07** 20:45:34.7±0.9,2°.51N±0°.07×128°.5E±0°.2,h250km, mb3.4/5, Error ellipse: s-maj=21.1km s-min=8.7km az=171.2*
*DJA **07** 20:45:36.1±0.5,3°N±4°×12°6E±°,h10km,M3.6/2,MLv3.6/2*
*IDC **07** 20:45:38.2±10.0,2°.49N×128°.51E,h271km±97km,mb3.0/5, mb1 3.2/5,mb1mx2.9/29,mbtmp3.6/5,MS3.5/1,Ms1 3.5/1, ms1mx2.8/14, Error ellipse: s-maj=98.5km s-min=15.3km az=56.0*

ISC 07 20:45:36.3±1.2,2°.5N±0°.1×128°.4E±0°.2,h250km,n13, σ1♀00/15,mb3.5/5,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.96**	**211**	P	**Pn**	**20 46 17.8**	**-0.6**
TNTI				S	**S**	**20 46 50.2**	**-1.4**
LBMI	**Labuha**	**3.19**	**196**	P	**Pn**	**20 46 32.1**	**+1.1**
LBMI				S	**S**	**20 47 14.2**	**-0.1**
LEM	**Lembang**	**22.69**	**246**	LR	LR	21 01 41.0	
	comp=Z,114nm,18.9s,baz=186,slow=42						
WRA	**Warramunga Arr**	**23.01**	**166**	P	**P**	**20 50 19.9**	**+0.3**
	0.9nm,0.4s,baz=344,slow=10,SNR=21						
ASAR	**Alice Springs**	**26.51**	**169**	P	**P**	**20 50 51.4**	**+0.2**
	0.4nm,0.3s,baz=350,slow=6.9,SNR=10						
ASAR				PcP	**PcP**	**20 54 09.1**	**-0.2**
	0.3nm,0.4s,baz=342,slow=2.5,SNR=5.5						
CMAR	**Chiang Mai Arr**	**32.94**	**301**	P	**P**	**20 51 49.4**	**+1.5**
	0.9nm,0.9s,baz=121,slow=6.4,SNR=7.8						
STKA	**Stephens Creek**	**36.37**	**161**	P	**P**	**20 52 16.6**	**-0.3**
	0.8nm,0.4s,baz=333,slow=8.1,SNR=9.0						
TAPN	**Taplejung**	**46.10**	**306**	eP	**P**	**20 53 34.4**	**-2.0**
ODAN	**Odare**	**46.15**	**306**	eP	**P**	**20 53 37.2**	**+0.5**
	2.2nm,0.3s						
RAMN	**Ramite**	**46.83**	**305**	eP	**P**	**20 53 42.4**	**+0.4**
	5.3nm,0.5s						
JIRN	**Jiri**	**47.46**	**306**	eP	**P**	**20 53 47.3**	**+0.4**
	4.3nm,0.3s						
GUN	**Gumba**	**47.81**	**306**	eP	**P**	**20 53 50.1**	**+0.5**
	9.6nm,0.8s						
MKAR	**Makanchi Array**	**59.54**	**325**	P	**P**	**20 55 12.7**	**-1.0**
	0.2nm,0.4s,baz=104,slow=5.1,SNR=4.4						

DJA 07 21:17:58.5±0.8,5°S±4°×10°2E±°,h23km±7km,M3.6/10, MLv3.6/10,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**0.98**	**69**	P	Pb	21 18 15.7	-1.1
MNAI				S	Sn	21 18 30.1	+0.1
MASI	**Maura Aman, Be**	**1.57**	**7**	P	Pn	21 18 25.2	+0.1
MASI				S	Sb	21 18 45.8	-0.7
LHSI	**Lahat**	**1.72**	**59**	P	Pn	21 18 27.9	+0.9
LWLI	**Liwa**	**2.04**	**99**	P	Pn	21 18 31.9	+0.4
LWLI				S	Sn	21 18 57.9	+1.5
MDSI	**Maura Dua**	**2.14**	**84**	P	Pn	21 18 32.3	-0.6
MDSI				S	Sn	21 19 00.7	+1.9
KASI	**Kota Agung**	**2.58**	**108**	P	Pn	21 18 39.7	+0.9
KASI				S	Sn	21 19 09.9	+0.4
KLSI		**2.68**	**90**	P	Pn	21 18 40.5	+0.2
KLSI				S	Sn	21 19 13.8	+1.7
KLI	**Kotabumi**	**2.81**	**93**	P	Pn	21 18 42.9	+0.8
KLI				S	Sn	21 19 17.2	+1.9

DJA 07 21:21:41.2±0.4,9°S±7°×11°6E±°,h82km±5km,M3.5/11, MLv3.5/11,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DNP	**Denpasar**	**0.88**	**276**	P	Pn	21 22 01.1	+2.1
DNP				S	Sn	21 22 13.4	+1.1
IGBI	**Denpasar**	**0.94**	**267**	P	Pn	21 22 00.8	+1.1
IGBI				S	Sn	21 22 15.4	+1.9
SRBI	**Singaraja**	**1.11**	**308**	P	Pn	21 22 02.6	+0.9
SRBI				S	Sn	21 22 18.1	+1.0
ABJI	**Asem Bagus**	**2.08**	**298**	P	Pn	21 22 14.7	+0.4
GMJI	**Gumukmas**	**2.67**	**280**	P	Pn	21 22 21.8	-0.4
GMJI				S	Sn	21 22 52.5	-1.2
BLJI	**Banyuglugur**	**2.68**	**292**	P	Pn	21 22 22.8	+0.5
BLJI				S	Sn	21 22 53.3	-0.5
WBSI	**Waikabubak, Su**	**3.36**	**105**	P	Pn	21 22 30.8	-0.8

MEX 07 21:30:10.0±0.5,16°.99N×98°.99W,h8km±6km,MD4.1,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLIG	**Tlapa**	**0.70**	**36**	eP	Pg	21 30 22.3	-1.5
TLIG				*i* S	Sg	21 30 31.3	-1.7
PNIG	**Pinotepa**	**1.02**	**125**	eP	Pg	21 30 26.8	-2.9
PNIG				*i* S	Sg	21 30 40.0	-3.0
MEIG	**Mezcala**	**1.11**	**327**	eP	Pg	21 30 28.1	-3.4
MEIG				*i* S	Sg	21 30 42.6	-3.3
CAIG	**El Cayaco**	**1.22**	**273**	eP	Pb	21 30 29.3	-4.0
CAIG				*i* S	Sb	21 30 44.0	-5.3
PLIG	**Platanillo**	**1.48**	**341**	eP	Pn	21 30 34.0	-3.0
PLIG				*i* S	Sn	21 30 52.0	-4.7

*CSEM **07** 21:31:06.9,51°.31N×16°.05E,h0km*

PRU 07 21:31:04.4,51°.40N×16°.06E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.58**	**165**	eP	Pg	21 31 15.4	-0.1

KSP				eSg		Sg	21 31 24.1	+1.1
UPC	**Upice**	**0.89**	**182**	*e*PG		Pg	21 31 22.1	+0.5
UPC	**Upice**	**0.89**	**182**	Pg		Pg	21 31 22.1	+0.5
DPC	**Dobruska-Polom**	**1.06**	**171**	*e*PG		Pg	21 31 24.2	-0.7
DPC				eSG		Sg	21 31 38.4	-0.4
DPC	**Dobruska-Polom**	**1.06**	**171**	Pg		Pg	21 31 24.2	-0.7
DPC				Sg		Sg	21 31 38.4	-0.4
PVCC	**Panska Ves**	**1.28**	**228**	*e*PG		Pg	21 31 28.9	-0.2
PVCC				eSG		Sg	21 31 46.1	+0.4
	comp=Z,26nm,0.2s							
PVCC	**Panska Ves**	**1.28**	**228**	Pg		Pg	21 31 28.9	-0.2
PVCC				Sg		Sg	21 31 46.1	+0.4
	26nm,0.2s							
KRLC	**Kraliky**	**1.40**	**161**	*e*PG		Pn	21 31 30.5	-0.8
KRLC				eSG		Sg	21 31 49.0	-0.7
KRLC	**Kraliky**	**1.40**	**161**	Pg		Pn	21 31 30.5	-0.8
KRLC				Sg		Sg	21 31 49.0	-0.7
BRG	**Berggiesshubel**	**1.43**	**249**	PG		Pn	21 31 30.8	-0.9
BRG				SG		Sb	21 31 50.9	+0.1
	10nm,0.3s							
GOPC	**GO Pecny, Ondr**	**1.69**	**209**	*e*SG		Sb	21 31 58.2	-0.2
GOPC	**GO Pecny, Ondr**	**1.69**	**209**	Sg		Sb	21 31 58.2	-0.2
PRU	**Pruhonice**	**1.71**	**215**	*e*PG		Pn	21 31 35.3	-0.2
PRU				eSG		Sn	21 31 58.2	+0.1
	comp=Z,2.9nm,0.2s							
PRU	**Pruhonice**	**1.71**	**215**	Pg		Pn	21 31 35.3	-0.2
PRU				Sg		Sn	21 31 58.2	+0.1
	2.9nm,0.2s							
CLL	**Collm**	**1.92**	**268**	*e*Pg		Pn	21 31 39.0	+0.7
CLL				eSg		Sb	21 32 05.0	+0.2
NKC	**Novy Kostel**	**2.57**	**244**	*e*SG		Sg	21 32 27.6	+0.5
	comp=Z,4.6nm,0.3s							
NKC	**Novy Kostel**	**2.57**	**244**	Sg		Sg	21 32 27.6	+0.5
	4.6nm,0.3s							
KHC	**Kasperske Hory**	**2.77**	**216**	*e*PG		Pb	21 31 55.2	+0.3
KHC				eSG		Sg	21 32 32.6	-1.1
	comp=Z,1.2nm,0.6s							
KHC	**Kasperske Hory**	**2.77**	**216**	Pg		Pb	21 31 55.2	+0.3
KHC				Sg		Sg	21 32 32.6	-1.1
	1.2nm,0.6s							

VIE ***07*** *21:31:42.8±0.2, 45°.64N × 10°.37E, h11km, mb2.3/10, ML3.0/11, Error ellipse: s-maj=1.3km s-min=0.8km az=22.0 65 km SSW of Pinzolo*

ISCJB ***07*** *21:31:43.7±0.3, 45°.64N±0°.01 × 10°.27E±0°.02, h18km±4km, Error ellipse: s-maj=2.7km s-min=2.0km az=37.7*

CSEM ***07*** *21:31:43.1±0.1, 45°.64N × 10°.37E, h12km, ML2.9/27, Error ellipse: s-maj=2.0km s-min=1.6km az=142.0*

ROM ***07*** *21:31:43.9±0.3, 45°.66N × 10°.42E, h8km±2km, Md2.9/23, Ml2.7/20, Error ellipse: s-maj=2.4km s-min=1.7km az=107.0*

GEN ***07*** *21:31:44.6, 45°.62N × 10°.39E, h10km, ML2.6*

LDG ***07*** *21:31:44.8±0.1, 45°.63N × 10°.41E, h10km, Md3.0/1, Ml2.8/20, Error ellipse: s-maj=3.0km s-min=2.0km az=68.0*

STR ***07*** *21:31:46.4±0.5, 45°.61N ± 9°.91E, h5km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

PRU ***07*** *21:31:49.1, 45°.75N × 10°.52E, h17km*

ISC 07 21:31:43.3±0.9, 45°.63N±0°.01×10°.34E±0°.02, h10km±7km, n167, σ1§17/266, 17C-16D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAGA	**Magasa**	**0.24**	**55**	⇓*i*Pg	**Pg**	**21 31 47.8**	**-0.6**
MAGA				Sg	**Sg**	**21 31 52.1**	**+0.2**
	1µm,0.4s						
MAGA	**Magasa**	**0.24**	**55**	⇓*i*Pg	**Pg**	**21 31 47.8**	**-0.6**
MAGA				Sg	**Sg**	**21 31 52.1**	**+0.2**
	1µm,0.4s						
BALD	**Monte Baldo**	**0.34**	**81**	⇑*e*Pg	**Pg**	**21 31 49.2**	**-0.9**
BALD				eSg	**Sg**	**21 31 54.1**	**-0.6**
BALD	**Monte Baldo**	**0.34**	**81**	⇑*e*Pg	**Pg**	**21 31 49.2**	**-0.9**
BALD				eSg	**Sg**	**21 31 54.1**	**-0.6**
RNI	**Roncone**	**0.41**	**31**	⇑*e*Pg	**Pg**	**21 31 51.0**	**-0.4**
RNI				eSg	**Sg**	**21 31 55.8**	**-1.0**
RNI	**Roncone**	**0.41**	**31**	⇑*e*Pg	**Pg**	**21 31 51.0**	**-0.4**
RNI				eSg	**Sg**	**21 31 55.8**	**-1.0**
ROVR	**Rover¯¤ Verone**	**0.51**	**88**	Pg	**Pg**	**21 31 52.6**	**-0.7**
ROVR				Sg	**Sg**	**21 32 00.2**	**+0.1**
	410nm,0.3s						
ROVR	**Rover¯¤ Verone**	**0.51**	**88**	Pg	**Pg**	**21 31 52.6**	**-0.7**
ROVR				Sg	**Sg**	**21 32 00.2**	**+0.1**
	410nm,0.3s						
MARN	**Marana (Italy)**	**0.61**	**89**	⇓*e*Pg	**Pg**	**21 31 54.4**	**-0.7**
MARN				eSg	**Sg**	**21 32 02.6**	**-0.5**
MARN	**Marana (Italy)**	**0.61**	**89**	⇓*e*Pg	**Pg**	**21 31 54.4**	**-0.7**
MARN				eSg	**Sg**	**21 32 02.7**	**-0.5**
SBPO	**S.Benedetto Po**	**0.71**	**145**	Pg	**Pg**	**21 31 56.6**	**-0.5**
	794nm,0.3s						
SBPO	**S.Benedetto Po**	**0.71**	**145**	Pg	**Pg**	**21 31 56.6**	**-0.5**
	794nm,0.3s						
BRMO	**Bormio**	**0.84**	**1**	Pg	**Pg**	**21 31 59.5**	**-0.1**
BRMO				Sg	**Sg**	**21 32 10.4**	**-0.2**
	38nm,0.2s						
BRMO	**Bormio**	**0.84**	**1**	Pg	**Pg**	**21 31 59.5**	**-0.1**
BRMO				Sg	**Sg**	**21 32 10.4**	**-0.2**
	38nm,0.2s						
PRMA	**PARMA**	**0.87**	**181**	Pg	**Pg**	**21 32 00.7**	**+0.6**
PRMA				Sg	**Sb**	**21 32 14.0**	**+1.8**
	149nm,0.6s						
PRMA	**PARMA**	**0.87**	**181**	Pg	**Pg**	**21 32 00.7**	**+0.6**
PRMA				Sg	**Sb**	**21 32 14.0**	**+1.8**
	149nm,0.6s						
NOVE	**Novellara**	**0.88**	**162**	Pg	**Pg**	**21 32 00.1**	**-0.1**
NOVE				Sg	**Sb**	**21 32 13.7**	**+1.4**
	513nm,0.3s						
NOVE	**Novellara**	**0.88**	**162**	Pg	**Pg**	**21 32 00.1**	**-0.1**
NOVE				Sg	**Sb**	**21 32 13.7**	**+1.4**
	513nm,0.3s						
MOSI	**Grossmontoni**	**0.99**	**8**	Pg	**Pg**	**21 32 02.0**	**-0.4**
MOSI				Sg	**Sg**	**21 32 15.7**	**+0.3**
	253nm,0.7s						
MOSI	**Grossmontoni**	**0.99**	**8**	⇓*e*Pg	**Pg**	**21 32 02.1**	**-0.4**
MOSI				Sg	**Sg**	**21 32 15.7**	**+0.3**
	253nm,0.7s						
RAVA	**Ravarino**	**1.04**	**148**	Pg	**Pg**	**21 32 03.9**	**+0.7**
RAVA	**Ravarino**	**1.04**	**148**	Pg	**Pg**	**21 32 03.9**	**+0.7**
APPI	**Appiano**	**1.05**	**36**	Pg	**Pg**	**21 32 02.9**	**-0.6**
	205nm,0.3s						
APPI	**Appiano**	**1.05**	**36**	Pg	**Pg**	**21 32 02.9**	**-0.6**
	205nm,0.3s						
CGRP	**Cima Grappa**	**1.05**	**76**	*e*Pg	**Pg**	**21 32 02.7**	**-0.8**
CGRP				eSg	**Sg**	**21 32 16.5**	**-0.7**
CGRP	**Cima Grappa**	**1.05**	**76**	Pg	**Pg**	**21 32 02.7**	**-0.8**
CGRP				Sg	**Sg**	**21 32 16.3**	**-0.9**
	109nm,0.3s						
CGRP	**Cima Grappa**	**1.05**	**76**	Pg	**Pg**	**21 32 02.7**	**-0.8**
CGRP				Sg	**Sg**	**21 32 16.3**	**-0.9**
	109nm,0.3s						
KOSI	**Kohlern**	**1.10**	**41**	Pg	**Pg**	**21 32 04.6**	**+0.1**
	95nm,0.3s						
KOSI	**Kohlern**	**1.10**	**41**	*e*Pg	**Pg**	**21 32 04.3**	**-0.2**
KOSI				eSg	**Sg**	**21 32 19.1**	**+0.3**
VARE	**Varese**	**1.13**	**283**	Pg	**Pb**	**21 32 05.3**	**+0.4**
VARE				Sg	**Sb**	**21 32 21.9**	**+2.2**
	250nm,0.5s						
VARE	**Varese**	**1.13**	**283**	Pg	**Pb**	**21 32 05.3**	**+0.4**
VARE				Sg	**Sb**	**21 32 21.9**	**+2.2**
	250nm,0.5s						
ERBM	**Eremo**	**1.22**	**178**	Pg	**Pn**	**21 32 07.2**	**+0.8**
	167nm,1.4s						
ERBM	**Eremo**	**1.22**	**178**	Pg	**Pn**	**21 32 07.2**	**+0.8**
	167nm,1.4s						
VARN	**Col Varnada, M**	**1.28**	**73**	⇑*e*Pg	**Pn**	**21 32 06.4**	**-1.0**
VARN				eSg	**Sb**	**21 32 24.1**	**-0.1**
VARN	**Col Varnada, M**	**1.28**	**73**	⇑*e*Pg	**Pn**	**21 32 06.4**	**-1.0**
VARN				eSg	**Sb**	**21 32 24.1**	**-0.1**
FIU	**Minerbio Fiu**	**1.28**	**140**	Pg	**Pn**	**21 32 07.6**	**+0.3**
	175nm,0.4s						
FIU	**Minerbio Fiu**	**1.28**	**140**	Pg	**Pn**	**21 32 07.6**	**+0.3**
	175nm,0.4s						
VALM	**Valbona**	**1.29**	**183**	P	**Pn**	**21 32 07.8**	**+0.4**
VALM				S	**Sb**	**21 32 23.7**	**-0.5**
ABSI	**Aberstueckl**	**1.29**	**31**	Pg	**Pn**	**21 32 08.0**	**+0.4**
	116nm,0.3s						
ABSI	**Aberstueckl**	**1.29**	**31**	Pg	**Pn**	**21 32 08.0**	**+0.4**
	116nm,0.3s						
ABSI				eSg	**Sn**	**21 32 26.4**	**+1.5**
CODM	**Codolo**	**1.29**	**196**	P	**Pn**	**21 32 07.6**	**+0.2**
CODM				S	**Sb**	**21 32 23.3**	**-1.0**
GSCL	**Gusciola**	**1.29**	**172**	Pg	**Pn**	**21 32 08.3**	**+0.8**
	17nm,0.4s						
GSCL	**Gusciola**	**1.29**	**172**	Pg	**Pn**	**21 32 08.3**	**+0.8**
	17nm,0.4s						
AGOR	**Agordo**	**1.35**	**61**	*e*Pg	**Pn**	**21 32 08.5**	**+0.1**
AGOR				eSg	**Sg**	**21 32 27.3**	**+0.4**
AGOR	**Agordo**	**1.35**	**61**	Pg	**Pn**	**21 32 08.7**	**+0.4**
	85nm,0.3s						
SC2M	**Scurtabo**	**1.36**	**205**	P	**Pn**	**21 32 08.7**	**+0.4**
SC2M				S	**Sb**	**21 32 25.1**	**-1.1**
ZCCA	**Zocca**	**1.36**	**160**	Pg	**Pb**	**21 32 09.9**	**+1.0**
	72nm,0.3s						
ZCCA	**Zocca**	**1.36**	**160**	Pg	**Pb**	**21 32 09.9**	**+1.0**
	72nm,0.3s						
FETA	**Feichten**	**1.41**	**11**	⇑*i*Pg	**Pn**	**21 32 10.0**	**+0.7**
FETA				⇑*i*Sn	**Sn**	**21 32 27.9**	**-0.1**
FETA				⇑*i*Sg	**Sg**	**21 32 29.8**	**+1.0**
	14nm,0.3s						
FETA	**Feichten**	**1.41**	**11**	Pg	**Pn**	**21 32 10.0**	**+0.7**
FETA				Sn	**Sn**	**21 32 27.9**	**-0.1**
FETA				Sg	**Sg**	**21 32 29.8**	**+1.0**
	14nm,0.3s						
MTRZ	**Monterenzio**	**1.49**	**147**	Pg	**Pg**	**21 32 13.4**	**+1.5**
MTRZ	**Monterenzio**	**1.49**	**147**	Pg	**Pg**	**21 32 13.4**	**+1.5**
ROSI	**Rosskopf**	**1.49**	**29**	Pg	**Pn**	**21 32 11.8**	**+1.4**
	139nm,0.6s						
ROSI	**Rosskopf**	**1.49**	**29**	⇑*e*Pg	**Pn**	**21 32 11.9**	**+1.5**
ROSI				eSg	**Sg**	**21 32 32.2**	**+0.9**
POLC	**Polcenigo**	**1.56**	**75**	*e*Pg	**Pb**	**21 32 12.5**	**+0.3**
POLC				eSg	**Sg**	**21 32 34.3**	**+0.9**
CIMO	**Cimolais**	**1.61**	**64**	*e*Pg	**Pn**	**21 32 12.7**	**+0.8**
CIMO				eSg	**Sb**	**21 32 34.9**	**+1.3**
CIMO	**Cimolais**	**1.61**	**64**	*e*Pg	**Pn**	**21 32 12.6**	**+0.8**
CIMO				eSg	**Sb**	**21 32 34.8**	**+1.3**
POPM	**Popiglio**	**1.62**	**169**	P	**Pn**	**21 32 12.5**	**+0.6**
POPM				S	**Sn**	**21 32 30.8**	**-2.0**
MLNI	**Malnisio**	**1.67**	**71**	⇓*e*Pg	**Pn**	**21 32 13.5**	**+0.9**
MLNI				eSg	**Sg**	**21 32 36.7**	**-0.2**
MLNI	**Malnisio**	**1.67**	**71**	⇓*e*Pg	**Pn**	**21 32 13.5**	**+0.9**
MLNI				eSg	**Sg**	**21 32 36.7**	**-0.2**
PCP	**Piancastagn**	**1.68**	**230**	P	**Pn**	**21 32 13.4**	**+0.6**
PCP				S	**Sn**	**21 32 32.9**	**-1.4**
DAVA	**Damuels**	**1.68**	**349**	⇑*e*Pg	**Pb**	**21 32 15.3**	**+0.8**
	SNR=17						
DAVA				⇓*i*Sn	**Sn**	**21 32 35.0**	**+0.3**
DAVA				⇓*i*Sg	**Sg**	**21 32 38.9**	**+1.4**
	26nm,0.2s						
DAVA	**Damuels**	**1.68**	**349**	Sn	**Sn**	**21 32 35.0**	**+0.3**
DAVA				Sg	**Sg**	**21 32 38.9**	**+1.4**
	26nm,0.2s						
MAIM	**Mastiano**	**1.72**	**176**	P	**Pn**	**21 32 13.6**	**+0.3**
MAIM				S	**Sn**	**21 32 33.4**	**-2.0**
SATI	**Passo dei Sala**	**1.75**	**279**	P	**Pn**	**21 32 14.7**	**+0.7**
SATI				S	**Sn**	**21 32 36.1**	**-0.4**
RISI	**Rein**	**1.78**	**42**	Pg	**Pn**	**21 32 15.2**	**+0.9**
	147nm,0.3s						
RISI	**Rein**	**1.78**	**42**	*e*Pg	**Pn**	**21 32 15.3**	**+0.9**
MOTA	**Moosalm**	**1.79**	**17**	⇓*i*Pn	**Pn**	**21 32 13.8**	**-0.6**
MOTA				⇓*e*Pg	**Pb**	**21 32 17.4**	**+1.1**
	SNR=26						
MOTA	**Moosalm**	**1.79**	**17**	Pn	**Pn**	**21 32 13.8**	**-0.6**
CSMI	**Casera Mimoias**	**1.83**	**61**	⇑*e*Pn	**Pn**	**21 32 15.8**	**+0.8**
CSMI	**Casera Mimoias**	**1.83**	**61**	*e*Pn	**Pn**	**21 32 15.8**	**+0.8**
WTTA	**Wattenberg**	**1.86**	**28**	⇓*i*Pn	**Pn**	**21 32 14.8**	**-0.6**
WTTA				⇓*e*Pg	**Pb**	**21 32 18.1**	**+0.6**
	SNR=8.7						
WTTA				⇓*i*Sg	**Sg**	**21 32 44.3**	**+1.2**
	9.6nm,0.2s						
WTTA	**Wattenberg**	**1.86**	**28**		**Sg**	**21 32 42.3**	**-0.8**
WTTA	**Wattenberg**	**1.86**	**28**	Pn	**Pn**	**21 32 14.8**	**-0.6**
ABTA	**Abfaltersbach**	**1.87**	**53**	⇓*i*Pn	**Pn**	**21 32 14.7**	**-0.8**
ABTA				⇓*i*Pg	**Pb**	**21 32 18.3**	**+0.6**
ABTA				⇑*i*Sn	**Sn**	**21 32 39.3**	**+0.1**
ABTA	**Abfaltersbach**	**1.87**	**53**	Pn	**Pn**	**21 32 14.7**	**-0.8**
PII	**Pisa**	**1.92**	**176**	Pg	**Pn**	**21 32 18.1**	**+2.1**
	41nm,0.2s						
PII	**Pisa**	**1.92**	**176**	Pg	**Pn**	**21 32 18.1**	**+2.1**
	41nm,0.2s						
CIRO	**Champorcher**	**1.95**	**270**	P	**Pn**	**21 32 18.7**	**+2.0**
SFI	**Santa Sofia**	**2.03**	**148**	Pg	**Pn**	**21 32 20.1**	**+2.5**
SFI	**Santa Sofia**	**2.03**	**148**	Pg	**Pn**	**21 32 20.1**	**+2.5**
VINO	**Villanova**	**2.14**	**72**	⇑*e*Pn	**Pn**	**21 32 19.3**	**+0.1**
VINO	**Villanova**	**2.14**	**72**	Pg	**Pn**	**21 32 19.2**	**+0.1**
	39nm,0.5s						
VINO	**Villanova**	**2.14**	**72**	⇑*e*Pn	**Pn**	**21 32 19.3**	**+0.1**
RORO	**Rocca Rossa**	**2.22**	**228**	P	**Pn**	**21 32 19.6**	**-0.6**
RSP	**Reno Superiore**	**2.22**	**258**	P	Pn	21 32 18.6	-1.7
IMI	**Imperia**	**2.45**	**226**	P	**Pn**	**21 32 22.9**	**-0.5**
LPG	**La Plagne**	**2.53**	**268**	*e*Pn	**Pn**	**21 32 24.4**	**-0.3**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**21 32 54.5**	**-1.1**
	11nm,0.4s						
LPG	**La Plagne**	**2.53**	**268**	*e*Pn	**Pn**	**21 32 24.4**	**-0.3**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**21 32 54.5**	**-1.1**
	5.5nm,0.4s						
KBA	**Koelnbreinsper**	**2.53**	**54**	⇑*e*Pn	**Pn**	**21 32 24.2**	**-0.4**
	SNR=9.7						
KBA				⇑*i*Pg	**Pb**	**21 32 30.6**	**+1.7**
KBA	**Koelnbreinsper**	**2.53**	**54**	Pn	**Pn**	**21 32 24.2**	**-0.4**
	SNR=9.7						
LPL	**La Plagne**	**2.54**	**269**	*e*Pn	**Pn**	**21 32 25.4**	**+0.6**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**21 32 53.8**	**-2.0**
	6.7nm,0.3s,SNR=1.0						
LPL	**La Plagne**	**2.54**	**269**	*e*Pn	**Pn**	**21 32 25.4**	**+0.6**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**21 32 53.8**	**-2.0**
	3.3nm,0.3s,SNR=1.0						
SAOF	**Saorge**	**2.58**	**231**	P	**Pn**	**21 32 25.2**	**+0.1**
SAOF	**Saorge**	**2.58**	**231**	P	**Pn**	**21 32 25.2**	**+0.1**
AUTN	**L'Aution**	**2.64**	**233**	P	**Pn**	**21 32 25.8**	**-0.4**
AUTN	**L'Aution**	**2.64**	**233**	P	**Pn**	**21 32 25.8**	**-0.4**
MBDF	**Montbardon**	**2.68**	**252**	*e*Pn	**Pn**	**21 32 26.9**	**+0.2**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**21 32 57.9**	**-1.4**
	11nm,0.5s						
MBDF	**Montbardon**	**2.68**	**252**	*e*Pn	**Pn**	**21 32 26.9**	**+0.2**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**21 32 57.9**	**-1.4**
	5.4nm,0.5s						
SBF	**Sospel**	**2.73**	**231**	*e*Pn	**Pn**	**21 32 27.4**	**+0.2**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**21 32 58.0**	**-2.2**
	13nm,0.2s,SNR=1.0						
SBF	**Sospel**	**2.73**	**231**	*e*Pn	**Pn**	**21 32 27.4**	**+0.2**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**21 32 58.0**	**-2.2**
	6.5nm,0.2s,SNR=1.0						
REVF	**Revere**	**2.84**	**229**	P	**Pn**	**21 32 29.4**	**+0.6**
REVF				S	**Sn**	**21 33 03.8**	**+0.7**
REVF	**Revere**	**2.84**	**229**	P	**Pn**	**21 32 29.4**	**+0.6**
REVF				S	**Sn**	**21 33 03.8**	**+0.7**
MVIF	**Mont Vial**	**2.86**	**234**	P	**Pn**	**21 32 29.5**	**+0.4**
MVIF				S	**Sn**	**21 33 03.4**	**-0.3**
MVIF	**Mont Vial**	**2.86**	**234**	P	**Pn**	**21 32 29.5**	**+0.4**
MVIF				S	**Sn**	**21 33 03.4**	**-0.3**
LOMF	**Lomont**	**2.97**	**307**	P	**Pn**	**21 32 31.2**	**+0.6**
CALN	**Calern**	**3.10**	**234**	P	**Pn**	**21 32 32.6**	**+0.2**
CALN				S	**Sn**	**21 33 09.2**	**-0.3**
CALN	**Calern**	**3.10**	**234**	P	**Pn**	**21 32 32.6**	**+0.2**
CALN				S	**Sn**	**21 33 09.2**	**-0.3**
CABF	**La Chapelle**	**3.12**	**290**	*e*Pn	**Pn**	**21 32 33.3**	**+0.7**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**21 33 08.4**	**-1.5**
	6.0nm,0.5s,SNR=1.0						
CABF	**La Chapelle**	**3.12**	**290**	*e*Pn	**Pn**	**21 32 33.3**	**+0.7**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**21 33 08.4**	**-1.5**
	3.0nm,0.5s,SNR=1.0						
MOF	**Molkenrain**	**3.13**	**316**	P	**Pn**	**21 32 33.3**	**+0.5**
MOF	**Molkenrain**	**3.13**	**316**	P	**Pn**	**21 32 33.3**	**+0.5**
ORIF	**Oris-en-Rattie**	**3.23**	**259**	*e*Pn	**Pn**	**21 32 34.7**	**+0.5**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**21 33 11.0**	**-1.7**
	8.2nm,0.4s						
ORIF	**Oris-en-Rattie**	**3.23**	**259**	*e*Pn	**Pn**	**21 32 34.7**	**+0.5**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**21 33 11.0**	**-1.7**
	4.1nm,0.4s						
PGF	**Pioggiola**	**3.23**	**198**	*e*Pn	Pn	21 32 32.4	-1.8
	SNR=1.0						
PGF				*e*Sn	**Sn**	**21 33 10.0**	**-2.8**
	2.4nm,0.2s						
PGF	**Pioggiola**	**3.23**	**198**	*e*Pn	Pn	21 32 32.4	-1.8
	SNR=1.0						
PGF				*e*Sn	**Sn**	**21 33 10.0**	**-2.8**
	1.2nm,0.2s						
HINF	**Hinteralfeld**	**3.24**	**314**	*e*Pn	**Pn**	**21 32 34.4**	**+0.1**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**21 33 11.1**	**-1.9**
	4.0nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	**3.24**	**314**	*e*Pn	**Pn**	**21 32 34.4**	**+0.1**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**21 33 11.1**	**-1.9**
	2.0nm,0.3s,SNR=1.0						
FRF	**La Foret Royal**	**3.36**	**233**	*e*Pn	**Pn**	**21 32 34.9**	**-0.9**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**21 33 14.1**	**-1.6**
	3.7nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**3.36**	**233**	*e*Pn	**Pn**	**21 32 34.9**	**-0.9**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**21 33 14.1**	**-1.6**
	1.9nm,0.2s,SNR=1.0						
NVLJ	**Novalja**	**3.38**	**107**	*i* Pn	**Pn**	**21 32 35.5**	**-0.6**
NVLJ				Sn	**Sn**	**21 33 12.2**	**-4.0**
WLS	**Welschbruch**	**3.45**	**325**	P	**Pn**	**21 32 38.1**	**+1.0**
WLS	**Welschbruch**	**3.45**	**325**	P	**Pn**	**21 32 38.1**	**+1.0**
CDF	**Champ du Feu**	**3.48**	**324**	*e*Pn	**Pn**	**21 32 38.2**	**+0.6**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**21 33 17.1**	**-1.8**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**21 33 36.1**	**+1.0**
	8.8nm,0.5s,SNR=1.0						
CDF	**Champ du Feu**	**3.48**	**324**	*e*Pn	**Pn**	**21 32 38.2**	**+0.6**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**21 33 17.1**	**-1.8**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**21 33 36.1**	**+1.0**
	4.4nm,0.5s,SNR=1.0						
LMR	**La Mourre**	**3.58**	**231**	*e*Pn	**Pn**	**21 32 38.5**	**-0.4**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**21 33 19.0**	**-2.2**
	3.6nm,0.3s,SNR=1.0						
LMR	**La Mourre**	**3.58**	**231**	*e*Pn	**Pn**	**21 32 38.5**	**-0.4**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**21 33 19.0**	**-2.2**
	1.8nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**3.63**	**312**	*e*Pn	**Pn**	**21 32 39.9**	**+0.4**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**21 33 21.1**	**-1.3**
	7.0nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**3.63**	**312**	*e*Pn	**Pn**	**21 32 39.9**	**+0.4**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**21 33 21.1**	**-1.3**
	3.5nm,0.3s,SNR=1.0						
SMRF	**Simiane la Rot**	**3.78**	**246**	*e*Pn	**Pn**	**21 32 42.2**	**+0.6**
	SNR=1.0						
SMRF				*e*Sn	**Sn**	**21 33 24.0**	**-2.1**
	2.1nm,0.2s						
SMRF	**Simiane la Rot**	**3.78**	**246**	*e*Pn	**Pn**	**21 32 42.2**	**+0.6**
	SNR=1.0						
SMRF				*e*Sn	**Sn**	**21 33 24.0**	**-2.1**
	1.0nm,0.2s						
UDBI	**Udbina**	**4.00**	**104**	*i* Pn	**Pn**	**21 32 46.4**	**+1.8**
UDBI				Sn	**Sn**	**21 33 29.6**	**-2.0**
UDBI	**Udbina**	**4.00**	**104**	*i* Pn	**Pn**	**21 32 46.4**	**+1.8**
UDBI				Sn	**Sn**	**21 33 29.5**	**-2.0**
VIVF	**Saint-Julien-l**	**4.08**	**261**	*e*Pn	**Pn**	**21 32 45.8**	**0.0**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**21 33 31.6**	**-2.0**
	2.5nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**4.08**	**261**	*e*Pn	**Pn**	**21 32 45.8**	**0.0**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**21 33 31.6**	**-2.0**
	1.2nm,0.3s,SNR=1.0						
KHC	**Kasperske Hory**	**4.13**	**31**	*e*SN	**Sn**	**21 33 34.0**	**-0.8**
KHC				*e*SG	**Sg**	**21 33 54.9**	**-1.0**
	comp=Z,3.8nm,0.6s						
KHC	**Kasperske Hory**	**4.13**	**31**	Sn	**Sn**	**21 33 34.0**	**-0.8**
KHC				Sg	**Sg**	**21 33 54.9**	**-1.0**
	3.8nm,0.6s						
PAGF	**Fort de Pagny**	**4.30**	**314**	*e*Pn	**Pn**	**21 32 49.3**	**+0.6**
PAGF	**

	2.0nm,0.3s							
SFK				⇓S	S	21 58 32.4	+0.8	
	47nm,0.5s							
KK31	**Karatay Array**	**6.35**	**1**	P	Pn	21 58 10.9	+0.6	
	1.6nm,0.4s,baz=172,slow=7.4,SNR=104							
KK31				⇓S	S	21 59 20.4	-2.5	
	2.2nm,0.3s,baz=189,slow=25,SNR=8.3							
AAK	**Ala-Archa**	**6.71**	**27**	⇓P	Pn	21 58 16.2	+1.1	
	1.0nm,0.3s							
AAK				⇑S	S	21 59 31.3	-0.3	
	16nm,0.7s							
AAK	**Ala-Archa**	**6.71**	**27**	P	Pn	21 58 14.7	-0.4	
	1.0nm,0.3s,baz=182,slow=6.5,SNR=10							
AAK				S	S	21 59 31.7	+0.1	
	0.9nm,0.3s,baz=348,slow=20,SNR=25							
TKM2	**Tokmak 2**	**7.39**	**32**	⇓P	Pn	21 58 23.9	0.0	
	1.1nm,0.5s							
TKM2				⇓S	S	21 59 46.4	-1.3	
	6.3nm,0.8s							
MKAR	**Makanchi Array**	**13.43**	**38**	P	Pn	21 59 40.3	-0.8	
	0.2nm,0.3s,baz=228,slow=15,SNR=4.6							
AB31	**Akbulak array**	**14.60**	**332**	P	P	21 59 56.4	-0.1	
	0.5nm,0.3s,baz=125,slow=11,SNR=25							
BVA0	**Borovoye Array**	**16.28**	**0**	P	P	22 00 15.3	+0.3	
	baz=170,slow=8.4,SNR=5.2							
BVAR	**Borovoye Array**	**16.28**	**0**	P	Pn	22 00 16.5	+0.8	
	0.3nm,0.3s,baz=181,slow=10,SNR=4.4							
AKTO	**Aktyubinsk**	**16.29**	**331**	P	P	22 00 15.6	+0.4	
	0.2nm,0.3s,baz=134,slow=9.5,SNR=4.5							
ZALV	**Zalesovo Beam**	**19.93**	**26**	P	P	22 00 55.0	+0.4	
	2.1nm,0.3s,baz=214,slow=10,SNR=18							
FINES	**FINESS Array B**	**36.97**	**326**	P	P	22 03 28.2	+0.4	
	3.5nm,1.0s,baz=102,slow=7.9,SNR=2.8							
ARCES	**ARCESS Array B**	**40.71**	**338**	P	P	22 03 59.4	+0.6	
	3.5nm,1.0s,baz=110,slow=7.8,SNR=6.0							
YAK	**Yakutsk**	**44.09**	**36**	LR	LR	22 25 41.8		
	comp=Z,29nm,18.6s,baz=151,slow=39							
TORD	**Torodi Ar. Bea**	**65.16**	**268**	P	P	22 06 56.8	-1.3	
	0.2nm,0.6s,baz=52,slow=5.3,SNR=3.2							

*IDC **07** 22:00:28.4±0.9, 12.97N×57.79E, h0km, mb3.6/10, mb1 3.7/10, mb1mx3.5/44, mbtmp3.6/10, MS3.3/8, Ms1 3.3/8, ms1mx3.0/33, Error ellipse: s-maj=23.2km s-min=22.0km az=1.0*

*ISCJB **07** 22:00:29.5±0.8, 13.0N±0.1×57.8E±0.1, h16km, mb3.6/10, MS3.2/8, Error ellipse: s-maj=19.1km s-min=17.2km az=135.8*

ISC 07 22:00:31.0±1.1, 13.0N±0.2×57.8E±0.2, h16km, n18, σ0s97/10, mb3.6/10, MS3.2/8, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**24.73**	**237**	P	**P**	**22 05 52.5**	**+0.4**
	1.9nm,0.7s,baz=52,slow=12,SNR=6.2						
KMBO				LR	LR	22 14 23.2	
	comp=Z,70nm,19.3s,baz=86,slow=34						
GEYT	**Alibeck**	**24.83**	**1**	P	**P**	**22 05 52.4**	**-0.2**
	1.1nm,0.8s,baz=200,slow=7.7,SNR=2.8						
EIL	**Elat**	**26.88**	**312**	LR	LR	22 16 00.6	
	comp=Z,59nm,18.9s,baz=117,slow=35						
ASF	**Jabal al Asfar**	**27.03**	**318**	P	**P**	**22 06 14.4**	**+1.7**
	2.3nm,0.9s,baz=65,slow=7.9,SNR=5.0						
GNI	**Garni**	**29.38**	**339**	LR	LR	22 19 56.2	
	comp=Z,29nm,21.2s,baz=128,slow=40						
BRTR	**Keskin Array B**	**34.08**	**326**	LR	LR	22 22 32.6	
	comp=Z,32nm,20.9s,baz=116,slow=39						
MKAR	**Makanchi Array**	**39.49**	**27**	P	**P**	**22 08 01.6**	**+0.8**
	0.6nm,0.8s,baz=231,slow=12,SNR=4.8						
MKAR				LR	LR	22 25 23.6	
	comp=Z,36nm,18.6s,baz=180,slow=38						
AKASG	**Malin Array Be**	**44.20**	**334**	P	**P**	**22 08 38.4**	**-0.8**
	0.2nm,0.3s,baz=133,slow=11,SNR=2.4						
ZALV	**Zalesovo Beam**	**46.10**	**22**	P	**P**	**22 08 54.5**	**+0.2**
	2.0nm,0.8s,baz=228,slow=8.6,SNR=8.9						
ZALV				LR	LR	22 30 21.9	
	comp=Z,43nm,19.0s,baz=157,slow=39						
GERES	**GERESS Array B**	**50.92**	**324**	LR	LR	22 32 21.0	
	comp=Z,12nm,20.7s,baz=84,slow=38						
TORD	**Torodi Ar. Bea**	**54.52**	**277**	P	**P**	**22 09 59.0**	**+0.3**
	0.4nm,0.9s,baz=82,slow=5.8,SNR=3.1						
ESDC	**Sonseca Array**	**60.11**	**308**	P	**P**	**22 10 36.5**	**-1.4**
	0.1nm,0.3s,baz=88,slow=5.3,SNR=2.8						
H01W3	**Cape Leeuwin H**	**71.54**	**134**	T	T	23 29 51.8	
	baz=302,slow=75,SNR=38						
H01W2	**Cape Leeuwin H**	**71.54**	**134**	T	T	23 29 52.3	
	baz=302,slow=75,SNR=40						
H01W1	**Cape Leeuwin H**	**71.56**	**134**	T	T	23 29 53.2	
	baz=302,slow=75,SNR=40						
WRA	**Warramunga Arr**	**82.11**	**113**	P	**P**	**22 12 51.2**	**-0.3**
	0.5nm,1.0s,baz=294,slow=4.6,SNR=2.5						
ASAR	**Alice Springs**	**82.81**	**116**	P	**P**	**22 12 55.0**	**-0.1**
	1.0nm,0.9s,baz=298,slow=5.4,SNR=6.0						
STKA	**Stephens Creek**	**91.61**	**122**	LR	LR	22 48 12.3	
	comp=Z,45nm,21.9s,baz=205,slow=31						

IDC 07 22:04:18.3±3.6, 5.58S×151.96E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/30, mbtmp3.7/3, Error ellipse: s-maj=119.3km s-min=29.7km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.31**	**229**	P	P	22 09 16.8	-0.8
	2.2nm,0.6s,baz=53,slow=9.9,SNR=20						
ASAR	**Alice Springs**	**25.02**	**222**	P	P	22 09 44.8	+0.5
	1.5nm,0.7s,baz=58,slow=8.8,SNR=15						
SONM	**Songino Array**	**66.54**	**328**	P	P	22 15 10.3	+0.1
	0.4nm,0.6s,baz=134,slow=6.2,SNR=2.7						
TORD	**Torodi Ar. Bea**	**149.74**	**287**	PKPbc	PKPbc	22 24 10.7	-0.6
	0.5nm,0.6s,baz=71,slow=2.3,SNR=8.8						

*ISCJB **07** 22:04:41.1±1.0, 13.89N±0.09×92.67E±0.07, h33km, mb3.4/4, Error ellipse: s-maj=13.8km s-min=9.6km az=22.7*

*IDC **07** 22:04:45.1±1.8, 13.55N×93.55E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.2/42, mbtmp3.3/5, ML3.5/1, Error ellipse: s-maj=62.7km s-min=22.5km az=64.0*

ISC 07 22:04:43.1±1.5, 13.9N±0.1×92.6E±0.1, h35km, n14, σ0s75/13, mb3.5/4, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.60**	**53**	Pn	**Pn**	**22 06 30.1**	**-1.3**
	0.2nm,0.3s,baz=238,slow=16,SNR=3.0						
CMAR				Sn	**Sn**	**22 07 57.8**	**+1.4**
	0.2nm,0.3s,baz=240,slow=25,SNR=3.2						
ODAN	**Odare**	**13.79**	**340**	*eP*	**Pn**	**22 07 56.7**	**+0.4**
	6.0nm,0.4s						
TAPN	**Taplejung**	**14.14**	**342**	*eP*	**Pn**	**22 08 00.9**	**-0.3**
RAMN	**Ramite**	**14.15**	**338**	*eP*	**Pn**	**22 08 01.2**	**-0.1**
JIRN	**Jiri**	**14.94**	**337**	*eP*	**Pn**	**22 08 12.1**	**0.0**
PKI	**Pulchoki**	**15.17**	**335**	*eP*	**Pn**	**22 08 15.1**	**0.0**
	4.4nm,0.3s						
PKIN	**Phulchoki**	**15.18**	**335**	*eP*	**Pn**	**22 08 16.0**	**+0.8**
	5.6nm,0.3s						
DMN	**Daman**	**15.33**	**334**	*eP*	**Pn**	**22 08 17.0**	**-0.1**
GKN	**Gorkha**	**15.88**	**333**	*eP*	**Pn**	**22 08 24.2**	**+0.1**
	4.3nm,0.3s						
KOLN	**Koldanda**	**16.15**	**330**	*eP*	**Pn**	**22 08 28.5**	**+0.8**
	10nm,0.6s						
MKAR	**Makanchi Array**	**33.92**	**347**	P	P	22 11 35.1	+12
	0.2nm,0.4s,baz=178,slow=8.0,SNR=6.3						
ZALV	**Zalesovo Beam**	**40.43**	**353**	P	P	22 12 28.6	+11
	0.5nm,0.6s,baz=157,slow=7.8,SNR=3.2						
WRA	**Warramunga Arr**	**53.08**	**128**	P	**P**	**22 13 58.0**	**+0.7**
	0.5nm,0.9s,baz=312,slow=8.2,SNR=5.7						
ASAR	**Alice Springs**	**55.00**	**132**	P	**P**	**22 14 11.2**	**-0.1**
	0.3nm,0.6s,baz=308,slow=6.6,SNR=3.0						

*ISCJB **07** 22:05:05.3±1.2, 33.94S±0.04×72.43W±0.09, h38km±12km, mb3.8/4, MS3.5/5, Error ellipse: s-maj=13.3km s-min=6.1km az=13.8*

*GUC **07** 22:05:05.0±0.4, 33.98S×72.26W, h13km±3km, ML4.3*

*IDC **07** 22:05:07.9±5.4, 33.96S×72.11W, h33km±39km, mb3.6/5, mb1 3.7/9, mb1mx3.6/29, mbtmp3.7/9, ML4.0/3, MS3.6/7, Ms1 3.6/7, ms1mx3.3/18, Error ellipse: s-maj=35.3km s-min=20.2km az=96.0*

ISC 07 22:05:06.6±2.3, 33.96S±0.04×72.23W±0.10, h28km±16km, n25, σ0s71/32, mb3.8/4, MS3.5/5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**1.05**	**28**	*eP*	**Pn**	**22 05 24.9**	**-0.7**
IHA				*eS*	**Sb**	**22 05 39.8**	**+0.1**
TACH	**Talagante**	**1.12**	**74**	*eP*	**Pn**	**22 05 25.8**	**-0.6**
RCDM	**Rinconada Maip**	**1.27**	**69**	*eP*	**Pn**	**22 05 28.2**	**-0.4**
NICH	**Los Niches**	**1.32**	**142**	*eP*	**Pn**	**22 05 29.0**	**-0.3**
NICH				*eS*	**Sb**	**22 05 47.0**	**-0.5**
SAN	**Santiago**	**1.40**	**69**	*eP*	**Pn**	**22 05 30.6**	**+0.2**
SAN				*eS*	**Sb**	**22 05 49.9**	**+0.2**
PCH	**Pirque**	**1.47**	**77**	*eP*	**Pn**	**22 05 31.7**	**+0.4**
PCH				*eS*	**Sb**	**22 05 52.3**	**+0.7**
TALC	**Talca**	**1.51**	**161**	*eP*	**Pn**	**22 05 31.9**	**0.0**
TALC				*eS*	**Sb**	**22 05 51.9**	**-0.9**
CLCH	**Cerro Calan**	**1.52**	**69**	*eP*	**Pn**	**22 05 32.5**	**+0.5**
CLCH				*eS*	**Sb**	**22 05 53.6**	**+0.6**
CLCH				AML	AML	22 06 06.1	
	comp=N,5μm,2.6s						
PEL	**Peldehue**	**1.52**	**58**	*eP*	**Pn**	**22 05 32.8**	**+0.7**
PEL				*eS*	**Sb**	**22 05 53.6**	**+0.4**
PEL				AML	AML	22 06 02.0	
	comp=N,11μm,1.1s						
LNCH	**Linares**	**1.95**	**165**	*eP*	**Pn**	**22 05 39.5**	**+1.6**
LNCH				*eS*	**Sb**	**22 06 05.2**	**-0.2**
CFAA	**Coronel Fontan**	**4.10**	**56**	Pn	**Pn**	**22 06 08.9**	**+1.4**
	comp=N,0.6nm,0.3s,baz=216,slow=14,SNR=17						
CFAA				Lg	Lg	22 07 12.5	
	comp=N,2.5nm,0.3s,baz=24,slow=19,SNR=11						
CFAA				LR	LR	22 08 06.8	
	comp=N,58nm,21.0s,baz=230,slow=44						
PLCA	**Paso Flores**	**6.89**	**169**	Pn	**Pn**	**22 06 46.6**	**+0.8**
	comp=N,1.3nm,0.3s,baz=341,slow=9.3,SNR=12						
PLCA				Lg	Lg	22 08 39.0	
	comp=N,0.7nm,0.3s,baz=264,slow=14,SNR=3.6						
PLCA				LR	LR	22 09 54.9	
	comp=N,124nm,18.3s,baz=352,slow=42						
CPUP	**Villa Florida**	**14.96**	**63**	Pn	**Pn**	**22 08 36.1**	**0.0**
	comp=N,0.1nm,0.3s,baz=236,slow=11,SNR=5.2						
CPUP				LR	LR	22 15 07.8	
	comp=N,1μm,18.1s,baz=227,slow=40						
LPAZ	**La Paz**	**17.98**	**13**	P	**Pn**	**22 09 14.8**	**-0.4**
	comp=N,0.2nm,0.3s,baz=202,slow=6.9,SNR=9.3						
SIV	**San Ignacio**	**20.52**	**32**	P	**P**	**22 09 42.1**	**-0.7**
	comp=N,1.9nm,0.6s,baz=226,slow=11,SNR=7.5						
SIV				LR	LR	22 19 03.5	
	comp=N,154nm,18.3s,baz=229,slow=41						
USHA	**Ushuaia**	**21.04**	**174**	LR	LR	22 17 00.9	
	comp=N,154nm,20.8s,baz=85,slow=34						
BDFB	**Brasilia**	**28.44**	**56**	P	**P**	**22 10 58.2**	**-1.1**
	comp=N,1.2nm,0.4s,baz=249,slow=14,SNR=2.7						
BDFB				LR	LR	22 23 24.0	
	comp=N,109nm,18.0s,baz=228,slow=39						
SNAA	**Sanae**	**51.68**	**158**	P	**P**	**22 14 10.6**	**-0.1**
	comp=N,0.6nm,0.8s,baz=107,slow=22,SNR=10						
TXAR	**Lajitas Array**	**69.62**	**331**	P	**P**	**22 16 14.5**	**+1.1**
	comp=N,0.2nm,0.5s,baz=150,slow=9.4,SNR=3.1						
DBIC	**Dimbokro**	**75.32**	**71**	LR	LR	22 47 27.9	
	comp=N,28nm,20.0s,baz=138,slow=34						
TORD	**Torodi Ar. Bea**	**84.34**	**70**	P	**P**	**22 17 36.8**	**+0.3**
	comp=N,1.5nm,0.7s,baz=262,slow=7.0,SNR=23						
TORD				LR	LR	22 54 36.3	
	comp=N,45nm,19.3s,baz=315,slow=35						
WRA	**Warramunga Arr**	**120.72**	**209**	PKP	**PKPdf**	**22 23 56.0**	**-0.5**
	comp=N,0.2nm,0.5s,baz=156,slow=1.8,SNR=4.9						
BVAR	**Borovoye Array**	**147.36**	**43**	PKPbc	**PKPbc**	**22 24 47.8**	**+0.7**
	comp=N,1.2nm,0.5s,baz=304,slow=3.4,SNR=8.0						
ZALV	**Zalesovo Beam**	**154.28**	**32**	PKPbc	**PKPbc**	**22 25 04.0**	**+0.5**
	comp=N,1.8nm,0.5s,baz=304,slow=2.9,SNR=9.7						
ZALV				PKPab	**PKPab**	**22 25 16.7**	**-0.9**
	comp=N,0.6nm,0.4s,baz=263,slow=6.0,SNR=3.7						
MKAR	**Makanchi Array**	**156.86**	**49**	PKPab	**PKPab**	**22 25 29.3**	**+0.3**
	comp=N,0.4nm,0.5s,baz=287,slow=6.6,SNR=5.4						

MEX 07 22:09:21.3±0.7, 16.77N×100.13W, h14km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.28**	**69**	*i* P	Pg	22 09 25.5	-1.7
ACX				*i* S	Sg	22 09 27.6	-3.6
CAIG	**El Cayaco**	**0.30**	**334**	*eP*	Pg	22 09 27.0	-0.7
CAIG				*i* S	Sg	22 09 31.4	-0.6
ARIG	**Puente Sto Nin**	**1.52**	**352**	*eP*	Pn	22 09 45.2	-2.8
ARIG				*i* S	Sn	22 10 03.4	-4.3
ZIIG	**Zihuatanejo**	**1.52**	**303**	*eP*	Pn	22 09 45.1	-3.1
TLIG	**Tlapa**	**1.69**	**62**	*eP*	Pn	22 09 47.3	-3.3
TLIG				*i* S	Sn	22 10 06.8	-5.3
PLIG	**Platanillo**	**1.72**	**20**	*eP*	Pn	22 09 47.6	-3.3
PLIG				*i* S	Sn	22 10 07.9	-4.9

MEX 07 22:10:33.8±0.4, 17.83N×101.81W, h15km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.40**	**124**	*i* P	Pg	22 10 41.1	-0.8
ZIIG				*i* S	Sg	22 10 46.2	-1.2
ARIG	**Puente Sto Nin**	**1.46**	**72**	*eP*	Pn	22 10 55.9	-3.9
ARIG				*eS*	Sn	22 11 13.5	-5.2
PLIG	**Platanillo**	**2.27**	**75**	*i* P	Pn	22 11 07.7	-3.2
PLIG				*i* S	Sn	22 11 34.8	-3.9

GUC 07 22:28:27.7±0.5, 33.96S×72.27W, h39km±2km, ML3.7, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.71**	**90**	*eP*	Pn	22 28 41.3	0.0
LNV				*eS*	Sn	22 28 51.4	+0.3
TACH	**Talagante**	**1.15**	**75**	*eP*	Pn	22 28 47.8	+0.5
TACH				*eS*	Sn	22 29 03.6	+1.8
RCDM	**Rinconada Maip**	**1.31**	**69**	*eP*	Pn	22 28 50.2	+0.8
RCDM				*eS*	Sn	22 29 07.6	+1.9
CHCH	**Chadas Angostu**	**1.34**	**89**	*eP*	Pn	22 28 51.5	+1.5
NICH	**Los Niches**	**1.35**	**141**	*eP*	Pn	22 28 51.0	+1.0
NICH				*eS*	Sn	22 29 09.2	+2.5
CACH	**El Canelo**	**1.40**	**97**	*eP*	Pn	22 28 52.7	+1.9
SAN	**Santiago**	**1.43**	**70**	*eP*	Pn	22 28 52.5	+1.3
SAN				*eS*	Sn	22 29 11.4	+2.5
TALC	**Talca**	**1.53**	**160**	*eP*	Pn	22 28 53.9	+1.4
TALC				*eS*	Sn	22 29 14.0	+2.9
CLCH	**Cerro Calan**	**1.55**	**69**	*eP*	Pn	22 28 54.5	+1.6
CLCH				*eS*	Sn	22 29 14.7	+2.9
CLCH				AML	AML	22 29 21.8	
	comp=E,1μm,0.8s						
PEL	**Peldehue**	**1.55**	**59**	*eP*	Pn	22 28 54.8	+1.9
PEL				*eS*	Sn	22 29 14.9	+3.1
PEL				AML	AML	22 29 26.0	
	comp=N,2μm,0.0s						

*ISK **07** 23:11:11.9, 37.65N×36.30E, h5km, MD3.1*

*DDA **07** 23:11:12.5, 37.60N×36.29E, h6km, MD3.3*

*CSEM **07** 23:11:12.8±0.3, 37.62N×36.27E, h5km, MD3.1, Error ellipse: s-maj=6.6km s-min=4.7km az=146.0*

ISC 07 23:11:12.8±1.1, 37.62N±0.02×36.30E±0.02, h7km±10km, n35, σ0s74/53, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.40**	**250**	*ePG*	**Pg**	**23 11 20.1**	**-0.4**
KOZT				*eSG*	**Sg**	**23 11 26.7**	**+1.0**
KOZT	**Kozan**	**0.40**	**250**	*ePg*	**Pg**	**23 11 20.1**	**-0.4**
KOZT				*eSg*	**Sg**	**23 11 26.7**	**+1.0**
KMRS	**Kahramanmaras**	**0.49**	**103**	*ePG*	**Pg**	**23 11 22.3**	**0.0**
KMRS				*eSG*	**Sg**	**23 11 29.2**	**+0.4**
KMRS	**Kahramanmaras**	**0.49**	**103**	*ePg*	**Pg**	**23 11 22.3**	**0.0**
KMRS				*eSg*	**Sg**	**23 11 29.2**	**+0.4**
KAMA	**Osmaniye**	**0.52**	**145**	*i* P	**Pg**	**23 11 22.8**	**-0.1**
KAMA				*i* S	**Sg**	**23 11 30.0**	**+0.3**
HCB	**Kahramanmara˜**	**0.56**	**119**	*i* P	**Pg**	**23 11 23.4**	**-0.2**
HCB				*i* S	**Sg**	**23 11 31.1**	**+0.2**
CEYT	**Ceyhan**	**0.75**	**216**	*ePG*	**Pb**	**23 11 27.8**	**-0.4**
CEYT	**Ceyhan**	**0.75**	**216**	*ePg*	**Pb**	**23 11 27.8**	**-0.4**
GZT	**Gaziantep**	**1.04**	**104**	*i* P	**Pg**	**23 11 32.5**	**-0.3**
GZT				*i* S	**Sn**	**23 11 49.3**	**+0.4**
KUZU	**Kuzuini**	**1.05**	**143**	*i* P	**Pn**	**23 11 33.1**	**-0.2**
KUZU				*i* S	**Sb**	**23 11 47.8**	**+0.5**
KUZU	**Kuzuini**	**1.05**	**143**	*i* P	**Pb**	**23 11 33.1**	**-0.2**
KUZU				*i* S	**Sb**	**23 11 47.8**	**+0.5**
KARA	**Karaisali**	**1.05**	**251**	*ePG*	**Pg**	**23 11 32.4**	**-0.6**
KARA	**Karaisali**	**1.05**	**251**	*ePg*	**Pg**	**23 11 32.4**	**-0.6**
PINB	**Pinarbasi**	**1.06**	**4**	*i* P	**Pg**	**23 11 32.3**	**-0.9**
PINB				*i* S	**Sb**	**23 11 48.8**	**+0.8**
PINB	**Pinarbasi**	**1.06**	**4**	*i* P	**Pg**	**23 11 32.3**	**-0.9**
PINB				*i* S	**Sb**	**23 11 48.8**	**+0.8**
TAHT	**Tahtakopru-Hat**	**1.24**	**184**	*ePN*	**Pn**	**23 11 36.5**	**-0.1**
TAHT	**Tahtakopru-Hat**	**1.24**	**184**	*ePn*	**Pn**	**23 11 36.6**	**-0.1**
DARE	**Darende-Malaty**	**1.34**	**44**	*ePN*	**Pn**	**23 11 37.4**	**-0.7**
DARE	**Darende-Malaty**	**1.34**	**44**	*ePn*	**Pn**	**23 11 37.4**	**-0.7**
AKCD	**Akcadag**	**1.45**	**62**	*i* P	**Pb**	**23 11 40.4**	**+0.1**
AKCD				*i* S	**Sg**	**23 12 00.7**	**+1.2**
AKCD	**Akcadag**	**1.45**	**62**	*i* P	**Pb**	**23 11 40.4**	**+0.1**
AKCD				*i* S	**Sg**	**23 12 00.7**	**+1.2**
YAYL	**Yayladag**	**1.59**	**186**	*i* P	**Pn**	**23 11 40.1**	**-1.4**
YAYL				*i* S	**Sb**	**23 12 03.0**	**+0.2**
YAYL	**Yayladag**	**1.59**	**186**	*i* P	**Pn**	**23 11 40.1**	**-1.4**
YAYL				*i* S	**Sb**	**23 12 03.0**	**+0.2**
ATAB	**Bozova**	**1.59**	**95**	*i* P	**Pg**	**23 11 43.1**	**-0.3**
ATAB				*i* S	**Sn**	**23 12 02.8**	**+0.4**
ATAB	**Bozova**	**1.59**	**95**	*i* P	**Pg**	**23 11 43.1**	**-0.3**
ATAB				*i* S	**Sn**	**23 12 02.8**	**+0.4**
MALT	**Malatya**	**1.82**	**67**	*ePN*	**Pn**	**23 11 44.9**	**+0.1**
MALT	**Malatya**	**1.82**	**67**	*ePn*	**Pn**	**23 11 44.9**	**+0.1**
URFA	**Urfa**	**2.02**	**94**	*ePN*	**Pn**	**23 11 47.3**	**0.0**
URFA	**Urfa**	**2.02**	**94**	*ePn*	**Pn**	**23 11 47.3**	**0.0**
KIZK	**Mersin**	**2.06**	**237**	*i* P	**Pb**	**23 11 51.1**	**+0.5**
KIZK	**Mersin**	**2.06**	**237**	*i* P	**Pb**	**23 11 51.1**	**+0.5**
ELZG	**Elazig**	**2.30**	**67**	*eP*	**Pb**	**23 11 54.0**	**-0.7**
ELZG	**Elazig**	**2.30**	**67**	*eP*	**Pb**	**23 11 54.0**	**-0.7**
ELZG				*i* S	**Sb**	**23 12 24.6**	**+1.2**
MARD	**Mardin**	**3.58**	**93**	*i* P	**Pn**	**23 12 09.1**	**+0.2**
BEST	**Besiri**	**3.95**	**85**	*i* P	**Pg**	**23 12 25.7**	**-2.8**

*LDG **07** 23:12:04.3±0.2, 16.70N×61.43W, h10km, Mb5.0/31, Ms4.4/12, Error ellipse: s-maj=12.0km s-min=4.7km az=88.0*

*MOS **07** 23:12:07.6±0.9, 16.56N×61.07W, h22km, mb5.3/78, MS4.4/5, Error ellipse: s-maj=5.3km s-min=4.5km az=93.6*

*NEIC **07** 23:12:10.9±0.1, 16.55N×60.98W, h34km, mb5.2/190, MW5.2, MW5.2, MD5.3(TRN), Error ellipse: s-maj=2.7km s-min=2.3km az=55.0, Moment Tensor Solution. s6 Moment tensor: Scale 10^16 Nm; Mrr=5.47; Mθθ=1.07; Mφφ=4.40; Mrθ=1.98; Mθφ=2.30; Mφr=6.57; Best double couple: M0=8.80000×10^16 NP1:φs145.00000°, δ20.00000°, λ75.00000°. NP2:φs341.00000°, δ71.00000°, λ95.00000°. Principal axes: T 8.8100, Plg63.0000°, Azm259.0000°; N -0.0100, Plg5.0000°, Azm159.0000°; P -8.8100, Plg25.0000°, Azm66.0000°; Moment Tensor Solution. s24 Moment tensor: Scale 10^16 Nm; Mrr=4.84; Mθθ=4.15; Mφφ=8.98; Mrθ=0.89; Mθφ=3.26; Mφr=3.26; Best double couple: M0=9.10000×10^16 NP1:φs180.00000°, δ34.00000°, λ108.00000°. NP2:φs338.00000°, δ58.00000°, λ78.00000°. Principal axes: T 5.6000, Plg74.0000°, Azm217.0000°; N 4.9000, Plg9.0000°, Azm344.0000°; P -10.5000, Plg12.0000°, Azm76.0000°;*

NEIC Felt [III] at Le Gosier, Pointe-a-Pitre and Sainte-Anne. Also felt at Basse-Terre, Bouillante, Lamentin, Le Moule, Les Abymes, Saint-Francois, Sainte-Rose, Terre-de-Bas and Trois-Rivieres. Felt at Bolands, Antigua and in much of Dominica and Martinique. Also felt on Montserrat.

*GCMT **07** 23:12:10.5±0.1, 16.56N×60.88W, h47km, MW5.2/87, Moment Tensor Solution. s80,c120; s87,c137; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr=0.70±.02; Mθθ=0.19±.01; Mφφ=0.51±.01; Mrθ=0.18±.01; Mθφ=0.41±.01; Mφr=0.34±.01; Best double couple: M0=0.84700×10^17 NP1:φs329.00000°, δ59.00000°, λ94.00000°. NP2:φs142.00000°, δ31.00000°, λ84.00000°. Principal axes: T 0.8020, Plg76.0000°, Azm249.0000°; N 0.0890, Plg3.0000°, Azm147.0000°; P -0.8920, Plg14.0000°, Azm56.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **07** 23:12:10.2±2.8, 16.45N×61.08W, h33km±21km, mb4.4/30, mb1 4.6/31, mb1mx4.5/34, mbtmp4.6/31, ML4.3/1, MS4.4/30, Ms1 4.4/30, ms1mx4.4/33 Error ellipse: s-maj=11.1km s-min=9.4km az=97.0*

*TRN **07** 23:12:10.8, 16.41N×61.02W, h27km, MD5.3, M4.8(FDF)*

*ISCJB **07** 23:12:12.0±0.2, 16.42N±0.02×61.08W±0.02, h64km±2km, mb5.0/268, Error ellipse: s-maj=3.2km s-min=2.1km az=41.0*

*BJI **07** 23:12:14.0, 16.40N×61.10W, h66km, mB5.2/8, Ms5.3/9, Ms7 4.9/12*

ISC 07 23:12:11.1±0.5, 16.46N±0.02×60.95W±0.04, h40km±4km, n1115, σ1s13/1166, mb5.1/268, MS4.4/36, 242C-243D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H05N1	**Guadeloupe/Mar**	**0.18**	**216**	Pn	**Pn**	**23 12 18.3**	**-0

SVV eS Sn 23 13 35.8 +1.5
SVB Belmont 3.19 185 eP Pn 23 13 00.3 +1.5
SVB eS Sn 23 13 36.6 +1.1
SVB Belmont 3.19 185 eP Pn 23 13 00.3 +1.5
FCV Fort Charlotte 3.30 185 eP Pn 23 13 02.0 +1.7
FCV eS Sn 23 13 39.4 +1.1
FCV Fort Charlotte 3.30 185 eP Pn 23 13 02.0 +1.7
FCV eS Sn 23 13 39.4 +1.1
BBGH Gun Hill 3.56 158 eP Pn 23 13 06.7 +2.8
BBGH Gun Hill 3.56 158 ePn Pn 23 13 06.5 +2.6
CDVI St. Croix 3.87 290 ePn Pn 23 13 09.2 +1.1
TBVI Tortola 4.00 300 ePn Pn 23 13 10.7 +0.7
TBVI eSn Sn 23 13 56.2 +0.6
GRSS Sisters 4.19 189 eP Pn 23 13 14.9 +2.4
GRSS Sisters 4.19 189 eS Sn 23 14 01.3 +1.1
GRSS Sisters 4.19 189 eP Pn 23 13 14.9 +2.4
STVI Saint Thomas 4.26 297 ePn Pn 23 13 14.1 +0.6
GRHS Sauteurs 4.27 189 eP Pn 23 13 15.7 +2.2
GRHS Sauteurs 4.27 189 eS Sn 23 14 02.9 +0.7
GRHS Sauteurs 4.27 189 eP Pn 23 13 15.7 +2.2
GRW Mount Saint Ca 4.33 189 eP Pn 23 13 16.3 +1.7
GRW Mount Saint Ca 4.33 189 eP Pn 23 13 16.3 +1.7
GRW eS Sn 23 14 03.3 -0.6
GRGR Grenville 4.36 189 *i* P Pn 23 13 15.9 +1.0
GRGR Grenville 4.36 189 ePn Pn 23 13 16.3 +1.4
GRGR eSn Sn 23 14 08.2 +3.8
HUMP Col San Antoni 4.97 290 ePn Pn 23 13 24.1 +0.9
HUMP eSn Sn 23 14 20.3 +0.8
SJG San Juan 5.23 289 eP Pn 23 13 27.9 +1.1
SJG San Juan 5.23 289 ePn Pn 23 13 27.9 +1.1
TPR Prospect 5.25 178 eP Pn 23 13 29.1 +2.0
TPR Prospect 5.25 178 eP Pn 23 13 29.1 +2.0
ICMP Isla Caja de M 5.52 286 ePn Pn 23 13 31.5 +0.8
CELP Cerrillos 5.61 287 ePn Pn 23 13 33.1 +1.0
OBIP Obispado Ponce 5.63 287 ePn Pn 23 13 32.6 +0.3
TRN Trinidad (W) 5.80 184 eP Pn 23 13 36.3 +1.7
TRN Trinidad (W) 5.80 184 eS Sn 23 14 38.9 -1.0
TRN Trinidad (W) 5.80 184 eP Pn 23 13 36.3 +1.7
TRN eS Sn 23 14 38.9 -1.0
TRN Trinidad (W) 5.80 184 eP Pn 23 13 36.3 +1.7
TRN eS Sn 23 14 38.9 -1.0
AOPR Arecibo Observ 5.85 290 ePn Pn 23 13 36.6 +1.3
AOPR eSn Sn 23 14 45.4 +4.2
LRS Lares 5.92 289 ePn Pn 23 13 37.8 +1.5
TBH Brigand Hill 5.95 181 eP Pn 23 13 38.9 +2.2
TBH Brigand Hill 5.95 181 eS Sn 23 14 42.3 -1.3
TBH Brigand Hill 5.95 181 eP Pn 23 13 38.9 +2.2
TBH eS Sn 23 14 42.3 -1.3
TBH Brigand Hill 5.95 181 eP Pn 23 13 38.9 +2.2
TBH eS Sn 23 14 42.3 -1.3
CRPR Cabo Rojo, PR 6.08 285 ePn Pn 23 13 38.2 -0.4
LSP Las Mesas 6.11 287 ePn Pn 23 13 40.0 +1.2
TPP Pointe-a-Pierr 6.13 185 eP Pn 23 13 42.1 +3.0
TPP Pointe-a-Pierr 6.13 185 eP Pn 23 13 42.1 +3.0
TPP Pointe-a-Pierr 6.13 185 eP Pn 23 13 42.1 +3.0
MPR Mayaguez 6.16 287 ePn Pn 23 13 40.6 +1.0
AGP Aguadilla 6.22 289 ePn Pn 23 13 42.5 +2.1
PCRV Puerto La Cruz 7.21 210 Pn Pn 23 13 55.3 +1.3
9.1nm,0.3s,baz=27,slow=6.6,SNR=37
PCRV Sn Sn 23 15 14.7 +0.1
7.3nm,0.3s,baz=17,slow=17,SNR=1.9
PCRV LR LR 23 17 02.6
comp=Z,5µm,19.4s,baz=20,slow=41
PCDR Punta Cana, DR 7.38 287 ePn Pn 23 13 59.7 +3.4
SMN1 Samana, DR 8.38 290 ePn Pn 23 14 10.6 +0.5
SDD Santo Domingo 8.78 284 ePn Pn 23 14 17.9 +2.4
SDDR Presa de Saban 10.17 286 ePn Pn 23 14 36.3 +1.7
GRTK Grand Turk 10.86 299 ePn Pn 23 14 40.8 -3.3
PAPH Port-au-Prince 11.02 282 ePn Pn 23 14 48.9 +2.6
JAKH Jacmel 11.19 281 ePn Pn 23 14 50.2 +1.7
LGNH LØogne 11.31 282 ePn Pn 23 14 51.8 +1.7
WSYH La Gonave Hosp 11.60 283 ePn Pn 23 14 55.1 +1.0
SDV Santo Domingo 12.08 233 ePn Pn 23 14 59.8 -1.1
HOJ Hope 15.17 278 *i* P P 23 15 45.6 -1.6
STH Stony Hill 15.23 278 *i* P Pn 23 15 45.5 +2.0
BBJ Bamboo Saint A 15.69 279 *i* P Pn 23 15 51.0 +1.6
CVJ Coleyville 15.93 279 *i* P Pn 23 15 51.9 -0.7
MTDJ Mount Denham 15.93 279 ePn Pn 23 15 51.5 -1.1
549nm,1.6s
BBSR BB Station 16.20 349 ePn Pn 23 15 50.7 -5.0
28nm,0.6s
PTGA Pitinga 17.11 177 P Pn 23 16 06.1 -1.3
1.2nm,0.3s,baz=358,slow=14,SNR=25
PTGA S Sn 23 19 05.8 -11
1.2nm,0.3s,baz=287,slow=19,SNR=3.2
PTGA LR LR 23 23 33.9
comp=Z,1µm,21.4s,baz=353,slow=40
PTGA Pitinga 17.11 177 ePn Pn 23 16 05.3 -2.1
43nm,0.9s
PTGA S Sn 23 19 05.8 -11
ROSC El Rosal 17.48 230 P P 23 16 15.3 +2.1
5.8nm,0.3s,baz=31,slow=3.8,SNR=35
ROSC LR LR 23 23 36.3
comp=Z,2µm,21.5s,baz=22,slow=40
ROSC El Rosal 17.48 230 ePn P 23 16 13.5 +0.4
BCIP Isla Barro Col 19.78 251 eP P 23 16 38.0 -0.1
301nm,1.4s
OTAV Otavalo 23.62 229 eP P 23 17 16.6 -2.5
64nm,1.5s
CSU Charleston Sou 23.86 317 eP P 23 17 19.9 -0.8
JTS JuntasAbangare 24.13 258 P P 23 17 21.6 -1.9
18nm,0.9s,baz=42,slow=3.5,SNR=8.1
JTS LR LR 23 26 09.4
comp=Z,823nm,20.1s,baz=62,slow=35
JTS JuntasAbangare 24.13 258⇑ eP P 23 17 22.1 -1.4
JTS pmax pmax
comp=Z,46nm,1.0s
JTS JuntasAbangare 24.13 258 eP P 23 17 21.9 -1.6
comp=Z,53nm,1.1s
SAML Samuel 25.35 185 eP P 23 17 34.3 -0.2
comp=Z,106nm,0.9s
TIGA Tifton 25.43 310 eP P 23 17 35.7 +0.6
comp=Z,159nm,1.3s
TIGA Tifton 25.43 310 ⇓P P 23 17 35.3 +0.2
baz=25
JSC Jenkinsville 25.44 318 eP P 23 17 34.5 -0.7
JSC pmax pmax
comp=Z,63nm,1.2s
JSC Jenkinsville 25.44 318 eP P 23 17 34.5 -0.7
comp=Z,63nm,1.2s
URVA University of 25.62 328 eP P 23 17 36.4 -0.4
JSRW J. Sargeant Re 25.89 328 eP P 23 17 39.2 0.0
CBN Corbin Frederi 26.03 329 eP P 23 17 41.0 +0.5
comp=Z,21nm,0.5s
KMSC Kings Mountain 26.04 319 eP P 23 17 40.4 -0.2
comp=Z,58nm,1.1s
KMSC Kings Mountain 26.04 319 ⇑P P 23 17 40.8 +0.2
baz=26
TEIG Tepich 26.20 282 P P 23 17 41.6 -0.6
comp=Z,22nm,0.6s,baz=16,slow=2.1,SNR=11
TEIG Tepich 26.20 282 eP P 23 17 41.2 -1.0
comp=Z,76nm,1.4s
GOGA Godfrey 26.39 314 eP P 23 17 43.6 -0.3
GOGA pmax pmax
comp=Z,41nm,1.1s
GOGA Godfrey 26.39 314 eP P 23 17 43.5 -0.3
comp=Z,42nm,1.1s
VWCC Virginia Weste 26.67 325 eP P 23 17 46.9 +0.5
CPNY Central Park 26.73 338 eP P 23 17 46.2 -0.5
comp=Z,35nm,1.2s
BLA Blacksburg 26.90 324 eP P 23 17 48.6 +0.2
BLA pmax pmax
comp=Z,43nm,0.8s
BLA Blacksburg 26.90 324 eP P 23 17 48.5 +0.2
comp=Z,43nm,0.8s
MVL Millersville 27.01 333 eP P 23 17 49.7 +0.4
comp=Z,27nm,1.2s
LUPA Lehigh Univers 27.11 335 eP P 23 17 50.9 +0.7
comp=Z,9.1nm,1.4s
BRAL Brewton 27.85 306 eP P 23 17 58.1 +1.1
comp=Z,70nm,1.3s
TKL Tuckaleechee C 27.91 318 P P 23 17 56.9 -0.6
comp=Z,7.0nm,0.7s,baz=142,slow=9.3,SNR=11
TKL LR LR 23 28 25.4
comp=Z,808nm,21.5s,baz=134,slow=35
TKL Tuckaleechee C 27.91 318 eP P 23 17 57.2 -0.3
TKL Tuckaleechee C 27.91 318 eP P 23 17 57.1 -0.3
KSPA Keystone Colle 28.08 336 eP P 23 17 58.4 -0.4
comp=Z,24nm,1.2s
SSPA Standing Stone 28.21 332 eP P 23 18 00.8 +0.7
comp=Z,145nm,2.7s
CPCT Cooper Cave 28.28 316 eP P 23 18 00.6 -0.2
TZTN Tazewell 28.32 319 eP P 23 18 00.9 -0.2
comp=Z,28nm,1.2s

LRAL Lakeview Retre 28.72 310 eP P 23 18 04.8 +0.1
comp=Z,36nm,1.4s
SWET Sewanee 29.09 315 eP P 23 18 08.1 0.0
ATAH Atahualpa 29.12 218 P P 23 18 09.2 +0.3
comp=Z,153nm,1.0s,baz=44,slow=6.2,SNR=49
ATAH LR LR 23 32 08.4
comp=Z,2µm,19.8s,baz=12,slow=41
ACSO Alum Creek Sta 30.44 325 eP P 23 18 20.5 +0.6
comp=Z,64nm,1.4s
WVT Waverly 30.89 315 eP P 23 18 22.8 -1.0
WVT pmax pmax
comp=Z,19nm,0.9s
WVT Waverly 30.89 315 eP P 23 18 22.8 -1.0
comp=Z,19nm,0.9s
WCI Wyandotte Cave 31.07 319 eP P 23 18 25.7 +0.2
WCI pmax pmax
comp=Z,14nm,0.8s
WCI Wyandotte Cave 31.07 319 eP P 23 18 25.7 +0.2
comp=Z,14nm,0.8s
OXF Oxford 31.19 311 eP P 23 18 25.6 -0.9
OXF pmax pmax
comp=Z,118nm,1.2s
OXF Oxford 31.19 311 eP P 23 18 25.6 -0.9
comp=Z,118nm,1.2s
BLO Bloomington 31.79 320 eP P 23 18 32.1 +0.3
BLO pmax pmax
comp=Z,22nm,0.7s
BLO Bloomington 31.79 320 eP P 23 18 32.1 +0.3
comp=Z,22nm,0.7s
USIN University of 31.79 318 eP P 23 18 31.8 0.0
comp=Z,138nm,1.4s
SIV San Ignacio 32.25 180 P P 23 18 37.2 +1.2
comp=Z,20nm,0.5s,baz=20,slow=10.0,SNR=64
AAM Ann Arbor 32.27 328 eP P 23 18 36.8 +0.9
AAM pmax pmax
comp=Z,79nm,1.4s
AAM Ann Arbor 32.27 328 eP P 23 18 36.8 +0.9
comp=Z,79nm,1.4s
CMIG Matias Romero 32.48 276 P P 23 18 35.1 -2.9
comp=Z,6.1nm,0.3s,baz=81,slow=3.2,SNR=22
OLIL Olney 32.51 318 eP P 23 18 38.0 -0.1
comp=Z,171nm,1.8s
SFIN Lafayette 32.89 322 eP P 23 18 41.6 +0.3
comp=Z,23nm,0.7s
SFIN Lafayette 32.89 322 ⇑P P 23 18 41.7 +0.4
baz=33
PBMO Poplar Bluff 33.02 314 eP P 23 18 41.7 -0.9
comp=Z,34nm,1.1s
LPAZ La Paz 33.31 193 P P 23 18 45.2 -0.7
comp=Z,8.7nm,0.9s,baz=5.4,slow=11,SNR=17
LPAZ PcP PcP 23 21 27.5 -0.1
comp=Z,3.8nm,0.8s,baz=2.1,slow=2.6,SNR=3.8
LPAZ LR LR 23 33 09.6
comp=Z,1µm,21.2s,baz=343,slow=38
LPAZ La Paz 33.31 193 eP P 23 18 44.5 -1.4
LPAZ 23 21 27.5
LPAZ pmax pmax
comp=Z,12nm,1.0s
LPAZ La Paz 33.31 193 eP P 23 18 44.5 -1.4
comp=Z,12nm,1.0s
LPAZ PcP PcP 23 21 27.5 -0.1
340A Bronson 33.43 302 ⇓P P 23 18 46.5 +0.2
baz=33
539A Cross D Ranch, 33.73 300 ⇓P P 23 18 48.6 -0.2
baz=34
339A Huntington 33.95 302 ⇓P P 23 18 50.7 0.0
baz=34
439A Center Grove, 33.96 301 ⇓P P 23 18 51.0 +0.2
baz=34
239A Gary 34.09 303 ⇓P P 23 18 52.2 +0.2
baz=34
139A Bunkhouse Ranc 34.25 304 ⇓P P 23 18 53.6 +0.3
baz=34
MIAR Mount Ida 34.30 308 eP P 23 18 53.1 -0.7
MIAR pmax pmax
comp=Z,23nm,1.4s
MIAR Mount Ida 34.30 308 eP P 23 18 53.1 -0.7
comp=Z,23nm,1.4s
BDFB Brasilia 34.36 158 P P 23 18 56.0 +1.5
comp=Z,7.2nm,0.9s,baz=328,slow=11,SNR=9.6
BDFB LR LR 23 34 02.4
comp=Z,333nm,20.1s,baz=313,slow=38
BDFB Brasilia 34.36 158 eP P 23 18 56.1 +1.6
438A Sam Houston St 34.53 301 ⇑P P 23 18 56.0 +0.3
baz=34
338A Crockett 34.57 302 ⇓P P 23 18 56.3 +0.2
baz=34
GLMI Grayling 34.59 330 eP P 23 18 56.1 0.0
comp=Z,149nm,1.2s
HKT Hockley 34.61 299 eP P 23 18 55.0 -1.4
HKT pmax pmax
comp=Z,40nm,1.3s
HKT Hockley 34.61 299 eP P 23 18 55.0 -1.4
comp=Z,40nm,1.3s
238A Jacksonville 34.61 303 ⇑P P 23 18 56.7 +0.2
baz=34
138A Matatall Enter 34.80 304 ⇓P P 23 18 58.5 +0.4
baz=35,SNR=5.3
Z38A Mt. Pleasant 34.92 305 ⇓P P 23 18 59.1 0.0
baz=35,SNR=5.4
337A Centerville 35.03 301 ⇓P P 23 19 00.4 +0.3
baz=35
537A Green Hill Far 35.05 299 ⇑P P 23 18 60.0 -0.3
baz=35
437A Phantom Ranch, 35.10 300 ⇓P P 23 19 00.6 -0.1
baz=35
237A Washetta, Mont 35.17 303 ⇓P P 23 19 01.3 0.0
baz=35
W38A Poteau 35.23 308 ⇑P P 23 19 02.0 +0.2
baz=35,SNR=13
137A Heron Place, G 35.31 304 ⇑P P 23 19 02.7 +0.2
baz=35
Z37A Pogue Cattle C 35.40 305 ⇓P P 23 19 03.1 -0.1
baz=35
736A Circle Diamond 35.42 297 ⇓P P 23 19 03.6 +0.2
baz=35,SNR=8.2
636A Smothers Creek 35.53 298 ⇓P P 23 19 04.3 -0.1
baz=36,SNR=7.7
436A Wall Ranch, Ga 35.63 300 ⇑P P 23 19 04.8 -0.5
baz=36
X37A Clayton 35.69 307 ⇑P P 23 19 05.7 -0.1
baz=36,SNR=8.8
236A Katherine and 35.75 302 ⇓P P 23 19 06.1 -0.2
baz=36
035Z Hargill 35.84 292 ⇑P P 23 19 06.6 -0.5
baz=36
835A Beeville 35.94 296 ⇓P P 23 19 08.0 +0.1
baz=36
W37A Quinton 35.94 308 ⇑P P 23 19 07.8 -0.1
baz=36,SNR=17
035A Encino 35.94 293 ⇓P P 23 19 07.6 -0.3
baz=36
735A Kenedy 36.03 297 ⇑P P 23 19 08.2 -0.6
baz=36
535A Dale 36.09 299 ⇓P P 23 19 08.2 -1.1
baz=36
635A Leesville 36.12 297 ⇑P P 23 19 08.0 -1.4
baz=36
335A Moody 36.28 301 ⇓P P 23 19 10.2 -0.6
baz=36,SNR=12
435B Jarrell 36.29 300 ⇓P P 23 19 09.5 -1.4
baz=36
JFWS Jewell Farm 36.31 323 eP P 23 19 10.9 -0.1
JFWS pmax pmax
comp=Z,21nm,0.8s
JFWS Jewell Farm 36.31 323 eP P 23 19 10.8 -0.1
comp=Z,21nm,0.8s
934A Benavides 36.42 294 ⇑P P 23 19 11.8 -0.3
baz=36,SNR=10
X36A Centrahoma 36.44 306 ⇓P P 23 19 11.4 -0.8
baz=36,SNR=15
034A Hebbronville 36.47 293 ⇑P P 23 19 12.0 -0.6
baz=36,SNR=7.3
WHTX Lake Whitney, 36.50 302 eP P 23 19 11.7 -1.1
comp=Z,29nm,0.6s
WHTX Lake Whitney, 36.50 302 ⇓P P 23 19 11.8 -1.0
baz=36
TUL1 Leonard 36.51 309 eP P 23 19 12.2 -0.5
comp=Z,156nm,1.6s
TUL1 Leonard 36.51 309 ⇑P P 23 19 12.3 -0.5
baz=36,SNR=10
834A Tilden 36.53 295 ⇑P P 23 19 12.6 -0.5
baz=36
W36A Wetumka 36.55 307 ⇓P P 23 19 12.4 -0.7
baz=36,SNR=9.1
634A China Grove, S 36.61 297 ⇑P P 23 19 12.2 -1.5
baz=36
135A Vickery Place, 36.63 303 ⇑P P 23 19 13.4 -0.4
baz=37,SNR=8.0
734A La Parita Cree 36.68 296 ⇑P P 23 19 12.7 -1.5
baz=37
Z35A Perchaven, San 36.74 304 ⇓P P 23 19 14.3 -0.4
baz=37,SNR=5.7
Q37A Longview Farm, 36.81 314 ⇑P P 23 19 14.5 -0.8
baz=37,SNR=7.4
R37A Teagarden Farm 36.82 313 ⇓P P 23 19 14.5 -0.8
baz=37,SNR=20
534A Blanco 36.85 298 ⇓P P 23 19 14.4 -1.4
baz=37,SNR=13
X35A Drake 36.86 306 ⇑P P 23 19 14.5 -1.2
baz=37,SNR=6.7
434A Burnet 36.87 300 ⇑P P 23 19 14.3 -1.6
baz=37,SNR=5.9
334A Lometa 36.97 300 ⇓P P 23 19 15.4 -1.4
baz=37,SNR=8.7
W35A Tecumseh 37.05 307 ⇓P P 23 19 16.5 -0.9
baz=37,SNR=16
234A Clairette 37.06 302 ⇓P P 23 19 16.4 -1.1
baz=37,SNR=5.7
933A Laredo 37.08 294 ⇑P P 23 19 16.8 -0.9
baz=37,SNR=12
S36A Lake Cedric, C 37.10 312 ⇑P P 23 19 17.0 -0.8
baz=37
134A White-Moore Ra 37.17 302 ⇓P P 23 19 17.6 -0.8
baz=37,SNR=9.6
V35A Meyer Ranch, C 37.24 308 ⇓P P 23 19 18.2 -0.8
baz=37,SNR=7.8
Z34A Collier Ranch, 37.28 304 ⇓P P 23 19 19.0 -0.3
baz=37,SNR=14
R36A Gordon, Harris 37.30 313 ⇓P P 23 19 18.6 -0.9
baz=37,SNR=5.4
833A Chaparral WMA, 37.30 295 ⇓P P 23 19 18.1 -1.5
baz=37,SNR=11
633A Saathoff Ranch 37.33 297 ⇓P P 23 19 18.7 -1.1
baz=37,SNR=8.3
Y34A Reagan Ranch, 37.33 305 ⇑P P 23 19 19.1 -0.6
baz=37,SNR=16
533A Kerrville 37.34 298 ⇓P P 23 19 18.4 -1.5
baz=37,SNR=7.8
433A Art 37.54 299 ⇓P P 23 19 20.2 -1.4
baz=38,SNR=14
PSET Sete Cidades 37.56 49 eP P 23 19 23.0 +1.3
comp=Z,257nm,1.4s
333A Richland Sprin 37.58 300 ⇑P P 23 19 20.6 -1.4
baz=38,SNR=19
X34A Smith Ranch, M 37.60 306 ⇑P P 23 19 21.5 -0.5
baz=38
S35A Otter Creek Ra 37.61 311 ⇓P P 23 19 20.9 -1.2
baz=38
233A Rising Star 37.69 301 ⇑P P 23 19 21.8 -1.0
baz=38,SNR=22
PSMN Pico do Norte, 37.71 50 eP P 23 19 24.1 +1.2
comp=Z,106nm,1.1s
COWI Conover 37.74 328 eP P 23 19 23.5 +0.5
comp=Z,56nm,1.5s
W34A Bridge Creek, 37.77 307 eP P 23 19 22.4 -1.1
comp=Z,27nm,0.7s
W34A Bridge Creek, 37.77 307 ⇑P P 23 19 22.6 -0.8
baz=38
V34A Guthrie 37.78 308 eP P 23 19 22.9 -0.7
comp=Z,44nm,0.8s
V34A Guthrie 37.78 308 ⇑P P 23 19 23.2 -0.4
baz=38,SNR=9.7
832A Faith Ranch, C 37.80 295 ⇑P P 23 19 22.1 -1.6
baz=38,SNR=16
632A Uvalde 37.86 297 ⇑P P 23 19 23.2 -1.1
baz=38,SNR=17
133A Hamilton Ranch 37.86 302 ⇑P P 23 19 23.3 -1.0
baz=38,SNR=5.4
732A Laxson Ranch, 37.87 296 ⇑P P 23 19 22.8 -1.6
baz=38,SNR=10
Z33A Whitaker Ranch 37.93 303 ⇑P P 23 19 24.0 -0.8
baz=38,SNR=13
BART Pico Bartolome 37.94 49 eP P 23 19 26.2 +1.3
comp=Z,133nm,1.0s
Y33A Hilltop Ranch, 38.03 305 ⇓P P 23 19 24.8 -0.8
baz=38,SNR=9.6
JCT Junction City 38.07 299 eP P 23 19 24.9 -1.2
JCT pmax pmax
comp=Z,89nm,1.3s
JCT Junction City 38.07 299 eP P 23 19 24.9 -1.2
comp=Z,88nm,1.3s
JCT Junction City 38.07 299 ⇓P P 23 19 24.9 -1.2
baz=38,SNR=31
532A Rocksprings 38.09 298 ⇑P P 23 19 25.2 -1.0
baz=38,SNR=51
X33A Lawton 38.10 305 ⇓P P 23 19 25.0 -1.3
baz=38,SNR=6.5
432A Menard 38.15 299 ⇓P P 23 19 25.3 -1.5
baz=38,SNR=15
S34A Willow Spring 38.19 311 ⇓P P 23 19 26.4 -0.5
baz=38,SNR=7.5
332A Millersview 38.23 300 ⇓P P 23 19 25.9 -1.5
baz=38,SNR=11
232A Coleman 38.27 301 ⇑P P 23 19 26.5 -1.3
baz=38
W33A Caddo, Fort Co 38.27 306 ⇑P P 23 19 27.2 -0.5
baz=38
V33A Lossen Ranch, 38.36 307 ⇓P P 23 19 27.7 -0.8
baz=38,SNR=10.0
WMOK Wichita Mounta 38.38 306 eP P 23 19 27.4 -1.2
WMOK pmax pmax
comp=Z,88nm,1.8s
WMOK Wichita Mounta 38.38 306 eP P 23 19 27.4 -1.2
comp=Z,88nm,1.8s
KSU1 Kansas State U 38.42 313 eP P 23 19 27.1 -1.7
comp=Z,33nm,0.6s
KSU1 Kansas State U 38.42 313 ⇑P P 23 19 27.9 -0.9
baz=38
U33A Lingo Farm, Me 38.45 308 ⇑P P 23 19 28.5 -0.6
baz=38
ABTX Abilene, Hawle 38.46 302 eP P 23 19 28.2 -1.1
comp=Z,159nm,1.5s
ABTX Abilene, Hawle 38.46 302 ⇑P P 23 19 28.3 -1.1
baz=38,SNR=15
Z32A Haskell 38.51 303 ⇓P P 23 19 28.9 -0.9
baz=38,SNR=9.8
631A Perdido Creek 38.52 297 ⇑P P 23 19 28.3 -1.5
baz=38,SNR=19
SCHQ Schefferville 38.56 355 P P 23 19 30.6 +0.8
comp=Z,6.0nm,0.5s,baz=171,slow=6.7,SNR=33
SCHQ LR LR 23 34 16.8
comp=Z,532nm,20.1s,baz=162,slow=34
531A Rocksprings 38.64 298 ⇓P P 23 19 29.6 -1.3
baz=39,SNR=12
Y32A R-V Farms, Ver 38.68 304 ⇑P P 23 19 30.2 -0.9
baz=39,SNR=12
X32A Elmer 38.68 305 ⇑P P 23 19 30.2 -1.0
baz=39,SNR=11
331A San Angelo 38.78 300 ⇓P P 23 19 30.7 -1.4
baz=39,SNR=5.5
T33A Patterson Ranc 38.78 309 ⇓P P 23 19 31.2 -0.8
baz=39
431A Sonora 38.80 299 ⇑P P 23 19 31.2 -1.0
baz=39,SNR=50
S33A Kaszmaul Farm, 38.80 310 ⇓P P 23 19 31.9 -0.1
baz=39,SNR=5.9
231A Bronte 38.84 301 ⇑P P 23 19 31.1 -1.4
baz=39,SNR=6.4
W32A Sentinel 38.87 306 ⇓P P 23 19 32.1 -0.7
baz=39,SNR=23
V32A Arapaho 38.91 307 ⇑P P 23 19 32.0 -1.1
baz=39
Z31A Sharp Cattle R 39.05 303 ⇓P P 23 19 33.1 -1.1
baz=39,SNR=9.6
R33A Olander Ranch, 39.06 311 ⇑P P 23 19 33.8 -0.5
baz=39,SNR=9.8
131A Roby 39.08 302 ⇑P P 23 19 33.4 -1.1
baz=39
U32A Winter Ranch, 39.10 308 ⇓P P 23 19 34.1 -0.5
baz=39,SNR=7.1
SPMN Marine on St. 39.17 324 eP P 23 19 34.6 -0.5
comp=Z,24nm,0.8s
SPMN Marine on St. 39.17 324 ⇓P P 23 19 34.6 -0.5
baz=39,SNR=12
Q33A Connelly Farm, 39.23 312 ⇓P P 23 19 35.4 -0.4
baz=39,SNR=9.8
X31A McDonald Ranch 39.29 305 ⇓P P 23 19 35.0 -1.2
baz=39,SNR=19
530A J-C Ranch, Com 39.31 298 ⇓P P 23 19 35.2 -1.3
baz=39,SNR=16
Y31A Rekieta Farm, 39.32 304 ⇑P P 23 19 35.6 -0.9
baz=39,SNR=14
P33A Williams Farm, 39.32 313 ⇓P P 23 19 35.8 -0.6
baz=39
T32A Huddler Ranch, 39.32 309 ⇑P P 23 19 36.0 -0.5

baz=39,SNR=6.1
430A **Baggett Ranch,** 39.35 299 ⇓P P 23 19 35.3 -1.5
baz=39,SNR=9.8
330A **Mertzon** 39.43 300 ⇓P P 23 19 36.1 -1.3
baz=39,SNR=25
W31A **Holland Ranch,** 39.43 306 ⇑P P 23 19 36.2 -1.2
baz=39,SNR=7.8
230A **Sterling City** 39.48 300 ⇓P P 23 19 36.6 -1.4
baz=39
S32A **Newby Ranch, P** 39.52 310 ⇓P P 23 19 37.7 -0.4
baz=40
130A **Snyder** 39.53 301 ⇓P P 23 19 37.5 -0.8
baz=39
V31A **Spring Creek L** 39.54 307 ⇑P P 23 19 38.3 0.0
baz=40,SNR=11
LVC **Limon Verde** 39.61 192 P P 23 19 37.5 -1.7
comp=Z,23nm,0.5s,baz=351,slow=6.2,SNR=12
LVC **Limon Verde** 39.61 192 *e*P P 23 19 37.2 -2.0
comp=Z,22nm,1.3s
R32A **Long Quarter,** 39.63 311 ⇑P P 23 19 38.5 -0.5
baz=40,SNR=5.9
U31A **Nine Bar Ranch** 39.74 308 ⇓P P 23 19 39.3 -0.7
baz=40
Q32A **Meitler Ranch,** 39.75 312 ⇓P P 23 19 39.5 -0.5
baz=40
Y30A **Stafford Cattl** 39.80 303 ⇓P P 23 19 39.3 -1.3
baz=40
Z30A **Sanderson Ranc** 39.83 302 ⇓P P 23 19 39.7 -1.2
baz=40,SNR=18
T31A **Randall Ranch,** 39.86 309 ⇓P P 23 19 40.4 -0.6
baz=40,SNR=5.9
429A **Davenport Ranc** 39.87 298 ⇓P P 23 19 39.5 -1.7
baz=40,SNR=20
S31A **Mullinville** 39.90 310 ⇓P P 23 19 41.0 -0.3
baz=40,SNR=11
W30A **Crocket Farms** 39.92 305 ⇑P P 23 19 41.1 -0.5
baz=40
X30A **Coker Ranch, T** 39.94 304 ⇑P P 23 19 40.9 -0.9
baz=40
P32A **Huiting Farm,** 40.03 313 ⇑P P 23 19 41.6 -0.8
baz=40,SNR=5.4
529A **Stev Forest Ra** 40.05 297 ⇓P P 23 19 41.3 -1.4
baz=40,SNR=21
O32A **Brockman Farm,** 40.08 314 ⇓P P 23 19 41.6 -1.1
baz=40
229A **Bryant Ranch,** 40.08 300 ⇑P P 23 19 41.8 -1.1
baz=40,SNR=12
329A **Wagon Wheel Ra** 40.12 299 ⇑P P 23 19 42.1 -1.1
baz=40,SNR=28
R31A **Burdett** 40.18 310 ⇓P P 23 19 43.3 -0.3
baz=40
V30A **Spur Ranch, Mi** 40.19 306 ⇓P P 23 19 43.5 -0.3
baz=40,SNR=16
129A **Stewart Farms,** 40.27 301 ⇓P P 23 19 43.3 -1.2
baz=40
Z29A **Hungry Hill Ra** 40.30 302 ⇑P P 23 19 43.6 -1.1
baz=40,SNR=7.6
Q31A **Ellis** 40.35 312 ⇓P P 23 19 44.3 -0.7
baz=40
U30A **WK&E Inc. Balk** 40.40 307 ⇓P P 23 19 45.1 -0.4
baz=40
Y29A **Porterfield Fa** 40.42 303 ⇓P P 23 19 44.8 -1.0
baz=40
T30A **Plains** 40.48 308 ⇑P P 23 19 45.6 -0.6
baz=40
BGNE **Belgrade** 40.49 316 *e*P P 23 19 45.8 -0.4
comp=Z,141nm,0.6s
BGNE **Belgrade** 40.49 316 ⇓P P 23 19 45.7 -0.5
baz=40,SNR=6.5
P31A **Stockton** 40.54 312 ⇓P P 23 19 45.9 -0.7
baz=40,SNR=7.4
X29A **Tulia** 40.60 304 ⇑P P 23 19 46.1 -1.1
baz=40,SNR=7.4
ECSD **EROS Data Cent** 40.62 320 *e*P P 23 19 46.6 -0.5
comp=Z,24nm,0.6s
ECSD *e*PcP PcP 23 21 48.0 -0.6
ECSD **EROS Data Cent** 40.62 320 ⇓P P 23 19 46.6 -0.5
baz=41,SNR=25
S30A **Montezuma** 40.63 309 ⇓P P 23 19 47.2 -0.2
baz=41,SNR=9.6
AMTX **Amarillo** 40.70 305 *e*P P 23 19 46.5 -1.6
comp=Z,36nm,0.9s
AMTX **Amarillo** 40.70 305 ⇑P P 23 19 47.1 -0.9
baz=41
R30A **Dighton** 40.72 310 ⇑P P 23 19 47.8 -0.3
baz=41,SNR=6.4
W29A **Amarillo** 40.74 305 ⇑P P 23 19 47.6 -0.8
baz=41,SNR=11
228A **UT Block 9, Go** 40.76 300 ⇓P P 23 19 47.1 -1.5
baz=41,SNR=9.7
O31A **Woolen Ranch,** 40.76 313 ⇓P P 23 19 47.6 -0.8
baz=41
128A **Castleberry Fa** 40.78 301 ⇓P P 23 19 47.2 -1.6
baz=41
N31A **Bailey Ranch,** 40.78 314 ⇓P P 23 19 48.1 -0.5
baz=41
U29A **Oasis Ranch, S** 40.85 307 ⇑P P 23 19 49.1 -0.1
baz=41
Z28A **Tucker Farm, M** 40.85 302 ⇑P P 23 19 48.1 -1.2
baz=41
V29A **Stinnett** 40.86 306 ⇓P P 23 19 48.7 -0.7
baz=41
Y28A **McKinney Farm,** 40.90 303 ⇓P P 23 19 48.5 -1.2
baz=41
Q30A **Quinter** 40.94 311 ⇓P P 23 19 49.6 -0.3
baz=41
X28A **Dimmitt** 41.01 304 ⇑P P 23 19 49.5 -1.1
baz=41
M31A **Lambtecht Ranc** 41.02 315 ⇓P P 23 19 49.9 -0.6
baz=41
T29A **Hugoton** 41.09 308 ⇓P P 23 19 50.8 -0.4
baz=41
S29A **Ulysses** 41.11 309 ⇓P P 23 19 51.0 -0.4
baz=41,SNR=5.6
TX31 **Lajitas Ar. Si** 41.16 296 *e*P P 23 19 50.4 -1.6
TX31 *e*PcP PcP 23 21 51.1 +0.3
TXAR **Lajitas Array** 41.16 296 P P 23 19 50.8 -1.2
comp=Z,4.3nm,0.5s,baz=124,slow=8.0,SNR=69
TXAR PcP PcP 23 21 50.6 -0.1
comp=Z,3.7nm,0.8s,baz=124,slow=6.2,SNR=6.2
TXAR LR LR 23 39 56.6
comp=Z,421nm,22.0s,baz=0.0,slow=41
P30A **Selden** 41.17 312 ⇑P P 23 19 51.3 -0.6
baz=41,SNR=7.0
W28A **Vega** 41.22 305 ⇑P P 23 19 51.4 -0.9
baz=41
O30A **MW Ranch, Wils** 41.28 313 ⇑P P 23 19 52.2 -0.5
baz=41,SNR=9.9
L31A **Butterfield Fa** 41.30 316 ⇑P P 23 19 52.5 -0.3
baz=41,SNR=9.8
MSTX **Muleshoe** 41.33 303 *e*P P 23 19 51.9 -1.4
comp=Z,90nm,1.3s
MSTX *e*PcP PcP 23 21 51.9 +0.7
MSTX **Muleshoe** 41.33 303 ⇓P P 23 19 52.3 -0.9
baz=41,SNR=21
V28A **Channing** 41.38 306 ⇑P P 23 19 52.7 -0.9
baz=41
R29A **Marienthal** 41.41 310 ⇑P P 23 19 53.2 -0.6
baz=41,SNR=5.9
Q29A **Oakley** 41.45 311 ⇑P P 23 19 53.7 -0.5
baz=41,SNR=11
U28A **Mallet** 41.56 307 ⇑P P 23 19 54.5 -0.6
baz=42,SNR=5.1
N30A **Hueftle Ranch,** 41.56 314 ⇑P P 23 19 54.5 -0.5
baz=42
P29A **Atwood** 41.68 312 ⇑P P 23 19 55.6 -0.5
baz=42
S28A **Manter** 41.69 308 ⇓P P 23 19 55.6 -0.5
baz=42,SNR=9.3
T28A **Walsh** 41.70 308 ⇑P P 23 19 55.6 -0.7
baz=42,SNR=7.8
M30A **Dale-Ortello V** 41.71 315 ⇑P P 23 19 55.8 -0.5
baz=42
O29A **4D Ranch, Culb** 41.79 312 ⇑P P 23 19 56.4 -0.4
baz=42,SNR=5.9
L30A **Spencer Herefo** 41.79 315 ⇓P P 23 19 56.5 -0.3
baz=42,SNR=8.0
V27A **Dan Oppiter Fa** 41.85 306 ⇑P P 23 19 56.8 -0.8
baz=42
R28A **Tribune** 41.87 310 ⇑P P 23 19 57.0 -0.6
baz=42,SNR=10
N29A **Votaw Ranch, W** 41.94 314 ⇓P P 23 19 57.5 -0.6
baz=42
K30A **Basset** 42.03 317 ⇑P P 23 19 58.5 -0.3
baz=42,SNR=5.3
U27A **Thompson Grove** 42.03 306 ⇑P P 23 19 58.1 -0.9
baz=42,SNR=8.4
Q28A **Sharon Springs** 42.14 311 ⇑P P 23 19 59.6 -0.2
baz=42
T27A **Campo** 42.15 307 ⇑P P 23 19 59.0 -0.9
baz=42,SNR=25
M29A **Burnside Ranch** 42.23 314 ⇑P P 23 20 00.1 -0.4
baz=42
J30A **Dallas** 42.25 317 ⇓P P 23 20 00.2 -0.3
baz=42
P28A **Saint Francis** 42.26 311 ⇑P P 23 20 00.5 -0.3
baz=42
L29A **Maesberg Ranch** 42.35 315 ⇓P P 23 20 00.6 -0.8
baz=42
BRSD **Miller** 42.43 319 *e*P P 23 20 00.8 -1.1
comp=Z,80nm,1.3s
BRSD **Miller** 42.43 319 ⇑P P 23 20 01.2 -0.8
baz=42
S27A **Las Animas** 42.47 308 ⇓P P 23 20 02.0 -0.5
baz=42
I30A **Pacoma** 42.48 318 ⇓P P 23 20 01.6 -0.8
baz=42
O28A **Krutsinger Ran** 42.48 312 ⇓P P 23 20 02.1 -0.5
baz=42
N28A **Pribbeno Ranch** 42.52 313 ⇓P P 23 20 02.6 -0.3
baz=42
K29A **Lazy Trails An** 42.54 316 ⇓P P 23 20 02.3 -0.6
baz=42
R27A **Eads** 42.59 309 ⇓P P 23 20 02.8 -0.7
baz=42,SNR=8.6
PMOZ **Porto Moniz, M** 42.65 59 *e*P P 23 20 05.9 +1.9
comp=Z,92nm,2.4s
PMOZ *e*LR LR 23 30 02.3
comp=Z,282nm,18.0s
CPUP **Villa Florida** 42.68 175 P P 23 20 03.6 -0.4
comp=Z,3.3nm,1.0s,baz=357,slow=8.1,SNR=9.1
CPUP LR LR 23 38 52.1
comp=Z,2µm,20.0s,baz=349,slow=38
M28A **Bar X Bar Ranc** 42.68 314 ⇓P P 23 20 03.4 -0.8
baz=43
AGMN **Agassiz Nation** 42.69 326 *e*P P 23 20 03.3 -0.7
comp=Z,46nm,0.6s
AGMN **Agassiz Nation** 42.69 326 ⇑P P 23 20 03.6 -0.4
baz=43,SNR=17
KSCO **Kaye Shedlock'** 42.70 310 *e*P P 23 20 04.2 -0.2
comp=Z,30nm,0.7s
KSCO **Kaye Shedlock'** 42.70 310 ⇓P P 23 20 04.0 -0.4
baz=43,SNR=10
J29A **Okreek** 42.83 317 ⇓P P 23 20 05.0 -0.2
baz=43,SNR=11
T26A **Comanche Natio** 42.84 307 ⇑P P 23 20 04.7 -1.0
baz=43,SNR=13
P27A **Ficken Ranch,** 42.85 311 ⇑P P 23 20 05.4 -0.2
baz=43
G30A **Faulkton** 42.88 320 ⇓P P 23 20 04.9 -0.8
baz=43
S26A **Kim** 42.88 308 ⇓P P 23 20 05.2 -0.8
baz=43,SNR=9.8
OGNE **Ogallala** 42.97 313 ⇓P P 23 20 06.0 -0.5
baz=43
MNTX **Cornudas Mount** 43.01 299 *e*P P 23 20 06.0 -0.9
comp=Z,36nm,0.9s
MNTX **Cornudas Mount** 43.01 299 ⇓P P 23 20 06.2 -0.6
baz=43,SNR=54
O27A **Beecher Island** 43.01 312 ⇓P P 23 20 06.7 -0.2
baz=43
L28A **Connealy Angus** 43.03 315 ⇓P P 23 20 06.2 -0.7
baz=43
R26A **Arlington** 43.08 309 ⇑P P 23 20 06.8 -0.6
baz=43,SNR=6.5
I29A **Vivian Onida** 43.09 318 ⇑P P 23 20 06.8 -0.5
baz=43
F30A **Leola** 43.16 321 ⇑P P 23 20 07.3 -0.6
baz=43
K28A **Ten Mile Ranch** 43.22 316 ⇑P P 23 20 08.1 -0.4
baz=43,SNR=8.3
N27A **Anderson Farm,** 43.27 313 ⇑P P 23 20 08.5 -0.5
baz=43
H29A **Onida** 43.31 319 ⇓P P 23 20 08.8 -0.3
baz=43
Q26A **Hugo** 43.33 310 ⇓P P 23 20 09.5 0.0
baz=43,SNR=12
PMPS **Porto Santo** 43.41 59 *e*P P 23 20 11.5 +1.5
comp=Z,144nm,1.7s
P26A **Davis Ranch, A** 43.41 311 ⇓P P 23 20 10.1 -0.1
baz=43,SNR=9.2
E30A **Jud** 43.43 322 ⇓P P 23 20 09.2 -0.9
baz=43
J28A **Allard Ranch,** 43.43 317 ⇑P P 23 20 10.3 +0.2
baz=43,SNR=12
M27A **Reverse DX Ran** 43.44 314 ⇓P P 23 20 10.0 -0.3
baz=43
T25A **Trinidad** 43.46 307 *e*P P 23 20 10.1 -0.6
comp=Z,20nm,0.6s
T25A **Trinidad** 43.46 307 ⇓P P 23 20 10.4 -0.3
baz=43,SNR=19
L27A **T5 Ranch, Ells** 43.60 314 ⇓P P 23 20 10.9 -0.8
baz=44
O26A **Horse Wrangler** 43.62 312 ⇑P P 23 20 11.6 -0.2
baz=44
I28A **Midland** 43.64 318 ⇑P P 23 20 11.1 -0.7
baz=44
F29A **Eureka** 43.65 321 ⇑P P 23 20 11.0 -0.8
baz=44
D30A **Buchanan** 43.65 323 ⇑P P 23 20 11.2 -0.6
baz=44
N26A **Koester Ranch,** 43.76 312 ⇑P P 23 20 13.1 +0.2
baz=44
K27A **Flueckinger Fa** 43.80 315 ⇓P P 23 20 12.3 -0.9
baz=44
C30A **Mose, Pekin** 43.81 324 ⇓P P 23 20 12.8 -0.3
baz=44
H28A **Mission Ridge** 43.84 318 ⇓P P 23 20 13.1 -0.3
baz=44
ULM **Lac du Bonnet** 43.86 328 P P 23 20 12.7 -0.8
comp=Z,22nm,0.6s,baz=129,slow=8.4,SNR=41
ULM LR LR 23 40 47.9
comp=Z,231nm,18.3s,baz=112,slow=39
ULM **Lac du Bonnet** 43.86 328 *e*P P 23 20 12.4 -1.0
ULM pmax pmax
comp=Z,27nm,0.6s
ULM **Lac du Bonnet** 43.86 328 *e*P P 23 20 12.4 -1.0
comp=Z,27nm,0.6s
J27A **Elkhorn Farm,** 43.87 316 ⇓P P 23 20 13.5 -0.2
baz=44,SNR=9.5
E29A **Napoleon** 43.90 322 ⇓P P 23 20 13.1 -0.7
baz=44
M26A **McRoberts Ranc** 43.94 313 ⇓P P 23 20 14.2 -0.2
baz=44
G28A **Parade** 43.96 319 ⇓P P 23 20 14.0 -0.3
baz=44
L26A **Underwood Farm** 44.11 314 ⇑P P 23 20 15.6 -0.1
baz=44
B30A **Myrvik Farm, E** 44.13 325 ⇑P P 23 20 14.7 -0.9
baz=44,SNR=5.4
O25A **Wiggins** 44.16 311 ⇓P P 23 20 16.2 +0.1
baz=44
I27A **Quinn** 44.24 317 ⇑P P 23 20 16.6 -0.1
baz=44
F28A **Baughlin** 44.25 320 ⇓P P 23 20 16.2 -0.5
baz=44
N25A **Grover** 44.37 312 ⇓P P 23 20 17.3 -0.6
baz=44
A30A **Hoffart Farm,** 44.38 325 ⇑P P 23 20 17.3 -0.4
baz=44
K26A **Motz Farm, Whi** 44.43 315 ⇓P P 23 20 18.4 +0.1
baz=44
SDCO **Great Sand Dun** 44.46 307 *e*P P 23 20 18.1 -0.7
comp=Z,14nm,0.6s
SDCO **Great Sand Dun** 44.46 307 ⇓P P 23 20 18.6 -0.2
baz=44,SNR=26
BNM **Barren Site** 44.49 302 *e*P P 23 20 19.3 +0.3
H27A **Howes** 44.50 318 ⇓P P 23 20 18.6 -0.2
baz=44,SNR=6.3
ANMO **Albuquerque** 44.52 303 *c i*P P 23 20 18.9 -0.3
ANMO pmax pmax
comp=Z,63nm,1.0s
ANMO **Albuquerque** 44.52 303 *e*P P 23 20 19.2 +0.1
comp=Z,33nm,1.4s
LPM **Los Pinos Moun** 44.53 302 *e*P P 23 20 19.0 -0.3
MDND **Maddock** 44.53 323 *e*P P 23 20 17.7 -1.1
comp=Z,167nm,1.9s
MDND **Maddock** 44.53 323 ⇑P P 23 20 18.4 -0.5
baz=44
E28A **Huff** 44.53 321 ⇑P P 23 20 17.6 -1.3
baz=44
Q24A **Divide** 44.55 309 *e*P P 23 20 18.4 -1.1
comp=Z,26nm,1.4s
Q24A **Divide** 44.55 309 ⇓P P 23 20 18.7 -0.7
baz=44
M25A **Palm-Egli Farm** 44.57 313 ⇓P P 23 20 19.4 -0.1
baz=44
J26A **Sides Ranch, S** 44.61 316 ⇑P P 23 20 19.1 -0.5
baz=44,SNR=6.7
B29A **Wagenman Farm,** 44.71 324 ⇑P P 23 20 19.6 -0.7
baz=45,SNR=5.9
G27A **Dupree** 44.74 319 ⇑P P 23 20 20.4 -0.2
baz=45,SNR=5.2
I26A **New Underwood** 44.76 317 ⇑P P 23 20 20.9 +0.1
baz=45,SNR=14
D28A **Regan** 44.76 322 ⇓P P 23 20 20.2 -0.6
baz=45
L25A **Engebretsen Ra** 44.77 314 ⇑P P 23 20 21.2 +0.2
baz=45,SNR=6.3
LENM **Lemitar** 44.78 302 *e*P P 23 20 20.9 -0.4
R23A **Moffat** 44.83 308 ⇑P P 23 20 21.5 -0.2
baz=45,SNR=8.2
S23A **Nye Farm, Mont** 44.83 307 ⇓P P 23 20 22.0 +0.3
baz=45
O24A **Longmont** 44.85 311 ⇓P P 23 20 22.1 +0.4
baz=45
K25A **Mack Ranch, Ha** 44.87 315 ⇑P P 23 20 21.8 0.0
baz=45,SNR=7.9
A29A **Manning Farm,** 44.89 325 ⇑P P 23 20 20.9 -0.8
baz=45,SNR=10
C28A **Hausauer Farms** 44.92 323 ⇓P P 23 20 21.6 -0.3
baz=45
H26A **Fairpoint** 44.94 318 ⇑P P 23 20 22.0 -0.3
baz=45,SNR=5.9
N24A **Carr** 44.95 312 ⇓P P 23 20 22.7 +0.2
baz=45
LAZ **Ladron** 44.96 302 *e*P P 23 20 21.9 -0.8
E27A **Carson** 44.99 320 ⇑P P 23 20 22.8 +0.2
baz=45
F27A **Lemmon** 45.02 320 ⇓P P 23 20 23.3 +0.5
baz=45
Q23A **Hartsel** 45.04 309 ⇑P P 23 20 23.0 -0.4
baz=45
M24A **Cheyenne** 45.12 313 ⇑P P 23 20 24.3 +0.4
baz=45,SNR=16
G26A **Maurine** 45.12 319 ⇑P P 23 20 23.4 -0.3
baz=45,SNR=17
J25A **Sunshine Ranch** 45.12 316 ⇓P P 23 20 23.3 -0.4
baz=45
ISCO **Idaho Springs** 45.15 310 *e*P P 23 20 23.7 -0.5
ISCO pmax pmax
comp=Z,77nm,1.9s
ISCO **Idaho Springs** 45.15 310 *e*P P 23 20 23.7 -0.5
comp=Z,77nm,1.9s
ISCO **Idaho Springs** 45.15 310 ⇑P P 23 20 24.3 0.0
baz=45,SNR=15
121A **Cookes Peak, D** 45.15 300 ⇑P P 23 20 24.8 +0.5
baz=45,SNR=34
P23A **Jefferson** 45.18 310 ⇓P P 23 20 24.9 +0.4
baz=45,SNR=6.0
B28A **Dugan Ranch, T** 45.27 323 ⇓P P 23 20 24.2 -0.5
baz=45,SNR=5.6
D27A **Center** 45.29 321 ⇓P P 23 20 24.8 -0.1
baz=45
I25A **Rochford** 45.33 316 ⇓P P 23 20 25.3 -0.1
baz=45,SNR=15
L24A **Wheatland** 45.40 313 ⇓P P 23 20 26.7 +0.7
baz=45
F26A **Lodgepole** 45.41 319 ⇓P P 23 20 25.6 -0.4
baz=45
A28A **Rude Farm, Bot** 45.46 324 ⇓P P 23 20 25.8 -0.5
baz=45
S22A **4UR Ranch, Cre** 45.48 307 *e*P P 23 20 26.5 -0.4
comp=Z,14nm,1.1s
S22A **4UR Ranch, Cre** 45.48 307 ⇓P P 23 20 26.5 -0.4
baz=45,SNR=12
H25A **Fruitdale** 45.48 317 ⇑P P 23 20 26.6 0.0
baz=45,SNR=13
O23A **Lake Granby, G** 45.49 311 ⇑P P 23 20 27.2 +0.2
baz=45,SNR=11
PHWY **Pilot Hill** 45.51 312 *e*P P 23 20 26.9 -0.2
comp=Z,70nm,1.4s
K24A **Anderson Ranch** 45.56 314 ⇑P P 23 20 26.9 -0.4
baz=46
E26A **Carlson Angus** 45.56 320 ⇓P P 23 20 26.6 -0.5
baz=46
RSSD **Black Hills** 45.57 316 *e*P P 23 20 27.0 -0.4
RSSD pmax pmax
comp=Z,21nm,0.9s
RSSD **Black Hills** 45.57 316 *e*P P 23 20 27.0 -0.4
comp=Z,21nm,0.9s
G25A **Newell** 45.60 318 ⇑P P 23 20 27.5 0.0
baz=46,SNR=6.8
N23A **Red Feather La** 45.73 312 *e*P P 23 20 28.0 -0.8
comp=Z,14nm,0.8s
N23A **Red Feather La** 45.73 312 ⇑P P 23 20 28.2 -0.6
baz=46
M23A **Laramie** 45.76 312 ⇓P P 23 20 28.9 0.0
baz=46
B27A **Peters Farms,** 45.77 323 ⇑P P 23 20 28.5 -0.2
baz=46
D26A **Manning** 45.80 321 ⇓P P 23 20 28.9 -0.1
baz=46
P22A **Eagle** 45.93 310 ⇑P P 23 20 30.0 -0.3
baz=46,SNR=6.7
O22A **Kremmling** 45.94 310 ⇓P P 23 20 30.4 -0.1
baz=46,SNR=13
F25A **Bowman** 45.94 319 ⇓P P 23 20 29.9 -0.2
baz=46
L23A **Garrett** 45.96 313 ⇑P P 23 20 30.5 0.0
baz=46,SNR=9.0
SMCO **Snowmass** 45.97 309 *e*P P 23 20 30.1 -0.8
comp=Z,42nm,1.6s
A27A **Ledoux Ranch,** 46.03 324 ⇑P P 23 20 30.1 -0.7
baz=46
N22A **Wattenberg Ran** 46.07 311 ⇑P P 23 20 31.8 +0.4
baz=46,SNR=20
K23A **Bowen Ranch, D** 46.13 314 ⇓P P 23 20 31.5 -0.3
baz=46,SNR=7.2
H24A **Dirks Ranch, A** 46.16 317 ⇓P P 23 20 31.1 -0.8
baz=46,SNR=21
E25A **Miller Ranch,** 46.16 320 ⇑P P 23 20 31.8 0.0
baz=46
319A **Douglas** 46.25 298 ⇑P P 23 20 33.1 +0.3
baz=46,SNR=13
G24A **Alzada** 46.30 318 ⇓P P 23 20 33.1 +0.1
baz=46,SNR=6.4
B26A **Jensen Ranch,** 46.32 323 ⇓P P 23 20 32.3 -0.8
baz=46
M22A **Cedar Creek Ra** 46.36 312 ⇑P P 23 20 34.0 +0.3
baz=46,SNR=18
D25A **Fairfield** 46.40 321 ⇓P P 23 20 33.9 +0.2
baz=46
SLBS **Sierra La Lagu** 46.40 287 *e*P P 23 20 33.7 -0.4
comp=Z,22nm,1.3s
L22A **Ellis Ranch, M** 46.45 313 ⇑P P 23 20 35.1 +0.8
baz=46,SNR=22
A26A **Wade Farm, Ken** 46.46 323 ⇑P P 23 20 33.8 -0.3
baz=46,SNR=7.2
F24A **Ekalaka** 46.53 318 ⇓P P 23 20 35.2 +0.4
baz=46
MVCO **Mesa Verde** 46.63 306 *e*P P 23 20 34.8 -1.1
comp=Z,15nm,1.3s
MVCO **Mesa Verde** 46.63 306 ⇓P P 23 20 35.1 -0.8
baz=46,SNR=6.0
H23A **Clabaugh Cattl** 46.64 316 ⇑P P 23 20 35.8 +0.1
baz=47
K22A **Casper** 46.71 314 ⇓P P 23 20 36.3 -0.1
baz=47,SNR=6.3
B25A **Knox Farm, Ray** 46.81 322 ⇑P P 23 20 36.8 -0.1
baz=47
G23A **Biddle** 46.88 317 ⇓P P 23 20 37.0 -0.5
baz=47
PV01 **Paradox Valley** 46.91 307 *e*P P 23 20 38.0 0.0
PV01 *e*PcP PcP 23 22 10.8 +0.5
J22A **Midwest** 46.94 315 ⇓P P 23 20 37.2 -0.9
baz=47
D24A **Glendive** 47.00 320 ⇓P P 23 20 38.4 +0.1
baz=47,SNR=7.0
F23A **Volborg** 47.09 318 ⇓P P 23 20 38.9 -0.3
baz=47,SNR=7.9
A25A **Svangstu Ranch** 47.10 323 ⇓P P 23 20 38.9 -0.2
baz=47,SNR=7.5
O20A **White River Ci** 47.17 310 *e*P P 23 20 39.2 -0.9
comp=Z,10.0nm,0.9s
O20A **White River Ci** 47.17 310 ⇑P P 23 20 40.3 +0.2
baz=47
W18A **Petrified Fore** 47.19 303 ⇓P P 23 20 39.9 -0.4
baz=47
K21A **Alcova** 47.22 313 ⇑P P 23 20 40.8 +0.5
baz=47,SNR=46
C24A **Savage** 47.24 321 ⇓P P 23 20 40.3 0.0
baz=47,SNR=6.2
X18A **Snowflake** 47.26 302 ⇑P P 23 20 41.1 +0.2

baz=47,SNR=18
H22A Clearmont 47.28 316 ⇓P P 23 20 40.6 -0.1
baz=47
PV05 Paradox Valley 47.30 307 eP P 23 20 40.3 -0.8
PV10 Paradox Valley 47.32 307 eP P 23 20 40.8 -0.5
E23A Ismay 47.35 319 ⇓P P 23 20 41.3 +0.2
baz=47,SNR=8.6
N20A Spence Gulch, 47.39 311 ⇑P P 23 20 41.7 0.0
baz=47,SNR=12
PV09 Paradox Valley 47.42 307 eP P 23 20 41.8 -0.3
G22A Birney 47.48 317 ⇑P P 23 20 42.1 -0.1
baz=47,SNR=24
DGMT Dagmar 47.52 322 ⇓P P 23 20 42.8 +0.4
baz=47
D23A Lindsay 47.56 320 ⇑P P 23 20 43.3 +0.5
baz=48,SNR=12
J21A Lysite 47.59 314 ⇓P P 23 20 43.1 -0.1
baz=48
A24A Westby 47.61 322 ⇓P P 23 20 43.1 -0.1
baz=48,SNR=5.4
TUC Tucson 47.63 299 eP P 23 20 43.5 -0.1
TUC pmax pmax
comp=Z,24nm,1.1s
TUC Tucson 47.63 299 eP P 23 20 43.5 -0.1
comp=Z,24nm,1.1s
I21A Big Trails, Te 47.64 315 ⇓P P 23 20 42.8 -0.8
baz=48
F22A Rosebud 47.67 318 ⇑P P 23 20 43.6 -0.1
baz=48,SNR=7.4
E22A Miles City 47.73 319 ⇓P P 23 20 44.0 0.0
baz=48,SNR=18
H21A Big Horn, Sher 47.75 316 ⇑P P 23 20 44.1 -0.4
baz=48,SNR=12
C23A Lambert 47.82 321 ⇓P P 23 20 45.0 +0.3
baz=48,SNR=15
B23A Brockton 47.99 321 ⇑P P 23 20 46.4 +0.3
baz=48,SNR=5.8
LAO LASA Array 48.00 319 eP P 23 20 46.2 0.0
comp=Z,188nm,1.9s
J20A Shoshoni 48.03 314 ⇑P P 23 20 46.7 +0.2
baz=48,SNR=54
G21A Lodge Grass 48.08 317 ⇑P P 23 20 46.8 -0.1
baz=48,SNR=11
A23A Redstone 48.14 322 ⇑P P 23 20 47.6 +0.4
baz=48
D22A Cohagen 48.16 319 ⇓P P 23 20 48.3 +0.9
baz=48,SNR=36
C22A Vida 48.22 320 ⇓P P 23 20 48.2 +0.4
baz=48,SNR=9.9
F21A Absaloka Mine, 48.24 317 ⇑P P 23 20 47.7 -0.4
baz=48
I20A Worland 48.25 315 ⇑P P 23 20 47.5 -0.7
baz=48
CFAA Coronel Fontan 48.30 188 P P 23 20 47.4 -1.1
comp=Z,1.8nm,0.9s,baz=352,slow=7.6,SNR=21
H20A Greybull 48.35 315 ⇓P P 23 20 48.4 -0.5
baz=48,SNR=14
X16A Lo Mia Camp, P 48.46 302 ⇑P P 23 20 50.7 +0.5
baz=48,SNR=15
E21A Keefer Ranch, 48.48 318 ⇓P P 23 20 50.1 +0.2
baz=48
B22A Reddig Ranch S 48.52 321 ⇑P P 23 20 50.9 +0.7
baz=48
WUAZ Wupatki 48.58 303 eP P 23 20 51.3 +0.3
comp=Z,59nm,1.1s
WUAZ Wupatki 48.58 303 ⇓P P 23 20 51.3 +0.3
baz=48,SNR=29
SRU San Rafael Swe 48.62 308 eP P 23 20 51.0 -0.3
SRU pmax pmax
comp=Z,15nm,0.6s
SRU San Rafael Swe 48.62 308 eP P 23 20 51.0 -0.3
comp=Z,15nm,0.6s
J19A Crowheart 48.67 314 ⇓P P 23 20 51.8 +0.3
baz=49,SNR=142
G20A Bridger 48.74 316 ⇓P P 23 20 51.6 -0.4
baz=49,SNR=44
FCC Fort Churchill 48.77 338 eP P 23 20 50.8 -1.0
FCC pmax pmax
comp=Z,426nm,0.6s
FCC Fort Churchill 48.77 338 eP P 23 20 50.8 -1.0
comp=Z,426nm,0.6s
A22A Carney Farms, 48.77 322 ⇓P P 23 20 52.4 +0.3
baz=49,SNR=6.0
I19A Meeteetse 48.87 315 ⇑P P 23 20 52.8 -0.3
baz=49,SNR=8.6
BW06 Boulder Array 48.87 313 eP P 23 20 53.1 -0.1
comp=Z,97nm,1.4s
BW06 ePcP PcP 23 22 16.4 -0.9
PDAR Pinedale Array 48.87 313 P P 23 20 52.8 -0.4
comp=Z,27nm,0.6s,baz=109,slow=9.3,SNR=203
PDAR LR LR 23 44 32.4
comp=Z,322nm,18.4s,baz=126,slow=40
F20A Billings 48.90 317 ⇑P P 23 20 53.4 +0.2
baz=49,SNR=32
C21A Desert Coulee 49.00 320 ⇓P P 23 20 54.2 +0.4
baz=49,SNR=6.9
H19A Powell 49.07 315 ⇑P P 23 20 54.7 +0.1
baz=49,SNR=6.5
E20A Meyer Farm, Mu 49.15 318 ⇓P P 23 20 55.6 +0.6
baz=49,SNR=19
TMUT Trail Mountain 49.18 308 eP P 23 20 55.7 0.0
comp=Z,21nm,0.8s
B21A Ellsworth Farm 49.20 321 ⇑P P 23 20 56.4 +1.1
baz=49,SNR=6.0
214A Organ Pipe Nat 49.30 298 ⇓P P 23 20 56.4 0.0
baz=49,SNR=6.8
A21A Bergtoll Ranch 49.37 321 ⇓P P 23 20 57.4 +0.7
baz=49,SNR=17
RLMT Red Lodge 49.41 316 eP P 23 20 57.5 +0.3
comp=Z,76nm,1.3s
F19A Roth Farm, Mol 49.44 317 ⇓P P 23 20 57.6 +0.3
baz=49,SNR=17
FFC Flin Flon 49.51 330 P P 23 20 56.2 -1.4
comp=Z,55nm,0.6s,SNR=5.7
FFC Flin Flon 49.51 330 eP P 23 20 56.8 -0.8
FFC pmax pmax
comp=Z,7.0nm,0.8s
FFC Flin Flon 49.51 330 eP P 23 20 56.8 -0.8
comp=Z,7.2nm,0.8s
C20A Veseth Ranch, 49.52 319 ⇓P P 23 20 58.5 +0.7
baz=49,SNR=10
H18A Shoshone NF, C 49.53 315 ⇑P P 23 20 57.7 -0.5
baz=49,SNR=32
Z14A Wintersburg 49.57 300 ⇑P P 23 20 58.8 +0.4
baz=50,SNR=6.4
JLU Jordanelle 49.66 310 eP P 23 20 59.3 0.0
comp=Z,32nm,0.9s
MPU Maple Canyon 49.66 309 eP P 23 20 59.3 +0.1
comp=Z,51nm,1.5s
MSU Marysvale 49.76 307 eP P 23 20 59.1 -0.9
MSU e 23 22 20.2
MSU Marysvale 49.76 307 eP P 23 20 59.1 -0.9
MSU ePcP PcP 23 22 20.2 -0.4
MVU Marysvale 49.78 307 eP P 23 21 00.7 +0.5
comp=Z,26nm,1.3s
B20A Solberg Farm, 49.81 320 ⇑P P 23 21 00.8 +0.8
baz=50,SNR=14
LOHW Long Hollow 49.85 314 eP P 23 21 00.2 -0.5
comp=Z,80nm,1.6s
D19A Cripps Ranch, 49.87 319 ⇑P P 23 21 00.8 +0.3
baz=50,SNR=13
GCMT Greycliff 49.90 317 eP P 23 21 00.7 -0.2
SNOW Snow King Moun 49.91 313 eP P 23 21 01.1 -0.1
comp=Z,94nm,1.5s
I17A Pilgrim Ck. 49.92 314 ⇓P P 23 21 01.2 0.0
baz=50,SNR=7.3
A20A Cobblestone Ra 49.93 321 ⇓P P 23 21 01.6 +0.7
baz=50,SNR=21
REDW Red Top Meadow 49.95 313 eP P 23 21 00.8 -0.6
comp=Z,26nm,0.7s
AHID Auburn Hatcher 49.96 312 eP P 23 21 01.1 -0.4
comp=Z,71nm,1.1s
AHID ePcP PcP 23 22 20.9 -0.3
NLU North Lily Min 49.98 309 eP P 23 21 01.2 -0.4
comp=Z,71nm,2.0s
KNB Kanab 49.98 305 eP P 23 21 01.5 -0.2
KNB pmax pmax
comp=Z,39nm,1.5s
KNB Kanab 49.98 305 eP P 23 21 01.5 -0.2
comp=Z,39nm,1.5s
MOOW Moose Ponds 49.99 314 eP P 23 21 00.9 -0.8
comp=Z,6.9nm,0.8s
HWUT Hardware Ranch 49.99 311 eP P 23 21 00.9 -0.8
comp=Z,64nm,1.4s
FLWY Flagg Ranch 50.05 314 eP P 23 21 01.8 -0.3
comp=Z,64nm,1.6s
TPAW Teton Pass 50.06 313 eP P 23 21 01.9 -0.4
comp=Z,72nm,1.4s

H17A Grant Village 50.06 315 eP P 23 21 02.5 +0.2
comp=Z,11nm,1.1s
FXWY Fox Creek 50.15 314 eP P 23 21 02.6 -0.4
comp=Z,38nm,1.4s
IMW Indian Meadow 50.17 314 eP P 23 21 02.9 -0.2
comp=Z,14nm,0.6s
PMAFR Mafra 50.18 53 eS S 23 28 12.1 -0.1
PMAFR eLR LR 23 35 05.4
comp=Z,536nm,22.0s
C19A Slack Wire Ran 50.18 319 ⇓P P 23 21 03.3 +0.4
baz=50,SNR=10
113A Mohawk Valley, 50.19 299 ⇓P P 23 21 02.9 -0.2
baz=50,SNR=5.3
PFVI Vila Bisbo 50.20 55 eS S 23 28 13.9 +1.4
PFVI eLR LR 23 35 18.0
comp=Z,268nm,20.0s
YNR Norris Junctio 50.23 315 eP P 23 21 03.9 +0.3
comp=Z,16nm,1.0s
YFT Old Faithful 50.26 315 eP P 23 21 04.9 +1.1
comp=Z,16nm,0.8s
B19A Brinkman Farms 50.39 320 ⇑P P 23 21 05.0 +0.6
baz=50
YMR Madison River 50.41 315 eP P 23 21 05.3 +0.4
comp=Z,30nm,0.6s
A19A Klindworth Far 50.44 321 ⇓P P 23 21 05.5 +0.6
baz=50,SNR=8.8
W13A Hualapai Mount 50.55 302 ⇑P P 23 21 06.6 +0.6
baz=50,SNR=11
DUG Dugway, Tooele 50.59 309 eP P 23 21 06.2 0.0
DUG e 23 22 24.0
DUG pmax pmax
comp=Z,68nm,1.5s
DUG Dugway, Tooele 50.59 309 eP P 23 21 06.2 0.0
comp=Z,68nm,1.5s
DUG ePcP PcP 23 22 24.0 +0.5
DUG Dugway, Tooele 50.59 309 ⇓P P 23 21 06.5 +0.4
baz=50,SNR=34
PNCL Nicolau / Gran 50.60 54 eP P 23 21 07.4 +1.3
comp=Z,47nm,1.7s
PNCL Nicolau / Gran 50.60 54 eLR LR 23 35 26.5
comp=Z,591nm,20.0s
PDMCI Parker Dam,Lak 50.66 301 ⇑P P 23 21 06.6 -0.1
baz=51
EGMT Eagleton 50.73 319 eP P 23 21 06.8 -0.2
comp=Z,58nm,1.3s
EGMT Eagleton 50.73 319 ⇑P P 23 21 07.4 +0.4
baz=51,SNR=8.3
QLMT Earthquake Lak 50.78 315 eP P 23 21 08.7 +1.1
MESJ Messejana 50.79 54 eP P 23 21 09.6 +2.0
comp=Z,32nm,1.6s
PCVE Castro Verde 50.90 55 eP P 23 21 10.3 +1.9
comp=Z,7.5nm,1.8s
PCVE eS S 23 28 24.9 +2.7
PCVE eLR LR 23 35 26.5
comp=Z,1μm,22.0s
BGU Big Grassy Mou 50.91 310 eP P 23 21 08.7 +0.1
comp=Z,281nm,1.5s
HVU Hansel Valley 50.91 311 eP P 23 21 08.4 -0.2
HVU pmax pmax
comp=Z,16nm,0.7s
HVU Hansel Valley 50.91 311 eP P 23 21 08.4 -0.2
comp=Z,16nm,0.7s
Y12C Blythe 50.92 300 ⇑P P 23 21 08.8 +0.2
baz=51
PBDV Barranco-do-Ve 50.92 55 eP P 23 21 10.4 +1.8
comp=Z,52nm,1.6s
PBDV eS S 23 28 21.1 -1.5
PBDV eLR LR 23 35 43.3
comp=Z,219nm,18.0s
SFJD Kangerlussuaq 50.95 5 i P P 23 21 08.0 -0.2
comp=Z,7.7nm,0.9s
SFJD Kangerlussuaq 50.95 5 i P P 23 21 08.0 -0.2
SFJD pmax pmax
comp=Z,8.0nm,0.9s
PTOM Tomar 50.97 52 eP P 23 21 10.2 +1.3
comp=Z,32nm,1.9s
EVOP Sao Brissos 50.99 54 eP P 23 21 09.7 +0.7
EVOP pmax pmax
comp=Z,12nm,0.9s
EVOP Sao Brissos 50.99 54 eP P 23 21 09.7 +0.7
comp=Z,12nm,0.9s
PCAS Casmilo, Conde 50.99 52 eP P 23 21 10.3 +1.2
comp=Z,26nm,1.1s
PCAS eS S 23 28 22.6 -0.9
PCAS eLR LR 23 35 22.3
comp=Z,317nm,20.0s
PMTG Montargil 51.01 53 eP P 23 21 10.6 +1.4
comp=Z,35nm,1.7s
PMTG eS S 23 28 25.2 +1.5
PMTG eLR LR 23 35 26.5
comp=Z,461nm,20.0s
EVO Evora 51.07 54 eP P 23 21 09.7 0.0
comp=Z,12nm,0.9s
EVO eR
comp=Z,936nm,22.8s
GLA Glamis 51.10 299 eP P 23 21 10.1 +0.1
GLA pmax pmax
comp=Z,15nm,1.1s
GLA Glamis 51.10 299 eP P 23 21 10.1 +0.1
comp=Z,15nm,1.1s
GLA Glamis 51.10 299 ⇑P P 23 21 10.2 +0.1
baz=51
PVAQ Vaqueiros 51.12 55 eS S 23 28 24.4 -0.8
PVAQ eLR LR 23 35 45.6
comp=Z,192nm,22.0s
BOZ Bozeman (W) 51.16 316 eP P 23 21 10.3 -0.1
BOZ pmax pmax
comp=Z,28nm,1.2s
BOZ Bozeman (W) 51.16 316 eP P 23 21 10.2 -0.1
comp=Z,28nm,1.2s
PESTR Estremoz 51.46 53 eP P 23 21 14.3 +1.7
comp=Z,28nm,1.5s
PESTR eS S 23 28 34.4 +4.4
PESTR eLR LR 23 36 00.1
comp=Z,520nm,22.0s
IRM Iron Mountain 51.48 301 ⇑P P 23 21 13.0 +0.2
baz=51,SNR=18
LDFC Landfair 51.54 302 eP P 23 21 14.2 +0.8
comp=Z,34nm,1.1s
PGAV Gavieira, Arco 51.57 49 eLR LR 23 36 06.3
comp=Z,396nm,20.0s
PVIS Viseu 51.58 51 eP P 23 21 14.4 +0.9
comp=Z,26nm,1.6s
HRY Holter Researc 51.62 317 eP P 23 21 13.9 +0.1
BC3 Big Chuckawall 51.68 300 ⇓P P 23 21 14.5 0.0
baz=52,SNR=13
PMRV Marv??o 51.71 53 eS S 23 28 34.4 +1.0
PMRV eLR LR 23 36 00.4
comp=Z,336nm,22.0s
DLMT Dillon 51.72 315 eP P 23 21 15.5 +0.9
comp=Z,83nm,1.4s
PCBR Castelo Branco 51.72 52 eP P 23 21 16.1 +1.6
comp=Z,18nm,1.5s
MCMT McKenzie Canyo 51.74 315 eP P 23 21 15.0 +0.1
LRM Limekiln Ridge 51.76 316 eP P 23 21 14.5 -0.4
PBAR Barrancos 51.77 54 eP P 23 21 15.8 +0.9
comp=Z,36nm,1.7s
PBAR eS S 23 28 39.8 +5.6
PBAR eLR LR 23 36 12.8
comp=Z,1μm,20.0s
MTE Manteigas 51.78 51 eP P 23 21 16.1 +1.1
comp=Z,34nm,1.7s
MTE eS S 23 28 35.1 +0.7
MTE eLR LR 23 36 01.3
comp=Z,344nm,22.0s
POLO Lamas de Olo 51.79 50 eP P 23 21 17.4 +2.3
comp=Z,14nm,1.5s
POLO Lamas de Olo 51.79 50 eLR LR 23 36 08.6
comp=Z,217nm,20.0s
PVRL Vila Real 51.83 50 eP P 23 21 16.5 +1.2
comp=Z,21nm,1.8s
SWSC Sam W. Stewart 51.90 299 ⇑P P 23 21 15.5 -0.5
baz=52
H10N3 ASCENSION HYDR 51.91 114 T T 00 17 01.2
baz=298,slow=75,SNR=2043
H10N2 ASCENSION HYDR 51.92 114 T T 00 17 02.4
baz=298,slow=75,SNR=2431
H10N1 ASCENSION HYDR 51.93 114 T T 00 17 03.5
baz=298,slow=75,SNR=2779
GMRC Granite Mounta 51.96 301 ⇓P P 23 21 16.5 0.0
baz=52,SNR=7.3
IBP Imperial Bould 52.13 299 ⇑P P 23 21 17.3 -0.5
baz=52
BELC Belle Mtn. Jos 52.16 300 ⇑P P 23 21 18.1 0.0
baz=52
TUQ Turquoise Moun 52.25 302 ⇓P P 23 21 18.8 +0.2
baz=52,SNR=11

H10S3 ASCENSION HYDR 52.30 116 T T 00 17 32.8
baz=299,slow=75,SNR=1837
H10S1 ASCENSION HYDR 52.30 115 T T 00 17 33.2
baz=299,slow=75,SNR=2114
MVO Moncorvo 52.31 50 eP P 23 21 20.9 +1.9
comp=Z,20nm,1.7s
MVO eS S 23 28 45.5 +3.7
MVO eLR LR 23 36 34.2
comp=Z,395nm,22.0s
H10S2 ASCENSION HYDR 52.31 116 T T 00 17 31.7
baz=299,slow=75,SNR=1448
R11A Troy Canyon, C 52.36 306 eP P 23 21 18.8 -0.7
comp=Z,25nm,1.4s
R11A ePcP PcP 23 22 29.2 -1.0
R11A Troy Canyon, C 52.36 306 ⇓P P 23 21 19.8 +0.3
baz=52,SNR=20
MONP Monument Peak, 52.42 299 ⇑P P 23 21 20.5 +0.4
baz=52,SNR=9.0
PFO Pinyon Flats O 52.51 300 ⇓P P 23 21 20.9 +0.2
baz=52
ELK Elko 52.51 309 eP P 23 21 19.6 -1.0
ELK pmax pmax
comp=Z,46nm,1.8s
ELK Elko 52.51 309 eP P 23 21 19.6 -1.0
comp=Z,46nm,1.8s
HLID Hailey 52.51 313 eP P 23 21 20.4 -0.2
comp=Z,66nm,1.6s
HLID Hailey 52.51 313 ⇑P P 23 21 20.8 +0.3
baz=52,SNR=36
HEC Hector,Ludlow 52.51 301 ⇓P P 23 21 20.9 +0.3
baz=52,SNR=6.8
SHOC Shoshone, Teco 52.59 303 ⇓P P 23 21 21.4 +0.4
baz=52
CHMT Chamberlain Mo 52.61 317 eP P 23 21 21.0 -0.2
BAR Barrett 52.62 299 eP P 23 21 20.0 -1.3
comp=Z,3.3nm,1.2s
PBRG Braganca 52.65 50 eLR LR 23 36 38.0
comp=Z,392nm,22.0s
TPNV Topopah Spring 52.69 304 eP P 23 21 22.0 +0.1
TPNV pmax pmax
comp=Z,15nm,0.8s
TPNV Topopah Spring 52.69 304 eP P 23 21 22.0 +0.1
comp=Z,15nm,0.8s
TPNV Topopah Spring 52.69 304 ⇓P P 23 21 22.7 +0.7
baz=53,SNR=22
SLMT Seeley Lake 52.86 317 eP P 23 21 23.5 +0.4
GSC Goldstone, Bar 52.95 302 eP P 23 21 23.3 -0.5
GSC pmax pmax
comp=Z,8.0nm,0.8s
GSC Goldstone, Bar 52.95 302 eP P 23 21 23.3 -0.5
comp=Z,8.2nm,0.8s
GSC Goldstone, Bar 52.95 302 ⇓P P 23 21 24.2 +0.4
baz=53,SNR=6.8
109C Camp Elliot, M 53.00 299 ⇓P P 23 21 23.4 -0.7
baz=53
MSO Missoula 53.03 317 eP P 23 21 23.3 -0.9
MSO ePcP PcP 23 22 32.7 +0.2
MSO Missoula 53.03 317 ⇑P P 23 21 24.3 +0.1
baz=53,SNR=9.2
RRX Edison Barstow 53.07 301 ⇑P P 23 21 24.6 0.0
baz=53
FURC Furnace Creek, 53.12 303 ⇓P P 23 21 25.4 +0.5
baz=53,SNR=5.3
MURC Murrieta 53.13 300 ⇑P P 23 21 25.0 -0.1
baz=53
SWMT Swartz Lake 53.27 317 eP P 23 21 25.9 -0.1
YBMT Yellow Bay 53.38 318 eP P 23 21 27.1 +0.3
MFID Camas Ranch 53.48 312 eP P 23 21 26.8 -0.8
comp=Z,16nm,1.0s
JTMT Jette 53.52 318 eP P 23 21 27.4 -0.5
JTMT ePcP PcP 23 22 34.2 -0.1
BFSC Mount Baldy Ra 53.55 301 ⇑P P 23 21 28.0 -0.3
baz=53
MPMC Manual Prospec 53.58 303 ⇑P P 23 21 28.7 +0.1
baz=54,SNR=7.8
GRAC Grapevine Rang 53.59 304 ⇓P P 23 21 28.6 +0.2
baz=54
TPH Tonopah 53.60 305 eP P 23 21 27.4 -1.3
TPH pmax pmax
comp=Z,10.0nm,0.9s
TPH Tonopah 53.60 305 eP P 23 21 27.4 -1.3
comp=Z,9.8nm,0.9s
BLMT Blacktail Moun 53.65 318 eP P 23 21 27.8 -1.1
WALA Waterton Lakes 53.68 319 eP P 23 21 27.8 -1.2
comp=Z,726nm,1.4s
DAC Darwin (Calif) 53.69 303 eP P 23 21 29.9 +0.5
DAC pmax pmax
comp=Z,15nm,0.8s
DAC Darwin (Calif) 53.69 303 eP P 23 21 29.9 +0.5
comp=Z,15nm,0.8s
LRMC Laurel Mtn Rad 53.69 302 ⇓P P 23 21 28.8 -0.5
baz=54
BSMT Bassoo Peak 53.88 318 eP P 23 21 30.3 -0.2
EDW2 Edwards Air Fo 53.88 301 ⇓P P 23 21 30.7 +0.1
baz=54,SNR=11
BMN Battle Mountai 53.94 308 eP P 23 21 28.8 -2.3
BMN pmax pmax
comp=Z,134nm,1.9s
BMN Battle Mountai 53.94 308 eP P 23 21 28.8 -2.3
comp=Z,134nm,1.9s
DECC Green Verdugo 54.11 301 ⇓P P 23 21 32.3 0.0
baz=54
CIS Catalina Islan 54.12 300 ⇓P P 23 21 32.4 0.0
baz=54
TRQA Tornquist 54.24 181 eP P 23 21 32.4 -0.6
comp=Z,19nm,1.1s
ISA Isabella, Lake 54.34 302 eP P 23 21 34.8 +0.8
ISA pmax pmax
comp=Z,17nm,1.5s
ISA Isabella, Lake 54.34 302 eP P 23 21 34.8 +0.8
comp=Z,17nm,1.5s
ISA Isabella, Lake 54.34 302 ⇓P P 23 21 34.6 +0.7
baz=54
ESDC Sonseca Array 54.37 53 P P 23 21 35.4 +1.3
comp=Z,1.3nm,0.7s,baz=263,slow=8.2,SNR=10
ESDC LR LR 23 39 45.9
comp=Z,289nm,21.9s,baz=250,slow=30
ES19 SONSECA Array 54.42 53 eP P 23 21 34.8 +0.4
OSI Osito Audit: C 54.46 301 ⇓P P 23 21 34.8 0.0
baz=54
NV01 Mina Array Sit 54.49 306 eP P 23 21 34.2 -1.0
NV01 ePcP PcP 23 22 39.6 +1.3
NVAR Mina Array Bea 54.49 306 P P 23 21 35.3 +0.1
comp=Z,7.8nm,0.7s,baz=86,slow=7.9,SNR=58
EDM Edmonton 54.76 324 eP P 23 21 36.1 -0.5
EDM Edmonton 54.76 324 eP P 23 21 36.1 -0.5
BMO Blue Mountains 54.83 314 eP P 23 21 36.4 -0.9
BMO pmax pmax
comp=Z,26nm,1.4s
BMO Blue Mountains 54.83 314 eP P 23 21 36.4 -0.9
comp=Z,26nm,1.4s
VES Vestal, Richgr 54.85 302 ⇓P P 23 21 37.7 +0.2
baz=55,SNR=5.4
RCTC Rector, Farmer 55.01 303 ⇑P P 23 21 39.4 +0.7
baz=55
F10A Beach Ranch, E 55.02 315 eP P 23 21 37.5 -1.3
comp=Z,11nm,1.0s
WVOR Wild Horse Val 55.32 310 eP P 23 21 39.7 -1.3
WVOR pmax pmax
comp=Z,27nm,1.6s
WVOR Wild Horse Val 55.32 310 eP P 23 21 39.6 -1.3
comp=Z,27nm,1.6s
WAKR Walker 55.38 306 eP P 23 21 41.3 -0.3
NEW Newport 55.50 318 eP P 23 21 41.5 -0.6
NEW pmax pmax
comp=Z,50nm,0.8s
NEW Newport 55.50 318 eP P 23 21 41.5 -0.6
comp=Z,50nm,0.8s
NEW Newport 55.50 318 ⇑P P 23 21 41.9 -0.2
baz=55,SNR=45
TIC Tounodi 55.50 93 ePKIKP P 23 21 43.4 +0.8
comp=Z,5.1nm,0.2s
LIC Lamto 55.61 94 eP P 23 21 43.0 -0.3
LIC eR
comp=Z,446nm,22.0s
LIC Lamto 55.61 94 ePKIKP P 23 21 43.1 -0.3
comp=Z,42nm,1.2s
LIC Lamto 55.61 94 eP P 23 21 43.0 -0.3
DBIC Dimbokro 55.65 93 P P 23 21 44.0 +0.3
comp=Z,4.3nm,0.6s,baz=280,slow=7.3,SNR=16
DBIC LR LR 23 40 57.6
comp=Z,405nm,21.4s,baz=248,slow=31
DBIC Dimbokro 55.65 93 P P 23 21 44.0 +0.3
KIC Kosan Boka 55.84 93 ePKIKP P 23 21 43.5 -1.5
comp=Z,65nm,1.3s
G08A Pilot Rock 56.06 314 eP P 23 21 45.8 -0.5
comp=Z,24nm,1.4s

CMB Columbia Colle 56.08 305 *e*P **P** **23 21 46.3 -0.1**
CMB pmax pmax
comp=Z,11nm,1.2s
CMB Columbia Colle 56.08 305 *e*P **P** **23 21 46.3 -0.1**
comp=Z,11nm,1.2s
C09A Chrisman Ranch 56.13 317 *e*P **P** **23 21 46.0 -0.6**
comp=Z,14nm,0.8s
I07A Izee 56.22 312 *e*P **P** **23 21 47.2 -0.3**
OD2 Odessa Site #2 56.33 316 P **P** **23 21 48.0 0.0**
D08A Wollman Farm, 56.40 316 *e*P **P** **23 21 48.0 -0.5**
QUIF Quistinic 56.46 43 *e*P **P** **23 21 49.9 +1.0**
QUIF Quistinic 56.46 43 *e*P **P** **23 21 49.9 +1.0**
QUIF Quistinic 56.46 43 *e*P **P** **23 21 49.9 +1.0**
HAWA Hanford 56.67 315 *e*P **P** **23 21 49.9 -0.5**
comp=Z,23nm,1.3s
SJPF Ste Jean 56.90 49 *e*P **P** **23 21 53.8 +1.6**
comp=Z,16nm,0.7s
SJPF Ste Jean 56.90 49 *e*P **P** **23 21 53.8 +1.6**
SJPF pmax pmax
comp=Z,17nm,0.7s
SJPF Ste Jean 56.90 49 *e*P **P** **23 21 53.8 +1.6**
comp=Z,16nm,0.7s
K05A Summer Lake 57.01 310 *e*P **P** **23 21 52.7 -0.5**
comp=Z,155nm,1.5s
G06A Carlson Farm, 57.21 313 *e*P **P** **23 21 54.3 -0.1**
comp=Z,36nm,1.3s
J05D Fort Rock, OR 57.34 311 ⇑P **P** **23 21 55.6 +0.2**
baz=57,SNR=16
TRW Toppenish Ridg 57.34 315 P **P** **23 21 55.8 +0.5**
ETSF Etsaut 57.35 49 *e*P **P** **23 21 56.9 +1.5**
ETSF Etsaut 57.35 49 *e*P **P** **23 21 56.9 +1.5**
ETSF Etsaut 57.35 49 *e*P **P** **23 21 56.9 +1.5**
I05D Terrebonne, OR 57.56 312 ⇑P **P** **23 21 57.6 +0.7**
baz=57,SNR=6.6
M04C Macdoel 57.58 309 ⇑P **P** **23 21 57.2 +0.1**
baz=58,SNR=20
PLCA Paso Flores 57.60 189 P **P** **23 21 56.5 -0.5**
comp=Z,14nm,0.9s,baz=9.4,slow=7.3,SNR=23
PLCA LR LR 23 49 34.0
comp=Z,388nm,21.3s,baz=5.5,slow=39
PLCA Paso Flores 57.60 189 *e*P **P** **23 21 56.7 -0.3**
PLCA pmax pmax
comp=Z,14nm,0.8s
PLCA Paso Flores 57.60 189 *e*P **P** **23 21 56.7 -0.3**
comp=Z,14nm,0.8s
LTY Liberty 57.61 316 *e*P **P** **23 21 56.6 -0.5**
comp=Z,31nm,1.0s
SUMG Summit 57.61 8 *i* P **P** **23 21 57.9 +0.8**
comp=Z,21nm,1.1s
SUMG Summit 57.61 8 *e*P **P** **23 21 57.2 +0.1**
SUMG pmax pmax
comp=Z,53nm,1.2s
SUMG Summit 57.61 8 *e*P **P** **23 21 57.2 +0.1**
comp=Z,53nm,1.2s
K04D Chiloquin, OR 57.62 310 ⇑P **P** **23 21 57.2 -0.2**
baz=58
TWW Teanaway 57.72 316 P **P** **23 21 58.5 +0.6**
BPO Bald Peter 57.86 313 P **P** **23 22 00.2 +1.1**
J04D Umpqua Nationa 57.96 311 ⇑P **P** **23 21 60.0 +0.1**
baz=58,SNR=19
WDC Whiskeytown Da 57.98 308 *e*P **P** **23 21 57.7 -2.1**
WDC pmax pmax
comp=Z,35nm,1.6s
WDC Whiskeytown Da 57.98 308 *e*P **P** **23 21 57.7 -2.1**
comp=Z,35nm,1.6s
EPF Esparros 58.03 49 *e*P **P** **23 22 01.8 +1.7**
EPF Esparros 58.03 49 *e*P **P** **23 22 01.8 +1.7**
EPF Esparros 58.03 49 *e*P **P** **23 22 01.8 +1.7**
GRR Gorron 58.07 43 *e*P **P** **23 22 01.2 +1.0**
comp=Z,42nm,1.2s
GRR Gorron 58.07 43 *e*P **P** **23 22 01.2 +1.0**
GRR pmax pmax
comp=Z,42nm,1.2s
GRR Gorron 58.07 43 *e*P **P** **23 22 01.2 +1.0**
comp=Z,42nm,1.2s
N02D Trinity Center 58.14 308 ⇓P **P** **23 21 59.4 -1.6**
baz=58,SNR=7.9
MFF Saint Martin d 58.21 45 *e*P **P** **23 22 02.6 +1.3**
comp=Z,13nm,0.8s
MFF Saint Martin d 58.21 45 *e*P **P** **23 22 02.6 +1.3**
MFF pmax pmax
comp=Z,13nm,0.8s
MFF Saint Martin d 58.21 45 *e*P **P** **23 22 02.6 +1.3**
comp=Z,13nm,0.8s
H04A Detroit Lake 58.22 313 *e*P **P** **23 22 00.6 -0.8**
comp=Z,26nm,0.9s
YBH Yreka Blue Hor 58.23 309 *e*P **P** **23 22 00.1 -1.5**
YBH pmax pmax
comp=Z,36nm,1.5s
YBH Yreka Blue Hor 58.23 309 *e*P **P** **23 22 00.1 -1.5**
comp=Z,36nm,1.5s
I04A Tendick Farm, 58.25 312 ⇑P **P** **23 22 00.9 -0.8**
baz=58
LON Longmire 58.28 315 *e*P **P** **23 22 01.0 -0.9**
LON pmax pmax
comp=Z,22nm,1.6s
LON Longmire 58.28 315 *e*P **P** **23 22 01.0 -0.9**
comp=Z,22nm,1.6s
M02C Callahan 58.30 309 ⇓P **P** **23 22 01.0 -1.1**
baz=58,SNR=18
FLN La Foliniere 58.39 43 *e*P **P** **23 22 03.6 +1.1**
comp=Z,34nm,1.1s
FLN eR
comp=Z,878nm,22.8s
FLN La Foliniere 58.39 43 *e*P **P** **23 22 03.6 +1.1**
FLN pmax pmax
comp=Z,34nm,1.1s
FLN La Foliniere 58.39 43 *e*P **P** **23 22 03.6 +1.1**
comp=Z,34nm,1.1s
EKA Eskdalemuir Ar 58.44 35 P **P** **23 22 03.0 +0.3**
comp=Z,1.0nm,0.6s,baz=250,slow=6.5,SNR=6.0
EKA LR LR 23 42 48.3
comp=Z,344nm,20.0s,baz=265,slow=31
HUMO Hull Mountain 58.50 310 *e*P **P** **23 22 01.6 -1.9**
comp=Z,5.8nm,0.7s
F04A Amboy 58.56 314 *e*P **P** **23 22 03.2 -0.6**
comp=Z,22nm,1.2s
LFF La Frestale 58.57 47 *e*P **P** **23 22 04.9 +1.1**
comp=Z,53nm,1.3s
LFF La Frestale 58.57 47 *e*P **P** **23 22 04.9 +1.1**
LFF pmax pmax
comp=Z,53nm,1.3s
LFF La Frestale 58.57 47 *e*P **P** **23 22 04.9 +1.1**
comp=Z,53nm,1.3s
LDF La Druitiere 58.59 43 *e*P **P** **23 22 04.7 +0.8**
LDF La Druitiere 58.59 43 *e*P **P** **23 22 04.7 +0.8**
LDF La Druitiere 58.59 43 *e*P **P** **23 22 04.7 +0.8**
KMRM Mail Ridge 58.84 307 *e*P **P** **23 22 06.1 +0.2**
comp=Z,92nm,1.4s
KHMM Horse Mountain 58.91 308 *e*P **P** **23 22 05.8 -0.6**
comp=Z,90nm,2.3s
I03D Drain, OR 58.91 311 ⇑P **P** **23 22 05.5 -0.7**
baz=59,SNR=9.4
L02D Cave Junction, 58.93 310 ⇑P **P** **23 22 05.4 -1.1**
baz=59,SNR=8.1
G03D McMinnville, O 59.05 313 ⇓P **P** **23 22 07.2 +0.1**
baz=59,SNR=6.0
YKA Yellowknife Ar 59.10 334 P **P** **23 22 06.1 -1.0**
comp=Z,13nm,0.8s,baz=105,slow=7.5,SNR=141
MPOR Mary's Peak 59.16 312 P **P** **23 22 08.4 +0.3**
RJF Les Rejaudoux 59.16 47 *e*P **P** **23 22 08.9 +1.0**
comp=Z,28nm,1.0s
RJF eR
comp=Z,1μm,20.8s
RJF Les Rejaudoux 59.16 47 *e*P **P** **23 22 08.9 +1.0**
RJF pmax pmax
comp=Z,28nm,1.0s
RJF Les Rejaudoux 59.16 47 *e*P **P** **23 22 08.9 +1.0**
comp=Z,28nm,1.0s
KBO Bosley Butte 59.40 310 *e*P **P** **23 22 09.3 -0.5**
comp=Z,172nm,1.5s
MTLF Montolieu 59.43 49 *e*P **P** **23 22 10.7 +0.9**
comp=Z,50nm,1.5s
MTLF Montolieu 59.43 49 *e*P **P** **23 22 10.7 +0.9**
MTLF pmax pmax
comp=Z,50nm,1.5s
MTLF Montolieu 59.43 49 *e*P **P** **23 22 10.7 +0.9**
comp=Z,50nm,1.5s
E03A Lebam 59.44 315 *e*P **P** **23 22 08.8 -1.0**
comp=Z,31nm,0.8s
CAF Calviac 59.50 47 *e*P **P** **23 22 11.4 +1.1**
comp=Z,30nm,1.2s
CAF Calviac 59.50 47 *e*P **P** **23 22 11.4 +1.1**
CAF pmax pmax
comp=Z,31nm,1.2s
CAF Calviac 59.50 47 *e*P **P** **23 22 11.4 +1.1**
comp=Z,30nm,1.2s
KEBM Edson Butte 59.54 310 *e*P **P** **23 22 10.5 -0.2**
comp=Z,101nm,1.4s
VGZ Gonzales 59.57 317 P **P** **23 22 09.7 -1.0**
PGC Sidney 59.70 317 *e*P **P** **23 22 10.4 -1.1**
comp=Z,663nm,1.2s
OSD Olympics--Snow 59.73 316 P **P** **23 22 12.4 +0.4**
STW Striped Peak 59.76 316 P **P** **23 22 12.5 +0.5**
NLWA Neilton Lookou 59.77 316 *e*P **P** **23 22 12.1 -0.1**
comp=Z,84nm,1.3s
TCF Toulx Ste Croi 59.78 46 *e*P **P** **23 22 13.1 +0.9**
comp=Z,44nm,1.4s
TCF Toulx Ste Croi 59.78 46 *e*P **P** **23 22 13.1 +0.9**
TCF pmax pmax
comp=Z,44nm,1.4s
TCF Toulx Ste Croi 59.78 46 *e*P **P** **23 22 13.1 +0.9**
comp=Z,44nm,1.4s
HYF Humbligny 60.20 45 *e*P **P** **23 22 15.8 +0.7**
HYF Humbligny 60.20 45 *e*P **P** **23 22 15.8 +0.7**
TOA0 Torodi Ar. Sit 60.45 84 *e*P **P** **23 22 17.4 +0.1**
TORD Torodi Ar. Bea 60.45 84 P **P** **23 22 17.1 -0.1**
comp=Z,5.2nm,0.9s,baz=294,slow=6.3,SNR=33
TORD LR LR 23 44 36.9
comp=Z,748nm,21.4s,baz=280,slow=32
AVF Avril sur Loir 60.62 45 *e*P **P** **23 22 18.7 +0.8**
comp=Z,29nm,1.1s
AVF Avril sur Loir 60.62 45 *e*P **P** **23 22 18.7 +0.8**
AVF pmax pmax
comp=Z,29nm,1.1s
AVF Avril sur Loir 60.62 45 *e*P **P** **23 22 18.7 +0.8**
comp=Z,29nm,1.1s
LASF Ste Croix 60.68 48 *e*P **P** **23 22 19.3 +0.9**
comp=Z,36nm,1.3s
LASF Ste Croix 60.68 48 *e*P **P** **23 22 19.3 +0.9**
comp=Z,36nm,1.3s
SSF Saint Saulge 60.76 45 *e*P **P** **23 22 19.6 +0.7**
comp=Z,14nm,0.9s
SSF Saint Saulge 60.76 45 *e*P **P** **23 22 19.6 +0.7**
SSF pmax pmax
comp=Z,14nm,0.9s
SSF Saint Saulge 60.76 45 *e*P **P** **23 22 19.6 +0.7**
comp=Z,14nm,0.9s
SMF Signal de Mont 60.94 45 *e*P **P** **23 22 20.9 +0.8**
comp=Z,42nm,1.3s
SMF Signal de Mont 60.94 45 *e*P **P** **23 22 20.9 +0.8**
SMF pmax pmax
comp=Z,42nm,1.3s
SMF Signal de Mont 60.94 45 *e*P **P** **23 22 20.9 +0.8**
comp=Z,42nm,1.3s
LOR Lormes 61.03 45 *e*P **P** **23 22 21.4 +0.7**
comp=Z,25nm,0.9s
LOR eR
comp=Z,332nm,21.5s
LOR Lormes 61.03 45 *e*P **P** **23 22 21.4 +0.7**
LOR pmax pmax
comp=Z,25nm,0.9s
LOR Lormes 61.03 45 *e*P **P** **23 22 21.4 +0.7**
comp=Z,25nm,0.9s
VIVF Saint-Julien-l 61.33 48 *e*P **P** **23 22 24.6 +1.7**
comp=Z,20nm,1.0s
VIVF Saint-Julien-l 61.33 48 *e*P **P** **23 22 24.6 +1.7**
VIVF pmax pmax
comp=Z,20nm,1.0s
VIVF Saint-Julien-l 61.33 48 *e*P **P** **23 22 24.6 +1.7**
comp=Z,20nm,1.0s
BAIF Baives 61.63 42 *e*P **P** **23 22 25.0 +0.3**
comp=Z,28nm,1.3s
BAIF Baives 61.63 42 *e*P **P** **23 22 25.0 +0.3**
BAIF pmax pmax
comp=Z,28nm,1.3s
BAIF Baives 61.63 42 *e*P **P** **23 22 25.0 +0.3**
comp=Z,28nm,1.3s
SFTF Sexfontaines 61.93 44 *e*P **P** **23 22 27.4 +0.6**
comp=Z,76nm,1.4s
SFTF Sexfontaines 61.93 44 *e*P **P** **23 22 27.4 +0.6**
comp=Z,76nm,1.4s
MEZF Maizieres J'vi 61.97 43 *e*P **P** **23 22 27.8 +0.8**
comp=Z,26nm,0.9s
MEZF Maizieres J'vi 61.97 43 *e*P **P** **23 22 27.8 +0.8**
comp=Z,26nm,0.9s
GIVF Givet 62.03 42 *e*P **P** **23 22 27.8 +0.4**
GIVF Givet 62.03 42 *e*P **P** **23 22 27.8 +0.4**
GIVF Givet 62.03 42 *e*P **P** **23 22 27.8 +0.4**
PAGF Fort de Pagny 62.42 43 *e*P **P** **23 22 30.8 +0.7**
comp=Z,18nm,1.4s
PAGF Fort de Pagny 62.42 43 *e*P **P** **23 22 30.8 +0.7**
comp=Z,18nm,1.4s
CABF La Chapelle 62.48 46 *e*P **P** **23 22 31.4 +0.8**
CABF La Chapelle 62.48 46 *e*P **P** **23 22 31.4 +0.8**
CABF La Chapelle 62.48 46 *e*P **P** **23 22 31.4 +0.8**
LMR La Mourre 62.55 49 *e*P **P** **23 22 31.8 +0.8**
LMR La Mourre 62.55 49 *e*P **P** **23 22 31.8 +0.8**
LMR La Mourre 62.55 49 *e*P **P** **23 22 31.8 +0.8**
FRF La Foret Royal 62.66 49 *e*P **P** **23 22 32.6 +0.9**
comp=Z,14nm,1.0s
FRF La Foret Royal 62.66 49 *e*P **P** **23 22 32.6 +0.9**
FRF pmax pmax
comp=Z,14nm,1.0s
FRF La Foret Royal 62.66 49 *e*P **P** **23 22 32.6 +0.9**
comp=Z,14nm,1.0s
HAU Haudompre 62.78 44 *e*P **P** **23 22 32.8 +0.3**
HAU eR
comp=Z,297nm,18.5s
HAU Haudompre 62.78 44 *e*P **P** **23 22 32.8 +0.3**
HAU Haudompre 62.78 44 *e*P **P** **23 22 32.8 +0.3**
MBDF Montbardon 62.81 48 *e*P **P** **23 22 34.5 +1.6**
comp=Z,37nm,1.3s
MBDF Montbardon 62.81 48 *e*P **P** **23 22 34.5 +1.6**
MBDF pmax pmax
comp=Z,37nm,1.3s
MBDF Montbardon 62.81 48 *e*P **P** **23 22 34.5 +1.6**
comp=Z,37nm,1.3s
WLF Walferdange 62.83 42 *e*P **P** **23 22 34.3 +1.6**
comp=Z,13nm,1.0s
LPL La Plagne 62.84 47 *e*P **P** **23 22 34.7 +1.5**
comp=Z,22nm,1.2s
LPL La Plagne 62.84 47 *e*P **P** **23 22 34.7 +1.5**
LPL pmax pmax
comp=Z,22nm,1.2s
LPL La Plagne 62.84 47 *e*P **P** **23 22 34.7 +1.5**
comp=Z,22nm,1.2s
LPG La Plagne 62.85 47 *e*P **P** **23 22 35.0 +1.7**
comp=Z,28nm,1.3s
LPG La Plagne 62.85 47 *e*P **P** **23 22 35.0 +1.7**
LPG pmax pmax
comp=Z,28nm,1.3s
LPG La Plagne 62.85 47 *e*P **P** **23 22 35.0 +1.7**
comp=Z,28nm,1.3s
HINF Hinteralfeld 63.10 44 *e*P **P** **23 22 34.8 +0.2**
comp=Z,8.7nm,0.7s
HINF Hinteralfeld 63.10 44 *e*P **P** **23 22 34.8 +0.2**
HINF pmax pmax
comp=Z,9.0nm,0.7s
HINF Hinteralfeld 63.10 44 *e*P **P** **23 22 34.8 +0.2**
comp=Z,8.7nm,0.7s
SBF Sospel 63.24 49 *e*P **P** **23 22 36.5 +0.8**
comp=Z,67nm,1.2s
SBF Sospel 63.24 49 *e*P **P** **23 22 36.5 +0.8**
SBF pmax pmax
comp=Z,67nm,1.2s
SBF Sospel 63.24 49 *e*P **P** **23 22 36.5 +0.8**
comp=Z,67nm,1.2s
CDF Champ du Feu 63.44 44 *e*P **P** **23 22 37.3 +0.4**
comp=Z,20nm,1.1s
CDF Champ du Feu 63.44 44 *e*P **P** **23 22 37.3 +0.4**
CDF pmax pmax
comp=Z,20nm,1.1s
CDF Champ du Feu 63.44 44 *e*P **P** **23 22 37.3 +0.4**
comp=Z,20nm,1.1s
BUG Bochum--Univer 63.73 40 *e*P **P** **23 22 40.1 +1.4**
BFO Black Forest 64.13 44 *e*P **P** **23 22 42.2 +0.8**
comp=Z,10.0nm,1.5s
IBBN Ibbenburen 64.13 39 *e*P **P** **23 22 42.9 +1.6**
comp=Z,23nm,1.2s
TNS Taunus Mts 64.36 42 *e*P **P** **23 22 44.5 +1.6**
comp=Z,12nm,1.1s
KEST Kesra 64.72 58 P **P** **23 22 46.5 +0.9**
comp=Z,3.8nm,0.9s,baz=192,slow=5.6,SNR=12
KEST LR LR 23 48 50.7
comp=Z,76nm,19.8s,baz=255,slow=34
KEST Kesra 64.72 58 *e*P **P** **23 22 47.9 +2.3**
STU Stuttgart 64.73 43 *e*P **P** **23 22 46.3 +1.0**
comp=Z,9.0nm,0.8s
DLBC Dease Lake 65.18 327 *e*P **P** **23 22 49.1 +1.0**
FUORN Ofenpass-Fuorn 65.35 46 *e*P **P** **23 22 51.4 +1.7**
NRDL Niedersach Rie 65.58 39 *e*P **P** **23 22 53.2 +2.6**
comp=Z,10.0nm,1.2s
FETA Feichten 65.68 45⇑ *i*P **P** **23 22 52.7 +1.0**
comp=Z,19nm,1.1s
CLZ Clausthal 65.70 40 *e*P **P** **23 22 53.1 +1.6**
comp=Z,21nm,1.4s
BSEG Bad Segeberg 65.83 38 *e*P **P** **23 22 53.8 +1.5**
comp=Z,39nm,1.7s
ALE Alert 66.10 360 P **P** **23 22 53.9 +0.3**
comp=Z,90nm,1.1s,SNR=5.0
GRF Grafenberg Arr 66.11 43 *e*P **P** **23 22 55.7 +1.5**
comp=Z,25nm,1.6s
WTTA Wattenberg 66.31 45⇑ *i*P **P** **23 22 56.6 +0.9**
comp=Z,8.0nm,1.0s
MOX Moxa 66.41 42 *e*P **P** **23 22 57.6 +1.5**
comp=Z,6.0nm,1.4s
ROTZ Rotzenmuhle 66.75 42 *e*P **P** **23 22 58.1 -0.2**
comp=Z,7.0nm,1.5s
NKC Novy Kostel 66.92 42 *e*S **S** **23 31 51.2 +1.6**
NKC AMS AMS 23 46 20.0
comp=Z,300nm,24.7s
TANN Tannenbergstha 66.94 42 *e*P **P** **23 23 00.9 +1.4**
comp=Z,10.0nm,1.2s
NB2 NORSAR Subarra 67.10 30 P **P** **23 23 01.2 +0.8**
comp=Z,17nm,1.4s,baz=262,slow=6.5
NOA NORSAR Array B 67.10 30 P **P** **23 23 01.4 +1.1**
comp=Z,2.4nm,0.9s,baz=264,slow=6.7,SNR=7.6
NOA LR LR 23 47 09.3
comp=Z,415nm,21.8s,baz=270,slow=31
WET Wettzell 67.17 43 *e*P **P** **23 23 01.6 +0.6**
comp=Z,9.0nm,1.2s
CLL Collm 67.31 41 *e*P **P** **23 23 02.4 +0.6**
comp=Z,12nm,1.2s
CLL Collm 67.31 41 *e*P **P** **23 23 02.0 +0.2**
CLL *i* 23 23 08.8
CLL *i* pP **pP** **23 23 11.7 -2.0**
CLL *e*S **S** **23 31 51.0 -3.2**
CLL *e*PS **PnS** **23 32 20.0 -0.1**
CLL *e*SS **SS** **23 36 12.0 -2.1**
CLL *e*SSS SSS 23 39 36.0
CLL Lm MLR 23 46 00.0
comp=Z,400nm,22.0s
CLL Collm 67.31 41 *e*P **P** **23 23 02.0 +0.2**
CLL *i* 23 23 08.8
CLL *e*S **S** **23 31 49.0 -5.2**
CLL MLR MLR
comp=Z,400nm,22.0s
CLL Collm 67.31 41 *e*P **P** **23 23 02.4 +0.6**
comp=Z,11nm,1.1s
KHC Kasperske Hory 67.63 43 *e*P **P** **23 23 04.7 +0.8**
KHC *e*pP **pP** **23 23 13.5 -2.3**
KHC *e*S **S** **23 31 55.1 -3.2**
KHC AMS AMS 23 47 50.0
comp=Z,100nm,18.7s
KHC Kasperske Hory 67.63 43 *e*P **P** **23 23 04.7 +0.8**
KHC *e* 23 23 13.5
KHC *e*S **S** **23 31 55.1 -3.2**
KHC MLR MLR
comp=Z,100nm,18.7s
GERES GERESS Array B 67.71 44 P **P** **23 23 04.9 +0.4**
comp=Z,0.6nm,0.5s,baz=271,slow=6.2,SNR=8.7
GERES LR LR 23 49 31.4
comp=Z,124nm,19.6s,baz=260,slow=33
BRG Berggiesshubel 67.89 41 *e*P **P** **23 23 06.4 +1.0**
comp=Z,5.5nm,1.0s
BRG Berggiesshubel 67.89 41 *e*P **P** **23 23 06.5 +1.0**
comp=Z,7.0nm,1.2s
BRG Berggiesshubel 67.89 41 *e*P **P** **23 23 06.4 +1.0**
BRG pmax pmax
comp=Z,6.0nm,1.0s
EFI East Falkland 67.89 178 *c i*P **P** **23 23 06.7 +1.5**
PRA Prague 68.19 42 *e*S S 23 31 58.6 -6.2
PRA AMS AMS 23 49 20.0
comp=Z,300nm,20.6s
PRU Pruhonice 68.27 42 *e*P P 23 23 11.1 +3.3
PRU *e*pP pP 23 23 17.9 -1.8
PRU *e*S **S** **23 32 07.0 +1.3**
PRU AMS AMS 23 49 10.0
comp=Z,200nm,17.7s
PRU Pruhonice 68.27 42 *e*P P 23 23 11.1 +3.3
PRU *e* 23 23 17.9
PRU *e*S **S** **23 32 07.0 +1.3**
PRU MLR MLR
comp=Z,200nm,17.7s
PVCC Panska Ves 68.28 42 *e*pP **pP** **23 23 15.1 -4.8**
PVCC AMS AMS 23 49 00.0
comp=Z,500nm,19.3s
PVCC Panska Ves 68.28 42 *e*P **pP** **23 23 15.1 -4.8**
PVCC MLR MLR
comp=Z,500nm,19.3s
GOPC GO Pecny, Ondr 68.42 42 *e*S **S** **23 32 09.3 +1.6**
GOPC AMS AMS 23 50 10.0
comp=Z,300nm,18.6s
HYT Haines Junctio 69.22 329 *e*P **P** **23 23 12.3 -1.4**
DPC Dobruska-Polom 69.41 42 *e*P **P** **23 23 15.7 +0.7**
DPC *e*S **S** **23 32 18.7 -0.6**
DPC AMS AMS 23 47 40.0
DPC Dobruska-Polom 69.41 42 *e*P **P** **23 23 15.7 +0.7**
DPC *e*S **S** **23 32 18.7 -0.6**
DPC Dobruska-Polom 69.41 42 *e*P **P** **23 23 16.3 +1.3**
VRAC Vranov 69.61 43⇑P **P** **23 23 14.6 -1.6**
VRAC Vranov 69.61 43⇑ *i*P **P** **23 23 14.6 -1.6**
KRLC Kraliky 69.71 42 *e*P **P** **23 23 18.2 +1.3**
KRLC Kraliky 69.71 42 *e*P **P** **23 23 18.2 +1.3**
MORC Moravsky Berou 70.21 42⇑P **P** **23 23 19.4 -0.6**
MORC Moravsky Berou 70.21 42⇑ *i*P **P** **23 23 19.4 -0.6**
DAWY Dawson 70.28 333 *e*P **P** **23 23 20.3 +0.2**
OKC Ostrava-Krasne 70.60 42 AMS AMS 23 50 50.0
comp=Z,300nm,21.2s
EGAK Eagle 71.07 333 *e*P **P** **23 23 24.6 -0.3**
comp=Z,16nm,0.8s
VYHS Vyhne 71.12 44 *e*P **P** **23 23 26.5 +1.0**
VYHS pmax pmax
comp=Z,3.0nm,1.3s
VYHS Vyhne 71.12 44 *e*P **P** **23 23 26.5 +1.0**
PKSM Moragy 71.15 46⇑P **P** **23 23 26.5 +0.8**
PKSM Moragy 71.15 46⇑ *i*P **P** **23 23 26.5 +0.8**
NIE Niedzica 72.03 43 *e*P pP 23 23 42.0 -1.0
NIE Niedzica 72.03 43 *e*P pP 23 23 42.0 -1.0
KECS Kecovo 72.22 44 *e*P P 23 23 37.0 +4.9
KECS pmax pmax
comp=Z,2.0nm,1.0s
KECS Kecovo 72.22 44 *e* P 23 23 37.0 +4.9
DIVS Divibare 72.29 48⇑ *i*P **P** **23 23 34.4 +1.7**
SCRK Sand Creek 72.30 333 *e*P **P** **23 23 31.8 -0.6**
comp=Z,102nm,2.4s
DOT Dot Lake 72.34 332 *e*P **P** **23 23 33.0 +0.5**
BMRM Bremner River 72.69 329 *e*P **P** **23 23 35.4 +0.7**
RAGM Ragged Mountai 72.75 329 *e*P **P** **23 23 35.9 +0.8**
comp=Z,24nm,1.2s
CRVS Cervenica-Dubn 72.83 43 *e*P **P** **23 23 37.7 +2.0**
CRVS pmax pmax
comp=Z,10.0nm,1.7s
CRVS Cervenica-Dubn 72.83 43 *e*P **P** **23 23 37.7 +2.0**
PAX Paxson 73.00 332 *e*P **P** **23 23 36.8 +0.3**
PAX pmax pmax
comp=Z,13nm,0.9s
PAX Paxson 73.00 332 *e*P **P** **23 23 36.8 +0.3**
comp=Z,12nm,0.9s
DDM Donnelly Dome 73.13 332 *e*P **P** **23 23 36.9 -0.4**
comp=Z,21nm,1.0s
BZS Buzias 73.27 47⇑P **P** **23 23 39.7 +1.3**
BZS Buzias 73.27 47⇑ *i*P **P** **23 23 39.7 +1.3**
KLU Klutina 73.29 330 *e*P **P** **23 23 38.5 +0.2**
comp=Z,12nm,1.0s
UZH Uzhgorod 73.40 43 *e*P P 23 23 48.4 +9.3
UZH *i* 23 24 02.0
ARCES ARCESS Array B 73.47 21 P **P** **23 23 38.4 -0.7**
comp=Z,6.4nm,0.9s,baz=250,slow=3.5,SNR=7.2
ARCES LR LR 23 49 03.3
comp=Z,124nm,21.4s,baz=248,slow=30
IL1 Eielson Array 73.52 334 *e*P **P** **23 23 39.0 -0.5**
ILAR Eielson Array 73.52 334 P **P** **23 23 39.0 -0.5**
comp=Z,9.2nm,0.9s,baz=98,slow=4.4,SNR=95
ILAR LR LR 23 58 46.3
comp=Z,237nm,18.5s,baz=86,slow=38
ILAR Eielson Array 73.52 334 P **P** **23 23 39.0 -0.5**
KWP Kalwaria Pacla 73.56 42 *e*P **P** **23 23 42.3 +2.3**
KWP Kalwaria Pacla 73.56 42⇑P **P** **23 23 41.9 +1.9**
KWP Kalwaria Pacla 73.56 42⇑ *i*P **P** **23 23 41.9 +1.9**
TRPA Tarpa 73.62 44⇑ *i*P **P** **23 23 42.8 +2.5**
DRGR 73.89 45⇑P **P** **23 23 42.7 +0.6**
DRGR 73.89 45⇑ *i*P **P** **23 23 42.7 +0.6**
CCB Clear Creek Bu 73.93 333 *e*P **P** **23 23 41.2 -0.7**
comp=Z,11nm,1.0s
COLA College 73.93 334 *c i*P **P** **23 23 41.7 -0.1**

COLA pmax pmax
comp=Z,151nm,1.7s
COLA College 73.93 334 *e*P **P 23 23 41.3 -0.6**
comp=Z,38nm,1.3s
SCM Sheep Creek Mo 73.94 330 *e*P **P 23 23 42.1 0.0**
SCM pmax pmax
comp=Z,43nm,1.4s
SCM Sheep Creek Mo 73.94 330 *e*P **P 23 23 42.1 0.0**
comp=Z,43nm,1.4s
WRH Wood River Hil 74.06 333 *e*P **P 23 23 42.4 -0.3**
comp=Z,21nm,1.2s
MDM Murphy Dome 74.08 334 *e*P **P 23 23 42.8 0.0**
FINES FINESS Array B 74.28 30 P **P 23 23 44.4 +0.5**
comp=Z,2.3nm,0.5s,baz=248,slow=4.3,SNR=26
FINES LR LR 23 52 31.5
comp=Z,319nm,20.0s,baz=292,slow=33
RND Reindeer 74.50 332 *e*P **P 23 23 45.1 -0.2**
RND pmax pmax
comp=Z,91nm,1.7s
RND Reindeer 74.50 332 *e*P **P 23 23 45.1 -0.2**
comp=Z,91nm,1.7s
MCK McKinley 74.50 333 *e*P **P 23 23 45.1 -0.2**
MCK pmax pmax
comp=Z,14nm,1.0s
MCK McKinley 74.50 333 *e*P **P 23 23 45.1 -0.2**
comp=Z,14nm,1.0s
COLD Coldfoot 74.67 336 *e*P **P 23 23 46.5 +0.4**
BWN Browne 74.69 333 *e*P **P 23 23 46.2 -0.1**
VTS Vitosha 74.81 50⇑*i*P **P 23 23 49.3 +1.7**
VTS Vitosha 74.81 50⇑*i*P **P 23 23 49.3 +1.7**
TRF Thorofare Moun 75.13 332 *e*P **P 23 23 48.9 -0.2**
comp=Z,39nm,0.7s
MLY Manley 75.14 334 *e*P **P 23 23 48.4 -0.5**
comp=Z,14nm,0.9s
MMB Musomiste 75.34 51⇑P **P 23 23 48.7 -1.9**
MMB Musomiste 75.34 51⇑*i*P **P 23 23 48.7 -1.9**
KTH Kantishna Hill 75.40 332 *e*P **P 23 23 50.6 +0.1**
ARR Arges 75.41 47⇑*i*P **P 23 23 52.4 +1.5**
BURAR Bucovina Array 75.47 44⇑P **P 23 23 53.3 +2.0**
BURAR Bucovina Array 75.47 44⇑*i*P **P 23 23 53.3 +2.0**
VOIR 75.69 46⇓P **P 23 23 53.6 +1.1**
VOIR 75.69 46⇓*i*P **P 23 23 53.6 +1.1**
DOPR Dopca 75.84 46⇑*i*P **P 23 23 54.6 +1.3**
CAST Castle Rocks 75.94 332 *e*P **P 23 23 52.3 -1.2**
comp=Z,31nm,1.6s
PPLA Purkeypile 76.06 332 *e*P **P 23 23 53.4 -1.0**
comp=Z,25nm,1.2s
PRAR RASCA 76.19 44⇑*i*P **P 23 23 56.2 +0.9**
IM04 Indian Mountai 76.26 335 *e*P **P 23 23 54.8 -0.5**
MLR Muntele Rosu 76.30 46⇑P **P 23 23 57.7 +1.6**
MLR Muntele Rosu 76.30 46⇑*i*P **P 23 23 57.7 +1.6**
TESR Tescani 76.61 45⇑*i*P **P 23 23 57.1 -0.6**
RSO Redoubt South 76.72 329 *e*P **P 23 23 57.8 -0.4**
PLOR Plostina 76.73 46⇑P **P 23 23 58.7 +0.3**
PLOR Plostina 76.73 46⇑*i*P **P 23 23 58.7 +0.3**
VRI Vrincioaia 76.78 46⇑P **P 23 24 00.6 +2.0**
VRI Vrincioaia 76.78 46⇑P **P 23 24 00.6 +2.0**
LVZ Lovozero 76.98 23⇑*e*P **P 23 24 01.1 +1.7**
LVZ pmax pmax
comp=Z,33nm,1.7s
KIEV Kiev 77.54 41⇓*e*P **P 23 24 03.8 +1.0**
AKASG Malin Array Be 77.55 41 P **P 23 24 03.0 +0.2**
comp=Z,0.5nm,0.5s,baz=268,slow=4.5,SNR=7.2
AKASG LR LR 23 55 10.5
comp=Z,505nm,19.7s,baz=280,slow=33
AKASG Malin Array Be 77.55 41*c e*P **P 23 24 04.0 +1.2**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
CFR Carcaliu 77.88 46⇑P **P 23 24 04.0 -0.7**
CFR Carcaliu 77.88 46⇑*i*P **P 23 24 04.0 -0.7**
TLB Topalu 77.93 47⇑P P 23 23 57.9 -7.1
TLB Topalu 77.93 47⇑*i*P P 23 23 57.9 -7.1
SVW2 Sparrevohn 77.96 330 *e*P **P 23 24 03.5 -1.4**
comp=Z,9.5nm,0.9s
CHGN Chignik 80.54 326 *e*P P 23 24 22.2 +3.2
KLMR Klimovskoe 80.78 29 *e*P **P 23 24 17.5 -2.7**
KLMR pmax pmax
comp=Z,22nm,1.4s
OBN Obninsk 80.88 35*de*P **P 23 24 21.7 +0.8**
OBN *e*S **S 23 34 24.9 -1.5**
OBN *e*SS **SS 23 39 42.6 +2.4**
OBN pmax pmax
comp=Z,34nm,1.7s
MOS Moscow 81.29 34 *e*P **P 23 24 24.2 +1.1**
TNA Tin City 81.98 336 *e*P **P 23 24 26.5 0.0**
comp=Z,30nm,1.1s
RKT Rikitea 82.35 243 *e*LR LR 23 50 24.6
comp=Z,535nm,33.8s
BRTR Keskin Array B 83.10 51 P **P 23 24 33.5 +0.4**
comp=Z,0.9nm,0.6s,baz=266,slow=5.1,SNR=6.4
BRTR LR LR 23 57 00.8
comp=Z,130nm,21.6s,baz=286,slow=32
PRGR Permogore 83.30 27 *e*P **P 23 24 34.7 +1.3**
PRGR pmax pmax
comp=Z,7.0nm,0.5s
VSR Storozhevoye 83.51 39 *e*P P 23 24 29.7 -5.1
VSR pmax pmax
comp=Z,4.0nm,0.9s
VSR pmax pmax
comp=N,20nm,1.4s
VSR pmax pmax
comp=E,6.0nm,0.5s
VORD Divnogorie 83.67 39 *e*P **P 23 24 35.0 -0.5**
VORD pmax pmax
comp=N,9.0nm,0.9s
VORD pmax pmax
comp=Z,6.0nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.6s
MALT Malatya 87.08 51⇑P **P 23 24 54.5 +1.5**
MALT Malatya 87.08 51⇑*i*P **P 23 24 54.5 +1.5**
KIV Kislovodsk 88.20 45⇑*e*P **P 23 24 59.5 +1.2**
KIV *e*S **SKSac 23 35 27.4 +3.3**
KIV pmax pmax
comp=Z,11nm,1.7s
KIV MLR MLR
comp=Z,101nm,18.0s
KIV Kislovodsk 88.20 45 *e*P **P 23 24 58.4 +0.1**
comp=Z,17nm,1.0s
KBZ Khabaz 88.42 45 P **P 23 25 01.0 +1.9**
comp=Z,2.4nm,0.8s,baz=236,slow=24,SNR=8.0
KBZ LR LR 00 02 36.7
comp=Z,132nm,20.8s,baz=126,slow=34
NEY Neytrino 88.47 45 *e*P **P 23 25 01.1 +1.4**
ZEI Tsey 89.45 45 *e*P P 23 25 08.8 +4.5
ZEI pmax pmax
comp=Z,8.0nm,1.1s
GNI Garni 91.03 48⇓*e*P **P 23 25 14.1 +2.4**
GNI pmax pmax
comp=Z,10.0nm,1.7s
ARU Arti 91.62 29*c i*P **P 23 25 14.5 +0.6**
ARU 23 28 53.6
ARU S **SKSac 23 35 40.2 -3.1**
ARU SP **SPn 23 37 20.1 -0.1**
ARU pmax pmax
comp=Z,10.0nm,2.5s
TIXI Tiksi 91.85 357⇓*e*P **P 23 25 14.9 +0.3**
TIXI pmax pmax
comp=Z,14nm,2.1s
TIXI Tiksi 91.85 357 *e*P **P 23 25 14.0 -0.6**
comp=Z,14nm,1.3s
SVE Sverdlovsk 92.35 28 *e*P P 23 25 26.9 +10
PPT Papeete 93.59 253 LR LR 00 01 14.7
comp=Z,123nm,21.3s,baz=18,slow=32
PPT2 Papeete2 93.59 253 *e*S **S 23 36 33.5 +3.4**
comp=Z,174nm,28.8s
PPT2 *e*SS **SS 23 42 52.5 +3.9**
comp=Z,131nm,24.5s
PPT2 Papeete2 93.59 253 *e*LR LR 23 55 38.4
comp=Z,232nm,23.5s
TBI Tubuai 95.06 247 *e*LR LR 23 56 16.8
comp=Z,473nm,31.2s
SEY Seymchan 96.68 345 *i*P **P 23 25 37.8 +0.9**
KMBO Kilima Mbogo 98.18 89 LR LR 00 06 40.4
comp=Z,294nm,21.4s,baz=276,slow=33
BVAR Borovoye Array 99.11 27 LR LR 00 06 50.5
comp=Z,539nm,21.4s,baz=268,slow=33
KSH Kashi 111.32 35 *e*PKP **PKiKP 23 30 39.8 -1.5**
KSH PKS **PKSdf 23 34 15.2 -2.9**
KSH SKS SKSdf 23 37 40.8 -10
KSH PPMZ
comp=Z,96nm,5.9s
KSH LN
comp=Z,86nm,6.8s
KSH LE
comp=Z,82nm,5.0s
KSH LZ
comp=Z,170nm,8.1s
SONM Songino Array 115.00 9 PKP **PKPdf 23 30 47.4 -0.7**
comp=Z,0.4nm,0.5s,baz=295,slow=2.2,SNR=2.6
HHC Hu-ho-hao-te 122.56 7 *e*PKP **PKPdf 23 30 58.1 -4.7**
HHC SKKS 23 39 25.3
HHC PPMZ
comp=Z,61nm,5.4s
HHC LN
comp=Z,210nm,17.3s
HHC LE
comp=Z,130nm,16.0s
HHC LZ
comp=Z,160nm,13.6s
MJAR Matsushiro Arr 124.26 341 PKP **PKPdf 23 31 05.3 -0.7**
comp=Z,2.1nm,0.7s,baz=93,slow=0.5,SNR=8.3
URZ Urewera 124.98 235 PKP **PKPdf 23 31 06.9 -0.3**
comp=Z,6.0nm,0.7s,baz=248,slow=5.3,SNR=5.7
KSRS Korea Array 125.72 351 PKP **PKPdf 23 31 08.8 +0.1**
comp=Z,1.9nm,0.7s,baz=36,slow=1.9,SNR=11
KSAR Wonju Array Be 125.74 351 PKIKP **PKPdf 23 31 08.9 +0.1**
KSAR Wonju Array Be 125.74 351 PKP **PKPdf 23 31 08.8 +0.1**
LZH Lanzhou 125.79 15 *e*PKP **PKPdf 23 31 10.8 +1.6**
LZH sPKP 23 31 38.1
LZH *e*PP PP 23 33 07.6 +7.2
LZH SKKS 23 39 50.3
LZH PPMZ
comp=Z,130nm,8.5s
LZH LN
comp=Z,320nm,18.3s
LZH LE
comp=Z,320nm,18.0s
LZH LZ
comp=Z,370nm,20.0s
CD2 Chengdu 130.66 17 *e*PKP **PKPdf 23 31 18.2 -0.3**
CD2 sPKP 23 31 46.6
CD2 PP PP 23 33 38.2 +5.9
CD2 PKS **PKSdf 23 34 54.6 -0.5**
CD2 SKS **SKSdf 23 38 21.0 -6.2**
CD2 SKKS **SKKSac 23 40 22.4 -5.0**
CD2 SS **SS 23 50 56.0 -1.6**
CD2 PPMZ
comp=Z,110nm,10.6s
CD2 LN
comp=Z,270nm,19.0s
CD2 LE
comp=Z,300nm,20.2s
CD2 LZ
comp=Z,270nm,21.4s
WHN Wuhan 133.05 6 PKP **PKPdf 23 31 27.2 +4.3**
WHN LZ
comp=Z,620nm,23.3s
GYA Guiyang 135.67 16 *e*Pdif **Pdif 23 28 29.0 -2.4**
GYA PKP **PKPdf 23 31 26.4 -1.7**
GYA sPKP 23 31 53.0
GYA PP **PP 23 34 08.6 +4.2**
GYA PKS **PKSdf 23 35 01.2 -3.5**
GYA SKKS 23 40 51.8
GYA SS **SS 23 51 56.4 -2.0**
GYA PPMZ
comp=Z,140nm,7.8s
GYA LN
comp=Z,160nm,22.4s
GYA LE
comp=Z,130nm,21.8s
GYA LZ
comp=Z,170nm,23.2s
CMAR Chiang Mai Arr 140.05 31 PKP **PKPdf 23 31 36.2 +0.1**
comp=Z,0.9nm,0.3s,baz=328,slow=3.3,SNR=6.3
CMAR SKPbc **SKPbc 23 35 09.1 -0.1**
comp=Z,0.3nm,0.3s,baz=310,slow=3.9,SNR=4.1
CMAR Chiang Mai Arr 140.05 31*c i*PKIKP **PKPdf 23 31 37.0 +0.8**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
QIZ Qiongzhong 143.58 15 PKP PKPbc 23 31 41.0 +1.2
QIZ PP **PP 23 34 54.0 +1.1**
QIZ SS SS 23 53 31.2 0.0
QIZ LN
comp=Z,230nm,17.1s
QIZ LZ
comp=Z,220nm,21.2s
STKA Stephens Creek 154.42 229 PKP **PKPdf 23 31 59.3 -0.1**
comp=Z,2.2nm,1.1s,baz=98,slow=3.4,SNR=2.9
STKA PKPbc **PKPbc 23 32 07.4 -0.4**
comp=Z,6.8nm,0.9s,baz=35,slow=1.6,SNR=10
ASAR Alice Springs 164.32 240 PKP **PKPdf 23 32 10.2 -0.9**
comp=Z,2.0nm,0.9s,baz=78,slow=0.8,SNR=12
ASAR PKPab **PKPab 23 33 04.3 -1.1**
comp=Z,1.2nm,0.6s,baz=109,slow=3.9,SNR=9.9
WRA Warramunga Arr 165.07 254 PKP **PKPdf 23 32 11.0 -0.8**
comp=Z,4.5nm,0.9s,baz=55,slow=0.9,SNR=13
WRA PKPab **PKPab 23 33 07.8 -1.1**
comp=Z,1.0nm,0.3s,baz=98,slow=4.4,SNR=3.7

*ISCJB **07** 23:20:10.8±0.6, 30.°32S±0.°04×178.°76W±0.°10, h150km, mb4.1/5, Error ellipse: s-maj=12.4km s-min=5.3km az=13.5*
*IDC **07** 23:20:12.6±0.9, 29.°92S×178.°48W, h172km±7km, mb3.8/5, mb1 4.0/6, mb1mx3.6/25, mbtmp4.3/6, Error ellipse: s-maj=37.8km s-min=17.3km az=167.0*
ISC 07 23:20:10.8±0.7, 30.°33S±0.°07×178.°7W±0.°1, h150km, n29, σ1°81/26, mb4.2/5, 1C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.25**	**31**	P	**Pn**	**23 20 39.5**	**+1.7**
	294nm,0.3s,baz=108,slow=9.0,SNR=24						
RAO				S	**Sn**	**23 20 58.4**	**-0.1**
	488nm,0.3s,baz=86,slow=23,SNR=26						
PUZ	**Puketiti**	**8.13**	**197**	*e*PN	**Pn**	**23 22 07.7**	**+1.8**
PUZ				*e*SN	**Sn**	**23 23 36.5**	**0.0**
TWGZ	**Tauwhareparae**	**8.31**	**199**	*e*SN	**Sn**	**23 23 41.6**	**+0.9**
MWZ	**Matawai**	**8.59**	**201**	*e*PN	**Pn**	**23 22 12.9**	**+0.9**
URZ	**Urewera**	**8.65**	**203**	P	**Pn**	**23 22 14.1**	**+1.3**
	0.3nm,0.3s,baz=22,slow=16,SNR=5.2						
URZ				S	**Sn**	**23 23 52.4**	**+3.6**
	2.7nm,0.3s,baz=151,slow=13,SNR=10						
KNZ	**Kokohu**	**9.18**	**198**	*e*PN	**Pn**	**23 22 19.9**	**+0.1**
BFZ	**Birch Farm**	**11.13**	**201**	*e*SN	**Sn**	**23 24 44.7**	**-3.8**
MRZ	**Mangatainoka R**	**11.32**	**203**	*e*SN	**Sn**	**23 24 50.7**	**-2.6**
TCW	**Tory Channel**	**12.28**	**206**	*e*SN	**Sn**	**23 25 13.5**	**-2.6**
CTZ	**Chatham Island**	**13.48**	**174**	*e*SN	**Sn**	**23 25 44.8**	**-0.2**
MQZ	**McQueen's Vall**	**15.04**	**205**	*e*SN	Sn	23 26 12.5	-10
DZM	**Mont Dzumac**	**15.69**	**298**	P	**P**	**23 23 44.2**	**-0.5**
	0.2nm,0.3s,baz=252,slow=20,SNR=3.3						
CTA	**Charters Tower**	**33.23**	**280**	P	**P**	**23 26 35.1**	**+1.4**
	10nm,0.5s,baz=100,slow=10,SNR=16						
STKA	**Stephens Creek**	**33.94**	**257**	P	P	23 26 42.0	+2.2
	1.9nm,0.4s,baz=98,slow=13,SNR=11						
ASAR	**Alice Springs**	**42.55**	**267**	P	**P**	**23 27 52.0**	**+0.1**
	0.7nm,0.3s,baz=102,slow=6.6,SNR=14						
WRA	**Warramunga Arr**	**43.53**	**272**	P	**P**	**23 28 00.8**	**+1.1**
	3.7nm,0.6s,baz=109,slow=7.7,SNR=11						
SYO	**Syowa Base**	**77.05**	**193**⇑	*e*P	**P**	**23 31 47.2**	**+0.4**
SNAA	**Sanae**	**78.24**	**179**	P	P	23 32 03.7	+10
VNA3	**Neumayer Olymp**	**78.41**	**176**	P	P	23 31 58.7	+4.4
VNA2	**Neumayer--Watz**	**78.84**	**177**	P	P	23 32 01.0	+4.4
	baz=175,slow=4.2						
NVAR	**Mina Array Bea**	**88.57**	**43**	P	**P**	**23 32 45.5**	**-1.3**
	0.5nm,0.8s,baz=238,slow=5.0,SNR=3.9						
BVAR	**Borovoye Array**	**125.96**	**316**	PKP	**PKPdf**	**23 38 52.8**	**-1.6**
	0.3nm,0.4s,baz=153,slow=1.3,SNR=3.6						
ARCES	**ARCESS Array B**	**138.40**	**347**	PKhKP	PKPpre	23 39 08.0	
	2.0nm,0.9s,baz=39,slow=2.3,SNR=4.4						
ARCES				PKP	**PKPdf**	**23 39 15.1**	**-2.4**
	1.7nm,0.9s,baz=22,slow=1.0,SNR=3.4						
FINES	**FINESS Array B**	**144.88**	**340**	PKP	PKPbc	23 39 25.6	-3.1
	2.9nm,0.3s,baz=72,slow=3.1,SNR=40						
NB2	**NORSAR Subarra**	**148.60**	**351**	PKP	**PKPdf**	**23 39 36.8**	**+1.3**
	comp=Z,0.8nm,0.5s,baz=12,slow=2.7						
NOA	**NORSAR Array B**	**148.60**	**351**	PKPbc	**PKPdf**	**23 39 37.0**	**+1.5**
	comp=Z,0.9nm,0.5s,baz=15,slow=4.2,SNR=5.9						
AKASG	**Malin Array Be**	**150.90**	**322**	PKPbc	**PKPbc**	**23 39 43.1**	**-2.1**
	comp=Z,1.2nm,0.5s,baz=47,slow=3.3,SNR=7.9						
BRTR	**Keskin Array B**	**152.07**	**298**	PKPbc	**PKPbc**	**23 39 46.8**	**-1.7**
	comp=Z,0.2nm,0.4s,baz=93,slow=2.5,SNR=3.9						
TORD	**Torodi Ar. Bea**	**162.90**	**181**	PKPab	**PKPab**	**23 40 46.2**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=173,slow=4.5,SNR=16						

*CSEM **07** 23:21:13.7, 48.°21N×7.°71E, h10km, ML1.3/3*
LDG 07 23:21:13.7±0.0, 48.°21N×7.°71E, h10km, Md1.7/1, Ml1.3/3,

France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDF	**Champ du Feu**	**0.35**	**305**	*e*Pg	Pg	23 21 20.9	0.0
CDF				*e*Sg	Sg	23 21 25.1	-0.6
	1.9nm,0.2s						
CDF	**Champ du Feu**	**0.35**	**305**	*e*Pg	Pg	23 21 20.9	0.0
CDF				*e*Sg	Sg	23 21 25.1	-0.6
	0.9nm,0.2s						
HINF	**Hinteralfeld**	**0.70**	**236**	*e*Pg	Pg	23 21 27.0	-0.3
HINF	**Hinteralfeld**	**0.70**	**236**	*e*Pn	Pb	23 21 28.0	-0.1
HINF				*e*Sg	Sg	23 21 36.1	-0.5
HINF				*e*Sn	Sb	23 21 38.5	+0.7
	1.1nm,0.2s						
HINF	**Hinteralfeld**	**0.70**	**236**	*e*Pg	Pg	23 21 27.0	-0.3
HINF	**Hinteralfeld**	**0.70**	**236**	*e*Pn	Pb	23 21 28.0	-0.1
HINF				*e*Sg	Sg	23 21 36.1	-0.5
HINF				*e*Sn	Sb	23 21 38.5	+0.7
	0.6nm,0.2s						
HAU	**Haudompre**	**0.94**	**258**	*e*Pg	Pg	23 21 31.4	-0.4
HAU				*e*Sg	Sg	23 21 43.8	-0.3
	1.8nm,0.3s						
HAU	**Haudompre**	**0.94**	**258**	*e*Pg	Pg	23 21 31.4	-0.4
HAU				*e*Sg	Sg	23 21 43.8	-0.3
	0.9nm,0.3s						
PAGF	**Fort de Pagny**	**1.37**	**285**	*e*Pg	Pb	23 21 39.2	-0.2
PAGF				*e*Sg	Sn	23 21 57.1	0.0
	0.1nm,0.2s						
PAGF	**Fort de Pagny**	**1.37**	**285**	*e*Pg	Pb	23 21 39.2	-0.2
PAGF				*e*Sg	Sn	23 21 57.1	0.0
	0.1nm,0.2s						

IDC 07 23:31:32.1±3.8, 17.°94S×179.°92E, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.6/30, mbtmp4.0/3, Error ellipse: s-maj=174.8km s-min=43.8km az=142.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.22**	**241**	P	P	23 38 46.7	+1.2
	1.8nm,0.8s,baz=83,slow=8.1,SNR=3.2						
WRA	**Warramunga Arr**	**43.06**	**260**	P	P	23 39 33.7	-0.5
	0.6nm,0.5s,baz=96,slow=8.2,SNR=5.3						
ASAR	**Alice Springs**	**43.25**	**254**	P	P	23 39 35.0	-0.7
	2.2nm,0.5s,baz=87,slow=8.7,SNR=29						
AKASG	**Malin Array Be**	**139.84**	**331**	PKP	PKPdf	23 50 59.7	-2.5
	0.2nm,0.3s,baz=73,slow=2.5,SNR=2.7						
GERES	**GERESS Array B**	**147.21**	**343**	PKPbc	PKPbc	23 51 17.0	-0.5
	0.1nm,0.4s,baz=20,slow=2.9,SNR=2.2						

IDC 07 23:37:35.6±2.0, 7.°55S×147.°24E, h0km, mb3.6/2, mb1 4.0/3, mb1mx3.5/28, mbtmp3.7/3, ML3.4/1, Error ellipse: s-maj=108.8km s-min=31.4km az=124.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.55**	**224**	P	Pn	23 41 40.1	-1.9
	0.1nm,0.3s,baz=48,slow=11,SNR=3.7						
ASAR	**Alice Springs**	**20.51**	**217**	P	P	23 42 14.7	-0.9
	2.0nm,0.8s,baz=44,slow=9.9,SNR=15						
ILAR	**Eielson Array**	**86.81**	**23**	P	P	23 50 21.6	0.0
	0.4nm,0.6s,baz=248,slow=5.2,SNR=5.0						
TORD	**Torodi Ar. Bea**	**145.68**	**282**	PKPbc	PKPbc	23 57 17.6	+0.1
	0.6nm,0.8s,baz=73,slow=4.4,SNR=14						

GUC 07 23:39:25.3±0.4, 33.°95S×72.°14W, h8km±7km, ML3.5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TACH	**Talagante**	**1.04**	**74**	*e*P	Pg	23 39 45.1	-0.4
TACH				*e*S	Sb	23 40 00.3	+0.7
RCDM	**Rinconada Maip**	**1.20**	**68**	*e*P	Pb	23 39 47.4	-1.1
RCDM				*e*S	Sb	23 40 04.5	+0.3
NICH	**Los Niches**	**1.29**	**145**	*e*P	Pn	23 39 49.0	-0.7
NICH				*e*S	Sn	23 40 07.4	+0.1
SAN	**Santiago**	**1.33**	**69**	*e*P	Pn	23 39 50.0	-0.3
SAN				*e*S	Sn	23 40 08.5	+0.2
PCH	**Pirque**	**1.39**	**77**	*e*P	Pn	23 39 51.3	0.0
CLCH	**Cerro Calan**	**1.45**	**68**	*e*P	Pn	23 39 51.9	-0.1
CLCH				*e*S	Sg	23 40 11.7	-0.3
CLCH				AML	AML	23 40 21.1	
	comp=N,796nm,2.4s						
PEL	**Peldehue**	**1.46**	**57**	*e*P	Pn	23 39 51.8	-0.2
PEL				*e*S	Sg	23 40 12.3	-0.1
PEL				AML	AML	23 40 19.9	
	comp=N,2μm,0.3s						

*ISCJB **08** 00:22:12.8±0.3, 45.°69N±0.°02×26.°58E±0.°02, h100km±2km, Error ellipse: s-maj=2.8km s-min=2.5km az=40.7*
*SIGU **08** 00:22:12.7, 45.°71N×26.°62E, h102km, mb3.0*
*BUC **08** 00:22:14.0±0.5, 45.°70N×26.°56E, h92km±5km, MD3.9/3, Error ellipse: s-maj=3.9km s-min=3.4km az=335.0*
*CSEM **08** 00:22:14.3±0.1, 45.°69N×26.°56E, h90km±1km, MD3.0, Error ellipse: s-maj=2.4km s-min=2.2km az=168.0*
*SOF **08** 00:22:15.8, 45.°37N×26.°36E, h11km, MD3.0*
ISC 08 00:22:13.5±1.2, 45.°70N±0.°02×26.°57E±0.°02, h97km±4km, n180, σ0°87/261, 81C-42D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.16**	**20**⇑*i*P		**Pn**	**00 22 26.8**	**-0.5**
PLOR	**Plostina**	**0.16**	**20**⇑*i*P		**Pn**	**00 22 26.8**	**-0.5**
PLOR				*i* S	**Sn**	**00 22 35.9**	**-1.7**
PLOR	**Plostina**	**0.16**	**20**⇑*i*P		**Pn**	**00 22 26.8**	**-0.5**
PLOR				*i* S	**Sn**	**00 22 35.9**	**-1.7**
VRI	**Vrincioaia**	**0.20**	**34**⇑*i*P		**Pn**	**00 22 27.1**	**-0.3**
VRI	**Vrincioaia**	**0.20**	**34**⇑*i*P		**Pn**	**00 22 27.1**	**-0.3**
VRI				*i* S	**Sn**	**00 22 36.3**	**-1.5**
VRI	**Vrincioaia**	**0.20**	**34**⇑*i*P		**Pn**	**00 22 27.1**	**-0.3**
VRI				*i* S	**Sn**	**00 22 36.3**	**-1.5**
ODBI	**Odobesti**	**0.35**	**79**⇑*i*P		**Pn**	**00 22 28.8**	**+0.8**
ODBI	**Odobesti**	**0.35**	**79**⇑*i*P		**Pn**	**00 22 28.8**	**+0.8**
ODBI				*i* S	**Sn**	**00 22 39.1**	**+0.3**
ODBI	**Odobesti**	**0.35**	**79**⇑*i*P		**Pn**	**00 22 28.8**	**+0.8**
ODBI				*i* S	**Sn**	**00 22 39.1**	**+0.3**
GRER		**0.43**	**138**⇑*i*P		**Pn**	**00 22 29.6**	**+1.1**
GRER				*i* S	**Sn**	**00 22 40.4**	**+0.7**
GRER		**0.43**	**138**⇑*i*P		**Pn**	**00 22 29.6**	**+1.1**
GRER				*i* S	**Sn**	**00 22 40.4**	**+0.7**
GRER		**0.43**	**138**⇑*i*P		**Pn**	**00 22 29.6**	**+1.1**
GRER				*i* S	**Sn**	**00 22 40.4**	**+0.7**
PETR	**Petresti**	**0.46**	**87**⇑*i*P		**Pn**	**00 22 29.3**	**+0.6**
PETR	**Petresti**	**0.46**	**87**⇑*i*P		**Pn**	**00 22 29.3**	**+0.6**
PETR				*i* S	**Sn**	**00 22 40.6**	**+0.5**
PETR	**Petresti**	**0.46**	**87**⇑*i*P		**Pn**	**00 22 29.3**	**+0.6**
PETR				*i* S	**Sn**	**00 22 40.6**	**+0.5**
MLR	**Muntele Rosu**	**0.49**	**245**⇑*i*P		**Pn**	**00 22 29.1**	**0.0**
MLR	**Muntele Rosu**	**0.49**	**245**⇑*i*P		**Pn**	**00 22 29.1**	**0.0**
MLR				*i* S	**Sn**	**00 22 39.5**	**-1.2**
MLR	**Muntele Rosu**	**0.49**	**245**⇑*i*P		**Pn**	**00 22 29.1**	**0.0**
MLR				*i* S	**Sn**	**00 22 39.5**	**-1.2**
ISR	**Istrita**	**0.58**	**182**⇑*i*P		**Pn**	**00 22 30.0**	**+0.3**
ISR	**Istrita**	**0.58**	**182**⇑*i*P		**Pn**	**00 22 30.0**	**+0.3**
ISR				*i* S	**Sn**	**00 22 41.2**	**-0.6**
ISR	**Istrita**	**0.58**	**182**⇑*i*P		**Pn**	**00 22 30.0**	**+0.3**
ISR				*i* S	**Sn**	**00 22 41.2**	**-0.6**
SECR		**0.75**	**208**⇓*i*P		**Pn**	**00 22 32.0**	**+0.8**
SECR		**0.75**	**208**⇓*i*P		**Pn**	**00 22 32.0**	**+0.8**
SECR				*i* S	**Sn**	**00 22 45.2**	**+0.8**
SECR		**0.75**	**208**⇓*i*P		**Pn**	**00 22 32.0**	**+0.8**
SECR				*i* S	**Sn**	**00 22 45.2**	**+0.8**
PGOR	**Pogoanele**	**0.84**	**160**⇓*i*P		**Pn**	**00 22 32.7**	**+0.7**
PGOR	**Pogoanele**	**0.84**	**160**⇓*i*P		**Pn**	**00 22 32.7**	**+0.7**
PGOR				*i* S	**Sn**	**00 22 46.4**	**+0.5**
PGOR	**Pogoanele**	**0.84**	**160**⇓*i*P		**Pn**	**00 22 32.7**	**+0.7**
PGOR				*i* S	**Sn**	**00 22 46.4**	**+0.5**
DOPR	**Dopca**	**0.87**	**288**⇑*i*P		**Pn**	**00 22 32.3**	**0.0**
DOPR	**Dopca**	**0.87**	**288**⇑*i*P		**Pn**	**00 22 32.3**	**0.0**
DOPR				*i* S	**Sn**	**00 22 45.2**	**-1.3**
DOPR	**Dopca**	**0.87**	**288**⇑*i*P		**Pn**	**00 22 32.3**	**0.0**
DOPR				*i* S	**Sn**	**00 22 45.2**	**-1.3**
PLAR	**PLOIESTI**	**0.88**	**206**⇑*i*P		**Pn**	**00 22 33.2**	**+0.8**
PLAR	**PLOIESTI**	**0.88**	**206**⇑*i*P		**Pn**	**00 22 33.2**	**+0.8**
PLAR				*i* S	**Sn**	**00 22 45.8**	**-0.7**
PLAR	**PLOIESTI**	**0.88**	**206**⇑*i*P		**Pn**	**00 22 33.2**	**+0.8**
PLAR				*i* S	**Sn**	**00 22 45.8**	**-0.7**
SULR		**1.05**	**192**⇓*i*P		**Pn**	**00 22 35.0**	**+0.8**

SULR		**1.05 192**	⇓	*i*	P	**Pn**	**00 22 35.0 +0.8**
SULR				*i*	S	**Sn**	**00 22 50.4 +0.6**
SULR		**1.05 192**	⇓	*i*	P	**Pn**	**00 22 35.0 +0.8**
SULR				*i*	S	**Sn**	**00 22 50.4 +0.6**
VOIR		**1.10 257**	⇑	*i*	P	**Pn**	**00 22 35.2 +0.3**
VOIR		**1.10 257**	⇑	*i*	P	**Pn**	**00 22 35.2 +0.3**
VOIR				*i*	S	**Sn**	**00 22 49.9 -1.1**
VOIR		**1.10 257**	⇑	*i*	P	**Pn**	**00 22 35.2 +0.3**
VOIR				*i*	S	**Sn**	**00 22 49.9 -1.1**
GIUM	**Giurgiulesti**	**1.17 100**	⇑	*i*	P	**Pn**	**00 22 36.6 +1.0**
GIUM	**Giurgiulesti**	**1.17 100**	⇑	*i*	P	**Pn**	**00 22 36.6 +1.0**
GIUM				*i*	S	**Sn**	**00 22 52.1 -0.2**
GIUM	**Giurgiulesti**	**1.17 100**	⇑	*i*	P	**Pn**	**00 22 36.6 +1.0**
GIUM				*i*	S	**Sn**	**00 22 52.1 -0.2**
AMRR	**Amara**	**1.22 153**	⇓	*i*	P	**Pn**	**00 22 36.7 +0.5**
AMRR	**Amara**	**1.22 153**	⇓	*i*	P	**Pn**	**00 22 36.7 +0.5**
AMRR				*i*	S	**Sn**	**00 22 53.6 +0.4**
AMRR	**Amara**	**1.22 153**	⇓	*i*	P	**Pn**	**00 22 36.7 +0.5**
AMRR				*i*	S	**Sn**	**00 22 53.6 +0.4**
CFR	**Carcaliu**	**1.22 115**	⇑	*i*	P	**Pn**	**00 22 36.1 -0.1**
CFR	**Carcaliu**	**1.22 115**	⇑	*i*	P	**Pn**	**00 22 36.1 -0.1**
CFR				*i*	S	**Sn**	**00 22 52.5 -0.8**
CFR	**Carcaliu**	**1.22 115**	⇑	*i*	P	**Pn**	**00 22 36.1 -0.1**
CFR				*i*	S	**Sn**	**00 22 52.5 -0.8**
INCR	**INCERC-Sediu C**	**1.29 193**	⇓	*i*	P	**Pn**	**00 22 37.5 +0.4**
INCR	**INCERC-Sediu C**	**1.29 193**	⇓	*i*	P	**Pn**	**00 22 37.5 +0.4**
INCR				*i*	S	**Sn**	**00 22 54.2 -0.6**
INCR	**INCERC-Sediu C**	**1.29 193**	⇓	*i*	P	**Pn**	**00 22 37.5 +0.4**
INCR				*i*	S	**Sn**	**00 22 54.2 -0.6**
BUC	**Bucharest**	**1.33 195**	⇑	*i*	P	**Pn**	**00 22 38.0 +0.5**
BUC				*i*	S	**Sn**	**00 22 55.7 +0.1**
BUC	**Bucharest**	**1.33 195**	⇑	*i*	P	**Pn**	**00 22 38.0 +0.5**
BUC				*i*	S	**Sn**	**00 22 55.7 +0.1**
BUC	**Bucharest**	**1.33 195**	⇑	*i*	P	**Pn**	**00 22 38.0 +0.5**
BUC				*i*	S	**Sn**	**00 22 55.7 +0.1**
CIOR	**Ciorogarla**	**1.34 202**	⇑	*i*	P	**Pn**	**00 22 38.1 +0.4**
CIOR	**Ciorogarla**	**1.34 202**	⇑	*i*	P	**Pn**	**00 22 38.1 +0.4**
CIOR				*i*	S	**Sn**	**00 22 55.9 0.0**
CIOR	**Ciorogarla**	**1.34 202**	⇑	*i*	P	**Pn**	**00 22 38.1 +0.4**
CIOR				*i*	S	**Sn**	**00 22 55.9 0.0**
HARR	**Harsova**	**1.40 136**	⇓	*i*	P	**Pn**	**00 22 38.7 +0.4**
HARR	**Harsova**	**1.40 136**	⇓	*i*	P	**Pn**	**00 22 38.7 +0.4**
HARR	**Harsova**	**1.40 136**	⇓	*i*	P	**Pn**	**00 22 38.7 +0.4**
LEOM	**Leova**	**1.40 56**	⇑	*i*	P	**Pn**	**00 22 38.9 +0.6**
LEOM	**Leova**	**1.40 56**	⇑	*i*	P	**Pn**	**00 22 38.9 +0.6**
LEOM				*i*	S	**Sn**	**00 22 57.0 -0.1**
LEOM	**Leova**	**1.40 56**	⇑	*i*	P	**Pn**	**00 22 38.9 +0.6**
LEOM				*i*	S	**Sn**	**00 22 57.0 -0.1**
ARR	**Arges**	**1.40 257**	⇑	*i*	P	**Pn**	**00 22 39.0 +0.6**
ARR	**Arges**	**1.40 257**	⇑	*i*	P	**Pn**	**00 22 39.0 +0.6**
ARR				*i*	S	**Sn**	**00 22 56.5 -0.8**
ARR	**Arges**	**1.40 257**	⇑	*i*	P	**Pn**	**00 22 39.0 +0.6**
ARR				*i*	S	**Sn**	**00 22 56.5 -0.8**
GOLR		**1.42 233**		S		**Sn**	**00 22 58.4 +0.7**
GOLR		**1.42 233**		*i*	S	**Sn**	**00 22 58.4 +0.7**
GOLR		**1.42 233**		*i*	S	**Sn**	**00 22 58.4 +0.7**
TLB	**Topalu**	**1.53 136**	⇓	*i*	P	**Pn**	**00 22 40.3 +0.4**
TLB	**Topalu**	**1.53 136**	⇓	*i*	P	**Pn**	**00 22 40.3 +0.4**
TLB				*i*	S	**Sn**	**00 22 58.7 -1.2**
TLB	**Topalu**	**1.53 136**	⇓	*i*	P	**Pn**	**00 22 40.3 +0.4**
TLB				*i*	S	**Sn**	**00 22 58.7 -1.2**
HUMR	**Humele**	**1.62 224**	⇓	*i*	P	**Pn**	**00 22 41.3 +0.1**
HUMR	**Humele**	**1.62 224**	⇓	*i*	P	**Pn**	**00 22 41.3 +0.1**
HUMR				*i*	S	**Sn**	**00 23 01.4 -0.7**
HUMR	**Humele**	**1.62 224**	⇓	*i*	P	**Pn**	**00 22 41.3 +0.1**
HUMR				*i*	S	**Sn**	**00 23 01.4 -0.7**
IAS	**Iasi**	**1.64 24**	⇑	*i*	P	**Pn**	**00 22 41.5 +0.1**
IAS	**Iasi**	**1.64 24**	⇑	*i*	P	**Pn**	**00 22 41.5 +0.1**
IAS				*i*	S	**Sn**	**00 23 01.4 -1.1**
IAS	**Iasi**	**1.64 24**	⇑	*i*	P	**Pn**	**00 22 41.5 +0.1**
IAS				*i*	S	**Sn**	**00 23 01.4 -1.1**
TLCR		**1.66 107**	⇑	*i*	P	**Pn**	**00 22 42.5 +0.9**
TLCR		**1.66 107**	⇑	*i*	P	**Pn**	**00 22 42.5 +0.9**
TLCR				*i*	S	**Sn**	**00 23 02.7 -0.2**
TLCR		**1.66 107**	⇑	*i*	P	**Pn**	**00 22 42.5 +0.9**
TLCR				*i*	S	**Sn**	**00 23 02.7 -0.2**
PRAR	**RASCA**	**1.68 352**	⇑	*i*	P	**Pn**	**00 22 42.4 +0.6**
PRAR	**RASCA**	**1.68 352**	⇑	*i*	P	**Pn**	**00 22 42.4 +0.6**
PRAR	**RASCA**	**1.68 352**	⇑	*i*	P	**Pn**	**00 22 42.4 +0.6**
CVD	**Cernavoda**	**1.73 143**	⇓	*i*	P	**Pn**	**00 22 42.8 +0.3**
CVD	**Cernavoda**	**1.73 143**	⇓	*i*	P	**Pn**	**00 22 42.8 +0.3**
CVD				*i*	S	**Sn**	**00 23 03.1 -1.4**
CVD	**Cernavoda**	**1.73 143**	⇓	*i*	P	**Pn**	**00 22 42.8 +0.3**
CVD				*i*	S	**Sn**	**00 23 03.1 -1.4**
TIRR	**Tirgusor**	**1.80 133**	⇓	*i*	P	**Pn**	**00 22 43.8 +0.4**
TIRR	**Tirgusor**	**1.80 133**	⇓	*i*	P	**Pn**	**00 22 43.8 +0.4**
TIRR				*i*	S	**Sn**	**00 23 04.8 -1.3**
TIRR	**Tirgusor**	**1.80 133**	⇓	*i*	P	**Pn**	**00 22 43.8 +0.4**
TIRR				*i*	S	**Sn**	**00 23 04.8 -1.3**
MSAB	**Monastry St. A**	**1.84 151**	⇑	*i*	P	**Pn**	**00 22 44.6 +0.7**
MSAB	**Monastry St. A**	**1.84 151**	⇑	*i*	P	**Pn**	**00 22 44.6 +0.7**
MSAB				*i*	S	**Sn**	**00 23 06.0 -1.0**
MSAB	**Monastry St. A**	**1.84 151**	⇑	*i*	P	**Pn**	**00 22 44.6 +0.7**
MSAB				*i*	S	**Sn**	**00 23 06.0 -1.0**
LOT	**Lotru**	**1.98 264**		S		**Sn**	**00 23 12.1 +1.6**
LOT	**Lotru**	**1.98 264**		*i*	S	**Sn**	**00 23 12.1 +1.6**
LOT	**Lotru**	**1.98 264**		*i*	S	**Sn**	**00 23 12.1 +1.6**
KIS	**Kishinev**	**2.03 49**		*eP*		**Pn**	**00 22 46.0 -0.3**
KIS		400nm,0.5s		*i*	S	**Sn**	**00 23 09.5 -1.8**
KIS	**Kishinev**	**2.03 49**	⇑	*i*	P	**Pn**	**00 22 47.3 +1.0**
KIS	**Kishinev**	**2.03 49**	⇑	*i*	P	**Pn**	**00 22 47.3 +1.0**
KIS				*i*	S	**Sn**	**00 23 10.5 -0.8**
KIS	**Kishinev**	**2.03 49**	⇑	*i*	P	**Pn**	**00 22 47.3 +1.0**
KIS				*i*	S	**Sn**	**00 23 10.5 -0.8**
KIS	**Kishinev**	**2.03 49**		*eP*		**Pn**	**00 22 46.0 -0.3**
KIS				*eS*		**Sn**	**00 23 09.5 -1.8**
KIS					Sm		00 23 10.0
BURAR	**Bucovina Array**	**2.13 335**	⇓	*i*	P	**Pn**	**00 22 49.1 +1.4**
BURAR	**Bucovina Array**	**2.13 335**	⇓	*i*	P	**Pn**	**00 22 49.1 +1.4**
BURAR	**Bucovina Array**	**2.13 335**	⇓	*i*	P	**Pn**	**00 22 49.1 +1.4**
ZIMR		**2.22 203**	⇑	*i*	P	**Pn**	**00 22 48.8 0.0**
ZIMR		**2.22 203**	⇑	*i*	P	**Pn**	**00 22 48.8 0.0**
ZIMR				*i*	S	**Sn**	**00 23 14.6 -1.1**
CJR	**Cluj-Napoca**	**2.30 297**	⇑	*i*	P	**Pn**	**00 22 51.2 +1.3**
CJR	**Cluj-Napoca**	**2.30 297**	⇑	*i*	P	**Pn**	**00 22 51.2 +1.3**
CJR	**Cluj-Napoca**	**2.30 297**	⇑	*i*	P	**Pn**	**00 22 51.2 +1.3**
PSR	**Preselentsi**	**2.32 150**	⇓	*i*	P	**Pn**	**00 22 51.2 +1.0**
PSR	**Preselentsi**	**2.32 150**	⇓	*i*	P	**Pn**	**00 22 51.2 +1.0**
PSR				*i*	S	**Sn**	**00 23 18.2 0.0**
PSR	**Preselentsi**	**2.32 150**		*i*	P	**Pn**	**00 22 51.4 +1.2**
PSR	**Preselentsi**	**2.32 150**	⇓	*i*	P	**Pn**	**00 22 51.2 +1.0**
PSR				*i*	S	**Sn**	**00 23 18.2 0.0**
MANR	**Mangalia**	**2.37 142**	⇓	*i*	P	**Pn**	**00 22 51.4 +0.6**
MANR	**Mangalia**	**2.37 142**	⇓	*i*	P	**Pn**	**00 22 51.4 +0.6**
MANR				*i*	S	**Sn**	**00 23 19.0 -0.3**
MANR	**Mangalia**	**2.37 142**	⇓	*i*	P	**Pn**	**00 22 51.4 +0.6**
MANR				*i*	S	**Sn**	**00 23 19.0 -0.3**
CRAR	**CRAIOVA**	**2.40 236**		S		**Sn**	**00 23 19.1 -0.9**
CRAR	**CRAIOVA**	**2.40 236**		*i*	S	**Sn**	**00 23 19.1 -0.9**
CRAR	**CRAIOVA**	**2.40 236**		*i*	S	**Sn**	**00 23 19.1 -0.9**
SZH	**Strazhica**	**2.48 191**		*i*	P	**Pn**	**00 22 52.2 0.0**
SZH	**Strazhica**	**2.48 191**		*i*	P	**Pn**	**00 22 52.2 0.0**
PRD	**Provadia**	**2.57 166**		*i*	P	**Pn**	**00 22 54.8 +1.4**
PRD	**Provadia**	**2.57 166**		*i*	P	**Pn**	**00 22 54.8 +1.4**
SRE	**Strehaia**	**2.60 248**		S		**Sn**	**00 23 24.0 -0.7**
SRE	**Strehaia**	**2.60 248**		*i*	S	**Sn**	**00 23 24.0 -0.7**
SRE	**Strehaia**	**2.60 248**		*i*	S	**Sn**	**00 23 24.0 -0.7**
CHRU	**Chernivtsi**	**2.63 351**		*eP*		**Pn**	**00 22 54.4 +0.1**
CHRU				*i*	S	**Sn**	**00 23 25.4 -0.2**
PVL	**Pavlikeni**	**2.64 200**		*i*	P	**Pn**	**00 22 55.9 +1.6**
PVL	**Pavlikeni**	**2.64 200**		*i*	P	**Pn**	**00 22 55.9 +1.6**
ROIA	**ROIAK**	**2.67 167**		*i*	P	**Pn**	**00 22 55.8 +1.0**
KSV	**Kosov**	**2.81 339**		*eP*		**Pn**	**00 22 57.3 +0.7**
KSV					Pm		00 23 07.7
KSV				*i*	S	**Sn**	**00 23 30.5 +0.7**
KSV					Sm		00 23 42.5
KMPD	**K-Podol'skiy**	**2.87 359**		*eP*		**Pn**	**00 22 57.4 +0.1**
KMPD				*eS*		**Sn**	**00 23 31.1 +0.1**
DRGR		**2.89 294**	⇑	*i*	P	**Pn**	**00 22 58.5 +0.7**
DRGR		**2.89 294**	⇑	*i*	P	**Pn**	**00 22 58.5 +0.7**
DRGR		**2.89 294**	⇑	*i*	P	**Pn**	**00 22 58.5 +0.7**
NDNU	**Novodnistrovsk**	**2.95 10**		*eP*		**Pn**	**00 22 58.4 0.0**
NDNU					Pm		00 22 58.8
NDNU				*i*	S	**Sn**	**00 23 33.4 +0.4**
NDNU					Sm		00 23 37.4
MPEP	**Malo Peshtene**	**3.10 222**		*i*	P	**Pn**	**00 23 00.6 +0.1**
BZS	**Buzias**	**3.47 270**	⇓	*i*	P	**Pn**	**00 23 06.2 +0.7**
BZS	**Buzias**	**3.47 270**	⇓	*i*	P	**Pn**	**00 23 06.2 +0.7**
BZS				*i*	S	**Sn**	**00 23 45.5 -0.2**
BZS	**Buzias**	**3.47 270**	⇓	*i*	P	**Pn**	**00 23 06.2 +0.7**
BZS				*i*	S	**Sn**	**00 23 45.5 -0.2**
PGB	**Panagyurishte**	**3.59 210**		*i*	P	**Pn**	**00 23 08.2 +1.0**
PGB	**Panagyurishte**	**3.59 210**		*i*	P	**Pn**	**00 23 08.2 +1.0**
ZAPS	**Zavoj**	**3.72 231**	⇑	*i*	Pn	**Pn**	**00 23 08.8 0.0**
PLD	**Plovdiv**	**3.84 201**		*i*	P	**Pn**	**00 23 09.9 -0.5**
PLD	**Plovdiv**	**3.84 201**		*i*	P	**Pn**	**00 23 09.9 -0.5**
VTS	**Vitosha**	**3.94 219**	⇑	*i*	P	**Pn**	**00 23 12.0 +0.1**
VTS	**Vitosha**	**3.94 219**	⇑	*i*	P	**Pn**	**00 23 12.0 +0.1**
VTS				*i*	S	**Sn**	**00 23 53.3 -3.9**
VTS	**Vitosha**	**3.94 219**		*i*	P	**Pn**	**00 23 11.8 -0.1**
VTS	**Vitosha**	**3.94 219**	⇑	*i*	P	**Pn**	**00 23 12.0 +0.1**
VTS				*i*	S	**Sn**	**00 23 53.3 -3.9**
KDZ	**Kurdzhali**	**4.13 192**	⇑	*i*	P	**Pn**	**00 23 15.1 +0.6**
KDZ	**Kurdzhali**	**4.13 192**	⇑	*i*	P	**Pn**	**00 23 15.1 +0.6**
KDZ				*i*	S	**Sn**	**00 24 00.5 -1.2**
KDZ	**Kurdzhali**	**4.13 192**	⇑	*i*	P	**Pn**	**00 23 15.1 +0.6**
KDZ				*i*	S	**Sn**	**00 24 00.5 -1.2**
KKB	**Krupnik**	**4.59 215**		*i*	P	**Pn**	**00 23 21.8 +1.2**
KKB	**Krupnik**	**4.59 215**		*i*	P	**Pn**	**00 23 21.8 +1.2**
MMB	**Musomiste**	**4.60 208**	⇑	*i*	P	**Pn**	**00 23 22.0 +1.2**
MMB	**Musomiste**	**4.60 208**	⇑	*i*	P	**Pn**	**00 23 22.0 +1.2**
MMB				*i*	S	**Sn**	**00 24 12.1 -0.9**
MMB	**Musomiste**	**4.60 208**	⇑	*i*	P	**Pn**	**00 23 22.0 +1.2**
MMB				*i*	S	**Sn**	**00 24 12.1 -0.9**
NVR	**Nevrokopi**	**4.77 205**		*e*PN		**Pn**	**00 23 23.3 +0.2**
ALN	**Alexandroupoli**	**4.82 185**		*e*PN		**Pn**	**00 23 23.6 -0.1**
KAVA	**Kavala**	**4.94 198**		*e*PN		**Pn**	**00 23 25.9 +0.6**
IVAS	**Ivanjica**	**5.05 247**		*e*Pn		**Pn**	**00 23 27.2 +0.3**
SRS	**Serrai**	**5.07 206**		*e*PN		**Pn**	**00 23 27.7 +0.6**
SEV	**Sevastopol'**	**5.16 100**		*e*P		**Pn**	**00 23 28.0 -0.2**
SEV					Pm		00 23 29.3
SEV				*eS*		**Sn**	**00 24 24.2 -2.2**
SEV					Sm		00 24 27.1
KNT	**Kendrikon**	**5.26 212**		*e*PN		**Pn**	**00 23 30.9 +1.1**
SMTH	**Samothraki Isl**	**5.28 189**		*e*PN		**Pn**	**00 23 31.0 +1.0**
SIM	**Simferopol'**	**5.37 95**		*eS*		**Sn**	**00 24 31.1 -0.7**
SOH	**Sokhos**	**5.41 207**		*e*PN		**Pn**	**00 23 32.0 +0.2**
ALU	**Alushta**	**5.63 98**		*eP*		**Pn**	**00 23 35.1 +0.5**
ALU					Pm		00 23 35.2
ALU				*eS*		**Sn**	**00 24 38.5 +0.6**
ALU					Sm		00 24 38.8
OUR	**Ouranopolis**	**5.69 200**		*e*PN		**Pn**	**00 23 35.9 +0.4**
SUDU	**Sudak**	**6.00 95**		*eP*		**Pn**	**00 23 40.0 +0.3**
SUDU					Pm		00 23 40.3
SUDU				*eS*		**Sn**	**00 24 46.3 -0.7**
SUDU					Sm		00 24 49.6
PAIG	**Paliouri**	**6.15 201**		*e*PN		**Pn**	**00 23 42.2 +0.4**
SIGR	**SIGRI**	**6.51 185**		*e*PN		**Pn**	**00 23 47.5 +0.9**
XOR	**Xorichti**	**6.80 203**		*e*PN		**Pn**	**00 23 51.2 +0.5**
SKIA	**Skiathos**	**6.92 200**		*e*PN		**Pn**	**00 23 52.4 +0.1**
SMIA	**Simia**	**7.26 201**		*e*PN		**Pn**	**00 23 56.5 -0.4**
CHOS	**Chios island**	**7.32 183**		*e*PN		**Pn**	**00 23 58.8 +1.0**
MRKA	**Markates**	**7.33 199**		*e*PN		**Pn**	**00 23 58.1 +0.2**
MAKR	**Makrakomi, Fth**	**7.45 208**		*e*PN		**Pn**	**00 24 01.4 +2.0**
AXAR	**Agios Charalam**	**7.51 204**		*e*PB		Pn	00 23 50.4 -10
KALE	**Kalithea**	**8.01 206**		*e*PN		**Pn**	**00 24 08.2 +1.0**

IDC ***08*** *00:32:47.4±0.9, 37°.21S×73°.76W, h0km, mb3.9/8, mb1 4.0/11, mb1mx4.0/18, mbtmp3.9/11, ML3.3/3, MS3.7/8, Ms1 3.8/8, ms1mx3.5/19, Error ellipse: s-maj=26.5km s-min=17.9km az=75.0*

ISCJB ***08*** *00:32:48.3±0.6, 37°.21S±0°.05×73°.6W±0°.1, h14km, mb4.0/10, MS3.8/5, Error ellipse: s-maj=13.9km s-min=6.6km az=164.9*

NEIC ***08*** *00:32:52.8±0.5, 37°.18S×73°.64W, h35km, mb4.3/5, Error ellipse: s-maj=12.3km s-min=7.9km az=82.0*

ISC 08 00:32:49.8±0.7, 37°.20S±0°.07×73°.7W±0°.1, h14km, n29, σ0s78/29, mb4.1/10, MS3.8/5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.30**	**146**	Pn	**Pn**	**00 33 55.9**	**+1.0**
	0.7nm,0.3s,baz=324,slow=14,SNR=17						
PLCA				Lg	Lg	00 35 03.6	
	1.7nm,0.3s,baz=349,slow=22,SNR=2.9						
PLCA	**Paso Flores**	**4.30**	**146**	*e*Pn	**Pn**	**00 33 55.4**	**+0.5**
PLCA				*e*Sg	**Sg**	**00 35 07.1**	**-0.7**
CFAA	**Coronel Fontan**	**7.17**	**41**	Pn	**Pn**	**00 34 32.9**	**-1.5**
	0.1nm,0.3s,baz=218,slow=13,SNR=9.3						
CFAA				Lg	Lg	00 36 23.4	
	0.1nm,0.3s,baz=342,slow=11,SNR=4.1						
CFAA				LR	LR	00 37 51.1	
	comp=Z,75nm,21.2s,baz=224,slow=42						
LCO	**Las Campanas**	**8.54**	**18**	*e*Pn	**Pn**	**00 34 52.4**	**-0.9**
TRQA	**Tornquist**	**9.34**	**99**	*e*Pn	**Pn**	**00 35 05.1**	**+1.1**
LVC	**Limon Verde**	**15.11**	**17**	Pn	**Pn**	**00 36 21.5**	**-1.7**
	5.3nm,0.3s,baz=284,slow=8.3,SNR=3.3						
LVC	**Limon Verde**	**15.11**	**17**	*e*Pn	**Pn**	**00 36 22.9**	**-0.2**
	5.0nm,0.7s						
CPUP	**Villa Florida**	**17.61**	**57**	P	**Pn**	**00 36 55.1**	**+0.3**
	0.0nm,0.3s,baz=170,slow=18,SNR=2.5						
CPUP				LR	LR	00 44 15.2	
	comp=Z,1μm,20.5s,baz=234,slow=39						
CPUP	**Villa Florida**	**17.61**	**57**	*e*Pn	**P**	**00 36 56.0**	**+0.2**
	0.1nm,0.8s						
USHA	**Ushuaia**	**18.00**	**170**	LR	LR	00 44 50.6	
	comp=Z,362nm,20.2s,baz=308,slow=40						
EFI	**East Falkland**	**18.22**	**148**	*e*Pn	**Pn**	**00 37 01.4**	**-0.7**
	18nm,0.6s						
SIV	**San Ignacio**	**23.90**	**31**	P	**P**	**00 38 03.8**	**+0.6**
	2.0nm,0.6s,baz=225,slow=9.3,SNR=4.5						
SIV				LR	LR	00 49 22.1	
	comp=Z,349nm,19.6s,baz=222,slow=42						
SAML	**Samuel**	**29.69**	**21**	*e*P	**P**	**00 38 56.0**	**+0.7**
	4.8nm,1.3s						
BDFB	**Brasilia**	**31.28**	**54**	P	**P**	**00 39 09.1**	**-0.4**
	1.8nm,0.8s,baz=280,slow=6.1,SNR=2.9						
BDFB				LR	LR	00 51 54.7	
	comp=Z,175nm,18.2s,baz=226,slow=37						
OTAV	**Otavalo**	**37.51**	**352**	*e*P	**P**	**00 40 05.1**	**+1.3**
	9.7nm,1.4s						
VNA3	**Neumayer Olymp**	**46.94**	**157**	P	**P**	**00 41 20.0**	**+0.3**
SNAA	**Sanae**	**49.16**	**157**	P	**P**	**00 41 37.4**	**+0.5**
QSPA	**South Pole Qui**	**53.05**	**180**	P	**P**	**00 42 05.2**	**-1.0**
	3.7nm,1.0s,baz=149,slow=1.9,SNR=6.0						
QSPA	**South Pole Qui**	**53.05**	**180**	*e*P	**P**	**00 42 06.0**	**-0.2**
	6.3nm,1.1s						
PPT	**Papeete**	**68.50**	**264**	LR	LR	01 04 52.8	
	comp=Z,49nm,20.1s,baz=150,slow=28						
TXAR	**Lajitas Array**	**71.90**	**333**	P	**P**	**00 44 12.3**	**-0.2**
	0.3nm,0.7s,baz=153,slow=8.6,SNR=5.5						
DBIC	**Dimbokro**	**77.47**	**72**	P	**P**	**00 44 45.8**	**+0.7**
	7.2nm,0.9s,baz=182,slow=8.5,SNR=3.7						
DBIC				LR	LR	01 17 14.6	
	comp=Z,37nm,18.1s,baz=171,slow=34						
NVAR	**Mina Array Bea**	**85.76**	**326**	P	**P**	**00 45 28.1**	**-0.5**
	0.1nm,0.4s,baz=177,slow=5.4,SNR=2.5						
PDAR	**Pinedale Array**	**86.03**	**334**	P	**P**	**00 45 29.7**	**-0.1**
	0.6nm,1.0s,baz=128,slow=5.8,SNR=2.9						
TORD	**Torodi Ar. Bea**	**86.55**	**71**	P	**P**	**00 45 32.2**	**-0.6**
	1.3nm,0.8s,baz=233,slow=2.7,SNR=12						
ESDC	**Sonseca Array**	**99.75**	**47**	LR	LR	01 30 17.7	
	comp=Z,30nm,19.2s,baz=250,slow=35						
BRTR	**Keskin Array B**	**124.52**	**63**	PKP	**PKPdf**	**00 51 48.5**	**-0.1**
	0.8nm,0.7s,baz=186,slow=2.5,SNR=5.1						
BVAR	**Borovoye Array**	**150.50**	**46**	PKPbc	**PKPbc**	**00 52 40.9**	**+0.4**
	1.8nm,0.7s,baz=291,slow=4.1,SNR=12						
BVAR				PKPab	**PKPab**	**00 52 47.4**	**+0.3**
	2.9nm,0.7s,baz=304,slow=3.4,SNR=13						
ZALV	**Zalesovo Beam**	**157.63**	**35**	PKP	**PKPdf**	**00 52 44.2**	**-0.9**
	0.2nm,0.3s,baz=240,slow=2.8,SNR=2.4						
ZALV				PKPab	**PKPab**	**00 53 17.4**	**+0.1**
	1.0nm,0.6s,baz=289,slow=4.5,SNR=3.7						

NIED ***08*** *00:48:00, 28°.00N×142°.00E, h32km, Mw3.9 Best double couple: M0 8.25000×10^14 NP1:φs192.00000°,δ33.00000°, λ-119.00000°. NP2:φs46.00000°,δ61.00000°, λ-72.00000°.*

IDC ***08*** *00:48:48.9±0.6, 28°.09N×141°.98E, h0km, mb3.9/16, mb1 4.1/18, mb1mx3.9/40, mbtmp3.9/18, ML2.8/2, MS3.0/2, Ms1 3.0/2, ms1mx2.6/41, Error ellipse: s-maj=23.3km s-min=13.8km az=83.0*

ISCJB ***08*** *00:48:53.0±0.5, 28°.05N±0°.06×142°.0E±0°.2, h42km, mb3.9/16, MS3.6/1, Error ellipse: s-maj=20.8km s-min=7.2km az=169.0*

ISC 08 00:48:54.5±0.6, 28°.02N±0°.08×142°.0E±0°.2, h42km, n30, σ0s86/25, mb3.9/16, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.94**	**168**	Pn	**Pn**	**00 49 11.2**	**-0.1**
	baz=338,slow=11						
JCJ				Sn	**Sn**	**00 49 21.6**	**-2.0**
	baz=270,slow=19						
JCJ				LR	LR	00 49 24.0	
	comp=Z,137nm,18.0s,baz=120,slow=35						
MJAR	**Matsushiro Arr**	**9.07**	**340**	Pn	**Pn**	**00 51 01.3**	**-1.7**
	0.4nm,0.3s,baz=154,slow=15,SNR=3.2						
MJAR				LR	LR	00 53 55.3	
	comp=Z,29nm,19.9s,baz=180,slow=34						
USRK	**Ussuriysk Ar.**	**18.02**	**336**	P	**Pn**	**00 53 01.3**	**-0.4**
	0.1nm,0.3s,baz=101,slow=20,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**24.21**	**104**	T	T	01 19 02.8	
	baz=296,slow=75,SNR=188						
H11N1	**WAKE ISLAND Hy**	**24.21**	**105**	T	T	01 19 00.9	
	baz=296,slow=75,SNR=145						
H11N3	**WAKE ISLAND Hy**	**24.23**	**104**	T	T	01 19 05.8	
	baz=296,slow=75,SNR=175						
H11S3	**WAKE ISLAND Hy**	**24.57**	**107**	T	T	01 19 30.0	
	baz=297,slow=75,SNR=70						
H11S1	**WAKE ISLAND Hy**	**24.58**	**107**	T	T	01 19 35.5	
	baz=297,slow=75,SNR=39						
H11S2	**WAKE ISLAND Hy**	**24.59**	**107**	T	T	01 19 35.4	
	baz=297,slow=75,SNR=32						
SEY	**Seymchan**	**35.58**	**8**	P	**P**	**00 55 46.5**	**-1.0**
	0.6nm,0.3s,baz=352,slow=22,SNR=4.2						
WRA	**Warramunga Arr**	**48.25**	**190**	P	**P**	**00 57 32.7**	**+1.3**
	4.2nm,0.7s,baz=11,slow=8.3,SNR=19						
ZALV	**Zalesovo Beam**	**48.67**	**319**	P	**P**	**00 57 34.3**	**0.0**
	0.3nm,0.4s,baz=90,slow=9.1,SNR=2.6						
ZALV				PcP	**PcP**	**00 58 58.7**	**-0.4**
	1.3nm,0.6s,baz=82,slow=1.8,SNR=5.3						
MKAR	**Makanchi Array**	**49.74**	**309**	PcP	**PcP**	**00 59 03.8**	**+0.6**
	0.8nm,0.7s,baz=81,slow=3.1,SNR=7.1						
ASAR	**Alice Springs**	**51.97**	**189**	P	**P**	**00 57 59.1**	**-0.5**

*CSEM **08** 01:16:55.4±0.1,31.°40N×49.°58E,h40km,ML3.7,Error ellipse: s-maj=3.6km s-min=2.7km az=93.0*
*IDC **08** 01:16:56.1±3.1,31.°57N×49.°57E,h46km±26km,mb3.3/11, mb1 3.5/15,mb1mx3.4/35,mbtmp3.6/15,ML3.7/4,Error ellipse: s-maj=40.1km s-min=16.3km az=158.0*
ISC 08 01:16:51.9±0.6,31.°43N±0.°04×49.°59E±0.°04,h10km,n83, σ1§49/93,mb3.5/10,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.96**	**315**	*e*Pg	**Pb**	**01 17 12.2**	**+1.6**
SHGR				AML	AML	01 17 31.5	
	comp=E,1μm,0.5s						
SHGR				AML	AML	01 17 32.8	
	comp=N,1μm,2.7s						
SHGR	**Shooshtar-Gavs**	**0.96**	**315**	*e*Pg	**Pb**	**01 17 12.2**	**+1.6**
	comp=N,1μm,2.7s						
IPIR	**Pirpir**	**1.67**	**41**	*e*Pn	**Pn**	**01 17 20.8**	**-0.7**
IPIR				*e*Sg	**Sn**	**01 17 44.3**	**+1.2**
IPIR				*e*		01 17 44.7	
	comp=Z,8μm,0.3s						
IPIR	**Pirpir**	**1.67**	**41**	*e*Pn	**Pn**	**01 17 20.8**	**-0.7**
IPIR				*e*Sg	**Sn**	**01 17 44.3**	**+1.2**
IGAR	**Gharneh**	**2.30**	**64**	*e*Pn	**Pn**	**01 17 32.4**	**+2.3**
IGAR				*e*	**Sg**	**01 18 05.2**	**-0.6**
	comp=E,271nm,0.1s						
IKLH	**Kolahrood**	**2.53**	**41**	*e*Pn	**Pn**	**01 17 35.0**	**+1.8**
IKLH				*e*	**Sg**	**01 18 15.0**	**+1.8**
	comp=Z,5μm,0.4s						
IKLH	**Kolahrood**	**2.53**	**41**	*e*Pn	**Pn**	**01 17 35.0**	**+1.8**
IKAZ	**Kazeroun**	**2.54**	**130**	*e*Pn	**Pn**	**01 17 34.8**	**+1.4**
IKAZ				*e*		01 18 23.1	
	comp=Z,4μm,0.2s						
IKAZ	**Kazeroun**	**2.54**	**130**	*e*Pn	**Pn**	**01 17 34.8**	**+1.4**
IZEF	**Zefreh**	**2.74**	**57**	*e*Pn	**Pn**	**01 17 37.8**	**+1.5**
IZEF				*e*	**Sg**	**01 18 23.1**	**+3.0**
	comp=Z,983nm,0.2s						
IZEF	**Zefreh**	**2.74**	**57**	*e*Pn	**Pn**	**01 17 37.8**	**+1.5**
QAM	**Ghamsar**	**2.80**	**33**	*e*Pn	**Pn**	**01 17 39.4**	**+2.5**
QAM				*e*		01 17 40.5	
	comp=Z,6μm,0.1s						
QAM				*e*Sn	**Sn**	**01 18 11.6**	**+0.7**
NASN	**Na'in**	**3.05**	**63**	*e*Pn	**Pn**	**01 17 41.8**	**+1.3**
NASN	**Na'in**	**3.05**	**63**	*e*Pn	**Pn**	**01 17 41.8**	**+1.3**
ASAO	**Ashtian**	**3.13**	**7**	*e*Pn	**Pn**	**01 17 43.6**	**+2.0**
ASAO				AML	AML	01 18 37.9	
	comp=N,112nm,0.4s						
ASAO				AML	AML	01 18 41.0	
	comp=E,106nm,0.7s						
ASAO	**Ashtian**	**3.13**	**7**	*e*Pn	**Pn**	**01 17 43.6**	**+2.0**
	comp=E,106nm,0.7s						
IKOM	**Komasi**	**3.25**	**328**	*e*Pn	**Pn**	**01 17 45.4**	**+2.2**
IKOM				*e*		01 18 57.7	
	comp=Z,1μm,0.4s						
IKOM	**Komasi**	**3.25**	**328**	*e*Pn	**Pn**	**01 17 45.4**	**+2.2**
GHVR	**GHOM**	**3.37**	**25**	*e*Pn	**Pn**	**01 17 45.7**	**+1.1**
GHVR				AML	AML	01 18 45.4	
	comp=E,137nm,0.8s						
GHVR	**GHOM**	**3.37**	**25**	*e*Pn	**Pn**	**01 17 45.7**	**+1.1**
	comp=E,137nm,0.8s						
IBZA	**Bozab**	**3.37**	**335**	*e*Pn	**Pn**	**01 17 46.3**	**+1.5**
IBZA				*e*	**Pg**	**01 17 56.0**	**-0.5**
	comp=Z,723nm,0.1s						
IBZA	**Bozab**	**3.37**	**335**	*e*Pn	**Pn**	**01 17 46.3**	**+1.5**
ISAD	**Sadrabad**	**3.52**	**81**	*e*Pn	**Pn**	**01 17 48.4**	**+1.4**
ISAD				*e*		01 18 36.0	
	comp=Z,631nm,0.1s						
ISAD	**Sadrabad**	**3.52**	**81**	*e*Pn	**Pn**	**01 17 48.4**	**+1.4**
KFJS		**3.53**	**204**	P	**Pn**	**01 17 48.0**	**+1.2**
KFJS				S	**Sn**	**01 18 32.0**	**+3.3**
KFJS		**3.53**	**204**	S	**Sn**	**01 18 31.6**	**+2.9**
KFJS		**3.53**	**204**	P	**Pn**	**01 17 48.2**	**+1.4**
IRAZ	**Razeghan**	**3.98**	**4**	*e*Pn	**Pn**	**01 17 54.8**	**+1.6**
IRAZ				*e*		01 19 02.4	
	comp=Z,1μm,0.3s						
IRAZ	**Razeghan**	**3.98**	**4**	*e*Pn	**Pn**	**01 17 54.8**	**+1.6**
IVRN	**Varamin**	**3.98**	**26**	*e*Pn	**Pn**	**01 17 54.5**	**+1.4**
IVRN				*e*		01 17 55.1	
	comp=Z,1μm,0.2s						
IVRN	**Varamin**	**3.98**	**26**	*e*Pn	**Pn**	**01 17 54.5**	**+1.4**
SNGE	**Sanandaj**	**4.11**	**333**	*e*Pn	**Pn**	**01 17 56.2**	**+1.2**
SNGE	**Sanandaj**	**4.11**	**333**	*e*Pn	**Pn**	**01 17 56.2**	**+1.2**
ICHK	**Chekchek**	**4.18**	**77**	*e*Pn	**Pn**	**01 17 56.9**	**+1.0**
ICHK				*e*		01 17 57.5	
	comp=Z,467nm,0.1s						
ICHK	**Chekchek**	**4.18**	**77**	*e*Pn	**Pn**	**01 17 56.9**	**+1.0**
IDHR	**Dehrash**	**4.23**	**321**	*e*Pn	**Pn**	**01 17 57.9**	**+1.3**
IDHR				*e*		01 18 50.8	
	comp=Z,2μm,0.1s						
IDHR	**Dehrash**	**4.23**	**321**	*e*Pn	**Pn**	**01 17 57.9**	**+1.3**
IMEH	**Mehriz**	**4.29**	**89**	*e*Pn	**Pn**	**01 17 59.4**	**+1.8**
IMEH				*e*		01 18 05.9	
	comp=Z,256nm,0.2s						
IMEH	**Mehriz**	**4.29**	**89**	*e*Pn	**Pn**	**01 17 59.3**	**+1.8**
IMHD	**Mahdasht**	**4.34**	**12**	*e*Pn	**Pn**	**01 17 59.2**	**+1.1**
IMHD				*e*		01 18 00.2	
	comp=Z,1μm,0.1s						
IMHD	**Mahdasht**	**4.34**	**12**	*e*Pn	**Pn**	**01 17 59.2**	**+1.1**
IDMV	**Damavand**	**4.61**	**26**	*e*	**Pn**	**01 18 03.5**	**+1.5**
	comp=Z,305nm,0.2s						
IDMV				*e*Pn	**Pn**	**01 18 02.3**	**+0.3**
IDMV	**Damavand**	**4.61**	**26**	*e*Pn	**Pn**	**01 18 02.3**	**+0.3**
DAMV	**Damavand**	**4.64**	**25**	*e*Pn	**Pn**	**01 18 03.3**	**+1.0**
DAMV	**Damavand**	**4.64**	**25**	*e*Pn	**Pn**	**01 18 03.3**	**+1.0**
CHTH	**Charan**	**4.65**	**16**	*e*Pn	**Pn**	**01 18 03.5**	**+1.1**
CHTH	**Charan**	**4.65**	**16**	*e*Pn	**Pn**	**01 18 03.5**	**+1.1**
ILAS	**Lasjerd**	**4.85**	**35**	*e*	**Pn**	**01 18 06.4**	**+1.3**
	comp=Z,696nm,0.2s						
ILAS				*e*Pn	**Pn**	**01 18 06.0**	**+0.9**
ILAS	**Lasjerd**	**4.85**	**35**	*e*Pn	**Pn**	**01 18 06.0**	**+0.9**
IFIR	**Firoozkooh**	**4.96**	**31**	*e*	**Pn**	**01 18 09.0**	**+2.2**
	comp=Z,761nm,0.1s						
IFIR				*e*Pn	**Pn**	**01 18 08.2**	**+1.4**
IFIR	**Firoozkooh**	**4.96**	**31**	*e*Pn	**Pn**	**01 18 08.2**	**+1.4**
IGZV	**Ghazvin**	**4.97**	**6**	*e*Pn	**Pn**	**01 18 07.6**	**+0.8**
IGZV				*e*		01 19 43.7	
	comp=Z,317nm,0.4s						
IGZV	**Ghazvin**	**4.97**	**6**	*e*Pn	**Pn**	**01 18 07.6**	**+0.8**
IBAF	**Bafgh**	**5.10**	**87**	*e*	Pb	01 18 16.4	-5.0
	comp=Z,189nm,0.1s						
IBAF				*e*Pn	**Pn**	**01 18 09.2**	**+0.6**
IBAF	**Bafgh**	**5.10**	**87**	*e*Pn	**Pn**	**01 18 09.2**	**+0.6**
IPRN	**Peran**	**5.32**	**25**	*e*Pn	**Pn**	**01 18 13.4**	**+2.0**
IPRN				*e*		01 18 14.4	
	comp=Z,1μm,0.2s						
ISHM	**Shahmirzad**	**5.35**	**34**	*e*Pn	**Pn**	**01 18 13.1**	**+1.0**
ISHM				*e*		01 18 15.2	
	comp=Z,1μm,0.2s						
IALA	**Alasht**	**5.36**	**29**	*e*	**Pn**	**01 18 15.0**	**+2.7**
	comp=Z,1μm,0.2s						
BOQSS		**5.54**	**182**	P	**Pn**	**01 18 15.0**	**+0.5**
BOQSS		**5.54**	**182**	P	**Pn**	**01 18 15.0**	**+0.5**
ASYS		**6.02**	**231**	P	**Pn**	**01 18 21.0**	**-0.1**
ASYS		**6.02**	**231**	P	**Pn**	**01 18 20.7**	**-0.4**
IGLO	**Ghaloghah**	**6.17**	**34**	*e*Pn	**Pn**	**01 18 24.7**	**+1.5**
IGLO				*e*		01 18 29.1	
	comp=Z,419nm,0.2s						
SLWS		**6.67**	**172**	P	**Pn**	**01 18 30.0**	**+0.1**
SLWS				S	**Sn**	**01 19 44.0**	**-2.0**
SLWS		**6.67**	**172**	P	**Pn**	**01 18 29.8**	**-0.2**
BTHS		**7.43**	**171**	P	**Pn**	**01 18 41.0**	**+0.5**
BTHS		**7.43**	**171**	P	**Pn**	**01 18 40.6**	**+0.1**
GEYT	**Alibeck**	**9.55**	**45**	P	**Pn**	**01 19 11.2**	**+1.6**
	comp=Z,1.9nm,0.3s,baz=239,slow=9.7,SNR=25						
ASF	**Jabal al Asfar**	**10.83**	**277**	P	**Pn**	**01 19 26.2**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=35,slow=10,SNR=5.1						
ASF				S	Sn	01 21 20.0	-8.4
	comp=Z,0.1nm,0.3s,baz=27,slow=9.0,SNR=2.1						
MMAI	**Mount Meron Ar**	**12.12**	**281**	P	**Pn**	**01 19 45.7**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=88,slow=18,SNR=2.9						
BRTR	**Keskin Array B**	**15.38**	**307**	P	**Pn**	**01 20 32.1**	**+3.0**
	comp=Z,0.2nm,0.3s,baz=130,slow=13,SNR=6.3						
AKTO	**Aktyubinsk**	**20.00**	**16**	P	**P**	**01 21 22.8**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=239,slow=11,SNR=3.9						
IDI	**Anoyia**	**20.98**	**287**	P	**P**	**01 21 35.6**	**+0.3**
	comp=Z,6.0nm,0.8s,baz=45,slow=4.3,SNR=3.1						
AKASG	**Malin Array Be**	**24.49**	**328**	P	**P**	**01 22 08.9**	**-2.1**
	comp=Z,0.6nm,0.4s,baz=134,slow=8.9,SNR=7.3						
BVAR	**Borovoye Array**	**26.33**	**29**	P	**P**	**01 22 26.8**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=241,slow=41,SNR=3.1						
MKAR	**Makanchi Array**	**29.39**	**49**	P	**P**	**01 22 53.8**	**-1.4**
	comp=Z,0.1nm,0.4s,baz=297,slow=13,SNR=3.4						
GERES	**GERESS Array B**	**32.11**	**313**	P	**P**	**01 23 17.9**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=148,slow=36,SNR=2.8						
FINES	**FINESS Array B**	**33.73**	**340**	P	**P**	**01 23 32.1**	**-1.1**
	comp=Z,1.4nm,0.4s,baz=147,slow=9.4,SNR=24						
NOA	**NORSAR Array B**	**38.79**	**331**	P	Pn	01 24 14.5	-2.0
	comp=Z,0.5nm,0.7s,baz=120,slow=8.7,SNR=2.9						
ARCES	**ARCESS Array B**	**40.52**	**347**	P	**P**	**01 24 29.3**	**-1.5**
	comp=Z,0.8nm,0.7s,baz=154,slow=9.0,SNR=5.3						
ESDC	**Sonseca Array**	**43.79**	**296**	P	**P**	**01 24 57.5**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=72,slow=7.2,SNR=3.2						
TORD	**Torodi Ar. Bea**	**47.50**	**259**	P	**P**	**01 25 26.9**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=57,slow=8.1,SNR=10.0						
YKA	**Yellowknife Ar**	**85.55**	**353**	P	P	01 29 27.8	-2.1
	comp=Z,0.2nm,0.5s,baz=15,slow=5.7,SNR=5.2						

*ISCJB **08** 01:31:30.9±0.4,32.°77N±0.°02×115.°92W±0.°03,h2km±3km, Error ellipse: s-maj=3.7km s-min=2.6km az=166.7*
*NEIC **08** 01:31:32.8,32.°70N×115.°89W,h2km,ML3.4(PAS), ML3.5(ECX),After PAS.*
NEIC Felt at El Centro, Imperial, La Quinta and Santee. Also felt at Mexicali, Baja California.
*ECX **08** 01:31:33.1±0.6,32.°71N×115.°89W,h2km,MD3.3,ML3.5*
*MEX **08** 01:31:35.8±0.8,31.°99N×117.°32W,h32km,MD3.7*
ISC 08 01:31:32.5±0.8,32.°70N±0.°02×115.°85W±0.°02,h12km±6km, n38,σ1§43/71,8C-5D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.08**	**232**	*i*eP	**Pg**	**01 31 34.0**	**-1.1**
SGL	**Mount Signal**	**0.12**	**114**	*i*eP	**Pg**	**01 31 35.7**	**+0.2**
WESC	**Westside Schoo**	**0.12**	**58**	*i*P	**Pg**	**01 31 35.9**	**+0.3**
COK	**Cook Ranch**	**0.18**	**34**	*i*eP	**Pg**	**01 31 36.9**	**+0.3**
CRR	**Carrizo Plain**	**0.21**	**332**	*i*eP	**Pg**	**01 31 36.7**	**-0.4**
RMX	**La Rumorosa**	**0.21**	**244**	*e*P	**Pg**	**01 31 36.8**	**-0.4**
RMX				*e*S	**Sg**	**01 31 39.9**	**-0.5**
RMX	**La Rumorosa**	**0.21**	**244**	*i*eP	**Pg**	**01 31 36.8**	**-0.4**
RMX				*e*S	**Sg**	**01 31 39.9**	**-0.5**
SWSC	**Sam W. Stewart**	**0.25**	**11**	*i*eP	**Pg**	**01 31 37.6**	**-0.1**
CPBX	**Cerro Prieto**	**0.54**	**121**	*i*eP	**Pb**	**01 31 43.7**	**-0.1**
CPBX				*e*S	**Sb**	**01 31 52.0**	**+0.4**
COA	**Coachella**	**0.63**	**75**	*i*eP	**Pb**	**01 31 45.3**	**-0.2**
EMSC	**East Mesa**	**0.73**	**86**	*i*eP	**Pb**	**01 31 47.0**	**-0.1**
RDX	**Rancho Dawling**	**0.77**	**186**	*i*eP	**Pg**	**01 31 46.9**	**-0.6**
RDX				*e*S	**Sg**	**01 31 57.5**	**-0.1**
RDX	**Rancho Dawling**	**0.77**	**186**	*i*eP	**Pg**	**01 31 46.9**	**-0.6**
RDX				*e*S	**Sg**	**01 31 57.5**	**-0.1**
RDX				*i*e		01 32 01.8	
	comp=N,2μm,0.4s						
CBX	**Cerro Bola**	**0.79**	**241**	*e*P	**Pg**	**01 31 47.1**	**-0.5**
CBX				*i*S	**Sg**	**01 31 54.8**	**-3.3**
CBX	**Cerro Bola**	**0.79**	**241**	*e*P	**Pg**	**01 31 47.2**	**-0.5**
CBX				*e*S	**Sg**	**01 31 57.5**	**-0.5**
CBX	**Cerro Bola**	**0.79**	**241**	*e*P	**Pg**	**01 31 47.2**	**-0.5**
CBX				*e*S	**Sg**	**01 31 57.5**	**-0.5**
PFO	**Pinyon Flats O**	**1.04**	**331**	*e*Pn	**Pg**	**01 31 51.0**	**-1.6**
PFO				*e*Sg	**Sg**	**01 32 04.7**	**-1.4**
PBX	**Punta Banda**	**1.21**	**218**	*e*P	**Pg**	**01 31 54.7**	**-1.0**
PBX				*e*S	**Sg**	**01 32 10.8**	**-0.6**
PBX	**Punta Banda**	**1.21**	**218**	*e*P	**Pg**	**01 31 54.4**	**-1.3**
PBX				*e*S	**Sg**	**01 32 10.8**	**-0.6**
ECNX	**Esteban Cantu**	**1.22**	**212**	*e*P	**Pg**	**01 31 54.8**	**-1.0**
ECNX				*e*S	**Sg**	**01 32 10.7**	**-1.0**
ZAX	**El Zacaton**	**1.23**	**197**	*e*P	**Pg**	**01 31 55.0**	**-1.2**
ZAX				*e*S	**Sg**	**01 32 11.3**	**-0.9**
ECBX	**El Chinero**	**1.40**	**151**	*e*P9		01 31 55.8	
ECBX				*e*S	**Sb**	**01 32 15.4**	**-0.9**
ECBX				*i*e		01 32 26.4	
	comp=E,426nm,1.0s						
SPIG	**San Pedro Mart**	**1.68**	**169**	*e*P	**Pn**	**01 32 02.9**	**+0.9**
SPIG				*e*S	**Sb**	**01 32 25.6**	**+0.9**
SPX	**San Pedro Mart**	**1.68**	**169**	*e*P	**Pn**	**01 32 02.6**	**+0.6**
SPX				*e*S	**Sb**	**01 32 26.0**	**+1.2**
SPX	**San Pedro Mart**	**1.68**	**169**	*e*P	**Pn**	**01 32 02.6**	**+0.6**
SPX				*e*S	**Sb**	**01 32 26.0**	**+1.2**
SPX				*e*		01 32 28.7	
	comp=N,331nm,0.4s						
PASC	**Pasadena Art C**	**2.44**	**308**	*e*Pn	**Pn**	**01 32 12.0**	**-0.3**
PASC				*e*Pg	**Pb**	**01 32 16.5**	**+0.1**
PASC				*e*Sg	**Sb**	**01 32 46.3**	**-0.2**
214A	**Organ Pipe Nat**	**2.68**	**105**	*e*Pn	**Pn**	**01 32 14.2**	**-1.2**
GSC	**Goldstone, Bar**	**2.72**	**343**	*e*Pn	**Pn**	**01 32 16.2**	**+0.2**
GSC				*e*Pg	**Pg**	**01 32 22.7**	**-1.9**
GSC				*e*Sn	**Sn**	**01 32 50.2**	**+1.3**
GSC				*e*Sg	**Sg**	**01 32 57.4**	**-2.4**
OSI	**Osito Audit: C**	**3.07**	**309**	*e*Pn	**Pn**	**01 32 20.9**	**+0.1**
OSI				*e*Pg	**Pg**	**01 32 29.9**	**-1.3**
OSI				*e*Sn	**Sn**	**01 32 57.7**	**+0.2**
OSI				*e*Sg	**Sb**	**01 33 07.7**	**+3.2**
ISA	**Isabella, Lake**	**3.67**	**324**	*e*Pn	**Pn**	**01 32 30.1**	**+0.9**
ISA				*e*Pg	**Pb**	**01 32 39.0**	**+1.6**
ISA				*e*Sg	**Sb**	**01 33 25.9**	**+4.1**
DAC	**Darwin (Calif)**	**3.85**	**339**	*e*Pn	**Pn**	**01 32 31.9**	**+0.1**
DAC				*e*Pg	**Pg**	**01 32 44.0**	**-1.5**
DAC				*e*Sg	**Sg**	**01 33 04.0**	**-2.2**
TUC	**Tucson**	**4.30**	**94**	*e*Pn	**Pn**	**01 32 39.2**	**+1.5**
WUAZ	**Wupatki**	**4.66**	**52**	*e*Pn	**Pn**	**01 32 43.6**	**+0.8**
TPH	**Tonopah**	**5.48**	**349**	*e*Pn	**Pn**	**01 32 54.8**	**+0.7**
TPH				*e*Sg	**Sg**	**01 34 24.1**	**-4.4**
R11A	**Troy Canyon, C**	**5.64**	**2**	*e*Pn	**Pn**	**01 32 57.4**	**+1.0**
	comp=N,1.5nm,0.7s						
R11A				*e*Pg	**Pg**	**01 33 20.8**	**+0.2**
R11A				*e*Sg	**Sg**	**01 34 32.2**	**-1.4**
121A	**Cookes Peak, D**	**6.81**	**89**	*e*Pn	**Pn**	**01 33 12.6**	**+0.2**
	comp=N,4.5nm,0.3s						
121A				*e*Sg	**Sg**	**01 35 06.8**	**-4.1**
LAZ	**Ladron**	**7.47**	**74**	*e*Pn	**Pn**	**01 33 23.3**	**+1.9**
LAZ				*e*Sg	**Sg**	**01 35 30.4**	**-1.8**
SRU	**San Rafael Swe**	**7.72**	**33**	*e*Pn	**Pn**	**01 33 25.7**	**+0.8**
	comp=N,3.9nm,0.7s						

*HLW **08** 01:40:33.2,35.°43N×23.°34E,h21km±17km,Md3.6,Ml2.9*
*ISCJB **08** 01:40:33.8±0.4,35.°12N±0.°03×23.°22E±0.°04,h76km±4km, mb3.4/8,Error ellipse: s-maj=6.8km s-min=3.1km az=136.9*
*CSEM **08** 01:40:35.4±0.2,35.°14N×23.°20E,h50km,ML3.5,Error ellipse: s-maj=6.6km s-min=3.1km az=46.0*
*ATH **08** 01:40:35.8,35.°29N×23.°26E,h41km±1km,MD3.6/18, ML3.4*
*IDC **08** 01:40:37.3±1.6,35.°23N×23.°41E,h80km±18km,mb3.3/8, mb1 3.4/14,mb1mx3.3/33,mbtmp3.5/14,MS2.2/1, Ms1 2.2/1,ms1mx2.0/20,Error ellipse: s-maj=21.6km s-min=18.5km az=142.0*
*THE **08** 01:40:37.5,35.°30N×23.°30E,h50km±3km,ML3.5/3,Error ellipse: s-maj=3.7km s-min=0.8km az=63.0*
ISC 08 01:40:34.7±0.9,35.°15N±0.°04×23.°19E±0.°04,h61km±8km, n186,σ1§26/210,mb3.5/8,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARN	**Karanos**	**0.65**	**67**	P	**Pn**	**01 40 47.9**	**-0.5**
KARN				*e*S	**Sn**	**01 40 57.5**	**-0.9**
KARN	**Karanos**	**0.65**	**67**	*e*P	**Pn**	**01 40 47.9**	**-0.5**
KARN				*e*S	**Sn**	**01 40 56.9**	**-1.5**
KARN	**Karanos**	**0.65**	**67**	P	**Pn**	**01 40 47.9**	**-0.5**
KARN				S	**Sn**	**01 40 57.5**	**-0.9**
ANKY	**Antikythira Is**	**0.72**	**7**	P	**Pn**	**01 40 49.0**	**-0.3**
ANKY				S	**Sn**	**01 40 58.8**	**-1.1**
ANKY	**Antikythira Is**	**0.72**	**7**	*e*P	**Pn**	**01 40 48.7**	**-0.6**
ANKY	**Antikythira Is**	**0.72**	**7**	P	**Pn**	**01 40 49.0**	**-0.3**
ANKY				S	**Sn**	**01 40 58.8**	**-1.1**
GVD	**Gavdhos**	**0.80**	**113**	P	**Pn**	**01 40 51.2**	**+1.0**
GVD				S	**Sn**	**01 41 03.2**	**+1.5**
GVD	**Gavdhos**	**0.80**	**113**	*e*P	**Pn**	**01 40 51.3**	**+1.0**
GVD				*e*S	**Sn**	**01 41 03.9**	**+2.2**
GVD	**Gavdhos**	**0.80**	**113**	P	**Pn**	**01 40 51.2**	**+1.0**
GVD				S	**Sn**	**01 41 03.2**	**+1.5**
VAM	**Vamos**	**0.87**	**73**	P	**Pn**	**01 40 50.0**	**-1.1**
VAM				S	**Sn**	**01 41 03.0**	**-0.1**
VAM	**Vamos**	**0.87**	**73**	P	**Pn**	**01 40 50.0**	**-1.1**
VAM				S	**Sn**	**01 41 03.0**	**-0.1**
KYTH	**Kithira**	**1.14**	**354**	P	**Pn**	**01 40 55.2**	**+0.6**
KYTH	**Kithira**	**1.14**	**354**	*e*P	**Pn**	**01 40 55.5**	**+0.9**
KYTH	**Kithira**	**1.14**	**354**	*e*P	**Pn**	**01 40 55.5**	**+0.9**
SIVA	**Sivas**	**1.34**	**95**	P	**Pn**	**01 40 59.1**	**+1.9**
SIVA				S	**Sn**	**01 41 15.7**	**+1.6**
SIVA	**Sivas**	**1.34**	**95**	*e*P	**Pn**	**01 40 59.1**	**+1.9**
SIVA				*e*S	**Sn**	**01 41 15.9**	**+1.8**
SIVA	**Sivas**	**1.34**	**95**	P	**Pn**	**01 40 59.1**	**+1.9**
SIVA				S	**Sn**	**01 41 15.7**	**+1.6**
IDI	**Anoyia**	**1.40**	**84**	P	**Pn**	**01 40 58.6**	**+0.5**
	15nm,0.3s,baz=251,slow=12,SNR=90						
IDI				S	**Sn**	**01 41 15.5**	**-0.2**
	39nm,0.3s,baz=263,slow=19,SNR=9.7						
IDI				LR	LR	01 41 30.4	
	comp=Z,58nm,20.0s,baz=134,slow=44						
VLI	**Veliai**	**1.58**	**353**	P	**Pn**	**01 41 01.8**	**+1.3**
VLI				S	**Sn**	**01 41 20.1**	**+0.2**
VLI	**Veliai**	**1.58**	**353**	*e*P	**Pn**	**01 41 01.0**	**+0.5**
VLI				*e*S	**Sn**	**01 41 19.2**	**-0.7**
VLI	**Veliai**	**1.58**	**353**	*e*P	**Pn**	**01 41 01.0**	**+0.5**
VLI				S	**Sn**	**01 41 20.1**	**+0.2**
LAST	**Lasithi**	**1.88**	**89**	P	**Pn**	**01 41 06.5**	**+1.8**
LAST				S	**Sn**	**01 41 28.9**	**+1.6**
LAST	**Lasithi**	**1.88**	**89**	*e*P	**Pn**	**01 41 06.4**	**+1.8**
LAST	**Lasithi**	**1.88**	**89**	*e*P	**Pn**	**01 41 06.4**	**+1.8**
LAST				S	**Sn**	**01 41 28.9**	**+1.6**
NPS	**Neapolis**	**1.99**	**86**	P	**Pn**	**01 41 08.1**	**+2.0**
NPS				S	**Sn**	**01 41 29.7**	**-0.2**
NPS	**Neapolis**	**1.99**	**86**	*e*P	**Pn**	**01 41 08.1**	**+2.0**
NPS	**Neapolis**	**1.99**	**86**	P	**Pn**	**01 41 08.1**	**+2.0**
NPS				S	**Sn**	**01 41 29.7**	**-0.2**
PYL	**PYLOS**	**2.10**	**326**	P	**Pn**	**01 41 08.6**	**+1.0**
PYL				S	**Sn**	**01 41 33.3**	**+0.7**
PYL	**PYLOS**	**2.10**	**326**	*e*P	**Pn**	**01 41 08.2**	**+0.6**
PYL	**PYLOS**	**2.10**	**326**	P	**Pn**	**01 41 08.6**	**+1.0**
PYL				S	**Sn**	**01 41 33.3**	**+0.7**
THR6	**Thira Island,**	**2.16**	**56**	P	**Pn**	**01 41 08.7**	**+0.3**
THR6	**Thira Island,**	**2.16**	**56**	P	**Pn**	**01 41 08.7**	**+0.3**
THR5	**Thira Island,**	**2.16**	**54**	P	**Pn**	**01 41 08.3**	**-0.1**
THR5	**Thira Island,**	**2.16**	**54**	P	**Pn**	**01 41 08.3**	**-0.1**
SANT	**Santorini**	**2.21**	**56**	*e*P	**Pn**	**01 41 09.2**	**+0.1**
SANT	**Santorini**	**2.21**	**56**	*e*P	**Pn**	**01 41 09.2**	**+0.1**
THR2	**Thira island,**	**2.24**	**54**	P	**Pn**	**01 41 09.9**	**+0.5**
THR2	**Thira island,**	**2.24**	**54**	P	**Pn**	**01 41 09.9**	**+0.5**
ITM	**Ithomi**	**2.27**	**334**	P	**Pn**	**01 41 10.7**	**+0.9**
ITM	**Ithomi**	**2.27**	**334**	*e*P	**Pn**	**01 41 10.8**	**+0.9**
ITM	**Ithomi**	**2.27**	**334**	*e*P	**Pn**	**01 41 10.8**	**+0.9**
VLX	**Vlachokerasia**	**2.31**	**344**	*e*P	**Pn**	**01 41 12.8**	**+2.3**
VLX	**Vlachokerasia**	**2.31**	**344**	*e*P	**Pn**	**01 41 12.8**	**+2.3**
DID	**Didima**	**2.35**	**1**	*e*P	**Pn**	**01 41 11.2**	**+0.2**
DID	**Didima**	**2.35**	**1**	*e*P	**Pn**	**01 41 11.2**	**+0.2**
ZKR	**Zakros**	**2.48**	**90**	*e*P	**Pn**	**01 41 15.6**	**+2.8**
ZKR	**Zakros**	**2.48**	**90**	*e*P	**Pn**	**01 41 15.6**	**+2.8**
AMT	**Artemida-Makis**	**2.66**	**334**	*e*P	**Pn**	**01 41 16.7**	**+1.5**
AMT	**Artemida-Makis**	**2.66**	**334**	*e*P	**Pn**	**01 41 16.7**	**+1.5**
APE	**Apeiranthos**	**2.69**	**44**	*e*P	**Pn**	**01 41 15.1**	**-0.6**
APE	**Apeiranthos**	**2.69**	**44**	*e*P	**Pn**	**01 41 15.1**	**-0.6**
ATH	**Athens Observa**	**2.85**	**8**	*e*P	**Pn**	**01 41 19.0**	**+1.2**
ATH	**Athens Observa**	**2.85**	**8**	*e*P	**Pn**	**01 41 19.0**	**+1.2**
GUR	**Goura**	**2.86**	**346**	*e*P	**Pn**	**01 41 19.8**	**+1.

SWA2					S		Sn	01 43 12.0	-1.0
GDZ	**Gediz**	**6.38**	**50**	*i*	P		**Pn**	**01 42 08.4**	**+2.2**
GDZ	**Gediz**	**6.38**	**50**	*i*	P		**Pn**	**01 42 08.4**	**+2.2**
GAZI	**Gazipasa**	**7.50**	**79**	*i*	P		**Pn**	**01 42 20.3**	**-1.2**
GAZI	**Gazipasa**	**7.50**	**79**	*i*	P		**Pn**	**01 42 20.3**	**-1.2**
AWBH	baz=144	**8.37**	**143**		P		**Pn**	**01 42 33.6**	**+0.2**
AWBH		**8.37**	**143**		P		**Pn**	**01 42 33.6**	**+0.2**
STON	**Ston**	**8.81**	**333**	*e*	Pn		Pn	01 42 36.0	-3.3
STON					Sn		Sn	01 44 05.7	-11
GLL	**Jalalah** baz=127	**9.10**	**125**		P		**Pn**	**01 42 42.9**	**-0.5**
GLL	**Jalalah**	**9.10**	**125**		P		**Pn**	**01 42 42.9**	**-0.5**
HFRF	**Wahat Farafira** baz=151	**9.10**	**150**		P		**Pn**	**01 42 44.3**	**+0.9**
HFRF	**Wahat Farafira**	**9.10**	**150**		P		**Pn**	**01 42 44.3**	**+0.9**
NBNS	**Bani Suef** baz=133	**9.47**	**131**		P		**Pn**	**01 42 48.5**	**0.0**
NBNS	**Bani Suef**	**9.47**	**131**		P		**Pn**	**01 42 48.5**	**0.0**
BRTR	**Keskin Array B** comp=E,0.1nm,0.3s,baz=237,slow=15,SNR=7.7	**9.48**	**58**		P		**Pn**	**01 42 49.8**	**+1.1**
RSH	baz=114	**9.78**	**112**		P		**Pn**	**01 42 51.7**	**-0.9**
RSH		**9.78**	**112**		P		**Pn**	**01 42 51.7**	**-0.9**
MMAI	**Mount Meron Ar** comp=E,1.2nm,0.3s,baz=287,slow=11,SNR=19	**10.35**	**98**		P		**Pn**	**01 42 59.1**	**-1.4**
MMAI					S		Sn	01 44 47.9	-7.1
MLR	**Muntele Rosu** comp=E,11nm,18.6s,baz=200,slow=40	**10.54**	**11**		LR		LR	01 47 28.9	
UDBI	**Udbina**	**10.96**	**331**	*e*	Pn		**Pn**	**01 43 07.6**	**-1.2**
UDBI					Sn		Sn	01 44 58.7	-11
UDBI	**Udbina**	**10.96**	**331**	*e*	Pn		**Pn**	**01 43 07.5**	**-1.2**
EIL	**Elat** comp=E,0.4nm,0.3s,baz=241,slow=3.0,SNR=14	**11.34**	**116**		P		**Pn**	**01 43 12.9**	**-1.1**
EIL					S		Sn	01 45 10.9	-8.2
NVLJ	**Novalja** comp=E,1.3nm,0.3s,baz=26,slow=16,SNR=7.4	**11.36**	**328**	*e*	Pn		**Pn**	**01 43 12.3**	**-1.8**
NVLJ					Sn		Sn	01 45 07.7	-12
ASF	**Jabal al Asfar** comp=E,0.1nm,0.3s,baz=270,slow=7.1,SNR=2.2	**11.80**	**101**		P		**Pn**	**01 43 18.8**	**-1.5**
ASF					S		Sn	01 45 23.8	-6.7
VRAC	**Vranov** comp=E,0.1nm,0.3s,baz=260,slow=17,SNR=2.4	**14.96**	**343**		P		**P**	**01 44 06.7**	**0.0**
GERES	**GERESS Array B** comp=E,0.1nm,0.3s,baz=144,slow=11,SNR=4.7	**15.38**	**336**		P		**P**	**01 44 10.5**	**-1.0**
AKASG	**Malin Array Be** comp=E,0.6nm,0.3s,baz=153,slow=12,SNR=7.6	**16.15**	**14**		P		**P**	**01 44 19.6**	**-0.3**
ESDC	**Sonseca Array** comp=E,0.3nm,0.6s,baz=204,slow=11,SNR=3.5	**22.00**	**290**		P		**P**	**01 45 26.2**	**+2.3**
HFS	**Hagfors** comp=E,0.3nm,0.6s,baz=78,slow=12,SNR=2.7	**25.75**	**349**		P		**P**	**01 45 59.4**	**0.0**
FINES	**FINESS Array B** comp=E,1.9nm,0.9s,baz=150,slow=12,SNR=6.1	**26.38**	**3**		P		**P**	**01 46 03.4**	**-1.6**
NOA	**NORSAR Array B** comp=E,3.1nm,0.9s,baz=187,slow=14,SNR=4.8	**27.02**	**347**		P		**P**	**01 46 10.8**	**-0.1**
TORD	**Torodi Ar. Bea** comp=E,0.3nm,0.7s,baz=155,slow=10.0,SNR=3.1	**29.27**	**227**		P		P	01 46 34.4	+3.1
ARCES	**ARCESS Array B** comp=E,1.2nm,0.8s,baz=174,slow=10,SNR=3.7	**34.46**	**1**		P		**P**	**01 47 16.8**	**+0.5**
MKAR	**Makanchi Array** comp=E,0.2nm,0.3s,baz=265,slow=11,SNR=7.4	**45.13**	**56**		P		**P**	**01 48 45.3**	**+0.3**
ZALV	**Zalesovo Beam** comp=E,0.5nm,0.4s,baz=264,slow=10.0,SNR=2.5	**46.18**	**46**		P		**P**	**01 48 51.5**	**-1.7**

MAN 08 01:40:40.9±64.4N×126°13.8E, h14km, mb4.7, ML3.6, MS3.6, 2C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.64**	**283**	*i* P	Pb	01 40 53.8	+0.7
SCPH				*i* S	Sn	01 41 04.7	-0.1
BUTP	**Butuan**	**0.83**	**217**	*e* P	Pg	01 40 54.7	-1.4
BUTP				*e* S	Sn	01 41 09.4	+0.1
MSLP	**Maasin**	**1.34**	**292**	*e* P	Pn	01 41 04.6	+0.3
MSLP				*e* S	Sn	01 41 20.5	-1.5
CGP	**Cagayan de Oro**	**1.84**	**230**	*e* P	Pn	01 41 10.7	-0.5
CGP				*e* S	Sn	01 41 34.8	+0.5
PLP	**Palo**	**1.89**	**324**	*e* P	Pn	01 41 10.4	-1.5
PLP				*e* S	Sn	01 41 35.1	-0.4
BUKP	**Musuan**	**2.04**	**211**	*e* P	Pn	01 41 13.9	-0.1
TBP	**Tagbilaran**	**2.23**	**272**	*e* P	Pn	01 41 17.5	+0.9
TBP				*e* S	Sb	01 41 46.7	-1.0
DCPH	**Dipolog City**	**2.93**	**249**	*e* P	Pn	01 41 27.4	+1.2
DCPH				*e* S	Sn	01 42 02.9	+1.7
PAGZ	**Pagadian**	**3.24**	**237**	*e* P	Pn	01 41 32.2	+1.7
RCP	**Roxas**	**3.83**	**300**	*e* P	Pn	01 41 40.1	+1.5

*ISCJB **08** 01:43:18.8±1.0, 34.30S±0.03×72.75W±0.08, h33km±9km, mb4.2/18, MS3.6/6, Error ellipse: s-maj=10.8km s-min=5.0km az=8.7*
*GUC **08** 01:43:19.6±0.5, 34.33S×72.32W, h46km±10km, ML4.3*
*NEIC **08** 01:43:20.9±2.0, 34.27S×72.29W, h33km±13km, mb4.3/13, Error ellipse: s-maj=10.0km s-min=5.4km az=83.0*
*IDC **08** 01:43:21.9±3.3, 34.31S×72.12W, h38km±27km, mb3.8/9, mb1 3.9/13, mb1mx3.8/21, mbtmp4.0/13, ML3.6/3, MS3.8/8, Ms1 3.7/8, ms1mx3.4/19, Error ellipse: s-maj=32.2km s-min=14.9km az=96.0*

ISC 08 01:43:19.1±0.6, 34.32S±0.04×72.38W±0.09, h21km±5km, n54, σ0°81/62, mb4.3/18, MS3.5/6,5C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.17**	**126**	*e* P	**Pn**	**01 43 40.2**	**0.0**
NICH				*i* S	**Sn**	**01 43 55.8**	**+0.2**
TALC	**Talca**	**1.24**	**151**	*i* P	**Pn**	**01 43 41.2**	**0.0**
TALC				*i* S	**Sn**	**01 43 57.6**	**+0.3**
TACH	**Talagante**	**1.37**	**61**	*i* P	**Pn**	**01 43 43.2**	**+0.2**
TACH				*i* S	**Sn**	**01 44 01.0**	**+0.5**
LNCH	**Linares**	**1.65**	**158**	*i* P	**Pn**	**01 43 47.9**	**+0.9**
LNCH				*i* S	**Sb**	**01 44 09.0**	**-0.3**
SAN	**Santiago**	**1.67**	**59**	*i* P	**Pn**	**01 43 47.7**	**+0.6**
PCH	**Pirque**	**1.70**	**66**	*i* P	**Pn**	**01 43 48.3**	**+0.7**
PCH				*i* S	**Sb**	**01 44 10.3**	**-0.4**
CLCH	**Cerro Calan**	**1.79**	**60**	*i* P	**Pn**	**01 43 49.4**	**+0.6**
CLCH				*i* S	**Sn**	**01 44 12.4**	**+1.5**
CLCH	comp=E,5μm,0.6s			AML	AML	01 44 22.8	
CLCH	comp=E,5μm,0.7s			AML	AML	01 44 23.4	
PEL	**Peldehue**	**1.83**	**51**	*i* P	**Pn**	**01 43 50.1**	**+0.7**
PEL				*i* S	**Sn**	**01 44 13.6**	**+1.5**
PEL	comp=N,5μm,0.4s			AML	AML	01 44 22.5	
CFAA	**Coronel Fontan** comp=N,0.5nm,0.3s,baz=225,slow=12,SNR=11	**4.41**	**53**	Pn	**Pn**	**01 44 24.9**	**+0.1**
CFAA				Lg	Lg	01 45 29.3	
CFAA	comp=N,1.2nm,0.3s,baz=30,slow=12,SNR=5.0			LR	LR	01 46 29.6	
LCO	**Las Campanas** comp=N,20nm,0.5s	**5.48**	**16**	*e* Pn	**Pn**	**01 44 38.7**	**-1.1**
LCO				eLg	Lg	01 46 09.9	
PLCA	**Paso Flores** comp=N,0.4nm,0.3s,baz=340,slow=13,SNR=6.1	**6.57**	**168**	Pn	**Pn**	**01 44 55.1**	**+0.7**
PLCA				Sn	**Sn**	**01 46 08.6**	**-0.1**
	comp=N,3.9nm,0.3s,baz=246,slow=20,SNR=4.5						
PLCA	**Paso Flores** comp=N,26nm,0.5s	**6.57**	**168**	*e* Pn	**Pn**	**01 44 55.3**	**+0.8**
PLCA				Sn	**Sn**	**01 46 08.6**	**-0.1**
TRQA	**Tornquist** comp=N,15nm,1.0s	**9.20**	**117**	*e* Pn	**Pn**	**01 45 31.1**	**+0.6**
TRQA				eLg	Lg	01 48 07.2	
LVC	**Limon Verde** comp=N,11nm,0.3s,baz=212,slow=2.1,SNR=3.5	**12.05**	**16**	Pn	**Pn**	**01 46 09.6**	**-0.3**
LVC				LR	LR	01 51 45.2	
	comp=N,614nm,20.2s,baz=204,slow=42						
CPUP	**Villa Florida** comp=N,2μm,20.6s,baz=235,slow=39	**15.23**	**63**	LR	LR	01 53 11.2	
CPUP	**Villa Florida**	**15.23**	**63**	*e* Pn	**Pn**	**01 46 52.8**	**-0.1**
LPAZ	**La Paz** comp=N,0.3nm,0.3s,baz=196,slow=8.9,SNR=16	**18.36**	**13**	P	**Pn**	**01 47 33.4**	**+0.3**
LPAZ	**La Paz** comp=N,3.2nm,0.6s	**18.36**	**13**	*e* P	**Pn**	**01 47 33.5**	**+0.5**
SIV	**San Ignacio** comp=N,6.2nm,0.7s,baz=222,slow=12,SNR=18	**20.89**	**32**	P	**P**	**01 47 59.6**	**-0.5**
SIV				LR	LR	01 57 37.6	
	comp=N,218nm,19.4s,baz=227,slow=41						
SAML	**Samuel** comp=N,2.8nm,0.9s	**26.63**	**21**	*e* P	**P**	**01 48 56.1**	**-0.1**
ATAH	**Atahualpa** comp=N,77nm,18.2s,baz=214,slow=33	**27.62**	**347**	LR	LR	01 58 38.4	
BDFB	**Brasilia** comp=N,1.7nm,0.6s,baz=225,slow=14,SNR=3.6	**28.75**	**56**	P	**P**	**01 49 13.5**	**-1.9**
BDFB	comp=N,137nm,21.4s,baz=288,slow=39			LR	LR	02 01 46.5	
OTAV	**Otavalo** comp=N,1.7nm,0.8s	**34.84**	**349**	*e* P	**P**	**01 50 08.9**	**-0.4**
PTGA	**Pitinga** comp=N,1.7nm,0.3s,baz=189,slow=10,SNR=4.5	**35.38**	**22**	P	**P**	**01 50 12.6**	**-0.7**
ROSC	**El Rosal** comp=N,59nm,19.9s,baz=16,slow=36	**39.01**	**357**	LR	LR	02 06 57.7	
SDV	**Santo Domingo** comp=N,7.5nm,1.0s	**43.00**	**3**	*e* P	**P**	**01 51 17.5**	**+0.3**
VNA3	**Neumayer Olymp**	**49.17**	**158**	P	**P**	**01 52 06.0**	**+0.9**
VNA2	**Neumayer--Watz** baz=288,slow=8.7	**49.83**	**157**	P	**P**	**01 52 10.9**	**+0.8**
SNAA	**Sanae**	**51.40**	**158**	P	**P**	**01 52 23.2**	**+1.2**
SNAA	**Sanae** comp=N,1.1nm,0.8s,baz=307,slow=9.5,SNR=11	**51.40**	**158**	P	**P**	**01 52 22.1**	**+0.1**
SNAA	**Sanae** comp=N,11nm,1.1s	**51.40**	**158**	*e* P	**P**	**01 52 22.3**	**+0.3**
SDDR	**Presa de Saban**	**53.01**	**1**	*e* P	**P**	**01 52 34.9**	**+0.4**
QSPA	**South Pole Qui** comp=N,2.8nm,0.9s,baz=87,slow=22,SNR=17	**55.92**	**180**	P	**P**	**01 52 56.1**	**+0.8**
QSPA	**South Pole Qui** comp=N,13nm,1.0s	**55.92**	**180**	*e* P	**P**	**01 52 56.2**	**+0.9**
VNDA	**Vanda** comp=N,3.1nm,1.4s	**63.73**	**191**	*e* P	**P**	**01 53 49.3**	**+0.6**
GOGA	**Godfrey**	**68.17**	**350**	*e* P	**P**	**01 54 17.4**	**-0.2**
LRAL	**Lakeview Retre**	**68.39**	**347**	*e* P	**P**	**01 54 18.4**	**-0.6**
TXAR	**Lajitas Array** comp=N,0.4nm,0.6s,baz=144,slow=9.3,SNR=3.6	**69.88**	**331**	P	**P**	**01 54 30.4**	**+2.0**
WVT	**Waverly** comp=N,5.1nm,0.8s	**71.56**	**347**	*e* P	**P**	**01 54 38.2**	**-0.2**
WMOK	**Wichita Mounta** comp=N,1.9nm,0.5s	**73.01**	**337**	*e* P	**P**	**01 54 47.3**	**+0.1**
DBIC	**Dimbokro** comp=N,5.6nm,1.1s,baz=235,slow=4.7,SNR=4.5	**75.55**	**71**	P	**P**	**01 55 02.3**	**-0.1**
DBIC	comp=N,32nm,18.8s,baz=180,slow=34			LR	LR	02 26 26.2	
ANMO	**Albuquerque** comp=N,1.7nm,1.0s	**75.93**	**332**	*e* P	**P**	**01 55 04.6**	**+0.2**
LBTB	**Lobatse** comp=N,4.0nm,0.6s	**82.43**	**115**	*e* P	**P**	**01 55 40.1**	**-0.1**
DUG	**Dugway, Tooele** comp=N,4.7nm,1.3s	**83.00**	**330**	*e* P	**P**	**01 55 42.3**	**-0.4**
HWUT	**Hardware Ranch** comp=N,1.5nm,0.7s	**83.69**	**332**	*e* P	**P**	**01 55 45.4**	**-0.9**
NVAR	**Mina Array Bea** comp=N,0.1nm,0.3s,baz=114,slow=6.0,SNR=2.7	**83.98**	**325**	P	**P**	**01 55 49.4**	**+1.5**
TOA0	**Torodi Ar. Sit**	**84.58**	**70**	*e* P	**P**	**01 55 51.2**	**0.0**
TORD	**Torodi Ar. Bea** comp=N,2.0nm,0.9s,baz=295,slow=7.5,SNR=13	**84.58**	**70**	P	**P**	**01 55 51.1**	**0.0**
TORD	comp=N,51nm,18.3s,baz=170,slow=35			LR	LR	02 32 36.9	
WRA	**Warramunga Ar** comp=N,0.3nm,0.5s,baz=162,slow=1.4,SNR=3.6	**120.35**	**209**	PKP	**PKPdf**	**02 02 08.0**	**-1.3**
BVAR	**Borovoye Array** comp=N,1.2nm,0.5s,baz=311,slow=2.7,SNR=8.7	**147.71**	**43**	PKPbc	**PKPbc**	**02 03 02.0**	**+0.4**
KURK	**Kurchatov**	**153.30**	**43**	*e*PKPbc	**PKPbc**	**02 03 14.9**	**-0.2**
KURK				*e*PKPab	**PKPab**	**02 03 26.2**	**-0.8**
TKM2	**Tokmak 2**	**153.67**	**61**	*e*PKPab	**PKPab**	**02 03 28.7**	**-0.5**
ZALV	**Zalesovo Beam** comp=N,0.9nm,0.5s,baz=289,slow=4.5,SNR=6.7	**154.65**	**32**	PKPbc	**PKPbc**	**02 03 17.3**	**-0.5**
ZALV	comp=N,1.4nm,0.5s,baz=280,slow=3.2,SNR=6.4			PKPab	**PKPab**	**02 03 30.0**	**-2.6**
MKAR	**Makanchi Array** comp=N,0.3nm,0.5s,baz=326,slow=1.5,SNR=3.2	**157.19**	**49**	PKPab	**PKPab**	**02 03 43.6**	**-0.2**

*ISN **08** 01:46:25.5±1.9, 39.38N×40.81E, h0km±6km, ML3.7*
*ISK **08** 01:46:27.8, 38.79N×40.06E, h5km, ML3.5*
*CSEM **08** 01:46:28.8±0.1, 38.76N×40.10E, h2km, ML3.5, Error ellipse: s-maj=3.9km s-min=3.6km az=104.0*
*DDA **08** 01:46:28.7, 38.80N×40.05E, h19km, ML4.1*

ISC 08 01:46:29.4±1.1, 38.79N±0.02×40.06E±0.02, h6km±9km, n112, σ0°86/138, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGB	**Bing˜¶l**	**0.53**	**67**	*e*PG	**Pg**	**01 46 38.9**	**-0.6**
BNGB				*e*SG	**Sb**	**01 46 47.5**	**-1.5**
PTK	**Pertek**	**0.53**	**282**	PG	**Pg**	**01 46 38.9**	**-0.8**
PTK				SG	**Sg**	**01 46 47.8**	**+1.1**
PTK	**Pertek**	**0.53**	**282**	*i* Pg	**Pg**	**01 46 38.9**	**-0.8**
PTK				*i* Sg	**Sg**	**01 46 47.8**	**+1.1**
SVRC	**Sivrice-ELAZID**	**0.72**	**236**	*e*PG	**Pg**	**01 46 43.1**	**-0.1**
SVRC	**Sivrice-ELAZID**	**0.72**	**236**	*e*PG	**Pg**	**01 46 43.1**	**-0.1**
SVRC	**Sivrice-ELAZID**	**0.72**	**236**	*e*Pg	**Pg**	**01 46 43.1**	**-0.1**
DYBB	**Diyarbakir**	**0.83**	**176**	*e*PG	**Pg**	**01 46 45.6**	**+0.2**
DYBB	**Diyarbakir**	**0.83**	**176**	*e*PG	**Pg**	**01 46 45.6**	**+0.2**
ERZN	**Erzincan**	**0.84**	**342**	*e*PG	**Pg**	**01 46 45.0**	**-0.6**
ERZN	**Erzincan**	**0.84**	**342**	*e*PG	**Pg**	**01 46 45.0**	**-0.6**
DIYA	**Diyarbakir**	**0.86**	**177**	*i* P	**Pb**	**01 46 46.4**	**-0.4**
DIYA				*i* S	**Sb**	**01 46 58.4**	**-0.2**
DIYA	**Diyarbakir**	**0.86**	**177**	*i* P	**Pb**	**01 46 46.4**	**-0.4**
DIYA				*i* S	**Sb**	**01 46 58.4**	**-0.2**
BNGL	**BINGOL**	**0.87**	**79**	*i* P	**Pg**	**01 46 44.5**	**-1.5**
BNGL				*i* S	**Sb**	**01 46 59.2**	**+0.3**
ELZG	**Elazig**	**0.89**	**252**	*i* P	**Pg**	**01 46 45.3**	**-1.2**
ELZG				*i* S	**Sb**	**01 46 59.3**	**-0.2**
ELZG	**Elazig**	**0.89**	**252**	*i* P	**Pg**	**01 46 45.3**	**-1.2**
ELZG				*i* S	**Sb**	**01 46 59.3**	**-0.2**
DIY	**Diyarbakir**	**0.90**	**172**	*e*Pg	**Pg**	**01 46 45.6**	**-1.0**
EUZM	**Uzumlu**	**0.96**	**343**	*i* P	**Pg**	**01 46 46.7**	**-1.2**
EUZM				*i* S	**Sg**	**01 47 00.7**	**+0.3**
EUZM	**Uzumlu**	**0.96**	**343**	*i* P	**Pg**	**01 46 46.7**	**-1.2**
EUZM				*i* S	**Sg**	**01 47 00.7**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.09**	**125**	*e*PN	**Pg**	**01 46 49.9**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.09**	**125**	*e*PN	**Pg**	**01 46 49.9**	**-0.5**
VRTB	**Varto-Mus**	**1.15**	**71**	*e*PN	**Pg**	**01 46 50.8**	**-0.7**
VRTB	**Varto-Mus**	**1.15**	**71**	*e*PN	**Pg**	**01 46 50.8**	**-0.7**
VRTB	**Varto-Mus**	**1.15**	**71**	*e*Pn	**Pg**	**01 46 50.8**	**-0.7**
BTMT	**Batman**	**1.27**	**117**	*e*PN	**Pn**	**01 46 53.2**	**-0.5**
BTMT	**Batman**	**1.27**	**117**	*e*PN	**Pn**	**01 46 53.2**	**-0.5**
BTMT	**Batman**	**1.27**	**117**	*e*Pn	**Pn**	**01 46 53.2**	**-0.5**
KOPT	**Kop Dagi**	**1.28**	**15**	*i* P	**Pn**	**01 46 53.0**	**-1.0**
KOPT				*i* S	**Sn**	**01 47 12.0**	**+0.4**
KOPT	**Kop Dagi**	**1.28**	**15**	*i* P	**Pn**	**01 46 53.0**	**-1.0**
KOPT				*i* S	**Sn**	**01 47 12.0**	**+0.4**
BEST	**Besiri**	**1.30**	**133**	*i* P	**Pn**	**01 46 53.2**	**-1.0**
BEST				*i* S	**Sb**	**01 47 10.1**	**-1.2**
ILIC	**ilic-Erzincan**	**1.34**	**300**	*e*PN	**Pg**	**01 46 55.3**	**+0.2**
ILIC	**ilic-Erzincan**	**1.34**	**300**	*e*PN	**Pg**	**01 46 55.3**	**+0.2**
ILIC	**ilic-Erzincan**	**1.34**	**300**	*e*Pn	**Pg**	**01 46 55.3**	**+0.2**
MAZI	**Mazidag**	**1.36**	**167**	*e*PN	**Pn**	**01 46 54.1**	**-0.9**
MAZI	**Mazidag**	**1.36**	**167**	*e*PN	**Pn**	**01 46 54.1**	**-0.9**
MAZI	**Mazidag**	**1.36**	**167**	*e*Pn	**Pn**	**01 46 54.1**	**-0.9**
MALT	**Malatya**	**1.36**	**250**	*e*PN	**Pn**	**01 46 55.0**	**0.0**
MALT	**Malatya**	**1.36**	**250**	*e*PN	**Pn**	**01 46 55.0**	**0.0**
MALT	**Malatya**	**1.36**	**250**	*e*Pn	**Pn**	**01 46 55.0**	**0.0**
KELT	**Kelkit**	**1.50**	**336**	*i* P	**Pn**	**01 46 56.1**	**-0.9**
KELT				*i* S	**Sn**	**01 47 16.6**	**-0.3**
KELT	**Kelkit**	**1.50**	**336**	*i* P	**Pn**	**01 46 56.1**	**-0.9**
KELT				*i* S	**Sn**	**01 47 16.6**	**-0.3**
EZM	**Erzurum**	**1.51**	**42**	*e*PN	**Pb**	**01 46 57.6**	**-0.3**
EZM	**Erzurum**	**1.51**	**42**	*e*PN	**Pb**	**01 46 57.6**	**-0.3**
ERZM	**Erzurum**	**1.51**	**42**	*i* P	**Pn**	**01 46 56.6**	**-0.6**
ERZM	**Erzurum**	**1.51**	**42**	*i* P	**Pn**	**01 46 56.6**	**-0.6**
MARD	**Mardin**	**1.57**	**159**	*i* P	**Pn**	**01 46 57.4**	**-0.5**
MARD				*i* S	**Sn**	**01 47 18.1**	**-0.6**
BAYT	**Ayd˜¬ntepe-Bay**	**1.61**	**2**	*e*PN	**Pn**	**01 46 58.6**	**+0.1**
BAYT	**Ayd˜¬ntepe-Bay**	**1.61**	**2**	*e*PN	**Pn**	**01 46 58.6**	**+0.1**
BAYT	**Ayd˜¬ntepe-Bay**	**1.61**	**2**	*e*Pn	**Pn**	**01 46 58.6**	**+0.1**
EKAR	**Karacoban**	**1.63**	**73**	*i* P	**Pn**	**01 46 58.5**	**-0.3**
EKAR	**Karacoban**	**1.63**	**73**	*i* P	**Pn**	**01 46 58.5**	**-0.3**
EKAR				*i* S	Sg	01 47 27.8	+6.0
URFA	**Urfa**	**1.66**	**216**	*e*PN	**Pn**	**01 46 59.0**	**-0.1**
URFA	**Urfa**	**1.66**	**216**	*e*PN	**Pn**	**01 46 59.0**	**-0.1**
URFA	**Urfa**	**1.66**	**216**	*e*Pn	**Pn**	**01 46 59.0**	**-0.1**
GUMT	**Gumushane**	**1.73**	**345**	*e*PN	**Pn**	**01 47 00.6**	**+0.5**
GUMT	**Gumushane**	**1.73**	**345**	*e*PN	**Pn**	**01 47 00.6**	**+0.5**
GUMT	**Gumushane**	**1.73**	**345**	*e*Pn	**Pn**	**01 47 00.6**	**+0.5**
AKCD	**Akcadag**	**1.75**	**254**	*i* P	**Pn**	**01 46 58.7**	**-1.6**
AKCD				*i* S	**Sg**	**01 47 25.1**	**-0.4**
AKCD	**Akcadag**	**1.75**	**254**	*i* P	**Pn**	**01 46 58.7**	**-1.6**
AKCD				*i* S	**Sg**	**01 47 25.1**	**-0.4**
HOMI	**Horasan**	**1.90**	**48**	*i* P	**Pb**	**01 47 04.2**	**-0.5**
HOMI				*i* S	**Sg**	**01 47 32.4**	**+1.8**
ATAB	**Bozova**	**1.91**	**227**	*i* P	**Pn**	**01 47 02.3**	**-0.2**
ATAB				*i* S	**Sn**	**01 47 27.1**	**+0.2**
ATAB	**Bozova**	**1.91**	**227**	*i* P	**Pn**	**01 47 02.3**	**-0.2**
ATAB				*i* S	**Sn**	**01 47 27.1**	**+0.2**
SUSE	**Susehri**	**2.02**	**315**	*i* P	**Pb**	**01 47 05.6**	**-1.0**
SUSE				*i* S	**Sb**	**01 47 33.0**	**+0.9**
SUSE	**Susehri**	**2.02**	**315**	*i* P	**Pb**	**01 47 05.6**	**-1.0**
SUSE				*i* S	**Sb**	**01 47 33.0**	**+0.9**
DARE	**Darende-Malaty**	**2.03**	**265**	*e*PN	**Pn**	**01 47 04.9**	**+0.7**
DARE	**Darende-Malaty**	**2.03**	**265**	*e*PN	**Pn**	**01 47 04.9**	**+0.7**
DARE	**Darende-Malaty**	**2.03**	**265**	*e*Pn	**Pn**	**01 47 04.9**	**+0.7**
MACK	**Trabzon**	**2.17**	**354**	*i* P	**Pn**	**01 47 06.3**	**+0.2**
MACK				*i* S	**Sg**	**01 47 38.6**	**-0.4**
MACK	**Trabzon**	**2.17**	**354**	*i* P	**Pn**	**01 47 06.3**	**+0.2**
MACK				*i* S	**Sg**	**01 47 38.6**	**-0.4**
EATA	**Eleskirt**	**2.17**	**60**	*i* P	**Pb**	**01 47 09.2**	**0.0**
EATA	**Eleskirt**	**2.17**	**60**	*i* P	**Pb**	**01 47 09.2**	**0.0**
EATA				*i* S	**Sg**	**01 47 43.9**	**+4.7**
KTUT	**Trabzon**	**2.21**	**354**	*e*PN	**Pn**	**01 47 07.9**	**+1.3**
KTUT	**Trabzon**	**2.21**	**354**	*e*PN	**Pn**	**01 47 07.9**	**+1.3**
KTUT	**Trabzon**	**2.21**	**354**	*e*Pn	**Pn**	**01 47 07.9**	**+1.3**
SIRN	**S˜¬rnak**	**2.26**	**124**	*i* P	**Pn**	**01 47 07.9**	**+0.6**
SIRN	**S˜¬rnak**	**2.26**	**124**	*i* P	**Pn**	**01 47 07.9**	**+0.6**
SIRN				*i* S	**Sg**	**01 47 42.7**	**+0.8**
ESPY	**Espiye-Giresun**	**2.36**	**335**	*e*PN	**Pn**	**01 47 09.0**	**+0.3**
ESPY	**Espiye-Giresun**	**2.36**	**335**	*e*PN	**Pn**	**01 47 09.0**	**+0.3**
ESPY	**Espiye-Giresun**	**2.36**	**335**	*e*Pn	**Pn**	**01 47 09.0**	**+0.3**
GEVA	**Gevas**	**2.40**	**100**	*i* P	**Pn**	**01 47 08.9**	**-0.4**
GEVA	**Gevas**	**2.40**	**100**	*i* P	**Pn**	**01 47 08.9**	**-0.4**
GEVA				*i* S	**Sg**	**01 47 47.7**	**+1.3**
AGRB	**Hanur-Agry**	**2.41**	**70**	*e*PN	**Pn**	**01 47 09.8**	**+0.3**
AGRB	**Hanur-Agry**	**2.41**	**70**	*e*PN	**Pn**	**01 47 09.8**	**+0.3**
AGRB	**Hanur-Agry**	**2.41**	**70**	*e*Pn	**Pn**	**01 47 09.8**	**+0.3**
GRSN	**GIRESUNGRSN**	**2.54**	**328**	*i* P	**Pb**	**01 47 14.4**	**-1.0**
GRSN	**GIRESUNGRSN**	**2.54**	**328**	*i* P	**Pb**	**01 47 14.4**	**-1.0**
DBAD	**Bademkaya**	**2.56**	**29**	*i* P	**Pn**	**01 47 11.1**	**-0.4**
DBAD				*i* S	**Sn**	**01 47 43.8**	**+0.8**
DBAD	**Bademkaya**	**2.56**	**29**	*i* P	**Pn**	**01 47 11.1**	**-0.4**
DBAD				*i* S	**Sn**	**01 47 43.8**	**+0.8**
SVSK	**Karacayir**	**2.63**	**296**	*e*PN	**Pn**	**01 47 13.1**	**+0.8**
SVSK	**Karacayir**	**2.63**	**296**	*e*PN	**Pn**	**01 47 13.1**	**+0.8**
SVSK	**Karacayir**	**2.63**	**296**	*e*Pn	**Pn**	**01 47 13.1**	**+0.8**
TVAN	**Van**	**2.63**	**95**	*i* P	**Pg**	**01 47 20.2**	**+0.4**
RSDY	**Resadiye-TOKAT**	**2.66**	**308**	*e*PN	**Pn**	**01 47 13.1**	**+0.4**
RSDY	**Resadiye-TOKAT**	**2.66**	**308**	*e*PN	**Pn**	**01 47 13.1**	**+0.4**
RSDY	**Resadiye-TOKAT**	**2.66**	**308**	*e*Pn	**Pn**	**01 47 13.1**	**+0.4**
DAGI	**Agillar**	**2.70**	**31**	*i* P	**Pn**	**01 47 13.1**	**-0.3**
DAGI				*i* S	**Sb**	**01 47 50.2**	**-1.2**
KMRS	**Kahramanmaras**	**2.80**	**244**	*e*PN	**Pn**	**01 47 15.7**	**+1.0**
KMRS	**Kahramanmaras**	**2.80**	**244**	*e*

6.6nm,0.6s
SNAA eSn Sn 02 40 42.0 -19
QSPA South Pole Qui 29.72 180 P **P 02 41 03.7 -1.4**
3.7nm,0.7s,baz=206,slow=1.8,SNR=31
QSPA S **S 02 46 01.9 +2.0**
1.8nm,1.1s,baz=328,slow=22,SNR=7.5
QSPA South Pole Qui 29.72 180 eP **P 02 41 04.5 -0.6**
12nm,1.1s
QSPA S **S 02 46 01.9 +2.0**
TRQA Tornquist 32.02 298 eP **P 02 41 25.9 +0.5**
3.0nm,0.7s
PLCA Paso Flores 33.80 285 P **P 02 41 41.2 +0.2**
0.8nm,0.5s,baz=124,slow=3.6,SNR=2.7
PLCA S **S 02 47 06.0 +2.2**
0.4nm,0.4s,baz=270,slow=20,SNR=3.3
PLCA LR LR 02 54 56.1
comp=Z,50nm,18.3s,baz=136,slow=36
MAW Mawson 36.12 139 P **P 02 42 00.4 -0.2**
2.2nm,0.7s,baz=228,slow=5.9,SNR=3.7
MAW LR LR 02 55 13.9
comp=Z,94nm,19.4s,baz=240,slow=34
CFAA Coronel Fontan 40.20 296 P **P 02 42 34.3 -1.2**
0.2nm,0.5s,baz=157,slow=4.7,SNR=4.1
CPUP Villa Florida 40.45 313 P **P 02 42 36.3 -1.2**
0.2nm,0.5s,baz=90,slow=20,SNR=3.4
CPUP LR LR 02 57 56.0
comp=Z,202nm,21.6s,baz=174,slow=34
CPUP Villa Florida 40.45 313 eP **P 02 42 37.1 -0.4**
0.1nm,1.0s
VNDA Vanda 42.13 182 P **P 02 42 50.3 -0.5**
2.2nm,1.0s,baz=210,slow=7.2,SNR=7.2
VNDA Vanda 42.13 182 eP **P 02 42 50.7 -0.1**
6.3nm,1.3s
LCO Las Campanas 43.52 296 eP **P 02 43 02.4 -0.5**
28nm,1.2s
BDFB Brasilia 47.67 330 LR LR 03 01 01.4
comp=Z,47nm,20.5s,baz=227,slow=33
H10S2 ASCENSION HYDR 52.10 14 T T 03 41 06.6
baz=187,slow=74,SNR=11
H10S3 ASCENSION HYDR 52.11 14 T T 03 41 15.2
baz=187,slow=74,SNR=11
H10S1 ASCENSION HYDR 52.12 14 T T 03 41 06.6
baz=187,slow=74,SNR=11
H10N1 ASCENSION HYDR 53.22 14 T T 03 42 24.3
baz=181
H10N3 ASCENSION HYDR 53.22 14 T T 03 42 30.8
baz=181,slow=74,SNR=9.2
H10N2 ASCENSION HYDR 53.24 14 T T 03 42 32.5
baz=181,slow=74,SNR=5.6
LPAZ La Paz 53.68 306 P **P 02 44 21.3 -0.2**
0.5nm,0.4s,baz=152,slow=4.0,SNR=4.3
LPAZ LR LR 03 08 39.6
comp=Z,21nm,19.9s,baz=238,slow=38
LPAZ La Paz 53.68 306 eP **P 02 44 20.7 -0.8**
1.4nm,0.7s
SAML Samuel 58.56 315 eP **P 02 44 55.1 -0.5**
1.4nm,0.8s
DBIC Dimbokro 68.95 22 P **P 02 46 04.5 +0.4**
7.7nm,1.2s,baz=156,slow=10.0,SNR=2.5
TOA0 Torodi Ar. Sit 76.60 27 eP **P 02 46 50.7 +1.2**
TORD Torodi Ar. Bea 76.60 27 P **P 02 46 50.9 +1.4**
1.6nm,0.6s,baz=197,slow=5.7,SNR=30
ASAR Alice Springs 94.47 161 P **P 02 48 17.3 -2.0**
0.3nm,0.8s,baz=174,slow=3.7,SNR=4.1
AS31 Alice Springs 94.47 161 eP **P 02 48 19.0 -0.3**
TKM2 Tokmak 2 131.32 74 ePKPdf **PKPdf 02 54 11.2 +0.5**
MK31 Makanchi Array 137.38 75 ePKPdf **PKPdf 02 54 22.4 +0.8**
YKA Yellowknife Ar 139.97 314 PKP **PKPdf 02 54 26.8 +1.1**
0.5nm,0.9s,baz=128,slow=2.4,SNR=5.5
INK Inuvik 149.70 315 PKPbc **PKPbc 02 54 46.5 -0.6**
1.7nm,0.8s,baz=66,slow=1.6,SNR=8.9
INK Inuvik 149.70 315 ePKPbc **PKPbc 02 54 46.8 -0.2**
INK ePKPab **PKPab 02 54 51.7 -0.8**
ILAR Eielson Array 153.55 305 PKPbc **PKPbc 02 54 56.3 +0.3**
0.6nm,0.9s,baz=161,slow=0.9,SNR=6.0

*ISCJB **08** 02:39:08.0±0.3, 13°.41N±0°.04×91°.08W±0°.03, h29km, mb4.1/35, MS3.2/3, Error ellipse: s-maj=5.8km s-min=2.6km az=30.8*
*BJI **08** 02:39:11.5, 13°.50N×91°.00W, h48km, mB5.1/2, Ms7 5.1/1*
*IDC **08** 02:39:11.7±1.9, 13°.79N×90°.71W, h67km±17km, mb3.5/11, mb1 3.8/14, mb1mx3.7/28, mbtmp3.9/14, MS3.2/3, Ms1 3.2/3, ms1mx2.8/20, Error ellipse: s-maj=29.0km s-min=10.2km az=44.0*
*NEIC **08** 02:39:11.5±1.3, 13°.45N×91°.02W, h48km±12km, mb4.2/28, Error ellipse: s-maj=11.1km s-min=5.7km az=224.0*
NEIC Felt [II] at San Salvador, El Salvador.
*CASC **08** 02:39:11.1±2.0, 13°.55N×90°.86W, h18km±10km, MD4.0, ML4.8, mb4.2(NEIC)*
ISC 08 02:39:09.1±0.5, 13°.48N±0°.05×91°.02W±0°.05, h29km, n191, σ1§33/189, mb4.1/35, MS3.0/3, 49C-53D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**0.98**	**10**	‖eP	**Pn**	**02 39 27.2**	**+0.1**
PCG	**Pacaya**	**0.99**	**23**	eP	**Pn**	**02 39 27.4**	**+0.1**
JAT	**Jato**	**1.03**	**324**	‖eP	**Pn**	**02 39 28.6**	**+1.0**
NBG	**Las Nubes**	**1.28**	**30**	eP	**Pn**	**02 39 32.4**	**+1.1**
NBG				eS	**Sb**	**02 39 48.6**	**-0.4**
SBLS	**San Blas**	**1.40**	**75**	eP	**Pn**	**02 39 33.1**	**+0.2**
RBDL	**Robledal**	**1.44**	**64**	eP	**Pn**	**02 39 33.8**	**+0.4**
BOQS	**Boqueron**	**1.71**	**81**	eP	**Pn**	**02 39 37.9**	**+0.8**
BOQS				eS	**Sn**	**02 39 58.8**	**+0.6**
SNET	**Serv Nac Est T**	**1.75**	**83**	eS	**Sn**	**02 39 59.3**	**+0.4**
SNET				AML	AML	02 40 02.8	
comp=Z,18μm,0.4s							
LFRS	**El Faro**	**1.91**	**85**	eP	**Pn**	**02 39 40.7**	**+0.9**
LBRS	**Las Brisas**	**1.94**	**82**	eP	**Pn**	**02 39 41.4**	**+1.3**
MRL	**Marmol**	**2.04**	**39**	eP	**Pn**	**02 39 42.8**	**+1.2**
MRL				eP	**Pb**	**02 39 43.4**	**-2.1**
SNVI	**San Vicente**	**2.12**	**86**	eP	**Pn**	**02 39 44.3**	**+1.5**
SNVI				eS	**Sn**	**02 40 09.4**	**+1.2**
VSM	**San Miguel**	**2.67**	**91**	eP	**Pn**	**02 39 51.7**	**+1.3**
CNCH	**Conchagua**	**3.10**	**93**	eP	**Pn**	**02 39 56.9**	**+0.6**
COPN	**Copaltepe**	**4.50**	**106**	eP	**Pn**	**02 40 16.4**	**+1.0**
CMIG	**Matias Romero**	**5.18**	**314**	P	**Pn**	**02 40 26.9**	**+2.1**
comp=Z,18nm,0.3s,baz=133,slow=10,SNR=44							
CMIG				S	**Sn**	**02 41 23.2**	**-0.4**
comp=Z,21nm,0.3s,baz=51,slow=20,SNR=6.4							
VCR	**Vista de Mar**	**6.24**	**122**	eP	Pn	02 40 42.5	+3.2
JTS	**JuntasAbangare**	**6.73**	**117**	P	**Pn**	**02 40 48.3**	**+2.3**
comp=Z,5.3nm,0.3s,baz=311,slow=20,SNR=24							
JTS				S	**Sn**	**02 42 00.2**	**-1.6**
comp=Z,3.4nm,0.3s,baz=257,slow=19,SNR=1.9							
JTS	**JuntasAbangare**	**6.73**	**117**	ePn	**Pn**	**02 40 48.8**	**+2.8**
JTS				eSn	**Sn**	**02 42 01.5**	**-0.2**
JTS				eLg	Lg	02 42 19.5	
JCR	**Jicaral**	**6.81**	**121**	eP	Pn	02 40 50.7	+3.4
TEIG	**Tepich**	**7.21**	**21**	P	**Pn**	**02 40 52.8**	**+0.2**
comp=Z,14nm,0.3s,baz=256,slow=1.6,SNR=88							
TEIG	**Tepich**	**7.21**	**21**	ePn	**Pn**	**02 40 53.9**	**+1.4**
TEIG				eSn	**Sn**	**02 42 14.2**	**+0.7**
CGA2	**Cerro Gallo 2**	**7.28**	**118**	eP	Pn	02 40 57.7	+4.0
URSC	**Urasca**	**7.96**	**116**	eP	Pn	02 41 08.7	+5.6
URSC				eS	**Sn**	**02 42 32.8**	**+0.5**
BUS	**Buena Vista**	**8.11**	**118**	eP	Pn	02 41 09.8	+4.4
BUS				eS	**Sn**	**02 42 38.3**	**+1.9**
034A	**Hebbronville**	**15.30**	**333**	‖P	**P**	**02 42 47.3**	**-0.4**
baz=15							
934A	**Benavides**	**15.70**	**335**	‖P	**P**	**02 42 52.5**	**+0.3**
baz=16							
736A	**Circle Diamond**	**16.40**	**341**	‖P	**P**	**02 42 60.0**	**+0.2**
baz=16							
735A	**Kenedy**	**16.55**	**339**	‖P	**P**	**02 43 02.5**	**+0.9**
baz=17							
833A	**Chaparral WMA,**	**16.71**	**333**	‖P	**P**	**02 43 04.5**	**+1.3**
baz=17							
636A	**Smothers Creek**	**16.88**	**342**	‖P	**P**	**02 43 05.9**	**+0.7**
baz=17							
832A	**Faith Ranch, C**	**16.93**	**332**	‖P	**Pn**	**02 43 05.9**	**+1.8**
baz=17							
HKT	**Hockley**	**16.99**	**346**	ePn	**Pn**	**02 43 05.2**	**+0.5**
733A	**Divot King Ran**	**17.01**	**334**	‖P	**P**	**02 43 07.9**	**+1.3**
baz=17							
732A	**Laxson Ranch,**	**17.31**	**333**	‖P	**P**	**02 43 10.9**	**+1.0**
baz=17							
535A	**Dale**	**17.55**	**341**	‖P	**P**	**02 43 13.6**	**+0.9**
baz=18							
633A	**Saathoff Ranch**	**17.61**	**336**	‖P	**P**	**02 43 14.6**	**+1.3**
baz=18							
438A	**Sam Houston St**	**17.68**	**347**	‖P	**P**	**02 43 15.0**	**+1.0**
baz=18							
534A	**Blanco**	**17.86**	**338**	‖P	**P**	**02 43 17.2**	**+1.1**
baz=18							
632A	**Uvalde**	**17.90**	**334**	‖P	**P**	**02 43 17.5**	**+1.0**
baz=18							
339A	**Huntington**	**18.07**	**350**	‖P	**P**	**02 43 20.6**	**+2.3**
baz=18							
533A	**Kerrville**	**18.10**	**337**	‖P	**P**	**02 43 20.7**	**+2.0**
baz=18							
OTAV	**Otavalo**	**18.11**	**136**	ePn	**P**	**02 43 20.8**	**+1.4**
338A	**Crockett**	**18.23**	**348**	‖P	**P**	**02 43 21.8**	**+1.8**
baz=18							
337A	**Centerville**	**18.31**	**347**	‖P	**Pn**	**02 43 23.1**	**+2.1**
baz=18							
532A	**Rocksprings**	**18.50**	**335**	‖P	**Pn**	**02 43 26.3**	**+2.9**
baz=19							
NATX	**Nacogdoches**	**18.50**	**350**	eP	**Pn**	**02 43 24.4**	**+1.1**
comp=Z,21nm,0.7s							
434A	**Burnet**	**18.50**	**340**	‖P	**Pn**	**02 43 24.7**	**+1.2**
baz=19							
335A	**Moody**	**18.68**	**343**	‖P	**Pn**	**02 43 27.4**	**+1.9**
baz=19							
433A	**Art**	**18.74**	**338**	‖P	**Pn**	**02 43 27.4**	**+1.1**
baz=19							
JCT	**Junction City**	**18.77**	**336**	eP	**P**	**02 43 27.0**	**+1.0**
JCT	**Junction City**	**18.77**	**336**	‖P	**Pn**	**02 43 28.0**	**+1.4**
baz=19							
531A	**Rocksprings**	**18.80**	**334**	‖P	**Pn**	**02 43 28.8**	**+1.7**
baz=19							
334A	**Lometa**	**18.97**	**341**	‖P	**P**	**02 43 29.3**	**+1.0**
baz=19							
432A	**Menard**	**19.11**	**336**	‖P	**Pn**	**02 43 32.3**	**+1.4**
baz=19,SNR=5.6							
TIGA	**Tifton**	**19.14**	**20**	eP	**Pn**	**02 43 31.4**	**+0.4**
comp=Z,18nm,1.0s							
TIGA	**Tifton**	**19.14**	**20**	‖P	**Pn**	**02 43 32.3**	**+1.3**
baz=19							
530A	**J-O Ranch, Com**	**19.14**	**332**	‖P	**Pn**	**02 43 32.6**	**+1.4**
baz=19,SNR=5.1							
333A	**Richland Sprin**	**19.22**	**339**	‖P	**P**	**02 43 32.1**	**+1.1**
baz=19							
431A	**Sonora**	**19.27**	**334**	‖P	**Pn**	**02 43 33.6**	**+0.9**
baz=19							
WHTX	**Lake Whitney,**	**19.35**	**343**	‖P	**Pn**	**02 43 35.3**	**+1.7**
baz=20							
529A	**Stev Forest Ra**	**19.54**	**330**	‖P	**Pn**	**02 43 37.2**	**+1.3**
baz=20							
332A	**Millersview**	**19.55**	**337**	‖P	**Pn**	**02 43 36.4**	**+0.4**
baz=20,SNR=5.2							
430A	**Baggett Ranch,**	**19.64**	**333**	‖P	**P**	**02 43 37.3**	**+1.8**
baz=20							
TXAR	**Lajitas Array**	**19.66**	**325**	P	**P**	**02 43 35.9**	**-0.1**
comp=Z,0.4nm,0.3s,baz=148,slow=12,SNR=16							
TX31	**Lajitas Ar. Si**	**19.66**	**325**	eP	**P**	**02 43 37.0**	**+1.1**
331A	**San Angelo**	**19.75**	**336**	‖P	**Pn**	**02 43 39.0**	**+0.6**
baz=20							
429A	**Davenport Ranc**	**19.80**	**331**	‖P	**Pn**	**02 43 39.4**	**+0.4**
baz=20							
LRAL	**Lakeview Retre**	**19.81**	**10**	eP	**Pn**	**02 43 40.3**	**+1.2**
comp=Z,8.9nm,1.1s							
233A	**Rising Star**	**19.82**	**340**	‖P	**Pn**	**02 43 40.3**	**+1.1**
baz=20,SNR=5.9							
H06E1	**SOCORRO T-PHAS**	**19.83**	**288**	T	T	03 04 01.2	
SNR=21							
232A	**Coleman**	**19.96**	**338**	‖P	**Pn**	**02 43 41.7**	**+0.8**
baz=20							
134A	**White-Moore Ra**	**20.08**	**342**	‖P	Pn	02 43 43.6	+1.4
baz=20							
330A	**Mertzon**	**20.14**	**334**	‖P	**P**	**02 43 42.2**	**+1.1**
baz=20							
231A	**Bronte**	**20.26**	**337**	‖P	**P**	**02 43 43.7**	**+1.4**
baz=20							
133A	**Hamilton Ranch**	**20.37**	**341**	‖P	**P**	**02 43 44.4**	**+0.9**
baz=20,SNR=8.3							
230A	**Sterling City**	**20.53**	**335**	‖P	**P**	**02 43 46.3**	**+1.0**
baz=21							
329A	**Wagon Wheel Ra**	**20.56**	**332**	‖P	**P**	**02 43 46.9**	**+1.2**
baz=21							
Z35A	**Perchaven, San**	**20.57**	**345**	‖P	**P**	**02 43 46.7**	**+1.1**
baz=21							
ABTX	**Abilene, Hawle**	**20.63**	**339**	eP	**P**	**02 43 46.8**	**+0.5**
comp=Z,8.2nm,0.8s							
ABTX	**Abilene, Hawle**	**20.63**	**339**	‖P	**P**	**02 43 47.6**	**+1.3**
baz=21							
Z33A	**Whitaker Ranch**	**20.95**	**342**	‖P	**P**	**02 43 50.8**	**+1.0**
baz=21							
GOGA	**Godfrey**	**21.00**	**18**	eP	**P**	**02 43 49.8**	**-0.5**
comp=Z,8.1nm,1.0s							
LPIG	**La Paz**	**21.07**	**303**	LR	LR	02 50 52.9	
comp=Z,61nm,20.7s,baz=172,slow=33							
MIAR	**Mount Ida**	**21.10**	**354**	eP	**P**	**02 43 52.1**	**+0.7**
comp=Z,8.7nm,1.0s							
Z32A	**Haskell**	**21.19**	**340**	‖P	**P**	**02 43 53.1**	**+0.7**
baz=21,SNR=8.9							
Y34A	**Reagan Ranch,**	**21.29**	**344**	‖P	**P**	**02 43 54.4**	**+0.9**
baz=21							
228A	**UT Block 9, Go**	**21.37**	**332**	‖P	**P**	**02 43 54.9**	**+0.5**
baz=22							
X37A	**Clayton**	**21.39**	**350**	‖P	**P**	**02 43 55.4**	**+0.9**
baz=22							
Z31A	**Sharp Cattle R**	**21.43**	**339**	‖P	**P**	**02 43 55.7**	**+0.7**
comp=Z,3.9nm,SNR=5.2							
129A	**Stewart Farms,**	**21.49**	**334**	‖P	**P**	**02 43 56.4**	**+0.7**
baz=22							
X35A	**Drake**	**21.52**	**346**	‖P	**P**	**02 43 57.5**	**+1.6**
baz=22,SNR=5.9							
X36A	**Centrahoma**	**21.55**	**348**	‖P	**P**	**02 43 57.6**	**+1.4**
baz=22							
Y33A	**Hilltop Ranch,**	**21.58**	**343**	‖P	**P**	**02 43 57.9**	**+1.4**
baz=22							
W38A	**Poteau**	**21.73**	**352**	‖P	**P**	**02 43 59.8**	**+1.7**
baz=22							
128A	**Castleberry Fa**	**21.75**	**333**	‖P	**P**	**02 43 59.5**	**+1.0**
baz=22							
Z30A	**Sanderson Ranc**	**21.77**	**337**	‖P	**P**	**02 43 59.6**	**+1.0**
baz=22							
Y32A	**R-V Farms, Ver**	**21.82**	**341**	‖P	**P**	**02 44 00.1**	**+0.9**
baz=22							
X34A	**Smith Ranch, M**	**21.92**	**345**	‖P	**P**	**02 44 01.2**	**+1.1**
baz=22							
W37A	**Quinton**	**21.93**	**350**	‖P	**P**	**02 44 01.4**	**+1.1**
baz=22							
Z29A	**Hungry Hill Ra**	**21.97**	**335**	‖P	**P**	**02 44 01.5**	**+0.7**
baz=22							
Y31A	**Rekieta Farm,**	**22.06**	**339**	‖P	**P**	**02 44 02.4**	**+0.7**
baz=22,SNR=5.0							
W36A	**Wetumka**	**22.08**	**349**	‖P	**P**	**02 44 02.9**	**+1.1**
baz=22							
SWET	**Sewanee**	**22.13**	**11**	eP	**P**	**02 44 00.6**	**-1.9**
comp=Z,3.7nm,0.7s							
X32A	**Elmer**	**22.16**	**342**	‖P	**P**	**02 44 03.4**	**+0.6**
baz=22							
Y30A	**Stafford Cattl**	**22.21**	**338**	‖P	**P**	**02 44 04.2**	**+0.8**
baz=22							
W35A	**Tecumseh**	**22.22**	**347**	‖P	**P**	**02 44 04.2**	**+0.8**
baz=22							
Z28A	**Tucker Farm, M**	**22.28**	**334**	‖P	**P**	**02 44 04.9**	**+0.8**
baz=22							
WMOK	**Wista Mounta**	**22.30**	**343**	eP	**P**	**02 44 05.5**	**+1.1**
comp=Z,3.7nm,0.9s							
MNTX	**Cornudas Mount**	**22.43**	**326**	eP	**P**	**02 44 05.2**	**-0.4**
comp=Z,10.0nm,0.6s							
MNTX	**Cornudas Mount**	**22.43**	**326**	‖P	**P**	**02 44 06.4**	**+0.7**
baz=22,SNR=16							
Y29A	**Porterfield Fa**	**22.49**	**336**	‖P	**P**	**02 44 06.7**	**+0.3**
baz=23							
W34A	**Bridge Creek,**	**22.51**	**345**	‖P	**P**	**02 44 07.8**	**+1.3**
baz=23							
X31A	**McDonald Ranch**	**22.57**	**340**	‖P	**P**	**02 44 07.4**	**+0.2**
baz=23							
W33A	**Caddo, Fort Co**	**22.61**	**344**	‖P	**P**	**02 44 08.1**	**+0.5**
baz=23							
X30A	**Coker Ranch, T**	**22.71**	**338**	‖P	**P**	**02 44 08.8**	**+0.1**
baz=23							
WVT	**Waverly**	**22.74**	**7**	eP	**P**	**02 44 10.3**	**+1.4**
comp=Z,15nm,1.2s							
TUL1	**Leonard**	**22.75**	**350**	eP	**P**	**02 44 10.9**	**+1.9**
comp=Z,4.5nm,0.6s							
TUL1	**Leonard**	**22.75**	**350**	‖P	**P**	**02 44 09.3**	**+0.3**
baz=23							
Y28A	**McKinney Farm,**	**22.76**	**335**	‖P	**P**	**02 44 09.9**	**+0.6**
baz=23							
W32A	**Sentinel**	**22.80**	**342**	‖P	**P**	**02 44 10.3**	**+0.7**
baz=23							
V35A	**Meyer Ranch, C**	**22.80**	**348**	‖P	**P**	**02 44 10.4**	**+0.8**
baz=23							
X29A	**Tulia**	**23.01**	**337**	‖P	**P**	**02 44 12.1**	**+0.2**
baz=23							
TKL	**Tuckaleechee C**	**23.03**	**15**	P	**P**	**02 44 09.0**	**-3.0**
comp=Z,4.1nm,0.9s,baz=188,slow=8.3,SNR=4.9							
MPR	**Mayaguez**	**23.44**	**75**	eSn	Sn	02 48 49.2	+1.0
121A	**Cookes Peak, D**	**24.39**	**324**	eP	**P**	**02 44 26.5**	**+1.2**
comp=Z,7.5nm,0.8s							
121A	**Cookes Peak, D**	**24.39**	**324**	‖P	**P**	**02 44 26.6**	**+1.4**
baz=24,SNR=7.7							
319A	**Douglas**	**24.48**	**320**	‖P	**P**	**02 44 27.9**	**+1.9**
baz=24							
S36A	**Lake Cedric, C**	**24.49**	**351**	‖P	**P**	**02 44 24.3**	**-1.6**
baz=25,SNR=8.3							
BNM	**Barren Site**	**24.99**	**328**	eP	**P**	**02 44 31.2**	**+0.5**
WCI	**Wyandotte Cave**	**25.01**	**9**	eP	**P**	**02 44 28.0**	**-2.5**
comp=Z,9.1nm,0.8s							
S32A	**Newby Ranch, P**	**25.14**	**345**	‖P	**P**	**02 44 32.9**	**+1.2**
baz=25							
LAZ	**Ladron**	**25.45**	**328**	eP	**P**	**02 44 35.3**	**+0.5**
ANMO	**Albuquerque**	**25.53**	**330**	P	**P**	**02 44 34.7**	**-0.9**
comp=Z,0.7nm,0.6s,baz=141,slow=7.6,SNR=4.7							
ANMO	**Albuquerque**	**25.53**	**330**	eP	**P**	**02 44 35.3**	**-0.2**
comp=Z,1.2nm,0.7s							
R32A	**Long Quarter,**	**25.77**	**346**	‖P	**P**	**02 44 38.4**	**+1.0**
baz=26							
R31A	**Burdett**	**25.84**	**345**	‖P	**P**	**02 44 39.0**	**+0.8**
baz=26							
S28A	**Manter**	**25.90**	**340**	‖P	**P**	**02 44 40.4**	**+1.6**
baz=26							
TUC	**Tucson**	**26.05**	**319**	eP	**P**	**02 44 41.0**	**+0.8**
comp=Z,1.6nm,0.8s							
Q32A	**Meitler Ranch,**	**26.28**	**347**	‖P	**P**	**02 44 44.1**	**+2.1**
baz=26							
X18A	**Snowflake**	**27.08**	**324**	‖P	**P**	**02 44 51.2**	**+1.7**
baz=27							
214A	**Organ Pipe Nat**	**27.15**	**316**	‖P	**P**	**02 44 52.0**	**+2.0**
baz=27							
W18A	**Petrified Fore**	**27.39**	**325**	‖P	**P**	**02 44 53.6**	**+1.2**
baz=28							
SDCO	**Great Sand Dun**	**27.40**	**334**	eP	**P**	**02 44 51.3**	**-1.2**
comp=Z,2.4nm,1.2s							
X16A	**Lo Mia Camp, P**	**27.88**	**322**	‖P	**P**	**02 44 58.0**	**+1.3**
baz=28							
S22A	**4UR Ranch, Cre**	**27.98**	**333**	‖P	**P**	**02 44 59.5**	**+1.8**
baz=28							
N31A	**Bailey Ranch,**	**28.12**	**347**	‖P	**P**	**02 45 00.8**	**+2.2**
baz=28							
MVCO	**Mesa Verde**	**28.33**	**330**	‖P	**P**	**02 45 01.3**	**+0.5**
baz=28							
WUAZ	**Wupatki**	**28.60**	**324**	eP	**P**	**02 45 04.4**	**+1.3**
comp=Z,30nm,2.3s							
WUAZ	**Wupatki**	**28.60**	**324**	‖P	**P**	**02 45 04.2**	**+1.1**
baz=29							
PDMCI	**Parker Dam,Lak**	**29.48**	**319**	‖P	**P**	**02 45 12.6**	**+1.9**
baz=30							
W13A	**Hualapai Mount**	**29.83**	**320**	‖P	**P**	**02 45 15.8**	**+1.7**
baz=30							
BC3	**Big Chuckawall**	**29.95**	**316**	‖P	**P**	**02 45 16.2**	**+1.2**
baz=30							
IRM	**Iron Mountain**	**30.05**	**317**	‖P	**P**	**02 45 16.7**	**+0.9**
baz=30							
KNB	**Kanab**	**30.49**	**324**	eP	**P**	**02 45 21.0**	**+1.2**
comp=Z,2.9nm,0.6s							
MSU	**Marysvale**	**31.20**	**327**	eP	**P**	**02 45 26.7**	**+0.5**
comp=Z,2.2nm,0.7s							
DUG	**Dugway, Tooele**	**32.78**	**328**	eP	**P**	**02 45 41.7**	**+1.8**
comp=Z,1.6nm,0.9s							
HWUT	**Hardware Ranch**	**33.25**	**331**	eP	**P**	**02 45 45.4**	**+1.3**
comp=Z,2.3nm,0.9s							
PDAR	**Pinedale Array**	**33.30**	**335**	LR	LR	03 01 10.2	
comp=Z,27nm,21.4s,baz=170,slow=40							
SNOW	**Snow King Moun**	**34.37**	**334**	eP	**P**	**02 45 52.9**	**-1.0**
comp=Z,2.8nm,0.7s							
ELK	**Elko**	**34.45**	**327**	eP	**P**	**02 45 55.3**	**+0.7**
comp=Z,1.6nm,0.7s							
MOOW	**Moose Ponds**	**34.59**	**334**	eP	**P**	**02 45 55.3**	**-0.5**
comp=Z,0.6nm,0.6s							
NV01	**Mina Array Sit**	**34.68**	**321**	eP	**P**	**02 45 57.6**	**+1.1**
NVAR	**Mina Array Bea**	**34.68**	**321**	P	**P**	**02 45 56.2**	**-0.4**
comp=Z,1.8nm,0.6s,baz=137,slow=8.2,SNR=20							
SAML	**Samuel**	**35.50**	**127**	eP	**P**	**02 46 01.3**	**-2.3**
comp=Z,3.0nm,0.8s							
HLID	**Hailey**	**36.09**	**331**	eP	**P**	**02 46 09.1**	**+0.4**
LPAZ	**La Paz**	**37.23**	**142**	P	**P**	**02 46 18.6**	**-0.5**
comp=Z,1.8nm,0.7s,baz=315,slow=4.6,SNR=6.3							
H04A	**Detroit Lake**	**40.88**	**326**	eP	**P**	**02 46 48.1**	**-0.6**
comp=Z,26nm,1.8s							
SIV	**San Ignacio**	**41.64**	**134**	P	**P**	**02 46 54.2**	**-1.0**
comp=Z,5.1nm,0.7s,baz=318,slow=8.7,SNR=11							
SCHQ	**Schefferville**	**45.39**	**19**	P	P	02 47 19.7	-5.2
comp=Z,1.0nm,0.3s,baz=250,slow=7.2,SNR=6.5							
CPUP	**Villa Florida**	**51.37**	**140**	eP	**P**	**02 48 09.9**	**-1.5**
YKA	**Yellowknife Ar**	**51.76**	**346**	P	P	02 48 10.5	-3.2
comp=Z,0.1nm,0.4s,baz=142,slow=7.5,SNR=4.8							
YKA				PcP	**PcP**	**02 49 23.2**	**-3.4**
comp=Z,0.3nm,0.6s,baz=152,slow=3.9,SNR=5.3							
DLBC	**Dease Lake**	**53.52**	**336**	P	P	02 48 23.5	-3.5
comp=Z,0.4nm,0.4s,baz=204,slow=10.0,SNR=2.1							
PLCA	**Paso Flores**	**57.17**	**162**	LR	LR	03 07 56.0	
comp=Z,50nm,19.6s,baz=220,slow=30							
PLCA	**Paso Flores**	**57.17**	**162**	eP	**P**	**02 48 53.2**	**-0.3**
comp=Z,8.7nm,1.3s							
ILAR	**Eielson Array**	**63.70**	**337**	P	P	02 49 34.2	-3.4
comp=Z,0.2nm,0.5s,baz=153,slow=5.6,SNR=3.9							
ESDC	**Sonseca Array**	**79.29**	**52**	P	P	02 51 06.8	-5.5
comp=Z,1.0nm,0.3s,baz=281,slow=4.1,SNR=2.7							
WLF	**Walferdange**	**84.42**	**40**	eP	**P**	**02 51 40.3**	**+1.3**
comp=Z,5.5nm,0.8s							
DBIC	**Dimbokro**	**84.75**	**84**	eP	**P**	**02 51 41.4**	**+0.1**
comp=Z,24nm,1.5s							
TOA0	**Torodi Ar. Sit**	**89.57**	**77**	eP

SWI	**Sorong**	**5.68**	**13**	P	**Pn**	**03 14 19.3**	**-2.2**
	baz=5.7,SNR=25						
SWI				S	Sn	03 15 19.0	-6.8
	baz=5.7,SNR=18						
SANI	**Sanana**	**5.93**	**317**	P	**Pn**	**03 14 26.8**	**+2.0**
	47nm,0.6s,873nm0.2nm						
LBMI	**Labuha**	**6.29**	**336**	P	**Pn**	**03 14 30.6**	**+1.0**
	137nm,0.8s,2µm0.5nm						
RKPI	**Ransiki, Papua**	**6.42**	**40**	P	**Pn**	**03 14 30.9**	**-0.4**
	124nm,0.6s,9µm2.1nm						
SOEI	**Soe**	**6.58**	**240**	P	Pn	03 14 36.5	+3.0
SOEI	**Soe**	**6.58**	**240**	P	**Pn**	**03 14 35.2**	**+1.7**
	baz=6.6,SNR=6.4						
SOEI				S	**Sn**	**03 15 49.6**	**+2.1**
	baz=6.6,SNR=3.2						
SOEI	**Soe**	**6.58**	**240**	*e*Pn	**Pn**	**03 14 31.2**	**-2.3**
	32nm,0.7s						
SOEI				*e*Sn	**Sn**	**03 15 44.1**	**-3.4**
KDU	**Kakadu**	**6.66**	**159**	P	**Pn**	**03 14 33.1**	**-1.4**
	baz=6.7,SNR=437						
KDU				S	**Sn**	**03 15 44.1**	**-5.2**
	baz=6.7,SNR=9.8						
KNRA	**Kununurra**	**9.26**	**188**	P	**Pn**	**03 15 07.2**	**-2.1**
	baz=9.4,SNR=34						
KNRA				S	Sn	03 16 44.0	-8.0
	baz=9.4,SNR=20						
KAPI	**Kappang**	**10.31**	**277**	*e*Pn	**Pn**	**03 15 21.7**	**-1.6**
WRAB	**Tennant Creek**	**14.06**	**163**	*e*Pn	Pn	03 16 08.1	-3.7
	14nm,0.3s						
WRAB				*e*Sn	Sn	03 18 32.8	-15
WRA	**Warramunga Arr**	**14.06**	**163**	P	**Pn**	**03 16 08.8**	**-3.2**
	4.8nm,0.3s,baz=333,slow=14,SNR=96						
WRA				S	Sn	03 18 36.5	-11
	6.0nm,0.3s,baz=337,slow=22,SNR=12						
COEN	**Coen**	**14.94**	**121**	P	**P**	**03 16 26.6**	**+1.6**
	baz=15,SNR=5.9						
COEN				S	Sn	03 18 59.6	-10
	baz=15,SNR=5.6						
COEN	**Coen**	**14.94**	**121**	*e*Pn	**P**	**03 16 25.3**	**+0.3**
COEN				*e*Sn	Sn	03 18 56.6	-12
QIS	**Mount Isa**	**16.84**	**147**	P	**Pn**	**03 16 47.3**	**+1.1**
	baz=17,SNR=26						
QIS				S	S	03 19 40.6	-13
	baz=17,SNR=5.7						
PMG	**Port Moresby**	**17.23**	**101**	*e*P	**Pn**	**03 16 52.0**	**+0.9**
AS31	**Alice Springs**	**17.53**	**168**	*e*P	**Pn**	**03 16 54.4**	**-0.2**
ASAR	**Alice Springs**	**17.53**	**168**	P	**Pn**	**03 16 54.2**	**-0.4**
	2.4nm,0.3s,baz=347,slow=10,SNR=104						
ASAR				S	S	03 19 59.4	-9.2
	1.2nm,0.3s,baz=329,slow=17,SNR=5.7						
MBWA	**Marble Bar**	**17.70**	**213**	*e*P	**P**	**03 16 55.0**	**-0.3**
	9.5nm,0.8s						
KKM	**Kota Kinabalu**	**18.54**	**312**	*e*P	**P**	**03 17 03.0**	**-1.7**
	10nm,0.5s						
WRKA	**Warakurna**	**18.57**	**185**	P	**Pn**	**03 17 06.3**	**-0.5**
	baz=19,SNR=10						
CTA	**Charters Tower**	**20.80**	**132**	P	**P**	**03 17 28.9**	**0.0**
	10nm,0.8s,baz=316,slow=15,SNR=5.7						
CTAO	**Charters Tower**	**20.80**	**132**	*e*P	**P**	**03 17 29.6**	**+0.6**
	11nm,0.8s						
MEEK	**Meekatharra**	**22.84**	**207**	P	**P**	**03 17 50.9**	**+1.2**
	baz=23,SNR=4.6						
MEEK				S	Sn	03 22 05.0	-13
	baz=23,SNR=3.5						
QLP	**Quilpie**	**24.18**	**148**	P	**P**	**03 18 04.0**	**+2.0**
	baz=24,SNR=3.2						
FORT	**Forrest**	**24.28**	**184**	*e*P	**P**	**03 18 03.3**	**+0.5**
	11nm,0.5s						
KMBL	**Kambalda**	**25.94**	**196**	P	**P**	**03 18 19.3**	**+1.4**
	baz=26,SNR=6.9						
BBOO	**Buckleboo**	**26.83**	**169**	P	**P**	**03 18 27.1**	**+1.3**
	baz=27,SNR=12						
STKA	**Stephens Creek**	**27.52**	**158**	P	**P**	**03 18 32.3**	**+0.3**
	1.8nm,0.3s,baz=340,slow=7.5,SNR=7.4						
STKA	**Stephens Creek**	**27.52**	**158**	P	**P**	**03 18 33.2**	**+1.2**
	baz=28,SNR=6.3						
CMSA	**Cobar Meteorol**	**28.96**	**152**	P	**P**	**03 18 46.6**	**+1.9**
	baz=29,SNR=6.4						
CMAR	**Chiang Mai Arr**	**39.39**	**309**	P	**P**	**03 20 13.3**	**-1.4**
	1.2nm,0.3s,baz=126,slow=9.3,SNR=6.5						
MJAR	**Matsushiro Arr**	**43.44**	**10**	P	**P**	**03 20 46.7**	**-0.8**
	1.5nm,0.7s,baz=180,slow=9.8,SNR=5.4						
MAJO	**Matsushiro**	**43.44**	**10**	*e*P	**P**	**03 20 46.9**	**-0.6**
	4.6nm,0.8s						
KSAR	**Wonju Array Be**	**43.70**	**358**	P	**P**	**03 20 50.6**	**+1.1**
KSRS	**Korea Array**	**43.71**	**358**	P	**P**	**03 20 50.6**	**+1.1**
	0.7nm,0.5s,baz=166,slow=7.2,SNR=3.8						
USRK	**Ussuriysk Ar.**	**50.44**	**2**	P	**P**	**03 21 42.2**	**+0.5**
	1.2nm,0.6s,baz=189,slow=7.8,SNR=3.4						
PALK	**Pallekele**	**51.05**	**285**	*e*P	**P**	**03 21 46.5**	**-0.3**
RPZ	**Rata Peaks**	**51.67**	**143**	P	**P**	**03 21 50.8**	**-0.2**
	2.6nm,0.5s,baz=300,slow=20,SNR=2.5						
URZ	**Urewera**	**53.04**	**134**	P	**P**	**03 22 00.5**	**-0.6**
	2.3nm,0.4s,baz=356,slow=2.8,SNR=3.6						
SONM	**Songino Array**	**57.92**	**341**	P	**P**	**03 22 36.1**	**+0.2**
	1.0nm,0.7s,baz=87,slow=4.9,SNR=3.3						
MK31	**Makanchi Array**	**67.77**	**327**	*e*P	**P**	**03 23 40.0**	**-1.0**
MKAR	**Makanchi Array**	**67.77**	**327**	P	**P**	**03 23 42.3**	**+1.2**
	0.7nm,0.5s,baz=136,slow=6.4,SNR=12						
TKM2	**Tokmak 2**	**69.57**	**320**	*e*P	**P**	**03 23 53.5**	**+1.0**
	0.8nm,0.5s						
ZALV	**Zalesovo Beam**	**71.09**	**334**	P	**P**	**03 24 00.5**	**-0.8**
	0.4nm,0.4s,baz=134,slow=10,SNR=2.4						
VNDA	**Vanda**	**73.00**	**173**	P	**P**	**03 24 11.9**	**-0.4**
	0.6nm,0.7s,baz=330,slow=6.5,SNR=8.7						
VNDA	**Vanda**	**73.00**	**173**	*e*P	**P**	**03 24 13.1**	**+0.8**
	0.6nm,0.5s						
QSPA	**South Pole Qui**	**83.53**	**180**	P	**P**	**03 25 11.1**	**+0.6**
	1.2nm,0.6s,baz=211,slow=0.6,SNR=19						
YKA	**Yellowknife Ar**	**107.25**	**26**	PKiKP	**PKiKP**	**03 31 06.9**	**-0.7**
	0.2nm,0.9s,baz=309,slow=1.5,SNR=4.1						
GERES	**GERESS Array B**	**112.00**	**320**	PKiKP	**PKiKP**	**03 31 17.7**	**+0.5**
	0.2nm,0.4s,baz=126,slow=1.7,SNR=2.6						
TOA0	**Torodi Ar. Sit**	**128.72**	**282**	*e*PKPdf	**PKPdf**	**03 31 50.8**	**+0.8**
TORD	**Torodi Ar. Bea**	**128.72**	**282**	PKP	**PKPdf**	**03 31 50.4**	**+0.3**
	0.3nm,0.6s,baz=76,slow=2.2,SNR=9.1						
JTS	**JuntasAbangare**	**145.21**	**81**	*e*PKPdf	**PKPab**	**03 32 21.3**	**+0.7**
LVC	**Limon Verde**	**145.69**	**148**	*e*PKPbc	**PKPbc**	**03 32 21.8**	**-0.1**
CPUP	**Villa Florida**	**146.65**	**168**	PKPbc	**PKPab**	**03 32 25.4**	**-0.1**
	0.4nm,0.6s,baz=226,slow=8.1,SNR=5.1						
CPUP	**Villa Florida**	**146.65**	**168**	*e*PKPbc	**PKPab**	**03 32 25.3**	**-0.3**
LPAZ	**La Paz**	**151.15**	**142**	PKPbc	**PKPbc**	**03 32 38.6**	**+1.9**
	0.8nm,0.4s,baz=22,slow=4.8,SNR=9.0						
LPAZ				PKPab	**PKPab**	**03 32 47.0**	**+2.1**
	1.3nm,0.4s,baz=223,slow=4.0,SNR=9.7						
LPAZ	**La Paz**	**151.15**	**142**	*e*PKPbc	**PKPbc**	**03 32 37.6**	**+0.8**
LPAZ				*e*PKPab	**PKPab**	**03 32 45.4**	**+0.5**

CASC 08 03:18:08.1±2.6, 13.92N×91.51W, h21km±17km, MD3.7, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.41**	**343**	*e*P	Pb	03 18 17.6	+1.0
FUG	**Fuego 3**	**0.83**	**51**	*e*P	Pb	03 18 23.9	-0.2
PCG	**Pacaya**	**0.99**	**62**	*e*P	Pn	03 18 27.5	+0.3
IXG	**Ixpaco**	**1.05**	**76**	*e*P	Pb	03 18 26.4	-1.5
NBG	**Las Nubes**	**1.31**	**60**	*e*P	Pb	03 18 32.4	0.0
NBG				*e*S	Sb	03 18 50.9	+2.0
RBDL	**Robledal**	**1.78**	**84**	*e*P	Pn	03 18 37.7	-0.1
RBDL				*e*S	Sn	03 19 00.9	+0.9
RTR	**El Retiro**	**1.81**	**91**	*e*P	Pn	03 18 38.2	-0.1
SBLS	**San Blas**	**1.83**	**92**	*e*P	Pn	03 18 38.4	-0.4
BOQS	**Boqueron**	**2.17**	**95**	*e*P	Pn	03 18 43.2	-0.2
LFRS	**El Faro**	**2.40**	**97**	*e*P	Pn	03 18 46.3	0.0
LBRS	**Las Brisas**	**2.40**	**94**	*e*P	Pn	03 18 47.2	+0.8
LBRS				*e*S	Sn	03 19 17.1	+1.8
COPN	**Copaltepe**	**5.10**	**109**	*e*P	Pn	03 19 24.1	+0.7

*IDC **08** 03:22:08.0±0.3, 8.09S×118.35E, h0km, mb5.2/22, mb1 5.3/24, mb1mx5.3/26, mbtmp5.2/24, ML5.1/2, MS5.3/26, Ms1 5.3/26, ms1mx5.2/32, Error ellipse: s-maj=14.4km s-min=8.0km az=55.0*

*GCMT **08** 03:22:09.6±0.1, 8.07S×118.27E, h12km, MW5.9/134, Moment Tensor Solution. s119,c240; s134,c423; Duration: 2±1 Moment tensor: Scale 10^18^Nm; Mrr0.58±.00; Mθθ-0.62±.00; Mφφ0.04±.01; Mrθ-0.57±.01; Mθφ-0.08±.00; Mφr-0.15±.01; Best double couple: M0 0.84300×10^18^ NP1:φs257.00000°,δ67.00000°, λ85.00000°. NP2:φs90.00000°,δ23.00000°,λ102.00000°. Principal axes: T 0.8220, Plg67.0000°, Azm158.0000°; N 0.0420, Plg5.0000°, Azm259.0000°; P -0.8630, Plg22.0000°, Azm351.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*BJI **08** 03:22:09.7, 8.10S×118.30E, h12km, mb5.5/73, mB6.0/80, Ms5.9/94, Ms7 5.5/83*

*NEIC **08** 03:22:09.7±0.1, 8.09S×118.26E, h12km, mb5.6/70, ME5.5, MS5.5/155, MW5.8, Error ellipse: s-maj=4.9km s-min=3.6km az=45.0 Broadband fault plane solution: P waves. NP1:φs75.00000°,δ20.00000°,λ90.00000°. NP2:φs255.00000°,δ70.00000°,λ90.00000°. Principal axes: T Plg65.0000°, Azm165.0000°; N Plg0.0000°, Azm0.0000°; P Plg25.0000°, Azm345.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV] at Bima and Sumbawa Besar; [III] at Dompu. Also felt [III] at Waingapu and Waitabula, Sumba.

*MOS **08** 03:22:11.8±1.2, 7.98S×118.27E, h32km, mb5.6/70, MS5.4/56 Error ellipse: s-maj=8.4km s-min=5.1km az=118.6*

*NEIC **08** 03:22:11.0±0.0, 8.12S×118.24E, h20km, Moment Tensor Solution. s37 Moment tensor: Scale 10^17^Nm; Mrr5.19; Mθθ-4.90; Mφφ-0.29; Mrθ-4.39; Mθφ-1.01; Mφr-0.84; Best double couple: M0 6.80000×10^17^ NP1:φs258.00000°, δ65.00000°,λ90.00000°. NP2:φs77.00000°,δ24.00000°, λ88.00000°. Principal axes: T 6.8600, Plg69.0000°, Azm169.0000°; N -0.0800, Plg0.0000°, Azm78.0000°; P -6.7800, Plg20.0000°, Azm348.0000°;*

*DJA **08** 03:22:12.2±0.1, 8.1S×117.8E±1, h10km, M5.8/86, mb5.7/86, mB6.1/81, MLv6.1/43, Mw(mB)5.8/81, Mwp6.0/25*

*ISCJB **08** 03:22:12.0±0.3, 8.15S±0.02×118.24E±0.02, h38km±2km, mb5.4/146, MS5.5/194, Error ellipse: s-maj=3.0km s-min=2.7km az=18.5*

*KLM **08** 03:22:13.4, 8.13S×118.44E, h38km, mb5.8, ML6.2, MS6.5*

ISC 08 03:22:12.0±0.3, 8.12S±0.02×118.24E±0.03, h26km±1km, h25km: pP-P, n1249, σ1.79/1247, mb5.5/151, MS5.5/198, 179C-172D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.89**	**143**	P	**Pn**	**03 22 43.3**	**+0.5**
WBSI				S	**Sb**	**03 23 12.1**	**+2.9**
BSSI	**Bau Bau, Buton**	**2.98**	**49**	P	**Pn**	**03 22 56.8**	**-0.9**
SRBI	**Singaraja**	**2.99**	**271**	P	**Pn**	**03 22 57.1**	**-0.8**
DNP	**Denpasar**	**3.04**	**259**	P	**Pn**	**03 23 00.3**	**+1.7**
BASI	**Baing, Sumba**	**3.11**	**132**	P	**Pn**	**03 23 01.3**	**+1.8**
IGBI	**Denpasar**	**3.13**	**257**	P	**Pn**	**03 23 00.2**	**+0.4**
BKSI	**Bulukumba**	**3.35**	**34**	P	**Pn**	**03 23 01.5**	**-1.4**
KAPI	**Kappang**	**3.44**	**26**	Pn	**Pn**	**03 23 02.0**	**-2.0**
	10µm,0.8s						
KAPI	**Kappang**	**3.44**	**26**	Pn	**Pn**	**03 23 02.6**	**-1.4**
	74nm,0.3s,baz=197,slow=3.3,SNR=144						
KAPI				Sn	**Sn**	**03 23 43.9**	**0.0**
	557nm,0.3s,baz=24,slow=23,SNR=25						
KAPI	**Kappang**	**3.44**	**26**	P	**Pn**	**03 23 02.8**	**-1.2**
	SNR=140						
KAPI	**Kappang**	**3.44**	**26**	*e*Pn	**Pn**	**03 23 02.5**	**-1.4**
KAPI				*e*Sn	**Sn**	**03 23 43.2**	**-0.7**
EDFI	**Ende, Flores**	**3.48**	**101**	P	**Pn**	**03 23 04.5**	**-0.1**
ABJI	**Asem Bagus**	**3.98**	**274**	P	**Pn**	**03 23 11.6**	**+0.2**
MMRI	**Maumere**	**3.99**	**98**	P	**Pn**	**03 23 11.5**	**-0.2**
MMRI	**Maumere**	**3.99**	**98**	*e*Pn	**Pn**	**03 23 11.0**	**-0.6**
JAGI	**Jajag, Banyuwa**	**4.05**	**265**	P	**Pn**	**03 23 12.1**	**-0.5**
	baz=4.1,SNR=120						
JAGI	**Jajag, Banyuwa**	**4.05**	**265**	*e*Pn	**Pn**	**03 23 11.8**	**-0.7**
JAGI				*e*Sn	**Sn**	**03 23 58.6**	**-0.7**
BNSI	**Bone**	**4.14**	**27**	P	**Pn**	**03 23 14.2**	**+0.5**
BNSI				S	**Sn**	**03 24 04.5**	**+3.2**
KMMI	**Kalianget**	**4.36**	**284**	P	**Pn**	**03 23 17.5**	**+0.8**
SPSI	**Sidrap Palu**	**4.40**	**20**	P	**Pn**	**03 23 16.1**	**-1.2**
BLJI	**Banyuglugur**	**4.61**	**274**	P	**Pn**	**03 23 20.6**	**+0.4**
GMJI	**Gumukmas**	**4.75**	**268**	P	**Pn**	**03 23 23.1**	**+1.1**
BBSI	**Bau Bau**	**5.04**	**59**	P	**Pn**	**03 23 27.7**	**+1.6**
	856nm,1.1s,21µm59µm8.2nm						
KBKI	**Kotabaru**	**5.21**	**337**	P	**Pn**	**03 23 28.4**	**-0.1**
	1µm,1.4s,22µm148µm22nm						
TTSI	**Tana Toraja**	**5.29**	**17**	P	**Pn**	**03 23 30.1**	**+0.7**
	1µm,1.4s,29µm134µm19nm						
BBKI	**Banjar Baru**	**5.73**	**324**	P	**Pn**	**03 23 35.5**	**-0.1**
	1µm,1.2s,53µm178µm18nm						
GRJI	**Gresik**	**5.83**	**281**	P	**Pn**	**03 23 36.6**	**-0.3**
	1µm,0.8s,12µm4.0nm						
BWJI	**Bawean**	**5.98**	**292**	P	**Pn**	**03 23 41.9**	**+2.9**
	533nm,0.8s,8µm4.1nm						
SOEI	**Soe**	**6.18**	**106**	P	**Pn**	**03 23 43.3**	**+1.5**
	4µm,1.0s,60µm118µm22nm						
SOEI	**Soe**	**6.18**	**106**	P	**Pn**	**03 23 44.3**	**+2.5**
	baz=6.1,SNR=59						
SOEI	**Soe**	**6.18**	**106**	*e*Pn	**Pn**	**03 23 43.5**	**+1.7**
PWJI	**Pagerwojo**	**6.37**	**270**	P	**Pn**	**03 23 47.2**	**+2.9**
	730nm,0.8s,11µm6.9nm						
TBJI	**Tambak Boyo**	**6.46**	**281**	P	**Pn**	**03 23 48.6**	**+3.0**
	1µm,1.1s,25µm48µm7.5nm						
BKB	**Balikpapan**	**6.95**	**349**	P	Pn	03 23 56.8	+4.5
	528nm,1.4s,20µm201µm14nm						
PCJI	**Pacitan**	**6.99**	**269**	P	**Pn**	**03 23 55.5**	**+2.7**
	643nm,1.2s,10µm4.9nm						
WOJI	**Wonogiri, Jawa**	**7.25**	**272**	P	Pn	03 23 59.6	+3.2
	480nm,0.8s,46µm5.0nm						
PCI	**Palu**	**7.35**	**13**	P	**Pn**	**03 24 00.0**	**+2.2**
	483nm,1.1s,10µm136µm4.5nm						
UWJI	**Ujung Watu**	**7.42**	**283**	P	**Pn**	**03 24 01.9**	**+3.1**
	929nm,0.9s,11µm2.9nm						
UGM	**Wanagama**	**7.64**	**271**	P	**Pn**	**03 24 04.8**	**+3.0**
	944nm,1.0s,12µm79µm5.5nm						
UGM	**Wanagama**	**7.64**	**271**	P	Pn	03 24 05.2	+3.4
	baz=7.7,SNR=28						
SMRI	**Semarang**	**7.80**	**277**	P	**Pn**	**03 24 07.1**	**+3.1**
	493nm,0.9s,18µm6.9nm						
SMRI	**Semarang**	**7.80**	**277**	P	**Pn**	**03 24 05.5**	**+1.5**
	7.9s,7.5nm,SNR=4.1						
SMRI	**Semarang**	**7.80**	**277**	*e*Pn	**Pn**	**03 24 02.0**	**-2.0**
MTKI	**Muara Teweh, K**	**7.87**	**335**	P	**Pn**	**03 24 07.7**	**+2.7**
	240nm,0.8s,13µm12nm						
LUWI	**Luwuk**	**8.36**	**33**	P	**Pn**	**03 24 13.6**	**+1.9**
	451nm,1.2s,7µm71µm						
LUWI	**Luwuk**	**8.36**	**33**	P	**Pn**	**03 24 14.8**	**+3.1**
	baz=8.4,SNR=5.5						
LUWI	**Luwuk**	**8.36**	**33**	*e*Pn	**Pn**	**03 24 11.4**	**-0.3**
MPSI	**Mapaga**	**8.57**	**11**	P	**Pn**	**03 24 16.4**	**+1.9**
	77nm,1.3s,6µm102µm						
KPJI	**Karang Pucung**	**9.25**	**274**	P	**Pn**	**03 24 27.0**	**+3.1**
	277nm,0.7s,10µm						
MRSI	**Marisa**	**9.31**	**24**	P	**Pn**	**03 24 26.7**	**+2.0**
	284nm,1.4s,4µm						
CMJI	**Cimerak**	**9.70**	**271**	P	**Pn**	**03 24 33.1**	**+3.0**
	268nm,0.8s,5µm						
SANI	**Sanana**	**9.80**	**52**	P	**Pn**	**03 24 33.3**	**+1.9**
	247nm,0.9s,4µm20µm						
JCJI	**Jatiwangi**	**10.02**	**279**	P	**Pn**	**03 24 37.1**	**+2.7**
	402nm,1.0s,14µm						
NLAI	**Namlea**	**10.07**	**62**	P	Pn	03 24 39.0	+3.9
CISI	**Cisompet, Garu**	**10.34**	**272**	P	**Pn**	**03 24 41.9**	**+3.0**
	512nm,0.8s,9µm35µm						
CISI	**Cisompet, Garu**	**10.34**	**272**	P	**Pn**	**03 24 41.5**	**+2.6**
	baz=10,SNR=10						
CISI	**Cisompet, Garu**	**10.34**	**272**	*e*Pn	**Pn**	**03 24 40.2**	**+1.3**
CISI				*e*Sn	**Sn**	**03 26 29.6**	**-4.5**
STKI	**Sintang**	**10.56**	**320**	P	**Pn**	**03 24 44.9**	**+3.0**
	218nm,1.0s,19µm						
LEM	**Lembang**	**10.61**	**276**	P	**Pn**	**03 24 45.8**	**+3.1**
	345nm,1.1s,15µm						
LEM	**Lembang**	**10.61**	**276**	Pn	Pn	03 24 47.2	+4.6
	4.7nm,0.3s,baz=41,slow=9.2,SNR=9.7						
LEM				LR	LR	03 30 36.3	
	comp=Z,57µm,18.3s,baz=96,slow=47						
LEM	**Lembang**	**10.61**	**276**	P	Pn	03 24 47.2	+4.6
LEM				pmax	pmax		
	comp=Z,5.0nm,0.3s						
LEM				MLR	MLR		
	comp=Z,57µm,18.3s						
LEM	**Lembang**	**10.61**	**276**	P	**Pn**	**03 24 43.2**	**+0.5**
	baz=11,SNR=3.7						
CNJI	**Cibinong**	**11.04**	**273**	P	**Pn**	**03 24 51.4**	**+3.0**
	comp=Z,363nm,0.8s,comp=Z,6µm						
CBJI	**Citeko**	**11.42**	**278**	P	Pn	03 24 58.7	+5.1
TPI	**Tanjungpandan**	**11.80**	**296**	P	**Pn**	**03 25 01.6**	**+2.7**
	comp=Z,102nm,2.1s,comp=Z,4µmcomp=Z,31µm						
LBMI	**Labuha**	**11.86**	**52**	P	**Pn**	**03 25 01.4**	**+1.8**
	comp=Z,240nm,0.8s,comp=Z,5µm						
SBUM	**Sibu**	**12.10**	**330**	↓P	**Pn**	**03 25 04.9**	**+2.0**
SBUM	**Sibu**	**12.10**	**330**	*e*Pn	**Pn**	**03 25 03.9**	**+1.0**
BNDI	**Bandanaira**	**12.14**	**74**	P	**Pn**	**03 25 05.1**	**+1.6**
	comp=Z,5µm,1.3s,comp=Z,55µmcomp=Z,25µm						
SBJI	**Serang**	**12.18**	**279**	P	**Pn**	**03 25 06.7**	**+2.7**
	comp=Z,300nm,1.6s,comp=Z,5µm						
KSM	**Kuching**	**12.38**	**320**	P	Pn	03 25 11.6	+4.7
	baz=12,SNR=9.9						
KSM	**Kuching**	**12.38**	**320**	↓P	Pn	03 25 11.4	+4.6
KSM	**Kuching**	**12.38**	**320**	*e*Pn	**Pn**	**03 25 07.1**	**+0.3**
	comp=Z,152nm,1.0s						
CGJI	**Cibinong**	**12.53**	**276**	P	**Pn**	**03 25 11.8**	**+3.0**
	comp=Z,285nm,1.2s,comp=Z,5µm						
TNTI	**Ternate**	**12.69**	**46**	P	**P**	**03 25 22.4**	**+0.4**
TNTI	**Ternate**	**12.69**	**46**	*e*Pn	**Pn**	**03 25 11.2**	**+0.2**
KNRA	**Kununurra**	**12.74**	**127**	P	**Pn**	**03 25 10.2**	**-1.5**
	baz=13,SNR=39						
MBWA	**Marble Bar**	**13.04**	**174**	P	**Pn**	**03 25 17.5**	**+1.7**
	SNR=7.2						
MBWA	**Marble Bar**	**13.04**	**174**	*e*Pn	**Pn**	**03 25 15.0**	**-0.8**
MBWA				*e*Sn	Sn	03 27 32.5	-7.7
BLSI	**Bandar Lampung**	**13.19**	**281**	P	**Pn**	**03 25 20.7**	**+2.9**
	comp=Z,155nm,1.0s,comp=Z,8µm						
PPBI	**Pangkal Pinang**	**13.42**	**296**	P	Pn	**03 25 23.8**	**+2.8**
	comp=Z,105nm,1.2s,comp=Z,20µm						
KLI	**Kotabumi**	**13.68**	**283**	P	**P**	**03 25 33.9**	**+0.8**
KASI	**Kota Agung**	**13.88**	**280**	P	**Pn**	**03 25 30.3**	**+3.0**
	comp=Z,325nm,1.0s,comp=Z,6µm						
KKM	**Kota Kinabalu**	**14.22**	**352**	P	**Pn**	**03 25 34.0**	**+2.0**
	baz=14,SNR=13						
KKM	**Kota Kinabalu**	**14.22**	**352**	↓P	**Pn**	**03 25 34.2**	**+2.2**
KKM	**Kota Kinabalu**	**14.22**	**352**	*e*Pn	**Pn**	**03 25 34.4**	**+2.4**
LWLI	**Liwa**	**14.42**	**281**	P	**Pn**	**03 25 37.6**	**+2.9**
	comp=Z,334nm,0.8s						
MDSI	**Maura Dua**	**14.43**	**284**	P	**P**	**03 25 40.0**	**-1.4**
KDU	**Kakadu**	**14.72**	**109**	P	**Pn**	**03 25 35.5**	**-3.2**
	baz=15,SNR=34						
SWI	**Sorong**	**14.85**	**62**	P	**Pn**	**03 25 42.8**	**+2.3**
	comp=Z,898nm,1.1s,comp=Z,9µm						
SWI	**Sorong**	**14.85**	**62**	P	**P**	**03 25 45.6**	**-0.4**
	baz=15,SNR=22						
FAKI	**Fak Fak**	**14.87**	**70**	P	**Pn**	**03 25 43.0**	**+2.2**
	comp=Z,517nm,1.1s,comp=Z,9µm						
FAKI	**Fak Fak**	**14.87**	**70**	P	**Pn**	**03 25 42.1**	**+1.3**
	baz=15,SNR=59						
FAKI	**Fak Fak**	**14.87**	**70**	*e*Pn	**Pn**	**03 25 40.9**	**+0.1**
FAKI				*e*S	**S**	**03 28 37.4**	**-5.2**
GIRL	**Giralia**	**14.94**	**194**	P	**Pn**	**03 25 42.1**	**+0.4**
	baz=15,SNR=12						
GIRL				S	**Sn**	**03 28 25.3**	**-1.1**
	baz=15,SNR=5.0						
KDM	**Kudat**	**15.01**	**355**	↓P	**P**	**03 25 45.6**	**-2.2**
LHSI	**Lahat**	**15.24**	**285**	P	**P**	**03 25 51.6**	**+1.2**
MNAI	**Manna**	**15.64**	**283**	P	**P**	**03 25 57.9**	**+3.0**
MNAI	**Manna**	**15.64**	**283**	P	**P**	**03 25 55.1**	**+0.2**
	baz=16,SNR=4.4						
MNAI	**Manna**	**15.64**	**283**	*e*Pn	**Pn**	**03 25 52.3**	**+1.4**
	comp=Z,279nm,0.8s						
TPRI	**Tanjung Pinang**	**16.36**	**303**	P	**P**	**03 26 06.0**	**+3.2**
CTBH	**Cotabato--PC H**	**16.38**	**22**	↑P	**P**	**03 26 03.0**	**0.0**
MASI	**Maura Aman, Be**	**16.66**	**286**	P	**P**	**03 26 10.1**	**+3.8**
DAV	**Davao City (W)**	**16.77**	**26**	P	**P**	**03 26 11.2**	**+3.7**
	SNR=8.5						
RKPI	**Ransiki, Papua**	**17.18**	**68**	P	**P**	**03 26 12.0**	**0.0**
	comp=Z,958nm,1.2s,comp=Z,14µm						
MYKOM	**Kota Tinggi**	**17.40**	**304**	*e*Pn	**Pn**	**03 26 13.7**	**+0.4**
	comp=Z,130nm,1.2s						
CGP	**Cagayan de Oro**	**17.68**	**21**	↓*e*P	**P**	**03 26 19.7**	**+2.2**
SDSI	**Sungai Dareh**	**18.20**	**292**	P	**P**	**03 26 27.2**	**+3.9**
MEEK	**Meekatharra**	**18.42**	**179**	P	**Pn**	**03 26 26.3**	**+0.6**
	baz=18,SNR=124						
MEEK				S	Sn	03 29 42.5	-8.4
	baz=18,SNR=7.1						
SRPI	**Serui, Papua**	**18.97**	**72**	P	**Pn**

QIS	Mount Isa	24.07	123	P	P	03 27 24.9	-0.8		
	baz=24,SNR=179								
SNSI	Sinabang, Aceh	24.23	295	P	P	03 27 33.2	+6.1		
FORT	Forrest	24.34	159	P	P	03 27 28.0	+0.1		
	baz=24,SNR=21								
FORT	Forrest	24.34	159	*e*P	P	03 27 28.2	+0.3		
	comp=Z,466nm,0.8s								
TRTT	Trang	24.35	310	P	P	03 27 29.8	+1.6		
	comp=Z,126nm,1.0s,comp=Z,8μm								
LHMI	Lhok Sumawe	25.04	301	P	P	03 27 37.6	+3.2		
	comp=Z,388nm,0.9s,comp=Z,11μm								
LHMI	Lhok Sumawe	25.04	301	P	P	03 27 38.5	+4.1		
	baz=25,SNR=6.3								
LHMI	Lhok Sumawe	25.04	301	*e*P	P	03 27 34.5	+0.1		
	comp=Z,285nm,0.9s								
COEN	Coen	25.14	106	P	P	03 27 35.0	-0.4		
	baz=25,SNR=87								
COEN				S	S	03 32 05.7	+6.6		
	baz=25,SNR=4.8								
COEN	Coen	25.14	106	*e*P	P	03 27 34.9	-0.6		
	comp=Z,124nm,1.0s								
PKDT	Phuket	25.43	308	P	P	03 27 41.7	+3.8		
	comp=Z,106nm,1.2s,comp=Z,6μm								
SZP	Santa	25.60	5	*e*P	P	03 27 40.0	+0.5		
	comp=Z,156nm,1.2s								
SURT	Suratani	25.75	311	P	P	03 27 44.1	+3.2		
	comp=Z,29nm,0.7s,comp=Z,2μm								
CHBT	CHBT	26.07	323	P	P	03 27 48.5	+4.7		
	comp=Z,94nm,0.7s,comp=Z,4μm								
RKGY	Rocky Gully	26.39	182	P	P	03 27 48.0	+1.5		
	baz=26,SNR=17								
QIZ	Qiongzhong	28.22	343	P	P	03 28 04.5	+1.5		
QIZ				pP	pP	03 28 11.0	+0.4		
QIZ				sP	sP	03 28 13.6	-0.1		
QIZ				S	S	03 32 51.7	+4.2		
QIZ				PMZ					
	comp=Z,3μm,11.6s								
QIZ				LN					
	comp=Z,8μm,14.4s								
QIZ				LZ					
	comp=Z,10μm,21.7s								
QIZ	Qiongzhong	28.22	343	*e*P	P	03 28 03.7	+0.7		
	comp=Z,109nm,1.4s								
QIZ				LR	LR				
	comp=Z,12μm,22.0s								
CMBY	CAMPBELL BAY	28.52	301	*e*P	P	03 28 03.0	-2.8		
PMG	Port Moresby	28.61	95	*e*P	P	03 28 06.6	-0.1		
PMG				pmax	pmax				
	comp=Z,35nm,0.9s								
PMG				MLR	MLR				
	comp=Z,9μm,21.0s								
PMG	Port Moresby	28.61	95	*e*P	P	03 28 06.6	-0.1		
	comp=Z,34nm,0.9s								
PMG				LR	LR				
	comp=Z,9μm,21.0s								
SKNT	Sakolnakorn	28.64	331	P	P	03 28 08.9	+2.0		
	comp=Z,48nm,2.1s,comp=Z,3μm								
KHON	Khonkaen	28.69	328	P	P	03 28 13.6	+6.3		
	comp=Z,26nm,1.1s,comp=Z,853nm								
CHAI	Chaiyaphum	28.79	326	P	P	03 28 11.5	+3.4		
	comp=Z,31nm,1.0s,comp=Z,274nm								
SRDT	SRDT	29.29	320	P	P	03 28 16.7	+4.1		
	comp=Z,197nm,2.0s								
BBOO	Buckleboo	29.60	149	P	P	03 28 15.1	-0.1		
	baz=30,SNR=67								
BBOO	Buckleboo	29.60	149	*e*P	P	03 28 15.1	-0.1		
	comp=Z,6.0nm,0.8s								
CTA	Charters Tower	29.61	117	P	P	03 28 15.9	+0.5		
	comp=Z,79nm,1.0s,baz=289,slow=12,SNR=25								
CTA				PcP	PcP	03 31 19.3	-0.7		
	comp=Z,22nm,0.8s,baz=346,slow=4.2,SNR=2.9								
CTA				LR	LR	03 41 40.3			
	comp=Z,21μm,18.1s,baz=293,slow=40								
CTA	Charters Tower	29.61	117	P	P	03 28 15.9	+0.5		
CTA						03 31 19.3			
CTA				pmax	pmax				
	comp=Z,79nm,1.0s								
CTA				pmax	pmax				
	comp=Z,22nm,0.8s								
CTA				MLR	MLR				
	comp=Z,21μm,18.1s								
CTAO	Charters Tower	29.61	117	*e*P	P	03 28 15.6	+0.2		
CTAO				pmax	pmax				
	comp=Z,116nm,1.0s								
CTAO				MLR	MLR				
	comp=Z,20μm,20.0s								
CTAO	Charters Tower	29.61	117	*e*P	P	03 28 15.6	+0.2		
	comp=Z,116nm,1.0s								
CTAO				LR	LR				
	comp=Z,20μm,20.0s								
PBKT	Sadao Pong	29.90	325	P	P	03 28 19.2	+1.3		
	comp=Z,92nm,1.3s,comp=Z,2μm								
KHLT	Khaolaem Dam	29.97	319	P	P	03 28 22.6	+4.0		
	comp=Z,45nm,1.2s,comp=Z,1μm								
UTHA	Uthaitani	30.00	322	P	P	03 28 22.9	+4.0		
	comp=Z,27nm,1.1s,comp=Z,212nm								
LOEI	Loei	30.49	327	P	P	03 28 23.7	+0.4		
	comp=Z,61nm,1.5s,comp=Z,1μm								
HKC	Hong Kong Obse	30.50	353	⇑*i*P	P	03 28 30.0	+6.8		
QLP	Quilpie	30.75	130	P	P	03 28 25.8	+0.3		
	baz=31,SNR=52								
UTTA	Uttaradit	31.07	326	P	P	03 28 30.4	+2.0		
	comp=Z,20nm,1.0s,comp=Z,142nm								
GZH	Guangzhou	31.39	351	P	P	03 28 35.0	+4.0		
GZH				S	S	03 33 44.5	+7.4		
GZH				sS	sS	03 33 55.1	+5.5		
GZH				PMZ					
	comp=Z,4μm,10.7s								
GZH				LN					
	comp=Z,14μm,19.0s								
GZH				LE					
	comp=Z,6μm,13.9s								
SSLB	Suanglung	31.83	5	*e*P	P	03 28 34.6	-0.4		
	comp=Z,34nm,1.1s								
PBA	Port Blair	32.08	307	*e*P	P	03 28 35.9	-1.3		
PBA				AMB	AMB	03 28 43.6			
	comp=Z,58nm,0.8s								
STKA	Stephens Creek	32.11	141	P	P	03 28 37.5	0.0		
	comp=Z,102nm,0.7s,baz=312,slow=8.7,SNR=124								
STKA				LR	LR	03 42 11.9			
	comp=Z,5μm,18.5s,baz=332,slow=38								
STKA	Stephens Creek	32.11	141	*e*P	P	03 28 37.4	0.0		
STKA				pmax	pmax				
	comp=Z,20nm,0.9s								
STKA	Stephens Creek	32.11	141	P	P	03 28 37.4	0.0		
	baz=32,SNR=147								
STKA	Stephens Creek	32.11	141	*e*P	P	03 28 37.4	0.0		
	comp=Z,20nm,0.9s								
LAMP	Lampang	32.22	325	P	P	03 28 42.9	+4.5		
	comp=Z,20nm,1.0s,comp=Z,300nm								
CM31	Chiang Mai Arr	32.56	324	*e*P	P	03 28 42.7	+1.2		
	comp=Z,16nm,0.7s								
CMAR	Chiang Mai Arr	32.56	324	P	P	03 28 42.0	+0.6		
	comp=Z,20nm,1.0s,baz=148,slow=6.6,SNR=32								
CMAR				LR	LR	03 43 12.1			
	comp=Z,12μm,18.6s,baz=159,slow=39								
CMAR	Chiang Mai Arr	32.56	324	P	P	03 28 42.0	+0.6		
CMAR				pmax	pmax				
	comp=Z,20nm,1.0s								
CMAR				MLR	MLR				
	comp=Z,12μm,18.6s								
YOJ	Yonaguni jima	32.72	8	*e*P	P	03 28 42.6	-0.1		
YOJ	Yonaguni jima	32.72	8	*e*P	P	03 28 42.6	-0.1		
YHNB	Yeheng	32.74	5	*e*P	P	03 28 39.5	-3.5		
	comp=Z,98nm,1.5s								
YHNB				LR	LR				
	comp=Z,5μm,22.0s								
CMMT	Chiang Mai	32.84	325	P	P	03 28 47.3	+3.4		
	comp=Z,58nm,1.1s,comp=Z,3μm								
CHTO	Chiang Mai	32.84	325	P	P	03 28 47.3	+3.4		
	comp=Z,582nm,3.0s,comp=Z,12μm								
CHTO	Chiang Mai	32.84	325	*e*P	P	03 28 45.0	+1.1		
CHTO				pmax	pmax				
	comp=Z,51nm,1.2s								
CHTO				MLR	MLR				
	comp=Z,11μm,19.0s								
CHTO	Chiang Mai	32.84	325	P	P	03 28 49.3	+5.4		
	SNR=19								
CHTO	Chiang Mai	32.84	325	*e*P	P	03 28 45.0	+1.1		
	comp=Z,52nm,1.2s								
CHTO				LR	LR				
	comp=Z,11μm,19.0s								
DGPR	DIGLIPUR	32.86	310	*e*P	P	03 28 42.9	-1.1		
QZH	Quanzhou	32.87	1	⇓*i*P	P	03 28 45.0	+1.0		
QZH				PP	PP	03 29 59.4	+0.7		
QZH				S	S	03 33 56.5	-3.7		
QZH				PMZ					
	comp=Z,3μm,8.7s								
QZH				LN					
	comp=Z,8μm,13.5s								
QZH				LE					
	comp=Z,7μm,13.2s								
QZH				LZ					
	comp=Z,12μm,16.8s								
MHMT	Maesariang	32.93	323	P	P	03 28 49.4	+4.7		
	comp=Z,21nm,1.0s,comp=Z,1μm								
TATO	Taipei	33.05	5	PFAKE					
TATO				LR	LR				
	comp=Z,4μm,22.0s								
GUMO	Guam	34.13	51	PFAKE		03 29 10.0	+15		
GUMO				LR	LR				
	comp=Z,381nm,19.0s								
RMQ	Roma	34.24	126	P	P	03 28 57.2	+1.1		
	baz=34,SNR=19								
CMSA	Cobar Meteorol	34.59	136	P	P	03 28 59.6	+0.6		
	baz=34,SNR=65								
JOW	Kunigami	36.09	15	*e*P	P	03 29 09.2	-2.6		
	comp=Z,30nm,1.1s								
GYA	Guiyang	36.16	342	⇑*i*P	P	03 29 16.5	+3.8		
GYA				pP	pP	03 29 23.8	+3.4		
GYA				PP	PP	03 30 40.0	+4.7		
GYA				PcP	PcP	03 31 41.2	+3.0		
GYA				S	S	03 34 54.7	+3.4		
GYA				ScP	ScP	03 35 25.4	+2.3		
GYA				SS	SnSn	03 37 20.8	+2.5		
GYA				PMZ					
	comp=Z,30nm,1.0s								
GYA				PMZ					
	comp=Z,2μm,10.2s								
GYA				LN					
	comp=Z,6μm,17.9s								
GYA				LE					
	comp=Z,7μm,17.6s								
GYA				LZ					
	comp=Z,7μm,20.0s								
KMI	Kunming	36.33	336	P	P	03 29 18.9	+4.6		
KMI				PP	PP	03 30 40.4	+3.2		
KMI				S	S	03 34 55.7	+1.6		
KMI				PMZ					
	comp=Z,62nm,1.1s								
KMI				PMZ					
	comp=Z,3μm,8.7s								
KMI				LN					
	comp=Z,8μm,12.8s								
KMI				LE					
	comp=Z,10μm,16.9s								
KMI				LZ					
	comp=Z,7μm,15.7s								
YNG	Young	38.05	138	P	P	03 29 29.8	+1.2		
	baz=38,SNR=89								
ARMA	Armidale	38.30	130	P	P	03 29 32.4	+1.5		
	baz=38,SNR=18								
ARMA	Armidale	38.30	130	*e*P	P	03 29 31.3	+0.5		
	comp=Z,63nm,0.8s								
TOO	Toolangi	38.32	144	P	P	03 29 32.4	+1.6		
	baz=38,SNR=12								
WHN	Wuhan	38.62	355	P	P	03 29 34.5	+1.2		
WHN				PP	PP	03 31 01.6	-0.5		
WHN				PMZ					
	comp=Z,270nm,1.4s								
WHN				LN					
	comp=Z,4μm,10.8s								
WHN				LE					
	comp=Z,7μm,12.5s								
WHN				LZ					
	comp=Z,13μm,17.3s								
CAN	Canberra	39.06	138	*e*P	P	03 29 37.7	+0.6		
CAN				pmax	pmax				
	comp=Z,60nm,0.9s								
CAN				MLR	MLR				
	comp=Z,10μm,20.0s								
CAN	Canberra	39.06	138	*e*P	P	03 29 37.7	+0.6		
	comp=Z,60nm,0.9s								
CAN				LR	LR				
	comp=Z,10μm,20.0s								
ENH	Enshi	39.09	348	*e*P	P	03 29 38.4	+1.1		
	comp=Z,41nm,1.0s								
ENH				LR	LR				
	comp=Z,4μm,20.0s								
SSE	Sheshan	39.10	4	P	P	03 29 37.8	+0.5		
SSE				S	S	03 35 38.3	+2.9		
SSE				sS	sS	03 35 47.8	-0.3		
SSE				PMZ					
	comp=Z,62nm,1.0s								
SSE				PMZ					
	comp=Z,2μm,8.0s								
SSE				LN					
	comp=Z,3μm,17.1s								
SSE				LE					
	comp=Z,2μm,17.2s								
SSE				LZ					
	comp=Z,3μm,17.0s								
CNB	Canberra Magne	39.29	138	P	P	03 29 40.2	+1.1		
	baz=39,SNR=12								
MGCD	Mangrove Creek	39.32	134	P	P	03 29 41.4	+2.1		
	baz=39,SNR=25								
NJ2	Nanjing	39.95	1	*e*P	P	03 29 45.7	+1.3		
NJ2				pP	pP	03 29 52.2	+0.1		
NJ2				sP	sP	03 29 54.7	-0.5		
NJ2				PP	PnPn	03 31 18.8	-1.3		
NJ2				S	S	03 35 48.5	+0.2		
NJ2				sS	sS	03 36 02.5	+1.6		
NJ2				PMZ					
	comp=Z,150nm,0.9s								
NJ2				PMZ					
	comp=Z,5μm,8.3s								
NJ2				LN					
	comp=Z,7μm,16.3s								
NJ2				LE					
	comp=Z,13μm,16.8s								
NJ2				LZ					
	comp=Z,24μm,16.8s								
IMP	Imphal	40.38	325	*ex*	P	03 29 50.0	+1.8		
PALK	Pallekele	40.42	291	*e*P	P	03 29 48.7	0.0		
PALK				pmax	pmax				
	comp=Z,27nm,1.3s								
PALK	Pallekele	40.42	291	*e*P	P	03 29 48.7	0.0		
	comp=Z,27nm,1.3s								
CD2	Chengdu	41.22	341	⇓*i*P	P	03 29 55.2	+0.2		
CD2				pP	pP	03 29 58.3	-4.4		
CD2				PP	PP	03 31 30.5	0.0		
CD2				S	S	03 36 10.6	+3.3		
CD2				sS	sS	03 36 19.3	-0.7		
CD2				SS	SS	03 39 09.6	-1.6		
CD2				ScS	ScS	03 39 58.2	+0.2		
CD2				PMZ					
	comp=Z,460nm,0.9s								
CD2				PMZ					
	comp=Z,4μm,9.5s								
CD2				LN					
	comp=Z,8μm,19.0s								
CD2				LE					
	comp=Z,13μm,16.6s								
CD2				LZ					
	comp=Z,8μm,15.5s								
HNR	Honiara	41.23	95	*e*P	P	03 29 55.8	+0.5		
HNR				pmax	pmax				
	comp=Z,210nm,0.8s								
HNR				MLR	MLR				
	comp=Z,4μm,20.0s								
HNR	Honiara	41.23	95	*e*P	P	03 29 55.8	+0.5		
	comp=Z,210nm,0.8s								
HNR				LR	LR				
	comp=Z,4μm,20.0s								
CBIJ	Chichi jima	42.01	33	*e*P	P	03 29 57.7	-3.7		
	comp=Z,78nm,0.9s								
JCJ	Chichijima	42.01	33	LR	LR	03 46 33.2			
	comp=Z,2μm,20.9s,baz=254,slow=35								
SHL	Shillong	42.18	323	*e*P	P	03 30 01.0	-2.1		
SHL				eS	S	03 36 26.0	+4.1		
MOO	Moorlands	42.64	148	P	P	03 30 09.0	+2.6		
	baz=43,SNR=5.0								
JNU	Nakatsue	42.74	16	*e*P	P	03 30 08.3	+0.9		
	comp=Z,24nm,1.0s								
XAN	Xi'an	42.85	349	P	P	03 30 08.2	-0.1		
XAN				sP	sP	03 30 16.2	-2.9		
XAN				PP	PP	03 31 48.2	+0.1		
XAN				ScP	ScP	03 35 46.7	-2.0		
XAN				S	S	03 36 30.1	-1.3		
XAN				PMZ					
	comp=Z,760nm,9.8s								
XAN				LN					
	comp=Z,4μm,24.5s								
XAN				LE					
	comp=Z,910nm,17.5s								
XAN				LZ					
	comp=Z,3μm,21.9s								
CHLP	Challavanipeta	42.86	308	*e*P	P	03 30 09.9	+1.4		
CHLP				IAmb	IAmb	03 30 12.4			
	comp=Z,55nm,1.1s								
CHLP				*e*S	S	03 36 35.0	+3.1		
CHLP				*e*SS	SS	03 39 49.9	+6.1		
CHLP				IVMs_BB	IVMs_BB	03 49 12.6			
	comp=Z,4μm,19.9s								
VIS	Vishakhapatnam	42.99	307	*e*P	P	03 30 08.5	-1.1		
TAU	Tasmania Unive	43.04	148	PFAKE		03 30 20.0	+10		
TAU				LR	LR				
	comp=Z,11μm,22.0s								
KSKWJ	Gwangju	43.84	10	⇓P	P	03 30 19.1	+3.0		
	SNR=9.3								
KSKWJ				mb		03 30 20.8			
	SNR=7.7								
SKHT	Srikalahasti	43.98	299	*e*P	P	03 30 17.7	+0.1		
SKHT				IAmb	IAmb	03 30 25.1			
	comp=Z,39nm,1.4s								
SKHT				*e*S	S	03 36 46.4	-2.0		
SKHT				IVMs_BB	IVMs_BB	03 50 30.2			
	comp=Z,3μm,15.8s								
TIA	Tai'an	44.11	359	⇓P	P	03 30 19.7	+1.4		
TIA				PP	PcP	03 32 07.1	+3.8		
TIA				S	S	03 36 47.3	-2.3		
TIA				PMZ					
	comp=Z,30nm,1.3s								
TIA				PMZ					
	comp=Z,3μm,8.7s								
TIA				LN					
	comp=Z,5μm,17.2s								
TIA				LE					
	comp=Z,3μm,11.3s								
TIA				LZ					
	comp=Z,5μm,16.1s								
KSJEU	Jeongeup	44.15	10	P	P	03 30 21.0	+2.4		
	SNR=11								
KSJEU				mb		03 30 23.5			
	SNR=16								
TRD	Trivandrum	44.33	291	⇓*e*P	P	03 30 20.2	-0.2		
TRD				*ex*	x	03 37 04.2			
BOK	Bokaro	44.78	316	*e*P	P	03 30 21.9	-2.0		
KSDAG	Daegu	44.80	12	⇓P	P	03 30 26.1	+2.3		
	SNR=11								
KSDAG				mb		03 30 29.2			
	SNR=14								
KSPHA	Pohang	45.31	13	⇓P	P	03 30 31.2	+3.3		
	SNR=9.1								
KSPHA				mb		03 30 35.1			
	SNR=6.1								
KSSES	Seosan	45.34	9	P	P	03 30 31.8	+3.7		
	SNR=8.5								
KSSES				mb		03 30 41.0			
	SNR=13								
DGAR	Diego Garcia	45.35	268	PFAKE		03 30 40.0	+11		
DGAR				LR	LR				
	comp=Z,5μm,19.0s								
NJS	Nagarjunasagar	45.66	303	*e*P	P	03 30 29.9	-1.1		
NJS				IAmb	IAmb	03 30 35.5			
	comp=Z,36nm,1.2s								
NJS				*e*S	S	03 37 12.7	0.0		
NJS				*e*		03 40 24.3			
NJS				IVMs_BB	IVMs_BB	03 54 40.5			
	comp=Z,2μm,17.1s								
KSCHJ	Chungju	45.68	11	⇑P	P	03 30 33.0	+2.2		
	SNR=14								
KSCHJ				mb		03 30 43.4			
	SNR=15								
KSCHJ				⇑S	S	03 37 12.1	-0.3		
LSA	Lhasa	45.75	326	P	P	03 30 33.1	+1.0		
LSA				pP	pP	03 30 42.2	+2.3		
LSA				sP	sP	03 30 46.1	+3.1		
LSA				PP	PP	03 32 22.3	+2.7		
LSA				S	S	03 37 16.4	+1.8		
LSA				LN					
	comp=Z,2μm,29.7s								
LSA				LE					
	comp=Z,6μm,23.7s								
LSA				LZ					
	comp=Z,5μm,22.5s								
LSA	Lhasa	45.75	326	*e*P	P	03 30 32.0	-0.1		
LSA				pmax	pmax				
	comp=Z,190nm,1.4s								
LSA				MLR	MLR				
	comp=Z,6μm,20.0s								
LSA	Lhasa	45.75	326	*e*P	P	03 30 32.0	-0.1		
	comp=Z,190nm,1.4s								
LSA				LR	LR				
	comp=Z,6μm,20.0s								
KSULJ	Uljin	45.80	13	P	P	03 30 36.7	+4.9		
	SNR=8.5								
KSULJ				mb		03 30 39.3			
	SNR=13								
ODAN	Odare	45.87	320	*e*P	P	03 30 33.6	+0.8		
	comp=Z,340nm,1.0s								
KSSWO	Suwon	45.89	10	⇑P	P	03 30 35.7	+3.3		
	SNR=5.5								
KSSWO				mb		03 30 38.7			
	SNR=5.4								
TIY	Taiyuan	45.92	354	*e*P	P	03 30 37.1	+4.3		
TIY				S	S	03 37 17.8	+1.9		
TIY				sS	sS	03 37 32.9	+4.1		
TIY				PMZ					
	comp=Z,2μm,7.5s								
TIY				LN					
	comp=Z,2μm,9.4s								
TIY				LE					
	comp=Z,3μm,11.5s								
TIY				LZ					
	comp=Z,2μm,14.0s								
LZH	Lanzhou	46.01	344	*e*P	P	03 30 35.0	+1.3		
LZH				pP	pP	03 30 42.1	+0.6		
LZH				sP	sP	03 30 45.1	+0.5		
LZH				PP	PP	03 32 27.3	+5.4		
LZH				*e*S	S	03 37 18.7	+1.2		
LZH				sS	sS	03 37 29.3	-1.1		
LZH				SS	SS	03 40 41.2	-1.7		
LZH				PMZ					
	comp=Z,300nm,1.4s								
LZH				PMZ					
	comp=Z,3μm,6.3s								
LZH				LN					
	comp=Z,6μm,12.0s								
LZH				LE					
	comp=Z,4μm,11.8s								
LZH				LZ					
	comp=Z,5μm,13.7s								
TAPN	Taplejung	46.02	321	*e*P	P	03 30 34.9	+0.9		
	comp=Z,623nm,1.2s								
INCN	Inchon	46.04	9	PFAKE		03 30 40.0	+6.3		
INCN				LR	LR				
	comp=Z,3μm,21.0s								
KSAR	Wonju Array Be	46.22	11	P	P	03 30 35.4	+0.4		
KSAR	Wonju Array Be	46.22	11	P	P	03 30 35.4	+0.4		
KSRS	Korea Array	46.24	11	P	P	03 30 35.4	+0.2		
	comp=Z,54nm,1.0s,baz=188,slow=8.2,SNR=55								
KSRS				LR	LR	03 50 53.6			
	comp=Z,3μm,20.8s,baz=192,slow=37								
KSRS	Korea Array	46.24	11	P	P	03 30 35.4	+0.2		
KSRS				pmax	pmax				
	comp=Z,54nm,1.0s								
KSRS				MLR	MLR				
	comp=Z,3μm,20.8s								
RAMN	Ramite	46.43	320	*e*P	P	03 30 38.2	+1.0		
	comp=Z,535nm,1.3s								
KSCHC	Chuncheon	46.53	10	⇓P	P	03 30 39.7	+2.2		
	SNR=7.2								
KSCHC				mb		03 30 44.3			
	SNR=19								
KSCHC				⇑S	S	03 37 25.1	+0.6		
KSDGY	Daegwallycong	46.61	11	⇓P	P	03 30 40.4	+2.2		
	SNR=7.4								
KSDGY				mb		03 30 57.6			
	SNR=11								
YNCB	YEONCHEON	46.63	9	⇓P	P	03 30 40.3	+2.0		
	SNR=6.0								
YNCB				mb		03 30 50.9			
	SNR=7.0								
YNCB				⇑S	S	03 37 26.3	+0.3		
URV	Uravakonda	46.64	299	*e*P	P	03 30 38.5	-0.3		
URV				*e*PP	PP	03 32 30.2	+1.4		
URV				*e*S	S	03 37 25.8	-1.1		
URV				IVMs_BB	IVMs_BB	03 52 27.0			

comp=Z,2μm,15.2s
HYB Hyderabad 46.71 303 *i* P **P** **03 30 38.0 -1.3**
HYB *e*PcP **PcP** **03 32 15.0 +2.3**
HYB *e*S **S** **03 37 28.0 +0.2**
HYB Hyderabad 46.71 303 *e*P **P** **03 30 38.8 -0.5**
HYB AMB AMB 03 30 50.1
comp=Z,35nm,8.5s
HYBB Hyderabad (bro 46.71 303 *e*P **P** **03 30 39.0 -0.3**
HYBB IAmb IAmb 03 30 42.0
comp=Z,26nm,1.0s
HYBB *e*PP **PP** **03 32 28.4 -1.0**
HYBB *e*S **S** **03 37 26.3 -1.5**
HYBB IVMs_BB IVMs_BB 03 53 29.5
comp=Z,2μm,17.3s
RPR Rampur 46.83 305 *e*P **P** **03 30 41.0 +0.8**
RPR IAmb IAmb 03 30 44.1
comp=Z,50nm,1.1s
RPR *e*S **S** **03 37 31.6 +2.2**
RPR *e*SS **SS** **03 40 59.8 +3.4**
RPR IVMs_BB IVMs_BB 03 50 51.7
comp=Z,2μm,20.6s
DL2 Dalian 46.89 4 ⇑P **P** **03 30 41.8 +1.5**
DL2 S **S** **03 37 29.2 -0.5**
DL2 PMZ
comp=Z,34nm,0.9s
DL2 PMZ
comp=Z,2μm,6.9s
DL2 LN
comp=Z,2μm,15.2s
DL2 LZ
comp=Z,4μm,15.2s
AIS Amsterdam Isla 47.11 225 P P 03 30 26.0 -16
AIS S S 03 37 26.0 -7.0
AIS SS SS 03 41 08.0 +7.7
AIS R 03 44 00.0
JIRN Jiri 47.19 320 *e*P **P** **03 30 44.0 +0.7**
comp=Z,222nm,0.9s
GUN Gumba 47.56 320 *e*P **P** **03 30 46.8 +0.6**
comp=Z,579nm,1.0s
PKI Pulchoki 47.63 319 *e*P **P** **03 30 46.8 +0.1**
comp=Z,263nm,1.0s
PKIN Phulchoki 47.64 319 *e*P **P** **03 30 47.2 +0.5**
comp=Z,98nm,0.9s
DMN Daman 47.85 319 *e*P **P** **03 30 48.6 +0.3**
comp=Z,458nm,1.0s
KKN Kakani 47.86 319 *e*P **P** **03 30 48.8 +0.5**
comp=Z,509nm,1.5s
MNGI Mangalore 47.94 296 *e*P **P** **03 30 46.8 -2.0**
MNGI *ex* x 03 50 32.2
BJT Baijiatuau 47.94 358 *e*P **P** **03 30 48.6 +0.2**
BJT MLR MLR
comp=Z,4μm,19.0s
BJT Baijiatuau 47.94 358 *e*P **P** **03 30 48.6 +0.2**
BJT LR LR
comp=Z,4μm,19.0s
BJI Beijing 47.96 358 P **P** **03 30 50.2 +1.6**
BJI PP **PP** **03 32 44.3 +3.4**
BJI S **S** **03 37 44.9 +0.1**
BJI PMZ
comp=Z,50nm,0.6s
BJI PMZ
comp=Z,3μm,9.0s
BJI LN
comp=Z,6μm,17.7s
BJI LE
comp=Z,4μm,16.6s
MJAR Matsushiro Arr 48.23 22 P **P** **03 30 48.9 -1.9**
comp=Z,34nm,1.2s,baz=196,slow=7.7,SNR=17
MJAR LR LR 03 50 17.7
comp=Z,2μm,21.8s,baz=200,slow=35
MAJO Matsushiro 48.23 22 *e*P **P** **03 30 49.0 -1.8**
MAJO pmax pmax
comp=Z,62nm,1.3s
MAJO MLR MLR
comp=Z,2μm,21.0s
MAJO Matsushiro 48.23 22 *e*P **P** **03 30 49.0 -1.8**
comp=Z,62nm,1.3s
MAJO LR LR
comp=Z,2μm,21.0s
MAT Matsushiro 48.23 22 P **P** **03 30 49.1 -1.7**
MAT S **S** **03 37 48.4 -0.4**
NGP Nagpur 48.24 308 *e*P **P** **03 30 50.9 -0.2**
NGP *e*S **S** **03 37 49.9 +0.4**
NGP *ex* x 03 50 47.0
comp=Z,6μm,20.5s
DZM Mont Dzumac 48.36 112 *e*P **P** **03 30 53.4 +1.2**
comp=Z,272nm,1.2s
DZM *e*S **S** **03 37 53.8 +2.4**
comp=Z,2μm,30.1s
DZM *e*LR LR 03 44 37.5
comp=Z,5μm,21.7s
DZM Mont Dzumac 48.36 112 LR LR 03 52 47.0
comp=Z,5μm,18.2s,baz=344,slow=38
DZM Mont Dzumac 48.36 112 *e*P **P** **03 30 52.8 +0.6**
comp=Z,109nm,1.1s
GKN Gorkha 48.42 319 *e*P **P** **03 30 52.8 +0.2**
comp=Z,371nm,1.0s
KOLN Koldanda 48.94 318 *e*P **P** **03 30 56.8 +0.1**
comp=Z,205nm,0.9s
BTO Baotou 49.07 352 *e*P **P** **03 30 56.9 -0.4**
HHC Hu-ho-hao-te 49.12 353 *e*P **P** **03 30 59.6 +2.0**
HHC pP **pP** **03 31 06.0 +0.5**
HHC PP **PP** **03 32 56.3 +4.7**
HHC S **S** **03 37 58.9 -2.5**
HHC sS **sS** **03 38 10.0 -4.3**
HHC SS **SS** **03 41 33.1 +0.1**
HHC PMZ
comp=Z,46nm,1.1s
HHC PMZ
comp=Z,3μm,8.8s
HHC LN
comp=Z,3μm,14.5s
HHC LE
comp=Z,4μm,13.3s
HHC LZ
comp=Z,3μm,12.6s
SNY Shenyang 49.95 5 ⇓P **P** **03 31 04.5 +0.7**
SNY S **S** **03 38 07.1 -5.6**
SNY PMZ
comp=Z,42nm,1.1s
SNY PMZ
comp=Z,2μm,8.1s
SNY LN
comp=Z,3μm,18.8s
SNY LE
comp=Z,1μm,15.6s
SNY LZ
comp=Z,4μm,17.7s
GTA Gaotai 50.28 341 ⇑P **P** **03 31 08.2 +1.6**
GTA pP **pP** **03 31 14.5 0.0**
GTA sP **sP** **03 31 17.5 0.0**
GTA PP **PP** **03 33 05.4 +3.1**
GTA S **S** **03 38 21.4 +3.6**
GTA sS **sS** **03 38 31.7 +0.9**
GTA SS **SS** **03 41 53.9 +2.0**
GTA PMZ
comp=Z,28nm,2.0s
GTA PMZ
comp=Z,4μm,7.8s
GTA LN
comp=Z,4μm,16.4s
GTA LE
comp=Z,8μm,18.3s
GTA LZ
comp=Z,4μm,17.6s
BHPL Bhopal 50.64 309 *e*P **P** **03 31 08.4 -1.0**
POO Poona 51.17 302 *e*P P 03 31 10.0 -3.5
comp=Z,114nm,1.2s
CN2 Changchun 52.09 7 ⇑P **P** **03 31 23.0 +3.1**
CN2 *es*P **sP** **03 31 32.0 +1.1**
CN2 *e*S **S** **03 38 45.8 +3.4**
CN2 PMZ
comp=Z,20nm,1.0s
CN2 PMZ
comp=Z,500nm,6.0s
CN2 LN
comp=Z,4μm,14.0s
CN2 LE
comp=Z,3μm,14.0s
CN2 LZ
comp=Z,6μm,15.0s
MDJ Mudanjiang 53.49 10 P **P** **03 31 30.7 +0.5**
MDJ pP **pP** **03 31 37.1 -1.0**
MDJ sP **sP** **03 31 39.9 -1.3**
MDJ PcP **PcP** **03 32 38.6 +1.7**
MDJ PP **PP** **03 33 30.6 -0.4**
MDJ S **S** **03 39 00.2 -1.2**
MDJ ScS **ScS** **03 41 14.9 -3.2**
MDJ SS **SS** **03 42 41.0 -1.1**
MDJ PMZ
comp=Z,35nm,0.8s
MDJ PMZ
comp=Z,2μm,9.1s
MDJ LN
comp=Z,2μm,21.6s
MDJ LE
comp=Z,2μm,20.1s
MDJ LZ
comp=Z,3μm,21.1s
MDJ Mudanjiang 53.49 10 *e*P **P** **03 31 28.4 -1.8**
comp=Z,125nm,1.2s
MDJ LR LR
comp=Z,3μm,20.0s
USRK Ussuriysk Ar. 53.55 12 P **P** **03 31 31.4 +0.7**
comp=Z,41nm,0.8s,baz=186,slow=6.5,SNR=47
USRK LR LR 03 55 31.8
comp=Z,2μm,19.3s,baz=186,slow=38
NDI New Delhi 53.89 314 *ex* **P** **03 31 34.0 +0.5**
DDI Dehra Dun 54.30 317 *e*P **P** **03 31 35.1 -1.4**
ERM Erimo 54.87 23 PFAKE 03 31 50.0 +10
ERM LR LR
comp=Z,3μm,20.0s
WAKE Wake Island 54.93 60 PFAKE 03 31 50.0 +8.8
WAKE LR LR
comp=Z,2μm,21.0s
TARA Tarawa 55.33 83 PFAKE 03 32 00.0 +16
TARA LR LR
comp=Z,4μm,21.0s
SMLA Simla 55.40 317 *e*P **P** **03 31 43.4 -0.9**
SMLA AMB AMB 03 31 49.8
comp=Z,90nm,2.1s
ASAJ Asahikawa 56.48 21 *e*P **P** **03 31 50.2 -1.6**
ULN Ulaanbaatar 56.62 351 *e*P **P** **03 31 53.5 +0.5**
ULN pmax pmax
comp=Z,118nm,1.5s
ULN MLR MLR
comp=Z,4μm,20.0s
ULN Ulaanbaatar 56.62 351 P **P** **03 31 53.9 +0.9**
SNR=46
ULN Ulaanbaatar 56.62 351 *e*P **P** **03 31 53.5 +0.5**
comp=Z,118nm,1.5s
ULN LR LR
comp=Z,4μm,20.0s
DHRM DHARAMSHALA 56.66 317 *e*P **P** **03 31 52.6 -1.1**
DHRM AMB AMB 03 31 59.4
comp=Z,146nm,1.8s
SONM Songino Array 56.69 350 P **P** **03 31 53.9 +0.4**
comp=Z,34nm,1.0s,baz=167,slow=9.6,SNR=31
SONM LR LR 03 59 31.6
comp=Z,5μm,19.6s,baz=176,slow=40
SONM Songino Array 56.69 350 P **P** **03 31 53.9 +0.4**
SONM pmax pmax
comp=Z,34nm,1.0s
SONM MLR MLR
comp=Z,5μm,19.7s
WHZ Wether Hill Ro 56.80 140 *e*P **P** **03 31 54.0 -0.2**
comp=Z,93nm,1.1s
HIA Hailar 57.16 1 *e*P **P** **03 31 56.7 +0.1**
HIA pmax pmax
comp=Z,38nm,1.1s
HIA MLR MLR
comp=Z,3μm,19.0s
HIA Hailar 57.16 1 *e*P **P** **03 31 56.7 +0.1**
comp=Z,38nm,1.1s
HIA LR LR
comp=Z,3μm,19.0s
PAF Port-aux-Franc 57.37 215 P P 03 31 40.0 -18
PAF S S 03 39 33.0 -20
PAF L L 03 45 00.0
PAF R 03 48 00.0
PAF Port-aux-Franc 57.37 215 PFAKE 03 32 10.0 +12
PAF LR LR
comp=Z,4μm,19.0s
YUK Yuzh-Kuril'sk 57.62 23 *i* PPP PPP 03 35 27.0
YUK *i* S S 03 39 49.5 -7.1
YUK *i* SS **SS** **03 43 50.1 +2.8**
YUK *i* SSS SSS 03 45 59.6
YUK pmax pmax
comp=E,241nm,1.6s
YUK pmax pmax
comp=Z,544nm,1.6s
YUK pmax pmax
comp=N,86nm,0.8s
RPZ Rata Peaks 57.96 137 *e*P **P** **03 32 01.8 -0.7**
comp=N,183nm,0.9s
HABR Khabarovsk 58.27 13 *ce*P **P** **03 32 04.3 -0.1**
HABR *e*SP 03 32 11.1
HABR *e* 03 32 52.9
HABR *e* 03 34 11.5
HABR *e*S **S** **03 40 05.9 +1.0**
HABR *e*SS x 03 40 14.9
HABR *e* 03 41 50.6
HABR *e*SS **SS** **03 43 59.6 +2.3**
HABR pmax pmax
comp=N,73nm,2.3s
HABR pmax pmax
comp=E,101nm,2.3s
HABR pmax pmax
comp=Z,185nm,2.3s
HABR MLR MLR
comp=Z,3μm,18.0s
CASY Casey 58.31 184 *e*P **P** **03 32 04.0 -0.4**
comp=Z,503nm,2.9s
CASY LR LR
comp=Z,4μm,21.0s
KLR Kul'dur 58.33 10 *e*P P 03 32 00.0 -4.8
KLR *e*S S 03 39 59.0 -6.7
KLR *e* 03 43 53.0
KLR pmax pmax
comp=Z,130nm,2.2s
KLR smax smax
comp=N,2μm,13.0s
KLR smax smax
comp=E,2μm,13.0s
KLR MLR MLR
comp=E,2μm,16.0s
WMQ Urumqi 58.64 334 *e*P **P** **03 32 09.0 +1.8**
WMQ pP **pP** **03 32 15.1 -0.1**
WMQ sP **sP** **03 32 17.9 -0.3**
WMQ PcP **PcP** **03 32 58.9 +1.8**
WMQ ScP **ScP** **03 36 56.7 +0.6**
WMQ PcS **PcS** **03 36 59.1 +0.3**
WMQ S **S** **03 40 10.4 +0.3**
WMQ sS **sS** **03 40 20.6 -2.7**
WMQ ScS **ScS** **03 41 53.7 -1.8**
WMQ SS **SS** **03 44 04.8 +1.2**
WMQ PMZ
comp=E,64nm,1.1s
WMQ PMZ
comp=E,4μm,9.2s
WMQ LN
comp=E,4μm,15.8s
WMQ LE
comp=E,3μm,17.6s
WMQ LZ
comp=E,6μm,29.6s
MSVF Nonsavu 58.87 106 P **P** **03 32 10.0 +0.7**
comp=E,289nm,1.1s,SNR=5.1
MSVF Nonsavu 58.87 106 *e*P **P** **03 32 08.9 -0.5**
MSVF pmax pmax
comp=Z,197nm,1.6s
MSVF MLR MLR
comp=Z,5μm,20.0s
MSVF Nonsavu 58.87 106 *e*P **P** **03 32 08.9 -0.5**
comp=Z,197nm,1.6s
MSVF LR LR
comp=Z,5μm,20.0s
YSS Yuzh-Sakhalins 59.02 19 *ce*P **P** **03 32 12.6 +3.0**
YSS *e* 03 33 04.0
YSS *e* 03 34 26.0
YSS *e*S **S** **03 40 15.0 +0.3**
YSS *e*PS **PnS** **03 40 27.0 -1.8**
YSS *e*SS **SS** **03 44 10.0 +0.9**
YSS *e*SSS SSS 03 46 36.0
YSS pmax pmax
comp=Z,2μm,9.0s
YSS MLR MLR
comp=Z,2μm,18.0s
YSS MLR MLR
comp=N,1μm,16.0s
YSS Yuzh-Sakhalins 59.02 19 *e*P P 03 32 06.4 -3.2
comp=N,31nm,0.8s
YSS LR LR
comp=Z,826nm,21.0s
KHZ Kahutara 59.23 135 *e*P **P** **03 32 12.3 +1.1**
comp=Z,131nm,1.2s
KUR Kuril'sk 59.42 24 *c i*P **P** **03 32 13.4 +1.0**
KUR *i* 03 34 21.0
KUR *i*S **S** **03 40 20.4 +0.5**
KUR pmax pmax
comp=N,119nm,1.5s
KUR pmax pmax
comp=E,139nm,1.5s
KUR pmax pmax
comp=Z,271nm,1.5s
ZAK Zakamensk 59.70 349 ⇓*i*P **P** **03 32 14.0 -0.4**
ZAK pmax pmax
comp=Z,46nm,1.5s
SNZO South Karori 59.71 133 *e*P **P** **03 32 13.2 -1.5**
comp=Z,158nm,1.2s
SNZO LR LR
comp=Z,6μm,19.0s
CIT Chita 60.04 357 *e*P **P** **03 32 17.6 +0.9**
CIT *e* 03 32 28.5
CIT *e* 03 32 35.4
CIT *e* 03 33 01.3
CIT pmax pmax
comp=Z,242nm,3.0s
DRV Dumont d'Urvil 60.33 170 P P 03 32 00.0 -18
DRV S S 03 40 24.0 -7.1
DRV SS SS 03 44 16.0 -13
DRV R 03 49 00.0
BKZ Black Stump Fm 60.45 131 *e*P **P** **03 32 20.3 +0.5**
comp=Z,56nm,0.8s
URZ Urewera 60.70 129 *e*P **P** **03 32 20.9 -0.6**
comp=Z,41nm,0.9s
TLY Talaya 60.88 350 P **P** **03 32 24.3 +1.9**
comp=Z,301nm,1.1s,SNR=18
TLY Talaya 60.88 350 *c i*P **P** **03 32 23.1 +0.7**
TLY *e*S **S** **03 40 36.8 -1.7**
TLY *e* 03 42 11.3
TLY *e*SSS SSS 03 47 09.5
TLY pmax pmax
comp=Z,142nm,1.7s
TLY MLR MLR
comp=Z,2μm,16.0s
TLY Talaya 60.88 350 P **P** **03 32 23.6 +1.3**
SNR=57
TLY Talaya 60.88 350 *e*P **P** **03 32 23.0 +0.7**
TLY LR LR
comp=Z,2μm,19.0s
IRK Irkutsk 61.31 350 *e*P **P** **03 32 24.8 -0.5**
IRK *e*S **S** **03 40 49.3 +5.3**
IRK pmax pmax
comp=Z,170nm,1.7s
MOY Mondy 61.37 348 *e*P **P** **03 32 27.7 +1.8**
MOY pmax pmax
comp=Z,239nm,1.9s
KSH Kashi 61.45 324 P **P** **03 32 28.8 +2.1**
KSH sP **sP** **03 32 37.8 +0.1**
KSH PP **PP** **03 34 46.4 +4.1**
KSH PcS **PcS** **03 37 12.2 +0.6**
KSH S **S** **03 40 46.6 0.0**
KSH ScS **SKKSac** **03 42 15.5 -1.2**
KSH PMZ
comp=Z,47nm,0.9s
KSH PMZ
comp=Z,2μm,8.8s
KSH LN
comp=Z,2μm,14.9s
KSH LE
comp=Z,4μm,17.1s
KSH LZ
comp=Z,5μm,26.4s
RER Riviere de l'E 61.49 250 *e*P **P** **03 32 27.6 +0.3**
comp=Z,113nm,0.9s
PDGK Podgornoye 62.13 329 P **P** **03 32 30.5 -0.4**
PDGK pmax pmax
comp=Z,64nm,1.3s
MSEY Mahe Island 62.41 269 PFAKE 03 32 50.0 +16
MSEY LR LR
comp=Z,2μm,20.0s
KBL Kabul 62.94 315 *e*P **P** **03 32 34.7 -2.1**
KBL pmax pmax
comp=Z,23nm,0.8s
KBL Kabul 62.94 315 *e*P **P** **03 32 34.7 -2.1**
comp=Z,23nm,0.8s
ULHL Ulahol 63.10 326 P **P** **03 32 40.0 +2.2**
SNR=8.2
SFK Sufi-Kurgan 63.24 323 P **P** **03 32 39.6 +0.9**
SFK pmax pmax
comp=Z,23nm,1.0s
RAO Raoul Island 63.28 119 PFAKE 03 32 50.0 +11
RAO LR LR
comp=Z,7μm,21.0s
MK31 Makanchi Array 63.34 333 *e*P **P** **03 32 38.8 -0.2**
MK31 Makanchi Array 63.34 333 *e*P **P** **03 32 38.8 -0.2**
MKAR Makanchi Array 63.34 333 P **P** **03 32 39.3 +0.3**
comp=Z,44nm,1.0s,baz=171,slow=5.0,SNR=126
MKAR PKP2bc 04 01 44.0
comp=Z,3.3nm,1.0s,baz=282,slow=6.1,SNR=11
MKAR LR LR 04 03 11.0
comp=Z,1μm,19.9s,baz=136,slow=39
MKAR Makanchi Array 63.34 333 *e*P **P** **03 32 39.4 +0.4**
AAA Alma-Ata 63.42 327 *e*P **P** **03 32 39.8 +0.2**
AAA *e*S **S** **03 41 10.4 -0.6**
AAA pmax pmax
comp=Z,3μm,8.9s
AAA smax smax
comp=N,6μm,9.5s
KZA Kyzart 63.55 325 P **P** **03 32 40.5 -0.4**
SNR=28
TKM2 Tokmak 2 63.91 326 P **P** **03 32 43.9 +0.8**
SNR=15
TKM2 Tokmak 2 63.91 326 *e*P **P** **03 32 42.4 -0.7**
TKM2 pmax pmax
comp=Z,143nm,1.9s
TKM2 MLR MLR
comp=Z,3μm,20.0s
TKM2 Tokmak 2 63.91 326 *e*P **P** **03 32 42.4 -0.7**
comp=Z,144nm,1.9s
TKM2 LR LR
comp=Z,3μm,20.0s
UCH Uchtor 64.06 325 P **P** **03 32 43.9 -0.5**
SNR=11
KBK Karagaybulak 64.09 326 P **P** **03 32 42.6 -1.7**
SNR=14
KBK Karagaybulak 64.09 326 *i*P **P** **03 32 42.6 -1.7**
AAK Ala-Archa 64.33 326 P **P** **03 32 46.3 +0.5**
comp=Z,132nm,1.1s,SNR=10
AAK Ala-Archa 64.33 326 P **P** **03 32 48.9 +3.1**
SNR=12
AAK Ala-Archa 64.33 326 *e*P **P** **03 32 44.8 -1.0**
AAK pmax pmax
comp=Z,31nm,1.1s
AAK MLR MLR
comp=Z,3μm,20.0s
AAK Ala-Archa 64.33 326 P **P** **03 32 46.1 +0.3**
SNR=22
AAK Ala-Archa 64.33 326 *e*P **P** **03 32 44.8 -1.0**
comp=Z,31nm,1.1s
AAK LR LR
comp=Z,3μm,20.0s
FRU Bishkek 64.39 326 ⇓*i*P **P** **03 32 47.0 +0.9**
FRU *e*S **S** **03 41 25.0 +1.9**
FRU pmax pmax
comp=Z,186nm,2.8s
FRU smax smax
comp=E,3μm,11.0s
AML Almayashu 64.46 325 P **P** **03 32 48.0 +1.0**
SNR=23
AML Almayashu 64.46 325 *i*P **P** **03 32 48.0 +1.0**
USP Ospenovka 64.74 326 P **P** **03 32 48.9 +0.6**
SNR=13
EKS2 Erkin-Say 64.75 325 P P 03 32 51.8 +3.2
SNR=16
EKS2 Erkin-Say 64.75 325 *e*P **P** **03 32 49.0 +0.5**
EKS2 pmax pmax
comp=Z,68nm,1.5s
EKS2 MLR MLR
comp=Z,5μm,21.0s
EKS2 Erkin-Say 64.75 325 *e*P **P** **03 32 49.0 +0.5**
comp=Z,68nm,1.5s
EKS2 LR LR
comp=Z,5μm,21.0s
CLNS Chul'man 64.96 4 *e*P **P** **03 32 51.3 +1.8**

CLNS e*PP pP 03 33 09.1 +12
CLNS e 03 33 24.1
CLNS e 03 35 16.2
CLNS ePPP PPP 03 36 49.8
CLNS eS **S** **03 41 31.7 +2.1**
CLNS eSS **SS** **03 45 39.3 -2.7**
CLNS pmax pmax
comp=E,13nm,0.9s
CLNS pmax pmax
comp=N,28nm,1.0s
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS pmax pmax
comp=Z,8.0nm,1.0s
CLNS pmax pmax
comp=N,8.0nm,1.0s
CLNS smax smax
comp=E,2µm,12.7s
CLNS smax smax
comp=N,1µm,12.7s
CLNS MLR MLR
comp=Z,1µm,15.0s
CLNS MLR MLR
comp=N,514nm,12.0s
CLNS MLR MLR
comp=E,930nm,15.0s
DZET Dzherino 65.43 319 P **P** **03 32 52.7 -0.3**
DZET pmax pmax
comp=Z,47nm,1.1s
BOD Bodaibo 65.81 358 eP **P** **03 32 55.2 +0.4**
BOD pmax pmax
comp=Z,90nm,1.6s
KK31 Karatay Array 66.91 324 P **P** **03 33 02.6 +0.3**
KK31 pmax pmax
comp=Z,11nm,0.9s
KKAR Karatay Array 66.91 324 eP **P** **03 33 02.3 0.0**
KKAR pmax pmax
comp=Z,9.0nm,0.9s
KKAR Karatay Array 66.91 324 eP **P** **03 33 02.3 0.0**
comp=Z,8.6nm,0.9s
KURK Kurchatov 67.88 334 P **P** **03 33 08.3 +0.1**
comp=Z,143nm,0.9s,SNR=19
KURK Kurchatov 67.88 334 eP **P** **03 33 07.8 -0.4**
KURK pmax pmax
comp=Z,208nm,1.6s
KURK MLR MLR
comp=Z,3µm,19.0s
KURK Kurchatov 67.88 334 P **P** **03 33 08.2 +0.1**
SNR=53
KURK Kurchatov 67.88 334 eP **P** **03 33 07.8 -0.4**
comp=Z,208nm,1.6s
KURK LR LR
comp=Z,3µm,19.0s
CRZF Crozet Islands 67.92 223 P P 03 32 45.0 -24
CRZF S S 03 41 22.0 -44
CRZF L L 03 49 00.0
CRZF R 03 53 00.0
ZAA0 Zalesovo Array 67.96 339 eP **P** **03 33 07.4 -1.2**
ZALV Zalesovo Beam 67.96 339 P **P** **03 33 07.7 -0.9**
comp=Z,77nm,0.9s,baz=144,slow=5.1,SNR=117
ZALV PKP2ab 04 01 30.4
comp=Z,3.2nm,1.0s,baz=309,slow=4.7,SNR=7.3
ZALV LR LR 04 05 12.4
comp=Z,1µm,18.1s,baz=292,slow=38
AFI Afiamalu 68.74 102 PFAKE 03 33 30.0 +16
AFI LR LR
comp=Z,2µm,19.0s
IDAH Dahanechah 68.77 310 eP **P** **03 33 13.5 -1.0**
NVS Novosibirsk 69.23 339⇓ iP **P** **03 33 14.2 -2.3**
NVS eS **S** **03 42 19.0 -2.0**
NVS pmax pmax
comp=Z,153nm,1.9s
NVS pmax pmax
comp=N,52nm,1.5s
NVS pmax pmax
comp=E,67nm,1.5s
NVS smax smax
comp=N,9.0nm,1.4s
NVS smax smax
comp=E,67nm,2.4s
IKOO Kooshah 69.30 309 eP **P** **03 33 19.8 +2.0**
ABPO Ambohimpanom 69.49 253 eP **P** **03 33 17.9 -1.3**
ABPO pmax pmax
comp=Z,39nm,1.3s
ABPO MLR MLR
comp=Z,2µm,22.0s
ABPO Ambohimpanom 69.49 253 eP **P** **03 33 17.9 -1.3**
comp=Z,39nm,1.3s
ABPO LR LR
comp=Z,2µm,22.0s
PEA0B Petropavlovsk- 69.58 24 eP **P** **03 33 18.8 0.0**
PETK Petropavlovsk- 69.58 24 P **P** **03 33 18.7 -0.1**
comp=Z,29nm,0.9s,baz=194,slow=4.1,SNR=20
PETK LR LR 04 01 41.8
comp=Z,765nm,21.6s,baz=227,slow=34
ITEG Tejag 69.69 309 eP **P** **03 33 22.3 +2.2**
MAW Mawson 69.80 200 P **P** **03 33 21.3 +1.4**
comp=Z,29nm,1.0s,baz=52,slow=7.9,SNR=23
MAW LR LR 03 58 02.4
comp=Z,3µm,21.8s,baz=54,slow=31
MAW Mawson 69.80 200 P **P** **03 33 21.2 +1.3**
baz=70,SNR=17
PET Petropavlovsk 69.91 25*c* iP **P** **03 33 21.4 +0.6**
PET e*PP **pP** **03 33 26.4 -2.5**
PET e 03 35 50.5
PET eS **S** **03 42 31.4 +2.3**
PET eSS **SS** **03 46 55.6 -3.1**
PET pmax pmax
comp=Z,68nm,1.2s
PET pmax pmax
comp=Z,2µm,9.2s
PET pmax pmax
comp=Z,2µm,10.0s
PET pmax pmax
comp=Z,700nm,10.7s
PET MLR MLR
comp=Z,1µm,19.0s
PET Petropavlovsk 69.91 25 eP **P** **03 33 18.0 -2.8**
comp=Z,95nm,1.2s
PET LR LR
comp=Z,1µm,20.0s
IMYA Miami 70.17 313 eP **P** **03 33 21.5 -1.5**
YAK Yakutsk 70.51 6 eP **P** **03 33 24.6 +0.4**
YAK e 03 33 45.1
YAK e 03 36 01.3
YAK ePPP PPP 03 37 46.0
YAK eS **S** **03 42 30.1 -5.6**
YAK e*SS **SKiKP** **03 43 07.8 +1.0**
YAK e 03 43 19.9
YAK eSS SS 03 47 00.1 -7.4
YAK pmax pmax
comp=Z,139nm,0.9s
YAK pmax pmax
comp=N,54nm,1.0s
YAK pmax pmax
comp=E,22nm,1.1s
YAK pmax pmax
comp=Z,519nm,5.7s
YAK pmax pmax
comp=N,234nm,4.9s
YAK pmax pmax
comp=E,80nm,3.9s
YAK smax smax
comp=N,2µm,5.6s
YAK smax smax
comp=E,1µm,8.1s
YAK Yakutsk 70.51 6 eP **P** **03 33 23.3 -0.9**
YAK LR LR
comp=Z,2µm,21.0s
ISRO Mashad 70.61 313 eP **P** **03 33 24.4 -1.2**
IMOG Moghan 70.62 313 eP **P** **03 33 25.8 -0.1**
IPAY Payeh 71.02 313 eP **P** **03 33 28.4 +0.1**
IAKL Akhelmad 71.26 313 eP **P** **03 33 28.7 -1.1**
IKRD Kardeh 71.51 313 eP P 03 33 26.3 -4.9
IBAF Bafgh 71.65 307 eP **P** **03 33 31.5 -0.6**
ISFR Sfrayin 72.00 313 eP **P** **03 33 34.0 -0.2**
GEYT Alibeck 72.29 314 P **P** **03 33 35.0 -0.6**
comp=Z,17nm,1.0s,baz=122,slow=5.4,SNR=15
GEYT LR LR 04 06 54.8
comp=Z,2µm,21.9s,baz=85,slow=37
IMEH Mehriz 72.34 306 eP **P** **03 33 34.2 -2.1**
ICHK Chekchek 72.81 307 eP **P** **03 33 38.2 -0.8**
VNDA Vanda 72.97 171 P **P** **03 33 38.9 0.0**
comp=Z,8.0nm,0.8s,baz=312,slow=7.1,SNR=43
VNDA LR LR 04 04 20.0
comp=Z,2µm,19.6s,baz=343,slow=35

VNDA Vanda 72.97 171 eP **P** **03 33 39.7 +0.8**
VNDA pmax pmax
comp=Z,422nm,2.9s
VNDA Vanda 72.97 171 eP **P** **03 33 39.7 +0.8**
comp=Z,422nm,2.9s
BVA0 Borovoye Array 73.17 332 P **P** **03 33 38.9 -1.6**
BVA0 pmax pmax
comp=Z,34nm,1.2s
BVAR Borovoye Array 73.17 332 P **P** **03 33 39.7 -0.8**
comp=Z,15nm,0.8s,baz=138,slow=9.4,SNR=52
BVAR LR LR 04 09 19.9
comp=Z,3µm,20.4s,baz=136,slow=39
BVAR Borovoye Array 73.17 332 P **P** **03 33 39.7 -0.8**
BVAR pmax pmax
comp=Z,15nm,0.8s
BVAR MLR MLR
comp=Z,3µm,20.4s
BRVK Borovoye 73.24 332 P **P** **03 33 40.4 -0.5**
comp=Z,107nm,1.0s,SNR=9.6
BRVK Borovoye 73.24 332 eP **P** **03 33 39.8 -1.1**
BRVK pmax pmax
comp=Z,45nm,1.2s
BRVK MLR MLR
comp=Z,4µm,20.0s
BRVK Borovoye 73.24 332 P **P** **03 33 40.7 -0.2**
SNR=20
BRVK Borovoye 73.24 332 eP **P** **03 33 39.8 -1.1**
comp=Z,45nm,1.2s
BRVK LR LR
comp=Z,4µm,20.0s
ISAD Sadrabad 73.26 307 eP **P** **03 33 41.1 -0.7**
SBA Scott Base 73.97 170 eP **P** **03 33 45.7 +0.9**
SBA pmax pmax
comp=Z,297nm,2.3s
SBA MLR MLR
comp=Z,3µm,20.0s
SBA Scott Base 73.97 170 eP **P** **03 33 45.7 +0.9**
comp=Z,297nm,2.3s
SBA LR LR
comp=Z,3µm,20.0s
IANJ Anjilo 74.39 310 eP **P** **03 33 45.8 -2.5**
ISHM Shahmirzad 74.98 310 eP **P** **03 33 50.6 -1.3**
ILAS Lasjerd 75.08 310 eP **P** **03 33 52.4 +0.1**
IFIR Firoozkooh 75.33 310 eP **P** **03 33 54.7 +0.9**
SEY Seymchan 75.52 15 eP **P** **03 33 54.6 +0.7**
IPIR Pirpir 75.75 307 eP **P** **03 33 54.5 -1.7**
AB31 Akbulak array 76.41 325 *i* P **P** **03 33 58.4 -0.9**
AB31 pmax pmax
comp=N,18nm,0.9s
IRAZ Razeghan 77.41 309 eP **P** **03 34 06.1 +0.6**
RAYN Ar Rayn 77.64 296 eP **P** **03 34 03.9 -3.0**
comp=N,9.7nm,1.0s
SYO Syowa Base 78.39 201⇓ eP **P** **03 34 09.5 -0.6**
TIXI Tiksi 79.92 3 eP **P** **03 34 16.9 -1.3**
TIXI pmax pmax
comp=Z,69nm,1.1s
TIXI MLR MLR
comp=Z,2µm,20.0s
TIXI Tiksi 79.92 3 eP **P** **03 34 16.9 -1.3**
comp=Z,69nm,1.1s
TIXI LR LR
comp=Z,2µm,20.0s
SVE Sverdlovsk 79.96 332⇓ eP **P** **03 34 17.5 -1.3**
SVE eS **S** **03 44 19.2 -1.7**
SVE e 03 45 06.0
SVE eSS **SS** **03 49 33.8 +2.7**
SVE pmax pmax
comp=Z,28nm,1.1s
SVE MLR MLR
comp=Z,3µm,20.0s
ARU Arti 80.73 331 P **P** **03 34 22.4 -0.6**
comp=Z,79nm,1.2s,SNR=5.3
ARU Arti 80.73 331*c* iP **P** **03 34 21.6 -1.4**
ARU 03 37 28.4
ARU S **S** **03 44 31.1 +2.0**
ARU pmax pmax
comp=Z,21nm,1.2s
ARU MLR MLR
comp=Z,4µm,24.0s
ARU Arti 80.73 331 eP **P** **03 34 22.1 -0.8**
comp=Z,29nm,1.3s
ARU LR LR
comp=Z,4µm,22.0s
KMBO Kilima Mbogo 80.92 270 P **P** **03 34 24.6 -0.6**
comp=Z,16nm,1.0s,baz=51,slow=5.7,SNR=19
KMBO LR LR 04 08 14.5
comp=Z,2µm,18.5s,baz=98,slow=34
KMBO Kilima Mbogo 80.92 270 eP **P** **03 34 23.6 -1.6**
KMBO pmax pmax
comp=Z,21nm,1.1s
KMBO MLR MLR
comp=Z,2µm,19.0s
KMBO Kilima Mbogo 80.92 270 P **P** **03 34 26.8 +1.6**
SNR=6.2
KMBO Kilima Mbogo 80.92 270 eP **P** **03 34 23.6 -1.6**
comp=Z,21nm,1.1s
KMBO LR LR
comp=Z,2µm,19.0s
ADK Adak 81.47 35 PFAKE 03 34 40.0 +13
ADK LR LR
comp=Z,3µm,21.0s
MAK Makhachkala 81.69 316 eP **P** **03 34 28.6 +0.3**
MAK e 03 34 35.5
MAK e 03 37 34.7
MAK ePPP PPP 03 39 29.7
MAK eS **S** **03 44 38.7 -0.8**
MAK eSSS SSS 03 53 18.0
MAK pmax pmax
comp=Z,10.0nm,0.3s
MAK MLR MLR
comp=Z,2µm,23.0s
QSPA South Pole Qui 81.87 180 eP **P** **03 34 29.2 +0.2**
comp=Z,62nm,1.1s
DGRG David-gareji 82.72 314 P **P** **03 34 35.1 +1.2**
GNI Garni 82.79 312 PFAKE 03 34 50.0 +16
GNI LR LR
comp=Z,1µm,22.0s
HAKT HAKKARI 82.84 309 *i* P **P** **03 34 33.6 -1.2**
SOKR Solikamsk 83.12 333*c* *i* P **P** **03 34 33.6 -1.8**
SOKR 03 37 45.2
SOKR PPP PPP 03 39 40.7
SOKR S **S** **03 44 50.8 -2.6**
SOKR SS **SS** **03 50 16.1 -1.9**
SOKR pmax pmax
comp=Z,10.0nm,1.0s
SEAG Tbilisi Sea 83.22 314 P P 03 34 39.7 +3.3
TBLG Delisi 83.26 314 P **P** **03 34 37.1 +0.5**
TVAN Van 83.33 310 *i* P **P** **03 34 36.1 -1.2**
DYDN Diyadin 83.40 311 *i* P **P** **03 34 37.0 -0.6**
GEVA Gevas 83.53 310 *i* P **P** **03 34 37.4 -0.9**
EAK Akyaka 83.78 312 *i* P **P** **03 34 39.6 +0.1**
SIRN S¨¨rnak 83.81 309 *i* P **P** **03 34 37.0 -2.6**
DIGO Kars 83.87 312 *i* P **P** **03 34 37.4 -2.7**
TUTA Tutak 84.01 311 *i* P **P** **03 34 37.9 -3.0**
AKH Akhalkalaki 84.06 313 P **P** **03 34 40.4 -0.6**
ZEI Tsey 84.16 315 eP **P** **03 34 41.9 +0.5**
ZEI 03 37 52.6
ZEI ePPP PPP 03 39 52.6
ZEI eS **S** **03 45 02.8 -2.4**
ZEI pmax pmax
comp=Z,34nm,1.3s
TATV Tatvan 84.19 310 *i* P **P** **03 34 39.2 -2.5**
EATA Eleskirt 84.37 311 *i* P **P** **03 34 41.3 -1.5**
ONI Oni 84.42 314 P **P** **03 34 43.6 +1.0**
EKAR Karacoban 84.53 311 *i* P P 03 34 37.9 -5.6
XMAS Kiritimati 84.67 87 PFAKE 03 35 00.0 +16
XMAS LR LR
comp=Z,3µm,20.0s
HOMI Horasan 84.86 312 *i* P **P** **03 34 42.6 -2.5**
MARD Mardin 85.03 309 *i* P **P** **03 34 43.0 -2.8**
DAGI Agillar 85.12 313 *i* P P 03 34 40.9 -5.3
NEY Neytrino 85.12 315 *i* P **P** **03 34 46.3 +0.1**
KBZ Khabaz 85.12 315 P **P** **03 34 46.3 +0.3**
comp=Z,4.4nm,0.8s,baz=236,slow=24,SNR=11
KBZ LR LR 04 21 24.1
comp=Z,706nm,18.4s,baz=170,slow=42
ARTV Artvin 85.13 313 *i* P **P** **03 34 44.7 -1.7**
BNGL BINGOL 85.14 310 *i* P **P** **03 34 46.5 -0.1**
DDEM Demirkent 85.19 312 *i* P **P** **03 34 44.7 -1.8**
DBAD Bademkaya 85.26 312 *i* P **P** **03 34 44.7 -2.2**
KIV Kislovodsk 85.33 315⇑ eP **P** **03 34 49.0 +1.8**
KIV *e* 03 38 03.7
KIV *i* S **S** **03 45 14.0 -2.6**
KIV pmax pmax
comp=Z,16nm,1.7s
KIV Kislovodsk 85.33 315 eP **P** **03 34 46.5 -0.7**
KIV LR LR
comp=Z,1µm,20.0s
DBOC Borcka 85.37 313 *i* P **P** **03 34 44.7 -2.6**
GOF Gofitskoye 85.39 317 eP **P** **03 34 47.5 +0.2**
GOF eS **S** **03 45 16.6 -0.3**
KOPT Kop Dagi 85.89 311 *i* P **P** **03 34 48.6 -1.7**
ELZG Elazig 86.68 309 *i* P **P** **03 34 51.2 -2.9**
KELT Kelkit 86.85 311 *i* P **P** **03 34 52.0 -2.9**
ATAB Bozova 86.99 308 *i* P P 03 34 51.6 -3.8
MALT Malatya 87.07 309⇓ P **P** **03 34 56.7 +0.8**
KIP Kipapa 87.17 68 PFAKE 03 35 10.0 +13
KIP LR LR
comp=Z,2µm,19.0s
SOC Sochi 87.32 315*d* iP **P** **03 34 55.7 -1.1**
SOC e*PP **PcP** **03 35 00.8 +1.9**
SOC *i* 03 38 18.9
SOC *i* PPP PPP 03 40 14.8
SOC *i* S **SKSac** **03 45 21.6 -1.3**
SOC *i* SS **SS** **03 51 14.1 -6.6**
SOC eSSS SSS 03 54 50.3
SOC pmax pmax
comp=Z,10.0nm,0.8s
AKCD Akcadag 87.45 309 *i* P **P** **03 34 55.0 -2.8**
SUSE Susehri 87.65 311 *i* P **P** **03 34 56.8 -2.0**
NVL N'lazarevskaya 87.72 199⇓ iP **P** **03 34 59.1 +0.8**
NVL e*PP **pP** **03 35 05.2 -1.4**
NVL pmax pmax
comp=Z,39nm,0.8s
LSZ Lusaka 87.94 255 eP **P** **03 35 00.2 -0.4**
LSZ pmax pmax
comp=Z,77nm,1.1s
LSZ MLR MLR
comp=Z,2µm,20.0s
LSZ Lusaka 87.94 255 P **P** **03 35 00.6 0.0**
SNR=14
LSZ Lusaka 87.94 255 eP **P** **03 35 00.2 -0.4**
comp=Z,77nm,1.1s
LSZ LR LR
comp=Z,2µm,20.0s
HCB Kahramanmara¨ 88.04 308 *i* P **P** **03 34 58.0 -2.5**
KAMA Osmaniye 88.20 308 *i* P **P** **03 35 00.2 -1.1**
YAYL Yayladag 88.41 307 *i* P **P** **03 34 59.3 -3.1**
PINB Pinarbasi 88.70 309 *i* P **P** **03 35 03.2 -0.7**
TBI Tubuai 88.93 113 eS **S** **03 45 47.7 -4.2**
comp=Z,2µm,28.0s
TBI Tubuai 88.93 113 eLQ LQ 03 59 43.8
comp=Z,4µm,32.8s
TBI eLR LR 04 03 28.0
comp=Z,2µm,24.5s
TOKA Tokat 88.97 311 *i* P **P** **03 35 03.6 -1.2**
PRGR Permogore 88.97 333 eP **P** **03 35 03.6 -0.6**
PRGR pmax pmax
comp=Z,5.0nm,0.5s
LBTB Lobatse 88.99 245 eP **P** **03 35 05.0 -0.4**
LBTB pmax pmax
comp=Z,43nm,1.1s
LBTB Lobatse 88.99 245 eP **P** **03 35 05.0 -0.4**
comp=Z,43nm,1.1s
ANN Anapa 89.19 315 eP **P** **03 35 04.3 -1.4**
ANN e*PP **PcP** **03 35 10.6 +3.5**
ANN e 03 38 37.1
ANN eS **SKSac** **03 45 30.4 -3.7**
ANN pmax pmax
comp=Z,19nm,1.0s
ANN pmax pmax
comp=Z,949nm,9.0s
POHA Pohakuloa 89.19 70 PFAKE 03 35 20.0 +13
POHA LR LR
comp=Z,2µm,20.0s
VORD Divnogorie 89.35 322 eP **P** **03 35 04.6 -1.7**
VORD e 03 38 39.7
VORD eS **S** **03 45 51.6 -3.0**
VORD pmax pmax
comp=Z,10.0nm,1.4s
VORD pmax pmax
comp=N,6.0nm,0.8s
VORD pmax pmax
comp=E,8.0nm,0.6s
VORD pmax pmax
comp=Z,810nm,6.4s
VORD pmax pmax
comp=N,260nm,5.6s
VORD pmax pmax
comp=E,280nm,4.2s
VORD smax smax
comp=E,1µm,7.4s
VORD smax smax
comp=Z,290nm,6.1s
VORD smax smax
comp=N,450nm,7.1s
VORD MLR MLR
comp=Z,2µm,23.0s
VORD MLR MLR
comp=N,1µm,17.0s
VORD MLR MLR
comp=E,2µm,18.0s
VSR Storozhevoye 89.49 322 eP **P** **03 35 05.4 -1.5**
VSR e 03 38 40.6
VSR eS **S** **03 45 55.0 -0.9**
VSR pmax pmax
comp=Z,20nm,1.4s
VSR pmax pmax
comp=N,5.0nm,0.5s
VSR pmax pmax
comp=E,10.0nm,1.7s
VSR pmax pmax
comp=Z,690nm,5.8s
VSR pmax pmax
comp=N,150nm,3.7s
VSR pmax pmax
comp=E,280nm,6.4s
VSR smax smax
comp=E,1µm,9.7s
VSR smax smax
comp=Z,490nm,8.7s
VSR smax smax
comp=N,710nm,10.0s
VSR MLR MLR
comp=N,1µm,19.0s
VSR MLR MLR
comp=Z,3µm,19.0s
VSR MLR MLR
comp=E,1µm,22.0s
PPT2 Papeete2 89.65 108 eP **P** **03 35 09.3 +0.7**
comp=E,116nm,1.3s
PPT2 Papeete2 89.65 108 eS **S** **03 45 58.0 -1.0**
comp=E,2µm,26.5s
PPT2 Papeete2 89.65 108 eLQ LQ 04 00 06.6
comp=E,6µm,38.2s
PPT2 eLR LR 04 03 53.6
comp=E,4µm,35.8s
PPT Papeete 89.65 108 LR LR 04 13 33.6
comp=E,551nm,20.8s,baz=259,slow=34
HAVZ Havza 89.68 311 *i* P **P** **03 35 05.8 -2.4**
TIAR Tiarei 89.87 108 eP **P** **03 35 10.2 +0.7**
comp=E,56nm,1.3s
TVO Taravao 89.93 108 eP **P** **03 35 10.4 +0.5**
comp=E,34nm,1.2s
CSS Prodhromos 90.45 305 eP **P** **03 35 11.4 -0.4**
CSS LR LR
comp=Z,833nm,20.0s
TNA Tin City 90.75 24 eP **P** **03 35 10.3 -2.2**
BR131 Keskin Array S 91.00 310 eP **P** **03 35 14.3 -0.1**
comp=Z,2.8nm,0.9s
BRTR Keskin Array B 91.00 310 P **P** **03 35 14.9 +0.4**
comp=Z,2.2nm,1.0s,baz=124,slow=6.7,SNR=8.9
BRTR PP **PP** **03 38 53.6 +2.6**
comp=Z,4.1nm,1.1s,baz=93,slow=4.9,SNR=3.8
BRTR PKKPbc **PKKPbc** **03 52 41.6 +1.8**
comp=Z,0.6nm,0.9s,baz=236,slow=1.3,SNR=3.8
BRTR LR LR 04 21 25.2
comp=Z,931nm,19.5s,baz=111,slow=39
MEH Mehetia 91.03 108 eP **P** **03 35 15.0 +0.1**
comp=Z,62nm,1.1s
MOS Moscow 91.40 326 eP P 03 35 12.2 -3.5
MOS *e* 03 38 48.4
MOS *e* 03 47 24.5
MOS eSS SS 03 52 16.5 -2.8
MOS pmax pmax
comp=Z,600nm,5.5s
MOS pmax pmax
comp=Z,42nm,1.5s
GAZI Gazipasa 91.47 306 *i* P P 03 35 12.2 -4.3
SIM Simferopol' 91.53 315 eP **P** **03 35 17.0 +0.4**

SIM e 03 39 03.0
SIM ePPP PPP 03 40 59.0
SIM e 03 45 46.0
SIM ePS **PnS** **03 47 35.0 +7.0**
SIM pmax pmax
comp=Z,400nm,9.0s
KLMR Klimovskoe 91.58 331 eP **P** **03 35 16.6 +0.2**
KLMR e*PP PP 03 38 49.5 -5.4
KLMR S **SKSac** **03 45 47.6 +0.4**
KLMR pmax pmax
comp=Z,19nm,1.3s
KLMR MLR MLR
comp=Z,2µm,18.0s
PMOR Pomariorio Ree 91.63 105 eP **P** **03 35 18.2 +0.5**
comp=Z,243nm,1.1s
SNAA Sanae 91.63 196 P **P** **03 35 18.3 +1.6**
SNAA Sanae 91.63 196 eP **P** **03 35 18.0 +1.3**
SNAA pmax pmax
comp=Z,54nm,1.0s
SNAA Sanae 91.63 196 eP **P** **03 35 18.0 +1.3**
comp=Z,54nm,1.0s
ANTO Ankara 91.67 310 PFAKE 03 35 30.0 +13
ANTO LR LR
comp=Z,2µm,21.0s
VAH Vaihoa 91.85 106 eP **P** **03 35 19.0 +0.3**
comp=Z,191nm,1.2s
OBN Obninsk 91.86 325⇓ eP **P** **03 35 17.6 -0.2**
OBN e 03 39 00.5
OBN eS SKSac 03 45 39.9 -9.1
OBN eSS **SS** **03 52 30.0 +4.1**
OBN pmax pmax
comp=Z,34nm,1.8s
OBN Obninsk 91.86 325 PFAKE 03 35 30.0 +12
OBN LR LR
comp=Z,3µm,20.0s
SUR Sutherland 91.92 237 PFAKE 03 35 30.0 +11
SUR LR LR
comp=Z,4µm,20.0s
BCAM Yenicaga 92.36 311 *i* P **P** **03 35 18.2 -2.5**
ISP Isparta 93.12 308 PFAKE 03 35 40.0 +16
ISP LR LR
comp=Z,2µm,19.0s
VNA2 Neumayer--Watz 93.27 196 P **P** **03 35 25.9 +1.7**
baz=101,slow=3.7
VNA1 Neumayer--Stat 93.67 196 P **P** **03 35 27.6 +1.6**
VNA3 Neumayer Olymp 93.67 195 P **P** **03 35 27.3 +1.2**
LVZ Lovozero 95.05 338 PFAKE 03 35 40.0 +7.6
LVZ LR LR
comp=Z,3µm,19.0s
APA Apatity 95.47 337 eP **P** **03 35 34.0 -0.2**
APA *i* 03 39 30.0
APA *i* PPP PPP 03 41 30.0
APA *i* 03 46 03.0
APA *i* S **S** **03 46 48.0 -0.8**
APA *i* PS **PS** **03 48 02.0 -7.9**
APA pmax pmax
comp=Z,66nm,2.0s
KIS Kishinev 95.48 317 eP **P** **03 35 32.0 -2.7**
KIS Kishinev 95.48 317 ePP PP 03 39 26.0 +0.2
KIS Kishinev 95.48 317 ePPP PPP 03 41 46.0
KIS eSKS **SKSac** **03 46 08.0 -1.2**
KIS Kishinev 95.48 317 ePS PS 03 48 14.0 +3.3
KIS eSS SS 03 53 20.0 +1.9
KIS LRM MLR 04 23 50.0
comp=Z,2µm,24.0s
AKASG Malin Array Be 95.59 320 P **P** **03 35 33.5 -1.7**
comp=Z,0.3nm,0.3s,baz=87,slow=3.9,SNR=6.0
AKASG PP **PP** **03 39 28.8 +2.3**
comp=Z,4.1nm,0.9s,baz=80,slow=6.9,SNR=7.7
AKASG LR LR 04 25 17.8
comp=Z,932nm,18.8s,baz=90,slow=40
KIEV Kiev 95.60 320 PFAKE 03 35 50.0 +15
KIEV LR LR
comp=Z,955nm,20.0s
PRD Provadia 96.10 313 eP **PP** **03 39 30.0 -0.7**
KDAK Kodiak Island 96.37 33 PFAKE 03 35 50.0 +12
KDAK LR LR
comp=Z,750nm,20.0s
IM04 Indian Mountai 96.53 24 eP **P** **03 35 37.9 -1.3**
VRI Vrincioaia 96.81 315⇓ P **P** **03 35 41.1 +0.2**
CAST Castle Rocks 97.06 27 eP Pdif 03 35 42.3 +0.6
CZH Strazhica 97.18 313 eP **PP** **03 39 35.0 -4.0**
TSUM Tsumeb 97.30 249 eP Pdif 03 35 45.0 +1.1
TSUM LR LR
comp=Z,2µm,21.0s
KTH Kantishna Hill 97.59 27 eP **P** **03 35 41.6 -2.5**
comp=Z,17nm,1.3s
TRF Thorofare Moun 97.87 27 eP **P** **03 35 45.0 -0.4**
comp=Z,14nm,1.3s
BURAR Bucovina Array 97.97 317⇓ P **P** **03 35 45.9 -0.3**
BUR08 Bucovina Ar. S 97.98 317 eP **P** **03 35 45.1 -1.1**
KEV Kevo 97.99 339 PFAKE 03 36 00.0 +14
KEV LR LR
comp=Z,2µm,19.0s
RC01 Rabbit Creek A 98.03 29 eP **P** **03 35 45.0 -0.9**
COLD Coldfoot 98.04 23 eP **P** **03 35 45.7 -0.2**
comp=Z,14nm,1.2s
FINES FINESS Array B 98.11 331 P **P** **03 35 44.9 -1.4**
comp=Z,4.0nm,0.9s,baz=358,slow=3.2,SNR=4.5
FINES FINESS Array B 98.11 331 P **P** **03 35 44.9 -1.4**
FINES pmax pmax
comp=Z,4.0nm,0.9s
MCK McKinley 98.48 27 eP **P** **03 35 47.8 -0.2**
MCK pmax pmax
comp=Z,15nm,1.0s
MCK McKinley 98.48 27 eP **P** **03 35 47.8 -0.2**
comp=Z,16nm,1.0s
ARCES ARCESS Array B 98.51 339 LR LR 04 27 01.4
comp=Z,3µm,19.9s,baz=106,slow=40
ARE0 ARCESS Array S 98.51 339 ePP PP 03 39 49.1 +0.6
ARE0 eSKSac **SKSac** **03 46 23.8 -0.2**
HOPEN Hopen 98.60 346 ePP PP 03 39 48.6 -0.4
HOPEN e 03 39 54.6
HOPEN eSKSac **SKSac** **03 46 22.3 -1.9**
HOPEN eSS **SS** **03 54 01.2 +0.6**
MPEP Malo Peshtene 98.78 313 eP **PP** **03 39 48.0 -3.3**
COLA College 98.96 26 PFAKE 03 36 00.0 +10
COLA LR LR
comp=Z,758nm,20.0s
VTS Vitosha 99.13 312 eP PP 03 39 44.0 -10
ILAR Eielson Array 99.38 26 P **Pdif** **03 35 50.1 -1.8**
comp=Z,1.4nm,1.1s,baz=304,slow=2.6,SNR=7.6
ILAR PKKPbc **PKKPbc** **03 52 16.1 -2.0**
comp=Z,1.4nm,1.0s,baz=91,slow=1.5,SNR=8.2
ILAR LR LR 04 20 12.3
comp=Z,486nm,21.9s,baz=298,slow=35
SUW Suwalki 99.48 323 eP **PP** **03 39 58.6 +2.3**
DRGR 99.64 316⇓ P **Pdif** **03 35 53.2 -0.4**
KWP Kalwaria Pacla 99.71 319 eP **PP** **03 39 59.3 +1.1**
KWP Kalwaria Pacla 99.71 319 PFAKE 03 36 00.0 +6.2
KWP LR LR
comp=Z,1µm,20.0s
UZH Uzhgorod 99.96 318 eP **Pdif** **03 35 57.2 +2.3**
UZH e 03 36 08.2
UZH e 03 36 12.6
UZH e 03 39 56.6
UZH e 03 42 07.4
UZH e 03 46 26.0
UZH eS **S** **03 47 25.0 -2.9**
KOLS Kolonicke sedl 99.98 318 eP **Pdif** **03 35 53.2 -1.8**
KOLS e 03 40 01.1
KOLS Kolonicke sedl 99.98 318 PDIF **Pdif** **03 35 53.2 -1.8**
KOLS ePP **PP** **03 40 01.1 +0.8**
PAX Paxson 100.05 27 eP **Pdif** **03 35 53.7 -1.4**
PAX pmax pmax
comp=Z,7.0nm,0.7s
PAX Paxson 100.05 27 eP **Pdif** **03 35 53.7 -1.4**
comp=Z,7.0nm,0.7s
BJO Bjornoya 100.20 344 ePP PP 03 40 00.9 -0.3
BJO eSKSac **SKSac** **03 46 32.5 +0.4**
CRVS Cervenica-Dubn 100.52 318 ePP PP 03 40 02.7 -1.7
BMRM Bremner River 100.53 29 ePdif **Pdif** **03 35 57.8 +0.6**
comp=Z,19nm,1.3s
HSPB Hornsund (broa 100.72 347 ePP PP 03 40 00.3 -4.8
HSPB eSKSac **SKSac** **03 46 33.7 -0.9**
TRO Tromso 100.81 339 ePP PP 03 40 08.5 +2.6
TRO eSKSac **SKSac** **03 46 33.4 -1.8**
KBS Kingsbay 101.04 349 ePP PP 03 40 06.9 -0.5
KBS Kingsbay 101.04 349 PFAKE 03 36 10.0 +11
KBS LR LR
comp=Z,3µm,21.0s
NIE Niedzica 101.27 319 eP **PP** **03 40 08.8 -1.3**
PSZ Piszkesteto 101.56 317 PFAKE 03 36 10.0 +7.8
PSZ LR LR
comp=Z,2µm,21.0s
OJC Ojcow 101.59 320 eP **PP** **03 40 10.2 -2.2**
EGAK Eagle 101.83 25 ePdif **Pdif** **03 36 04.7 +1.9**
EGAK LR LR
comp=Z,812nm,19.0s
RKT Rikitea 102.04 116 ePP PP 03 40 09.8 -6.5
comp=Z,257nm,28.2s
RKT eSKSac **SKSac** **03 46 41.7 -1.5**
comp=Z,467nm,27.8s
RKT eSdif **Sdif** **03 47 42.1 -4.2**
comp=Z,778nm,29.0s
RKT eSP **SP** **03 49 18.2 -0.8**
comp=Z,767nm,24.5s
RKT Rikitea 102.04 116 eLQ LQ 04 05 18.6
comp=Z,3µm,34.8s
RKT eLR LR 04 09 35.4
comp=Z,2µm,39.0s
VYHS Vyhne 102.26 318 eP **Pdif** **03 36 09.0 +3.8**
VYHS e 03 40 19.2
VYHS Vyhne 102.26 318 e **Pdif** **03 36 09.0 +3.8**
VYHS ePP **PP** **03 40 19.2 +1.7**
OKC Ostrava-Krasne 102.67 319 ex x 03 39 29.8
OKC ePP PP 03 40 10.1 -10
OKC ex x 03 42 32.9
OKC eSKS **SKSac** **03 46 43.7 -1.3**
OKC AMS AMS 04 30 00.0
comp=Z,1µm,16.3s
DPC Dobruska-Polom 103.81 320 ex x 03 40 18.0
DPC ex x 03 42 47.9
DPC eSKS **SKSac** **03 46 49.6 -0.9**
DPC ex x 03 49 20.5
DPC ex x 03 55 06.0
DPC AMS AMS 04 28 40.0
TIP Timpagrande 103.97 308 PFAKE 03 36 20.0 +6.9
TIP LR LR
comp=Z,303nm,21.0s
INK Inuvik 104.22 21 eP **Pdif** **03 36 14.2 +0.9**
INK pmax pmax
comp=Z,7.0nm,1.3s
INK Inuvik 104.22 21 ePdif **Pdif** **03 36 14.2 +0.9**
comp=Z,7.0nm,1.3s
BSD Bornholm Skovb 104.24 325 *i* P PP 03 40 38.7 +6.7
comp=Z,2µm,19.0s
NSS Namsos 104.27 335 ePP PP 03 40 42.7 +11
CONA Conrad Observa 104.27 317⇑ *i*PKiKP **PKiKP** **03 40 25.9 -5.0**
comp=Z,19nm,1.5s
CEL Celeste 104.66 307 PFAKE 03 36 30.0 +14
CEL LR LR
comp=Z,985nm,22.0s
CUC Castrocucco 104.68 309 PFAKE 03 36 30.0 +14
CUC LR LR
comp=Z,943nm,22.0s
GOPC GO Pecny, Ondr 104.83 319 ex PKiKP 03 40 24.2 -7.5
GOPC ex x 03 42 54.1
GOPC eSKS **SKSac** **03 46 49.6 -5.5**
GOPC ex x 03 55 16.3
GOPC AMS AMS 04 28 00.0
comp=Z,2µm,19.1s
BOJS Bojanci 104.85 315 ePP PP 03 40 39.7 +2.8
BOJS e 03 42 59.8
BOJS eSKSac **SKSac** **03 46 53.8 -1.5**
BOJS e 03 47 55.2
BOJS *i* SP **SP** **03 49 53.7 +6.2**
BOJS e 03 49 55.3
BOJS eSS SS 03 55 20.6 -8.2
PERS Pernice 104.87 316 ePP PP 03 40 41.8 +4.7
PVCC Panska Ves 104.91 320 eSP SP 03 49 46.7 -1.2
PVCC AMS AMS 04 29 10.0
comp=Z,3µm,19.9s
SOKA Soboth 104.92 316⇑ *i*PP PP 03 40 36.2 -1.4
comp=Z,10nm,1.3s
PRU Pruhonice 104.98 320 ex x 03 39 36.0
PRU ePP **PKiKP** **03 40 34.0 +2.0**
PRU ex x 03 42 58.1
PRU eSKS 03 46 50.3
PRU eSP **SP** **03 49 46.4 -2.3**
PRU ex x 03 55 15.3
PRU AMS AMS 04 28 40.0
comp=Z,2µm,20.5s
PRA Prague 105.04 320 eSKS **SKSac** **03 46 49.6 -6.3**
PRA eSP **SP** **03 49 50.0 +0.7**
PRA ex x 03 55 20.5
PRA AMS AMS 04 29 30.0
comp=Z,2µm,20.4s
VISS Visnje 105.12 315 ePP PP 03 40 40.7 +1.8
NC602 NORSAR Array S 105.19 331 ePP PP 03 40 36.9 -2.1
NC602 eSKSac **SKSac** **03 46 55.2 -1.0**
TBLU Trondheim 105.27 334 ePP PP 03 40 19.4 -20
BRG Berggiesshubel 105.28 320 PDIFF **Pdif** **03 36 19.0 +0.5**
BRG PP PP 03 40 46.0 +6.1
BRG SKS **SKSac** **03 46 55.0 -2.0**
BRG SDIFF **Sdif** **03 48 16.0 +3.9**
BRG Berggiesshubel 105.28 320 ePP PP 03 40 36.1 -3.8
BRG eSKSac **SKSac** **03 46 50.1 -6.9**
BRG Berggiesshubel 105.28 320 P **Pdif** **03 36 19.0 +0.5**
BRG 03 40 46.0
BRG 03 46 55.0
BRG S **Sdif** **03 48 16.0 +3.9**
NOA NORSAR Array B 105.29 331 PKKP **PKKPdf** **03 52 11.7 +0.5**
comp=Z,1.3nm,0.8s,baz=282,slow=16,SNR=3.7
COP Copenhagen 105.57 326 *i* P PP 03 40 48.3 +6.5
comp=Z,780nm,20.0s
GEC2 GERESS Array S 105.64 318 eSKSac **SKSac** **03 46 52.3 -6.6**
GEC2 ePS **PS** **03 49 52.4 -7.2**
GERES GERESS Array B 105.64 318 PKiKP **PKiKP** **03 40 33.5 +0.2**
comp=Z,0.8nm,0.8s,baz=11,slow=1.4,SNR=6.6
GERES PKKPbc **PKKPbc** **03 51 58.3 -0.9**
comp=Z,0.3nm,0.6s,baz=186,slow=2.4,SNR=5.1
JAVS Javornik 105.65 315 ePP PP 03 40 36.8 -6.1
JAVS eSKSac **SKSac** **03 46 54.7 -4.4**
JAVS e 03 50 02.5
KHC Kasperske Hory 105.69 319 ex x 03 39 42.3
KHC ePP **PKiKP** **03 40 34.7 +1.3**
KHC ex x 03 43 02.5
KHC ex x 03 46 41.7
KHC eSP SP 03 49 49.9 -6.2
KHC ex x 03 55 29.2
KHC AMS AMS 04 30 00.0
comp=Z,2µm,23.4s
OSL Oslo 105.74 330 ePP PP 03 40 45.6 +2.7
WDD Wield Dalam 105.81 305 PFAKE 03 40 50.0
WDD LR LR
comp=Z,1µm,20.0s
CLL Collm 105.82 321 ePP PP 03 40 39.9 -4.0
CLL eSKSac SKSac 03 46 52.1 -7.3
CLL Collm 105.82 321 ePdif **Pdif** **03 36 20.0 -0.9**
CLL ePP **PP** **03 40 43.0 -0.8**
comp=Z,300nm,15.0s
CLL ePPP PPP 03 43 04.0
CLL ePPPP 03 44 42.0
CLL eSKSac **SKSac** **03 46 53.0 -6.4**
CLL eSdif **Sdif** **03 48 17.0 +0.4**
CLL ePS **PS** **03 49 58.0 -3.1**
CLL ePPS PPS 03 50 53.0
CLL e 03 51 45.0
CLL eSS SKKPbc 03 55 30.0 -11
CLL e 03 56 24.0
CLL eSSS SSS 03 59 42.0
CLL e 04 00 54.0
CLL eSSSS 04 03 30.0
CLL LmH 04 34 00.0
comp=N,1µm,19.4s
CLL LmH 04 34 00.0
comp=E,2µm,19.2s
CLL LmV 04 36 00.0
comp=Z,2µm,18.3s
CLL Collm 105.82 321 eP **Pdif** **03 36 18.0 -2.9**
CLL e 03 43 40.3
CLL e 03 46 53.0
CLL eS **Sdif** **03 48 17.0 +0.4**
CLL MLR MLR
comp=Z,2µm,18.3s
WET Wettzell 106.14 319 ePP PP 03 40 41.9 -4.5
WET eSKSac **SKSac** **03 46 55.3 -5.7**
TANN Tannenbergstha 106.27 320 ePP PP 03 40 43.2 -4.1
TANN eSKSac **SKSac** **03 46 56.2 -5.4**
NKC Novy Kostel 106.30 320 ePP PP 03 40 43.6 -3.9
NKC ex x 03 42 59.8
NKC ex x 03 46 51.6
NKC AMS AMS 04 30 10.0
comp=Z,1µm,18.7s
RJOB Jochberg 106.35 317 eSKSac SKSac 03 46 53.5 -8.6
RJOB ePS **PS** **03 49 57.5 -9.4**
KONO Kongsberg 106.36 330 ePP PP 03 40 41.2 -6.4
KONO eSKSac **SKSac** **03 47 00.2 -1.2**
KONO Kongsberg 106.36 330 PFAKE 03 40 50.0
KONO LR LR
comp=Z,2µm,20.0s
AQU L'Aquila 106.39 312 PFAKE 03 40 50.0
AQU LR LR
comp=Z,2µm,22.0s
ROTZ Rotzenmuhle 106.51 319 ePP PP 03 40 45.0 -4.0
ROTZ eSKSac **SKSac** **03 46 57.8 -4.8**
MOL Molde 106.64 333 ePP PP 03 40 54.5 +5.0
MOL eSKSac **SKSac** **03 47 02.3 -0.2**
MOX Moxa 106.77 320 ePP PP 03 40 47.2 -3.7
MOX eSKSac **SKSac** **03 46 58.3 -5.4**
MOX eL L 04 30 04.3
comp=Z,1µm,21.2s
CLTB Caltabellotta 106.80 307 PFAKE 03 40 50.0
CLTB LR LR
comp=Z,619nm,21.0s
AKN Aaknes 106.99 333 ePP PP 03 40 49.2 -2.9
BSEG Bad Segeberg 107.06 324 ePP PP 03 40 51.6 -1.2
BSEG eSKSac **SKSac** **03 46 59.5 -5.2**
BSEG ePS **PS** **03 50 11.0 -2.7**
GRF Grafenberg Arr 107.15 319 ePP PP 03 40 49.6 -4.2
GRF eSKSac **SKSac** **03 47 00.3 -5.1**
GRF eL L 04 30 23.7
comp=Z,2µm,21.5s
HOMB Homborsund 107.21 329 ePP PP 03 40 49.4 -4.3
MUD Monsted U'grnd 107.23 327 *i* P **PP** **03 40 56.2 +2.2**
comp=Z,2µm,20.0s
PMSA Palmer Station 107.28 179 PFAKE 03 40 50.0
PMSA LR LR
comp=Z,3µm,20.0s
FUR Furstenfeldbru 107.31 318 ePP PP 03 40 49.3 -5.7
FUR eSKSac SKSac 03 46 58.8 -7.4
CLZ Clausthal 107.37 322 ePP PP 03 40 52.3 -3.0
CLZ eSKSac **SKSac** **03 47 00.1 -6.2**
CLZ ePS **PS** **03 50 12.3 -4.9**
NRDL Niedersach Rie 107.42 322 ePP PP 03 40 53.2 -2.3
NRDL eSKSac **SKSac** **03 46 59.9 -6.3**
NRDL ePS **PS** **03 50 13.4 -4.0**
WRAK Wrangell Islan 107.44 33 PFAKE 03 40 50.0
WRAK LR LR
comp=Z,717nm,21.0s
HYA Hoyanger 107.64 332 ePP PP 03 40 55.4 -1.4
DAG Danmarks Havn 107.64 350 *i* P PP 03 41 03.3 +6.8
comp=Z,2µm,18.0s
UBBA Unterbreizbach 107.76 321 ePP PP 03 40 54.4 -3.6
FOO Floro 108.04 332 ePP PP 03 40 59.3 -0.4
BER Bergen 108.25 331 ePP PP 03 40 54.5 -6.9
BER eSKSac **SKSac** **03 47 08.8 -0.7**
SUE Sulen 108.33 332 ePP PP 03 41 01.9 0.0
SUE eSKSac **SKSac** **03 47 09.0 -0.9**
VLC Villacollemand 108.41 314 PFAKE 03 40 50.0
VLC LR LR
comp=Z,2µm,21.0s
STU Stuttgart 108.60 319 ePP PP 03 40 58.8 -5.5
STU eSKSac **SKSac** **03 47 05.2 -6.5**
TNS Taunus Mts 108.84 320 ePP PP 03 41 02.3 -3.8
TNS eSKSac **SKSac** **03 47 08.2 -4.5**
TNS ePS **PS** **03 50 27.3 -5.0**
TUE Stuetta 108.84 316 PFAKE 03 40 50.0
TUE LR LR
comp=Z,2µm,22.0s
IBBN Ibbenburen 108.87 323 ePP PP 03 41 03.4 -2.8
IBBN eSKSac **SKSac** **03 47 07.5 -5.1**
IBBN ePS **PS** **03 50 27.2 -5.2**
JMIC Jan Mayen 109.07 344 ePP PP 03 41 07.0 0.0
BFO Black Forest 109.24 318 ePP PP 03 41 03.2 -5.8
BFO eSKSac **SKSac** **03 47 07.8 -6.7**
BFO Black Forest 109.24 318 PFAKE 03 40 50.0
BFO LR LR
comp=Z,2µm,20.0s
BUG Bochum--Univer 109.34 322 ePP PP 03 41 06.4 -3.2
BUG eSKSac **SKSac** **03 47 09.8 -4.8**
BUG ePS **PS** **03 50 32.0 -5.2**
VSL Villasalto 109.67 309 PFAKE 03 40 50.0
VSL LR LR
comp=Z,731nm,19.0s
ECH Echery 110.03 318 PFAKE 03 40 50.0
ECH LR LR
comp=Z,1µm,19.0s
HINF Hinteralfeld 110.30 318 ePKIKP **PKiKP** **03 40 41.3 -0.7**
HINF Hinteralfeld 110.30 318 ePKIKP **PKiKP** **03 40 41.3 -0.7**
HINF Hinteralfeld 110.30 318 ePKPdf **PKiKP** **03 40 41.3 -0.7**
WLF Walferdange 110.40 320 ePP PP 03 41 13.6 -3.7
WLF eSKSac **SKSac** **03 47 14.1 -5.1**
WLF ePS **PS** **03 50 42.3 -5.4**
WLF Walferdange 110.40 320 PFAKE 03 40 50.0
WLF LR LR
comp=Z,2µm,21.0s
HAU Haudompre 110.60 318 ePKIKP **PKiKP** **03 40 40.6 -2.0**
HAU Haudompre 110.60 318 ePKIKP **PKiKP** **03 40 40.6 -2.0**
HAU Haudompre 110.60 318 ePKPdf **PKiKP** **03 40 40.6 -2.0**
BNI Bardonecchia 110.91 315 ePKIKP **PKiKP** **03 40 42.8 -0.6**
BNI *e* 03 41 21.5
BNI MLR MLR
comp=Z,1µm,21.0s
BNI Bardonecchia 110.91 315 ePKP **PKiKP** **03 40 42.8 -0.6**
BNI ePP **PP** **03 41 21.5 +0.1**
BNI LR LR
comp=Z,1µm,21.0s
BAIF Baives 111.54 321 ePKIKP **PKiKP** **03 40 42.5 -1.7**
comp=Z,30nm,1.4s
BAIF Baives 111.54 321 ePKIKP **PKiKP** **03 40 42.5 -1.7**
BAIF Baives 111.54 321 ePKPdf **PKiKP** **03 40 42.5 -1.7**
SSB Saint Sauveur 112.35 316 PFAKE 03 41 00.0
SSB LR LR
comp=Z,1µm,21.0s
SSF Saint Saulge 112.68 318 ePKIKP **PKiKP** **03 40 45.4 -1.1**
comp=Z,7.3nm,0.9s
SSF Saint Saulge 112.68 318 ePKIKP **PKiKP** **03 40 45.4 -1.1**
SSF Saint Saulge 112.68 318 ePKPdf **PKiKP** **03 40 45.4 -1.1**
KULLO Kullorsuaq 113.54 359 *i* P PP 03 41 45.5 +6.7
comp=Z,2µm,21.0s
YKA Yellowknife Ar 113.70 24 Pdiff **Pdif** **03 36 59.8 +4.2**
comp=Z,0.4nm,1.1s,baz=290,slow=4.2,SNR=3.6
YKA PKiKP **PKiKP** **03 40 46.5 -1.5**
comp=Z,4.0nm,0.8s,baz=307,slow=1.9,SNR=36
YKA PKKPbc **PKKPbc** **03 51 31.4 -2.0**
comp=Z,0.4nm,0.7s,baz=112,slow=3.3,SNR=5.8
YKA SKKP 03 55 33.7
comp=Z,0.6nm,1.0s,baz=125,slow=3.2,SNR=3.8
TAM Tamanrasset 114.01 291 PFAKE 03 41 00.0 +10
TAM LR LR
comp=Z,836nm,19.0s
SUMG Summit 114.07 352 *i* P PP 03 41 52.5 +9.4
CAF Calviac 114.14 316 ePKIKP PKPdf 03 40 47.8 -1.6
comp=Z,12nm,1.1s
CAF Calviac 114.14 316 ePKIKP PKPdf 03 40 47.8 -1.6
CAF Calviac 114.14 316 ePKPdf PKPdf 03 40 47.8 -1.6
ESK Eskdalemuir 114.23 328 PFAKE 03 41 00.0 +11
ESK LR LR
comp=Z,2µm,20.0s
HOPE Hope Point 114.28 196 PFAKE 03 41 00.0 +11
HOPE LR LR
comp=Z,1µm,21.0s
NLWA Neilton Lookou 114.69 41 PFAKE 03 41 00.0 +10
NLWA LR LR
comp=Z,708nm,20.0s
G03D McMinnville, O 115.67 44⇓ P **PKPdf** **03 40 53.3 +1.0**
baz=116
I03D Drain, OR 116.00 45⇑ P **PKPdf** **03 40 53.5 +0.6**
baz=116
L02D Cave Junction, 116.19 47⇑ P **PKPdf** **03 40 53.7 +0.3**
baz=116
HUMO Hull Mountain 116.55 46 ePKPdf **PKPdf** **03 40 55.0 +0.9**
I04A Tendick Farm, 116.63 45⇑ P **PKPdf** **03 40 55.6 +1.4**
baz=117
BORG Borgarnes 116.75 342 PFAKE 03 41 10.0 +16
BORG LR LR
comp=Z,2µm,20.0s
M02C Callahan 116.91 48⇑ P **PKPdf** **03 40 55.8 +0.8**
baz=117
YBH Yreka Blue Hor 116.94 47 ePKIKP **PKPdf** **03 40 55.0 0.0**
YBH Yreka Blue Hor 116.94 47 ePKPdf **PKPdf** **03 40 55.0 0.0**
J04D Umpqua Nationa 116.99 45⇑ P **PKPdf** **03 40 55.1 -0.1**
baz=117
N02D Trinity Center 117.12 48⇓ P **PKPdf** **03 40 56.6 +1.3**
baz=117
I05D Terrebonne, OR 117.23 44⇑ P **PKPdf** **03 40 55.6 +0.2**
baz=117
M04C Macdoel 117.56 47⇑ P **PKPdf** **03 40 58.2 +2.0**
baz=118

TOA0 **Torodi Ar. Sit** 117.56 281 ePKPdf **PKPdf** 03 40 56.3 -0.5
TORD **Torodi Ar. Bea** 117.56 281 PKP **PKPdf** 03 40 54.9 -1.9
comp=Z,4.1nm,0.7s,baz=50,slow=1.3,SNR=17
TORD PKKPab **PKKPab** 03 51 21.8 -0.5
comp=Z,1.1nm,0.8s,baz=305,slow=2.7,SNR=5.0
J05D **Fort Rock, OR** 117.59 45 ⇑P **PKPdf** 03 40 56.5 +0.2
baz=118
HAWA **Hanford** 117.83 41 PFAKE 03 41 10.0 +14
HAWA LR LR
comp=Z,956nm,20.0s
ILULI **Ilulissat** 118.59 356 *i* P **PP** 03 42 17.1 +2.9
NEW **Newport** 118.72 39 PFAKE 03 41 10.0 +12
NEW LR LR
comp=Z,825nm,20.0s
NEW **Newport** 118.72 39 ⇑P **PKPdf** 03 40 59.9 +1.8
baz=119
VAL **Valentia** 119.45 326 *e*P **PP** 03 42 22.5 +1.7
VAL *e*PS **PS** 03 52 10.4 +0.4
SHEL **Horse Pasture** 119.60 247 PFAKE 03 41 10.0 +9.3
SHEL LR LR
comp=Z,2µm,20.0s
WVOR **Wild Horse Val** 119.67 46 *e*PKIKP **PKPdf** 03 41 01.4 +1.1
WVOR MLR MLR
comp=Z,1µm,20.0s
WVOR **Wild Horse Val** 119.67 46 *e*PKPdf **PKPdf** 03 41 01.4 +1.1
WVOR LR LR
comp=Z,1µm,20.0s
ESDC **Sonseca Array** 119.76 311 PKP **PKPdf** 03 40 59.7 -0.7
comp=Z,1.3nm,0.9s,baz=49,slow=1.9,SNR=7.9
BMO **Blue Mountains** 119.81 43 *e*PKIKP **PKPdf** 03 41 00.2 -0.3
BMO MLR MLR
comp=Z,551nm,20.0s
BMO **Blue Mountains** 119.81 43 *e*PKPdf **PKPdf** 03 41 00.2 -0.3
BMO *e*PP **PP** 03 42 23.0 -0.9
BMO LR LR
comp=Z,551nm,20.0s
PAB **San Pablo** 120.08 311 PFAKE 03 41 10.0 +8.9
PAB LR LR
comp=Z,1µm,20.0s
WAKR **Walker** 120.16 50 *e*PKPdf **PKPdf** 03 41 00.5 -0.9
BSMT **Bassoo Peak** 120.32 39 *e*PKPdf **PKPdf** 03 41 00.2 -1.2
EFI **East Falkland** 120.36 183 PFAKE 03 41 10.0 +8.9
EFI LR LR
comp=Z,2µm,22.0s
SMMC **Simmler** 120.47 54 ⇑P **PKPdf** 03 41 03.7 +1.8
baz=120
SFJD **Kangerlussuaq** 120.72 355 PFAKE 03 41 10.0 +8.7
SFJD LR LR
comp=Z,2µm,19.0s
SWMT **Swartz Lake** 120.95 39 *e*PKPdf **PKPdf** 03 41 02.0 -0.5
SWMT *e*PP **PP** 03 42 29.1 -2.4
NVAR **Mina Array Bea** 121.04 50 PKP **PKPdf** 03 41 02.7 -0.5
comp=Z,2.0nm,0.8s,baz=258,slow=2.1,SNR=13
NVAR PKKPab **PKKPbc** 03 51 07.3 +0.5
comp=Z,1.9nm,0.8s,baz=136,slow=3.7,SNR=11
VES **Vestal, Richgr** 121.08 53 ⇓P **PKPdf** 03 41 04.1 +1.1
baz=121
PBRG **Braganca** 121.17 314 *e*PP PP 03 42 27.9 -5.3
PBRG **Braganca** 121.17 314 *e*LR LR 04 35 37.9
comp=Z,985nm,20.0s
MSO **Missoula** 121.26 39 ⇑P **PKPdf** 03 41 03.1 -0.1
baz=121
MFID **Camas Ranch** 121.30 44 *e*PKPdf **PKPdf** 03 41 03.4 0.0
MFID *e*PP **PP** 03 42 32.4 -1.7
SLMT **Seeley Lake** 121.37 39 *e*PKPdf **PKPdf** 03 41 02.0 -1.5
SLMT *e*PP **PP** 03 42 33.0 -1.5
MVO **Moncorvo** 121.58 314 *e*PKPdf **PKPdf** 03 41 02.5 -1.4
MVO **Moncorvo** 121.58 314 *e*PP PP 03 42 33.8 -2.2
MVO *e*S **SKSac** 03 47 59.0 -2.7
MVO **Moncorvo** 121.58 314 *e*LR LR 04 35 37.9
comp=Z,953nm,20.0s
ISA **Isabella, Lake** 121.60 53 ⇑P **PKPdf** 03 41 05.3 +1.2
baz=122
CHMT **Chamberlain Mo** 121.66 39 *e*P **PKPdf** 03 41 02.4 -1.7
CHMT *e*PP **PP** 03 42 36.2 -0.3
PVRL **Vila Real** 122.03 314 *e*PP PP 03 42 45.1 +6.0
POLO **Lamas de Olo** 122.06 314 *e*PKPdf **PKPdf** 03 41 04.4 -0.4
POLO **Lamas de Olo** 122.06 314 *e*PP PP 03 42 30.0 -9.3
POLO **Lamas de Olo** 122.06 314 *e*LR LR 04 37 11.5
comp=Z,435nm,20.0s
PCAB **Cabril** 122.11 315 *e*PP PP 03 42 48.0 +8.4
EDW2 **Edwards Air Fo** 122.17 54 ⇓P **PKPdf** 03 41 06.4 +1.2
baz=122
MTE **Manteigas** 122.19 313 *e*PP PP 03 42 41.9 +1.7
MTE *e*S **SKSac** 03 48 04.3 +0.5
MTE **Manteigas** 122.19 313 *e*LR LR 04 34 53.7
comp=Z,1µm,22.0s
MTE **Manteigas** 122.19 313 PFAKE 03 41 20.0 +15
MTE LR LR
comp=Z,1µm,20.0s
HLID **Hailey** 122.21 43 *e*PKPdf **PKPdf** 03 41 05.0 -0.2
HLID LR LR
comp=Z,1µm,21.0s
HLID **Hailey** 122.21 43 ⇓P **PKPdf** 03 41 05.5 +0.3
baz=122
LRMC **Laurel Mtn Rad** 122.27 53 ⇓P **PKPdf** 03 41 07.0 +1.5
baz=122
MPMC **Manual Prospec** 122.28 52 ⇓P **PKPdf** 03 41 06.8 +1.2
baz=122
PCBR **Castelo Branco** 122.31 312 *e*PP PP 03 42 34.8 -6.2
PVIS **Viseu** 122.34 313 *e*PP PP 03 42 48.8 +7.6
PMRV **Marv??o** 122.38 312 *e*PKPdf **PKPdf** 03 41 05.0 -0.4
PMRV **Marv??o** 122.38 312 *e*PP PP 03 42 39.9 -1.6
PMRV **Marv??o** 122.38 312 *e*LR LR 04 36 16.5
comp=Z,762nm,22.0s
PBAR **Barrancos** 122.48 310 *e*PP PP 03 42 40.0 -2.2
PBAR **Barrancos** 122.48 310 *e*LR LR 04 35 37.9
comp=Z,2µm,20.0s
BFSC **Mount Baldy Ra** 122.59 54 ⇑P **PKPdf** 03 41 07.7 +1.6
baz=122
ELK **Elko** 122.62 46 *e*PKIKP **PKPdf** 03 41 06.0 -0.2
ELK *e* 03 42 42.9
ELK **Elko** 122.62 46 *e*PKPdf **PKPdf** 03 41 06.0 -0.2
ELK *e*PP **PP** 03 42 42.9 -0.4
LRM **Limekiln Ridge** 122.62 40 *e*PKPdf **PKPdf** 03 41 05.4 -0.6
LRM *e*PP **PP** 03 42 42.9 -0.1
FURC **Furnace Creek,** 122.67 52 ⇑P **PKPdf** 03 41 07.7 +1.7
baz=123
PESTR **Estremoz** 122.69 311 *e*PP PP 03 42 41.0 -2.6
PESTR **Estremoz** 122.69 311 *e*LR LR 04 36 58.8
comp=Z,810nm,18.0s
DLMT **Dillon** 122.71 41 *e*PKPdf **PKPdf** 03 41 06.6 +0.5
PCAS **Casmilo, Conde** 122.99 313 *e*PKPdf **PKPdf** 03 41 05.5 -1.1
PCAS **Casmilo, Conde** 122.99 313 *e*PP PP 03 42 36.7 -8.9
PCAS **Casmilo, Conde** 122.99 313 *e*LR LR 04 36 46.0
comp=Z,930nm,18.0s
GSC **Goldstone, Bar** 123.01 53 *e*PKIKP **PKPdf** 03 41 06.8 -0.1
GSC **Goldstone, Bar** 123.01 53 *e*PKPdf **PKPdf** 03 41 06.8 -0.1
GSC **Goldstone, Bar** 123.01 53 ⇓P **PKPdf** 03 41 08.4 +1.5
baz=123
TPNV **Topopah Spring** 123.01 51 ⇑P **PKPdf** 03 41 08.0 +1.1
baz=123
PTOM **Tomar** 123.07 312 *e*PP PP 03 42 52.8 +6.7
PMTG **Montargil** 123.10 312 *e*PP PP 03 42 44.7 -1.6
PMTG **Montargil** 123.10 312 *e*LR LR 04 35 41.5
comp=Z,744nm,20.0s
EVO **Evora** 123.11 311 *e*PKIKP **PKPdf** 03 41 05.5 -1.3
comp=Z,23nm,1.3s
EVO **Evora** 123.11 311 *e*PP PP 03 42 41.4 -5.0
R11A **Troy Canyon, C** 123.11 49 *e*PKPdf **PKPdf** 03 41 07.4 +0.3
R11A **Troy Canyon, C** 123.11 49 ⇑P **PKPdf** 03 41 08.7 +1.6
baz=123
EVOP **Sao Brissos** 123.19 311 *e*PKIKP **PKPdf** 03 41 05.5 -1.5
EVOP **Sao Brissos** 123.19 311 *e*PKPdf **PKPdf** 03 41 05.5 -1.5
BOZ **Bozeman (W)** 123.21 40 PFAKE 03 41 20.0 +13
BOZ LR LR
comp=Z,562nm,20.0s
PVAQ **Vaqueiros** 123.22 310 *e*PP PP 03 42 44.0 -3.2
PVAQ *e*S **SKSdf** 03 48 15.4 -2.2
SHOC **Shoshone, Teco** 123.27 52 ⇑P **PKPdf** 03 41 07.7 +0.4
baz=123
EGMT **Eagleton** 123.29 37 *e*PKPdf **PKPdf** 03 41 06.1 -0.9
EGMT *e*PP **PP** 03 42 45.5 -1.7
EGMT LR LR
comp=Z,804nm,20.0s
EGMT **Eagleton** 123.29 37 ⇓P **PKPdf** 03 41 06.9 -0.1
baz=123
PCVE **Castro Verde** 123.40 310 *e*PP PP 03 42 42.9 -5.5
PCVE **Castro Verde** 123.40 310 *e*LR LR 04 36 33.2
comp=Z,3µm,22.0s
PBDV **Barranco-do-Ve** 123.43 309 *e*PKPdf **PKPdf** 03 41 05.9 -1.6
PBDV **Barranco-do-Ve** 123.43 309 *e*PP PP 03 42 43.2 -5.5
PBDV **Barranco-do-Ve** 123.43 309 *e*LR LR 04 35 55.0
comp=Z,885nm,20.0s

A19A **Klindworth Far** 123.44 35 ⇓P **PKPdf** 03 41 07.8 +0.6
baz=123
MESJ **Messejana** 123.47 310 *e*PP PP 03 42 47.7 -1.2
MESJ AMS AMS 04 39 01.1
comp=Z,923nm,19.5s
MESJ **Messejana** 123.47 310 *e*PKPdf **PKPdf** 03 41 09.1 +1.6
MESJ **Messejana** 123.47 310 *e*PP PP 03 42 38.0 -11
HEC **Hector,Ludlow** 123.51 54 ⇓P **PKPdf** 03 41 08.0 +0.1
baz=123
B19A **Brinkman Farms** 123.56 36 ⇑P **PKPdf** 03 41 08.3 +0.8
baz=124
FFC **Flin Flon** 123.57 27 *e*PKIKP **PKPdf** 03 41 06.0 -1.2
FFC MLR MLR
comp=Z,1µm,22.0s
FFC **Flin Flon** 123.57 27 *e*PKPdf **PKPdf** 03 41 06.0 -1.2
FFC LR LR
comp=Z,1µm,22.0s
DBIC **Dimbokro** 123.58 273 PKP **PKPdf** 03 41 07.7 -0.7
comp=Z,7.6nm,1.0s,baz=58,slow=3.3,SNR=5.7
DBIC **Dimbokro** 123.58 273 PKIKP **PKPdf** 03 41 07.7 -0.7
DBIC pmax pmax
comp=Z,8.0nm,1.0s
DBIC **Dimbokro** 123.58 273 *e*PKPdf **PKPdf** 03 41 08.3 -0.1
PNCL **Nicolau / Gran** 123.62 311 *e*PP PP 03 42 45.1 -4.8
PNCL **Nicolau / Gran** 123.62 311 *e*LR LR 04 36 58.8
comp=Z,904nm,20.0s
PACT **Alcochete** 123.65 311 *e*PKPdf **PKPdf** 03 41 07.7 -0.1
PACT **Alcochete** 123.65 311 *e*PP PP 03 42 45.5 -4.5
TUQ **Turquoise Moun** 123.67 53 ⇓P **PKPdf** 03 41 08.7 +0.5
baz=124
PFO **Pinyon Flats O** 123.71 55 *e*PKIKP **PKPdf** 03 41 08.6 +0.3
PFO MLR MLR
comp=Z,2µm,20.0s
PFO **Pinyon Flats O** 123.71 55 *e*PKPdf **PKPdf** 03 41 08.6 +0.3
PFO LR LR
comp=Z,2µm,20.0s
PFO **Pinyon Flats O** 123.71 55 ⇑P **PKPdf** 03 41 08.8 +0.5
baz=124
LIC **Lamto** 123.71 272 *e*PKIKP **PKPdf** 03 41 07.5 -1.2
comp=Z,21nm,1.0s
LIC **Lamto** 123.71 272 *e*PKPdf **PKPdf** 03 41 07.5 -1.2
FCC **Fort Churchill** 123.77 20 *e*PKIKP **PKPdf** 03 41 05.6 -1.8
FCC **Fort Churchill** 123.77 20 *e*PKPdf **PKPdf** 03 41 05.5 -1.8
C19A **Slack Wire Ran** 123.85 37 ⇓P **PKPdf** 03 41 09.3 +1.2
baz=124
LIS **Lisbon** 123.90 312 *e*PP PP 03 42 50.6 -1.1
LIS AMS AMS 04 48 03.8
comp=N,1µm,20.9s
PMST **Lisbon--Monsan** 123.92 312 *e*PP PP 03 42 50.8 -1.0
PMAFR **Mafra** 123.92 312 *e*PP PP 03 42 48.6 -3.3
PMAFR **Mafra** 123.92 312 *e*LR LR 04 37 28.5
comp=N,963nm,20.0s
A20A **Cobblestone Ra** 123.93 35 ⇑P **PKPdf** 03 41 09.2 +1.0
baz=124
MORF **Marmelete** 123.96 310 *e*PP PP 03 42 51.0 -1.3
MORF AMS AMS 04 43 22.7
comp=Z,1µm,24.2s
MORF **Marmelete** 123.96 310 *e*PKPdf **PKPdf** 03 41 08.5 -0.1
MORF **Marmelete** 123.96 310 *e*PP PP 03 42 39.2 -13
MORF **Marmelete** 123.96 310 *e*LR LR 04 37 28.5
comp=Z,1µm,20.0s
BELC **Belle Mtn. Jos** 123.98 54 ⇓P **PKPdf** 03 41 09.1 +0.3
baz=124
HVU **Hansel Valley** 123.99 45 *e*PKIKP **PKPdf** 03 41 08.2 -0.5
HVU **Hansel Valley** 123.99 45 *e*PKPdf **PKPdf** 03 41 08.2 -0.5
GMRC **Granite Mounta** 124.05 53 ⇓P **PKPdf** 03 41 09.0 +0.1
baz=124
YMR **Madison River** 124.05 41 *e*PKPdf **PKPdf** 03 41 08.0 -0.8
YMR *e*PP **PP** 03 42 51.9 -0.8
BGU **Big Grassy Mou** 124.13 46 *e*PKPdf **PKPdf** 03 41 10.0 +1.1
BGU *e*PP **PP** 03 42 52.2 -1.1
PFVI **Vila Bisbo** 124.14 310 *e*PP PP 03 42 41.0 -12
D19A **Cripps Ranch,** 124.22 37 ⇓P **PKPdf** 03 41 08.6 -0.2
baz=124
GCMT **Greycliff** 124.38 39 *e*PKPdf **PKPdf** 03 41 08.6 -0.7
GCMT *e*PP **PP** 03 42 54.8 0.0
IMW **Indian Meadow** 124.40 42 *e*PKPdf **PKPdf** 03 41 09.9 +0.4
IMW *e*PP **PP** 03 42 55.2 0.0
SWSC **Sam W. Stewart** 124.40 56 ⇑P **PKPdf** 03 41 11.0 +1.5
baz=124
H17A **Grant Village** 124.42 41 *e*PKPdf **PKPdf** 03 41 09.7 +0.1
H17A *e*PP **PP** 03 42 55.0 -0.2
A21A **Bergtoll Ranch** 124.44 34 ⇑P **PKPdf** 03 41 09.4 +0.2
baz=124
LKWY **Lake** 124.46 41 PFAKE 03 41 20.0 +10
LKWY LR LR
comp=Z,4µm,22.0s
C20A **Veseth Ranch,** 124.47 36 ⇓P **PKPdf** 03 41 09.8 +0.6
baz=124
BC3 **Big Chuckawall** 124.50 55 ⇓P **PKPdf** 03 41 10.3 +0.5
baz=124
DUG **Dugway, Tooele** 124.54 46 *e*PKIKP **PKPdf** 03 41 09.4 -0.4
DUG *e* 03 42 54.3
DUG MLR MLR
comp=Z,1µm,20.0s
DUG **Dugway, Tooele** 124.54 46 *e*PKPdf **PKPdf** 03 41 09.3 -0.4
DUG *e*PP **PP** 03 42 54.3 -1.8
DUG LR LR
comp=Z,1µm,20.0s
DUG **Dugway, Tooele** 124.54 46 ⇑P **PKPdf** 03 41 10.2 +0.5
baz=124
TPAW **Teton Pass** 124.56 42 *e*PKPdf **PKPdf** 03 41 11.0 +1.1
TPAW *e*PP **PP** 03 42 55.6 -0.6
MOOW **Moose Ponds** 124.59 42 *e*PKPdf **PKPdf** 03 41 10.9 +1.0
MOOW *e*PP **PP** 03 42 55.0 -1.3
E19A **Rath Farm, Rou** 124.61 38 ⇑P **PKPdf** 03 41 10.9 +1.3
baz=124
IRM **Iron Mountain** 124.62 54 ⇑P **PKPdf** 03 41 10.8 +0.9
baz=125
I17A **Pilgrim Ck.** 124.62 41 ⇓P **PKPdf** 03 41 10.0 +0.1
baz=124
REDW **Red Top Meadow** 124.68 42 *e*PKPdf **PKPdf** 03 41 09.6 -0.4
B21A **Ellsworth Farm** 124.68 35 ⇓P **PKPdf** 03 41 09.3 -0.3
baz=125
SNOW **Snow King Moun** 124.70 42 *e*PKPdf **PKPdf** 03 41 10.0 -0.1
LOHW **Long Hollow** 124.74 42 *e*PKPdf **PKPdf** 03 41 09.7 -0.4
AHID **Auburn Hatcher** 124.76 43 PFAKE 03 41 20.0 +10
AHID LR LR
comp=Z,1µm,19.0s
F19A **Roth Farm, Mol** 124.80 39 ⇑P **PKPdf** 03 41 10.3 +0.3
baz=125
H18A **Shoshone NF, C** 124.89 40 ⇑P **PKPdf** 03 41 10.8 +0.4
baz=125
HWUT **Hardware Ranch** 124.90 44 *e*PKPdf **PKPdf** 03 41 10.0 -0.4
HWUT *e*PP **PP** 03 42 58.3 -0.2
HWUT LR LR
comp=Z,1µm,22.0s
RLMT **Red Lodge** 124.94 40 PFAKE 03 41 20.0 +10
RLMT LR LR
comp=Z,838nm,21.0s
C21A **Desert Coulee** 124.94 36 ⇑P **PKPdf** 03 41 11.0 +0.9
baz=125
F20A **Billings** 125.32 38 ⇑P **PKPdf** 03 41 11.4 +0.4
baz=125
H19A **Powell** 125.32 40 ⇓P **PKPdf** 03 41 12.4 +1.3
baz=125
W13A **Hualapai Mount** 125.37 53 ⇑P **PKPdf** 03 41 11.5 -0.1
baz=125
D21A **La Casta Ranch** 125.39 37 ⇑P **PKPdf** 03 41 11.9 +0.8
baz=125
PDMCI **Parker Dam,Lak** 125.39 54 ⇑P **PKPdf** 03 41 11.4 +0.1
baz=125
MPU **Maple Canyon** 125.45 46 *e*PKPdf **PKPdf** 03 41 12.8 +1.3
G20A **Bridger** 125.55 39 ⇑P **PKPdf** 03 41 11.1 -0.4
baz=126
MVU **Marysvale** 125.57 48 *e*PKPdf **PKPdf** 03 41 13.1 +1.2
MSU **Marysvale** 125.59 48 *e*PKIKP **PKPdf** 03 41 12.2 +0.3
MSU **Marysvale** 125.59 48 *e*PKPdf **PKPdf** 03 41 12.2 +0.3
I19A **Meeteetse** 125.60 41 ⇑P **PKPdf** 03 41 12.0 +0.3
baz=126
E21A **Keefer Ranch,** 125.61 37 ⇓P **PKPdf** 03 41 12.1 +0.7
baz=126
C22A **Vida** 125.68 35 ⇓P **PKPdf** 03 41 12.2 +0.6
baz=126
BW06 **Boulder Array** 125.79 42 PFAKE 03 41 20.0 +7.8
BW06 LR LR
comp=Z,1µm,22.0s
PDAR **Pinedale Array** 125.79 42 PKP **PKPdf** 03 41 12.3 +0.1
comp=Z,1.9nm,1.0s,baz=135,slow=0.6,SNR=8.7
B23A **Brockton** 125.80 34 ⇓P **PKPdf** 03 41 12.3 +0.5
baz=126
D22A **Cohagen** 125.82 36 ⇑P **PKPdf** 03 41 12.5 +0.6
baz=126
J19A **Crowheart** 125.91 42 ⇓P **PKPdf** 03 41 12.6 +0.3
baz=126

F21A **Absaloka Mine,** 125.93 38 ⇑P **PKPdf** 03 41 12.7 +0.6
baz=126
H20A **Greybull** 126.03 40 ⇓P **PKPdf** 03 41 12.7 +0.3
baz=126
LAO **LASA Array** 126.04 37 *e*PKPdf **PKPdf** 03 41 12.1 -0.2
LAO *e*PP PP 03 43 00.3 -5.4
LAO LR LR
comp=Z,805nm,20.0s
C23A **Lambert** 126.05 35 ⇓P **PKPdf** 03 41 12.9 +0.7
baz=126
A24A **Westby** 126.09 33 ⇑P **PKPdf** 03 41 13.0 +0.8
baz=126
113A **Mohawk Valley,** 126.10 55 ⇑P **PKPdf** 03 41 12.9 +0.2
baz=126
G21A **Lodge Grass** 126.17 39 ⇑P **PKPdf** 03 41 12.7 0.0
baz=126
I20A **Worland** 126.20 40 ⇑P **PKPdf** 03 41 12.2 -0.5
baz=126
DGMT **Dagmar** 126.24 34 PFAKE 03 41 20.0 +7.4
DGMT LR LR
comp=Z,830nm,20.0s
DGMT **Dagmar** 126.24 34 ⇓P **PKPdf** 03 41 13.0 +0.4
baz=126
D23A **Lindsay** 126.38 36 ⇓P **PKPdf** 03 41 13.3 +0.3
baz=126
F22A **Rosebud** 126.48 38 ⇓P **PKPdf** 03 41 13.6 +0.4
baz=126
J20A **Shoshoni** 126.50 41 ⇓P **PKPdf** 03 41 13.8 +0.4
baz=126
A25A **Svangstu Ranch** 126.56 33 ⇑P **PKPdf** 03 41 13.7 +0.6
baz=126
H21A **Big Horn, Sher** 126.57 39 ⇓P **PKPdf** 03 41 13.7 +0.3
baz=126
SRU **San Rafael Swe** 126.58 47 *e*PKIKP **PKPdf** 03 41 13.6 -0.2
SRU **San Rafael Swe** 126.58 47 *e*PKPdf **PKPdf** 03 41 13.6 -0.2
Z14A **Wintersburg** 126.60 54 ⇓P **PKPdf** 03 41 13.7 0.0
baz=126
C24A **Savage** 126.63 35 ⇓P **PKPdf** 03 41 13.5 +0.1
baz=126
E23A **Ismay** 126.68 36 ⇑P **PKPdf** 03 41 13.7 +0.2
baz=127
G22A **Birney** 126.74 38 ⇑P **PKPdf** 03 41 13.6 -0.1
baz=127
I21A **Big Trails, Te** 126.80 40 ⇓P **PKPdf** 03 41 14.4 +0.5
baz=127
D24A **Glendive** 126.91 35 ⇓P **PKPdf** 03 41 14.0 0.0
baz=127
J21A **Lysite** 126.92 41 ⇑P **PKPdf** 03 41 14.6 +0.4
baz=127
B25A **Knox Farm, Ray** 126.92 34 ⇑P **PKPdf** 03 41 14.3 +0.4
baz=127
H22A **Clearmont** 127.01 39 ⇓P **PKPdf** 03 41 14.6 +0.4
baz=127
F23A **Volborg** 127.02 37 ⇑P **PKPdf** 03 41 14.2 0.0
baz=127
214A **Organ Pipe Nat** 127.09 56 ⇓P **PKPdf** 03 41 15.2 +0.5
baz=127
A26A **Wade Farm, Ken** 127.16 32 ⇑P **PKPdf** 03 41 15.7 +1.4
baz=127
C25A **Freed Ranch, W** 127.18 34 ⇑P **PKPdf** 03 41 15.7 +1.3
baz=127
WUAZ **Wupatki** 127.20 51 *e*PKPdf **PKPdf** 03 41 15.2 +0.2
WUAZ LR LR
comp=Z,1µm,20.0s
WUAZ **Wupatki** 127.20 51 ⇓P **PKPdf** 03 41 15.8 +0.8
baz=127
E24A **Baker** 127.23 36 ⇑P **PKPdf** 03 41 16.1 +1.6
baz=127
I22A **9 Mile Ranch,** 127.27 40 ⇓P **PKPdf** 03 41 15.8 +1.0
baz=127
G23A **Biddle** 127.30 38 ⇑P **PKPdf** 03 41 16.1 +1.3
baz=127
B26A **Jensen Ranch,** 127.36 33 ⇓P **PKPdf** 03 41 15.4 +0.7
baz=127
K21A **Alcova** 127.37 41 ⇓P **PKPdf** 03 41 15.6 +0.5
baz=127
D25A **Fairfield** 127.47 35 ⇓P **PKPdf** 03 41 15.9 +0.9
baz=127
N20A **Spence Gulch,** 127.49 44 ⇑P **PKPdf** 03 41 15.9 +0.4
baz=127
X16A **Lo Mia Camp, P** 127.49 53 ⇑P **PKPdf** 03 41 16.0 +0.4
baz=127
J22A **Midwest** 127.51 40 ⇑P **PKPdf** 03 41 15.7 +0.3
baz=127
F24A **Ekalaka** 127.53 37 ⇑P **PKPdf** 03 41 15.4 +0.2
baz=127
A27A **Ledoux Ranch,** 127.54 32 ⇑P **PKPdf** 03 41 15.7 +0.7
baz=127
C26A **Wahner Farm, P** 127.76 33 ⇑P **PKPdf** 03 41 15.8 +0.3
baz=128
E25A **Miller Ranch,** 127.78 35 ⇑P **PKPdf** 03 41 15.8 +0.2
baz=128
O20A **White River Ci** 127.80 45 *e*PKPdf **PKPdf** 03 41 14.8 -1.3
O20A **White River Ci** 127.80 45 ⇑P **PKPdf** 03 41 16.3 +0.3
baz=128
G24A **Alzada** 127.82 37 ⇓P **PKPdf** 03 41 16.3 +0.5
baz=128
K22A **Casper** 127.84 41 *e*PKPdf **PKPdf** 03 41 15.0 -1.0
K22A **Casper** 127.84 41 ⇓P **PKPdf** 03 41 16.9 +0.9
baz=128
D26A **Manning** 128.03 34 ⇑P **PKPdf** 03 41 16.7 +0.6
baz=128
H24A **Dirks Ranch, A** 128.04 38 ⇓P **PKPdf** 03 41 17.3 +1.0
baz=128
F25A **Bowman** 128.07 36 ⇓P **PKPdf** 03 41 17.3 +1.1
baz=128
A28A **Rude Farm, Bot** 128.07 31 ⇓P **PKPdf** 03 41 17.1 +1.1
baz=128
C27A **Sayler Ranch,** 128.15 33 ⇑P **PKPdf** 03 41 16.8 +0.6
baz=128
L22A **Ellis Ranch, M** 128.19 42 ⇓P **PKPdf** 03 41 17.3 +0.6
baz=128
B28A **Dugan Ranch, T** 128.31 32 ⇓P **PKPdf** 03 41 17.5 +1.0
baz=128
E26A **Carlson Angus** 128.34 35 ⇓P **PKPdf** 03 41 17.7 +1.0
baz=128
M22A **Cedar Creek Ra** 128.37 43 ⇑P **PKPdf** 03 41 17.4 +0.2
baz=128
PV01 **Paradox Valley** 128.37 47 *e*PKPdf **PKPdf** 03 41 17.2 0.0
K23A **Bowen Ranch, D** 128.37 41 ⇓P **PKPdf** 03 41 17.5 +0.5
baz=128
I24A **Kuemmerle Ranc** 128.46 39 ⇑P **PKPdf** 03 41 17.6 +0.5
baz=128
D27A **Center** 128.49 34 ⇑P **PKPdf** 03 41 18.2 +1.3
baz=128
F26A **Lodgepole** 128.57 36 ⇓P **PKPdf** 03 41 17.2 0.0
baz=128
A29A **Manning Farm,** 128.60 31 ⇑P **PKPdf** 03 41 17.8 +0.8
baz=128
X18A **Snowflake** 128.62 52 ⇓P **PKPdf** 03 41 18.9 +1.1
baz=129
L23A **Garrett** 128.63 41 ⇓P **PKPdf** 03 41 19.1 +1.5
baz=128
TUC **Tucson** 128.65 55 *e*PKIKP **PKPdf** 03 41 17.8 +0.1
TUC MLR MLR
comp=Z,871nm,19.0s
TUC **Tucson** 128.65 55 *e*PKPdf **PKPdf** 03 41 17.8 +0.1
TUC LR LR
comp=Z,871nm,19.0s
RSSD **Black Hills** 128.69 38 *e*PKIKP **PKPdf** 03 41 17.2 -0.4
RSSD **Black Hills** 128.69 38 *e*PKPdf **PKPdf** 03 41 17.2 -0.4
N22A **Wattenberg Ran** 128.74 43 ⇓P **PKPdf** 03 41 19.1 +1.2
baz=129
MVCO **Mesa Verde** 128.78 48 *e*PKPdf **PKPdf** 03 41 18.3 +0.3
MVCO LR LR
comp=Z,1µm,21.0s
MVCO **Mesa Verde** 128.78 48 ⇑P **PKPdf** 03 41 19.8 +1.7
baz=129
B29A **Wagenman Farm,** 128.83 31 ⇓P **PKPdf** 03 41 19.4 +1.9
baz=129
E27A **Carson** 128.87 35 ⇓P **PKPdf** 03 41 19.9 +2.2
baz=129
K24A **Anderson Ranch** 128.91 40 ⇑P **PKPdf** 03 41 19.4 +1.4
baz=129
G26A **Maurine** 128.92 36 ⇑P **PKPdf** 03 41 19.6 +1.8
baz=129
M23A **Laramie** 128.92 42 ⇑P **PKPdf** 03 41 18.7 +0.5
baz=129
I25A **Rochford** 128.93 38 ⇑P **PKPdf** 03 41 18.4 +0.3
baz=129
F27A **Lemmon** 128.93 35 ⇓P **PKPdf** 03 41 18.9 +1.1
baz=129
O22A **Kremmling** 128.96 44 ⇑P **PKPdf** 03 41 18.6 +0.2
baz=129
D28A **Regan** 128.97 33 ⇑P **PKPdf** 03 41 19.2 +1.4
baz=129
N23A **Red Feather La** 129.04 43 ⇓P **PKPdf** 03 41 18.3 -0.2
baz=129

A30A	Hoffart Farm, baz=129	129.06	30	⇑P		PKPdf	03 41 19.1	+1.2
P22A	Eagle baz=129	129.06	45	⇓P		PKPdf	03 41 19.7	+1.2
MDND	Maddock baz=129	129.08	32	⇓P		PKPdf	03 41 19.4	+1.4
SMCO	Snowmass	129.09	45	*e*PKPdf		PKPdf	03 41 18.8	0.0
H26A	Fairpoint baz=129	129.19	37	⇓P		PKPdf	03 41 19.4	+1.0
G27A	Dupree baz=129	129.26	36	⇑P		PKPdf	03 41 19.2	+0.7
ULM	Lac du Bonnet comp=Z,5.1nm,0.9s,baz=305,slow=5.1,SNR=5.4	129.34	28	PKP	PKP	PKPdf	03 41 18.3	-0.1
ULM	Lac du Bonnet comp=Z,5.0nm,0.9s	129.34	28	PKIKP pmax	pmax	PKPdf	03 41 18.3	-0.1
B30A	Myrvik Farm, E baz=129	129.36	31	⇓P		PKPdf	03 41 19.2	+0.7
O23A	Lake Granby, G baz=129	129.37	44	⇑P		PKPdf	03 41 20.0	+0.8
I26A	New Underwood baz=129	129.45	38	⇑P		PKPdf	03 41 20.2	+1.2
ISCO	Idaho Springs	129.76	44	PFAKE			03 41 30.0	+10
ISCO	comp=Z,947nm,19.0s			LR	LR			
ISCO	Idaho Springs baz=130	129.76	44	⇓P		PKPdf	03 41 20.9	+1.0
C30A	Mose, Pekin baz=130	129.76	32	⇑P		PKPdf	03 41 20.3	+1.0
P23A	Jefferson baz=130	129.80	45	⇑P		PKPdf	03 41 21.9	+1.9
E29A	Napoleon baz=130	129.85	33	⇑P		PKPdf	03 41 21.7	+2.2
I27A	Quinn baz=130	129.92	37	⇓P		PKPdf	03 41 20.4	+0.7
K26A	Motz Farm, Whi baz=130	129.96	40	⇓P		PKPdf	03 41 19.9	-0.1
O24A	Longmont baz=130	129.98	43	⇑P		PKPdf	03 41 20.4	+0.3
D30A	Buchanan baz=130	129.99	32	⇑P		PKPdf	03 41 20.4	+0.6
Q23A	Hartsel baz=130	130.01	45	⇑P		PKPdf	03 41 21.9	+1.5
G28A	Parade baz=130	130.02	36	⇓P		PKPdf	03 41 21.1	+1.2
ASCN	Ascension	130.13	253	PFAKE			03 41 30.0	+9.1
ASCN	comp=Z,2µm,22.0s			LR	LR			
319A	Douglas baz=130	130.14	56	⇑P		PKPdf	03 41 22.6	+1.9
E30A	Jud baz=130	130.29	33	⇑P		PKPdf	03 41 22.2	+1.9
R23A	Moffat baz=130	130.32	46	⇑P		PKPdf	03 41 22.9	+1.9
I28A	Midland baz=130	130.49	37	⇓P		PKPdf	03 41 21.7	+0.8
AGMN	Agassiz Nation	130.69	30	PFAKE			03 41 30.0	+9.0
AGMN	comp=Z,1µm,20.0s			LR	LR			
AGMN	Agassiz Nation baz=131	130.69	30	⇑P		PKPdf	03 41 22.6	+1.6
PLCA	Paso Flores comp=Z,6.9nm,1.1s,baz=178,slow=4.6,SNR=7.4	130.72	171	PKP		PKPdf	03 41 21.6	+0.1
PLCA	Paso Flores comp=Z,7.0nm,1.1s	130.72	171	PKIKP pmax	pmax	PKPdf	03 41 21.6	+0.1
PLCA	Paso Flores	130.72	171	*e*PKPdf		PKPdf	03 41 21.8	+0.4
SDCO	Great Sand Dun	130.74	46	*e*PKPdf		PKPdf	03 41 22.1	+0.3
SDCO				*e*SKP			03 44 45.4	
SDCO	comp=Z,1µm,22.0s			LR	LR			
SDCO	Great Sand Dun baz=131	130.74	46	⇓P		PKPdf	03 41 23.6	+1.7
J28A	Allard Ranch, baz=131	130.77	38	⇑P		PKPdf	03 41 23.3	+1.9
LAZ	Ladron	130.85	51	*e*PKPdf		PKPdf	03 41 21.6	-0.4
LAZ				*e*SKP			03 44 45.5	
LAZ				*e*SKPdf		SKiKP	03 44 57.1	-0.3
121A	Cookes Peak, D	130.99	54	*e*PKPdf		PKPdf	03 41 21.6	-0.7
121A				*e*SKP			03 44 45.8	
121A	Cookes Peak, D baz=131	130.99	54	⇓P		PKPdf	03 41 25.1	+2.8
G30A	Faulkton baz=131	131.00	35	⇓P		PKPdf	03 41 22.3	+0.6
K28A	Ten Mile Ranch baz=131	131.08	39	⇑P		PKPdf	03 41 22.7	+0.7
ANMO	Albuquerque	131.17	50	*e*PKIKP		PKPdf	03 41 22.7	+0.1
ANMO	comp=Z,861nm,20.0s			MLR	MLR			
ANMO	Albuquerque	131.17	50	*e*PKPdf		PKPdf	03 41 22.7	+0.1
ANMO				*e*SKP			03 44 46.0	
ANMO				*e*SKPdf		SKiKP	03 44 58.3	+0.2
ANMO	comp=Z,861nm,20.0s			LR	LR			
J29A	Okreek baz=131	131.33	37	⇓P		PKPdf	03 41 22.3	-0.2
L28A	Connealy Angus baz=131	131.37	39	⇑P		PKPdf	03 41 24.6	+2.0
P26A	Davis Ranch, A baz=131	131.42	43	⇓P		PKPdf	03 41 24.2	+1.3
OGNE	Ogallala	131.60	41	PFAKE			03 41 30.0	+6.9
OGNE	comp=Z,1µm,21.0s			LR	LR			
Q26A	Hugo baz=132	131.60	44	⇓P		PKPdf	03 41 25.2	+1.9
T25A	Trinidad baz=132	131.79	47	⇑P		PKPdf	03 41 25.3	+1.6
R26A	Arlington baz=132	131.95	45	⇑P		PKPdf	03 41 24.5	+0.6
PMOZ	Porto Moniz, M	132.04	307	*e*PP	PP		03 43 50.5	+4.9
PMOZ	Porto Moniz, M comp=Z,806nm,18.0s	132.04	307	*e*LR	LR		04 39 48.0	
S26A	Kim baz=132	132.24	46	⇓P		PKPdf	03 41 25.9	+1.4
T26A	Comanche Natio baz=132	132.36	46	⇓P		PKPdf	03 41 25.6	+0.9
R27A	Eads baz=132	132.40	44	⇓P		PKPdf	03 41 25.5	+0.8
EYMN	Ely	133.00	27	PFAKE			03 41 40.0	+15
EYMN	comp=Z,2µm,21.0s			LR	LR			
T27A	Campo baz=133	133.03	46	⇓P		PKPdf	03 41 28.1	+2.1
R28A	Tribune baz=133	133.06	44	⇓P		PKPdf	03 41 28.3	+2.3
MNTX	Cornudas Mount	133.19	54	*e*PKPdf		PKPdf	03 41 26.6	+0.3
MNTX				*e*SKPbc		SKPbc	03 44 53.6	+0.8
MNTX	comp=Z,956nm,21.0s			LR	LR			
MNTX	Cornudas Mount baz=133	133.19	54	⇓P		PKPdf	03 41 27.6	+1.4
SCHQ	Schefferville comp=Z,5.0nm,0.8s,baz=41,slow=4.8,SNR=4.0	133.24	4	PKP		PKPdf	03 41 25.8	+0.1
U27A	Thompson Grove baz=133	133.25	47	⇓P		PKPdf	03 41 28.0	+1.6
O30A	MW Ranch, Wils baz=133	133.28	41	⇑P		PKPdf	03 41 27.0	+0.7
ECSD	EROS Data Cent	133.29	35	*e*PKPdf		PKPdf	03 41 26.0	-0.1
ECSD				*e*SKPbc		SKPbc	03 44 52.4	-0.3
ECSD				*e*SKPdf		SKiKP	03 45 02.1	+0.2
ECSD	comp=Z,1µm,19.0s			LR	LR			
ECSD	EROS Data Cent baz=133	133.29	35	⇑P		PKPdf	03 41 26.8	+0.7
Q29A	Oakley baz=133	133.35	43	⇑P		PKPdf	03 41 27.9	+1.4
S28A	Manter baz=133	133.36	45	⇓P		PKPdf	03 41 27.4	+0.9
T28A	Walsh baz=133	133.43	45	⇑P		PKPdf	03 41 28.1	+1.4
U28A	Mallet baz=134	133.70	46	⇓P		PKPdf	03 41 28.0	+0.8
BGNE	Belgrade baz=134	133.79	38	⇑P		PKPdf	03 41 28.6	+1.4
Q30A	Quinter baz=134	133.81	42	⇓P		PKPdf	03 41 28.0	+0.7
TRQA	Tornquist	134.06	180	*e*PKPdf		PKPdf	03 41 27.8	+0.1
TRQA				*e*SKPbc		SKPbc	03 44 56.5	+0.9
TRQA	comp=Z,1µm,19.0s			LR	LR			
P31A	Stockton baz=134	134.08	41	⇓P		PKPdf	03 41 29.0	+1.2
W28A	Vega baz=134	134.22	48	⇑P		PKPdf	03 41 29.1	+0.9
SPMN	Marine on St.	134.33	31	*e*PKPdf		PKPdf	03 41 29.1	+1.1
MSTX	Muleshoe	134.35	50	*e*PKPdf		PKPdf	03 41 29.1	+0.6
MSTX				*e*SKPbc		SKPbc	03 44 57.1	+0.4
MSTX	Muleshoe baz=134	134.35	50	⇑P		PKPdf	03 41 29.5	+1.0
O32A	Brockman Farm, baz=134	134.37	40	⇓P		PKPdf	03 41 29.2	+1.0
P32A	Huiting Farm, baz=134	134.52	41	⇑P		PKPdf	03 41 29.5	+1.0
X28A	Dimmitt baz=134	134.54	49	⇑P		PKPdf	03 41 31.3	+2.4
R31A	Burdett baz=134	134.63	43	⇑P		PKPdf	03 41 30.1	+1.3
U30A	WK&E Inc. Balk baz=135	134.75	45	⇑P		PKPdf	03 41 30.6	+1.5
AMTX	Amarillo baz=135	134.77	48	⇓P		PKPdf	03 41 31.7	+2.5
Y28A	McKinney Farm, baz=135	134.77	50	⇑P		PKPdf	03 41 31.9	+2.7
Q33A	Connelly Farm, baz=135	135.37	41	⇓P		PKPdf	03 41 30.2	+0.1
TXAR	Lajitas Array comp=Z,0.7nm,0.9s,baz=207,slow=1.8,SNR=2.7	135.39	56	PKhKP	PKPpre		03 41 18.8	
TXAR	comp=Z,1.5nm,0.8s,baz=282,slow=2.4,SNR=4.8			PKP		PKPdf	03 41 29.8	-0.7
TXAR	comp=Z,1.4nm,0.9s,baz=247,slow=2.6,SNR=5.1			SKPbc		SKPbc	03 45 01.4	+1.2
TXAR	Lajitas Array	135.39	56	PKHKP	PKPpre		03 41 18.8	
TXAR							03 41 29.8	
TXAR	comp=Z,1.0nm,0.9s			pmax	pmax			
TXAR	comp=Z,2.0nm,0.8s			pmax	pmax			
TXAR	comp=N,1.0nm,0.9s			pmax	pmax			
COWI	Conover	135.45	27	PFAKE			03 41 40.0	+10
COWI	comp=Z,2µm,20.0s			LR	LR			
Z29A	Hungry Hill Ra baz=135	135.45	50	⇓P		PKPdf	03 41 32.4	+1.8
129A	Stewart Farms, baz=136	135.59	51	⇑P		PKPdf	03 41 33.9	+3.1
T32A	Huddler Ranch, baz=136	135.62	44	⇑P		PKPdf	03 41 32.8	+2.1
R33A	Olander Ranch, baz=136	135.65	42	⇓P		PKPdf	03 41 32.7	+2.0
Y30A	Stafford Cattl baz=136	135.79	49	⇓P		PKPdf	03 41 33.7	+2.6
Z30A	Sanderson Ranc baz=136	135.88	50	⇑P		PKPdf	03 41 33.4	+2.1
W31A	Holland Ranch, baz=136	135.89	47	⇑P		PKPdf	03 41 32.9	+1.7
329A	Wagon Wheel Ra baz=136	135.96	53	⇓P		PKPdf	03 41 32.8	+1.3
U32A	Winter Ranch, baz=136	135.97	45	⇓P		PKPdf	03 41 32.7	+1.3
PSMN	Pico do Norte,	136.02	316	*e*PP	PP		03 44 10.5	+0.1
PSET	Sete Cidades	136.03	318	*e*PP	PP		03 44 10.2	-0.2
KSU1	Kansas State U	136.09	40	PFAKE			03 41 40.0	+8.5
KSU1	comp=Z,1µm,21.0s			LR	LR			
X31A	McDonald Ranch baz=136	136.13	47	⇑P		PKPdf	03 41 33.2	+1.5
Y31A	Rekieta Farm, baz=136	136.23	48	⇑P		PKPdf	03 41 32.8	+0.9
130A	Snyder baz=136	136.30	51	⇑P		PKPdf	03 41 33.0	+0.9
429A	Davenport Ranc baz=136	136.36	54	⇓P		PKPdf	03 41 33.2	+0.9
SCIA	State Center	136.38	34	PFAKE			03 41 40.0	+8.1
SCIA	comp=Z,2µm,21.0s			LR	LR			
W32A	Sentinel baz=136	136.42	46	⇑P		PKPdf	03 41 33.5	+1.3
330A	Mertzon baz=136	136.62	52	⇑P		PKPdf	03 41 34.5	+1.8
X32A	Elmer baz=137	136.73	47	⇓P		PKPdf	03 41 34.2	+1.4
V33A	Loseen Ranch, baz=137	136.76	45	⇑P		PKPdf	03 41 34.3	+1.4
PGRA	Graciosa	136.80	321	*e*PP	PP		03 44 15.2	+0.1
430A	Baggett Ranch, baz=137	136.82	53	⇓P		PKPdf	03 41 33.7	+0.5
T34A	McClaskey Farm baz=137	136.88	43	⇓P		PKPdf	03 41 33.7	+0.7
WMOK	Wichita Mounta	136.94	47	*e*PKHKP	PKPpre		03 41 25.7	
WMOK				*e*			03 41 33.9	
WMOK	comp=Z,1µm,21.0s			MLR	MLR			
WMOK	Wichita Mounta	136.94	47	*e*PKPpre	PKPpre		03 41 25.7	
WMOK				*e*PKPdf		PKPdf	03 41 33.9	+0.7
WMOK	comp=Z,1µm,21.0s			LR	LR			
U34A	Anderson Ranch baz=137	136.96	44	⇑P		PKPdf	03 41 34.3	+1.1
W33A	Caddo, Fort Co baz=137	136.97	46	⇑P		PKPdf	03 41 34.3	+1.1
530A	J-C Ranch, Com baz=137	136.99	54	⇓P		PKPdf	03 41 34.5	+1.1
231A	Bronte baz=137	137.07	51	⇑P		PKPdf	03 41 33.2	-0.3
S35A	Otter Creek Ra baz=137	137.09	41	⇑P		PKPdf	03 41 34.1	+0.8
Z32A	Haskell baz=137	137.11	49	⇑P		PKPdf	03 41 34.3	+0.8
ROSA	Rosais	137.15	321	*e*PP	PP		03 44 17.7	+0.4
X33A	Lawton baz=137	137.24	47	⇑P		PKPdf	03 41 34.4	+0.7
331A	San Angelo baz=137	137.25	52	⇓P		PKPdf	03 41 35.3	+1.4
JFWS	Jewell Farm	137.27	31	PFAKE			03 41 40.0	+6.5
JFWS	comp=Z,1µm,21.0s			LR	LR			
V34A	Guthrie baz=137	137.28	44	⇓P		PKPdf	03 41 34.2	+0.5
ABTX	Abilene, Hawle baz=137	137.29	50	⇑P		PKPdf	03 41 35.7	+1.8
431A	Sonora baz=137	137.36	53	⇑P		PKPdf	03 41 34.7	+0.5
T35A	Sooner Cattle baz=137	137.39	42	⇓P		PKPdf	03 41 34.6	+0.6
Y33A	Hilltop Ranch, baz=137	137.41	47	⇑P		PKPdf	03 41 35.1	+1.1
W34A	Bridge Creek, baz=137	137.41	45	⇑P		PKPdf	03 41 33.6	-0.4
S36A	Lake Cedric, C baz=137	137.54	41	⇓P		PKPdf	03 41 33.8	-0.4
Q37A	Longview Farm, baz=138	137.58	39	⇑P		PKPdf	03 41 34.5	+0.3
232A	Coleman baz=138	137.61	51	⇑P		PKPdf	03 41 35.3	+0.8
531A	Rocksprings baz=138	137.61	54	⇑P		PKPdf	03 41 36.2	+1.6
Z33A	Whitaker Ranch baz=138	137.65	48	⇓P		PKPdf	03 41 36.5	+1.9
R37A	Teagarden Farm baz=138	137.68	40	⇓P		PKPdf	03 41 36.9	+2.5
X34A	Smith Ranch, M baz=138	137.69	46	⇑P		PKPdf	03 41 36.5	+2.0
T36A	Boggs Farm, Ca baz=138	137.73	42	⇓P		PKPdf	03 41 35.7	+1.2
332A	Millersview baz=138	137.75	52	⇑P		PKPdf	03 41 36.2	+1.4
V35A	Meyer Ranch, C baz=138	137.79	44	⇑P		PKPdf	03 41 34.3	-0.4
133A	Hamilton Ranch baz=138	137.85	49	⇓P		PKPdf	03 41 35.3	+0.4
631A	Perdido Creek baz=138	137.88	55	⇓P		PKPdf	03 41 36.7	+1.6
432A	Menard baz=138	137.92	52	⇑P		PKPdf	03 41 36.1	+1.0
Y34A	Reagan Ranch, baz=138	138.06	47	⇑P		PKPdf	03 41 35.8	+0.6
JCT	Junction City	138.08	53	*e*PKIKP		PKPdf	03 41 34.1	-1.4
JCT	comp=Z,1µm,19.0s			MLR	MLR			
JCT	Junction City	138.08	53	*e*PKPdf		PKPdf	03 41 34.1	-1.4
JCT	comp=Z,1µm,19.0s			LR	LR			
JCT	Junction City baz=138	138.08	53	⇓P		PKPdf	03 41 36.5	+1.1
W35A	Tecumseh baz=138	138.09	45	⇓P		PKPdf	03 41 34.3	-0.9
233A	Rising Star baz=138	138.12	50	⇓P		PKPdf	03 41 36.7	+1.2
532A	Rocksprings baz=138	138.14	53	⇓P		PKPdf	03 41 36.3	+0.7
Z34A	Collier Ranch, baz=138	138.23	48	⇓P		PKPdf	03 41 37.1	+1.5
333A	Richland Sprin baz=138	138.36	51	⇑P		PKPdf	03 41 37.6	+1.6
X35A	Drake baz=138	138.41	46	⇓P		PKPdf	03 41 37.8	+1.9
GLMI	Grayling	138.41	25	PFAKE			03 41 50.0	+14
GLMI	comp=Z,1µm,20.0s			LR	LR			
TUL1	Leonard baz=138	138.43	43	⇑P		PKPdf	03 41 37.9	+2.0
632A	Uvalde baz=138	138.48	54	⇑P		PKPdf	03 41 37.5	+1.3
134A	White-Moore Ra baz=138	138.49	49	⇑P		PKPdf	03 41 36.9	+0.8
433A	Art baz=138	138.52	52	⇑P		PKPdf	03 41 36.3	+0.1
W36A	Wetumka baz=138	138.55	44	⇑P		PKPdf	03 41 36.3	+0.2
732A	Laxson Ranch, baz=139	138.63	55	⇓P		PKPdf	03 41 36.5	+0.1
234A	Clairette baz=139	138.71	50	⇑P		PKPdf	03 41 37.5	+1.0
Z35A	Perchaven, San baz=139	138.74	47	⇓P		PKPdf	03 41 37.4	+0.8
X36A	Centrahoma baz=139	138.76	45	⇑P		PKPdf	03 41 37.5	+0.9
832A	Faith Ranch, C baz=139	138.79	56	⇓P		PKPdf	03 41 37.5	+0.7
533A	Kerrville baz=139	138.85	53	⇑P		PKPdf	03 41 37.8	+0.9
334A	Lometa baz=139	138.93	51	⇑P		PKPdf	03 41 37.7	+0.7
633A	Saathoff Ranch baz=139	138.99	54	⇑P		PKPdf	03 41 38.3	+1.2
135A	Vickery Place, baz=139	139.00	49	⇓P		PKPdf	03 41 38.3	+1.2
434A	Burnet baz=139	139.14	51	⇓P		PKPdf	03 41 38.1	+0.7
733A	Divot King Ran baz=139	139.18	55	⇑P		PKPdf	03 41 38.2	+0.7
WHTX	Lake Whitney, baz=139	139.23	49	⇑P		PKPdf	03 41 37.4	-0.1
833A	Chaparral WMA, baz=139	139.25	56	⇑P		PKPdf	03 41 38.4	+0.8
534A	Blanco baz=139	139.31	53	⇓P		PKPdf	03 41 38.2	+0.5
HDIL	Hopedale	139.45	33	PFAKE			03 41 50.0	+12
HDIL	comp=Z,17µm,20.0s			LR	LR			
335A	Moody baz=140	139.57	50	⇑P		PKPdf	03 41 39.1	+1.0
933A	Laredo baz=140	139.61	56	⇑P		PKPdf	03 41 39.1	+0.8
435B	Jarrell baz=140	139.68	51	⇓P		PKPdf	03 41 39.1	+0.8
734A	La Parita Cree baz=140	139.72	54	⇓P		PKPdf	03 41 39.6	+1.2
W38A	Poteau baz=140	139.76	43	⇓P		PKPdf	03 41 40.0	+1.7
236A	Katherine and baz=140	139.91	49	⇑P		PKPdf	03 41 40.1	+1.5
336A	Riesel baz=140	139.97	50	⇓P		PKPdf	03 41 40.5	+1.7
Z37A	Pogue Cattle C baz=140	139.99	47	⇓P		PKPdf	03 41 40.0	+1.3
CFAA	Coronel Fontan comp=Z,1.2nm,0.7s,baz=194,slow=2.4,SNR=26	140.01	171	PKhKP	PKPpre		03 41 31.0	
635A	Leesville baz=140	140.13	53	⇓P		PKPdf	03 41 40.5	+1.4
934A	Benavides baz=140	140.24	56	⇓P		PKPdf	03 41 40.2	+0.8
436A	Wall Ranch, Ga baz=140	140.29	51	⇓P		PKPdf	03 41 40.6	+1.2
034A	Hebbronville baz=140	140.30	57	⇓P		PKPdf	03 41 41.1	+1.6
735A	Kenedy baz=140	140.32	54	⇓P		PKPdf	03 41 40.9	+1.4
536A	Bastrop baz=140	140.39	52	⇓P		PKPdf	03 41 41.2	+1.6
Z38A	Mt. Pleasant baz=140	140.42	46	⇑P		PKPdf	03 41 40.4	+0.8
237A	Washetta, Mont baz=140	140.45	48	⇓P		PKPdf	03 41 40.2	+0.6
835A	Beeville baz=140	140.53	55	⇓P		PKPdf	03 41 40.6	+0.7
138A	Matatall Enter baz=141	140.65	47	⇓P		PKPdf	03 41 41.9	+1.9
636A	Smothers Creek baz=141	140.66	53	⇓P		PKPdf	03 41 41.7	+1.6
MIAR	Mount Ida	140.69	43	*e*PKIKP		PKPdf	03 41 38.4	-1.6
MIAR	comp=Z,1µm,20.0s			MLR	MLR			
MIAR	Mount Ida	140.69	43	*e*PKPdf		PKPdf	03 41 38.4	-1.6
MIAR	comp=Z,1µm,20.0s			LR	LR			
337A	Centerville baz=141	140.72	49	⇓P		PKPdf	03 41 41.6	+1.4
KVTX	Kingsville	140.77	56	PFAKE			03 41 50.0	+10
KVTX	comp=Z,1µm,19.0s			LR	LR			
AAM	Ann Arbor	140.87	26	PFAKE			03 41 50.0	+10
AAM	comp=Z,1µm,21.0s			LR	LR			
736A	Circle Diamond baz=141	140.87	53	⇑P		PKPdf	03 41 42.3	+1.8
238A	Jacksonville baz=141	140.96	48	⇑P		PKPdf	03 41 42.2	+1.6
537A	Green Hill Far baz=141	140.97	51	⇑P		PKPdf	03 41 42.3	+1.6
Z39A	Irene McRaven, baz=141	140.99	46	⇑P		PKPdf	03 41 41.6	+1.0
035Z	Hargill baz=141	141.03	58	⇓P		PKPdf	03 41 42.6	+1.8
338A	Crockett baz=141	141.14	49	⇓P		PKPdf	03 41 41.9	+1.0
139A	Bunkhouse Ranc baz=141	141.14	46	⇑P		PKPdf	03 41 41.1	+0.2
438A	Sam Houston St baz=141	141.31	50	⇑P		PKPdf	03 41 41.3	+0.1
OLIL	Olney	141.40	34	*e*PKPdf		PKPdf	03 41 41.3	+0.1
HKT	Hockley	141.40	51	*e*PKIKP		PKPdf	03 41 42.9	+1.6
HKT	Hockley	141.40	51	*e*PKPdf		PKPdf	03 41 42.9	+1.6
NATX	Nacogdoches	141.42	48	PFAKE			03 41 50.0	+8.6
NATX	comp=Z,2µm,20.0s			LR	LR			
239A	Gary baz=141	141.43	47	⇓P		PKPdf	03 41 41.7	+0.3
538A	Harpers Horsep baz=142	141.54	51	⇓P		PKPdf	03 41 42.4	+0.7
339A	Huntington baz=142	141.71	48	⇑P		PKPdf	03 41 43.3	+1.3
439A	Center Grove, baz=142	141.82	49	⇑P		PKPdf	03 41 42.4	+0.3
LONY	Lake Ozonia	141.97	15	PFAKE			03 41 50.0	+8.0
LONY	comp=Z,1µm,22.0s			LR	LR			
SACV	Santiago Islan	142.04	284	PFAKE			03 41 50.0	+7.0
SACV	comp=Z,1µm,20.0s			LR	LR			
LCO	Las Campanas	142.09	167	*e*PKPpre	PKPpre		03 41 39.4	
LCO	comp=Z,2µm,21.0s			LR	LR			
340A	Bronson baz=142	142.16	48	⇓P		PKPdf	03 41 43.9	+1.2
539A	Cross D Ranch, baz=142	142.18	50	⇑P		PKPdf	03 41 45.0	+2.2
NCB	Newcomb	142.67	15	PFAKE			03 41 50.0	+6.7
NCB	comp=Z,1µm,21.0s			LR	LR			
WCI	Wyandotte Cave	142.74	33	*e*PKIKP	PKPpre		03 41 39.0	
WCI				*e*			03 41 44.1	
WCI	Wyandotte Cave	142.74	33	*e*PKPpre	PKPpre		03 41 39.0	
WCI				*e*PKPdf		PKPdf	03 41 44.1	+0.5
ACSO	Alum Creek Sta	142.84	27	PFAKE			03 42 00.0	+16
ACSO	comp=Z,983nm,21.0s			LR	LR			
LBNH	Lisbon	142.95	12	PFAKE			03 42 00.0	+16
LBNH	comp=Z,1µm,21.0s			LR	LR			
WVT	Waverly	143.36	37	*e*PKIKP	PKPbc		03 41 41.6	-0.2
WVT	Waverly	143.36	37	*e*PKPdf	PKPbc		03 41 41.6	-0.2
OXF	Oxford	143.46	40	*e*PKIKP	PKPbc		03 41 41.9	-0.3
OXF	Oxford	143.46	40	*e*PKPdf	PKPbc		03 41 41.9	-0.2
BINY	Binghamton	143.81	18	*e*PKPdf	PKPab		03 41 41.8	-0.5
BINY	comp=Z,1µm,20.0s			LR	LR			
SSPA	Standing Stone	144.58	21	*e*PKPdf	PKPbc		03 41 45.3	0.0
HRV	Adam Dziewonsk	144.68	13	*e*PKIKP	PKPab		03 41 44.9	-0.6
HRV	Adam Dziewonsk	144.68	13	*e*PKPdf	PKPab		03 41 44.9	-0.6
CPUP	Villa Florida	145.48	187	PKPbc	PKPab		03 41 49.1	+0.3

comp=Z,30nm,1.0s,baz=180,slow=2.5,SNR=41

CPUP	**Villa Florida**	**145.48**	**187**	PKP2	**PKPab**	**03 41 49.2**	**+0.3**
CPUP				pmax	pmax			

comp=Z,30nm,1.0s

CPNY	**Central Park**	**145.70**	**17**	*e*PKPbc	**PKPbc**	**03 41 48.9**	**-0.1**
LRAL	**Lakeview Retre**	**145.94**	**40**	*e*PKPbc	**PKPdf**	**03 41 49.4**	**+0.1**
TKL	**Tuckaleechee C**	**146.00**	**33**	*e*PKP2	**PKPbc**	**03 41 50.1**	**0.0**
TKL	**Tuckaleechee C**	**146.00**	**33**	*e*PKPbc	**PKPbc**	**03 41 50.1**	**0.0**
SDMD	**Soldier's Deli**	**146.04**	**21**	*e*PKPbc	**PKPbc**	**03 41 50.2**	**+0.2**
BLA	**Blacksburg**	**146.46**	**28**	*e*PKIKP	**PKPdf**	**03 41 49.2**	**-0.9**
BLA				*e*		03 41 51.1		
BLA				MLR	MLR			

comp=Z,1µm,20.0s

BLA	**Blacksburg**	**146.46**	**28**	*e*PKPdf	**PKPdf**	**03 41 49.2**	**-0.9**
BLA				*e*PKPbc	**PKPbc**	**03 41 51.1**	**-0.3**
BLA				LR	LR			

comp=Z,1µm,20.0s

CBN	**Corbin Frederi**	**146.90**	**23**	PFAKE		03 42 00.0	+6.1	
CBN				LR	LR			

comp=Z,1µm,20.0s

JSRW	**J. Sargeant Re**	**147.14**	**24**	*e*PKPdf	**PKPdf**	**03 41 50.5**	**-0.7**
JSRW				*e*PKPbc	**PKPbc**	**03 41 53.5**	**+0.1**
BRAL	**Brewton**	**147.20**	**43**	*e*PKPdf	**PKPdf**	**03 41 51.3**	**-0.2**
BRAL				*e*PKPbc	**PKPab**	**03 41 54.7**	**-0.6**
BRAL				LR	LR			

comp=Z,1µm,20.0s

KMSC	**Kings Mountain**	**147.67**	**31**	*e*PKPdf	**PKPdf**	**03 41 52.4**	**+0.2**
KMSC				*e*PKPbc	**PKPbc**	**03 41 55.4**	**+0.5**
KMSC				*e*PKPab	**PKPab**	**03 41 57.9**	**+0.8**
KMSC	**Kings Mountain** baz=148	**147.67**	**31**	⇑P	**PKPbc**	**03 41 55.2**	**+0.3**
GOGA	**Godfrey**	**147.82**	**36**	*e*PKP2	**PKPdf**	**03 41 53.4**	**+1.0**
GOGA				MLR	MLR			

comp=Z,2µm,22.0s

GOGA	**Godfrey**	**147.82**	**36**	*e*PKPdf	**PKPdf**	**03 41 53.4**	**+1.0**
GOGA				*e*PKPbc	**PKPbc**	**03 41 56.0**	**+0.6**
GOGA				LR	LR			

comp=Z,2µm,22.0s

LVC	**Limon Verde**	**148.66**	**167**	PKPbc	**PKPbc**	**03 41 58.2**	**0.0**

comp=Z,175nm,0.9s,baz=242,slow=1.7,SNR=22

LVC	**Limon Verde**	**148.66**	**167**	*e*PKPdf	**PKPdf**	**03 41 54.6**	**+0.1**
LVC				*e*PKPbc	**PKiKP**	**03 41 59.6**	**-0.1**
LVC				*e*PKPab	**PKPab**	**03 42 01.9**	**+0.2**
LVC				LR	LR			

comp=Z,1µm,22.0s

TIGA	**Tifton**	**149.15**	**38**	*e*PKPdf	**PKPdf**	**03 41 55.9**	**+1.2**
TIGA				*e*PKPbc	**PKiKP**	**03 41 59.6**	**-0.5**
CNNC	**Cliffs of the**	**149.23**	**26**	PFAKE		03 42 10.0	+6.7	
CNNC				LR	LR			

comp=Z,2µm,21.0s

NHSC	**New Hope**	**149.86**	**32**	*e*PKPbc	**PKPbc**	**03 42 00.1**	**-0.5**
NHSC				LR	LR			

comp=Z,1µm,20.0s

RCBR	**Riachuelo**	**150.72**	**243**	*e*PKPbc	**PKPbc**	**03 42 03.5**	**+0.2**
RCBR				LR	LR			

comp=Z,1µm,20.0s

TEIG	**Tepich**	**151.67**	**62**	*e*PKPdf	**PKPdf**	**03 41 59.7**	**+0.8**
TEIG				*e*PKPbc	**PKiKP**	**03 42 05.5**	**-0.1**
TEIG				*e*PKPab	**PKPab**	**03 42 14.4**	**+0.5**
TEIG				LR	LR			

comp=Z,1µm,21.0s

BDFB	**Brasilia**	**152.74**	**210**	PKP	**PKPdf**	**03 42 01.3**	**+0.5**

comp=Z,7.1nm,0.9s,baz=162,slow=7.1,SNR=6.9

BDFB				PKPbc	**PKiKP**	**03 42 08.2**	**+0.2**

comp=Z,7.6nm,0.9s,baz=163,slow=1.8,SNR=7.7

BDFB				PKPab	**PKPab**	**03 42 19.2**	**+0.8**

comp=Z,10nm,0.9s,baz=87,slow=5.1,SNR=7.2

BDFB	**Brasilia**	**152.74**	**210**	PKIKP	**PKPdf**	**03 42 01.3**	**+0.5**
BDFB						03 42 08.3		
BDFB						03 42 19.2		
BDFB				pmax	pmax			

comp=Z,7.0nm,0.9s

BDFB				pmax	pmax			

comp=Z,8.0nm,0.9s

BDFB				pmax	pmax			

comp=Z,10.0nm,0.9s

LPAZ	**La Paz**	**154.94**	**165**	PKP	**PKPdf**	**03 42 04.5**	**+0.1**

comp=Z,7.0nm,1.1s,baz=36,slow=4.2,SNR=14

LPAZ				PKPbc	**PKiKP**	**03 42 14.2**	**+0.9**

comp=Z,6.1nm,0.9s,baz=138,slow=5.2,SNR=12

LPAZ				PKPab	**PKPab**	**03 42 29.2**	**+0.9**

comp=Z,20nm,1.0s,baz=139,slow=4.1,SNR=12

LPAZ	**La Paz**	**154.94**	**165**	PKIKP	**PKPdf**	**03 42 04.6**	**+0.1**
LPAZ						03 42 14.2		
LPAZ						03 42 29.3		
LPAZ				pmax	pmax			

comp=Z,7.0nm,1.1s

LPAZ				pmax	pmax			

comp=Z,6.0nm,0.9s

LPAZ				pmax	pmax			

comp=Z,20nm,1.0s

NNA	**Nana**	**155.02**	**143**	*e*PKIKP	**PKPdf**	**03 42 02.6**	**-1.4**
NNA				*e*		03 42 13.1		
NNA				MLR	MLR			

comp=Z,1µm,20.0s

NNA	**Nana**	**155.02**	**143**	*e*PKPdf	**PKPdf**	**03 42 02.6**	**-1.4**
NNA				*e*PKPbc	PKPbc	03 42 13.1		
NNA				LR	LR			

comp=Z,1µm,20.0s

BBSR	**BB Station**	**155.72**	**6**	PFAKE		03 42 20.0	-10	
BBSR				LR	LR			

comp=Z,804nm,21.0s

SIV	**San Ignacio**	**156.03**	**182**	PKP	**PKPdf**	**03 42 05.7**	**+0.4**

comp=Z,4.5nm,0.9s,baz=260,slow=4.1,SNR=11

SIV				PKPab	**PKPab**	**03 42 32.9**	**+0.7**

comp=Z,12nm,0.8s,baz=189,slow=4.3,SNR=13

JTS	**JuntasAbangare**	**157.01**	**83**	*e*PKIKP	**PKPdf**	**03 42 06.9**	**+0.3**
JTS				*e*		03 42 14.8		
JTS				MLR	MLR			

comp=Z,938nm,20.0s

JTS	**JuntasAbangare**	**157.01**	**83**	*e*PKPdf	**PKPdf**	**03 42 06.9**	**+0.3**
JTS				*e*PKPbc	PKPbc	03 42 14.8		
JTS				*e*PKPab	**PKPab**	**03 42 36.9**	**0.0**
JTS				LR	LR			

comp=Z,938nm,20.0s

OTAV	**Otavalo**	**161.62**	**114**	*e*PKPdf	**PKPdf**	**03 42 12.0**	**-0.5**
OTAV				*e*PKPab	**PKPab**	**03 42 57.5**	**+0.1**
OTAV				LR	LR			

comp=Z,1µm,19.0s

MTDJ	**Mount Denham**	**161.67**	**55**	PFAKE		03 42 20.0	+8.1	
MTDJ				LR	LR			

comp=Z,945nm,20.0s

GTBY	**Guantanamo Bay**	**162.54**	**46**	PFAKE		03 42 20.0	+7.4	
GTBY				LR	LR			

comp=Z,1µm,19.0s

SAML	**Samuel**	**162.98**	**175**	*e*PKPdf	**PKPdf**	**03 42 12.8**	**-0.4**
SAML				*e*PKPab	**PKPab**	**03 43 03.0**	**+0.6**
SAML				LR	LR			

comp=Z,1µm,20.0s

GRTK	**Grand Turk**	**163.91**	**33**	PFAKE		03 42 20.0	+6.1	
GRTK				LR	LR			

comp=Z,1µm,19.0s

SDDR	**Presa de Saban**	**165.79**	**40**	PFAKE		03 42 30.0	+14	
SDDR				LR	LR			

comp=Z,1µm,21.0s

ROSC	**El Rosal**	**167.10**	**104**	PKP	**PKPdf**	**03 42 18.4**	**+1.1**

comp=Z,2.5nm,0.4s,baz=75,slow=3.4,SNR=7.9

ROSC				PKPab	**PKPab**	**03 43 21.1**	**-0.4**

comp=Z,3.8nm,0.4s,baz=108,slow=6.5,SNR=4.2

ROSC	**El Rosal**	**167.10**	**104**	*e*PKPdf	**PKPdf**	**03 42 16.2**	**-1.1**
ROSC				*e*PKPab	**PKPab**	**03 43 20.7**	**-0.8**
SJG	**San Juan**	**169.19**	**23**	PFAKE		03 42 30.0	+12	
SJG				LR	LR			

comp=Z,902nm,20.0s

ANWB	**Willy Bob**	**170.51**	**0**	PFAKE		03 42 30.0	+11	
ANWB				LR	LR			

comp=Z,871nm,21.0s

SDV	**Santo Domingo**	**171.20**	**84**	*e*PKPdf	**PKPdf**	**03 42 18.3**	**-1.3**
SDV				*e*PKPab	**PKPab**	**03 43 39.9**	**+0.5**
SDV				LR	LR			

comp=Z,2µm,22.0s

FDF	**Fort de France**	**173.40**	**355**	PFAKE		03 42 30.0	+10	
FDF				LR	LR			

comp=Z,1µm,19.0s

BBGH	**Gun Hill**	**174.56**	**337**	PFAKE		03 42 30.0	+9.3	
BBGH				LR	LR			

comp=Z,2µm,20.0s

GRGR	**Grenville**	**176.01**	**358**	PFAKE		03 42 30.0	+8.9	
GRGR				LR	LR			

comp=Z,797nm,21.0s

*CSEM **08** 03:22:30.8, 37°.10N×20°.40E, h35km, MD3.0*
ATH 08 03:22:30.8, 37°.10N×20°.40E, h35km±2km**, MD3.0**/5,

Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**1.09**	**8**	*e*PN	Pn	03 22 51.1	+1.5
VLS				*e*SN	Sn	03 23 06.6	+3.2
VLS	**Valsamata**	**1.09**	**8**	*e*Pn	Pn	03 22 51.1	+1.5
VLS				*e*Sn	Sn	03 23 06.6	+3.2
PYL	**PYLOS**	**1.09**	**100**	*e*PN	Pn	03 22 51.1	+1.5
PYL	**PYLOS**	**1.09**	**100**	*e*Pn	Pn	03 22 51.1	+1.5
AMT	**Artemida-Makis**	**1.13**	**67**	*e*PN	Pn	03 22 52.2	+2.0
AMT	**Artemida-Makis**	**1.13**	**67**	*e*Pn	Pn	03 22 52.2	+2.0
ITM	**Ithomi**	**1.22**	**86**	*e*PN	Pn	03 22 53.5	+2.1
ITM				*e*SN	Sn	03 23 09.2	+2.4
ITM	**Ithomi**	**1.22**	**86**	*e*Pn	Pn	03 22 53.5	+2.1
ITM				*e*Sn	Sn	03 23 09.2	+2.4
RLS	**Riolos of Patr**	**1.28**	**41**	*e*PN	Pn	03 22 54.1	+1.9
RLS				*e*SN	Sn	03 23 11.1	+3.0
RLS	**Riolos of Patr**	**1.28**	**41**	*e*Pn	Pn	03 22 54.1	+1.9
RLS				*e*Sn	Sn	03 23 11.1	+3.0
DRO	**Drossia**	**1.34**	**50**	*e*PN	Pn	03 22 54.9	+1.8
DRO	**Drossia**	**1.34**	**50**	*e*Pn	Pn	03 22 54.9	+1.8
PDO	**Prodromos**	**1.62**	**22**	*e*PN	Pn	03 22 58.8	+1.9
PDO	**Prodromos**	**1.62**	**22**	*e*Pn	Pn	03 22 58.8	+1.9
KLV	**Kalavryta, Ach**	**1.68**	**55**	*e*PB	Pn	03 22 59.8	+2.0
KLV	**Kalavryta, Ach**	**1.68**	**55**	*e*Pb	Pn	03 22 59.8	+2.0
GUR	**Goura**	**1.76**	**61**	*e*PN	Pn	03 23 00.9	+2.0
GUR	**Goura**	**1.76**	**61**	*e*Pn	Pn	03 23 00.9	+2.0

IDC 08 03:37:60.0±7.7, 15°.07S×175°.65W, h0km, mb4.3/4, mb1 4.5/5, mb1mx3.9/21, mbtmp4.3/5, ML4.3/1, MS4.7/2, Ms1 4.7/2, ms1mx4.0/28, Error ellipse: s-maj=143.3km s-min=50.5km az=51.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**18.34**	**245**	P	P	03 42 16.5	+0.3

1.1nm,0.3s,baz=126,slow=12,SNR=8.1

URZ	**Urewera**	**23.97**	**194**	P	P	03 43 16.5	+0.4

2.2nm,0.4s,baz=5.0,slow=7.9,SNR=7.0

CTA	**Charters Tower**	**36.60**	**257**	LR	LR	03 58 20.4		

comp=Z,1µm,18.0s,slow=33

STKA	**Stephens Creek**	**42.33**	**239**	P	P	03 45 54.7	-1.2	

1.3nm,0.4s,baz=78,slow=9.8,SNR=7.5

WRA	**Warramunga Arr**	**47.81**	**257**	P	P	03 46 40.0	+0.3	

1.3nm,0.5s,baz=88,slow=7.9,SNR=16

ASAR	**Alice Springs**	**48.15**	**252**	P	P	03 46 42.1	-0.2	

8.6nm,0.4s,baz=88,slow=8.1,SNR=103

USHA	**Ushuaia**	**87.40**	**146**	LR	LR	04 25 09.8		

comp=Z,284nm,18.2s,baz=158,slow=32

DJA 08 03:40:30.4±1.5, 8°S±8°×11°8E±°, h10km, M3.6/3, MLv3.6/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.82**	**143**	P	Pn	03 41 01.2	-0.7
WBSI				S	Sn	03 41 25.7	+0.6
BSSI	**Bau Bau, Buton**	**2.98**	**47**	P	Pn	03 41 19.7	+1.9
BASI	**Baing, Sumba**	**3.04**	**132**	P	Pn	03 41 16.6	-2.0
IGBI	**Denpasar**	**3.17**	**258**	P	Pb	03 41 25.2	-1.6
BKSI	**Bulukumba**	**3.38**	**33**	P	Pn	03 41 19.2	-4.0
BKSI	**Bulukumba**	**3.38**	**33**	P	Pn	03 41 20.2	-3.0
EDFI	**Ende, Flores**	**3.42**	**100**	P	Pn	03 41 24.4	+0.4
EDFI	**Ende, Flores**	**3.42**	**100**	P	Pb	03 41 32.1	+0.8
MMRI	**Maumere**	**3.94**	**97**	P	Pn	03 41 29.7	-1.3

*ISCJB **08** 03:43:09.5±0.3, 57°.61N±0°.03×154°.78W±0°.05, h99km±3km, mb3.8/4, Error ellipse: s-maj=5.8km s-min=3.8km az=158.1*
*IDC **08** 03:43:10.2±5.0, 57°.88N×155°.07W, h66km±47km, mb3.6/5, mb1 3.8/8, mb1mx3.4/38, mbtmp3.9/8, ML4.0/3, Error ellipse: s-maj=41.9km s-min=28.3km az=174.0*
*NEIC **08** 03:43:12.9, 57°.62N×154°.77W, h64km, ML3.7(AEIC), After AEIC.*

ISC 08 03:43:10.6±0.8, 57°.65N±0°.05×154°.75W±0°.04, h90km±8km, n112, σ1s24/124, mb3.8/4, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KABR	**Katmai Barrier**	**0.50**	**346**	P	**Pn**	**03 43 25.1**	**-0.3**
KCE	**Katmai Mt Cerb**	**0.64**	**339**	P	**Pn**	**03 43 27.3**	**+0.7**
KAKN	**Katmai Knife C**	**0.67**	**346**	P	**Pn**	**03 43 26.8**	**-0.1**
KAKN				S	**Sn**	**03 43 38.5**	**-0.6**
KABU	**Katmai Buttres**	**0.69**	**336**	P	**Pn**	**03 43 27.2**	**+0.1**
KABU				S	**Sn**	**03 43 38.9**	**-0.5**
KVTA	**Katmai Vly 10**	**0.79**	**339**	P	**Pn**	**03 43 28.1**	**0.0**
PLK3	**Peulik 3**	**0.82**	**274**	P	**Pn**	**03 43 28.3**	**+0.1**
PLK3				S	**Sn**	**03 43 40.8**	**-0.7**
PLK4	**Peulik 4**	**0.87**	**270**	P	**Pn**	**03 43 28.9**	**0.0**
OHAK	**Old Harbor**	**0.90**	**118**	P	**Pn**	**03 43 29.1**	**0.0**
OHAK				S	**Sn**	**03 43 42.7**	**-0.2**
PLWL	**Peulik Whale M**	**0.94**	**296**	P	**Pn**	**03 43 29.5**	**-0.1**
KELA	**Mount Kelaz**	**0.96**	**327**	P	**Pn**	**03 43 29.7**	**-0.1**
PLK1	**Peulik 1**	**1.01**	**280**	P	**Pn**	**03 43 30.4**	**+0.1**
KDAK	**Kodiak Island**	**1.17**	**82**	P	**Pn**	**03 43 32.6**	**+0.4**
KDAK				S	**Sn**	**03 43 49.0**	**+0.6**
MCNL	**McNeil River**	**1.56**	**8**	P	**Pn**	**03 43 37.9**	**+0.8**
AUI	**Augustine Isla**	**1.83**	**22**	P	**Pn**	**03 43 42.0**	**+1.4**
AUI				S	**Sn**	**03 44 04.4**	**+1.1**
AUW	**Augustine West**	**1.85**	**21**	P	**Pn**	**03 43 42.5**	**+1.7**
AUP	**Augustine Pinn**	**1.86**	**21**	P	**Pn**	**03 43 42.7**	**+1.7**
OPT	**Oil Point**	**2.16**	**21**	P	**Pn**	**03 43 46.5**	**+1.6**
PDB	**Pedro Bay**	**2.17**	**7**	P	**Pn**	**03 43 46.0**	**+1.1**
CHGN	**Chignik**	**2.42**	**238**	P	**Pn**	**03 43 48.5**	**+0.3**
ILS	**Iliamna Low So**	**2.48**	**20**	P	**Pn**	**03 43 50.7**	**+1.5**
ILW	**Iliamna West**	**2.56**	**18**	P	**Pn**	**03 43 51.8**	**+1.4**
BRLK	**Bradley Lake**	**2.93**	**42**	P	**Pn**	**03 43 55.9**	**+0.7**
RSO	**Redoubt South**	**3.01**	**19**	*e*Pn	**Pn**	**03 43 57.8**	**+1.4**
RSO				*e*Sn	**Sn**	**03 44 32.6**	**+1.0**
RDWB	**Redoubt West**	**3.02**	**18**	P	**Pn**	**03 43 58.1**	**+1.6**
RDN	**Redoubt North**	**3.05**	**19**	P	**Pn**	**03 43 58.8**	**+1.9**
NCT	**North Crescent**	**3.07**	**17**	P	**Pn**	**03 43 58.9**	**+1.8**
DFR	**Drift River**	**3.14**	**19**	P	**Pn**	**03 43 59.8**	**+1.7**
SVW2	**Sparrevohn**	**3.49**	**353**	P	**Pn**	**03 44 06.3**	**+1.0**
NKA	**Nikishka**	**3.59**	**29**	P	**Pn**	**03 44 06.9**	**+2.9**
SEW	**Seward**	**3.69**	**46**	P	**Pn**	**03 44 05.5**	**+0.1**
SEW				S	**Sn**	**03 44 44.3**	**-3.4**
SLKM	**Skilak Lake**	**3.70**	**37**	P	**Pn**	**03 44 06.3**	**+0.7**
CKL	**Chakachamna La**	**3.77**	**18**	P	**Pn**	**03 44 08.2**	**+1.7**
CKN	**Chakachatna No**	**3.82**	**19**	P	**Pn**	**03 44 08.9**	**+1.7**
BGL	**Barrier Glacie**	**3.82**	**17**	P	**Pn**	**03 44 09.2**	**+1.9**
SPBG	**Spurr Blockage**	**3.82**	**18**	P	**Pn**	**03 44 09.1**	**+1.8**
SDPT	**Sand Point**	**3.92**	**236**	P	**Pn**	**03 44 09.0**	**+0.5**
SDPT				S	**Sn**	**03 44 51.0**	**-2.3**
STLK	**Strandline Lak**	**4.14**	**20**	P	**Pn**	**03 44 13.1**	**+1.6**
FIB	**Fire Island**	**4.23**	**32**	P	**Pn**	**03 44 14.6**	**+1.9**
RC01	**Rabbit Creek A**	**4.30**	**34**	P	**Pn**	**03 44 14.6**	**+1.0**
RC01				S	**Sn**	**03 45 00.4**	**-2.1**
SUA	**Susitna One**	**4.34**	**26**	P	**Pn**	**03 44 15.5**	**+1.2**
PTE	**Portage**	**4.37**	**40**	P	**Pn**	**03 44 14.9**	**+0.5**
SKT	**Skwentna**	**4.64**	**19**	P	**Pn**	**03 44 19.6**	**+1.3**
MID	**Middleton Isla**	**4.75**	**64**	P	**Pn**	**03 44 19.9**	**+0.1**
DTNA	**Dutton South F**	**4.86**	**242**	P	**Pn**	**03 44 22.0**	**+0.7**
PMR	**Palmer**	**4.88**	**33**	P	**Pn**	**03 44 21.6**	**+0.1**
GLI	**Glacier Island**	**5.09**	**47**	P	**Pn**	**03 44 24.0**	**-0.4**
TT01	**Tatalina**	**5.32**	**354**	P	**Pn**	**03 44 29.1**	**+1.7**
JPK	**Jack Peak**	**5.39**	**47**	P	**Pn**	**03 44 28.5**	**0.0**
PPLA	**Purkeypile**	**5.42**	**13**	P	**Pn**	**03 44 31.0**	**+2.0**
EYAK	**Cordova Ski Ar**	**5.48**	**54**	P	**Pn**	**03 44 30.3**	**+0.7**
VLZ	**Valdez**	**5.54**	**47**	P	**Pn**	**03 44 30.8**	**+0.4**
SCM	**Sheep Creek Mo**	**5.63**	**39**	P	**Pn**	**03 44 32.4**	**+0.7**
RAGM	**Ragged Mountai**	**5.88**	**58**	P	**Pn**	**03 44 36.2**	**+1.0**
KLU	**Klutina**	**5.92**	**46**	P	**Pn**	**03 44 36.1**	**+0.5**
CAST	**Castle Rocks**	**5.94**	**12**	P	**Pn**	**03 44 37.0**	**+1.1**
GOAT	**Goat Mountain**	**5.94**	**56**	P	**Pn**	**03 44 37.1**	**+1.1**
NICHA	**Nichawak Mount**	**6.16**	**61**	P	**Pn**	**03 44 39.9**	**+1.1**
BMRM	**Bremner River**	**6.17**	**53**	P	**Pn**	**03 44 39.5**	**+0.4**
KTH	**Kantishna Hill**	**6.22**	**16**	P	**Pn**	**03 44 39.8**	**+0.1**
TRF	**Thorofare Moun**	**6.22**	**19**	P	**Pn**	**03 44 40.0**	**+0.1**
BERG	**Berg Lake**	**6.33**	**60**	P	**Pn**	**03 44 41.8**	**+0.5**
RND	**Reindeer**	**6.47**	**24**	P	**Pn**	**03 44 43.0**	**-0.1**
GRIN	**Grindle Hills**	**6.47**	**61**	P	**Pn**	**03 44 44.4**	**+1.1**
DHY	**Denali Highway**	**6.56**	**31**	P	**Pn**	**03 44 44.6**	**+0.2**
KHIT	**Khitrov Hills**	**6.56**	**60**	P	**Pn**	**03 44 44.6**	**+0.1**
MCK	**McKinley**	**6.74**	**23**	P	**Pn**	**03 44 47.3**	**+0.5**
KULT	**Kultieth River**	**6.75**	**62**	P	**Pn**	**03 44 47.9**	**+1.0**
HARP	**HAARP**	**6.77**	**41**	P	**Pn**	**03 44 48.5**	**+1.3**
VRDI	**Verde Repeater**	**6.79**	**53**	P	**Pn**	**03 44 48.0**	**+0.4**
WASW	**Wrangell South**	**6.85**	**47**	P	**Pn**	**03 44 49.4**	**+0.9**
BARK	**Barkley Ridge**	**6.90**	**61**	P	**Pn**	**03 44 49.9**	**+0.8**
ISLE	**Juniper Island**	**7.04**	**60**	P	**Pn**	**03 44 52.1**	**+1.1**
MCARA	**McCarthy VSAT**	**7.04**	**53**	P	**Pn**	**03 44 51.4**	**+0.5**
PAX	**Paxson**	**7.05**	**37**	P	**Pn**	**03 44 51.8**	**+0.7**
MESA	**MESA**	**7.10**	**64**	P	**Pn**	**03 44 53.3**	**+1.5**
BAGL	**Bagley Icefiel**	**7.12**	**61**	P	**Pn**	**03 44 53.5**	**+1.6**
KIAG	**Kiagna River**	**7.14**	**57**	P	**Pn**	**03 44 53.3**	**+0.8**
PTPK	**Patty Peak**	**7.20**	**55**	P	**Pn**	**03 44 54.2**	**+1.0**
PS10	**TAPS Pump St10**	**7.29**	**34**	P	**Pn**	**03 44 55.4**	**+1.1**
GRNC	**Granite Creek**	**7.35**	**60**	P	**Pn**	**03 44 56.6**	**+1.2**
RKAV	**Rock Avalanche**	**7.42**	**63**	P	**Pn**	**03 44 57.9**	**+1.7**
CHX	**Chaix Hills**	**7.47**	**65**	P	**Pn**	**03 44 58.5**	**+1.7**
BARN	**Barnard Glacie**	**7.51**	**57**	P	**Pn**	**03 44 58.6**	**+1.1**
DDM	**Donnelly Dome**	**7.54**	**32**	P	**Pn**	**03 44 59.7**	**+2.0**
TABL	**Table Mountain**	**7.55**	**63**	P	**Pn**	**03 44 59.6**	**+1.5**
WRH	**Wood River Hil**	**7.57**	**22**	P	**Pn**	**03 44 57.2**	**-0.8**
UNV	**Unalaska Valle**	**7.64**	**245**	P	**Pn**	**03 44 58.8**	**-0.4**
SAMH	**Samovar Hills**	**7.65**	**65**	P	**Pn**	**03 45 01.2**	**+1.9**
MLY	**Manley**	**7.66**	**13**	P	**Pn**	**03 44 58.6**	**-0.7**
CCB	**Clear Creek Bu**	**7.78**	**23**	P	**Pn**	**03 45 00.0**	**-0.9**
PS08	**TAPS Pump Stn8**	**7.91**	**26**	P	**Pn**	**03 45 02.0**	**-0.6**
COLA	**College**	**7.97**	**22**	P	**Pn**	**03 45 02.7**	**-0.8**
MDM	**Murphy Dome**	**7.98**	**20**	P	**Pn**	**03 45 03.0**	**-0.7**
DOT	**Dot Lake**	**7.98**	**37**	P	**Pn**	**03 45 04.3**	**+0.6**
ILAR	**Eielson Array**	**8.09**	**25**	P	**Pn**	**03 45 03.8**	**-1.4**

2.4nm,0.3s,baz=216,slow=14,SNR=76

ILAR				S	**Sn**	**03 46 30.6**	**-4.1**

1.1nm,0.3s,baz=196,slow=18,SNR=7.1

ILB	**Eielson Array**	**8.09**	**25**	P	**Pn**	**03 45 04.2**	**-0.9**
IL1	**Eielson Array**	**8.09**	**25**	P	**Pn**	**03 45 04.4**	**-0.7**
SCRK	**Sand Creek**	**8.24**	**35**	P	**Pn**	**03 45 07.2**	**0.0**
IM04	**Indian Mountai**	**8.37**	**3**	*e*Pn	**Pn**	**03 45 09.4**	**+0.4**
SPIA	**Saint Paul Isl**	**8.38**	**273**	P	**Pn

STKA	**Stephens Creek**	**32.09**	**141**	P		**P**	**04 09 19.3**	**-0.2**
	4.7nm,0.4s,baz=321,slow=9.1,SNR=20							
STKA	**Stephens Creek**	**32.09**	**141**	P		**P**	**04 09 20.1**	**+0.6**
	baz=32,SNR=10.0							
CMSA	**Cobar Meteorol**	**34.57**	**136**	P		**P**	**04 09 42.1**	**+1.0**
	baz=34,SNR=5.8							
TAPN	**Taplejung**	**46.03**	**321**	*e*P		**P**	**04 11 18.3**	**+2.0**
	8.4nm,0.8s							
KSAR	**Wonju Array Be**	**46.16**	**11**	P		**P**	**04 11 18.4**	**+1.6**
KSRS	**Korea Array**	**46.18**	**11**	P		**P**	**04 11 18.4**	**+1.5**
	2.6nm,0.8s,baz=180,slow=8.8,SNR=5.1							
JIRN	**Jiri**	**47.20**	**320**	*e*P		**P**	**04 11 26.9**	**+1.3**
HMDM	**Hanimaadhoo**	**47.35**	**287**	P		P	04 11 31.3	+4.7
	baz=48,SNR=3.6							
GUN	**Gumba**	**47.57**	**320**	*e*P		**P**	**04 11 29.6**	**+1.1**
	20nm,0.9s							
PKIN	**Phulchoki**	**47.65**	**319**	*e*P		**P**	**04 11 30.7**	**+1.7**
	8.9nm,0.6s							
DMN	**Daman**	**47.86**	**319**	*e*P		**P**	**04 11 31.6**	**+1.0**
KOLN	**Koldanda**	**48.96**	**318**	*e*P		**P**	**04 11 39.6**	**+0.6**
	13nm,0.8s							
GTA	**Gaotai**	**50.26**	**341**	*e*P		P	04 11 55.2	+6.5
GTA				pP		pP	04 11 59.1	-0.1
GTA				sP		sP	04 12 01.5	-1.8
GTA				pmax		pmax		
	comp=Z,5.0nm,1.0s							
USRK	**Ussuriysk Ar.**	**53.48**	**12**	P		**P**	**04 12 13.7**	**+1.3**
	comp=Z,2.0nm,0.6s,baz=184,slow=9.3,SNR=6.7							
SONM	**Songino Array**	**56.66**	**350**	P		**P**	**04 12 36.5**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=173,slow=6.5,SNR=2.4							
MK31	**Makanchi Array**	**63.33**	**333**	*e*P		**P**	**04 13 21.4**	**+0.3**
MKAR	**Makanchi Array**	**63.33**	**333**	P		**P**	**04 13 21.6**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=214,slow=47,SNR=7.7							
KURK	**Kurchatov**	**67.87**	**334**	*e*P		**P**	**04 13 50.3**	**0.0**
	comp=Z,1.5nm,0.6s							
ZALV	**Zalesovo Beam**	**67.94**	**339**	P		**P**	**04 13 50.0**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=157,slow=5.9,SNR=6.7							
BVAR	**Borovoye Array**	**73.17**	**332**	P		**P**	**04 14 22.1**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=143,slow=11,SNR=4.8							
SNAA	**Sanae**	**91.70**	**196**	*e*P		**P**	**04 16 00.2**	**+1.0**
	comp=Z,3.8nm,1.1s							
YKA	**Yellowknife Ar**	**113.63**	**24**	PKiKP		**PKiKP**	**04 21 28.6**	**-1.3**
	comp=Z,0.1nm,0.6s,baz=309,slow=1.8,SNR=3.2							
TORD	**Torodi Ar. Bea**	**117.62**	**281**	PKP		**PKPdf**	**04 21 37.5**	**-1.5**
	comp=Z,0.3nm,0.8s,baz=86,slow=0.9,SNR=4.3							
CPUP	**Villa Florida**	**145.54**	**187**	PKPbc		**PKPdf**	**04 22 30.7**	**-0.2**
	comp=Z,1.4nm,0.9s,baz=335,slow=0.3,SNR=4.6							

*ISCJB **08** 04:11:06.0±1.2,38°.06S±0°.08×73°.3W±0°.2,h22km,mb3.6/6, Error ellipse: s-maj=22.5km s-min=11.6km az=11.9*
*IDC **08** 04:11:08.7±4.1,38°.20S×73°.28W,h38km±35km,mb3.4/6, mb1 3.6/9,mb1mx3.5/26,mbtmp3.6/9,ML3.5/3, Error ellipse: s-maj=38.3km s-min=19.1km az=98.0*

ISC 08 04:11:06.6±1.1,38°.15S±0°.10×73°.4W±0°.2,h22km,n9,
σ1§14/10,mb3.7/6,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PLCA	**Paca Flores**	**3.39**	**141**	Pn			**Pn**	**04 11 59.3**	**+1.1**
	2.0nm,0.3s,baz=308,slow=9.3,SNR=44								
PLCA				Lg			Lg	04 12 49.7	
	5.3nm,0.3s,baz=267,slow=17,SNR=5.1								
CFAA	**Coronel Fontan**	**7.78**	**34**	Pn			**Pn**	**04 12 58.4**	**-0.1**
	0.2nm,0.3s,baz=203,slow=8.0,SNR=34								
CFAA				Sn			**Sn**	**04 14 25.6**	**-0.3**
	0.1nm,0.3s,baz=301,slow=5.9,SNR=2.5								
CPUP	**Villa Florida**	**17.95**	**54**	P			**P**	**04 15 15.1**	**-0.1**
	0.1nm,0.3s,baz=196,slow=17,SNR=3.4								
LPAZ	**La Paz**	**22.26**	**13**	P			**P**	**04 16 03.7**	**+0.9**
	0.4nm,0.6s,baz=214,slow=8.6,SNR=2.4								
SIV	**San Ignacio**	**24.60**	**30**	P			**P**	**04 16 23.7**	**-1.6**
	1.1nm,0.6s,baz=230,slow=16,SNR=2.1								
VNDA	**Vanda**	**59.83**	**192**	P			**P**	**04 21 08.2**	**-1.5**
	0.3nm,0.4s,baz=86,slow=20,SNR=8.8								
TXAR	**Lajitas Array**	**72.86**	**333**	P			**P**	**04 22 35.0**	**+1.3**
	0.2nm,0.6s,baz=157,slow=4.9,SNR=2.5								
DBIC	**Dimbokro**	**77.55**	**71**	P			**P**	**04 23 01.5**	**+0.5**
	3.0nm,0.8s,baz=219,slow=3.2,SNR=4.5								
TORD	**Torodi Ar. Bea**	**86.63**	**71**	P			**P**	**04 23 48.0**	**-0.6**
	0.9nm,0.8s,baz=221,slow=4.2,SNR=6.1								

*SKHL **08** 04:14:36.0±0.7,45°.49N×151°.74E,h45km±5km,mb5.2/1, msh4.7/1*

ISC 08 04:14:35.3±3.3,45°.2N±0°.1×151°.8E±0°.2,h32km,n20,
σ2§15/28,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.77**	**271**	*i* P			**Pn**	**04 15 17.7**	**+0.4**
KUR					AMB		AMB	04 15 19.5	
	500nm,2.5s								
KUR					AMB		AMB	04 15 20.5	
	90nm,0.5s								
KUR					AMB		AMB	04 15 20.5	
	100nm,0.5s								
KUR					AMB		AMB	04 15 20.5	
	110nm,0.5s								
KUR				*i* S			**Sn**	**04 15 48.6**	**-1.0**
KUR					A		A	04 15 53.5	
	900nm,2.5s								
KUR					A		A	04 15 53.5	
	1μm,2.5s								
KUR					A		A	04 15 53.5	
	610nm,0.5s								
KUR					A		A	04 15 53.5	
	460nm,0.5s								
SHO	**Shikotan**	**3.80**	**251**	*e*P			**Pn**	**04 15 33.1**	**+1.6**
SHO				*e*S			**Sn**	**04 16 15.7**	**+0.7**
SHO					A		A	04 16 33.0	
	280nm,0.7s								
YUK	**Yuzh-Kuril'sk**	**4.40**	**256**	*i* P			**Pn**	**04 15 42.3**	**+2.6**
YUK					AMB		AMB	04 15 50.3	
	50nm,0.3s								
YUK					AMB		AMB	04 15 50.3	
	60nm,0.3s								
YUK					AMB		AMB	04 15 50.3	
	170nm,0.3s								
YUK					AMB		AMB	04 15 50.4	
	200nm,0.2s								
YUK				*e*S			**Sn**	**04 16 32.6**	**+2.8**
YUK					A		A	04 16 42.6	
	400nm,0.6s								
YUK					A		A	04 16 42.8	
	170nm,0.4s								
YUK					A		A	04 16 42.8	
	280nm,0.4s								
NEM2	**Nemuro 2**	**4.72**	**249**	P			**Pn**	**04 15 45.9**	**+1.7**
NEM2				*e*S			**Sn**	**04 16 38.0**	**+0.1**
JAK	**Akkeshi**	**5.57**	**249**	P			**Pn**	**04 15 57.5**	**+1.6**
JAK				*e*S			**Sn**	**04 16 58.3**	**-0.5**
JTKR	**Abashiri--Toko**	**5.76**	**260**	P			**Pn**	**04 16 01.4**	**+2.9**
JAR	**Ashorobuto**	**6.07**	**254**	P			**Pn**	**04 16 05.7**	**+2.9**
SKR	**Severo-Kuril's**	**6.17**	**27**	*e*P			Pn	04 16 01.5	-2.6
JOB	**Onbets**	**6.18**	**251**	P			**Pn**	**04 16 06.8**	**+2.5**
JOB				*e*S			**Sn**	**04 17 14.4**	**+0.5**
YSS	**Yuzh-Sakhalins**	**6.51**	**288**	*e*P			**Pn**	**04 16 08.4**	**-0.3**
JKK2	**Kamakawa 2**	**6.60**	**261**	P			Pn	04 16 13.6	+3.6
JCH	**Churui**	**6.62**	**250**	P			**Pn**	**04 16 11.8**	**+1.5**
JCH				*e*S			**Sn**	**04 17 23.6**	**-1.1**
MYR	**Moyori**	**6.82**	**247**	*e*P			**Pn**	**04 16 15.1**	**+2.0**
MYR				*e*S			**Sn**	**04 17 29.5**	**-0.1**
JNBK	**Urakawa-nobuka**	**7.18**	**249**	P			**Pn**	**04 16 19.1**	**+1.2**
TYV	**Tymovskoe**	**8.30**	**316**	*e*P			**Pn**	**04 16 34.7**	**+1.4**
JANG	**Nango**	**8.98**	**241**	P			**Pn**	**04 16 43.2**	**+0.6**
JANG				*e*S			**Sn**	**04 18 18.0**	**-4.6**
JTM	**Tenmabayashi**	**9.02**	**244**	P			**Pn**	**04 16 44.9**	**+1.7**
JTM				*e*S			**Sn**	**04 18 19.4**	**-4.3**
JTH	**Tanohata**	**9.03**	**238**	*e*S			**Sn**	**04 18 21.5**	**-2.4**
OFUJ	**Ofunato**	**9.71**	**234**	*e*S			**Sn**	**04 18 37.8**	**-2.7**
BMKR	**Bomnak**	**17.46**	**311**	*e*P			**Pn**	**04 18 35.0**	**-1.1**
BMKR					AMB		AMB	04 18 36.0	
	4.0nm,0.5s								

*BJI **08** 04:20:56.0,8°.10S×118°.30E,h10km,mb4.8/48,mB5.2/28, Ms4.9/21,Ms7 4.5/21*
*IDC **08** 04:20:56.1±0.6,8°.06S×118°.41E,h0km,mb4.6/17, mb1 4.7/19,mb1mx4.5/29,mbtmp4.6/19,ML4.5/2,MS4.1/7, Ms1 4.1/7,ms1mx3.7/31,Error ellipse: s-maj=19.5km s-min=8.4km az=57.0*
*NEIC **08** 04:20:58.1±0.2,8°.09S×118°.28E,h10km,mb4.8/23,Error ellipse: s-maj=6.6km s-min=4.9km az=52.0*

*DJA **08** 04:20:59.9±0.1,8°.5S×11°.8E±°,h10km,M5.0/12, mb4.9/12,mB5.2/1,MLv5.0/11,Mw(mB)4.5/1*
*ISCJB **08** 04:21:00.0±0.2,8°.10S±0°.02×118°.26E±0°.02,h33km, mb4.7/49,MS3.9/5,Error ellipse: s-maj=3.5km s-min=2.9km az=30.5*
*MOS **08** 04:21:00.1±1.1,7°.99S×118°.43E,h36km,mb4.9/19,Error ellipse: s-maj=14.3km s-min=7.6km az=119.8*

ISC 08 04:21:02.0±0.3,8°.11S±0°.04×118°.28E±0°.04,h35km,n193,
σ1§60/217,mb4.7/49,MS3.9/5,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.87**	**144**	P			**Pn**	**04 21 31.5**	**-0.1**
WSI	**Waingapu**	**2.52**	**128**	P			**Pn**	**04 21 41.9**	**+1.4**
BSSI	**Baa Bau, Buton**	**2.94**	**48**	P			**Pn**	**04 21 45.3**	**-0.9**
SRBI	**Singaraja**	**3.04**	**270**	P			**Pn**	**04 21 45.7**	**-1.9**
BASI	**Baing, Sumba**	**3.08**	**133**	P			**Pn**	**04 21 50.1**	**+1.9**
DNP	**Denpasar**	**3.09**	**259**	P			**Pn**	**04 21 48.7**	**+0.4**
IGBI	**Denpasar**	**3.18**	**257**	P			**Pn**	**04 21 49.3**	**-0.2**
BKSI	**Bulukumba**	**3.32**	**34**	P			**Pn**	**04 21 50.2**	**-1.3**
KAPI	**Kappang**	**3.41**	**25**	Pn			**Pn**	**04 21 51.0**	**-1.6**
	50nm,0.3s,baz=204,slow=6.7,SNR=144								
KAPI					Sn		**Sn**	**04 22 30.4**	**-1.5**
	105nm,0.3s,baz=196,slow=23,SNR=11								
KAPI					LR		LR	04 23 25.4	
	comp=Z,4μm,19.0s,baz=202,slow=45								
KAPI	**Kappang**	**3.41**	**25**	*e*Pn			**Pn**	**04 21 51.1**	**-1.6**
KAPI				*e*Sn			**Sn**	**04 22 32.3**	**+0.4**
EDFI	**Ende, Flores**	**3.43**	**101**	P			**Pn**	**04 21 53.2**	**+0.1**
MMRI	**Maumere**	**3.95**	**98**	P			**Pn**	**04 21 59.5**	**-0.6**
MMRI	**Maumere**	**3.95**	**98**	*e*Pn			**Pn**	**04 21 59.2**	**-0.9**
ABJI	**Asem Bagus**	**4.02**	**274**	P			**Pn**	**04 22 00.2**	**-0.9**
JAGI	**Jajag, Banyuwa**	**4.10**	**265**	P			**Pn**	**04 22 00.4**	**-1.8**
	baz=4.1,SNR=53								
JAGI	**Jajag, Banyuwa**	**4.10**	**265**	*e*Pn			**Pn**	**04 22 00.1**	**-2.2**
BNSI	**Bone**	**4.11**	**26**	P			**Pn**	**04 22 02.6**	**+0.3**
SPSI	**Sidrap Palu**	**4.38**	**20**	P			**Pn**	**04 22 05.2**	**-0.8**
KMMI	**Kalianget**	**4.41**	**284**	P			**Pn**	**04 22 06.1**	**-0.3**
BLJI	**Banyuglugur**	**4.66**	**274**	P			**Pn**	**04 22 08.7**	**-1.1**
GMJI	**Gumukmas**	**4.79**	**268**	P			**Pn**	**04 22 11.2**	**-0.5**
KBKI	**Kotabaru**	**5.22**	**336**	P			**Pn**	**04 22 17.5**	**-0.2**
TTSI	**Tana Toraja**	**5.26**	**17**	P			**Pn**	**04 22 18.3**	**+0.1**
BBKI	**Banjar Baru**	**5.75**	**323**	P			**Pn**	**04 22 24.8**	**-0.1**
GRJI	**Gresik**	**5.88**	**281**	P			**Pn**	**04 22 26.1**	**-0.5**
SOEI	**Soe**	**6.13**	**106**	P			**Pn**	**04 22 31.5**	**+1.2**
SOEI	**Soe**	**6.13**	**106**	P			**Pn**	**04 22 32.9**	**+2.6**
	baz=6.1,SNR=8.9								
SOEI	**Soe**	**6.13**	**106**	*e*Pn			**Pn**	**04 22 32.6**	**+2.3**
PWJI	**Pagerwojo**	**6.42**	**270**	P			**Pn**	**04 22 34.4**	**+0.4**
PCJI	**Pacitan**	**7.03**	**269**	P			**Pn**	**04 22 41.8**	**-0.7**
PCI	**Palu**	**7.33**	**12**	P			**Pn**	**04 22 47.0**	**+0.4**
	96nm,1.5s,1μm0.4nm								
UGM	**Wanagama**	**7.69**	**271**	P			**Pn**	**04 22 51.4**	**-0.1**
UGM	**Wanagama**	**7.69**	**271**	P			Pn	04 22 54.9	+3.4
	baz=7.7,SNR=9.5								
SMRI	**Semarang**	**7.84**	**277**	P			**Pn**	**04 22 53.4**	**-0.3**
LUWI	**Luwuk**	**8.33**	**33**	P			**Pn**	**04 23 00.9**	**+0.6**
LUWI	**Luwuk**	**8.33**	**33**	*e*Pn			**Pn**	**04 22 58.1**	**-2.2**
MPSI	**Mapaga**	**8.55**	**11**	P			**Pn**	**04 23 03.6**	**+0.3**
MRSI	**Marisa**	**9.28**	**23**	P			**Pn**	**04 23 13.9**	**+0.5**
KPJI	**Karang Pucung**	**9.30**	**274**	P			**Pn**	**04 23 13.9**	**+0.3**
SANI	**Sanana**	**9.76**	**52**	P			**Pn**	**04 23 20.7**	**+0.8**
LEM	**Lembang**	**10.65**	**276**	LR			LR	04 28 54.0	
	comp=Z,2μm,19.5s,baz=99,slow=44								
CGJI	**Cibinong**	**12.57**	**276**	P			**Pn**	**04 23 58.6**	**+0.1**
KNRA	**Kununurra**	**12.71**	**127**	P			**Pn**	**04 23 59.3**	**-1.1**
	baz=13,SNR=13								
MBWA	**Marble Bar**	**13.04**	**174**	*e*Pn			**Pn**	**04 24 03.2**	**-1.7**
MBWA				*e*Sn			Sn	04 26 19.4	-9.5
KASI	**Kota Agung**	**13.93**	**280**	P			**P**	**04 24 25.4**	**+0.8**
KKM	**Kota Kinabalu**	**14.21**	**352**	P			**Pn**	**04 24 23.7**	**+2.7**
	baz=14,SNR=4.8								
KKM	**Kota Kinabalu**	**14.21**	**352**	*e*Pn			**Pn**	**04 24 20.6**	**-0.3**
MDSI	**Maura Dua**	**14.47**	**284**	P			**P**	**04 24 33.1**	**+2.4**
KDU	**Kakadu**	**14.68**	**109**	P			**Pn**	**04 24 27.8**	**+0.6**
	baz=15,SNR=12								
KDU					S		**Sn**	**04 27 05.3**	**-3.4**
	baz=15,SNR=3.1								
SWI	**Sorong**	**14.80**	**62**	P			**P**	**04 24 37.1**	**+2.8**
FAKI	**Fak Fak**	**14.82**	**70**	*e*Pn			**Pn**	**04 24 30.3**	**+1.1**
GIRL	**Giralia**	**14.96**	**195**	P			**Pn**	**04 24 29.7**	**-1.2**
	baz=15,SNR=3.9								
GIRL					S		Sn	04 27 03.4	-12
	baz=15,SNR=3.6								
LHSI	**Lahat**	**15.28**	**285**	P			**P**	**04 24 40.3**	**+0.6**
MNAI	**Manna**	**15.68**	**283**	*e*Pn			**Pn**	**04 24 39.4**	**-1.1**
RKPI	**Ransiki, Papua**	**17.14**	**68**	P			**P**	**04 25 00.4**	**+0.1**
MEEK	**Meekatharra**	**18.43**	**179**	P			**Pn**	**04 25 15.2**	**+0.4**
	baz=18,SNR=8.5								
MEEK					S		Sn	04 28 27.0	-13
	baz=18,SNR=4.6								
WRKA	**Warakurna**	**19.36**	**152**	P			**Pn**	**04 25 25.4**	**-0.6**
	baz=19,SNR=26								
WRA	**Warramunga Arr**	**19.50**	**129**	P			**P**	**04 25 25.1**	**-1.1**
	1.5nm,0.3s,baz=304,slow=12,SNR=28								
WRA					S		**S**	**04 29 04.0**	**-0.8**
	0.4nm,0.3s,baz=303,slow=21,SNR=6.6								
WRAB	**Tennant Creek**	**19.50**	**129**	*e*P			**P**	**04 25 25.5**	**-0.8**
WRAB				*e*				04 29 01.6	
WRAB					pmax		pmax		
	comp=Z,63nm,1.1s								
WRAB	**Tennant Creek**	**19.50**	**129**	*e*P			**P**	**04 25 25.5**	**-0.8**
	comp=Z,63nm,1.1s								
WRAB					*e*Sn		**S**	**04 29 01.6**	**-3.3**
MNSI	**Mandailing Nat**	**20.64**	**295**	P			Pn	04 25 41.6	+0.5
MORW	**Morawa**	**20.95**	**185**	P			**P**	**04 25 41.9**	**0.0**
	baz=21,SNR=6.5								
MORW					S		S	04 29 24.7	-8.9
	baz=21,SNR=4.9								
IPM	**Ipoh**	**21.28**	**305**	*e*P			**P**	**04 25 47.2**	**+1.6**
	comp=Z,32nm,1.2s								
AS31	**Alice Springs**	**21.53**	**138**	*e*P			**P**	**04 25 47.7**	**-0.5**
ASAR	**Alice Springs**	**21.53**	**138**	P			**P**	**04 25 47.8**	**-0.5**
	comp=Z,24nm,0.6s,baz=312,slow=9.3,SNR=104								
ASAR					S		**S**	**04 29 45.5**	**+0.3**
	comp=Z,3.6nm,0.9s,baz=316,slow=21,SNR=5.6								
ASAR					ScP		**ScP**	**04 33 25.6**	**+0.8**
	comp=Z,1.9nm,0.9s,baz=9.5,slow=1.5,SNR=5.5								
ASAR					LR		LR	04 35 21.3	
	comp=Z,324nm,18.1s,baz=318,slow=40								
KULM	**Kulim**	**22.06**	**307**	*e*P			**P**	**04 25 54.7**	**+0.7**
	comp=Z,46nm,1.2s								
PSI	**Prapat**	**22.14**	**299**	P			**P**	**04 25 55.2**	**+0.2**
	comp=Z,5.6nm,0.4s,baz=165,slow=11,SNR=7.1								
BLDU	**Ballidu**	**22.43**	**184**	P			**P**	**04 25 57.3**	**-0.6**
	baz=22,SNR=5.7								
GENI	**Genyem**	**22.46**	**77**	P			P	04 26 16.3	+18
SKLT	**Songkhla**	**23.25**	**310**	P			**P**	**04 26 08.0**	**+1.5**
	comp=Z,32nm,1.8s								
QIS	**Mount Isa**	**24.04**	**123**	P			**P**	**04 26 13.8**	**-0.3**
	baz=24,SNR=14								
FORT	**Forrest**	**24.33**	**159**	P			**P**	**04 26 16.1**	**-0.5**
	baz=24,SNR=12								
FORT	**Forrest**	**24.33**	**159**	*e*P			**P**	**04 26 15.8**	**-0.7**
	comp=Z,60nm,0.9s								
TRTT	**Trang**	**24.38**	**310**	P			**P**	**04 26 18.5**	**+1.4**
	comp=Z,26nm,1.2s								
COEN	**Coen**	**25.10**	**106**	P			**P**	**04 26 23.6**	**-0.1**
	baz=25,SNR=17								
COEN	**Coen**	**25.10**	**106**	*e*P			**P**	**04 26 23.9**	**+0.2**
	comp=Z,11nm,1.0s								
QIZ	**Qiongzhong**	**28.23**	**343**	P			**P**	**04 26 53.4**	**+1.6**
QIZ				S			**S**	**04 31 41.4**	**+6.0**
QIZ					PMZ				
	comp=Z,14nm,1.9s								
CTA	**Charters Tower**	**29.57**	**117**	P			**P**	**04 27 03.4**	**-0.4**
	comp=Z,5.4nm,0.9s,baz=271,slow=11,SNR=3.5								
CTA					LR		LR	04 39 17.5	
	comp=Z,480nm,19.3s,baz=298,slow=37								
CTAO	**Charters Tower**	**29.57**	**117**	*e*P			**P**	**04 27 04.1**	**+0.3**
CTAO					pmax		pmax		
	comp=Z,15nm,1.1s								
CTAO	**Charters Tower**	**29.57**	**117**	*e*P			**P**	**04 27 04.1**	**+0.3**
	comp=Z,15nm,1.1s								
BBOO	**Buckleboo**	**29.59**	**149**	P			**P**	**04 27 03.2**	**-0.5**
	baz=30,SNR=16								
BBOO	**Buckleboo**	**29.59**	**149**	*e*P			**P**	**04 27 02.9**	**-0.9**
	comp=Z,1.8nm,1.2s								
PBKT	**Sadao Pong**	**29.91**	**325**	P			**P**	**04 27 08.2**	**+1.4**
	comp=Z,7.6nm,0.9s								
QLP	**Quilpie**	**30.73**	**130**	P			**P**	**04 27 14.8**	**+0.9**
	baz=31,SNR=9.5								
UTTA	**Uttaradit**	**31.09**	**326**	P			**P**	**04 27 19.3**	**+2.1**
STKA	**Stephens Creek**	**32.08**	**141**	P			**P**	**04 27 25.7**	**-0.1**
	comp=Z,7.6nm,0.4s,baz=310,slow=8.9,SNR=20								
STKA					LR		LR	04 42 50.3	
	comp=Z,167nm,21.1s,baz=316,slow=41								
STKA	**Stephens Creek**	**32.08**	**141**	*e*P			**P**	**04 27 25.4**	**-0.4**
STKA					pmax		pmax		
	comp=Z,3.0nm,1.0s								
STKA	**Stephens Creek**	**32.08**	**141**	P			**P**	**04 27 26.0**	**+0.2**
	baz=32,SNR=12								
STKA	**Stephens Creek**	**32.08**	**141**	*e*P			**P**	**04 27 25.4**	**-0.4**
	comp=Z,3.1nm,1.0s								
CMAR	**Chiang Mai Arr**	**32.58**	**324**	P			**P**	**04 27 28.1**	**-2.1**
	comp=Z,1.1nm,0.3s,baz=148,slow=7.4,SNR=9.8								
CMAR					LR		LR	04 41 42.9	
	comp=Z,249nm,18.5s,baz=265,slow=38								
CMSA	**Cobar Meteorol**	**34.56**	**136**	P			**P**	**04 27 48.3**	**+0.9**
	baz=35,SNR=8.3								
GYA	**Guiyang**	**36.17**	**342**	P			P	04 28 04.8	+3.4
GYA				PP			**PP**	**04 29 27.5**	**+3.4**
GYA				PcP			**PcP**	**04 30 29.6**	**+2.9**
GYA				S			S	04 33 45.4	+6.2
GYA				ScP			**ScP**	**04 34 15.0**	**+4.4**
GYA				PMZ					
	comp=Z,20nm,0.9s								
GYA				PMZ					
	comp=Z,120nm,5.2s								
GYA				LN					
	comp=Z,560nm,18.5s								
GYA				LE					
	comp=Z,510nm,18.9s								
GYA				LZ					
	comp=Z,540nm,20.2s								
KMI	**Kunming**	**36.34**	**336**	P			**P**	**04 28 05.5**	**+2.5**
KMI				pP			**pP**	**04 28 08.9**	**-4.3**
KMI				sP			sP	04 28 10.2	-7.2
KMI				PMZ					
	comp=Z,110nm,1.0s								
YNG	**Young**	**38.03**	**138**	P			**P**	**04 28 18.8**	**+1.7**
	baz=38,SNR=8.5								
ARMA	**Armidale**	**38.27**	**130**	P			**P**	**04 28 21.5**	**+2.3**
	baz=38,SNR=4.2								
TOO	**Toolangi**	**38.30**	**144**	P			**P**	**04 28 21.4**	**+2.1**
	baz=38,SNR=4.2								
NJ2	**Nanjing**	**39.94**	**1**	*e*P			**P**	**04 28 34.8**	**+1.8**
NJ2				PMZ					
	comp=Z,50nm,0.7s								
PALK	**Pallekele**	**40.46**	**291**	*e*P			**P**	**04 28 37.0**	**-0.7**
PALK				pmax			pmax		
	comp=Z,24nm,1.2s								
PALK	**Pallekele**	**40.46**	**291**	*e*P			**P**	**04 28 37.0**	**-0.7**
	comp=Z,24nm,1.2s								
CD2	**Chengdu**	**41.22**	**341**	P			**P**	**04 28 44.3**	**+0.6**
CD2				pP			pP	04 28 47.5	-6.5
CD2				PP			**PnPn**	**04 30 25.5**	**+1.5**
CD2				S			**S**	**04 34 57.2**	**+2.0**
CD2				sS			**sS**	**04 35 07.5**	**-4.7**
CD2				PMZ					
	comp=Z,100nm,1.0s								
CD2				LE					
	comp=Z,460nm,15.5s								
CD2				LZ					
	comp=Z,440nm,13.1s								
CBIJ	**Chichi jima**	**41.97**	**33**	P			**P**	**04 28 49.0**	**-0.8**
JCJ	**Chichijima**	**41.97**	**33**	P			**P**	**04 28 49.0**	**-0.8**
	comp=Z,66nm,0.9s,baz=218,slow=19,SNR=2.4								
JNU	**Nakatsue**	**42.72**	**16**	P			**P**	**04 28 55.3**	**-0.5**
	comp=Z,3.5nm,0.2s,baz=200,slow=5.3,SNR=5.2								
XAN	**Xi'an**	**42.85**	**349**	P			**P**	**04 28 56.8**	**-0.1**
XAN				pP			**pP**	**04 29 03.4**	**-3.8**
XAN				PMZ					
	comp=Z,4.0nm,1.3s								
ODAN	**Odare**	**45.89**	**320**	*e*P			**P**	**04 29 22.0**	**+0.4**
	comp=Z,73nm,1.2s								
LZH	**Lanzhou**	**46.02**	**344

comp=Z,13nm,0.9s,baz=189,slow=6.9,SNR=20
ULN Ulaanbaatar 56.61 351 *e*P **P 04 30 42.1 +0.6**
ULN pmax pmax
comp=Z,15nm,1.1s
ULN Ulaanbaatar 56.61 351 *e*P **P 04 30 42.1 +0.6**
comp=Z,14nm,1.1s
SONM Songino Array 56.69 350 P **P 04 30 42.4 +0.4**
comp=Z,8.8nm,1.0s,baz=164,slow=8.9,SNR=15
RPZ Rata Peaks 57.94 137 *e*P **P 04 30 52.2 +1.3**
comp=Z,40nm,1.0s
KLR Kul'dur 58.31 10 *e*P P 04 30 49.4 -3.9
KLR pmax pmax
comp=Z,72nm,2.0s
WMQ Urumqi 58.65 334 P **P 04 30 57.4 +1.5**
WMQ pP **pP 04 31 02.0 -4.5**
WMQ sP sP 04 31 04.4 -6.2
WMQ PcP **PcP 04 31 47.0 +1.3**
WMQ S **S 04 38 59.4 +1.4**
WMQ PMZ
comp=Z,14nm,0.4s
WMQ PMZ
comp=Z,170nm,6.2s
WMQ LN
comp=Z,220nm,20.2s
WMQ LE
comp=Z,190nm,21.0s
WMQ LZ
comp=Z,210nm,19.2s
YSS Yuzh-Sakhalins 58.99 19 *e*P **P 04 30 58.5 +0.5**
YSS pmax pmax
comp=Z,162nm,1.6s
YSS Yuzh-Sakhalins 58.99 19 *e*P **P 04 30 58.5 +0.5**
comp=Z,162nm,1.6s
ZAK Zakamensk 59.70 349 *e*P **P 04 31 01.8 -1.2**
ZAK pmax pmax
comp=Z,6.0nm,1.3s
TLY Talaya 60.87 350 *e*P **P 04 31 11.5 +0.6**
TLY pmax pmax
comp=Z,14nm,1.1s
TLY Talaya 60.87 350 *e*P **P 04 31 11.3 +0.4**
comp=Z,11nm,1.0s
IRK Irkutsk 61.31 350 *e*P **P 04 31 13.3 -0.5**
IRK pmax pmax
comp=Z,23nm,2.1s
MOY Mondy 61.37 348 *e*P **P 04 31 15.3 +0.9**
MOY pmax pmax
comp=Z,32nm,2.7s
KSH Kashi 61.48 324 P **P 04 31 15.1 -0.3**
KSH S **S 04 39 32.4 -2.2**
KSH ScS **SKKSac 04 41 02.3 -2.1**
KSH PMZ
comp=Z,220nm,7.3s
KSH LN
comp=Z,120nm,6.7s
KSH LE
comp=Z,260nm,12.7s
KSH LZ
comp=Z,260nm,11.8s
MK31 Makanchi Array 63.35 333 *e*P **P 04 31 26.7 -0.9**
MK31 Makanchi Array 63.35 333 *e*P **P 04 31 26.7 -0.9**
MKAR Makanchi Array 63.35 333 P **P 04 31 26.9 -0.8**
comp=Z,4.7nm,0.9s,baz=179,slow=5.8,SNR=27
TKM2 Tokmak 2 63.93 326 *e*P **P 04 31 30.8 -1.0**
TKM2 pmax pmax
comp=Z,3.0nm,0.9s
TKM2 Tokmak 2 63.93 326 *e*P **P 04 31 30.8 -1.0**
comp=Z,2.8nm,0.9s
AAK Ala-Archa 64.35 325 *e*P **P 04 31 35.2 +0.7**
AAK pmax pmax
comp=Z,10.0nm,1.2s
AAK Ala-Archa 64.35 325 *e*P **P 04 31 35.1 +0.7**
comp=Z,10.0nm,1.2s
EKS2 Erkin-Say 64.77 325 *e*P **P 04 31 37.3 +0.1**
EKS2 pmax pmax
comp=Z,7.0nm,1.2s
EKS2 Erkin-Say 64.77 325 *e*P **P 04 31 37.3 +0.1**
comp=Z,7.4nm,1.2s
BOD Bodaibo 65.80 357 *e* **P 04 31 43.2 -0.1**
BOD pmax pmax
comp=Z,10.0nm,1.2s
KURK Kurchatov 67.89 334 *e*P **P 04 31 55.5 -1.3**
KURK Kurchatov 67.89 334 *e*P **P 04 31 55.5 -1.3**
ZAA0 Zalesovo Array 67.97 339 *e*P **P 04 31 56.0 -1.2**
ZALV Zalesovo Beam 67.97 339 P **P 04 31 55.6 -1.6**
comp=Z,7.5nm,0.9s,baz=134,slow=4.3,SNR=17
PETK Petropavlovsk- 69.56 24 P **P 04 32 04.6 -2.6**
comp=Z,6.4nm,1.0s,baz=210,slow=11,SNR=4.1
YAK Yakutsk 70.49 6 *e*P **P 04 32 11.6 -1.1**
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK Yakutsk 70.49 6 *e*P **P 04 32 12.8 +0.1**
VNDA Vanda 72.97 171 P **P 04 32 28.4 +0.9**
comp=N,1.9nm,0.9s,baz=321,slow=8.1,SNR=7.0
VNDA Vanda 72.97 171 *e*P **P 04 32 28.2 +0.7**
VNDA pmax pmax
comp=Z,3.0nm,0.9s
VNDA Vanda 72.97 171 *e*P **P 04 32 28.2 +0.7**
comp=Z,3.5nm,0.9s
BVAR Borovoye Array 73.19 332 P **P 04 32 28.1 -1.0**
comp=Z,1.2nm,0.6s,baz=116,slow=8.3,SNR=3.3
SEY Seymchan 75.50 15 *i*P **P 04 32 43.0 +0.7**
TIXI Tiksi 79.90 3 *e*P **P 04 33 06.1 -0.6**
TIXI pmax pmax
comp=Z,6.0nm,0.5s
TIXI Tiksi 79.90 3 *e*P **P 04 33 06.1 -0.6**
comp=Z,5.7nm,0.5s
KMBO Kilima Mbogo 80.96 270 *e*P **P 04 33 13.6 -0.4**
KMBO pmax pmax
comp=Z,8.0nm,1.2s
KMBO Kilima Mbogo 80.96 270 *e*P **P 04 33 13.6 -0.4**
comp=Z,7.6nm,1.2s
QSPA South Pole Qui 81.88 180 P **P 04 33 18.1 +0.4**
comp=Z,1.1nm,0.4s,baz=299,slow=4.7,SNR=4.8
ZEI Tsey 84.18 315 *e*P **P 04 33 29.8 -0.3**
ZEI pmax pmax
comp=Z,3.0nm,0.9s
LSZ Lusaka 87.98 255 *e*P **P 04 33 49.7 +0.4**
LSZ pmax pmax
comp=Z,5.0nm,1.0s
LSZ Lusaka 87.98 255 *e*P **P 04 33 49.7 +0.4**
comp=Z,4.5nm,1.0s
LBTB Lobatse 89.03 245 *e*P **P 04 33 54.3 +0.2**
LBTB pmax pmax
comp=Z,4.0nm,0.8s
LBTB Lobatse 89.03 245 *e*P **P 04 33 54.3 +0.2**
comp=Z,4.1nm,0.8s
ANN Anapa 89.22 315 *e*P **P 04 33 56.7 +2.4**
ANN pmax pmax
comp=Z,12nm,0.8s
SNAA Sanae 91.66 196 *e*P **P 04 34 06.3 +1.0**
SNAA pmax pmax
comp=Z,6.0nm,1.1s
SNAA Sanae 91.66 196 *e*P **P 04 34 06.3 +1.0**
comp=Z,6.3nm,1.1s
OBN Obninsk 91.88 325 *e*P **P 04 34 06.6 +0.2**
OBN pmax pmax
comp=Z,4.0nm,0.7s
YKA Yellowknife Ar 113.68 24 PKiKP **PKiKP 04 39 35.0 -1.3**
comp=Z,0.2nm,0.6s,baz=312,slow=2.0,SNR=5.1
TORD Torodi Ar. Bea 117.60 281 PKP **PKPdf 04 39 43.8 -1.5**
comp=Z,0.3nm,0.5s,baz=31,slow=3.1,SNR=5.7
NVAR Mina Array Bea 121.00 50 PKP **PKPdf 04 39 50.2 -1.4**
comp=Z,0.1nm,0.4s,baz=291,slow=2.5,SNR=2.9
ASCN Ascension 130.18 252 *e*PKPdf **PKPdf 04 40 10.9 +1.4**
TRQA Tornquist 134.07 180 *e*PKPdf **PKPdf 04 40 17.8 +1.5**
TXAR Lajitas Array 135.34 56 PKP **PKPdf 04 40 17.6 -1.4**
comp=Z,0.5nm,0.9s,baz=316,slow=6.3,SNR=2.9
LCO Las Campanas 142.09 167 *e*PKPdf **PKPdf 04 40 32.1 +0.5**
CPUP Villa Florida 145.50 187 PKPbc **PKPab 04 40 37.5 +0.1**
comp=Z,1.2nm,0.8s,baz=187,slow=3.7,SNR=9.0
CPUP Villa Florida 145.50 187 *e*PKP2 **PKPab 04 40 37.7 +0.3**
CPUP Villa Florida 145.50 187 *e*PKPbc **PKPab 04 40 37.7 +0.3**
LRAL Lakeview Retre 145.91 40 *e*PKPbc **PKPab 04 40 39.2 +0.4**
LVC Limon Verde 148.66 167 *e*PKPbc **PKPab 04 40 48.6 -1.6**
LPAZ La Paz 154.94 165 PKPbc **PKPbc 04 41 03.5 +1.9**
comp=Z,0.9nm,0.9s,baz=108,slow=3.2,SNR=2.4
SAML Samuel 162.99 175 *e*PKPdf **PKPdf 04 41 02.0 +0.3**
SAML *e*PKPab **PKPab 04 41 50.9 -0.1**

NNC 08 04:31:48.1±17.0, 36.94N×70.90E, h0km, mb3.5, mpv3.1, 1C-3D, Error ellipse: s-maj=142.3km s-min=43.3km az=2.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.49**	**319**	⇓Sn	Sn	04 33 03.0	+1.8
	5.8nm,0.3s						
SFK	**Sufi-Kurgan**	**3.69**	**33**	⇓Pn	Pn	04 32 46.0	-0.7
	2.5nm,0.7s						
SFK				⇓Sn	Sn	04 33 32.8	+1.6
	3.2nm,0.3s						
KK31	**Karatay Array**	**6.17**	**357**	Pn	Pn	04 33 19.4	-1.1
	1.4nm,0.5s,baz=178,slow=12,SNR=20						
KK31				⇑Sn	Sn	04 34 29.7	-2.2
	0.8nm,0.5s,baz=188,slow=26,SNR=6.3						

*ISK **08** 04:34:56.6, 37.82N×37.81E, h13km, MD2.6*
*ISCJB **08** 04:34:57.0±0.5, 37.82N±0.03×37.83E±0.04, h6km±5km, Error ellipse: s-maj=6.1km s-min=3.6km az=37.9*
*CSEM **08** 04:34:57.1±0.1, 37.81N×37.83E, h10km, MD2.8, Error ellipse: s-maj=3.5km s-min=2.9km az=137.0*
*DDA **08** 04:34:57.0, 37.84N×37.80E, h7km, MD2.8*
ISC 08 04:34:57.3±1.0, 37.82N±0.02×37.82E±0.02, h11km±9km, n33, σ0§40/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.48**	**9**	*i* P	**Pg**	**04 35 06.3**	**-0.5**
AKCD				*i* S	**Sg**	**04 35 14.0**	**+0.7**
AKCD	**Akcadag**	**0.48**	**9**	*i* P	**Pg**	**04 35 06.3**	**-0.5**
AKCD				*i* S	**Sg**	**04 35 14.0**	**+0.7**
GZT	**Gaziantep**	**0.50**	**204**	*i* P	**Pg**	**04 35 07.0**	**-0.2**
GZT				*i* S	**Sb**	**04 35 15.6**	**0.0**
ATAB	**Bozova**	**0.51**	**133**	*i* P	**Pg**	**04 35 07.3**	**+0.1**
ATAB	**Bozova**	**0.51**	**133**	*i* P	**Pg**	**04 35 07.3**	**+0.1**
MALT	**Malatya**	**0.69**	**44**	*e*PG	**Pg**	**04 35 10.3**	**-0.3**
MALT				*e*SG	**Sb**	**04 35 20.7**	**-0.2**
MALT	**Malatya**	**0.69**	**44**	*e*Pg	**Pg**	**04 35 10.3**	**-0.3**
MALT				*e*Sg	**Sb**	**04 35 20.7**	**-0.2**
KMRS	**Kahramanmaras**	**0.80**	**247**	*e*PG	**Pg**	**04 35 12.2**	**-0.4**
KMRS	**Kahramanmaras**	**0.80**	**247**	*e*Pg	**Pg**	**04 35 12.2**	**-0.4**
DARE	**Darende-Malaty**	**0.80**	**341**	*e*PG	**Pg**	**04 35 12.6**	**-0.1**
DARE	**Darende-Malaty**	**0.80**	**341**	*e*Pg	**Pg**	**04 35 12.6**	**-0.1**
HCB	**Kahramanmara˙**	**0.87**	**237**	*i* P	**Pb**	**04 35 14.0**	**-0.3**
HCB				*i* S	**Sg**	**04 35 25.3**	**0.0**
URFA	**Urfa**	**0.88**	**115**	*e*PG	**Pg**	**04 35 14.2**	**0.0**
URFA	**Urfa**	**0.88**	**115**	*e*Pg	**Pg**	**04 35 14.2**	**0.0**
KAMA	**Osmaniye**	**1.11**	**236**	*i* P	**Pb**	**04 35 18.2**	**-0.3**
KAMA				*i* S	**Sn**	**04 35 34.1**	**-0.1**
ELZG	**Elazig**	**1.14**	**53**	*i* P	**Pb**	**04 35 18.6**	**-0.5**
ELZG				*i* S	**Sg**	**04 35 34.7**	**+0.6**
ELZG	**Elazig**	**1.14**	**53**	*i* P	**Pb**	**04 35 18.6**	**-0.5**
ELZG				*i* S	**Sg**	**04 35 34.7**	**+0.6**
KUZU	**Kuzuini**	**1.20**	**210**	*i* P	**Pg**	**04 35 20.3**	**0.0**
KUZU				*i* S	**Sn**	**04 35 36.9**	**+0.6**
KUZU	**Kuzuini**	**1.20**	**210**	*i* P	**Pg**	**04 35 20.3**	**0.0**
KUZU				*i* S	**Sn**	**04 35 36.9**	**+0.6**
SVRC	**Sivrice-ELAZID**	**1.30**	**64**	*e*PN	**Pn**	**04 35 21.1**	**-0.4**
SVRC	**Sivrice-ELAZID**	**1.30**	**64**	*e*Pn	**Pn**	**04 35 21.1**	**-0.4**
PINB	**Pinarbasi**	**1.41**	**308**	*i* P	**Pg**	**04 35 24.6**	**+0.2**
PINB				*i* S	**Sb**	**04 35 42.4**	**+0.6**
PINB	**Pinarbasi**	**1.41**	**308**	*i* P	**Pg**	**04 35 24.6**	**+0.2**
PINB				*i* S	**Sb**	**04 35 42.4**	**+0.6**
KOZT	**Kozan**	**1.62**	**259**	*e*PN	**Pn**	**04 35 25.7**	**0.0**
KOZT	**Kozan**	**1.62**	**259**	*e*Pn	**Pn**	**04 35 25.7**	**0.0**
PTK	**Pertek**	**1.64**	**48**	*e*PN	**Pn**	**04 35 26.1**	**0.0**
PTK	**Pertek**	**1.64**	**48**	*e*Pn	**Pn**	**04 35 26.1**	**0.0**
TAHT	**Tahtakopru-Hat**	**1.94**	**223**	*e*PN	**Pn**	**04 35 29.4**	**-0.7**
TAHT	**Tahtakopru-Hat**	**1.94**	**223**	*e*Pn	**Pn**	**04 35 29.5**	**-0.7**
MAZI	**Mazidag**	**2.11**	**99**	*e*PN	**Pn**	**04 35 32.7**	**+0.1**
MAZI	**Mazidag**	**2.11**	**99**	*e*Pn	**Pn**	**04 35 32.7**	**+0.1**
SVSK	**Karacayir**	**2.19**	**343**	*e*PN	**Pn**	**04 35 33.4**	**-0.2**
SVSK	**Karacayir**	**2.19**	**343**	*e*Pn	**Pn**	**04 35 33.4**	**-0.2**

*MOS **08** 04:35:34.0±1.8, 45.92N×151.50E, h127km, mb4.1/1, Error ellipse: s-maj=24.0km s-min=13.6km az=135.2*
*SKHL **08** 04:35:35.5±0.2, 46.52N×151.15E, h123km±5km, mb5.7/1, msh4.9/1*
*IDC **08** 04:35:37.8±3.2, 46.43N×150.68E, h149km±33km, mb3.1/8, mb1 3.4/12, mb1mx3.2/43, mbtmp3.6/12, MS3.6/2, Ms1 3.6/2, ms1mx3.2/16, Error ellipse: s-maj=49.9km s-min=12.6km az=131.0*
*JMA **08** 04:35:40.3±0.5, 45.63N×150.78E, h167km, M3.9*
ISC 08 04:35:32.7±0.7, 45.64N±0.10×151.70E±0.08, h100km, n47, σ1§92/46, mb3.4/8, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.73**	**263**	⇓*i*PN	**Pn**	**04 36 16.9**	**+2.2**
KUR				*i* S	**Sn**	**04 36 49.5**	**+2.4**
KUR				pmax	pmax		
	comp=N,13nm,0.4s						
KUR				pmax	pmax		
	comp=E,18nm,0.4s						
KUR				pmax	pmax		
	comp=Z,57nm,0.4s						
KUR				pmax	pmax		
	comp=Z,395nm,4.7s						
KUR				pmax	pmax		
	comp=N,2μm,2.4s						
KUR				pmax	pmax		
	comp=E,642nm,2.4s						
KUR				smax	smax		
	comp=E,112nm,0.2s						
KUR				smax	smax		
	comp=N,150nm,0.6s						
KUR	**Kuril'sk**	**2.73**	**263**	*i* P	**Pn**	**04 36 17.2**	**+2.5**
KUR				AMB	AMB	04 36 17.6	
	comp=N,700nm,0.5s						
KUR				AMB	AMB	04 36 18.0	
	comp=N,140nm,0.5s						
KUR				*i* S	**Sn**	**04 36 48.6**	**+1.5**
KUR				A	A	04 36 51.1	
	comp=N,2μm,2.5s						
KUR				A	A	04 36 51.1	
	comp=N,600nm,2.5s						
KUR				A	A	04 36 55.5	
	comp=N,160nm,0.5s						
KUR				A	A	04 36 55.5	
	comp=N,540nm,0.8s						
SHO	**Shikotan**	**3.89**	**245**	*e*P	**Pn**	**04 36 32.5**	**+2.2**
SHO				AMB	AMB	04 36 35.3	
	comp=N,150nm,1.0s						
SHO				*e*S	**Sn**	**04 37 15.3**	**+0.3**
SHO				A	A	04 37 17.2	
	comp=N,220nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**4.45**	**251**	*d* PN	**Pn**	**04 36 40.7**	**+2.8**
YUK				*i* S	**Sn**	**04 37 29.5**	**+1.0**
YUK				pmax	pmax		
	comp=N,18nm,0.5s						
YUK				pmax	pmax		
	comp=E,25nm,0.5s						
YUK				pmax	pmax		
	comp=Z,76nm,0.5s						
YUK				smax	smax		
	comp=N,97nm,0.6s						
YUK				smax	smax		
	comp=E,70nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**4.45**	**251**	*i* P	**Pn**	**04 36 40.7**	**+2.8**
YUK				AMB	AMB	04 36 41.2	
	comp=E,20nm,0.5s						
YUK				AMB	AMB	04 36 41.2	
	comp=E,30nm,0.5s						
YUK				AMB	AMB	04 36 41.2	
	comp=E,80nm,0.5s						
YUK				*i* S	**Sn**	**04 37 29.5**	**+1.0**
YUK				A	A	04 37 37.0	
	comp=E,100nm,0.6s						
YUK				A	A	04 37 37.0	
	comp=E,70nm,0.6s						
NEM2	**Nemuro 2**	**4.83**	**244**	P	**Pn**	**04 36 44.9**	**+1.9**
NEM2				*e*S	**Sn**	**04 37 35.1**	**-2.5**
JNK	**Nakash**	**5.39**	**250**	P	**Pn**	**04 36 52.3**	**+1.7**
JAK	**Akkeshi**	**5.67**	**245**	P	**Pn**	**04 36 56.0**	**+1.5**
JAK				*e*S	**Sn**	**04 37 54.6**	**-3.6**
JTKR	**Abashiri--Toko**	**5.79**	**256**	P	**Pn**	**04 36 56.4**	**+0.4**
SKR	**Severo-Kuril's**	**5.85**	**29**	*e*P	Pn	04 36 50.3	-6.5
SKR				AMB	AMB	04 36 50.5	
	comp=E,80nm,0.4s						
SKR				*e*S	Sn	04 37 51.0	-11
JAR	**Ashorobuto**	**6.14**	**250**	P	**Pn**	**04 37 02.5**	**+1.7**
JOB	**Onbets**	**6.27**	**247**	P	**Pn**	**04 37 03.7**	**+1.1**
JOB				*e*S	**Sn**	**04 38 08.0**	**-4.8**
YSS	**Yuzh-Sakhalins**	**6.34**	**285**	*i* PN	**Pn**	**04 37 06.3**	**+2.9**
YSS	**Yuzh-Sakhalins**	**6.34**	**285**	*e*P	**Pn**	**04 37 02.7**	**-0.7**
YSS				AMB	AMB	04 37 04.7	
	comp=E,20nm,0.7s						
HRK	**Horoka**	**6.50**	**254**	*e*P	**Pn**	**04 37 06.4**	**+0.7**
JKK2	**Kamakawa 2**	**6.61**	**258**	P	**Pn**	**04 37 07.3**	**+0.1**
JKA	**Kamikawa-asahi**	**6.64**	**260**	*e*P	**Pn**	**04 37 06.4**	**-1.2**
ASAJ	**Asahikawa**	**6.64**	**260**	P	**Pn**	**04 37 08.6**	**+1.0**
ASAJ	**Asahikawa**	**6.64**	**260**	P	**Pn**	**04 37 07.2**	**-0.5**
	comp=E,4.1nm,0.3s,baz=74,slow=13,SNR=21						
ASAJ				LR	LR	04 39 24.4	
	comp=E,269nm,18.4s,baz=116,slow=37						
ASAJ	**Asahikawa**	**6.64**	**260**	PN	**Pn**	**04 37 07.2**	**-0.5**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,269nm,18.4s						
JCH	**Churui**	**6.71**	**246**	P	**Pn**	**04 37 09.2**	**+0.6**
JCH				*e*S	Sn	04 38 16.9	-6.7
JNBK	**Urakawa-nobuka**	**7.27**	**246**	P	**Pn**	**04 37 15.6**	**-0.6**
JNBK				*e*S	Sn	04 38 28.6	-8.6
PETK	**Petropavlovsk-**	**8.44**	**25**	P	**Pn**	**04 37 31.9**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=195,slow=10,SNR=15						
PETK	**Petropavlovsk-**	**8.44**	**25**	PN	**Pn**	**04 37 31.9**	**-0.1**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JKB	**Kayabe**	**8.58**	**248**	P	**Pn**	**04 37 31.9**	**-2.0**
JKB				*e*S	Sn	04 38 57.2	-12
JYM2	**Yakumo 2**	**8.90**	**251**	P	**Pn**	**04 37 37.0**	**-1.4**
JANG	**Nango**	**9.12**	**238**	P	**Pn**	**04 37 40.3**	**-1.1**
JANG				*e*S	Sn	04 39 12.5	-10
JTM	**Tenmabayashi**	**9.15**	**242**	P	**Pn**	**04 37 40.4**	**-1.3**
JTM				*e*S	Sn	04 39 11.6	-11
USRK	**Ussuriysk Ar.**	**14.04**	**271**	P	Pn	04 38 39.9	-7.0
	comp=Z,0.7nm,0.3s,baz=73,slow=9.2,SNR=9.7						
KSRS	**Korea Array**	**19.53**	**254**	P	**P**	**04 39 50.1**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=56,slow=11,SNR=6.1						
JOW	**Kunigami**	**26.47**	**233**	LR	LR	04 51 51.8	
	comp=Z,310nm,21.5s,baz=202,slow=37						
H11N2	**WAKE ISLAND Hy**	**28.72**	**149**	T	T	05 13 04.5	
	baz=335,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**28.74**	**149**	T	T	05 13 08.1	
	baz=335,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hy**	**28.74**	**149**	T	T	05 13 06.3	
	baz=335,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy**	**29.78**	**150**	T	T	05 14 21.6	
	baz=349,slow=75,SNR=21						
H11S3	**WAKE ISLAND Hy**	**29.79**	**150**	T	T	05 14 19.5	
	baz=349,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**29.80**	**150**	T	T	05 14 21.6	
	baz=349,slow=75,SNR=16						
ILAR	**Eielson Array**	**38.03**	**38**	P	**P**	**04 42 38.9**	**-1.9**
	comp=Z,0.3nm,0.8s,baz=282,slow=8.6,SNR=5.7						
INK	**Inuvik**	**43.12**	**32**	P	**P**	**04 43 20.3**	**-2.2**
	comp=Z,0.6nm,0.3s,baz=309,slow=6.1,SNR=9.5						
YKA	**Yellowknife Ar**	**52.41**	**36**	P	**P**	**04 44 32.3**	**-1.9**
	comp=Z,0.3nm,0.6s,baz=301,slow=7.0,SNR=6.6						
NVAR	**Mina Array Bea**	**63.83**	**61**	P	**P**	**04 45 56.4**	**+1.8**
	comp=Z,0.5nm,0.6s,baz=289,slow=7.5,SNR=5.7						
PDAR	**Pinedale Array**	**66.20**	**53**	P	**P**	**04 46 10.3**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=325,slow=2.9,SNR=4.9						
WRA	**Warramunga Arr**	**67.14**	**198**	P	**P**	**04 46 18.7**	**+3.0**
	comp=Z,0.2nm,0.5s,baz=15,slow=6.9,SNR=2.8						
ASAR	**Alice Springs**	**70.84**	**197**	P	**P**	**04 46 41.4**	**+2.9**
	comp=Z,0.2nm,0.5s,baz=16,slow=4.5,SNR=2.9						
CLL	**Collm**	**77.06**	**335**	*e*P	**P**	**04 47 14.0**	**-0.5**
CLL	**Collm**	**77.06**	**335**	*e*P	**P**	**04 47 14.0**	**-0.5**
TXAR	**Lajitas Array**	**78.90**	**59**	P	**P**	**04 47 26.4**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=313,slow=4.9,SNR=4.4						

*CSEM **08** 04:38:44.3, 34.09N×25.54E, h16km, MD3.5*
ATH 08 04:38:44.2, 34.08N×25.54E, h16km±3km, MD3.5/10, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.08**	**357**	*e*PN	Pb	04 39 04.7	0.0
LAST				*e*SN	Sg	04 39 19.5	0.0
LAST	**Lasithi**	**1.08**	**357**	*e*Pn	Pb	04 39 04.7	0.0
LAST				*e*Sn	Sg	04 39 19.5	0.0
SIVA	**Sivas**	**1.11**	**327**	*e*PN	Pb	04 39 04.9	-0.2
SIVA				*e*SN	Sg	04 39 20.4	+0.1
SIVA	**Sivas**	**1.11**	**327**	*e*Pn	Pb	04 39 04.9	-0.2
SIVA				*e*Sn	Sg	04 39 20.4	+0.1
ZKR	**Zakros**	**1.17**	**28**	*e*PN	Pn	04 39 05.8	-0.2
ZKR				*e*SN	Sg	04 39 22.9	+0.6
ZKR	**Zakros**	**1.17**	**28**	*e*Pn	Pn	04 39 05.8	-0.2
ZKR				*e*Sn	Sg	04 39 22.9	+0.6
NPS	**Neapolis**	**1.18**	**3**	*e*PN	Pn	04 39 05.6	-0.5
NPS				*e*SN	Sg	04 39 22.5	-0.1
NPS	**Neapolis**	**1.18**	**3**	*e*Pb	Pn	04 39 05.6	-0.5
NPS				*e*Sn	Sg	04 39 22.5	-0.1
GVD	**Gavdhos**	**1.42**	**303**	*e*PN	Pg	04 39 12.0	+0.4
GVD				*e*SN	Sg	04 39 30.3	+0.2
GVD	**Gavdhos**	**1.42**	**303**	*e*Pn	Pg	04 39 12.0	+0.4
GVD				*e*Sn	Sg	04 39 30.3	+0.2
VAM	**Vamos**	**1.72**	**321**	*e*PB	Pb	04 39 14.6	-0.9
VAM	**Vamos**	**1.72**	**321**	*e*Pb	Pb	04 39 14.6	-0.9
KARN	**Karanos**	**1.88**	**315**	*e*PN	Pb	04 39 18.2	0.0
KARN	**Karanos**	**1.88**	**315**	*e*Pn	Pb	04 39 18.2	0.0
KARP	**Karpathos**	**1.98**	**42**	*e*PN	Pb	04 39 20.0	+0.1
KARP	**Karpathos**	**1.98**	**42**	*e*Pn	Pb	04 39 20.0	+0.1
APE	**Apeiranthos**	**2.98**	**360**	*e*PN	Pn	04 39 32.5	+1.6
APE	**Apeiranthos**	**2.98**	**360**	*e*Pn	Pn	04 39 32.5	+1.6
KYTH	**Kithira**	**3.00**	**318**	*e*PB	Pb	04 39 34.4	-3.0
KYTH	**Kithira**	**3.00**	**318**	*e*Pb	Pb	04 39 34.4	-3.0
VLI	**Veliai**	**3.38**	**322**	*e*PN	Pn	04 39 39.2	+2.8
VLI	**Veliai**	**3.38**	**322**	*e*Pn	Pn	04 39 39.2	+2.8
DID	**Didima**	**3.90**	**332**	*e*PN	Pn	04 39 46.1	+2.6
DID	**Didima**	**3.90**	**332**	*e*Pn	Pn	04 39 46.1	+2.6
GUR	**Goura**	**4.64**	**327**	*e*PN	Pn	04 39 56.2	+2.4
GUR	**Goura**	**4.64**	**327**	*e*Pn	Pn	04 39 56.2	+2.4

*IDC **08** 04:52:29.6±9.8, 8.20S×117.87E, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.4/27, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=199.0km s-min=35.2km az=90.0*
*DJA **08** 04:52:34.3±0.8, 8˚S±5˚×11˚.8E±˚, h10km, M3.6/4, MLv3.6/4*
ISC 08 04:52:34.0±3.9, 8.10S±0.08×117.9E±0.5, h35km, n5, σ0§81/6, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**2.14**	**136**	P	**Pn**	**04 53 08.1**	**+0.7**
KAPI	**Kappang**	**3.58**	**31**	Pn	**Pn**	**04 53 27.7**	**+0.6**
	3.1nm,0.3s,baz=192,slow=9.3,SNR=4.5						
KAPI				Sn	**Sn**	**04 54 08.0**	**-0.3**
	6.0nm,0.3s,baz=119,slow=14,SNR=12						
WRA	**Warramunga Arr**	**19.82**	**128**	P	**P**	**04 57 00.9**	**-0.9**
	0.1nm,0.3s,baz=302,slow=12,SNR=5.6						
ASAR	**Alice Springs**	**21.81**	**137**	P	**P**	**04 57 23.4**	**+0.1**
	1.1nm,0.6s,baz=312,slow=8.6,SNR=16						
STKA	**Stephens Creek**	**32.35**	**140**	P	**P**	**04 58 59.9**	**-0.3**
	0.8nm,0.4s,baz=316,slow=9.9,SNR=3.2						

*IDC **08** 04:59:08.6±2.5, 44.10N×129.74W, h0km, mb3.1/4, mb1 3.6/11, mb1mx3.4/51, mbtmp3.3/11, ML3.2/6, MS3.5/2, Ms1 3.6/2, ms1mx3.3/13, Error ellipse: s-maj=44.4km s-min=15.9km az=54.0*
*ISCJB **08** 04:59:13.3±0.8

HDW	**Hoodsport**	**5.45**	**51**	P		**Pn**	**05 00 34.5**	**-0.6**
YBH	**Yreka Blue Hor**	**5.56**	**117**	Pn		**Pn**	**05 00 35.5**	**-1.1**
	0.1nm,0.3s,baz=309,slow=14,SNR=3.6							
YBH	**Yreka Blue Hor**	**5.56**	**117**	*e*Pn		**Pn**	**05 00 38.5**	**+1.9**
	4.2nm,0.9s							
VFP	**Flag Point**	**5.68**	**78**	P		**Pn**	**05 00 38.5**	**+0.1**
LON	**Longmire**	**5.79**	**64**	*e*Pn		**Pn**	**05 00 38.4**	**-1.3**
	9.7nm,0.6s							
PGC	**Sidney**	**5.88**	**42**	*e*Pn		**Pn**	**05 00 39.8**	**-1.1**
	14nm,0.7s							
FMW	**Mount Fremont**	**5.95**	**62**	P		**Pn**	**05 00 41.2**	**-0.8**
HTW	**Haystack Looko**	**6.27**	**55**	P		**Pn**	**05 00 45.9**	**-0.4**
TBM	**Table Mountain**	**6.71**	**63**	P		**Pn**	**05 00 52.2**	**-0.3**
HAWA	**Hanford**	**7.19**	**71**	*e*Pn		**Pn**	**05 00 57.4**	**-1.6**
	9.7nm,1.1s							
BBB	**Bella Bella**	**7.82**	**6**	Pn		**Pn**	**05 01 08.4**	**+0.9**
	0.3nm,0.3s,baz=189,slow=12,SNR=3.0							
WVOR	**Wild Horse Val**	**8.05**	**100**	*e*Pn		**Pn**	**05 01 13.6**	**+2.7**
	2.4nm,0.9s							
NEW	**Newport**	**9.30**	**61**	Pn		Pn	05 01 31.5	+3.7
	0.4nm,0.3s,baz=267,slow=6.4,SNR=4.4							
NEW	**Newport**	**9.30**	**61**	*e*Pn		**Pn**	**05 01 27.0**	**-0.9**
NVAR	**Mina Array Bea**	**10.22**	**122**	Pn		**Pn**	**05 01 40.4**	**-0.4**
	0.1nm,0.3s,baz=308,slow=16,SNR=6.1							
BSMT	**Bassoo Peak**	**10.68**	**66**	*e*Pn		**Pn**	**05 01 46.3**	**-0.7**
	1.9nm,0.7s							
HLID	**Hailey**	**10.80**	**89**	*e*Pn		**Pn**	**05 01 49.8**	**+1.2**
	5.3nm,1.0s							
ELK	**Elko**	**11.04**	**105**	Pn		**Pn**	**05 01 53.2**	**+1.4**
	0.1nm,0.3s,baz=11,slow=6.7,SNR=5.6							
ELK	**Elko**	**11.04**	**105**	*e*Pn		**Pn**	**05 01 53.5**	**+1.6**
SLMT	**Seeley Lake**	**11.43**	**70**	*e*Pn		**Pn**	**05 01 58.5**	**+1.4**
	22nm,1.5s							
CHMT	**Chamberlain Mo**	**11.54**	**72**	*e*Pn		**Pn**	**05 01 58.9**	**+0.1**
	3.1nm,1.2s							
MCMT	**McKenzie Canyo**	**11.78**	**82**	*e*Pn		**Pn**	**05 02 03.6**	**+1.6**
	4.4nm,1.5s							
BOZ	**Bozeman (W)**	**12.61**	**78**	*e*Pn		**Pn**	**05 02 13.4**	**+0.2**
	15nm,1.9s							
QLMT	**Earthquake Lak**	**12.78**	**82**	*e*Pn		**Pn**	**05 02 17.8**	**+2.1**
	0.4nm,0.8s							
DUG	**Dugway, Tooele**	**12.95**	**103**	*e*Pn		**Pn**	**05 02 17.8**	**-0.2**
TPAW	**Teton Pass**	**13.30**	**88**	*e*Pn		**Pn**	**05 02 23.6**	**+0.8**
	6.8nm,1.2s							
HWUT	**Hardware Ranch**	**13.32**	**96**	*e*Pn		**Pn**	**05 02 24.8**	**+1.7**
	4.5nm,1.0s							
FLWY	**Flagg Ranch**	**13.38**	**85**	*e*Pn		**Pn**	**05 02 24.9**	**+1.0**
	21nm,1.3s							
MOOW	**Moose Ponds**	**13.40**	**86**	*e*Pn		**Pn**	**05 02 25.1**	**+1.0**
SNOW	**Snow King Moun**	**13.44**	**88**	*e*Pn		**Pn**	**05 02 22.9**	**-1.9**
	2.7nm,0.8s							
LOHW	**Long Hollow**	**13.53**	**87**	*e*Pn		**Pn**	**05 02 27.1**	**+1.2**
	14nm,1.8s							
EDM	**Edmonton**	**13.72**	**44**	*e*Pn		**Pn**	**05 02 25.8**	**-2.5**
GCMT	**Greycliff**	**13.98**	**77**	*e*Pn		**Pn**	**05 02 29.7**	**-2.2**
	3.7nm,0.9s							
DLBC	**Dease Lake**	**14.05**	**359**	Pn		**Pn**	**05 02 34.7**	**+1.9**
	0.0nm,0.3s,baz=197,slow=12,SNR=1.7							
DLBC					LR	LR	05 06 17.5	
	comp=Z,180nm,21.2s,baz=98,slow=30							
MSU	**Marysvale**	**14.16**	**109**	*e*Pn		**Pn**	**05 02 35.1**	**+0.6**
	20nm,1.9s							
PDAR	**Pinedale Array**	**14.44**	**90**	Pn		**Pn**	**05 02 41.0**	**+2.6**
	baz=280,slow=11,SNR=2.6							
SRU	**San Rafael Swe**	**15.01**	**104**	*e*Pn		**Pn**	**05 02 48.8**	**+2.8**
	7.8nm,0.9s							
PV01	**Paradox Valley**	**16.82**	**105**	*e*Pn		**Pn**	**05 03 09.2**	**-0.3**
HYT	**Haines Junctio**	**17.14**	**346**	*e*Pn		**Pn**	**05 03 13.6**	**+0.2**
MVCO	**Mesa Verde**	**17.33**	**107**	*e*Pn		**Pn**	**05 03 14.8**	**-1.1**
	40nm,1.8s							
RSSD	**Black Hills**	**18.12**	**82**	*e*P		**Pn**	**05 03 25.7**	**0.0**
	2.5nm,0.8s							
TUC	**Tucson**	**18.87**	**124**	*e*P		**Pn**	**05 03 34.9**	**+0.1**
	2.3nm,1.1s							
SDCO	**Great Sand Dun**	**19.14**	**102**	*e*P		**Pn**	**05 03 38.4**	**+0.2**
	2.2nm,1.0s							
ANMO	**Albuquerque**	**19.95**	**110**	P		**P**	**05 03 45.2**	**-0.8**
	0.4nm,0.3s,baz=322,slow=10,SNR=2.3							
ANMO	**Albuquerque**	**19.95**	**110**	*e*P		**P**	**05 03 47.1**	**+1.1**
	1.4nm,0.8s							
YKA	**Yellowknife Ar**	**20.04**	**20**	P		**P**	**05 03 45.6**	**-1.0**
	0.9nm,0.8s,baz=215,slow=11,SNR=13							
FFC	**Flin Flon**	**20.41**	**50**	*e*P		**P**	**05 03 50.4**	**-0.2**
	3.5nm,0.8s							
121A	**Cookes Peak, D**	**20.57**	**118**	*e*P		**P**	**05 03 54.1**	**+1.4**
	5.6nm,1.0s							
MCK	**McKinley**	**22.33**	**337**	*e*P		**P**	**05 04 11.9**	**+0.6**
	5.5nm,1.2s							
ILAR	**Eielson Array**	**22.63**	**340**	P		**P**	**05 04 13.1**	**-1.4**
	0.5nm,0.9s,baz=152,slow=7.9,SNR=6.1							
ILAR					LR	LR	05 11 43.9	
	comp=Z,118nm,18.1s,baz=114,slow=33							
TXAR	**Lajitas Array**	**25.33**	**118**	P		**P**	**05 04 36.9**	**-3.8**
	0.2nm,0.6s,baz=294,slow=6.6,SNR=2.7							
WMOK	**Wichita Mounta**	**25.34**	**102**	*e*P		**P**	**05 04 39.3**	**-1.5**
	1.8nm,1.0s							
HKT	**Hockley**	**30.12**	**107**	*e*P		**P**	**05 05 25.3**	**+1.9**
	4.7nm,1.1s							
WVT	**Waverly**	**32.46**	**90**	*e*P		**P**	**05 05 45.3**	**+1.2**
	1.9nm,0.5s							
H11N3	**WAKE ISLAND Hy**	**57.81**	**267**	T		T	06 11 13.4	
	baz=49,slow=75,SNR=918							
H11N2	**WAKE ISLAND Hy**	**57.81**	**267**	T		T	06 11 14.0	
	baz=49,slow=75,SNR=578							
H11N1	**WAKE ISLAND Hy**	**57.83**	**267**	T		T	06 11 15.2	
	baz=49,slow=75,SNR=429							
H11S1	**WAKE ISLAND Hy**	**58.75**	**266**	T		T	06 12 27.1	
	baz=48,slow=75,SNR=112							
H11S2	**WAKE ISLAND Hy**	**58.76**	**266**	T		T	06 12 24.6	
	baz=48,slow=75,SNR=59							
H11S3	**WAKE ISLAND Hy**	**58.77**	**266**	T		T	06 12 28.0	
	baz=48,slow=75,SNR=43							
OTAV	**Otavalo**	**62.95**	**119**	*e*P		**P**	**05 09 40.5**	**-0.5**
	5.6nm,1.3s							
LPAZ	**La Paz**	**82.13**	**122**	*e*P		**P**	**05 11 36.4**	**+1.0**
	2.2nm,1.0s							

*IDC **08** 05:02:51.2±1.5,8˚.06S×118˚.38E,h0km,mb3.9/3, mb1 4.0/5,mb1mx3.6/35,mbtmp3.8/5,ML3.9/2,Error ellipse: s-maj=45.0km s-min=20.3km az=68.0*
*ISCJB **08** 05:02:53.5±0.5,8˚.10S±0˚.05×118˚.31E±0˚.05,h33km, mb4.0/3,Error ellipse: s-maj=7.5km s-min=6.6km az=0.2*
*DJA **08** 05:02:53.3±0.6,8˚S±5˚×11˚8E±˚,h15km±7km,M4.1/10, MLv4.1/10*

ISC 08 05:02:55.4±0.9,**8˚.10S**±0˚.06×**118˚.29E**±0˚.06,**h35**km,**n16,**
σ1ᵎ**12**/16,**mb4.1/3,Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.88**	**145**	P	**Pn**	**05 03 25.7**	**+0.5**
WSI	**Waingapu**	**2.53**	**128**	S	**Sn**	**05 04 00.8**	**-2.8**
	baz=2.5,SNR=3.3						
BSSI	**Bau Bau, Buton**	**2.93**	**48**	P	**Pn**	**05 03 39.2**	**-0.3**
SRBI	**Singaraja**	**3.04**	**270**	P	**Pn**	**05 03 40.0**	**-1.1**
BKSI	**Bulukumba**	**3.31**	**34**	P	**Pn**	**05 03 43.9**	**-0.9**
KAPI	**Kappang**	**3.39**	**25**	Pn	**Pn**	**05 03 45.2**	**-0.7**
	4.9nm,0.3s,baz=205,slow=6.9,SNR=16						
KAPI				Sn	**Sn**	**05 04 24.2**	**-0.8**
	33nm,0.3s,baz=202,slow=18,SNR=15						
ABJI	**Asem Bagus**	**4.03**	**274**	P	**Pn**	**05 03 54.6**	**0.0**
BNSI	**Bone**	**4.10**	**26**	P	**Pn**	**05 03 56.4**	**+0.8**
JAGI	**Jajag, Banyuwa**	**4.11**	**265**	P	**Pn**	**05 03 55.0**	**-0.8**
	baz=4.3,SNR=9.2						
SOEI	**Soe**	**6.13**	**106**	P	Pn	05 04 14.7	-9.0
	baz=6.0,SNR=3.2						
MEEK	**Meekatharra**	**18.44**	**179**	P	**Pn**	**05 07 09.4**	**+1.0**
	baz=19,SNR=5.8						
WRKA	**Warakurna**	**19.36**	**152**	P	**Pn**	**05 07 19.6**	**+0.1**
	baz=20,SNR=6.6						
WRA	**Warramunga Arr**	**19.50**	**129**	P	**P**	**05 07 18.8**	**-0.9**
	0.5nm,0.3s,baz=301,slow=12,SNR=11						
ASAR	**Alice Springs**	**21.53**	**138**	P	**P**	**05 07 42.2**	**+0.4**
	3.9nm,0.5s,baz=313,slow=8.7,SNR=38						
STKA	**Stephens Creek**	**32.09**	**141**	P	**P**	**05 09 20.1**	**+0.7**
	1.8nm,0.4s,baz=322,slow=8.1,SNR=13						
MKAR	**Makanchi Array**	**63.34**	**333**	P	**P**	**05 13 22.1**	**+1.0**
	0.4nm,0.8s,baz=148,slow=9.4,SNR=3.2						

*IDC **08** 05:25:18.7±0.5,8˚.16S×118˚.29E,h0km,mb4.4/19, mb1 4.5/21,mb1mx4.3/42,mbtmp4.4/21,ML4.3/2,MS3.6/1, Ms1 3.6/1,ms1mx3.0/41,Error ellipse: s-maj=20.9km s-min=11.1km az=69.0*
*ISCJB **08** 05:25:22.6±0.2,8˚.12S±0˚.03×118˚.32E±0˚.03,h33km, mb4.4/26,Error ellipse: s-maj=4.2km s-min=3.5km az=40.4*
*BJI **08** 05:25:22.6,8˚.20S×118˚.30E,h18km,mb4.8/29,mB5.0/17, Ms5.1/10,Ms7 4.8/10*
*DJA **08** 05:25:22.1±0.2,8˚S±2˚×11˚8E±˚,h10km,M4.9/7,mb4.8/1, MLv5.0/7*
*NEIC **08** 05:25:24.3±2.1,8˚.14S×118˚.31E,h34km±16km,mb4.5/13, Error ellipse: s-maj=10.1km s-min=6.0km az=54.0*
NEIC Felt [III] at Dompu.

ISC 08 05:25:24.4±0.3,**8˚.18S**±0˚.03×**118˚.28E**±0˚.05,**h35**km,**n116,**
σ1ᵎ**59**/120,**mb4.5**/26,**Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.82**	**143**	P	**Pn**	**05 25 53.9**	**+0.7**
WSI	**Waingapu**	**2.48**	**127**	P	**Pn**	**05 26 02.9**	**+0.6**
BSSI	**Bau Bau, Buton**	**2.98**	**47**	P	**Pn**	**05 26 08.0**	**-1.3**
BASI	**Baing, Sumba**	**3.04**	**132**	P	**Pn**	**05 26 11.9**	**+1.9**
SRBI	**Singaraja**	**3.04**	**272**	P	**Pn**	**05 26 09.7**	**-0.3**
DNP	**Denpasar**	**3.08**	**261**	P	**Pn**	**05 26 10.8**	**+0.3**
IGBI	**Denpasar**	**3.17**	**258**	P	**Pn**	**05 26 12.4**	**+0.7**
BKSI	**Bulukumba**	**3.38**	**33**	P	**Pn**	**05 26 13.3**	**-1.4**
EDFI	**Ende, Flores**	**3.42**	**100**	P	**Pn**	**05 26 15.3**	**0.0**
KAPI	**Kappang**	**3.47**	**25**	Pn	**Pn**	**05 26 14.2**	**-1.8**
	32nm,0.3s,baz=203,slow=6.0,SNR=33						
KAPI				Sn	**Sn**	**05 26 53.9**	**-1.9**
	67nm,0.3s,baz=197,slow=19,SNR=20						
KAPI				LR	LR	05 27 57.0	
	comp=Z,795nm,20.0s,baz=242,slow=46						
MMRI	**Maumere**	**3.94**	**97**	P	**Pn**	**05 26 22.2**	**-0.2**
MMRI	**Maumere**	**3.94**	**97**	*e*Pn	**Pn**	**05 26 21.2**	**-1.2**
ABJI	**Asem Bagus**	**4.03**	**275**	P	**Pn**	**05 26 23.8**	**+0.2**
JAGI	**Jajag, Banyuwa**	**4.10**	**266**	P	**Pn**	**05 26 24.4**	**-0.2**
	baz=4.3,SNR=57						
JAGI	**Jajag, Banyuwa**	**4.10**	**266**	*e*Pn	**Pn**	**05 26 24.3**	**-0.3**
BNSI	**Bone**	**4.17**	**26**	P	**Pn**	**05 26 24.7**	**-0.9**
KMMI	**Kalianget**	**4.42**	**284**	P	**Pn**	**05 26 29.8**	**+0.7**
SPSI	**Sidrap Palu**	**4.44**	**20**	P	**Pn**	**05 26 28.5**	**-0.9**
BLJI	**Banyuglugur**	**4.66**	**275**	P	**Pn**	**05 26 32.8**	**+0.5**
GMJI	**Gumukmas**	**4.79**	**269**	P	**Pn**	**05 26 34.3**	**+0.2**
KBKI	**Kotabaru**	**5.29**	**336**	P	Pn	05 26 57.0	+16
TTSI	**Tana Toraja**	**5.33**	**17**	P	**Pn**	**05 26 40.6**	**-0.9**
BBKI	**Banjar Baru**	**5.81**	**324**	P	**Pn**	**05 26 48.0**	**-0.1**
GRJI	**Gresik**	**5.89**	**282**	P	**Pn**	**05 26 49.4**	**+0.2**
SOEI	**Soe**	**6.12**	**105**	P	**Pn**	**05 26 52.4**	**-0.1**
SOEI	**Soe**	**6.12**	**105**	P	Pn	05 26 56.3	+3.8
	baz=5.9,SNR=7.5						
SOEI	**Soe**	**6.12**	**105**	*e*Pn	**Pn**	**05 26 55.3**	**+2.8**
PWJI	**Pagerwojo**	**6.42**	**271**	P	**Pn**	**05 26 56.7**	**+0.2**
UGM	**Wanagama**	**7.69**	**271**	P	Pn	05 27 19.8	+5.8
	baz=7.9,SNR=6.8						
KPJI	**Karang Pucung**	**9.30**	**275**	P	Pn	05 27 47.3	+11
MRSI	**Marisa**	**9.34**	**23**	P	Pn	05 27 42.0	+5.3
SBUM	**Sibu**	**12.17**	**330**	*e*Pn	**Pn**	**05 28 16.5**	**+1.1**
KNRA	**Kununurra**	**12.67**	**127**	P	**Pn**	**05 28 21.0**	**-1.2**
	baz=12,SNR=13						
MBWA	**Marble Bar**	**12.98**	**174**	*e*Pn	**Pn**	**05 28 25.5**	**-0.9**
MBWA				*e*Sn	**Sn**	**05 30 47.5**	**-2.0**
PPBI	**Pangkal Pinang**	**13.49**	**296**	P	**P**	**05 28 41.4**	**-0.8**
KASI	**Kota Agung**	**13.94**	**280**	P	P	05 28 58.5	+11
KDU	**Kakadu**	**14.65**	**109**	P	**Pn**	**05 28 46.5**	**-2.8**
	baz=14,SNR=3.1						
SWI	**Sorong**	**14.83**	**61**	P	**P**	**05 28 59.4**	**+2.3**
FAKI	**Fak Fak**	**14.85**	**70**	P	**Pn**	**05 28 49.0**	**-2.9**
	baz=15,SNR=5.5						
GIRL	**Giralia**	**14.89**	**195**	P	**P**	**05 28 55.0**	**-2.7**
	baz=15,SNR=7.2						
LHSI	**Lahat**	**15.30**	**286**	P	P	05 29 07.6	+5.3
RKPI	**Ransiki, Papua**	**17.16**	**68**	P	**P**	**05 29 25.2**	**+2.2**
MEEK	**Meekatharra**	**18.36**	**179**	P	**Pn**	**05 29 37.6**	**+1.3**
	baz=18,SNR=20						
MEEK				S	**Sn**	**05 32 54.3**	**-6.1**
	baz=18,SNR=3.6						
WRKA	**Warakurna**	**19.29**	**151**	P	**Pn**	**05 29 47.6**	**-0.1**
	baz=19,SNR=11						
WRKA				S	**S**	**05 33 24.6**	**+1.5**
	baz=19,SNR=3.9						
WRA	**Warramunga Arr**	**19.45**	**129**	P	**P**	**05 29 46.9**	**-1.3**
	0.9nm,0.3s,baz=303,slow=12,SNR=33						
WRA				S	S	05 33 16.0	-10
	baz=307,slow=27,SNR=3.3						
WRAB	**Tennant Creek**	**19.45**	**129**	*e*P	**P**	**05 29 47.5**	**-0.7**
	19nm,0.9s						
MORW	**Morawa**	**20.88**	**186**	P	Pn	05 30 04.9	-1.4
	baz=21,SNR=15						
MORW				S	**S**	**05 33 50.2**	**-4.5**
	baz=21,SNR=3.7						
AS31	**Alice Springs**	**21.47**	**138**	*e*P	**P**	**05 30 10.2**	**0.0**
ASAR	**Alice Springs**	**21.47**	**138**	P	**P**	**05 30 10.4**	**+0.3**
	25nm,0.6s,baz=311,slow=8.6,SNR=80						
ASAR				PcP	**PcP**	**05 34 12.7**	**+0.2**
	2.9nm,0.6s,baz=325,slow=1.5,SNR=14						
KULM	**Kulim**	**22.10**	**307**	*e*P	P	05 30 22.9	+6.1
	36nm,1.5s						
PSI	**Prapat**	**22.18**	**299**	P	**P**	**05 30 17.7**	**-0.1**
	1.3nm,0.2s,baz=74,slow=7.4,SNR=5.0						
BLDU	**Ballidu**	**22.37**	**184**	P	**P**	**05 30 20.4**	**+0.9**
	baz=22,SNR=9.5						
QIS	**Mount Isa**	**24.00**	**123**	P	**P**	**05 30 36.0**	**-0.1**
	baz=24,SNR=5.9						
FORT	**Forrest**	**24.27**	**159**	P	**P**	**05 30 39.0**	**+0.7**
	baz=24,SNR=15						
FORT	**Forrest**	**24.27**	**159**	*e*P	**P**	**05 30 39.1**	**+0.7**
	32nm,0.8s						
COEN	**Coen**	**25.08**	**105**	P	**P**	**05 30 45.6**	**-0.4**
	baz=25,SNR=22						
COEN	**Coen**	**25.08**	**105**	*e*P	**P**	**05 30 45.6**	**-0.4**
	6.9nm,0.8s						
BBOO	**Buckleboo**	**29.53**	**149**	P	**P**	**05 31 26.0**	**+0.3**
	baz=29,SNR=7.0						
CTA	**Charters Tower**	**29.54**	**117**	P	**P**	**05 31 25.9**	**-0.1**
	4.6nm,0.8s,baz=316,slow=9.3,SNR=3.0						
STKA	**Stephens Creek**	**32.03**	**141**	P	**P**	**05 31 47.6**	**-0.2**
	12nm,0.6s,baz=316,slow=9.0,SNR=41						
STKA				PcP	**PcP**	**05 34 37.2**	**+0.1**
	3.5nm,0.7s,baz=327,slow=4.0,SNR=3.3						
STKA	**Stephens Creek**	**32.03**	**141**	P	**P**	**05 31 48.2**	**+0.5**
	baz=32,SNR=31						
STKA	**Stephens Creek**	**32.03**	**141**	*e*P	**P**	**05 31 48.2**	**+0.5**
	2.7nm,0.7s						
STKA				PcP	**PcP**	**05 34 37.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**32.63**	**324**	P	**P**	**05 31 53.6**	**+0.4**
	1.4nm,0.6s,baz=155,slow=6.9,SNR=7.9						
CMSA	**Cobar Meteorol**	**34.51**	**136**	P	P	05 32 10.6	+1.2
	baz=34,SNR=7.5						
KMI	**Kunming**	**36.40**	**336**	P	P	05 32 30.3	+4.3
KMI				PMZ			
	66nm,1.0s						
YNG	**Young**	**37.98**	**138**	P	**P**	**05 32 40.9**	**+1.8**
	baz=38,SNR=6.9						
ARMA	**Armidale**	**38.23**	**130**	P	**P**	**05 32 43.6**	**+2.3**
	baz=38,SNR=6.0						
ARMA	**Armidale**	**38.23**	**130**	*e*P	**P**	**05 32 43.4**	**+2.1**
	7.5nm,0.7s						
MGCD	**Mangrove Creek**	**39.24**	**134**	P	**P**	**05 32 52.4**	**+2.7**
	baz=39,SNR=5.7						
NJ2	**Nanjing**	**40.01**	**1**	*e*P	**P**	**05 32 59.0**	**+3.0**
NJ2				PMZ			
	20nm,1.1s						
CD2	**Chengdu**	**41.29**	**341**	P	**P**	**05 33 07.4**	**+0.8**
CD2				PP	**PP**	**05 34 44.5**	**+2.0**
CD2				S	**S**	**05 39 21.6**	**+3.0**
CD2				SS	**SS**	**05 42 21.2**	**-2.0**
CD2				PMZ			
	40nm,0.6s						
ODAN	**Odare**	**45.95**	**320**	*e*P	**P**	**05 33 45.5**	**+1.1**
	42nm,1.1s						
LZH	**Lanzhou**	**46.08**	**344**	*e*P	P	05 33 50.6	+5.3
LZH				pP	pP	05 33 54.7	-1.0
LZH				sP	sP	05 33 57.5	-2.3
LZH				PMZ			
	21nm,1.0s						
LZH				PMZ			
	92nm,4.3s						
TAPN	**Taplejung**	**46.09**	**321**	*e*P	**P**	**05 33 47.0**	**+1.3**
	22nm,0.7s						
KSAR	**Wonju Array Be**	**46.27**	**11**	P	**P**	**05 33 44.9**	**-1.5**
KSRS	**Korea Array**	**46.29**	**11**	P	**P**	**05 33 44.9**	**-1.7**
	3.0nm,0.9s,baz=188,slow=8.6,SNR=17						
RAMN	**Ramite**	**46.51**	**320**	*e*P	**P**	**05 33 50.0**	**+1.1**
	35nm,1.1s						
JIRN	**Jiri**	**47.27**	**320**	*e*P	**P**	**05 33 55.3**	**+0.4**
	22nm,0.7s						
GUN	**Gumba**	**47.64**	**320**	*e*P	**P**	**05 33 58.3**	**+0.5**
BJI	**Beijing**	**48.02**	**358**	P	P	05 34 04.1	+4.0
BJI				PMZ			
	21nm,0.8s						
BJI				LN			
	650nm,14.4s						
BJI				LE			
	260nm,16.0s						
BJI				LZ			
	270nm,18.0s						
GKN	**Gorkha**	**48.50**	**319**	*e*P	**P**	**05 34 04.6**	**+0.4**
	33nm,1.0s						
KOLN	**Koldanda**	**49.02**	**318**	*e*P	**P**	**05 34 08.5**	**+0.2**
	27nm,0.9s						
HHC	**Hu-ho-hao-te**	**49.18**	**353**	*e*P	P	05 34 12.5	+3.3
HHC				pP	pP	05 34 19.1	-0.5
HHC				sP	sP	05 34 24.5	+0.7
HHC				PP	PP	05 36 10.0	+6.7
HHC				S	**S**	**05 41 16.1**	**+3.6**
HHC				sS	sS	05 41 27.0	-2.7
HHC				SS	**SS**	**05 44 41.2**	**-3.2**
HHC				PMZ			
	14nm,0.9s						
HHC				PMZ			
	110nm,6.0s						
HHC				LN			
	520nm,16.1s						
HHC				LE			
	320nm,11.4s						
HHC				LZ			
	490nm,11.6s						
GTA	**Gaotai**	**50.36**	**341**	*e*P	P	05 34 21.9	+3.7
GTA				pP	pP	05 34 26.5	-2.2
GTA				sP	sP	05 34 29.0	-3.8
GTA				S	S	05 41 35.0	+6.0
GTA				sS	sS	05 41 42.4	-3.9
GTA				SS	**SS**	**05 45 06.4**	**+3.1**
GTA				PMZ			
	3.0nm,1.5s						
GTA				PMZ			
	89nm,4.3s						
GTA				LN			
	960nm,15.7s						
GTA				LE			
	1μm,15.7s						
GTA				LZ			
	940nm,15.2s						
USRK	**Ussuriysk Ar.**	**53.59**	**12**	P	**P**	**05 34 41.1**	**-0.9**
	5.4nm,0.7s,baz=192,slow=7.1,SNR=16						
ASAJ	**Asahikawa**	**56.52**	**21**	P	**P**	**05 35 03.1**	**-0.1**
	14nm,1.1s,baz=208,slow=17,SNR=2.9						
ULN	**Ulaanbaatar**	**56.68**	**351**	*e*P	**P**	**05 35 06.6**	**+2.1**
	3.2nm,0.8s						
SONM	**Songino Array**	**56.76**	**350**	P	**P**	**05 35 05.1**	**+0.1**
	4.2nm,0.7s,baz=162,slow=6.3,SNR=6.0						
RPZ	**Rata Peaks**	**57.88**	**137**	P	**P**	**05 35 12.7**	**-0.3**
	16nm,0.9s,baz=272,slow=1.3,SNR=5.5						
WMQ	**Urumqi**	**58.72**	**334**	*e*P	**P**	**05 35 20.4**	**+1.7**
WMQ				pP	**pP**	**05 35 25.0**	**-4.4**
WMQ				PcP	**PcP**	**05 36 10.0**	**+1.7**
WMQ				PMZ			
	12nm,0.4s						
WMQ				PMZ			
	150nm,4.4s						
WMQ				LN			
	150nm,19.6s						
WMQ				LE			
	190nm,21.0s						
WMQ				LZ			
	180nm,17.0s						
TLY	**Talaya**	**60.94**	**350**	*e*P	**P**	**05 35 35.0**	**+1.2**
	5.5nm,0.7s						
KSH	**Kashi**	**61.53**	**324**	P	**P**	**05 35 38.5**	**+0.3**
KSH				sP	sP	05 35 47.5	-5.5
KSH				S	**S**	**05 43 55.6**	**-2.1**
KSH				ScS	**SKKSac**	**05 45 24.7**	**-2.6**
KSH				PMZ			
	8.0nm,0.9s						
KSH				PMZ			
	100nm,4.3s						
KSH				LN			
	240nm,7.7s						
KSH				LE			
	220nm,7.0s						
KSH				LZ			
	240nm,8.5s						
MK31	**Makanchi Array**	**63.41**	**333**	*e*P	**P**	**05 35 50.8**	**+0.3**
MKAR	**Makanchi Array**	**63.41**	**333**	P	**P**	**05 35 50.1**	**-0.4**
	3.2nm,0.7s,baz=175,slow=6.1,SNR=19						
AAK	**Ala-Archa**	**64.41**	**326**	P	**P**	**05 35 57.2**	**-0.1**
	0.7nm,0.3s,baz=90,slow=4.0,SNR=3.9						
AAK	**Ala-Archa**	**64.41**	**326**	*e*P	**P**	**05 35 57.5**	**+0.2**
	1.7nm,0.8s						
KURK	**Kurchatov**	**67.96**	**334**	*e*P	**P**	**05 36 18.9**	**-0.7**
	4.5nm,0.9s						
ZAA0	**Zalesovo Array**	**68.03**	**339**	*e*P	**P**	**05 36 19.0**	**-1.1**
ZALV	**Zalesovo Beam**	**68.03**	**339**	P	**P**	**05 36 19.1**	**-0.9**
	5.9nm,0.6s,baz=149,slow=4.8,SNR=17						
PETK	**Petropavlovsk-**	**69.62**	**24**	P	**P**	**05 36 29.4**	**-0.6**
	1.9nm,0.6s,baz=191,slow=6.9,SNR=4.2						
MAW	**Mawson**	**69.76**	**200**	P	**P**	**05 36 29.9**	**-0.7**
	1.6nm,0.8s,baz=55,slow=12,SNR=2.5						
MAW	**Mawson**	**69.76**	**200**	*e*P	**P**	**05 36 32.1**	**+1.5**
	1.4nm,1.0s						

comp=Z,183nm,0.7s
TLEK Tau Lekoa 6.61 250 *e*P **Pn 05 33 33.4 +2.6**
TLEK eS Sn 05 34 38.9 -7.4
TLEK AML AML 05 35 01.4
comp=Z,58nm,0.4s
KSD Kokstad 6.80 212 *e*P **Pn 05 33 33.9 +0.5**
KSD eS **Sn 05 34 48.1 -2.9**
KSD AML AML 05 35 28.5
comp=Z,102nm,0.6s
LBTB Lobatse 7.28 267 *e*P Pn 05 33 43.9 +3.9
LBTB eS **Sn 05 35 01.1 -1.8**
LBTB AML AML 05 35 55.7
comp=Z,269nm,0.6s
LBTB Lobatse 7.28 267 Pn Pn 05 33 43.2 +3.2
comp=Z,16nm,0.3s,baz=86,slow=12,SNR=124
LBTB Sn **Sn 05 35 02.6 -0.3**
comp=Z,20nm,0.3s,baz=64,slow=15,SNR=8.2
LBTB Lg Lg 05 35 41.4
comp=Z,23nm,0.3s,baz=177,slow=19,SNR=6.0
LBTB Lobatse 7.28 267 *e*Pn Pn 05 33 43.1 +3.0
comp=Z,37nm,0.4s
LBTB *e*Sn **Sn 05 35 04.1 +1.2**
LBTB *e*Sg **Sg 05 35 47.7 +0.3**
SWZ Schweizer 7.82 251 *e*P **Pn 05 33 48.7 +1.4**
SWZ eS **Sn 05 35 14.2 -1.8**
SWZ AML AML 05 36 01.9
comp=Z,224nm,0.6s
HVD Gariep Dam 9.21 230 *e*P **Pn 05 34 06.3 -0.2**
HVD eS **Sn 05 35 45.1 -5.3**
HVD AML AML 05 36 47.8
comp=Z,78nm,0.7s
GRM Grahamstown 10.49 215 *e*P **Pn 05 34 24.0 0.0**
GRM eS Sn 05 36 08.6 -13
GRM AML AML 05 37 22.2
comp=Z,61nm,0.7s
LSZ Lusaka 10.78 331 *e*P **Pn 05 34 28.2 +0.2**
LSZ eS **Sn 05 36 24.9 -4.0**
LSZ Lusaka 10.78 331 Pn **Pn 05 34 28.6 +0.6**
comp=Z,2.5nm,0.3s,baz=145,slow=14,SNR=22
LSZ Sn Sn 05 36 24.2 -4.7
comp=Z,8.2nm,0.3s,baz=42,slow=22,SNR=8.3
LSZ Lg Lg 05 37 34.2
comp=Z,6.3nm,0.3s,baz=59,slow=18,SNR=2.5
LSZ Lusaka 10.78 331 *e*Pn **Pn 05 34 28.4 +0.4**
comp=Z,34nm,0.6s
LSZ *e*Sn **Sn 05 36 25.4 -3.6**
UPI Upington 11.61 250 *e*P **Pn 05 34 40.1 +0.8**
UPI eS Sn 05 36 38.3 -11
UPI AML AML 05 36 48.7
comp=Z,36nm,0.9s
SUR Sutherland 13.53 233 *e*P **Pn 05 35 06.4 +0.8**
SUR eS Sn 05 37 23.5 -13
SUR AML AML 05 37 44.8
comp=Z,19nm,0.6s
SUR Sutherland 13.53 233 Pn **Pn 05 35 05.2 -0.4**
comp=Z,1.6nm,0.3s,baz=58,slow=15,SNR=15
SUR Sn Sn 05 37 28.5 -7.7
comp=Z,4.3nm,0.3s,baz=36,slow=19,SNR=5.8
SUR Lg Lg 05 38 56.8
comp=Z,1.4nm,0.3s,baz=350,slow=23,SNR=3.5
SUR Sutherland 13.53 233 *e*Pn **Pn 05 35 06.3 +0.7**
comp=Z,17nm,1.4s
SUR *e*Sn Sn 05 37 28.2 -7.9
SUR Lg Lg 05 38 56.8
ABPO Ambohimpanom 13.88 68 Pn **Pn 05 35 10.2 -0.3**
OPO Ambohidratompo 14.06 66 Pn **Pn 05 35 10.2 -2.8**
comp=Z,0.2nm,0.3s,baz=256,slow=18,SNR=2.0
OPO Sn Sn 05 37 39.7 -9.5
comp=Z,0.0nm,0.3s,baz=25,slow=4.5,SNR=3.7
KOMG Komaggas 15.17 247 *e*P **Pn 05 35 28.1 +0.3**
KOMG eS Sn 05 38 03.2 -13
KOMG AML AML 05 38 47.0
comp=Z,21nm,0.6s
TSUM Tsumeb 15.88 287 Pn **Pn 05 35 37.4 +0.1**
comp=Z,0.8nm,0.3s,baz=125,slow=13,SNR=13
TSUM Sn **Sn 05 38 28.6 -5.0**
comp=Z,0.6nm,0.3s,baz=210,slow=20,SNR=5.4
TSUM Lg Lg 05 40 14.6
comp=Z,0.2nm,0.3s,baz=53,slow=17,SNR=5.1
KMBO Kilima Mbogo 23.82 9 P **P 05 37 06.9 -0.1**
comp=Z,3.1nm,0.7s,baz=201,slow=12,SNR=7.1
DBIC Dimbokro 48.82 305 P **P 05 40 39.2 0.0**
comp=Z,2.8nm,0.7s,baz=118,slow=15,SNR=3.4
TOA0 Torodi Ar. Sit 48.34 317 *e*P **P 05 40 41.3 +1.2**
TORD Torodi Ar. Bea 48.34 317 P **P 05 40 41.2 +1.1**
comp=Z,2.7nm,0.7s,baz=127,slow=6.6,SNR=34
BRTR Keskin Array B 64.22 0 P **P 05 42 29.6 +1.0**
comp=Z,0.7nm,0.6s,baz=182,slow=5.8,SNR=4.0
QSPA South Pole Qui 65.35 180 P **P 05 42 34.9 -0.9**
comp=Z,1.2nm,0.5s,baz=256,slow=5.3,SNR=15
QSPA South Pole Qui 65.35 180 *e*P **P 05 42 34.7 -1.0**
comp=Z,2.3nm,0.8s
PKIN Phulchoki 72.14 47 *e*P **P 05 43 21.6 +2.9**
comp=Z,5.1nm,0.4s
RAMN Ramite 72.54 48 *e*P **P 05 43 19.9 -1.2**
comp=Z,5.4nm,0.5s
GUN Gumba 72.68 47 *e*P **P 05 43 20.6 -1.5**
comp=Z,19nm,0.8s
JIRN Jiri 72.72 48 *e*P **P 05 43 21.4 -1.0**
comp=Z,9.9nm,0.6s
ESDC Sonseca Array 73.13 331 P **P 05 43 25.6 +1.5**
comp=Z,1.0nm,0.8s,baz=146,slow=5.6,SNR=6.1
VNDA Vanda 73.43 170 P **P 05 43 25.6 +0.3**
comp=Z,0.5nm,0.7s,baz=280,slow=6.7,SNR=3.2
VNDA Vanda 73.43 170 *e*P **P 05 43 25.8 +0.4**
comp=Z,5.1nm,1.4s
TAPN Taplejung 73.55 49 *e*P P 05 43 21.5 -5.7
AKASG Malin Array Be 75.29 357 P **P 05 43 35.5 -0.9**
comp=Z,0.2nm,0.4s,baz=175,slow=5.3,SNR=3.7
GERES GERESS Array B 75.47 347 P **P 05 43 39.2 +1.6**
comp=Z,0.4nm,0.6s,baz=143,slow=4.9,SNR=5.4
KKAR Karatay Array 75.64 27 *e*P **P 05 43 38.6 0.0**
comp=Z,0.7nm,0.3s
BDFB Brasilia 76.16 259 P **P 05 43 43.7 +1.3**
comp=Z,2.5nm,0.8s,baz=108,slow=6.2,SNR=4.4
CMAR Chiang Mai Arr 76.78 62 P **P 05 43 44.7 -0.9**
comp=Z,0.9nm,0.2s,baz=246,slow=6.5,SNR=5.9
TKM2 Tokmak 2 77.71 30 *e*P **P 05 43 50.6 +0.1**
comp=Z,3.1nm,0.9s
MKAR Makanchi Array 83.75 31 P **P 05 44 22.1 -0.5**
comp=Z,0.7nm,0.7s,baz=218,slow=32,SNR=8.4
BVAR Borovoye Array 83.86 21 P **P 05 44 22.5 -0.4**
comp=Z,1.9nm,0.8s,baz=206,slow=6.4,SNR=6.6
STKA Stephens Creek 91.10 126 P **P 05 44 56.7 -2.0**
comp=Z,1.6nm,0.7s,baz=226,slow=3.5,SNR=4.0
YKA Yellowknife Ar 136.76 339 PKP **PKPdf 05 51 15.0 -0.5**
comp=Z,0.6nm,0.7s,baz=39,slow=1.7,SNR=10.0
ILAR Eielson Array 140.06 0 PKP **PKPdf 05 51 20.8 -0.8**
comp=Z,0.2nm,0.5s,baz=343,slow=2.8,SNR=5.5
TXAR Lajitas Array 141.86 286 PKhKP PKPpre 05 51 22.4
comp=Z,0.5nm,0.6s,baz=101,slow=3.8,SNR=5.2
HRY Holter Researc 144.88 317 *e*PKPdf **PKPdf 05 51 31.2 +0.4**
IMW Indian Meadow 145.45 312 *e*PKPbc **PKPab 05 51 33.1 +0.7**
SLMT Seeley Lake 145.64 319 *e*PKPbc **PKPab 05 51 33.1 +0.3**
CHMT Chamberlain Mo 145.65 318 *e*PKPbc **PKPab 05 51 33.0 +0.2**
JTMT Jette 145.85 320 *e*PKPbc **PKPab 05 51 33.9 +0.4**
DLMT Dillon 145.95 316 *e*PKPbc **PKPab 05 51 34.7 +0.7**
TMUT Trail Mountain 147.11 305 *e*PKPbc **PKPbc 05 51 37.5 +0.2**
HVU Hansel Valley 147.48 310 *e*PKPbc **PKPbc 05 51 38.4 +0.4**
DUG Dugway, Tooele 148.03 307 *e*PKPbc **PKPbc 05 51 40.2 +0.6**
MSU Marysvale 148.05 304 *e*PKPbc **PKPbc 05 51 40.8 +1.0**
MVU Marysvale 148.07 304 *e*PKPdf **PKPdf 05 51 37.9 +1.3**
MVU *e*PKPbc **PKiKP 05 51 40.9 -0.7**
BMO Blue Mountains 149.13 318 *e*PKPbc **PKPbc 05 51 42.5 +0.4**
NVAR Mina Array Bea 152.64 306 PKPbc **PKPbc 05 51 52.3 +1.5**
comp=Z,0.7nm,0.8s,baz=82,slow=2.9,SNR=7.6
NVAR PKPab **PKPab 05 52 00.7 -0.7**
comp=Z,0.6nm,0.7s,baz=49,slow=4.5,SNR=5.1

*IDC **08** 05:39:24.2±0.3,0.˚66S×122.˚42E,h0km,mb4.9/38, mb1 5.0/41,mb1mx5.0/44,mbtmp4.9/41,ML4.8/3,MS5.0/22, Ms1 5.1/22,ms1mx5.0/25,Error ellipse: s-maj=12.8km s-min=8.9km az=76.0*
*BJI **08** 05:39:28.6,0.˚70S×122.˚60E,h30km,mb5.3/75,mB5.6/54, Ms5.3/84,Ms7 5.2/75*
*MOS **08** 05:39:28.8±1.4,0.˚58S×122.˚49E,h35km,mb5.5/56, MS5.0/47,Error ellipse: s-maj=8.6km s-min=4.8km az=120.8*
*DJA **08** 05:39:28.6±0.2,1.˚S±2.˚×12.˚2E±.˚,h10km,M5.8/25, mb5.9/10,mB6.0/10,MLv5.9/25,Mw(mB)5.6/10,Mwp5.8/4*
*NEIC **08** 05:39:28.1±0.1,0.˚73S×122.˚49E,h20km,mb5.4/84, MS5.2/156,MW5.6,Error ellipse: s-maj=5.2km*

s-min=3.9km az=57.0,Moment Tensor Solution. s23 Moment tensor: Scale 10^17Nm; Mrr=0.06; Mθθ 3.14; Mφφ-3.08; Mrθ 1.28; Mrφ-0.16; Mθφ 0.00; Best double couple: M=3.40000×10^17 NP1:φs 138.00000°,δ76.00000°, λ13.00000°. NP2:φs 45.00000°,δ77.00000°,λ166.00000°. Principal axes: T 3.5900, Plg19.0000°, Azm1.0000°; N -0.5100, Plg70.0000°, Azm183.0000°; P -3.0800, Plg0.0000°, Azm91.0000°;
NEIC Felt [VI] at Banggai.
*GCMT **08** 05:39:28.2±0.1,0.˚68S×122.˚41E,h12km,MW5.7/133, Moment Tensor Solution. s110,c187; s133,c390; Duration: 1s7 Moment tensor: Scale 10^17Nm; Mrr-3.89±.04; Mθθ 3.74±.03; Mφφ 0.14±.04; Mrθ 1.64±.11; Mθφ-1.56±.03; Mrφ 0.79±.12; Best double couple: Mo 4.50800×10^17 NP1:φs 273.00000°,δ56.00000°, λ-111.00000°. NP2:φs 128.00000°,δ39.00000°, λ-62.00000°. Principal axes: T 4.5190, Plg9.0000°, Azm18.0000°; N -0.0300, Plg17.0000°, Azm285.0000°; P -4.4960, Plg70.0000°, Azm134.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*ISCJB **08** 05:39:29.3±0.3,0.˚81S±0.˚02×122.˚44E±0.˚02,h42km±3km, mb5.2/164,MS5.2/197 Error ellipse: s-maj=3.5km s-min=3.1km az=142.9*
*KLM **08** 05:39:31.9,0.˚65S×122.˚61E,h27km,mb5.6,ML5.7,MS6.2*
ISC 08 05:39:30.1±0.3,0.˚77S±0.˚02×122.˚50E±0.˚03,h33km±1km, h33km:pP-P,n904,σt§67/829,mb5.3/170,MS5.2/203, 29C-24D,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
LUWI	**Luwuk**	**0.38**	**135**	P	**Pb**	**05**	**39**	**37.0**	**-1.9**
LUWI				S	**Sb**	**05**	**39**	**44.4**	**-0.5**
LUWI	**Luwuk**	**0.38**	**135**	P	**Pb**	**05**	**39**	**35.8**	**-3.1**
	baz=0.4,SNR=1000								
LUWI				S	**Sb**	**05**	**39**	**43.4**	**-1.5**
	baz=0.4,SNR=17								
LUWI	**Luwuk**	**0.38**	**135**	⇓*i*P	**Pb**	**05**	**39**	**35.8**	**-3.1**
MRSI	**Marisa**	**1.36**	**336**	P	Pn	05	39	48.5	-4.3
MRSI				S	**Sb**	**05**	**40**	**12.1**	**-0.1**
GTOI	**Gorontalo**	**1.49**	**20**	P	Pb	05	40	02.7	+5.5
KMSI	**Cibinong**	**1.99**	**48**	P	**Pb**	**05**	**40**	**03.7**	**-2.0**
KMSI				S	**Sb**	**05**	**40**	**29.8**	**-0.4**
TOLI	**Toli-Toli**	**2.54**	**318**	*e*Pn	**Pn**	**05**	**40**	**07.0**	**-2.0**
TOLI				*e*Sn	**Sb**	**05**	**40**	**45.1**	**-0.8**
PCI	**Palu**	**2.67**	**267**	P	**Pn**	**05**	**40**	**10.4**	**-0.4**
MPSI	**Mapaga**	**2.83**	**293**	P	**Pn**	**05**	**40**	**12.8**	**-0.1**
TTSI	**Tana Toraja**	**3.51**	**230**	P	**Pn**	**05**	**40**	**22.0**	**-0.3**
SANI	**Sanana**	**3.71**	**110**	P	**Pn**	**05**	**40**	**27.3**	**+2.3**
SPSI	**Sidrap Palu**	**4.18**	**221**	P	**Pn**	**05**	**40**	**31.6**	**0.0**
BNSI	**Bone**	**4.33**	**214**	P	**Pn**	**05**	**40**	**33.3**	**-0.2**
BBSI	**Bau Bau**	**4.68**	**179**	P	**Pn**	**05**	**40**	**39.3**	**+0.8**
LBMI	**Labuha**	**5.00**	**88**	P	**Pn**	**05**	**40**	**45.1**	**+2.3**
	3μm,1.1s,20μm18nm								
KAPI	**Kappang**	**5.03**	**213**	Pn	**Pn**	**05**	**40**	**42.3**	**-0.9**
	5μm,1.1s,SNR=48								
KAPI	**Kappang**	**5.03**	**213**	Pn	**Pn**	**05**	**40**	**41.8**	**-1.4**
	73nm,0.3s,baz=29,slow=7.0,SNR=129								
KAPI				Sn	**Sn**	**05**	**41**	**40.6**	**+0.3**
	46nm,0.3s,baz=52,slow=11,SNR=6.7								
KAPI				LR	LR	05	43	06.2	
	comp=Z,147μm,18.0s,baz=51,slow=44								
KAPI	**Kappang**	**5.03**	**213**	P	**Pn**	**05**	**40**	**42.7**	**-0.5**
	SNR=92								
KAPI	**Kappang**	**5.03**	**213**	*e*Pn	**Pn**	**05**	**40**	**42.4**	**-0.9**
KAPI				*e*Sn	**Sn**	**05**	**41**	**42.3**	**+2.1**
TNTI	**Ternate**	**5.10**	**72**	P	**Pn**	**05**	**40**	**46.6**	**+2.4**
	1μm,1.0s,14μm63μm9.8nm								
TNTI	**Ternate**	**5.10**	**72**	*e*Pn	Pn	05	40	47.7	+3.6
TNTI				*e*Sn	**Sb**	**05**	**41**	**57.6**	**-1.9**
BKSI	**Bulukumba**	**5.11**	**208**	P	**Pn**	**05**	**40**	**44.1**	**-0.2**
	478nm,0.8s,11μm6.8nm								
NLAI	**Namlea**	**5.21**	**118**	P	**Pn**	**05**	**40**	**47.3**	**+1.7**
	1μm,1.2s,9μm18μm5.2nm								
SGSI	**Sangihe**	**5.36**	**34**	P	**Pn**	**05**	**40**	**50.3**	**+2.5**
	2μm,1.1s,36μm6.2nm								
BKB	**Balikpapan**	**5.63**	**265**	P	**Pn**	**05**	**40**	**51.1**	**-0.3**
	1μm,1.4s,23μm79μm8.2nm								
BSSI	**Bau Bau, Buton**	**5.70**	**201**	P	**Pn**	**05**	**40**	**52.7**	**+0.3**
	1μm,0.8s,14μm6.2nm								
AAI	**Ambon**	**6.38**	**117**	P	Pn	05	41	07.8	+6.0
	baz=6.4,SNR=16								
KBKI	**Kotabaru**	**6.81**	**248**	P	**Pn**	**05**	**41**	**06.7**	**-1.0**
TSM	**Tawau**	**6.84**	**317**	⇑P	**Pn**	**05**	**41**	**09.7**	**+1.6**
MMRI	**Maumere**	**7.81**	**182**	*e*Pn	**Pn**	**05**	**41**	**21.7**	**+0.2**
	1μm,1.3s								
CTBH	**Cotabato--PC H**	**8.13**	**12**	⇓*i*P	**Pn**	**05**	**41**	**25.6**	**-0.2**
DAV	**Davao City (W)**	**8.37**	**21**	P	Pn	05	41	37.0	+7.8
	SNR=43								
DAV	**Davao City (W)**	**8.37**	**21**	*e*Pn	Pn	05	41	36.8	+7.6
PAGZ	**Pagadian**	**8.61**	**6**	*e*P	**Pn**	**05**	**41**	**34.8**	**+2.3**
SWI	**Sorong**	**8.76**	**91**	P	Pn	05	41	38.0	+3.5
	baz=8.8,SNR=7.1								
BUKP	**Musuan**	**8.97**	**16**	*e*P	**Pn**	**05**	**41**	**38.7**	**+1.3**
SOEI	**Soe**	**9.09**	**169**	P	Pn	05	41	43.8	+4.6
	baz=9.0,SNR=13								
SOEI	**Soe**	**9.09**	**169**	*e*Pn	Pn	05	41	43.8	+4.6
KKM	**Kota Kinabalu**	**9.23**	**317**	P	Pn	05	41	46.0	+4.9
	baz=9.3,SNR=13								
KKM	**Kota Kinabalu**	**9.23**	**317**	⇓P	Pn	05	41	45.8	+4.7
KKM	**Kota Kinabalu**	**9.23**	**317**	*e*Pn	**Pn**	**05**	**41**	**48.8**	**+0.7**
KDM	**Kudat**	**9.51**	**324**	⇑P	Pn	05	41	50.1	+5.4
BIPH	**Bislig**	**9.69**	**23**	⇓*e*P	Pn	05	41	51.1	+3.8
FAKI	**Fak Fak**	**9.97**	**102**	P	**Pn**	**05**	**41**	**50.2**	**-0.9**
	baz=10.0,SNR=37								
FAKI				S	**Sn**	**05**	**43**	**44.6**	**+2.7**
	baz=10.0,SNR=6.1								
FAKI	**Fak Fak**	**9.97**	**102**	*e*Pn	**Pn**	**05**	**41**	**49.6**	**-1.5**
FAKI				*e*Sn	**Sn**	**05**	**43**	**43.9**	**+2.0**
BTM	**Bintulu**	**10.21**	**293**	⇑P	**Pn**	**05**	**41**	**55.6**	**+1.3**
SBUM	**Sibu**	**10.77**	**287**	⇓P	**Pn**	**05**	**42**	**03.9**	**+1.9**
SBUM	**Sibu**	**10.77**	**287**	*e*Pn	**Pn**	**05**	**42**	**03.3**	**+1.3**
MSLP	**Maasin**	**11.09**	**12**	*e*P	Pn	05	42	15.2	+8.8
JAGI	**Jajag, Banyuwa**	**11.30**	**227**	*e*Pn	**Pn**	**05**	**42**	**09.2**	**-0.1**
	264nm,1.4s								
GUIM	**Jordan**	**11.32**	**0**	*e*P	Pn	05	42	14.2	+4.5
PLP	**Palo**	**12.11**	**12**	⇑*e*P	Pn	05	42	26.1	+5.7
RCP	**Roxas**	**12.26**	**1**	⇑*e*P	P	05	42	28.5	-5.8
KSM	**Kuching**	**12.40**	**280**	P	Pn	05	42	28.2	+3.9
	baz=12,SNR=22								
KSM	**Kuching**	**12.40**	**280**	⇓P	**Pn**	**05**	**42**	**27.4**	**+3.1**
KSM	**Kuching**	**12.40**	**280**	*e*Pn	**Pn**	**05**	**42**	**27.2**	**+2.9**
SMRI	**Semarang**	**13.55**	**242**	P	**P**	**05**	**42**	**51.2**	**+2.5**
	baz=14,SNR=4.3								
SMRI	**Semarang**	**13.55**	**242**	*e*Pn	P	05	42	44.6	-4.1
	302nm,1.0s								
TGY	**Tagaytay City**	**14.86**	**354**	LR	LR	05	49	09.7	
	comp=Z,17nm,18.4s,baz=144,slow=40								
KDU	**Kakadu**	**15.42**	**141**	P	**P**	**05**	**43**	**09.2**	**-0.3**
	baz=15,SNR=13								
LEM	**Lembang**	**16.02**	**248**	Pn	**Pn**	**05**	**43**	**12.8**	**-0.4**
	3.6nm,0.3s,baz=76,slow=19,SNR=1.8								
LEM				LR	LR	05	50	00.7	
	comp=Z,24μm,19.3s,baz=66,slow=40								
KNRA	**Kununurra**	**16.05**	**158**	P	P	05	43	21.8	+5.3
	baz=16,SNR=4.7								
CISI	**Cisompet, Garu**	**16.12**	**245**	*e*P	**P**	**05**	**43**	**17.8**	**+0.4**
	827nm,1.4s								
JAY	**Jayapura**	**18.27**	**96**	P	**Pn**	**05**	**43**	**42.1**	**+0.9**
	1.4nm,0.3s,baz=262,slow=7.1,SNR=10								
JAY				LR	LR	05	51	46.1	
	comp=Z,3μm,19.1s,baz=314,slow=40								
SZP	**Santa**	**18.32**	**354**	*e*P	Pn	05	43	47.4	+5.6
	661nm,1.6s								
CVP	**Callao Caves**	**18.37**	**358**	⇑*e*P	**Pn**	**05**	**43**	**44.6**	**+2.2**
DLV	**T Lat**	**18.80**	**313**	*e*P	**Pn**	**05**	**43**	**49.0**	**+1.2**
MYKOM	**Kota Tinggi**	**18.82**	**278**	⇓P	**Pn**	**05**	**43**	**48.4**	**+0.5**
MYKOM	**Kota Tinggi**	**18.82**	**278**	*e*P	**P**	**05**	**43**	**47.2**	**-0.1**
	167nm,1.3s								
KGM	**Kluang**	**19.38**	**278**	⇓P	**Pn**	**05**	**43**	**56.8**	**+2.2**
MNAI	**Manna**	**19.85**	**259**	*e*P	**Pn**	**05**	**44**	**03.1**	**+2.9**
	606nm,1.1s								
KTGM	**Kuala Trenggan**	**20.27**	**288**	⇑P	Pn	05	44	04.2	-1.0
MBWA	**Marble Bar**	**20.44**	**187**	P	Pn	05	44	07.2	+0.2
	SNR=9.1								
MBWA	**Marble Bar**	**20.44**	**187**	*e*P	**P**	**05**	**44**	**05.0**	**+0.2**
	138nm,1.1s								
MBWA				LR	LR				
	comp=Z,12μm,20.0s								
FRIM	**Kepong**	**21.25**	**281**	⇓P	**P**	**05**	**44**	**17.3**	**+3.7**
BKNI	**Bangkinang**	**21.49**	**273**	*e*P	**P**	**05**	**44**	**20.9**	**+4.6**
	comp=Z,687nm,1.4s								

IPM Ipoh 22.09 284 ⇓P **P 05 44 23.3 +0.7**
IPM Ipoh 22.09 284 *e*P **P 05 44 23.2 +0.7**
comp=Z,2μm,2.7s
WRAB Tennant Creek 22.30 149 P **P 05 44 25.4 +0.6**
comp=Z,1μm,1.0s,SNR=29
WRAB Tennant Creek 22.30 149 *e*P **P 05 44 24.4 -0.4**
WRAB pmax pmax
comp=Z,413nm,1.3s
WRAB MLR MLR
comp=Z,4μm,19.0s
WRAB Tennant Creek 22.30 149 *e*P **P 05 44 24.4 -0.4**
comp=Z,412nm,1.3s
WRAB LR LR
comp=Z,4μm,19.0s
WRA Warramunga Arr 22.30 149 P **P 05 44 24.2 -0.6**
comp=Z,54nm,0.9s,baz=328,slow=9.2,SNR=116
WRA PcP **PcP 05 48 19.0 -1.1**
comp=Z,5.4nm,1.1s,baz=329,slow=2.2,SNR=2.3
WRA S **S 05 48 31.5 +3.2**
comp=Z,36nm,1.6s,baz=327,slow=20,SNR=6.6
WRA ScP **ScP 05 51 58.1 +2.8**
comp=Z,4.4nm,1.2s,baz=324,slow=2.5,SNR=4.9
WRA LR LR 05 54 17.7
comp=Z,4μm,19.0s,baz=305,slow=40
KULM Kulim 22.64 286 ⇑P **P 05 44 29.9 +1.3**
KULM Kulim 22.64 286 *e*P **P 05 44 28.6 0.0**
comp=Z,203nm,1.4s
KULM LR LR
comp=Z,2μm,19.0s
SKLT Songkhla 23.21 290 P **P 05 44 36.6 +2.2**
comp=Z,112nm,1.0s,comp=Z,3μm
QIZ Qiongzhong 23.28 328 P **P 05 44 36.4 +1.4**
QIZ pP **pP 05 44 45.6 +1.5**
QIZ sP **sP 05 44 47.9 -0.4**
QIZ S **S 05 48 47.7 +2.4**
QIZ PMZ
comp=Z,45nm,1.7s
QIZ PMZ
comp=Z,1μm,5.5s
QIZ LN
comp=Z,3μm,16.5s
QIZ LZ
comp=Z,4μm,28.0s
QIZ Qiongzhong 23.28 328 *e*P **P 05 44 35.8 +0.7**
comp=Z,76nm,1.2s
QIZ LR LR
comp=Z,4μm,21.0s
TWG Pinlang 23.49 357 *e*P **P 05 44 36.9 -0.1**
comp=Z,396nm,1.0s
PSI Prapat 23.84 279 P **P 05 44 40.1 -0.6**
comp=Z,206nm,1.1s,baz=106,slow=4.8,SNR=46
PSI S **S 05 48 58.1 +3.4**
comp=Z,1.6nm,0.3s,baz=0.0,slow=20,SNR=3.3
PSI LR LR 05 54 30.7
comp=Z,7μm,21.1s,baz=98,slow=38
TPUB Ta-pu 24.00 356 *e*P **P 05 44 40.6 -1.3**
comp=Z,704nm,1.5s
YULB Yu-li 24.05 357 *e*P **P 05 44 44.0 +1.6**
comp=Z,70nm,1.0s
CHBT CHBT 24.11 305 P **P 05 44 43.8 +0.8**
comp=Z,159nm,2.0s,comp=Z,4μm
COEN Coen 24.29 124 P **P 05 44 45.1 +0.4**
baz=24,SNR=14
COEN Coen 24.29 124 *e*P **P 05 44 45.0 +0.4**
comp=Z,44nm,1.4s
TRTT Trang 24.30 291 P **P 05 44 45.3 +0.5**
comp=Z,89nm,1.3s,comp=Z,2μm
SSLB Suanglung 24.46 357 *e*P **P 05 44 47.3 +1.2**
comp=Z,248nm,1.1s
WRKA Warakurna 24.76 167 P **P 05 44 48.9 0.0**
baz=25,SNR=46
WRKA S S 05 49 21.9 +13
baz=25,SNR=5.7
NACB Ninganchiao 24.81 358 *e*P **P 05 44 49.5 +0.2**
comp=Z,88nm,1.3s
GSI Gunungsitoli 25.01 275 *e*P **P 05 44 50.1 -1.1**
comp=Z,241nm,0.9s
YOJ Yonaguni jima 25.09 1 *e*P **P 05 44 55.7 +3.9**
YOJ pmax pmax
comp=Z,193nm,1.6s
YOJ Yonaguni jima 25.09 1 *e*P **P 05 44 55.7 +3.9**
comp=Z,193nm,1.6s
AS31 Alice Springs 25.30 155 *e*P **P 05 44 53.7 -0.1**
ASAR Alice Springs 25.30 155 P **P 05 44 53.8 0.0**
comp=Z,16nm,0.7s,baz=328,slow=7.0,SNR=70
ASAR PcP **PcP 05 48 26.7 +0.2**
comp=Z,10nm,0.8s,baz=342,slow=1.9,SNR=7.1
ASAR S S 05 49 27.4 +10
comp=Z,2.7nm,1.1s,baz=334,slow=20,SNR=2.9
ASAR ScP **ScP 05 52 09.0 +5.6**
comp=Z,0.9nm,0.5s,baz=340,slow=2.8,SNR=4.6
ASAR LR LR 05 55 20.1
comp=Z,9μm,20.3s,baz=327,slow=38
YHNB Yeheng 25.32 358 *e*P **P 05 44 54.1 +0.2**
comp=Z,231nm,1.4s
YHNB LR LR
comp=Z,4μm,21.0s
GZH Guangzhou 25.34 340 P P 05 45 01.6 +7.6
GZH sP sP 05 45 16.5 +8.9
GZH S S 05 49 29.6 +11
GZH SS SnSn 05 50 41.9 +30
GZH LR LR
comp=N,8μm,19.2s
GZH LR LR
comp=E,5μm,21.8s
SKNT Sakolnakorn 25.39 315 P **P 05 44 54.7 +0.1**
comp=E,210nm,1.2s,comp=E,5μm
SURT Suratani 25.52 293 P **P 05 44 58.0 +2.2**
comp=E,30nm,1.8s,comp=E,702nm
PKDT Phuket 25.59 290 P **P 05 44 58.9 +2.4**
comp=E,68nm,1.1s,comp=E,3μm
TATO Taipei 25.62 358 PFAKE 05 45 10.0 +13
TATO LR LR
comp=Z,3μm,21.0s
QIS Mount Isa 25.81 141 P **P 05 44 58.6 +0.2**
baz=26,SNR=10.0
KHON Khomkaen 25.81 312 P **P 05 44 59.2 +0.7**
comp=Z,132nm,1.1s
QZH Quanzhou 25.84 352 ⇑*i*P **P 05 45 01.0 +2.4**
QZH S **S 05 49 30.7 +4.5**
QZH PMZ
comp=Z,2μm,4.8s
QZH LN
comp=Z,1μm,10.6s
QZH LE
comp=Z,12μm,14.0s
QZH LZ
comp=Z,18μm,30.0s
MEEK Meekatharra 25.99 188 P **P 05 44 58.8 -1.1**
baz=26,SNR=15
MEEK S **S 05 49 33.5 +4.9**
baz=26,SNR=6.9
PMG Port Moresby 25.99 110 *e*P **P 05 45 01.4 +1.3**
PMG pmax pmax
comp=Z,263nm,1.0s
PMG MLR MLR
comp=Z,3μm,20.0s
PMG Port Moresby 25.99 110 *e*P **P 05 45 01.4 +1.3**
comp=Z,264nm,1.0s
PMG LR LR
comp=Z,3μm,20.0s
CHAI Chaiyaphum 26.18 310 P **P 05 45 01.8 +0.1**
comp=Z,48nm,1.0s,comp=Z,380nm
LHMI Lhok Sumawe 26.21 283 *e*P **P 05 45 02.9 +0.8**
comp=Z,450nm,1.2s
GUMO Guam 26.36 56 PFAKE 05 45 10.0 +6.6
GUMO LR LR
comp=Z,512nm,19.0s
PBKT Sadao Pong 27.36 310 P **P 05 45 12.6 +0.3**
comp=Z,54nm,1.2s,comp=Z,2μm
SRDT SRDT 27.60 304 P **P 05 45 18.0 +3.4**
comp=Z,172nm,1.1s,comp=Z,14μm
LOEI Loei 27.71 312 P **P 05 45 12.9 -2.6**
comp=Z,103nm,1.1s,comp=Z,2μm
COCO West Island 27.87 245 PFAKE 05 45 30.0 +13
COCO LR LR
comp=Z,6μm,20.0s
UTHA Uthaitani 27.97 306 P **P 05 45 18.6 +0.7**
comp=Z,17nm,1.0s,comp=Z,167nm
JOW Kunigami 28.00 11 P **P 05 45 19.6 +1.5**
comp=Z,1.0nm,0.7s,baz=155,slow=6.8,SNR=2.7
JOW LR LR 05 57

MORW Morawa 28.80 192 P **P** **05 45 26.1 +1.0**
baz=29,SNR=3.5
CMBY CAMPBELL BAY 29.54 286 *e*P **P** **05 45 30.4 -1.5**
LAMP Lampang 29.55 312 P **P** **05 45 33.2 +1.3**
comp=Z,24nm,1.0s,comp=Z,188nm
CM31 Chiang Mai Arr 30.03 311 *e*P **P** **05 45 36.9 +0.7**
comp=Z,31nm,0.9s
CMAR Chiang Mai Arr 30.03 311 P **P** **05 45 35.0 -1.1**
comp=Z,9.4nm,0.8s,baz=134,slow=6.6,SNR=41
CMAR S S 05 50 41.0 +8.6
comp=Z,0.3nm,0.2s,baz=159,slow=16,SNR=2.5
CMAR ScP **ScP** **05 52 21.9 +4.0**
comp=Z,3.7nm,1.0s,baz=166,slow=2.1,SNR=11
CMAR LR LR 06 00 20.0
comp=Z,3μm,18.3s,baz=134,slow=42
CRAI Chiangrai 30.09 315 P P 05 45 33.4 -3.3
comp=Z,26nm,1.0s,comp=Z,830nm
CTA Charters Tower 30.14 131 P **P** **05 45 38.2 +1.0**
comp=Z,24nm,1.0s,baz=319,slow=12,SNR=6.8
CTA LR LR 05 58 49.8
comp=Z,3μm,18.3s,baz=312,slow=38
CTAO Charters Tower 30.14 131 *e*P **P** **05 45 38.1 +1.0**
CTAO pmax pmax
comp=Z,64nm,1.2s
CTAO MLR MLR
comp=Z,4μm,20.0s
CTAO Charters Tower 30.14 131 *e*P **P** **05 45 38.1 +0.9**
comp=Z,64nm,1.2s
CTAO LR LR
comp=Z,4μm,20.0s
BLDU Ballidu 30.18 190 P **P** **05 45 36.8 -0.6**
baz=30,SNR=5.6
CMMT Chiang Mai 30.24 311 P **P** **05 45 38.5 +0.5**
comp=Z,76nm,1.2s,comp=Z,2μm
CHTO Chiang Mai 30.24 311 P **P** **05 45 38.6 +0.5**
comp=Z,264nm,1.3s,comp=Z,6μm
CHTO Chiang Mai 30.24 311 *e*P **P** **05 45 38.7 +0.6**
CHTO pmax pmax
comp=Z,283nm,1.9s
CHTO MLR MLR
comp=Z,4μm,22.0s
CHTO Chiang Mai 30.24 311 P **P** **05 45 39.2 +1.1**
SNR=45
CHTO Chiang Mai 30.24 311 *e*P **P** **05 45 38.7 +0.6**
comp=Z,283nm,1.9s
CHTO LR LR
comp=Z,4μm,22.0s
FORT Forrest 30.30 170 P **P** **05 45 38.1 -0.3**
baz=30,SNR=7.1
FORT Forrest 30.30 170 *e*P **P** **05 45 37.1 -1.3**
comp=Z,138nm,1.6s
MHMT Maesarieng 30.64 309 P **P** **05 45 42.5 +0.9**
comp=Z,42nm,1.4s,comp=Z,726nm
CMAI Chiengmai2 30.86 313 P **P** **05 45 44.3 +0.6**
comp=Z,64nm,1.0s,comp=Z,2μm
GYA Guiyang 31.09 332 ⇑*i*P **P** **05 45 46.6 +1.1**
GYA pP **pP** **05 45 58.0 +2.8**
GYA PP **PnPn** **05 46 51.4 +3.8**
GYA PcP **PcP** **05 48 42.8 +2.1**
GYA S **S** **05 50 54.2 +5.2**
GYA sS **sS** **05 51 07.6 +2.7**
GYA ScP **ScP** **05 52 22.0 +0.7**
GYA SS **SnSn** **05 52 37.7 +5.7**
GYA PMZ
comp=Z,60nm,1.1s
GYA PMZ
comp=Z,300nm,3.7s
GYA LN
comp=Z,2μm,15.2s
GYA LE
comp=Z,3μm,16.8s
GYA LZ
comp=Z,3μm,18.0s
SSE Sheshan 31.72 358 P **P** **05 45 53.6 +2.7**
SSE sP **sP** **05 46 06.0 +1.4**
SSE S **S** **05 51 03.7 +5.2**
SSE PMZ
comp=Z,34nm,1.1s
SSE PMZ
comp=Z,570nm,11.2s
SSE LN
comp=Z,4μm,26.3s
SSE LE
comp=Z,1μm,26.4s
SSE LZ
comp=Z,6μm,26.3s
KMI Kunming 32.08 325 P **P** **05 45 57.5 +3.1**
KMI pP **pP** **05 46 06.8 +2.8**
KMI S **S** **05 51 07.8 +3.1**
KMI sS **sS** **05 51 23.5 +2.8**
KMI PMZ
comp=Z,52nm,1.9s
KMI PMZ
comp=Z,560nm,3.7s
KMI LN
comp=Z,2μm,24.1s
KMI LE
comp=Z,1μm,26.3s
KMI LZ
comp=Z,4μm,27.5s
WHN Wuhan 32.10 347 P **P** **05 45 56.4 +2.2**
DGPR DIGLIPUR 32.44 296 AMB AMB 05 48 56.4
comp=Z,31nm,1.6s
NJ2 Nanjing 32.83 354 *e*P **P** **05 46 01.8 +1.2**
NJ2 pP **pP** **05 46 09.5 -0.8**
NJ2 sP **sP** **05 46 14.7 +0.4**
NJ2 S **S** **05 51 17.0 +1.2**
NJ2 sS **sS** **05 51 32.5 +0.8**
NJ2 PMZ
comp=Z,70nm,1.0s
NJ2 PMZ
comp=Z,1μm,8.4s
NJ2 LN
comp=Z,3μm,18.7s
NJ2 LE
comp=Z,14μm,16.8s
NJ2 LZ
comp=Z,33μm,17.0s
QLP Quilpie 33.10 143 P **P** **05 46 04.7 +1.6**
baz=33,SNR=5.5
ENH Enshi 33.27 339 *e*P **P** **05 46 05.7 +1.2**
comp=Z,130nm,1.2s
ENH LR LR
comp=Z,2μm,20.0s
CBIJ Chichi jima 33.56 33 *e*P **P** **05 46 05.2 -1.9**
comp=Z,109nm,1.1s
JCJ Chichijima 33.56 33 P **P** **05 46 05.3 -1.8**
comp=Z,100nm,0.6s,baz=246,slow=9.6,SNR=13
JCJ LR LR 05 57 55.0
comp=Z,2μm,20.9s,baz=248,slow=33
RKGY Rocky Gully 34.06 188 P **P** **05 46 12.2 +0.9**
baz=34,SNR=6.1
BBOO Buckleboo 34.33 160 P **P** **05 46 13.5 -0.2**
baz=34,SNR=20
BBOO Buckleboo 34.33 160 *e*P **P** **05 46 13.6 -0.1**
comp=Z,32nm,2.1s
JNU Nakatsue 34.63 12 P **P** **05 46 13.8 -2.5**
comp=Z,18nm,1.1s,baz=209,slow=0.9,SNR=3.2
JNU Nakatsue 34.63 12 *e*P **P** **05 46 17.6 +1.3**
comp=Z,9.6nm,1.0s
STKA Stephens Creek 35.81 152 P **P** **05 46 26.8 +0.3**
comp=Z,42nm,0.9s,baz=321,slow=8.7,SNR=24
STKA LR LR 06 03 13.9
comp=Z,3μm,19.2s,baz=310,slow=40
STKA Stephens Creek 35.81 152 *e*P **P** **05 46 26.5 0.0**
STKA pmax pmax
comp=Z,19nm,1.1s
STKA Stephens Creek 35.81 152 P **P** **05 46 26.6 0.0**
baz=36,SNR=33
STKA Stephens Creek 35.81 152 *e*P **P** **05 46 26.5 0.0**
comp=Z,19nm,1.1s
RMQ Roma 35.94 138 P **P** **05 46 29.3 +1.6**
baz=36,SNR=6.9
CD2 Chengdu 36.20 332 ⇑*i*P **P** **05 46 29.9 0.0**
CD2 pP **pP** **05 46 41.3 +1.7**
CD2 PP **PnPn** **05 47 50.9 -1.2**
CD2 PcP **PcP** **05 48 53.9 -1.1**
CD2 S **S** **05 52 07.6 -0.4**
CD2 SS **SnSn** **05 54 35.9 0.0**
CD2 ScS **ScS** **05 56 41.2 -3.9**
CD2 PMZ
comp=Z,320nm,1.0s
CD2 PMZ
comp=Z,570nm,6.0s
CD2 LN
comp=Z,4μm,14.3s
CD2 LE
comp=Z,4μm,16.7s
CD2 LZ
comp=Z,3μm,17.8s
EIDS Eidsvold 36.86 134 *e*P **P** **05 46 35.5 0.0**
comp=Z,9.3nm,0.8s
XAN Xi'an 36.91 341 P **P** **05 46 35.6 -0.3**
XAN sP **sP** **05 46 49.4 -0.2**
XAN PP **PnPn** **05 48 02.5 +1.8**
XAN SS **SnSn** **05 54 45.6 -7.3**
XAN PMZ
comp=Z,25nm,1.2s
XAN PMZ
comp=Z,170nm,10.2s
XAN LN
comp=Z,3μm,24.8s
XAN LE
comp=Z,1μm,19.8s
XAN LZ
comp=Z,1μm,18.8s
TIA Tai'an 37.14 353 ⇓P P 05 46 33.6 -4.1
TIA sP sP 05 46 52.5 +1.0
TIA S **S** **05 52 26.1 +4.1**
TIA LN
comp=Z,4μm,23.2s
TIA LE
comp=Z,1μm,13.7s
TIA LZ
comp=Z,6μm,26.2s
IMP Imphal 37.57 315 *ex* **P** **05 46 42.0 +0.3**
CMSA Cobar Meteorol 37.65 147 P **P** **05 46 43.1 +1.0**
baz=38,SNR=21
HNR Honiara 38.23 104 *e*P **P** **05 46 47.7 +0.3**
HNR pmax pmax
comp=Z,393nm,1.0s
HNR MLR MLR
comp=Z,1μm,19.0s
HNR Honiara 38.23 104 *e*P **P** **05 46 47.7 +0.3**
comp=Z,393nm,1.0s
HNR LR LR
comp=Z,1μm,19.0s
INCN Inchon 38.26 5 PFAKE 05 47 00.0 +13
INCN LR LR
comp=Z,2μm,19.0s
KSAR Wonju Array Be 38.35 7 P **P** **05 46 46.7 -1.3**
KSAR Wonju Array Be 38.35 7 P **P** **05 46 46.6 -1.3**
KSRS Korea Array 38.37 7 P **P** **05 46 46.6 -1.4**
comp=Z,10nm,1.0s,baz=185,slow=9.3,SNR=10
KSRS LR LR 06 01 27.1
comp=Z,2μm,21.7s,baz=186,slow=35
TIY Taiyuan 39.41 347 *e*P **P** **05 46 58.9 +1.9**
TIY S S 05 53 03.4 +6.8
TIY SS **SS** **05 55 47.2 -4.4**
TIY PMZ
comp=Z,66nm,1.1s
TIY PMZ
comp=Z,370nm,3.5s
TIY LN
comp=Z,2μm,18.0s
TIY LE
comp=Z,190nm,6.1s
TIY LZ
comp=Z,1μm,18.1s
DL2 Dalian 39.49 359 ⇑P **P** **05 46 58.1 +0.6**
DL2 S **S** **05 52 58.0 +0.4**
DL2 PMZ
comp=Z,32nm,0.6s
DL2 PMZ
comp=Z,420nm,6.9s
DL2 LN
comp=Z,1μm,18.4s
DL2 LZ
comp=Z,2μm,14.2s
SHL Shillong 39.52 314 *e*P **P** **05 46 57.5 -0.7**
SHL AMB AMB 05 47 03.4
comp=Z,78nm,1.6s
SHL *ex* x 05 52 56.5
MAJO Matsushiro 39.89 20 *e*P **P** **05 46 58.4 -2.5**
MAJO pmax pmax
comp=Z,56nm,1.0s
MAJO MLR MLR
comp=Z,3μm,20.0s
MAJO Matsushiro 39.89 20 *e*P **P** **05 46 58.4 -2.5**
comp=Z,56nm,1.0s
MAJO LR LR
comp=Z,3μm,20.0s
MAT Matsushiro 39.89 20 P **P** **05 46 58.4 -2.5**
MAT S **S** **05 53 04.2 +0.5**
MJAR Matsushiro Arr 39.89 20 P **P** **05 46 58.2 -2.7**
comp=Z,42nm,1.0s,baz=195,slow=8.9,SNR=22
MJAR LR LR 06 01 35.4
comp=Z,3μm,21.9s,baz=200,slow=33
ARMA Armidale 40.42 140 P **P** **05 47 07.5 +2.0**
baz=40,SNR=14
ARMA Armidale 40.42 140 *e*P **P** **05 47 07.8 +2.2**
comp=Z,41nm,0.9s
LZH Lanzhou 40.58 337 *e*P **P** **05 47 07.6 +0.8**
LZH pP **pP** **05 47 17.7 +1.1**
LZH sP **sP** **05 47 22.0 +1.4**
LZH PP **PnPn** **05 48 44.6 -0.2**
LZH PcP **PcP** **05 49 06.4 -2.3**
LZH *e*S **S** **05 53 15.3 +1.0**
LZH sS **sS** **05 53 35.1 +4.6**
LZH SS **SS** **05 56 13.0 -2.1**
LZH PMZ
comp=Z,160nm,1.0s
LZH PMZ
comp=Z,890nm,4.0s
LZH LN
comp=Z,2μm,14.0s
LZH LE
comp=Z,1μm,12.9s
LZH LZ
comp=Z,3μm,19.6s
BJT Baijiatuau 41.01 353 *e*P **P** **05 47 09.9 -0.1**
BJT pmax pmax
comp=Z,47nm,0.8s
BJT MLR MLR
comp=Z,3μm,22.0s
BJT Baijiatuau 41.01 353 *e*P **P** **05 47 09.9 -0.1**
comp=Z,47nm,0.8s
BJT LR LR
comp=Z,3μm,22.0s
BJI Beijing 41.03 353 P **P** **05 47 10.6 +0.4**
BJI sP **sP** **05 47 24.7 +0.7**
BJI S **S** **05 53 21.2 +0.7**
BJI PMZ
comp=Z,32nm,0.8s
BJI LN
comp=Z,3μm,24.6s
BJI LE
comp=Z,2μm,21.7s
BJI LZ
comp=Z,4μm,25.2s
YNG Young 41.22 147 P **P** **05 47 13.3 +1.4**
baz=41,SNR=14
TOO Toolangi 42.31 153 P **P** **05 47 21.9 +1.1**
baz=42,SNR=4.5
CAN Canberra 42.31 147 *e*P **P** **05 47 21.8 +0.9**
CAN pmax pmax
comp=Z,76nm,1.2s
CAN MLR MLR
comp=Z,4μm,19.0s
CAN Canberra 42.31 147 *e*P **P** **05 47 21.8 +0.9**
comp=Z,76nm,1.2s
CAN LR LR
comp=Z,4μm,19.0s
CHLP Challavanipeta 42.36 299 *e*P **P** **05 47 20.9 -0.6**
CHLP IAmb IAmb 05 47 27.2
comp=Z,237nm,1.1s
CHLP *e*S **S** **05 53 45.3 +4.5**
CHLP IVMs_BB IVMs_BB 06 09 23.2
comp=Z,720nm,12.5s
SNY Shenyang 42.42 1 S **S** **05 53 41.5 +0.6**
SNY pmax pmax
comp=Z,29nm,1.2s
SNY pmax pmax
comp=Z,110nm,3.5s
SNY LR LR
comp=N,2μm,21.4s
SNY LR LR
comp=E,2μm,22.6s
SNY LR LR
comp=Z,4μm,22.8s
PALK Pallekele 42.46 282 *e*P **P** **05 47 22.8 +0.4**
PALK pmax pmax
comp=Z,317nm,3.0s
PALK Pallekele 42.46 282 *e*P **P** **05 47 22.8 +0.4**
comp=Z,317nm,3.0s
CNB Canberra Magne 42.50 147 P P 05 47 28.2 +5.8
baz=43,SNR=5.3
LSA Lhasa 42.58 318 P **P** **05 47 24.7 +1.0**
LSA S **S** **05 53 48.9 +4.2**
LSA LN
comp=Z,580nm,22.0s
LSA LE
comp=Z,2μm,23.5s
LSA LZ
comp=Z,1μm,29.3s
LSA Lhasa 42.58 318 *e*P **P** **05 47 24.7 +1.0**
LSA pmax pmax
comp=Z,132nm,0.8s
LSA MLR MLR
comp=Z,2μm,20.0s
LSA Lhasa 42.58 318 *e*P **P** **05 47 24.7 +1.0**
comp=Z,132nm,0.8s
LSA LR LR
comp=Z,2μm,20.0s
HHC Hu-ho-hao-te 42.61 348 *e*P **P** **05 47 25.6 +2.3**
HHC S **S** **05 53 46.2 +2.1**
HHC SS **SS** **05 56 50.0 -5.0**
HHC PMZ
comp=Z,22nm,0.9s
HHC PMZ
comp=Z,460nm,4.7s
HHC LN
comp=Z,2μm,16.7s
HHC LE
comp=Z,2μm,14.2s
HHC LZ
comp=Z,2μm,15.2s
VIS Vishakhapatnam 42.71 297 *e*P **P** **05 47 23.8 -0.6**
VIS AMB AMB 05 47 29.6
comp=Z,139nm,1.2s
BTO Baotou 42.73 346 *e*P **P** **05 47 24.6 +0.4**
BOK Bokaro 43.13 307 *e*P **P** **05 47 27.5 -0.2**
ODAN Odare 43.56 312 *e*P **P** **05 47 31.4 0.0**
comp=Z,368nm,1.2s
TAPN Taplejung 43.59 313 *e*P **P** **05 47 31.6 -0.1**
comp=Z,421nm,1.1s
RAMN Ramite 44.20 311 *e*P **P** **05 47 36.7 +0.2**
comp=Z,920nm,1.1s
CN2 Changchun 44.46 3 *e*P P 05 47 41.2 +3.2
CN2 *es*P sP 05 47 56.1 +4.3
CN2 *e*S **S** **05 54 14.3 +3.5**
CN2 PMZ
comp=Z,20nm,0.8s
CN2 PMZ
comp=Z,300nm,5.0s
SKHT Srikalahasti 44.78 290 *e*P **P** **05 47 42.0 +1.0**
SKHT IAmb IAmb 05 47 45.2
comp=Z,96nm,1.2s
SKHT *e*S **S** **05 54 19.8 +3.5**
SKHT IVMs_BB IVMs_BB 06 08 55.0
comp=Z,779nm,23.7s
JIRN Jiri 44.89 312 *e*P **P** **05 47 42.0 -0.2**
comp=Z,217nm,0.9s
GTA Gaotai 45.07 335 ⇑P **P** **05 47 43.8 +0.7**
GTA pP **pP** **05 47 53.6 +0.5**
GTA sP **sP** **05 47 57.5 +0.5**
GTA PcP **PcP** **05 49 25.1 +1.5**
GTA S **S** **05 54 19.5 -0.7**
GTA sS **sS** **05 54 35.9 -0.6**
GTA PMZ
comp=Z,62nm,2.0s
GTA PMZ
comp=Z,410nm,7.6s
GTA LN
comp=Z,2μm,18.0s
GTA LE
comp=Z,2μm,20.4s
GTA LZ
comp=Z,3μm,18.5s
GUN Gumba 45.26 312 *e*P **P** **05 47 44.9 -0.2**
comp=Z,447nm,0.9s
PKI Pulchoki 45.43 311 *e*P **P** **05 47 45.7 -0.7**
comp=Z,341nm,1.2s
PKIN Phulchoki 45.44 311 *e*P **P** **05 47 45.8 -0.6**
comp=Z,139nm,1.1s
USRK Ussuriysk Ar. 45.57 10 P **P** **05 47 44.4 -2.4**
comp=Z,24nm,1.0s,baz=192,slow=8.2,SNR=15
MDJ Mudanjiang 45.63 7 P **P** **05 47 45.6 -1.7**
MDJ pP **pP** **05 47 54.7 -2.5**
MDJ sP **sP** **05 47 58.6 -2.6**
MDJ PP **PP** **05 49 31.7 -2.9**
MDJ S S 05 54 21.1 -6.7
MDJ SS **SS** **05 57 48.3 -4.1**
MDJ PMZ
comp=Z,46nm,1.0s
MDJ PMZ
comp=Z,140nm,4.4s
MDJ LN
comp=Z,4μm,28.4s
MDJ LE
comp=Z,2μm,21.7s
MDJ LZ
comp=Z,5μm,30.0s
MDJ Mudanjiang 45.63 7 *e*P **P** **05 47 45.4 -1.9**
comp=Z,52nm,1.0s
MDJ LR LR
comp=Z,1μm,20.0s
KKN Kakani 45.64 311 *e*P **P** **05 47 47.6 -0.3**
comp=Z,334nm,1.1s
DMN Daman 45.67 311 *e*P **P** **05 47 47.9 -0.4**
comp=Z,529nm,1.2s
NJS Nagarjunasagar 45.95 294 *e*P **P** **05 47 49.5 -0.7**
NJS IAmb IAmb 05 47 54.0
comp=Z,84nm,1.1s
NJS *e*S **S** **05 54 35.7 +2.5**
GKN Gorkha 46.23 311 *e*P **P** **05 47 52.1 -0.5**
comp=Z,469nm,1.1s
TRD Trivandrum 46.31 282 *e*P P 05 47 50.0 -3.2
ERM Erimo 46.50 21 PFAKE 05 48 10.0 +16
ERM LR LR
comp=Z,1μm,22.0s
RPR Rampur 46.70 297 *e*P **P** **05 47 55.5 -0.7**
RPR IAmb IAmb 05 47 59.9
comp=Z,196nm,1.1s
RPR *e*S **S** **05 54 46.8 +3.0**
RPR IVMs_BB IVMs_BB 06 08 33.8
comp=Z,629nm,15.5s
KOLN Koldanda 46.90 310 *e*P **P** **05 47 57.6 -0.2**
comp=Z,348nm,1.1s
HYB Hyderabad 46.90 295 *i*P **P** **05 47 56.0 -1.8**
HYB *e*S **S** **05 54 50.0 +3.1**
HYB Hyderabad 46.90 295 *e*P **P** **05 47 56.8 -1.0**
HYB AMB AMB 05 48 03.2
comp=Z,135nm,1.5s
HYBB Hyderabad (bro 46.90 295 *e*P **P** **05 47 57.0 -0.8**
HYBB IAmb IAmb 05 48 01.3
comp=Z,145nm,1.1s
HYBB *e*S **S** **05 54 48.5 +1.7**
URV Uravakonda 47.38 291 *e*P **P** **05 48 01.4 -0.2**
URV IAmb IAmb 05 48 04.8
comp=Z,127nm,1.5s
URV *e*S **S** **05 54 53.9 0.0**
TAU Tasmania Unive 47.48 155 PFAKE 05 48 10.0 +8.2
TAU LR LR
comp=Z,7μm,22.0s
WAKE Wake Island 47.68 63 PFAKE 05 48 20.0 +16
WAKE LR LR
comp=Z,2μm,21.0s
DZM Mont Dzumac 47.71 120 *e*P P 05 48 07.8 +3.7
comp=Z,100nm,1.1s
DZM Mont Dzumac 47.71 120 P **P** **05 48 05.0 +0.9**
comp=Z,28nm,1.1s,baz=287,slow=19,SNR=7.2
NGP Nagpur 47.72 300 *e*P **P** **05 48 04.0 -0.1**
NGP AMB AMB 05 48 08.9
comp=Z,179nm,2.1s
NGP *ex* x 05 55 03.7
ASAJ Asahikawa 48.16 19 P **P** **05 48 06.2 -0.9**
comp=Z,44nm,0.8s,baz=226,slow=13,SNR=12
ASAJ Asahikawa 48.16 19 *e*P **P** **05 48 06.0 -1.0**
comp=Z,76nm,1.5s
YUK Yuzh-Kuril'sk 49.25 22*c i*P P 05 48 11.9 -3.5
YUK *e* 05 50 09.6
YUK *e*PPP PPP 05 51 04.2
YUK *i*S **S** **05 55 18.6 -0.6**
YUK MLR MLR
comp=N,2μm,22.0s
YUK MLR MLR
comp=E,1μm,22.0s
YUK MLR MLR

comp=Z,1µm,22.0s
AKL Akola 49.34 298 *e*P **P** **05 48 15.3 -1.3**
AKL AMB AMB 05 48 21.6
comp=Z,172nm,2.5s
BHPL Bhopal 49.90 302 *e*P P 05 48 17.0 -3.8
BHPL AMB AMB 05 48 25.6
comp=Z,156nm,3.5s
HIA Hailar 49.90 358 *e*P **P** **05 48 19.8 -0.6**
HIA pmax pmax
comp=Z,18nm,0.9s
HIA MLR MLR
comp=Z,3µm,22.0s
HIA Hailar 49.90 358 *e*P **P** **05 48 19.8 -0.6**
comp=Z,18nm,0.9s
HIA LR LR
comp=Z,3µm,22.0s
HABR Khabarovsk 50.24 11 *e*P P 05 48 19.3 -3.6
HABR *e**PP pP 05 48 29.3 -3.6
HABR *e*SP 05 48 33.6
HABR *e* 05 49 38.5
HABR *e* 05 50 14.5
HABR *e* 05 51 09.9
HABR *e*S **S** **05 55 29.1 -3.9**
HABR *e*SS x 05 55 45.7
HABR *e* 05 58 08.2
HABR *e*SS **SS** **05 59 03.4 -3.5**
HABR SSS SSS 06 00 31.2
HABR pmax pmax
comp=Z,43nm,1.6s
HABR MLR MLR
comp=Z,860nm,21.0s
ULN Ulaanbaatar 50.28 347 *e*P **P** **05 48 23.1 -0.3**
ULN pmax pmax
comp=Z,61nm,1.1s
ULN MLR MLR
comp=Z,3µm,20.0s
ULN Ulaanbaatar 50.28 347 P **P** **05 48 23.5 +0.1**
SNR=29
ULN Ulaanbaatar 50.28 347 *e*P **P** **05 48 23.1 -0.3**
comp=Z,61nm,1.1s
ULN LR LR
comp=Z,3µm,20.0s
LGTI Lohaghat 50.29 310 *ex* P 05 48 30.4 +6.8
DGAR Diego Garcia 50.32 261 PFAKE 05 48 40.0 +16
DGAR LR LR
comp=Z,3µm,20.0s
SONM Songino Array 50.41 346 P **P** **05 48 22.6 -1.7**
comp=Z,48nm,1.0s,baz=165,slow=9.5,SNR=23
KLR Kul'dur 50.44 8 *e*P **P** **05 48 21.8 -2.6**
KLR MLR MLR
comp=E,1µm,19.0s
TARA Tarawa 50.46 88 PFAKE 05 48 40.0 +15
TARA LR LR
comp=Z,2µm,19.0s
YSS Yuzh-Sakhalins 50.74 18⇓ *e*P **P** **05 48 28.0 +1.3**
YSS *e**PP **pP** **05 48 39.0 +2.3**
YSS *e*S **S** **05 55 40.0 +0.1**
YSS *e* 05 58 13.0
YSS pmax pmax
comp=Z,50nm,1.0s
YSS MLR MLR
comp=E,1µm,18.0s
YSS MLR MLR
comp=Z,1µm,18.0s
YSS MLR MLR
comp=N,1µm,19.0s
YSS Yuzh-Sakhalins 50.74 18 *e*P **P** **05 48 28.7 +2.0**
comp=N,45nm,1.0s
YSS LR LR
comp=Z,994nm,19.0s
POO Poona 51.50 294 *ex* **P** **05 48 31.0 -2.0**
NDI New Delhi 52.29 308 *e*P **P** **05 48 35.5 -3.1**
DDI Dehra Dun 52.38 310 *e*P **P** **05 48 37.5 -1.9**
CIT Chita 53.14 353 *e*P **P** **05 48 45.1 +0.5**
CIT *e* 05 49 02.2
SMLA Simla 53.43 311 *i* P **P** **05 48 46.7 -0.3**
SMLA *i* P **P** **05 48 46.7 -0.3**
SMLA AMB AMB 05 48 52.1
comp=Z,364nm,1.8s
AJM Ajmer 53.46 304 *ex* **P** **05 48 46.0 -1.4**
ZAK Zakamensk 53.55 345 *e*P **P** **05 48 46.7 -1.0**
ZAK pmax pmax
comp=Z,11nm,1.5s
SDNR Sundarnagar 53.75 311 *e*P **P** **05 48 49.0 -0.4**
BHK Bhakra 54.13 311 *ex* P 05 48 56.4 +4.2
WMQ Urumqi 54.20 329 P **P** **05 48 53.7 +1.2**
WMQ PcP **PcP** **05 49 57.7 +1.0**
WMQ PP **PP** **05 50 57.4 +2.9**
WMQ PcS **PcS** **05 53 55.6 -0.5**
WMQ S **S** **05 56 25.0 -2.6**
WMQ ScS **ScS** **05 58 33.0 -6.5**
WMQ SS **SS** **06 00 06.5 -3.3**
WMQ PMZ
comp=Z,48nm,1.0s
WMQ PMZ
comp=Z,410nm,3.8s
WMQ LN
comp=Z,2µm,17.8s
WMQ LE
comp=Z,2µm,17.8s
WMQ LZ
comp=Z,2µm,23.2s
DHRM DHARAMSHALA 54.60 311 *e*P **P** **05 48 55.2 -0.7**
DHRM AMB AMB 05 49 00.7
comp=Z,363nm,1.6s
TLY Talaya 54.65 346 P **P** **05 48 55.7 +0.2**
comp=Z,94nm,0.9s,SNR=6.1
TLY Talaya 54.65 346 P **P** **05 48 54.8 -0.7**
comp=Z,4.2nm,0.7s,baz=184,slow=7.7,SNR=12
TLY Talaya 54.65 346*c* *i*P **P** **05 48 55.2 -0.4**
TLY *e* 05 51 06.0
TLY *e*S **S** **05 56 34.0 +0.8**
TLY pmax pmax
comp=Z,30nm,1.4s
TLY MLR MLR
comp=Z,1µm,17.0s
TLY Talaya 54.65 346 P **P** **05 48 55.8 +0.2**
SNR=15
TLY Talaya 54.65 346 *e*P **P** **05 48 55.4 -0.2**
comp=Z,20nm,1.0s
TLY LR LR
comp=Z,2µm,20.0s
IRK Irkutsk 55.01 346 *e*P **P** **05 48 58.1 -0.1**
IRK *e* 05 51 01.9
IRK pmax pmax
comp=Z,79nm,2.4s
AIS Amsterdam Isla 55.33 223 P P 05 48 06.0 -55
AIS PP **PP** **05 51 01.0 -3.7**
AIS S **S** **05 56 41.0 -1.7**
AIS L L 06 01 00.0
AIS R 06 05 00.0
MOY Mondy 55.33 344 *e*P **P** **05 49 01.0 +0.4**
MOY pmax pmax
comp=Z,85nm,2.9s
BHJ Bhuj 56.62 299 *e*P **P** **05 49 08.3 -2.0**
BHJ AMB AMB 05 49 12.9
comp=Z,71nm,0.9s
MSVF Nonsavu 57.10 111 *e*P **P** **05 49 16.2 +2.4**
MSVF pmax pmax
comp=Z,60nm,1.1s
MSVF MLR MLR
comp=Z,695nm,20.0s
MSVF Nonsavu 57.10 111 *e*P **P** **05 49 16.2 +2.4**
comp=Z,60nm,1.1s
MSVF LR LR
comp=Z,695nm,20.0s
CLNS Chul'man 57.46 2 *e*P **P** **05 49 17.2 +1.6**
CLNS *e**PP pP 05 49 35.0 +9.2
CLNS *e* 05 50 11.1
CLNS *e* 05 51 24.4
CLNS *e*PPP PPP 05 52 41.5
CLNS *e*S **S** **05 57 08.9 -1.6**
CLNS *e* 05 58 51.6
CLNS *e*SS **SS** **06 01 04.2 +3.5**
CLNS pmax pmax
comp=Z,31nm,1.0s
CLNS pmax pmax
comp=N,12nm,0.8s
CLNS pmax pmax
comp=E,16nm,0.9s
CLNS pmax pmax
comp=N,7.0nm,1.0s
CLNS pmax pmax
comp=Z,7.0nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,0.7s
CLNS smax smax
comp=N,305nm,11.4s
CLNS smax smax
comp=E,275nm,14.8s
CLNS MLR MLR
comp=N,1µm,18.0s
PDGK Podgornoye 58.38 324 P **P** **05 49 21.3 -0.9**
PDGK pmax pmax
comp=Z,111nm,1.2s
KSH Kashi 58.42 319 P **P** **05 49 22.7 -0.1**
KSH sP **sP** **05 49 37.0 +0.1**
KSH PcS **PcS** **05 54 14.3 -0.7**
KSH S **S** **05 57 19.1 -4.8**
KSH sS **sS** **05 57 36.1 -4.6**
KSH PMZ
comp=Z,57nm,1.3s
KSH LN
comp=Z,910nm,16.1s
KSH LE
comp=Z,1µm,16.8s
KSH LZ
comp=Z,2µm,16.6s
BOD Bodaibo 58.81 355 *e*P **P** **05 49 22.8 -2.2**
BOD pmax pmax
comp=Z,27nm,1.3s
MK31 Makanchi Array 59.01 329 *e*P **P** **05 49 25.7 -1.0**
MK31 Makanchi Array 59.01 329 *e*P **P** **05 49 25.7 -1.0**
MKAR Makanchi Array 59.01 329 P **P** **05 49 25.4 -1.2**
comp=Z,6.1nm,0.6s,baz=144,slow=4.5,SNR=64
MKAR LR LR 06 17 19.3
comp=Z,1µm,20.4s,baz=110,slow=39
MKAR PKP2bc 06 19 11.1
comp=Z,1.3nm,1.0s,baz=306,slow=4.5,SNR=5.4
MKAR Makanchi Array 59.01 329 *e*P **P** **05 49 25.9 -0.8**
MKAR Makanchi Array 59.01 329 *e*P **P** **05 49 25.9 -0.8**
MKAR ⇑*e* 06 19 11.1
ULHL Ulahol 59.71 322 P **P** **05 49 34.9 +3.1**
SNR=26
AAA Alma-Ata 59.85 323 *e*P **P** **05 49 34.3 +1.7**
AAA *e*S **S** **05 57 41.6 -0.5**
AAA pmax pmax
comp=Z,500nm,3.4s
AAA smax smax
comp=N,2µm,15.2s
AAA MLR MLR
comp=Z,1µm,22.0s
KZA Kyzart 60.24 321 P **P** **05 49 36.1 +0.4**
SNR=25
SFK Sufi-Kurgan 60.31 318 P **P** **05 49 36.7 +0.7**
SFK pmax pmax
comp=Z,19nm,1.1s
TKM2 Tokmak 2 60.48 322 P **P** **05 49 40.1 +3.0**
SNR=29
TKM2 Tokmak 2 60.48 322 *e*P **P** **05 49 36.7 -0.4**
TKM2 pmax pmax
comp=Z,81nm,1.4s
TKM2 MLR MLR
comp=Z,1µm,21.0s
TKM2 Tokmak 2 60.48 322 *e*P **P** **05 49 36.7 -0.4**
comp=Z,81nm,1.4s
TKM2 LR LR
comp=Z,1µm,21.0s
RPZ Rata Peaks 60.71 141 LR LR 06 15 49.9
comp=Z,5µm,20.1s,baz=306,slow=36
RPZ Rata Peaks 60.71 141 *e*P **P** **05 49 39.8 +1.4**
comp=Z,213nm,1.1s
KBK Karagaybulak 60.74 321 P **P** **05 49 40.6 +1.8**
SNR=5.8
KBK Karagaybulak 60.74 321 *i* P **P** **05 49 40.6 +1.8**
UCH Uchtor 60.79 321 P **P** **05 49 39.3 -0.2**
SNR=16
AAK Ala-Archa 61.01 321 P **P** **05 49 40.7 0.0**
comp=Z,148nm,1.0s,SNR=10
AAK Ala-Archa 61.01 321 P **P** **05 49 40.4 -0.4**
SNR=23
AAK Ala-Archa 61.01 321 P **P** **05 49 39.4 -1.2**
comp=Z,17nm,0.9s,baz=112,slow=6.0,SNR=24
AAK Ala-Archa 61.01 321 *e*P **P** **05 49 40.3 -0.4**
AAK pmax pmax
comp=Z,37nm,1.1s
AAK MLR MLR
comp=Z,1µm,21.0s
AAK Ala-Archa 61.01 321 P **P** **05 49 42.1 +1.4**
SNR=21
AAK Ala-Archa 61.01 321 *e*P **P** **05 49 40.2 -0.4**
comp=Z,37nm,1.1s
AAK LR LR
comp=Z,1µm,21.0s
FRU Bishkek 61.04 321⇑ *i*P **P** **05 49 41.0 +0.3**
FRU pmax pmax
comp=Z,350nm,2.8s
CHMS Chumysh 61.05 322 P **P** **05 49 43.1 +2.4**
SNR=5.6
KBL Kabul 61.06 311 *e*P **P** **05 49 41.7 +0.5**
KBL pmax pmax
comp=Z,289nm,2.0s
KBL Kabul 61.06 311 *e*P **P** **05 49 41.7 +0.5**
comp=Z,289nm,2.0s
PEA0B Petropavlovsk- 61.19 23 *e*P **P** **05 49 42.7 +1.3**
PETK Petropavlovsk- 61.19 23 P **P** **05 49 40.6 -0.8**
comp=Z,41nm,1.1s,baz=183,slow=3.0,SNR=11
PETK LR LR 06 14 31.8
comp=Z,670nm,21.9s,baz=226,slow=34
AML Almayashu 61.26 320 P **P** **05 49 41.3 -1.3**
SNR=25
AML Almayashu 61.26 320 *i* P **P** **05 49 41.3 -1.3**
USP Ospenovka 61.34 322 P **P** **05 49 41.8 -1.0**
SNR=27
EKS2 Erkin-Say 61.48 321 P **P** **05 49 44.9 +1.2**
SNR=20
EKS2 Erkin-Say 61.48 321 *e*P **P** **05 49 44.0 +0.3**
EKS2 pmax pmax
comp=Z,38nm,1.0s
EKS2 MLR MLR
comp=Z,2µm,22.0s
EKS2 Erkin-Say 61.48 321 *e*P **P** **05 49 44.0 +0.3**
comp=Z,38nm,1.0s
EKS2 LR LR
comp=Z,2µm,22.0s
PET Petropavlovsk 61.51 24 *e*P P 05 49 46.7 +3.2
PET *e*S **S** **05 58 01.4 -1.3**
PET *e*SS **SS** **06 02 04.7 +0.4**
PET pmax pmax
comp=Z,500nm,16.6s
PET pmax pmax
comp=Z,400nm,20.2s
PET MLR MLR
comp=Z,600nm,18.0s
PET MLR MLR
comp=Z,700nm,19.0s
PET Petropavlovsk 61.51 24 PFAKE 05 50 00.0 +16
PET LR LR
comp=Z,842nm,21.0s
SNZO South Karori 61.93 138 PFAKE 05 50 00.0 +13
SNZO LR LR
comp=Z,4µm,20.0s
BKZ Black Stump Fm 62.26 135 *e*P **P** **05 49 51.8 +2.8**
comp=Z,274nm,2.2s
URZ Urewera 62.34 134 *e*P P 05 49 52.9 +3.5
comp=Z,347nm,2.5s
ZAA0 Zalesovo Array 62.81 336 *e*P **P** **05 49 50.4 -1.9**
ZALV Zalesovo Beam 62.81 336 P **P** **05 49 49.8 -2.4**
comp=Z,12nm,0.9s,baz=123,slow=5.5,SNR=34
ZALV LR LR 06 18 15.9
comp=Z,1µm,21.0s,baz=76,slow=37
ZALV PKP2bc 06 18 59.7
comp=Z,6.1nm,1.2s,baz=298,slow=3.2,SNR=6.5
YAK Yakutsk 62.88 4 P **P** **05 49 50.6 -1.9**
comp=Z,18nm,0.4s,baz=159,slow=0.3,SNR=5.6
YAK Yakutsk 62.88 4 *e*P **P** **05 49 50.4 -2.1**
YAK *e* 05 50 27.1
YAK *e* 05 52 08.7
YAK *e*PPP PPP 05 53 39.3
YAK *e*S S 05 58 13.5 -6.2
YAK *e* 05 59 34.3
YAK *e*SS **SS** **06 02 24.1 -1.3**
YAK pmax pmax
comp=Z,77nm,1.0s
YAK pmax pmax
comp=N,31nm,1.2s
YAK pmax pmax
comp=E,9.0nm,1.3s
YAK pmax pmax
comp=Z,184nm,3.8s
YAK pmax pmax
comp=N,37nm,2.8s
YAK pmax pmax
comp=E,52nm,2.7s
YAK smax smax
comp=N,144nm,5.3s
YAK smax smax
comp=E,83nm,2.5s
YAK Yakutsk 62.88 4 *e*P **P** **05 49 51.1 -1.5**
comp=E,63nm,0.9s
YAK LR LR
comp=Z,822nm,20.0s
DZET Dzherino 62.97 315 P **P** **05 49 52.6 -1.2**
DZET pmax pmax
comp=Z,51nm,1.2s
KURK Kurchatov 63.40 330 P **P** **05 49 54.3 -1.9**
comp=Z,317nm,0.9s,SNR=40
KURK Kurchatov 63.40 330 *e*P **P** **05 49 53.9 -2.3**
KURK pmax pmax
comp=Z,118nm,1.0s
KURK MLR MLR
comp=Z,843nm,19.0s
KURK Kurchatov 63.40 330 P **P** **05 49 55.2 -1.0**
SNR=46
KURK Kurchatov 63.40 330 *e*P **P** **05 49 53.9 -2.3**
comp=Z,118nm,1.0s
KURK LR LR
comp=Z,843nm,19.0s
KK31 Karatay Array 63.78 320 *i* P **P** **05 50 00.7 +1.7**
KK31 pmax pmax
comp=N,7.0nm,0.8s
KKAR Karatay Array 63.78 320 *e*P **P** **05 49 59.3 +0.3**
KKAR Karatay Array 63.78 320 *e*P **P** **05 49 59.3 +0.3**
NVS Novosibirsk 64.10 336⇑ *i*P **P** **05 49 57.9 -2.8**
NVS *i* S **S** **05 58 30.5 -4.7**
NVS pmax pmax
comp=Z,57nm,1.5s
NVS pmax pmax
comp=N,17nm,1.3s
NVS pmax pmax
comp=E,31nm,1.3s
NVS smax smax
comp=N,37nm,2.2s
NVS smax smax
comp=E,53nm,2.0s
PAF Port-aux-Franc 65.79 215 P P 05 49 59.0 -13
PAF S S 05 58 42.0 -14
PAF SS SS 06 03 01.0 -10
PAF L L 06 06 00.0
PAF R 06 10 00.0
PAF Port-aux-Franc 65.79 215 PFAKE 05 50 20.0 +8.1
PAF LR LR
comp=Z,4µm,22.0s
CASY Casey 65.92 185 PFAKE 05 50 20.0 +7.6
CASY LR LR
comp=Z,4µm,21.0s
DRV Dumont d'Urvil 66.91 173 S **S** **05 59 04.0 -5.2**
DRV SS **SS** **06 03 27.0 -1.0**
DRV L L 06 06 00.0
DRV R 06 11 00.0
MSEY Mahe Island 67.04 265 PFAKE 05 50 30.0 +9.3
MSEY LR LR
comp=Z,1µm,20.0s
SEY Seymchan 67.38 14 P **P** **05 50 20.4 -1.3**
comp=Z,16nm,0.9s,baz=220,slow=5.0,SNR=14
IDAH Dahanechah 67.66 306 *e*P **P** **05 50 25.3 +0.8**
IKOO Kooshah 68.27 305 *e*P **P** **05 50 28.0 -0.4**
ARQ Araqi 68.36 295 P **P** **05 50 28.5 -0.2**
SNR=6.3
IMYA Miami 68.53 310 *e*P **P** **05 50 29.1 -0.7**
ITEG Tejag 68.61 306 *e*P **P** **05 50 30.9 +0.5**
BVA0 Borovoye Array 68.89 329 P **P** **05 50 29.1 -2.4**
BVA0 pmax pmax
comp=Z,26nm,1.1s
BVAR Borovoye Array 68.89 329 P **P** **05 50 29.6 -1.9**
comp=Z,20nm,1.0s,baz=138,slow=7.6,SNR=25
BRVK Borovoye 68.96 329 P **P** **05 50 31.7 -0.2**
comp=Z,194nm,1.0s,SNR=8.7
BRVK Borovoye 68.96 329 *e*P **P** **05 50 31.4 -0.5**
BRVK pmax pmax
comp=Z,43nm,1.1s
BRVK MLR MLR
comp=Z,1µm,20.0s
BRVK Borovoye 68.96 329 P **P** **05 50 31.5 -0.5**
SNR=19
BRVK Borovoye 68.96 329 *e*P **P** **05 50 31.4 -0.5**
comp=Z,42nm,1.1s
BRVK LR LR
comp=Z,1µm,20.0s
HATD Hatta, Dubai 68.99 297⇑ *i*P **P** **05 50 32.1 -0.6**
SNR=9.2
ISRO Mashad 69.00 310 *e*P **P** **05 50 33.3 +0.6**
ASHO Ashiyiah 69.03 297 ⇓P **P** **05 50 32.6 -0.4**
IMOG Moghan 69.04 309 *e*P **P** **05 50 33.1 0.0**
FAQ Al Faqa, Dubai 69.45 297⇑ *i*P **P** **05 50 35.1 -0.4**
SNR=6.8
IAKL Akhelmad 69.64 310 *e*P **P** **05 50 35.4 -1.4**
ISFR Sfrayin 70.35 310 *e*P **P** **05 50 40.3 -0.9**
ABTO Aybut 70.43 289 P **P** **05 50 41.5 -0.2**
SNR=9.8
GEYT Alibeck 70.51 311 P **P** **05 50 39.9 -1.9**
comp=Z,6.1nm,0.7s,baz=160,slow=8.9,SNR=5.0
GEYT PP **PP** **05 53 18.0 -0.3**
comp=Z,2.6nm,0.4s,baz=155,slow=7.4,SNR=3.5
ISHV Shirvan 70.71 310 *e*P **P** **05 50 44.2 +0.9**
IBAF Bafgh 70.90 304 *e*P **P** **05 50 44.1 -0.4**
IMEH Mehriz 71.65 303 *e*P **P** **05 50 48.6 -0.5**
ICHK Chekchek 72.00 304 *e*P **P** **05 50 50.1 -1.1**
TIXI Tiksi 72.42 2 *e*P **P** **05 50 49.7 -2.9**
TIXI pmax pmax
comp=Z,21nm,1.0s
TIXI MLR MLR
comp=Z,2µm,21.0s
TIXI Tiksi 72.42 2 *e*P **P** **05 50 49.7 -2.9**
comp=Z,21nm,1.0s
TIXI LR LR
comp=Z,2µm,21.0s
ISAD Sadrabad 72.53 304 *e*P **P** **05 50 54.4 0.0**
AB31 Akbulak array 73.04 323 *i* P **P** **05 50 54.3 -2.4**
AB31 pmax pmax
comp=N,5.0nm,0.7s
ADK Adak 73.04 34 PFAKE 05 51 10.0 +13
ADK LR LR
comp=Z,1µm,21.0s
IANJ Anjilo 73.13 307 *e*P **P** **05 50 56.8 -1.0**
IZEF Zefreh 73.86 305 *e*P **P** **05 51 02.4 +0.2**
IKLH Kolahrood 74.56 305 *e*P **P** **05 51 07.0 +0.7**
AKTO Aktyubinsk 74.63 323 P **P** **05 51 03.8 -2.2**
AKTO pmax pmax
comp=Z,30nm,1.4s
IPIR Pirpir 75.00 304 *e*P **P** **05 51 07.1 -1.9**
SVE Sverdlovsk 75.64 330⇓ *e*P **P** **05 51 10.8 -0.9**
SVE *e*S **S** **06 00 51.7 +1.2**
SVE *e* 06 01 51.2
SVE *e*SS **SS** **06 05 42.0 -0.3**
SVE *e*SSS SSS 06 08 54.5
SVE pmax pmax
comp=Z,56nm,1.5s
SVE MLR MLR
comp=Z,1µm,22.0s
ABPO Ambohimpanom 75.83 251 *e*P **P** **05 51 13.4 -0.4**
ABPO pmax pmax
comp=Z,7.0nm,0.8s
ABPO MLR MLR
comp=Z,1µm,22.0s
ABPO Ambohimpanom 75.83 251 *e*P **P** **05 51 13.4 -0.4**
comp=Z,6.9nm,0.8s
ABPO LR LR
comp=Z,1µm,22.0s
OPO Ambohidratompo 75.84 251 P **P** **05 51 12.5 -1.3**
comp=Z,14nm,0.9s,baz=76,slow=2.6,SNR=7.6
CRZF Crozet Islands 76.18 222 S **SKiKP** **06 00 38.0 +6.0**
CRZF SS SS 06 05 25.0 -26
CRZF R 06 14 00.0
ARU Arti 76.53 329 P **P** **05 51 15.5 -1.2**
comp=Z,108nm,1.1s,SNR=5.5
ARU Arti 76.53 329*d* *i*P **P** **05 51 14.9 -1.9**
ARU 05 51 25.6
ARU 05 54 02.6
ARU PPP PPP 05 55 52.1
ARU S **S** **06 01 00.1 -0.3**
ARU SS **SS** **06 05 59.1 +3.3**
ARU SSS SSS 06 09 15.3
ARU pmax pmax
comp=Z,50nm,2.5s
ARU MLR MLR

comp=Z,898nm,20.0s
ARU Arti 76.53 329 *e*P **P** **05 51 15.6 -1.2**
comp=Z,29nm,1.3s
ARU LR LR
comp=Z,852nm,19.0s
MAW Mawson 78.11 200 P **P** **05 51 24.1 -1.2**
comp=Z,11nm,1.1s,baz=59,slow=7.5,SNR=6.2
MAW LR LR 06 22 45.7
comp=Z,2µm,19.2s,baz=54,slow=33
MAW Mawson 78.11 200 *e*P **P** **05 51 26.2 +0.9**
MAW pmax pmax
comp=Z,10.0nm,1.3s
MAW Mawson 78.11 200 P **P** **05 51 26.7 +1.3**
baz=78,SNR=5.4
MAW Mawson 78.11 200 *e*P **P** **05 51 26.2 +0.9**
comp=Z,9.7nm,1.3s
RAYN Ar Rayn 78.40 294 P **P** **05 51 26.6 -1.4**
comp=Z,187nm,1.0s,SNR=14
RAYN Ar Rayn 78.40 294 P **P** **05 51 26.0 -2.0**
comp=Z,187nm,1.0s,SNR=14
RAYN Ar Rayn 78.40 294 *e*P **P** **05 51 25.5 -2.5**
DAMY Dhamar 78.69 285 *e*P **P** **05 51 30.2 +0.1**
UNV Unalaska Valle 79.50 35 *e*P **P** **05 51 33.1 -0.2**
comp=Z,77nm,1.3s
VNDA Vanda 79.56 172 P **P** **05 51 33.1 -0.1**
comp=Z,3.8nm,0.8s,baz=316,slow=5.9,SNR=20
VNDA LR LR 06 27 31.8
comp=Z,2µm,18.4s,baz=328,slow=36
VNDA Vanda 79.56 172 *e*P **P** **05 51 33.3 +0.1**
VNDA pmax pmax
comp=Z,14nm,1.0s
VNDA Vanda 79.56 172 *e*P **P** **05 51 33.3 +0.1**
comp=Z,14nm,1.0s
MAK Makhachkala 79.58 314 *e*P **P** **05 51 32.2 -1.8**
MAK *e* 05 51 39.8
MAK *e* 05 54 37.5
MAK *e*S **S** **06 01 33.5 -0.2**
MAK *e* 06 01 53.5
MAK *e*SS **SS** **06 06 38.8 -3.4**
MAK *e*SSS SSS 06 10 04.5
MAK pmax pmax
comp=Z,21nm,0.3s
MAK MLR MLR
comp=Z,830nm,20.0s
GAMB Gambell 80.20 24 *e*P **P** **05 51 36.5 -0.4**
comp=Z,58nm,1.2s
SBA Scott Base 80.51 171 *e*P **P** **05 51 39.0 +0.7**
SBA pmax pmax
comp=Z,342nm,2.5s
SBA MLR MLR
comp=Z,2µm,19.0s
SBA Scott Base 80.51 171 *e*P **P** **05 51 39.0 +0.7**
comp=Z,342nm,2.5s
SBA LR LR
comp=Z,2µm,19.0s
DGRG David-gareji 80.88 312 P **P** **05 51 39.0 -2.1**
GNI Garni 81.15 311 P **P** **05 51 41.9 -0.9**
comp=Z,4.7nm,0.4s,baz=18,slow=20,SNR=2.0
GNI Garni 81.15 311 P **P** **05 51 41.9 -0.9**
GNI MLR MLR
comp=Z,441nm,19.0s
GNI Garni 81.15 311 ⇑*i*P **P** **05 51 43.8 +1.0**
SNR=5.7
GNI Garni 81.15 311 P **P** **05 51 41.9 -0.9**
GNI LR LR
comp=Z,441nm,19.0s
TBLG Delisi 81.39 312 P **P** **05 51 43.2 -0.6**
ZEI Tsey 82.16 313 *e*P **P** **05 51 46.7 -1.4**
ZEI pmax pmax
comp=Z,27nm,1.3s
TNA Tin City 82.36 23 *e*P **P** **05 51 50.1 +1.8**
comp=Z,25nm,1.4s
ONI Oni 82.46 313 P P 05 51 45.0 -4.5
KBZ Khabaz 83.02 314 P **P** **05 51 51.3 -0.9**
comp=Z,6.3nm,1.0s,baz=236,slow=23,SNR=6.9
NEY Neytrino 83.08 314 *e*P **P** **05 51 51.5 -1.3**
GOF Gofitskoye 83.10 315 *e*P **P** **05 51 51.6 -1.0**
KIV Kislovodsk 83.20 314⇓*e*P **P** **05 51 53.4 +0.1**
KIV *e* 05 55 06.8
KIV pmax pmax
comp=Z,15nm,1.5s
KIV MLR MLR
comp=Z,449nm,23.0s
KIV Kislovodsk 83.20 314 PFAKE 05 52 00.0 +6.7
KIV LR LR
comp=Z,606nm,19.0s
PRGR Permogore 84.45 332 *e*P **P** **05 51 57.9 -1.2**
PRGR *e**PP **PP** **05 55 18.8 +4.3**
PRGR pmax pmax
comp=Z,9.0nm,0.4s
KMBO Kilima Mbogo 85.24 269 P **P** **05 52 03.2 -1.2**
comp=Z,6.9nm,0.9s,baz=51,slow=6.5,SNR=6.0
KMBO LR LR 06 28 57.1
comp=Z,2µm,19.3s,baz=92,slow=35
KMBO Kilima Mbogo 85.24 269 *e*P **P** **05 52 04.9 +0.4**
KMBO pmax pmax
comp=Z,20nm,1.4s
KMBO Kilima Mbogo 85.24 269 *e*P **P** **05 52 04.9 +0.4**
comp=Z,20nm,1.4s
SOC Sochi 85.30 314 *i* P **P** **05 52 03.7 -0.1**
SOC *e**PP **pP** **05 52 13.6 -0.8**
SOC *e* 05 55 26.0
SOC *e*S S 06 02 24.6 -7.6
SOC *e*S **SKSac** **06 02 27.4 +0.9**
SOC *e*SS **SS** **06 08 00.1 -7.1**
SOC pmax pmax
comp=Z,14nm,0.6s
VORD Divnogorie 86.31 321 *e*P **P** **05 52 05.7 -3.0**
VORD pmax pmax
comp=N,50nm,0.6s
VORD pmax pmax
comp=E,40nm,0.6s
VORD pmax pmax
comp=Z,10.0nm,0.6s
VORD MLR MLR
comp=Z,320nm,16.0s
VORD MLR MLR
comp=N,570nm,20.0s
VORD MLR MLR
comp=E,850nm,28.0s
VSR Storozhevoye 86.41 321 *e*P **P** **05 52 06.0 -3.2**
VSR pmax pmax
comp=Z,40nm,1.0s
VSR pmax pmax
comp=N,10.0nm,1.2s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR MLR MLR
comp=N,430nm,17.0s
VSR MLR MLR
comp=E,380nm,20.0s
ASF Jabal al Asfar 86.68 302 P **P** **05 52 09.8 -1.3**
comp=E,2.1nm,0.5s,baz=44,slow=2.7,SNR=16
LPSR Galich'ya Gora 86.70 323 *e*P **P** **05 52 09.7 -0.8**
LPSR *e*S **S** **06 02 41.6 -3.9**
LPSR pmax pmax
comp=N,10.0nm,1.0s
LPSR pmax pmax
comp=E,8.0nm,1.0s
LPSR pmax pmax
comp=Z,20nm,1.0s
LPSR smax smax
comp=N,90nm,2.9s
LPSR smax smax
comp=E,110nm,2.9s
LPSR smax smax
comp=Z,10.0nm,0.8s
LPSR MLR MLR
comp=N,290nm,22.0s
LPSR MLR MLR
comp=E,660nm,22.0s
LPSR MLR MLR
comp=Z,490nm,22.0s
SYO Syowa Base 86.73 201⇑*e*X 05 52 06.9
SYO Syowa Base 86.73 201⇓*i*PcP **PcP** **05 52 13.6 +1.0**
SVW2 Sparrevohn 86.75 29 *e*P **P** **05 52 11.2 +0.5**
comp=Z,12nm,1.3s
ANN Anapa 87.03 315 *e*P P 05 52 07.2 -5.1
ANN *e* 05 55 31.1
ANN pmax pmax
comp=Z,29nm,1.0s
ANN MLR MLR
comp=Z,680nm,24.0s
KLMR Klimovskoe 87.24 331 *e*P **P** **05 52 12.8 -0.2**
KLMR *e**PP PP 05 55 43.2 +6.1
KLMR pmax pmax
comp=Z,54nm,1.3s
MOS Moscow 87.74 326 *e*P **P** **05 52 13.5 -2.0**
MOS *e* 05 52 30.6
MOS *e* 05 55 40.3
MOS pmax pmax
comp=Z,300nm,3.1s
MOS pmax pmax
comp=Z,66nm,1.5s
MOS MLR MLR
comp=Z,1µm,22.0s
PPT Papeete 87.78 107 LR LR 06 32 47.6
comp=Z,203nm,18.8s,baz=284,slow=36
PPT2 Papeete2 87.78 107 *e*S **S** **06 02 59.5 +2.0**
comp=Z,944nm,26.2s
PPT2 *e*SS **SS** **06 08 47.9 +3.0**
comp=Z,475nm,26.0s
PPT2 Papeete2 87.78 107 *e*LR LR 06 20 14.7
comp=Z,886nm,24.8s
TBI Tubuai 87.89 113 *e*S **S** **06 02 59.5 +1.3**
comp=Z,779nm,26.8s
TBI Tubuai 87.89 113 *e*LR LR 06 20 16.1
comp=Z,540nm,27.8s
KDAK Kodiak Island 87.93 32 PFAKE 05 52 30.0 +14
KDAK LR LR
comp=Z,1µm,22.0s
IM04 Indian Mountai 88.13 24 *e*P **P** **05 52 15.9 -1.3**
OBN Obninsk 88.30 325 *de*P **P** **05 52 15.3 -2.8**
OBN pmax pmax
comp=Z,8.0nm,0.5s
OBN MLR MLR
comp=Z,965nm,25.0s
OBN Obninsk 88.30 325 PFAKE 05 52 30.0 +12
OBN LR LR
comp=Z,594nm,20.0s
PPLA Purkeypile 88.54 27 *e*P **P** **05 52 18.6 -0.8**
comp=Z,9.8nm,1.1s
CAST Castle Rocks 88.62 27 *e*P **P** **05 52 19.4 -0.2**
comp=Z,3.1nm,0.8s
KTH Kantishna Hill 89.15 27 *e*P **P** **05 52 23.1 +1.0**
comp=Z,19nm,1.4s
QSPA South Pole Qui 89.17 180 P **P** **05 52 22.4 +0.2**
comp=Z,15nm,0.9s,baz=326,slow=1.9,SNR=26
QSPA South Pole Qui 89.17 180 P **P** **05 52 22.4 +0.2**
QSPA LR LR
comp=Z,3µm,19.0s
TRF Thorofare Moun 89.43 27 *e*P **P** **05 52 21.7 -1.9**
comp=Z,15nm,1.1s
BR131 Keskin Array S 89.61 310 *e*P **P** **05 52 25.2 +0.3**
comp=Z,2.1nm,0.8s
BRTR Keskin Array B 89.61 310 P **P** **05 52 23.4 -1.6**
comp=Z,5.6nm,1.1s,baz=90,slow=2.9,SNR=12
BRTR PP **PP** **05 55 53.2 -3.8**
comp=Z,5.4nm,1.0s,baz=113,slow=9.5,SNR=8.8
COLD Coldfoot 89.66 23 *e*P **P** **05 52 24.5 +0.1**
comp=Z,10nm,1.0s
SEW Seward 89.69 30 *e*P **P** **05 52 26.5 +2.0**
comp=Z,28nm,1.2s
CSS Prodhromos 89.76 305 *e*P **P** **05 52 26.1 +0.5**
CSS LR LR
comp=Z,175nm,19.0s
LVZ Lovozero 89.90 338 PFAKE 05 52 40.0 +15
LVZ LR LR
comp=Z,1µm,19.0s
MCK McKinley 90.05 26 *e*P **P** **05 52 24.6 -1.6**
MCK pmax pmax
comp=Z,22nm,1.2s
MCK McKinley 90.05 26 *e*P **P** **05 52 24.6 -1.6**
comp=Z,22nm,1.2s
ANTO Ankara 90.27 310 PFAKE 05 52 40.0 +12
ANTO LR LR
comp=Z,496nm,22.0s
COLA College 90.54 25 PFAKE 05 52 40.0 +12
COLA LR LR
comp=Z,528nm,20.0s
ILAR Eielson Array 90.95 25 P **P** **05 52 29.4 -1.1**
comp=Z,3.2nm,1.1s,baz=271,slow=4.1,SNR=13
ILAR PKKPbc **PKKPdf** **06 09 54.5 +0.8**
comp=Z,1.4nm,1.0s,baz=80,slow=1.3,SNR=7.1
ILAR LR LR 06 32 07.9
comp=Z,461nm,21.8s,baz=249,slow=35
DIV Divide 91.51 29 *e*P **P** **05 52 32.9 -0.3**
comp=Z,34nm,1.4s
EYAK Cordova Ski Ar 91.53 30 *e*P **P** **05 52 34.6 +1.5**
comp=Z,23nm,1.5s
PAX Paxson 91.61 27 *e*P **P** **05 52 32.2 -1.4**
PAX pmax pmax
comp=Z,15nm,1.2s
PAX Paxson 91.61 27 *e*P **P** **05 52 32.2 -1.4**
comp=Z,15nm,1.2s
MBAR Mbarara 91.76 269 PFAKE 05 52 50.0 +15
MBAR LR LR
comp=Z,831nm,20.0s
ISP Isparta 92.04 308 PFAKE 05 52 50.0 +14
ISP LR LR
comp=Z,722nm,22.0s
RAGM Ragged Mountai 92.07 30 *e*P P 05 52 39.6 +3.9
comp=Z,15nm,1.2s
BMRM Bremner River 92.08 29 *e*P **P** **05 52 37.7 +1.9**
comp=Z,31nm,1.5s
KEV Kevo 92.63 340 PFAKE 05 52 50.0 +12
KEV LR LR
comp=Z,1µm,21.0s
AKASG Malin Array Be 92.68 321 P **P** **05 52 36.3 -2.4**
comp=Z,4.7nm,0.9s,baz=73,slow=4.5,SNR=5.5
AKASG PP **PP** **05 56 18.8 -1.8**
comp=Z,0.2nm,0.3s,baz=73,slow=6.7,SNR=4.7
AKASG LR LR 06 37 56.7
comp=Z,601nm,21.5s,baz=90,slow=38
KIEV Kiev 92.69 321 *e*P **P** **05 52 35.6 -3.2**
KIEV pmax pmax
comp=Z,6.0nm,1.0s
KIEV MLR MLR
comp=Z,864nm,22.0s
KIEV Kiev 92.69 321 *e*P **P** **05 52 35.5 -3.2**
comp=Z,6.2nm,1.0s
KIEV LR LR
comp=Z,864nm,22.0s
ARCES ARCESS Array B 93.18 340 P **P** **05 52 40.5 -0.1**
comp=Z,2.6nm,0.9s,baz=77,slow=4.7,SNR=2.5
EGAK Eagle 93.41 25 *e*P **P** **05 52 40.2 -1.6**
comp=Z,9.6nm,1.0s
EGAK LR LR
comp=Z,592nm,20.0s
FINES FINESS Array B 93.76 331 P **P** **05 52 41.6 -1.8**
comp=Z,1.4nm,0.7s,baz=93,slow=9.7,SNR=4.9
LSZ Lusaka 93.96 255 *e*P **P** **05 52 44.3 -1.2**
LSZ pmax pmax
comp=Z,15nm,0.9s
LSZ MLR MLR
comp=Z,4µm,21.0s
LSZ Lusaka 93.96 255 *e*P **P** **05 52 44.3 -1.2**
comp=Z,15nm,0.9s
LSZ LR LR
comp=Z,4µm,21.0s
DAWY Dawson 94.25 26 *e*P **P** **05 52 44.5 -1.2**
comp=Z,10nm,0.9s
VRI Vrincioaia 94.58 316⇑*i*P PP 05 56 42.4 +6.7
PLOR Plostina 94.64 316⇓*i*P **PP** **05 56 41.0 +4.8**
KBS Kingsbay 94.65 350 PFAKE 05 53 00.0 +13
KBS LR LR
comp=Z,2µm,22.0s
SMG Samos 94.96 308 *e*P **PP** **05 56 40.0 +1.1**
MLR Muntele Rosu 95.16 315⇑*i*P PP 05 56 46.9 +6.6
ALN Alexandroupoli 95.39 311 *e*P **PP** **05 56 39.5 -2.7**
BURAR Bucovina Array 95.49 318⇓*i*P PP 05 56 49.6 +6.8
BUR08 Bucovina Ar. S 95.50 318 *e*P **P** **05 52 50.4 -1.5**
DOPR Dopca 95.51 316⇑*i*P PP 05 56 48.8 +5.9
CHOS Chios island 95.54 308 *e*P **PP** **05 56 43.2 -0.3**
HYT Haines Junctio 95.55 29 *e*P **P** **05 52 51.5 -0.3**
VOIR 95.79 315⇓*i*P PP 05 56 51.1 +5.9
INK Inuvik 95.87 21 P **P** **05 52 51.4 -1.5**
comp=Z,8.0nm,1.1s,baz=306,slow=5.1,SNR=8.1
INK Inuvik 95.87 21 *e*P **P** **05 52 52.8 -0.1**
INK pmax pmax
comp=Z,8.0nm,1.1s
INK Inuvik 95.87 21 *e*P **P** **05 52 52.8 -0.1**
comp=Z,7.8nm,1.1s
ARR Arges 96.09 315⇓*i*P **PP** **05 56 51.9 +4.4**
CJR Cluj-Napoca 96.67 317⇑*i*P PP 05 56 58.3 +6.3
SKAG Skagway 96.84 30 *e*P **P** **05 52 56.5 -1.1**
KWP Kalwaria Pacla 96.94 320 PFAKE 05 53 10.0 +12
KWP LR LR
comp=Z,741nm,20.0s
VAM Vamos 97.22 305 *e*P **PP** **05 56 55.7 -0.8**
SRS Serrai 97.23 311 *e*P **PP** **05 56 56.7 +0.3**
TRPA Tarpa 97.23 318⇓*i*P **PP** **05 56 59.9 +3.8**
PAIG Paliouri 97.27 310 *e*P **PP** **05 56 55.9 -0.8**
DRGR 97.27 317⇑*i*P PP 05 57 02.8 +6.2
KOLS Kolonicke sedl 97.31 319 *e*P **P** **05 52 59.2 -0.7**
KOLS Kolonicke sedl 97.31 319 *e*P **P** **05 52 59.2 -0.7**
UZH Uzhgorod 97.33 319 *e*P Pdif 05 53 02.0 +1.9
UZH *e* 05 53 15.8
UZH *e*S **S** **06 04 20.0 -1.8**
UZH MLR MLR
comp=N,510nm,20.0s
UZH MLR MLR
comp=E,750nm,20.0s
UZH MLR MLR
comp=Z,210nm,20.0s
VTS Vitosha 97.37 313⇑*i*P **PP** **05 56 59.6 +2.0**
XOR Xorichti 97.69 309 *e*P **PP** **05 56 57.4 -2.6**
DID Didima 97.83 308 *e*P **PP** **05 56 59.3 -1.8**
CRVS Cervenica-Dubn 97.84 319 *e*P Pdif 05 53 02.5 +0.1
CRVS pmax pmax
comp=Z,46nm,2.7s
CRVS Cervenica-Dubn 97.84 319 *e*P Pdif 05 53 02.5 +0.1
STHS Stebnicka Huta 97.91 320 *e*P Pdif 05 53 05.2 +2.5
STHS pmax pmax
comp=Z,3.0nm,1.0s
STHS Stebnicka Huta 97.91 320 *e*P Pdif 05 53 05.2 +2.5
LTK Loutraki 97.99 308 *e*P **PP** **05 57 01.4 -0.9**
SIRR Siria 98.06 317⇑*i*P **PP** **05 57 05.4 +2.9**
VLI Veliai 98.14 307 *e*P PP 05 56 53.2 -10
LIT Litokhoron 98.16 310 *e*P **PP** **05 57 03.4 -0.2**
DSF Desfina 98.30 309 *e*P **PP** **05 57 01.8 -2.9**
AGG Agios Georgios 98.39 309 *e*P **PP** **05 57 05.2 -0.2**
VLX Vlachokerasia 98.52 308 *e*P **PP** **05 57 04.8 -1.7**
KECS Kecovo 98.54 319 *e*P **P** **05 53 04.9 -0.6**
KECS pmax pmax
comp=Z,5.0nm,1.7s
KECS Kecovo 98.54 319 *e*P **P** **05 53 04.9 -0.6**
FNA Florina 98.93 311 *e*P PP 05 56 57.2 -12
WRAK Wrangell Islan 99.00 33 PFAKE 05 53 20.0 +13
WRAK LR LR
comp=Z,606nm,21.0s
PSZ Piszkesteto 99.02 318⇓*i*P PP 05 57 16.7 +6.8
PSZ Piszkesteto 99.02 318 PFAKE 05 53 20.0 +12
PSZ LR LR
comp=Z,745nm,19.0s
PYL PYLOS 99.07 307 *e*P **PP** **05 57 09.3 -1.3**
PDO Prodromos 99.33 309 *e*P **PP** **05 57 09.1 -3.4**
SUR Sutherland 99.46 237 PFAKE 05 53 20.0 +10
SUR LR LR
comp=Z,3µm,22.0s
VYHS Vyhne 99.62 319 *e*PP PP 05 57 11.7 -2.7
SNAA Sanae 99.80 195 P **Pdif** **05 53 10.2 -0.6**
comp=Z,1.5nm,1.2s,baz=111,slow=9.9,SNR=1.9
SNAA Sanae 99.80 195 *e*P **Pdif** **05 53 11.8 +1.1**
SNAA Sanae 99.80 195 *e*Pdif **Pdif** **05 53 11.8 +1.1**
OKC Ostrava-Krasne 99.83 320 *ex* x 06 06 26.4
OKC *ex* x 06 07 03.8
OKC *ex* x 06 12 05.1
OKC AMS AMS 06 43 40.0
comp=Z,600nm,16.1s
HFS Hagfors 99.96 331 LR LR 06 43 21.6
comp=Z,68nm,21.1s,baz=66,slow=38
KRLC Kraliky 100.65 321 *e*PP PP 05 57 24.4 +2.2
NOA NORSAR Array B 100.86 332 P **Pdif** **05 53 13.1 -2.5**
comp=Z,1.8nm,1.0s,baz=68,slow=4.5,SNR=3.3
NOA PP PP 05 57 28.9 +5.5
comp=Z,3.2nm,1.0s,baz=78,slow=7.4,SNR=3.9
DPC Dobruska-Polom 100.88 321 *e*PP PP 05 57 32.1 +8.2
DPC AMS AMS 06 44 10.0
TREC Trest 101.64 320 AMS AMS 06 38 00.0
comp=Z,700nm,23.5s
GOPC GO Pecny, Ondr 101.94 321 *ex* x 06 07 22.1
GOPC *ex* x 06 12 32.0
GOPC AMS AMS 06 42 40.0
comp=Z,900nm,22.5s
KONO Kongsberg 102.08 331 PFAKE 05 53 30.0 +9.1
KONO LR LR
comp=Z,1µm,22.0s
PRU Pruhonice 102.08 321 *e*PP PP 05 57 35.1 +2.2
PRU *e*PS **PS** **06 06 44.1 +5.1**
PRU *ex* x 06 07 25.7
PRU *ex* x 06 12 28.3
PRU AMS AMS 06 46 10.0
comp=Z,700nm,22.1s
BRG Berggiesshubel 102.24 322 *e*P PP 05 57 42.9 +8.8
comp=Z,5.8nm,1.1s
comp=N,841nm,20.8s
comp=E,665nm,22.7s
comp=Z,735nm,26.1s
TIP Timpagrande 102.67 310 PFAKE 05 53 40.0 +16
TIP LR LR
comp=Z,324nm,21.0s
CLL Collm 102.71 323 *e*Sdif Sdif 06 05 14.0 +7.1
CLL *e*PS **PS** **06 06 45.0 -0.5**
CLL *e*SPS 06 06 53.0
CLL *e*PPS PPS 06 07 30.0
CLL *e*SS **SS** **06 12 16.0 +1.1**
CLL *e* 06 13 24.0
CLL *e*SSS SSS 06 16 06.0
CLL *e*PPPrev 06 17 30.0
CLL *e*SSSS 06 19 48.0
CLL *e* 06 21 36.0
CLL LmV 06 49 00.0
comp=Z,800nm,19.9s
GEC2 GERESS Array S 102.88 320 *e*PP PP 05 57 38.2 -0.9
GERES GERESS Array B 102.88 320 PP PP 05 57 40.0 +0.9
comp=Z,4.8nm,1.1s,baz=76,slow=5.6,SNR=13
GERES PKKPbc **PKKPbc** **06 09 24.4 0.0**
comp=Z,0.8nm,0.8s,baz=301,slow=4.4,SNR=4.9
KHC Kasperske Hory 102.89 320 *e*PP PP 05 57 44.5 +5.4
KHC *ex* x 05 58 03.5
KHC *e*PS **PS** **06 06 51.6 +3.9**
KHC *ex* x 06 07 38.2
KHC *ex* x 06 07 40.1
KHC *e*SS SS 06 12 19.1 +1.3
KHC AMS AMS 06 45 30.0
comp=Z,900nm,16.2s
CUC Castrococco 103.25 311 PFAKE 05 53 40.0 +13
CUC LR LR
comp=Z,489nm,22.0s
NKC Novy Kostel 103.33 322 *ex* x 06 07 37.9
NKC *e*SS SS 06 12 31.7 +8.1
NKC AMS AMS 06 45 20.0
comp=Z,500nm,20.5s
CEL Celeste 103.49 309 PFAKE 05 53 40.0 +12
CEL LR LR
comp=Z,376nm,21.0s
MOX Moxa 103.73 322 *e*PP PP 05 57 49.8 +4.6
MOX *e*L L 06 50 24.6
comp=Z,709nm,20.7s
TSUM Tsumeb 103.82 250 PFAKE 05 53 40.0 +10
TSUM LR LR
comp=Z,2µm,21.0s
NRDL Niedersach Rie 104.10 324 *e*PP PP 05 57 52.3 +4.6
GRF Grafenberg Arr 104.23 321 *e*PP PP 05 57 53.1 +4.1
GRF *e*L L 06 48 09.4
comp=Z,811nm,21.3s
AQU L'Aquila 104.57 314 PFAKE 05 53 40.0 +7.5
AQU LR LR
comp=Z,606nm,19.0s
WDD Wield Dalam 104.98 307 PFAKE 05 53 50.0 +16
WDD LR LR
comp=Z,783nm,22.0s
YKA Yellowknife Ar 105.31 24 Pdiff **Pdif** **05 53 39.8 +4.5**
comp=Z,0.4nm,0.8s,baz=302,slow=5.0,SNR=4.7
YKA PKiKP **PKiKP** **05 57 47.3 -1.8**
comp=Z,0.3nm,0.7s,baz=310,slow=1.8,SNR=4.6
YKA PKKPbc **PKKPbc** **06 09 14.4 -3.1**
comp=Z,1.4nm,1.0s,baz=112,slow=2.5,SNR=11
PTCN Pitcairn Islan 105.40 116 PFAKE 05 58 00.0
PTCN LR LR
comp=Z,2µm,22.0s
CLTB Caltabellotta 105.70 309 PFAKE 05 58 00.0
CLTB LR LR
comp=Z,233nm,19.0s
VLC Villacollemand 106.28 316 PFAKE 05 58 00.0
VLC LR LR
comp=Z,618nm,20.0s
TUE Stuetta 106.35 319 PFAKE 05 58 00.0
TUE LR LR
comp=Z,1µm,20.0s
NLWA Neilton Lookou 106.39 40 PFAKE 05 58 00.0
NLWA LR LR
comp=Z,763nm,22.0s
BFO Black Forest 106.45 321 PFAKE 05 58 00.0
BFO LR LR

	comp=Z,626nm,19.0s								
ECH	**Echery**	**107.23**	**321**	PFAKE			05 58 00.0		
ECH				LR	LR				
	comp=Z,661nm,21.0s								
WLF	**Walferdange**	**107.37**	**322**	PFAKE			05 58 00.0		
WLF				LR	LR				
	comp=Z,661nm,20.0s								
HINF	**Hinteralfeld**	**107.56**	**320**	*e*PP	PP		05 58 10.6	-3.0	
PGF	**Pioggiola**	**107.68**	**315**	*e*PP	PP		05 58 12.4	-2.4	
	comp=Z,39nm,1.2s								
HAU	**Haudompre**	**107.81**	**321**	*e*PP	PP		05 58 12.8	-2.6	
	comp=Z,40nm,1.4s								
VSL	**Villasalto**	**108.20**	**311**	PFAKE			05 58 10.0		
VSL				LR	LR				
	comp=Z,316nm,22.0s								
LPG	**La Plagne**	**108.37**	**318**	*e*PP	PP		05 58 17.8	-2.1	
	comp=Z,36nm,1.1s								
LPL	**La Plagne**	**108.37**	**318**	*e*PP	PP		05 58 17.0	-2.9	
	comp=Z,57nm,1.3s								
BNI	**Bardonecchia**	**108.56**	**318**	PFAKE			05 58 10.0		
BNI				LR	LR				
	comp=Z,753nm,20.0s								
MBDF	**Montbardon**	**108.59**	**317**	*e*PP	PP		05 58 19.0	-2.4	
	comp=Z,26nm,1.1s								
J04D	**Umpqua Nationa**	**108.81**	**44**	P		**PKiKP**	**05 57 56.1**	**-0.3**	
	baz=109								
YBH	**Yreka Blue Hor**	**108.82**	**46**	PP	PP		05 58 22.9	-0.3	
	comp=Z,5.5nm,1.2s,baz=273,slow=8.7,SNR=4.4								
J05D	**Fort Rock, OR**	**109.41**	**44**	P		**PKiKP**	**05 57 57.8**	**+0.3**	
	baz=109								
HAWA	**Hanford**	**109.52**	**40**	PFAKE			05 58 10.0		
HAWA				LR	LR				
	comp=Z,674nm,22.0s								
SMF	**Signal de Mont**	**109.89**	**320**	*e*PP	PP		05 58 27.8	-2.7	
	comp=Z,40nm,1.2s								
SSB	**Saint Sauveur**	**109.91**	**318**	PFAKE			05 58 10.0		
SSB				LR	LR				
	comp=Z,595nm,21.0s								
ESK	**Eskdalemuir**	**110.16**	**330**	PFAKE			05 58 10.0		
ESK				LR	LR				
	comp=Z,2μm,20.0s								
NEW	**Newport**	**110.35**	**38**	PFAKE			05 58 10.0		
NEW				LR	LR				
	comp=Z,659nm,21.0s								
LASF	**Ste Croix**	**110.78**	**317**	*e*PP	PP		05 58 34.4	-2.7	
	comp=Z,62nm,1.4s								
BORG	**Borgarnes**	**111.00**	**344**	PFAKE			05 58 10.0		
BORG				LR	LR				
	comp=Z,2μm,22.0s								
TCF	**Toulx Ste Croi**	**111.06**	**320**	*e*PP	PP		05 58 36.5	-2.5	
	comp=Z,29nm,1.2s								
WVOR	**Wild Horse Val**	**111.49**	**44**	PFAKE			05 58 10.0		
WVOR				LR	LR				
	comp=Z,385nm,20.0s								
BMO	**Blue Mountains**	**111.54**	**41**	PFAKE			05 58 10.0		
BMO				LR	LR				
	comp=Z,606nm,22.0s								
MTLF	**Montolieu**	**112.15**	**317**	*e*PP	PP		05 58 44.6	-2.3	
	comp=Z,35nm,1.4s								
MSO	**Missoula**	**112.91**	**38**	P		**PKiKP**	**05 58 04.4**	**+0.4**	
	baz=113								
NVAR	**Mina Array Bea**	**113.04**	**48**	PKiKP		**PKiKP**	**05 58 04.2**	**-0.4**	
	comp=Z,1.3nm,0.7s,baz=268,slow=1.4,SNR=8.3								
NVAR				PP		**PP**	**05 58 58.7**	**+5.0**	
	comp=Z,4.4nm,1.1s,baz=274,slow=7.0,SNR=6.4								
SFJD	**Kangerlussuaq**	**113.73**	**357**	PFAKE			05 58 20.0		
SFJD				LR	LR				
	comp=Z,701nm,20.0s								
HLID	**Hailey**	**113.95**	**42**	*e*PKPdf		**PKiKP**	**05 58 06.7**	**+0.5**	
HLID				LR	LR				
	comp=Z,568nm,22.0s								
HLID	**Hailey**	**113.95**	**42**	P		**PKiKP**	**05 58 06.6**	**+0.4**	
	baz=114								
GRAC	**Grapevine Rang**	**114.19**	**49**	P		PKPdf	05 58 07.3	+0.6	
	baz=114								
MPMC	**Manual Prospec**	**114.40**	**50**	P		PKPdf	05 58 07.4	+0.1	
	baz=114								
PMSA	**Palmer Station**	**114.43**	**177**	PFAKE			05 58 20.0	+14	
PMSA				LR	LR				
	comp=Z,3μm,22.0s								
ELK	**Elko**	**114.47**	**45**	*e*PKIKP		PKPdf	05 58 08.6	+1.2	
ELK	**Elko**	**114.47**	**45**	*e*PKPdf		PKPdf	05 58 08.6	+1.3	
BOZ	**Bozeman (W)**	**114.87**	**39**	*e*PKIKP		PKPdf	05 58 08.7	+0.8	
BOZ				MLR		MLR			
	comp=Z,367nm,21.0s								
BOZ	**Bozeman (W)**	**114.87**	**39**	*e*PKPdf		PKPdf	05 58 08.7	+0.8	
BOZ				LR	LR				
	comp=Z,367nm,21.0s								
EGMT	**Eagleton**	**114.89**	**36**	*e*PKPdf		PKPdf	05 58 06.8	-0.9	
EGMT				LR	LR				
	comp=Z,429nm,22.0s								
EGMT	**Eagleton**	**114.89**	**36**	P		PKPdf	05 58 07.2	-0.5	
	baz=115								
TPNV	**Topopah Spring**	**115.06**	**49**	P		**PKPdf**	**05 58 08.7**	**+0.2**	
	baz=115								
TAM	**Tamanrasset**	**115.08**	**295**	PFAKE			05 58 20.0	+11	
TAM				LR	LR				
	comp=Z,479nm,20.0s								
R11A	**Troy Canyon, C**	**115.08**	**47**	*e*PKPdf		**PKPdf**	**05 58 09.1**	**+0.6**	
R11A	**Troy Canyon, C**	**115.08**	**47**	P		**PKPdf**	**05 58 09.0**	**+0.4**	
	baz=115								
FFC	**Flin Flon**	**115.14**	**27**	PFAKE			05 58 20.0	+12	
FFC				LR	LR				
	comp=Z,520nm,20.0s								
B19A	**Brinkman Farms**	**115.14**	**35**	P		**PKPdf**	**05 58 08.1**	**-0.1**	
	baz=115								
GSC	**Goldstone, Bar**	**115.16**	**51**	P		**PKPdf**	**05 58 08.5**	**-0.1**	
	baz=115								
C19A	**Slack Wire Ran**	**115.44**	**36**	P		**PKPdf**	**05 58 08.7**	**-0.1**	
	baz=115								
HVU	**Hansel Valley**	**115.78**	**43**	*e*PKIKP		**PKPdf**	**05 58 09.3**	**-0.5**	
HVU	**Hansel Valley**	**115.78**	**43**	*e*PKPdf		**PKPdf**	**05 58 09.3**	**-0.5**	
TUQ	**Turquoise Moun**	**115.80**	**51**	P		**PKPdf**	**05 58 10.1**	**+0.1**	
	baz=116								
PFO	**Pinyon Flats O**	**115.96**	**53**	PFAKE			05 58 20.0	+10	
PFO				LR	LR				
	comp=Z,817nm,22.0s								
A21A	**Bergtoll Ranch**	**116.00**	**34**	P		**PKPdf**	**05 58 08.9**	**-0.9**	
	baz=116								
C20A	**Veseth Ranch,**	**116.06**	**35**	P		**PKPdf**	**05 58 09.3**	**-0.6**	
	baz=116								
LKWY	**Lake**	**116.13**	**39**	PFAKE			05 58 20.0	+10	
LKWY				LR	LR				
	comp=Z,4μm,22.0s								
BELC	**Belle Mtn. Jos**	**116.20**	**52**	P		**PKPdf**	**05 58 10.2**	**-0.5**	
	baz=116								
GMRC	**Granite Mounta**	**116.22**	**51**	P		**PKPdf**	**05 58 10.4**	**-0.3**	
	baz=116								
TPAW	**Teton Pass**	**116.27**	**41**	*e*PKPdf		**PKPdf**	**05 58 11.3**	**+0.5**	
REDW	**Red Top Meadow**	**116.39**	**41**	*e*PKPdf		**PKPdf**	**05 58 10.8**	**-0.2**	
DUG	**Dugway, Tooele**	**116.39**	**45**	*e*PKIKP		**PKPdf**	**05 58 12.7**	**+1.8**	
DUG				MLR		MLR			
	comp=Z,425nm,21.0s								
DUG	**Dugway, Tooele**	**116.39**	**45**	*e*PKPdf		**PKPdf**	**05 58 12.7**	**+1.8**	
DUG				LR	LR				
	comp=Z,425nm,21.0s								
DUG	**Dugway, Tooele**	**116.39**	**45**	P		**PKPdf**	**05 58 10.4**	**-0.6**	
	baz=116								
SNOW	**Snow King Moun**	**116.41**	**41**	*e*PKPdf		**PKPdf**	**05 58 11.1**	**+0.1**	
AHID	**Auburn Hatcher**	**116.49**	**41**	PFAKE			05 58 20.0	+8.9	
AHID				LR	LR				
	comp=Z,473nm,21.0s								
C21A	**Desert Coulee**	**116.53**	**35**	P		**PKPdf**	**05 58 10.5**	**-0.4**	
	baz=116								
A22A	**Carney Farms,**	**116.56**	**33**	P		**PKPdf**	**05 58 10.8**	**-0.1**	
	baz=116								
RLMT	**Red Lodge**	**116.58**	**38**	PFAKE			05 58 20.0	+8.7	
RLMT				LR	LR				
	comp=Z,567nm,22.0s								
HWUT	**Hardware Ranch**	**116.67**	**43**	*e*PKPdf		**PKPdf**	**05 58 12.1**	**+0.6**	
HWUT				LR	LR				
	comp=Z,528nm,22.0s								
BC3	**Big Chuckawall**	**116.74**	**52**	P		**PKPdf**	**05 58 11.2**	**-0.6**	
	baz=117								
IRM	**Iron Mountain**	**116.81**	**52**	P		**PKPdf**	**05 58 11.8**	**0.0**	
	baz=117								
D21A	**La Casta Ranch**	**116.98**	**36**	P		**PKPdf**	**05 58 11.5**	**-0.3**	
	baz=117								
C22A	**Vida**	**117.26**	**35**	P		**PKPdf**	**05 58 11.7**	**-0.6**	
	baz=117								
D22A	**Cohagen**	**117.41**	**35**	P		**PKPdf**	**05 58 12.3**	**-0.2**	
	baz=117								
MVU	**Marysvale**	**117.48**	**46**	*e*PKPdf		**PKPdf**	**05 58 13.3**	**+0.1**	
BW06	**Boulder Array**	**117.50**	**41**	PFAKE			05 58 20.0	+6.9	
BW06				LR	LR				
	comp=Z,597nm,22.0s								
PDAR	**Pinedale Array**	**117.50**	**41**	PKP		**PKPdf**	**05 58 12.2**	**-1.0**	
	comp=Z,1.8nm,1.0s,baz=349,slow=2.8,SNR=8.7								
PDAR				PKKPbc		**PKKPbc**	**06 08 35.2**	**-1.7**	
	comp=Z,1.7nm,0.9s,baz=98,slow=5.5,SNR=6.7								
MSU	**Marysvale**	**117.50**	**46**	*e*PKIKP		**PKPdf**	**05 58 13.4**	**+0.2**	
MSU	**Marysvale**	**117.50**	**46**	*e*PKPdf		**PKPdf**	**05 58 13.4**	**+0.2**	
J19A	**Crowheart**	**117.60**	**40**	P		**PKPdf**	**05 58 12.7**	**-0.5**	
	baz=118								
C23A	**Lambert**	**117.62**	**34**	P		**PKPdf**	**05 58 12.5**	**-0.5**	
	baz=118								
LAO	**LASA Array**	**117.63**	**36**	*e*PKPdf		**PKPdf**	**05 58 13.1**	**+0.1**	
LAO				LR	LR				
	comp=Z,559nm,20.0s								
A24A	**Westby**	**117.65**	**33**	P		**PKPdf**	**05 58 11.8**	**-1.2**	
	baz=118								
H20A	**Greybull**	**117.68**	**39**	P		**PKPdf**	**05 58 12.3**	**-0.9**	
	baz=118								
DGMT	**Dagmar**	**117.80**	**33**	PFAKE			05 58 20.0	+6.7	
DGMT				LR	LR				
	comp=Z,526nm,21.0s								
ESDC	**Sonseca Array**	**117.85**	**315**	PKP		**PKPdf**	**05 58 12.8**	**-0.8**	
	comp=Z,0.6nm,0.5s,baz=23,slow=2.7,SNR=9.1								
ESDC				PP		**PP**	**05 59 26.6**	**-0.6**	
	comp=Z,3.3nm,1.0s,baz=63,slow=7.4,SNR=7.2								
I20A	**Worland**	**117.86**	**39**	P		**PKPdf**	**05 58 13.3**	**-0.3**	
	baz=118								
PAB	**San Pablo**	**118.18**	**315**	PFAKE			05 58 30.0	+16	
PAB				LR	LR				
	comp=Z,445nm,19.0s								
C24A	**Savage**	**118.20**	**34**	P		**PKPdf**	**05 58 13.7**	**-0.4**	
	baz=118								
E23A	**Ismay**	**118.27**	**36**	P		**PKPdf**	**05 58 13.9**	**-0.3**	
	baz=118								
I21A	**Big Trails, Te**	**118.46**	**39**	P		**PKPdf**	**05 58 15.2**	**+0.3**	
	baz=118								
PBRG	**Braganca**	**118.81**	**319**	PKPdf		**PKPdf**	**05 58 15.2**	**-0.2**	
PBRG	**Braganca**	**118.81**	**319**	*e*LR		LR	06 38 47.7		
	comp=Z,536nm,20.0s								
K21A	**Alcova**	**119.06**	**40**	P		**PKPdf**	**05 58 15.7**	**-0.4**	
	baz=119								
J22A	**Midwest**	**119.17**	**39**	P		**PKPdf**	**05 58 14.4**	**-1.8**	
	baz=119								
N20A	**Spence Gulch,**	**119.25**	**42**	P		**PKPdf**	**05 58 16.3**	**-0.3**	
	baz=119								
WUAZ	**Wupatki**	**119.25**	**49**	*e*PKPdf		**PKPdf**	**05 58 17.0**	**+0.3**	
WUAZ				LR	LR				
	comp=Z,553nm,21.0s								
WUAZ	**Wupatki**	**119.25**	**49**	P		**PKPdf**	**05 58 16.5**	**-0.1**	
	baz=119								
MVO	**Moncorvo**	**119.30**	**318**	*e*LQ		LQ	06 34 21.0		
MVO				*e*LR		LR	06 38 26.1		
	comp=Z,398nm,18.0s								
214A	**Organ Pipe Nat**	**119.39**	**53**	P		**PKPdf**	**05 58 17.0**	**+0.2**	
	baz=119								
K22A	**Casper**	**119.52**	**40**	*e*PKPdf		**PKPdf**	**05 58 17.6**	**+0.7**	
O20A	**White River Ci**	**119.58**	**43**	*e*PKPdf		**PKPdf**	**05 58 16.8**	**-0.4**	
O20A	**White River Ci**	**119.58**	**43**	P		**PKPdf**	**05 58 17.1**	**-0.1**	
	baz=120								
D26A	**Manning**	**119.60**	**34**	P		**PKPdf**	**05 58 16.2**	**-0.5**	
	baz=120								
H24A	**Dirks Ranch, A**	**119.66**	**37**	P		**PKPdf**	**05 58 16.5**	**-0.6**	
	baz=120								
PCAB	**Cabril**	**119.70**	**319**	PKPdf		**PKPdf**	**05 58 20.0**	**+2.9**	
PVRL	**Vila Real**	**119.70**	**319**	PKPdf		**PKPdf**	**05 58 16.1**	**-1.0**	
POLO	**Lamas de Olo**	**119.71**	**319**	PKPdf		**PKPdf**	**05 58 20.2**	**+3.0**	
POLO	**Lamas de Olo**	**119.71**	**319**	*e*LQ		LQ	06 34 33.2		
POLO				*e*LR		LR	06 38 38.7		
	comp=Z,300nm,20.0s								
MTE	**Manteigas**	**120.00**	**318**	PKPdf		**PKPdf**	**05 58 17.2**	**-0.6**	
MTE	**Manteigas**	**120.00**	**318**	*e*LQ		LQ	06 34 29.0		
MTE				*e*LR		LR	06 38 45.0		
	comp=Z,546nm,20.0s								
MTE	**Manteigas**	**120.00**	**318**	PFAKE			05 58 30.0	+12	
MTE				LR	LR				
	comp=Z,693nm,20.0s								
PVIS	**Viseu**	**120.09**	**318**	PKPdf		**PKPdf**	**05 58 22.3**	**+4.4**	
G25A	**Newell**	**120.09**	**36**	P		**PKPdf**	**05 58 17.4**	**-0.4**	
	baz=120								
TOA0	**Torodi Ar. Sit**	**120.13**	**285**	*e*PKPdf		**PKPdf**	**05 58 17.0**	**-1.6**	
TORD	**Torodi Ar. Bea**	**120.13**	**285**	PKP		**PKPdf**	**05 58 16.8**	**-1.8**	
	comp=Z,14nm,0.9s,baz=60,slow=1.7,SNR=24								
TORD				PP		**PP**	**05 59 48.0**	**+4.1**	
	comp=Z,3.5nm,1.0s,baz=75,slow=5.3,SNR=4.8								
A29A	**Manning Farm,**	**120.15**	**31**	P		**PKPdf**	**05 58 17.2**	**-0.6**	
	baz=120								
F26A	**Lodgepole**	**120.15**	**35**	P		**PKPdf**	**05 58 16.2**	**-1.7**	
	baz=120								
PCBR	**Castelo Branco**	**120.21**	**317**	PKPdf		**PKPdf**	**05 58 17.9**	**-0.2**	
PV01	**Paradox Valley**	**120.24**	**45**	*e*PKPdf		**PKPdf**	**05 58 18.2**	**-0.3**	
RSSD	**Black Hills**	**120.31**	**37**	*e*PKIKP		**PKPdf**	**05 58 17.0**	**-1.5**	
RSSD	**Black Hills**	**120.31**	**37**	*e*PKPdf		**PKPdf**	**05 58 17.0**	**-1.5**	
PMRV	**Marv??o**	**120.34**	**316**	PKPdf		**PKPdf**	**05 58 17.6**	**-0.8**	
PMRV	**Marv??o**	**120.34**	**316**	*e*LR		LR	06 40 07.3		
	comp=Z,447nm,20.0s								
N22A	**Wattenberg Ran**	**120.47**	**42**	P		**PKPdf**	**05 58 18.6**	**-0.4**	
	baz=120								
F27A	**Lemmon**	**120.51**	**35**	P		**PKPdf**	**05 58 18.4**	**-0.1**	
	baz=120								
G26A	**Maurine**	**120.51**	**35**	P		**PKPdf**	**05 58 17.6**	**-1.0**	
	baz=120								
I25A	**Rochford**	**120.55**	**37**	P		**PKPdf**	**05 58 17.5**	**-1.4**	
	baz=120								
A30A	**Hoffart Farm,**	**120.61**	**30**	P		**PKPdf**	**05 58 17.4**	**-1.2**	
	baz=120								
W18A	**Petrified Fore**	**120.64**	**49**	P		**PKPdf**	**05 58 19.8**	**+0.4**	
	baz=121								
PBAR	**Barrancos**	**120.66**	**315**	PKPdf		**PKPdf**	**05 58 18.4**	**-0.6**	
PBAR	**Barrancos**	**120.66**	**315**	*e*LQ		LQ	06 32 29.2		
PBAR				*e*LR		LR	06 41 02.1		
	comp=Z,812nm,24.0s								
MVCO	**Mesa Verde**	**120.69**	**46**	*e*PKPdf		**PKPdf**	**05 58 20.4**	**+1.0**	
MVCO				LR	LR				
	comp=Z,590nm,22.0s								
MVCO	**Mesa Verde**	**120.69**	**46**	P		**PKPdf**	**05 58 19.5**	**+0.1**	
	baz=121								
PESTR	**Estremoz**	**120.74**	**316**	*e*LQ		LQ	06 32 25.1		
PESTR				*e*LR		LR	06 39 43.9		
	comp=Z,486nm,20.0s								
H26A	**Fairpoint**	**120.79**	**36**	P		**PKPdf**	**05 58 18.2**	**-0.9**	
	baz=121								
PCAS	**Casmilo, Conde**	**120.81**	**318**	PKPdf		**PKPdf**	**05 58 22.4**	**+3.1**	
PCAS	**Casmilo, Conde**	**120.81**	**318**	*e*LQ		LQ	06 32 53.0		
PCAS				*e*LR		LR	06 38 35.2		
	comp=Z,533nm,20.0s								
J25A	**Sunshine Ranch**	**120.84**	**38**	P		**PKPdf**	**05 58 18.0**	**-1.4**	
	baz=121								
G27A	**Dupree**	**120.85**	**35**	P		**PKPdf**	**05 58 18.1**	**-1.2**	
	baz=121								
TUC	**Tucson**	**120.88**	**52**	*e*PKIKP		**PKPdf**	**05 58 19.9**	**+0.2**	
TUC				MLR		MLR			
	comp=Z,575nm,22.0s								
TUC	**Tucson**	**120.88**	**52**	*e*PKPdf		**PKPdf**	**05 58 19.9**	**+0.2**	
TUC				LR	LR				
	comp=Z,575nm,22.0s								
SMCO	**Snowmass**	**120.89**	**44**	*e*PKPdf		**PKPdf**	**05 58 22.5**	**+2.6**	
ULM	**Lac du Bonnet**	**120.90**	**28**	PKP		**PKPdf**	**05 58 18.7**	**-0.4**	
	comp=Z,3.8nm,0.6s,baz=15,slow=2.4,SNR=5.6								
PMTG	**Montargil**	**121.08**	**316**	PKPdf		**PKPdf**	**05 58 22.7**	**+2.9**	
PMTG	**Montargil**	**121.08**	**316**	*e*LQ		LQ	06 32 18.7		
PMTG				*e*LR		LR	06 39 54.6		
	comp=Z,417nm,20.0s								
O23A	**Lake Granby, G**	**121.12**	**42**	P		**PKPdf**	**05 58 19.9**	**-0.3**	
	baz=121								
EVO	**Evora**	**121.19**	**316**	*e*PKIKP		**PKPdf**	**05 58 19.4**	**-0.6**	
	comp=Z,25nm,1.1s								
EVO	**Evora**	**121.19**	**316**	PKPdf		**PKPdf**	**05 58 20.6**	**+0.6**	
H27A	**Howes**	**121.19**	**36**	P		**PKPdf**	**05 58 18.9**	**-1.0**	
	baz=121								
EVOP	**Sao Brissos**	**121.26**	**316**	*e*PKIKP		**PKPdf**	**05 58 19.4**	**-0.7**	
EVOP	**Sao Brissos**	**121.26**	**316**	*e*PKPdf		**PKPdf**	**05 58 19.4**	**-0.7**	
PVAQ	**Vaqueiros**	**121.49**	**315**	*e*LQ		LQ	06 31 51.7		
PVAQ				*e*LR		LR	06 40 45.2		
	comp=Z,481nm,22.0s								
ISCO	**Idaho Springs**	**121.52**	**42**	*e*PKIKP		**PKPdf**	**05 58 21.3**	**+0.2**	
ISCO				MLR		MLR			
	comp=Z,471nm,20.0s								
ISCO	**Idaho Springs**	**121.52**	**42**	*e*PKPdf		**PKPdf**	**05 58 21.3**	**+0.2**	
ISCO				LR	LR				
	comp=Z,471nm,20.0s								
ISCO	**Idaho Springs**	**121.52**	**42**	P		**PKPdf**	**05 58 21.0**	**-0.1**	
	baz=121								
PCVE	**Castro Verde**	**121.61**	**315**	*e*LQ		LQ	06 35 40.3		
PCVE				*e*LR		LR	06 40 42.3		
	comp=Z,1μm,22.0s								
PACT	**Alcochete**	**121.64**	**316**	PKPdf		**PKPdf**	**05 58 16.3**	**-4.6**	
MESJ	**Messejana**	**121.65**	**315**	*e*P		**PKPdf**	**05 58 20.6**	**-0.4**	
MESJ				AMS		AMS	06 54 30.1		
	comp=E,542nm,22.6s								
MESJ	**Messejana**	**121.65**	**315**	PKPdf		**PKPdf**	**05 58 20.4**	**-0.5**	
MESJ	**Messejana**	**121.65**	**315**	*e*PKIKP		**PKPdf**	**05 58 20.5**	**-0.4**	
S22A	**4UR Ranch, Cre**	**121.65**	**45**	P		**PKPdf**	**05 58 21.7**	**+0.3**	
	baz=122								
PBDV	**Barranco-do-Ve**	**121.71**	**314**	PKPdf		**PKPdf**	**05 58 24.0**	**+2.9**	
PBDV	**Barranco-do-Ve**	**121.71**	**314**	*e*LQ		LQ	06 34 46.8		
PBDV				*e*LR		LR	06 40 21.5		
	comp=E,459nm,22.0s								
PNCL	**Nicolau / Gran**	**121.74**	**316**	PKPdf		**PKPdf**	**05 58 20.9**	**-0.2**	
PNCL	**Nicolau / Gran**	**121.74**	**316**	*e*LR		LR	06 40 07.9		
	comp=E,251nm,20.0s								
Q23A	**Hartsel**	**121.80**	**43**	P		**PKPdf**	**05 58 21.7**	**+0.1**	
	baz=122								
PMAFR	**Mafra**	**121.86**	**317**	*e*LQ		LQ	06 32 27.6		
PMAFR				*e*LR		LR	06 39 59.3		
	comp=E,415nm,20.0s								
PMST	**Lisbon--Monsan**	**121.90**	**317**	PKPdf		**PKPdf**	**05 58 17.7**	**-3.7**	
J27A	**Elkhorn Farm,**	**122.02**	**37**	P		**PKPdf**	**05 58 21.9**	**+0.3**	
	baz=122								
I28A	**Midland**	**122.09**	**36**	P		**PKPdf**	**05 58 20.4**	**-1.3**	
	baz=122								
R23A	**Moffat**	**122.15**	**44**	P		**PKPdf**	**05 58 22.7**	**+0.4**	
	baz=122								
MORF	**Marmelete**	**122.19**	**315**	*e*P		**PKPdf**	**05 58 21.7**	**-0.3**	
MORF				AMS		AMS	06 54 57.3		
	comp=E,660nm,19.8s								
MORF	**Marmelete**	**122.19**	**315**	PKPdf		**PKPdf**	**05 58 21.4**	**-0.7**	
MORF	**Marmelete**	**122.19**	**315**	*e*PKIKP		**PKPdf**	**05 58 21.7**	**-0.3**	
AGMN	**Agassiz Nation**	**122.24**	**29**	PFAKE			05 58 30.0	+8.2	
AGMN				LR	LR				
	comp=Z,531nm,20.0s								
J28A	**Allard Ranch,**	**122.38**	**37**	P		**PKPdf**	**05 58 21.1**	**-1.2**	
	baz=122								
PFVI	**Vila Bisbo**	**122.40**	**315**	PKPdf		**PKPdf**	**05 58 22.3**	**-0.1**	
PFVI	**Vila Bisbo**	**122.40**	**315**	*e*LQ		LQ	06 34 11.6		
PFVI				*e*LR		LR	06 41 17.3		
	comp=Z,438nm,18.0s								
G30A	**Faulkton**	**122.57**	**34**	P		**PKPdf**	**05 58 21.3**	**-1.2**	
	baz=122								
I29A	**Vivian Onida**	**122.58**	**36**	P		**PKPdf**	**05 58 23.1**	**+0.5**	
	baz=122								
SDCO	**Great Sand Dun**	**122.58**	**44**	*e*PKPdf		**PKPdf**	**05 58 23.8**	**+0.7**	
SDCO				LR	LR				
	comp=Z,476nm,20.0s								
LAZ	**Ladron**	**122.88**	**49**	*e*PKPdf		**PKPdf**	**05 58 23.9**	**+0.2**	
J29A	**Okreek**	**122.93**	**36**	P		**PKPdf**	**05 58 21.9**	**-1.4**	
	baz=123								
121A	**Cookes Peak, D**	**123.15**	**51**	*e*PKPdf		**PKPdf**	**05 58 24.3**	**+0.1**	
121A	**Cookes Peak, D**	**123.15**	**51**	P		**PKPdf**	**05 58 24.3**	**+0.1**	
	baz=123								
P26A	**Davis Ranch, A**	**123.16**	**41**	P		**PKPdf**	**05 58 24.3**	**+0.3**	
	baz=123								
ANMO	**Albuquerque**	**123.16**	**48**	*e*PKIKP		**PKPdf**	**05 58 24.3**	**+0.1**	
ANMO				MLR	MLR				
	comp=Z,569nm,22.0s								
ANMO	**Albuquerque**	**123.16**	**48**	*e*PKPdf		**PKPdf**	**05 58 24.3**	**+0.1**	
ANMO				LR	LR				
	comp=Z,569nm,22.0s								
OGNE	**Ogallala**	**123.28**	**39**	PFAKE			05 58 40.0	+16	
OGNE				LR	LR				
	comp=Z,579nm,22.0s								
K29A	**Lazy Trails An**	**123.31**	**37**	P		**PKPdf**	**05 58 23.9**	**-0.2**	
	baz=123								
T25A	**Trinidad**	**123.63**	**45**	P		**PKPdf**	**05 58 24.9**	**-0.2**	
	baz=124								
N28A	**Pribbeno Ranch**	**123.73**	**39**	P		**PKPdf**	**05 58 25.0**	**+0.1**	
	baz=124								
R26A	**Arlington**	**123.73**	**43**	P		**PKPdf**	**05 58 25.1**	**0.0**	
	baz=124								
K30A	**Basset**	**123.78**	**37**	P		**PKPdf**	**05 58 24.7**	**-0.3**

TIC	**Toumodi**	**127.34**	**278**	*e*PKP1	**PKPdf**	**05 58 31.3**	**-1.2**
	comp=Z,24nm,0.7s							
LIC	**Lamto**	**127.38**	**277**	*e*PKIKP	**PKPdf**	**05 58 31.5**	**-1.0**
	comp=Z,50nm,1.1s							
LIC	**Lamto**	**127.38**	**277**	*e*PKP1	**PKPdf**	**05 58 32.1**	**-0.4**
	comp=Z,61nm,1.1s							
LIC	**Lamto**	**127.38**	**277**	*e*PKPdf	**PKPdf**	**05 58 31.5**	**-1.0**
Z29A	**Hungry Hill Ra**	**127.43**	**47**	P	**PKPdf**	**05 58 32.1**	**-0.1**
	baz=127							
129A	**Stewart Farms,**	**127.61**	**48**	P	**PKPdf**	**05 58 32.3**	**-0.3**
	baz=128							
TXAR	**Lajitas Array**	**127.67**	**53**	PKP	**PKPdf**	**05 58 32.5**	**-0.3**
	comp=Z,4.9nm,1.1s,baz=299,slow=1.9,SNR=15							
KSU1	**Kansas State U**	**127.74**	**38**	PFAKE		05 58 40.0	+7.4
KSU1				LR	LR			
	comp=Z,678nm,20.0s							
KSU1	**Kansas State U**	**127.74**	**38**	P	**PKPdf**	**05 58 32.2**	**-0.4**
	baz=128							
EFI	**East Falkland**	**127.74**	**180**	PFAKE		05 58 40.0	+7.9
EFI				LR	LR			
	comp=Z,2µm,20.0s							
SCIA	**State Center**	**127.94**	**34**	PFAKE		05 58 40.0	+7.1
SCIA				LR	LR			
	comp=Z,875nm,19.0s							
X31A	**McDonald Ranch**	**128.00**	**45**	P	**PKPdf**	**05 58 33.3**	**0.0**
	baz=128							
329A	**Wagon Wheel Ra**	**128.06**	**49**	P	**PKPdf**	**05 58 33.5**	**0.0**
	baz=128							
529A	**Stev Forest Ra**	**128.48**	**51**	P	**PKPdf**	**05 58 34.4**	**+0.1**
	baz=128							
429A	**Davenport Ranc**	**128.51**	**50**	P	**PKPdf**	**05 58 34.4**	**0.0**
	baz=128							
U34A	**Anderson Ranch**	**128.70**	**42**	*e*PKPdf	**PKPdf**	**05 58 35.7**	**+1.2**
S35A	**Otter Creek Ra**	**128.77**	**40**	P	**PKPdf**	**05 58 34.4**	**-0.2**
	baz=129							
WMOK	**Wichita Mounta**	**128.78**	**44**	PFAKE		05 58 50.0	+15
WMOK				LR	LR			
	comp=Z,751nm,22.0s							
JFWS	**Jewell Farm**	**128.82**	**31**	PFAKE		05 58 50.0	+15
JFWS				LR	LR			
	comp=Z,574nm,21.0s							
430A	**Baggett Ranch,**	**128.94**	**50**	P	**PKPdf**	**05 58 35.3**	**+0.1**
	baz=129							
Z32A	**Haskell**	**129.03**	**46**	P	**PKPdf**	**05 58 35.6**	**+0.4**
	baz=129							
V34A	**Guthrie**	**129.05**	**42**	*e*PKPdf	**PKPdf**	**05 58 35.4**	**+0.3**
V34A	**Guthrie**	**129.05**	**42**	P	**PKPdf**	**05 58 35.2**	**+0.1**
	baz=129							
T35A	**Sooner Cattle**	**129.10**	**41**	P	**PKPdf**	**05 58 35.2**	**0.0**
	baz=129							
530A	**J-C Ranch, Com**	**129.15**	**51**	P	**PKPdf**	**05 58 36.0**	**+0.5**
	baz=129							
331A	**San Angelo**	**129.31**	**49**	P	**PKPdf**	**05 58 35.6**	**-0.2**
	baz=129							
T36A	**Boggs Farm, Ca**	**129.42**	**40**	P	**PKPdf**	**05 58 35.0**	**-0.8**
	baz=129							
431A	**Sonora**	**129.47**	**50**	P	**PKPdf**	**05 58 36.3**	**+0.1**
	baz=129							
531A	**Rocksprings**	**129.76**	**50**	P	**PKPdf**	**05 58 37.3**	**+0.5**
	baz=130							
332A	**Millersview**	**129.79**	**48**	P	**PKPdf**	**05 58 36.5**	**-0.2**
	baz=130							
W35A	**Tecumseh**	**129.87**	**43**	P	**PKPdf**	**05 58 36.7**	**-0.1**
	baz=130							
GLMI	**Grayling**	**130.00**	**25**	PFAKE		05 58 50.0	+13
GLMI				LR	LR			
	comp=Z,907nm,22.0s							
631A	**Perdido Creek**	**130.07**	**51**	P	**PKPdf**	**05 58 38.1**	**+0.8**
	baz=130							
233A	**Rising Star**	**130.10**	**47**	P	**PKPdf**	**05 58 37.7**	**+0.4**
	baz=130							
Z34A	**Collier Ranch,**	**130.12**	**45**	P	**PKPdf**	**05 58 37.8**	**+0.5**
	baz=130							
JCT	**Junction City**	**130.18**	**50**	*e*PKIKP	**PKPdf**	**05 58 37.4**	**-0.1**
JCT				MLR	MLR			
	comp=Z,495nm,22.0s							
JCT	**Junction City**	**130.18**	**50**	*e*PKPdf	**PKPdf**	**05 58 37.4**	**-0.1**
JCT				LR	LR			
	comp=Z,495nm,22.0s							
JCT	**Junction City**	**130.18**	**50**	P	**PKPdf**	**05 58 37.5**	**0.0**
	baz=130							
532A	**Rocksprings**	**130.26**	**50**	P	**PKPdf**	**05 58 37.2**	**-0.5**
	baz=130							
W36A	**Wetumka**	**130.31**	**42**	P	**PKPdf**	**05 58 37.7**	**+0.1**
	baz=130							
333A	**Richland Sprin**	**130.39**	**48**	P	**PKPdf**	**05 58 37.4**	**-0.4**
	baz=130							
X36A	**Centrahoma**	**130.55**	**43**	P	**PKPdf**	**05 58 37.7**	**-0.3**
	baz=130							
632A	**Uvalde**	**130.64**	**51**	P	**PKPdf**	**05 58 39.0**	**+0.6**
	baz=131							
334A	**Lometa**	**130.94**	**48**	P	**PKPdf**	**05 58 39.9**	**+1.0**
	baz=131							
HDIL	**Hopedale**	**131.01**	**32**	PFAKE		05 58 50.0	+11
HDIL				LR	LR			
	comp=Z,15µm,21.0s							
832A	**Faith Ranch, C**	**131.05**	**52**	P	**PKPdf**	**05 58 40.1**	**+0.9**
	baz=131							
633A	**Saathoff Ranch**	**131.14**	**50**	P	**PKPdf**	**05 58 39.7**	**+0.4**
	baz=131							
434A	**Burnet**	**131.17**	**48**	P	**PKPdf**	**05 58 40.1**	**+0.7**
	baz=131							
335A	**Moody**	**131.56**	**47**	P	**PKPdf**	**05 58 40.3**	**+0.2**
	baz=132							
MIAR	**Mount Ida**	**132.43**	**41**	*e*PKIKP	**PKPdf**	**05 58 41.9**	**+0.3**
MIAR				MLR	MLR			
	comp=Z,675nm,21.0s							
MIAR	**Mount Ida**	**132.43**	**41**	*e*PKPdf	**PKPdf**	**05 58 41.9**	**+0.3**
MIAR				LR	LR			
	comp=Z,675nm,21.0s							
AAM	**Ann Arbor**	**132.44**	**26**	PFAKE		05 58 50.0	+8.6
AAM				LR	LR			
	comp=Z,653nm,20.0s							
636A	**Smothers Creek**	**132.74**	**49**	P	**PKPdf**	**05 58 43.3**	**+1.0**
	baz=133							
KVTX	**Kingsville**	**133.03**	**52**	PFAKE		05 58 50.0	+7.1
KVTX				LR	LR			
	comp=Z,514nm,19.0s							
HKT	**Hockley**	**133.42**	**48**	*e*PKIKP	**PKPdf**	**05 58 44.4**	**+0.9**
HKT	**Hockley**	**133.42**	**48**	*e*PKPdf	**PKPdf**	**05 58 44.4**	**+0.9**
LONY	**Lake Ozonia**	**133.78**	**17**	PFAKE		05 59 00.0	+16
LONY				LR	LR			
	comp=Z,744nm,21.0s							
ACSO	**Alum Creek Sta**	**134.40**	**27**	PFAKE		05 59 00.0	+15
ACSO				LR	LR			
	comp=Z,627nm,20.0s							
NCB	**Newcomb**	**134.48**	**17**	PFAKE		05 59 00.0	+15
NCB				LR	LR			
	comp=Z,3µm,22.0s							
LBNH	**Lisbon**	**134.86**	**15**	PFAKE		05 59 00.0	+14
LBNH				LR	LR			
	comp=Z,910nm,22.0s							
WVT	**Waverly**	**134.95**	**35**	*e*PKIKP	**PKPdf**	**05 58 46.2**	**-0.1**
WVT	**Waverly**	**134.95**	**35**	*e*PKPdf	**PKPdf**	**05 58 46.1**	**-0.1**
BINY	**Binghamton**	**135.53**	**20**	PFAKE		05 59 00.0	+13
BINY				LR	LR			
	comp=Z,867nm,22.0s							
ASCN	**Ascension**	**136.13**	**258**	PFAKE		05 59 00.0	+11
ASCN				LR	LR			
	comp=Z,2µm,20.0s							
PLCA	**Paso Flores**	**137.01**	**165**	PKP	**PKPdf**	**05 58 48.2**	**-1.9**
	comp=Z,4.4nm,1.2s,baz=202,slow=4.4,SNR=3.7							
TKL	**Tuckaleechee C**	**137.55**	**32**	*e*PKIKP	**PKPdf**	**05 58 51.9**	**+0.7**
TKL	**Tuckaleechee C**	**137.55**	**32**	*e*PKPdf	**PKPdf**	**05 58 51.9**	**+0.7**
LRAL	**Lakeview Retre**	**137.59**	**38**	*e*PKPdf	**PKPdf**	**05 58 52.9**	**+1.6**
BLA	**Blacksburg**	**138.01**	**28**	PFAKE		05 59 00.0	+8.0
BLA				LR	LR			
	comp=Z,591nm,19.0s							
CBN	**Corbin Frederi**	**138.51**	**24**	PFAKE		05 59 00.0	+7.2
CBN				LR	LR			
	comp=Z,693nm,20.0s							
BRAL	**Brewton**	**138.91**	**40**	PFAKE		05 59 10.0	+16
BRAL				LR	LR			
	comp=Z,622nm,20.0s							
GOGA	**Godfrey**	**139.40**	**34**	PFAKE		05 59 10.0	+15
GOGA				LR	LR			
	comp=Z,739nm,20.0s							
CNNC	**Cliffs of the**	**140.79**	**27**	PFAKE		05 59 10.0	+13
CNNC				LR	LR			
	comp=Z,1µm,20.0s							
TRQA	**Tornquist**	**141.14**	**174**	PFAKE		05 59 10.0	+12
TRQA				LR	LR			
	comp=Z,1µm,19.0s							
NHSC	**New Hope**	**141.41**	**31**	PFAKE		05 59 10.0	+12
NHSC				LR	LR			
	comp=Z,662nm,22.0s							
SACV	**Santiago Islan**	**143.68**	**295**	PFAKE		05 59 10.0	+7.3
SACV				LR	LR			
	comp=Z,563nm,20.0s							
TEIG	**Tepich**	**144.23**	**55**	PKP	PKPbc	05 59 01.8	0.0
	comp=Z,75nm,1.2s,baz=308,slow=3.5							
TEIG	**Tepich**	**144.23**	**55**	*e*PKPdf	**PKPab**	**05 59 00.8**	**-0.5**
TEIG				PKP	PKPbc	05 59 01.8	0.0
TEIG				LR	LR			
	comp=Z,362nm,19.0s							
LCO	**Las Campanas**	**147.80**	**158**	*e*PKPbc	**PKPbc**	**05 59 13.2**	**+0.5**
LCO				LR	LR			
	comp=Z,2µm,22.0s							
BBSR	**BB Station**	**147.84**	**11**	*e*PKPbc	**PKPbc**	**05 59 11.8**	**-0.5**
BBSR				LR	LR			
	comp=Z,345nm,19.0s							
JTS	**JuntasAbangare**	**151.11**	**70**	PKPbc	**PKPbc**	**05 59 19.0**	**-2.0**
	comp=Z,10nm,0.9s,baz=347,slow=6.4,SNR=6.8							
JTS	**JuntasAbangare**	**151.11**	**70**	*e*PKIKP	**PKPdf**	**05 59 15.3**	**+0.2**
JTS				MLR	MLR			
	comp=Z,691nm,19.0s							
JTS	**JuntasAbangare**	**151.11**	**70**	*e*PKPdf	**PKPdf**	**05 59 15.3**	**+0.2**
JTS				PKPbc	**PKPbc**	**05 59 19.0**	**-2.0**
JTS				LR	LR			
	comp=Z,691nm,19.0s							
CPUP	**Villa Florida**	**153.05**	**180**	PKP	**PKPdf**	**05 59 16.4**	**-1.3**
	comp=Z,1.3nm,1.0s,baz=233,slow=20,SNR=3.4							
CPUP				PKPbc	**PKPbc**	**05 59 24.3**	**-0.7**
	comp=Z,5.9nm,1.1s,baz=42,slow=1.5,SNR=7.6							
CPUP	**Villa Florida**	**153.05**	**180**	PKIKP	**PKPdf**	**05 59 16.4**	**-1.3**
CPUP				*e*		05 59 18.1		
CPUP						05 59 24.3		
CPUP	**Villa Florida**	**153.05**	**180**	PKP	**PKPdf**	**05 59 16.4**	**-1.3**
CPUP				*e*PKPdf	PKPbc	05 59 18.1	-6.9
CPUP				PKPbc	**PKPbc**	**05 59 24.3**	**-0.7**
MTDJ	**Mount Denham**	**153.77**	**47**	PFAKE		05 59 30.0	+3.1
MTDJ				LR	LR			
	comp=Z,560nm,19.0s							
LVC	**Limon Verde**	**154.23**	**155**	PFAKE		05 59 30.0	+2.0
LVC				LR	LR			
	comp=Z,504nm,19.0s							
GTBY	**Guantanamo Bay**	**154.32**	**41**	PFAKE		05 59 30.0	+2.1
GTBY				LR	LR			
	comp=Z,665nm,20.0s							
GRTK	**Grand Turk**	**155.47**	**32**	PFAKE		05 59 30.0	+8.8
GRTK				LR	LR			
	comp=Z,641nm,20.0s							
BCIP	**Isla Barro Col**	**156.25**	**69**	PFAKE		05 59 30.0	+7.6
BCIP				LR	LR			
	comp=Z,596nm,20.0s							
NNA	**Nana**	**156.98**	**124**	PFAKE		05 59 30.0	+6.6
NNA				LR	LR			
	comp=Z,704nm,20.0s							
SDDR	**Presa de Saban**	**157.41**	**36**	PFAKE		05 59 30.0	+6.2
SDDR				LR	LR			
	comp=Z,619nm,21.0s							
RCBR	**Riachuelo**	**157.46**	**253**	PFAKE		05 59 40.0	-16
RCBR				LR	LR			
	comp=Z,1µm,20.0s							
ATAH	**Atahualpa**	**157.72**	**111**	PKP	**PKPdf**	**05 59 24.8**	**0.0**
	comp=Z,4.6nm,0.8s,baz=112,slow=19,SNR=2.9							
OTAV	**Otavalo**	**159.04**	**91**	*e*PKPdf	**PKPdf**	**05 59 27.4**	**+0.9**
OTAV				LR	LR			
	comp=Z,689nm,22.0s							
LPAZ	**La Paz**	**160.06**	**149**	PKP	**PKPdf**	**05 59 27.5**	**-0.2**
	comp=Z,9.0nm,1.2s,baz=59,slow=4.2,SNR=10							
LPAZ				PKPab	**PKPab**	**06 00 09.4**	**+2.0**
	comp=Z,5.7nm,0.9s,baz=325,slow=1.2,SNR=8.4							
SJG	**San Juan**	**160.79**	**26**	PFAKE		05 59 40.0	+12
SJG				LR	LR			
	comp=Z,633nm,20.0s							
BDFB	**Brasilia**	**161.19**	**209**	PKP	**PKPdf**	**05 59 28.0**	**-0.4**
	comp=Z,9.1nm,1.2s,baz=122,slow=9.5,SNR=3.5							
BDFB				PKPab	**PKPab**	**06 00 09.2**	**-2.5**
	comp=Z,3.4nm,0.9s,baz=163,slow=10,SNR=2.2							
BDFB	**Brasilia**	**161.19**	**209**	PKIKP	**PKPdf**	**05 59 28.0**	**-0.4**
ANWB	**Willy Bob**	**162.69**	**14**	PFAKE		05 59 40.0	+10
ANWB				LR	LR			
	comp=Z,474nm,20.0s							
ROSC	**El Rosal**	**162.71**	**76**	PKP	**PKPdf**	**05 59 30.6**	**+0.2**
	comp=Z,2.4nm,0.3s,baz=86,slow=5.5,SNR=7.4							
ROSC				PKPab	**PKPab**	**06 00 18.4**	**-0.7**
	comp=Z,2.1nm,0.3s,baz=180,slow=24,SNR=37							
ROSC	**El Rosal**	**162.71**	**76**	PKP	**PKPdf**	**05 59 30.6**	**+0.2**
ROSC				*e*PKPdf	**PKPdf**	**05 59 30.9**	**+0.6**
ROSC				PKPab	**PKPab**	**06 00 18.4**	**-0.7**
SIV	**San Ignacio**	**162.97**	**168**	PKP	**PKPdf**	**05 59 29.9**	**-0.1**
	comp=Z,11nm,1.1s,baz=137,slow=1.1,SNR=9.2							
SIV				PKPab	**PKPab**	**06 00 20.0**	**+0.8**
	comp=Z,8.3nm,0.9s,baz=222,slow=6.3,SNR=6.3							
SDV	**Santo Domingo**	**164.64**	**58**	*e*PKPdf	**PKPdf**	**05 59 31.2**	**-0.7**
SDV				*e*PKPab	**PKPab**	**06 00 26.8**	**-0.4**
SDV				LR	LR			
	comp=Z,800nm,20.0s							
FDF	**Fort de France**	**165.67**	**14**	PFAKE		05 59 40.0	+7.5
FDF				LR	LR			
	comp=Z,752nm,22.0s							
BBGH	**Gun Hill**	**167.54**	**9**	PFAKE		05 59 40.0	+6.1
BBGH				LR	LR			
	comp=Z,2µm,20.0s							
GRGR	**Grenville**	**167.98**	**20**	PFAKE		05 59 50.0	+16
GRGR				LR	LR			
	comp=Z,800nm,21.0s							
SAML	**Samuel**	**168.80**	**150**	*e*PKPdf	**PKPdf**	**05 59 34.4**	**-0.4**
SAML				*e*PKPab	**PKPab**	**06 00 45.2**	**+0.2**
SAML				LR	LR			
	comp=Z,1µm,22.0s							
PTGA	**Pitinga**	**177.11**	**121**	PKP	**PKPdf**	**05 59 37.0**	**-1.2**
	comp=Z,1.2nm,0.3s,baz=350,slow=1.6,SNR=4.5							
PTGA				PKPab	PKPab	06 01 24.2	+1.9
	comp=Z,1.3nm,0.3s,baz=236,slow=3.8,SNR=4.9							

TRN 08 05:59:52.1,14°34N×60°50W,h62km,MD3.5,M2.9(FDF),
Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MVM	**Montagne Vaucl**	**0.44**	**299**	*e*P	Pn	06 00 05.2	+1.5
LPMF	**Morne Lapointe**	**0.51**	**297**	*e*P	Pn	06 00 05.6	+1.3
ZAM	**Aeronautique**	**0.56**	**294**	*e*P	Pn	06 00 06.4	+1.5
TRMF	**Trois Ilets**	**0.57**	**290**	*e*P	Pn	06 00 06.5	+1.6
BIM	**Bigot**	**0.58**	**287**	*e*P	Pn	06 00 07.0	+1.9
BIM				*e*S	Sn	06 00 17.2	+2.5
BVM	**Bellevue**	**0.67**	**306**	*e*P	Pn	06 00 07.0	+0.8
FDF	**Fort de France**	**0.74**	**302**	*e*P	Pn	06 00 08.2	+1.2
FDF	**Fort de France**	**0.74**	**302**	*e*P	Pn	06 00 08.5	+1.4
FDF				*e*S	Sn	06 00 19.1	+1.1
FDF				*e*S	Sn	06 00 19.8	+1.8
FDF				*e*S	Sn	06 00 20.0	+2.0
MCLT	**Moule a Chique**	**0.76**	**214**	*e*P	Pn	06 00 08.0	+0.7
MCLT				*e*S	Sn	06 00 20.1	+1.7
SVN	**Savane Anatole**	**0.81**	**308**	*e*P	Pn	06 00 09.7	+1.7
DSHT	**Scott's Head**	**1.21**	**316**	*e*P	Pn	06 00 15.1	+2.1
DSHT				*e*S	Sn	06 00 31.3	+2.7
DLPL	**La Plaine**	**1.22**	**324**	*e*P	Pn	06 00 13.8	+0.6
DLPL				*e*S	Sn	06 00 31.5	+2.6
SVV	**Soufriere Volc**	**1.23**	**214**	*e*P	Pn	06 00 15.5	+2.1
SVV				*e*S	Sn	06 00 31.2	+2.0
SVB	**Belmont**	**1.29**	**215**	*e*P	Pn	06 00 15.7	+1.6
SVB				*e*S	Sn	06 00 33.0	+2.4
FCV	**Fort Charlotte**	**1.38**	**212**	*e*P	Pn	06 00 17.3	+2.0
FCV				*e*S	Sn	06 00 34.2	+1.5
MGG	**Marie-Galante**	**1.75**	**333**	*e*P	Pn	06 00 21.0	+0.7
PHG	**Guadaloupe-2**	**2.00**	**327**	*e*P	Pn	06 00 25.3	+1.5
HMG	**Houelmont**	**2.00**	**325**	*e*P	Pn	06 00 25.7	+2.0
SCG	**Saint Claude**	**2.03**	**326**	*e*P	Pn	06 00 25.9	+1.8
DEG	**La Desirade**	**2.03**	**345**	*e*P	Pn	06 00 24.2	+0.1
MLG	**Mont-d'or**	**2.07**	**326**	*e*P	Pn	06 00 26.3	+1.6
LZG	**Guadaloupe-1**	**2.17**	**326**	*e*P	Pn	06 00 27.6	+1.6
SEG	**Port Louis**	**2.27**	**335**	*e*P	Pn	06 00 28.9	+1.6

ISCJB ***08*** *06:01:41.8±1.1,32°.28N±0°.04×115°.29W±0°.07, h19km±14km, Error ellipse: s-maj=10.0km s-min=6.3km az=161.7*
ECX ***08*** *06:01:43.4±0.6,32°.28N×115°.34W,h7km, MD2.9,ML3.0*
MEX ***08*** *06:01:44.0±0.3,32°.33N×115°.23W,h19km±11km,MD3.9*

ISC 08 06:01:41.6±1.0,32°.26N±0°.04×115°.33W±0°.04,h15km±8km, n16,σ0°32/23,4C-2D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.16**	**8**	*e*P	**Pg**	**06 01 45.7**	**-0.1**
CPBX				*e*S	**Sg**	**06 01 48.8**	**+0.3**
CPBX				AML	AML	06 01 49.7	
	comp=E,18µm,0.2s						
CPBX				⇑*e*		06 01 49.7	
MBIG	**Mexicali**	**0.19**	**37**	*e*P	**Pb**	**06 01 46.7**	**-0.1**
MBIG				*e*S	**Sg**	**06 01 48.9**	**-0.2**
SGL	**Mount Signal**	**0.51**	**320**	*e*P2	**Pg**	**06 01 51.7**	**-0.2**
ERPC	**Ernies Place**	**0.56**	**330**	⇓*i*P	**Pb**	**06 01 53.1**	**0.0**
WESC	**Westside Schoo**	**0.60**	**326**	*e*P	**Pg**	**06 01 53.7**	**+0.2**
RDX	**Rancho Dawling**	**0.61**	**238**	*e*P	**Pb**	**06 01 54.4**	**+0.2**
RDX				*e*S	**Sb**	**06 02 03.0**	**+0.3**
RDX				AML	AML	06 02 04.5	
	comp=N,454nm,0.3s						
RDX				⇑*e*		06 02 04.5	
COA	**Coachella**	**0.63**	**16**	*e*P2	**Pg**	**06 01 54.4**	**+0.3**
RMX	**La Rumorosa**	**0.72**	**299**	*e*P	**Pg**	**06 01 55.3**	**-0.5**
RMX				⇓*e*		06 02 04.8	
RMX				*e*S	**Sg**	**06 02 05.1**	**-0.2**
ECBX	**El Chinero**	**0.82**	**163**	*e*P9	Pg	06 01 46.4	-11
ECBX				*e*S	Sg	06 01 57.4	-11
ZAX	**El Zacaton**	**1.09**	**227**	*e*P	**Pn**	**06 02 02.5**	**0.0**
ZAX				*e*S	**Sg**	**06 02 17.4**	**+0.3**
ZAX				⇑*e*		06 02 20.6	
ZAX				AML	AML	06 02 20.6	
	comp=E,451nm,0.7s						
CBX	**Cerro Bola**	**1.13**	**273**	*e*P	**Pb**	**06 02 02.6**	**-0.3**
CBX				*e*S	**Sb**	**06 02 17.9**	**+0.3**
CBX	**Cerro Bola**	**1.13**	**273**	*e*P	**Pb**	**06 02 03.0**	**0.0**
CBX				*e*S	**Sb**	**06 02 18.1**	**+0.6**
CBX				⇑*e*		06 02 20.4	
CBX				AML	AML	06 02 20.4	
	comp=N,409nm,0.4s						
BAR	**Barrett**	**1.21**	**291**	*e*P	**Pn**	**06 02 03.9**	**-0.1**
SPIG	**San Pedro Mart**	**1.21**	**185**	*e*P	**Pn**	**06 02 04.0**	**-0.4**
SPIG				*e*S	**Sb**	**06 02 19.6**	**-0.5**
SPX	**San Pedro Mart**	**1.21**	**185**	*e*P	**Pb**	**06 02 04.9**	**+0.4**
ECNX	**Esteban Cantu**	**1.23**	**241**	*e*P	**Pg**	**06 02 05.3**	**-0.2**

ISCJB ***08*** *06:06:19.6±0.6,34°.52N±0°.05×25°.32E±0°.03,h30km, mb3.7/6,Error ellipse: s-maj=6.8km s-min=3.7km az=2.9*
IDC ***08*** *06:06:21.1±1.5,34°.67N×25°.47E,h42km±13km,mb3.7/6, mb1 3.7/10,mb1mx3.4/46,mbtmp3.8/10,ML3.8/4, Error ellipse: s-maj=21.0km s-min=14.0km az=38.0*
ATH ***08*** *06:06:21.8,34°.73N×25°.25E,h32km±1km,MD3.5/15*
CSEM ***08*** *06:06:21.0±0.4,34°.63N×25°.30E,h15km,MD3.5, Error ellipse: s-maj=9.7km s-min=3.6km az=176.0*
THE ***08*** *06:06:22.0,34°.67N×25°.30E,h8km±4km,ML3.1/4,Error ellipse: s-maj=5.2km s-min=1.6km az=350.0*

ISC 08 06:06:20.6±0.7,34°61N±0°.04×25°33E±0°.02,h30km,n119, σ1°53/128,mb3.9/6,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**0.56**	**13**	P	**Pb**	**06 06 31.7**	**-0.4**
LAST				S	**Sb**	**06 06 40.6**	**+0.6**
LAST	**Lasithi**	**0.56**	**13**	*e*PB	**Pb**	**06 06 31.8**	**-0.4**
LAST				*e*SB	**Sb**	**06 06 40.0**	**0.0**
LAST	**Lasithi**	**0.56**	**13**	P	**Pb**	**06 06 31.7**	**-0.4**
LAST				*e*Sb	**Sb**	**06 06 40.0**	**0.0**
SIVA	**Sivas**	**0.59**	**314**	P	**Pb**	**06 06 32.2**	**-0.2**
SIVA	**Sivas**	**0.59**	**314**	*e*PB	**Pb**	**06 06 32.4**	**0.0**
SIVA				*e*SB	**Sb**	**06 06 39.9**	**-0.6**
SIVA	**Sivas**	**0.59**	**314**	*e*Pb	**Pb**	**06 06 32.4**	**0.0**
SIVA				*e*Sb	**Sb**	**06 06 39.9**	**-0.6**
NPS	**Neapolis**	**0.69**	**20**	P	**Pb**	**06 06 34.0**	**-0.2**
NPS	**Neapolis**	**0.69**	**20**	*e*PN	**Pb**	**06 06 34.0**	**-0.2**
NPS				*e*SN	**Sb**	**06 06 43.5**	**0.0**
NPS	**Neapolis**	**0.69**	**20**	P	**Pb**	**06 06 34.0**	**-0.2**
NPS				*e*Sn	**Sb**	**06 06 43.5**	**0.0**
IDI	**Anoyia**	**0.76**	**332**	P	**Pn**	**06 06 35.2**	**-0.3**
	59nm,0.3s,baz=142,slow=18,SNR=236						
IDI				S	**Sn**	**06 06 47.8**	**+1.9**
	135nm,0.3s,baz=120,slow=20,SNR=19						
ZKR	**Zakros**	**0.89**	**55**	P	**Pn**	**06 06 38.2**	**+1.1**
ZKR	**Zakros**	**0.89**	**55**	*e*PB	**Pn**	**06 06 38.2**	**+1.1**
ZKR				*e*SN	**Sb**	**06 06 51.6**	**+2.6**
ZKR	**Zakros**	**0.89**	**55**	P	**Pn**	**06 06 38.2**	**+1.1**
ZKR				*e*Sn	**Sb**	**06 06 51.6**	**+2.6**
GVD	**Gavdhos**	**1.04**	**283**	P	**Pb**	**06 06 40.9**	**+0.9**
GVD				S	**Sb**	**06 06 56.3**	**+2.9**
GVD	**Gavdhos**	**1.04**	**283**	*e*PN	**Pb**	**06 06 41.0**	**+0.9**
GVD	**Gavdhos**	**1.04**	**283**	*e*Pn	**Pb**	**06 06 41.0**	**+0.9**
GVD				S	**Sb**	**06 06 56.3**	**+2.9**
VAM	**Vamos**	**1.22**	**311**	P	**Pn**	**06 06 41.5**	**-0.1**
VAM	**Vamos**	**1.22**	**311**	*e*PB	**Pn**	**06 06 41.9**	**+0.3**
VAM	**Vamos**	**1.22**	**311**	P	**Pn**	**06 06 41.5**	**-0.1**
VAM	**Vamos**	**1.22**	**311**	*e*Pb	**Pn**	**06 06 41.9**	**+0.3**
KARN	**Karanos**	**1.40**	**305**	P	**Pn**	**06 06 45.8**	**+1.7**
KARN	**Karanos**	**1.40**	**305**	*e*PN	**Pb**	**06 06 46.2**	**+0.1**
KARN	**Karanos**	**1.40**	**305**	P	**Pn**	**

MRKA	**Markates**	**4.32**	**342**	*e*Pn		**Pn**	**06 07 25.7**	**+1.5**
DRO	**Drossia**	**4.43**	**320**	*e*PN		**Pn**	**06 07 28.8**	**+3.0**
DRO	**Drossia**	**4.43**	**320**	*e*Pn		**Pn**	**06 07 28.8**	**+3.0**
KALE	**Kalithea**	**4.56**	**327**	*e*PN		**Pn**	**06 07 29.8**	**+2.2**
KALE	**Kalithea**	**4.56**	**327**	*e*Pn		**Pn**	**06 07 29.8**	**+2.2**
KULA	**Kula-Manisa**	**4.73**	**34**	*e*PN		**Pn**	**06 07 32.5**	**+2.5**
KULA	**Kula-Manisa**	**4.73**	**34**	*e*Pn		**Pn**	**06 07 32.5**	**+2.5**
SKIA	**Skiathos**	**4.79**	**342**	*e*PN		**Pn**	**06 07 32.2**	**+1.6**
SKIA	**Skiathos**	**4.79**	**342**	*e*Pn		**Pn**	**06 07 32.2**	**+1.6**
AGG	**Agios Georgios**	**5.01**	**332**	*e*PN		**Pn**	**06 07 36.1**	**+2.3**
AGG	**Agios Georgios**	**5.01**	**332**	*e*Pn		Pn	06 07 37.0	+3.2
AGG	**Agios Georgios**	**5.01**	**332**	*e*Pn		Pn	06 07 37.0	+3.2
XOR	**Xorichti**	**5.04**	**341**	*e*PN		**Pn**	**06 07 36.6**	**+2.4**
XOR	**Xorichti**	**5.04**	**341**	*e*Pn		**Pn**	**06 07 36.6**	**+2.4**
PDO	**Prodromos**	**5.19**	**321**	*e*PN		Pn	06 07 40.1	+3.9
LKD2	**Lefkada island**	**5.61**	**319**	*e*PN		**Pn**	**06 07 43.7**	**+1.8**
LKD2	**Lefkada island**	**5.61**	**319**	*e*Pn		**Pn**	**06 07 43.7**	**+1.8**
NEST	**Nestorio**	**6.71**	**331**	*e*PN		**Pn**	**06 07 59.8**	**+2.6**
NEST	**Nestorio**	**6.71**	**331**	*e*Pn		**Pn**	**06 07 59.8**	**+2.6**
BRTR	**Keskin Array B**	**8.37**	**50**	P		**Pn**	**06 08 19.8**	**-0.1**
	0.1nm,0.3s,baz=224,slow=11,SNR=3.0							
EIL	**Elat**	**9.53**	**118**	P		**Pn**	**06 08 35.1**	**-0.7**
	0.7nm,0.3s,baz=216,slow=1.6,SNR=7.9							
EIL				S		**Sn**	**06 10 18.6**	**-3.3**
	0.5nm,0.3s,baz=78,slow=20,SNR=3.8							
AKASG	**Malin Array Be**	**16.33**	**9**	P		**Pn**	**06 10 05.2**	**-2.4**
	2.4nm,0.3s,baz=200,slow=11,SNR=9.4							
KBZ	**Khabaz**	**16.36**	**51**	P		**P**	**06 10 11.6**	**+1.0**
	0.1nm,0.3s,baz=56,slow=24,SNR=15							
GERES	**GERESS Array B**	**16.63**	**332**	P		**Pn**	**06 10 11.8**	**+0.3**
	0.2nm,0.3s,baz=143,slow=13,SNR=5.4							
FINES	**FINESS Array B**	**26.86**	**1**	P		**P**	**06 11 55.8**	**-2.4**
	1.6nm,0.7s,baz=171,slow=11,SNR=6.1							
EKA	**Eskdalemuir Ar**	**28.57**	**325**	P		**P**	**06 12 12.8**	**-0.8**
	1.7nm,0.8s,baz=123,slow=9.1,SNR=3.5							
TORD	**Torodi Ar. Bea**	**30.24**	**231**	P		**P**	**06 12 29.5**	**+0.6**
	1.2nm,0.6s,baz=32,slow=8.6,SNR=17							
ARCES	**ARCESS Array B**	**34.98**	**0**	P		P	06 13 07.3	-2.5
	2.9nm,1.1s,baz=178,slow=10,SNR=7.5							
ZALV	**Zalesovo Beam**	**45.29**	**46**	P		**P**	**06 14 34.5**	**-0.8**
	1.0nm,0.5s,baz=282,slow=9.6,SNR=3.6							
YKA	**Yellowknife Ar**	**78.01**	**342**	P		**P**	**06 18 15.1**	**-0.6**
	0.1nm,0.4s,baz=32,slow=5.3,SNR=4.9							

BJI 08 06:19:42.3, 30.13N×103.48E, h17km, ML3.5/14, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.81**	**17**	*e*Pg	Pb	06 19 55.2	-2.9
CD2				Sg	Sb	06 20 06.8	-2.1
CD2				SMN			
	2μm,0.5s						
CD2				SME			
	2μm,0.5s						
GYA	**Guiyang**	**4.61**	**142**	Pg	Pg	06 21 08.7	-2.1
GYA				Sn	Sn	06 21 48.2	+3.5
GYA				Sg	Sb	06 22 03.4	+5.1
GYA				SMN			
	100nm,0.7s						
GYA				SME			
	70nm,0.9s						
LZH	**Lanzhou**	**5.95**	**3**	*e*Pg	Pb	06 21 25.8	0.0
LZH				Sg	Sb	06 22 42.7	+5.8
LZH				SMN			
	50nm,1.1s						
LZH				SME			
	41nm,1.4s						
XAN	**Xi'an**	**6.04**	**48**	Pg	Pb	06 21 30.2	+3.0
XAN				Sg	Sb	06 22 44.2	+4.9
XAN				SMN			
	78nm,1.1s						
XAN				SME			
	47nm,1.0s						

*ISCJB **08** 06:20:21.0±0.7, 52.5°N±0.1°×33.0°W±0.1°, 1, h10km, mb3.5/11, Error ellipse: s-maj=16.6km s-min=10.6km az=15.6*
*IDC **08** 06:20:21.4±0.8, 52.55°N×32.90°W, h0km, mb3.6/12, mb1 3.8/14, mb1mx3.6/47, mbtmp3.7/14, ML4.1/2, Error ellipse: s-maj=24.8km s-min=14.8km az=20.0*
ISC 08 06:20:22.8±0.8, 52.5°N±0.1°×32.9°W±0.1°, 1, h10km, n16, σ0.9s 51/16, mb3.6/11, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**13.64**	**21**	Pn	**Pn**	**06 23 36.6**	**+0.7**
	0.6nm,0.3s,baz=228,slow=16,SNR=1.9						
EKA	**Eskdalemuir Ar**	**17.69**	**69**	P	**Pn**	**06 24 29.0**	**+0.1**
	baz=258,slow=8.6,SNR=6.2						
SCHQ	**Schefferville**	**20.11**	**290**	P	**P**	**06 24 56.8**	**+0.4**
	2.5nm,0.5s,baz=79,slow=11,SNR=10						
FRB	**Frobisher Bay**	**21.59**	**315**	P	**P**	**06 25 12.2**	**-0.1**
	1.9nm,0.6s,baz=94,slow=7.2,SNR=5.9						
ESDC	**Sonseca Array**	**23.65**	**111**	P	**P**	**06 25 34.1**	**0.0**
	0.1nm,0.3s,baz=302,slow=9.8,SNR=3.0						
NOA	**NORSAR Array B**	**25.19**	**53**	P	**P**	**06 25 47.6**	**-0.5**
	1.0nm,0.8s,baz=272,slow=9.1,SNR=2.6						
GERES	**GERESS Array B**	**29.37**	**78**	P	**P**	**06 26 25.8**	**0.0**
	0.5nm,0.6s,baz=294,slow=7.1,SNR=6.6						
FINES	**FINESS Array B**	**32.28**	**50**	P	**P**	**06 26 50.8**	**-0.4**
	2.7nm,1.0s,baz=287,slow=9.7,SNR=2.7						
AKASG	**Malin Array Be**	**37.59**	**67**	P	**P**	**06 27 36.1**	**-0.9**
	0.3nm,0.2s,baz=304,slow=8.4,SNR=5.2						
YKA	**Yellowknife Ar**	**42.09**	**317**	P	**P**	**06 28 14.5**	**+0.1**
	0.1nm,0.7s,baz=61,slow=8.9,SNR=2.9						
BRTR	**Keskin Array B**	**46.26**	**78**	P	**P**	**06 28 49.1**	**+0.8**
	1.0nm,0.8s,baz=293,slow=6.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**48.02**	**132**	P	**P**	**06 29 02.3**	**+0.2**
	0.3nm,0.5s,baz=338,slow=7.6,SNR=3.9						
PDAR	**Pinedale Array**	**50.24**	**291**	P	**P**	**06 29 18.8**	**-0.3**
	0.3nm,0.5s,baz=76,slow=7.9,SNR=3.2						
DBIC	**Dimbokro**	**51.17**	**143**	P	**P**	**06 29 26.2**	**+0.2**
	5.3nm,1.1s,baz=3.4,slow=5.1,SNR=3.6						
WRA	**Warramunga Arr**	**146.01**	**22**	PKPbc	**PKPbc**	**06 40 02.5**	**-0.2**
	0.4nm,0.9s,baz=344,slow=3.2,SNR=3.0						
ASAR	**Alice Springs**	**149.49**	**24**	PKPbc	**PKPbc**	**06 40 11.3**	**-0.8**
	0.1nm,0.5s,baz=337,slow=1.5,SNR=3.0						

GUC 08 06:46:07.7±0.7, 35.80S×72.62W, h23km±6km, ML3.9, 2C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.36**	**202**	⇓*i*P	Pb	06 46 16.0	+0.5
COCH				*i* S	Sb	06 46 21.6	+0.8
LNCH	**Linares**	**0.83**	**94**	⇓*i*P	Pn	06 46 24.2	+0.3
LNCH				*e*S	Sn	06 46 35.7	+0.1
TALC	**Talca**	**0.90**	**64**	⇓*i*P	Pb	06 46 24.5	-0.1
TALC				*e*S	Sn	06 46 37.3	+0.1
CCSP	**San Pedro de C**	**1.11**	**201**	⇓*i*P	Pb	06 46 28.1	-0.2
CCSP				*e*S	Sn	06 46 43.0	+0.5
CCSP				AML	AML	06 46 44.2	
	comp=E,2μm,0.6s						
NICH	**Los Niches**	**1.39**	**55**	⇑*i*P	Pn	06 46 32.2	+0.6
NICH				*i* S	Sb	06 46 50.9	+0.7
CLCH	**Cerro Calan**	**2.95**	**36**	⇑*i*P	Pn	06 46 56.2	+2.9
CLCH				*e*S	Sb	06 47 36.3	+0.9
CLCH				AML	AML	06 47 48.7	
	comp=E,587nm,0.5s						
PEL	**Peldehue**	**3.09**	**32**	⇓*i*P	Pn	06 46 55.7	+0.5
PEL				*i* S	Sb	06 47 40.2	+0.7
PEL				AML	AML	06 47 48.8	
	comp=N,523nm,0.4s						

*IDC **08** 06:59:36.6±3.1, 0.68S×122.44E, h0km, mb3.7/3, mb1 4.1/4, mb1mx3.6/34, mbtmp3.9/4, ML4.5/1, MS3.4/3, Ms1 3.5/3, ms1mx3.0/31, Error ellipse: s-maj=55.7km s-min=40.2km az=145.0*
*ISCJB **08** 06:59:39.6±0.6, 0.86S±0.05×122.39E±0.04, h10km, mb4.1/4, MS3.8/3, Error ellipse: s-maj=7.5km s-min=5.6km az=169.3*
*DJA **08** 06:59:41.1±0.4, 1°S±4°×12°2E±°, h10km, M4.6/12, mb4.9/2, mb5.2/1, MLv4.5/12, Mw(mB)4.5/1*
ISC 08 06:59:40.6±0.7, 0.85S±0.05×122.39E±0.05, h10km, n19, σ2.9s 06/24, mb3.9/4, MS4.0/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.43**	**117**	P	**Pg**	**06 59 47.9**	**-1.1**
LUWI				S	**Sg**	**06 59 55.6**	**+1.0**
MRSI	**Marisa**	**1.39**	**341**	P	Pn	06 59 59.9	-6.2
KMSI	**Cibinong**	**2.13**	**48**	P	**Pn**	**07 00 18.2**	**+2.0**
PCI	**Palu**	**2.55**	**269**	P	**Pn**	**07 00 22.7**	**+0.6**
MPSI	**Mapaga**	**2.76**	**295**	P	**Pn**	**07 00 24.4**	**-0.4**
TTSI	**Tana Toraja**	**3.37**	**230**	P	**Pn**	**07 00 33.6**	**+0.3**
TTSI				S	**Sn**	**07 01 16.6**	**+3.2**
SPSI	**Sidrap Palu**	**4.05**	**220**	P	**Pn**	**07 00 42.7**	**0.0**
SPSI				S	**Sn**	**07 01 33.7**	**+3.4**
BNSI	**Bone**	**4.20**	**213**	P	**Pn**	**07 00 44.7**	**0.0**
KAPI	**Kappang**	**4.91**	**212**	Pn	**Pn**	**07 00 54.4**	**0.0**
	19nm,0.3s,baz=20,slow=13,SNR=38						
KAPI				Sn	**Sn**	**07 01 51.5**	**+0.3**
	11nm,0.3s,baz=90,slow=20,SNR=10.0						
KAPI				LR	LR	07 03 15.2	
	comp=Z,304nm,20.2s,baz=47,slow=43						
BKSI	**Bulukumba**	**4.99**	**207**	P	**Pn**	**07 00 56.0**	**+0.5**
LBMI	**Labuha**	**5.12**	**88**	P	Pn	07 01 02.6	+5.3
BSSI	**Bau Bau, Buton**	**5.59**	**200**	P	**Pn**	**07 01 05.1**	**+1.3**
	125nm,0.6s,0.5nm						
KBKI	**Kotabaru**	**6.68**	**249**	P	Pn	07 01 26.4	+7.6
WRA	**Warramunga Arr**	**22.29**	**149**	P	**P**	**07 04 37.3**	**-0.9**
	3.6nm,0.9s,baz=331,slow=11,SNR=14						
ASAR	**Alice Springs**	**25.28**	**155**	P	**P**	**07 05 05.8**	**-1.6**
	1.3nm,0.5s,baz=337,slow=9.6,SNR=32						
ASAR				PcP	**PcP**	**07 08 38.2**	**-2.5**
	0.2nm,0.4s,baz=336,slow=2.0,SNR=3.0						
CMAR	**Chiang Mai Arr**	**29.99**	**311**	LR	LR	07 19 16.5	
	comp=Z,34nm,18.4s,baz=175,slow=39						
STKA	**Stephens Creek**	**35.80**	**151**	P	**P**	**07 06 39.1**	**-1.1**
	0.9nm,0.7s,baz=331,slow=10,SNR=2.8						
HHC	**Hu-ho-hao-te**	**42.66**	**348**	*e*P	**P**	**07 07 38.0**	**+0.5**
HHC				sP	**sP**	**07 07 44.2**	**+2.3**
HHC				PP	**PP**	**07 09 20.0**	**+3.4**
HHC				PcS	**PcS**	**07 13 20.3**	**-1.3**
HHC				S	**S**	**07 14 01.0**	**+0.2**
HHC				SS	**SS**	**07 17 06.0**	**-5.3**
HHC				pmax	pmax		
	comp=Z,35nm,0.7s						
HHC				pmax	pmax		
	comp=Z,120nm,8.4s						
HHC				LR	LR		
	comp=N,490nm,17.3s						
HHC				LR	LR		
	comp=E,520nm,16.0s						
HHC				LR	LR		
	comp=Z,340nm,17.8s						
AKASG	**Malin Array Be**	**92.66**	**321**	LR	LR	07 58 26.1	
	comp=Z,58nm,22.0s,baz=305,slow=38						

IDC 08 07:02:50.1±1.8, 5.32S×146.55E, h0km, mb3.2/2, mb1 3.7/3, mb1mx3.3/30, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=152.0km s-min=28.8km az=121.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.78**	**218**	P	Pn	07 07 11.5	0.0
	0.2nm,0.3s,baz=42,slow=12,SNR=6.4						
ASAR	**Alice Springs**	**21.94**	**213**	P	P	07 07 45.5	0.0
	0.7nm,0.5s,baz=48,slow=8.8,SNR=10						
ILAR	**Eielson Array**	**85.03**	**23**	P	P	07 15 27.2	-0.2
	0.2nm,0.8s,baz=260,slow=3.6,SNR=3.3						

*ISCJB **08** 07:07:33.8±0.6, 8.29S±0.05×118.30E±0.05, h10km, mb3.6/2, Error ellipse: s-maj=8.1km s-min=7.1km az=37.7*
*DJA **08** 07:07:36.5±0.4, 8°S±3°×11°8E±°, h26km±5km, M4.1/2, MLv4.1/2*
*IDC **08** 07:07:37.1±1.8, 8.09S×118.83E, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.4/39, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=51.3km s-min=22.6km az=67.0*
ISC 08 07:07:36.4±1.0, 8.41S±0.06×118.29E±0.06, h10km, n14, σ1.9s 91/12, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**1.63**	**138**	P	**Pn**	**07 08 04.1**	**-1.1**
WBSI				S	**Sn**	**07 08 26.7**	**+0.3**
WSI	**Waingapu**	**2.34**	**122**	P	**Pn**	**07 08 13.7**	**-1.3**
IGBI	**Denpasar**	**3.13**	**262**	P	**Pn**	**07 08 24.4**	**-1.4**
IGBI				S	**Sn**	**07 09 02.6**	**-0.8**
BKSI	**Bulukumba**	**3.57**	**31**	P	**Pn**	**07 08 29.5**	**-2.3**
KAPI	**Kappang**	**3.68**	**23**	Pn	Pn	07 08 28.5	-4.8
	2.2nm,0.3s,baz=198,slow=5.8,SNR=9.5						
KAPI				Sn	Sn	07 09 08.1	-8.7
	4.7nm,0.3s,baz=221,slow=19,SNR=13						
BNSI	**Bone**	**4.38**	**24**	P	**Pn**	**07 08 40.5**	**-2.4**
BNSI	**Bone**	**4.38**	**24**	P	Pg	07 09 10.5	+10
SPSI	**Sidrap Palu**	**4.66**	**18**	P	**Pn**	**07 08 44.5**	**-2.3**
SPSI	**Sidrap Palu**	**4.66**	**18**	P	Pg	07 09 09.7	+4.0
TTSI	**Tana Toraja**	**5.55**	**16**	P	**Pn**	**07 09 01.1**	**+2.1**
TTSI	**Tana Toraja**	**5.55**	**16**	P	Pn	07 09 02.4	+3.4
WRA	**Warramunga Arr**	**19.30**	**128**	P	**P**	**07 12 01.1**	**-0.6**
	0.1nm,0.3s,baz=301,slow=12,SNR=8.9						
ASAR	**Alice Springs**	**21.30**	**137**	P	**P**	**07 12 24.7**	**+1.3**
	2.0nm,0.5s,baz=313,slow=8.8,SNR=23						
MKAR	**Makanchi Array**	**63.62**	**333**	P	**P**	**07 18 09.6**	**+2.0**
	0.2nm,0.5s,baz=142,slow=7.3,SNR=3.2						

*ISCJB **08** 07:38:44.8±0.5, 1.62N±0.04×127.48E±0.05, h128km, mb3.9/10, Error ellipse: s-maj=6.5km s-min=6.2km az=175.0*
*IDC **08** 07:38:47.6±2.1, 1.50N×127.48E, h147km±20km, mb3.6/10, mb1 3.7/11, mb1mx3.5/33, mbtmp4.0/11, Error ellipse: s-maj=25.5km s-min=12.1km az=81.0*
*DJA **08** 07:38:50.1±0.3, 1°N±3°×12°7E±°, h96km±7km, M4.7/10, mb4.7/10, mB5.1/4, MLv4.8/6, Mw(mB)4.5/4*
ISC 08 07:38:45.8±0.6, 1.51N±0.05×127.43E±0.07, h128km, n34, σ1.9s 85/36, mb3.9/10, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.74**	**185**	P	**Pn**	**07 39 07.6**	**+1.3**
LBMI	**Labuha**	**2.14**	**178**	P	**Pn**	**07 39 24.0**	**+2.6**
SGSI	**Sangihe**	**2.88**	**319**	P	**Pn**	**07 39 33.6**	**+2.8**
SGSI				S	**Sn**	**07 40 05.0**	**-0.5**
KMSI	**Cibinong**	**3.58**	**255**	P	**Pn**	**07 39 41.2**	**+1.3**
KMSI				S	**Sn**	**07 40 21.3**	**-0.5**
SANI	**Sanana**	**3.82**	**202**	P	**Pn**	**07 39 43.3**	**+0.1**
SANI				S	**Sn**	**07 40 23.3**	**-4.4**
SWI	**Sorong**	**4.50**	**122**	P	Pn	07 39 57.4	+5.2
NLAI	**Namlea**	**4.73**	**184**	P	**Pn**	**07 39 58.1**	**+2.7**
LUWI	**Luwuk**	**5.31**	**241**	P	**Pn**	**07 40 04.6**	**+1.5**
LUWI				S	**Sn**	**07 41 04.7**	**+1.5**
LUWI	**Luwuk**	**5.31**	**241**	P	Pn	07 40 07.9	+4.9
	baz=6.1,SNR=5.4						
LUWI				S	**Sn**	**07 41 05.3**	**+2.1**
	baz=6.1,SNR=3.6						
MRSI	**Marisa**	**5.59**	**259**	P	**Pn**	**07 40 08.4**	**+1.6**
	32nm,0.5s,1μm0.4nm						
FAKI	**Fak Fak**	**6.52**	**132**	P	Pn	07 40 26.2	+6.7
	baz=7.6,SNR=4.6						
RKPI	**Ransiki, Papua**	**7.38**	**114**	P	Pn	07 40 35.2	+4.2
	253nm,0.6s,48μm3.1nm						
MPSI	**Mapaga**	**7.62**	**261**	P	**Pn**	**07 40 36.2**	**+1.9**
TTSI	**Tana Toraja**	**8.86**	**239**	P	**Pn**	**07 40 50.7**	**-0.2**
	53nm,0.5s,688nm						
BNSI	**Bone**	**9.39**	**231**	P	Pn	07 41 01.3	+3.3
	31nm,0.8s						
SPSI	**Sidrap Palu**	**9.39**	**235**	P	**Pn**	**07 40 59.9**	**+1.8**
	46nm,0.5s,665nm						
BKSI	**Bulukumba**	**9.97**	**227**	P	**Pn**	**07 41 08.5**	**+2.6**
	31nm,0.6s						
KAPI	**Kappang**	**10.05**	**230**	P	**Pn**	**07 41 08.8**	**+1.9**
	2.7nm,0.3s,baz=60,slow=8.1,SNR=6.2						
KAPI				S	**Sn**	**07 42 54.3**	**-3.6**
	7.3nm,0.3s,baz=72,slow=20,SNR=12						
KDU	**Kakadu**	**14.97**	**161**	P	**P**	**07 42 14.0**	**+0.7**
	baz=16,SNR=3.1						
KNRA	**Kununurra**	**17.13**	**176**	P	**Pn**	**07 42 38.6**	**+1.0**
	baz=19,SNR=5.6						
KPJI	**Karang Pucung**	**20.45**	**244**	P	Pn	07 43 15.3	-1.5
WRA	**Warramunga Arr**	**22.37**	**163**	P	**P**	**07 43 33.2**	**-0.5**
	3.1nm,0.5s,baz=339,slow=11,SNR=42						
WRA				ScP	**ScP**	**07 50 47.4**	**-2.8**
	0.3nm,0.6s,baz=341,slow=2.8,SNR=4.8						
QIS	**Mount Isa**	**24.97**	**152**	P	**P**	**07 43 59.2**	**+1.6**
	baz=26,SNR=3.5						
ASAR	**Alice Springs**	**25.81**	**166**	P	**P**	**07 44 05.0**	**-0.2**
	0.8nm,0.5s,baz=351,slow=7.6,SNR=16						
ASAR				ScP	**ScP**	**07 50 56.4**	**-3.2**
	0.3nm,0.7s,baz=345,slow=2.1,SNR=3.8						
WRKA	**Warakurna**	**26.41**	**178**	P	**P**	**07 44 10.3**	**-0.4**
	baz=28,SNR=7.5						
MEEK	**Meekatharra**	**29.25**	**196**	P	**P**	**07 44 35.5**	**-0.5**
	baz=31,SNR=4.0						
CMAR	**Chiang Mai Arr**	**32.63**	**303**	P	**P**	**07 45 05.8**	**0.0**
	0.5nm,0.3s,baz=106,slow=6.7,SNR=4.1						
KSRS	**Korea Array**	**35.77**	**1**	P	**P**	**07 45 32.8**	**+0.2**
	2.4nm,0.5s,baz=175,slow=9.1,SNR=9.1						
STKA	**Stephens Creek**	**35.82**	**159**	P	**P**	**07 45 33.1**	**0.0**
	3.4nm,0.9s,baz=321,slow=8.7,SNR=4.7						
MJAR	**Matsushiro Ar**	**36.25**	**15**	P	**P**	**07 45 35.8**	**-0.9**
	0.7nm,0.5s,baz=182,slow=9.0,SNR=5.6						
USRK	**Ussuriysk Ar.**	**42.70**	**5**	P	**P**	**07 46 30.1**	**+0.1**
	1.2nm,0.5s,baz=176,slow=30,SNR=4.2						
PETK	**Petropavlovsk-**	**57.22**	**21**	P	**P**	**07 48 20.2**	**+0.7**
	4.8nm,0.9s,baz=142,slow=7.5,SNR=4.1						
MKAR	**Makanchi Array**	**59.77**	**326**	P	**P**	**07 48 37.5**	**+0.1**
	0.6nm,0.4s,baz=118,slow=7.2,SNR=15						
ILAR	**Eielson Array**	**86.79**	**25**	P	**P**	**07 51 13.8**	**-1.7**
	0.2nm,0.6s,baz=227,slow=5.1,SNR=4.7						

NNC 08 07:46:00.9±3.7, 36.73N×70.94E, h0km, mb3.9, mpv3.6, 5C-3D, Error ellipse: s-maj=30.2km s-min=13.5km az=175.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.66**	**322**	⇑Pn	Pn	07 46 45.6	+0.3
	4.4nm,0.3s						
DZET				⇓Sn	Sn	07 47 19.8	+1.4
	14nm,0.3s						
SFK	**Sufi-Kurgan**	**3.85**	**31**	⇓Pn	Pn	07 47 02.0	+0.2
	8.9nm,0.4s						
SFK				⇑Sn	Sn	07 47 50.1	+2.1
	4.2nm,0.3s						
KK31	**Karatay Array**	**6.38**	**357**	Pn	Pn	07 47 35.6	-0.5
	1.6nm,0.3s,baz=177,slow=12,SNR=36						
KK31				⇑Sn	Sn	07 48 48.6	-1.1
	1.8nm,0.6s,baz=161,slow=20,SNR=4.2						
AAK	**Ala-Archa**	**6.50**	**24**	⇓Pn	Pn	07 47 36.9	-1.3
	3.1nm,0.4s						
AAK				⇑Sn	Sn	07 48 53.2	0.0
	2.1nm,0.5s						
AB31	**Akbulak array**	**14.86**	**331**	⇑Pn	Pn	07 49 27.6	-4.7
	0.5nm,0.3s,baz=129,slow=12,SNR=24						

IDC 08 07:50:45.3±3.1, 21.01N×144.70E, h103km±26km, mb3.6/12, mb1 3.8/14, mb1mx3.6/38, mbtmp4.0/14, Error ellipse: s-maj=24.6km s-min=14.4km az=91.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**6.47**	**340**	P	Pn	07 52 19.1	+1.1
	baz=198,slow=20						
JCJ				S	Sn	07 53 29.6	-0.9
	20nm,0.3s,baz=108,slow=19,SNR=8.2						
MJAR	**Matsushiro Ar**	**16.48**	**341**	P	Pn	07 54 30.7	+0.4
	0.4nm,0.3s,baz=163,slow=8.0,SNR=5.5						
KSRS	**Korea Array**	**21.91**	**322**	P	P	07 55 31.2	+1.0
	3.7nm,0.8s,baz=142,slow=8.3,SNR=20						
WRA	**Warramunga Arr**	**41.95**	**195**	P	P	07 58 26.0	-0.2
	0.5nm,0.5s,baz=12,slow=8.4,SNR=18						
CMAR	**Chiang Mai Arr**	**43.03**	**275**	P	P	07 58 34.7	-0.4
	0.7nm,0.3s,baz=66,slow=7.0,SNR=4.2						
ASAR	**Alice Springs**	**45.64**	**194**	P	P	07 58 55.2	-0.5
	0.3nm,0.4s,baz=12,slow=6.8,SNR=10						
ZALV	**Zalesovo Beam**	**55.62**	**322**	P	P	08 00 09.8	-0.5
	0.9nm,0.4s,baz=76,slow=6.1,SNR=4.0						
MKAR	**Makanchi Array**	**56.19**	**313**	P	P	08 00 15.1	+0.5
	1.1nm,0.6s,baz=90,slow=6.1,SNR=13						
ILAR	**Eielson Array**	**62.01**	**27**	P	P	08 00 53.6	-0.8
	0.2nm,0.5s,baz=269,slow=5.4,SNR=4.4						
BVAR	**Borovoye Array**	**64.10**	**320**	P	P	08 01 08.9	+0.5
	4.7nm,0.5s,baz=92,slow=6.4,SNR=34						
YKA	**Yellowknife Ar**	**76.40**	**28**	P	P	08 02 23.6	+0.5
	0.2nm,0.5s,baz=290,slow=5.6,SNR=8.0						
ARCES	**ARCESS Array B**	**80.01**	**342**	P	P	08 02 43.3	+0.3
	1.8nm,0.5s,baz=64,slow=8.0,SNR=12						
FINES	**FINESS Array B**	**84.40**	**335**	P	P	08 03 05.0	-1.0
	2.8nm,0.4s,baz=85,slow=4.4,SNR=50						
BRTR	**Keskin Array B**	**91.83**	**314**	P	P	08 03 41.7	-0.6
	0.6nm,0.8s,baz=57,slow=5.3,SNR=2.8						
TORD	**Torodi Ar. Bea**	**130.26**	**310**	PKP	PKPdf	08 09 44.4	0.0
	0.2nm,0.5s,baz=30,slow=3.8,SNR=3.6						
LPAZ	**La Paz**	**148.58**	**87**	PKPbc	PKPbc	08 10 22.2	+0.3
	0.6nm,0.4s,baz=268,slow=2.1,

	322nm,0.1s								
SFK				⇑S		Sb	08 29 44.4	-0.9	
	826nm,0.2s								
CHVK	**Chauvay**	**1.17**	**300**	*e*P		Pb	08 29 46.6	-3.6	
	baz=304								
CHVK				*e*S		**Sb**	**08 30 04.0**	**-1.6**	
	baz=304								
SALK	**Salom-Alik**	**1.35**	**9**	*e*P		**Pn**	**08 29 51.4**	**-1.4**	
	baz=10.0								
SALK				*e*S		**Sg**	**08 30 12.9**	**+1.7**	
	baz=10.0								
BTK	**Batken**	**2.15**	**285**	*e*P		**Pb**	**08 30 06.3**	**-0.6**	
	baz=286								
BTK				*e*S		**Sg**	**08 30 36.0**	**-1.0**	
	baz=286								
AML	**Almayashu**	**2.58**	**3**	P		**Pb**	**08 30 12.9**	**-1.6**	
	SNR=69								
AML	**Almayashu**	**2.58**	**3**	⇑*i*P		**Pb**	**08 30 12.8**	**-1.6**	
	baz=3.0								
AML				⇑*i*S		**Sb**	**08 30 47.5**	**+1.1**	
	baz=3.0								
NRN	**Naryn**	**2.66**	**44**	*e*P		**Pg**	**08 30 17.1**	**-1.7**	
	baz=44								
NRN				*e*S		**Sg**	**08 30 55.6**	**+2.3**	
	baz=44								
UCH	**Uchtor**	**2.78**	**15**	P		**Pb**	**08 30 16.3**	**-1.5**	
	SNR=84								
UCH	**Uchtor**	**2.78**	**15**	⇑*i*P		**Pb**	**08 30 16.0**	**-1.8**	
	baz=16								
UCH				⇑*i*S		**Sb**	**08 30 53.5**	**+1.5**	
	baz=16								
KZA	**Kyzart**	**2.84**	**27**	P		**Pb**	**08 30 18.3**	**-0.5**	
	SNR=21								
KZA	**Kyzart**	**2.84**	**27**	⇑*i*P		**Pb**	**08 30 16.9**	**-1.9**	
	baz=27								
KZA				⇑*i*S		**Sg**	**08 30 59.9**	**+0.8**	
	baz=27								
EKS2	**Erkin-Say**	**3.12**	**3**	P		**Pb**	**08 30 20.6**	**-2.8**	
	SNR=11								
EKS2	**Erkin-Say**	**3.12**	**3**	⇑*i*P		**Pb**	**08 30 20.5**	**-2.8**	
	baz=4.0								
EKS2				⇑*i*S		**Sb**	**08 31 01.3**	**-0.2**	
	baz=4.0								
EKS	**Erkin-Say**	**3.12**	**3**	*e*P		**Pb**	**08 30 20.7**	**-2.7**	
	baz=4.0								
EKS				*e*S		**Sb**	**08 31 03.0**	**+1.4**	
	baz=4.0								
AAK	**Ala-Archa**	**3.17**	**13**	P		**Pb**	**08 30 22.0**	**-2.3**	
	SNR=26								
AAK	**Ala-Archa**	**3.17**	**13**	⇑Pn		**Pb**	**08 30 21.4**	**-2.8**	
	13nm,0.5s								
AAK				⇑Lg		Lg	08 31 09.7		
AAK	**Ala-Archa**	**3.17**	**13**	⇑*i*P		**Pb**	**08 30 21.9**	**-2.3**	
	baz=13								
AAK				⇑*i*S		**Sb**	**08 31 04.7**	**+1.7**	
	baz=13								
KBK	**Karagaybulak**	**3.29**	**18**	P		**Pb**	**08 30 25.5**	**-0.7**	
	SNR=15								
KBK	**Karagaybulak**	**3.29**	**18**	⇑*i*P		**Pb**	**08 30 23.6**	**-2.6**	
	baz=19								
KBK				⇑*i*S		**Sg**	**08 31 10.6**	**-2.7**	
	baz=19								
ULHL	**Ulahol**	**3.39**	**36**	P		**Pb**	**08 30 26.5**	**-1.5**	
	SNR=5.9								
TKM2	**Tokmak 2**	**3.71**	**24**	P		**Pb**	**08 30 33.6**	**+0.1**	
	SNR=9.6								
TKM2	**Tokmak 2**	**3.71**	**24**	⇓Pn		Pb	08 30 29.4	-4.1	
	6.6nm,0.5s								
TKM2				⇓Lg		Lg	08 31 28.9		
	14nm,0.6s								
DZET	**Dzherino**	**3.73**	**260**	⇑Pn		**Pn**	**08 30 25.9**	**+0.3**	
	8.5nm,0.6s								
DZET				⇑Pg		**Pb**	**08 30 32.1**	**-1.7**	
	22nm,0.5s								
DZET				⇑Lg		Lg	08 31 23.8		
	58nm,0.6s								
USP	**Ospenovka**	**3.79**	**11**	P		Pb	08 30 29.7	-5.0	
	SNR=8.5								
KK31	**Karatay Array**	**4.22**	**328**	Pn		**Pn**	**08 30 33.3**	**+1.2**	
	1.6nm,0.3s,baz=130,slow=13,SNR=17								
KK31				⇑Pg		**Pb**	**08 30 43.5**	**+1.4**	
	3.3nm,0.4s								
KK31				⇓Sn		**Sn**	**08 31 24.4**	**+2.9**	
	7.4nm,0.5s,baz=146,slow=16,SNR=4.4								
KK31				⇑Lg		Lg	08 31 40.6		
	8.8nm,0.4s,baz=148,slow=30,SNR=3.8								
PDGK	**Podgornoye**	**5.85**	**48**	⇓Pn		**Pn**	**08 30 55.7**	**+1.2**	
	2.2nm,0.6s								
PDGK				⇓Pg		Pg	08 31 15.4	-4.4	
	6.7nm,0.9s								
PDGK				⇓Lg		Lg	08 32 35.7		
	11nm,0.8s								

*IDC **08** 08:39:16.3±1.1,3°.09S×136°.02E, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.7/27, mbtmp3.8/7, ML3.5/2, Error ellipse: s-maj=29.9km s-min=23.9km az=79.0*
*ISCJB **08** 08:39:19.5±0.5,3°.20S±0°.05×136°.04E±0°.05, h33km, mb4.0/4, Error ellipse: s-maj=7.6km s-min=6.5km az=19.5*
*DJA **08** 08:39:20.2±0.7,3°.5±8°×13°.6E± °, h10km, MA4.2/6, MLv4.2/6*
ISC 08 08:39:20.7±0.8,3°.09S±0°.07×135°.99E±0°.05,h33km,n12, σ1§80/15,mb4.1/4,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**1.23**	**12**	P	**Pn**	**08 39 39.8**	**-1.9**
RKPI	**Ransiki, Papua**	**2.39**	**311**	P	**Pn**	**08 39 59.2**	**+1.6**
RKPI				S	**Sb**	**08 40 30.0**	**-2.3**
SMPI	**Sarmi**	**2.93**	**68**	P	**Pn**	**08 40 06.1**	**+1.1**
FAKI	**Fak Fak**	**3.74**	**272**	P	**Pn**	**08 40 17.7**	**+1.5**
GENI	**Genyem**	**4.21**	**83**	P	**Pn**	**08 40 24.2**	**+1.6**
JAY	**Jayapura**	**4.75**	**83**	Pn	**Pn**	**08 40 30.3**	**+0.2**
	3.9nm,0.3s,baz=241,slow=9.9,SNR=17						
JAY				Sn	**Sn**	**08 41 24.6**	**+0.5**
	2.3nm,0.3s,baz=148,slow=19,SNR=2.9						
WRA	**Warramunga Arr**	**16.83**	**185**	Pn	**Pn**	**08 43 11.6**	**-2.4**
	0.1nm,0.3s,baz=9.5,slow=13,SNR=18						
WRA				Sn	**Sn**	**08 46 16.8**	**-3.3**
	0.2nm,0.3s,baz=7.7,slow=23,SNR=5.2						
ASAR	**Alice Springs**	**20.56**	**185**	P	**P**	**08 43 57.6**	**+0.8**
	2.4nm,0.8s,baz=10,slow=12,SNR=22						
USRK	**Ussuriysk Ar.**	**47.21**	**356**	P	**P**	**08 47 51.4**	**+1.0**
	1.3nm,0.6s,baz=202,slow=7.4,SNR=4.4						
SONM	**Songino Array**	**56.94**	**337**	P	**P**	**08 49 03.1**	**+0.2**
	1.3nm,0.5s,baz=162,slow=6.1,SNR=2.8						
MKAR	**Makanchi Array**	**68.45**	**323**	P	**P**	**08 50 21.1**	**+1.5**
	0.8nm,0.6s,baz=119,slow=5.1,SNR=11						
ILAR	**Eielson Array**	**87.30**	**25**	P	**P**	**08 52 03.5**	**-0.5**
	0.3nm,0.6s,baz=265,slow=4.1,SNR=8.7						

*ISCJB **08** 08:50:58.4±0.5,5°.05N±0°.04×125°.43E±0°.09, h200km, mb3.6/6, Error ellipse: s-maj=12.2km s-min=6.1km az=3.3*
*IDC **08** 08:51:01.3±3.9,4°.89N×125°.29E, h204km±36km, mb3.4/6, mb1 3.7/8, mb1mx3.3/48, mbtmp4.2/8, Error ellipse: s-maj=29.6km s-min=16.7km az=63.0*
*MAN **08** 08:51:01,5°.16N×125°.36E, h169km, mb5.2, ML4.2, MS4.4*
*DJA **08** 08:51:08.9±1.5,4°N±10°×12°6E± °, h144km±14km, M4.5/6, mb4.8/3, mB5.0/2, MLv4.4/6, Mw(mB)4.3/2*
ISC 08 08:50:59.9±0.7,5°.07N±0°.07×125°.4E±0°.1,h200km,n20, σ1§54/21,mb3.7/6,3C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.10**	**337**	⇑*e*P	**Pn**	**08 51 28.6**	**-1.9**
GSPH				*e*S	**Sn**	**08 51 52.2**	**-2.2**
SGSI	**Sangihe**	**1.39**	**174**	P	**Pn**	**08 51 30.5**	**-2.2**
MATI	**Mati**	**2.05**	**25**	*e*P	**Pn**	**08 51 37.6**	**-1.4**
MATI				*e*S	**Sn**	**08 52 06.3**	**-3.2**
CTBH	**Cotabato--PC H**	**2.42**	**332**	⇑*i*P	**Pb**	**08 51 42.5**	**-0.4**
BUKP	**Musuan**	**2.81**	**353**	*e*P	**Pn**	**08 51 48.5**	**+1.2**
BIPH	**Bislig**	**3.24**	**17**	⇑*e*P	**Pn**	**08 51 52.8**	**+0.4**
BIPH				*i* S	**Sn**	**08 52 31.9**	**-1.7**
PAGZ	**Pagadian**	**3.40**	**324**	*e*P	**Pn**	**08 51 53.8**	**-0.5**
TNTI	**Ternate**	**4.71**	**155**	P	Pn	08 52 05.4	-5.2
MRSI	**Marisa**	**5.72**	**217**	P	**Pn**	**08 52 22.4**	**-1.2**
	68nm,0.6s,0.2nm						
SANI	**Sanana**	**7.10**	**175**	P	Pn	08 52 35.4	-6.1
	52nm,0.6s,2µm0.3nm						
SANI				S	Sn	08 53 47.1	-15
	52nm,0.6s,2µm0.3nm						
KAPI	**Kappang**	**11.49**	**209**	P	**Pn**	**08 53 37.8**	**-0.6**
	2.1nm,0.3s,baz=63,slow=4.8,SNR=6.5						
JAY	**Jayapura**	**17.06**	**116**	P	**Pn**	**08 54 47.2**	**+0.2**
	3.1nm,0.3s,baz=240,slow=8.0,SNR=10						

WRA	**Warramunga Arr**	**26.37**	**161**	P		**P**	**08 56 16.7**	**-1.2**	
	2.6nm,0.7s,baz=331,slow=11,SNR=27								
ASAR	**Alice Springs**	**29.75**	**164**	P		**P**	**08 56 47.3**	**-0.6**	
	1.4nm,0.4s,baz=342,slow=7.0,SNR=33								
ASAR				PcP		**PcP**	**08 59 47.4**	**+0.7**	
	0.4nm,0.5s,baz=336,slow=2.3,SNR=4.1								
STKA	**Stephens Creek**	**39.86**	**158**	P		P	08 58 14.5	+0.4	
	4.8nm,0.6s,baz=334,slow=8.4,SNR=14								
MKAR	**Makanchi Array**	**55.70**	**325**	P		**P**	**09 00 17.1**	**+1.6**	
	0.3nm,0.4s,baz=145,slow=5.3,SNR=5.0								
ILAR	**Eielson Array**	**84.47**	**25**	P		**P**	**09 03 11.3**	**+1.4**	
	0.2nm,0.4s,baz=254,slow=4.7,SNR=6.9								
VNDA	**Vanda**	**84.92**	**173**	P		**P**	**09 03 12.3**	**+0.4**	
	0.4nm,0.6s,baz=332,slow=8.0,SNR=4.1								
TORD	**Torodi Ar. Bea**	**121.23**	**289**	PKP		**PKPdf**	**09 09 30.1**	**0.0**	
	0.6nm,0.6s,baz=78,slow=1.2,SNR=4.5								
TXAR	**Lajitas Array**	**121.82**	**51**	PKP		**PKPdf**	**09 09 33.0**	**+2.0**	
	0.3nm,0.6s,baz=349,slow=0.5,SNR=3.1								

*BJI **08** 08:54:10.0,39°.47N×74°.93E, h4km, ML3.5/5*
*IDC **08** 08:54:11.4±0.9,39°.29N×75°.33E, h0km, mb3.7/13, mb1 3.9/16, mb1mx3.7/54, mbtmp3.8/16, ML3.0/4, Error ellipse: s-maj=17.9km s-min=17.3km az=180.0*
*NNC **08** 08:54:14.3±1.3,39°.39N×75°.17E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=10.9km s-min=5.3km az=164.0*
*KRNET **08** 08:54:15.2±0.1,39°.57N×75°.17E, h2km, mb4.4*
ISC 08 08:54:12.6±1.4,39°.51N±0°.04×75°.39E±0°.04,h5km±9km, n55,σ1§38/64,mb3.7/13,21C-8D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.45**	**89**	⇓*i*Pg	**Pg**	**08 54 20.7**	**-0.6**
KSH				Sg	**Sg**	**08 54 27.7**	**+0.5**
KSH				SMN			
	14µm,1.0s						
KSH				SME			
	9µm,0.6s						
SFK	**Sufi-Kurgan**	**1.54**	**290**	⇓P	**Pn**	**08 54 40.5**	**-0.5**
	71nm,0.3s						
SFK				⇑S	**Sn**	**08 55 00.7**	**-0.9**
	569nm,0.4s						
SALK	**Salom-Alik**	**1.82**	**319**	*e*P	**Pn**	**08 54 45.0**	**+0.1**
	baz=322						
SALK				*e*S	**Sb**	**08 55 10.0**	**+0.1**
	baz=322						
NRN	**Naryn**	**1.98**	**13**	*i* P	**Pg**	**08 54 50.6**	**+0.1**
	baz=18						
NRN				*e*S	**Sg**	**08 55 19.4**	**+3.2**
	baz=18						
CHVK	**Chauvay**	**2.52**	**285**	*e*P	**Pb**	**08 54 58.0**	**-0.5**
	baz=285						
CHVK				*e*S	**Sb**	**08 55 31.0**	**+1.0**
	baz=285						
KZA	**Kyzart**	**2.57**	**358**	P	**Pb**	**08 54 59.6**	**+0.1**
	SNR=55						
KZA	**Kyzart**	**2.57**	**358**	⇑*i*P	**Pb**	**08 54 59.4**	**-0.1**
	baz=1.0						
KZA				⇑*i*S	**Sg**	**08 55 35.3**	**+0.1**
	baz=1.0						
UCH	**Uchtor**	**2.80**	**347**	P	**Pb**	**08 55 02.9**	**-0.5**
	SNR=42						
UCH	**Uchtor**	**2.80**	**347**	⇑*i*P	**Pb**	**08 55 02.9**	**-0.5**
	baz=350						
UCH				⇑*i*S	**Sg**	**08 55 41.1**	**-1.4**
	baz=350						
ULHL	**Ulahol**	**2.81**	**13**	P	**Pg**	**08 55 05.9**	**-0.6**
	SNR=33						
ULHL	**Ulahol**	**2.81**	**13**	⇑*i*P	**Pb**	**08 55 04.0**	**+0.6**
	baz=17						
ULHL				⇑*i*S	**Sg**	**08 55 42.6**	**-0.3**
	baz=17						
AML	**Almayashu**	**2.92**	**334**	P	**Pb**	**08 55 05.1**	**-0.3**
	SNR=47						
KDJ	**Kajisay**	**2.95**	**27**	*e*P	**Pb**	**08 55 07.6**	**+1.8**
	baz=30						
KDJ				*e*S	**Sg**	**08 55 49.2**	**+1.8**
	baz=30						
BOOM	**Boomskoye usch**	**3.01**	**8**	*e*P	**Pb**	**08 55 07.6**	**+0.8**
	baz=11						
BOOM				*e*S	**Sg**	**08 55 49.2**	**-0.1**
	baz=11						
KBK	**Karagaybulak**	**3.17**	**354**	P	**Pb**	**08 55 08.6**	**-0.9**
	SNR=14						
AAK	**Ala-Archa**	**3.20**	**348**	P	**Pb**	**08 55 08.8**	**-1.2**
	SNR=29						
AAK	**Ala-Archa**	**3.20**	**348**	⇑Pn	**Pb**	**08 55 09.0**	**-0.9**
	88nm,0.7s						
AAK				⇑Lg	Lg	08 55 56.6	
	75nm,0.7s						
AAK	**Ala-Archa**	**3.20**	**348**	Pn	**Pb**	**08 55 09.1**	**-0.8**
	6.6nm,0.3s,baz=156,slow=7.9,SNR=45						
AAK				Lg	Lg	08 55 51.5	
	6.2nm,0.3s,baz=323,slow=19,SNR=3.3						
EKS2	**Erkin-Say**	**3.38**	**339**	P	**Pb**	**08 55 13.8**	**+0.7**
	SNR=9.6						
EKS	**Erkin-Say**	**3.38**	**340**	*e*P	**Pb**	**08 55 11.8**	**-1.3**
	baz=342						
EKS				*e*S	**Sb**	**08 55 56.5**	**+1.9**
	baz=342						
TKM2	**Tokmak 2**	**3.42**	**3**	P	**Pb**	**08 55 12.1**	**-1.6**
	SNR=21						
TKM2	**Tokmak 2**	**3.42**	**3**	⇓Pn	**Pb**	**08 55 11.7**	**-2.1**
	40nm,0.5s						
TKM2				⇑Sn	**Sb**	**08 55 55.9**	**+0.3**
	97nm,0.8s						
CHMS	**Chumysh**	**3.52**	**352**	P	**Pb**	**08 55 12.9**	**-2.5**
	SNR=20						
USP	**Ospenovka**	**3.82**	**350**	P	Pb	08 55 17.1	-3.4
	SNR=18						
KNDC	**Almaty**	**3.89**	**17**	⇑Pg	**Pg**	**08 55 26.8**	**-0.3**
	44nm,0.6s						
KNDC				⇑Lg	Lg	08 56 19.6	
	141nm,0.6s						
PDGK	**Podgornoye**	**4.90**	**38**	⇑Pn	Pn	08 55 32.4	+5.5
	6.6nm,0.7s						
PDGK				⇑Pg	**Pg**	**08 55 44.9**	**-1.6**
	33nm,0.9s						
PDGK				⇓Lg	Lg	08 56 52.2	
	91nm,1.1s						
KK31	**Karatay Array**	**5.14**	**316**	⇓Pn	**Pn**	**08 55 32.2**	**+2.0**
	3.8nm,0.3s,baz=126,slow=13,SNR=5.8						
KK31				⇑Pg	**Pb**	**08 55 45.7**	**+2.7**
	5.2nm,0.4s,baz=141,slow=16,SNR=15						
KK31				⇓Sn	**Sn**	**08 56 32.3**	**+2.3**
	7.0nm,0.4s,baz=142,slow=25,SNR=4.4						
KK31				⇓Lg	Lg	08 56 53.8	
	16nm,0.5s						
DZET	**Dzherino**	**5.15**	**264**	⇑Pn	**Pn**	**08 55 30.7**	**+0.2**
	13nm,0.5s						
DZET				⇑Pg	**Pb**	**08 55 44.4**	**+1.1**
	25nm,0.5s						
DZET				⇑Sn	**Sn**	**08 56 29.5**	**-0.9**
	58nm,0.7s						
DZET				⇓Lg	Lg	08 56 50.8	
	65nm,0.6s						
CHCP	**Chirah Chowk**	**6.08**	**197**	P	Pn	08 55 47.9	+4.7
CEP	**Cherat**	**6.32**	**207**	P	Pn	08 55 50.9	+4.2
CEP				S	**Sn**	**08 57 03.0**	**+3.6**
MKAR	**Makanchi Array**	**8.86**	**32**	Pn	Pn	08 56 25.4	+4.2
	0.1nm,0.3s,baz=218,slow=9.2,SNR=3.1						
MKAR				Lg	Lg	08 58 57.1	
	0.1nm,0.3s,baz=219,slow=28,SNR=3.3						
KURBB	**Kurchatov Arra**	**11.33**	**10**	⇑Lg	Lg	09 00 17.8	
	13nm,0.9s						
KURK	**Kurchatov**	**11.44**	**10**	⇑Lg	Lg	09 00 21.0	
	11nm,1.1s						
BVAR	**Borovoye Array**	**13.95**	**347**	Pn	P	08 57 35.8	-3.4
	0.1nm,0.3s,baz=150,slow=10,SNR=2.6						
BVAR				Lg	Lg	09 01 37.6	
	0.3nm,0.3s,baz=136,slow=25,SNR=2.7						
PKI	**Pulchoki**	**14.53**	**142**	*e*P	Pn	08 57 36.3	-2.9
AB31	**Akbulak array**	**14.70**	**317**	Pn	**Pn**	**08 57 40.4**	**-0.8**
	1.4nm,0.6s,baz=106,slow=17,SNR=30						
AB31				⇑Sn	**Sn**	**09 00 22.5**	**-2.0**
	1.8nm,1.1s						
JIRN	**Jiri**	**14.84**	**140**	*e*P	Pn	08 57 40.9	-2.5
	11nm,0.3s						
RAMN	**Ramite**	**15.63**	**140**	*e*P	**Pn**	**08 57 49.7**	**-4.1**
	17nm,0.8s						
ZALV	**Zalesovo Beam**	**15.80**	**21**	Pn	**Pn**	**08 57 57.8**	**+2.1**
	0.1nm,0.3s,baz=207,slow=13,SNR=3.7						
TAPN	**Taplejung**	**15.88**	**136**	*e*P	**Pn**	**08 57 57.0**	**-0.1**
	7.3nm,0.4s						
AKTO	**Aktyubinsk**	**16.41**	**317**	Pn	**Pn**	**08 58 03.8**	**+0.3**
	0.1nm,0.3s,baz=132,slow=14,SNR=4.5						
BRTR	**Keskin Array B**	**31.96**	**284**	P	**P**	**09 00 39.1**	**-0.4**
	1.2nm,0.8s,baz=67,slow=9.5,SNR=5.8						
AKASG	**Malin Array Be**	**33.93**	**305**	P	**P**	**09 00 56.8**	**+0.3**
	0.3nm,0.3s,baz=79,slow=7.1,SNR=7.1						
MLR	**Muntele Rosu**	**36.47**	**296**	P	**P**	**09 01 19.6**	**+1.0**
	0.6nm,0.6s,baz=167,slow=7.9,SNR=5.8						
FINES	**FINESS Array B**	**37.06**	**323**	P	**P**	**09 01 22.7**	**-0.5**
	1.7nm,0.8s,baz=116,slow=11,SNR=6.0						
HFS	**Hagfors**	**42.93**	**320**	P	**P**	**09 02 12.6**	**+0.5**
	7.1nm,1.1s,baz=97,slow=12,SNR=3.4						
GERES	**GERESS Array B**	**44.11**	**303**	P	**P**	**09 02 22.8**	**+1.0**
	0.5nm,0.5s,baz=72,slow=8.6,SNR=7.4						
NB2	**NORSAR Subarra**	**44.15**	**321**	P	**P**	**09 02 22.2**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=91,slow=8.6						
NOA	**NORSAR Array B**	**44.15**	**321**	P	**P**	**09 02 21.9**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=90,slow=8.0,SNR=3.7						
ESDC	**Sonseca Array**	**59.12**	**298**	P	**P**	**09 04 13.5**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=54,slow=6.9,SNR=5.3						
TORD	**Torodi Ar. Bea**	**69.22**	**270**	P	**P**	**09 05 19.3**	**-1.5**
	comp=Z,0.7nm,0.4s,baz=50,slow=5.7,SNR=8.7						
ILAR	**Eielson Array**	**70.90**	**18**	P	**P**	**09 05 31.2**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=212,slow=11,SNR=5.6						
YKA	**Yellowknife Ar**	**78.03**	**5**	P	**P**	**09 06 11.1**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=349,slow=5.8,SNR=3.6						
WRA	**Warramunga Arr**	**80.76**	**125**	P	**P**	**09 06 27.2**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=317,slow=3.9,SNR=6.9						
ASAR	**Alice Springs**	**83.25**	**128**	P	**P**	**09 06 39.3**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=350,slow=6.4,SNR=4.5						

*IDC **08** 09:08:07.2±2.8,8°.07S×118°.30E, h0km, mb3.9/2, mb1 3.9/4, mb1mx3.5/33, mbtmp3.7/4, ML3.6/2, Error ellipse: s-maj=68.2km s-min=26.4km az=89.0*
*ISCJB **08** 09:08:09.8±0.6,8°.09S±0°.05×118°.21E±0°.06, h33km, mb4.0/2, Error ellipse: s-maj=9.3km s-min=7.2km az=12.3*
*DJA **08** 09:08:09.5±0.8,8°.5S±5°×11°.8E± °, h14km±8km, M3.9/8, MLv3.9/8*
ISC 08 09:08:11.5±0.9,8°.13S±0°.06×118°.22E±0°.07,h35km,n16, σ1§57/17,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.90**	**142**	P	**Pn**	**09 08 42.5**	**+1.0**
WSI	**Waingapu**	**2.57**	**127**	S	**Sn**	**09 09 15.3**	**-5.2**
	baz=2.7,SNR=3.7						
SRBI	**Singaraja**	**2.97**	**271**	P	**Pn**	**09 08 55.6**	**-0.6**
BKSI	**Bulukumba**	**3.37**	**34**	P	**Pn**	**09 09 01.1**	**-0.5**
KAPI	**Kappang**	**3.45**	**26**	Pn	**Pn**	**09 09 01.9**	**-0.8**
	3.3nm,0.3s,baz=194,slow=12,SNR=3.6						
KAPI				Sn	**Sn**	**09 09 41.5**	**-0.8**
	12nm,0.3s,baz=53,slow=20,SNR=8.4						
EDFI	**Ende, Flores**	**3.49**	**100**	P	**Pn**	**09 09 04.1**	**+0.7**
JAGI	**Jajag, Banyuwa**	**4.04**	**265**	P	**Pn**	**09 09 10.9**	**+0.1**
	baz=3.9,SNR=5.3						
BNSI	**Bone**	**4.15**	**27**	P	**Pn**	**09 09 13.1**	**+0.7**
LUWI	**Luwuk**	**8.37**	**33**	P	**Pn**	**09 10 10.7**	**+0.3**
	baz=8.4,SNR=3.1						
LUWI				S	Sn	09 11 54.3	+10
	baz=8.4,SNR=4.4						
KNRA	**Kununurra**	**12.76**	**127**	P	**Pn**	**09 11 11.2**	**+0.8**
	baz=13,SNR=3.9						
FAKI	**Fak Fak**	**14.89**	**70**	P	**P**	**09 11 44.6**	**-0.2**
	baz=15,SNR=3.3						
MEEK	**Meekatharra**	**18.42**	**179**	S	Sn	09 15 40.7	-8.2
	baz=19,SNR=5.7						
WRKA	**Warakurna**	**19.38**	**151**	P	**Pn**	**09 12 36.2**	**+0.5**
	baz=20,SNR=10						
WRA	**Warramunga Arr**	**19.54**	**129**	P	**P**	**09 12 35.6**	**-0.6**
	0.3nm,0.3s,baz=302,slow=12,SNR=20						
ASAR	**Alice Springs**	**21.56**	**138**	P	**P**	**09 12 58.7**	**+0.6**
	3.0nm,0.6s,baz=314,slow=8.7,SNR=38						
ASAR				PcP	**PcP**	**09 17 00.5**	**+0.7**
	0.4nm,0.4s,baz=318,slow=1.6,SNR=8.6						
STKA	**Stephens Creek**	**32.12**	**141**	P	**P**	**09 14 36.6**	**+1.0**
	1.2nm,0.5s,baz=328,slow=10,SNR=7.5						

MAN 08 09:11:37,6°.80N×124°.13E, h8km, mb4.3, ML3.2, MS3.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.43**	**16**	⇑*i*P	Pg	09 11 46.0	+0.6
CTBH				*i* S	Sb	09 11 54.7	+1.2
PAGZ	**Pagadian**	**1.27**	**324**	*e*P	Pn	09 11 59.8	-1.4
PAGZ				*e*S	Sn	09 12 18.7	+0.3
BUKP	**Musuan**	**1.41**	**41**	*e*P	Pn	09 12 02.4	-0.7
BUKP				*e*S	Sn	09 12 22.0	0.0
DCPH	**Dipolog City**	**1.93**	**336**	*e*P	Pn	09 12 10.1	0.0
DCPH				*e*S	Sg	09 12 40.0	+1.0

*IDC **08** 09:23:05.1±0.7,12°.99S×166°.52E, h0km, mb4.5/15, mb1 4.6/15, mb1mx4.4/28, mbtmp4.5/15, MS3.8/11, Ms1 3.9/11, ms1mx3.7/25, Error ellipse: s-maj=25.5km s-min=16.3km az=102.0*
*BJI **08** 09:23:07.1,12°.84S×166°.79E, h23km, mb4.9/37, mB5.1/22, Ms4.9/11, Ms7 4.5/11*
*ISCJB **08** 09:23:08.0±0.3,12°.97S±0°.05×166°.52E±0°.05, h28km, mb4.7/30

comp=Z,8.9nm,0.7s,baz=45,slow=20,SNR=3.7
WRAB Tennant Creek 31.63 253 *e*P **P** 09 29 29.3 -1.4
WRAB pmax pmax
comp=Z,9.0nm,1.1s
WRAB Tennant Creek 31.63 253 *e*P **P** 09 29 29.3 -1.4
comp=Z,8.5nm,1.1s
WRA Warramunga Arr 31.64 253 P **P** 09 29 28.5 -2.4
comp=Z,3.9nm,1.0s,baz=83,slow=8.7,SNR=10
WRA PcP **PcP** 09 32 19.9 -2.8
comp=Z,1.5nm,1.0s,baz=78,slow=8.9,SNR=6.7
AS31 Alice Springs 32.72 246 *e*P **P** 09 29 39.1 -1.2
ASAR Alice Springs 32.72 246 P **P** 09 29 38.6 -1.6
comp=Z,4.4nm,0.8s,baz=69,slow=9.1,SNR=35
ASAR PcP **PcP** 09 32 25.0 -0.6
comp=Z,1.6nm,0.8s,baz=70,slow=2.4,SNR=6.9
ASAR LR LR 09 42 25.6
comp=Z,527nm,19.3s,baz=72,slow=36
BBOO Buckleboo 34.18 230 P **P** 09 29 53.3 +0.5
baz=34,SNR=5.5
BBOO Buckleboo 34.18 230 *e*P **P** 09 29 52.5 -0.3
comp=Z,1.3nm,0.9s
KNRA Kununurra 36.70 261 P **P** 09 30 14.5 -0.1
baz=36,SNR=4.0
WRKA Warakurna 38.00 246 P **P** 09 30 24.7 -1.0
baz=38,SNR=12
FORT Forrest 39.66 237 *e*P P 09 30 43.7 +4.3
comp=Z,31nm,0.8s
PPT Papeete 42.50 102 LR LR 09 45 45.2
comp=Z,106nm,22.0s,baz=339,slow=32
PPT2 Papeete2 42.50 102 *e*S **S** 09 37 25.4 +1.6
comp=Z,138nm,28.8s
PPT2 *e*LQ LQ 09 40 56.4
comp=Z,468nm,28.5s
PPT2 *e*LR LR 09 42 46.1
comp=Z,126nm,24.0s
MEEK Meekatharra 46.87 246 P **P** 09 31 37.6 -0.2
baz=47,SNR=6.1
MORW Morawa 49.45 243 P P 09 32 03.9 +6.2
baz=49,SNR=4.5
MJAR Matsushiro Arr 56.00 333 P **P** 09 32 45.4 -0.5
comp=Z,8.6nm,0.9s,baz=167,slow=7.4,SNR=25
MJAR LR LR 09 57 20.6
comp=Z,43nm,19.0s,baz=170,slow=37
MAJO Matsushiro 56.00 333 *e*P **P** 09 32 45.7 -0.2
MAJO pmax pmax
comp=Z,21nm,1.1s
MAJO Matsushiro 56.00 333 *e*P **P** 09 32 45.7 -0.2
comp=Z,21nm,1.1s
MAT Matsushiro 56.00 333 P **P** 09 32 45.5 -0.4
MAT *e*S **S** 09 40 32.4 -0.2
KSRS Korea Array 61.88 326 P **P** 09 33 27.4 +0.8
KSRS LR LR 09 59 08.7
comp=Z,5.2nm,1.0s,baz=135,slow=6.9,SNR=22
comp=Z,27nm,19.5s,baz=145,slow=35
KSAR Wonju Array Be 61.89 326 P **P** 09 33 27.5 +0.8
KSAR Wonju Array Be 61.89 326 P **P** 09 33 27.4 +0.8
NJ2 Nanjing 63.92 316 *e*P **P** 09 33 41.7 +1.4
NJ2 PMZ
comp=Z,30nm,0.5s
VNDA Vanda 64.63 181 P **P** 09 33 44.7 +0.4
VNDA LR LR 09 58 44.8
comp=Z,77nm,20.0s,baz=357,slow=33
VNDA Vanda 64.63 181 *e*P **P** 09 33 44.5 +0.1
VNDA pmax pmax
comp=Z,12nm,1.4s
VNDA Vanda 64.63 181 *e*P **P** 09 33 44.5 +0.1
comp=Z,12nm,1.4s
SBA Scott Base 64.92 180 *e*P **P** 09 33 47.2 +1.0
SBA pmax pmax
comp=Z,10.0nm,1.0s
SBA Scott Base 64.92 180 *e*P **P** 09 33 47.2 +1.0
comp=Z,10nm,1.0s
USRK Ussuriysk Ar. 64.98 333 P **P** 09 33 48.2 +1.1
comp=Z,15nm,0.9s,baz=140,slow=6.3,SNR=31
PETK Petropavlovsk- 66.21 354 LR LR 09 57 10.5
comp=Z,64nm,21.9s,baz=158,slow=31
MDJ Mudanjiang 66.38 332 P **P** 09 33 57.0 +0.9
MDJ pP **pP** 09 34 03.4 -1.5
MDJ sP **sP** 09 34 06.0 -2.3
MDJ PMZ
comp=Z,18nm,1.1s
MDJ PMZ
comp=Z,110nm,4.2s
CN2 Changchun 67.76 329 *e*P **P** 09 34 07.0 +2.1
CN2 PMZ
comp=Z,10.0nm,0.8s
KLR Kul'dur 69.09 336 *e*P **P** 09 34 10.2 -2.9
KLR pmax pmax
comp=Z,42nm,1.6s
GYA Guiyang 70.14 304 *e*P **P** 09 34 21.0 +0.8
GYA pP **pP** 09 34 30.8 +1.7
GYA PP **PP** 09 36 58.7 +2.9
GYA S **S** 09 43 29.2 -0.8
GYA SKS **SKSac** 09 44 16.0 -4.1
GYA SS **SS** 09 48 01.4 +0.9
GYA PMZ
comp=Z,10.0nm,1.0s
GYA PMZ
comp=Z,110nm,5.8s
GYA LN
comp=Z,460nm,19.8s
GYA LE
comp=Z,430nm,20.0s
GYA LZ
comp=Z,480nm,19.5s
BJI Beijing 70.44 321 P **P** 09 34 22.3 +0.7
BJI PMZ
comp=Z,22nm,0.8s
KMI Kunming 72.78 302 P **P** 09 34 36.2 -0.1
KMI pP **pP** 09 34 44.2 -1.1
KMI sP **sP** 09 34 48.5 -0.1
KMI PMZ
comp=Z,11nm,1.1s
CMAR Chiang Mai Arr 73.60 294 P **P** 09 34 41.5 +0.5
comp=Z,2.3nm,0.3s,baz=123,slow=4.3,SNR=16
HHC Hu-ho-hao-te 73.78 320 *e*P **P** 09 34 42.5 +0.8
HHC pP **pP** 09 34 52.7 +2.0
HHC sP **sP** 09 34 59.0 +5.0
HHC PP **PP** 09 37 25.2 -1.5
HHC S **S** 09 44 12.0 +0.7
HHC sS **sS** 09 44 25.7 -0.4
HHC SS **SS** 09 48 57.1 +1.3
HHC PMZ
comp=Z,15nm,1.0s
HHC PMZ
comp=Z,77nm,5.0s
HHC LN
comp=Z,150nm,16.3s
HHC LE
comp=Z,490nm,17.7s
HHC LZ
comp=Z,120nm,18.2s
CD2 Chengdu 74.38 307 *e*P **P** 09 34 46.2 +0.8
CD2 pP **pP** 09 34 51.4 -2.9
CD2 sP **sP** 09 34 57.8 +0.2
CD2 PP **PP** 09 37 31.2 -0.7
CD2 S **SKiKP** 09 44 12.0 +1.4
CD2 sS **sS** 09 44 32.1 -1.0
CD2 PMZ
comp=Z,10.0nm,0.8s
CD2 PMZ
comp=Z,120nm,10.6s
CD2 LE
comp=Z,210nm,17.5s
CD2 LZ
comp=Z,100nm,11.9s
HIA Hailar 74.39 330 *e*P **P** 09 34 45.4 +0.4
SEY Seymchan 76.43 353 *e*P **P** 09 34 56.7 +0.4
LZH Lanzhou 76.61 312 *e*P P 09 35 06.3 +8.1
LZH pP PcP 09 35 16.4 +6.8
LZH sP sP 09 35 21.5 +11
LZH pmax pmax
comp=Z,30nm,1.1s
LZH pmax pmax
comp=Z,140nm,4.5s
QSPA South Pole Qui 77.08 180 *e*P **P** 09 35 00.2 -0.2
comp=Z,18nm,0.9s
RSO Redoubt South 80.03 19 *e*P P 09 35 09.2 -7.4
ULN Ulaanbaatar 80.29 324 *e*P **P** 09 35 18.0 -0.2
ULN pmax pmax
comp=Z,14nm,1.0s
ULN Ulaanbaatar 80.29 324 *e*P **P** 09 35 18.0 -0.2
comp=Z,14nm,1.0s
SONM Songino Array 80.65 324 P **P** 09 35 21.3 +1.1
comp=Z,1.9nm,0.5s,baz=141,slow=7.3,SNR=7.2

GTA Gaotai 80.93 314 *e*P **P** 09 35 23.7 +1.8
GTA pP **pP** 09 35 30.1 -0.8
GTA sP **sP** 09 35 32.7 -1.5
GTA S **S** 09 45 30.3 +1.2
GTA SKS **SKSac** 09 45 37.5 -1.5
GTA sS **SKKSac** 09 45 41.0 -0.4
GTA SS **SS** 09 50 48.4 +4.5
GTA PMZ
comp=Z,9.0nm,1.5s
GTA PMZ
comp=Z,90nm,5.9s
GTA LN
comp=Z,220nm,19.0s
GTA LE
comp=Z,280nm,20.9s
GTA LZ
comp=Z,120nm,18.1s
CAST Castle Rocks 82.49 17 *e*P P 09 35 33.1 +3.7
CAST *e*pP pP 09 35 42.9 +4.4
BOD Bodaibo 82.57 335 *e*P **P** 09 35 28.9 -1.0
BOD pmax pmax
comp=Z,4.0nm,1.4s
ZAK Zakamensk 83.69 325 ⇑ *i*P **P** 09 35 36.4 +0.4
ZAK pmax pmax
comp=Z,10.0nm,1.2s
IRK Irkutsk 84.06 327 *e*P **P** 09 35 35.9 -1.8
IRK pmax pmax
comp=Z,28nm,2.3s
TLY Talaya 84.13 326 *e*P **P** 09 35 38.9 +0.8
TLY pmax pmax
comp=Z,26nm,1.4s
COLA College 84.82 18 *i* P **P** 09 35 39.5 -1.7
ILAR Eielson Array 85.04 18 P **P** 09 35 41.1 -1.2
comp=Z,1.1nm,0.8s,baz=240,slow=5.2,SNR=15
ILAR LR LR 10 07 25.0
comp=Z,73nm,20.4s,baz=230,slow=31
MOY Mondy 85.57 325 *e*P **P** 09 35 45.0 -0.5
TIXI Tiksi 88.08 349 *e*P **P** 09 35 57.2 +0.1
WMQ Urumqi 90.98 315 *e*P **P** 09 36 10.7 -0.8
WMQ pP **pP** 09 36 21.3 +0.7
WMQ sP **sP** 09 36 25.2 +1.3
WMQ PMZ
comp=Z,16nm,0.5s
WMQ PMZ
comp=Z,64nm,5.0s
WMQ LN
comp=Z,63nm,20.8s
WMQ LE
comp=Z,71nm,22.2s
WMQ LZ
comp=Z,34nm,20.2s
PDAR Pinedale Array 94.24 47 LR LR 10 14 55.6
comp=Z,71nm,18.2s,baz=276,slow=33
SNAA Sanae 95.30 183 P P 09 36 27.4 -3.5
SNAA Sanae 95.30 183 *e*P **P** 09 36 32.5 +1.6
SNAA Sanae 95.30 183 *e*P **P** 09 36 29.2 -1.7
MKAR Makanchi Array 95.43 317 P **P** 09 36 32.1 +0.3
comp=Z,4.4nm,0.9s,baz=116,slow=2.8,SNR=38
MKAR LR LR 10 21 39.4
comp=Z,22nm,19.0s,baz=126,slow=37
ZAA0 Zalesovo Array 95.54 324 *e*P **P** 09 36 31.6 -0.5
ZALV Zalesovo Beam 95.54 324 P **P** 09 36 30.8 -1.3
comp=Z,4.7nm,0.8s,baz=126,slow=4.0,SNR=13
VNA3 Neumayer Olymp 95.99 181 P P 09 36 37.3 +3.3
TXAR Lajitas Array 96.03 61 LR LR 10 14 28.0
comp=Z,72nm,19.2s,baz=0.0,slow=32
VNA2 Neumayer--Watz 96.24 182 P **P** 09 36 34.4 -0.8
baz=137,slow=3.2
YKA Yellowknife Ar 96.27 27 P **P** 09 36 36.9 +1.7
comp=Z,0.3nm,0.6s,baz=259,slow=4.9,SNR=5.9
PHWY Pilot Hill 96.91 49 *e*P **P** 09 36 38.3 -0.8
KSH Kashi 98.55 309 *e*P Pdif 09 36 48.8 +2.5
KSH pP pP 09 36 59.2 +3.8
KSH sP sP 09 37 03.3 +4.6
KSH SKS **SKSac** 09 47 23.4 +0.8
KSH S **S** 09 48 13.2 -0.5
KSH PMZ
comp=Z,47nm,4.5s
KSH LN
comp=Z,110nm,5.5s
KSH LE
comp=Z,81nm,4.6s
KSH LZ
comp=Z,150nm,6.7s
KURK Kurchatov 98.59 320 *e*P **P** 09 36 45.0 -0.9
BVAR Borovoye Array 103.92 322 Pdiff **Pdif** 09 37 09.0 -0.6
comp=Z,0.3nm,0.4s,baz=59,slow=4.3,SNR=3.7
ARCES ARCESS Array B 118.35 345 PKP **PKPdf** 09 41 52.9 -1.1
comp=Z,3.3nm,0.8s,baz=60,slow=2.0,SNR=8.0
OBN Obninsk 122.82 328 *e*PKIKP **PKPdf** 09 42 06.3 +3.4
OBN pmax pmax
comp=Z,6.0nm,1.0s
KECS Kecovo 134.77 328 *e*PKIKP **PKPdf** 09 42 25.7 -0.2
KECS Kecovo 134.77 328 *e*PKP **PKPdf** 09 42 25.7 -0.2
CEL Celeste 143.73 319 *e*PKPdf PKPbc 09 42 40.7 +0.5
SSB Saint Sauveur 144.31 338 *e*PKIKP **PKPdf** 09 42 42.6 -0.8
SSB Saint Sauveur 144.31 338 *e*PKPdf **PKPdf** 09 42 42.6 -0.8
MSKU Masuku 149.50 244 PKPbc **PKPbc** 09 42 56.9 -0.6
comp=Z,30nm,0.7s,baz=77,slow=2.5,SNR=6.9
SHEL Horse Pasture 150.31 195 *i* PKIKP **PKPbc** 09 43 01.7 +2.3
ESDC Sonseca Array 152.08 344 PKPbc **PKPbc** 09 43 02.5 -0.4
comp=Z,0.2nm,0.3s,baz=14,slow=3.4,SNR=4.4
ESDC PKPab **PKPab** 09 43 11.9 -0.4
comp=Z,0.7nm,0.4s,baz=5.9,slow=4.0,SNR=6.7
TORD Torodi Ar. Bea 165.25 273 PKP **PKPdf** 09 43 11.5 -1.0
comp=Z,1.0nm,1.1s,baz=190,slow=0.9,SNR=3.1
TORD PKPab **PKPab** 09 44 09.4 -0.7
comp=Z,0.5nm,0.7s,baz=92,slow=3.9,SNR=3.5

IDC 08 10:22:54.0±27.0**, 15.72S**×**178.32W, h356**km±218km**, mb3.6/4, mb1 3.8/4, mb1mx3.1/35, mbtmp4.3/4, Error ellipse: s-maj=281.6km s-min=39.5km az=132.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.95**	**257**	P	P	10 29 05.7	+0.3
	2.7nm,0.4s,baz=74,slow=6.4,SNR=7.7						
WRA	**Warramunga Arr**	**45.15**	**257**	P	P	10 30 36.0	-0.9
	1.0nm,0.8s,baz=88,slow=7.5,SNR=12						
WRA				PcP	PcP	10 32 10.8	+0.3
	1.0nm,1.0s,baz=90,slow=3.7,SNR=2.9						
ASAR	**Alice Springs**	**45.50**	**252**	P	P	10 30 39.6	0.0
	9.3nm,0.3s,baz=84,slow=8.6,SNR=110						
ILAR	**Eielson Array**	**83.75**	**13**	P	P	10 34 43.5	+0.1
	0.6nm,0.5s,baz=217,slow=5.3,SNR=14						
ARCES	**ARCESS Array B**	**124.19**	**350**	PKP	PKPdf	10 41 08.4	-1.8
	2.9nm,0.9s,baz=23,slow=4.0,SNR=3.8						
GERES	**GERESS Array B**	**145.53**	**346**	PKPbc	PKPbc	10 41 50.9	-0.3
	0.2nm,0.2s,baz=28,slow=3.2,SNR=4.1						

*BJI **08** 10:23:13.8, 1.°45S×122.°82E, h25km, mb4.8/29, mB4.9/21, Ms4.4/10, Ms7 4.1/11*
*IDC **08** 10:23:16.6±0.6, 0.°62S×122.°60E, h0km, mb4.1/14, mb1 4.3/15, mb1mx4.1/37, mbtmp4.2/15, ML4.8/1, MS3.4/6, Ms1 3.4/6, ms1mx3.0/38, Error ellipse: s-maj=24.0km s-min=13.4km az=74.0*
*ISCJB **08** 10:23:19.6±0.2, 0.°74S±0.°03×122.°49E±0.°03, h26km, mb4.3/31, MS3.3/6, Error ellipse: s-maj=4.8km s-min=3.7km az=151.1*
*DJA **08** 10:23:19.2±0.2, 1.°5S±2.°×12.°2E±.°, h10km, M4.7/18, mb4.9/5, mB5.0/5, MLv4.8/18, Mw(mB)4.3/5*
*NEIC **08** 10:23:20.4±1.2, 0.°70S×122.°55E, h23km±10km, mb4.8/7, Error ellipse: s-maj=9.5km s-min=6.1km az=51.0*

ISC 08 10:23:21.8±0.4, **0.°83S**±0.°04×**122.°50E**±0.°05, **h26km, n89,** σ**1**°**62**/106, **mb4.5**/31, **MS3.3**/6, **1C-1D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.34**	**128**	P	**Pb**	**10 23 28.4**	**-1.1**
LUWI				S	**Sb**	**10 23 35.7**	**+1.0**
LUWI	**Luwuk**	**0.34**	**128**	*e*Pb	**Pb**	**10 23 28.4**	**-1.1**
MRSI	**Marisa**	**1.42**	**337**	P	Pn	10 23 40.2	-5.7
MRSI				S	Sn	10 23 57.1	-6.6
KMSI	**Cibinong**	**2.03**	**47**	P	**Pn**	**10 23 53.4**	**-0.9**
TOLI	**Toli-Toli**	**2.59**	**319**	*e*Pn	**Pn**	**10 24 00.3**	**-1.6**
PCI	**Palu**	**2.67**	**268**	P	**Pn**	**10 24 02.4**	**-0.7**
MPSI	**Mapaga**	**2.85**	**294**	P	Pn	10 24 02.1	-3.5
TTSI	**Tana Toraja**	**3.47**	**231**	P	**Pn**	**10 24 14.2**	**+0.1**
SANI	**Sanana**	**3.69**	**109**	P	**Pn**	**10 24 16.5**	**-0.6**

SPSI Sidrap Palu 4.14 221 P **Pn** 10 24 23.4 0.0
BNSI Bone 4.28 214 P **Pn** 10 24 26.4 +1.1
KAPI Kappang 4.98 213 P **Pn** 10 24 35.5 +0.6
33nm,0.3s,baz=70,slow=2.3,SNR=80
KAPI Sn **Sn** 10 25 32.9 +1.2
4.6nm,0.3s,baz=31,slow=24,SNR=12
KAPI Kappang 4.98 213 *e*Pn **Pn** 10 24 35.1 +0.1
KAPI Sn **Sn** 10 25 32.9 +1.2
LBMI Labuha 5.00 88 P **Pn** 10 24 36.3 +1.1
124nm,1.2s,2μm1.2nm
BKSI Bulukumba 5.05 208 P **Pn** 10 24 36.7 +0.8
64nm,0.8s,802nm0.5nm
NLAI Namlea 5.18 118 P **Pn** 10 24 39.7 +2.1
88nm,1.0s,1μm0.4nm
BKB Balikpapan 5.62 266 P **Pn** 10 24 44.0 +0.2
BSSI Bau Bau, Buton 5.65 201 P **Pn** 10 24 45.6 +1.5
CTBH Cotabato--PC H 8.19 12 ⇓ *i*P **Pn** 10 25 18.4 -0.5
SOEI Soe 9.04 169 *e*Pn **Pn** 10 25 30.9 +0.1
FAKI Fak Fak 9.96 102 *e*Pn **Pn** 10 25 43.0 -0.3
SBUM Sibu 10.79 288 *e*Pn **Pn** 10 25 54.5 -0.2
IPM Ipoh 22.10 284 *e*P **P** 10 28 14.6 -0.7
33nm,1.4s
WRAB Tennant Creek 22.25 149 *e*P **P** 10 28 18.4 +1.6
192nm,2.9s
WRA Warramunga Arr 22.25 149 P **P** 10 28 17.3 +0.4
4.5nm,0.7s,baz=334,slow=9.7,SNR=20
QIZ Qiongzhong 23.33 328 P **P** 10 28 27.6 -0.5
QIZ sP **sP** 10 28 40.1 +1.4
QIZ S **S** 10 32 39.8 +0.4
QIZ PMZ
12nm,1.4s
PSI Prapat 23.85 279 P **P** 10 28 32.3 -1.1
26nm,1.0s,baz=93,slow=4.3,SNR=18
PSI Prapat 23.85 279 *e*P **P** 10 28 33.0 -0.4
42nm,1.1s
CHBT CHBT 24.14 305 P **P** 10 28 36.7 +0.8
26nm,1.5s
TRTT Trang 24.32 291 P **P** 10 28 37.8 +0.2
14nm,1.4s
SSLB Suanglung 24.52 357 *e*P **P** 10 28 38.5 -0.9
18nm,0.8s
GSI Gunungsitoli 25.02 275 *e*P **P** 10 28 42.8 -1.2
44nm,0.9s
ASAR Alice Springs 25.25 155 P **P** 10 28 46.6 +0.6
2.6nm,0.6s,baz=341,slow=12,SNR=20
ASAR LR LR 10 39 31.5
comp=Z,134nm,18.5s,baz=314,slow=38
SKNT Sakolnakorn 25.43 315 P **P** 10 28 48.2 +0.6
15nm,1.0s,2μm
KHON Khomkaen 25.85 312 P **P** 10 28 52.5 +1.0
14nm,1.0s,838nm
CHAI Chaiyaphum 26.21 310 P **P** 10 28 54.1 -0.7
10nm,0.8s,81nm
PBKT Sadao Pong 27.39 310 P **P** 10 29 05.4 +0.1
18nm,1.1s
UTTA Uttaradit 28.42 312 P **P** 10 29 14.6 +0.1
2.5nm,0.8s
CM01 Chiang Mai Arr 30.03 311 *e*P **P** 10 29 28.1 -0.7
CMAR Chiang Mai Arr 30.07 311 P **P** 10 29 29.1 -0.1
2.6nm,0.7s,baz=133,slow=6.7,SNR=18
CMAR LR LR 10 41 47.1
comp=Z,47nm,18.2s,baz=90,slow=37
CRAI Chiangrai 30.14 315 P P 10 29 26.2 -3.6
6.2nm,0.9s,1μm
CMMT Chiang Mai 30.28 311 P **P** 10 29 31.1 0.0
12nm,1.0s
CHTO Chiang Mai 30.28 311 P **P** 10 29 31.1 0.0
40nm,1.1s
CMAI Chiengmai2 30.90 313 P **P** 10 29 37.3 +0.6
5.1nm,1.3s,937nm
GYA Guiyang 31.14 332 P **P** 10 29 40.0 +1.3
GYA pP **pP** 10 29 50.8 +4.4
GYA PP **PnPn** 10 30 44.4 +3.7
GYA PcP **PcP** 10 32 32.0 -1.7
GYA S **S** 10 34 42.9 -0.2
GYA sS **sS** 10 35 00.8 +4.9
GYA ScP **ScP** 10 36 12.2 -2.9
GYA PMZ
10.0nm,1.1s
GYA PMZ
120nm,4.7s
GYA LN
440nm,15.5s
GYA LE
380nm,16.3s
GYA LZ
480nm,18.2s
KMI Kunming 32.12 325 P P 10 29 50.8 +3.3
KMI PMZ
11nm,0.9s
NJ2 Nanjing 32.89 354 *e*P **P** 10 29 52.1 -1.7
NJ2 PMZ
40nm,0.8s
STKA Stephens Creek 35.76 152 P **P** 10 30 18.5 -0.3
0.9nm,0.5s,baz=314,slow=11,SNR=2.9
CD2 Chengdu 36.25 332 P **P** 10 30 22.1 -0.9
CD2 pP **pP** 10 30 30.6 -0.2
CD2 S **S** 10 36 00.8 -1.3
CD2 PMZ
30nm,0.8s
CD2 PMZ
70nm,8.3s
CD2 LN
140nm,14.3s
CD2 LZ
280nm,14.3s
KSAR Wonju Array Be 38.41 7 P P 10 30 38.2 -2.9
KSRS Korea Array 38.42 7 P P 10 30 38.2 -3.1
0.3nm,0.4s,baz=195,slow=9.1,SNR=4.1
KSRS LR LR 10 45 23.3
comp=Z,40nm,20.9s,baz=206,slow=35
MJAR Matsushiro Arr 39.95 20 P P 10 30 50.1 -3.9
2.8nm,0.8s,baz=187,slow=8.8,SNR=9.6
MJAR LR LR 10 46 34.8
comp=Z,32nm,20.4s,baz=265,slow=35
LZH Lanzhou 40.63 337 *e*P **P** 10 31 00.0 +0.1
LZH pP **pP** 10 31 08.6 +0.8
LZH sP **sP** 10 31 13.7 +2.7
LZH PMZ
39nm,1.3s
LZH PMZ
250nm,6.0s
HHC Hu-ho-hao-te 42.66 348 *e*P **P** 10 31 17.4 +1.0
HHC pP **pP** 10 31 26.4 +2.1
HHC PP **PP** 10 32 58.9 +3.2
HHC S **S** 10 37 41.2 +2.9
HHC sS **sS** 10 37 53.3 +2.1
HHC PMZ
15nm,0.9s
HHC PMZ
140nm,4.7s
HHC LN
230nm,11.6s
HHC LE
230nm,13.9s
HHC LZ
170nm,14.7s
ODAN Odare 43.60 312 *e*P **P** 10 31 22.9 -1.5
23nm,0.7s
TAPN Taplejung 43.63 313 *e*P **P** 10 31 23.8 -0.9
46nm,1.1s
RAMN Ramite 44.24 311 *e*P **P** 10 31 29.0 -0.5
111nm,1.1s
CN2 Changchun 44.51 3 *e*P **P** 10 31 33.8 +2.7
CN2 PMZ
20nm,0.7s
JIRN Jiri 44.93 312 *e*P **P** 10 31 34.2 -1.0
42nm,0.8s
GTA Gaotai 45.13 335 ⇑ P **P** 10 31 36.0 -0.3
GTA pP **pP** 10 31 42.4 -1.8
GTA S **S** 10 38 14.5 +0.2
GTA SS **ScS** 10 41 28.8 -3.1
GTA PMZ
15nm,1.3s
GTA PMZ
83nm,5.5s
GTA LN
170nm,18.5s
GTA LE
210nm,21.4s
GTA LZ
65nm,18.5s
GUN Gumba 45.30 312 *e*P **P** 10 31 37.1 -1.0
79nm,0.8s
PKI Pulchoki 45.46 311 *e*P **P** 10 31 38.1 -1.3
37nm,1.0s

USRK	**Ussuriysk Ar.**	**45.63**	**10**	P		P		10 31 36.5	-3.4
	1.8nm,0.8s,baz=198,slow=9.6,SNR=3.1								
KKN	**Kakani**	**45.68**	**311**	*e*P		**P**		**10 31 39.8**	**-1.1**
	40nm,0.9s								
MDJ	**Mudanjiang**	**45.69**	**7**	P		**P**		**10 31 41.0**	**+0.5**
MDJ				PMZ					
	7.0nm,1.4s								
MDJ				PMZ					
	120nm,4.2s								
DMN	**Daman**	**45.71**	**311**	*e*P		**P**		**10 31 40.3**	**-1.0**
	42nm,0.9s								
NJS	**Nagarjunasagar**	**45.97**	**294**	*e*P		**P**		**10 31 41.8**	**-1.4**
GKN	**Gorkha**	**46.27**	**311**	*e*P		**P**		**10 31 44.4**	**-1.2**
	49nm,0.9s								
RPR	**Rampur**	**46.73**	**297**	*e*P		**P**		**10 31 47.6**	**-1.4**
HYB	**Hyderabad**	**46.92**	**295**	*i* P		**P**		**10 31 49.0**	**-1.7**
HYBB	**Hyderabad (bro**	**46.92**	**295**	*e*P		**P**		**10 31 49.7**	**-1.0**
HYBB				*e*S		**S**		**10 38 39.3**	**-1.3**
KOLN	**Koldanda**	**46.94**	**310**	*e*P		**P**		**10 31 49.9**	**-0.9**
	44nm,0.9s								
ASAJ	**Asahikawa**	**48.21**	**19**	LR		LR		10 52 33.7	
	comp=Z,33nm,19.4s,baz=190,slow=37								
ULN	**Ulaanbaatar**	**50.34**	**347**	*e*P		**P**		**10 32 15.5**	**-1.1**
	4.4nm,0.9s								
SONM	**Songino Array**	**50.46**	**346**	P		**P**		**10 32 16.5**	**-1.0**
	3.7nm,0.8s,baz=168,slow=9.5,SNR=10								
SONA1	**Songino Array**	**50.47**	**346**	*e*P		**P**		**10 32 16.2**	**-1.4**
WMQ	**Urumqi**	**54.25**	**329**	*e*P		**P**		**10 32 45.5**	**-0.1**
WMQ				pP		**pP**		**10 32 55.6**	**+1.9**
WMQ				sP		**sP**		**10 32 59.5**	**+2.7**
WMQ				PMZ					
	10.0nm,0.5s								
WMQ				PMZ					
	79nm,4.2s								
WMQ				LN					
	39nm,22.0s								
WMQ				LE					
	53nm,18.4s								
WMQ				LZ					
	28nm,17.8s								
TLY	**Talaya**	**54.70**	**346**	LR		LR		10 55 17.8	
	comp=Z,52nm,21.0s,baz=164,slow=35								
KSH	**Kashi**	**58.47**	**319**	*e*P		**P**		**10 33 15.9**	**0.0**
KSH				pP		**pP**		**10 33 25.9**	**+1.9**
KSH				PP		**PP**		**10 35 27.4**	**+1.9**
KSH				PcS		**PcS**		**10 38 06.4**	**-1.6**
KSH				S		**S**		**10 41 14.6**	**-3.3**
KSH				ScS		**ScS**		**10 42 59.3**	**-5.0**
KSH				PMZ					
	140nm,4.4s								
KSH				LN					
	88nm,7.4s								
KSH				LE					
	92nm,4.5s								
KSH				LZ					
	130nm,5.1s								
MK01	**Makanchi Array**	**59.04**	**329**	*e*P		**P**		**10 33 17.7**	**-1.9**
MKAR	**Makanchi Array**	**59.06**	**329**	P		P		10 33 17.4	-2.3
	2.9nm,0.7s,baz=158,slow=4.6,SNR=32								
MKAR	**Makanchi Array**	**59.06**	**329**	*e*P		**P**		**10 33 18.3**	**-1.5**
ZAA0	**Zalesovo Array**	**62.86**	**336**	*e*P		P		10 33 42.4	-3.0
ZALV	**Zalesovo Beam**	**62.86**	**336**	P		P		10 33 42.4	-3.0
	3.7nm,0.9s,baz=120,slow=6.0,SNR=12								
KURK	**Kurchatov**	**63.45**	**330**	*e*P		**P**		**10 33 47.6**	**-1.7**
	13nm,0.8s								
SEY	**Seymchan**	**67.43**	**14**	P		**P**		**10 34 13.1**	**-1.8**
	1.8nm,0.8s,baz=206,slow=3.3,SNR=4.8								
BVAR	**Borovoye Array**	**68.94**	**329**	P		**P**		**10 34 22.4**	**-2.1**
	2.0nm,0.9s,baz=121,slow=5.7,SNR=8.7								
VNDA	**Vanda**	**79.50**	**172**	P		**P**		**10 35 25.8**	**+0.1**
	0.5nm,0.7s,baz=350,slow=5.8,SNR=5.7								
TORD	**Torodi Ar. Bea**	**120.14**	**285**	PKP		**PKPdf**		**10 42 08.9**	**-2.5**
	1.1nm,0.7s,baz=61,slow=1.6,SNR=8.4								

*KRSC **08** 10:33:56.9±1.2,54˚48N×161˚65E±4.4km±11km, ML4.1*
*ISCJB **08** 10:33:57.6±0.4,54˚47N±0.02×161˚77E±0.05, h40km, mb3.6/14, Error ellipse: s-maj=4.9km s-min=2.2km az=24.0*
*MOS **08** 10:33:57.8±1.3,54˚52N×161˚70E, h55km, mb4.2/6, Error ellipse: s-maj=16.9km s-min=7.4km az=74.0*
*IDC **08** 10:34:01.4±2.2,54˚61N×161˚40E, h67km±22km, mb3.4/14, mb1 3.7/16, mb1mx3.5/43, mbtmp3.7/16, MS2.7/1, Ms1 2.7/1, ms1mx2.2/38, Error ellipse: s-maj=19.8km s-min=14.3km az=145.0*

ISC 08 10:33:58.4±0.6, 54˚48N±0˚03×161˚70E±0˚05, h40km, n78, σ1s25/105, mb3.7/14, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.08**	**15**	*i* P		**Pn**	**10 34 04.5**	**-0.5**
MKZ	**Mys Kozlova**	**0.08**	**15**	PN		**Pn**	**10 34 04.5**	**-0.5**
KZV	**Kizimen**	**1.03**	**309**	*e*P		**Pn**	**10 34 16.2**	**-0.3**
KZV				*e*S		**Sn**	**10 34 29.4**	**-0.4**
TUMR	**Tumrok**	**1.20**	**313**	*e*P		**Pn**	**10 34 18.9**	**0.0**
TUMR				*e*S		**Sn**	**10 34 33.4**	**-0.6**
KMNR	**Kamenistaya**	**1.53**	**327**	*e*P		**Pn**	**10 34 24.4**	**+1.1**
KMNR				*e*S		**Sn**	**10 34 42.7**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**1.57**	**339**	*e*P		**Pn**	**10 34 24.5**	**+0.6**
BZGR				*e*S		**Sn**	**10 34 43.1**	**+0.1**
BZMR	**Bezymyannaya**	**1.61**	**335**	*e*P		**Pn**	**10 34 25.1**	**+0.6**
ZLN	**Zelenaya**	**1.62**	**342**	*e*P		**Pn**	**10 34 25.7**	**+1.1**
BZWR	**Bezymyannyi-We**	**1.64**	**336**	*e*P		**Pn**	**10 34 25.8**	**+0.9**
BZWR				*e*S		**Sn**	**10 34 45.5**	**+0.7**
KIRR	**Kirishev**	**1.67**	**333**	*e*P		**Pn**	**10 34 26.4**	**+1.1**
KIRR				*e*S		**Sn**	**10 34 46.2**	**+0.7**
SPN	**Mys Shipunski**	**1.71**	**216**	*i* P		**Pn**	**10 34 24.7**	**-0.9**
SPN				*e*S		**Sn**	**10 34 43.5**	**-2.7**
SPN	**Mys Shipunski**	**1.71**	**216**	PN		**Pn**	**10 34 24.7**	**-0.9**
SPN				S		**Sn**	**10 34 43.5**	**-2.7**
KPT	**Kopyto**	**1.71**	**331**	*e*P		**Pn**	**10 34 27.0**	**+1.2**
KBTR	**Krutoberegovo**	**1.85**	**20**	*e*P		**Pn**	**10 34 28.9**	**+1.3**
KBTR				*e*S		**Sn**	**10 34 51.1**	**+1.4**
KBTR	**Krutoberegovo**	**1.85**	**20**	PN		**Pn**	**10 34 28.9**	**+1.3**
KBTR				S		**Sn**	**10 34 51.1**	**+1.4**
KOZ	**Kozyrevsk**	**1.89**	**327**	*e*P		**Pn**	**10 34 29.6**	**+1.4**
KOZR	**Kozyr**	**1.89**	**328**	PN		**Pn**	**10 34 29.6**	**+1.4**
NLC	**Nalytchevo**	**1.91**	**228**	*e*P		**Pn**	**10 34 28.5**	**0.0**
NLC				*e*S		**Sn**	**10 34 50.5**	**-0.8**
NLC	**Nalytchevo**	**1.91**	**228**	PN		**Pn**	**10 34 28.5**	**0.0**
NLC				S		**Sn**	**10 34 50.5**	**-0.8**
KLY	**Klyuchi**	**1.93**	**342**	*e*P		**Pn**	**10 34 29.1**	**+0.4**
KLY				*e*S		**Sn**	**10 34 51.4**	**-0.3**
KLY	**Klyuchi**	**1.93**	**342**	PN		**Pn**	**10 34 29.1**	**+0.4**
KLY				S		**Sn**	**10 34 51.4**	**-0.3**
SDLR	**Sedlovina**	**2.06**	**235**	*i* P		**Pn**	**10 34 31.7**	**+1.1**
SDLR				*e*S		**Sn**	**10 34 55.6**	**+0.6**
SMAR	**Somma**	**2.10**	**236**	*i* P		**Pn**	**10 34 32.6**	**+1.3**
SMAR				*e*S		**Sn**	**10 34 57.3**	**+1.0**
KRER	**Koryakskii**	**2.10**	**237**	*e*P		**Pn**	**10 34 32.7**	**+1.4**
KRER				*e*S		**Sn**	**10 34 57.4**	**+1.1**
BDR	**Baidarnaya**	**2.11**	**353**	*e*P		**Pn**	**10 34 32.2**	**+0.9**
BDR				*e*S		**Sn**	**10 34 56.7**	**+0.4**
KRX	**Arik**	**2.12**	**239**	*i* P		**Pn**	**10 34 32.4**	**+0.9**
KRX				*e*S		**Sn**	**10 34 57.0**	**+0.3**
AVH	**Avacha**	**2.13**	**236**	*i* P		**Pn**	**10 34 33.2**	**+1.6**
AVH				*e*S		**Sn**	**10 34 58.2**	**+1.3**
SRDR	**Sredinnyy**	**2.16**	**329**	*e*P		**Pn**	**10 34 32.7**	**+0.8**
KOK	**Koryaka**	**2.17**	**238**	*i* P		**Pn**	**10 34 33.4**	**+1.3**
KOK				*e*S		**Sn**	**10 34 58.6**	**+0.9**
ESO	**Esso**	**2.25**	**311**	*e*P		**Pn**	**10 34 33.6**	**+0.5**
ESO				*e*S		**Sn**	**10 34 59.0**	**-0.5**
ESO	**Esso**	**2.25**	**311**	PN		**Pn**	**10 34 33.6**	**+0.5**
ESO				S		**Sn**	**10 34 59.0**	**-0.5**
PET	**Petropavlovsk**	**2.32**	**232**	*e*P		**Pn**	**10 34 35.3**	**+1.2**
PET				*e*S		**Sn**	**10 35 01.8**	**+0.4**
PET	**Petropavlovsk**	**2.32**	**232**	*e*PN		**Pn**	**10 34 35.0**	**+0.9**
PET				*e*S		**Sn**	**10 35 01.0**	**-0.4**
PET				pmax		pmax		
	comp=Z,125nm,0.4s							
PET				smax		smax		
	comp=N,700nm,1.0s							
PET				smax		smax		
	comp=N,799nm,0.4s							
PET				smax		smax		
	comp=E,678nm,0.4s							
GNL	**Ganaly**	**2.35**	**252**	*i* P		**Pn**	**10 34 36.0**	**+1.4**
PETK	**Petropavlovsk-**	**2.74**	**241**	P		**Pn**	**10 34 41.1**	**+1.2**
	comp=E,12nm,0.3s,baz=69,slow=19,SNR=198							
PETK				S		**Sn**	**10 35 14.0**	**+2.3**
	comp=E,13nm,0.3s,baz=93,slow=20,SNR=7.0							

PETK	**Petropavlovsk-**	**2.74**	**241**	PN		**Pn**		**10 34 41.1**	**+1.2**
PETK				S		**Sn**		**10 35 14.0**	**+2.3**
PETK				pmax		pmax			
	comp=Z,13nm,0.3s								
PETK				smax		smax			
	comp=N,13nm,0.3s								
RUS	**Russkaya**	**2.80**	**224**	*i* P		**Pn**		**10 34 41.4**	**+0.8**
RUS				*e*S		**Sn**		**10 35 12.4**	**-0.7**
RUS	**Russkaya**	**2.80**	**224**	PN		**Pn**		**10 34 41.4**	**+0.8**
RUS				S		**Sn**		**10 35 12.4**	**-0.7**
GRL	**Gorelyy**	**2.90**	**230**	*e*P		**Pn**		**10 34 44.8**	**+2.6**
GRL				*e*S		**Sn**		**10 35 18.1**	**+2.3**
MTVR	**Mutnovka**	**2.90**	**228**	*e*S		**Sn**		**10 35 16.0**	**+0.1**
ASAK	**Asacha**	**3.09**	**229**	*e*P		**Pn**		**10 34 46.5**	**+1.7**
ASAK				*e*S		**Sn**		**10 35 21.7**	**+1.2**
APC	**Apacha**	**3.12**	**242**	*e*P		**Pn**		**10 34 47.0**	**+2.0**
APC				*e*S		**Sn**		**10 35 22.3**	**+1.4**
PAU	**Pauzhetka**	**4.22**	**226**	P		Pn		10 35 04.3	+4.1
PAU				S		**Sn**		**10 35 52.1**	**+3.9**
PAU	**Pauzhetka**	**4.22**	**226**	PN		Pn		10 35 04.3	+4.1
PAU				S		**Sn**		**10 35 52.1**	**+3.9**
OSSR	**Ossora**	**4.84**	**8**	P		**Pn**		**10 35 10.0**	**+1.4**
OSSR				S		**Sn**		**10 36 04.3**	**+1.0**
SKR	**Severo-Kuril's**	**5.10**	**224**	S		Sn		**10 36 11.0**	**+1.2**
ASAJ	**Asahikawa**	**16.15**	**238**	P		**Pn**		**10 37 43.1**	**+0.8**
	comp=N,0.3nm,0.3s,baz=48,slow=16,SNR=3.7								
ERM	**Erimo**	**17.48**	**232**	*i* P		**Pn**		**10 37 59.9**	**+1.0**
YAK	**Yakusk**	**18.30**	**307**	LR		LR		10 45 30.6	
	comp=N,22nm,18.1s,baz=181,slow=38								
MJAR	**Matsushiro Arr**	**24.16**	**232**	P		**P**		**10 39 10.0**	**-0.6**
	comp=N,1.5nm,0.9s,baz=24,slow=9.9,SNR=5.7								
MJAR	**Matsushiro Arr**	**24.16**	**232**	P		**P**		**10 39 10.0**	**-0.6**
MJAR				pmax		pmax			
	comp=Z,2.0nm,0.9s								
ILAR	**Eielson Array**	**27.17**	**47**	P		**P**		**10 39 37.4**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=264,slow=7.9,SNR=5.5								
H11N2	**WAKE ISLAND Hy**	**34.92**	**171**	T		T		11 17 55.2	
	baz=355,slow=76,SNR=717								
H11N3	**WAKE ISLAND Hy**	**34.93**	**171**	T		T		11 18 01.5	
	baz=355,slow=76,SNR=587								
H11N1	**WAKE ISLAND Hy**	**34.93**	**171**	T		T		11 17 56.6	
	baz=355,slow=76,SNR=647								
H11S1	**WAKE ISLAND Hy**	**36.11**	**172**	T		T		11 19 23.3	
	baz=352,slow=76,SNR=16								
H11S3	**WAKE ISLAND Hy**	**36.12**	**172**	T		T		11 19 21.1	
	baz=352,slow=76,SNR=20								
H11S2	**WAKE ISLAND Hy**	**36.13**	**172**	T		T		11 19 24.7	
	baz=352,slow=76,SNR=13								
YKA	**Yellowknife Ar**	**41.50**	**44**	P		**P**		**10 41 41.1**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=300,slow=7.9,SNR=5.9								
YKA				PcP		**PcP**		**10 43 38.0**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=313,slow=4.1,SNR=5.4								
MKAR	**Makanchi Array**	**48.41**	**295**	P		**P**		**10 42 34.4**	**-1.9**
	comp=Z,0.1nm,0.4s,baz=48,slow=8.2,SNR=3.1								
ARCES	**ARCESS Array B**	**52.28**	**342**	P		**P**		**10 43 05.2**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=23,slow=9.5,SNR=5.3								
ARCES	**ARCESS Array B**	**52.26**	**342**	P		**P**		**10 43 05.2**	**+0.2**
ARCES				pmax		pmax			
	comp=Z,2.0nm,0.9s								
NVAR	**Mina Array Bea**	**54.39**	**72**	P		**P**		**10 43 23.2**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=288,slow=9.2,SNR=2.9								
PDAR	**Pinedale Array**	**56.03**	**63**	P		**P**		**10 43 33.5**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=349,slow=2.8,SNR=2.2								
FINES	**FINESS Array B**	**59.22**	**337**	P		**P**		**10 43 53.4**	**-1.5**
	comp=Z,2.2nm,0.5s,baz=34,slow=6.6,SNR=13								
FINES	**FINESS Array B**	**59.22**	**337**	P		**P**		**10 43 53.4**	**-1.5**
FINES				pmax		pmax			
	comp=Z,2.0nm,0.5s								
NB2	**NORSAR Subarra**	**62.47**	**344**	P		**P**		**10 44 15.6**	**-1.5**
	comp=Z,0.9nm,0.6s,baz=21,slow=6.9								
NOA	**NORSAR Array B**	**62.47**	**344**	P		**P**		**10 44 15.7**	**-1.4**
	comp=Z,1.0nm,0.8s,baz=19,slow=7.3,SNR=5.5								
NOA	**NORSAR Array B**	**62.47**	**344**	P		**P**		**10 44 15.7**	**-1.4**
NOA				pmax		pmax			
	comp=Z,1.0nm,0.8s								
AKASG	**Malin Array Be**	**67.90**	**330**	P		**P**		**10 44 51.3**	**-1.1**
	comp=Z,0.2nm,0.2s,baz=32,slow=6.5,SNR=3.7								
TXAR	**Lajitas Array**	**69.23**	**69**	P		**P**		**10 45 02.1**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=316,slow=3.8,SNR=3.6								
CLL	**Collm**	**71.39**	**340**	*e*P		**P**		**10 45 13.0**	**-0.8**
CLL	**Collm**	**71.39**	**340**	*e*P		**P**		**10 45 13.0**	**-0.8**
GERES	**GERESS Array B**	**73.58**	**339**	P		**P**		**10 45 25.8**	**-1.3**
	comp=Z,0.2nm,0.2s,baz=39,slow=6.8,SNR=4.2								
WRA	**Warramunga Arr**	**77.75**	**206**	P		**P**		**10 45 50.5**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=21,slow=6.1,SNR=7.2								
WRA	**Warramunga Arr**	**77.75**	**206**	P		**P**		**10 45 50.5**	**-0.5**
WRA				pmax		pmax			
	comp=Z,1.0nm,0.7s								
ASAR	**Alice Springs**	**81.42**	**206**	P		**P**		**10 46 11.3**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=20,slow=5.9,SNR=7.3								
ASAR	**Alice Springs**	**81.42**	**206**	P		**P**		**10 46 11.3**	**+0.4**
ASAR				pmax		pmax			
	comp=Z,1.0nm,0.6s								

GUC 08 10:41:32.1±0.4, 34˚60S×71˚74W, h25km±5km, ML3.5, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NICH	**Los Niches**	**0.58**	**134**	↓*i* P		Pb	10 41 44.2	+0.5
NICH				*i* S		Sn	10 41 53.0	-0.6
NICH				AML		AML	10 41 54.2	
	comp=N,5μm,0.3s							
LNV	**Longovilo**	**0.70**	**23**	*i* P		Pb	10 41 45.7	-0.1
TALC	**Talca**	**0.80**	**174**	↓*i* P		Pb	10 41 47.5	+0.1
TALC				*e*S		Sn	10 41 58.4	-0.5
CACH	**El Canelo**	**1.06**	**63**	*i* P		Pb	10 41 52.5	+0.5
CACH				*e*S		Sn	10 42 07.6	+1.9
CHCH	**Chadas Angostu**	**1.12**	**54**	*i* P		Pb	10 41 53.0	+0.1
CHCH				*i* S		Sb	10 42 08.4	+1.3
LNCH	**Linares**	**1.25**	**175**	*i* P		Pb	10 41 55.1	+0.1
LNCH				*i* S		Sb	10 42 11.9	+1.2
SAN	**Santiago**	**1.46**	**38**	*e*P		Pb	10 41 58.1	-0.5
SAN				*e*S		Sb	10 42 17.8	+1.1
CLCH	**Cerro Calan**	**1.57**	**40**	*i* P		Pb	10 42 00.3	-0.2
CLCH				*i* P		Pn	10 42 00.4	+1.9
CLCH				*i* S		Sb	10 42 21.4	+1.4
CLCH				*i* S		Sn	10 42 21.6	+3.6
CLCH				AML		AML	10 42 27.9	
	comp=N,978nm,0.7s							
PEL	**Peldehue**	**1.70**	**31**	*i* P		Pb	10 42 02.2	-0.6
PEL				*i* S		Sb	10 42 25.2	+1.3
PEL				AML		AML	10 42 32.5	
	comp=N,1μm,0.9s							

*ISCJB **08** 10:42:23.8±0.4,50˚63N±0˚03×130˚25W±0˚05, h14km, mb3.7/1, MS3.2/1, Error ellipse: s-maj=6.1km s-min=2.7km az=139.3*
*IDC **08** 10:42:23.8±2.1,50˚51N×130˚34W, h0km, mb3.7/1, mb1 3.6/9, mb1mx3.4/55, mbtmp3.3/9, ML3.5/8, MS3.1/4, Ms1 3.1/4, ms1mx2.7/37, Error ellipse: s-maj=33.5km s-min=12.9km az=63.0*
*PGC **08** 10:42:24.2±1.5,50˚67N×130˚21W, h10km, MLSn3.0/35, Mw3.6, 196km west of Pt. Hardy, Bc Vancouver Island Region*

ISC 08 10:42:25.4±1.0, 50˚60N±0˚06×130˚21W±0˚06, h14km, n83, σ1s20/85, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HOLB	**Holberg**	**1.33**	**88**	P		**Pn**	**10 42 48.7**	**-0.8**
HOLB				S		**Sb**	**10 43 05.7**	**-1.2**
BPBC	**Brooks Peninsu**	**1.63**	**105**	P		Pn	**10 42 51.9**	**-1.7**
PHC	**Port Hardy**	**1.77**	**86**	P		**Pn**	**10 42 54.9**	**-0.7**
PHC				Sn		**Sn**	**10 43 16.3**	**-1.6**
BBB	**Bella Bella**	**2.06**	**39**	Pg		**Pn**	**10 42 59.7**	**+0.2**
BBB				Sn		**Sn**	**10 43 23.2**	**-1.8**
BBB	**Bella Bella**	**2.06**	**39**	Pn		**Pn**	**10 42 59.5**	**0.0**
	6.1nm,0.3s,baz=224,slow=6.0,SNR=489							
BBB				Sn		**Sn**	**10 43 23.7**	**-1.2**
	54nm,0.3s,baz=190,slow=19,SNR=15							
EDB	**Eliza Dome**	**2.12**	**109**	Pn		**Pn**	**10 42 59.3**	**-1.0**
TLCB	**Telegraph Cove**	**2.15**	**90**	Sn		**Sn**	**10 43 26.3**	**-1.1**
BNB	**Barry Inlet**	**2.20**	**335**	Pn		**Pn**	**10 42 59.8**	**-1.7**
WOSB	**Woss**	**2.37**	**99**	Pn		**Pn**	**10 43 03.5**	**-0.5**
NCRB	**Newcastle Ridg**	**2.66**	**93**	Pn		**Pn**	**10 43 07.5**	**-0.4**
ETB	**Estevan Point**	**2.67**	**116**	Pn		**Pn**	**10 43 06.8**	**-1.1**
BCBC	**Bella Coola**	**2.79**	**49**	Pn		**Pn**	**10 43 10.2**	**+0.6**
BCBC				Sn		**Sn**	**10 43 43.6**	**+0.5**
GDR	**Gold River**	**2.81**	**105**	Pn		**Pn**	**10 43 09.1**	**-0.8**
DIB	**Dawson Inlet,**	**2.96**	**333**	Pn		**Pn**	**10 43 10.8**	**-1.0**
DIB				Sn		**Sn**	**10 43 46.1**	**-1.0**
H02S1	**DAWSON INLET T**	**2.96**	**333**	Pn		**Pn**	**10 43 10.6**	**-1.2**
H02S1				Sn		**Sn**	**10 43 45.5**	**-1.5**
H02N1	**VAN INLET T-PH**	**3.02**	**332**	Pn		**Pn**	**10 43 11.5**	**-1.3**
H02N1				Sn		**Sn**	**10 43 46.5**	**-2.3**
VIB	**Van Inlet**	**3.02**	**332**	Pn		**Pn**	**10 43 11.4**	**-1.4**
CBB	**Campbell River**	**3.16**	**99**	Pn		**Pn**	**10 43 14.6**	**0.0**
CBB				Sn		**Sn**	**10 43 51.9**	**-0.3**
BTB	**Buttle Lake**	**3.23**	**109**	Pn		**Pn**	**10 43 15.0**	**-0.8**
OZB	**Mount Ozzard**	**3.47**	**116**	Pn		**Pn**	**10 43 17.9**	**-1.2**
ALB	**Alberni**	**3.73**	**109**	Pn		**Pn**	**10 43 22.0**	**-0.4**
RUBB	**Prince Rupert**	**3.73**	**360**	Pn		**Pn**	**10 43 22.5**	**+0.1**
RUBB				Sn		**Sn**	**10 44 05.4**	**-0.7**
NDB	**Naden**	**3.75**	**335**	Pn		**Pn**	**10 43 22.1**	**-0.7**
TXB	**Texada**	**3.83**	**102**	Pn		**Pn**	**10 43 23.6**	**-0.2**
MGB	**Mount Grey**	**3.92**	**112**	Pn		**Pn**	**10 43 24.5**	**-0.8**
GHNB	**Nanoose**	**4.07**	**106**	Pn		**Pn**	**10 43 27.6**	**+0.5**
SHB	**Sechelt**	**4.20**	**101**	Pn		**Pn**	**10 43 28.9**	**-0.2**
NLLB	**Nanaimo Lost L**	**4.25**	**107**	Pn		**Pn**	**10 43 29.1**	**-0.6**
PFB	**Port Renfrew**	**4.27**	**116**	Pn		**Pn**	**10 43 29.5**	**-0.4**
OCP	**Olym-Cheeka Pk**	**4.32**	**120**	Pn		**Pn**	**10 43 30.4**	**-0.1**
WPB	**Watts Point**	**4.60**	**99**	Pn		**Pn**	**10 43 35.2**	**+0.7**
LZB	**Mount Lazard**	**4.61**	**113**	Pn		**Pn**	**10 43 35.3**	**+0.7**
BIB	**Bowen Island**	**4.61**	**102**	Pn		**Pn**	**10 43 34.9**	**+0.3**
GOBB	**Galiano Island**	**4.65**	**108**	Pn		**Pn**	**10 43 36.4**	**+1.3**
OFR	**Olym-F Res Ctr**	**4.65**	**123**	Pn		**Pn**	**10 43 36.1**	**+0.9**
WSLR	**Whistler**	**4.69**	**93**	Pn		**Pn**	**10 43 36.9**	**+1.1**
OBC	**Olympics--Boni**	**4.76**	**120**	Pn		**Pn**	**10 43 38.0**	**+1.2**
PGC	**Sidney**	**4.81**	**111**	Pn		**Pn**	**10 43 37.5**	**+0.2**
SNB	**Saturna Island**	**4.92**	**109**	Pn		**Pn**	**10 43 40.0**	**+1.1**
STW	**Striped Peak**	**4.93**	**117**	Pn		**Pn**	**10 43 39.1**	**+0.1**
VGZ	**Gonzales**	**5.00**	**113**	Pn		**Pn**	**10 43 40.8**	**+1.0**
OSD	**Olympics--Snow**	**5.10**	**121**	Pn		**Pn**	**10 43 42.5**	**+1.0**
HNB	**Haney**	**5.11**	**102**	Pn		**Pn**	**10 43 42.4**	**+1.0**
MCW	**Mount Constitu**	**5.17**	**109**	Pn		**Pn**	**10 43 43.7**	**+1.4**
FSB	**Fort Saint Jam**	**5.29**	**41**	Pn		**Pn**	**10 43 45.6**	**+1.7**
LLLB	**Lillooet**	**5.31**	**87**	Pn		**Pn**	**10 43 45.0**	**+0.8**
BLN	**Blyn Mountain**	**5.40**	**116**	Pn		**Pn**	**10 43 46.9**	**+1.4**
VDB	**Vedder Mountai**	**5.48**	**104**	Pn		**Pn**	**10 43 47.5**	**+1.0**
WISH	**Wishkah**	**5.50**	**127**	Pn		**Pn**	**10 43 48.6**	**+1.8**
A05A	**Maple Falls**	**5.50**	**104**	Pn		**Pn**	**10 43 48.5**	**+1.7**
HDW	**Hoodsport**	**5.55**	**119**	Pn		**Pn**	**10 43 49.1**	**+1.5**
SMW	**South Mountain**	**5.59**	**123**	Pn		**Pn**	**10 43 49.4**	**+1.3**
MBW	**Mount Baker**	**5.69**	**105**	Pn		**Pn**	**10 43 51.6**	**+2.0**
CMW	**Cultus Mountai**	**5.71**	**109**	Pn		**Pn**	**10 43 51.7**	**+2.0**
HOPB	**Hope**	**5.80**	**99**	Pn		**Pn**	**10 43 52.2**	**+1.3**
CPW	**Capitol Peak**	**5.92**	**125**	Pn		**Pn**	**10 43 54.7**	**+2.1**
JCW	**Jim Creek**	**5.92**	**111**	Pn		**Pn**	**10 43 53.9**	**+1.2**
B06A	**Marblemount**	**6.05**	**107**	Pn		**Pn**	**10 43 55.8**	**+1.4**
RPW	**Rockport**	**6.06**	**107**	Pn		**Pn**	**10 43 55.7**	**+1.1**
D05A	**Enumclaw**	**6.41**	**119**	Pn		**Pn**	**10 43 59.5**	**+0.2**
GPW	**Glacier Peak**	**6.43**	**109**	Pn		**Pn**	**10 44 00.5**	**+0.7**
FMW	**Mount Fremont**	**6.74**	**120**	Pn		**Pn**	**10 44 06.4**	**+2.4**
LON	**Longmire**	**6.77**	**121**	Pn		**Pn**	**10 44 05.7**	**+1.4**
LTY	**Liberty**	**7.12**	**114**	Pn		**Pn**	**10 44 10.9**	**+1.7**
DLBC	**Dease Lake**	**7.85**	**1**	Pn		**Pn**	**10 44 21.7**	**+2.6**
DLBC	**Dease Lake**	**7.85**	**1**	Pn		**Pn**	**10 44 21.4**	**+

A05A	**Maple Falls**	**5.49**	**105**	Pn		**Pn**	**10 53 37.4**	**+1.6**
HDW	**Hoodsport**	**5.55**	**120**	Pn		**Pn**	**10 53 38.0**	**+1.3**
MBW	**Mount Baker**	**5.68**	**106**	Pn		**Pn**	**10 53 39.8**	**+1.3**
CMW	**Cultus Mountai**	**5.70**	**110**	Pn		**Pn**	**10 53 40.1**	**+1.5**
JCW	**Jim Creek**	**5.91**	**111**	Pn		**Pn**	**10 53 41.2**	**-0.4**
E03A	**Lebam**	**6.01**	**131**	Pn		**Pn**	**10 53 43.2**	**+0.4**
RPW	**Rockport**	**6.05**	**108**	Pn		**Pn**	**10 53 44.4**	**+0.9**
GPW	**Glacier Peak**	**6.42**	**110**	Pn		**Pn**	**10 53 51.0**	**+2.2**
FMW	**Mount Fremont**	**6.74**	**120**	Pn		**Pn**	**10 53 54.4**	**+1.4**
LON	**Longmire**	**6.77**	**122**	Pn		**Pn**	**10 53 54.7**	**+1.3**
LTY	**Liberty**	**7.12**	**115**	Pn		**Pn**	**10 53 59.6**	**+1.5**
DLBC	**Dease Lake**	**7.80**	**1**	Pn		Pn	10 54 10.4	+3.0
DLBC	**Dease Lake**	**7.80**	**1**	Pn		Pn	10 54 10.9	+3.5
	0.5nm,0.3s,baz=185,slow=14,SNR=16							
DLBC				LR		LR	10 57 11.9	
	comp=Z,158nm,18.4s,baz=166,slow=38							
NEW	**Newport**	**8.83**	**101**	Pn		**Pn**	**10 54 21.7**	**+0.1**
	0.1nm,0.3s,baz=279,slow=19,SNR=2.7							
NEW				LR		LR	10 57 46.0	
	comp=Z,117nm,19.1s,baz=286,slow=38							
FNBB	**Fort Nelson**	**9.22**	**24**	Pn		**Pn**	**10 54 29.1**	**+2.2**
YBH	**Yreka Blue Hor**	**10.31**	**147**	Pn		**Pn**	**10 54 44.4**	**+2.5**
	0.0nm,0.3s,baz=14,slow=8.3,SNR=2.0							
YBH				LR		LR	10 58 08.7	
	comp=Z,32nm,21.5s,baz=330,slow=35							
HYT	**Haines Junctio**	**10.99**	**341**	Pn		**Pn**	**10 54 52.7**	**+1.5**
YKR1	**Yellowknife Ar**	**14.47**	**29**	Pn		**Pn**	**10 55 39.6**	**+1.0**
YKR2	**Yellowknife Ar**	**14.49**	**29**	Pn		**Pn**	**10 55 40.2**	**+1.4**
YKR3	**Yellowknife Ar**	**14.50**	**29**	Pn		**Pn**	**10 55 39.8**	**+0.8**
YKB1	**Yellowknife Ar**	**14.51**	**30**	Pn		**Pn**	**10 55 38.6**	**-0.5**
YKR4	**Yellowknife Ar**	**14.52**	**29**	Pn		**Pn**	**10 55 39.0**	**-0.2**
YKB2	**Yellowknife Ar**	**14.53**	**30**	Pn		**Pn**	**10 55 39.2**	**-0.1**
YKB3	**Yellowknife Ar**	**14.55**	**30**	Pn		**Pn**	**10 55 40.2**	**+0.6**
YKR6	**Yellowknife Ar**	**14.55**	**30**	Pn		**Pn**	**10 55 39.5**	**-0.1**
YKB4	**Yellowknife Ar**	**14.56**	**30**	Pn		**Pn**	**10 55 40.0**	**+0.1**
YKR7	**Yellowknife Ar**	**14.56**	**30**	Pn		**Pn**	**10 55 40.2**	**+0.4**
YKA	**Yellowknife Ar**	**14.58**	**30**	Pn		**Pn**	**10 55 39.0**	**-1.1**
	0.1nm,0.3s,baz=222,slow=12,SNR=7.3							
YKR8	**Yellowknife Ar**	**14.58**	**30**	Pn		**Pn**	**10 55 40.7**	**+0.6**
YKB6	**Yellowknife Ar**	**14.60**	**30**	Pn		**Pn**	**10 55 40.5**	**+0.2**
YKB7	**Yellowknife Ar**	**14.61**	**30**	Pn		**Pn**	**10 55 40.7**	**+0.2**
YKW3	**Yellowknife Ar**	**14.63**	**29**	Pn		**Pn**	**10 55 40.9**	**+0.2**
YKB8	**Yellowknife Ar**	**14.63**	**29**	Pn		**Pn**	**10 55 41.2**	**+0.5**
YKB9	**Yellowknife Ar**	**14.65**	**29**	Pn		**Pn**	**10 55 41.1**	**+0.2**
YKB0	**Yellowknife Ar**	**14.66**	**29**	Pn		**Pn**	**10 55 41.5**	**+0.3**
NVAR	**Mina Array Bea**	**14.84**	**141**	Pn		**Pn**	**10 55 47.1**	**+3.1**
	0.0nm,0.3s,baz=315,slow=16,SNR=2.4							
PDAR	**Pinedale Array**	**16.15**	**111**	Pn		**P**	**10 56 03.6**	**-0.8**
	0.1nm,0.3s,baz=317,slow=13,SNR=7.7							
ILAR	**Eielson Array**	**16.64**	**335**	Pn		**P**	**10 56 12.4**	**+2.9**
	0.0nm,0.3s,baz=145,slow=13,SNR=12							
ULM	**Lac du Bonnet**	**21.73**	**78**	P		**P**	**10 57 05.1**	**0.0**
	2.2nm,0.7s,baz=311,slow=11,SNR=2.8							
ULM				LR		LR	11 06 22.4	
	comp=Z,39nm,18.6s,baz=304,slow=39							
ANMO	**Albuquerque**	**23.29**	**123**	LR		LR	11 06 49.9	
	comp=Z,56nm,20.9s,baz=44,slow=38							
H11N2	**WAKE ISLAND Hy**	**57.88**	**262**	T		T	12 04 42.6	
	baz=42,slow=76,SNR=233							
H11N3	**WAKE ISLAND Hy**	**57.88**	**262**	T		T	12 04 42.1	
	baz=42,slow=76,SNR=313							
H11N1	**WAKE ISLAND Hy**	**57.90**	**262**	T		T	12 04 43.8	
	baz=42,slow=76,SNR=212							
H11S1	**WAKE ISLAND Hy**	**58.91**	**261**	T		T	12 06 02.9	
	baz=46,slow=75,SNR=16							
H11S2	**WAKE ISLAND Hy**	**58.92**	**261**	T		T	12 05 58.4	
	baz=46,slow=75,SNR=8.6							
H11S3	**WAKE ISLAND Hy**	**58.93**	**261**	T		T	12 05 58.9	
	baz=46,slow=75,SNR=9.4							

*IDC **08** 10:54:01.8±1.5,34°.97N×57°.52E,h0km,mb3.4/6, mb1 3.6/8,mb1mx3.4/41,mbtmp3.5/8,ML3.2/3,MS2.5/1, Ms1 2.5/1,ms1mx2.0/34,Error ellipse: s-maj=31.6km s-min=18.1km az=124.0*

*ISCJB **08** 10:54:02.9±0.4,34°.84N±0°.03×57°.41E±0°.05,h10km, mb3.4/5,MS2.4/1,Error ellipse: s-maj=6.1km s-min=4.5km az=12.3*

*CSEM **08** 10:54:02.8±0.1,34°.82N×57°.44E,h2km,ML3.7,Error ellipse: s-maj=4.2km s-min=4.0km az=104.0*

*THR **08** 10:54:03.6±1.1,34°.89N×57°.44E,h35km±8km,ML3.7*

*TEH **08** 10:54:04.0,34°.80N×57°.52E,h5km,ML3.9*

ISC 08 10:54:04.3±0.8,34°.81N±0°.04×57°.46E±0°.03,h10km,n52, σ0°76/45,mb3.3/5,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABS	**Tabas**	**1.19**	**194**	*e*Pg	**Pn**	**10 54 26.4**	**-0.6**
TABS				*e*Sg	**Sb**	**10 54 44.3**	**+1.9**
TABS				AML	AML	10 54 47.8	
	comp=N,2μm,0.5s						
TABS				AML	AML	10 54 49.4	
	comp=E,974nm,0.8s						
TABS	**Tabas**	**1.19**	**194**	*e*Pg	**Pn**	**10 54 26.4**	**-0.6**
SHRO	**Shahrood**	**1.67**	**315**	*e*Pg	**Pn**	**10 54 33.1**	**-0.6**
SHRO	**Shahrood**	**1.67**	**315**	*e*Pg	**Pn**	**10 54 33.1**	**-0.6**
IMOG	**Moghan**	**2.01**	**49**	*e*Pn	**Pn**	**10 54 38.5**	**-0.1**
IMOG				*e*		10 55 08.5	
	comp=N,8μm,0.2s						
IMOG	**Moghan**	**2.01**	**49**	*e*Pn	**Pn**	**10 54 38.5**	**-0.1**
IPAY	**Payeh**	**2.07**	**37**	*e*Pn	**Pn**	**10 54 39.0**	**-0.2**
IPAY				*e*		10 54 43.5	
	comp=Z,5μm,0.1s						
IPAY	**Payeh**	**2.07**	**37**	*e*Pn	**Pn**	**10 54 39.0**	**-0.2**
IAKL	**Akhelmad**	**2.08**	**30**	*e*Pn	**Pn**	**10 54 39.2**	**-0.3**
IAKL				*e*		10 55 10.9	
	comp=Z,9μm,0.2s						
IKRD	**Kardeh**	**2.15**	**23**	*e*Pn	**Pg**	**10 54 46.4**	**+1.0**
IKRD				*e*		10 55 28.0	
	comp=Z,4μm,0.4s						
ITEG	**Tejag**	**2.19**	**150**	*e*Pn	**Pn**	**10 54 40.9**	**+0.1**
ITEG				*e*		10 55 18.4	
	comp=Z,10μm,0.2s						
ITEG	**Tejag**	**2.19**	**150**	*e*Pn	**Pn**	**10 54 40.9**	**+0.1**
ISRO	**Mashad**	**2.22**	**47**	*e*Pn	**Pn**	**10 54 40.8**	**-0.5**
ISRO				*e*		10 55 15.9	
	comp=Z,8μm,0.4s						
ISRO	**Mashad**	**2.22**	**47**	*e*Pn	**Pn**	**10 54 40.8**	**-0.5**
ISFR	**Sfrayin**	**2.29**	**11**	*e*Pn	**Pn**	**10 54 42.4**	**+0.1**
ISFR				*e*		10 55 26.5	
	comp=Z,3μm,0.3s						
ISFR	**Sfrayin**	**2.29**	**11**	*e*Pn	**Pn**	**10 54 42.4**	**+0.1**
IMON	**Monand**	**2.44**	**131**	*e*Pn	**Pn**	**10 54 43.9**	**-0.5**
IMON				*e*		10 55 28.9	
	comp=Z,5μm,0.2s						
IMON	**Monand**	**2.44**	**131**	*e*Pn	**Pn**	**10 54 43.9**	**-0.5**
SHRT	**Shahrakht**	**2.62**	**115**	*e*Pn	**Pn**	**10 54 46.5**	**-0.2**
SHRT				*e*Sg	**Sb**	**10 55 25.3**	**+1.8**
SHRT				AML	AML	10 55 36.2	
	comp=E,415nm,0.5s						
SHRT	**Shahrakht**	**2.62**	**115**	*e*Pn	**Pn**	**10 54 46.5**	**-0.2**
SHRT				*e*Sg	**Sb**	**10 55 25.3**	**+1.8**
	comp=E,415nm,0.5s						
IMYA	**Miami**	**2.65**	**54**	*e*Pn	**Pn**	**10 54 46.8**	**-0.4**
IMYA				*e*		10 54 53.0	
	comp=Z,3μm,0.4s						
IMYA	**Miami**	**2.65**	**54**	*e*Pn	**Pn**	**10 54 46.8**	**-0.4**
IKOO	**Kooshah**	**2.70**	**151**	*e*Pn	**Pn**	**10 54 47.7**	**-0.3**
IKOO				*e*		10 54 57.9	
	comp=Z,3μm,0.2s						
IKOO	**Kooshah**	**2.70**	**151**	*e*Pn	**Pn**	**10 54 47.7**	**-0.3**
ISHV	**Shirvan**	**2.73**	**4**	*e*Pn	**Pn**	**10 54 48.5**	**+0.1**
ISHV				*e*		10 55 33.5	
	comp=Z,3μm,0.4s						
IDAH	**Dahanechah**	**2.88**	**135**	*e*Pn	**Pn**	**10 54 49.9**	**-0.5**
IDAH				*e*		10 55 46.6	
	comp=Z,2μm,0.5s						
IDAH	**Dahanechah**	**2.88**	**135**	*e*Pn	**Pn**	**10 54 49.9**	**-0.5**
IANJ	**Anjilo**	**2.98**	**284**	*e*Pn	Pn	10 54 55.4	+3.6
IANJ				*e*		10 55 39.2	
	comp=Z,3μm,0.2s						
IANJ	**Anjilo**	**2.98**	**284**	*e*Pn	Pn	10 54 55.4	+3.6
MRVT	**Maraveh tapeh**	**3.06**	**339**	*e*Pn	Pn	10 54 49.9	-2.8
GEYT	**Alibeck**	**3.16**	**9**	Pn	Pn	10 54 48.9	-5.3
	comp=Z,0.8nm,0.3s,baz=198,slow=14,SNR=2.7						
GEYT				Pg	Pb	10 54 54.6	-6.0
	comp=Z,5.7nm,0.3s,baz=199,slow=16,SNR=14						
GEYT				Lg	Lg	10 55 36.6	
	comp=Z,4.6nm,0.3s,baz=162,slow=41,SNR=4.8						
IKIA	**Kiasar**	**3.38**	**296**	*e*Pn	**Pb**	**10 55 03.6**	**-0.8**
IKIA				*e*		10 56 06.6	
	comp=Z,1μm,0.3s						
IGLO	**Ghaloghah**	**3.41**	**301**	*e*Pn	**Pn**	**10 54 59.4**	**+1.8**
IGLO				*e*		10 55 55.1	
	comp=Z,3μm,0.4s						
ISHM	**Shahmirzad**	**3.55**	**288**	*e*Pn	**Pn**	**10 55 00.1**	**+0.4**
ISHM				*e*		10 56 06.4	
	comp=Z,3μm,0.2s						
IBAF	**Bafgh**	**3.58**	**207**	*e*Pn	**Pn**	**10 54 59.4**	**-0.5**
IBAF				*e*		10 56 09.8	
	comp=Z,3μm,0.4s						
IBAF	**Bafgh**	**3.58**	**207**	*e*Pn	**Pn**	**10 54 59.4**	**-0.5**
ICHK	**Chekchek**	**3.61**	**226**	*e*Pn	**Pn**	**10 55 00.6**	**+0.2**
ICHK				*e*		10 56 02.9	
	comp=Z,3μm,0.1s						
ICHK	**Chekchek**	**3.61**	**226**	*e*Pn	**Pn**	**10 55 00.6**	**+0.2**
ILAS	**Lasjerd**	**3.73**	**280**	*e*Pn	**Pb**	**10 55 10.6**	**+0.2**
ILAS				*e*		10 56 11.4	
	comp=Z,3μm,0.3s						
NASN	**Na'in**	**4.36**	**244**	*e*Pn	**Pn**	**10 55 10.5**	**-0.3**
NASN	**Na'in**	**4.36**	**244**	*e*Pn	**Pn**	**10 55 10.5**	**-0.3**
IVRN	**Varamin**	**4.71**	**274**	*e*Pn	**Pn**	**10 55 15.0**	**-0.5**
IVRN				*e*		10 55 18.9	
	comp=Z,723nm,0.1s						
IVRN	**Varamin**	**4.71**	**274**	*e*Pn	**Pn**	**10 55 15.0**	**-0.5**
AAK	**Ala-Archa**	**15.41**	**54**	Pn	Pn	10 57 38.4	-3.5
	comp=Z,0.3nm,0.3s,baz=184,slow=19,SNR=2.2						
AKTO	**Aktyubinsk**	**15.63**	**1**	Pn	Pn	10 57 40.6	-3.9
	comp=Z,0.1nm,0.3s,baz=209,slow=17,SNR=2.7						
BVAR	**Borovoye Array**	**20.40**	**23**	P	**P**	**10 58 39.3**	**-1.9**
	comp=Z,0.9nm,0.5s,baz=206,slow=13,SNR=5.0						
MKAR	**Makanchi Array**	**22.19**	**50**	P	P	10 58 57.2	-3.3
	comp=Z,0.3nm,0.7s,baz=243,slow=10,SNR=3.6						
AKASG	**Malin Array Be**	**25.90**	**316**	P	**P**	**10 59 35.9**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=119,slow=8.5,SNR=9.6						
IDI	**Anoyia**	**26.61**	**280**	LR	LR	11 12 33.8	
	comp=Z,10nm,20.7s,baz=276,slow=42						
TORD	**Torodi Ar. Bea**	**54.59**	**261**	P	P	11 03 31.5	-1.6
	comp=Z,0.9nm,0.7s,baz=44,slow=7.1,SNR=6.0						
ILAR	**Eielson Array**	**78.93**	**10**	P	P	11 06 05.5	-2.1
	comp=Z,0.2nm,0.7s,baz=333,slow=5.0,SNR=5.5						
YKA	**Yellowknife Ar**	**82.83**	**356**	P	**P**	**11 06 27.8**	**-0.6**
	comp=Z,0.1nm,0.4s,baz=17,slow=4.5,SNR=3.7						

*BJI **08** 10:54:10.3,2°.53S×128°.55E,h54km,mb4.9/34,mB5.0/22, Ms4.5/12,Ms7 4.0/12*

*IDC **08** 10:54:10.2±0.4,1°.91S×127°.97E,h0km,mb4.5/23, mb1 4.6/25,mb1mx4.5/42,mbtmp4.5/25,ML5.0/1,MS3.4/13, Ms1 3.4/13,ms1mx3.2/32,Error ellipse: s-maj=19.2km s-min=9.8km az=70.0*

*MOS **08** 10:54:13.2±1.3,1°.90S×128°.14E,h33km,mb4.9/16,Error ellipse: s-maj=16.7km s-min=6.6km az=112.7*

*NEIC **08** 10:54:14.4±2.5,1°.95S×128°.09E,h26km±18km,mb4.7/20, Error ellipse: s-maj=9.1km s-min=5.4km az=65.0*

*ISCJB **08** 10:54:15.7±0.5,1°.94S±0°.03×128°.18E±0°.03,h53km±4km, mb4.6/47,MS3.4/12,Error ellipse: s-maj=5.1km s-min=4.0km az=149.7*

*DJA **08** 10:54:17.5±1.5,2°S±3°×12°8E±°,h34km±19km,M5.0/6, mb5.1/6,mB5.1/4,MLv5.1/6,Mw(mB)4.5/4*

ISC 08 10:54:17.1±0.4,1°.96S±0°.03×128°.19E±0°.05,h48km±3km, h48km:pP-P,n154,σ1°55/173,mb4.6/46,MS3.4/12,6C-5D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**1.48**	**332**	P	**Pn**	**10 54 41.0**	**-0.4**
NLAI	**Namlea**	**1.67**	**221**	P	**Pn**	**10 54 43.8**	**-0.1**
AAI	**Ambon**	**1.71**	**180**	P	**Pn**	**10 54 46.3**	**+1.8**
	baz=1.7,SNR=40						
AAI				⇑S	**Sn**	**10 55 03.2**	**-2.1**
	baz=1.7,SNR=6.6						
SANI	**Sanana**	**2.20**	**268**	P	**Pn**	**10 54 48.8**	**-2.4**
TNTI	**Ternate**	**2.84**	**343**	P	**Pn**	**10 54 59.8**	**-0.2**
TNTI	**Ternate**	**2.84**	**343**	*e*Pn	**Pn**	**10 54 59.8**	**-0.2**
BNDI	**Bandanaira**	**3.07**	**146**	P	**Pn**	**10 55 04.8**	**+1.7**
SWI	**Sorong**	**3.26**	**70**	P	**Pn**	**10 55 06.1**	**+0.3**
SWI	**Sorong**	**3.26**	**70**	⇓P	**Pn**	**10 55 07.0**	**+1.2**
	baz=3.4,SNR=63						
SWI				⇑S	**Sn**	**10 55 45.8**	**+2.5**
	baz=3.4,SNR=16						
FAKI	**Fak Fak**	**4.17**	**103**	P	**Pn**	**10 55 18.3**	**+0.1**
FAKI	**Fak Fak**	**4.17**	**103**	P	**Pn**	**10 55 18.4**	**+0.1**
	baz=4.3,SNR=96						
FAKI				S	**Sn**	**10 56 04.4**	**-1.4**
	baz=4.3,SNR=16						
FAKI	**Fak Fak**	**4.17**	**103**	*e*Pn	**Pn**	**10 55 17.6**	**-0.7**
LUWI	**Luwuk**	**5.49**	**280**	⇓P	**Pn**	**10 55 35.3**	**-1.0**
	baz=5.3,SNR=15						
MRSI	**Marisa**	**6.70**	**291**	P	**Pn**	**10 55 52.5**	**-0.5**
	97nm,0.5s,2μm						
BNSI	**Bone**	**8.42**	**253**	P	**Pn**	**10 56 18.8**	**+2.2**
MPSI	**Mapaga**	**8.60**	**285**	P	**Pn**	**10 56 20.1**	**+1.1**
SPSI	**Sidrap Palu**	**8.64**	**256**	P	**Pn**	**10 56 21.6**	**+2.0**
BKSI	**Bulukumba**	**8.71**	**247**	P	**Pn**	**10 56 22.8**	**+2.2**
	81nm,0.5s,895nm						
BSSI	**Bau Bau, Buton**	**8.73**	**241**	P	**Pn**	**10 56 22.9**	**+2.1**
KAPI	**Kappang**	**8.95**	**250**	Pn	Pn	10 56 19.3	-4.5
	0.3nm,0.3s,baz=138,slow=18,SNR=3.3						
KAPI				Sn	**Sn**	**10 58 05.0**	**+1.7**
	baz=253,slow=19,SNR=2.5						
KDU	**Kakadu**	**11.47**	**158**	P	**Pn**	**10 56 56.6**	**-1.7**
	baz=12,SNR=59						
KDU				S	Sn	10 58 58.5	-6.6
	baz=12,SNR=8.0						
JAY	**Jayapura**	**12.52**	**93**	LR	LR	11 04 21.0	
	comp=Z,127nm,18.8s,baz=352,slow=48						
KNRA	**Kununurra**	**13.64**	**178**	⇑P	**Pn**	**10 57 26.8**	**-1.2**
	baz=14,SNR=36						
KNRA				S	**Sn**	**11 00 00.5**	**+2.3**
	baz=14,SNR=4.0						
WRAB	**Tennant Creek**	**18.85**	**162**	*e*P	**P**	**10 58 31.6**	**-1.7**
WRAB				*e*		11 01 50.6	
WRAB				pmax	pmax		
	comp=Z,37nm,0.9s						
WRAB	**Tennant Creek**	**18.85**	**162**	*e*P	**P**	**10 58 31.6**	**-1.7**
	comp=Z,37nm,0.9s						
WRAB				*e*Sn	Sn	11 01 50.6	-14
WRA	**Warramunga Arr**	**18.86**	**162**	P	**P**	**10 58 32.5**	**-0.9**
	comp=Z,5.4nm,0.3s,baz=342,slow=13,SNR=172						
WRA				S	Sn	11 01 55.4	-9.2
	comp=Z,1.4nm,0.3s,baz=332,slow=21,SNR=8.9						
WRA				LR	LR	11 06 59.3	
	comp=Z,151nm,21.6s,baz=195,slow=40						
COEN	**Coen**	**19.02**	**130**	P	**Pn**	**10 58 36.2**	**0.0**
	baz=19,SNR=45						
COEN	**Coen**	**19.02**	**130**	*e*Pn	**Pn**	**10 58 36.6**	**+0.3**
	comp=Z,13nm,0.9s						
MBWA	**Marble Bar**	**20.78**	**203**	*e*P	**P**	**10 58 53.0**	**-1.3**
	comp=Z,24nm,0.7s						
QIS	**Mount Isa**	**21.58**	**150**	⇑P	**P**	**10 59 02.8**	**-0.1**
	baz=22,SNR=40						
AS31	**Alice Springs**	**22.27**	**166**	*e*P	**P**	**10 59 09.7**	**-0.7**
ASAR	**Alice Springs**	**22.28**	**166**	P	**P**	**10 59 09.3**	**-1.1**
	comp=Z,78nm,0.5s,baz=343,slow=11,SNR=1305						
ASAR				S	**S**	**11 03 06.5**	**-6.2**
	comp=Z,16nm,0.9s,baz=348,slow=20,SNR=19						
ASAR				LR	LR	11 07 43.1	
	comp=Z,102nm,19.5s,baz=350,slow=36						
WRKA	**Warakurna**	**22.94**	**180**	⇑P	**P**	**10 59 16.9**	**-0.5**
	baz=23,SNR=109						
DLV	**T Lat**	**23.96**	**306**	*e*P	**P**	**10 59 29.9**	**+2.4**
MYKOM	**Kota Tinggi**	**24.61**	**279**	*e*P	**P**	**10 59 34.8**	**+1.5**
	comp=Z,13nm,0.9s						
CTA	**Charters Tower**	**25.22**	**137**	P	**P**	**10 59 40.2**	**+1.5**
	comp=Z,14nm,0.7s,baz=309,slow=12,SNR=12						
CTAO	**Charters Tower**	**25.22**	**137**	*e*P	**P**	**10 59 40.2**	**+1.5**
CTAO				pmax	pmax		
	comp=Z,18nm,0.8s						
CTAO	**Charters Tower**	**25.22**	**137**	*e*P	**P**	**10 59 40.2**	**+1.5**
	comp=Z,18nm,0.8s						
TPUB	**Ta-pu**	**26.17**	**344**	*e*P	**P**	**10 59 45.8**	**-1.4**
	comp=Z,9.2nm,0.5s						
MEEK	**Meekatharra**	**26.20**	**200**	⇑P	**P**	**10 59 46.4**	**-1.1**
	baz=26,SNR=5.6						
SSLB	**Suanglung**	**26.54**	**345**	*e*P	**P**	**10 59 50.9**	**+0.2**
IPM	**Ipoh**	**27.88**	**283**	*e*P	**P**	**11 00 03.4**	**+0.6**
IPM				*e*pP	**pP**	**11 00 18.9**	**+3.6**
JOW	**Kunigami**	**28.63**	**0**	P	**P**	**11 00 08.9**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=128,slow=19,SNR=3.7						
FORT	**Forrest**	**28.66**	**180**	P	**P**	**11 00 08.5**	**-0.9**
	baz=29,SNR=36						
FORT	**Forrest**	**28.66**	**180**	*e*P	**P**	**11 00 08.4**	**-1.1**
	comp=Z,83nm,0.8s						
QLP	**Quilpie**	**28.93**	**149**	⇓P	**P**	**11 00 12.6**	**+0.7**
	baz=29,SNR=7.2						
PSI	**Prapat**	**29.63**	**279**	P	**P**	**11 00 16.1**	**-2.4**
	comp=Z,6.5nm,0.7s,baz=98,slow=20,SNR=3.9						
CHAI	**Chaiyaphum**	**31.39**	**305**	P	P	11 00 45.9	+12
	comp=Z,3.4nm,0.9s						
BBOO	**Buckleboo**	**31.57**	**167**	P	**P**	**11 00 34.6**	**-0.6**
	baz=32,SNR=14						
STKA	**Stephens Creek**	**32.33**	**158**	P	**P**	**11 00 41.8**	**-0.1**
	comp=Z,7.6nm,0.7s,baz=341,slow=7.1,SNR=22						
STKA				LR	LR	11 14 02.2	
	comp=Z,119nm,19.0s,baz=24,slow=37						
STKA	**Stephens Creek**	**32.33**	**158**	*e*P	**P**	**11 00 41.8**	**-0.1**
STKA				pmax	pmax		
	comp=Z,21nm,2.5s						
STKA	**Stephens Creek**	**32.33**	**158**	⇓P	**P**	**11 00 42.0**	**+0.2**
	baz=32,SNR=11						
STKA	**Stephens Creek**	**32.33**	**158**	*e*P	**P**	**11 00 41.8**	**-0.1**
	comp=Z,21nm,2.5s						
UTTA	**Uttaradit**	**33.54**	**307**	P	P	11 01 05.0	+12
	comp=Z,2.5nm,0.8s						
WHN	**Wuhan**	**34.91**	**339**	P	**P**	**11 01 04.9**	**+0.6**
NJ2	**Nanjing**	**34.97**	**346**	*e*P	**P**	**11 01 03.8**	**-0.9**
NJ2				PMZ			
	comp=Z,30nm,0.5s						
JNU	**Nakatsue**	**34.99**	**4**	P	**P**	**11 01 03.5**	**-1.5**
	comp=Z,9.7nm,1.2s,baz=191,slow=13,SNR=2.6						
JNU				LR	LR	11 13 17.9	
	comp=Z,79nm,21.1s,baz=186,slow=33						
CRAI	**Chiangrai**	**35.07**	**310**	P	P	11 01 23.5	+18
GYA	**Guiyang**	**35.08**	**325**	*e*P	**P**	**11 01 08.0**	**+2.1**
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**35.21**	**306**	P	**P**	**11 01 05.8**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=138,slow=5.8,SNR=5.3						
CMAR				LR	LR	11 18 12.1	
	comp=Z,41nm,18.2s,baz=195,slow=41						
CMMT	**Chiang Mai**	**35.40**	**307**	P	P	11 01 20.5	+12
	comp=Z,13nm,1.0s						
CHTO	**Chiang Mai**	**35.40**	**307**	P	P	11 01 20.6	+12
	comp=Z,37nm,0.8s						
CHTO	**Chiang Mai**	**35.40**	**307**	*e*P	**P**	**11 01 08.4**	**-0.3**
CHTO	**Chiang Mai**	**35.40**	**307**	*e*P	**P**	**11 01 08.3**	**-0.3**
ARMA	**Armidale**	**35.98**	**144**	P	**P**	**11 01 15.9**	**+2.2**
	baz=36,SNR=3.9						
KMI	**Kunming**	**36.51**	**319**	P	**P**	**11 01 19.5**	**+1.1**
KMI				PMZ			
	comp=Z,89nm,0.7s						
YNG	**Young**	**37.30**	**152**	P	**P**	**11 01 27.2**	**+2.6**
	baz=38,SNR=6.5						
TOO	**Toolangi**	**38.85**	**158**	⇓P	**P**	**11 01 39.5**	**+1.8**
	baz=39,SNR=4.7						
KSAR	**Wonju Array Be**	**39.21**	**360**	P	**P**	**11 01 40.1**	**-0.6**
KSAR	**Wonju Array Be**	**39.21**	**360**	P	**P**	**11 01 40.1**	**-0.6**
KSRS	**Korea Array**	**39.22**	**360**	P	**P**	**11 01 40.1**	**-0.6**
	comp=Z,3.5nm,0.7s,baz=175,slow=9.7,SNR=23						
KSRS				LR	LR	11 22 44.6	
	comp=Z,37nm,18.2s,baz=196,slow=44						
MAJO	**Matsushiro**	**39.43**	**13**	*e*P	**P**	**11 01 40.9**	**-1.7**
MAJO				pmax	pmax		
	comp=Z,15nm,0.9s						
MAJO	**Matsushiro**	**39.43**	**13**	*e*P	**P**	**11 01 40.9**	**-1.7**
	comp=Z,15nm,0.9s						
MAT	**Matsushiro**	**39.43**	**13**	P	**P**	**11 01 41.2**	**-1.4**
MJAR	**Matsushiro Arr**	**39.43**	**13**	P	**P**	**11 01 41.2**	**-1.4**
	comp=Z,7.7nm,0.8s,baz=193,slow=9.1,SNR=37						
CD2	**Chengdu**	**40.12**	**327**	*e*P	**P**	**11 01 48.1**	**-0.3**
CD2				PP	**PnPn**	**11 03 28.6**	**+3.3**
CD2				S	**S**	**11 07 55.7**	**+4.0**
CD2				PMZ

comp=Z,27nm,0.7s
GKN Gorkha 51.35 309 *e*P **P** **11 03 16.8 -0.5**
comp=Z,33nm,0.7s
KOLN Koldanda 52.05 308 *e*P **P** **11 03 22.4 -0.2**
comp=Z,62nm,0.6s
ULN Ulaanbaatar 52.95 342 *e*P **P** **11 03 28.5 -0.3**
ULN pmax pmax
comp=Z,7.0nm,0.8s
ULN Ulaanbaatar 52.95 342 *e*P **P** **11 03 28.5 -0.3**
comp=Z,7.2nm,0.8s
SONM Songino Array 53.12 342 P **P** **11 03 29.3 -0.8**
comp=Z,4.7nm,0.9s,baz=150,slow=6.3,SNR=8.9
RPZ Rata Peaks 56.32 144 P **P** **11 03 55.1 +1.9**
comp=Z,8.4nm,0.7s,baz=8.1,slow=7.1,SNR=4.7
URZ Urewera 57.46 135 P **P** **11 04 02.4 +1.1**
comp=Z,4.2nm,0.5s,baz=258,slow=5.2,SNR=10.0
MOY Mondy 58.20 340 *e*P **P** **11 04 06.1 -0.3**
WMQ Urumqi 58.22 326 *e*P **P** **11 04 06.6 0.0**
WMQ pP **pP** **11 04 19.3 -0.8**
WMQ sP **sP** **11 04 24.6 -1.0**
WMQ PMZ
comp=Z,25nm,0.6s
WMQ PMZ
comp=Z,140nm,4.2s
WMQ LN
comp=Z,12nm,20.0s
WMQ LE
comp=Z,43nm,22.8s
WMQ LZ
comp=Z,41nm,21.2s
PETK Petropavlovsk- 60.18 20 P **P** **11 04 19.6 -0.4**
comp=Z,2.5nm,0.7s,baz=196,slow=7.6,SNR=3.3
PETK LR LR 11 33 24.6
comp=Z,11nm,18.6s,baz=183,slow=39
BOD Bodaibo 60.67 351 *e*P **P** **11 04 20.5 -2.7**
BOD pmax pmax
comp=Z,6.0nm,1.6s
MK31 Makanchi Array 63.05 326 *e*P **P** **11 04 38.7 -0.8**
MK31 Makanchi Array 63.05 326 *e*P **P** **11 04 38.7 -0.8**
MKAR Makanchi Array 63.05 326 P **P** **11 04 38.6 -0.8**
comp=Z,5.5nm,0.5s,baz=150,slow=5.2,SNR=97
MKAR LR LR 11 35 17.9
comp=Z,18nm,18.4s,baz=121,slow=39
KSH Kashi 63.12 317 P **P** **11 04 40.6 +0.4**
KSH sP **sP** **11 04 58.6 -0.7**
KSH PcS 11 09 20.3
KSH S **S** **11 13 04.4 -3.6**
KSH PMZ
comp=Z,130nm,3.5s
KSH LN
comp=Z,120nm,6.0s
KSH LE
comp=Z,95nm,5.7s
KSH LZ
comp=Z,160nm,5.5s
YAK Yakutsk 63.83 1 *e*P **P** **11 04 43.1 -1.1**
YAK pmax pmax
comp=Z,19nm,0.9s
KZA Kyzart 64.80 319 P **P** **11 04 51.7 +0.2**
SNR=7.1
KZA Kyzart 64.80 319 *i* P **P** **11 04 51.7 +0.2**
TKM2 Tokmak 2 64.98 320 P **P** **11 04 52.1 -0.4**
SNR=7.6
TKM2 Tokmak 2 64.98 320 *e*P **P** **11 04 52.0 -0.4**
TKM2 *e* 11 05 06.1
TKM2 pmax pmax
comp=Z,5.0nm,0.7s
TKM2 Tokmak 2 64.98 320 *e*P **P** **11 04 52.0 -0.5**
comp=Z,4.9nm,0.7s
TKM2 *e* 11 05 06.1
UCH Uchtor 65.36 319 P **P** **11 04 55.3 +0.1**
SNR=6.3
UCH Uchtor 65.36 319 *i* P **P** **11 04 55.3 +0.1**
AAK Ala-Archa 65.56 319 P **P** **11 04 54.7 -1.4**
comp=Z,1.4nm,0.4s,baz=141,slow=7.3,SNR=5.6
AAK Ala-Archa 65.56 319 *e*P **P** **11 04 55.5 -0.6**
AAK pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 65.56 319 *e*P **P** **11 04 55.5 -0.6**
comp=Z,2.8nm,0.8s
USP Ospenovka 65.85 320 P **P** **11 04 57.3 -0.6**
SNR=12
USP Ospenovka 65.85 320 *i* P **P** **11 04 57.3 -0.6**
EKS2 Erkin-Say 66.04 319 P **P** **11 04 59.2 0.0**
SNR=6.8
EKS2 Erkin-Say 66.04 319 *e*P **P** **11 04 58.8 -0.4**
EKS2 pmax pmax
comp=Z,7.0nm,0.9s
EKS2 Erkin-Say 66.04 319 *e*P **P** **11 04 58.8 -0.4**
comp=Z,6.7nm,0.9s
ZALV Zalesovo Beam 66.30 334 P **P** **11 04 58.2 -2.2**
comp=Z,1.3nm,0.4s,baz=104,slow=6.3,SNR=6.1
SEY Seymchan 67.25 12 P **P** **11 05 07.4 +1.2**
comp=Z,1.7nm,0.5s,baz=163,slow=19,SNR=6.4
KURK Kurchatov 67.31 328 *e*P **P** **11 05 06.0 -0.9**
KURK pmax pmax
comp=Z,20nm,0.9s
KURK Kurchatov 67.31 328 *e*P **P** **11 05 06.0 -0.9**
comp=Z,20nm,0.9s
NVS Novosibirsk 67.58 334 *e*P **P** **11 05 05.7 -2.8**
NVS pmax pmax
comp=Z,4.0nm,0.7s
NVS pmax pmax
comp=E,3.0nm,0.6s
BVAR Borovoye Array 72.87 328 P **P** **11 05 39.7 -1.2**
comp=E,1.8nm,0.4s,baz=142,slow=7.5,SNR=16
BRVK Borovoye 72.94 328 *i* P **P** **11 05 40.5 -0.9**
TIXI Tiksi 73.48 0 *e*P **P** **11 05 43.6 -0.6**
VNDA Vanda 77.64 173 P **P** **11 06 08.9 +0.9**
comp=E,9.2nm,0.7s,baz=318,slow=6.6,SNR=74
VNDA Vanda 77.64 173 *e*P **P** **11 06 08.8 +0.9**
VNDA pmax pmax
comp=Z,8.0nm,0.8s
VNDA Vanda 77.64 173 *e*P **P** **11 06 08.8 +0.8**
comp=Z,8.0nm,0.8s
SBA Scott Base 78.54 172 *e*P **P** **11 06 14.5 +1.6**
SBA pmax pmax
comp=Z,7.0nm,1.0s
SBA Scott Base 78.54 172 *e*P **P** **11 06 14.5 +1.6**
comp=Z,7.3nm,1.0s
MAW Mawson 78.97 201 P **P** **11 06 15.2 -0.2**
comp=Z,2.7nm,0.6s,baz=65,slow=10,SNR=5.4
MAW Mawson 78.97 201 *e*P **P** **11 06 15.3 -0.2**
MAW pmax pmax
comp=Z,1.0nm,1.0s
MAW Mawson 78.97 201 *e*P **P** **11 06 15.2 -0.2**
comp=Z,1.3nm,1.0s
AKTO Aktyubinsk 79.01 322 P **P** **11 06 13.6 -2.4**
comp=Z,2.4nm,0.7s,baz=102,slow=7.6,SNR=10
AKTO LR LR 11 45 47.8
comp=Z,18nm,18.1s,baz=102,slow=39
ARU Arti 80.50 328 P **P** **11 06 25.0 +1.0**
QSPA South Pole Qui 87.98 180 *e*P **P** **11 07 02.6 +0.7**
comp=Z,12nm,1.1s
ILAR Eielson Array 89.59 25 P **P** **11 07 08.2 -1.1**
comp=Z,0.3nm,0.6s,baz=246,slow=5.0,SNR=5.9
ILAR LR LR 11 51 02.8
comp=Z,14nm,18.7s,baz=248,slow=38
OBN Obninsk 92.52 325 *e*P **P** **11 07 23.9 +0.8**
OBN pmax pmax
comp=Z,5.0nm,0.9s
ARCES ARCESS Array B 96.26 340 P **P** **11 07 38.2 -1.8**
comp=Z,2.4nm,0.8s,baz=84,slow=5.0,SNR=5.7
ARCES LR LR 11 55 22.0
comp=Z,31nm,18.8s,baz=217,slow=38
AKASG Malin Array Be 97.19 321 P Pdif 11 07 46.0 +1.3
comp=Z,0.1nm,0.3s,baz=94,slow=6.9,SNR=5.0
AKASG Malin Array Be 97.19 321 P Pdif 11 07 46.0 +1.3
TORD Torodi Ar. Bea 125.92 285 PKP **PKPdf** **11 13 14.9 +0.1**
comp=Z,0.2nm,0.4s,baz=94,slow=2.2,SNR=2.6
CPUP Villa Florida 151.37 170 PKPbc **PKPbc** **11 14 07.8 +1.4**
comp=Z,0.6nm,0.6s,baz=126,slow=2.4,SNR=7.7

GRAL 08 11:14:33.0±0.3,34°.39N×36°.78E,h3km±7km,MD3.1, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HWQ	**Hawqa**	**0.70**	**261**	*e*P		Pg	11 14 45.4	-1.1
HWQ				*e*S		Sg	11 14 54.8	-1.0
BHL	**Bhannes**	**1.05**	**243**	*e*P		Pg	11 14 51.9	-1.4
RCY	**Rachaya**	**1.18**	**222**	*e*P		Pg	11 14 54.0	-1.9
RCY				*e*S		Sg	11 15 09.6	-1.8
DQRL	**Deir Qamar**	**1.21**	**236**	*e*P		Pg	11 14 54.6	-1.8

2010 MAY

*ISCJB **08** 11:16:49.6±0.6,39°.87N±0°.01×24°.24E±0°.02,h11km±4km, Error ellipse: s-maj=2.5km s-min=2.1km az=139.5*
*ATH **08** 11:16:49.7,39°.89N×24°.24E,h28km,MD3.5/54,ML3.3*
*ISK **08** 11:16:49.8,39°.88N×24°.27E,h14km,ML3.3*
*THE **08** 11:16:50.0,39°.88N×24°.25E,h3km±1km,ML3.1/21, Error ellipse: s-maj=1.6km s-min=0.6km az=303.0*
*CSEM **08** 11:16:50.0±0.1,39°.87N×24°.23E,h10km,MD3.5, Error ellipse: s-maj=2.2km s-min=1.8km az=139.0*
*SOF **08** 11:16:53.7,40°.27N×24°.48E,h2km,MD3.4*
ISC 08 11:16:50.3±1.0,39°.88N±0°.02×24°.25E±0°.02,h12km±8km, n233,σ0°69/282,17C-3D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PAIG	**Paliouri**	**0.44**	**277**	P		Pg	**11 16 58.9**	**0.0**
PAIG				S		Sg	**11 17 05.5**	**+0.7**
PAIG	**Paliouri**	**0.44**	**277**	*e*PB		Pg	**11 16 58.9**	**0.0**
PAIG				*e*SB		Sg	**11 17 05.3**	**+0.5**
PAIG	**Paliouri**	**0.44**	**277**	P		Pg	**11 16 58.9**	**0.0**
PAIG				S		Sg	**11 17 05.5**	**+0.7**
OUR	**Ouranopolis**	**0.50**	**336**	*e*PG		Pg	**11 16 60.0**	**-0.1**
OUR				*e*SG		Sb	**11 17 07.8**	**-0.4**
OUR	**Ouranopolis**	**0.50**	**336**	P		Pg	**11 17 00.1**	**+0.1**
OUR				S		Sg	**11 17 07.2**	**+0.5**
OUR	**Ouranopolis**	**0.50**	**336**	*e*PB		Pg	**11 17 00.3**	**+0.3**
OUR				*e*SB		Sg	**11 17 07.0**	**+0.3**
OUR	**Ouranopolis**	**0.50**	**336**	*e*Pb		Pg	**11 17 00.3**	**+0.3**
OUR				S		Sg	**11 17 07.2**	**+0.5**
LIA	**Limnos Island**	**0.72**	**88**	P		Pb	**11 17 04.5**	**-0.3**
LIA				S		Sb	**11 17 14.8**	**+0.2**
LIA	**Limnos Island**	**0.72**	**88**	*e*PN		Pb	**11 17 04.7**	**-0.1**
LIA				*e*SN		Sb	**11 17 15.1**	**+0.5**
LIA	**Limnos Island**	**0.72**	**88**	P		Pb	**11 17 04.5**	**-0.3**
LIA				S		Sb	**11 17 14.8**	**+0.2**
LIA				*e*Sn		Sb	**11 17 15.1**	**+0.5**
AOS	**Alonnisos**	**0.76**	**202**	P		Pg	**11 17 04.0**	**-0.4**
AOS				S		Sb	**11 17 15.9**	**+0.1**
AOS	**Alonnisos**	**0.76**	**202**	*e*PN		Pg	**11 17 04.6**	**-0.4**
AOS				*e*SN		Sb	**11 17 16.9**	**+1.1**
AOS	**Alonnisos**	**0.76**	**202**	*e*Pn		Pg	**11 17 04.6**	**-0.4**
AOS				S		Sb	**11 17 15.9**	**+0.1**
AOS				*e*Sn		Sb	**11 17 16.9**	**+1.1**
PLG	**Polygyros**	**0.79**	**309**	P		Pg	**11 17 04.7**	**-0.8**
PLG				S		Sg	**11 17 15.7**	**-0.2**
PLG	**Polygyros**	**0.79**	**309**	*e*PN		Pg	**11 17 04.8**	**-0.8**
PLG				*e*SN		Sg	**11 17 15.1**	**-0.8**
PLG	**Polygyros**	**0.79**	**309**	P		Pg	**11 17 04.7**	**-0.8**
PLG				S		Sg	**11 17 15.7**	**-0.2**
SKIA	**Skiathos**	**0.93**	**221**	P		Pg	**11 17 07.6**	**-0.7**
SKIA				S		Sb	**11 17 21.2**	**+0.5**
SKIA	**Skiathos**	**0.93**	**221**	*e*PN		Pg	**11 17 07.6**	**-0.7**
SKIA				*e*SN		Sb	**11 17 21.1**	**+0.4**
SKIA	**Skiathos**	**0.93**	**221**	*e*Pn		Pg	**11 17 07.6**	**-0.7**
SKIA				*e*Sn		Sb	**11 17 21.1**	**+0.4**
XOR	**Xorichti**	**0.96**	**238**	P		Pg	**11 17 08.7**	**-0.1**
XOR				S		Sb	**11 17 22.3**	**+0.7**
XOR	**Xorichti**	**0.96**	**238**	*e*PN		Pg	**11 17 08.5**	**-0.3**
XOR				*e*SN		Sb	**11 17 22.2**	**+0.7**
XOR	**Xorichti**	**0.96**	**238**	P		Pg	**11 17 08.7**	**-0.1**
XOR				*e*Sn		Sb	**11 17 22.2**	**+0.7**
NEO	**Neokhori**	**0.97**	**234**	P		Pg	**11 17 08.8**	**-0.3**
NEO				S		Sg	**11 17 21.8**	**0.0**
NEO	**Neokhori**	**0.97**	**234**	*e*PN		Pg	**11 17 08.8**	**-0.3**
NEO				*e*SN		Sb	**11 17 22.4**	**+0.5**
NEO	**Neokhori**	**0.97**	**234**	P		Pg	**11 17 08.8**	**-0.3**
NEO				S		Sg	**11 17 21.8**	**0.0**
NEO				*e*Sn		Sb	**11 17 22.4**	**+0.5**
HORT	**Hortiatis**	**1.13**	**310**	P		Pb	**11 17 10.6**	**-1.3**
HORT				S		Sb	**11 17 26.8**	**+0.2**
HORT	**Hortiatis**	**1.13**	**310**	*e*PN		Pb	**11 17 10.6**	**-1.3**
HORT				*e*SN		Sb	**11 17 26.8**	**+0.2**
HORT	**Hortiatis**	**1.13**	**310**	P		Pb	**11 17 10.6**	**-1.3**
HORT				S		Sb	**11 17 26.8**	**+0.2**
KAVA	**Kavala**	**1.14**	**10**	P		Pb	**11 17 11.1**	**-0.7**
KAVA				S		Sn	**11 17 27.9**	**+0.4**
KAVA	**Kavala**	**1.14**	**10**	*e*PN		Pb	**11 17 11.1**	**-0.7**
KAVA	**Kavala**	**1.14**	**10**	*e*Pn		Pb	**11 17 11.1**	**-0.7**
KAVA				S		Sn	**11 17 27.9**	**+0.4**
SMTH	**Samothraki Isl**	**1.15**	**59**	P		Pb	**11 17 10.9**	**-1.2**
SMTH				S		Sb	**11 17 26.7**	**-0.2**
SMTH	**Samothraki Isl**	**1.15**	**59**	*e*PN		Pb	**11 17 10.9**	**-1.2**
SMTH				*e*SN		Sb	**11 17 26.7**	**-0.2**
SMTH	**Samothraki Isl**	**1.15**	**59**	P		Pb	**11 17 10.9**	**-1.2**
SMTH				S		Sb	**11 17 26.7**	**-0.2**
SOH	**Sokhos**	**1.16**	**324**	P		Pb	**11 17 11.7**	**-0.6**
SOH	**Sokhos**	**1.16**	**324**	*e*PN		Pb	**11 17 11.9**	**-0.4**
SOH				*e*SN		Sn	**11 17 28.1**	**-0.1**
SOH	**Sokhos**	**1.16**	**324**	*e*Pn		Pb	**11 17 11.9**	**-0.4**
SOH				*e*Sn		Sn	**11 17 28.1**	**-0.1**
THE	**Thessaloniki**	**1.24**	**308**	*e*PN		Pn	**11 17 12.4**	**-0.9**
THE	**Thessaloniki**	**1.24**	**308**	*e*Pn		Pn	**11 17 12.4**	**-0.9**
MRKA	**Markates**	**1.28**	**204**	P		Pn	**11 17 13.1**	**-0.9**
MRKA	**Markates**	**1.28**	**204**	*e*PN		Pn	**11 17 13.3**	**-0.7**
MRKA	**Markates**	**1.28**	**204**	*e*Pn		Pn	**11 17 13.3**	**-0.7**
SMIA	**Simia**	**1.28**	**219**	P		Pn	**11 17 13.6**	**-0.4**
SMIA	**Simia**	**1.28**	**219**	*e*PN		Pn	**11 17 13.7**	**-0.3**
SMIA				*e*SN		Sb	**11 17 30.4**	**-0.4**
SMIA	**Simia**	**1.28**	**219**	*e*Pn		Pn	**11 17 13.7**	**-0.3**
SMIA				*e*Sn		Sb	**11 17 30.4**	**-0.4**
GADA	**Gvkgeada**	**1.31**	**76**	*e*PN		Pn	**11 17 14.0**	**-0.3**
GADA	**Gvkgeada**	**1.31**	**76**	*e*Pn		Pn	**11 17 14.0**	**-0.3**
SRS	**Serrai**	**1.33**	**338**	P		Pn	**11 17 14.3**	**-0.4**
SRS	**Serrai**	**1.33**	**338**	*e*PN		Pn	**11 17 14.3**	**-0.4**
SRS	**Serrai**	**1.33**	**338**	P		Pn	**11 17 14.3**	**-0.4**
LIT	**Litokhoron**	**1.37**	**280**	P		Pb	**11 17 15.8**	**0.0**
LIT	**Litokhoron**	**1.37**	**280**	*e*PN		Pn	**11 17 15.3**	**+0.1**
LIT	**Litokhoron**	**1.37**	**280**	*e*Pn		Pn	**11 17 15.3**	**+0.1**
LIT	**Litokhoron**	**1.37**	**280**	P		Pb	**11 17 15.8**	**0.0**
BOZC	**Bozcaada**	**1.39**	**91**	*i* P		Pn	**11 17 14.9**	**-0.6**
BOZC				*i* S		Sg	**11 17 35.2**	**+0.1**
SIGR	**SIGRI**	**1.41**	**118**	*e*PN		Pn	**11 17 15.9**	**+0.2**
SIGR	**SIGRI**	**1.41**	**118**	P		Pn	**11 17 15.6**	**-0.2**
SIGR	**SIGRI**	**1.41**	**118**	*e*PN		Pn	**11 17 15.6**	**-0.2**
SIGR	**SIGRI**	**1.41**	**118**	P		Pn	**11 17 15.6**	**-0.2**
SIGR	**SIGRI**	**1.41**	**118**	*e*Pn		Pn	**11 17 15.9**	**+0.2**
NVR	**Nevrokopi**	**1.50**	**349**	P		Pn	**11 17 16.5**	**-0.5**
NVR	**Nevrokopi**	**1.50**	**349**	*e*PN		Pn	**11 17 16.7**	**-0.3**
NVR	**Nevrokopi**	**1.50**	**349**	*e*Pn		Pn	**11 17 16.7**	**-0.3**
LKR	**Lokris**	**1.56**	**219**	P		Pn	**11 17 17.2**	**-0.6**
LKR	**Lokris**	**1.56**	**219**	*e*PB		Pn	**11 17 17.1**	**-0.7**
LKR	**Lokris**	**1.56**	**219**	P		Pn	**11 17 17.2**	**-0.6**
EZN	**Ezine**	**1.60**	**91**	*e*PN		Pn	**11 17 18.6**	**+0.3**
EZN	**Ezine**	**1.60**	**91**	*e*Pn		Pn	**11 17 18.7**	**+0.3**
RDO	**Rodhopi**	**1.60**	**37**	*e*PB		Pn	**11 17 17.7**	**-0.7**
RDO	**Rodhopi**	**1.60**	**37**	*e*Pb		Pn	**11 17 17.7**	**-0.7**
KNT	**Kendrikon**	**1.64**	**322**	P		Pn	**11 17 18.6**	**-0.4**
KNT	**Kendrikon**	**1.64**	**322**	*e*PN		Pn	**11 17 19.4**	**+0.4**
KNT	**Kendrikon**	**1.64**	**322**	P		Pn	**11 17 18.6**	**-0.4**
KNT	**Kendrikon**	**1.64**	**322**	*e*Pn		Pn	**11 17 19.4**	**+0.4**
AXAR	**Agios Charalam**	**1.66**	**228**	P		Pn	**11 17 19.2**	**0.0**
AXAR	**Agios Charalam**	**1.66**	**228**	*e*PN		Pn	**11 17 18.9**	**-0.3**
AXAR	**Agios Charalam**	**1.66**	**228**	*e*Pn		Pn	**11 17 18.9**	**-0.3**
AXAR	**Agios Charalam**	**1.66**	**228**	P		Pn	**11 17 19.2**	**0.0**
PRK	**Paraskevi**	**1.69**	**111**	P		Pn	**11 17 20.0**	**+0.5**
PRK	**Paraskevi**	**1.69**	**111**	*e*PN		Pn	**11 17 20.1**	**+0.5**
PRK	**Paraskevi**	**1.69**	**111**	P		Pn	**11 17 20.0**	**+0.5**
ENEZ	**Enez**	**1.69**	**59**	*e*PN		Pn	**11 17 19.5**	**-0.1**
ENEZ	**Enez**	**1.69**	**59**	*e*Pn		Pn	**11 17 19.5**	**-0.1**
ALN	**Alexandroupoli**	**1.71**	**53**	*e*PN		Pn	**11 17 20.1**	**+0.3**
ALN	**Alexandroupoli**	**1.71**	**53**	P		Pn	**11 17 18.9**	**-1.0**
ALN				S		Sb	**11 17 43.8**	**+0.7**
ALN	**Alexandroupoli**	**1.71**	**53**	*e*PN		Pn	**11 17 19.6**	**-0.3**
ALN	**Alexandroupoli**	**1.71**	**53**	P		Pn	**11 17 18.9**	**-1.0**
ALN	**Alexandroupoli**	**1.71**	**53**	*e*Pn		Pn	**11 17 19.6**	**-0.3**
ALN				S		Sb	**11 17 43.8**	**+0.7**
AGG	**Agios Georgios**	**1.71**	**241**	*e*PN		Pn	**11 17 20.6**	**+0.6**
AGG	**Agios Georgios**	**1.71**	**241**	P		Pn	**11 17 19.7**	**-0.2**
AGG	**Agios Georgios**	**1.71**	**241**	*e*PN		Pn	**11 17 19.8**	**-0.2**
AGG	**Agios Georgios**	**1.71**	**241**	*e*Pn		Pn	**11 17 19.8**	**-0.2**
THL	**Klokotos Trika**	**1.75**	**260**	P		Pn	**11 17 20.3**	**-0.2**
THL	**Klokotos Trika**	**1.75**	**260**	*e*PN		Pn	**11 17 20.2**	**-0.2**
THL	**Klokotos Trika**	**1.75**	**260**	*e*Pn		Pn	**11 17 20.2**	**-0.2**
MMB	**Musomiste**	**1.75**	**347**	P		Pn	**11 17 19.9**	**-0.6**
GRG	**Griva**	**1.77**	**308**	*e*PN		Pn	**11 17 20.9**	**+0.1**
GRG	**Griva**	**1.77**	**308**	P		Pn	**11 17 21.1**	**+0.3**
GRG	**Griva**	**1.77**	**308**	*e*PN		Pn	**11 17 21.1**	**+0.3**
GRG	**Griva**	**1.77**	**308**	*e*Pn		Pn	**11 17 20.9**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.79**	**72**	*e*PN		Pn	**11 17 20.8**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.79**	**72**	*e*Pn		Pn	**11 17 20.8**	**-0.1**
RZN	**Rozhen**	**1.84**	**11**	P		Pn	**11 17 21.8**	**-0.1**
RZN	**Rozhen**	**1.84**	**11**	P		Pn	**11 17 21.8**	**-0.1**
MAKR	**Makrakomi, Fth**	**1.85**	**243**	P		Pn	**11 17 22.4**	**+0.6**
MAKR	**Makrakomi, Fth**	**1.85**	**243**	*e*PN		Pn	**11 17 22.1**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.85**	**243**	*e*Pn		Pn	**11 17 22.1**	**+0.2**
PTL	**Penteli**	**1.85**	**189**	P		Pn	**11 17 21.5**	**-0.4**
PTL	**Penteli**	**1.85**	**189**	*e*PB		Pn	**11 17 21.7**	**-0.2**
PTL				*e*SN		Sn	**11 17 44.0**	**-1.2**
PTL	**Penteli**	**1.85**	**189**	P		Pn	**11 17 21.5**	**-0.4**
PTL				*e*Sn		Sn	**11 17 44.0**	**-1.2**
ERIK	**Erikli-Kesan**	**1.91**	**65**	*e*PN		Pn	**11 17 22.3**	**-0.3**
ERIK	**Erikli-Kesan**	**1.91**	**65**	*e*Pn		Pn	**11 17 22.3**	**-0.3**
VAY	**Valandovo**	**1.92**	**319**	P		Pn	**11 17 22.9**	**+0.1**
VAY	**Valandovo**	**1.92**	**319**	*i* Pn		Pn	**11 17 23.3**	**+0.5**
VAY				*i* Sn		Sb	**11 17 50.3**	**+1.1**
VAY	**Valandovo**	**1.92**	**319**	P		Pn	**11 17 22.9**	**+0.1**
VAY	**Valandovo**	**1.92**	**319**	*i* Pn		Pn	**11 17 23.3**	**+0.5**
VAY				*i* Sn		Sb	**11 17 50.3**	**+1.1**
KZN	**Kozani**	**1.95**	**283**	*e*PB		Pn	**11 17 24.0**	**+0.8**
KZN	**Kozani**	**1.95**	**283**	*e*Pb		Pn	**11 17 24.0**	**+0.8**
ATH	**Athens Observa**	**1.95**	**192**	*e*PB		Pn	**11 17 23.6**	**+0.5**
ATH				*e*SN		Sn	**11 17 47.9**	**+0.4**
ATH	**Athens Observa**	**1.95**	**192**	*e*Pb		Pn	**11 17 23.6**	**+0.5**
ATH				*e*Sn		Sn	**11 17 47.9**	**+0.4**
AYVA	**Ayvalik**	**1.97**	**106**	*i* P		Pn	**11 17 23.8**	**+0.3**
AYVA	**Ayvalik**	**1.97**	**106**	*i* P		Pn	**11 17 23.8**	**+0.3**
KDZ	**Kurdzhali**	**1.98**	**26**	P		Pn	**11 17 22.5**	**-1.1**
KDZ				Pg		Pb	11 17 22.7	-3.6
KDZ	**Kurdzhali**	**1.98**	**26**	P		Pn	**11 17 22.5**	**-1.1**
DSF	**Desfina**	**1.98**	**223**	P		Pn	**11 17 22.9**	**-0.8**
DSF	**Desfina**	**1.98**	**223**	*e*PN		Pn	**11 17 22.9**	**-0.8**
DSF	**Desfina**	**1.98**	**223**	P		Pn	**11 17 22.9**	**-0.8**
LPK	**Lapseki**	**1.99**	**75**	*e*PN		Pn	**11 17 23.5**	**-0.2**
LPK	**Lapseki**	**1.99**	**75**	*e*Pn		Pn	**11 17 23.5**	**-0.2**
CHOS	**Chios island**	**2.05**	**136**	*e*PN		Pn	**11 17 25.4**	**+0.8**
CHOS	**Chios island**	**2.05**	**136**	P		Pn	**11 17 24.9**	**+0.3**
CHOS	**Chios island**	**2.05**	**136**	*e*PN		Pn	**11 17 24.8**	**+0.2**
CHOS	**Chios island**	**2.05**	**136**	*e*Pn		Pn	**11 17 24.8**	**+0.2**
LTK	**Loutraki**	**2.10**	**209**	P		Pn	**11 17 24.8**	**-0.6**
LTK	**Loutraki**	**2.10**	**209**	*e*PN		Pn	**11 17 24.7**	**-0.6**
LTK	**Loutraki**	**2.10**	**209**	P		Pn	**11 17 24.8**	**-0.6**
EVR	**Evrytania**	**2.12**	**244**	*e*PN		Pn	**11 17 25.1**	**-0.5**
EVR	**Evrytania**	**2.12**	**244**	*e*Pn		Pn	**11 17 25.1**	**-0.5**
KKB	**Krupnik**	**2.17**	**336**	P		Pn	**11 17 27.5**	**+1.2**
NAIG	**Nisos Aigina**	**2.20**	**196**	*e*PN		Pn	**11 17 26.6**	**0.0**
NAIG	**Nisos Aigina**	**2.20**	**196**	*e*Pn		Pn	**11 17 26.6**	**0.0**
KALE	**Kalithea**	**2.21**	**228**	P		Pn	**11 17 26.6**	**-0.3**
KALE	**Kalithea**	**2.21**	**228**	*e*PN		Pn	**11 17 26.6**	**-0.3**
KALE	**Kalithea**	**2.21**	**228**	*e*Pn		Pn	**11 17 26.6**	**-0.3**
PLD	**Plovdiv**	**2.25**	**9**	P		Pn	**11 17 28.2**	**+0.9**
PLD	**Plovdiv**	**2.25**	**9**	P		Pn	**11 17 28.2**	**+0.9**
EFP	**Efpalio**	**2.33**	**232**	*e*PN		Pn	**11 17 28.7**	**+0.4**
EFP	**Efpalio**	**2.33**	**232**	*e*Pn		Pn	**11 17 28.7**	**+0.4**
FNA	**Florina**	**2.37**	**293**	*e*PN		Pn	**11 17 28.6**	**-0.4**
FNA	**Florina**	**2.37**	**293**	*e*PN		Pn	**11 17 28.4**	**-0.6**
FNA	**Florina**	**2.37**	**293**	*e*Pn		Pn	**11 17 28.6**	**-0.4**
URLA	**Izmir**	**2.38**	**129**	*i* P		Pn	**11 17 29.6**	**+0.5**
RKY	**Sarkoy-Tekirda**	**2.38**	**69**	*e*PN		Pn	**11 17 29.0**	**-0.2**
RKY	**Sarkoy-Tekirda**	**2.38**	**69**	*e*Pn		Pn	**11 17 29.0**	**-0.2**
KRBG	**Karabiga-Canak**	**2.40**	**77**	*e*PN		Pn	**11 17 29.5**	**+0.2**
KRBG	**Karabiga-Canak**	**2.40**	**77**	*e*Pn		Pn	**11 17 29.5**	**+0.2**
ZEY	**˙zmir**	**2.40**	**132**	*i* P		Pn	**11 17 29.4**	**0.0**
GUR	**Goura**	**2.44**	**218**	P		Pn	**11 17 28.7**	**-1.4**
GUR	**Goura**	**2.44**	**218**	*e*PN		Pn	**11 17 29.4**	**-0.7**
GUR	**Goura**	**2.44**	**218**	P		Pn	**11 17 28.7**	**-1.4**
GUR	**Goura**	**2.44**	**218**	*e*Pn		Pn	**11 17 29.4**	**-0.7**
KLV	**Kalavryta, Ach**	**2.45**	**222**	*e*PN		Pn	**11 17 30.0**	**-0.2**
KLV	**Kalavryta, Ach**	**2.45**	**222**	*e*Pn		Pn	**11 17 30.0**	**-0.2**
DID	**Didima**	**2.50**	**199**	*e*PN		Pn	**11 17 30.0**	**-0.7**
DID	**Didima**	**2.50**	**199**	*e*Pn		Pn	**11 17 30.0**	**-0.7**
NEST	**Nestorio**	**2.51**	**283**	*e*PB		Pn	**11 17 31.9**	**+1.0**
NEST	**Nestorio**	**2.51**	**283**	*e*Pb		Pn	**11 17 31.9**	**+1.0**
DSL	**Palaion Diasel**	**2.55**	**254**	P		Pn	**11 17 32.4**	**+1.0**
MRMT	**Marmara Adasi**	**2.67**	**73**	*e*PN		Pn	**11 17 32.6**	**-0.5**
MRMT	**Marmara Adasi**	**2.67**	**73**	*e*Pn		Pn	**11 17 32.6**	**-0.5**
PDO	**Prodromos**	**2.70**	**243**	P		Pn	**11 17 34.8**	**+1.3**
PDO	**Prodromos**	**2.70**	**243**	*e*PB		Pn	**11 17 35.0**	**+1.5**
PDO	**Prodromos**	**2.70**	**243**	*e*Pb		Pn	**11 17 35.0**	**+1.5**
EDRB	**Ed

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.42**	**59**	*e*P	Pg	11 31 55.0	-0.4
MBIG				*i* S	Sg	11 31 59.4	-1.8
CBX	**Cerro Bola**	**0.89**	**278**	*e*S	Sb	11 32 11.8	-4.3
SPIG	**San Pedro Mart**	**1.15**	**173**	*i* P	Pn	11 32 04.7	-4.2

*ISCJB **08** 11:49:19.8±0.3,32.°60N±0.°03×115.°65W±0.°03,h26km±3km, Error ellipse: s-maj=4.6km s-min=3.7km az=17.7*
*MEX **08** 11:49:21.8±0.7,32.°65N×115.°65W,h26km±26km,MD3.9*
*NEIC **08** 11:49:21.0,32.°56N×115.°69W,h3km,ML3.5(PAS), ML3.7(ECX), After ECX.*
*ECX **08** 11:49:21.0±0.6,32.°56N×115.°69W,h3km,MD3.5,ML3.7*
ISC 08 11:49:19.2±0.8,32.°57N±0.°02×115.°66W±0.°02,h15km±5km, n33,σ0.°77/50,9C-3D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.10**	**326**	⇑*i*P	**Pb**	**11 49 22.8**	**+0.3**
ERPC	**Ernies Place**	**0.17**	**360**	⇑*i*P	**Pb**	**11 49 24.7**	**+0.6**
WESC	**Westside Schoo**	**0.20**	**343**	*e*P	**Pb**	**11 49 25.0**	**+0.4**
YUH	**Yuha Desert**	**0.23**	**290**	⇑*i*P	**Pb**	**11 49 25.0**	**-0.2**
COK	**Cook Ranch**	**0.29**	**349**	⇑*i*P	**Pb**	**11 49 26.7**	**+0.6**
DREC	**Desert Rsrch C**	**0.30**	**37**	*e*P	**Pb**	**11 49 27.2**	**+0.9**
CPBX	**Cerro Prieto**	**0.34**	**116**	⇑*e*P	**Pb**	**11 49 27.4**	**+0.5**
CPBX				*e*S	**Sb**	**11 49 32.5**	**+0.4**
CPBX				⇓*e*		11 49 39.4	
	comp=E,26μm,0.4s						
SWSC	**Sam W. Stewart**	**0.39**	**343**	⇑*i*P	**Pb**	**11 49 28.1**	**+0.2**
CRR	**Carrizo Plain**	**0.41**	**321**	⇑*i*P	**Pb**	**11 49 28.4**	**+0.2**
MBIG	**Mexicali**	**0.42**	**112**	*e*P	**Pb**	**11 49 29.2**	**+0.8**
MBIG				*e*S	**Sb**	**11 49 36.1**	**+1.6**
COA	**Coachella**	**0.54**	**57**	⇓*i*P	**Pb**	**11 49 31.1**	**+0.7**
RDX	**Rancho Dawling**	**0.68**	**201**	*e*P	**Pg**	**11 49 32.7**	**+0.1**
RDX				⇓*e*		11 49 44.5	
	comp=E,2μm,0.3s						
GLA	**Glamis**	**0.85**	**55**	*e*Pg	**Pg**	**11 49 35.5**	**-0.3**
GLA				*e*Sg	**Sb**	**11 49 47.3**	**+0.3**
BAR	**Barrett**	**0.86**	**278**	*e*Pg	**Pb**	**11 49 36.2**	**+0.3**
BAR				*e*Sg	**Sg**	**11 49 47.2**	**-0.1**
CBX	**Cerro Bola**	**0.89**	**254**	*e*P	**Pb**	**11 49 36.5**	**+0.1**
CBX				*e*S	**Sg**	**11 49 47.5**	**-0.6**
CBX	**Cerro Bola**	**0.89**	**254**	*e*P	**Pb**	**11 49 36.5**	**+0.1**
CBX				*e*S	**Sg**	**11 49 47.5**	**-0.6**
CBX	**Cerro Bola**	**0.89**	**254**	*e*P	**Pg**	**11 49 36.7**	**+0.3**
CBX				*e*S	**Sg**	**11 49 48.3**	**+0.2**
CBX				⇑*e*		11 49 51.8	
	comp=N,4μm,0.6s						
ZAX	**El Zacaton**	**1.17**	**206**	*e*P	**Pg**	**11 49 41.7**	**-0.2**
ZAX				*e*S	**Sn**	**11 49 56.9**	**0.0**
ECBX	**El Chinero**	**1.21**	**154**	*e*P9	**Pg**	**11 49 42.2**	**-0.4**
ECBX				*e*S	**Sg**	**11 49 58.7**	**+0.4**
ECBX				⇑*e*		11 49 59.5	
	comp=E,712nm,0.4s						
PBX	**Punta Banda**	**1.22**	**228**	*e*P	**Pb**	**11 49 42.5**	**+0.4**
PBX				*e*S	**Sb**	**11 49 57.8**	**+0.2**
PFO	**Pinyon Flats O**	**1.23**	**328**	*e*Pn	**Pn**	**11 49 41.4**	**-0.7**
PFO				*e*Sn	**Sb**	**11 49 57.0**	**-1.1**
SPIG	**San Pedro Mart**	**1.53**	**174**	*e*P	**Pn**	**11 49 46.4**	**+0.2**
SPIG				*e*S	**Sn**	**11 50 05.7**	**-0.3**
SPIG	**San Pedro Mart**	**1.53**	**174**	*e*P	**Pn**	**11 49 46.4**	**+0.2**
SPIG				*e*S	**Sn**	**11 50 05.7**	**-0.3**
SPX	**San Pedro Mart**	**1.53**	**174**	*e*P	**Pn**	**11 49 46.5**	**+0.2**
SPX				*e*S	**Sn**	**11 50 04.3**	**-1.7**
SPX	**San Pedro Mart**	**1.53**	**174**	*e*P	**Pn**	**11 49 46.8**	**+0.5**
SPX				*e*S	**Sg**	**11 50 08.4**	**-0.1**
214A	**Organ Pipe Nat**	**2.49**	**103**	*e*Pn	**Pn**	**11 49 58.5**	**-0.7**
214A				*e*Sn	**Sn**	**11 50 27.4**	**-2.0**
MWC	**Mount Wilson**	**2.60**	**310**	Pn	**Pn**	**11 50 02.4**	**+1.5**
PASC	**Pasadena Art C**	**2.65**	**308**	*e*Pn	**Pb**	**11 50 07.2**	**+0.8**
GSC	**Goldstone, Bar**	**2.89**	**341**	*e*Pn	**Pb**	**11 50 11.6**	**+1.1**
ISA	**Isabella, Lake**	**3.87**	**324**	Pn	**Pn**	**11 50 19.4**	**+1.2**
DAC	**Darwin (Calif)**	**4.03**	**337**	Pn	**Pn**	**11 50 20.7**	**+0.2**
TUC	**Tucson**	**4.13**	**92**	*e*Pn	**Pn**	**11 50 20.8**	**-1.0**
121A	**Cookes Peak, D**	**6.65**	**88**	*e*Pn	**Pn**	**11 50 57.8**	**+1.2**
	comp=E,5.3nm,0.3s						
121A				*e*Sn	**Sn**	**11 52 10.8**	**-1.4**

*IDC **08** 12:18:28.7±0.5,47.°32S×13.°46W,h0km,mb4.5/17, mb1 4.6/17,mb1mx4.5/25,mbtmp4.5/17,MS4.1/18, Ms1 4.1/18,ms1mx4.1/19,Error ellipse: s-maj=15.4km s-min=14.4km az=148.0*
*ISCJB **08** 12:18:29.4±0.3,47.°32S±0.°05×13.°47W±0.°10,h10km, mb5.0/53,MS4.1/18,Error ellipse: s-maj=9.8km s-min=7.4km az=11.1*
*GCMT **08** 12:18:30.4±0.2,47.°74S×13.°26W,h12km,MW5.0/92, Moment Tensor Solution. s30,c35; s92,c121; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=3.26±.09; Mθθ0.24±.11; Mϕϕ3.03±.08; Mrθ-1.04±.45; Mθϕ0.37±.08; Mϕr-0.12±.31; Best double couple: M=3.31700×10^16^ NP1:ϕ=22.00000°,δ49.00000°,λ-70.00000°. NP2: ϕ=173.00000°,δ45.00000°,λ-112.00000°. Principal axes: T 3.0890, Plg2.0000°, Azm98.0000°; N 0.4630, Plg15.0000°, Azm189.0000°; P -3.5460, Plg75.0000°, Azm360.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **08** 12:18:30.4±0.2,47.°34S×13.°42W,h10km,mb5.0/8 Error ellipse: s-maj=8.0km s-min=7.0km az=144.0*
*BJI **08** 12:18:31.3,47.°30S×13.°50W,h10km,mB5.5/8,Ms5.3/7, Ms7 4.9/7*
ISC 08 12:18:30.8±0.4,47.°30S±0.°09×13.°51W±0.°08,h10km,n143, σ1.°37/141,mb5.1/53,MS4.2/18,2C,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**23.55**	**176**	P	**P**	**12 23 41.9**	**+1.0**
VNA2	**Neumayer--Watz** baz=340,slow=12	**23.88**	**175**	P	**P**	**12 23 43.7**	**-0.4**
VNA3	**Neumayer Olymp**	**24.08**	**177**	P	**P**	**12 23 45.0**	**-1.1**
SNAA	**Sanae** 5.7nm,1.0s,baz=360,slow=11,SNR=16	**24.95**	**172**	P	**P**	**12 23 53.0**	**-1.1**
SNAA				LR	LR	12 31 04.2	
	comp=Z,67nm,20.4s,baz=350,slow=30						
SUR	**Sutherland** 26nm,1.1s,baz=219,slow=5.8,SNR=5.6	**29.99**	**73**	P	**P**	**12 24 38.4**	**-1.2**
SUR				LR	LR	12 33 45.0	
	comp=Z,630nm,21.1s,baz=227,slow=31						
TRQA	**Tornquist** 27nm,1.2s	**36.30**	**267**	*e*P	**P**	**12 25 34.6**	**+0.2**
TSUM	**Tsumeb** 20nm,1.1s,baz=212,slow=8.9,SNR=17	**37.78**	**53**	P	**P**	**12 25 45.6**	**-1.8**
LBTB	**Lobatse** 20nm,1.0s,baz=240,slow=9.1,SNR=16	**38.07**	**68**	P	**P**	**12 25 49.2**	**-0.5**
LBTB	**Lobatse** 34nm,1.1s	**38.07**	**68**	*e*P	**P**	**12 25 49.2**	**-0.5**
H10S2	**ASCENSION HYDR** baz=178,slow=75,SNR=18	**38.22**	**358**	T	T	13 06 36.0	
H10S3	**ASCENSION HYDR** baz=178,slow=75,SNR=16	**38.23**	**358**	T	T	13 06 39.8	
H10S1	**ASCENSION HYDR** baz=178,slow=75,SNR=19	**38.24**	**358**	T	T	13 06 37.4	
CPUP	**Villa Florida** 2.3nm,0.9s,baz=145,slow=6.1,SNR=8.1	**40.19**	**286**	P	**P**	**12 26 06.2**	**-1.0**
CPUP				LR	LR	12 40 09.2	
	comp=Z,2μm,21.9s,baz=142,slow=32						
CPUP	**Villa Florida**	**40.19**	**286**	*e*P	**P**	**12 26 07.0**	**-0.3**
PLCA	**Paso Flores** 6.7nm,1.1s,baz=116,slow=6.6,SNR=4.2	**40.75**	**258**	P	**P**	**12 26 11.9**	**+0.1**
PLCA				LR	LR	12 40 28.1	
	comp=Z,275nm,20.4s,baz=130,slow=32						
MAW	**Mawson** 8.5nm,1.0s,baz=260,slow=11,SNR=7.7	**42.42**	**146**	P	**P**	**12 26 23.7**	**-1.4**
MAW				LR	LR	12 40 09.7	
	comp=Z,191nm,21.7s,baz=242,slow=31						
BDFB	**Brasilia** 1.4nm,0.3s,baz=117,slow=12,SNR=4.2	**42.55**	**306**	P	**P**	**12 26 26.2**	**-0.7**
BDFB				LR	LR	12 41 11.5	
	comp=Z,560nm,18.6s,baz=138,slow=32						
QSPA	**South Pole Qui** 15nm,1.1s,baz=221,slow=2.5,SNR=19	**42.96**	**180**	P	**P**	**12 26 29.0**	**-0.7**
CFAA	**Coronel Fontan** 1.0nm,0.8s,baz=120,slow=4.8,SNR=13	**44.16**	**270**	P	**P**	**12 26 39.1**	**-0.6**
LSZ	**Lusaka**	**46.98**	**61**	*e*P	**P**	**12 27 02.0**	**-0.2**
LCO	**Las Campanas** 25nm,1.0s	**47.43**	**272**	*e*P	P	12 27 13.2	+7.4
LVC	**Limon Verde**	**50.42**	**279**	*e*P	**P**	**12 27 29.6**	**+0.9**
LIC	**Lamto** 28nm,1.0s,baz=194	**53.82**	**10**	⇑*i*P	**P**	**12 27 53.8**	**+0.1**
LIC	**Lamto** 37nm,1.0s	**53.82**	**10**	*e*P	**P**	**12 27 53.8**	**+0.1**
LIC	**Lamto** 28nm,1.0s	**53.82**	**10**	⇑*i*P	**P**	**12 27 53.8**	**+0.1**
KIC	**Kosan Boka** 27nm,0.9s	**53.99**	**11**	*e*P	**P**	**12 27 53.8**	**-1.2**
TIC	**Toumodi** 12nm,0.2s	**54.24**	**10**	*e*P	**P**	**12 27 56.5**	**-0.3**
DBIC	**Dimbokro** 5.8nm,1.0s,baz=156,slow=8.1,SNR=5.2	**54.28**	**11**	P	**P**	**12 27 56.2**	**-0.9**
DBIC				LR	LR	12 45 01.6	
	comp=Z,100nm,21.6s,baz=144,slow=29						
DBIC	**Dimbokro**	**54.28**	**11**	*e*P	**P**	**12 27 56.9**	**-0.2**
LPAZ	**La Paz** 2.1nm,0.8s,baz=98,slow=14,SNR=6.5	**54.37**	**286**	P	**P**	**12 27 57.0**	**-1.5**
LPAZ				LR	LR	12 49 47.1	
	comp=Z,305nm,21.8s,baz=127,slow=34						
LPAZ	**La Paz**	**54.37**	**286**	*e*P	**P**	**12 27 57.7**	**-0.9**
SBA	**Scott Base** 132nm,2.5s	**55.12**	**180**	*e*P	**P**	**12 28 03.6**	**+1.1**
VNDA	**Vanda** 5.3nm,1.1s,baz=211,slow=7.4,SNR=6.4	**55.42**	**179**	P	**P**	**12 28 04.5**	**-0.2**
VNDA				LR	LR	12 49 38.9	
	comp=Z,72nm,21.1s,baz=170,slow=34						
PTGA	**Pitinga**	**61.44**	**304**	*e*P	**P**	**12 28 48.5**	**+1.0**
TORD	**Torodi Ar. Bea** 9.8nm,1.1s,baz=192,slow=6.2,SNR=21	**61.70**	**17**	P	**P**	**12 28 48.2**	**-0.8**
TORD				LR	LR	12 50 39.2	
	comp=Z,92nm,20.8s,baz=190,slow=31						
NNA	**Nana**	**63.25**	**282**	LR	LR	12 55 24.5	
	comp=Z,167nm,20.4s,baz=143,slow=35						
KMBO	**Kilima Mbogo**	**63.59**	**60**	LR	LR	12 54 02.6	
	comp=Z,172nm,20.5s,baz=260,slow=34						
TAM	**Tamanrasset** 9.2nm,1.0s	**71.85**	**18**	*e*P	**P**	**12 29 54.9**	**+1.0**
OTAV	**Otavalo** 18nm,1.2s	**73.43**	**289**	*e*P	**P**	**12 30 05.1**	**+1.2**
RPN	**Rapa Nui**	**74.29**	**247**	LR	LR	12 56 10.8	
	comp=Z,169nm,18.3s,baz=126,slow=30						
ROSC	**El Rosal**	**74.40**	**295**	LR	LR	13 01 38.3	
	comp=Z,243nm,18.9s,baz=42,slow=35						
PBDV	**Barranco-do-Ve** 60nm,1.7s	**84.32**	**4**	*e*P	P	12 31 05.8	+3.3
PBDV	**Barranco-do-Ve**	**84.32**	**4**	*e*PP	PP	12 34 21.4	+3.5
MORF	**Marmelete** 72nm,1.8s	**84.34**	**4**	*e*P	**P**	**12 31 03.4**	**+0.7**
MORF	**Marmelete**	**84.34**	**4**	*e*PP	PP	12 34 15.4	-2.7
PVAQ	**Vaqueiros** 27nm,1.9s	**84.49**	**5**	*e*P	**P**	**12 31 05.3**	**+1.9**
PCVE	**Castro Verde** 12nm,2.2s	**84.70**	**4**	*e*P	**P**	**12 31 07.2**	**+2.8**
PNCL	**Nicolau / Gran** 44nm,1.6s	**85.15**	**4**	*e*P	**P**	**12 31 07.6**	**+0.9**
KEST	**Kesra** 1.9nm,0.8s,baz=76,slow=7.1,SNR=3.6	**85.17**	**18**	P	**P**	**12 31 07.8**	**+0.9**
KEST				LR	LR	13 06 03.8	
	comp=Z,25nm,18.2s,baz=314,slow=34						
PBAR	**Barrancos** 57nm,1.6s	**85.30**	**5**	*e*P	**P**	**12 31 09.2**	**+1.8**
EVOP	**Sao Brissos** 44nm,1.2s	**85.59**	**4**	*e*P	**P**	**12 31 07.7**	**-1.1**
EVO	**Evora** 44nm,1.2s	**85.60**	**4**	*e*P	**P**	**12 31 07.7**	**-1.2**
H01W2	**Cape Leeuwin H** baz=219	**85.66**	**139**	T	T	14 06 51.5	
H01W1	**Cape Leeuwin H** baz=219	**85.67**	**139**	T	T	14 06 51.6	
H01W3	**Cape Leeuwin H** baz=219	**85.67**	**139**	T	T	14 06 52.1	
PESTR	**Estremoz** 29nm,1.6s	**85.95**	**5**	*e*P	**P**	**12 31 13.0**	**+2.3**
PMTG	**Montargil**	**86.12**	**4**	*e*PP	PP	12 34 31.4	-1.1
PMRV	**Marv??o** 34nm,1.4s	**86.52**	**5**	*e*P	**P**	**12 31 16.2**	**+2.7**
PTOM	**Tomar** 34nm,2.0s	**86.66**	**4**	*e*P	**P**	**12 31 14.8**	**+0.7**
PAB	**San Pablo** 11nm,0.9s	**86.85**	**7**	*e*P	**P**	**12 31 14.6**	**-0.6**
PCBR	**Castelo Branco** 28nm,2.0s	**86.93**	**5**	*e*P	**P**	**12 31 16.8**	**+1.4**
ESDC	**Sonseca Array** 12nm,1.0s,baz=182,slow=4.5,SNR=32	**87.01**	**7**	P	**P**	**12 31 15.9**	**0.0**
ESLA	**Sonseca Array** 4.7nm,1.1s	**87.01**	**7**	*e*P	**P**	**12 31 16.3**	**+0.4**
PCAS	**Casmilo, Conde** 82nm,1.9s	**87.09**	**4**	*e*P	**P**	**12 31 14.9**	**-1.3**
MTE	**Manteigas** 38nm,1.8s	**87.48**	**5**	*e*P	**P**	**12 31 19.3**	**+1.1**
RAYN	**Ar Rayn** 37nm,1.9s	**88.23**	**52**	*e*P	**P**	**12 31 23.9**	**+1.8**
MVO	**Moncorvo** 26nm,1.8s	**88.27**	**5**	*e*P	**P**	**12 31 22.4**	**+0.4**
PBRG	**Braganca** 25nm,1.8s	**88.93**	**5**	*e*P	**P**	**12 31 27.0**	**+2.0**
ETSF	**Etsaut** 18nm,1.1s	**90.55**	**9**	*e*P	**P**	**12 31 32.3**	**-0.3**
ETSF	**Etsaut** 18nm,1.1s	**90.55**	**9**	*e*P	**P**	**12 31 32.3**	**-0.3**
SJPF	**Ste Jean** 20nm,1.2s	**90.69**	**9**	*e*P	**P**	**12 31 32.8**	**-0.3**
SJPF	**Ste Jean** 20nm,1.2s	**90.69**	**9**	*e*P	**P**	**12 31 32.8**	**-0.3**
EPF	**Esparros** 10.0nm,0.9s	**90.78**	**10**	*e*P	**P**	**12 31 33.4**	**-0.2**
EPF	**Esparros** 10.0nm,0.9s	**90.78**	**10**	*e*P	**P**	**12 31 33.4**	**-0.2**
MTLF	**Montolieu** 12nm,1.0s	**91.33**	**11**	*e*P	**P**	**12 31 35.7**	**-0.4**
MTLF	**Montolieu** 12nm,1.0s	**91.33**	**11**	*e*P	**P**	**12 31 35.7**	**-0.4**
LASF	**Ste Croix** 26nm,1.1s	**92.28**	**12**	*e*P	**P**	**12 31 40.5**	**0.0**
LASF	**Ste Croix** 26nm,1.1s	**92.28**	**12**	*e*P	**P**	**12 31 40.5**	**0.0**
LFF	**La Frestale** 22nm,1.0s	**92.71**	**10**	*e*P	**P**	**12 31 41.9**	**-0.5**
LFF	**La Frestale** 22nm,1.0s	**92.71**	**10**	*e*P	**P**	**12 31 41.9**	**-0.5**
CAF	**Calviac** 20nm,1.4s	**92.86**	**11**	*e*P	**P**	**12 31 42.8**	**-0.4**
CAF	**Calviac** 20nm,1.4s	**92.86**	**11**	*e*P	**P**	**12 31 42.8**	**-0.4**
ORIF	**Oris-en-Rattie** 14nm,1.1s	**93.41**	**14**	*e*P	**P**	**12 31 45.6**	**-0.2**
ORIF	**Oris-en-Rattie** 14nm,1.1s	**93.41**	**14**	*e*P	**P**	**12 31 45.6**	**-0.2**
LPL	**La Plagne**	**94.13**	**14**	*e*P	**P**	**12 31 49.0**	**-0.3**
LPL	**La Plagne**	**94.13**	**14**	*e*P	**P**	**12 31 49.0**	**-0.3**
TCF	**Toulx Ste Croi** 11nm,1.2s	**94.22**	**11**	*e*P	**P**	**12 31 48.9**	**-0.5**
TCF	**Toulx Ste Croi** 11nm,1.2s	**94.22**	**11**	*e*P	**P**	**12 31 48.9**	**-0.5**
LOR	**Lormes**	**95.40**	**12**	*e*P	**P**	**12 31 54.5**	**-0.3**
LOR	**Lormes**	**95.40**	**12**	*e*P	**P**	**12 31 54.5**	**-0.3**
BRTR	**Keskin Array B** 2.5nm,1.0s,baz=183,slow=4.6,SNR=10	**96.28**	**35**	P	**P**	**12 32 00.5**	**+1.3**
BRTR				LR	LR	13 13 25.8	
	comp=Z,48nm,21.8s,baz=190,slow=34						
STKA	**Stephens Creek** comp=Z,84nm,18.3s,baz=204,slow=34	**98.06**	**159**	LR	LR	13 13 44.4	
GERES	**GERESS Array B** comp=Z,52nm,18.3s,baz=224,slow=34	**98.64**	**18**	LR	LR	13 13 33.9	
KSH	**Kashi**	**117.36**	**61**	*e*PKP	**PKPdf**	**12 37 17.3**	**+1.1**
KSH				*e*PP	**PP**	**12 38 29.3**	**+1.2**
KSH				PKS	**PKSdf**	**12 40 52.6**	**-0.3**
KSH				SKS	**SKSdf**	**12 44 28.1**	**-0.1**
KSH				SKKS	**SKKSac**	**12 45 22.5**	**-5.7**
KSH				SS	**SS**	**12 54 32.0**	**-6.7**
KSH				LN			
	77nm,6.8s						
KSH				LE			
	92nm,5.2s						
KSH				LZ			
	170nm,6.0s						
CMAR	**Chiang Mai Arr** 0.3nm,0.4s,baz=233,slow=3.1,SNR=5.0	**118.51**	**93**	PKP	**PKPdf**	**12 37 17.9**	**-1.0**
I25A	**Rochford** baz=121	**120.62**	**303**	P	**PKPdf**	**12 37 22.1**	**-0.2**
H25A	**Fruitdale** baz=121	**120.91**	**304**	P	**PKPdf**	**12 37 23.2**	**+0.4**
PDMCI	**Parker Dam,Lak** baz=121	**121.00**	**288**	P	**PKPdf**	**12 37 23.2**	**+0.1**
H24A	**Dirks Ranch, A** baz=122	**121.53**	**303**	P	**PKPdf**	**12 37 23.7**	**-0.3**
IRM	**Iron Mountain** baz=122	**121.56**	**288**	P	**PKPdf**	**12 37 24.4**	**0.0**
J22A	**Midwest** baz=122	**121.83**	**301**	P	**PKPdf**	**12 37 24.1**	**-0.6**
I22A	**9 Mile Ranch,** baz=122	**122.12**	**302**	P	**PKPdf**	**12 37 24.8**	**-0.4**
I21A	**Big Trails, Te** baz=123	**122.55**	**301**	P	**PKPdf**	**12 37 25.3**	**-0.8**
J20A	**Shoshoni** baz=123	**122.74**	**300**	P	**PKPdf**	**12 37 25.8**	**-0.6**
D24A	**Glendive** baz=123	**122.81**	**306**	P	**PKPdf**	**12 37 25.7**	**-0.6**
PDAR	**Pinedale Array** 1.5nm,1.0s,baz=72,slow=4.8,SNR=8.8	**123.27**	**299**	PKP	**PKPdf**	**12 37 26.2**	**-1.3**
GSC	**Goldstone, Bar** baz=124	**123.34**	**288**	P	**PKPdf**	**12 37 27.5**	**-0.3**
DUG	**Dugway, Tooele** baz=124	**123.73**	**295**	P	**PKPdf**	**12 37 28.6**	**+0.2**
EDW2	**Edwards Air Fo** baz=124	**123.85**	**287**	P	**PKPdf**	**12 37 29.3**	**+0.5**
D22A	**Cohagen** baz=124	**123.86**	**305**	P	**PKPdf**	**12 37 29.0**	**+0.7**
G20A	**Bridger** baz=124	**123.90**	**302**	P	**PKPdf**	**12 37 28.5**	**-0.1**
R11A	**Troy Canyon, C** baz=125	**124.38**	**291**	P	**PKPdf**	**12 37 30.3**	**+0.5**
E20A	**Meyer Farm, Mu** baz=125	**124.59**	**303**	P	**PKPdf**	**12 37 30.3**	**+0.5**
A22A	**Carney Farms,** baz=125	**124.76**	**307**	P	**PKPdf**	**12 37 29.9**	**-0.1**
D20A	**Manuel Ranch,** baz=125	**124.92**	**304**	P	**PKPdf**	**12 37 30.7**	**+0.3**
C20A	**Veseth Ranch,** baz=126	**125.20**	**305**	P	**PKPdf**	**12 37 30.7**	**-0.2**
A21A	**Bergtoll Ranch** baz=126	**125.31**	**306**	P	**PKPdf**	**12 37 31.5**	**+0.5**
D19A	**Cripps Ranch,** baz=126	**125.39**	**304**	P	**PKPdf**	**12 37 31.4**	**+0.1**
MKAR	**Makanchi Array** 1.1nm,1.0s,baz=258,slow=9.5,SNR=5.9	**125.42**	**57**	PKP	**PKPdf**	**12 37 29.6**	**-1.7**
ELK	**Elko** baz=149,slow=4.2	**125.56**	**294**	PKP	**PKPdf**	**12 37 32.9**	**+0.8**
ELK	**Elko**	**125.56**	**294**	*e*PKPdf	**PKPdf**	**12 37 32.3**	**+0.3**
ELK				PKP	**PKPdf**	**12 37 32.9**	**+0.8**
C19A	**Slack Wire Ran** baz=126	**125.80**	**304**	P	**PKPdf**	**12 37 32.1**	**0.0**
A20A	**Cobblestone Ra** baz=126	**125.80**	**306**	P	**PKPdf**	**12 37 32.5**	**+0.5**
NVAR	**Mina Array Bea** 2.9nm,1.1s,baz=133,slow=2.8,SNR=9.8	**126.16**	**290**	PKP	**PKPdf**	**12 37 33.6**	**+0.3**
QIZ	**Qiongzhong**	**126.26**	**101**	PKP	**PKPdf**	**12 37 33.2**	**-0.5**
QIZ				PP	**PP**	**12 39 28.9**	**+0.4**
QIZ				SS	SS	12 56 31.8	-0.1
QIZ				LN			
	190nm,18.9s						
QIZ				LZ			
	240nm,20.5s						
A19A	**Klindworth Far** baz=127	**126.28**	**305**	P	**PKPdf**	**12 37 33.3**	**+0.4**
WMQ	**Urumqi**	**126.96**	**63**	*e*PKP	**PKPdf**	**12 37 35.4**	**+1.0**
WMQ				PP	**PP**	**12 39 36.1**	**+2.9**
WMQ				PKS	**PKSdf**	**12 41 12.2**	**+1.3**
WMQ				SKKS		12 46 25.1	
WMQ				LN			
	73nm,19.0s						
WMQ				LE			
	55nm,20.6s						
WMQ				LZ			
	46nm,20.0s						
MSO	**Missoula** baz=128	**128.12**	**301**	P	**PKPdf**	**12 37 36.4**	**-0.2**
GYA	**Guiyang**	**129.15**	**92**	*e*Pdif	**Pdif**	**12 34 26.0**	**+0.2**
GYA				PKP	**PKPdf**	**12 37 38.9**	**-0.3**
GYA				PP	**PP**	**12 39 51.4**	**+3.6**
GYA				PPMZ			
	120nm,7.8s						
CD2	**Chengdu**	**129.98**	**86**	*e*PKP	**PKPdf**	**12 37 42.5**	**+2.0**
CD2				PP	**PP**	**12 39 56.5**	**+3.4**
CD2				SKKS		12 46 50.5	
CD2				SS	**SS**	**12 57 22.8**	**+4.4**
CD2				PPMZ			
	120nm,6.0s						
CD2				LE			
	240nm,15.5s						
CD2				LZ			
	130nm,17.8s						
M04C	**Macdoel** baz=130	**130.28**	**291**	P	**PKPdf**	**12 37 41.5**	**+0.6**
N02D	**Trinity Center** baz=131	**130.39**	**290**	P	**PKPdf**	**12 37 41.9**	**+0.8**
ZALV	**Zaleovo Beam** 0.3nm,0.3s,baz=240,slow=5.0,SNR=5.6	**130.48**	**50**	PKP	**PKPdf**	**12 37 40.1**	**-0.5**
J05D	**Fort Rock, OR** baz=131	**130.68**	**293**	P	**PKPdf**	**12 37 42.2**	**+0.5**
YBH	**Yreka Blue Hor** 1.4nm,1.0s,baz=120,slow=0.9,SNR=3.8	**130.80**	**291**	PKP	**PKPdf**	**12 37 41.9**	**+0.1**
YKA	**Yellowknife Ar** 1.7nm,0.9s,baz=110,slow=2.1,SNR=18	**135.21**	**320**	PKP	**PKPdf**	**12 37 48.4**	**-0.9**
SONM	**Songino Array** 1.3nm,0.8s,baz=321,slow=2.1,SNR=4.2	**140.35**	**66**	PKP	**PKPdf**	**12 37 59.0**	**-0.4**
HHC	**Hu-ho-hao-te**	**140.72**	**79**	*e*PKP	**PKPdf**	**12 38 02.9**	**+2.6**
HHC				PP	PP	12 41 07.3	+6.4
HHC				SKS	**SKSdf**	**12 45 11.0**	**+0.6**
HHC				SKKS	**SKKSac**	**12 47 56.5**	**+2.6**
HHC				PPMZ			
	84nm,6.5s						
HHC				LN			
	220nm,19.4s						
HHC				LE			
	380nm,14.9s						
HHC				LZ			
	94nm,17.0s						
NJ2	**Nanjing**	**140.93**	**95**	*e*PKP	**PKPdf**	**12 38 01.8**	**+1.0**
DLBC	**Dease Lake** 3.3nm,1.0s,baz=72,slow=14,SNR=2.6	**141.53**	**311**	PKP	**PKPdf**	**12 37 59.9**	**-1.3**
ILAR	**Eielson Array** 12nm,1.0s,baz=19,slow=0.9,SNR=48	**149.58**	**322**	PKPbc	**PKPbc**	**12 38 18.1**	**-1.0**
CN2	**Changchun**	**151.28**	**82**	*e*PKPbc	**PKPdf**	**12 38 15.0**	**-2.9**
MJAR	**Matsushiro Arr** 2.8nm,1.1s,baz=220,slow=4.7,SNR=7.2	**156.49**	**107**	PKPab	**PKPab**	**12 38 51.8**	**-2.6**

WEL 08 12:33:26.0±0.3,38.°24S×175.°83E,h177km±2km,ML3.9/14, 6C-8D,Error ellipse: s-maj=1.3km s-min=1.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLZ	**Tolley Road**	**0.24**	**248**	PN	Pn	12 33 49.5	-0.1
TLZ				SN	Sn	12 34 07.9	+0.1
ALRZ	**Allen Road**	**0.52**	**129**	PN	Pn	12 33 50.7

ARHZ	Aropaoanui	1.37	139	PN	Pn	12 33 56.8	+0.4
MCHZ	McNeill Hill	1.38	151	PN	Pn	12 33 57.1	+0.6
WHHZ	Waihua	1.39	128	PN	Pn	12 33 56.8	+0.3
MHEZ	Mangahewa	1.45	234	PN	Pn	12 33 57.9	+0.8
KRHZ	Kereru	1.47	163	⇓PN	Pn	12 33 57.2	-0.1
RIGZ	Rimuhau	1.59	108	PN	Pn	12 33 58.6	0.0
TKGZ	Te Karaka	1.60	98	PN	Pn	12 33 58.6	0.0
KNZ	Kokohu	1.65	119	PN	Pn	12 33 58.9	-0.1
LREZ	Lake Rotokare	1.65	222	⇓PN	Pn	12 33 59.6	+0.5
WAZ	Wanganui	1.65	203	PN	Pn	12 33 58.9	-0.3
TWGZ	Tauwhareparae	1.70	89	PN	Pn	12 33 59.6	0.0
PNHZ	Pukenui	1.70	170	PN	Pn	12 33 59.2	-0.5
NEZ	North Egmont	1.70	232	PN	Pn	12 34 00.2	+0.5
CKHZ	Cape Kidnapper	1.72	146	PN	Pn	12 34 00.0	+0.2
PRGZ	Paritu Road	1.75	114	PN	Pn	12 34 00.0	-0.1
KAHZ	Kahuranaki	1.76	153	PN	Pn	12 34 00.3	+0.1
KHEZ	Kahui Hut	1.77	233	PN	Pn	12 34 00.7	+0.3
TSZ	Takapari Road	1.82	177	PN	Pn	12 34 00.2	-0.7
TSZ				AML	AML	12 34 28.5	
TSZ				AML	AML	12 34 40.4	
MHGZ	Mahia Peninsul	1.87	120	PN	Pn	12 34 01.6	+0.2
CNGZ	Carnagh Statio	1.89	98	PN	Pn	12 34 01.9	+0.3
WPHZ	Waipukurau	1.89	166	PN	Pn	12 34 00.9	-0.6
PUZ	Puketiti	1.92	86	PN	Pn	12 34 01.4	-0.6
PXZ	Pawanui	1.96	156	PN	Pn	12 34 01.9	-0.4
PXZ				AML	AML	12 34 31.4	
PXZ				AML	AML	12 34 31.4	
PXZ				AML	AML	12 34 32.4	
PXZ				AML	AML	12 34 32.4	
MXZ	Matakaoa Point	2.07	72	PN	Pn	12 34 03.2	-0.3
DVHZ	Dannevirke	2.08	173	PN	Pn	12 34 02.5	-1.2
WMGZ	Waiomatatini S	2.09	79	PN	Pn	12 34 03.1	-0.6
PRHZ	Porangahau	2.12	163	PN	Pn	12 34 03.4	-0.7
POWZ	Post Office Ro	2.15	181	PN	Pn	12 34 02.0	-2.5
PRWZ	Pori Road	2.32	177	PN	Pn	12 34 05.2	-1.1
MRZ	Mangatainoka R	2.43	184	PN	Pn	12 34 05.8	-1.9
MRZ				SN	Sn	12 34 35.9	-4.3
MRZ				AML	AML	12 34 38.9	
BFZ	Birch Farm	2.46	173	PN	Pn	12 34 06.4	-1.5
TIWZ	Tintock	2.54	179	PN	Pn	12 34 07.2	-1.7
TIWZ				AML	AML	12 34 40.7	
TIWZ				AML	AML	12 34 43.7	
OGWZ	Otaki Gorge	2.63	191	PN	Pn	12 34 08.1	-1.8
HOWZ	Holdsworth Sta	2.67	185	PN	Pn	12 34 08.3	-2.1
KIW	Kapiti Island	2.72	195	⇓PN	Pn	12 34 08.8	-2.2
KIW				AML	AML	12 34 43.8	
KIW				AML	AML	12 34 44.1	
TMWZ	Te Maipa	2.87	179	PN	Pn	12 34 10.8	-2.0
CAW	Cannon Point	2.93	191	PN	Pn	12 34 11.1	-2.4
CAW				AML	AML	12 34 49.1	
CAW				AML	AML	12 34 50.6	
MTW	Mount Morrison	2.93	185	PN	Pn	12 34 11.0	-2.5
MTW				AML	AML	12 34 47.8	
MTW				AML	AML	12 34 48.2	
DUWZ	D'Urville Isla	2.96	209	PN	Pn	12 34 11.5	-2.4
WEL	Wellington	3.15	195	PN	Pn	12 34 13.6	-2.7
PAWZ	Paruwai Farm	3.16	185	PN	Pn	12 34 13.6	-2.7
PAWZ				AML	AML	12 34 51.8	
PAWZ				AML	AML	12 34 53.2	
TRWZ	Traveller	3.16	182	PN	Pn	12 34 13.8	-2.5
TRWZ				AML	AML	12 34 53.1	
TRWZ				AML	AML	12 34 53.7	
TCW	Tory Channel	3.20	201	PN	Pn	12 34 14.2	-2.6
TCW				AML	AML	12 34 54.1	
TCW				AML	AML	12 34 54.8	
MSWZ	Moikau Station	3.21	188	PN	Pn	12 34 14.1	-2.9
MSWZ				AML	AML	12 34 53.6	
MSWZ				AML	AML	12 34 53.7	
BHW	Baring Head	3.25	193	PN	Pn	12 34 14.5	-2.9
PLWZ	Palliser	3.36	187	PN	Pn	12 34 15.8	-3.1
TUWZ	Tuamarina	3.50	204	PN	Pn	12 34 17.7	-2.9
TUWZ				AML	AML	12 34 59.9	
TUWZ				AML	AML	12 35 02.3	
NNZ	Nelson	3.52	212	PN	Pn	12 34 17.7	-3.2
NNZ				SN	Sn	12 34 59.4	-4.5
QRZ	Quartz Range	3.63	224	PN	Pn	12 34 18.7	-3.6
BSWZ	Blackbirch Sta	3.78	203	PN	Pn	12 34 21.1	-3.1
THZ	Tophouse	4.18	212	PN	Pn	12 34 26.2	-3.1
THZ				SN	Sn	12 35 13.5	-5.4
KHZ	Kahutara	4.53	202	⇑PN	Pn	12 34 30.2	-3.4
DSZ	Denniston Nort	4.67	220	*e*PN	Pn	12 34 31.6	-4.0
LTZ	Lake Taylor	5.29	210	PN	Pn	12 34 39.8	-3.8
OXZ	Oxford	5.84	208	PN	Pn	12 34 45.9	-4.8
MQZ	McQueen's Vall	5.97	203	PN	Pn	12 34 47.0	-5.4
ODZ	Otahua Downs	7.83	208	PN	Pn	12 35 12.6	-4.3
CTZ	Chatham Island	7.92	136	PN	Pn	12 35 24.8	+6.6

IDC 08 12:46:02.5±6.0, 20°25S×177°15W, h463km±65km, mb3.5/8, mb1 3.6/9, mb1mx3.2/36, mbtmp4.3/9, Error ellipse: s-maj=32.5km s-min=28.5km az=63.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	18.62	194	P	P	12 49 50.6	+0.3
	1.3nm,0.3s,baz=284,slow=0.8,SNR=12						
CTA	Charters Tower	34.31	264	P	P	12 52 09.2	+0.1
	4.2nm,1.0s,baz=91,slow=8.2,SNR=5.1						
JAY	Jayapura	44.72	288	P	P	12 53 33.7	+0.1
	12nm,0.7s,baz=219,slow=19,SNR=5.3						
ASAR	Alice Springs	45.35	256	P	P	12 53 38.1	-0.2
	2.4nm,0.6s,baz=93,slow=7.4,SNR=52						
ASAR				PcP	PcP	12 55 08.4	-0.1
	0.3nm,0.4s,baz=113,slow=4.3,SNR=4.4						
ASAR				S	S	12 59 36.8	-7.9
	1.2nm,0.9s,baz=94,slow=16,SNR=6.8						
WRA	Warramunga Arr	45.42	262	P	P	12 53 38.1	-0.8
	2.3nm,0.6s,baz=97,slow=8.0,SNR=82						
MJAR	Matsushiro Arr	70.49	323	P	P	12 56 29.5	0.0
	1.9nm,0.6s,baz=155,slow=6.2,SNR=13						
SEY	Seymchan	86.32	347	P	P	12 57 55.0	+1.1
	0.8nm,0.5s,baz=191,slow=8.2,SNR=3.6						
ILAR	Eielson Array	87.90	12	P	P	12 58 01.2	-0.1
	0.3nm,0.6s,baz=211,slow=4.9,SNR=4.4						
INK	Inuvik	93.83	15	P	P	12 58 26.9	-1.7
	1.1nm,0.7s,baz=150,slow=10.0,SNR=3.8						
NOA	NORSAR Array B	138.83	354	PKhKP	PKPpre	13 04 28.2	
	0.8nm,0.7s,baz=16,slow=5.0,SNR=3.2						
AKASG	Malin Array Be	143.18	332	PKhKP	PKPpre	13 04 39.9	
	1.5nm,0.6s,baz=43,slow=4.5,SNR=6.4						
BRTR	Keskin Array B	147.26	313	PKPbc	PKPbc	13 04 53.5	+0.1
	0.4nm,0.5s,baz=98,slow=2.9,SNR=3.3						
GERES	GERESS Array B	150.17	346	PKPbc	PKPbc	13 04 59.2	-1.1
	0.2nm,0.2s,baz=126,slow=1.8,SNR=5.5						

IDC 08 13:30:58.5±1.1, 22.09N×123.74E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/38, mbtmp3.6/7, ML3.9/1, MS4.0/1, Ms1 4.0/1, ms1mx2.6/28, Error ellipse: s-maj=33.0km s-min=20.0km az=69.0

ISCJB 08 13:30:59.3±0.4, 22.20N±0.03×124.10E±0.05, h33km, mb3.5/6, MS4.0/1, Error ellipse: s-maj=6.8km s-min=3.2km az=24.0

JMA 08 13:31:00.4±0.4, 22.27N×123.73E, h55km, M4.3

NIED 08 13:31:00, 22.30N×123.70E, h17km, Mw3.8 Best double couple: M≤5.10000×10^14 NP1:φs=56.00000°, δ70.00000°, λ-165.00000°. NP2:φs=321.00000°, δ76.00000°, λ-20.00000°.

MAN 08 13:31:54, 18.66N×121.98E, h26km, mb4.7, ML3.6, MS3.6

ISC 08 13:31:01.6±0.8, 22°22N±0.06×123°97E±0.06, h35km, n39, σ1s99/59, mb3.5/6, 1D, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	1.83	355	P	Pn	13 31 30.1	-0.6
HATJ				S	Sn	13 31 50.7	-1.9
JKRS	Kuro-shima	2.01	1	P	Pn	13 31 32.5	-0.5
JKRS				S	Sn	13 31 55.9	-1.0
IRIF	Iriomote-Funau	2.12	354	P	Pn	13 31 34.2	-0.3
IRIF				S	Sn	13 31 57.2	-2.4
JIJ	Ishigaki jima	2.14	4	P	Pn	13 31 34.2	-0.7
JIJ				S	Sn	13 31 57.8	-2.4
JISG	Ishigakijimahi	2.38	7	P	Pn	13 31 37.4	-0.7
JISG				*e*S	Sn	13 32 04.9	-1.1
YOJ	Yonaguni jima	2.40	339	P	Pn	13 31 37.6	-0.8
YOJ				*e*S	Sn	13 32 02.8	-3.8
JYNG	Yonagunijimaku	2.41	337	P	Pn	13 31 37.6	-1.0
JYNG				*e*S	Sn	13 32 03.6	-3.3
JTJ	Tarama	2.50	15	P	Pn	13 31 39.3	-0.5
JTJ				*e*S	Sn	13 32 09.2	+0.1
JIRB	Irabujima	2.82	23	P	Pn	13 31 44.5	+0.3
JIRB				*e*S	Sn	13 32 17.1	+0.1
JOGS	Gusukube	2.85	27	P	Pn	13 31 45.3	+0.7
JOGS				*e*S	Sn	13 32 18.7	+1.0
JMJ	Miyako jima 2	2.85	25	P	Pn	13 31 45.3	+0.6
JMJ				*e*S	Sn	13 32 18.3	+0.5
JIKM	Ikemajima	2.93	23	P	Pn	13 31 46.7	+0.9
JIKM				*e*S	Sn	13 32 20.1	+0.3
SGCP	Mt. Cagua	4.35	205	*e*P	Pn	13 32 04.2	-1.1
JKE	Kume jima 2	4.83	32	P	Pn	13 32 11.3	-0.5
JKE				*e*S	Sn	13 33 04.6	-1.9
CVP	Callao Caves	4.93	205	⇓*e*P	Pn	13 32 12.3	-0.9
APYP	Conner	5.04	211	*e*P	Pn	13 32 13.7	-1.0
JJT2	Tamagusuku 2	5.21	41	P	Pn	13 32 17.4	+0.4
IJT2				*e*S	Sn	13 33 14.0	-1.8
JAGN	Aguni-jima	5.27	34	P	Pn	13 32 17.4	-0.5
JAGN				*e*S	Sn	13 33 15.9	-1.6
ABRA	Dolores	5.49	215	*e*P	Pn	13 32 19.8	-1.1
CAUP	Cauayan	5.63	201	*e*P	Pn	13 32 23.7	+0.8
JNTH	Nagotoyohara	5.65	40	P	Pn	13 32 23.1	0.0
JNTH				*e*S	Sn	13 33 24.4	-2.4
JIH	Iheya	6.01	36	P	Pn	13 32 27.5	-0.6
JIH				*e*S	Sn	13 33 33.2	-2.6
JOW	Kunigami	6.04	40	P	Pn	13 32 28.3	-0.1
JOW				*e*S	Sn	13 33 34.5	-1.8
JOKE	Okinoerabujima	6.61	38	P	Pn	13 32 35.3	-1.0
JOKE				*e*S	Sn	13 33 46.9	-3.5
BALP	Baler	6.83	200	*e*P	Pn	13 32 39.8	+0.4
JTK	Tokunoshima	7.15	38	P	Pn	13 32 42.5	-1.2
JTK				*e*S	Sn	13 33 58.7	-5.0
JMZ	Minamidaito 2	7.53	60	P	Pn	13 32 47.9	-1.1
IJMZ				*e*S	Sn	13 34 07.5	-5.7
JAMN	Amaminishikomi	7.62	37	P	Pn	13 32 48.4	-1.8
JAMN				*e*S	Sn	13 34 10.1	-5.3
JAM	Amami Oshima	8.00	38	P	Pn	13 32 54.0	-1.3
JNU	Nakatsue	12.46	28	Pn	Pn	13 33 55.9	-0.6
	0.2nm,0.3s,baz=214,slow=15,SNR=3.4						
MAT	Matsushiro	18.88	38	P	Pn	13 35 23.4	+3.7
MJAR	Matsushiro Arr	18.88	38	P	Pn	13 35 23.7	+4.0
	0.3nm,0.3s,baz=229,slow=9.4,SNR=23						
CMAR	Chiang Mai Arr	23.76	265	P	P	13 36 11.4	+0.4
	1.1nm,0.4s,baz=73,slow=7.8,SNR=7.1						
SONM	Songino Array	29.19	335	P	P	13 37 03.8	+3.9
	0.6nm,0.7s,baz=134,slow=8.3,SNR=3.7						
MKAR	Makanchi Array	41.52	316	P	P	13 38 46.5	+1.0
	0.3nm,0.5s,baz=101,slow=12,SNR=5.1						
WRA	Warramunga Arr	43.11	166	P	P	13 38 59.2	+0.5
	0.5nm,0.7s,baz=345,slow=9.1,SNR=7.1						
ZALV	Zalesovo Beam	43.28	327	P	P	13 39 00.2	+0.5
	0.6nm,0.5s,baz=111,slow=7.9,SNR=2.9						
ASAR	Alice Springs	46.62	167	P	P	13 39 28.7	+2.1
	0.2nm,0.3s,baz=347,slow=12,SNR=5.6						
CTA	Charters Tower	47.35	151	LR	LR	13 59 58.8	
	comp=Z,149nm,18.9s,baz=337,slow=37						

ISCJB 08 13:47:02.4±0.4, 33.29N±0.02×116.06W±0.03, h4km±3km, Error ellipse: s-maj=4.3km s-min=2.9km az=156.3

NEIC 08 13:47:03.5, 33.27N×116.06W, h4km, ML3.4(PAS), After PAS.

NEIC Felt [II] at Mission Viejo. Also felt at Aliso Viejo, Calimesa, El Cajon, El Centro, Irvine, Mecca, Mountain Center, San Diego, San Marcos and Thermal.

ECX 08 13:47:03.9±0.6, 33.28N×116.05W, h3km, MD3.3, ML3.5

ISC 08 13:47:03.0±1.1, 33°26N±0.02×116°06W±0.03, h7km±9km, n24, σ0s86/43, 6C-7D, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERRC	Elmore Ranch	0.24	126	⇓*i*P	Pg	13 47 08.7	+0.9
BATC	Bat Cave Butte	0.27	42	⇑*i*P	Pg	13 47 09.0	+0.6
CRR	Carrizo Plain	0.38	169	⇓*i*P	Pg	13 47 10.8	+0.5
FRK	Frink	0.38	68	⇑*i*P	Pg	13 47 10.5	+0.2
CBKC	Canebrake	0.39	205	⇑*i*P	Pg	13 47 10.8	+0.2
PFO	Pinyon Flats O	0.48	316	*e*Pg	Pg	13 47 12.2	-0.2
PFO				*e*Sg	Sg	13 47 18.8	0.0
COK	Cook Ranch	0.49	146	⇓*i*P	Pg	13 47 13.3	+0.7
FRD	Ford Ranch, An	0.52	297	⇓*i*P	Pg	13 47 13.3	+0.3
HAY	Hayfield	0.55	35	⇑*i*P	Pg	13 47 14.0	+0.5
WESC	Westside Schoo	0.57	151	*e*P	Pg	13 47 14.7	+0.7
ERPC	Ernies Place	0.61	147	⇓*i*P	Pb	13 47 15.7	-0.3
YUH	Yuha Desert	0.62	170	⇓*i*P	Pg	13 47 15.0	+0.1
BAR	Barrett	0.78	222	*e*Pg	Pg	13 47 17.6	-0.3
BAR				*e*Sg	Sg	13 47 28.2	+0.2
CPBX	Cerro Prieto	1.05	143	*e*P9	Pg	13 47 18.9	-4.3
CPBX				*e*S	Sg	13 47 33.4	-3.4
CPBX				⇑*e*		13 47 43.2	
	comp=N,3μm,0.5s						
CPBX				AML	AML	13 47 48.4	
	comp=E,2μm,0.4s						
CPBX				⇑*e*		13 47 48.4	
CBX	Cerro Bola	1.07	209	*e*P	Pg	13 47 23.4	-0.2
CBX				*e*S	Sb	13 47 38.6	+0.4
CBX				⇓*e*		13 47 40.6	
CBX				AML	AML	13 47 40.6	
	comp=E,2μm,0.7s						
RDX	Rancho Dawling	1.33	176	*e*P	Pn	13 47 27.5	-0.6
PBX	Punta Banda	1.61	201	*e*P	Pn	13 47 32.5	+0.6
PBX				*e*S	Sb	13 47 54.2	+0.5
ECBX	El Chinero	1.97	154	*e*P9	Pn	13 47 35.5	-1.3
ECBX				*e*S	Sn	13 48 01.6	-0.1
LDFC	Landfair	1.98	23	*e*Pn	Pg	13 47 40.6	-0.3
LDFC				*e*Sn	Sn	13 48 02.9	+0.8
PASC	Pasadena Art C	2.00	298	*e*Pn	Pn	13 47 37.1	0.0
PASC				*e*Pg	Pg	13 47 42.5	+1.2
PASC				*e*Sn	Sn	13 48 02.7	+0.4
PASC				*e*Sg	Sg	13 48 07.0	-0.1
GSC	Goldstone, Bar	2.13	343	Pn	Pn	13 47 37.9	-1.2
GSC				*e*Pg	Pg	13 47 44.5	+0.6
GSC				*e*Sn	Sn	13 48 06.6	+0.7
GSC				*e*Sg	Sg	13 48 11.2	-0.3
SPX	San Pedro Mart	2.26	167	*e*P	Pn	13 47 42.8	+1.7
SPX				*e*S	Sb	13 48 12.7	0.0
214A	Organ Pipe Nat	3.03	114	Pn	Pn	13 47 52.4	+1.0
214A				*e*Pg	Pg	13 48 00.8	-0.3
214A				*e*Sn	Sn	13 48 28.1	+0.1
214A				*e*Sg	Sg	13 48 41.5	+1.1
DAC	Darwin (Calif)	3.27	338	*e*Pn	Pn	13 47 54.0	-0.9
DAC				*e*Pg	Pg	13 48 05.8	+0.1
DAC				*e*Sn	Sn	13 48 33.6	-0.4
DAC				*e*Sg	Sg	13 48 47.5	-0.5

IDC 08 13:49:59.6±41.0, 4°89N×127°13E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/26, mbtmp3.7/3, Error ellipse: s-maj=686.7km s-min=189.1km az=160.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.68	164	P	P	13 55 31.5	0.0
	0.4nm,0.4s,baz=344,slow=9.9,SNR=7.6						
ASAR	Alice Springs	29.15	167	P	P	13 56 02.5	-0.2
	0.7nm,1.0s,baz=345,slow=6.7,SNR=3.9						
STKA	Stephens Creek	39.08	160	P	P	13 57 28.6	0.0
	2.0nm,0.8s,baz=326,slow=9.5,SNR=4.5						

CSEM 08 13:52:55.6±0.4, 35.47N×28.45E, h15km, MD3.6, Error ellipse: s-maj=9.5km s-min=4.5km az=136.0

DDA 08 13:52:55.5, 35.66N×28.38E, h7km, MD2.8

ISK 08 13:52:57.1, 35.55N×28.25E, h87km, MD3.3

ATH 08 13:52:57.8, 35.59N×28.31E, h59km±3km, MD3.6/11

ISC 08 13:52:57.2±1.6, 35°47N±0.06×28°43E±0.04, h29km±13km, n42, σ0s79/58, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.78	342	*e*P	Pb	13 53 12.0	-0.3
ARG				*e*S	Sb	13 53 22.4	-0.2
ARG	Arkhangelos	0.78	342	*e*P	Pb	13 53 12.0	-0.3
ARG				*e*S	Sb	13 53 22.4	-0.2
KARP	Karpathos	1.04	275	*e*P	Pn	13 53 16.0	+0.2
KARP				*e*S	Sn	13 53 28.6	-0.8
KARP	Karpathos	1.04	275	*e*P	Pn	13 53 16.0	+0.2
KARP				*e*S	Sn	13 53 28.6	-0.8
AKAS	Kas	1.22	51	*i*P	Pn	13 53 16.8	-1.7
AKAS				*i*S	Sn	13 53 34.6	+0.5
AKAS	Kas	1.22	51	*i*P	Pn	13 53 16.8	-1.7
AKAS				*i*S	Sn	13 53 34.6	+0.5
FETY	Fethiye	1.28	24	*e*PG	Pb	13 53 21.2	+0.6
FETY	Fethiye	1.28	24	*e*Pg	Pb	13 53 21.2	+0.6
DALY	Dalyan (Mu˘la	1.35	8	*e*PG	Pn	13 53 20.9	+0.7
DALY				*e*SG	Sb	13 53 39.0	+0.1
DALY	Dalyan (Mu˘la	1.35	8	*e*Pg	Pn	13 53 20.9	+0.7
DALY				*e*Sg	Sb	13 53 39.0	+0.1
TURN	Turunc	1.41	6	*i*P	Pn	13 53 19.2	-1.7
TURN				*i*S	Sn	13 53 37.1	-1.3
TURN	Turunc	1.41	6	*i*P	Pn	13 53 19.2	-1.7
TURN				*i*S	Sn	13 53 37.1	-1.3
DAT	Datca	1.43	331	*e*PG	Pn	13 53 21.2	-0.1
DAT	Datca	1.43	331	*e*Pg	Pn	13 53 21.2	-0.1
YER	Yerkesik	1.66	356	*e*PN	Pn	13 53 24.5	0.0
YER	Yerkesik	1.66	356	*e*Pn	Pn	13 53 24.5	0.0
BDRM	Kayabasi	1.78	334	*i*P	Pn	13 53 25.6	-0.4
BDRM				*i*S	Sn	13 53 48.4	+0.7
BDRM	Kayabasi	1.78	334	*i*P	Pn	13 53 25.6	-0.4
BDRM				*i*S	Sn	13 53 48.4	+0.7
BODT	Bodrum	1.83	331	*e*PN	Pn	13 53 26.4	-0.3
BODT	Bodrum	1.83	331	*e*Pn	Pn	13 53 26.4	-0.3
ZKR	Zakros	1.84	259	*e*P	Pn	13 53 26.8	-0.1
ZKR	Zakros	1.84	259	*e*P	Pn	13 53 26.8	-0.1
GOLH	Golhisar	1.98	27	*i*P	Pn	13 53 28.9	0.0
GOLH				*i*S	Sn	13 53 54.5	+1.6
GOLH	Golhisar	1.98	27	*i*P	Pn	13 53 28.9	0.0
GOLH				*i*S	Sn	13 53 54.5	+1.6
NPS	Neapolis	2.31	266	*e*P	Pn	13 53 33.9	+0.5
NPS				*e*S	Sn	13 53 59.7	-1.1
NPS	Neapolis	2.31	266	*e*P	Pn	13 53 33.9	+0.5
NPS				*e*S	Sn	13 53 59.7	-1.1
LAST	Lasithi	2.43	264	*e*P	Pn	13 53 35.5	+0.4
LAST	Lasithi	2.43	264	*e*P	Pn	13 53 35.5	+0.4
AYDB	Zeytinkoy-Aydi	2.51	350	*e*PN	Pn	13 53 36.3	+0.1
AYDB	Zeytinkoy-Aydi	2.51	350	*e*Pn	Pn	13 53 36.3	+0.1
SMG	Samos	2.57	331	*e*P	Pn	13 53 36.5	-0.5
SMG	Samos	2.57	331	*e*P	Pn	13 53 36.5	-0.5
APE	Apeiranthos	2.83	305	*e*P	Pn	13 53 40.1	-0.5
APE	Apeiranthos	2.83	305	*e*P	Pn	13 53 40.1	-0.5
VAM	Vamos	3.45	270	*e*P	Pn	13 53 48.8	-0.2
VAM	Vamos	3.45	270	*e*P	Pn	13 53 48.8	-0.2
KARN	Karanos	3.68	270	*e*P	Pn	13 53 53.3	+1.1
KARN	Karanos	3.68	270	*e*P	Pn	13 53 53.3	+1.1
KYTH	Kithira	4.45	282	*e*P	Pn	13 54 03.5	+0.7
KYTH	Kithira	4.45	282	*e*P	Pn	13 54 03.5	+0.7
VLI	Veliai	4.62	287	*e*P	Pn	13 54 05.4	+0.4
VLI	Veliai	4.62	287	*e*P	Pn	13 54 05.4	+0.4

ISK 08 13:54:12.4, 39.49N×27.53E, h2km, MD2.9

ISCJB 08 13:54:13.4±0.5, 39.50N±0.02×27.51E±0.03, h5km±4km, Error ellipse: s-maj=3.5km s-min=3.3km az=145.0

DDA 08 13:54:13.2, 39.55N×27.53E, h9km, MD2.7

CSEM 08 13:54:13.4±0.1, 39.51N×27.51E, h5km, MD2.7, Error ellipse: s-maj=3.4km s-min=3.3km az=81.0

ATH 08 13:54:13.3, 39.46N×27.55E, h15km±5km, MD3.2/5

ISC 08 13:54:13.5±0.9, 39°51N±0.02×27°52E±0.02, h10km±9km, n75, σ0s47/97, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALY	Balya	0.24	18	*i*P	Pg	13 54 18.2	-0.3
BALY				*i*S	Sg	13 54 22.3	+0.4
BALY	Balya	0.24	18	*i*P	Pg	13 54 18.2	-0.3
BALY				*i*S	Sg	13 54 22.3	+0.4
BALB	Balikesir	0.31	64	*e*PG	Pg	13 54 19.0	-0.6
BALB				*e*SG	Sg	13 54 24.0	+0.3
BALB	Balikesir	0.31	64	*e*Pg	Pg	13 54 19.0	-0.6
BALB				*e*Sg	Sg	13 54 24.0	+0.3
AKS	Akhisar	0.67	160	*e*PG	Pg	13 54 26.2	-0.2
AKS	Akhisar	0.67	160	*e*Pg	Pg	13 54 26.2	-0.2
AKHS	Akhisar	0.67	160	*i*P	Pb	13 54 27.7	+0.4
AKHS				*i*S	Sb	13 54 36.3	-0.3
AKHS	Akhisar	0.67	160	*i*P	Pb	13 54 27.7	+0.4
AKHS				*i*S	Sb	13 54 36.3	-0.3
AYVA	Ayvalik	0.68	253	*i*P	Pb	13 54 27.7	+0.3
AYVA				*i*S	Sb	13 54 36.4	-0.4
AYVA	Ayvalik	0.68	253	*i*P	Pb	13 54 27.7	+0.3
AYVA				*i*S	Sb	13 54 36.4	-0.4
EDC	Edincik	0.88	17	*e*PG	Pb	13 54 31.1	+0.2
EDC				*e*SG	Sn	13 54 43.9	-0.9
EDC	Edincik	0.88	17	*e*Pg	Pb	13 54 31.1	+0.2
KRBG	Karabiga-Canak	0.90	349	*e*PG	Pb	13 54 31.4	+0.2
KRBG	Karabiga-Canak	0.90	349	*e*Pg	Pb	13 54 31.4	+0.2
KCTX	Karacabey (Bur	0.99	40	*e*PG	Pg	13 54 32.2	-0.4
KCTX	Karacabey (Bur	0.99	40	*e*Pg	Pg	13 54 32.2	-0.4
PRK	Paraskevi	1.00	255	*e*PN	Pb	13

WEL 08 14:13:23.1±0.3, 36.65S×177.06E, h5km, ML3.5/3, Error ellipse: s-maj=2.3km s-min=1.4km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.88**	**173**	P*	Pg	14 13 39.3	-0.7
MYRZ	**Mayor Island**	**0.91**	**226**	P*	Pg	14 13 40.1	-0.5
MYRZ				S*	Sg	14 13 51.4	-0.9
KUZ	**Kuaotunu**	**1.08**	**264**	P*	Pg	14 13 43.3	-0.4
KUZ				S*	Sg	14 13 57.5	-0.2
KUZ				AML	AML	14 13 58.5	
OPRZ	**Ohinepanea**	**1.26**	**198**	P*	Pg	14 13 44.6	-2.6
MXZ	**Matakaoa Point**	**1.35**	**133**	P*	Pn	14 13 46.2	-2.4
MKAZ	**Moumakai**	**1.58**	**253**	*e*PN	Pn	14 13 51.1	-0.7
MKAZ				SN	Sn	14 14 12.2	-0.4
ETAZ	**East Tamaki Re**	**1.73**	**259**	*e*PN	Pn	14 13 53.5	-0.4

*ISCJB **08** 14:14:13.0±0.4, 36.75S×177.04E±0.03, h10km, mb4.3/15, MS4.4/12, Error ellipse: s-maj=4.8km s-min=3.1km az=42.8*

*IDC **08** 14:14:12.1±0.8, 36.75S×177.33E, h0km, mb4.1/10, mb1 4.2/11, mb1mx4.2/17, mbtmp4.1/11, ML3.8/1, MS4.2/14, Ms1 4.3/14, ms1mx4.2/18, Error ellipse: s-maj=27.5km s-min=15.7km az=74.0*

*WEL **08** 14:14:12.1±0.2, 36.58S×177.08E, h5km, ML5.1/36, Error ellipse: s-maj=1.9km s-min=1.0km az=0.0*

WEL Felt from Auckland to Bay of Plenty, maximum reported intensity MM 5.

*NEIC **08** 14:14:13.2, 36.66S×177.10E, h5km, mb4.8/5, ML5.0(WEL), After WEL.*

NEIC Felt [IV] at Coromandel, Tairua, Thames, Waihi, Waihi Beach, Whangamata and Whitianga. Also felt in the Auckland area and at Whakatane.

ISC 08 14:14:13.6±0.5, 36.72S±0.04×177.09E±0.03, h10km, n157, σ1°12/122, mb4.4/15, MS4.2/12, 2C-4D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.81**	**174**	P*	**Pb**	**14 14 29.1**	**-0.5**
WIZ	**White Island**	**0.81**	**174**	P*	**Pb**	**14 14 29.1**	**-0.5**
MYRZ	**Mayor Island**	**0.88**	**230**	P*	**Pb**	**14 14 30.2**	**-0.7**
MYRZ				S*	**Sn**	**14 14 43.0**	**-1.9**
KUZ	**Kuaotunu**	**1.10**	**268**	P*	**Pb**	**14 14 33.0**	**-1.6**
KUZ				S*	**Sg**	**14 14 47.2**	**-1.7**
KUZ				AML	AML	14 14 48.1	
KUZ				AML	AML	14 14 48.3	
KUZ				AML	AML	14 14 48.4	
HAZ	**Te Kaha**	**1.17**	**152**	⇓P*	**Pb**	**14 14 34.1**	**-1.8**
HAZ				*e*S*	**Sn**	**14 14 51.2**	**-0.8**
OPRZ	**Ohinepanea**	**1.20**	**201**	P*	**Pn**	**14 14 34.4**	**-1.9**
TGRZ	**Tauranga**	**1.20**	**213**	P*	**Pn**	**14 14 35.0**	**-1.4**
TGRZ				S*	**Sb**	**14 14 51.0**	**-1.1**
TGRZ				AML	AML	14 15 01.9	
TGRZ	**Tauranga**	**1.20**	**213**	P*	**Pn**	**14 14 35.0**	**-1.4**
TGRZ				S*	**Sb**	**14 14 51.0**	**-1.1**
MXZ	**Matakaoa Point**	**1.28**	**131**	P*	**Pn**	**14 14 35.9**	**-1.7**
MXZ				S*	**Sb**	**14 14 52.7**	**-1.7**
MXZ				AML	AML	14 14 54.1	
MXZ				AML	AML	14 14 54.1	
MXZ				AML	AML	14 14 54.1	
MXZ	**Matakaoa Point**	**1.28**	**131**	P*	**Pn**	**14 14 35.9**	**-1.7**
MXZ				S*	**Sb**	**14 14 52.7**	**-1.7**
MARZ	**Manawahe**	**1.30**	**195**	*e*P*	**Pn**	**14 14 36.3**	**-1.6**
LIRZ	**Lichensteins R**	**1.40**	**203**	P*	**Pn**	**14 14 38.3**	**-0.8**
LIRZ	**Lichensteins R**	**1.40**	**203**	P*	**Pn**	**14 14 38.3**	**-0.8**
EDRZ	**Edgecumbe**	**1.41**	**191**	P*	**Pn**	**14 14 38.2**	**-1.2**
EDRZ				AML	AML	14 14 57.6	
EDRZ				AML	AML	14 15 13.9	
EDRZ	**Edgecumbe**	**1.41**	**191**	P*	**Pn**	**14 14 38.2**	**-1.2**
OMRZ	**Omania**	**1.50**	**202**	P*	**Pn**	**14 14 39.6**	**-0.9**
MKRZ	**Makatiti**	**1.50**	**199**	AML	AML	14 14 56.7	
MKRZ				AML	AML	14 15 11.1	
WMGZ	**Waiomatatini S**	**1.52**	**136**	PN	**Pb**	**14 14 41.1**	**-0.8**
URZ	**Urewera**	**1.53**	**179**	⇓P*	**Pn**	**14 14 40.0**	**-1.0**
URZ				AML	AML	14 15 07.4	
URZ				AML	AML	14 15 09.1	
URZ	**Urewera**	**1.53**	**179**	Pn	**Pn**	**14 14 39.8**	**-1.2**
	40nm,0.3s,baz=9.6,slow=9.3,SNR=62						
URZ				Sn	**Sg**	**14 15 02.9**	**-0.1**
	193nm,0.3s,baz=274,slow=16,SNR=12						
URZ	**Urewera**	**1.53**	**179**	*e*Pn	**Pn**	**14 14 40.4**	**-0.6**
URZ				*e*Sn	**Sg**	**14 15 02.1**	**-0.8**
MKAZ	**Moumakai**	**1.59**	**255**	PN	**Pn**	**14 14 40.4**	**-1.4**
MKAZ				AML	AML	14 15 03.5	
MKAZ				AML	AML	14 15 03.9	
TWGZ	**Tauwhareparae**	**1.61**	**154**	PN	**Pb**	**14 14 42.7**	**-0.8**
TOZ	**Tahuroa Road**	**1.62**	**231**	P*	**Pn**	**14 14 40.8**	**-1.3**
TOZ	**Tahuroa Road**	**1.62**	**231**	P*	**Pn**	**14 14 40.8**	**-1.3**
UTZ	**Utuhina**	**1.62**	**206**	AML	AML	14 15 08.9	
UTU				AML	AML	14 15 19.1	
PUZ	**Puketiti**	**1.64**	**146**	PN	**Pb**	**14 14 43.0**	**-0.9**
PUZ				AML	AML	14 15 14.1	
PUZ				AML	AML	14 15 22.3	
PUZ	**Puketiti**	**1.64**	**146**	Pn	**Pb**	**14 14 43.0**	**-0.9**
MWZ	**Matawai**	**1.65**	**168**	⇓P*	**Pn**	**14 14 41.5**	**-1.1**
MWZ				AML	AML	14 15 14.5	
MWZ				AML	AML	14 15 14.5	
MWZ				AML	AML	14 15 14.7	
MWZ				AML	AML	14 15 17.8	
MWZ	**Matawai**	**1.65**	**168**	P*	**Pn**	**14 14 41.5**	**-1.1**
RRRZ	**Republican Roa**	**1.68**	**196**	P*	**Pn**	**14 14 42.3**	**-0.7**
RRRZ	**Republican Roa**	**1.68**	**196**	P*	**Pn**	**14 14 42.3**	**-0.7**
ETAZ	**East Tamaki Re**	**1.75**	**262**	PN	**Pn**	**14 14 42.9**	**-1.0**
MTAZ	**Motutapu**	**1.75**	**267**	Pn	**Pb**	**14 14 44.4**	**-1.3**
RAGZ	**Rawiri**	**1.79**	**172**	P*	**Pn**	**14 14 44.2**	**-0.4**
TKGZ	**Te Karaka**	**1.82**	**161**	⇑PN	**Pb**	**14 14 45.5**	**-1.4**
PRRZ	**Plateau Road**	**1.86**	**197**	*e*P*	**Pn**	**14 14 44.8**	**-0.7**
HBAZ	**Herne Bay Bore**	**1.90**	**265**	*e*PN	**Pn**	**14 14 46.6**	**-0.4**
RVAZ	**Riverhead Bore**	**2.02**	**268**	*e*PN	**Pn**	**14 14 47.0**	**-0.6**
TLZ	**Tolley Road**	**2.02**	**217**	⇑P*	**Pn**	**14 14 47.0**	**-0.8**
KUTZ	**Kaahu Road**	**2.03**	**209**	P*	**Pn**	**14 14 47.3**	**-0.5**
WTAZ	**Waiatarua**	**2.03**	**263**	*e*PN	**Pn**	**14 14 47.3**	**-0.5**
WTAZ	**Waiatarua**	**2.03**	**263**	Pn	**Pn**	**14 14 47.8**	**0.0**
RIGZ	**Rimuhau**	**2.05**	**165**	PN	**Pb**	**14 14 49.7**	**-1.2**
SNGZ	**Shannon Statio**	**2.06**	**175**	PN	**Pn**	**14 14 48.5**	**+0.2**
RAHZ	**Arahi**	**2.19**	**180**	PN	**Pb**	**14 14 51.2**	**-2.1**
RAHZ	**Arahi**	**2.19**	**180**	Pn	**Pb**	**14 14 51.2**	**-2.1**
WATZ	**Wairara**	**2.25**	**208**	AML	AML	14 15 48.4	
WATZ				AML	AML	14 15 52.2	
HATZ	**Hinemaiaia**	**2.30**	**200**	AML	AML	14 15 46.8	
HATZ				AML	AML	14 16 07.4	
KNZ	**Kokohu**	**2.34**	**169**	PN	**Pn**	**14 14 51.9**	**-0.2**
WCZ	**Waipu Caves**	**2.35**	**289**	PN	**Pn**	**14 14 51.4**	**-0.8**
WCZ	**Waipu Caves**	**2.35**	**289**	Pn	**Pn**	**14 14 51.4**	**-0.8**
WHHZ	**Waihua**	**2.35**	**177**	*e*PN	**Pb**	**14 14 53.9**	**-2.2**
NMHZ	**Naumai**	**2.38**	**185**	PN	**Pb**	**14 14 55.4**	**-1.1**
RATZ	**Rangitukua**	**2.38**	**206**	AML	AML	14 15 21.5	
RATZ				AML	AML	14 15 26.2	
BKZ	**Black Stump Fm**	**2.48**	**191**	*e*P*	**Pb**	**14 14 55.6**	**-2.7**
BKZ				AML	AML	14 15 14.0	
BKZ				AML	AML	14 15 15.4	
KATZ	**Kakaramea**	**2.50**	**206**	AML	AML	14 15 50.2	
KATZ				AML	AML	14 15 51.1	
HIZ	**Hauiti**	**2.52**	**224**	PN	**Pn**	**14 14 54.3**	**-0.2**
HIZ				AML	AML	14 15 33.7	
HIZ				AML	AML	14 15 40.3	
HIZ	**Hauiti**	**2.52**	**224**	Pn	**Pn**	**14 14 54.3**	**-0.2**
KRVZ	**Karewarewa**	**2.63**	**205**	AML	AML	14 15 28.9	
KRVZ				AML	AML	14 16 02.6	
WTVZ	**West Tongariro**	**2.67**	**206**	AML	AML	14 16 05.9	
WTVZ				AML	AML	14 16 14.2	
TWVZ	**Taurewa**	**2.68**	**209**	P*	**Pn**	**14 14 56.8**	**-0.1**
TWVZ				AML	AML	14 15 54.1	
TWVZ				AML	AML	14 15 58.0	
TWVZ	**Taurewa**	**2.68**	**209**	P*	**Pn**	**14 14 56.8**	**-0.1**
OTVZ	**Oturere**	**2.68**	**204**	*e*P*	**Pn**	**14 14 58.1**	**+1.1**
OTVZ				AML	AML	14 16 07.5	
OTVZ				AML	AML	14 16 14.8	
OTVZ	**Oturere**	**2.68**	**204**	*e*P*	**Pn**	**14 14 58.1**	**+1.1**
NGZ	**Ngauruhoe**	**2.72**	**205**	AML	AML	14 15 33.2	
NGZ				AML	AML	14 16 00.6	
WPVZ	**Whakapapa**	**2.76**	**206**	AML	AML	14 15 47.7	
WPVZ				AML	AML	14 16 02.8	
TUVZ	**Tukino**	**2.78**	**204**	AML	AML	14 15 56.6	
TUVZ				AML	AML	14 16 22.6	
FWVZ	**Far West T-bar**	**2.80**	**205**	AML	AML	14 15 47.1	
FWVZ				AML	AML	14 16 05.7	
TRVZ	**Turoa**	**2.84**	**205**	AML	AML	14 15 32.3	
TRVZ				AML	AML	14 16 09.4	
BHHZ	**Black Hill Sta**	**2.88**	**196**	P*	**Pn**	**14 15 00.3**	**+0.8**
BHHZ	**Black Hill Sta**	**2.88**	**196**	P*	**Pn**	**14 15 00.3**	**+0.8**
MOVZ	**Moawhango**	**2.88**	**201**	AML	AML	14 15 42.3	
MOVZ				AML	AML	14 15 54.7	
PKVZ	**Pokaka**	**2.91**	**208**	AML	AML	14 16 01.2	
PKVZ				AML	AML	14 16 02.8	
MTVZ	**Mangateitei**	**2.95**	**205**	AML	AML	14 15 57.8	
MTVZ				AML	AML	14 15 59.5	
KRHZ	**Kereru**	**2.97**	**191**	PN	**Pn**	**14 15 02.4**	**+1.6**
VRZ	**Vera Road**	**3.02**	**217**	P*	**Pn**	**14 15 01.8**	**+0.3**
VRZ				AML	AML	14 15 57.0	
VRZ				AML	AML	14 16 12.6	
VRZ	**Vera Road**	**3.02**	**217**	P*	**Pn**	**14 15 01.8**	**+0.3**
KAHZ	**Kahuranaki**	**3.07**	**183**	PN	**Pn**	**14 15 03.7**	**+1.5**
KAHZ	**Kahuranaki**	**3.07**	**183**	Pn	**Pn**	**14 15 03.7**	**+1.5**
OUZ	**Omahuta**	**3.20**	**297**	PN	**Pn**	**14 15 03.3**	**-0.6**
OUZ	**Omahuta**	**3.20**	**297**	*e*Pn	**Pn**	**14 15 02.9**	**-1.1**
OUZ				*e*Sn	**Sn**	**14 15 42.4**	**+0.2**
WAZ	**Wanganui**	**3.45**	**208**	AML	AML	14 15 29.2	
WAZ				AML	AML	14 16 30.1	
NEZ	**North Egmont**	**3.47**	**222**	Pn	**Pn**	**14 15 07.8**	**0.0**
BFZ	**Birch Farm**	**4.01**	**189**	PN	**Pn**	**14 15 15.8**	**+0.8**
BFZ	**Birch Farm**	**4.01**	**189**	Pn	**Pn**	**14 15 15.8**	**+0.8**
MRZ	**Mangatainoka R**	**4.11**	**196**	PN	**Pn**	**14 15 15.9**	**-0.5**
MRZ				AML	AML	14 16 22.8	
MRZ				AML	AML	14 16 57.2	
MRZ	**Mangatainoka R**	**4.11**	**196**	Pn	**Pn**	**14 15 15.8**	**-0.5**
TIWZ	**Tintock**	**4.16**	**193**	AML	AML	14 16 13.9	
TIWZ				AML	AML	14 16 18.7	
KIW	**Kapiti Island**	**4.47**	**202**	AML	AML	14 16 08.4	
KIW				AML	AML	14 16 10.2	
CAW	**Cannon Point**	**4.65**	**199**	AML	AML	14 15 49.2	
CAW				AML	AML	14 16 32.8	
CAW	**Cannon Point**	**4.65**	**199**	Pn	**Pn**	**14 15 24.1**	**+0.2**
SNZO	**South Karori**	**4.94**	**201**	*e*Pn	**Pn**	**14 15 28.8**	**+1.0**
	202nm,1.0s						
SNZO				*e*Sn	**Sn**	**14 16 26.4**	**+1.4**
NNZ	**Nelson**	**5.34**	**212**	AML	AML	14 16 49.2	
NNZ				AML	AML	14 17 31.5	
THZ	**Tophouse**	**5.99**	**212**	*e*PN	**Pn**	**14 15 42.9**	**+0.6**
THZ				AML	AML	14 17 44.1	
THZ				AML	AML	14 17 47.7	
KHZ	**Kahutara**	**6.31**	**205**	*e*Pn	**Pn**	**14 15 46.5**	**-0.1**
	54nm,0.8s						
KHZ				*e*Sn	**Sn**	**14 16 59.5**	**+0.8**
RPZ	**Rata Peaks**	**8.37**	**212**	Pn	**Pn**	**14 16 15.1**	**+0.2**
	1.1nm,0.3s,baz=27,slow=4.1,SNR=6.0						
RPZ				LR	LR	14 19 56.3	
	comp=Z,2µm,18.8s,baz=27,slow=41						
RAO	**Raoul Island**	**8.55**	**31**	LR	LR	14 19 17.4	
	comp=Z,2µm,18.7s,baz=208,slow=36						
DZM	**Mont Dzumac**	**17.28**	**325**	*e*LR	LR	14 22 15.3	
	1µm,26.3s						
DZM	**Mont Dzumac**	**17.28**	**325**	LR	LR	14 23 39.9	
	comp=Z,2µm,18.2s,baz=180,slow=33						
MSVF	**Nonsavu**	**18.94**	**3**	*e*P	**P**	**14 18 33.1**	**-1.7**
	74nm,1.1s						
RMQ	**Roma**	**26.11**	**285**	P	P	14 19 57.3	+10
	baz=28,SNR=6.2						
CMSA	**Cobar Meteorol**	**26.43**	**272**	P	P	14 19 59.3	+8.8
	baz=28,SNR=10						
STKA	**Stephens Creek**	**29.61**	**269**	P	P	14 20 21.5	+2.6
	1.5nm,0.9s,baz=103,slow=11,SNR=3.0						
STKA				LR	LR	14 31 51.0	
	comp=Z,473nm,18.3s,baz=96,slow=36						
STKA	**Stephens Creek**	**29.61**	**269**	P	P	14 20 26.6	+7.7
	baz=31,SNR=4.5						
TBI	**Tubuai**	**31.71**	**75**	*e*LR	LR	14 29 06.5	
	518nm,26.8s,baz=242						
PPT2	**Papeete2**	**35.01**	**66**	*e*LR	LR	14 30 34.2	
	513nm,25.8s,baz=227						
PPT	**Papeete**	**35.02**	**66**	LR	LR	14 31 26.4	
	comp=Z,291nm,20.3s,baz=217,slow=30						
AS31	**Alice Springs**	**39.21**	**277**	*e*P	**P**	**14 21 43.4**	**+1.3**
ASAR	**Alice Springs**	**39.21**	**277**	P	**P**	**14 21 43.7**	**+1.6**
	4.0nm,0.8s,baz=120,slow=7.7,SNR=12						
ASAR				PcP	**PcP**	**14 23 52.8**	**+1.5**
	0.5nm,0.8s,baz=115,slow=3.5,SNR=2.1						
ASAR				LR	LR	14 38 23.3	
	comp=Z,314nm,19.0s,baz=124,slow=37						
WRAB	**Tennant Creek**	**40.80**	**282**	*e*P	**P**	**14 21 56.6**	**+1.3**
	6.2nm,0.8s						
WRA	**Warrawunga Arr**	**40.81**	**282**	P	**P**	**14 21 56.8**	**+1.5**
	5.6nm,0.9s,baz=118,slow=8.1,SNR=7.3						
WRA				PcP	**PcP**	**14 23 57.1**	**+0.7**
	0.6nm,0.9s,baz=119,slow=3.1,SNR=2.7						
FORT	**Forrest**	**40.84**	**264**	P	P	14 22 03.4	+7.9
	baz=42,SNR=7.2						
FORT	**Forrest**	**40.84**	**264**	*e*P	**P**	**14 21 56.9**	**+1.4**
	34nm,0.9s						
VNDA	**Vanda**	**41.43**	**185**	P	P	**14 21 59.6**	**-0.2**
	0.4nm,0.7s,baz=327,slow=9.1,SNR=2.9						
WRKA	**Warakurna**	**43.05**	**271**	P	P	14 22 21.0	+7.3
	baz=44,SNR=8.6						
RKT	**Rikitea**	**43.28**	**86**	*e*LR	LR	14 34 15.4	
	465nm,29.8s						
BLDU	**Ballidu**	**49.91**	**258**	P	P	14 23 14.6	+7.2
	baz=51,SNR=4.9						
MEEK	**Meekatharra**	**50.09**	**264**	P	P	14 23 15.4	+6.5
	baz=51,SNR=5.2						
MORW	**Morawa**	**51.08**	**260**	P	P	14 23 23.2	+6.9
	baz=52,SNR=7.2						
QSPA	**South Pole Qui**	**53.40**	**180**	P	**P**	**14 23 33.3**	**+0.1**
	7.0nm,0.8s,baz=28,slow=2.2,SNR=29						
QSPA	**South Pole Qui**	**53.40**	**180**	*e*P	**P**	**14 23 34.1**	**+0.9**
MAW	**Mawson**	**64.94**	**203**	P	**P**	**14 24 53.3**	**+0.4**
	2.9nm,0.9s,baz=121,slow=10,SNR=1.7						
MAW	**Mawson**	**64.94**	**203**	*e*P	**P**	**14 24 54.2**	**+1.4**
LEM	**Lembang**	**69.51**	**277**	LR	LR	14 56 49.0	
	comp=Z,89nm,22.0s,baz=189,slow=37						
SNAA	**Sanae**	**71.91**	**180**	*e*P	**P**	**14 25 37.2**	**+0.7**
	18nm,1.1s						
VNA3	**Neumayer Olymp**	**72.23**	**178**	P	**P**	**14 25 38.1**	**-0.2**
KSM	**Kuching**	**72.45**	**286**	P	P	14 25 48.1	+7.5
	baz=74,SNR=5.1						
KSM	**Kuching**	**72.45**	**286**	*e*P	**P**	**14 25 39.3**	**-1.2**
	3.8nm,0.6s						
VNA2	**Neumayer--Watz**	**72.61**	**178**	P	**P**	**14 25 41.6**	**+1.0**
	baz=173,slow=4.0						
VNA1	**Neumayer--Stat**	**72.86**	**178**	P	**P**	**14 25 42.4**	**+0.3**
PLCA	**Paso Flores**	**81.10**	**135**	P	**P**	**14 26 29.8**	**+0.6**
	2.3nm,0.8s,baz=218,slow=5.5,SNR=6.0						
PLCA				LR	LR	14 54 48.9	
	comp=Z,491nm,19.3s,baz=342,slow=30						
MJAR	**Matsushiro Arr**	**81.33**	**329**	P	**P**	**14 26 30.5**	**+0.5**
	1.8nm,1.1s,baz=160,slow=3.9,SNR=4.4						
MJAR				LR	LR	14 59 08.7	
	comp=Z,30nm,22.0s,baz=165,slow=33						
GSI	**Gunungsitoli**	**82.37**	**277**	*e*P	**P**	**14 26 36.2**	**+0.1**
	76nm,1.0s						
USRK	**Ussuriysk Ar.**	**90.33**	**329**	P	P	14 27 16.7	+2.3
	0.6nm,0.5s,baz=147,slow=2.9,SNR=2.8						
PETK	**Petropavlovsk-**	**91.04**	**348**	LR	LR	15 02 58.2	
	comp=Z,32nm,19.4s,baz=146,slow=32						
CMAR	**Chiang Mai Arr**	**91.76**	**292**	P	**P**	**14 27 23.0**	**+1.2**
	1.8nm,0.9s,baz=159,slow=3.6,SNR=12						
CMAR				LR	LR	15 10 52.9	
	comp=Z,59nm,20.3s,baz=187,slow=37						
LVC	**Limon Verde**	**94.27**	**122**	LR	LR	15 01 00.5	
	comp=Z,634nm,18.4s,baz=215,slow=30						
ATAH	**Atahualpa**	**97.26**	**104**	LR	LR	15 04 10.3	
	comp=Z,106nm,18.9s,baz=199,slow=31						
CPUP	**Villa Florida**	**99.03**	**132**	LR	LR	15 05 46.1	
	comp=Z,2µm,19.5s,baz=244,slow=31						
LPAZ	**La Paz**	**99.06**	**118**	LR	LR	15 02 44.9	
	comp=Z,393nm,22.0s,baz=247,slow=30						
FINES	**FINESS Array B**	**149.30**	**333**	PKPbc	**PKPbc**	**14 34 00.0**	**-1.6**
	0.7nm,0.7s,baz=73,slow=4.7,SNR=2.9						
DBIC	**Dimbokro**	**150.03**	**176**	PKPbc	**PKPbc**	**14 34 03.4**	**-1.5**
	0.9nm,0.6s,baz=163,slow=5.1,SNR=2.1						
BRTR	**Keskin Array B**	**151.25**	**287**	PKPbc	**PKPbc**	**14 34 06.9**	**-0.4**
	0.3nm,0.5s,baz=145,slow=5.3,SNR=2.6						
AKASG	**Malin Array Be**	**153.14**	**312**	PKPbc	**PKPbc**	**14 34 11.3**	**+0.4**
	0.5nm,0.4s,baz=69,slow=3.4,SNR=1.8						
NOA	**NORSAR Array B**	**154.07**	**344**	PKPbc	**PKPbc**	**14 34 11.9**	**-0.8**
	0.4nm,0.8s,baz=37,slow=1.9,SNR=2.2						
TORD	**Torodi Ar. Bea**	**156.16**	**191**	PKP	**PKPdf**	**14 34 09.1**	**+0.2**
	0.5nm,0.9s,baz=192,slow=3.6,SNR=2.2						
TORD				PKPab	**PKPab**	**14 34 35.6**	**-0.7**
	1.5nm,0.9s,baz=171,slow=3.0,SNR=5.8						
KOLS	**Kolonicke sedl**	**157.98**	**312**	*e*PKP	PKPab	14 34 49.6	+6.2
CRVS	**Cervenica-Dubn**	**158.48**	**312**	*e*PKP	**PKPab**	**14 34 47.6**	**+2.0**
VYHS	**Vyhne**	**160.21**	**313**	*e*PKP	PKPab	14 35 00.9	+7.7
DPC	**Dobruska-Polom**	**160.59**	**321**	*e*PKPAB	PKPab	14 35 02.3	+7.6
BRG	**Berggiesshubel**	**161.41**	**325**	*e*P	PKPab	14 35 05.5	+7.3
	8.2nm,1.3s						
CLL	**Collm**	**161.53**	**327**	⇓*i*PKPab	PKPab	14 35 05.9	+7.2
CLL				LmV		15 55 00.0	
	comp=Z,100nm,19.9s						
PRU	**Pruhonice**	**161.71**	**322**	*e*PKPAB	**PKPab**	**14 35 00.1**	**+0.5**
PRU				*ex*		14 35 07.0	
NKC	**Novy Kostel**	**162.54**	**325**	*e*PKPAB	**PKPab**	**14 35 04.8**	**+1.6**
KHC	**Kasperske Hory**	**162.74**	**321**	*e*PKPAB	**PKPab**	**14 35 06.1**	**+1.9**
KHC				*ex*		14 35 10.6	
GERES	**GERESS Array B**	**162.86**	**320**	PKPab	**PKPab**	**14 35 06.2**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=51,slow=3.9,SNR=3.0						

IDC 08 14:14:37.3±4.7, 12.54S×14.53W, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/23, mbtmp3.9/5, MS3.4/3, Ms1 3.4/3, ms1mx2.9/23, Error ellipse: s-maj=238.9km s-min=93.7km az=124.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H10S2	**ASCENSION HYDR**	**3.56**	**358**	T	T	14 19 09.8	
	baz=184,slow=74,SNR=52						
H10S3	**ASCENSION HYDR**	**3.57**	**358**	T	T	14 19 09.4	
	baz=184,slow=74,SNR=48						
H10S1	**ASCENSION HYDR**	**3.58**	**358**	T	T	14 19 09.8	
	baz=184,slow=74,SNR=22						
DBIC	**Dimbokro**	**21.37**	**27**	P	P	14 19 26.4	-0.1
	3.1nm,0.9s,baz=212,slow=13,SNR=3.1						
DBIC				LR	LR	14 25 47.7	
	comp=Z,46nm,19.8s,baz=152,slow=31						
H09N1	**TRISTAN DA CUN**	**24.50**	**176**	T	T	14 46 02.9	
	SNR=29						
TORD	**Torodi Ar. Bea**	**30.17**	**33**	P	P	14 20 49.5	+0.1
	0.8nm,0.9s,baz=209,slow=9.0,SNR=3.2						
TORD				LR	LR	14 31 22.3	
	comp=Z,42nm,19.6s,baz=265,slow=33						
CPUP	**Villa Florida**	**42.43**	**245**	LR	LR	14 38 49.1	
	comp=Z,157nm,18.6s,baz=129,slow=34						
BRTR	**Keskin Array B**	**68.60**	**38**	P	P	14 25 42.4	0.0
	0.4nm,0.5s,baz=246,slow=5.7,SNR=3.9						
AKASG	**Malin Array Be**	**73.62**	**27**	P	P	14 26 12.4	0.0
	0.2nm,0.3s,baz=237,slow=5.1,SNR=4.6						
FINES	**FINESS Array B**	**80.39**	**18**	P	P	14 26 50.3	0.0
	1.2nm,0.7s,baz=202,slow=10,SNR=3.1						

*ISCJB **08** 14:25:24.1±0.6, 32.24N±0.02×115.20W±0.03, h11km±4km, Error ellipse: s-maj=4.4km s-min=3.9km az=35.1*

*NEIC **08** 14:25:24.8, 32.20N×115.24W, h2km, MD3.9(MEX), ML3.7(PAS), ML3.8(ECX), After PAS.*

*MEX **08** 14:25:26.6±0.3, 32.31N×115.12W, h15km±5km, MD3.9*

*ECX **08** 14:25:26.1±0.5, 32.23N×115.27W, h6km, MD3.6, ML3.8*

ISC 08 14:25:24.2±1.0, 32.20N±0.02×115.24W±0.03, h8km±9km, n28, σ1°13/44, 4C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.21**	**10**	*e*P	**Pg**	**14 25 29.6**	**+1.2**
MBIG				*e*S	**Sg**	**14 25 31.9**	**+0.6**
CPBX	**Cerro Prieto**	**0.22**	**346**	*e*P9	**Pg**	**14 25 27.5**	**-1.2**
CPBX				*e*S	**Sg**	**14 25 30.1**	**-1.6**
EMSC	**East Mesa**	**0.58**	**22**	*e*P2	**Pg**	**14 25 36.3**	**+0.9**
SGL	**Mount Signal**	**0.61**	**318**	⇓*i*P	**Pg**	**14 25 36.0**	**+0.1**
ERPC	**Erpec Place**	**0.65**	**327**	⇓*i*P	**Pg**	**14 25 37.4**	**+0.7**
RDX	**Rancho Dawling**	**0.65**	**246**	*e*P	**Pb**	**14 25 37.7**	**-0.3**
RDX				*e*S	**Sg**	**14 25 46.4**	**+1.0**
RDX				⇑*e*		14 25 46.9	
	comp=N,3µm,0.4s						
COA	**Coachella**	**0.67**	**9**	⇓*i*P	**Pg**	**14 25 37.4**	**+0.3**
YMD	**Yuma Desert**	**0.69**	**59**

0.3nm,0.5s,baz=326,slow=4.0,SNR=3.9
STKA Stephens Creek 65.24 136 P **P** 14 48 55.1 +0.3
0.8nm,0.5s,baz=292,slow=8.0,SNR=3.9
FINES FINESS Array B 66.67 331 P P 14 49 15.0 +11
1.7nm,0.8s,baz=105,slow=5.3,SNR=4.9
GERES GERESS Array B 72.50 317 P P 14 49 50.0 +10
0.2nm,0.3s,baz=76,slow=5.6,SNR=5.8
TORD Torodi Ar. Bea 88.24 283 P P 14 51 13.1 +8.1
0.3nm,0.8s,baz=83,slow=4.2,SNR=2.6

WEL 08 14:41:44.0±0.2, 36.66S×177.07E, h5km, ML4.0/7, 2D,
Error ellipse: s-maj=2.2km s-min=1.3km az=0.0, Off
east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.87**	**174**	*e*P*	Pg	14 41 59.8	-1.0
WIZ				S*	Sg	14 42 11.1	-1.0
MYRZ	**Mayor Island**	**0.91**	**227**	P*	Pg	14 42 01.2	-0.4
MYRZ				S*	Sg	14 42 13.4	-0.1
KUZ	**Kuaotunu**	**1.09**	**265**	P*	Pg	14 42 04.5	-0.5
KUZ				S*	Sg	14 42 18.5	-0.6
KUZ				AML	AML	14 42 19.0	
KUZ				AML	AML	14 42 19.9	
KUZ				AML	AML	14 42 20.2	
HAZ	**Te Kaha**	**1.23**	**153**	⇓P*	Pg	14 42 05.5	-2.2
HAZ				S*	Sg	14 42 21.1	-2.5
TGRZ	**Tauranga**	**1.25**	**211**	P*	Pg	14 42 06.2	-1.9
TGRZ				AML	AML	14 42 30.8	
TGRZ				AML	AML	14 42 36.3	
OPRZ	**Ohinepanea**	**1.25**	**199**	P*	Pg	14 42 05.7	-2.4
MXZ	**Matakaoa Point**	**1.33**	**133**	P*	Pn	14 42 07.1	-2.2
MXZ				S*	Sb	14 42 22.9	-4.0
MXZ				AML	AML	14 42 24.4	
WMGZ	**Waiomatatini S**	**1.57**	**138**	PN	Pn	14 42 12.5	-0.2
MKAZ	**Moumakai**	**1.59**	**253**	PN	Pn	14 42 11.8	-1.1
MKAZ				AML	AML	14 42 35.4	
MKAZ				AML	AML	14 42 35.4	
URZ	**Urewera**	**1.60**	**179**	*e*P*	Pn	14 42 10.6	-2.3
URZ				AML	AML	14 42 42.5	
URZ				AML	AML	14 42 47.0	
TOZ	**Tahuroa Road**	**1.65**	**229**	P*	Pn	14 42 12.3	-1.3
PUZ	**Puketiti**	**1.69**	**147**	*e*PN	Pn	14 42 13.1	-1.3
PUZ				AML	AML	14 42 44.0	
PUZ				AML	AML	14 42 46.1	
MWZ	**Matawai**	**1.71**	**168**	P*	Pn	14 42 12.1	-2.5
MWZ				AML	AML	14 42 42.6	
MWZ				AML	AML	14 42 51.0	
ETAZ	**East Tamaki Re**	**1.75**	**260**	PN	Pn	14 42 14.8	-0.3
KBAZ	**Karaka Road Bo**	**1.81**	**255**	*e*PN	Pn	14 42 15.4	-0.4
RVAZ	**Riverhead Bore**	**2.01**	**266**	*e*PN	Pn	14 42 18.3	-0.3
TLZ	**Tolley Road**	**2.06**	**216**	⇓P*	Pn	14 42 18.1	-1.3
RIGZ	**Rimuhau**	**2.11**	**165**	PN	Pn	14 42 20.8	+0.7
HIZ	**Hauiti**	**2.56**	**223**	PN	Pn	14 42 25.3	-0.9

*MOS **08** 14:46:40.7±1.9, 17.88S×175.21W, h167km, mb5.0/11,*
Error ellipse: s-maj=11.9km s-min=10.4km az=160.1
*ISCJB **08** 14:46:42.9±1.2, 17.89S±0.04×175.13W±0.04,*
h194km±12km, mb4.8/78, Error ellipse: s-maj=7.8km
s-min=5.4km az=139.9
*NEIC **08** 14:46:46.1±0.2, 17.94S×175.22W, mb4.9/39, Error*
ellipse: s-maj=9.5km s-min=5.9km az=135.0
*GCMT **08** 14:46:46.2±0.4, 17.99S×174.75W, h242km±4km,*
MW5.0/68, Moment Tensor Solution. s16,c19; s68,c81;
Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.07±.17;
$M_{\theta\theta}$0.97±.22; $M_{\phi\phi}$0.10±.20; $M_{r\theta}$0.09±.16; $M_{r\phi}$1.85±.13;
$M_{\theta\phi}$-3.07±.14; Best double couple: $M_0$3.70500×10^{16}
NP1:ϕ_s10.00000°,δ80.00000°,λ-122.00000°. NP2:
ϕ_s266.00000°,δ33.00000°,λ-18.00000°. Principal axes:
T 3.4650, Plg28.0000°, Azm126.0000°; N 0.4820,
Plg32.0000°, Azm16.0000°; P -3.9450, Plg45.0000°,
Azm248.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s.
*IDC **08** 14:46:46.6±0.7, 17.98S×175.11W, h219km±6km, mb4.1/17,*
mb1 4.3/18, mb1mx4.3/20, mbtmp4.7/18 Error ellipse:
s-maj=12.8km s-min=8.6km az=115.0
*BJI **08** 14:46:47.9, 17.53S×174.85W, h234km, mb4.9/37,*
mB5.0/24
*SZGRF **08** 14:46:49.9, 17.87S×175.09W, h240km, Tonga Islands*
ISC 08 14:46:47.6±0.4, 17.94S±0.06×175.02W±0.06,
h235km±3km, h234km; pP-P, n357, σ1s39/389, mb4.8/78,
50C-21D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.96**	**104**	P	**Pn**	**14 48 00.1**	**-2.4**
	baz=4.8,SNR=35						
RAR	**Rarotonga**	**14.73**	**105**	*e*P	**Pn**	**14 50 02.9**	**-2.3**
RAR	**Rarotonga**	**14.73**	**105**	*e*Pn	**Pn**	**14 50 02.9**	**-2.3**
DZM	**Mont Dzumac**	**17.90**	**254**	*e*P	**Pn**	**14 50 42.5**	**-0.4**
	183nm,1.0s						
DZM	**Mont Dzumac**	**17.90**	**254**	P	**P**	**14 50 39.2**	**-1.1**
	1.8nm,0.3s,baz=90,slow=24,SNR=26						
MXZ	**Matakaoa Point**	**20.41**	**195**	*e*PN	**P**	**14 51 08.6**	**+1.6**
KUZ	**Kuaotunu**	**20.44**	**202**	PN	**P**	**14 51 09.4**	**+2.1**
WMGZ	**Waiomatatini S**	**20.63**	**195**	*e*PN	**P**	**14 51 10.0**	**+0.7**
PUZ	**Puketiti**	**20.91**	**195**	*e*PN	**P**	**14 51 12.2**	**-0.1**
PUZ				*e*SN	**S**	**14 54 48.9**	**-1.8**
MKAZ	**Moumakai**	**20.96**	**202**	*e*PN	**P**	**14 51 14.0**	**+1.1**
MWZ	**Matawai**	**21.34**	**196**	*e*PN	**P**	**14 51 16.1**	**-0.5**
URZ	**Urewera**	**21.39**	**197**	P	**P**	**14 51 15.6**	**-1.5**
	44nm,0.5s,baz=24,slow=6.8,SNR=85						
URZ				S	**S**	**14 54 59.8**	**+1.3**
	8.8nm,0.6s,baz=89,slow=21,SNR=7.6						
URZ	**Urewera**	**21.39**	**197**	*e*PN	**P**	**14 51 15.5**	**-1.5**
URZ				*e*SN	**S**	**14 54 57.7**	**-0.8**
URZ	**Urewera**	**21.39**	**197**	P	**P**	**14 51 15.6**	**-1.5**
	26nm,0.8s						
URZ				S	**S**	**14 54 59.8**	**+1.3**
RIGZ	**Rimuhau**	**21.63**	**195**	*e*PN	**P**	**14 51 20.2**	**+0.8**
KNZ	**Kokohu**	**21.95**	**195**	*e*PN	**P**	**14 51 23.3**	**+0.9**
WHTZ	**Whakaora**	**22.10**	**199**	*e*PN	**P**	**14 51 25.0**	**+1.1**
BKZ	**Black Stump Fm**	**22.41**	**198**	*e*PN	**P**	**14 51 26.9**	**+0.3**
BKZ	**Black Stump Fm**	**22.41**	**198**	*e*P	**P**	**14 51 24.7**	**-2.0**
	18nm,0.8s						
BFZ	**Birch Farm**	**23.88**	**197**	*e*PN	**P**	**14 51 40.4**	**+0.4**
BFZ	**Birch Farm**	**23.88**	**197**	*e*P	**P**	**14 51 39.3**	**-0.7**
	47nm,0.8s						
PAE	**Paea**	**24.22**	**93**	*e*P	**P**	**14 51 43.2**	**0.0**
	19nm,1.2s						
PPT2	**Papeete2**	**24.23**	**93**	*e*P	**P**	**14 51 43.9**	**+0.5**
	64nm,1.0s						
PPT2				*e*LR	LR	14 56 58.1	
	309nm,27.2s						
PPT	**Papeete**	**24.23**	**93**	P	**P**	**14 51 43.2**	**-0.1**
	53nm,0.9s,baz=168,slow=4.2,SNR=4.7						
TIAR	**Tiarei**	**24.45**	**93**	*e*P	**P**	**14 51 46.7**	**+1.3**
	20nm,0.8s						
TBI	**Tubuai**	**24.50**	**107**	*e*LR	LR	14 57 05.9	
	200nm,32.2s						
TVO	**Taravao**	**24.52**	**94**	*e*P	**P**	**14 51 47.6**	**+1.5**
	28nm,1.2s						
THZ	**Tophouse**	**25.90**	**201**	*e*PN	**P**	**14 51 58.5**	**+0.3**
KHZ	**Kahutara**	**26.28**	**199**	*e*P	**P**	**14 51 59.3**	**-2.1**
	51nm,0.9s						
RPZ	**Rata Peaks**	**28.26**	**202**	P	**P**	**14 52 18.8**	**-0.4**
	10nm,0.5s,baz=332,slow=4.0,SNR=5.0						
RPZ	**Rata Peaks**	**28.26**	**202**	P	**P**	**14 52 18.8**	**-0.4**
	711nm,3.0s						
WHZ	**Wether Hill Ro**	**31.26**	**203**	*e*P	**P**	**14 52 45.9**	**+0.4**
	934nm,2.6s						
EIDS	**Eidsvold**	**32.30**	**251**	⇑P	**P**	**14 52 54.4**	**-0.4**
	baz=32,SNR=7.1						
EIDS	**Eidsvold**	**32.30**	**251**	*e*P	**P**	**14 52 52.5**	**-2.3**
	12nm,0.8s						
ARMA	**Armidale**	**32.74**	**241**	P	**P**	**14 52 59.1**	**+0.4**
	baz=33,SNR=50						
ARMA	**Armidale**	**32.74**	**241**	*e*P	**P**	**14 52 56.7**	**-2.1**
	51nm,0.7s						
MGCD	**Mangrove Creek**	**33.95**	**237**	⇓P	**P**	**14 53 09.5**	**+0.5**
	baz=34,SNR=4.5						
RMQ	**Roma**	**34.50**	**249**	⇓P	**P**	**14 53 14.1**	**+0.2**
	baz=35,SNR=51						
CNB	**Canberra Magne**	**36.00**	**234**	P	**P**	**14 53 26.6**	**0.0**
	baz=36,SNR=22						
CAN	**Canberra**	**36.28**	**234**	*e*P	**P**	**14 53 26.3**	**-2.6**
CAN				pmax	pmax		
	comp=Z,81nm,1.6s						
CAN	**Canberra**	**36.28**	**234**	*e*P	**P**	**14 53 26.3**	**-2.6**
	comp=Z,81nm,1.6s						
CTAO	**Charters Tower**	**36.62**	**260**	*e*P	**P**	**14 53 30.5**	**-1.5**
CTAO				pmax	pmax		
	comp=Z,36nm,0.6s						
CTAO	**Charters Tower**	**36.62**	**260**	*e*P	**P**	**14 53 30.4**	**-1.5**
	comp=Z,36nm,0.6s						
PMG	**Port Moresby**	**37.66**	**278**	*e*P	**P**	**14 53 39.5**	**-1.1**
PMG				pmax	pmax		
	comp=Z,185nm,0.9s						
PMG	**Port Moresby**	**37.66**	**278**	*e*P	**P**	**14 53 39.5**	**-1.1**
	comp=Z,185nm,0.9s						
CMSA	**Cobar Meteorol**	**37.96**	**242**	P	**P**	**14 53 42.8**	**-0.2**
	baz=38,SNR=96						
QLP	**Quilpie**	**38.55**	**250**	P	**P**	**14 53 47.3**	**-0.6**
	baz=39,SNR=88						
TOO	**Toolangi**	**39.68**	**232**	P	**P**	**14 53 57.1**	**-0.1**
	baz=40,SNR=26						
COEN	**Coen**	**40.33**	**269**	⇓P	**P**	**14 54 01.4**	**-1.4**
	baz=40,SNR=8.5						
WAKE	**Wake Island**	**41.14**	**333**	*e*P	**P**	**14 54 07.8**	**-1.4**
STKA	**Stephens Creek**	**41.45**	**242**	P	**P**	**14 54 11.1**	**-0.7**
	comp=Z,86nm,0.9s,baz=90,slow=9.3,SNR=147						
STKA	**Stephens Creek**	**41.45**	**242**	*e*P	**P**	**14 54 09.7**	**-2.1**
STKA				pmax	pmax		
	comp=Z,20nm,1.0s						
STKA	**Stephens Creek**	**41.45**	**242**	⇑P	**P**	**14 54 12.1**	**+0.4**
	baz=42,SNR=122						
STKA	**Stephens Creek**	**41.45**	**242**	*e*P	**P**	**14 54 09.7**	**-2.1**
	comp=Z,20nm,1.0s						
QIS	**Mount Isa**	**42.82**	**259**	⇑P	**P**	**14 54 22.5**	**-0.4**
	baz=43,SNR=8.7						
BBOO	**Buckleboo**	**46.22**	**242**	⇓P	**P**	**14 54 49.3**	**-0.3**
	baz=46,SNR=52						
BBOO	**Buckleboo**	**46.22**	**242**	*e*P	**P**	**14 54 49.2**	**-0.4**
WRAB	**Tennant Creek**	**47.79**	**259**	*e*P	**P**	**14 55 00.5**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,54nm,0.6s						
WRAB	**Tennant Creek**	**47.79**	**259**	*e*P	**P**	**14 55 00.5**	**-1.4**
	comp=Z,54nm,0.6s						
WRA	**Warramunga Arr**	**47.80**	**259**	P	**P**	**14 55 00.9**	**-1.0**
	comp=Z,46nm,0.5s,baz=97,slow=6.3,SNR=878						
WRA				PcP	**PcP**	**14 56 27.6**	**+0.6**
	comp=Z,3.6nm,0.7s,baz=95,slow=3.7,SNR=3.0						
AS31	**Alice Springs**	**47.89**	**254**	*e*P	**P**	**14 55 02.4**	**-0.2**
ASAR	**Alice Springs**	**47.89**	**254**	P	**P**	**14 55 02.1**	**-0.5**
	comp=Z,242nm,0.7s,baz=89,slow=8.1,SNR=1992						
ASAR				PcP	**PcP**	**14 56 28.2**	**+0.8**
	comp=Z,3.3nm,0.7s,baz=95,slow=5.7,SNR=3.0						
ASAR				S	**S**	**15 01 39.8**	**-2.1**
	comp=Z,1.6nm,0.8s,baz=90,slow=15,SNR=7.7						
KDU	**Kakadu**	**50.78**	**268**	⇑P	**P**	**14 55 23.9**	**-0.6**
	baz=51,SNR=20						
WRKA	**Warakurna**	**52.91**	**252**	P	**P**	**14 55 39.8**	**-0.3**
	baz=53,SNR=304						
FORT	**Forrest**	**52.91**	**245**	⇓P	**P**	**14 55 39.4**	**-0.6**
	baz=53,SNR=20						
FORT	**Forrest**	**52.91**	**245**	*e*P	**P**	**14 55 37.9**	**-2.1**
	comp=Z,83nm,0.8s						
KNRA	**Kununurra**	**53.70**	**263**	⇑P	**P**	**14 55 45.3**	**-0.6**
	baz=54,SNR=30						
KMBL	**Kambalda**	**58.20**	**244**	⇑P	**P**	**14 56 16.7**	**-0.9**
	baz=58,SNR=4.8						
SOEI	**Soe**	**59.30**	**269**	P	**P**	**14 56 27.0**	**+1.5**
SOEI	**Soe**	**59.30**	**269**	P	**P**	**14 56 26.8**	**+1.3**
	baz=60,SNR=9.6						
SOEI	**Soe**	**59.30**	**269**	P	P	14 56 22.0	-3.5
	comp=Z,138nm,0.8s						
SANI	**Sanana**	**59.94**	**278**	P	**P**	**14 56 29.4**	**-0.3**
	comp=Z,24nm,1.2s						
SBA	**Scott Base**	**60.61**	**184**	*e*P	**P**	**14 56 33.9**	**+0.6**
SBA				pmax	pmax		
	comp=Z,25nm,1.7s						
SBA	**Scott Base**	**60.61**	**184**	*e*P	**P**	**14 56 33.9**	**+0.6**
	comp=Z,25nm,1.7s						
VNDA	**Vanda**	**60.71**	**186**	P	**P**	**14 56 34.8**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=3.8,slow=7.2,SNR=13						
VNDA	**Vanda**	**60.71**	**186**	*e*P	**P**	**14 56 34.8**	**+0.9**
VNDA				pmax	pmax		
	comp=Z,56nm,2.8s						
VNDA	**Vanda**	**60.71**	**186**	*e*P	**P**	**14 56 34.8**	**+0.9**
	comp=Z,56nm,2.8s						
MBWA	**Marble Bar**	**61.19**	**255**	*e*P	**P**	**14 56 36.2**	**-1.9**
	comp=Z,119nm,1.4s						
MEEK	**Meekatharra**	**61.44**	**249**	⇑P	**P**	**14 56 38.9**	**-0.9**
	baz=62,SNR=18						
EDFI	**Emo, Flores**	**62.02**	**269**	P	**P**	**14 56 43.4**	**-0.4**
	comp=Z,67nm,1.0s						
RKGY	**Rocky Gully**	**62.15**	**240**	⇓P	**P**	**14 56 44.5**	**+0.2**
	baz=62,SNR=5.5						
BLDU	**Ballidu**	**62.68**	**244**	⇑P	**P**	**14 56 47.4**	**-0.5**
	baz=63,SNR=42						
MORW	**Morawa**	**63.42**	**246**	⇑P	**P**	**14 56 52.2**	**-0.6**
	baz=64,SNR=9.6						
BNSI	**Bone**	**64.76**	**274**	P	**P**	**14 57 02.7**	**+1.0**
	comp=Z,41nm,1.1s						
SPSI	**Sidrap Palu**	**65.22**	**274**	P	**P**	**14 57 04.9**	**+0.3**
	comp=Z,18nm,0.8s						
GIRL	**Giralia**	**65.97**	**253**	P	**P**	**14 57 10.5**	**+1.2**
	baz=66,SNR=7.9						
JAGI	**Jajag, Banyuwa**	**69.27**	**268**	P	**P**	**14 57 29.2**	**-0.8**
JAGI	**Jajag, Banyuwa**	**69.27**	**268**	⇑P	**P**	**14 57 28.9**	**-1.1**
	baz=69,SNR=9.9						
MJAR	**Matsushiro Arr**	**69.90**	**321**	P	**P**	**14 57 33.5**	**+0.1**
	comp=Z,14nm,0.8s,baz=160,slow=6.6,SNR=59						
MAJO	**Matsushiro**	**69.91**	**321**	*e*P	**P**	**14 57 31.5**	**-1.9**
MAJO				pmax	pmax		
	comp=Z,22nm,1.0s						
MAJO	**Matsushiro**	**69.91**	**321**	*e*P	**P**	**14 57 31.4**	**-1.9**
	comp=Z,22nm,1.0s						
MAT	**Matsushiro**	**69.91**	**321**	P	**P**	**14 57 33.5**	**+0.1**
KKM	**Kota Kinabalu**	**71.89**	**283**	⇑P	**P**	**14 57 46.4**	**+0.5**
	baz=72,SNR=6.2						
KKM	**Kota Kinabalu**	**71.89**	**283**	*e*P	**P**	**14 57 45.3**	**-0.7**
QSPA	**South Pole Qui**	**72.12**	**180**	P	**P**	**14 57 47.1**	**+0.7**
	comp=Z,4.2nm,0.6s,baz=66,slow=1.5,SNR=32						
JNU	**Nakatsue**	**72.43**	**315**	*e*P	**P**	**14 57 49.0**	**+0.4**
	comp=Z,16nm,0.7s						
UGM	**Wanagama**	**72.87**	**267**	P	**P**	**14 57 51.8**	**+0.2**
	baz=73,SNR=21						
SMRI	**Semarang**	**73.19**	**268**	P	**P**	**14 57 51.5**	**-2.0**
	comp=Z,73nm,0.8s						
PBKI	**Pangkalan Bun**	**73.30**	**273**	P	**P**	**14 57 57.2**	**+3.1**
BTM	**Bintulu**	**73.84**	**279**	⇑P	**P**	**14 57 58.2**	**+1.0**
STKI	**Sintang**	**74.34**	**275**	P	**P**	**14 58 01.6**	**+1.4**
	comp=Z,62nm,1.0s,comp=Z,10um						
SBUM	**Sibu**	**74.40**	**278**	*e*P	**P**	**14 57 59.9**	**-0.6**
	comp=Z,10nm,0.8s						
TWG	**Pinlang**	**74.44**	**301**	*e*P	**P**	**14 57 58.7**	**-1.8**
	comp=Z,60nm,0.6s						
YULB	**Yu-li**	**74.52**	**301**	*e*P	**P**	**14 58 00.2**	**-0.8**
	comp=Z,10nm,0.6s						
PETK	**Petropavlovsk-**	**74.58**	**343**	P	**P**	**14 58 01.1**	**+0.5**
	comp=Z,12nm,0.7s,baz=124,slow=9.6,SNR=21						
SSLB	**Suanglung**	**74.98**	**301**	*e*P	**P**	**14 58 01.3**	**-2.4**
	comp=Z,19nm,0.5s						
TPUB	**Ta-pu**	**75.02**	**301**	*e*P	**P**	**14 58 02.5**	**-1.3**
	comp=Z,83nm,0.9s						
KSDAG	**Daegu**	**75.30**	**316**	P	**P**	**14 58 06.8**	**+1.6**
	SNR=6.2						
KSDAG	**Daegu**	**75.30**	**316**	P	**P**	**14 58 06.8**	**+1.6**
	SNR=6.2						
CISI	**Cisompet, Garu**	**75.55**	**267**	P	**P**	**14 58 06.5**	**-0.7**
	baz=76,SNR=5.7						
CISI	**Cisompet, Garu**	**75.55**	**267**	*e*P	**P**	**14 58 06.4**	**-0.8**
CMB	**Columbia Colle**	**75.68**	**42**	*e*P	**P**	**14 58 08.2**	**+0.8**
CMB				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CMB	**Columbia Colle**	**75.68**	**42**	*e*P	**P**	**14 58 08.2**	**+0.8**
	comp=Z,4.1nm,1.0s						
KSGOS	**Gosan**	**75.79**	**312**	P	**P**	**14 58 06.8**	**-1.1**
	SNR=6.4						
KSGOS	**Gosan**	**75.79**	**312**	P	**P**	**14 58 06.8**	**-1.1**
	SNR=6.4						
KSM	**Kuching**	**75.89**	**276**	⇓P	**P**	**14 58 10.3**	**+1.3**
	baz=76,SNR=45						
KSM	**Kuching**	**75.89**	**276**	*e*P	**P**	**14 58 08.9**	**-0.1**
	comp=Z,80nm,1.0s						
LEM	**Lembang**	**75.94**	**267**	P	**P**	**14 58 10.1**	**+0.6**
	baz=76,SNR=7.3						
KSCPR	**CHUPUNGNYEONG**	**76.17**	**316**	P	**P**	**14 58 11.5**	**+1.4**
	SNR=8.5						
KSCPR	**CHUPUNGNYEONG**	**76.17**	**316**	P	**P**	**14 58 11.5**	**+1.4**
	SNR=8.5						
KSKWJ	**Gwangju**	**76.23**	**314**	P	**P**	**14 58 12.4**	**+2.0**
	SNR=10						
KSKWJ	**Gwangju**	**76.23**	**314**	P	**P**	**14 58 12.4**	**+2.0**
	SNR=10						
KSBON	**Boeun**	**76.44**	**316**	P	**P**	**14 58 13.2**	**+1.6**
	SNR=13						
KSJEU	**Jeongeup**	**76.46**	**315**	P	**P**	**14 58 13.0**	**+1.3**
	SNR=22						
KSJEU	**Jeongeup**	**76.46**	**315**	P	**P**	**14 58 13.0**	**+1.3**
	SNR=22						
KSCHJ	**Chungju**	**76.54**	**316**	P	**P**	**14 58 13.7**	**+1.6**
	SNR=8.1						
KSCHJ	**Chungju**	**76.54**	**316**	P	**P**	**14 58 13.7**	**+1.6**
	SNR=8.1						
YBH	**Yreka Blue Hor**	**76.55**	**38**	*e*P	**P**	**14 58 13.1**	**+0.9**
YBH				pmax	pmax		
	comp=Z,19nm,1.8s						
YBH	**Yreka Blue Hor**	**76.55**	**38**	*e*P	**P**	**14 58 13.1**	**+0.9**
	comp=Z,19nm,1.8s						
KSDGY	**Daegwallycong**	**76.55**	**317**	P	**P**	**14 58 14.5**	**+2.2**
	SNR=7.0						
KSDGY	**Daegwallycong**	**76.55**	**317**	P	**P**	**14 58 14.5**	**+2.2**
	SNR=7.0						
KSGUS	**GUNSAN**	**76.86**	**315**	P	**P**	**14 58 15.5**	**+1.6**
	SNR=7.1						
KSGUS	**GUNSAN**	**76.86**	**315**	P	**P**	**14 58 15.5**	**+1.6**
	SNR=7.1						
KSCEA	**Cheonan**	**76.98**	**316**	P	**P**	**14 58 16.2**	**+1.6**
	SNR=11						
KSCEA	**Cheonan**	**76.98**	**316**	P	**P**	**14 58 16.2**	**+1.6**
	SNR=11						
KSICN	**Icheon**	**77.14**	**316**	P	**P**	**14 58 17.5**	**+2.1**
	SNR=14						
KSICN	**Icheon**	**77.14**	**316**	P	**P**	**14 58 17.5**	**+2.1**
	SNR=14						
KSCHC	**Chuncheon**	**77.16**	**317**	P	**P**	**14 58 17.9**	**+2.3**
	SNR=9.5						
NVAR	**Mina Array Bea**	**77.24**	**42**	P	**P**	**14 58 17.5**	**+1.2**
	comp=Z,2.4nm,0.7s,baz=225,slow=8.9,SNR=18						
NVAR				pP	**pP**	**14 59 09.7**	**-2.2**
	comp=Z,0.9nm,0.8s,baz=236,slow=6.2,SNR=3.1						
KSCWO	**Cheorwon**	**77.53**	**317**	P	**P**	**14 58 20.4**	**+2.8**
	SNR=19						
KSCWO	**Cheorwon**	**77.53**	**317**	P	**P**	**14 58 20.4**	**+2.8**
	SNR=8.4						
KSSEO	**Seoul**	**77.58**	**316**	P	**P**	**14 58 20.4**	**+2.5**
	SNR=8.4						
KSSEO	**Seoul**	**77.58**	**316**	P	**P**	**14 58 20.4**	**+2.5**
	SNR=8.4						
TPH	**Tonopah**	**77.74**	**43**	*e*P	**P**	**14 58 19.1**	**+0.1**
TPH				pmax	pmax		
	comp=Z,14nm,1.6s						
TPH	**Tonopah**	**77.74**	**43**	*e*P	**P**	**14 58 19.1**	**+0.1**
	comp=Z,14nm,1.6s						
TPNV	**Topopah Spring**	**77.75**	**45**	*e*P	**P**	**14 58 19.8**	**+0.8**
TPNV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TPNV	**Topopah Spring**	**77.75**	**45**	*e*P	**P**	**14 58 19.8**	**+0.8**
	comp=Z,2.9nm,0.8s						
YNCB	**YEONCHEON**	**77.89**	**317**	P	**P**	**14 58 21.9**	**+2.3**
	SNR=14						
KSMUS	**Musan**	**77.91**	**317**	P	**P**	**14 58 22.0**	**+2.3**
	SNR=16						
KSGAH	**Ganghwa**	**78.02**	**316**	P	**P**	**14 58 22.2**	**+2.0**
	SNR=5.9						
USRK	**Ussuriysk Ar.**	**78.50**	**324**	P	**P**	**14 58 23.9**	**+1.1**
	comp=Z,2.9nm,0.7s,baz=132,slow=4.1,SNR=7.0						
TUC	**Tucson**	**79.19**	**51**	*e*pP	pP	14 59 23.2	+0.4
HABR	**Khabarovsk**	**79.67**	**329**	*e*P	**P**	**14 58 28.2**	**-0.8**
HABR				*e*		14 58 35.0	
HABR				*e*		15 01 31.7	
HABR				*e*		15 03 22.1	
HABR				*e*S	**S**	**15 08 09.5**	**-1.8**
HABR				*e*		15 08 28.7	
HABR						15 09 19.8	
HABR				*e*SS	**SS**	**15 13 23.6**	**-2.3**
HABR				*e*SSS	SSS	15 16 51.4	
HABR				pmax	pmax		
	comp=E,10.0nm,1.0s						
HABR				pmax	pmax		
	comp=Z,22nm,2.0s						
HABR				pmax	pmax		
	comp=N,75nm,2.0s						
HABR				MLR	MLR		
	comp=Z,54nm,19.0s						
I07A	**Izee**	**79.85**	**37**	*e*P	**P**	**14 58 31.8**	**+1.5**
MDJ	**Mudanjiang**	**80.10**	**323**	P	**P**	**14 58 33.0**	**+1.6**
MDJ				PMZ			
	comp=Z,9.0nm,1.2s						
MDJ				PMZ			
	comp=Z,42nm,4.4s						
NJ2	**Nanjing**	**80.47**	**308**	*e*P	**P**	**14 58 35.0**	**+1.3**
NJ2				PMZ			
	comp=Z,40nm,0.8s						
G08A	**Pilot Rock**	**80.89**	**36**	*e*pP	pP	14 59 31.4	-0.5
MNAI	**Manna**	**81.09**	**268**	⇓P	**P**	**14 58 37.6**	**+0.2**
	baz=81,SNR=3.9						
DLV	**T Lat**	**81.11**	**286**	*e*P	**P**	**14 58 39.6**	**+1.9**
MVU	**Marysvale**	**81.28**	**45**	*e*pP	pP	14 59 34.1	-0.1
CN2	**Changchun**	**82.05**	**321**	*e*P	P	14 58 45.7	+4.0
CN2				*e*pP	pP	14 59 43.0	+5.1
CN2				*e*S	**S**	**15 08 40.9**	**+4.8**
CN2				PMZ			
	comp=Z,10.0nm,1.0s						
CN2				PMZ			
	comp=Z,

SKNT	Sakolnakorn	86.92	289	P	P	14 59 13.7 +7.0
ENH	Enshi	86.98	303	*e*P	P	14 59 03.7 -3.0
	comp=Z,6.7nm,0.6s					
CHBT	CHBT	87.04	284	P	P	14 59 10.2 +2.9
	comp=Z,13nm,1.6s					
GYA	Guiyang	87.87	299	*e*P	P	14 59 12.0 +0.8
GYA				pP	pP	15 00 10.2 +2.0
GYA				sP	sP	15 00 34.4 +1.7
GYA				PP	PP	15 02 42.8 +1.8
GYA				SKS	SKSac	15 09 15.0 -2.3
GYA				S	S	15 09 31.6 -2.6
GYA				PMZ		
	comp=Z,20nm,1.0s					
GSI	Gunungsitoli	87.93	272	P	P	14 59 13.8 +2.2
	comp=Z,135nm,1.2s					
GSI	Gunungsitoli	87.93	272	P	P	14 59 11.4 -0.2
	comp=Z,150nm,1.3s					
TRTT	Trang	87.94	279	P	P	14 59 14.0 +2.4
	comp=Z,72nm,0.9s					
CHAI	Chaiyaphum	88.38	287	P	P	14 59 18.4 +4.8
	comp=Z,2.5nm,0.7s					
XAN	Xi'an	88.86	306	P	P	14 59 17.8 +2.3
XAN				PMZ		
	comp=Z,7.0nm,0.2s					
XAN				PMZ		
	comp=Z,21nm,5.7s					
PBKT	Sadao Pong	89.52	287	P	P	14 59 21.4 +2.5
	comp=Z,8.9nm,1.3s					
HHC	Hu-ho-hao-te	89.62	313	*e*P	P	14 59 18.8 -0.2
HHC				pP	pP	15 00 18.8 +2.6
HHC				PP	PP	15 02 55.1 +0.5
HHC				S	S	15 09 48.1 -1.8
HHC				SS	SS	15 15 55.3 +2.7
HHC				PMZ		
	comp=Z,26nm,1.1s					
HHC				PMZ		
	comp=Z,95nm,4.8s					
UTTA	Uttaradit	90.27	288	P	P	14 59 25.4 +3.1
	comp=Z,3.5nm,0.9s					
NANT	Nan	90.47	290	P	P	14 59 25.1 +1.8
	comp=Z,36nm,0.9s					
VNA3	Neumayer Olymp	90.47	175	P	P	14 59 23.3 +0.9
UTHA	Uthaitani	90.58	286	P	P	14 59 26.3 +2.4
	comp=Z,4.9nm,0.8s					
YAK	Yakutsk	90.83	337	*i* P	P	14 59 23.1 -0.8
YAK				pmax	pmax	
	comp=Z,10.0nm,0.8s					
VNA2	Neumayer--Watz	90.95	176	P	P	14 59 26.1 +1.5
	baz=199,slow=3.3					
CRAI	Chiangrai	91.22	291	P	P	14 59 24.9 -1.9
	comp=Z,43nm,1.1s					
LAMP	Lampang	91.34	289	P	P	14 59 29.7 +2.3
	comp=Z,11nm,0.8s					
CD2	Chengdu	91.81	302	*e*P	P	14 59 31.4 +2.1
CD2				pP	pP	15 00 29.9 +3.3
CD2				PP	PP	15 03 12.9 +0.8
CD2				SKS	SKSac	15 09 36.9 -2.9
CD2				S	S	15 10 04.3 -5.8
CD2				PMZ		
	comp=Z,10.0nm,1.4s					
CD2				PMZ		
	comp=Z,90nm,7.1s					
CMAR	Chiang Mai Arr	91.94	289	P	P	14 59 30.4 +0.3
	comp=Z,5.9nm,0.7s,baz=106,slow=2.6,SNR=37					
CMMT	Chiang Mai	92.05	289	P	P	14 59 32.2 +1.6
	comp=Z,20nm,0.8s					
CHTO	Chiang Mai	92.05	289	P	P	14 59 32.3 +1.7
	comp=Z,68nm,0.8s					
CHTO	Chiang Mai	92.05	289	*e*P	P	14 59 29.7 -1.0
CHTO				pmax	pmax	
	comp=Z,10.0nm,0.8s					
CHTO	Chiang Mai	92.05	289	*e*P	P	14 59 29.7 -1.0
	comp=Z,10nm,0.8s					
CMAI	Chiengmai2	92.31	290	P	P	14 59 33.8 +1.8
YKA	Yellowknife Ar	93.03	24	P	P	14 59 34.8 +0.7
	comp=Z,0.3nm,0.5s,baz=241,slow=4.4,SNR=7.1					
YKA				pP	pP	15 00 28.8 -2.5
	comp=Z,1.0nm,1.1s,baz=236,slow=4.4,SNR=2.6					
LZH	Lanzhou	93.48	307	*e*P	P	14 59 39.5 +2.4
LZH				pP	pP	15 00 33.8 -0.5
LZH				sP	sP	15 00 57.3 -1.5
LZH				PMZ		
	comp=Z,25nm,1.0s					
LZH				PMZ		
	comp=Z,120nm,4.5s					
SONM	Songino Array	95.70	318	P	P	14 59 47.1 +0.3
	comp=Z,1.0nm,0.8s,baz=115,slow=3.7,SNR=4.7					
TIXI	Tiksi	97.02	345	*e*P	Pdif	14 59 52.3 +0.2
TIXI	Tiksi	97.02	345	*e*P	Pdif	14 59 52.3 +0.1
GTA	Gaotai	97.55	309	*e*P	Pdif	14 59 56.8 +1.3
GTA				pP	pP	15 00 55.2 +2.3
GTA				sP	sP	15 01 19.3 +2.0
GTA				PMZ		
	comp=Z,3.0nm,1.7s					
ZALV	Zalesovo Beam	110.26	322	PKiKP	PKiKP	15 04 49.7 -1.6
	comp=Z,0.6nm,0.5s,baz=186,slow=2.6,SNR=4.9					
MKAR	Makanchi Array	111.48	314	PKiKP	PKiKP	15 04 53.8 -0.2
	comp=Z,0.9nm,0.8s,baz=65,slow=0.9,SNR=8.6					
KSH	Kashi	115.71	306	*e*PKP	PKPdf	15 05 03.4 +1.0
KSH				PP	PP	15 06 13.6 +4.4
KSH				*es*PKP		15 06 23.9
KSH				SKS	SKSdf	15 11 52.0 -0.2
KSH				SKKS	SKKSac	15 12 42.4 -3.7
KSH				SS	SS	15 21 51.9 +0.7
KSH				PPMZ		
	comp=Z,86nm,4.8s					
KSH				LN		
	comp=Z,89nm,7.2s					
KSH				LE		
	comp=Z,81nm,6.2s					
KSH				LZ		
	comp=Z,150nm,5.2s					
BVAR	Borovoye Array	118.90	321	PKP	PKPdf	15 05 08.4 +0.4
	comp=Z,2.0nm,0.5s,baz=75,slow=1.7,SNR=22					
BRVK	Borovoye	118.96	321	*e*PKIKP	PKPdf	15 05 08.5 +0.4
BRVK				pmax	pmax	
	comp=Z,2.0nm,0.7s					
ARU	Arti	124.65	327	*i* PKIKP	PKPdf	15 05 20.6 +1.7
ARU						15 07 08.8
ARU						15 11 59.4
ARCES	ARCESS Array B	126.88	351	PKP	PKPdf	15 05 23.3 +0.5
	comp=Z,2.4nm,0.6s,baz=341,slow=1.9,SNR=14					
FINES	FINESS Array B	134.05	346	PKP	PKPdf	15 05 36.1 -0.4
	comp=Z,1.2nm,0.6s,baz=96,slow=2.4,SNR=7.4					
OBN	Obninsk	135.76	334	*e*PKIKP	PKPdf	15 05 41.1 +1.2
OBN				pmax	pmax	
	comp=Z,4.0nm,1.0s					
KIV	Kislovodsk	139.09	318	*e*PKHKP	PKPpre	15 05 41.9
KIV				pmax	pmax	
	comp=Z,2.0nm,0.9s					
AKASG	Malin Array Be	142.02	335	PKhKP	PKPpre	15 05 43.9
	comp=Z,2.4nm,0.7s,baz=38,slow=4.7,SNR=2.7					
KMBO	Kilima Mbogo	143.02	243	PKhKP	PKPbc	15 05 53.0 +0.7
	comp=Z,3.9nm,0.7s,baz=45,slow=3.6,SNR=8.7					
KMBO	Kilima Mbogo	143.02	243	PKIKP	PKPbc	15 05 53.0 +0.7
MALT	Malatya	144.48	312	⇓PKIKP	PKPdf	15 05 57.1 +0.7
MALT	Malatya	144.48	312	⇓*i*P	PKPdf	15 05 57.1 +0.7
LVV	L'vov	144.70	339	*e*PKIKP	PKPdf	15 05 56.5 +0.2
NRDL	Niedersach Rie	145.28	354	*e*PKPbc	PKPab	15 05 57.8 +0.1
KWP	Kalwaria Pacla	145.31	340	*e*PKP	PKPab	15 05 58.0 0.0
KWP	Kalwaria Pacla	145.31	340	⇑PKIKP	PKPab	15 05 58.0 0.0
KWP	Kalwaria Pacla	145.31	340	⇑*i*P	PKPab	15 05 58.0 0.0
IBBN	Ibbenburen	145.64	357	*e*PKPbc	PKPab	15 05 59.2 +0.1
OJC	Ojcow	145.67	343	*e*PKP	PKPab	15 05 59.6 +0.2
OJC	Ojcow	145.67	343	*e*PKP2	PKPab	15 05 59.7 +0.3
CLZ	Clausthal	145.90	354	*e*PKPbc	PKPab	15 06 00.3 0.0
KSP	Ksiaz	145.95	347	*e*PKP	PKPab	15 06 01.0 +0.6
KSP	Ksiaz	145.95	347	*e*PKP2	PKPab	15 06 01.0 +0.6
KOLS	Kolonicke sedl	146.05	339	*e*PKIKP	PKPbc	15 06 00.3 +0.4
KOLS	Kolonicke sedl	146.05	339	*e*PKP	PKPbc	15 06 00.3 +0.4
BUR08	Bucovina Ar. S	146.06	335	*e*PKPab	PKPab	15 06 01.5 +0.4
BURAR	Bucovina Array	146.07	335	⇑PKP2	PKPab	15 06 01.4 +0.2
BURAR	Bucovina Array	146.07	335	⇑*i*P	PKPab	15 06 01.4 +0.2
CLL	Collm	146.10	351	*e*PKPbc	PKPab	15 06 00.5 -0.4
CLL				*ep*PKPbc	pPKPbc	15 07 01.0 +1.8
CLL	Collm	146.10	351	⇓*i*PKPbc	PKPab	15 06 00.6 -0.4
	comp=Z,30nm,1.3s					
CLL				*e*(PKiKP)		15 06 05.0
CLL				*ep*PKiKP	pPKiKP	15 07 02.0 -0.9
CLL	Collm	146.10	351	⇓*i*PKP2	PKPab	15 06 00.6 -0.4
CLL				pmax	pmax	
	comp=Z,30nm,1.3s					
NIE	Niedzica	146.24	342	*e*PKP	PKPab	15 06 01.9 +0.2
NIE	Niedzica	146.24	342	*e*PKP2	PKPab	15 06 01.9 +0.2
UZH	Uzhgorod	146.31	339	*e*PKIKP	PKPdf	15 05 59.4 +0.4
UZH				*i*		15 06 01.6
CRVS	Cervenica-Dubn	146.35	340	*e*PKIKP	PKPbc	15 06 00.2 -0.6
CRVS	Cervenica-Dubn	146.35	340	*e*PKP	PKPbc	15 06 00.2 -0.6
TESR	Tescani	146.35	333	⇓*i*P	PKPab	15 06 01.9 -0.2
BRG	Berggiesshubel	146.37	350	*i* PKP	PKPab	15 06 02.1 0.0
	comp=Z,12nm,0.9s					
BRG				*ep*PKP	pPKPdf	15 07 02.7 +3.4
	comp=Z,3.2nm,1.0s					
BRG	Berggiesshubel	146.37	350	*e*PKPbc	PKPab	15 06 01.5 -0.6
BRG	Berggiesshubel	146.37	350	*i* PKP2	PKPab	15 06 02.1 0.0
BRG				pmax	pmax	
	comp=Z,12nm,0.9s					
DPC	Dobruska-Polom	146.41	347	*e*PKP	PKPab	15 06 02.4 +0.1
DPC				*ex*	x	15 07 03.8
DPC	Dobruska-Polom	146.41	347	*e*PKP2	PKPab	15 06 02.4 +0.1
OKC	Ostrava-Krasne	146.46	345	*e*PKP	PKPab	15 06 02.0 -0.4
BUG	Bochum--Univer	146.52	357	*e*PKPbc	PKPbc	15 06 01.7 +0.6
KRLC	Kraliky	146.57	346	*e*PKP	PKPab	15 06 02.3 -0.6
KRLC	Kraliky	146.57	346	*e*PKP2	PKPab	15 06 02.3 -0.6
PVCC	Panska Ves	146.59	349	*e*PKP	PKPab	15 06 02.6 -0.3
PVCC	Panska Ves	146.59	349	*e*PKP2	PKPab	15 06 02.6 -0.3
TRPA	Tarpa	146.65	338	⇑*i*P	PKPbc	15 06 02.4 +0.8
MORC	Moravsky Berou	146.67	345	⇑PKIKP	PKPbc	15 06 02.1 +0.4
MORC	Moravsky Berou	146.67	345	⇑*i*P	PKPbc	15 06 02.1 +0.4
VRI	Vrincioaia	146.81	332	⇓PKP2	PKPab	15 06 03.3 -0.7
VRI	Vrincioaia	146.81	332	⇓*i*P	PKPab	15 06 03.3 -0.7
PLOR	Plostina	146.86	332	⇑PKP2	PKPbc	15 06 03.1 +0.7
PLOR	Plostina	146.86	332	⇑*i*P	PKPbc	15 06 03.0 +0.7
MOX	Moxa	146.94	352	*e*PKPbc	PKPbc	15 06 03.1 +0.7
UBBA	Unterbreizbach	146.95	354	*e*PKPbc	PKPbc	15 06 03.2 +1.0
KECS	Kecovo	147.02	341	*e*PKP2	PKPab	15 06 04.3 -0.4
KECS	Kecovo	147.02	341	*e*PKP	PKPab	15 06 04.3 -0.4
BR131	Keskin Array S	147.05	317	*e*PKPbc	PKPbc	15 06 04.1 +0.9
BRTR	Keskin Array B	147.05	317	PKPbc	PKPbc	15 06 04.1 +0.9
	comp=Z,13nm,0.9s,baz=137,slow=2.7,SNR=40					
TANN	Tannenbergstha	147.05	351	*e*PKPbc	PKPbc	15 06 03.5 +0.7
PRA	Prague	147.06	349	*e*PKP	PKPab	15 06 04.3 -0.5
PRA	Prague	147.06	349	*e*PKP2	PKPab	15 06 04.1 -0.7
PRU	Pruhonice	147.12	349	*e*PKP	PKPbc	15 06 03.9 +1.0
PRU	Pruhonice	147.12	349	*e*PKP2	PKPbc	15 06 03.9 +1.0
HARR	Harsova	147.12	329	⇑PKP2	PKPab	15 06 04.8 -0.4
HARR	Harsova	147.12	329	⇑*i*P	PKPab	15 06 04.8 -0.4
GOPC	GO Pecny, Ondr	147.14	348	*e*PKP	PKPab	15 06 04.1 -1.1
GOPC				*ex*	x	15 07 07.8
TLB	Topalu	147.15	329	⇓PKP2	PKPab	15 06 04.7 -0.6
TLB	Topalu	147.15	329	⇓*i*P	PKPab	15 06 04.7 -0.6
NKC	Novy Kostel	147.23	351	*e*PKP	PKPbc	15 06 04.1 +0.9
VRAC	Vranov	147.33	346	⇑PKP2	PKPbc	15 06 05.3 -0.6
VRAC	Vranov	147.33	346	⇑*i*P	PKPab	15 06 05.3 -0.6
MEM	Membach	147.40	359	PKPbc	PKPbc	15 06 04.5 +0.9
MEM				PKPab	PKPab	15 06 06.1 0.0
MLR	Muntele Rosu	147.45	332	⇓PKP2	PKPbc	15 06 04.7 +0.6
MLR	Muntele Rosu	147.45	332	⇓*i*P	PKPbc	15 06 04.7 +0.6
ISR	Istrita	147.46	331	⇑PKP2	PKPab	15 06 05.6 -1.1
ISR	Istrita	147.46	331	⇑*i*P	PKPab	15 06 05.6 -1.1
SNF	Seneffe	147.50	1	PKPbc	PKPab	15 06 05.3 -1.2
SNF				PKPab	PKiKP	15 06 07.4 +1.6
VYHS	Vyhne	147.50	343	*e*PKIKP	PKPdf	15 06 02.3 +1.2
VYHS	Vyhne	147.50	343	*e*PKP	PKPdf	15 06 02.3 +1.2
ANTO	Ankara	147.51	318	*e*PKIKP	PKPbc	15 06 04.2 -0.2
ANTO	Ankara	147.51	318	*e*PKPbc	PKPbc	15 06 04.2 -0.2
BCLA	Clavier	147.59	360	PKPbc	PKPbc	15 06 04.4 +0.3
TNS	Taunus Mts	147.67	356	*e*PKPbc	PKPbc	15 06 05.1 +0.7
ROTZ	Rotzenmuhle	147.72	351	*e*PKPbc	PKPbc	15 06 05.7 +1.2
DRGR		147.72	337	⇑PKP2	PKPbc	15 06 05.5 +0.7
DRGR		147.72	337	⇑*i*P	PKPbc	15 06 05.4 +0.7
SECR		147.75	331	⇑*i*P	PKPab	15 06 06.8 -0.9
DOU	Dourbes	147.92	0	PKPbc	PKPbc	15 06 06.1 +1.1
DOU				PKPab	PKPab	15 06 08.3 +0.1
KHC	Kasperske Hory	148.12	349	*e*PKP	PKPbc	15 06 06.9 +1.3
KHC				*ex*	x	15 06 10.0
KHC				*ex*	x	15 07 08.4
KHC	Kasperske Hory	148.12	349	*e*PKP2	PKPbc	15 06 06.9 +1.3
ARR	Arges	148.12	333	⇑*i*P	PKPab	15 06 07.6 -1.7
WET	Wettzell	148.22	350	*e*PKPbc	PKPbc	15 06 06.9 +1.0
WLF	Walferdange	148.34	359	PKP	PKPab	15 06 08.1 -1.9
WLF	Walferdange	148.34	359	PKPbc	PKPbc	15 06 07.5 +1.4
GEC2	GERESS Array S	148.37	349	*e*PKPbc	PKPbc	15 06 07.2 +0.8
GERES	GERESS Array B	148.37	349	PKPbc	PKPbc	15 06 06.5 +0.2
	comp=Z,4.2nm,0.8s,baz=29,slow=2.2,SNR=18					
SIRR	Siria	148.55	338	⇑*i*P	PKPbc	15 06 07.1 +0.3
CONA	Conrad Observa	148.79	346	⇑*i*PKiKP	PKiKP	15 06 09.0 +0.3
	comp=Z,13nm,1.1s,SNR=7.0					
GZR	Gura Zlata	148.86	335	⇓*i*P	PKPbc	15 06 08.7 +1.0
BZS	Buzias	149.12	337	⇑PKP2	PKPbc	15 06 09.4 +1.2
BZS	Buzias	149.12	337	⇑*i*P	PKPbc	15 06 09.4 +1.2
SZH	Strazhica	149.15	329	*e*P	PKPbc	15 06 09.2 +0.8
BFO	Black Forest	149.56	356	*e*PKPbc	PKPbc	15 06 09.9 +0.6
BFO	Black Forest	149.56	356	*e*PKPbc	PKPbc	15 06 10.3 +1.0
RJOB	Jochberg	149.60	350	*e*PKPbc	PKPbc	15 06 10.0 +0.6
PKSM	Moragy	149.62	341	⇑P	PKPbc	15 06 10.3 +0.9
CSS	Prodhromos	149.63	310	*e*PKPbc	PKPbc	15 06 10.8 +0.9
MPEP	Malo Peshtene	150.10	332	*e*P	PKPbc	15 06 11.9 +1.2
KBA	Koelnbreinsper	150.13	348	⇓*i*PKiKP	PKPbc	15 06 11.1 +0.2
	comp=Z,3.9nm,0.5s					
RETA	Reutte	150.15	352	⇑*i*PKiKP	PKiKP	15 06 11.5 0.0
	comp=Z,4.9nm,0.8s					
SOKA	Soboth	150.16	346	⇑*i*PKiKP	PKiKP	15 06 11.4 -0.2
	comp=Z,9.2nm,1.2s,SNR=5.1					
PERS	Pernice	150.18	346	*i* PKPbc	PKPbc	15 06 11.3 +0.5
WATA	Walderalm	150.19	351	⇑*i*PKiKP	PKiKP	15 06 11.4 -0.3
	comp=Z,4.0nm,0.6s					
MOTA	Moosalm	150.24	352	⇑*i*PKiKP	PKiKP	15 06 11.9 +0.1
	comp=Z,10nm,1.0s,SNR=5.6					
WTTA	Wattenberg	150.25	351	*i* PKiKP	PKiKP	15 06 12.2 +0.3
	comp=Z,12nm,0.5s,SNR=7.4					
DAVA	Damuels	150.46	353	⇑*i*PKiKP	PKiKP	15 06 13.1 +0.8
	comp=Z,16nm,1.1s					
ABTA	Abfaltersbach	150.60	349	⇑*i*PKiKP	PKiKP	15 06 12.4 -0.1
	comp=Z,12nm,0.6s,SNR=6.5					
FETA	Feichten	150.61	352	⇑*i*PKiKP	PKiKP	15 06 13.2 +0.6
	comp=Z,12nm,1.0s					
VTS	Vitosha	150.95	332	⇑PKIKP	PKPbc	15 06 14.1 +1.2
VTS	Vitosha	150.95	332	⇑*i*P	PKPbc	15 06 14.1 +1.2
VTS	Vitosha	150.95	332	*e*P	PKPbc	15 06 13.3 +0.4
DIVS	Divibare	151.02	337	⇑*i*P	PKPbc	15 06 13.4 +0.5
VISS	Visnje	151.03	346	*i* PKPbc	PKPbc	15 06 13.0 +0.2
VISS				*i*		15 06 21.7
VISS				*i*		15 07 15.8
JAVS	Javornik	151.12	347	*i* PKPbc	PKPbc	15 06 13.7 +0.6
BOJS	Bojanci	151.21	345	*i* PKPbc	PKPbc	15 06 14.6 +1.4
MMB	Musomiste	151.48	330	⇑PKIKP	PKPbc	15 06 15.0 +1.0
MMB	Musomiste	151.48	330	⇑*i*P	PKPbc	15 06 15.0 +1.0
ESDC	Sonseca Array	156.99	18	PKPab	PKPab	15 06 47.6 +0.8
	comp=Z,0.1nm,0.3s,baz=346,slow=3.2,SNR=4.6					
ESDC				pPKPab	pPKPab	15 07 42.3 -2.2
	comp=Z,0.1nm,0.3s,baz=5.7,slow=5.2,SNR=2.7					
TORD	Torodi Ar. Bea	174.28	146	PKP	PKPdf	15 06 29.5 -0.5
	comp=Z,0.4nm,0.6s,baz=130,slow=0.4,SNR=3.7					
TORD				PKPab	PKPab	15 08 03.8 +0.5
	comp=Z,1.9nm,1.1s,baz=222,slow=3.1,SNR=5.2					
LVC				Sn	Sn	14 54 36.8 +13
	16nm,0.3s,baz=172,slow=17,SNR=2.6					
CPUP	Villa Florida	14.66	66	Pn	Pn	14 53 10.9 +1.1
	0.0nm,0.3s,baz=257,slow=17,SNR=2.5					
CPUP				Sn	S	14 56 03.3 -7.2
	0.0nm,0.3s,baz=192,slow=20,SNR=2.5					
LPAZ	La Paz	17.35	13	P	Pn	14 53 44.8 -0.4
	0.1nm,0.3s,baz=178,slow=8.7,SNR=10.0					
SIV	San Ignacio	19.97	33	P	P	14 54 14.2 -0.6
	0.3nm,0.3s,baz=236,slow=13,SNR=11					
SIV				LR	LR	15 03 13.1
	comp=Z,268nm,18.3s,baz=261,slow=41					
SAML	Samuel	25.64	21	*e*P	P	14 55 10.2 -1.8
	7.6nm,1.1s					
BDFB	Brasilia	28.07	57	P	P	14 55 34.5 +0.4
	2.4nm,0.6s,baz=177,slow=6.3,SNR=3.8					
PTGA	Pitinga	34.39	22	P	P	14 56 28.9 -0.6
	0.9nm,0.3s,baz=188,slow=13,SNR=4.6					
SNAA	Sanae	52.27	158	P	P	14 58 53.7 +0.5
	0.3nm,0.7s,baz=316,slow=7.6,SNR=3.8					
SNAA	Sanae	52.27	158	*e*P	P	14 58 53.0 -0.2
	2.9nm,1.1s					
QSPA	South Pole Qui	56.92	180	P	P	14 59 27.4 +0.2
	2.3nm,0.9s,baz=133,slow=3.9,SNR=2.2					
QSPA	South Pole Qui	56.92	180	P	P	14 59 26.4 -0.7
	1.7nm,0.8s					
TXAR	Lajitas Array	69.07	331	P	P	15 00 48.3 +0.1
	1.1nm,0.8s,baz=152,slow=8.1,SNR=6.3					
TXAR				LR	LR	15 26 43.8
	comp=Z,56nm,18.2s,baz=0.0,slow=32					
PDAR	Pinedale Array	83.09	333	P	P	15 02 09.2 +1.3
	0.2nm,0.8s,baz=184,slow=2.7,SNR=2.3					
NVAR	Mina Array Bea	83.24	325	P	P	15 02 09.6 +0.8
	0.4nm,0.7s,baz=153,slow=6.1,SNR=4.0					
TORD	Torodi Ar. Bea	84.11	70	P	P	15 02 13.4 0.0
	2.2nm,0.8s,baz=252,slow=4.8,SNR=12					
TORD				LR	LR	15 39 19.4
	comp=Z,62nm,18.5s,baz=85,slow=35					
H11S2	WAKE ISLAND Hyl	25.64	270	T	T	17 26 57.8
	baz=101,slow=74,SNR=20					
H11S1	WAKE ISLAND Hyl	25.65	270	T	T	17 26 56.6
	baz=101,slow=74,SNR=12					
H11S3	WAKE ISLAND Hyl	25.66	270	T	T	17 26 56.6
	baz=101,slow=74,SNR=14					
H11N3	WAKE ISLAND Hyl	26.04	271	T	T	17 27 23.1
	baz=100,slow=75,SNR=5.8					
H11N1	WAKE ISLAND Hyl	26.05	271	T	T	17 27 19.6
	baz=100,slow=75,SNR=4.8					
H11N2	WAKE ISLAND Hyl	26.05	271	T	T	17 27 20.3
	baz=100,slow=75,SNR=6.3					
BVAR	Borovoye Array	146.87	42	PKPbc	PKPab	15 09 24.6 -0.8
	0.9nm,0.9s,baz=304,slow=2.7,SNR=4.5					
ZALV	Zalesovo Beam	153.72	31	PKP	PKPdf	15 09 32.0 -0.7
	0.2nm,0.3s,baz=208,slow=2.8,SNR=3.2					
ZALV				PKPbc	PKiKP	15 09 40.8 +0.1
	0.4nm,0.3s,baz=270,slow=3.0,SNR=5.5					
ZALV				PKPab	PKPab	15 09 54.9 +1.4
	0.7nm,0.4s,baz=318,slow=2.0,SNR=4.2					

*IDC **08** 14:49:40.9±0.8, 33°.30S×72°.22W, h0km, mb4.0/8, mb1 4.1/13, mb1mx4.0/21, mbtmp4.0/13, ML3.9/4, MS3.6/4, Ms1 3.6/4, ms1mx3.3/23, Error ellipse: s-maj=22.1km s-min=17.0km az=120.0*
*ISCJB **08** 14:49:41.5±0.7, 33°.33S±0°.06×72°.1W±0°.1, h19km, mb3.9/9, MS3.9/2, Error ellipse: s-maj=14.6km s-min=8.7km az=1.9*
*NEIC **08** 14:49:42.1±3.9, 33°.31S×72°.22W, h11km±24km, mb4.1/3, Error ellipse: s-maj=15.8km s-min=7.4km az=88.0*
ISC 08 14:49:43.5±0.7, 33°.31S±0°.08×72°.2W±0°.1, h19km, n27, σ0s86/23, mb4.2/9, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	3.76	64	Pn		Pn	Pn	14 50 41.0	+0.5
	0.5nm,0.3s,baz=238,slow=13,SNR=22								
CFAA				Lg		Lg	Lg	14 51 40.8	
	1.7nm,0.3s,baz=251,slow=7.8,SNR=6.9								
CFAA				LR		LR	LR	14 52 19.6	
	comp=Z,122nm,19.4s,baz=331,slow=42								
LCO	Las Campanas	4.48	17	*e*Pn		Pn	Pn	14 50 49.5	-1.1
PLCA	Paso Flores	7.52	170	Pn		Pn	Pn	14 51 32.3	+0.1
	1.5nm,0.3s,baz=328,slow=11,SNR=47								
PLCA				Lg		Lg	Lg	14 53 33.0	
	0.2nm,0.3s,baz=227,slow=19,SNR=3.2								
TRQA	Tornquist	9.57	123	Pn		Pn	Pn	14 51 59.0	-1.2
	35nm,1.1s								
LVC	Limon Verde	11.05	16	Pn		Pn	Pn	14 52 20.5	-0.2
	baz=172,slow=15,SNR=1.2								

NNC 08 14:59:15.2±3.1, 38°.13N×71°.80E, h0km, mb3.7, mpv3.1, 2C-2D, Error ellipse: s-maj=31.1km s-min=7.4km az=162.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	2.30	35	⇑Pn		Pn	Pn	14 59 54.0	-0.8
	1.5nm,0.1s								
SFK				⇑Sn		Sn	Sn	15 00 25.5	+1.4
	6.6nm,0.2s								
DZET	Dzherino	2.43	287	⇓Sn		Sn	Sn	15 00 28.1	+1.1
	11nm,0.4s								
KK31	Karatay Array	5.07	349	Pn		Pn	Pn	15 00 32.5	0.0
	1.3nm,0.3s,baz=160,slow=11,SNR=44								
KK31				⇓Sn		Sn	Sn	15 01 31.7	-0.1
	0.7nm,0.3s,baz=166,slow=20,

az=26.4

ISC 08 15:16:35.4±1.1, 36°74S±0°07 × 177°04E±0°05, h35km, n31, σ1§40/32, mb3.3/3, 1C-1D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.80**	**172**	P*	**Pn**	**15 16 48.3**	**-1.9**
MYRZ	**Mayor Island**	**0.84**	**229**	P*	**Pn**	**15 16 49.7**	**-1.1**
MYRZ				*e*S*	**Sn**	**15 17 00.6**	**-1.5**
KUZ	**Kuaotunu**	**1.06**	**269**	P*	**Pn**	**15 16 52.9**	**-0.9**
KUZ				S*	**Sn**	**15 17 07.2**	**-0.2**
KUZ				AML	AML	15 17 07.5	
KUZ				AML	AML	15 17 08.1	
KUZ				AML	AML	15 17 08.2	
TGRZ	**Tauranga**	**1.17**	**212**	P*	**Pn**	**15 16 54.4**	**-1.0**
TGRZ				AML	AML	15 17 12.7	
TGRZ				AML	AML	15 17 19.9	
OPRZ	**Ohinepanea**	**1.18**	**199**	P*	**Pn**	**15 16 54.2**	**-1.1**
HAZ	**Te Kaha**	**1.18**	**150**	P*	**Pn**	**15 16 53.7**	**-1.7**
MARZ	**Manawahe**	**1.28**	**193**	P*	**Pn**	**15 16 56.0**	**-0.9**
MXZ	**Matakaoa Point**	**1.30**	**130**	P*	**Pn**	**15 16 55.5**	**-1.7**
MXZ				S*	**Sn**	**15 17 11.7**	**-1.6**
MXZ				AML	AML	15 17 12.9	
MXZ				AML	AML	15 17 13.4	
MXZ				AML	AML	15 17 16.8	
URZ	**Urewera**	**1.52**	**178**	⇓P*	**Pn**	**15 16 59.4**	**-0.8**
URZ				AML	AML	15 17 26.5	
URZ				AML	AML	15 17 31.0	
URZ	**Urewera**	**1.52**	**178**	Pn	**Pn**	**15 16 59.2**	**-1.0**
	3.7nm,0.3s,baz=341,slow=16,SNR=28						
URZ				Sn	**Sn**	**15 17 22.3**	**+3.5**
	36nm,0.3s,baz=29,slow=19,SNR=12						
URZ				LR	LR	15 17 25.8	
	comp=Z,184nm,18.9s,baz=320,slow=30						
WMGZ	**Waiomatatini S**	**1.54**	**135**	PN	**Pn**	**15 17 00.8**	**+0.4**
MKAZ	**Moumakai**	**1.55**	**255**	PN	**Pn**	**15 16 60.0**	**-0.5**
MKAZ				AML	AML	15 17 22.8	
MKAZ				AML	AML	15 17 33.6	
TOZ	**Tahuroa Road**	**1.58**	**231**	P*	**Pn**	**15 17 00.4**	**-0.6**
UTU	**Utuhina**	**1.59**	**205**	AML	AML	15 17 41.9	
UTU				AML	AML	15 17 43.8	
TWGZ	**Tauwhareparae**	**1.62**	**153**	*e*PN	**Pn**	**15 17 02.9**	**+1.4**
MWZ	**Matawai**	**1.64**	**167**	P*	**Pn**	**15 17 00.9**	**-1.0**
MWZ				AML	AML	15 17 26.1	
MWZ				AML	AML	15 17 33.9	
PUZ	**Puketiti**	**1.65**	**144**	⇑PN	**Pn**	**15 17 02.9**	**+1.0**
PUZ				AML	AML	15 17 29.6	
PUZ				AML	AML	15 17 32.4	
ETAZ	**East Tamaki Re**	**1.71**	**262**	*e*PN	**Pn**	**15 17 02.4**	**-0.4**
KBAZ	**Karaka Road Bo**	**1.77**	**258**	*e*PN	**Pn**	**15 17 03.9**	**+0.4**
TKGZ	**Te Karaka**	**1.82**	**160**	*e*PN	**Pn**	**15 17 04.5**	**+0.3**
RVAZ	**Riverhead Bore**	**1.98**	**268**	*e*PN	**Pn**	**15 17 06.4**	**0.0**
TLZ	**Tolley Road**	**1.99**	**217**	P*	**Pn**	**15 17 06.5**	**-0.2**
WCZ	**Waipu Caves**	**2.32**	**289**	PN	**Pn**	**15 17 11.2**	**+0.1**
KNZ	**Kokohu**	**2.33**	**168**	*e*PN	**Pn**	**15 17 14.0**	**+2.6**
BKZ	**Black Stump Fm**	**2.47**	**190**	AML	AML	15 18 03.3	
HIZ	**Hauiti**	**2.48**	**224**	PN	**Pn**	**15 17 14.0**	**+0.6**
HIZ				AML	AML	15 18 04.9	
HIZ				AML	AML	15 18 08.7	
OUZ	**Omahuta**	**3.18**	**297**	PN	**Pn**	**15 17 23.3**	**+0.4**
STKA	**Stephens Creek**	**29.57**	**269**	LR	LR	15 35 04.2	
	comp=Z,107nm,18.5s,baz=196,slow=36						
ASAR	**Alice Springs**	**39.18**	**277**	P	**P**	**15 24 02.0**	**+1.9**
	0.3nm,0.8s,baz=118,slow=7.3,SNR=4.5						
WRA	**Warramunga Arr**	**40.77**	**282**	P	**P**	**15 24 15.1**	**+1.7**
	0.5nm,0.8s,baz=122,slow=7.4,SNR=3.1						
CMAR	**Chiang Mai Arr**	**91.73**	**292**	P	**P**	**15 29 37.4**	**-2.2**
	0.3nm,0.4s,baz=134,slow=2.6,SNR=2.5						

WEL 08 15:17:38.4±0.5, 36°65S × 177°04E, h5km, ML4.0/8, 1C, Error ellipse: s-maj=4.0km s-min=2.8km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.89**	**173**	*e*P*	Pg	15 17 55.9	+0.4
MYRZ	**Mayor Island**	**0.90**	**225**	P*	Pg	15 17 55.5	-0.3
MYRZ				S*	Sg	15 18 07.1	-0.5
KUZ	**Kuaotunu**	**1.07**	**264**	⇑P*	Pg	15 17 58.4	-0.5
KUZ				S*	Sg	15 18 12.5	-0.3
KUZ				AML	AML	15 18 12.8	
KUZ				AML	AML	15 18 12.8	
KUZ				AML	AML	15 18 12.9	
TGRZ	**Tauranga**	**1.25**	**210**	*e*P*	Pg	15 18 00.8	-1.6
TGRZ				AML	AML	15 18 17.6	
TGRZ				AML	AML	15 18 17.8	
HAZ	**Te Kaha**	**1.25**	**152**	*e*P*	Pg	15 17 59.7	-2.8
OPRZ	**Ohinepanea**	**1.26**	**198**	P*	Pg	15 17 59.5	-3.1
MXZ	**Matakaoa Point**	**1.36**	**133**	*e*P*	Pn	15 18 02.0	-2.1
MXZ				AML	AML	15 18 18.4	
MXZ				AML	AML	15 18 20.2	
MKAZ	**Moumakai**	**1.57**	**252**	PN	Pn	15 18 06.5	-0.5
MKAZ				AML	AML	15 18 27.8	
MKAZ				AML	AML	15 18 29.3	
URZ	**Urewera**	**1.61**	**178**	AML	AML	15 18 30.3	
URZ				AML	AML	15 18 34.2	
TOZ	**Tahuroa Road**	**1.64**	**228**	*e*P*	Pn	15 18 05.8	-2.1
UTU	**Utuhina**	**1.67**	**204**	AML	AML	15 18 34.3	
UTU				AML	AML	15 18 36.8	
PUZ	**Puketiti**	**1.72**	**146**	AML	AML	15 18 33.8	
ETAZ	**East Tamaki Re**	**1.73**	**259**	PN	Pn	15 18 08.8	-0.3
MWZ	**Matawai**	**1.73**	**167**	*e*P*	Pn	15 18 08.1	-1.1
MWZ				AML	AML	15 18 27.1	
MWZ				AML	AML	15 18 28.2	
KBAZ	**Karaka Road Bo**	**1.79**	**255**	PN	Pb	15 18 10.8	-0.8
HBAZ	**Herne Bay Bore**	**1.87**	**263**	PN	Pn	15 18 11.4	+0.4
RVAZ	**Riverhead Bore**	**1.98**	**266**	PN	Pb	15 18 14.1	-0.9
TLZ	**Tolley Road**	**2.06**	**215**	P*	Pn	15 18 12.0	-1.8

*IDC **08** 15:21:00.7±1.8, 49°.36S × 164°.21E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.7/13, mbtmp3.7/4, ML3.9/1, MS3.4/1, Ms1 3.4/1, ms1mx2.9/12, Error ellipse: s-maj=54.3km s-min=32.7km az=158.0*

*ISCJB **08** 15:21:04.0±1.1, 49°.5S±0°.1 × 164°.33E±0°.10, h40km, mb3.7/3, Error ellipse: s-maj=17.1km s-min=5.8km az=154.2*

ISC 08 15:21:05.8±1.4, 49°.5S±0°.2 × 164°.3E±0°.1, h40km, n28, σ1§09/25, mb3.8/3, Auckland Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**3.66**	**45**	PN	**Pn**	**15 22 00.4**	**+0.5**
APZ				SN	**Sn**	**15 22 42.1**	**+0.3**
WHZ	**Wether Hill Ro**	**4.39**	**36**	PN	**Pn**	**15 22 10.2**	**+0.3**
WHZ				SN	**Sn**	**15 23 00.1**	**+0.4**
SYZ	**Scrubby Hill**	**4.42**	**50**	PN	Pn	15 22 11.1	+0.8
SYZ				*e*SN	**Sn**	**15 22 59.3**	**-1.2**
MLZ	**Mavora Lakes**	**4.94**	**34**	PN	Pn	15 22 18.2	+0.8
MLZ				SN	**Sn**	**15 23 14.0**	**+0.8**
TUZ	**Tuapeka**	**5.08**	**48**	PN	**Pn**	**15 22 19.9**	**+0.6**
TUZ				SN	**Sn**	**15 23 16.8**	**+0.2**
MSZ	**Milford Sound**	**5.44**	**29**	*e*PN	Pn	15 22 25.4	+1.0
MSZ				*e*SN	**Sn**	**15 23 28.1**	**+2.4**
EAZ	**Earnscleugh**	**5.48**	**41**	PN	**Pn**	**15 22 24.7**	**-0.2**
HHSZ	**Highcliff Hill**	**5.61**	**52**	*e*PN	**Pn**	**15 22 26.7**	**+0.1**
WKZ	**Wanaka**	**5.69**	**37**	PN	Pn	15 22 29.3	+1.5
ODZ	**Otahua Downs**	**6.23**	**47**	PN	**Pn**	**15 22 34.8**	**-0.4**
JCZ	**Jackson Bay**	**6.25**	**31**	*e*PN	Pn	15 22 37.3	+1.8
RPZ	**Rata Peaks**	**7.44**	**42**	Pn	**Pn**	**15 22 49.4**	**-2.5**
	1.8nm,0.3s,baz=230,slow=4.2,SNR=7.8						
RPZ				Sn	**Sn**	**15 24 13.9**	**-1.0**
	2.5nm,0.3s,baz=306,slow=19,SNR=7.2						
MQZ	**McQueen's Vall**	**8.19**	**48**	*e*PN	**Pn**	**15 23 01.5**	**-0.4**
CRLZ	**Canterbury Las**	**8.27**	**47**	*e*PN	**Pn**	**15 23 02.8**	**-0.3**
MOO	**Moorlands**	**13.79**	**294**	P	Pn	15 24 14.0	-4.5
	baz=11,SNR=6.6						
URZ	**Urewera**	**14.55**	**44**	LR	LR	15 30 54.6	
	comp=Z,130nm,19.0s,baz=228,slow=41						
MILA	**Mila**	**16.56**	**313**	P	**Pn**	**15 24 53.2**	**-1.8**
	baz=14,SNR=12						
CNB	**Canberra Magne**	**17.89**	**317**	P	**P**	**15 25 12.1**	**+0.3**
	baz=16,SNR=11						
TOO	**Toolangi**	**18.03**	**304**	P	**P**	**15 25 14.8**	**+1.5**
	baz=16,SNR=9.3						
ASAR	**Alice Springs**	**35.06**	**306**	P	**P**	**15 27 54.2**	**-0.7**
	1.0nm,0.9s,baz=139,slow=7.2,SNR=7.4						
ASAR				PcP	**PcP**	**15 30 26.4**	**+0.3**
	0.3nm,0.8s,baz=130,slow=2.9,SNR=4.1						
WRA	**Warramunga Arr**	**37.93**	**310**	P	**P**	**15 28 18.6**	**-0.8**
	0.6nm,0.9s,baz=141,slow=9.1,SNR=4.7						

H01W1	**Cape Leeuwin H**	**39.14**	**273**	T	T	16 09 51.2	
	baz=128,slow=75,SNR=340						
H01W2	**Cape Leeuwin H**	**39.15**	**273**	T	T	16 09 51.0	
	baz=128,slow=75,SNR=344						
H01W3	**Cape Leeuwin H**	**39.16**	**273**	T	T	16 09 51.2	
	baz=128,slow=75,SNR=339						
CMAR	**Chiang Mai Arr**	**88.86**	**300**	P	P	15 33 57.1	+1.5
	0.4nm,0.6s,baz=157,slow=2.9,SNR=2.4						
AKASG	**Malin Array Be**	**151.46**	**290**	PKPbc	**PKPbc**	**15 40 54.2**	**-0.1**
	1.3nm,0.7s,baz=92,slow=2.6,SNR=7.8						
ARCES	**ARCESS Array B**	**151.91**	**330**	PKPbc	**PKPbc**	**15 40 56.2**	**+1.4**
	2.2nm,0.8s,baz=52,slow=1.5,SNR=4.8						
FINES	**FINESS Array B**	**153.95**	**313**	PKPbc	**PKPbc**	**15 41 00.6**	**+1.1**
	0.7nm,0.6s,baz=49,slow=1.6,SNR=3.8						

*ISCJB **08** 15:47:27.2±0.5, 36°.63N±0°.03 × 1°.48E±0°.05, h14km, Error ellipse: s-maj=6.0km s-min=4.0km az=1.5*
*CRAAG **08** 15:47:27.6, 36°.49N × 1°.53E, Ml3.0*
*CSEM **08** 15:47:27.7±0.2, 36°.58N × 1°.51E, h10km, ML3.0, Error ellipse: s-maj=6.9km s-min=4.1km az=97.0*
*MDD **08** 15:47:29.9±0.5, 36°.48N × 1°.51E, h30km, mb4.0/6, Error ellipse: s-maj=9.1km s-min=5.2km az=101.0, PRXIMO*

ISC 08 15:47:27.3±0.9, 36°57N±0°.05 × 1°53E±0°.04, h14km, n36, σ1§38/54, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBNR	**Beni Rached**	**0.28**	**180**	P	**Pg**	**15 47 33.0**	**-0.2**
EBNR	**Beni Rached**	**0.28**	**180**	P	**Pg**	**15 47 33.0**	**-0.2**
ECHA	**Ech Chlef**	**0.44**	**198**	P	**Pg**	**15 47 36.2**	**+0.2**
ECHA	**Ech Chlef**	**0.44**	**198**	P	**Pg**	**15 47 36.2**	**+0.2**
ECHF	**Ech Chlef**	**0.44**	**200**	P	**Pg**	**15 47 36.2**	**+0.2**
ECHF	**Ech Chlef**	**0.44**	**200**	P	**Pg**	**15 47 36.2**	**+0.2**
EANR	**'Ain N'Sour**	**0.71**	**209**	P	**Pb**	**15 47 41.7**	**+0.2**
EANR	**'Ain N'Sour**	**0.71**	**209**	P	**Pb**	**15 47 41.7**	**+0.2**
EANR	**'Ain N'Sour**	**0.71**	**209**	P	**Pb**	**15 47 41.7**	**+0.2**
OKGL	**Djebel Kef Gue**	**0.89**	**234**	P	**Pg**	**15 47 45.0**	**+0.4**
OKGL	**Djebel Kef Gue**	**0.89**	**234**	P	**Pg**	**15 47 45.0**	**+0.4**
OKGL	**Djebel Kef Gue**	**0.89**	**234**	P	**Pg**	**15 47 45.0**	**+0.4**
ETRT	**Tiaret**	**1.19**	**189**	P	**Pb**	**15 47 50.0**	**+0.3**
ETRT	**Tiaret**	**1.19**	**189**	P	**Pb**	**15 47 50.0**	**+0.3**
ETRT	**Tiaret**	**1.19**	**189**	P	**Pb**	**15 47 50.0**	**+0.3**
ABA	**Alger-Bouzarea**	**1.23**	**79**	P	**Pg**	**15 47 51.5**	**+0.5**
ABA	**Alger-Bouzarea**	**1.23**	**79**	P	**Pg**	**15 47 51.5**	**+0.5**
ABA	**Alger-Bouzarea**	**1.23**	**79**	P	**Pg**	**15 47 51.5**	**+0.5**
EIBI	**Ibiza**	**2.46**	**357**	P	**Pn**	**15 48 08.0**	**+1.0**
	4.2nm,0.1s,SNR=25						
EIBI				S	**Sn**	**15 48 35.3**	**-1.5**
	26nm,0.2s,SNR=15						
EIBI	**Ibiza**	**2.46**	**357**	P	**Pn**	**15 48 08.0**	**+1.0**
	4.2nm,0.1s,SNR=25						
EIBI				S	**Sn**	**15 48 35.3**	**-1.5**
	26nm,0.2s,SNR=15						
EBEN	**Beniarda**	**2.55**	**327**	P	**Pn**	**15 48 09.2**	**+0.9**
	0.3nm,0.1s,SNR=7.9						
EBEN				S	**Sn**	**15 48 37.8**	**-1.3**
	1.8nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**2.55**	**327**	P	**Pn**	**15 48 09.2**	**+0.9**
	0.3nm,0.1s,SNR=7.9						
EBEN				S	**Sn**	**15 48 37.8**	**-1.3**
	1.8nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**3.35**	**17**	P	**Pn**	**15 48 19.6**	**+0.3**
	0.3nm,0.1s,SNR=7.9						
ETOS				S	**Sn**	**15 48 57.9**	**-1.0**
	2.7nm,0.2s,SNR=5.8						
ETOS	**Mallorca**	**3.35**	**17**	P	**Pn**	**15 48 19.6**	**+0.3**
	0.3nm,0.1s,SNR=7.9						
ETOS				S	**Sn**	**15 48 57.9**	**-1.0**
	2.7nm,0.2s,SNR=5.8						
EBER	**Berja**	**3.56**	**277**	P	**Pn**	**15 48 22.3**	**-0.1**
	1.6nm,0.2s,SNR=5.9						
EBER				S	**Sn**	**15 49 01.2**	**-3.2**
	3.1nm,0.4s,SNR=7.9						
EBER	**Berja**	**3.56**	**277**	P	**Pn**	**15 48 22.3**	**-0.1**
	1.6nm,0.2s,SNR=5.9						
EBER				S	**Sn**	**15 49 01.2**	**-3.2**
	3.1nm,0.4s,SNR=7.9						
SESP	**Santiago Espad**	**3.60**	**297**	P	**Pn**	**15 48 23.6**	**+0.8**
	2.3nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**15 49 04.7**	**-0.5**
	4.0nm,0.1s,SNR=7.9						
SESP	**Santiago Espad**	**3.60**	**297**	P	**Pn**	**15 48 23.6**	**+0.8**
	2.3nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**15 49 04.7**	**-0.5**
	4.0nm,0.1s,SNR=7.9						
EQES	**Quesada**	**3.88**	**290**	P	**Pn**	**15 48 28.4**	**+1.9**
	0.5nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**15 49 11.9**	**0.0**
	1.3nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.88**	**290**	P	**Pn**	**15 48 28.5**	**+1.9**
	0.5nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**15 49 11.9**	**0.0**
	1.3nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.10**	**338**	P	**Pn**	**15 48 31.8**	**+2.1**
	1.5nm,0.1s,SNR=24						
EMOS				S	**Sn**	**15 49 15.7**	**-1.9**
	3.5nm,0.1s,SNR=7.6						
EMOS	**Mosqueruela**	**4.10**	**338**	P	**Pn**	**15 48 31.8**	**+2.1**
	1.5nm,0.1s,SNR=24						
EMOS				S	**Sn**	**15 49 15.7**	**-1.9**
	3.5nm,0.1s,SNR=7.6						
EPOB	**Poblet**	**4.79**	**356**	P	**Pn**	**15 48 40.5**	**+1.4**
	2.0nm,0.2s,SNR=7.5						
EPOB				S	**Sn**	**15 49 31.5**	**-2.9**
	1.2nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**4.79**	**356**	P	**Pn**	**15 48 40.5**	**+1.4**
	2.0nm,0.2s,SNR=7.5						
EPOB				S	**Sn**	**15 49 31.5**	**-2.9**
	1.2nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**5.23**	**7**	P	**Pn**	**15 48 46.7**	**+1.5**
	1.2nm,0.2s,SNR=7.9						
CFON				S	**Sn**	**15 49 43.1**	**-2.3**
	2.4nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**5.23**	**7**	P	**Pn**	**15 48 46.7**	**+1.5**
	1.2nm,0.2s,SNR=7.9						
CFON				S	**Sn**	**15 49 43.1**	**-2.3**
	2.4nm,0.2s,SNR=7.9						

*JMA **08** 15:54:21.8±0.4, 44°.79N × 149°.77E, h30km, M3.9*
*SKHL **08** 15:54:22.2±0.6, 44°.46N × 149°.82E, h40km, 3km, mb4.4/3*

ISC 08 15:54:20.7±4.0, 44°37N±0°.09 × 149°9E±0°.2, h34km, n17, σ1§96/30, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.70**	**301**	*i* P	**Pn**	**15 54 47.2**	**-0.8**
KUR				AMB	AMB	15 54 48.0	
	110nm,0.5s						
KUR				*i* S	**Sn**	**15 55 06.3**	**-2.2**
KUR				A	A	15 55 08.0	
	360nm,0.3s						
KUR				A	A	15 55 08.0	
	270nm,0.3s						
SHO	**Shikotan**	**2.29**	**258**	*e*P	**Pn**	**15 54 57.0**	**+1.0**
SHO				AMB	AMB	15 54 57.3	
	140nm,1.0s						
SHO				*e*S	**Sn**	**15 55 22.6**	**-0.4**
SHO				A	A	15 55 26.9	
	380nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.94**	**265**	*i* P	**Pn**	**15 55 06.0**	**+1.0**
YUK				AMB	AMB	15 55 09.4	
	30nm,0.3s						
YUK				AMB	AMB	15 55 09.4	
	100nm,0.3s						
YUK				*i* S	**Sn**	**15 55 39.3**	**+0.1**
YUK				A	A	15 55 47.7	
	130nm,0.8s						
YUK				A	A	15 55 47.7	
	190nm,0.8s						
NEM2	**Nemuro 2**	**3.19**	**253**	P	**Pn**	**15 55 09.5**	**+1.1**
NEM2				*e*S	**Sn**	**15 55 44.6**	**-0.6**
JRA	**Rausu**	**3.49**	**265**	P	**Pn**	**15 55 15.0**	**+2.5**
JNK	**Nakash**	**3.84**	**260**	P	**Pn**	**15 55 19.3**	**+1.9**
JNK				*e*S	**Sn**	**15 56 00.9**	**-0.5**
JAK	**Akkeshi**	**4.04**	**252**	P	**Pn**	**15 55 21.2**	**+1.1**
JAK				*e*S	**Sn**	**15 56 05.4**	**-0.7**
JTKR	**Abashiri--Toko**	**4.35**	**267**	P	**Pn**	**15 55 27.1**	**+2.7**
JAR	**Ashorobuto**	**4.58**	**259**	P	**Pn**	**15 55 30.1**	**+2.5**
JAR				*e*S	**Sn**	**15 56 20.6**	**+1.0**
JOB	**Onbets**	**4.66**	**254**	P	**Pn**	**15 55 30.4**	**+1.8**
JOB				*e*S	**Sn**	**15 56 21.4**	**-0.1**
JMP	**Maruseppu**	**4.74**	**268**	P	**Pn**	**15 55 32.5**	**+2.8**
JCH	**Churui**	**5.09**	**252**	P	**Pn**	**15 55 35.9**	**+1.4**
JCH				*e*S	**Sn**	**15 56 31.5**	**-0.6**
MYR	**Moyori**	**5.27**	**249**	*e*P	**Pn**	**15 55 39.3**	**+2.2**
MYR				*e*S	**Sn**	**15 56 36.2**	**-0.4**
JNBK	**Urakawa-nobuka**	**5.64**	**251**	P	**Pn**	**15 55 43.3**	**+1.2**
JNBK				*e*S	**Sn**	**15 56 43.2**	**-2.4**
JKB	**Kayabe**	**6.97**	**252**	P	**Pn**	**15 56 01.7**	**+1.4**
JKB				*e*S	**Sn**	**15 57 15.2**	**-3.1**
JANG	**Nango**	**7.40**	**240**	P	**Pn**	**15 56 06.4**	**+0.1**
JANG				*e*S	**Sn**	**15 57 24.9**	**-4.1**
JTM	**Tenmabayashi**	**7.46**	**244**	*e*S	**Sn**	**15 57 26.6**	**-3.8**

*IDC **08** 16:12:44.0±0.6, 38°.51S × 75°.54W, h0km, mb3.9/10, mb1 4.1/14, mb1mx4.0/21, mbtmp3.9/14, ML4.2/4, MS3.7/3, Ms1 3.7/3, ms1mx3.1/16, Error ellipse: s-maj=22.3km s-min=15.1km az=100.0*

*ISCJB **08** 16:12:47.6±0.6, 38°.43S±0°.06 × 75°.35W±0°.10, h33km, mb3.9/10, Error ellipse: s-maj=10.9km s-min=8.2km az=170.9*

ISC 08 16:12:49.3±0.6, 38°45S±0°.08 × 75°43W±0°.09, h35km, n22, σ1§02/24, mb4.0/10, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.40**	**123**	Pn	**Pn**	**16 13 52.5**	**-1.2**
	4.8nm,0.3s,baz=293,slow=9.0,SNR=78						
PLCA				Sn	**Sn**	**16 14 45.6**	**+1.7**
	8.0nm,0.3s,baz=210,slow=16,SNR=4.3						
CFAA	**Coronel Fontan**	**9.02**	**43**	Pn	**Pn**	**16 14 55.4**	**-1.8**
	0.4nm,0.3s,baz=214,slow=10.0,SNR=16						
CFAA				Sn	**Sn**	**16 16 36.6**	**-0.9**
	0.6nm,0.3s,baz=300,slow=15,SNR=6.7						
CFAA				LR	LR	16 18 24.1	
	comp=Z,9.3nm,18.9s,baz=247,slow=37						
LVC	**Limon Verde**	**16.75**	**21**	Pn	**Pn**	**16 16 40.4**	**-1.1**
	5.2nm,0.3s,baz=195,slow=12,SNR=2.0						
LVC				LR	LR	16 22 09.3	
	comp=Z,138nm,20.3s,baz=198,slow=34						
USHA	**Ushuaia**	**17.06**	**166**	LR	LR	16 23 12.7	
	comp=Z,185nm,20.5s,baz=85,slow=37						
CPUP	**Villa Florida**	**19.45**	**57**	P	**P**	**16 17 13.0**	**+0.2**
	0.1nm,0.3s,baz=231,slow=9.6,SNR=6.5						
CPUP				LR	LR	16 24 21.4	
	comp=Z,447nm,18.9s,baz=228,slow=36						
LPAZ	**La Paz**	**22.99**	**18**	P	**P**	**16 17 52.0**	**+0.3**
	0.5nm,0.6s,baz=191,slow=5.2,SNR=1.9						
SIV	**San Ignacio**	**25.69**	**33**	P	**P**	**16 18 17.4**	**+1.1**
	1.1nm,0.6s,baz=265,slow=11,SNR=2.9						
BDFB	**Brasilia**	**33.13**	**54**	P	**P**	**16 19 24.1**	**+1.6**
	1.4nm,0.5s,baz=190,slow=6.1,SNR=2.5						
PTGA	**Pitinga**	**40.13**	**24**	P	**P**	**16 20 22.3**	**+0.4**
	3.2nm,0.7s,baz=208,slow=7.4,SNR=4.8						
VNA2	**Neumayer--Watz**	**47.05**	**155**	P	**P**	**16 21 16.9**	**0.0**
	baz=283,slow=8.5						
SNAA	**Sanae**	**48.56**	**156**	P	**P**	**16 21 28.5**	**-0.3**
	1.9nm,1.0s,baz=276,slow=9.2,SNR=7.9						
QSPA	**South Pole Qui**	**51.79**	**180**	P	**P**	**16 21 53.0**	**-0.4**
	6.2nm,0.9s,baz=138,slow=4.0,SNR=26						
VNDA	**Vanda**	**59.19**	**192**	P	**P**	**16 22 45.8**	**-0.4**
	0.8nm,0.4s,baz=64,slow=4.7,SNR=8.6						
TXAR	**Lajitas Array**	**72.41**	**334**	P	**P**	**16 24 11.7**	**-0.2**
	0.7nm,0.6s,baz=161,slow=8.7,SNR=7.8						
NVAR	**Mina Array Bea**	**86.07**	**328**	P	**P**	**16 25 27.5**	**+1.1**
	0.4nm,0.7s,baz=180,slow=5.0,SNR=3.6						
PDAR	**Pinedale Array**	**86.58**	**336**	P	**P**	**16 25 28.9**	**+0.1**
	0.7nm,0.9s,baz=110,slow=7.8,SNR=5.6						
GERES	**GERESS Array B**	**117.20**	**48**	PKP	**PKPdf**	**16 31 30.8**	**+0.4**
	0.1nm,0.3s,baz=247,slow=0.7,SNR=3.5						
GEYT	**Alibeck**	**143.79**	**76**	PKP	PKPbc	16 32 18.4	+0.1
	4.2nm,0.7s,baz=270,slow=4.4,SNR=8.2						
BVAR	**Borovoye Array**	**152.36**	**47**	PKPbc	**PKPbc**	**16 32 41.7**	**+0.8**
	1.1nm,0.5s,baz=298,slow=2.5,SNR=6.9						
MJAR	**Matsushiro Arr**	**153.32**	**276**	PKPbc	**PKPbc**	**16 32 43.5**	**-0.1**
	0.3nm,0.5s,baz=157,slow=1.7,SNR=4.1						
MJAR				PKPab	**PKPab**	**16 32 55.4**	**-0.3**
	0.6nm,0.7s,baz=142,slow=3.4,SNR=3.5						
ZALV	**Zalesovo Beam**	**159.44**	**35**	PKP	**PKPdf**	**16 32 43.7**	**+0.3**
	0.3nm,0.2s,baz=276,slow=4.1,SNR=3.4						
ZALV				PKPab	**PKPab**	**16 33 22.5**	**+1.1**
	0.3nm,0.2s,baz=306,slow=5.2,SNR=2.8						
CMAR	**Chiang Mai Arr**	**159.48**	**165**	PKP	**PKP

MYRZ				S*	Sg	16 39 45.1	-0.3	
KUZ	**Kuaotunu**	**1.05**	**262**	P*	Pg	16 39 35.9	-0.3	
KUZ				S*	Sg	16 39 49.3	-0.5	
KUZ				AML	AML	16 39 50.2		
KUZ				AML	AML	16 39 51.0		
KUZ				AML	AML	16 39 52.2		
HAZ	**Te Kaha**	**1.29**	**152**	*e*P*	Pn	16 39 38.0	-2.7	
MKAZ	**Moumakai**	**1.56**	**251**	*e*PN	Pn	16 39 44.2	-0.2	
MKAZ				AML	AML	16 40 06.3		
URZ	**Urewera**	**1.64**	**177**	*e*P*	Pn	16 39 43.0	-2.5	
PUZ	**Puketiti**	**1.76**	**146**	*e*PN	Pn	16 39 46.8	-0.4	

IDC ***08*** *17:05:12.9±2.0,63°11′S×164°91′E,h0km,mb4.0/3, mb1 4.2/4,mb1mx3.9/12,mbtmp4.0/4,ML3.6/1,MS4.2/9, Ms1 4.2/9,ms1mx4.0/19,Error ellipse: s-maj=96.3km s-min=25.6km az=73.0*

ISC 08 17:05:14.0±1.8,63°1′S±0′2×165°1′E±0′6,h10km,n24, σ1°07/8,mb3.9/3,MS4.1/7,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.57**	**183**	Pn	**Pn**	**17 08 40.2**	**+0.4**
	0.3nm,0.3s,baz=13,slow=14,SNR=28						
VNDA				LR	LR	17 13 20.7	
	comp=Z,2μm,19.5s,baz=12,slow=34						
RPZ	**Rata Peaks**	**19.68**	**13**	LR	LR	17 15 44.3	
	comp=Z,896nm,21.1s,baz=212,slow=32						
URZ	**Urewera**	**25.88**	**22**	LR	LR	17 20 50.9	
	comp=Z,557nm,18.1s,baz=196,slow=36						
QSPA	**South Pole Qui**	**27.03**	**180**	P	**P**	**17 10 55.5**	**-0.5**
	6.4nm,1.1s,baz=16,slow=3.0,SNR=7.4						
QSPA				LR	LR	17 20 40.2	
	comp=Z,673nm,18.3s,baz=27,slow=34						
STKA	**Stephens Creek**	**34.58**	**323**	LR	LR	17 24 00.8	
	comp=Z,428nm,18.6s,baz=161,slow=33						
MAW	**Mawson**	**38.25**	**217**	LR	LR	17 28 35.0	
	comp=Z,338nm,21.3s,baz=84,slow=37						
H01W1	**Cape Leeuwin H**	**42.01**	**288**	T	T	17 59 09.6	
	baz=146,slow=75,SNR=53						
H01W2	**Cape Leeuwin H**	**42.02**	**288**	T	T	17 59 09.9	
	baz=146,slow=75,SNR=56						
H01W3	**Cape Leeuwin H**	**42.03**	**288**	T	T	17 59 11.0	
	baz=146,slow=75,SNR=58						
ASAR	**Alice Springs**	**44.55**	**317**	P	**P**	**17 13 25.7**	**0.0**
	2.0nm,1.2s,baz=160,slow=7.9,SNR=5.9						
ASAR				LR	LR	17 30 23.1	
	comp=Z,191nm,21.5s,baz=158,slow=34						
WRA	**Warramunga Arr**	**47.92**	**320**	P	**P**	**17 13 52.6**	**+0.3**
	0.9nm,0.9s,baz=160,slow=5.3,SNR=2.6						
TBI	**Tubuai**	**49.87**	**59**	*e*LQ	LQ	17 25 15.7	
	333nm,27.0s						
TBI	**Tubuai**	**49.87**	**59**	*e*T	T	18 05 57.5	
	8.2nm,0.3s						
PAE	**Paea**	**54.99**	**56**	*e*T	T	18 12 20.3	
	3.9nm,0.3s						
PPT2	**Papeete2**	**55.06**	**56**	*e*LR	LR	17 29 56.1	
	68nm,26.5s						
PPT2	**Papeete2**	**55.06**	**56**	*e*T	T	18 12 25.7	
	5.1nm,0.3s						
RKT	**Rikitea**	**56.11**	**74**	*e*LR	LR	17 30 14.8	
	196nm,33.0s						
RKT	**Rikitea**	**56.11**	**74**	*e*T	T	18 13 44.4	
	3.6nm,0.3s						
VAH	**Vaihoa**	**57.95**	**57**	*e*T	T	18 16 01.7	
	28nm,0.3s						
CMAR	**Chiang Mai Arr**	**96.04**	**299**	LR	LR	18 00 14.3	
	comp=Z,89nm,18.6s,baz=184,slow=34						
BDFB	**Brasilia**	**97.42**	**148**	LR	LR	18 01 34.2	
	comp=Z,51nm,18.1s,baz=188,slow=35						
ILAR	**Eielson Array**	**132.36**	**26**	PKP	**PKPdf**	**17 24 27.1**	**+0.5**
	1.0nm,1.0s,baz=224,slow=3.8,SNR=6.5						
BRTR	**Keskin Array B**	**143.05**	**254**	PKP	**PKPdf**	**17 24 45.4**	**-1.9**
	0.7nm,0.9s,baz=150,slow=2.7,SNR=5.3						
AKASG	**Malin Array Be**	**153.50**	**263**	PKPbc	**PKPbc**	**17 25 12.4**	**+1.1**
	0.1nm,0.3s,baz=127,slow=2.1,SNR=2.6						
AKASG				PKPab	**PKPab**	**17 25 23.7**	**-0.1**
	0.1nm,0.4s,baz=122,slow=2.7,SNR=4.6						

IDC ***08*** *17:30:27.7±18.0,36°26′N×71°18′E,h142km±143km, mb3.0/4,mb1 3.1/6,mb1mx2.9/28,mbtmp3.4/6,ML3.0/2, Error ellipse: s-maj=162.9km s-min=34.9km az=61.0*

ISCJB ***08*** *17:30:32.4±0.6,36°59′N±0′04×70°90′E±0′07,h188km, mb3.1/3,Error ellipse: s-maj=9.0km s-min=4.8km az=153.3*

NNC ***08*** *17:30:37.0±1.1,36°94′N×70°83′E,h198km±8km,mb2.5, mpv3.5,Error ellipse: s-maj=10.9km s-min=5.0km az=164.0*

ISC 08 17:30:32.8±0.9,36°64′N±0′07×70°86′E±0′08,h188km,n27, σ1°72/33,mb3.3/3,8C-5D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.70**	**324**	⇑P	**Pn**	**17 31 20.0**	**+1.7**
	6.1nm,0.2s						
DZET				⇑S	**Sn**	17 31 54.8	**+0.9**
	127nm,0.5s						
SFK	**Sufi-Kurgan**	**3.96**	**31**	⇓P	**Pn**	**17 31 35.6**	**+1.9**
	1.4nm,0.2s						
SFK				⇑S	**Sn**	**17 32 21.9**	**+0.3**
	24nm,0.3s						
AML	**Almayashu**	**5.91**	**21**	P	**Pn**	**17 32 00.4**	**+1.5**
	SNR=25						
UCH	**Uchtor**	**6.25**	**26**	P	**Pn**	**17 32 04.9**	**+1.4**
	SNR=6.6						
EKS2	**Erkin-Say**	**6.42**	**20**	P	**Pn**	**17 32 07.0**	**+1.7**
	SNR=8.0						
KK31	**Karatay Array**	**6.46**	**358**	⇓P	**Pn**	**17 32 07.1**	**+1.3**
	0.9nm,0.3s,baz=174,slow=12,SNR=45						
KK31				⇓S	**Sn**	**17 33 17.3**	**-2.1**
	32nm,1.0s,baz=183,slow=21,SNR=23						
AAK	**Ala-Archa**	**6.61**	**24**	P	**Pn**	**17 32 09.6**	**+1.7**
	SNR=5.5						
AAK	**Ala-Archa**	**6.61**	**24**	⇑P	**Pn**	**17 32 08.9**	**+1.0**
	1.6nm,0.3s						
AAK				⇓S	**Sn**	**17 33 22.9**	**-0.2**
	6.4nm,0.6s						
USP	**Ospenovka**	**7.18**	**22**	P	**Pn**	**17 32 16.6**	**+1.3**
	SNR=7.2						
TKM2	**Tokmak 2**	**7.25**	**29**	P	**Pn**	**17 32 17.8**	**+1.5**
	SNR=12						
TKM2	**Tokmak 2**	**7.25**	**29**	⇓P	**Pn**	**17 32 17.5**	**+1.2**
	5.1nm,0.6s						
TKM2				⇑S	**Sn**	**17 33 36.9**	**-1.5**
	1.7nm,0.8s						
MKAR	**Makanchi Array**	**13.24**	**36**	P	**Pn**	**17 33 30.8**	**-2.8**
	0.0nm,0.3s,baz=211,slow=13,SNR=2.3						
GKN	**Gorkha**	**14.47**	**123**	*e*P	**Pn**	**17 33 47.8**	**-1.4**
AB31	**Akbulak array**	**14.91**	**331**	⇑P	**P**	**17 33 54.8**	**-0.4**
	1.2nm,0.6s						
AB31				⇑S	**Sn**	**17 36 35.9**	**-4.7**
	0.5nm,0.5s						
DMN	**Daman**	**15.04**	**123**	*e*P	**Pn**	**17 33 55.2**	**-1.1**
	4.2nm,0.4s						
KKN	**Kakani**	**15.05**	**122**	*e*P	**Pn**	**17 33 55.7**	**-0.6**
	3.7nm,0.4s						
PKIN	**Phulchoki**	**15.26**	**122**	*e*P	**Pn**	**17 33 58.8**	**-0.2**
	3.5nm,0.3s						
PKI	**Pulchoki**	**15.27**	**122**	*e*P	**P**	**17 33 59.8**	**0.0**
	6.5nm,0.5s						
GUN	**Gumba**	**15.38**	**120**	*e*P	**Pn**	**17 34 00.5**	**0.0**
JIRN	**Jiri**	**15.75**	**120**	*e*P	**Pn**	**17 34 05.1**	**0.0**
	4.8nm,0.3s						
BVAR	**Borovoye Array**	**16.39**	**359**	P	**Pn**	**17 34 14.3**	**+2.2**
	0.2nm,0.3s,baz=162,slow=10,SNR=6.2						
AKTO	**Aktyubinsk**	**16.60**	**330**	⇑P	**Pn**	**17 34 15.9**	**+1.2**
	1.7nm,0.7s						
TAPN	**Taplejung**	**17.01**	**118**	*e*P	**Pn**	**17 34 22.0**	**+1.9**
	3.2nm,0.4s						
ZALV	**Zalesovo Beam**	**19.83**	**25**	P	**P**	**17 34 50.6**	**+1.7**
	0.4nm,0.3s,baz=225,slow=10,SNR=3.1						
YKA	**Yellowknife Ar**	**81.11**	**3**	P	**P**	**17 42 28.2**	**+1.7**
	0.1nm,0.4s,baz=353,slow=5.4,SNR=4.8						
WRA	**Warramunga Arr**	**82.16**	**122**	P	**P**	**17 42 30.8**	**-1.9**
	0.4nm,0.7s,baz=325,slow=4.9,SNR=8.5						
ASAR	**Alice Springs**	**84.43**	**125**	P	**P**	**17 42 42.2**	**-2.0**
	0.3nm,0.6s,baz=316,slow=4.5,SNR=10						

ISCJB ***08*** *17:42:40.6±0.2,18°19S±0°03×175°48W±0°04,h238km, mb4.3/45,Error ellipse: s-maj=5.5km s-min=3.8km az=37.7*

IDC ***08*** *17:42:40.3±3.2,18°30S×175°33W,h228km±30km, mb4.0/24,mb1 4.2/24,mb1mx4.2/26,mbtmp4.6/24,Error*

ellipse: s-maj=12.5km s-min=11.6km az=70.0

BJI ***08*** *17:42:40.0,18°30S×175°40W,h230km,mb4.5/20, mbA4.9/13*

NEIC ***08*** *17:42:40.8±0.8,18°28S×175°39W,h235km±7km,mb4.6/28, Error ellipse: s-maj=6.8km s-min=4.5km az=133.0*

ISC 08 17:42:41.2±0.3,18°31S±0°05×175°42W±0°06,h238km, n182,σ1°32/197,mb4.4/44,27C-12D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.26**	**99**	P	**Pn**	**17 44 01.3**	**+1.4**
	baz=5.0,SNR=25						
NIUE				S	**S**	**17 45 03.2**	**+0.8**
	baz=5.0,SNR=8.6						
AFI	**Afiamalu**	**5.60**	**39**	*e*Pn	**Pn**	**17 44 03.0**	**-1.2**
AFI				*e*S	S	17 45 02.3	-8.0
RAO	**Raoul Island**	**11.13**	**191**	P	**Pn**	**17 45 12.5**	**-1.7**
	116nm,0.3s,baz=79,slow=24,SNR=4.0						
RAO				S	S	17 47 10.3	-7.7
	122nm,0.3s,baz=108,slow=19,SNR=4.6						
RAR	**Rarotonga**	**15.01**	**104**	*e*Pn	**Pn**	**17 46 02.3**	**+0.3**
KNTN	**Kanton**	**15.85**	**14**	*e*P	**P**	**17 46 11.6**	**+0.3**
	147nm,1.0s						
KUZ	**Kuaotunu**	**19.96**	**201**	*e*PN	**Pn**	**17 46 59.0**	**-1.4**
WMGZ	**Waiomatatini S**	**20.18**	**194**	*e*PN	Pn	17 47 01.3	-1.7
HAZ	**Te Kaha**	**20.27**	**196**	PN	**P**	**17 47 01.2**	**+2.3**
PUZ	**Puketiti**	**20.46**	**194**	*e*PN	**P**	**17 47 02.2**	**+1.3**
PUZ				*e*SN	**S**	**17 50 34.0**	**-2.0**
MKAZ	**Moumakai**	**20.48**	**202**	*e*PN	**P**	**17 47 03.1**	**+2.0**
TWGZ	**Tauwhareparae**	**20.62**	**195**	*e*PN	**P**	**17 47 04.3**	**+1.6**
TWGZ				*e*SN	**S**	**17 50 37.9**	**-1.0**
MWZ	**Matawai**	**20.89**	**196**	*e*PN	**P**	**17 47 05.9**	**+0.5**
MWZ				*e*SN	**S**	**17 50 40.3**	**-3.0**
TKGZ	**Te Karaka**	**20.91**	**195**	*e*PN	**P**	**17 47 06.1**	**+0.5**
URZ	**Urewera**	**20.93**	**197**	P	**P**	**17 47 05.8**	**0.0**
	19nm,0.4s,baz=261,slow=4.4,SNR=46						
URZ				S	**S**	**17 50 42.0**	**-1.9**
	10.0nm,0.5s,baz=89,slow=19,SNR=6.2						
URZ	**Urewera**	**20.93**	**197**	*e*PN	**P**	**17 47 04.8**	**-1.0**
URZ				*e*SN	**S**	**17 50 39.8**	**-4.1**
URZ	**Urewera**	**20.93**	**197**	*e*P	**P**	**17 47 06.3**	**+0.6**
	83nm,1.5s						
URZ				*e*S	S	17 50 33.1	-11
URZ				S	S	17 50 42.0	-1.9
RAGZ	**Rawiri**	**21.07**	**196**	*e*PN	**P**	**17 47 07.9**	**+0.6**
SNGZ	**Shannon Statio**	**21.36**	**196**	*e*PN	**P**	**17 47 11.7**	**+1.6**
KNZ	**Kokohu**	**21.50**	**195**	*e*PN	**P**	**17 47 12.4**	**+1.0**
BKZ	**Black Stump Fm**	**21.95**	**197**	*e*PN	**P**	**17 47 15.7**	**0.0**
BKZ	**Black Stump Fm**	**21.95**	**197**	*e*P	**P**	**17 47 16.9**	**+1.2**
	48nm,1.6s						
BKZ				*e*S	**S**	**17 51 06.3**	**+5.6**
PXZ	**Pawanui**	**22.66**	**196**	*e*PN	**P**	**17 47 25.3**	**+3.2**
PXZ				*e*SN	**S**	**17 51 13.0**	**+1.0**
MRZ	**Mangatainoka R**	**23.59**	**197**	*e*PN	**P**	**17 47 31.5**	**+0.9**
SNZO	**South Karori**	**24.44**	**198**	P	**P**	**17 47 38.7**	**+0.4**
	64nm,1.1s						
PPT	**Papeete**	**24.59**	**92**	P	**P**	**17 47 38.8**	**-1.1**
	37nm,0.8s,baz=256,slow=1.4,SNR=3.6						
THZ	**Tophouse**	**25.42**	**201**	PN	**P**	**17 47 48.3**	**+1.0**
EIDS	**Eidsvold**	**31.82**	**251**	P	**P**	**17 48 44.0**	**+0.1**
RMQ	**Roma**	**34.02**	**250**	P	**P**	**17 49 05.2**	**+2.2**
	baz=34,SNR=6.4						
CTA	**Charters Tower**	**36.19**	**261**	P	**P**	**17 49 22.2**	**+0.7**
	12nm,0.7s,baz=92,slow=11,SNR=11						
CTAO	**Charters Tower**	**36.19**	**261**	*e*P	**P**	**17 49 22.0**	**+0.4**
	13nm,0.7s						
CMSA	**Cobar Meteorol**	**37.45**	**242**	P	**P**	**17 49 33.7**	**+1.7**
	baz=38,SNR=6.6						
QLP	**Quilpie**	**38.06**	**250**	P	**P**	**17 49 38.4**	**+1.2**
	baz=38,SNR=5.6						
QLP				S	S	17 54 52.8	-19
	baz=38,SNR=3.9						
COEN	**Coen**	**39.95**	**270**	P	**P**	**17 49 54.8**	**+1.9**
	baz=40,SNR=3.9						
STKA	**Stephens Creek**	**40.95**	**242**	P	**P**	**17 50 01.3**	**+0.4**
	6.7nm,1.0s,baz=96,slow=8.9,SNR=8.3						
STKA	**Stephens Creek**	**40.95**	**242**	P	**P**	**17 50 02.6**	**+1.7**
	baz=41,SNR=4.1						
STKA	**Stephens Creek**	**40.95**	**242**	*e*P	**P**	**17 50 01.8**	**+0.8**
	1.1nm,0.8s						
BBOO	**Buckleboo**	**45.72**	**242**	P	**P**	**17 50 39.1**	**+0.2**
	baz=46,SNR=9.9						
WRAB	**Tennant Creek**	**47.35**	**259**	*e*P	**P**	**17 50 51.6**	**-0.2**
WRA	**Warramunga Arr**	**47.36**	**259**	P	**P**	**17 50 51.6**	**-0.2**
	5.1nm,0.4s,baz=98,slow=6.9,SNR=217						
WRA				S	S	17 57 21.1	-6.4
	1.0nm,0.8s,baz=98,slow=12,SNR=4.3						
AS01	**Alice Springs**	**47.38**	**254**	*e*P	**P**	**17 50 51.6**	**-0.4**
AS31	**Alice Springs**	**47.42**	**254**	*e*P	**P**	**17 50 52.6**	**+0.3**
AS31				*e*S	S	17 57 20.7	-7.7
ASAR	**Alice Springs**	**47.42**	**254**	P	**P**	**17 50 53.0**	**+0.7**
	16nm,0.7s,baz=93,slow=6.6,SNR=317						
ASAR				S	**S**	**17 57 24.0**	**-4.4**
	7.4nm,1.0s,baz=89,slow=16,SNR=29						
KDU	**Kakadu**	**50.39**	**268**	P	**P**	**17 51 15.1**	**+0.2**
	baz=51,SNR=7.0						
WRKA	**Warakurna**	**52.43**	**252**	P	**P**	**17 51 30.0**	**+0.1**
	baz=53,SNR=47						
KNRA	**Kununurra**	**53.28**	**264**	P	**P**	**17 51 36.2**	**+0.1**
	baz=54,SNR=6.0						
SOEI	**Soe**	**58.91**	**269**	P	**P**	**17 52 17.9**	**+1.8**
	baz=59,SNR=3.1						
SBA	**Scott Base**	**60.22**	**184**	*e*P	**P**	**17 52 25.4**	**+1.5**
	14nm,0.9s						
VNDA	**Vanda**	**60.31**	**186**	P	**P**	**17 52 25.2**	**+0.8**
	6.2nm,0.9s,baz=6.1,slow=6.5,SNR=28						
VNDA	**Vanda**	**60.31**	**186**	*e*P	**P**	**17 52 25.6**	**+1.1**
	7.2nm,1.0s						
MBWA	**Marble Bar**	**60.73**	**256**	P	**P**	**17 52 27.7**	**-0.6**
	30nm,1.4s						
MJAR	**Matsushiro Arr**	**69.95**	**322**	P	**P**	**17 53 26.9**	**0.0**
	8.5nm,0.8s,baz=159,slow=6.3,SNR=44						
MAJO	**Matsushiro**	**69.95**	**322**	*e*P	**P**	**17 53 26.6**	**-0.4**
	12nm,0.8s						
MAT	**Matsushiro**	**69.95**	**322**	P	**P**	**17 53 27.0**	**+0.1**
MAT				S	**S**	**18 02 16.2**	**-1.3**
QSPA	**South Pole Qui**	**71.75**	**180**	P	**P**	**17 53 37.8**	**+0.3**
	24nm,0.9s,baz=45,slow=2.6,SNR=69						
QSPA	**South Pole Qui**	**71.75**	**180**	*e*P	**P**	**17 53 37.6**	**+0.1**
	30nm,0.9s						
JNU	**Nakatsue**	**72.41**	**315**	*e*P	**P**	**17 53 41.5**	**-0.2**
	12nm,0.8s						
ASAJ	**Asahikawa**	**73.02**	**330**	P	**P**	**17 53 45.6**	**+0.6**
	21nm,1.1s,baz=120,slow=4.4,SNR=7.2						
PETK	**Petropavlovsk-**	**74.82**	**344**	P	**P**	**17 53 55.3**	**0.0**
	8.2nm,0.8s,baz=142,slow=10,SNR=9.4						
TPUB	**Ta-pu**	**74.89**	**301**	*e*P	**P**	**17 53 55.4**	**-0.9**
	27nm,0.8s						
YSS	**Yuzh-Sakhalins**	**75.08**	**332**	*e*P	**P**	**17 53 57.0**	**+0.3**
	43nm,1.1s						
KSM	**Kuching**	**75.56**	**276**	P	**P**	**17 54 02.1**	**+1.7**
	baz=76,SNR=4.3						
KSM	**Kuching**	**75.56**	**276**	*e*P	**P**	**17 54 00.8**	**+0.5**
KSRS	**Korea Array**	**76.91**	**317**	P	**P**	**17 54 08.6**	**+1.3**
	5.0nm,0.8s,baz=126,slow=6.3,SNR=27						
KSAR	**Wonju Array Be**	**76.93**	**317**	P	**P**	**17 54 08.6**	**+1.2**
KS01	**Wonju Array Si**	**76.94**	**317**	*e*P	**P**	**17 54 08.7**	**+1.1**
YBH	**Yreka Blue Hor**	**77.07**	**38**	P	**P**	**17 54 09.1**	**+0.9**
	0.5nm,0.4s,baz=233,slow=8.9,SNR=3.5						
NV01	**Mina Array Sit**	**77.77**	**42**	*e*P	**P**	**17 54 12.5**	**+0.1**
NVAR	**Mina Array Bea**	**77.77**	**42**	P	**P**	**17 54 12.6**	**+0.1**
	1.5nm,0.8s,baz=218,slow=8.6,SNR=8.1						
TPH	**Tonopah**	**78.26**	**43**	P	**P**	**17 54 14.7**	**-0.4**
USRK	**Ussuriysk Ar.**	**78.57**	**324**	P	**P**	**17 54 17.2**	**+0.9**
	4.0nm,1.0s,baz=113,slow=4.4,SNR=6.1						
TUC	**Tucson**	**79.71**	**51**	*e*P	**P**	**17 54 22.8**	**-0.1**
	42nm,2.7s						
WVOR	**Wild Horse Val**	**79.89**	**39**	*e*P	P	17 54 28.4	+4.6
	2.3nm,0.8s						
NJ2	**Nanjing**	**80.40**	**308**	*e*P	**P**	**17 54 29.0**	**+2.5**
F10A	**Beach Ranch, E**	**82.79**	**37**	*e*P	**P**	**17 54 38.5**	**-0.3**
BMRM	**Bremner River**	**82.79**	**15**	*e*P	**P**	**17 54 37.8**	**-0.6**
	8.9nm,1.1s						
PPLA	**Purkeypile**	**82.97**	**10**	*e*P	**P**	**17 54 40.6**	**+1.2**
	23nm,1.7s						
HVU	**Hansel Valley**	**83.15**	**42**	*e*P	**P**	**17 54 40.8**	**-0.1**
	19nm,2.2s						
SRU	**San Rafael Swe**	**83.25**	**45**	*e*P	**P**	**17 54 41.1**	**-0.4**
	2.6nm,0.7s						
MNTX	**Cornudas Mount**	**83.50**	**54**	*e*P	**P**	**17 54 43.8**	**+1.1**
	14nm,1.4s						
MNTX	**Cornudas Mount**	**83.50**	**54**	⇑P	**P**	**17 54 43.1**	**+0.5**
	baz=84,SNR=5.9						
TNA	**Tin City**	**83.80**	**3**	*e*P	**P**	**17 54 43.6**	**+0.3**
TX31	**Lajitas Ar. Si**	**83.82**	**57**	*e*P	**P**	**17 54 45.4**	**+0.9**
TXAR	**Lajitas Array**	**83.82**	**57**	P	**P**	**17 54 45.1**	**+0.7**
	7.3nm,1.0s,baz=217,slow=5.6,SNR=34						
TRF	**Thorofare Moun**	**83.82**	**11**	*e*P	**P**	**17 54 42.5**	**-1.2**
	6.3nm,0.9s						
PV01	**Paradox Valley**	**84.11**	**47**	P	**P**	**17 54 45.8**	**-0.1**
ANMO	**Albuquerque**	**84.14**	**50**	*e*P	**P**	**17 54 46.6**	**+0.5**
	4.0nm,1.1s						
MCK	**McKinley**	**84.33**	**12**	*e*P	**P**	**17 54 45.3**	**-0.8**
PAX	**Paxson**	**84.35**	**13**	*e*P	**P**	**17 54 45.1**	**-1.2**
	2.0nm,1.1s						
MAW	**Mawson**	**84.44**	**199**	P	**P**	**17 54 47.1**	**+0.4**
	5.8nm,0.7s,baz=134,slow=6.0,SNR=11						
MAW	**Mawson**	**84.44**	**199**	P	**P**	**17 54 47.2**	**+0.5**
	baz=85,SNR=7.4						
MAW	**Mawson**	**84.44**	**199**	*e*P	**P**	**17 54 47.2**	**+0.5**
DOT	**Dot Lake**	**85.26**	**13**	*e*P	**P**	**17 54 50.2**	**-0.5**
529A	**Stev Forest Ra**	**85.29**	**56**	⇑P	**P**	**17 54 52.0**	**+0.3**
	baz=85,SNR=15						
COLA	**College**	**85.57**	**11**	*e*P	**P**	**17 54 51.5**	**-0.7**
	16nm,0.8s						
IM04	**Indian Mountai**	**85.60**	**9**	*e*P	**P**	**17 54 52.2**	**-0.2**
ILAR	**Eielson Array**	**85.66**	**12**	P	**P**	**17 54 51.8**	**-0.9**
	4.2nm,1.0s,baz=221,slow=5.7,SNR=26						
PDAR	**Pinedale Array**	**85.70**	**42**	P	**P**	**17 54 53.1**	**-0.6**
	0.3nm,0.5s,baz=218,slow=5.7,SNR=3.3						
429A	**Davenport Banc**	**85.75**	**56**	⇓P	**P**	**17 54 54.5**	**+0.5**
	baz=86,SNR=35						
228A	**UT Block 9, Go**	**85.82**	**54**	⇑P	**P**	**17 54 55.0**	**+0.7**
	baz=86						
530A	**J-O Ranch, Com**	**86.00**	**57**	⇓P	**P**	**17 54 56.0**	**+0.8**
	baz=86,SNR=12						
329A	**Wagon Wheel Ra**	**86.04**	**55**	⇑P	**P**	**17 54 56.3**	**+0.9**
	baz=86,SNR=9.5						
BJI	**Beijing**	**86.08**	**314**	P	**P**	**17 54 56.4**	**+1.1**
BJI				PMZ			
	10.0nm,1.3s						
128A	**Castleberry Fa**	**86.11**	**54**	⇓P	**P**	**17 54 56.7**	**+0.9**
	baz=86,SNR=6.5						
631A	**Perdido Creek**	**86.32**	**58**	⇑P	**P**	**17 54 57.6**	**+0.9**
	baz=86,SNR=13						
430A	**Baggett Ranch,**	**86.34**	**56**	⇓P	**P**	**17 54 57.1**	**+0.3**
	baz=86						
832A	**Faith Ranch, C**	**86.36**	**59**	⇑P	**P**	**17 54 57.6**	**+0.6**
	baz=86,SNR=8.8						
732A	**Laxson Ranch,**	**86.54**	**58**	⇑P	**P**	**17 54 57.5**	**-0.3**
	baz=87						
330A	**Mertzon**	**86.63**	**56**	⇓P	**P**	**17 54 59.3**	**+1.0**
	baz=87						
531A	**Rocksprings**	**86.64**	**57**	⇑P	**P**	**17 54 58.7**	**+0.4**
	baz=87,SNR=16						
933A	**Laredo**	**86.68**	**60**	⇑P	**P**	**17 54 59.4**	**+0.9**
	baz=87,SNR=5.3						
DAWY	**Dawson**	**86.70**	**15**	*e*P	**P**	**17 54 57.8**	**-0.1**
431A	**Sonora**	**86.79**	**56**	⇑P	**P**	**17 55 00.3**	**+1.3**
	baz=87						
833A	**Chaparral WMA,**	**86.85**	**59**	⇓P	**P**	**17 55 00.5**	**+1.3**
	baz=87						
EGAK	**Eagle**	**86.88**	**14**	*e*P	**P**	**17 54 58.5**	**0.0**
	3.3nm,0.9s						
034A	**Hebbronville**	**86.95**	**60**	⇑P	**P**	**17 55 01.9**	**+2.1**
	baz=87						
Z29A	**Hungry Hill Ra**	**86.97**	**54**	⇑P	P	17 55 05.2	+5.3
	baz=87						
632A	**Uvalde**	**86.99**	**58**	⇑P	**P**	**17 55 00.8**	**+0.8**
	baz=87,SNR=9.1						
532A	**Rocksprings**	**87.13**	**57**	⇑P	**P**	**17 55 01.6**	**+0.9**
	baz=87,SNR=10						
331A	**San Angelo**	**87.18**	**56**	⇓P	**P**	**17 55 01.4**	**+0.6**
	baz=87						
COLD	**Coldfoot**	**87.30**	**10**	*e*P	**P**	**17 55 00.7**	**+0.2**
	3.0nm,0.8s						
JCT	**Junction City**	**87.35**	**57**	⇑P	**P**	**17 55 03.1**	**+1.4**
	baz=87						
035A	**Encino**	**87.39**	**61**	⇑P	**P**	**17 55 03.7**	**+1.9**
	baz=88						
Z30A	**Sanderson Ranc**	**87.42**	**54**	⇑P	**P**	**17 55 03.5**	**+1.5**
	baz=88						
633A	**Saathoff Ranch**	**87.46**	**58**	⇑P	**P**	**17 55 02.9**	**+0.7**
	baz=88						
834A	**Tilden**	**87.46**	**59**	⇓P	**P**	**17 55 04.1**	**+1.9**
	baz=88						
432A	**Menard**	**87.51**	**56**	⇑P	**P**	**17 55 03.2**	**+0.8**
	baz=88,SNR=6.4						
231A	**Bronte**	**87.52**	**55**

comp=Z,200nm,18.5s
BRG Berggiesshubel 146.66 349 *e*P **PKPbc 18 01 54.5 -0.2**
comp=Z,2.9nm,0.8s
BRG Berggiesshubel 146.66 349 *e*PKPab **PKPab 18 01 56.5 +0.1**
DPC Dobruska-Polom 146.68 346 *e*PKP **PKPab 18 01 56.7 +0.2**
DPC *ex* x 18 02 05.0
FBE Freiberg 146.72 350 *e*pPKPab pPKPab 18 03 04.1 +8.4
BR131 Keskin Array S 147.05 316 *e*PKPbc **PKPbc 18 01 56.4 0.0**
BRTR Keskin Array B 147.06 316 PKPbc **PKPbc 18 01 56.2 -0.3**
comp=Z,4.4nm,0.9s,baz=85,slow=3.1,SNR=20
PLN Plauen 147.33 351 *e*PKPab **PKPab 18 01 58.0 -1.1**
WERD Werda 147.34 351 *e*PKPab **PKPab 18 01 58.3 -0.8**
PRU Pruhonice 147.40 348 *e*PKP **PKPab 18 01 58.9 -0.4**
GUNZ Gunzen 147.42 351 *e*PKPab **PKPab 18 01 58.8 -0.7**
WERN Wernitzgruen 147.49 351 *e*PKPab **PKPab 18 01 59.0 -0.7**
ROHR Rohrbach 147.55 351 *e*PKPab **PKPab 18 01 59.2 -0.8**
VRAC Vranov 147.59 345 PKPbc **PKPbc 18 01 57.6 +0.2**
comp=Z,2.3nm,0.8s,baz=37,slow=6.8,SNR=4.0
GRF Grafenberg Arr 148.24 352 *e*PKPab **PKPab 18 02 02.5 -0.2**
KHC Kasperske Hory 148.40 349 *e*PKP **PKPbc 18 01 59.8 +0.3**
KHC *ex* x 18 02 03.6
GEC2 GERESS Array S 148.65 348 *e*PKPab **PKPab 18 02 04.9 +0.3**
GERES GERESS Array B 148.65 348 PKPbc **PKPbc 18 01 59.5 -0.7**
comp=Z,1.4nm,0.8s,baz=336,slow=2.9,SNR=9.9
CONA Conrad Observa 149.05 345 ⇑*i*PKPdf **PKPdf 18 01 55.8 -1.1**
comp=Z,3.1nm,0.7s
MOA Molln 149.49 347 ⇑*i*PKPab **PKPab 18 02 05.4 -2.5**
comp=Z,6.6nm,1.4s
CSS Prodhromos 149.56 309 *e*PKPdf **PKPdf 18 01 53.2 -4.8**
CSS *e*PKPab **PKPab 18 02 09.1 +0.4**
SOKA Soboth 150.42 345 ⇑*i*PKPab **PKPab 18 02 12.1 +0.2**
comp=Z,3.1nm,1.2s
DAVOX Davos/Dischmat 151.27 352 PKPbc **PKPbc 18 02 07.1 +0.4**
comp=Z,2.7nm,0.7s,baz=315,slow=2.9,SNR=3.0
ESDC Sonseca Array 157.46 17 PKPab **PKPab 18 02 41.6 -0.4**
comp=Z,0.3nm,0.4s,baz=328,slow=4.5,SNR=4.3
TORD Torodi Ar. Bea 174.17 151 PKP **PKPdf 18 02 20.7 -2.5**
comp=Z,1.0nm,1.0s,baz=252,slow=1.4,SNR=3.6
TORD PKPab **PKPab 18 03 55.5 -0.5**
comp=Z,3.0nm,1.1s,baz=212,slow=2.6,SNR=9.8

WEL 08 17:42:45.2±0.5, 36°.61S×177°.08E, h5km, ML3.7/3, Error ellipse: s-maj=4.5km s-min=2.6km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYRZ	**Mayor Island**	**0.95**	**225**	P*	Pg	17 43 03.0	-0.4
MYRZ				*e*S*	Sg	17 43 14.0	-1.7
KUZ	**Kuaotunu**	**1.10**	**263**	P*	Pg	17 43 05.8	-0.4
KUZ				S*	Sg	17 43 20.3	-0.3
KUZ				AML	AML	17 43 20.5	
KUZ				AML	AML	17 43 21.2	
KUZ				AML	AML	17 43 21.2	
HAZ	**Te Kaha**	**1.27**	**154**	P*	Pg	17 43 07.0	-2.6
TGRZ	**Tauranga**	**1.29**	**210**	*e*P*	Pn	17 43 08.7	-1.2
TGRZ				AML	AML	17 43 28.4	
TGRZ				AML	AML	17 43 39.2	
MXZ	**Matakaoa Point**	**1.37**	**134**	*e*P*	Pn	17 43 08.7	-2.2
WMGZ	**Waiomatatini S**	**1.61**	**139**	*e*PN	Pb	17 43 15.3	-0.1
MKAZ	**Moumakai**	**1.61**	**251**	PN	Pn	17 43 13.3	-0.9
MKAZ				AML	AML	17 43 36.0	
MKAZ				AML	AML	17 43 36.2	
URZ	**Urewera**	**1.64**	**179**	*e*P*	Pn	17 43 12.4	-2.3
TOZ	**Tahuroa Road**	**1.68**	**228**	*e*P*	Pn	17 43 14.4	-0.8
PUZ	**Puketiti**	**1.73**	**148**	*e*PN	Pb	17 43 17.1	-0.5
MWZ	**Matawai**	**1.76**	**168**	*e*P*	Pn	17 43 14.1	-2.2
ETAZ	**East Tamaki Re**	**1.76**	**258**	PN	Pb	17 43 17.2	-0.7
RVAZ	**Riverhead Bore**	**2.02**	**265**	PN	Pn	17 43 20.7	+0.9
HIZ	**Hauiti**	**2.59**	**222**	PN	Pn	17 43 27.2	-0.6

IDC 08 17:46:08.4±5.3, 30°.72S×177°.89W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.5/33, mbtmp3.8/2, MS3.2/1, Ms1 3.2/1, ms1mx2.7/31, Error ellipse: s-maj=266.7km s-min=46.5km az=159.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.58**	**207**	LR	LR	17 51 11.7	
comp=Z,151nm,21.3s,baz=189,slow=35							
ASAR	**Alice Springs**	**43.19**	**267**	P	P	17 54 11.2	-0.2
0.6nm,0.5s,baz=106,slow=7.4,SNR=3.8							
WRA	**Warramunga Arr**	**44.20**	**272**	P	P	17 54 19.4	-0.2
0.7nm,0.4s,baz=112,slow=8.0,SNR=6.9							
FINES	**FINESS Array B**	**145.47**	**340**	PKPbc	PKPdf	18 05 46.6	-1.1
2.3nm,0.7s,baz=64,slow=3.2,SNR=9.6							
AKASG	**Malin Array Be**	**151.61**	**322**	PKPbc	PKPbc	18 06 04.4	+0.1
0.2nm,0.3s,baz=58,slow=2.8,SNR=3.0							

IDC 08 17:59:07.1±3.4, 6°.24S×150°.67E, h0km, mb3.1/2, mb1 3.5/2, mb1mx3.2/29, mbtmp3.2/2, Error ellipse: s-maj=129.6km s-min=45.3km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.91**	**228**	P	P	18 03 51.0	-0.4
0.4nm,0.5s,baz=53,slow=10,SNR=5.4							
ASAR	**Alice Springs**	**23.67**	**221**	P	P	18 04 20.4	-0.2
0.3nm,0.4s,baz=57,slow=9.0,SNR=2.7							
TORD	**Torodi Ar. Bea**	**148.68**	**285**	PKPbc	PKPbc	18 18 57.2	-0.2
0.3nm,0.8s,baz=73,slow=3.3,SNR=2.2							

*ISCJB **08** 18:04:14.7±0.2, 43°.81N±0°.02×105°.29W±0°.02, h0km, Error ellipse: s-maj=2.2km s-min=2.1km az=13.7*
*NEIC **08** 18:04:14.8±0.4, 43°.85N×105°.17W, h0km, ML3.1, Error ellipse: s-maj=6.4km s-min=4.7km az=164.0, Suspected Mining explosion.*
NEIC 55 km [35 miles] SSE of Gillette.
*IDC **08** 18:04:15.2±1.5, 44°.00N×105°.65W, h0km, mb1 3.5/5, mb1mx3.3/32, mbtmp3.2/5, ML3.0/4, Error ellipse: s-maj=45.0km s-min=8.6km az=147.0*

ISC 08 18:04:14.7±0.7, 43°.82N±0°.02×105°.26W±0°.02, h0km, n110, σ1§14/121, 41C-22D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.21**	**315**	P	**Pg**	**18 04 20.6**	**+1.9**
baz=0.2,SNR=337							
I24A	**Kuemmerle Ranc**	**0.46**	**84**	P	**Pg**	**18 04 24.5**	**+1.0**
baz=0.4,SNR=248							
J23A	**Dilts Ranch, B**	**0.46**	**207**	P	**Pg**	**18 04 23.9**	**+0.3**
baz=0.5,SNR=196							
J24A	**Dixon Ranch, L**	**0.65**	**138**	P	**Pg**	**18 04 27.5**	**+0.3**
baz=0.6,SNR=190							
J24A				⇓S	**Sg**	**18 04 37.9**	**+2.2**
baz=0.6							
H23A	**Clabaugh Cattl**	**0.75**	**352**	⇑P	**Pg**	**18 04 29.6**	**+0.4**
baz=0.7,SNR=42							
I22A	**9 Mile Ranch,**	**0.89**	**275**	⇑P	**Pg**	**18 04 32.0**	**+0.2**
baz=1.0,SNR=1000							
RSSD	**Black Hills**	**0.94**	**71**	*e*Pg	**Pg**	**18 04 32.9**	**+0.3**
J22A	**Midwest**	**0.97**	**246**	P	**Pg**	**18 04 32.9**	**-0.4**
baz=1.0,SNR=128							
H24A	**Dirks Ranch, A**	**1.06**	**28**	⇓P	**Pg**	**18 04 35.4**	**+0.4**
baz=1.0,SNR=376							
H24A				⇑S	**Sb**	**18 04 50.3**	**-0.3**
baz=1.0							
K23A	**Bowen Ranch, D**	**1.09**	**194**	⇑P	**Pg**	**18 04 35.6**	**-0.1**
baz=1.1							
K23A				⇓S	**Sg**	**18 04 50.5**	**+0.6**
baz=1.1							
H22A	**Clearmont**	**1.11**	**315**	⇑P	**Pb**	**18 04 36.6**	**-0.3**
baz=1.1,SNR=114							
I25A	**Rochford**	**1.12**	**79**	⇑P	**Pg**	**18 04 36.3**	**0.0**
baz=1.0,SNR=193							
I25A				⇑S	**Sg**	**18 04 52.2**	**+1.4**
baz=1.0							
K24A	**Anderson Ranch**	**1.14**	**163**	⇑P	**Pg**	**18 04 36.2**	**-0.3**
baz=1.2							
K24A				⇑S	**Sg**	**18 04 52.5**	**+1.2**
baz=1.2							
J25A	**Sunshine Ranch**	**1.14**	**111**	⇑P	**Pg**	**18 04 36.4**	**-0.2**
baz=1.1							
G23A	**Biddle**	**1.39**	**356**	⇑P	**Pg**	**18 04 41.1**	**-0.2**
baz=1.4,SNR=174							
H25A	**Fruitdale**	**1.44**	**55**	⇓P	**Pn**	**18 04 41.5**	**-0.6**
baz=1.4,SNR=68							
H25A				⇑S	**Sg**	**18 05 01.5**	**+0.4**
baz=1.4							
I21A	**Big Trails, Te**	**1.47**	**271**	⇑P	**Pn**	**18 04 41.6**	**-1.1**
baz=1.5,SNR=130							
I21A				⇑S	**Sb**	**18 05 01.9**	**-0.5**
baz=1.5							
K22A	**Casper**	**1.49**	**219**	*e*Pn	**Pn**	**18 04 41.4**	**-1.5**
K22A	**Casper**	**1.49**	**219**	⇑P	**Pn**	**18 04 42.0**	**-0.9**
baz=1.6							
K22A				⇑S	**Sg**	**18 05 02.7**	**+0.3**
baz=1.6							
H21A	**Big Horn, Sher**	**1.52**	**303**	⇓Pb	**Pg**	**18 04 43.7**	**-0.1**
baz=1.6,SNR=116							
K25A	**Mack Ranch, Ha**	**1.57**	**139**	⇓P	**Pn**	**18 04 44.4**	**+0.3**
baz=1.6,SNR=48							
K25A				⇑S	**Sn**	**18 05 04.9**	**-0.3**
baz=1.6							
G22A	**Birney**	**1.59**	**333**	⇑Pg	**Pg**	**18 04 45.6**	**+0.4**
baz=1.6,SNR=57							
G24A	**Alzada**	**1.63**	**21**	Pb	**Pg**	**18 04 45.9**	**0.0**
baz=1.6,SNR=150							
J21A	**Lysite**	**1.66**	**254**	⇑P	**Pn**	**18 04 44.4**	**-0.8**
baz=1.7,SNR=145							
J26A	**Sides Ranch, S**	**1.67**	**107**	⇓P	**Pn**	**18 04 45.8**	**+0.6**
baz=1.6,SNR=66							
L23A	**Garrett**	**1.73**	**191**	P	**Pn**	**18 04 46.0**	**-0.3**
baz=1.8,SNR=233							
I26A	**New Underwood**	**1.75**	**82**	Pb	**Pb**	**18 04 47.6**	**-0.1**
baz=1.7,SNR=50							
I26A				⇑S	**Sn**	**18 05 09.4**	**0.0**
baz=1.7							
L24A	**Wheatland**	**1.79**	**172**	⇓P	**Pn**	**18 04 46.9**	**-0.1**
baz=1.8,SNR=22							
L24A				⇑S	**Sn**	**18 05 10.4**	**0.0**
baz=1.8							
K21A	**Alcova**	**1.87**	**232**	⇑P	**Pn**	**18 04 48.8**	**+0.5**
baz=1.9,SNR=35							
K26A	**Motz Farm, Whi**	**1.89**	**125**	⇑P	**Pn**	**18 04 49.2**	**+0.9**
baz=1.8,SNR=22							
F23A	**Volborg**	**1.91**	**357**	⇓P	**Pb**	**18 04 49.7**	**-0.8**
baz=1.9,SNR=97							
L25A	**Engebretsen Ra**	**1.91**	**150**	⇑P	**Pn**	**18 04 49.8**	**+1.1**
baz=1.9,SNR=106							
H26A	**Fairpoint**	**1.96**	**65**	⇑Pb	**Pb**	**18 04 51.3**	**0.0**
baz=1.9,SNR=89							
G21A	**Lodge Grass**	**1.98**	**316**	⇓P	**Pb**	**18 04 50.9**	**-0.9**
baz=2.0,SNR=52							
L22A	**Ellis Ranch, M**	**1.98**	**206**	⇑P	**Pn**	**18 04 50.4**	**+0.7**
baz=2.0,SNR=86							
I20A	**Worland**	**2.08**	**275**	⇑P	**Pn**	**18 04 51.9**	**+0.9**
baz=2.1,SNR=68							
H20A	**Greybull**	**2.08**	**290**	⇓P	**Pn**	**18 04 51.7**	**+0.7**
baz=2.1,SNR=36							
F22A	**Rosebud**	**2.09**	**340**	⇑P	**Pn**	**18 04 51.9**	**+0.8**
baz=2.1,SNR=237							
F24A	**Ekalaka**	**2.11**	**16**	⇓P	**Pb**	**18 04 53.2**	**-0.7**
baz=2.1,SNR=63							
I27A	**Quinn**	**2.33**	**83**	⇑Pb	**Pb**	**18 04 57.1**	**-0.6**
baz=2.3,SNR=28							
M24A	**Cheyenne**	**2.37**	**172**	⇓P	**Pn**	**18 04 56.2**	**+1.2**
baz=2.4,SNR=56							
M23A	**Laramie**	**2.37**	**188**	⇑P	**Pn**	**18 04 56.9**	**+1.8**
baz=2.4,SNR=26							
G26A	**Maurine**	**2.41**	**51**	⇑P	**Pb**	**18 04 57.6**	**-1.4**
baz=2.3,SNR=117							
H27A	**Howes**	**2.43**	**69**	P	**Pn**	**18 04 57.6**	**+1.9**
baz=2.3,SNR=29							
J27A	**Elkhorn Farm,**	**2.43**	**102**	⇓P	**Pb**	**18 04 58.4**	**-1.0**
baz=2.4,SNR=23							
F25A	**Bowman**	**2.47**	**31**	P	**Pb**	**18 04 58.5**	**-1.5**
baz=2.4,SNR=59							
K27A	**Flueckinger Fa**	**2.47**	**116**	⇓P	**Pn**	**18 04 58.0**	**+1.6**
baz=2.4,SNR=8.9							
PHWY	**Pilot Hill**	**2.52**	**183**	*e*Pn	**Pn**	**18 04 57.1**	**0.0**
G20A	**Bridger**	**2.54**	**305**	P	**Pn**	**18 04 57.7**	**+0.4**
baz=2.6,SNR=276							
M25A	**Palm-Egli Farm**	**2.54**	**159**	⇓P	**Pn**	**18 04 59.0**	**+1.6**
baz=2.5,SNR=10							
M22A	**Cedar Creek Ra**	**2.60**	**203**	P	**Pn**	**18 05 00.0**	**+1.7**
baz=2.7,SNR=153							
E22A	**Miles City**	**2.67**	**350**	⇑P	**Pn**	**18 04 59.7**	**+0.7**
baz=2.7							
E23A	**Ismay**	**2.68**	**359**	⇑P	**Pn**	**18 05 00.3**	**+1.1**
baz=2.7,SNR=12							
E24A	**Baker**	**2.83**	**13**	P	**Pn**	**18 05 03.2**	**+2.0**
baz=2.8,SNR=24							
G27A	**Dupree**	**2.85**	**56**	⇓P	**Pn**	**18 05 02.9**	**+1.5**
baz=2.8,SNR=21							
F20A	**Billings**	**2.86**	**315**	⇑P	**Pn**	**18 05 02.1**	**+0.5**
baz=2.9,SNR=20							
LAO	**LASA Array**	**2.95**	**347**	*e*Pn	**Pn**	**18 05 03.6**	**+0.6**
RLMT	**Red Lodge**	**3.15**	**296**	*e*Pn	**Pn**	**18 05 06.5**	**+0.7**
H18A	**Shoshone NF, C**	**3.28**	**287**	⇑P	**Pn**	**18 05 08.5**	**+0.9**
baz=3.3,SNR=11							
BW06	**Boulder Array**	**3.31**	**253**	*e*Pn	**Pn**	**18 05 08.9**	**+0.9**
PDAR	**Pinedale Array**	**3.31**	**253**	Pn	**Pn**	**18 05 07.7**	**-0.3**
5.7nm,0.3s,baz=69,slow=18,SNR=74							
PDAR				Pg	**Pb**	**18 05 14.2**	**-0.2**
19nm,0.3s,baz=70,slow=18,SNR=83							
PDAR				Lg	Lg	18 05 52.6	
2.3nm,0.3s,baz=66,slow=32,SNR=3.8							
E26A	**Carlson Angus**	**3.31**	**36**	⇓P	**Pn**	**18 05 09.5**	**+1.7**
baz=3.2,SNR=5.9							
F19A	**Roth Farm, Mol**	**3.32**	**309**	P	**Pn**	**18 05 09.2**	**+1.2**
baz=3.3,SNR=94							
D24A	**Glendive**	**3.37**	**11**	P	**Pn**	**18 05 10.8**	**+2.2**
baz=3.3,SNR=18							
E19A	**Rath Farm, Rou**	**3.64**	**318**	⇓P	**Pn**	**18 05 13.4**	**+1.1**
baz=3.7,SNR=8.6							
GCMT	**Greycliff**	**3.71**	**304**	*e*Pn	**Pn**	**18 05 12.1**	**-1.3**
N20A	**Spence Gulch,**	**3.72**	**218**	⇓P	**Pn**	**18 05 14.7**	**+1.1**
baz=3.8,SNR=6.8							
OGNE	**Ogallala**	**3.73**	**139**	*e*Pn	**Pn**	**18 05 15.0**	**+1.3**
F28A	**McLaughlin**	**3.77**	**56**	P	**Pn**	**18 05 15.8**	**+1.6**
baz=3.7,SNR=6.9							
O22A	**Kremmling**	**3.77**	**195**	⇑P	**Pn**	**18 05 15.6**	**+1.2**
baz=3.8,SNR=19							
H17A	**Grant Village**	**3.87**	**280**	*e*Pn	**Pn**	**18 05 17.9**	**+2.1**
LOHW	**Long Hollow**	**3.88**	**269**	*e*Pn	**Pn**	**18 05 15.7**	**-0.1**
FLWY	**Flagg Ranch**	**3.94**	**276**	*e*Pn	**Pn**	**18 05 17.5**	**+0.9**
MOOW	**Moose Ponds**	**3.97**	**271**	*e*Pn	**Pn**	**18 05 18.2**	**+1.1**
YNR	**Norris Junctio**	**4.00**	**285**	Pn	**Pn**	**18 05 20.4**	**+2.9**
SNOW	**Snow King Moun**	**4.00**	**267**	Pn	**Pn**	**18 05 19.0**	**+1.4**
ISCO	**Idaho Springs**	**4.02**	**184**	*e*Pn	**Pn**	**18 05 18.7**	**+0.9**
ISCO	**Idaho Springs**	**4.02**	**184**	P	**Pn**	**18 05 19.1**	**+1.2**
baz=4.1,SNR=11							
REDW	**Red Top Meadow**	**4.09**	**266**	*e*Pn	**Pn**	**18 05 20.2**	**+1.5**
IMW	**Indian Meadow**	**4.11**	**273**	*e*Pn	**Pn**	**18 05 21.7**	**+2.6**
TPAW	**Teton Pass**	**4.14**	**267**	*e*Pn	**Pn**	**18 05 20.8**	**+1.3**
YMR	**Madison River**	**4.19**	**284**	*e*Pn	**Pn**	**18 05 21.1**	**+1.0**
AHID	**Auburn Hatcher**	**4.39**	**258**	*e*Pn	**Pn**	**18 05 22.5**	**-0.3**
P23A	**Jefferson**	**4.46**	**186**	⇓P	**Pn**	**18 05 25.1**	**+1.2**
baz=4.5,SNR=11							
L30A	**Spencer Herefo**	**4.48**	**113**	⇑P	**Pn**	**18 05 24.8**	**+0.9**
baz=4.4,SNR=5.9							
P26A	**Davis Ranch, A**	**4.49**	**161**	⇑P	**Pn**	**18 05 24.8**	**+0.6**
baz=4.5,SNR=14							
QLMT	**Earthquake Lak**	**4.54**	**285**	Pn	**Pn**	**18 05 26.4**	**+1.5**
DGMT	**Dagmar**	**4.71**	**9**	*e*Pn	**Pn**	**18 05 27.2**	**+0.1**
BOZ	**Bozeman (W)**	**4.89**	**294**	*e*Pn	**Pn**	**18 05 30.0**	**+0.3**
A24A	**Westby**	**5.18**	**9**	⇓P	**Pn**	**18 05 35.4**	**+1.8**
baz=5.1,SNR=12							
DLMT	**Dillon**	**5.46**	**289**	*e*Pn	Pn	18 05 31.3	-6.3
4.3nm,0.6s							
LRM	**Limekiln Ridge**	**5.49**	**294**	*e*Pn	**Pn**	**18 05 38.0**	**0.0**
18nm,0.3s							
MCMT	**McKenzie Canyo**	**5.54**	**283**	*e*Pn	**Pn**	**18 05 36.7**	**-2.0**
1.6nm,0.4s							
MDND	**Maddock**	**5.65**	**42**	*e*Pn	**Pn**	**18 05 38.0**	**-2.0**
33nm,0.4s							
R26A	**Arlington**	**5.68**	**165**	⇑P	**Pn**	**18 05 40.7**	**+0.3**
baz=5.7							
HVU	**Hansel Valley**	**5.89**	**252**	*e*Pn	**Pn**	**18 05 44.3**	**+0.9**
5.0nm,0.7s							
R28A	**Tribune**	**6.06**	**153**	⇑P	**Pn**	**18 05 45.4**	**-0.2**
baz=6.1							
ECSD	**EROS Data Cent**	**6.26**	**88**	*e*Pn	**Pn**	**18 05 47.0**	**-1.4**
4.2nm,0.4s							
CHMT	**Chamberlain Mo**	**6.43**	**302**	*e*Pn	**Pn**	**18 05 51.3**	**+0.5**
1.6nm,0.3s							
HLID	**Hailey**	**6.64**	**271**	*e*Pn	**Pn**	**18 05 56.5**	**+2.7**
DUG	**Dugway, Tooele**	**6.69**	**240**	⇑P	**Pn**	**18 05 55.0**	**+0.7**
baz=6.7,SNR=9.1							
SLMT	**Seeley Lake**	**6.72**	**304**	*e*Pn	**Pn**	**18 05 55.2**	**+0.4**
2.3nm,0.6s							
SWMT	**Swartz Lake**	**7.15**	**304**	*e*Pn	**Pn**	**18 06 00.8**	**+0.2**
YBMT	**Yellow Bay**	**7.33**	**307**	*e*Pn	**Pn**	**18 06 03.5**	**+0.4**
3.8nm,0.3s							
MVU	**Marysvale**	**7.46**	**227**	*e*Pn	**Pn**	**18 06 05.7**	**+0.6**
2.2nm,0.6s							
AGMN	**Agassiz Nation**	**7.92**	**52**	*e*Pn	**Pn**	**18 06 08.4**	**-2.8**
6.9nm,0.5s							
ELK	**Elko**	**8.01**	**251**	Pn	**Pn**	**18 06 14.6**	**+2.0**
0.4nm,0.3s,baz=80,slow=17,SNR=6.1							
ULM	**Lac du Bonnet**	**9.08**	**42**	Pn	**Pn**	**18 06 25.6**	**-1.3**
1.7nm,0.3s,baz=232,slow=13,SNR=12							
ULM				Lg	Lg	18 08 54.6	
0.2nm,0.3s,baz=300,slow=20,SNR=2.3							
NVAR	**Mina Array Bea**	**11.21**	**246**	Pn	**Pn**	**18 06 57.5**	**+1.1**
0.0nm,0.3s,baz=59,slow=13,SNR=2.4							
YKA	**Yellowknife Ar**	**19.49**	**347**	P	**P**	**18 08 42.6**	**-0.5**
0.1nm,0.3s,baz=158,slow=12,SNR=5.3							

IDC 08 18:12:05.0±3.0, 32°.63S×178°.28W, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.5/18, mbtmp3.5/3, ML3.0/1, Error ellipse: s-maj=69.8km s-min=36.0km az=117.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.76**	**213**	Pn	Pn	18 13 45.5	0.0
0.3nm,0.3s,baz=342,slow=3.2,SNR=3.9							
URZ				Sn	Sn	18 15 03.3	+0.1
1.2nm,0.3s,baz=262,slow=21,SNR=9.3							
ASAR	**Alice Springs**	**42.80**	**269**	P	P	18 20 04.7	0.0
0.3nm,0.8s,baz=110,slow=7.7,SNR=6.7							
WRA	**Warramunga Arr**	**43.99**	**275**	P	P	18 20 14.2	-0.2
0.3nm,0.3s,baz=112,slow=8.1,SNR=19							
FINES	**FINESS Array B**	**147.14**	**339**	PKPbc	PKPbc	18 31 48.4	-0.8
1.4nm,0.9s,baz=72,slow=4.5,SNR=5.1							

IDC 08 18:24:39.9±1.1, 11°.20N×144°.66E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.4/27, mbtmp3.4/5, ML3.6/1, MS4.0/1, Ms1 4.0/1, ms1mx2.7/23, Error ellipse: s-maj=109.6km s-min=19.1km az=104.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.38**	**5**	Pn	Pn	18 25 21.1	+0.9
16nm,0.3s,baz=198,slow=9.6,SNR=8.9							
GUMO				Sn	Sn	18 25 51.5	+1.4
13nm,0.3s,baz=308,slow=19,SNR=4.9							
WRA	**Warramunga Arr**	**32.58**	**198**	P	P	18 31 12.9	-0.3
0.7nm,0.6s,baz=20,slow=9.8,SNR=9.9							
ASAR	**Alice Springs**	**36.22**	**197**	P	P	18 31 45.2	+0.5
0.3nm,0.9s,baz=23,slow=12,SNR=3.5							
DZM	**Mont Dzumac**	**39.38**	**147**	LR	LR	18 48 20.9	
comp=Z,198nm,18.2s,baz=181,slow=36							
ILAR	**Eielson Array**	**70.80**	**25**	P	P	18 35 56.4	-1.6
0.2nm,0.5s,baz=246,slow=5.8,SNR=4.1							
YKA	**Yellowknife Ar**	**85.06**	**27**	P	P	18 37 18.2	+0.9
0.1nm,0.4s,baz=289,slow=5.1,SNR=3.1							

*IDC **08** 18:28:17.2±1.0, 3°.82S×142°.10E, h0km, mb4.2/6, mb1 4.3/7, mb1mx3.9/32, mbtmp4.1/7, ML3.1/1, MS3.8/1, Ms1 4.1/1, ms1mx3.0/23, Error ellipse: s-maj=39.4km s-min=21.2km az=84.0*
*ISCJB **08** 18:28:21.1±0.6, 3°.82S±0°.07×142°.0E±0°.1, h35km, mb4.1/13, MS3.9/1, Error ellipse: s-maj=16.8km s-min=8.6km az=159.2*
*NEIC **08** 18:28:22.4±0.6, 3°.81S×142°.09E, h35km, mb4.2/8, Error ellipse: s-maj=21.1km s-min=9.9km az=90.0*

ISC 08 18:28:22.3±0.9, 3°.8S±0°.1×142°.0E±0°.2, h35km, n21, σ1§10/21, mb4.3/12, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.82**	**314**	Pn	**Pn**	**18 28 50.8**	**-0.4**
12nm,0.3s,baz=136,slow=12,SNR=79							
JAY				Sn	**Sn**	**18 29 12.6**	**-0.5**
34nm,0.3s,baz=45,slow=20,SNR=14							
JAY				LR	LR	18 29 42.9	
comp=Z,287nm,18.1s,baz=154,slow=45							
WRAB	**Tennant Creek**	**17.71**	**204**	*e*Pn	**P**	**18 32 28.0**	**+1.1**
3.1nm,0.7s							
WRA	**Warramunga Arr**	**17.72**	**204**	P	**Pn**	**18 32 25.0**	**-1.4**
0.1nm,0.3s,baz=30,slow=12,SNR=4.6							
ASAR	**Alice Springs**	**21.26**	**201**	P	**P**	**18 33 05.2**	**-0.6**
0.7nm,0.8s,baz=34,slow=9.7,SNR=13							
CMAR	**Chiang Mai Arr**	**47.84**	**299**	LR	LR	18 59 45.3	
comp=Z,105nm,18.1s,baz=200,slow=39							
MK31	**Makanchi Array**	**72.67**	**322**	*e*P	**P**	**18 39 48.0**	**+1.4**
MKAR	**Makanchi Array**	**72.67**	**322**	P	**P**	**18 39 47.7**	**+1.1**
3.0nm,0.7s,baz=108,slow=7.0,SNR=35							
VNDA	**Vanda**	**74.44**	**176**	P	**P**	**18 39 56.9**	**+0.5**
0.7nm,0.8s,baz=336,slow=6.7,SNR=3.9							
VNDA	**Vanda**	**74.44**	**176**	*e*P

comp=E,992nm,0.5s
GLA Glamis 0.90 70 *e*Pg **Pg 18 31 32.9 -1.5**
GLA *e*Sg **Sg 18 31 44.5 -1.6**
GLA Glamis 0.90 70 P **Pg 18 31 32.9 -1.5**
baz=0.9
GLA S **Sg 18 31 44.6 -1.6**
baz=0.9
BC3 Big Chuckawall 0.96 19 P **Pg 18 31 34.1 -1.5**
baz=1.0
PFO Pinyon Flats O 1.01 329 *e*Pg **Pg 18 31 34.4 -2.0**
PFO *e*Sg **Sg 18 31 47.8 -1.8**
PFO Pinyon Flats O 1.01 329 P **Pg 18 31 34.9 -1.6**
baz=1.0
109C Camp Elliot, M 1.08 278 P **Pg 18 31 36.7 -1.2**
baz=1.1
109C S **Sg 18 31 50.4 -1.6**
baz=1.1
BELC Belle Mtn. Jos 1.26 354 P **Pn 18 31 38.5 -1.4**
baz=1.3
PBX Punta Banda 1.26 217 *e*P **Pn 18 31 39.8 0.0**
ECNX Esteban Cantu 1.27 211 *e*P **Pn 18 31 39.7 -0.4**
MURC Murrieta 1.43 307 S **Sn 18 32 01.6 +1.0**
baz=1.4
ECBX El Chinero 1.43 152 *e*P9 18 31 42.2
ECBX *e*S **Sn 18 32 01.4 +0.7**
Y12C Blythe 1.48 47 P **Pn 18 31 41.7 -1.2**
baz=1.5
SPX San Pedro Mart 1.73 169 *e*P2 18 31 47.5
GMRC Granite Mounta 2.03 4 Sg **Sb 18 32 21.6 +2.9**
baz=2.1
CIS Catalina Islan 2.26 288 P **Pn 18 31 53.2 -0.4**
baz=2.3
CIS Sb **Sb 18 32 27.2 +2.2**
baz=2.3
MWC Mount Wilson 2.37 309 *e*Pn **Pb 18 31 59.2 -0.2**
MWC *e*Sn **Sb 18 32 30.2 +1.7**
LDFC Landfair 2.40 14 *e*Pn **Pb 18 32 00.1 +0.3**
LDFC *e*Sn **Sn 18 32 23.8 -1.0**
PASC Pasadena Art C 2.43 306 *e*Pn Pn 18 31 59.4 +3.5
PASC *e*Sn **Sb 18 32 30.8 +1.0**
GSC Goldstone, Bar 2.67 343 *e*Pn **Pb 18 32 05.2 +0.7**
GSC *e*Sg **Sg 18 32 42.0 -0.8**
214A Organ Pipe Nat 2.67 106 *e*Pn Pn 18 31 57.2 -2.1
214A *e*Sn **Sn 18 32 29.1 -2.3**
214A Organ Pipe Nat 2.67 106 P Pn 18 31 57.6 -1.7
baz=2.7
EDW2 Edwards Air Fo 2.78 320 Sb **Sb 18 32 42.9 +2.7**
baz=2.8
ISA Isabella, Lake 3.64 324 *e*Pn **Pb 18 32 20.8 -0.1**
ISA *e*Sg **Sb 18 33 09.4 +4.5**
DAC Darwin (Calif) 3.81 338 *e*Pn Pn 18 32 19.8 +4.7
WUAZ Wupatki 4.61 52 *e*Pn **Pn 18 32 27.4 +1.2**
NLU North Lily Min 7.80 22 *e*Pn **Pn 18 33 10.4 +0.5**

IASPEI ***08*** *18:33:10.0±0.8, 32°.70N±0°.03×115°.80W±0°.02, h13km±6km, mb4.5/45, MS4.3/28, Error ellipse: s-maj=3.7km s-min=2.9km az=176.0*

ISCJB ***08*** *18:33:09.7±0.3, 32°.66N±0°.01×115°.77W±0°.01, h2km±2km, mb4.4/44, MS4.3/28, Error ellipse: s-maj=2.2km s-min=1.6km az=21.0*

BJI ***08*** *18:33:10.0, 32°.70N×115°.80W, h6km, mb4.9/10, mB5.3/10, Ms4.9/6, Ms7 4.4/6*

MEX ***08*** *18:33:11.8±0.7, 32°.83N×115°.76W, h16km±999km, MD4.2*

NEIC ***08*** *18:33:11.0, 32°.68N×115°.81W, h6km, mb4.8/43, ML4.8(PAS), ML4.9(ECX), After PAS.*

NEIC Felt [V] at Ocotillo; [IV] at Calexico and El Centro; [III] at Boulevard, Brawley, Fallbrook, Heber, Imperial Beach, Jamul, Julian and San Diego. Felt from the Los Angeles Basin to the U.S.-Mexico border. Also felt at Yuma, Arizona. Felt [III] at Mexicali and [II] at Ensenada, Rosarito and Tijuana, Baja California.

ECX ***08*** *18:33:11.1±0.6, 32°.69N×115°.81W, h2km, MD4.6, ML4.8*

GCMT ***08*** *18:33:11.0±0.4, 32°.60N×115°.76W, h19km±1km, MW5.0/93, Moment Tensor Solution. s34,c35; s93,c124; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.51±.14; $M_{\theta\theta}$-3.39±.14; $M_{\phi\phi}$2.88±.12; $M_{r\theta}$0.22±.26; $M_{\theta\phi}$-0.96±.12; $M_{\phi r}$-1.50±.29; Best double couple: M○3.63600×10^{16} NP1:ϕs124.00000°,δ72.00000°,λ162.00000°. NP2: ϕs124.00000°,δ72.00000°,λ.00000°. Principal axes: T 3.7380, Plg25.0000°, Azm81.0000°; N -0.2000, Plg65.0000°, Azm261.0000°; P -3.5340, Plg0.0000°, Azm351.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***08*** *18:33:12.0±0.6, 32°.83N×115°.54W, h0km, mb4.0/20, mb1 4.2/28, mb1mx4.1/37, mbtmp4.0/28, ML4.0/8, MS4.3/28, Ms1 4.3/28, ms1mx4.1/41 Error ellipse: s-maj=14.2km s-min=7.8km az=54.0*

ISC 08 18:33:11.3±0.7, 32°.70N±0°.02×115°.79W±0°.02, h2km±4km, n428, σ1$49/409, mb4.5/45, MS4.3/28, 8C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
SGL	**Mount Signal**	**0.07**	**129**	**⇓***iP*		**Pg 18 33 12.3**	**-0.4**
WESC	**Westside Schoo**	**0.08**	**39**	**⇑***eP*		**Pg 18 33 13.0**	**+0.1**
YUH	**Yuha Desert**	**0.12**	**247**	**⇑***iP*		**Pg 18 33 13.1**	**-0.5**
COK	**Cook Ranch**	**0.16**	**20**	**⇓***iP*		**Pg 18 33 14.7**	**+0.2**
CRR	**Carrizo Plain**	**0.24**	**322**	**⇓***iP*		**Pg 18 33 15.6**	**-0.3**
SWSC	**Sam W. Stewart**	**0.24**	**359**	P		**Pg 18 33 15.6**	**-0.4**
baz=0.3							
IBP	**Imperial Bould**	**0.26**	**262**	P		**Pg 18 33 15.8**	**-0.4**
baz=0.2							
IBP				S		**Sg 18 33 19.5**	**0.0**
baz=0.2							
RMX	**La Rumorosa**	**0.26**	**249**	**⇑***e*		**Pg 18 33 15.7**	**-0.6**
RMX				⇑*iP*		**Pg 18 33 15.7**	**-0.6**
RMX				*eS*		**Sg 18 33 19.6**	**0.0**
DREC	**Desert Rsrch C**	**0.31**	**69**	*eP*		**Pg 18 33 17.8**	**+0.5**
CPBX	**Cerro Prieto**	**0.50**	**124**	**⇑***eP*		**Pg 18 33 20.5**	**-0.3**
CPBX				*eS*		**Sg 18 33 27.9**	**+0.7**
MONP	**Monument Peak,**	**0.56**	**290**	P		**Pg 18 33 21.4**	**-0.6**
baz=0.6							
MONP				S		**Sg 18 33 28.9**	**-0.5**
baz=0.6							
MBIG	**Mexicali**	**0.58**	**120**	*eP*		**Pg 18 33 22.2**	**-0.1**
MBIG				*eS*		**Sg 18 33 29.9**	**0.0**
BAR	**Barrett**	**0.74**	**269**	*eP*		**Pg 18 33 24.3**	**-1.2**
BAR				*eSg*		**Sg 18 33 34.0**	**-1.1**
RDX	**Rancho Dawling**	**0.78**	**189**	**⇓***iP*		**Pg 18 33 24.5**	**-1.6**
RDX				*eS*		**Sg 18 33 35.5**	**-0.7**
CBX	**Cerro Bola**	**0.83**	**243**	*eP*		**Pg 18 33 26.1**	**-1.0**
CBX	**Cerro Bola**	**0.83**	**243**	*eP*		**Pg 18 33 26.1**	**-1.0**
CBX	**Cerro Bola**	**0.83**	**243**	**⇑***iP*		**Pg 18 33 26.1**	**-1.0**
CBX				*eS*		**Sg 18 33 37.1**	**-0.8**
CBX				AML	AML	18 33 38.4	
comp=E,64μm,0.5s							
CBX				⇓*e*		18 33 38.4	
GLA	**Glamis**	**0.89**	**66**	*e*Pg		**Pg 18 33 26.5**	**-1.8**
GLA				*e*Sn		**Sg 18 33 38.7**	**-1.1**
GLA	**Glamis**	**0.89**	**66**	P		**Pg 18 33 26.7**	**-1.6**
baz=0.9							
GLA				S		**Sg 18 33 38.7**	**-1.1**
baz=0.9							
SDRC	**San Diego Road**	**0.97**	**273**	*eP*		**Pg 18 33 28.3**	**-1.6**
BC3	**Big Chuckawall**	**1.00**	**16**	P		**Pg 18 33 28.7**	**-1.8**
baz=1.0							
PFO	**Pinyon Flats O**	**1.07**	**329**	*e*Pg		**Pg 18 33 29.5**	**-2.2**
PFO				*e*Sg		**Sg 18 33 44.0**	**-1.6**
PFO	**Pinyon Flats O**	**1.07**	**329**	P		**Pg 18 33 29.7**	**-2.0**
baz=1.1							
PFO				S		**Sg 18 33 44.2**	**-1.4**
baz=1.1							
109C	**Camp Elliot, M**	**1.12**	**280**	P		**Pg 18 33 31.0**	**-1.8**
baz=1.1							
109C				S		**Sg 18 33 45.3**	**-2.0**
baz=1.1							
PBX	**Punta Banda**	**1.24**	**220**	*eP*		**Pg 18 33 33.1**	**-1.9**
ECNX	**Esteban Cantu**	**1.24**	**214**	**⇓***eP*		**Pg 18 33 33.0**	**-2.0**
ECNX				*eS*		**Sg 18 33 49.5**	**-1.6**
ZAX	**El Zacaton**	**1.25**	**199**	**⇓***iP*		**Pg 18 33 33.2**	**-2.2**
ZAX				*eS*		**Sg 18 33 49.6**	**-1.7**
BELC	**Belle Mtn. Jos**	**1.31**	**353**	P		**Pg 18 33 33.3**	**-3.1**
baz=1.3							
ECBX	**El Chinero**	**1.37**	**153**	*e*P9		Pg 18 33 32.0	-5.6
ECBX				*e*S		**Sg 18 33 50.8**	**-4.6**
MURC	**Murrieta**	**1.49**	**308**	P		**Pn 18 33 36.0**	**-3.1**
baz=1.5							
MURC				Sb		**Sb 18 33 57.6**	**-1.4**
baz=1.5							
Y12C	**Blythe**	**1.50**	**45**	P		Pn 18 33 35.8	-3.4
baz=1.5							
IRM	**Iron Mountain**	**1.56**	**20**	P		**Pn 18 33 37.0**	**-3.1**
baz=1.6							
SPIG	**San Pedro Mart**	**1.67**	**170**	*eP*		**Pn 18 33 38.9**	**-3.0**
SPIG				*eS*		**Sn 18 33 59.9**	**-4.1**
SPIG	**San Pedro Mart**	**1.67**	**170**	*eP*		**Pn 18 33 38.9**	**-3.0**
SPIG				*eS*		**Sn 18 33 59.9**	**-4.1**
SPX	**San Pedro Mart**	**1.67**	**170**	*eP*		**Pn 18 33 38.9**	**-3.0**
SPX				*eS*		**Sn 18 34 00.2**	**-3.9**
SPX	**San Pedro Mart**	**1.67**	**170**	*e*P2		**Pn 18 33 40.1**	**-1.8**
SPX				⇑*e*		18 34 07.6	
SPX				AML	AML	18 34 07.6	
comp=E,5μm,0.6s							
BBRC	**Big Bear Solar**	**1.82**	**329**	P		**Pn 18 33 41.5**	**-2.5**
baz=1.8							
BBRC				Sb		**Sb 18 34 08.4**	**-0.6**
baz=1.8							
GMRC	**Granite Mounta**	**2.08**	**3**	P		**Pn 18 33 44.6**	**-2.8**
baz=2.1							
PDMCI	**Parker Dam,Lak**	**2.11**	**40**	P		**Pn 18 33 45.0**	**-2.7**
baz=2.1							
HEC	**Hector,Ludlow**	**2.18**	**348**	P		**Pn 18 33 45.7**	**-2.9**
baz=2.2							
BFSC	**Mount Baldy Ra**	**2.19**	**315**	P		**Pn 18 33 46.6**	**-2.3**
baz=2.2							
BFSC				Sb		**Sb 18 34 18.2**	**-1.2**
baz=2.2							
CIS	**Catalina Islan**	**2.30**	**289**	Sb		**Sb 18 34 21.4**	**-1.2**
baz=2.3							
FMP	**Fort Macarthur**	**2.33**	**296**	Sb		**Sb 18 34 22.4**	**-0.9**
baz=2.3							
SCI	**San Clemente I**	**2.34**	**278**	P		**Pn 18 33 49.2**	**-1.5**
baz=2.3							
SCI				S		**Sn 18 34 18.0**	**-2.1**
baz=2.3							
MWC	**Mount Wilson**	**2.43**	**309**	*e*Pn		**Pn 18 33 51.8**	**-0.5**
LDFC	**Landfair**	**2.44**	**13**	*e*Pn		**Pn 18 33 50.9**	**-1.5**
PASC	**Pasadena Art C**	**2.48**	**307**	*e*Pn		**Pn 18 33 53.3**	**+0.4**
PASC				*e*Sn		**Sn 18 34 20.9**	**-2.8**
DECC	**Green Verdugo**	**2.63**	**307**	Sb		**Sb 18 34 31.3**	**-0.6**
baz=2.6							
214A	**Organ Pipe Nat**	**2.63**	**105**	*e*Pn		Pn 18 33 50.9	-4.0
214A	**Organ Pipe Nat**	**2.63**	**105**	P		Pn 18 33 51.0	-3.9
baz=2.6							
GSC	**Goldstone, Bar**	**2.73**	**342**	*e*Pn		**Pn 18 33 53.5**	**-2.7**
GSC				*e*Sn		**Sb 18 34 36.1**	**+1.1**
GSC	**Goldstone, Bar**	**2.73**	**342**	P		**Pn 18 33 53.6**	**-2.7**
baz=2.8							
TUQ	**Turquoise Moun**	**2.74**	**358**	P		**Pn 18 33 53.8**	**-2.6**
baz=2.8							
EDW2	**Edwards Air Fo**	**2.84**	**321**	P		**Pn 18 33 55.3**	**-2.5**
baz=2.9							
EDW2				Sb		**Sb 18 34 37.9**	**-0.3**
baz=2.9							
OSI	**Osito Audit: C**	**3.10**	**309**	*e*Pn		**Pn 18 33 58.9**	**-2.5**
OSI				*e*Sn		**Sb 18 34 42.6**	**-3.0**
OSI	**Osito Audit: C**	**3.10**	**309**	Sb		**Sb 18 34 45.3**	**-0.3**
baz=3.1							
LRMC	**Laurel Mtn Rad**	**3.19**	**331**	Sb		**Sb 18 34 49.5**	**+1.3**
baz=3.2							
MPMC	**Manual Prospec**	**3.64**	**338**	P		**Pn 18 34 06.3**	**-2.6**
baz=3.7							
ISA	**Isabella, Lake**	**3.70**	**324**	*e*Pn		**Pn 18 34 07.0**	**-2.6**
ISA				*e*Sg		**Sb 18 35 05.4**	**+2.5**
ISA	**Isabella, Lake**	**3.70**	**324**	P		**Pn 18 34 07.1**	**-2.6**
baz=3.7							
DAC	**Darwin (Calif)**	**3.87**	**338**	*e*Pn		**Pn 18 34 09.6**	**-2.5**
DAC				*e*Sn		**Sn 18 34 58.5**	**+0.3**
TUC	**Tucson**	**4.25**	**94**	*e*Pn		Pn 18 34 13.9	-3.2
TPNV	**Topopah Spring**	**4.26**	**355**	*e*Pn		**Pn 18 34 16.6**	**-0.8**
TPNV	**Topopah Spring**	**4.26**	**355**	P		**Pn 18 34 16.4**	**-1.0**
baz=4.3							
WUAZ	**Wupatki**	**4.62**	**51**	*e*Pn		**Pn 18 34 21.5**	**-0.8**
WUAZ	**Wupatki**	**4.62**	**51**	P		**Pn 18 34 20.4**	**-2.0**
baz=4.6							
PTRM	**Twissleman Ran**	**4.70**	**310**	*e*Pn		**Pn 18 34 23.2**	**-0.1**
KNB	**Kanab**	**4.96**	**29**	*e*Pn		**Pn 18 34 26.3**	**-0.6**
TPH	**Tonopah**	**5.49**	**348**	*e*Pn		**Pn 18 34 33.1**	**-1.2**
W18A	**Petrified Fore**	**5.59**	**63**	*e*Pn		**Pn 18 34 35.1**	**-0.6**
W18A	**Petrified Fore**	**5.59**	**63**	P		**Pn 18 34 34.4**	**-1.2**
baz=5.6							
R11A	**Troy Canyon, C**	**5.64**	**2**	*e*Pn		**Pn 18 34 34.8**	**-1.6**
R11A				*e*Pg		**Pg 18 34 56.6**	**-2.8**
R11A	**Troy Canyon, C**	**5.64**	**2**	P		**Pn 18 34 35.6**	**-0.9**
baz=5.7							
NV01	**Mina Array Sit**	**6.08**	**341**	*e*Pn		**Pn 18 34 42.6**	**+0.2**
NVAR	**Mina Array Bea**	**6.08**	**341**	Pn		**Pn 18 34 42.0**	**-0.4**
comp=E,0.9nm,0.3s,baz=165,slow=15,SNR=13							
NVAR				Pg		**Pb 18 34 56.4**	**-1.6**
comp=E,1.6nm,0.3s,baz=158,slow=17,SNR=9.6							
NVAR				Lg	Lg	18 36 22.7	
baz=147,slow=33,SNR=2.3							
SAO	**San Andreas Ge**	**6.18**	**313**	*e*Pn		**Pn 18 34 45.8**	**+2.3**
MVU	**Marysvale**	**6.49**	**26**	*e*Pn		**Pn 18 34 48.1**	**0.0**
MSU	**Marysvale**	**6.51**	**26**	*e*Pn		**Pn 18 34 48.9**	**+0.6**
MSU				*e*Sg		**Sg 18 36 37.4**	**-2.9**
WAKR	**Walker**	**6.51**	**334**	*e*Pn		Pn 18 34 51.6	+3.2
WAKR				*e*Sg		**Sg 18 36 37.6**	**-2.8**
CMB	**Columbia Colle**	**6.51**	**326**	*e*Pn		**Pn 18 34 46.6**	**-1.6**
CMB				*e*S		**Sb 18 36 24.8**	**+1.0**
121A	**Cookes Peak, D**	**6.76**	**89**	*e*Pn		**Pn 18 34 49.1**	**-2.6**
comp=E,20nm,0.5s							
121A				*e*Sg		**Sg 18 36 43.9**	**-4.5**
121A	**Cookes Peak, D**	**6.76**	**89**	P		**Pn 18 34 49.4**	**-2.3**
baz=6.8							
LAZ	**Ladron**	**7.42**	**74**	*e*Pn		**Pn 18 35 00.1**	**-0.8**
MVCO	**Mesa Verde**	**7.49**	**51**	**⇑***e*Pn		**Pn 18 35 01.7**	**-0.2**
MVCO	**Mesa Verde**	**7.49**	**51**	P		**Pn 18 35 03.1**	**+1.3**
baz=7.5							
LENM	**Lemitar**	**7.52**	**76**	*e*Pn		**Pn 18 35 00.7**	**-1.4**
Y22D	**IRIS PASSCAL I**	**7.55**	**77**	P		**Pn 18 35 01.8**	**-0.7**
baz=7.5							
TMUT	**Trail Mountain**	**7.56**	**28**	*e*Pn		**Pn 18 35 03.7**	**+0.8**
PV05	**Paradox Valley**	**7.66**	**44**	*e*Pn		Pn 18 35 07.4	+3.2
SRU	**San Rafael Swe**	**7.70**	**32**	*e*Pn		**Pn 18 35 05.0**	**+0.4**
SRU				*e*Sg		**Sg 18 37 15.3**	**-3.2**
BNM	**Barren Site**	**7.80**	**77**	*e*Pn		**Pn 18 35 04.6**	**-1.5**
BMN	**Battle Mountai**	**7.81**	**352**	*e*Pn		**Pn 18 35 06.2**	**+0.1**
LPM	**Los Pinos Moun**	**7.82**	**76**	*e*Pn		**Pn 18 35 05.1**	**-1.2**
NLU	**North Lily Min**	**7.84**	**21**	*e*Pn		Pn 18 35 10.3	+3.7
DUG	**Dugway, Tooele**	**7.86**	**17**	*e*Pn		Pn 18 35 10.6	+3.8
PV10	**Paradox Valley**	**7.90**	**42**	*e*Pn		**Pn 18 35 07.5**	**0.0**
comp=E,3μm,0.8s							
PV09	**Paradox Valley**	**7.93**	**41**	*e*Pn		**Pn 18 35 09.2**	**+1.2**
PV01	**Paradox Valley**	**8.01**	**45**	*e*Pn		**Pn 18 35 07.8**	**-1.2**
PV01				*e*Sg		Sg 18 37 20.7	-7.8
MPU	**Maple Canyon**	**8.04**	**23**	Pn		**Pn 18 35 09.1**	**-0.2**
comp=E,17nm,1.0s							
ELK	**Elko**	**8.05**	**3**	Pn		**Pn 18 35 09.2**	**-0.2**
comp=E,0.2nm,0.3s,baz=191,slow=12,SNR=4.8							
ELK				Lg	Lg	18 37 23.8	
comp=E,0.3nm,0.3s,baz=90,slow=20,SNR=2.3							
ELK				LR	LR	18 38 32.0	
comp=E,5μm,20.1s,baz=180,slow=40							
ANMO	**Albuquerque**	**8.09**	**71**	Pn		**Pn 18 35 08.5**	**-1.5**
comp=E,0.6nm,0.3s,baz=263,slow=12,SNR=37							
ANMO				Lg	Lg	18 37 20.8	
baz=322,slow=19,SNR=1.8							
ANMO				LR	LR	18 38 31.6	
comp=E,3μm,19.1s,baz=258,slow=41							
ANMO	**Albuquerque**	**8.09**	**71**	*e*Pn		**Pn 18 35 09.6**	**-0.4**
ANMO				Lg		18 37 20.8	
BGU	**Big Grassy Mou**	**8.51**	**14**	*e*Pn		**Pn 18 35 17.6**	**+1.9**
JLU	**Jordanelle**	**8.63**	**23**	*e*Pn		**Pn 18 35 16.0**	**-1.4**
MNTX	**Cornudas Mount**	**8.88**	**94**	*e*Pn		**Pn 18 35 18.8**	**-1.8**
MNTX	**Cornudas Mount**	**8.88**	**94**	P		**Pn 18 35 18.5**	**-2.1**
baz=8.9							
S22A	**4UR Ranch, Cre**	**8.90**	**53**	*e*Pn		**Pn 18 35 21.8**	**+0.6**
S22A	**4UR Ranch, Cre**	**8.90**	**53**	P		**Pn 18 35 20.8**	**-0.4**
baz=8.9							
TCUT	**Toone Canyon**	**9.11**	**21**	*e*Pn		**Pn 18 35 26.3**	**+2.3**
HVU	**Hansel Valley**	**9.38**	**14**	*e*Pn		**Pn 18 35 26.4**	**-1.3**
WDC	**Whiskeytown Da**	**9.55**	**327**	Pn		**Pn 18 35 28.9**	**-1.0**
O20A	**White River Ci**	**9.60**	**37**	Pn		**Pn 18 35 29.3**	**-1.4**
SMCO	**Snowmass**	**9.64**	**45**	*e*Pn		**Pn 18 35 32.2**	**+0.8**
GDL2	**Guadalupe Moun**	**9.67**	**90**	*e*Pn		**Pn 18 35 31.1**	**-0.6**
R23A	**Moffat**	**9.80**	**53**	P		**Pn 18 35 34.1**	**+0.5**
baz=9.8							
SDCO	**Great Sand Dun**	**9.81**	**56**	*e*Pn		**Pn 18 35 33.6**	**-0.1**
SDCO	**Great Sand Dun**	**9.81**	**56**	P		**Pn 18 35 33.2**	**-0.5**
baz=9.8							
LPIG	**La Paz**	**9.83**	**149**	Pn		**Pn 18 35 35.6**	**+1.9**
comp=E,5.1nm,0.3s,baz=163,slow=19,SNR=2.7							
LPIG				Lg	Lg	18 38 24.3	
comp=E,20nm,0.3s,baz=73,slow=19,SNR=3.1							
LPIG				LR	LR	18 39 21.3	
comp=E,2μm,21.1s,baz=335,slow=38							
KMRM	**Mail Ridge**	**9.85**	**322**	*e*Pn		Pn 18 35 45.1	+11
WVOR	**Wild Horse Val**	**9.98**	**348**	*e*Pn		**Pn 18 35 38.5**	**+2.7**
P22A	**Eagle**	**10.03**	**44**	P		**Pn 18 35 37.9**	**+1.2**
baz=10							
CPRX	**Cap Rock**	**10.04**	**85**	Pn		Pn 18 35 29.2	-7.5
comp=E,3.4nm,0.6s							
N20A	**Spence Gulch,**	**10.12**	**34**	P		**Pn 18 35 38.9**	**+1.0**
baz=10							
Q23A	**Hartsel**	**10.18**	**50**	P		**Pn 18 35 40.4**	**+1.6**
baz=10							
SLBS	**Sierra La Lagu**	**10.35**	**149**	*e*Pn		**Pn 18 35 43.7**	**+2.7**
P23A	**Jefferson**	**10.45**	**48**	P		**Pn 18 35 44.4**	**+1.9**
baz=10							
O22A	**Kremmling**	**10.53**	**42**	P		**Pn 18 35 45.2**	**+1.7**
baz=11							
YBH	**Yreka Blue Hor**	**10.57**	**331**	Pn		**Pn 18 35 46.7**	**+2.8**
comp=E,0.1nm,0.3s,baz=145,slow=8.0,SNR=6.7							
YBH				Lg	Lg	18 38 44.9	
comp=E,0.1nm,0.3s,baz=106,slow=18,SNR=4.7							
YBH				LR	LR	18 40 20.0	
comp=E,3μm,18.1s,baz=250,slow=40							
Q24A	**Divide**	**10.66**	**51**	*e*Pn		**Pn 18 35 46.7**	**+1.3**
Q24A				*e*Lg		Lg 18 39 05.8	
Q24A	**Divide**	**10.66**	**51**	P		**Pn 18 35 46.6**	**+1.2**
baz=11							
MFID	**Camas Ranch**	**10.70**	**360**	*e*Pn		**Pn 18 35 47.8**	**+2.0**
AHID	**Auburn Hatcher**	**10.71**	**19**	Pn		Pn 18 35 41.1	-4.9
K05A	**Summer Lake**	**10.79**	**340**	*e*Pn		Pn 18 35 53.9	+6.9
ISCO	**Idaho Springs**	**10.85**	**46**	*e*Pn		**Pn 18 35 49.8**	**+1.8**
ISCO	**Idaho Springs**	**10.85**	**46**	P		**Pn 18 35 50.2**	**+2.3**
baz=11							
HLID	**Hailey**	**10.90**	**5**	*e*Pn		**Pn 18 35 51.6**	**+3.1**
HLID				*e*Sg		18 38 56.9	
TX31	**Lajitas Ar. Si**	**10.93**	**105**	*e*Pn		**Pn 18 35 48.2**	**-0.6**
TXAR	**Lajitas Array**	**10.93**	**105**	Pn		**Pn 18 35 48.5**	**-0.4**
comp=E,0.5nm,0.3s,baz=291,slow=12,SNR=22							
TXAR				Lg	Lg	18 38 51.1	
comp=E,0.1nm,0.3s,baz=273,slow=33,SNR=3.3							
TXAR				LR	LR	18 40 22.1	
comp=E,2μm,19.6s,baz=0.0,slow=40							
MSTX	**Muleshoe**	**10.97**	**80**	*e*Pn		**Pn 18 35 50.2**	**+0.9**
MSTX	**Muleshoe**	**10.97**	**80**	P		**Pn 18 35 50.6**	**+1.2**
baz=11							
228A	**UT Block 9, Go**	**11.17**	**89**	P		**Pn 18 35 50.1**	**-2.1**
baz=11							
BW06	**Boulder Array**	**11.20**	**24**	*e*Pn		Pn 18 35 46.5	-6.1
PDAR	**Pinedale Array**	**11.20**	**24**	Pn		**Pn 18 35 54.3**	**+1.7**
comp=E,0.3nm,0.3s,baz=224,slow=11,SNR=22							
PDAR				Lg	Lg	18 39 11.4	
comp=E,0.0nm,0.3s,baz=198,slow=26,SNR=2.5							
128A	**Castleberry Fa**	**11.22**	**87**	P		**Pn 18 35 51.9**	**-0.9**
baz=11							
U27A	**Thompson Grove**	**11.32**	**67**	P		**Pn 18 35 55.6**	**+1.4**
baz=11							
REDW	**Red Top Meadow**	**11.34**	**19**	*e*Pn		**Pn 18 35 56.6**	**+2.1**
N23A	**Red Feather La**	**11.36**	**41**	*e*Pn		Pn 18 35 59.9	+5.0
N23A				*e*Lg		Lg 18 39 21.9	
HUMO	**Hull Mountain**	**11.40**	**332**	*e*Pn		Pn 18 35 50.2	-4.4
TPNV	**Teton Pass**	**11.43**	**18**	Pn		Pn 18 35 52.5	-3.4
SNOW	**Snow King Moun**	**11.46**	**19**	Pn		**Pn 18 35 55.3**	**-0.8**
FXWY	**Fox Creek**	**11.55**	**18**	*e*Pn		Pn 18 36 01.6	+4.2
FXWY				*e*Lg		Lg 18 39 29.4	
T27A	**Campo**	**11.58**	**64**	P		**Pn 18 35 57.6**	**-0.2**
baz=12							
LOHW	**Long Hollow**	**11.64**	**19**	*e*Pn		**Pn 18 36 01.0**	**+2.4**
MOOW	**Moose Ponds**	**11.72**	**18**	*e*Pn		**Pn 18 36 01.0**	**+1.2**
I07A	**Izee**	**11.73**	**347**	*e*Pn		Pn 18 36 06.3	+6.4
329A	**Wagon Wheel Ra**	**11.78**	**92**	P		**Pn 18 36 00.1**	**-0.4**
baz=12							
IMW	**Indian Meadow**	**11.81**	**17**	*e*Pn		Pn 18 36 04.8	+3.7
529A	**Stev Forest Ra**	**11.88**	**99**	P		**Pn 18 36 01.5**	**-0.2**
baz=12							
AMTX	**Amarillo**	**11.94**	**76**	*e*Pn		**Pn 18 36 03.5**	**+0.8**
AMTX	**Amarillo**	**11.94**	**76**	P		**Pn 18 36 04.0**	**+1.3**
baz=12							
429A	**Davenport Ranc**	**12.02**	**96**	P		**Pn 18 36 03.5**	**-0.3**
baz=12							
FLWY	**Flagg Ranch**	**12.05**	**18**	*e*Pn		**Pn 18 36 06.2**	**+2.0**
T28A	**Walsh**	**12.06**	**65**	P		**Pn 18 36 05.4**	**+1.0**
baz=12							
P26A	**Davis Ranch, A**	**12.17**	**52**	P		**Pn 18 36 08.3**	**+2.5**
baz=12							
BMO	**Blue Mountains**	**12.20**	**355**	*e*Pn		Pn 18 36 11.8	+5.7
I04A	**Tendick

P30A	Selden	14.29	57	P		Pn	18 36 35.1	+0.3	
	baz=14								
233A	Rising Star	14.30	88	P		Pn	18 36 34.8	-0.1	
	baz=14								
WMOK	Wichita Mounta	14.31	77	ePn		Pn	18 36 34.2	-0.8	
Z33A	Whitaker Ranch	14.31	83	P		Pn	18 36 34.7	-0.3	
	baz=14								
832A	Faith Ranch, C	14.33	104	P		Pn	18 36 35.7	+0.5	
	baz=14								
333A	Richland Sprin	14.33	91	P		Pn	18 36 35.3	+0.1	
	baz=14								
CHMT	Chamberlain Mo	14.33	7	ePn		Pn	18 36 37.1	+1.6	
433A	Art	14.35	93	P		Pn	18 36 35.6	+0.1	
	baz=14								
Y33A	Hilltop Ranch,	14.41	80	P		Pn	18 36 37.0	+0.6	
	baz=14								
TDL	Tradedollar La	14.50	342	P		Pn	18 36 40.2	+2.5	
W33A	Caddo, Fort Co	14.59	76	P		Pn	18 36 39.1	+0.2	
	baz=15								
SLMT	Seeley Lake	14.63	6	ePn		Pn	18 36 41.8	+2.3	
RSSD	Black Hills	14.65	35	Pn		Pn	18 36 40.0	+0.3	
S32A	Newby Ranch, P	14.65	65	P		Pn	18 36 39.6	-0.1	
	baz=15								
733A	Divot King Ran	14.73	101	P		Pn	18 36 42.3	+1.5	
	baz=15								
LON	Longmire	14.77	344	ePn		Pn	18 36 43.5	+2.2	
SWMT	Swartz Lake	14.86	5	ePn		P	18 36 46.8	-1.7	
134A	White-Moore Ra	14.93	86	P		Pn	18 36 42.6	-0.9	
	baz=15								
234A	Clairette	14.94	88	P		Pn	18 36 42.7	-0.9	
	baz=15								
334A	Lometa	14.96	91	P		Pn	18 36 43.2	-0.7	
	baz=15								
F22A	Rosebud	14.99	27	P		Pn	18 36 44.6	+0.3	
	baz=15								
LTY	Liberty	15.01	347	ePn		P	18 36 48.7	-1.5	
R32A	Long Quarter,	15.03	63	P		Pn	18 36 45.4	+0.7	
	baz=15								
434A	Burnet	15.03	92	P		Pn	18 36 44.2	-0.6	
	baz=15								
534A	Blanco	15.03	96	P		Pn	18 36 44.8	-0.1	
	baz=15								
U33A	Lingo Farm, Me	15.04	71	P		Pn	18 36 44.8	-0.1	
	baz=15								
T33A	Patterson Ranc	15.05	68	P		Pn	18 36 44.6	-0.4	
	baz=15								
JTMT	Jette	15.08	4	ePn		P	18 36 49.7	-1.3	
JTMT				ePcP		PcP	18 41 51.8	-1.8	
X34A	Smith Ranch, M	15.08	78	P		Pn	18 36 45.4	-0.1	
	baz=15								
Y34A	Reagan Ranch,	15.13	80	P		Pn	18 36 45.3	-0.8	
	baz=15								
BSMT	Bassoo Peak	15.16	3	ePn		P	18 36 49.6	-2.3	
W34A	Bridge Creek,	15.17	75	ePn		Pn	18 36 47.0	+0.3	
C09A	Chrisman Ranch	15.21	354	ePn		P	18 36 54.2	+2.0	
	comp=E,18nm,1.2s								
YBMT	Yellow Bay	15.21	5	Pn		Pn	18 36 49.2	+1.9	
D05A	Enumclaw	15.23	344	ePn		P	18 36 50.3	-2.2	
	comp=E,64nm,1.4s								
H25A	Fruitdale	15.23	35	P		Pn	18 36 48.4	+0.9	
	baz=15								
Q32A	Meitler Ranch,	15.31	61	P		Pn	18 36 50.5	+2.0	
	baz=15								
BLMT	Blacktail Moun	15.34	4	eP		P	18 36 56.2	+2.3	
V34A	Guthrie	15.43	73	ePn		Pn	18 36 50.2	+0.1	
	comp=E,114nm,1.6s								
V34A	Guthrie	15.43	73	P		Pn	18 36 50.0	-0.1	
	baz=15								
135A	Vickery Place,	15.49	86	P		Pn	18 36 50.7	-0.2	
	baz=16								
U34A	Anderson Ranch	15.50	71	ePn		Pn	18 36 50.2	-0.8	
	comp=E,80nm,1.1s								
U34A	Anderson Ranch	15.50	71	P		Pn	18 36 50.6	-0.4	
	baz=16								
WHTX	Lake Whitney,	15.52	88	ePn		Pn	18 36 51.0	-0.3	
	comp=E,272nm,1.5s								
WHTX	Lake Whitney,	15.52	88	P		Pn	18 36 51.2	0.0	
	baz=16								
D20A	Manuel Ranch,	15.52	20	P		P	18 36 53.8	-2.0	
	baz=16								
R33A	Olander Ranch,	15.54	64	P		Pn	18 36 53.7	+2.2	
	baz=16								
Z35A	Perchaven, San	15.57	83	P		Pn	18 36 52.8	+0.9	
	baz=16								
NEW	Newport	15.59	357	Pn		Pn	18 36 53.1	+1.1	
	comp=E,0.2nm,0.3s,baz=182,slow=15,SNR=7.5								
NEW				Lg		Lg	18 41 16.6		
	comp=E,0.2nm,0.3s,baz=321,slow=17,SNR=2.1								
NEW				LR		LR	18 43 01.1		
	comp=E,1µm,21.9s,baz=188,slow=38								
NEW	Newport	15.59	357	ePn		Pn	18 36 53.2	+1.1	
	comp=E,206nm,2.6s								
NEW				Lg		Lg	18 41 16.6		
NEW	Newport	15.59	357	P		Pn	18 36 53.4	+1.3	
	baz=16								
F24A	Ekalaka	15.78	30	P		Pn	18 36 55.8	+1.1	
	baz=16								
LAO	LASA Array	15.78	25	ePn		Pn	18 36 54.9	+0.3	
	comp=E,205nm,1.9s								
X35A	Drake	15.79	79	P		Pn	18 36 54.1	-0.6	
	baz=16								
034A	Hebbronville	15.86	106	P		Pn	18 36 57.2	+1.4	
	baz=16								
T34A	McClaskey Farm	15.87	69	P		P	18 36 58.4	-1.3	
	baz=16								
C19A	Slack Wire Ran	15.87	17	P		Pn	18 36 56.4	+0.6	
	baz=16								
W35A	Tecumseh	15.90	76	P		Pn	18 36 56.2	+0.1	
	baz=16								
NLWA	Neilton Lookou	15.91	340	ePn		Pn	18 36 57.5	+1.2	
	comp=E,28nm,1.3s								
EGMT	Eagleton	15.98	15	Pn		Pn	18 36 56.2	-1.0	
	comp=E,29nm,1.0s								
H27A	Howes	16.00	38	P		Pn	18 36 57.5	0.0	
	baz=16								
I28A	Midland	16.07	41	P		Pn	18 36 59.6	+1.3	
	baz=16								
C20A	Veseth Ranch,	16.12	19	P		Pn	18 36 59.7	+0.7	
	baz=16								
D22A	Cohagen	16.19	24	P		Pn	18 37 00.6	+0.6	
	baz=16								
G26A	Maurine	16.20	35	P		Pn	18 37 00.9	+0.8	
	baz=16								
T35A	Sooner Cattle	16.38	70	P		Pn	18 37 02.1	-0.3	
	baz=16								
E24A	Baker	16.41	29	P		Pn	18 37 02.8	+0.1	
	baz=16								
WALA	Waterton Lakes	16.41	4	ePn		P	18 37 05.3	-0.4	
	comp=E,248nm,2.0s								
W36A	Wetumka	16.43	76	P		Pn	18 37 01.6	-1.4	
	baz=16								
C21A	Desert Coulee	16.49	21	P		P	18 37 07.5	+1.0	
	baz=16								
B19A	Brinkman Farms	16.57	16	P		P	18 37 07.2	-0.2	
	baz=17								
F26A	Lodgepole	16.58	34	P		P	18 37 07.2	-0.4	
	baz=17								
G27A	Dupree	16.59	36	P		Pn	18 37 06.2	+1.1	
	baz=17								
J30A	Dallas	16.63	46	P		Pn	18 37 06.9	+1.3	
	baz=17								
S35A	Otter Creek Ra	16.67	67	P		Pn	18 37 06.6	+0.5	
	baz=17								
E25A	Miller Ranch,	16.74	31	P		Pn	18 37 08.0	+1.0	
	baz=17								
B20A	Solberg Farm,	16.78	18	P		P	18 37 09.5	-0.3	
	baz=17								
KSU1	Kansas State U	16.79	62	ePn		Pn	18 37 07.2	-0.4	
	comp=E,82nm,1.3s								
KSU1	Kansas State U	16.79	62	P		Pn	18 37 07.7	+0.1	
	baz=17								
TUL1	Leonard	16.83	73	ePn		Pn	18 37 07.6	-0.6	
	comp=E,122nm,1.6s								
TUL1	Leonard	16.83	73	P		Pn	18 37 07.5	-0.6	
	baz=17								
D24A	Glendive	16.85	28	P		P	18 37 11.3	+0.8	
	baz=17								
F27A	Lemmon	16.90	35	P		P	18 37 10.2	-0.9	
	baz=17								
G28A	Parade	16.91	39	P		Pn	18 37 09.2	+0.1	
	baz=17								
T36A	Boggs Farm, Ca	16.91	70	P		P	18 37 10.9	-0.2	
	baz=17								
PGC	Sidney	16.95	342	ePn		Pn	18 37 10.2	+0.7	
	comp=E,3µm,2.2s								
A19A	Klindworth Far	17.06	16	P		P	18 37 13.6	+0.7	
	baz=17								
W37A	Quinton	17.08	76	P		Pn	18 37 09.6	-1.7	
	baz=17								
C23A	Lambert	17.10	25	P		P	18 37 12.6	-0.7	
	baz=17								
X37A	Clayton	17.11	78	P		Pn	18 37 11.2	-0.4	
	baz=17								
A20A	Cobblestone Ra	17.21	18	P		P	18 37 14.1	-0.5	
	baz=17								
S36A	Lake Cedric, C	17.25	67	P		Pn	18 37 13.5	+0.1	
	baz=17								
HKT	Hockley	17.27	94	ePn		Pn	18 37 13.3	-0.3	
	comp=E,113nm,1.8s								
D25A	Fairfield	17.29	30	P		P	18 37 16.0	+0.6	
	baz=17								
Z38A	Mt. Pleasant	17.47	83	P		Pn	18 37 16.2	+0.1	
	baz=17								
D26A	Manning	17.57	32	P		P	18 37 18.3	-0.2	
	baz=18								
A21A	Bergtoll Ranch	17.59	20	P		Pn	18 37 18.1	+0.6	
	baz=18								
BRSD	Miller	17.59	43	ePn		P	18 37 19.2	+0.5	
	comp=E,33nm,0.8s								
B23A	Brockton	17.73	24	P		P	18 37 21.2	+0.9	
	baz=18								
W38A	Poteau	17.82	77	P		Pn	18 37 18.9	-1.6	
	baz=18								
A22A	Carney Farms,	17.89	22	P		P	18 37 21.8	-0.2	
	baz=18								
DGMT	Dagmar	18.02	26	ePn		P	18 37 23.5	0.0	
	comp=E,19nm,0.8s								
E28A	Huff	18.05	35	P		Pn	18 37 23.2	0.0	
	baz=18								
C26A	Wahner Farm, P	18.33	30	P		Pn	18 37 26.7	-0.1	
	baz=18								
C27A	Sayler Ranch,	18.50	32	P		Pn	18 37 29.0	+0.2	
	baz=18								
D28A	Regan	18.55	34	P		P	18 37 28.9	-0.4	
	baz=19								
E29A	Napoleon	18.57	37	P		P	18 37 29.1	-0.4	
	baz=19								
MIAR	Mount Ida	18.59	78	eP		P	18 37 29.2	-0.6	
	comp=E,73nm,1.3s								
ECSD	EROS Data Cent	18.62	48	eP		Pn	18 37 30.5	+0.2	
	comp=E,17nm,1.0s								
ECSD	EROS Data Cent	18.62	48	P		P	18 37 29.7	-0.4	
	baz=19								
A25A	Svangstu Ranch	18.81	27	P		Pn	18 37 33.1	+0.6	
	baz=19								
E30A	Jud	18.90	38	P		Pn	18 37 33.8	+0.1	
	baz=19								
A26A	Wade Farm, Ken	19.20	29	P		Pn	18 37 37.0	-0.2	
	baz=19								
D30A	Buchanan	19.38	37	P		P	18 37 38.8	+0.4	
	baz=19								
MDND	Maddock	19.48	34	eP		Pn	18 37 40.9	+0.3	
	comp=E,145nm,1.4s								
MDND	Maddock	19.48	34	P		Pn	18 37 40.4	-0.1	
	baz=20								
B28A	Dugan Ranch, T	19.56	32	P		P	18 37 41.0	+0.6	
	baz=20								
A27A	Ledoux Ranch,	19.57	30	P		P	18 37 41.0	+0.7	
	baz=20								
C30A	Mose, Pekin	19.92	36	P		P	18 37 44.4	+0.1	
	baz=20								
A28A	Rude Farm, Bot	19.95	31	P		Pn	18 37 45.5	-0.7	
	baz=20								
B29A	Wagenman Farm,	20.03	33	P		P	18 37 46.2	+0.7	
	baz=20								
SCIA	State Center	20.13	56	eP		Pn	18 37 50.2	+1.8	
A29A	Manning Farm,	20.42	33	P		P	18 37 50.0	+0.3	
	baz=20								
B30A	Myrvik Farm, E	20.51	35	P		P	18 37 50.1	-0.5	
	baz=20								
EDM	Edmonton	20.59	4	eP		P	18 37 51.9	+0.4	
A30A	Hoffart Farm,	20.86	34	P		P	18 37 54.3	-0.2	
	baz=21								
PBMO	Poplar Bluff	21.22	72	eP		P	18 37 58.1	-0.2	
	comp=E,40nm,1.4s								
VBMS	Vicksburg	21.32	84	eP		P	18 38 00.5	+1.0	
BBB	Bella Bella	21.44	339	LR		LR	18 46 33.8		
	comp=E,993nm,20.1s,baz=163,slow=38								
AGMN	Agassiz Nation	21.64	38	eP		P	18 38 03.0	+0.1	
	comp=E,71nm,1.2s								
AGMN	Agassiz Nation	21.64	38	P		P	18 38 02.4	-0.5	
	baz=22								
SPMN	Marine on St.	21.73	48	eP		P	18 38 04.2	+0.4	
	comp=E,57nm,1.4s								
SPMN	Marine on St.	21.73	48	P		P	18 38 04.3	+0.4	
	baz=22								
OXF	Oxford	22.03	78	eP		P	18 38 04.7	-2.5	
	comp=E,68nm,1.1s								
ULM	Lac du Bonnet	22.91	34	P		P	18 38 15.0	-1.4	
	comp=E,12nm,0.9s,baz=234,slow=12,SNR=13								
ULM	Lac du Bonnet	22.91	34	eP		P	18 38 15.3	-1.0	
	comp=E,20nm,1.1s								
OLIL	Olney	23.23	67	eP		P	18 38 19.7	-0.1	
	comp=E,524nm,3.0s								
WVT	Waverly	23.29	74	eP		P	18 38 20.4	0.0	
	comp=E,72nm,1.9s								
FFC	Flin Flon	24.09	20	eP		P	18 38 27.4	-0.7	
	comp=E,81nm,2.1s								
LRAL	Lakeview Retre	24.16	81	eP		P	18 38 29.5	+0.5	
	comp=E,36nm,0.7s								
SFIN	Lafayette	24.23	63	eP		P	18 38 29.2	-0.3	
	comp=E,33nm,1.0s								
SFIN	Lafayette	24.23	63	P		P	18 38 29.4	-0.1	
	baz=24								
CMIG	Matias Romero	24.45	124	P		P	18 38 32.3	+0.6	
	comp=E,2.9nm,0.8s,baz=322,slow=9.3,SNR=4.3								
CMIG				LR		LR	18 47 55.8		
	comp=E,1µm,18.3s,baz=274,slow=36								
BLO	Bloomington	24.50	66	eP		P	18 38 32.6	+0.6	
	comp=E,57nm,1.3s								
TKL	Tuckaleechee C	26.59	75	eP		P	18 38 51.7	+0.7	
GOGA	Godfrey	27.05	80	eP		P	18 38 54.5	-0.7	
	comp=E,16nm,1.2s								
ACSO	Alum Creek Sta	27.33	65	eP		P	18 38 57.2	-0.3	
	comp=E,67nm,0.9s								
DLBC	Dease Lake	27.49	344	P		P	18 38 59.6	+0.7	
	comp=E,4.3nm,0.9s,baz=182,slow=8.4,SNR=11								
DLBC				LR		LR	18 50 43.9		
	comp=E,2µm,18.8s,baz=164,slow=38								
DLBC	Dease Lake	27.49	344	eP		P	18 39 01.3	+2.4	
	comp=E,6.6nm,1.0s								
TEIG	Tepich	27.50	110	LR		LR	18 51 06.3		
	comp=E,354nm,20.5s,baz=144,slow=39								
YKA	Yellowknife Ar	29.82	1	P		P	18 39 19.7	+0.2	
	comp=E,0.4nm,0.7s,baz=183,slow=8.3,SNR=12								
FCC	Fort Churchill	29.88	23	eP		P	18 39 20.5	+0.5	
	comp=E,3µm,2.4s								
SSPA	Standing Stone	31.23	64	eP		P	18 39 33.1	+0.9	
	comp=E,217nm,2.8s								
LUPA	Lehigh Univers	33.15	65	eP		P	18 39 50.1	+1.0	
	comp=E,6.0nm,1.1s								
DAWY	Dawson	34.65	342	eP		P	18 40 07.6	+5.7	
	comp=E,11nm,1.4s								
EGAK	Eagle	35.69	342	eP		P	18 40 12.6	+1.9	
	comp=E,16nm,1.5s								
SCRK	Sand Creek	35.88	339	eP		P	18 40 14.4	+1.9	
	comp=E,9.1nm,1.2s								
JTS	JuntasAbangare	36.11	121	LR		LR	18 54 46.1		
	comp=E,745nm,21.4s,baz=318,slow=36								
INK	Inuvik	37.09	349	P		P	18 40 23.6	+1.0	
	comp=E,4.0nm,0.9s,baz=151,slow=8.9,SNR=15								
MCK	McKinley	37.29	336	eP		P	18 40 26.3	+1.8	
	comp=E,7.5nm,1.1s								
ILAR	Eielson Array	37.33	339	P		P	18 40 25.8	+1.0	
	comp=E,1.3nm,0.9s,baz=152,slow=7.0,SNR=21								
ILAR				LR		LR	18 56 58.6		
	comp=E,411nm,20.4s,baz=158,slow=38								
TRF	Thorofare Moun	37.58	335	eP		P	18 40 29.4	+2.4	
	comp=E,90nm,2.7s								
KTH	Kantishna Hill	37.86	335	eP		P	18 40 30.4	+1.0	
	comp=E,8.5nm,1.1s								
PPLA	Purkeypile	37.93	334	eP		P	18 40 31.2	+1.2	
	comp=E,20nm,1.2s								
CAST	Castle Rocks	38.20	334	eP		P	18 40 35.0	+2.9	
SVW2	Sprevohn	38.31	330	eP		P	18 40 32.0	-1.1	
MLY	Manley	38.73	337	eP		P	18 40 39.3	+2.7	
	comp=E,41nm,2.3s								
COLD	Coldfoot	40.00	340	eP		P	18 40 53.0	+5.8	
IM04	Indian Mountai	40.31	337	eP		P	18 40 50.8	+1.0	
SCHQ	Schefferville	40.64	42	P		P	18 40 51.4	-1.2	
	comp=E,7.6nm,1.0s,baz=262,slow=9.7,SNR=4.4								
SCHQ				LR		LR	18 57 17.6		
	comp=E,180nm,21.2s,baz=277,slow=36								
RES	Resolute Bay	43.31	8	eP		P	18 41 16.2	+2.0	
	comp=E,5.6nm,1.0s								
ROSC	El Rosal	47.56	117	LR		LR	19 04 00.0		
	comp=E,182nm,19.6s,baz=26,slow=39								
SUMG	Summit	55.37	21	*i* P		P	18 42 46.4	-0.4	
	comp=E,5.3nm,0.9s								
PPT	Papeete	59.52	218	LR		LR	19 03 58.3		
	comp=E,95nm,18.2s,baz=17,slow=31								
PPT2	Papeete2	59.54	218	eLR		LR	19 00 23.0		
	comp=E,130nm,26.8s								
SEY	Seymchan	62.24	329	P		P	18 43 35.1	+0.9	
	comp=E,1.1nm,0.5s,baz=90,slow=7.7,SNR=3.8								
PETK	Petropavlovsk-	62.62	317	P		P	18 43 38.9	+1.9	
	comp=E,5.5nm,1.0s,baz=79,slow=7.7,SNR=4.0								
TBI	Tubuai	64.33	214	eLQ		LQ	18 59 56.6		
	comp=E,328nm,33.0s								
LPAZ	La Paz	66.70	129	P		P	18 44 06.8	+2.0	
	comp=E,1.1nm,0.9s,baz=204,slow=2.6,SNR=3.5								
LPAZ				LR		LR	19 10 29.6		
	comp=E,164nm,20.3s,baz=298,slow=34								
ARCES	ARCESS Array B	74.23	13	LR		LR	19 20 04.5		
	comp=E,218nm,18.8s,baz=338,slow=38								
EKA	Eskdalemuir Ar	75.18	33	P		P	18 44 54.9	-0.2	
	comp=E,0.9nm,0.7s,baz=324,slow=4.4,SNR=4.0								
NOA	NORSAR Array B	77.14	23	P		P	18 45 06.0	-0.2	
	comp=E,0.9nm,0.9s,baz=324,slow=5.5,SNR=2.6								
NOA				LR		LR	19 19 56.7		
	comp=E,138nm,18.5s,baz=315,slow=36								
BDFB	Brasilia	80.61	115	LR		LR	19 25 41.6		
	comp=E,86nm,19.9s,baz=292,slow=39								
FINES	FINESS Array B	81.21	17	P		P	18 45 28.6	+0.2	
	comp=E,1.6nm,0.9s,baz=348,slow=5.8,SNR=5.0								
FINES				LR		LR	19 19 55.3		
	comp=E,113nm,19.3s,baz=342,slow=35								
USRK	Ussuriysk Ar.	81.71	318	P		P	18 45 33.4	+2.0	
	comp=E,0.9nm,0.7s,baz=66,slow=11,SNR=4.4								
MJAR	Matsushiro Arr	82.44	309	P		P	18 45 37.1	+1.7	
	comp=E,8nm,0.7s,baz=43,slow=4.4,SNR=5.5								
PLCA	Paso Flores	84.16	147	P		P	18 45 45.6	+1.6	
	comp=E,2.2nm,1.0s,baz=284,slow=4.2,SNR=3.5								
PLCA				LR		LR	19 16 60.0		
	comp=E,87nm,18.3s,baz=327,slow=31								
ESDC	Sonseca Array	84.27	46	P		P	18 45 44.1	-0.7	
	comp=E,0.1nm,0.3s,baz=297,slow=6.5,SNR=4.1								
ESDC				LR		LR	19 21 47.0		
	comp=E,174nm,18.6s,baz=290,slow=35								
RAO	Raoul Island	85.23	231	LR		LR	19 13 19.7		
	comp=E,46nm,21.2s,baz=14,slow=28								
CN2	Changchun	85.58	320	eP		P	18 45 51.5	+0.2	
CN2				PMZ					
	comp=E,10.0nm,0.8s								
PVCC	Panska Ves	86.25	29	AMS		AMS	19 26 10.0		
	comp=E,300nm,16.2s								
PRU	Pruhonice	86.66	30	AMS		AMS	19 27 20.0		
	comp=E,300nm,13.3s								
GOPC	GO Pecny, Ondr	86.81	29	AMS		AMS	19 23 10.0		
	comp=E,200nm,16.0s								
KHC	Kasperske Hory	86.90	31	AMS		AMS	19 26 00.0		
	comp=E,400nm,16.5s								
DPC	Dobruska-Polom	87.10	28	AMS		AMS	19 23 40.0		
GERES	GERESS Array B	87.17	31	P		P	18 45 59.0	-0.1	
	comp=E,0.2nm,0.6s,baz=311,slow=4.9,SNR=3.8								
GERES				LR		LR	19 25 46.3		
	comp=E,226nm,18.3s,baz=322,slow=36								
TREC	Trest	87.58	30	AMS		AMS	19 23 40.0		
	comp=E,300nm,18.0s								
OKC	Ostrava-Krasne	88.23	28	AMS		AMS	19 25 20.0		
	comp=E,200nm,18.2s								
AKASG	Malin Array Be	91.40	21	P		P	18 46 17.9	-1.0	
	comp=E,0.2nm,0.4s,baz=318,slow=3.2,SNR=4.3								
ZALV	Zalesovo Beam	91.88	348	P		P	18 46 20.3	-0.7	
	comp=E,0.4nm,0.4s,baz=1.4,slow=5.8,SNR=3.0								
ZALV				LR		LR	19 31 49.9		
	comp=E,60nm,21.0s,baz=70,slow=38								
URZ	Urewera	94.20	227	LR		LR	19 22 10.5		
	comp=E,93nm,18.4s,baz=44,slow=31								
BVAR	Borovoye Array	94.47	356	LR		LR	19 35 31.5		
	comp=E,188nm,18.1s,baz=56,slow=40								
HHC	Hu-ho-hao-te	94.76	326	eP		P	18 46 36.1	+1.4	
HHC				pP		pP	18 46 41.4	+6.2	
HHC				sP		sP	18 46 45.5	+10	
HHC				PP		PP	18 50 24.1	+1.9	
HHC				S		S	18 57 44.7	-4.7	
HHC				sS		sS	18 57 51.5	+1.2	
HHC				PMZ					
	comp=E,29nm,0.9s								
HHC				PMZ					
	comp=E,120nm,4.7s								
HHC				LN					
	comp=E,96nm,17.5s								
HHC				LE					
	comp=E,200nm,17.3s								
HHC				LZ					
	comp=E,76nm,18.8s								
NJ2	Nanjing	97.49	316	eP		P	18 46 47.0	-0.1	
MKAR	Makanchi Array	99.21	348	LR		LR	19 38 01.4		
	comp=E,65nm,18.1s,baz=1.5,slow=39								
WMQ	Urumqi	100.88	343	eP		Pdif	18 47 04.8	+2.6	
WMQ				pP		pP	18 47 11.2	+8.4	
WMQ				PMZ					
	comp=E,9.0nm,0.5s								
WMQ				PMZ					
	comp=E,14nm,4.6s								
WMQ				LN					
	comp=E,76nm,21.2s								
WMQ				LE					
	comp=E,66nm,18.0s								
WMQ				LZ					
	comp=E,87nm,24.4s								
LZH	Lanzhou	102.16	328	eP		Pdif	18 47 05.3	-2.8	
LZH				sP			18 47 11.4		
LZH				PMZ					
	comp=E,12nm,1.0s								
CD2	Chengdu	106.50	325	Pdif		Pdif	18 47 28.6	+1.2	
CD2				PP		PP	18 51 51.8	+0.7	
CD2				SS		SS	19 06 53.7	-1.3	
CD2				PPMZ					
	comp=E,60nm,7.1s								
CD2				LE

TACH				*i* S		Sn	18 46 04.0	+2.6
CLCH	**Cerro Calan**	**1.72**	**38**	*i* P		Pn	18 45 51.9	+1.3
CLCH				*i* P		Pn	18 45 51.9	+1.4
CLCH				*i* S		Sn	18 46 13.7	+2.3
CLCH				*i* S		Sn	18 46 13.9	+2.5
CLCH				AML		AML	18 46 19.5	
	comp=E,591nm,0.3s							
PEL	**Peldehue**	**1.86**	**30**	*i* P		Pn	18 45 53.8	+1.3
PEL				*i* S		Sn	18 46 17.2	+2.4
PEL				AML		AML	18 46 21.5	
	comp=N,836nm,0.6s							
FCH	**Farellones**	**1.91**	**42**	*i* P		Pn	18 45 53.0	-0.4
FCH				*i* S		Sn	18 46 16.8	+0.3
FCH				AML		AML	18 46 21.8	
	comp=N,457nm,0.3s							

ISCJB ***08*** *18:46:27.1±0.1,32.˚64N±0.˚01×115.˚79W±0.˚01,h10km, mb4.2/29,MS4.2/13,Error ellipse: s-maj=2.0km s-min=1.8km az=12.6*

BJI ***08*** *18:46:27.8,32.˚70N×115.˚80W,h14km,mb4.9/4,mB5.4/3, Ms4.9/2,Ms7 4.4/2*

NEIC ***08*** *18:46:27.6,32.˚68N×115.˚81W,h14km,mb4.4/32, ML4.7(ECX),ML4.9(PAS),After PAS.*

NEIC Felt [II] at Coronado and San Diego. Also felt at Bonita, Calexico, Carlsbad, Chula Vista, Costa Mesa, El Centro, Encinitas, Escondido, Irvine, La Jolla, La Mesa, Laguna Hills, Misson Viejo, Oceanside, Ocotillo, Ramona, Trabuco Canyon and Valley Center. Felt at Ensenada, Mexicali and Tijuana, Baja California.

GCMT ***08*** *18:46:27.6±0.4,32.˚59N×115.˚81W,h15km±2km,MW4.9/82, Moment Tensor Solution. s8,c8; s82,c107; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.47±.11; Mθθ-2.36±.13; Mϕϕ 1.89±.09; Mrθ 0.19±.19; Mθϕ-0.45±.09; Mϕr~1.05±.25; Best double couple: M□2.45200×10^16 NP1:ϕs126.00000°,δ70.00000°,λ19.00000°. NP2: ϕs223.00000°,δ70.00000°,λ19.00000°. Principal axes: T 2.4950, Plg28.0000°, Azm84.0000°; N -0.0890, Plg62.0000°, Azm268.0000°; P -2.4090, Plg2.0000°, Azm174.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ECX ***08*** *18:46:28.1±0.7,32.˚68N×115.˚82W,h6km,MD4.7,ML4.9*

IDC ***08*** *18:46:28.4±0.6,32.˚76N×115.˚60W,h0km,mb4.1/16, mb1 4.2/24,mb1mx4.1/43,mbtmp4.1/24,ML3.7/8,MS4.2/19, Ms1 4.2/19,ms1mx4.0/44,Error ellipse: s-maj=13.5km s-min=8.2km az=54.0*

MEX ***08*** *18:46:28.5±0.6,32.˚81N×115.˚78W,h16km±10km,MD4.5*

ISC 08 18:46:28.5±0.3,32.˚66N±0.˚02×115.˚81W±0.˚02,h10km, n278,σ1§61/240,mb4.3/29,MS4.2/13,9C-8D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.10**	**260**	⇑	*i* P		**Pg**	**18 46 29.5**	**-1.5**
WESC	**Westside Schoo**	**0.12**	**36**		*e* P		**Pg**	**18 46 30.0**	**-1.4**
COK	**Cook Ranch**	**0.20**	**21**	⇓	*i* P		**Pg**	**18 46 31.7**	**-1.0**
RMX	**La Rumorosa**	**0.23**	**255**	⇑	*e* P		**Pg**	**18 46 32.2**	**-1.2**
RMX					eS		**Sg**	**18 46 35.9**	**-0.7**
IBP	**Imperial Bould** baz=0.2	**0.24**	**269**		P		**Pg**	**18 46 32.1**	**-1.3**
CRR	**Carrizo Plain**	**0.26**	**329**	⇓	*i* P		**Pg**	**18 46 32.5**	**-1.3**
SWSC	**Sam W. Stewart** baz=0.3	**0.28**	**3**		P		**Pg**	**18 46 32.8**	**-1.3**
SWSC	**Sam W. Stewart**	**0.28**	**3**	⇓	*i* P		**Pg**	**18 46 32.8**	**-1.3**
DREC	**Desert Rsrch C**	**0.34**	**65**		*e* P		**Pg**	**18 46 34.7**	**-0.5**
CPBX	**Cerro Prieto**	**0.49**	**120**	⇑	*e* P		**Pg**	**18 46 36.1**	**-2.0**
CPBX					*e* P		**Pb**	**18 46 37.2**	**-2.1**
CPBX					eS		**Sg**	**18 46 42.9**	**-1.7**
CPBX				⇓	*e*			18 46 51.1	
CPBX	comp=N,240μm,0.5s				AML		AML	18 46 51.1	
CPBX	comp=N,234μm,0.6s				AML		AML	18 46 51.5	
CPBX				⇓	*e*			18 46 51.5	
CPBX	comp=E,307μm,0.6s				AML		AML	18 46 55.8	
CPBX				⇑	*e*			18 46 55.8	
MONP	**Monument Peak,** baz=0.6	**0.56**	**294**		P		**Pg**	**18 46 38.1**	**-1.3**
MONP					S		**Sg**	**18 46 45.6**	**-1.3**
MBIG	**Mexicali**	**0.58**	**116**		*e* P		**Pg**	**18 46 38.9**	**-0.8**
MBIG					*i* S		**Sg**	**18 46 46.5**	**-0.8**
COA	**Coachella**	**0.61**	**71**	⇑	*i* P		**Pg**	**18 46 39.2**	**-1.2**
BAR	**Barrett**	**0.72**	**271**	⇑	*e* P		**Pg**	**18 46 41.0**	**-1.5**
RDX	**Rancho Dawling**	**0.74**	**189**	⇓	*i* P		**Pg**	**18 46 41.0**	**-1.9**
RDX					eS		**Sg**	**18 46 51.6**	**-1.0**
CBX	**Cerro Bola**	**0.80**	**244**		*e* P		**Pg**	**18 46 42.6**	**-1.3**
CBX					eS		**Sg**	**18 46 53.1**	**-1.3**
CBX	**Cerro Bola**	**0.80**	**244**		*e* P		**Pg**	**18 46 42.6**	**-1.3**
CBX					eS		**Sg**	**18 46 53.1**	**-1.3**
CBX	**Cerro Bola**	**0.80**	**244**	⇑	*e* P		**Pg**	**18 46 42.6**	**-1.3**
CBX					eS		**Sg**	**18 46 53.0**	**-1.3**
CBX	comp=E,80μm,0.7s				AML		AML	18 46 59.4	
CBX				⇑	*e*			18 46 59.4	
CBX				⇓	*e*			18 47 01.8	
CBX	comp=N,69μm,0.6s				AML		AML	18 47 01.8	
GLA	**Glamis**	**0.92**	**65**		*e* Pg		**Pg**	**18 46 43.5**	**-2.6**
GLA					eSg		**Sg**	**18 46 56.3**	**-1.8**
GLA	**Glamis** baz=0.9	**0.92**	**65**		P		**Pg**	**18 46 43.6**	**-2.5**
GLA	baz=0.9				S		**Sg**	**18 46 55.7**	**-2.4**
SDRC	**San Diego Road**	**0.95**	**275**		*e* P		**Pg**	**18 46 44.9**	**-2.0**
BC3	**Big Chuckawall** baz=1.0	**1.03**	**17**		P		**Pg**	**18 46 45.6**	**-2.7**
BC3	baz=1.0				S		**Sg**	**18 46 58.8**	**-3.0**
PFO	**Pinyon Flats O**	**1.09**	**330**		*e* Pn		Pb	18 46 46.4	-3.0
PFO					eSn		**Sg**	**18 47 00.9**	**-2.6**
PFO	**Pinyon Flats O** baz=1.1	**1.09**	**330**		P		**Pb**	**18 46 46.6**	**-2.9**
109C	**Camp Elliot, M** baz=1.1	**1.11**	**282**		P		**Pb**	**18 46 47.6**	**-2.2**
109C	baz=1.1				S		**Sb**	**18 47 01.9**	**-2.5**
PBX	**Punta Banda**	**1.20**	**220**		*e* P		**Pb**	**18 46 49.5**	**-1.9**
ECNX	**Esteban Cantu**	**1.21**	**214**		*e* P		**Pb**	**18 46 49.4**	**-2.1**
ECNX					eS		**Sb**	**18 47 05.7**	**-1.5**
ZAX	**El Zacaton**	**1.21**	**199**		*e* P		**Pb**	**18 46 49.6**	**-1.9**
ZAX					eS		**Sb**	**18 47 05.7**	**-1.7**
BELC	**Belle Mtn. Jos** baz=1.4	**1.34**	**353**		P		Pn	18 46 50.3	-3.1
ECBX	**El Chinero**	**1.35**	**151**		*e* P9		Pg	18 46 49.6	-4.8
ECBX					eS		**Sb**	**18 47 08.2**	**-3.1**
MURC	**Murrieta** baz=1.5	**1.49**	**309**		P		**Pn**	**18 46 52.8**	**-2.6**
Y12C	**Blythe** baz=1.5	**1.53**	**45**		P		Pn	18 46 52.9	-3.0
IRM	**Iron Mountain** baz=1.6	**1.59**	**20**		P		**Pn**	**18 46 54.0**	**-2.8**
SPIG	**San Pedro Mart**	**1.64**	**170**		*e* P		**Pn**	**18 46 55.5**	**-2.2**
SPIG					eS		**Sn**	**18 47 17.0**	**-2.0**
SPIG	**San Pedro Mart**	**1.64**	**170**		*e* P		**Pn**	**18 46 55.5**	**-2.2**
SPIG					eS		**Sn**	**18 47 17.0**	**-2.0**
SPX	**San Pedro Mart**	**1.64**	**169**		*e* P		**Pn**	**18 46 55.7**	**-2.1**
SPX					eS		**Sn**	**18 47 16.3**	**-2.8**
SPX	**San Pedro Mart**	**1.64**	**169**		*e* P		**Pn**	**18 46 56.4**	**-1.3**
SPX				⇓	*e*			18 47 21.8	
SPX	comp=E,9μm,0.7s				AML		AML	18 47 21.8	
SPX	comp=N,6μm,0.6s				AML		AML	18 47 28.1	
SPX				⇑	*e*			18 47 28.1	
BBRC	**Big Bear Solar** baz=1.9	**1.84**	**330**		P		**Pn**	**18 46 58.3**	**-2.1**
GMRC	**Granite Mounta** baz=2.1	**2.11**	**3**		P		**Pn**	**18 47 01.4**	**-2.6**
PDMCI	**Parker Dam,Lak** baz=2.2	**2.15**	**40**		P		**Pn**	**18 47 02.0**	**-2.4**
BFSC	**Mount Baldy Ra** baz=2.2	**2.20**	**316**		P		**Pn**	**18 47 03.0**	**-2.3**
HEC	**Hector,Ludlow** baz=2.2	**2.20**	**349**		P		**Pn**	**18 47 02.6**	**-2.6**
CIS	**Catalina Islan** baz=2.3	**2.30**	**289**		P		**Pn**	**18 47 05.7**	**-0.8**
NEE2	**Needles Airpor** baz=2.3	**2.32**	**25**		P		**Pn**	**18 47 04.4**	**-2.4**
SCI	**San Clemente I** baz=2.3	**2.32**	**279**		P		**Pn**	**18 47 05.8**	**-1.0**
FMP	**Fort Macarthur** baz=2.3	**2.33**	**297**		Pb		**Pb**	**18 47 08.1**	**-2.4**
RRX	**Edison Barstow** baz=2.4	**2.42**	**336**		P		**Pn**	**18 47 05.9**	**-2.2**
LDFC	**Landfair**	**2.48**	**13**		*e* Pn		**Pn**	**18 47 07.5**	**-1.6**
PASC	**Pasadena Art C**	**2.49**	**308**		*e* Pn		**Pn**	**18 47 09.6**	**+0.5**
DECC	**Green Verdugo** baz=2.6	**2.63**	**308**		Pb		**Pb**	**18 47 13.8**	**-2.0**
214A	**Organ Pipe Nat**	**2.64**	**105**		*e* Pn		Pn	18 47 07.5	-3.6
214A	**Organ Pipe Nat** baz=2.6	**2.64**	**105**		P		Pn	18 47 07.7	-3.5
GSC	**Goldstone, Bar**	**2.76**	**343**		*e* Pn		**Pn**	**18 47 10.3**	**-2.5**
GSC	**Goldstone, Bar** baz=2.8	**2.76**	**343**		P		**Pn**	**18 47 10.5**	**-2.3**
EDW2	**Edwards Air Fo** baz=2.9	**2.86**	**321**		P		**Pn**	**18 47 12.2**	**-2.1**
SHOC	**Shoshone, Teco** baz=3.3	**3.25**	**353**		P		**Pn**	**18 47 17.6**	**-2.0**
ARVC	**Arvin** baz=3.5	**3.51**	**315**		P		**Pn**	**18 47 21.5**	**-1.7**
MPMC	**Manual Prospec** baz=3.7	**3.66**	**338**		P		**Pn**	**18 47 23.0**	**-2.3**
ISA	**Isabella, Lake**	**3.72**	**324**		*e* Pn		**Pn**	**18 47 23.9**	**-2.1**
ISA					*e* Pg		**Pb**	**18 47 36.3**	**+2.0**
ISA	**Isabella, Lake** baz=3.7	**3.72**	**324**		P		**Pn**	**18 47 23.9**	**-2.1**
DAC	**Darwin (Calif)**	**3.89**	**338**		*e* Pn		**Pn**	**18 47 26.0**	**-2.6**
FURC	**Furnace Creek,** baz=3.9	**3.89**	**347**		P		**Pn**	**18 47 26.7**	**-1.6**
VES	**Vestal, Richgr** baz=4.2	**4.17**	**320**		P		**Pn**	**18 47 31.3**	**-0.9**
TUC	**Tucson**	**4.26**	**93**		*e* Pn		Pn	18 47 29.9	-3.6
TPNV	**Topopah Spring** baz=4.3	**4.29**	**355**		P		**Pn**	**18 47 32.6**	**-1.4**
WUAZ	**Wupatki**	**4.65**	**51**		*e* Pn		**Pn**	**18 47 38.2**	**-0.8**
WUAZ	**Wupatki** baz=4.7	**4.65**	**51**		P		**Pn**	**18 47 38.3**	**-0.8**
TPH	**Tonopah**	**5.52**	**348**		*e* Pn		**Pn**	**18 47 49.9**	**-1.0**
W18A	**Petrified Fore**	**5.62**	**62**		*e* Pn		**Pn**	**18 47 51.7**	**-0.5**
W18A	**Petrified Fore** baz=5.6	**5.62**	**62**		P		**Pn**	**18 47 51.8**	**-0.5**
R11A	**Troy Canyon, C**	**5.67**	**2**		*e* Pn		**Pn**	**18 47 51.1**	**-1.9**
NVAR	**Mina Array Bea** comp=N,0.5nm,0.3s,baz=168,slow=16,SNR=19	**6.10**	**341**		Pn		**Pn**	**18 47 58.2**	**-0.7**
NVAR	baz=162,slow=32,SNR=1.8				Lg		Lg	18 49 39.8	
SAO	**San Andreas Ge**	**6.18**	**313**		Pn		**Pn**	**18 47 59.8**	**-0.1**
MVU	**Marysvale**	**6.52**	**26**		*e* Pn		**Pn**	**18 48 05.1**	**+0.3**
CMB	**Columbia Colle**	**6.53**	**326**		*e* Pn		**Pn**	**18 48 03.0**	**-1.7**
WAKR	**Walker**	**6.53**	**334**		*e* Pn		Pn	18 48 07.9	+3.1
MSU	**Marysvale**	**6.54**	**26**		*e* Pn		**Pn**	**18 48 07.0**	**+2.0**
121A	**Cookes Peak, D**	**6.78**	**89**		*e* Pn		**Pn**	**18 48 06.2**	**-2.0**
121A	**Cookes Peak, D** baz=6.8	**6.78**	**89**		P		**Pn**	**18 48 06.5**	**-1.7**
LAZ	**Ladron**	**7.45**	**74**		*e* Pn		**Pn**	**18 48 16.2**	**-1.1**
MVCO	**Mesa Verde**	**7.52**	**51**		*e* Pn		**Pn**	**18 48 19.2**	**+0.7**
LENM	**Lemitar**	**7.54**	**76**		*e* Pn		**Pn**	**18 48 17.6**	**-1.1**
TMUT	**Trail Mountain**	**7.60**	**28**		*e* Pn		**Pn**	**18 48 22.0**	**+2.4**
SRU	**San Rafael Swe**	**7.73**	**32**		*e* Pn		**Pn**	**18 48 22.4**	**+1.2**
BMN	**Battle Mountai**	**7.83**	**352**		*e* Pn		**Pn**	**18 48 23.0**	**+0.4**
LPM	**Los Pinos Moun**	**7.84**	**75**		*e* Pn		**Pn**	**18 48 21.6**	**-1.2**
NLU	**North Lily Min**	**7.88**	**21**		*e* Pn		Pn	18 48 28.1	+4.8
DUG	**Dugway, Tooele**	**7.89**	**17**		*e* Pn		Pn	18 48 26.6	+3.1
PV10	**Paradox Valley**	**7.93**	**42**		*e* Pn		**Pn**	**18 48 24.8**	**+0.6**
PV01	**Paradox Valley**	**8.04**	**45**		*e* Pn		**Pn**	**18 48 27.2**	**+1.6**
ELK	**Elko** comp=N,0.1nm,0.3s,baz=186,slow=12,SNR=9.3	**8.08**	**3**		Pn		**Pn**	**18 48 26.7**	**+0.6**
ELK	baz=180,slow=12,SNR=2.3				Lg		Lg	18 50 40.6	
ELK	comp=N,3μm,21.1s,baz=180,slow=40				LR		LR	18 51 49.4	
ELK	**Elko**	**8.08**	**3**		*e* Pn		Pn	18 48 22.4	-3.6
ELK					Lg		Lg	18 50 40.6	
ANMO	**Albuquerque** comp=N,0.5nm,0.3s,baz=261,slow=12,SNR=23	**8.11**	**71**		Pn		**Pn**	**18 48 25.6**	**-0.9**
ANMO	comp=N,0.2nm,0.3s,baz=340,slow=19,SNR=2.6				Lg		Lg	18 50 40.0	
ANMO	comp=N,2μm,18.5s,baz=258,slow=40				LR		LR	18 51 48.2	
BGU	**Big Grassy Mou**	**8.54**	**14**		*e* Pn		Pn	18 48 35.0	+2.7
JLU	**Jordanelle**	**8.66**	**23**		*e* Pn		**Pn**	**18 48 35.6**	**+1.5**
MNTX	**Cornudas Mount** comp=N,18nm,0.6s	**8.89**	**93**		*e* Pn		**Pn**	**18 48 35.3**	**-1.8**
MNTX	**Cornudas Mount** baz=8.9	**8.89**	**93**		P		**Pn**	**18 48 35.8**	**-1.3**
HVU	**Hansel Valley**	**9.41**	**14**		*e* Pn		**Pn**	**18 48 45.2**	**+0.9**
WDC	**Wheeytown Da**	**9.57**	**328**		Pn		**Pn**	**18 48 48.5**	**+2.2**
O20A	**White River Ci**	**9.63**	**37**		*e* Pn		**Pn**	**18 48 49.1**	**+1.8**
SMCO	**Snowmass**	**9.67**	**45**		*e* Pn		**Pn**	**18 48 49.8**	**+1.7**
GDL2	**Guadalupe Moun**	**9.69**	**90**		*e* Pn		**Pn**	**18 48 47.6**	**-0.4**
LPIG	**La Paz** comp=N,5.8nm,0.3s,baz=210,slow=8.1,SNR=2.4	**9.81**	**149**		Pn		**Pn**	**18 48 51.6**	**+2.0**
LPIG	comp=N,362nm,21.2s,baz=334,slow=31				LR		LR	18 51 35.5	
LPIG	comp=N,8.0nm,0.3s,baz=120,slow=16,SNR=2.5				Lg		Lg	18 51 40.1	
R23A	**Moffat** baz=9.8	**9.84**	**53**		P		**Pn**	**18 48 51.5**	**+1.3**
SDCO	**Great Sand Dun**	**9.84**	**56**		*e* Pn		**Pn**	**18 48 50.4**	**+0.1**
SDCO	**Great Sand Dun** baz=9.8	**9.84**	**56**		P		**Pn**	**18 48 50.8**	**+0.5**
WVOR	**Wild Horse Val**	**10.01**	**348**		*e* Pn		Pn	18 48 57.0	+4.6
CPRX	**Cap Rock**	**10.06**	**85**		*e* Pn		**Pn**	**18 48 53.8**	**+0.6**
CLNB	**Carlsbad**	**10.09**	**89**		*e* Pn		**Pn**	**18 48 54.1**	**+0.6**
YBH	**Yreka Blue Hor** comp=N,0.0nm,0.3s,baz=119,slow=17,SNR=11	**10.59**	**331**		Pn		Pn	18 49 03.9	+3.6
YBH	comp=N,0.1nm,0.3s,baz=111,slow=15,SNR=3.9				Lg		Lg	18 52 00.9	
YBH	comp=N,2μm,18.2s,baz=249,slow=40				LR		LR	18 53 37.1	
MFID	**Camas Ranch**	**10.73**	**360**		*e* Pn		**Pn**	**18 49 03.4**	**+1.1**
ISCO	**Idaho Springs**	**10.88**	**46**		*e* Pn		**Pn**	**18 49 06.5**	**+2.0**
HLID	**Hailey**	**10.94**	**5**		*e* Pn		Pn	18 49 08.1	+3.0
TXAR	**Lajitas Array** comp=N,0.4nm,0.3s,baz=287,slow=13,SNR=16	**10.94**	**104**		Pn		**Pn**	**18 49 05.0**	**-0.2**
TXAR	comp=N,0.1nm,0.3s,baz=299,slow=32,SNR=3.0				Lg		Lg	18 52 07.6	
TXAR	comp=N,1μm,19.6s,baz=0.0,slow=40				LR		LR	18 53 38.7	
MSTX	**Muleshoe**	**10.99**	**80**		*e* Pn		**Pn**	**18 49 06.5**	**+0.7**
228A	**UT Block 9, Go** baz=11	**11.19**	**89**		P		**Pn**	**18 49 08.1**	**-0.6**
PDAR	**Pinedale Array** comp=N,0.1nm,0.3s,baz=205,slow=17,SNR=32	**11.23**	**24**		Pn		**Pn**	**18 49 11.2**	**+2.0**
PDAR	comp=N,0.0nm,0.3s,baz=210,slow=27,SNR=2.3				Lg		Lg	18 52 18.7	
128A	**Castleberry Fa** baz=11	**11.24**	**87**		P		**Pn**	**18 49 08.4**	**-0.9**
REDW	**Red Top Meadow**	**11.37**	**19**		*e* Pn		Pn	18 49 15.2	+4.0
HUMO	**Hull Mountain**	**11.42**	**332**		*e* Pn		Pn	18 49 14.2	+2.6
Y28A	**McKinney Farm,** baz=11	**11.42**	**80**		P		Pn	18 49 14.3	+2.5
J05D	**Fort Rock, OR** baz=11	**11.43**	**340**		P		Pn	18 49 14.7	+2.8
TPAW	**Teton Pass**	**11.46**	**18**		*e* Pn		Pn	18 49 15.7	+3.2
SNOW	**Snow King Moun**	**11.49**	**19**		*e* Pn		Pn	18 49 16.1	+3.3
J04D	**Umpqua Nationa** baz=12	**11.66**	**337**		P		Pn	18 49 18.5	+3.3
LOHW	**Long Hollow**	**11.67**	**19**		*e* Pn		Pn	18 49 18.5	+3.2
MOOW	**Moose Ponds**	**11.76**	**18**		*e* Pn		Pn	18 49 19.7	+3.3
J19A	**Crowheart** baz=12	**11.85**	**25**		P		**Pn**	**18 49 19.7**	**+2.1**
IMW	**Indian Meadow**	**11.85**	**17**		*e* Pn		Pn	18 49 22.1	+4.3
529A	**Stev Forest Ra** baz=12	**11.89**	**99**		P		**Pn**	**18 49 18.1**	**0.0**
AMTX	**Amarillo**	**11.97**	**75**		Pn		**Pn**	**18 49 18.8**	**-0.4**
429A	**Davenport Ranc** baz=12	**12.04**	**96**		P		**Pn**	**18 49 19.8**	**-0.3**
K21A	**Alcova** baz=12	**12.04**	**32**		P		**Pn**	**18 49 21.8**	**+1.5**
FLWY	**Flagg Ranch**	**12.08**	**18**		*e* Pn		Pn	18 49 25.1	+4.2
T28A	**Walsh** baz=12	**12.09**	**65**		P		**Pn**	**18 49 22.9**	**+1.9**
P26A	**Davis Ranch, A** baz=12	**12.20**	**52**		P		**Pn**	**18 49 23.7**	**+1.3**
KEBM	**Edson Butte**	**12.21**	**329**		*e* Pn		Pn	18 49 26.7	+4.2
HBO	**Huckleberry Mo**	**12.27**	**337**		P		Pn	18 49 28.8	+5.4
J20A	**Shoshoni** baz=12	**12.28**	**27**		P		**Pn**	**18 49 25.5**	**+1.9**
Z30A	**Sanderson Ranc** baz=12	**12.35**	**83**		P		**Pn**	**18 49 25.6**	**+1.2**
MCMT	**McKenzie Canyo**	**12.36**	**10**		*e* Pn		Pn	18 49 29.5	+4.8
K22A	**Casper**	**12.38**	**34**		*e* Pn		Pn	18 49 27.7	+2.8
H17A	**Grant Village**	**12.40**	**18**		*e* Pn		Pn	18 49 29.6	+4.2
X30A	**Coker Ranch, T** baz=13	**12.59**	**78**		P		**Pn**	**18 49 28.3**	**+0.6**
530A	**J-C Ranch, Com** baz=13	**12.62**	**98**		P		**Pn**	**18 49 28.6**	**+0.4**
BROR	**Big Rock Looko**	**12.69**	**338**		P		Pn	18 49 33.6	+4.6
R28A	**Tribune** baz=13	**12.73**	**60**		P		**Pn**	**18 49 30.3**	**+0.6**
DLMT	**Dillon**	**12.92**	**10**		*e* Pn		Pn	18 49 36.7	+4.4
I21A	**Big Trails, Te** baz=13	**12.98**	**29**		P		**Pn**	**18 49 35.4**	**+2.3**
Y31A	**Rekieta Farm,** baz=13	**13.07**	**80**		P		**Pn**	**18 49 35.9**	**+1.6**
431A	**Sonora** baz=13	**13.10**	**95**		P		**Pn**	**18 49 36.4**	**+1.7**
531A	**Rocksprings** baz=13	**13.28**	**97**		P		**Pn**	**18 49 37.4**	**+0.3**
H20A	**Greybull** baz=13	**13.28**	**25**		P		Pn	18 49 40.0	+2.8
LRM	**Limekiln Ridge**	**13.39**	**10**		*e* Pn		Pn	18 49 42.1	+3.3
VLL	**Laurance Lake**	**13.56**	**342**		P		P	18 49 45.9	-4.3
ABTX	**Abilene, Hawle**	**13.63**	**86**		*e* Pn		**Pn**	**18 49 41.7**	**-0.2**
332A	**Millersview** baz=14	**13.70**	**91**		P		**Pn**	**18 49 42.6**	**-0.2**
Z32A	**Haskell** baz=14	**13.73**	**83**		P		**Pn**	**18 49 41.9**	**-1.4**
432A	**Menard** baz=14	**13.75**	**93**		P		**Pn**	**18 49 43.7**	**+0.2**
532A	**Rocksprings** baz=14	**13.82**	**96**		P		**Pn**	**18 49 46.1**	**+1.5**
JCT	**Junction City**	**13.82**	**95**		*e* Pn		**Pn**	**18 49 43.6**	**-1.0**
X32A	**Elmer** baz=14	**13.90**	**78**		P		**Pn**	**18 49 47.1**	**+1.6**
GCMT	**Greycliff**	**13.94**	**18**		Pn		**Pn**	**18 49 47.1**	**+0.9**
W32A	**Sentinel** baz=14	**13.98**	**75**		P		**Pn**	**18 49 46.9**	**+0.3**
HAWA	**Hanford**	**14.01**	**349**		*e* Pn		P	18 49 50.9	-4.1
233A	**Rising Star** baz=14	**14.32**	**88**		P		**Pn**	**18 49 51.2**	**-0.1**
Z33A	**Whitaker Ranch** baz=14	**14.33**	**83**		P		**Pn**	**18 49 51.1**	**-0.3**
WMOK	**Wichita Mounta**	**14.33**	**77**		*e* Pn		**Pn**	**18 49 50.0**	**-1.5**
CHMT	**Chamberlain Mo**	**14.37**	**7**		*e* Pn		P	18 49 55.0	-4.1
SLMT	**Seeley Lake**	**14.67**	**6**		*e* Pn		**Pn**	**18 49 58.4**	**+2.3**
733A	**Divot King Ran** baz=15	**14.74**	**101**		P		P	18 49 59.3	-3.9
E19A	**Rath Farm, Rou** baz=15	**14.80**	**19**		P		P	18 50 00.7	-3.1
LON	**Longmire**	**14.80**	**344**		*e* Pn		P	18 50 00.5	-3.3
SWMT	**Swartz Lake**	**14.89**	**5**		*e* Pn		**P**	**18 50 03.4**	**-1.5**
134A	**White-Moore Ra** baz=15	**14.95**	**86**		P		**Pn**	**18 50 00.4**	**+0.5**
234A	**Clairette** baz=15	**14.96**	**88**		P		**Pn**	**18 50 00.3**	**+0.3**
334A	**Lometa** baz=15	**14.97**	**90**		P		**Pn**	**18 50 00.8**	**+0.6**
434A	**Burnet** baz=15	**15.04**	**92**		P		**Pn**	**18 50 01.6**	**+0.4**
U33A	**Lingo Farm, Me** baz=15	**15.06**	**71**		P		**Pn**	**18 50 01.6**	**+0.3**
X34A	**Smith Ranch, M** baz=15	**15.10**	**78**		P		**Pn**	**18 50 03.5**	**+1.5**
JTMT	**Jette** comp=N,20nm,0.8s	**15.11**	**4**		*e* Pn		**P**	**18 50 06.2**	**-1.2**
BSMT	**Bassoo Peak** comp=N,16nm,1.0s	**15.19**	**3**		*e* Pn		**P**	**18 50 05.9**	**-2.4**
YBMT	**Yellow Bay** comp=N,12nm,0.9s	**15.24**	**5**		*e* Pn		**P**	**18 50 10.2**	**+1.4**
F23A	**Volborg** baz=15	**15.31**	**29**		P		**P**	**18 50 07.3**	**-2.3**
BLMT	**Blacktail Moun** comp=N,21nm,1.1s	**15.37**	**4**		*e* Pn		**Pn**	**18 50 06.6**	**+1.0**
U34A	**Anderson Ranch** comp=N,27nm,0.9s	**15.52**	**71**		*e* Pn		**Pn**	**18 50 06.4**	**-1.1**
NEW	**Newport** comp=N,0.2nm,0.3s,baz=180,slow=14,SNR=20	**15.62**	**357**		Pn		**P**	**18 50 10.9**	**-1.9**
NEW	comp=N,756nm,18.9s,baz=188,slow=41				LR		LR	18 57 01.2	
NEW	**Newport** comp=N,21nm,0.8s	**15.62**	**357**		*e* Pn		**P**	**18 50 10.6**	**-2.3**
NEW	**Newport** baz=16	**15.62**	**357**		P		**P**	**18 50 11.2**	**-1.7**
335A	**Moody** baz=16	**15.67**	**90**		P		**Pn**	**18 50 10.2**	**+0.9**
F24A	**Ekalaka** baz=16	**15.81**	**30**		P		**P**	**18 50 12.7**	**-2.4**
Q33A	**Connelly Farm,** baz=16	**15.88**	**62**		P		**Pn**	**18 50 12.7**	**+0.6**
C19A	**Slack Wire Ran** baz=16	**15.90**	**17**		P		**Pn**	**18 50 11.6**	**-0.8**
NLWA	**Neilton Lookou** comp=N,18nm,0.9s	**15.94**	**340**		*e* Pn		**P**	**18 50 14.3**	**-2.1**
EGMT	**Eagleton** comp=N,38nm,1.2s	**16.01**	**15**		*e* Pn		**P**	**18 50 17.8**	**+0.5**
WALA	**Waterton Lakes** comp=N,21nm,0.9s	**16.44**	**4**		*e* Pn		**P**	**18 50 21.9**	**-0.2**
KSU1	**Kansas State U** comp=N,53nm,1.3s	**16.82**	**62**		*e

ULM	**Lac du Bonnet**	**22.94**	**34**	P		**P**	**18 51 32.4**	**-0.4**
	comp=N,12nm,1.0s,baz=223,slow=10,SNR=7.5							
FFC	**Flin Flon**	**24.13**	**20**	*eP*		**P**	**18 51 43.9**	**-0.5**
	comp=N,24nm,1.4s							
LRAL	**Lakeview Retre**	**24.18**	**81**	*eP*		**P**	**18 51 45.3**	**+0.2**
	comp=N,22nm,1.4s							
CMIG	**Matias Romero**	**24.44**	**124**	P		**P**	**18 51 48.8**	**+1.3**
	comp=N,4.3nm,0.7s,baz=296,slow=8.6,SNR=8.0							
CMIG				LR		LR	19 02 11.8	
	comp=N,834nm,18.0s,baz=274,slow=39							
TKL	**Tuckaleechee C**	**26.62**	**75**	LR		LR	19 02 50.1	
	comp=N,707nm,21.9s,baz=260,slow=37							
GOGA	**Godfrey**	**27.07**	**80**	P		P	18 52 06.1	-5.2
	comp=N,5.8nm,0.5s							
TEIG	**Tepich**	**27.50**	**110**	LR		LR	19 04 22.9	
	comp=N,266nm,20.0s,baz=227,slow=39							
DLBC	**Dease Lake**	**27.51**	**344**	P		**P**	**18 52 16.6**	**+1.6**
	comp=N,4.2nm,0.9s,baz=177,slow=6.7,SNR=7.2							
DLBC				LR		LR	19 04 00.9	
	comp=N,1µm,19.5s,baz=162,slow=38							
DLBC	**Dease Lake**	**27.51**	**344**	*eP*		**P**	**18 52 16.6**	**+1.6**
	comp=N,5.9nm,1.0s							
YKA	**Yellowknife Ar**	**29.86**	**1**	P		**P**	**18 52 36.8**	**+1.0**
	comp=N,0.4nm,0.7s,baz=180,slow=9.1,SNR=7.6							
FCC	**Fort Churchill**	**29.91**	**23**	*eP*		**P**	**18 52 37.5**	**+1.3**
	comp=N,7.8nm,1.0s							
SADO	**Sadowa**	**30.80**	**56**	LR		LR	19 04 55.0	
	comp=N,481nm,19.8s,baz=315,slow=36							
BMRM	**Bremner River**	**33.95**	**335**	*eP*		**P**	**18 53 11.7**	**-0.1**
	comp=N,4.8nm,0.7s							
DAWY	**Dawson**	**34.68**	**342**	*eP*		**P**	**18 53 19.1**	**+1.0**
EGAK	**Eagle**	**35.71**	**342**	*eP*		**P**	**18 53 28.9**	**+2.1**
	comp=N,6.7nm,1.2s							
RSO	**Redoubt South**	**36.81**	**330**	P		**P**	**18 53 37.0**	**+0.4**
	comp=N,18nm,1.0s							
INK	**Inuvik**	**37.12**	**349**	LR		LR	19 09 14.0	
	comp=N,702nm,19.6s,baz=157,slow=37							
INK	**Inuvik**	**37.12**	**349**	*eP*		**P**	**18 53 41.0**	**+2.2**
	comp=N,6.1nm,1.1s							
ILAR	**Eielson Array**	**37.35**	**339**	P		**P**	**18 53 42.2**	**+1.3**
	comp=N,1.7nm,0.9s,baz=153,slow=7.8,SNR=22							
ILAR				LR		LR	19 09 18.6	
	comp=N,323nm,18.5s,baz=160,slow=37							
TRF	**Thorofare Moun**	**37.60**	**335**	*eP*		**P**	**18 53 45.5**	**+2.3**
	comp=N,7.0nm,1.1s							
KTH	**Kantishna Hill**	**37.88**	**335**	*eP*		**P**	**18 53 46.8**	**+1.3**
	comp=N,6.7nm,1.1s							
PPLA	**Purkeypile**	**37.95**	**334**	*eP*		P	18 53 48.8	+2.7
	comp=N,17nm,1.2s							
IM04	**Indian Mountai**	**40.33**	**337**	*eP*		**P**	**18 54 07.3**	**+1.4**
FRB	**Frobisher Bay**	**42.64**	**29**	LR		LR	19 12 32.9	
	comp=N,475nm,19.1s,baz=244,slow=37							
SEY	**Seymchan**	**62.26**	**329**	P		**P**	**18 56 52.2**	**+2.0**
	comp=N,1.8nm,0.6s,baz=69,slow=10,SNR=6.1							
PETK	**Petropavlovsk-**	**62.63**	**317**	P		P	18 56 55.5	+2.6
	comp=N,3.5nm,0.8s,baz=72,slow=14,SNR=3.6							
PETK				LR		LR	19 22 05.6	
	comp=N,43nm,20.7s,baz=62,slow=34							
TIXI	**Tiksi**	**66.72**	**342**	*eP*		**P**	**18 57 20.1**	**+0.8**
	comp=N,5.4nm,1.1s							
NOA	**NORSAR Array B**	**77.17**	**23**	P		**P**	**18 58 24.1**	**+1.9**
	comp=N,0.8nm,0.7s,baz=320,slow=5.4,SNR=3.1							
FINES	**FINESS Array B**	**81.25**	**17**	P		**P**	**18 58 45.4**	**+1.0**
	comp=N,1.9nm,0.9s,baz=319,slow=4.0,SNR=3.4							
USRK	**Ussuriysk Ar.**	**81.72**	**318**	P		**P**	**18 58 49.5**	**+2.3**
	comp=N,2.8nm,1.0s,baz=57,slow=7.0,SNR=4.5							
MJAR	**Matsushiro Arr**	**82.45**	**309**	P		P	18 58 53.7	+2.4
	comp=N,0.8nm,0.8s,baz=56,slow=5.2,SNR=4.6							
PLCA	**Paso Flores**	**84.14**	**147**	P		**P**	**18 59 01.8**	**+2.1**
	comp=N,2.1nm,0.9s,baz=343,slow=4.5,SNR=3.1							
PLCA				LR		LR	19 29 57.4	
	comp=N,92nm,19.3s,baz=330,slow=31							
CN2	**Changchun**	**85.59**	**320**	*eP*		**P**	**18 59 07.5**	**+0.4**
CN2				PMZ				
	comp=N,10.0nm,0.7s							
GUMO	**Guam**	**90.42**	**286**	LR		LR	19 32 06.2	
	comp=N,49nm,21.4s,baz=72,slow=30							
SONM	**Songino Array**	**91.38**	**333**	P		P	18 59 37.2	+2.4
	comp=N,0.4nm,0.6s,baz=35,slow=5.3,SNR=3.3							
AKASG	**Malin Array Be**	**91.43**	**21**	P		**P**	**18 59 36.1**	**+1.3**
	comp=N,0.4nm,0.6s,baz=321,slow=3.3,SNR=4.0							
ZALV	**Zalesovo Beam**	**91.91**	**348**	P		**P**	**18 59 37.3**	**+0.3**
	comp=N,1.0nm,0.6s,baz=14,slow=3.0,SNR=5.4							
BVAR	**Borovoye Array**	**94.50**	**356**	P		**P**	**18 59 50.6**	**+1.7**
	comp=N,0.9nm,0.8s,baz=39,slow=5.5,SNR=6.1							
AKTO	**Aktyubinsk**	**97.08**	**4**	LR		LR	19 46 28.0	
	comp=N,125nm,22.0s,slow=37							
NJ2	**Nanjing**	**97.50**	**316**	*eP*		Pdif	19 00 03.2	+0.2
LZH	**Lanzhou**	**102.18**	**328**	*eP*		**Pdif**	**19 00 23.1**	**-0.9**
LZH				pP			19 00 27.5	
LZH				sP			19 00 30.6	
KSH	**Kashi**	**107.36**	**350**	*e*Pdif		**Pdif**	**19 00 54.0**	**+7.1**
KSH				PP		PP	19 05 29.4	+17
KSH	**Kashi**	**107.36**	**350**	SKS		**SKSdf**	**19 12 08.7**	**+0.9**
KSH	**Kashi**	**107.36**	**350**	SS		SS	19 20 44.0	+23
KSH				AMB		AMB		
	comp=Z,85nm,4.1s							
KSH				LR		LR		
	comp=N,120nm,6.6s							
KSH				LR		LR		
	comp=E,120nm,5.7s							
KSH				LR		LR		
	comp=Z,150nm,5.7s							
WRA	**Warramunga Arr**	**116.84**	**263**	PKP		**PKPdf**	**19 05 13.7**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=70,slow=2.1,SNR=4.9							
ASAR	**Alice Springs**	**118.85**	**259**	PKP		**PKPdf**	**19 05 17.1**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=75,slow=2.3,SNR=6.1							

*ISCJB **08** 18:49:43.9±1.2,55°.16N×0°.03×157°.93E±0°.08,h4km±9km, Error ellipse: s-maj=8.9km s-min=3.1km az=28.4*
*KRSC **08** 18:49:44.5±1.6,55°.17N×157°.90E,h18km±8km,ML4.0*
*MOS **08** 18:49:45.4±1.5,55°.18N×158°.11E,h20km,mb4.2/1, Error ellipse: s-maj=26.4km s-min=11.4km az=81.8*
ISC 08 18:49:42.4±1.4, 55°.15N±0°.03×157°.82E±0°.05, h4km±11km, n39, σ0s99/67, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ESO	**Esso**	**0.92**	**32**	*e*P		**Pg**	**18 49 59.7**	**-0.4**
ESO				*e*S		**Sg**	**18 50 12.2**	**+0.2**
ESO	**Esso**	**0.92**	**32**	PN		**Pg**	**18 49 59.7**	**-0.4**
ESO				S		**Sg**	**18 50 12.2**	**+0.2**
TUMR	**Tumrok**	**1.34**	**83**	*e*P		**Pn**	**18 50 07.8**	**-0.1**
TUMR				*e*S		**Sn**	**18 50 25.5**	**-0.7**
KZV	**Kizimen**	**1.42**	**91**	*e*P		**Pg**	**18 50 09.7**	**+0.1**
KZV				*e*S		**Sg**	**18 50 28.6**	**+0.6**
GNL	**Ganaly**	**1.46**	**177**	*e*P		**Pn**	**18 50 09.3**	**-0.3**
GNL				S		**Sn**	**18 50 27.6**	**-1.6**
KII	**Karymskiy**	**1.47**	**139**	*e*P		**Pb**	**18 50 10.3**	**+0.1**
KII				*e*S		**Sg**	**18 50 29.4**	**-0.1**
KOZ	**Kozyrevsk**	**1.48**	**51**	*e*P		**Pb**	**18 50 10.6**	**+0.2**
KOZ				*e*S		**Sg**	**18 50 30.3**	**+0.5**
KOZR	**Kozyr**	**1.49**	**51**	PN		**Pb**	**18 50 10.6**	**0.0**
KOZR				S		**Sg**	**18 50 30.3**	**0.0**
KMNR	**Kamenistaya**	**1.50**	**65**	*e*P		**Pb**	**18 50 11.1**	**+0.2**
KMNR				S		**Sb**	**18 50 29.6**	**-0.7**
SRDR	**Sredinnyy**	**1.58**	**42**	*e*P		**Pn**	**18 50 11.7**	**+0.4**
SRDR				*e*S		**Sb**	**18 50 32.4**	**-0.2**
KPT	**Kopyto**	**1.59**	**58**	*e*P		**Pb**	**18 50 12.4**	**+0.1**
KIRR	**Kirishev**	**1.64**	**60**	P		**Pb**	**18 50 13.4**	**+0.1**
BZMR	**Bezymyannaya**	**1.71**	**62**	P		**Pg**	**18 50 15.2**	**+0.1**
BZWR	**Bezymyannyi-We**	**1.72**	**61**	P		**Pb**	**18 50 14.9**	**+0.2**
KRX	**Arik**	**1.86**	**165**	*e*P		**Pb**	**18 50 17.0**	**0.0**
KRX				*e*S		**Sb**	**18 50 41.5**	**+0.8**
KOK	**Koryaka**	**1.93**	**165**	*e*P		**Pb**	**18 50 18.2**	**+0.1**
KOK				*e*S		**Sb**	**18 50 43.3**	**+0.9**
KRER	**Koryakskii**	**1.93**	**163**	*e*P		**Pb**	**18 50 18.3**	**+0.1**
KRER				*e*S		**Sb**	**18 50 42.9**	**+0.2**
AVH	**Avacha**	**1.97**	**164**	*e*P		**Pb**	**18 50 19.0**	**+0.2**
KLY	**Klyuchi**	**1.98**	**53**	P		**Pn**	**18 50 17.7**	**+1.1**
KLY	**Klyuchi**	**1.98**	**53**	PN		**Pn**	**18 50 17.7**	**+1.1**
SDLR	**Sedlovina**	**1.98**	**161**	*e*P		**Pb**	**18 50 18.6**	**-0.4**
SDLR				*e*S		**Sb**	**18 50 43.7**	**-0.3**
SMAR	**Somma**	**1.98**	**163**	*e*P		**Pb**	**18 50 19.2**	**+0.1**
SMAR				*e*S		**Sb**	**18 50 44.5**	**+0.4**
UGLR	**Uglovaya**	**2.04**	**163**	*e*P		**Pb**	**18 50 19.7**	**-0.2**
UGLR				*e*S		**Sb**	**18 50 45.5**	**-0.1**
PET	**Petropavlovsk**	**2.19**	**167**	*e*P		**Pn**	**18 50 21.2**	**+1.7**
PET				*e*S		**Sb**	**18 50 48.7**	**-1.2**
PET	**Petropavlovsk**	**2.19**	**167**	PN		**Pn**	**18 50 21.2**	**+1.7**
PET				S		**Sb**	**18 50 48.7**	**-1.2**
APC	**Apacha**	**2.27**	**190**	*e*P		**Pn**	**18 50 22.6**	**+2.1**
APC				*e*S		**Sn**	**18 50 51.0**	**+2.2**
MKZ	**Mys Kozlova**	**2.34**	**103**	*e*P		**Pn**	**18 50 21.7**	**+0.2**
MKZ				*e*S		**Sn**	**18 50 48.9**	**-1.7**
MKZ	**Mys Kozlova**	**2.34**	**103**	PN		**Pn**	**18 50 21.7**	**+0.2**
MKZ				S		**Sn**	**18 50 48.9**	**-1.7**
SPN	**Mys Shipunski**	**2.43**	**147**	*e*P		**Pn**	**18 50 23.9**	**+1.1**
SPN				*e*S		**Sn**	**18 50 53.5**	**+0.5**
SPN	**Mys Shipunski**	**2.43**	**147**	PN		**Pn**	**18 50 23.9**	**+1.1**
SPN				S		**Sn**	**18 50 53.5**	**+0.5**
MTVR	**Mutnovka**	**2.68**	**175**	*e*P		**Pb**	**18 50 29.7**	**-1.3**
MTVR				*e*S		**Sb**	**18 51 03.4**	**-0.9**
RUS	**Russkaya**	**2.75**	**171**	P		**Pn**	**18 50 28.3**	**+1.0**
RUS				S		**Sn**	**18 51 00.9**	**0.0**
RUS	**Russkaya**	**2.75**	**171**	PN		**Pn**	**18 50 28.3**	**+1.0**
RUS				S		**Sn**	**18 51 00.9**	**0.0**
ASAK	**Asacha**	**2.77**	**179**	*e*P		**Pn**	**18 50 30.1**	**+2.5**
ASAK				*e*S		**Sb**	**18 51 05.0**	**-1.9**
MIPR	**Malaya Ipel'ka**	**2.95**	**193**	*e*P		**Pb**	**18 50 34.5**	**-1.0**
MIPR				S		**Sb**	**18 51 12.0**	**+0.2**
KBTR	**Krutoberegovo**	**3.02**	**67**	P		**Pn**	**18 50 31.8**	**+0.9**
KBTR	**Krutoberegovo**	**3.02**	**67**	PN		**Pn**	**18 50 31.8**	**+0.9**
PAU	**Pauzhetka**	**3.74**	**190**	P		**Pb**	**18 50 46.8**	**-2.2**
PAU	**Pauzhetka**	**3.74**	**190**	PN		**Pb**	**18 50 46.8**	**-2.2**

*ISCJB **08** 19:07:33.2±0.5,55°.89S±0°.07×28°.3W±0°.2,h150km, mb4.2/15, Error ellipse: s-maj=13.3km s-min=8.7km az=146.2*
*IDC **08** 19:07:34.1±2.0,55°.89S×28°.33W,h141km±17km,mb4.0/12, mb1 4.1/13,mb1mx3.9/25,mbtmp4.4/13, Error ellipse: s-maj=16.0km s-min=12.9km az=61.0*
*NEIC **08** 19:07:34.8±2.5,55°.86S×28°.31W,h150km±22km,mb4.4/7, Error ellipse: s-maj=12.9km s-min=8.6km az=48.0*
ISC 08 19:07:34.8±0.5, 55°.88S±0°.10×28°.4W±0°.1, h150km, n45, σ0s82/42, mb4.3/14, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**17.38**	**160**	P		**P**	**19 11 26.7**	**-0.2**
VNA2	**Neumayer--Watz**	**17.60**	**157**	P		**P**	**19 11 28.8**	**-0.5**
	baz=316,slow=13							
EFI	**East Falkland**	**17.98**	**271**	*e*P		**Pn**	**19 11 34.5**	**-0.5**
	167nm,1.5s							
SNAA	**Sanae**	**19.17**	**155**	P		**P**	**19 11 45.0**	**-1.4**
	0.7nm,0.3s,baz=328,slow=13,SNR=115							
USHA	**Ushuaia**	**22.59**	**256**	P		**P**	**19 12 21.9**	**-0.5**
	8.5nm,0.7s,baz=78,slow=11,SNR=6.6							
TRQA	**Tornquist**	**28.65**	**294**	*e*P		**P**	**19 13 17.0**	**-0.2**
	2.8nm,0.6s							
PLCA	**Paso Flores**	**31.32**	**281**	P		**P**	**19 13 40.3**	**-0.5**
	2.6nm,0.9s,baz=151,slow=5.1,SNR=7.0							
PLCA	**Paso Flores**	**31.32**	**281**	*e*P		**P**	**19 13 39.3**	**-1.5**
	3.4nm,1.0s							
QSPA	**South Pole Qui**	**34.38**	**180**	P		**P**	**19 14 07.5**	**+0.3**
	4.3nm,0.6s,baz=183,slow=3.7,SNR=64							
QSPA				PcP		**PcP**	**19 16 39.3**	**+0.2**
	0.8nm,0.5s,baz=33,slow=1.0,SNR=4.9							
CPUP	**Villa Florida**	**36.21**	**313**	P		**P**	**19 14 22.7**	**-0.2**
	1.1nm,0.6s,baz=169,slow=6.2,SNR=11							
CPUP				ScP		**ScP**	**19 20 18.6**	**+1.7**
	0.4nm,0.6s,baz=90,slow=3.0,SNR=4.6							
BDFB	**Brasilia**	**42.89**	**332**	P		**P**	**19 15 19.1**	**+0.6**
	1.7nm,0.5s,baz=203,slow=11,SNR=3.6							
SHEL	**Horse Pasture**	**43.43**	**33**	P		P	19 15 16.3	-6.4
LVC	**Limon Verde**	**44.65**	**301**	*e*P		**P**	**19 15 33.9**	**+1.3**
	7.8nm,0.7s							
SBA	**Scott Base**	**46.20**	**184**	P		**P**	**19 15 46.0**	**+2.1**
VNDA	**Vanda**	**46.71**	**183**	P		**P**	**19 15 48.8**	**+0.9**
	1.9nm,0.6s,baz=184,slow=6.5,SNR=27							
H10S2	**ASCENSION HYDR**	**48.03**	**18**	T		T	20 08 05.7	
	baz=189,slow=74,SNR=3.7							
H10S3	**ASCENSION HYDR**	**48.03**	**18**	T		T	20 08 05.7	
	baz=189,slow=74,SNR=4.2							
H10S1	**ASCENSION HYDR**	**48.05**	**18**	T		T	20 08 10.8	
	baz=189							
H10N1	**ASCENSION HYDR**	**49.15**	**18**	T		T	20 09 42.8	
	baz=192							
H10N3	**ASCENSION HYDR**	**49.15**	**18**	T		T	20 09 24.1	
	baz=192							
H10N2	**ASCENSION HYDR**	**49.17**	**18**	T		T	20 09 39.7	
	baz=192							
LBTB	**Lobatse**	**49.59**	**74**	P		**P**	**19 16 10.5**	**-0.2**
	6.9nm,0.8s,baz=224,slow=7.1,SNR=8.5							
LPAZ	**La Paz**	**49.74**	**306**	P		**P**	**19 16 13.8**	**+1.3**
	8.7nm,0.5s,baz=133,slow=5.8,SNR=31							
LPAZ	**La Paz**	**49.74**	**306**	*e*P		**P**	**19 16 13.1**	**+0.6**
	9.1nm,0.6s							
DBIC	**Dimbokro**	**65.29**	**26**	P		**P**	**19 18 00.8**	**+0.4**
	2.8nm,0.6s,baz=178,slow=8.7,SNR=5.9							
DBIC	**Dimbokro**	**65.29**	**26**	*e*P		**P**	**19 18 00.5**	**+0.1**
	3.0nm,0.7s							
TOA0	**Torodi Ar. Sit**	**73.23**	**31**	*e*P		**P**	**19 18 49.5**	**+0.3**
TOA0				*e*pP		pP	19 19 31.9	+6.1
TORD	**Torodi Ar. Bea**	**73.23**	**31**	P		**P**	**19 18 49.9**	**+0.6**
	4.5nm,0.5s,baz=200,slow=6.4,SNR=50							
SDV	**Santo Domingo**	**73.42**	**316**	*e*P		**P**	**19 18 49.3**	**-1.4**
	4.9nm,0.7s							
TEIG	**Tepich**	**91.07**	**306**	P		**P**	**19 20 22.4**	**+0.5**
	5.1nm,0.5s,baz=339,slow=18,SNR=3.1							
ASAR	**Alice Springs**	**99.35**	**164**	P		**Pdif**	**19 20 59.9**	**-0.1**
	0.3nm,0.8s,baz=192,slow=4.8,SNR=4.8							
FINES	**FINESS Array B**	**124.54**	**28**	PKP		**PKPdf**	**19 26 14.5**	**-0.1**
	0.7nm,0.4s,baz=156,slow=3.2,SNR=17							
CMAR	**Chiang Mai Arr**	**125.74**	**112**	PKhKP		PKPpre	19 26 14.9	
	0.7nm,1.1s,baz=264,slow=0.9,SNR=3.0							
CMAR				PKP		**PKiKP**	**19 26 18.6**	**-0.2**
	0.4nm,0.8s,baz=242,slow=1.9,SNR=3.8							
ARCES	**ARCESS Array B**	**131.03**	**22**	PKP		**PKPdf**	**19 26 26.7**	**-0.1**
	3.0nm,1.0s,baz=214,slow=2.9,SNR=9.8							
YKA	**Yellowknife Ar**	**135.60**	**319**	PKP		**PKPdf**	**19 26 34.2**	**-1.4**
	0.8nm,0.5s,baz=127,slow=2.2,SNR=18							
YKA				SKPbc		**SKPbc**	**19 29 52.3**	**-0.4**
	0.9nm,0.8s,baz=128,slow=2.8,SNR=12							
ZALV	**Zalesovo Beam**	**142.88**	**64**	PKhKP		PKPpre	19 26 45.5	
	0.6nm,0.4s,baz=252,slow=3.0,SNR=4.2							
INK	**Inuvik**	**145.25**	**321**	PKPbc		**PKPab**	**19 26 53.6**	**+0.3**
	3.2nm,0.6s,baz=83,slow=2.0,SNR=12							
ILAR	**Eielson Array**	**149.51**	**312**	PKPbc		**PKPbc**	**19 27 04.2**	**-0.5**
	5.1nm,0.8s,baz=133,slow=2.0,SNR=59							
MCK	**McKinley**	**150.15**	**310**	*e*PKPbc		**PKPbc**	**19 27 06.6**	**+0.2**
TRF	**Thorofare Moun**	**150.68**	**309**	*e*PKPbc		**PKPbc**	**19 27 07.8**	**0.0**
TRF				*e*PKPab		**PKPab**	**19 27 15.6**	**+0.1**
KTH	**Kantishna Hill**	**150.98**	**309**	*e*PKPbc		**PKPbc**	**19 27 08.7**	**+0.3**
COLD	**Coldfoot**	**151.24**	**317**	*e*PKPbc		**PKPbc**	**19 27 09.3**	**+0.5**
SONM	**Songino Array**	**151.37**	**87**	PKPbc		**PKPbc**	**19 27 09.8**	**0.0**
	1.9nm,0.5s,baz=233,slow=3.3,SNR=7.0							
PPLA	**Purkeypile**	**151.41**	**307**	*e*PKPbc		**PKPbc**	**19 27 09.3**	**-0.2**
ULN	**Ulaanbaatar**	**151.76**	**88**	*e*PKPbc		**PKPbc**	**19 27 09.2**	**-1.6**
ULN				*e*PKPab		**PKPab**	**19 27 19.9**	**-0.5**

WEL 08 19:13:09.3±0.3, 36°.57S×177°.12E, h5km, ML4.0/5, Error ellipse: s-maj=3.5km s-min=1.8km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MYRZ	**Mayor Island**	**1.00**	**224**	P*		Pg	19 13 27.6	-0.9
MYRZ				S*		Sg	19 13 39.9	-1.6
KUZ	**Kuaotunu**	**1.14**	**261**	P*		Pg	19 13 30.5	-0.6
KUZ				S*		Sg	19 13 45.2	-0.7
KUZ				AML	AML		19 13 46.0	
KUZ				AML	AML		19 13 46.0	
KUZ				AML	AML		19 13 46.6	
HAZ	**Te Kaha**	**1.30**	**156**	*e*P*		Pn	19 13 31.2	-2.9
MXZ	**Matakaoa Point**	**1.37**	**137**	P*		Pn	19 13 32.9	-2.3
MXZ				S*		Sb	19 13 49.4	-3.9
MXZ				AML	AML		19 13 50.3	
WMGZ	**Waiomatatini S**	**1.62**	**141**	*e*PN		Pn	19 13 38.3	-0.2
MKAZ	**Moumakai**	**1.66**	**250**	PN		Pn	19 13 38.0	-1.0
MKAZ				AML	AML		19 14 00.9	
MKAZ				AML	AML		19 14 01.0	
URZ	**Urewera**	**1.69**	**180**	*e*P*		Pn	19 13 36.8	-2.6
URZ				AML	AML		19 14 02.3	
URZ				AML	AML		19 14 05.4	
PUZ	**Puketiti**	**1.75**	**149**	*e*PN		Pn	19 13 40.0	-0.4
PUZ				AML	AML		19 14 06.3	
PUZ				AML	AML		19 14 11.9	
RVAZ	**Riverhead Bore**	**2.05**	**264**	*e*PN		Pn	19 13 44.7	+0.3
HIZ	**Hauiti**	**2.65**	**222**	PN		Pn	19 13 51.9	-0.7

*IDC **08** 19:18:13.6±0.9,0°.71S×122°.41E,h0km,mb3.6/7, mb1 3.9/8,mb1mx3.6/32,mbtmp3.7/8,ML4.2/1,MS2.8/1, Ms1 2.8/1,ms1mx2.6/28, Error ellipse: s-maj=36.6km s-min=16.3km az=68.0*
*DJA **08** 19:18:17.1±0.2,1°.3S×12°.3E±°,h10km,M4.5/13,mb4.7/3, mB4.9/3,MLv4.4/13,Mw(mB)4.1/3*
*NEIC **08** 19:18:18.6±0.6,0°.78S×122°.43E,h35km,mb4.2/3, Error ellipse: s-maj=17.1km s-min=10.0km az=56.0*
ISC 08 19:18:15.6±1.3, 0°.68S±0°.05×122°.49E±0°.03, h11km±9km, n34, σ1s34/36, mb3.9/10, 1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.45**	**142**	P		**Pg**	**19 18 24.9**	**+0.3**
LUWI	**Luwuk**	**0.45**	**142**	*e*Pg		**Pg**	**19 18 24.2**	**-0.3**
APSI	**Ampana**	**0.87**	**255**	P		**Pg**	**19 18 32.0**	**-0.5**
APSI				S		**Sg**	**19 18 44.9**	**+1.1**
MRSI	**Marisa**	**1.28**	**335**	P		**Pn**	**19 18 38.2**	**-1.2**
MRSI				S		**Sb**	**19 18 54.8**	**-1.4**
KMSI	**Cibinong**	**1.94**	**50**	P		**Pb**	**19 18 49.9**	**-1.2**
KMSI				S		**Sb**	**19 19 15.4**	**0.0**
TOLI	**Toli-Toli**	**2.47**	**317**	*e*Pn		**Pn**	**19 18 55.6**	**-0.2**
TOLI				*e*Sg		**Sb**	**19 19 31.7**	**+1.2**
PCI	**Palu**	**2.66**	**265**	P		**Pn**	**19 19 01.1**	**+2.6**
MPSI	**Mapaga**	**2.78**	**291**	P		**Pn**	**19 19 02.7**	**+2.5**
MPSI				S		**Sb**	**19 19 37.4**	**-2.2**
TTSI	**Tana Toraja**	**3.55**	**229**	P		**Pn**	**19 19 12.0**	**+1.2**
SANI	**Sanana**	**3.75**	**111**	P		**Pn**	**19 19 13.3**	**-0.2**
SANI				S		**Sn**	**19 19 58.1**	**+0.4**
SPSI	**Sidrap Palu**	**4.24**	**220**	P		**Pn**	**19 19 20.7**	**+0.4**
BNSI	**Bone**	**4.39**	**213**	P		**Pn**	**19 19 24.1**	**+1.8**
LBMI	**Labuha**	**5.01**	**90**	P		**Pn**	**19 19 32.0**	**+1.2**
	69nm,0.6s,1µm1.1nm							
TNTI	**Ternate**	**5.09**	**73**	P		Pb	19 19 39.4	-5.3
TNTI	**Ternate**	**5.09**	**73**	*e*Pn		Pn	19 19 35.5	+3.6
	37nm,0.5s							
TNTI				*e*Sn		**Sn**	**19 20 32.1**	**+1.4**
KAPI	**Kappang**	**5.10**	**212**	Pn		**Pn**	**19 19 31.2**	**-0.8**
	8.1nm,0.3s,baz=42,slow=4.8,SNR=28							
KAPI				LR		LR	19 20 54.7	
	comp=Z,110nm,19.7s,baz=37,slow=32							
KAPI	**Kappang**	**5.10**	**212**	Pn		**Pn**	**19 19 31.2**	**-0.8**
KAPI				*e*Sn		Sn	19 20 16.7	-14
NLAI	**Namlea**	**5.26**	**119**	P		**Pn**	**19 19 36.0**	**+1.7**
KBKI	**Kotabaru**	**6.83**	**248**	P		Pb	19 20 10.0	-4.5
CTBH	**Cotabato--PC H**	**8.04**	**13**	⇓*i*P		**Pn**	**19 20 15.6**	**+3.0**
KKM	**Kota Kinabalu**	**9.16**	**317**	*e*Pn		Pn	19 20 33.7	+5.7
WRAB	**Tennant Creek**	**22.38**	**149**	*e*P		**P**	**19 23 14.1**	**-0.1**
	22nm,1.6s							
WRA	**Warramunga Arr**	**22.38**	**150**	P		**P**	**19 23 13.8**	**-0.4**
	2.9nm,1.0s,baz=331,slow=11,SNR=17							
AS31	**Alice Springs**	**25.39**	**155**	*e*P		**P**	**19 23 43.4**	**+0.1**
ASAR	**Alice Springs**	**25.39**	**155**	P		**P**	**19 23 43.6**	**+0.3**
	1.6nm,0.6s,baz=340,slow=11,SNR=38							
CMAR	**Chiang Mai Arr**	**29.96**	**311**	P		**P**	**19 24 23.0**

OSI	Osito Audit: C	0.59	131	*e*Pg		Pg	19 23 16.8	+0.2
OSI	Osito Audit: C	0.59	131	⇓P		Pg	19 23 17.0	+0.4
	baz=0.6,SNR=431							
OSI				⇑S		Sg	19 23 25.0	+0.6
	baz=0.6							
SBC	Santa Barbara	0.68	214	P		Pb	19 23 19.5	+0.3
	baz=0.7,SNR=126							
SBC				⇑S		Sb	19 23 29.2	+0.5
	baz=0.7							
SMMC	Simmler	0.68	297	P		Pg	19 23 18.7	+0.3
	baz=0.7,SNR=255							
SMMC				⇓S		Sb	19 23 28.3	-0.6
	baz=0.7							
VES	Vestal, Richgr	0.84	10	P		Pg	19 23 21.3	-0.2
	baz=0.8,SNR=1000							
VES				⇓S		Sg	19 23 33.1	+0.6
	baz=0.8							
BLG	Laguna Peak, P	0.91	170	P		Pb	19 23 23.1	-0.1
	baz=0.9,SNR=339							
BLG				⇓S		Sb	19 23 36.0	+0.6
	baz=0.9							
ISA	Isabella, Lake	0.92	44	*e*Pg		Pg	19 23 22.3	-0.6
ISA				*e*Sg		Sg	19 23 34.0	-0.8
ISA	Isabella, Lake	0.92	44	P		Pg	19 23 22.3	-0.6
	baz=0.9,SNR=840							
ISA				⇑S		Sg	19 23 34.7	-0.2
	baz=0.9							
EDW2	Edwards Air Fo	1.05	97	P		Pg	19 23 25.0	-0.4
	baz=1.0,SNR=509							
EDW2				⇓S		Sb	19 23 39.9	+0.4
	baz=1.0							
BSC	Santa Cruz Isl	1.05	197	P		Pg	19 23 25.0	-0.5
	baz=1.1,SNR=217							
BSC				⇑S		Sb	19 23 39.3	-0.3
	baz=1.1							
DECC	Green Verdugo	1.07	134	P		Pb	19 23 26.0	0.0
	baz=1.1,SNR=57							
DECC				⇑S		Sb	19 23 40.6	+0.4
	baz=1.1							
PASC	Pasadena Art C	1.22	133	*e*Pg		Pb	19 23 27.6	-0.8
PASC				*e*Sg		Sb	19 23 42.5	-1.7
MWC	Mount Wilson	1.26	128	*e*Pg		Pn	19 23 28.3	-0.9
MWC				*e*Sg		Sb	19 23 45.4	-0.3
RCTC	Rector, Farmer	1.30	1	P		Pn	19 23 28.3	-1.3
	baz=1.3,SNR=139							
RCTC				⇓S		Sb	19 23 44.9	-1.8
	baz=1.3							
LRMC	Laurel Mtn Rad	1.37	69	P		Pn	19 23 30.2	-0.5
	baz=1.4,SNR=117							
LRMC				⇑S		Sb	19 23 49.1	+0.4
	baz=1.4							
FMP	Fort Macarthur	1.52	148	⇑P		Pn	19 23 32.6	+0.1
	baz=1.5,SNR=46							
FMP				⇑S		Sn	19 23 52.0	-0.4
	baz=1.5							
BFSC	Mount Baldy Ra	1.52	120	P		Pn	19 23 32.6	-0.2
	baz=1.5,SNR=308							
BFSC				⇓S		Sn	19 23 52.8	0.0
	baz=1.5							
CWC	Cottonwood Cre	1.72	33	⇓P		Pn	19 23 36.6	+1.0
	baz=1.7,SNR=125							
CWC				⇑S		Sb	19 23 59.2	+0.2
	baz=1.7							
CIS	Catalina Islan	1.75	156	P		Pn	19 23 34.6	-1.1
	baz=1.8,SNR=139							
MPMC	Manual Prospec	1.79	53	⇓P		Pn	19 23 36.3	-0.1
	baz=1.8,SNR=670							
DAC	Darwin (Calif)	1.86	46	*e*Pn		Pn	19 23 37.3	-0.1
DAC				*e*Sn		Sb	19 24 03.7	+0.8
RRX	Edison Barstow	1.86	93	P		Pn	19 23 36.6	-0.7
	baz=1.9,SNR=21							
GSC	Goldstone, Bar	2.03	81	*e*Pn		Pn	19 23 38.6	-1.1
GSC	Goldstone, Bar	2.03	81	P		Pn	19 23 38.9	-0.9
	baz=2.0,SNR=54							
BBRC	Big Bear Solar	2.06	110	P		Pn	19 23 40.0	-0.3
	baz=2.1,SNR=11							
SCI	San Clemente I	2.10	164	⇓P		Pn	19 23 40.7	0.0
	baz=2.1,SNR=31							
MURC	Murrieta	2.21	129	⇑P		Pn	19 23 41.6	-0.5
	baz=2.2,SNR=11							
TIN	Tinemaha, Big	2.21	22	⇑P		Pb	19 23 44.7	-0.7
	baz=2.2,SNR=373							
HEC	Hector,Ludlow	2.41	93	⇓P		Pn	19 23 44.2	-0.8
	baz=2.4,SNR=19							
FURC	Furnace Creek,	2.44	52	⇑P		Pn	19 23 46.9	+1.7
	baz=2.4,SNR=84							
SAO	San Andreas Ge	2.50	315	*e*Pn		Pn	19 23 44.7	-1.4
GRAC	Grapevine Rang	2.51	37	P		Pn	19 23 47.8	+1.5
	baz=2.5,SNR=116							
SHOC	Shoshone, Teco	2.59	69	P		Pn	19 23 46.7	-0.7
	baz=2.6,SNR=10.0							
MLAC	Mammoth, Mammo	2.64	7	⇑P		Pn	19 23 50.0	+1.8
	baz=2.6,SNR=94							
PFO	Pinyon Flats O	2.71	120	*e*Pn		Pn	19 23 48.4	-0.7
PFO	Pinyon Flats O	2.71	120	⇓P		Pn	19 23 48.8	-0.3
	baz=2.7,SNR=22							
TUQ	Turquoise Moun	2.76	80	⇑P		Pn	19 23 48.9	-1.0
	baz=2.8,SNR=8.9							
109C	Camp Elliot, M	2.77	139	P		Pn	19 23 48.9	-0.8
	baz=2.8,SNR=9.0							
BELC	Belle Mtn. Jos	2.87	110	⇑P		Pn	19 23 50.8	-0.6
	baz=2.9,SNR=15							
GMRC	Granite Mountain	2.97	93	⇓P		Pn	19 23 50.6	-2.0
	baz=3.0,SNR=9.6							
TPNV	Topopah Spring	3.12	51	⇓P		Pn	19 23 55.6	+0.9
	baz=3.1,SNR=37							
CMB	Columbia Colle	3.16	344	*e*Pn		Pn	19 23 55.2	0.0
BAR	Barrett	3.16	136	*e*Pn		Pn	19 23 54.4	-0.9
MONP	Monument Peak,	3.17	131	⇓P		Pn	19 23 55.4	0.0
	baz=3.2,SNR=20							
LDFC	Landfair	3.40	88	*e*Pn		Pn	19 23 56.6	-2.0
BC3	Big Chuckawall	3.42	112	P		Pn	19 23 57.9	-1.0
	baz=3.4,SNR=8.8							
TPH	Tonopah	3.47	28	*e*Pn		Pn	19 24 00.3	+0.6
IRM	Iron Mountain	3.49	103	⇑P		Pn	19 23 59.0	-0.7
	baz=3.5							
WAKR	Walker	3.50	358	*e*Pn		Pn	19 24 00.8	+0.9
NVAR	Mina Array Bea	3.50	12	Pn		Pn	19 24 02.0	+1.9
	3.1nm,0.3s,baz=198,slow=15,SNR=28							
NVAR					Pg	Pb	19 24 06.9	-0.6
	42nm,0.3s,baz=207,slow=16,SNR=119							
NVAR					Lg	Lg	19 24 54.3	
	38nm,0.3s,baz=309,slow=16,SNR=6.2							
NV11	Mina Array Sit	3.53	14	Pn		Pn	19 24 02.9	+2.4
SAC	San Andreas	3.62	316	*e*Pn		Pn	19 24 00.8	-0.7
NEE2	Needles Airpor	3.82	92	⇓P		Pn	19 24 03.5	-0.7
	baz=3.8,SNR=8.0							
MCCM	Marconi Confer	4.28	318	*e*Pn		Pn	19 24 08.4	-2.1
W13A	Hualapai Mount	4.41	87	⇓P		Pn	19 24 11.9	-0.6
	baz=4.4							
R11A	Troy Canyon, C	4.45	40	Pn		Pn	19 24 12.3	-0.8
HOPS	Hopland Field	5.01	324	*e*Pn		Pn	19 24 19.5	-1.2
Z14A	Wintersburg	5.48	106	⇑P		Pn	19 24 27.1	0.0
	baz=5.5							
BMN	Battle Mountai	5.65	16	*e*Pn		Pn	19 24 29.0	-0.6
	18nm,0.6s							
KCPM	Cahto Peak	5.80	325	*e*Pn		Pn	19 24 29.6	-2.0
KIPM	Iron Peak	5.85	326	*e*Pn		Pn	19 24 33.3	+1.0
	32nm,1.0s							
WDC	Whiskeytown Da	6.14	336	*e*Pn		Pn	19 24 35.1	-1.0
	7.0nm,0.6s							
WUAZ	Wupatki	6.47	83	*e*Pn		Pn	19 24 42.9	+2.0
	17nm,0.8s							
ELK	Elko	6.55	28	Pn		Pn	19 24 45.1	+3.1
	1.6nm,0.3s,baz=181,slow=9.4,SNR=12							
ELK					Lg	Lg	19 26 29.7	
	7.8nm,0.3s,baz=182,slow=4.9,SNR=14							
ELK	Elko	6.55	28	*e*Pn		Pn	19 24 43.9	+1.9
	16nm,0.7s							
ELK					Lg	Lg	19 26 29.7	
MVU	Marysvale	6.65	56	Pn		Pn	19 24 46.5	+3.2
	11nm,0.8s							
KHMM	Horse Mountain	6.84	330	*e*Pn		Pn	19 24 47.4	+1.5
	9.5nm,0.8s							
YBH	Yreka Blue Hor	7.24	339	Pn		Pn	19 24 53.3	+1.9
	0.2nm,0.3s,baz=130,slow=5.6,SNR=19							
YBH					Lg	Lg	19 26 51.2	
	0.1nm,0.3s,baz=292,slow=7.0,SNR=3.6							
YBH					LR	LR	19 27 41.0	
	comp=Z,97nm,21.4s,baz=236,slow=38							
TUC	Tucson	7.56	108	Pn		Pn	19 24 54.5	-1.1
BGU	Big Grassy Mou	7.69	38	Pn		Pn	19 24 56.8	-0.7
	4.0nm,0.9s							
HUMO	Hull Mountain	8.12	340	*e*Pn		Pn	19 25 06.0	+2.7
	5.6nm,1.0s							
KBO	Bosley Butte	8.18	333	*e*Pn		Pn	19 25 06.1	+2.0
KEBM	Edson Butte	8.79	335	*e*Pn		Pn	19 25 15.3	+2.7
MFID	Camas Ranch	8.81	17	*e*Pn		Pn	19 25 17.0	+4.2
	6.5nm,1.3s							
MVCO	Mesa Verde	8.98	73	Pn		Pn	19 25 17.2	+1.9
HLID	Hailey	9.33	22	*e*Pn		Pn	19 25 26.8	+6.7
	3.4nm,1.0s							
ANMO	Albuquerque	10.51	87	Lg		Lg	19 28 38.0	
	0.1nm,0.3s,baz=170,slow=5.7,SNR=3.1							
PDAR	Pinedale Array	10.82	41	Pn		Pn	19 25 44.6	+4.1
	0.1nm,0.3s,baz=223,slow=9.2,SNR=2.9							
SDCO	Great Sand Dun	11.42	72	Pn		Pn	19 25 53.2	+4.3
LPIG	La Paz	13.36	142	LR		LR	19 31 23.7	
	comp=Z,148nm,18.4s,baz=302,slow=38							
TXAR	Lajitas Array	14.36	109	Pn		Pn	19 26 29.3	+0.5
	0.1nm,0.3s,baz=282,slow=12,SNR=6.2							
ULM	Lac du Bonnet	22.84	41	P		P	19 28 09.3	+0.7
	2.0nm,0.6s,baz=236,slow=7.3,SNR=2.6							
DLBC	Dease Lake	24.51	346	P		P	19 28 26.4	+1.6
	0.5nm,0.7s,baz=156,slow=19,SNR=1.9							
YKA	Yellowknife Ar	27.66	5	P		P	19 28 54.3	+1.2
	0.1nm,0.5s,baz=187,slow=9.2,SNR=2.9							
CMIG	Matias Romero	28.12	123	LR		LR	19 39 49.1	
	comp=Z,76nm,18.7s,baz=330,slow=36							
ILAR	Eielson Array	34.14	339	P		P	19 29 51.4	+1.2
	0.3nm,0.5s,baz=151,slow=6.6,SNR=5.4							
SEY	Seymchan	58.76	328	P		P	19 33 02.0	-1.2
	0.6nm,0.5s,baz=61,slow=19,SNR=2.2							
FINES	FINESS Array B	79.84	16	P		P	19 35 14.2	+0.5
	2.7nm,1.0s,baz=194,slow=1.6,SNR=4.1							
ESDC	Sonseca Array	84.70	44	P		P	19 35 40.3	+0.7
	0.2nm,0.3s,baz=315,slow=5.7,SNR=3.7							
ZALV	Zalesovo Beam	88.99	346	P		P	19 35 58.9	-1.3
	0.4nm,0.6s,baz=21,slow=9.3,SNR=2.4							
WRA	Warramunga Arr	114.31	262	PKP		PKPdf	19 41 43.8	-1.9
	0.4nm,0.8s,baz=36,slow=1.6,SNR=2.5							
ASAR	Alice Springs	116.48	259	PKP		PKPdf	19 41 48.2	-1.6
	0.4nm,1.0s,baz=65,slow=2.2,SNR=5.5							

ISCJB ***08*** *19:30:08.2±0.7, 35.73N±0.05×140.83E±0.08, h61km±5km, mb3.4/3, Error ellipse: s-maj=10.6km s-min=8.4km az=177.1*

IDC ***08*** *19:30:09.5±2.3, 35.82N×140.84E, h55km±17km, mb3.2/3, mb1 3.4/5, mb1mx3.1/28, mbtmp3.5/5, ML3.1/2, Error ellipse: s-maj=45.1km s-min=21.9km az=77.0*

JMA ***08*** *19:30:09.3±0.1, 35.74N×140.70E, h49km±1km, M3.0*

ISC 08 19:30:09.5±1.1, 35.76N±0.05×140.75E±0.07, h50km±8km, n16, σ1s25/21, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.10	121	P		Pn	19 30 17.0	-0.3
CHOJ				*e*S		Sn	19 30 23.3	+0.5
JCN	Nagara	0.56	233	P		Pn	19 30 21.5	+0.1
JCN				*e*S		Sn	19 30 30.9	+0.9
I30JP	ISUMI INFRASON	0.57	219	P		Pn	19 30 23.6	+2.0
I30JP				S		Sn	19 30 29.9	-0.3
JYT	Yasato	0.65	316	P		Pn	19 30 22.3	-0.3
JHO	Hitachi	0.87	350	P		Pn	19 30 25.9	+0.5
BSO3	Boso 3	0.97	192	P		Pn	19 30 26.7	+0.1
BSO1	Boso 1	1.11	170	P		Pn	19 30 28.8	+0.6
JAG	Ashikaga	1.25	303	P		Pn	19 30 30.0	-0.5
JOD2	Odawara 2	1.44	251	P		Pn	19 30 32.8	-0.4
JIM2	Oshima 3	1.50	227	P		Pn	19 30 32.6	-1.4
JIM2				*e*S		Sn	19 30 50.0	-2.4
MJAR	Matsushiro Arr	2.20	292	P		Pn	19 30 44.6	+1.0
	5.6nm,0.3s,baz=96,slow=8.9,SNR=80							
MJAR				S		Sn	19 31 15.8	+6.1
	4.3nm,0.3s,baz=297,slow=41,SNR=9.0							
MAT	Matsushiro	2.21	292	P		Pn	19 30 44.9	+1.2
MAT				*e*S		Sn	19 31 12.6	+2.9
ASAJ	Asahikawa	8.47	9	P		Pn	19 32 08.5	-1.0
	0.2nm,0.3s,baz=155,slow=19,SNR=3.4							
MKAR	Makanchi Array	44.36	303	P		P	19 38 14.1	-0.7
	0.2nm,0.5s,baz=81,slow=14,SNR=3.9							
WRA	Warramunga Arr	55.73	187	P		P	19 39 40.6	-0.4
	0.5nm,0.7s,baz=2.0,slow=7.5,SNR=7.7							
ASAR	Alice Springs	59.45	187	P		P	19 40 07.7	+0.4
	0.3nm,0.6s,baz=14,slow=9.5,SNR=6.4							

ISCJB ***08*** *19:36:32.0±0.6, 35.77N±0.04×140.73E±0.08, h56km±4km, mb3.6/5, Error ellipse: s-maj=10.6km s-min=5.6km az=166.7*

IDC ***08*** *19:36:31.6±3.5, 35.79N×140.96E, h43km±31km, mb3.4/5, mb1 3.6/7, mb1mx3.3/28, mbtmp3.6/7, ML3.2/2, MS3.0/1, Ms1 3.0/1, ms1mx2.4/24, Error ellipse: s-maj=45.6km s-min=22.8km az=77.0*

JMA ***08*** *19:36:33.0±0.1, 35.75N×140.68E, h44km±1km, M3.1 Broadband fault plane solution: P waves. NP1: φ±7.00000°, δ75.00000°, λ86.00000°. NP2:φ±201.00000°, δ15.00000°, λ103.00000°. Principal axes: T Plg60.0000°, Azm272.0000°; N Plg3.0000°, Azm8.0000°; P Plg30.0000°, Azm100.0000°;*

ISC 08 19:36:32.6±0.9, 35.77N±0.04×140.78E±0.07, h46km±8km, n23, σ1s66/25, mb3.6/5, 1C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.09	135	⇑P		Pn	19 36 40.3	+0.4
CHOJ				S		Sn	19 36 45.7	+0.7
JCN	Nagara	0.59	233	⇓P		Pn	19 36 44.7	0.0
JCN				S		Sn	19 36 53.3	0.0
I30JP	ISUMI INFRASON	0.60	219	P		Pn	19 36 43.1	-1.7
I30JP				S		Sn	19 36 54.0	+0.5
JYT	Yasato	0.66	314	⇓P		Pn	19 36 45.4	-0.2
JYT				S		Sn	19 36 53.0	-2.0
JHO	Hitachi	0.86	349	⇓P		Pn	19 36 49.0	+0.7
JHO				*e*S		Sn	19 37 01.2	+1.4
BSO4	Boso 4	0.86	205	P		Pn	19 36 49.5	+1.3
BSO3	Boso 3	0.99	193	P		Pn	19 36 49.7	-0.2
BSO3				S		Sn	19 37 04.3	+1.7
BSO1	Boso 1	1.13	172	P		Pn	19 36 52.0	+0.5
BSO1				*e*S		Sn	19 37 06.8	+1.3
MJAR	Matsushiro Arr	2.22	291	P		Pn	19 37 07.7	+0.8
	7.7nm,0.3s,baz=93,slow=8.9,SNR=82							
MJAR				S		Sn	19 37 38.5	+5.4
	7.9nm,0.3s,baz=115,slow=23,SNR=7.3							
MAT	Matsushiro	2.22	291	P		Pn	19 37 07.8	+0.9
MAT				*e*S		Sn	19 37 31.2	-1.9
ASAJ	Asahikawa	8.45	9	P		Pn	19 38 30.3	-2.1
	0.2nm,0.3s,baz=120,slow=20,SNR=3.7							
JNU	Nakatsue	8.59	255	LR		LR	19 42 25.9	
	comp=Z,81nm,18.6s,baz=47,slow=40							
H11N2	WAKE ISLAND Hy 27.98	118		T		T	20 11 33.6	
	baz=310,slow=75,SNR=9.7							
H11N1	WAKE ISLAND Hy 27.98	118		T		T	20 11 49.1	
	baz=310,slow=75,SNR=7.5							
H11N3	WAKE ISLAND Hy 28.00	118		T		T	20 11 35.2	
	baz=310,slow=75,SNR=8.8							
H11S1	WAKE ISLAND Hy 28.64	120		T		T	20 12 22.1	
	baz=312,slow=75,SNR=14							
H11S3	WAKE ISLAND Hy 28.64	120		T		T	20 12 21.5	
	baz=312,slow=75,SNR=13							
H11S2	WAKE ISLAND Hy 28.65	120		T		T	20 12 22.5	
	baz=312,slow=75,SNR=8.8							
ZALV	Zalesovo Beam	42.40	313	P		P	19 44 22.3	-0.1
	1.1nm,0.9s,baz=85,slow=3.5,SNR=3.6							
MKAR	Makanchi Array	44.37	303	P		P	19 44 37.6	-0.8
	0.4nm,0.7s,baz=97,slow=4.6,SNR=4.2							
WRA	Warramunga Arr	55.74	187	P		P	19 46 03.5	-1.2
	0.3nm,0.4s,baz=1.7,slow=7.6,SNR=8.4							
ASAR	Alice Springs	59.47	187	P		P	19 46 31.0	+0.1
	0.5nm,1.1s,baz=19,slow=11,SNR=7.2							
FINES	FINESS Array B	69.59	332	P		P	19 47 37.5	+0.4
	3.0nm,1.0s,baz=37,slow=14,SNR=3.6							

ISCJB ***08*** *19:52:57.9±0.4, 32.71N±0.03×115.80W±0.03, h12km±3km, Error ellipse: s-maj=4.5km s-min=3.7km az=144.9*

MEX ***08*** *19:52:58.4±1.2, 32.90N×115.75W, h16km±29km, MD4.0*

NEIC ***08*** *19:52:58.7, 32.67N×115.82W, h3km, ML3.3(PAS), ML3.4(ECX), After PAS.*

ECX ***08*** *19:52:59.1±0.6, 32.69N×115.83W, h3km, MD3.1, ML3.4*

ISC 08 19:52:58.1±0.8, 32.65N±0.02×115.80W±0.02, h11km±6km, n32, σ1s03/50, 10C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YUH	Yuha Desert	0.10	267	⇑*i*P		Pg	19 53 00.8	0.0
WESC	Westside Schoo	0.12	28	⇑*i*P		Pg	19 53 01.1	0.0
WESC				*e*S		Sg	19 53 03.6	+0.4
ERPC	Ernies Place	0.14	52	⇑*i*P		Pg	19 53 02.0	+0.5
COK	Cook Ranch	0.20	17	⇓*i*P		Pg	19 53 02.7	+0.3
RMX	La Rumorosa	0.24	258	⇑*i*P		Pg	19 53 03.4	+0.2
RMX				*e*S		Sg	19 53 07.0	+0.4
CRR	Carrizo Plain	0.27	328	⇓*i*P		Pg	19 53 03.6	-0.1
SWSC	Sam W. Stewart	0.29	0	⇑*i*P		Pg	19 53 03.8	-0.1
DREC	Desert Rsrch C	0.33	63	⇑*i*P		Pb	19 53 05.8	-0.3
CPBX	Cerro Prieto	0.48	119	*e*P9		Pg	19 53 08.8	+1.3
CPBX				*e*S		Sb	19 53 16.1	+0.5
CPBX				⇑*e*			19 53 22.6	
CPBX				AML		AML	19 53 22.6	
	comp=N,8µm,0.5s							
MBIG	Mexicali	0.56	116	*e*P		Pg	19 53 08.5	-0.6
MBIG				*e*S		Sg	19 53 16.9	+0.4
COA	Coachella	0.61	70	⇑*i*P		Pb	19 53 10.2	-0.5
RDX	Rancho Dawling	0.73	190	⇓*e*P		Pg	19 53 12.2	-0.1
RDX				*e*S		Sg	19 53 23.2	+1.3
RDX				⇓*e*			19 53 23.9	
	comp=N,1µm,0.3s							
CBX	Cerro Bola	0.81	245	*e*P		Pg	19 53 13.7	0.0
CBX				*e*S		Sg	19 53 24.3	0.0
CBX	Cerro Bola	0.81	245	*e*P		Pg	19 53 13.7	0.0
CBX				*e*S		Sg	19 53 24.3	0.0
CBX	Cerro Bola	0.81	245	⇑*e*P		Pg	19 53 13.8	+0.1
CBX				*e*S		Sg	19 53 24.6	+0.4
CBX				⇓*e*			19 53 25.4	
CBX				AML		AML	19 53 25.4	
	comp=E,1µm,0.2s							
GLA	Glamis	0.91	64	*e*Pg		Pb	19 53 14.2	-1.7
GLA				*e*Sg		Sb	19 53 26.4	-1.8
PFO	Pinyon Flats O	1.10	330	*e*Pg		Pb	19 53 17.2	-2.1
PFO				*e*Sg		Sb	19 53 31.3	-2.4
PBX	Punta Banda	1.20	221	*e*P		Pn	19 53 20.7	-0.3
ECNX	Esteban Cantu	1.20	215	*e*P		Pn	19 53 20.1	-1.0
ECBX	El Chinero	1.34	151	*e*P9		Pn	19 53 23.0	+0.2
ECBX				*e*S		Sg	19 53 41.6	+0.5
ECBX				AML		AML	19 53 42.7	
	comp=N,544nm,0.6s							
ECBX				⇑*e*			19 53 42.7	
SPIG	San Pedro Mart	1.63	170	*e*P		Pn	19 53 27.3	+0.2
SPIG				*e*S		Sn	19 53 48.6	+0.4
SPIG	San Pedro Mart	1.63	170	*e*P		Pn	19 53 27.3	+0.2
SPIG				*e*S		Sn	19 53 48.6	+0.4
SPX	San Pedro Mart	1.63	170	*e*P		Pn	19 53 26.7	-0.4
SPX				*e*S		Sb	19 53 49.6	+0.5
SPX	San Pedro Mart	1.63	170	*e*P2		Pn	19 53 28.3	+1.2
SPX				*e*S		Sg	19 53 51.2	+0.6
LDFC	Landfair	2.49	13	Pn		Pb	19 53 42.5	-0.4
LDFC				*e*Pg		Pg	19 53 48.7	+2.9
PASC	Pasadena Art C	2.50	308	*e*Pn		Pb	19 53 41.7	-1.5
PASC				*e*Sg		Sb	19 54 14.4	+0.3
214A	Organ Pipe Nat	2.62	105	*e*Pn		Pn	19 53 37.9	-2.6
GSC	Goldstone, Bar	2.77	343	Pn		Pn	19 53 42.6	0.0
GSC				*e*Pg		Pb	19 53 48.5	+0.7
OSI	Osito Audit: C	3.13	310	*e*Pg		Pb	19 53 55.4	+1.6
ISA	Isabella, Lake	3.73	324	*e*Pn		Pn	19 53 55.9	+0.1
DAC	Darwin (Calif)	3.91	338	*e*Pn		Pn	19 53 59.5	+1.2
121A	Cookes Peak, D	6.76	89	*e*Pn		Pn	19 54 37.0	-0.6
	comp=N,4.7nm,0.6s							

ISCJB ***08*** *19:56:07.2±0.5, 36.68N±0.02×25.82E±0.03, h9km±4km, Error ellipse: s-maj=4.0km s-min=3.0km az=32.2*

ATH ***08*** *19:56:07.1, 36.70N×25.85E, h27km±1km, MD3.3/9*

THE ***08*** *19:56:07.4, 36.68N×25.84E, h4km±2km, Error ellipse: s-maj=3.1km s-min=0.7km az=246.0*

ISC 08 19:56:07.5±0.9, 36.69N±0.02×25.84E±0.02, h16km±8km, n67, σ0s72/102, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
THR2	Thira island,	0.41	234	P		Pg	19 56 15.4	-0.4
THR2	Thira island,	0.41	234	P		Pg	19 56 15.4	-0.4
THR7	Fira-Santorini	0.42	232	P		Pg	19 56 15.9	-0.2
THR7				S		Sg	19 56 22.3	+0.4
SANT	Santorini	0.44	225	*e*PB		Pg	19 56 15.9	-0.5
SANT				*e*SB		Sg	19 56 22.2	-0.2
SANT	Santorini	0.44	225	*e*PB		Pg	19 56 16.1	-0.3
SANT	Santorini	0.44	225	*e*Pb		Pg	19 56 16.1	-0.3
THR1	Thera Island	0.44	225	P		Pg	19 56 16.0	-0.4
THR1	Thera Island	0.44	225	P		Pg	19 56 16.0	-0.4
APE	Apeiranthos	0.46	327	P		Pg	19 56 16.5	-0.2
APE				S		Sb	19 56 23.7	-0.2
APE	Apeiranthos	0.46	327	*e*PB		Pg	19 56 16.6	-0.2
APE				*e*SB		Sb	19 56 23.7	-0.2
APE	Apeiranthos	0.46	327

PTL				*e*SN	**Sn**	**19 57 07.3**	**-0.2**
PTL	**Penteli**	**2.08**	**311**	*e*Pn	**Pn**	**19 56 42.2**	**+0.3**
PTL				*e*Sn	**Sn**	**19 57 07.3**	**-0.2**
SIGR	**SIGRI**	**2.52**	**0**	*e*PN	**Pn**	**19 56 47.8**	**-0.1**
SIGR	**SIGRI**	**2.52**	**0**	*e*Pn	**Pn**	**19 56 47.8**	**-0.1**
PRK	**Paraskevi**	**2.58**	**7**	*e*PN	**Pn**	**19 56 48.9**	**+0.3**
PRK	**Paraskevi**	**2.58**	**7**	*e*Pn	**Pn**	**19 56 48.9**	**+0.3**
MRKA	**Markates**	**2.70**	**319**	*e*PN	**Pn**	**19 56 51.6**	**+1.3**
MRKA	**Markates**	**2.70**	**319**	*e*Pn	**Pn**	**19 56 51.6**	**+1.3**
LKR	**Lokris**	**2.99**	**312**	*e*PN	**Pn**	**19 56 55.3**	**+1.0**
LKR	**Lokris**	**2.99**	**312**	*e*Pn	**Pn**	**19 56 55.3**	**+1.0**
SMIA	**Simia**	**3.02**	**317**	*e*PN	**Pn**	**19 56 56.1**	**+1.3**
SMIA	**Simia**	**3.02**	**317**	*e*Pn	**Pn**	**19 56 56.1**	**+1.3**
KLV	**Kalavryta, Ach**	**3.24**	**296**	*e*PN	**Pn**	**19 56 59.0**	**+1.2**
KLV	**Kalavryta, Ach**	**3.24**	**296**	*e*Pn	**Pn**	**19 56 59.0**	**+1.2**

CSEM ***08*** *19:58:53.1±0.3, 36.°20N×22.°61E, h10km, MD3.1, Error ellipse: s-maj=9.0km s-min=3.9km az=45.0*
ATH ***08*** *19:58:53.3, 36.°23N×22.°67E, h26km±2km, MD3.1/9*
THE 08 19:58:53.9, 36.°23N×22.°66E, h4km±3km, ML2.0/4, Error ellipse: s-maj=3.7km s-min=0.9km az=28.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KYTH	**Kithira**	**0.31**	**80**	P	Pg	19 59 00.1	+0.2
KYTH	**Kithira**	**0.31**	**80**	*e*PB	Pg	19 59 00.2	+0.3
KYTH	**Kithira**	**0.31**	**80**	*e*Pb	Pg	19 59 00.2	+0.3
VLI	**Veliai**	**0.54**	**24**	P	Pg	19 59 04.1	-0.1
VLI				S	Sg	19 59 11.5	+0.3
VLI	**Veliai**	**0.54**	**24**	*e*PN	Pg	19 59 04.2	0.0
VLI				*e*SN	Sg	19 59 12.5	+1.3
VLI	**Veliai**	**0.54**	**24**	*e*Pn	Pg	19 59 04.2	0.0
VLI				S	Sg	19 59 11.5	+0.3
VLI				*e*Sn	Sb	19 59 12.5	-1.4
ANKY	**Antikythira Is**	**0.63**	**125**	P	Pg	19 59 05.7	-0.3
ANKY				S	Sb	19 59 15.7	-0.9
ANKY	**Antikythira Is**	**0.63**	**125**	*e*PN	Pg	19 59 05.7	-0.3
ANKY				*e*SN	Sg	19 59 15.4	+1.2
ANKY	**Antikythira Is**	**0.63**	**125**	P	Pg	19 59 05.7	-0.3
ANKY				*e*Sn	Sg	19 59 15.4	+1.2
PYL	**PYLOS**	**1.00**	**312**	P	Pg	19 59 11.4	-1.6
PYL				S	Sb	19 59 27.2	0.0
PYL	**PYLOS**	**1.00**	**312**	*e*PB	Pg	19 59 11.4	-1.6
PYL				*e*SN	Sb	19 59 27.8	+0.6
PYL	**PYLOS**	**1.00**	**312**	P	Pg	19 59 11.4	-1.6
PYL				S	Sb	19 59 27.2	0.0
ITM	**Ithomi**	**1.12**	**328**	P	Pg	19 59 14.7	-0.7
ITM				S	Sn	19 59 32.2	0.0
ITM	**Ithomi**	**1.12**	**328**	*e*PN	Pg	19 59 14.4	-1.0
ITM				*e*SN	Sn	19 59 32.6	+0.4
ITM	**Ithomi**	**1.12**	**328**	*e*Pn	Pg	19 59 14.4	-1.0
ITM	**Ithomi**	**1.12**	**328**	P	Pg	19 59 14.7	-0.7
ITM				S	Sn	19 59 32.2	0.0
VLX	**Vlachokerasia**	**1.16**	**349**	P	Pg	19 59 14.6	-1.8
VLX				S	Sn	19 59 33.0	-0.4
VLX	**Vlachokerasia**	**1.16**	**349**	*e*PN	Pg	19 59 14.9	-1.5
VLX	**Vlachokerasia**	**1.16**	**349**	P	Pg	19 59 14.6	-1.8
VLX	**Vlachokerasia**	**1.16**	**349**	*e*Pn	Pg	19 59 14.9	-1.5
VLX				S	Sn	19 59 33.0	-0.4
KARN	**Karanos**	**1.31**	**129**	P	Pn	19 59 18.2	-0.8
KARN				S	Sb	19 59 36.6	+0.3
KARN	**Karanos**	**1.31**	**129**	*e*PB	Pn	19 59 16.7	-2.3
KARN				*e*SN	Sb	19 59 36.6	+0.3
KARN	**Karanos**	**1.31**	**129**	*e*Pb	Pn	19 59 16.7	-2.3
KARN	**Karanos**	**1.31**	**129**	P	Pn	19 59 18.2	-0.8
KARN				S	Sb	19 59 36.6	+0.3
DID	**Didima**	**1.35**	**20**	*e*PN	Pn	19 59 18.8	-0.8
DID	**Didima**	**1.35**	**20**	*e*Pn	Pn	19 59 18.8	-0.8
AMT	**Artemida-Makis**	**1.51**	**330**	*e*PN	Pn	19 59 21.1	-0.6
AMT	**Artemida-Makis**	**1.51**	**330**	*e*Pn	Pn	19 59 21.1	-0.6

NIED ***08*** *20:03:00, 45.°30N×150.°00E, h50km, Mw4.8 Best double couple: M₀1.98000×10¹⁶ NP1:φ₀252.00000°, δ36.00000°, λ81.00000°. NP2:φ₀82.00000°, δ54.00000°, λ96.00000°.*
SKHL ***08*** *20:03:18.6±0.1, 45.°06N×150.°20E, h68km±5km, mb6.0/2, mbh5.6/1, Ms4.3/7, msh5.1/3*
ISCJB ***08*** *20:03:19.4±0.3, 45.°34N±0.°03×150.°06E±0.°02, h53km±3km, mb5.0/215, MS4.0/29, Error ellipse: s-maj=4.4km s-min=2.1km az=165.5*
MOS ***08*** *20:03:19.7±0.8, 45.°37N×150.°11E, h56km, mb5.2/76, MS4.0/22, Error ellipse: s-maj=6.0km s-min=4.4km az=99.1*
BJI ***08*** *20:03:20.7, 45.°40N×150.°00E, h57km, mb4.6/54, mB4.8/36, Ms4.3/37, Ms7 4.0/39*
IDC ***08*** *20:03:20.7±1.9, 45.°47N×149.°94E, h50km±16km, mb4.4/28, mb1 4.5/34, mb1mx4.5/37, mbtmp4.6/34, ML3.8/6, MS3.9/26, Ms1 3.9/26, ms1mx3.7/38, Error ellipse: s-maj=12.9km s-min=9.6km az=151.0*
NEIC ***08*** *20:03:21.2±0.4, 45.°39N×150.°00E, h54km±3km, mb5.1/97, Error ellipse: s-maj=4.7km s-min=2.4km az=162.0*
JMA ***08*** *20:03:21.2±0.9, 45.°29N×150.°04E, h30km, M5.2*
SZGRF ***08*** *20:03:26.0, 46.°95N×149.°95E, h33km, mb4.9, MS4.2, Kuril Islands, Russia*
ISC 08 20:03:21.8±0.3, 45.°34N±0.°04×150.°04E±0.°03, h61km±2km, h60km: pP-P, n1086, σ1s06/1158, mb5.0/218, 221C-146D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.54**	**267**	⇓*i*PN	**Pn**	**20 03 46.7**	**-0.3**
KUR				*i* S	**Sn**	**20 04 06.7**	**+0.8**
KUR				pmax	pmax		
	comp=Z,999nm,0.5s						
KUR				pmax	pmax		
	comp=E,284nm,0.2s						
KUR				pmax	pmax		
	comp=N,352nm,0.1s						
KUR				smax	smax		
	comp=N,7μm,0.5s						
KUR				smax	smax		
	comp=E,4μm,0.6s						
KUR	**Kuril'sk**	**1.54**	**267**	*i* P	**Pn**	**20 03 44.2**	**-2.8**
KUR				AMB	AMB	20 03 45.1	
	comp=E,2μm,0.5s						
KUR				*i* S	**Sn**	**20 04 03.5**	**-2.4**
KUR				A	A	20 04 06.0	
	comp=E,72μm,2.0s						
KUR				A	A	20 04 08.5	
	comp=E,7μm,0.6s						
KUR				A	A	20 04 08.5	
	comp=E,4μm,0.6s						
SHO	**Shikotan**	**2.72**	**238**	*e*P	**Pn**	**20 04 01.0**	**-2.1**
SHO				AMB	AMB	20 04 05.4	
	comp=E,492nm,0.4s						
SHO				*e*S	**Sn**	**20 04 32.7**	**-2.1**
SHO				A	A	20 04 46.7	
	comp=E,4μm,0.7s						
YUK	**Yuzh-Kuril'sk**	**3.25**	**248**	*d*PN	**Pn**	**20 04 10.7**	**+0.4**
YUK				*i* S	**Sn**	**20 04 49.9**	**+2.1**
YUK				pmax	pmax		
	comp=E,185nm,0.2s						
YUK				pmax	pmax		
	comp=N,356nm,0.5s						
YUK				pmax	pmax		
	comp=Z,505nm,0.5s						
YUK				smax	smax		
	comp=N,2μm,0.9s						
YUK				smax	smax		
	comp=E,3μm,0.9s						
YUK	**Yuzh-Kuril'sk**	**3.25**	**248**	*i* P	**Pn**	**20 04 10.7**	**+0.4**
YUK				AMB	AMB	20 04 15.1	
	comp=E,1μm,0.3s						
YUK				AMB	AMB	20 04 15.2	
	comp=E,360nm,0.5s						
YUK				AMB	AMB	20 04 15.2	
	comp=E,510nm,0.5s						
YUK				*i* S	**Sn**	**20 04 48.5**	**+0.7**
YUK				A	A	20 04 55.4	
	comp=E,3μm,0.9s						
YUK				A	A	20 04 55.5	
	comp=E,2μm,0.9s						
YUK				A	A	20 04 55.5	
	comp=E,3μm,0.9s						
NEM2	**Nemuro 2**	**3.66**	**239**	P	**Pn**	**20 04 14.0**	**-1.9**
NEM2				*e*S	**Sn**	**20 04 53.6**	**-4.2**
JRA	**Rausu**	**3.78**	**250**	P	**Pn**	**20 04 18.6**	**+1.1**
JNK	**Nakash**	**4.19**	**247**	P	**Pn**	**20 04 23.6**	**+0.4**
JAK	**Akkeshi**	**4.50**	**240**	P	**Pn**	**20 04 26.2**	**-1.2**
JAK				*e*S	**Sn**	**20 05 13.8**	**-4.6**
JTKR	**Abashiri--Toko**	**4.58**	**255**	P	**Pn**	**20 04 29.6**	**+1.1**
JAR	**Ashorobuto**	**4.94**	**248**	P	**Pn**	**20 04 34.7**	**+1.3**
JAR				*e*S	**Sn**	**20 05 31.3**	**+2.1**
JMP	**Maruseppu**	**4.95**	**257**	P	**Pn**	**20 04 35.2**	**+1.7**
JOB	**Onbets**	**5.09**	**244**	P	**Pn**	**20 04 35.5**	**+0.1**
JOB				*e*S	**Sn**	**20 05 31.9**	**-0.9**
HRK	**Horoka**	**5.29**	**252**	*e*P	**Pn**	**20 04 40.5**	**+2.2**
YSS	**Yuzh-Sakhalins**	**5.31**	**290**	*e*PN	**Pn**	**20 04 40.0**	**+1.5**
YSS				*e*S	**Sn**	**20 05 39.0**	**+0.8**
YSS				smax	smax		
	comp=E,250nm,1.1s						
YSS				MLR	MLR		
	comp=Z,1μm,17.0s						
YSS				MLR	MLR		
	comp=E,900nm,16.0s						
YSS	**Yuzh-Sakhalins**	**5.31**	**290**	*i* P	**Pn**	**20 04 40.0**	**+1.5**
YSS				AMB	AMB	20 04 44.8	
	comp=E,870nm,0.7s						
YSS				*e*S	**Sn**	**20 05 39.0**	**+0.8**
YSS				A	A	20 05 42.7	
	comp=E,250nm,1.1s						
YSS				AMS	AMS	20 06 37.0	
	comp=E,900nm,17.0s						
YSS				AMS	AMS	20 06 37.0	
	comp=E,1μm,17.0s						
YSS	**Yuzh-Sakhalins**	**5.31**	**290**	*e*Pn	**Pn**	**20 04 37.8**	**-0.7**
JKK2	**Kamakawa 2**	**5.41**	**257**	P	**Pn**	**20 04 41.5**	**+1.6**
JKA	**Kamikawa-asahi**	**5.44**	**260**	*e*P	**Pn**	**20 04 40.0**	**-0.3**
ASAJ	**Asahikawa**	**5.44**	**260**	P	**Pn**	**20 04 42.4**	**+2.1**
ASAJ	**Asahikawa**	**5.44**	**260**	P	**Pn**	**20 04 40.0**	**-0.3**
	comp=E,3.2nm,0.3s,baz=74,slow=14,SNR=32						
ASAJ				LR	LR	20 06 53.0	
	comp=E,855nm,21.3s,baz=96,slow=39						
ASAJ	**Asahikawa**	**5.44**	**260**	PN	**Pn**	**20 04 40.0**	**-0.3**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,855nm,21.3s						
ASAJ	**Asahikawa**	**5.44**	**260**	*e*Pn	**Pn**	**20 04 42.3**	**+2.1**
JCH	**Churui**	**5.53**	**243**	P	**Pn**	**20 04 41.4**	**-0.2**
JCH				*e*S	**Sn**	**20 05 42.4**	**-1.4**
JWK2	**Keihoku**	**5.74**	**273**	P	Pn	20 04 48.8	+4.5
MYR	**Moyori**	**5.76**	**240**	*e*P	**Pn**	**20 04 44.4**	**-0.2**
ERM	**Erimo**	**5.99**	**239**	Pn	**Pn**	**20 04 49.9**	**+2.0**
	comp=Z,3μm,1.1s,SNR=30						
ERM	**Erimo**	**5.99**	**239**	*e*PN	**Pn**	**20 04 48.5**	**+0.6**
ERM	**Erimo**	**5.99**	**239**	*e*P	**Pn**	**20 04 48.5**	**+0.6**
ERM	**Erimo**	**5.99**	**239**	*e*Pn	**Pn**	**20 04 48.5**	**+0.6**
ERM				*e*Sn	Sn	20 05 47.8	-7.3
JBT2	**Biratori 2**	**6.09**	**248**	P	**Pn**	**20 04 49.9**	**+0.7**
JNBK	**Urakawa-nobuka**	**6.09**	**242**	P	**Pn**	**20 04 48.3**	**-0.9**
UGL	**Uglegorsk**	**6.59**	**307**	PN	Pn	20 04 59.5	+3.5
UGL				*e*S	**Sn**	**20 06 15.0**	**+5.4**
UGL				pmax	pmax		
	comp=E,51nm,0.6s						
UGL				smax	smax		
	comp=N,112nm,0.7s						
UGL				smax	smax		
	comp=E,242nm,0.7s						
UGL				MLR	MLR		
	comp=N,1μm,16.0s						
UGL				MLR	MLR		
	comp=E,2μm,16.0s						
UGL				MLR	MLR		
	comp=Z,3μm,16.0s						
UGL	**Uglegorsk**	**6.59**	**307**	*i* P	Pn	20 04 59.8	+3.8
UGL				AMB	AMB	20 05 05.5	
	comp=Z,50nm,0.6s						
UGL				AMB	AMB	20 05 06.0	
	comp=Z,2μm,3.0s						
UGL				*e*S	**Sn**	**20 06 12.2**	**+2.6**
UGL				A	A	20 06 17.0	
	comp=Z,110nm,0.7s						
UGL				A	A	20 06 17.0	
	comp=Z,240nm,0.7s						
UGL				A	A	20 06 36.0	
	comp=Z,3μm,4.0s						
UGL				AMS	AMS	20 07 44.0	
	comp=Z,1μm,16.0s						
UGL				AMS	AMS	20 07 44.0	
	comp=Z,2μm,16.0s						
UGL				AMS	AMS	20 07 44.0	
	comp=Z,3μm,16.0s						
SKR	**Severo-Kuril's**	**6.72**	**35**	*i* PN	**Pn**	**20 04 57.3**	**-0.5**
SKR	**Severo-Kuril's**	**6.72**	**35**	*e*P	**Pn**	**20 04 57.6**	**-0.2**
SKR				AMB	AMB	20 05 04.2	
	comp=Z,560nm,0.6s						
SKR				*e*S	**Sn**	**20 06 12.4**	**-0.4**
SKR				A	A	20 06 40.5	
	comp=Z,670nm,0.7s						
SKR				AMS	AMS	20 07 08.0	
	comp=Z,2μm,18.0s						
SKR				AMS	AMS	20 07 08.0	
	comp=Z,2μm,18.0s						
SKR				AMS	AMS	20 07 08.0	
	comp=Z,2μm,18.0s						
JNB	**Noboribetsu**	**7.10**	**249**	*e*S	**Sn**	**20 06 22.3**	**0.0**
JKB	**Kayabe**	**7.39**	**245**	P	**Pn**	**20 05 06.8**	**-0.2**
JKB				*e*S	**Sn**	**20 06 24.6**	**-4.7**
TYV	**Tymovskoe**	**7.41**	**321**	*i* P	**Pn**	**20 05 09.0**	**+1.8**
TYV				AMB	AMB	20 05 14.8	
	comp=Z,90nm,0.8s						
TYV				AMB	AMB	20 05 14.8	
	comp=Z,100nm,0.8s						
TYV				AMB	AMB	20 05 14.8	
	comp=Z,120nm,0.8s						
TYV				*e*S	**Sn**	**20 06 29.8**	**+0.1**
TYV				A	A	20 06 40.5	
	comp=Z,80nm,0.8s						
TYV				A	A	20 07 03.3	
	comp=Z,1μm,0.8s						
TYV				A	A	20 07 34.0	
	comp=Z,1μm,6.0s						
TYV				AMS	AMS	20 07 54.0	
	comp=Z,2μm,16.0s						
TYV				AMS	AMS	20 07 54.0	
	comp=Z,1μm,18.0s						
TYV				AMS	AMS	20 07 54.0	
	comp=Z,2μm,18.0s						
JYM2	**Yakumo 2**	**7.71**	**249**	P	**Pn**	**20 05 11.5**	**+0.2**
JSR	**Shiriuchi**	**7.97**	**245**	P	**Pn**	**20 05 14.8**	**-0.1**
JANG	**Nango**	**7.99**	**235**	P	Pn	20 05 12.2	-3.0
JANG				*e*S	Sn	20 06 36.1	-7.9
JTH	**Tanohata**	**8.09**	**231**	P	Pn	20 05 13.1	-3.4
JTH				*e*S	Sn	20 06 37.0	-9.5
JOSM	**Okushiri--Mats**	**8.31**	**251**	P	**Pn**	**20 05 19.8**	**+0.2**
JKZ	**Kuzumaki**	**8.35**	**233**	P	Pn	20 05 17.2	-3.0
MIYJ	**Miyakonagasawa**	**8.37**	**229**	P	Pn	20 05 17.1	-3.3
OFUJ	**Ofunato**	**8.81**	**228**	P	Pn	20 05 22.9	-3.5
PEA0	**Petropavlovsk-**	**9.24**	**30**	*e*Pn	**Pn**	**20 05 32.6**	**+0.3**
PEA0B	**Petropavlovsk-**	**9.24**	**30**	*e*Pn	**Pn**	**20 05 32.1**	**-0.2**
PETK	**Petropavlovsk-**	**9.24**	**30**	P	**Pn**	**20 05 31.2**	**-1.0**
	comp=Z,18nm,0.3s,baz=199,slow=14,SNR=46						
PETK				LR	LR	20 09 00.3	
	comp=Z,760nm,19.9s,baz=210,slow=37						
PETK	**Petropavlovsk-**	**9.24**	**30**	PN	**Pn**	**20 05 31.3**	**-1.0**
PETK				pmax	pmax		
	comp=Z,18nm,0.3s						
PETK				MLR	MLR		
	comp=Z,760nm,19.9s						
OKH	**Okha**	**9.42**	**333**	*i* P	**Pn**	**20 05 36.4**	**+1.7**
OKH				AMB	AMB	20 05 38.0	
	comp=Z,200nm,0.7s						
OKH				A	A	20 07 40.0	
	comp=Z,120nm,0.6s						
JIO	**Ouri**	**9.45**	**226**	*e*S	Sn	20 07 08.8	-11
TEY	**Ternei**	**9.49**	**273**	*e*P	Pn	20 05 41.8	+6.1
TEY				AMB	AMB	20 05 43.8	
	comp=Z,20nm,0.8s						
TEY				AMS	AMS	20 09 15.0	
	comp=Z,3μm,17.0s						
TEY				AMS	AMS	20 09 15.0	
	comp=Z,1μm,17.0s						
TEY				AMS	AMS	20 09 15.0	
	comp=Z,1μm,17.0s						
PET	**Petropavlovsk**	**9.53**	**33**	*e*PN	**Pn**	**20 05 34.7**	**-1.4**
PET				pmax	pmax		
	comp=Z,42nm,1.0s						
PET				MLR	MLR		
	comp=Z,1μm,21.0s						
PET				MLR	MLR		
	comp=Z,1μm,17.0s						
PET	**Petropavlovsk**	**9.53**	**33**	*e*P	**Pn**	**20 05 34.7**	**-1.4**
PET				AMB	AMB	20 05 37.8	
	comp=Z,40nm,1.0s						
PET				*e*S	**Sn**	**20 07 19.8**	**-1.8**
PET				A	A	20 07 54.7	
	comp=Z,1μm,0.8s						
PET				AMS	AMS	20 09 06.5	
	comp=Z,1μm,17.0s						
PET	**Petropavlovsk**	**9.53**	**33**	*e*Pn	**Pn**	**20 05 34.0**	**-2.1**
NKL	**Nikolayevsk**	**9.91**	**325**	*i* P	Pn	20 05 45.0	+3.6
NKL				AMB	AMB	20 05 47.0	
	comp=Z,210nm,1.2s						
NKL				AMB	AMB	20 05 47.0	
	comp=Z,90nm,1.2s						
NKL				AMB	AMB	20 05 47.0	
	comp=Z,170nm,1.2s						
NKL				AMB	AMB	20 05 47.0	
	comp=Z,500nm,2.0s						
NKL				AMB	AMB	20 05 47.0	
	comp=Z,500nm,2.0s						
NKL				A	A	20 07 39.0	
	comp=Z,60nm,1.1s						
NKL				AMS	AMS	20 09 47.0	
	comp=Z,800nm,20.0s						
NKL				AMS	AMS	20 09 47.0	
	comp=Z,1μm,20.0s						
GRNR	**Gornyy**	**10.60**	**306**	*i* P	Pn	20 05 55.0	+4.2
GRNR				AMB	AMB	20 05 57.4	
	comp=Z,40nm,1.0s						
GRNR				AMB	AMB	20 05 57.4	
	comp=Z,60nm,1.0s						
GRNR				AMB	AMB	20 05 57.4	
	comp=Z,80nm,1.0s						
HABR	**Khabarovsk**	**10.72**	**292**	*e*PN	**Pn**	**20 05 54.1**	**+1.7**
HABR				pmax	pmax		
	comp=N,17nm,2.5s						
HABR				pmax	pmax		
	comp=Z,33nm,2.5s						
HABR				pmax	pmax		
	comp=E,61nm,2.5s						
HABR				MLR	MLR		
	comp=Z,354nm,17.0s						
HABR	**Khabarovsk**	**10.72**	**292**	*e*P	**Pn**	**20 05 54.1**	**+1.7**
HABR				AMB	AMB	20 05 55.4	
	comp=Z,20nm,2.5s						
HABR				AMB	AMB	20 05 55.4	
	comp=Z,30nm,2.5s						
HABR				AMS	AMS	20 10 16.5	
	comp=Z,400nm,17.0s						
MAJO	**Matsushiro**	**12.53**	**230**	*e*PN	Pn	20 06 14.0	-3.2
MAJO	**Matsushiro**	**12.53**	**230**	*e*Pn	Pn	20 06 14.0	-3.2
MAT	**Matsushiro**	**12.53**	**230**	P	Pn	20 06 14.0	-3.2
MAT				S	**Sn**	**20 08 33.6**	**-1.5**
MAT	**Matsushiro**	**12.53**	**230**	P	Pn	20 06 14.2	-3.0
MJAR	**Matsushiro Arr**	**12.53**	**230**	P	**Pn**	**20 06 14.5**	**-2.7**
	comp=Z,0.4nm,0.3s,baz=29,slow=13,SNR=30						
MJAR				LR	LR	20 11 34.8	
	comp=Z,207nm,21.9s,baz=55,slow=39						
USRK	**Ussuriysk Ar.**	**12.88**	**271**	P	Pn	20 06 18.8	-3.1
	baz=84,slow=15,SNR=2.0						
USRK				LR	LR	20 12 04.9	
	comp=Z,228nm,18.3s,baz=74,slow=41						
KLR	**Kul'dur**	**13.00**	**294**	*e*PN	**Pn**	**20 06 24.2**	**+0.6**
KLR				pmax	pmax		
	comp=Z,43nm,1.4s						
KLR				MLR	MLR		
	comp=E,500nm,13.0s						
KLR				MLR	MLR		
	comp=Z,900nm,13.0s						
KLR	**Kul'dur**	**13.00**	**294**	*e*P	**Pn**	**20 06 24.2**	**+0.6**
KLR				AMB	AMB	20 06 26.2	
	comp=Z,40nm,1.4s						
KLR				AMS	AMS	20 12 27.5	
	comp=Z,500nm,13.0s						
KLR				AMS	AMS	20 12 27.5	
	comp=Z,900nm,13.0s						
EKMR	**Ekimchan**	**13.56**	**311**	*i* P	**Pn**	**20 06 34.1**	**+3.0**
EKMR				AMB	AMB	20 06 35.9	
	comp=Z,30nm,1.2s						
MDJ	**Mudanjiang**	**14.49**	**274**	P	**Pn**	**20 06 43.7**	**+0.2**
MDJ				S	**Sn**	**20 09 22.1**	**-0.5**
MDJ				PcP	**PcP**	**20 11 57.2**	**+2.9**
MDJ				ScS	**ScS**	**20 19 01.5**	**+1.4**
MDJ				PMZ			
	comp=Z,5.0nm,0.8s						
MDJ				PMZ			
	comp=Z,47nm,3.5s						
MDJ				LN			
	comp=Z,220nm,16.0s						
MDJ				LE			
	comp=Z,150nm,16.6s						
MDJ				LZ			
	comp=Z,220nm,16.6s						
MDJ	**Mudanjiang**	**14.49**	**274**	*e*Pn	**Pn**	**20 06 44.9**	**+1.4**
	comp=Z,17nm,1.0s						
YASR	**Yasnyy**	**16.38**	**307**	*e*P	**Pn**	**20 07 05.0**	**-2.6**
YASR				AMB	AMB	20 07 06.7	
	comp=Z,20nm,1.0s						
YASR				AMB	AMB	20 07 06.7	
	comp=Z,10.0nm,1.0s						
YASR				AMB	AMB	20 07 06.7	
	comp=Z,30nm,1.0s						
BMKR	**Bomnak**	**16.47**	**312**	*i* P	**P**	**20 07 10.0**	**-0.5**
BMKR				AMB	AMB	20 07 15.6	
	comp=Z,50nm,1.0s						
ZEA	**Zeya**	**16.95**	**308**	*e*P	**P**	**20 07 16.2**	**+0.4**
ZEA				AMB	AMB	20 07 18.7	
	comp=Z,40nm,1.0s						
ZEA				AMB	AMB	20 07 18.7	
	comp=Z,50nm,1.0s						
ZEA				A	A	20 11 05.0	
	comp=Z,300nm,12.0s						
ZEA				AMS	AMS	20 14 03.0	
	comp=Z,400nm,17.0s						
KROS	**Kirovskiy**	**17.35**	**310**	*i* P	**P**	**20 07 21.3**	**+1.0**
KROS				AMB	AMB	20 07 24.5	
	comp=Z,10.0nm,0.6s						
CN2	**Changchun**	**17.57**	**274**	⇑P	**P**	**20 07 22.9**	**+0.2**
CN2				*e*sP	**sP**	**20 07 44.0**	**+0.7**
CN2				*e*S	**Sn**	**20 10 33.6**	**-3.7**
CN2				PMZ			
	comp=Z,10.0nm,0.7s						
CN2				PMZ			
	comp=Z,200nm,4.0s						
CN2				LN			
	comp=Z,200nm,14.0s						
CN2				LE			
	comp=Z,200nm,14.0s						
CN2				LZ			
	comp=Z,500nm,15.0s						
SEY	**Seymchan**	**17.68**	**4**	P	**Pn**	**20 07 22.6**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=179,slow=9.2,SNR=42						
KSRS	**Korea Array**	**18.33**	**252**	P	**P**	**20 07 31.1**	**0.0**
	comp=Z,0.3nm,0.3s,baz=58,slow=11,SNR=11						
KSRS				PcP	**PcP**	**20 12 01.3**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=359,slow=1.1,SNR=10						
KSRS				LR	LR	20 15 20.4	
	comp=Z,182nm,18.8s,baz=68,slow=39						
KS01	**Wonju Array Si**	**18.34**	**252**	*e*P	**P**	**20 07 31.2**	**+0.1**
KS01				*e*PcP	**PcP**	**20 12 00.9**	**+0.7**
KSAR	**Wonju Array Be**	**18.36**	**252**	P	**P**	**20 07 31.1**	**-0.3**
KSAR	**Wonju Array Be**	**18.36**	**252**	P	**P**	**20 07 31.1**	**-0.3**
KSAR				PcP	**PcP**	**20 12 01.3**	**+1.0**
JNU	**Nakatsue**	**19.16**	**237**	P	**P**	**20 07 40.7**	**+0.5**
	comp=Z,0.2n

YAK e 20 19 14.4
YAK pmax pmax
comp=Z,368nm,0.9s
YAK pmax pmax
comp=N,130nm,1.1s
YAK pmax pmax
comp=E,105nm,1.0s
YAK smax smax
comp=N,112nm,2.4s
YAK smax smax
comp=E,74nm,1.6s
YAK Yakutsk 20.45 332 eP P 20 07 55.3 +1.3
YAK Yakutsk 20.45 332 eP P 20 07 54.8 +0.8
comp=E,411nm,0.8s
HIA Hailar 20.84 292 eP P 20 07 58.9 +0.5
HIA pmax pmax
comp=Z,42nm,1.1s
HIA Hailar 20.84 292 eP P 20 07 58.9 +0.5
HIA Hailar 20.84 292 eP P 20 07 58.9 +0.5
comp=Z,42nm,1.1s
BOD Bodaibo 25.30 313 eP P 20 08 40.8 -1.5
BOD e 20 08 57.6
BJI Beijing 25.32 270 P P 20 08 42.6 -0.1
BJI PMZ
comp=Z,9.0nm,0.7s
BJI LN
comp=Z,200nm,20.7s
BJI LE
comp=Z,130nm,19.5s
BJI LZ
comp=Z,140nm,24.6s
TIA Tai'an 26.39 261 eP P 20 08 54.2 +1.8
SSE Sheshan 26.59 248 P P 20 08 54.4 +0.2
SSE PMZ
comp=Z,56nm,0.7s
SSE PMZ
comp=Z,71nm,6.7s
SSE LN
comp=Z,180nm,26.5s
SSE LE
comp=Z,100nm,26.5s
SSE LZ
comp=Z,170nm,15.9s
NJ2 Nanjing 27.53 252 eP P 20 09 04.6 +1.9
NJ2 pP **pP** **20 09 17.4 -0.1**
NJ2 sP **sP** **20 09 24.7 +0.1**
NJ2 S **S** **20 13 43.0 +3.6**
NJ2 PMZ
comp=Z,20nm,0.8s
NJ2 LN
comp=Z,250nm,14.0s
NJ2 LE
comp=Z,490nm,15.0s
NJ2 LZ
comp=Z,2µm,13.6s
HHC Hu-ho-hao-te 28.26 275 eP P 20 09 11.3 +2.0
HHC pP **pP** **20 09 22.6 -1.6**
HHC sP **sP** **20 09 30.6 -0.7**
HHC PP **PnPn** **20 10 03.2 +2.8**
HHC S **S** **20 13 51.4 +0.4**
HHC sS **sS** **20 14 14.3 -2.1**
HHC SS **SnSn** **20 15 19.5 +6.7**
HHC PMZ
comp=Z,17nm,0.8s
HHC PMZ
comp=Z,150nm,5.9s
HHC LN
comp=Z,500nm,10.0s
HHC LE
comp=Z,440nm,14.8s
HHC LZ
comp=Z,380nm,15.1s
TIXI Tiksi 28.26 346 eP P 20 09 05.7 -3.1
TIXI e 20 12 20.5
TIXI pmax pmax
comp=Z,5.0nm,0.8s
TIXI Tiksi 28.26 346 eP P 20 09 05.7 -3.1
TIXI Tiksi 28.26 346 eP P 20 09 05.7 -3.1
comp=Z,4.9nm,0.8s
TIXI ePcP **PcP** **20 12 20.5 +0.1**
UNV Unalaska Valle 29.02 57 P P 20 09 16.1 +0.4
H11N2 WAKE ISLAND Hy 29.11 146 T T 20 39 59.7
baz=336,slow=76
H11N1 WAKE ISLAND Hy 29.12 146 T T 20 40 00.7
baz=336,slow=76
H11N3 WAKE ISLAND Hy 29.12 146 T T 20 40 01.0
baz=336,slow=76,SNR=8679
ULN Ulaanbaatar 29.36 291 eP P 20 09 20.1 +1.1
ULN e 20 12 23.4
ULN pmax pmax
comp=Z,7.0nm,1.2s
ULN Ulaanbaatar 29.36 291 eP P 20 09 20.1 +1.1
ULN Ulaanbaatar 29.36 291 eP P 20 09 20.1 +1.1
comp=Z,7.0nm,1.2s
ULN ePcP **PcP** **20 12 23.4 -0.4**
SONM Songino Array 29.80 291 P P 20 09 20.6 -2.3
comp=Z,0.8nm,0.6s,baz=81,slow=7.7,SNR=5.2
SONM PcP **PcP** **20 12 24.5 -0.5**
comp=Z,2.2nm,0.7s,baz=125,slow=2.8,SNR=5.5
SONM ScP **ScP** **20 16 01.2 -0.4**
comp=Z,0.5nm,0.7s,baz=50,slow=4.5,SNR=3.7
SONM LR LR 20 22 28.7
comp=Z,183nm,18.7s,baz=77,slow=39
SONM Songino Array 29.80 291 P P 20 09 20.6 -2.3
SONM 20 12 24.5
SONM 20 16 01.2
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM MLR MLR
comp=Z,183nm,18.7s
H11S1 WAKE ISLAND Hy 30.14 147 T T 20 41 20.5
baz=336,slow=76
H11S3 WAKE ISLAND Hy 30.15 147 T T 20 41 21.6
baz=336,slow=76,SNR=6918
H11S2 WAKE ISLAND Hy 30.16 147 T T 20 41 21.1
baz=336,slow=76,SNR=9295
TNA Tin City 30.39 33 eP P 20 09 27.4 -0.3
comp=Z,9.4nm,0.8s
TNA ePcP **PcP** **20 12 26.3 +0.4**
ZAK Zakamensk 31.35 296 eP P 20 09 35.6 -0.9
ZAK pmax pmax
comp=Z,1.0nm,1.8s
TPUB Ta-pu 32.47 237 epP pP 20 09 58.2 -3.2
XAN Xi'an 33.26 265 P P 20 09 53.0 -0.3
XAN PMZ
comp=Z,2.0nm,0.8s
SVW2 Sparrevohn 34.99 44 eP P 20 10 08.4 +0.4
comp=Z,10nm,0.8s
LZH Lanzhou 35.79 272 eP P 20 10 16.1 +0.8
LZH pP **pP** **20 10 30.3 -0.1**
LZH sP **sP** **20 10 36.9 -0.6**
LZH PcP **PcP** **20 12 43.5 +1.7**
LZH PMZ
comp=Z,24nm,1.0s
LZH PMZ
comp=Z,98nm,4.5s
LZH LN
comp=Z,130nm,12.2s
LZH LE
comp=Z,260nm,14.4s
LZH LZ
comp=Z,190nm,15.2s
IM04 Indian Mountai 36.15 35 eP P 20 10 17.4 -0.4
IM04 ePcP **PcP** **20 12 42.7 +0.6**
OHAK Old Harbor 36.33 50 eP P 20 10 17.8 -1.6
RSO Redoubt South 36.38 45 P P 20 10 19.8 -0.3
PPLA Purkeypile 36.63 40 eP P 20 10 22.8 +0.6
comp=Z,106nm,1.5s
PPLA ePcP **PcP** **20 12 43.7 -0.2**
KDAK Kodiak Island 36.65 49 P P 20 10 21.9 -0.2
comp=Z,374nm,0.6s,SNR=23
KDAK Kodiak Island 36.65 49 eP P 20 10 20.9 -1.2
KDAK pmax pmax
comp=Z,56nm,0.9s
KDAK Kodiak Island 36.65 49 eP P 20 10 20.9 -1.2
comp=Z,56nm,0.9s
CAST Castle Rocks 36.69 40 eP P 20 10 22.9 +0.4
comp=Z,18nm,0.8s
GTA Gaotai 37.07 279 ⇓P P 20 10 27.3 +1.2
GTA pP **pP** **20 10 42.5 +1.2**
GTA sP **sP** **20 10 50.0 +1.6**
GTA PcP **PcP** **20 12 47.3 +1.7**
GTA S **S** **20 16 07.6 -0.2**
GTA ScP **ScP** **20 16 28.9 +1.8**
GTA sS **sS** **20 16 33.5 0.0**
GTA SS **SnSn** **20 18 40.1 -6.4**
GTA PMZ
comp=Z,10.0nm,1.5s
GTA PMZ
comp=Z,52nm,5.2s
GTA LN
comp=Z,91nm,15.2s
GTA LE
comp=Z,110nm,15.7s
GTA LZ
comp=Z,160nm,16.1s
KTH Kantishna Hill 37.22 39 eP P 20 10 27.4 +0.4
comp=Z,55nm,0.9s
MLY Manley 37.34 37 eP P 20 10 28.1 +0.2
comp=Z,18nm,0.8s
MLY ePcP **PcP** **20 12 46.6 +0.8**
BRLK Bradley Lake 37.36 46 eP P 20 10 27.5 -0.7
comp=Z,13nm,0.7s
BRLK ePcP **PcP** **20 12 46.1 +0.1**
TRF Thorofare Moun 37.50 40 eP P 20 10 29.3 -0.2
comp=Z,10nm,0.7s
TRF ePcP **PcP** **20 12 45.9 -0.6**
COLD Coldfoot 37.69 33 eP P 20 10 30.9 0.0
comp=Z,32nm,0.6s
COLD ePcP **PcP** **20 12 47.3 +0.5**
RC01 Rabbit Creek A 37.83 43 eP P 20 10 31.4 -0.7
comp=Z,30nm,0.8s
RC01 ePcP **PcP** **20 12 47.5 +0.2**
BWN Browne 37.87 38 eP P 20 10 33.5 +1.1
comp=Z,148nm,1.2s
SEW Seward 38.05 45 eP P 20 10 32.8 -1.2
comp=Z,28nm,1.1s
PMR Palmer 38.09 43 eP P 20 10 34.0 -0.3
PMR pmax pmax
comp=Z,22nm,0.9s
PMR Palmer 38.09 43 eP P 20 10 34.0 -0.3
comp=Z,22nm,0.9s
MCK McKinley 38.10 39 eP P 20 10 34.1 -0.3
MCK e 20 12 48.0
MCK pmax pmax
comp=Z,20nm,0.8s
MCK McKinley 38.10 39 eP P 20 10 34.1 -0.3
MCK McKinley 38.10 39 eP P 20 10 34.1 -0.3
comp=Z,20nm,0.8s
MCK ePcP **PcP** **20 12 48.0 -0.2**
RND Reindeer 38.15 40 eP P 20 10 34.1 -0.7
RND e 20 12 48.2
RND pmax pmax
comp=Z,38nm,1.2s
RND Reindeer 38.15 40 eP P 20 10 34.1 -0.7
comp=Z,38nm,1.2s
RND ePcP **PcP** **20 12 48.2 -0.2**
MDM Murphy Dome 38.40 37 eP P 20 10 37.1 +0.2
comp=Z,24nm,0.8s
WRH Wood River Hil 38.46 38 eP P 20 10 37.1 -0.3
comp=Z,11nm,0.8s
COLA College 38.56 37 eP P 20 10 38.9 +0.7
COLA pmax pmax
comp=Z,44nm,0.8s
COLA College 38.56 37 eP P 20 10 38.9 +0.7
COLA College 38.56 37 eP P 20 10 38.9 +0.7
comp=Z,44nm,0.8s
CCB Clear Creek Bu 38.58 38 eP P 20 10 38.0 -0.4
comp=Z,12nm,1.0s
CD2 Chengdu 38.62 264 P P 20 10 39.5 +0.4
CD2 pP **pP** **20 10 54.0 -0.4**
CD2 PP **PnPn** **20 12 13.6 +2.7**
CD2 S **S** **20 16 29.0 -2.1**
CD2 SS **SS** **20 19 14.1 -8.9**
CD2 PMZ
comp=Z,20nm,0.8s
CD2 PMZ
comp=Z,80nm,8.3s
CD2 LE
comp=Z,180nm,14.3s
CD2 LZ
comp=Z,130nm,13.1s
SCM Sheep Creek Mo 38.93 42 eP P 20 10 41.2 -0.3
SCM pmax pmax
comp=Z,35nm,1.0s
SCM Sheep Creek Mo 38.93 42 eP P 20 10 41.2 -0.3
comp=Z,35nm,1.0s
ILAR Eielson Array 38.98 37 P P 20 10 41.0 -0.7
comp=Z,17nm,0.9s,baz=262,slow=6.4,SNR=89
ILAR PcP **PcP** **20 12 48.5 -2.4**
comp=Z,1.5nm,0.6s,baz=279,slow=3.0,SNR=4.1
ILAR LR LR 20 27 45.1
comp=Z,72nm,19.0s,baz=271,slow=38
ILAR Eielson Array 38.98 37 P P 20 10 41.0 -0.7
ILAR 20 12 48.5
ILAR pmax pmax
comp=Z,17nm,0.9s
ILAR MLR MLR
comp=Z,72nm,19.0s
IL1 Eielson Array 38.98 37 eP P 20 10 40.7 -1.0
IL1 ePcP **PcP** **20 12 49.3 -1.5**
GYA Guiyang 39.31 256 P P 20 10 45.8 +0.8
GYA pP **pP** **20 11 02.6 +2.3**
GYA sP **sP** **20 11 09.4 +2.0**
GYA PcP **PcP** **20 12 53.8 +1.1**
GYA S **S** **20 16 41.7 0.0**
GYA sS **sS** **20 17 09.0 +1.4**
GYA SS **SS** **20 19 29.4 -7.7**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,4.9s
GYA LN
comp=Z,590nm,17.8s
GYA LE
comp=Z,560nm,18.0s
GYA LZ
comp=Z,610nm,17.5s
DDM Donnelly Dome 39.47 39 eP P 20 10 45.1 -0.8
comp=Z,42nm,1.0s
KLU Kluane 39.63 43 eP P 20 10 47.3 0.0
comp=Z,39nm,0.8s
PAX Paxson 39.70 40 eP P 20 10 46.7 -1.2
PAX e 20 12 54.0
PAX pmax pmax
comp=Z,16nm,1.1s
PAX Paxson 39.70 40 eP P 20 10 46.7 -1.2
comp=Z,16nm,1.1s
PAX ePcP **PcP** **20 12 54.0 +0.7**
DIV Divide 39.75 43 eP P 20 10 48.3 +0.1
comp=Z,45nm,1.0s
DOT Dot Lake 40.27 39 eP P 20 10 51.4 -1.1
comp=Z,8.9nm,0.7s
SCRK Sand Creek 40.28 39 eP P 20 10 51.7 -1.0
comp=Z,62nm,1.7s
BMRM Bremner River 40.33 43 eP P 20 10 53.3 +0.2
comp=Z,59nm,1.0s
BMRM ePcP **PcP** **20 12 55.5 +0.2**
RAGM Ragged Mountai 40.38 44 eP P 20 10 54.1 +0.7
comp=Z,73nm,1.2s
EGAK Eagle 41.42 37 eP P 20 11 01.3 -0.6
comp=Z,95nm,1.6s
ZALV Zalesovo Beam 41.70 306 P P 20 11 02.5 -1.8
comp=Z,1.0nm,0.4s,baz=72,slow=6.0,SNR=5.4
ZALV PcP **PcP** **20 13 00.1 +0.3**
comp=Z,6.8nm,0.6s,baz=80,slow=2.9,SNR=21
ZALV LR LR 20 29 37.8
comp=Z,242nm,18.4s,baz=70,slow=38
ZALV Zalesovo Beam 41.70 306 P P 20 11 02.6 -1.8
ZALV 20 13 00.1
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV MLR MLR
comp=Z,242nm,18.4s
QIZ Qiongzhong 42.32 245 P P 20 11 09.8 +0.1
QIZ S **S** **20 17 26.7 +0.4**
QIZ LZ
comp=Z,230nm,16.1s
NVS Novosibirsk 42.35 308 eP P 20 11 08.1 -1.5
NVS Novosibirsk 42.35 308 eP P 20 11 08.1 -1.5
KMI Kunming 42.87 258 P P 20 11 15.9 +1.5
KMI PMZ
comp=Z,8.0nm,0.5s
WMQ Urumqi 43.44 291 P P 20 11 20.3 +1.7
WMQ pP **pP** **20 11 35.7 +1.6**
WMQ sP **sP** **20 11 42.9 +1.8**
WMQ PP **PcP** **20 13 04.0 -1.9**
WMQ PcP PP 20 13 08.4 +8.1
WMQ PcS **PcS** **20 16 59.8 +1.2**
WMQ S **S** **20 17 43.2 +0.8**
WMQ sS **sS** **20 18 09.9 +1.3**
WMQ PMZ
comp=Z,12nm,0.4s
WMQ PMZ
comp=Z,93nm,4.2s
WMQ LN
comp=Z,110nm,19.8s
WMQ LE
comp=Z,83nm,21.2s
WMQ LZ
comp=Z,85nm,19.2s
HYT Haines Junctio 43.77 42 eP P 20 11 22.3 +1.2
INK Inuvik 43.98 31 eP P 20 11 22.9 +0.4
INK pmax pmax
comp=Z,34nm,1.0s
INK Inuvik 43.98 31 eP P 20 11 22.9 +0.4
INK Inuvik 43.98 31 eP P 20 11 22.9 +0.4
comp=Z,34nm,1.0s
BESE Bessie Mountai 45.67 45 eP P 20 11 37.3 +1.1
comp=Z,16nm,1.4s
MK31 Makanchi Array 45.68 297 eP P 20 11 35.6 -0.8
MK31 e 20 13 13.2
MK31 Makanchi Array 45.68 297 eP P 20 11 35.6 -0.8
MK31 ePcP **PcP** **20 13 13.2 -0.3**
MKAR Makanchi Array 45.68 297 P P 20 11 34.6 -1.8
comp=Z,1.8nm,0.6s,baz=40,slow=2.1,SNR=30
MKAR PcP **PcP** **20 13 13.6 +0.1**
comp=Z,4.0nm,0.8s,baz=333,slow=1.9,SNR=8.6
MKAR LR LR 20 32 01.3
comp=Z,319nm,18.5s,baz=65,slow=38
MKAR Makanchi Array 45.68 297 P P 20 11 34.6 -1.8
MKAR 20 13 13.6
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR MLR MLR
comp=Z,319nm,18.5s
MKAR Makanchi Array 45.68 297 eP P 20 11 36.5 0.0
MKAR PcP **PcP** **20 13 13.6 +0.1**
MK01 Makanchi Array 45.69 297 eP P 20 11 37.1 +0.7
KURK Kurchatov 46.36 304 P P 20 11 41.3 -0.3
comp=Z,30nm,0.6s,SNR=8.1
KURK Kurchatov 46.36 304 eP P 20 11 40.0 -1.6
KURK e 20 13 15.0
KURK pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 46.36 304 eP P 20 11 40.0 -1.6
comp=Z,7.1nm,0.8s
KURK ePcP **PcP** **20 13 15.0 -0.7**
CRAG Craig 47.61 49 eP P 20 11 53.0 +1.8
DLBC Dease Lake 48.10 44 eP P 20 11 56.7 +1.5
LSA Lhasa 48.20 272 P P 20 11 57.4 +0.6
LSA Lhasa 48.20 272 eP P 20 11 58.4 +1.6
LSA pmax pmax
comp=Z,5.0nm,0.6s
LSA Lhasa 48.20 272 eP P 20 11 58.4 +1.6
comp=Z,4.5nm,0.6s
JAY Jayapura 48.37 193 LR LR 20 30 21.0
comp=Z,26nm,19.3s,slow=33
CHTO Chiang Mai 49.70 255 eP P 20 12 08.5 +0.7
CHTO pmax pmax
comp=Z,5.0nm,0.9s
CHTO Chiang Mai 49.70 255 eP P 20 12 08.5 +0.7
comp=Z,5.2nm,0.9s
CMAR Chiang Mai Arr 49.94 255 P P 20 12 09.2 -0.5
comp=Z,1.4nm,0.8s,baz=40,slow=7.3,SNR=14
CMAR PcP **PcP** **20 13 29.6 +0.4**
comp=Z,0.4nm,0.6s,baz=14,slow=3.6,SNR=4.4
CMAR LR LR 20 34 55.1
comp=Z,142nm,18.3s,baz=50,slow=38
CMAR Chiang Mai Arr 49.94 255 P P 20 12 09.2 -0.5
CMAR 20 13 29.6
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CMAR MLR MLR
comp=Z,142nm,18.3s
CM01 Chiang Mai Arr 49.96 255 eP P 20 12 10.6 +0.8
BVAR Borovoye Array 50.09 309 LR LR 20 34 27.3
comp=Z,125nm,20.4s,baz=88,slow=37
BRVK Borovoye 50.13 309 ePcP PcP 20 13 29.7 +0.4
TKM2 Tokmak 2 51.68 296 P P 20 12 24.0 +1.3
SNR=5.8
TKM2 Tokmak 2 51.68 296 eP P 20 12 22.8 +0.1
TKM2 pmax pmax
comp=Z,8.0nm,1.3s
TKM2 Tokmak 2 51.68 296 eP P 20 12 22.8 +0.1
comp=Z,8.1nm,1.3s
TAPN Taplejung 52.02 272 eP P 20 12 26.5 +0.9
comp=Z,26nm,0.8s
USP Ospenovka 52.20 296 P P 20 12 27.5 +1.1
SNR=13
USP Ospenovka 52.20 296 *i* P P 20 12 27.5 +1.1
KBK Karagaybulak 52.23 296 P P 20 12 27.6 +0.9
SNR=8.8
KBK Karagaybulak 52.23 296 *i* P P 20 12 27.6 +0.9
KZA Kyzart 52.33 295 P P 20 12 28.9 +1.1
SNR=8.9
KZA Kyzart 52.33 295 *i* P P 20 12 28.9 +1.1
KZA Kyzart 52.33 295 eP P 20 12 28.9 +1.1
AAK Ala-Archa 52.53 296 P P 20 12 30.6 +1.7
SNR=5.7
AAK Ala-Archa 52.53 296 eP P 20 12 30.1 +1.2
AAK pmax pmax
comp=Z,4.0nm,0.8s
AAK Ala-Archa 52.53 296 eP P 20 12 30.1 +1.2
AAK Ala-Archa 52.53 296 eP P 20 12 30.1 +1.2
comp=Z,3.9nm,0.8s
ODAN Odare 52.55 272 eP P 20 12 30.3 +0.9
comp=Z,11nm,0.7s
RES Resolute Bay 52.84 18 eP P 20 12 29.5 -1.0
RES e 20 13 38.9
RES pmax pmax
comp=Z,16nm,0.8s
RES Resolute Bay 52.84 18 eP P 20 12 29.5 -1.0
comp=Z,16nm,0.8s
RES ePcP **PcP** **20 13 38.9 -0.1**
JIRN Jiri 52.91 273 eP P 20 12 33.0 +0.8
comp=Z,30nm,0.7s
EKS2 Erkin-Say 52.97 296 P P 20 12 32.9 +0.8
SNR=7.8
EKS2 Erkin-Say 52.97 296 eP P 20 12 33.0 +0.8
EKS2 e 20 13 40.5
EKS2 pmax pmax
comp=Z,5.0nm,0.8s
EKS2 Erkin-Say 52.97 296 eP P 20 12 33.0 +0.8
comp=Z,5.0nm,0.8s
EKS2 ePcP **PcP** **20 13 40.5 +0.3**
GUN Gumba 52.97 274 eP P 20 12 33.4 +0.8
comp=Z,42nm,0.9s
RAMN Ramite 53.05 273 eP P 20 12 33.7 +0.6
comp=Z,64nm,0.9s
KSH Kashi 53.19 292 P P 20 12 38.5 +4.6
KSH sP sP 20 13 01.2 +4.6
KSH PcS **PcS** **20 17 42.7 +2.5**
KSH S **S** **20 20 04.5 +4.2**
KSH sS sS 20 20 31.6 +4.5
KSH SS **SKiKP** **20 23 44.6 -0.7**
KSH PMZ
comp=Z,3.0nm,0.5s
KSH PMZ
comp=Z,64nm,5.4s
KSH LN
comp=Z,140nm,5.6s
KSH LE
comp=Z,76nm,4.4s
KSH LZ
comp=Z,160nm,5.3s
YKA Yellowknife Ar 53.32 35 P P 20 12 34.2 -0.1
comp=Z,21nm,0.7s,baz=297,slow=6.9,SNR=204
YKA Yellowknife Ar 53.32 35 P P 20 12 34.2 -0.1
YKA pmax pmax
comp=Z,21nm,0.7s
SVE Sverdlovsk 53.40 317 eP P 20 12 31.8 -3.1
SVE pmax pmax
comp=Z,6.0nm,0.6s
SVE MLR MLR
comp=Z,219nm,21.0s
SVE Sverdlovsk 53.40 317 eP P 20 12 31.8 -3.1
KKN Kakani 53.47 274 eP P 20 12 36.8 +0.7
comp=Z,18nm,0.7s
PKI Pulchoki 53.51 274 eP P 20 12 37.1 +0.5
comp=Z,36nm,1.1s
PKIN Phulchoki 53.51 274 eP P 20 12 37.4 +0.9
comp=Z,12nm,0.8s
DMN Daman 53.70 274 eP P 20 12 38.6 +0.7
comp=Z,41nm,1.0s
GKN Gorkha 53.79 275 eP P 20 12 39.1 +0.7

comp=Z,41nm,1.0s
ARU Arti 54.59 317 P P 20 12 42.1 -1.5
comp=Z,98nm,0.5s,SNR=5.3
ARU Arti 54.59 317 *d iP* **P 20 12 42.7 -0.9**
ARU *PP **pP** 20 12 59.0 -0.5
ARU *e* 20 13 45.2
ARU 20 14 43.0
ARU S **S 20 20 19.1 +0.8**
ARU SS **SS 20 23 55.1 -5.9**
ARU pmax pmax
comp=Z,16nm,1.2s
ARU Arti 54.59 317 *i* P **P 20 12 42.7 -0.9**
ARU *erx* rx 20 12 59.0
ARU Arti 54.59 317 *eP* **P 20 12 41.7 -1.9**
comp=Z,9.4nm,0.6s
ARU *ePcP* **PcP 20 13 45.4 -0.6**
KOLN Koldanda 54.66 275 *eP* **P 20 12 45.6 +0.8**
comp=Z,33nm,1.0s
KKAR Karatay Array 54.79 298 *eP* **P 20 12 45.6 +0.3**
KKAR Karatay Array 54.79 298 *eP* **P 20 12 45.6 +0.3**
NLWA Neilton Lookou 56.44 54 *eP* **P 20 12 57.5 +0.4**
comp=Z,21nm,0.8s
A05A Maple Falls 56.59 52 *eP* **P 20 12 57.8 -0.2**
comp=Z,16nm,0.7s
E03A Lebam 57.07 55 *eP* **P 20 13 02.2 +0.7**
comp=Z,14nm,0.9s
PRGR Permogore 57.38 327 *eP* **P 20 13 03.0 -0.4**
PRGR pmax pmax
comp=Z,10.0nm,1.0s
ABKAR Akbulak array 57.67 309 *eP* **P 20 13 05.5 -0.1**
LON Longmire 57.97 54 *eP* **P 20 13 07.7 -0.2**
LON pmax pmax
comp=Z,3.0nm,0.9s
LON Longmire 57.97 54 *eP* **P 20 13 07.7 -0.2**
comp=Z,3.4nm,0.9s
G03D McMinnville, O 57.98 56 ⇑P **P 20 13 08.6 +0.6**
baz=58
F04A Amboy 58.07 55 *eP* **P 20 13 09.3 +0.8**
comp=Z,24nm,0.8s
COR Corvallis 58.31 57 *eP* **P 20 13 09.5 -0.7**
COR pmax pmax
comp=Z,42nm,0.9s
COR Corvallis 58.31 57 *eP* **P 20 13 09.5 -0.7**
comp=Z,42nm,0.9s
LTY Liberty 58.33 53 *eP* **P 20 13 10.3 -0.2**
comp=Z,8.1nm,0.6s
ARCES ARCESS Array B 58.46 340 P **P 20 13 08.2 -2.7**
comp=Z,4.2nm,1.0s,baz=33,slow=7.5,SNR=10
ARCES PcP **PcP 20 14 00.8 0.0**
comp=Z,4.2nm,0.7s,baz=48,slow=5.4,SNR=7.5
ARCES LR LR 20 44 33.3
comp=Z,72nm,18.1s,baz=36,slow=42
ARCES ARCESS Array B 58.46 340 P **P 20 13 08.2 -2.7**
ARCES 20 14 00.9
ARCES pmax pmax
comp=Z,4.0nm,1.0s
ARCES MLR MLR
comp=Z,72nm,18.1s
KEBM Edson Butte 58.66 59 *eP* **P 20 13 13.5 +0.7**
comp=Z,25nm,1.1s
I03D Drain, OR 58.78 58 ⇓P **P 20 13 12.3 -1.2**
baz=59
KULLO Kullorsuaq 58.98 8 *i* P **P 20 13 12.9 -1.5**
comp=Z,27nm,1.1s
KBO Bosley Butte 59.10 60 *eP* **P 20 13 16.9 +1.1**
comp=Z,37nm,1.3s
G05D Wamic, OR 59.10 55 ⇓P **P 20 13 16.6 +0.9**
baz=59,SNR=17
I04A Tendick Farm, 59.29 57 ⇓P **P 20 13 17.5 +0.4**
baz=59,SNR=10
C09A Chrisman Ranch 59.36 52 *eP* **P 20 13 17.4 -0.1**
comp=Z,16nm,0.8s
D08A Wollman Farm, 59.43 53 *eP* **P 20 13 17.8 -0.2**
comp=Z,13nm,0.8s
HAWA Hanford 59.47 53 *eP* **P 20 13 18.1 -0.1**
comp=Z,29nm,1.4s
L02D Cave Junction, 59.51 59 ⇑P **P 20 13 18.3 -0.3**
baz=59,SNR=8.3
I05D Terrebonne, OR 59.61 56 ⇑P **P 20 13 20.1 +0.8**
baz=59
HUMO Hull Mountain 59.64 59 *eP* **P 20 13 20.2 +0.6**
comp=Z,17nm,1.6s
NEW Newport 59.73 51 P **P 20 13 19.9 -0.1**
comp=Z,20nm,1.0s,baz=305,slow=5.2,SNR=24
NEW Newport 59.73 51 *eP* **P 20 13 19.7 -0.4**
NEW pmax pmax
comp=Z,16nm,0.9s
NEW Newport 59.73 51 *eP* **P 20 13 19.7 -0.4**
comp=Z,16nm,0.9s
NEW Newport 59.73 51 ⇑P **P 20 13 20.3 +0.2**
baz=60,SNR=17
J04D Umpqua Nationa 59.79 58 ⇑P **P 20 13 21.7 +1.0**
baz=60,SNR=8.0
KHMM Horse Mountain 60.18 61 *eP* **P 20 13 24.4 +1.0**
comp=Z,23nm,0.9s
E09A Wood Farm, Sta 60.18 53 *eP* **P 20 13 23.4 +0.3**
comp=Z,23nm,0.8s
KLMR Klimovskoe 60.19 328 *eP* **P 20 13 23.2 +0.3**
KLMR pmax pmax
comp=Z,6.0nm,0.6s
J05D Fort Rock, OR 60.28 57 ⇑P **P 20 13 25.3 +1.2**
baz=60,SNR=24
YBH Yreka Blue Hor 60.30 59 P **P 20 13 24.4 +0.2**
comp=Z,10nm,0.9s,baz=340,slow=3.7,SNR=37
YBH Yreka Blue Hor 60.30 59 *eP* **P 20 13 24.8 +0.6**
YBH *e* 20 13 41.6
YBH *e* 20 14 08.5
YBH pmax pmax
comp=Z,14nm,1.0s
YBH Yreka Blue Hor 60.30 59 *eP* **P 20 13 24.8 +0.6**
YBH *erx* rx 20 13 41.6
YBH Yreka Blue Hor 60.30 59 *eP* **P 20 13 24.8 +0.6**
comp=Z,14nm,1.0s
YBH *e* 20 13 41.6
YBH *ePcP* **PcP 20 14 08.5 -0.4**
M02C Callahan 60.41 60 ⇑P **P 20 13 26.2 +1.3**
baz=60,SNR=15
KBL Kabul 60.57 291 *eP* **P 20 13 25.2 -1.1**
KBL pmax pmax
comp=Z,16nm,0.7s
KBL Kabul 60.57 291 *eP* **P 20 13 25.2 -1.1**
comp=Z,16nm,0.7s
KMRM Mail Ridge 60.58 61 *eP* **P 20 13 27.4 +1.4**
comp=Z,16nm,0.8s
N02D Trinity Center 60.75 60 ⇑P **P 20 13 28.4 +1.3**
baz=60,SNR=16
M04C Macdoel 60.80 59 ⇑P **P 20 13 28.5 +0.9**
baz=61,SNR=9.2
K05A Summer Lake 60.81 58 *eP* **P 20 13 28.7 +1.0**
comp=Z,35nm,0.8s
I07A Izee 60.83 56 *eP* **P 20 13 28.2 +0.5**
comp=Z,9.1nm,0.9s
KIPM Iron Peak 60.96 62 *eP* **P 20 13 29.4 +0.7**
KCPM Cahto Peak 60.97 62 *eP* **P 20 13 29.5 +0.7**
comp=Z,16nm,0.7s
F10A Beach Ranch, E 61.01 53 *eP* **P 20 13 29.1 +0.2**
comp=Z,11nm,0.8s
WDC Whiskeytown Da 61.08 60 *eP* **P 20 13 29.8 +0.5**
WDC pmax pmax
comp=Z,15nm,0.8s
WDC Whiskeytown Da 61.08 60 *eP* **P 20 13 29.8 +0.5**
comp=Z,15nm,0.8s
BSMT Bassoo Peak 61.24 50 *eP* **P 20 13 30.5 -0.1**
comp=Z,6.9nm,0.7s
BLMT Blacktail Moun 61.37 50 *eP* **P 20 13 31.9 +0.5**
JTMT Jette 61.57 50 *eP* **P 20 13 33.1 +0.4**
BMO Blue Mountains 61.64 54 *eP* **P 20 13 33.5 +0.3**
comp=Z,6.3nm,0.8s
YBMT Yellow Bay 61.65 50 *eP* **P 20 13 33.1 -0.1**
SWMT Swartz Lake 61.87 50 *eP* **P 20 13 34.3 -0.4**
comp=Z,32nm,1.2s
SUMG Summit 62.23 3 ⇑*iP* **P 20 13 36.7 -0.4**
comp=Z,26nm,0.9s
SUMG Summit 62.23 3 ⇑*iP* **P 20 13 36.7 -0.4**
SUMG pmax pmax
comp=Z,26nm,0.9s
SUMG Summit 62.23 3 *eP* **P 20 13 36.5 -0.6**
comp=Z,24nm,0.8s
SLMT Seeley Lake 62.30 50 *eP* **P 20 13 37.5 -0.2**
MSO Missoula 62.31 50 *eP* **P 20 13 37.6 -0.1**
comp=Z,25nm,0.8s
MSO Missoula 62.31 50 ⇑P **P 20 13 38.1 +0.4**
baz=62,SNR=20
WVOR Wild Horse Val 62.32 57 *eP* **P 20 13 38.0 +0.2**
WVOR pmax pmax
comp=Z,24nm,0.9s
WVOR Wild Horse Val 62.32 57 *eP* **P 20 13 38.0 +0.2**
comp=Z,24nm,0.9s
CHMT Chamberlain Mo 62.64 50 *eP* **P 20 13 39.2 -0.7**
comp=Z,6.2nm,0.6s
CHMT *e* 20 13 55.2
FFC Flin Flon 63.18 38 P **P 20 13 43.6 +0.4**
comp=Z,325nm,0.5s,SNR=21
FFC Flin Flon 63.18 38 *eP* **P 20 13 43.3 +0.1**
FFC pmax pmax
comp=Z,44nm,0.9s
FFC Flin Flon 63.18 38 *eP* **P 20 13 43.3 +0.1**
FFC Flin Flon 63.18 38 *eP* **P 20 13 43.3 +0.1**
comp=Z,44nm,0.9s
MFID Camas Ranch 63.36 54 *eP* **P 20 13 44.8 +0.2**
comp=Z,7.4nm,0.8s
MFID *ePcP* **PcP 20 14 21.5 +0.3**
RPR Rampur 63.38 270 *eP* **P 20 13 44.9 -0.1**
HRY Holter Researc 63.53 50 *eP* **P 20 13 46.5 +0.7**
FCC Fort Churchill 63.60 32 *eP* **P 20 13 45.3 -0.5**
FCC Fort Churchill 63.60 32 *eP* **P 20 13 45.2 -0.5**
LRM Limekiln Ridge 63.75 51 *eP* **P 20 13 47.5 +0.1**
EGMT Eagleton 63.80 47 ⇓P **P 20 13 47.8 +0.3**
baz=64,SNR=5.7
B19A Brinkman Farms 63.94 47 ⇑P **P 20 13 48.6 +0.3**
baz=64,SNR=13
CMB Columbia Colle 63.95 62 *eP* **P 20 13 48.7 +0.1**
CMB *e* 20 14 23.2
CMB pmax pmax
comp=Z,14nm,0.8s
CMB Columbia Colle 63.95 62 *eP* **P 20 13 48.6 +0.1**
comp=Z,14nm,0.8s
CMB *ePcP* **PcP 20 14 23.2 -0.5**
DLMT Dillon 63.96 51 *eP* **P 20 13 48.0 -0.7**
comp=Z,31nm,1.5s
HLID Hailey 64.07 54 *eP* **P 20 13 49.6 +0.2**
comp=Z,11nm,1.0s
HLID *ePcP* **PcP 20 14 24.8 +0.6**
HLID Hailey 64.07 54 ⇓P **P 20 13 49.9 +0.5**
baz=64,SNR=12
MCMT McKenzie Canyo 64.16 52 *eP* **P 20 13 49.5 -0.5**
WAKR Walker 64.25 61 *eP* **P 20 13 50.9 +0.1**
BOZ Bozeman (W) 64.31 50 *eP* **P 20 13 51.2 +0.3**
BOZ pmax pmax
comp=Z,15nm,0.8s
BOZ Bozeman (W) 64.31 50 *eP* **P 20 13 51.2 +0.3**
BOZ Bozeman (W) 64.31 50 *eP* **P 20 13 51.2 +0.3**
comp=Z,15nm,0.8s
C19A Slack Wire Ran 64.35 47 ⇑P **P 20 13 51.5 +0.5**
baz=64,SNR=18
FINES FINESS Array B 64.38 334 P **P 20 13 49.3 -1.6**
comp=Z,8.6nm,0.6s,baz=42,slow=6.4,SNR=34
FINES LR LR 20 44 17.6
comp=Z,199nm,20.5s,baz=34,slow=38
FINES FINESS Array B 64.38 334 P **P 20 13 49.3 -1.6**
FINES pmax pmax
comp=Z,9.0nm,0.6s
FINES MLR MLR
comp=Z,199nm,20.5s
BMN Battle Mountai 64.39 58 *eP* **P 20 13 50.6 -1.0**
BMN Battle Mountai 64.39 58 *eP* **P 20 13 50.6 -1.0**
A21A Bergtoll Ranch 64.62 45 ⇓P **P 20 13 52.8 0.0**
baz=64,SNR=13
ILULI Ilulissat 64.70 8 *i* P **P 20 13 51.4 -1.4**
comp=Z,14nm,0.8s
D19A Cripps Ranch, 64.80 48 ⇓P **P 20 13 54.2 +0.2**
baz=64,SNR=8.2
HYB Hyderabad 64.86 270 *i* P **P 20 13 54.0 -0.8**
HYBB Hyderabad (bro 64.86 270 *eP* **P 20 13 54.4 -0.4**
HYBB *eS* **S 20 22 31.2 -0.4**
C20A Veseth Ranch, 64.90 47 ⇓P **P 20 13 55.2 +0.6**
baz=65,SNR=18
NJS Nagarjunasagar 64.91 268 *eP* **P 20 13 54.7 -0.4**
NJS IAmb IAmb 20 13 55.7
comp=Z,9.5nm,0.8s
NJS *e* 20 22 25.5
QLMT Earthquake Lak 64.93 51 *eP* **P 20 13 55.2 +0.1**
B21A Ellsworth Farm 64.94 46 ⇓P **P 20 13 55.4 +0.6**
baz=65
NVAR Mina Array Bea 64.99 60 P **P 20 13 55.1 -0.5**
comp=Z,18nm,0.7s,baz=288,slow=6.9,SNR=109
A22A Carney Farms, 65.12 45 ⇑P **P 20 13 56.3 +0.3**
baz=65,SNR=24
IMYA Miami 65.23 297 *eP* **P 20 13 58.0 +0.9**
OBN Obninsk 65.23 325 *d iP* **P 20 13 56.0 -0.5**
OBN *e*PP **pP 20 14 08.5 -4.4**
OBN *e* 20 14 28.0
OBN pmax pmax
comp=Z,17nm,1.5s
OBN MLR MLR
comp=Z,123nm,24.0s
OBN Obninsk 65.23 325 *i* P **P 20 13 56.0 -0.5**
OBN *erx* rx 20 14 08.5
GCMT Greycliff 65.27 49 *eP* **P 20 13 57.5 +0.3**
YMR Madison River 65.29 51 *eP* **P 20 13 58.1 +0.7**
comp=Z,14nm,0.8s
C21A Desert Coulee 65.29 46 ⇓P **P 20 13 57.5 +0.3**
baz=65,SNR=6.0
E19A Rath Farm, Rou 65.31 48 ⇑P **P 20 13 58.1 +0.7**
baz=65,SNR=19
ELK Elko 65.37 56 P **P 20 13 58.0 0.0**
comp=Z,4.3nm,0.8s,baz=9.5,slow=3.8,SNR=20
ELK Elko 65.37 56 *eP* **P 20 13 58.4 +0.4**
ELK Elko 65.37 56 *eP* **P 20 13 58.4 +0.4**
YNR Norris Junctio 65.42 51 *eP* **P 20 13 59.8 +1.5**
comp=Z,10nm,0.9s
GEYT Alibeck 65.46 300 P **P 20 13 58.2 -0.2**
comp=Z,12nm,0.7s,baz=62,slow=3.5,SNR=28
GEYT LR LR 20 45 21.0
comp=Z,119nm,19.6s,baz=90,slow=39
YFT Old Faithful 65.50 51 *eP* **P 20 14 00.9 +2.1**
F19A Roth Farm, Mol 65.62 49 ⇑P **P 20 13 59.6 +0.3**
baz=65,SNR=11
E20A Meyer Farm, Mu 65.62 48 ⇓P **P 20 14 00.3 +1.0**
baz=65,SNR=7.6
H17A Grant Village 65.68 51 *eP* **P 20 14 00.6 +0.6**
H17A Grant Village 65.68 51 ⇑P **P 20 14 01.9 +1.9**
baz=65,SNR=12
IMW Indian Meadow 65.80 52 *eP* **P 20 14 01.8 +0.9**
D21A La Casta Ranch 65.84 47 ⇑P **P 20 14 01.1 +0.4**
baz=66,SNR=8.0
IPAY Payeh 65.85 298 *eP* **P 20 14 02.3 +1.1**
IMOG Moghan 65.86 297 *eP* **P 20 14 02.3 +1.0**
TPH Tonopah 65.87 60 *eP* **P 20 14 01.3 +0.1**
TPH Tonopah 65.87 60 *eP* **P 20 14 01.3 +0.1**
TIN Tinemaha, Big 65.90 61 ⇓P **P 20 14 02.1 +0.8**
baz=66
RLMT Red Lodge 65.92 50 *eP* **P 20 14 01.9 +0.5**
comp=Z,20nm,1.1s
FXWY Fox Creek 65.92 52 *eP* **P 20 14 02.3 +0.8**
B23A Brockton 65.93 45 ⇑P **P 20 14 01.4 +0.1**
baz=66,SNR=23
C22A Vida 65.96 46 ⇑P **P 20 14 02.1 +0.6**
baz=66
ISHV Shirvan 65.97 300 *eP* **P 20 14 03.2 +1.3**
LPSR Galich'ya Gora 65.99 321 *eP* **P 20 14 01.4 -0.1**
LPSR pmax pmax
comp=N,3.0nm,0.9s
LPSR pmax pmax
comp=Z,10.0nm,0.9s
LPSR pmax pmax
comp=E,3.0nm,0.8s
I17A Pilgrim Ck. 65.99 51 ⇑P **P 20 14 03.2 +1.3**
baz=66,SNR=10
H18A Shoshone NF, C 66.00 50 ⇓P **P 20 14 02.6 +0.6**
baz=66,SNR=16
MOOW Moose Ponds 66.01 52 *eP* **P 20 14 02.5 +0.4**
TPAW Teton Pass 66.06 52 *eP* **P 20 14 03.4 +0.9**
ISFR Sfrayin 66.09 299 *eP* **P 20 14 03.9 +1.1**
A24A Westby 66.11 44 ⇓P **P 20 14 02.7 +0.3**
baz=66,SNR=11
HVU Hansel Valley 66.14 54 *eP* **P 20 14 03.0 +0.2**
HVU pmax pmax
comp=Z,11nm,0.9s
HVU Hansel Valley 66.14 54 *eP* **P 20 14 03.0 +0.2**
comp=Z,11nm,0.9s
LOHW Long Hollow 66.17 52 *eP* **P 20 14 03.9 +0.8**
LOHW *e* 20 14 28.8
SNOW Snow King Moun 66.19 52 *eP* **P 20 14 04.2 +1.0**
REDW Red Top Meadow 66.20 52 *eP* **P 20 14 03.9 +0.6**
D22A Cohagen 66.21 46 ⇑P **P 20 14 02.7 -0.3**
baz=66
C23A Lambert 66.28 45 ⇑P **P 20 14 04.1 +0.6**
baz=66,SNR=7.6
DGMT Dagmar 66.32 44 *eP* **P 20 14 03.9 +0.1**
DGMT Dagmar 66.32 44 ⇑P **P 20 14 04.0 +0.3**
baz=66,SNR=8.5
GRAC Grapevine Rang 66.47 61 ⇓P **P 20 14 05.8 +0.9**
baz=66,SNR=12
LAO LASA Array 66.49 47 *eP* **P 20 14 04.8 -0.1**
WRA Warramunga Arr 66.53 196 P **P 20 14 04.5 -0.7**
comp=Z,1.0nm,0.6s,baz=15,slow=6.8,SNR=11
WRA Warramunga Arr 66.53 196 P **P 20 14 04.5 -0.7**
WRA pmax pmax
comp=Z,1.0nm,0.6s
BGU Big Grassy Mou 66.54 55 *eP* **P 20 14 04.8 -0.7**
SKHT Srikalahasti 66.54 266 *eP* **P 20 14 06.1 +0.6**
SKHT IAmb IAmb 20 14 07.1
comp=Z,15nm,1.0s
D23A Lindsay 66.69 46 ⇑P **P 20 14 06.6 +0.5**
baz=66,SNR=7.3
R11A Troy Canyon, C 66.69 59 *eP* **P 20 14 06.1 -0.4**
R11A Troy Canyon, C 66.69 59 ⇑P **P 20 14 06.4 0.0**
baz=66,SNR=20
DAC Darwin (Calif) 66.79 61 *eP* **P 20 14 06.6 -0.6**
DAC pmax pmax
comp=Z,11nm,0.9s
DAC Darwin (Calif) 66.79 61 *eP* **P 20 14 06.6 -0.6**
comp=Z,11nm,0.9s
C24A Savage 66.84 45 ⇓P **P 20 14 07.6 +0.5**
baz=67
SFJD Kangerlussuaq 66.89 9 ⇑*iP* **P 20 14 05.9 -1.0**
comp=Z,10.0nm,0.8s
SFJD Kangerlussuaq 66.89 9 ⇑*iP* **P 20 14 05.9 -1.0**
SFJD pmax pmax
comp=Z,10.0nm,0.8s
SFJD Kangerlussuaq 66.89 9 *eP* **P 20 14 06.3 -0.6**
B25A Knox Farm, Ray 66.96 44 ⇑P **P 20 14 08.2 +0.4**
baz=67
MPMC Manual Prospec 67.00 62 ⇑P **P 20 14 08.6 +0.1**
baz=67,SNR=19
A26A Wade Farm, Ken 67.08 43 ⇑P **P 20 14 09.2 +0.6**
baz=67,SNR=7.7
FURC Furnace Creek, 67.12 61 ⇓P **P 20 14 09.7 +0.8**
baz=67,SNR=13
DUG Dugway, Tooele 67.14 56 *eP* **P 20 14 09.5 +0.3**
DUG Dugway, Tooele 67.14 56 *eP* **P 20 14 09.5 +0.3**
DUG Dugway, Tooele 67.14 56 ⇑P **P 20 14 10.0 +0.8**
baz=67,SNR=18
OSI Osito Audit: C 67.15 63 P **P 20 14 09.2 0.0**
D24A Glendive 67.17 46 ⇓P **P 20 14 10.1 +0.9**
baz=67,SNR=20
TPNV Topopah Spring 67.19 60 *eP* **P 20 14 09.7 +0.1**
TPNV Topopah Spring 67.19 60 *eP* **P 20 14 09.7 +0.1**
TPNV Topopah Spring 67.19 60 ⇓P **P 20 14 10.1 +0.5**
baz=67,SNR=19
J19A Crowheart 67.25 51 ⇓P **P 20 14 07.1 -2.9**
baz=67,SNR=17
BW06 Boulder Array 67.30 52 *eP* **P 20 14 10.2 -0.2**
PDAR Pinedale Array 67.30 52 P **P 20 14 10.2 -0.2**
comp=Z,11nm,0.7s,baz=333,slow=2.0,SNR=108
A27A Ledoux Ranch, 67.42 43 ⇑P **P 20 14 11.5 +0.8**
baz=67,SNR=13
URV Uravakonda 67.44 269 *eP* **P 20 14 11.2 -0.1**
URV IAmb IAmb 20 14 11.8
comp=Z,6.7nm,0.8s
D25A Fairfield 67.65 45 ⇓P **P 20 14 12.7 +0.5**
baz=67
NLU North Lily Min 67.72 55 *eP* **P 20 14 13.6 +0.6**
C26A Wahner Farm, P 67.79 44 ⇓P **P 20 14 13.8 +0.7**
baz=68,SNR=9.0
GSC Goldstone, Bar 67.91 62 *eP* **P 20 14 13.8 -0.3**
GSC Goldstone, Bar 67.91 62 *eP* **P 20 14 13.8 -0.3**
A28A Rude Farm, Bot 67.92 42 ⇓P **P 20 14 14.5 +0.7**
baz=68,SNR=7.1
MPU Maple Canyon 67.94 55 *eP* **P 20 14 14.2 -0.2**
C27A Sayler Ranch, 68.16 44 ⇑P **P 20 14 16.1 +0.7**
baz=68
D26A Manning 68.17 45 ⇓P **P 20 14 15.5 0.0**
baz=68
B28A Dugan Ranch, T 68.19 42 ⇑P **P 20 14 16.1 +0.5**
baz=68,SNR=16
ITEG Tejag 68.29 295 *eP* **P 20 14 17.4 +0.8**
TUQ Turquoise Moun 68.37 61 ⇑P **P 20 14 17.5 +0.5**
baz=68
A29A Manning Farm, 68.39 42 ⇑P **P 20 14 17.4 +0.6**
baz=68,SNR=24
HEC Hector,Ludlow 68.51 62 ⇓P **P 20 14 18.2 +0.4**
baz=68
E26A Carlson Angus 68.54 45 ⇓P **P 20 14 17.8 0.0**
baz=68
MVU Marysvale 68.60 57 *eP* **P 20 14 18.2 -0.3**
MSU Marysvale 68.61 57 *eP* **P 20 14 18.4 -0.2**
MSU Marysvale 68.61 57 *eP* **P 20 14 18.4 -0.2**
A30A Hoffart Farm, 68.82 41 ⇓P **P 20 14 19.6 +0.1**
baz=68,SNR=15
NB2 NORSAR Subarra 68.84 340 P **P 20 14 17.9 -1.5**
comp=Z,17nm,0.5s,baz=28,slow=6.5
NOA NORSAR Array B 68.84 340 P **P 20 14 17.5 -1.9**
comp=Z,5.7nm,0.7s,baz=29,slow=6.6,SNR=19
NOA LR LR 20 48 53.1
comp=Z,62nm,18.1s,baz=35,slow=40
NOA NORSAR Array B 68.84 340 P **P 20 14 17.5 -1.9**
NOA pmax pmax
comp=Z,6.0nm,0.7s
NOA MLR MLR
comp=Z,63nm,18.1s
GMRC Granite Mounta 68.96 62 ⇑P **P 20 14 21.0 +0.3**
baz=69,SNR=5.9
D28A Regan 68.97 44 ⇑P **P 20 14 20.8 +0.3**
baz=69
ULM Lac du Bonnet 68.97 39 P **P 20 14 19.2 -1.1**
comp=Z,14nm,0.4s,baz=314,slow=6.9,SNR=26
ULM Lac du Bonnet 68.97 39 *eP* **P 20 14 19.5 -0.9**
ULM Lac du Bonnet 68.97 39 *eP* **P 20 14 19.5 -0.9**
MDND Maddock 68.98 43 *eP* **P 20 14 20.9 +0.4**
MDND Maddock 68.98 43 ⇑P **P 20 14 20.9 +0.4**
baz=69,SNR=6.5
IGLO Ghaloghah 68.99 301 *eP* **P 20 14 21.9 +0.9**
E27A Carson 69.02 45 ⇑P **P 20 14 21.2 +0.4**
baz=69,SNR=10
B30A Myrvik Farm, E 69.15 41 ⇓P **P 20 14 21.9 +0.4**
baz=69,SNR=50
SRU San Rafael Swe 69.18 55 *eP* **P 20 14 22.1 0.0**
SRU San Rafael Swe 69.18 55 *eP* **P 20 14 22.1 0.0**
KNB Kanab 69.22 58 *eP* **P 20 14 23.4 +1.0**
KNB Kanab 69.22 58 *eP* **P 20 14 23.4 +1.0**
PFO Pinyon Flats O 69.23 63 *i* P **P 20 14 22.9 +0.5**
GOF Gofitskoye 69.26 314 *eP* **P 20 14 23.2 +0.9**
GOF pmax pmax
comp=Z,40nm,1.3s
N20A Spence Gulch, 69.31 53 ⇓P **P 20 14 23.5 +0.5**
baz=69,SNR=12
E28A Huff 69.35 44 ⇓P **P 20 14 22.8 0.0**
baz=69,SNR=5.6
IANJ Anjilo 69.62 300 *eP* **P 20 14 26.2 +1.3**
ISHM Shahmirzad 69.78 301 *eP* **P 20 14 27.6 +1.6**
O20A White River Ci 69.80 53 *eP* **P 20 14 25.3 -0.6**
O20A White River Ci 69.80 53 ⇑P **P 20 14 24.9 -1.0**
baz=70,SNR=5.4
F28A McLaughlin 69.81 45 ⇑P **P 20 14 25.6 -0.1**
baz=70,SNR=7.7
W13A Hualapai Mount 69.84 60 ⇓P **P 20 14 26.3 0.0**
baz=70
D30A Buchanan 69.91 43 ⇑P **P 20 14 25.8 -0.5**
baz=70,SNR=7.9
NCK Nalchik 70.06 312 *i* P **P 20 14 28.3 +1.1**
KIV Kislovodsk 70.21 313 P **P 20 14 29.3 +1.0**
comp=Z,242nm,0.7s,SNR=12
KIV Kislovodsk 70.21 313 *d iP* **P 20 14 29.4 +1.2**
KIV *e* 20 14 49.7
KIV pmax pmax
comp=Z,32nm,0.8s
KIV MLR MLR
comp=Z,236nm,22.0s
KIV Kislovodsk 70.21 313 *i* P **P 20 14 29.4 +1.2**
KIV Kislovodsk 70.21 313 ⇑*iP* **P 20 14 29.5 +1.2**
SNR=19
KIV Kislovodsk 70.21 313 *eP* **P 20 14 29.2 +1.0**
PDMCI Parker Dam,Lak 70.22 61 ⇑P **P 20 14 28.7 +0.4**
baz=70,SNR=6.4
AS01 Alice Springs 70.22 196 *eP* **P 20 14 28.7 +0.5**
ASAR Alice Springs 70.23 196 P **P 20 14 29.0 +0.7**
comp=Z,1.1nm,0.7s,baz=13,slow=6.3,SNR=17
ASAR Alice Springs 70.23 196 P **P 20 14 29.0 +0.7**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
KBZ Khabaz 70.26 313 P **P 20 14 28.1 -0.2**
comp=Z,22nm,0.8s,baz=56,slow=24,SNR=68
KBZ LR LR 20 49 34.4
comp=Z,266nm,19.6s,baz=156,slow=40
KBZ Khabaz 70.26 313 P **P 20 14 28.2 -0.2**

KBZ pmax pmax
comp=Z,22nm,0.8s
KBZ MLR MLR
comp=Z,267nm,19.6s
E30A Jud 70.27 43 ⇑P P 20 14 28.2 -0.3
baz=70,SNR=5.7
F29A Eureka 70.30 44 ⇓P P 20 14 28.7 0.0
baz=70,SNR=6.5
N22A Wattenberg Ran 70.34 52 ⇑P P 20 14 29.7 +0.4
baz=70
ZEI Tsey 70.39 311 *e*P P 20 14 28.9 -0.6
ZEI pmax pmax
comp=Z,11nm,0.6s
AGMN Agassiz Nation 70.40 40 *e*P P 20 14 28.3 -0.9
AGMN Agassiz Nation 70.40 40 ⇑P P 20 14 28.7 -0.4
baz=70,SNR=15
H28A Mission Ridge 70.52 46 ⇓P P 20 14 30.5 +0.4
baz=70,SNR=9.5
NEY Neytrino 70.69 312 *i* P P 20 14 32.4 +1.1
NEY pmax pmax
comp=Z,2.0nm,0.6s
O22A Kremmling 70.73 52 ⇑P P 20 14 31.9 +0.1
baz=70
P22A Eagle 71.00 53 ⇑P P 20 14 33.4 +0.1
baz=71,SNR=5.7
O23A Lake Granby, G 71.05 52 ⇓P P 20 14 34.5 +0.8
baz=71,SNR=8.2
WUAZ Wupatki 71.09 59 *e*P P 20 14 34.5 +0.7
G30A Faulkton 71.14 44 ⇑P P 20 14 33.3 -0.4
baz=71,SNR=11
SMCO Snowmass 71.17 53 *e*P P 20 14 34.1 -0.4
IGZV Ghazvin 71.23 303 *e*P P 20 14 36.1 +1.4
IVRN Varamin 71.27 301 *e*P P 20 14 35.7 +0.9
J28A Allard Ranch, 71.30 47 ⇑P P 20 14 35.1 +0.3
baz=71
I29A Vivian Onida 71.35 46 ⇑P P 20 14 35.3 +0.2
baz=71
AKASG Malin Array Be 71.49 325 P P 20 14 34.9 -0.8
comp=Z,5.1nm,0.5s,baz=35,slow=6.0,SNR=18
AKASG LR LR 20 48 06.9
comp=Z,124nm,20.3s,baz=50,slow=38
AKASG Malin Array Be 71.49 325 P P 20 14 34.9 -0.8
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG MLR MLR
comp=Z,124nm,20.3s
AKBB Malin Array Si 71.49 325 P P 20 14 34.2 -1.5
AKBB Malin Array Si 71.49 325 P P 20 14 34.1 -1.5
ISCO Idaho Springs 71.50 52 *e*P P 20 14 36.3 -0.1
ISCO Idaho Springs 71.50 52 *e*P P 20 14 36.3 -0.1
ISCO Idaho Springs 71.50 52 ⇓P P 20 14 36.8 +0.4
baz=71,SNR=14
KIEV Kiev 71.50 325 *e*P P 20 14 34.7 -1.1
KIEV pmax pmax
comp=Z,8.0nm,0.6s
KIEV Kiev 71.50 325 *e*P P 20 14 34.7 -1.1
comp=Z,7.6nm,0.6s
AK02 Malin Array Si 71.53 325 *e*P P 20 14 34.9 -1.1
MVCO Mesa Verde 71.64 56 *e*P P 20 14 37.0 -0.2
MVCO Mesa Verde 71.64 56 ⇑P P 20 14 37.5 +0.3
baz=71,SNR=8.7
P23A Jefferson 71.67 52 ⇑P P 20 14 36.4 -1.1
baz=71
M26A McRoberts Ranc 71.68 49 ⇑P P 20 14 37.4 +0.1
baz=71
L27A T5 Ranch, Ells 71.69 48 ⇑P P 20 14 37.5 +0.3
baz=71
BRSD Miller 71.72 45 *e*P P 20 14 36.1 -1.2
BRSD Miller 71.72 45 ⇓P P 20 14 36.7 -0.5
baz=71
ISRB Sarab 71.74 305 *e*P P 20 14 38.7 +1.0
IHRS Heris 71.76 306 *e*P P 20 14 38.9 +1.1
GNI Garni 71.78 309 *e*P P 20 14 40.0 +2.2
GNI Garni 71.78 309 ⇓*i*P P 20 14 40.0 +2.2
SNR=5.6
GNI Garni 71.78 309 *e*P P 20 14 40.0 +2.2
X16A Lo Mia Camp, P 71.79 59 ⇓P P 20 14 38.8 +0.7
baz=72,SNR=8.2
I30A Oacoma 71.87 45 ⇓P P 20 14 38.0 -0.1
baz=72,SNR=5.5
Q23A Hartsel 72.00 53 ⇓P P 20 14 40.2 +0.8
baz=72,SNR=9.3
IRAZ Razeghan 72.07 302 *e*P P 20 14 40.6 +0.8
S22A 4UR Ranch, Cre 72.23 54 *e*P P 20 14 36.7 -4.1
S22A 4UR Ranch, Cre 72.23 54 ⇓P P 20 14 38.4 -2.4
baz=72
K29A Lazy Trails An 72.24 47 ⇑P P 20 14 40.6 +0.1
baz=72,SNR=5.1
ANN Anapa 72.25 316 *e*P P 20 14 40.4 +0.1
ANN *e**PP pP 20 14 56.6 -0.3
ANN *e* 20 17 20.1
ANN *e*S S 20 23 56.4 -1.9
ANN pmax pmax
comp=Z,21nm,0.6s
J30A Dallas 72.26 46 ⇓P P 20 14 40.1 -0.4
baz=72
Q24A Divide 72.34 52 *e*P P 20 14 41.7 +0.3
Q24A Divide 72.34 52 ⇑P P 20 14 40.9 -0.5
baz=72
N27A Anderson Farm, 72.47 49 ⇑P P 20 14 41.0 -0.9
baz=72
R23A Moffat 72.50 53 ⇑P P 20 14 42.9 +0.6
baz=72,SNR=9.0
EYMN Ely 72.61 38 *e*P P 20 14 41.9 -0.7
OGNE Ogallala 72.64 49 *e*P P 20 14 42.9 0.0
comp=Z,32nm,0.8s
OGNE Ogallala 72.64 49 ⇓P P 20 14 43.2 +0.3
baz=72
L29A Maesberg Ranch 72.66 47 ⇑P P 20 14 42.8 -0.2
baz=72
K30A Basset 72.67 46 ⇓P P 20 14 43.0 0.0
baz=72
M28A Bar X Bar Ranc 72.67 48 ⇑P P 20 14 43.6 +0.5
baz=72
P26A Davis Ranch, A 72.91 51 ⇑P P 20 14 43.4 -1.2
baz=73
O27A Beecher Island 72.94 50 ⇓P P 20 14 42.9 -1.9
baz=73
SDCO Great Sand Dun 72.99 53 ⇓P P 20 14 45.7 +0.4
baz=73
L30A Spencer Herefo 73.14 47 ⇓P P 20 14 46.1 +0.3
baz=73
Q26A Hugo 73.27 51 ⇑P P 20 14 46.9 +0.2
baz=73
P27A Ficken Ranch, 73.34 50 ⇓P P 20 14 46.9 -0.2
baz=73
O28A Krutsinger Ran 73.36 49 ⇓P P 20 14 47.4 +0.2
baz=73
ECSD EROS Data Cent 73.39 44 *e*P P 20 14 45.9 -1.3
ECSD EROS Data Cent 73.39 44 ⇑P P 20 14 46.9 -0.3
baz=73,SNR=20
TUC Tucson 73.63 61 *e*P P 20 14 48.7 -0.2
TUC Tucson 73.63 61 *e*P P 20 14 48.7 -0.2
KSCO Kaye Shedlock' 73.70 51 ⇑P P 20 14 49.5 +0.3
baz=73
R26A Arlington 73.75 52 ⇓P P 20 14 49.4 -0.1
baz=74
GKP Gorka Klasztor 73.80 333 *e*P P 20 14 48.8 -0.5
GKP Gorka Klasztor 73.80 333 *e*P P 20 14 48.9 -0.4
T25A Trinidad 74.03 53 *e*P P 20 14 51.6 +0.2
T25A Trinidad 74.03 53 ⇑P P 20 14 51.5 +0.2
baz=74
SPMN Marine on St. 74.09 41 *e*P P 20 14 50.3 -1.0
SPMN Marine on St. 74.09 41 ⇑P P 20 14 50.8 -0.4
baz=74,SNR=6.6
R27A Eads 74.12 51 ⇓P P 20 14 51.7 0.0
baz=74
S26A Kim 74.22 52 ⇑P P 20 14 52.2 -0.1
baz=74
ISRV Sarvestan 74.22 296 *e*P P 20 14 53.4 +0.8
BGNE Belgrade 74.33 46 ⇓P P 20 14 52.3 -0.5
baz=74
N31A Bailey Ranch, 74.35 47 ⇑P P 20 14 52.5 -0.3
baz=74
LAZ Ladron 74.38 57 *e*P P 20 14 54.2 +0.8
ANMO Albuquerque 74.40 56 *e*P P 20 14 53.1 -0.4
ANMO Albuquerque 74.40 56 *e*P P 20 14 53.1 -0.4
T26A Comanche Natio 74.47 53 ⇓P P 20 14 53.8 -0.1
baz=74
R28A Tribune 74.62 51 ⇓P P 20 14 54.7 +0.1
baz=74
O31A Woolen Ranch, 74.64 48 ⇓P P 20 14 54.5 -0.1
baz=74
IDHR Dehrash 74.65 304 *e*P P 20 14 54.9 -0.1
Q29A Oakley 74.68 50 ⇓P P 20 14 55.1 +0.3
baz=74

IKAZ Kazeroun 74.75 297 *e*P P 20 14 56.5 +0.8
MVH1 Achvaich 74.89 346 *e*P P 20 14 54.6 -0.9
KWP Kalwaria Pacla 74.90 328 *e*P P 20 14 56.2 +0.4
KWP Kalwaria Pacla 74.90 328 *e*P P 20 14 56.3 +0.4
KWP Kalwaria Pacla 74.90 328 ⇑*i*P P 20 14 56.3 +0.4
R29A Marienthal 74.93 50 ⇓P P 20 14 56.2 -0.1
baz=75
Q30A Quinter 75.02 49 ⇓P P 20 14 56.7 -0.1
baz=75
T27A Campo 75.04 52 ⇑P P 20 14 57.4 +0.4
baz=75
P31A Stockton 75.08 49 ⇓P P 20 14 56.5 -0.6
baz=75
S28A Manter 75.11 51 ⇓P P 20 14 57.1 -0.3
baz=75
319A Douglas 75.20 60 ⇓P P 20 14 58.5 +0.5
baz=75,SNR=11
121A Cookes Peak, D 75.30 59 ⇓P P 20 14 59.3 +0.7
baz=75
T28A Walsh 75.33 52 ⇑P P 20 14 58.8 +0.1
baz=75
MDO Dochfour 75.38 346 *e*P P 20 14 57.7 -0.7
SCHQ Schefferville 75.41 21 P P 20 14 58.0 -0.8
comp=Z,8.1nm,0.7s,baz=355,slow=7.6,SNR=8.0
SCHQ LR LR 20 51 24.1
comp=Z,94nm,19.4s,baz=34,slow=38
SCHQ Schefferville 75.41 21 *e*P P 20 14 57.9 -0.8
comp=Z,18nm,1.2s
U27A Thompson Grove 75.44 53 ⇓P P 20 14 59.0 -0.4
baz=75
KAC Achnashellach 75.48 347 *e*P P 20 14 58.4 -0.7
OJC Ojcow 75.48 330 *e*P P 20 14 59.2 0.0
OJC Ojcow 75.48 330 *e*P P 20 14 59.1 -0.1
OJC Ojcow 75.48 330 *e*P P 20 14 59.1 -0.1
OJC Ojcow 75.48 330 *e*P P 20 14 59.1 -0.1
S29A Ulysses 75.52 51 ⇓P P 20 14 59.8 +0.1
baz=75
BUR08 Bucovina Ar. S 75.53 325 *e*P P 20 14 59.5 -0.1
BURAR Bucovina Array 75.55 325 ⇓*i*P P 20 14 59.8 +0.1
STHS Stebnicka Huta 75.62 328 *e*P P 20 15 00.4 +0.4
STHS pmax pmax
comp=Z,7.0nm,1.0s
STHS Stebnicka Huta 75.62 328 *e*P P 20 15 00.4 +0.4
KOLS Kolonicke sedl 75.63 327 *e*P P 20 14 59.9 -0.2
KOLS pmax pmax
comp=Z,9.0nm,1.1s
KOLS Kolonicke sedl 75.63 327 *e*P P 20 14 59.9 -0.2
KPL Plockton 75.69 347 *e*P P 20 15 00.0 -0.1
KPL AMB AMB 20 15 02.6
comp=Z,17nm,1.3s
TESR Tescani 75.84 324 ⇑*i*P P 20 15 01.4 +0.1
S30A Montezuma 75.86 51 ⇓P P 20 15 01.7 0.0
baz=76
UZH Uzhgorod 75.87 327 *e*P P 20 15 00.0 -1.4
UZH *e* 20 15 13.4
UZH Uzhgorod 75.87 327 *e*P P 20 15 00.0 -1.4
Q32A Meitler Ranch, 75.90 48 ⇑P P 20 15 00.8 -1.0
baz=76
TLCR 75.95 321 ⇑*i*P P 20 15 02.5 +0.6
NIE Niedzica 75.96 329 *e*P P 20 15 02.5 +0.5
NIE Niedzica 75.96 329 *e*P P 20 15 02.5 +0.5
CRVS Cervenica-Dubn 75.96 328 *e*P P 20 15 01.8 -0.2
CRVS pmax pmax
comp=Z,6.0nm,1.1s
CRVS Cervenica-Dubn 75.96 328 *e*P P 20 15 01.8 -0.2
ASUD Al Ashush, Dub 76.05 291 ⇓*i*P P 20 15 04.1 +1.2
SNR=6.0
KSP Ksiaz 76.17 332 *e*P P 20 15 02.9 -0.1
KSP Ksiaz 76.17 332 *e*P P 20 15 03.0 -0.1
TRPA Tarpa 76.19 327 ⇑*i*P P 20 15 04.0 +0.8
TRPA Tarpa 76.19 327 ⇓*e*P P 20 15 03.8 +0.6
PETR Petresti 76.22 323 ⇓*i*P P 20 15 04.8 +1.4
CFR Carcaliu 76.25 322 ⇑*i*P P 20 15 03.6 0.0
Q33A Connelly Farm, 76.27 48 ⇑P P 20 15 02.9 -1.0
baz=76,SNR=12
VRI Vrincioaia 76.31 323 ⇓*i*P P 20 15 04.6 +0.6
PLOR Plostina 76.36 323 ⇓*i*P P 20 15 05.0 +0.7
OKC Ostrava-Krasne 76.38 330 *e*P P 20 15 04.7 +0.4
OKC Ostrava-Krasne 76.38 330 *e*P P 20 15 04.7 +0.4
SCIA State Center 76.42 43 *e*P P 20 15 04.3 -0.3
MALT Malatya 76.50 311 ⇑*i*P P 20 15 06.7 +1.4
EAB Aberoyle 76.56 346 *e*P P 20 15 04.5 -0.7
DPC Dobruska-Polom 76.58 332 *e*P P 20 15 05.8 +0.3
DPC AMS AMS 20 50 40.0
DPC Dobruska-Polom 76.58 332 *e*P P 20 15 05.8 +0.3
DPC Dobruska-Polom 76.58 332 *e*P P 20 15 05.0 -0.5
MORC Moravsky Berou 76.65 331 *e*P P 20 15 05.9 0.0
MORC Moravsky Berou 76.65 331 ⇓*i*P P 20 15 05.9 0.0
MORC Moravsky Berou 76.65 331 *e*P P 20 15 05.9 0.0
KRLC Kraliky 76.65 331 *e*P P 20 15 05.7 -0.2
KRLC Kraliky 76.65 331 *e*P P 20 15 05.7 -0.2
TIRR Tirgusor 76.70 321 *e*P P 20 15 06.1 -0.1
TIRR Tirgusor 76.70 321 ⇓*i*P P 20 15 06.2 0.0
TIRR Tirgusor 76.70 321 *e*P P 20 15 06.1 0.0
R33A Olander Ranch, 76.70 49 ⇓P P 20 15 05.3 -1.0
baz=76
DOPR Dopca 76.80 324 ⇓*i*P P 20 15 07.8 +1.0
CLL Collm 76.82 334 *e*P P 20 15 06.1 -0.7
comp=Z,19nm,1.0s
CLL Collm 76.82 334 ⇑*i*P P 20 15 06.0 -0.7
comp=Z,19nm,1.0s
CLL *e*pP pP 20 15 22.0 -1.5
CLL LmV 20 52 00.0
comp=Z,100nm,18.7s
CLL Collm 76.82 334 ⇑*i*P P 20 15 06.0 -0.7
CLL *e**PP pP 20 15 22.0 -1.5
CLL pmax pmax
comp=Z,19nm,1.0s
CLL Collm 76.82 334 *i* P P 20 15 06.0 -0.7
CLL Collm 76.82 334 *e*P P 20 15 05.7 -1.1
KSU1 Kansas State U 76.83 47 ⇓P P 20 15 06.1 -0.9
baz=76
BRG Berggiesshubel 76.90 333 *e*P P 20 15 06.8 -0.4
comp=Z,3.6nm,0.7s
BRG Berggiesshubel 76.90 333 *e*P P 20 15 06.9 -0.3
comp=Z,4.0nm,0.6s
BRG Berggiesshubel 76.90 333 *e*P P 20 15 06.8 -0.4
BRG pmax pmax
comp=Z,4.0nm,0.7s
CJR Cluj-Napoca 76.92 325 ⇑*i*P P 20 15 08.7 +1.2
MLR Muntele Rosu 76.95 323 ⇑*i*P P 20 15 07.6 -0.1
PGBU Glenifferbraes 76.95 346 *e*P P 20 15 07.1 -0.3
PGBU AMB AMB 20 15 07.6
comp=Z,32nm,0.8s
ISR Istrita 76.99 323 ⇑*i*P P 20 15 08.6 +0.7
PVCC Panska Ves 77.00 333 *e*P P 20 15 07.9 +0.1
PVCC Panska Ves 77.00 333 *e*P P 20 15 07.9 +0.1
T32A Huddler Ranch, 77.03 50 ⇑P P 20 15 07.3 -0.9
baz=77
CLZ Clausthal 77.14 336 *e*P P 20 15 08.7 +0.1
comp=Z,18nm,1.4s
EKA Eskdalemuir Ar 77.16 345 P P 20 15 08.4 -0.2
comp=Z,2.8nm,0.4s,baz=17,slow=5.1,SNR=33
EKA LR LR 20 54 13.2
comp=Z,48nm,19.6s,baz=5.0,slow=40
EKA Eskdalemuir Ar 77.16 345 P P 20 15 08.4 -0.2
EKA pmax pmax
comp=Z,3.0nm,0.4s
EKA MLR MLR
comp=Z,48nm,19.7s
AMTX Amarillo 77.19 53 *e*P P 20 15 09.4 +0.2
AMTX Amarillo 77.19 53 ⇑P P 20 15 09.6 +0.3
baz=77
DRGR 77.21 326 ⇑*i*P P 20 15 09.3 +0.1
S33A Kaszmaul Farm, 77.22 49 ⇓P P 20 15 08.9 -0.4
baz=77
MSTX Muleshoe 77.23 54 *e*P P 20 15 09.9 +0.4
MSTX Muleshoe 77.23 54 ⇓P P 20 15 09.7 +0.2
baz=77
STKA Stephens Creek 77.24 187 P P 20 15 11.3 +2.2
comp=Z,1.5nm,0.8s,baz=330,slow=8.6,SNR=3.1
STKA Stephens Creek 77.24 187 P P 20 15 11.3 +2.2
STKA pmax pmax
comp=Z,2.0nm,0.8s
MSAB Monastry St. A 77.25 321 ⇓*i*P P 20 15 10.1 +0.8
VYHS Vyhne 77.27 329 *e*P P 20 15 09.7 +0.3
VYHS pmax pmax
comp=Z,9.0nm,1.4s
VYHS Vyhne 77.27 329 *e*P P 20 15 09.7 +0.3
ECK Cauldkaine Hil 77.30 345 *e*P P 20 15 08.7 -0.7
MNTX Cornudas Mount 77.33 58 *e*P P 20 15 09.7 -0.3
MNTX Cornudas Mount 77.33 58 ⇑P P 20 15 10.3 +0.3
baz=77,SNR=14
PSZ Piszkesteto 77.36 328 *e*P P 20 15 10.6 +0.6

PSZ Piszkesteto 77.36 328 ⇑*i*P P 20 15 11.1 +1.1
PSZ Piszkesteto 77.36 328 *e*P P 20 15 10.6 +0.6
PSZ Piszkesteto 77.36 328 ⇓*e*P P 20 15 10.5 +0.6
VOIR 77.36 324 ⇑*i*P P 20 15 10.7 +0.7
VRAC Vranov 77.37 331 ⇓*i*P P 20 15 10.4 +0.5
PRA Prague 77.44 332 *e*P P 20 15 10.6 +0.4
PRA MLR MLR
comp=Z,200nm,24.3s
GOPC GO Pecny, Ondr 77.46 332 *e*P P 20 15 10.6 +0.2
GOPC AMS AMS 20 53 10.0
comp=Z,200nm,24.3s
IBBN Ibbenburen 77.46 337 *e*P P 20 15 10.1 -0.2
comp=Z,12nm,0.6s
SULR 77.46 323 ⇑*i*P P 20 15 10.7 +0.2
T33A Patterson Ranc 77.47 50 ⇑P P 20 15 11.1 +0.5
baz=77
PRU Pruhonice 77.48 332 *e*P P 20 15 10.4 -0.1
PRU AMS AMS 20 53 10.0
comp=Z,100nm,19.2s
PRU Pruhonice 77.48 332 *e*P P 20 15 10.4 -0.1
PRU MLR MLR
comp=Z,100nm,19.2s
PRU Pruhonice 77.48 332 *e*P P 20 15 10.4 -0.1
X29A Tulia 77.50 54 ⇑P P 20 15 11.7 +0.7
baz=77
V31A Spring Creek L 77.57 51 ⇓P P 20 15 12.1 +0.8
baz=77
U32A Winter Ranch, 77.58 51 ⇑P P 20 15 11.7 +0.3
baz=77
ARR Arges 77.59 324 ⇓*i*P P 20 15 12.5 +1.2
TREC Trest 77.76 331 AMS AMS 20 53 30.0
comp=Z,100nm,19.5s
TANN Tannenbergstha 77.77 334 *e*P P 20 15 11.7 -0.5
comp=Z,3.0nm,0.8s
MOX Moxa 77.83 334 *e*P P 20 15 12.2 -0.2
comp=Z,12nm,1.3s
MOX *e*L L 20 52 12.4
comp=Z,131nm,20.4s
KESW Keswick, Cumbr 77.86 344 *e*P P 20 15 12.2 -0.3
KESW AMB AMB 20 15 13.9
comp=Z,53nm,1.8s
GAL1 Galloway 77.89 345 *e*P P 20 15 11.9 -0.8
GAL1 AMB AMB 20 15 18.9
comp=Z,26nm,2.7s
BR131 Keskin Array S 77.91 315 *e*P P 20 15 13.4 +0.1
comp=Z,5.0nm,0.8s
BRTR Keskin Array B 77.91 315 P P 20 15 13.7 +0.5
comp=Z,4.3nm,0.7s,baz=95,slow=3.6,SNR=33
BRTR LR LR 20 55 43.3
comp=Z,40nm,18.9s,baz=64,slow=40
BRTR Keskin Array B 77.91 315 P P 20 15 13.7 +0.5
BRTR pmax pmax
comp=Z,4.0nm,0.7s
BRTR MLR MLR
comp=Z,40nm,18.9s
W31A Holland Ranch, 77.94 52 ⇑P P 20 15 13.4 +0.1
baz=78
Z28A Tucker Farm, M 77.94 55 ⇑P P 20 15 13.2 -0.3
baz=78
R36A Gordon, Harris 77.99 47 ⇑P P 20 15 13.0 -0.5
baz=78,SNR=5.6
U33A Lingo Farm, Me 78.02 50 ⇓P P 20 15 13.6 -0.1
baz=78
WTSB Winterswijk 78.03 338 *e*P P 20 15 13.1 -0.4
comp=Z,15nm,0.6s
V32A Arapaho 78.04 51 ⇑P P 20 15 14.7 +0.7
baz=78
S35A Otter Creek Ra 78.05 48 ⇓P P 20 15 13.1 -0.7
baz=78
T34A McClaskey Farm 78.08 49 ⇑P P 20 15 13.4 -0.7
baz=78
UBBA Unterbreizbach 78.16 335 *e*P P 20 15 13.7 -0.4
comp=Z,3.0nm,0.6s
HPK Haverah Park 78.16 343 *e*P P 20 15 14.1 -0.1
HPK AMB AMB 20 15 14.5
comp=Z,79nm,1.9s
ANTO Ankara 78.22 316 *e*P P 20 15 16.0 +1.2
ANTO Ankara 78.22 316 *e*P P 20 15 16.0 +1.2
BR231 Keskin MP Arra 78.25 316 *e*P P 20 15 14.3 -0.8
X31A McDonald Ranch 78.33 52 ⇑P P 20 15 15.7 +0.2
baz=78
U34A Anderson Ranch 78.33 50 *e*P P 20 15 15.4 -0.1
U34A Anderson Ranch 78.33 50 ⇓P P 20 15 15.5 +0.1
baz=78
GZR Gura Zlata 78.33 325 ⇑*i*P P 20 15 15.2 -0.2
R37A Teagarden Farm 78.34 47 ⇑P P 20 15 14.8 -0.6
baz=78
Z29A Hungry Hill Ra 78.35 54 ⇓P P 20 15 16.2 +0.4
baz=78,SNR=8.2
PKSG 78.36 329 ⇓*e*P P 20 15 15.9 +0.5
PKS7 Kunszentmiklos 78.36 328 ⇓*e*P P 20 15 16.8 +1.4
128A Castleberry Fa 78.37 55 ⇑P P 20 15 16.4 +0.5
baz=78,SNR=8.7
W32A Sentinel 78.37 52 ⇑P P 20 15 16.3 +0.6
baz=78,SNR=5.0
BUG Bochum--Univer 78.38 337 *e*P P 20 15 15.1 -0.3
comp=Z,15nm,1.0s
V33A Lossen Ranch, 78.38 50 ⇓P P 20 15 15.4 -0.4
baz=78
S36A Lake Cedric, C 78.39 48 ⇓P P 20 15 15.3 -0.4
baz=78,SNR=12
ROTZ Rotzenmuhle 78.42 334 *e*P P 20 15 16.0 +0.3
comp=Z,7.0nm,0.8s
CSKK Cs´ákako 78.43 329 *e*P P 20 15 16.4 +0.6
T35A Sooner Cattle 78.52 49 ⇓P P 20 15 16.4 -0.1
baz=78
KHC Kasperske Hory 78.53 333 *e*P P 20 15 15.6 -0.8
KHC *e*pP pP 20 15 29.3 -3.9
KHC AMS AMS 20 51 30.0
comp=Z,100nm,23.3s
KHC Kasperske Hory 78.53 333 *e*P P 20 15 15.6 -0.8
KHC *e* 20 15 29.3
KHC MLR MLR
comp=Z,100nm,23.3s
KHC Kasperske Hory 78.53 333 *e*P P 20 15 15.6 -0.8
LHO Holmfirth 78.60 343 *e*P P 20 15 16.0 -0.6
PKST T''s 78.60 329 ⇓*e*P P 20 15 16.9 +0.1
BZS Buzias 78.61 326 ⇓*i*P P 20 15 16.7 -0.1
Y31A Rekieta Farm, 78.66 53 ⇓P P 20 15 17.4 +0.1
baz=78
Z30A Sanderson Ranc 78.67 54 ⇓P P 20 15 17.4 0.0
baz=78,SNR=14
228A UT Block 9, Go 78.67 56 ⇑P P 20 15 18.0 +0.5
baz=78
GMM Mts of Mourne 78.71 346 *e*P P 20 15 16.1 -1.0
129A Stewart Farms, 78.72 55 ⇓P P 20 15 17.9 +0.2
baz=78
GEC2 GERESS Array S 78.74 332 *e*P P 20 15 17.3 -0.4
comp=Z,7.0nm,0.7s
GERES GERESS Array B 78.74 332 P P 20 15 17.2 -0.4
comp=Z,5.9nm,0.5s,baz=36,slow=5.8,SNR=90
GERES LR LR 20 54 25.6
comp=Z,119nm,19.5s,baz=26,slow=39
GERES GERESS Array B 78.74 332 P P 20 15 17.2 -0.4
GERES pmax pmax
comp=Z,6.0nm,0.5s
GERES MLR MLR
comp=Z,119nm,19.5s
T36A Boggs Farm, Ca 78.74 48 ⇓P P 20 15 17.7 0.0
baz=78
WET Wettzell 78.75 333 *e*P P 20 15 18.0 +0.4
comp=Z,16nm,1.0s
GRF Grafenberg Arr 78.79 334 *e*P P 20 15 18.0 +0.3
comp=Z,20nm,0.9s
GRF *e*L L 20 52 52.3
comp=Z,121nm,20.6s
GRFO Grafenberg 78.79 334 *e*P P 20 15 18.0 +0.3
GRFO Grafenberg 78.79 334 *e*P P 20 15 17.4 -0.3
GRFO Grafenberg 78.79 334 *e*P P 20 15 17.4 -0.3
CONA Conrad Observa 78.80 331 *i* P P 20 15 18.6 +0.7
comp=Z,12nm,0.6s,SNR=10.0
X32A Elmer 78.87 52 ⇓P P 20 15 18.4 -0.1
baz=79
WMOK Wichita Mounta 78.92 51 *e*P P 20 15 17.9 -0.8
WMOK Wichita Mounta 78.92 51 *e*P P 20 15 17.9 -0.8
PKS9 Tamasi 79.08 328 ⇑*e*P P 20 15 19.1 -0.3
Y32A R-V Farms, Ver 79.09 52 ⇓P P 20 15 19.5 -0.2
baz=79
TNS Taunus Mts 79.14 336 *e*P P 20 15 19.5 -0.2
comp=Z,9.0nm,0.7s
Z31A Sharp Cattle R 79.20 53 ⇑P P 20 15 20.3 0.0
baz=79,SNR=8.4
X33A Lawton 79.22 51 ⇑P P 20 15 21.6 +1.3
baz=79
229A Bryant Ranch, 79.24 55 ⇓P P 20 15 20.9 +0.3
baz=79

PKSM **Moragy** 79.26 328⇓*iP* P 20 15 19.6 -0.8
PKSM **Moragy** 79.26 328⇓*eP* P 20 15 19.8 -0.6
130A **Snyder** 79.26 54 ⇑P P 20 15 20.6 -0.1
baz=79
HDIL **Hopedale** 79.33 42 *eP* P 20 15 19.9 -1.0
comp=Z,181nm,0.4s
HGN **Heimansgroeve** 79.35 338 *eP* P 20 15 20.4 -0.3
comp=Z,10nm,0.7s
BEBN **Eben Emael** 79.39 338 P P 20 15 20.9 0.0
comp=Z,5.4nm,0.8s
MOA **Molln** 79.42 331⇑*iP* P 20 15 21.4 +0.1
comp=Z,6.7nm,0.8s
MEM **Membach** 79.47 338 P P 20 15 21.3 -0.1
comp=Z,8.3nm,1.0s
MEM **Membach** 79.47 338 *eP* P 20 15 21.8 +0.4
MEM **Membach** 79.47 338 *eP* P 20 15 21.8 +0.4
329A **Wagon Wheel Ra** 79.49 56 ⇓P P 20 15 22.2 +0.3
baz=79,SNR=7.3
ARSA **Arzberg** 79.50 330⇑*iP* P 20 15 21.7 0.0
comp=Z,3.9nm,0.7s
131A **Roby** 79.54 54 ⇑P P 20 15 22.0 -0.2
baz=79
X34A **Smith Ranch, M** 79.54 51 ⇓P P 20 15 22.5 +0.4
baz=79
Y33A **Hilltop Ranch,** 79.54 52 ⇓P P 20 15 21.5 -0.7
baz=79,SNR=6.4
Z32A **Haskell** 79.58 53 ⇑P P 20 15 22.1 -0.3
baz=79
W35A **Tecumseh** 79.65 50 ⇑P P 20 15 22.6 -0.1
baz=79
TUL1 **Leonard** 79.66 49 *eP* P 20 15 22.3 -0.3
TUL1 **Leonard** 79.66 49 ⇑P P 20 15 22.4 -0.3
baz=79
230A **Sterling City** 79.70 55 ⇓P P 20 15 22.9 -0.2
baz=80
BCLA **Clavier** 79.83 338 P P 20 15 23.0 -0.3
comp=Z,8.6nm,1.1s
ABTX **Abilene, Hawle** 80.00 53 *eP* P 20 15 23.8 -0.9
comp=Z,4.8nm,0.8s
ABTX **Abilene, Hawle** 80.00 53 ⇓P P 20 15 24.9 +0.2
baz=80
Z33A **Whitaker Ranch** 80.00 52 ⇑P P 20 15 24.8 +0.1
baz=80
RJOB **Jochberg** 80.00 332 *eP* P 20 15 24.8 +0.3
comp=Z,10.0nm,1.0s
W36A **Wetumka** 80.01 50 ⇓P P 20 15 24.4 -0.2
baz=80
330A **Mertzon** 80.01 55 ⇓P P 20 15 24.4 -0.4
baz=80,SNR=7.6
SNF **Seneffe** 80.01 339 P P 20 15 24.0 -0.3
TXAR **Lajitas Array** 80.05 58 P P 20 15 25.1 0.0
comp=Z,13nm,0.5s,baz=299,slow=4.2,SNR=103
TXAR **Lajitas Array** 80.05 58 P P 20 15 25.1 0.0
TXAR pmax pmax
comp=Z,13nm,0.5s
Y34A **Reagan Ranch,** 80.06 51 ⇑P P 20 15 24.9 0.0
baz=80
FUR **Furstenfeldbru** 80.12 333 *eP* P 20 15 25.1 +0.1
comp=Z,17nm,0.9s
231A **Bronte** 80.12 54 ⇓P P 20 15 25.4 0.0
baz=80,SNR=5.9
X35A **Drake** 80.16 51 ⇑P P 20 15 25.1 -0.4
baz=80
429A **Davenport Ranc** 80.17 56 ⇓P P 20 15 25.2 -0.5
baz=80,SNR=6.2
SOKA **Soboth** 80.17 330⇓*iP* P 20 15 25.3 -0.1
comp=Z,11nm,0.7s,SNR=12
SLBS **Sierra La Lagu** 80.17 66 *eP* P 20 15 26.5 +0.7
PERS **Pernice** 80.17 330 *iP* P 20 15 25.2 -0.2
GROS **Grobnik** 80.19 330 *iP* P 20 15 25.1 -0.4
GIVF **Givet** 80.25 338 *eP* P 20 15 25.1 -0.5
GIVF **Givet** 80.25 338 *eP* P 20 15 25.1 -0.5
GIVF **Givet** 80.25 338 *eP* P 20 15 25.1 -0.5
KDZ **Kurdzhali** 80.26 321⇓*iP* P 20 15 27.0 +1.1
MCH1 **Michaelchurch** 80.29 343 *eP* P 20 15 25.5 -0.3
MCH1 AMB AMB 20 15 26.6
comp=Z,22nm,0.9s
DOU **Dourbes** 80.31 338 P P 20 15 25.5 -0.5
529A **Stev Forest Ra** 80.34 57 ⇓P P 20 15 26.4 -0.2
baz=80,SNR=9.1
X36A **Centrahoma** 80.37 50 ⇓P P 20 15 26.5 -0.1
baz=80
LPW **Lampeter** 80.39 344 *eP* P 20 15 26.2 -0.2
LPW AMB AMB 20 15 31.4
comp=Z,31nm,1.9s
KBA **Koelnbreinsper** 80.40 332⇑*iP* P 20 15 27.3 +0.6
comp=Z,29nm,0.9s,SNR=12
MONM **Monmouth** 80.40 343 *eP* P 20 15 26.2 -0.2
MONM AMB AMB 20 15 30.7
comp=Z,32nm,2.3s
Z34A **Collier Ranch,** 80.41 52 ⇑P P 20 15 26.5 -0.4
baz=80
133A **Hamilton Ranch** 80.42 53 ⇓P P 20 15 27.0 +0.1
baz=80
430A **Baggett Ranch,** 80.43 56 ⇓P P 20 15 26.8 -0.3
baz=80,SNR=15
W37A **Quinton** 80.44 49 ⇑P P 20 15 26.8 -0.1
baz=80,SNR=5.9
BAIF **Baives** 80.44 338⇑*iP* P 20 15 26.2 -0.5
comp=Z,11nm,0.7s
BAIF **Baives** 80.44 338⇑*iP* P 20 15 26.2 -0.5
BAIF pmax pmax
comp=Z,11nm,0.7s
BAIF **Baives** 80.44 338⇑*iP* P 20 15 26.2 -0.5
comp=Z,11nm,0.7s
VTS **Vitosha** 80.45 323⇓*iP* P 20 15 27.4 +0.3
OBKA **Obir** 80.48 331⇑*iP* P 20 15 26.6 -0.5
comp=Z,6.5nm,0.6s
SFIN **Lafayette** 80.50 41 ⇓P P 20 15 27.0 -0.1
baz=80
DIVS **Divibare** 80.52 326⇓*iP* P 20 15 26.7 -0.6
331A **San Angelo** 80.52 55 ⇓P P 20 15 27.2 -0.3
baz=80,SNR=5.3
232A **Coleman** 80.54 54 ⇓P P 20 15 27.4 -0.2
baz=80,SNR=15
WOL **Wolverton** 80.57 342 *eP* P 20 15 26.9 -0.5
WOL AMB AMB 20 15 27.8
comp=Z,63nm,2.0s
ALN **Alexandroupoli** 80.59 320 *eP* P 20 15 26.5 -1.1
WATA **Walderalm** 80.75 333⇓*iP* P 20 15 28.7 +0.1
comp=Z,16nm,0.5s,SNR=20
WTTA **Wattenberg** 80.80 333 *iP* P 20 15 29.3 +0.4
comp=Z,25nm,0.5s,SNR=17
Z35A **Perchaven, San** 80.81 51 ⇓P P 20 15 29.2 +0.2
baz=80
530A **J-C Ranch, Com** 80.84 56 ⇓P P 20 15 29.4 +0.1
baz=81,SNR=11
332A **Millersview** 80.86 54 ⇓P P 20 15 29.4 +0.1
baz=81,SNR=5.7
BFO **Black Forest** 80.87 335 P P 20 15 28.3 -0.8
comp=Z,58nm,0.7s,SNR=6.4
BFO **Black Forest** 80.87 335 *eP* P 20 15 28.6 -0.5
comp=Z,9.0nm,1.0s
BFO **Black Forest** 80.87 335 *eP* P 20 15 28.4 -0.7
BFO pmax pmax
comp=Z,8.0nm,0.8s
BFO **Black Forest** 80.87 335 *eP* P 20 15 28.4 -0.7
comp=Z,7.9nm,0.8s
431A **Sonora** 80.88 55 ⇓P P 20 15 29.2 -0.2
baz=81,SNR=7.5
RETA **Reutte** 80.88 333⇑*iP* P 20 15 29.2 0.0
comp=Z,14nm,1.2s
X37A **Clayton** 80.88 49 ⇓P P 20 15 29.1 -0.2
baz=81
MOTA **Moosalm** 80.90 333⇑*iP* P 20 15 29.3 -0.1
comp=Z,8.2nm,0.5s,SNR=15
ABTA **Abfaltersbach** 80.96 332⇑*iP* P 20 15 29.6 0.0
comp=Z,8.7nm,1.2s
W38A **Poteau** 80.97 49 ⇑P P 20 15 29.8 0.0
baz=81,SNR=5.2
VISS **Visnje** 80.99 330 *iP* P 20 15 29.0 -0.7
MMB **Musomiste** 81.05 322⇑*iP* P 20 15 30.5 +0.4
BOJS **Bojanci** 81.10 330 *iP* P 20 15 29.8 -0.5
CDF **Champ du Feu** 81.11 336⇑*iP* P 20 15 29.9 -0.5
comp=Z,16nm,0.8s
CDF **Champ du Feu** 81.11 336⇑*iP* P 20 15 29.9 -0.5
CDF pmax pmax
comp=Z,16nm,0.8s
CDF **Champ du Feu** 81.11 336⇑*iP* P 20 15 29.9 -0.5
comp=Z,16nm,0.8s
SMTH **Samothraki Isl** 81.16 320 *eP* P 20 15 29.9 -0.8
JAVS **Javornik** 81.18 331 *iP* P 20 15 29.5 -1.3
NVR **Nevrokopi** 81.19 322 *eP* P 20 15 31.1 +0.2
KAVA **Kavala** 81.19 321 *eP* P 20 15 29.6 -1.2
432A **Menard** 81.20 55 ⇑P P 20 15 31.4 +0.2
baz=81,SNR=5.6
531A **Rocksprings** 81.29 56 ⇓P P 20 15 31.6 -0.1
baz=81,SNR=10.0
135A **Vickery Place,** 81.30 52 ⇑P P 20 15 31.6 0.0
baz=81
FETA **Feichten** 81.30 333⇑*iP* P 20 15 31.6 +0.1
comp=Z,8.6nm,1.0s
ECH **Echery** 81.32 336 *eP* P 20 15 30.8 -0.6
ECH pmax pmax
comp=Z,8.0nm,0.8s
ECH **Echery** 81.32 336 *eP* P 20 15 30.8 -0.6
comp=Z,7.7nm,0.8s
333A **Richland Sprin** 81.33 54 ⇓P P 20 15 31.5 -0.3
baz=81,SNR=6.5
DAVA **Damuels** 81.33 334⇑*iP* P 20 15 31.6 -0.1
comp=Z,7.7nm,0.6s
HEX **Exmoor** 81.34 344 *eP* P 20 15 31.3 -0.1
OLIL **Olney** 81.34 42 *eP* P 20 15 31.7 +0.1
PAGF **Fort de Pagny** 81.41 337⇑*iP* P 20 15 31.9 0.0
comp=Z,7.9nm,0.6s
PAGF **Fort de Pagny** 81.41 337⇑*iP* P 20 15 31.9 0.0
comp=Z,7.9nm,0.6s
JCT **Junction City** 81.49 55 *eP* P 20 15 32.3 -0.4
JCT **Junction City** 81.49 55 *eP* P 20 15 32.3 -0.4
JCT **Junction City** 81.49 55 ⇓P P 20 15 32.9 +0.2
baz=81
SRS **Serrai** 81.49 322 *eP* P 20 15 33.0 +0.5
HTL **Hartland** 81.54 344 *eP* P 20 15 31.8 -0.7
MEZF **Maizieres J'vi** 81.65 337⇑*iP* P 20 15 33.1 0.0
comp=Z,22nm,0.7s
MEZF **Maizieres J'vi** 81.65 337⇑*iP* P 20 15 33.1 0.0
comp=Z,22nm,0.7s
532A **Rocksprings** 81.69 55 ⇑P P 20 15 33.4 -0.4
baz=82,SNR=16
WHTX **Lake Whitney,** 81.70 52 ⇓P P 20 15 33.5 -0.1
baz=81
CSS **Prodhromos** 81.71 312 *eP* P 20 15 33.1 -0.6
CSS **Prodhromos** 81.71 312 *eP* P 20 15 33.7 -0.1
BLO **Bloomington** 81.73 41 *eP* P 20 15 32.5 -1.2
BLO **Bloomington** 81.73 41 *eP* P 20 15 32.5 -1.2
HAU **Haudompre** 81.74 336 *eP* P 20 15 33.0 -0.6
comp=Z,9.9nm,0.8s
HAU *eR*
comp=Z,132nm,21.2s
HAU **Haudompre** 81.74 336 *eP* P 20 15 33.0 -0.6
HAU pmax pmax
comp=Z,10.0nm,0.8s
HAU **Haudompre** 81.74 336 *eP* P 20 15 33.0 -0.6
comp=Z,9.9nm,0.8s
PBMO **Poplar Bluff** 81.75 45 *eP* P 20 15 33.5 -0.4
334A **Lometa** 81.75 53 ⇓P P 20 15 34.1 +0.1
baz=82,SNR=6.1
KNT **Kendrikon** 81.76 323 *eP* P 20 15 33.4 -0.4
UDBI **Udbina** 81.76 329 P P 20 15 33.0 -0.8
LIA **Limnos Island** 81.78 320 *eP* P 20 15 34.0 0.0
Z37A **Pogue Cattle C** 81.80 51 ⇑P P 20 15 34.3 +0.1
baz=82
631A **Perdido Creek** 81.83 56 ⇓P P 20 15 34.2 -0.2
baz=82,SNR=38
MIAR **Mount Ida** 81.87 48 *eP* P 20 15 33.9 -0.7
MIAR pmax pmax
comp=Z,17nm,0.7s
MIAR **Mount Ida** 81.87 48 *eP* P 20 15 33.9 -0.7
comp=Z,17nm,0.7s
SFTF **Sexfontaines** 81.92 337⇑*iP* P 20 15 34.3 -0.3
comp=Z,47nm,0.8s
SFTF **Sexfontaines** 81.92 337⇑*iP* P 20 15 34.3 -0.3
comp=Z,47nm,0.8s
DYA **Yadsworthy** 81.96 344 *eP* P 20 15 34.1 -0.6
DYA AMB AMB 20 15 34.8
comp=Z,54nm,1.3s
OUR **Ouranopolis** 81.96 321 *eP* P 20 15 33.4 -1.5
NVLJ **Novalja** 82.05 329 P P 20 15 34.0 -1.2
434A **Burnet** 82.12 54 ⇑P P 20 15 35.9 -0.1
baz=82
HORT **Hortiatis** 82.13 322 *eP* P 20 15 35.0 -0.9
PMOR **Pomariorio Ree** 82.14 120 *eT* T 21 45 54.9
comp=Z,21nm,0.2s
GRG **Griva** 82.14 323 *eP* P 20 15 34.5 -1.4
PLG **Polygyros** 82.17 322 *eP* P 20 15 35.6 -0.4
632A **Uvalde** 82.22 56 ⇑P P 20 15 36.3 -0.2
baz=82
TUE **Stuetta** 82.23 334 P P 20 15 36.0 -0.5
533A **Kerrville** 82.24 55 ⇑P P 20 15 36.6 0.0
baz=82,SNR=5.9
PAIG **Paiouri** 82.43 321 *eP* P 20 15 36.8 -0.6
534A **Blanco** 82.59 54 ⇑P P 20 15 37.7 -0.7
baz=82,SNR=6.3
WCI **Wyandotte Cave** 82.59 41 *eP* P 20 15 36.4 -1.9
WCI **Wyandotte Cave** 82.59 41 *eP* P 20 15 36.4 -1.9
CHOS **Chios island** 82.61 319 *eP* P 20 15 38.2 -0.2
633A **Saathoff Ranch** 82.61 55 ⇓P P 20 15 39.4 +0.9
baz=82
732A **Laxson Ranch,** 82.69 56 ⇑P P 20 15 39.3 +0.4
baz=82,SNR=5.9
FNA **Florina** 82.72 323 *eP* P 20 15 37.5 -1.4
JSA **Saint Aubin** 82.78 342 *eP* P 20 15 38.3 -0.6
JSA AMB AMB 20 15 39.3
comp=Z,29nm,1.0s
FLN **La Foliniere** 82.80 341⇑*iP* P 20 15 38.8 -0.3
comp=Z,39nm,0.8s
FLN *eR*
comp=Z,93nm,17.5s
FLN **La Foliniere** 82.80 341⇑*iP* P 20 15 38.8 -0.3
FLN pmax pmax
comp=Z,39nm,0.8s
FLN **La Foliniere** 82.80 341⇑*iP* P 20 15 38.8 -0.3
comp=Z,39nm,0.8s
LDF **La Druitiere** 82.87 341⇑*iP* P 20 15 39.0 -0.5
comp=Z,22nm,0.7s
LDF **La Druitiere** 82.87 341⇑*iP* P 20 15 39.0 -0.5
LDF pmax pmax
comp=Z,22nm,0.7s
LDF **La Druitiere** 82.87 341⇑*iP* P 20 15 39.0 -0.5
comp=Z,22nm,0.7s
SENIN **Lac Senin/Sane** 82.95 335 *eP* P 20 15 40.3 +0.1
AOS **Alonnisos** 82.96 321 *eP* P 20 15 39.8 -0.3
832A **Faith Ranch, C** 83.02 57 ⇑P P 20 15 41.0 +0.3
baz=83,SNR=5.6
CABF **La Chapelle** 83.08 336⇑*iP* P 20 15 40.5 -0.2
comp=Z,8.8nm,0.8s
CABF **La Chapelle** 83.08 336⇑*iP* P 20 15 40.5 -0.2
CABF pmax pmax
comp=Z,9.0nm,0.8s
CABF **La Chapelle** 83.08 336⇑*iP* P 20 15 40.5 -0.2
comp=Z,8.8nm,0.8s
733A **Divot King Ran** 83.09 56 ⇑P P 20 15 41.4 +0.4
baz=83
LOR **Lormes** 83.10 338⇑*iP* P 20 15 40.4 -0.3
comp=Z,21nm,0.6s
LOR *eR*
comp=Z,188nm,22.5s
LOR **Lormes** 83.10 338⇑*iP* P 20 15 40.4 -0.3
LOR pmax pmax
comp=Z,21nm,0.6s
LOR **Lormes** 83.10 338⇑*iP* P 20 15 40.4 -0.3
comp=Z,21nm,0.6s
XOR **Xorichti** 83.11 321 *eP* P 20 15 40.1 -0.8
PPT **Papeete** 83.12 123 LR LR 20 46 41.3
comp=Z,46nm,19.6s,baz=332,slow=31
NEO **Neokhori** 83.14 321 *eP* P 20 15 39.9 -1.2
PPT2 **Papeete2** 83.14 123 *eLR* LR 20 41 41.0
comp=Z,93nm,24.8s
PPT2 **Papeete2** 83.14 123 *eT* T 21 47 15.5
comp=Z,6.2nm,0.3s
634A **China Grove, S** 83.15 55 ⇑P P 20 15 41.6 +0.3
baz=83
SKIA **Skiathos** 83.15 321 *eP* P 20 15 37.6 -3.5
NEST **Nestorio** 83.16 323 *eP* P 20 15 40.3 -1.0
RAYN **Ar Rayn** 83.17 297 P P 20 15 42.9 +1.4
comp=Z,42nm,0.9s,SNR=5.9
RAYN **Ar Rayn** 83.17 297 *eP* P 20 15 41.9 +0.3
PAE **Paea** 83.19 123 *eT* T 21 47 16.5
comp=Z,2.9nm,0.3s
GRR **Gorron** 83.24 341⇑*iP* P 20 15 41.3 -0.1
comp=Z,43nm,0.6s
GRR **Gorron** 83.24 341⇑*iP* P 20 15 41.3 -0.1
GRR pmax pmax
comp=Z,43nm,0.6s
GRR **Gorron** 83.24 341⇑*iP* P 20 15 41.3 -0.1
comp=Z,43nm,0.6s
SSF **Saint Saulge** 83.38 338⇑*iP* P 20 15 41.9 -0.3
comp=Z,27nm,0.9s
SSF **Saint Saulge** 83.38 338⇑*iP* P 20 15 41.9 -0.3
SSF pmax pmax
comp=Z,27nm,0.9s
SSF **Saint Saulge** 83.38 338⇑*iP* P 20 15 41.9 -0.3
comp=Z,27nm,0.9s
HYF **Humbligny** 83.42 338 *eP* P 20 15 42.5 +0.1
HYF **Humbligny** 83.42 338 *eP* P 20 15 42.5 +0.1
THL **Klokotos Trika** 83.45 322 *eP* P 20 15 41.0 -1.7
MRKA **Markates** 83.47 321 *eP* P 20 15 42.2 -0.6
SMIA **Simia** 83.50 321 *eP* P 20 15 41.2 -1.8
WVT **Waverly** 83.54 44 *eP* P 20 15 42.4 -0.8
WVT pmax pmax
comp=Z,10.0nm,0.8s
WVT **Waverly** 83.54 44 *eP* P 20 15 42.4 -0.8
comp=Z,10nm,0.8s
AVF **Avril sur Loir** 83.67 338⇑*iP* P 20 15 43.5 -0.2
comp=Z,15nm,0.6s
AVF **Avril sur Loir** 83.67 338⇑*iP* P 20 15 43.5 -0.2
AVF pmax pmax
comp=Z,15nm,0.6s
AVF **Avril sur Loir** 83.67 338⇑*iP* P 20 15 43.5 -0.2
comp=Z,15nm,0.6s
SMF **Signal de Mont** 83.68 337⇑*iP* P 20 15 43.5 -0.2
comp=Z,34nm,0.8s
SMF **Signal de Mont** 83.68 337⇑*iP* P 20 15 43.5 -0.2
SMF pmax pmax
comp=Z,34nm,0.8s
SMF **Signal de Mont** 83.68 337⇑*iP* P 20 15 43.5 -0.2
comp=Z,34nm,0.8s
SGMF **Saint Gilles** 83.74 342⇑*iP* P 20 15 44.0 0.0
comp=Z,40nm,0.7s
SGMF **Saint Gilles** 83.74 342⇑*iP* P 20 15 44.0 0.0
SGMF pmax pmax
comp=Z,40nm,0.7s
SGMF **Saint Gilles** 83.74 342⇑*iP* P 20 15 44.0 0.0
comp=Z,40nm,0.7s
636A **Smothers Creek** 83.81 54 ⇓P P 20 15 45.8 +1.1
baz=84
ROSF **Rostrenen** 83.82 342⇑*iP* P 20 15 44.4 0.0
comp=Z,48nm,1.0s
ROSF **Rostrenen** 83.82 342⇑*iP* P 20 15 44.4 0.0
ROSF pmax pmax
comp=Z,49nm,1.0s
ROSF **Rostrenen** 83.82 342⇑*iP* P 20 15 44.4 0.0
comp=Z,48nm,1.0s
AXAR **Agios Charalam** 83.83 321 *eP* P 20 15 42.1 -2.6
735A **Kenedy** 83.85 55 ⇓P P 20 15 46.2 +1.3
baz=84
MAKR **Makrakomi, Fth** 83.86 322 *eP* P 20 15 43.1 -1.7
LPL **La Plagne** 83.88 335⇑*iP* P 20 15 45.3 +0.2
comp=Z,20nm,0.8s
LPL **La Plagne** 83.88 335⇑*iP* P 20 15 45.3 +0.2
LPL pmax pmax
comp=Z,20nm,0.8s
LPL **La Plagne** 83.88 335⇑*iP* P 20 15 45.3 +0.2
comp=Z,20nm,0.8s
LPG **La Plagne** 83.89 335⇑*iP* P 20 15 45.5 +0.3
comp=Z,24nm,0.8s
LPG **La Plagne** 83.89 335⇑*iP* P 20 15 45.5 +0.3
LPG pmax pmax
comp=Z,24nm,0.8s
LPG **La Plagne** 83.89 335⇑*iP* P 20 15 45.5 +0.3
comp=Z,24nm,0.8s
933A **Laredo** 83.93 57 ⇑P P 20 15 46.4 +1.1
baz=84,SNR=10.0
834A **Tilden** 83.97 56 ⇓P P 20 15 46.8 +1.3
baz=84
DSF **Desfina** 84.18 321 *eP* P 20 15 44.9 -1.6
QUIF **Quistinic** 84.20 342 *eP* P 20 15 46.1 -0.2
comp=Z,26nm,1.0s
QUIF **Quistinic** 84.20 342 *eP* P 20 15 46.1 -0.2
QUIF pmax pmax
comp=Z,26nm,1.0s
QUIF **Quistinic** 84.20 342 *eP* P 20 15 46.1 -0.2
comp=Z,26nm,1.0s
IGT **Igoumenitsa** 84.20 323 *eP* P 20 15 45.4 -1.1
736A **Circle Diamond** 84.20 54 ⇓P P 20 15 48.4 +1.8
baz=84
MEH **Mehetia** 84.26 122 *eT* T 21 48 39.1
comp=Z,30nm,0.3s
BNI **Bardonecchia** 84.32 335 *eP* P 20 15 46.8 -0.4
BNI **Bardonecchia** 84.32 335 *eP* P 20 15 46.8 -0.4
KARP **Karpathos** 84.37 317 *eP* P 20 15 46.7 -0.8
KALE **Kalithea** 84.37 321 *eP* P 20 15 46.3 -1.2
TCF **Toulx Ste Croi** 84.44 338⇑*iP* P 20 15 47.7 +0.1
comp=Z,19nm,0.9s
TCF **Toulx Ste Croi** 84.44 338⇑*iP* P 20 15 47.7 +0.1
TCF pmax pmax
comp=Z,19nm,0.9s
TCF **Toulx Ste Croi** 84.44 338⇑*iP* P 20 15 47.7 +0.1
comp=Z,19nm,0.9s
EFP **Efpalio** 84.44 322 *eP* P 20 15 47.4 -0.3
AQU **L'Aquila** 84.50 329 *eP* P 20 15 48.2 +0.2
AQU **L'Aquila** 84.50 329 *eP* P 20 15 48.2 +0.2
MBDF **Montbardon** 84.59 335 *eP* P 20 15 48.1 -0.5
comp=Z,13nm,0.7s
MBDF **Montbardon** 84.59 335 *eP* P 20 15 48.1 -0.5
MBDF pmax pmax
comp=Z,13nm,0.7s
MBDF **Montbardon** 84.59 335 *eP* P 20 15 48.1 -0.5
comp=Z,13nm,0.7s
DID **Didima** 84.61 320 *eP* P 20 15 45.6 -3.1
PDO **Prodromos** 84.62 322 *eP* P 20 15 47.8 -0.8
KLV **Kalavryta, Ach** 84.66 321 *eP* P 20 15 47.5 -1.4
GUR **Goura** 84.66 321 *eP* P 20 15 47.5 -1.5
ORIF **Oris-en-Rattie** 84.68 335⇑*iP* P 20 15 49.2 +0.3
comp=Z,19nm,0.6s
ORIF *eR*
comp=Z,70nm,20.8s
ORIF **Oris-en-Rattie** 84.68 335⇑*iP* P 20 15 49.2 +0.3
ORIF pmax pmax
comp=Z,19nm,0.6s
ORIF **Oris-en-Rattie** 84.68 335⇑*iP* P 20 15 49.2 +0.3
comp=Z,19nm,0.6s
034A **Hebbronville** 84.69 57 ⇑P P 20 15 50.6 +1.4
baz=84,SNR=8.7
SSB **Saint Sauveur** 84.74 336 *eP* P 20 15 48.6 -0.6
SSB pmax pmax
comp=Z,6.0nm,0.8s
SSB **Saint Sauveur** 84.74 336 *eP* P 20 15 48.5 -0.6
comp=Z,6.3nm,0.8s
MFF **Saint Martin d** 84.74 340⇑*iP* P 20 15 49.3 +0.2
comp=Z,24nm,0.6s
MFF **Saint Martin d** 84.74 340⇑*iP* P 20 15 49.3 +0.2
MFF pmax pmax
comp=Z,24nm,0.6s
MFF **Saint Martin d** 84.74 340⇑*iP* P 20 15 49.3 +0.2
comp=Z,24nm,0.6s
DRO **Drossia** 84.92 321 *eP* P 20 15 49.3 -0.9
VIVF **Saint-Julien-l** 85.09 336⇑*iP* P 20 15 51.2 +0.3
comp=Z,12nm,0.8s
VIVF **Saint-Julien-l** 85.09 336⇑*iP* P 20 15 51.2 +0.3
VIVF pmax pmax
comp=Z,12nm,0.8s
VIVF **Saint-Julien-l** 85.09 336⇑*iP* P 20 15 51.2 +0.3
comp=Z,12nm,0.8s
VLX **Vlachokerasia** 85.11 321 *eP* P 20 15 49.2 -2.0
SBF **Sospel** 85.16 334 *eP* P 20 15 50.6 -0.8
comp=Z,46nm,1.1s
SBF **Sospel** 85.16 334 *eP* P 20 15 50.6 -0.8
SBF pmax pmax
comp=Z,46nm,1.0s
SBF **Sospel** 85.16 334 *eP* P 20 15 50.6 -0.8
comp=Z,46nm,1.0s
ZKR **Zakros** 85.17 317 *eP* P 20 15 51.2 -0.3
SWET **Sewanee** 85.19 43 *eP* P 20 15 51.0 -0.6
VLS **Valsamata** 85.22 322 *eP* P 20 15 50.0 -1.7
AMT **Artemida-Makis** 85.27 321 *eP* P 20 15 48.2 -3.8
NPS **Neapolis** 85.34 317 *eP* P 20 15 51.3 -1.0
VLI **Veliai** 85.40 320 *eP* P 20 15 52.2 -0.4
ITM **Ithomi** 85.47 321 *eP* P 20 15 51.7 -1.2
LAST **Lasithi** 85.49 317 *eP* P 20 15 50.9 -2.2
RJF **Les Rejaudoux** 85.53 338⇑*iP* P 20 15 53.4 +0.3
comp=Z,22nm,0.8s
RJF *eR*
comp=Z,214nm,23.0s
RJF **Les Rejaudoux** 85.53 338⇑*iP* P 20 15 53.4 +0.3
RJF pmax pmax
comp=Z,22nm,0.8s
RJF **Les Rejaudoux** 85.53 338⇑*iP* P 20 15 53.4 +0.3
comp=Z,22nm,0.8s
SMRF **Simiane la Rot** 85.63 335 *eP* P 20 15 54.1 +0.5
comp=Z,12nm,0.8s
SMRF **Simiane la Rot** 85.63 335 *eP* P 20 15 54.1 +0.5
comp=Z,12nm,0.8s
CPCT **Cooper Cave** 85.67 42 *eP* P 20 15 53.5 -0.4
FRF **La Foret Royal** 85.68 334 *eP* P 20 15 53.8 0.0
FRF **La Foret Royal** 85.68 334 *eP* P 20 15 53.8 0.0
FRF **La Foret Royal** 85.68 334 *eP* P 20 15 53.8 0.0
CAF **Calviac** 85.74 338⇑*iP* P 20 15 54.9 +0.7
comp=Z,39nm,0.9s

CAF	**Calvic**	**85.74**	**338**	⇑*iP*	**P**	**20 15 54.9**	**+0.7**
CAF				pmax	pmax		
	comp=Z,39nm,0.9s						
CAF	**Calvic**	**85.74**	**338**	⇑*iP*	**P**	**20 15 54.9**	**+0.7**
	comp=Z,39nm,0.9s						
PYL	**PYLOS**	**85.79**	**321**	*eP*	**P**	**20 15 52.7**	**-1.8**
PGF	**Pioggiola**	**85.84**	**332**	⇑*iP*	**P**	**20 15 54.2**	**-0.6**
	comp=Z,16nm,0.8s						
PGF	**Pioggiola**	**85.84**	**332**	⇑*iP*	**P**	**20 15 54.2**	**-0.6**
PGF				pmax	pmax		
	comp=Z,16nm,0.8s						
PGF	**Pioggiola**	**85.84**	**332**	⇑*iP*	**P**	**20 15 54.2**	**-0.6**
	comp=Z,16nm,0.8s						
TKL	**Tuckaleechee C**	**85.85**	**41**	LR	LR	20 57 04.5	
	comp=Z,37nm,19.6s,baz=337,slow=38						
TKL	**Tuckaleechee C**	**85.85**	**41**	*eP*	**P**	**20 15 54.5**	**-0.4**
TKL	**Tuckaleechee C**	**85.85**	**41**	*eP*	**P**	**20 15 54.5**	**-0.4**
SIVA	**Sivas**	**85.92**	**318**	*eP*	**P**	**20 15 55.0**	**-0.2**
LMR	**La Mourre**	**85.93**	**334**	*eP*	**P**	**20 15 55.0**	**-0.1**
	comp=Z,58nm,1.1s						
LMR	**La Mourre**	**85.93**	**334**	*eP*	**P**	**20 15 55.0**	**-0.1**
LMR				pmax	pmax		
	comp=Z,59nm,1.1s						
LMR	**La Mourre**	**85.93**	**334**	*eP*	**P**	**20 15 55.0**	**-0.1**
	comp=Z,58nm,1.1s						
TIP	**Timpagrande**	**85.97**	**325**	*eP*	**P**	**20 15 55.2**	**-0.2**
KARN	**Karanos**	**86.03**	**319**	*eP*	**P**	**20 15 54.5**	**-1.2**
LASF	**Ste Croix**	**86.03**	**336**	*eP*	**P**	**20 15 56.1**	**+0.5**
	comp=Z,30nm,1.2s						
LASF	**Ste Croix**	**86.03**	**336**	*eP*	**P**	**20 15 56.1**	**+0.5**
	comp=Z,30nm,1.2s						
BLA	**Blacksburg**	**86.08**	**38**	*eP*	**P**	**20 15 55.4**	**-0.6**
BLA	**Blacksburg**	**86.08**	**38**	*eP*	**P**	**20 15 55.4**	**-0.6**
LFF	**La Frestale**	**86.08**	**339**	⇑*iP*	**P**	**20 15 56.4**	**+0.6**
	comp=Z,64nm,0.9s						
LFF	**La Frestale**	**86.08**	**339**	⇑*iP*	**P**	**20 15 56.4**	**+0.6**
LFF				pmax	pmax		
	comp=Z,65nm,0.9s						
LFF	**La Frestale**	**86.08**	**339**	⇑*iP*	**P**	**20 15 56.4**	**+0.6**
	comp=Z,64nm,0.9s						
MTLF	**Montolieu**	**87.17**	**337**	*eP*	**P**	**20 16 01.0**	**-0.2**
	comp=Z,4.7nm,0.6s						
MTLF	**Montolieu**	**87.17**	**337**	*eP*	**P**	**20 16 01.0**	**-0.2**
MTLF				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MTLF	**Montolieu**	**87.17**	**337**	*eP*	**P**	**20 16 01.0**	**-0.2**
	comp=Z,4.7nm,0.6s						
KMSC	**Kings Mountain**	**87.40**	**40**	⇑P	**P**	**20 16 02.4**	**0.0**
	baz=87						
TBI	**Tubuai**	**87.72**	**127**	*eT*	T	21 52 58.7	
	comp=Z,11nm,0.2s						
EPF	**Esparros**	**87.96**	**338**	*eP*	**P**	**20 16 04.7**	**-0.3**
EPF	**Esparros**	**87.96**	**338**	*eP*	**P**	**20 16 04.7**	**-0.3**
EPF	**Esparros**	**87.96**	**338**	*eP*	**P**	**20 16 04.7**	**-0.3**
ETSF	**Etsaut**	**88.32**	**339**	*eP*	**P**	**20 16 06.3**	**-0.4**
	comp=Z,7.7nm,0.6s						
ETSF	**Etsaut**	**88.32**	**339**	*eP*	**P**	**20 16 06.3**	**-0.4**
ETSF				pmax	pmax		
	comp=Z,8.0nm,0.6s						
ETSF	**Etsaut**	**88.32**	**339**	*eP*	**P**	**20 16 06.3**	**-0.4**
	comp=Z,7.7nm,0.6s						
KEST	**Kesra**	**91.82**	**329**	P	**P**	**20 16 22.7**	**-0.5**
	comp=Z,2.4nm,0.9s,baz=267,slow=9.9,SNR=5.1						
KEST				LR	LR	21 02 31.3	
	comp=Z,37nm,18.6s,baz=294,slow=39						
ESDC	**Sonseca Array**	**92.20**	**340**	P	**P**	**20 16 24.8**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=8.9,slow=3.7,SNR=6.9						
ESDC				LR	LR	21 02 41.2	
	comp=Z,50nm,19.6s,baz=130,slow=39						
TORD	**Torodi Ar. Bea**	**115.12**	**326**	PKP	**PKPdf**	**20 21 55.0**	**-1.5**
	comp=Z,0.9nm,0.4s,baz=16,slow=1.7,SNR=15						
VNDA	**Vanda**	**122.81**	**177**	PKP	**PKPdf**	**20 22 08.9**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=330,slow=4.7,SNR=11						
DBIC	**Dimbokro**	**123.54**	**330**	PKP	**PKPdf**	**20 22 11.5**	**-1.2**
	comp=Z,3.3nm,0.5s,baz=336,slow=2.0,SNR=13						
LIC	**Lamto**	**124.02**	**330**	*e*PKIKP	**PKPdf**	**20 22 13.0**	**-0.6**
	comp=Z,4.5nm,0.6s						
LIC	**Lamto**	**124.02**	**330**	*e*PKPdf	**PKPdf**	**20 22 13.0**	**-0.6**
PTGA	**Pitinga**	**128.29**	**40**	PKP	**PKPdf**	**20 22 21.6**	**-0.2**
	comp=Z,1.6nm,0.3s,baz=328,slow=19,SNR=6.7						
LPAZ	**La Paz**	**136.90**	**60**	PKP	**PKPdf**	**20 22 39.0**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=329,slow=2.8,SNR=9.1						
LPAZ	**La Paz**	**136.90**	**60**	PKIKP	**PKPdf**	**20 22 39.0**	**+0.4**
BDFB	**Brasilia**	**146.72**	**33**	PKP	**PKPdf**	**20 22 55.6**	**+0.2**
	comp=Z,20nm,0.6s,baz=323,slow=3.5,SNR=32						
BDFB				PKPbc	**PKPbc**	**20 22 57.2**	**+0.1**
	comp=Z,20nm,0.6s,baz=356,slow=2.1,SNR=32						
CFAA	**Coronel Fontan**	**147.37**	**79**	PKP	**PKPdf**	**20 22 55.7**	**-0.3**
	comp=Z,2.2nm,0.5s,baz=277,slow=2.5,SNR=11						
CFAA				PKPbc	**PKPbc**	**20 22 58.1**	**-0.5**
	comp=Z,2.2nm,0.5s,baz=299,slow=3.3,SNR=11						
NVL	**N'lazarevskaya**	**147.47**	**204**	*e*PKHKP	PKPpre	20 22 50.1	
NVL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
PLCA	**Paso Flores**	**150.21**	**96**	PKPbc	**PKPbc**	**20 23 05.7**	**+0.1**
	comp=Z,15nm,0.8s,baz=281,slow=2.7,SNR=24						
SNAA	**Sanae**	**150.59**	**197**	*e*PKIKP	**PKPbc**	**20 23 05.1**	**-0.4**
SNAA	**Sanae**	**150.59**	**197**	*e*PKPbc	**PKPbc**	**20 23 05.1**	**-0.4**
CPUP	**Villa Florida**	**151.03**	**58**	PKPbc	**PKPbc**	**20 23 07.5**	**-0.2**
	comp=Z,2.6nm,0.8s,baz=306,slow=2.2,SNR=16						
CPUP	**Villa Florida**	**151.03**	**58**	PKIKP	**PKPbc**	**20 23 07.6**	**-0.2**
CPUP				pmax	pmax		
	comp=Z,3.0nm,0.8s						
VNA2	**Neumayer--Watz**	**152.09**	**196**	P	**PKPbc**	**20 23 09.0**	**+0.1**
	baz=94,slow=0.9						
VNA3	**Neumayer Olymp**	**152.23**	**194**	P	**PKPbc**	**20 23 09.0**	**-0.2**
VNA1	**Neumayer--Stat**	**152.48**	**195**	P	**PKPbc**	**20 23 09.9**	**+0.2**

ROM 08 20:12:50.6±0.4, 42.38N×13.41E, *h*5km, Md1.5/4, Error ellipse: s-maj=4.7km s-min=2.0km az=13.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AQU	**L'Aquila**	**0.02**	**187**	Pg	Pg	20 12 51.4	-0.3
AQU				Sg	Sg	20 12 52.3	-0.2
	257nm,0.2s						
T0104	**Madonna delle**	**0.05**	**250**	Pg	Pg	20 12 52.1	0.0
T0104				Sg	Sg	20 12 53.9	+0.8
T0106	**Roio Piano**	**0.07**	**193**	Pg	Pg	20 12 52.5	+0.1
T0106				Sg	Sg	20 12 53.7	0.0
FAGN	**Fagnano**	**0.17**	**130**	Pg	Pg	20 12 54.6	+0.5
FAGN				Sg	Sg	20 12 58.1	+1.6

MAN 08 20:13:52, 18.96N×120.79E, *h*0km, mb4.3, ML3.2, MS3.0, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.66**	**194**	⇑*iP*	Pg	20 14 05.2	+0.6
SIPP	**Brgy, Tapao**	**1.08**	**197**	⇑*iP*	Pg	20 14 03.2	-10
SIPP				*e*S	Sg	20 14 10.1	-17
APYP	**Conner**	**1.18**	**159**	*eP*	Pg	20 14 13.5	-1.1
SGCP	**Mt. Cagua**	**1.39**	**121**	*eP*	Pn	20 14 18.3	-0.4
CAUP	**Cauayan**	**2.24**	**154**	*eP*	Pb	20 14 32.5	-0.8
CAUP				*e*S	Sb	20 15 01.0	-0.6
BALP	**Baler**	**3.29**	**167**	*eP*	Pn	20 14 47.1	+2.3

GUC 08 20:17:34.3±0.3, 34.57S×71.82W, *h*19km±3km, ML3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.65**	**132**	*i* P	Pg	20 17 47.4	+0.2
NICH				*i* S	Sn	20 17 57.1	-1.0
NICH				AML	AML	20 17 57.5	
	comp=N,11μm,0.3s						
TALC	**Talca**	**0.84**	**170**	*i* P	Pg	20 17 50.5	-0.2
TALC				*i* S	Sn	20 18 02.7	-0.1
TACH	**Talagante**	**1.17**	**39**	*i* P	Pb	20 17 56.3	+0.3
TACH				*e*S	Sg	20 18 12.2	-0.4
LNCH	**Linares**	**1.28**	**172**	*i* P	Pb	20 17 58.0	+0.2
LNCH				*i* S	Sg	20 18 15.2	-0.8
LNCH				AML	AML	20 18 19.2	
	comp=E,4μm,0.6s						
SAN	**Santiago**	**1.47**	**41**	*i* S	Sg	20 18 21.3	-0.8
CLCH	**Cerro Calan**	**1.58**	**43**	*i* P	Pb	20 18 03.1	0.0
CLCH				*e*S	Sg	20 18 24.6	-1.1
CLCH				*i* S	Sb	20 18 25.0	+2.1
CLCH				AML	AML	20 18 30.5	
	comp=N,1μm,0.6s						
PEL	**Peldehue**	**1.71**	**34**	*i* P	Pb	20 18 05.0	-0.2
PEL				*i* S	Sg	20 18 28.2	-1.4
PEL				AML	AML	20 18 33.4	
	comp=N,1μm,0.7s						
FCH	**Farellones**	**1.78**	**46**	*e*P	Pb	20 18 06.6	-0.1
FCH				*e*S	Sg	20 18 31.3	-1.1

*IDC **08** 20:18:04.4±1.4, 15.14S×173.44W, h0km, mb4.0/7, mb1 4.3/7, mb1mx3.9/30, mbtmp4.0/7, MS3.5/3, Ms1 3.5/3, ms1mx3.0/34, Error ellipse: s-maj=88.5km s-min=20.0km az=145.0*
*NEIC **08** 20:18:06.0±0.4, 15.05S×173.51W, h10km, mb4.5/9, Error ellipse: s-maj=20.0km s-min=10.3km az=132.0*
*ISCJB **08** 20:18:07.1±0.5, 15.0S×173.6W±0.1, h30km, mb4.3/15, MS3.5/3, Error ellipse: s-maj=22.9km s-min=12.2km az=135.1*

ISC 08 20:18:09.0±0.7, 15.1S±0.2×173.5W±0.2, *h*30km, n35, σ0877/21, mb4.4/15, MS3.6/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.04**	**56**	*e*Pn	Pn	20 18 33.0	-8.3
PPT	**Papeete**	**23.10**	**99**	LR	LR	20 30 12.3	
	comp=Z,47nm,18.1s,baz=207,slow=32						
PAE	**Paea**	**23.10**	**100**	*e*T	T	20 45 56.3	
	0.9nm,0.2s						
PPT2	**Papeete2**	**23.10**	**100**	*e*LR	LR	20 28 27.3	
	63nm,23.8s						
TBI	**Tubuai**	**24.13**	**114**	*e*T	T	20 47 22.4	
	3.6nm,0.2s						
EIDS	**Eidsvold**	**34.67**	**247**	P	**P**	**20 24 56.2**	**+0.1**
	10nm,1.1s						
RKT	**Rikitea**	**37.20**	**108**	*e*T	T	21 03 37.1	
	0.9nm,0.2s						
H11S2	**WAKE ISLAND Hy**	**38.63**	**329**	T	T	21 07 05.5	
	baz=149,slow=76,SNR=7.7						
H11S3	**WAKE ISLAND Hy**	**38.64**	**329**	T	T	21 06 60.0	
	baz=149,slow=76,SNR=5.4						
H11S1	**WAKE ISLAND Hy**	**38.65**	**329**	T	T	21 06 58.9	
	baz=149,slow=76,SNR=5.9						
PMG	**Port Moresby**	**38.81**	**274**	P	P	20 25 27.6	-3.8
H11N3	**WAKE ISLAND Hy**	**39.57**	**330**	T	T	21 08 07.4	
	baz=150,slow=76,SNR=4.7						
H11N1	**WAKE ISLAND Hy**	**39.58**	**330**	T	T	21 08 11.9	
	baz=150,slow=76,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**39.59**	**330**	T	T	21 08 12.9	
	baz=150,slow=76,SNR=6.3						
STKA	**Stephens Creek**	**44.11**	**240**	P	**P**	**20 26 14.2**	**-0.6**
	1.4nm,0.5s,baz=98,slow=10,SNR=9.9						
STKA	**Stephens Creek**	**44.11**	**240**	*e*P	**P**	**20 26 13.9**	**-0.9**
	1.3nm,1.1s						
WRAB	**Tennant Creek**	**49.81**	**257**	*e*P	**P**	**20 26 59.5**	**0.0**
	7.4nm,1.1s						
WRA	**Warramunga Arr**	**49.82**	**256**	P	**P**	**20 26 59.0**	**-0.5**
	1.1nm,0.5s,baz=91,slow=6.9,SNR=44						
ASAR	**Alice Springs**	**50.11**	**252**	P	**P**	**20 27 01.6**	**-0.2**
	5.8nm,0.8s,baz=89,slow=7.9,SNR=78						
SBA	**Scott Base**	**63.57**	**185**	P	**P**	**20 28 37.6**	**+1.3**
	2.2nm,0.8s						
VNDA	**Vanda**	**63.69**	**186**	P	**P**	**20 28 37.5**	**+0.4**
QSPA	**South Pole Qui**	**74.97**	**180**	LR	LR	20 58 34.7	
	comp=Z,29nm,18.6s,baz=278,slow=32						
QSPA	**South Pole Qui**	**74.97**	**180**	*e*P	**P**	**20 29 46.5**	**-0.8**
	45nm,2.1s						
DIV	**Divide**	**79.10**	**13**	*e*P	**P**	**20 30 10.4**	**+0.2**
	2.6nm,0.6s						
TXAR	**Lajitas Array**	**80.52**	**56**	P	**P**	**20 30 18.9**	**+0.2**
	0.6nm,0.9s,baz=232,slow=4.4,SNR=4.1						
MCK	**McKinley**	**80.82**	**11**	*e*P	**P**	**20 30 19.8**	**+0.3**
	4.3nm,0.9s						
COLA	**College**	**82.06**	**11**	*e*P	**P**	**20 30 25.2**	**-0.7**
	5.8nm,0.9s						
PDAR	**Pinedale Array**	**82.09**	**42**	P	**P**	**20 30 26.6**	**-0.4**
	0.8nm,0.9s,baz=253,slow=1.5,SNR=5.8						
PDAR				LR	LR	21 02 35.1	
	comp=Z,40nm,18.1s,baz=254,slow=32						
ILAR	**Eielson Array**	**82.14**	**11**	P	**P**	**20 30 25.9**	**-0.6**
	0.9nm,0.8s,baz=220,slow=5.9,SNR=9.3						
RSSD	**Black Hills**	**86.29**	**43**	*e*P	**P**	**20 30 47.8**	**-0.5**
	1.8nm,0.7s						
YKA	**Yellowknife Ar**	**89.84**	**23**	P	**P**	**20 31 03.7**	**-0.7**
	0.8nm,0.9s,baz=241,slow=4.5,SNR=9.6						
KMBO	**Kilima Mbogo**	**145.58**	**245**	PKPbc	**PKPab**	**20 37 46.9**	**+0.8**
	1.7nm,0.8s,baz=30,slow=7.4,SNR=3.6						
GERES	**GERESS Array B**	**145.80**	**352**	PKPbc	**PKPab**	**20 37 46.9**	**+1.1**
	1.0nm,0.9s,baz=2.9,slow=2.7,SNR=10						
BR131	**Keskin Array S**	**145.84**	**321**	*e*PKPdf	**PKPab**	**20 37 47.2**	**+0.9**
BRTR	**Keskin Array B**	**145.84**	**321**	PKPbc	**PKPab**	**20 37 47.6**	**+1.4**
	7.6nm,0.9s,baz=106,slow=1.9,SNR=44						

*IDC **08** 20:24:14.8±1.2, 1.48N×122.08E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.2/28, mbtmp3.3/4, Error ellipse: s-maj=151.5km s-min=22.0km az=65.0*
*ISCJB **08** 20:24:15.1±0.9, 1.54N±0.06×122.06E±0.07, h10km, mb3.2/4, Error ellipse: s-maj=11.0km s-min=8.9km az=155.7*
*DJA **08** 20:24:21.0±0.5, 1°N±4°×12°2E±°, h10km, M4.0/7, MLv4.0/7*

ISC 08 20:24:17.2±1.0, 1.49N±0.09×121.96E±0.06, h10km, n10, σ1961/12, mb3.3/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**1.00**	**181**	P	Pn	20 24 34.6	-2.8
MRSI				S	Sb	20 24 45.4	-4.6
KMSI	**Cibinong**	**2.22**	**114**	P	**Pb**	**20 24 57.4**	**0.0**
KMSI				S	**Sn**	**20 25 24.7**	**+3.2**
MPSI	**Mapaga**	**2.36**	**241**	P	**Pn**	**20 24 58.1**	**+2.1**
MPSI				S	**Sn**	**20 25 26.0**	**+1.0**
APSI	**Ampana**	**2.40**	**187**	P	**Pn**	**20 24 57.5**	**+0.9**
LUWI	**Luwuk**	**2.64**	**162**	P	**Pn**	**20 25 00.2**	**+0.3**
LUWI				S	**Sn**	**20 25 31.7**	**-0.3**
PCI	**Palu**	**3.19**	**222**	P	**Pn**	**20 25 07.4**	**0.0**
WRA	**Warramunga Arr**	**24.52**	**151**	P	**P**	**20 29 34.8**	**-2.3**
	0.7nm,0.8s,baz=331,slow=10,SNR=5.0						
ASAR	**Alice Springs**	**27.57**	**156**	P	**P**	**20 30 04.1**	**-0.6**
	0.2nm,0.7s,baz=344,slow=15,SNR=3.3						
SONM	**Songino Array**	**48.09**	**346**	P	**P**	**20 32 57.3**	**0.0**
	0.5nm,0.8s,baz=153,slow=9.7,SNR=4.4						
MKAR	**Makanchi Array**	**56.81**	**328**	P	**P**	**20 34 00.7**	**-1.1**
	0.1nm,0.4s,baz=118,slow=8.6,SNR=2.0						

MAN 08 20:30:46, 7.82N×122.00E, *h*92km, mb4.7, ML3.6, MS3.6, 2C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZMPH	**Zamboanga City**	**0.86**	**176**	⇑*iP*	Pn	20 31 03.7	-0.7
ZMPH				*i* S	Sn	20 31 14.8	-3.3
DCPH	**Dipolog City**	**1.54**	**60**	⇓*eP*	Pn	20 31 12.5	+0.1
DCPH				*e*S	Sn	20 31 32.2	-0.2
SNPH	**Sibulan**	**1.95**	**39**	⇓*iP*	Pn	20 31 12.2	-5.5
SNPH				*i* S	Sn	20 31 36.7	-5.1
CTBH	**Cotabato--PC H**	**2.31**	**105**	⇓*iP*	Pn	20 31 23.3	+1.0
TBP	**Tagbilaran**	**2.62**	**45**	*eP*	Pn	20 31 27.2	+0.7
TBP				*e*S	Sn	20 31 58.3	+0.8
CGP	**Cagayan de Oro**	**2.74**	**76**	⇓*eP*	Pn	20 31 29.7	+1.5
GUIM	**Jordan**	**2.85**	**12**	*eP*	Pn	20 31 30.8	+1.2
CUYO	**Cuyo Island**	**3.16**	**342**	*eP*	Pn	20 31 35.5	+1.7
MSLP	**Maasin**	**3.64**	**51**	*eP*	Pn	20 31 42.5	+2.2
RCP	**Roxas**	**3.79**	**11**	⇓*eP*	Pn	20 31 44.6	+2.4
ENPP	**El Nido**	**4.21**	**323**	*eP*	Pn	20 31 49.2	+1.2
SJMP	**San Jose**	**4.69**	**349**	*eP*	Pn	20 31 56.2	+1.7

IDC 08 20:34:28.1±8.8, 14.70S×174.35W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/39, mbtmp3.5/2, Error ellipse: s-maj=371.0km s-min=65.3km az=138.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**49.11**	**256**	P	P	20 43 17.9	0.0
	0.4nm,0.8s,baz=91,slow=7.1,SNR=8.9						
ASAR	**Alice Springs**	**49.45**	**251**	P	P	20 43 20.3	-0.2
	0.7nm,0.6s,baz=90,slow=7.9,SNR=12						
BRTR	**Keskin Array B**	**145.04**	**321**	PKPbc	PKPbc	20 54 06.5	-0.9
	0.4nm,0.7s,baz=48,slow=2.1,SNR=3.8						

*IDC **08** 20:42:26.3±0.4, 9.69S×118.70E, h0km, mb4.4/20, mb1 4.5/21, mb1mx4.4/31, mbtmp4.4/21, ML4.4/1, MS3.6/16, Ms1 3.6/16, ms1mx3.5/30, Error ellipse: s-maj=20.8km s-min=11.5km az=67.0*
*ISCJB **08** 20:42:29.4±0.2, 9.90S±0.03×118.50E±0.02, h35km, mb4.5/39, MS3.6/14, Error ellipse: s-maj=4.5km s-min=3.5km az=178.7*
*MOS **08** 20:42:29.4±1.0, 9.58S×118.83E, h33km, mb4.7/17, Error ellipse: s-maj=15.6km s-min=7.5km az=121.2*
*BJI **08** 20:42:31.0, 9.80S×118.50E, h42km, mb4.8/33, mB5.0/24, Ms4.6/13, Ms7 4.2/14*
*DJA **08** 20:42:33.8±0.5, 10°S±3°×11°9E±°, h23km±5km, M4.9/17, mb5.0/12, mB5.3/6, MLv4.9/17, Mw(mB)4.7/6*
*NEIC **08** 20:42:33.2±0.9, 9.72S×118.59E, h48km±8km, mb4.5/20, Error ellipse: s-maj=9.9km s-min=6.4km az=45.0*

ISC 08 20:42:32.1±0.3, 9.87S±0.04×118.57E±0.04, h35km, n182, σ1972/188, mb4.5/39, MS3.7/14, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**0.84**	**74**	P	**Pn**	**20 42 47.4**	**-0.1**
WBSI				S	**Sn**	**20 42 58.0**	**-0.7**
WSI	**Waingapu**	**1.71**	**83**	P	**Pn**	**20 43 01.5**	**+2.1**
WSI				S	**Sn**	**20 43 23.1**	**+2.9**
BASI	**Baing, Sumba**	**2.01**	**100**	P	**Pn**	**20 43 06.6**	**+3.1**
BASI				S	**Sn**	**20 43 31.6**	**+4.2**
EDFI	**Ende, Flores**	**3.27**	**70**	P	**Pn**	**20 43 22.8**	**+1.8**
EDFI				S	**Sn**	**20 44 01.0**	**+2.1**
DNP	**Denpasar**	**3.52**	**289**	P	Pn	20 43 27.5	+3.1
IGBI	**Denpasar**	**3.54**	**287**	P	**Pn**	**20 43 26.4**	**+1.8**
IGBI				S	**Sn**	**20 44 08.7**	**+3.5**
SRBI	**Singaraja**	**3.76**	**298**	P	**Pn**	**20 43 30.6**	**+3.0**
MMRI	**Maumere**	**3.82**	**72**	P	**Pn**	**20 43 30.5**	**+2.0**
MMRI				S	**Sn**	**20 44 13.1**	**+0.8**
MMRI	**Maumere**	**3.82**	**72**	*e*Pn	**Pn**	**20 43 30.0**	**+1.5**
BSSI	**Bau Bau, Buton**	**4.17**	**27**	P	**Pn**	**20 43 34.8**	**+1.6**
BSSI				S	**Sn**	**20 44 20.9**	**+0.2**
ABJI	**Asem Bagus**	**4.76**	**295**	P	**Pn**	**20 43 44.2**	**+2.9**
BKSI	**Bulukumba**	**4.78**	**19**	P	**Pn**	**20 43 43.1**	**+1.5**
KAPI	**Kappang**	**4.97**	**14**	Pn	**Pn**	**20 43 46.0**	**+1.8**
	19nm,0.3s,baz=192,slow=4.5,SNR=109						
KAPI				Sn	**Sn**	**20 44 39.3**	**-1.2**
	56nm,0.3s,baz=12,slow=22,SNR=9.0						
KAPI				LR	LR	20 46 02.0	
	comp=Z,990nm,19.3s,baz=254,slow=45						
KAPI	**Kappang**	**4.97**	**14**	*e*Pn	**Pn**	**20 43 46.2**	**+2.0**
KAPI				*e*Sn	**Sn**	**20 44 39.0**	**-1.5**
GMJI	**Gumukmas**	**5.31**	**287**	P	Pn	20 43 52.5	+3.6
BLJI	**Banyuglugur**	**5.35**	**293**	P	**Pn**	**20 43 52.2**	**+2.7**
SOEI	**Soe**	**5.62**	**89**	P	**Pn**	**20 43 55.3**	**+2.0**
SOEI	**Soe**	**5.62**	**89**	*e*Pn	**Pn**	**20 43 55.3**	**+2.0**
BNSI	**Bone**	**5.65**	**16**	P	**Pn**	**20 43 55.3**	**+1.7**
SPSI	**Sidrap Palu**	**5.99**	**12**	P	**Pn**	**20 43 59.8**	**+1.5**
GRJI	**Gresik**	**6.71**	**296**	P	Pn	20 44 11.3	+3.2
	97nm,0.7s,1μm0.4nm						
TTSI	**Tana Toraja**	**6.90**	**10**	P	**Pn**	**20 44 12.1**	**+1.4**
	114nm,0.7s,1μm0.5nm						
PWJI	**Pagerwojo**	**6.93**	**285**	P	Pn	20 44 16.3	+5.1
	96nm,0.7s,0.7nm						
KBKI	**Kotabaru**	**6.95**	**340**	P	**Pn**	**20 44 14.5**	**+3.0**
	39nm,1.0s,0.2nm						
TBJI	**Tambak Boyo**	**7.31**	**294**	P	**Pn**	**20 44 19.4**	**+3.0**
	109nm,1.1s,0.4nm						
BBKI	**Banjar Baru**	**7.37**	**330**	P	**Pn**	**20 44 20.1**	**+2.9**
	90nm,1.0s,2μm0.5nm						
PCJI	**Pacitan**	**7.49**	**282**	P	Pn	20 44 22.2	+3.3
UGM	**Wanagama**	**8.19**	**283**	P	**Pn**	**20 44 30.6**	**+2.1**
UGM	**Wanagama**	**8.19**	**283**	*e*Pn	**Pn**	**20 44 30.6**	**+2.1**
UGM				*e*Sn	Sn	20 45 49.0	-11
SMRI	**Semarang**	**8.52**	**289**	*e*Pn	**Pn**	**20 44 31.6**	**-1.5**
PCI	**Palu**	**9.00**	**8**	P	**Pn**	**20 44 40.4**	**+0.8**
	275nm,1.1s,3μm						
LUWI	**Luwuk**	**9.72**	**26**	P	**Pn**	**20 44 50.7**	**+1.2**
LUWI	**Luwuk**	**9.72**	**26**	*e*Pn	Pn	20 44 54.3	+4.8
MPSI	**Mapaga**	**10.23**	**7**	P	**Pn**	**20 44 57.9**	**+1.4**
SANI	**Sanana**	**10.71**	**44**	P	**Pn**	**20 45 03.8**	**+0.7**
NLAI	**Namlea**	**10.73**	**53**	P	**Pn**	**20 45 05.2**	**+1.8**
MRSI	**Marisa**	**10.82**	**18**	P	**Pn**	**20 45 05.9**	**+1.4**
CISI	**Cisompet, Garu**	**10.88**	**281**	P	**Pn**	**20 45 03.8**	**-1.6**
	76nm,0.7s						
LEM	**Lembang**	**11.25**	**285**	LR	LR	20 50 46.5	
	comp=Z,252nm,20.6s,baz=142,slow=44						
MBWA	**Marble Bar**	**11.28**	**174**	*e*Pn	**Pn**	**20 45 09.5**	**-1.3**
MBWA				*

CD2				S	**S**	**20 56 48.2**	**-2.9**
CD2				sS	**sS**	**20 57 12.1**	**+4.0**
CD2				PMZ			
	comp=Z,20nm,0.8s						
CD2				PMZ			
	comp=Z,160nm,5.9s						
CD2				LE			
	comp=Z,200nm,10.7s						
CD2				LZ			
	comp=Z,130nm,13.1s						
LSA	**Lhasa**	**47.39**	**327**	*eP*	**P**	**20 51 03.1**	**-0.5**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
LSA	**Lhasa**	**47.39**	**327**	*eP*	**P**	**20 51 03.1**	**-0.5**
	comp=Z,2.4nm,0.5s						
ODAN	**Odare**	**47.43**	**321**	*eP*	**P**	**20 51 02.5**	**-1.2**
	comp=Z,27nm,1.0s						
TAPN	**Taplejung**	**47.58**	**322**	*eP*	**P**	**20 51 03.9**	**-1.1**
	comp=Z,28nm,1.1s						
KSAR	**Wonju Array Be**	**47.87**	**10**	P	**P**	**20 51 04.6**	**-2.0**
KSAR	**Wonju Array Be**	**47.87**	**10**	P	**P**	**20 51 04.6**	**-2.0**
KSRS	**Korea Array**	**47.89**	**10**	P	**P**	**20 51 04.6**	**-2.2**
	comp=Z,1.4nm,0.6s,baz=187,slow=9.8,SNR=3.3						
RAMN	**Ramite**	**47.98**	**320**	*eP*	**P**	**20 51 07.5**	**-0.5**
	comp=Z,15nm,0.6s						
JIRN	**Jiri**	**48.74**	**321**	*eP*	**P**	**20 51 13.2**	**-0.8**
	comp=Z,12nm,0.5s						
GUN	**Gumba**	**49.11**	**321**	*eP*	**P**	**20 51 16.0**	**-0.8**
	comp=Z,19nm,0.7s						
PKI	**Pulchoki**	**49.17**	**320**	*eP*	**P**	**20 51 15.9**	**-1.4**
	comp=Z,14nm,0.8s						
PKIN	**Phulchoki**	**49.18**	**320**	*eP*	**P**	**20 51 16.1**	**-1.2**
	comp=Z,4.1nm,0.5s						
DMN	**Daman**	**49.39**	**320**	*eP*	**P**	**20 51 17.1**	**-1.7**
	comp=Z,20nm,0.9s						
KKN	**Kakani**	**49.40**	**320**	*eP*	**P**	**20 51 17.8**	**-1.1**
	comp=Z,10nm,0.8s						
BJI	**Beijing**	**49.71**	**358**	P	**P**	**20 51 20.0**	**-0.7**
BJI				PMZ			
	comp=Z,14nm,0.6s						
MAJO	**Matsushiro**	**49.73**	**21**	*eP*	**P**	**20 51 19.3**	**-1.7**
MAJO	**Matsushiro**	**49.73**	**21**	*eP*	**P**	**20 51 19.3**	**-1.7**
MJAR	**Matsushiro Arr**	**49.73**	**21**	P	P	20 51 17.6	-3.4
	comp=Z,2.2nm,0.8s,baz=198,slow=8.0,SNR=8.5						
GKN	**Gorkha**	**49.96**	**320**	*eP*	**P**	**20 51 21.1**	**-2.0**
	comp=Z,7.5nm,0.4s						
KOLN	**Koldanda**	**50.47**	**319**	*eP*	**P**	**20 51 25.3**	**-1.7**
	comp=Z,12nm,0.7s						
HHC	**Hu-ho-hao-te**	**50.88**	**353**	*eP*	**P**	**20 51 32.2**	**+2.5**
HHC				pP	pP	20 51 45.4	+5.2
HHC				PP	**PP**	**20 53 25.8**	**-0.6**
HHC				S	**S**	**20 58 44.3**	**+0.4**
HHC				sS	**sS**	**20 59 02.4**	**+1.3**
HHC				SS	**SS**	**21 02 16.2**	**-3.0**
HHC				PMZ			
	comp=Z,15nm,1.0s						
HHC				PMZ			
	comp=Z,110nm,6.0s						
HHC				LN			
	comp=Z,100nm,14.7s						
HHC				LE			
	comp=Z,120nm,14.1s						
HHC				LZ			
	comp=Z,76nm,14.7s						
GTA	**Gaotai**	**52.04**	**342**	*eP*	**P**	**20 51 38.7**	**+0.2**
GTA				PMZ			
	comp=Z,2.0nm,1.3s						
MDJ	**Mudanjiang**	**55.14**	**10**	*eP*	P	20 51 57.5	-3.4
	comp=Z,16nm,0.9s						
USRK	**Ussuriysk Ar.**	**55.18**	**12**	P	**P**	**20 51 59.4**	**-1.8**
	comp=Z,2.2nm,0.5s,baz=183,slow=6.3,SNR=12						
USRK				LR	LR	21 16 24.4	
	comp=Z,32nm,18.1s,baz=252,slow=37						
ULN	**Ulaanbaatar**	**58.39**	**351**	*eP*	**P**	**20 52 23.1**	**-1.0**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ULN	**Ulaanbaatar**	**58.39**	**351**	*eP*	**P**	**20 52 23.1**	**-1.0**
	comp=Z,2.7nm,0.8s						
SONM	**Songino Array**	**58.46**	**350**	P	**P**	**20 52 23.1**	**-1.5**
	comp=Z,2.0nm,0.5s,baz=169,slow=8.4,SNR=11						
BKZ	**Black Stump Fm**	**59.07**	**130**	*eP*	**P**	**20 52 30.3**	**+1.2**
	comp=Z,111nm,2.1s						
URZ	**Urewera**	**59.34**	**129**	P	**P**	**20 52 29.5**	**-1.3**
	comp=Z,7.7nm,0.9s,baz=234,slow=5.5,SNR=5.8						
URZ				LR	LR	21 18 49.3	
	comp=Z,160nm,18.2s,baz=318,slow=37						
WMQ	**Urumqi**	**60.36**	**335**	*eP*	**P**	**20 52 38.4**	**+0.7**
WMQ				pP	**pP**	**20 52 51.2**	**+2.8**
WMQ				sP	**sP**	**20 52 56.4**	**+3.9**
WMQ				PcP	**PcP**	**20 53 22.9**	**+0.4**
WMQ				S	**S**	**21 00 47.7**	**-2.4**
WMQ				sS	**sS**	**21 01 09.0**	**+1.3**
WMQ				SS	**SS**	**21 04 46.7**	**-1.7**
WMQ				PMZ			
	comp=Z,11nm,0.5s						
WMQ				PMZ			
	comp=Z,96nm,4.4s						
WMQ				LN			
	comp=Z,37nm,18.8s						
WMQ				LE			
	comp=Z,68nm,20.0s						
WMQ				LZ			
	comp=Z,48nm,22.4s						
YSS	**Yuzh-Sakhalins**	**60.55**	**19**	P	**P**	**20 52 38.1**	**-0.7**
YSS	**Yuzh-Sakhalins**	**60.55**	**19**	P	**P**	**20 52 38.1**	**-0.7**
ZAK	**Zakamensk**	**61.47**	**349**	*eP*	P	20 52 42.2	-3.0
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.6s						
KSH	**Kashi**	**63.06**	**324**	P	**P**	**20 52 53.7**	**-2.4**
KSH				pP	**pP**	**20 53 06.5**	**-0.3**
KSH				PcS		20 57 34.4	
KSH				S	S	21 01 15.2	-9.4
KSH				PMZ			
	comp=Z,3.0nm,0.6s						
KSH				PMZ			
	comp=Z,66nm,5.5s						
KSH				LN			
	comp=Z,100nm,5.6s						
KSH				LE			
	comp=Z,58nm,4.3s						
KSH				LZ			
	comp=Z,130nm,6.2s						
KBL	**Kabul**	**64.42**	**316**	*eP*	**P**	**20 53 02.9**	**-2.4**
KBL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KBL	**Kabul**	**64.42**	**316**	*eP*	**P**	**20 53 02.9**	**-2.4**
	comp=Z,5.1nm,0.8s						
MK01	**Makanchi Array**	**65.02**	**333**	*eP*	**P**	**20 53 07.3**	**-1.4**
MK31	**Makanchi Array**	**65.04**	**333**	*eP*	**P**	**20 53 07.6**	**-1.2**
MK31	**Makanchi Array**	**65.04**	**333**	*eP*	**P**	**20 53 07.6**	**-1.2**
MKAR	**Makanchi Array**	**65.04**	**333**	P	**P**	**20 53 07.5**	**-1.3**
	comp=Z,3.3nm,0.8s,baz=181,slow=6.1,SNR=30						
MKAR				LR	LR	21 23 00.3	
	comp=Z,48nm,21.4s,baz=160,slow=38						
MKAR	**Makanchi Array**	**65.04**	**333**	*eP*	**P**	**20 53 07.8**	**-1.0**
MKAR	**Makanchi Array**	**65.04**	**333**	*eP*	**P**	**20 53 07.8**	**-1.0**
TKM2	**Tokmak 2**	**65.54**	**327**	*eP*	**P**	**20 53 10.2**	**-2.2**
TKM2	**Tokmak 2**	**65.54**	**327**	*eP*	**P**	**20 53 10.2**	**-2.2**
AAK	**Ala-Archa**	**65.95**	**326**	P	**P**	**20 53 13.8**	**-1.2**
	comp=Z,2.0nm,0.8s,baz=128,slow=3.8,SNR=8.9						
AAK	**Ala-Archa**	**65.95**	**326**	*eP*	**P**	**20 53 14.0**	**-1.0**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AAK	**Ala-Archa**	**65.95**	**326**	*eP*	**P**	**20 53 14.0**	**-1.0**
	comp=Z,4.0nm,0.9s						
EKS2	**Erkin-Say**	**66.37**	**325**	*eP*	P	20 53 15.0	-2.6
EKS2				pmax	pmax		
	comp=Z,5.0nm,1.0s						
EKS2	**Erkin-Say**	**66.37**	**325**	*eP*	P	20 53 15.0	-2.6
	comp=Z,4.9nm,1.0s						
BOD	**Bodaibo**	**67.56**	**357**	*eP*	**P**	**20 53 22.4**	**-2.3**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.2s						
MAW	**Mawson**	**68.28**	**200**	P	**P**	**20 53 28.7**	**-0.4**
	comp=Z,7.1nm,0.7s,baz=82,slow=8.6,SNR=14						
MAW				LR	LR	21 18 33.7	
	comp=Z,61nm,21.9s,baz=60,slow=32						
MAW	**Mawson**	**68.28**	**200**	*eP*	**P**	**20 53 31.2**	**+2.1**
MAW	**Mawson**	**68.28**	**200**	*eP*	**P**	**20 53 31.2**	**+2.1**
KKAR	**Karatay Array**	**68.51**	**324**	P	**P**	**20 53 29.7**	**-1.3**
KKAR	**Karatay Array**	**68.51**	**324**	P	**P**	**20 53 29.7**	**-1.3**
KURK	**Kurchatov**	**69.59**	**334**	*eP*	**P**	**20 53 36.1**	**-1.4**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KURK	**Kurchatov**	**69.59**	**334**	*eP*	**P**	**20 53 36.1**	**-1.4**
	comp=Z,5.5nm,0.8s						
ZAA0	**Zalesovo Array**	**69.70**	**340**	*eP*	P	20 53 34.6	-3.5
ZALV	**Zalesovo Beam**	**69.70**	**340**	P	**P**	**20 53 35.9**	**-2.3**
	comp=Z,2.5nm,0.5s,baz=144,slow=4.7,SNR=16						
ZALV				LR	LR	21 26 43.0	
	comp=Z,26nm,18.1s,baz=70,slow=38						
PEA0B	**Petropavlovsk-**	**71.04**	**24**	P	**P**	**20 53 47.8**	**+1.5**
PETK	**Petropavlovsk-**	**71.04**	**24**	P	P	20 53 43.5	-2.8
	comp=Z,4.4nm,1.0s,baz=208,slow=5.9,SNR=2.7						
VNDA	**Vanda**	**71.20**	**171**	P	**P**	**20 53 46.4**	**-0.6**
	comp=Z,1.4nm,0.4s,baz=311,slow=7.0,SNR=21						
VNDA	**Vanda**	**71.20**	**171**	*eP*	**P**	**20 53 48.1**	**+1.1**
VNDA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
VNDA	**Vanda**	**71.20**	**171**	*eP*	**P**	**20 53 48.1**	**+1.1**
	comp=Z,5.5nm,1.2s						
IMOG	**Moghan**	**72.05**	**313**	*eP*	**P**	**20 53 52.0**	**-1.2**
YAK	**Yakutsk**	**72.20**	**5**	*eP*	**P**	**20 53 55.2**	**+2.1**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
YAK	**Yakutsk**	**72.20**	**5**	*eP*	**P**	**20 53 55.2**	**+2.1**
	comp=Z,7.9nm,0.8s						
GEYT	**Alibeck**	**73.74**	**314**	P	**P**	**20 54 00.6**	**-2.3**
	comp=Z,1.1nm,0.6s,baz=198,slow=9.3,SNR=3.8						
GEYT				LR	LR	21 29 27.5	
	comp=Z,40nm,19.7s,baz=240,slow=38						
ISAD	**Sadrabad**	**74.57**	**307**	*eP*	**P**	**20 54 07.2**	**-0.9**
BRVK	**Borovoye**	**74.94**	**332**	*eP*	**P**	**20 54 07.8**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,11nm,3.1s						
IKAZ	**Kazeroun**	**75.27**	**304**	*eP*	**P**	**20 54 11.9**	**-0.3**
IPIR	**Pirpir**	**77.05**	**307**	*eP*	**P**	**20 54 20.4**	**-1.9**
SEY	**Seymchan**	**77.11**	**15**	*eP*	**P**	**20 54 23.4**	**+1.8**
ABKAR	**Akbulak array**	**78.03**	**325**	*eP*	**P**	**20 54 26.0**	**-1.0**
RAYN	**Ar Rayn**	**78.71**	**296**	*eP*	**P**	**20 54 31.4**	**0.0**
	comp=Z,4.0nm,0.8s						
QSPA	**South Pole Qui**	**80.13**	**180**	P	**P**	**20 54 39.9**	**+1.5**
	comp=Z,5.4nm,0.7s,baz=292,slow=1.2,SNR=34						
QSPA	**South Pole Qui**	**80.13**	**180**	*eP*	**P**	**20 54 39.6**	**+1.2**
	comp=Z,7.9nm,0.9s						
KMBO	**Kilima Mbogo**	**81.25**	**270**	P	**P**	**20 54 47.1**	**+1.4**
	comp=Z,1.2nm,0.5s,baz=150,slow=10,SNR=4.0						
KMBO	**Kilima Mbogo**	**81.25**	**270**	*eP*	**P**	**20 54 46.4**	**+0.8**
KMBO	**Kilima Mbogo**	**81.25**	**270**	*eP*	**P**	**20 54 46.4**	**+0.8**
IDHR	**Dehrash**	**81.27**	**307**	*eP*	**P**	**20 54 43.5**	**-1.7**
TIXI	**Tiksi**	**81.63**	**3**	*eP*	**P**	**20 54 44.2**	**-1.8**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.1s						
TIXI	**Tiksi**	**81.63**	**3**	*eP*	**P**	**20 54 44.2**	**-1.8**
	comp=Z,8.8nm,1.1s						
ARU	**Arti**	**82.42**	**331**	P	P	20 54 48.0	-2.5
ARU	**Arti**	**82.42**	**331**	P	P	20 54 48.0	-2.5
ZEI	**Tsey**	**85.61**	**315**	*eP*	**P**	**20 55 07.5**	**+0.1**
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KBZ	**Khabaz**	**86.59**	**315**	P	**P**	**20 55 12.3**	**+0.5**
	comp=Z,3.3nm,0.8s,baz=56,slow=24,SNR=9.8						
KIV	**Kislovodsk**	**86.81**	**315**	*eP*	P	20 55 16.9	+3.8
KIV				pmax	pmax		
	comp=Z,3.0nm,1.0s						
LBTB	**Lobatse**	**88.55**	**245**	P	**P**	**20 55 23.2**	**+1.2**
LBTB	**Lobatse**	**88.55**	**245**	P	**P**	**20 55 23.2**	**+1.2**
PPT	**Papeete**	**88.81**	**108**	LR	LR	21 36 46.6	
	comp=Z,41nm,18.1s,baz=352,slow=37						
SNAA	**Sanae**	**90.05**	**196**	*eP*	**P**	**20 55 29.6**	**+1.6**
SNAA				pmax	pmax		
	comp=Z,8.0nm,1.3s						
SNAA	**Sanae**	**90.05**	**196**	*eP*	**P**	**20 55 29.6**	**+1.6**
	comp=Z,8.5nm,1.3s						
BRTR	**Keskin Array B**	**92.37**	**310**	P	**P**	**20 55 37.8**	**-1.7**
	comp=Z,1.2nm,0.8s,baz=126,slow=5.8,SNR=9.7						
BRTR				LR	LR	21 41 41.1	
	comp=Z,9.7nm,18.8s,baz=116,slow=38						
OBN	**Obninsk**	**93.48**	**325**	*eP*	**P**	**20 55 43.0**	**-0.9**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**99.79**	**331**	LR	LR	21 49 38.9	
	comp=Z,29nm,18.5s,baz=23,slow=40						
YKA	**Yellowknife Ar**	**115.16**	**24**	PKP	**PKPdf**	**21 01 09.2**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=309,slow=2.1,SNR=12						
TORD	**Torodi Ar. Bea**	**118.19**	**280**	PKP	**PKPdf**	**21 01 16.6**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=42,slow=2.0,SNR=8.8						
NVAR	**Mina Array Bea**	**121.90**	**51**	PKP	**PKPdf**	**21 01 23.9**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=244,slow=6.4,SNR=4.6						
ELK	**Elko**	**123.50**	**47**	PKP	**PKPdf**	**21 01 27.3**	**+0.8**
	comp=Z,1.4nm,0.9s,baz=312,slow=6.9,SNR=5.2						
PDAR	**Pinedale Array**	**126.84**	**43**	PKP	**PKPdf**	**21 01 33.4**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=327,slow=2.5,SNR=3.7						
CPUP	**Villa Florida**	**143.79**	**186**	PKP	PKPab	21 02 02.6	+1.4
	comp=Z,1.1nm,0.9s,baz=187,slow=5.9,SNR=4.4						
LRAL	**Lakeview Retre**	**147.05**	**42**	*e*PKPdf	**PKPdf**	**21 02 10.1**	**+0.4**
LRAL				*e*PKPbc	**PKPbc**	**21 02 12.1**	**+0.3**
TKL	**Tuckaleechee C**	**147.25**	**35**	PKPbc	**PKPdf**	**21 02 11.4**	**+1.4**
	comp=Z,9.7nm,0.7s,baz=155,slow=2.8,SNR=13						
TKL	**Tuckaleechee C**	**147.25**	**35**	*e*PKIKP	**PKPdf**	**21 02 08.4**	**-1.6**
TKL				*e*		21 02 12.9	
TKL	**Tuckaleechee C**	**147.25**	**35**	*e*PKPdf	**PKPdf**	**21 02 08.4**	**-1.6**
TKL				*e*PKPbc	**PKPbc**	**21 02 12.9**	**+0.6**
TIGA	**Tifton**	**150.28**	**41**	*e*PKPbc	**PKPbc**	**21 02 21.2**	**+1.0**
BDFB	**Brasilia**	**151.38**	**208**	PKPbc	**PKPbc**	**21 02 25.0**	**+1.6**
	comp=Z,2.9nm,0.5s,baz=155,slow=3.5,SNR=6.1						
BDFB	**Brasilia**	**151.38**	**208**	PKIKP	**PKPbc**	**21 02 25.0**	**+1.6**
LPAZ	**La Paz**	**153.17**	**166**	PKPbc	**PKPbc**	**21 02 29.2**	**+1.2**
	comp=Z,4.2nm,1.0s,baz=172,slow=2.0,SNR=13						

*ISCJB **08** 20:46:34.8±0.8, 25°.73N±0°.06×109°.8W±0°.2, h10km, mb3.6/1, MS2.8/2, Error ellipse: s-maj=21.3km s-min=7.7km az=15.2*
*IDC **08** 20:46:34.3±1.4, 25°.70N×110°.02W, h0km, mb3.4/1, mb1 3.7/5, mb1mx3.5/27, mbtmp3.3/5, ML3.7/3, MS3.0/4, Ms1 3.0/4, ms1mx2.7/25, Error ellipse: s-maj=26.7km s-min=16.7km az=113.0*
ISC 08 20:46:35.6±1.0, 25°.65N±0°.07×109°.8W±0°.2, h10km, n9, σ0s85/7, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**1.60**	**196**	Pn	**Pn**	**20 47 03.9**	**-0.1**
	24nm,0.3s,baz=251,slow=2.5,SNR=4.9						
LPIG				Sn	**Sg**	**20 47 27.5**	**+0.3**
	21nm,0.3s,baz=343,slow=14,SNR=5.3						
LPIG				LR	LR	20 47 54.4	
	comp=Z,96nm,19.7s,baz=236,slow=50						
TXAR	**Lajitas Array**	**6.58**	**55**	Pn	**Pn**	**20 48 13.0**	**+0.4**
	0.4nm,0.3s,baz=233,slow=12,SNR=12						
TXAR				Lg	Lg	20 50 07.6	
	0.9nm,0.3s,baz=239,slow=31,SNR=7.7						
TXAR				LR	LR	20 50 55.2	
	comp=Z,80nm,20.7s,baz=0.0,slow=39						
ANMO	**Albuquerque**	**9.71**	**17**	Pn	**Pn**	**20 48 55.9**	**+0.4**
	baz=140,slow=17,SNR=2.0						
NVAR	**Mina Array Bea**	**14.62**	**333**	Pn	**Pn**	**20 50 03.6**	**+0.9**
	0.1nm,0.3s,baz=142,slow=15,SNR=2.5						
PDAR	**Pinedale Array**	**17.07**	**1**	P	**P**	**20 50 35.5**	**-1.0**
	0.1nm,0.3s,baz=160,slow=13,SNR=3.0						
YBH	**Yreka Blue Hor**	**19.25**	**330**	LR	LR	20 58 18.4	
	comp=Z,58nm,18.3s,baz=200,slow=37						
TEIG	**Tepich**	**20.56**	**101**	LR	LR	21 00 35.0	
	comp=Z,56nm,21.0s,baz=72,slow=40						
JTS	**JuntasAbangare**	**28.08**	**118**	LR	LR	21 05 11.5	
	comp=Z,23nm,20.2s,baz=142,slow=40						
ILAR	**Eielson Array**	**45.76**	**339**	P	**P**	**20 54 56.1**	**-0.8**
	0.6nm,0.8s,baz=148,slow=7.0,SNR=6.8						

*ISCJB **08** 20:59:57.6±0.3, 42°.25N±0°.04×139°.44E±0°.07, h209km, 3km, mb3.3/9, Error ellipse: s-maj=8.9km s-min=6.0km az=34.0*
*IDC **08** 20:59:58.4±0.9, 42°.23N×139°.43E, h202km±9km, mb3.3/10, mb1 3.4/14, mb1mx3.2/41, mbtmp3.8/14, Error ellipse: s-maj=14.3km s-min=10.2km az=132.0*
*JMA **08** 20:59:58.7±0.1, 42°.27N×139°.41E, h202km±1km, M3.6*
ISC 08 20:59:58.6±0.7, 42°.25N±0°.05×139°.41E±0°.06, h204km±6km, n40, σ0s50/51, mb3.5/9, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOSM	**Okushiri--Mats**	**0.17**	**164**	P	**Pn**	**21 00 25.1**	**-0.3**
JOSM				*e*S	**S**	**21 00 45.3**	**-1.0**
JSH	**Shimam**	**0.61**	**49**	P	**Pn**	**21 00 26.6**	**0.0**
JYM2	**Yakumo 2**	**0.72**	**100**	P	**Pn**	**21 00 27.3**	**+0.1**
JYM2				*e*S	**S**	**21 00 49.8**	**+0.6**
JSR	**Shiriuchi**	**1.04**	**133**	P	**Pn**	**21 00 29.2**	**+0.1**
JSR				*e*S	**S**	**21 00 52.3**	**-0.2**
JNB	**Noboribetsu**	**1.23**	**79**	P	**Pn**	**21 00 30.0**	**-0.4**
JKB	**Kayabe**	**1.26**	**106**	P	**Pn**	**21 00 30.6**	**0.0**
JSK	**Shakotan**	**1.35**	**35**	P	**Pn**	**21 00 31.3**	**-0.1**
JSK				*e*S	**S**	**21 00 56.3**	**-0.4**
JOT	**Ohata**	**1.50**	**125**	P	**Pn**	**21 00 32.5**	**-0.1**
JOT				*e*S	**S**	**21 00 59.2**	**+0.5**
JEW	**Eniwo**	**1.62**	**68**	P	**Pn**	**21 00 34.0**	**+0.3**
JIW	**Iwasaki**	**1.71**	**165**	P	**Pn**	**21 00 35.1**	**+0.4**
JIW				*e*S	**S**	**21 01 02.8**	**+0.6**
JANG	**Nango**	**2.45**	**139**	P	**Pn**	**21 00 41.3**	**-0.9**
JANG				*e*S	**S**	**21 01 14.2**	**-1.5**
JNBK	**Urakawa-nobuka**	**2.48**	**88**	P	**Pn**	**21 00 42.1**	**-0.4**
JNBK				*e*S	**S**	**21 01 16.7**	**+0.6**
JFR	**Furan**	**2.52**	**68**	P	**Pn**	**21 00 42.5**	**-0.4**
JFR				*e*S	**S**	**21 01 16.9**	**-0.1**
JYG	**Yagishiri**	**2.63**	**33**	P	**Pn**	**21 00 43.8**	**-0.3**
JKK2	**Kamakawa 2**	**2.94**	**55**	P	**Pn**	**21 00 47.9**	**+0.2**
JKK2				*e*S	**S**	**21 01 25.1**	**-0.4**
ASAJ	**Asahikawa**	**2.99**	**50**	P	**Pn**	**21 00 48.4**	**+0.1**
	14nm,0.3s,baz=241,slow=11,SNR=155						
ASAJ				S	**S**	**21 01 26.8**	**+0.2**
	2.0nm,0.3s,baz=88,slow=30,SNR=11						
USRK	**Ussuriysk Ar.**	**5.77**	**292**	P	**Pn**	**21 01 22.6**	**-0.2**
	0.8nm,0.3s,baz=103,slow=12,SNR=29						
MAT	**Matsushiro**	**5.77**	**190**	P	**Pn**	**21 01 23.9**	**+0.9**
MJAR	**Matsushiro Arr**	**5.77**	**190**	P	**Pn**	**21 01 23.7**	**+0.7**
	1.0nm,0.3s,baz=1.8,slow=14,SNR=21						
KSRS	**Korea Array**	**10.04**	**245**	P	**Pn**	**21 02 18.5**	**+0.2**
	0.1nm,0.3s,baz=60,slow=14,SNR=7.4						
YAK	**Yakutsk**	**20.65**	**347**	P	**P**	**21 04 23.3**	**+1.1**
	6.2nm,0.4s,baz=129,slow=18,SNR=4.2						
ZALV	**Zalesovo Beam**	**37.39**	**307**	P	**P**	**21 06 51.1**	**-0.3**
	0.9nm,0.3s,baz=90,slow=7.9,SNR=8.0						
MKAR	**Makanchi Array**	**40.22**	**297**	P	**P**	**21 07 14.6**	**-0.5**
	1.2nm,0.5s,baz=82,slow=6.1,SNR=25						
CMAR	**Chiang Mai Arr**	**41.67**	**248**	P	**P**	**21 07 27.7**	**+0.5**
	0.3nm,0.5s,baz=43,slow=7.8,SNR=4.3						
TAPN	**Taplejung**	**44.32**	**268**	*eP*	**P**	**21 07 48.3**	**-0.5**
	5.5nm,0.7s						
JIRN	**Jiri**	**45.28**	**269**	*eP*	**P**	**21 07 56.4**	**0.0**
RAMN	**Ramite**	**45.37**	**268**	*eP*	**P**	**21 07 56.9**	**0.0**
GUN	**Gumba**	**45.38**	**269**	*eP*	**P**	**21 07 57.1**	**0.0**
	16nm,0.5s						
KKN	**Kakani**	**45.89**	**270**	*eP*	**P**	**21 08 01.0**	**+0.1**
	8.4nm,0.8s						
PKI	**Pulchoki**	**45.91**	**269**	*eP*	**P**	**21 08 00.8**	**-0.5**
PKIN	**Phulchoki**	**45.92**	**269**	*eP*	**P**	**21 08 00.8**	**-0.4**
	4.3nm,0.6s						
ILAR	**Eielson Array**	**46.01**	**35**	P	**P**	**21 08 01.1**	**0.0**
	1.4nm,0.9s,baz=280,slow=7.8,SNR=14						
DMN	**Daman**	**46.12**	**270**	*eP*	**P**	**21 08 02.8**	**0.0**
GKN	**Gorkha**	**46.25**	**270**	*eP*	**P**	**21 08 03.5**	**-0.2**
	2.8nm,0.3s						
KOLN	**Koldanda**	**47.15**	**271**	*eP*	**P**	**21 08 10.8**	**+0.1**
	8.1nm,0.5s						
YKA	**Yellowknife Ar**	**60.11**	**31**	P	**P**	**21 09 43.9**	**0.0**
	0.3nm,0.5s,baz=304,slow=6.8,SNR=6.9						
WRA	**Warramunga Arr**	**62.05**	**185**	P	**P**	**21 09 56.6**	**-0.8**
	0.4nm,0.5s,baz=0.9,slow=6.9,SNR=9.4						
FINES	**FINESS Array B**	**63.51**	**330**	P	**P**	**21 10 06.0**	**-0.6**
	1.1nm,0.8s,baz=28,slow=9.5,SNR=4.1						
ASAR	**Alice Springs**	**65.78**	**186**	P	**P**	**21 10 21.8**	**+0.1**
	0.3nm,0.9s,baz=8.7,slow=5.0,SNR=5.9						
PDAR	**Pinedale Array**	**75.11**	**45**	P	**P**	**21 11 18.8**	**+0.5**
	0.7nm,0.6s,baz=341,slow=1.5,SNR=7.7						

*ISCJB **08** 21:04:11.1±0.4, 32°.36N±0°.03×115°.34W±0°.03, h22km±4km, Error ellipse: s-maj=4.8km s-min=4.6km az=29.6*
*NEIC **08** 21:04:12.8±0.5, 32°.33N×115°.39W, h8km, ML3.0(PAS), ML3.4(ECX), After ECX.*
*ECX **08** 21:04:12.8±0.5, 32°.33N×115°.39W, h8km, MD3.2, ML3.4*
*MEX **08** 21:04:13.5±0.3, 32°.35N×115°.35W, h7km±7km, MD3.9*
ISC 08 21:04:10.6±0.8, 32°.35N±0°.03×115°.36W±0°.03, h17km±6km, n23, σ0s56/38, 6C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.08**	**37**	*e*P9	**Pg**	**21 04 13.9**	**-0.2**
CPBX				*e*S	**Sg**	**21 04 16.1**	**-0.2**
CPBX				⇑*e*		21 04

URZ Urewera 16.00 162 Pn **P 21 13 37.0 -0.8**
0.3nm,0.3s,baz=340,slow=2.8,SNR=5.0

STKA Stephens Creek 27.25 245 P **P 21 15 33.7 +0.3**
1.4nm,0.6s,baz=47,slow=7.0,SNR=5.9

STKA Stephens Creek 27.25 245 P **P 21 15 34.2 +0.8**
0.3nm,0.6s

AS31 Alice Springs 33.79 262 *eP* **P 21 16 31.1 -0.2**

ASAR Alice Springs 33.79 262 P **P 21 16 31.2 -0.1**
3.3nm,0.8s,baz=91,slow=9.3,SNR=16

WRAB Tennant Creek 33.99 268 P **P 21 16 31.9 -1.1**
3.7nm,0.9s

WRA Warramunga Arr 34.00 268 P **P 21 16 31.9 -1.2**
0.7nm,0.6s,baz=96,slow=8.6,SNR=6.6

MBWA Marble Bar 47.13 262 *eP* **P 21 18 21.9 +0.3**

MJAR Matsushiro Arr 66.87 332 P **P 21 20 39.8 -1.2**
1.0nm,0.5s,baz=161,slow=6.8,SNR=8.7

QSPA South Pole Qui 66.92 180 *eP* **P 21 20 41.2 +0.1**
2.2nm,0.9s

KSRS Korea Array 72.54 325 P **P 21 21 16.7 +0.9**
2.3nm,0.9s,baz=140,slow=6.2,SNR=12

KSAR Wonju Array Be 72.55 325 P **P 21 21 16.7 +0.8**

USRK Ussuriysk Ar. 75.86 332 P **P 21 21 35.4 +0.3**
1.8nm,0.7s,baz=106,slow=3.8,SNR=8.4

PETK Petropavlovsk- 76.79 352 P **P 21 21 40.7 +0.5**
13nm,0.8s,baz=157,slow=8.0,SNR=9.7

CMAR Chiang Mai Arr 81.42 294 P **P 21 22 08.3 +2.0**
1.7nm,0.6s,baz=133,slow=3.9,SNR=20

CHTO Chiang Mai 81.59 295 *eP* **P 21 22 08.6 +1.4**
1.4nm,0.6s

NVAR Mina Array Bea 90.32 48 P **P 21 22 50.3 +0.1**
0.9nm,0.6s,baz=216,slow=9.2,SNR=5.8

SONM Songino Array 91.20 323 P **P 21 22 53.9 0.0**
0.9nm,0.9s,baz=144,slow=10.0,SNR=3.6

ILAR Eielson Array 93.53 17 P **P 21 23 03.3 -0.9**
1.5nm,0.8s,baz=235,slow=5.3,SNR=14

ARU Arti 121.24 323 *e*PKPdf **PKPdf 21 28 41.1 -0.3**

ARCES ARCESS Array B 129.21 345 PKP **PKPdf 21 28 57.1 +0.8**
1.0nm,0.7s,baz=207,slow=1.4,SNR=6.2

BRTR Keskin Array B 140.29 305 PKhKP PKPpre 21 29 13.8
0.3nm,0.4s,baz=66,slow=3.4,SNR=3.7

OKC Ostrava-Krasne 145.82 328 *e*PKP **PKPab 21 29 31.7 +3.4**

KRLC Kraliky 146.31 329 *e*PKP **PKPab 21 29 30.7 +0.5**

KRLC *ex* x 21 29 32.7

DPC Dobruska-Polom 146.34 330 *e*PKP **PKPab 21 29 32.2 +1.9**

CHOS Chios island 146.34 305 *eP* **PKPab 21 29 30.1 -0.7**

PVCC Panska Ves 146.99 332 *e*PKP **PKPab 21 29 32.7 0.0**

ZKR Zakros 147.01 299 *eP* **PKPab 21 29 32.3 -1.1**

GOPC GO Pecny, Ondr 147.34 331 *e*PKP **PKPbc 21 29 32.8 +0.5**

PRU Pruhonice 147.40 331 *e*PKP **PKPab 21 29 33.6 -0.8**

NPS Neapolis 147.46 300 *eP* **PKPbc 21 29 33.4 +0.3**

EKA Eskdalemuir Ar 147.55 354 PKPbc **PKPbc 21 29 32.2 -0.4**
1.4nm,0.6s,baz=4.2,slow=2.9,SNR=8.9

LAST Lasithi 147.59 300 *eP* **PKPbc 21 29 33.5 -0.1**

NKC Novy Kostel 148.11 333 *e*PKP **PKPbc 21 29 35.1 +0.7**

SIVA Sivas 148.16 299 *eP* **PKPbc 21 29 34.4 -0.5**

CONA Conrad Observa 148.22 327⇑*i*PKiKP **PKiKP 21 29 35.8 -0.7**
3.0nm,0.7s

KHC Kasperske Hory 148.45 331 *e*PKP **PKPbc 21 29 35.7 +0.4**

KHC *ex* x 21 29 40.9

VAM Vamos 148.56 300 *eP* **PKPbc 21 29 34.3 -1.7**

GERES GERESS Array B 148.60 330 PKPbc **PKPbc 21 29 36.3 +0.5**
1.5nm,0.8s,baz=42,slow=2.2,SNR=14

KARN Karanos 148.78 301 *eP* **PKPdf 21 29 33.3 +0.6**

MOA Molln 149.05 329⇓*i*PKPbc **PKPbc 21 29 37.0 +0.1**
4.3nm,1.6s

NEST Nestorio 149.26 311 *eP* **PKPbc 21 29 37.4 -0.3**

SOKA Soboth 149.47 326⇑*i*PKPbc **PKPbc 21 29 37.7 -0.4**
7.3nm,1.7s

KBA Koelnbreinsper 150.04 328⇑*i*PKPbc **PKPbc 21 29 39.2 -0.3**
7.0nm,0.9s

IGT Igoumenitsa 150.13 310 *eP* **PKPbc 21 29 39.1 -0.7**

ABTA Abfaltersbach 150.68 329⇑*i*PKPbc **PKPbc 21 29 40.8 -0.2**
7.9nm,1.3s

WTTA Wattenberg 150.71 330⇑*i*PKiKP **PKiKP 21 29 41.5 -0.3**
13nm,1.4s

MOTA Moosalm 150.89 331⇓*i*PKPbc **PKPbc 21 29 41.3 -0.3**
6.9nm,1.0s

FETA Feichten 151.30 331⇑*i*PKiKP **PKiKP 21 29 43.0 0.0**
4.9nm,1.0s

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*IDC **08** 21:17:12.6±1.2,8.°08S×118.°04E,h0km,mb3.5/4, mb1 3.6/6,mb1mx3.4/27,mbtmp3.4/6,ML3.2/2,Error ellipse: s-maj=41.6km s-min=19.0km az=63.0*
*ISCJB **08** 21:17:15.3±1.1,8.°11S±0.°08×118.°1E±0.°2,h33km,mb3.6/4, Error ellipse: s-maj=22.7km s-min=10.9km az=5.1*

ISC 08 21:17:17.8±1.4,8.°1S±0.°1×118.°1E±0.°2,h35km,n6,σ0°73/7, mb3.6/4,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**3.46**	**28**	Pn		**Pn**	**21 18 09.0**	**-0.3**
	2.0nm,0.3s,baz=215,slow=2.7,SNR=12							
KAPI				Sn		**Sn**	**21 18 49.4**	**+0.3**
	5.8nm,0.3s,baz=171,slow=7.7,SNR=5.0							
WRA	**Warramunga Arr**	**19.66**	**129**	P		**P**	**21 21 43.1**	**-0.8**
	0.1nm,0.3s,baz=303,slow=12,SNR=5.4							
ASAR	**Alice Springs**	**21.68**	**137**	P		**P**	**21 22 05.7**	**0.0**
	1.1nm,0.6s,baz=312,slow=8.7,SNR=19							
STKA	**Stephens Creek**	**32.23**	**140**	P		**P**	**21 23 43.4**	**+0.4**
	1.3nm,0.8s,baz=307,slow=15,SNR=2.9							
MKAR	**Makanchi Array**	**63.24**	**333**	P		**P**	**21 27 42.0**	**-0.7**
	0.1nm,0.2s,baz=142,slow=7.2,SNR=2.3							
ZALV	**Zalesovo Beam**	**67.87**	**340**	P		**P**	**21 28 13.2**	**+0.8**
	0.3nm,0.5s,baz=145,slow=5.3,SNR=2.6							

IDC 08 21:31:44.9±7.0,7.°31S×129.°28E,h272km±79km,mb3.2/2, mb1 3.4/4,mb1mx3.0/32,mbtmp4.0/4,Error ellipse: s-maj=88.0km s-min=29.6km az=72.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.48**	**159**	P		Pn	21 34 45.8	-0.4
	1.8nm,0.3s,baz=341,slow=12,SNR=40							
WRA				S		S	21 37 11.2	-4.5
	0.5nm,0.3s,baz=327,slow=22,SNR=6.3							
ASAR	**Alice Springs**	**16.86**	**165**	P		Pn	21 35 25.4	-0.9
	0.9nm,0.3s,baz=341,slow=12,SNR=49							
ASAR				S		S	21 38 27.6	+1.6
	0.1nm,0.3s,baz=346,slow=27,SNR=3.7							
MKAR	**Makanchi Array**	**68.09**	**327**	P		P	21 42 15.2	-0.4
	0.3nm,0.4s,baz=121,slow=6.7,SNR=8.0							
ZALV	**Zalesovo Beam**	**71.54**	**334**	P		P	21 42 37.0	+0.7
	0.6nm,0.4s,baz=148,slow=6.0,SNR=4.2							

GUC 08 21:39:05.2±0.4,34.°75S×71.°85W,h33km±1km,ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.56**	**117**	*i* P		Pn	21 39 17.2	+0.2
NICH				*i* S		Sn	21 39 25.9	+0.7
TALC	**Talca**	**0.67**	**165**	*i* P		Pn	21 39 19.0	+0.4
TALC				*i* S		Sn	21 39 28.7	+0.9
LNCH	**Linares**	**1.11**	**170**	*eP*		Pb	21 39 25.6	-0.3
LNCH				*eS*		Sb	21 39 41.1	+1.0
LNCH				AML		AML	21 39 41.8	
	comp=N,1μm,0.4s							
CHCH	**Chadas Angostu**	**1.28**	**51**	*eP*		Pb	21 39 28.0	-0.8
CHCH				*eS*		Sb	21 39 45.1	+0.1
COCH	**Cobquecura**	**1.58**	**209**	*eP*		Pb	21 39 32.5	-1.3
CLCH	**Cerro Calan**	**1.73**	**39**	*eP*		Pn	21 39 34.3	+1.1
CLCH				*eP*		Pb	21 39 35.5	-1.1
CLCH				*eS*		Sb	21 39 57.0	-1.1
CLCH				*eS*		Sn	21 39 58.5	+4.3
CLCH				AML		AML	21 40 00.4	
	comp=N,717nm,0.4s							
PEL	**Peldehue**	**1.87**	**31**	*i* P		Pb	21 39 37.4	-1.4
PEL				*i* S		Sb	21 40 01.9	0.0
PEL				AML		AML	21 40 05.0	
	comp=E,1μm,0.3s							
FCH	**Farellones**	**1.92**	**43**	*i* P		Pb	21 39 39.1	-0.9
FCH				*eS*		Sb	21 40 04.8	+0.9
FCH				AML		AML	21 40 10.8	
	comp=N,663nm,0.4s							

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*NIED **08** 21:39:00,24.°90N×123.°50E,h101km,Mw4.3 Best double couple: M0 2.67000×10^15 NP1:φ91.00000°, δ76.00000°,λ179.00000°. NP2:φ181.00000°,δ89.00000°, λ14.00000°.*
*ISCJB **08** 21:39:45.8±0.2,24.°90N±0.°04×123.°52E±0.°02, h120km±3km,mb3.9/27,Error ellipse: s-maj=7.1km s-min=2.8km az=158.6*
*NEIC **08** 21:39:46.9±0.6,24.°81N×123.°56E,h118km±5km,mb4.2/6, Error ellipse: s-maj=13.7km s-min=7.4km az=140.0*
NEIC Recorded [1 JMA] on Iriomote-jima.
*IDC **08** 21:39:47.6±0.8,24.°92N×123.°48E,h120km±8km,mb3.6/23, mb1 3.7/27,mb1mx3.7/42,mbtmp4.0/27,Error ellipse: s-maj=14.7km s-min=13.1km az=90.0*
*JMA **08** 21:39:48.0±0.1,24.°86N×123.°50E,h105km±2km,M4.2 JMA Felt I J1.*

ISC 08 21:39:47.1±0.5,24.°89N±0.°06×123.°51E±0.°03,h116km±5km, n75,σ1°31/110,mb4.0/27,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.59**	**160**	P		**Pn**	**21 40 04.7**	**-0.5**
IRIF				*eS*		**Sn**	**21 40 17.3**	**-1.5**
YOJ	**Yonaguni jima**	**0.62**	**227**	P		**Pn**	**21 40 05.3**	**-0.1**
YOJ				*eS*		**Sn**	**21 40 18.1**	**-1.2**
YOJ	**Yonaguni jima**	**0.62**	**227**	*ePn*		**Pn**	**21 40 05.3**	**-0.1**
YOJ				*eSn*		**Sn**	**21 40 18.0**	**-1.2**
JYNG	**Yonagunijimaku**	**0.67**	**230**	P		**Pn**	**21 40 05.5**	**-0.3**
JYNG				*eS*		**Sn**	**21 40 18.8**	**-1.1**
JIJ	**Ishigaki jima**	**0.78**	**132**	P		**Pn**	**21 40 06.6**	**-0.1**
JIJ				*eS*		**Sn**	**21 40 20.0**	**-1.5**
JISG	**Ishigakijimahi**	**0.79**	**112**	P		**Pn**	**21 40 06.7**	**-0.1**
JISG				*eS*		**Sn**	**21 40 21.2**	**-0.4**
JKRS	**Kuro-shima**	**0.79**	**145**	P		**Pn**	**21 40 07.0**	**+0.2**
JKRS				*eS*		**Sn**	**21 40 21.0**	**-0.7**
HATJ	**Hateruma jima**	**0.87**	**162**	P		**Pn**	**21 40 07.5**	**-0.1**
HATJ				*eS*		**Sn**	**21 40 22.2**	**-0.8**
JTJ	**Tarama**	**1.11**	**103**	P		**Pn**	**21 40 10.4**	**+0.5**
JTJ				*eS*		**Sn**	**21 40 27.3**	**+0.1**
JIRB	**Irabujima**	**1.51**	**92**	P		**Pn**	**21 40 14.9**	**+0.5**
JIRB				*eS*		**Sn**	**21 40 35.2**	**0.0**
JIKM	**Ikemajima**	**1.58**	**88**	P		**Pn**	**21 40 16.0**	**+0.8**
JIKM				*eS*		**Sn**	**21 40 36.9**	**+0.3**
JMJ	**Miyako jima 2**	**1.62**	**92**	P		**Pn**	**21 40 16.5**	**+0.8**
JMJ				*eS*		**Sn**	**21 40 38.0**	**+0.5**
JOGS	**Gusukube**	**1.73**	**94**	P		**Pn**	**21 40 18.1**	**+1.1**
JOGS				*eS*		**Sn**	**21 40 40.5**	**+0.7**
TATO	**Taipei**	**1.83**	**273**	*ePn*		**Pn**	**21 40 19.4**	**+1.1**
TATO				*eSn*		**Sn**	**21 40 42.6**	**+0.4**
NACB	**Ninganchiao**	**1.88**	**248**	*ePn*		**Pn**	**21 40 18.0**	**-0.9**
NACB				*eSn*		**Sn**	**21 40 42.0**	**-1.2**
YHNB	**Yeheng**	**1.95**	**264**	*ePn*		**Pn**	**21 40 20.7**	**+0.9**
YHNB				*eSn*		**Sn**	**21 40 45.5**	**+0.7**
YULB	**Yu-li**	**2.51**	**234**	*ePn*		**Pn**	**21 40 25.9**	**-1.0**
YULB				*eSn*		**Sn**	**21 40 52.4**	**-5.1**
SSLB	**Suanglung**	**2.57**	**245**	*ePn*		**Pn**	**21 40 27.7**	**0.0**
SSLB				*eSn*		**Sn**	**21 40 57.5**	**-1.5**
TWG	**Pinlang**	**3.03**	**228**	*ePn*		**Pn**	**21 40 32.2**	**-1.5**
TPUB	**Ta-pu**	**3.07**	**240**	*ePn*		**Pn**	**21 40 34.7**	**+0.5**
TPUB				*eSn*		**Sn**	**21 41 10.7**	**+0.2**
JKE	**Kume jima 2**	**3.29**	**63**	P		**Pn**	**21 40 37.6**	**+0.5**
JKE				*eS*		**Sn**	**21 41 15.4**	**-0.3**
JAGN	**Aguni-jima**	**3.77**	**63**	P		**Pn**	**21 40 43.8**	**+0.3**
JAGN				*eS*		**Sn**	**21 41 25.7**	**-1.4**
JJT2	**Tamagusuku 2**	**4.03**	**71**	P		**Pn**	**21 40 47.3**	**+0.4**
JJT2				*eS*		**Sn**	**21 41 33.4**	**+0.1**
JNTH	**Nagotoyohara**	**4.38**	**67**	P		**Pn**	**21 40 51.5**	**-0.2**
JNTH				*eS*		**Sn**	**21 41 40.9**	**-1.0**
JIH	**Iheya**	**4.55**	**61**	P		**Pn**	**21 40 53.6**	**-0.3**
JIH				*eS*		**Sn**	**21 41 42.6**	**-3.2**
JOW	**Kunigami**	**4.71**	**65**	P		**Pn**	**21 40 55.3**	**-0.8**
JOW				*eS*		**Sn**	**21 41 46.9**	**-2.8**
JOW	**Kunigami**	**4.71**	**65**	*ePn*		**Pn**	**21 40 55.1**	**-1.0**
JOW				*eSn*		**Sn**	**21 41 47.0**	**-2.8**
JOKE	**Okinoerabujima**	**5.17**	**60**	P		**Pn**	**21 41 01.1**	**-1.2**
JOKE				*eS*		**Sn**	**21 41 57.0**	**-3.9**
JTK	**Tokunoshima**	**5.67**	**58**	P		**Pn**	**21 41 07.6**	**-1.5**
JTK				*eS*		**Sn**	**21 42 09.8**	**-3.2**
JAMN	**Amaminishikomi**	**6.08**	**55**	P		**Pn**	**21 41 12.7**	**-1.8**
JAMN				*eS*		**Sn**	**21 42 18.7**	**-4.0**
JAM	**Amami Oshima**	**6.49**	**56**	P		**Pn**	**21 41 18.2**	**-1.8**
JAM				*eS*		**Sn**	**21 42 28.9**	**-3.7**
JTAJ	**Takarajima**	**6.62**	**49**	P		**Pn**	**21 41 21.1**	**-0.8**
JZK	**Kikaishima**	**6.72**	**58**	P		**Pn**	**21 41 22.0**	**-1.2**
JMZ	**Minamidaito 2**	**7.04**	**81**	P		**Pn**	**21 41 24.6**	**-2.9**
JMZ				*eS*		Sn	21 42 37.2	-8.9
SZP	**Santa**	**7.83**	**202**	*ePn*		**Pn**	**21 41 38.7**	**+0.3**
SZP				*eSn*		**Sn**	**21 43 05.5**	**0.0**
JNU	**Nakatsue**	**10.43**	**36**	P		**Pn**	**21 42 14.3**	**+0.8**
	1.0nm,0.3s,baz=256,slow=4.2,SNR=9.6							
INCN	**Inchon**	**12.84**	**11**	*eP*		**P**	**21 42 52.6**	**+1.1**
KSRS	**Korea Array**	**13.08**	**16**	P		**Pn**	**21 42 49.9**	**+1.4**
	0.9nm,0.3s,baz=192,slow=12,SNR=21							
KS01	**Wonju Array Si**	**13.10**	**16**	*ePn*		**Pn**	**21 42 50.4**	**+1.7**
JCJ	**Chichijima**	**16.94**	**79**	P		**P**	**21 43 39.3**	**+2.2**
	baz=300,slow=20							
MJAR	**Matsushiro Arr**	**17.14**	**44**	P		**Pn**	**21 43 40.6**	**+1.1**
	0.4nm,0.3s,baz=235,slow=12,SNR=14							
USRK	**Ussuriysk Ar.**	**20.47**	**18**	P		**P**	**21 44 14.9**	**-0.6**
	1.7nm,0.6s,baz=209,slow=12,SNR=7.6							
CHTO	**Chiang Mai**	**23.57**	**260**	*eP*		**P**	**21 44 47.2**	**-0.1**
	8.2nm,0.9s							
CM01	**Chiang Mai Arr**	**23.69**	**259**	*eP*		**P**	**21 44 48.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**23.69**	**259**	P		**P**	**21 44 48.9**	**+0.5**
	6.2nm,1.0s,baz=61,slow=8.2,SNR=27							
ASAJ	**Asahikawa**	**24.70**	**34**	P		**P**	**21 44 56.4**	**-0.9**
	3.9nm,0.5s,baz=240,slow=13,SNR=7.5							
SONM	**Songino Array**	**26.61**	**334**	P		**P**	**21 45 14.3**	**-0.3**
	0.9nm,0.5s,baz=152,slow=9.9,SNR=8.1							
SONM				pP		**pP**	**21 45 40.5**	**+0.7**
	0.3nm,0.6s,baz=148,slow=11,SNR=1.5							
TLY	**Talaya**	**30.76**	**336**	P		**P**	**21 45 51.6**	**+0.3**
	1.6nm,0.5s,baz=207,slow=9.5,SNR=3.6							
MK01	**Makanchi Array**	**39.32**	**314**	*eP*		**P**	**21 47 04.0**	**-0.7**
MKAR	**Makanchi Array**	**39.33**	**314**	P		**P**	**21 47 04.8**	**-0.1**
	2.2nm,0.3s,baz=97,slow=13,SNR=79							
MKAR				PcP		**PcP**	**21 49 11.5**	**+0.3**
	0.3nm,0.5s,baz=101,slow=1.5,SNR=3.4							
MKAR	**Makanchi Array**	**39.33**	**314**	*eP*		**P**	**21 47 04.5**	**-0.4**
ZALV	**Zalesovo Beam**	**40.83**	**326**	P		**P**	**21 47 16.1**	**-1.0**
	1.4nm,0.5s,baz=125,slow=8.4,SNR=8.4							
KURK	**Kurchatov**	**42.94**	**319**	*eP*		**P**	**21 47 33.8**	**-0.5**
	2.4nm,0.7s							
TKM2	**Tokmak 2**	**43.02**	**307**	*eP*		**P**	**21 47 36.2**	**+0.9**
	12nm,0.6s							
AAK	**Ala-Archa**	**43.78**	**306**	P		**P**	**21 47 40.6**	**-0.8**
	2.3nm,0.6s,baz=132,slow=3.2,SNR=4.3							
AAK	**Ala-Archa**	**43.78**	**306**	*eP*		**P**	**21 47 42.1**	**+0.8**
	2.5nm,0.7s							
WRA	**Warramunga Arr**	**45.79**	**166**	P		**P**	**21 47 57.8**	**+0.5**
	0.3nm,0.5s,baz=347,slow=8.9,SNR=4.7							
WRA				pP		**pP**	**21 48 24.1**	**0.0**
	1.1nm,0.7s,baz=346,slow=9.0,SNR=4.7							
KKAR	**Karatay Array**	**46.74**	**307**	*eP*		**P**	**21 48 04.3**	**-0.2**
BVAR	**Borovoye Array**	**48.49**	**320**	P		**P**	**21 48 16.7**	**-1.2**
	0.5nm,0.3s,baz=108,slow=9.5,SNR=4.8							
ASAR	**Alice Springs**	**49.31**	**167**	P		**P**	**21 48 24.2**	**-0.2**
	2.0nm,0.4s,baz=354,slow=7.0,SNR=4.9							
ASAR				pP		**pP**	**21 48 53.2**	**+1.6**
	0.7nm,0.5s,baz=348,slow=6.4,SNR=4.2							
ABKAR	**Akbulak array**	**54.47**	**314**	*eP*		**P**	**21 49 02.4**	**-0.2**
	2.0nm,0.4s							
GEYT	**Alibeck**	**56.27**	**300**	P		**P**	**21 49 15.8**	**+0.1**
	3.3nm,0.6s,baz=76,slow=6.3,SNR=6.2							
KBZ	**Khabaz**	**66.69**	**309**	P		**P**	**21 50 25.4**	**-0.2**
	1.2nm,0.7s,baz=56,slow=24,SNR=5.0							
ILAR	**Eielson Array**	**67.62**	**28**	P		**P**	**21 50 30.4**	**-0.7**
	0.2nm,0.4s,baz=278,slow=5.4,SNR=5.7							
ARCES	**ARCESS Array B**	**69.68**	**338**	P		**P**	**21 50 43.5**	**-0.3**
	0.9nm,0.7s,baz=63,slow=5.6,SNR=4.5							
RAYN	**Ar Rayn**	**70.16**	**287**	*eP*		**P**	**21 50 47.5**	**-0.1**
	2.6nm,0.6s							
FINES	**FINESS Array B**	**71.90**	**330**	P		**P**	**21 50 57.1**	**-0.2**
	0.7nm,0.4s,baz=63,slow=5.0,SNR=18							
AKASG	**Malin Array Be**	**73.75**	**319**	P		**P**	**21 51 07.9**	**-0.6**
	0.3nm,0.3s,baz=59,slow=6.1,SNR=4.8							
BRTR	**Keskin Array B**	**74.45**	**307**	P		**P**	**21 51 13.2**	**+0.2**
	0.9nm,0.8s,baz=86,slow=5.1,SNR=5.8							
ASF	**Jabal al Asfar**	**74.50**	**299**	P		**P**	**21 51 13.2**	**-0.1**
	1.0nm,0.4s,baz=291,slow=0.8,SNR=4.3							
NB2	**NORSAR Subarra**	**78.58**	**333**	P		**P**	**21 51 35.4**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=50,slow=5.9							
NOA	**NORSAR Array B**	**78.58**	**333**	P		**P**	**21 51 35.4**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=54,slow=5.7,SNR=4.3							
YKA	**Yellowknife Ar**	**81.49**	**23**	P		**P**	**21 51 51.8**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=306,slow=5.2,SNR=18							
GERES	**GERESS Array B**	**83.63**	**321**	P		**P**	**21 52 02.7**	**0.0**
	comp=Z,0.5nm,0.8s,baz=72,slow=4.3,SNR=6.4							
KEST	**Kesra**	**93.39**	**312**	P		**P**	**21 52 49.7**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=160,slow=5.8,SNR=4.3							

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*ISCJB **08** 21:42:02.4±0.5,37.°32N±0.°04×72.°08E±0.°07,h150km, mb3.4/6,Error ellipse: s-maj=8.0km s-min=4.4km az=154.9*
*IDC **08** 21:42:02.5±4.6,37.°27N×72.°36E,h167km±32km,mb3.2/6, mb1 3.4/11,mb1mx3.1/35,mbtmp3.8/11,Error ellipse: s-maj=43.8km s-min=24.8km az=154.0*
*NNC **08** 21:42:10.6±2.2,37.°86N×71.°99E,h165km±17km,mb2.9, mpv3.8,Error ellipse: s-maj=22.0km s-min=7.2km az=159.0*

ISC 08 21:42:02.7±0.8,37.°38N±0.°07×72.°12E±0.°07,h150km,n39, σ1°77/44,mb3.4/6,9C-5D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.85**	**22**	⇑P		Pn	21 42 51.8	+3.4
	47nm,0.3s							
SFK				⇑S		**Sn**	**21 43 24.9**	**+1.2**
	153nm,0.1s							
DZET	**Dzherino**	**2.96**	**300**	⇑P		Pn	21 42 54.3	+4.6
	13nm,0.4s							
DZET				⇑S		**Sn**	**21 43 29.2**	**+3.2**
	59nm,0.3s							
AML	**Almayashu**	**4.90**	**14**	P		**Pn**	**21 43 17.2**	**+2.0**
	SNR=53							
UCH	**Uchtor**	**5.18**	**20**	P		**Pn**	**21 43 20.9**	**+2.0**
	SNR=58							
KZA	**Kyzart**	**5.28**	**26**	P		**Pn**	**21 43 21.4**	**+1.2**
	SNR=9.5							
EKS2	**Erkin-Say**	**5.43**	**13**	P		**Pn**	**21 43 24.0**	**+2.1**
	SNR=19							
AAK	**Ala-Archa**	**5.56**	**18**	P		**Pn**	**21 43 25.9**	**+2.3**
	SNR=15							
AAK	**Ala-Archa**	**5.56**	**18**	⇓P		**Pn**	**21 43 25.7**	**+2.0**
	15nm,0.5s							
AAK				⇓S		**Sn**	**21 44 26.0**	**-0.8**
	16nm,0.6s							
AAK	**Ala-Archa**	**5.56**	**18**	P		**Pn**	**21 43 25.9**	**+2.3**
	8.2nm,0.3s,baz=168,slow=6.2,SNR=80							
AAK				S		**Sn**	**21 44 26.5**	**-0.3**
	3.2nm,0.3s,baz=352,slow=14,SNR=19							
KBK	**Karagaybulak**	**5.70**	**22**	P		**Pn**	**21 43 27.4**	**+1.8**
	SNR=11							
KK31	**Karatay Array**	**5.85**	**348**	P		**Pn**	**21 43 29.5**	**+2.1**
	1.9nm,0.2s,baz=158,slow=11,SNR=178							
KK31				⇑S		**Sn**	**21 44 31.5**	**-2.1**
	15nm,0.3s,baz=163,slow=23,SNR=29							
CHMS	**Chumysh**	**5.96**	**19**	P		**Pn**	**21 43 30.8**	**+1.8**
	SNR=11							
TKM2	**Tokmak 2**	**6.14**	**25**	P		**Pn**	**21 43 33.1**	**+1.6**
	SNR=21							
TKM2	**Tokmak 2**	**6.14**	**25**	⇓P		**Pn**	**21 43 32.8**	**+1.3**
	7.2nm,0.7s							
TKM2				⇓S		**Sn**	**21 44 40.1**	**-0.9**
	3.5nm,0.6s							
USP	**Ospenovka**	**6.16**	**16**	P		**Pn**	**21 43 33.1**	**+1.6**
	SNR=9.6							
PDGK	**Podgornoye**	**8.18**	**41**	⇑P		Pn	21 44 03.8	+5.4
	2.7nm,0.9s							
PDGK				⇑S		**Sn**	**21 45 34.6**	**+5.2**
	4.0nm,0.9s							
MKAR	**Makanchi Array**	**12.06**	**36**	P		**Pn**	**21 44 49.7**	**+0.1**
	0.1nm,0.3s,baz=220,slow=14,SNR=5.4							
KOLN	**Koldanda**	**13.61**	**131**	*eP*		**Pn**	**21 45 09.3**	**-0.6**
	2.8nm,0.3s							
GKN	**Gorkha**	**14.08**	**128**	*eP*		**Pn**	**21 45 15.8**	**0.0**
	8.4nm,0.3s							
KKN	**Kakani**	**14.63**	**127**	*eP*		**Pn**	**21 45 22.4**	**-0.4**
	7.2nm,0.5s							
DMN	**Daman**	**14.65**	**128**	*eP*		**Pn**	**21 45 23.3**	**+0.3**
	6.1nm,0.3s							
AB31	**Akbulak array**	**14.79**	**327**	⇓P		**P**	**21 45 27.4**	**+0.9**
	1.1nm,0.4s,baz=114,slow=10,SNR=37							
AB31				S		Sn	21 47 59.4	-9.0
	1.2nm,0.5s,baz=131,slow=23,SNR=15							
PKIN	**Phulchoki**	**14.85**	**127**	*eP*		**Pn**	**21 45 26.1**	**+0.5**
	6.8nm,0.3s							
PKI	**Pulchoki**	**14.87**	**127**	*eP*		**Pn**	**21 45 26.4**	**+0.6**
	3.7nm,0.3s							
GUN	**Gumba**	**14.94**	**125**	*eP*		**Pn**	**21 45 27.0**	**+0.3**
	7.2nm,0.5s							
JIRN	**Jiri**	**15.31**	**125**	*eP*		**P**	**21 45 32.2**

CPUP	**Villa Florida**	**16.95**	**59**	Pn		**Pn**	**21 56 43.1**	**-4.0**
	comp=E,0.0nm,0.3s,baz=225,slow=11,SNR=5.4							
CPUP				LR		LR	22 03 58.4	
	comp=E,10μm,18.4s,baz=238,slow=40							
USHA	**Ushuaia**	**19.05**	**171**	P		**Pn**	**21 57 13.0**	**+0.5**
	comp=E,0.4nm,0.3s,baz=296,slow=6.2,SNR=4.2							
USHA				LR		LR	22 04 24.6	
	comp=E,1μm,18.8s,baz=320,slow=36							
EFI	**East Falkland**	**19.09**	**149**	*e*P		**Pn**	**21 57 12.8**	**-0.2**
	comp=E,384nm,2.2s							
LPAZ	**La Paz**	**20.33**	**15**	P		**P**	**21 57 26.5**	**0.0**
	comp=E,4.9nm,0.8s,baz=156,slow=6.5,SNR=19							
LPAZ	**La Paz**	**20.33**	**15**	*e*P		**P**	**21 57 26.1**	**-0.4**
	comp=E,17nm,0.8s							
NNA	**Nana**	**24.20**	**352**	LR		LR	22 05 13.3	
	comp=E,293nm,20.6s,baz=182,slow=31							
SAML	**Samuel**	**28.65**	**22**	*e*P		**P**	**21 58 45.6**	**-0.5**
	comp=E,33nm,2.1s							
ATAH	**Atahualpa**	**29.18**	**350**	LR		LR	22 08 25.4	
	comp=E,251nm,18.8s,baz=190,slow=32							
BDFB	**Brasilia**	**30.57**	**55**	P		**P**	**21 59 01.6**	**-1.7**
	comp=E,11nm,0.8s,baz=218,slow=7.3,SNR=14							
BDFB				LR		LR	22 11 45.1	
	comp=E,142nm,21.5s,baz=222,slow=37							
BDFB	**Brasilia**	**30.57**	**55**	*e*P		**P**	**21 59 02.2**	**-1.0**
PTGA	**Pitinga**	**37.41**	**23**	*e*P		**P**	**22 00 01.0**	**-1.3**
	comp=E,10.0nm,0.8s							
SDV	**Santo Domingo**	**44.85**	**4**	*e*P		**P**	**22 01 04.8**	**+1.1**
	comp=E,9.1nm,1.1s							
VNA3	**Neumayer Olymp**	**47.89**	**157**	P		**P**	**22 01 28.4**	**+1.6**
VNA2	**Neumayer--Watz**	**48.57**	**156**	P		**P**	**22 01 33.5**	**+1.5**
	baz=285,slow=10							
SNAA	**Sanae**	**50.12**	**157**	P		**P**	**22 01 44.8**	**+0.9**
	comp=E,3.7nm,0.8s,baz=271,slow=5.8,SNR=20							
QSPA	**South Pole Qui**	**54.12**	**180**	P		**P**	**22 02 15.4**	**+1.5**
	comp=E,4.6nm,0.8s,baz=140,slow=1.3,SNR=24							
RKT	**Rikitea**	**54.13**	**266**	*e*T		T	23 00 22.6	
	comp=E,0.8nm,0.2s							
VNDA	**Vanda**	**61.78**	**192**	P		**P**	**22 03 09.3**	**+2.2**
	comp=E,0.9nm,1.1s,baz=98,slow=9.9,SNR=2.4							
DWPF	**Disney Wildern**	**64.31**	**352**	*e*P		**P**	**22 03 24.4**	**0.0**
	comp=E,0.8nm,0.6s							
SYO	**Syowa Base**	**64.36**	**158⇑**	*e*P		**P**	**22 03 22.4**	**-2.0**
TBI	**Tubuai**	**65.63**	**258**	*e*LR		LR	22 23 21.8	
	comp=E,332nm,28.5s							
MEH	**Mehetia**	**67.35**	**264**	*e*T		T	23 17 00.0	
	comp=E,32nm,0.2s							
PPT2	**Papeete2**	**68.72**	**263**	*e*S		**S**	**22 12 53.1**	**-1.1**
	comp=E,122nm,24.2s							
PPT2	**Papeete2**	**68.72**	**263**	*e*LR		LR	22 24 44.9	
	comp=E,412nm,24.8s							
PPT	**Papeete**	**68.73**	**263**	LR		LR	22 28 42.1	
	comp=E,243nm,18.1s,baz=158,slow=31							
JCT	**Junction City**	**70.68**	**336**	*e*P		**P**	**22 04 05.0**	**+0.3**
	comp=E,5.5nm,0.9s							
TXAR	**Lajitas Array**	**70.99**	**332**	P		**P**	**22 04 07.4**	**+0.7**
	comp=E,2.0nm,0.7s,baz=155,slow=8.4,SNR=18							
TXAR				LR		LR	22 30 35.5	
	comp=E,167nm,18.8s,baz=0.0,slow=32							
TX31	**Lajitas Ar. Si**	**71.00**	**332**	*e*P		**P**	**22 04 06.8**	**+0.1**
MAW	**Mawson**	**71.51**	**164**	P		**P**	**22 04 10.7**	**+1.5**
	comp=E,1.7nm,0.6s,baz=181,slow=17,SNR=4.8							
MAW				LR		LR	22 36 04.5	
	comp=E,417nm,18.4s,baz=236,slow=36							
SWET	**Sewanee**	**71.90**	**349**	*e*P		**P**	**22 04 12.1**	**+0.1**
MNTX	**Cornudas Mount**	**73.76**	**332**	*e*P		**P**	**22 04 22.7**	**-0.4**
	comp=E,3.4nm,0.8s							
LIC	**Lamto**	**76.63**	**72**	*e*P		**P**	**22 04 40.1**	**+0.1**
	comp=E,36nm,1.4s							
TIC	**Toumodi**	**76.90**	**72**	*e*P		**P**	**22 04 42.0**	**+0.4**
	comp=E,12nm,0.8s							
KIC	**Kosan Boka**	**76.93**	**72**	*e*P		**P**	**22 04 41.8**	**0.0**
	comp=E,25nm,0.9s							
DBIC	**Dimbokro**	**77.04**	**72**	P		**P**	**22 04 41.9**	**-0.4**
	comp=E,7.3nm,0.7s,baz=207,slow=6.4,SNR=12							
DBIC				LR		LR	22 37 36.7	
	comp=E,104nm,18.2s,baz=216,slow=35							
DBIC	**Dimbokro**	**77.04**	**72**	*e*P		**P**	**22 04 42.5**	**+0.2**
	comp=E,9.3nm,0.8s							
ANMO	**Albuquerque**	**77.06**	**333**	*e*P		**P**	**22 04 43.1**	**+0.9**
	comp=E,4.4nm,1.1s							
SNZO	**South Karori**	**80.78**	**225**	*e*P		**P**	**22 05 03.5**	**+1.0**
	comp=E,149nm,1.5s							
URZ	**Urewera**	**81.31**	**229**	LR		LR	22 32 58.8	
	comp=E,134nm,19.9s,baz=164,slow=30							
KNB	**Kanab**	**81.37**	**329**	*e*P		**P**	**22 05 06.4**	**+0.7**
	comp=E,16nm,1.2s							
ECSD	**EROS Data Cent**	**82.19**	**343**	*e*P		**P**	**22 05 09.8**	**+0.2**
	comp=E,16nm,1.3s							
SRU	**San Rafael Swe**	**82.26**	**332**	*e*P		**P**	**22 05 11.3**	**+1.0**
	comp=E,4.0nm,0.9s							
LBTB	**Lobatse**	**82.55**	**115**	*e*P		**P**	**22 05 11.8**	**-0.4**
	comp=E,275nm,3.0s							
R11A	**Troy Canyon, C**	**83.66**	**328**	*e*P		**P**	**22 05 17.6**	**0.0**
	comp=E,3.7nm,1.1s							
DUG	**Dugway, Tooele**	**84.08**	**331**	*e*P		**P**	**22 05 20.0**	**+0.4**
	comp=E,8.2nm,1.3s							
TPH	**Tonopah**	**84.15**	**327**	*e*P		**P**	**22 05 20.8**	**+0.6**
	comp=E,8.2nm,1.3s							
HWUT	**Hardware Ranch**	**84.82**	**332**	*e*P		**P**	**22 05 23.9**	**+0.5**
	comp=E,10nm,1.1s							
NV01	**Mina Array Sit**	**84.92**	**326**	*e*P		**P**	**22 05 24.6**	**+0.6**
NVAR	**Mina Array Bea**	**84.92**	**326**	P		**P**	**22 05 25.1**	**+1.0**
	comp=E,1.4nm,0.7s,baz=152,slow=6.2,SNR=7.6							
PDAR	**Pinedale Array**	**85.10**	**334**	P		**P**	**22 05 25.4**	**+0.5**
	comp=E,0.5nm,0.7s,baz=94,slow=5.9,SNR=5.3							
HVU	**Hansel Valley**	**85.43**	**332**	*e*P		**P**	**22 05 27.1**	**+0.7**
	comp=E,72nm,2.9s							
TOA0	**Torodi Ar. Sit**	**86.10**	**71**	*e*P		**P**	**22 05 29.7**	**-0.5**
TORD	**Torodi Ar. Bea**	**86.10**	**71**	P		**P**	**22 05 29.8**	**-0.4**
	comp=E,2.0nm,0.8s,baz=242,slow=4.0,SNR=11							
TORD				LR		LR	22 40 55.5	
	comp=E,132nm,20.8s,baz=220,slow=34							
TPAW	**Teton Pass**	**86.23**	**334**	*e*P		**P**	**22 05 30.4**	**-0.1**
	comp=E,5.1nm,1.0s							
AGMN	**Agassiz Nation**	**86.36**	**345**	*e*P		**P**	**22 05 30.5**	**-0.1**
	comp=E,116nm,2.6s							
MOOW	**Moose Ponds**	**86.38**	**334**	*e*P		**P**	**22 05 31.4**	**+0.3**
	comp=E,40nm,2.9s							
IMW	**Indian Meadow**	**86.58**	**334**	*e*P		**P**	**22 05 32.1**	**-0.2**
	comp=E,6.8nm,1.3s							
HLID	**Hailey**	**87.58**	**332**	*e*P		**P**	**22 05 36.7**	**-0.2**
	comp=E,40nm,2.3s							
MCMT	**McKenzie Canyo**	**88.07**	**333**	*e*P		**P**	**22 05 40.4**	**+1.0**
ULM	**Lac du Bonnet**	**88.22**	**346**	P		**P**	**22 05 39.1**	**-0.5**
	comp=E,3.2nm,0.7s,baz=135,slow=3.9,SNR=5.2							
SCHQ	**Schefferville**	**90.77**	**4**	P		**P**	**22 05 49.7**	**-1.7**
	comp=E,2.6nm,0.9s,baz=213,slow=16,SNR=2.7							
D08A	**Wollman Farm,**	**92.25**	**331**	*e*P		**P**	**22 05 59.0**	**+0.5**
ESDC	**Sonseca Array**	**98.94**	**47**	LR		LR	22 50 04.5	
	comp=E,106nm,19.5s,baz=250,slow=35							
ASAR	**Alice Springs**	**115.11**	**208**	PKP		**PKPdf**	**22 11 30.4**	**-0.1**
	comp=E,0.3nm,0.7s,baz=121,slow=1.8,SNR=3.3							
ILAR	**Eielson Array**	**115.50**	**333**	PKP		**PKPdf**	**22 11 30.5**	**+0.7**
	comp=E,0.1nm,0.5s,baz=199,slow=1.9,SNR=3.4							
WRA	**Warramunga Arr**	**118.31**	**210**	PKP		**PKPdf**	**22 11 36.3**	**-0.4**
	comp=E,0.5nm,0.9s,baz=140,slow=41,SNR=2.9							
BRTR	**Keskin Array B**	**123.94**	**63**	PKP		**PKPdf**	**22 11 46.6**	**-0.4**
	comp=E,0.6nm,0.7s,baz=146,slow=2.4,SNR=6.7							
TIXI	**Tiksi**	**142.53**	**349**	*e*PKPdf		**PKPdf**	**22 12 21.7**	**+1.1**
ABKAR	**Akbulak array**	**143.96**	**54**	*e*PKPpre		PKPpre	22 12 21.9	
URV	**Urawakonda**	**146.49**	**121**	*e*PKPbc		**PKPab**	**22 12 32.5**	**+0.8**
SKHT	**Srikalahasti**	**147.28**	**126**	*e*PKPbc		**PKPab**	**22 12 33.9**	**-0.8**
NJS	**Nagarjunasagar**	**149.02**	**122**	*e*PKPbc		**PKPbc**	**22 12 37.6**	**+0.3**
HYB	**Hyderabad**	**149.08**	**120**	*i* PKP		**PKPbc**	**22 12 38.0**	**+0.4**
HYB				*e*			22 12 45.0	
HYBB	**Hyderabad (bro**	**149.08**	**120**	*e*PKPbc		**PKPbc**	**22 12 38.1**	**+0.5**
BRVK	**Borovoye**	**149.60**	**45**	*e*PKPdf		**PKPdf**	**22 12 35.0**	**+1.9**
BVAR	**Borovoye Array**	**149.67**	**45**	PKPbc		**PKPbc**	**22 12 36.0**	**-2.0**
	comp=E,2.7nm,0.7s,baz=256,slow=4.3,SNR=16							
YAK	**Yakutsk**	**150.26**	**338**	*e*PKPdf		**PKPbc**	**22 12 37.0**	**-2.0**
YAK				*e*PKPab		**PKPab**	**22 12 46.2**	**+0.9**
RPR	**Rampur**	**150.56**	**118**	*e*PKPbc		**PKPbc**	**22 12 42.1**	**+1.0**
KKAR	**Karatay Array**	**151.62**	**65**	*e*PKPbc		**PKPbc**	**22 12 42.8**	**-0.2**
KKAR				*e*PKPab		**PKPab**	**22 12 52.0**	**+0.3**
AAK	**Ala-Archa**	**154.57**	**65**	*e*PKPbc		**PKPbc**	**22 12 49.4**	**-0.2**
KSH	**Kashi**	**155.76**	**73**	*e*PKP		**PKPdf**	**22 12 44.0**	**+1.2**
KSH				pPKP		**pPKPdf**	**22 12 54.6**	**+0.3**
KSH				PKS		**PKSdf**	**22 16 16.5**	**-0.4**
KSH				SKS		**SKSdf**	**22 19 44.8**	**-1.7**
KSH				PPMZ				
	comp=E,64nm,3.8s							
KSH				LN				
	comp=E,77nm,6.7s							
KSH				LE				
	comp=E,94nm,6.6s							
KSH				LZ				
	comp=E,160nm,5.9s							
DLV	**T Lat**	**155.86**	**185**	*e*PKPdf		**PKPdf**	**22 12 42.7**	**-1.0**
ZALV	**Zalesovo Beam**	**156.68**	**33**	PKP		**PKPdf**	**22 12 43.6**	**+0.3**
	comp=E,0.9nm,0.6s,baz=318,slow=3.1,SNR=6.9							
ZALV				PKPab		**PKPab**	**22 13 13.7**	**+0.9**
	comp=E,3.8nm,0.7s,baz=293,slow=5.1,SNR=9.8							
KOLN	**Koldanda**	**158.95**	**107**	*e*P		**PKPab**	**22 13 23.5**	**-0.2**
	comp=E,111nm,0.7s							
MKAR	**Makanchi Array**	**159.08**	**52**	PKP		**PKPdf**	**22 12 46.3**	**-0.3**
	comp=E,0.5nm,0.7s,baz=270,slow=5.8,SNR=9.1							
MKAR				PKPab		**PKPab**	**22 13 23.8**	**+0.3**
	comp=E,0.9nm,0.7s,baz=283,slow=7.0,SNR=7.7							
MK01	**Makanchi Array**	**159.09**	**52**	*e*PKPdf		**PKPdf**	**22 12 45.9**	**-0.7**
MK01				*e*PKPab		**PKPab**	**22 13 23.9**	**+0.3**
GKN	**Gorkha**	**159.86**	**108**	*e*P		**PKPab**	**22 13 27.5**	**-0.1**
	comp=E,14nm,0.7s							
DMN	**Daman**	**160.03**	**109**	*e*P		**PKPab**	**22 13 28.8**	**+0.3**
	comp=E,12nm,0.8s							
PKI	**Pulchoki**	**160.24**	**110**	*e*P		**PKPab**	**22 13 29.5**	**0.0**
	comp=E,9.7nm,0.8s							
KKN	**Kakani**	**160.25**	**109**	*e*P		**PKPab**	**22 13 29.6**	**+0.2**
	comp=E,17nm,0.7s							
GUN	**Gumba**	**160.77**	**109**	*e*P		**PKPab**	**22 13 32.7**	**+0.9**
	comp=E,23nm,1.1s							
RAMN	**Ramite**	**160.81**	**113**	*e*P		**PKPab**	**22 13 31.9**	**0.0**
	comp=E,14nm,0.8s							
JIRN	**Jiri**	**160.88**	**110**	*e*P		**PKPab**	**22 13 32.5**	**+0.2**
	comp=E,9.8nm,0.7s							
ODAN	**Odare**	**161.35**	**114**	*e*P		**PKPab**	**22 13 34.2**	**0.0**
	comp=E,11nm,0.8s							
TAPN	**Taplejung**	**161.86**	**114**	*e*P		**PKPab**	**22 13 36.9**	**+0.4**
WMQ	**Urumqi**	**163.73**	**56**	*e*PKP		**PKPdf**	**22 12 49.9**	**-1.7**
WMQ				PKS		**PKSdf**	**22 16 21.8**	**-2.8**
WMQ				SKKS			22 24 12.3	
WMQ				LN				
	comp=E,49nm,19.2s							
WMQ				LE				
	comp=E,82nm,20.0s							
WMQ				LZ				
	comp=E,67nm,23.4s							
SONM	**Songino Array**	**168.29**	**0**	PKPab		**PKPab**	**22 14 05.7**	**+1.8**
	comp=E,0.5nm,0.7s,baz=11,slow=2.9,SNR=3.1							
NJ2	**Nanjing**	**168.93**	**252**	*e*PKP		**PKPdf**	**22 12 57.2**	**+1.2**
HHC	**Hu-ho-hao-te**	**173.79**	**321**	*e*PKP		**PKPdf**	**22 12 56.8**	**-1.5**
HHC				pPKP		**pPKPdf**	**22 13 03.0**	**-6.8**
HHC				PP		**PP**	**22 18 25.2**	**+4.8**
HHC				SKS		**SKSdf**	**22 19 57.6**	**-1.1**
HHC				SKKS		**SKKSac**	**22 25 06.0**	**+1.7**
HHC				PPMZ				
	comp=E,56nm,10.3s							
HHC				LN				
	comp=E,80nm,18.6s							
HHC				LE				
	comp=E,92nm,17.2s							
HHC				LZ				
	comp=E,140nm,18.6s							

IDC 08 22:17:32.3±7.2, 19°.84S × 177°.11W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/25, mbtmp3.8/3, MS4.0/1, Ms1 4.0/1, ms1mx2.8/23, Error ellipse: s-maj=313.3km s-min=36.6km az=14.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RPZ	**Rata Peaks**	**25.79**	**200**	LR		LR	22 33 16.3	
	comp=Z,305nm,18.0s,baz=134,slow=37							
ASAR	**Alice Springs**	**45.49**	**256**	P		P	22 25 54.2	+0.5
	1.2nm,0.5s,baz=97,slow=8.1,SNR=28							
WRA	**Warramunga Arr**	**45.52**	**261**	P		P	22 25 53.2	-0.8
	0.4nm,0.3s,baz=96,slow=8.3,SNR=12							
ILAR	**Eielson Array**	**87.49**	**12**	P		P	22 30 21.4	0.0
	0.3nm,0.7s,baz=190,slow=4.6,SNR=3.6							

*ROM **08** 22:23:29.3±0.2, 36°.52N × 15°.30E, h10km, Ml3.6/20, Error ellipse: s-maj=3.4km s-min=2.1km az=115.0*
*CSEM **08** 22:23:29.3, 36°.52N × 15°.30E, h10km, ML3.6/20*
*ISCJB **08** 22:23:30.1±0.6, 36°.54N±0°.03 × 15°.34E±0°.04, h19km±7km, Error ellipse: s-maj=5.8km s-min=4.1km az=37.8*

ISC 08 22:23:30.2±1.3, 36°.55N±0°.03 × 15°.23E±0°.05, h16km±9km, n119, σ1‰30/125, 5C-1D, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HAVL	**Avola**	**0.42**	**348**	Pg		**Pg**	**22 23 38.6**	**-0.1**
	8μm,0.3s							
HAVL	**Avola**	**0.42**	**348**	Pg		**Pg**	**22 23 38.6**	**-0.1**
	8μm,0.3s							
HMDC	**Modica**	**0.55**	**319**	Pg		**Pg**	**22 23 40.0**	**-1.0**
	4μm,0.7s							
HMDC	**Modica**	**0.55**	**319**	Pg		**Pg**	**22 23 40.0**	**-1.0**
	4μm,0.7s							
AGST	**Augusta-Monte**	**0.71**	**360**	Pg		**Pg**	**22 23 43.7**	**-0.3**
AGST				Sg		**Sb**	**22 23 54.4**	**+0.8**
	3μm,0.3s							
AGST	**Augusta-Monte**	**0.71**	**360**	Pg		**Pg**	**22 23 43.7**	**-0.3**
AGST				Sg		**Sb**	**22 23 54.4**	**+0.8**
	3μm,0.3s							
HCRL	**Carlentini**	**0.75**	**348**	Pg		**Pb**	**22 23 44.3**	**-0.6**
	12μm,0.3s							
HCRL	**Carlentini**	**0.75**	**348**	Pg		**Pb**	**22 23 44.3**	**-0.6**
	12μm,0.3s							
WDD	**Wield Dalam**	**0.89**	**220**	Pg		**Pb**	**22 23 46.9**	**-0.3**
WDD				Sg		**Sn**	**22 24 00.9**	**+0.4**
	2μm,0.3s							
WDD	**Wield Dalam**	**0.89**	**220**	Pg		**Pb**	**22 23 46.9**	**-0.3**
WDD				Sg		**Sn**	**22 24 00.9**	**+0.4**
	2μm,0.3s							
RAFF	**Raffo Rosso**	**0.97**	**314**	Pg		**Pb**	**22 23 48.0**	**-0.6**
RAFF				Sg		**Sn**	**22 24 02.8**	**+0.3**
	5μm,0.4s							
RAFF	**Raffo Rosso**	**0.97**	**314**	Pg		**Pb**	**22 23 48.0**	**-0.6**
RAFF				Sg		**Sn**	**22 24 02.8**	**+0.3**
	5μm,0.4s							
ECNV	**Catenanuova**	**1.12**	**338**	Pg		**Pg**	**22 23 51.9**	**0.0**
	2μm,0.6s							
ECNV	**Catenanuova**	**1.12**	**338**	Pg		**Pg**	**22 23 51.9**	**0.0**
	2μm,0.6s							
ESLN	**Serra La Nave**	**1.16**	**350**	Pg		**Pb**	**22 23 52.3**	**+0.3**
ESLN	**Serra La Nave**	**1.16**	**350**	Pg		**Pb**	**22 23 52.3**	**+0.3**
GALF	**Gagliano Caste**	**1.28**	**336**	Pg		**Pn**	**22 23 53.7**	**+0.3**
GALF				Sg		**Sg**	**22 24 12.6**	**+1.1**
GALF	**Gagliano Caste**	**1.28**	**336**	Pg		**Pn**	**22 23 53.7**	**+0.3**
GALF				Sg		**Sg**	**22 24 12.6**	**+1.1**
MMME	**Mongiuffi-Meli**	**1.39**	**1**	Pg		**Pn**	**22 23 55.5**	**+0.6**
	716nm,0.5s							
MMME	**Mongiuffi-Meli**	**1.39**	**1**	Pg		**Pn**	**22 23 55.5**	**+0.6**
	716nm,0.5s							
RESU	**Resuttano**	**1.44**	**320**	Pg		**Pb**	**22 23 56.9**	**+0.2**
RESU	**Resuttano**	**1.44**	**320**	Pg		**Pb**	**22 23 56.9**	**+0.2**
FAVR	**Favara**	**1.45**	**300**	Pg		**Pn**	**22 23 56.1**	**+0.5**
	326nm,0.4s							
FAVR	**Favara**	**1.45**	**300**	Pg		**Pn**	**22 23 56.1**	**+0.5**
	326nm,0.4s							
SOI	**Samo**	**1.66**	**23**	Pg		**Pn**	**22 23 58.9**	**+0.3**
SOI				Sg		**Sb**	**22 24 20.8**	**-0.1**
	168nm,0.5s							
SOI	**Samo**	**1.66**	**23**	Pg		**Pn**	**22 23 58.9**	**+0.3**
SOI				Sg		**Sb**	**22 24 20.8**	**-0.1**
	168nm,0.5s							
CSLB	**Castelbuono**	**1.67**	**326**	Pg		**Pn**	**22 23 59.9**	**+1.1**
	178nm,0.6s							
CSLB	**Castelbuono**	**1.67**	**326**	Pg		**Pn**	**22 23 59.9**	**+1.1**
	178nm,0.6s							
ALJA	**Alia**	**1.68**	**316**	Pg		**Pb**	**22 24 00.1**	**-0.7**
	579nm,1.2s							
ALJA	**Alia**	**1.68**	**316**	Pg		**Pb**	**22 24 00.1**	**-0.7**
	579nm,1.2s							
PLLN	**Pollina**	**1.68**	**329**	Pg		**Pn**	**22 23 59.8**	**+0.8**
	185nm,0.3s							
PLLN	**Pollina**	**1.68**	**329**	Pg		**Pn**	**22 23 59.8**	**+0.8**
	185nm,0.3s							
MILZ	**Milazzo**	**1.72**	**360**	Pg		**Pn**	**22 24 00.5**	**+1.1**
	663nm,0.5s							
MILZ	**Milazzo**	**1.72**	**360**	Pg		**Pn**	**22 24 00.5**	**+1.1**
	663nm,0.5s							
GIB	**Gibilmanna**	**1.73**	**327**	Pg		**Pn**	**22 24 00.6**	**+0.9**
	931nm,0.7s							
GIB	**Gibilmanna**	**1.73**	**327**	Pg		**Pn**	**22 24 00.6**	**+0.9**
	931nm,0.7s							
CEL	**Celeste**	**1.79**	**17**	Pg		**Pn**	**22 24 00.8**	**+0.4**
	235nm,0.5s							
CEL	**Celeste**	**1.79**	**17**	Pg		**Pn**	**22 24 00.8**	**+0.4**
	235nm,0.5s							
LLI	**Lipari**	**1.91**	**353**	Pg		**Pb**	**22 24 04.2**	**-0.4**
LLI	**Lipari**	**1.91**	**353**	Pg		**Pb**	**22 24 04.2**	**-0.4**
CORL	**Corleone**	**2.04**	**312**	Pg		**Pn**	**22 24 04.5**	**+0.6**
CORL	**Corleone**	**2.04**	**312**	Pg		**Pn**	**22 24 04.5**	**+0.6**
IACL	**Alicudi**	**2.10**	**341**	Pg		**Pn**	**22 24 05.2**	**+0.5**
	299nm,0.5s							
IACL	**Alicudi**	**2.10**	**341**	Pg		**Pn**	**22 24 05.2**	**+0.5**
	299nm,0.5s							
CRJA	**Costa Raja**	**2.17**	**306**	Pg		**Pn**	**22 24 05.6**	**-0.1**
	254nm,0.4s							
CRJA	**Costa Raja**	**2.17**	**306**	Pg		**Pn**	**22 24 05.6**	**-0.1**
	254nm,0.4s							
TIP	**Timpagrande**	**2.89**	**24**	Pg		**Pn**	**22 24 16.9**	**+1.3**
	57nm,0.8s							
TIP	**Timpagrande**	**2.89**	**24**	Pg		**Pn**	**22 24 16.9**	**+1.3**
	57nm,0.8s							
LADO	**San Nicola del**	**3.06**	**26**	Pg		**Pn**	**22 24 18.8**	**+0.9**
	122nm,0.4s							
LADO	**San Nicola del**	**3.06**	**26**	Pg		**Pn**	**22 24 18.8**	**+0.9**
	122nm,0.4s							
PIPA	**Pietrapaola**	**3.19**	**23**	Pg		**Pn**	**22 24 21.1**	**+1.5**
	71nm,0.4s							
PIPA	**Pietrapaola**	**3.19**	**23**	Pg		**Pn**	**22 24 21.1**	**+1.5**
	71nm,0.4s							
SIRI	**Monte Sirino -**	**3.66**	**8**	Pg		**Pn**	**22 24 27.3**	**+1.1**
SIRI	**Monte Sirino -**	**3.66**	**8**	Pg		**Pn**	**22 24 27.3**	**+1.1**
CRAC	**Craco**	**3.93**	**14**	Pg		**Pn**	**22 24 32.3**	**+2.5**
CRAC	**Craco**	**3.93**	**14**	Pg		**Pn**	**22 24 32.3**	**+2.5**
LTRZ	**Laterza**	**4.24**	**17**	Pg		**Pn**	**22 24 33.6**	**-0.4**
	126nm,0.9s							
LTRZ	**Laterza**	**4.24**	**17**	Pg		**Pn**	**22 24 33.6**	**-0.4**
	126nm,0.9s							
MATE	**Matera**	**4.25**	**15**	Pg		**Pn**	**22 24 34.5**	**+0.3**
	24nm,0.3s							
MATE	**Matera**	**4.25**	**15**	Pg		**Pn**	**22 24 34.5**	**+0.3**
	24nm,0.3s							
MESG	**Mesagne**	**4.53**	**26**	Pg		**Pn**	**22 24 37.5**	**-0.5**
	82nm,0.2s							
MESG	**Mesagne**	**4.53**	**26**	Pg		**Pn**	**22 24 37.5**	**-0.5**
	82nm,0.2s							
IGT	**Igoumenitsa**	**5.01**	**52**	*e*P		**Pn**	**22 24 44.2**	**-0.4**
PDO	**Prodromos**	**5.15**	**65**	*e*P		**Pn**	**22 24 47.9**	**+1.3**
RLS	**Riolos of Patr**	**5.19**	**71**	*e*P		**Pn**	**22 24 48.6**	**+1.4**
PYL	**PYLOS**	**5.24**	**84**	*e*P		**Pn**	**22 24 48.4**	**+0.6**
AMT	**Artemida-Makis**	**5.27**	**77**	*e*P		**Pn**	**22 24 47.2**	**-1.1**
DRO	**Drossia**	**5.36**	**73**	*e*P		**Pn**	**22 24 51.3**	**+1.9**
ITM	**Ithomi**	**5.41**	**81**	*e*P		**Pn**	**22 24 52.0**	**+1.9**
VSL	**Villasalto**	**5.48**	**304**	Pg		**Pn**	**22 24 50.0**	**-1.1**
VSL	**Villasalto**	**5.48**	**304**	Pg		**Pn**	**22 24 50.0**	**-1.1**
KLV	**Kalavryta, Ach**	**5.71**	**73**	*e*P		**Pn**	**22 24 56.9**	**+2.5**
EVR	**Evrytania**	**5.72**	**64**	*e*P		**Pn**	**22 24 56.5**	**+2.0**
VLX	**Vlachokerasia**	**5.78**	**80**	*e*P		**Pn**	**22 24 56.8**	**+1.4**
KALE	**Kalithea**	**5.79**	**69**	*e*P		**Pn**	**22 24 56.9**	**+1.4**
GUR	**Goura**	**5.84**	**74**	*e*P		**Pn**	**22 24 58.3**	**+2.2**
NEST	**Nestorio**	**5.98**	**48**	*e*P		**Pn**	**22 24 58.2**	**+0.2**
MAKR	**Makrakomi, Fth**	**5.99**	**64**	*e*P		**Pn**	**22 24 58.8**	**+2.6**
DSF	**Desfina**	**6.09**

SPX	**San Pedro Mart**	**1.67**	**168**	*e*P	**Pb**	**22 32 57.1**	**-0.1**
SPX				*e*S	**Sg**	**22 33 20.2**	**-0.1**
SPX				*e*		22 33 22.9	
SPX				AML	AML	22 33 22.9	
	comp=N,231nm,0.4s						
MWC	**Mount Wilson**	**2.39**	**311**	*e*Pb	**Pb**	**22 33 09.1**	**-0.3**
MWC				*e*Sb	**Sb**	**22 33 39.2**	**+0.4**
PASC	**Pasadena Art C**	**2.44**	**308**	*e*Pb	**Pb**	**22 33 09.9**	**-0.2**
PASC				*e*Sn	**Sb**	**22 33 38.8**	**-1.4**
214A	**Organ Pipe Nat**	**2.69**	**105**	*e*Pn	**Pn**	**22 33 08.2**	**-1.1**
GSC	**Goldstone, Bar**	**2.72**	**344**	*e*Pb	**Pb**	**22 33 16.9**	**+1.8**
OSI	**Osito Audit: C**	**3.06**	**310**	*e*Pn	**Pn**	**22 33 17.2**	**+2.7**
ISA	**Isabella, Lake**	**3.67**	**325**	*e*Pb	**Pb**	**22 33 32.3**	**+1.1**
DAC	**Darwin (Calif)**	**3.86**	**339**	*e*Pg	**Pg**	**22 33 38.8**	**-1.6**
TUC	**Tucson**	**4.31**	**94**	*e*Pn	**Pn**	**22 33 32.0**	**+0.4**

*ISCJB **08** 22:40:56.1±0.7, 15°.07N±0°.08×92°.57W±0°.05, h87km, mb3.6/4, Error ellipse: s-maj=12.1km s-min=6.3km az=23.5*
*MEX **08** 22:40:57.9±0.8, 14°.86N×92°.72W, h79km±10km, MD4.2*
*NEIC **08** 22:40:57.9, 14°.86N×92°.72W, h79km, MD4.2(MEX), After MEX.*
*IDC **08** 22:40:58.8±2.3, 15°.23N×92°.50W, h98km±16km, mb3.3/4, mb1 3.6/7, mb1mx3.3/42, mbtmp3.6/7, Error ellipse: s-maj=26.9km s-min=13.9km az=8.0*

ISC 08 22:40:56.6±0.9, 14°.97N±0°.07×92°.60W±0°.04, h87km, n21, σ1°71/34, mb3.6/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.33**	**101**	*e*P	**Pn**	**22 41 10.0**	**+0.1**
THIG				*e*S	**Sn**	**22 41 18.9**	**-0.8**
THIG		**0.33**	**101**	*e*P	**Pn**	**22 41 10.0**	**+0.1**
THIG				*e*S	**Sn**	**22 41 18.9**	**-0.8**
PCIG		**0.94**	**321**	*e*P	**Pn**	**22 41 15.9**	**+0.5**
PCIG				*e*S	**Sn**	**22 41 28.6**	**-1.0**
PCIG		**0.94**	**321**	*e*P	**Pn**	**22 41 15.9**	**+0.5**
PCIG				*e*S	**Sn**	**22 41 28.6**	**-1.0**
CCIG	**Comitan**	**1.38**	**19**	*e*P	**Pn**	**22 41 22.1**	**+1.2**
CCIG				*i* S	**Sn**	**22 41 41.9**	**+2.6**
CCIG	**Comitan**	**1.38**	**19**	*e*P	**Pn**	**22 41 22.1**	**+1.2**
CCIG				*i* S	**Sn**	**22 41 41.9**	**+2.6**
CMIG	**Matias Romero**	**3.04**	**314**	P	**Pn**	**22 41 42.8**	**+0.1**
	8.0nm,0.3s,baz=133,slow=14,SNR=64						
CMIG				S	**Sn**	**22 42 19.0**	**+0.8**
	41nm,0.3s,baz=158,slow=12,SNR=13						
HUIG	**Huatulco**	**3.47**	**284**	*i* P	**Pn**	**22 41 47.2**	**-1.3**
HUIG	**Huatulco**	**3.47**	**284**	*i* P	**Pn**	**22 41 47.2**	**-1.3**
VHO	**Vista Hermosa**	**4.49**	**298**	*e*P	**Pn**	**22 42 04.8**	**+2.3**
VHO				*e*S	**Sn**	**22 42 51.6**	**-2.0**
VHO	**Vista Hermosa**	**4.49**	**298**	*e*P	**Pn**	**22 42 04.8**	**+2.3**
VHO				*e*S	**Sn**	**22 42 51.6**	**-2.0**
TEIG	**Tepich**	**6.66**	**38**	P	**Pn**	**22 42 30.7**	**-1.2**
	129nm,0.3s,baz=238,slow=0.8,SNR=171						
TEIG				S	**Sn**	**22 43 42.3**	**-4.0**
	22nm,0.3s,baz=146,slow=24,SNR=7.7						
TEIG	**Tepich**	**6.66**	**38**	*e*Pn	**Pn**	**22 42 30.6**	**-1.2**
	244nm,0.3s						
TEIG				*e*S	**Sn**	**22 43 44.3**	**-2.0**
JTS	**JuntasAbangare**	**8.80**	**121**	P	**Pn**	**22 43 04.2**	**+3.1**
	1.3nm,0.3s,baz=318,slow=19,SNR=4.5						
JTS	**JuntasAbangare**	**8.80**	**121**	*e*Pn	**Pn**	**22 43 03.0**	**+1.9**
TXAR	**Lajitas Array**	**17.57**	**326**	P	**Pn**	**22 44 56.3**	**+0.2**
	0.1nm,0.3s,baz=131,slow=11,SNR=3.1						
TKL	**Tuckaleechee C**	**22.07**	**19**	P	**P**	**22 45 43.7**	**-0.8**
	2.4nm,0.8s,baz=353,slow=3.1,SNR=3.6						
NVAR	**Mina Array Bea**	**32.55**	**321**	P	**P**	**22 47 21.5**	**+1.7**
	0.9nm,0.6s,baz=137,slow=8.0,SNR=4.5						
NVAR				pP	**pP**	**22 47 41.8**	**+1.9**
	0.4nm,0.5s,baz=143,slow=9.1,SNR=3.0						
YKA	**Yellowknife Ar**	**49.95**	**347**	P	**P**	**22 49 39.8**	**-1.7**
	0.3nm,0.6s,baz=149,slow=7.5,SNR=7.4						
YKA				pP	**pP**	**22 50 02.1**	**-0.6**
	0.2nm,0.6s,baz=150,slow=7.3,SNR=6.0						
ILAR	**Eielson Array**	**61.72**	**337**	P	**P**	**22 51 04.9**	**-0.6**
	0.4nm,0.6s,baz=109,slow=4.9,SNR=5.3						
CMAR	**Chiang Mai Arr**	**144.89**	**341**	PKP	**PKPab**	**23 00 23.2**	**-0.5**
	0.6nm,0.4s,baz=8.1,slow=1.9,SNR=4.9						

*ISCJB **08** 22:45:36.9±0.4, 37°.92N±0°.03×73°.00E±0°.05, h127km, mb3.5/6, Error ellipse: s-maj=6.0km s-min=4.2km az=153.9*
*IDC **08** 22:45:37.0±4.1, 37°.91N×73°.00E, h117km±27km, mb3.3/6, mb1 3.4/11, mb1mx3.1/49, mbtmp3.7/11, Error ellipse: s-maj=43.6km s-min=21.9km az=142.0*
*NNC **08** 22:45:42.2±2.3, 38°.31N×72°.77E, h149km±16km, mb2.8, mpv3.8, Error ellipse: s-maj=23.0km s-min=8.9km az=151.0*

ISC 08 22:45:37.6±0.7, 37°.93N±0°.06×73°.03E±0°.06, h127km, n42, σ1°14/48, mb3.6/6, 7C-7D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.11**	**10**	⇑P	**Pn**	**22 46 15.3**	**+2.3**
	87nm,0.3s						
SFK				⇓S	**Sn**	**22 46 40.6**	**+0.4**
	109nm,0.2s						
KSH	**Kashi**	**2.79**	**55**	Pn	**Pn**	**22 46 19.4**	**-2.2**
KSH				Sn	Sn	22 46 48.7	-6.7
KSH				smax	smax		
	comp=N,2μm,0.4s						
KSH				smax	smax		
	comp=E,1μm,0.5s						
DZET	**Dzherino**	**3.41**	**286**	⇓P	**Pn**	**22 46 30.6**	**+1.0**
	comp=E,7.1nm,0.3s						
DZET				⇓S	**Sn**	**22 47 09.9**	**+0.1**
	comp=E,99nm,0.4s						
AML	**Almayashu**	**4.22**	**7**	P	**Pn**	**22 46 41.7**	**+1.1**
	SNR=30						
UCH	**Uchtor**	**4.44**	**14**	P	**Pn**	**22 46 44.8**	**+1.3**
	SNR=20						
KZA	**Kyzart**	**4.48**	**22**	P	**Pn**	**22 46 44.6**	**+0.6**
	SNR=20						
EKS2	**Erkin-Say**	**4.76**	**7**	P	**Pn**	**22 46 48.9**	**+1.4**
	SNR=20						
AAK	**Ala-Archa**	**4.83**	**13**	P	**Pn**	**22 46 50.2**	**+1.7**
	SNR=20						
AAK	**Ala-Archa**	**4.83**	**13**	⇑P	**Pn**	**22 46 50.0**	**+1.5**
	comp=E,8.3nm,0.6s						
AAK				⇓S	**Sn**	**22 47 43.9**	**+0.4**
	comp=E,17nm,0.6s						
AAK	**Ala-Archa**	**4.83**	**13**	P	**Pn**	**22 46 49.4**	**+0.9**
	comp=E,3.5nm,0.3s,baz=187,slow=14,SNR=51						
AAK				S	**Sn**	**22 47 43.4**	**-0.1**
	comp=E,1.4nm,0.3s,baz=324,slow=22,SNR=15						
KBK	**Karagaybulak**	**4.94**	**17**	P	**Pn**	**22 46 51.1**	**+1.1**
	SNR=9.3						
ULHL	**Ulahol**	**4.96**	**29**	P	**Pn**	**22 46 51.1**	**+0.8**
	SNR=9.5						
CHMS	**Chumysh**	**5.23**	**14**	P	**Pn**	**22 46 54.9**	**+1.2**
	SNR=12						
TKM2	**Tokmak 2**	**5.35**	**21**	P	**Pn**	**22 46 56.7**	**+1.1**
	SNR=14						
TKM2	**Tokmak 2**	**5.35**	**21**	⇑P	**Pn**	**22 46 56.5**	**+0.9**
	comp=E,5.3nm,0.6s						
TKM2				⇑S	**Sn**	**22 47 54.6**	**-1.6**
	comp=E,4.4nm,0.8s						
USP	**Ospenovka**	**5.45**	**11**	P	**Pn**	**22 46 57.5**	**+0.9**
	SNR=8.2						
KK31	**Karatay Array**	**5.51**	**340**	P	**Pn**	**22 46 58.3**	**+0.8**
	comp=E,0.9nm,0.2s,baz=157,slow=11,SNR=116						
KK31				⇑Sn	**Sn**	**22 47 55.5**	**-4.2**
	comp=E,25nm,0.4s,baz=159,slow=23,SNR=42						
DLH	**Dalhousie**	**5.89**	**155**	*e*P	**Sn**	**22 48 11.0**	**+1.7**
PDGK	**Podgornoye**	**7.29**	**40**	⇓P	**Pn**	**22 47 21.6**	**+0.2**
	comp=E,8.0nm,0.8s						
MKAR	**Makanchi Array**	**11.19**	**35**	P	**Pn**	**22 48 14.1**	**+0.3**
	comp=E,0.1nm,0.3s,baz=232,slow=16,SNR=7.9						
GEYT	**Alibeck**	**11.78**	**275**	P	**Pn**	**22 48 20.3**	**-1.4**
	comp=E,0.7nm,0.3s,baz=108,slow=9.5,SNR=6.6						
KOLN	**Koldanda**	**13.47**	**136**	*e*P	**Pn**	**22 48 43.4**	**-0.5**
	comp=E,7.5nm,0.3s						
GKN	**Gorkha**	**13.88**	**132**	*e*P	**Pn**	**22 48 49.0**	**-0.1**
	comp=E,11nm,0.3s						
KKN	**Kakani**	**14.42**	**131**	*e*P	**Pn**	**22 48 56.2**	**+0.2**
	comp=E,9.0nm,0.5s						
DMN	**Daman**	**14.45**	**132**	*e*P	**Pn**	**22 48 56.1**	**-0.3**
	comp=E,5.1nm,0.4s						
PKIN	**Phulchoki**	**14.65**	**131**	*e*P	**Pn**	**22 48 59.6**	**+0.7**
	comp=E,7.8nm,0.6s						
PKI	**Pulchoki**	**14.66**	**131**	*e*P	**Pn**	**22 48 59.5**	**+0.4**
	comp=E,6.5nm,0.5s						
GUN	**Gumba**	**14.69**	**129**	*e*P	**Pn**	**22 48 59.3**	**-0.3**
	comp=E,18nm,0.8s						
AB31	**Akbulak array**	**14.74**	**324**	⇓P	**Pn**	**22 48 58.8**	**-0.8**
	comp=E,0.4nm,0.3s						
AB31				⇑S	Sn	22 51 28.9	-14
	comp=E,5.7nm,0.9s						
JIRN	**Jiri**	**15.06**	**129**	*e*P	**Pn**	**22 49 04.5**	**+0.2**
	comp=E,19nm,0.3s						
RAMN	**Ramite**	**15.83**	**130**	*e*P	**Pn**	**22 49 13.8**	**+0.1**
	comp=E,12nm,0.5s						
TAPN	**Taplejung**	**16.24**	**126**	*e*P	**P**	**22 49 19.0**	**-0.4**
ODAN	**Odare**	**16.38**	**128**	*e*P	**P**	**22 49 20.8**	**-0.2**
	comp=E,8.7nm,0.6s						
AKTO	**Aktyubinsk**	**16.45**	**324**	⇑P	**P**	**22 49 22.0**	**+0.6**
	comp=E,1.6nm,0.6s						
AKTO				⇓S	Sn	22 52 12.4	-11
	comp=E,2.0nm,0.8s						
AKTO	**Aktyubinsk**	**16.45**	**324**	P	**P**	**22 49 21.5**	**+0.2**
	comp=E,0.4nm,0.3s,baz=135,slow=12,SNR=9.5						
ZALV	**Zalesovo Beam**	**17.95**	**23**	P	**P**	**22 49 37.7**	**-0.1**
	comp=E,0.3nm,0.3s,baz=210,slow=11,SNR=11						
FINES	**FINESS Array B**	**37.23**	**325**	P	**P**	**22 52 37.3**	**+0.9**
	comp=E,0.4nm,0.3s,baz=126,slow=9.9,SNR=7.5						
ARCES	**ARCESS Array B**	**40.46**	**336**	P	**P**	**22 53 03.8**	**+0.5**
	comp=E,2.1nm,1.0s,baz=104,slow=10,SNR=8.7						
HFS	**Hagfors**	**42.96**	**321**	P	**P**	**22 53 24.2**	**+0.5**
	comp=E,0.9nm,0.5s,baz=92,slow=12,SNR=9.0						
NOA	**NORSAR Array B**	**44.23**	**322**	P	**P**	**22 53 33.7**	**-0.2**
	comp=E,0.4nm,0.5s,baz=92,slow=7.7,SNR=3.4						
TORD	**Torodi Ar. Bea**	**67.36**	**269**	P	**P**	**22 56 19.7**	**+0.3**
	comp=E,0.3nm,0.5s,baz=46,slow=5.9,SNR=7.4						
YKA	**Yellowknife Ar**	**79.73**	**4**	P	**P**	**22 57 31.5**	**+0.5**
	comp=E,0.1nm,0.4s,baz=350,slow=5.5,SNR=4.3						

*SKHL **08** 22:46:18.3±3.3, 48°.83N×155°.24E, h33km±5km, mb4.4/3*
*ISCJB **08** 22:46:22.3±1.1, 48°.8N±0°.1×155°.0E±0°.2, h43km, Error ellipse: s-maj=21.1km s-min=6.3km az=138.8*
*KRSC **08** 22:46:25.7±1.7, 48°.78N×156°.60E, h30km±12km, ML4.1*
*MOS **08** 22:46:25.7±2.7, 48°.78N×156°.60E, h30km, mb4.2/1, Error ellipse: s-maj=69.7km s-min=9.0km az=80.5*

ISC 08 22:46:22.9±1.7, 48°.7N±0°.1×155°.2E±0°.1, h43km, n34, σ1°93/38, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.07**	**16**	*e*P	**Pn**	**22 46 57.4**	**+2.2**
SKR				*e*S	**Sn**	**22 47 20.1**	**+0.3**
SKR	**Severo-Kuril's**	**2.07**	**16**	PN	Pn	22 46 44.5	-11
SKR				pmax	pmax		
	comp=Z,40nm,0.3s						
SKR	**Severo-Kuril's**	**2.07**	**16**	*e*P	Pn	22 46 46.7	-8.5
SKR				AMB	AMB	22 46 47.0	
	comp=Z,40nm,0.3s						
SKR				*e*S	Sn	22 47 08.0	-12
SKR				A	A	22 47 09.0	
	comp=Z,330nm,0.2s						
SKR				A	A	22 47 09.0	
	comp=Z,280nm,0.2s						
PAU	**Pauzhetka**	**2.96**	**20**	*e*P	**Pn**	**22 47 10.1**	**+2.8**
PAU				*e*S	**Sn**	**22 47 42.0**	**+0.5**
PAU	**Pauzhetka**	**2.96**	**20**	PN	Pn	**22 47 10.1**	**+2.8**
PAU				S	**Sn**	**22 47 42.0**	**+0.5**
ASAK	**Asacha**	**4.07**	**24**	*e*P	**Pn**	**22 47 25.1**	**+2.4**
MTVR	**Mutnovka**	**4.24**	**25**	*e*P	**Pn**	**22 47 27.3**	**+2.3**
MTVR				*e*S	**Sn**	**22 48 13.1**	**-0.1**
RUS	**Russkaya**	**4.29**	**28**	*e*P	**Pn**	**22 47 26.2**	**+0.6**
RUS				*e*S	**Sn**	**22 48 12.3**	**-2.0**
RUS	**Russkaya**	**4.29**	**28**	PN	**Pn**	**22 47 26.2**	**+0.6**
RUS				S	**Sn**	**22 48 12.3**	**-2.0**
RUS	**Russkaya**	**4.29**	**28**	*e*P	**Pn**	**22 47 26.2**	**+0.6**
RUS				*e*S	**Sn**	**22 48 12.3**	**-2.0**
UGLR	**Uglovaya**	**5.06**	**25**	*e*P	**Pn**	**22 47 38.5**	**+2.2**
KOK	**Koryaka**	**5.08**	**24**	*e*P	Pn	22 47 39.9	+3.3
KOK	**Koryaka**	**5.08**	**24**	PN	Pn	22 47 39.9	+3.3
AVH	**Avacha**	**5.09**	**25**	*e*P	**Pn**	**22 47 39.8**	**+3.2**
AVH	**Avacha**	**5.09**	**25**	PN	**Pn**	**22 47 39.8**	**+3.2**
KRER	**Koryakskii**	**5.12**	**24**	*e*P	**Pn**	**22 47 40.1**	**+2.8**
SDLR	**Sedlovina**	**5.14**	**25**	*e*P	**Pn**	**22 47 39.2**	**+1.8**
SDLR	**Sedlovina**	**5.14**	**25**	PN	**Pn**	**22 47 39.2**	**+1.8**
KRX	**Arik**	**5.15**	**24**	*e*P	**Pn**	**22 47 39.9**	**+2.4**
GNL	**Ganaly**	**5.29**	**18**	*e*P	Pn	22 47 43.7	+4.2
GNL	**Ganaly**	**5.29**	**18**	PN	Pn	22 47 43.7	+4.2
SPN	**Mys Shipunski**	**5.35**	**33**	*e*P	**Pn**	**22 47 41.8**	**+1.6**
SPN				*e*S	**Sn**	**22 48 38.5**	**-2.0**
SPN	**Mys Shipunski**	**5.35**	**33**	PN	**Pn**	**22 47 41.8**	**+1.6**
SPN				S	**Sn**	**22 48 38.5**	**-2.0**
SPN	**Mys Shipunski**	**5.35**	**33**	*e*P	**Pn**	**22 47 41.8**	**+1.6**
SPN				*e*S	**Sn**	**22 48 38.5**	**-2.0**
KUR	**Kuril'sk**	**6.11**	**238**	*e*P	**Pn**	**22 47 50.2**	**-0.4**
KUR				AMB	AMB	22 47 51.8	
	comp=Z,90nm,0.8s						
KUR				*e*S	**Sn**	**22 48 55.6**	**-3.5**
MKZ	**Mys Kozlova**	**7.13**	**32**	*e*P	**Pn**	**22 48 04.6**	**+0.1**
MKZ	**Mys Kozlova**	**7.13**	**32**	PN	**Pn**	**22 48 04.6**	**+0.1**
MKZ	**Mys Kozlova**	**7.13**	**32**	*e*P	**Pn**	**22 48 04.6**	**+0.1**
TYV	**Tymovskoe**	**8.42**	**290**	*e*P	**Pn**	**22 48 20.3**	**-1.9**
TYV				AMB	AMB	22 48 21.8	
	comp=Z,20nm,0.9s						
KBTR	**Krutoberegovo**	**8.84**	**29**	*e*P	**Pn**	**22 48 29.0**	**+1.1**
KBTR	**Krutoberegovo**	**8.84**	**29**	PN	**Pn**	**22 48 29.0**	**+1.1**
BKI	**Bering**	**9.30**	**41**	*e*S	Sn	22 50 08.6	-8.7
EKMR	**Ekimchan**	**14.70**	**296**	*e*P	**Pn**	**22 49 47.0**	**-0.9**
BMKR	**Bomnak**	**17.36**	**300**	*e*P	**P**	**22 50 23.6**	**+0.9**

IDC 08 23:03:47.2±61.0, 15°.53S×171°.40W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/28, mbtmp4.0/3, Error ellipse: s-maj=1193.0km s-min=205.8km az=80.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**45.65**	**240**	P	P	23 12 09.7	-0.1
	1.6nm,0.9s,baz=96,slow=13,SNR=4.7						
WRA	**Warramunga Arr**	**51.69**	**257**	P	P	23 12 55.9	-0.6
	0.5nm,0.3s,baz=87,slow=7.6,SNR=4.1						
ASAR	**Alice Springs**	**51.91**	**252**	P	P	23 12 58.4	+0.3
	3.5nm,0.5s,baz=89,slow=8.1,SNR=65						

MAN 08 23:13:47, 13°.58N×122°.74E, h9km, mb4.3, ML3.1, MS2.9, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUQP	**San Andres**	**0.27**	**194**	*e*P	Pb	23 13 53.4	-0.6
AUQP				*e*S	Sb	23 14 00.3	+1.6
GQP	**Guinayangan**	**0.43**	**318**	⇑*e*P	Pb	23 13 56.2	-0.6
GQP				*e*S	Sb	23 14 03.7	+0.3
SJMP	**San Jose**	**1.93**	**235**	*e*P	Pn	23 14 20.1	0.0
RCP	**Roxas**	**2.01**	**180**	⇑*e*P	Pn	23 14 20.9	-0.2
LUBP	**Lubang**	**2.43**	**274**	*e*P	Pn	23 14 27.7	+0.8

*CSEM **08** 23:20:14.3±0.7, 67°.74N×20°.75E, h2km, ML1.1, Error ellipse: s-maj=23.5km s-min=11.8km az=14.0, Mining explosion.*

UPP 08 23:20:13.7, 67°.85N×20°.20E, h0km, ML1.1, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**25**	P	Pg	23 20 20.6	+4.5
KUA				S	Sg	23 20 22.3	+4.6
NIKU	**Nikkaluokta**	**0.44**	**273**	P	Pn	23 20 26.6	-0.7

MAN 08 23:41:30, 9°.16N×122°.69E, h26km, mb4.4, ML3.3, MS3.1, 2C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.57**	**72**	⇑*i*P	Pb	23 41 38.0	-3.5
SNPH				*i* S	Sb	23 41 48.3	-1.0
DCPH	**Dipolog City**	**0.87**	**131**	⇓*e*P	Pn	23 41 47.1	+0.5
DCPH				*e*S	Sn	23 41 59.5	+1.1
IPIL	**Ipil**	**1.37**	**185**	*e*P	Pn	23 41 53.9	+0.4
GUIM	**Jordan**	**1.46**	**356**	*e*P	Pn	23 41 55.1	+0.5
GUIM				*e*S	Sb	23 42 14.3	-0.3
PAGZ	**Pagadian**	**1.48**	**152**	*e*P	Pb	23 41 57.1	+0.4
RCP	**Roxas**	**2.38**	**1**	⇑*e*P	Pb	23 42 10.0	-2.3

*IDC **08** 23:46:22.8±16.0, 36°.29N×20°.98E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/30, mbtmp3.5/4, Error ellipse: s-maj=320.7km s-min=44.8km az=31.0*
*ATH **08** 23:46:32.8, 36°.46N×21°.56E, h23km±1km, MD3.2/4*
*CSEM **08** 23:46:33.2±0.8, 36°.46N×21°.57E, h17km±3km, ML3.2, Error ellipse: s-maj=16.7km s-min=11.5km az=91.0*
*THE **08** 23:46:35.9, 36°.53N×21°.70E, h15km±3km, ML3.2/2, Error ellipse: s-maj=4.0km s-min=1.7km az=323.0*

ISC 08 23:46:28.8±1.6, 36°.32N±0°.08×21°.43E±0°.08, h15km, n23, σ1°21/32, mb3.6/4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.63**	**23**	P	**Pb**	**23 46 42.6**	**+1.1**
PYL				S	**Sb**	**23 46 49.7**	**-0.4**
PYL	**PYLOS**	**0.63**	**23**	*e*PB	**Pb**	**23 46 42.6**	**+1.1**
PYL				*e*SB	**Sg**	**23 46 49.4**	**-0.1**
PYL	**PYLOS**	**0.63**	**23**	P	**Pb**	**23 46 42.6**	**+1.1**
PYL				*e*Sb	**Sg**	**23 46 49.4**	**-0.1**
ITM	**Ithomi**	**0.95**	**25**	P	**Pg**	**23 46 47.8**	**+0.7**
ITM				S	**Sb**	**23 46 58.9**	**-0.4**
ITM	**Ithomi**	**0.95**	**25**	*e*PN	**Pg**	**23 46 47.8**	**+0.7**
ITM				*e*SN	**Sb**	**23 46 59.0**	**-0.4**
ITM	**Ithomi**	**0.95**	**25**	P	**Pg**	**23 46 47.8**	**+0.7**
ITM				S	**Sb**	**23 46 58.9**	**-0.4**
AMT	**Artemida-Makis**	**1.23**	**10**	*e*PN	**Pg**	**23 46 53.2**	**+0.6**
AMT	**Artemida-Makis**	**1.23**	**10**	*e*Pn	**Pg**	**23 46 53.2**	**+0.6**
VLI	**Veliai**	**1.27**	**71**	*e*PN	**Pg**	**23 46 54.6**	**+1.2**
VLI	**Veliai**	**1.27**	**71**	*e*Pn	**Pg**	**23 46 54.6**	**+1.2**
VLX	**Vlachokerasia**	**1.29**	**36**	P	**Pb**	**23 46 53.8**	**+0.9**
VLX				S	**Sb**	**23 47 07.5**	**-1.9**
VLX	**Vlachokerasia**	**1.29**	**36**	*e*PB	**Pn**	**23 46 53.4**	**+0.9**
VLX				*e*SN	**Sn**	**23 47 09.8**	**+0.2**
VLX	**Vlachokerasia**	**1.29**	**36**	*e*Pb	**Pn**	**23 46 53.4**	**+0.9**
VLX	**Vlachokerasia**	**1.29**	**36**	P	**Pb**	**23 46 53.8**	**+0.9**
VLX				S	**Sb**	**23 47 07.5**	**-1.9**
VLX				*e*Sn	**Sn**	**23 47 09.8**	**+0.2**
GUR	**Goura**	**1.77**	**24**	*e*PN	**Pb**	**23 47 01.8**	**+0.8**
GUR	**Goura**	**1.77**	**24**	*e*Pn	**Pb**	**23 47 01.8**	**+0.8**
STON	**Ston**	**7.15**	**337**	*e*Pn	**Pn**	**23 48 12.6**	**-0.1**
STON				Sn	Sn	23 49 26.4	-7.3
UDBI	**Udbina**	**9.27**	**334**	*e*Pn	**Pn**	**23 48 44.1**	**+2.2**
UDBI				Sn	Sn	23 50 19.3	-6.6
NVLJ	**Novalja**	**9.63**	**331**	*e*Pn	**Pn**	**23 48 48.5**	**+1.7**
NVLJ				Sn	Sn	23 50 26.9	-7.7
FINES	**FINESS Array B**	**25.32**	**5**	P	**P**	**23 51 51.4**	**-3.2**
	1.8nm,1.0s,baz=186,slow=11,SNR=4.5						
NOA	**NORSAR Array B**	**25.58**	**348**	P	P	23 51 52.9	-4.1
	1.4nm,1.1s,baz=156,slow=8.3,SNR=2.4						
MKAR	**Makanchi Array**	**45.68**	**57**	P	**P**	**23 54 47.5**	**-1.4**
	0.1nm,0.4s,baz=269,slow=7.3,SNR=4.6						
ZALV	**Zalesovo Beam**	**46.41**	**47**	P	**P**	**23 54 53.3**	**-1.2**
	0.3nm,0.3s,baz=272,slow=8.7,SNR=2.5						

IDC 09 00:10:14.7±3.8, 6°.19S×150°.53E, h0km, mb3.2/2, mb1 3.6/2, mb1mx3.2/18, mbtmp3.3/2, Error ellipse: s-maj=149.5km s-min=48.9km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.84**	**227**	P	P	00 14 57.5	-0.7
	1.1nm,0.7s,baz=54,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**23.62**	**221**	P	P	00 15 28.1	+0.5
	0.5nm,1.0s,baz=58,slow=9.3,SNR=5.1						
TORD	**Torodi Ar. Bea**	**148.53**	**285**	PKPbc	PKPbc	00 30 04.0	-0.7
	0.2nm,0.4s,baz=82,slow=1.4,SNR=6.3						

*IDC **09** 00:36:19.4±3.4, 3°.97S×100°.26E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/24, mbtmp3.6/6, Error ellipse: s-maj=140.5km s-min=21.4km az=57.0*
*ISCJB **09** 00:36:21.1±3.1, 4°.0S±0°.5×100°.2E±0°.7, h27km, mb3.6/6, Error ellipse: s-maj=119.3km s-min=17.3km az=147.3*

ISC 09 00:36:23.5±2.9, 4°.0S±0°.4×100°.3E±0°.7, h27km, n10, σ0°65/7, mb3.6/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**22.31**	**357**	P	**P**	**00 41 19.7**	**+0.6**
	0.6nm,0.4s,baz=190,slow=10,SNR=4.8						
H01W3	**Cape Leeuwin H**	**33.35**	**159**	T	T	01 17 38.3	
	baz=336,slow=76,SNR=6.1						
H01W2	**Cape Leeuwin H**	**33.36**	**159**	T	T	01 17 40.1	
	baz=336,slow=76,SNR=8.3						
H01W1	**Cape Leeuwin H**	**33.36**	**159**	T	T	01 17 40.1	
	baz=336,slow=76,SNR=5.3						
WRA	**Warramunga Arr**	**36.79**	**118**	P	**P**	**00 43 29.5**	**+0.2**
	0.4nm,0

AB31	**Akbulak array**	**15.13 332**	P	**P**		**01 24 46.3**	**-1.6**
	0.4nm,0.3s,baz=136,slow=10,SNR=24						
AB31			⇓S	Sn		01 27 24.4	-7.6
	0.5nm,0.4s,baz=144,slow=21,SNR=8.3						
BVA0	**Borovoye Array**	**16.63 359**	P	**P**		**01 25 06.0**	**+1.5**
	1.5nm,0.9s,baz=165,slow=12,SNR=7.7						
BVAR	**Borovoye Array**	**16.63 359**	P	**P**		**01 25 04.5**	**-0.1**
	0.4nm,0.3s,baz=165,slow=12,SNR=8.7						
AKTO	**Aktyubinsk**	**16.82 331**	⇑P	**P**		**01 25 09.3**	**+2.7**
	3.2nm,0.6s						
AKTO			S	**Sn**		**01 28 07.2**	**-5.6**
AKTO	**Aktyubinsk**	**16.82 331**	P	**P**		**01 25 08.1**	**+1.5**
	0.6nm,0.3s,baz=136,slow=11,SNR=22						
ZALV	**Zalesovo Beam**	**20.05 25**	P	**P**		**01 25 41.2**	**-0.7**
	0.7nm,0.3s,baz=219,slow=9.8,SNR=7.0						
FINES	**FINESS Array B**	**37.51 326**	P	**P**		**01 28 22.3**	**+1.5**
	0.4nm,0.4s,baz=121,slow=10,SNR=7.0						
ARCES	**ARCESS Array B**	**41.20 338**	P	**P**		**01 28 52.5**	**+1.1**
	1.7nm,0.9s,baz=102,slow=8.4,SNR=3.6						
NOA	**NORSAR Array B**	**44.40 323**	P	**P**		**01 29 17.5**	**+0.1**
	0.8nm,0.7s,baz=96,slow=7.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**65.62 269**	P	**P**		**01 31 48.9**	**-1.7**
	0.2nm,0.4s,baz=51,slow=5.9,SNR=8.9						
YKA	**Yellowknife Ar**	**81.35 3**	P	**P**		**01 33 21.0**	**-1.0**
	0.2nm,0.7s,baz=348,slow=5.3,SNR=4.6						

*IDC **09** 01:39:12.4±3.2,25°.09S×177°.35W,h111km±27km, mb3.9/16,mb1 4.1/18,mb1mx4.1/22,mbtmp4.3/18, Error ellipse: s-maj=17.6km s-min=17.3km az=160.0*

*NEIC **09** 01:39:13.8±1.2,25°.18S×177°.32W,h129km±10km, mb4.5/9, Error ellipse: s-maj=9.3km s-min=7.4km az=183.0*

*ISCJB **09** 01:39:15.7±0.4,25°.44S±0°.05×177°.38W±0°.09,h160km, mb4.1/23,Error ellipse: s-maj=12.0km s-min=7.2km az=9.2*

ISC 09 01:39:17.7±0.4,25°.31S±0°.06×177°.4W±0°.1, h160km, n126, σ0s95/135, mb4.1/23, 21C-14D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.96**	**186**	P		P	Pn	01 40 14.3	-3.3
	33nm,0.3s,baz=90,slow=20,SNR=2.0								
RAO				S		**Sn**		**01 41 05.3**	**+1.0**
	627nm,0.3s,baz=94,slow=23,SNR=11								
MSVF	**Nonsavu**	**8.63**	**330**	*e*Pn		**Pn**		**01 41 19.9**	**+0.3**
	54nm,1.0s								
AFI	**Afiamalu**	**12.52**	**26**	*e*Pn		Pn		01 41 59.8	-11
	41nm,0.6s								
PUZ	**Puketiti**	**13.25**	**195**	*e*PN		**P**		**01 42 22.5**	**-1.1**
PUZ				SN		Sn		01 44 31.5	-15
URZ	**Urewera**	**13.72**	**198**	P		**Pn**		**01 42 23.9**	**-1.7**
	3.4nm,0.3s,baz=45,slow=2.1,SNR=18								
URZ				S		Sn		01 44 46.3	-11
	3.0nm,0.3s,baz=297,slow=24,SNR=12								
URZ	**Urewera**	**13.72**	**198**	*e*Pn		**Pn**		**01 42 24.3**	**-1.3**
	15nm,0.5s								
URZ				S		Sn		01 44 46.3	-11
SNGZ	**Shannon Statio**	**14.14**	**197**	*e*PN		**P**		**01 42 32.8**	**-0.9**
KNZ	**Kokohu**	**14.29**	**196**	SN		Sn		01 44 54.6	-17
PXZ	**Pawanui**	**15.45**	**197**	*e*PN		**Pn**		**01 42 45.4**	**-1.6**
BFZ	**Birch Farm**	**16.22**	**197**	*e*PN		**Pn**		**01 42 53.8**	**-2.7**
BFZ				SN		S		01 45 39.9	-16
MRZ	**Mangatainoka R**	**16.39**	**199**	*e*PN		**P**		**01 42 54.1**	**-4.4**
MRZ				SN		S		01 45 41.9	-18
HOWZ	**Holdsworth Sta**	**16.63**	**199**	SN		S		01 45 48.3	-17
THZ	**Tophouse**	**18.26**	**204**	*e*PN		**P**		**01 43 16.7**	**-2.4**
THZ				SN		S		01 46 26.5	-13
MQZ	**McQueen's Vall**	**20.07**	**201**	SN		S		01 47 02.1	-13
CTA	**Charters Tower**	**33.84**	**271**	P		**P**		**01 45 45.5**	**+0.5**
	6.8nm,0.6s,baz=94,slow=11,SNR=12								
CTAO	**Charters Tower**	**33.84**	**271**	*e*P		**P**		**01 45 44.8**	**-0.2**
	6.9nm,0.6s								
STKA	**Stephens Creek**	**36.41**	**250**	P		**P**		**01 46 07.7**	**+0.8**
	1.1nm,0.5s,baz=96,slow=9.6,SNR=7.0								
STKA				PcP		**PcP**		**01 48 29.3**	**+1.6**
	4.1nm,0.6s,baz=94,slow=4.6,SNR=8.0								
PMG	**Port Moresby**	**37.16**	**289**	*e*P		**P**		**01 46 13.5**	**+0.1**
	21nm,0.7s								
COEN	**Coen**	**38.65**	**279**	*e*P		**P**		**01 46 26.8**	**+0.9**
AS31	**Alice Springs**	**44.13**	**261**	*e*P		**P**		**01 47 11.0**	**+0.4**
ASAR	**Alice Springs**	**44.13**	**261**	P		**P**		**01 47 10.0**	**-0.5**
	1.3nm,0.5s,baz=94,slow=8.2,SNR=28								
ASAR				PcP		**PcP**		**01 48 53.3**	**+0.5**
	0.8nm,0.7s,baz=84,slow=5.1,SNR=3.8								
WRAB	**Tennant Creek**	**44.65**	**267**	*e*P		**P**		**01 47 14.3**	**-0.3**
	3.9nm,0.7s								
WRA	**Warramunga Arr**	**44.65**	**267**	P		**P**		**01 47 14.4**	**-0.3**
	2.0nm,0.5s,baz=103,slow=8.1,SNR=10								
WRA				pP		pP		01 47 42.0	-8.1
	0.6nm,0.5s,baz=104,slow=7.7,SNR=4.9								
WRA				PcP		**PcP**		**01 48 54.7**	**0.0**
	2.0nm,1.0s,baz=102,slow=3.4,SNR=3.8								
JAY	**Jayapura**	**46.21**	**293**	P		**P**		**01 47 25.9**	**-1.2**
	5.6nm,0.5s,baz=25,slow=0.8,SNR=7.1								
FORT	**Forrest**	**48.03**	**250**	*e*P		**P**		**01 47 41.9**	**+1.0**
	15nm,0.8s								
VNDA	**Vanda**	**53.20**	**186**	P		**P**		**01 48 20.8**	**+1.9**
	0.7nm,0.8s,baz=17,slow=5.7,SNR=5.9								
KAPI	**Kappang**	**63.33**	**277**	*e*P		**P**		**01 49 29.0**	**-1.2**
MJAR	**Matsushiro Arr**	**74.39**	**324**	P		**P**		**01 50 36.6**	**-1.3**
	1.0nm,0.7s,baz=156,slow=6.4,SNR=4.7								
MAW	**Mawson**	**77.24**	**200**	P		**P**		**01 50 55.6**	**+1.9**
	2.3nm,0.6s,baz=153,slow=9.9,SNR=8.2								
KSRS	**Korea Array**	**80.83**	**319**	P		**P**		**01 51 13.6**	**0.0**
	1.3nm,0.6s,baz=133,slow=5.9,SNR=5.4								
KSAR	**Wonju Array Be**	**80.84**	**319**	P		**P**		**01 51 13.6**	**-0.1**
PEA0B	**Petropavlovsk-**	**81.03**	**345**	*e*P		**P**		**01 51 14.1**	**-0.2**
PETK	**Petropavlovsk-**	**81.03**	**345**	P		**P**		**01 51 14.3**	**0.0**
	18nm,0.7s,baz=141,slow=7.6,SNR=20								
SNAA	**Sanae**	**83.21**	**178**	*e*P		**P**		**01 51 26.2**	**+0.5**
	1.8nm,0.8s								
USRK	**Ussuriysk Ar.**	**83.22**	**326**	P		**P**		**01 51 26.3**	**+0.4**
	2.4nm,0.8s,baz=128,slow=4.1,SNR=5.6								
NVAR	**Mina Array Bea**	**84.17**	**43**	P		**P**		**01 51 29.6**	**-1.6**
	1.8nm,0.6s,baz=218,slow=6.8,SNR=9.6								
IPM	**Ipoh**	**84.28**	**278**	*e*P		**P**		**01 51 32.4**	**+0.3**
TPH	**Tonopah**	**84.61**	**43**	*e*P		**P**		**01 51 32.8**	**-0.7**
	1.6nm,0.8s								
KULM	**Kulim**	**84.97**	**278**	*e*P		**P**		**01 51 34.8**	**-0.7**
TXAR	**Lajitas Array**	**89.21**	**57**	P		**P**		**01 51 54.9**	**-0.8**
	0.4nm,0.6s,baz=202,slow=3.9,SNR=3.5								
TRF	**Thorofare Moun**	**91.02**	**12**	*e*P		**P**		**01 52 02.6**	**-0.8**
	3.9nm,0.8s								
MCK	**McKinley**	**91.53**	**12**	*e*P		**P**		**01 52 05.1**	**-0.4**
	3.7nm,1.0s								
PDAR	**Pinedale Array**	**92.09**	**43**	P		**P**		**01 52 08.9**	**-0.1**
	1.5nm,0.7s,baz=194,slow=1.7,SNR=15								
CMAR	**Chiang Mai Arr**	**92.20**	**289**	P		**P**		**01 52 11.1**	**+1.3**
	1.2nm,0.4s,baz=134,slow=3.3,SNR=11								
ILAR	**Eielson Array**	**92.86**	**13**	P		**P**		**01 52 11.3**	**-0.4**
	0.5nm,0.6s,baz=231,slow=5.3,SNR=8.2								
ZALV	**Zalesovo Beam**	**114.52**	**320**	PKP		PKPdf		01 57 37.4	-0.9
	0.6nm,0.6s,baz=135,slow=0.4,SNR=3.6								
MK31	**Makanchi Array**	**114.83**	**312**	*e*PKP		PKPdf		01 57 38.1	-1.1
MKAR	**Makanchi Array**	**114.83**	**312**	PKP		PKPdf		01 57 38.5	-0.7
	0.5nm,0.5s,baz=262,slow=3.4,SNR=9.9								
KURK	**Kurchatov**	**117.83**	**316**	*e*PKPdf		**PKPdf**		**01 57 44.1**	**-0.7**
TKM2	**Tokmak 2**	**118.85**	**307**	*e*PKPdf		**PKPdf**		**01 57 46.5**	**-0.8**
KBL	**Kabul**	**122.56**	**296**	*e*PKPdf		**PKPdf**		**01 57 54.8**	**+0.1**
KKAR	**Karatay Array**	**122.58**	**306**	*e*PKPdf		**PKPdf**		**01 57 53.8**	**-0.4**
BVAR	**Borovoye Array**	**123.04**	**318**	PKP		**PKPdf**		**01 57 54.5**	**-0.2**
	1.4nm,0.4s,baz=118,slow=1.7,SNR=9.4								
BRVK	**Borovoye**	**123.10**	**318**	*e*PKPdf		**PKPdf**		**01 57 54.7**	**-0.2**
ARU	**Arti**	**129.40**	**323**	*e*PKPdf		**PKPdf**		**01 58 06.7**	**0.0**
AKTO	**Aktyubinsk**	**130.93**	**316**	PKP		**PKPdf**		**01 58 09.6**	**-0.3**
	1.1nm,0.5s,baz=354,slow=4.1,SNR=5.4								
GEYT	**Alibeck**	**131.69**	**299**	PKP		**PKPdf**		**01 58 12.5**	**+0.7**
	1.5nm,0.7s,baz=101,slow=7.7,SNR=3.9								
ARCES	**ARCESS Array B**	**133.72**	**349**	PKP		**PKPdf**		**01 58 14.3**	**-0.3**
	1.9nm,0.5s,baz=14,slow=1.4,SNR=17								
FINES	**FINESS Array B**	**140.50**	**342**	PKhKP		PKPpre		01 58 20.3	
	1.4nm,0.7s,baz=79,slow=2.9,SNR=8.7								
FINES				PKP		**PKPdf**		**01 58 27.7**	**+0.4**
	1.3nm,0.6s,baz=77,slow=3.0,SNR=11								
KBZ	**Khabaz**	**142.47**	**310**	PKhKP		PKPpre		01 58 23.8	
	0.6nm,0.6s,baz=236,slow=24,SNR=2.8								
KBZ				PKP		**PKPdf**		**01 58 30.6**	**-0.7**
	0.8nm,0.6s,baz=53,slow=20,SNR=3.3								
ASCN	**Ascension**	**143.08**	**151**	*e*PKPdf		**PKPdf**		**01 58 33.7**	**+0.3**
NB2	**NORSAR Subarra**	**143.79**	**353**	PKP		PKPab		01 58 30.4	-0.2
	comp=Z,1.2nm,0.7s,baz=16,slow=3.2								
NOA	**NORSAR Array B**	**143.79**	**353**	PKP		PKPab		01 58 30.9	+0.3
	comp=Z,0.9nm,0.6s,baz=59,slow=1.5,SNR=9.9								
NAO01	**NORSAR Array S**	**144.02**	**353**	*e*PKPdf		**PKPab**		**01 58 31.3**	**-0.1**
KONO	**Kongsberg**	**145.33**	**354**	*e*PKPdf		**PKPdf**		**01 58 35.5**	**-0.4**
NACGM	**Naroch**	**145.47**	**335**	*e*		PKPdf		01 58 32.0	-4.3
MALT	**Malatya**	**147.09**	**302**	⇓*i*P		**PKPbc**		**01 58 43.2**	**+1.1**
AKASG	**Malin Array Be**	**147.41**	**328**	PKPbc		**PKPdf**		**01 58 41.8**	**+2.1**
	comp=Z,7.7nm,0.6s,baz=44,slow=4.0,SNR=36								
AKBB	**Malin Array Si**	**147.41**	**328**	*e*PKPbc		**PKPdf**		**01 58 41.6**	**+2.0**
AK01	**Malin Array Si**	**147.42**	**328**	*e*PKPbc		**PKPdf**		**01 58 41.7**	**+2.0**
KIEV	**Kiev**	**147.42**	**328**	*e*PKPbc		**PKPdf**		**01 58 41.6**	**+2.0**
AK02	**Malin Array Si**	**147.44**	**328**	*e*PKPbc		**PKPdf**		**01 58 41.9**	**+2.2**
SUW	**Suwalki**	**147.48**	**337**	*e*PKPbc		**PKPdf**		**01 58 42.1**	**+2.5**
SUW				*e*PKPab		**PKPbc**		**01 58 44.2**	**+1.7**
BSD	**Bornholm Skovb**	**148.87**	**346**	*i* P		**PKPbc**		**01 58 45.8**	**-0.2**
	comp=Z,1.9nm,0.4s								
EKA	**Eskdalemuir Ar**	**149.71**	**6**	PKPbc		**PKPbc**		**01 58 48.0**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=349,slow=3.3,SNR=5.4								
BR131	**Keskin Array S**	**150.29**	**307**	*e*PKPbc		**PKPbc**		**01 58 50.0**	**-0.2**
BR131				*e*PKPab		**PKPab**		**01 58 57.1**	**+0.1**
BRTR	**Keskin Array B**	**150.29**	**307**	PKPbc		**PKPbc**		**01 58 50.1**	**-0.2**
	comp=Z,3.2nm,0.7s,baz=144,slow=4.9,SNR=21								
BRTR				PKPab		**PKPab**		**01 58 57.3**	**+0.2**
	comp=Z,4.9nm,0.7s,baz=80,slow=4.5,SNR=22								
ANTO	**Ankara**	**150.85**	**307**	*e*PKPbc		**PKPbc**		**01 58 51.9**	**+0.5**
ANTO				*e*PKPab		**PKPab**		**01 58 59.3**	**0.0**
TLCR		**151.01**	**320**	⇑*i*P		**PKPbc**		**01 58 51.8**	**+0.3**
KWP	**Kalwaria Pacla**	**151.11**	**332**	⇓*i*P		**PKPbc**		**01 58 52.0**	**+0.4**
KWP	**Kalwaria Pacla**	**151.11**	**332**	*e*PKPbc		**PKPbc**		**01 58 51.8**	**+0.2**
CFR	**Carcaliu**	**151.41**	**320**	⇓*i*P		**PKPbc**		**01 58 52.8**	**+0.4**
BUR08	**Bucovina Ar. S**	**151.42**	**327**	*e*PKPbc		**PKPbc**		**01 58 52.8**	**+0.2**
TESR	**Tescani**	**151.42**	**324**	⇓*i*P		**PKPbc**		**01 58 52.6**	**+0.1**
BURAR	**Bucovina Array**	**151.43**	**327**	⇑*i*P		**PKPbc**		**01 58 52.5**	**-0.1**
TIRR	**Tirgusor**	**151.65**	**319**	⇑*i*P		**PKPbc**		**01 58 52.6**	**-0.4**
VRI	**Vrincioaia**	**151.78**	**323**	⇓*i*P		**PKPbc**		**01 58 53.5**	**+0.2**
TLB	**Topalu**	**151.80**	**319**	⇑*i*P		**PKPbc**		**01 58 54.0**	**+0.7**
CSS	**Prodhromos**	**151.80**	**297**	*e*PKPbc		**PKPbc**		**01 58 53.7**	**0.0**
MSAB	**Monastry St. A**	**152.21**	**319**	⇑*i*P		**PKPbc**		**01 58 54.3**	**0.0**
DOPR	**Dopca**	**152.44**	**324**	⇑*i*P		**PKPbc**		**01 58 56.0**	**+1.2**
MLR	**Muntele Rosu**	**152.45**	**323**	PKPbc		**PKPbc**		**01 58 54.5**	**-0.5**
	baz=7.6,slow=15								
MLR				PKPab		**PKPab**		**01 59 04.7**	**-1.1**
	baz=211,slow=5.9								
MLR	**Muntele Rosu**	**152.45**	**323**	⇑*i*P		**PKPbc**		**01 58 55.0**	**0.0**
OKC	**Ostrava-Krasne**	**152.69**	**338**	⇑*e*PKP		**PKPbc**		**01 58 54.8**	**-0.4**
OKC				*e*PKPAB		**PKPab**		**01 59 06.9**	**+0.4**
DPC	**Dobruska-Polom**	**152.83**	**341**	⇑*e*PKP		**PKPbc**		**01 58 56.2**	**+0.6**
DPC				*e*PKPAB		**PKPab**		**01 59 07.6**	**+0.5**
CLL	**Collm**	**152.83**	**346**	⇓*i*PKPbc		**PKPbc**		**01 58 55.6**	**+0.2**
	comp=Z,6.0nm,0.7s								
CLL				*i* PKPab		**PKPab**		**01 59 06.1**	**-0.9**
	comp=Z,6.0nm,0.7s								
CJR	**Cluj-Napoca**	**152.85**	**327**	⇓*i*P		**PKPbc**		**01 58 56.0**	**+0.3**
KRLC	**Kraliky**	**152.93**	**340**	⇓*e*PKP		**PKPbc**		**01 58 55.9**	**+0.1**
KRLC				*ex*		x		01 59 02.6	
KRLC				*e*PKPAB		**PKPab**		**01 59 07.9**	**+0.3**
MORC	**Moravsky Berou**	**152.94**	**338**	*e*PKPbc		**PKPbc**		**01 58 56.0**	**+0.2**
VOIR		**152.97**	**324**	⇑*i*P		**PKPbc**		**01 58 55.2**	**-0.9**
BRG	**Berggiesshubel**	**153.01**	**344**	*e*PKP		**PKPbc**		**01 58 56.2**	**+0.4**
	comp=Z,5.8nm,0.6s								
BRG				*e*				01 59 07.9	
	comp=Z,3.2nm,0.7s								
PVCC	**Panska Ves**	**153.17**	**343**	⇑*e*PKP		**PKPbc**		**01 58 56.1**	**-0.1**
PVCC				*e*PKPAB		**PKPab**		**01 59 09.0**	**+0.5**
DRGR		**153.22**	**328**	⇓*i*P		**PKPbc**		**01 58 57.1**	**+0.5**
ARR	**Arges**	**153.23**	**324**	⇑*i*P		**PKPbc**		**01 58 57.9**	**+1.3**
PSZ	**Piszkesteto**	**153.61**	**333**	*e*PKPbc		**PKPbc**		**01 58 57.4**	**+0.1**
PSZ				*e*PKPab		**PKPab**		**01 59 10.7**	**+0.2**
LOT	**Lotru**	**153.63**	**325**	⇑*i*P		**PKPbc**		**01 58 57.2**	**-0.4**
PRU	**Pruhonice**	**153.67**	**342**	⇑*e*PKP		**PKPbc**		**01 58 57.6**	**+0.3**
PRU				*ex*		x		01 59 05.9	
PRU				*e*PKPAB		**PKPab**		**01 59 11.0**	**+0.4**
JMB	**Yambol**	**153.86**	**317**	⇓*i*P		PKPdf		01 58 44.0	-5.9
NKC	**Novy Kostel**	**153.97**	**345**	⇑*e*PKP		**PKPbc**		**01 58 57.8**	**-0.2**
NKC				*ex*		x		01 59 05.9	
NKC				*e*PKPAB		**PKPab**		**01 59 11.8**	**-0.1**
SIRR	**Siria**	**154.10**	**329**	⇓*i*P		**PKPbc**		**01 58 58.6**	**+0.2**
KHC	**Kasperske Hory**	**154.71**	**343**	⇑*e*PKP		**PKPbc**		**01 58 59.7**	**+0.1**
KHC				*e*PKPAB		**PKPab**		**01 59 15.5**	**+0.4**
GERES	**GERESS Array B**	**154.94**	**342**	PKP		**PKPdf**		**01 58 51.5**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=66,slow=3.2,SNR=4.3								
GERES				PKPbc		**PKPbc**		**01 59 00.3**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=24,slow=3.2,SNR=5.8								
GERES				PKPab		**PKPab**		**01 59 16.4**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=29,slow=3.0,SNR=7.3								
CONA	**Conrad Observa**	**155.10**	**338**	⇓*i*PKPab		**PKPab**		**01 59 17.4**	**+0.5**
	comp=Z,5.8nm,1.0s								
PKSM	**Moragy**	**155.49**	**332**	⇓*i*P		PKPdf		01 59 00.9	+8.9
VTS	**Vitosha**	**155.81**	**321**	⇓*i*P		**PKPab**		**01 59 21.0**	**+0.8**
MMB	**Musomiste**	**156.11**	**318**	⇑*i*P		**PKPab**		**01 59 21.9**	**+0.5**
SOKA	**Soboth**	**156.47**	**338**	⇑*i*PKPab		**PKPab**		**01 59 22.9**	**+0.1**
	comp=Z,5.6nm,1.2s								
DIVS	**Divibare**	**156.49**	**327**	⇓*i*P		**PKPab**		**01 59 23.2**	**+0.2**
WTTA	**Wattenberg**	**156.93**	**344**	⇑*i*PKPab		**PKPab**		**01 59 25.2**	**+0.3**
	comp=Z,4.2nm,0.5s								
ABTA	**Abfaltersbach**	**157.18**	**342**	⇑*i*PKPab		**PKPab**		**01 59 24.9**	**-0.9**
	comp=Z,4.2nm,0.6s								
DAVOX	**Davos/Dischmat**	**157.79**	**347**	PKPab		**PKPab**		**01 59 28.6**	**0.0**
	comp=Z,3.7nm,0.8s,baz=1.3,slow=7.9,SNR=5.8								
AQU	**L'Aquila**	**160.79**	**335**	*e*PKPdf		**PKPdf**		**01 58 58.7**	**0.0**
AQU				*e*PKPab		**PKPab**		**01 59 40.6**	**-1.0**
TIP	**Timpagrande**	**161.72**	**323**	*e*PKPab		**PKPab**		**01 59 45.4**	**-0.5**
TOA0	**Torodi Ar. Sit**	**167.88**	**176**	*e*PKPdf		**PKPdf**		**01 59 05.0**	**-0.7**
TORD	**Torodi Ar. Bea**	**167.88**	**176**	PKP		**PKPdf**		**01 59 05.5**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=326,slow=0.1,SNR=11								
TORD				PKPab		**PKPab**		**02 00 14.5**	**+1.2**
	comp=Z,0.8nm,0.9s,baz=169,slow=4.0,SNR=3.4								
KEST	**Kesra**	**168.08**	**332**	PKPab		**PKPab**		**02 00 13.4**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=310,slow=5.5,SNR=4.0								

IDC 09 01:42:34.8±2.4,71°.30N×3°.23W,h0km, mb3.3/2, mb1 3.5/8,mb1mx3.2/44,mbtmp3.5/8,ML3.2/6,MS2.8/6, Ms1 2.8/6,ms1mx2.6/35,Error ellipse: s-maj=39.3km s-min=25.7km az=114.0,Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SPITS	**Spitsbergen Ar**	**8.55**	**28**	Pn		Pn		01 44 38.6	-1.1
	baz=221,slow=15,SNR=6.9								
ARCES	**ARCESS Array B**	**9.75**	**87**	Pn		Pn		01 44 56.1	0.0
	0.2nm,0.3s,baz=295,slow=11,SNR=12								
ARCES				LR		LR		01 48 09.5	
	comp=Z,39nm,19.6s,baz=268,slow=34								
NOA	**NORSAR Array B**	**11.79**	**144**	Pn		Pn		01 45 24.9	+0.8
	0.1nm,0.3s,baz=331,slow=12,SNR=2.9								
NOA				LR		LR		01 49 40.9	
	comp=Z,41nm,21.8s,baz=340,slow=36								
HFS	**Hagfors**	**13.12**	**140**	Pn		Pn		01 45 43.8	+1.7
	0.3nm,0.3s,baz=340,slow=12,SNR=13								
HFS				LR		LR		01 50 33.4	
	comp=Z,66nm,20.9s,baz=330,slow=36								
FINES	**FINESS Array B**	**15.14**	**116**	Pn		Pn		01 46 10.2	+0.5
	0.1nm,0.3s,baz=330,slow=7.3,SNR=5.1								
FINES				LR		LR		01 51 30.9	
	comp=Z,48nm,18.7s,baz=271,slow=35								
EKA	**Eskdalemuir Ar**	**16.03**	**180**	Pn		Pn		01 46 21.4	+0.1
	baz=358,slow=12,SNR=2.6								
RES	**Resolute Bay**	**24.49**	**320**	LR		LR		01 56 55.3	
	comp=Z,45nn,18.5s,baz=256,slow=35								
AKASG	**Malin Array Be**	**25.37**	**127**	P		P		01 48 02.6	-0.6
	0.2nm,0.4s,baz=340,slow=9.6,SNR=2.8								
MLR	**Muntele Rosu**	**29.44**	**136**	LR		LR		02 00 55.8	
	comp=Z,9.7nm,19.6s,baz=330,slow=37								
TORD	**Torodi Ar. Bea**	**58.20**	**174**	P		P		01 52 30.3	-0.1
	0.5nm,0.9s,baz=351,slow=5.9,SNR=3.0								

WEL 09 02:02:16.7±0.3,36°.65S×177°.06E,h5km,ML3.9/5,1C, Error ellipse: s-maj=3.0km s-min=1.5km az=0.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MYRZ	**Mayor Island**	**0.91**	**226**	P*		Pg		02 02 33.8	-0.4
MYRZ				S*		Sg		02 02 46.0	-0.1
KUZ	**Kuaotunu**	**1.08**	**264**	⇑P*		Pg		02 02 37.1	-0.3
KUZ				S*		Sg		02 02 50.9	-0.5
KUZ				AML		AML		02 02 51.5	
KUZ				AML		AML		02 02 53.4	
KUZ				AML		AML		02 02 53.4	
OPRZ	**Ohinepanea**	**1.26**	**198**	P*		Pg		02 02 38.6	-2.4
MXZ	**Matakaoa Point**	**1.35**	**133**	P*		Pn		02 02 40.0	-2.3
MXZ				S*		Sb		02 02 56.3	-3.9
MKAZ	**Moumakai**	**1.58**	**252**	PN		Pn		02 02 44.3	-1.1
MKAZ				SN		Sn		02 03 06.0	-0.4
MKAZ				AML		AML		02 03 07.2	
WMGZ	**Waiomatatini S**	**1.59**	**138**	PN		Pn		02 02 45.2	-0.4
URZ	**Urewera**	**1.61**	**179**	P*		Pn		02 02 43.6	-2.2

*BJI **09** 02:02:31.2,8°.77S×129°.18E,h40km,mb5.1/64,mB5.2/44, Ms5.0/64,Ms7 4.8/61*

*IDC **09** 02:02:32.5±0.3,8°.13S×128°.91E,h0km,mb5.2/36, mb1 5.2/37,mb1mx5.2/38,mbtmp5.2/37,ML4.5/1,MS4.8/21, Ms1 4.8/21,ms1mx4.6/39,Error ellipse: s-maj=13.1km s-min=8.9km az=69.0*

*NEIC **09** 02:02:38.0±0.4,8°.17S×128°.94E,h37km±3km,mb5.5/81, MS5.1/147,MW5.3,Error ellipse: s-maj=3.6km s-min=2.8km az=212.0 Best double couple: NP1: ϕs240.00000°,δ60.00000°,λ99.00000°. NP2:ϕs41.00000°, δ31.00000°,λ74.00000°. Principal axes: T 1.0700, Plg72.0000°, Azm172.0000°; N 0.2000, Plg8.0000°, Azm55.0000°; P -1.2700, Plg14.0000°, Azm322.0000°;*

*MOS **09** 02:02:38.0±0.8,7°.66S×128°.83E,h33km,mb5.5/53, MS4.9/40 Error ellipse: s-maj=10.1km s-min=5.8km az=120.0*

*GCMT **09** 02:02:38.0±0.1,8°.32S×128°.99E,h25km,MW5.4/110, Moment Tensor Solution. s90,c158; s110,c205; Duration: 1s2 Moment tensor: Scale 10^17Nm; Mrr1.08±.03; Mθθ-1.57±.02; Mϕϕ0.48±.02; Mrθ-0.12±.04; Mθϕ-0.43±.02; Mϕr-0.66±.06; Best double couple: Ms1.59700×10^17 NP1:ϕ

comp=Z,159nm,1.6s,comp=Z,3µm
BLJI Banyuglugur 15.12 271 P **P** **02 06 14.2 +0.5**
comp=Z,202nm,0.8s
COEN Coen 15.15 113 *e*Pn Pn 02 06 03.0 -6.7
comp=Z,32nm,0.8s
COEN *e*Sn Sn 02 08 41.5 -15
GMJI Gumukmas 15.25 269 P **P** **02 06 16.8 +1.7**
comp=Z,114nm,0.9s
MBWA Marble Bar 15.56 213 *e*Pn **Pn** **02 06 10.6 -4.3**
comp=Z,111nm,0.8s
MBWA *e*Sn Sn 02 08 54.9 -11
DAV Davao City (W) 15.57 348 P **P** **02 06 21.2 +2.5**
SNR=10
MTKI Muara Teweh, K 15.68 297 P **P** **02 06 23.3 +3.3**
comp=Z,240nm,0.8s
CTBH Cotabato--PC H 16.04 343 ⇓*i*P **P** **02 06 27.7 +3.7**
AS31 Alice Springs 16.07 163 *e*Pn Pn 02 06 13.8 -7.7
AS31 *e*Sn Sn 02 09 06.6 -12
ASAR Alice Springs 16.07 163 Pn Pn 02 06 13.4 -8.1
comp=Z,7.5nm,0.3s,baz=334,slow=9.8,SNR=224
ASAR Sn Sn 02 09 00.6 -18
comp=Z,3.5nm,0.3s,baz=336,slow=18,SNR=4.9
ASAR LR LR 02 12 50.5
comp=Z,8µm,18.2s,baz=339,slow=38
GRJI Gresik 16.28 274 P **P** **02 06 30.0 +3.3**
comp=Z,169nm,1.0s,comp=Z,1µm
BUKP Musuan 16.46 347 *e*P **P** **02 06 30.9 +2.2**
TSM Tawau 16.59 318 ⇑P **P** **02 06 32.5 +2.5**
WRKA Warakurna 16.70 182 P Pn 02 06 22.7 -6.7
baz=17,SNR=118
PWJI Pagerwojo 16.88 270 P **Pn** **02 06 31.8 +0.2**
comp=Z,190nm,0.8s
PAGZ Pagadian 16.90 341 *e*P **P** **02 06 36.1 +2.6**
CGP Cagayan de Oro 17.11 346 ⇓*e*P **P** **02 06 39.4 +3.7**
BUTP Butuan 17.41 349 *e*P **P** **02 06 40.8 +1.7**
PCJI Pacitan 17.49 269 P **P** **02 06 42.3 +2.2**
comp=Z,189nm,0.9s
DCPH Dipolog City 17.60 342 *e*P **P** **02 06 44.1 +2.9**
PBKI Pangkalan Bun 17.96 287 P **P** **02 06 49.4 +4.1**
comp=Z,407nm,1.1s,comp=Z,5µmcomp=Z,84µm
PMG Port Moresby 18.13 95 *e*P **P** **02 06 46.1 -1.0**
PMG pmax pmax
comp=Z,1µm,1.8s
PMG Port Moresby 18.13 95 *e*Pn **P** **02 06 46.1 -1.0**
comp=Z,1µm,1.8s
UGM Wanagama 18.15 270 P Pn 02 07 03.6 +16
comp=Z,316nm,1.1s
SMRI Semarang 18.28 272 P **Pn** **02 06 52.7 +3.6**
comp=Z,156nm,1.1s
SMRI Semarang 18.28 272 *e*P **Pn** **02 06 50.0 +1.0**
comp=Z,132nm,0.9s
MSLP Maasin 18.69 348 *e*P **Pn** **02 06 56.0 +2.1**
KKM Kota Kinabalu 18.98 318 P **Pn** **02 06 59.4 +1.8**
baz=19,SNR=8.4
KKM Kota Kinabalu 18.98 318 ⇓P **Pn** **02 06 59.6 +2.0**
KKM Kota Kinabalu 18.98 318 *e*P **Pn** **02 06 58.8 +1.2**
comp=Z,2µm,2.3s
STKI Sintang 19.18 295 P **Pn** **02 07 01.0 +1.1**
comp=Z,279nm,1.3s,comp=Z,26µm
KDM Kudat 19.25 321 ⇑P **Pn** **02 07 02.9 +2.2**
BTM Bintulu 19.41 305 ⇑P **Pn** **02 07 05.1 +2.5**
MANU Manus Island 19.44 72 ⇑P **P** **02 07 02.1 +0.6**
baz=20,SNR=4.0
PLP Palo 19.67 349 ⇓*e*P **Pn** **02 07 05.2 -0.5**
SBUM Sibu 19.70 302 ⇓P **Pn** **02 07 07.9 +1.9**
SBUM Sibu 19.70 302 *e*Pn **Pn** **02 07 06.5 +0.5**
comp=Z,2µm,2.7s
GIRL Giralia 20.05 223 ⇑P **P** **02 07 08.3 +0.2**
baz=20,SNR=4.0
CMJI Cimerak 20.21 270 P **P** **02 07 09.4 -0.5**
comp=Z,292nm,1.1s,comp=Z,3µm
CTA Charters Tower 20.55 127 P **P** **02 07 13.2 -0.4**
comp=Z,219nm,1.1s,baz=309,slow=12,SNR=68
CTAO Charters Tower 20.55 127 *e*P **P** **02 07 13.4 -0.1**
CTAO pmax pmax
comp=Z,312nm,1.1s
CTAO MLR MLR
comp=Z,8µm,19.0s
CTAO Charters Tower 20.55 127 *e*P **P** **02 07 13.4 -0.1**
comp=Z,312nm,1.1s
CTAO LR LR
comp=Z,8µm,19.0s
MEEK Meekatharra 20.71 207 P **P** **02 07 14.0 -1.2**
baz=21,SNR=25
CISI Cisompet, Garu 20.84 270 P Pn 02 07 20.7 +1.1
comp=Z,271nm,0.8s
CISI Cisompet, Garu 20.84 270 *e*P **P** **02 07 17.1 +0.3**
comp=Z,186nm,0.6s
CISI *e*S **S** **02 11 03.6 -3.7**
KSM Kuching 20.86 297 P **P** **02 07 18.3 +1.3**
baz=21,SNR=23
KSM Kuching 20.86 297 ⇓P **P** **02 07 18.3 +1.3**
KSM Kuching 20.86 297 *e*P **P** **02 07 17.4 +0.5**
comp=Z,123nm,0.8s
KSM LR LR
comp=Z,4µm,20.0s
LEM Lembang 21.09 272 P **P** **02 07 21.0 +1.3**
comp=Z,159nm,1.0s,comp=Z,3µm
LEM Lembang 21.09 272 P **P** **02 07 19.9 +0.3**
comp=Z,72nm,0.7s,baz=76,slow=10,SNR=12
LEM LR LR 02 17 32.6
comp=Z,5µm,21.4s,baz=88,slow=43
CNJI Cibinong 21.54 271 P **P** **02 07 25.0 +0.8**
comp=Z,574nm,1.0s,comp=Z,5µm
TPI Tanjungpandan 21.79 283 P **P** **02 07 27.9 +1.0**
comp=Z,67nm,1.5s,comp=Z,1µm
CBJI Citeko 21.89 273 P **P** **02 07 26.8 -1.2**
comp=Z,308nm,0.9s
SKJI Sukabumi 22.13 272 P P 02 07 48.1 +18
comp=Z,364nm,0.7s,comp=Z,6µm
FORT Forrest 22.42 182 P **P** **02 07 32.3 -1.3**
baz=22,SNR=66
FORT Forrest 22.42 182 *e*P **P** **02 07 32.3 -1.3**
comp=Z,385nm,0.9s
FORT *e*S **S** **02 11 32.5 -4.7**
CGJI Cibinong 23.02 272 P **P** **02 07 38.5 -1.5**
comp=Z,132nm,0.9s,comp=Z,3µm
QLP Quilpie 23.36 143 P **P** **02 07 42.6 -0.7**
baz=23,SNR=243
PPBI Pangkal Pinang 23.40 284 P **P** **02 07 44.2 +0.4**
comp=Z,96nm,1.8s,comp=Z,20µm
KMBL Kambalda 23.90 195 P **P** **02 07 47.4 -0.9**
baz=24,SNR=8.9
MORW Morawa 23.96 209 P **P** **02 07 48.3 -0.6**
baz=24,SNR=12
MDSI Maura Dua 24.80 277 P **P** **02 07 55.6 -1.1**
comp=Z,22nm,1.7s
BLDU Balliduu 24.98 205 P **P** **02 07 57.6 -0.5**
baz=25,SNR=24
BBOO Buckleboo 25.34 166 ⇑P **P** **02 08 00.2 -1.1**
baz=25,SNR=114
BBOO Buckleboo 25.34 166 *e*P **P** **02 08 00.2 -1.1**
comp=Z,20nm,1.0s
BBOO *e*S S 02 12 12.5 -12
LHSI Lahat 25.56 278 P P 02 08 09.5 +5.9
comp=Z,85nm,1.2s
RMQ Roma 26.19 136 P **P** **02 08 09.0 -0.2**
baz=26,SNR=56
STKA Stephens Creek 26.33 155 P **P** **02 08 09.8 -0.6**
comp=Z,130nm,0.9s,baz=325,slow=9.1,SNR=201
STKA LR LR 02 19 36.3
comp=Z,8µm,18.9s,baz=291,slow=39
STKA Stephens Creek 26.33 155 *e*P **P** **02 08 09.3 -1.1**
STKA pmax pmax
comp=Z,26nm,0.8s
STKA Stephens Creek 26.33 155 ⇓P **P** **02 08 09.1 -1.3**
baz=26,SNR=153
STKA Stephens Creek 26.33 155 *e*P **P** **02 08 09.3 -1.1**
comp=Z,26nm,0.8s
MYKOM Kota Tinggi 26.85 291 ⇑P **P** **02 08 16.8 +1.6**
MYKOM Kota Tinggi 26.85 291 *e*P **P** **02 08 15.8 +0.6**
comp=Z,66nm,1.1s
GUMO Guam 26.91 36 PFAKE 02 08 30.0 +14
GUMO LR LR
comp=Z,203nm,19.0s
SZP Santa 26.95 342 *e*P **P** **02 08 14.6 -1.4**
comp=Z,54nm,0.3s
EIDS Eidsvold 27.18 131 ⇑P **P** **02 08 16.3 -1.8**
baz=27,SNR=4.1
EIDS Eidsvold 27.18 131 *e*P **P** **02 08 16.9 -1.2**
comp=Z,636nm,3.0s
KGM Kluang 27.43 291 ⇓P **P** **02 08 21.4 +0.9**
CMSA Cobar Meteorol 27.98 148 ⇑P **P** **02 08 24.0 -1.2**
baz=28,SNR=205
RKGY Rocky Gully 28.41 201 ⇓P **P** **02 08 29.6 +0.6**
baz=28,SNR=4.7
KTGM Kuala Trenggan 28.98 297 ⇑P **P** **02 08 35.6 +1.4**

BKNI Bangkinang 29.00 286 P P 02 08 46.0 +12
comp=Z,80nm,1.2s
FRIM Kepong 29.45 292 ⇓P **P** **02 08 38.8 +0.3**
IPM Ipoh 30.50 294 ⇓P **P** **02 08 47.7 -0.1**
IPM Ipoh 30.50 294 *e*P **P** **02 08 47.6 -0.1**
comp=Z,30nm,0.8s
MNSI Mandailing Nat 30.53 286 P **P** **02 08 46.6 -1.4**
comp=Z,75nm,0.8s
ARMA Armidale 30.67 139 *e*P **P** **02 08 49.7 +0.5**
comp=Z,35nm,0.9s
HNR Honiara 30.75 95 *e*P **P** **02 08 48.6 -1.3**
HNR pmax pmax
comp=Z,230nm,1.3s
HNR MLR MLR
comp=Z,2µm,21.0s
HNR Honiara 30.75 95 *e*P **P** **02 08 48.6 -1.3**
comp=Z,230nm,1.3s
HNR LR LR
comp=Z,2µm,21.0s
KULM Kulim 31.18 295 ⇑P **P** **02 08 53.8 +0.1**
KULM Kulim 31.18 295 *e*P **P** **02 08 53.1 -0.7**
comp=Z,31nm,0.7s
KULM LR LR
comp=Z,2µm,19.0s
YNG Young 31.55 148 ⇑P **P** **02 08 56.8 -0.1**
baz=31,SNR=143
COCO West Island 31.73 260 PFAKE 02 09 10.0 +11
COCO LR LR
comp=Z,2µm,21.0s
PSI Prapat 31.80 289 P **P** **02 08 58.9 -0.5**
comp=Z,68nm,0.8s,baz=135,slow=4.9,SNR=53
SKLT Songkhla 32.04 298 P **P** **02 09 01.9 +0.6**
comp=Z,48nm,1.2s,comp=Z,7µm
CAN Canberra 32.66 149 *e*P **P** **02 09 06.8 +0.2**
CAN pmax pmax
comp=Z,175nm,0.9s
CAN MLR MLR
comp=Z,3µm,19.0s
CAN Canberra 32.66 149 *e*P **P** **02 09 06.8 +0.2**
comp=Z,175nm,0.9s
CAN LR LR
comp=Z,3µm,19.0s
CNB Canberra Magne 32.84 148 ⇓P **P** **02 09 08.0 -0.2**
baz=33,SNR=57
TOO Toolangi 32.85 155 ⇓P **P** **02 09 08.5 +0.3**
baz=33,SNR=31
QIZ Qiongzhong 32.95 326 P **P** **02 09 10.2 +0.9**
QIZ pP **pP** **02 09 21.0 +0.3**
QIZ S **S** **02 14 26.6 +1.9**
QIZ sS **sS** **02 14 44.8 +0.9**
QIZ LN
comp=Z,1µm,17.4s
QIZ LZ
comp=Z,940nm,17.3s
QIZ Qiongzhong 32.95 326 PFAKE 02 09 20.0 +11
QIZ LR LR
comp=Z,1µm,20.0s
TRTT Trang 33.17 298 P **P** **02 09 11.3 +0.1**
comp=Z,69nm,0.9s
YHNB Yeheng 33.52 348 PFAKE 02 09 30.0 +16
YHNB LR LR
comp=Z,1µm,20.0s
CHBT CHBT 33.61 308 P **P** **02 09 15.6 +0.6**
comp=Z,36nm,0.9s,comp=Z,3µm
TATO Taipei 33.80 348 PFAKE 02 09 30.0 +14
TATO LR LR
comp=Z,1µm,21.0s
PKDT Phuket 34.38 297 P **P** **02 09 22.1 +0.3**
comp=Z,39nm,0.9s,comp=Z,10µm
QZH Quanzhou 34.48 343 ⇓*i*P **P** **02 09 25.0 +2.6**
QZH PP **PnPn** **02 10 39.0 +0.5**
QZH S **S** **02 14 47.3 -0.8**
QZH LN
comp=Z,1µm,13.9s
QZH LE
comp=Z,670nm,14.7s
QZH LZ
comp=Z,3µm,19.2s
SURT Suratani 34.48 299 P **P** **02 09 22.9 +0.3**
comp=Z,13nm,1.1s
LHMI Lhok Sumawe 34.52 292 P **P** **02 09 23.6 +0.6**
comp=Z,132nm,1.0s
LHMI Lhok Sumawe 34.52 292 *e*P **P** **02 09 22.8 -0.2**
comp=Z,94nm,0.8s
JOW Kunigami 34.88 359 P **P** **02 09 25.1 -0.7**
comp=Z,3.3nm,0.7s,baz=175,slow=5.9
JOW Kunigami 34.88 359 *e*P **P** **02 09 25.2 -0.7**
comp=Z,25nm,0.8s
SKNT Sakolnakorn 35.11 316 P **P** **02 09 28.8 +0.8**
comp=Z,266nm,0.8s,comp=Z,3µm
KHON Khomkaen 35.50 313 P **P** **02 09 32.6 +1.2**
comp=Z,15nm,0.9s,comp=Z,554nm
CHAI Chaiyaphum 35.83 312 P **P** **02 09 34.3 +0.1**
comp=Z,9.8nm,0.9s
BSI Banda Aceh 36.14 291 P **P** **02 09 36.8 -0.2**
comp=Z,61nm,1.2s
PBKT Sadao Pong 37.00 312 P **P** **02 09 44.0 -0.2**
comp=Z,18nm,0.7s
SRDT SRDT 37.07 307 P **P** **02 09 45.1 +0.3**
comp=Z,138nm,0.8s
JCJ Chichijima 37.44 20 P **P** **02 09 47.1 -0.6**
comp=Z,74nm,0.6s,baz=293,slow=1.9,SNR=8.1
CBIJ Chichi jima 37.44 20 P **P** **02 09 47.1 -0.6**
UTHA Uthaitani 37.53 309 P **P** **02 09 48.4 -0.2**
comp=Z,20nm,0.8s,comp=Z,157nm
KHLT Khaolaem Dam 37.74 307 P **P** **02 09 51.0 +0.5**
comp=Z,16nm,0.8s,comp=Z,299nm
UTTA Uttaradit 38.06 313 P **P** **02 09 53.5 +0.4**
comp=Z,12nm,0.8s,comp=Z,96nm
TAU Tasmania Unive 38.14 158 PFAKE 02 10 10.0 +16
TAU LR LR
comp=Z,5µm,19.0s
DZM Mont Dzumac 38.67 115 *e*P **P** **02 09 58.2 -0.2**
comp=Z,116nm,1.0s
DZM Mont Dzumac 38.67 115 *e*LR LR 02 20 34.1
comp=Z,4µm,23.2s
DZM Mont Dzumac 38.67 115 P **P** **02 09 58.5 0.0**
comp=Z,56nm,1.0s,baz=272,slow=24,SNR=18
LAMP Lampang 39.23 313 P **P** **02 10 04.0 +1.1**
comp=Z,12nm,0.8s,comp=Z,132nm
CMAR Chiang Mai Arr 39.69 312 P **P** **02 10 07.1 +0.3**
comp=Z,15nm,0.8s,baz=144,slow=7.3,SNR=68
CMAR PcP **PcP** **02 12 15.0 +1.9**
comp=Z,22nm,0.7s,baz=169,slow=2.8,SNR=20
CMAR ScP **ScP** **02 16 02.0 +3.3**
comp=Z,2.0nm,0.3s,baz=158,slow=3.4,SNR=9.5
CMAR LR LR 02 29 11.3
comp=Z,2µm,18.3s,baz=148,slow=40
SSE Sheshan 39.81 350 P **P** **02 10 06.9 -0.6**
SSE S **S** **02 16 11.1 +2.1**
SSE sS **sS** **02 16 30.7 +2.2**
SSE PMZ
comp=Z,38nm,0.7s
SSE PMZ
comp=Z,190nm,10.2s
SSE LN
comp=Z,420nm,22.6s
SSE LE
comp=Z,550nm,22.6s
SSE LZ
comp=Z,650nm,22.9s
CRAI Chiangrai 39.82 316 P P 02 10 04.2 -3.7
comp=Z,20nm,1.4s
CMMT Chiang Mai 39.91 313 P **P** **02 10 09.0 +0.3**
comp=Z,41nm,1.1s,comp=Z,713nm
CHTO Chiang Mai 39.91 313 P **P** **02 10 09.1 +0.4**
comp=Z,139nm,1.1s,comp=Z,2µm
CHTO Chiang Mai 39.91 313 *e*P **P** **02 10 08.3 -0.4**
CHTO *e* 02 12 14.6
CHTO pmax pmax
comp=Z,25nm,0.9s
CHTO MLR MLR
comp=Z,2µm,20.0s
CHTO Chiang Mai 39.91 313 P **P** **02 10 09.3 +0.7**
SNR=12
CHTO Chiang Mai 39.91 313 *e*P **P** **02 10 08.3 -0.4**
comp=Z,25nm,0.9s
CHTO *e*PcP **PcP** **02 12 14.6 +0.8**
CHTO LR LR
comp=Z,2µm,20.0s
CMAI Chiengmai2 40.56 314 P **P** **02 10 15.0 +0.8**
comp=Z,28nm,1.0s,comp=Z,2µm
GYA Guiyang 40.68 329 P **P** **02 10 16.8 +1.8**
GYA pP **pP** **02 10 27.3 +0.6**
GYA sP **sP** **02 10 32.6 +0.9**
GYA PP **PnPn** **02 11 55.0 +1.4**
GYA PcP **PcP** **02 12 17.8 +1.6**
GYA ScP **ScP** **02 16 03.0 +0.4**
GYA S **S** **02 16 25.5 +3.0**
GYA sS **sS** **02 16 43.2 +1.3**
GYA SS **SS** **02 19 21.7 -2.5**
GYA PMZ
comp=Z,50nm,1.0s
GYA PMZ
comp=Z,160nm,5.2s
GYA LN
comp=Z,860nm,18.2s
GYA LE
comp=Z,780nm,19.0s
GYA LZ
comp=Z,930nm,18.5s
WHN Wuhan 41.01 341 ⇑P **P** **02 10 17.3 -0.2**
WHN LN
comp=Z,1µm,15.5s
WHN LE
comp=Z,670nm,15.7s
WHN LZ
comp=Z,2µm,16.3s
JNU Nakatsue 41.19 3 P **P** **02 10 17.4 -1.6**
comp=Z,13nm,0.8s,baz=259,slow=2.3,SNR=8.3
JNU PcP **PcP** **02 12 17.7 +0.1**
comp=Z,8.6nm,0.7s,baz=51,slow=3.2,SNR=4.1
JNU Nakatsue 41.19 3 *e*P **P** **02 10 17.5 -1.6**
comp=Z,8.3nm,0.9s
JNU *e*PcP **PcP** **02 12 17.8 +0.1**
NJ2 Nanjing 41.20 347 *e*P **P** **02 10 18.0 -1.0**
NJ2 pP **pP** **02 10 29.0 -1.7**
NJ2 sP **sP** **02 10 34.1 -1.6**
NJ2 S **S** **02 16 30.0 +0.2**
NJ2 sS **sS** **02 16 48.5 -0.8**
NJ2 PMZ
comp=Z,110nm,0.7s
NJ2 PMZ
comp=Z,350nm,9.1s
NJ2 LN
comp=Z,320nm,25.1s
NJ2 LE
comp=Z,2µm,29.9s
NJ2 LZ
comp=Z,2µm,27.4s
KMI Kunming 41.80 323 ⇑P **P** **02 10 24.9 +0.5**
KMI pP **pP** **02 10 35.6 -0.5**
KMI sP **sP** **02 10 38.8 -2.3**
KMI PP **PnPn** **02 12 05.9 -1.0**
KMI S **S** **02 16 40.2 +0.8**
KMI sS **sS** **02 16 59.9 +1.0**
KMI PMZ
comp=Z,20nm,0.9s
KMI PMZ
comp=Z,190nm,5.5s
KMI LN
comp=Z,770nm,16.1s
KMI LE
comp=Z,900nm,17.3s
KMI LZ
comp=Z,880nm,19.5s
ENH Enshi 42.58 335 *e*P **P** **02 10 29.5 -1.0**
comp=Z,10nm,0.9s
ENH LR LR
comp=Z,982nm,22.0s
MJAR Matsushiro Arr 45.42 11 P **P** **02 10 50.7 -2.4**
comp=Z,16nm,0.8s,baz=187,slow=9.5,SNR=73
MJAR PcP **PcP** **02 12 32.5 +0.7**
comp=Z,19nm,0.9s,baz=188,slow=3.8,SNR=8.4
MJAR ScP **ScP** **02 16 24.5 +3.1**
comp=Z,3.9nm,0.9s,baz=199,slow=6.4,SNR=5.7
MAJO Matsushiro 45.42 11 *c i*P **P** **02 10 50.4 -2.7**
MAJO pmax pmax
comp=Z,210nm,1.1s
MAJO Matsushiro 45.42 11 *e*P **P** **02 10 50.7 -2.4**
comp=Z,34nm,0.9s
MAJO *e*PcP **PcP** **02 12 31.7 -0.1**
MAJO LR LR
comp=Z,1µm,20.0s
MAT Matsushiro 45.42 11 P **P** **02 10 50.6 -2.5**
MAT S **S** **02 17 29.4 -2.1**
KSAR Wonju Array Be 45.46 359 P **P** **02 10 52.8 -0.6**
KSAR 02 12 33.2
KSAR Wonju Array Be 45.46 359 P **P** **02 10 52.8 -0.6**
KSAR PcP **PcP** **02 12 33.1 +1.3**
KSAR ScP **ScP** **02 16 24.2 +2.7**
KSRS Korea Array 45.48 359 P **P** **02 10 52.8 -0.7**
comp=Z,4.2nm,0.6s,baz=178,slow=11,SNR=13
KSRS PcP **PcP** **02 12 33.1 +1.2**
comp=Z,23nm,0.7s,baz=182,slow=3.3,SNR=32
KSRS ScP **ScP** **02 16 24.2 +2.7**
comp=Z,4.5nm,1.0s,baz=178,slow=3.7,SNR=8.2
INCN Inchon 45.54 358 PFAKE 02 11 10.0 +16
INCN LR LR
comp=Z,1µm,22.0s
TIA Tai'an 45.58 347 *e*P **P** **02 10 52.8 -1.6**
CD2 Chengdu 45.77 329 P **P** **02 10 55.3 -0.7**
CD2 pP **pP** **02 11 06.6 -1.2**
CD2 sP **sP** **02 11 10.2 -2.6**
CD2 PcP **PcP** **02 12 32.2 -1.0**
CD2 PP **PP** **02 12 40.5 -3.4**
CD2 S **S** **02 17 32.8 -4.0**
CD2 sS **sS** **02 17 54.1 -2.4**
CD2 SS **ScS** **02 20 52.8 +3.9**
CD2 PMZ
comp=Z,40nm,0.8s
CD2 PMZ
comp=Z,190nm,7.1s
CD2 LN
comp=Z,740nm,17.8s
CD2 LE
comp=Z,760nm,19.0s
CD2 LZ
comp=Z,850nm,20.2s
XAN Xi'an 46.11 337 P **P** **02 10 57.0 -1.6**
XAN pP **pP** **02 11 10.2 -0.3**
XAN PP **PP** **02 12 48.4 +0.9**
XAN S **S** **02 17 46.6 +4.9**
XAN PMZ
comp=Z,19nm,0.8s
XAN PMZ
comp=Z,39nm,6.5s
XAN LN
comp=Z,460nm,17.5s
XAN LE
comp=Z,160nm,18.2s
XAN LZ
comp=Z,310nm,18.6s
WAKE Wake Island 46.22 53 PFAKE 02 11 10.0 +10
WAKE LR LR
comp=Z,2µm,19.0s
IMP Imphal 47.29 315 *ex* **P** **02 11 07.0 -1.0**
IMP *ex* x 02 12 39.5
MSVF Nonsavu 48.73 106 P **P** **02 11 19.9 +0.5**
comp=Z,290nm,0.9s,SNR=8.3
MSVF Nonsavu 48.73 106 *e*P **P** **02 11 19.6 +0.2**
MSVF pmax pmax
comp=Z,52nm,1.0s
MSVF MLR MLR
comp=Z,2µm,19.0s
MSVF Nonsavu 48.73 106 *e*P **P** **02 11 19.6 +0.2**
comp=Z,52nm,1.0s
MSVF LR LR
comp=Z,2µm,19.0s
SHL Shillong 49.23 314 *e*P **P** **02 11 22.1 -1.0**
SHL AMB AMB 02 11 32.3
comp=Z,30nm,0.3s
SHL *ex* x 02 16 41.0
BJT Baijiatuau 49.44 347 *e*P **P** **02 11 22.9 -1.3**
BJT MLR MLR
comp=Z,647nm,22.0s
BJT Baijiatuau 49.44 347 *e*P **P** **02 11 22.9 -1.3**
BJT LR LR
comp=Z,647nm,22.0s
BJI Beijing 49.46 347 P **P** **02 11 23.2 -1.2**
BJI S **S** **02 18 31.1 +2.3**
BJI PMZ
comp=Z,22nm,0.9s
BJI PMZ
comp=Z,120nm,3.9s
BJI LN
comp=Z,540nm,21.4s
BJI LE
comp=Z,350nm,23.1s
BJI LZ
comp=Z,470nm,22.0s
LZH Lanzhou 49.99 333 *e*P **P** **02 11 28.9 +0.2**

LZH pP **pP** 02 11 41.6 +0.9
LZH sP **sP** 02 11 47.1 +1.5
LZH PcP **PcP** 02 12 47.6 -0.7
LZH *e*S **S** 02 18 36.0 -0.7
LZH sS **sS** 02 18 54.4 -2.2
LZH PMZ
comp=Z,65nm,1.0s
LZH PMZ
comp=Z,230nm,5.6s
LZH LN
comp=Z,790nm,16.7s
LZH LE
comp=Z,490nm,15.0s
LZH LZ
comp=Z,860nm,18.8s
SNY Shenyang 50.07 355 ⇓P **P** 02 11 31.7 +2.7
SNY S **S** 02 18 39.7 +2.5
SNY PMZ
comp=Z,11nm,0.8s
SNY PMZ
comp=Z,260nm,12.0s
SNY LN
comp=Z,840nm,23.3s
SNY LE
comp=Z,510nm,16.9s
SNY LZ
comp=Z,1μm,22.7s
MLZ Mavora Lakes 50.13 144 PN **P** 02 11 29.3 -0.3
WHZ Wether Hill Ro 50.32 145 *e*P **P** 02 11 30.2 -0.7
comp=Z,45nm,0.8s
WKZ Wanaka 50.33 143 PN **P** 02 11 30.7 -0.4
PALK Pallekele 50.41 286 *e*P **P** 02 11 30.8 -1.4
PALK *e* 02 12 51.0
PALK pmax pmax
comp=Z,16nm,0.9s
PALK Pallekele 50.41 286 *e*P **P** 02 11 30.8 -1.4
comp=Z,16nm,0.9s
PALK *e*PcP **PcP** 02 12 51.0 +0.8
RPZ Rata Peaks 50.96 141 P **P** 02 11 36.2 +0.4
comp=Z,155nm,1.0s,baz=294,slow=1.5,SNR=31
RPZ LR LR 02 32 53.9
comp=Z,3μm,21.8s,baz=306,slow=36
RPZ PKPPKP **P'P'df** 02 42 18.4 -3.0
comp=Z,9.0nm,0.4s,baz=55,slow=3.5,SNR=6.2
RPZ Rata Peaks 50.96 141 PN **P** 02 11 35.8 -0.1
RPZ Rata Peaks 50.96 141 *e*P **P** 02 11 36.5 +0.6
comp=Z,139nm,0.9s
RPZ P'P' 02 42 18.4
THZ Tophouse 51.19 138 PN **P** 02 11 37.4 -0.2
HHC Hu-ho-hao-te 51.39 343 *e*P **P** 02 11 41.9 +2.8
HHC pP **pP** 02 11 55.4 +4.3
HHC sP **sP** 02 12 00.0 +4.0
HHC PP **PP** 02 13 40.8 +4.1
HHC S **S** 02 18 58.2 +2.3
HHC sS **sS** 02 19 20.1 +4.3
HHC ScS **ScS** 02 21 25.1 -1.1
HHC PMZ
comp=Z,13nm,0.6s
HHC PMZ
comp=Z,170nm,5.9s
HHC LN
comp=Z,860nm,15.9s
HHC LE
comp=Z,910nm,15.5s
HHC LZ
comp=Z,790nm,15.6s
ODZ Otahua Downs 51.41 143 *e*P **P** 02 11 39.0 -0.2
comp=Z,30nm,1.0s
CHLP Challavanipeta 51.57 301 *e*P **P** 02 11 39.5 -1.2
CHLP *e*pP **pP** 02 11 51.0 -1.7
CHLP IAmb IAmb 02 11 52.6
comp=Z,97nm,1.4s
CHLP *e*ScP **ScP** 02 16 46.6 -1.2
CHLP *e*S **S** 02 18 54.8 -4.0
ERM Erimo 51.71 14 PFAKE 02 11 50.0 +8.7
ERM LR LR
comp=Z,1μm,22.0s
VIS Vishakhapatnam 51.84 300 *e*P **P** 02 11 41.9 -0.9
CN2 Changchun 51.90 357 *e*P **P** 02 11 45.1 +2.4
CN2 *e*pP **pP** 02 11 57.2 +2.5
CN2 *e*S **S** 02 19 04.4 +1.9
CN2 PMZ
comp=Z,20nm,0.7s
CN2 LN
comp=Z,1μm,20.0s
CN2 LE
comp=Z,750nm,20.0s
CN2 LZ
comp=Z,980nm,20.0s
KHZ Kahutara 51.91 139 *e*P **P** 02 11 42.9 0.0
comp=Z,75nm,0.9s
SNZO South Karori 52.19 137 *e*P **P** 02 11 43.7 -1.3
comp=Z,72nm,0.9s
SNZO LR LR
comp=Z,4μm,19.0s
USRK Ussuriysk Ar. 52.28 3 P **P** 02 11 44.9 -0.7
comp=Z,13nm,0.8s,baz=184,slow=7.3,SNR=23
USRK PcP **PcP** 02 12 56.2 -0.2
comp=Z,12nm,0.9s,baz=197,slow=4.5,SNR=4.2
USRK ScP **ScP** 02 16 53.2 +2.9
comp=Z,3.2nm,0.9s,baz=172,slow=4.0,SNR=4.5
USRK PKPPKP P'P'df 02 42 21.2 +6.3
comp=Z,1.3nm,0.6s,baz=186,slow=1.4,SNR=4.2
LSA Lhasa 52.33 318 P **P** 02 11 46.9 +0.2
LSA Lhasa 52.33 318 *e*P **P** 02 11 47.0 +0.2
LSA pmax pmax
comp=Z,36nm,0.8s
LSA MLR MLR
comp=Z,838nm,22.0s
LSA Lhasa 52.33 318 *e*P **P** 02 11 47.0 +0.2
comp=Z,36nm,0.8s
LSA LR LR
comp=Z,838nm,22.0s
BKZ Black Stump Fm 52.55 134 PN **P** 02 11 47.4 -0.4
BKZ Black Stump Fm 52.55 134 *e*P **P** 02 11 47.7 -0.2
comp=Z,70nm,0.8s
MDJ Mudanjiang 52.63 1 P **P** 02 11 47.6 -0.5
MDJ pP **pP** 02 11 59.1 -1.0
MDJ sP **sP** 02 12 04.1 -0.9
MDJ PcP **PcP** 02 12 58.0 +0.3
MDJ S **S** 02 19 11.6 -0.9
MDJ sS **sS** 02 19 35.9 +3.4
MDJ PMZ
comp=Z,10.0nm,0.7s
MDJ PMZ
comp=Z,84nm,6.0s
MDJ LN
comp=Z,580nm,29.1s
MDJ LE
comp=Z,240nm,26.1s
MDJ LZ
comp=Z,800nm,21.5s
MDJ Mudanjiang 52.63 1 *e*P **P** 02 11 47.6 -0.5
comp=Z,21nm,0.9s
MDJ LR LR
comp=Z,842nm,19.0s
URZ Urewera 52.65 132 P **P** 02 11 47.7 -0.8
comp=Z,36nm,0.7s,baz=267,slow=4.5,SNR=43
URZ LR LR 02 36 37.1
comp=Z,2μm,18.2s,baz=350,slow=39
URZ Urewera 52.65 132 PN **P** 02 11 47.2 -1.3
URZ Urewera 52.65 132 *e*P **P** 02 11 48.0 -0.5
comp=Z,37nm,0.7s
BOK Bokaro 52.68 308 *e*P **P** 02 11 48.5 -0.4
BFZ Birch Farm 52.98 135 *e*P **P** 02 11 50.9 0.0
comp=Z,30nm,0.6s
ODAN Odare 53.23 312 *e*P **P** 02 11 52.5 -0.7
TWGZ Tauwhareparae 53.26 132 PN **P** 02 11 53.0 -0.1
TAPN Taplejung 53.28 313 *e*P **P** 02 11 52.8 -0.9
comp=Z,157nm,0.9s
SKHT Srikalahasti 53.45 294 *e*P **P** 02 11 53.2 -1.5
SKHT *e*pP **pP** 02 12 04.4 -2.3
ASAJ Asahikawa 53.59 12 P **P** 02 11 54.6 -0.6
comp=Z,14nm,0.7s,baz=243,slow=12,SNR=10
ASAJ Asahikawa 53.59 12 *e*P **P** 02 11 53.9 -1.3
comp=Z,32nm,1.4s
RAMN Ramite 53.86 312 *e*P **P** 02 11 57.7 -0.2
comp=Z,260nm,0.8s
RAO Raoul Island 54.05 120 PFAKE 02 12 10.0 +11
RAO LR LR
comp=Z,2μm,22.0s
YUK Yuzh-Kuril'sk 54.28 15 *c* *i*P P 02 12 06.4 +6.2
YUK 02 13 57.3
YUK *i* S S 02 19 49.4 +15
YUK MLR MLR
comp=N,574nm,22.0s
YUK MLR MLR
comp=Z,815nm,22.0s
GTA Gaotai 54.53 333 *e*P **P** 02 12 02.5 +0.1
GTA pP **pP** 02 12 14.1 -0.3
GTA sP **sP** 02 12 19.2 -0.1
GTA PcP **PcP** 02 13 07.1 +1.8
GTA PcS **PcS** 02 17 06.0 +1.0
GTA S **S** 02 19 37.3 -1.5
GTA sS **sS** 02 19 58.5 -0.4
GTA SS **SS** 02 23 19.4 -2.7
GTA PMZ
comp=Z,39nm,1.1s
GTA PMZ
comp=Z,140nm,4.3s
GTA LN
comp=Z,490nm,20.9s
GTA LE
comp=Z,600nm,21.0s
GTA LZ
comp=Z,710nm,20.4s
JIRN Jiri 54.56 312 *e*P **P** 02 12 02.5 -0.6
comp=Z,61nm,0.7s
NJS Nagarjunasagar 54.86 297 *e*P **P** 02 12 03.1 -1.8
NJS IAmb IAmb 02 12 04.0
comp=Z,36nm,1.2s
NJS *e*pP **pP** 02 12 15.3 -1.7
NJS *e*S **S** 02 19 38.8 -4.8
GUN Gumba 54.93 313 *e*P **P** 02 12 05.0 -0.7
comp=Z,174nm,0.7s
PKI Pulchoki 55.09 312 *e*P **P** 02 12 05.8 -1.0
comp=Z,77nm,0.9s
PKIN Phulchoki 55.10 312 *e*P **P** 02 12 06.6 -0.3
comp=Z,29nm,0.7s
KKN Kakani 55.30 312 *e*P **P** 02 12 07.4 -0.9
comp=Z,74nm,0.9s
DMN Daman 55.33 312 *e*P **P** 02 12 07.8 -0.7
comp=Z,143nm,1.0s
RPR Rampur 55.79 299 *e*P **P** 02 12 11.2 -0.4
RPR *e*S **S** 02 19 53.7 -2.3
DGAR Diego Garcia 55.84 267 PFAKE 02 12 30.0 +18
DGAR LR LR
comp=Z,954nm,20.0s
HYB Hyderabad 55.86 297 *i* P **P** 02 12 09.5 -2.7
HYB *e*S **S** 02 19 58.0 +0.9
HYB Hyderabad 55.86 297 *e*P **P** 02 12 10.5 -1.7
HYBB Hyderabad (bro 55.86 297 *e*P **P** 02 12 10.7 -1.5
HYBB IAmb IAmb 02 12 11.2
comp=Z,31nm,1.1s
HYBB *e*PP **PP** 02 14 19.8 +2.6
HYBB *e*S **S** 02 19 58.0 +0.9
GKN Gorkha 55.90 312 *e*P **P** 02 12 11.7 -0.7
comp=Z,92nm,0.8s
KUR Kuril'sk 55.92 16 P **P** 02 12 09.3 -2.8
KUR *e*S **S** 02 19 56.6 -0.3
URV Uravakonda 56.09 294 *e*P **P** 02 12 13.0 -0.9
YSS Yuzh-Sakhalins 56.34 11 *e*P **P** 02 12 14.0 -1.0
YSS pmax pmax
comp=Z,20nm,0.7s
YSS MLR MLR
comp=Z,500nm,18.0s
YSS Yuzh-Sakhalins 56.34 11 *e*P **P** 02 12 14.3 -0.6
comp=Z,554nm,3.0s
YSS LR LR
comp=Z,523nm,20.0s
KOLN Koldanda 56.54 311 *e*P **P** 02 12 16.5 -0.6
comp=Z,100nm,0.8s
HABR Khabarovsk 56.74 5 *e*P **P** 02 12 15.1 -2.7
HABR *e**PP **pP** 02 12 25.1 -4.9
HABR *e*SP 02 12 29.0
HABR *e* 02 13 09.9
HABR *e* 02 14 21.3
HABR *e*S **S** 02 20 07.5 -0.1
HABR *e* 02 20 19.7
HABR *e*SS x 02 20 24.3
HABR *e* 02 22 01.3
HABR pmax pmax
comp=E,7.0nm,0.8s
HABR pmax pmax
comp=N,14nm,1.5s
HABR pmax pmax
comp=Z,28nm,1.5s
HABR MLR MLR
comp=Z,381nm,17.0s
KLR Kul'dur 57.29 2 *e*P P 02 12 16.2 -5.6
HIA Hailar 57.83 353 PFAKE 02 12 40.0 +14
HIA LR LR
comp=Z,920nm,21.0s
AFI Afiamalu 58.42 101 *e*P **P** 02 12 31.3 +0.9
AFI pmax pmax
comp=Z,112nm,1.1s
AFI Afiamalu 58.42 101 *e*P **P** 02 12 31.3 +0.9
comp=Z,112nm,1.1s
DRV Dumont d'Urvil 58.83 175 P P 02 12 21.0 -11
DRV PP **PP** 02 14 39.0 -3.6
DRV S S 02 20 27.0 -7.5
DRV SS **SS** 02 24 33.0 +4.7
DRV R 02 29 00.0
ULN Ulaanbaatar 59.11 343 ⇓ *e*P **P** 02 12 34.2 -0.5
ULN pmax pmax
comp=Z,17nm,1.0s
ULN Ulaanbaatar 59.11 343 P **P** 02 12 34.5 -0.2
comp=Z,34nm,1.1s
ULN Ulaanbaatar 59.11 343 *e*P **P** 02 12 34.8 +0.1
ULN LR LR
comp=Z,544nm,21.0s
BHPL Bhopal 59.22 303 *e*P **P** 02 12 34.8 -1.0
SONM Songino Array 59.27 343 P **P** 02 12 35.9 +0.1
comp=Z,11nm,0.8s,baz=160,slow=7.5,SNR=17
SONM PKP2bc 02 42 18.1
comp=Z,0.6nm,0.4s,baz=180,slow=5.2,SNR=4.1
CASY Casey 59.30 189 *e*P P 02 12 39.1 +3.6
comp=Z,30nm,1.3s
CASY LR LR
comp=Z,4μm,19.0s
POO Poona 60.42 297 *ex* P 02 12 39.3 -4.8
POO *e*P **P** 02 12 42.0 -2.1
NDI New Delhi 61.85 309 *e*P **P** 02 12 51.0 -2.6
DDI Dehra Dun 62.01 311 *e*P **P** 02 12 56.6 +2.0
DDI AMB AMB 02 13 09.0
comp=Z,23nm,0.7s
ZAK Zakamensk 62.48 342 ⇑ *i*P **P** 02 12 57.1 -0.4
ZAK pmax pmax
comp=Z,9.0nm,1.2s
SMLA Simla 63.07 311 *e*P **P** 02 13 00.4 -1.2
TLY Talaya 63.51 343 P **P** 02 13 04.4 +0.2
comp=Z,2.4nm,0.4s,baz=60,slow=18,SNR=1.7
TLY Talaya 63.51 343 *e*P P 02 13 10.4 +6.2
TLY *e*S S 02 21 22.0 -13
TLY *e* 02 22 55.3
TLY pmax pmax
comp=Z,22nm,1.1s
TLY MLR MLR
comp=Z,337nm,18.0s
TLY Talaya 63.51 343 P **P** 02 13 04.4 +0.2
TLY LR LR
comp=Z,411nm,20.0s
PAF Port-aux-Franc 63.59 219 P P 02 12 54.0 -11
PAF S S 02 21 26.0 -10
PAF L L 02 28 00.0
PAF R 02 33 00.0
WMQ Urumqi 63.83 328 P **P** 02 13 06.6 +0.1
WMQ pP **pP** 02 13 19.5 +0.7
WMQ sP **sP** 02 13 24.8 +1.1
WMQ PcP **PcP** 02 13 42.0 -0.1
WMQ PP **PP** 02 15 28.9 +1.5
WMQ PcS 02 17 44.4
WMQ S **S** 02 21 37.0 -1.9
WMQ sS **sS** 02 21 58.4 -0.9
WMQ ScS **SKSac** 02 22 52.3 -4.6
WMQ PMZ
comp=Z,59nm,0.7s
WMQ PMZ
comp=Z,210nm,3.6s
WMQ LN
comp=Z,700nm,18.8s
WMQ LE
comp=Z,640nm,16.6s
WMQ LZ
comp=Z,640nm,21.0s
IRK Irkutsk 63.83 343 *e*P P 02 12 57.7 -8.6
IRK pmax pmax
comp=Z,52nm,1.6s
DHRM DHARAMSHALA 64.26 312 *e*P **P** 02 13 09.5 -0.4
MOY Mondy 64.31 341 *e*P **P** 02 13 10.1 +0.5
MOY pmax pmax
comp=Z,68nm,1.6s
BHJ Bhuj 65.78 300 *e*P **P** 02 13 18.6 -1.0
BHJ AMB AMB 02 13 20.1
comp=Z,50nm,0.5s
PEA0B Petropavlovsk- 65.86 19 *e*P **P** 02 13 19.6 +0.1
PETK Petropavlovsk- 65.86 19 P **P** 02 13 19.8 +0.3
comp=Z,54nm,0.8s,baz=186,slow=6.9,SNR=49
PETK LR LR 02 37 29.3
comp=Z,394nm,21.9s,baz=198,slow=32
PET Petropavlovsk 66.10 19 *e*P **P** 02 13 20.1 -0.9
PET *e*S **S** 02 22 05.9 -0.3
PET *e*SS SS 02 26 12.2 -10
PET pmax pmax
comp=Z,65nm,1.3s
PET pmax pmax
comp=Z,200nm,8.8s
PET Petropavlovsk 66.10 19 PFAKE 02 13 30.0 +9.0
PET LR LR
comp=Z,457nm,19.0s
BOD Bodaibo 66.95 351 *e*P P 02 13 22.4 -3.9
BOD pmax pmax
comp=Z,14nm,1.4s
PDGK Podgornoye 68.11 323 P **P** 02 13 33.5 -0.4
PDGK pmax pmax
comp=Z,25nm,1.3s
KSH Kashi 68.18 318 P **P** 02 13 34.8 +0.1
KSH pP **pP** 02 13 47.8 +0.7
KSH PP **PP** 02 16 07.2 +1.6
KSH PcS 02 18 04.4
KSH S **S** 02 22 29.1 -3.0
KSH sS **sS** 02 22 50.9 -1.8
KSH ScS **SKiKP** 02 23 26.2 -0.4
KSH PMZ
comp=Z,14nm,0.7s
KSH PMZ
comp=Z,120nm,3.6s
KSH LN
comp=Z,460nm,15.4s
KSH LE
comp=Z,570nm,17.5s
KSH LZ
comp=Z,1μm,20.6s
MK31 Makanchi Array 68.65 328 *e*P **P** 02 13 37.0 -0.4
MK31 Makanchi Array 68.65 328 *e*P **P** 02 13 37.0 -0.4
MKAR Makanchi Array 68.65 328 P **P** 02 13 37.2 -0.1
comp=Z,47nm,1.1s,baz=151,slow=5.3,SNR=177
MKAR PKP2bc 02 41 54.5
comp=Z,0.4nm,0.8s,baz=352,slow=4.4,SNR=3.6
MKAR Makanchi Array 68.65 328 *i* P **P** 02 13 37.2 -0.1
MKAR pmax pmax
comp=Z,45nm,1.0s
KZA Kyzart 70.00 320 P **P** 02 13 46.8 +0.6
SNR=14
KZA Kyzart 70.00 320 *i* P **P** 02 13 46.8 +0.6
SFK Sufi-Kurgan 70.07 318 P **P** 02 13 46.6 +0.1
SFK pmax pmax
comp=Z,21nm,1.0s
YAK Yakutsk 70.07 0 P **P** 02 13 44.5 -1.2
comp=Z,55nm,0.8s,baz=238,slow=1.4,SNR=13
YAK LR LR 02 44 00.9
comp=Z,418nm,20.4s,baz=220,slow=36
YAK Yakutsk 70.07 0 *c* *i*P **P** 02 13 44.9 -0.8
YAK *e**PP **PcP** 02 14 11.3 +3.7
YAK *e* 02 16 22.5
YAK *e*S **S** 02 22 52.3 -1.0
YAK *e**SS **SKSac** 02 23 37.8 -5.4
YAK *e* 02 23 41.7
YAK pmax pmax
comp=Z,38nm,0.8s
YAK pmax pmax
comp=N,12nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.4s
YAK pmax pmax
comp=Z,55nm,2.5s
YAK pmax pmax
comp=N,16nm,1.5s
YAK pmax pmax
comp=E,48nm,2.7s
YAK smax smax
comp=E,178nm,2.0s
YAK smax smax
comp=N,62nm,1.7s
YAK MLR MLR
comp=Z,464nm,18.0s
YAK MLR MLR
comp=N,468nm,19.0s
YAK Yakutsk 70.07 0 *e*P **P** 02 13 45.0 -0.8
comp=N,74nm,0.8s
YAK LR LR
comp=Z,523nm,20.0s
TKM2 Tokmak 2 70.23 321 P **P** 02 13 47.5 0.0
SNR=19
TKM2 Tokmak 2 70.23 321 *i* P **P** 02 13 46.9 -0.5
TKM2 pmax pmax
comp=Z,35nm,1.2s
TKM2 Tokmak 2 70.23 321 *e*P **P** 02 13 47.4 0.0
comp=Z,33nm,1.1s
TKM2 LR LR
comp=Z,599nm,22.0s
KBK Karagaybulak 70.49 321 P **P** 02 13 49.7 +0.7
SNR=8.6
KBK Karagaybulak 70.49 321 *i* P **P** 02 13 49.7 +0.7
UCH Uchtor 70.54 320 P **P** 02 13 49.8 +0.1
SNR=12
UCH Uchtor 70.54 320 *i* P **P** 02 13 49.7 +0.1
KBL Kabul 70.70 311 *e*P **P** 02 13 49.2 -1.3
KBL pmax pmax
comp=Z,14nm,0.8s
KBL Kabul 70.70 311 *e*P **P** 02 13 49.2 -1.3
comp=Z,14nm,0.8s
AAK Ala-Archa 70.77 321 P **P** 02 13 51.9 +1.3
comp=Z,117nm,0.8s,SNR=8.8
AAK Ala-Archa 70.77 321 P **P** 02 13 51.2 +0.6
SNR=11
AAK Ala-Archa 70.77 321 PKPPKP **P'P'ab** 02 41 46.2 +1.2
comp=Z,0.9nm,0.4s,baz=255,slow=3.5,SNR=12
AAK Ala-Archa 70.77 321 *i* P **P** 02 13 50.8 +0.2
AAK pmax pmax
comp=Z,72nm,1.7s
AAK Ala-Archa 70.77 321 P **P** 02 13 51.8 +1.1
SNR=20
AAK Ala-Archa 70.77 321 *e*P **P** 02 13 51.2 +0.6
comp=Z,41nm,1.0s
AAK P'P' 02 41 46.2
AAK LR LR
comp=Z,656nm,20.0s
FRU Bishkek 70.79 321 *e*P **P** 02 13 50.0 -0.6
FRU pmax pmax
comp=Z,60nm,2.0s
CHMS Chumysh 70.80 321 P **P** 02 13 50.5 -0.1
SNR=6.3
CHMS Chumysh 70.80 321 *i* P **P** 02 13 50.5 -0.1
AML Almayashu 71.01 320 P **P** 02 13 53.1 +0.7
SNR=12
AML Almayashu 71.01 320 *i* P **P** 02 13 53.1 +0.7
USP Ospenovka 71.09 321 P **P** 02 13 52.5 0.0
SNR=33
USP Ospenovka 71.09 321 *i* P **P** 02 13 52.4 0.0
EKS2 Erkin-Say 71.23 320 P **P** 02 13 54.0 +0.5
SNR=15
EKS2 Erkin-Say 71.23 320 *i* P **P** 02 13 53.9 +0.5
EKS2 Erkin-Say 71.23 320 *e*P **P** 02 13 53.9 +0.5
comp=Z,44nm,1.1s
EKS2 LR LR
comp=Z,456nm,20.0s
VNDA Vanda 71.35 173 P **P** 02 13 53.6 +0.2
comp=Z,11nm,0.8s,baz=321,slow=6.6,SNR=57
VNDA LR LR 02 43 60.0
comp=Z,2μm,19.5s,baz=346,slow=35
VNDA Vanda 71.35 173 *e*P **P** 02 13 53.7 +0.3
VNDA pmax pmax
comp=Z,49nm,1.3s
VNDA Vanda 71.35 173 *e*P **P** 02 13 53.7 +0.3
comp=Z,49nm,1.3s
RER Riviere de l'E 71.36 250 *e*P **P** 02 13 56.1 +1.5
comp=Z,70nm,1.0s
ZAA0 Zalesovo Array 72.20 334 *e*P **P** 02 13 57.4 -1.5
ZALV Zalesovo Beam 72.20 334 P **P** 02 13 57.8 -1.1
comp=Z,21nm,0.9s,baz=116,slow=5.1,SNR=80
ZALV PKPPKP **P'P'df** 02 41 47.8 +3.7
comp=Z,0.5nm,0.3s,baz=302,slow=3.2,SNR=4.9
ZALV Zalesovo Beam 72.20 334 *i* P **P** 02 13 57.7 -1.1
ZALV pmax pmax

comp=Z,22nm,0.9s
SBA Scott Base 72.25 172 *e*P **P** 02 13 59.7 +0.9
SBA pmax pmax
comp=Z,20nm,1.0s
SBA MLR MLR
comp=Z,1μm,19.0s
SBA Scott Base 72.25 172 *e*P **P** 02 13 59.7 +0.9
comp=Z,20nm,1.0s
SBA LR LR
comp=Z,1μm,19.0s
MSEY Mahe Island 72.91 268 PFAKE 02 14 20.0 +16
MSEY LR LR
comp=Z,886nm,21.0s
KURK Kurchatov 73.00 329 P **P** 02 14 03.4 -0.2
comp=Z,263nm,0.9s,SNR=73
KURK Kurchatov 73.00 329 *e*P **P** 02 14 02.6 -1.0
KURK pmax pmax
comp=Z,105nm,1.0s
KURK MLR MLR
comp=Z,633nm,21.0s
KURK Kurchatov 73.00 329 P **P** 02 14 03.6 0.0
SNR=44
KURK Kurchatov 73.00 329 *e*P **P** 02 14 02.6 -1.0
comp=Z,105nm,1.0s
KURK LR LR
comp=Z,633nm,21.0s
SEY Seymchan 73.24 11 P **P** 02 14 05.0 +0.2
comp=Z,65nm,0.8s,baz=206,slow=4.5,SNR=168
SEY LR LR 02 42 45.2
comp=Z,231nm,21.7s,baz=192,slow=33
SEY Seymchan 73.24 11 P **P** 02 14 05.0 +0.2
MAW Mawson 73.38 201 P **P** 02 14 07.0 +1.5
comp=Z,26nm,0.8s,baz=64,slow=7.5,SNR=33
MAW LR LR 02 45 16.7
comp=Z,519nm,18.6s,baz=58,slow=35
MAW Mawson 73.38 201 *e*P **P** 02 14 06.8 +1.2
MAW pmax pmax
comp=Z,34nm,1.7s
MAW Mawson 73.38 201 ⇓P **P** 02 14 06.6 +1.0
baz=73,SNR=12
MAW Mawson 73.38 201 *e*P **P** 02 14 06.8 +1.2
comp=Z,34nm,1.7s
NVS Novosibirsk 73.49 334 ⇑*i*P **P** 02 14 04.0 -2.4
NVS *i* S **S** 02 23 30.5 -2.4
NVS pmax pmax
comp=Z,33nm,0.9s
NVS pmax pmax
comp=N,15nm,1.1s
NVS pmax pmax
comp=E,21nm,1.1s
NVS smax smax
comp=E,68nm,1.7s
NVS smax smax
comp=N,44nm,2.2s
KK31 Karatay Array 73.53 319 *i* P **P** 02 14 06.7 -0.3
KK31 pmax pmax
comp=Z,7.0nm,0.7s
KKAR Karatay Array 73.53 319 *e*P **P** 02 14 07.0 0.0
KKAR pmax pmax
comp=Z,39nm,1.2s
KKAR Karatay Array 73.53 319 *e*P **P** 02 14 07.0 0.0
comp=Z,39nm,1.2s
OTUK Ortayu 74.99 325 P **P** 02 14 14.8 -0.6
OTUK pmax pmax
comp=Z,74nm,0.8s
CRZF Crozet Islands 75.10 224 P P 02 13 44.0 -32
CRZF S SKiKP 02 23 05.0 -32
CRZF R 02 38 00.0
ADK Adak 75.84 31 *e*P **P** 02 14 20.5 +0.4
ADK MLR MLR
comp=Z,815nm,21.0s
ADK Adak 75.84 31 *e*P **P** 02 14 20.5 +0.4
ADK LR LR
comp=Z,815nm,21.0s
SMDO Samad 75.86 296 P **P** 02 14 20.8 -0.2
SNR=5.4
IMYA Miami 78.14 310 *e*P **P** 02 14 34.0 +0.3
BVA0 Borovoye Array 78.52 328 *i* P **P** 02 14 34.6 -0.5
BVA0 pmax pmax
comp=Z,38nm,1.0s
BVAR Borovoye Array 78.52 328 P **P** 02 14 34.7 -0.4
comp=Z,27nm,0.9s,baz=134,slow=6.4,SNR=139
BVAR LR LR 02 52 18.8
comp=Z,233nm,20.4s,baz=122,slow=38
BRVK Borovoye 78.59 328 *i* P **P** 02 14 35.7 +0.2
comp=Z,238nm,0.9s,SNR=31
BRVK Borovoye 78.59 328 *c i* P **P** 02 14 35.1 -0.4
BRVK pmax pmax
comp=Z,43nm,1.0s
BRVK Borovoye 78.59 328 P **P** 02 14 35.6 +0.1
SNR=22
BRVK Borovoye 78.59 328 *e*P **P** 02 14 35.3 -0.2
comp=Z,56nm,1.1s
BRVK LR LR
comp=Z,506nm,22.0s
IMOG Moghan 78.64 309 *e*P **P** 02 14 36.3 -0.3
IPAY Payeh 79.02 310 *e*P **P** 02 14 38.3 -0.3
TBI Tubuai 79.18 112 *e*S **S** 02 24 38.2 +1.5
comp=Z,128nm,30.8s
TBI *e*SS **SS** 02 29 45.1 +1.4
comp=Z,246nm,28.8s
TBI *e*LQ LQ 02 35 56.1
comp=Z,1μm,33.8s
TBI *e*LR LR 02 39 21.8
comp=Z,2μm,25.2s
ABPO Ambohimpanom 79.48 252 PFAKE 02 14 50.0 +8.6
ABPO LR LR
comp=Z,620nm,21.0s
IKRD Kardeh 79.49 310 *e*P P 02 14 37.9 -3.2
OPO Ambohidratompo 79.55 253 P **P** 02 14 44.0 +2.2
comp=Z,8.9nm,0.8s,baz=93,slow=7.8,SNR=9.0
PPT2 Papeete2 79.56 106 *e*S **S** 02 24 41.5 +0.5
comp=Z,147nm,25.0s
PPT2 *e*SS **SS** 02 29 48.6 -1.2
comp=Z,417nm,24.5s
PPT2 *e*LQ LQ 02 36 08.7
comp=Z,2μm,38.0s
PPT2 *e*LR LR 02 39 30.9
comp=Z,1μm,23.8s
PPT Papeete 79.57 106 LR LR 02 46 23.3
comp=Z,427nm,21.6s,baz=252,slow=33
TIXI Tiksi 79.73 0 *c i*P **P** 02 14 40.1 -1.2
TIXI pmax pmax
comp=Z,38nm,0.8s
TIXI Tiksi 79.73 0 *e*P **P** 02 14 39.9 -1.4
comp=Z,43nm,0.8s
TIXI LR LR
comp=Z,985nm,21.0s
ISFR Sfrayin 79.97 310 *e*P **P** 02 14 43.9 +0.2
GEYT Alibeck 80.15 311 P **P** 02 14 44.5 +0.1
comp=Z,7.8nm,0.7s,baz=89,slow=6.1,SNR=18
GEYT LR LR 02 56 26.3
comp=Z,280nm,20.1s,baz=80,slow=40
NIKH Nikolski High 80.52 33 *e*P **P** 02 14 46.8 +0.8
QSPA South Pole Qui 81.73 180 P **P** 02 14 52.8 +0.3
comp=Z,52nm,0.9s,baz=316,slow=1.9,SNR=107
ISAD Sadrabad 81.92 304 *e*P **P** 02 14 53.5 -0.8
SYO Syowa Base 82.09 201⇓*e*P **P** 02 14 53.8 -0.3
SYO Syowa Base 82.09 201⇓*e*pP pP 02 15 05.5 -1.2
UNV Unalaska Valle 82.17 33 *e*P **P** 02 14 54.6 -0.1
comp=Z,108nm,1.1s
IANJ Anjilo 82.67 307 *e*P **P** 02 14 57.2 -0.9
AB31 Akbulak array 82.78 322 P **P** 02 14 57.2 -0.8
AB31 pmax pmax
comp=Z,8.0nm,0.7s
ABKAR Akbulak array 82.78 322 *e*P **P** 02 14 57.4 -0.6
comp=Z,19nm,0.9s
IKAZ Kazeroun 82.94 301 *e*P **P** 02 14 57.8 -1.9
IGLO Ghaloghah 83.01 308 *e*P P 02 15 03.5 +3.7
ISHM Shahmirzad 83.25 308 *e*P **P** 02 15 01.1 0.0
IDMV Damavand 84.18 307 *e*P **P** 02 15 05.4 -0.5
FALS False Pass 84.23 33 *e*P **P** 02 15 05.2 -0.1
AKTO Aktyubinsk 84.36 323 LR LR 02 56 31.8
comp=Z,276nm,21.4s,slow=38
AKTO Aktyubinsk 84.36 323 P **P** 02 15 05.4 -0.7
AKTO pmax pmax
comp=Z,43nm,1.0s
SVE Sverdlovsk 85.25 329 *de*P **P** 02 15 10.2 -0.2
SVE *e*S S 02 25 31.0 -6.5
SVE *e* 02 31 04.3
SVE pmax pmax
comp=Z,52nm,1.1s
IRAZ Razeghan 85.81 307 *e*P **P** 02 15 14.6 +0.6
SDPT Sand Point 85.98 33 *e*P **P** 02 15 14.0 -0.1
ARU Arti 86.16 328 P **P** 02 15 14.9 -0.1
comp=Z,180nm,0.9s,SNR=13
ARU Arti 86.16 328 *d*P **P** 02 15 13.4 -1.5
ARU PPP PPP 02 20 26.9
ARU S **SKSac** 02 25 36.0 -1.6
ARU SS SS 02 31 17.8 -8.3
ARU pmax pmax
comp=Z,34nm,1.0s
ARU Arti 86.16 328 *e*P **P** 02 15 13.5 -1.5
comp=Z,66nm,1.3s
ARU LR LR
comp=Z,346nm,20.0s
DAMY Dhamar 86.74 285 ⇑P **P** 02 15 20.8 +1.8
baz=87,SNR=6.5
DAMY Dhamar 86.74 285 *e*P **P** 02 15 20.9 +1.8
comp=Z,42nm,0.9s
TNA Tin City 86.80 22 *e*P **P** 02 15 17.5 -0.4
comp=Z,19nm,0.8s
RAYN Ar Rayn 87.21 294 P **P** 02 15 21.6 +0.7
comp=Z,150nm,0.7s,SNR=21
RAYN Ar Rayn 87.21 294 *e*P **P** 02 15 20.7 -0.2
comp=Z,34nm,1.1s
IBZA Bozab 87.26 305 *e*P **P** 02 15 20.4 -0.9
ISRB Sarab 88.11 308 *e*P **P** 02 15 25.1 0.0
SOKR Solikamsk 88.15 331⇑*i*P **P** 02 15 23.9 -0.5
SOKR S **SKSac** 02 25 49.1 -0.4
SOKR pmax pmax
comp=Z,10.0nm,1.1s
SOKR MLR MLR
comp=Z,500nm,24.0s
IDHR Dehrash 88.50 305 *e*P **P** 02 15 25.0 -2.0
IHRS Heris 88.69 309 *e*P **P** 02 15 27.6 -0.3
MAK Makhachkala 89.28 313 *e*P **P** 02 15 29.3 -0.9
MAK *e* 02 19 05.4
MAK *e*PPP PPP 02 20 54.2
MAK *e*S **SKSac** 02 25 54.5 -2.5
MAK *e* 02 26 16.5
MAK *e*SS x 02 35 43.0
MAK pmax pmax
comp=Z,42nm,0.8s
IAZR Azarshahr 89.39 308 *e*P **P** 02 15 31.1 -0.1
IMRD Marand 89.79 309 *e*P **P** 02 15 33.4 +0.4
DGRG David-gareji 90.54 312 P **P** 02 15 37.4 +1.1
GNI Garni 90.78 310 P **P** 02 15 38.1 +0.5
comp=Z,1.0nm,0.3s,baz=165,slow=18,SNR=1.7
GNI Garni 90.78 310 *de*P **P** 02 15 38.1 +0.5
GNI pmax pmax
comp=Z,6.0nm,1.2s
GNI Garni 90.78 310 *e*P **P** 02 15 37.2 -0.4
comp=Z,21nm,1.3s
GNI LR LR
comp=Z,209nm,21.0s
NVL N'lazarevskaya 90.83 197 *e*P P 02 15 29.9 -7.0
NVL *e**PP **PcP** 02 15 39.5 +1.5
NVL pmax pmax
comp=Z,13nm,0.9s
KDAK Kodiak Island 90.88 32 P **P** 02 15 37.6 +0.3
comp=Z,159nm,0.8s,SNR=8.9
KDAK Kodiak Island 90.88 32 *i* P **P** 02 15 37.2 -0.1
KDAK Kodiak Island 90.88 32 *e*P **P** 02 15 37.3 -0.1
comp=Z,16nm,0.7s
KDAK LR LR
comp=Z,597nm,21.0s
TBLG Delisi 91.06 312 P **P** 02 15 36.3 -2.3
KMBO Kilima Mbogo 91.42 269 P **P** 02 15 42.7 +1.5
comp=Z,17nm,0.9s,baz=62,slow=6.4,SNR=32
KMBO LR LR 02 53 39.8
comp=Z,372nm,21.2s,baz=103,slow=34
KMBO Kilima Mbogo 91.42 269 *i* P **P** 02 15 43.2 +2.0
KMBO pmax pmax
comp=Z,17nm,0.9s
KMBO Kilima Mbogo 91.42 269 *e*P **P** 02 15 42.5 +1.3
comp=Z,20nm,0.9s
RSO Redoubt South 91.44 29 *e*P **P** 02 15 38.4 -1.8
comp=Z,26nm,0.8s
ZEI Tsey 91.85 313 *e*P **P** 02 15 41.9 -0.6
ZEI pmax pmax
comp=Z,13nm,1.0s
AKH Akhalkalaki 91.93 311 P P 02 15 37.2 -5.7
PPLA Purkeypile 92.29 27 *e*P **P** 02 15 43.0 -1.0
comp=Z,61nm,1.2s
IM04 Indian Mountai 92.38 24 *e*P **P** 02 15 43.1 -1.0
RKT Rikitea 92.43 114 *e*LR LR 02 45 32.5
comp=Z,887nm,23.8s
KBZ Khabaz 92.73 314 P **P** 02 15 45.9 -0.3
comp=Z,5.6nm,0.8s,baz=56,slow=24,SNR=22
KBZ LR LR 03 05 45.9
comp=Z,227nm,19.9s,baz=198,slow=41
NEY Neytrino 92.78 313 *e*P **P** 02 15 48.1 +1.4
NEY pmax pmax
comp=Z,12nm,2.9s
KIV Kislovodsk 92.91 314 *e*P **P** 02 15 47.1 -0.1
KIV pmax pmax
comp=Z,4.0nm,0.6s
KIV MLR MLR
comp=Z,325nm,21.0s
KIV Kislovodsk 92.91 314 *e*P **P** 02 15 47.1 -0.1
comp=Z,4.1nm,0.6s
KIV LR LR
comp=Z,325nm,21.0s
SEW Seward 92.97 30 *e*P **P** 02 15 46.1 -0.9
comp=Z,22nm,1.0s
KTH Kantishna Hill 93.00 26 *e*P **P** 02 15 45.9 -1.2
comp=Z,54nm,0.9s
RC01 Rabbit Creek A 93.03 29 *e*P **P** 02 15 46.4 -0.8
comp=Z,12nm,0.7s
CHVG Ch'k'valeri 93.17 313 P P 02 15 38.5 -10
TRF Thorofare Moun 93.25 26 *e*P **P** 02 15 47.1 -1.3
comp=Z,41nm,1.2s
MCK McKinley 93.90 26 *e*P **P** 02 15 49.6 -1.6
MCK pmax pmax
comp=Z,93nm,1.1s
MCK McKinley 93.90 26 *e*P **P** 02 15 49.6 -1.6
comp=Z,93nm,1.1s
PRGR Permogore 93.98 332 *e*P P 02 15 45.1 -6.5
PRGR pmax pmax
comp=Z,5.0nm,0.9s
COLD Coldfoot 94.06 23 *e*P **P** 02 15 51.2 -0.7
comp=Z,29nm,1.0s
SNAA Sanae 94.19 194 P **P** 02 15 54.3 +1.7
COLA College 94.57 25 *c i*P **P** 02 15 52.8 -1.4
COLA pmax pmax
comp=Z,135nm,1.1s
COLA College 94.57 25 *e*P **P** 02 15 52.4 -1.8
comp=Z,22nm,0.8s
COLA LR LR
comp=Z,311nm,20.0s
DIV Divide 94.93 29 *e*P **P** 02 15 55.8 -0.3
comp=Z,49nm,0.8s
ILAR Eielson Array 94.96 25 P **P** 02 15 54.2 -1.8
comp=Z,19nm,0.7s,baz=270,slow=4.3,SNR=162
ILAR PKKP **PKKPdf** 02 32 52.0 -2.1
comp=Z,1.4nm,0.8s,baz=36,slow=0.9,SNR=15
ILAR LR LR 02 56 09.4
comp=Z,136nm,21.0s,baz=276,slow=34
SOC Sochi 95.00 313 *e*P P 02 15 52.8 -3.9
SOC *e* 02 19 40.6
SOC *e*S **SKSac** 02 26 26.6 -2.5
SOC *e* 02 27 01.7
SOC *e*PS PS 02 28 17.3 -13
SOC *i* 02 29 05.4
SOC *e*SSS SSS 02 37 16.5
SOC pmax pmax
comp=Z,13nm,1.2s
PAX Paxson 95.33 27 *e*P **P** 02 15 57.3 -0.6
PAX pmax pmax
comp=Z,57nm,1.1s
PAX Paxson 95.33 27 *e*P **P** 02 15 57.2 -0.6
comp=Z,57nm,1.1s
MALT Malatya 95.38 308 ⇓P **P** 02 15 59.4 +0.7
BMRM Bremner River 95.47 29 *e*P **P** 02 15 58.0 -0.6
comp=Z,31nm,0.9s
VNA2 Neumayer--Watz 95.76 193 P **P** 02 16 01.4 +1.8
baz=137,slow=4.0
ASF Jabal al Asfar 95.98 302 P **P** 02 16 01.9 +0.4
comp=Z,1.2nm,0.6s,baz=358,slow=1.6,SNR=4.8
VNA3 Neumayer Olymp 96.02 192 P **P** 02 16 01.9 +1.0
VNA1 Neumayer--Stat 96.16 193 P **P** 02 16 03.1 +1.7
VSR Storozhevoye 96.17 321 *e*P **P** 02 16 00.0 -1.8
VSR pmax pmax
comp=N,5.0nm,0.6s
VSR pmax pmax
comp=E,9.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
LPSR Galich'ya Gora 96.44 322 *e*P **P** 02 16 02.1 -0.9
LPSR *e**SP **sP** 02 16 18.1 -2.5
LPSR *e*S **SKSac** 02 26 35.9 -0.4
LPSR pmax pmax
comp=Z,10.0nm,0.9s
LPSR pmax pmax
comp=N,3.0nm,0.8s
LPSR pmax pmax
comp=E,3.0nm,0.6s
LPSR smax smax
comp=N,130nm,2.5s
LPSR smax smax
comp=E,150nm,2.5s
LPSR smax smax
comp=Z,10.0nm,2.5s
LPSR MLR MLR
comp=E,490nm,26.0s
LPSR MLR MLR
comp=Z,440nm,26.0s
LPSR MLR MLR
comp=N,280nm,27.0s
KLMR Klimovskoe 96.82 330 *e*P **P** 02 16 02.7 -1.8
KLMR pmax pmax
comp=Z,8.0nm,0.9s
MMAI Mount Meron Ar 97.31 302 P **P** 02 16 07.3 -0.3
comp=Z,2.5nm,0.8s,baz=71,slow=7.5,SNR=6.9
EGAK Eagle 97.40 26 *e*P **P** 02 16 06.5 -0.6
comp=Z,24nm,1.0s
EGAK LR LR
comp=Z,496nm,20.0s
MBAR Mbarara 97.94 268 PFAKE 02 16 20.0 +9.0
MBAR LR LR
comp=Z,792nm,20.0s
OBN Obninsk 98.01 325 P **P** 02 16 08.5 -1.6
comp=Z,3.7nm,0.4s,baz=163,slow=17,SNR=2.8
OBN Obninsk 98.01 325 *de*P **P** 02 16 08.6 -1.4
OBN *e* 02 20 07.1
OBN *i* SS SS 02 34 15.7 -0.5
OBN pmax pmax
comp=Z,10.0nm,1.0s
OBN MLR MLR
comp=Z,547nm,22.0s
OBN Obninsk 98.01 325 P **P** 02 16 08.5 -1.6
OBN LR LR
comp=Z,408nm,21.0s
LSZ Lusaka 98.01 253 *e*P Pdif 02 16 11.9 +0.7
LSZ pmax pmax
comp=Z,6.0nm,0.8s
LSZ MLR MLR
comp=Z,553nm,20.0s
LSZ Lusaka 98.01 253 *e*P Pdif 02 16 11.9 +0.7
comp=Z,6.3nm,0.8s
LSZ LR LR
comp=Z,553nm,20.0s
DAWY Dawson 98.13 26 *e*P **P** 02 16 10.4 -0.1
LBTB Lobatse 98.39 243 P **P** 02 16 12.4 -0.3
comp=Z,5.2nm,0.8s,baz=132,slow=9.9,SNR=6.4
LBTB Lobatse 98.39 243 *e*P Pdif 02 16 13.2 +0.5
LBTB pmax pmax
comp=Z,9.0nm,1.0s
LBTB Lobatse 98.39 243 *e*P Pdif 02 16 13.2 +0.5
comp=Z,9.1nm,1.0s
HYT Haines Junctio 98.93 30 *e*P **P** 02 16 13.8 -0.4
SIM Simferopol' 99.11 314 *e*P **Pdif** 02 16 15.0 -0.3
SIM *e*PPS PPS 02 29 55.0
SIM pmax pmax
comp=Z,9.0nm,0.9s
LVZ Lovozero 99.17 338 PFAKE 02 16 30.0 +15
LVZ LR LR
comp=Z,580nm,22.0s
CSS Prodhromos 99.18 304 PFAKE 02 16 30.0 +14
CSS LR LR
comp=Z,128nm,20.0s
BR131 Keskin Array S 99.21 309 *e*P **Pdif** 02 16 14.8 -1.3
comp=Z,1.2nm,1.0s
BRTR Keskin Array B 99.21 309 P **Pdif** 02 16 15.2 -0.8
comp=Z,1.3nm,0.8s,baz=122,slow=5.1,SNR=9.9
BRTR PP **PP** 02 20 16.4 -2.8
comp=Z,1.2nm,0.9s,baz=116,slow=5.6,SNR=4.0
BRTR LR LR 03 08 14.0
comp=Z,172nm,21.3s,baz=98,slow=40
BRTR Keskin Array B 99.21 309 *i* P **Pdif** 02 16 14.8 -1.3
BRTR pmax pmax
comp=Z,1.0nm,0.8s
ANTO Ankara 99.87 309 PFAKE 02 16 30.0 +11
ANTO LR LR
comp=Z,239nm,20.0s
SKAG Skagway 100.01 31 *e*Pdif **Pdif** 02 16 19.2 +0.3
comp=Z,14nm,1.0s
INK Inuvik 100.44 22 P **Pdif** 02 16 19.9 -0.8
comp=Z,6.5nm,0.9s,baz=277,slow=4.6,SNR=18
INK PKKPbc **PKKPbc** 02 32 37.2 -2.0
comp=Z,2.2nm,0.9s,baz=91,slow=3.4,SNR=5.8
INK Inuvik 100.44 22 *e*P **Pdif** 02 16 19.0 -1.6
INK pmax pmax
comp=Z,8.0nm,1.0s
INK Inuvik 100.44 22 *e*P **Pdif** 02 16 19.0 -1.6
comp=Z,8.3nm,1.0s
INK PKKPbc **PKKPbc** 02 32 37.2 -2.0
SUR Sutherland 100.56 235 PFAKE 02 16 30.0 +7.6
SUR LR LR
comp=Z,792nm,19.0s
ISP Isparta 101.57 307 PFAKE 02 16 40.0 +13
ISP LR LR
comp=Z,257nm,22.0s
WRAK Wrangell Islan 101.70 34 PFAKE 02 16 40.0 +14
WRAK LR LR
comp=Z,465nm,20.0s
KEV Kevo 101.79 340 PFAKE 02 16 40.0 +13
KEV LR LR
comp=Z,380nm,20.0s
ARCES ARCESS Array B 102.35 339 P **Pdif** 02 16 27.8 -1.4
comp=Z,2.9nm,0.8s,baz=65,slow=7.2,SNR=5.8
ARCES PKiKP **PKiKP** 02 20 51.8 +1.2
comp=Z,1.1nm,0.7s,baz=297,slow=0.3,SNR=5.4
ARCES PKKPbc **PKKPbc** 02 32 30.5 -3.2
comp=Z,0.6nm,0.5s,baz=267,slow=2.3,SNR=10
AKASG Malin Array Be 102.43 320 P **Pdif** 02 16 28.5 -1.4
comp=Z,1.3nm,0.7s,baz=72,slow=4.4,SNR=7.7
AKASG PKiKP **PKiKP** 02 20 50.7 -0.5
comp=Z,0.5nm,0.3s,baz=62,slow=4.1,SNR=5.5
KIEV Kiev 102.44 320 PFAKE 02 16 40.0 +10
KIEV LR LR
comp=Z,377nm,22.0s
DLBC Dease Lake 102.81 32 *e*Pdif **Pdif** 02 16 31.3 -0.2
KBS Kingsbay 103.09 350 PFAKE 02 16 40.0 +7.7
KBS LR LR
comp=Z,452nm,20.0s
TIRR Tirgusor 103.17 314 ⇓P **Pdif** 02 16 32.7 -0.6
FINES FINESS Array B 103.31 331 Pdiff **Pdif** 02 16 32.1 -1.5
comp=Z,2.0nm,1.0s,baz=45,slow=3.0,SNR=5.7
FINES PKiKP **PKiKP** 02 20 53.5 +1.0
comp=Z,2.2nm,0.7s,baz=119,slow=3.2,SNR=10
CFR Carcaliu 103.35 314 ⇓P **Pdif** 02 16 33.3 -0.8
VRI Vrincioaia 104.31 315 ⇓P **Pdif** 02 16 38.7 +0.3
PLOR Plostina 104.37 315 ⇓P **Pdif** 02 16 38.6 -0.1
BBB Bella Bella 104.47 38 PKKPbc PKKPbc 02 32 28.2 +1.4
comp=Z,11nm,0.8s,baz=333,slow=4.5,SNR=3.2
MLR Muntele Rosu 104.88 315 Pdiff **Pdif** 02 16 41.0 -0.1
baz=185,slow=8.2
MLR PP **PP** 02 21 02.9 +1.3
baz=324,slow=19
MLR PKKPbc **PKKPbc** 02 32 23.3 -2.2
baz=137,slow=12
MLR Muntele Rosu 104.88 315 ⇑P **Pdif** 02 16 40.9 -0.2
BURAR Bucovina Array 105.24 317 ⇓P **Pdif** 02 16 42.9 +0.3
BUR08 Bucovina Ar. S 105.25 317 *e*Pdif **Pdif** 02 16 42.9 +0.2
IDI Anoyia 106.10 304 PKKPbc PKKPbc 02 32 21.1 -0.2
comp=Z,4.4nm,0.7s,baz=351,slow=17,SNR=4.3
KWP Kalwaria Pacla 106.69 319 ⇓P **Pdif** 02 16 43.9 -5.0
KWP Kalwaria Pacla 106.69 319 PFAKE 02 21 10.0
KWP LR LR
comp=Z,371nm,20.0s
KOLS Kolonicke sedl 107.06 319 *e*PKP **PKiKP** 02 21 01.4 +1.5
NLWA Neilton Lookou 107.72 43 PFAKE 02 21 10.0
NLWA LR LR
comp=Z,413nm,19.0s
L02D Cave Junction, 108.50 48 P **PKiKP** 02 21 03.5 +0.8
baz=108
PSZ Piszkesteto 108.77 318 PFAKE 02 21 20.0
PSZ LR LR
comp=Z,248nm,19.0s
RES Resolute Bay 109.12 11 PKKPbc PKKPbc 02 32 09.0 -3.9
comp=Z,0.6nm,0.9s,baz=182,slow=1.7,SNR=4.2
RES Resolute Bay 109.12 11 *e*P **Pdif** 02 16 59.2 +0.1
RES Resolute Bay 109.12 11 *e*Pdif **Pdif** 02 16 59.2 +0.1
RES PKKPbc **PKKPbc** 02 32 09.0 -3.9
YKA Yellowknife Ar 109.37 26 Pdiff **Pdif** 02 17 00.4 -0.1
comp=Z,1.3nm,0.7s,baz=293,slow=4.5,SNR=21

YKA PKiKP **PKiKP** 02 21 03.8 +0.1
comp=Z,2.0nm,0.7s,baz=293,slow=1.6,SNR=32
YKA PKKPbc **PKKPbc** 02 32 09.6 -2.2
comp=Z,1.4nm,0.8s,baz=101,slow=3.2,SNR=21
VYHS Vyhne 109.38 319 *e* PKiKP 02 21 12.9 +8.7
J04D Umpqua Nationa 109.47 47 P **PKiKP** **02 21 05.1 +0.3**
baz=109
HFS Hagfors 109.51 331 Pdiff **Pdif** **02 17 00.9 -0.3**
comp=Z,1.4nm,0.8s,baz=103,slow=6.5,SNR=3.2
HFS PKiKP **PKiKP** **02 21 04.1 0.0**
comp=Z,1.2nm,0.6s,baz=306,slow=3.4,SNR=3.3
HFS PKKPbc **PKKPbc** 02 32 08.9 -2.3
comp=Z,1.0nm,0.7s,baz=182,slow=8.7,SNR=3.3
OKC Ostrava-Krasne 109.58 320 *e*SP SP 02 31 02.3 +3.8
OKC AMS AMS 03 20 00.0
comp=Z,200nm,17.8s
MORC Moravsky Berou 109.98 320 *e*PKP **PKiKP** **02 21 06.0 +0.6**
J05D Fort Rock, OR 110.10 47 P **PKiKP** **02 21 07.1 +1.2**
baz=110
NOA NORSAR Array B 110.36 333 PKiKP **PKiKP** **02 21 05.7 -0.1**
comp=Z,1.7nm,0.7s,baz=262,slow=3.1,SNR=6.7
KRLC Kraliky 110.40 320 *e*PKP **PKiKP** **02 21 07.1 +0.9**
KRLC *ep*PKP **pPKiKP** **02 21 16.7 -2.7**
DPC Dobruska-Polom 110.64 321 *e*PKP **PKiKP** **02 21 07.6 +1.0**
DPC *ex* x 02 21 10.9
DPC *ep*PKP **pPKiKP** **02 21 17.3 -2.5**
DPC *ex* x 02 21 27.0
DPC *e*SP SP 02 31 05.4 -3.1
DPC Dobruska-Polom 110.64 321 *e*PKiKP **PKiKP** **02 21 07.6 +1.0**
DPC *e* 02 21 17.3
DPC *e*SP SP 02 31 05.4 -3.1
HAWA Hanford 110.81 44 PFAKE 02 21 20.0
HAWA LR LR
comp=Z,546nm,20.0s
TREC Trest 111.39 320 AMS AMS 03 16 10.0
comp=Z,300nm,21.4s
KONO Kongsberg 111.62 332 PFAKE 02 21 20.0
KONO LR LR
comp=Z,537nm,21.0s
PVCC Panska Ves 111.69 321 *e*PKP **PKiKP** **02 21 09.1 +0.6**
PVCC *ex* x 02 21 16.0
PVCC *ep*PKP **pPKiKP** **02 21 19.1 -2.6**
PVCC AMS AMS 03 14 00.0
comp=Z,400nm,19.1s
PVCC Panska Ves 111.69 321 *e*PKiKP **PKiKP** **02 21 09.1 +0.6**
PVCC *e* 02 21 16.0
PVCC *e* 02 21 19.1
PVCC MLR MLR
comp=Z,400nm,19.1s
GOPC GO Pecny, Ondr 111.69 321 *e*SP SP 02 31 20.3 +2.1
GOPC AMS AMS 03 08 30.0
comp=Z,300nm,21.0s
PRU Pruhonice 111.83 321 *e*PKP **PKiKP** **02 21 09.4 +0.6**
PRU *ep*PKP **pPKiKP** **02 21 19.4 -2.6**
PRU *e*SP SP 02 31 16.5 -2.9
PRU AMS AMS 03 08 40.0
comp=Z,300nm,19.3s
PRU Pruhonice 111.83 321 *e*PKiKP **PKiKP** **02 21 09.4 +0.6**
PRU *e* 02 21 19.4
PRU *e*SP SP 02 31 16.5 -2.9
PRU MLR MLR
comp=Z,300nm,19.3s
PRA Prague 111.88 321 *e*SP SP 02 31 19.9 0.0
BRG Berggiesshubel 111.99 322 *e*PKP **PKiKP** **02 21 09.4 +0.3**
comp=Z,2.6nm,0.8s
BRG *e* 02 21 19.6
comp=Z,3.3nm,0.8s
BRG Berggiesshubel 111.99 322 *e*PKiKP **PKiKP** **02 21 09.4 +0.3**
BRG *e* 02 21 19.6
BRG pmax pmax
comp=Z,3.0nm,0.8s
NEW Newport 112.05 41 PFAKE 02 21 20.0
NEW LR LR
comp=Z,529nm,22.0s
WVOR Wild Horse Val 112.11 48 PFAKE 02 21 20.0
WVOR LR LR
comp=Z,481nm,20.0s
TIP Timpagrande 112.27 309 PFAKE 02 21 20.0
TIP LR LR
comp=Z,114nm,20.0s
CLL Collm 112.45 322 *i* PKiKP **PKiKP** **02 21 09.7 -0.2**
comp=Z,5.0nm,0.7s
CLL *i* pPKiKP **pPKiKP** **02 21 19.8 -3.3**
CLL *e*PP **PP** **02 21 55.0 -1.2**
CLL *e*SKSac **SKSac** **02 27 54.0 +4.3**
CLL *e*Sdif **Sdif** **02 29 30.0 -4.4**
CLL *e*SP **SP** **02 31 21.0 -4.0**
CLL *e* 02 31 58.0
CLL *e*PKKPab **PKKPab** **02 32 10.0 +2.1**
CLL *e* 02 32 14.0
CLL *e*PPS PPS 02 32 35.0
CLL *e*SS SS 02 37 48.0 +14
CLL *e*PPPrev 02 39 48.0
CLL *e*SSS SSS 02 41 54.0
CLL *e* 02 43 06.0
CLL *e* 02 46 12.0
CLL LmV 03 21 00.0
comp=Z,400nm,19.7s
CLL Collm 112.45 322 *e*PKiKP **PKiKP** **02 21 08.0 -1.9**
CLL *e* 02 21 55.0
CLL pmax pmax
comp=Z,5.0nm,0.7s
CLL MLR MLR
comp=Z,400nm,19.7s
BMO Blue Mountains 112.63 45 PFAKE 02 21 20.0
BMO LR LR
comp=Z,464nm,20.0s
GERES GERESS Array B 112.64 320 PKiKP **PKiKP** **02 21 10.8 +0.3**
comp=Z,3.5nm,0.6s,baz=66,slow=1.7,SNR=38
GERES PKKPbc **PKKPbc** **02 32 00.1 -0.8**
comp=Z,0.3nm,0.4s,baz=227,slow=3.9,SNR=4.6
KHC Kasperske Hory 112.65 320 *e*PKP **PKiKP** **02 21 11.0 +0.6**
KHC *ex* x 02 21 15.9
KHC *ep*PKP **pPKiKP** **02 21 20.7 -2.9**
KHC *e*SP SP 02 31 26.3 -0.7
KHC AMS AMS 03 18 40.0
comp=Z,300nm,21.1s
KHC Kasperske Hory 112.65 320 *e*PKiKP **PKiKP** **02 21 11.0 +0.6**
KHC *e* 02 21 20.7
KHC *e*SP SP 02 31 26.3 -0.7
KHC MLR MLR
comp=Z,300nm,21.1s
CUC Castrocucco 112.88 310 PFAKE 02 21 20.0
CUC LR LR
comp=Z,166nm,20.0s
NVAR Mina Array Bea 112.96 52 Pdiff **Pdif** **02 17 18.8 +1.4**
comp=Z,0.2nm,0.2s,baz=251,slow=5.6,SNR=2.2
NVAR PKiKP **PKiKP** **02 21 12.8 +1.2**
comp=Z,0.7nm,0.6s,baz=238,slow=3.3,SNR=4.5
NVAR PKKPbc **PKKPbc** **02 32 01.4 +1.8**
comp=Z,1.5nm,0.7s,baz=134,slow=3.3,SNR=7.9
EDM Edmonton 113.05 35 *e*PKiKP **PKiKP** **02 21 11.0 -0.1**
EDM Edmonton 113.05 35 *e*PKP **PKiKP** **02 21 11.0 -0.1**
CEL Celeste 113.07 308 PFAKE 02 21 20.0
CEL LR LR
comp=Z,257nm,22.0s
NKC Novy Kostel 113.08 321 *e*PKP **PKiKP** **02 21 11.4 +0.2**
NKC *ep*PKP **pPKiKP** **02 21 21.5 -2.9**
NKC AMS AMS 03 14 40.0
comp=Z,300nm,16.4s
NKC Novy Kostel 113.08 321 *e*PKiKP **PKiKP** **02 21 11.4 +0.2**
NKC *e* 02 21 21.5
NKC MLR MLR
comp=Z,300nm,16.4s
EDW2 Edwards Air Fo 113.66 56 P **PKiKP** **02 21 13.5 +0.6**
baz=114
ABTA Abfaltersbach 113.92 318⇑ *i*PKiKP **PKiKP** **02 21 13.2 +0.2**
comp=Z,6.9nm,0.8s
AQU L'Aquila 114.27 313 *e*PKiKP PKPdf 02 21 14.0 +0.3
AQU MLR MLR
comp=Z,371nm,20.0s
AQU L'Aquila 114.27 313 *e*PKP PKPdf 02 21 14.0 +0.3
AQU LR LR
comp=Z,371nm,20.0s
SWMT Swartz Lake 114.27 41 *e*PKP PKPdf 02 21 13.0 -0.7
WTTA Wattenberg 114.37 318⇑ *i*PKiKP **PKiKP** **02 21 14.3 +0.3**
comp=Z,14nm,0.6s
WATA Walderalm 114.39 318⇑ *i*PKPdf PKPdf 02 21 13.3 -0.6
comp=Z,4.5nm,0.6s
WDD Wield Dalam 114.48 306 PFAKE 02 21 30.0 +16
WDD LR LR
comp=Z,142nm,20.0s
MSO Missoula 114.48 42 P PKPdf 02 21 14.0 -0.1
baz=114

SLMT Seeley Lake 114.67 42 *e*PKP PKPdf 02 21 14.2 -0.3
MOTA Moosalm 114.70 319⇑ *i*PKiKP **PKiKP** **02 21 14.3 -0.2**
comp=Z,5.1nm,0.5s
CHMT Chamberlain Mo 114.92 42 *e*PKP PKPdf 02 21 14.6 -0.5
HLID Hailey 114.94 46 *e*PKPdf PKPdf 02 21 16.5 +1.3
HLID LR LR
comp=Z,384nm,19.0s
HLID Hailey 114.94 46 P PKPdf 02 21 16.1 +0.9
baz=115
FETA Feichten 115.03 318⇓ *i*PKiKP **PKPdf** **02 21 15.6 +0.3**
comp=Z,4.8nm,1.0s
PFO Pinyon Flats O 115.07 57 PFAKE 02 21 30.0 +14
PFO LR LR
comp=Z,823nm,20.0s
PFO Pinyon Flats O 115.07 57 P **PKPdf** **02 21 15.8 +0.2**
baz=115
R11A Troy Canyon, C 115.08 52 *e*PKKPbc PKKPbc 02 31 53.6 +1.3
CLTB Caltabellotta 115.26 308 PFAKE 02 21 30.0 +14
CLTB LR LR
comp=Z,154nm,20.0s
SUMG Summit 115.27 356 *i* P **PKPdf** **02 21 16.2 +0.9**
comp=Z,4.7nm,0.8s
SUMG Summit 115.27 356 *e*PKiKP **PKPdf** **02 21 15.7 +0.4**
SUMG Summit 115.27 356 *e*PKPdf **PKPdf** **02 21 15.7 +0.4**
USHA Ushuaia 115.50 169 PKP **PKPdf** **02 21 16.5 +0.8**
comp=Z,6.9nm,0.7s,baz=156,slow=6.3,SNR=5.2
DAVA Damuels 115.52 319⇑ *i*PKiKP **PKPdf** **02 21 16.5 +0.4**
comp=Z,8.2nm,0.5s
STU Stuttgart 115.52 320 *e*PKiKP **PKPdf** **02 21 15.2 -0.7**
STU Stuttgart 115.52 320 *e*PKPdf **PKPdf** **02 21 15.2 -0.7**
GMRC Granite Mounta 115.57 55 P **PKPdf** **02 21 17.7 +1.1**
DAVOX Davos/Dischmat 115.66 318 PKP **PKPdf** **02 21 17.0 +0.5**
comp=Z,3.5nm,0.6s,baz=133,slow=3.7,SNR=15
DAVOX PKKPbc **PKKPbc** **02 31 50.4 -0.1**
comp=Z,2.7nm,0.7s,baz=178,slow=6.8,SNR=6.2
MCMT McKenzie Canyo 115.73 44 *e*PKPdf **PKPdf** **02 21 17.6 +0.9**
VLC Villacollemand 116.01 315 PFAKE 02 21 30.0 +13
VLC LR LR
comp=Z,428nm,22.0s
TUE Stuetta 116.10 318 *e*PKPdf **PKPdf** **02 21 17.1 -0.2**
TUE LR LR
comp=Z,800nm,19.0s
BFO Black Forest 116.21 320 PFAKE 02 21 30.0 +13
BFO LR LR
comp=Z,337nm,21.0s
BOZ Bozeman (W) 116.34 43 PFAKE 02 21 30.0 +12
BOZ LR LR
comp=Z,412nm,22.0s
HVU Hansel Valley 116.52 47 *e*PKIKP **PKPdf** **02 21 18.7 +0.4**
HVU Hansel Valley 116.52 47 *e*PKPdf **PKPdf** **02 21 18.7 +0.4**
DUG Dugway, Tooele 116.84 49 *e*PKIKP **PKPdf** **02 21 19.5 +0.6**
DUG MLR MLR
comp=Z,534nm,22.0s
DUG Dugway, Tooele 116.84 49 *e*PKPdf **PKPdf** **02 21 19.5 +0.6**
DUG *e*PKKPbc **PKKPbc** **02 31 47.0 +0.9**
DUG LR LR
comp=Z,534nm,22.0s
DUG Dugway, Tooele 116.84 49 P **PKPdf** **02 21 19.6 +0.7**
baz=117
CDF Champ du Feu 116.85 320 *e*PKIKP **PKPdf** **02 21 18.9 +0.3**
CDF Champ du Feu 116.85 320 *e*PKiKP **PKPdf** **02 21 18.9 +0.3**
CDF Champ du Feu 116.85 320 *e*PKPdf **PKPdf** **02 21 18.9 +0.3**
EGMT Eagleton 116.86 40 PFAKE 02 21 30.0 +11
EGMT LR LR
comp=Z,414nm,21.0s
EGMT Eagleton 116.86 40 P **PKPdf** **02 21 19.2 +0.6**
baz=117
MEM Membach 116.87 323 PKP **PKPdf** **02 21 19.2 +0.8**
W13A Hualapai Mount 116.96 55 P **PKPdf** **02 21 20.5 +1.1**
baz=117
ECH Echery 116.98 320 PFAKE 02 21 30.0 +11
ECH LR LR
comp=Z,242nm,19.0s
WLF Walferdange 117.12 322 PFAKE 02 21 30.0 +11
WLF LR LR
comp=Z,372nm,22.0s
A19A Klindworth Far 117.20 39 P **PKPdf** **02 21 19.2 0.0**
baz=117
B19A Brinkman Farms 117.23 39 P **PKPdf** **02 21 19.5 +0.3**
baz=117
IMW Indian Meadow 117.30 45 *e*PKPdf **PKPdf** **02 21 20.7 +0.8**
HINF Hinteralfeld 117.31 320 *e*PKIKP **PKPdf** **02 21 19.2 -0.2**
comp=Z,16nm,0.6s
HINF Hinteralfeld 117.31 320 *e*PKIKP **PKPdf** **02 21 19.2 -0.2**
HINF Hinteralfeld 117.31 320 *e*PKPdf **PKPdf** **02 21 19.2 -0.2**
PGF Pioggiola 117.39 314 *e*PKIKP **PKPdf** **02 21 20.7 +0.9**
comp=Z,46nm,1.1s
PGF Pioggiola 117.39 314 *e*PKIKP **PKPdf** **02 21 20.7 +0.9**
PGF Pioggiola 117.39 314 *e*PKPdf **PKPdf** **02 21 20.7 +0.9**
TPAW Teton Pass 117.40 45 *e*PKPdf **PKPdf** **02 21 20.7 +0.7**
TPAW *e*PKKPab **PKKPab** **02 31 48.0 +1.4**
HWUT Hardware Ranch 117.44 47 *e*PKPdf **PKPdf** **02 21 20.3 +0.2**
HWUT *e*PKKPbc **PKKPbc** **02 31 44.4 +0.2**
HWUT *e*PKKPab **PKKPab** **02 31 47.5 +1.1**
HWUT LR LR
comp=Z,388nm,20.0s
MOOW Moose Ponds 117.47 45 *e*PKPdf **PKPdf** **02 21 20.8 +0.7**
AHID Auburn Hatcher 117.48 46 PFAKE 02 21 30.0 +10
AHID LR LR
comp=Z,457nm,20.0s
LKWY Lake 117.48 44 PFAKE 02 21 30.0 +10
LKWY LR LR
comp=Z,889nm,20.0s
REDW Red Top Meadow 117.50 45 *e*PKPdf **PKPdf** **02 21 20.9 +0.7**
I17A Pilgrim Ck. 117.54 45 P **PKPdf** **02 21 21.5 +1.2**
baz=117
SNOW Snow King Moun 117.54 45 *e*PKPdf **PKPdf** **02 21 21.4 +1.0**
HAU Haudompre 117.57 320 *e*PKIKP **PKPdf** **02 21 19.9 0.0**
comp=Z,17nm,1.0s
HAU Haudompre 117.57 320 *e*PKIKP **PKPdf** **02 21 19.9 0.0**
HAU Haudompre 117.57 320 *e*PKPdf **PKPdf** **02 21 19.9 0.0**
LOHW Long Hollow 117.61 45 *e*PKPdf **PKPdf** **02 21 20.8 +0.5**
GCMT Greycliff 117.62 42 *e*PKPdf **PKPdf** **02 21 20.7 +0.5**
MSU Marysvale 117.68 51 *e*PKKPbc PKKPbc 02 31 43.8 +0.6
D19A Cripps Ranch, 117.70 41 P **PKPdf** **02 21 20.2 -0.1**
baz=118
A20A Cobblestone Ra 117.72 39 P **PKPdf** **02 21 20.2 -0.1**
baz=118
GIVF Givet 117.76 323 *e*PKIKP **PKPdf** **02 21 20.7 +0.5**
comp=Z,10nm,0.8s
GIVF Givet 117.76 323 *e*PKIKP **PKPdf** **02 21 20.7 +0.5**
GIVF Givet 117.76 323 *e*PKPdf **PKPdf** **02 21 20.7 +0.5**
PAGF Fort de Pagny 117.77 321 *e*PKIKP **PKPdf** **02 21 20.4 +0.2**
comp=Z,1.9nm,0.6s
PAGF Fort de Pagny 117.77 321 *e*PKPdf **PKPdf** **02 21 20.4 +0.2**
VSL Villasalto 117.85 310 PFAKE 02 21 30.0 +9.3
VSL LR LR
comp=Z,164nm,20.0s
DOU Dourbes 117.90 323 PKP **PKPdf** **02 21 21.2 +0.8**
SNF Seneffe 117.92 323 PKP **PKPdf** **02 21 21.2 +0.7**
H18A Shoshone NF, C 117.95 44 P **PKPdf** **02 21 21.0 0.0**
baz=118
E19A Rath Farm, Rou 117.99 41 P **PKPdf** **02 21 21.1 +0.2**
baz=118
C20A Veseth Ranch, 118.08 40 P **PKPdf** **02 21 21.5 +0.6**
baz=118
RLMT Red Lodge 118.09 43 PFAKE 02 21 30.0 +8.7
RLMT LR LR
comp=Z,532nm,20.0s
LPG La Plagne 118.12 318 *e*PKIKP **PKPdf** **02 21 21.7 +0.3**
comp=Z,8.3nm,0.6s
LPG La Plagne 118.12 318 *e*PKIKP **PKPdf** **02 21 21.7 +0.3**
LPG La Plagne 118.12 318 *e*PKPdf **PKPdf** **02 21 21.7 +0.3**
LPL La Plagne 118.12 318 *e*PKIKP **PKPdf** **02 21 21.6 +0.3**
comp=Z,14nm,0.7s
LPL La Plagne 118.12 318 *e*PKIKP **PKPdf** **02 21 21.6 +0.3**
LPL La Plagne 118.12 318 *e*PKPdf **PKPdf** **02 21 21.6 +0.3**
SBF Sospel 118.14 316 *e*PKIKP **PKPdf** **02 21 21.1 -0.1**
SBF Sospel 118.14 316 *e*PKIKP **PKPdf** **02 21 21.1 -0.1**
SBF Sospel 118.14 316 *e*PKPdf **PKPdf** **02 21 21.1 -0.1**
BAIF Baives 118.14 323 *e*PKIKP **PKPdf** **02 21 21.4 +0.5**
comp=Z,13nm,0.8s
BAIF Baives 118.14 323 *e*PKIKP **PKPdf** **02 21 21.4 +0.5**
BAIF Baives 118.14 323 *e*PKPdf **PKPdf** **02 21 21.4 +0.5**
CABF La Chapelle 118.20 319 *e*PKIKP **PKPdf** **02 21 21.7 +0.5**
comp=Z,30nm,0.6s
CABF La Chapelle 118.20 319 *e*PKIKP **PKPdf** **02 21 21.7 +0.5**
CABF La Chapelle 118.20 319 *e*PKPdf **PKPdf** **02 21 21.7 +0.5**
MEZF Maizieres J'vi 118.21 321 *e*PKIKP **PKPdf** **02 21 21.3 +0.2**
comp=Z,7.1nm,0.8s
MEZF Maizieres J'vi 118.21 321 *e*PKPdf **PKPdf** **02 21 21.3 +0.2**
A21A Bergtoll Ranch 118.29 38 P **PKPdf** **02 21 21.1 -0.2**
baz=118
BNI Bardonecchia 118.30 317 *e*PKIKP **PKPdf** **02 21 21.4 -0.2**

BNI MLR MLR
comp=Z,523nm,22.0s
BNI Bardonecchia 118.30 317 *e*PKPdf **PKPdf** **02 21 21.4 -0.2**
BNI LR LR
comp=Z,523nm,22.0s
SFTF Sexfontaines 118.32 321 *e*PKIKP **PKPdf** **02 21 21.5 +0.2**
SFTF Sexfontaines 118.32 321 *e*PKPdf **PKPdf** **02 21 21.5 +0.2**
214A Organ Pipe Nat 118.33 58 *e*PKKPab PKKPab 02 31 43.6 +1.0
MBDF Montbardon 118.34 317 *e*PKIKP **PKPdf** **02 21 22.3 +0.6**
comp=Z,11nm,0.7s
MBDF Montbardon 118.34 317 *e*PKIKP **PKPdf** **02 21 22.3 +0.6**
MBDF Montbardon 118.34 317 *e*PKPdf **PKPdf** **02 21 22.3 +0.6**
BW06 Boulder Array 118.58 46 *e*PKPdf **PKPdf** **02 21 22.5 +0.2**
BW06 *e*PKKPbc **PKKPbc** **02 31 40.3 +0.1**
BW06 LR LR
comp=Z,441nm,20.0s
PDAR Pinedale Array 118.58 46 PKP **PKPdf** **02 21 22.6 +0.4**
comp=Z,1.7nm,0.7s,baz=12,slow=0.9,SNR=18
PDAR PKKPbc **PKKPbc** **02 31 40.0 -0.1**
comp=Z,1.7nm,0.9s,baz=97,slow=4.9,SNR=8.9
FFC Flin Flon 118.61 31 *e*PKIKP **PKPdf** **02 21 21.7 0.0**
FFC MLR MLR
comp=Z,553nm,20.0s
FFC Flin Flon 118.61 31 *e*PKPdf **PKPdf** **02 21 21.7 0.0**
FFC LR LR
comp=Z,553nm,20.0s
C21A Desert Coulee 118.61 39 P **PKPdf** **02 21 21.9 0.0**
baz=118
KEST Kesra 118.65 306 PKP **PKPdf** **02 21 23.1 +0.7**
comp=Z,3.9nm,0.9s,baz=282,slow=5.8,SNR=12
KEST Kesra 118.65 306 *e*PKPdf **PKPdf** **02 21 23.1 +0.7**
KEST *e*PP **PP** **02 22 36.4 -4.1**
G20A Bridger 118.77 43 P **PKPdf** **02 21 22.9 +0.4**
baz=119
FRF La Foret Royal 118.77 315 *e*PKIKP **PKPdf** **02 21 22.6 +0.3**
comp=Z,14nm,0.8s
FRF La Foret Royal 118.77 315 *e*PKIKP **PKPdf** **02 21 22.6 +0.3**
FRF La Foret Royal 118.77 315 *e*PKPdf **PKPdf** **02 21 22.6 +0.3**
J19A Crowheart 118.79 45 P **PKPdf** **02 21 23.4 +0.8**
baz=119
SRU San Rafael Swe 118.81 50 *e*PKIKP **PKPdf** **02 21 23.2 +0.4**
SRU San Rafael Swe 118.81 50 *e*PKPdf **PKPdf** **02 21 23.2 +0.4**
ORIF Oris-en-Rattie 118.88 317 *e*PKIKP **PKPdf** **02 21 22.7 +0.1**
comp=Z,12nm,0.7s
ORIF Oris-en-Rattie 118.88 317 *e*PKIKP **PKPdf** **02 21 22.7 +0.1**
ORIF Oris-en-Rattie 118.88 317 *e*PKPdf **PKPdf** **02 21 22.7 +0.1**
A22A Carney Farms, 118.91 38 P **PKPdf** **02 21 22.5 0.0**
baz=119
WUAZ Wupatki 118.91 54 PFAKE 02 21 30.0 +6.9
WUAZ LR LR
comp=Z,430nm,20.0s
WUAZ Wupatki 118.91 54 P **PKPdf** **02 21 24.0 +0.9**
baz=119
LMR La Mourre 118.94 315 *e*PKIKP **PKPdf** **02 21 23.6 +1.0**
comp=Z,11nm,0.9s
LMR La Mourre 118.94 315 *e*PKIKP **PKPdf** **02 21 23.6 +1.0**
LMR La Mourre 118.94 315 *e*PKPdf **PKPdf** **02 21 23.6 +1.0**
X16A Lo Mia Camp, P 119.06 55 P **PKPdf** **02 21 24.6 +1.2**
baz=119
H20A Greybull 119.14 43 P **PKPdf** **02 21 23.4 +0.2**
baz=119
SMRF Simiane la Rot 119.39 316 *e*PKIKP **PKPdf** **02 21 24.2 +0.7**
comp=Z,14nm,0.7s
SMRF Simiane la Rot 119.39 316 *e*PKPdf **PKPdf** **02 21 24.2 +0.7**
C22A Vida 119.40 39 P **PKPdf** **02 21 24.0 +0.5**
baz=119
LOR Lormes 119.40 320 *e*PKIKP **PKPdf** **02 21 23.6 +0.2**
comp=Z,13nm,0.8s
LOR Lormes 119.40 320 *e*PKIKP **PKPdf** **02 21 23.6 +0.2**
LOR Lormes 119.40 320 *e*PKPdf **PKPdf** **02 21 23.6 +0.2**
D22A Cohagen 119.44 40 P **PKPdf** **02 21 24.3 +0.7**
baz=119
J20A Shoshoni 119.44 45 P **PKPdf** **02 21 24.2 +0.4**
baz=119
LAO LASA Array 119.57 40 PFAKE 02 21 40.0 +16
LAO LR LR
comp=Z,469nm,21.0s
SMF Signal de Mont 119.64 320 *e*PKIKP **PKPdf** **02 21 23.9 0.0**
SMF Signal de Mont 119.64 320 *e*PKIKP **PKPdf** **02 21 23.9 0.0**
SMF Signal de Mont 119.64 320 *e*PKPdf **PKPdf** **02 21 23.9 0.0**
SSB Saint Sauveur 119.66 318 PFAKE 02 21 40.0 +16
SSB LR LR
comp=Z,242nm,20.0s
B23A Brockton 119.68 38 P **PKPdf** **02 21 24.4 +0.5**
baz=120
EKA Eskdalemuir Ar 119.70 331 PKP **PKPdf** **02 21 24.5 +0.8**
comp=Z,1.4nm,0.5s,baz=31,slow=3.5,SNR=16
SSF Saint Saulge 119.70 320 *e*PKIKP **PKPdf** **02 21 24.4 +0.4**
comp=Z,18nm,0.7s
SSF Saint Saulge 119.70 320 *e*PKIKP **PKPdf** **02 21 24.4 +0.4**
SSF Saint Saulge 119.70 320 *e*PKPdf **PKPdf** **02 21 24.4 +0.4**
VIVF Saint-Julien-l 119.72 317 *e*PKIKP **PKPdf** **02 21 24.4 +0.3**
comp=Z,12nm,0.9s
VIVF Saint-Julien-l 119.72 317 *e*PKIKP **PKPdf** **02 21 24.4 +0.3**
VIVF Saint-Julien-l 119.72 317 *e*PKPdf **PKPdf** **02 21 24.4 +0.3**
ESK Eskdalemuir 119.73 331 *e*PKIKP **PKPdf** **02 21 24.6 +0.8**
ESK MLR MLR
comp=Z,416nm,21.0s
ESK Eskdalemuir 119.73 331 *e*PKPdf **PKPdf** **02 21 24.6 +0.8**
ESK LR LR
comp=Z,416nm,21.0s
H21A Big Horn, Sher 119.75 43 P **PKPdf** **02 21 24.4 +0.1**
baz=120
C23A Lambert 119.82 39 P **PKPdf** **02 21 25.2 +1.0**
baz=120
E22A Miles City 119.84 41 P **PKPdf** **02 21 25.1 +0.8**
baz=120
I21A Big Trails, Te 119.84 44 P **PKPdf** **02 21 24.7 +0.1**
baz=120
F22A Rosebud 119.88 41 P **PKPdf** **02 21 24.7 +0.3**
baz=120
J21A Lysite 119.88 44 P **PKPdf** **02 21 24.9 +0.2**
baz=120
AVF Avril sur Loir 119.90 320 *e*PKIKP **PKPdf** **02 21 24.4 0.0**
comp=Z,8.6nm,0.6s
AVF Avril sur Loir 119.90 320 *e*PKIKP **PKPdf** **02 21 24.4 0.0**
AVF Avril sur Loir 119.90 320 *e*PKPdf **PKPdf** **02 21 24.4 0.0**
FCC Fort Churchill 119.96 24 *e*PKIKP **PKPdf** **02 21 23.2 -0.9**
FCC Fort Churchill 119.96 24 *e*PKPdf **PKPdf** **02 21 23.2 -0.9**
TUC Tucson 119.97 58 *e*PKIKP **PKPdf** **02 21 25.3 +0.2**
TUC MLR MLR
comp=Z,396nm,20.0s
TUC Tucson 119.97 58 *e*PKPdf **PKPdf** **02 21 25.3 +0.2**
TUC LR LR
comp=Z,396nm,20.0s
EFI East Falkland 120.02 175 PFAKE 02 21 40.0 +16
EFI LR LR
comp=Z,643nm,19.0s
D23A Lindsay 120.04 40 P **PKPdf** **02 21 25.8 +1.0**
baz=120
N20A Spence Gulch, 120.05 47 P **PKPdf** **02 21 26.0 +0.8**
baz=120
A24A Westby 120.09 37 P **PKPdf** **02 21 25.1 +0.3**
baz=120
DGMT Dagmar 120.16 38 PFAKE 02 21 40.0 +15
DGMT LR LR
comp=Z,399nm,19.0s
K21A Alcova 120.24 45 P **PKPdf** **02 21 25.7 +0.2**
baz=120
X18A Snowflake 120.25 55 P **PKPdf** **02 21 26.9 +1.2**
baz=120
O20A White River Ci 120.25 48 *e*PKPdf **PKPdf** **02 21 26.1 +0.6**
O20A White River Ci 120.25 48 P **PKPdf** **02 21 26.2 +0.6**
baz=120
I22A 9 Mile Ranch, 120.37 44 P **PKPdf** **02 21 25.7 +0.1**
baz=120
C24A Savage 120.39 39 P **PKPdf** **02 21 26.0 +0.6**
baz=120
F23A Volborg 120.45 41 P **PKPdf** **02 21 25.7 +0.1**
baz=120
LASF Ste Croix 120.53 317 *e*PKIKP **PKPdf** **02 21 26.9 +1.2**
comp=Z,15nm,0.9s
LASF Ste Croix 120.53 317 *e*PKPdf **PKPdf** **02 21 26.9 +1.2**
J22A Midwest 120.53 44 P **PKPdf** **02 21 25.6 -0.3**
baz=120
PV01 Paradox Valley 120.53 50 *e*PKPdf **PKPdf** **02 21 26.7 +0.5**
D24A Glendive 120.62 39 P **PKPdf** **02 21 26.6 +0.8**
baz=120
A25A Svangstu Ranch 120.62 37 P **PKPdf** **02 21 26.2 +0.4**
baz=120
K22A Casper 120.74 45 *e*PKPdf **PKPdf** **02 21 25.9 -0.5**
K22A Casper 120.74 45 P **PKPdf** **02 21 26.3 -0.1**
baz=121
MVCO Mesa Verde 120.81 52 *e*PKPdf **PKPdf** **02 21 27.7 +1.0**
MVCO LR LR
comp=Z,389nm,19.0s

MVCO **Mesa Verde** 120.81 52 P PKPdf 02 21 28.2 +1.4
baz=121
TCF **Toulx Ste Croi** 120.82 320 *e*PKIKP PKPdf 02 21 26.6 +0.4
comp=Z,14nm,0.7s
TCF **Toulx Ste Croi** 120.82 320 *e*PKIKP PKPdf 02 21 26.6 +0.4
TCF **Toulx Ste Croi** 120.82 320 *e*PKPdf PKPdf 02 21 26.6 +0.4
E24A **Baker** 120.85 40 P PKPdf 02 21 27.3 +1.0
baz=121
M22A **Cedar Creek Ra** 121.08 46 P PKPdf 02 21 27.7 +0.5
baz=121
D25A **Fairfield** 121.23 39 P PKPdf 02 21 27.6 +0.6
baz=121
A26A **Wade Farm, Ken** 121.28 37 P PKPdf 02 21 27.4 +0.4
baz=121
LDF **La Druitiere** 121.33 323 *e*PKIKP PKPdf 02 21 28.0 +0.9
comp=Z,18nm,1.0s
LDF **La Druitiere** 121.33 323 *e*PKIKP PKPdf 02 21 28.0 +0.9
LDF **La Druitiere** 121.33 323 *e*PKPdf PKPdf 02 21 28.0 +0.9
SFJD **Kangerlussuaq** 121.34 360 *i* P PKPdf 02 21 26.2 -0.3
comp=Z,12nm,0.8s
SFJD **Kangerlussuaq** 121.34 360 *i* PKIKP PKPdf 02 21 26.2 -0.3
SFJD pmax pmax
comp=Z,12nm,0.8s
SFJD **Kangerlussuaq** 121.34 360 PFAKE 02 21 40.0 +13
SFJD LR LR
comp=Z,378nm,21.0s
N22A **Wattenberg Ran** 121.37 47 P PKPdf 02 21 27.8 0.0
baz=121
H24A **Dirks Ranch, A** 121.37 42 P PKPdf 02 21 27.1 -0.3
baz=121
319A **Douglas** 121.39 58 P PKPdf 02 21 28.4 +0.5
baz=121
CAF **Calviac** 121.43 318 *e*PKIKP PKPdf 02 21 28.2 +0.8
comp=Z,18nm,0.9s
CAF **Calviac** 121.43 318 *e*PKIKP PKPdf 02 21 28.2 +0.8
CAF **Calviac** 121.43 318 *e*PKPdf PKPdf 02 21 28.2 +0.8
FLN **La Foliniere** 121.47 323 *e*PKIKP PKPdf 02 21 28.2 +0.9
FLN **La Foliniere** 121.47 323 *e*PKIKP PKPdf 02 21 28.2 +0.9
FLN **La Foliniere** 121.47 323 *e*PKPdf PKPdf 02 21 28.2 +0.9
O22A **Kremmling** 121.49 48 P PKPdf 02 21 28.3 +0.2
baz=121
P22A **Eagle** 121.50 48 P PKPdf 02 21 29.2 +1.2
baz=121
F25A **Bowman** 121.64 40 P PKPdf 02 21 28.1 +0.2
baz=122
RJF **Les Rejaudoux** 121.64 319 *e*PKIKP PKPdf 02 21 28.4 +0.6
RJF **Les Rejaudoux** 121.64 319 *e*PKIKP PKPdf 02 21 28.4 +0.6
RJF **Les Rejaudoux** 121.64 319 *e*PKPdf PKPdf 02 21 28.4 +0.6
N23A **Red Feather La** 121.71 47 P PKPdf 02 21 28.6 +0.2
baz=122
C26A **Wahner Farm, P** 121.71 38 P PKPdf 02 21 28.6 +0.7
baz=122
D26A **Manning** 121.84 39 P PKPdf 02 21 28.6 +0.5
baz=122
GRR **Gorron** 121.86 323 *e*PKIKP PKPdf 02 21 29.1 +1.0
GRR **Gorron** 121.86 323 *e*PKIKP PKPdf 02 21 29.1 +1.0
GRR **Gorron** 121.86 323 *e*PKPdf PKPdf 02 21 29.1 +1.0
MTLF **Montolieu** 121.90 316 *e*PKIKP PKPdf 02 21 28.6 +0.3
comp=Z,12nm,0.8s
MTLF **Montolieu** 121.90 316 *e*PKIKP PKPdf 02 21 28.6 +0.3
MTLF **Montolieu** 121.90 316 *e*PKPdf PKPdf 02 21 28.6 +0.3
RSSD **Black Hills** 121.94 43 *e*PKIKP PKPdf 02 21 28.1 -0.6
RSSD **Black Hills** 121.94 43 *e*PKPdf PKPdf 02 21 28.1 -0.6
S22A **4UR Ranch, Cre** 121.96 51 P PKPdf 02 21 30.4 +1.4
baz=122
E26A **Carlson Angus** 122.05 40 P PKPdf 02 21 29.0 +0.4
baz=122
F26A **Lodgepole** 122.17 40 P PKPdf 02 21 29.0 +0.2
baz=122
I25A **Rochford** 122.18 43 P PKPdf 02 21 29.0 -0.1
baz=122
MFF **Saint Martin d** 122.19 321 *e*PKIKP PKPdf 02 21 29.1 +0.3
comp=Z,17nm,0.6s
MFF **Saint Martin d** 122.19 321 *e*PKIKP PKPdf 02 21 29.1 +0.3
MFF **Saint Martin d** 122.19 321 *e*PKPdf PKPdf 02 21 29.1 +0.3
P23A **Jefferson** 122.25 48 P PKPdf 02 21 30.3 +0.7
baz=122
ISCO **Idaho Springs** 122.28 48 *e*PKIKP PKPdf 02 21 30.4 +0.8
ISCO MLR MLR
comp=Z,420nm,20.0s
ISCO **Idaho Springs** 122.28 48 *e*PKPdf PKPdf 02 21 30.4 +0.8
ISCO LR LR
comp=Z,420nm,20.0s
ISCO **Idaho Springs** 122.28 48 P PKPdf 02 21 30.5 +0.9
baz=122
LFF **La Frestale** 122.29 319 *e*PKIKP PKPdf 02 21 29.8 +0.8
comp=Z,20nm,0.7s
LFF **La Frestale** 122.29 319 *e*PKIKP PKPdf 02 21 29.8 +0.8
LFF **La Frestale** 122.29 319 *e*PKPdf PKPdf 02 21 29.8 +0.8
A28A **Rude Farm, Bot** 122.31 36 P PKPdf 02 21 29.4 +0.4
baz=122
Q23A **Hartsel** 122.39 49 P PKPdf 02 21 30.8 +1.0
baz=122
121A **Cookes Peak, D** 122.42 57 *e*PKPdf PKPdf 02 21 31.0 +1.1
121A **Cookes Peak, D** 122.42 57 P PKPdf 02 21 30.8 +0.9
baz=122
G26A **Maurine** 122.44 41 P PKPdf 02 21 29.2 -0.2
baz=122
B28A **Dugan Ranch, T** 122.47 37 P PKPdf 02 21 29.4 +0.1
baz=122
N24A **Carr** 122.49 46 P PKPdf 02 21 30.2 +0.4
baz=122
F27A **Lemmon** 122.58 40 P PKPdf 02 21 29.8 +0.2
baz=122
R23A **Moffat** 122.60 50 P PKPdf 02 21 31.8 +1.5
baz=122
E27A **Carson** 122.63 39 P PKPdf 02 21 30.4 +0.7
baz=122
G27A **Dupree** 122.84 41 P PKPdf 02 21 30.1 0.0
baz=123
J26A **Sides Ranch, S** 122.89 43 P PKPdf 02 21 30.6 +0.2
baz=123
A29A **Manning Farm,** 122.91 36 P PKPdf 02 21 30.3 +0.1
baz=123
D28A **Regan** 122.92 38 P PKPdf 02 21 30.5 +0.3
baz=123
SGMF **Saint Gilles** 122.93 323 *e*PKIKP PKPdf 02 21 30.2 +0.1
SGMF **Saint Gilles** 122.93 323 *e*PKIKP PKPdf 02 21 30.2 +0.1
SGMF **Saint Gilles** 122.93 323 *e*PKPdf PKPdf 02 21 30.2 +0.1
ANMO **Albuquerque** 122.97 54 *e*PKIKP PKPdf 02 21 31.7 +0.8
ANMO MLR MLR
comp=Z,511nm,20.0s
ANMO **Albuquerque** 122.97 54 *e*PKPdf PKPdf 02 21 31.7 +0.8
ANMO LR LR
comp=Z,511nm,20.0s
SDCO **Great Sand Dun** 122.97 50 PFAKE 02 21 40.0 +9.0
SDCO LR LR
comp=Z,463nm,21.0s
SDCO **Great Sand Dun** 122.97 50 P PKPdf 02 21 31.7 +0.7
baz=123
H27A **Howes** 123.04 41 P PKPdf 02 21 30.4 -0.2
baz=123
B29A **Wagenman Farm,** 123.06 36 P PKPdf 02 21 30.6 +0.1
baz=123
E28A **Huff** 123.11 39 P PKPdf 02 21 30.9 +0.3
baz=123
MDND **Maddock** 123.20 37 P PKPdf 02 21 30.5 -0.2
baz=123
I27A **Quinn** 123.28 42 P PKPdf 02 21 31.0 -0.1
baz=123
EPF **Esparros** 123.29 317 *e*PKIKP PKPdf 02 21 32.2 +1.1
comp=Z,13nm,0.7s
EPF **Esparros** 123.29 317 *e*PKIKP PKPdf 02 21 32.2 +1.1
EPF **Esparros** 123.29 317 *e*PKPdf PKPdf 02 21 32.2 +1.1
F28A **McLaughlin** 123.36 40 P PKPdf 02 21 31.3 +0.1
baz=123
A30A **Hoffart Farm,** 123.44 35 P PKPdf 02 21 30.9 -0.2
baz=123
QUIF **Quistinic** 123.45 323 *e*PKIKP PKPdf 02 21 31.9 +0.8
QUIF **Quistinic** 123.45 323 *e*PKIKP PKPdf 02 21 31.9 +0.8
QUIF **Quistinic** 123.45 323 *e*PKPdf PKPdf 02 21 31.9 +0.8
D29A **Pettibone, Tap** 123.57 38 P PKPdf 02 21 31.2 -0.3
baz=123
G28A **Parade** 123.62 41 P PKPdf 02 21 31.6 0.0
baz=124
B30A **Myrvik Farm, E** 123.66 36 P PKPdf 02 21 31.4 -0.2
baz=124
H28A **Mission Ridge** 123.72 41 P PKPdf 02 21 31.8 0.0
baz=124
TAM **Tamanrasset** 123.83 292 *e*PKIKP PKPdf 02 21 34.2 +1.4
TAM MLR MLR
comp=Z,315nm,20.0s
TAM **Tamanrasset** 123.83 292 *e*PKPdf PKPdf 02 21 34.2 +1.4
TAM LR LR
comp=Z,315nm,20.0s
I28A **Midland** 123.90 42 P PKPdf 02 21 32.3 +0.1
baz=124
C30A **Mose, Pekin** 123.94 37 P PKPdf 02 21 32.3 +0.2
baz=124
ETSF **Etsaut** 123.95 317 *e*PKIKP PKPdf 02 21 34.2 +1.8
comp=Z,16nm,0.7s
ETSF **Etsaut** 123.95 317 *e*PKIKP PKPdf 02 21 34.2 +1.8
ETSF **Etsaut** 123.95 317 *e*PKPdf PKPdf 02 21 34.2 +1.8
F29A **Eureka** 123.98 39 P PKPdf 02 21 32.2 -0.1
baz=124
P26A **Davis Ranch, A** 124.02 47 P PKPdf 02 21 33.8 +1.1
baz=124
D30A **Buchanan** 124.05 38 P PKPdf 02 21 32.9 +0.5
baz=124
ULM **Lac du Bonnet** 124.11 33 PKP PKPdf 02 21 31.9 -0.4
comp=Z,7.8nm,0.7s,baz=301,slow=2.5,SNR=18
ULM **Lac du Bonnet** 124.11 33 *e*PKIKP PKPdf 02 21 31.7 -0.7
ULM **Lac du Bonnet** 124.11 33 *e*PKPdf PKPdf 02 21 31.6 -0.7
ULM PKPdf 02 21 31.9 -0.4
N27A **Anderson Farm,** 124.17 46 P PKPdf 02 21 33.4 +0.5
baz=124
E30A **Jud** 124.25 38 P PKPdf 02 21 32.9 +0.2
baz=124
H29A **Onida** 124.26 41 P PKPdf 02 21 33.1 +0.2
baz=124
K28A **Ten Mile Ranch** 124.28 43 P PKPdf 02 21 33.1 0.0
baz=124
SJPF **Ste Jean** 124.31 317 *e*PKIKP PKPdf 02 21 34.1 +1.1
comp=Z,9.6nm,0.6s
SJPF **Ste Jean** 124.31 317 *e*PKIKP PKPdf 02 21 34.1 +1.1
SJPF **Ste Jean** 124.31 317 *e*PKPdf PKPdf 02 21 34.1 +1.1
I29A **Vivian Onida** 124.46 41 P PKPdf 02 21 33.0 -0.3
baz=124
OGNE **Ogallala** 124.48 45 PFAKE 02 21 50.0 +16
OGNE LR LR
comp=Z,481nm,20.0s
S26A **Kim** 124.55 50 P PKPdf 02 21 34.9 +1.1
baz=124
MNTX **Cornudas Mount** 124.59 57 *e*PKPdf PKPdf 02 21 34.5 +0.6
MNTX LR LR
comp=Z,540nm,22.0s
MNTX **Cornudas Mount** 124.59 57 P PKPdf 02 21 34.7 +0.8
baz=124
J29A **Okreek** 124.70 42 P PKPdf 02 21 33.4 -0.4
baz=124
G30A **Faulkton** 124.72 40 P PKPdf 02 21 33.4 -0.3
baz=125
R27A **Eads** 124.84 49 P PKPdf 02 21 35.0 +0.7
baz=125
K29A **Lazy Trails An** 124.97 43 P PKPdf 02 21 34.7 +0.3
baz=125
I30A **Oacoma** 125.08 41 P PKPdf 02 21 34.5 +0.1
baz=125
AGMN **Agassiz Nation** 125.16 35 PFAKE 02 21 50.0 +16
AGMN LR LR
comp=Z,607nm,22.0s
AGMN **Agassiz Nation** 125.16 35 P PKPdf 02 21 33.9 -0.5
baz=125
J30A **Dallas** 125.28 42 P PKPdf 02 21 34.5 -0.4
baz=125
R28A **Tribune** 125.56 48 P PKPdf 02 21 36.3 +0.6
baz=125
T28A **Walsh** 125.73 50 P PKPdf 02 21 36.6 +0.5
baz=126
S28A **Manter** 125.74 49 P PKPdf 02 21 36.1 0.0
baz=126
Q29A **Oakley** 125.98 47 P PKPdf 02 21 36.8 +0.4
baz=126
V28A **Channing** 126.07 52 P PKPdf 02 21 37.5 +0.8
baz=126
MSTX **Muleshoe** 126.16 54 *e*PKPdf PKPdf 02 21 36.9 -0.1
MSTX **Muleshoe** 126.16 54 P PKPdf 02 21 37.3 +0.3
baz=126
P30A **Selden** 126.27 46 P PKPdf 02 21 37.2 +0.2
baz=126
TXAR **Lajitas Array** 126.54 60 PKP PKPdf 02 21 38.7 +0.9
comp=Z,2.2nm,0.8s,baz=233,slow=1.2,SNR=14
Y28A **McKinney Farm,** 126.59 54 P PKPdf 02 21 38.2 +0.4
baz=126
128A **Castleberry Fa** 126.75 55 P PKPdf 02 21 37.9 -0.2
baz=127
P31A **Stockton** 126.90 46 P PKPdf 02 21 38.2 +0.1
baz=127
ECSD **EROS Data Cent** 126.97 40 *e*PKPdf PKPdf 02 21 38.1 0.0
ECSD LR LR
comp=Z,422nm,21.0s
ECSD **EROS Data Cent** 126.97 40 P PKPdf 02 21 38.1 0.0
baz=127
BGNE **Belgrade** 126.99 44 *e*PKPdf PKPdf 02 21 38.4 +0.2
Y29A **Porterfield Fa** 127.07 54 P PKPdf 02 21 39.4 +0.7
baz=127
Z29A **Hungry Hill Ra** 127.21 54 P PKPdf 02 21 39.7 +0.7
baz=127
129A **Stewart Farms,** 127.25 55 P PKPdf 02 21 39.3 +0.3
baz=127
R31A **Burdett** 127.25 48 P PKPdf 02 21 39.3 +0.4
baz=127
P32A **Huiting Farm,** 127.41 46 P PKPdf 02 21 39.2 +0.1
baz=127
329A **Wagon Wheel Ra** 127.46 57 P PKPdf 02 21 39.9 +0.5
baz=127
229A **Bryant Ranch,** 127.48 56 P PKPdf 02 21 39.8 +0.4
baz=127
X30A **Coker Ranch, T** 127.53 53 P PKPdf 02 21 39.4 -0.1
baz=127
ESDC **Sonseca Array** 127.58 314 PKP PKPdf 02 21 39.7 +0.3
comp=Z,1.9nm,0.7s,baz=10.0,slow=3.1,SNR=12
Z30A **Sanderson Ranc** 127.67 54 P PKPdf 02 21 39.8 0.0
baz=128
Y30A **Stafford Cattl** 127.68 53 P PKPdf 02 21 40.3 +0.5
baz=128
Q32A **Meitler Ranch,** 127.69 46 P PKPdf 02 21 40.1 +0.5
baz=128
429A **Davenport Ranc** 127.75 58 P PKPdf 02 21 40.2 +0.2
baz=128
EYMN **Ely** 127.79 33 PFAKE 02 21 50.0 +10
EYMN LR LR
comp=Z,638nm,21.0s
R32A **Long Quarter,** 127.80 47 P PKPdf 02 21 40.5 +0.7
baz=128
TOA0 **Torodi Ar. Sit** 127.92 280 *e*PKPdf PKPdf 02 21 41.2 +0.5
TORD **Torodi Ar. Bea** 127.92 280 PKP PKPdf 02 21 41.1 +0.5
comp=Z,13nm,0.7s,baz=74,slow=1.7,SNR=65
TORD SKPbc SKiKP 02 24 57.9 -16
comp=Z,4.9nm,1.0s,baz=88,slow=3.5,SNR=6.8
130A **Snyder** 127.99 55 P PKPdf 02 21 40.6 +0.2
baz=128
230A **Sterling City** 128.07 56 P PKPdf 02 21 41.2 +0.6
baz=128
PLCA **Paso Flores** 128.08 161 PKP PKPdf 02 21 41.5 +1.0
comp=Z,9.0nm,0.9s,baz=234,slow=1.4,SNR=9.8
PLCA **Paso Flores** 128.08 161 *e*PKIKP PKPdf 02 21 40.9 +0.5
PLCA **Paso Flores** 128.08 161 *e*PKPdf PKPdf 02 21 40.9 +0.5
PLCA PKP PKPdf 02 21 41.5 +1.0
P33A **Williams Farm,** 128.13 46 P PKPdf 02 21 40.4 0.0
baz=128
330A **Mertzon** 128.15 56 P PKPdf 02 21 40.7 -0.1
baz=128
Y31A **Rekieta Farm,** 128.16 53 P PKPdf 02 21 41.3 +0.7
baz=128
X31A **McDonald Ranch** 128.17 52 P PKPdf 02 21 41.0 +0.3
baz=128
Q33A **Connelly Farm,** 128.21 46 P PKPdf 02 21 41.0 +0.4
baz=128
430A **Baggett Ranch,** 128.26 57 P PKPdf 02 21 41.4 +0.4
baz=128
530A **J-C Ranch, Com** 128.33 58 P PKPdf 02 21 41.6 +0.5
baz=128
R33A **Olander Ranch,** 128.37 47 P PKPdf 02 21 41.3 +0.4
baz=128
131A **Roby** 128.44 55 P PKPdf 02 21 41.4 +0.2
baz=128
231A **Bronte** 128.71 56 P PKPdf 02 21 41.3 -0.4
baz=129
331A **San Angelo** 128.79 56 P PKPdf 02 21 41.7 -0.2
baz=129
431A **Sonora** 128.81 57 P PKPdf 02 21 42.2 +0.2
baz=129
Z32A **Haskell** 128.98 54 P PKPdf 02 21 42.4 +0.2
baz=129
531A **Rocksprings** 128.99 58 P PKPdf 02 21 43.0 +0.6
baz=129
KSU1 **Kansas State U** 129.03 46 PFAKE 02 21 50.0 +7.9
KSU1 LR LR
comp=Z,504nm,20.0s
ABTX **Abilene, Hawle** 129.05 54 *e*PKPdf PKPdf 02 21 43.2 +0.8
WMOK **Wichita Mounta** 129.07 52 *e*PKIKP PKPdf 02 21 43.2 +0.8
WMOK MLR MLR
comp=Z,577nm,20.0s
WMOK **Wichita Mounta** 129.07 52 *e*PKPdf PKPdf 02 21 43.2 +0.8
WMOK LR LR
comp=Z,577nm,20.0s
631A **Perdido Creek** 129.15 59 P PKPdf 02 21 43.1 +0.4
baz=129
232A **Coleman** 129.27 55 P PKPdf 02 21 43.3 +0.5
baz=129
332A **Millersview** 129.33 56 P PKPdf 02 21 43.2 +0.2
baz=129
432A **Menard** 129.43 57 P PKPdf 02 21 43.4 +0.2
baz=129
Y33A **Hilltop Ranch,** 129.43 52 P PKPdf 02 21 43.6 +0.6
baz=129
T34A **McClaskey Farm** 129.45 48 P PKPdf 02 21 43.7 +0.7
baz=129
POLO **Lamas de Olo** 129.46 318 *e*P PKPdf 02 21 45.6 +2.6
JCT **Junction City** 129.53 57 *e*PKIKP PKPdf 02 21 44.0 +0.6
JCT MLR MLR
comp=Z,524nm,19.0s
JCT **Junction City** 129.53 57 *e*PKPdf PKPdf 02 21 44.0 +0.6
JCT LR LR
comp=Z,524nm,19.0s
JCT **Junction City** 129.53 57 P PKPdf 02 21 44.0 +0.6
baz=129
532A **Rocksprings** 129.54 58 P PKPdf 02 21 43.7 +0.2
baz=129
V34A **Guthrie** 129.65 50 *e*PKPdf PKPdf 02 21 44.4 +1.0
V34A **Guthrie** 129.65 50 P PKPdf 02 21 43.4 0.0
baz=130
632A **Uvalde** 129.80 58 P PKPdf 02 21 44.9 +1.0
baz=130
S35A **Otter Creek Ra** 129.83 47 P PKPdf 02 21 44.5 +0.8
baz=130
732A **Laxson Ranch,** 129.83 59 P PKPdf 02 21 44.5 +0.6
baz=130
X34A **Smith Ranch, M** 129.85 51 P PKPdf 02 21 44.8 +1.0
baz=130
832A **Faith Ranch, C** 129.94 60 P PKPdf 02 21 45.1 +1.0
baz=130
PCBR **Castelo Branco** 129.96 316 *e*P PKPdf 02 21 45.8 +2.0
333A **Richland Sprin** 129.97 56 P PKPdf 02 21 44.7 +0.5
baz=130
SCIA **State Center** 130.04 41 PFAKE 02 22 00.0 +16
SCIA LR LR
comp=Z,490nm,22.0s
COWI **Conover** 130.18 34 *e*PKPdf PKPdf 02 21 44.4 +0.3
COWI LR LR
comp=Z,410nm,20.0s
134A **White-Moore Ra** 130.32 54 P PKPdf 02 21 45.8 +1.0
baz=130
W35A **Tecumseh** 130.39 50 P PKPdf 02 21 45.7 +0.9
baz=130
T36A **Boggs Farm, Ca** 130.40 48 P PKPdf 02 21 45.7 +0.9
baz=130
MDT **Midelt** 130.56 306 PKP PKPdf 02 21 46.6 +1.2
comp=Z,2.7nm,0.7s,baz=249,slow=0.7,SNR=9.0
MDT SKPbc SKPab 02 25 09.4 +3.6
comp=Z,3.9nm,0.8s,baz=72,slow=5.0,SNR=6.9
334A **Lometa** 130.58 56 P PKPdf 02 21 46.5 +1.2
baz=130
R37A **Teagarden Farm** 130.63 46 P PKPdf 02 21 45.3 +0.1
baz=130
434A **Burnet** 130.71 56 P PKPdf 02 21 46.0 +0.4
baz=131
W36A **Wetumka** 130.89 50 P PKPdf 02 21 46.1 +0.3
baz=131
EVO **Evora** 130.91 315 *e*P PKPdf 02 21 49.0 +3.3
X36A **Centrahoma** 131.00 51 P PKPdf 02 21 46.2 +0.2
baz=131
335A **Moody** 131.25 55 P PKPdf 02 21 47.0 +0.4
baz=131
JFWS **Jewell Farm** 131.38 38 PFAKE 02 22 00.0 +14
JFWS LR LR
comp=Z,607nm,20.0s
W37A **Quinton** 131.49 50 P PKPdf 02 21 47.7 +0.8
baz=131
X37A **Clayton** 131.74 50 P PKPdf 02 21 48.2 +0.8
baz=132
SCHQ **Schefferville** 131.88 12 PKP PKPdf 02 21 47.1 0.0
comp=Z,5.2nm,0.6s,baz=360,slow=0.8,SNR=12
SCHQ SKPbc SKPab 02 25 12.3 +1.8
comp=Z,14nm,1.0s,baz=343,slow=3.1,SNR=8.9
KVTX **Kingsville** 131.90 60 PFAKE 02 22 00.0 +12
KVTX LR LR
comp=Z,473nm,21.0s
TRQA **Tornquist** 132.84 168 *e*PKPdf PKPdf 02 21 49.5 0.0
TRQA *e*SKPbc SKPbc 02 25 14.0 +0.2
TRQA LR LR
comp=Z,457nm,20.0s
MIAR **Mount Ida** 133.13 50 *e*PKIKP PKPdf 02 21 50.8 +0.8
MIAR MLR MLR
comp=Z,764nm,20.0s
MIAR **Mount Ida** 133.13 50 *e*PKPdf PKPdf 02 21 50.8 +0.8
MIAR *e*SKP 02 25 16.7
MIAR LR LR
comp=Z,764nm,20.0s
HDIL **Hopedale** 133.27 40 PFAKE 02 22 00.0 +10
HDIL LR LR
comp=Z,32μm,20.0s
NATX **Nacogdoches** 133.33 54 PFAKE 02 22 00.0 +10
NATX LR LR
comp=Z,1μm,21.0s
GLMI **Grayling** 133.45 33 PFAKE 02 22 00.0 +10
GLMI LR LR
comp=Z,425nm,19.0s
KIC **Kosan Boka** 133.95 271 *e*P SKPab 02 25 20.0 -0.8
comp=Z,34nm,0.9s
DBIC **Dimbokro** 134.09 271 PKP PKPdf 02 21 52.9 +0.6
comp=Z,16nm,0.7s,baz=72,slow=1.5,SNR=22
DBIC SKPbc SKPab 02 25 20.8 -0.6
comp=Z,14nm,1.0s,baz=86,slow=7.8,SNR=6.5
DBIC **Dimbokro** 134.09 271 *e*PKIKP PKPdf 02 21 52.7 +0.3
LIC **Lamto** 134.22 271 *e*PKIKP PKPdf 02 21 52.2 -0.4
comp=Z,20nm,0.7s
LIC **Lamto** 134.22 271 *e*P SKPab 02 25 20.7 -1.3
comp=Z,43nm,1.1s
LIC **Lamto** 134.22 271 *e*PKPdf PKPdf 02 21 52.2 -0.4
TIC **Tounodi** 134.25 271 *e*P SKPbc 02 25 18.0 -1.1
comp=Z,16nm,0.9s
AAM **Ann Arbor** 135.63 35 PFAKE 02 22 10.0 +16
AAM LR LR
comp=Z,435nm,20.0s
BLO **Bloomington** 135.81 40 *e*PKIKP PKPdf 02 21 56.1 +1.2
BLO **Bloomington** 135.81 40 *e*PKPdf PKPdf 02 21 56.1 +1.2
WCI **Wyandotte Cave** 136.49 41 *e*PKHKP PKPpre 02 21 45.7
WCI *e* 02 21 56.2
WCI **Wyandotte Cave** 136.49 41 *e*PKPpre PKPpre 02 21 45.7
WCI *e*PKPdf PKPdf 02 21 56.2 -0.1
WCI *e*SKP 02 25 27.3
CMIG **Matias Romero** 136.52 74 PKP PKPdf 02 21 57.5 +0.7
comp=Z,4.3nm,0.9s,baz=309,slow=8.9,SNR=4.4
CMIG SKPbc SKPbc 02 25 28.2 +2.1
comp=Z,4.4nm,0.9s,baz=242,slow=15,SNR=2.9
WVT **Waverly** 136.58 45 *e*PKIKP PKPdf 02 21 57.2 +0.8
WVT **Waverly** 136.58 45 *e*PKPdf PKPdf 02 21 57.2 +0.8
CFAA **Coronel Fontan** 137.13 158 PKP PKPdf 02 21 57.9 +0.2
comp=Z,1.5nm,0.5s,baz=193,slow=2.9,SNR=6.8
CFAA SKPbc SKPbc 02 25 28.1 +0.5
comp=Z,0.1nm,0.3s,baz=335,slow=14,SNR=2.9
ACSO **Alum Creek Sta** 137.35 37 PFAKE 02 22 10.0 +12
ACSO LR LR
comp=Z,557nm,20.0s
LCO **Las Campanas** 138.43 154 *e*PKPdf PKPdf 02 22 00.7 +0.2
LCO LR LR
comp=Z,7μm,19.0s
LONY **Lake Ozonia** 138.45 25 PFAKE 02 22 10.0 +10
LONY LR LR
comp=Z,428nm,19.0s
NCB **Newcomb** 139.12 26 PFAKE 02 22 10.0 +9.1
NCB LR LR
comp=Z,2μm,21.0s
BRAL **Brewton** 139.59 51 PFAKE 02 22 10.0 +7.9
BRAL LR LR
comp=Z,627nm,21.0s
TKL **Tuckaleechee C** 139.61 43 SKPbc SKiKP 02 25 36.7 -0.7
comp=Z,12nm,0.9s,baz=131,slow=0.3,SNR=6.5
TKL **Tuckaleechee C** 139.61 43 *e*PKIKP PKPdf 02 22 02.4 +0.4
TKL **Tuckaleechee C** 139.61 43 *e*PKPdf PKPdf 02 22 02.4 +0.4
TKL *e*SKP 02 25 34.3
BINY **Binghamton** 139.72 29 PFAKE 02 22 10.0 +7.9
BINY LR LR
comp=Z,610nm,20.0s
ASCN **Ascension** 139.96 247 PFAKE 02 22 20.0 +17
ASCN LR LR
comp=Z,2μm,22.0s

BLA	**Blacksburg**	**140.82**	**38**	*e*PKHKP	PKPpre	02 21 57.0			
BLA				*e*		02 22 04.1			
BLA				MLR	MLR				
	comp=Z,521nm,20.0s								
BLA	**Blacksburg**	**140.82**	**38**	*e*PKPpre	PKPpre	02 21 57.0			
BLA				*e*PKPdf	**PKPdf**	**02 22 04.1**	**-0.1**		
BLA				LR	LR				
	comp=Z,521nm,20.0s								
GOGA	**Godfrey**	**141.06**	**45**	PFAKE		02 22 20.0	+15		
GOGA				LR	LR				
	comp=Z,686nm,22.0s								
CBN	**Corbin Frederi**	**141.94**	**34**	PFAKE		02 22 20.0	+14		
CBN				LR	LR				
	comp=Z,719nm,20.0s								
TEIG	**Tepich**	**142.20**	**68**	PKP	**PKPdf**	**02 22 06.9**	**-0.1**		
	comp=Z,5.1nm,0.8s,baz=342,slow=17,SNR=1.9								
TEIG	**Tepich**	**142.20**	**68**	PKP	**PKPdf**	**02 22 06.9**	**-0.1**		
TEIG				LR	LR				
	comp=Z,422nm,19.0s								
NHSC	**New Hope**	**143.51**	**43**	PFAKE		02 22 20.0	+11		
NHSC				LR	LR				
	comp=Z,460nm,20.0s								
CNNC	**Cliffs of the**	**143.66**	**38**	PFAKE		02 22 20.0	+11		
CNNC				LR	LR				
	comp=Z,551nm,22.0s								
LVC	**Limon Verde**	**144.74**	**151**	PKP	**PKPdf**	**02 22 12.6**	**+0.7**		
	comp=Z,348nm,0.8s,baz=257,slow=3.0,SNR=25								
LVC	**Limon Verde**	**144.74**	**151**	*e*PKPbc	**PKPdf**	**02 22 12.3**	**+0.4**		
LVC				LR	LR				
	comp=Z,3µm,21.0s								
CPUP	**Villa Florida**	**145.10**	**170**	PKPbc	**PKPdf**	**02 22 12.3**	**+0.2**		
	comp=Z,22nm,0.8s,baz=197,slow=2.7,SNR=60								
CPUP	**Villa Florida**	**145.10**	**170**	*e*PKPbc	**PKPdf**	**02 22 11.9**	**-0.2**		
BBTS	**Babate**	**145.51**	**284**	PKPbc	**PKPab**	**02 22 14.7**	**+1.4**		
	comp=Z,236nm,0.8s,baz=139,slow=0.9,SNR=47								
JTS	**JuntasAbangare**	**146.59**	**84**	PKPbc	**PKPab**	**02 22 17.2**	**-0.4**		
	comp=Z,23nm,0.7s,baz=294,slow=4.2,SNR=16								
JTS	**JuntasAbangare**	**146.59**	**84**	*e*PKIKP	**PKPbc**	**02 22 15.9**	**-0.6**		
JTS				MLR	MLR				
	comp=Z,388nm,21.0s								
JTS	**JuntasAbangare**	**146.59**	**84**	*e*PKPbc	**PKPbc**	**02 22 15.8**	**-0.6**		
JTS				LR	LR				
	comp=Z,388nm,21.0s								
NNA	**Nana**	**147.49**	**128**	PKPbc	**PKPbc**	**02 22 20.0**	**+0.9**		
	comp=Z,75nm,0.9s,baz=255,slow=5.5,SNR=28								
NNA	**Nana**	**147.49**	**128**	*e*PKIKP	**PKPbc**	**02 22 19.5**	**+0.5**		
NNA				MLR	MLR				
	comp=Z,660nm,22.0s								
NNA	**Nana**	**147.49**	**128**	*e*PKPbc	**PKPbc**	**02 22 19.5**	**+0.5**		
NNA				LR	LR				
	comp=Z,660nm,22.0s								
ATAH	**Atahualpa**	**148.83**	**119**	PKPbc	**PKPab**	**02 22 25.3**	**-1.6**		
	comp=Z,56nm,1.0s,baz=236,slow=3.2,SNR=11								
LPAZ	**La Paz**	**150.39**	**145**	PKP	**PKPdf**	**02 22 23.0**	**+1.2**		
	comp=Z,50nm,0.9s,baz=222,slow=1.8,SNR=44								
LPAZ				PKPbc	**PKiKP**	**02 22 28.4**	**+0.6**		
	comp=Z,50nm,0.9s,baz=146,slow=1.1,SNR=83								
LPAZ	**La Paz**	**150.39**	**145**	*e*PKIKP	**PKPdf**	**02 22 21.9**	**+0.1**		
LPAZ						02 22 28.4			
LPAZ	**La Paz**	**150.39**	**145**	*e*PKPdf	**PKPdf**	**02 22 21.9**	**+0.1**		
LPAZ				*e*PKPbc	**PKiKP**	**02 22 27.8**	**0.0**		
LPAZ				PKPbc	**PKiKP**	**02 22 28.4**	**+0.6**		
BCIP	**Isla Barro Col**	**151.63**	**86**	*e*PKPbc	**PKPbc**	**02 22 29.1**	**-0.1**		
BCIP				LR	LR				
	comp=Z,497nm,20.0s								
OTAV	**Otavalo**	**151.66**	**105**	*e*PKPdf	**PKPdf**	**02 22 23.9**	**+0.2**		
OTAV				*e*PKPbc	**PKiKP**	**02 22 30.6**	**+0.2**		
OTAV				LR	LR				
	comp=Z,495nm,20.0s								
SACV	**Santiago Islan**	**152.23**	**286**	PFAKE		02 22 40.0	-0.5		
SACV				LR	LR				
	comp=Z,438nm,21.0s								
MTDJ	**Mount Denham**	**152.51**	**66**	PFAKE		02 22 40.0	-1.7		
MTDJ				LR	LR				
	comp=Z,307nm,21.0s								
BBSR	**BB Station**	**152.91**	**26**	*e*PKPbc	**PKPbc**	**02 22 30.8**	**-0.8**		
BBSR				LR	LR				
	comp=Z,381nm,20.0s								
SIV	**San Ignacio**	**153.99**	**158**	PKP	**PKPdf**	**02 22 27.3**	**+0.9**		
	comp=Z,1.5nm,0.7s,baz=262,slow=3.2,SNR=4.1								
SIV				PKPbc	**PKiKP**	**02 22 35.1**	**+0.5**		
	comp=Z,5.5nm,0.7s,baz=196,slow=2.6,SNR=11								
SIV				PKPab	**PKPab**	**02 22 48.0**	**+0.4**		
	comp=Z,11nm,0.6s,baz=239,slow=6.7,SNR=15								
GTBY	**Guantanamo Bay**	**154.07**	**61**	PFAKE		02 22 40.0	+5.5		
GTBY				LR	LR				
	comp=Z,347nm,21.0s								
BDFB	**Brasilia**	**156.06**	**187**	PKP	**PKPdf**	**02 22 29.6**	**+0.2**		
	comp=Z,8.4nm,0.8s,baz=142,slow=0.9,SNR=11								
GRTK	**Grand Turk**	**156.66**	**53**	PFAKE		02 22 40.0	+10		
GRTK				LR	LR				
	comp=Z,436nm,21.0s								
ROSC	**El Rosal**	**156.73**	**97**	PKP	**PKPdf**	**02 22 30.8**	**+0.2**		
	comp=Z,3.4nm,0.5s,baz=99,slow=16,SNR=3.9								
ROSC				PKPab	**PKPab**	**02 23 02.2**	**+2.0**		
	comp=Z,12nm,0.6s,baz=110,slow=4.1,SNR=7.1								
SDDR	**Presa de Saban**	**157.74**	**59**	PFAKE		02 22 40.0	+8.6		
SDDR				LR	LR				
	comp=Z,365nm,19.0s								
SAML	**Samuel**	**159.13**	**145**	*e*PKPdf	**PKPdf**	**02 22 33.4**	**+0.3**		
SAML				LR	LR				
	comp=Z,1µm,20.0s								
RCBR	**Riachuelo**	**159.34**	**228**	PKPab	**PKPab**	**02 23 13.3**	**+2.4**		
	comp=Z,40nm,0.9s,baz=115,slow=7.7,SNR=12								
RCBR	**Riachuelo**	**159.34**	**228**	*e*PKPab	**PKPab**	**02 23 11.7**	**+0.8**		
RCBR				LR	LR				
	comp=Z,2µm,19.0s								
SDV	**Santo Domingo**	**160.72**	**87**	*e*PKPdf	**PKPdf**	**02 22 34.7**	**-0.4**		
SDV				LR	LR				
	comp=Z,509nm,21.0s								
SJG	**San Juan**	**162.43**	**55**	PFAKE		02 22 50.0	+13		
SJG				LR	LR				
	comp=Z,348nm,20.0s								
ANWB	**Willy Bob**	**166.04**	**47**	PFAKE		02 22 50.0	+10		
ANWB				LR	LR				
	comp=Z,348nm,20.0s								
PTGA	**Pitinga**	**167.48**	**135**	PKP	**PKPdf**	**02 22 40.7**	**-0.3**		
	comp=Z,1.5nm,0.3s,baz=232,slow=5.4,SNR=5.5								
PTGA				PKPab	**PKPab**	**02 23 46.9**	**+0.4**		
	comp=Z,2.0nm,0.4s,baz=282,slow=5.0,SNR=4.8								
PTGA	**Pitinga**	**167.48**	**135**	PKP	**PKPdf**	**02 22 40.7**	**-0.3**		
PTGA				PKPab	**PKPab**	**02 23 46.9**	**+0.4**		
PTGA				LR	LR				
	comp=Z,440nm,19.0s								
FDF	**Fort de France**	**168.28**	**56**	PFAKE		02 22 50.0	+8.4		
FDF				LR	LR				
	comp=Z,481nm,20.0s								
GRGR	**Grenville**	**168.97**	**69**	PFAKE		02 22 50.0	+8.0		
GRGR				LR	LR				
	comp=Z,454nm,19.0s								

*IDC **09** 02:14:46.6±0.9,33.64S×72.25W,h0km,mb4.3/8, mb1 4.1/13,mb1mx4.0/21,mbtmp4.1/13,ML3.6/4,MS3.9/3, Ms1 3.9/3,ms1mx3.4/25,Error ellipse: s-maj=34.7km s-min=18.0km az=101.0*

*ISCJB **09** 02:14:47.9±2.1,33.63S±0.06×72.13W±0.1,h25km±14km, mb4.2/16,MS3.5/1,Error ellipse: s-maj=17.4km s-min=9.2km az=172.6*

*GUC **09** 02:14:50.5±0.3,33.62S×72.02W,h27km±3km,ML4.3*

*NEIC **09** 02:14:50.9±2.3,33.59S×72.29W,h31km±16km,mb4.3/9, Error ellipse: s-maj=13.2km s-min=6.5km az=86.0*

ISC 09 02:14:51.0±1.5,33.55S±0.04×72.11W±0.06,h27km±10km, n54,σ1§06/59,mb4.3/16,1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.65**	**37**	*i* P	**Pb**	**02 15 03.8**	**+0.1**
IHA				*e*S	**Sb**	**02 15 13.0**	**+0.6**
SAN	**Santiago**	**1.21**	**86**	*i* P	**Pn**	**02 15 12.2**	**0.0**
SAN				*i* S	**Sn**	**02 15 28.1**	**+0.3**
SAN				AML	AML	02 15 30.4	
	comp=E,6µm,0.4s						
PEL	**Peldehue**	**1.26**	**72**	*i* P	**Pn**	**02 15 13.1**	**+0.2**
PEL				*i* S	**Sn**	**02 15 29.5**	**+0.6**
PEL				AML	AML	02 15 35.5	
	comp=N,17µm,0.4s						
LACH	**Col Las Americ**	**1.32**	**86**	*e*P	**Pn**	**02 15 13.7**	**-0.1**
CLCH	**Cerro Calan**	**1.32**	**84**	*e*P	**Pn**	**02 15 13.5**	**-0.3**
CLCH				*i* P	**Pb**	**02 15 14.0**	**-1.2**
CLCH				*e*S	**Sn**	**02 15 31.0**	**+0.4**
CLCH				*i* S	**Sb**	**02 15 31.6**	**-0.1**
CLCH				AML	AML	02 15 36.5	
	comp=N,6µm,0.5s						

PCH	**Pirque**	**1.33**	**94**	*e*P	**Pn**	**02 15 13.3**	**-0.7**		
CACH	**El Canelo**	**1.38**	**115**	*e*P	**Pn**	**02 15 14.4**	**-0.2**		
NICH	**Los Niches**	**1.62**	**154**	*i* P	**Pn**	**02 15 17.9**	**0.0**		
NICH				*e*S	**Sn**	**02 15 38.2**	**+0.3**		
NICH				AML	AML	02 15 45.1			
	comp=N,6µm,0.4s								
YECH	**El Yeso**	**1.69**	**95**	*e*P	**Pn**	**02 15 19.6**	**+0.5**		
YECH				*i* S	**Sn**	**02 15 42.1**	**+2.1**		
TALC	**Talca**	**1.89**	**168**	*i* P	**Pn**	**02 15 21.9**	**+0.5**		
TALC				*i* S	**Sn**	**02 15 45.8**	**+1.4**		
TALC				AML	AML	02 15 49.5			
	comp=E,5µm,0.4s								
LNCH	**Linares**	**2.33**	**170**	*e*P	**Pn**	**02 15 28.7**	**+1.1**		
LNCH				*e*S	**Sn**	**02 15 57.4**	**+2.0**		
LNCH				AML	AML	02 16 10.5			
	comp=N,4µm,0.7s								
CFAA	**Coronel Fontan**	**3.80**	**60**	Pn	**Pn**	**02 15 49.3**	**+1.5**		
	comp=N,1.5nm,0.3s,baz=224,slow=11,SNR=74								
CFAA				Sn	**Sb**	**02 16 40.8**	**-2.1**		
	comp=N,2.2nm,0.3s,baz=95,slow=4.0,SNR=6.0								
CFAA				LR	LR	02 17 39.1			
	comp=N,58nm,20.1s,baz=238,slow=44								
LCO	**Las Campanas**	**4.68**	**15**	*e*Pn	**Pn**	**02 15 59.8**	**-0.3**		
LCO				*e*Lg	Lg	02 17 13.8			
PLCA	**Paso Flores**	**7.28**	**171**	Pn	**Pn**	**02 16 34.9**	**-0.7**		
	comp=N,0.5nm,0.3s,baz=333,slow=9.7,SNR=10.0								
PLCA				LR	LR	02 19 33.9			
	comp=N,313nm,18.4s,baz=356,slow=40								
PLCA	**Paso Flores**	**7.28**	**171**	*e*Pn	**Pn**	**02 16 35.6**	**0.0**		
	comp=N,6.6nm,0.8s								
TRQA	**Tornquist**	**9.38**	**122**	*e*Pn	**Pn**	**02 17 04.8**	**+0.5**		
	comp=N,37nm,1.1s								
LVC	**Limon Verde**	**11.25**	**15**	Pn	**Pn**	**02 17 31.5**	**+1.2**		
	comp=N,8.2nm,0.3s,baz=227,slow=14,SNR=2.9								
CPUP	**Villa Florida**	**14.68**	**65**	Pn	**Pn**	**02 18 19.1**	**+2.1**		
	comp=N,0.0nm,0.3s,baz=231,slow=11,SNR=3.8								
CPUP				LR	LR	02 24 23.2			
	comp=N,2µm,19.4s,baz=268,slow=39								
CPUP	**Villa Florida**	**14.68**	**65**	*e*Pn	**Pn**	**02 18 19.0**	**+2.1**		
	comp=N,0.9nm,1.5s								
LPAZ	**La Paz**	**17.55**	**13**	P	**Pn**	**02 18 54.2**	**-0.2**		
	comp=N,0.1nm,0.3s,baz=183,slow=7.0,SNR=15								
LPAZ	**La Paz**	**17.55**	**13**	*e*Pn	**Pn**	**02 18 55.0**	**+0.6**		
	comp=N,6.0nm,1.0s								
SIV	**San Ignacio**	**20.12**	**32**	P	**P**	**02 19 19.9**	**-3.1**		
	comp=N,1.2nm,0.6s,baz=229,slow=13,SNR=3.3								
SIV				LR	LR	02 28 35.3			
	comp=N,196nm,18.4s,baz=144,slow=41								
USHA	**Ushuaia**	**21.44**	**174**	P	**P**	**02 19 35.4**	**-1.5**		
	comp=N,4.9nm,0.8s,baz=37,slow=10,SNR=2.2								
SAML	**Samuel**	**25.83**	**21**	*e*P	**P**	**02 20 19.8**	**-0.3**		
	comp=N,7.4nm,0.9s								
BDFB	**Brasilia**	**28.13**	**57**	P	**P**	**02 20 43.4**	**+2.4**		
	comp=N,1.3nm,0.7s,baz=207,slow=14,SNR=1.9								
PTGA	**Pitinga**	**34.58**	**22**	P	**P**	**02 21 37.8**	**+0.1**		
	comp=N,1.8nm,0.3s,baz=294,slow=22,SNR=7.4								
PCRV	**Puerto La Cruz**	**44.06**	**11**	P	**P**	**02 22 57.2**	**+0.5**		
	comp=N,23nm,1.0s,baz=338,slow=12,SNR=3.2								
SNAA	**Sanae**	**52.03**	**158**	*e*P	**P**	**02 23 57.1**	**-0.7**		
	comp=N,3.9nm,0.9s								
SDDR	**Presa de Saban**	**52.24**	**1**	*e*P	**P**	**02 23 59.6**	**-0.3**		
GOGA	**Godfrey**	**67.45**	**350**	*e*P	**P**	**02 25 43.8**	**-0.4**		
	comp=N,6.2nm,0.9s								
WVT	**Waverly**	**70.86**	**347**	*e*P	**P**	**02 26 05.3**	**+0.1**		
	comp=N,12nm,1.0s								
WMOK	**Wichita Mounta**	**72.39**	**337**	*e*P	**P**	**02 26 13.6**	**-0.9**		
	comp=N,3.2nm,1.1s								
TUL1	**Leonard**	**72.56**	**340**	*e*P	P	02 26 12.2	-3.3		
	comp=N,11nm,1.0s								
MAW	**Mawson**	**73.63**	**164**	P	**P**	**02 26 20.5**	**-1.1**		
	comp=N,3.1nm,0.7s,baz=274,slow=13,SNR=3.4								
DBIC	**Dimbokro**	**75.09**	**71**	P	**P**	**02 26 30.2**	**-0.7**		
	comp=N,2.3nm,0.7s,baz=229,slow=6.2,SNR=2.0								
ANMO	**Albuquerque**	**75.36**	**331**	*e*P	**P**	**02 26 31.5**	**-0.7**		
	comp=N,1.3nm,0.8s								
DUG	**Dugway, Tooele**	**82.45**	**330**	*e*P	**P**	**02 27 09.3**	**-1.6**		
	comp=N,1.4nm,0.9s								
PDAR	**Pinedale Array**	**83.33**	**333**	P	**P**	**02 27 16.0**	**+0.5**		
	comp=N,0.4nm,0.8s,baz=123,slow=3.3,SNR=3.0								
PDAR	**Pinedale Array**	**83.33**	**333**	P	**P**	**02 27 16.0**	**+0.5**		
TOA0	**Torodi Ar. Sit**	**84.11**	**70**	*e*P	**P**	**02 27 19.4**	**-0.4**		
TORD	**Torodi Ar. Bea**	**84.11**	**70**	P	**P**	**02 27 19.7**	**-0.2**		
	comp=N,2.1nm,0.8s,baz=257,slow=4.2,SNR=7.4								
WRA	**Warramunga Arr**	**121.13**	**209**	PKP	**PKPdf**	**02 33 41.9**	**0.0**		
	comp=N,0.9nm,1.1s,baz=180,slow=2.8,SNR=2.5								
H11S2	**WAKE ISLAND Hyl**	**25.72**	**270**	T	T	04 52 45.1			
	baz=118,slow=75,SNR=12								
H11S1	**WAKE ISLAND Hyl**	**25.73**	**270**	T	T	04 52 44.8			
	baz=118,slow=75,SNR=8.3								
H11S3	**WAKE ISLAND Hyl**	**25.73**	**269**	T	T	04 52 45.2			
	baz=118,slow=75,SNR=7.8								
H11N3	**WAKE ISLAND Hyl**	**26.12**	**271**	T	T	04 53 14.4			
	baz=115								
H11N1	**WAKE ISLAND Hyl**	**26.13**	**271**	T	T	04 53 12.3			
	baz=115								
H11N2	**WAKE ISLAND Hyl**	**26.14**	**271**	T	T	04 53 10.9			
	baz=115								
BVAR	**Borovoye Array**	**146.99**	**42**	PKPbc	**PKPdf**	**02 34 29.5**	**+0.9**		
	comp=N,1.1nm,0.6s,baz=294,slow=3.6,SNR=7.5								
AAK	**Ala-Archa**	**152.34**	**61**	PKPbc	**PKPbc**	**02 34 45.4**	**+0.9**		
	comp=N,0.7nm,0.3s,baz=124,slow=0.2,SNR=4.3								
TKM2	**Tokmak 2**	**153.10**	**60**	*e*PKPdf	**PKPdf**	**02 34 37.9**	**-0.9**		
ZAA0	**Zalesovo Array**	**153.87**	**32**	*e*PKPbc	**PKPbc**	**02 34 46.9**	**-0.3**		
ZALV	**Zalesovo Beam**	**153.87**	**32**	PKPbc	**PKPbc**	**02 34 47.6**	**+0.4**		
	comp=N,0.5nm,0.3s,baz=300,slow=3.7,SNR=4.8								
ZALV				PKPab	**PKPab**	**02 35 01.6**	**+1.2**		
	comp=N,0.3nm,0.3s,baz=305,slow=5.1,SNR=5.1								
MKAR	**Makanchi Array**	**156.51**	**48**	PKPab	**PKPab**	**02 35 11.2**	**-0.8**		
	comp=N,0.4nm,0.8s,baz=310,slow=4.7,SNR=3.8								

IDC 09 02:21:57.6±7.5,32.12S×178.34W,h0km,mb3.6/2, mb1 3.8/2,mb1mx3.6/27,mbtmp3.6/2,Error ellipse: s-maj=335.9km s-min=58.5km az=159.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.76**	**269**	P	P	02 29 57.4	+0.4
	0.5nm,0.6s,baz=107,slow=7.9,SNR=8.2						
WRA	**Warramunga Arr**	**43.90**	**274**	P	P	02 30 05.5	-0.7
	0.5nm,0.3s,baz=116,slow=7.5,SNR=4.1						
FINES	**FINESS Array B**	**146.65**	**339**	PKPbc	PKPdf	02 41 39.6	+0.8
	0.6nm,0.6s,baz=41,slow=4.4,SNR=5.6						

*IDC **09** 02:29:26.7±0.7,32.53S×178.20W,h0km,mb4.3/8, mb1 4.5/10,mb1mx4.3/21,mbtmp4.4/10,ML4.5/2,MS3.8/3, Ms1 3.7/3,ms1mx3.2/37,Error ellipse: s-maj=24.8km s-min=17.6km az=91.0*

*ISCJB **09** 02:29:27.3±0.7,32.82S±0.04×178.1W±0.1,h20km, mb4.5/13,MS3.8/3,Error ellipse: s-maj=15.6km s-min=5.0km az=15.6*

*NEIC **09** 02:29:31.1±2.9,32.56S×178.17W,h30km±19km,mb4.9/7, Error ellipse: s-maj=12.6km s-min=9.5km az=99.0*

ISC 09 02:29:29.6±0.5,32.73S±0.05×178.2W±0.1,h20km,n80, σ1§19/79,mb4.6/13,MS3.8/4,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.48**	**4**	Pn	**Pn**	**02 30 20.9**	**-1.6**
	53nm,0.3s,baz=60,slow=20,SNR=3.4						
RAO				Sn	**Sn**	**02 31 00.6**	**-2.5**
	180nm,0.3s,baz=72,slow=23,SNR=6.3						
WMGZ	**Waiomatatini S**	**5.78**	**208**	PN	**Pn**	**02 30 54.2**	**0.0**
WMGZ				SN	**Sn**	**02 32 01.9**	**+2.1**
MWZ	**Matawai**	**6.58**	**211**	PN	**Pn**	**02 31 03.8**	**-1.4**
MWZ				SN	**Sn**	**02 32 19.3**	**-0.4**
URZ	**Urewera**	**6.71**	**213**	Pn	**Pn**	**02 31 07.2**	**+0.3**
	7.6nm,0.3s,baz=335,slow=2.2,SNR=36						
URZ				Sn	**Sn**	**02 32 23.5**	**+0.8**
	10nm,0.3s,baz=37,slow=1.8,SNR=10.0						
URZ	**Urewera**	**6.71**	**213**	PN	**Pn**	**02 31 06.0**	**-0.8**
URZ				SN	**Sn**	**02 32 22.6**	**0.0**
URZ	**Urewera**	**6.71**	**213**	*e*Pn	**Pn**	**02 31 07.3**	**+0.3**
	37nm,0.5s						
URZ				*e*Sn	**Sn**	**02 32 21.8**	**-0.9**
RIGZ	**Rimuhau**	**6.80**	**208**	PN	**Pn**	**02 31 07.5**	**-0.7**
SNGZ	**Shannon Statio**	**7.04**	**210**	PN	**Pn**	**02 31 12.5**	**+1.1**
SNGZ				SN	**Sn**	**02 32 32.2**	**+1.3**
KNZ	**Kokohu**	**7.11**	**207**	PN	Pn	02 31 09.4	-3.0
KNZ				SN	**Sn**	**02 32 30.3**	**-2.3**
OUZ	**Omahuta**	**7.24**	**248**	*e*Pn	Pn	02 31 18.9	+4.7
BKZ	**Black Stump Fm**	**7.72**	**212**	PN	**Pn**	**02 31 19.8**	**-1.1**
BKZ				SN	**Sn**	**02 32 46.7**	**-1.1**

BFZ	**Birch Farm**	**9.09**	**208**	PN	Pn	02 31 36.5	-3.2		
BFZ				SN	Sn	02 33 16.1	-5.4		
THZ	**Tophouse**	**11.45**	**216**	*e*PN	Pn	02 32 03.5	-8.6		
THZ				SN	Sn	02 34 10.9	-8.5		
RPZ	**Rata Peaks**	**13.82**	**214**	Pn	Pn	02 32 40.6	-3.7		
	1.3nm,0.3s,baz=180,slow=2.0,SNR=2.8								
RPZ				Sn	Sn	02 35 05.2	-12		
	0.8nm,0.3s,baz=204,slow=20,SNR=3.6								
EIDS	**Eidsvold**	**27.75**	**277**	P	**P**	**02 35 20.7**	**+3.7**		
	baz=28,SNR=3.5								
RMQ	**Roma**	**29.30**	**274**	P	**P**	**02 35 34.0**	**+3.2**		
	baz=29,SNR=4.1								
CMSA	**Cobar Meteorol**	**30.49**	**262**	P	**P**	**02 35 43.3**	**+2.0**		
	baz=30,SNR=14								
QLP	**Quilpie**	**33.08**	**271**	P	**P**	**02 36 06.1**	**+2.1**		
	baz=33,SNR=6.9								
STKA	**Stephens Creek**	**33.84**	**260**	P	**P**	**02 36 11.8**	**+1.2**		
	1.3nm,0.3s,baz=126,slow=12,SNR=2.4								
STKA				LR	LR	02 47 11.5			
	comp=Z,122nm,19.5s,baz=32,slow=31								
CTA	**Charters Tower**	**34.06**	**283**	P	**P**	**02 36 14.0**	**+1.4**		
	12nm,0.5s,baz=119,slow=10,SNR=21								
CTAO	**Charters Tower**	**34.06**	**283**	*e*P	**P**	**02 36 13.9**	**+1.2**		
	13nm,0.6s								
AS31	**Alice Springs**	**42.85**	**270**	*e*P	**P**	**02 37 26.1**	**-0.5**		
ASAR	**Alice Springs**	**42.85**	**270**	P	**P**	**02 37 26.4**	**-0.1**		
	5.8nm,0.6s,baz=111,slow=7.6,SNR=69								
WRAB	**Tennant Creek**	**44.04**	**275**	*e*P	**P**	**02 37 35.9**	**-0.3**		
	7.9nm,0.6s								
WRA	**Warramunga Arr**	**44.05**	**275**	P	**P**	**02 37 35.9**	**-0.4**		
	6.2nm,0.4s,baz=113,slow=8.1,SNR=59								
FORT	**Forrest**	**45.31**	**257**	P	**P**	**02 37 45.8**	**-0.4**		
	baz=45,SNR=6.6								
FORT	**Forrest**	**45.31**	**257**	*e*P	**P**	**02 37 45.0**	**-1.2**		
	20nm,0.7s								
VNDA	**Vanda**	**45.77**	**186**	P	**P**	**02 37 51.2**	**+2.1**		
	0.3nm,0.3s,baz=5.0,slow=8.2,SNR=5.5								
VNDA	**Vanda**	**45.77**	**186**	*e*P	P	02 37 51.9	+2.7		
	6.0nm,1.5s								
WRKA	**Warakurna**	**47.04**	**265**	P	**P**	**02 37 59.0**	**-1.0**		
	baz=47,SNR=6.8								
KDU	**Kakadu**	**49.17**	**282**	P	**P**	**02 38 16.4**	**-0.1**		
	baz=49,SNR=4.8								
KNRA	**Kununurra**	**50.73**	**276**	P	**P**	**02 38 30.5**	**+2.2**		
	baz=51,SNR=3.7								
MBWA	**Marble Bar**	**55.81**	**265**	*e*P	**P**	**02 39 04.8**	**-0.9**		
	16nm,1.1s								
QSPA	**South Pole Qui**	**57.39**	**180**	P	P	02 39 19.0	+2.6		
	1.3nm,0.7s,baz=320,slow=0.8,SNR=10								
GUMO	**Guam**	**58.02**	**316**	LR	LR	03 02 25.0			
	comp=Z,54nm,19.2s,baz=158,slow=34								
KAPI	**Kappang**	**63.86**	**281**	*e*P	**P**	**02 40 00.5**	**-0.5**		
SNAA	**Sanae**	**75.84**	**178**	P	P	02 41 21.4	+7.4		
SNAA	**Sanae**	**75.84**	**178**	LR	LR	03 14 34.7			
	comp=Z,70nm,18.1s,baz=136,slow=36								
SNAA	**Sanae**	**75.84**	**178**	*e*P	**P**	**02 41 15.3**	**+1.3**		
	4.4nm,1.0s								
VNA3	**Neumayer Olymp**	**76.00**	**176**	P	P	02 41 26.3	+11		
VNA2	**Neumayer--Watz**	**76.43**	**177**	P	P	02 41 29.0	+12		
	baz=177,slow=3.8								
VNA1	**Neumayer--Stat**	**76.66**	**177**	P	P	02 41 30.3	+12		
MJAR	**Matsushiro Arr**	**80.05**	**326**	P	**P**	**02 41 36.5**	**-1.2**		
	0.8nm,0.8s,baz=142,slow=4.4,SNR=4.0								
PETK

IDC 09 02:59:34.6±6.4, 9°14S×129°36E, h0km, mb3.8/1, mb1 3.8/3, mb1mx3.5/18, mbtmp3.6/3, ML3.5/2, Error ellipse: s-maj=101.2km s-min=72.1km az=78.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
WRA	**Warramunga Arr**	**11.77**	**156**		Pn	03 02 23.6	-0.3
	0.4nm,0.3s,baz=341,slow=13,SNR=9.4						
WRA				Sn	Sn	03 04 37.6	+1.5
	0.8nm,0.3s,baz=330,slow=21,SNR=8.0						
ASAR	**Alice Springs**	**15.08**	**164**		Pn	03 03 07.8	-1.4
	0.2nm,0.3s,baz=338,slow=9.5,SNR=12						
ASAR				Sn	Sn	03 06 00.0	+2.9
	0.3nm,0.3s,baz=351,slow=27,SNR=5.1						
STKA	**Stephens Creek**	**25.32**	**155**	P	P	03 05 03.4	+0.3
	1.3nm,0.7s,baz=333,slow=6.8,SNR=3.3						

NNC 09 03:09:35.5±6.1, 37°88N×71°53E, h0km, mb3.7, mpv3.3, 4C-1D, Error ellipse: s-maj=56.6km s-min=14.4km az=166.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
DZET	**Dzherino**	**2.32**	**294**	⇑Sn	Sn	03 10 45.9	+1.4
	4.5nm,0.2s						
SFK	**Sufi-Kurgan**	**2.63**	**35**	⇑Pn	Pn	03 10 19.1	-0.5
	3.6nm,0.3s						
SFK				⇑Sn	Sn	03 10 54.3	+1.9
	18nm,0.4s						
AAK	**Ala-Archa**	**5.26**	**25**	⇑Pn	Pn	03 10 53.9	-1.8
	1.4nm,0.4s						
AAK				⇓Sn	Sn	03 11 56.6	-0.7
	1.5nm,0.5s						
KK31	**Karatay Array**	**5.28**	**352**	Pn	Pn	03 10 55.4	-0.3
	2.4nm,0.3s,baz=177,slow=13,SNR=114						
KK31				Sn	Sn	03 11 57.6	+0.4
	0.5nm,0.3s,baz=179,slow=22,SNR=8.4						

*IDC **09** 03:10:08.7±0.8, 27°.18N×55°.01E, h0km, mb3.8/24, mb1 4.0/30, mb1mx3.9/38, mbtmp3.9/30, ML3.6/4, Error ellipse: s-maj=17.7km s-min=13.2km az=158.0*

*ISCJB **09** 03:10:10.1±0.2, 27°.17N±0°.03×54°.78E±0°.03, h17km, mb4.0/39, Error ellipse: s-maj=4.3km s-min=3.4km az=33.4*

*THR **09** 03:10:10.2±0.5, 27°.03N×54°.82E, h29km±4km, ML4.1*

*NEIC **09** 03:10:11.0, 27°.31N×54°.95E, h10km, mb4.0/7, ML4.1(THR), MN4.0(TEH), After TEH.*

*TEH **09** 03:10:11.0, 27°.31N×54°.95E, h10km, ML4.0*

*CSEM **09** 03:10:12.4±0.2, 27°.21N×54°.87E, h20km, mb4.3/18, Error ellipse: s-maj=6.9km s-min=5.5km az=45.0*

*DSN **09** 03:10:12.3±4.5, 27°.29N×55°.17E, h10km, mb3.5/8, ML4.3/7, Error ellipse: s-maj=4.8km s-min=2.6km az=15.0*

*OMAN **09** 03:10:19.2±99.0, 26°.41N×55°.07E, h0km, Error ellipse: s-maj=84.7km s-min=10.1km az=342.0*

*OMAN **09** 03:10:40.5, 25°.47N×56°.04E, h16km*

ISC 09 03:10:11.0±0.4, 27°12N±0°.04×54°88E±0°.03, h17km, n168, σ1§21/173, mb4.1/40, 3C-6D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
BNDS	**Bandar-Abbas**	**1.19**	**76**	*e*Pg	**Pb**	**03 10 33.1**	**0.0**
BNDS				*e*Sg	**Sg**	**03 10 50.4**	**+1.0**
BNDS				AML	AML	03 10 52.8	
	comp=E,4μm,0.4s						
BNDS				AML	AML	03 10 56.1	
	comp=N,3μm,0.5s						
BNDS	**Bandar-Abbas**	**1.19**	**76**	*e*Pg	**Pb**	**03 10 33.1**	**0.0**
BNDS				*e*Sg	**Sg**	**03 10 50.4**	**+1.0**
	comp=N,3μm,0.5s						
IBND	**Bandar-abas**	**1.52**	**77**	*e*Pn	**Pb**	**03 10 39.0**	**+0.4**
IBND				*e*Sg	**Sg**	**03 10 59.1**	**-0.8**
IBND				*e*		03 11 10.6	
	comp=Z,73μm,0.4s						
IBND	**Bandar-abas**	**1.52**	**77**	*e*Pn	**Pb**	**03 10 39.0**	**+0.4**
IBND				*e*Sg	**Sg**	**03 10 59.1**	**-0.8**
BANOM	**Banah**	**1.75**	**133**	P	**Pb**	**03 10 42.1**	**-0.5**
	SNR=207						
BANOM				S	**Sb**	**03 11 04.3**	**0.0**
BANOM	**Banah**	**1.75**	**133**	P	**Pb**	**03 10 42.0**	**-0.5**
	SNR=207						
BANOM	**Banah**	**1.75**	**133**	⇓*e*P	**Pb**	**03 10 42.1**	**-0.5**
	SNR=207						
BANOM				⇓S	**Sb**	**03 11 04.3**	**0.0**
GHIR	**Ghir-Karzin**	**2.04**	**305**	*e*Pg	**Pb**	**03 10 46.9**	**-0.7**
GHIR				AML	AML	03 11 34.4	
	comp=Z,1μm,0.8s						
GHIR	**Ghir-Karzin**	**2.04**	**305**	*e*Pg	**Pb**	**03 10 46.9**	**-0.7**
	comp=Z,1μm,0.8s						
NAZ	**Nazwa, Dubai**	**2.24**	**161**	P	**Pb**	**03 10 50.7**	**-0.3**
	SNR=14						
NAZ	**Nazwa, Dubai**	**2.24**	**161**	⇑*e*P	**Pb**	**03 10 50.7**	**-0.3**
	SNR=14						
FAQ	**Al Faqa, Dubai**	**2.45**	**165**	P	**Pb**	**03 10 54.8**	**+0.2**
	SNR=6.4						
FAQ	**Al Faqa, Dubai**	**2.45**	**165**	⇑*e*P	**Pb**	**03 10 54.8**	**+0.2**
	SNR=6.4						
ASUD	**Al Ashush, Dub**	**2.52**	**171**	P	**Pb**	**03 10 55.3**	**-0.5**
	SNR=22						
ASUD	**Al Ashush, Dub**	**2.52**	**171**	⇓*e*P	**Pb**	**03 10 55.3**	**-0.5**
	SNR=22						
HATD	**Hatta, Dubai**	**2.55**	**153**	P	**Pb**	**03 10 54.3**	**-2.0**
	SNR=23						
HATD	**Hatta, Dubai**	**2.55**	**153**	⇓*e*P	**Pb**	**03 10 54.3**	**-2.0**
	SNR=23						
ASHO	**Ashiyiah**	**2.65**	**156**	P	**Pb**	**03 10 55.7**	**-2.3**
	SNR=94						
ASHO	**Ashiyiah**	**2.65**	**156**	P	**Pb**	**03 10 55.8**	**-2.2**
	SNR=94						
ASHO	**Ashiyiah**	**2.65**	**156**	⇓*e*P	**Pb**	**03 10 55.7**	**-2.3**
	SNR=94						
NGRK	**Negar Kerman**	**3.00**	**33**	*e*Pn	**Pn**	**03 10 59.2**	**+1.2**
NGRK	**Negar Kerman**	**3.00**	**33**	*e*Pn	**Pn**	**03 10 59.2**	**+1.2**
KRBR	**Kerman**	**3.29**	**30**	*e*Pn	**Pn**	**03 11 03.7**	**+1.6**
KRBR	**Kerman**	**3.29**	**30**	*e*Pn	**Pn**	**03 11 03.7**	**+1.6**
KHGB	**Koh Gabri**	**3.53**	**23**	*e*Pn	**Pn**	**03 11 07.3**	**+2.0**
CHMN	**Cheshme madani**	**3.60**	**40**	*e*Pn	**Pn**	**03 11 07.7**	**+1.4**
CHMN	**Cheshme madani**	**3.60**	**40**	*e*Pn	**Pn**	**03 11 07.7**	**+1.4**
IKAZ	**Kazeroun**	**3.76**	**315**	*e*Pn	**Pn**	**03 11 11.4**	**+2.9**
IKAZ				*e*		03 12 28.5	
	comp=Z,4μm,0.3s						
IKAZ	**Kazeroun**	**3.76**	**315**	*e*Pn	**Pn**	**03 11 11.4**	**+2.9**
ARQ	**Araqi**	**4.05**	**158**	P	Pn	03 11 16.1	+3.8
	SNR=7.1						
ARQ	**Araqi**	**4.05**	**158**	P	Pn	03 11 16.1	+3.8
	SNR=7.1						
IMEH	**Mehriz**	**4.26**	**357**	*e*Pn	**Pn**	**03 11 16.6**	**+1.3**
IMEH				*e*		03 11 25.2	
	comp=Z,730nm,0.1s						
IMEH	**Mehriz**	**4.26**	**357**	*e*Pn	**Pn**	**03 11 16.6**	**+1.3**
IBAF	**Bafgh**	**4.49**	**8**	*e*Pn	**Pn**	**03 11 19.4**	**+1.0**
IBAF				*e*		03 11 24.6	
	comp=Z,1μm,0.1s						
IBAF	**Bafgh**	**4.49**	**8**	*e*Pn	**Pn**	**03 11 19.4**	**+1.0**
ISAD	**Sadrabad**	**4.89**	**348**	*e*Pn	**Pn**	**03 11 26.4**	**+2.4**
ISAD				*e*		03 12 53.5	
	comp=Z,928nm,0.5s						
ISAD	**Sadrabad**	**4.89**	**348**	*e*Pn	**Pn**	**03 11 26.4**	**+2.4**
SMDO	**Samad**	**4.96**	**144**	P	**Pn**	**03 11 27.7**	**+2.9**
	SNR=17						
SMDO	**Samad**	**4.96**	**144**	P	**Pn**	**03 11 27.7**	**+2.9**
	SNR=17						
ICHK	**Chekchek**	**5.12**	**356**	*e*Pn	**Pn**	**03 11 28.4**	**+1.2**
ICHK				*e*		03 11 42.7	
	comp=Z,570nm,0.2s						
ICHK	**Chekchek**	**5.12**	**356**	*e*Pn	**Pn**	**03 11 28.3**	**+1.2**
CHBR	**Chabahar**	**5.25**	**106**	*e*Pn	**Pn**	**03 11 29.4**	**+0.7**
CHBR	**Chabahar**	**5.25**	**106**	*e*Pn	**Pn**	**03 11 29.4**	**+0.7**
WBK	**Wadi Bani Khal**	**5.83**	**140**	P	**Pn**	**03 11 38.7**	**+2.0**
	SNR=10.0						
IZEF	**Zefreh**	**6.16**	**340**	*e*Pn	**Pn**	**03 11 41.9**	**+0.4**
IZEF				*e*		03 11 49.3	
	comp=Z,251nm,0.2s						
IZEF	**Zefreh**	**6.16**	**340**	*e*Pn	**Pn**	**03 11 41.9**	**+0.4**
IKOO	**Kooshah**	**6.38**	**33**	*e*Pn	**Pn**	**03 11 45.1**	**+0.6**
IKOO				*e*		03 13 44.3	
	comp=Z,167nm,0.4s						
IKOO	**Kooshah**	**6.38**	**33**	*e*Pn	**Pn**	**03 11 45.1**	**+0.6**
IPIR	**Pirpir**	**6.53**	**329**	*e*Pn	**Pn**	**03 11 47.3**	**+0.7**
IPIR				*e*		03 13 12.7	
	comp=Z,402nm,0.3s						
IPIR	**Pirpir**	**6.53**	**329**	*e*Pn	**Pn**	**03 11 47.3**	**+0.7**
IKLH	**Kolahrood**	**6.80**	**336**	*e*Pn	**Pn**	**03 11 52.8**	**+2.5**
IKLH				*e*		03 14 20.7	
	comp=Z,220nm,0.4s						
IKLH	**Kolahrood**	**6.80**	**336**	*e*Pn	**Pn**	**03 11 52.8**	**+2.5**
IANJ	**Anjilo**	**8.36**	**355**	*e*Pn	**Pn**	**03 12 12.5**	**+0.9**
IANJ				*e*		03 12 17.4	
	comp=Z,124nm,0.2s						
IANJ	**Anjilo**	**8.36**	**355**	*e*Pn	**Pn**	**03 12 12.5**	**+0.9**
SHAO	**Shalim**	**9.08**	**175**	P	**Pn**	**03 12 22.4**	**+1.0**
	SNR=10						
RAYN	**Ar Rayn**	**9.21**	**249**	*e*Pn	**Pn**	**03 12 22.3**	**-0.8**
RAYN	**Ar Rayn**	**9.21**	**249**	*e*Pn	**Pn**	**03 12 22.3**	**-0.8**
RAYN				*e*Sn	Sn	03 13 57.3	-9.0
IKOM	**Komasi**	**9.46**	**320**	*e*Pn	**Pn**	**03 12 28.2**	**+1.5**
IKOM				*e*		03 12 34.3	
	comp=Z,328nm,0.1s						
IKOM	**Komasi**	**9.46**	**320**	*e*Pn	**Pn**	**03 12 28.2**	**+1.5**
ABTO	**Aybut**	**9.83**	**189**	P	**Pn**	**03 12 33.1**	**+1.4**
	SNR=27						
IDHR	**Dehrash**	**10.49**	**318**	*e*Pn	**Pn**	**03 12 41.5**	**+0.7**
IDHR				*e*		03 14 42.5	
	comp=Z,362nm,0.2s						
IDHR	**Dehrash**	**10.49**	**318**	*e*Pn	**Pn**	**03 12 41.5**	**+0.7**
GEYT	**Alibeck**	**11.12**	**13**	Pn	**Pn**	**03 12 49.8**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=24,slow=11,SNR=3.3						
GNI	**Garni**	**15.48**	**330**	Pn	**P**	**03 13 52.1**	**-0.9**
	comp=Z,1.2nm,0.3s,baz=134,slow=16,SNR=2.7						
GNI	**Garni**	**15.48**	**330**	*e*Pn	**P**	**03 13 51.2**	**-1.8**
GNI	**Garni**	**15.48**	**330**	*e*Pn	**P**	**03 13 51.2**	**-1.8**
ASF	**Jabal al Asfar**	**16.42**	**292**	Pn	**P**	**03 14 02.8**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=32,slow=10,SNR=4.4						
EIL	**Elat**	**17.71**	**283**	P	**P**	**03 14 18.1**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=227,slow=0.4,SNR=4.5						
MMAI	**Mount Meron Ar**	**17.84**	**294**	P	**P**	**03 14 19.0**	**-0.1**
	comp=Z,3.4nm,0.3s,baz=121,slow=8.1,SNR=7.0						
KBZ	**Khabaz**	**19.20**	**333**	P	**Pn**	**03 14 35.5**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=233,slow=20,SNR=3.1						
KIV	**Kislovodsk**	**19.47**	**333**	*e*P	**Pn**	**03 14 40.1**	**+1.9**
	comp=Z,21nm,1.1s						
KKAR	**Karatay Array**	**20.38**	**35**	*e*P	**P**	**03 14 45.7**	**-1.2**
	comp=Z,4.2nm,0.8s						
KKAR	**Karatay Array**	**20.38**	**35**	*e*P	**P**	**03 14 45.7**	**-1.2**
	comp=Z,4.2nm,0.8s						
BR131	**Keskin Array S**	**21.67**	**311**	*e*P	**P**	**03 15 01.9**	**+1.0**
	comp=Z,4.4nm,0.8s						
BR131	**Keskin Array S**	**21.67**	**311**	*e*P	**P**	**03 15 01.9**	**+1.0**
	comp=Z,4.4nm,0.8s						
BRTR	**Keskin Array B**	**21.67**	**311**	P	**P**	**03 15 02.6**	**+1.7**
	comp=Z,2.0nm,0.7s,baz=135,slow=12,SNR=10						
EKS2	**Erkin-Say**	**21.85**	**40**	*e*P	**P**	**03 15 02.7**	**-0.1**
	comp=Z,7.1nm,0.9s						
EKS2	**Erkin-Say**	**21.85**	**40**	*e*P	**P**	**03 15 02.6**	**-0.1**
	comp=Z,7.1nm,0.9s						
AAK	**Ala-Archa**	**22.25**	**41**	P	**P**	**03 15 06.7**	**-0.4**
	comp=Z,1.0nm,0.3s,baz=198,slow=4.3,SNR=5.6						
AAK	**Ala-Archa**	**22.25**	**41**	*e*P	**P**	**03 15 06.8**	**-0.4**
	comp=Z,6.0nm,1.0s						
AAK	**Ala-Archa**	**22.25**	**41**	*e*P	**P**	**03 15 06.8**	**-0.4**
	comp=Z,6.0nm,1.0s						
ABKAR	**Akbulak array**	**22.44**	**9**	*e*P	**P**	**03 15 07.9**	**-1.0**
	comp=Z,3.2nm,0.5s						
ABKAR	**Akbulak array**	**22.44**	**9**	*e*P	**P**	**03 15 08.0**	**-1.0**
	comp=Z,3.3nm,0.5s						
AKTO	**Aktyubinsk**	**23.40**	**5**	P	**P**	**03 15 19.4**	**+0.5**
	comp=Z,2.3nm,0.6s,baz=178,slow=11,SNR=9.5						
IDI	**Anoyia**	**26.83**	**295**	P	**P**	**03 15 52.6**	**+2.0**
	comp=Z,9.8nm,1.1s,baz=53,slow=15,SNR=3.3						
BVAR	**Borovoye Array**	**28.34**	**20**	P	**P**	**03 16 03.5**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=200,slow=7.5,SNR=11						
MKAR	**Manchi Array**	**29.18**	**40**	P	**P**	**03 16 10.5**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=240,slow=8.1,SNR=4.5						
MLR	**Muntele Rosu**	**29.42**	**316**	P	**P**	**03 16 10.4**	**+2.3**
	comp=Z,0.2nm,0.7s,baz=319,slow=9.3						
KURBB	**Kurchatov Arra**	**29.59**	**31**	P	**P**	**03 16 14.3**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=232,slow=8.5,SNR=9.3						
KURBB				PcP	**PcP**	**03 19 18.6**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=235,slow=3.4,SNR=4.5						
KURK	**Kurchatov**	**29.69**	**31**	P	**P**	**03 16 14.3**	**-1.5**
KURK	**Kurchatov**	**29.69**	**31**	P	**P**	**03 16 14.3**	**-1.5**
KURK				PcP	**PcP**	**03 19 18.6**	**-1.2**
AKASG	**Malin Array Be**	**30.58**	**327**	P	**P**	**03 16 23.2**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=138,slow=8.8,SNR=4.1						
KMBO	**Kilima Mbogo**	**32.82**	**214**	P	**P**	**03 16 46.7**	**+2.7**
	comp=Z,0.6nm,0.3s,baz=23,slow=12,SNR=3.9						
KOLS	**Kolonicke sedl**	**33.28**	**320**	*e*pP	pP	03 16 52.1	-0.6
ZAA0	**Zalesovo Array**	**34.69**	**31**	*e*P	**P**	**03 16 58.4**	**-1.2**
ZAA0	**Zalesovo Array**	**34.69**	**31**	*e*P	**P**	**03 16 58.4**	**-1.2**
ZALV	**Zalesovo Beam**	**34.69**	**31**	P	**P**	**03 16 58.9**	**-0.7**
	comp=Z,3.4nm,0.8s,baz=231,slow=9.4,SNR=16						
GERES	**GERESS Array B**	**38.41**	**316**	P	**P**	**03 17 32.5**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=82,slow=9.3,SNR=2.7						
FINES	**FINESS Array B**	**39.38**	**339**	P	**P**	**03 17 39.0**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=148,slow=11,SNR=23						
KEST	**Kesra**	**39.50**	**294**	P	**P**	**03 17 42.0**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=106,slow=4.8,SNR=3.4						
KEST	**Kesra**	**39.50**	**294**	P	**P**	**03 17 42.0**	**+1.1**
FETA	**Feichten**	**39.80**	**312**	⇑*i*P	**P**	**03 17 43.8**	**+0.5**
	comp=Z,4.0nm,1.0s						
FETA	**Feichten**	**39.80**	**312**	P	**P**	**03 17 43.8**	**+0.5**
	comp=Z,4.0nm,1.0s						
PGF	**Pioggiola**	**40.18**	**305**	*e*P	**P**	**03 17 44.9**	**-1.5**
	comp=Z,35nm,1.2s						
PGF	**Pioggiola**	**40.18**	**305**	*e*P	**P**	**03 17 44.9**	**-1.5**
	comp=Z,17nm,1.2s						
PGF	**Pioggiola**	**40.18**	**305**	*e*P	**P**	**03 17 44.9**	**-1.5**
	comp=Z,35nm,1.2s						
DAVA	**Damuels**	**40.43**	**312**	⇓*i*P	**P**	**03 17 48.5**	**0.0**
	comp=Z,7.8nm,0.5s						
DAVA	**Damuels**	**40.43**	**312**	P	**P**	**03 17 48.5**	**0.0**
	comp=Z,7.8nm,0.5s						
SBF	**Sospel**	**41.48**	**306**	*e*P	**P**	**03 17 55.8**	**-1.3**
	comp=Z,19nm,0.7s						
SBF	**Sospel**	**41.48**	**306**	*e*P	**P**	**03 17 55.8**	**-1.3**
	comp=Z,9.7nm,0.7s						
SBF	**Sospel**	**41.48**	**306**	*e*P	**P**	**03 17 55.8**	**-1.3**
	comp=Z,19nm,0.7s						
MBDF	**Montbardon**	**42.07**	**308**	*e*P	**P**	**03 18 01.5**	**-0.6**
MBDF	**Montbardon**	**42.07**	**308**	*e*P	**P**	**03 18 01.5**	**-0.6**
MBDF	**Montbardon**	**42.07**	**308**	*e*P	**P**	**03 18 01.5**	**-0.6**
LPG	**La Plagne**	**42.20**	**309**	*e*P	**P**	**03 18 00.8**	**-2.5**
	comp=Z,7.7nm,1.0s						
LPG	**La Plagne**	**42.20**	**309**	*e*P	**P**	**03 18 00.8**	**-2.5**
	comp=Z,4.3nm,1.0s						
LPG	**La Plagne**	**42.20**	**309**	*e*P	**P**	**03 18 00.8**	**-2.5**
	comp=Z,8.7nm,1.0s						
CDF	**Champ du Feu**	**42.39**	**313**	*e*P	**P**	**03 18 03.8**	**-0.7**
CDF	**Champ du Feu**	**42.39**	**313**	*e*P	**P**	**03 18 03.8**	**-0.7**
CDF	**Champ du Feu**	**42.39**	**313**	*e*P	**P**	**03 18 03.8**	**-0.7**
HINF	**Hinteralfeld**	**42.54**	**312**	*e*P	**P**	**03 18 05.0**	**-0.7**
HINF	**Hinteralfeld**	**42.54**	**312**	*e*P	**P**	**03 18 05.0**	**-0.7**
HINF	**Hinteralfeld**	**42.54**	**312**	*e*P	**P**	**03 18 05.0**	**-0.7**
CABF	**La Chapelle**	**42.84**	**310**	*e*P	**P**	**03 18 08.6**	**+0.4**
	comp=Z,8.9nm,0.9s						
CABF	**La Chapelle**	**42.84**	**310**	*e*P	**P**	**03 18 08.6**	**+0.4**
	comp=Z,4.4nm,0.9s						
CABF	**La Chapelle**	**42.84**	**310**	*e*P	**P**	**03 18 08.6**	**+0.4**
	comp=Z,8.9nm,0.9s						
SMF	**Signal de Mont**	**44.37**	**310**	*e*P	**P**	**03 18 19.5**	**-0.9**
	comp=Z,5.5nm,0.8s						
SMF	**Signal de Mont**	**44.37**	**310**	*e*P	**P**	**03 18 19.5**	**-0.9**
	comp=Z,2.8nm,0.8s						
SMF	**Signal de Mont**	**44.37**	**310**	*e*P	**P**	**03 18 19.5**	**-0.9**
	comp=Z,5.5nm,0.8s						
BAIF	**Baives**	**44.70**	**315**	*e*P	**P**	**03 18 22.3**	**-0.7**
	comp=Z,11nm,1.0s						
BAIF	**Baives**	**44.70**	**315**	*e*P	**P**	**03 18 22.3**	**-0.7**
	comp=Z,5.4nm,1.0s						
BAIF	**Baives**	**44.70**	**315**	*e*P	**P**	**03 18 22.3**	**-0.7**
	comp=Z,11nm,1.0s						
AVF	**Avril sur Loir**	**44.73**	**310**	*e*P	**P**	**03 18 22.1**	**-1.1**
AVF	**Avril sur Loir**	**44.73**	**310**	*e*P	**P**	**03 18 22.1**	**-1.1**
AVF	**Avril sur Loir**	**44.73**	**310**	*e*P	**P**	**03 18 22.1**	**-1.1**
TAM	**Tamanrasset**	**44.73**	**276**	P	**P**	**03 18 24.3**	**+0.5**
	comp=Z,0.7nm,0.6s						
TAM	**Tamanrasset**	**44.73**	**276**	P	**P**	**03 18 24.3**	**+0.5**
	comp=Z,0.7nm,0.6s						
NB2	**NORSAR Subarra**	**44.77**	**332**	P	**P**	**03 18 22.1**	**-1.3**
	comp=Z,2.0nm,0.8s,baz=119,slow=8.6						
NB2	**NORSAR Subarra**	**44.77**	**332**	P	**P**	**03 18 22.1**	**-1.3**
	comp=Z,2.0nm,0.8s,SNR=6.4						
NOA	**NORSAR Array B**	**44.77**	**332**	P	**P**	**03 18 22.1**	**-1.3**
	comp=Z,1.2nm,0.7s,baz=120,slow=8.2,SNR=6.3						
CAF	**Calviac**	**45.42**	**307**	*e*P	**P**	**03 18 28.0**	**-0.9**
	comp=Z,7.5nm,0.9s						
CAF	**Calviac**	**45.42**	**307**	*e*P	**P**	**03 18 28.0**	**-0.9**
	comp=Z,3.8nm,0.9s						
CAF	**Calviac**	**45.42**	**307**	*e*P	**P**	**03 18 28.0**	**-0.9**
	comp=Z,7.5nm,0.9s						
ARCES	**ARCESS Array B**	**45.76**	**346**	P	**P**	**03 18 30.4**	**-0.7**
	comp=Z,2.3nm,0.9s,baz=128,slow=8.4,SNR=4.1						
RJF	**Les Rejaudoux**	**45.84**	**308**	*e*P	**P**	**03 18 31.4**	**-0.7**
	comp=Z,16nm,1.0s						
RJF	**Les Rejaudoux**	**45.84**	**308**	*e*P	**P**	**03 18 31.4**	**-0.7**
	comp=Z,7.8nm,1.0s						
RJF	**Les Rejaudoux**	**45.84**	**308**	*e*P	**P**	**03 18 31.4**	**-0.7**
	comp=Z,16nm,1.0s						
ETSF	**Etsaut**	**47.22**	**304**	*e*P	**P**	**03 18 42.2**	**-0.9**
ETSF	**Etsaut**	**47.22**	**304**	*e*P	**P**	**03 18 42.2**	**-0.9**
ETSF	**Etsaut**	**47.22**	**304**	*e*P	**P**	**03 18 42.2**	**-0.9**
SJPF	**Ste Jean**	**47.72**	**305**	*e*P	**P**	**03 18 46.2**	**-0.6**
	comp=Z,23nm,1.1s						
SJPF	**Ste Jean**	**47.72**	**305**	*e*P	**P**	**03 18 46.2**	**-0.6**
	comp=Z,11nm,1.1s						
SJPF	**Ste Jean**	**47.72**	**305**	*e*P	**P**	**03 18 46.2**	**-0.6**
	comp=Z,23nm,1.1s						
ESDC	**Sonseca Array**	**49.89**	**300**	P	**P**	**03 19 05.6**	**+2.0**
	comp=Z,0.4nm,0.5s,baz=76,slow=7.5,SNR=5.5						
TOA0	**Torodi Ar. Sit**	**51.48**	**265**	*e*P	**P**	**03 19 15.8**	**-0.1**
TOA0	**Torodi Ar. Sit**	**51.48**	**265**	*e*P	**P**	**03 19 15.8**	**-0.1**
TORD	**Torodi Ar. Bea**	**51.48**	**265**	P	**P**	**03 19 16.1**	**+0.2**
	comp=Z,4.4nm,0.6s,baz=64,slow=8.0,SNR=41						
DBIC	**Dimbokro**	**60.10**	**262**	P	**P**	**03 20 18.2**	**+0.5**
	comp=Z,1.3nm,0.4s,baz=32,slow=5.8,SNR=10						
LIC	**Lamto**	**60.45**	**261**	*e*P	**P**	**03 20 20.0**	**-0.2**
	comp=Z,6.6nm,0.7s						
LIC	**Lamto**	**60.45**	**261**	*e*P	**P**	**03 20 20.0**	**-0.2**
	comp=Z,3.3nm,0.7s						
LIC	**Lamto**	**60.45**	**261**	*e*P	**P**	**03 20 20.0**	**-0.2**
	comp=Z,6.6nm,0.7s						
KSAR	**Wonju Array Be**	**61.19**	**60**	P	**P**	**03 20 25.3**	**+0.4**
KSAR	**Wonju Array Be**	**61.19**	**60**	P	**P**	**03 20 25.3**	**+0.4**
KSRS	**Korea Array**	**61.22**	**60**	P	**P**	**03 20 25.3**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=185,slow=37,SNR=2.5						
ILAR	**Eielson Array**	**86.85**	**9**	P	**P**	**03 22 52.8**	**-1.5**
	comp=Z,0.2nm,0.7s,baz=320,slow=4.0,SNR=4.2						
WRA	**Warramunga Arr**	**90.02**	**112**	P	**P**	**03 23 10.6**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=308,slow=4.0,SNR=4.4						
YKA	**Yellowknife Ar**	**90.30**	**355**	P	**P**	**03 23 10.8**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=8.4,slow=5.0,SNR=9.8						
ASAR	**Alice Springs**	**91.46**	**116**	P	**P**	**03 23 16.9**	**+0.1**
	comp=Z,0.5nm,1.0s,baz=284,slow=3.7,SNR=2.9						

*ISCJB **09** 03:15:08.6±0.5, 27°.18N±0°.07×95°.66E±0°.04, h33km, mb3.9/21, Error ellipse: s-maj=10.8km s-min=4.3km az=172.1*

*IDC **09** 03:15:14.7±3.3, 27°.15N×95°.99E, h80km±32km, mb3.6/21, mb1 3.7/22, mb1mx3.6/31, mbtmp3.9/22, MS3.1/1, Ms1 3.3/1, ms1mx2.7/32, Error ellipse: s-maj=18.6km s-min=12.4km az=39.0*

ISC 09 03:15:10.3±0.7, 27°.1N±0°.1×95°.78E±0°.06, h35km, n40, σ1§85/51, mb3.8/21, 1C, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
SHL	**Shillong**	**3.83**	**247**	*e*PN	**Pn**	**03 16 07.4**	**+0.5**
SHL				*e*SN	**Sn**	**03 16 53.5**	**+2.6**
TAPN	**Taplejung**	**7.19**	**274**	*e*Pn	**Pn**	**03 16 54.0**	**+0.8**
TAPN				*

$M_{\theta\theta}$0.17±.12; $M_{\phi\phi}$-3.14±.15; $M_{r\theta}$0.81±.18; $M_{\theta\phi}$-0.10±.09; $M_{\phi r}$-3.37±.26; Best double couple: M=4.62400×10^16 NP1:ϕ_s170.00000°,δ70.00000°,λ81.00000°. NP2: ϕ_s14.00000°,δ22.00000°,λ112.00000°. Principal axes: T 4.6030, Plg64.0000°, Azm66.0000°; N 0.0400, Plg8.0000°, Azm173.0000°; P -4.6450, Plg24.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*NEIC **09** 03:29:38.6±1.6, 33.93S×72.06W, h32km±10km, mb4.9/47, ML5.1(GUC) Error ellipse: s-maj=7.1km s-min=4.1km az=74.0*

NEIC Felt [IV] at Molina, Paredones, Pichilemu and Santa Cruz; [III] at Curico and San Fernando; [II] at Rancagua, San Antonio, Santiago, Valparaiso and Vina del Mar. Also felt at Colina, Graneros, Rengo, San Vicente and Talca.

*MOS **09** 03:29:38.1±1.1, 33.80S×72.15W, h33km, mb5.1/20, Error ellipse: s-maj=17.2km s-min=9.3km az=93.4*

*BJI **09** 03:29:40.2, 34.00S×72.10W, h25km, mB5.0/12, Ms5.0/5, Ms7 4.7/6*

ISC 09 03:29:38.0±0.8, 33.99S±0.03×72.17W±0.05, h28km±5km, n518, σ1°23/531, mb4.8/62, MS4.8/11, 149C-132D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.63**	**87**		*eP*		**Pb**	**03 29 49.9**	**-0.6**
IHA	**Instituto Hidr**	**1.06**	**25**		*eP*		**Pn**	**03 29 56.2**	**-0.8**
TACH	**Talagante**	**1.08**	**72**		*i*	P	**Pn**	**03 29 56.6**	**-0.7**
CHCH	**Chadas Angostu**	**1.27**	**88**		*i*	P	**Pn**	**03 29 59.8**	**-0.1**
NICH	**Los Niches**	**1.27**	**143**		*eP*		**Pn**	**03 29 59.2**	**-0.7**
NICH					*eS*		**Sb**	**03 30 16.8**	**-0.5**
CACH	**El Canelo**	**1.31**	**96**		*i*	P	**Pn**	**03 30 01.0**	**+0.4**
SAN	**Santiago**	**1.37**	**67**		*eP*		**Pn**	**03 30 01.2**	**-0.1**
SAN					*eS*		**Sn**	**03 30 17.8**	**-0.8**
PCH	**Pirque**	**1.43**	**76**		*eP*		**Pn**	**03 30 02.2**	**0.0**
PCH					*i*	S	**Sn**	**03 30 20.6**	**+0.5**
FSR	**Penalolen**	**1.46**	**70**		*eP*		**Pb**	**03 30 03.8**	**-0.7**
LACH	**Col Las Americ**	**1.47**	**69**		*eP*		**Pn**	**03 30 02.6**	**-0.1**
TALC	**Talca**	**1.47**	**163**		*eP*		**Pn**	**03 30 01.2**	**-1.4**
TALC					*eS*		**Sn**	**03 30 19.9**	**-1.1**
CLCH	**Cerro Calan**	**1.49**	**67**		*eP*		**Pn**	**03 30 03.4**	**+0.5**
CLCH					*eS*		**Sn**	**03 30 22.3**	**+0.8**
CLCH	comp=N,48μm,0.9s			AML		AML	03 30 36.3		
CLCH	comp=N,55μm,0.8s			AML		AML	03 30 36.9		
PEL	**Peldehue**	**1.50**	**56**		*eP*		**Pn**	**03 30 03.3**	**+0.2**
PEL					*eS*		**Sb**	**03 30 23.4**	**-0.4**
PEL	comp=N,68μm,0.6s			AML		AML	03 30 32.0		
YECH	**El Yeso**	**1.77**	**80**		*eP*		**Pn**	**03 30 08.2**	**+1.2**
YECH	comp=N,27μm,0.6s			AML		AML	03 30 47.9		
LNCH	**Linares**	**1.91**	**166**		*eP*		**Pn**	**03 30 08.9**	**+0.2**
CCSP	**San Pedro de C**	**2.95**	**195**		*eP*		**Pn**	**03 30 20.9**	**-2.0**
CCSP	comp=E,5μm,0.3s			AML		AML	03 31 22.6		
CFAA	**Coronel Fontan**	**4.08**	**55**		Pn		**Pn**	**03 30 38.1**	**-0.5**
CFAA	comp=E,3.1nm,0.3s,baz=228,slow=9.4,SNR=97				Lg		Lg	03 31 38.4	
	comp=E,8.3nm,0.3s,baz=68,slow=18,SNR=11								
LSCH	**La Serena**	**4.15**	**11**		*eP*		**Pn**	**03 30 37.6**	**-1.8**
LCO	**Las Campanas**	**5.12**	**15**		*eP*	n	**Pn**	**03 30 51.5**	**-1.6**
LCO					*eS*	n	**Sn**	**03 31 50.2**	**-1.3**
VACH	**Vallenar**	**5.53**	**13**		*eP*		**Pn**	**03 30 57.0**	**-1.5**
PLCA	**Paso Flores**	**6.85**	**170**		Pn		**Pn**	**03 31 16.6**	**-0.1**
	comp=E,1.7nm,0.3s,baz=334,slow=12,SNR=34								
PLCA	comp=E,1.5nm,0.3s,baz=93,slow=23,SNR=4.6				Lg		Lg	03 33 09.5	
PLCA	comp=E,4μm,18.4s,baz=352,slow=40				LR		LR	03 34 15.8	
PLCA	**Paso Flores**	**6.85**	**170**		*eP*		**Pn**	**03 31 16.8**	**+0.1**
PLCA					*e*			03 32 34.5	
PLCA	comp=Z,1.0nm,0.6s				pmax		pmax		
PLCA	**Paso Flores**	**6.85**	**170**		*eP*	n	**Pn**	**03 31 16.8**	**+0.1**
	comp=Z,0.9nm,0.6s								
PLCA					*e*	Sn	**Sn**	**03 32 34.5**	**+0.7**
PLCA					Lg		Lg	03 33 09.5	
TRQA	**Tornquist**	**9.20**	**119**		*eP*	n	**Pn**	**03 31 49.9**	**+1.0**
TRQA					*e*	Lg	Lg	03 34 08.4	
LVC	**Limon Verde**	**11.69**	**15**		Pn		Pn	03 32 18.3	-5.0
	comp=Z,63nm,0.3s,baz=177,slow=8.1,SNR=15								
LVC	comp=Z,134nm,0.3s,baz=66,slow=7.2,SNR=7.7				Lg		Lg	03 35 33.0	
LVC	comp=Z,10μm,20.0s,baz=212,slow=39				LR		LR	03 37 08.9	
LVC	**Limon Verde**	**11.69**	**15**		*eP*	n	Pn	03 32 18.2	-5.0
LVC					*e*	Lg	Lg	03 35 04.2	
LVC					Lg		Lg	03 35 33.0	
CPUP	**Villa Florida**	**14.93**	**63**		Pn		**Pn**	**03 33 05.8**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=235,slow=12,SNR=18								
CPUP	comp=Z,0.1nm,0.3s,baz=238,slow=17,SNR=1.9				Sn		**Sn**	**03 35 52.6**	**+1.0**
CPUP	comp=Z,0.3nm,0.3s,baz=339,slow=17,SNR=4.1				Lg		Lg	03 37 15.2	
CPUP	comp=Z,21μm,19.7s,baz=238,slow=40				LR		LR	03 39 20.9	
CPUP	**Villa Florida**	**14.93**	**63**		*eP*		**Pn**	**03 33 06.2**	**-0.9**
CPUP								03 35 52.6	
CPUP	comp=Z,1.0nm,0.8s				pmax		pmax		
CPUP	**Villa Florida**	**14.93**	**63**		*e*	Pn	**Pn**	**03 33 06.2**	**-0.9**
	comp=Z,0.5nm,0.8s								
CPUP					Sn		**Sn**	**03 35 52.6**	**+1.0**
CPUP					Lg		Lg	03 37 15.2	
LPAZ	**La Paz**	**18.00**	**13**		P		**Pn**	**03 33 45.6**	**-1.3**
	comp=Z,1.4nm,0.3s,baz=199,slow=8.4,SNR=68								
LPAZ	**La Paz**	**18.00**	**13**		*eP*		**Pn**	**03 33 46.9**	**+0.1**
LPAZ	**La Paz**	**18.00**	**13**		*eP*		**Pn**	**03 33 47.0**	**+0.1**
	comp=Z,42nm,0.9s								
EFI	**East Falkland**	**20.42**	**154**		*eP*		**P**	**03 34 11.6**	**-1.1**
EFI	comp=Z,54nm,0.7s				pmax		pmax		
EFI	**East Falkland**	**20.42**	**154**		*eP*		**P**	**03 34 11.6**	**-1.1**
	comp=Z,54nm,0.7s								
SIV	**San Ignacio**	**20.52**	**32**		P		**P**	**03 34 13.4**	**-0.8**
	comp=Z,17nm,0.7s,baz=216,slow=9.4,SNR=34								
USHA	**Ushuaia**	**21.00**	**174**		P		**P**	**03 34 20.7**	**+1.7**
	comp=Z,6.5nm,0.9s,baz=117,slow=18,SNR=3.7								
NNA	**Nana**	**22.31**	**348**		P		**P**	**03 34 30.2**	**-3.2**
	comp=Z,3.7nm,0.5s,baz=297,slow=11,SNR=2.0								
SAML	**Samuel**	**26.26**	**20**		*eP*		**P**	**03 35 10.6**	**-0.4**
	comp=Z,52nm,1.4s								
BDFB	**Brasilia**	**28.42**	**56**		P		**P**	**03 35 29.0**	**-1.5**
	comp=Z,12nm,0.9s,baz=216,slow=7.4,SNR=16								
BDFB					LR		LR	03 47 54.8	
	comp=Z,2μm,18.9s,baz=232,slow=39								
BDFB	**Brasilia**	**28.42**	**56**		P		**P**	**03 35 29.0**	**-1.5**
OTAV	**Otavalo**	**34.55**	**349**		*eP*		**P**	**03 36 26.2**	**+1.4**
OTAV					*eP*	cP	**PcP**	**03 38 60.0**	**+0.6**
PTGA	**Pitinga**	**35.01**	**22**		*eP*		**P**	**03 36 26.9**	**-1.4**
	comp=Z,31nm,1.1s								
SDV	**Santo Domingo**	**42.66**	**2**		*eP*		**P**	**03 37 31.0**	**-1.5**
	comp=Z,11nm,1.1s								
JTS	**JuntasAbangare**	**45.68**	**342**		*i*	P	**P**	**03 37 57.8**	**+1.3**
JTS	comp=Z,38nm,1.9s				pmax		pmax		
JTS	**JuntasAbangare**	**45.68**	**342**		*eP*		**P**	**03 37 56.8**	**+0.3**
	comp=Z,20nm,1.4s								
GRGR	**Grenville**	**46.95**	**14**		*eP*		**P**	**03 38 06.6**	**+0.2**
VNA3	**Neumayer Olymp**	**49.41**	**158**		P		**P**	**03 38 25.7**	**+0.8**
VNA1	**Neumayer--Stat**	**49.73**	**157**		P		**P**	**03 38 28.6**	**+1.4**
VNA2	**Neumayer--Watz**	**50.06**	**157**		P		**P**	**03 38 30.6**	**+0.7**
	baz=286,slow=9.0								
SNAA	**Sanae**	**51.64**	**158**		LR		LR	04 00 13.8	
	comp=Z,112nm,18.6s,baz=292,slow=36								
CRPR	**Cabo Rojo, PR**	**51.93**	**6**		*eP*		**P**	**03 38 43.5**	**-0.8**
	comp=Z,26nm,0.9s								
OBIP	**Obispado Ponce**	**52.01**	**7**		*eP*		**P**	**03 38 44.8**	**-0.2**
	comp=Z,31nm,1.2s								
CELP	**Cerrillos**	**52.05**	**7**		*eP*		**P**	**03 38 44.7**	**-0.5**
RKT	**Rikitea**	**55.47**	**264**		*eT*		T	04 39 02.2	
	comp=Z,1.3nm,0.2s								
TEIG	**Tepich**	**56.06**	**342**		P		**P**	**03 39 14.2**	**-0.3**
	comp=Z,9.6nm,0.4s,baz=352,slow=1.0,SNR=20								
NVL	**N'lazarevskaya**	**56.37**	**157**		*eP*		P	03 39 08.6	-7.6
NVL	comp=Z,9.0nm,0.7s				pmax		pmax		
ASCN	**Ascension**	**59.02**	**78**		*eP*		**P**	**03 39 34.9**	**-0.8**
SBA	**Scott Base**	**63.06**	**192**		*eP*		**P**	**03 40 03.3**	**+1.2**
SBA	**Scott Base**	**63.06**	**192**		*eP*		**P**	**03 40 03.3**	**+1.2**
VNDA	**Vanda**	**64.09**	**191**		P		**P**	**03 40 10.4**	**+1.5**
	comp=Z,1.0nm,0.8s,baz=111,slow=5.2,SNR=5.8								
VNDA	comp=Z,116nm,18.4s,baz=123,slow=34				LR		LR	04 05 46.7	
VNDA	**Vanda**	**64.09**	**191**		*eP*		**P**	**03 40 10.2**	**+1.3**
VNDA	comp=Z,17nm,1.7s				pmax		pmax		
VNDA	**Vanda**	**64.09**	**191**		*eP*		**P**	**03 40 10.2**	**+1.3**
	comp=Z,17nm,1.7s								
SYO	**Syowa Base**	**65.92**	**158**		*eP*		**P**	**03 40 19.0**	**-1.9**
834A	**Tilden**	**66.64**	**335**		P		**P**	**03 40 27.9**	**+1.9**
	baz=67								
736A	**Circle Diamond**	**66.89**	**336**		P		**P**	**03 40 29.7**	**+2.1**
	baz=67								
735A	**Kenedy**	**67.05**	**336**		P		**P**	**03 40 29.7**	**+1.1**
	baz=67								
833A	**Chaparral WMA,**	**67.12**	**334**		P		**P**	**03 40 30.4**	**+1.4**
	baz=67								
TBI	**Tubuai**	**67.21**	**257**		*eS*		S	03 49 11.9	-11
	comp=Z,164nm,25.5s								
TBI	**Tubuai**	**67.21**	**257**		*eLR*		LR	04 00 45.2	
	comp=Z,594nm,26.5s								
TBI	**Tubuai**	**67.21**	**257**		*eT*		T	04 53 41.2	
	comp=Z,6.2nm,0.3s								
832A	**Faith Ranch, C**	**67.30**	**334**		P		**P**	**03 40 31.7**	**+1.5**
	baz=68,SNR=6.8								
734A	**La Parita Cree**	**67.30**	**335**		P		**P**	**03 40 31.7**	**+1.5**
	baz=68								
636A	**Smothers Creek**	**67.37**	**337**		P		**P**	**03 40 31.9**	**+1.3**
	baz=68								
HKT	**Hockley**	**67.41**	**338**		*eP*		**P**	**03 40 29.4**	**-1.4**
HKT	comp=Z,26nm,1.6s				pmax		pmax		
HKT	**Hockley**	**67.41**	**338**		*eP*		**P**	**03 40 29.4**	**-1.4**
	comp=Z,26nm,1.6s								
733A	**Divot King Ran**	**67.45**	**334**		P		**P**	**03 40 32.9**	**+1.8**
	baz=68								
537A	**Green Hill Far**	**67.69**	**337**		P		**P**	**03 40 34.3**	**+1.7**
	baz=68								
732A	**Laxson Ranch,**	**67.70**	**334**		P		**P**	**03 40 33.6**	**+0.9**
	baz=68,SNR=9.8								
634A	**China Grove, S**	**67.72**	**335**		P		**P**	**03 40 34.7**	**+1.9**
	baz=68								
439A	**Center Grove,**	**67.88**	**339**		P		**P**	**03 40 35.1**	**+1.4**
	baz=68								
536A	**Bastrop**	**67.92**	**337**		P		**P**	**03 40 35.6**	**+1.6**
	baz=68								
438A	**Sam Houston St**	**68.05**	**338**		P		**P**	**03 40 36.1**	**+1.3**
	baz=68								
535A	**Dale**	**68.05**	**336**		P		**P**	**03 40 36.4**	**+1.6**
	baz=68								
633A	**Saathoff Ranch**	**68.08**	**335**		P		**P**	**03 40 36.9**	**+1.8**
	baz=68,SNR=5.9								
LRAL	**Lakeview Retre**	**68.11**	**347**		*eP*		**P**	**03 40 35.0**	**-0.2**
	comp=Z,26nm,1.4s								
340A	**Bronson**	**68.20**	**340**		P		**P**	**03 40 37.3**	**+1.5**
	baz=68								
632A	**Uvalde**	**68.34**	**334**		P		**P**	**03 40 38.1**	**+1.4**
	baz=69,SNR=6.0								
436A	**Wall Ranch, Ga**	**68.48**	**337**		P		**P**	**03 40 38.6**	**+1.1**
	baz=69								
631A	**Perdido Creek**	**68.54**	**334**		P		**P**	**03 40 38.9**	**+0.9**
	baz=69								
338A	**Crockett**	**68.56**	**339**		P		**P**	**03 40 39.5**	**+1.4**
	baz=69								
533A	**Kerrville**	**68.59**	**335**		P		**P**	**03 40 39.3**	**+1.0**
	baz=69								
337A	**Centerville**	**68.70**	**338**		P		**P**	**03 40 40.4**	**+1.5**
	baz=69								
MEH	**Mehetia**	**68.74**	**262**		*eT*		T	04 55 36.8	
	comp=Z,15nm,0.3s								
435B	**Jarrell**	**68.75**	**337**		P		**P**	**03 40 40.5**	**+1.3**
	baz=69								
239A	**Gary**	**68.94**	**340**		P		**P**	**03 40 41.5**	**+1.2**
	baz=69								
532A	**Rocksprings**	**68.95**	**334**		P		**P**	**03 40 41.6**	**+1.1**
	baz=69,SNR=10.0								
434A	**Burnet**	**69.00**	**336**		P		**P**	**03 40 41.7**	**+0.8**
	baz=69,SNR=8.4								
336A	**Riesel**	**69.06**	**338**		P		**P**	**03 40 42.3**	**+1.2**
	baz=69								
238A	**Jacksonville**	**69.11**	**339**		P		**P**	**03 40 42.5**	**+1.0**
	baz=69								
335A	**Moody**	**69.16**	**337**		P		**P**	**03 40 42.8**	**+1.1**
	baz=70								
531A	**Rocksprings**	**69.21**	**334**		P		**P**	**03 40 43.4**	**+1.2**
	baz=70,SNR=7.1								
433A	**Art**	**69.23**	**335**		P		**P**	**03 40 43.3**	**+1.1**
	baz=70,SNR=6.9								
JCT	**Junction City**	**69.23**	**335**		*eP*		**P**	**03 40 43.1**	**+0.8**
JCT	comp=Z,36nm,1.4s				pmax		pmax		
JCT	**Junction City**	**69.23**	**335**		*eP*		**P**	**03 40 43.1**	**+0.8**
	comp=Z,36nm,1.4s								
JCT	**Junction City**	**69.23**	**335**		P		**P**	**03 40 43.2**	**+0.9**
	baz=70,SNR=6.2								
KMSC	**Kings Mountain**	**69.31**	**352**		*eP*		**P**	**03 40 42.5**	**-0.1**
237A	**Washetta, Mont**	**69.31**	**339**		P		**P**	**03 40 44.0**	**+1.3**
	baz=70								
334A	**Lometa**	**69.47**	**336**		P		**P**	**03 40 45.3**	**+1.6**
	baz=70,SNR=5.7								
530A	**J. Ranch, Com**	**69.49**	**333**		P		**P**	**03 40 45.1**	**+1.2**
	baz=70,SNR=6.6								
139A	**Bunkhouse Ranc**	**69.53**	**340**		P		**P**	**03 40 45.4**	**+1.3**
	baz=70								
236A	**Katherine and**	**69.53**	**338**		P		**P**	**03 40 45.2**	**+1.2**
	baz=70								
432A	**Menard**	**69.59**	**335**		P		**P**	**03 40 45.1**	**+0.6**
	baz=70								
TXAR	**Lajitas Array**	**69.67**	**331**		P		**P**	**03 40 45.6**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=156,slow=8.1,SNR=6.5								
431A	**Sonora**	**69.70**	**334**		P		**P**	**03 40 45.9**	**+0.7**
	baz=70								
333A	**Richland Sprin**	**69.71**	**336**		P		**P**	**03 40 45.8**	**+0.6**
	baz=70,SNR=5.6								
138A	**Matatall Enter**	**69.72**	**340**		P		**P**	**03 40 46.4**	**+1.2**
	baz=70								
TVO	**Taravao**	**69.76**	**262**		*eT*		T	04 56 51.2	
	comp=Z,1.1nm,0.2s								
529A	**Stev Forest Ra**	**69.80**	**332**		P		**P**	**03 40 46.4**	**+0.5**
	baz=70								
WHTX	**Lake Whitney,**	**69.82**	**337**		*eP*		**P**	**03 40 46.2**	**+0.3**
	comp=Z,16nm,0.9s								
WHTX	**Lake Whitney,**	**69.82**	**337**		P		**P**	**03 40 47.2**	**+1.4**
	baz=70								
137A	**Heron Place, G**	**69.85**	**339**		P		**P**	**03 40 47.3**	**+1.3**
	baz=70								
TIAR	**Tiarei**	**69.95**	**262**		*eT*		T	04 57 07.5	
	comp=Z,4.7nm,0.3s								
430A	**Baggett Ranch,**	**70.03**	**334**		P		**P**	**03 40 47.8**	**+0.5**
	baz=70								
332A	**Millersview**	**70.03**	**335**		P		**P**	**03 40 47.7**	**+0.5**
	baz=70,SNR=7.4								
OXF	**Oxford**	**70.03**	**345**		*eP*		**P**	**03 40 46.5**	**-0.6**
	comp=Z,40nm,1.0s								
CPCT	**Cooper Cave**	**70.04**	**349**		*eP*		**P**	**03 40 47.7**	**+0.6**
SWET	**Sewanee**	**70.04**	**348**		*eP*		**P**	**03 40 46.5**	**-0.7**
	comp=Z,72nm,1.5s								
234A	**Clairette**	**70.05**	**337**		P		**P**	**03 40 47.9**	**+0.7**
	baz=70,SNR=5.8								
PPT2	**Papeete2**	**70.12**	**262**		*eS*		S	03 49 46.5	-11
	comp=Z,183nm,22.8s								
PPT2	**Papeete2**	**70.12**	**262**		*eLR*		LR	04 02 01.6	
	comp=Z,417nm,27.5s								
PPT2	**Papeete2**	**70.12**	**262**		*eT*		T	04 57 12.5	
	comp=Z,1.1nm,0.2s								
429A	**Davenport Ranc**	**70.13**	**333**		P		**P**	**03 40 48.9**	**+1.0**
	baz=70								
TKL	**Tuckaleechee C**	**70.13**	**350**		P		**P**	**03 40 46.4**	**-1.3**
	comp=Z,6.2nm,1.0s,baz=150,slow=8.6,SNR=4.4								
331A	**San Angelo**	**70.20**	**334**		P		**P**	**03 40 49.3**	**+1.0**
	baz=70								
233A	**Rising Star**	**70.32**	**336**		P		**P**	**03 40 49.9**	**+0.9**
	baz=71,SNR=5.7								
135A	**Vickery Place,**	**70.33**	**338**		P		**P**	**03 40 50.7**	**+1.7**
	baz=71								
Z37A	**Pogue Cattle C**	**70.38**	**339**		P		**P**	**03 40 51.1**	**+1.9**
	baz=71								
232A	**Coleman**	**70.45**	**335**		P		**P**	**03 40 50.9**	**+1.1**
	baz=71								
134A	**White-Moore Ra**	**70.56**	**337**		P		**P**	**03 40 51.5**	**+1.1**
	baz=71								
330A	**Mertzon**	**70.56**	**334**		P		**P**	**03 40 51.4**	**+1.0**
	baz=71								
231A	**Bronte**	**70.73**	**335**		P		**P**	**03 40 52.3**	**+0.8**
	baz=71								
133A	**Hamilton Ranch**	**70.86**	**336**		P		**P**	**03 40 53.1**	**+0.8**
	baz=71								
329A	**Wagon Wheel Ra**	**70.93**	**333**		P		**P**	**03 40 53.7**	**+0.9**
	baz=71								
230A	**Sterling City**	**70.97**	**334**		P		**P**	**03 40 54.4**	**+1.4**
	baz=71								
Z35A	**Perchaven, San**	**70.99**	**338**		P		**P**	**03 40 54.3**	**+1.4**
	baz=71								
MIAR	**Mount Ida**	**71.07**	**341**		*eP*		**P**	**03 40 54.2**	**+0.8**
MIAR	comp=Z,23nm,1.6s				pmax		pmax		
MIAR	**Mount Ida**	**71.07**	**341**		*eP*		**P**	**03 40 54.2**	**+0.8**
	comp=Z,23nm,1.6s								
ABTX	**Abilene, Hawle**	**71.12**	**336**		P		**P**	**03 40 54.9**	**+1.1**
	baz=71								
Z34A	**Collier Ranch,**	**71.24**	**337**		P		**P**	**03 40 55.6**	**+1.1**
	baz=72								
WVT	**Waverly**	**71.28**	**347**		*eP*		**P**	**03 40 54.1**	**-0.5**
WVT	comp=Z,51nm,1.0s				pmax		pmax		
WVT	**Waverly**	**71.28**	**347**		*eP*		**P**	**03 40 54.1**	**-0.5**
	comp=Z,52nm,1.0s								
229A	**Bryant Ranch,**	**71.30**	**334**		P		**P**	**03 40 55.9**	**+0.9**
	baz=72								
131A	**Roby**	**71.43**	**335**		P		**P**	**03 40 56.9**	**+1.2**
	baz=72								
Z33A	**Whitaker Ranch**	**71.44**	**337**		P		**P**	**03 40 56.9**	**+1.2**
	baz=72								
130A	**Snyder**	**71.56**	**335**		P		**P**	**03 40 57.3**	**+0.8**
	baz=72								
X37A	**Clayton**	**71.60**	**340**		P		**P**	**03 40 58.1**	**+1.5**
	baz=72								
Z32A	**Haskell**	**71.69**	**336**		P		**P**	**03 40 58.6**	**+1.4**
	baz=72,SNR=6.6								
228A	**UT Block 9, Go**	**71.73**	**333**		P		**P**	**03 40 58.8**	**+1.3**
	baz=72								
Y34A	**Reagan Ranch,**	**71.73**	**338**		P		**P**	**03 40 58.4**	**+0.9**
	baz=72								
W38A	**Poteau**	**71.82**	**341**		P		**P**	**03 40 59.3**	**+1.4**
	baz=72								
X36A	**Centrahoma**	**71.87**	**339**		P		**P**	**03 40 59.3**	**+1.1**
	baz=72								
X35A	**Drake**	**71.90**	**339**		P		**P**	**03 40 59.6**	**+1.2**
	baz=72								
129A	**Stewart Farms,**	**71.92**	**334**		P		**P**	**03 40 59.7**	**+1.1**
	baz=72								
Z31A	**Sharp Cattle R**	**71.93**	**336**		P		**P**	**03 40 59.5**	**+0.9**
	baz=72								
Y33A	**Hilltop Ranch,**	**72.05**	**337**		P		**P**	**03 41 00.1**	**+0.7**
	baz=72								
W37A	**Quinton**	**72.13**	**340**		P		**P**	**03 41 00.7**	**+0.9**
	baz=72								
128A	**Castleberry Fa**	**72.14**	**333**		P		**P**	**03 41 00.9**	**+0.9**
	baz=72								
Z30A	**Sanderson Ranc**	**72.24**	**335**		P		**P**	**03 41 01.5**	**+0.9**
	baz=73								
Y32A	**R-V Farms, Ver**	**72.32**	**336**		P		**P**	**03 41 02.2**	**+1.2**
	baz=73								
X34A	**Smith Ranch, M**	**72.35**	**338**		P		**P**	**03 41 01.8**	**+0.7**
	baz=73								
W36A	**Wetumka**	**72.36**	**339**		P		**P**	**03 41 02.0**	**+0.8**
	baz=73								
Z29A	**Hungry Hill Ra**	**72.42**	**334**		P		**P**	**03 41 02.3**	**+0.5**
	baz=73								
PBMO	**Poplar Bluff**	**72.44**	**345**		*eP*		**P**	**03 41 01.0**	**-0.5**
MNTX	**Cornudas Mount**	**72.45**	**331**		*eP*		**P**	**03 41 01.0**	**-0.8**
	comp=Z,3.3nm,0.9s								
MNTX	**Cornudas Mount**	**72.45**	**331**		P		**P**	**03 41 02.8**	**+1.0**
	baz=73								
X33A	**Lawton**	**72.50**	**337**		P		**P**	**03 41 03.2**	**+1.1**
	baz=73								
Y31A	**Rekieta Farm,**	**72.55**	**336**		P		**P**	**03 41 03.6**	**+1.2**
	baz=73								
W35A	**Tecumseh**	**72.57**	**339**		P		**P**	**03 41 03.5**	**+1.1**
	baz=73								
X32A	**Elmer**	**72.65**	**337**		P		**P**	**03 41 04.1**	**+1.1**
	baz=73								
Y30A	**Stafford Cattl**	**72.70**	**335**		P		**P**	**03 41 04.3**	**+1.1**
	baz=73								
Z28A	**Tucker Farm, M**	**72.70**	**334**		P		**P**	**03 41 04.5**	**+1.1**
	baz=73								
WMOK	**Wichita Mounta**	**72.77**	**337**		*eP*		**P**	**03 41 02.9**	**-0.8**
WMOK	comp=Z,18nm,1.4s				pmax		pmax		
WMOK	**Wichita Mounta**	**72.77**	**337**		*eP*		**P**	**03 41 02.9**	**-0.8**
	comp=Z,18nm,1.4s								
W34A	**Bridge Creek,**	**72.92**	**338**		P		**P**	**03 41 05.7**	**+1.2**
	baz=73								
Y29A	**Porterfield Fa**	**72.95**	**335**		P		**P**	**03 41 05.5**	**+0.6**
	baz=73								
TUL1	**Leonard**	**72.96**	**340**		*eP*		**P**	**03 41 04.7**	**0.0**
	comp=Z,15nm,1.0s								
TUL1	**Leonard**	**72.96**	**340**		P		**P**	**03 41 05.5**	**+0.8**
	baz=73								
WCI	**Wyandotte Cave**	**73.04**	**348**		*eP*		**P**	**03 41 04.4**	**-0.8**
WCI	comp=Z,10.0nm,1.0s				pmax		pmax		
WCI	**Wyandotte C

R37A Teagarden Farm 74.95 342 ⇓P P 03 41 18.0 +1.7
baz=75
S34A Willow Spring 75.01 340 ⇑P P 03 41 18.1 +1.4
baz=75
U30A WK&E Inc. Balk 75.02 337 ⇓P P 03 41 18.4 +1.5
baz=75
V27A Dan Oppiter Fa 75.07 335 ⇓P P 03 41 18.7 +1.5
baz=75
TIC Toumodi 75.14 71 eP P 03 41 17.6 -0.4
comp=Z,24nm,1.0s
R36A Gordon, Harris 75.14 341 ⇓P P 03 41 19.0 +1.5
baz=76
Y22D IRIS PASSCAL I 75.15 331 ⇓P P 03 41 19.0 +1.2
baz=76
U29A Oasis Ranch, S 75.16 336 ⇓P P 03 41 19.0 +1.4
baz=76
S33A Kaszmaul Farm, 75.17 339 ⇓P P 03 41 18.9 +1.3
baz=76
KIC Kosan Boka 75.19 72 eP P 03 41 18.1 -0.2
comp=Z,65nm,1.2s
T31A Randall Ranch, 75.22 338 ⇑P P 03 41 19.4 +1.4
baz=76
SFIN Lafayette 75.27 348 ⇓P P 03 41 19.5 +1.4
baz=76
DBIC Dimbokro 75.28 71 P P 03 41 18.8 0.0
comp=Z,11nm,0.9s,baz=212,slow=5.5,SNR=9.7
DBIC LR LR 04 12 46.3
comp=Z,334nm,18.9s,baz=238,slow=34
DBIC Dimbokro 75.28 71 eP P 03 41 18.3 -0.5
DBIC pmax pmax
comp=Z,33nm,1.2s
DBIC Dimbokro 75.28 71 eP P 03 41 18.3 -0.5
comp=Z,33nm,1.2s
Q37A Longview Farm, 75.39 342 ⇑P P 03 41 20.2 +1.4
baz=76
U28A Mallet 75.42 335 ⇓P P 03 41 20.2 +1.0
baz=76
LAZ Ladron 75.52 331 eP P 03 41 21.0 +1.0
S31A Mullinville 75.64 338 ⇑P P 03 41 21.7 +1.3
baz=76
ANMO Albuquerque 75.72 331 P P 03 41 20.1 -1.0
comp=Z,1.6nm,1.0s,baz=129,slow=12,SNR=3.5
ANMO Albuquerque 75.72 331 i P P 03 41 21.1 0.0
ANMO pmax pmax
comp=Z,19nm,1.5s
ANMO Albuquerque 75.72 331 eP P 03 41 21.9 +0.8
comp=Z,4.4nm,1.1s
T29A Hugoton 75.81 336 ⇓P P 03 41 22.9 +1.5
baz=76
R33A Olander Ranch, 75.82 339 ⇑P P 03 41 23.3 +1.9
baz=76
214A Organ Pipe Nat 75.94 325 ⇑P P 03 41 23.8 +1.6
baz=76
T28A Walsh 76.05 336 ⇑P P 03 41 24.4 +1.6
baz=76
R32A Long Quarter, 76.14 339 ⇑P P 03 41 25.0 +1.8
baz=76
S29A Ulysses 76.17 337 ⇓P P 03 41 25.2 +1.8
baz=76
T27A Campo 76.20 335 ⇑P P 03 41 25.4 +1.7
baz=76
Q31A Ellis 76.89 339 ⇑P P 03 41 29.0 +1.6
baz=77
S26A Kim 76.97 335 ⇓P P 03 41 29.5 +1.5
baz=77
R28A Tribune 77.05 336 ⇑P P 03 41 29.9 +1.5
baz=77
Q30A Quinter 77.12 338 ⇓P P 03 41 30.4 +1.6
baz=77
R27A Eads 77.33 336 ⇑P P 03 41 31.6 +1.5
baz=78
P31A Stockton 77.36 339 ⇑P P 03 41 31.8 +1.7
baz=78
X16A Lo Mia Camp, P 77.37 328 ⇓P P 03 41 32.1 +1.7
baz=78
P30A Selden 77.64 338 ⇑P P 03 41 33.5 +1.9
baz=78
SDCO Great Sand Dun 77.81 334 eP P 03 41 33.1 +0.2
comp=Z,7.3nm,1.4s
SDCO Great Sand Dun 77.81 334 ⇓P P 03 41 34.3 +1.3
baz=78
P29A Atwood 77.91 338 ⇓P P 03 41 35.1 +2.0
baz=78
O31A Woolen Ranch, 77.92 339 ⇑P P 03 41 35.0 +1.8
baz=78
Q26A Hugo 78.15 336 ⇓P P 03 41 36.9 +2.2
baz=78
N32A Stulken Farm, 78.19 340 ⇑P P 03 41 37.2 +2.6
baz=78
WUAZ Wupatki 78.26 328 eP P 03 41 35.7 +0.4
comp=Z,15nm,1.4s
S22A 4UR Ranch, Cre 78.31 333 ⇓P P 03 41 37.3 +1.5
baz=79
MVCO Mesa Verde 78.50 331 eP P 03 41 35.5 -1.2
comp=Z,23nm,1.6s
MVCO Mesa Verde 78.50 331 ⇓P P 03 41 39.1 +2.4
baz=79
Q24A Divide 78.76 334 ⇓P P 03 41 40.0 +1.8
baz=79
W13A Hualapai Mount 79.04 326 ⇓P P 03 41 42.1 +2.4
baz=79
PFO Pinyon Flats O 79.06 324 ⇑P P 03 41 41.7 +2.0
baz=79
O26A Horse Wrangler 79.27 336 ⇑P P 03 41 43.1 +2.4
baz=80
MURC Murrieta 79.42 323 ⇑P P 03 41 43.2 +1.7
baz=80
O25A Wiggins 79.42 336 ⇓P P 03 41 43.4 +1.8
baz=80
OGNE Ogallala 79.48 337 ⇓P P 03 41 44.1 +2.3
baz=80
M29A Burnside Ranch 79.52 339 ⇑P P 03 41 44.2 +2.2
baz=80
GMRC Granite Mounta 79.62 325 ⇑P P 03 41 44.5 +1.8
baz=80
SMCO Snowmass 79.62 333 eP P 03 41 43.1 +0.1
comp=Z,9.3nm,1.2s
L31A Butterfield Fa 79.65 340 ⇓P P 03 41 44.7 +2.0
baz=80
ISCO Idaho Springs 79.67 334 eP P 03 41 43.9 +0.8
ISCO pmax pmax
comp=Z,4.0nm,1.0s
ISCO Idaho Springs 79.67 334 eP P 03 41 43.9 +0.8
comp=Z,3.7nm,1.0s
ISCO Idaho Springs 79.67 334 ⇑P P 03 41 44.8 +1.7
baz=80
M28A Bar X Bar Ranc 79.68 338 ⇑P P 03 41 44.6 +1.7
baz=80
P22A Eagle 79.91 334 ⇑P P 03 41 46.2 +1.9
baz=80
CASY Casey 80.03 181 eP P 03 41 45.2 +0.8
comp=Z,7.4nm,1.0s
M27A Reverse DX Ran 80.12 337 ⇓P P 03 41 48.0 +2.7
baz=80
O23A Lake Granby, G 80.14 334 ⇓P P 03 41 47.1 +1.5
baz=80
BFSC Mount Baldy Ra 80.16 323 ⇓P P 03 41 47.5 +1.8
baz=80
M26A McRoberts Ranc 80.31 337 ⇓P P 03 41 48.7 +2.3
baz=81
N24A Carr 80.32 335 ⇑P P 03 41 48.3 +1.8
baz=81
O22A Kremmling 80.33 334 ⇓P P 03 41 48.1 +1.5
baz=81
K30A Basset 80.33 340 ⇓P P 03 41 47.9 +1.6
baz=81
RRX Edison Barstow 80.35 324 ⇓P P 03 41 48.9 +2.4
baz=81
ECSD EROS Data Cent 80.50 342 eP P 03 41 46.5 -0.7
comp=Z,11nm,0.9s
ECSD EROS Data Cent 80.50 342 ⇑P P 03 41 48.0 +0.8
baz=81
GSC Goldstone, Bar 80.59 324 ⇑P P 03 41 49.6 +1.6
baz=81
K29A Lazy Trails An 80.61 339 ⇑P P 03 41 48.8 +0.9
baz=81
M24A Cheyenne 80.87 336 ⇓P P 03 41 51.1 +1.6
baz=81
K28A Ten Mile Ranch 80.88 339 ⇓P P 03 41 51.2 +1.9
baz=81
SPMN Marine on St. 81.04 345 eP P 03 41 49.5 -0.4
MSU Marysvale 81.13 329 eP P 03 41 50.3 -0.6
MSU Marysvale 81.13 329 eP P 03 41 50.3 -0.6
J29A Okreek 81.21 340 ⇓P P 03 41 52.4 +1.5
baz=82
SBC Santa Barbara 81.36 322 ⇑P P 03 41 53.7 +1.8
baz=82
N20A Spence Gulch, 81.55 333 ⇓P P 03 41 54.6 +1.5
baz=82
J27A Elkhorn Farm, 81.57 338 ⇓P P 03 41 55.0 +2.1
baz=82
TPNV Topopah Spring 81.66 326 ⇑P P 03 41 55.9 +2.2
baz=82
J26A Sides Ranch, S 81.95 338 ⇑P P 03 41 57.0 +2.1
baz=82
I28A Midland 82.00 339 ⇑P P 03 41 57.0 +1.9
baz=82
VES Vestal, Richgr 82.14 323 ⇑P P 03 41 57.8 +1.8
baz=82
GRAC Grapevine Rang 82.23 325 ⇓P P 03 41 58.3 +1.8
baz=82
K23A Bowen Ranch, D 82.29 336 ⇓P P 03 41 59.0 +2.1
baz=83
LBTB Lobatse 82.41 115 eP P 03 41 57.5 -0.5
LBTB pmax pmax
comp=Z,30nm,1.2s
LBTB Lobatse 82.41 115 eP P 03 41 57.5 -0.5
comp=Z,30nm,1.2s
G30A Faulkton 82.47 341 ⇑P P 03 41 59.3 +1.8
baz=83
J24A Dixon Ranch, L 82.48 337 ⇑P P 03 41 59.4 +1.6
baz=83
R11A Troy Canyon, C 82.49 327 eP P 03 41 58.2 +0.2
comp=Z,7.9nm,1.3s
R11A Troy Canyon, C 82.49 327 ⇑P P 03 41 59.3 +1.3
baz=83,SNR=5.7
K22A Casper 82.51 335 ⇓P P 03 41 59.9 +1.9
baz=83
I26A New Underwood 82.53 338 ⇑P P 03 41 59.4 +1.5
baz=83
K21A Alcova 82.75 335 ⇓P P 03 42 00.7 +1.4
baz=83
I25A Rochford 82.80 338 ⇑P P 03 42 01.2 +1.7
baz=83
DUG Dugway, Tooele 82.81 330 eP P 03 42 00.2 +0.6
DUG pmax pmax
comp=Z,8.0nm,1.2s
DUG Dugway, Tooele 82.81 330 eP P 03 42 00.2 +0.6
comp=Z,7.9nm,1.2s
DUG Dugway, Tooele 82.81 330 ⇑P P 03 42 01.4 +1.8
baz=83
H27A Howes 82.84 339 ⇓P P 03 42 00.7 +1.2
baz=83
TPH Tonopah 83.02 326 eP P 03 42 01.6 +0.8
TPH Tonopah 83.02 326 eP P 03 42 01.6 +0.8
J22A Midwest 83.16 336 ⇓P P 03 42 03.0 +1.6
baz=84
H25A Fruitdale 83.30 338 ⇑P P 03 42 03.8 +1.9
baz=84
F29A Eureka 83.30 341 ⇓P P 03 42 02.8 +1.0
baz=84
G27A Dupree 83.48 339 ⇑P P 03 42 04.0 +1.2
baz=84
HWUT Hardware Ranch 83.49 331 eP P 03 42 03.3 +0.2
comp=Z,5.8nm,1.0s
F28A McLaughlin 83.58 340 ⇑P P 03 42 04.7 +1.4
baz=84
G26A Maurine 83.60 339 ⇑P P 03 42 04.5 +1.1
baz=84
J20A Shoshoni 83.67 335 ⇑P P 03 42 04.8 +0.9
baz=84
E30A Jud 83.67 342 ⇑P P 03 42 04.8 +1.1
baz=84
PDAR Pinedale Array 83.70 333 P P 03 42 04.3 0.0
comp=Z,2.8nm,1.3s,baz=112,slow=1.6,SNR=5.5
H24A Dirks Ranch, A 83.71 337 ⇑P P 03 42 04.9 +0.8
baz=84
G25A Newell 83.75 338 ⇑P P 03 42 05.3 +1.0
baz=84
I21A Big Trails, Te 83.79 335 ⇑P P 03 42 05.5 +0.9
baz=84
NVAR Mina Array Bea 83.81 325 P P 03 42 05.0 +0.1
comp=Z,0.5nm,0.5s,baz=165,slow=6.2,SNR=4.3
J19A Crowheart 83.95 334 ⇓P P 03 42 06.6 +1.1
baz=84
F27A Lemmon 83.95 340 ⇑P P 03 42 06.5 +1.3
baz=84
F26A Lodgepole 84.12 339 ⇑P P 03 42 08.1 +2.0
baz=84
H22A Clearmont 84.16 336 ⇑P P 03 42 07.9 +1.5
baz=84
D30A Buchanan 84.20 342 ⇓P P 03 42 06.7 +0.3
baz=84,SNR=8.1
I20A Worland 84.21 335 ⇓P P 03 42 07.9 +1.2
baz=84
ELK Elko 84.30 329 P P 03 42 08.1 +0.7
comp=Z,1.3nm,0.7s,baz=178,slow=2.3,SNR=3.7
TOA0 Torodi Ar. Sit 84.31 70 eP P 03 42 07.2 -0.5
TORD Torodi Ar. Bea 84.31 70 P P 03 42 07.5 -0.3
comp=Z,14nm,0.8s,baz=284,slow=6.8,SNR=112
TORD LR LR 04 19 07.7
comp=Z,203nm,18.5s,baz=245,slow=35
G23A Biddle 84.38 337 ⇓P P 03 42 09.4 +1.9
baz=85
AGMN Agassiz Nation 84.62 344 eP P 03 42 07.9 -0.5
comp=Z,25nm,1.6s
AGMN Agassiz Nation 84.62 344 ⇑P P 03 42 09.0 +0.6
baz=85
E26A Carlson Angus 84.62 340 ⇓P P 03 42 09.8 +1.2
baz=85
H20A Greybull 84.63 335 ⇑P P 03 42 09.9 +1.1
baz=85
F24A Ekalaka 84.66 338 ⇑P P 03 42 09.1 +0.2
baz=85
C30A Mose, Pekin 84.68 343 ⇑P P 03 42 09.7 +0.9
baz=85,SNR=6.5
D28A Regan 84.75 341 ⇑P P 03 42 10.4 +1.2
baz=85
TPAW Teton Pass 84.85 333 eP P 03 42 10.1 -0.1
comp=Z,5.3nm,1.1s
I17A Pilgrim Ck. 85.07 333 ⇑P P 03 42 12.9 +1.7
baz=85
MDND Maddock 85.10 342 eP P 03 42 10.6 -0.3
comp=Z,24nm,1.0s
MDND Maddock 85.10 342 ⇓P P 03 42 11.8 +0.9
baz=85
D26A Manning 85.12 340 ⇑P P 03 42 11.6 +0.5
baz=85
H19A Powell 85.14 335 ⇑P P 03 42 11.8 +0.4
baz=86
F22A Rosebud 85.18 337 ⇓P P 03 42 12.3 +0.9
baz=86
IMW Indian Meadow 85.19 333 eP P 03 42 11.6 -0.2
comp=Z,2.7nm,1.1s
FLWY Flagg Ranch 85.26 333 eP P 03 42 12.3 +0.2
comp=Z,19nm,1.5s
B30A Myrvik Farm, E 85.34 343 ⇑P P 03 42 12.8 +0.7
baz=86,SNR=8.6
G20A Bridger 85.34 335 ⇓P P 03 42 12.3 -0.1
baz=86
H18A Shoshone NF, C 85.39 334 ⇑P P 03 42 13.3 +0.6
baz=86,SNR=7.8
D25A Fairfield 85.49 339 ⇓P P 03 42 14.4 +1.5
baz=86
B29A Wagenman Farm, 85.61 342 ⇑P P 03 42 13.8 +0.4
baz=86
RLMT Red Lodge 85.63 335 eP P 03 42 13.2 -0.7
comp=Z,3.6nm,0.7s
D24A Glendive 85.76 339 ⇑P P 03 42 15.6 +1.3
baz=86
A30A Hoffart Farm, 85.79 343 ⇓P P 03 42 14.8 +0.5
baz=86
B28A Dugan Ranch, T 85.85 342 ⇑P P 03 42 15.7 +1.1
baz=86
C25A Freed Ranch, W 85.98 340 ⇑P P 03 42 16.8 +1.5
baz=86
A29A Manning Farm, 86.00 342 ⇑P P 03 42 16.4 +1.1
baz=86
D23A Lindsay 86.08 338 ⇓P P 03 42 16.5 +0.6
baz=86,SNR=5.3
F19A Roth Farm, Mol 86.15 335 ⇑P P 03 42 16.6 +0.3
baz=86
C24A Savage 86.16 339 ⇓P P 03 42 17.2 +1.0
baz=86,SNR=7.4
A28A Rude Farm, Bot 86.25 342 ⇓P P 03 42 17.8 +1.2
baz=87
HLID Hailey 86.27 331 ⇑P P 03 42 18.2 +1.2
baz=87,SNR=7.4
D22A Cohagen 86.36 338 ⇑P P 03 42 18.2 +0.9
baz=87
E20A Meyer Farm, Mu 86.44 336 ⇑P P 03 42 19.1 +1.4
baz=87,SNR=6.0
ULM Lac du Bonnet 86.46 345 P P 03 42 15.6 -2.0
comp=Z,4.1nm,1.1s,baz=175,slow=9.9,SNR=3.9
E19A Rath Farm, Rou 86.62 336 ⇓P P 03 42 18.9 +0.3
baz=87,SNR=7.5
C23A Lambert 86.63 338 ⇑P P 03 42 20.0 +1.5
baz=87
C22A Vida 86.80 338 ⇓P P 03 42 20.1 +0.8
baz=87
DGMT Dagmar 86.94 339 eP P 03 42 19.7 -0.3
comp=Z,21nm,1.0s
DGMT Dagmar 86.94 339 ⇑P P 03 42 21.1 +1.1
baz=87
DLMT Dillon 87.06 333 eP P 03 42 21.9 +1.1
comp=Z,5.5nm,1.2s
C21A Desert Coulee 87.25 337 ⇓P P 03 42 22.1 +0.5
baz=88
D19A Cripps Ranch, 87.27 336 ⇑P P 03 42 22.5 +0.8
baz=88
C20A Veseth Ranch, 87.45 337 ⇓P P 03 42 22.5 0.0
baz=88
A22A Carney Farms, 87.92 339 ⇓P P 03 42 26.1 +1.4
baz=88
B20A Solberg Farm, 88.09 337 ⇑P P 03 42 26.1 +0.5
baz=88
M04C Macdoel 88.12 325 ⇑P P 03 42 26.9 +0.9
baz=88
A21A Bergtoll Ranch 88.23 338 ⇓P P 03 42 27.1 +0.9
baz=88
M02C Callahan 88.31 324 ⇑P P 03 42 27.2 +0.4
baz=89
B19A Brinkman Farms 88.41 337 ⇓P P 03 42 27.2 +0.1
baz=89
A20A Cobblestone Ra 88.44 337 ⇓P P 03 42 28.3 +1.0
baz=89
YBH Yreka Blue Hor 88.50 325 P P 03 42 26.8 -1.0
comp=Z,1.6nm,0.9s,baz=135,slow=3.8,SNR=5.3
YBH Yreka Blue Hor 88.50 325 eP P 03 42 27.1 -0.6
YBH pmax pmax
comp=Z,4.0nm,1.4s
YBH Yreka Blue Hor 88.50 325 eP P 03 42 27.1 -0.6
comp=Z,4.0nm,1.4s
SCHQ Schefferville 88.58 3 P P 03 42 27.1 -0.6
comp=Z,1.0nm,0.5s,baz=187,slow=6.4,SNR=5.1
A19A Klindworth Far 88.75 337 ⇓P P 03 42 29.0 +0.3
baz=89
MSO Missoula 88.80 333 ⇓P P 03 42 30.1 +1.1
baz=89
J05D Fort Rock, OR 89.00 327 ⇑P P 03 42 30.5 +0.3
baz=89
L02D Cave Junction, 89.25 324 ⇑P P 03 42 30.9 -0.2
baz=90
J04D Umpqua Nationa 89.37 326 ⇓P P 03 42 32.7 +0.8
baz=90
I05D Terrebonne, OR 89.87 327 ⇓P P 03 42 35.4 +1.4
baz=90
LSZ Lusaka 89.92 108 eP P 03 42 36.0 +0.8
LSZ pmax pmax
comp=Z,4.0nm,1.1s
LSZ Lusaka 89.92 108 eP P 03 42 36.0 +0.8
comp=Z,4.3nm,1.1s
TAM Tamanrasset 92.92 65 eP P 03 42 49.1 +0.2
TAM pmax pmax
comp=Z,6.0nm,1.1s
TAM Tamanrasset 92.92 65 eP P 03 42 49.1 +0.2
comp=Z,5.6nm,1.1s
FCC Fort Churchill 94.20 349 eP P 03 42 53.8 +0.2
FCC Fort Churchill 94.20 349 eP P 03 42 53.8 +0.2
ESDC Sonseca Array 96.65 46 LR LR 04 26 00.5
comp=Z,123nm,18.6s,baz=240,slow=35
YKA Yellowknife Ar 102.01 341 P Pdif 03 43 28.3 -0.4
comp=Z,0.2nm,0.6s,baz=144,slow=4.6,SNR=5.9
GERES GERESS Array B 112.23 45 PKiKP PKiKP 03 48 10.1 -0.6
comp=Z,0.8nm,0.9s,baz=169,slow=2.0,SNR=6.4
KHC Kasperske Hory 112.28 45 AMS AMS 04 39 40.0
comp=Z,200nm,14.3s
PRU Pruhonice 113.22 45 AMS AMS 04 36 20.0
comp=Z,200nm,14.9s
GOPC GO Pecny, Ondr 113.33 45 AMS AMS 04 36 30.0
comp=Z,200nm,17.1s
TREC Trest 113.48 45 AMS AMS 04 45 00.0
comp=Z,200nm,16.2s
MORC Moravsky Berou 114.90 46 ePKIKP PKPdf 03 48 15.4 -0.3
MORC Moravsky Berou 114.90 46 ePKPdf PKPdf 03 48 15.4 -0.3
VYHS Vyhne 115.17 47 i PKIKP PKPdf 03 48 16.7 +0.5
VYHS Vyhne 115.17 47 ePKP PKPdf 03 48 16.7 +0.5
OKC Ostrava-Krasne 115.28 46 AMS AMS 04 42 30.0
ASAR Alice Springs 117.53 207 PKP PKPdf 03 48 20.4 -1.4
comp=Z,0.7nm,0.9s,baz=183,slow=4.6,SNR=3.9
ASAR PKKPbc PKKPbc 03 58 43.9 +0.5
comp=Z,0.3nm,0.5s,baz=342,slow=3.4,SNR=4.1
BUR08 Bucovina Ar. S 118.82 50 ePKPdf PKPdf 03 48 23.8 +0.4
SUW Suwalki 119.67 43 ePKIKP PKPdf 03 48 23.2 -1.4
SUW Suwalki 119.67 43 ePKPdf PKPdf 03 48 23.2 -1.4
BR131 Keskin Array S 121.93 61 ePKPdf PKPdf 03 48 28.9 -0.8
BRTR Keskin Array B 121.93 61 PKP PKPdf 03 48 28.9 -0.8
comp=Z,1.7nm,0.9s,baz=207,slow=3.9,SNR=9.2
KIEV Kiev 122.26 48 ePKIKP PKPdf 03 48 28.4 -1.3
KIEV Kiev 122.26 48 ePKPdf PKPdf 03 48 28.4 -1.3
AK01 Malin Array Si 122.26 48 ePKPdf PKPdf 03 48 29.5 -0.2
AKASG Malin Array Be 122.27 47 PKP PKPdf 03 48 28.4 -1.4
comp=Z,3.0nm,0.8s,baz=263,slow=3.0,SNR=11
AKBB Malin Array Si 122.27 47 ePKIKP PKPdf 03 48 28.0 -1.8
AKBB Malin Array Si 122.27 47 ePKPdf PKPdf 03 48 28.0 -1.8
FINES FINESS Array B 123.05 35 PKP PKPdf 03 48 30.4 -0.6
comp=Z,2.9nm,0.9s,baz=184,slow=5.4,SNR=6.6
ARCES ARCESS Array B 124.05 25 PKP PKPdf 03 48 32.3 -0.4
comp=Z,1.4nm,0.6s,baz=250,slow=2.5,SNR=10
H11S2 WAKE ISLAND Hyl 125.66 269 T T 06 07 33.3
baz=118,slow=74,SNR=14
H11S1 WAKE ISLAND Hyl 125.67 269 T T 06 07 46.2
baz=118,slow=74,SNR=8.4
H11S3 WAKE ISLAND Hyl 125.68 269 T T 06 07 34.6
baz=118,slow=74,SNR=7.1
H11N3 WAKE ISLAND Hyl 126.07 271 T T 06 07 42.7
baz=122
H11N1 WAKE ISLAND Hyl 126.09 271 T T 06 07 42.9
baz=122
H11N2 WAKE ISLAND Hyl 126.09 271 T T 06 07 44.0
baz=122
VSR Storozhevoye 128.52 48 ePKIKP PKPdf 03 48 41.6 -0.1
VSR pmax pmax
comp=N,20nm,0.9s
VSR pmax pmax
comp=E,4.0nm,0.9s
VSR pmax pmax
comp=Z,9.0nm,0.9s
VORD Divnogorie 128.56 49 ePKIKP PKPdf 03 48 41.1 -0.7
VORD pmax pmax
comp=N,20nm,0.7s
VORD pmax pmax
comp=E,8.0nm,0.7s
VORD pmax pmax
comp=Z,6.0nm,0.7s
LPSR Galich'ya Gora 128.57 47 ePKIKP PKPdf 03 48 41.2 -0.6
LPSR pmax pmax
comp=N,5.0nm,0.8s
LPSR pmax pmax
comp=Z,7.0nm,0.8s
LPSR pmax pmax
comp=E,5.0nm,0.6s
KLMR Klimovskoe 129.46 36 ePKIKP PKPdf 03 48 43.7 +0.5
KLMR pmax pmax
comp=Z,25nm,1.0s
KIV Kislovodsk 129.58 58 ePKIKP PKPdf 03 48 44.5 +0.4
KIV Kislovodsk 129.58 58 ePKPdf PKPdf 03 48 44.5 +0.4
KBZ Khabaz 129.68 59 PKP PKPdf 03 48 44.6 +0.5
comp=Z,2.2nm,0.9s,baz=56,slow=24,SNR=4.2
PRGR Permogore 132.37 35 ePKIKP PKPdf 03 48 49.5 +0.8
PRGR pmax pmax
comp=Z,2.0nm,0.5s
KAPI Kappang 139.60 199 ePKPdf PKPdf 03 49 04.1 +0.4
ARU Arti 139.81 41 i PKIKP PKPdf 03 49 02.7 0.0
ARU Arti 139.81 41 ePKPdf PKPdf 03 49 03.2 +0.6
TIXI Tiksi 140.66 350 ePKIKP PKPdf 03 49 03.6 -0.2
TIXI Tiksi 140.66 350 ePKPdf PKPdf 03 49 03.6 -0.2
ABKAR Akbulak array 141.76 52 ePKPpre PKPpre 03 49 00.5
ABKAR ePKPdf PKPdf 03 49 06.2 -0.3
PALK Pallekele 143.47 131 ePKIKP PKPdf 03 49 10.9 +0.2
PALK Pallekele 143.47 131 ePKPdf PKPdf 03 49 10.8 +0.2
BRVK Borovoye 147.28 43 ePKP2 PKPbc 03 49 18.5 +0.2
BRVK Borovoye 147.28 43 ePKPbc PKPbc 03 49 18.5 +0.2
SKHT Srikalahasti 147.51 122 ePKPbc PKPbc 03 49 20.1 +0.1
KSM Kuching 147.57 185 ePKPdf PKPdf 03 49 18.3 +0.7
YAK Yakutsk 148.68 340 PKPbc PKPbc 03 49 21.3 -0.4
comp=Z,8.4nm,0.4s,baz=311,slow=0.7,SNR=4.3
YAK Yakutsk 148.68 340 ePKP2 PKPbc 03 49 20.7 -1.0
YAK pmax pmax
comp=Z,20nm,1.0s
HYB Hyderabad 149.04 115 i PKP PKPbc 03 49 23.0 -1.0
HYBB Hyderabad (bro 149.04 115 ePKPbc PKPbc 03 49 23.4 -0.6

NJS	**Nagarjunasagar**	**149.06**	**117**	*e*PKPbc	**PKPbc**	**03 49 23.3**	**-0.7**
KKAR	**Karatay Array**	**149.64**	**61**	*e*PKP2	**PKPbc**	**03 49 25.0**	**+0.2**
KKAR	**Karatay Array**	**149.64**	**61**	*e*PKPbc	**PKPbc**	**03 49 25.0**	**+0.2**
IPM	**Ipoh**	**149.96**	**166**	*e*PKPbc	**PKPbc**	**03 49 25.6**	**-0.9**
RPR	**Rampur**	**150.46**	**113**	*e*PKPbc	**PKPbc**	**03 49 25.4**	**-2.0**
KKM	**Kota Kinabalu**	**151.12**	**197**	*e*PKPbc	**PKPbc**	**03 49 28.1**	**-1.1**
AML	**Almayashu**	**152.07**	**63**	P	**PKPbc**	**03 49 31.1**	**0.0**
	SNR=5.7						
EKS2	**Erkin-Say**	**152.07**	**62**	P	**PKPbc**	**03 49 31.6**	**+0.9**
	SNR=5.8						
EKS2	**Erkin-Say**	**152.07**	**62**	*e*PKIKP	**PKPdf**	**03 49 24.9**	**+0.8**
EKS2				*e*		03 49 30.4	
EKS2				*e*		03 49 39.1	
EKS2	**Erkin-Say**	**152.07**	**62**	*e*PKPdf	**PKPdf**	**03 49 24.9**	**+0.8**
EKS2				*e*PKPbc	**PKPbc**	**03 49 30.4**	**-0.3**
EKS2				*e*PKPab	**PKPab**	**03 49 39.1**	**-1.1**
USP	**Ospenovka**	**152.52**	**60**	P	**PKPbc**	**03 49 32.2**	**+0.6**
	SNR=5.6						
AAK	**Ala-Archa**	**152.60**	**62**	P	**PKPbc**	**03 49 32.7**	**+0.8**
	SNR=7.5						
AAK	**Ala-Archa**	**152.60**	**62**	*e*PKIKP	**PKPdf**	**03 49 24.9**	**0.0**
AAK				*e*		03 49 32.4	
AAK	**Ala-Archa**	**152.60**	**62**	*e*PKPdf	**PKPdf**	**03 49 24.9**	**0.0**
AAK				*e*PKPbc	**PKiKP**	**03 49 32.4**	**+0.3**
UCH	**Uchtor**	**152.66**	**63**	P	**PKPbc**	**03 49 33.5**	**+1.1**
	SNR=6.1						
KURK	**Kurchatov**	**152.95**	**43**	*e*PKIKP	**PKPdf**	**03 49 25.0**	**+0.2**
KURK				*e*		03 49 32.0	
KURK	**Kurchatov**	**152.95**	**43**	*e*PKPdf	**PKPdf**	**03 49 25.0**	**+0.2**
KURK				*e*PKPbc	**PKPbc**	**03 49 32.0**	**-0.1**
NVS	**Novosibirsk**	**152.99**	**32**	*e*PKIKP	**PKPdf**	**03 49 23.8**	**-1.0**
NVS				pmax	pmax		
	comp=Z,40nm,1.1s						
NVS				pmax	pmax		
	comp=E,12nm,1.2s						
TKM2	**Tokmak 2**	**153.36**	**61**	*e*PKIKP	**PKPdf**	**03 49 25.5**	**-0.6**
TKM2				*e*		03 49 33.5	
TKM2				*e*		03 49 45.3	
TKM2	**Tokmak 2**	**153.36**	**61**	*e*PKPdf	**PKPdf**	**03 49 25.4**	**-0.6**
TKM2				*e*PKPbc	**PKPbc**	**03 49 33.5**	**-0.2**
TKM2				*e*PKPab	**PKPab**	**03 49 45.2**	**-0.6**
KSH	**Kashi**	**153.97**	**68**	PKPbc	**PKPbc**	**03 49 34.1**	**-0.8**
KSH				PKS	**PKSdf**	**03 53 06.2**	**+5.0**
KSH				PPMZ			
	comp=E,78nm,5.7s						
KSH				LN			
	comp=E,64nm,5.4s						
KSH				LE			
	comp=E,110nm,6.1s						
KSH				LZ			
	comp=E,130nm,6.4s						
ZAA0	**Zalesovo Array**	**154.28**	**32**	*e*PKPdf	**PKPdf**	**03 49 26.1**	**-0.5**
ZAA0				*e*PKPbc	**PKPbc**	**03 49 34.5**	**-0.4**
ZAA0				*e*PKPab	**PKPab**	**03 49 49.3**	**+0.3**
ZALV	**Zalesovo Beam**	**154.28**	**32**	PKP	**PKPdf**	**03 49 26.2**	**-0.4**
	comp=E,2.9nm,0.9s,baz=279,slow=2.9,SNR=12						
ZALV				PKPbc	**PKPbc**	**03 49 34.7**	**-0.2**
	comp=E,9.3nm,0.6s,baz=296,slow=3.5,SNR=31						
ZALV				PKPab	**PKPab**	**03 49 49.1**	**+0.2**
	comp=E,6.4nm,0.7s,baz=296,slow=5.0,SNR=6.5						
BOD	**Bodaibo**	**155.80**	**352**	*e*PKIKP	**PKPdf**	**03 49 28.6**	**0.0**
BOD				*e*		03 49 54.4	
BOD				pmax	pmax		
	comp=Z,10.0nm,1.3s						
MK31	**Makanchi Array**	**156.84**	**49**	*e*PKIKP	**PKPdf**	**03 49 30.4**	**0.0**
MK31				*e*		03 49 41.1	
MK31	**Makanchi Array**	**156.84**	**49**	*e*PKPdf	**PKPdf**	**03 49 30.4**	**0.0**
MK31				*e*PKPbc	PKPbc	03 49 41.1	
MK31				*e*PKPab	**PKPab**	**03 49 59.8**	**-0.5**
MKAR	**Makanchi Array**	**156.84**	**49**	PKP	**PKPdf**	**03 49 29.5**	**-0.9**
	comp=Z,1.5nm,1.0s,baz=280,slow=8.0,SNR=11						
MKAR				PKPab	**PKPab**	**03 49 60.0**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=286,slow=8.7,SNR=7.7						
MKAR				PP	**PP**	**03 53 37.7**	**-1.2**
	comp=Z,0.3nm,0.8s,baz=294,slow=6.0,SNR=3.8						
WMQ	**Urumqi**	**161.55**	**52**	*e*PKP	**PKPdf**	**03 49 34.8**	**-1.2**
WMQ				PKS	**PKSdf**	**03 53 06.0**	**-3.2**
WMQ				PP	**PP**	**03 54 06.0**	**+1.3**
WMQ				SKKS		04 00 48.9	
WMQ				PPMZ			
	comp=Z,17nm,10.4s						
WMQ				LN			
	comp=Z,88nm,20.6s						
WMQ				LE			
	comp=Z,130nm,23.6s						
WMQ				LZ			
	comp=Z,110nm,21.6s						
CMAR	**Chiang Mai Arr**	**162.61**	**151**	PKP	**PKPdf**	**03 49 38.0**	**+0.3**
	comp=Z,1.8nm,0.3s,baz=248,slow=2.9,SNR=7.0						
CN2	**Changchun**	**163.17**	**311**	*e*PKP	**PKPdf**	**03 49 37.7**	**+0.1**
ZAK	**Zakamensk**	**163.28**	**10**	*e*PKIKP	PKPdf	03 49 43.4	+5.8
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s						
ULN	**Ulaanbaatar**	**166.13**	**2**	*e*PKIKP	**PKPdf**	**03 49 39.5**	**-0.8**
ULN	**Ulaanbaatar**	**166.13**	**2**	*e*PKPdf	**PKPdf**	**03 49 39.5**	**-0.8**
ULN				*e*PKPab	**PKPab**	**03 50 41.5**	**+0.7**
KMI	**Kunming**	**170.12**	**152**	PKP	**PKPdf**	**03 49 44.4**	**+0.7**
NJ2	**Nanjing**	**170.54**	**261**	*e*PKP	**PKPdf**	**03 49 45.1**	**+1.6**
GTA	**Gaotai**	**171.60**	**48**	*e*PKP	**PKPdf**	**03 49 44.6**	**+0.6**
GTA				pPKP	**pPKPdf**	**03 49 54.9**	**+1.7**
GTA				sPKP		03 49 59.4	
GTA				PKPab	**PKPab**	**03 51 06.1**	**+0.7**
GTA				PP	**PP**	**03 54 59.1**	**+2.7**
GTA				SKS	**SKSdf**	**03 56 42.7**	**-2.8**
GTA				SKKS	**SKKSac**	**04 01 40.6**	**-0.7**
GTA				PPMZ			
	comp=Z,57nm,5.7s						
GTA				LN			
	comp=Z,120nm,23.3s						
GTA				LE			
	comp=Z,140nm,22.8s						
GTA				LZ			
	comp=Z,140nm,20.0s						
GYA	**Guiyang**	**172.43**	**172**	*e*PKP	**PKPdf**	**03 49 44.4**	**-0.3**
GYA				PKPab	**PKPab**	**03 51 11.0**	**+1.8**
GYA				PKS	**PKSdf**	**03 53 15.5**	**-1.7**
GYA				PP	**PP**	**03 55 02.8**	**+3.3**
GYA				PPMZ			
	comp=Z,90nm,8.2s						
HHC	**Hu-ho-hao-te**	**172.54**	**338**	*e*PKP	**PKPdf**	**03 49 43.2**	**-1.1**
HHC				pPKP	**pPKPdf**	**03 49 54.2**	**+0.6**
HHC				sPKP		03 49 58.1	
HHC				PP	**PP**	**03 55 02.9**	**+2.7**
HHC				SKS	**SKSdf**	**03 56 41.0**	**-4.7**
HHC				SS	**SS**	**04 16 14.1**	**+4.5**
HHC				PPMZ			
	comp=Z,30nm,6.2s						
HHC				LN			
	comp=Z,150nm,20.6s						
HHC				LE			
	comp=Z,150nm,20.6s						
HHC				LZ			
	comp=Z,130nm,20.6s						
CD2	**Chengdu**	**175.39**	**131**	*e*PKP	**PKPdf**	**03 49 45.3**	**-0.3**
LZH	**Lanzhou**	**176.12**	**56**	*e*PKP	**PKPdf**	**03 49 46.1**	**+0.4**
LZH				pPKP	**pPKPdf**	**03 49 54.8**	**-0.2**
LZH				sPKP		03 49 58.4	

*IDC **09** 03:33:42.2±2.3, 32°.63N×115°.83W, h0km, mb2.8/1, mb1 3.5/6, mb1mx3.3/43, mbtmp3.1/6, ML3.4/5, MS2.7/1, Ms1 2.7/1, ms1mx2.5/13, Error ellipse: s-maj=35.8km s-min=15.0km az=37.0*

*ISCJB **09** 03:33:42.7±0.3, 32°.69N±0°.01×115°.78W±0°.01, h11km±2km, mb2.8/1, Error ellipse: s-maj=2.4km s-min=2.1km az=13.4*

*IASPEI **09** 03:33:43.0±0.8, 32°.68N±0°.02×115°.81W±0°.02, h15km±5km, Error ellipse: s-maj=3.2km s-min=2.6km az=162.3*

*NEIC **09** 03:33:44.1, 32°.67N×115°.83W, h3km, ML4.1(PAS), ML4.2(ECX), After PAS.*

NEIC Felt [III] at El Centro. Also felt at Chula Vista, El Cajon, Imperial, Imperial Beach, Pine Valley, San Diego and Santee.

*ECX **09** 03:33:44.4±0.6, 32°.67N×115°.83W, h2km, MD3.9, ML4.1*

*MEX **09** 03:33:45.2±0.5, 32°.78N×115°.80W, h16km±12km, MD3.9*

ISC 09 03:33:43.8±0.8, 32°.65N±0°.02×115°.82W±0°.01, h12km±5km, n95, σ1°54/151, 12C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SGL	**Mount Signal**	**0.08**	**88**	⇑*i*P		**Pg**	**03 33 45.8**	**-0.6**
YUH	**Yuha Desert**	**0.09**	**271**	⇑*i*P		**Pg**	**03 33 46.1**	**-0.4**
WESC	**Westside Schoo**	**0.13**	**33**	⇑*i*P		**Pg**	**03 33 46.6**	**-0.5**
WESC					*e*S	**Sg**	**03 33 49.2**	**-0.2**
COK	**Cook Ranch**	**0.22**	**21**	⇑*i*P		**Pg**	**03 33 48.2**	**-0.2**
RMX	**La Rumorosa**	**0.23**	**259**	*i* P		**Pg**	**03 33 48.6**	**0.0**
RMX					*e*S	**Sg**	**03 33 51.9**	**-0.1**
RMX	**La Rumorosa**	**0.23**	**259**	⇑*i*P		**Pg**	**03 33 48.6**	**0.0**
RMX					*e*S	**Sg**	**03 33 51.9**	**-0.1**
IBP	**Imperial Bould**	**0.23**	**274**	P		**Pg**	**03 33 48.7**	**0.0**
	baz=0.2							
CRR	**Carrizo Plain**	**0.27**	**332**	⇓*i*P		**Pg**	**03 33 48.9**	**-0.5**
SWSC	**Sam W. Stewart**	**0.29**	**4**	P		**Pg**	**03 33 49.0**	**-0.8**
	baz=0.3							
DREC	**Desert Rsrch C**	**0.35**	**63**	⇑*i*P		**Pg**	**03 33 51.3**	**+0.4**
CPBX	**Cerro Prieto**	**0.49**	**118**	*e*P9		**Pg**	**03 33 53.8**	**+0.4**
CPBX					*e*S	**Sb**	**03 34 01.2**	**-0.2**
CPBX					AML	AML	03 34 03.0	
	comp=N,57μm,0.4s							
CPBX				*e*			03 34 03.0	
CPBX					AML	AML	03 34 04.0	
	comp=N,42μm,0.3s							
CPBX				⇑*e*			03 34 04.0	
MONP	**Monument Peak,**	**0.56**	**296**	P		**Pg**	**03 33 54.5**	**-0.3**
	baz=0.6							
MONP					S	**Sg**	**03 34 01.8**	**-0.5**
	baz=0.6							
MBIG	**Mexicali**	**0.57**	**114**	*e*P		**Pb**	**03 33 55.4**	**-0.3**
MBIG					*e*S	**Sg**	**03 34 02.5**	**-0.1**
COA	**Coachella**	**0.62**	**70**	⇑*i*P		**Pg**	**03 33 55.7**	**-0.2**
EMSC	**East Mesa**	**0.71**	**82**	⇑*e*P		**Pg**	**03 33 57.3**	**-0.2**
BAR	**Barrett**	**0.72**	**273**	*e*Pg		**Pg**	**03 33 57.1**	**-0.7**
BAR					*e*Sg	**Sg**	**03 34 06.6**	**-0.7**
RDX	**Rancho Dawling**	**0.72**	**188**	*e*P		**Pg**	**03 33 57.5**	**-0.3**
RDX					*e*S	**Sg**	**03 34 07.5**	**+0.1**
RDX	**Rancho Dawling**	**0.72**	**188**	⇓*e*P		**Pg**	**03 33 57.5**	**-0.3**
RDX					*e*S	**Sg**	**03 34 07.5**	**+0.1**
RDX				⇑*e*			03 34 12.0	
RDX					AML	AML	03 34 12.0	
	comp=N,3μm,0.5s							
CBX	**Cerro Bola**	**0.79**	**245**	*e*P		**Pg**	**03 33 59.0**	**0.0**
CBX				*i* S		**Sg**	**03 34 09.6**	**+0.2**
CBX	**Cerro Bola**	**0.79**	**245**	*i* P		**Pg**	**03 33 59.0**	**0.0**
CBX					*e*S	**Sg**	**03 34 09.6**	**+0.2**
CBX	**Cerro Bola**	**0.79**	**245**	⇑*i*P		**Pg**	**03 33 59.0**	**0.0**
CBX					*e*S	**Sg**	**03 34 09.6**	**+0.2**
CBX				⇓*e*			03 34 10.8	
	comp=N,9μm,0.3s							
GLA	**Glamis**	**0.93**	**64**	*e*Pg		**Pg**	**03 34 00.0**	**-1.6**
GLA					*e*Sg	**Sg**	**03 34 12.2**	**-1.6**
GLA					*e*Sn	**Sn**	**03 34 15.8**	**-0.1**
GLA	**Glamis**	**0.93**	**64**	P		**Pg**	**03 34 00.1**	**-1.6**
	baz=0.9							
GLA					S	**Sg**	**03 34 12.1**	**-1.6**
	baz=0.9							
BC3	**Big Chuckawall**	**1.05**	**17**	P		**Pb**	**03 34 02.0**	**-1.9**
	baz=1.1							
PFO	**Pinyon Flats O**	**1.10**	**331**	*e*Pg		**Pb**	**03 34 02.8**	**-2.0**
PFO					*e*Sg	**Sb**	**03 34 17.0**	**-2.2**
PFO	**Pinyon Flats O**	**1.10**	**331**	P		**Pb**	**03 34 02.8**	**-2.0**
	baz=1.1							
PFO					S	**Sb**	**03 34 17.0**	**-2.2**
	baz=1.1							
109C	**Camp Elliot, M**	**1.11**	**283**	P		**Pb**	**03 34 03.9**	**-1.0**
	baz=1.1							
109C					S	**Sb**	**03 34 18.0**	**-1.3**
	baz=1.1							
PBX	**Punta Banda**	**1.19**	**221**	*e*P		**Pb**	**03 34 05.6**	**-0.6**
PBX					*e*S	**Sb**	**03 34 21.6**	**+0.1**
ECNX	**Esteban Cantu**	**1.19**	**214**	*e*P		**Pb**	**03 34 05.5**	**-0.8**
ECNX					*e*S	**Sb**	**03 34 21.9**	**+0.2**
ZAX	**El Zacaton**	**1.19**	**199**	*e*P		**Pb**	**03 34 06.1**	**-0.3**
ZAX					*e*S	**Sb**	**03 34 22.3**	**+0.5**
ECBX	**El Chinero**	**1.34**	**151**	*e*P9		**Pn**	**03 34 05.7**	**-2.5**
ECBX					*e*S	**Sb**	**03 34 24.2**	**-1.7**
ECBX				⇑*e*			03 34 27.4	
ECBX					AML	AML	03 34 27.4	
	comp=N,3μm,0.3s							
BELC	**Belle Mtn. Jos**	**1.36**	**354**	P		**Pn**	**03 34 06.6**	**-2.1**
	baz=1.4							
MURC	**Murrieta**	**1.50**	**310**	P		**Pn**	**03 34 09.0**	**-1.5**
	baz=1.5							
MURC					Sb	**Sn**	**03 34 30.3**	**+0.3**
	baz=1.5							
Y12C	**Blythe**	**1.55**	**44**	P		**Pn**	**03 34 09.3**	**-1.9**
	baz=1.5							
IRM	**Iron Mountain**	**1.61**	**20**	P		**Pn**	**03 34 10.6**	**-1.5**
	baz=1.6							
SPIG	**San Pedro Mart**	**1.62**	**169**	*e*P		**Pn**	**03 34 12.1**	**-0.4**
SPIG					*e*S	**Sn**	**03 34 33.6**	**+0.1**
SPIG	**San Pedro Mart**	**1.62**	**169**	*e*P		**Pn**	**03 34 12.1**	**-0.4**
SPIG					*e*S	**Sn**	**03 34 33.6**	**+0.1**
SPX	**San Pedro Mart**	**1.62**	**169**	*i* P		**Pn**	**03 34 12.0**	**-0.6**
SPX					*e*S	**Sn**	**03 34 32.7**	**-0.9**
SPX	**San Pedro Mart**	**1.62**	**169**	*e*P2		**Pn**	**03 34 13.1**	**+0.6**
SPX					*e*S	**Sg**	**03 34 35.9**	**-0.2**
113A	**Mohawk Valley,**	**1.73**	**85**	P		**Pn**	**03 34 12.0**	**-1.7**
	baz=1.7							
113A					S	**Sn**	**03 34 32.9**	**-2.9**
	baz=1.7							
BBRC	**Big Bear Solar**	**1.86**	**331**	Sg		**Sb**	**03 34 41.9**	**+0.8**
	baz=1.9							
BFSC	**Mount Baldy Ra**	**2.21**	**316**	Pb		**Pb**	**03 34 23.2**	**-0.5**
	baz=2.2							
BFSC					Sb	**Sb**	**03 34 50.8**	**-0.4**
	baz=2.2							
CIS	**Catalina Islan**	**2.30**	**290**	Pb		**Pb**	**03 34 24.5**	**-0.7**
	baz=2.3							
CIS					Sb	**Sb**	**03 34 54.0**	**+0.4**
	baz=2.3							
FMP	**Fort Macarthur**	**2.33**	**298**	Pb		**Pb**	**03 34 24.9**	**-0.8**
	baz=2.3							
MWC	**Mount Wilson**	**2.45**	**311**	*e*Pn		**Pn**	**03 34 24.6**	**+0.9**
MWC					*e*Pb	**Pb**	**03 34 27.4**	**-0.4**
MWC					*e*Pg	**Pg**	**03 34 29.0**	**-1.7**
MWC					*e*Sn	**Sn**	**03 34 54.6**	**+1.0**
MWC					*e*Sg	**Sb**	**03 34 59.4**	**+1.4**
LDFC	**Landfair**	**2.50**	**13**	*e*Pn		**Pn**	**03 34 25.6**	**+1.3**
LDFC					*e*Pg	**Pg**	**03 34 31.8**	**+0.2**
LDFC					*e*Sg	**Sb**	**03 35 00.8**	**+1.5**
PASC	**Pasadena Art C**	**2.50**	**308**	*e*Pn		**Pb**	**03 34 27.4**	**-1.1**
PASC					*e*Sg	**Sb**	**03 34 59.5**	**+0.2**
Z14A	**Wintersburg**	**2.52**	**73**	P		**Pn**	**03 34 22.9**	**-1.5**
	baz=2.5							
214A	**Organ Pipe Nat**	**2.64**	**104**	*e*Pn		**Pn**	**03 34 24.0**	**-2.2**
214A					*e*Pg	**Pb**	**03 34 32.1**	**+1.2**
214A	**Organ Pipe Nat**	**2.64**	**104**	P		**Pn**	**03 34 24.2**	**-2.0**
	baz=2.6							
DECC	**Green Verdugo**	**2.64**	**308**	Pb		**Pb**	**03 34 30.1**	**-0.9**
	baz=2.6							
GSC	**Goldstone, Bar**	**2.77**	**343**	*e*Pn		**Pn**	**03 34 26.9**	**-1.2**
GSC					*e*Pg	**Pb**	**03 34 34.1**	**+0.8**
GSC					*e*Sg	**Sb**	**03 35 09.3**	**+2.0**
EDW2	**Edwards Air Fo**	**2.87**	**322**	Sb		**Sb**	**03 35 10.8**	**+0.7**
	baz=2.9							
W13A	**Hualapai Mount**	**2.93**	**33**	P		**Pn**	**03 34 29.3**	**-1.1**
	baz=2.9							
OSI	**Osito Audit: C**	**3.12**	**310**	*e*Pn		**Pn**	**03 34 32.8**	**0.0**
OSI					*e*Pg	**Pb**	**03 34 39.7**	**+0.5**
OSI					*e*Sg	**Sb**	**03 35 20.6**	**+3.4**
DAC	**Darwin (Calif)**	**3.91**	**338**	*e*Pn		**Pn**	**03 34 43.0**	**-0.7**
DAC					*e*Pg	**Pb**	**03 34 55.3**	**+2.6**
DAC					*e*Sn	**Sn**	**03 35 31.1**	**+1.4**
DAC					*e*Sg	**Sb**	**03 35 45.4**	**+5.3**
X16A	**Lo Mia Camp, P**	**4.06**	**63**	P		**Pn**	**03 34 45.7**	**-0.2**
	baz=4.1							
TUC	**Tucson**	**4.27**	**93**	*e*Pn		**Pn**	**03 34 47.2**	**-1.4**
TPNV	**Topopah Spring**	**4.31**	**355**	*e*Pn		**Pn**	**03 34 50.7**	**+1.5**
WUAZ	**Wupatki**	**4.67**	**51**	*e*Pn		**Pn**	**03 34 54.9**	**+0.7**
WUAZ					*e*Pg	Pb	03 35 09.6	+4.0
WUAZ					*e*Sg	**Sb**	**03 36 07.1**	**+5.2**
WUAZ	**Wupatki**	**4.67**	**51**	P		**Pn**	**03 34 54.7**	**+0.4**
	baz=4.7							
PTRM	**Twissleman Ran**	**4.72**	**311**	*e*Pn		Pn	03 34 48.9	-5.9
PTRM					*e*Pg	**Pg**	**03 35 15.4**	**+1.2**
X18A	**Snowflake**	**5.25**	**67**	P		**Pn**	**03 35 02.2**	**0.0**
	baz=5.2							
TPH	**Tonopah**	**5.54**	**348**	*e*Pn		**Pn**	**03 35 04.2**	**-1.9**
TPH					*e*Pg	Pb	03 35 25.1	+4.6
TPH					*e*Sn	**Sb**	**03 36 32.1**	**+5.2**
W18A	**Petrified Fore**	**5.63**	**62**	*e*Pn		**Pn**	**03 35 08.6**	**+1.2**
W18A					*e*Pg	**Pb**	**03 35 24.4**	**+2.4**
W18A					*e*Sg	Sb	03 36 36.3	+6.8
W18A	**Petrified Fore**	**5.63**	**62**	P		**Pn**	**03 35 08.1**	**+0.7**
	baz=5.6							
NVAR	**Mina Array Bea**	**6.12**	**341**	Pn		**Pn**	**03 35 14.0**	**-0.2**
	comp=N,0.2nm,0.3s,baz=161,slow=14,SNR=2.9							
NVAR				Pg		Pb	03 35 36.0	+5.6
	comp=N,0.5nm,0.3s,baz=161,slow=18,SNR=7.1							
MVU	**Marysvale**	**6.54**	**26**	*e*Pn		**Pn**	**03 35 20.8**	**+0.8**
MVU					*e*Pg	Pb	03 35 43.5	+5.9
CMB	**Columbia Colle**	**6.54**	**327**	*e*Pn		**Pn**	**03 35 20.8**	**+0.9**
CMB					*e*Pg	**Pb**	**03 35 35.7**	**-1.9**
CMB					*e*Sn	**Sn**	**03 36 34.6**	**+0.1**
CMB					*e*Sg	Sb	03 37 02.0	+6.3
WAKR	**Walker**	**6.55**	**334**	*e*Pn		**Pn**	**03 35 19.9**	**-0.1**
WAKR					*e*Pg	**Pg**	**03 35 46.3**	**-2.8**
WAKR					*e*Sg	**Sg**	**03 37 10.1**	**-3.8**
MSU	**Marysvale**	**6.56**	**26**	*e*Pn		**Pn**	**03 35 20.5**	**+0.2**
	comp=N,9.9nm,0.6s							
MSU					*e*Pg	**Pb**	**03 35 41.1**	**+3.1**
MSU					*e*Sg	**Sg**	**03 37 09.8**	**-4.5**
121A	**Cookes Peak, D**	**6.78**	**89**	*e*Pn		**Pn**	**03 35 22.9**	**-0.3**
	comp=N,25nm,0.4s							
121A					*e*Sg	**Sg**	**03 37 21.1**	**-0.3**
121A	**Cookes Peak, D**	**6.78**	**89**	P		**Pn**	**03 35 22.9**	**-0.3**
	baz=6.8							
LAZ	**Ladron**	**7.46**	**74**	*e*Pn		**Pn**	**03 35 33.2**	**+0.7**
	comp=N,2.5nm,0.9s							
MVCO	**Mesa Verde**	**7.54**	**51**	*e*Pn		**Pn**	**03 35 35.6**	**+1.9**
MVCO					*e*Sg	Sg	03 37 38.1	-7.6
MVCO	**Mesa Verde**	**7.54**	**51**	P		**Pn**	**03 35 36.1**	**+2.4**
	baz=7.5							
LENM	**Lemitar**	**7.55**	**76**	*e*Pn		**Pn**	**03 35 34.4**	**+0.6**
SRU	**San Rafael Swe**	**7.75**	**32**	*e*Pn		**Pn**	**03 35 38.5**	**+2.0**
SRU					*e*Sn	**Sn**	**03 37 04.9**	**+0.6**
SRU					*e*Sg	**Sg**	**03 37 48.1**	**-4.3**
DUG	**Dugway, Tooele**	**7.91**	**17**	*e*Pn		**Pn**	**03 35 39.1**	**+0.4**
DUG					*e*Sg	**Sg**	**03 37 55.5**	**-2.1**
PV01	**Paradox Valley**	**8.06**	**45**	*e*Pn		**Pn**	**03 35 42.2**	**+1.3**
	comp=N,570nm,0.5s							
PV01					*e*Pg	Pg	03 36 11.8	-6.2
PV01					*e*Sg	**Sg**	**03 38 00.8**	**-1.6**
ELK	**Elko**	**8.10**	**3**	Pg		**Pg**	**03 36 19.6**	**+0.9**
	comp=N,0.3nm,0.3s,baz=180,slow=15,SNR=8.3							
ELK				Lg		Lg	03 37 58.5	
	comp=N,0.1nm,0.3s,baz=180,slow=11,SNR=1.9							
ELK	**Elko**	**8.10**	**3**	*e*Pg		**Pg**	**03 36 16.1**	**-2.6**
ELK					*e*Sg	Sg	03 37 57.0	-6.5
ELK				Lg		Lg	03 37 58.5	
ANMO	**Albuquerque**	**8.12**	**71**	Pn		**Pn**	**03 35 42.5**	**+0.8**
	comp=N,0.2nm,0.3s,baz=264,slow=11,SNR=4.9							
ANMO				Lg		Lg	03 38 02.1	
	comp=N,0.1nm,0.3s,baz=192,slow=20,SNR=3.1							
ANMO	**Albuquerque**	**8.12**	**71**	*e*Pn		**Pn**	**03 35 42.0**	**+0.3**
ANMO					*e*Sg	Sg	03 37 57.7	-6.7
ANMO				Lg		Lg	03 38 02.1	
MNTX	**Cornudas Mount**	**8.90**	**93**	*e*Pn		**Pn**	**03 35 52.5**	**+0.3**
MNTX					*e*Sn	**Sn**	**03 37 32.5**	**+0.1**
MNTX	**Cornudas Mount**	**8.90**	**93**	P		**Pn**	**03 35 52.4**	**+0.2**
	baz=8.9							
S22A	**4UR Ranch, Cre**	**8.94**	**53**	*e*Pn		**Pn**	**03 35 55.3**	**+2.3**
SMCO	**Snowmass**	**9.69**	**45**	*e*Pn		Pn	03 36 06.8	+3.5
LPIG	**La Paz**	**9.80**	**149**	LR		LR	03 39 23.8	
	comp=N,47nm,20.1s,baz=280,slow=35							
Q24A	**Divide**	**10.71**	**51**	*e*Pn		Pn	03 36 30.8	+13
TXAR	**Lajitas Array**	**10.94**	**104**	Pn		**Pn**	**03 36 21.5**	**+1.3**
	comp=N,0.2nm,0.3s,baz=288,slow=13,SNR=6.5							
TXAR				Lg		Lg	03 39 34.9	
	comp=N,0.1nm,0.3s,baz=268,slow=31,SNR=4.3							
MSTX	**Muleshoe**	**11.00**	**80**	*e*Pn		**Pn**	**03 36 21.1**	**+0.1**
PDAR	**Pinedale Array**	**11.25**	**24**	Pn		Pn	03 36 28.2	+3.7
	comp=N,0.1nm,0.3s,baz=215,slow=7.6,SNR=3.1							
NEW	**Newport**	**15.63**	**357**	Pn		**P**	**03 37 27.0**	**-1.0**
	comp=N,0.1nm,0.3s,baz=243,slow=6.8,SNR=1.7							
ILAR	**Eielson Array**	**37.37**	**339**	P		**P**	**03 40 56.7**	**+0.8**
	comp=N,0.1nm,0.7s,baz=141,slow=5.8,SNR=3.1							

**GUC 09 03:41:24.8±0.3, 34°.47

JFR	**Furan**	**0.93**	**334**	P	**Pn**	**03 55 57.8**	**-0.9**
JAR	**Ashorobuto**	**1.08**	**25**	P	**Pn**	**03 56 00.6**	**0.0**
JAR				*e*S	**Sn**	**03 56 14.5**	**-0.2**
JAK	**Akkeshi**	**1.33**	**59**	P	**Pn**	**03 56 03.9**	**0.0**
JAK				*e*S	**Sn**	**03 56 21.7**	**+1.1**
JEW	**Eniwo**	**1.35**	**293**	P	**Pn**	**03 56 04.9**	**+0.6**
JEW				*e*S	**Sn**	**03 56 22.9**	**+1.6**
JAB	**Ashibetsu**	**1.36**	**330**	P	**Pn**	**03 56 05.2**	**+0.8**
ASAJ	**Asahikawa**	**1.84**	**348**	Pn	**Pn**	**03 56 11.5**	**+0.6**
	6.8nm,0.3s,baz=195,slow=15,SNR=54						
ASAJ				Sn	Sn	03 56 41.2	+8.2
	4.2nm,0.3s,baz=242,slow=32,SNR=6.7						
MJAR	**Matsushiro Arr**	**6.92**	**215**	Pn	**Pn**	**03 57 20.9**	**+0.4**
	0.2nm,0.3s,baz=35,slow=12,SNR=4.7						
H11N2	**WAKE ISLAND Hy 30.17**		**131**	T	T	04 33 14.4	
	baz=324,slow=75,SNR=15						
H11N1	**WAKE ISLAND Hy 30.18**		**131**	T	T	04 33 22.9	
	baz=324,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy 30.18**		**131**	T	T	04 33 17.6	
	baz=324,slow=75,SNR=9.7						
H11S1	**WAKE ISLAND Hy 31.05**		**133**	T	T	04 34 23.1	
	baz=325,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy 31.05**		**133**	T	T	04 34 23.2	
	baz=325,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy 31.06**		**133**	T	T	04 34 25.4	
	baz=325,slow=76,SNR=11						
MKAR	**Makanchi Array**	**42.64**	**298**	P	**P**	**04 03 32.5**	**+0.1**
	0.1nm,0.4s,baz=82,slow=10,SNR=2.9						
BVAR	**Borovoye Array**	**48.13**	**309**	P	**P**	**04 04 15.7**	**0.0**
	0.2nm,0.3s,baz=45,slow=7,SNR=2.8						
FINES	**FINESS Array B**	**64.78**	**332**	P	**P**	**04 06 12.3**	**-1.5**
	1.2nm,0.9s,baz=36,slow=11,SNR=4.9						

*ISCJB **09** 03:58:24.8±0.5,40.°09N±0.°02×34.°65E±0.°02, h5km±3km, mb3.1/4, Error ellipse: s-maj=3.1km s-min=2.9km az=161.2*
*IDC **09** 03:58:24.9±1.2,40.°07N×34.°57E, h0km, mb3.2/4, mb1 3.3/9, mb1mx3.2/28, mbtmp3.2/9, ML3.2/5, Error ellipse: s-maj=20.7km s-min=9.0km az=141.0*
*ISK **09** 03:58:24.7,40.°08N×34.°67E, h5km, ML3.6*
*DDA **09** 03:58:24.5,40.°09N×34.°67E, h9km, ML3.8*
*CSEM **09** 03:58:25.2±0.1,40.°11N×34.°66E, h2km, ML3.6, Error ellipse: s-maj=2.1km s-min=1.7km az=27.0*

ISC 09 03:58:25.4±0.8, 40.°09N±0.°02×34.°67E±0.°02, h8km±5km, n123, σ0.°88/146, mb3.2/4, 9C-10D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CORM	**Corum**	**0.09**	**338**	Pg	**Pg**		**03 58 27.7**	**-0.1**
CORM				*e*SG	**Sg**		**03 58 29.8**	**+0.3**
CORM	**Corum**	**0.09**	**338**	*i* Pg	**Pg**		**03 58 27.7**	**-0.1**
CORM				*e*Sg	**Sg**		**03 58 29.8**	**+0.3**
CDAG	**Cicekdag**	**0.52**	**206**	*i* Pg	**Pg**		**03 58 35.0**	**-0.5**
CDAG				*i* Sg	**Sg**		**03 58 42.2**	**-0.2**
CTKT	**Corum**	**0.54**	**9**	*i* Pg	**Pb**		**03 58 36.4**	**-0.8**
CTKT				*i* Sg	**Sg**		**03 58 42.1**	**-0.8**
YOZ	**Yozgat**	**0.67**	**132**	PG	**Pg**		**03 58 37.8**	**-0.6**
YOZ				*e*SG	**Sg**		**03 58 46.9**	**-0.3**
YOZ	**Yozgat**	**0.67**	**132**	*i* Pg	**Pg**		**03 58 37.8**	**-0.6**
YOZ				*e*Sg	**Sg**		**03 58 46.9**	**-0.3**
BRTR	**Keskin Array B**	**0.88**	**246**	Pg	**Pg**		**03 58 40.9**	**-1.4**
	84nm,0.3s,baz=74,slow=13,SNR=2990							
BRTR				Lg	Lg		03 58 52.5	
	136nm,0.3s,baz=76,slow=24,SNR=24							
CANT	**Cankiri**	**0.95**	**303**	PG	**Pg**		**03 58 43.2**	**-0.6**
ELDT	**Eldivan**	**1.03**	**293**	*i* P	**Pg**		**03 58 44.2**	**-1.0**
ELDT				*i* S	**Sb**		**03 58 59.0**	**-0.4**
ELDT	**Eldivan**	**1.03**	**293**	*i* P	**Pb**		**03 58 44.2**	**-1.0**
ELDT				*i* S	**Sb**		**03 58 59.0**	**-0.4**
KAMT	**Kaman**	**1.04**	**226**	PG	**Pg**		**03 58 43.8**	**-1.5**
KAMT	**Kaman**	**1.04**	**226**	*i* Pg	**Pg**		**03 58 43.8**	**-1.5**
ILGA	**Ilgaz**	**1.20**	**323**	*i* P	**Pg**		**03 58 47.7**	**-0.8**
ILGA				*i* S	**Sb**		**03 59 04.1**	**-0.3**
ILGA	**Ilgaz**	**1.20**	**323**	*i* P	**Pg**		**03 58 47.7**	**-0.8**
ILGA				*i* S	**Sb**		**03 59 04.1**	**-0.3**
HAVZ	**Havza**	**1.26**	**39**	*i* P	**Pg**		**03 58 48.3**	**-1.3**
HAVZ				*i* S	**Sg**		**03 59 05.9**	**-0.1**
HAVZ	**Havza**	**1.26**	**39**	*i* P	**Pg**		**03 58 48.3**	**-1.3**
HAVZ				*i* S	**Sg**		**03 59 05.9**	**-0.1**
BBAL	**Bala**	**1.31**	**246**	*i* P	**Pg**		**03 58 49.2**	**-1.5**
BBAL				*i* S	**Sn**		**03 59 08.1**	**+0.1**
BBAL	**Bala**	**1.31**	**246**	*i* P	**Pg**		**03 58 49.2**	**-1.5**
BBAL				*i* S	**Sn**		**03 59 08.1**	**+0.1**
BOYT	**Boyabat**	**1.34**	**7**	*e*P	**Pn**		**03 58 50.1**	**-0.3**
BOYT				*e*S	**Sg**		**03 59 07.3**	**-1.2**
BOYT	**Boyabat**	**1.34**	**7**	*e*P	**Pn**		**03 58 50.1**	**-0.3**
BOYT				*e*S	**Sg**		**03 59 07.3**	**-1.2**
BYBT	**Boyabat**	**1.38**	**3**	*e*PN	**Pb**		**03 58 51.3**	**-0.1**
BYBT	**Boyabat**	**1.38**	**3**	*e*Pn	**Pb**		**03 58 51.3**	**-0.1**
AFSR	**Af ar-Bala (A**	**1.39**	**243**	*e*PN	**Pb**		**03 58 51.3**	**-0.4**
AFSR	**Af ar-Bala (A**	**1.39**	**243**	*e*Pn	**Pb**		**03 58 51.3**	**-0.4**
TOKA	**Tokat**	**1.40**	**80**	*i* P	**Pn**		**03 58 51.5**	**+0.2**
TOKA				*i* S	**Sb**		**03 59 08.2**	**-1.7**
TOKA	**Tokat**	**1.40**	**80**	*i* P	**Pn**		**03 58 51.5**	**+0.2**
TOKA				*i* S	**Sb**		**03 59 08.2**	**-1.7**
KVT	**Kavak**	**1.44**	**46**	*e*PN	**Pn**		**03 58 51.5**	**-0.3**
KVT	**Kavak**	**1.44**	**46**	*e*Pn	**Pn**		**03 58 51.5**	**-0.3**
TOKT	**Tokat**	**1.45**	**80**	*e*PN	**Pn**		**03 58 52.2**	**+0.2**
TOKT	**Tokat**	**1.45**	**80**	*e*Pn	**Pn**		**03 58 52.2**	**+0.2**
ANTO	**Ankara**	**1.46**	**262**	*e*PN	**Pb**		**03 58 52.5**	**-0.4**
ANTO	**Ankara**	**1.46**	**262**	*e*Pn	**Pb**		**03 58 52.5**	**-0.4**
LOD	**Lodumlu**	**1.48**	**263**	*e*PN	**Pb**		**03 58 52.7**	**-0.5**
LOD	**Lodumlu**	**1.48**	**263**	*e*Pn	**Pb**		**03 58 52.7**	**-0.5**
KAST	**KASTAMONU**	**1.51**	**338**	*e*P	**Pb**		**03 58 53.5**	**-0.1**
KAST				*e*S	**Sn**		**03 59 12.5**	**-0.1**
KAST	**KASTAMONU**	**1.51**	**338**	*e*P	**Pb**		**03 58 53.5**	**-0.1**
KAST				*e*S	**Sn**		**03 59 12.5**	**-0.1**
DIKM	**Dikmen**	**1.62**	**16**	*e*PN	**Pn**		**03 58 54.8**	**+0.6**
DIKM	**Dikmen**	**1.62**	**16**	*e*Pn	**Pn**		**03 58 54.8**	**+0.6**
SVSK	**Karacayir**	**1.79**	**95**	*e*PN	**Pn**		**03 58 57.4**	**+0.8**
SVSK	**Karacayir**	**1.79**	**95**	*e*Pn	**Pn**		**03 58 57.4**	**+0.8**
SAFT	**Safranbolu**	**1.90**	**308**	*e*PN	**Pb**		**03 58 59.1**	**-1.2**
SAFT	**Safranbolu**	**1.90**	**308**	*e*Pn	**Pb**		**03 58 59.1**	**-1.2**
BZK	**Bozkurt**	**1.93**	**345**	*e*PN	**Pn**		**03 58 59.4**	**+0.8**
BZK	**Bozkurt**	**1.93**	**345**	*e*Pn	**Pn**		**03 58 59.4**	**+0.8**
PINB	**Pinarbasi**	**1.95**	**136**	*i* P	**Pn**		**03 58 59.7**	**+0.7**
PINB				*i* S	**Sg**		**03 59 27.7**	**-0.3**
PINB	**Pinarbasi**	**1.95**	**136**	*i* P	**Pn**		**03 58 59.7**	**+0.7**
PINB				*i* S	**Sg**		**03 59 27.7**	**-0.3**
NIG	**Nigde**	**1.98**	**181**	*e*PN	**Pn**		**03 59 00.0**	**+0.5**
NIG	**Nigde**	**1.98**	**181**	*e*Pn	**Pn**		**03 59 00.0**	**+0.5**
RSDY	**Resadiye-TOKAT**	**2.05**	**81**	*e*PN	**Pn**		**03 59 01.0**	**+0.7**
RSDY	**Resadiye-TOKAT**	**2.05**	**81**	*e*Pn	**Pn**		**03 59 01.0**	**+0.7**
SULT	**Sultanhani-AKS**	**2.10**	**206**	*e*PN	**Pn**		**03 59 01.6**	**+0.7**
SULT	**Sultanhani-AKS**	**2.10**	**206**	*e*Pn	**Pn**		**03 59 01.6**	**+0.7**
BCAM	**Yenicaga**	**2.12**	**291**	*e*P	**Pn**		**03 59 01.6**	**+0.4**
BCAM	**Yenicaga**	**2.12**	**291**	*e*P	**Pn**		**03 59 01.6**	**+0.4**
BCAM				*e*S	**Sg**		**03 59 33.2**	**-0.3**
KIZT	**Kizilcal**	**2.48**	**242**	*e*PN	**Pn**		**03 59 06.6**	**+0.4**
KIZT	**Kizilcal**	**2.48**	**242**	*e*Pn	**Pn**		**03 59 06.6**	**+0.4**
SVRH	**Sivrihisar-ESK**	**2.51**	**256**	*e*PN	**Pn**		**03 59 07.2**	**+0.6**
SVRH	**Sivrihisar-ESK**	**2.51**	**256**	*e*Pn	**Pn**		**03 59 07.2**	**+0.6**
DARE	**Darende-Malaty**	**2.66**	**124**	*e*PN	**Pn**		**03 59 09.6**	**+1.0**
DARE	**Darende-Malaty**	**2.66**	**124**	*e*Pn	**Pn**		**03 59 09.6**	**+1.0**
SUSE	**Susehri**	**2.71**	**86**	*e*P	**Pn**		**03 59 10.8**	**+1.4**
SUSE	**Susehri**	**2.71**	**86**	*e*P	**Pn**		**03 59 10.8**	**+1.4**
SUSE				*e*S	**Sg**		**03 59 50.7**	**-1.6**
KONT	**Konya--Tatoy**	**2.80**	**221**	*e*PN	**Pn**		**03 59 11.3**	**+0.8**
KONT	**Konya--Tatoy**	**2.80**	**221**	*e*Pn	**Pn**		**03 59 11.3**	**+0.8**
KARA	**Karaisali**	**2.84**	**174**	*e*PN	**Pn**		**03 59 12.3**	**+1.2**
KARA	**Karaisali**	**2.84**	**174**	*e*Pn	**Pn**		**03 59 12.3**	**+1.2**
GRSN	**GIRESUNGRSN**	**2.86**	**72**	*e*P	**Pb**		**03 59 17.4**	**+0.7**
ESKT	**Eskisehir**	**3.00**	**260**	*e*PN	**Pn**		**03 59 13.6**	**+0.2**
ESKT	**Eskisehir**	**3.00**	**260**	*e*Pn	**Pn**		**03 59 13.6**	**+0.2**
ILIC	**ilic-Erzincan**	**3.07**	**101**	*e*PN	**Pn**		**03 59 15.2**	**+0.9**
ILIC	**ilic-Erzincan**	**3.07**	**101**	*e*Pn	**Pn**		**03 59 15.2**	**+0.9**
AKCD	**Akcadag**	**3.10**	**124**	*i* P	**Pn**		**03 59 15.8**	**+1.1**
AKCD	**Akcadag**	**3.10**	**124**	*i* P	**Pn**		**03 59 15.8**	**+1.1**
KMRS	**Kahramanmaras**	**3.12**	**145**	*e*PN	**Pn**		**03 59 15.9**	**+1.0**
KMRS	**Kahramanmaras**	**3.12**	**145**	*e*Pn	**Pn**		**03 59 15.9**	**+1.0**
CEYT	**Ceyhan**	**3.19**	**164**	*e*PN	**Pn**		**03 59 17.1**	**+1.3**
CEYT	**Ceyhan**	**3.19**	**164**	*e*Pn	**Pn**		**03 59 17.2**	**+1.3**
BOLV	**Bolvadin**	**3.19**	**246**	*i* P	**Pn**		**03 59 16.6**	**+0.6**
BOLV	**Bolvadin**	**3.19**	**246**	*i* P	**Pn**		**03 59 16.6**	**+0.6**
ESPY	**Espiye-Giresun**	**3.20**	**74**	*e*PN	**Pn**		**03 59 16.8**	**+0.8**
ESPY	**Espiye-Giresun**	**3.20**	**74**	*e*Pn	**Pn**		**03 59 16.8**	**+0.8**
GULT	**Gulveren**	**3.20**	**277**	*e*PN	**Pn**		**03 59 17.0**	**+0.9**
GULT	**Gulveren**	**3.20**	**277**	*e*Pn	**Pn**		**03 59 17.0**	**+0.9**
MERS	**Mersin**	**3.22**	**182**	*e*PN	**Pn**		**03 59 17.8**	**+1.4**
MERS	**Mersin**	**3.22**	**182**	*e*Pn	**Pn**		**03 59 17.8**	**+1.4**
BORA	**Eskisehir**	**3.25**	**268**	*i* P	**Pn**		**03 59 16.9**	**+0.1**
BORA	**Eskisehir**	**3.25**	**268**	*i* P	**Pn**		**03 59 16.9**	**+0.1**
SPNC	**Sapanca-Adapaz**	**3.39**	**281**	*e*PN	**Pn**		**03 59 19.4**	**+0.9**
SPNC	**Sapanca-Adapaz**	**3.39**	**281**	*e*Pn	**Pn**		**03 59 19.4**	**+0.9**
MALT	**Malatya**	**3.42**	**120**	*e*PN	**Pn**		**03 59 20.3**	**+1.3**
MALT	**Malatya**	**3.42**	**120**	⇑*i*P	**Pn**		**03 59 19.6**	**+0.6**
MALT	**Malatya**	**3.42**	**120**	⇑*i*P	**Pn**		**03 59 19.6**	**+0.6**
MALT	**Malatya**	**3.42**	**120**	*e*Pn	**Pn**		**03 59 20.3**	**+1.3**
SHUT	**Suhut-Afyon**	**3.55**	**246**	*e*PN	**Pn**		**03 59 22.0**	**+1.1**
SHUT	**Suhut-Afyon**	**3.55**	**246**	*e*Pn	**Pn**		**03 59 22.0**	**+1.1**
ATAB	**Bozova**	**3.86**	**132**	*e*P	**Pn**		**03 59 25.9**	**+0.9**
ATAB	**Bozova**	**3.86**	**132**	*e*P	**Pn**		**03 59 25.9**	**+0.9**
PSN	**Preselentsi**	**6.03**	**309**	⇓*i*P	**Pn**		**03 59 55.4**	**+0.6**
PSN	**Preselentsi**	**6.03**	**309**	⇓*i*P	**Pn**		**03 59 55.4**	**+0.6**
TIRR	**Tirgusor**	**6.37**	**315**	⇑*i*P	**Pn**		**03 59 59.1**	**-0.4**
TIRR	**Tirgusor**	**6.37**	**315**	⇑*i*P	**Pn**		**03 59 59.1**	**-0.4**
MSAB	**Monastry St. A**	**6.47**	**310**	⇓*i*P	**Pn**		**04 00 01.1**	**+0.2**
MSAB	**Monastry St. A**	**6.47**	**310**	⇓*i*P	**Pn**		**04 00 01.1**	**+0.2**
TLB	**Topalu**	**6.65**	**315**	⇓*i*P	**Pn**		**04 00 03.2**	**-0.2**
TLB	**Topalu**	**6.65**	**315**	⇓*i*P	**Pn**		**04 00 03.2**	**-0.2**
CFR	**Carcaliu**	**7.00**	**319**	⇓*i*P	**Pn**		**04 00 07.8**	**-0.4**
CFR	**Carcaliu**	**7.00**	**319**	⇓*i*P	**Pn**		**04 00 07.8**	**-0.4**
MMAI	**Mount Meron Ar**	**7.09**	**175**	Pn	**Pn**		**04 00 09.7**	**+0.2**
	0.7nm,0.3s,baz=344,slow=15,SNR=1.8							
VRI	**Vrincioaia**	**8.20**	**317**	⇑*i*P	Pn		04 00 30.9	+6.3
MLR	**Muntele Rosu**	**8.38**	**313**	Pn	**Pn**		**04 00 29.2**	**+2.0**
	0.0nm,0.3s,baz=168,slow=17,SNR=3.7							
MLR	**Muntele Rosu**	**8.38**	**313**	⇑*i*P	**Pn**		**04 00 27.4**	**+0.2**
MLR	**Muntele Rosu**	**8.38**	**313**	⇑*i*P	**Pn**		**04 00 27.4**	**+0.2**
TESR	**Tescani**	**8.68**	**320**	⇓*i*P	**Pn**		**04 00 30.8**	**-0.4**
TESR	**Tescani**	**8.68**	**320**	⇓*i*P	**Pn**		**04 00 30.8**	**-0.4**
BURAR	**Bucovina Array**	**10.15**	**321**	⇑*i*P	**Pn**		**04 00 51.2**	**-0.3**
BURAR	**Bucovina Array**	**10.15**	**321**	⇑*i*P	**Pn**		**04 00 51.2**	**-0.3**
AKASG	**Malin Array Be**	**11.27**	**342**	Pn	**Pn**		**04 01 04.2**	**-2.5**
	0.4nm,0.3s,baz=154,slow=13,SNR=2.3							
DAVOX	**Davos/Dischmat**	**19.16**	**299**	P	**P**		**04 02 49.7**	**+0.4**
	0.1nm,0.3s,baz=16,slow=19,SNR=2.1							
AKTO	**Aktyubinsk**	**19.33**	**50**	P	**Pn**		**04 02 53.4**	**+1.3**
	0.1nm,0.3s,baz=247,slow=9.3,SNR=4.8							
FINES	**FINESS Array B**	**22.02**	**349**	P	**P**		**04 03 22.2**	**+2.2**
	0.9nm,0.9s,baz=163,slow=10,SNR=2.8							
MKAR	**Makanchi Array**	**34.77**	**63**	P	**P**		**04 05 19.0**	**+2.7**
	0.2nm,0.7s,baz=285,slow=5.5,SNR=2.8							
TORD	**Torodi Ar. Bea**	**39.48**	**237**	P	**P**		**04 05 55.8**	**-0.6**
	0.5nm,0.8s,baz=26,slow=8.0,SNR=4.2							
YKA	**Yellowknife Ar**	**74.81**	**346**	P	**P**		**04 10 05.6**	**-0.2**
	0.1nm,0.6s,baz=46,slow=6.1,SNR=3.8							

*ISCJB **09** 04:16:57.1±0.4,32.°48N±0.°02×115.°53W±0.°03, h14km±3km, Error ellipse: s-maj=3.8km s-min=3.6km az=9.0*
*NEIC **09** 04:16:58.8,32.°46N×115.°57W, h7km, ML3.3(PAS), ML3.5(ECX), After ECX.*
*ECX **09** 04:16:58.8±0.7,32.°45N×115.°57W, h7km, MD3.2, ML3.3*

ISC 09 04:16:57.7±0.9, 32.°42N±0.°02×115.°53W±0.°02, h16km±7km, n34, σ1.°60/61, 6C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.20**	**91**	⇓*e*P	**Pg**		**04 17 02.3**	**0.0**
CPBX				*e*S	**Sg**		**04 17 05.6**	**+0.2**
CPBX				AML	AML		04 17 07.8	
	comp=N,23μm,0.4s							
CPBX				⇑*e*			04 17 07.8	
SGL	**Mount Signal**	**0.28**	**325**	⇓*i*P	**Pg**		**04 17 02.9**	**-0.8**
WESC	**Westside Schoo**	**0.38**	**334**	*e*P	**Pg**		**04 17 05.0**	**-0.4**
DREC	**Desert Rsrch C**	**0.39**	**11**	⇑*e*P	**Pb**		**04 17 05.8**	**-0.5**
YUH	**Yuha Desert**	**0.40**	**305**	⇓*i*P	**Pg**		**04 17 04.9**	**-0.8**
RMX	**La Rumorosa**	**0.49**	**292**	*e*P	**Pg**		**04 17 06.8**	**-0.8**
RMX				*e*S	**Sg**		**04 17 13.4**	**-0.9**
RMX	**La Rumorosa**	**0.49**	**292**	*e*P	**Pg**		**04 17 06.8**	**-0.8**
RMX				*e*S	**Sg**		**04 17 13.4**	**-0.9**
COA	**Coachella**	**0.56**	**38**	⇑*e*P	**Pg**		**04 17 08.8**	**0.0**
CRR	**Carrizo Plain**	**0.59**	**322**	⇓*e*P	**Pg**		**04 17 08.6**	**-0.7**
RDX	**Rancho Dawling**	**0.60**	**215**	*e*P	**Pg**		**04 17 09.4**	**-0.2**
RDX				*e*S	**Sg**		**04 17 17.8**	**+0.2**
RDX	**Rancho Dawling**	**0.60**	**215**	⇑*e*P	**Pg**		**04 17 09.4**	**-0.2**
RDX				*e*S	**Sg**		**04 17 17.8**	**+0.2**
RDX				⇑*e*			04 17 19.0	
RDX				AML	AML		04 17 19.0	
	comp=N,808nm,0.3s							
YMD	**Yuma Desert**	**0.85**	**81**	⇓*e*P	**Pg**		**04 17 13.2**	**-1.0**
GLA	**Glamis**	**0.87**	**43**	*e*Pg	**Pg**		**04 17 13.0**	**-1.6**
GLA				*e*Sg	**Sg**		**04 17 24.6**	**-1.4**
CBX	**Cerro Bola**	**0.96**	**264**	*e*P	**Pg**		**04 17 15.6**	**-0.7**
CBX				*e*S	**Sg**		**04 17 28.1**	**-0.9**
CBX	**Cerro Bola**	**0.96**	**264**	⇓*e*P	**Pg**		**04 17 15.6**	**-0.7**
CBX				*e*S	**Sg**		**04 17 28.1**	**-0.9**
BAR	**Barrett**	**0.99**	**285**	*e*Pg	**Pg**		**04 17 15.5**	**-1.4**
BAR				*e*Sg	**Sg**		**04 17 28.4**	**-1.6**
ECBX	**El Chinero**	**1.03**	**156**	*e*P9	Pg		04 17 14.2	-3.4
ECBX				*e*S	**Sb**		**04 17 28.5**	**-1.9**
ECBX				⇑*e*			04 17 35.5	
	comp=E,626nm,0.8s							
ZAX	**El Zacaton**	**1.10**	**215**	*e*P	**Pb**		**04 17 18.3**	**-0.1**
ZAX				*e*S	**Sb**		**04 17 33.1**	**+0.5**
ECNX	**Esteban Cantu**	**1.18**	**230**	*e*P	**Pn**		**04 17 19.8**	**+0.1**
ECNX				*e*S	**Sb**		**04 17 35.1**	**+0.2**
PBX	**Punta Banda**	**1.22**	**237**	*e*P	**Pn**		**04 17 20.0**	**-0.1**
PBX				*e*S	**Sb**		**04 17 36.2**	**+0.3**
PBX	**Punta Banda**	**1.22**	**237**	*e*P	**Pn**		**04 17 20.0**	**-0.1**
PBX				*e*S	**Sb**		**04 17 36.2**	**+0.3**
SPX	**San Pedro Mart**	**1.37**	**177**	*e*P	**Pn**		**04 17 23.4**	**+0.9**
SPX				*e*S	**Sb**		**04 17 42.3**	**+1.6**
SPX	**San Pedro Mart**	**1.37**	**177**	*e*P	**Pn**		**04 17 23.4**	**+0.9**
SPX				*e*S	**Sb**		**04 17 42.3**	**+1.6**
SPX				⇓*e*			04 17 43.9	
SPX				AML	AML		04 17 43.9	
	comp=N,298nm,0.7s							
PFO	**Pinyon Flats O**	**1.42**	**327**	*e*Pn	**Pn**		**04 17 21.0**	**-1.9**
PFO				*e*Sn	**Sn**		**04 17 38.2**	**-3.2**
214A	**Organ Pipe Nat**	**2.35**	**101**	*e*Pn	**Pn**		**04 17 34.1**	**-1.6**
214A				*e*Pg	**Pg**		**04 17 43.3**	**+0.5**
GSC	**Goldstone, Bar**	**3.06**	**340**	*e*Pn	**Pn**		**04 17 46.5**	**+1.0**
GSC				*e*Pg	**Pg**		**04 17 55.5**	**-0.9**
OSI	**Osito Audit: C**	**3.45**	**310**	*e*Pn	**Pn**		**04 17 51.4**	**+0.6**
OSI				*e*Sn	**Sn**		**04 18 32.8**	**+1.4**
OSI				*e*Sg	**Sb**		**04 18 43.9**	**+3.8**
TUC	**Tucson**	**4.02**	**90**	*e*Pn	**Pn**		**04 18 01.2**	**+2.5**
TUC				*e*Pg	**Pg**		**04 18 12.9**	**-1.8**
TUC				*e*Sg	**Sg**		**04 19 04.6**	**-2.2**
ISA	**Isabella, Lake**	**4.05**	**324**	*e*Pn	**Pn**		**04 18 00.4**	**+1.3**
ISA				*e*Pg	**Pb**		**04 18 10.6**	**+1.8**
ISA				*e*Sg	**Sb**		**04 19 02.0**	**+4.5**
DAC	**Darwin (Calif)**	**4.21**	**337**	*e*Pn	**Pn**		**04 17 59.6**	**-1.8**
DAC				*e*Pg	**Pg**		**04 18 16.0**	**-2.3**
DAC				*e*Sg	**Sb**		**04 19 07.2**	**+5.1**
WUAZ	**Wupatki**	**4.63**	**47**	*e*Pn	**Pn**		**04 18 08.4**	**+1.1**
TPH	**Tonopah**	**5.81**	**347**	*e*Pn	**Pn**		**04 18 24.2**	**+0.8**
TPH				*e*Pg	**Pg**		**04 18 46.5**	**-2.4**
R11A	**Troy Canyon, C**	**5.92**	**360**	*e*Pg	**Pg**		**04 18 49.9**	**-1.1**
	comp=N,1,7nm,0.6s							
121A	**Cookes Peak, D**	**6.55**	**87**	*e*Pn	**Pn**		**04 18 34.1**	**+0.5**

*ISCJB **09** 04:21:31.5±0.7,23.°30S±0.°06×66.°54W±0.°09, h208km, mb3.0/1, Error ellipse: s-maj=11.6km s-min=8.7km az=9.0*
*IDC **09** 04:21:32.8±1.1,23.°12S×66.°75W, h222km±26km, mb2.9/1, mb1 3.1/7, mb1mx3.0/21, mbtmp3.6/7, Error ellipse: s-maj=36.0km s-min=17.3km az=113.0*

ISC 09 04:21:32.2±0.9, 23.°30S±0.°07×66.°6W±0.°1, h208km, n7, σ1.°50/9, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.26**	**287**	P	**Pn**		**04 22 15.2**	**+0.9**
	382nm,0.3s,baz=109,slow=4.5,SNR=107							
LVC				S	**S**		**04 22 46.0**	**-0.5**
	350nm,0.3s,baz=309,slow=20,SNR=27							
LPAZ	**La Paz**	**7.13**	**348**	P	**Pn**		**04 23 13.9**	**-0.9**
	1.5nm,0.3s,baz=173,slow=6.3,SNR=56							
CFAA	**Coronel Fontan**	**8.40**	**190**	P	**Pn**		**04 23 32.6**	**+1.9**
	0.2nm,0.3s,baz=16,slow=11,SNR=23							
CFAA				S	**S**		**04 25 02.9**	**-2.5**
	0.1nm,0.3s,baz=157,slow=16,SNR=6.6							
SIV	**San Ignacio**	**8.93**	**36**	P	**Pn**		**04 23 37.7**	**+0.1**
	0.3nm,0.3s,baz=256,slow=14,SNR=3.2							
PLCA	**Paso Flores**	**17.70**	**190**	P	**Pn**		**04 25 26.7**	**+0.4**
	0.1nm,0.3s,baz=16,slow=13,SNR=4.3							
BDFB	**Brasilia**	**19.08**	**70**	P	**P**		**04 25 39.9**	**+0.5**
	0.2nm,0.3s,baz=232,slow=12,SNR=3.9							
TORD	**Torodi Ar. Bea**	**75.96**	**69**	P	**P**		**04 32 55.7**	**-1.0**
	0.2nm,0.5s,baz=238,slow=5.4,SNR=6.0							

GUC 09 04:26:10.6±0.4, 35.°51S×72.°68W, h42km±7km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.62**	**188**	*i* P	Pn		04 26 23.8	+0.7
COCH				*i* S	Sn		04 26 33.3	+1.3
TALC	**Talca**	**0.86**	**83**	*i* P	Pn		04 26 27.2	+0.9
TALC				*e*S	Sn		04 26 39.5	+1.7
TALC				AML	AML		04 26 41.3	
	comp=E,4μm,0.1s							
LNCH	**Linares**	**0.94**	**111**	*i* P	Pn		04 26 28.3	+0.9
LNCH				*i* S	Sn		04 26 42.0	+2.3
LNCH				AML	AML		04 26 42.6	
	comp=N,2μm,0.3s							
NICH	**Los Niches**	**1.29**	**67**	*i* P	Pn		04 26 34.0	+1.8
NICH				*e*S	Sn		04 26 51.1	+2.8
NICH				AML	AML		04 26 54.2	
	comp=N,2μm,0.3s							
**C

JAK	**Akkeshi**	**2.87**	**351**	P	Pn	04 34 06.4	+0.5	
JAK				*e*S	Sn	04 34 39.2	0.0	
JANG	**Nango**	**2.90**	**275**	P	Pn	04 34 07.6	+1.3	
JANG				*e*S	Sn	04 34 40.8	+0.9	
JOM	**Ohasama**	**3.15**	**259**	*e*S	Sn	04 34 47.7	+1.4	
NEM2	**Nemuro 2**	**3.22**	**6**	P	Pn	04 34 09.2	-1.5	
NEM2				*e*S	Sn	04 34 44.9	-2.9	
JTM	**Tenmabayashi**	**3.28**	**282**	P	Pn	04 34 13.8	+2.2	
JTM				*e*S	Sn	04 34 51.0	+1.7	
JAR	**Ashorobuto**	**3.33**	**341**	P	Pn	04 34 12.8	+0.5	
JAR				*e*S	Sn	04 34 50.5	-0.2	
JAH	**Hinai**	**3.57**	**272**	P	Pn	04 34 17.1	+1.6	
JAH				*e*S	Sn	04 34 58.6	+2.2	
JFR	**Furan**	**3.62**	**327**	P	Pn	04 34 17.1	+0.9	
JFR				*e*S	Sn	04 34 58.5	+0.8	
JEW	**Eniwo**	**3.94**	**314**	P	Pn	04 34 23.4	+2.9	
JEW				*e*S	Sn	04 35 09.0	+3.6	
JTKR	**Abashiri--Toko**	**3.94**	**345**	P	Pn	04 34 21.9	+1.3	
JTKR				*e*S	Sn	04 35 06.8	+1.2	
JOSM	**Okushiri--Mats**	**4.79**	**296**	P	Pn	04 34 34.1	+1.8	

IDC 09 04:36:31.1±8.9, 33.07S×178.37W, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.4/16, mbtmp3.4/2, MS3.6/1, Ms1 3.6/1, ms1mx3.0/10, Error ellipse: s-maj=427.1km s-min=61.5km az=162.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.72**	**270**	P	P	04 44 28.6	-1.6
	0.2nm,0.6s,baz=103,slow=8.0,SNR=3.4						
WRA	**Warramunga Arr**	**43.95**	**275**	P	P	04 44 41.3	+1.2
	0.3nm,0.3s,baz=116,slow=7.6,SNR=4.9						
QSPA	**South Pole Qui**	**57.05**	**180**	LR	LR	05 11 21.6	
	comp=Z,42nm,18.0s,baz=70,slow=37						
FINES	**FINESS Array B**	**147.51**	**338**	PKPbc	PKPbc	04 56 15.5	-0.8
	0.9nm,0.9s,baz=56,slow=0.5,SNR=5.2						

WEL 09 04:38:24.8±0.5, 35.94S×178.27E, h228km±13km, ML3.4/3, Error ellipse: s-maj=14.0km s-min=11.7km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**1.88**	**176**	PN	Pn	04 39 04.3	+0.1
WMGZ				SN	S	04 39 35.1	-0.1
PUZ	**Puketiti**	**2.13**	**180**	PN	Pn	04 39 06.7	0.0
PUZ				SN	S	04 39 37.6	-2.0
MWZ	**Matawai**	**2.46**	**194**	PN	Pn	04 39 10.7	+0.6
MWZ				SN	S	04 39 45.8	+0.1
URZ	**Urewera**	**2.50**	**201**	PN	Pn	04 39 10.6	+0.3
URZ				SN	S	04 39 45.7	-0.5
RIGZ	**Rimuhau**	**2.79**	**188**	PN	Pn	04 39 13.6	0.0
KNZ	**Kokohu**	**3.11**	**189**	PN	Pn	04 39 16.9	-0.2

IDC 09 04:51:15.5±1.2, 44.06S×72.59W, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.7/25, mbtmp3.7/7, ML3.4/1, Error ellipse: s-maj=50.7km s-min=17.7km az=122.0, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**3.65**	**25**	Pn	Pn	04 52 15.3	+1.9
	0.8nm,0.3s,baz=206,slow=11,SNR=19						
PLCA				Pg	Pb	04 52 23.3	+2.3
	4.3nm,0.3s,baz=199,slow=16,SNR=70						
PLCA				Lg	Lg	04 53 11.1	
	5.0nm,0.3s,baz=279,slow=19,SNR=3.8						
CPUP	**Villa Florida**	**21.58**	**40**	P	P	04 56 08.2	+1.5
	0.3nm,0.6s,baz=206,slow=14,SNR=5.0						
LPAZ	**La Paz**	**27.94**	**9**	P	P	04 57 07.0	-1.3
	0.7nm,0.5s,baz=209,slow=10,SNR=7.4						
URZ	**Urewera**	**76.67**	**229**	P	P	05 03 09.0	+0.8
	5.9nm,0.8s,baz=114,slow=20,SNR=3.5						
TXAR	**Lajitas Array**	**78.38**	**333**	P	P	05 03 18.1	+0.3
	0.3nm,0.6s,baz=150,slow=9.3,SNR=3.7						
TORD	**Torodi Ar. Bea**	**88.08**	**70**	P	P	05 04 06.9	-1.1
	0.3nm,0.7s,baz=209,slow=5.0,SNR=2.7						
PDAR	**Pinedale Array**	**92.56**	**334**	P	P	05 04 27.8	-0.8
	0.3nm,0.7s,baz=128,slow=1.5,SNR=3.0						

JMA 09 04:57:58.2±0.1, 28.91N×140.09E, h467km, M3.6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.59**	**134**	P	P	04 59 03.9	+0.1
CBIJ				*e*S	S	04 59 57.3	+0.3
JHHJ	**Haha-jima-NKT**	**2.93**	**140**	S	S	05 00 00.9	-0.3
JIE	**Ise**	**6.18**	**333**	P	P	04 59 36.4	+1.6
JKN2	**Miekihoku**	**6.23**	**329**	P	P	04 59 36.6	+1.2
JHU	**Hanno**	**6.96**	**355**	S	S	05 01 04.8	-3.7
JRY	**Ryogami san**	**7.16**	**352**	P	P	04 59 45.9	+1.0
JRY				S	S	05 01 10.6	-1.8
JAG	**Ashikaga**	**7.51**	**356**	P	P	04 59 49.2	+0.6
JAG				S	S	05 01 15.5	-3.7
JHO	**Hitachi**	**7.69**	**3**	P	P	04 59 53.0	+2.6
MAT	**Matsushiro**	**7.78**	**349**	P	P	04 59 51.7	+0.4
MAT				*e*S	S	05 01 24.3	0.0

*IDC **09** 04:58:11.6±0.4, 8.17S×128.97E, h0km, mb4.6/26, mb1 4.6/26, mb1mx4.6/28, mbtmp4.6/26, MS3.8/6, Ms1 3.8/6, ms1mx3.3/30, Error ellipse: s-maj=18.0km s-min=11.1km az=65.0*

*BJI **09** 04:58:11.7, 8.89S×128.66E, h33km, mb4.7/22, mB4.9/18, Ms4.6/10, Ms7 4.2/10*

*MOS **09** 04:58:13.8±1.1, 8.16S×129.01E, h27km, mb4.8/17, Error ellipse: s-maj=15.3km s-min=8.2km az=118.2*

*ISCJB **09** 04:58:14.4±0.2, 8.31S±0.03×129.00E±0.03, h35km, mb4.5/54, MS3.7/3, Error ellipse: s-maj=5.2km s-min=4.1km az=152.8*

*NEIC **09** 04:58:15.3±1.8, 8.22S×129.02E, h26km±13km, mb4.6/26, Error ellipse: s-maj=7.8km s-min=5.4km az=221.0*

*DJA **09** 04:58:20.1±0.3, 8.5S±2.12×9E±.7, h71km±5km, M4.6/31, mb4.9/31, mB5.1/9, MLv4.8/13, Mw(mB)4.4/9*

ISC 09 04:58:16.8±0.3, 8.37S±0.03×128.91E±0.05, h35km, n201, σ1s60/202, mb4.6/53, MS3.6/3, 6C, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.40**	**81**	P	**Pn**	**04 58 55.1**	**+1.6**
SAUI				S	**Sn**	**04 59 25.1**	**+3.4**
BNDI	**Bandanaira**	**3.94**	**15**	P	**Pn**	**04 59 17.5**	**+2.7**
AAI	**Ambon**	**4.70**	**351**	P	**Pn**	**04 59 27.8**	**+2.5**
AAI	**Ambon**	**4.70**	**351**	P	**Pn**	**04 59 28.0**	**+2.8**
	baz=4.9,SNR=8.1						
SOEI	**Soe**	**4.79**	**253**	P	**Pn**	**04 59 29.2**	**+2.6**
SOEI	**Soe**	**4.79**	**253**	P	**Pn**	**04 59 28.1**	**+1.5**
	baz=4.9,SNR=23						
SOEI	**Soe**	**4.79**	**253**	*e*Pn	**Pn**	**04 59 26.9**	**+0.4**
MSAI	**Masohi**	**4.99**	**0**	P	**Pn**	**04 59 31.8**	**+2.6**
	53nm,0.8s,887nm0.2nm						
NLAI	**Namlea**	**5.40**	**340**	P	Pn	04 59 40.1	+5.2
	310nm,0.8s,2μm0.9nm						
KDU	**Kakadu**	**5.54**	**141**	P	**Pn**	**04 59 36.0**	**-0.9**
	baz=5.4,SNR=66						
FAKI	**Fak Fak**	**6.35**	**32**	P	**Pn**	**04 59 47.0**	**-0.9**
	96nm,0.8s,1μm0.4nm						
FAKI				S	**Sn**	**05 00 56.0**	**-3.3**
	96nm,0.8s,1μm0.4nm						
FAKI	**Fak Fak**	**6.35**	**32**	P	**Pn**	**04 59 47.0**	**-0.9**
	baz=6.4,SNR=40						
FAKI				S	**Sn**	**05 00 57.3**	**-2.0**
	baz=6.4,SNR=6.4						
FAKI	**Fak Fak**	**6.35**	**32**	*e*Pn	**Pn**	**04 59 47.0**	**-0.9**
FAKI				*e*Sn	**Sn**	**05 00 57.0**	**-2.3**
MMRI	**Maumere**	**6.61**	**267**	*e*Pn	**Pn**	**04 59 53.3**	**+1.9**
	61nm,0.6s						
SANI	**Sanana**	**6.92**	**335**	P	Pn	05 00 01.4	+5.7
	47nm,0.6s,0.2nm						
SANI				S	Sn	05 01 23.7	+11
	47nm,0.6s,0.2nm						
EDFI	**Ende, Flores**	**7.15**	**266**	P	Pn	05 00 05.9	+6.9
	48nm,1.3s,0.2nm						
KNRA	**Kununurra**	**7.27**	**181**	P	**Pn**	**04 59 60.0**	**-0.6**
	baz=7.2,SNR=61						
KNRA				S	**Sn**	**05 01 18.2**	**-3.7**
	baz=7.2,SNR=7.2						
LBMI	**Labuha**	**7.80**	**350**	P	Pn	05 00 13.0	+5.1
	203nm,1.2s,2μm0.7nm						
SWI	**Sorong**	**7.81**	**18**	P	Pn	05 00 12.3	+4.3
	45nm,0.8s,0.2nm						
SWI	**Sorong**	**7.81**	**18**	P	Pn	05 00 16.3	+8.3
	baz=7.9,SNR=4.3						
RKPI	**Ransiki, Papua**	**8.60**	**38**	P	**Pn**	**05 00 18.7**	**-0.1**
	113nm,0.7s						
BKSI	**Bukumba**	**9.23**	**289**	P	Pn	05 00 32.0	+4.5
	41nm,0.9s						
WBSI	**Waikabubak, Su**	**9.49**	**262**	P	Pn	05 00 34.3	+3.3
	85nm,1.0s						
LUWI	**Luwuk**	**9.50**	**320**	P	Pn	05 00 36.9	+5.7
	132nm,0.9s,3μm						
LUWI	**Luwuk**	**9.50**	**320**	*e*Pn	**Pn**	**05 00 30.9**	**-0.3**
BNSI	**Bone**	**9.59**	**294**	P	Pn	05 00 38.6	+6.2
	91nm,1.5s,879nm						
KAPI	**Kappang**	**9.68**	**290**	Pn	Pn	05 00 37.5	+3.8
	0.9nm,0.3s,baz=167,slow=13,SNR=4.4						
KAPI				LR	LR	05 05 23.2	
	comp=Z,416nm,18.2s,baz=124,slow=45						
KAPI	**Kappang**	**9.68**	**290**	*e*Pn	**Pn**	**05 00 35.8**	**+2.1**
SPSI	**Sidrap Palu**	**10.08**	**295**	P	Pn	05 00 45.4	+6.2
	40nm,0.8s,553nm						
KMSI	**Cibinong**	**10.15**	**331**	P	Pn	05 00 50.7	+11
APSI	**Ampana**	**10.35**	**315**	P	Pn	05 00 49.2	+6.4
	69nm,1.0s,798nm						
TTSI	**Tana Toraja**	**10.47**	**300**	P	Pn	05 01 00.6	+16
MRSI	**Masa**	**11.20**	**321**	P	Pn	05 01 01.0	+6.6
	29nm,1.1s						
MPSI	**Mapaga**	**12.46**	**313**	P	P	05 01 31.7	+8.6
GENI	**Genyem**	**12.59**	**64**	P	**P**	**05 01 24.8**	**+0.3**
WRAB	**Tennant Creek**	**12.65**	**156**	*ce*P	Pn	05 01 10.0	-4.3
WRAB				pmax	pmax		
	comp=Z,100nm,1.0s						
WRAB	**Tennant Creek**	**12.65**	**156**	*e*Pn	Pn	05 01 10.2	-4.1
WRA	**Warramunga Arr**	**12.65**	**156**	Pn	Pn	05 01 09.9	-4.4
	comp=Z,6.4nm,0.3s,baz=342,slow=13,SNR=168						
WRA				Sn	Sn	05 03 22.6	-12
	comp=Z,9.2nm,0.3s,baz=333,slow=22,SNR=8.7						
WRA				LR	LR	05 06 37.4	
	comp=Z,388nm,19.9s,baz=320,slow=40						
JAY	**Jayapura**	**13.10**	**64**	P	P	05 01 36.4	+6.2
JAY	**Jayapura**	**13.10**	**64**	Pn	Pn	05 01 13.3	-7.2
	comp=Z,1.2nm,0.3s,baz=114,slow=19,SNR=3.8						
JAGI	**Jajag, Banyuwa**	**14.60**	**269**	P	**P**	**05 01 45.2**	**-1.7**
	baz=15,SNR=4.5						
JAGI	**Jajag, Banyuwa**	**14.60**	**269**	*e*Pn	**Pn**	**05 01 40.7**	**-0.3**
	comp=Z,54nm,0.8s						
BBKI	**Banjar Baru**	**14.81**	**288**	P	**P**	**05 01 52.3**	**+3.0**
COEN	**Coen**	**15.05**	**113**	P	Pn	05 01 43.2	-3.9
	baz=15,SNR=17						
COEN				S	Sn	05 04 21.4	-11
	baz=15,SNR=5.9						
COEN	**Coen**	**15.05**	**113**	*e*Pn	Pn	05 01 43.0	-4.1
MBWA	**Marble Bar**	**15.50**	**214**	*e*Pn	**Pn**	**05 01 48.8**	**-4.1**
	comp=Z,23nm,1.0s						
MTKI	**Muara Teweh, K**	**15.79**	**297**	P	P	05 02 05.2	+5.1
QIS	**Mount Isa**	**15.93**	**141**	P	**Pn**	**05 01 54.4**	**-4.0**
	baz=16,SNR=14						
QIS				S	Sn	05 04 42.7	-11
	baz=16,SNR=5.7						
AS31	**Alice Springs**	**15.95**	**163**	*e*Pn	Pn	05 01 53.6	-5.0
AS31				*e*Sn	Sn	05 04 43.4	-11
ASAR	**Alice Springs**	**15.95**	**163**	Pn	Pn	05 01 54.0	-4.7
	comp=Z,2.4nm,0.3s,baz=337,slow=9.5,SNR=151						
ASAR				Sn	Sn	05 04 42.7	-12
	comp=Z,2.2nm,0.3s,baz=339,slow=26,SNR=5.0						
ASAR				LR	LR	05 08 46.3	
	comp=Z,330nm,18.3s,baz=328,slow=39						
WRKA	**Warakurna**	**16.59**	**182**	P	**Pn**	**05 02 03.3**	**-3.5**
	baz=17,SNR=92						
KKM	**Kota Kinabalu**	**19.11**	**318**	P	Pn	05 02 47.6	+10
	baz=19,SNR=5.1						
KKM	**Kota Kinabalu**	**19.11**	**318**	*e*P	P	05 02 30.9	-6.0
	comp=Z,45nm,1.2s						
STKI	**Sintang**	**19.28**	**295**	P	**Pn**	**05 02 42.2**	**+2.3**
	comp=Z,33nm,0.7s						
SBUM	**Sibu**	**19.81**	**302**	*e*P	**Pn**	**05 02 46.7**	**+0.5**
	comp=Z,19nm,0.8s						
CMJI	**Cimerak**	**20.27**	**270**	P	**P**	**05 02 49.8**	**+0.4**
	comp=Z,129nm,1.1s						
CTA	**Charters Tower**	**20.43**	**127**	P	Pn	05 02 51.9	-1.7
	comp=Z,11nm,0.8s,baz=308,slow=13,SNR=7.4						
CTAO	**Charters Tower**	**20.43**	**127**	*e*P	**P**	**05 02 50.5**	**-0.7**
CTAO				pmax	pmax		
	comp=Z,13nm,0.9s						
CTAO	**Charters Tower**	**20.43**	**127**	*e*P	**P**	**05 02 50.5**	**-0.7**
	comp=Z,13nm,0.9s						
MEEK	**Meekatharra**	**20.63**	**207**	P	**P**	**05 02 53.7**	**+0.3**
	baz=21,SNR=9.8						
MEEK				S	S	05 06 34.1	-8.1
	baz=21,SNR=3.4						
CISI	**Cisompet, Garu**	**20.91**	**271**	P	**P**	**05 02 55.9**	**-0.6**
	baz=21,SNR=4.0						
KSM	**Kuching**	**20.96**	**297**	P	**P**	**05 02 59.9**	**+2.9**
	baz=21,SNR=5.2						
KSM	**Kuching**	**20.96**	**297**	*e*P	**P**	**05 02 57.2**	**+0.3**
	comp=Z,18nm,0.7s						
LEM	**Lembang**	**21.16**	**273**	P	**P**	**05 02 59.1**	**-0.2**
	comp=Z,16nm,0.5s,baz=272,slow=7.2,SNR=3.8						
LEM				LR	LR	05 13 55.4	
	comp=Z,221nm,19.1s,baz=54,slow=44						
TPI	**Tanjungpandan**	**21.87**	**284**	P	**P**	**05 03 06.8**	**+0.1**
	comp=Z,15nm,0.9s						
FORT	**Forrest**	**22.32**	**182**	P	**P**	**05 03 12.2**	**+0.8**
	baz=22,SNR=26						
FORT	**Forrest**	**22.32**	**182**	*e*P	**P**	**05 03 11.7**	**+0.4**
	comp=Z,59nm,0.7s						
FORT				*e*S	S	05 07 07.1	-7.7
QLP	**Quilpie**	**23.23**	**143**	P	**P**	**05 03 22.2**	**+1.2**
	baz=23,SNR=26						
KMBL	**Kambalda**	**23.81**	**195**	P	**P**	**05 03 27.6**	**+1.1**
	baz=24,SNR=4.7						
BLDU	**Ballidu**	**24.90**	**206**	P	**P**	**05 03 37.1**	**+0.6**
	baz=25,SNR=9.9						
BBOO	**Buckleboo**	**25.21**	**166**	P	**P**	**05 03 41.4**	**+2.1**
	baz=25,SNR=24						
BBOO	**Buckleboo**	**25.21**	**166**	*e*P	**P**	**05 03 40.2**	**+0.9**
	comp=Z,2.1nm,0.8s						
RMQ	**Roma**	**26.07**	**136**	P	**P**	**05 03 48.8**	**+1.6**
	baz=26,SNR=5.6						
STKA	**Stephens Creek**	**26.20**	**155**	P	**P**	**05 03 48.2**	**-0.1**
	comp=Z,16nm,0.7s,baz=333,slow=9.3,SNR=35						
STKA	**Stephens Creek**	**26.20**	**155**	*e*P	**P**	**05 03 48.8**	**+0.5**
STKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
STKA	**Stephens Creek**	**26.20**	**155**	P	**P**	**05 03 48.9**	**+0.5**
	baz=26,SNR=34						
STKA	**Stephens Creek**	**26.20**	**155**	*e*P	**P**	**05 03 48.8**	**+0.5**
	comp=Z,2.9nm,0.8s						
MYKOM	**Kota Tinggi**	**26.95**	**291**	*e*P	**P**	**05 03 55.6**	**+0.4**
	comp=Z,9.8nm,0.9s						
CMSA	**Cobar Meteorol**	**27.86**	**148**	P	**P**	**05 04 04.3**	**+1.2**
	baz=28,SNR=24						
IPM	**Ipoh**	**30.60**	**294**	*e*P	**P**	**05 04 26.4**	**-1.3**
	comp=Z,13nm,0.8s						
MNSI	**Mandailing Nat**	**30.62**	**286**	P	P	05 04 24.8	-3.1
	comp=Z,22nm,1.0s						
KULM	**Kulim**	**31.28**	**295**	*e*P	**P**	**05 04 32.8**	**-0.9**
	comp=Z,10nm,0.7s						
YNG	**Young**	**31.43**	**148**	P	**P**	**05 04 36.5**	**+1.7**
	baz=31,SNR=16						
PSI	**Prapat**	**31.89**	**289**	P	**P**	**05 04 38.0**	**-1.3**
	comp=Z,18nm,0.8s,baz=143,slow=4.4,SNR=19						
PSI	**Prapat**	**31.89**	**289**	P	**P**	**05 04 38.0**	**-1.3**
SKLT	**Songkhla**	**32.15**	**298**	P	**P**	**05 04 42.4**	**+1.1**
	comp=Z,13nm,1.2s,comp=Z,586nm						
CAN	**Canberra**	**32.53**	**149**	*e*P	**P**	**05 04 45.9**	**+1.3**
CAN				pmax	pmax		
	comp=Z,14nm,0.8s						
CAN	**Canberra**	**32.53**	**149**	*e*P	**P**	**05 04 45.9**	**+1.3**
	comp=Z,14nm,0.8s						
CNB	**Canberra Magne**	**32.71**	**148**	P	**P**	**05 04 47.9**	**+1.8**
	baz=33,SNR=11						
TOO	**Toolangi**	**32.73**	**155**	P	**P**	**05 04 48.8**	**+2.6**
	baz=33,SNR=8.5						
TRTT	**Trang**	**33.27**	**298**	P	**P**	**05 04 52.3**	**+1.1**
	comp=Z,12nm,1.2s						
CHAI	**Chaiyaphum**	**35.95**	**312**	P	**P**	**05 05 15.2**	**+0.9**
	comp=Z,3.7nm,0.9s						
UTHA	**Uthaitani**	**37.64**	**309**	P	**P**	**05 05 28.7**	**0.0**
	comp=Z,3.5nm,0.8s,comp=Z,96nm						
DZM	**Mont Dzumac**	**38.57**	**115**	P	**P**	**05 05 36.8**	**+0.1**
	comp=Z,7.8nm,0.9s,baz=319,slow=20,SNR=2.8						
CMAR	**Chiang Mai Arr**	**39.81**	**312**	P	**P**	**05 05 45.5**	**-1.4**
	comp=Z,3.3nm,0.9s,baz=145,slow=7.3,SNR=9.6						
CMAR				PcP	**PcP**	**05 07 54.6**	**+1.9**
	comp=Z,2.8nm,0.6s,baz=167,slow=2.7,SNR=15						
CMAR				LR	LR	05 24 04.4	
	comp=Z,81nm,19.0s,baz=130,slow=39						
CHTO	**Chiang Mai**	**40.03**	**313**	*e*P	**P**	**05 05 48.0**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CHTO	**Chiang Mai**	**40.03**	**313**	*e*P	**P**	**05 05 48.0**	**-0.8**
	comp=Z,6.1nm,1.0s						
KMI	**Kunming**	**41.93**	**323**	P	**P**	**05 06 06.9**	**+2.4**
KMI				PMZ			
	comp=Z,8.0nm,0.7s						
MAJO	**Matsushiro**	**45.52**	**11**	*e*P	**P**	**05 06 30.8**	**-2.2**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MAJO	**Matsushiro**	**45.52**	**11**	*e*P	**P**	**05 06 30.8**	**-2.2**
	comp=Z,6.2nm,0.8s						
MJAR	**Matsushiro Arr**	**45.52**	**11**	P	**P**	**05 06 29.9**	**-3.1**
	comp=Z,2.5nm,0.8s,baz=185,slow=9.6,SNR=13						
MJAR				PcP	**PcP**	**05 08 11.6**	**+0.2**
	comp=Z,2.4nm,0.9s,baz=195,slow=4.2,SNR=6.7						
KSAR	**Wonju Array Be**	**45.58**	**359**	P	**P**	**05 06 31.0**	**-2.4**
KSAR						05 08 12.3	
KSAR	**Wonju Array Be**	**45.58**	**359**	P	**P**	**05 06 31.0**	**-2.4**
KSAR				PcP	**PcP**	**05 08 12.3**	**+0.8**
KSRS	**Korea Array**	**45.59**	**359**	P	**P**	**05 06 31.0**	**-2.5**
	comp=Z,0.9nm,0.5s,baz=176,slow=9.3,SNR=3.8						
KSRS				PcP	**PcP**	**05 08 12.3**	**+0.8**
	comp=Z,3.4nm,0.7s,baz=183,slow=2.9,SNR=13						
CD2	**Chengdu**	**45.90**	**329**	*e*P	**P**	**05 06 34.7**	**-1.4**
CD2				sP	**sP**	**05 06 49.7**	**-1.0**
CD2				PP	**PP**	**05 08 23.0**	**-1.2**
CD2				S	**S**	**05 13 13.2**	**-5.2**
CD2				sS	**sS**	**05 13 34.6**	**-0.9**
CD2				PMZ			
	comp=Z,10.0nm,0.6s						
CD2				PMZ			
	comp=Z,120nm,5.4s						
CD2				LN			
	comp=Z,190nm,13.1s						
CD2				LZ			
	comp=Z,160nm,15.5s						
XAN	**Xi'an**	**46.24**	**337**	P	**P**	**05 06 36.4**	**-2.3**
XAN				pP	**pP**	**05 06 49.7**	**+0.6**
XAN				PMZ			
	comp=Z,4.0nm,0.9s						
LZH	**Lanzhou**	**50.11**	**333**	*e*P	**P**	**05 07 08.4**	**-0.4**
LZH				pP	**pP**	**05 07 18.1**	**-1.2**
LZH				sP	**sP**	**05 07 23.3**	**-0.1**
LZH				PMZ			
	comp=Z,26nm,1.2s						
LZH				PMZ			
	comp=Z,170nm,5.3s						
RPZ	**Rata Peaks**	**50.84**	**141**	P	**P**	**05 07 15.1**	**+1.0**
	comp=Z,11nm,0.9s,baz=11,slow=11,SNR=4.3						
HHC	**Hu-ho-hao-te**	**51.51**	**343**	*e*P	**P**	**05 07 21.9**	**+2.7**
HHC				pP	**pP**	**05 07 32.0**	**+2.3**
HHC				sP	**sP**	**05 07 35.9**	**+2.1**
HHC				PP	**PP**	**05 09 20.2**	**+3.3**
HHC				S	**S**	**05 14 40.4**	**+3.1**
HHC				sS	**sS**	**05 14 56.9**	**+2.3**
HHC				ScS	**ScS**	**05 17 06.6**	**-0.4**
HHC				PMZ			
	comp=Z,16nm,0.6s						
HHC				PMZ			
	comp=Z,97nm,5.4s						
HHC				LN			
	comp=Z,140nm,15.7s						
HHC				LE			
	comp=Z,220nm,16.1s						
HHC				LZ			
	comp=Z,77nm,16.2s						
CN2	**Changchun**	**52.01**	**357**	*e*P	P	05 07 26.7	+4.0
USRK	**Ussuriysk Ar.**	**52.39**	**3**	P	**P**	**05 07 24.5**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=212,slow=6.4,SNR=4.3						
URZ	**Urewera**	**52.53**	**132**	P	**P**	**05 07 26.4**	**-0.4**
	comp=Z,35nm,1.4s,baz=207,slow=2.3,SNR=4.2						
MDJ	**Mudanjiang**	**52.74**	**1**	P	**P**	**05 07 30.0**	**+1.9**
MDJ				PMZ			
	comp=Z,3.0nm,0.8s						
MDJ				PMZ			
	comp=Z,35nm,5.2s						
ODAN	**Odare**	**53.35**	**312**	*e*P	**P**	**05 07 32.5**	**-0.7**
TAPN	**Taplejung**	**53.40**	**313**	*e*P	**P**	**05 07 32.1**	**-1.6**
	comp=Z,36nm,0.9s						
RAMN	**Ramite**	**53.98**	**312**	*e*P	**P**	**05 07 36.7**	**-1.2**
	comp=Z,57nm,0.9s						
GTA	**Gaotai**	**54.66**	**332**	P	**P**	**05 07 41.5**	**-0.9**
GTA				pP	**pP**	**05 07 51.7**	**-1.3**
GTA				sP	**sP**	**05 07 55.5**	**-1.6**
GTA				S	**S**	**05 15 17.8**	**-2.4**
GTA				sS	**sS**	**05 15 34.9**	**-2.7**
GTA				SS	**SS**	**05 19 01.6**	**-2.1**
GTA				PMZ			
	comp=Z,6.0nm,1.3s						
GTA				PMZ			
	comp=Z,61nm,6.5s						
GTA				LN			
	comp=Z,100nm,18.0s						
GTA				LE			
	comp=Z,130nm,20.0s						
GTA				LZ			
	comp=Z,74nm,20.9s						
JIRN	**Jiri**	**54.68**	**312**	*e*P	**P**	**05 07 42.2**	**-0.9**
	comp=Z,18nm,0.8s						
GUN	**Gumba**	**55.05**	**313**	*e*P	**P**	**05 07 44.2**	**-1.6**
	comp=Z,41nm,0.8s						
PKI	**Pulchoki**	**55.21**	**312**	*e*P	**P**	**05 07 45.6**	**-1.3**
	comp=Z,11nm,0.5s						
PKIN	**Phulchoki**	**55.22**	**312**	*e*P	**P**	**05 07 45.7**	**-1.2**
	comp=Z,11nm,0.5s						

	comp=Z,5.0nm,0.8s							
YAK	**Yakutsk**	**70.18**	**0**	*e*P		**P**	**05 09 24.6**	**-1.0**
YAK				pmax		pmax		
	comp=Z,11nm,0.8s							
TKM2	**Tokmak 2**	**70.35**	**321**	*e*P		**P**	**05 09 26.8**	**-0.6**
TKM2				pmax		pmax		
	comp=Z,2.0nm,0.8s							
TKM2	**Tokmak 2**	**70.35**	**321**	*e*P		**P**	**05 09 26.8**	**-0.6**
	comp=Z,2.0nm,0.8s							
AAK	**Ala-Archa**	**70.89**	**321**	*c*eP		**P**	**05 09 30.4**	**-0.2**
AAK				pmax		pmax		
	comp=Z,13nm,1.7s							
VNDA	**Vanda**	**71.23**	**173**	P		**P**	**05 09 33.1**	**+1.2**
	comp=Z,1.5nm,0.6s,baz=318,slow=7.3,SNR=14							
VNDA				LR		LR	05 40 26.0	
	comp=Z,82nm,18.2s,baz=334,slow=36							
VNDA	**Vanda**	**71.23**	**173**	*e*P		**P**	**05 09 32.3**	**+0.4**
VNDA				pmax		pmax		
	comp=Z,2.0nm,0.8s							
VNDA	**Vanda**	**71.23**	**173**	*e*P		**P**	**05 09 32.3**	**+0.4**
	comp=Z,2.1nm,0.8s							
EKS2	**Erkin-Say**	**71.36**	**320**	*e*P		**P**	**05 09 33.1**	**-0.2**
EKS2				pmax		pmax		
	comp=Z,4.0nm,1.0s							
EKS2	**Erkin-Say**	**71.36**	**320**	*e*P		**P**	**05 09 33.1**	**-0.2**
	comp=Z,3.6nm,1.0s							
ZAA0	**Zalesovo Array**	**72.33**	**334**	*e*P		**P**	**05 09 36.8**	**-1.9**
ZALV	**Zalesovo Beam**	**72.33**	**334**	P		**P**	**05 09 37.2**	**-1.5**
	comp=Z,2.3nm,0.4s,baz=108,slow=4.8,SNR=14							
KURBB	**Kurchatov Arra**	**73.11**	**329**	P		**P**	**05 09 42.8**	**-0.6**
	comp=Z,7.9nm,0.8s,baz=130,slow=5.0,SNR=101							
KURK	**Kurchatov**	**73.12**	**329**	P		**P**	**05 09 42.8**	**-0.7**
KURK	**Kurchatov**	**73.12**	**329**	P		**P**	**05 09 42.8**	**-0.7**
MAW	**Mawson**	**73.29**	**201**	P		**P**	**05 09 45.9**	**+1.6**
	comp=Z,6.3nm,0.8s,baz=87,slow=5.1,SNR=9.3							
SEY	**Seymchan**	**73.34**	**11**	P		**P**	**05 09 44.4**	**-0.2**
	comp=Z,10nm,0.8s,baz=212,slow=4.6,SNR=25							
NVS	**Novosibirsk**	**73.62**	**334**	*e*P		P	05 09 43.1	-3.3
NVS				pmax		pmax		
	comp=Z,6.0nm,0.9s							
NVS				pmax		pmax		
	comp=N,2.0nm,0.5s							
NVS				pmax		pmax		
	comp=E,1.0nm,0.2s							
BRVK	**Borovoye**	**78.71**	**328**	*c*eP		**P**	**05 10 14.5**	**-0.9**
BRVK				pmax		pmax		
	comp=Z,6.0nm,1.0s							
OPO	**Ambohidratompo**	**79.58**	**253**	P		**P**	**05 10 22.3**	**+1.2**
	comp=Z,4.2nm,0.9s,baz=82,slow=5.9,SNR=3.1							
TIXI	**Tiksi**	**79.84**	**360**	*c*eP		**P**	**05 10 20.0**	**-1.2**
TIXI				pmax		pmax		
	comp=Z,5.0nm,0.8s							
TIXI	**Tiksi**	**79.84**	**360**	*e*P		**P**	**05 10 19.9**	**-1.2**
	comp=Z,5.5nm,0.8s							
GEYT	**Alibeck**	**80.27**	**311**	P		**P**	**05 10 24.9**	**+0.6**
	comp=Z,2.3nm,0.6s,baz=145,slow=5.4,SNR=5.4							
QSPA	**South Pole Qui**	**81.62**	**180**	P		**P**	**05 10 31.9**	**+0.8**
	comp=Z,7.2nm,0.9s,baz=324,slow=1.9,SNR=19							
QSPA	**South Pole Qui**	**81.62**	**180**	*e*P		**P**	**05 10 31.6**	**+0.6**
	comp=Z,8.8nm,0.9s							
ABKAR	**Akbulak array**	**82.91**	**322**	*e*P		**P**	**05 10 36.5**	**-1.4**
	comp=Z,1.1nm,0.5s							
AKTO	**Aktyubinsk**	**84.49**	**323**	P		**P**	**05 10 45.4**	**-0.6**
	comp=Z,3.2nm,0.9s,baz=120,slow=4.4,SNR=9.1							
SVE	**Sverdlovsk**	**85.37**	**329**	*e*P		**P**	**05 10 49.8**	**-0.5**
ARU	**Arti**	**86.29**	**328**	*c i*P		**P**	**05 10 53.3**	**-1.5**
ARU							05 14 09.1	
ARU				PPP		PPP	05 16 09.6	
ARU				S		S	05 21 16.5	-11
ARU				pmax		pmax		
	comp=Z,6.0nm,1.0s							
KDAK	**Kodiak Island**	**90.94**	**32**	*i* P		**P**	**05 11 19.7**	**+2.9**
KMBO	**Kilima Mbogo**	**91.48**	**269**	P		**P**	**05 11 21.6**	**+0.9**
	comp=Z,3.9nm,0.8s,baz=39,slow=5.8,SNR=7.8							
KMBO	**Kilima Mbogo**	**91.48**	**269**	*e*P		**P**	**05 11 22.0**	**+1.3**
KMBO				pmax		pmax		
	comp=Z,5.0nm,1.0s							
KMBO	**Kilima Mbogo**	**91.48**	**269**	*e*P		**P**	**05 11 22.0**	**+1.3**
	comp=Z,5.2nm,1.0s							
KBZ	**Khabaz**	**92.85**	**314**	P		**P**	**05 11 25.2**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=53,slow=20,SNR=3.2							
MCK	**McKinley**	**93.98**	**26**	*e*P		**P**	**05 11 28.7**	**-2.1**
MCK				pmax		pmax		
	comp=Z,18nm,1.5s							
MCK	**McKinley**	**93.98**	**26**	*e*P		**P**	**05 11 28.7**	**-2.1**
	comp=Z,18nm,1.5s							
SNAA	**Sanae**	**94.09**	**194**	P		**P**	**05 11 33.3**	**+2.0**
COLD	**Coldfoot**	**94.14**	**23**	*e*P		**P**	**05 11 30.6**	**-0.8**
	comp=Z,3.1nm,1.0s							
COLA	**College**	**94.64**	**25**	*e*P		P	05 11 30.5	-3.3
COLA				pmax		pmax		
	comp=Z,3.0nm,0.8s							
COLA	**College**	**94.64**	**25**	*e*P		P	05 11 30.5	-3.3
	comp=Z,3.1nm,0.8s							
ILAR	**Eielson Array**	**95.03**	**25**	P		**P**	**05 11 33.5**	**-2.2**
	comp=Z,2.9nm,0.9s,baz=270,slow=4.3,SNR=31							
VNA2	**Neumayer--Watz**	**95.67**	**193**	P		**P**	**05 11 40.4**	**+2.0**
	baz=136,slow=4.4							
INK	**Inuvik**	**100.52**	**22**	*e*P		**Pdif**	**05 12 00.0**	**-0.2**
INK				pmax		pmax		
	comp=Z,4.0nm,1.1s							
INK	**Inuvik**	**100.52**	**22**	*e*P		**Pdif**	**05 11 60.0**	**-0.2**
	comp=Z,3.5nm,1.1s							
FINES	**FINESS Array B**	**103.44**	**331**	PKiKP		**PKiKP**	**05 16 32.7**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=108,slow=4.5,SNR=9.1							
RES	**Resolute Bay**	**109.21**	**11**	Pdiff		**Pdif**	**05 12 39.2**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=293,slow=7.7,SNR=4.1							
RES				PKiKP		**PKiKP**	**05 16 42.8**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=2.5,slow=5.1,SNR=3.8							
YKA	**Yellowknife Ar**	**109.44**	**26**	Pdiff		**Pdif**	**05 12 39.7**	**-0.3**
	comp=Z,0.1nm,0.6s,baz=292,slow=4.6,SNR=3.9							
YKA				PKiKP		**PKiKP**	**05 16 42.8**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=298,slow=1.7,SNR=7.8							
GERES	**GERESS Array B**	**112.76**	**320**	PKiKP		**PKiKP**	**05 16 50.2**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=92,slow=1.6,SNR=9.6							
PDAR	**Pinedale Array**	**118.61**	**46**	PKP		**PKPdf**	**05 17 01.9**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=107,slow=2.0,SNR=3.8							
KEST	**Kesra**	**118.77**	**306**	PKP		**PKPdf**	**05 17 03.2**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=143,slow=5.4,SNR=4.3							
ULM	**Lac du Bonnet**	**124.17**	**33**	PKP		**PKPdf**	**05 17 11.0**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=298,slow=1.7,SNR=3.7							
ULM	**Lac du Bonnet**	**124.17**	**33**	PKiKP		**PKPdf**	**05 17 11.0**	**-0.8**
TXAR	**Lajitas Array**	**126.55**	**60**	PKP		**PKPdf**	**05 17 17.9**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=148,slow=1.5,SNR=5.2							
PLCA	**Paso Flores**	**127.95**	**161**	PKP		**PKPdf**	**05 17 20.3**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=275,slow=1.9,SNR=4.1							
TOA0	**Torodi Ar. Sit**	**128.00**	**280**	*e*PKPdf		**PKPdf**	**05 17 19.9**	**-0.1**
TORD	**Torodi Ar. Bea**	**128.00**	**280**	PKP		**PKPdf**	**05 17 20.3**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=41,slow=2.0,SNR=28							
SCHQ	**Scheffervill**	**131.98**	**12**	PKP		**PKPdf**	**05 17 27.5**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=256,slow=12,SNR=4.3							
DBIC	**Dimbokro**	**134.15**	**271**	PKP		**PKPdf**	**05 17 33.6**	**+1.8**
	comp=Z,2.8nm,0.6s,baz=77,slow=2.5,SNR=10							
LVC	**Limon Verde**	**144.61**	**151**	*e*PKPdf		**PKPdf**	**05 17 51.4**	**+0.5**
CPUP	**Villa Florida**	**144.98**	**170**	PKPbc		**PKPdf**	**05 17 51.6**	**+0.5**
	comp=Z,3.2nm,0.8s,baz=228,slow=2.2,SNR=26							
CPUP	**Villa Florida**	**144.98**	**170**	*e*PKIKP		**PKPdf**	**05 17 51.4**	**+0.3**
CPUP	**Villa Florida**	**144.98**	**170**	*e*PKPbc		**PKPdf**	**05 17 51.4**	**+0.3**
LPAZ	**La Paz**	**150.26**	**145**	PKPbc		**PKPbc**	**05 18 07.2**	**+1.2**
	comp=Z,7.1nm,0.9s,baz=151,slow=1.6,SNR=26							
LPAZ	**La Paz**	**150.26**	**145**	*e*PKIKP		**PKPbc**	**05 18 06.7**	**+0.7**
LPAZ	**La Paz**	**150.26**	**145**	*e*PKPbc		**PKPbc**	**05 18 06.7**	**+0.7**

*ISCJB **09** 05:11:27.4±0.7, 18°.49N±0°.06×146°.5E±0°.2, h64km, mb3.7/11, Error ellipse: s-maj=25.1km s-min=7.9km az=8.2*
*IDC **09** 05:11:32.0±3.0, 18°.41N×146°.40E, h93km±28km, mb3.4/11, mb1 3.6/13, mb1mx3.4/34, mbtmp3.7/13, MS3.0/2, Ms1 3.1/2, ms1mx2.7/25, Error ellipse: s-maj=28.3km s-min=14.2km az=87.0*

ISC 09 05:11:29.1±0.7, 18°.51N±0°.08×146°.5E±0°.2, h64km, n16, σ1°.02/15, mb3.5/11, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.13**	**198**	P	**Pn**	**05 12 44.5**	**+1.0**
	12nm,0.3s,baz=32,slow=11,SNR=5.9						
GUMO				S	**Sn**	**05 13 42.5**	**+1.0**
	4.2nm,0.3s,baz=133,slow=19,SNR=2.9						
GUMO				LR	LR	05 14 29.3	
	comp=Z,78nm,21.6s,baz=74,slow=35						
H11S3	**WAKE ISLAND Hy 19.16**	**87**		T	T	05 35 21.1	
	baz=273,slow=75,SNR=7.4						
H11S1	**WAKE ISLAND Hy 19.17**	**87**		T	T	05 35 20.7	
	baz=273,slow=75,SNR=5.4						
H11S2	**WAKE ISLAND Hy 19.18**	**87**		T	T	05 35 20.6	
	baz=273,slow=75,SNR=4.6						
MJAR	**Matsushiro Arr**	**19.39**	**340**	P	**Pn**	**05 15 51.9**	**+0.4**
	0.5nm,0.3s,baz=168,slow=9.9,SNR=5.6						
KSRS	**Korea Array**	**24.91**	**323**	P	**P**	**05 16 46.7**	**+0.6**
	0.9nm,0.7s,baz=142,slow=8.4,SNR=3.8						
WRA	**Warramunga Arr**	**40.03**	**198**	P	**P**	**05 18 56.8**	**-1.3**
	1.2nm,0.6s,baz=25,slow=8.4,SNR=12						
ASAR	**Alice Springs**	**43.68**	**197**	P	**P**	**05 19 27.0**	**-0.9**
	0.5nm,0.6s,baz=21,slow=10,SNR=7.1						
STKA	**Stephens Creek**	**50.32**	**185**	P	**P**	**05 20 18.2**	**-1.2**
	1.6nm,0.7s,baz=349,slow=9.9,SNR=5.4						
ZALV	**Zalesovo Beam**	**58.62**	**322**	P	**P**	**05 21 18.4**	**-1.0**
	0.5nm,0.3s,baz=106,slow=3.1,SNR=2.9						
MKAR	**Makanchi Array**	**59.13**	**314**	P	**P**	**05 21 23.7**	**+0.6**
	0.2nm,0.7s,baz=64,slow=5.0,SNR=3.2						
MKAR				PcP	**PcP**	**05 22 10.8**	**-0.4**
	0.2nm,0.5s,baz=93,slow=2.9,SNR=2.3						
ILAR	**Eielson Array**	**63.48**	**26**	P	**P**	**05 21 51.5**	**-0.6**
	0.2nm,0.8s,baz=250,slow=4.0,SNR=3.0						
ILAR				LR	LR	05 49 24.8	
	comp=Z,23nm,19.2s,baz=244,slow=36						
YKA	**Yellowknife Ar**	**77.80**	**28**	P	**P**	**05 23 20.8**	**+1.6**
	0.3nm,0.7s,baz=287,slow=5.5,SNR=5.1						
NVAR	**Mina Array Bea**	**82.67**	**52**	P	**P**	**05 23 46.9**	**+0.7**
	0.2nm,0.6s,baz=268,slow=2.7,SNR=2.5						
ARCES	**ARCESS Array B**	**82.90**	**342**	P	**P**	**05 23 46.6**	**0.0**
	3.2nm,0.6s,baz=67,slow=7.7,SNR=25						
FINES	**FINESS Array B**	**87.36**	**335**	P	**P**	**05 24 07.8**	**-1.1**
	2.4nm,0.9s,baz=80,slow=3.6,SNR=10						

IDC 09 05:24:06.5±2.0, 8°.09S×129°.78E, h0km, mb3.3/1, mb1 3.8/3, mb1mx3.5/31, mbtmp3.5/3, ML3.9/2, Error ellipse: s-maj=123.6km s-min=31.4km az=68.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.58**	**160**	Pn	Pn	05 27 07.6	+0.6
	0.9nm,0.3s,baz=342,slow=13,SNR=19						
WRA				Sn	Sn	05 29 20.5	-7.5
	2.0nm,0.3s,baz=337,slow=22,SNR=9.1						
ASAR	**Alice Springs**	**15.99**	**166**	Pn	Pn	05 27 52.2	-0.8
	0.3nm,0.3s,baz=344,slow=11,SNR=16						
ASAR				Sn	Sn	05 30 42.3	-8.8
	0.5nm,0.3s,baz=345,slow=26,SNR=7.8						
MKAR	**Makanchi Array**	**69.01**	**327**	P	P	05 35 14.0	0.0
	0.2nm,0.5s,baz=135,slow=7.1,SNR=3.4						

*ISCJB **09** 05:30:56.5±0.4, 36°.07N±0°.06×137°.23E±0°.07, h272km±3km, mb3.0/7, Error ellipse: s-maj=10.6km s-min=7.7km az=137.0*
*IDC **09** 05:30:57.3±0.8, 36°.06N×137°.36E, h269km±7km, mb2.8/7, mb1 3.1/11, mb1mx2.9/40, mbtmp3.6/11, Error ellipse: s-maj=18.2km s-min=14.0km az=95.0*
*JMA **09** 05:30:57.6±0.1, 36°.07N×137°.19E, h265km±1km, M2.7*

ISC 09 05:30:57.2±0.7, 36°.06N±0°.07×137°.23E±0°.07, h267km±6km, n25, σ0°.69/36, mb2.9/7, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.18**	**23**	P	**Pn**	**05 31 31.7**	**+0.1**
JGN				S	**S**	**05 31 58.0**	**-0.7**
JGM	**Miyama**	**0.55**	**229**	P	**Pn**	**05 31 32.4**	**0.0**
JGM				S	**S**	**05 31 59.5**	**-0.5**
JKG	**Kaga**	**0.76**	**287**	P	**Pn**	**05 31 33.3**	**+0.4**
JKG				S	**S**	**05 32 01.2**	**+0.1**
MAT	**Matsushiro**	**0.93**	**58**	P	**Pn**	**05 31 34.0**	**+0.3**
MAT				S	**S**	**05 32 02.9**	**+0.3**
MAT	**Matsushiro**	**0.93**	**58**	P	**Pn**	**05 31 34.0**	**+0.3**
MAT				S	**S**	**05 32 02.8**	**+0.2**
MJAR	**Matsushiro Arr**	**0.93**	**58**	P	**Pn**	**05 31 34.1**	**+0.4**
	4.1nm,0.3s,baz=242,slow=6.7,SNR=37						
MJAR				S	**S**	**05 32 02.4**	**-0.1**
	0.5nm,0.3s,baz=244,slow=22,SNR=7.0						
JYN	**Shimob**	**1.21**	**117**	P	**Pn**	**05 31 35.6**	**+0.2**
JYN				S	**S**	**05 32 05.8**	**+0.3**
JWT	**Wachi**	**1.68**	**243**	P	**Pn**	**05 31 38.6**	**+0.1**
JWT				S	**S**	**05 32 09.6**	**-1.6**
JOD2	**Odawara 2**	**1.71**	**117**	P	**Pn**	**05 31 39.5**	**+0.7**
JOD2				S	**S**	**05 32 12.5**	**+0.8**
JIE	**Ise**	**1.72**	**195**	P	**Pn**	**05 31 39.4**	**+0.5**
JIE				S	**S**	**05 32 11.9**	**0.0**
JAG	**Ashikaga**	**1.83**	**78**	S	**S**	**05 32 13.0**	**-0.4**
JSD	**Sado**	**2.14**	**22**	P	**Pn**	**05 31 42.5**	**+0.2**
JWZ	**Kozaga**	**2.81**	**207**	P	**Pn**	**05 31 49.0**	**+0.1**
JWZ				S	**S**	**05 32 29.5**	**-0.5**
JNU	**Nakatsue**	**6.00**	**243**	P	**Pn**	**05 32 26.1**	**+0.2**
	0.3nm,0.3s,baz=207,slow=6.6,SNR=4.4						
KSRS	**Korea Array**	**7.60**	**283**	P	**Pn**	**05 32 46.9**	**+1.3**
	0.1nm,0.3s,baz=96,slow=13,SNR=6.4						
ASAJ	**Asahikawa**	**9.04**	**25**	P	**Pn**	**05 33 01.4**	**-2.0**
	2.9nm,0.3s,baz=225,slow=8.4,SNR=16						
USRK	**Ussuriysk Ar.**	**9.06**	**335**	P	**Pn**	**05 33 04.4**	**+0.7**
	0.2nm,0.3s,baz=146,slow=12,SNR=17						
MKAR	**Makanchi Array**	**41.79**	**302**	P	**P**	**05 38 21.7**	**+0.9**
	0.2nm,0.6s,baz=72,slow=5.0,SNR=2.7						
ILAR	**Eielson Array**	**52.11**	**32**	P	**P**	**05 39 39.5**	**-0.4**
	0.2nm,0.6s,baz=252,slow=5.2,SNR=5.2						
WRA	**Warramunga Arr**	**55.76**	**183**	P	**P**	**05 40 06.4**	**-0.3**
	0.9nm,0.7s,baz=358,slow=7.6,SNR=8.4						
ASAR	**Alice Springs**	**59.48**	**184**	P	**P**	**05 40 32.8**	**+0.3**
	0.2nm,0.6s,baz=15,slow=12,SNR=5.6						
ARCES	**ARCESS Array B**	**63.70**	**339**	P	**P**	**05 41 00.2**	**+0.3**
	0.8nm,0.6s,baz=51,slow=6.8,SNR=5.4						
YKA	**Yellowknife Ar**	**66.31**	**29**	P	**P**	**05 41 16.7**	**-0.1**
	0.1nm,0.7s,baz=310,slow=3.9,SNR=3.7						
FINES	**FINESS Array B**	**68.07**	**331**	P	**P**	**05 41 28.1**	**+0.2**
	1.1nm,0.8s,baz=108,slow=6.2,SNR=8.4						
LPAZ	**La Paz**	**150.06**	**55**	PKPbc	**PKPbc**	**05 50 16.2**	**-1.2**
	0.6nm,0.5s,baz=207,slow=2.3,SNR=6.3						

IDC 09 05:37:49.6±7.5, 2°.39N×125°.78E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/37, mbtmp3.7/3, Error ellipse: s-maj=181.8km s-min=118.4km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.73**	**160**	P	P	05 43 04.0	+0.3
	0.9nm,0.4s,baz=338,slow=10,SNR=13						
ASAR	**Alice Springs**	**27.08**	**163**	P	P	05 43 34.2	+0.1
	0.2nm,0.4s,baz=345,slow=6.9,SNR=5.7						
STKA	**Stephens Creek**	**37.24**	**157**	P	P	05 45 02.6	-0.4
	1.1nm,0.7s,baz=320,slow=7.9,SNR=3.6						

*JMA **09** 05:41:34.8±0.4, 44°.15N×148°.88E, h30km, M4.3*
*SKHL **09** 05:41:35.0±0.8, 43°.89N×148°.91E, h33km±5km, mb4.6/3*
*IDC **09** 05:41:38.7±1.1, 45°.69N×148°.25E, h0km, mb3.7/9, mb1 3.8/10, mb1mx3.6/44, mbtmp3.7/10, ML3.5/1, Error ellipse: s-maj=30.5km s-min=20.0km az=138.0*

ISC 09 05:41:33.4±1.0, 43°.64N±0°.07×149°.11E±0°.08, h55km, n43, σ2°.24/50, mb3.7/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**1.67**	**279**	*e*P	**Pn**	**05 41 59.7**	**-0.5**
SHO				AMB	AMB	05 42 00.3	
	190nm,0.3s						
SHO				*e*S	**Sn**	**05 42 18.7**	**-1.8**
SHO				A	A	05 42 20.9	
	530nm,0.3s						
SHO				A	A	05 42 20.9	
	540nm,0.3s						
KUR	**Kuril'sk**	**1.83**	**331**	*i* P	**Pn**	**05 41 59.7**	**-2.7**
KUR				AMB	AMB	05 42 03.0	
	150nm,0.5s						
KUR				AMB	AMB	05 42 05.5	
	1μm,0.5s						
KUR				*e*S	**Sn**	**05 42 18.6**	**-5.8**
KUR				A	A	05 42 19.8	
	1μm,0.8s						
KUR				A	A	05 42 19.8	
	690nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**2.38**	**281**	*i* P	**Pn**	**05 42 09.4**	**-0.6**
YUK				AMB	AMB	05 42 10.2	
	50nm,0.2s						
YUK				AMB	AMB	05 42 10.2	
	40nm,0.2s						
YUK				AMB	AMB	05 42 10.2	
	100nm,0.2s						
YUK				*i* S	**Sn**	**05 42 35.3**	**-2.7**
	170nm,0.3s						
YUK				A	A	05 42 37.2	
	180nm,0.3s						
NEM2	**Nemuro 2**	**2.47**	**265**	P	**Pn**	**05 42 11.1**	**0.0**
NEM2				*e*S	**Sn**	**05 42 37.6**	**-2.4**
JRA	**Rausu**	**2.91**	**277**	P	**Pn**	**05 42 17.5**	**+0.4**
JNK	**Nakash**	**3.19**	**271**	P	**Pn**	**05 42 21.6**	**+0.6**
JNK				*e*S	**Sn**	**05 42 55.8**	**-2.0**
JAK	**Akkeshi**	**3.29**	**260**	P	**Pn**	**05 42 23.0**	**+0.7**
JAK				*e*S	**Sn**	**05 42 59.0**	**-1.1**
JTKR	**Abashiri--Toko**	**3.78**	**277**	P	**Pn**	**05 42 30.1**	**+1.0**
JAR	**Ashorobuto**	**3.90**	**267**	P	**Pn**	**05 42 31.9**	**+1.1**
JAR				*e*S	**Sn**	**05 43 14.7**	**-0.6**
JOB	**Onbets**	**3.92**	**261**	P	**Pn**	**05 42 32.2**	**+1.2**
JOB				*e*S	**Sn**	**05 43 15.2**	**-0.6**
JMP	**Maruseppu**	**4.18**	**277**	P	**Pn**	**05 42 35.7**	**+1.1**
JCH	**Churui**	**4.33**	**258**	P	**Pn**	**05 42 37.6**	**+1.0**
JCH				*e*S	**Sn**	**05 43 24.3**	**-1.5**
HRK	**Horoka**	**4.35**	**270**	*e*P	**Pn**	**05 42 38.8**	**+1.8**
HRK				*e*S	**Sn**	**05 43 27.1**	**+0.7**
MYR	**Moyori**	**4.48**	**255**	*e*P	**Pn**	**05 42 40.8**	**+2.1**
MYR				*e*S	**Sn**	**05 43 29.1**	**-0.4**
JKK2	**Kamakawa 2**	**4.62**	**275**	P	**Pn**	**05 42 42.7**	**+2.1**
ASAJ	**Asahikawa**	**4.73**	**278**	Pn	**Pn**	**05 42 44.3**	**+2.1**
	2.1nm,0.3s,baz=186,slow=4.7,SNR=8.6						
ASAJ				Sn	**Sn**	**05 43 40.9**	**+5.2**
	baz=253,slow=19,SNR=1.9						
JFR	**Furan**	**4.77**	**267**	P	**Pn**	**05 42 44.8**	**+2.1**
JNBK	**Urakawa-nobuka**	**4.86**	**256**	P	**Pn**	**05 42 45.1**	**+1.2**
JNBK				*e*S	**Sn**	**05 43 37.3**	**-1.5**
JBT2	**Biratori 2**	**5.01**	**262**	P	**Pn**	**05 42 47.1**	**+1.2**
JKB	**Kayabe**	**6.20**	**256**	P	**Pn**	**05 43 03.5**	**+1.3**
JKB				*e*S	**Sn**	**05 44 08.8**	**-2.9**
JANG	**Nango**	**6.53**	**243**	*e*S	**Sn**	**05 44 15.8**	**-4.1**
JTH	**Tanohata**	**6.56**	**238**	*e*S	**Sn**	**05 44 16.2**	**-4.3**
JYM2	**Yakumo 2**	**6.60**	**260**	P	**Pn**	**05 43 09.3**	**+1.6**
JTM	**Tenmabayashi**	**6.62**	**247**	P	**Pn**	**05 43 09.3**	**+1.4**
JTM				*e*S	**Sn**	**05 44 18.7**	**-3.3**
JSR	**Shiriuchi**	**6.75**	**255**	P	**Pn**	**05 43 11.9**	**+2.1**
JRG	**Rokugo**	**7.64**	**239**	*e*S	**Sn**	**05 44 44.9**	**-2.3**
JIO	**Ouri**	**7.82**	**231**	*e*S	**Sn**	**05 44 47.3**	**-4.3**
JFK	**Kawauchi**	**8.86**	**228**	*e*S	**Sn**	**05 45 12.9**	**-4.3**
H11N2	**WAKE ISLAND Hy 28.11**	**142**		T	T	06 18 25.2	
	baz=333,slow=76,SNR=20						
H11N1	**WAKE ISLAND Hy 28.13**	**142**		T	T	06 18 26.2	
	baz=333,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy 28.13**	**142**		T	T	06 18 29.1	
	baz=333,slow=76,SNR=16						
H11S1	**WAKE ISLAND Hy 29.11**	**144**		T	T	06 19 43.9	
	baz=334,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy 29.11**	**144**		T	T	06 19 47.8	
	baz=334,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy 29.12**	**144**		T	T	06 19 41.3	
	baz=334,slow=76,SNR=13						
SONM	**Songino Array**	**29.82**	**293**	P	**P**	**05 47 34.5**	**-0.7**
	1.6nm,0.5s,baz=71,slow=9.3,SNR=3.6						
ILAR	**Eielson Array**	**40.74**	**36**	P	**P**	**05 49 09.0**	**+0.6**
	0.2nm,0.8s,baz=278,slow=9.8,SNR=4.5						
MKAR	**Makanchi Array**	**45.89**	**298**	P	**P**	**05 49 51.2**	**+1.0**
	0.3nm,0.6s,baz=69,slow=4.8,SNR=5.6						
RES	**Resolute Bay**	**54.66**	**17**	P	**P**	**05 50 56.8**	**+0.8**
	1.3nm,0.5s,baz=334,slow=9.8						
YKA	**Yellowknife Ar**	**55.10**	**34**	P	**P**	**05 51 00.3**	**+1.0**
	0.1nm,0.6s,baz=303,slow=7.1,SNR=3.6						
WRA	**Warramunga Arr**	**64.70**	**195**	P	P	05 52 30.8	+25
	0.3nm,0.8s,baz=24,slow=7.7,SNR=3.2						
FINES	**FINESS Array B**	**65.61**	**334**	P	**P**

CHVG				S	**Sg**	**05 56 24.4**	**-0.6**
TBLG	**Delisi**	**1.14**	**131**	*e*PN	**Pb**	**05 56 09.9**	**-0.4**
TBLG				*e*SN	**Sb**	**05 56 25.1**	**0.0**
TBLG	**Delisi**	**1.14**	**131**	P	**Pb**	**05 56 09.4**	**-0.8**
TBLG				S	**Sb**	**05 56 25.6**	**+0.5**
TBLG	**Delisi**	**1.14**	**131**	*e*PG	**Pb**	**05 56 09.4**	**-0.8**
TBLG	**Delisi**	**1.14**	**131**	P	**Pb**	**05 56 09.4**	**-0.8**
TBLG	**Delisi**	**1.14**	**131**	*e*Pn	**Pb**	**05 56 09.9**	**-0.4**
TBLG				*e*Sn	**Sb**	**05 56 25.1**	**0.0**
SEAG	**Tbilisi Sea**	**1.15**	**128**	P	**Pb**	**05 56 09.0**	**-1.5**
SEAG				S	**Sb**	**05 56 25.7**	**+0.1**
SEAG	**Tbilisi Sea**	**1.15**	**128**	P	**Pb**	**05 56 09.0**	**-1.5**
SEAG				S	**Sb**	**05 56 25.7**	**+0.1**
KZR	**Kazreti**	**1.26**	**151**	P	**Pn**	**05 56 11.2**	**-1.0**
KZR				S	**Sb**	**05 56 26.5**	**-2.2**
KZR	**Kazreti**	**1.26**	**151**	P	**Pn**	**05 56 11.2**	**-1.0**
KZR				S	**Sb**	**05 56 26.5**	**-2.2**
PRTR	**Priterechnaya**	**1.36**	**22**	*e*PG	**Pg**	**05 56 14.6**	**0.0**
PRTR				*e*S	**Sg**	**05 56 33.2**	**+0.9**
PRTR	**Priterechnaya**	**1.36**	**22**	*e*Pg	**Pg**	**05 56 14.6**	**0.0**
PRTR				*e*Sg	**Sg**	**05 56 33.2**	**+0.9**
SHAR	**Shatzhatmas**	**1.43**	**332**⇑	*e*PG	**Pn**	**05 56 14.8**	**+0.1**
SHAR				*e*S	**Sn**	**05 56 33.2**	**-0.5**
SHAR	**Shatzhatmas**	**1.43**	**332**	*e*Pg	**Pn**	**05 56 14.8**	**+0.1**
SHAR				*e*Sg	**Sn**	**05 56 33.2**	**-0.5**
TRKR	**Terskaya**	**1.50**	**34**	*e*PG	**Pg**	**05 56 18.9**	**+1.8**
TRKR				*i* S	**Sg**	**05 56 39.0**	**+2.5**
TRKR	**Terskaya**	**1.50**	**34**	*e*Pg	**Pg**	**05 56 18.9**	**+1.8**
TRKR				*i* Sg	**Sg**	**05 56 39.0**	**+2.5**
PYA	**Pyatigorsk**	**1.60**	**346**⇓	*e*PG	**Pb**	**05 56 17.7**	**-0.4**
PYA				*i* S	**Sg**	**05 56 39.2**	**-0.6**
PYA	**Pyatigorsk**	**1.60**	**346**	*e*Pg	**Pb**	**05 56 17.7**	**-0.4**
PYA				*i* Sg	**Sg**	**05 56 39.2**	**-0.6**
KIV	**Kislovodsk**	**1.61**	**336**	*e*PN	**Pb**	**05 56 18.4**	**0.0**
KIV	**Kislovodsk**	**1.61**	**336**⇓	*i* PG	**Pb**	**05 56 17.8**	**-0.6**
KIV				*e*S	**Sb**	**05 56 38.8**	**-0.1**
KIV	**Kislovodsk**	**1.61**	**336**	*i* Pg	**Pb**	**05 56 17.8**	**-0.6**
KIV	**Kislovodsk**	**1.61**	**336**	*e*Pn	**Pb**	**05 56 18.4**	**0.0**
KIV				*e*Sg	**Sb**	**05 56 38.8**	**-0.1**
DGRG	**David-gareji**	**1.68**	**127**	P	**Pb**	**05 56 19.7**	**+0.2**
DGRG				S	**Sg**	**05 56 43.2**	**+0.7**
DGRG	**David-gareji**	**1.68**	**127**	*e*PN	**Pb**	**05 56 19.7**	**+0.2**
DGRG	**David-gareji**	**1.68**	**127**	P	**Pb**	**05 56 19.7**	**+0.2**
DGRG				S	**Sg**	**05 56 43.2**	**+0.7**
ARTV	**Artvin**	**1.80**	**224**	*i* P	**Pn**	**05 56 20.8**	**+1.1**
ARTV				*i* S	**Sb**	**05 56 44.8**	**+0.5**
ARTV	**Artvin**	**1.80**	**224**	*i* P	**Pn**	**05 56 20.8**	**+1.1**
ARTV				*i* S	**Sb**	**05 56 44.8**	**+0.5**
BCA	**Borcka**	**1.80**	**235**	*e*PN	**Pn**	**05 56 20.0**	**+0.4**
BCA	**Borcka**	**1.80**	**235**	*e*Pn	**Pn**	**05 56 20.0**	**+0.4**
DAGI	**Agillar**	**1.88**	**222**	*i* P	**Pb**	**05 56 22.2**	**-0.8**
DAGI				*i* S	**Sb**	**05 56 47.4**	**+0.8**
KARS	**Kars**	**1.89**	**192**	*e*PN	**Pn**	**05 56 21.0**	**0.0**
KARS	**Kars**	**1.89**	**192**	*e*Pn	**Pn**	**05 56 21.0**	**0.0**
DBAD	**Bademkaya**	**2.04**	**225**	*i* P	**Pn**	**05 56 24.4**	**+1.4**
DBAD				*i* S	**Sb**	**05 56 51.9**	**+0.8**
DBAD	**Bademkaya**	**2.04**	**225**	*i* P	**Pn**	**05 56 24.4**	**+1.4**
DBAD				*i* S	**Sb**	**05 56 51.9**	**+0.8**
DDEM	**Demirkent**	**2.10**	**222**	*i* P	**Pn**	**05 56 25.1**	**+1.2**
DDEM				*i* S	**Sb**	**05 56 54.2**	**+1.2**
DDEM	**Demirkent**	**2.10**	**222**	*i* P	**Pn**	**05 56 25.1**	**+1.2**
DDEM				*i* S	**Sb**	**05 56 54.2**	**+1.2**
GNI	**Garni**	**2.49**	**159**	*e*PN	**Pb**	**05 56 33.1**	**-0.2**
GNI	**Garni**	**2.49**	**159**	*e*Pn	**Pb**	**05 56 33.1**	**-0.2**
GOF	**Gofitskoye**	**2.60**	**351**	*e*PN	**Pb**	**05 56 33.4**	**-1.8**
GOF	**Gofitskoye**	**2.60**	**351**	*e*Pn	**Pb**	**05 56 33.4**	**-1.8**
BAYT	**Ayd¯-ntepe-Bay**	**3.33**	**232**	*e*PN	**Pn**	**05 56 41.9**	**+1.1**
BAYT	**Ayd¯-ntepe-Bay**	**3.33**	**232**	*e*Pn	**Pn**	**05 56 41.9**	**+1.1**
HKC	**Hong Kong Obse**	**61.21**	**85**⇑	*i* P	P	06 06 08.0	+4.4

BJI ***09*** *05:59:38.0,3.47N×95.85E,h43km,mb6.4/89,mB7.1/69, Ms7.4/92,Ms7 7.3/85*

GCMT ***09*** *05:59:41.6±0.1,3.36N×95.78E,h37km,MW7.3/145, Moment Tensor Solution. s145,c386; s138,c625; Duration: 10s3 Moment tensor: Scale 10^20Nm; Mrr0.45±.00; Mθθ-0.28±.00; Mϕϕ-0.17±.00; Mrθ0.63±.01; Mθϕ0.23±.00; Mϕr-0.53±.01; Best double couple: M0 0.94100×10^20 NP1:ϕs130.00000°,δ75.00000°, λ91.00000°. NP2:ϕs308.00000°,δ15.00000°,λ88.00000°. Principal axes: T 0.9370, Plg60.0000°, Azm41.0000°; N 0.0100, Plg0.0000°, Azm310.0000°; P -0.9450, Plg30.0000°, Azm220.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=150s.*

ISCJB ***09*** *05:59:41.5±0.3,3.76N±0.02×96.06E±0.01,h48km±2km, mb6.6/392,MS7.2/409 Error ellipse: s-maj=2.8km s-min=1.8km az=31.2*

MOS ***09*** *05:59:41.1±0.9,3.83N×96.09E,h45km,mb6.9/135, MS7.2/119,Error ellipse: s-maj=6.1km s-min=3.2km az=122.8 Broadband fault plane solution: P waves. M0 7.30000×10^19 NP1:ϕs132.00000°,δ71.00000°, λ100.00000°. NP2:ϕs284.00000°,δ21.00000°,λ63.00000°. Principal axes: T Plg63.0000°, Azm57.0000°; N Plg9.0000°, Azm309.0000°; P Plg25.0000°, Azm214.0000°;*

NEIC ***09*** *05:59:41.6±0.1,3.75N×96.02E,h38km,mb6.6/180,ME7.0, MS7.3/297,MW7.2,MW7.2,MW7.2 Error ellipse: s-maj=3.4km s-min=2.3km az=30.0,Moment Tensor Solution. s75 Moment tensor: Scale 10^19Nm; Mrr6.02; Mθθ-2.04; Mϕϕ-3.98; Mrθ3.55; Mθϕ-0.43; Mϕr-5.26; Best double couple: M0 8.30000×10^19 NP1:ϕs156.00000°, δ71.00000°,λ81.00000°. NP2:ϕs3.00000°,δ21.00000°, λ116.00000°. Principal axes: T 9.3200, Plg62.0000°, Azm51.0000°; N -2.8100, Plg8.0000°, Azm158.0000°; P -6.5100, Plg25.0000°, Azm253.0000°; Broadband fault plane solution: P waves. NP1:ϕs320.00000°,δ15.00000°, λ90.00000°. NP2:ϕs140.00000°,δ75.00000°,λ90.00000°. Principal axes: T Plg60.0000°, Azm50.0000°; N Plg0.0000°, Azm0.0000°; P Plg30.0000°, Azm230.0000°; Complex earthquake, with at least two larger events occurring about 2 and 6 seconds after the onset observed on broadband displacement seismograms. Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Slight damage and a power outage reported on Simeulue. Felt [V] at Banda Aceh and Meulaboh; [IV] at Medan, Nias and Padang; [III] at Riau and Sibolga; [II] at Jakarta. Felt [III] at Alor Setar, Ayer Itam and Tanjong Bunga; [II] at Bukit Mertajam, Butterworth, Gelugor, Georgetown, Kuala Lumpur, Nibong Tebal and Tanjong Tokong, Malaysia. Felt in much of Peninsular Malaysia. Felt [III] at Phuket, Thailand. Also felt at Bangkok, Hat Yai and Yala. Felt [II] at Rangoon, Burma and at Vientiane, Laos. Also felt [II] in Singapore.

IDC ***09*** *05:59:42.8±0.8,3.86N×96.13E,h43km±6km,mb5.8/45, mb1 5.8/46,mb1mx5.7/50,mbtmp6.0/46,ML4.9/1,MS7.0/31, Ms1 7.1/31,ms1mx6.8/41 Error ellipse: s-maj=10.8km s-min=8.3km az=43.0*

SZGRF ***09*** *05:59:43.1,3.83N×95.58E,h33km,mb6.7,MS6.8,Off west coast of northern Sumatera, Indonesia*

KLM ***09*** *05:59:44.9,3.77N×96.04E,h58km,mb7.0,ML6.5,MS7.4*

NEIC ***09*** *05:59:44.0±0.0,3.23N×96.08E,h50km,Moment Tensor Solution. s52 Moment tensor: Scale 10^19Nm; Mrr3.88; Mθθ-2.10; Mϕϕ-1.78; Mrθ6.10; Mθϕ2.06; Mϕr-5.42; Best double couple: M0 9.10000×10^19 NP1:ϕs131.00000°, δ77.00000°,λ89.00000°. NP2:ϕs314.00000°,δ12.00000°, λ92.00000°. Principal axes: T 9.0000, Plg57.0000°, Azm41.0000°; N 0.1200, Plg0.0000°, Azm131.0000°; P -9.1300, Plg32.0000°, Azm222.0000°;*

DJA ***09*** *05:59:45.1±0.2,4.N±2.×9.6E±.,h55km±2km,M7.1/153, mb6.6/153,mB7.1/151,MLv7.1/13,Mw(mB)7.1/151, Mwp6.9/140*

NEIC ***09*** *06:00:04.7±0.0,3.26N×95.31E,h43km,Moment Tensor Solution. s177 Moment tensor: Scale 10^19Nm; Mrr5.14; Mθθ-2.93; Mϕϕ-2.21; Mrθ4.90; Mθϕ2.24; Mϕr-4.85; Best double couple: M0 8.50000×10^19 NP1:ϕs308.00000°, δ18.00000°,λ84.00000°. NP2:ϕs134.00000°,δ72.00000°, λ92.00000°. Principal axes: T 8.6700, Plg62.0000°, Azm46.0000°; N -0.3200, Plg1.0000°, Azm313.0000°; P*

-8.3500, Plg27.0000°, Azm222.0000°;

ISC 09 05:59:42.3±0.2,3.73N±0.02×96.03E±0.02,h42km±1km, h42km:pP-P,n2757,σ1s50/3106,mb6.6/387,MS7.3/419, 647C-256D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**1.35**	**167**	P	**Pn**	**06 00 04.4**	**-0.3**
LHMI	**Lhok Sumawe**	**1.75**	**32**	P	Pn	06 00 13.6	+3.4
LHMI	**Lhok Sumawe**	**1.75**	**32**	⇑P	**Pn**	**06 00 12.9**	**+2.8**
	baz=1.7,SNR=917						
LHMI	**Lhok Sumawe**	**1.75**	**32**	⇓*i*Pn	Pn	06 00 13.6	+3.4
KCSI	**Kotacane, Aceh**	**1.75**	**97**	P	**Pn**	**06 00 12.9**	**+2.6**
BSI	**Banda Aceh**	**1.90**	**337**	P	**Pn**	**06 00 13.8**	**+1.5**
TSI	**Tuntungan**	**2.54**	**95**	P	**Pn**	**06 00 23.7**	**+2.6**
GSI	**Gunungsitoli**	**2.87**	**147**	P	**Pn**	**06 00 25.4**	**-0.2**
GSI	**Gunungsitoli**	**2.87**	**147**	*e*Pn	**Pn**	**06 00 25.4**	**-0.2**
GSI				*e*Sn	**Sn**	**06 01 01.9**	**+3.0**
PSI	**Prapat**	**3.04**	**108**	P	**Pn**	**06 00 30.7**	**+2.7**
	200nm,0.3s,baz=286,slow=9.8,SNR=541						
PSI				S	**Sn**	**06 01 04.3**	**+1.1**
	2µm,0.3s,baz=336,slow=5.8,SNR=13						
PSI	**Prapat**	**3.04**	**108**	*e*P	**Pn**	**06 00 29.9**	**+1.9**
PSI				S	**Sn**	**06 01 04.3**	**+1.1**
PSI	**Prapat**	**3.04**	**108**	*e*Pn	**Pn**	**06 00 29.9**	**+1.9**
PSI				S	**Sn**	**06 01 04.3**	**+1.1**
CMBY	**CAMPBELL BAY**	**3.87**	**327**	*e*P	**Pn**	**06 00 40.2**	**+0.8**
CMBY				AMB	AMB	06 01 05.3	
	comp=Z,16µm,0.8s						
MNSI	**Mandailing Nat**	**4.59**	**129**	P	**Pn**	**06 00 50.4**	**+1.1**
PKDT	**Phuket**	**4.73**	**29**	P	**Pn**	**06 00 52.7**	**+1.5**
KULM	**Kulim**	**4.86**	**71**	⇓S	**Sn**	**06 01 50.4**	**+2.3**
KULM	**Kulim**	**4.86**	**71**	*e*Pn	**Pn**	**06 00 54.9**	**+1.9**
KULM				*e*Sn	**Sn**	**06 01 49.4**	**+1.4**
IPM	**Ipoh**	**5.04**	**81**	⇓P	**Pn**	**06 00 57.5**	**+2.0**
TRTT	**Trang**	**5.47**	**42**	P	**Pn**	**06 01 03.0**	**+1.7**
	comp=Z,11µm,0.8s,comp=Z,804µmcomp=Z,110nm						
SKLT	**Songkhla**	**5.71**	**53**	P	**Pn**	**06 01 06.6**	**+2.0**
	comp=Z,23µm,1.0s,comp=Z,506µmcomp=Z,153nm						
SURT	**Suratani**	**5.87**	**28**	P	**Pn**	**06 01 08.4**	**+1.5**
	comp=Z,4µm,0.9s,comp=Z,221µm						
BKNI	**Bangkinang**	**6.04**	**124**	P	**Pn**	**06 01 10.1**	**+0.8**
	comp=Z,14µm,1.0s,comp=Z,288µmcomp=Z,216nm						
BKNI	**Bangkinang**	**6.04**	**124**	⇓P	**Pn**	**06 01 11.1**	**+1.9**
	baz=6.1,SNR=49						
BKNI	**Bangkinang**	**6.04**	**124**	*e*Pn	**Pn**	**06 01 10.2**	**+1.0**
PDSI	**Padang**	**6.40**	**136**	P	**Pn**	**06 01 14.8**	**+0.7**
	comp=Z,6µm,0.9s,comp=Z,168µmcomp=Z,49nm						
SDSI	**Sungai Dareh**	**7.11**	**131**	P	**Pn**	**06 01 25.0**	**+1.1**
	comp=Z,2µm,1.1s,comp=Z,92µmcomp=Z,68nm						
KTGM	**Kuala Trenggan**	**7.26**	**77**	⇓P	**Pn**	**06 01 27.8**	**+1.9**
KGM	**Kluang**	**7.48**	**103**	⇓P	**Pn**	**06 01 31.7**	**+2.7**
RGRI	**Rengat**	**7.49**	**123**	P	**Pn**	**06 01 30.8**	**+1.6**
	comp=Z,5µm,1.1s,comp=Z,97µmcomp=Z,64nm						
MYKOM	**Kota Tinggi**	**8.05**	**104**	⇓P	**Pn**	**06 01 39.3**	**+2.6**
MYKOM	**Kota Tinggi**	**8.05**	**104**	*e*Pn	**Pn**	**06 01 38.7**	**+1.9**
BTDF	**Bukit Timah Da**	**8.09**	**107**	⇑P	**Pn**	**06 01 38.5**	**+1.1**
	baz=8.1,SNR=29						
TPRI	**Tanjung Pinang**	**8.94**	**108**	P	**Pn**	**06 01 50.8**	**+1.8**
	comp=Z,2µm,1.1s,comp=Z,73µm						
MASI	**Maura Aman, Be**	**9.23**	**138**	P	**Pn**	**06 01 54.6**	**+1.6**
	comp=Z,12µm,1.0s,comp=Z,188µm						
JMBI	**JAMBI**	**9.29**	**125**	P	**Pn**	**06 01 55.8**	**+2.0**
	comp=Z,11µm,1.0s,comp=Z,192µm						
DSRI	**Dabo**	**9.51**	**116**	P	Pn	06 02 02.2	+5.3
DGPR	**DIGLIPUR**	**9.87**	**342**	*e*P	**Pn**	**06 01 59.9**	**-1.9**
DGPR				AMB	AMB	06 02 21.3	
	comp=Z,3µm,1.6s						
LHSI	**Lahat**	**10.61**	**135**	P	**Pn**	**06 02 12.2**	**+0.4**
	comp=Z,8µm,0.9s,comp=Z,123µm						
MNAI	**Manna**	**10.61**	**139**	P	**Pn**	**06 02 11.6**	**-0.3**
	comp=Z,14µm,0.9s,comp=Z,166µm						
MNAI	**Manna**	**10.61**	**139**	⇑P	**Pn**	**06 02 10.9**	**-1.0**
	baz=11,SNR=34						
MNAI	**Manna**	**10.61**	**139**	*e*Pn	**Pn**	**06 02 11.5**	**-0.3**
MNAI				*e*Sn	Sn	06 04 03.2	-6.3
CHBT	**CHBT**	**10.91**	**34**	P	**Pn**	**06 02 19.0**	**+2.9**
	comp=Z,5µm,1.2s,comp=Z,132µm						
PMBI	**Palembang**	**10.96**	**127**	P	**Pn**	**06 02 16.0**	**-0.7**
	comp=Z,5µm,1.0s,comp=Z,93µm						
PMBI	**Palembang**	**10.96**	**127**	*e*Pn	**Pn**	**06 02 17.8**	**+1.1**
SRDT	**SRDT**	**10.98**	**16**	P	Pn	06 02 20.3	+3.3
	comp=Z,4µm,1.1s,comp=Z,290µm						
KHLT	**Khaolaem Dam**	**11.28**	**13**	P	Pn	06 02 24.5	+3.4
	comp=Z,659nm,1.9s,comp=Z,69µm						
MDSI	**Maura Dua**	**11.53**	**135**	P	**Pn**	**06 02 23.2**	**-1.3**
	comp=Z,7µm,0.8s,comp=Z,49µm						
PPBI	**Pangkal Pinang**	**11.68**	**120**	P	**Pn**	**06 02 28.0**	**+1.5**
	comp=Z,2µm,1.5s,comp=Z,36µmcomp=Z,865µm						
LWLI	**Liwa**	**11.83**	**137**	P	**Pn**	**06 02 28.6**	**-0.1**
	comp=Z,5µm,0.9s,comp=Z,56µm						
UTHA	**Uthaitani**	**12.22**	**16**	P	**Pn**	**06 02 37.0**	**+3.0**
	comp=Z,343nm,1.1s,comp=Z,6µm						
KLI	**Kotabumi**	**12.28**	**134**	P	**Pn**	**06 02 33.7**	**-1.0**
	comp=Z,5µm,1.2s,comp=Z,82µm						
KASI	**Kota Agung**	**12.49**	**137**	P	**Pn**	**06 02 34.9**	**-2.8**
	comp=Z,3µm,1.2s,comp=Z,39µmcomp=Z,964µm						
TPI	**Tanjungpandan**	**13.29**	**119**	P	**Pn**	**06 02 49.6**	**+1.1**
	comp=Z,2µm,1.3s,comp=Z,47µm						
CHAI	**Chaiyaphum**	**13.44**	**25**	P	**Pn**	**06 02 53.4**	**+2.8**
	comp=Z,298nm,0.8s						
PBKT	**Sadao Pong**	**13.65**	**20**	P	**Pn**	**06 02 55.8**	**+2.4**
	comp=Z,4µm,1.1s,comp=Z,129µm						
SBJI	**Serang**	**14.05**	**134**	P	**Pn**	**06 02 57.0**	**-2.0**
	comp=Z,2µm,1.3s,comp=Z,48µm						
CGJI	**Cibinong**	**14.10**	**137**	P	Pn	06 02 55.1	-4.4
SUKH	**Sukhothai**	**14.11**	**14**	P	**Pn**	**06 03 02.1**	**+2.4**
	comp=Z,350nm,0.9s,comp=Z,5µm						
KHON	**Khomkaen**	**14.20**	**28**	P	Pn	06 03 04.1	+3.2
	comp=Z,2µm,0.8s,comp=Z,21µm						
KSM	**Kuching**	**14.44**	**99**	P	**Pn**	**06 03 05.8**	**+1.6**
	baz=14,SNR=69						
KSM	**Kuching**	**14.44**	**99**	⇑P	**Pn**	**06 03 05.8**	**+1.6**
KSM	**Kuching**	**14.44**	**99**	*e*Pn	**Pn**	**06 03 05.7**	**+1.6**
KSM				*e*Sn	**S**	**06 05 59.8**	**-1.6**
TNG	**Tangerang**	**14.46**	**133**	P	**Pn**	**06 03 06.0**	**+1.5**
	comp=Z,3µm,0.9s,comp=Z,56µm						
TNG	**Tangerang**	**14.46**	**133**	P	**Pn**	**06 03 06.4**	**+1.9**
	comp=Z,5µm,0.9s,comp=Z,81µmcomp=Z,969µm						
MHMT	**Maesariang**	**14.47**	**7**	P	**Pn**	**06 03 06.0**	**+1.4**
	comp=Z,1µm,1.3s,comp=Z,62µm						
UTTA	**Uttaradit**	**14.61**	**17**	P	**Pn**	**06 03 08.8**	**+2.3**
	comp=Z,402nm,1.0s,comp=Z,4µm						
DLV	**T Lat**	**14.79**	**56**	*e*P	**P**	**06 03 12.5**	**-1.7**
CM01	**Chiang Mai Arr**	**14.88**	**11**	*e*Pn	**Pn**	**06 03 10.4**	**+0.4**
CM31	**Chiang Mai Arr**	**14.91**	**11**	*e*Pn	**Pn**	**06 03 12.0**	**+1.6**
	comp=Z,2µm,0.9s						
CM31				*e*S	S	06 06 17.0	+6.0
CMAR	**Chiang Mai Arr**	**14.91**	**11**	P	**Pn**	**06 03 11.7**	**+1.2**
	comp=Z,2.5nm,0.3s,baz=198,slow=14,SNR=342						
CMAR				LR	LR	06 09 46.3	
	comp=Z,1478µm,18.7s,baz=202,slow=41						
CMAR				ScP	**ScP**	**06 11 49.4**	**0.0**
	comp=Z,0.5nm,0.3s,baz=217,slow=3.2,SNR=4.8						
CMAR				SKKP		06 35 00.2	
	comp=Z,1.2nm,0.3s,baz=8.5,slow=2.9,SNR=6.3						
CMAR				P3KP		06 39 16.6	
	comp=Z,0.7nm,0.3s,baz=343,slow=4.8,SNR=8.7						
SKJI	**Sukabumi**	**14.97**	**135**	P	**Pn**	**06 03 12.5**	**+1.2**
	comp=Z,2µm,1.2s,comp=Z,47µmcomp=Z,652µm						
LAMP	**Lampang**	**15.12**	**13**	P	**Pn**	**06 03 15.3**	**+2.2**
	comp=Z,892nm,1.3s,comp=Z,9µm						
CMMT	**Chiang Mai**	**15.26**	**11**	P	**Pn**	**06 03 16.2**	**+1.2**
	comp=Z,4µm,1.8s,comp=Z,232µm						
CHTO	**Chiang Mai**	**15.26**	**11**	P	**Pn**	**06 03 16.2**	**+1.2**
	comp=Z,11µm,1.6s,comp=Z,699µm						
CHTO	**Chiang Mai**	**15.26**	**11**	*e*P	**Pn**	**06 03 16.7**	**+1.7**
CHTO				pmax	pmax		
	comp=Z,4µm,1.3s						
CHTO	**Chiang Mai**	**15.26**	**11**	P	**Pn**	**06 03 16.7**	**+1.7**
	SNR=1649						
CHTO	**Chiang Mai**	**15.26**	**11**	*e*P	**Pn**	**06 03 16.7**	**+1.7**
	comp=Z,4µm,1.3s						
CHTO				*e*S	**S**	**06 06 13.7**	**-4.5**
SKNT	**Sakolnakorn**	**15.30**	**30**	P	**Pn**	**06 03 16.7**	**+1.1**
	comp=Z,3µm,1.7s,comp=Z,120µm						
CNJI	**Cibinong**	**15.59**	**135**	P	**Pn**	**06 03 15.7**	**-3.6**
	comp=Z,2µm,1.1s,comp=Z,40µmcomp=Z,632µm						
LEM	**Lembang**	**15.62**	**132**	P	**Pn**	**06 03 18.6**	**-1.2**
	comp=Z,2µm,1.0s,comp=Z,45µm						
LEM	**Lembang**	**15.62**	**132**	P	**Pn**	**06 03 19.4**	**-0.4**
	comp=Z,4.3nm,0.3s,baz=348,slow=22,SNR=18						
LEM				LR	LR	06 10 51.7	
	comp=Z,408µm,19.1s,baz=304,slow=43						
LEM	**Lembang**	**15.62**	**132**	P	**Pn**	**06 03 20.1**	**+0.3**
	baz=16,SNR=4.2						
PALK	**Pallekele**	**15.65**	**284**	Pn	**Pn**	**06 03 21.3**	**+1.1**
	comp=Z,4µm,1.1s,SNR=28						
PALK	**Pallekele**	**15.65**	**284**	*e*P	**Pn**	**06 03 20.9**	**+0.7**
PALK				pmax	pmax		
	comp=Z,3µm,1.1s						
PALK	**Pallekele**	**15.65**	**284**	P	**Pn**	**06 03 21.3**	**+1.1**
	SNR=70						
PALK	**Pallekele**	**15.65**	**284**	*e*Pn	**Pn**	**06 03 20.9**	**+0.7**
	comp=Z,3µm,1.1s						
PALK				*e*S	**S**	**06 06 32.8**	**+6.4**
COCO	**West Island**	**15.84**	**177**	Pn	**Pn**	**06 03 21.8**	**-0.7**
	comp=Z,6µm,1.8s,SNR=8.7						
COCO	**West Island**	**15.84**	**177**	*e*P	**Pn**	**06 03 20.7**	**-1.8**
COCO				pmax	pmax		
	comp=Z,8µm,1.4s						
COCO	**West Island**	**15.84**	**177**	P	**Pn**	**06 03 22.1**	**-0.4**
	SNR=15						
COCO	**West Island**	**15.84**	**177**	*e*Pn	**Pn**	**06 03 20.7**	**-1.8**
	comp=Z,8µm,1.4s						
STKI	**Sintang**	**15.86**	**103**	P	**Pn**	**06 03 24.0**	**+1.2**
	comp=Z,4µm,1.2s,comp=Z,83µmcomp=Z,895µm						
JCJI	**Jatiwangi**	**15.89**	**130**	P	**Pn**	**06 03 24.7**	**+1.5**
	comp=Z,2µm,1.3s,comp=Z,49µm						
SBUM	**Sibu**	**16.22**	**94**	*e*Pn	**Pn**	**06 03 28.5**	**+1.1**
CISI	**Cisompet, Garu**	**16.25**	**134**	P	**Pn**	**06 03 23.9**	**-3.9**
	comp=Z,2µm,1.0s,comp=Z,31µmcomp=Z,966µm						
CISI	**Cisompet, Garu**	**16.25**	**134**	*e*Pn	**Pn**	**06 03 23.5**	**-4.3**
	comp=Z,651nm,0.6s						
CISI				*e*Sn	Sn	06 06 15.0	-12
CMAI	**Chiengmai2**	**16.37**	**10**	P	**P**	**06 03 30.8**	**-0.9**
	comp=Z,3µm,1.9s,comp=Z,108µm						
CMJI	**Cimerak**	**16.87**	**133**	P	**Pn**	**06 03 31.5**	**-4.0**
	comp=Z,824nm,0.9s,comp=Z,19µmcomp=Z,592µm						
PBKI	**Pangkalan Bun**	**16.89**	**112**	P	**Pn**	**06 03 36.1**	**+0.3**
	comp=Z,7µm,1.1s,comp=Z,108µmcomp=Z,907µm						
SMRI	**Semarang**	**17.93**	**127**	P	**Pn**	**06 03 48.6**	**-0.2**
	comp=Z,5µm,1.1s,comp=Z,82µmcomp=Z,808µm						
SMRI	**Semarang**	**17.93**	**127**	P	**Pn**	**06 03 48.6**	**-0.2**
	baz=18,SNR=33						
SMRI	**Semarang**	**17.93**	**127**	*e*P	**Pn**	**06 03 47.4**	**-1.3**
	comp=Z,5µm,1.1s						
UWJI	**Ujung Watu**	**17.99**	**124**	P	**P**	**06 03 50.2**	**+0.7**
	comp=Z,5µm,1.1s,comp=Z,67µmcomp=Z,520µm						
MDRS	**Chennai**	**18.14**	**302**	*e*P	**P**	**06 03 50.8**	**-0.5**
UGM	**Wanagama**	**18.52**	**129**	P	**P**	**06 03 54.4**	**-1.0**
	comp=Z,2µm,1.2s,comp=Z,49µmcomp=Z,791µm						
UGM	**Wanagama**	**18.52**	**129**	*e*P	**P**	**06 03 51.8**	**-3.6**
	comp=Z,2µm,1.1s						
VIS	**Vishakhapatnam**	**18.66**	**319**	*i* P	**P**	**06 03 55.3**	**-1.6**
VIS				AMB	AMB	06 04 22.9	
	comp=Z,3µm,1.7s						
VIS				*i* x	x	06 07 18.2	
CHLP	**Challavanipeta**	**18.78**	**322**	*e*P	**P**	**06 03 58.2**	**0.0**
CHLP				*ep*P	**pP**	**06 04 08.8**	**+0.4**
CHLP				*e*S	**Sn**	**06 07 28.5**	**+0.1**
CHLP				IVMs_BB	IVMs_BB	06 11 50.9	
	comp=Z,146µm,19.8s						
SKHT	**Srikalahasti**	**18.93**	**303**	*e*P	**Pn**	**06 04 02.7**	**+1.9**
SKHT				*ep*P	**pP**	**06 04 08.6**	**-1.5**
SKHT				*e*		06 07 16.1	
SKHT				*e*S	**Sn**	**06 07 30.1**	**-1.9**
SKHT				IVMs_BB	IVMs_BB	06 10 23.1	
	comp=Z,236µm,23.9s						
TBJI	**Tambak Boyo**	**18.95**	**124**	P	**Pn**	**06 04 01.7**	**+0.6**
	comp=Z,3µm,1.2s,comp=Z,93µmcomp=Z,640µm						
BWJI	**Bawean**	**19.14**	**120**	P	**Pn**	**06 04 07.0**	**+3.6**
PCJI	**Pacitan**	**19.20**	**128**	P	**P**	**06 04 01.9**	**-1.0**
	comp=Z,882nm,1.5s,comp=Z,32µm

KMI sP **sP** **06 04 53.3 +1.8**
KMI PP **PnPn** **06 05 06.5 +7.1**
KMI S **S** **06 08 38.0 -0.2**
KMI sS **sS** **06 08 53.9 -1.5**
KMI SS **SnSn** **06 09 17.1 +9.4**
KMI PMZ
comp=Z,840nm,1.4s
KMI PMZ
comp=Z,72µm,5.1s
KMI LN
comp=Z,1260µm,14.4s
KMI LE
comp=Z,449µm,17.0s
KMI LZ
comp=Z,1500µm,11.3s
SRBI Singaraja 22.45 122 P **P** **06 04 38.0 0.0**
comp=Z,5µm,1.2s,comp=Z,82µmcomp=Z,578µm
DNP Denpasar 22.76 123 P **P** **06 04 41.7 +0.5**
comp=Z,3µm,1.0s,comp=Z,106µm
IGBI Denpasar 22.78 123 P **P** **06 04 40.4 -1.0**
comp=Z,1µm,1.2s,comp=Z,26µmcomp=Z,380µm
MNGI Mangalore 22.87 295 *i* x P 06 04 36.0 -6.4
MNGI *i* x 06 08 27.7
HMDM Hanimaadhoo 22.95 279 ⇓P **P** **06 04 44.7 +1.5**
baz=23,SNR=4.0
NGP Nagpur 23.92 318 *e*P **P** **06 04 53.0 +0.4**
NGP *ex* x 06 05 22.4
comp=Z,4µm,1.6s
NGP *ex* x 06 09 15.8
MPSI Mapaga 24.09 98 P **P** **06 04 54.4 +0.2**
comp=Z,3µm,1.6s,comp=Z,90µm
PCI Palu 24.24 101 P **P** **06 04 55.9 +0.3**
comp=Z,5µm,1.2s,comp=Z,78µm
ODAN Odare 24.44 341 *e*P **P** **06 04 56.8 -0.7**
ODAN Odare 24.44 341 *e*P **P** **06 04 57.0 -0.5**
TTSI Tana Toraja 24.71 106 P **P** **06 05 00.7 +0.8**
comp=Z,3µm,1.4s,comp=Z,82µmcomp=Z,671µm
GOA Goa 24.78 300 *e*P **P** **06 05 01.2 +0.8**
RAMN Ramite 24.79 340 *e*P **P** **06 05 00.5 -0.2**
GYA Guiyang 24.79 23⇑ *i*P **P** **06 05 00.3 -0.3**
GYA pP **pP** **06 05 13.8 +1.8**
GYA PP **PnPn** **06 05 40.0 +5.7**
GYA PcP **PcP** **06 08 38.6 +2.1**
GYA S **S** **06 09 23.7 +3.3**
GYA sS **sS** **06 09 38.4 -1.0**
GYA SS **SnSn** **06 10 19.0 +8.8**
GYA PMZ
comp=Z,1µm,0.9s
GYA LN
comp=Z,664µm,18.9s
GYA LE
comp=Z,655µm,18.0s
GYA LZ
comp=Z,1204µm,17.0s
TAPN Taplejung 24.79 342 *e*P **P** **06 05 00.6 -0.2**
TOLI Toli-Toli 24.88 95 *e*P **P** **06 05 01.5 +0.1**
comp=Z,6µm,0.8s
TOLI LR LR
comp=Z,141µm,22.0s
SPSI Sidrap Palu 24.93 108 P **P** **06 05 00.9 -0.9**
comp=Z,2µm,1.0s,comp=Z,60µmcomp=Z,676µm
KAPI Kappang 25.24 110 P **P** **06 05 05.3 +0.6**
comp=Z,15µm,0.9s
KAPI Kappang 25.24 110 P **P** **06 05 05.1 +0.4**
comp=Z,3µm,1.0s,baz=292,slow=9.2,SNR=336
KAPI LR LR 06 16 07.5
comp=Z,714µm,21.8s,baz=292,slow=39
KAPI Kappang 25.24 110 P **P** **06 05 05.5 +0.8**
SNR=402
KAPI Kappang 25.24 110 *e*P **P** **06 05 05.2 +0.4**
comp=Z,847nm,0.9s
KAPI *e*S **S** **06 09 34.1 +6.4**
BNSI Bone 25.38 108 P **P** **06 05 06.1 +0.2**
comp=Z,3µm,1.1s,comp=Z,64µmcomp=Z,700µm
GZH Guangzhou 25.51 40 P P 06 05 13.0 +6.0
GZH pP pP 06 05 25.5 +7.2
GZH PP PnPn 06 05 59.7 +16
GZH S S 06 09 42.7 +11
GZH sS sS 06 10 09.3 +19
GZH SS **SnSn** **06 10 31.6 +3.9**
GZH LR LR
comp=N,1104µm,19.2s
GZH LR LR
comp=E,603µm,19.0s
JIRN Jiri 25.58 339 *e*P **P** **06 05 07.8 -0.2**
BKSI Bulukumba 25.69 110 P **P** **06 05 09.1 +0.3**
comp=E,5µm,0.9s,comp=E,62µmcomp=E,590µm
PKI Pulchoki 25.78 338 *e*P **P** **06 05 09.2 -0.6**
PKIN Phulchoki 25.79 338 *e*P **P** **06 05 09.1 -0.7**
GUN Gumba 25.92 339 *e*P **P** **06 05 10.9 -0.2**
comp=E,5µm,0.7s
DMN Daman 25.93 337 *e*P **P** **06 05 10.4 -0.7**
DGAR Diego Garcia 26.00 245 P **P** **06 05 12.7 +1.1**
comp=E,5µm,1.1s,SNR=5.2
DGAR Diego Garcia 26.00 245 P **P** **06 05 13.0 +1.4**
DGAR Diego Garcia 26.00 245 P **P** **06 05 12.6 +1.0**
SNR=12
DGAR Diego Garcia 26.00 245 *e*P **P** **06 05 11.8 +0.3**
comp=E,16µm,1.8s
DGAR LR LR
comp=Z,1633µm,21.0s
APSI Ampana 26.02 100 P **P** **06 05 12.4 +0.7**
comp=Z,6µm,1.6s,comp=Z,70µmcomp=Z,676µm
KKN Kakani 26.03 338 *e*P **P** **06 05 11.4 -0.5**
comp=Z,4µm,0.7s
MRSI Marisa 26.09 97 P **P** **06 05 12.2 -0.2**
comp=Z,4µm,1.0s,comp=Z,58µmcomp=Z,723µm
ZMPH Zamboanga City 26.12 82⇑ *e*P **P** **06 05 12.5 -0.1**
POO Poona 26.21 306 *e*P **P** **06 05 13.0 -0.4**
POO *i* PP **PnPn** **06 05 52.0 -1.7**
LSA Lhasa 26.24 350 P **P** **06 05 13.8 -0.3**
LSA PMZ
comp=Z,440nm,1.1s
LSA LN
comp=Z,200µm,23.6s
LSA LE
comp=Z,300µm,22.3s
LSA LZ
comp=Z,500µm,24.9s
LSA Lhasa 26.24 350 *e*P **P** **06 05 13.6 -0.5**
LSA *e*S **S** **06 09 45.1 +1.1**
LSA MLR MLR
comp=Z,324µm,21.0s
LSA Lhasa 26.24 350 *e*P **P** **06 05 13.6 -0.5**
comp=Z,13µm,2.5s
LSA *e*S **S** **06 09 45.0 +1.1**
LSA LR LR
comp=Z,324µm,21.0s
BSSI Bau Bau, Buton 26.32 112 P **P** **06 05 13.9 -0.6**
comp=Z,3µm,1.1s,comp=Z,54µmcomp=Z,516µm
BHPL Bhopal 26.45 319 *e*P **P** **06 05 16.1 +0.5**
BHPL AMB AMB 06 05 29.8
comp=Z,963nm,1.2s
GKN Gorkha 26.47 337 *e*P **P** **06 05 15.5 -0.3**
comp=Z,4µm,0.7s
KOLN Koldanda 26.68 335 *e*P **P** **06 05 17.6 -0.2**
KOLN Koldanda 26.68 335 *e*P **P** **06 05 17.9 +0.1**
comp=Z,5µm,0.7s
WBSI Waikabubak, Su 26.80 120 P **P** **06 05 15.0 -3.9**
LUWI Luwuk 27.15 100 P **P** **06 05 22.4 +0.5**
comp=Z,8µm,1.1s,comp=Z,101µmcomp=Z,915µm
LUWI Luwuk 27.15 100 P **P** **06 05 23.0 +1.1**
baz=27,SNR=48
LUWI Luwuk 27.15 100 *e*P **P** **06 05 22.4 +0.5**
comp=Z,6µm,0.9s
LUWI LR LR
comp=Z,333µm,22.0s
LQP Lukban 27.20 66 *e*P **P** **06 05 21.9 -0.7**
BCPH Baguio City Da 27.20 61 ⇓*i*P **P** **06 05 21.4 -1.2**
BCPH *i* S S 06 10 29.4 +30
GUIM Jordan 27.21 74 *e*P **P** **06 05 22.6 +0.1**
PYUN Piuthan 27.23 334 *e*P **P** **06 05 22.5 -0.3**
comp=Z,3µm,0.7s
PAGZ Pagadian 27.51 80 *e*P **P** **06 05 26.0 +0.8**
RCP Roxas 27.58 72⇑ *e*P **P** **06 05 25.7 -0.1**
DCPH Dipolog City 27.58 79⇑ *e*P **P** **06 05 26.3 +0.5**
SNPH Sibulan 27.59 77⇑ *e*P P 06 05 20.4 -5.6
SZP Santa 27.60 58 *e*P **P** **06 05 25.8 -0.1**
comp=Z,3µm,1.3s
SZP *e*S S 06 10 29.8 +25
WSI Waingapu 27.61 119 P **P** **06 05 24.1 -1.9**
comp=Z,3µm,1.1s,comp=Z,49µmcomp=Z,585µm
CD2 Chengdu 28.00 14⇑ *i*P **P** **06 05 28.6 -0.8**
CD2 pP **pP** **06 05 39.8 -1.0**
CD2 sP **sP** **06 05 49.9 +4.0**
CD2 S **S** **06 10 08.9 -2.1**
CD2 sS **sS** **06 10 34.3 +4.2**
CD2 SS **SnSn** **06 11 34.1 +5.7**
CD2 ScS ScS 06 16 06.8 -7.2
CD2 PMZ
comp=Z,2µm,0.7s
CD2 PMZ
comp=Z,50µm,10.8s
CD2 LN
comp=Z,1111µm,16.7s
CD2 LE
comp=Z,470µm,16.6s
CD2 LZ
comp=Z,1206µm,15.5s
BBSI Bau Bau 28.05 109 P **P** **06 05 31.6 +1.6**
comp=Z,4µm,2.2s,comp=Z,79µmcomp=Z,475µm
PIP Pasuquin 28.10 57⇓ *e*P **P** **06 05 30.0 -0.4**
BASI Baing, Sumba 28.11 120 P **P** **06 05 30.1 -0.4**
comp=Z,5µm,1.2s,comp=Z,62µmcomp=Z,400µm
KMSI Cibinong 28.11 96 P **P** **06 05 31.7 +1.2**
comp=Z,13µm,1.2s,comp=Z,159µmcomp=Z,563µm
CTBH Cotabato--PC H 28.30 82⇓ *i*P **P** **06 05 31.8 -0.4**
EDFI Ende, Flores 28.43 116 P **P** **06 05 30.9 -2.6**
comp=Z,536nm,1.4s,comp=Z,16µmcomp=Z,348µm
CVP Callao Caves 28.84 59⇑ *e*P **P** **06 05 35.2 -1.8**
CGP Cagayan de Oro 28.88 79⇓ *e*P **P** **06 05 36.9 -0.5**
MMRI Maumere 28.88 115 P **P** **06 05 35.1 -2.3**
comp=Z,1µm,1.7s,comp=Z,29µmcomp=Z,503µm
MMRI Maumere 28.88 115 PFAKE 06 05 50.0 +13
MMRI LR LR
comp=Z,704µm,22.0s
GSPH General Santos 28.91 84 *e*P **P** **06 05 40.1 +2.3**
AGRA Agra 29.06 325 *e*P **P** **06 05 38.7 -0.1**
BUKP Musuan 29.17 81 *e*P **P** **06 05 41.1 +1.1**
OCLP Ormoc 29.24 74 *e*P **P** **06 05 40.1 -0.5**
MSLP Maasin 29.30 76 *e*P **P** **06 05 40.4 -0.7**
ENH Enshi 29.30 24 *e*P **P** **06 05 39.9 -1.2**
comp=Z,298nm,0.9s
ENH *e*S **S** **06 10 33.9 +2.4**
ENH LR LR
comp=Z,1112µm,18.0s
SGSI Sangihe 29.44 89 P **P** **06 05 44.9 +2.5**
comp=Z,2µm,1.3s,comp=Z,55µm
PVCP Virac 29.45 69 *e*P **P** **06 05 42.1 -0.3**
DAV Davao City (W) 29.60 82 P **P** **06 05 45.3 +1.5**
SNR=47
DAV Davao City (W) 29.60 82 *e*P **P** **06 05 44.8 +0.9**
comp=Z,960nm,0.7s
DAV LR LR
comp=Z,139µm,19.0s
PLP Palo 29.62 74⇑ *e*P **P** **06 05 43.2 -0.7**
LGTI Lohaghat 29.64 331 *e*P **P** **06 05 43.1 -0.8**
LGTI *ex* x 06 11 30.2
PTH Pithoragarh 29.73 331 *e*P **P** **06 05 43.8 -1.2**
SCPH Surigao 29.85 77 *e*P **P** **06 05 45.5 -0.5**
BUTP Butuan 29.86 79 *e*P **P** **06 05 45.9 -0.1**
MATI Mati 30.26 83 *e*P **P** **06 05 50.4 +0.7**
QZH Quanzhou 30.27 44⇑ *i*P **P** **06 05 50.2 +0.7**
QZH S **S** **06 10 52.4 +5.8**
QZH PMZ
comp=Z,2µm,1.1s
QZH PMZ
comp=Z,35µm,7.7s
QZH LN
comp=Z,411µm,15.5s
QZH LE
comp=Z,742µm,16.4s
QZH LZ
comp=Z,814µm,14.8s
SONA Sohna 30.33 325 *e*P **P** **06 05 49.0 -1.0**
SONA AMB AMB 06 05 50.8
comp=Z,546nm,1.4s
BISR Bishrakh 30.38 326 *ex* **pP** **06 05 57.6 -4.4**
BISR AMB AMB 06 05 58.4
comp=Z,748nm,1.0s
BIPH Bislig 30.48 80⇓ *e*P **P** **06 05 51.3 -0.3**
AYAN Aya Nagar 30.48 326 *ex* P 06 05 45.8 -5.6
AYAN *ex* x 06 05 47.0
AYAN AMB AMB 06 06 00.5
comp=Z,759nm,1.0s
SANI Sanana 30.49 100 P **P** **06 05 51.1 -0.6**
comp=Z,840nm,1.0s,comp=Z,29µmcomp=Z,601µm
AJM Ajmer 30.51 320 *ex* **P** **06 05 52.0 +0.2**
NDI New Delhi 30.59 326 *e*P **P** **06 05 52.0 -0.4**
NDI *e*S **S** **06 10 54.0 +2.4**
KUDL Kundal 30.59 325 *e*P **P** **06 05 51.5 -0.9**
TPUB Ta-pu 30.73 49 *e*P **P** **06 05 53.8 +0.1**
comp=Z,949nm,1.3s
BHGR Bahadurgarh 30.75 326 *e*P **P** **06 05 53.5 -0.2**
TWG Pinlang 30.79 50 *e*P **P** **06 05 55.0 +0.9**
comp=Z,5µm,1.1s
KHET Khetri 30.94 324 *e*P **P** **06 05 55.3 -0.2**
SOEI Soe 31.16 116 P **P** **06 05 55.2 -2.5**
comp=Z,4µm,1.0s,comp=Z,35µmcomp=Z,474µm
SOEI Soe 31.16 116 P **P** **06 05 54.9 -2.9**
baz=31,SNR=45
SOEI Soe 31.16 116 *e*P **P** **06 05 54.6 -3.1**
SOEI *e*S **S** **06 10 59.8 -1.3**
SOEI LR LR
comp=Z,426µm,20.0s
SSLB Suanglung 31.25 48 *e*P **P** **06 05 58.9 +0.6**
YULB Yu-li 31.28 49 *e*P **P** **06 05 58.3 -0.2**
comp=Z,605nm,1.0s
YULB LR LR
comp=Z,184µm,19.0s
DDI Dehra Dun 31.43 329 *e*P **P** **06 06 00.1 +0.2**
DDI AMB AMB 06 06 14.5
comp=Z,3µm,2.8s
TNTI Ternate 31.45 95 P **P** **06 05 58.3 -1.8**
comp=Z,2µm,1.0s,comp=Z,30µmcomp=Z,704µm
TNTI Ternate 31.45 95 *e*P **P** **06 05 58.0 -2.1**
comp=Z,1µm,0.9s
TNTI LR LR
comp=Z,43µm,20.0s
GIRL Giralia 31.68 147 P **P** **06 06 04.0 +2.0**
baz=32,SNR=13
LBMI Labuha 31.75 97 P **P** **06 06 03.6 +0.8**
comp=Z,4µm,1.1s,comp=Z,62µmcomp=Z,427µm
WHN Wuhan 31.79 31⇑ *i*P **P** **06 06 03.3 +0.4**
WHN S **S** **06 11 13.8 +3.5**
WHN LN
comp=Z,269µm,12.5s
WHN LE
comp=Z,847µm,14.2s
WHN LZ
comp=Z,1230µm,15.2s
KKR Kurukshetra 31.80 327 *e*P **P** **06 06 03.9 +0.9**
KKR AMB AMB 06 06 05.1
comp=Z,2µm,0.6s
NLAI Namlea 31.82 102 P **P** **06 06 04.4 +1.0**
comp=Z,1µm,0.9s,comp=Z,31µmcomp=Z,472µm
NACB Ninganchiao 31.95 48 *e*P **P** **06 06 04.8 +0.4**
comp=Z,1µm,1.1s
NACB LR LR
comp=Z,298µm,20.0s
BHJ Bhuj 32.04 310 *e*P **P** **06 06 05.2 0.0**
YHNB Yeheng 32.08 47 *e*P **P** **06 06 06.2 +0.6**
comp=Z,1µm,1.2s
YHNB LR LR
comp=Z,240µm,19.0s
TATO Taipei 32.34 47 P **P** **06 06 09.1 +1.2**
SNR=13
TATO Taipei 32.34 47 *e*P **P** **06 06 09.2 +1.4**
comp=Z,1µm,1.3s
TATO LR LR
comp=Z,169µm,19.0s
XAN Xi'an 32.46 20 P **P** **06 06 07.9 -0.9**
XAN pP **pP** **06 06 19.2 -1.1**
XAN PP **PP** **06 07 22.4 -0.3**
XAN S S 06 11 28.8 +8.0
XAN PMZ
comp=Z,200nm,0.8s
XAN PMZ
comp=Z,9µm,8.3s
SMLA Simla 32.53 329 *i* P **P** **06 06 09.5 +0.1**
SMLA AMB AMB 06 06 22.8
comp=Z,6µm,0.7s
SMLA *i* x x 06 11 19.8
SDNR Sundarnagar 32.93 329 *e*P **P** **06 06 13.0 0.0**
SDNR *ex* x 06 11 26.6
AAI Ambon 32.98 103 P **P** **06 06 12.8 -0.8**
comp=Z,2µm,1.3s,comp=Z,35µmcomp=Z,829µm
AAI Ambon 32.98 103 P **P** **06 06 13.3 -0.3**
baz=33,SNR=13
LZH Lanzhou 32.99 12⇑ *i*P **P** **06 06 13.0 -0.6**
LZH pP **pP** **06 06 25.5 +0.4**
LZH sP **sP** **06 06 30.5 +0.3**
LZH PP **PnPn** **06 07 20.4 -3.5**
LZH PcP **PcP** **06 08 58.8 +1.9**
LZH *e*S **S** **06 11 29.2 -0.1**
LZH sS **sS** **06 11 49.0 +0.5**
LZH SS **SnSn** **06 13 31.2 +1.2**
LZH ScS **ScS** **06 16 37.8 -0.5**
LZH PMZ
comp=Z,3µm,1.1s
LZH PMZ
comp=Z,17µm,5.1s
LZH LN
comp=Z,371µm,17.1s
LZH LE
comp=Z,345µm,19.0s
LZH LZ
comp=Z,434µm,20.4s
BHK Bhakra 33.15 328 *e*P **P** **06 06 15.2 +0.3**
BHK *ex* x 06 08 10.6
YOJ Yonaguni jima 33.17 49 *e*P **P** **06 06 16.3 +1.2**
YOJ pmax pmax
comp=Z,886nm,1.2s
YOJ Yonaguni jima 33.17 49 *e*P **P** **06 06 16.3 +1.2**
comp=Z,886nm,1.2s
JASL Jaisalmer 33.30 316 *e*P **P** **06 06 17.8 +1.6**
JASL AMB AMB 06 06 20.9
comp=Z,458nm,0.6s
MSAI Masohi 33.62 102 P **P** **06 06 19.2 0.0**
comp=Z,219nm,1.2s,comp=Z,7µmcomp=Z,84µm
DHRM DHARAMSHALA 33.87 329 *e*P **P** **06 06 20.6 -0.8**
DHRM AMB AMB 06 06 34.7
comp=Z,4µm,1.8s
MBWA Marble Bar 33.94 138 P **P** **06 06 21.9 +0.1**
SNR=36
MBWA Marble Bar 33.94 138 *e*P **P** **06 06 21.4 -0.4**
comp=Z,82nm,1.4s
MBWA *e*S **S** **06 11 47.0 +3.0**
MBWA LR LR
comp=Z,426µm,22.0s
DLH Dalhousie 34.27 329 *e*P **P** **06 06 25.0 +0.1**
DLH *ex* x 06 11 55.0
BNDI Bandanaira 34.83 103 P **P** **06 06 32.3 +2.7**
comp=Z,1µm,1.4s,comp=Z,28µm
JMU Jammu 34.97 328 *e*P **P** **06 06 30.0 -0.6**
NJ2 Nanjing 35.40 35 *e*P **P** **06 06 34.6 +0.3**
NJ2 pP **pP** **06 06 45.4 -0.4**
NJ2 sP **sP** **06 06 50.1 -0.8**
NJ2 PP **PP** **06 07 55.0 -0.2**
NJ2 S **S** **06 12 07.0 +0.8**
NJ2 sS **sS** **06 12 24.5 -1.0**
NJ2 PMZ
comp=Z,810nm,0.8s
NJ2 PMZ
comp=Z,40µm,12.0s
NJ2 LN
comp=Z,390µm,26.8s
NJ2 LE
comp=Z,769µm,25.1s
NJ2 LZ
comp=Z,769µm,25.2s
SWI Sorong 35.51 97 P **P** **06 06 34.4 -1.1**
comp=Z,3µm,1.0s,comp=Z,42µmcomp=Z,632µm
SWI Sorong 35.51 97 P **P** **06 06 35.5 0.0**
baz=36,SNR=16
GTA Gaotai 35.68 5⇑ P **P** **06 06 36.1 -0.7**
GTA pP **pP** **06 06 48.1 -0.3**
GTA sP **sP** **06 06 53.2 -0.2**
GTA S **S** **06 12 09.7 -0.9**
GTA sS **sS** **06 12 29.6 -0.4**
GTA PcS PcS 06 12 45.3 -6.6
GTA ScP **ScP** **06 12 47.9 +0.5**
GTA SS **SnSn** **06 14 32.7 -2.2**
GTA ScS **ScS** **06 16 50.2 -2.2**
GTA PMZ
comp=Z,800nm,1.4s
GTA PMZ
comp=Z,6µm,6.7s
GTA LN
comp=Z,219µm,16.1s
GTA LE
comp=Z,268µm,18.5s
GTA LZ
comp=Z,264µm,15.7s
SSE Sheshan 36.09 38 P **P** **06 06 40.6 +0.3**
SSE PP **PP** **06 08 03.7 +0.8**
SSE S **S** **06 12 16.6 -0.3**
SSE PMZ
comp=Z,310nm,1.2s
SSE PMZ
comp=Z,46µm,12.0s
SSE LN
comp=Z,305µm,16.4s
SSE LE
comp=Z,296µm,16.3s
SSE LZ
comp=Z,590µm,16.3s
FAKI Fak Fak 36.80 100 P **P** **06 06 46.0 -0.5**
comp=Z,2µm,1.3s,comp=Z,43µmcomp=Z,574µm
FAKI Fak Fak 36.80 100⇑ P **P** **06 06 46.1 -0.5**
baz=37,SNR=72
FAKI Fak Fak 36.80 100 *e*P **P** **06 06 45.9 -0.5**
comp=Z,2µm,1.1s
FAKI *e*S **S** **06 12 29.4 +1.2**
FAKI LR LR
comp=Z,69µm,21.0s
TIY Taiyuan 37.01 22 *e*P **P** **06 06 47.9 -0.2**
TIY sP **sP** **06 07 08.5 +3.8**
TIY PP PnPn 06 08 20.9 +7.4
TIY S **S** **06 12 36.3 +5.5**
TIY sS **ScP** **06 12 53.8 +1.6**
TIY SS **SnSn** **06 15 09.1 +2.2**
TIY PMZ
comp=Z,210nm,0.8s
TIY PMZ
comp=Z,23µm,7.6s
TIY LN
comp=Z,1089µm,17.1s
TIY LE
comp=Z,557µm,16.2s
TIY LZ
comp=Z,1208µm,17.4s
SAUI Saumlaki 37.06 108 P **P** **06 06 49.7 +0.9**
comp=Z,1µm,1.0s,comp=Z,24µmcomp=Z,409µm
SAUI Saumlaki 37.06 108 PFAKE 06 07 00.0 +11
SAUI LR LR
comp=Z,291µm,22.0s
MEEK Meekatharra 37.27 145 P **P** **06 06 51.0 +0.7**
baz=37,SNR=27
KNRA Kununurra 37.70 122 P **P** **06 06 52.6 -1.5**
baz=38,SNR=94
TIA Tai'an 37.72 28⇑ P **P** **06 06 53.9 -0.2**
TIA pP **pP** **06 07 09.1 +3.4**
TIA S S 06 12 49.5 +7.9
TIA sS sS 06 13 08.5 +7.5
TIA PMZ
comp=Z,410nm,0.9s
TIA PMZ
comp=Z,48µm,7.2s
TIA LN
comp=Z,153µm,16.7s
TIA LE
comp=Z,385µm,19.6s
TIA LZ
comp=Z,304µm,22.6s
MORW Morawa 37.85 151 P **P** **06 06 56.9 +1.6**
baz=38,SNR=16
JOW Kunigami 38.45 50 P **P** **06 07 00.1 -0.2**
baz=226,slow=6.2
JOW Kunigami 38.45 50 *e*P **P** **06 06 60.0 -0.4**
comp=Z,905nm,1.0s
JOW *e*S **S** **06 12 55.1 +2.2**
JOW LR LR
comp=Z,133µm,20.0s
RKPI Ransiki, Papua 38.48 97 P **P** **06 07 01.0 +0.2**
comp=Z,3µm,1.1s,comp=Z,49µm
BTO Baotou 38.82 17 *e*P **P** **06 07 03.0 -0.3**
BTO PMZ
comp=Z,120nm,1.0s
BLDU Ballidu 39.46 151 P **P** **06 07 09.5 +0.9**
baz=40,SNR=13
HHC Hu-ho-hao-te 39.51 19 *e*P **P** **06 07 10.0 +0.9**
HHC pP **pP** **06 07 25.1 +4.3**
HHC PP **PnPn** **06 08 48.5 +4.8**
HHC S **S** **06 13 09.6 +0.9**

HHC sS sS 06 13 34.5 +6.3
HHC ScS **ScS** **06 17 10.7 -3.3**
HHC PMZ
comp=Z,250nm,0.6s
HHC PMZ
comp=Z,8µm,6.0s
HHC LN
comp=Z,199µm,17.7s
HHC LE
comp=Z,263µm,17.2s
HHC LZ
comp=Z,119µm,19.1s
KBL Kabul 39.59 324 P P 06 07 09.6 -0.5
baz=40,SNR=9.2
KBL Kabul 39.59 324 PFAKE 06 07 20.0 +10
KBL LR LR
comp=Z,142µm,21.0s
KDU Kakadu 39.71 115 P P 06 07 09.8 -1.2
baz=40,SNR=86
KSH Kashi 40.00 336⇑*i*P **P 06 07 11.3 -1.9**
KSH pP **pP** **06 07 23.5 -1.4**
KSH PP **PP** **06 08 47.1 +1.3**
KSH PcS **PcS** **06 13 07.0 -1.2**
KSH S **S** **06 13 10.8 -5.2**
KSH SS SS 06 16 00.1 -14
KSH PMZ
comp=Z,32µm,5.4s
KSH LN
comp=Z,139µm,19.5s
KSH LE
comp=Z,287µm,21.3s
KSH LZ
comp=Z,255µm,20.8s
BJT Baijiatuau 40.45 24 *e*P **P 06 07 17.9 +1.0**
BJT pmax pmax
comp=Z,2µm,0.8s
BJT MLR MLR
comp=Z,171µm,21.0s
BJT Baijiatuau 40.45 24 *e*P **P 06 07 17.9 +1.0**
comp=Z,2µm,0.8s
BJT LR LR
comp=Z,171µm,21.0s
BJI Beijing 40.48 24 P P 06 07 18.1 +1.1
BJI S **S** **06 13 25.0 +2.1**
BJI PMZ
comp=Z,2µm,1.0s
BJI PMZ
comp=Z,37µm,8.0s
BJI LN
comp=Z,233µm,24.1s
BJI LE
comp=Z,273µm,14.4s
BJI LZ
comp=Z,288µm,30.0s
WBK Wadi Bani Khal 40.48 301 P **P 06 07 19.9 +2.5**
SNR=93
SRPI Serui, Papua 40.57 97 P **P 06 07 16.7 -1.5**
comp=Z,2µm,0.8s,comp=Z,28µmcomp=Z,319µm
WMQ Urumqi 40.60 351 P **P 06 07 17.8 -0.3**
WMQ pP **pP** **06 07 33.1 +3.3**
WMQ PP **PnPn** **06 08 55.8 -0.6**
WMQ PcP **PcP** **06 09 19.6 0.0**
WMQ PcS **PcS** **06 13 09.1 -1.1**
WMQ S **S** **06 13 22.8 -2.0**
WMQ sS **sS** **06 13 49.2 +4.9**
WMQ SS **SS** **06 16 19.8 -6.2**
WMQ ScS **ScS** **06 17 14.4 -5.9**
WMQ PMZ
comp=Z,440nm,1.1s
WMQ PMZ
comp=Z,7µm,3.8s
WMQ LN
comp=Z,164µm,17.4s
WMQ LE
comp=Z,247µm,18.6s
WMQ LZ
comp=Z,164µm,20.6s
KSGOS Gosan 40.70 40 P P 06 07 19.0 +0.1
SNR=11
KSGOS Gosan 40.70 40 P **P 06 07 19.0 +0.1**
SNR=11
KSSGP Seogwipo 40.89 40 P P 06 07 21.3 +0.7
SNR=10
KSSGP Seogwipo 40.89 40 P P 06 07 21.5 +1.0
SNR=14
KSJJU Jeju 41.03 40 P P 06 07 22.0 +0.3
SNR=36
KSJJU Jeju 41.03 40 P P 06 07 22.0 +0.3
SNR=36
JMDO Jabal Madar 41.14 300 P P 06 07 24.9 +2.1
SNR=63
KSHUK Heuksando 41.16 38 P P 06 07 22.7 0.0
SNR=82
KSHUK Heuksando 41.16 38 P P 06 07 22.8 +0.1
SNR=61
MSEY Mahe Island 41.36 259 P P 06 07 26.4 +1.6
comp=Z,2µm,1.2s,SNR=5.1
MSEY Mahe Island 41.36 259 *e*P **P 06 07 25.4 +0.6**
MSEY pmax pmax
comp=Z,907nm,1.3s
MSEY MLR MLR
comp=Z,975µm,22.0s
MSEY Mahe Island 41.36 259 P **P 06 07 26.9 +2.1**
SNR=23
MSEY Mahe Island 41.36 259⇓*i*P **P 06 07 26.7 +1.9**
SNR=18
MSEY Mahe Island 41.36 259 *e*P **P 06 07 25.4 +0.6**
comp=Z,907nm,1.3s
MSEY *e*ScP **ScP** **06 13 11.2 +1.7**
MSEY LR LR
comp=Z,975µm,22.0s
SMDO Samad 41.44 301 P **P 06 07 27.5 +2.2**
SNR=89
SFK Sufi-Kurgan 41.47 334 P **P 06 07 26.0 +0.5**
SFK pmax pmax
comp=Z,3µm,1.1s
KSJDO Jindo 41.55 39 P P 06 07 26.0 -0.1
SNR=75
KSJDO Jindo 41.55 39 P **P 06 07 26.1 +0.1**
SNR=96
KSWAN Wando 41.74 39 P P 06 07 27.7 +0.2
SNR=16
KSWAN Wando 41.74 39 P P 06 07 27.4 -0.1
SNR=27
SHAO Shalim 42.01 293 P P 06 07 33.0 +3.0
SNR=15
H01W3 Cape Leeuwin H 42.02 158 P P 06 07 38.6 +9.2
baz=314,slow=5.1,SNR=16
H01W2 Cape Leeuwin H 42.03 158 P P 06 07 37.3 +7.8
baz=314,slow=5.1,SNR=13
H01W1 Cape Leeuwin H 42.03 158 P P 06 07 38.6 +9.1
baz=314,slow=5.1,SNR=14
DL2 Dalian 42.05 30 P P 06 07 30.3 +0.4
DL2 S **S** **06 13 47.7 +1.5**
DL2 PMZ
comp=Z,860nm,1.1s
DL2 PMZ
comp=Z,9µm,6.5s
DL2 LN
comp=Z,159µm,17.9s
DL2 LE
comp=Z,70µm,15.1s
DL2 LZ
comp=Z,187µm,19.6s
BSY Bisya 42.05 300 P **P 06 07 32.3 +2.0**
SNR=158
PDGK Podgornoye 42.07 342 P **P 06 07 30.0 0.0**
PDGK pmax pmax
comp=Z,1µm,1.5s
ULHL Ulahol 42.22 338 P **P 06 07 31.8 +0.1**
SNR=16
ULHL Ulahol 42.22 338 *i*P **P 06 07 31.7 +0.1**
HOQ Hoqain 42.26 301 P **P 06 07 34.3 +2.4**
SNR=102
KSGWJ Gwangju-acc 42.37 39 P P 06 07 32.9 +0.3
SNR=18
KSGWJ Gwangju-acc 42.37 39 P P 06 07 32.7 +0.1
SNR=58
KSKWJ Gwangju 42.42 39 P P 06 07 32.7 -0.4
SNR=74
KSKWJ Gwangju 42.42 39 P P 06 07 33.1 +0.1
SNR=64
WRKA Warakurna 42.42 134 P P 06 07 32.8 -0.5
baz=42,SNR=60
KZA Kyzart 42.46 337 P P 06 07 34.0 +0.2
SNR=123
KZA Kyzart 42.46 337 *i*P **P 06 07 33.9 +0.2**

KSJEU Jeongeup 42.60 38 P P 06 07 34.4 -0.1
SNR=117
KMBL Kambalda 42.72 147 P P 06 07 36.1 +0.5
baz=43,SNR=34
DZET Dzherino 42.79 328 P P 06 07 35.3 -0.9
DZET pmax pmax
comp=Z,2µm,1.1s
KSNAH Namhae 42.79 40 P P 06 07 36.3 +0.2
SNR=26
KSNAH Namhae 42.79 40 P P 06 07 36.4 +0.4
SNR=48
ARQ Araqi 42.85 301 P P 06 07 39.0 +2.3
SNR=99
AAA Alma-Ata 42.86 339 *e*P **P 06 07 36.5 -0.1**
AAA pmax pmax
comp=Z,64µm,4.1s
AAA MLR MLR
comp=Z,174µm,19.0s
KSGUS GUNSAN 42.87 38 P P 06 07 36.5 -0.1
SNR=93
UCH Uchtor 42.88 336 P P 06 07 37.5 +0.2
SNR=422
UCH Uchtor 42.88 336 *i*P **P 06 07 37.4 +0.2**
RKGY Rocky Gully 42.94 154 P P 06 07 38.6 +1.4
baz=43,SNR=10.0
KSBAR Backryungdo 42.99 34 P P 06 07 37.4 -0.3
SNR=16
KSBAR Backryungdo 42.99 34 P P 06 07 37.3 -0.3
SNR=54
SMPI Sarmi 43.04 97 P P 06 07 38.3 -0.1
comp=Z,1µm,1.4s,comp=Z,40µm
TKM2 Tokmak 2 43.05 338 P P 06 07 38.3 0.0
SNR=238
TKM2 Tokmak 2 43.05 338 *i*P **P 06 07 38.3 0.0**
TKM2 Tokmak 2 43.05 338 *e*P **P 06 07 38.1 -0.2**
comp=Z,629nm,0.6s
TKM2 LR LR
comp=Z,243µm,22.0s
KBK Karagaybulak 43.07 337 P P 06 07 39.2 +0.8
SNR=392
KBK Karagaybulak 43.07 337 *i*P **P 06 07 39.2 +0.8**
KSJIN Jinju 43.08 39 P P 06 07 38.1 -0.2
SNR=44
KSJEO Jeonju 43.11 38 P P 06 07 38.7 0.0
SNR=64
AML Almayashu 43.13 336 P P 06 07 39.6 +0.5
SNR=258
AML Almayashu 43.13 336 *i*P **P 06 07 39.7 +0.5**
KSTOY TONGYEONG 43.14 40 P P 06 07 39.6 +0.7
SNR=24
KSSES Seosan 43.17 36 P P 06 07 38.7 -0.4
SNR=52
RBK Rabkut 43.20 292 P P 06 07 41.7 +2.0
SNR=67
AAK Ala-Archa 43.23 337 P P 06 07 40.3 +0.6
comp=Z,2µm,0.8s
AAK Ala-Archa 43.23 337 P P 06 07 40.2 +0.6
SNR=177
AAK Ala-Archa 43.23 337 P P 06 07 40.2 +0.5
comp=Z,202nm,0.8s,baz=141,slow=6.9,SNR=226
AAK PKPPKP **P'P'df** **06 39 30.6 -3.5**
comp=Z,1.2nm,0.5s,baz=165,slow=8.0,SNR=3.8
AAK Ala-Archa 43.23 337*c i*P **P 06 07 40.1 +0.5**
AAK pmax pmax
comp=Z,2µm,2.5s
AAK MLR MLR
comp=Z,483µm,18.0s
AAK Ala-Archa 43.23 337 P P 06 07 40.4 +0.5
SNR=726
AAK Ala-Archa 43.23 337 *e*P **P 06 07 40.1 +0.4**
comp=Z,3µm,1.5s
AAK P'P' 06 39 30.6
AAK LR LR
comp=Z,236µm,20.0s
FRU Bishkek 43.35 337 *i*P **P 06 07 38.0 -2.5**
FRU *i*S **S** **06 14 06.0 +0.6**
FRU pmax pmax
comp=Z,1µm,2.0s
FRU pmax pmax
comp=E,4µm,8.0s
FRU smax smax
comp=N,5µm,3.0s
KSKOJ Gongju 43.37 37 P P 06 07 40.5 -0.2
SNR=89
CHMS Chumysh 43.44 337 P P 06 07 41.0 -0.2
SNR=95
CHMS Chumysh 43.44 337 *i*P **P 06 07 41.0 -0.2**
KSTEJ Daejeon 43.44 38 P P 06 07 41.1 -0.1
SNR=76
TJN Taejon 43.44 38 *i*P **P 06 07 40.7 -0.6**
EKS2 Erkin-Say 43.54 336 P P 06 07 42.8 +0.7
SNR=162
EKS2 Erkin-Say 43.54 336 *i*P **P 06 07 42.8 +0.7**
EKS2 Erkin-Say 43.54 336 *e*P **P 06 07 42.8 +0.7**
comp=N,522nm,0.8s
EKS2 LR LR
comp=Z,139µm,20.0s
KSCEJ CHEONGJU 43.66 37 P P 06 07 42.8 -0.2
SNR=36
KSCEA Cheonan 43.67 37 P P 06 07 42.9 -0.3
SNR=78
UOSS Wadi Hilu 43.71 303 P P 06 07 44.0 +0.3
comp=Z,504nm,1.5s,SNR=37
KSCPR CHUPUNGNYEONG 43.72 38 P P 06 07 43.3 -0.2
SNR=62
HATD Hatta, Dubai 43.72 303⇑*i*P **P 06 07 45.6 +1.8**
SNR=94
ASHO Ashiyiah 43.73 302 P P 06 07 45.9 +2.0
SNR=101
ASHO Ashiyiah 43.73 302⇑*i*P **P 06 07 45.6 +1.7**
SNR=60
INCN Inchon 43.74 36 P P 06 07 43.0 -0.8
SNR=90
INCN Inchon 43.74 36 *e*P **P 06 07 42.7 -1.1**
comp=Z,3µm,1.7s
INCN *e* 06 09 30.5
INCN LR LR
comp=Z,252µm,18.0s
JNU Nakatsue 43.75 44 P P 06 07 43.3 -0.5
comp=Z,95nm,0.8s,baz=240,slow=5.3,SNR=38
JNU Nakatsue 43.75 44 *e*P **P 06 07 43.5 -0.3**
comp=Z,246nm,0.9s
USP Ospenovka 43.76 337 P P 06 07 44.0 +0.1
SNR=519
USP Ospenovka 43.76 337 *i*P **P 06 07 43.9 +0.1**
KSGAH Ganghwa 43.79 35 P P 06 07 43.5 -0.5
SNR=76
KSSWO Suwon 43.80 36 P P 06 07 43.3 -0.8
SNR=33
KSBUS Busan 43.82 40 P P 06 07 45.0 +0.7
SNR=61
KSSEO Seoul 43.91 36 P P 06 07 44.5 -0.6
SNR=77
KSSAJ Sangju 43.95 38 P P 06 07 45.2 -0.2
SNR=59
BANOM Banah 44.01 304 P P 06 07 48.7 +2.6
SNR=19
BANOM Banah 44.01 304⇓*i*P **P 06 07 47.2 +1.1**
SNR=15
KSDAG Daegu 44.01 39 P P 06 07 46.1 +0.2
SNR=42
ABTO Aybut 44.01 291 P P 06 07 48.2 +2.0
SNR=82
KSICN Icheon 44.08 37 P P 06 07 45.9 -0.5
SNR=41
KSMUS Musan 44.09 36 P P 06 07 46.1 -0.4
SNR=94
KSCHJ Chungju 44.14 38 P P 06 07 46.7 -0.2
SNR=35
FAQ Al Faqa, Dubai 44.15 302⇑*i*P **P 06 07 48.8 +1.6**
SNR=14
KSYOC YEONGCHEON 44.17 39 P P 06 07 47.4 +0.3
SNR=32
NAZ Nazwa, Dubai 44.18 303 *i*P **P 06 07 48.9 +1.5**
SNR=13
KSEUS ULSEONG 44.24 39 P P 06 07 47.7 -0.1
SNR=56
KSDDC Dongducheon 44.27 36 P P 06 07 47.4 -0.6
SNR=50
YNCB YEONCHEON 44.29 35 P P 06 07 47.5 -0.5
SNR=70
ASUD Al Ashush, Dub 44.33 302⇑*i*P **P 06 07 50.9 +2.3**
SNR=55
WRA Warramunga Arr 44.38 124 P P 06 07 48.7 -0.4
comp=Z,881nm,0.9s,baz=304,slow=8.9,SNR=879
WRA ScP **ScP** **06 13 20.5 -1.0**
comp=Z,38nm,1.0s,baz=306,slow=3.8,SNR=5.6
WRA S **S** **06 14 16.3 -4.7**

comp=Z,74nm,1.1s,baz=295,slow=16,SNR=4.9
WRA LR LR 06 26 59.3
comp=Z,280µm,21.0s,baz=285,slow=37
WRA P3KP 06 38 25.8
comp=Z,4.3nm,1.2s,baz=153,slow=1.6,SNR=5.1
WRA P4KPbc 06 45 44.3
comp=Z,2.3nm,0.6s,baz=311,slow=3.5,SNR=8.8
WRAB Tennant Creek 44.39 123 P **P 06 07 49.0 -0.2**
comp=Z,8µm,1.0s
WRAB Tennant Creek 44.39 123*c i*P **P 06 07 48.9 -0.2**
WRAB pmax pmax
comp=Z,5µm,1.2s
WRAB Tennant Creek 44.39 123 *e*P **P 06 07 49.0 -0.2**
comp=Z,1µm,0.7s
WRAB LR LR
comp=Z,320µm,21.0s
KSAR Wonju Array Be 44.46 37 P **P 06 07 49.0 -0.4**
KSAR 06 09 32.9
KSAR Wonju Array Be 44.46 37 P **P 06 07 49.0 -0.4**
KSAR PcP **PcP** **06 09 32.9 +0.4**
KSAR ScP **ScP** **06 13 21.3 -0.1**
KSAR P'P' 06 39 29.9
KS01 Wonju Array Si 44.48 37 *e*P **P 06 07 47.1 -2.5**
KSRS Korea Array 44.49 37 P **P 06 07 49.0 -0.7**
comp=Z,121nm,0.8s,baz=233,slow=8.4,SNR=324
KSRS PcP **PcP** **06 09 32.9 +0.3**
comp=Z,27nm,0.7s,baz=218,slow=4.3,SNR=2.5
KSRS ScP **ScP** **06 13 21.3 -0.2**
comp=Z,18nm,1.0s,baz=215,slow=3.9,SNR=5.2
KSRS LR LR 06 29 02.5
comp=Z,391µm,18.3s,baz=232,slow=40
KSRS PKPPKP **P'P'df** **06 39 29.9 -3.0**
comp=Z,2.3nm,1.0s,baz=69,slow=2.3,SNR=4.0
MK01 Makanchi Array 44.49 347 *e*P **P 06 07 46.9 -2.8**
MK31 Makanchi Array 44.52 347 *i*P **P 06 07 48.7 -1.1**
MK31 pmax pmax
comp=Z,246nm,0.5s
MK31 Makanchi Array 44.52 347 *e*P **P 06 07 49.1 -0.7**
MKAR Makanchi Array 44.52 347 P **P 06 07 49.0 -0.8**
comp=Z,193nm,0.5s,baz=184,slow=6.9,SNR=2172
MKAR LR LR 06 29 38.5
comp=Z,161µm,20.6s,baz=162,slow=40
MKAR P3KP 06 38 26.3
comp=Z,0.3nm,0.6s,baz=296,slow=6.3,SNR=3.7
MKAR PKPPKP **P'P'df** **06 39 31.1 -0.8**
comp=Z,7.6nm,1.2s,baz=278,slow=8.3,SNR=5.3
MKAR Makanchi Array 44.52 347*ce*P **P 06 07 49.0 -0.8**
MKAR pmax pmax
comp=Z,208nm,0.5s
KSWJU Wonju 44.53 37 P **P 06 07 50.2 +0.1**
SNR=59
GENI Genyem 44.56 97 P **P 06 07 49.6 -1.0**
comp=Z,1µm,1.2s,comp=Z,35µmcomp=Z,437µm
KSPHA Pohang 44.57 39 P **P 06 07 51.2 +0.9**
SNR=35
KSYOW Yeongwol 44.63 38 P **P 06 07 50.9 +0.1**
SNR=43
KSCHC Chuncheon 44.64 36 P **P 06 07 50.7 -0.2**
SNR=63
KSCWO Cheorwon 44.66 36 P **P 06 07 50.6 -0.5**
SNR=88
AIS Amsterdam Isla 44.73 201 P P 06 07 37.0 -15
AIS PP **PP** **06 09 36.0 -0.7**
AIS S S 06 14 18.0 -7.5
AIS SS **ScS** **06 17 45.0 -0.8**
AIS R 06 20 00.0
SONM Songino Array 44.83 10 P **P 06 07 52.1 -0.3**
comp=Z,537nm,0.8s,baz=190,slow=8.8,SNR=809
SONM pP **pP** **06 08 03.3 -1.0**
comp=Z,1µm,0.7s,baz=190,slow=8.2,SNR=20
SONM PcP **PcP** **06 09 34.6 +0.8**
comp=Z,141nm,0.7s,baz=180,slow=3.2,SNR=3.1
SONM pPcP 06 09 44.9
comp=Z,165nm,0.6s,baz=201,slow=2.9,SNR=7.5
SONM LR LR 06 29 01.0
comp=Z,659µm,18.9s,baz=188,slow=39
SONM PKPPKP **P'P'df** **06 39 28.7 -2.8**
comp=Z,5.9nm,1.2s,baz=5.7,slow=1.5,SNR=3.7
SONA1 Songino Array 44.85 10 *e*P **P 06 07 50.5 -2.1**
KSTBA Taebaek 44.90 38 P **P 06 07 53.4 +0.4**
SNR=100
KSULJ Uljin 44.91 39 P **P 06 07 53.3 +0.2**
SNR=36
KSJES JEONGSEON 44.92 37 P **P 06 07 53.4 +0.2**
SNR=40
KSIJA INJE 44.95 36 P **P 06 07 53.9 +0.6**
SNR=16
ULN Ulaanbaatar 44.98 10*c i*P **P 06 07 53.1 -0.5**
ULN pmax pmax
comp=Z,434nm,1.0s
ULN MLR MLR
comp=Z,454µm,14.0s
ULN Ulaanbaatar 44.98 10 P **P 06 07 53.4 -0.2**
SNR=443
ULN Ulaanbaatar 44.98 10 *e*P **P 06 07 53.2 -0.4**
comp=Z,692nm,0.8s
ULN LR LR
comp=Z,568µm,20.0s
JAY Jayapura 45.08 97 P **P 06 07 53.0 -1.8**
comp=Z,548nm,1.2s,comp=Z,15µm
JAY Jayapura 45.08 97 P **P 06 07 53.1 -1.8**
comp=Z,369nm,1.0s,baz=180,slow=24,SNR=13
KSDGY Daegwallycong 45.09 37 P **P 06 07 54.7 +0.1**
SNR=55
SEHB SEOHWA 45.22 36 P **P 06 07 55.4 -0.2**
SNR=76
SNY Shenyang 45.23 29⇑P **P 06 07 55.0 -0.5**
SNY S S 06 14 39.9 +7.2
SNY PMZ
comp=Z,470nm,2.1s
SNY PMZ
comp=Z,44µm,12.0s
SNY LN
comp=Z,376µm,19.1s
SNY LE
comp=Z,181µm,19.6s
SNY LZ
comp=Z,369µm,19.8s
KSJMJ Jumunjin 45.27 37 P **P 06 07 55.9 +0.1**
SNR=27
KK31 Karatay Array 45.28 334 *i*P **P 06 07 55.4 -0.5**
KK31 pmax pmax
comp=Z,2µm,1.3s
KKAR Karatay Array 45.28 334 *e*P **P 06 07 55.7 -0.2**
KKAR Karatay Array 45.28 334 *e*P **P 06 07 55.7 -0.2**
KSSKC Sokcho 45.39 36 P **P 06 07 57.0 +0.1**
SNR=60
AS31 Alice Springs 45.86 128 *e*P **P 06 08 00.5 -0.3**
ASAR Alice Springs 45.86 128 P **P 06 08 00.5 -0.3**
comp=Z,269nm,0.9s,baz=305,slow=7.7,SNR=1152
ASAR pPcP 06 09 50.0
comp=Z,135nm,0.7s,baz=302,slow=3.8,SNR=4.7
ASAR ScP **ScP** **06 13 26.8 -0.8**
comp=Z,30nm,1.1s,baz=298,slow=4.0,SNR=4.5
ASAR S **S** **06 14 44.1 +1.7**
comp=Z,8.0nm,0.9s,baz=288,slow=13,SNR=2.5
ASAR LR LR 06 28 42.4
comp=Z,153µm,20.5s,baz=296,slow=38
ASAR P3KP 06 38 23.9
comp=Z,1.9nm,1.0s,baz=57,slow=1.5,SNR=4.5
ASAR PKPPKP **P'P'df** **06 39 26.1 -5.1**
comp=Z,6.7nm,1.0s,baz=87,slow=2.1,SNR=4.5
ASAR P4KPbc 06 45 52.2
comp=Z,0.6nm,0.7s,baz=288,slow=4.2,SNR=2.5
AS01 Alice Springs 45.90 128 *e*P **P 06 07 58.9 -2.2**
FORT Forrest 45.96 141 P **P 06 08 02.0 +0.6**
baz=46,SNR=157
FORT Forrest 45.96 141 *e*P **P 06 08 01.9 +0.4**
comp=Z,1µm,0.8s
FORT LR LR
comp=Z,653µm,22.0s
IMYA Miami 46.32 319 *e*P **P 06 08 04.0 -0.5**
KSULL Ulleungdo 46.33 39 P **P 06 08 05.6 +1.3**
SNR=57
RER Riviere de l'E 46.58 236 *e*P **P 06 08 07.5 +0.9**
comp=Z,794nm,0.9s
RER LR LR
comp=Z,450µm,21.0s
IMOG Moghan 46.69 318 *e*P **P 06 08 07.3 -0.2**
ISRO Mashad 46.72 319 *e*P **P 06 08 07.7 +0.2**
ZAK Zakamensk 46.89 6⇓*i*P **P 06 08 07.7 -0.8**
ZAK pmax pmax
comp=Z,361nm,2.2s
IBAF Bafgh 47.03 311 *e*P **P 06 08 10.2 +0.2**
IPAY Payeh 47.11 318 *e*P **P 06 08 11.1 +0.4**
HVS Khovu-Aksy 47.28 358*de*P **P 06 08 11.2 -0.4**
HVS pmax pmax

comp=Z,594nm,0.9s
HVS MLR MLR
comp=Z,646µm,22.0s
IKRD Kardeh 47.62 319 *e*P P 06 08 09.9 -4.7
CN2 Changchun 47.63 29⇑*i*P **P 06 08 13.9 -0.4**
CN2 *e*pP **pP 06 08 24.9 -1.3**
CN2 *e*PP **PP 06 10 06.3 +0.1**
CN2 *e*S **S 06 15 06.1 -0.9**
CN2 PMZ
comp=Z,380nm,0.8s
CN2 PMZ
comp=Z,17µm,9.0s
IMEH Mehriz 47.66 310 *e*P **P 06 08 14.2 -0.8**
MOY Mondy 47.95 4 *e*P **P 06 08 16.2 -0.6**
MOY pmax pmax
comp=Z,2µm,3.4s
ICHK Chekchek 48.20 311 *e*P **P 06 08 18.3 -1.0**
TLY Talaya 48.21 6 P **P 06 08 19.9 +1.2**
comp=Z,2µm,0.8s
TLY Talaya 48.21 6 P **P 06 08 18.9 +0.2**
comp=Z,215nm,0.8s,baz=204,slow=6.9,SNR=349
TLY Talaya 48.21 6*c i*P **P 06 08 18.8 +0.2**
TLY *e* 06 10 16.1
TLY *e*S **S 06 15 18.6 +3.6**
TLY pmax pmax
comp=Z,344nm,0.8s
TLY MLR MLR
comp=Z,376µm,18.0s
TLY Talaya 48.21 6 P **P 06 08 19.1 +0.5**
SNR=406
TLY Talaya 48.21 6 *e*P **P 06 08 18.9 +0.2**
comp=Z,440nm,0.8s
TLY *e*S S 06 15 29.6 +15
TLY LR LR
comp=Z,412µm,18.0s
ASHT Ashkhabad 48.37 320 P **P 06 08 21.5 +1.4**
ASHT pmax pmax
comp=Z,2µm,1.1s
GEYT Alibeck 48.53 320 P **P 06 08 22.0 +0.5**
comp=Z,263nm,0.7s,baz=145,slow=5.4,SNR=280
GEYT PKPPKP **P'P'df 06 39 25.5 -2.5**
comp=Z,1.3nm,0.3s,baz=234,slow=5.1,SNR=3.6
ISAD Sadrabad 48.60 310 *e*P **P 06 08 21.8 -0.6**
OTUK Ortayu 48.78 339 P **P 06 08 23.3 +0.1**
OTUK pmax pmax
comp=Z,2µm,1.4s
IRK Irkutsk 48.83 7⇓*i*P **P 06 08 22.9 -0.6**
IRK *e* 06 10 10.2
IRK *e*S **S 06 15 19.4 -4.4**
IRK pmax pmax
comp=Z,2µm,2.1s
KURK Kurchatov 49.06 345 P **P 06 08 24.7 -0.5**
comp=Z,2µm,1.7s
KURK Kurchatov 49.06 345 *e*P **P 06 08 24.9 -0.3**
KURK *e*S S 06 15 33.1 +6.1
KURK pmax pmax
comp=Z,1µm,1.1s
KURK MLR MLR
comp=Z,128µm,21.0s
KURK Kurchatov 49.06 345 P **P 06 08 25.1 -0.1**
SNR=1066
KURK Kurchatov 49.06 345 *e*P **P 06 08 24.9 -0.3**
comp=Z,1µm,1.1s
KURK *e*S S 06 15 33.1 +6.1
KURK LR LR
comp=Z,128µm,21.0s
QIS Mount Isa 49.09 121⇑P **P 06 08 25.9 -0.1**
baz=49,SNR=254
GUMO Guam 49.18 75 P **P 06 08 25.6 -1.1**
comp=Z,677nm,0.9s,baz=194,slow=7.6,SNR=13
GUMO Guam 49.18 75 P **P 06 08 25.6 -1.1**
GUMO pmax pmax
comp=Z,289nm,1.1s
GUMO Guam 49.18 75 P **P 06 08 25.6 -1.1**
comp=Z,289nm,1.1s
GUMO LR LR
comp=Z,10µm,21.0s
HIA Hailar 49.66 20 *e*P **P 06 08 29.8 -0.1**
HIA *e*S **S 06 15 38.8 +3.3**
HIA pmax pmax
comp=Z,792nm,0.9s
HIA MLR MLR
comp=Z,693µm,19.0s
HIA Hailar 49.66 20 *e*P **P 06 08 29.8 -0.1**
comp=Z,792nm,0.9s
HIA *e*S **S 06 15 38.8 +3.3**
HIA LR LR
comp=Z,693µm,19.0s
CBIJ Chichi jima 49.80 57 P **P 06 08 28.8 -2.4**
comp=Z,47nm,0.8s
JCJ Chichijima 49.80 57 P **P 06 08 28.8 -2.4**
comp=Z,295nm,0.5s,baz=279,slow=17,SNR=37
COEN Coen 49.95 112 P **P 06 08 31.7 -0.9**
baz=50,SNR=62
COEN Coen 49.95 112 *e*P **P 06 08 31.6 -0.9**
comp=Z,290nm,0.8s
COEN *e*S S 06 15 34.3 -6.3
COEN LR LR
comp=Z,200µm,22.0s
IANJ Anjilo 50.09 314 *e*P **P 06 08 33.1 -0.5**
JHJ2 Mitsune 50.23 49 P **P 06 08 33.4 -1.0**
comp=Z,204nm,0.9s
MDJ Mudanjiang 50.27 31 P **P 06 08 35.4 +0.8**
MDJ pP **pP 06 08 47.0 +0.4**
MDJ sP **sP 06 08 52.2 +0.7**
MDJ S **S 06 15 44.8 +0.6**
MDJ ScS **ScS 06 18 23.3 +1.0**
MDJ PMZ
comp=Z,380nm,1.1s
MDJ PMZ
comp=Z,32µm,7.6s
MDJ LN
comp=Z,160µm,19.3s
MDJ LE
comp=Z,206µm,17.4s
MDJ LZ
comp=Z,219µm,17.4s
MDJ Mudanjiang 50.27 31 *e*P **P 06 08 34.9 +0.3**
comp=Z,2µm,1.6s
MDJ *e*S **S 06 15 45.2 +1.0**
MDJ LR LR
comp=Z,241µm,21.0s
CIT Chita 50.29 14 *e*P **P 06 08 35.0 +0.4**
CIT *e* 06 08 51.6
CIT *e* 06 15 46.0
CIT pmax pmax
comp=Z,4µm,2.2s
VLA Vladivostok 50.49 34α*i*P **P 06 08 36.5 +0.3**
VLA *e* 06 09 53.4
VLA *e*S **S 06 15 46.5 -0.6**
VLA pmax pmax
comp=Z,2µm,1.9s
VLA MLR MLR
comp=E,4636µm,16.0s
IKIA Kiasar 50.61 315 *e*P **P 06 08 37.2 -0.4**
IGLO Ghaloghah 50.66 316 *e*P **P 06 08 37.4 -0.5**
MAJO Matsushiro 50.66 44*c i*P **P 06 08 36.6 -1.1**
MAJO pmax pmax
comp=Z,3µm,2.7s
MAJO MLR MLR
comp=Z,946µm,16.0s
MAJO Matsushiro 50.66 44 *e*P **P 06 08 36.5 -1.2**
comp=Z,298nm,0.9s
MAJO *e*PcP **PcP 06 09 54.0 -0.7**
MAJO *e*ScP **ScP 06 13 47.1 -0.6**
MAJO LR LR
comp=Z,186µm,19.0s
MAT Matsushiro 50.66 44 P **P 06 08 35.9 -1.8**
MAT S **S 06 15 50.4 +0.5**
MJAR Matsushiro Arr 50.66 44 P **P 06 08 36.6 -1.1**
comp=Z,44nm,1.1s,baz=230,slow=9.1,SNR=110
MJAR pP **pP 06 08 49.2 -0.5**
comp=Z,118nm,0.7s,baz=247,slow=8.0,SNR=19
MJAR PcP **PcP 06 09 55.0 +0.3**
comp=Z,166nm,0.9s,baz=239,slow=3.7,SNR=9.1
MJAR ScP **ScP 06 13 47.7 +0.1**
comp=Z,28nm,1.1s,baz=225,slow=4.4,SNR=5.5
MJAR LR LR 06 31 21.7
comp=Z,136µm,20.9s,baz=235,slow=38
MJAR PKPPKP **P'P'df 06 39 21.1 -4.3**
comp=Z,0.6nm,0.5s,baz=338,slow=3.3,SNR=5.3
MJAR P4KPbc 06 46 10.0
comp=Z,0.8nm,0.4s,baz=231,slow=3.6,SNR=5.4
ISHM Shahmirzad 50.70 315 *e*P **P 06 08 38.0 -0.2**
ILAS Lasjerd 50.73 314 *e*P **P 06 08 38.2 -0.3**
BDHA Al Bayda' 50.78 285 *e*P **P 06 08 41.7 +2.5**

ZAA0 Zalesovo Array 50.89 351 *e*P **P 06 08 38.4 -0.7**
ZAA0 *e*PcP **PcP 06 09 52.1 -3.0**
ZALV Zalesovo Beam 50.89 351 P **P 06 08 38.4 -0.7**
comp=Z,641nm,0.6s,baz=182,slow=6.9,SNR=1686
ZALV S **S 06 15 51.6 -0.8**
comp=Z,50nm,1.1s,baz=170,slow=10,SNR=2.8
ZALV LR LR 06 34 17.6
comp=Z,111µm,18.1s,baz=170,slow=41
ZALV PKPPKP **P'P'df 06 39 23.4 0.0**
comp=Z,7.9nm,0.9s,baz=316,slow=4.1,SNR=6.0
ZALV P4KPbc 06 46 08.1
comp=Z,2.0nm,1.0s,baz=289,slow=4.4,SNR=3.8
IFIR Firoozkooh 51.00 314 *e*P **P 06 08 40.5 -0.1**
QAM Ghamsar 51.11 311 *e*P **P 06 08 41.2 -0.1**
IALA Alasht 51.17 315 *e*P **P 06 08 42.2 +0.3**
USRK Ussuriysk Ar. 51.25 33 P **P 06 08 41.7 -0.2**
comp=Z,278nm,0.8s,baz=237,slow=7.5,SNR=170
USRK LR LR 06 34 36.0
comp=Z,158µm,18.4s,baz=220,slow=41
USRK PKP2bc 06 39 37.3
comp=Z,1.2nm,0.6s,baz=343,slow=4.0,SNR=4.6
IVRN Varamin 51.45 313 *e*P **P 06 08 43.7 0.0**
IDMV Damavand 51.49 314 *e*P **P 06 08 44.0 -0.2**
IPRN Peran 51.58 315 *e*P **P 06 08 44.4 -0.4**
MANU Manus Island 51.63 96 P **P 06 08 46.0 +0.7**
baz=52,SNR=6.3
DAMY Dhamar 51.99 286 *e*P **P 06 08 50.7 +2.4**
comp=Z,2µm,1.2s
DAMY *e*S **S 06 16 14.8 +5.5**
DAMY LR LR
comp=Z,314µm,21.0s
NVS Novosibirsk 52.00 351⇑*i*P **P 06 08 45.2 -2.1**
NVS *e*S **S 06 16 06.5 -1.1**
NVS pmax pmax
comp=Z,2µm,1.9s
NVS pmax pmax
comp=N,714nm,1.3s
NVS smax smax
comp=N,538nm,1.6s
NVS smax smax
comp=E,240nm,1.4s
TRBA At Turbah 52.11 284 *e*P **P 06 08 51.6 +2.5**
IR3 Iran Long-Peri 52.17 313 *e*P **P 06 08 49.2 +0.1**
KRAR Krasnoyarsk 52.19 358*c i*P **P 06 08 48.5 -0.2**
KRAR pmax pmax
comp=Z,1µm,1.6s
KRAR MLR MLR
comp=Z,175µm,22.0s
BBOO Buckleboo 52.51 137 P **P 06 08 51.2 -0.4**
baz=53,SNR=62
BBOO Buckleboo 52.51 137 *e*P **P 06 08 51.2 -0.4**
comp=Z,930nm,1.3s
BBOO LR LR
comp=Z,26µm,22.0s
IMHD Mahdasht 52.53 313 *e*P **P 06 08 51.6 -0.1**
RAYN Ar Rayn 52.56 297 P **P 06 08 53.0 +0.9**
comp=Z,3µm,0.8s,SNR=86
RAYN Ar Rayn 52.56 297 *e*P **P 06 08 52.9 +0.9**
comp=Z,4µm,1.0s
RAYN LR LR
comp=Z,488µm,20.0s
PMG Port Moresby 52.60 105*c i*P **P 06 08 52.3 -0.2**
PMG pmax pmax
comp=Z,4µm,0.8s
PMG Port Moresby 52.60 105 *e*P **P 06 08 52.2 -0.2**
comp=Z,2µm,0.8s
PMG LR LR
comp=Z,40µm,18.0s
HAJJ Hajjah 52.88 287 *e*P **P 06 08 57.3 +2.5**
HAJJ AMb AMB 06 08 59.8
comp=Z,3µm,1.6s
IRAZ Razeghan 52.95 312 *e*P **P 06 08 55.0 0.0**
ABPO Ambohimpanom 53.06 243 *e*P **P 06 08 56.9 +0.9**
ABPO pmax pmax
comp=Z,577nm,1.4s
ABPO MLR MLR
comp=Z,265µm,22.0s
ABPO Ambohimpanom 53.06 243 *e*P **P 06 08 56.9 +0.9**
comp=Z,577nm,1.4s
ABPO LR LR
comp=Z,265µm,22.0s
IGZV Ghazvin 53.17 314 *e*P **P 06 08 56.3 -0.3**
BVAR Borovoye Array 53.49 341 P **P 06 08 57.6 -0.8**
comp=Z,420nm,0.8s,baz=142,slow=7.5,SNR=1450
BVAR S **S 06 16 28.4 +0.3**
comp=Z,16nm,0.8s,baz=131,slow=17,SNR=3.5
BVAR LR LR 06 34 06.9
comp=Z,123µm,22.0s,baz=158,slow=39
BVAR PKPPKP **P'P'df 06 39 18.8 -1.2**
comp=Z,2.5nm,0.9s,baz=0.0,slow=0.6,SNR=4.8
BVAR P4KPbc 06 46 29.5
comp=Z,0.6nm,0.5s,baz=131,slow=6.7,SNR=4.1
BRVK Borovoye 53.55 341 P **P 06 08 58.5 -0.3**
comp=Z,4µm,1.0s
BRVK Borovoye 53.55 341*c i*P **P 06 08 58.1 -0.7**
BRVK pmax pmax
comp=Z,1µm,1.2s
BRVK MLR MLR
comp=Z,154µm,22.0s
BRVK Borovoye 53.55 341 P **P 06 08 58.3 -0.5**
SNR=479
BRVK Borovoye 53.55 341 *e*P **P 06 08 58.3 -0.5**
comp=Z,527nm,0.7s
BRVK *e*S **S 06 16 33.1 +4.2**
BRVK LR LR
comp=Z,146µm,21.0s
KLR Kul'dur 54.55 28⇓*i*P P 06 09 02.8 -3.4
KLR *e*S S 06 16 51.6 +9.0
KLR pmax pmax
comp=N,440nm,1.6s
KLR pmax pmax
comp=E,960nm,1.6s
KLR pmax pmax
comp=Z,2µm,1.6s
CTA Charters Tower 54.69 118 P **P 06 09 07.9 +0.1**
comp=Z,244nm,0.8s,baz=289,slow=11
CTA LR LR 06 33 19.9
comp=Z,200µm,21.8s,baz=284,slow=37
CTAO Charters Tower 54.69 118 *e*P **P 06 09 07.6 -0.2**
CTAO *e*S S 06 16 36.8 -8.6
CTAO pmax pmax
comp=Z,1µm,1.3s
CTAO MLR MLR
comp=Z,248µm,21.0s
CTAO Charters Tower 54.69 118 *e*P **P 06 09 07.5 -0.2**
comp=Z,1µm,1.3s
CTAO *e*S S 06 16 36.8 -8.6
CTAO LR LR
comp=Z,248µm,21.0s
AB31 Akbulak array 54.74 332 *i* P **P 06 09 07.4 -0.2**
AB31 pmax pmax
comp=Z,179nm,0.4s
ABKAR Akbulak array 54.74 332 *e*P **P 06 09 07.4 -0.2**
comp=Z,30nm,0.7s
ABKAR *e*S **S 06 16 40.4 -4.8**
QLP Quilpie 55.48 126 P **P 06 09 13.8 +0.6**
baz=56,SNR=262
HABR Khabarovsk 55.65 30*c i*P **P 06 09 13.7 -0.4**
HABR *e*SP 06 09 27.8
HABR *e* 06 10 10.5
HABR *e* 06 11 15.7
HABR *e* 06 12 28.8
HABR *e*S **S 06 16 57.2 -0.1**
HABR *e* 06 17 08.5
HABR *e*SS **sS 06 17 14.5 -3.0**
HABR *e* 06 18 56.6
HABR *e*SS **SS 06 20 41.2 -1.9**
HABR pmax pmax
comp=N,210nm,2.0s
HABR pmax pmax
comp=E,460nm,2.0s
HABR pmax pmax
comp=Z,1µm,2.0s
HABR pmax pmax
comp=Z,5µm,2.7s
HABR MLR MLR
comp=N,157µm,18.0s
HABR MLR MLR
comp=E,198µm,22.0s
HABR MLR MLR
comp=Z,303µm,21.0s
BOD Bodaibo 55.76 12⇑*i*P **P 06 09 14.6 -0.2**
BOD pmax pmax
comp=Z,989nm,1.7s
STKA Stephens Creek 55.92 133 P **P 06 09 16.4 -0.1**
comp=Z,184nm,1.0s,baz=306,slow=6.8,SNR=190

STKA LR LR 06 35 34.3
comp=Z,200µm,20.8s,baz=301,slow=38
STKA PKPPKP **P'P'df 06 39 16.7 -0.2**
comp=Z,4.2nm,0.9s,baz=268,slow=2.2,SNR=3.4
STKA P4KPbc 06 46 33.8
comp=Z,2.1nm,0.8s,baz=309,slow=6.3,SNR=4.4
STKA Stephens Creek 55.92 133 *e*P **P 06 09 16.2 -0.1**
STKA pmax pmax
comp=Z,8.0nm,0.5s
STKA Stephens Creek 55.92 133 P **P 06 09 16.2 -0.1**
baz=56,SNR=129
STKA Stephens Creek 55.92 133 *e*P **P 06 09 16.2 -0.1**
comp=Z,7.5nm,0.5s
STKA P'P' 06 39 16.7
STKA ⇑*e* 06 39 23.4
STKA *e* 06 46 33.8
AKTO Aktyubinsk 56.46 332 P **P 06 09 19.3 -0.6**
comp=Z,118nm,0.5s,baz=128,slow=7.7,SNR=383
AKTO S **S 06 17 05.6 -2.4**
comp=Z,12nm,0.9s,baz=337,slow=20,SNR=3.6
AKTO PKPPKP **P'P'df 06 39 15.0 -1.1**
comp=Z,2.8nm,0.9s,baz=329,slow=1.5,SNR=4.1
AKTO P4KPbc 06 46 34.5
comp=Z,1.4nm,0.8s,baz=348,slow=3.8,SNR=4.0
RABL Rabaul 56.64 97 P **P 06 09 21.7 -0.1**
baz=57,SNR=8.8
ERM Erimo 56.70 41 P **P 06 09 22.0 +0.3**
comp=Z,2µm,0.7s,SNR=9.1
ERM Erimo 56.70 41*de*P **P 06 09 22.0 +0.3**
ERM pmax pmax
comp=Z,324nm,1.7s
ERM MLR MLR
comp=Z,223µm,18.0s
ERM Erimo 56.70 41 *e*P **P 06 09 21.5 -0.2**
comp=Z,772nm,1.1s
ERM LR LR
comp=Z,230µm,19.0s
FURI Furi 57.19 278 P P 06 09 37.5 +11
FURI S S 06 17 27.1 +7.8
FURI Furi 57.19 278 *e*P P 06 09 29.6 +3.5
comp=Z,1µm,1.5s
FURI LR LR
comp=Z,271µm,20.0s
ASAJ Asahikawa 57.38 38 P **P 06 09 26.6 0.0**
comp=Z,249nm,1.0s,baz=232,slow=6.1,SNR=3.8
ASAJ pP **pP 06 09 38.8 +0.1**
comp=Z,352nm,0.7s,baz=186,slow=12,SNR=3.3
ASAJ Asahikawa 57.38 38 *e*P **P 06 09 26.5 0.0**
comp=Z,193nm,0.8s
ASAJ pP **pP 06 09 38.8 +0.1**
ASAJ *e*S S 06 17 11.9 -8.5
ASAJ LR LR
comp=Z,218µm,20.0s
PAF Port-aux-Franc 57.42 200 P P 06 09 35.8 +9.2
PAF pmax pmax
comp=Z,1µm,1.3s
PAF MLR MLR
comp=Z,382µm,21.0s
PAF Port-aux-Franc 57.42 200 P P 06 09 12.0 -15
PAF S S 06 17 06.0 -14
PAF L L 06 23 00.0
PAF R R 06 26 00.0
PAF Port-aux-Franc 57.42 200 P P 06 09 35.8 +9.2
comp=Z,1µm,1.3s
PAF LR LR
comp=Z,382µm,21.0s
CLNS Chul'man 57.70 18 *e*P **P 06 09 29.0 +0.4**
CLNS *e**PP **pP 06 09 38.6 -2.2**
CLNS *e* 06 10 20.0
CLNS *e* 06 11 35.3
CLNS *e*PPP PPP 06 12 53.4
CLNS *e*S **S 06 17 25.6 +1.4**
CLNS *e* 06 19 05.3
CLNS *e*SS **SS 06 21 08.9 -6.2**
CLNS pmax pmax
comp=Z,581nm,1.0s
CLNS pmax pmax
comp=N,311nm,0.9s
CLNS pmax pmax
comp=E,263nm,0.9s
CLNS pmax pmax
comp=E,121nm,0.9s
CLNS pmax pmax
comp=Z,106nm,1.1s
CLNS pmax pmax
comp=N,216nm,1.1s
CLNS smax smax
comp=N,14µm,9.7s
CLNS smax smax
comp=E,15µm,11.8s
CLNS MLR MLR
comp=Z,265µm,17.0s
CLNS MLR MLR
comp=E,236µm,16.0s
CLNS MLR MLR
comp=N,238µm,16.0s
MAK Makhachkala 58.05 320 *e*P **P 06 09 31.0 -0.3**
MAK *e* 06 10 23.2
MAK *e* 06 11 39.7
MAK *e*PPP PPP 06 13 07.7
MAK *e*S **S 06 17 31.1 +1.9**
MAK *e*SS **SS 06 21 27.8 +6.7**
MAK pmax pmax
comp=Z,6µm,3.8s
MAK pmax pmax
comp=N,629nm,1.7s
MAK pmax pmax
comp=Z,876nm,1.8s
MAK pmax pmax
comp=E,955nm,1.7s
MAK smax smax
comp=N,64µm,6.1s
MAK smax smax
comp=E,22µm,6.2s
MAK MLR MLR
comp=E,114µm,19.0s
MAK MLR MLR
comp=Z,82µm,21.0s
MAK MLR MLR
comp=N,104µm,19.0s
CUKT Cukurca 58.36 312 P **P 06 09 33.0 -0.6**
HKR Hakkari 58.38 312 P **P 06 09 34.2 +0.3**
HAKT HAKKARI 58.40 312 P **P 06 09 33.6 -0.5**
GNI Garni 58.67 316 PKPPKP **P'P'df 06 39 10.2 -3.7**
comp=N,2.5nm,0.3s,baz=251,slow=21,SNR=3.4
GNI Garni 58.67 316*c i*P **P 06 09 36.0 +0.1**
GNI pmax pmax
comp=Z,275nm,1.0s
GNI Garni 58.67 316 P **P 06 09 36.3 +0.4**
SNR=194
GNI Garni 58.67 316 *i* P **P 06 09 36.5 +0.6**
SNR=116
GNI Garni 58.67 316 *e*P **P 06 09 36.0 +0.1**
comp=Z,1µm,1.0s
GNI P'P' 06 39 10.2
GNI ⇑*e* 06 39 19.9
GNI LR LR
comp=Z,52µm,22.0s
DGRG David-gareji 58.79 317 P **P 06 09 37.3 +0.8**
CMSA Cobar Meteorol 58.81 130 P **P 06 09 37.2 +0.4**
baz=59,SNR=355
CLDR Caldiran 58.85 314 *e*P **P 06 09 37.4 +0.2**
KMBO Kilima Mbogo 58.94 266 P **P 06 09 39.8 +1.5**
comp=Z,47nm,1.0s,baz=65,slow=8.5,SNR=50
KMBO S S 06 17 49.7 +7.5
comp=Z,0.8nm,0.3s,baz=164,slow=16,SNR=3.2
KMBO LR LR 06 32 46.4
comp=Z,632µm,19.1s,baz=81,slow=34
KMBO PKP2bc 06 39 19.6
comp=Z,0.7nm,0.3s,baz=283,slow=3.8,SNR=3.8
KMBO Kilima Mbogo 58.94 266 P **P 06 09 40.0 +1.7**
SNR=48
KMBO Kilima Mbogo 58.94 266 P **P 06 09 39.9 +1.5**
comp=Z,290nm,1.1s
KMBO *e*S S 06 17 31.5 -11
KMBO S S 06 17 49.7 +7.5
KMBO ⇑*e* 06 39 19.6
KMBO ⇑*e* 06 39 31.5
YSS Yuzh-Sakhalins 58.96 36α*i*P **P 06 09 37.4 0.0**
YSS *i* *PP **pP 06 09 50.0 +0.3**
YSS *e**SP **sP 06 09 57.4 +2.8**
YSS *e* 06 11 52.0
YSS *e*PPP PPP 06 13 18.0
YSS *e*S **S 06 17 41.0 +0.2**
YSS pmax pmax
comp=N,720nm,1.2s

YSS pmax pmax
comp=E,650nm,1.2s
YSS pmax pmax
comp=Z,2μm,1.2s
YSS pmax pmax
comp=N,3μm,8.0s
YSS pmax pmax
comp=E,3μm,8.0s
YSS pmax pmax
comp=Z,8μm,8.0s
YSS smax smax
comp=E,9μm,14.0s
YSS MLR MLR
comp=E,129μm,17.0s
YSS MLR MLR
comp=Z,175μm,17.0s
YSS MLR MLR
comp=N,210μm,18.0s
YSS Yuzh-Sakhalins 58.96 36 *eP* **P 06 09 37.5 0.0**
comp=N,2μm,1.0s
YSS LR LR
comp=Z,93μm,20.0s
TVAN Van 58.98 313 *i* P **P 06 09 37.1 -1.1**
VANB Van 59.02 313 *e*P **P 06 09 37.7 -0.5**
RMQ Roma 59.14 124 P **P 06 09 40.3 +1.2**
baz=59,SNR=97
GEVA Gevas 59.16 313 *i* P **P 06 09 39.0 -0.3**
DYDN Diyadin 59.17 315 *i* P **P 06 09 39.5 +0.1**
SEAG Tbilisi Sea 59.31 317 P **P 06 09 39.3 -0.8**
SIRN S¯–rnak 59.33 312 *i* P **P 06 09 40.1 -0.3**
TBLG Delisi 59.34 317 P **P 06 09 40.1 -0.1**
TBLG Delisi 59.34 317 P **P 06 09 40.4 +0.1**
YUK Yuzh-Kuril'sk 59.40 40*c* *i*P **P 06 09 40.4 -0.2**
YUK *i* *PP **pP** 06 09 52.2 -0.6
YUK *i* 06 11 54.3
YUK *i* PPP PPP 06 13 18.3
YUK *i* S S 06 17 54.9 +8.3
YUK pmax pmax
comp=Z,10μm,2.4s
YUK pmax pmax
comp=N,1μm,1.2s
YUK pmax pmax
comp=E,807nm,1.2s
YUK pmax pmax
comp=Z,3μm,1.2s
YUK MLR MLR
comp=N,85μm,21.0s
YUK MLR MLR
comp=E,167μm,21.0s
YUK MLR MLR
comp=Z,163μm,21.0s
KZR Kazreti 59.41 317 P **P 06 09 40.0 -0.9**
AGRB Hanur-Agry 59.68 314 *e*P **P 06 09 43.4 +0.4**
DIGO Kars 59.74 315 *i* P **P 06 09 43.5 +0.1**
TUTA Tutak 59.74 314 *i* P **P 06 09 42.9 -0.5**
TATV Tatvan 59.81 313 *i* P **P 06 09 43.3 -0.5**
SVE Sverdlovsk 59.92 338*d* *i*P **P 06 09 43.6 -0.3**
SVE *e* 06 12 05.3
SVE *e*PPP PPP 06 13 26.9
SVE *e*S **S 06 17 56.6 +3.7**
SVE pmax pmax
comp=Z,2μm,1.9s
SVE pmax pmax
comp=Z,18μm,10.6s
SVE MLR MLR
comp=N,72μm,19.0s
SVE MLR MLR
comp=Z,155μm,19.0s
SVE MLR MLR
comp=E,111μm,21.0s
KARS Kars 60.03 315 *e*P **P 06 09 46.0 +0.8**
AKH Akhalkalaki 60.05 316 *e*P **P 06 09 46.3 +0.9**
EKAR Karacoban 60.23 314 *i* P **P 06 09 47.3 +0.6**
BTMT Batman 60.27 312 P **P 06 09 47.5 +0.7**
BEST Besiri 60.32 312 *i* P **P 06 09 47.3 +0.1**
ZEI Tsey 60.35 318 *e*P **P 06 09 47.5 +0.1**
ZEI *e* 06 12 08.2
ZEI *e*S **S 06 17 58.2 -1.1**
ZEI *e* 06 19 33.7
ZEI pmax pmax
comp=Z,11μm,8.6s
ZEI pmax pmax
comp=Z,325nm,0.7s
ZEI pmax pmax
comp=N,588nm,1.0s
ZEI pmax pmax
comp=E,440nm,0.8s
ARU Arti 60.41 337 P **P 06 09 46.4 -0.9**
comp=E,3μm,1.0s
ARU Arti 60.41 337*c* *i*P **P 06 09 46.1 -1.2**
ARU 06 10 31.9
ARU *e* 06 12 00.5
ARU PPP PPP 06 13 25.4
ARU *e*S **S 06 17 59.5 +0.3**
ARU 06 19 35.9
ARU SS **SS 06 21 56.8 -0.8**
ARU pmax pmax
comp=Z,796nm,1.6s
ARU pmax pmax
comp=Z,19μm,11.9s
ARU MLR MLR
comp=Z,93μm,21.0s
ARU Arti 60.41 337 *e*P **P 06 09 46.5 -0.9**
comp=Z,824nm,1.1s
ARU *e*PP **PP 06 12 00.8 -0.1**
ARU *e*S **S 06 17 58.6 -0.6**
ARU ⇑*e* 06 39 17.8
ARU LR LR
comp=Z,86μm,20.0s
SVAN Silvan-Diyarba 60.47 312 *e*P **P 06 09 48.5 +0.4**
MARD Mardin 60.49 311 *i* P **P 06 09 48.9 +0.4**
ONI Oni 60.56 318 P **P 06 09 48.5 -0.3**
HOMI Horasan 60.63 314 *i* P **P 06 09 49.8 +0.3**
VRTB Varto-Mus 60.63 313 *e*P **P 06 09 50.6 +1.2**
EIDS Eidsvold 60.69 122 P **P 06 09 49.9 +0.2**
baz=61,SNR=41
EIDS Eidsvold 60.69 122 *e*P **P 06 09 49.8 0.0**
comp=Z,442nm,1.2s
EIDS *e*S **S 06 18 07.0 +3.2**
BNGL BINGOL 60.78 313 *i* P **P 06 09 49.6 -0.9**
MAZI Mazidag 60.79 311 *e*P **P 06 09 50.7 +0.3**
NCK Nalchik 60.85 319⇑*i*P **P 06 09 50.5 -0.1**
ERZM Erzurum 60.97 314 *i* P **P 06 09 52.6 +0.8**
EZM Erzurum 60.97 314 P **P 06 09 52.7 +0.8**
DODT Dodoma, Tanzan 60.99 261 *i* P **P 06 09 53.0 +0.8**
DAGI Agillar 61.02 316 *i* P **P 06 09 50.7 -1.2**
ARTV Artvin 61.05 316 *i* P **P 06 09 51.9 -0.3**
DDEM Demirkent 61.06 315 *i* P **P 06 09 52.2 0.0**
BNGB Bing˜Ÿl 61.14 313 P **P 06 09 53.4 +0.6**
DBAD Bademkaya 61.15 315 *i* P **P 06 09 52.7 -0.1**
DYBB Diyarbakir 61.18 312 *e*P **P 06 09 53.8 +0.8**
KUR Kuril'sk 61.22 39*d* *i*P P 06 09 49.3 -3.7
KUR pmax pmax
comp=Z,2μm,1.2s
KUR pmax pmax
comp=Z,6μm,3.1s
KUR MLR MLR
comp=N,62μm,18.0s
KUR MLR MLR
comp=E,105μm,18.0s
KUR MLR MLR
comp=Z,21μm,18.0s
DBOC Borcka 61.29 316 *i* P **P 06 09 53.1 -0.6**
NEY Neytrino 61.32 318 *i* P **P 06 09 54.6 +0.6**
NEY pmax pmax
comp=Z,823nm,3.7s
BCA Borcka 61.36 316 *e*P **P 06 09 54.2 +0.1**
KBZ Khabaz 61.41 319 P **P 06 09 54.1 -0.2**
comp=Z,140nm,0.8s,baz=57,slow=24,SNR=199
KBZ PKP2bc 06 39 17.0
comp=Z,9.1nm,1.3s,baz=55,slow=20,SNR=8.1
CHVG Ch'k'valeri 61.54 317 P **P 06 09 55.3 0.0**
TOO Toolangi 61.57 137 P **P 06 09 56.9 +1.3**
baz=62,SNR=19
KOPT Kop Dagi 61.63 314 *i* P **P 06 09 56.6 +0.3**
KIV Kislovodsk 61.64 319 P **P 06 09 55.1 -0.9**
comp=Z,3μm,0.9s
KIV Kislovodsk 61.64 319 P **P 06 09 55.7 -0.3**
KIV Kislovodsk 61.64 319 *e*P **P 06 09 55.7 -0.3**
KIV *e*S S 06 18 25.7 +10
KIV pmax pmax
comp=Z,1μm,1.1s
KIV MLR MLR
comp=Z,44μm,22.0s
KIV Kislovodsk 61.64 319 P **P 06 09 56.0 0.0**
SNR=435
KIV Kislovodsk 61.64 319⇑*i*P **P 06 09 56.0 0.0**
SNR=59
KIV Kislovodsk 61.64 319 *e*P **P 06 09 55.7 -0.3**
comp=Z,1μm,1.1s
KIV *e*S S 06 18 25.6 +10
KIV LR LR
comp=Z,44μm,22.0s
GOF Gofitskoye 61.87 320⇑*i*P **P 06 09 57.0 -0.5**
GOF *e*S S 06 18 31.7 +13
GOF pmax pmax
comp=Z,525nm,1.0s
SVRC Sivrice-ELAZID 61.94 312 P **P 06 09 58.5 +0.2**
URFA Urfa 62.01 311 P **P 06 09 59.5 +0.9**
BAYT Ayd¯–ntepe-Bay 62.02 314 *e*P **P 06 09 59.5 +0.7**
ERZN Erzincan 62.04 313 *e*P **P 06 09 59.1 +0.2**
ASF Jabal al Asfar 62.06 305 PKP2bc 06 39 15.9
comp=Z,7.8nm,1.0s,baz=278,slow=1.1,SNR=10
YNG Young 62.09 132 P **P 06 09 59.5 +0.3**
baz=62,SNR=81
EUZM Uzumlu 62.10 313 *i* P **P 06 09 59.9 +0.6**
ELZG Elazig 62.22 312 *i* P **P 06 10 00.8 +0.7**
ATAB Bozova 62.42 311 *i* P **P 06 10 01.9 +0.6**
MACK Trabzon 62.48 315 *i* P **P 06 10 02.1 +0.5**
GUMT Gumushane 62.52 314 P **P 06 10 02.7 +0.7**
KELT Kelkit 62.57 314 *i* P **P 06 10 02.9 +0.4**
MALT Malatya 62.58 312 P **P 06 10 02.9 +0.4**
MALT Malatya 62.58 312⇑*i*P **P 06 10 03.3 +0.8**
ILIC ilic-Erzincan 62.84 313 *e*P **P 06 10 04.6 +0.4**
GZT Gaziantep 62.94 310 *i* P **P 06 10 06.0 +1.1**
AKCD Akcadag 62.95 311 *i* P **P 06 10 05.5 +0.5**
ARMA Armidale 62.97 127⇑P **P 06 10 05.8 +0.6**
baz=63,SNR=75
ARMA Armidale 62.97 127 *e*P **P 06 10 06.5 +1.3**
comp=Z,848nm,1.4s
ARMA LR LR
comp=Z,155μm,20.0s
FKH Fakeheh 62.98 307 *e*P **P 06 10 06.7 +1.4**
CAN Canberra 62.99 133 *e*P **P 06 10 05.5 +0.3**
CAN pmax pmax
comp=Z,504nm,0.9s
CAN MLR MLR
comp=Z,494μm,22.0s
CAN Canberra 62.99 133 *e*P **P 06 10 05.5 +0.3**
comp=Z,504nm,0.9s
CAN LR LR
comp=Z,494μm,22.0s
EIL Elat 63.13 301 PKP2bc 06 39 14.1
comp=Z,5.4nm,0.9s,baz=77,slow=1.6,SNR=4.1
EIL Elat 63.13 301 P **P 06 10 07.2 +1.1**
baz=63,SNR=34
KUZU Kuzuini 63.14 310 *i* P **P 06 10 07.5 +1.3**
ESPY Espiye-Giresun 63.21 314 *e*P **P 06 10 06.9 +0.4**
CNB Canberra Magne 63.25 133 P **P 06 10 07.2 +0.3**
baz=63,SNR=56
RCY Rachaya 63.25 306 *e*P **P 06 10 08.9 +1.8**
SOKR Solikamsk 63.33 339*c* *i*P **P 06 10 06.4 -0.4**
SOKR 06 12 26.1
SOKR S S **06 18 32.5 -3.4**
SOKR SS **SS 06 22 47.2 +4.1**
SOKR pmax pmax
comp=Z,910nm,1.8s
SOKR MLR MLR
comp=Z,95μm,19.0s
YAK Yakutsk 63.34 17 P **P 06 10 06.3 -0.6**
comp=Z,2μm,0.8s,baz=224,slow=2.6,SNR=611
YAK S **S 06 18 33.5 -2.5**
comp=Z,14nm,0.3s,baz=345,slow=20,SNR=4.1
YAK Yakutsk 63.34 17*c* *i*P **P 06 10 06.2 -0.6**
YAK *e**PP **pP 06 10 18.0 -1.2**
YAK *e* 06 10 41.8
YAK *e* 06 12 30.8
YAK *e*PPP PPP 06 13 52.8
YAK *e*S **S 06 18 33.8 -2.2**
YAK *e**SS **sS 06 18 56.4 -0.1**
YAK *e* 06 19 57.7
YAK *e*SS **SS 06 22 42.5 -0.7**
YAK pmax pmax
comp=Z,3μm,1.0s
YAK pmax pmax
comp=N,842nm,1.1s
YAK pmax pmax
comp=E,915nm,1.2s
YAK pmax pmax
comp=Z,5μm,5.5s
YAK pmax pmax
comp=N,2μm,5.3s
YAK pmax pmax
comp=E,3μm,4.9s
YAK smax smax
comp=N,15μm,5.9s
YAK smax smax
comp=E,11μm,7.4s
YAK MLR MLR
comp=Z,747μm,18.0s
YAK MLR MLR
comp=N,351μm,17.0s
YAK MLR MLR
comp=E,367μm,17.0s
YAK Yakutsk 63.34 17 P **P 06 10 06.3 -0.6**
comp=E,228nm,1.0s
YAK *e*PP **PP 06 12 30.8 +4.2**
YAK *S* **S 06 18 33.5 -2.5**
YAK *e*S S 06 18 34.5 -1.6
YAK LR LR
comp=Z,793μm,18.0s
SUSE Susehri 63.35 314 *i* P **P 06 10 08.2 +0.6**
CRZF Crozet Islands 63.36 213 P P 06 09 57.0 -10
CRZF S S 06 18 15.0 -22
CRZF R 06 28 00.0
HWQ Hawqa 63.36 307 *e*P **P 06 10 09.3 +1.6**
DARE Darende-Malaty 63.36 312 *e*P **P 06 10 08.4 +0.7**
HCB Kahramanmara¯ 63.43 310 *i* P **P 06 10 08.2 +0.1**
SOC Sochi 63.47 317*c* *i*P **P 06 10 07.2 -0.9**
SOC *e**PP **pP 06 10 18.7 -1.8**
SOC *e* 06 10 45.1
SOC *e* 06 12 31.2
SOC *e*PPP PPP 06 14 03.9
SOC *e*S **S 06 18 37.7 -0.6**
SOC *e**SS **sS 06 18 57.6 -1.2**
SOC *e* 06 20 01.1
SOC pmax pmax
comp=Z,364nm,0.9s
KMRS Kahramanmaras 63.49 310 *e*P **P 06 10 09.3 +0.9**
BHL Bhannes 63.50 306 *e*P **P 06 10 10.3 +1.6**
DQRL Deir Qamar 63.52 306 *e*P **P 06 10 10.5 +1.7**
GRSN GIRESUNGRSN 63.54 314 *i* P **P 06 10 08.4 -0.3**
KAMA Osmaniye 63.57 310 *i* P **P 06 10 09.1 0.0**
MGCD Mangrove Creek 63.66 130 P **P 06 10 10.8 +1.2**
baz=64,SNR=14
YAYL Yayladag 63.69 309 *i* P **P 06 10 08.7 -1.2**
MILA Mila 63.88 135 P **P 06 10 12.1 +1.1**
baz=64,SNR=11
RSDY Resadiye-TOKAT 64.04 313 P **P 06 10 12.7 +0.6**
SVSK Karacayir 64.13 313 P **P 06 10 13.3 +0.8**
PINB Pinarbasi 64.20 311 *i* P **P 06 10 13.4 0.0**
CEYT Ceyhan 64.23 309 *e*P **P 06 10 14.6 +1.3**
KOZT Kozan 64.30 310 *e*P **P 06 10 14.5 +0.8**
KRTS Karatas 64.40 309 *e*P **P 06 10 16.2 +1.8**
TOKA Tokat 64.64 313 *i* P **P 06 10 16.0 +0.1**
KARA Karaisali 64.83 310 P **P 06 10 18.1 +0.9**
HNR Honiara 65.02 102 *e*P **P 06 10 18.0 -0.8**
HNR MLR MLR
comp=Z,398μm,22.0s
HNR Honiara 65.02 102 *e*P **P 06 10 18.0 -0.8**
HNR LR LR
comp=Z,398μm,22.0s
PHNC Paralimni 65.07 307 P **P 06 10 19.9 +1.1**
EREN Erenkoy 65.08 308 P **P 06 10 19.7 +0.8**
MERS Mersin 65.14 309 P **P 06 10 19.8 +0.5**
MOO Moorlands 65.18 141 P **P 06 10 20.9 +1.6**
baz=65,SNR=7.2
KVT Kavak 65.18 314 P **P 06 10 20.0 +0.5**
YOZ Yozgat 65.29 312 P **P 06 10 20.7 +0.4**
KIZK Mersin 65.34 309 *i* P **P 06 10 20.7 +0.2**
MBAR Mbarara 65.39 268 P **P 06 10 23.3 +1.8**
comp=Z,315nm,0.9s,SNR=6.4
MBAR Mbarara 65.39 268 *e*P **P 06 10 22.2 +0.7**
MBAR pmax pmax
comp=Z,958nm,1.5s
MBAR Mbarara 65.39 268 *e*P **P 06 10 22.2 +0.7**
comp=Z,958nm,1.5s
NIG Nigde 65.40 310 P **P 06 10 21.9 +0.7**
HAVZ Havza 65.42 314 *i* P **P 06 10 21.1 +0.2**
ANN Anapa 65.44 318 *i* P **P 06 10 19.3 -1.7**
ANN *i* *PP **pP 06 10 28.9 -4.4**
ANN *i* 06 12 44.4
ANN *e*S **S 06 19 02.0 -0.6**
ANN pmax pmax
comp=E,39nm,1.4s
ANN pmax pmax
comp=N,45nm,1.4s
ANN pmax pmax
comp=Z,168nm,1.4s
ANN smax smax
comp=E,10μm,7.2s
ANN smax smax
comp=N,16μm,7.2s
ANN MLR MLR
comp=Z,52μm,21.0s
ANN MLR MLR
comp=E,83μm,21.0s
ANN MLR MLR
comp=N,49μm,21.0s
TAU Tasmania Unive 65.50 141 *e*P **P 06 10 22.3 +0.9**
TAU pmax pmax
comp=Z,346nm,1.0s
TAU MLR MLR
comp=Z,190μm,22.0s
TAU Tasmania Unive 65.50 141 *e*P **P 06 10 22.3 +0.9**
comp=Z,346nm,1.0s
TAU LR LR
comp=Z,190μm,22.0s
CSS Prodhromos 65.62 307 P **P 06 10 22.8 +0.4**
CSS Prodhromos 65.62 307 P **P 06 10 22.7 +0.4**
CSS Prodhromos 65.62 307 *e*P **P 06 10 22.8 +0.4**
CSS Prodhromos 65.62 307 *e*P **P 06 10 22.7 +0.4**
comp=Z,400nm,1.4s
CSS *e*S **S 06 19 05.5 +0.3**
CSS ⇑*e* 06 39 07.5
CSS LR LR
comp=Z,45μm,21.0s
BSTP Nigde 65.73 310 *i* P **P 06 10 24.2 +1.0**
MAMC Mammari 65.75 307 P **P 06 10 24.3 +1.1**
DIKM Dikmen 65.92 314 *e*P **P 06 10 24.4 +0.2**
SZAC Souni-Zanaja 65.93 306 P **P 06 10 25.2 +0.8**
CORM Corum 65.95 313 P **P 06 10 24.8 +0.3**
CTKT Corum 65.96 313 *i* P **P 06 10 24.6 0.0**
CDAG Cicekdag 65.98 312 *i* P **P 06 10 24.7 0.0**
BOYT Boyabat 66.11 314 *i* P **P 06 10 24.8 -0.6**
BYBT Boyabat 66.22 314 P **P 06 10 26.4 +0.4**
ALFC Alevga 66.25 307 P **P 06 10 26.5 +0.1**
SULT Sultanhani-AKS 66.25 310 P **P 06 10 27.3 +0.8**
ERMK Ermenek 66.34 308 *i* P **P 06 10 27.8 +0.6**
PPCY Paphos 66.39 306 P **P 06 10 27.4 +0.1**
KAMT Kaman 66.41 311 P **P 06 10 27.4 0.0**
AKMC Akamas 66.43 307⇑P **P 06 10 27.6 0.0**
BR131 Keskin Array S 66.56 312 *e*P **P 06 10 27.9 -0.5**
comp=Z,572nm,0.9s
BRTR Keskin Array B 66.56 312 P **P 06 10 27.9 -0.5**
comp=Z,174nm,0.9s,baz=124,slow=6.6,SNR=634
BRTR PKPPKP **P'P'df 06 38 58.4 -2.9**
comp=Z,6.4nm,1.2s,baz=191,slow=2.0,SNR=5.4
BRTR LR LR 06 41 47.8
comp=Z,46μm,21.9s,baz=107,slow=38
BRTR P4KPbc 06 47 21.9
comp=Z,0.6nm,1.0s,baz=76,slow=6.1,SNR=3.3
BRTR Keskin Array B 66.56 312*ce*P **P 06 10 28.0 -0.5**
BRTR pmax pmax
comp=Z,174nm,0.9s
VORD Divnogorie 66.66 325*c* *i*P **P 06 10 27.2 -1.5**
VORD *e*S **S 06 19 19.1 +1.9**
VORD pmax pmax
comp=N,300nm,1.1s
VORD pmax pmax
comp=Z,260nm,1.1s
VORD pmax pmax
comp=E,300nm,0.9s
VORD pmax pmax
comp=Z,700nm,1.2s
VORD pmax pmax
comp=N,190nm,1.0s
VORD pmax pmax
comp=E,410nm,1.1s
VORD smax smax
comp=N,3μm,2.0s
VORD smax smax
comp=E,3μm,2.0s
VORD smax smax
comp=Z,380nm,2.0s
GAZI Gazipasa 66.71 308 *i* P **P 06 10 29.2 -0.2**
KAST KASTAMONU 66.83 314 *i* P **P 06 10 29.5 -0.5**
VSR Storozhevoye 66.83 325*c* *i*P **P 06 10 28.3 -1.5**
VSR *e* 06 13 03.0
VSR *e*S **S 06 19 20.1 +0.8**
VSR *e*SS **SS 06 23 38.8 +0.8**
VSR pmax pmax
comp=N,60nm,1.1s
VSR pmax pmax
comp=E,210nm,1.1s
VSR pmax pmax
comp=Z,300nm,1.1s
VSR pmax pmax
comp=N,200nm,1.6s
VSR pmax pmax
comp=E,610nm,1.6s
VSR pmax pmax
comp=Z,900nm,1.6s
VSR pmax pmax
comp=N,580nm,1.3s
VSR pmax pmax
comp=E,200nm,1.3s
VSR pmax pmax
comp=Z,370nm,1.3s
VSR smax smax
comp=N,6μm,2.7s
VSR smax smax
comp=E,3μm,2.7s
VSR smax smax
comp=Z,1μm,2.6s
ILGA Ilgaz 66.86 313 *i* P **P 06 10 29.9 -0.5**
BBAL Bala 66.89 312 *i* P **P 06 10 30.3 -0.3**
ELDT Eldivan 66.92 313 *i* P **P 06 10 30.6 -0.1**
ANTO Ankara 67.22 312 *e*P **P 06 10 32.2 -0.4**
ANTO *e*S **S 06 19 19.0 -5.6**
ANTO pmax pmax
comp=Z,1μm,1.3s
ANTO MLR MLR
comp=Z,124μm,22.0s
ANTO Ankara 67.22 312⇑*i*P **P 06 10 32.6 0.0**
ANTO Ankara 67.22 312 P **P 06 10 32.7 0.0**
SNR=326
ANTO Ankara 67.22 312 *e*P **P 06 10 32.2 -0.4**
comp=Z,1μm,1.3s
ANTO *e*S **S 06 19 19.0 -5.6**
ANTO LR LR
comp=Z,124μm,22.0s
KDHN Kadinhani 67.40 310 *i* P **P 06 10 33.5 -0.3**
LPSR Galich'ya Gora 67.55 326 *e*P **P 06 10 32.7 -1.6**
LPSR *e*S **S 06 19 28.5 +0.6**
LPSR pmax pmax
comp=Z,340nm,1.2s
LPSR pmax pmax
comp=N,90nm,2.5s
LPSR pmax pmax
comp=E,280nm,1.4s
LPSR smax smax
comp=N,10μm,3.0s
LPSR smax smax
comp=Z,2μm,4.0s
LPSR smax smax
comp=E,6μm,2.8s
LPSR MLR MLR
comp=Z,76μm,24.0s
LPSR MLR MLR
comp=N,88μm,25.0s
LPSR MLR MLR
comp=E,52μm,22.0s
SIM Simferopol' 67.72 317*c* *i*P **P 06 10 35.3 -0.2**
SIM *i* 06 11 04.0
SIM *i* S **S 06 19 25.9 -4.3**
SIM pmax pmax
comp=Z,10.0nm,4.5s
BCAM Yenicaga 68.00 313 *i* P **P 06 10 37.0 -0.5**
BOLV Bolvadin 68.33 310 *i* P **P 06 10 38.7 -1.0**
KORT Korkueli 68.42 308 *i* P **P 06 10 40.4 +0.1**
ISP Isparta 68.46 309 *e*P **P 06 10 39.9 -0.6**
ISP *e*S **S 06 19 39.6 0.0**

ISP					pmax	pmax			
	comp=Z,2μm,1.5s								
ISP					MLR	MLR			
	comp=Z,93μm,20.0s								
ISP	**Isparta**	**68.46**	**309**	⇑*iP*	**P**		**06 10 39.9**	**-0.6**	
ISP	**Isparta**	**68.46**	**309**	*eP*	**P**		**06 10 39.9**	**-0.6**	
	comp=Z,2μm,1.5s								
ISP				*eS*	**S**		**06 19 39.6**	**0.0**	
ISP				LR	LR				
	comp=Z,93μm,20.0s								
SKR	**Severo-Kuril's**	**68.50**	**36**	*α iP*	P		06 10 26.4	-14	
SKR				*i*			06 10 47.0		
SKR				*i* S	S		06 19 30.0	-9.3	
SKR				*i*			06 20 02.0		
SKR				pmax	pmax				
	comp=N,220nm,0.7s								
SKR				pmax	pmax				
	comp=Z,2μm,0.7s								
SKR				pmax	pmax				
	comp=E,980nm,0.9s								
SKR				pmax	pmax				
	comp=E,16μm,6.0s								
SKR				pmax	pmax				
	comp=Z,29μm,6.0s								
SKR				pmax	pmax				
	comp=N,7μm,4.0s								
SKR				smax	smax				
	comp=N,9μm,8.0s								
SKR				smax	smax				
	comp=E,31μm,8.0s								
SKR				smax	smax				
	comp=E,2μm,2.0s								
SKR				MLR	MLR				
	comp=N,103μm,18.0s								
SKR				MLR	MLR				
	comp=E,17μm,18.0s								
SKR				MLR	MLR				
	comp=Z,125μm,18.0s								
BTAS	**Taskesti**	**68.73**	**312**	*i* P	**P**		**06 10 41.2**	**-0.9**	
AKAS	**Kas**	**68.85**	**307**	*i* P	**P**		**06 10 41.6**	**-1.4**	
PRGR	**Permogore**	**68.86**	**337**	⇑*iP*	**P**		**06 10 41.6**	**-0.7**	
PRGR				*e**PP	**pP**		**06 10 53.0**	**-1.8**	
PRGR				*eS*	**S**		**06 19 39.3**	**-3.9**	
PRGR				pmax	pmax				
	comp=Z,1μm,0.7s								
BORA	**Eskisehir**	**68.97**	**311**	*i* P	**P**		**06 10 42.3**	**-1.3**	
GOLH	**Golhisar**	**69.09**	**308**	*i* P	**P**		**06 10 44.3**	**-0.1**	
LHI	**Lord Howe Isla**	**69.34**	**126**	⇓*iP*	**P**		**06 10 45.9**	**0.0**	
	baz=69,SNR=3.2								
GDZ	**Gediz**	**69.53**	**310**	*i* P	**P**		**06 10 47.1**	**0.0**	
MOS	**Moscow**	**69.57**	**329**	*eP*	P		06 10 41.9	-4.9	
MOS				*e*			06 11 06.9		
MOS				*e*			06 13 17.7		
MOS				*i* S	S		06 19 45.7	-6.1	
MOS				*e*			06 20 39.2		
MOS				*e*SSS	SSS		06 27 29.6		
MOS				pmax	pmax				
	comp=Z,1μm,1.5s								
MOS				pmax	pmax				
	comp=N,146nm,1.2s								
MOS				pmax	pmax				
	comp=E,332nm,1.4s								
MOS				pmax	pmax				
	comp=Z,22μm,4.1s								
MOS				pmax	pmax				
	comp=E,14μm,6.2s								
MOS				pmax	pmax				
	comp=N,7μm,4.8s								
MOS				smax	smax				
	comp=N,62μm,8.1s								
MOS				smax	smax				
	comp=E,17μm,8.1s								
MOS				MLR	MLR				
	comp=E,888μm,24.0s								
MOS				MLR	MLR				
	comp=Z,149μm,24.0s								
MOS				MLR	MLR				
	comp=N,69μm,23.0s								
LSZ	**Lusaka**	**69.74**	**252**	*eP*	**P**		**06 10 48.9**	**+0.1**	
LSZ				pmax	pmax				
	comp=Z,683nm,1.4s								
LSZ				MLR	MLR				
	comp=Z,534μm,21.0s								
LSZ	**Lusaka**	**69.74**	**252**	P	**P**		**06 10 49.9**	**+1.1**	
	SNR=73								
LSZ	**Lusaka**	**69.74**	**252**	*eP*	**P**		**06 10 48.9**	**+0.1**	
	comp=Z,683nm,1.4s								
LSZ				*eS*	S		06 19 44.8	-11	
LSZ				⇑*e*			06 38 54.1		
LSZ				LR	LR				
	comp=Z,534μm,21.0s								
TURN	**Turunc**	**69.77**	**308**	*i* P	**P**		**06 10 49.9**	**+1.5**	
OBN	**Obninsk**	**69.86**	**328**	P	**P**		**06 10 48.1**	**-0.5**	
	comp=Z,3μm,1.2s,SNR=56								
OBN	**Obninsk**	**69.86**	**328**	P	**P**		**06 10 47.7**	**-0.9**	
	comp=Z,421nm,1.1s,baz=77,slow=1.3,SNR=166								
OBN				S	S		06 19 50.3	-4.8	
	comp=Z,12nm,0.6s,baz=191,slow=23,SNR=3.6								
OBN	**Obninsk**	**69.86**	**328**	*c iP*	**P**		**06 10 47.9**	**-0.7**	
OBN				*e*			06 11 07.7		
OBN				*i*			06 13 23.0		
OBN				*i* PPP	PPP		06 15 02.5		
OBN				*i* S	S		06 19 48.0	-7.2	
OBN				pmax	pmax				
	comp=Z,885nm,1.2s								
OBN				MLR	MLR				
	comp=Z,69μm,20.0s								
OBN	**Obninsk**	**69.86**	**328**	*eP*	**P**		**06 10 47.9**	**-0.7**	
	comp=Z,2μm,1.3s								
OBN				S	**S**		**06 19 50.3**	**-4.8**	
OBN				⇑*e*			06 38 51.6		
OBN				LR	LR				
	comp=Z,68μm,20.0s								
ULDT	**Uludag**	**70.02**	**311**	*i* P	P		06 10 55.8	+5.6	
ARG	**Arkhangelos**	**70.02**	**307**	P	**P**		**06 10 50.6**	**+0.5**	
ARG	**Arkhangelos**	**70.02**	**307**	*eP*	**P**		**06 10 50.2**	**+0.1**	
ARG	**Arkhangelos**	**70.02**	**307**	P	**P**		**06 10 50.6**	**+0.5**	
ARG	**Arkhangelos**	**70.02**	**307**	P	**P**		**06 10 50.6**	**+0.5**	
DEMI	**Demirci**	**70.10**	**310**	*i* P	**P**		**06 10 50.5**	**-0.1**	
MANT	**Manisa**	**70.11**	**310**	*i* P	**P**		**06 10 50.8**	**-0.1**	
MIR	**Mirnyy**	**70.15**	**181**	*eP*	**pP**		**06 11 01.0**	**-1.6**	
MIR				pmax	pmax				
	comp=Z,580nm,0.2s								
PEA0	**Petropavlovsk-**	**70.30**	**34**	*eP*	**P**		**06 10 50.0**	**-1.4**	
PEA0B	**Petropavlovsk-**	**70.30**	**34**	*eP*	**P**		**06 10 50.5**	**-0.9**	
PETK	**Petropavlovsk-**	**70.30**	**34**	P	**P**		**06 10 50.5**	**-0.9**	
	comp=Z,127nm,0.9s,baz=197,slow=4.6,SNR=74								
PETK				PKPPKP	**P'P'df**		**06 38 55.8**	**+1.9**	
	comp=Z,7.5nm,0.9s,baz=122,slow=5.4,SNR=3.9								
PETK				LR	LR		06 44 13.2		
	comp=Z,91μm,19.0s,baz=228,slow=38								
AYDN	**Tasoluk**	**70.48**	**309**	*i* P	**P**		**06 10 54.1**	**+1.2**	
H11S3	**WAKE ISLAND Hy**	**70.49**	**72**	P	**P**		**06 10 53.4**	**+0.4**	
	baz=268,slow=4.9,SNR=30								
WAKE	**Wake Island**	**70.49**	**71**	*eP*	**P**		**06 10 53.1**	**-0.1**	
	comp=Z,5μm,1.5s								
WAKE				LR	LR				
	comp=Z,28μm,22.0s								
H11S1	**WAKE ISLAND Hy**	**70.50**	**72**	P	**P**		**06 10 53.5**	**+0.5**	
	baz=268,slow=4.9,SNR=32								
H11S2	**WAKE ISLAND Hy**	**70.50**	**72**	P	**P**		**06 10 53.4**	**+0.3**	
	baz=268,slow=4.9,SNR=23								
CASY	**Casey**	**70.63**	**174**	*eP*	**P**		**06 10 53.7**	**+0.6**	
	comp=Z,801nm,1.3s								
CASY				*eS*	**S**		**06 20 04.7**	**+1.1**	
CASY				*eP'P'df*	**P'P'df**		**06 38 49.6**	**-1.2**	
CASY				LR	LR				
	comp=Z,319μm,20.0s								
KARP	**Karpathos**	**70.68**	**306**	P	**P**		**06 10 54.7**	**+0.5**	
KARP	**Karpathos**	**70.68**	**306**	*eP*	**P**		**06 10 54.7**	**+0.5**	
KARP	**Karpathos**	**70.68**	**306**	P	**P**		**06 10 54.7**	**+0.5**	
BDRM	**Kayabasi**	**70.72**	**308**	*i* P	**P**		**06 10 53.0**	**-1.3**	
H11N1	**WAKE ISLAND Hy**	**70.74**	**71**	P	**P**		**06 10 52.9**	**-1.5**	
H11N2	**WAKE ISLAND Hy**	**70.75**	**71**	P	**P**		**06 10 54.6**	**+0.1**	
ELBA	**Catalca**	**70.75**	**312**	*i* P	pP		06 11 06.9	0.0	
H11N3	**WAKE ISLAND Hy**	**70.76**	**71**	P	**P**		**06 10 54.6**	**+0.1**	
AKHS	**Akhisar**	**70.76**	**310**	*i* P	**P**		**06 10 54.8**	**+0.2**	
PET	**Petropavlovsk**	**70.81**	**35**	*α iP*	**P**		**06 10 53.9**	**-0.6**	
PET				*e*			06 13 33.8		
PET				*eS*	**S**		**06 20 05.4**	**-0.9**	
PET				pmax	pmax				
	comp=Z,995nm,0.8s								
PET				pmax	pmax				
	comp=Z,21μm,8.5s								
PET				pmax	pmax				
	comp=Z,33μm,17.4s								
PET				smax	smax				
	comp=E,4μm,8.6s								
PET	**Petropavlovsk**	**70.81**	**35**	*eP*	**P**		**06 10 53.6**	**-0.8**	
	comp=E,809nm,0.9s								
PET				LR	LR				
	comp=Z,165μm,20.0s								
NIS1	**Nisyros Isl.**	**70.84**	**307**	P	**P**		**06 10 54.4**	**-0.7**	
NIS1	**Nisyros Isl.**	**70.84**	**307**	*eP*	**P**		**06 10 55.1**	**0.0**	
NIS1	**Nisyros Isl.**	**70.84**	**307**	P	**P**		**06 10 54.4**	**-0.7**	
TIXI	**Tiksi**	**70.92**	**10**	*c iP*	**P**		**06 10 53.5**	**-1.3**	
TIXI				pmax	pmax				
	comp=Z,2μm,1.7s								
TIXI				MLR	MLR				
	comp=Z,271μm,15.0s								
TIXI	**Tiksi**	**70.92**	**10**	*eP*	**P**		**06 10 53.4**	**-1.4**	
	comp=Z,3μm,1.4s								
TIXI				*eS*	**S**		**06 20 09.1**	**+2.2**	
TIXI				*eP'P'df*	P'P'df		06 38 45.4	-6.4	
TIXI				LR	LR				
	comp=Z,311μm,19.0s								
KLMR	**Klimovskoe**	**70.98**	**334**	*c iP*	**P**		**06 10 54.6**	**-0.7**	
KLMR							06 13 38.3		
KLMR				*eS*	**S**		**06 20 09.6**	**+1.6**	
KLMR				SS	**SS**		**06 24 46.1**	**+4.6**	
KLMR				pmax	pmax				
	comp=Z,12μm,3.2s								
KLMR				pmax	pmax				
	comp=Z,1μm,1.4s								
BALY	**Balya**	**71.08**	**311**	*i* P	**P**		**06 10 56.1**	**-0.4**	
MANR	**Mangalia**	**71.23**	**315**	⇓*iP*	**P**		**06 10 57.6**	**+0.4**	
KWAJ	**Kwajalein Atol**	**71.25**	**82**	*eP*	**P**		**06 10 59.3**	**+1.4**	
KWAJ				pmax	pmax				
	comp=Z,600nm,1.1s								
KWAJ	**Kwajalein Atol**	**71.25**	**82**	*eP*	**P**		**06 10 59.3**	**+1.4**	
	comp=Z,600nm,1.1s								
EFOR	**EFORIE**	**71.26**	**315**	⇓*iP*	**P**		**06 10 57.7**	**+0.3**	
SMG	**Samos**	**71.30**	**308**	P	**P**		**06 10 58.0**	**+0.1**	
SMG	**Samos**	**71.30**	**308**	*eP*	**P**		**06 10 58.0**	**+0.1**	
SMG	**Samos**	**71.30**	**308**	P	**P**		**06 10 58.0**	**+0.1**	
ZKR	**Zakros**	**71.38**	**306**	P	**P**		**06 10 58.7**	**+0.4**	
ZKR	**Zakros**	**71.38**	**306**	*eP*	**P**		**06 10 57.7**	**-0.6**	
ZKR	**Zakros**	**71.38**	**306**	P	**P**		**06 10 58.7**	**+0.4**	
TLCR		**71.39**	**317**	⇑*iP*	**P**		**06 10 58.0**	**-0.2**	
PSN	**Preselentsi**	**71.49**	**315**	*i* P	**P**		**06 10 59.1**	**+0.3**	
PSN	**Preselentsi**	**71.49**	**315**	*i* P	**P**		**06 10 58.9**	**+0.1**	
TIRR	**Tirgusor**	**71.50**	**316**	*eP*	**P**		**06 10 58.7**	**-0.1**	
TIRR				*eS*	**S**		**06 20 12.9**	**-1.8**	
TIRR				pmax	pmax				
	comp=Z,784nm,0.8s								
TIRR	**Tirgusor**	**71.50**	**316**	⇑*iP*	**P**		**06 10 58.8**	**-0.1**	
TIRR	**Tirgusor**	**71.50**	**316**	*eP*	**P**		**06 10 58.7**	**-0.1**	
	comp=Z,784nm,0.8s								
TIRR				*eS*	**S**		**06 20 12.8**	**-1.8**	
TIRR				*eP'P'df*	P'P'df		06 38 44.8	-7.6	
SART	**Tekirdag**	**71.59**	**312**	*i* P	**P**		**06 10 59.0**	**-0.5**	
ZEV	**˙zmir**	**71.66**	**309**	*i* P	**P**		**06 11 00.5**	**+0.6**	
AYVA	**Ayvalik**	**71.70**	**310**	*i* P	**P**		**06 10 59.8**	**-0.4**	
CVD	**Cernavoda**	**71.73**	**315**	⇑*iP*	**P**		**06 11 00.9**	**+0.6**	
TLB	**Topalu**	**71.79**	**316**	⇓*iP*	**P**		**06 11 00.4**	**-0.2**	
MSAB	**Monastry St. A**	**71.83**	**315**	⇓*iP*	**P**		**06 11 01.1**	**+0.3**	
KIS	**Kishinev**	**71.84**	**318**	⇑*iP*	**P**		**06 10 59.5**	**-1.3**	
	comp=Z,2μm,2.0s								
KIS	**Kishinev**	**71.84**	**318**	*e*PP	PP		06 13 44.0	+3.3	
KIS	**Kishinev**	**71.84**	**318**	*e*PS			06 20 40.0		
KIS				*e*SS	SS		06 25 15.0	+20	
KIS				*e*SSS	SSS		06 28 21.0		
KIS				*e*L	L		06 37 00.0		
KIS				LRM	MLR		06 39 30.0		
	comp=Z,58μm,31.0s								
CFR	**Carcaliu**	**71.86**	**316**	⇑*iP*	**P**		**06 11 00.9**	**-0.1**	
GIUM	**Giurgiulesti**	**71.88**	**317**	⇓*iP*	**P**		**06 11 01.0**	**-0.1**	
NPS	**Neapolis**	**71.89**	**306**	P	**P**		**06 11 02.1**	**+0.6**	
NPS	**Neapolis**	**71.89**	**306**	*eP*	**P**		**06 11 02.5**	**+1.1**	
NPS	**Neapolis**	**71.89**	**306**	P	**P**		**06 11 02.0**	**+0.6**	
NPS	**Neapolis**	**71.89**	**306**	P	**P**		**06 11 02.0**	**+0.6**	
HARR	**Harsova**	**71.89**	**316**	⇑*iP*	**P**		**06 11 01.4**	**+0.2**	
SEY	**Seymchan**	**71.92**	**24**	P	**P**		**06 11 00.4**	**-0.6**	
	comp=Z,350nm,0.9s,baz=240,slow=5.1,SNR=465								
SEY				S	**S**		**06 20 15.7**	**-3.1**	
	comp=Z,6.7nm,0.9s,baz=345,slow=20,SNR=4.4								
PRD	**Provadia**	**71.94**	**314**	*i* P	**P**		**06 11 01.7**	**+0.2**	
LAST	**Lasithi**	**71.98**	**306**	P	**P**		**06 11 02.4**	**+0.3**	
LAST	**Lasithi**	**71.98**	**306**	P	**P**		**06 11 02.4**	**+0.3**	
PRK	**Paraskevi**	**72.01**	**310**	P	**P**		**06 11 02.2**	**+0.2**	
PRK	**Paraskevi**	**72.01**	**310**	*eP*	**P**		**06 11 02.3**	**+0.2**	
PRK	**Paraskevi**	**72.01**	**310**	P	**P**		**06 11 02.2**	**+0.2**	
PRK	**Paraskevi**	**72.01**	**310**	P	**P**		**06 11 02.2**	**+0.2**	
CHOS	**Chios island**	**72.03**	**309**	P	**P**		**06 11 02.0**	**-0.3**	
CHOS	**Chios island**	**72.03**	**309**	*eP*	**P**		**06 11 02.7**	**+0.4**	
CHOS	**Chios island**	**72.03**	**309**	P	**P**		**06 11 02.0**	**-0.3**	
LEOM	**Leova**	**72.09**	**318**	⇑*iP*	**P**		**06 11 02.4**	**+0.1**	
SANT	**Santorini**	**72.17**	**307**	*eP*	**P**		**06 11 02.7**	**-0.5**	
THR1	**Thera Island**	**72.17**	**307**	P	**P**		**06 11 03.1**	**-0.1**	
THR2	**Thira island,**	**72.20**	**307**	P	**P**		**06 11 03.2**	**-0.1**	
THR2	**Thira island,**	**72.20**	**307**	P	**P**		**06 11 03.2**	**-0.1**	
THR6	**Thira Island,**	**72.22**	**307**	P	**P**		**06 11 03.3**	**-0.1**	
THR6	**Thira Island,**	**72.22**	**307**	P	**P**		**06 11 03.3**	**-0.1**	
APE	**Apeiranthos**	**72.22**	**308**	P	**P**		**06 11 02.8**	**-0.7**	
APE	**Apeiranthos**	**72.22**	**308**	*eP*	**P**		**06 11 02.7**	**-0.7**	
APE	**Apeiranthos**	**72.22**	**308**	*c iP*	**P**		**06 11 02.7**	**-0.7**	
APE				pmax	pmax				
	comp=Z,318nm,1.9s								
APE				MLR	MLR				
	comp=Z,84μm,18.0s								
APE	**Apeiranthos**	**72.22**	**308**	⇑*iP*	**P**		**06 11 03.0**	**-0.4**	
APE	**Apeiranthos**	**72.22**	**308**	P	**P**		**06 11 02.8**	**-0.7**	
THR5	**Thira Island,**	**72.27**	**307**	P	**P**		**06 11 03.3**	**-0.4**	
BOZC	**Bozcaada**	**72.28**	**311**	*i* P	**P**		**06 11 02.9**	**-0.7**	
AMRR	**Amara**	**72.29**	**316**	⇑*iP*	**P**		**06 11 04.2**	**+0.6**	
SIGR	**SIGRI**	**72.32**	**310**	P	**P**		**06 11 03.8**	**-0.1**	
SIGR	**SIGRI**	**72.32**	**310**	*eP*	**P**		**06 11 04.1**	**+0.2**	
SIGR	**SIGRI**	**72.32**	**310**	P	**P**		**06 11 03.8**	**-0.1**	
ALN	**Alexandroupoli**	**72.47**	**312**	P	**P**		**06 11 04.8**	**0.0**	
ALN	**Alexandroupoli**	**72.47**	**312**	*eP*	**P**		**06 11 04.7**	**0.0**	
ALN	**Alexandroupoli**	**72.47**	**312**	P	**P**		**06 11 04.8**	**0.0**	
ALN	**Alexandroupoli**	**72.47**	**312**	P	**P**		**06 11 04.8**	**0.0**	
IDI	**Anoyia**	**72.47**	**306**	LR	LR		06 46 52.0		
	comp=Z,119μm,21.7s,baz=92,slow=39								
SIVA	**Sivas**	**72.50**	**305**	P	**P**		**06 11 05.4**	**+0.3**	
SIVA	**Sivas**	**72.50**	**305**	P	**P**		**06 11 05.4**	**+0.3**	
AK02	**Malin Array Si**	**72.55**	**322**	*eP*	**P**		**06 11 03.8**	**-1.2**	
AKASG	**Malin Array Be**	**72.55**	**322**	P	**P**		**06 11 04.0**	**-1.0**	
	comp=Z,44nm,0.6s,baz=89,slow=4.7,SNR=292								
AKASG				S	**S**		**06 20 20.7**	**-5.8**	
	comp=Z,0.4nm,0.3s,baz=94,slow=10,SNR=4.8								
AKASG				PKPPKP	**P'P'df**		**06 38 48.7**	**-1.5**	
	comp=Z,0.3nm,0.5s,baz=267,slow=2.9,SNR=4.4								
AKASG				LR	LR		06 46 48.6		
	comp=Z,37μm,21.6s,baz=110,slow=39								
AKASG	**Malin Array Be**	**72.55**	**322**	*i* P	**P**		**06 11 04.0**	**-1.0**	
AKASG				pmax	pmax				
	comp=Z,44nm,0.6s								
AKBB	**Malin Array Si**	**72.55**	**322**	*eP*	**P**		**06 11 03.9**	**-1.1**	
AKBB	**Malin Array Si**	**72.55**	**322**	*eP*	**P**		**06 11 03.9**	**-1.1**	
AK01	**Malin Array Si**	**72.56**	**322**	*eP*	**P**		**06 11 03.9**	**-1.1**	
KIEV	**Kiev**	**72.56**	**322**	*i* P	**P**		**06 11 03.6**	**-1.5**	
KIEV	**Kiev**	**72.56**	**322**	*eP*	**P**		**06 11 03.9**	**-1.2**	
	comp=Z,656nm,1.1s								
KIEV				LR	LR				
	comp=Z,51μm,22.0s								
AK11	**Malin Array Si**	**72.58**	**322**	*eP*	**P**		**06 11 03.9**	**-1.3**	
PGOR	**Pogoanele**	**72.59**	**316**	⇑*iP*	**P**		**06 11 06.7**	**+1.3**	
PETR	**Petresti**	**72.60**	**317**	⇓*iP*	**P**		**06 11 06.9**	**+1.5**	
GRER		**72.70**	**316**	⇑*iP*	pP		06 11 18.3	-0.3	
IAS	**Iasi**	**72.72**	**318**	⇓*iP*	**P**		**06 11 06.3**	**+0.2**	
ODBI	**Odobesti**	**72.73**	**317**	⇑*iP*	**P**		**06 11 07.3**	**+1.1**	
SMTH	**Samothraki Isl**	**72.78**	**311**	P	**P**		**06 11 06.4**	**-0.3**	
SMTH	**Samothraki Isl**	**72.78**	**311**	*eP*	**P**		**06 11 06.3**	**-0.4**	
SMTH	**Samothraki Isl**	**72.78**	**311**	P	**P**		**06 11 06.4**	**-0.3**	
ISR	**Istrita**	**72.95**	**316**	⇓*iP*	**P**		**06 11 08.8**	**+1.2**	
LIA	**Limnos Island**	**72.95**	**311**	P	**P**		**06 11 07.3**	**-0.3**	
LIA	**Limnos Island**	**72.95**	**311**	*eP*	**P**		**06 11 07.4**	**-0.2**	
LIA	**Limnos Island**	**72.95**	**311**	P	**P**		**06 11 07.3**	**-0.3**	
VRI	**Vrincioaia**	**72.98**	**317**	⇑*iP*	**P**		**06 11 08.4**	**+0.7**	
SZH	**Strazhica**	**73.00**	**314**	*i* P	**P**		**06 11 08.3**	**+0.4**	
PLOR	**Plostina**	**73.03**	**317**	⇑*iP*	**P**		**06 11 08.8**	**+0.8**	
VAM	**Vamos**	**73.05**	**306**	P	**P**		**06 11 07.1**	**-1.2**	
VAM	**Vamos**	**73.05**	**306**	*eP*	**P**		**06 11 07.1**	**-1.2**	
VAM	**Vamos**	**73.05**	**306**	P	**P**		**06 11 07.1**	**-1.2**	
VAM	**Vamos**	**73.05**	**306**	P	**P**		**06 11 07.1**	**-1.2**	
SULR		**73.05**	**316**	⇑*iP*	**P**		**06 11 09.1**	**+1.0**	
DIM	**Dimitrovgrad**	**73.06**	**313**	*i* P	**P**		**06 11 08.1**	**-0.1**	
GVD	**Gavdhos**	**73.07**	**305**	P	**P**		**06 11 08.1**	**-0.3**	
GVD	**Gavdhos**	**73.07**	**305**	*eP*	**P**		**06 11 08.5**	**+0.1**	
GVD	**Gavdhos**	**73.07**	**305**	P	**P**		**06 11 08.1**	**-0.3**	
	comp=Z,73nm,1.0s								
GVD				*eS*	**S**		**06 20 31.4**	**-1.6**	
GVD				LR	LR				
	comp=Z,473μm,21.0s								
KDZ	**Kurdzhali**	**73.08**	**312**	⇑*iP*	**P**		**06 11 08.5**	**+0.1**	
KDZ	**Kurdzhali**	**73.08**	**312**	*i* P	**P**		**06 11 08.2**	**-0.2**	
BVCR	**Bucharest-Old**	**73.11**	**315**	⇑*iP*	**P**		**06 11 09.8**	**+1.3**	
TMCR	**Tamitsa**	**73.15**	**337**	*eP*	**P**		**06 11 08.0**	**-0.3**	
TMCR				*e*			06 13 54.2		
TMCR				*eS*	**SKiKP**		**06 20 37.5**	**+0.5**	
TMCR				pmax	pmax				
	comp=Z,780nm,1.3s								
TESR	**Tescani**	**73.17**	**318**	⇑*iP*	**P**		**06 11 09.2**	**+0.4**	
SECR		**73.26**	**316**	⇑*iP*	**P**		**06 11 10.6**	**+1.2**	
PLAR	**PLOIESTI**	**73.26**	**316**	⇑*iP*	**P**		**06 11 10.8**	**+1.4**	
CIOR	**Ciorogarla**	**73.27**	**315**	⇓*iP*	**P**		**06 11 10.0**	**+0.6**	
KARN	**Karanos**	**73.28**	**306**	P	**P**		**06 11 10.1**	**+0.4**	
KARN	**Karanos**	**73.28**	**306**	*eP*	**P**		**06 11 10.1**	**+0.4**	
KARN	**Karanos**	**73.28**	**306**	P	**P**		**06 11 10.1**	**+0.4**	
DZM	**Mont Dzumac**	**73.38**	**114**	*eP*	**P**		**06 11 11.4**	**+0.8**	
	comp=Z,1μm,1.4s								
DZM				*eS*	**S**		**06 20 36.3**	**-0.8**	
	comp=Z,293μm,31.1s								
DZM				*e*SS	**SS**		**06 25 16.6**	**-3.5**	
	comp=Z,199μm,28.6s								
DZM				*e*LR	LR		06 33 28.7		
	comp=Z,553μm,30.4s								
DZM	**Mont Dzumac**	**73.38**	**114**	LR	LR		06 45 31.9		
	comp=Z,74μm,20.0s,baz=281,slow=38								
DZM	**Mont Dzumac**	**73.38**	**114**	*eP*	**P**		**06 11 11.1**	**+0.5**	
	comp=Z,637nm,1.2s								
MLR	**Muntele Rosu**	**73.44**	**316**	P	**P**		**06 11 10.7**	**+0.1**	
	comp=Z,83nm,1.1s,baz=121,slow=0.9,SNR=387								
MLR				S	**S**		**06 20 34.1**	**-3.0**	
	comp=Z,7.5nm,1.2s,baz=9.8,slow=24,SNR=7.8								
MLR	**Muntele Rosu**	**73.44**	**316**	⇑*iP*	**P**		**06 11 11.2**	**+0.6**	
RZN	**Rozhen**	**73.60**	**312**	*i* P	**P**		**06 11 11.5**	**-0.2**	
KAVA	**Kavala**	**73.64**	**312**	P	**P**		**06 11 11.5**	**-0.1**	
KAVA	**Kavala**	**73.64**	**312**	*eP*	**P**		**06 11 11.5**	**-0.1**	
KAVA	**Kavala**	**73.64**	**312**	P	**P**		**06 11 11.5**	**-0.1**	
PRAR	**RASCA**	**73.64**	**318**	⇑*iP*	**P**		**06 11 11.5**	**-0.1**	
PTL	**Penteli**	**73.68**	**308**	P	**P**		**06 11 11.3**	**-0.8**	
PTL	**Penteli**	**73.68**	**308**	*eP*	**P**		**06 11 11.2**	**-0.8**	
PTL	**Penteli**	**73.68**	**308**	P	**P**		**06 11 11.3**	**-0.8**	
PLD	**Plovdiv**	**73.68**	**313**	*i* P	**P**		**06 11 11.6**	**-0.3**	
ATHU	**Athens Univers**	**73.73**	**308**	P	**P**		**06 11 11.3**	**-1.0**	
ATHU	**Athens Univers**	**73.73**	**308**	P	**P**		**06 11 11.3**	**-1.0**	
ATH	**Athens Observa**	**73.78**	**308**	P	**P**		**06 11 11.7**	**-0.9**	
ATH	**Athens Observa**	**73.78**	**308**	*eP*	**P**		**06 11 11.7**	**-0.9**	
ATH	**Athens Observa**	**73.78**	**308**	P	**P**		**06 11 11.7**	**-0.9**	
ATH	**Athens Observa**	**73.78**	**308**	P	**P**		**06 11 11.7**	**-0.9**	
AOS	**Alonnisos**	**73.83**	**310**	P	**P**		**06 11 11.8**	**-1.0**	
AOS	**Alonnisos**	**73.83**	**310**	*eP*	**P**		**06 11 12.4**	**-0.4**	
AOS	**Alonnisos**	**73.83**	**310**	P	**P**		**06 11 11.8**	**-1.0**	
ANKY	**Antikythira Is**	**73.83**	**306**	P	**P**		**06 11 12.7**	**-0.2**	
ANKY	**Antikythira Is**	**73.83**	**306**	*eP*	**P**		**06 11 13.3**	**+0.4**	
ANKY	**Antikythira Is**	**73.83**	**306**	P	**P**		**06 11 12.7**	**-0.2**	
**D

MAW	Mawson	74.91 193	⇑P		P	06 11 20.2	+1.8		
	baz=75,SNR=13								
LOT	Lotru	74.93 316	⇓iP		P	06 11 18.9	-0.4		
AGG	Agios Georgios	75.00 309	P		P	06 11 17.0	-2.7		
AGG	Agios Georgios	75.00 309	eP		P	06 11 17.8	-1.9		
AGG	Agios Georgios	75.00 309	eP		P	06 11 18.0	-1.7		
AGG			pmax	pmax					
	comp=Z,296nm,0.9s								
AGG			MLR	MLR					
	comp=Z,118µm,20.0s								
AGG	Agios Georgios	75.00 309	eP		P	06 11 18.0	-1.7		
	comp=Z,296nm,0.9s								
AGG			LR	LR					
	comp=Z,118µm,20.0s								
KLV	Kalavryta, Ach	75.02 308	P		P	06 11 18.8	-1.1		
KLV	Kalavryta, Ach	75.02 308	eP		P	06 11 18.7	-1.1		
KLV	Kalavryta, Ach	75.02 308	P		P	06 11 18.8	-1.1		
LIT	Litokhoron	75.03 310	P		P	06 11 18.7	-1.1		
LIT	Litokhoron	75.03 310	eP		P	06 11 18.8	-1.1		
LIT	Litokhoron	75.03 310	P		P	06 11 18.7	-1.1		
LIT	Litokhoron	75.03 310	P		P	06 11 18.7	-1.1		
BOSA	Boshof	75.04 239	eP		P	06 11 20.7	+0.5		
BOSA	Boshof	75.04 239	eP		P	06 11 20.7	+0.5		
KALE	Kalithea	75.07 309	P		P	06 11 18.6	-1.6		
KALE	Kalithea	75.07 309	eP		P	06 11 18.8	-1.4		
KALE	Kalithea	75.07 309	P		P	06 11 18.6	-1.6		
ITM	Ithomi	75.09 307	P		P	06 11 19.5	-0.7		
ITM	Ithomi	75.09 307	eP		P	06 11 19.6	-0.7		
ITM	Ithomi	75.09 307	P		P	06 11 19.5	-0.7		
NACGM	Naroch	75.11 326	eP		P	06 11 16.0	-3.9		
GRM	Grahamstown	75.11 234	iP		P	06 11 25.9	+5.5		
VAY	Valandovo	75.14 312	⇑iP		P	06 11 19.5	-0.8		
MAKR	Makrakomi, Fth	75.16 309	P		P	06 11 19.6	-1.0		
MAKR	Makrakomi, Fth	75.16 309	eP		P	06 11 19.6	-1.0		
MAKR	Makrakomi, Fth	75.16 309	P		P	06 11 19.6	-1.0		
PYL	PYLOS	75.21 307	P		P	06 11 19.6	-1.3		
PYL	PYLOS	75.21 307	eP		P	06 11 20.1	-0.8		
PYL	PYLOS	75.21 307	P		P	06 11 19.6	-1.3		
GRG	Griva	75.21 311	P		P	06 11 20.1	-0.8		
GRG	Griva	75.21 311	eP		P	06 11 20.0	-0.8		
GRG	Griva	75.21 311	P		P	06 11 20.1	-0.8		
GRG	Griva	75.21 311	P		P	06 11 20.1	-0.8		
EFP	Efpalio	75.26 309	P		P	06 11 20.1	-1.0		
EFP	Efpalio	75.26 309	eP		P	06 11 20.5	-0.6		
CJR	Cluj-Napoca	75.27 317	⇑iP		P	06 11 21.1	0.0		
AMT	Artemida-Makis	75.31 308	P		P	06 11 20.8	-0.7		
AMT	Artemida-Makis	75.31 308	eP		P	06 11 21.1	-0.4		
THL	Klokotos Trika	75.32 310	P		P	06 11 19.7	-1.7		
THL	Klokotos Trika	75.32 310	eP		P	06 11 19.9	-1.5		
DRO	Drossia	75.35 308	P		P	06 11 20.8	-0.9		
DRO	Drossia	75.35 308	eP		P	06 11 21.6	-0.1		
EVR	Evrytania	75.39 309	P		P	06 11 20.6	-1.4		
EVR	Evrytania	75.39 309	eP		P	06 11 20.9	-1.1		
EVR	Evrytania	75.39 309	P		P	06 11 20.6	-1.4		
BMR	Baia Mare	75.52 318	⇑iP		P	06 11 23.2	+0.8		
RLS	Riolos of Patr	75.56 308	P		P	06 11 22.7	-0.2		
RLS	Riolos of Patr	75.56 308	eP		P	06 11 22.7	-0.2		
RLS	Riolos of Patr	75.56 308	P		P	06 11 22.7	-0.2		
LVV	L'vov	75.58 321	eP		P	06 11 22.3	-0.4		
LVV			e*PP	PcP		06 11 43.6	+8.1		
LVV			e			06 14 12.6			
LVV			iPPP	PPP		06 16 07.4			
LVV			eS		S	06 21 01.4	+0.8		
LVV			iPS	PnS		06 21 30.4	-11		
LVV			eSS		SS	06 25 51.4	-0.8		
KZN	Kozani	75.60 311	P		P	06 11 21.6	-1.6		
KZN	Kozani	75.60 311	eP		P	06 11 22.1	-1.1		
KZN	Kozani	75.60 311	P		P	06 11 21.6	-1.6		
KZN	Kozani	75.60 311	P		P	06 11 21.6	-1.6		
DEV	Deva	75.60 316	⇑iP		P	06 11 24.0	+1.0		
GZR	Gura Zlata	75.61 316	⇑iP		P	06 11 23.3	+0.2		
PDO	Prodromos	75.84 309	P		P	06 11 23.9	-0.6		
PDO	Prodromos	75.84 309	eP		P	06 11 24.1	-0.4		
DRGR		75.89 317	⇑iP		P	06 11 25.2	+0.5		
FNA	Florina	75.96 311	P		P	06 11 23.8	-1.4		
FNA	Florina	75.96 311	eP		P	06 11 23.7	-1.4		
FNA	Florina	75.96 311	P		P	06 11 23.8	-1.4		
FNA	Florina	75.96 311	P		P	06 11 23.8	-1.4		
DSL	Palaion Diasel	75.97 309	P		P	06 11 24.6	-0.7		
DSL	Palaion Diasel	75.97 309	eP		P	06 11 24.3	-1.0		
DSL	Palaion Diasel	75.97 309	P		P	06 11 24.6	-0.7		
SKO	Skopje	76.06 312	⇑iP		P	06 11 24.0	-1.7		
LVZ	Lovozero	76.07 340	P		P	06 11 24.7	-0.5		
	comp=Z,3µm,0.8s,SNR=74								
LVZ	Lovozero	76.07 340	ciP		P	06 11 24.4	-0.8		
LVZ			pmax	pmax					
	comp=Z,543nm,1.2s								
LVZ			MLR	MLR					
	comp=Z,128µm,19.0s								
LVZ	Lovozero	76.07 340	eP		P	06 11 24.3	-0.9		
	comp=Z,635nm,0.8s								
LVZ			eS		S	06 20 59.8	-5.6		
LVZ			LR	LR					
	comp=Z,134µm,20.0s								
VSU	Vasula	76.08 330	ciP		P	06 11 24.8	-0.6		
VSU			pmax	pmax					
	comp=Z,1µm,1.3s								
VSU			MLR	MLR					
	comp=Z,245µm,22.0s								
KFL	Anninata	76.10 308	P		P	06 11 25.9	-0.1		
NEST	Nestorio	76.16 311	P		P	06 11 24.9	-1.5		
NEST	Nestorio	76.16 311	eP		P	06 11 25.2	-1.2		
JAN	Janina	76.22 310	P		P	06 11 26.1	-0.6		
JAN	Janina	76.22 310	eP		P	06 11 26.4	-0.3		
JAN	Janina	76.22 310	P		P	06 11 26.1	-0.6		
JAN	Janina	76.22 310	P		P	06 11 26.1	-0.6		
TRPA	Tarpa	76.23 319	⇑iP		P	06 11 27.2	+0.7		
VLS	Valsamata	76.26 308	P		P	06 11 26.4	-0.5		
VLS	Valsamata	76.26 308	eP		P	06 11 26.3	-0.6		
VLS	Valsamata	76.26 308	P		P	06 11 26.4	-0.5		
VLS	Valsamata	76.26 308	P		P	06 11 26.4	-0.5		
LKD2	Lefkada island	76.27 309	P		P	06 11 26.6	-0.4		
LKD2	Lefkada island	76.27 309	eP		P	06 11 26.5	-0.4		
LKD2	Lefkada island	76.27 309	P		P	06 11 26.6	-0.4		
APA	Apatity	76.36 339	⇓iP		P	06 11 26.8	0.0		
APA			iPPP	PPP		06 16 15.0			
APA			iS		S	06 21 05.0	-3.5		
APA			iSS		SS	06 26 08.0	+4.8		
APA			pmax	pmax					
	comp=Z,481nm,1.0s								
APA			MLR	MLR					
	comp=Z,170µm,21.0s								
KWP	Kalwaria Pacla	76.39 320	eP		P	06 11 27.8	+0.4		
KWP			ePcP		PcP	06 11 37.8	-1.2		
KWP			eS		S	06 21 05.2	-4.3		
KWP			eSKSac		SKSac	06 21 15.2	-20		
KWP			LMZ		LR	06 40 41.4			
KWP	Kalwaria Pacla	76.39 320	⇑eP		P	06 11 27.9	+0.5		
KWP			e			06 11 37.9			
KWP			eS		S	06 21 05.2	-4.3		
KWP	Kalwaria Pacla	76.39 320	⇑iP		P	06 11 27.8	+0.4		
KWP	Kalwaria Pacla	76.39 320	eP		P	06 11 27.8	+0.4		
	comp=Z,2µm,1.2s								
KWP			LR	LR					
	comp=Z,52µm,20.0s								
OHR	Ohrid	76.43 311	⇑iP		P	06 11 25.5	-2.4		
BZS	Buzias	76.45 316	⇑iP		P	06 11 27.9	+0.1		
UZH	Uzhgorod	76.48 319	diP		P	06 11 27.6	-0.3		
UZH			e*PP		pP	06 11 41.3	+0.8		
UZH			e			06 14 27.3			
UZH			ePPP	PPP		06 16 09.7			
UZH			iS		S	06 21 07.6	-2.9		
UZH			ePS		PnS	06 21 48.7	-4.0		
SIRR	Siria	76.52 317	⇑iP		P	06 11 28.8	+0.6		
KOLS	Kolonicke sedl	76.54 319	eP		P	06 11 29.1	+0.8		
KOLS			pmax	pmax					
	comp=Z,788nm,1.5s								
KOLS	Kolonicke sedl	76.54 319	eP		P	06 11 29.1	+0.8		
KOLS			eS		S	06 21 09.6	-1.7		
IGT	Igoumenitsa	76.60 310	P		P	06 11 27.9	-0.9		
IGT	Igoumenitsa	76.60 310	eP		P	06 11 27.9	-0.9		
IGT	Igoumenitsa	76.60 310	P		P	06 11 27.9	-0.9		
IGT	Igoumenitsa	76.60 310	P		P	06 11 27.9	-0.9		
TIM	Timisoara	76.74 316	⇓iP		P	06 11 30.4	+1.0		
TARA	Tarawa	76.84 89	eP		P	06 11 30.2	-0.4		
	comp=Z,1µm,1.5s								
TARA			LR	LR					
	comp=Z,27µm,21.0s								
SUW	Suwalki	76.94 325	eP		P	06 11 29.7	-0.7		
SUW			eS		S	06 21 10.4	-5.0		
SUW			eSKSac		SKSac	06 21 19.8	-19		
SUW			LMZ		LR	06 42 29.8			
SUW	Suwalki	76.94 325	⇑eP		P	06 11 29.7	-0.7		
SUW			eS		S	06 21 10.4	-5.0		
SUW	Suwalki	76.94 325	eP		P	06 11 29.6	-0.7		
	comp=Z,2µm,0.9s								
SUW			eS		S	06 21 20.7	+5.3		
SUW			LR	LR					
	comp=Z,57µm,20.0s								
KEK	Kerkira	77.03 310	P		P	06 11 30.7	-0.5		
KEK	Kerkira	77.03 310	eP		P	06 11 30.5	-0.7		
KEK	Kerkira	77.03 310	P		P	06 11 30.7	-0.5		
CRVS	Cervenica-Dubn	77.07 319	eP		P	06 11 31.7	+0.5		
CRVS			pmax	pmax					
	comp=Z,892nm,1.6s								
CRVS	Cervenica-Dubn	77.07 319	eP		P	06 11 31.7	+0.5		
CRVS			eS		S	06 21 18.9	+1.9		
FIA1	FINESS Array S	77.23 332	eP		P	06 11 31.2	-0.6		
FINES	FINESS Array B	77.23 332	P		P	06 11 31.2	-0.6		
	comp=Z,46nm,0.4s,baz=116,slow=6.3,SNR=448								
FINES			PKPPKP		P'P'df	06 38 43.6	+2.3		
	comp=Z,1.2nm,0.8s,baz=36,slow=7.3,SNR=3.2								
FINES			LR		LR	06 49 14.1			
	comp=Z,119µm,21.7s,baz=114,slow=38								
PVY	Plav	77.23 313	⇑iP		P	06 11 31.5	-0.9		
STHS	Stebnicka Huta	77.29 320	eP		P	06 11 33.0	+0.5		
STHS			pmax	pmax					
	comp=Z,81nm,0.7s								
STHS	Stebnicka Huta	77.29 320	eP		P	06 11 32.9	+0.5		
IVA	Berane	77.31 313	⇑iP		P	06 11 32.3	-0.5		
DIVS	Divibare	77.39 314	⇑iP		P	06 11 33.2	0.0		
KECS	Kecovo	77.64 319	eP		P	06 11 34.5	+0.1		
KECS			pmax	pmax					
	comp=Z,132nm,1.2s								
KECS	Kecovo	77.64 319	eP		P	06 11 34.5	+0.1		
ULC	Ulcinj	77.69 312	⇑iP		P	06 11 33.9	-1.0		
TTG	Podgorica	77.73 312	⇑iP		P	06 11 34.5	-0.5		
PLE	Pljevlja	77.73 313	⇑iP		P	06 11 35.5	+0.3		
MCQ	Macquarie Isla	77.74 148	eP		P	06 11 34.7	0.0		
MCQ			MLR	MLR					
	comp=Z,132µm,19.0s								
MCQ	Macquarie Isla	77.74 148	eP		P	06 11 34.7	0.0		
MCQ			LR	LR					
	comp=Z,132µm,19.0s								
DRME	Dracevica, Mon	77.76 312	⇑iP		P	06 11 34.7	-0.5		
NIE	Niedzica	77.89 320	eP		P	06 11 36.6	+0.7		
NIE			ePcP		PcP	06 11 46.7	+1.1		
NIE			eS		S	06 21 23.3	-2.7		
NIE			eSKSac		SKSac	06 21 32.9	-14		
NIE			LMZ		LR	06 41 04.3			
NIE	Niedzica	77.89 320	⇑eP		P	06 11 36.6	+0.7		
NIE			e			06 11 46.7			
NIE			eS		S	06 21 23.4	-2.6		
PSZ	Piszkesteto	77.95 318	eP		P	06 11 36.6	+0.3		
PSZ			eS		S	06 21 25.9	-0.9		
PSZ			pmax	pmax					
	comp=Z,4µm,1.7s								
PSZ			MLR	MLR					
	comp=Z,39µm,20.0s								
PSZ	Piszkesteto	77.95 318	⇑iP		P	06 11 36.6	+0.3		
PSZ	Piszkesteto	77.95 318	eP		P	06 11 36.6	+0.3		
	comp=Z,4µm,1.7s								
PSZ			eS		S	06 21 25.9	-0.9		
PSZ			LR	LR					
	comp=Z,39µm,20.0s								
NKY	Niksic	77.96 313	⇑iP		P	06 11 36.2	-0.3		
BEL	Belsk	77.97 322	eP		P	06 11 36.4	+0.3		
BEL			ePcP		PcP	06 11 46.3	+0.5		
BEL			eS		S	06 21 27.2	+0.7		
BEL			eSKSac		SKSac	06 21 34.7	-12		
BEL			LMZ		LR	06 44 57.8			
BEL	Belsk	77.97 322	⇑eP		P	06 11 36.5	+0.3		
BEL			e			06 11 46.3			
BEL			eS		S	06 21 27.3	+0.7		
BEL			e			06 21 34.8			
BUM	Brajici-Budva	77.98 312	⇑iP		P	06 11 35.8	-0.8		
NKME	Niksic	77.99 313	⇑iP		P	06 11 36.0	-0.6		
UPM	Unac-Piva	78.07 313	⇑iP		P	06 11 36.6	-0.6		
PKS2	Kecel	78.23 317	⇑e		P	06 11 38.3	+0.6		
HCY	Herceg Novi	78.29 312	⇑iP		P	06 11 37.5	-0.7		
BRY	Bratogost	78.30 313	⇑iP		P	06 11 37.7	-0.7		
OJC	Ojcow	78.34 320	eP		P	06 11 38.5	+0.2		
OJC			ePcP		PcP	06 11 48.6	+1.1		
OJC			eS		S	06 21 26.5	-4.2		
OJC			eSKSac		SKSac	06 21 36.4	-13		
OJC			LMZ		LR	06 41 54.1			
OJC	Ojcow	78.34 320	⇑eP		P	06 11 38.5	+0.2		
OJC			e			06 11 48.7			
OJC			eS		S	06 21 26.5	-4.2		
OJC			e			06 21 36.5			
OJC	Ojcow	78.34 320	eP		P	06 11 38.4	+0.1		
	comp=Z,1µm,1.2s								
PKSM	Moragy	78.59 316	⇑iP		P	06 11 39.9	+0.2		
PKSM	Moragy	78.59 316	⇑e		P	06 11 40.0	+0.2		
VYHS	Vyhne	78.73 319	eP		P	06 11 40.7	+0.2		
VYHS			pmax	pmax					
	comp=Z,628nm,2.1s								
VYHS	Vyhne	78.73 319	eP		P	06 11 40.7	+0.2		
VYHS			eS		S	06 21 29.9	-5.1		
CHZP	Chorzow	78.86 320	eP		P	06 11 41.7	+0.6		
PKS9	Tamasi	78.88 317	⇑e		P	06 11 41.5	+0.2		
STON	Ston	78.92 313	P		P	06 11 40.7	-0.8		
PKST	T"s	79.12 317	⇑e		P	06 11 43.0	+0.3		
TIP	Timpagrande	79.33 309	eP		P	06 11 43.7	-0.4		
	comp=Z,803nm,1.5s								
TIP			eS		S	06 21 36.8	-5.0		
TIP			LR	LR					
	comp=Z,30µm,20.0s								
KEV	Kevo	79.34 341	eP		P	06 11 43.1	-0.2		
KEV			pmax	pmax					
	comp=Z,408nm,0.9s								
KEV			MLR	MLR					
	comp=Z,78µm,20.0s								
KEV	Kevo	79.34 341	eP		P	06 11 43.1	-0.2		
	comp=Z,408nm,0.9s								
KEV			LR	LR					
	comp=Z,78µm,20.0s								
OKC	Ostrava-Krasne	79.34 320	⇑eP		P	06 11 44.2	+0.4		
OKC			ex		x	06 11 48.0			
OKC			epP		pP	06 11 55.0	-1.4		
OKC			ePP		PP	06 14 47.7	+3.6		
OKC			eS		S	06 21 40.5	-0.9		
OKC			ePKPPKP		P'P'df	06 38 37.2	-1.0		
OKC			AMS	AMS		06 50 50.0			
	comp=Z,45µm,20.8s								
OKC	Ostrava-Krasne	79.34 320	eP		P	06 11 44.2	+0.4		
OKC			e			06 11 55.0			
OKC			e			06 14 47.7			
OKC			eS		S	06 21 40.5	-0.9		
OKC			MLR	MLR					
	comp=Z,45µm,20.8s								
RAC	Raciborz	79.34 320	eP		P	06 11 44.8	+1.0		
RAC			eS		S	06 21 43.0	+1.7		
DCZ	Deep Cove	79.56 137	eP		P	06 11 45.9	+0.9		
	comp=Z,659nm,1.3s								
DCZ			LR	LR					
	comp=Z,166µm,22.0s								
SUR	Sutherland	79.57 236	P		P	06 11 47.6	+2.0		
	comp=Z,987nm,1.0s,SNR=5.8								
SUR	Sutherland	79.57 236	eP		P	06 11 46.7	+1.1		
	comp=Z,120nm,1.1s								
SUR			LR	LR					
	comp=Z,439µm,19.0s								
SMOL	Smolenice	79.66 319	eS		S	06 21 42.1	-2.7		
MORC	Moravsky Berou	79.72 320	eP		P	06 11 46.3	+0.3		
MORC			e			06 14 49.3			
MORC			eS		S	06 21 46.7	+1.1		
MORC			pmax	pmax					
	comp=Z,859nm,1.4s								
MORC			MLR	MLR					
	comp=Z,41µm,22.0s								
MORC	Moravsky Berou	79.72 320	⇑iP		P	06 11 46.4	+0.5		
MORC	Moravsky Berou	79.72 320	eP		P	06 11 46.3	+0.3		
	comp=Z,859nm,1.4s								
MORC			ePP		PP	06 14 49.2	+1.9		
MORC			eS		S	06 21 46.7	+1.1		
MORC			LR	LR					
	comp=Z,41µm,22.0s								
ARA0	ARCESS Array S	79.77 340	eP		P	06 11 44.8	-0.9		
ARCES	ARCESS Array B	79.77 340	P		P	06 11 45.5	-0.2		
	comp=Z,174nm,0.8s,baz=93,slow=5.9,SNR=312								
ARCES			LR		LR	06 51 05.2			
	comp=Z,134µm,20.0s,baz=115,slow=39								
ARE0	ARCESS Array S	79.77 340	⇑iP		P	06 11 45.6	-0.1		
ARE0	ARCESS Array S	79.77 340	eP		P	06 11 45.6	-0.1		
SMY	Shemya	79.82 37	eP		P	06 11 45.8	-0.4		
SMY			pmax	pmax					
	comp=Z,1µm,0.9s								
SMY	Shemya	79.82 37	eP		P	06 11 45.8	-0.4		
	comp=Z,1µm,0.9s								
BEHE	Becsehely	79.90 316	⇑e		P	06 11 47.9	+1.0		
CEL	Celeste	79.95 308	eP		P	06 11 48.2	+0.8		
	comp=Z,2µm,1.3s								
CEL			eS		S	06 21 48.3	-0.1		
CEL			LR	LR					
	comp=Z,50µm,21.0s								
SISC	Sisak	80.09 315	P		P	06 11 48.5	+0.6		
CUC	Castrocucco	80.11 310	eP		P	06 11 48.0	-0.3		
	comp=Z,588nm,1.3s								
CUC			ePP		PP	06 14 54.5	+3.7		
CUC			eS		S	06 21 45.6	-4.5		
CUC			LR	LR					
	comp=Z,68µm,21.0s								
WHZ	Wether Hill Ro	80.21 138	PN		P	06 11 48.3	-0.2		
WHZ			pP		pP	06 11 58.9	-2.3		
WHZ	Wether Hill Ro	80.21 138	eP		P	06 11 49.0	+0.4		
	comp=Z,194nm,0.9s								
WHZ			LR	LR					
	comp=Z,181µm,22.0s								
KRLC	Kraliky	80.25 320	⇑iP		P	06 11 49.2	+0.5		
KRLC			ex		x	06 11 53.0			
KRLC			epP		pP	06 11 59.8	-1.6		
KRLC			esP		sP	06 12 05.9	-0.3		
KRLC			eS		S	06 21 49.3	-1.7		
KRLC			ePKPPKP		P'P'df	06 38 34.7	-2.0		
KRLC	Kraliky	80.25 320	⇑iP		P	06 11 49.2	+0.5		
KRLC			e			06 11 59.8			
KRLC			e			06 12 05.9			
KRLC			eS		S	06 21 49.2	-1.7		
KOGS	Kog	80.26 316	iP		P	06 11 49.3	+0.5		
JCZ	Jackson Bay	80.29 136	PN		P	06 11 49.2	+0.1		
JCZ			pP		pP	06 11 59.8	-2.0		
VRAC	Vranov	80.29 319	P		P	06 11 49.0	+0.1		
	comp=Z,38nm,0.9s,baz=106,slow=7.3,SNR=73								
VRAC	Vranov	80.29 319	⇑iP		P	06 11 49.3	+0.3		
GKP	Gorka Klasztor	80.32 323	eP		P	06 11 48.9	0.0		
GKP			ePcP		pP	06 11 58.9	-2.7		
GKP			eS		S	06 21 48.4	-3.0		
GKP			eSKSac		SKSac	06 21 57.3	-6.1		
GKP			LMZ	LR		06 45 02.7			
GKP	Gorka Klasztor	80.32 323	⇑eP		P	06 11 48.9	0.0		
GKP			e			06 11 58.9			
GKP			eS		S	06 21 48.5	-3.0		
GKP			e			06 21 57.4			
TSUM	Tsumeb	80.34 250	PKKPbc	PKKPbc		06 30 33.6	+1.2		
	comp=Z,7.0nm,1.0s,baz=38,slow=3.6,SNR=3.5								
TSUM	Tsumeb	80.34 250	PKKPbc	PKKPbc		06 30 33.6	+1.2		
TSUM			LR	LR					
	comp=Z,211µm,22.0s								
KTK1	Kautokeino	80.40 340	eP		P	06 11 49.2	0.0		
UDBI	Udbina	80.45 314	P		P	06 11 49.8	-0.2		
DPC	Dobruska-Polom	80.57 320	⇑iP		P	06 11 51.1	+0.6		
DPC			ePCP		PcP	06 11 56.8	-0.4		
DPC			epP		pP	06 12 02.0	-1.1		
DPC			esP		sP	06 12 07.5	-0.4		
DPC			ePP		PP	06 15 00.6	+6.3		
DPC			eS		S	06 21 54.0	-0.4		
DPC			ePKPPKP		P'P'df	06 38 35.6	-0.5		
DPC			AMS	AMS		06 56 00.0			
DPC	Dobruska-Polom	80.57 320	⇑iP		P	06 11 51.1	+0.6		
DPC			e			06 12 02.0			
DPC			e			06 12 07.5			
DPC			e			06 15 00.6			
DPC			eS		S	06 21 54.0	-0.4		
DPC	Dobruska-Polom	80.57 320	eP		P	06 11 50.6	+0.1		
	comp=Z,10µm,1.7s								
DPC			LR	LR					
	comp=Z,349µm,22.0s								
KSP	Ksiaz	80.63 321	eP		P	06 11 51.3	+0.6		
KSP			ePcP		pP	06 12 01.3	-2.1		
KSP			eS		S	06 21 50.5	-4.4		
KSP			eSKSac		SKSac	06 22 01.5	-4.2		
KSP			LMZ	LR		06 43 14.5			
KSP	Ksiaz	80.63 321	⇑eP		P	06 11 51.4	+0.7		
KSP			e			06 12 01.4			
KSP			eS		S	06 21 50.5	-4.4		
KSP			e			06 22 01.5			
CONA	Conrad Observa	80.65 318	iP		P	06 11 51.1	+0.1		
	comp=Z,2µm,2.7s,SNR=94								
UPC	Upice	80.78 320	⇑eP		P	06 11 52.5	+1.0		
UPC			epP		pP	06 12 03.0	-1.2		
UPC	Upice	80.78 320	eP		P	06 11 52.5	+1.0		
UPC			e			06 12 03.0			
ARSA	Arzberg	80.82 317	iP		P	06 11 52.4	+0.5		
	comp=Z,5µm,3.4s,SNR=209								
BOJS	Bojanci	80.88 315	iP		P	06 11 52.5	+0.3		
BOJS			e			06 14 35.5			
WDD	Wield Dalam	80.94 306	eP		P	06 11 52.4	-0.3		
	comp=Z,512nm,0.8s								
WDD			LR	LR					
	comp=Z,68µm,20.0s								
TREC	Trest	81.01 319	⇑AMS	AMS		06 55 30.0			
	comp=Z,56µm,20.3s								
PERS	Pernice	81.06 316	eS		S	06 21 56.7	-2.9		
NVLJ	Novalja	81.09 314	P		P	06 11 52.8	-0.5		
SOKA	Soboth	81.12 317	iP		P	06 11 54.1	+0.6		
	comp=Z,3µm,3.0s,SNR=289								
LBZ	Lake Benmore	81.36 136	PN		P	06 11 54.2	-0.6		
TUZ	Tuapeka	81.36 137	PN		P	06 11 54.8	+0.1		
LJU	Ljubljana	81.42 316	iP		P	06 11 55.6	+0.6		
LJU			e			06 14 39.6			
LJU			ePP		PP	06 15 02.9	+1.5		
LJU			e			06 17

comp=Z,291µm,22.0s
ODZ Otahua Downs 81.83 136 *e*P **P 06 11 54.5 -2.7**
comp=Z,59nm,0.8s
ODZ LR LR
comp=Z,151µm,20.0s
BSD Bornholm Skovb 81.86 325⇑ *i*P **P 06 11 56.4 -0.7**
comp=Z,1µm,1.3s
BSD Bornholm Skovb 81.86 325 *i* S **S 06 22 02.6 -4.9**
comp=Z,60µm,22.0s
BSD Bornholm Skovb 81.86 325⇑ *i*P **P 06 11 56.4 -0.7**
BSD *i* S **S 06 22 02.6 -4.9**
BSD pmax pmax
comp=Z,1µm,1.3s
BSD MLR MLR
comp=Z,60µm,22.0s
DSZ Denniston Nort 81.92 133 PN **P 06 11 57.8 0.0**
TRI Trieste 81.94 315 *e*P **P 06 11 57.3 -0.5**
TRI pmax pmax
comp=Z,660nm,1.3s
TRI MLR MLR
comp=Z,64µm,22.0s
TRI Trieste 81.94 315 *e*P **P 06 11 57.3 -0.5**
comp=Z,660nm,1.3s
TRI LR LR
comp=Z,64µm,22.0s
CADS Cadrg 81.98 316 *i* P **P 06 11 58.0 -0.1**
CADS *e* 06 17 08.7
HOPEN Hopen 82.01 347⇑ *i*P **P 06 11 57.3 -0.2**
HOPEN IVMs_BB IVMs_BB 06 50 27.0
comp=Z,57µm,23.9s
OUZ Omahuta 82.02 126 *e*P **P 06 11 57.5 -0.9**
comp=Z,487nm,1.3s
OUZ LR LR
comp=Z,238µm,21.0s
TRO Tromso 82.03 340⇑ *i*P **P 06 11 56.0 -1.7**
TRO *e*pP **pP 06 12 08.6 -1.8**
TRO *e*S **S 06 22 09.6 +0.9**
TRO IVMs_BB IVMs_BB 06 52 08.3
comp=Z,54µm,17.7s
TRO IAMs_20 IAMs_20 06 52 14.0
comp=Z,168µm,19.6s
CLTB Caltabellotta 82.04 307 *e*P **P 06 11 58.9 +0.2**
comp=Z,505nm,1.4s
CLTB LR LR
comp=Z,29µm,19.0s
SYO Syowa Base 82.04 198⇑ *i*P **P 06 11 59.0 +1.3**
SYO Syowa Base 82.04 198⇑ *i*PcP **PcP 06 12 04.0 +0.9**
AQU L'Aquila 82.05 312 *e*P **P 06 11 58.7 +0.2**
AQU pmax pmax
comp=Z,3µm,1.4s
AQU MLR MLR
comp=Z,64µm,22.0s
AQU L'Aquila 82.05 312 *e*P **P 06 11 58.7 +0.2**
comp=Z,3µm,1.4s
AQU LR LR
comp=Z,64µm,22.0s
MYKA Terra Mystica 82.07 316 *i* P **P 06 11 58.8 +0.3**
comp=Z,3µm,3.2s,SNR=91
BRG Berggiesshubel 82.12 321 *i* P **P 06 11 59.2 +0.6**
comp=Z,405nm,1.4s
BRG *i* sP **sP 06 12 17.7 +1.6**
comp=Z,494nm,1.4s
BRG S **S 06 22 12.0 +1.7**
BRG SS **SS 06 27 28.0 -2.3**
BRG *e*PKPPKP **P'P'df 06 38 35.2 +2.0**
comp=Z,64nm,2.1s
comp=N,74µm,22.8s
comp=E,59µm,21.3s
comp=Z,74µm,21.5s
BRG Berggiesshubel 82.12 321 *e*P **P 06 11 59.1 +0.5**
comp=Z,1µm,1.5s
BRG *e*S **S 06 22 10.7 +0.4**
BRG Berggiesshubel 82.12 321 *i* P **P 06 11 59.2 +0.6**
BRG *i* *SP **sP 06 12 17.7 +1.6**
BRG S **S 06 22 12.0 +1.7**
BRG SS **SS 06 27 28.0 -2.3**
BRG pmax pmax
comp=Z,405nm,1.4s
BRG MLR MLR
comp=N,74µm,22.8s
BRG MLR MLR
comp=E,59µm,21.3s
BRG MLR MLR
comp=Z,74µm,21.5s
GEC2 GERESS Array S 82.15 319 *e*P **P 06 11 59.2 +0.2**
GEC2 GERESS Array S 82.15 319 *e*P **P 06 11 59.2 +0.2**
GERES GERESS Array B 82.15 319 P **P 06 11 59.2 +0.2**
comp=Z,142nm,1.0s,baz=94,slow=5.8,SNR=700
GERES PKKPbc PKKPbc 06 30 35.2 +6.0
comp=Z,2.1nm,0.9s,baz=307,slow=0.7,SNR=5.3
GERES PKPPKP **P'P'df 06 38 31.6 -1.8**
comp=Z,0.6nm,0.9s,baz=238,slow=2.5,SNR=4.4
KHC Kasperske Hory 82.25 319⇑ *i*P **P 06 11 59.5 +0.1**
KHC *e*pP **pP 06 12 10.2 -1.9**
KHC *e*sP **sP 06 12 15.0 -1.9**
KHC *e*x x 06 15 17.8
KHC *e*S **S 06 22 12.0 +0.2**
KHC *e*PKPPKP **P'P'df 06 38 35.5 +2.4**
KHC AMS AMS 06 55 40.0
comp=Z,75µm,21.2s
KHC Kasperske Hory 82.25 319⇑ *i*P **P 06 11 59.5 +0.1**
KHC *e* 06 12 10.2
KHC *e* 06 12 15.0
KHC *e*S **S 06 22 12.0 +0.2**
KHC MLR MLR
comp=Z,75µm,21.2s
QRZ Quartz Range 82.26 132 PN **P 06 11 59.8 +0.2**
KBA Koelnbreinsper 82.30 317 *i* P **P 06 11 59.5 -0.3**
comp=Z,1µm,3.4s,SNR=72
RUE Ruedersdorf 82.33 322 *e*P **P 06 12 00.0 +0.4**
comp=Z,4µm,1.7s
RUE Ruedersdorf 82.33 322 *e*P **P 06 11 59.9 +0.3**
comp=Z,792nm,0.8s
RUE LR LR
comp=Z,48µm,21.0s
FBE Freiberg 82.50 321 *e*P **P 06 12 01.3 +0.7**
comp=Z,257nm,1.3s
MSKU Masuku 82.54 268 *e*P **P 06 12 03.1 +1.4**
comp=Z,515nm,1.0s
MSKU LR LR
comp=Z,176µm,18.0s
RJOB Jochberg 82.70 317 *e*P **P 06 12 01.5 -0.3**
comp=Z,396nm,1.1s
RJOB *e*S **S 06 22 15.9 -0.6**
WET Wettzell 82.71 319 *e*P **P 06 12 02.2 +0.4**
comp=Z,699nm,1.4s
WET *e*S **S 06 22 14.3 -2.2**
THZ Tophouse 82.73 133 PN **P 06 12 01.4 -0.6**
THZ pP **pP 06 12 12.6 -2.1**
CLL Collm 82.74 321 *e*P **P 06 12 01.8 0.0**
comp=Z,542nm,1.4s
CLL *e*S **S 06 22 16.5 -0.1**
CLL Collm 82.74 321⇑ *i*P **P 06 12 01.6 -0.2**
comp=Z,2µm,2.7s
CLL *e*Plp 06 12 08.0
comp=Z,25µm,25.4s
CLL *e*pP **pP 06 12 13.0 -1.5**
CLL *e*Pmax 06 12 16.0
CLL *e*(sP) **sP 06 12 19.0 -0.3**
CLL *i* 06 12 31.0
CLL *e*PP **PP 06 15 10.0 -2.1**
CLL *e*PPP PPP 06 17 12.0
CLL *e*S **SKSac 06 22 19.0 -0.9**
comp=N,85µm,33.3s
CLL *e*S **SKSac 06 22 19.0 -0.9**
comp=E,20µm,25.6s
CLL *e*PPS PPS 06 23 37.0
CLL *e*SS **SS 06 27 42.0 +2.5**
CLL *e*PKKPdf **PKKPdf 06 30 16.0 -2.4**
CLL *e*sPKKPdf 06 30 31.0
CLL *e*SSS SSS 06 31 18.0
CLL *e* 06 32 36.0
CLL *e* 06 38 44.0
CLL *e*SKPPKPbc 06 41 49.0
CLL LmV 06 55 00.0
comp=Z,38µm,20.5s
CLL Lmax 07 20 00.0
CLL LmV(360 08 22 00.0
comp=Z,11µm,20.9s
CLL Collm 82.74 321⇑ *i*P **P 06 12 01.6 -0.2**
CLL *e**PP **sP 06 12 19.0 -0.3**
CLL *e*S **SKSac 06 22 19.0 -0.9**
CLL pmax pmax
comp=Z,2µm,2.7s
CLL MLR MLR
comp=Z,38µm,20.5s
CLL Collm 82.74 321 *e*P **P 06 12 01.6 -0.2**
comp=Z,999nm,1.4s
CLL LR LR
comp=Z,50µm,21.0s
RGN Rugen 82.74 324 *e*P **P 06 12 02.3 +0.6**
comp=Z,1µm,1.4s
RGN Rugen 82.74 324 *e*P **P 06 12 01.4 -0.3**
comp=Z,995nm,1.2s
RGN LR LR
comp=Z,66µm,22.0s
ABTA Abfaltersbach 82.85 316 *i* P **P 06 12 02.2 -0.5**
comp=Z,2µm,3.8s,SNR=78
BJO Bjornoya 82.91 345 *e*P **P 06 12 01.6 -0.6**
BJO IVMs_BB IVMs_BB 06 52 03.6
comp=Z,48µm,22.6s
MOZ McQueen's Vall 82.94 135 PN **P 06 12 03.1 +0.1**
HFS Hagfors 82.96 330 P **P 06 12 02.4 -0.4**
comp=Z,46nm,0.6s,baz=104,slow=6.3,SNR=215
TANN Tannenbergstha 83.04 320 *e*P **P 06 12 03.8 +0.3**
comp=Z,382nm,1.4s
TANN *e*S **S 06 22 18.9 -1.0**
NKC Novy Kostel 83.04 320⇑ *i*P **P 06 12 03.8 +0.4**
NKC *e*pP **pP 06 12 14.5 -1.7**
NKC *e*S **S 06 22 19.8 0.0**
NKC *e*PKPPKP **P'P'df 06 38 36.4 +4.9**
NKC AMS AMS 06 56 20.0
comp=Z,46µm,20.3s
NKC Novy Kostel 83.04 320⇑ *i*P **P 06 12 03.8 +0.4**
NKC *e* 06 12 14.5
NKC *e*S **S 06 22 19.8 0.0**
NKC MLR MLR
comp=Z,46µm,20.3s
WERN Wernitzgruen 83.08 320 *e*P **P 06 12 04.2 +0.5**
comp=Z,415nm,1.3s
STEI Steigen 83.09 338⇑ *i*P **P 06 12 02.7 -0.6**
GUNZ Gunzen 83.12 320 *e*P **P 06 12 04.2 +0.3**
comp=Z,508nm,1.3s
WERD Werda 83.14 320 *e*P **P 06 12 04.2 +0.2**
comp=Z,440nm,1.4s
ROTZ Rotenmuhle 83.17 320 *e*P **P 06 12 05.0 +0.9**
comp=Z,546nm,1.2s
ROTZ *e*S **S 06 22 19.6 -1.6**
MOR8 Moi Rana 83.20 336⇑ *i*P **P 06 12 02.9 -1.0**
MOR8 *e*pP **pP 06 12 14.8 -1.8**
PLN Plauen 83.23 320 *e*P **P 06 12 04.8 +0.4**
comp=Z,571nm,1.6s
MANZ Manzenberg 83.25 320 *e*P **P 06 12 05.3 +0.8**
comp=Z,911nm,1.2s
COP Copenhagen 83.32 325⇑ *i*P **P 06 12 05.0 +0.3**
comp=Z,142nm,0.8s
COP Copenhagen 83.32 325 *i* S **S 06 22 21.6 -0.7**
comp=Z,40µm,22.0s
COP Copenhagen 83.32 325⇑ *i*P **P 06 12 05.0 +0.3**
COP *i* S **S 06 22 21.6 -0.7**
COP pmax pmax
comp=Z,140nm,0.8s
COP MLR MLR
comp=Z,40µm,22.0s
KHZ Kahutara 83.32 133 *e*P **P 06 12 04.4 -0.5**
comp=Z,540nm,1.2s
KHZ LR LR
comp=Z,242µm,21.0s
LLD Lille Linde 83.42 325 *i* P **P 06 12 05.6 +0.4**
LLD Lille Linde 83.42 325 *i* P **P 06 12 05.6 +0.4**
WTTA Wattenberg 83.47 317 *i* P **P 06 12 05.4 -0.5**
comp=Z,2µm,2.8s,SNR=108
NEUB Neuenburg 83.50 321 *e*P **P 06 12 05.9 +0.1**
comp=Z,631nm,1.2s
WATA Walderalm 83.51 317⇑ *i*P **P 06 12 05.3 -0.8**
comp=Z,763nm,1.7s,SNR=86
MSVF Nonsavu 83.55 108 P **P 06 12 08.7 +1.9**
comp=Z,2µm,0.8s,SNR=68
MSVF Nonsavu 83.55 108 *e*P **P 06 12 08.0 +1.2**
MSVF pmax pmax
comp=Z,1µm,1.4s
MSVF MLR MLR
comp=Z,99µm,20.0s
MSVF Nonsavu 83.55 108 *e*P **P 06 12 08.0 +1.2**
comp=Z,1µm,1.4s
MSVF LR LR
comp=Z,99µm,20.0s
MOX Moxa 83.58 320 *e*P **P 06 12 06.6 +0.4**
comp=Z,427nm,1.3s
MOX *e*S **S 06 22 23.0 -2.3**
MOX *e*L L 06 55 59.3
comp=Z,46µm,22.0s
MKAZ Moumakai 83.60 128 PN **P 06 12 07.4 +0.9**
FLOS Flostrand 83.65 336 *e*P **P 06 12 06.8 +0.6**
FUR Furstenfeldbru 83.73 318 *e*P **P 06 12 06.9 -0.2**
comp=Z,841nm,1.2s
FUR *e*S **S 06 22 24.1 -2.8**
LOF Lofoten 83.75 338 *e*P **P 06 12 05.7 -0.9**
KONS Konsvik 83.76 336 *e*P **P 06 12 06.3 -0.4**
STOK Stokkvaagen 83.79 336 *e*P **P 06 12 06.1 -0.8**
GRF Grafenberg Arr 83.81 319 *e*P **P 06 12 08.1 +0.7**
comp=Z,1µm,1.2s
GRF *e*S **S 06 22 26.4 -1.2**
GRF *e*L L 06 56 59.5
comp=Z,41µm,19.2s
GRFO Grafenberg 83.81 319 *e*P **P 06 12 08.0 +0.6**
GRFO *e*S **S 06 22 27.9 +0.3**
GRFO pmax pmax
comp=Z,874nm,1.2s
GRFO MLR MLR
comp=Z,39µm,18.0s
GRFO Grafenberg 83.81 319 *e*P **P 06 12 08.0 +0.6**
comp=Z,874nm,1.2s
GRFO *e*S **S 06 22 27.9 +0.3**
GRFO LR LR
comp=Z,39µm,18.0s
MOTA Moosalm 83.83 317⇑ *i*P **P 06 12 07.1 -0.7**
comp=Z,287nm,1.2s,SNR=129
SNZO South Karori 83.97 132 *e*P **P 06 12 07.3 -1.0**
comp=Z,237nm,0.8s
SNZO LR LR
comp=Z,171µm,22.0s
NC602 NORSAR Array S 84.06 331⇑ *i*P **P 06 12 07.9 -0.5**
NC602 IVMs_BB IVMs_BB 06 46 60.0
comp=Z,19µm,27.2s
RETA Reutte 84.07 317 *i* P **P 06 12 08.7 -0.2**
comp=Z,2µm,2.5s,SNR=148
FETA Feichten 84.08 317 *i* P **P 06 12 09.1 0.0**
comp=Z,2µm,3.0s,SNR=108
NSS Namsos 84.09 334⇑ *i*P **P 06 12 07.9 -0.6**
NSS IAMs_20 IAMs_20 06 54 45.3
comp=Z,148µm,21.7s
NSS IVMs_BB IVMs_BB 06 55 00.3
comp=Z,43µm,22.8s
COVZ Chateau Observ 84.24 130 PN **P 06 12 09.7 -0.3**
NB2 NORSAR Subarra 84.24 331 P **P 06 12 08.7 -0.7**
comp=Z,717nm,1.1s,baz=90,slow=5.3
NB2 NORSAR Subarra 84.24 331 P **P 06 12 08.7 -0.7**
baz=90,slow=5.3
NOA NORSAR Array B 84.24 331 P **P 06 12 08.6 -0.8**
comp=Z,64nm,0.9s,baz=93,slow=5.4,SNR=81
NOA PP PP 06 15 31.0 +6.9
comp=Z,25nm,0.7s,baz=100,slow=5.6,SNR=3.3
NOA PKKPbc PKKPbc 06 30 30.4 +5.6
comp=Z,2.6nm,0.8s,baz=281,slow=2.1,SNR=6.9
NOA LR LR 06 53 16.3
comp=Z,49µm,21.5s,baz=110,slow=38
HSP Hornsund 84.24 347 *e*P **P 06 12 08.4 -0.6**
HSPB Hornsund (broa 84.24 347⇓ *i*P **P 06 12 08.3 -0.7**
HSPB IVMs_BB IVMs_BB 06 48 15.2
comp=Z,40µm,28.2s
SPA0 Spitsbergen Ar 84.25 348⇑ *i*P **P 06 12 08.4 -0.7**
SPA0 IVMs_BB IVMs_BB 06 51 09.5
comp=Z,36µm,26.3s
SPITS Spitsbergen Ar 84.25 348 P **P 06 12 08.4 -0.7**
comp=Z,394nm,0.8s,baz=101,slow=12,SNR=84
SPITS S **S 06 22 26.1 -4.9**
comp=Z,13nm,1.1s,baz=131,slow=20,SNR=1.7
SPITS LR LR 06 55 36.5
comp=Z,89µm,21.1s,baz=115,slow=40
FWVZ Far West T-bar 84.25 130 PN **P 06 12 09.5 -0.7**
TRVZ Turoa 84.26 130 PN **P 06 12 09.4 -0.7**
WHVZ Whangaehu Hut 84.29 130 PN **P 06 12 10.1 -0.2**
VLC Villacollemand 84.29 314 *e*P **P 06 12 09.3 -0.8**
comp=Z,92nm,1.0s
VLC *e*PP PP 06 15 33.1 +8.1
VLC *e*S **S 06 22 32.3 -0.4**
VLC LR LR
comp=Z,91µm,22.0s
WNVZ Wahianoa 84.30 130 PN **P 06 12 10.0 -0.3**
RATZ Rangitukua 84.36 129 PN **P 06 12 10.7 +0.2**
NAO01 NORSAR Array S 84.39 331 *e*P **P 06 12 09.6 -0.6**
comp=Z,502nm,1.1s
FUORN Ofenpass-Fuorn 84.40 316 *e*P **P 06 12 11.2 +0.4**
comp=Z,1µm,1.0s
FUORN LR LR
comp=Z,38µm,20.0s
CLZ Clausthal 84.40 322 *e*P **P 06 12 10.7 +0.3**
comp=Z,580nm,1.0s
CLZ *e*S **S 06 22 33.8 +0.3**
NBO02 NORSAR Array S 84.41 331 *e*P **P 06 12 09.2 -1.0**
OSL Oslo 84.43 330 *e*P **P 06 12 10.5 +0.2**
BSEG Bad Segeberg 84.47 324 *e*P **P 06 12 11.2 +0.6**
BSEG *e*S **S 06 22 35.3 +1.3**
MRZ Mangatainoka R 84.51 131 PN **P 06 12 10.5 -0.6**
TGRZ Tauranga 84.56 128 PN **P 06 12 12.0 +0.6**
NRDL Niedersach Rie 84.57 322 *e*P **P 06 12 11.8 +0.7**
comp=Z,1µm,1.6s
UBBA Unterbreizbach 84.61 321 *e*P **P 06 12 11.8 +0.5**
comp=Z,460nm,1.7s
DAVA Damuels 84.66 317 *i* P **P 06 12 12.1 +0.1**
comp=Z,2µm,2.6s,SNR=154
TRWZ Traveller 84.71 132 PN **P 06 12 12.2 +0.1**
TBLU Trondheim 84.78 333⇑ *i*P **P 06 12 11.1 -0.9**
TBLU IVMs_BB IVMs_BB 06 52 26.9
comp=Z,38µm,26.4s
PNHZ Pukenui 84.86 130 PN **P 06 12 12.5 -0.5**
BKZ Black Stump Fm 84.96 130 PN **P 06 12 12.5 -1.0**
BKZ Black Stump Fm 84.96 130 *e*P **P 06 12 12.9 -0.6**
comp=Z,565nm,0.9s
BKZ LR LR
comp=Z,281µm,22.0s
KONO Kongsberg 84.99 329⇑ *i*P **P 06 12 13.1 -0.1**
KONO *e*S **S 06 22 38.4 -0.6**
KONO IAMs_20 IAMs_20 06 52 05.7
comp=Z,88µm,22.0s
KONO IVMs_BB IVMs_BB 06 52 21.0
comp=Z,24µm,23.2s
KONO Kongsberg 84.99 329 *e*P **P 06 12 12.9 -0.2**
KONO pmax pmax
comp=Z,2µm,1.5s
KONO MLR MLR
comp=Z,77µm,21.0s
KONO Kongsberg 84.99 329 *e*P **P 06 12 12.9 -0.2**
comp=Z,2µm,1.5s
KONO LR LR
comp=Z,77µm,21.0s
BFZ Birch Farm 85.01 131 PN **P 06 12 13.3 -0.3**
BFZ Birch Farm 85.01 131 *e*P **P 06 12 14.1 +0.5**
comp=Z,1µm,1.5s
BFZ LR LR
comp=Z,225µm,22.0s
TUE Stuetta 85.03 316 *e*P **P 06 12 13.6 -0.3**
comp=Z,731nm,0.8s
TUE LR LR
comp=Z,48µm,20.0s
VSL Villasalto 85.06 309 *e*P **P 06 12 13.7 -0.3**
comp=Z,314nm,0.9s
VSL *e*S **S 06 22 42.8 +2.3**
VSL LR LR
comp=Z,31µm,21.0s
STU Stuttgart 85.13 318 *e*P **P 06 12 14.2 +0.1**
comp=Z,1µm,1.7s
STU *e*S **S 06 22 44.3 +3.6**
STU Stuttgart 85.13 318 *e*P **P 06 12 14.1 0.0**
STU pmax pmax
comp=Z,234nm,0.8s
STU MLR MLR
comp=Z,53µm,22.0s
STU Stuttgart 85.13 318 *e*P **P 06 12 14.1 0.0**
comp=Z,234nm,0.8s
STU LR LR
comp=Z,53µm,22.0s
KEST Kesra 85.15 305 P **P 06 12 15.7 +1.1**
comp=Z,27nm,0.7s,baz=87,slow=0.9,SNR=109
KEST PKKP **PKKPdf 06 30 12.1 -2.0**
comp=Z,2.7nm,1.1s,baz=67,slow=11,SNR=3.6
KEST LR LR 06 53 21.0
comp=Z,19µm,21.8s,baz=59,slow=38
MUD Monsted U'grnd 85.17 326⇑ *i*P **P 06 12 15.0 +0.9**
comp=Z,872nm,1.2s
MUD Monsted U'grnd 85.17 326 *i* S **S 06 22 40.2 -0.6**
comp=Z,75µm,26.0s
MUD Monsted U'grnd 85.17 326⇑ *i*P **P 06 12 15.0 +0.9**
MUD *i* S **S 06 22 40.2 -0.6**
MUD pmax pmax
comp=Z,870nm,1.2s
MUD MLR MLR
comp=Z,75µm,26.0s
KBS Kingsbay 85.22 349⇑ *i*P **P 06 12 12.8 -1.2**
KBS *e*S **S 06 22 39.9 -0.7**
KBS IAMs_20 IAMs_20 06 56 31.5
comp=Z,142µm,20.1s
KBS IVMs_BB IVMs_BB 06 56 45.9
comp=Z,44µm,20.8s
KBS Kingsbay 85.22 349 *e*P **P 06 12 12.8 -1.2**
KBS pmax pmax
comp=Z,80nm,0.9s
KBS MLR MLR
comp=Z,135µm,21.0s
KBS Kingsbay 85.22 349 *e*P **P 06 12 12.8 -1.2**
comp=Z,80nm,0.9s
KBS LR LR
comp=Z,135µm,21.0s
URZ Urewera 85.30 129 P **P 06 12 13.9 -1.3**
comp=Z,215nm,0.9s,baz=255,slow=5.8
URZ S S 06 22 36.0 -6.8
comp=Z,2.1nm,0.4s,baz=233,slow=20,SNR=3.4
URZ Urewera 85.30 129 PN **P 06 12 13.7 -1.4**
URZ Urewera 85.30 129 P **P 06 12 13.8 -1.3**
comp=Z,143nm,1.0s
URZ S S 06 22 36.0 -6.8
URZ LR LR
comp=Z,209µm,21.0s
PGF Pioggiola 85.31 312⇑ *i*P **P 06 12 15.4 +0.1**
comp=Z,2µm,1.5s
PGF Pioggiola 85.31 312⇑ *i*P **P 06 12 15.4 +0.1**
PGF pmax pmax
comp=Z,2µm,1.5s
PGF Pioggiola 85.31 312⇑ *i*P **P 06 12 15.4 +0.1**
comp=Z,2µm,1.5s
ADK Adak 85.41 38 *e*P **P 06 12 14.2 -1.2**
ADK pmax pmax
comp=Z,1µm,1.2s
ADK MLR MLR
comp=Z,51µm,22.0s
ADK Adak 85.41 38 *e*P **P 06 12 14.2 -1.2**
comp=Z,1µm,1.2s
ADK LR LR
comp=Z,51µm,22.0s
HOMB Homborsund 85.54 328⇑ *i*P **P 06 12 16.0 +0.1**
HOMB IVMs_BB IVMs_BB 06 49 36.1
comp=Z,23µm,29.3s
TNS Taunus Mts 85.61 320 *e*P **P 06 12 16.9 +0.4**
comp=Z,621nm,1.4s
TNS *e*S **S 06 22 46.8 +1.3**
MWZ Matawai 85.64 129 PN **P 06 12 15.8 -1.1**
BFO Black Forest 85.70 318 P **P 06 12 16.9 -0.1**
comp=Z,1µm,0.8s,SNR=62
BFO Black Forest 85.70 318 *e*P **P 06 12 16.7 -0.3**
comp=Z,403nm,1.1s
BFO *e*S **S 06 22 44.7 -1.8**
BFO Black Forest 85.70 318 *e*P **P 06 12 16.7 -0.3**
BFO pmax pmax
comp=Z,502nm,1.1s
BFO MLR MLR
comp=Z,58µm,21.0s
BFO Black Forest 85.70 318 *e*P **P 06 12 16.7 -0.3**
comp=Z,502nm,1.1s
BFO LR LR
comp=Z,58µm,21.0s
GSTR Great Sitkin T 85.80 38 *e*P **P 06 12 17.6 +0.2**
comp=Z,904nm,1.0s
HLG Helgoland 85.91 324 *e*P **P 06 12 18.5 +0.7**
comp=Z,916nm,1.5s
MOL Molde 86.01 332⇑ *i*P **P 06 12 17.2 -0.9**
MOL *e*S **S 06 22 46.8 -2.0**
MOL IVMs_BB IVMs_BB 06 49 09.4
comp=Z,22µm,28.8s
MOL IAMs_20 IAMs_20 06 57 31.5
comp=Z,76µm,20.9s
IBBN Ibbenburen 86.01 322 *e*P **P 06 12 18.9 +0.5**
comp=Z,1µm,1.2s
IBBN *e*S **S 06 22 46.8 -2.5**
LANF Langenberg 86.04 319⇑ *e*P **P 06 12 19.0 +0.4**
SNART Snartemo 86.23 328⇑ *i*P **P 06 12 19.6 +0.3**
AKN Aaknes 86.27 332⇑ *i*P **P 06 12 19.1 -0.4**

BUG Bochum--Univer 86.33 321 *eP* **P** 06 12 20.4 +0.4
comp=Z,652nm,1.2s
BUG *eS* **S** 06 22 49.2 -3.2
SAOF Saorge 86.33 314⇑ *eP* **P** 06 12 20.6 +0.4
CDF Champ du Feu 86.41 318⇑ *iP* **P** 06 12 20.2 -0.3
comp=Z,829nm,1.3s
CDF Champ du Feu 86.41 318⇑ *iP* **P** 06 12 20.2 -0.3
CDF pmax pmax
comp=Z,829nm,1.3s
CDF Champ du Feu 86.41 318⇑ *iP* **P** 06 12 20.2 -0.3
comp=Z,829nm,1.3s
SBF Sospel 86.42 314⇑ *iP* **P** 06 12 20.8 +0.1
comp=Z,2µm,1.0s
SBF Sospel 86.42 314⇑ *iP* **P** 06 12 20.8 +0.1
SBF pmax pmax
comp=Z,2µm,1.0s
SBF Sospel 86.42 314⇑ *iP* **P** 06 12 20.8 +0.1
comp=Z,2µm,1.0s
AUTN L'Aution 86.42 314⇑ *eP* **P** 06 12 21.2 +0.3
SENIN Lac Senin/Sane 86.45 316 *eP* **P** 06 12 21.1 +0.2
REVF Revere 86.48 313⇑ *eP* **P** 06 12 21.1 +0.2
ECH Echery 86.49 318⇑ *eP* **P** 06 12 20.5 -0.4
ECH Echery 86.49 318 *eP* **P** 06 12 20.4 -0.4
ECH pmax pmax
comp=Z,400nm,1.0s
ECH MLR MLR
comp=Z,49µm,21.0s
ECH Echery 86.49 318 *eP* **P** 06 12 20.4 -0.4
comp=Z,400nm,1.0s
ECH *eS* S 06 23 03.5 +9.3
ECH LR LR
comp=Z,49µm,21.0s
ODD1 Odda 86.50 330⇑ *iP* **P** 06 12 21.0 +0.3
MOF Molkenrain 86.52 318⇑ *eP* **P** 06 12 20.7 -0.4
TOUF Mont Tournerai 86.55 314⇑ *eP* **P** 06 12 21.7 +0.2
BLS5 Blasjo 86.59 329⇑ *iP* **P** 06 12 21.6 +0.5
WTSB Winterswijk 86.61 322 *eP* **P** 06 12 21.6 +0.3
comp=Z,3µm,3.1s
WTSB *epP* **pP** 06 12 31.3 -2.7
MVIF Mont Vial 86.63 314⇑ *eP* **P** 06 12 22.0 +0.2
ABSA Djebel Ababsia 86.65 306 P **P** 06 12 23.3 +1.3
CMAH Djebel Manchou 86.68 306 P **P** 06 12 23.1 +1.0
HYA Hoyanger 86.68 331⇑ *iP* **P** 06 12 21.8 +0.3
HINF Hinteralfeld 86.71 318⇑ *iP* **P** 06 12 21.4 -0.6
comp=Z,289nm,1.0s
HINF Hinteralfeld 86.71 318⇑ *iP* **P** 06 12 21.4 -0.6
HINF pmax pmax
comp=Z,289nm,1.0s
HINF Hinteralfeld 86.71 318⇑ *iP* **P** 06 12 21.4 -0.6
comp=Z,289nm,1.0s
LOMF Lomont 86.74 317⇑ *eP* **P** 06 12 22.0 -0.2
OG22 Abries 86.74 315⇑ *eP* **P** 06 12 21.8 -0.6
CALN Calern 86.82 313⇑ *eP* **P** 06 12 23.4 +0.6
SURF Saint Ours 86.85 314⇑ *eP* **P** 06 12 23.5 +0.5
LPG La Plagne 86.86 315⇑ *iP* **P** 06 12 23.2 +0.1
comp=Z,757nm,0.8s
LPG La Plagne 86.86 315⇑ *iP* **P** 06 12 23.2 +0.1
LPG pmax pmax
comp=Z,757nm,0.8s
LPG La Plagne 86.86 315⇑ *iP* **P** 06 12 23.2 +0.1
comp=Z,757nm,0.8s
LPL La Plagne 86.87 315⇑ *iP* **P** 06 12 23.2 +0.1
comp=Z,1µm,0.9s
LPL La Plagne 86.87 315⇑ *iP* **P** 06 12 23.2 +0.1
LPL pmax pmax
comp=Z,1µm,0.9s
LPL La Plagne 86.87 315⇑ *iP* **P** 06 12 23.2 +0.1
comp=Z,1µm,0.9s
MBDF Montbardon 86.87 314⇑ *iP* **P** 06 12 22.4 -0.6
comp=Z,433nm,0.9s
MBDF Montbardon 86.87 314⇑ *iP* **P** 06 12 22.4 -0.6
MBDF pmax pmax
comp=Z,433nm,0.9s
MBDF Montbardon 86.87 314⇑ *iP* **P** 06 12 22.4 -0.6
comp=Z,433nm,0.9s
OG01 Vacheresse 86.87 316⇑ *eP* **P** 06 12 23.2 +0.3
BNI Bardonecchia 86.92 315 *eP* **P** 06 12 23.0 -0.2
BNI pmax pmax
comp=Z,302nm,0.9s
BNI MLR MLR
comp=Z,50µm,22.0s
BNI Bardonecchia 86.92 315 *eP* **P** 06 12 23.0 -0.2
comp=Z,302nm,0.9s
BNI LR LR
comp=Z,50µm,22.0s
RSL Roselend 86.94 315⇑ *eP* **P** 06 12 23.4 +0.1
FRF La Foret Royal 87.00 313⇑ *iP* **P** 06 12 23.8 +0.3
comp=Z,2µm,1.4s
FRF La Foret Royal 87.00 313⇑ *iP* **P** 06 12 23.8 +0.3
FRF pmax pmax
comp=Z,2µm,1.4s
FRF La Foret Royal 87.00 313⇑ *iP* **P** 06 12 23.8 +0.3
comp=Z,2µm,1.4s
HAU Haudompre 87.04 318⇑ *iP* **P** 06 12 23.3 -0.3
comp=Z,2µm,1.1s
HAU *eR*
comp=Z,53µm,20.0s
HAU Haudompre 87.04 318⇑ *iP* **P** 06 12 23.3 -0.3
HAU pmax pmax
comp=Z,2µm,1.1s
HAU Haudompre 87.04 318⇑ *iP* **P** 06 12 23.3 -0.3
comp=Z,2µm,1.1s
WLF Walferdange 87.10 319 P **P** 06 12 24.3 +0.5
comp=Z,455nm,1.8s
WLF Walferdange 87.10 319 *eP* **P** 06 12 24.5 +0.7
comp=Z,877nm,1.4s
WLF *eS* **S** 06 22 57.1 -2.9
WLF Walferdange 87.10 319 *eP* **P** 06 12 24.3 +0.5
WLF *eS* **S** 06 22 55.6 -4.4
WLF pmax pmax
comp=Z,497nm,1.1s
WLF MLR MLR
comp=Z,53µm,22.0s
WLF Walferdange 87.10 319 *eP* **P** 06 12 24.3 +0.5
comp=Z,496nm,1.1s
WLF *eS* **S** 06 22 55.6 -4.4
WLF LR LR
comp=Z,53µm,22.0s
RUND Rundenannen 87.11 330 *eP* **P** 06 12 23.2 -0.4
LMR La Mourre 87.11 313⇑ *iP* **P** 06 12 24.3 +0.3
comp=Z,710nm,1.2s
LMR La Mourre 87.11 313⇑ *iP* **P** 06 12 24.3 +0.3
LMR pmax pmax
comp=Z,710nm,1.2s
LMR La Mourre 87.11 313⇑ *iP* **P** 06 12 24.3 +0.3
comp=Z,710nm,1.2s
BER Bergen 87.13 330⇑ *iP* **P** 06 12 23.8 +0.2
BER *e* 06 22 58.3
BER *eSS* SS 06 28 48.4 +4.9
BER IVMs_BB IVMs_BB 06 48 20.1
comp=Z,20µm,38.7s
CAEH 'Ain El Ouahch 87.13 307 P **P** 06 12 24.7 +0.4
MEM Membach 87.16 320 P **P** 06 12 24.1 +0.1
comp=Z,272nm,1.2s
MEM Membach 87.16 320 *eP* **P** 06 12 24.3 +0.3
MEM pmax pmax
comp=Z,455nm,1.0s
MEM Membach 87.16 320 *eP* **P** 06 12 24.3 +0.3
comp=Z,455nm,1.0s
ASK Askoy 87.19 330⇑ *iP* **P** 06 12 24.0 0.0
HGN Heimansgroeve 87.20 321 *eP* **P** 06 12 23.9 -0.3
comp=Z,687nm,1.9s
HGN *epP* **pP** 06 12 34.0 -3.0
HGN *ePP* PP 06 16 01.5 +13
HGN *eSKS* SKSac 06 22 33.4 -15
HGN *eS* **ScS** 06 23 13.5 +5.4
HGN *eSS* SS 06 28 58.1 +13
FOO Floro 87.21 331⇑ *iP* **P** 06 12 24.5 +0.5
FOO IVMs_BB IVMs_BB 06 53 18.2
comp=Z,8µm,25.0s
FOO IAMs_20 IAMs_20 06 53 28.8
comp=Z,28µm,20.6s
KMY Karmoy 87.22 329⇑ *iP* **P** 06 12 24.0 -0.1
CKFL Kef-Lekhel 87.25 306 P **P** 06 12 26.0 +1.0
THEF They Montfort 87.27 318⇑ *eP* **P** 06 12 24.5 -0.2
CABF La Chapelle 87.27 316⇑ *iP* **P** 06 12 25.0 +0.2
comp=Z,2µm,1.0s
CABF La Chapelle 87.27 316⇑ *iP* **P** 06 12 25.0 +0.2
CABF pmax pmax
comp=Z,2µm,1.0s
CABF La Chapelle 87.27 316⇑ *iP* **P** 06 12 25.0 +0.2
comp=Z,2µm,1.0s
GDM Grand'Maison 87.32 315⇑ *eP* **P** 06 12 25.3 +0.1
BEBN Eben Emael 87.36 321 P **P** 06 12 25.1 +0.2
comp=Z,124nm,1.4s

SUE Sulen 87.38 331⇑ *iP* **P** 06 12 24.7 -0.1
SUE IVMs_BB IVMs_BB 06 54 48.3
comp=Z,18µm,19.6s
SUE IAMs_20 IAMs_20 06 54 53.9
comp=Z,56µm,19.5s
PAGF Fort de Pagny 87.43 318⇑ *iP* **P** 06 12 25.5 +0.1
comp=Z,138nm,1.1s,baz=94
PAGF Fort de Pagny 87.43 318⇑ *iP* **P** 06 12 25.5 +0.1
comp=Z,138nm,1.1s
CASM Ain Smara 87.44 306 P **P** 06 12 26.9 +1.1
ORIF Oris-en-Rattie 87.50 315⇑ *iP* **P** 06 12 26.3 +0.4
comp=Z,640nm,1.0s
ORIF *eR*
comp=Z,95µm,22.5s
ORIF Oris-en-Rattie 87.50 315⇑ *iP* **P** 06 12 26.3 +0.4
ORIF pmax pmax
comp=Z,640nm,1.0s
ORIF Oris-en-Rattie 87.50 315⇑ *iP* **P** 06 12 26.3 +0.4
comp=Z,640nm,1.0s
CTEI Djebel Teioual 87.52 306 P **P** 06 12 27.6 +1.3
GRN Grenoble 87.58 315⇑ *eP* **P** 06 12 27.0 +0.7
BCLA Clavier 87.61 320 P **P** 06 12 26.4 +0.1
comp=Z,246nm,1.7s
GAMB Gambell 87.69 26 *eP* **P** 06 12 25.8 -0.5
comp=Z,692nm,1.2s
GAMB LR LR
comp=Z,137µm,19.0s
SMRF Simiane la Rot 87.76 314⇑ *iP* **P** 06 12 28.0 +0.8
comp=Z,697nm,1.1s
SMRF Simiane la Rot 87.76 314⇑ *iP* **P** 06 12 28.0 +0.8
comp=Z,697nm,1.1s
MEZF Maizieres J'vi 87.88 318⇑ *iP* **P** 06 12 27.8 +0.2
comp=Z,853nm,1.1s,baz=85
MEZF Maizieres J'vi 87.88 318⇑ *iP* **P** 06 12 27.8 +0.2
comp=Z,853nm,1.1s
SFTF Sexfontaines 87.91 318⇑ *iP* **P** 06 12 27.7 0.0
comp=Z,1µm,1.0s,baz=94
SFTF Sexfontaines 87.91 318⇑ *iP* **P** 06 12 27.7 0.0
comp=Z,1µm,1.0s
DFRA Djebel Bou Aff 87.92 306 P **P** 06 12 29.8 +1.6
GIVF Givet 87.94 320⇑ *iP* **P** 06 12 28.1 +0.3
comp=Z,821nm,1.2s
GIVF Givet 87.94 320⇑ *iP* **P** 06 12 28.1 +0.3
GIVF pmax pmax
comp=Z,821nm,1.2s
GIVF Givet 87.94 320⇑ *iP* **P** 06 12 28.1 +0.3
comp=Z,821nm,1.2s
DOU Dourbes 88.09 320 P **P** 06 12 28.8 +0.3
comp=Z,239nm,1.8s
UCC Uccle 88.19 321 P **P** 06 12 29.1 +0.1
UCC Uccle 88.19 321 *eP* **P** 06 12 29.7 +0.7
UCC pmax pmax
comp=Z,705nm,1.6s
UCC MLR MLR
comp=Z,52µm,21.0s
UCC Uccle 88.19 321 *eP* **P** 06 12 29.6 +0.7
comp=Z,705nm,1.6s
UCC LR LR
comp=Z,52µm,21.0s
CKHR Kef el Ahmar 88.25 306 P **P** 06 12 30.9 +1.1
SNF Seneffe 88.26 320 P **P** 06 12 29.6 +0.4
SET Setif 88.33 306 P **P** 06 12 31.0 +0.9
BAIF Baives 88.34 320⇑ *iP* **P** 06 12 30.2 +0.5
comp=Z,1µm,1.1s
BAIF Baives 88.34 320⇑ *iP* **P** 06 12 30.2 +0.5
BAIF pmax pmax
comp=Z,1µm,1.1s
BAIF Baives 88.34 320⇑ *iP* **P** 06 12 30.2 +0.5
comp=Z,1µm,1.1s
VIVF Saint-Julien-l 88.36 315⇑ *iP* **P** 06 12 30.2 +0.2
comp=Z,971nm,1.3s
VIVF Saint-Julien-l 88.36 315⇑ *iP* **P** 06 12 30.2 +0.2
VIVF pmax pmax
comp=Z,971nm,1.3s
VIVF Saint-Julien-l 88.36 315⇑ *iP* **P** 06 12 30.2 +0.2
comp=Z,971nm,1.3s
RAO Raoul Island 88.36 119 PFAKE 06 12 40.0 +10
RAO LR LR
comp=Z,75nm,21.0s
SSB Saint Sauveur 88.42 315⇑ *eP* **P** 06 12 30.6 +0.3
SSB Saint Sauveur 88.42 315 *eP* **P** 06 12 30.4 +0.1
SSB *eS* **S** 06 23 07.5 -5.4
SSB pmax pmax
comp=Z,864nm,1.4s
SSB MLR MLR
comp=Z,20µm,20.0s
SSB Saint Sauveur 88.42 315 *eP* **P** 06 12 30.4 +0.1
comp=Z,864nm,1.4s
SSB *ePP* PP 06 15 44.3 -14
SSB *eS* **S** 06 23 07.5 -5.4
SSB LR LR
comp=Z,20µm,20.0s
VNDA Vanda 88.52 169 P **P** 06 12 30.5 +0.5
comp=Z,17nm,0.8s,baz=298,slow=4.9,SNR=88
VNDA S **SKSac** 06 22 59.3 +4.0
comp=Z,1.7nm,0.9s,baz=119,slow=18,SNR=2.2
VNDA PKKPbc **PKKPdf** 06 30 12.1 +2.6
comp=Z,8.0nm,1.0s,baz=274,slow=1.5,SNR=7.1
VNDA PKPPKP **P'P'df** 06 38 17.2 -1.6
comp=Z,7.1nm,1.1s,baz=96,slow=1.4,SNR=9.4
VNDA LR LR 06 49 29.1
comp=Z,187µm,18.2s,baz=300,slow=34
VNDA Vanda 88.52 169 *eP* **P** 06 12 30.1 +0.1
VNDA S **SKSac** 06 22 59.3 +4.0
VNDA pmax pmax
comp=Z,528nm,1.5s
VNDA Vanda 88.52 169 *eP* **P** 06 12 30.1 +0.1
comp=Z,528nm,1.5s
VNDA S **SKSac** 06 22 59.3 +4.0
VNDA PKKPbc **PKKPdf** 06 30 12.1 +2.6
VNDA *ePP'df* P'P'df 06 38 12.2 -6.6
VNDA P'P' 06 38 17.2
LOR Lormes 88.76 317⇑ *iP* **P** 06 12 31.9 +0.1
comp=Z,2µm,1.2s,baz=91
LOR *eR*
comp=Z,73nm,21.2s
LOR Lormes 88.76 317⇑ *iP* **P** 06 12 31.9 +0.1
LOR pmax pmax
comp=Z,2µm,1.2s
LOR Lormes 88.76 317⇑ *iP* **P** 06 12 31.9 +0.1
comp=Z,2µm,1.2s
SMF Signal de Mont 88.82 316⇑ *iP* **P** 06 12 32.1 0.0
comp=Z,705nm,0.8s
SMF Signal de Mont 88.82 316⇑ *iP* **P** 06 12 32.1 0.0
SMF pmax pmax
comp=Z,705nm,0.8s
SMF Signal de Mont 88.82 316⇑ *iP* **P** 06 12 32.1 0.0
comp=Z,705nm,0.8s
LASF Ste Croix 88.99 314⇑ *iP* **P** 06 12 33.6 +0.6
comp=Z,1µm,1.4s
LASF Ste Croix 88.99 314⇑ *iP* **P** 06 12 33.6 +0.6
comp=Z,1µm,1.4s
COLF Collangettes 89.00 315⇑ *eP* **P** 06 12 33.5 +0.5
SSF Saint Saulge 89.02 317⇑ *iP* **P** 06 12 33.3 +0.3
comp=Z,1µm,1.4s
SSF Saint Saulge 89.02 317⇑ *iP* **P** 06 12 33.3 +0.3
SSF pmax pmax
comp=Z,1µm,1.4s
SSF Saint Saulge 89.02 317⇑ *iP* **P** 06 12 33.3 +0.3
comp=Z,1µm,1.4s
PLDF La Plantade 89.02 316⇑ *eP* **P** 06 12 34.7 +1.6
TAM Tamanrasset 89.04 293 *eP* **P** 06 12 35.4 +1.6
TAM *e* 06 16 08.8
TAM pmax pmax
comp=Z,925nm,1.5s
TAM MLR MLR
comp=Z,116µm,21.0s
TAM Tamanrasset 89.04 293 *eP* **P** 06 12 35.4 +1.6
comp=Z,925nm,1.5s
TAM *ePP* **PP** 06 16 08.8 +4.7
TAM *eS* SKSac 06 22 23.4 -37
TAM LR LR
comp=Z,116µm,21.0s
TNA Tin City 89.14 24 *eP* **P** 06 12 32.4 -0.7
comp=Z,589nm,0.6s
TNA *ePP* **PP** 06 16 00.1 -3.3
AVF Avril sur Loir 89.14 317⇑ *iP* **P** 06 12 33.7 +0.2
comp=Z,1µm,1.3s
AVF Avril sur Loir 89.14 317⇑ *iP* **P** 06 12 33.7 +0.2
AVF pmax pmax
comp=Z,1µm,1.3s
AVF Avril sur Loir 89.14 317⇑ *iP* **P** 06 12 33.7 +0.2
comp=Z,1µm,1.3s
LBL Lubilhac 89.34 315⇑ *eP* **P** 06 12 36.5 +1.9
AGO Saint Agoulin 89.35 316⇑ *eP* **P** 06 12 36.3 +1.7
PYM Petit Puy Mans 89.46 316⇑ *eP* **P** 06 12 36.9 +1.7

AKET Djebel Ketaf 89.56 306 P **P** 06 12 38.1 +2.1
HYF Humbligny 89.59 317⇑ *iP* **P** 06 12 36.4 +0.7
HYF Humbligny 89.59 317⇑ *iP* **P** 06 12 36.4 +0.7
MENF Mencas 89.61 320⇑ *eP* **P** 06 12 36.2 +0.6
SBA Scott Base 89.62 168 *eP* **P** 06 12 36.2 +1.1
SBA *eS* S 06 23 14.7 -8.1
SBA MLR MLR
comp=Z,128µm,19.0s
SBA Scott Base 89.62 168 *eP* **P** 06 12 36.2 +1.1
comp=Z,13nm,1.5s
SBA *eS* S 06 23 14.7 -8.1
SBA LR LR
comp=Z,128µm,19.0s
SJAF Saint Jean de 89.83 312⇑ *eP* **P** 06 12 37.1 +0.2
ADJB Djebel Djouab 89.91 306 P **P** 06 12 39.2 +1.6
TCF Toulx Ste Croi 89.97 316⇑ *iP* **P** 06 12 38.2 +0.7
comp=Z,1µm,1.5s
TCF Toulx Ste Croi 89.97 316⇑ *iP* **P** 06 12 38.2 +0.7
TCF pmax pmax
comp=Z,1µm,1.5s
TCF Toulx Ste Croi 89.97 316⇑ *iP* **P** 06 12 38.2 +0.7
comp=Z,1µm,1.5s
LRDF Laroque-de-Fa 90.04 313⇑ *eP* **P** 06 12 38.7 +0.8
FILF Fillols 90.06 312⇑ *eP* **P** 06 12 39.2 +1.2
NIKH Nikolski High 90.13 37 *eP* **P** 06 12 37.3 -0.8
comp=Z,622nm,0.9s
ABA Alger-Bouzarea 90.19 307 P P 06 12 46.2 +7.5
ELSH Elham, Standar 90.19 321⇑ *eP* **P** 06 12 38.5 +0.1
CAF Calviac 90.20 315⇑ *iP* **P** 06 12 39.4 +0.8
comp=Z,1µm,1.4s
CAF Calviac 90.20 315⇑ *iP* **P** 06 12 39.4 +0.8
CAF pmax pmax
comp=Z,1µm,1.4s
CAF Calviac 90.20 315⇑ *iP* **P** 06 12 39.4 +0.8
comp=Z,1µm,1.4s
MTLF Montolieu 90.24 313⇑ *iP* **P** 06 12 39.5 +0.7
comp=Z,2µm,1.7s
MTLF Montolieu 90.24 313⇑ *iP* **P** 06 12 39.5 +0.7
MTLF pmax pmax
comp=Z,2µm,1.7s
MTLF Montolieu 90.24 313⇑ *iP* **P** 06 12 39.5 +0.7
comp=Z,2µm,1.7s
CARF Carcanieres 90.38 313⇑ *eP* **P** 06 12 40.3 +0.7
LRW Lerwick 90.38 330⇑ *eP* **P** 06 12 39.5 +0.5
LRW *e* 06 16 15.9
LRW AMS AMS 06 55 06.2
comp=Z,60µm,25.1s
RJF Les Rejaudoux 90.55 315⇑ *iP* **P** 06 12 41.1 +0.9
comp=Z,3µm,1.9s
RJF *eR*
comp=Z,42µm,20.8s
RJF Les Rejaudoux 90.55 315⇑ *iP* **P** 06 12 41.1 +0.9
RJF pmax pmax
comp=Z,3µm,1.9s
RJF Les Rejaudoux 90.55 315⇑ *iP* **P** 06 12 41.1 +0.9
comp=Z,3µm,1.9s
HMNX Herstmonceux 90.73 321⇑ *eP* **P** 06 12 41.6 +0.8
HMNX *e* 06 16 22.1
HMNX AMS AMS 07 02 40.8
comp=Z,53µm,20.3s
LMK Market Rasen 90.81 324⇑ *eP* **P** 06 12 41.8 +0.6
LMK AMB AMB 06 12 43.6
comp=Z,1µm,2.8s
LMK AMS AMS 06 58 44.8
comp=Z,45µm,22.4s
SALF Salau 91.05 313⇑ *eP* **P** 06 12 42.7 +0.1
MLS Moulis 91.09 313⇑ *eP* **P** 06 12 43.0 +0.2
LFF La Frestale 91.13 315⇑ *iP* **P** 06 12 44.0 +1.1
comp=Z,1µm,1.2s
LFF La Frestale 91.13 315⇑ *iP* **P** 06 12 44.0 +1.1
LFF pmax pmax
comp=Z,1µm,1.2s
LFF La Frestale 91.13 315⇑ *iP* **P** 06 12 44.0 +1.1
comp=Z,1µm,1.2s
JMIC Jan Mayen 91.20 341 *eP* **P** 06 12 43.5 +0.9
JMIC Jan Mayen 91.20 341 P **P** 06 12 42.4 -0.2
comp=Z,64nm,0.3s,baz=137,slow=12,SNR=3.4
LDF La Druitiere 91.30 319⇑ *iP* **P** 06 12 43.9 +0.3
comp=Z,1µm,1.1s
LDF La Druitiere 91.30 319⇑ *iP* **P** 06 12 43.9 +0.3
LDF pmax pmax
comp=Z,1µm,1.1s
LDF La Druitiere 91.30 319⇑ *iP* **P** 06 12 43.9 +0.3
comp=Z,1µm,1.1s
SKP1 Kophill 91.33 322 *eP* **P** 06 12 42.8 -0.8
MELF Melles 91.35 313⇑ *eP* **P** 06 12 44.3 +0.2
UNV Unalaska Valle 91.42 36 *eP* **P** 06 12 42.1 -1.8
comp=Z,109nm,0.8s
EBNR Beni Rached 91.44 306 P **P** 06 12 46.2 +1.6
HPK Haverah Park 91.51 324⇑ *eP* **P** 06 12 44.9 +0.5
HPK *e* 06 16 33.4
HPK AMS AMS 07 01 23.0
comp=Z,43µm,20.0s
FLN La Foliniere 91.51 319⇑ *iP* **P** 06 12 44.9 +0.4
comp=Z,2µm,1.1s,baz=81
FLN *eR*
comp=Z,70µm,23.0s
FLN La Foliniere 91.51 319⇑ *iP* **P** 06 12 44.9 +0.4
FLN pmax pmax
comp=Z,2µm,1.1s
FLN La Foliniere 91.51 319⇑ *iP* **P** 06 12 44.9 +0.4
comp=Z,2µm,1.1s
DRUM Mains of Drumt 91.55 327⇑ *eP* **P** 06 12 44.3 -0.2
DRUM *e* 06 16 34.0
DRUM AMS AMS 06 54 23.9
comp=Z,62µm,26.3s
MFF Saint Martin d 91.56 317⇑ *iP* **P** 06 12 45.3 +0.5
comp=Z,2µm,1.4s
MFF Saint Martin d 91.56 317⇑ *iP* **P** 06 12 45.3 +0.5
MFF pmax pmax
comp=Z,2µm,1.4s
MFF Saint Martin d 91.56 317⇑ *iP* **P** 06 12 45.3 +0.5
comp=Z,2µm,1.4s
NVL N'lazarevskaya 91.58 199⇓ *iP* **P** 06 12 44.7 +0.4
NVL *e*PP **pP** 06 12 55.4 -1.8
NVL *e* 06 16 25.8
NVL pmax pmax
comp=Z,221nm,0.9s
ECHA Ech Chlef 91.58 306 P **P** 06 12 46.9 +1.7
EPF Esparros 91.64 313⇑ *iP* **P** 06 12 45.5 +0.1
comp=Z,831nm,1.6s
EPF Esparros 91.64 313⇑ *iP* **P** 06 12 45.5 +0.1
EPF pmax pmax
comp=Z,831nm,1.6s
EPF Esparros 91.64 313⇑ *iP* **P** 06 12 45.5 +0.1
comp=Z,831nm,1.6s
WOL Wolverton 91.64 321⇑ *eP* **P** 06 12 45.7 +0.6
WOL AMB AMB 06 12 47.5
comp=Z,706nm,2.8s
WOL *e* 06 16 35.6
WOL AMS AMS 06 59 02.0
comp=Z,47µm,23.6s
ETRT Tiaret 91.71 305 P **P** 06 12 47.7 +1.7
ESY Stoneypath 91.78 326⇑ *eP* **P** 06 12 45.5 -0.1
MLA1 Latheron 91.78 329 *i P* **P** 06 12 46.0 +0.4
AKUT Akutan 91.80 36 *eP* **P** 06 12 44.7 -1.1
GRR Gorron 91.81 319⇑ *iP* **P** 06 12 46.5 +0.6
comp=Z,2µm,1.2s
GRR Gorron 91.81 319⇑ *iP* **P** 06 12 46.5 +0.6
GRR pmax pmax
comp=Z,2µm,1.2s
GRR Gorron 91.81 319⇑ *iP* **P** 06 12 46.5 +0.6
comp=Z,2µm,1.2s
EANR 'Ain N'Sour 91.82 306 P **P** 06 12 48.4 +2.0
LABF Labassere 91.83 313⇑ *eP* **P** 06 12 46.6 +0.4
MCD Coleburn Disti 91.85 328⇑ *iP* **P** 06 12 46.1 +0.2
VIEF Viey 91.88 313⇑ *eP* **P** 06 12 47.7 +1.2
EDU Dundee 91.89 327⇑ *eP* **P** 06 12 45.6 -0.5
DAG Danmarks Havn 91.89 348⇑ *iP* **P** 06 12 44.7 -1.0
comp=Z,763nm,1.6s
comp=Z,156µm,30.0s
DAG Danmarks Havn 91.89 348⇑ *iP* **P** 06 12 44.7 -1.0
DAG pmax pmax
comp=Z,2µm,1.6s
SSW Stow on the Wo 91.94 322 *eP* **P** 06 12 46.2 -0.3
SWN1 Swindon 91.97 322⇑ *eP* **P** 06 12 47.3 +0.7
SWN1 AMB AMB 06 12 49.0
comp=Z,515nm,2.8s
SWN1 *e* 06 16 38.1
SWN1 AMS AMS 07 02 56.9
comp=Z,48µm,18.2s
BIGH Upper Bighouse 92.03 329⇑ *eP* **P** 06 12 47.2 +0.5
EBL Broad Law 92.04 326⇑ *eP* **P** 06 12 47.0 +0.1
EDI Edinburgh 92.09 326 AMS AMS 06 56 45.1
comp=Z,52µm,23.4s

EDI Edinburgh 92.09 326 PFAKE 06 13 00.0 +13
EDI LR LR
comp=Z,21µm,19.0s
OJGS Djebel Guires 92.15 306 P P 06 12 51.0 +3.1
STRD Stroud 92.16 322⇑ *e*P P 06 12 47.8 +0.3
STRD AMB AMB 06 12 57.4
comp=Z,446nm,2.0s
STRD *e* 06 16 39.3
STRD AMS AMS 07 04 38.7
comp=Z,46µm,18.0s
REYF Montagne du Re 92.16 313⇑ *e*P P 06 12 48.8 +1.0
EKA Eskdalemuir Ar 92.18 326 P P 06 12 47.8 +0.3
comp=Z,58nm,0.9s,baz=94,slow=6.7,SNR=70
EKA PP **PP 06 16 31.3 +3.5**
comp=Z,33nm,0.8s,baz=88,slow=8.2,SNR=4.1
OKGL Djebel Kef Gue 92.18 306 P P 06 12 52.0 +4.0
ECK Cauldkaine Hil 92.18 325⇑ *e*P P 06 12 46.8 -0.7
ESK Eskdalemuir 92.20 326 P P 06 12 48.5 +0.9
comp=Z,1µm,1.5s,SNR=12
ESK Eskdalemuir 92.20 326⇑ *e*P P 06 12 47.9 +0.4
ESK *e* 06 16 38.5
ESK AMS AMS 06 56 52.3
comp=Z,46µm,26.7s
ESK Eskdalemuir 92.20 326 *e*P P 06 12 48.0 +0.4
ESK *e* 06 16 35.7
ESK *e*S S 06 23 38.0 -9.2
ESK pmax pmax
comp=Z,323nm,1.1s
ESK MLR MLR
comp=Z,57µm,20.0s
ESK Eskdalemuir 92.20 326 *e*P P 06 12 48.0 +0.4
comp=Z,323nm,1.1s
ESK *e*PP PP 06 16 35.6 +7.7
ESK *e*S S 06 23 38.0 -9.2
ESK LR LR
comp=Z,57µm,20.0s
KESW Keswick, Cumbr 92.27 325⇑ *e*P P 06 12 48.2 +0.3
KESW *e* 06 16 36.3
KESW AMS AMS 06 54 52.9
comp=Z,50µm,27.2s
MVH1 Achvaich 92.28 328⇑ *i*P P 06 12 47.6 -0.2
ETSF Etsaut 92.31 313⇑ *i*P P 06 12 49.5 +1.0
comp=Z,978nm,1.2s
ETSF Etsaut 92.31 313⇑ *i*P P 06 12 49.5 +1.0
ETSF pmax pmax
comp=Z,979nm,1.2s
ETSF Etsaut 92.31 313⇑ *i*P P 06 12 49.5 +1.0
comp=Z,978nm,1.2s
BATH Bath 92.31 322⇑ *e*P P 06 12 47.6 -0.6
BATH AMS AMS 07 04 38.8
comp=Z,36µm,20.6s
ATE Arette 92.39 313⇑ *e*P P 06 12 49.5 +0.7
KNTN Kanton 92.42 93 *e*P P 06 12 51.1 +1.6
comp=Z,685nm,1.5s
KNTN LR LR
comp=Z,24µm,22.0s
MDO Dochfour 92.46 328⇑ *i*P P 06 12 48.9 +0.1
HLM1 Long Mynd 92.48 323⇑ *e*P P 06 12 49.3 +0.3
HLM1 AMS AMS 06 53 53.2
comp=Z,48µm,26.7s
ORDF Ordiarp 92.54 313⇑ *e*P P 06 12 50.1 +0.6
MONM Monmouth 92.54 322⇑ *e*P P 06 12 49.0 -0.2
MONM *e* 06 16 41.1
MONM AMS AMS 06 57 07.5
comp=Z,35µm,22.3s
JSA Saint Aubin 92.55 319⇑ *e*P P 06 12 49.4 +0.1
JSA *e* 06 16 42.5
JSA AMS AMS 07 00 24.6
comp=Z,39µm,21.8s
LARF Larrau 92.60 313⇑ *e*P P 06 12 51.1 +1.3
FOEL Foel Wylfa 92.61 323 *e*P P 06 12 48.8 -0.8
FOEL AMS AMS 06 52 13.8
comp=Z,48µm,32.2s
MCH1 Michaelchurch 92.63 322 *e*P P 06 12 49.0 -0.6
MCH1 *e* 06 16 42.7
MCH1 AMS AMS 07 00 29.8
comp=Z,49µm,21.2s
EAB Aberfoyle 92.68 327⇑ *e*P P 06 12 49.7 -0.1
SJPF Ste Jean 92.76 313⇑ *i*P P 06 12 51.6 +1.1
comp=Z,706nm,1.1s
SJPF Ste Jean 92.76 313⇑ *i*P P 06 12 51.6 +1.1
SJPF pmax pmax
comp=Z,706nm,1.1s
SJPF Ste Jean 92.76 313 *i*P P 06 12 51.6 +1.1
comp=Z,706nm,1.1s
OSSF Osses 92.77 313⇑ *e*P P 06 12 51.1 +0.6
SOFL Sornfelli, Far 92.78 333 *e*P P 06 12 51.9 +1.7
SOFL AMB AMB 06 12 56.6
comp=Z,255nm,1.9s
SOFL AMS AMS 06 52 35.7
comp=Z,74µm,26.8s
PGBU Glenifferbraes 92.83 326⇑ *e*P P 06 12 49.9 -0.6
PGBU AMB AMB 06 13 01.0
comp=Z,268nm,1.8s
PGBU AMS AMS 06 57 10.7
comp=Z,36µm,23.6s
ODJA Bouhanifia 92.90 306 P P 06 12 52.0 +0.6
KAC Achnashellach 92.94 328⇑ *e*P P 06 12 50.7 -0.3
SGMF Saint Gilles 92.95 319⇑ *i*P P 06 12 51.6 +0.4
comp=Z,767nm,1.2s
SGMF Saint Gilles 92.95 319⇑ *i*P P 06 12 51.6 +0.4
SGMF pmax pmax
comp=Z,767nm,1.2s
SGMF Saint Gilles 92.95 319 *i*P P 06 12 51.6 +0.4
comp=Z,767nm,1.2s
WPM1 Penmaenmawr 92.96 324⇑ *i*P P 06 12 51.4 +0.2
AFI Afiamalu 93.01 104 *e*P P 06 12 54.2 +1.9
AFI pmax pmax
comp=Z,491nm,1.4s
AFI MLR MLR
comp=Z,28µm,21.0s
AFI Afiamalu 93.01 104 *e*P P 06 12 54.2 +1.9
comp=Z,491nm,1.4s
AFI LR LR
comp=Z,28µm,21.0s
FALS False Pass 93.03 35 *e*P P 06 12 51.2 -0.2
KSB Sheil Bridge 93.07 328⇑ *e*P P 06 12 51.7 +0.2
GAL1 Galloway 93.14 325⇑ *e*P P 06 12 52.5 +0.6
GAL1 *e* 06 16 44.6
GAL1 AMS AMS 07 02 56.9
comp=Z,59µm,19.2s
YLL Llanberis 93.14 324 *e*P P 06 12 52.0 +0.1
YLL ⇑ *e*P P **06 12 52.1 +0.1**
KPL Plockton 93.17 328⇑ *e*P P 06 12 52.4 +0.5
KPL AMB AMB 06 12 53.9
comp=Z,224nm,1.5s
KPL *e* 06 16 42.6
KPL AMS AMS 06 54 55.5
comp=Z,61µm,24.5s
WME Myndd Eilian 93.17 324⇑ *i*P P 06 12 52.6 +0.5
USTO Oran 93.18 306 P P 06 12 55.0 +2.5
WLF1 Llynfaes 93.25 324⇑ *e*P P 06 12 53.2 +0.7
WLF1 AMB AMB 06 12 54.0
comp=Z,245nm,1.6s
WLF1 *e* 06 16 44.0
WLF1 AMS AMS 06 53 03.0
comp=Z,42µm,30.2s
LPW Lampeter 93.27 323⇑ *e*P P 06 12 52.9 +0.3
LPW *e* 06 16 43.5
LPW AMS AMS 06 54 15.2
comp=Z,48µm,27.1s
HEX Exmoor 93.29 321⇑ *e*P P 06 12 52.4 -0.3
ALE Alert 93.31 357 P P 06 12 52.3 +0.1
comp=Z,1µm,0.8s
YRE Yr Eifl 93.32 323⇑ *i*P P 06 12 53.2 +0.4
YRC Rhoscolyn 93.36 324⇑ *i*P P 06 12 53.1 +0.1
TOA0 Torodi Ar. Sit 93.37 283 *e*P P 06 12 54.2 +0.3
TOA0 *e*PP PP 06 16 50.6 +12
TORD Torodi Ar. Bea 93.37 283 P P 06 12 54.2 +0.4
comp=Z,20nm,0.9s,baz=92,slow=5.0,SNR=81
TORD PP **PP 06 16 37.0 -1.4**
comp=Z,22nm,1.2s,baz=71,slow=5.5,SNR=2.7
TORD PKKP **PKKPbc 06 30 01.9 +1.2**
comp=Z,6.2nm,0.7s,baz=294,slow=2.7,SNR=11
TORD PKPPKP P'P'df 06 38 19.1 +5.2
comp=Z,2.2nm,1.0s,baz=300,slow=2.7,SNR=3.7
TORD LR LR 06 54 36.5
comp=Z,131µm,19.3s,baz=90,slow=35
QUIF Quistinic 93.41 318⇑ *i*P P 06 12 53.4 +0.1
comp=Z,1µm,1.5s
QUIF Quistinic 93.41 318⇑ *i*P P 06 12 53.4 +0.1
QUIF pmax pmax
comp=Z,1µm,1.5s
QUIF Quistinic 93.41 318⇑ *i*P P 06 12 53.4 +0.1
comp=Z,1µm,1.5s

ROSF Rostrenen 93.41 319⇑ *i*P P 06 12 53.6 +0.3
comp=Z,710nm,1.1s
ROSF Rostrenen 93.41 319⇑ *i*P P 06 12 53.6 +0.3
ROSF pmax pmax
comp=Z,710nm,1.1s
ROSF Rostrenen 93.41 319⇑ *i*P P 06 12 53.6 +0.3
comp=Z,710nm,1.1s
DYA Yadsworthy 93.48 321⇑ *e*P P 06 12 53.3 -0.3
DYA AMS AMS 06 59 06.0
comp=Z,47µm,22.6s
DYA Yadsworthy 93.48 321 *e*P P 06 12 54.6 +1.0
comp=Z,322nm,1.0s
DYA LR LR
comp=Z,51µm,21.0s
QSPA South Pole Qui 93.66 180 S SKSac 06 23 22.8 -2.4
comp=Z,4.5nm,0.9s,baz=73,slow=19,SNR=2.7
QSPA South Pole Qui 93.66 180 *e*P P 06 12 54.4 +0.1
comp=Z,437nm,1.3s
QSPA S **SKSac 06 23 22.8 -2.4**
QSPA *e*P'P'df **P'P'df 06 38 06.7 -2.8**
QSPA LR LR
comp=Z,466µm,20.0s
HTL Hartland 93.72 321⇑ *e*P P 06 12 55.2 +0.5
HTL AMS AMS 07 02 10.9
comp=Z,63µm,20.4s
OLHC Oulhaca 93.94 306 P P 06 12 53.0 -3.1
GMM Mts of Mourne 93.97 325 *i*P P 06 12 56.0 +0.3
CCA1 Carnmenellis 94.34 321 *e*P P 06 12 58.0 +0.4
DSB Dublin 94.42 324 *e*P P 06 12 57.0 -0.8
comp=Z,115nm,0.9s
DSB *e*PP **PP 06 16 47.2 +1.8**
DSB *e*S **S 06 24 06.4 -0.5**
DSB LR LR
comp=Z,26µm,22.0s
SDPT Sand Point 94.58 34 *e*P P 06 12 57.5 -1.0
IM04 Indian Mountai 94.70 23 *e*P P 06 12 59.0 0.0
IM04 *e*PP **PP 06 16 47.3 +0.1**
ES19 SONSECA Array 95.25 310 *e*P P 06 13 02.6 +0.5
ESDC Sonseca Array 95.31 310 P P 06 13 02.8 +0.4
comp=Z,16nm,0.8s,baz=64,slow=3.4,SNR=66
ESDC PP **PP 06 16 49.6 -3.2**
comp=Z,6.7nm,0.8s,baz=77,slow=6.2,SNR=3.9
ESDC PKKPbc **PKKPbc 06 29 56.0 -0.4**
comp=Z,2.5nm,0.8s,baz=272,slow=4.3,SNR=6.2
ESDC PKPPKP **P'P'df 06 38 10.1 +0.8**
comp=Z,0.2nm,0.5s,baz=297,slow=5.6,SNR=4.1
ESDC LR LR 07 00 03.2
comp=Z,57µm,19.8s,baz=105,slow=38
ESLA Sonseca Array 95.31 310 *e*P P 06 13 02.9 +0.5
comp=Z,53nm,1.3s
ESLA *e*PP **PP 06 16 52.5 -0.4**
CHGN Chignik 95.48 33 *e*P P 06 13 01.0 -1.6
SVW2 Sparrevohn 95.53 28 *e*P P 06 13 02.9 +0.1
comp=Z,668nm,1.9s
COLD Coldfoot 95.57 21 *e*P P 06 13 02.7 -0.2
comp=Z,26µm,0.9s
COLD *e*PP **PP 06 16 53.0 -0.9**
PAB San Pablo 95.62 310 *e*P P 06 13 03.3 -0.5
PAB *e* 06 16 52.5
PAB pmax pmax
comp=Z,417nm,1.8s
PAB MLR MLR
comp=Z,89µm,20.0s
PAB San Pablo 95.62 310 *e*P P 06 13 03.3 -0.5
comp=Z,417nm,1.8s
PAB *e*PP **PP 06 16 52.5 -2.8**
PAB LR LR
comp=Z,89µm,20.0s
MLY Manley 96.23 23 *e*P P 06 13 05.5 -0.4
comp=Z,998nm,2.3s
MLY LR LR
comp=Z,74µm,19.0s
CAST Castle Rocks 96.29 25 *e*P P 06 13 05.9 -0.4
comp=Z,193nm,1.1s
CAST LR LR
comp=Z,105µm,20.0s
SNAA Sanae 96.32 198 P P 06 13 14.9 +8.7
SNAA Sanae 96.32 198 PKKPbc PKKPbc 06 29 53.0 -1.9
comp=Z,2.8nm,0.8s,baz=358,slow=1.5,SNR=5.6
SNAA PKPPKP **P'P'df 06 38 07.1 +2.5**
comp=Z,1.2nm,0.8s,baz=203,slow=1.5,SNR=6.5
SNAA Sanae 96.32 198 *e*P P 06 13 08.9 +2.7
SNAA *e* 06 16 58.8
SNAA pmax pmax
comp=Z,117nm,1.3s
SNAA Sanae 96.32 198 *e*P P 06 13 08.9 +2.7
comp=Z,117nm,1.3s
SNAA *e*PP **PP 06 16 58.8 -1.0**
SNAA PKKPbc **PKKPbc 06 29 53.0 -1.9**
SNAA P'P' 06 38 07.1
PPLA Purkeypile 96.44 25 *e*P P 06 13 06.5 -0.6
comp=Z,219nm,1.0s
PPLA *e*PP **PP 06 16 59.4 -1.5**
PPLA LR LR
comp=Z,120µm,19.0s
KTH Kantishna Hill 96.73 25 *e*P P 06 13 07.0 -1.2
comp=Z,265nm,1.1s
KTH LR LR
comp=Z,137µm,19.0s
MDT Midelt 96.91 304 PP PP 06 17 05.3 -0.3
comp=Z,14nm,1.2s,baz=71,slow=9.3,SNR=3.8
MDT PKKPbc **PKKPdf 06 29 53.3 -0.2**
comp=Z,5.6nm,1.1s,baz=154,slow=1.3,SNR=3.6
PBRG Braganca 97.00 313 *e*Pdif Pdif 06 13 12.7 +2.6
PBRG Braganca 97.00 313 *e*PP PP 06 17 09.8 +3.9
PBRG *e*SKSac SKSac 06 23 56.1 +12
PBRG Braganca 97.00 313 *e*LR LR 06 46 49.5
comp=Z,76µm,18.0s
VAL Valentia 97.03 323 *e*P P 06 13 08.4 -1.3
VAL *e*PP **PP 06 17 05.0 -0.5**
VAL Valentia 97.03 323 ǁ *i*S **S 06 24 27.3 -2.1**
TRF Thorofare Moun 97.03 24 *e*P P 06 13 08.5 -1.2
comp=Z,884nm,0.6s
TRF LR LR
comp=Z,111µm,18.0s
RSO Redoubt South 97.05 28 *e*P P 06 13 08.6 -1.4
comp=Z,1µm,0.5s
BWN Browne 97.08 24 PFAKE 06 13 20.0 +10
BWN LR LR
comp=Z,113µm,21.0s
SPU Mount Spurr 97.12 27 *e*P P 06 13 09.1 -0.9
MDM Murphy Dome 97.23 23 *e*P P 06 13 09.4 -1.1
comp=Z,153nm,1.2s
MDM LR LR
comp=Z,71µm,21.0s
MVO Moncorvo 97.34 312 *e*Pdif Pdif 06 13 12.6 +1.0
MVO Moncorvo 97.34 312 *e*PP PP 06 17 17.5 +9.0
MVO *e*SKSac **SKSac 06 23 53.0 +7.2**
MVO *e*SS **SS 06 31 15.1 +3.7**
MVO Moncorvo 97.34 312 *e*LR LR 06 47 44.3
comp=Z,69µm,20.0s
COLA College 97.42 23 *c i*P P **06 13 09.7 -1.5**
COLA pmax pmax
comp=Z,219nm,3.0s
COLA MLR MLR
comp=Z,249µm,21.0s
COLA College 97.42 23 *e*P P 06 13 09.4 -1.8
comp=Z,144nm,1.5s
COLA LR LR
comp=Z,61µm,20.0s
MCK McKinley 97.47 24 *e*P P 06 13 10.4 -1.2
MCK *e* 06 17 08.8
MCK MLR MLR
comp=Z,128µm,21.0s
MCK McKinley 97.47 24 *e*P P 06 13 10.4 -1.2
comp=Z,1µm,0.4s
MCK *e*PP **PP 06 17 08.8 +0.1**
MCK LR LR
comp=Z,128µm,21.0s
WRH Wood River Hil 97.50 23 *e*P P 06 13 10.5 -1.1
comp=Z,974nm,2.8s
WRH LR LR
comp=Z,112µm,20.0s
CCB Clear Creek Bu 97.53 23 *e*P P 06 13 10.0 -1.8
comp=Z,51nm,1.1s
CCB LR LR
comp=Z,85µm,20.0s
FYU Fort Yukon 97.62 21 *e*P Pdif 06 13 12.6 +0.5
comp=Z,957nm,2.1s
FYU LR LR
comp=Z,217µm,18.0s
RND Reindeer 97.64 24 *e*P P 06 13 10.3 -2.1
RND pmax pmax
comp=Z,970nm,2.2s
RND MLR MLR
comp=Z,123µm,18.0s

RND Reindeer 97.64 24 *e*P P 06 13 10.3 -2.1
comp=Z,970nm,2.2s
RND LR LR
comp=Z,123µm,18.0s
PVRL Vila Real 97.83 312 *e*P P 06 13 13.0 -0.7
PVRL Vila Real 97.83 312 *e*PP PP 06 17 15.7 +3.5
ILAR Eielson Array 97.83 23 P P 06 13 10.9 -2.2
comp=Z,4.2nm,0.6s,baz=282,slow=4.1,SNR=60
ILAR PP **PP 06 17 10.0 -1.4**
comp=Z,27nm,0.9s,baz=301,slow=5.5,SNR=6.5
ILAR PKKPbc **PKKPdf 06 29 54.5 +2.3**
comp=Z,6.7nm,0.9s,baz=143,slow=2.4,SNR=5.8
ILAR PKPPKP **P'P'df 06 38 07.5 +4.5**
comp=Z,1.5nm,1.1s,baz=236,slow=1.2,SNR=4.7
ILAR LR LR 07 01 01.0
comp=Z,46µm,20.6s,baz=328,slow=38
POLO Lamas de Olo 97.86 312 *e*Pdif Pdif 06 13 16.5 +2.5
POLO Lamas de Olo 97.86 312 *e*PP PP 06 17 16.3 +3.7
POLO *e*SKSac **SKSac 06 23 55.6 +7.0**
POLO Lamas de Olo 97.86 312 *e*LR LR 06 46 49.5
comp=Z,20µm,20.0s
MTE Manteigas 97.88 311 *e*Pdif Pdif 06 13 15.1 +1.1
MTE Manteigas 97.88 311 *e*SKSac **SKSac 06 23 53.0 +4.4**
MTE *e*SS **SS 06 31 25.5 +6.5**
MTE Manteigas 97.88 311 *e*LR LR 06 47 59.5
comp=Z,58µm,20.0s
MTE Manteigas 97.88 311 PFAKE 06 13 20.0 +6.0
MTE LR LR
comp=Z,56µm,20.0s
VNA2 Neumayer--Watz 97.89 199 P Pdif 06 13 25.7 +12
baz=86,slow=4.6
OHAK Old Harbor 97.90 31 *e*P P 06 13 13.3 -0.3
PBAR Barrancos 97.93 309 *e*Pdif Pdif 06 13 15.2 +1.0
PBAR Barrancos 97.93 309 *e*PP PP 06 17 19.6 +6.6
PBAR *e*SKSac **SKSac 06 23 52.3 +3.5**
PBAR Barrancos 97.93 309 *e*LR LR 06 48 09.5
comp=Z,149µm,22.0s
PCBR Castelo Branco 97.94 311 *e*Pdif Pdif 06 13 15.4 +1.2
BORG Borgarnes 97.95 337 PP PP 06 17 18.0 +5.8
comp=Z,34nm,1.1s,baz=44,slow=8.1,SNR=3.7
BORG LR LR 07 01 11.8
comp=Z,48µm,20.9s,baz=66,slow=38
PMRV Marv??o 97.96 310 *e*Pdif Pdif 06 13 14.4 +0.1
PMRV Marv??o 97.96 310 *e*PP PP 06 17 14.9 +1.7
PMRV *e*SKSac **SKSac 06 23 55.6 +6.7**
PMRV *e*SS SS 06 31 30.8 +11
PMRV Marv??o 97.96 310 *e*LR LR 06 48 57.9
comp=Z,57µm,20.0s
KDAK Kodiak Island 98.07 30 P P 06 13 13.8 -0.5
comp=Z,272nm,0.9s,SNR=14
KDAK Kodiak Island 98.07 30 *e*P Pdif 06 13 14.4 +0.1
KDAK 06 17 15.7
KDAK pmax pmax
comp=Z,203nm,1.3s
KDAK MLR MLR
comp=Z,75µm,21.0s
KDAK Kodiak Island 98.07 30 *e*P Pdif 06 13 14.3 0.0
comp=Z,204nm,1.3s
KDAK PP **PP 06 17 15.7 +2.3**
KDAK S SKSac 06 23 57.0 +8.4
KDAK LR LR
comp=Z,75µm,21.0s
PVIS Viseu 98.08 312 *e*P Pdif 06 13 15.2 +0.3
BRLK Bradley Lake 98.18 28 *e*P P 06 13 13.6 -1.3
comp=Z,139nm,0.8s
BRLK LR LR
comp=Z,68µm,22.0s
RC01 Rabbit Creek A 98.19 27 *e*P P 06 13 13.8 -1.0
comp=Z,17nm,0.3s
RC01 LR LR
comp=Z,97µm,21.0s
PESTR Estremoz 98.22 310 *e*P Pdif 06 13 18.4 +2.9
PESTR Estremoz 98.22 310 *e*PP PP 06 17 22.2 +6.9
PESTR *e*SKSac SKSac 06 23 58.3 +8.0
PESTR Estremoz 98.22 310 *e*LR LR 06 48 25.5
comp=Z,59µm,20.0s
VNA1 Neumayer--Stat 98.23 199 P Pdif 06 13 22.1 +7.4
PMR Palmer 98.26 26 *e*P P 06 13 14.0 -1.1
PMR Palmer 98.26 26 *e*P P 06 13 14.0 -1.1
SML Sawmill 98.52 26 PFAKE 06 13 30.0 +14
SML LR LR
comp=Z,32µm,19.0s
VNA3 Neumayer Olymp 98.54 198 P Pdif 06 13 27.1 +11
SUMG Summit 98.57 347⇑ *i*P P 06 13 16.7 -0.1
comp=Z,105µm,22.0s
SUMG MLR MLR
comp=Z,100µm,22.0s
SUMG Summit 98.57 347 *e*P P 06 13 16.5 -0.3
comp=Z,172nm,1.0s
SUMG *e*PP **PP 06 17 13.7 -3.6**
SUMG LR LR
comp=Z,106µm,22.0s
PVAQ Vaqueiros 98.61 309 *e*Pdif Pdif 06 13 19.9 +2.6
PVAQ Vaqueiros 98.61 309 *e*PP PP 06 17 14.3 -3.9
PVAQ *e*SKSac **SKSac 06 23 58.4 +6.1**
PVAQ *e*SS **SS 06 31 29.9 +0.6**
PVAQ Vaqueiros 98.61 309 *e*LR LR 06 47 04.1
comp=Z,80µm,20.0s
EVO Evora 98.61 310⇑ *i*P P 06 13 16.6 -0.6
comp=Z,64nm,1.0s
EVO *e*R
comp=Z,111µm,21.8s
EVO Evora 98.61 310 *e*Pdif **P 06 13 15.8 -1.4**
EVO Evora 98.61 310 *e*PP PP 06 17 17.3 -0.9
PMTG Montargil 98.67 310 *e*Pdif Pdif 06 13 20.1 +2.6
PMTG Montargil 98.67 310 *e*PP PP 06 17 21.0 +2.4
PMTG *e*SKSac SKSac 06 24 01.2 +8.7
PMTG Montargil 98.67 310 *e*LR LR 06 48 25.5
comp=Z,50µm,22.0s
PCAS Casmilo, Conde 98.67 311 *e*PP PP 06 17 25.3 +6.7
PCAS *e*SKSac SKSac 06 24 00.4 +7.9
PCAS Casmilo, Conde 98.67 311 *e*LR LR 06 47 21.5
comp=Z,61µm,18.0s
DDM Donnelly Dome 98.68 23 *e*P P 06 13 15.6 -1.4
comp=Z,1µm,2.3s
DDM LR LR
comp=Z,111µm,18.0s
EVOP Sao Brissos 98.70 310⇑ *i*P P 06 13 16.6 -1.0
EVOP pmax pmax
comp=Z,64nm,1.0s
EVOP Sao Brissos 98.70 310⇑ *i*P P 06 13 16.6 -1.0
comp=Z,64nm,1.0s
SEW Seward 98.72 27 *e*P P 06 13 15.8 -1.3
comp=Z,122nm,0.9s
SEW *e*PP **PP 06 17 17.4 -0.8**
SEW LR LR
comp=Z,76µm,20.0s
PBDV Barranco-do-Ve 98.81 308 *e*Pdif Pdif 06 13 18.8 +0.6
PBDV Barranco-do-Ve 98.81 308 *e*PP PP 06 17 15.9 -3.9
PBDV *e*SKSac SKSac 06 24 03.0 +10
PBDV Barranco-do-Ve 98.81 308 *e*LR LR 06 47 29.5
comp=Z,102µm,20.0s
PCVE Castro Verde 98.81 309 *e*Pdif Pdif 06 13 18.6 +0.4
PCVE Castro Verde 98.81 309 *e*PP PP 06 17 28.9 +9.1
PCVE *e*SKSac SKSac 06 24 04.1 +11
PCVE Castro Verde 98.81 309 *e*LR LR 06 47 45.5
comp=Z,271µm,20.0s
MESJ Messejana 98.91 309 *e*P P 06 13 18.3 -0.3
MESJ *e*S **SKSac 06 23 53.1 -0.7**
MESJ AMS AMS 07 01 35.8
comp=E,73µm,21.0s
MESJ Messejana 98.91 309 *e*Pdif Pdif 06 13 21.7 +3.1
MESJ Messejana 98.91 309 *e*PP PP 06 17 19.9 -0.6
SCM Sheep Creek Mo 98.94 25 *e*P P 06 13 17.7 -0.6
SCM pmax pmax
comp=Z,283nm,1.5s
SCM MLR MLR
comp=Z,106µm,20.0s
SCM Sheep Creek Mo 98.94 25 *e*P P 06 13 17.7 -0.6
comp=Z,283nm,1.5s
SCM LR LR
comp=Z,106µm,20.0s
PNCL Nicolau / Gran 99.10 309 *e*Pdif **Pdif 06 13 22.4 +3.0**
PNCL Nicolau / Gran 99.10 309 *e*PP PP 06 17 30.0 +8.1
PNCL *e*SKSac SKSac 06 24 04.0 +9.4
PNCL Nicolau / Gran 99.10 309 *e*LR LR 06 48 01.5
comp=Z,80µm,20.0s
PACT Alcochete 99.19 310 *e*Pdif **Pdif 06 13 21.2 +1.4**
PACT Alcochete 99.19 310 *e*PP PP 06 17 22.1 -0.5
PAX Paxson 99.21 24 *e*P Pdif 06 13 18.9 -0.6
PAX pmax pmax
comp=Z,561nm,2.2s
PAX MLR MLR
comp=Z,147µm,22.0s

PAX **Paxson** 99.21 24 *e*P Pdif 06 13 18.9 -0.6
comp=Z,561nm,2.2s
PAX LR LR
comp=Z,147µm,22.0s
SCRK **Sand Creek** 99.32 23 *e*P Pdif 06 13 19.1 -0.8
comp=Z,56nm,0.9s
SCRK LR LR
comp=Z,113µm,20.0s
MORF **Marmelete** 99.36 309 *e*P Pdif 06 13 20.3 -0.4
MORF *e*S SKSac 06 23 55.5 -0.6
MORF AMS AMS 07 02 16.8
comp=E,87µm,22.6s
MORF **Marmelete** 99.36 309 *e*Pdif Pdif 06 13 21.4 +0.7
MORF **Marmelete** 99.36 309 *e*PP PP 06 17 26.8 +2.8
MORF **Marmelete** 99.36 309 *e*LR LR 06 50 57.6
comp=E,85µm,22.0s
MORF **Marmelete** 99.36 309 *e*P Pdif 06 13 20.3 -0.4
MORF *e*S SKSac 06 23 55.5 -0.6
LIS **Lisbon** 99.44 310 *e*P Pdif 06 13 21.2 +0.2
LIS *e*S SKSac 06 23 55.7 -0.7
LIS AMS AMS 07 01 54.6
comp=Z,68µm,20.7s
LIS **Lisbon** 99.44 310 *e*P Pdif 06 13 21.1 +0.2
LIS *e*S SKSac 06 23 55.6 -0.7
DOT **Dot Lake** 99.45 23 *e*P Pdif 06 13 19.3 -1.2
comp=Z,729nm,0.7s
DOT LR LR
comp=Z,112µm,19.0s
PMST **Lisbon--Monsan** 99.47 310 *e*Pdif Pdif 06 13 31.7 +11
PMST **Lisbon--Monsan** 99.47 310 *e*PP PP 06 17 26.3 +1.6
PMAFR **Mafra** 99.49 310 *e*Pdif Pdif 06 13 28.3 +7.1
PMAFR **Mafra** 99.49 310 *e*PP PP 06 17 27.1 +2.1
PMAFR *e*SKSac SKSac 06 24 00.9 +4.3
PMAFR **Mafra** 99.49 310 *e*LR LR 06 49 13.5
comp=Z,64µm,20.0s
PFVI **Vila Bisbo** 99.53 308 *e*Pdif Pdif 06 13 21.9 +0.5
PFVI **Vila Bisbo** 99.53 308 *e*PP PP 06 17 27.9 +2.6
PFVI *e*SKSac SKSac 06 24 04.6 +7.7
PFVI **Vila Bisbo** 99.53 308 *e*LR LR 06 48 25.5
comp=Z,82µm,22.0s
KLU **Klutina** 99.69 25 PFAKE 06 13 30.0 +8.4
KLU LR LR
comp=Z,110µm,19.0s
DIV **Divide** 99.92 26 *e*Pdif Pdif 06 13 21.9 -0.7
comp=Z,108nm,1.2s
DIV *e*PP PP 06 17 32.8 +5.4
DIV LR LR
comp=Z,127µm,20.0s
EGAK **Eagle** 99.98 21 *e*Pdif Pdif 06 13 21.7 -1.0
comp=Z,3µm,1.3s
EGAK LR LR
comp=Z,138µm,19.0s
KULLO **Kullorsuaq** 100.14 353 ⇑*i*P Pdif 06 13 23.0 -0.2
comp=Z,199nm,1.0s
comp=Z,152µm,21.0s
KIC **Kosan Boka** 100.27 277 *e*PKP1 Pdif 06 13 26.2 +1.1
comp=Z,284nm,1.5s
DBIC **Dimbokro** 100.35 277 P Pdif 06 13 26.5 +1.0
comp=Z,3.7nm,0.8s,baz=90,slow=8.0,SNR=3.7
DBIC PKKPbc PKKPbc 06 29 42.9 +1.3
comp=Z,8.4nm,0.9s,baz=223,slow=1.5,SNR=3.6
DBIC **Dimbokro** 100.35 277 *e*P Pdif 06 13 25.5 0.0
DBIC pmax pmax
comp=Z,89nm,1.4s
DBIC **Dimbokro** 100.35 277 *e*Pdif Pdif 06 13 25.5 0.0
comp=Z,89nm,1.4s
DBIC PKKPbc PKKPbc 06 29 42.9 +1.3
INK **Inuvik** 100.41 17 P Pdif 06 13 23.9 -0.6
comp=Z,22nm,0.9s,baz=310,slow=6.9,SNR=46
INK PP PP 06 17 30.0 -0.8
comp=Z,54nm,1.1s,baz=297,slow=16,SNR=3.5
INK S SKSac 06 23 56.8 -3.0
comp=Z,9.9nm,1.1s,baz=322,slow=31,SNR=5.0
INK PKKP PKKPdf 06 29 48.5 +1.0
comp=Z,6.4nm,0.9s,baz=130,slow=8.6,SNR=3.2
INK **Inuvik** 100.41 17 P Pdif 06 13 23.9 -0.6
INK *e* 06 17 32.7
INK S SKSac 06 23 56.8 -3.0
INK pmax pmax
comp=Z,22nm,2.2s
INK MLR MLR
comp=Z,126µm,19.0s
INK **Inuvik** 100.41 17 P Pdif 06 13 23.9 -0.6
comp=Z,22nm,2.2s
INK PP PP 06 17 30.0 -0.8
INK *e*PP PP 06 17 32.7 +1.9
INK S SKSac 06 23 56.8 -3.0
INK PKKP PKKPdf 06 29 48.5 +1.0
INK LR LR
comp=Z,126µm,19.0s
BMRM **Bremner River** 100.50 26 *e*Pdif Pdif 06 13 25.0 -0.2
comp=Z,311nm,0.4s
BMRM LR LR
comp=Z,118µm,20.0s
TIC **Toumodi** 100.52 277 *e*PKP1 Pdif 06 13 27.2 +1.0
comp=Z,95nm,1.3s
LIC **Lamto** 100.56 277 *e*P Pdif 06 13 26.8 +0.4
comp=Z,222nm,1.7s,baz=82
LIC *e*R
comp=Z,344µm,22.5s
LIC **Lamto** 100.56 277 *e*PKP1 Pdif 06 13 26.8 +0.4
comp=Z,166nm,1.7s
LIC **Lamto** 100.56 277 *e*P Pdif 06 13 26.8 +0.4
comp=Z,222nm,1.7s
RAGM **Ragged Mountai** 100.74 26 *e*Pdif Pdif 06 13 26.8 +0.5
RAGM LR LR
comp=Z,160µm,19.0s
DAWY **Dawson** 101.01 22 *e*Pdif Pdif 06 13 25.3 -2.1
comp=Z,255nm,0.8s
RES **Resolute Bay** 101.42 3 P Pdif 06 13 28.7 -0.2
comp=Z,90nm,1.0s,baz=2.4,slow=5.3,SNR=106
RES **Resolute Bay** 101.42 3 P Pdif 06 13 28.7 -0.2
RES *e* 06 17 37.4
RES pmax pmax
comp=Z,5.0nm,1.5s
RES **Resolute Bay** 101.42 3 P Pdif 06 13 28.7 -0.2
comp=Z,5.2nm,1.5s
RES *e*PP PP 06 17 37.4 -0.8
SHEL **Horse Pasture** 102.33 255 PFAKE 06 13 50.0 +16
SHEL LR LR
comp=Z,266µm,20.0s
KIP **Kipapa** 103.42 67 PFAKE 06 13 50.0 +11
KIP LR LR
comp=Z,21µm,22.0s
HYT **Haines Junctio** 103.55 24 *e*Pdif Pdif 06 13 38.9 0.0
HYT *e*PP PKiKP 06 18 00.6 +3.4
ILULI **Ilulissat** 103.82 348 *i*P Pdif 06 13 39.5 -0.2
comp=Z,253nm,2.0s
comp=Z,175µm,23.0s
RAR **Rarotonga** 104.58 111 PFAKE 06 14 00.0 +16
RAR LR LR
comp=Z,43µm,22.0s
SKAG **Skagway** 105.23 24 *e*Pdif Pdif 06 13 46.0 -0.1
comp=Z,1µm,1.2s
SFJD **Kangerlussuaq** 105.55 347 ⇑*i*P Pdif 06 13 46.9 -0.5
comp=Z,84nm,1.3s
comp=Z,102µm,26.0s
SFJD **Kangerlussuaq** 105.55 347 Pdiff Pdif 06 13 46.9 -0.5
comp=Z,40nm,1.4s,baz=68,slow=7.6,SNR=6.9
SFJD PP PKiKP 06 18 03.5 +3.0
comp=Z,66nm,1.0s,baz=34,slow=8.8,SNR=5.9
SFJD **Kangerlussuaq** 105.55 347 ⇑*i*P Pdif 06 13 46.9 -0.5
SFJD pmax pmax
comp=Z,84nm,1.3s
SFJD MLR MLR
comp=Z,100µm,26.0s
SFJD **Kangerlussuaq** 105.55 347 Pdif Pdif 06 13 46.9 -0.5
comp=Z,22nm,1.4s
SFJD PP PKiKP 06 18 03.5 +3.0
SFJD LR LR
comp=Z,99µm,22.0s
BESE **Bessie Mountai** 105.95 25 PFAKE 06 18 10.0
BESE LR LR
comp=Z,40µm,19.0s
POHA **Pohakuloa** 106.00 68 PFAKE 06 18 10.0
POHA LR LR
comp=Z,27µm,22.0s
XMAS **Kiritimati** 106.34 87 PFAKE 06 18 10.0
XMAS LR LR
comp=Z,37µm,20.0s
PMPS **Porto Santo** 106.48 306 *e*Pdif Pdif 06 13 53.0 +0.7
PMPS **Porto Santo** 106.48 306 *e*PP PP 06 18 18.1 +0.7
TRIS **Tristan da Cun** 106.86 232 PFAKE 06 18 20.0
TRIS LR LR
comp=Z,144µm,19.0s
PMAR **Madeira** 107.04 306 *e*Pdif Pdif 06 13 55.3 +0.2

FUL **Funchal** 107.05 306 *e*PP PP 06 18 21.3 -0.2
PMOZ **Porto Moniz, M** 107.25 306 *e*Pdif Pdif 06 13 57.5 +1.6
PMOZ **Porto Moniz, M** 107.25 306 *e*PP PP 06 18 22.8 -0.3
DLBC **Dease Lake** 108.01 23 Pdiff Pdif 06 13 57.6 -1.1
comp=Z,3.1nm,1.2s,baz=312,slow=5.6,SNR=4.2
DLBC PP PP 06 18 16.2 -11
comp=Z,21nm,0.9s,baz=306,slow=9.0,SNR=7.0
DLBC PKKP PKKPdf 06 29 34.4 +0.9
comp=Z,5.8nm,0.8s,baz=49,slow=5.2,SNR=6.2
DLBC **Dease Lake** 108.01 23 *e*Pdif Pdif 06 13 58.3 -0.4
comp=Z,15nm,0.3s
DLBC PP PP 06 18 16.2 -11
DLBC *e*PKKPbc PKKPab 06 29 28.2 -4.8
DLBC PKKP PKKPdf 06 29 34.4 +0.9
DLBC LR LR
comp=Z,123µm,21.0s
WRAK **Wrangell Islan** 108.34 26 PFAKE 06 18 20.0
WRAK LR LR
comp=Z,94µm,19.0s
YKA **Yellowknife Ar** 109.96 15 Pdiff Pdif 06 14 06.1 -1.1
comp=Z,1.7nm,0.7s,baz=328,slow=4.3,SNR=25
YKA PP PP 06 18 40.0 -1.4
comp=Z,29nm,0.8s,baz=330,slow=7.5,SNR=13
YKA PKKPbc PKKPbc 06 29 15.4 +1.5
comp=Z,3.2nm,0.8s,baz=142,slow=3.1,SNR=7.5
YKA SKKP 06 33 08.1
comp=Z,2.8nm,1.0s,baz=147,slow=4.1,SNR=2.8
FRB **Frobisher Bay** 111.71 353 Pdiff Pdif 06 14 19.8 +4.9
comp=Z,5.3nm,0.9s,baz=18,slow=6.8,SNR=6.3
FRB PKKP PKiKP 06 18 11.8 -0.3
comp=Z,10nm,0.8s,baz=17,slow=4.7,SNR=4.6
FRB PKKPab PKKPab 06 29 17.7 +1.2
comp=Z,7.0nm,0.9s,baz=179,slow=2.1,SNR=3.9
BART **Pico Bartolome** 111.72 313 *e*P PP 06 19 05.8 +10
comp=Z,378nm,1.4s
PSMN **Pico do Norte,** 111.95 312 *e*P PP 06 19 08.9 +12
comp=Z,342nm,1.5s
GRON **Grota Negra** 111.99 313 *e*P PP 06 19 03.6 +6.4
comp=Z,44nm,1.1s
PSMA **Santa Maria** 112.00 312 *e*P PP 06 19 06.8 +10
comp=Z,196nm,1.6s
PDA **Ponta Delgada** 112.09 313 *e*P PP 06 19 07.9 +10
comp=Z,300nm,1.7s
PSET **Sete Cidades** 112.11 313 *e*P PP 06 19 15.1 +17
comp=Z,193nm,2.3s
BBB **Bella Bella** 112.95 28 PKiKP PKiKP 06 18 15.7 +0.8
comp=Z,10nm,0.8s,baz=160,slow=3.4,SNR=3.4
PGRA **Graciosa** 113.22 315 *e*P PP 06 19 10.9 +5.2
comp=Z,335nm,1.4s
TOPO **Topo** 113.36 315 *e*P PP 06 19 16.1 +9.2
PMAN **Manadas** 113.46 315 *e*P PP 06 19 12.0 +4.5
comp=Z,197nm,1.4s
ROSA **Rosais** 113.53 315 *e*P PP 06 19 17.1 +9.1
comp=Z,288nm,1.5s
PICO **Pico** 113.76 315 *e*P PP 06 19 19.2 +9.5
PCAN **Candelaria** 113.82 315 *e*P PP 06 19 19.2 +9.1
comp=Z,164nm,2.0s
PCED **Cedros** 113.90 315 *e*P PP 06 19 19.2 +8.6
comp=Z,143nm,1.5s
CALA **Caldeira** 113.92 315 *e*P PP 06 19 21.3 +10
TBI **Tubuai** 113.95 114 *e*Pdif Pdif 06 14 27.7 +2.0
comp=Z,6µm,30.0s
TBI **Tubuai** 113.95 114 *e*PP PP 06 19 15.6 +3.8
comp=Z,20µm,29.5s
TBI *e*SKSac SKSac 06 25 05.2 +4.4
comp=Z,13µm,32.8s
TBI *e*Sdif SKKSac 06 25 53.7 -17
comp=Z,49µm,32.5s
TBI **Tubuai** 113.95 114 *e*PS PS 06 28 52.8 +3.0
comp=Z,90µm,29.5s
TBI **Tubuai** 113.95 114 *e*LQ LQ 06 47 48.4
comp=Z,200µm,41.8s
TBI *e*LR LR 06 52 37.3
comp=Z,173µm,23.5s
PPT2 **Papeete2** 114.37 108 *e*Pdif Pdif 06 14 27.8 0.0
comp=Z,8µm,28.2s
PPT2 **Papeete2** 114.37 108 *e*PKiKP PKiKP 06 18 27.9 +9.3
comp=Z,124nm,1.3s
PPT2 **Papeete2** 114.37 108 *e*PP PP 06 19 13.6 -1.4
comp=Z,24µm,27.8s
PPT2 *e*SKSac SKSac 06 25 05.5 +2.7
comp=Z,18µm,33.0s
PPT2 *e*Sdif Sdif 06 26 50.4 -5.5
comp=Z,70µm,29.8s
PPT2 **Papeete2** 114.37 108 *e*PS PS 06 28 57.1 +3.2
comp=Z,171µm,27.8s
PPT2 **Papeete2** 114.37 108 *e*LQ LQ 06 47 41.7
comp=Z,316µm,40.5s
PPT2 *e*LR LR 06 52 32.2
comp=Z,111µm,22.2s
H07S1 **FLORES T-PHASE** 115.28 317 *e*P PP 06 19 30.6 +10
PMOR **Pomariorio Ree** 116.14 105 *e*PKiKP PKiKP 06 18 23.2 +1.2
comp=Z,162nm,1.1s
VAH **Vaihoa** 116.38 105 *e*PKiKP PKiKP 06 18 22.9 +0.5
comp=Z,122nm,0.9s
HOPE **Hope Point** 116.60 209 PFAKE 06 18 30.0 +8.2
HOPE LR LR
comp=Z,296µm,22.0s
FCC **Fort Churchill** 117.18 6 *e*PKIKP PKPdf 06 18 21.6 -1.2
FCC MLR MLR
comp=Z,120µm,20.0s
FCC **Fort Churchill** 117.18 6 *e*PKPdf PKPdf 06 18 21.6 -1.2
FCC LR LR
comp=Z,120µm,20.0s
SACV **Santiago Islan** 117.41 289 PFAKE 06 18 40.0 +16
SACV LR LR
comp=Z,101µm,20.0s
PMSA **Palmer Station** 117.42 189 PFAKE 06 18 30.0 +7.0
PMSA LR LR
comp=Z,121µm,21.0s
PGC **Sidney** 117.54 28 *e*PKPdf PKPdf 06 18 22.5 -1.3
PGC *e*PP PP 06 19 31.1 -4.4
PGC LR LR
comp=Z,51µm,22.0s
A05A **Maple Falls** 117.93 27 *e*PKPdf PKPdf 06 18 24.4 -0.1
EDM **Edmonton** 118.11 20 *e*PKIKP PKPdf 06 18 24.6 -0.3
EDM MLR MLR
comp=Z,99µm,19.0s
EDM **Edmonton** 118.11 20 *e*PKPdf PKPdf 06 18 24.6 -0.3
EDM LR LR
comp=Z,99µm,19.0s
MBW **Mount Baker** 118.17 27 P PKPdf 06 18 24.8 -0.4
NLWA **Neilton Lookou** 118.21 30 *e*PKPdf PKPdf 06 18 25.1 -0.1
NLWA LR LR
comp=Z,54µm,20.0s
B06A **Marblemount** 118.55 27 *e*PKPdf PKPdf 06 18 25.8 +0.1
JCW **Jim Creek** 118.58 28 P PKPdf 06 18 25.6 -0.3
E03A **Lebam** 118.94 30 *e*PKPdf PKPdf 06 18 27.4 +0.9
D05A **Enumclaw** 119.27 29 *e*PKPdf PKPdf 06 18 27.6 +0.4
F03A **Seaside** 119.37 31 *e*PKPdf PKPdf 06 18 28.4 +1.0
NLW **Nelson Butte** 119.40 27 P PKPdf 06 18 27.5 -0.1
F04D **Rainier, OR** 119.54 30 ⇓P PKPdf 06 18 27.9 +0.1
comp=Z,119
FMW **Mount Fremont** 119.60 29 P PKPdf 06 18 27.7 -0.4
RCM **Mount Rainier-** 119.64 29 P PKPdf 06 18 29.0 +0.6
LON **Longmire** 119.67 29 *e*PKIKP PKPdf 06 18 28.2 +0.1
LON **Longmire** 119.67 29 *e*PKPdf PKPdf 06 18 28.2 +0.1
TDL **Tradedollar La** 119.75 30 P PKPdf 06 18 28.4 +0.1
STD **Studebaker Rid** 119.83 30 P PKPdf 06 18 29.2 +0.8
LTY **Liberty** 119.84 28 *e*PKPdf PKPdf 06 18 28.2 -0.2
FFC **Flin Flon** 119.86 12 *e*PKIKP PKPdf 06 18 27.1 -1.0
FFC MLR MLR
comp=Z,88µm,20.0s
FFC **Flin Flon** 119.86 12 *e*PKPdf PKPdf 06 18 27.1 -1.0
FFC LR LR
comp=Z,88µm,20.0s
SCHQ **Schefferville** 119.93 349 Pdiff Pdif 06 15 03.5 +12
comp=Z,3.7nm,1.2s,baz=59,slow=6.9,SNR=2.2
SCHQ PKP PKPdf 06 18 28.2 -0.1
comp=Z,39nm,0.9s,baz=32,slow=2.7,SNR=25
SCHQ PKKPab PKKPbc 06 28 39.5 +0.1
comp=Z,9.3nm,1.0s,baz=234,slow=5.2,SNR=5.4
SCHQ **Schefferville** 119.93 349 Pdif Pdif 06 15 03.5 +12
SCHQ *e*PKPdf PKPdf 06 18 28.1 -0.1
SCHQ PKKPab PKKPbc 06 28 39.5 +0.1
SCHQ PKKPbc PKKPab 06 28 46.3 +6.1
F04A **Amboy** 119.94 30 *e*PKPdf PKPdf 06 18 28.6 +0.1
TBM **Table Mountain** 119.94 28 P PKPdf 06 18 28.8 +0.2
G03D **McMinnville, O** 120.01 31 ⇑P PKPdf 06 18 28.7 +0.1
baz=120
EBG **Ellensburg** 120.15 28 P PKPdf 06 18 28.9 0.0
COR **Corvallis** 120.42 32 *e*PKIKP PKPdf 06 18 27.0 -2.5
COR *e* 06 19 56.4
COR **Corvallis** 120.42 32 *e*PKPdf PKPdf 06 18 27.0 -2.5
COR *e*PP PP 06 19 56.4 +0.9
C09A **Chrisman Ranch** 120.53 26 *e*PKPdf PKPdf 06 18 29.9 +0.2

RNO **Roman Nose** 120.64 33 P PKPdf 06 18 30.6 +0.5
VLL **Laurance Lake** 120.64 30 P PKPdf 06 18 30.7 +0.7
OD2 **Odessa Site #2** 120.65 27 P PKPdf 06 18 29.5 -0.4
NEW **Newport** 120.67 25 PKKPab PKKPab 06 28 44.5 +7.4
comp=Z,4.8nm,0.9s,baz=101,slow=3.2,SNR=3.6
NEW **Newport** 120.67 25 *e*PKIKP PKPdf 06 18 29.9 -0.1
NEW MLR MLR
comp=Z,67µm,20.0s
NEW **Newport** 120.67 25 *e*PKPdf PKPdf 06 18 29.9 -0.1
NEW PKKPab PKKPab 06 28 44.5 +7.4
NEW LR LR
comp=Z,67µm,20.0s
NEW **Newport** 120.67 25 ⇑P PKPdf 06 18 29.3 -0.6
baz=120
E07A **Sunnyside** 120.74 28 *e*PKPdf PKPdf 06 18 30.8 +0.7
D08A **Wollman Farm,** 120.80 27 *e*PKPdf PKPdf 06 18 30.5 +0.4
D08A LR LR
comp=Z,72µm,21.0s
VFP **Flag Point** 120.85 30 P PKPdf 06 18 30.6 +0.1
WRD **Warden** 120.89 27 P PKPdf 06 18 30.7 +0.3
H04A **Detroit Lake** 120.93 31 *e*PKPdf PKPdf 06 18 30.3 -0.2
G05D **Wamic, OR** 120.98 30 ⇓P PKPdf 06 18 30.2 -0.4
baz=121
I03D **Drain, OR** 121.00 32 ⇑P PKPdf 06 18 30.8 +0.2
baz=121,SNR=26
KEBM **Edson Butte** 121.01 34 *e*PKPdf PKPdf 06 18 30.4 -0.4
KEBM LR LR
comp=Z,46µm,19.0s
HAWA **Hanford** 121.01 28 *e*PKPdf PKPdf 06 18 30.2 -0.4
HAWA *e*PP PP 06 19 58.3 -1.2
HAWA LR LR
comp=Z,81µm,20.0s
H2OWA **Water** 121.06 28 P PKPdf 06 18 31.4 +0.7
G06A **Carlson Farm,** 121.32 30 *e*PKPdf PKPdf 06 18 31.4 +0.1
WALA **Waterton Lakes** 121.34 23 *e*PKPdf PKPdf 06 18 28.6 -2.8
WALA LR LR
comp=Z,136µm,21.0s
I04A **Tendick Farm,** 121.43 32 ⇑P PKPdf 06 18 30.9 -0.7
baz=121,SNR=23
KBO **Bosley Butte** 121.50 34 *e*PKPdf PKPdf 06 18 31.8 0.0
KBO *e*PP PP 06 20 03.9 +0.8
KBO LR LR
comp=Z,37µm,20.0s
E09A **Wood Farm, Sta** 121.56 27 *e*PKPdf PKPdf 06 18 31.9 +0.3
I05D **Terrebonne, OR** 121.61 31 ⇓P PKPdf 06 18 31.3 -0.6
baz=121
L02D **Cave Junction,** 121.88 34 ⇓P PKPdf 06 18 32.1 -0.3
baz=122,SNR=18
HUMO **Hull Mountain** 121.94 33 *e*PKPdf PKPdf 06 18 32.6 +0.1
HUMO *e*PP PP 06 20 06.6 +0.5
HUMO LR LR
comp=Z,41µm,20.0s
BSMT **Bassoo Peak** 121.97 24 *e*PKPdf PKPdf 06 18 31.8 -0.8
BSMT *e*PP PP 06 20 10.8 +4.7
J04D **Umpqua Nationa** 121.97 32 ⇑P PKPdf 06 18 32.3 -0.5
baz=122,SNR=19
BLMT **Blacktail Moun** 122.01 24 *e*PKPdf PKPdf 06 18 32.8 0.0
G08A **Pilot Rock** 122.09 29 *e*PKPdf PKPdf 06 18 32.9 0.0
JTMT **Jette** 122.25 24 *e*PKPdf PKPdf 06 18 31.9 -1.3
YBMT **Yellow Bay** 122.27 23 *e*PKPdf PKPdf 06 18 32.9 -0.3
F10A **Beach Ranch, E** 122.39 27 *e*PKPdf PKPdf 06 18 33.6 +0.2
J05D **Fort Rock, OR** 122.40 32 ⇓P PKPdf 06 18 33.0 -0.5
baz=122,SNR=19
DRLN **Deer Lake** 122.44 340 *e*PKPdf PKPdf 06 18 32.8 -0.5
DRLN LR LR
comp=Z,70µm,22.0s
SWMT **Swartz Lake** 122.56 24 *e*PKPdf PKPdf 06 18 32.9 -0.8
SWMT *e*PP PP 06 20 11.1 +1.1
K04D **Chiloquin, OR** 122.58 32 ⇓P PKPdf 06 18 34.0 +0.1
baz=122,SNR=7.6
KHMM **Horse Mountain** 122.65 35 *e*PKPdf PKPdf 06 18 34.8 +0.7
KHMM LR LR
comp=Z,41µm,22.0s
YBH **Yreka Blue Hor** 122.66 34 PKP PKPdf 06 18 33.8 -0.3
comp=Z,9.7nm,1.1s,baz=90,slow=3.3,SNR=12
YBH PP PP 06 20 16.9 +5.8
comp=Z,44nm,1.1s,baz=66,slow=10.0,SNR=5.6
YBH PKKPbc PKKPab 06 28 27.8 -0.8
comp=Z,2.4nm,0.7s,baz=70,slow=7.0,SNR=8.1
YBH **Yreka Blue Hor** 122.66 34 *e*PKIKP PKPdf 06 18 33.3 -0.7
YBH 06 20 16.9
YBH MLR MLR
comp=Z,46µm,20.0s
YBH **Yreka Blue Hor** 122.66 34 *e*PKPdf PKPdf 06 18 33.3 -0.7
YBH PKP PKPdf 06 18 33.8 -0.3
YBH PP PP 06 20 16.9 +5.8
YBH PKKPbc PKKPab 06 28 27.8 -0.8
YBH *e*PKKPbc PKKPbc 06 28 28.3 -0.6
YBH LR LR
comp=Z,46µm,20.0s
I07A **Izee** 122.71 30 *e*PKPdf PKPdf 06 18 34.5 +0.4
M02C **Callahan** 122.81 34 ⇑P PKPdf 06 18 34.6 +0.3
baz=123,SNR=31
K05A **Summer Lake** 122.97 32 *e*PKPdf PKPdf 06 18 35.7 +1.0
SLMT **Seeley Lake** 122.98 24 *e*PKPdf PKPdf 06 18 33.6 -1.0
SLMT *e*PP PP 06 20 14.1 +1.2
KMRM **Mail Ridge** 123.09 36 *e*PKPdf PKPdf 06 18 35.5 +0.6
KMRM LR LR
comp=Z,37µm,21.0s
M04C **Macdoel** 123.11 33 ⇓P PKPdf 06 18 34.0 -1.0
baz=123,SNR=22
MSO **Missoula** 123.13 24 *e*PKPdf PKPdf 06 18 34.6 -0.2
MSO LR LR
comp=Z,89µm,18.0s
MSO **Missoula** 123.13 24 ⇓P PKPdf 06 18 34.1 -0.7
baz=123
N02D **Trinity Center** 123.17 34 ⇓P PKPdf 06 18 34.5 -0.5
baz=123
BMO **Blue Mountains** 123.20 28 *e*PKPdf PKPdf 06 18 31.4 -3.6
BMO LR LR
comp=Z,76µm,22.0s
A19A **Klindworth Far** 123.30 19 ⇑P PKPdf 06 18 34.2 -0.8
baz=123,SNR=14
CHMT **Chamberlain Mo** 123.34 24 *e*PKPdf PKPdf 06 18 34.5 -0.9
CHMT *e*PP PP 06 20 14.3 -1.1
KIPM **Iron Peak** 123.49 36 *e*PKPdf PKPdf 06 18 35.9 +0.2
KCPM **Cahto Peak** 123.51 36 *e*PKPdf PKPdf 06 18 35.7 0.0
KCPM LR LR
comp=Z,24µm,21.0s
WDC **Whiskeytown Da** 123.53 35 *e*PKIKP PKPdf 06 18 34.3 -1.3
WDC *e* 06 20 18.5
WDC MLR MLR
comp=Z,49µm,22.0s
WDC **Whiskeytown Da** 123.53 35 *e*PKPdf PKPdf 06 18 34.3 -1.3
WDC *e*PP PP 06 20 18.5 +1.7
WDC LR LR
comp=Z,49µm,22.0s
A20A **Cobblestone Ra** 123.60 19 ⇓P PKPdf 06 18 34.9 -0.6
baz=123,SNR=20
B19A **Brinkman Farms** 123.64 20 ⇓P PKPdf 06 18 35.1 -0.5
baz=123,SNR=13
EGMT **Eagleton** 123.73 21 *e*PKPdf PKPdf 06 18 35.8 -0.1
EGMT LR LR
comp=Z,71µm,20.0s
EGMT **Eagleton** 123.73 21 ⇑P PKPdf 06 18 35.9 0.0
baz=124,SNR=36
A21A **Bergtoll Ranch** 123.82 18 ⇓P PKPdf 06 18 35.7 -0.3
baz=124,SNR=26
B20A **Solberg Farm,** 123.96 19 ⇓P PKPdf 06 18 35.8 -0.4
baz=124,SNR=26
HRY **Holter Researc** 124.07 23 *e*PKPdf PKPdf 06 18 35.9 -0.7
HRY *e*PP PP 06 20 19.8 -0.3
A22A **Carney Farms,** 124.13 17 ⇓P PKPdf 06 18 36.5 -0.1
baz=124,SNR=30
C19A **Slack Wire Ran** 124.22 20 ⇑P PKPdf 06 18 37.0 +0.2
baz=124,SNR=52
HOPS **Hopland Field** 124.26 36 *e*PKPdf PKPdf 06 18 35.3 -1.7
HOPS *e*PP PP 06 20 22.8 +1.1
HOPS LR LR
comp=Z,33µm,20.0s
B21A **Ellsworth Farm** 124.29 18 ⇑P PKPdf 06 18 36.8 -0.1
baz=124,SNR=11
WVOR **Wild Horse Val** 124.34 31 *e*PKIKP PKPdf 06 18 36.3 -1.0
WVOR *e* 06 20 21.3
WVOR MLR MLR
comp=Z,66µm,21.0s
WVOR **Wild Horse Val** 124.34 31 *e*PKPdf PKPdf 06 18 36.2 -1.0
WVOR *e*PP PP 06 20 21.3 -0.9
WVOR LR LR
comp=Z,66µm,21.0s
A23A **Redstone** 124.46 17 ⇑P PKPdf 06 18 37.1 -0.1
baz=124,SNR=7.4
LRM **Limekiln Ridge** 124.55 24 *e*PKPdf PKPdf 06 18 36.8 -1.0
LRM *e*PP PP 06 20 19.7 -3.8
C20A **Veseth Ranch,** 124.60 20 ⇑P PKPdf 06 18 37.5 0.0

baz=124,SNR=38
B22A Reddig Ranch S 124.72 18 ⇓P **PKPdf 06 18 38.0 +0.3**
baz=124,SNR=10
A24A Westby 124.73 16 ⇑P **PKPdf 06 18 37.6 -0.1**
baz=124
D19A Cripps Ranch, 124.77 20 ⇑P **PKPdf 06 18 37.7 -0.2**
baz=125,SNR=25
C21A Desert Coulee 124.80 19 ⇑P **PKPdf 06 18 37.8 -0.1**
baz=125,SNR=13
DLMT Dillon 124.87 24 *e*PKPdf **PKPdf 06 18 38.3 0.0**
DLMT *e*PP **PP 06 20 24.3 -1.3**
DLMT LR LR
comp=Z,111µm,21.0s
B23A Brockton 124.87 17 ⇑P **PKPdf 06 18 37.7 -0.3**
baz=125,SNR=24
MCCM Marconi Confer 124.92 37 *e*PKPdf **PKPdf 06 18 37.0 -1.3**
MCCM *e*PP **PP 06 20 25.0 -1.2**
MCCM LR LR
comp=Z,29µm,20.0s
A25A Svangstu Ranch 124.96 15 ⇑P **PKPdf 06 18 38.2 +0.1**
baz=125
MFID Camas Ranch 124.98 28 *e*PKPdf **PKPdf 06 18 37.3 -1.1**
MFID *e*PP **PP 06 20 25.8 -0.7**
MFID LR LR
comp=Z,56µm,22.0s
BOZ Bozeman (W) 125.03 23 *e*PKIKP **PKPdf 06 18 36.7 -1.8**
BOZ *e* 06 20 31.3
BOZ MLR MLR
comp=Z,109µm,19.0s
BOZ Bozeman (W) 125.03 23 *e*PKPdf **PKPdf 06 18 36.7 -1.8**
BOZ *e*PP **PP 06 20 31.3 +4.7**
BOZ LR LR
comp=Z,109µm,19.0s
DGMT Dagmar 125.09 16 *e*PKPdf **PKPdf 06 18 39.0 +0.6**
DGMT LR LR
comp=Z,67µm,19.0s
DGMT Dagmar 125.09 16 ⇓P **PKPdf 06 18 38.1 -0.3**
baz=125,SNR=13
MCMT McKenzie Canyo 125.20 25 *e*PKPdf **PKPdf 06 18 38.9 -0.1**
MCMT *e*PP **PP 06 20 25.8 -2.2**
C22A Vida 125.25 18 ⇓P **PKPdf 06 18 38.9 +0.2**
baz=125,SNR=23
ULM Lac du Bonnet 125.26 9 Pdiff Pdif 06 15 26.1 +11
comp=Z,0.6nm,0.4s,baz=350,slow=11,SNR=2.4
ULM PKP **PKPdf 06 18 37.9 -0.7**
comp=Z,95nm,0.9s,baz=346,slow=2.9,SNR=69
ULM SKKPbc SKKPbc 06 32 07.8 +1.5
comp=Z,9.0nm,1.0s,baz=192,slow=5.5,SNR=3.0
ULM Lac du Bonnet 125.26 9 Pdif Pdif 06 15 26.1 +11
ULM *e*PKPdf **PKPdf 06 18 37.4 -1.2**
ULM PKP **PKPdf 06 18 37.9 -0.7**
ULM SKKPbc SKKPbc 06 32 07.8 +1.5
A26A Wade Farm, Ken 125.27 15 ⇓P **PKPdf 06 18 38.8 +0.1**
baz=125
C23A Lambert 125.41 17 ⇑P **PKPdf 06 18 39.5 +0.4**
baz=125,SNR=15
E19A Rath Farm, Rou 125.41 21 ⇓P **PKPdf 06 18 38.8 -0.3**
baz=125,SNR=16
A27A Ledoux Ranch, 125.42 14 ⇑P **PKPdf 06 18 39.1 +0.1**
baz=125
D21A La Casta Ranch 125.50 19 ⇓P **PKPdf 06 18 39.3 +0.1**
baz=125,SNR=17
HLID Hailey 125.52 27 *e*PKPdf **PKPdf 06 18 39.2 -0.3**
HLID *e*PP **PP 06 20 29.0 -1.1**
HLID LR LR
comp=Z,60µm,19.0s
HLID Hailey 125.52 27 ⇑P **PKPdf 06 18 39.3 -0.3**
baz=125
B25A Knox Farm, Ray 125.56 16 ⇓P **PKPdf 06 18 39.2 -0.1**
baz=125
SAC San Andreas 125.57 37 *e*PKIKP **PKPdf 06 18 39.9 +0.3**
SAC San Andreas 125.57 37 *e*PKPdf **PKPdf 06 18 39.9 +0.3**
E20A Meyer Farm, Mu 125.60 20 ⇑P **PKPdf 06 18 39.4 -0.1**
baz=125,SNR=35
GCMT Greycliff 125.66 22 *e*PKPdf **PKPdf 06 18 39.6 -0.2**
GCMT *e*PP **PP 06 20 32.6 +1.8**
D22A Cohagen 125.68 19 ⇓P **PKPdf 06 18 40.0 +0.4**
baz=126,SNR=35
A28A Rude Farm, Bot 125.69 13 ⇑P **PKPdf 06 18 39.3 -0.2**
baz=126,SNR=13
B26A Jensen Ranch, 125.71 15 ⇓P **PKPdf 06 18 39.5 -0.1**
baz=126
QLMT Earthquake Lak 125.78 24 *e*PKPdf **PKPdf 06 18 40.5 +0.5**
F19A Roth Farm, Mol 125.87 21 ⇓P **PKPdf 06 18 39.7 -0.4**
baz=126,SNR=16
C24A Savage 125.88 17 ⇑P **PKPdf 06 18 40.0 0.0**
baz=126,SNR=26
A29A Manning Farm, 125.90 12 ⇑P **PKPdf 06 18 39.3 -0.6**
baz=126,SNR=18
B27A Peters Farms, 125.92 14 ⇑P **PKPdf 06 18 39.9 -0.1**
baz=126
E21A Keefer Ranch, 125.93 20 ⇑P **PKPdf 06 18 40.1 0.0**
baz=126,SNR=34
D23A Lindsay 125.97 18 ⇑P **PKPdf 06 18 40.0 -0.1**
baz=126,SNR=29
C25A Freed Ranch, W 126.04 16 ⇓P **PKPdf 06 18 40.2 0.0**
baz=126,SNR=12
A30A Hoffart Farm, 126.08 12 ⇓P **PKPdf 06 18 38.8 -1.4**
baz=126,SNR=19
LAO LASA Array 126.08 19 *e*PKPdf **PKPdf 06 18 40.2 -0.2**
LAO *e*PP **PP 06 20 34.0 +0.6**
LAO LR LR
comp=Z,83µm,21.0s
B28A Dugan Ranch, T 126.09 13 ⇓P **PKPdf 06 18 40.0 -0.3**
baz=126,SNR=21
YMR Madison River 126.10 24 *e*PKPdf **PKPdf 06 18 41.2 +0.5**
YMR *e*PP **PP 06 20 32.3 -1.6**
YMR LR LR
comp=Z,124µm,18.0s
YNR Norris Junctio 126.17 23 *e*PKPdf **PKPdf 06 18 41.2 +0.3**
YNR *e*PP **PP 06 20 35.5 +1.1**
YNR LR LR
comp=Z,140µm,18.0s
F20A Billings 126.20 21 ⇓P **PKPdf 06 18 40.7 0.0**
baz=126,SNR=7.3
C26A Wahner Farm, P 126.25 15 ⇑P **PKPdf 06 18 40.4 -0.3**
baz=126
D24A Glendive 126.28 17 ⇓P **PKPdf 06 18 40.8 0.0**
baz=126,SNR=16
B29A Wagenman Farm,126.31 13 ⇓P **PKPdf 06 18 40.3 -0.4**
baz=126,SNR=10
YFT Old Faithful 126.33 24 *e*PKPdf **PKPdf 06 18 42.7 +1.5**
YFT *e*PP **PP 06 20 36.2 +0.8**
YFT LR LR
comp=Z,320µm,18.0s
RLMT Red Lodge 126.38 22 *e*PKPdf **PKPdf 06 18 40.6 -0.7**
RLMT *e*PP **PP 06 20 35.8 +0.1**
RLMT LR LR
comp=Z,68µm,21.0s
E22A Miles City 126.39 19 ⇑P **PKPdf 06 18 41.4 +0.4**
baz=126,SNR=23
LKWY Lake 126.41 23 *e*PKIKP **PKPdf 06 18 42.5 +1.1**
LKWY *e* 06 20 37.3
LKWY MLR MLR
comp=Z,224µm,19.0s
LKWY Lake 126.41 23 *e*PKPdf **PKPdf 06 18 42.5 +1.1**
LKWY *e*PP **PP 06 20 37.3 +1.4**
LKWY LR LR
comp=Z,224µm,19.0s
CMB Columbia Colle 126.47 36 *e*PKIKP **PKPdf 06 18 41.1 -0.3**
CMB MLR MLR
comp=Z,33µm,22.0s
CMB Columbia Colle 126.47 36 *e*PKPdf **PKPdf 06 18 41.1 -0.3**
CMB LR LR
comp=Z,33µm,22.0s
H17A Grant Village 126.48 24 *e*PKPdf **PKPdf 06 18 41.7 +0.2**
H17A *e*PP **PP 06 20 38.7 +2.3**
H17A LR LR
comp=Z,118µm,20.0s
H17A Grant Village 126.48 24 ⇑P **PKPdf 06 18 42.8 +1.3**
baz=126
C27A Sayler Ranch, 126.50 15 ⇓P **PKPdf 06 18 41.2 0.0**
baz=126
BMN Battle Mountai 126.53 31 *e*PKIKP **PKPdf 06 18 41.6 0.0**
BMN *e* 06 20 39.3
BMN MLR MLR
comp=Z,48µm,20.0s
BMN Battle Mountai 126.53 31 *e*PKPdf **PKPdf 06 18 41.6 0.0**
BMN *e*PP **PP 06 20 39.3 +2.4**
BMN LR LR
comp=Z,48µm,20.0s
B30A Myrvik Farm, E 126.54 12 ⇑P **PKPdf 06 18 40.2 -1.0**
baz=126,SNR=14
D25A Fairfield 126.54 16 ⇑P **PKPdf 06 18 41.8 +0.6**
baz=126,SNR=19
E23A Ismay 126.54 18 ⇓P **PKPdf 06 18 41.7 +0.5**
baz=126,SNR=24
F21A Absaloka Mine, 126.54 20 ⇑P **PKPdf 06 18 41.3 0.0**
baz=126,SNR=22
H18A Shoshone NF, C 126.60 23 ⇑P **PKPdf 06 18 41.4 -0.3**
baz=126,SNR=8.5
G20A Bridger 126.68 21 ⇓P **PKPdf 06 18 41.5 -0.2**
baz=126,SNR=25
SAO San Andreas Ge 126.69 38 *e*PKIKP **PKPdf 06 18 41.8 0.0**
SAO *e* 06 20 35.9
SAO MLR MLR
comp=Z,25µm,22.0s
SAO San Andreas Ge 126.69 38 *e*PKPdf **PKPdf 06 18 41.8 0.0**
SAO *e*PP **PP 06 20 35.9 -2.1**
SAO LR LR
comp=Z,25µm,22.0s
FLWY Flagg Ranch 126.69 24 *e*PKPdf **PKPdf 06 18 41.3 -0.6**
FLWY *e*PP **PP 06 20 41.1 +3.3**
FLWY LR LR
comp=Z,57µm,18.0s
WAKR Walker 126.70 35 *e*PKPdf **PKPdf 06 18 42.2 +0.2**
WAKR *e*PP **PP 06 20 41.5 +3.4**
IMW Indian Meadow 126.75 24 *e*PKPdf **PKPdf 06 18 41.8 -0.2**
IMW *e*PP **PP 06 20 39.7 +1.5**
IMW LR LR
comp=Z,58µm,19.0s
C28A Hausauer Farms 126.78 14 ⇑P **PKPdf 06 18 41.2 -0.4**
baz=127,SNR=6.7
E24A Baker 126.79 17 ⇓P **PKPdf 06 18 41.8 +0.1**
baz=127,SNR=23
MDND Maddock 126.83 13 *e*PKPdf **PKPdf 06 18 41.2 -0.5**
MDND *e*PP **PP 06 20 35.8 -2.4**
MDND LR LR
comp=Z,85µm,20.0s
MDND Maddock 126.83 13 ⇓P **PKPdf 06 18 41.3 -0.5**
baz=127,SNR=7.7
H19A Powell 126.86 22 ⇓P **PKPdf 06 18 41.9 -0.2**
baz=127,SNR=57
F22A Rosebud 126.87 19 ⇑P **PKPdf 06 18 41.7 -0.2**
baz=127,SNR=8.7
I17A Pilgrim Ck. 126.88 24 ⇓P **PKPdf 06 18 42.3 +0.1**
baz=127
D26A Manning 126.89 16 ⇑P **PKPdf 06 18 41.8 -0.1**
baz=127,SNR=14
FXWY Fox Creek 126.92 24 PFAKE 06 18 50.0 +7.7
FXWY LR LR
comp=Z,89µm,18.0s
MOOW Moose Ponds 126.95 24 *e*PKPdf **PKPdf 06 18 42.3 -0.1**
MOOW *e*PP **PP 06 20 40.7 +1.2**
MOOW LR LR
comp=Z,65µm,19.0s
G21A Lodge Grass 127.03 20 ⇑P **PKPdf 06 18 42.2 -0.1**
baz=127
D27A Center 127.06 15 ⇑P **PKPdf 06 18 41.7 -0.5**
baz=127,SNR=9.9
TPAW Teton Pass 127.08 24 *e*PKPdf **PKPdf 06 18 41.0 -1.7**
TPAW *e*PP **PP 06 20 40.8 +0.4**
TPAW LR LR
comp=Z,100µm,18.0s
E25A Miller Ranch, 127.11 17 ⇑P **PKPdf 06 18 42.7 +0.3**
baz=127,SNR=25
RKT Rikitea 127.11 116 *e*Pdif **Pdif 06 15 25.4 +1.2**
comp=Z,3µm,30.5s
RKT Rikitea 127.11 116 *e*PP PP 06 20 45.5 +3.6
comp=Z,21µm,29.8s
RKT *e*Sdif Sdif 06 28 42.7 +0.8
comp=Z,24µm,30.2s
RKT Rikitea 127.11 116 *e*PS PS 06 30 47.8 +0.3
comp=Z,39µm,29.2s
RKT *e*SS SS 06 37 54.0 +6.1
comp=Z,91µm,34.0s
RKT Rikitea 127.11 116 *e*LQ LQ 06 53 21.9
comp=Z,202µm,39.8s
RKT *e*LR LR 06 58 35.8
comp=Z,109µm,23.2s
LOHW Long Hollow 127.12 24 *e*PKPdf **PKPdf 06 18 41.9 -0.8**
LOHW *e*PP **PP 06 20 41.7 +1.1**
AGMN Agassiz Nation 127.15 10 *e*PKPdf **PKPdf 06 18 41.3 -1.0**
AGMN LR LR
comp=Z,119µm,21.0s
AGMN Agassiz Nation 127.15 10 ⇓P **PKPdf 06 18 41.5 -0.8**
baz=127
SNOW Snow King Moun 127.18 24 *e*PKPdf **PKPdf 06 18 42.9 +0.1**
SNOW *e*PP **PP 06 20 41.4 +0.3**
SNOW LR LR
comp=Z,84µm,18.0s
F23A Volborg 127.20 19 ⇓P **PKPdf 06 18 42.5 -0.1**
baz=127,SNR=17
C30A Mose, Pekin 127.22 12 ⇑P **PKPdf 06 18 41.8 -0.7**
baz=127,SNR=17
D28A Regan 127.22 14 ⇑P **PKPdf 06 18 42.5 0.0**
baz=127,SNR=10
REDW Red Top Meadow 127.22 24 *e*PKPdf **PKPdf 06 18 42.8 -0.1**
REDW *e*PP **PP 06 20 40.9 -0.4**
REDW LR LR
comp=Z,103µm,19.0s
ELK Elko 127.30 30 SKKPbc SKKPbc 06 32 05.1 +5.8
comp=Z,1.9nm,0.8s,baz=182,slow=2.9,SNR=4.6
ELK Elko 127.30 30 *e*PKIKP **PKPdf 06 18 42.9 -0.2**
ELK Elko 127.30 30 *e*PKPdf **PKPdf 06 18 42.9 -0.2**
ELK *e*PP PP 06 20 33.3 -8.7
ELK SKKPbc SKKPbc 06 32 05.1 +5.8
G22A Birney 127.35 20 ⇓P **PKPdf 06 18 42.8 -0.1**
baz=127,SNR=24
NVAR Mina Array Bea 127.39 34 Pdiff Pdif 06 15 39.1 +14
comp=Z,0.2nm,0.4s,baz=275,slow=4.4,SNR=3.3
NVAR PKhKP PKPpre 06 18 38.6
comp=Z,5.3nm,0.8s,baz=264,slow=1.8,SNR=8.5
NVAR PKP **PKiKP 06 18 43.8 -0.1**
comp=Z,39nm,0.9s,baz=280,slow=1.8,SNR=34
NVAR PKKPab PKKPdf 06 28 22.4 -34
comp=Z,6.0nm,1.1s,baz=149,slow=3.7,SNR=3.7
NVAR SKKP 06 32 26.4
comp=Z,9.1nm,1.1s,baz=179,slow=5.0,SNR=3.9
H20A Greybull 127.39 22 ⇑P **PKPdf 06 18 42.9 -0.2**
baz=127,SNR=22
F24A Ekalaka 127.39 18 ⇑P **PKPdf 06 18 42.9 -0.1**
baz=127,SNR=13
E26A Carlson Angus 127.40 16 ⇓P **PKPdf 06 18 43.0 +0.1**
baz=127,SNR=23
I19A Meeteetse 127.40 23 ⇑P **PKPdf 06 18 42.9 -0.3**
baz=127,SNR=21
USHA Ushuaia 127.52 191 SKP **SKPdf 06 22 15.3 +0.4**
comp=Z,15nm,1.1s,baz=177,slow=2.9,SNR=1.7
EFI East Falkland 127.56 200 *e*PKIKP **PKPdf 06 18 47.5 +4.6**
EFI MLR MLR
comp=Z,219µm,22.0s
EFI East Falkland 127.56 200 *e*PKPdf **PKPdf 06 18 47.5 +4.6**
EFI LR LR
comp=Z,219µm,22.0s
D29A Pettibone, Tap 127.58 13 ⇓P **PKPdf 06 18 42.8 -0.4**
baz=127,SNR=6.0
AHID Auburn Hatcher 127.61 25 PFAKE 06 19 00.0 +16
AHID LR LR
comp=Z,108µm,18.0s
H21A Big Horn, Sher 127.61 21 ⇓P **PKPdf 06 18 42.4 -1.1**
baz=127
F25A Bowman 127.61 17 ⇓P **PKPdf 06 18 42.8 -0.6**
baz=127,SNR=11
MLAC Mammoth, Mammt 127.64 35 ⇓P **PKPdf 06 18 44.3 +0.4**
baz=128
G23A Biddle 127.67 19 ⇑P **PKPdf 06 18 43.3 -0.2**
baz=128,SNR=24
HVU Hansel Valley 127.67 27 *e*PKIKP **PKPdf 06 18 43.2 -0.5**
HVU *e* 06 20 45.3
HVU MLR MLR
comp=Z,64µm,20.0s
HVU Hansel Valley 127.67 27 *e*PKPdf **PKPdf 06 18 43.2 -0.5**
HVU *e*PP **PP 06 20 45.2 +1.0**
HVU LR LR
comp=Z,64µm,20.0s
E27A Carson 127.68 15 ⇑P **PKPdf 06 18 43.3 -0.2**
baz=128,SNR=16
D30A Buchanan 127.72 13 ⇑P **PKPdf 06 18 43.0 -0.5**
baz=128,SNR=14
E28A Huff 127.77 15 ⇓P **PKPdf 06 18 43.2 -0.4**
baz=128,SNR=13
I20A Worland 127.80 22 ⇑P **PKPdf 06 18 43.6 -0.2**
baz=128,SNR=22
G24A Alzada 127.86 18 ⇑P **PKPdf 06 18 42.9 -1.0**
baz=128,SNR=5.7
PQI Presque Isle 127.87 346 *e*PKPdf **PKPdf 06 18 43.2 -0.5**
PQI *e*PP **PP 06 20 43.6 -1.3**
PQI LR LR
comp=Z,99µm,20.0s
H22A Clearmont 127.88 20 ⇑P **PKPdf 06 18 43.5 -0.4**
baz=128
F26A Lodgepole 127.91 16 ⇓P **PKPdf 06 18 43.0 -0.9**
baz=128,SNR=21
J19A Crowheart 128.03 23 ⇓P **PKPdf 06 18 42.8 -1.5**
baz=128
E29A Napoleon 128.03 14 ⇓P **PKPdf 06 18 43.2 -0.9**
baz=128,SNR=6.3
F27A Lemmon 128.07 16 ⇑P **PKPdf 06 18 43.6 -0.6**
baz=128,SNR=17
EYMN Ely 128.12 6 *e*PKPdf **PKPdf 06 18 42.8 -1.4**
EYMN *e*PP **PP 06 20 45.6 -0.9**
EYMN LR LR
comp=Z,102µm,18.0s
BGU Big Grassy Mou 128.23 28 *e*PKPdf **PKPdf 06 18 44.5 -0.3**
BGU *e*PP **PP 06 20 43.9 -4.1**
I21A Big Trails, Te 128.23 21 ⇓P **PKPdf 06 18 44.1 -0.6**
baz=128,SNR=21
H23A Clabaugh Cattl 128.23 19 ⇑P **PKPdf 06 18 44.1 -0.6**
baz=128
TPH Tonopah 128.24 33 *e*PKIKP **PKPdf 06 18 44.7 -0.3**
TPH *e* 06 20 51.1
TPH MLR MLR
comp=Z,38µm,20.0s
TPH Tonopah 128.24 33 *e*PKPdf **PKPdf 06 18 44.7 -0.3**
TPH *e*PP **PP 06 20 51.1 +2.8**
TPH LR LR
comp=Z,38µm,20.0s
BW06 Boulder Array 128.25 24 *e*PKPdf **PKPdf 06 18 42.1 -2.7**
BW06 *e*PP **PP 06 20 50.3 +2.2**
BW06 LR LR
comp=Z,84µm,19.0s
PDAR Pinedale Array 128.25 24 PKhKP PKPpre 06 18 32.7
comp=Z,1.5nm,0.8s,baz=57,slow=3.8,SNR=5.4
PDAR PKP **PKPdf 06 18 44.2 -0.7**
comp=Z,34nm,1.1s,baz=29,slow=3.4,SNR=42
PDAR SKKPbc SKKPbc 06 32 01.1 +4.9
comp=Z,5.6nm,1.0s,baz=158,slow=4.3,SNR=4.5
E30A Jud 128.26 13 ⇓P **PKPdf 06 18 43.7 -0.8**
baz=128,SNR=20
G25A Newell 128.29 17 ⇓P **PKPdf 06 18 44.3 -0.4**
baz=128,SNR=12
RCTC Rector, Farmer 128.31 36 ⇓P **PKPdf 06 18 44.9 0.0**
baz=128,SNR=5.9
J20A Shoshoni 128.33 22 ⇓P **PKPdf 06 18 44.9 0.0**
baz=128,SNR=15
H24A Dirks Ranch, A 128.34 19 ⇑P **PKPdf 06 18 44.4 -0.4**
baz=128,SNR=19
HWUT Hardware Ranch 128.35 26 *e*PKPdf **PKPdf 06 18 44.1 -0.9**
HWUT *e*PP **PP 06 20 48.1 -0.7**
HWUT LR LR
comp=Z,90µm,20.0s
TIN Tinemaha, Big 128.39 35 ⇓P **PKPdf 06 18 45.7 +0.5**
baz=128
F28A McLaughlin 128.42 15 ⇓P **PKPdf 06 18 44.5 -0.3**
baz=128,SNR=12
G26A Maurine 128.44 17 ⇑P **PKPdf 06 18 44.8 -0.1**
baz=128,SNR=21
I22A 9 Mile Ranch, 128.45 21 ⇓P **PKPdf 06 18 44.5 -0.6**
baz=128,SNR=12
SMMC Simmler 128.52 38 ⇓P **PKPdf 06 18 46.2 +0.9**
baz=128,SNR=12
G27A Dupree 128.55 16 ⇑P **PKPdf 06 18 44.5 -0.6**
baz=128,SNR=22
J21A Lysite 128.57 22 ⇓P **PKPdf 06 18 44.7 -0.7**
baz=128,SNR=16
F29A Eureka 128.68 14 ⇑P **PKPdf 06 18 44.7 -0.7**
baz=128,SNR=14
VES Vestal, Richgr 128.72 37 ⇑P **PKPdf 06 18 45.3 -0.3**
baz=129,SNR=5.7
I23A Meade Ranch, G 128.74 20 ⇑P **PKPdf 06 18 44.3 -1.4**
baz=128
H25A Fruitdale 128.75 18 ⇓P **PKPdf 06 18 44.6 -0.9**
baz=128
TCUT Toone Canyon 128.81 27 *e*PKPdf **PKPdf 06 18 45.5 -0.5**
TCUT *e*PP **PP 06 20 52.1 +0.2**
TCUT *e*SKPdf **SKPdf 06 22 13.7 -4.5**
TCUT LR LR
comp=Z,106µm,20.0s
J22A Midwest 128.87 21 ⇓P **PKPdf 06 18 44.7 -1.3**
baz=129,SNR=34
DUG Dugway, Tooele 128.90 28 *e*PKIKP **PKPdf 06 18 46.2 +0.1**
DUG *e* 06 20 55.3
DUG MLR MLR
comp=Z,61µm,19.0s
DUG Dugway, Tooele 128.90 28 *e*PKPdf **PKPdf 06 18 46.2 +0.1**
DUG *e*PP **PP 06 20 55.3 +2.9**
DUG LR LR
comp=Z,61µm,19.0s
DUG Dugway, Tooele 128.90 28 ⇑P **PKPdf 06 18 46.4 +0.3**
baz=129
CWC Cottonwood Cre 128.91 36 ⇑P **PKPdf 06 18 46.9 +0.7**
baz=129
GRAC Grapevine Rang 128.92 34 ⇓P **PKPdf 06 18 46.4 +0.3**
baz=129,SNR=6.9
R11A Troy Canyon, C 128.92 32 *e*PKPdf **PKPdf 06 18 46.6 +0.3**
R11A *e*PP **PP 06 20 52.6 -0.1**
R11A LR LR
comp=Z,53µm,21.0s
R11A Troy Canyon, C 128.92 32 ⇓P **PKPdf 06 18 46.8 +0.5**
baz=129
CTU Camp Tracy 129.00 27 *e*PKPdf **PKPdf 06 18 47.6 +1.3**
CTU LR LR
comp=Z,76µm,22.0s
H26A Fairpoint 129.00 17 ⇓P **PKPdf 06 18 45.8 -0.2**
baz=129,SNR=12
RSSD Black Hills 129.07 19 *e*PKIKP **PKPdf 06 18 45.3 -1.1**
RSSD *e* 06 20 58.5
RSSD MLR MLR
comp=Z,63µm,21.0s
RSSD Black Hills 129.07 19 *e*PKPdf **PKPdf 06 18 45.3 -1.1**
RSSD *e*PP PP 06 20 58.5 +5.2
RSSD LR LR
comp=Z,63µm,21.0s
G28A Parade 129.10 15 ⇑P **PKPdf 06 18 44.8 -1.4**
baz=129,SNR=13
I24A Kuemmerle Ranc 129.11 19 ⇓P **PKPdf 06 18 45.2 -1.2**
baz=129,SNR=8.5
H27A Howes 129.19 17 ⇑P **PKPdf 06 18 45.5 -0.8**
baz=129,SNR=15
J23A Dilts Ranch, B 129.20 20 ⇓P **PKPdf 06 18 45.0 -1.6**
baz=129
ISA Isabella, Lake 129.21 37 *e*PKIKP **PKPdf 06 18 44.7 -2.0**
ISA Isabella, Lake 129.21 37 *e*PKPdf **PKPdf 06 18 44.7 -2.0**
ISA Isabella, Lake 129.21 37 ⇓P **PKPdf 06 18 45.2 -1.5**
baz=129,SNR=6.6
JLU Jordanelle 129.21 27 *e*PKPdf **PKPdf 06 18 46.3 -0.5**
JLU *e*PP **PP 06 20 52.6 -1.8**
G29A Hoven 129.25 15 ⇓P **PKPdf 06 18 46.1 -0.4**
baz=129
I25A Rochford 129.25 18 ⇑P **PKPdf 06 18 46.0 -0.7**
baz=129,SNR=12
K21A Alcova 129.26 22 ⇑P **PKPdf 06 18 45.8 -1.0**
baz=129,SNR=26
SBC Santa Barbara 129.27 39 ⇓P **PKPdf 06 18 47.3 +0.5**
baz=129
DAC Darwin (Calif) 129.30 35 *e*PKIKP **PKPdf 06 18 47.4 +0.4**
DAC MLR MLR
comp=Z,42µm,22.0s
DAC Darwin (Calif) 129.30 35 *e*PKPdf **PKPdf 06 18 47.4 +0.4**
DAC LR LR
comp=Z,42µm,22.0s
ARVC Arvin 129.36 37 ⇑P **PKPdf 06 18 47.2 +0.3**
baz=129,SNR=6.6
NLU North Lily Min 129.44 28 *e*PKPdf **PKPdf 06 18 46.9 -0.3**
NLU *e*PP **PP 06 20 57.9 +1.9**
NLU LR LR
comp=Z,62µm,21.0s
H28A Mission Ridge 129.45 16 ⇓P **PKPdf 06 18 46.3 -0.6**
baz=129,SNR=5.4
PKME Peaks-Kenny Pk 129.49 347 *e*PKPdf **PKPdf 06 18 46.2 -0.6**
PKME *e*SKPdf **SKPdf 06 22 15.0 -4.0**
PKME LR LR
comp=Z,59µm,21.0s
G30A Faulkton 129.50 14 ⇓P **PKPdf 06 18 45.3 -1.6**
baz=129
MPMC Manual Prospec 129.51 35 ⇓P **PKPdf 06 18 48.1 +0.6**
baz=129,SNR=11
I26A New Underwood 129.51 18 ⇓P **PKPdf 06 18 46.8 -0.3**
baz=129,SNR=13
K22A Casper 129.51 22 *e*PKPdf **PKPdf 06 18 45.1 -2.1**
K22A *e*PP **PP 06 20 55.9 -0.3**
K22A LR LR
comp=Z,45µm,19.0s
K22A Casper 129.51 22 ⇑P **PKPdf 06 18 46.1 -1.1**
baz=129,SNR=13
EMMW East Machias 129.56 345 *e*PKPdf **PKPdf 06 18 45.1 -1.8**
EMMW *e*PP **PP 06 20 58.4 +2.3**

EMMW LR LR
comp=Z,87µm,22.0s
J24A Dixon Ranch, L 129.57 20 ⇓P **PKPdf** 06 18 46.7 -0.5
baz=129,SNR=14
FURC Furnace Creek, 129.58 35 ⇓P **PKPdf** 06 18 47.5 +0.3
baz=129,SNR=5.8
TPNV Topopah Spring 129.58 34 *e*PKIKP **PKPdf** 06 18 44.2 -3.3
TPNV MLR MLR
comp=Z,50µm,22.0s
TPNV Topopah Spring 129.58 34 *e*PKPdf **PKPdf** 06 18 44.2 -3.3
TPNV LR LR
comp=Z,50µm,22.0s
TPNV Topopah Spring 129.58 34 ⇑P **PKPdf** 06 18 47.0 -0.5
baz=129,SNR=7.4
MPU Maple Canyon 129.60 28 *e*PKPdf **PKPdf** 06 18 47.3 -0.2
MPU *e*PP **PP** 06 20 57.8 +0.8
MPU LR LR
comp=Z,86µm,20.0s
BSC Santa Cruz Isl 129.62 39 ⇓P **PKPdf** 06 18 48.1 +0.7
baz=130
H29A Onida 129.71 15 ⇑P **PKPdf** 06 18 46.2 -1.1
baz=130,SNR=9.8
I27A Quinn 129.72 17 ⇑P **PKPdf** 06 18 46.8 -0.6
baz=130,SNR=10
K23A Bowen Ranch, D 129.75 21 ⇑P **PKPdf** 06 18 46.9 -0.8
baz=130,SNR=18
OSI Osito Audit: C 129.77 38 *e*PKPdf **PKPdf** 06 18 47.6 -0.2
OSI *e*PP **PP** 06 20 56.3 -2.0
OSI *e*SKPdf **SKPdf** 06 22 15.5 -4.4
OSI Osito Audit: C 129.77 38 ⇑P **PKPdf** 06 18 48.4 +0.7
baz=130
J25A Sunshine Ranch 129.80 19 ⇓P **PKPdf** 06 18 47.0 -0.6
baz=130,SNR=13
LRMC Laurel Mtn Rad 129.80 36 ⇑P **PKPdf** 06 18 48.0 +0.1
baz=130
BLG Laguna Peak, P 129.89 38 ⇓P **PKPdf** 06 18 48.1 +0.1
baz=130
EDW2 Edwards Air Fo 130.03 37 ⇑P **PKPdf** 06 18 48.5 +0.2
baz=130
I28A Midland 130.03 16 ⇑P **PKPdf** 06 18 47.7 -0.2
baz=130,SNR=10
K24A Anderson Ranch 130.06 20 ⇑P **PKPdf** 06 18 47.5 -0.7
baz=130
L22A Ellis Ranch, M 130.08 22 ⇓P **PKPdf** 06 18 48.2 -0.2
baz=130,SNR=8.4
J26A Sides Ranch, S 130.10 18 ⇑P **PKPdf** 06 18 48.2 0.0
baz=130,SNR=12
COWI Conover 130.17 5 *e*PKPpre PKPpre 06 18 38.1
COWI LR LR
comp=Z,75µm,19.0s
BRSD Miller 130.19 14 *e*PKPpre PKPpre 06 18 39.0
BRSD *e*PP **PP** 06 20 56.5 -3.7
BRSD Miller 130.19 14 ⇑P **PKPdf** 06 18 47.7 -0.6
baz=130
WVL Waterville 130.24 347 *e*PKPdf **PKPdf** 06 18 48.4 +0.1
WVL LR LR
comp=Z,101µm,21.0s
I29A Vivian Onida 130.25 15 ⇑P **PKPdf** 06 18 48.0 -0.4
baz=130,SNR=13
DECC Green Verdugo 130.25 38 ⇑P **PKPdf** 06 18 48.5 -0.1
baz=130
L23A Garrett 130.28 21 ⇑P **PKPdf** 06 18 48.2 -0.6
baz=130,SNR=15
SHOC Shoshone, Teco 130.32 35 ⇑P **PKPdf** 06 18 49.2 +0.5
baz=130,SNR=6.0
TMUT Trail Mountain 130.37 28 *e*PKPdf **PKPdf** 06 18 49.3 +0.2
TMUT *e*PP **PP** 06 21 01.5 -0.6
N20A Spence Gulch, 130.39 24 ⇓P **PKPdf** 06 18 48.1 -0.9
baz=130,SNR=16
MWC Mount Wilson 130.44 38 *e*PKIKP **PKPdf** 06 18 49.2 -0.1
MWC Mount Wilson 130.44 38 *e*PKPdf **PKPdf** 06 18 49.1 -0.1
GSC Goldstone, Bar 130.44 36 *e*PKIKP **PKPdf** 06 18 46.9 -2.2
GSC *e* 06 21 06.0
GSC Goldstone, Bar 130.44 36 *e*PKPdf **PKPdf** 06 18 46.9 -2.2
GSC *e*PP **PP** 06 21 06.0 +3.4
GSC *e* 06 22 10.1
GSC Goldstone, Bar 130.44 36 ⇓P **PKPdf** 06 18 48.8 -0.3
baz=130,SNR=9.3
K25A Mack Ranch, Ha 130.47 19 ⇓P **PKPdf** 06 18 48.6 -0.4
baz=130
J27A Elkhorn Farm, 130.48 17 ⇑P **PKPdf** 06 18 48.7 -0.2
baz=130,SNR=15
MVU Marysvale 130.52 29 *e*PKPdf **PKPdf** 06 18 50.1 +0.7
MVU *e*SKPbc **SKPab** 06 22 09.3 -0.4
MVU LR LR
comp=Z,56µm,20.0s
MSU Marysvale 130.53 29 *e*PKIKP **PKPdf** 06 18 50.0 +0.6
MSU Marysvale 130.53 29 *e*PKPdf **PKPdf** 06 18 50.0 +0.6
MSU *e*SKPbc **SKPab** 06 22 09.6 0.0
J28A Allard Ranch, 130.54 17 ⇑P **PKPdf** 06 18 49.6 +0.6
baz=130,SNR=14
M22A Cedar Creek Ra 130.57 22 ⇑P **PKPdf** 06 18 48.2 -1.1
baz=130,SNR=8.8
I30A Oaconna 130.57 15 ⇓P **PKPdf** 06 18 48.9 -0.1
baz=130
K26A Motz Farm, Whi 130.62 19 ⇑P **PKPdf** 06 18 49.5 +0.3
baz=130,SNR=7.3
L24A Wheatland 130.62 21 ⇑P **PKPdf** 06 18 50.1 +0.8
baz=130,SNR=8.8
RRX Edison Barstow 130.62 36 ⇓P **PKPdf** 06 18 50.7 +1.4
baz=130
SPMN Marine on St. 130.63 8 *e*PKPdf **PKPdf** 06 18 48.0 -1.0
SPMN LR LR
comp=Z,83µm,19.0s
SPMN Marine on St. 130.63 8 ⇑P **PKPdf** 06 18 49.2 +0.2
baz=130
FMP Fort Macarthur 130.64 38 ⇓P **PKPdf** 06 18 50.6 +1.2
baz=130
BFSC Mount Baldy Ra 130.67 37 ⇓P **PKPdf** 06 18 49.4 -0.2
baz=130
CIS Catalina Islan 130.77 39 ⇓P **PKPdf** 06 18 50.0 +0.3
baz=131
J29A Okreek 130.81 16 ⇑P **PKPdf** 06 18 49.9 +0.4
baz=131
SRU San Rafael Swe 130.83 27 *e*PKIKP **PKPdf** 06 18 49.5 -0.4
SRU *e* 06 21 06.9
SRU San Rafael Swe 130.83 27 *e*PKPdf **PKPdf** 06 18 49.5 -0.4
SRU *e*PP **PP** 06 21 06.9 +1.9
SRU *e* 06 22 10.1
M23A Laramie 130.84 22 ⇓P **PKPdf** 06 18 48.6 -1.3
baz=131,SNR=8.2
L25A Engebretsen Ra 130.85 20 ⇑P **PKPdf** 06 18 49.3 -0.4
baz=131,SNR=5.6
TUQ Turquoise Moun 130.85 35 ⇓P **PKPdf** 06 18 49.2 -0.7
baz=131,SNR=5.3
PTCN Pitcairn Islan 130.88 120 PFAKE 06 19 00.0 +10
PTCN LR LR
comp=Z,97µm,21.0s
K27A Flueckinger Fa 130.91 18 ⇓P **PKPdf** 06 18 49.0 -0.7
baz=131,SNR=6.2
O20A White River Ci 130.99 25 *e*PKPdf **PKPdf** 06 18 49.5 -0.7
O20A *e*PP **PP** 06 21 06.7 +0.8
O20A LR LR
comp=Z,82µm,22.0s
O20A White River Ci 130.99 25 ⇓P **PKPdf** 06 18 48.9 -1.3
baz=131,SNR=21
HEC Hector,Ludlow 131.05 36 ⇓P **PKPdf** 06 18 50.6 +0.4
baz=131
PHWY Pilot Hill 131.08 21 *e*PKPdf **PKPdf** 06 18 49.3 -1.1
PHWY *e*PP **PP** 06 21 06.9 +0.3
PHWY LR LR
comp=Z,54µm,21.0s
BBRC Big Bear Solar 131.09 37 ⇓P **PKPdf** 06 18 50.9 +0.4
baz=131
J30A Dallas 131.11 15 ⇑P **PKPdf** 06 18 49.6 -0.4
baz=131,SNR=8.3
LONY Lake Ozonia 131.13 351 *e*PKPdf **PKPdf** 06 18 49.2 -0.8
LONY *e*PP **PP** 06 21 02.7 -3.6
LONY *e* 06 22 11.5
LONY LR LR
comp=Z,74µm,21.0s
N22A Wattenberg Ran 131.14 23 ⇑P **PKPdf** 06 18 49.8 -0.6
baz=131,SNR=12
K28A Ten Mile Ranch 131.16 17 ⇑P **PKPdf** 06 18 49.5 -0.7
baz=131
M24A Cheyenne 131.16 21 ⇑P **PKPdf** 06 18 50.0 -0.4
baz=131,SNR=12
PTN Potsdam (NY) 131.24 351 *e*PKIKP **PKPdf** 06 18 50.0 -0.2
PTN MLR MLR
comp=Z,146µm,22.0s
PTN Potsdam (NY) 131.24 351 *e*PKPdf **PKPdf** 06 18 50.0 -0.2
PTN LR LR
comp=Z,146µm,22.0s
L26A Underwood Farm 131.25 19 ⇑P **PKPdf** 06 18 50.2 -0.2
baz=131
N23A Red Feather La 131.25 22 *e*PKPdf PKPpre 06 18 46.1
N23A LR LR
comp=Z,72µm,20.0s
N23A Red Feather La 131.25 22 ⇓P **PKPdf** 06 18 49.9 -0.8
baz=131,SNR=7.7
KNB Kanab 131.36 31 *e*PKIKP **PKPdf** 06 18 51.7 +0.8
KNB MLR MLR
comp=Z,50µm,20.0s
KNB Kanab 131.36 31 *e*PKPdf **PKPdf** 06 18 51.7 +0.8
KNB LR LR
comp=Z,50µm,20.0s
MURC Murrieta 131.38 38 ⇓P **PKPdf** 06 18 50.6 -0.3
baz=131
ECSD EROS Data Cent 131.40 12 *e*PKPpre PKPpre 06 18 38.4
ECSD *e*PKPdf **PKPdf** 06 18 51.0 +0.4
ECSD *e*SKPbc **SKPbc** 06 22 12.5 +0.1
ECSD LR LR
comp=Z,136µm,21.0s
ECSD EROS Data Cent 131.40 12 ⇑P **PKPdf** 06 18 50.3 -0.2
baz=131
K29A Lazy Trails An 131.41 16 ⇑P **PKPdf** 06 18 50.1 -0.5
baz=131,SNR=5.6
L27A T5 Ranch, Ells 131.45 18 ⇑P **PKPdf** 06 18 51.0 +0.2
baz=131
M25A Palm-Egli Farm 131.46 20 ⇑P **PKPdf** 06 18 50.5 -0.5
baz=131
GMRC Granite Mounta 131.47 35 ⇓P **PKPdf** 06 18 51.6 +0.5
baz=131
MDV Middlebury 131.50 350 *e*PKPdf **PKPdf** 06 18 50.4 -0.3
SADO Sadowa 131.52 355 SKPbc **SKPbc** 06 22 12.2 -0.6
comp=Z,72nm,1.1s,baz=70,slow=7.0,SNR=2.5
SADO SKKPbc **SKKPbc** 06 31 42.4 -1.9
comp=Z,25nm,1.1s,baz=83,slow=4.5,SNR=4.1
LDFC Landfair 131.57 35 *e*PKPdf **PKPdf** 06 18 52.2 +0.9
LDFC *e*PP **PP** 06 21 11.2 +1.2
LDFC LR LR
comp=Z,57µm,21.0s
HNH Hanover 131.62 349 *e*PKPdf **PKPdf** 06 18 51.6 +0.7
HNH LR LR
comp=Z,52µm,20.0s
O22A Kremmling 131.65 23 ⇓P **PKPdf** 06 18 51.0 -0.5
baz=131,SNR=8.6
GLMI Grayling 131.66 1 *e*PKPdf **PKPdf** 06 18 51.2 +0.2
GLMI *e*PP **PP** 06 21 12.2 +2.6
GLMI *e* 06 22 13.1
GLMI LR LR
comp=Z,102µm,18.0s
K30A Basset 131.68 15 ⇓P **PKPdf** 06 18 50.7 -0.4
baz=132
N24A Carr 131.70 21 ⇓P **PKPdf** 06 18 50.7 -0.7
baz=132,SNR=5.3
NCB Newcomb 131.71 351 *e*PKPdf **PKPdf** 06 18 50.6 -0.6
NCB LR LR
comp=Z,86µm,21.0s
FFD Franklin Falls 131.72 348 *e*PKPdf **PKPdf** 06 18 51.5 +0.4
FFD LR LR
comp=Z,50µm,20.0s
M26A McRoberts Ranc 131.74 19 ⇑P **PKPdf** 06 18 51.1 -0.3
baz=132
BELC Belle Mtn. Jos 131.82 36 ⇑P **PKPdf** 06 18 52.8 +1.0
baz=132
PFO Pinyon Flats O 131.83 37 *e*PKIKP **PKPdf** 06 18 50.3 -1.5
PFO *e* 06 21 13.4
PFO MLR MLR
comp=Z,32µm,19.0s
PFO Pinyon Flats O 131.83 37 *e*PKPdf **PKPdf** 06 18 50.3 -1.5
PFO *e*PP **PP** 06 21 13.4 +1.7
PFO *e* 06 22 13.7
PFO LR LR
comp=Z,32µm,19.0s
PFO Pinyon Flats O 131.83 37 ⇓P **PKPdf** 06 18 52.3 +0.5
baz=132
O23A Lake Granby, G 131.85 23 ⇓P **PKPdf** 06 18 51.6 -0.3
baz=132,SNR=13
109C Camp Elliot, M 131.93 38 ⇓P **PKPdf** 06 18 51.9 +0.1
baz=132
M27A Reverse DX Ran 131.93 19 ⇓P **PKPdf** 06 18 52.2 +0.4
baz=132
PV09 Paradox Valley 131.96 27 *e*PKPdf **PKPdf** 06 18 53.2 +1.1
N25A Grover 132.00 21 ⇑P **PKPdf** 06 18 52.0 +0.1
baz=132
L29A Maesberg Ranch 132.01 17 ⇓P **PKPdf** 06 18 51.8 0.0
baz=132
P22A Eagle 132.05 24 ⇓P **PKPdf** 06 18 51.9 -0.3
baz=132
RCBR Riachuelo 132.06 266 PKP **PKPdf** 06 18 53.7 +1.0
comp=Z,30nm,1.1s,baz=218,slow=4.7,SNR=4.9
RCBR SKPbc **SKPbc** 06 22 14.6 -1.1
comp=Z,40nm,1.1s,baz=89,slow=3.7,SNR=4.8
RCBR Riachuelo 132.06 266 *e*PKPdf **PKPdf** 06 18 52.4 -0.2
RCBR PKP **PKPdf** 06 18 53.7 +1.0
RCBR *e*PP PP 06 21 25.1 +10
RCBR *e* 06 22 13.5
RCBR SKPbc **SKPbc** 06 22 14.6 -1.1
RCBR LR LR
comp=Z,161µm,21.0s
NEE2 Needles Airpor 132.07 34 ⇑P **PKPdf** 06 18 52.5 +0.5
baz=132
ACCN Adirondack Com 132.19 350 *e*PKPdf **PKPdf** 06 18 52.6 +0.6
ACCN *e*PP **PP** 06 21 13.2 +0.1
ACCN LR LR
comp=Z,55µm,20.0s
IRM Iron Mountain 132.21 35 ⇑P **PKPdf** 06 18 52.6 +0.2
baz=132
W13A Hualapai Mount 132.24 34 ⇓P **PKPdf** 06 18 52.5 -0.2
baz=132
O24A Longmont 132.25 22 ⇓P **PKPdf** 06 18 52.0 -0.4
baz=132
N26A Koester Ranch, 132.28 20 ⇓P **PKPdf** 06 18 52.4 0.0
baz=132
SMCO Snowmass 132.32 24 *e*PKPdf **PKPdf** 06 18 52.2 -0.7
SMCO *e*PP **PP** 06 21 12.9 -1.8
SMCO LR LR
comp=Z,60µm,20.0s
ISCO Idaho Springs 132.33 23 *e*PKIKP **PKPdf** 06 18 52.5 -0.3
ISCO *e* 06 21 11.5
ISCO MLR MLR
comp=Z,73µm,21.0s
ISCO Idaho Springs 132.33 23 *e*PKPdf **PKPdf** 06 18 52.5 -0.3
ISCO *e*PP **PP** 06 21 11.5 -3.1
ISCO LR LR
comp=Z,73µm,21.0s
ISCO Idaho Springs 132.33 23 ⇓P **PKPdf** 06 18 52.5 -0.3
baz=132,SNR=10
L30A Spencer Herefo 132.33 16 ⇓P **PKPdf** 06 18 52.4 -0.1
baz=132,SNR=7.2
BAR Barrett 132.33 38 *e*PKPdf **PKPdf** 06 18 50.0 -2.7
BAR *e*PP **PP** 06 21 13.7 -1.1
BAR LR LR
comp=Z,36µm,21.0s
MONP Monument Peak, 132.34 38 ⇑P **PKPdf** 06 18 52.4 -0.5
baz=132
L31A Butterfield Fa 132.35 15 ⇓P **PKPdf** 06 18 51.6 -0.9
baz=132
M28A Bar X Bar Ranc 132.36 18 ⇑P **PKPdf** 06 18 51.7 -0.8
baz=132
BC3 Big Chuckawall 132.39 36 ⇑P **PKPdf** 06 18 51.7 -1.2
baz=132
PV01 Paradox Valley 132.51 26 PKPdf **PKPdf** 06 18 50.3 -2.9
PV01 *e*PP **PP** 06 21 17.4 +1.5
M29A Burnside Ranch 132.52 17 ⇑P **PKPdf** 06 18 51.4 -1.5
baz=132
N27A Anderson Farm, 132.53 19 ⇓P **PKPdf** 06 18 51.6 -1.3
baz=132,SNR=5.9
OGNE Ogallala 132.57 19 *e*PKPdf **PKPdf** 06 18 53.5 +0.6
OGNE *e*PP **PP** 06 21 14.8 -0.9
OGNE LR LR
comp=Z,71µm,20.0s
OGNE Ogallala 132.57 19 ⇑P **PKPdf** 06 18 53.1 +0.2
baz=132
O25A Wiggins 132.61 21 ⇑P **PKPdf** 06 18 52.5 -0.6
baz=132
P23A Jefferson 132.61 23 ⇑P **PKPdf** 06 18 52.9 -0.5
baz=132
HRV Adam Dziewonsk 132.62 348 *e*PKIKP **PKPdf** 06 18 53.0 +0.2
HRV *e* 06 21 18.6
HRV MLR MLR
comp=Z,44µm,20.0s
HRV Adam Dziewonsk 132.62 348 *e*PKPdf **PKPdf** 06 18 53.0 +0.2
HRV *e*PP **PP** 06 21 18.6 +2.8
HRV LR LR
comp=Z,44µm,20.0s
M30A Dale-Ortello V 132.67 16 ⇓P **PKPdf** 06 18 53.9 +0.9
baz=132
PDMCI Parker Dam,Lak 132.68 34 ⇓P **PKPdf** 06 18 53.9 +0.7
baz=132
SWSC Sam W. Stewart 132.69 37 ⇑P **PKPdf** 06 18 53.3 +0.1
baz=132
O26A Horse Wrangler 132.78 20 ⇓P **PKPdf** 06 18 52.7 -0.7
baz=133
TRY Troy 132.82 350 *e*PKPdf **PKPdf** 06 18 50.3 -2.9
TRY LR LR
comp=Z,80µm,22.0s
Y12C Blythe 132.86 35 ⇓P **PKPdf** 06 18 53.5 -0.1
baz=133
N28A Pribbeno Ranch 132.96 18 ⇑P **PKPdf** 06 18 53.3 -0.4
baz=133
QUA2 Belchertown 133.00 348 *e*PKPdf **PKPdf** 06 18 52.8 -0.7
QUA2 *e*PP **PP** 06 21 15.7 -2.6
QUA2 LR LR
comp=Z,74µm,21.0s
Q23A Hartsel 133.01 23 ⇓P **PKPdf** 06 18 53.4 -0.7
baz=133
M31A Lambtecht Ranc 133.09 15 ⇑P **PKPdf** 06 18 53.3 -0.6
baz=133
O27A Beecher Island 133.10 19 ⇓P **PKPdf** 06 18 52.5 -1.5
baz=133
N29A Votaw Ranch, W 133.12 17 ⇑P **PKPdf** 06 18 53.4 -0.5
baz=133
BRYW Bryant College 133.18 347 PFAKE 06 19 10.0 +16
BRYW LR LR
comp=Z,70µm,22.0s
GLA Glamis 133.19 36 *e*PKIKP **PKPdf** 06 18 53.4 -0.9
GLA *e* 06 21 16.3
GLA Glamis 133.19 36 *e*PKPdf **PKPdf** 06 18 53.4 -0.9
GLA *e*PP **PP** 06 21 16.3 -3.9
GLA *e* 06 22 17.1
GLA Glamis 133.19 36 ⇓P **PKPdf** 06 18 54.6 +0.3
baz=133
JFWS Jewell Farm 133.22 6 *e*PKIKP **PKPdf** 06 18 50.6 -3.4
JFWS *e* 06 21 17.2
JFWS MLR MLR
comp=Z,102µm,22.0s
JFWS Jewell Farm 133.22 6 *e*PKPdf **PKPdf** 06 18 50.6 -3.4
JFWS *e*PP **PP** 06 21 17.2 -2.4
JFWS *e* 06 22 17.9
JFWS LR LR
comp=Z,102µm,22.0s
Q24A Divide 133.23 23 PFAKE 06 19 10.0 +15
Q24A LR LR
comp=Z,58µm,22.0s
Q24A Divide 133.23 23 ⇓P **PKPdf** 06 18 54.0 -0.5
baz=133
BGNE Belgrade 133.25 15 *e*PKPdf **PKPdf** 06 18 55.0 +0.8
BGNE *e*PP **PP** 06 21 18.0 -1.9
BGNE *e* 06 22 18.2
BGNE LR LR
comp=Z,60µm,20.0s
BGNE Belgrade 133.25 15 ⇑P **PKPdf** 06 18 54.4 +0.2
baz=133,SNR=6.6
WUAZ Wupatki 133.26 31 *e*PKPdf **PKPdf** 06 18 54.6 +0.1
WUAZ LR LR
comp=Z,36µm,19.0s
WUAZ Wupatki 133.26 31 ⇑P **PKPdf** 06 18 54.5 -0.1
baz=133
N30A Hueftle Ranch, 133.29 17 ⇑P **PKPdf** 06 18 53.9 -0.4
baz=133
MVCO Mesa Verde 133.30 27 *e*PKPdf **PKPdf** 06 18 54.2 -0.5
MVCO *e*PP **PP** 06 21 21.8 +0.8
MVCO LR LR
comp=Z,79µm,20.0s
MVCO Mesa Verde 133.30 27 ⇑P **PKPdf** 06 18 54.4 -0.2
baz=133
P26A Davis Ranch, A 133.37 21 ⇑P **PKPdf** 06 18 54.5 -0.1
baz=133,SNR=6.6
O28A Krutsinger Ran 133.39 19 ⇑P **PKPdf** 06 18 53.7 -0.8
baz=133
MMNY Mt. Morris Dam 133.43 354 *e*PKPdf **PKPdf** 06 18 54.6 +0.3
MMNY LR LR
comp=Z,189µm,20.0s
N31A Bailey Ranch, 133.59 16 ⇓P **PKPdf** 06 18 54.0 -0.8
baz=133
S22A 4UR Ranch, Cre 133.59 25 *e*PKPdf PKPpre 06 18 50.0
S22A LR LR
comp=Z,80µm,20.0s
S22A 4UR Ranch, Cre 133.59 25 ⇓P **PKPdf** 06 18 53.6 -1.6
baz=133
R23A Moffat 133.63 24 ⇑P **PKPdf** 06 18 54.9 -0.4
baz=133
P27A Ficken Ranch, 133.64 20 ⇓P **PKPdf** 06 18 53.8 -1.2
baz=133
O29A 4D Ranch, Culb 133.70 18 ⇓P **PKPdf** 06 18 54.4 -0.7
baz=134
BINY Binghamton 133.71 352 *e*PKPdf **PKPdf** 06 18 51.8 -3.2
BINY LR LR
comp=Z,85µm,19.0s
SCIA State Center 133.80 10 *e*PKPdf **PKPdf** 06 18 53.7 -1.4
SCIA LR LR
comp=Z,133µm,22.0s
N32A Stulken Farm, 133.82 15 ⇑P **PKPdf** 06 18 53.6 -1.6
baz=134
O30A MW Ranch, Wils 133.87 17 ⇓P **PKPdf** 06 18 53.3 -2.1
baz=134
Q26A Hugo 133.88 21 ⇓P **PKPdf** 06 18 53.9 -1.6
baz=134
P28A Saint Francis 133.90 19 ⇑P **PKPdf** 06 18 54.2 -1.3
baz=134
S23A Nye Farm, Mont 133.97 24 ⇓P **PKPdf** 06 18 53.2 -2.7
baz=134
113A Mohawk Valley, 134.01 36 ⇑P **PKPdf** 06 18 53.3 -2.4
baz=134
Z14A Wintersburg 134.04 34 ⇑P **PKPdf** 06 18 56.8 +1.0
baz=134
YLE Yale 134.05 348 *e*PKPdf **PKPdf** 06 18 55.6 +0.1
YLE LR LR
comp=Z,59µm,20.0s
X16A Lo Mia Camp, P 134.07 32 ⇓P **PKPdf** 06 18 57.1 +1.0
baz=134
O31A Wooden Ranch, 134.11 16 ⇑P **PKPdf** 06 18 53.7 -2.1
baz=134
KSCO Kaye Shedlock' 134.11 20 *e*PKPdf **PKPdf** 06 18 54.5 -1.5
KSCO *e*PP **PP** 06 21 25.0 -0.7
KSCO LR LR
comp=Z,82µm,21.0s
KSCO Kaye Shedlock' 134.11 20 ⇑P **PKPdf** 06 18 56.4 +0.4
baz=134
P29A Atwood 134.14 18 ⇑P **PKPdf** 06 18 54.7 -1.2
baz=134
SDCO Great Sand Dun 134.14 24 *e*PKPdf **PKPdf** 06 18 55.2 -1.0
SDCO *e*PP **PP** 06 21 21.8 -4.5
SDCO LR LR
comp=Z,66µm,20.0s
SDCO Great Sand Dun 134.14 24 ⇓P **PKPdf** 06 18 55.7 -0.6
baz=134
AAM Ann Arbor 134.18 360 *e*PKIKP **PKPdf** 06 18 55.1 -0.7
AAM MLR MLR
comp=Z,106µm,22.0s
AAM Ann Arbor 134.18 360 *e*PKPdf **PKPdf** 06 18 55.0 -0.7
AAM LR LR
comp=Z,106µm,22.0s
O32A Brockman Farm, 134.29 15 ⇑P **PKPdf** 06 18 55.0 -1.1
baz=134
KSPA Keystone Colle 134.31 351 *e*PKPdf **PKPdf** 06 18 56.6 +0.5
KSPA LR LR
comp=Z,84µm,20.0s
Q28A Sharon Springs 134.34 20 ⇓P **PKPdf** 06 18 54.5 -1.9
baz=134
P30A Selden 134.40 18 ⇓P **PKPdf** 06 18 55.2 -1.2
baz=134
W18A Petrified Fore 134.40 30 *e*PKPdf **PKPdf** 06 18 55.3 -1.4
W18A *e*PP **PP** 06 21 25.4 -2.6
W18A LR LR
comp=Z,62µm,21.0s
W18A Petrified Fore 134.40 30 ⇑P **PKPdf** 06 18 54.7 -2.0
baz=134
R26A Arlington 134.45 22 ⇓P PKPpre 06 18 49.0
baz=134
PAL Palisades 134.53 349 *e*PKIKP **PKPdf** 06 18 56.5 0.0
PAL MLR MLR
comp=Z,70µm,22.0s
PAL Palisades 134.53 349 *e*PKPdf **PKPdf** 06 18 56.5 0.0
PAL LR LR
comp=Z,70µm,22.0s
ODNJ Ogdensburg 134.59 350 *e*PKPdf **PKPdf** 06 18 56.8 +0.2
ODNJ LR LR
comp=Z,68µm,19.0s
P31A Stockton 134.68 17 ⇓P PKPpre 06 18 51.2
baz=134,SNR=5.8
ALLY Alegheny Colle 134.70 356 *e*PKPdf **PKPdf** 06 18 56.1 -0.7
R27A Eads 134.70 21 ⇓P PKPpre 06 18 50.7
baz=134,SNR=7.1
CPNY Central Park 134.75 349 *e*PKPdf **PKPdf** 06 18 54.5 -2.3
X18A Snowflake 134.76 31 ⇓P PKPpre 06 18 53.3

baz=135
Q29A Oakley 134.77 19 ⇑P PKPpre 06 18 50.5
baz=135,SNR=7.9
P32A Huiting Farm, 134.80 16 ⇓P PKPpre 06 18 50.2
baz=135
Q30A Quinter 134.93 18 ⇓P PKPpre 06 18 50.9
baz=135,SNR=6.3
BRNJ Basking Ridge 134.97 350 *e*PKPdf **PKPdf 06 18 58.0 +0.7**
R28A Tribune 134.99 20 ⇑P PKPpre 06 18 51.0
baz=135,SNR=7.0
S26A Kim 135.04 22 ⇓P PKPpre 06 18 51.7
baz=135
T25A Trinidad 135.10 23 *e*PKPpre PKPpre 06 18 51.2
T25A LR LR
comp=Z,74µm,22.0s
T25A Trinidad 135.10 23 ⇑P PKPpre 06 18 52.3
baz=135
R29A Marienthal 135.14 19 ⇑P PKPpre 06 18 51.5
baz=135
Q31A Ellis 135.15 17 ⇓P PKPpre 06 18 52.0
baz=135
214A Organ Pipe Nat 135.15 36 *e*PKPdf **PKPdf 06 18 57.9 -0.1**
214A *e*PP **PP 06 21 34.1 +1.4**
214A Organ Pipe Nat 135.15 36 ⇓P **PKPdf 06 18 55.1 -2.9**
baz=135
LUPA Lehigh Univers 135.19 351 *e*PKPdf **PKPdf 06 18 58.3 +0.5**
LUPA LR LR
comp=Z,12µm,20.0s
T26A Comanche Natio 135.39 22 ⇑P **PKPdf 06 18 55.0 -3.5**
baz=135,SNR=5.9
Q32A Meitler Ranch, 135.41 16 ⇑P **PKPdf 06 18 55.3 -2.9**
baz=135
SSPA Standing Stone 135.50 353 *e*PKPdf **PKPdf 06 18 57.6 -0.6**
SSPA *e*PP **PP 06 21 31.3 -2.8**
SSPA LR LR
comp=Z,78µm,20.0s
R30A Dighton 135.55 18 ⇓P **PKPdf 06 18 55.7 -2.9**
baz=135,SNR=12
Q33A Connelly Farm, 135.60 15 ⇑P **PKPdf 06 18 56.7 -1.8**
baz=135
S28A Manter 135.64 20 ⇓P **PKPdf 06 18 55.9 -2.9**
baz=135,SNR=9.5
HDIL Hopedale 135.66 6 PKPdf **PKPdf 06 18 55.5 -3.1**
HDIL *e*PP **PP 06 21 32.0 -3.0**
HDIL LR LR
comp=Z,73µm,19.0s
R31A Burdett 135.78 18 ⇓P PKPpre 06 18 52.9
baz=136,SNR=9.3
KSU1 Kansas State U 135.81 14 *e*PKPdf **PKPdf 06 18 58.2 -0.8**
KSU1 *e*PP **PP 06 21 33.0 -3.2**
KSU1 *e* 06 22 28.0
KSU1 LR LR
comp=Z,79µm,22.0s
KSU1 Kansas State U 135.81 14 ⇑P PKPpre 06 18 54.5
baz=136
T27A Campo 135.81 22 ⇓P PKPpre 06 18 52.4
baz=136
S29A Ulysses 135.88 20 ⇓P PKPpre 06 18 52.7
baz=136,SNR=6.1
R32A Long Quarter, 135.89 17 ⇑P PKPpre 06 18 52.6
baz=136,SNR=8.4
MVL Millersville 135.92 352 *e*PKPdf PKPpre 06 18 54.7
T28A Walsh 135.98 21 ⇓P PKPpre 06 18 51.3
baz=136
SFIN Lafayette 136.01 3 *e*PKPdf **PKPdf 06 18 58.9 -0.3**
SFIN *e*PP PP 06 21 30.0 -7.2
SFIN LR LR
comp=Z,95µm,22.0s
SFIN Lafayette 136.01 3 ⇑P PKPpre 06 18 55.0
baz=136
TUC Tucson 136.03 33 *e*PKIKP **PKPdf 06 18 59.1 -0.6**
TUC *e* 06 21 39.6
TUC MLR MLR
comp=Z,38µm,21.0s
TUC Tucson 136.03 33 *e*PKPdf **PKPdf 06 18 59.0 -0.6**
TUC *e*PP **PP 06 21 39.5 +1.3**
TUC LR LR
comp=Z,38µm,21.0s
S30A Montezuma 136.08 19 ⇓P PKPpre 06 18 54.8
baz=136
ANMO Albuquerque 136.10 27 PKhKP PKPpre 06 18 47.2
comp=Z,2.1nm,0.8s,baz=310,slow=1.4,SNR=4.1
ANMO PKP **PKPdf 06 18 59.0 -0.8**
comp=Z,62nm,1.1s,baz=327,slow=3.3,SNR=28
ANMO PP **PP 06 21 40.4 +1.8**
comp=Z,11nm,0.9s,baz=321,slow=5.5,SNR=3.3
ANMO Albuquerque 136.10 27 PKHKP PKPpre 06 18 47.2
ANMO 06 18 59.1
ANMO 06 21 40.4
ANMO MLR MLR
comp=Z,78µm,21.0s
ANMO Albuquerque 136.10 27 PKPpre PKPpre 06 18 47.2
ANMO PKP **PKPdf 06 18 59.0 -0.8**
ANMO *e*PKPdf **PKiKP 06 18 59.4 -2.2**
ANMO *e*PP **PP 06 21 37.9 -0.7**
ANMO PP PP 06 21 40.4 +1.8
ANMO LR LR
comp=Z,78µm,21.0s
R33A Olander Ranch, 136.20 16 ⇑P **PKPdf 06 18 56.9 -2.8**
baz=136
T29A Hugoton 136.24 20 ⇑P **PKPdf 06 18 57.2 -2.7**
baz=136,SNR=12
LAZ Ladron 136.24 28 *e*PKPdf **PKPdf 06 18 57.3 -2.9**
LAZ *e*PP **PP 06 21 35.0 -4.5**
ACSO Alum Creek Sta 136.24 359 *e*PKPdf **PKPdf 06 18 59.4 -0.3**
ACSO *e*PP **PP 06 21 36.6 -2.0**
ACSO LR LR
comp=Z,102µm,21.0s
U27A Thompson Grove 136.34 22 ⇑P **PKPdf 06 18 58.7 -1.5**
baz=136
S31A Mullinville 136.40 18 ⇓P **PKPdf 06 18 57.7 -2.5**
baz=136
S32A Newby Ranch, P 136.50 17 ⇓P **PKPdf 06 18 58.2 -2.1**
baz=136
LENM Lemitar 136.51 28 *e*PKPdf **PKPdf 06 18 57.1 -3.5**
Q37A Longview Farm, 136.51 12 ⇓P **PKPdf 06 18 59.1 -1.2**
baz=136
LPM Los Pinos Moun 136.55 28 *e*PKPdf **PKPdf 06 18 58.7 -2.0**
SDMD Soldier's Deli 136.57 352 *e*PKPdf **PKPdf 06 18 59.2 -1.1**
T30A Plains 136.59 19 ⇑P **PKPdf 06 18 59.2 -1.3**
baz=136,SNR=10
U28A Mallet 136.60 22 ⇑P **PKPdf 06 18 59.6 -1.1**
baz=136
Y22D IRIS PASSCAL I 136.61 28 ⇑P **PKPdf 06 18 59.8 -1.0**
baz=136
BNM Barren Site 136.68 28 *e*PKPpre PKPpre 06 18 49.2
R36A Gordon, Harris 136.81 13 ⇑P **PKPdf 06 18 59.5 -1.3**
baz=137
T31A Randall Ranch, 136.82 18 ⇑P **PKPdf 06 18 59.6 -1.3**
baz=137,SNR=7.5
S33A Kaszmaul Farm, 136.87 16 ⇓P **PKPdf 06 18 58.7 -2.3**
baz=137
U29A Oasis Ranch, S 136.88 21 ⇓P **PKPdf 06 18 59.2 -1.9**
baz=137
V27A Dan Oppiter Fa 136.92 23 ⇓P **PKPdf 06 19 00.6 -0.6**
baz=137,SNR=6.0
R37A Teagarden Farm 136.97 13 ⇓P **PKPdf 06 18 59.3 -1.8**
baz=137
T32A Huddler Ranch, 136.98 18 ⇓P **PKPdf 06 18 59.9 -1.4**
baz=137,SNR=6.4
S34A Willow Spring 137.01 15 ⇓P **PKPdf 06 18 59.9 -1.3**
baz=137
U30A WK&E Inc. Balk 137.02 20 ⇑P **PKPdf 06 19 02.0 +0.6**
baz=137,SNR=14
V28A Channing 137.16 22 ⇑P **PKPdf 06 19 01.3 -0.4**
baz=137,SNR=10.0
S35A Otter Creek Ra 137.23 14 ⇑P **PKPdf 06 19 01.8 +0.1**
baz=137
BLO Bloomington 137.24 3 *e*PKIKP **PKPdf 06 18 59.0 -2.6**
BLO Bloomington 137.24 3 *e*PKPdf **PKPdf 06 18 59.0 -2.6**
T33A Patterson Ranc 137.27 17 ⇓P **PKPdf 06 19 00.9 -0.9**
baz=137
V29A Stinnett 137.31 21 ⇓P **PKPdf 06 19 00.4 -1.6**
baz=137
S36A Lake Cedric, C 137.36 14 ⇓P **PKPdf 06 19 02.0 +0.1**
baz=137
U31A Nine Bar Ranch 137.43 19 ⇓P **PKPdf 06 19 02.2 0.0**
baz=137
121A Cookes Peak, D 137.44 30 *e*PKPdf **PKPdf 06 19 00.4 -2.0**
121A *e*PP **PP 06 21 44.5 -2.6**
121A Cookes Peak, D 137.44 30 ⇑P **PKPdf 06 19 02.8 +0.4**
baz=137
SLM Saint Louis 137.45 7 *e*PKIKP **PKPdf 06 18 59.2 -2.8**
SLM *e* 06 21 45.9
SLM MLR MLR
comp=Z,64µm,19.0s
SLM Saint Louis 137.45 7 *e*PKPdf **PKPdf 06 18 59.2 -2.8**
SLM *e*PP **PP 06 21 45.9 -0.4**
SLM LR LR
comp=Z,64µm,19.0s
319A Douglas 137.57 33 ⇑P **PKPdf 06 19 02.5 -0.1**
baz=137
OLIL Olney 137.57 5 *e*PKPdf **PKPdf 06 19 01.0 -1.2**
OLIL *e*PP **PP 06 21 43.2 -3.8**
W28A Vega 137.60 22 ⇑P **PKPdf 06 19 02.3 -0.3**
baz=137
T34A McClaskey Farm 137.62 16 ⇓P **PKPdf 06 19 02.0 -0.4**
baz=137
U32A Winter Ranch, 137.69 18 ⇑P **PKPdf 06 19 02.4 -0.1**
baz=138
V30A Spur Ranch, Mi 137.70 20 ⇑P **PKPdf 06 19 02.7 0.0**
baz=138,SNR=11
CBN Corbin Frederi 137.83 352 *e*PKPdf **PKPdf 06 19 03.5 +0.8**
CBN LR LR
comp=Z,141µm,22.0s
T35A Sooner Cattle 137.90 15 ⇑P **PKPdf 06 19 03.3 +0.4**
baz=138
U33A Lingo Farm, Me 137.91 17 ⇓P **PKPdf 06 19 02.8 -0.2**
baz=138,SNR=14
T36A Boggs Farm, Ca 137.93 14 ⇑P **PKPdf 06 19 03.0 +0.1**
baz=138
W29A Amarillo 137.93 22 ⇑P **PKPdf 06 19 03.1 -0.1**
baz=138,SNR=9.6
V31A Spring Creek L 137.98 19 ⇑P **PKPdf 06 19 03.8 +0.7**
baz=138,SNR=33
U34A Anderson Ranch 138.08 16 *e*PKPdf **PKPdf 06 19 00.4 -2.8**
U34A Anderson Ranch 138.08 16 ⇓P **PKPdf 06 19 03.6 +0.4**
baz=138
AMTX Amarillo 138.13 22 *e*PKPdf **PKPdf 06 18 59.9 -3.7**
AMTX *e*PP PP 06 21 44.9 -6.1
AMTX LR LR
comp=Z,79µm,20.0s
AMTX Amarillo 138.13 22 ⇑P **PKPdf 06 19 03.5 0.0**
baz=138
WCI Wyandotte Cave 138.19 3 *e*PKIKP **PKPdf 06 19 04.0 +0.5**
WCI *e* 06 21 46.0
WCI MLR MLR
comp=Z,59µm,19.0s
WCI Wyandotte Cave 138.19 3 *e*PKPdf **PKPdf 06 19 04.0 +0.5**
WCI *e*PP **PP 06 21 46.0 -4.9**
WCI LR LR
comp=Z,59µm,19.0s
X28A Dimmitt 138.26 23 ⇑P **PKPdf 06 19 03.7 -0.1**
baz=138
W30A Crocket Farms 138.27 21 ⇓P **PKPdf 06 19 03.7 0.0**
baz=138,SNR=5.6
V32A Arapaho 138.29 19 ⇓P **PKPdf 06 19 04.1 +0.4**
baz=138,SNR=9.6
USIN University of 138.37 4 *e*PKPdf **PKPdf 06 19 03.2 -0.5**
USIN *e*PP **PP 06 21 52.0 0.0**
JSRW J. Sargeant Re 138.40 353 *e*PKPdf **PKPdf 06 19 04.2 +0.5**
JSRW *e*PP **PP 06 21 52.7 +0.5**
V33A Lossen Ranch, 138.43 18 ⇓P **PKPdf 06 19 05.5 +1.5**
baz=138,SNR=10
URVA University of 138.47 352 *e*PKPpre PKPpre 06 18 54.8
W31A Holland Ranch, 138.48 20 ⇑P **PKPdf 06 19 04.9 +0.8**
baz=138,SNR=12
MSTX Muleshoe 138.51 24 *e*PKPdf **PKPdf 06 19 01.4 -2.9**
MSTX *e*PP **PP 06 21 55.7 +2.3**
MSTX Muleshoe 138.51 24 ⇑P **PKPdf 06 19 05.0 +0.7**
baz=138,SNR=20
X29A Tulia 138.51 22 ⇑P **PKPdf 06 19 04.8 +0.6**
baz=138,SNR=8.9
V34A Guthrie 138.64 17 *e*PKPdf PKPpre 06 19 01.3
V34A *e*PP PP 06 21 47.9 -6.0
V34A Guthrie 138.64 17 ⇓P **PKPdf 06 19 04.6 +0.3**
baz=138,SNR=13
W32A Sentinel 138.77 19 ⇓P **PKPdf 06 19 05.4 +0.9**
baz=139,SNR=10
Y28A McKinney Farm, 138.78 23 ⇑P **PKPdf 06 19 05.2 +0.4**
baz=139
X30A Coker Ranch, T 138.82 21 ⇑P **PKPdf 06 19 05.2 +0.5**
baz=139,SNR=22
V35A Meyer Ranch, C 138.90 16 ⇓P **PKPdf 06 19 05.9 +1.1**
baz=139
W33A Caddo, Fort Co 138.99 18 ⇓P **PKPdf 06 19 05.7 +0.7**
baz=139,SNR=17
TUL1 Leonard 139.04 15 *e*PKPdf PKPpre 06 19 00.5
TUL1 *e*PP **PP 06 21 53.0 -3.3**
TUL1 Leonard 139.04 15 ⇑P **PKPdf 06 19 05.7 +0.6**
baz=139
Y29A Porterfield Fa 139.04 23 ⇑P **PKPdf 06 19 06.1 +0.9**
baz=139,SNR=7.4
VWCC Virginia Weste 139.06 355 *e*PKPdf **PKPdf 06 19 04.0 -1.0**
W34A Bridge Creek, 139.13 17 *e*PKPdf **PKPdf 06 19 02.7 -2.5**
W34A *e*PP **PP 06 21 52.9 -4.0**
W34A Bridge Creek, 139.13 17 ⇑P **PKPdf 06 19 06.3 +1.1**
baz=139,SNR=13
BLA Blacksburg 139.13 356 *e*PKIKP **PKPdf 06 19 03.8 -1.4**
BLA *e* 06 22 05.0
BLA MLR MLR
comp=Z,104µm,20.0s
BLA Blacksburg 139.13 356 *e*PKPdf **PKPdf 06 19 03.8 -1.4**
BLA *e*PP PP 06 22 05.0 +8.2
BLA LR LR
comp=Z,104µm,20.0s
PBMO Poplar Bluff 139.25 8 *e*PKPpre PKPpre 06 18 55.5
Z28A Tucker Farm, M 139.26 24 ⇑P **PKPdf 06 19 06.0 +0.4**
baz=139
WMOK Wichita Mounta 139.28 19 *e*PKIKP **PKPdf 06 19 02.7 -2.8**
WMOK *e* 06 21 59.6
WMOK MLR MLR
comp=Z,51µm,20.0s
WMOK Wichita Mounta 139.28 19 *e*PKPdf **PKPdf 06 19 02.7 -2.8**
WMOK PP **PP 06 21 59.5 +1.7**
WMOK LR LR
comp=Z,51µm,20.0s
MNTX Cornudas Mount 139.30 28 *e*PKPdf PKPpre 06 18 57.9
MNTX *e*PP **PP 06 21 59.5 +1.2**
MNTX LR LR
comp=Z,62µm,20.0s
MNTX Cornudas Mount 139.30 28 ⇓P **PKPdf 06 19 06.7 +1.0**
baz=139
Y30A Stafford Cattl 139.32 22 ⇓P **PKPdf 06 19 06.4 +0.7**
baz=139,SNR=14
X32A Elmer 139.40 20 ⇑P **PKPdf 06 19 06.0 +0.3**
baz=139
W35A Tecumseh 139.47 16 ⇓P **PKPdf 06 19 06.4 +0.6**
baz=139,SNR=19
Y31A Rekieta Farm, 139.48 21 ⇑P **PKPdf 06 19 06.8 +0.8**
baz=139,SNR=24
X33A Lawton 139.55 19 ⇑P **PKPdf 06 19 06.8 +0.8**
baz=139,SNR=11
Z29A Hungry Hill Ra 139.56 23 ⇓P **PKPdf 06 19 06.6 +0.4**
baz=139,SNR=17
W36A Wetumka 139.66 16 ⇑P **PKPdf 06 19 07.0 +0.8**
baz=139
BBSR BB Station 139.70 334 *e*PKPdf **PKPdf 06 19 06.0 -0.2**
BBSR *e*PP **PP 06 22 01.7 +1.1**
BBSR LR LR
comp=Z,46µm,20.0s
X34A Smith Ranch, M 139.70 18 ⇑P **PKPdf 06 19 06.5 +0.3**
baz=140,SNR=14
PVMO Portageville 139.71 7 *e*PKPdf **PKPdf 06 19 07.8 +1.6**
PVMO *e*PP **PP 06 21 59.4 -0.8**
Y32A R-V Farms, Ver 139.73 20 ⇑P **PKPdf 06 19 06.9 +0.5**
baz=140,SNR=14
Z30A Sanderson Ranc 139.76 22 ⇓P **PKPdf 06 19 06.9 +0.5**
baz=140,SNR=9.8
128A Castleberry Fa 139.81 25 ⇓P **PKPdf 06 19 07.6 +0.9**
baz=140
W37A Quinton 139.87 15 ⇓P **PKPdf 06 19 07.1 +0.6**
baz=140
TZTN Tazewell 139.93 359 *e*PKPpre PKPpre 06 18 58.7
Y33A Hilltop Ranch, 140.00 19 ⇑P **PKPdf 06 19 07.9 +1.1**
baz=140,SNR=11
129A Stewart Farms, 140.05 24 ⇑P **PKPdf 06 19 07.2 +0.1**
baz=140,SNR=24
Z31A Sharp Cattle R 140.10 21 ⇓P **PKPdf 06 19 07.8 +0.7**
baz=140,SNR=31
GNAR Gosnell 140.11 8 *e*PKPpre PKPpre 06 18 59.1
X35A Drake 140.14 17 ⇑P **PKPdf 06 19 07.3 +0.3**
baz=140,SNR=13
W38A Poteau 140.15 14 ⇑P **PKPdf 06 19 07.9 +0.8**
baz=140
X36A Centrahoma 140.16 16 ⇑P **PKPdf 06 19 07.9 +0.8**
baz=140,SNR=12
WVT Waverly 140.18 5 *e*PKIKP **PKPdf 06 19 04.8 -2.3**
WVT *e* 06 22 02.2
WVT Waverly 140.18 5 *e*PKPdf **PKPdf 06 19 04.8 -2.3**
WVT *e*PP **PP 06 22 02.1 -1.0**
228A UT Block 9, Go 140.20 25 ⇓P **PKPdf 06 19 08.3 +0.9**
baz=140
HALT Halls 140.25 7 *e*PKPdf **PKPdf 06 19 05.6 -1.6**
HALT *e*PP **PP 06 22 01.9 -1.6**
Y34A Reagan Ranch, 140.32 18 ⇑P **PKPdf 06 19 08.5 +1.1**
baz=140,SNR=18
Z32A Haskell 140.35 21 ⇓P **PKPdf 06 19 08.8 +1.3**
baz=140,SNR=74
TRQA Tornquist 140.37 208 *e*PKPdf **PKPdf 06 19 03.0 -4.4**
TRQA *e*PP **PP 06 22 08.5 +3.6**
TRQA LR LR
comp=Z,229µm,22.0s
X37A Clayton 140.40 15 ⇑P **PKPdf 06 19 08.3 +0.8**
baz=140
HBAR Harrisburg 140.42 9 PKPdf **PKPdf 06 19 07.8 +0.3**
130A Snyder 140.44 23 ⇑P **PKPdf 06 19 08.9 +1.2**
baz=140
131A Roby 140.59 22 ⇓P **PKPdf 06 19 09.0 +1.0**
baz=140,SNR=15
Z33A Whitaker Ranch 140.61 20 ⇑P PKPpre 06 19 00.3
baz=140,SNR=21
229A Bryant Ranch, 140.65 24 ⇓P PKPpre 06 18 59.8
baz=140,SNR=6.8
Z34A Collier Ranch, 140.81 19 ⇓P PKPpre 06 19 00.6
baz=141
CNNC Cliffs of the 140.81 352 *e*PKPdf **PKPdf 06 19 08.3 +0.1**
CNNC LR LR
comp=Z,99µm,21.0s
TKL Tuckaleechee C 140.82 360 PP PP 06 22 06.5 -0.5
comp=Z,34nm,0.8s,baz=332,slow=4.9,SNR=4.0
TKL Tuckaleechee C 140.82 360 *e*PKIKP **PKPdf 06 19 07.8 -0.5**
TKL *e* 06 22 08.4
TKL Tuckaleechee C 140.82 360 *e*PKPdf **PKPdf 06 19 07.8 -0.5**
TKL PP **PP 06 22 06.5 -0.5**
TKL *e*PP PP 06 22 08.3 +1.3
MIAR Mount Ida 140.87 13 *e*PKIKP **PKPdf 06 19 09.1 +0.7**
MIAR *e* 06 22 05.6
MIAR MLR MLR
comp=Z,78µm,20.0s
MIAR Mount Ida 140.87 13 *e*PKPdf **PKPdf 06 19 09.1 +0.7**
MIAR *e*PP **PP 06 22 05.6 -1.9**
MIAR LR LR
comp=Z,78µm,20.0s
UALR University of 140.90 11 PKPdf **PKPdf 06 19 05.2 -3.2**
UALR *e*PP **PP 06 22 05.4 -2.2**
ABTX Abilene, Hawle 140.91 21 *e*PKPdf **PKPdf 06 19 08.5 0.0**
ABTX *e*PP **PP 06 22 04.8 -3.1**
ABTX Abilene, Hawle 140.91 21 ⇓P PKPpre 06 19 03.2
baz=141,SNR=41
MET Memphis--Engin 140.95 8 *e*PKPdf **PKPdf 06 19 08.8 +0.3**
329A Wagon Wheel Ra 141.00 25 ⇑P PKPpre 06 19 01.5
baz=141,SNR=8.6
230A Sterling City 141.00 23 ⇑P PKPpre 06 19 01.3
baz=141,SNR=47
CPCT Cooper Cave 141.02 1 *e*PKPdf **PKPdf 06 19 08.6 0.0**
Z35A Perchaven, San 141.05 18 ⇑P PKPpre 06 19 01.9
baz=141,SNR=16
133A Hamilton Ranch 141.18 20 ⇓P PKPpre 06 19 02.7
baz=141,SNR=28
SWET Sewanee 141.21 3 *e*PKPpre PKPpre 06 19 01.4
PLCA Paso Flores 141.23 196 PKhKP PKPpre 06 19 01.4
comp=Z,7.5nm,0.7s,baz=314,slow=2.1,SNR=22
PLCA Paso Flores 141.23 196 PKHKP PKPpre 06 19 01.4
PLCA *e* 06 22 18.2
PLCA Paso Flores 141.23 196 PKPpre PKPpre 06 19 01.4
PLCA *e*PKPdf **PKPdf 06 19 06.0 -2.9**
PLCA *e*PP PP 06 22 18.2 +8.3
KMSC Kings Mountain 141.25 357 *e*PKPdf **PKPdf 06 19 10.1 +1.1**
KMSC *e*PP **PP 06 22 05.4 -4.3**
KMSC Kings Mountain 141.25 357 ⇓P PKPpre 06 19 02.2
baz=141
231A Bronte 141.27 22 ⇑P PKPpre 06 19 01.9
baz=141,SNR=12
330A Mertzon 141.40 24 ⇑P PKPpre 06 19 02.9
baz=141,SNR=12
134A White-Moore Ra 141.49 19 ⇓P PKPpre 06 19 03.3
baz=141,SNR=16
232A Coleman 141.57 22 ⇓P PKPpre 06 19 03.9
baz=141,SNR=32
OXF Oxford 141.62 7 *e*PKIKP PKPpre 06 19 05.2
OXF *e* 06 22 10.5
OXF Oxford 141.62 7 *e*PKPdf PKPpre 06 19 05.2
OXF *e*PP **PP 06 22 10.5 -1.4**
Z37A Pogue Cattle C 141.65 16 ⇑P PKPpre 06 19 04.6
baz=141,SNR=5.6
233A Rising Star 141.72 21 ⇓P PKPpre 06 19 04.3
baz=142,SNR=24
135A Vickery Place, 141.72 18 ⇑P PKPpre 06 19 04.1
baz=142,SNR=12
Z38A Mt. Pleasant 141.77 15 ⇓P PKPpre 06 19 03.6
baz=142
429A Davenport Ranc 141.78 25 ⇓P PKPpre 06 19 04.3
baz=142,SNR=16
331A San Angelo 141.79 23 ⇓P PKPpre 06 19 03.9
baz=142,SNR=47
430A Baggett Ranch, 141.92 24 ⇓P PKPpre 06 19 05.1
baz=142,SNR=24
Z39A Irene McRaven, 141.98 14 ⇑P PKPpre 06 19 05.6
baz=142
332A Millersview 141.98 22 ⇓P PKPpre 06 19 05.2
baz=142,SNR=48
234A Clairette 141.99 20 ⇑P PKPpre 06 19 04.8
baz=142,SNR=26
529A Stev Forest Ra 142.07 26 ⇑P **PKPdf 06 19 06.8 -4.0**
baz=142,SNR=30
TX31 Lajitas Ar. Si 142.08 29 *e*PKPpre PKPpre 06 19 05.5
TXAR Lajitas Array 142.08 29 PKhKP PKPpre 06 19 05.5
comp=Z,10nm,0.8s,baz=286,slow=1.5,SNR=27
TXAR PKP **PKPdf 06 19 10.8 0.0**
comp=Z,15nm,0.7s,baz=264,slow=1.8,SNR=21
TXAR PP PP 06 22 25.0 +10
comp=Z,22nm,0.8s,baz=31,slow=5.7,SNR=4.3
JSC Jenkinsville 142.10 356 *e*PKHKP PKPpre 06 19 05.1
JSC Jenkinsville 142.10 356 *e*PKPpre PKPpre 06 19 05.1
137A Heron Place, G 142.18 16 ⇑P **PKPdf 06 19 06.5 -4.3**
baz=142,SNR=14
WHTX Lake Whitney, 142.23 19 *e*PKPdf PKPdf 06 19 05.4 -5.5
WHTX *e*PP **PP 06 22 13.4 -2.5**
WHTX Lake Whitney, 142.23 19 ⇑P PKPdf 06 19 05.6 -5.3
baz=142
431A Sonora 142.27 24 ⇓P **PKPdf 06 19 06.2 -4.8**
baz=142,SNR=18
138A Matatall Enter 142.30 15 ⇑P **PKPdf 06 19 07.2 -3.8**
baz=142,SNR=15
333A Richland Sprin 142.31 21 ⇑P **PKPdf 06 19 06.2 -4.9**
baz=142,SNR=72
432A Menard 142.42 23 ⇑P **PKPdf 06 19 06.7 -4.6**
baz=142,SNR=24
530A J-C Ranch, Com 142.43 25 ⇓P **PKPdf 06 19 07.0 -4.4**
baz=142,SNR=76
139A Bunkhouse Ranc 142.46 14 ⇑P **PKPdf 06 19 07.9 -3.3**
baz=142
236A Katherine and 142.51 18 ⇓P **PKPdf 06 19 07.3 -4.1**
baz=142,SNR=17
334A Lometa 142.57 20 ⇑P **PKPdf 06 19 06.8 -4.8**
baz=142,SNR=27
BDFB Brasilia 142.71 249 PKhKP PKPpre 06 19 08.9
comp=Z,9.7nm,0.7s,baz=128,slow=2.3,SNR=20
BDFB Brasilia 142.71 249 PKPpre PKPpre 06 19 08.9
BDFB *e*PKPpre PKPpre 06 19 09.0
237A Washetta, Mont 142.72 17 ⇓P **PKPdf 06 19 07.8 -3.9**
baz=142,SNR=11
531A Rocksprings 142.75 24 ⇑P **PKPdf 06 19 07.5 -4.4**
baz=143,SNR=35
JCT Junction City 142.77 23 *e*PKHKP PKPpre 06 19 05.0
JCT *e* 06 22 18.0
JCT MLR MLR
comp=Z,68µm,22.0s
JCT Junction City 142.77 23 *e*PKPdf PKPpre 06 19 05.0
JCT *e*PP **PP 06 22 18.0 -1.3**
JCT LR LR
comp=Z,68µm,22.0s
JCT Junction City 142.77 23 ⇑P **PKPdf 06 19 07.1 -4.8**
baz=143,SNR=80
433A Art 142.79 22 ⇑P **PKPdf 06 19 07.4 -4.6**
baz=143,SNR=28
SLBS Sierra La Lagu 142.81 42 *e*PKPpre PKPpre 06 19 08.9
335A Moody 142.89 19 ⇑P **PKPdf 06 19 08.3 -3.7**
baz=143
238A Jacksonville 142.91 16 ⇑P **PKPdf 06 19 09.8 -2.3**
baz=143,SNR=15
336A Riesel 142.98 18 ⇓P **PKPdf 06 19 07.1 -5.1**
baz=143,SNR=24
434A Burnet 143.03 21 ⇑P PKPab 06 19 07.5 -0.1
baz=143,SNR=53
532A Rocksprings 143.04 23 ⇓P PKPab 06 19 07.6 -0.2
baz=143,SNR=31

GOGA	**Godfrey**	**143.05**	**359**	PKIKP	**PKPdf**	**06 19 12.1**	**-0.2**
GOGA				*e*		06 22 21.0	
GOGA				MLR	MLR		
	comp=Z,73μm,21.0s						
GOGA	**Godfrey**	**143.05**	**359**	PKPdf	**PKPdf**	**06 19 12.1**	**-0.2**
GOGA				*e*PP	**PP**	**06 22 21.0**	**+0.4**
GOGA				LR	LR		
	comp=Z,73μm,21.0s						
239A	**Gary**	**143.07**	**15**	⇑P	PKPbc	06 19 08.5	-0.7
	baz=143,SNR=26						
NHSC	**New Hope**	**143.19**	**355**	*e*PKPdf	**PKPdf**	06 19 06.0	-2.1
NHSC				LR	LR		
	comp=Z,102μm,20.0s						
NATX	**Nacogdoches**	**143.27**	**15**	*e*PKPdf	PKPab	06 19 07.6	-0.9
NATX				LR	LR		
	comp=Z,102μm,20.0s						
CSU	**Charleston Sou**	**143.29**	**355**	*e*PKPdf	**PKPdf**	**06 19 14.4**	**+1.7**
435B	**Jarrell**	**143.30**	**20**	⇓P	PKPbc	06 19 09.3	-0.6
	baz=143,SNR=19						
LRAL	**Lakeview Retre**	**143.32**	**4**	*e*PKPdf	**PKPdf**	**06 19 14.3**	**+1.6**
LRAL				PP	**PP**	**06 22 24.6**	**+2.4**
337A	**Centerville**	**143.34**	**17**	⇓P	PKPbc	06 19 10.4	+0.4
	baz=143,SNR=26						
631A	**Perdido Creek**	**143.40**	**25**	⇑P	PKPbc	06 19 10.5	+0.3
	baz=143,SNR=12						
533A	**Kerrville**	**143.43**	**22**	⇑P	PKPab	06 19 09.5	+0.3
	baz=143,SNR=44						
338A	**Crockett**	**143.47**	**16**	⇑P	PKPbc	06 19 10.8	+0.5
	baz=143,SNR=15						
436A	**Wall Ranch, Ga**	**143.57**	**19**	⇑P	PKPab	06 19 09.6	-0.1
	baz=143						
632A	**Uvalde**	**143.64**	**24**	⇑P	PKPab	06 19 10.1	0.0
	baz=143,SNR=26						
534A	**Blanco**	**143.67**	**22**	⇑P	PKPab	06 19 09.5	-0.6
	baz=144,SNR=34						
339A	**Huntington**	**143.70**	**15**	⇑P	PKPab	06 19 10.2	0.0
	baz=144,SNR=17						
VBMS	**Vicksburg**	**143.71**	**9**	*e*PKPdf	PKPbc	06 19 11.3	+0.4
437A	**Phantom Ranch,**	**143.72**	**18**	⇑P	PKPab	06 19 10.5	+0.2
	baz=144,SNR=31						
340A	**Bronson**	**143.79**	**14**	⇓P	PKPab	06 19 10.6	+0.1
	baz=144,SNR=31						
633A	**Saathoff Ranch**	**143.92**	**23**	⇑P	PKPbc	06 19 11.1	0.0
	baz=144,SNR=46						
535A	**Dale**	**143.99**	**20**	⇓P	PKPab	06 19 10.4	-1.0
	baz=144,SNR=46						
438A	**Sam Houston St**	**143.99**	**17**	⇓P	PKPab	06 19 11.3	-0.1
	baz=144,SNR=15						
536A	**Bastrop**	**144.12**	**20**	⇑P	**PKPab**	**06 19 10.9**	**-0.9**
	baz=144						
439A	**Center Grove,**	**144.15**	**16**	⇓P	**PKPab**	**06 19 11.8**	**-0.1**
	baz=144,SNR=20						
732A	**Laxson Ranch,**	**144.25**	**24**	⇑P	**PKPab**	**06 19 12.3**	**0.0**
	baz=144,SNR=127						
634A	**China Grove, S**	**144.30**	**22**	⇑P	**PKPab**	**06 19 12.1**	**-0.4**
	baz=144,SNR=12						
537A	**Green Hill Far**	**144.36**	**19**	⇑P	**PKPab**	**06 19 12.8**	**+0.1**
	baz=144						
538A	**Harpers Horsep**	**144.48**	**17**	⇓P	**PKPdf**	**06 19 14.2**	**-0.7**
	baz=144,SNR=24						
635A	**Leesville**	**144.51**	**21**	⇑P	PKPbc	06 19 13.4	-0.1
	baz=144,SNR=75						
733A	**Divot King Ran**	**144.53**	**24**	⇑P	PKPbc	06 19 13.8	+0.2
	baz=144,SNR=102						
HKT	**Hockley**	**144.63**	**18**	*e*PKPdf	**PKPab**	**06 19 10.4**	**-3.2**
HKT				*e*PP	PP	06 22 35.6	+5.4
832A	**Faith Ranch, C**	**144.64**	**25**	⇑P	PKPbc	06 19 14.2	+0.2
	baz=144,SNR=197						
636A	**Smothers Creek**	**144.67**	**20**	⇓P	PKPbc	06 19 14.4	+0.3
	baz=144						
734A	**La Parita Cree**	**144.70**	**22**	⇓P	PKPbc	06 19 14.3	+0.1
	baz=144,SNR=33						
539A	**Cross D Ranch,**	**144.81**	**16**	⇑P	**PKPab**	**06 19 14.1**	**-0.3**
	baz=145,SNR=5.9						
833A	**Chaparral WMA,**	**144.84**	**24**	⇓P	PKPbc	06 19 15.0	+0.4
	baz=145,SNR=142						
735A	**Kenedy**	**144.98**	**21**	⇑P	**PKPdf**	**06 19 16.1**	**+0.3**
	baz=145,SNR=115						
TIGA	**Tifton**	**145.02**	**359**	*e*PKPdf	**PKPab**	**06 19 14.4**	**-0.6**
TIGA				*e*PKPbc	**PKPdf**	**06 19 15.7**	**-0.1**
TIGA	**Tifton**	**145.02**	**359**	⇓P	**PKPdf**	**06 19 15.5**	**-0.3**
	baz=145						
736A	**Circle Diamond**	**145.15**	**20**	⇑P	**PKPdf**	**06 19 16.7**	**+0.6**
	baz=145,SNR=51						
BRAL	**Brewton**	**145.32**	**5**	*e*PKPbc	**PKPbc**	**06 19 15.9**	**-0.1**
BRAL				LR	LR		
	comp=Z,87μm,20.0s						
834A	**Tilden**	**145.35**	**23**	⇓P	**PKPdf**	**06 19 17.2**	**+0.7**
	baz=145,SNR=115						
835A	**Beeville**	**145.48**	**22**	⇓P	**PKPab**	**06 19 18.1**	**+1.2**
	baz=145,SNR=71						
933A	**Laredo**	**145.52**	**24**	⇓P	**PKPab**	**06 19 18.0**	**+1.0**
	baz=145,SNR=269						
738A	**Farr-Stevens R**	**145.72**	**18**	⇑P	**PKPab**	**06 19 18.8**	**+1.1**
	baz=146						
934A	**Benavides**	**145.83**	**23**	⇑P	**PKPab**	**06 19 19.6**	**+1.4**
	baz=146,SNR=171						
CPUP	**Villa Florida**	**146.00**	**226**	PKPbc	**PKPbc**	**06 19 18.3**	**0.0**
	comp=Z,22nn,0.8s,baz=109,slow=2.1,SNR=145						
CPUP	**Villa Florida**	**146.00**	**226**	*e*PKIKP	**PKPdf**	**06 19 17.0**	**-0.5**
CPUP	**Villa Florida**	**146.00**	**226**	*e*PKPdf	**PKPdf**	**06 19 17.0**	**-0.5**
CPUP				PKPbc	**PKPbc**	**06 19 18.3**	**0.0**
KVTX	**Kingsville**	**146.13**	**23**	*e*PKPdf	**PKPab**	**06 19 20.2**	**+0.9**
KVTX				LR	LR		
	comp=Z,76μm,20.0s						
034A	**Hebbronville**	**146.25**	**24**	⇑P	**PKPab**	**06 19 20.3**	**+0.5**
	baz=146,SNR=276						
RPN	**Rapa Nui**	**146.41**	**136**	PKPbc	**PKPab**	**06 19 21.0**	**+0.6**
	baz=225,slow=2.6						
035A	**Encino**	**146.59**	**23**	⇑P	**PKPab**	**06 19 21.7**	**+0.6**
	baz=146,SNR=53						
035Z	**Hargill**	**147.03**	**24**	⇑P	**PKPdf**	**06 19 19.8**	**+0.5**
	baz=147,SNR=51						
CFAA	**Coronel Fontan**	**148.57**	**206**	PKP	**PKPdf**	**06 19 21.6**	**-0.2**
	comp=Z,9.1nm,0.7s,baz=205,slow=1.0,SNR=18						
CFAA				PKPbc	**PKPbc**	**06 19 25.6**	**+0.2**
	comp=Z,12nm,0.8s,baz=180,slow=2.0,SNR=134						
ANWB	**Willy Bob**	**149.48**	**315**	*e*PKPbc	**PKPbc**	**06 19 27.9**	**-0.1**
ANWB				LR	LR		
	comp=Z,64μm,21.0s						
BPA	**Boggy Peak**	**149.94**	**314**	*e*P	**PKPdf**	**06 19 24.9**	**+0.5**
SMRT	**St. Maarten**	**150.12**	**317**	*e*PKPdf	**PKPdf**	**06 19 25.0**	**+0.5**
BBGH	**Gun Hill**	**150.53**	**305**	PFAKE		06 19 40.0	+2.7
BBGH				LR	LR		
	comp=Z,185μm,20.0s						
SABA	**Saba**	**150.53**	**317**	*e*PKPbc	**PKPbc**	**06 19 30.1**	**-0.5**
DLPL	**La Plaine**	**150.59**	**311**	*e*	**PKPbc**	**06 19 28.5**	**-2.3**
DBCT	**Belle View Cho**	**150.70**	**311**	*e*	**PKPdf**	**06 19 27.2**	**+1.6**
MDN	**Morne-Daniel**	**150.71**	**311**	*e*	**PKPdf**	**06 19 26.5**	**+1.0**
DPMT	**Pointe Michel**	**150.73**	**311**	*e*	**PKPdf**	**06 19 24.4**	**-1.1**
DSHT	**Scott's Head**	**150.76**	**311**	*e*	**PKPdf**	**06 19 27.6**	**+2.0**
MVM	**Montagne Vaucl**	**150.79**	**309**	*e*P	**PKPbc**	**06 19 31.9**	**+0.7**
BVM	**Bellevue**	**150.81**	**309**	*e*P	**PKPbc**	**06 19 38.1**	**-0.4**
SVN	**Savane Anatole**	**150.83**	**310**	*e*P	**PKPbc**	**06 19 32.0**	**+0.7**
LPMF	**Morne Lapointe**	**150.83**	**309**	*e*P	**PKPbc**	**06 19 30.7**	**-0.6**
FDF	**Fort de France**	**150.88**	**310**	*e*P	**PKPbc**	**06 19 31.8**	**+0.3**
FDF	**Fort de France**	**150.88**	**310**	*e*PKIKP	**PKPdf**	**06 19 26.0**	**+0.2**
FDF				*e*		06 19 31.1	
FDF				MLR	MLR		
	comp=Z,71μm,20.0s						
FDF	**Fort de France**	**150.88**	**310**	*e*PKPdf	**PKPdf**	**06 19 26.0**	**+0.2**
FDF				*e*PKPbc	**PKPbc**	**06 19 31.1**	**-0.4**
FDF				LR	LR		
	comp=Z,71μm,20.0s						
ZAM	**Aeronautique**	**150.88**	**309**	*e*P	**PKPdf**	**06 19 26.8**	**+1.0**
TRMF	**Trois Ilets**	**150.92**	**309**	*e*P	**PKPbc**	**06 19 31.4**	**-0.2**
BIM	**Bigot**	**150.95**	**309**	*e*P	**PKPdf**	**06 19 21.4**	**-4.6**
STVI	**Saint Thomas**	**151.14**	**320**	*e*PKPdf	**PKPdf**	**06 19 25.3**	**-0.8**
STVI				*e*PKPbc	**PKPbc**	**06 19 31.8**	**-0.2**
MCLT	**Moule a Chique**	**151.32**	**308**	*e*	**PKPdf**	**06 19 25.7**	**-0.8**
CDVI	**St. Croix**	**151.46**	**319**	*e*PKPdf	**PKPdf**	**06 19 26.2**	**-0.4**
SVB	**Belmont**	**151.82**	**307**	*e*	**PKPbc**	**06 19 31.4**	**-2.2**
HUMP	**Col San Antoni**	**151.86**	**321**	*e*PKPdf	**PKPdf**	**06 19 27.9**	**+0.7**
LCO	**Las Campanas**	**151.88**	**205**	*e*PKPdf	**PKPdf**	**06 19 27.1**	**-0.3**
LCO				*e*PKPbc	**PKPbc**	**06 19 33.5**	**-0.3**
LCO				LR	LR		
	comp=Z,197μm,21.0s						
GRTK	**Grand Turk**	**151.94**	**334**	*e*PKPbc	**PKPbc**	**06 19 34.1**	**+0.4**
GRTK				LR	LR		
	comp=Z,64μm,19.0s						
SJG	**San Juan**	**152.07**	**322**	*e*PKIKP	**PKPdf**	**06 19 26.8**	**-0.7**
SJG				MLR	MLR		
	comp=Z,77μm,21.0s						
SJG	**San Juan**	**152.07**	**322**	*e*PKPdf	**PKPdf**	**06 19 26.8**	**-0.7**
SJG				LR	LR		
	comp=Z,77μm,21.0s						
TOSP	**Speyside**	**152.31**	**303**	*e*	**PKPdf**	**06 19 29.5**	**+1.6**
LRS	**Lares**	**152.36**	**323**	*e*PKPdf	**PKPdf**	**06 19 27.7**	**-0.3**
CELP	**Cerrillos**	**152.37**	**322**	*e*PKPdf	**PKPdf**	**06 19 27.6**	**-0.4**
CELP				*e*PKPbc	**PKiKP**	**06 19 35.1**	**0.0**
AGPR	**Aguadilla, PR**	**152.38**	**324**	*e*PKPdf	**PKPdf**	**06 19 26.8**	**-1.2**
OBIP	**Obispado Ponce**	**152.41**	**322**	*e*PKPdf	**PKPdf**	**06 19 27.8**	**-0.2**
OBIP				*e*PKPbc	**PKPbc**	**06 19 34.6**	**-0.3**
OBIP				*e*PP	**PP**	**06 23 19.1**	**+2.8**
ICMP	**Isla Caja de M**	**152.48**	**322**	*e*PKPdf	**PKPdf**	**06 19 27.3**	**-0.8**
BOT	**Bacolet**	**152.53**	**303**	*e*	**PKPdf**	**06 19 28.0**	**-0.3**
TPR	**Prospect**	**152.57**	**303**	*e*	**PKPdf**	**06 19 31.1**	**+2.7**
LSP	**Las Mesas**	**152.59**	**323**	*e*PKPdf	**PKPdf**	**06 19 28.4**	**0.0**
LSP				*e*PKPbc	**PKiKP**	**06 19 35.5**	**-0.1**
MPR	**Mayaguez**	**152.60**	**323**	*e*PKPdf	**PKPdf**	**06 19 28.2**	**-0.1**
GRSS	**Sisters**	**152.66**	**306**	*e*	**PKPdf**	**06 19 28.9**	**+0.4**
GRHS	**Sauteurs**	**152.72**	**306**	*e*	**PKPdf**	**06 19 29.2**	**+0.6**
CRPR	**Cabo Rojo, PR**	**152.74**	**323**	*e*PKPdf	**PKPdf**	**06 19 28.0**	**-0.5**
CRPR				*e*PKPbc	**PKPbc**	**06 19 35.6**	**0.0**
GRW	**Mount Saint Ca**	**152.78**	**306**	*e*	**PKPbc**	**06 19 37.5**	**+1.6**
GRGR	**Grenville**	**152.78**	**306**	*e*PKPdf	**PKPdf**	**06 19 28.4**	**-0.3**
GRGR				*e*PKPbc	**PKPbc**	**06 19 35.4**	**-0.4**
GRGR				LR	LR		
	comp=Z,76μm,22.0s						
SMN1	**Samana, DR**	**153.02**	**328**	*e*PKPdf	**PKPdf**	**06 19 28.3**	**-0.7**
SMN1				*e*PP	**PP**	**06 23 23.8**	**+4.2**
PCDR	**Punta Cana, DR**	**153.08**	**326**	*e*PKPdf	**PKPdf**	**06 19 28.4**	**-0.5**
TBH	**Brigand Hill**	**153.17**	**302**	*e*	**PKPbc**	**06 19 33.7**	**-3.0**
TRN	**Trinidad (W)**	**153.37**	**303**	*e*	**PKPbc**	**06 19 39.5**	**+2.3**
TPP	**Pointe-a-Pierr**	**153.58**	**302**	*e*	**PKPdf**	**06 19 33.1**	**+3.3**
SDD	**Santo Domingo**	**153.96**	**328**	*e*PKPdf	**PKPdf**	**06 19 30.6**	**+0.3**
SDDR	**Presa de Saban**	**154.20**	**331**	*e*PKPdf	**PKPdf**	**06 19 31.4**	**+0.8**
SDDR				LR	LR		
	comp=Z,104μm,20.0s						
GTBY	**Guantanamo Bay**	**154.93**	**340**	*e*PKPbc	**PKPbc**	**06 19 39.5**	**-0.8**
GTBY				LR	LR		
	comp=Z,74μm,21.0s						
WSYH	**La Gonave Hosp**	**155.05**	**334**	*e*PKPdf	**PKPdf**	**06 19 32.4**	**+0.7**
JAKH	**Jacmel**	**155.42**	**333**	*e*PKPdf	**PKPdf**	**06 19 33.6**	**+1.3**
TEIG	**Tepich**	**155.82**	**10**	PKP	**PKPdf**	**06 19 32.3**	**-0.5**
	comp=Z,18nm,0.9s,baz=330,slow=8.9,SNR=5.3						
TEIG				PKPab	**PKPab**	**06 19 58.7**	**-0.6**
	comp=Z,242nm,0.9s,baz=330,slow=5.7,SNR=31						
TEIG				PP	PP	06 23 42.4	+7.8
	comp=Z,42nm,1.0s,baz=332,slow=13,SNR=2.1						
TEIG	**Tepich**	**155.82**	**10**	PKP	**PKPdf**	**06 19 32.3**	**-0.5**
TEIG				*e*PKPdf	**PKPdf**	**06 19 32.5**	**-0.2**
TEIG				*e*PKPab	**PKPab**	**06 19 58.3**	**-1.0**
TEIG				PKPab	PKPab	06 19 58.7	-0.6
TEIG				*e*PP	**PP**	**06 23 32.8**	**-1.8**
TEIG				PP	PP	06 23 42.4	+7.8
TEIG				LR	LR		
	comp=Z,112μm,20.0s						
PTGA	**Pitinga**	**155.83**	**277**	PKP	**PKPdf**	**06 19 33.0**	**-0.1**
	comp=Z,23nm,1.1s,baz=47,slow=0.7,SNR=32						
PTGA				PKPab	**PKPab**	**06 20 01.1**	**+1.3**
	comp=Z,19nm,0.5s,baz=141,slow=4.6,SNR=8.5						
PTGA	**Pitinga**	**155.83**	**277**	*e*PKPdf	**PKPdf**	**06 19 32.9**	**-0.1**
PTGA				PKPab	**PKPab**	**06 20 01.1**	**+1.3**
PTGA				LR	LR		
	comp=Z,260μm,20.0s						
LVC	**Limon Verde**	**156.23**	**217**	PKP	**PKPdf**	**06 19 33.9**	**+0.3**
	comp=Z,48nm,1.1s,baz=114,slow=4.0,SNR=8.9						
LVC				PKPab	**PKPab**	**06 20 02.8**	**+1.4**
	comp=Z,174nm,0.8s,baz=240,slow=0.5,SNR=11						
LVC				PP	PP	06 23 53.2	+15
	comp=Z,186nm,1.2s,baz=138,slow=14,SNR=2.0						
LVC	**Limon Verde**	**156.23**	**217**	*e*PKPdf	**PKPdf**	**06 19 33.1**	**-0.5**
LVC				PKP	**PKPdf**	**06 19 33.9**	**+0.3**
LVC				PKPab	**PKPab**	**06 20 02.8**	**+1.4**
LVC				*e*PP	**PP**	**06 23 35.4**	**-2.7**
LVC				PP	PP	06 23 53.2	+15
LVC				LR	LR		
	comp=Z,105μm,22.0s						
PCRV	**Puerto La Cruz**	**156.30**	**306**	PKP	**PKPdf**	**06 19 32.2**	**-1.5**
	comp=Z,8.1nm,0.8s,baz=350,slow=9.2,SNR=3.5						
CMIG	**Matias Romero**	**156.67**	**27**	PKP	**PKPdf**	**06 19 33.4**	**-0.6**
	comp=Z,12nm,0.8s,baz=341,slow=1.6,SNR=3.8						
CMIG				PKPab	**PKPab**	**06 20 03.1**	**+0.1**
	comp=Z,66nm,0.8s,baz=7.8,slow=7.5,SNR=9.7						
BBJ	**Bamboo Saint A**	**157.05**	**343**	*i* P	**PKPdf**	**06 19 35.0**	**+0.5**
STH	**Stony Hill**	**157.21**	**342**	*i* P	**PKPdf**	**06 19 35.0**	**+0.3**
HOJ	**Hope**	**157.26**	**342**	*i* P	**PKPdf**	**06 19 35.4**	**+0.7**
CVJ	**Coleyville**	**157.28**	**344**	*i* P	**PKPdf**	**06 19 35.1**	**+0.2**
MTDJ	**Mount Denham**	**157.28**	**344**	*e*PKPdf	**PKPdf**	**06 19 33.9**	**-0.9**
MTDJ				*e*PP	**PP**	**06 23 43.4**	**+0.5**
MTDJ				LR	LR		
	comp=Z,149μm,22.0s						
MCJ	**Malvern**	**157.60**	**344**	*i* P	**PKPdf**	**06 19 36.2**	**+1.0**
SAML	**Samuel**	**158.71**	**255**	*e*PKPdf	**PKPdf**	**06 19 35.9**	**-0.7**
SAML				LR	LR		
	comp=Z,198μm,19.0s						
LPAZ	**La Paz**	**160.05**	**230**	PKP	**PKPdf**	**06 19 38.9**	**+0.1**
	comp=Z,12nm,0.9s,baz=43,slow=3.2,SNR=47						
LPAZ				PKPab	**PKPab**	**06 20 20.2**	**+1.6**
	comp=Z,49nm,1.0s,baz=307,slow=2.3,SNR=4.5						
LPAZ				PP	PP	06 24 16.9	+17
	comp=Z,17nm,1.1s,baz=127,slow=5.9,SNR=3.0						
SDV	**Santo Domingo**	**161.72**	**313**	*e*PKPdf	**PKPdf**	**06 19 39.3**	**-0.9**
SDV				*e*PKPab	**PKPab**	**06 20 25.8**	**+0.4**
SDV				*e*PP	**PP**	**06 24 11.7**	**+3.3**
SDV				LR	LR		
	comp=Z,212μm,19.0s						
JTS	**JuntasAbangare**	**166.03**	**4**	PKP	**PKPdf**	**06 19 43.4**	**-0.6**
	comp=Z,13nm,1.1s,baz=50,slow=14,SNR=3.2						
JTS	**JuntasAbangare**	**166.03**	**4**	*e*PKIKP	**PKPdf**	**06 19 41.9**	**-2.1**
JTS				*e*		06 24 31.1	
JTS				MLR	MLR		
	comp=Z,154μm,20.0s						
JTS	**JuntasAbangare**	**166.03**	**4**	*e*PKPdf	**PKPdf**	**06 19 41.9**	**-2.1**
JTS				PKP		06 19 43.4	
JTS				*e*PKPab	**PKPab**	**06 20 48.5**	**+4.6**
JTS				*e*PP	**PP**	**06 24 31.1**	**+1.6**
JTS				LR	LR		
	comp=Z,154μm,20.0s						
BCIP	**Isla Barro Col**	**166.54**	**342**	*e*PKPdf	**PKPdf**	**06 19 43.2**	**-1.0**
BCIP				LR	LR		
	comp=Z,207μm,22.0s						
ROSC	**El Rosal**	**167.13**	**311**	PKP	**PKPdf**	**06 19 45.3**	**+0.1**
	comp=Z,48nm,1.1s,baz=108,slow=1.3,SNR=57						
ROSC				PKPab	**PKPab**	**06 20 50.0**	**+0.5**
	comp=Z,33nm,0.8s,baz=222,slow=14,SNR=3.2						
ROSC	**El Rosal**	**167.13**	**311**	*e*PKPdf	**PKPdf**	**06 19 44.2**	**-1.1**
ROSC				PKP		06 19 45.3	
ROSC				PKPab	**PKPab**	**06 20 50.0**	**+0.5**
NNA	**Nana**	**169.18**	**220**	PKP	**PKPdf**	**06 19 46.2**	**0.0**
	comp=Z,17nm,0.9s,baz=49,slow=4.1,SNR=6.4						
NNA	**Nana**	**169.18**	**220**	*e*PKIKP	**PKPdf**	**06 19 45.7**	**-0.5**
NNA				MLR	MLR		
	comp=Z,119μm,21.0s						
NNA	**Nana**	**169.18**	**220**	*e*PKPdf	**PKPdf**	**06 19 45.7**	**-0.5**
NNA				PKP		06 19 46.2	
NNA				LR	LR		
	comp=Z,119μm,21.0s						
PAYG	**Puerto Ayora**	**173.00**	**64**	PFAKE		06 20 00.0	+12
PAYG				LR	LR		
	comp=Z,127μm,22.0s						
OTAV	**Otavalo**	**173.22**	**305**	*e*PKPdf	**PKPdf**	**06 19 48.7**	**-0.1**
OTAV				*e*PP	**PP**	**06 25 10.6**	**+2.6**
OTAV				LR	LR		
	comp=Z,192μm,19.0s						
ATAH	**Atahualpa**	**173.50**	**238**	PKP	**PKPdf**	**06 19 48.8**	**-0.1**
	comp=Z,36nm,1.1s,baz=339,slow=1.0,SNR=22						
ATAH				PP	PP	06 25 23.6	+14
	comp=Z,7.4nm,0.8s,baz=86,slow=4.8,SNR=3.9						

*ISCJB **09** 06:15:56.5±2.4,36°.8S×0°.2×177°.6E±0°.2,h100km, Error ellipse: s-maj=22.3km s-min=18.8km az=5.8*
*WEL **09** 06:15:56.9±0.5,36°.78S×177°.57E,h91km±10km, ML3.3/3, Error ellipse: s-maj=6.4km s-min=6.1km az=90.0*
*IDC **09** 06:16:01.1±6.1,30°.68S×179°.08W,h0km, mb3.7/2, mb1 4.0/2, mb1mx3.7/39, mbtmp3.7/2, Error ellipse: s-maj=236.4km s-min=61.1km az=155.0*

ISC 09 06:15:56.3±2.0, 36°.8S±0°.1×177°.6E±0°.1, h100km, n8, σ0s44/10, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.96**	**145**	P*	**Pn**	**06 16 15.9**	**-0.3**
MXZ				S*	**Sn**	**06 16 31.8**	**+0.4**
MXZ				AML	AML	06 16 46.4	
HAZ	**Te Kaha**	**0.99**	**172**	P*	**Pn**	**06 16 16.8**	**+0.3**
HAZ				S*	**Sn**	**06 16 31.1**	**-0.7**
WMGZ	**Waiomatatini S**	**1.22**	**149**	PN	**Pn**	**06 16 19.5**	**+0.3**
WMGZ				SN	**Sn**	**06 16 36.7**	**+0.2**
URZ	**Urewera**	**1.54**	**195**	P*	**Pn**	**06 16 23.4**	**+0.4**
MWZ	**Matawai**	**1.56**	**183**	P*	**Pn**	**06 16 23.4**	**+0.1**
MWZ				AML	AML	06 16 31.0	
MWZ				S*	**Sn**	**06 16 43.5**	**-0.4**
ASAR	**Alice Springs**	**39.64**	**277**	P	sP	06 23 54.9	+2.0
	1.6nm,1.1s,baz=109,slow=8.0,SNR=2.8						
WRA	**Warramunga Arr**	**41.23**	**282**	P	sP	06 24 04.5	-1.5
	0.5nm,0.5s,baz=113,slow=8.2,SNR=7.9						
FINES	**FINESS Array B**	**149.53**	**333**	PKPbc	**PKPab**	**06 35 38.2**	**-0.1**
	1.2nm,0.9s,baz=58,slow=4.2,SNR=3.7						

WEL 09 06:18:24.1±0.7, 36°.58S×177°.02E, h5km, ML3.6/4, Error ellipse: s-maj=5.1km s-min=4.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MYRZ	**Mayor Island**	**0.94**	**221**	P*	Pg	06 18 40.9	-1.4
MYRZ				S*	Sg	06 18 52.7	-1.8
KUZ	**Kuaotunu**	**1.06**	**260**	P*	Pg	06 18 44.0	-0.4
KUZ				S*	Sg	06 18 58.2	+0.1
KUZ				AML	AML	06 18 58.3	
KUZ				AML	AML	06 18 59.2	
TGRZ	**Tauranga**	**1.30**	**208**	AML	AML	06 19 04.0	
MKAZ	**Moumakai**	**1.58**	**250**	PN	Pn	06 18 52.4	-0.4
MKAZ				SN	Sn	06 19 12.9	-0.7
MKAZ				AML	AML	06 19 13.2	
TOZ	**Tahuroa Road**	**1.67**	**226**	P*	Pn	06 18 52.3	-1.8
TOZ				S*	Sn	06 19 13.7	-2.1

*CSEM **09** 06:23:34.6,35°.88N×21°.96E,h10km, MD3.5*

ATH 09 06:23:34.7,35°.88N×21°.97E, h11km±3km, MB3.5/14, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KYTH	**Kithira**	**0.95**	**65**	*e*PG	Pg	06 23 52.2	-0.9
KYTH	**Kithira**	**0.95**	**65**	*e*Pg	Pg	06 23 52.2	-0.9
PYL	**PYLOS**	**1.03**	**350**	*e*PG	Pg	06 23 53.8	-0.8
PYL				*e*SB	Sb	06 24 08.8	+0.7
PYL	**PYLOS**	**1.03**	**350**	*e*Pg	Pg	06 23 53.8	-0.8
PYL				*e*Sb	Sb	06 24 08.8	+0.7
ANKY	**Antikythira Is**	**1.08**	**90**	*e*PN	Pg	06 23 55.5	0.0
ANKY	**Antikythira Is**	**1.08**	**90**	*e*Pn	Pg	06 23 55.5	0.0
ITM	**Ithomi**	**1.30**	**358**	*e*PN	Pn	06 23 58.2	-0.6
ITM	**Ithomi**	**1.30**	**358**	*e*Pn	Pn	06 23 58.2	-0.6
VLX	**Vlachokerasia**	**1.52**	**12**	*e*PG	Pn	06 24 02.4	+0.4
VLX	**Vlachokerasia**	**1.52**	**12**	*e*Pg	Pn	06 24 02.4	+0.4
KARN	**Karanos**	**1.66**	**106**	*e*PB	Pg	06 24 06.6	0.0
KARN	**Karanos**	**1.66**	**106**	*e*Pb	Pg	06 24 06.6	0.0
AMT	**Artemida-Makis**	**1.66**	**353**	*e*PG	Pb	06 24 04.8	-0.6
AMT				*e*SB	Sg	06 24 28.8	+0.5
AMT	**Artemida-Makis**	**1.66**	**353**	*e*Pg	Pb	06 24 04.8	-0.6
AMT				*e*Sb	Sg	06 24 28.8	+0.5
VAM	**Vamos**	**1.88**	**104**	*e*PB	Pn	06 24 07.3	+0.6
VAM	**Vamos**	**1.88**	**104**	*e*Pb	Pn	06 24 07.3	+0.6
DID	**Didima**	**1.92**	**32**	*e*PN	Pb	06 24 09.3	-0.4
DID	**Didima**	**1.92**	**32**	*e*Pn	Pb	06 24 09.3

OTAV Otavalo 34.72 351 eP P 07 01 18.9 +1.1
comp=E,20nm,1.5s
ROSC El Rosal 39.00 359 P P 07 01 55.6 +1.4
comp=E,3.8nm,0.6s,baz=166,slow=8.3,SNR=8.1
VNA3 Neumayer Olymp 49.47 158 P P 07 03 17.6 +0.6
VNA2 Neumayer--Watz 50.14 157 P P 07 03 22.6 +0.6
baz=290,slow=8.8
SNAA Sanae 51.70 158 P P 07 03 34.4 +0.7
QSPA South Pole Qui 55.89 180 eP P 07 04 04.8 +0.2
comp=E,7.1nm,0.9s
SYO Syowa Base 65.96 159⇑ ePcP PcP 07 05 42.8 -0.4
933A Laredo 66.31 335 ⇓P P 07 05 16.2 +0.8
baz=67
834A Tilden 66.53 336 ⇓P P 07 05 18.0 +1.1
baz=67
736A Circle Diamond 66.82 337 ⇓P P 07 05 19.9 +1.3
baz=67
735A Kenedy 66.96 337 ⇑P P 07 05 20.5 +0.9
baz=67
833A Chaparral WMA, 67.01 335 ⇑P P 07 05 20.5 +0.7
baz=67,SNR=5.5
832A Faith Ranch, C 67.17 335 ⇑P P 07 05 21.0 +0.1
baz=68,SNR=6.2
636A Smothers Creek 67.30 338 ⇑P P 07 05 22.6 +1.0
baz=68
733A Divot King Ran 67.33 335 ⇑P P 07 05 22.9 +1.0
baz=68
732A Laxson Ranch, 67.58 335 ⇑P P 07 05 23.9 +0.4
baz=68,SNR=11
535A Dale 67.97 337 ⇓P P 07 05 26.8 +0.8
baz=68
633A Saathoff Ranch 67.97 336 ⇑P P 07 05 26.6 +0.7
baz=68
632A Uvalde 68.23 335 ⇓P P 07 05 28.4 +0.9
baz=68,SNR=5.7
533A Kerrville 68.49 336 ⇓P P 07 05 29.5 +0.3
baz=69,SNR=5.6
532A Rocksprings 68.83 336 ⇓P P 07 05 31.9 +0.5
baz=69,SNR=9.8
434A Burnet 68.92 337 ⇓P P 07 05 32.5 +0.6
baz=69,SNR=7.2
336A Riesel 69.01 339 ⇓P P 07 05 32.9 +0.5
baz=69
531A Rocksprings 69.09 335 ⇑P P 07 05 34.0 +1.0
baz=69
335A Moody 69.09 338 ⇑P P 07 05 33.4 +0.5
baz=69
JCT Junction City 69.12 336 eP P 07 05 33.3 +0.2
comp=E,8.9nm,0.9s
JCT Junction City 69.12 336 ⇓P P 07 05 33.3 +0.2
baz=69,SNR=6.2
433A Art 69.14 336 ⇑P P 07 05 33.1 -0.1
baz=69,SNR=9.8
237A Washetta, Mont 69.28 340 ⇓P P 07 05 35.0 +1.0
baz=70
530A J-C Ranch, Com 69.36 334 ⇓P P 07 05 34.9 +0.3
baz=70,SNR=7.4
334A Lometa 69.39 337 ⇓P P 07 05 34.7 -0.1
baz=70,SNR=6.7
432A Menard 69.48 336 ⇑P P 07 05 35.6 +0.2
baz=70
236A Katherine and 69.49 339 ⇑P P 07 05 35.9 +0.5
baz=70
TXAR Lajitas Array 69.49 332 P P 07 05 35.5 0.0
comp=E,3.7nm,0.6s,baz=156,slow=8.2,SNR=35
KMSC Kings Mountain 69.52 353 ⇑P P 07 05 36.5 +1.0
baz=70
431A Sonora 69.58 335 ⇑P P 07 05 36.5 +0.5
baz=70
333A Richland Sprin 69.63 337 ⇑P P 07 05 36.3 +0.1
baz=70
529A Stev Forest Ra 69.66 334 ⇑P P 07 05 36.5 0.0
baz=70,SNR=8.0
WHTX Lake Whitney, 69.76 338 ⇑P P 07 05 37.5 +0.5
baz=70
430A Baggett Ranch, 69.90 335 ⇓P P 07 05 37.9 -0.1
baz=70,SNR=5.7
332A Millersview 69.93 336 ⇓P P 07 05 38.3 +0.2
baz=70
234A Clairette 69.98 338 ⇑P P 07 05 38.9 +0.5
baz=70
429A Davenport Ranc 69.99 334 ⇓P P 07 05 38.4 -0.1
baz=70,SNR=5.6
331A San Angelo 70.09 336 ⇑P P 07 05 39.0 -0.2
baz=70,SNR=8.1
233A Rising Star 70.24 337 ⇑P P 07 05 40.4 +0.5
baz=70
135A Vickery Place, 70.27 339 ⇓P P 07 05 40.4 +0.3
baz=71
232A Coleman 70.36 336 ⇓P P 07 05 41.0 +0.2
baz=71
330A Mertzon 70.44 335 ⇓P P 07 05 41.3 0.0
baz=71
134A White-Moore Ra 70.49 338 ⇓P P 07 05 41.5 0.0
baz=71
231A Bronte 70.63 336 ⇑P P 07 05 42.5 +0.1
baz=71,SNR=7.5
133A Hamilton Ranch 70.79 337 ⇑P P 07 05 43.2 -0.1
baz=71,SNR=5.9
329A Wagon Wheel Ra 70.80 334 ⇑P P 07 05 43.9 +0.4
baz=71,SNR=5.1
230A Sterling City 70.86 335 ⇓P P 07 05 44.0 +0.2
baz=71
Z35A Perchaven, San 70.95 339 ⇑P P 07 05 44.5 +0.3
baz=71
ABTX Abilene, Hawle 71.04 337 eP P 07 05 44.9 0.0
ABTX Abilene, Hawle 71.04 337 ⇑P P 07 05 45.1 +0.2
baz=71,SNR=5.9
229A Bryant Ranch, 71.17 335 ⇓P P 07 05 46.2 +0.5
baz=72
Z34A Collier Ranch, 71.18 338 ⇑P P 07 05 46.3 +0.6
baz=72
131A Roby 71.33 336 ⇑P P 07 05 47.2 +0.6
baz=72
Z33A Whitaker Ranch 71.37 338 ⇓P P 07 05 47.2 +0.4
baz=72
WVT Waverly 71.39 348 eP P 07 05 45.2 -1.6
130A Snyder 71.45 336 ⇑P P 07 05 47.2 -0.2
baz=72
228A UT Block 9, Go 71.59 334 ⇑P P 07 05 48.6 +0.4
baz=72
X37A Clayton 71.59 341 ⇓P P 07 05 48.7 +0.6
baz=72
Z32A Haskell 71.61 337 ⇑P P 07 05 48.3 0.0
baz=72,SNR=6.8
Y34A Reagan Ranch, 71.68 339 ⇑P P 07 05 49.0 +0.3
baz=72
129A Stewart Farms, 71.80 335 ⇓P P 07 05 49.9 +0.4
baz=72
W38A Poteau 71.83 342 ⇓P P 07 05 50.3 +0.8
baz=72
Z31A Sharp Cattle R 71.84 337 ⇓P P 07 05 49.9 +0.2
baz=72,SNR=6.1
X36A Centrahoma 71.85 340 ⇑P P 07 05 49.5 -0.1
baz=72
X35A Drake 71.86 340 ⇑P P 07 05 49.7 0.0
baz=72
Y33A Hilltop Ranch, 71.99 338 ⇑P P 07 05 50.6 +0.1
baz=72
128A Castleberry Fa 72.01 334 ⇓P P 07 05 51.0 +0.3
baz=72,SNR=5.1
Z30A Sanderson Ranc 72.14 336 ⇑P P 07 05 51.5 0.0
baz=72
Y32A R-V Farms, Ver 72.24 337 ⇑P P 07 05 52.4 +0.4
baz=72
MNTX Cornudas Mount 72.27 332 eP P 07 05 51.3 -0.9
comp=E,4.8nm,0.9s
MNTX Cornudas Mount 72.27 332 ⇑P P 07 05 51.7 -0.5
baz=72
X34A Smith Ranch, M 72.30 339 ⇑P P 07 05 52.6 +0.2
baz=73
Z29A Hungry Hill Ra 72.31 335 ⇓P P 07 05 52.4 -0.2
baz=73
W36A Wetumka 72.35 341 ⇑P P 07 05 52.4 -0.3
baz=73
X33A Lawton 72.45 338 ⇑P P 07 05 53.4 +0.2
baz=73
Y31A Rekieta Farm, 72.47 337 ⇓P P 07 05 53.6 +0.2
baz=73,SNR=5.0
Z28A Tucker Farm, M 72.57 335 ⇑P P 07 05 54.4 +0.2
baz=73
X32A Elmer 72.58 338 ⇓P P 07 05 54.5 +0.5
baz=73
Y30A Stafford Cattl 72.60 336 ⇑P P 07 05 54.4 +0.2
baz=73
Y29A Porterfield Fa 72.84 336 ⇑P P 07 05 55.7 -0.1
baz=73
TUL1 Leonard 72.95 341 eP P 07 05 55.6 -0.6
comp=E,15nm,1.1s
TUL1 Leonard 72.95 341 ⇑P P 07 05 56.1 -0.1
baz=73
X31A McDonald Ranch 72.99 337 ⇑P P 07 05 56.4 -0.1
baz=73
W33A Caddo, Fort Co 73.00 339 ⇓P P 07 05 57.2 +0.6
baz=73
Y28A McKinney Farm, 73.09 335 ⇑P P 07 05 57.2 0.0
baz=73
V35A Meyer Ranch, C 73.10 340 ⇓P P 07 05 57.1 0.0
baz=73
MAW Mawson 73.17 164 P P 07 05 57.2 +0.1
comp=E,3.0nm,0.7s,baz=227,slow=9.6,SNR=4.1
W32A Sentinel 73.22 338 ⇑P P 07 05 57.9 0.0
baz=74,SNR=10
MSTX Muleshoe 73.33 335 ⇓P P 07 05 58.7 +0.1
baz=74
W31A Holland Ranch, 73.49 338 ⇓P P 07 05 59.6 +0.1
baz=74
V33A Lossen Ranch, 73.57 339 ⇓P P 07 05 59.5 -0.4
baz=74
319A Douglas 73.59 328 ⇑P P 07 06 01.3 +1.1
baz=74
AMTX Amarillo 73.78 336 ⇓P P 07 06 01.5 +0.3
baz=74
121A Cooks Peak, D 73.96 330 ⇑P P 07 06 03.1 +0.7
baz=74
W29A Amarillo 73.98 336 ⇑P P 07 06 02.9 +0.5
baz=74
T36A Boggs Farm, Ca 74.06 341 ⇓P P 07 06 02.7 0.0
baz=74
T35A Sooner Cattle 74.09 341 ⇑P P 07 06 03.1 +0.2
baz=74
U32A Winter Ranch, 74.30 339 ⇓P P 07 06 04.8 +0.6
baz=75
T34A McClaskey Farm 74.38 340 ⇑P P 07 06 05.0 +0.4
baz=75
V28A Channing 74.75 336 ⇓P P 07 06 07.7 +0.8
baz=75
S35A Otter Creek Ra 74.76 341 ⇑P P 07 06 07.1 +0.3
baz=75
TUC Tucson 75.05 328 eP P 07 06 09.3 +0.6
U28A Mallet 75.32 336 ⇓P P 07 06 11.3 +1.1
baz=76
ANMO Albuquerque 75.55 332 eP P 07 06 12.3 +0.7
comp=E,11nm,1.8s
S31A Mullinville 75.59 339 ⇓P P 07 06 12.6 +1.0
baz=76
214A Organ Pipe Nat 75.66 326 ⇓P P 07 06 13.1 +1.0
baz=76
T29A Hugoton 75.73 337 ⇑P P 07 06 13.6 +1.1
baz=76
R33A Olander Ranch, 75.80 340 ⇑P P 07 06 14.5 +1.7
baz=76
LIC Lamto 75.95 72 eP P 07 06 14.6 +0.4
comp=E,26nm,1.2s
T28A Walsh 75.96 337 ⇑P P 07 06 14.1 +0.3
baz=76
S29A Ulysses 76.10 338 ⇓P P 07 06 15.3 +0.8
baz=76
T27A Campo 76.11 336 ⇑P P 07 06 15.5 +0.8
baz=76
R32A Long Quarter, 76.11 340 ⇑P P 07 06 15.9 +1.3
baz=76
TIC Toumodi 76.21 72 eP P 07 06 16.2 +0.5
comp=E,5.4nm,0.2s
R31A Burdett 76.23 339 ⇑P P 07 06 15.8 +0.6
baz=76
KIC Kosan Boka 76.26 72 eP P 07 06 16.5 +0.6
comp=E,17nm,0.8s
S28A Manter 76.32 337 ⇑P P 07 06 16.3 +0.5
baz=77
DBIC Dimbokro 76.36 72 P P 07 06 16.8 +0.4
comp=E,5.2nm,0.7s,baz=219,slow=5.4,SNR=11
Q33A Connelly Farm, 76.41 341 ⇑P P 07 06 17.1 +0.9
baz=77
R30A Dighton 76.45 339 ⇑P P 07 06 18.1 +1.6
baz=77
X18A Snowflake 76.59 330 ⇑P P 07 06 18.7 +1.1
baz=77
Q32A Meitler Ranch, 76.60 340 ⇓P P 07 06 18.7 +1.5
baz=77
T25A Trinidad 76.75 335 ⇓P P 07 06 19.4 +0.9
baz=77,SNR=5.1
S26A Kim 76.87 336 ⇑P P 07 06 19.7 +0.7
baz=77,SNR=5.2
R28A Tribune 76.98 337 ⇓P P 07 06 20.5 +1.0
baz=77
Q30A Quinter 77.07 339 ⇓P P 07 06 20.7 +0.7
baz=77,SNR=5.0
X16A Lo Ilia Camp, P 77.13 328 ⇓P P 07 06 21.4 +0.9
baz=77
P32A Huiting Farm, 77.20 340 ⇓P P 07 06 21.5 +0.9
baz=78
R27A Eads 77.24 337 ⇑P P 07 06 21.7 +0.6
baz=78
R26A Arlington 77.47 336 ⇓P P 07 06 23.4 +1.1
baz=78
Q28A Sharon Springs 77.64 338 ⇓P P 07 06 24.5 +1.2
baz=78
SDCO Great Sand Dun 77.68 334 ⇓P P 07 06 24.4 +0.7
baz=78
O32A Brockman Farm, 77.70 341 ⇓P P 07 06 24.9 +1.5
baz=78
P29A Atwood 77.86 339 ⇓P P 07 06 25.1 +0.7
baz=78
O31A Woolen Ranch, 77.90 340 ⇓P P 07 06 26.7 +2.1
baz=78
Y12C Blythe 77.95 326 ⇑P P 07 06 26.6 +1.6
baz=78
WUAZ Wupatki 78.03 329 ⇑P P 07 06 26.8 +1.2
baz=78
Q26A Hugo 78.06 336 ⇑P P 07 06 26.8 +1.1
baz=78
S22A 4UR Ranch, Cre 78.17 333 ⇑P P 07 06 27.7 +1.3
baz=78
R23A Moffat 78.20 334 ⇓P P 07 06 27.3 +0.7
baz=78
BC3 Big Chuckawall 78.31 325 ⇓P P 07 06 28.4 +1.4
baz=79
MVCO Mesa Verde 78.33 332 eP P 07 06 27.5 +0.2
comp=E,64nm,2.8s
MVCO Mesa Verde 78.33 332 ⇓P P 07 06 28.0 +0.7
baz=79
P26A Davis Ranch, A 78.58 337 ⇑P P 07 06 29.2 +0.7
baz=79
O28A Krutsinger Ran 78.60 338 ⇑P P 07 06 29.4 +0.9
baz=79
Q24A Divide 78.65 335 ⇓P P 07 06 30.0 +0.9
baz=79
PFO Pinyon Flats O 78.75 324 ⇓P P 07 06 31.1 +1.6
baz=79
W13A Hualapai Mount 78.78 327 ⇓P P 07 06 30.8 +1.0
baz=79
O25A Wiggins 79.33 337 ⇑P P 07 06 33.8 +1.3
baz=80
M30A Dale-Ortello V 79.33 340 ⇓P P 07 06 34.9 +2.4
baz=80
SMCO Snowmass 79.48 334 eP P 07 06 34.8 +1.0
ISCO Idaho Springs 79.56 335 eP P 07 06 34.6 +0.5
comp=E,11nm,1.6s
ISCO Idaho Springs 79.56 335 ⇓P P 07 06 35.4 +1.4
baz=80
L30A Spencer Herefo 79.67 340 ⇑P P 07 06 38.0 +3.7
baz=80
P22A Eagle 79.78 334 ⇑P P 07 06 36.4 +1.2
baz=80
O23A Lake Granby, G 80.03 335 ⇑P P 07 06 37.8 +1.3
baz=80
O22A Kremmling 80.20 335 ⇓P P 07 06 38.4 +0.9
baz=80
K30A Basset 80.32 341 ⇑P P 07 06 39.3 +1.5
baz=81
ECSD EROS Data Cent 80.54 343 eP P 07 06 38.6 -0.3
comp=E,8.4nm,1.0s
ECSD EROS Data Cent 80.54 343 ⇓P P 07 06 38.6 -0.3
baz=81,SNR=5.7
N23A Red Feather La 80.65 336 ⇑P P 07 06 40.9 +1.1
baz=81
N22A Wattenberg Ran 80.74 335 ⇑P P 07 06 41.5 +1.2
baz=81
M24A Cheyenne 80.78 337 ⇓P P 07 06 41.9 +1.4
baz=81
O20A White River Ci 80.79 334 ⇓P P 07 06 41.4 +0.9
baz=81
K28A Ten Mile Ranch 80.85 340 ⇓P P 07 06 41.9 +1.2
baz=81
MSU Marysvale 80.92 330 eP P 07 06 41.6 +0.3
comp=E,3.0nm,1.4s
J29A Okreek 81.19 340 ⇓P P 07 06 43.3 +1.0
baz=82,SNR=5.0
M22A Cedar Creek Ra 81.32 335 ⇓P P 07 06 44.4 +1.0
baz=82
ISA Isabella, Lake 81.38 324 ⇓P P 07 06 44.6 +1.0
baz=82
TPNV Topopah Spring 81.38 327 ⇓P P 07 06 45.0 +1.3
baz=82
N20A Spence Gulch, 81.41 334 ⇑P P 07 06 44.2 +0.4
baz=82
J28A Allard Ranch, 81.46 340 ⇓P P 07 06 44.8 +0.9
baz=82
J27A Elkhorn Farm, 81.53 339 ⇑P P 07 06 46.2 +1.9
baz=82
L23A Garrett 81.65 336 ⇓P P 07 06 46.7 +1.6
baz=82
VES Vestal, Richgr 81.82 324 ⇓P P 07 06 47.5 +1.7
baz=82
J26A Sides Ranch, S 81.90 339 ⇑P P 07 06 47.8 +1.6
baz=82
R11A Troy Canyon, C 82.24 328 ⇓P P 07 06 49.6 +1.4
baz=82
K22A Casper 82.41 336 ⇑P P 07 06 50.6 +1.6
baz=83
DUG Dugway, Tooele 82.61 331 eP P 07 06 50.8 +0.7
comp=E,8.2nm,1.3s
DUG Dugway, Tooele 82.61 331 ⇑P P 07 06 51.1 +1.0
baz=83
K21A Alcova 82.64 336 ⇑P P 07 06 50.8 +0.5
baz=83
I25A Rochford 82.74 338 ⇑P P 07 06 51.3 +0.6
baz=83
G28A Parade 82.89 341 ⇓P P 07 06 52.2 +0.9
baz=83
RSSD Black Hills 82.93 338 P P 07 06 51.6 -0.1
comp=E,2.9nm,0.9s
BGU Big Grassy Mou 83.31 331 eP P 07 06 54.7 +1.0
HWUT Hardware Ranch 83.32 332 eP P 07 06 53.9 +0.1
comp=E,40nm,2.0s
NVAR Mina Array Bea 83.53 326 P P 07 06 54.9 -0.1
comp=E,0.3nm,0.7s,baz=142,slow=6.5,SNR=3.9
J20A Shoshoni 83.56 335 ⇑P P 07 06 55.7 +0.8
baz=84
PDAR Pinedale Array 83.57 334 P P 07 06 54.5 -0.5
comp=E,1.7nm,1.1s,baz=111,slow=3.7,SNR=5.8
I21A Big Trails, Te 83.69 336 ⇑P P 07 06 56.2 +0.6
baz=84
G25A Newell 83.71 339 ⇑P P 07 06 55.8 +0.3
baz=84
J19A Crowheart 83.82 335 ⇓P P 07 06 56.6 +0.3
baz=84
F27A Lemmon 83.93 340 ⇓P P 07 06 57.0 +0.4
baz=84
HVU Hansel Valley 83.94 332 eP P 07 06 57.0 +0.1
ELK Elko 84.07 329 P P 07 06 58.0 +0.3
comp=E,1.2nm,0.6s,baz=116,slow=7.4,SNR=5.8
H22A Clearmont 84.08 337 ⇓P P 07 06 58.0 +0.5
baz=84
I20A Worland 84.10 336 ⇓P P 07 06 58.2 +0.6
baz=84
D30A Buchanan 84.23 343 ⇑P P 07 06 58.5 +0.5
baz=84,SNR=5.9
H20A Greybull 84.53 336 ⇓P P 07 07 00.1 +0.3
baz=85
AGMN Agassiz Nation 84.69 345 ⇓P P 07 07 00.1 -0.2
baz=85
C30A Mose, Pekin 84.72 343 ⇓P P 07 07 00.6 +0.1
baz=85,SNR=6.5
I17A Pilgrim Ck. 84.94 334 ⇑P P 07 07 02.9 +0.9
baz=85
MDND Maddock 85.12 343 ⇑P P 07 07 03.0 +0.5
baz=85
G20A Bridger 85.25 336 ⇑P P 07 07 03.4 0.0
baz=86
H18A Shoshone NF, C 85.27 335 ⇑P P 07 07 04.0 +0.3
baz=86
B30A Myrvik Farm, E 85.38 344 ⇑P P 07 07 03.8 0.0
baz=86,SNR=8.6
TOA0 Torodi Ar. Sit 85.39 71 eP P 07 07 04.1 -0.5
TORD Torodi Ar. Bea 85.39 71 P P 07 07 04.6 0.0
comp=E,2.1nm,0.8s,baz=274,slow=4.3,SNR=15
D25A Fairfield 85.47 340 ⇓P P 07 07 05.1 +0.7
baz=86
RLMT Red Lodge 85.52 335 eP P 07 07 05.1 +0.2
comp=E,1.6nm,0.6s
B29A Wagenman Farm, 85.64 343 ⇓P P 07 07 05.8 +0.7
baz=86
D24A Glendive 85.72 339 ⇓P P 07 07 06.2 +0.6
baz=86
B28A Dugan Ranch, T 85.87 342 ⇓P P 07 07 06.5 +0.2
baz=86
D23A Lindsay 86.03 339 ⇑P P 07 07 07.7 +0.6
baz=86
A29A Manning Farm, 86.04 343 ⇓P P 07 07 07.0 0.0
baz=86
F19A Roth Farm, Mol 86.05 336 ⇓P P 07 07 07.6 +0.3
baz=86
HLID Hailey 86.09 331 eP P 07 07 08.2 +0.5
comp=E,6.4nm,1.6s
HLID Hailey 86.09 331 ⇑P P 07 07 08.5 +0.8
baz=86
C24A Savage 86.13 340 ⇑P P 07 07 08.4 +0.9
baz=86
A28A Rude Farm, Bot 86.28 343 ⇓P P 07 07 09.6 +1.3
baz=87
E20A Meyer Farm, Mu 86.35 337 ⇓P P 07 07 08.7 0.0
baz=87
E19A Rath Farm, Rou 86.53 336 ⇓P P 07 07 09.7 +0.1
baz=87
ULM Lac du Bonnet 86.54 346 P P 07 07 08.4 -1.0
comp=E,2.3nm,0.9s,baz=221,slow=1.3,SNR=4.9
MCMT McKenzie Canyo 86.55 333 eP P 07 07 10.3 +0.3
comp=E,4.0nm,1.2s
MCMT epP pP 07 07 20.3 -0.8
C23A Lambert 86.59 339 ⇓P P 07 07 10.4 +0.5
baz=87
DGMT Dagmar 86.91 340 ⇑P P 07 07 12.1 +0.7
baz=87
A25A Svangstu Ranch 87.04 341 ⇓P P 07 07 12.6 +0.6
baz=87
A24A Westby 87.27 340 ⇓P P 07 07 13.6 +0.5
baz=88
B22A Reddig Ranch S 87.28 339 ⇓P P 07 07 13.3 +0.1
baz=88
B21A Ellsworth Farm 87.70 338 ⇓P P 07 07 15.5 +0.3
baz=88
C19A Slack Wire Ran 87.73 337 ⇑P P 07 07 15.8 +0.4
baz=88
M04C Macdoel 87.84 326 ⇓P P 07 07 16.9 +0.7
baz=88
A22A Carney Farms, 87.88 339 ⇓P P 07 07 16.4 +0.3
baz=88
M02C Callahan 88.01 325 ⇓P P 07 07 17.3 +0.4
baz=88
B20A Solberg Farm, 88.02 338 ⇓P P 07 07 16.8 +0.1
baz=88
A21A Bergtoll Ranch 88.18 339 ⇓P P 07 07 17.4 0.0
baz=88
YBH Yreka Blue Hor 88.20 325 P P 07 07 17.2 -0.7
comp=E,1.9nm,0.8s,baz=74,slow=7.6
B19A Brinkman Farms 88.33 337 ⇓P P 07 07 18.5 +0.3
baz=89
A20A Cobblestone Ra 88.38 338 ⇓P P 07 07 18.4 -0.1
baz=89
MSO Missoula 88.66 333 ⇑P P 07 07 20.6 +0.7
baz=89
A19A Klindworth Far 88.68 338 ⇓P P 07 07 20.3 +0.4
baz=89
J05D Fort Rock, OR 88.74 327 ⇓P P 07 07 21.2 +0.8
baz=89
I05D Terrebonne, OR 89.62 328 ⇑P P 07 07 25.0 +0.6
baz=90
YKA Yellowknife Ar 102.02 342 P Pdif 07 08 18.8 -1.5
comp=E,0.3nm,0.8s,baz=146,slow=4.7,SNR=5.0
ILAR Eielson Array 113.99 333 PKiKP PKiKP 07 13 04.1 -0.8
comp=E,0.3nm,0.7s,baz=198,slow=1.5,SNR=4.1
ASAR Alice Springs 116.74 208 PKP PKPdf 07 13 10.0 -1.7
comp=E,0.3nm,0.6s,baz=155,slow=1.9,SNR=4.3
WRA Warramunga Arr 119.91 210 PKP PKPdf 07 13 16.3 -1.5
comp=E,0.7nm,0.7s,baz=167,slow=1.4,SNR=9.1
SEY Seymchan 139.76 330 PKP PKPdf 07 13 53.6 -0.2
comp=E,0.7nm,0.3s,baz=68,slow=4.5,SNR=8.4
YAK Yakutsk 148.66 339 ePKPbc PKPbc 07 14 12.8 -0.3
YAK epPKPdf pPKPdf 07 14 21.9 +1.1
IPM Ipoh 149.84 169 ePKPbc PKPbc 07 14 16.7 -0.9
MJAR Matsushiro Arr 154.21 284 PKPbc PKPbc 07 14 26.5 -0.4
comp=E,0.5nm,0.5s,baz=80,slow=3.8,SNR=3.0

KSH	**Kashi**	**155.05**	**69**	*e*PKPbc	**PKPdf**	07 14 22.5	**+2.6**
KSH				*ep*PKP	**pPKPdf**	07 14 33.4	**+2.1**
ZALV	**Zalesovo Beam**	**155.11**	**31**	PKP	**PKPdf**	07 14 17.3	**-2.0**
	comp=E,0.8nm,0.7s,baz=321,slow=2.1,SNR=4.3						
ZALV				PKPbc	PKPbc	07 14 27.4	
	comp=E,1.0nm,0.6s,baz=302,slow=2.6,SNR=3.9						
MKAR	**Makanchi Array**	**157.84**	**49**	PKP	**PKPdf**	07 14 22.5	**-0.7**
	comp=E,0.3nm,0.8s,baz=285,slow=4.6,SNR=4.8						
MKAR				PKPab	**PKPab**	07 14 55.3	**-0.8**
	comp=E,0.7nm,0.7s,baz=283,slow=8.7,SNR=7.9						
KSRS	**Korea Array**	**162.45 286**		PKPab	**PKPab**	07 15 15.8	**-0.7**
	comp=E,0.4nm,0.3s,baz=102,slow=4.0,SNR=4.2						
KSAR	**Wonju Array Be**	**162.48 286**		PKPab	**PKPab**	07 15 15.8	**-0.9**
WMQ	**Urumqi**	**162.57 52**		*e*PKP	**PKPdf**	07 14 27.8	**-0.7**
CN2	**Changchun**	**162.62 308**		*e*PKP	**PKPdf**	07 14 29.1	**+0.6**
CMAR	**Chiang Mai Arr**	**162.77 155**		PKPab	**PKPab**	07 15 20.1	**+2.0**
	comp=E,1.2nm,0.3s,baz=270,slow=2.7,SNR=2.5						
SONM	**Songino Array**	**166.52**	**1**	PKPab	**PKPab**	07 15 33.5	**-0.6**
	comp=E,1.0nm,0.6s,baz=350,slow=1.6,SNR=2.4						
KMI	**Kunming**	**170.22 159**		PKP	**PKPdf**	07 14 35.4	**+0.1**
HHC	**Hu-ho-hao-te**	**172.41 330**		*e*PKP	**PKPdf**	07 14 35.2	**-0.5**
HHC				pPKP	**pPKPdf**	07 14 45.6	**-1.6**
HHC				sPKP		07 14 52.7	
HHC				PP	**PP**	07 19 53.2	**+1.9**
HHC				SKS	**SKSdf**	07 21 33.0	**-3.3**
HHC				SS	**SS**	07 40 58.7	**-0.8**
XAN	**Xi'an**	**178.05 262**		PKP	**PKPdf**	07 14 36.5	**-0.9**

IDC 09 06:59:53.0±13.0, 7.62S×130.56E, h143km±104km, mb3.4/1, mb1 3.6/3, mb1mx3.1/26, mbtmp3.9/3, ML3.8/2, Error ellipse: s-maj=98.5km s-min=87.8km az=91.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**12.79**	**164**	P	Pn	07 02 49.2	-0.6
	0.5nm,0.3s,baz=346,slow=13,SNR=26						
WRA				S	Sn	07 05 11.1	0.0
	0.4nm,0.3s,baz=342,slow=23,SNR=4.4						
ASAR	**Alice Springs**	**16.28**	**169**	P	P	07 03 34.5	+0.6
	0.7nm,0.3s,baz=344,slow=11,SNR=98						
ASAR				S	S	07 06 36.0	+0.9
	0.2nm,0.3s,baz=353,slow=27,SNR=4.1						
STKA	**Stephens Creek**	**26.24**	**158**	P	P	07 05 14.6	-0.2
	0.5nm,0.3s,baz=339,slow=11,SNR=3.0						

NNC 09 07:10:44.5±9.3, 36.80N×70.83E, h164km±121km, mb2.6, mpv3.6, 2C-4D, Error ellipse: s-maj=97.0km s-min=43.0km az=164.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.55**	**322**	⇓P	Pn	07 11 27.4	+0.3
	10nm,0.4s						
DZET				⇑S	Sn	07 12 00.6	+0.5
	67nm,0.4s						
SFK	**Sufi-Kurgan**	**3.83**	**32**	⇓P	Pn	07 11 42.8	-0.5
	4.5nm,0.4s						
SFK				⇓S	Sn	07 12 28.8	-0.3
	12nm,0.2s						
KK31	**Karatay Array**	**6.30**	**358**	⇓P	Pn	07 12 15.6	+0.3
	4.2nm,0.3s,baz=178,slow=12,SNR=68						
KK31				⇑S	Sn	07 13 27.8	+1.2
	1.2nm,0.3s,baz=187,slow=23,SNR=8.2						

*ISCJB **09** 07:21:59.3±0.3, 26.38N±0.06×126.74E±0.06, h73km±5km, mb3.5/6, Error ellipse: s-maj=13.3km s-min=2.8km az=143.3*
*JMA **09** 07:22:00.6±0.2, 26.27N×126.82E, h63km±2km, M3.9*
JMA Felt I J1.
*IDC **09** 07:22:22.0±5.3, 27.89N×126.42E, h194km±52km, mb3.1/7, mb1 3.3/8, mb1mx3.1/40, mbtmp3.6/8, Error ellipse: s-maj=25.9km s-min=19.6km az=66.0*

ISC 09 07:22:00.4±0.8, 26.32N±0.08×126.80E±0.06, h66km±7km, n32, σ0s71/47, mb3.5/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**0.01**	**314**	P	**Pn**	**07 22 09.9**	**-0.2**
JKE				S	**Sn**	**07 22 16.8**	**-0.4**
JAGN	**Aguni-jima**	**0.48**	**56**	P	**Pn**	**07 22 12.9**	**+0.2**
JAGN				*e*S	**Sn**	**07 22 22.0**	**+0.2**
JJT2	**Tamagusuku 2**	**0.87**	**102**	P	**Pn**	**07 22 17.4**	**+0.3**
JJT2				*e*S	**Sn**	**07 22 30.3**	**+0.8**
JNTH	**Nagotoyohara**	**1.12**	**79**	P	**Pn**	**07 22 20.3**	**+0.1**
JNTH				*e*S	**Sn**	**07 22 35.2**	**+0.2**
JIH	**Iheya**	**1.27**	**55**	P	**Pn**	**07 22 22.8**	**+0.6**
JIH				*e*S	**Sn**	**07 22 38.9**	**+0.4**
JOW	**Kunigami**	**1.42**	**69**	P	**Pn**	**07 22 24.3**	**+0.1**
JOW				S	**Sn**	**07 22 42.5**	**+0.4**
JOKE	**Okinoerabujima**	**1.90**	**56**	P	**Pn**	**07 22 30.5**	**-0.1**
JOKE				*e*S	**Sn**	**07 22 53.8**	**+0.3**
JIKM	**Ikemajima**	**1.97**	**226**	*e*S	**Sn**	**07 22 55.2**	**-0.1**
JOGS	**Gusukube**	**2.00**	**219**	P	**Pn**	**07 22 31.4**	**-0.5**
JOGS				*e*S	**Sn**	**07 22 56.9**	**+1.0**
JMJ	**Miyako jima 2**	**2.02**	**223**	P	**Pn**	**07 22 33.1**	**+0.8**
JMJ				*e*S	**Sn**	**07 22 56.4**	**-0.1**
JIRB	**Irabujima**	**2.08**	**225**	P	**Pn**	**07 22 32.5**	**-0.6**
JIRB				*e*S	**Sn**	**07 22 57.1**	**-1.0**
JTK	**Tokunoshima**	**2.42**	**52**	P	**Pn**	**07 22 37.8**	**+0.2**
JTK				*e*S	**Sn**	**07 23 05.9**	**-0.2**
JTJ	**Tarama**	**2.52**	**229**	P	**Pn**	**07 22 39.0**	**-0.1**
JTJ				*e*S	**Sn**	**07 23 08.8**	**+0.1**
JISG	**Ishigakijimahi**	**2.83**	**233**	P	**Pn**	**07 22 42.3**	**-1.0**
JISG				*e*S	**Sn**	**07 23 16.1**	**-0.2**
JAMN	**Amaminishikomi**	**2.86**	**47**	P	**Pn**	**07 22 43.3**	**-0.3**
JAMN				*e*S	**Sn**	**07 23 18.0**	**+1.1**
JIJ	**Ishigaki jima**	**3.09**	**232**	P	**Pn**	**07 22 46.8**	**0.0**
JIJ				*e*S	**Sn**	**07 23 21.3**	**-1.3**
JAM	**Amami Oshima**	**3.25**	**50**	P	**Pn**	**07 22 49.0**	**0.0**
JAM				*e*S	**Sn**	**07 23 25.6**	**-1.0**
JKRS	**Kuro-shima**	**3.26**	**231**	P	**Pn**	**07 22 49.7**	**+0.5**
JKRS				*e*S	**Sn**	**07 23 28.2**	**+1.4**
IRIF	**Iriomote-Funau**	**3.41**	**235**	P	**Pn**	**07 22 51.5**	**+0.4**
JZK	**Kikaishima**	**3.46**	**54**	P	**Pn**	**07 22 52.0**	**+0.2**
HATJ	**Hateruma jima**	**3.52**	**231**	P	**Pn**	**07 22 52.5**	**-0.2**
YOJ	**Yonaguni jima**	**3.89**	**242**	P	**Pn**	**07 22 58.7**	**+1.0**
YOJ				*e*S	**Sn**	**07 23 42.9**	**+0.7**
JYNG	**Yonagunijimaku**	**3.95**	**243**	P	**Pn**	**07 23 00.4**	**+1.9**
JYNG				*e*S	**Sn**	**07 23 44.9**	**+1.3**
JMZ	**Minamidaito 2**	**4.01**	**96**	P	Pn	07 22 55.6	-3.8
JMZ				*e*S	Sn	07 23 37.7	-7.4
MJAR	**Matsushiro Arr**	**14.09**	**41**	P	**P**	**07 25 23.0**	**+0.6**
	0.1nm,0.3s,baz=211,slow=11,SNR=4.0						
MKAR	**Makanchi Array**	**40.52**	**312**	P	P	07 29 30.5	-2.5
	0.4nm,0.4s,baz=102,slow=6.5,SNR=11						
ZALV	**Zalesovo Beam**	**41.40**	**323**	P	P	07 29 37.8	-2.3
	1.1nm,0.5s,baz=109,slow=7.8,SNR=4.2						
WRA	**Warramunga Arr**	**46.56**	**170**	P	P	07 30 42.7	+21
	0.3nm,0.7s,baz=352,slow=8.7,SNR=3.3						
ILAR	**Eielson Array**	**64.97**	**28**	P	**P**	**07 32 32.0**	**-0.9**
	0.3nm,0.8s,baz=261,slow=4.2,SNR=3.7						
FINES	**FINESS Array B**	**72.15**	**330**	P	**P**	**07 33 16.7**	**-1.0**
	1.7nm,0.9s,baz=93,slow=7.2,SNR=3.8						
YKA	**Yellowknife Ar**	**78.98**	**25**	P	**P**	**07 33 57.3**	**+0.6**
	0.3nm,0.7s,baz=304,slow=5.6,SNR=5.3						
GERES	**GERESS Array B**	**84.35**	**322**	P	**P**	**07 34 25.6**	**+0.1**
	0.3nm,0.6s,baz=62,slow=6.8,SNR=3.8						

DJA 09 07:22:07.1±0.4, 1.3S×112.3E, h10km, M4.2/10, mb4.4/2, MLv4.0/10, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.45**	**144**	P	Pg	07 22 15.3	-0.5
LUWI				S	Sg	07 22 22.2	+0.5
APSI	**Ampana**	**0.89**	**255**	P	Pg	07 22 22.6	-1.7
APSI				S	Sg	07 22 36.0	+0.1
MRSI	**Marisa**	**1.28**	**334**	P	Pn	07 22 28.3	-2.8
MRSI				S	Sb	07 22 45.5	-2.4
MPSI	**Mapaga**	**2.80**	**291**	P	Pn	07 22 53.4	+1.4
TTSI	**Tana Toraja**	**3.57**	**229**	P	Pn	07 23 03.0	+0.4
SPSI	**Sidrap Palu**	**4.26**	**220**	P	Pn	07 23 12.1	0.0
BNSI	**Bone**	**4.41**	**213**	P	Pn	07 23 13.6	-0.5
NLAI	**Namlea**	**5.24**	**119**	P	Pn	07 23 27.0	+1.4

*ISCJB **09** 07:55:25.0±0.5, 55.68N±0.07×161.50W±0.06, h10km, mb3.2/3, Error ellipse: s-maj=10.4km s-min=4.0km az=159.2*
*NEIC **09** 07:55:25.7, 55.48N×161.46W, h3km, ML3.0(AEIC), After AEIC.*
*IDC **09** 07:55:32.7±8.5, 55.95N×159.87W, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.2/34, mbtmp3.1/4, Error ellipse: s-maj=143.9km s-min=30.0km az=83.0*

ISC 09 07:55:25.7±1.0, 55.6N±0.1×161.53W±0.05, h10km, n23, σ1s00/25, mb3.3/3, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DTNA	**Dutton South F**	**0.61**	**223**	P	**Pb**	**07 55 38.1**	**-0.3**
SDPT	**Sand Point**	**0.65**	**112**	P	**Pb**	**07 55 38.2**	**-0.8**
SDPT				S	**Sb**	**07 55 47.7**	**-0.4**
DT1	**Dutton Round H**	**0.65**	**222**	P	**Pb**	**07 55 38.6**	**-0.5**
DRIA	**Deer Island**	**0.76**	**214**	P	**Pb**	**07 55 40.4**	**-0.6**
FALS	**False Pass**	**1.31**	**237**	P	**Pn**	**07 55 49.1**	**-0.9**
FALS				S	**Sg**	**07 56 08.7**	**+0.9**
ISNN	**Isanotski Nort**	**1.50**	**240**	P	**Pn**	**07 55 52.7**	**+0.1**
SSLN	**Shishaldin Nor**	**1.62**	**242**	P	**Pn**	**07 55 54.6**	**+0.3**
SSLN				S	**Sg**	**07 56 16.9**	**-0.7**
SSLW	**Shishaldin Wes**	**1.70**	**242**	P	**Pn**	**07 55 54.8**	**-0.6**
CHGN	**Chignik**	**1.89**	**67**	P	**Pn**	**07 55 59.0**	**+1.1**
WESE	**West Dahl East**	**2.09**	**239**	P	**Pb**	**07 56 02.2**	**-1.5**
WESP	**Westdahl Peak**	**2.15**	**240**	P	**Pn**	**07 56 02.6**	**+1.0**
AKSA	**Akutan Strait**	**2.82**	**241**	P	**Pn**	**07 56 12.3**	**+1.6**
AHB	**Akutan Harbor**	**2.89**	**241**	P	**Pn**	**07 56 13.3**	**+1.6**
UNV	**Unalaska Valle**	**3.38**	**241**	P	**Pn**	**07 56 19.0**	**+0.7**
MTBL	**Makushin Table**	**3.40**	**244**	P	**Pn**	**07 56 19.6**	**+0.8**
MREP	**Makushin Rep't**	**3.52**	**242**	P	**Pn**	**07 56 22.1**	**+1.7**
KABR	**Katmai Barrier**	**4.41**	**52**	P	**Pn**	**07 56 33.7**	**+1.1**
OHAK	**Old Harbor**	**4.86**	**67**	P	**Pn**	**07 56 38.5**	**-0.2**
KDAK	**Kodiak Island**	**5.39**	**62**	P	**Pn**	**07 56 45.9**	**-0.2**
ILAR	**Eielson Array**	**11.70**	**32**	Pn	Pn	07 58 04.7	-7.7
	baz=222,slow=14,SNR=3.5						
YKA	**Yellowknife Ar**	**24.61**	**55**	P	**P**	**08 00 44.4**	**-1.2**
	0.5nm,0.7s,baz=275,slow=9.8,SNR=9.8						
NVAR	**Mina Array Bea**	**33.44**	**103**	P	**P**	**08 02 06.1**	**+1.4**
	0.1nm,0.5s,baz=306,slow=9.9,SNR=2.4						
PDAR	**Pinedale Array**	**35.46**	**89**	P	**P**	**08 02 22.5**	**+0.3**
	0.4nm,0.8s,baz=340,slow=4.8,SNR=3.2						

*IDC **09** 08:05:02.4±1.4, 2.99N×95.16E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.5/36, mbtmp3.5/7, ML3.8/2, Error ellipse: s-maj=51.1km s-min=20.0km az=46.0*
*ISCJB **09** 08:05:08.9±1.0, 3.28N±0.07×95.69E±0.08, h35km, mb3.6/5, Error ellipse: s-maj=14.0km s-min=7.6km az=142.3*
*DJA **09** 08:05:09.9±0.6, 3.7N±4.9×97.6E±, h10km, M3.7/4, MLv3.7/4*

ISC 09 08:05:09.1±1.1, 3.34N±0.08×95.65E±0.10, h35km, n11, σ1s53/12, mb3.6/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**1.15**	**144**	P	**Pn**	**08 05 29.8**	**+1.1**
KCSI	**Kotacane, Aceh**	**2.13**	**85**	P	**Pn**	**08 05 42.5**	**+0.3**
KCSI				S	**Sn**	**08 06 06.8**	**-0.7**
BSI	**Banda Aceh**	**2.17**	**351**	P	Pn	08 05 45.8	+2.9
BSI				S	**Sn**	**08 06 11.3**	**+2.7**
LHMI	**Lhok Sumawe**	**2.28**	**35**	P	**Pn**	**08 05 44.4**	**+0.1**
PSI	**Prapat**	**3.31**	**99**	Pn	**Pn**	**08 05 59.8**	**+1.2**
	1.5nm,0.3s,baz=307,slow=11,SNR=6.2						
CMAR	**Chiang Mai Arr**	**15.37**	**12**	Pn	**P**	**08 08 47.0**	**-0.8**
	0.5nm,0.3s,baz=199,slow=11,SNR=4.7						
WRA	**Warramunga Arr**	**44.48**	**123**	P	**P**	**08 13 17.6**	**+0.2**
	0.3nm,0.5s,baz=301,slow=9.2,SNR=5.3						
MKAR	**Makanchi Array**	**44.81**	**347**	P	**P**	**08 13 20.4**	**+0.7**
	0.6nm,0.3s,baz=154,slow=9.2,SNR=22						
ASAR	**Alice Springs**	**45.92**	**128**	P	**P**	**08 13 29.3**	**+0.5**
	0.4nm,0.9s,baz=298,slow=8.4,SNR=3.1						
ZALV	**Zalesovo Beam**	**51.23**	**352**	P	**P**	**08 14 09.9**	**+0.9**
	0.7nm,0.4s,baz=168,slow=11,SNR=3.7						
BRTR	**Keskin Array B**	**66.54**	**312**	P	**P**	**08 15 53.0**	**-2.9**
	0.2nm,0.3s,baz=104,slow=6.1,SNR=2.5						

IDC 09 08:27:21.5±4.0, 17.74S×173.61W, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.7/29, mbtmp4.0/3, Error ellipse: s-maj=256.6km s-min=28.3km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**49.15**	**259**	P	P	08 36 10.8	-0.8
	0.3nm,0.3s,baz=97,slow=7.0,SNR=31						
ASAR	**Alice Springs**	**49.23**	**254**	P	P	08 36 12.6	+0.4
	5.5nm,0.6s,baz=89,slow=8.6,SNR=97						
NVAR	**Mina Array Bea**	**76.20**	**42**	P	P	08 39 12.0	-0.1
	0.5nm,0.9s,baz=221,slow=11,SNR=2.9						
BRTR	**Keskin Array B**	**147.80**	**318**	PKPbc	PKPbc	08 47 08.5	-0.4
	0.3nm,0.4s,baz=64,slow=3.4,SNR=3.1						

IDC 09 08:53:54.5±3.0, 32.65S×178.41W, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.5/25, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=69.6km s-min=36.0km az=116.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.68**	**212**	Pn	Pn	08 55 34.5	+0.6
	0.5nm,0.3s,baz=12,slow=14,SNR=4.7						
URZ				Sn	Sn	08 56 49.4	-1.3
	1.2nm,0.3s,baz=298,slow=22,SNR=8.7						
ASAR	**Alice Springs**	**42.69**	**270**	P	P	09 01 53.2	-0.1
	0.1nm,0.4s,baz=104,slow=6.6,SNR=3.7						
WRA	**Warramunga Arr**	**43.88**	**275**	P	P	09 02 02.9	-0.1
	0.3nm,0.3s,baz=115,slow=7.7,SNR=10						
FINES	**FINESS Array B**	**147.12**	**338**	PKPbc	PKPbc	09 13 37.7	-0.9
	1.8nm,1.1s,baz=46,slow=4.0,SNR=3.4						

*ISCJB **09** 09:06:00.4±0.7, 34.61N±0.07×24.61E±0.04, h73km±4km, mb3.3/3, Error ellipse: s-maj=11.1km s-min=4.8km az=4.3*
*IDC **09** 09:06:01.4±1.6, 34.53N×24.87E, h58km±14km, mb3.3/3, mb1 3.4/7, mb1mx3.1/41, mbtmp3.5/7, Error ellipse: s-maj=25.2km s-min=21.8km az=109.0*
*THE **09** 09:06:01.8, 34.60N×24.57E, h63km±4km, ML3.2/2, Error ellipse: s-maj=4.4km s-min=1.6km az=320.0*
*ATH **09** 09:06:01.4, 34.68N×24.60E, h53km±3km, MD3.5/12*
*CSEM **09** 09:06:01.4±0.4, 34.57N×24.60E, h52km±4km, MD3.5, Error ellipse: s-maj=10.3km s-min=3.5km az=10.0*
*DDA **09** 09:06:08.4, 34.93N×25.68E, h6km, MD3.5*

ISC 09 09:06:01.6±1.0, 34.60N±0.07×24.62E±0.03, h58km±7km, n90, σ1s11/113, mb3.5/3, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.44**	**20**	P	**Pn**	**09 06 12.3**	**-0.5**
SIVA				S	**Sn**	**09 06 21.4**	**+0.5**
SIVA	**Sivas**	**0.44**	**20**	*e*P	**Pn**	**09 06 12.4**	**-0.4**
SIVA				*e*S	**Sn**	**09 06 19.9**	**-1.0**
SIVA	**Sivas**	**0.44**	**20**	*e*P	**Pn**	**09 06 12.4**	**-0.4**
SIVA				*e*S	**Sn**	**09 06 19.9**	**-1.0**
GVD	**Gavdhos**	**0.50**	**298**	P	**Pn**	**09 06 12.5**	**-0.9**
GVD				S	**Sn**	**09 06 22.3**	**+0.3**
GVD	**Gavdhos**	**0.50**	**298**	*e*P	**Pn**	**09 06 12.5**	**-0.9**
GVD	**Gavdhos**	**0.50**	**298**	*e*P	**Pn**	**09 06 12.5**	**-0.9**
GVD				S	**Sn**	**09 06 22.3**	**+0.3**
IDI	**Anoyia**	**0.72**	**18**	P	**Pn**	**09 06 16.4**	**+0.3**
	12nm,0.3s,baz=199,slow=15,SNR=84						
IDI				S	**Sn**	**09 06 28.6**	**+2.0**
	44nm,0.3s,baz=311,slow=20,SNR=27						
VAM	**Vamos**	**0.87**	**337**	P	**Pn**	**09 06 16.5**	**-1.4**
VAM				S	**Sn**	**09 06 31.3**	**+1.4**
VAM	**Vamos**	**0.87**	**337**	*e*P	**Pn**	**09 06 16.7**	**-1.2**
VAM	**Vamos**	**0.87**	**337**	*e*P	**Pn**	**09 06 16.7**	**-1.2**
VAM				S	**Sn**	**09 06 31.3**	**+1.4**
LAST	**Lasithi**	**0.90**	**51**	P	**Pn**	**09 06 18.7**	**+0.4**
LAST				S	**Sn**	**09 06 32.8**	**+2.2**
LAST	**Lasithi**	**0.90**	**51**	*e*P	**Pn**	**09 06 18.4**	**+0.1**
LAST	**Lasithi**	**0.90**	**51**	P	**Pn**	**09 06 18.7**	**+0.4**
LAST				S	**Sn**	**09 06 32.8**	**+2.2**
KARN	**Karanos**	**0.98**	**324**	P	**Pn**	**09 06 19.9**	**+0.5**
KARN				S	**Sn**	**09 06 32.4**	**-0.1**
KARN	**Karanos**	**0.98**	**324**	*e*P	**Pn**	**09 06 19.9**	**+0.5**
KARN	**Karanos**	**0.98**	**324**	*e*P	**Pn**	**09 06 19.9**	**+0.5**
KARN				S	**Sn**	**09 06 32.4**	**-0.1**
NPS	**Neapolis**	**1.05**	**51**	P	**Pn**	**09 06 21.2**	**+1.0**
NPS				S	**Sn**	**09 06 35.3**	**+1.3**
NPS	**Neapolis**	**1.05**	**51**	*e*P	**Pn**	**09 06 20.9**	**+0.7**
NPS	**Neapolis**	**1.05**	**51**	*e*P	**Pn**	**09 06 20.9**	**+0.7**
NPS				S	**Sn**	**09 06 35.3**	**+1.3**
ZKR	**Zakros**	**1.41**	**68**	*e*P	**Pn**	**09 06 25.5**	**+0.5**
ZKR				*e*S	**Sn**	**09 06 43.0**	**+0.5**
ZKR	**Zakros**	**1.41**	**68**	*e*P	**Pn**	**09 06 25.5**	**+0.5**
ZKR				*e*S	**Sn**	**09 06 43.0**	**+0.5**
ANKY	**Antikythira Is**	**1.66**	**320**	*e*P	**Pn**	**09 06 29.1**	**+0.7**
ANKY	**Antikythira Is**	**1.66**	**320**	*e*P	**Pn**	**09 06 29.1**	**+0.7**
THR5	**Thira Island,**	**1.91**	**18**	*e*PN	**Pn**	**09 06 32.1**	**+0.4**
THR5	**Thira Island,**	**1.91**	**18**	P	**Pn**	**09 06 31.4**	**-0.3**
THR5	**Thira Island,**	**1.91**	**18**	P	**Pn**	**09 06 31.4**	**-0.3**
THR5	**Thira Island,**	**1.91**	**18**	*e*Pn	**Pn**	**09 06 32.1**	**+0.4**
KYTH	**Kithira**	**2.12**	**323**	P	**Pn**	**09 06 34.6**	**0.0**
KYTH	**Kithira**	**2.12**	**323**	P	**Pn**	**09 06 34.6**	**0.0**
KARP	**Karpathos**	**2.29**	**65**	P	**Pn**	**09 06 38.1**	**+1.2**
KARP				S	**Sn**	**09 07 04.3**	**+0.3**
KARP	**Karpathos**	**2.29**	**65**	*e*P	**Pn**	**09 06 38.1**	**+1.2**
KARP				*e*S	**Sn**	**09 07 05.3**	**+1.3**
KARP	**Karpathos**	**2.29**	**65**	*e*P	**Pn**	**09 06 38.1**	**+1.2**
KARP				*e*S	**Sn**	**09 07 05.3**	**+1.3**
VLI	**Veliai**	**2.52**	**327**	*e*P	**Pn**	**09 06 40.3**	**+0.2**
VLI	**Veliai**	**2.52**	**327**	*e*P	**Pn**	**09 06 40.3**	**+0.2**
APE	**Apeiranthos**	**2.57**	**16**	*e*PN	**Pn**	**09 06 41.3**	**+0.5**
APE	**Apeiranthos**	**2.57**	**16**	P	**Pn**	**09 06 40.6**	**-0.2**
APE				S	**Sn**	**09 07 10.9**	**0.0**
APE	**Apeiranthos**	**2.57**	**16**	*e*P	**Pn**	**09 06 40.4**	**-0.4**
APE				*e*S	**Sn**	**09 07 10.6**	**-0.3**
APE	**Apeiranthos**	**2.57**	**16**	P	**Pn**	**09 06 40.6**	**-0.2**
APE	**Apeiranthos**	**2.57**	**16**	*e*Pn	**Pn**	**09 06 41.3**	**+0.5**
APE				*e*S	**Sn**	**09 07 10.6**	**-0.3**
DID	**Didima**	**3.11**	**339**	*e*P	**Pn**	**09 06 48.0**	**-0.1**
DID	**Didima**	**3.11**	**339**	*e*P	**Pn**	**09 06 48.0**	**-0.1**
DAT	**Datca**	**3.21**	**48**	*e*PN	**Pn**	**09 06 49.4**	**-0.2**
DAT	**Datca**	**3.21**	**48**	*e*Pn	**Pn**	**09 06 49.4**	**-0.2**
ARG	**Arkhangelos**	**3.28**	**60**	P	**Pn**	**09 06 51.2**	**+0.7**
ARG	**Arkhangelos**	**3.28**	**60**	*e*P	**Pn**	**09 06 51.1**	**+0.6**
ARG	**Arkhangelos**	**3.28**	**60**	*e*P	**Pn**	**09 06 51.1**	**+0.6**
BODT	**Bodrum**	**3.29**	**41**	*e*PN	**Pn**	**09 06 51.4**	**+0.8**
BODT	**Bodrum**	**3.29**	**41**	*e*Pn	**Pn**	**09 06 51.4**	**+0.8**
GUR	**Goura**	**3.80**	**332**	*e*P	**Pn**	**09 06 58.1**	**+0.4**
GUR	**Goura**	**3.80**	**332**	*e*P	**Pn**	**09 06 58.1**	**+0.4**
YER	**Yerkesik**	**3.90**	**49**	*e*PN	**Pn**	**09 06 59.6**	**+0.6**
YER	**Yerkesik**	**3.90**	**49**	*e*Pn	**Pn**	**09 06 59.6**	**+0.6**
CHOS	**Chios island**	**3.95**	**17**	*e*PN	**Pn**	**09 07 00.5**	**+0.8**
CHOS	**Chios island**	**3.95**	**17**	*e*Pn	**Pn**	**09 07 00.5**	**+0.8**
TURN	**Turunc**	**3.95**	**54**	*i* P	Pn	09 06 55.9	-3.8
TURN	**Turunc**	**3.95**	**54**	*i* P	Pn	09 06 55.9	-3.8
TURN				*i* S	Sn	09 07 33.1	-12
DALY	**Dalyan (Mu¨la**	**3.96**	**55**	*e*PN	**Pn**	**09 07 00.4**	**+0.7**
DALY	**Dalyan (Mu¨la**	**3.96**	**55**	*e*Pn	**Pn**	**09 07 00.4**	**+0.7**
DSF	**Desfina**	**4.16**	**337**	*e*P	**Pn**	**09 07 02.9**	**+0.3**
DSF	**Desfina**	**4.16**	**337**	*e*P	**Pn**	**09 07 02.9**	**+0.3**
FETY	**Fethiye**	**4.16**	**60**	*e*PN	**Pn**	**09 07 01.7**	**-0.9**
FETY	**Fethiye**	**4.16**	**60**	*e*Pn	**Pn**	**09 07 01.7**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**4.25**	**37**	*e*PN	**Pn**	**09 07 04.3**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**4.25**	**37**	*e*Pn	**Pn**	**09 07 04.3**	**+0.4**
AKAS	**Kas**	**4.38**	**67**	*i* P	Pn	09 07 04.7	-1.0
AKAS				*i* S	Sn	09 07 51.1	-4.4
AKAS	**Kas**	**4.38**	**67**	*i* P	Pn	09 07 04.7	-1.0
AKAS				*i* S	Sn	09 07 51.1	-4.4
AGG	**Agios Georgios**	**4.78**	**338**	*e*PN	**Pn**	**09 07 11.4**	**+0.4**
AGG	**Agios Georgios**	**4.78**	**338**	*e*Pn	**Pn**	**09 07 11.4**	**+0.4**
GOLH	**Golhisar**	**4.79**	**55**	*i* P

55nm,0.3s,baz=233,slow=20,SNR=4.5
RAO Sn **Sn** 09 40 08.9 **-4.3**
107nm,0.3s,baz=287,slow=19,SNR=3.1
RAO Raoul Island 3.39 3 *e*Pn **Pn** 09 39 31.1 **-3.1**
RAO Sn **Sn** 09 40 08.9 **-4.3**
RAO *e*Sn Sn 09 40 10.4 -2.8
WMGZ Waiomatatini S 5.88 208 PN **Pn** 09 40 06.5 **-2.0**
WMGZ SN **Sn** 09 41 15.9 **+1.2**
PUZ Puketiti 6.17 208 PN **Pn** 09 40 09.7 **-2.7**
PUZ SN **Sn** 09 41 21.0 **-0.7**
TWGZ Tauwhareparae 6.37 209 SN **Sn** 09 40 12.7 **-2.4**
TWGZ SN **Sn** 09 41 27.3 **+0.7**
CNGZ Carnagh Statio 6.54 206 PN **Pn** 09 40 14.9 **-2.7**
TKGZ Te Karaka 6.64 208 PN Pn 09 40 16.0 -3.0
TKGZ SN **Sn** 09 41 32.3 **-1.1**
MWZ Matawai 6.69 211 PN Pn 09 40 16.6 -3.0
MWZ SN **Sn** 09 41 34.1 **-0.5**
URZ Urewera 6.82 213 Pn **Pn** 09 40 19.6 **-1.6**
5.0nm,0.3s,baz=296,slow=3.0,SNR=40
URZ Sn **Sn** 09 41 36.0 **-1.6**
19nm,0.3s,baz=170,slow=2.6,SNR=15
URZ Urewera 6.82 213 PN **Pn** 09 40 18.6 **-2.6**
URZ SN **Sn** 09 41 35.1 **-2.5**
URZ Urewera 6.82 213 *e*Pn **Pn** 09 40 20.5 **-0.7**
47nm,0.8s
URZ *e*Sn Sn 09 41 40.8 +3.2
SNGZ Shannon Statio 7.14 210 PN **Pn** 09 40 24.4 **-1.4**
OUZ Omahuta 7.34 247 *e*Pn Pn 09 40 32.9 +4.4
193nm,1.6s
ARHZ Aropaoanui 7.69 210 SN **Sn** 09 41 57.6 **-1.6**
BKZ Black Stump Fm 7.83 212 PN **Pn** 09 40 32.7 **-2.6**
BKZ SN **Sn** 09 41 59.3 **-3.5**
OXZ Oxford 13.17 213 SN Sn 09 43 58.3 -15
RPZ Rata Peaks 13.93 214 Pn **Pn** 09 41 56.5 **-2.2**
0.8nm,0.3s,baz=24,slow=18,SNR=4.0
RPZ Sn Sn 09 44 18.7 -13
1.9nm,0.3s,baz=120,slow=23,SNR=10
RPZ Rata Peaks 13.93 214 *e*Pn **Pn** 09 41 57.9 **-0.8**
RPZ Sn Sn 09 44 18.7 -13
EIDS Eidsvold 27.82 277 P P 09 44 33.9 +4.0
baz=26,SNR=3.5
EIDS Eidsvold 27.82 277 *e*P **P** 09 44 32.4 **+2.5**
6.9nm,0.7s
RMQ Roma 29.37 273 P P 09 44 47.7 +4.0
baz=28,SNR=5.3
CMSA Cobar Meteorol 30.58 262 P P 09 44 57.0 +2.6
baz=30,SNR=11
QLP Quilpie 33.15 271 P **P** 09 45 18.6 **+1.6**
baz=32,SNR=7.5
STKA Stephens Creek 33.93 260 P **P** 09 45 25.5 **+1.8**
2.6nm,0.8s,baz=53,slow=9.6,SNR=5.8
STKA Stephens Creek 33.93 260 *e*P P 09 45 26.3 +2.6
1.7nm,1.3s
CTA Charters Tower 34.12 283 P **P** 09 45 27.8 **+2.3**
8.1nm,0.6s,baz=120,slow=11,SNR=15
CTAO Charters Tower 34.12 283 *e*P **P** 09 45 27.7 **+2.3**
18nm,0.9s
QIS Mount Isa 39.43 277 P **P** 09 46 12.3 **+1.7**
baz=38,SNR=4.0
AS31 Alice Springs 42.93 269 *e*P **P** 09 46 40.0 **+0.5**
ASAR Alice Springs 42.93 269 P **P** 09 46 40.0 **+0.5**
7.6nm,0.7s,baz=108,slow=7.7,SNR=134
WRAB Tennant Creek 44.12 275 *e*P **P** 09 46 49.0 **0.0**
11nm,0.8s
WRA Warramunga Arr 44.12 275 P **P** 09 46 49.1 **+0.1**
13nm,0.8s,baz=113,slow=8.0,SNR=132
FORT Forrest 45.41 257 P **P** 09 46 59.6 **+0.5**
baz=44,SNR=8.4
FORT Forrest 45.41 257 *e*P **P** 09 46 58.6 **-0.6**
15nm,0.6s
KDU Kakadu 49.24 282 P **P** 09 47 29.1 **-0.1**
baz=48,SNR=3.4
KNRA Kununurra 50.80 276 P **P** 09 47 41.6 **+0.6**
baz=49,SNR=4.8
QSPA South Pole Qui 57.47 180 P P 09 48 31.8 +2.7
1.2nm,0.8s,baz=93,slow=2.5,SNR=5.4
GUMO Guam 58.01 316 LR LR 10 08 59.7
comp=Z,279nm,19.8s,baz=208,slow=31
SNAA Sanae 75.92 178 P P 09 50 38.9 +12
VNA3 Neumayer Olymp 76.08 176 P P 09 50 40.4 +13
VNA2 Neumayer--Watz 76.51 177 P P 09 50 43.0 +13
baz=173,slow=5.3
VNA1 Neumayer--Stat 76.74 177 P P 09 50 44.4 +13
MJAR Matsushiro Arr 80.03 326 P **P** 09 50 49.8 **+0.2**
1.1nm,0.9s,baz=161,slow=4.4,SNR=3.8
KSRS Korea Array 85.99 320 P **P** 09 51 22.3 **+1.9**
0.7nm,0.7s,baz=135,slow=4.3,SNR=2.7
KSAR Wonju Array Be 86.00 320 P **P** 09 51 22.3 **+1.9**
PETK Petropavlovsk- 87.96 346 P **P** 09 51 31.0 **+1.5**
2.9nm,0.9s,baz=146,slow=8.7,SNR=3.3
TXAR Lajitas Array 93.69 57 P P 09 51 59.5 +2.5
0.2nm,0.6s,baz=215,slow=2.9,SNR=5.1
MKAR Makanchi Array 119.12 309 PKP **PKPdf** 09 57 29.1 **+0.4**
0.3nm,0.7s,baz=245,slow=3.0,SNR=5.0
ARCES ARCESS Array B 140.75 347 PKP **PKPdf** 09 58 08.6 **-0.2**
2.8nm,0.9s,baz=31,slow=2.3,SNR=3.6
KBZ Khabaz 146.23 301 PKPbc **PKPab** 09 58 20.9 **-0.2**
4.2nm,0.9s,baz=56,slow=24,SNR=6.6
FIA1 FINESS Array S 147.20 339 *e*PKPbc **PKPab** 09 58 23.3 **-1.0**
FINES FINESS Array B 147.20 339 PKPbc **PKPab** 09 58 23.3 **-1.0**
6.0nm,0.6s,baz=65,slow=3.0,SNR=35
NOA NORSAR Array B 150.95 351 PKPbc **PKPbc** 09 58 32.4 **+0.2**
0.9nm,0.6s,baz=13,slow=4.3,SNR=3.5
AKASG Malin Array Be 152.98 320 PKPbc **PKPbc** 09 58 37.5 **+0.5**
0.9nm,0.6s,baz=47,slow=2.3,SNR=7.4
AKASG PKPab **PKPab** 09 58 50.2 **+1.9**
3.0nm,0.9s,baz=62,slow=2.4,SNR=6.2
AK01 Malin Array Si 153.00 320 *e*PKPdf **PKPdf** 09 58 31.9 **+2.2**
AK01 *e*PKPbc **PKiKP** 09 58 37.4 **+0.2**
AK01 *e*PKPab **PKPab** 09 58 49.2 **+0.8**
KIEV Kiev 153.00 320 *e*PKPbc **PKPbc** 09 58 37.8 **+0.8**
BRTR Keskin Array B 153.50 294 PKPbc **PKPbc** 09 58 39.2 **+0.5**
1.6nm,0.9s,baz=123,slow=4.6,SNR=8.2
BRTR PKPab **PKPab** 09 58 52.1 **+0.9**
1.5nm,0.8s,baz=77,slow=2.7,SNR=5.3
CLL Collm 159.65 340 *i* PKPab **PKPab** 09 59 17.9 **+1.0**
BRG Berggiesshubel 159.74 338 *e*P **PKPab** 09 59 18.2 **+0.8**
2.4nm,0.7s
TORD Torodi Ar. Bea 160.59 179 PKPab **PKPab** 09 59 23.2 **+1.3**
1.0nm,1.0s,baz=180,slow=3.9,SNR=3.7
GERES GERESS Array B 161.54 335 PKPab **PKPab** 09 59 26.3 **+0.8**
0.3nm,0.8s,baz=37,slow=3.3,SNR=4.1

*IDC **09** 09:43:26.9±3.9, 33°.39S×179°.33E, h241km±33km, mb3.7/6, mb1 3.9/7, mb1mx3.5/32, mbtmp4.3/7, Error ellipse: s-maj=36.8km s-min=18.2km az=31.0*

ISC 09 09:43:26.2±0.8, 33°.58S±0°.07×179°.7E±0°.1, h250km, n116, σ1°78/85, mb3.8/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.13**	**195**	*e*Pn		**Pn**	**Pn**	**09 44 31.7**	**+0.3**
MXZ				SN		**S**	**Pn**	**09 45 21.1**	**-2.2**
WMGZ	**Waiomatatini S**	**4.35**	**193**	PN		**Pn**	**Pn**	**09 44 34.7**	**+0.6**
WMGZ				SN		**S**	**Pn**	**09 45 28.3**	**+0.1**
WIZ	**White Island**	**4.42**	**206**	PN		**Pn**	**Pn**	**09 44 37.6**	**+2.7**
HAZ	**Te Kaha**	**4.44**	**199**	PN		**Pn**	**Pn**	**09 44 36.3**	**+1.2**
PUZ	**Puketiti**	**4.63**	**194**	PN		**Pn**	**Pn**	**09 44 37.2**	**-0.2**
PUZ				SN		**S**	**Pn**	**09 45 32.1**	**-2.1**
RAO	**Raoul Island**	**4.79**	**26**	S		**S**	**Pn**	**09 45 33.1**	**-4.6**
	117nm,0.3s,baz=210,slow=20,SNR=4.2								
TWGZ	**Tauwhareparae**	**4.79**	**196**	PN		**Pn**	**Pn**	**09 44 39.4**	**+0.1**
OPRZ	**Ohinepanea**	**4.95**	**210**	*e*PN		**Pn**	**Pn**	**09 44 41.9**	**+0.6**
MARZ	**Manawahe**	**5.02**	**208**	PN		**Pn**	**Pn**	**09 44 44.2**	**+2.1**
CNGZ	**Carnagh Statio**	**5.04**	**193**	PN		**Pn**	**Pn**	**09 44 42.3**	**-0.1**
MWZ	**Matawai**	**5.05**	**199**	PN		**Pn**	**Pn**	**09 44 41.8**	**-0.7**
TKGZ	**Te Karaka**	**5.07**	**196**	PN		**Pn**	**Pn**	**09 44 41.9**	**-0.8**
EDRZ	**Edgecumbe**	**5.10**	**207**	PN		**Pn**	**Pn**	**09 44 45.1**	**+1.8**
URZ	**Urewera**	**5.11**	**203**	P		**Pn**	**Pn**	**09 44 43.9**	**+0.7**
	35nm,0.3s,baz=271,slow=3.8,SNR=118								
URZ				S		**S**	**Pn**	**09 45 41.9**	**-2.8**
	45nm,0.3s,baz=261,slow=22,SNR=20								
TARZ	**Mount Tarawera**	**5.30**	**208**	PN		**Pn**	**Pn**	**09 44 47.8**	**+2.1**
RIGZ	**Rimuhau**	**5.34**	**196**	PN		**Pn**	**Pn**	**09 44 44.9**	**-1.2**
RRRZ	**Republican Roa**	**5.39**	**207**	PN		**Pn**	**Pn**	**09 44 48.6**	**+1.9**
SNGZ	**Shannon Statio**	**5.52**	**199**	PN		**Pn**	**Pn**	**09 44 47.3**	**-1.0**
PRGZ	**Paritu Road**	**5.53**	**194**	PN		**Pn**	**Pn**	**09 44 47.3**	**-1.0**
PRRZ	**Plateau Road**	**5.58**	**207**	PN		**Pn**	**Pn**	**09 44 50.2**	**+1.2**
ALRZ	**Allen Road**	**5.65**	**207**	*e*PN		**Pn**	**Pn**	**09 44 50.3**	**+0.4**
RAHZ	**Arahi**	**5.72**	**200**	PN		**Pn**	**Pn**	**09 44 49.7**	**-1.1**
TLZ	**Tolley Road**	**5.80**	**214**	PN		**Pn**	**Pn**	**09 44 52.9**	**+1.2**
KUTZ	**Kaahu Road**	**5.80**	**211**	PN		**Pn**	**Pn**	**09 44 53.0**	**+1.3**
WHHZ	**Waihua**	**5.83**	**199**	PN		**Pn**	**Pn**	**09 44 51.3**	**-0.8**
NMHZ	**Naumai**	**5.97**	**202**	PN		**Pn**	**Pn**	**09 44 53.0**	**-0.9**
WATZ	**Wairara**	**6.02**	**211**	PN		**Pn**	**Pn**	**09 44 56.6**	**+2.0**
HATZ	**Hinemaiaia**	**6.04**	**207**	*e*PN		**Pn**	**Pn**	**09 44 56.0**	**+1.3**
ARHZ	**Aropaoanui**	**6.07**	**200**	PN		**Pn**	**Pn**	**09 44 53.6**	**-1.5**
BKZ	**Black Stump Fm**	**6.13**	**204**	PN		**Pn**	**Pn**	**09 44 54.8**	**-1.2**
RITZ	**Rihia Road**	**6.20**	**208**	PN		**Pn**	**Pn**	**09 44 58.1**	**+1.3**
KATZ	**Kakaramea**	**6.26**	**210**	PN		**Pn**	**Pn**	**09 44 58.7**	**+1.0**
MCHZ	**McNeill Hill**	**6.32**	**201**	PN		**Pn**	**Pn**	**09 44 57.7**	**-0.5**
KRVZ	**Karewarewa**	**6.39**	**209**	PN		**Pn**	**Pn**	**09 45 00.1**	**+0.9**
CKHZ	**Cape Kidnapper**	**6.42**	**198**	PN		**Pn**	**Pn**	**09 44 59.6**	**+0.2**
WTVZ	**West Tongariro**	**6.43**	**209**	PN		**Pn**	**Pn**	**09 44 59.9**	**+0.2**
OTVZ	**Oturere**	**6.44**	**209**	PN		**Pn**	**Pn**	**09 44 58.6**	**-1.3**
NGZ	**Ngauruhoe**	**6.47**	**209**	PN		**Pn**	**Pn**	**09 45 01.0**	**+0.7**
COVZ	**Chateau Observ**	**6.52**	**209**	*e*PN		**Pn**	**Pn**	**09 45 01.2**	**+0.4**
WPWZ	**Whakapapa**	**6.52**	**209**	PN		**Pn**	**Pn**	**09 45 01.4**	**+0.5**
TUVZ	**Tukino**	**6.53**	**208**	*e*PN		**Pn**	**Pn**	**09 45 00.0**	**-1.0**
FWVZ	**Far West T-bar**	**6.56**	**209**	PN		**Pn**	**Pn**	**09 45 00.2**	**-1.2**
WHVZ	**Whangaehu Hut**	**6.57**	**209**	PN		**Pn**	**Pn**	**09 45 00.4**	**-1.2**
BHHZ	**Black Hill Sta**	**6.57**	**205**	*e*PN		**Pn**	**Pn**	**09 44 59.4**	**-2.1**
DRZ	**Dome Shelter**	**6.57**	**209**	PN		**Pn**	**Pn**	**09 45 02.1**	**+0.4**
KAHZ	**Kahuranaki**	**6.60**	**199**	PN		**Pn**	**Pn**	**09 44 59.8**	**-1.9**
WNVZ	**Wahianoa**	**6.61**	**208**	PN		**Pn**	**Pn**	**09 45 00.4**	**-1.5**
KRHZ	**Kereru**	**6.61**	**203**	PN		**Pn**	**Pn**	**09 44 59.3**	**-2.6**
MOVZ	**Moawhango**	**6.61**	**207**	PN		**Pn**	**Pn**	**09 44 59.7**	**-2.2**
PKVZ	**Pokaka**	**6.68**	**210**	PN		**Pn**	**Pn**	**09 45 02.2**	**-0.6**
MTVZ	**Mangateitei**	**6.71**	**209**	*e*PN		**Pn**	**Pn**	**09 45 01.1**	**-2.0**
VRZ	**Vera Road**	**6.80**	**214**	PN		**Pn**	**Pn**	**09 45 05.0**	**+0.7**
PXZ	**Pawanui**	**6.82**	**198**	PN		**Pn**	**Pn**	**09 45 01.7**	**-2.8**
PNHZ	**Pukenui**	**6.91**	**203**	PN		**Pn**	**Pn**	**09 45 02.8**	**-2.9**
WPHZ	**Waipukurau**	**6.97**	**201**	PN		**Pn**	**Pn**	**09 45 05.5**	**-0.9**
MHEZ	**Mangahewa**	**6.97**	**217**	PN		Pn	**Pn**	**09 45 09.4**	**+3.0**
PRHZ	**Porangahau**	**7.10**	**199**	PN		**Pn**	**Pn**	**09 45 05.3**	**-2.8**
TSZ	**Takapari Road**	**7.10**	**203**	PN		**Pn**	**Pn**	**09 45 06.6**	**-1.6**
WAZ	**Wangaruiti**	**7.22**	**210**	PN		**Pn**	**Pn**	**09 45 07.9**	**-1.6**
LREZ	**Lake Rotokare**	**7.23**	**214**	*e*PN		**Pn**	**Pn**	**09 45 09.3**	**-0.3**
DVHZ	**Dannevirke**	**7.27**	**202**	PN		**Pn**	**Pn**	**09 45 08.0**	**-2.2**
KHEZ	**Kahui Hut**	**7.29**	**217**	PN		**Pn**	**Pn**	**09 45 12.1**	**+1.6**
ANWZ	**Angora Road**	**7.33**	**199**	PN		**Pn**	**Pn**	**09 45 08.5**	**-2.4**
POWZ	**Post Office Ro**	**7.48**	**203**	PN		**Pn**	**Pn**	**09 45 10.7**	**-2.1**
PRWZ	**Pori Road**	**7.56**	**202**	PN		**Pn**	**Pn**	**09 45 12.3**	**-1.5**
BFZ	**Birch Farm**	**7.60**	**200**	PN		Pn	Pn	09 45 10.8	-3.5
MRZ	**Mangatainoka R**	**7.79**	**203**	PN		Pn	Pn	09 45 12.9	-3.8
TIWZ	**Tintock**	**7.79**	**202**	*e*PN		Pn	Pn	09 45 13.3	-3.4
CPWZ	**Castlepoint**	**7.82**	**200**	PN		**Pn**	**Pn**	**09 45 15.9**	**-1.2**
HOWZ	**Holdsworth Sta**	**8.02**	**203**	PN		Pn	Pn	09 45 16.1	-3.6
OGWZ	**Otaki Gorge**	**8.06**	**205**	PN		Pn	Pn	09 45 16.5	-3.6
TMWZ	**Te Maipa**	**8.09**	**201**	PN		**Pn**	**Pn**	**09 45 17.9**	**-2.6**
KIW	**Kapiti Island**	**8.20**	**206**	PN		Pn	Pn	09 45 18.4	-3.5
MTW	**Mount Morrison**	**8.26**	**202**	PN		Pn	Pn	09 45 19.0	-3.7
CAW	**Cannon Point**	**8.36**	**205**	PN		Pn	Pn	09 45 19.8	-4.1
TRWZ	**Traveller**	**8.42**	**201**	PN		Pn	Pn	09 45 21.0	-3.7
PAWZ	**Paruwai Farm**	**8.48**	**202**	PN		Pn	Pn	09 45 21.4	-4.1
DUWZ	**D'Urville Isla**	**8.54**	**211**	PN		**Pn**	**Pn**	**09 45 23.3**	**-2.9**
MSWZ	**Moikau Station**	**8.57**	**203**	PN		Pn	Pn	09 45 23.1	-3.5
WEL	**Wellington**	**8.62**	**205**	PN		Pn	Pn	09 45 23.2	-3.9
BHW	**Baring Head**	**8.69**	**204**	PN		Pn	Pn	09 45 23.7	-4.3
PLWZ	**Palliser**	**8.71**	**202**	PN		Pn	Pn	09 45 24.6	-3.8
TCW	**Tory Channel**	**8.74**	**208**	PN		Pn	Pn	09 45 24.5	-4.2
TUWZ	**Tuamarina**	**9.06**	**208**	PN		Pn	Pn	09 45 28.3	-4.4
QRZ	**Quartz Range**	**9.20**	**216**	PN		Pn	Pn	09 45 30.2	-4.3
BSWZ	**Blackbirch Sta**	**9.32**	**208**	PN		Pn	Pn	09 45 32.1	-4.1
THZ	**Tophouse**	**9.76**	**211**	*e*PN		Pn	Pn	09 45 38.1	-3.6
KHZ	**Kahutara**	**10.05**	**207**	PN		Pn	Pn	09 45 41.1	-4.2
DSZ	**Denniston Nort**	**10.25**	**215**	PN		Pn	Pn	09 45 43.7	-4.1
CTZ	**Chatham Island**	**10.55**	**165**	*e*PN		P	Pn	09 46 03.5	+7.0
CTZ				SN		**S**	**Pn**	**09 47 53.2**	**+3.4**
LTZ	**Lake Taylor**	**10.87**	**210**	PN		Pn	Pn	09 45 50.8	-4.8
CRLZ	**Canterbury Las**	**11.40**	**207**	SN		S	Pn	09 47 56.5	-13
OXZ	**Oxford**	**11.41**	**209**	*e*PN		Pn	Pn	09 45 57.1	-5.2
MQZ	**McQueen's Vall**	**11.50**	**206**	PN		Pn	Pn	09 45 57.9	-5.4
WVZ	**Waitaha Valley**	**11.78**	**214**	*e*PN		Pn	Pn	09 46 02.0	-4.9
WVZ				SN		S	Pn	09 48 04.4	-14
RPZ	**Rata Peaks**	**12.14**	**211**	P		Pn	Pn	09 46 08.1	-3.4
	2.6nm,0.3s,baz=246,slow=3.0,SNR=11								
RPZ				S		S	Pn	09 48 12.4	-14
	2.3nm,0.3s,baz=306,slow=22,SNR=18								
RPZ	**Rata Peaks**	**12.14**	**211**	*e*PN		Pn	Pn	09 46 06.6	-4.8
RPZ				SN		S	Pn	09 48 12.9	-14
FOZ	**Fox Glacier**	**12.65**	**215**	PN		Pn	Pn	09 46 12.0	-5.6
LBZ	**Lake Benmore**	**13.06**	**211**	PN		**Pn**	**Pn**	**09 46 19.6**	**-3.1**
ODZ	**Otahua Downs**	**13.40**	**209**	*e*PN		**Pn**	**Pn**	**09 46 23.8**	**-3.0**
JCZ	**Jackson Bay**	**13.48**	**216**	*e*PN		Pn	Pn	09 46 23.4	-4.5
JCZ				SN		S	Pn	09 48 42.6	-15
WKZ	**Wanaka**	**13.92**	**213**	*e*PN		Pn	Pn	09 46 29.2	-4.1
EAZ	**Earnscleugh**	**14.11**	**211**	*e*PN		Pn	Pn	09 46 31.3	-4.2
TUZ	**Tuapeka**	**14.55**	**209**	*e*PN		**Pn**	**Pn**	**09 46 38.8**	**-2.0**
WHZ	**Wether Hill Ro**	**15.22**	**213**	*e*PN		**P**	**Pn**	**09 46 45.9**	**-2.4**
STKA	**Stephens Creek**	**31.94**	**262**	P		**P**	**P**	**09 49 28.8**	**-0.1**
	1.8nm,0.8s,baz=111,slow=8.6,SNR=3.6								
ASAR	**Alice Springs**	**41.07**	**272**	P		**P**	**P**	**09 50 45.2**	**-0.6**
	6.3nm,0.6s,baz=109,slow=7.5,SNR=38								
WRA	**Warramunga Arr**	**42.35**	**277**	P		**P**	**P**	**09 50 55.1**	**-1.1**
	7.7nm,0.6s,baz=117,slow=7.6,SNR=66								
QSPA	**South Pole Qui**	**56.54**	**180**	P		P	P	09 52 46.0	+3.5
	1.9nm,0.3s,baz=51,slow=13,SNR=6.2								
SNAA	**Sanae**	**75.03**	**179**	P		**P**	**P**	**09 54 42.4**	**+2.4**
VNA3	**Neumayer Olymp**	**75.27**	**177**	P		**P**	**P**	**09 54 43.5**	**+2.3**
VNA2	**Neumayer--Watz**	**75.67**	**178**	P		**P**	**P**	**09 54 46.2**	**+2.6**
	baz=192,slow=5.1								
PLCA	**Paso Flores**	**81.78**	**134**	P		P	P	09 55 21.1	+3.7
	1.6nm,0.8s,baz=229,slow=9.3,SNR=5.5								
NVAR	**Mina Array Bea**	**91.91**	**44**	P		**P**	**P**	**09 56 09.4**	**+3.1**
	0.4nm,0.6s,baz=226,slow=8.1,SNR=3.9								
FINES	**FINESS Array B**	**147.35**	**337**	PKPbc		**PKPbc**	**PKPbc**	**10 02 38.6**	**-0.9**
	0.8nm,0.5s,baz=79,slow=3.2,SNR=5.9								
TORD	**Torodi Ar. Bea**	**159.58**	**186**	PKPab		**PKPab**	**PKPab**	**10 03 35.2**	**+0.3**
	0.3nm,0.5s,baz=189,slow=2.6,SNR=4.8								

IDC 09 09:50:16.3±3.2, 32°.62S×178°.21W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.5/32, mbtmp3.6/3, ML3.3/1, Error ellipse: s-maj=73.9km s-min=46.4km az=119.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.80**	**213**	Pn		Pn	Pn	09 51 56.2	-1.1
	0.5nm,0.3s,baz=15,slow=12,SNR=11								
URZ				Sn		Sn	Sn	09 53 12.6	-2.8
	1.3nm,0.3s,baz=352,slow=23,SNR=11								
ASAR	**Alice Springs**	**42.85**	**269**	P		P	P	09 58 16.9	+0.4
	0.3nm,0.5s,baz=110,slow=7.9,SNR=8.0								
WRA	**Warramunga Arr**	**44.04**	**275**	P		P	P	09 58 25.8	-0.4
	0.3nm,0.3s,baz=114,slow=7.9,SNR=14								
FINES	**FINESS Array B**	**147.15**	**339**	PKPbc		PKPbc	PKPbc	10 09 59.8	-0.8
	0.6nm,0.6s,baz=48,slow=2.1,SNR=4.2								

IDC 09 09:50:24.0±8.2, 2°.85N×128°.22E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/35, mbtmp3.5/3, Error ellipse: s-maj=141.0km s-min=126.3km az=87.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.43**	**165**	P		P	P	09 55 35.4	+0.2
	0.6nm,0.4s,baz=346,slow=11,SNR=20								
ASAR	**Alice Springs**	**26.93**	**168**	P		P	P	09 56 07.4	+0.1
	0.2nm,0.4s,baz=350,slow=7.9,SNR=8.1								
STKA	**Stephens Creek**	**36.80**	**161**	P		P	P	09 57 33.3	-0.5
	0.8nm,0.8s,baz=330,slow=10.0,SNR=4.6								

*ISCJB **09** 10:14:10.5±1.1, 12°.9N±0°.2×143°.6E±0°.2, h150km, mb3.4/6, Error ellipse: s-maj=39.9km s-min=12.0km az=39.2*
*IDC **09** 10:14:10.4±3.4, 13°.00N×143°.44E, h136km±26km, mb3.2/6, mb1 3.5/6, mb1mx3.2/31, mbtmp3.6/6, Error ellipse: s-maj=70.7km s-min=15.0km az=114.0*

ISC 09 10:14:12.0±1.0, 12°.9N±0°.2×143°.7E±0°.3, h150km, n9, σ0°88/10, mb3.7/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.35**	**60**	P		**Pn**	**Pn**	**10 14 39.9**	**-0.1**
	105nm,0.3s,baz=207,slow=6.8,SNR=103								
GUMO				S		**Sn**	**Pn**	**10 15 00.8**	**-0.7**
	118nm,0.3s,baz=181,slow=22,SNR=25								
WRA	**Warramunga Arr**	**33.91**	**196**	P		**P**	**P**	**10 20 40.6**	**-0.2**
	1.6nm,0.7s,baz=19,slow=9.8,SNR=22								
ASAR	**Alice Springs**	**37.58**	**195**	P		**P**	**P**	**10 21 12.0**	**-0.1**
	0.7nm,0.5s,baz=19,slow=13,SNR=24								
STKA	**Stephens Creek**	**44.57**	**183**	P		**P**	**P**	**10 22 08.8**	**-0.2**
	1.6nm,0.8s,baz=23,slow=4.7,SNR=5.9								
ILAR	**Eielson Array**	**69.68**	**25**	P		**P**	**P**	**10 25 04.3**	**-0.7**
	0.2nm,0.4s,baz=245,slow=5.9,SNR=5.5								
YKA	**Yellowknife Ar**	**84.00**	**27**	P		**P**	**P**	**10 26 25.1**	**-0.2**
	0.1nm,0.4s,baz=287,slow=5.1,SNR=2.6								
NVAR	**Mina Array Bea**	**88.26**	**51**	P		**P**	**P**	**10 26 48.9**	**+2.0**
	0.5nm,0.7s,baz=262,slow=5.7,SNR=5.0								
TORD	**Torodi Ar. Bea**	**134.27**	**303**	PKP		**PKPdf**	**PKPdf**	**10 33 12.4**	**-0.6**
	0.1nm,0.5s,baz=114,slow=1.7,SNR=3.5								
LPAZ	**La Paz**	**149.06**	**100**	PKPbc		**PKPbc**	**PKPbc**	**10 33 44.5**	**+0.3**
	0.6nm,0.5s,baz=69,slow=1.8,SNR=5.1								

*IDC **09** 10:24:51.5±1.4, 35°.77N×70°.70E, h0km, mb3.6/4, mb1 3.6/5, mb1mx3.3/27, mbtmp3.5/5, ML2.8/1, Error ellipse: s-maj=35.9km s-min=29.6km az=146.0*
*ISCJB **09** 10:25:14.5±1.1, 36°.58N±0°.08×70°.71E±0°.09, h204km, mb3.2/3, Error ellipse: s-maj=11.1km s-min=9.9km az=137.2*
*NNC **09** 10:25:19.6±3.3, 36°.87N×70°.66E, h190km±24km, mb2.5, mpv3.6, Error ellipse: s-maj=32.7km s-min=14.6km az=167.0*

ISC 09 10:25:15.9±1.2, 36°.64N±0°.10×70°.68E±0°.09, h204km, n11, σ1°68/14, mb3.4/3, 8C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.61**	**326**	⇓P		**Pn**	**Pn**	**10 26 02.0**	**+0.6**
	30nm,0.2s								
DZET				⇑S		**S**	**Pn**	**10 26 35.8**	**-0.6**
	184nm,0.5s								
SFK	**Sufi-Kurgan**	**4.03**	**33**	⇑P		**Pn**	**Pn**	**10 26 18.9**	**+0.6**
	1.4nm,0.2s								
SFK				⇓S		**S**	**Pn**	**10 27 06.8**	**-0.2**
	10.0nm,0.3s								
KK31	**Karatay Array**	**6.45**	**359**	⇑P		**Pn**	**Pn**	**10 26 49.8**	**+0.8**
	0.8nm,0.3s,baz=176,slow=13,SNR=29								
KK31				⇑S		**S**	**Pn**	**10 28 01.1**	**-1.6**
	11nm,0.5s,baz=184,slow=21,SNR=5.7								
AAK	**Ala-Archa**	**6.67**	**25**	⇑P		**Pn**	**Pn**	**10 26 52.2**	**+0.3**
	1.3nm,0.5s								
AAK				⇓S		**S**	**Pn**	**10 28 07.9**	**-0.1**
	6.2nm,0.6s								
MKAR	**Makanchi Array**	**13.33**	**37**	Pn		Pn	Pn	10 28 13.1	-4.1
	0.0nm,0.3s,baz=217,slow=11,SNR=2.4								
AB31	**Akbulak array**	**14.83**	**332**	⇑P		P	P	10 28 42.8	+6.3
	0.2nm,0.3s,baz=130,slow=11,SNR=9.2								
AB31				⇑S		**S**	**Pn**	**10 31 16.7**	**-3.4**
	0.2nm,0.4s,baz=141,slow=24,SNR=5.0								
AKTO	**Aktyubinsk**	**16.53**	**330**	⇑P		**Pn**	**Pn**	**10 28 57

0.7nm,0.1s,SNR=7.9
EFAM S Sn 10 42 19.4 -7.0
8.0nm,0.2s,SNR=7.9
EOSO Osorio 5.46 160 ⇑P Pn 10 41 25.2 +0.8
6.9nm,0.1s,SNR=18
EOSO S Sn 10 42 20.3 -7.0
7.6nm,0.1s
EOSO Osorio 5.46 160 P Pn 10 41 25.2 +0.8
6.9nm,0.1s,SNR=18
CHIE El Hierro 5.49 182 S Sn 10 42 20.3 -7.5
17nm,0.1s,SNR=5.8
CFUE Fuerteventura 5.59 144 P Pn 10 41 27.0 +0.9
17nm,0.2s,SNR=7.9
CFUE S Sn 10 42 22.9 -7.5
18nm,0.2s,SNR=7.9
CFTV Fuerteventura 5.71 146 P Pn 10 41 28.5 +0.7
5.2nm,0.2s,SNR=11
CFTV S Sn 10 42 25.3 -8.3
13nm,0.2s,SNR=7.9
CFTV Fuerteventura 5.71 146 P Pn 10 41 28.5 +0.7
5.2nm,0.2s,SNR=11
CIA Chichaoua 7.74 100 P Pn 10 41 59.0 +3.4
CIA S Sn 10 43 17.0 -6.3
PFVI Vila Bisbo 8.24 59 *e*Pn Pn 10 42 03.7 +1.2
PFVI *e*Sn Sn 10 43 25.6 -10
PFVI A A 10 43 28.5
12nm,0.7s
PFVI Vila Bisbo 8.24 59 P Pn 10 42 04.1 +1.6
24nm,0.1s,SNR=27
PFVI S Sn 10 43 26.6 -9.0
3.2nm,0.1s,SNR=7.9
PFVI Vila Bisbo 8.24 59 *e*Pn Pn 10 42 03.7 +1.2
PFVI Vila Bisbo 8.24 59 P Pn 10 42 04.1 +1.6
24nm,0.1s,SNR=27
MORF Marmelete 8.44 59 *e*Pn Pn 10 42 06.4 +1.1
MORF *e*Sn Sn 10 43 31.1 -10
MORF A A 10 43 37.3
9.9nm,0.8s
MORF Marmelete 8.44 59 P Pn 10 42 06.4 +1.1
MORF S Sn 10 43 31.1 -10
9.9nm,0.8s
MORF Marmelete 8.44 59 P Pn 10 42 06.4 +1.1
PTEO Sao Teotonio 8.50 57 *e*Pn Pn 10 42 07.3 +1.3
PTEO *e*Sn Sn 10 43 32.7 -9.2
PTEO A A 10 43 40.8
11nm,0.6s
PTEO Sao Teotonio 8.50 57 P Pn 10 42 07.3 +1.3
PTEO S Sn 10 43 32.7 -9.2
5.6nm,0.6s
PTEO Sao Teotonio 8.50 57 P Pn 10 42 07.3 +1.3
OUK Oukaimeden 8.56 101 P Pn 10 42 11.0 +3.7
OUK S Sn 10 43 38.0 -6.1
PMAFR Mafra 8.89 48 *e*Pn Pn 10 42 11.8 +0.4
PMAFR *e*Sn Sn 10 43 39.2 -12
PMAFR A A 10 43 49.4
23nm,1.0s
PMAFR Mafra 8.89 48 P Pn 10 42 11.8 +0.4
5.3nm,0.1s,SNR=17
PMAFR S Sn 10 43 38.6 -13
9.3nm,0.2s,SNR=6.1
PMAFR Mafra 8.89 48 P Pn 10 42 11.8 +0.4
5.3nm,0.1s,SNR=17
PNCL Nicolau / Gran 8.91 54 *e*Pn Pn 10 42 12.5 +0.9
PNCL *e*Sn Sn 10 43 42.1 -10
PNCL A A 10 43 45.8
5.1nm,0.4s
PNCL Nicolau / Gran 8.91 54 *e*Pn Pn 10 42 12.5 +0.9
PBDV Barranco-do-Ve 8.93 61 *e*Pn Pn 10 42 12.8 +0.8
PBDV *e*Sn Sn 10 43 43.0 -10
PBDV A A 10 43 53.6
7.5nm,0.7s
PBDV Barranco-do-Ve 8.93 61 P Pn 10 42 12.8 +0.8
PBDV S Sn 10 43 43.0 -10
7.5nm,0.7s
PBDV Barranco-do-Ve 8.93 61 P Pn 10 42 12.8 +0.8
MESJ Messejana 8.99 57 *e*Pn Pn 10 42 14.1 +1.4
MESJ *e*Sn Sn 10 43 44.5 -9.5
MESJ A A 10 43 53.5
4.1nm,0.7s
MESJ Messejana 8.99 57 P Pn 10 42 14.1 +1.4
MESJ S Sn 10 43 44.5 -9.5
4.1nm,0.7s
MESJ Messejana 8.99 57 P Pn 10 42 14.1 +1.4
PACT Alcochete 9.06 50 *e*Pn Pn 10 42 14.8 +1.1
PACT *e*Sn Sn 10 43 45.8 -10
PACT A A 10 43 51.0
16nm,0.6s
PACT Alcochete 9.06 50 *e*Pn Pn 10 42 14.8 +1.1
PVAQ Vaqueiros 9.15 60 *e*Pn Pn 10 42 16.4 +1.4
PVAQ *e*Sn Sn 10 43 48.2 -10
PVAQ A A 10 43 56.6
3.7nm,0.3s
PVAQ Vaqueiros 9.15 60 P Pn 10 42 16.4 +1.4
PVAQ S Sn 10 43 48.2 -10
3.7nm,0.3s
PVAQ Vaqueiros 9.15 60 P Pn 10 42 16.4 +1.4
EGRO El Granado 9.38 60 P Pn 10 42 20.0 +1.9
4.1nm,0.1s,SNR=8.3
EGRO S Sn 10 43 52.8 -11
3.0nm,0.2s,SNR=7.9
EGRO El Granado 9.38 60 P Pn 10 42 20.0 +1.9
4.1nm,0.1s,SNR=8.3
EVO Evora 9.47 53 *e*Pn Pn 10 42 20.0 +0.7
EVO *e*Sn Sn 10 43 55.1 -11
EVO A A 10 44 01.4
4.2nm,0.1s
EVO Evora 9.47 53 P Pn 10 42 20.0 +0.7
EVO S Sn 10 43 55.1 -11
4.2nm,0.1s
EVO Evora 9.47 53 P Pn 10 42 20.0 +0.7
TZC Tazercounte 9.50 93 P Pn 10 42 22.0 +2.0
TZC S Sn 10 43 59.0 -8.0
PMTG Montargil 9.62 50 *e*Pn Pn 10 42 21.3 -0.1
PMTG A A 10 44 11.0
3.4nm,0.6s
PMTG Montargil 9.62 50 *e*Pn Pn 10 42 21.3 -0.1
3.4nm,0.6s
KIB El Ksiba 9.82 91 P Pn 10 42 27.0 +2.7
KIB S Sn 10 44 06.0 -8.7
PTOM Tomar 9.83 47 *e*Pn Pn 10 42 24.9 +0.7
PTOM *e*Sn Sn 10 44 04.5 -10
PTOM A A 10 44 13.7
9.1nm,0.7s
PTOM Tomar 9.83 47 P Pn 10 42 24.9 +0.7
PTOM S Sn 10 44 04.5 -10
4.6nm,0.7s
PTOM Tomar 9.83 47 P Pn 10 42 24.9 +0.7
PESTR Estremoz 9.93 53 *e*Pn Pn 10 42 26.7 +1.1
PESTR *e*Sn Sn 10 44 05.3 -12
PESTR A A 10 44 16.9
2.6nm,1.0s
PESTR Estremoz 9.93 53 *e*Pn Pn 10 42 26.7 +1.1
PBAR Barrancos 9.97 57 *e*Pn Pn 10 42 27.1 +0.9
PBAR *e*Sn Sn 10 44 07.7 -10
PBAR A A 10 44 12.2
5.6nm,0.5s
PBAR Barrancos 9.97 57 P Pn 10 42 27.1 +0.9
PBAR S Sn 10 44 07.7 -10
5.6nm,0.5s
PBAR Barrancos 9.97 57 P Pn 10 42 27.1 +0.9
PCAS Casmilo, Conde 10.05 45 *e*Pn Pn 10 42 27.7 +0.5
PCAS *e*Sn Sn 10 44 08.8 -11
PCAS A A 10 44 15.6
4.7nm,0.5s
PCAS Casmilo, Conde 10.05 45 *e*Pn Pn 10 42 27.7 +0.5
EMIN Mina Concepcio 10.06 60 P Pn 10 42 28.8 +1.4
0.0nm,0.2s,SNR=34
EMIN S Sn 10 44 09.6 -11
2.2nm,0.3s,SNR=7.9
EMIN Mina Concepcio 10.06 60 P Pn 10 42 28.8 +1.4
SNR=34
EBAD Badajoz 10.26 54 P Pn 10 42 30.8 +0.6
1.6nm,0.1s,SNR=17
EBAD S Sn 10 44 14.4 -11
1.3nm,0.1s,SNR=5.6
EBAD Badajoz 10.26 54 P Pn 10 42 30.8 +0.6
1.6nm,0.1s,SNR=17
PMRV Marv??o 10.36 50 *e*Pn Pn 10 42 31.5 0.0
PMRV *e*Sn Sn 10 44 16.6 -11
PMRV A A 10 44 21.3
2.6nm,0.3s
PMRV Marv??o 10.36 50 P Pn 10 42 31.5 0.0
PMRV S Sn 10 44 16.6 -11
2.6nm,0.3s
PMRV Marv??o 10.36 50 P Pn 10 42 31.5 0.0

ESPR Espera 10.36 66 P Pn 10 42 33.4 +1.9
7.2nm,0.2s,SNR=10
ESPR S Sn 10 44 18.7 -9.0
0.8nm,0.1s,SNR=7.9
ESPR Espera 10.36 66 P Pn 10 42 33.4 +1.9
7.2nm,0.2s,SNR=10
PCBR Castelo Branco 10.54 48 *e*Pn Pn 10 42 34.5 +0.6
PCBR *e*Sn Sn 10 44 21.4 -11
PCBR A A 10 44 34.9
2.4nm,0.4s
PCBR Castelo Branco 10.54 48 P Pn 10 42 34.5 +0.6
PCBR S Sn 10 44 21.4 -11
1.2nm,0.4s
PCBR Castelo Branco 10.54 48 P Pn 10 42 34.5 +0.6
CZD Col de Zad 10.61 88 P Pn 10 42 36.0 +0.7
CZD S Sn 10 44 24.0 -10
CZD Col de Zad 10.61 88 P Pn 10 42 36.0 +0.7
PVIS Viseu 10.83 44 *e*Pn Pn 10 42 38.0 0.0
PVIS *e*Sn Sn 10 44 26.8 -12
PVIS A A 10 44 30.2
4.0nm,0.6s
PVIS Viseu 10.83 44 P Pn 10 42 38.0 0.0
PVIS S Sn 10 44 26.8 -12
2.0nm,0.6s
PVIS Viseu 10.83 44 P Pn 10 42 38.0 0.0
MTE Manteigas 10.83 46 *e*Sn Sn 10 44 29.7 -10
MTE A A 10 44 35.0
6.2nm,0.6s
MTE Manteigas 10.83 46 S Sn 10 44 29.7 -10
3.1nm,0.6s
ECAB El Cabril 11.09 61 P Pn 10 42 43.0 +1.4
5.2nm,0.2s,SNR=12
ECAB S Sn 10 44 36.2 -10
0.3nm,0.1s,SNR=7.9
ECAB El Cabril 11.09 61 P Pn 10 42 43.0 +1.4
5.2nm,0.2s,SNR=12
EMIJ Mijas 11.12 69 P Pn 10 42 43.9 +1.9
0.3nm,0.1s,SNR=7.9
EMIJ Mijas 11.12 69 P Pn 10 42 43.9 +1.9
0.3nm,0.1s,SNR=7.9
POLO Lamas de Olo 11.32 41 *e*Pn Pn 10 42 45.2 +0.4
POLO *e*Sn Sn 10 44 38.8 -13
POLO A A 10 44 52.2
2.0nm,0.8s
POLO Lamas de Olo 11.32 41 *e*Pn Pn 10 42 45.2 +0.4
ELOB Lobios 11.52 39 P Pn 10 42 49.3 +1.8
0.3nm,0.1s,SNR=7.9
ELOB S Sn 10 44 43.0 -13
0.3nm,0.1s,SNR=7.9
ELOB Lobios 11.52 39 P Pn 10 42 49.3 +1.8
0.3nm,0.1s,SNR=7.9
EPLA Plasencia 11.55 50 P Pn 10 42 48.4 +0.5
0.4nm,0.0s,SNR=14
EPLA S Sn 10 44 44.8 -12
0.2nm,0.0s,SNR=7.9
EPLA Plasencia 11.55 50 P Pn 10 42 48.4 +0.5
0.4nm,0.0s,SNR=14
MVO Moncorvo 11.62 44 *e*Pn Pn 10 42 48.9 +0.1
MVO *e*Sn Sn 10 44 46.3 -12
MVO A A 10 44 57.2
3.7nm,0.4s
MVO Moncorvo 11.62 44 P Pn 10 42 48.7 -0.1
1.1nm,0.1s,SNR=6.5
MVO S Sn 10 44 43.9 -15
1.3nm,0.4s,SNR=7.9
MVO Moncorvo 11.62 44 *e*Pn Pn 10 42 48.9 +0.1
EADA Adamuz 11.75 61 P Pn 10 42 52.1 +1.6
1.2nm,0.1s,SNR=16
EADA S Sn 10 44 51.6 -10
0.0nm,0.1s,SNR=7.9
EADA Adamuz 11.75 61 P Pn 10 42 52.1 +1.6
1.2nm,0.1s,SNR=16
PBRG Braganca 12.20 42 *e*Pn Pn 10 42 56.8 +0.1
PBRG Braganca 12.20 42 P Pn 10 42 56.8 +0.1
PBRG Braganca 12.20 42 P Pn 10 42 56.8 +0.1
ECAL Calabor 12.29 42 P Pn 10 42 58.2 +0.2
SNR=7.9
ECAL Calabor 12.29 42 P Pn 10 42 58.2 +0.2
SNR=7.9
EBAN Banos Encina 12.33 63 P Pn 10 43 00.0 +1.5
3.1nm,0.2s,SNR=7.9
EBAN Banos Encina 12.33 63 P Pn 10 43 00.0 +1.5
3.1nm,0.2s,SNR=7.9
PAB San Pablo 12.46 56 P Pn 10 43 01.1 +0.8
SNR=7.9
PAB S Sn 10 45 09.2 -10
0.7nm,0.3s,SNR=7.9
PAB San Pablo 12.46 56 P Pn 10 43 01.1 +0.8
SNR=7.9
ESDC Sonseca Array 12.78 56 P Pn 10 43 06.2 +1.5
1.2nm,0.2s,baz=244,slow=13,SNR=28
ESDC Sonseca Array 12.78 56 P Pn 10 43 06.2 +1.5
1.2nm,0.2s,SNR=28
EARI Arriondas 14.03 41 P Pn 10 43 22.7 +0.9
SNR=7.9
ETOB Tobarra 14.15 63 P Pn 10 43 25.6 +2.2
SNR=7.9
ETOR Torete 14.60 54 P Pn 10 43 30.6 +1.0
9.0nm,0.2s,SNR=12

*BJI **09** 10:42:49.8,27.˚51N×115.˚38W,h12km,mb4.8/5,mB5.4/4, Ms5.1/5,Ms7 4.8/5*
*ISCJB **09** 10:42:51.6±0.3,27.˚73N±0.˚02×115.˚15W±0.˚02,h10km, mb4.9/110,MS4.3/4,Error ellipse: s-maj=3.8km s-min=2.6km az=27.7*
*IDC **09** 10:42:52.5±0.5,27.˚94N×115.˚19W,h0km,mb4.6/34, mb1 4.6/40,mb1mx4.6/44,mbtmp4.5/40,ML3.9/6,MS4.2/4, Ms1 4.1/4,ms1mx3.7/34,Error ellipse: s-maj=13.9km s-min=8.5km az=48.0*
*NEIC **09** 10:42:53.0±0.3,27.˚67N×115.˚19W,h10km,mb4.8/122, MD4.5(MEX),Error ellipse: s-maj=5.2km s-min=3.3km az=36.0*
NEIC Felt at Guerrero Negro.
*MOS **09** 10:42:52.1±1.1,27.˚80N×115.˚09W,h10km,mb5.2/32, Error ellipse: s-maj=7.0km s-min=3.6km az=85.7*
*MEX **09** 10:42:59.9±0.5,28.˚25N×114.˚80W,h15km,MD4.5*
ISC 09 10:42:53.3±0.4,27.82N±0.04×115.30W±0.05,h10km, n595,σ1§24/557,mb5.0/109,**MS4.4**/4,**96C-83D,Off west coast of Baja California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**2.76**	**100**	***e*P**	**Pn**	**10 43 36.1**	**-1.6**
SRIG				*i* S	Sn	10 44 03.3	-7.8
SRIG	**Santa Rosalia**	**2.76**	**100**	***e*P**	**Pn**	**10 43 36.1**	**-1.6**
SRIG				*i* S	Sn	10 44 03.3	-7.8
SPX	**San Pedro Mart**	**3.22**	**358**	***e*P**	**Pn**	**10 43 41.5**	**-2.7**
SPIG	**San Pedro Mart**	**3.22**	**358**	***e*P**	**Pn**	**10 43 42.3**	**-1.9**
SPIG				*e*S	Sn	10 44 15.5	-7.2
SPIG	**San Pedro Mart**	**3.22**	**358**	***e*P**	**Pn**	**10 43 42.3**	**-1.9**
SPIG				*e*S	Sn	10 44 15.5	-7.2
HSIG		**4.02**	**72**	*i* P	Pn	10 43 51.3	-3.6
HSIG				*i* S	Sn	10 44 30.1	-12
HSIG		**4.02**	**72**	*i* P	Pn	10 43 51.3	-3.6
HSIG				*i* S	Sn	10 44 30.1	-12
MBIG	**Mexicali**	**4.57**	**1**	***e*P**	**Pn**	**10 44 03.0**	**+0.5**
CBX	**Cerro Bola**	**4.63**	**346**	***e*P**	**Pn**	**10 44 03.1**	**-0.4**
CBX	**Cerro Bola**	**4.63**	**346**	***e*P**	**Pn**	**10 44 03.1**	**-0.4**
214A	**Organ Pipe Nat**	**4.66**	**27**	***e*Pn**	**Pn**	**10 44 02.0**	**-1.6**
214A	**Organ Pipe Nat** baz=4.8	**4.66**	**27**	⇑P	**Pn**	**10 44 02.5**	**-1.2**
214A				⇑S	**Sn**	**10 45 00.5**	**+2.7**
baz=4.8							
BAR	**Barrett**	**4.99**	**347**	***e*Pn**	**Pn**	**10 44 08.0**	**-0.2**
113A	**Mohawk Valley,** baz=5.2	**5.11**	**15**	⇑P	**Pn**	**10 44 09.0**	**-0.8**
GLA	**Glamis**	**5.23**	**4**	***e*P**	**Pn**	**10 44 09.3**	**-2.3**
GLA	**Glamis**	**5.23**	**4**	***e*Pn**	**Pn**	**10 44 09.3**	**-2.3**
GLA	**Glamis** baz=5.4	**5.23**	**4**	⇑P	**Pn**	**10 44 10.6**	**-1.0**
LPIG	**La Paz**	**5.82**	**128**	***e*P**	Pn	10 44 22.4	+2.7
LPIG				*e*S	**Sn**	**10 45 28.7**	**+2.1**
LPIG	**La Paz** 11nm,0.3s,baz=28,slow=2.2,SNR=18	**5.82**	**128**	Pn	**Pn**	**10 44 21.0**	**+1.3**
LPIG				Pg	Pg	10 44 39.3	-5.5
13nm,0.3s,baz=126,slow=5.2,SNR=14							
LPIG				Lg	Lg	10 45 57.1	
baz=286,slow=9.1,SNR=1.4							
LPIG	**La Paz**	**5.82**	**128**	Pn	**Pn**	**10 44 21.0**	**+1.3**
LPIG				Pg	Pg	10 44 39.3	-5.5
LPIG				*e*S	**Sn**	**10 45 28.7**	**+2.1**
LPIG				Lg	Lg	10 45 57.1	

PFO Pinyon Flats O 5.86 351 *e*P Pn 10 44 24.2 +4.0
PFO pmax pmax
comp=Z,89nm,1.0s
PFO Pinyon Flats O 5.86 351 *e*Pn Pn 10 44 24.2 +4.0
comp=Z,89nm,1.0s
Z14A Wintersburg 5.89 20 ⇓P Pn 10 44 20.3 -0.3
baz=6.0
Z14A ⇓S **Sn 10 45 28.9 +0.8**
baz=6.0
TUC Tucson 5.95 40 *e*P Pn 10 44 19.6 -1.9
TUC Tucson 5.95 40 *e*Pn Pn 10 44 19.6 -1.9
Y12C Blythe 5.95 6 ⇑P Pn 10 44 22.4 +1.0
baz=6.1
319A Douglas 6.33 55 ⇓P Pn 10 44 25.8 -0.9
baz=6.3
SLBS Sierra La Lagu 6.35 129 *e*P Pn 10 44 30.2 +3.2
SLBS *e*S **Sn 10 45 41.4 +1.7**
SLBS Sierra La Lagu 6.35 129 *e*Pn Pn 10 44 29.3 +2.3
MWC Mount Wilson 6.81 340 *e*P Pn 10 44 35.8 +2.4
MWC Mount Wilson 6.81 340 *e*Pn Pn 10 44 35.8 +2.4
MWC *e*S Sb 10 46 21.2 +8.0
W13A Hualapai Mount 7.36 9 ⇓P Pn 10 44 41.7 +0.8
baz=7.5
X16A Lo Mia Camp, P 7.36 26 ⇑P Pn 10 44 41.1 0.0
baz=7.5
OSI Osito Audit: C 7.38 337 *e*Pn Pn 10 44 44.4 +3.3
comp=Z,31nm,0.9s
EDW2 Edwards Air Fo 7.40 343 ⇓P Pn 10 44 43.2 +1.7
baz=7.6
GSC Goldstone, Bar 7.57 351 *e*P Pn 10 44 47.7 +4.0
GSC Goldstone, Bar 7.57 351 *e*Pn Pn 10 44 47.7 +4.0
GSC *e*S Sg 10 46 48.7 -7.5
ARVC Arvin 7.88 338 ⇓P Pn 10 44 50.5 +2.6
baz=8.1
121A Cookes Peak, D 8.02 52 *e*Pn Pn 10 44 49.8 -0.3
comp=Z,68nm,0.9s
121A *e*S Sg 10 46 57.6 -14
121A Cookes Peak, D 8.02 52 ⇓P Pn 10 44 50.1 0.0
baz=8.0
X18A Snowflake 8.11 33 ⇓P Pn 10 44 51.3 0.0
baz=8.2
ISA Isabella, Lake 8.27 342 *e*P Pn 10 44 55.5 +2.1
ISA pmax pmax
comp=Z,16nm,0.8s
ISA Isabella, Lake 8.27 342 *e*Pn Pn 10 44 55.5 +2.1
comp=Z,16nm,0.8s
ISA Isabella, Lake 8.27 342 ⇓P Pn 10 44 55.5 +2.1
baz=8.5
WUAZ Wupatki 8.37 23 *e*Pn Pn 10 44 55.5 +0.7
WUAZ Wupatki 8.37 23 ⇓P Pn 10 44 55.5 +0.7
baz=8.5
MPMC Manual Prospec 8.42 348 ⇑P Pn 10 44 57.7 +2.2
baz=8.6
DAC Darwin (Calif) 8.65 348 *e*P Pn 10 45 00.1 +1.4
DAC Darwin (Calif) 8.65 348 *e*Pn Pn 10 45 00.1 +1.4
W18A Petrified Fore 8.69 32 *e*Pn Pn 10 45 00.2 +0.9
W18A Petrified Fore 8.69 32 ⇑P Pn 10 45 00.0 +0.8
baz=8.8
PTRM Twissleman Ran 8.86 333 *e*Pn Pn 10 45 05.6 +4.2
U15A North Rim 8.95 16 ⇓P Pn 10 45 04.0 +1.0
baz=9.1
TPNV Topopah Spring 9.14 355 *e*P Pn 10 45 09.3 +4.0
TPNV Topopah Spring 9.14 355 *e*Pn Pn 10 45 09.3 +4.0
MNTX Cornudas Mount 9.45 63 *e*Pn Pn 10 45 09.2 -0.3
MNTX Cornudas Mount 9.45 63 ⇑P Pn 10 45 09.3 -0.3
baz=9.4
Y22D IRIS PASSCAL I 9.52 47 ⇓P Pn 10 45 11.6 +1.0
baz=9.6
LENM Lemitar 9.54 46 *e*Pn Pn 10 45 11.1 +0.2
LAZ Ladron 9.59 45 *e*Pn Pn 10 45 11.6 0.0
comp=Z,28nm,1.3s
LPM Los Pinos Moun 9.85 47 *e*Pn Pn 10 45 15.8 +0.6
MTUM Tungsten Hills 9.89 345 *e*Pn Pn 10 45 21.4 +5.6
SAO San Andreas Ge 10.32 331 *e*P Pn 10 45 26.6 +5.2
SAO San Andreas Ge 10.32 331 *e*Pn Pn 10 45 26.6 +5.2
TXAR Lajitas Array 10.34 79 Pn Pn 10 45 22.4 +0.6
comp=Z,1.1nm,0.3s,baz=258,slow=13,SNR=54
TXAR LR LR 10 48 04.0
comp=Z,344nm,21.7s,baz=0.0,slow=30
TXAR Lg Lg 10 48 17.4
comp=Z,0.1nm,0.3s,baz=153,slow=30,SNR=2.8
TPH Tonopah 10.35 352 *e*P Pn 10 45 26.1 +4.1
TPH Tonopah 10.35 352 *e*Pn Pn 10 45 26.1 +4.1
ANMO Albuquerque 10.37 45 Pn Pn 10 45 21.6 -0.7
comp=Z,0.8nm,0.3s,baz=224,slow=13,SNR=102
ANMO Lg Lg 10 48 16.7
comp=Z,0.1nm,0.3s,baz=70,slow=9.9,SNR=3.3
ANMO Albuquerque 10.37 45 *ce*P Pn 10 45 22.4 +0.1
ANMO pmax pmax
comp=Z,85nm,0.7s
ANMO Albuquerque 10.37 45 *e*Pn Pn 10 45 22.6 +0.3
ANMO Lg Lg 10 48 16.7
GDL2 Guadalupe Moun 10.44 63 *e*Pn Pn 10 45 24.7 +1.5
comp=Z,24nm,1.2s
R11A Troy Canyon, C 10.50 359 *e*Pn Pn 10 45 26.5 +2.4
R11A Troy Canyon, C 10.50 359 ⇑P Pn 10 45 26.9 +2.8
baz=11
CLNB Carlsbad 10.84 63 *e*Pn Pn 10 45 30.6 +1.9
comp=Z,4.1nm,0.8s
NVAR Mina Array Bea 10.87 347 Pn Pn 10 45 30.9 +1.8
comp=Z,0.3nm,0.3s,baz=169,slow=14,SNR=62
MVU Marysvale 10.96 13 *e*Pn Pn 10 45 33.7 +3.2
MSU Marysvale 10.98 13 *e*P Pn 10 45 33.7 +3.1
MSU pmax pmax
comp=Z,23nm,0.8s
MSU Marysvale 10.98 13 *e*Pn Pn 10 45 33.7 +3.1
comp=Z,23nm,0.8s
MVCO Mesa Verde 10.98 30 *e*Pn Pn 10 45 31.8 +1.2
MVCO Mesa Verde 10.98 30 ⇑P Pn 10 45 32.7 +2.0
baz=11
CMB Columbia Colle 11.04 339 *e*P Pn 10 45 34.1 +2.8
CMB Columbia Colle 11.04 339 *e*Pn Pn 10 45 34.1 +2.8
WAKR Walker 11.20 343 *e*Pn Pn 10 45 38.2 +4.6
PV01 Paradox Valley 11.73 27 *e*Pn Pn 10 45 42.0 +1.1
comp=Z,44nm,0.3s
PV10 Paradox Valley 11.76 25 *e*Pn Pn 10 45 42.0 +0.6
comp=Z,1µm,0.8s
TMUT Trail Mountain 11.94 16 *e*Pn Pn 10 45 46.2 +2.3
SRU San Rafael Swe 11.94 18 *e*P Pn 10 45 46.1 +2.3
SRU San Rafael Swe 11.94 18 *e*Pn Pn 10 45 46.1 +2.3
S22A 4UR Ranch, Cre 12.19 34 *e*Pn Pn 10 45 48.4 +1.1
S22A 4UR Ranch, Cre 12.19 34 ⇑P Pn 10 45 49.3 +2.1
baz=12
MSTX Muleshoe 12.38 57 *e*Pn Pn 10 45 51.0 +1.3
NLU North Lily Min 12.40 12 *e*Pn Pn 10 45 53.5 +3.5
DUG Dugway, Tooele 12.52 9 *e*P Pn 10 45 54.7 +3.1
DUG Dugway, Tooele 12.52 9 *e*Pn Pn 10 45 54.7 +3.1
MPU Maple Canyon 12.54 13 *e*Pn Pn 10 45 55.5 +3.6
OHCM Honcut 12.58 337 *e*Pn Pn 10 45 56.5 +4.2
BMN Battle Mountai 12.68 353 *e*P Pn 10 45 56.9 +3.1
BMN pmax pmax
comp=Z,36nm,1.2s
BMN Battle Mountai 12.68 353 *e*Pn Pn 10 45 56.9 +3.1
comp=Z,36nm,1.2s
SDCO Great Sand Dun 12.87 37 *e*Pn Pn 10 45 58.4 +1.8
HOPS Hopland Field 12.89 332 *e*Pn Pn 10 45 58.6 +2.1
ELK Elko 12.89 0 Pn Pn 10 45 58.8 +2.0
comp=Z,0.1nm,0.3s,baz=178,slow=9.8,SNR=15
ELK Lg Lg 10 49 43.4
comp=Z,0.1nm,0.3s,baz=169,slow=6.2,SNR=1.6
ELK Elko 12.89 0 *e*P Pn 10 45 59.5 +2.7
ELK Elko 12.89 0 *e*Pn Pn 10 45 59.5 +2.7
ELK Lg Lg 10 49 43.4
T25A Trinidad 13.06 42 *e*Pn Pn 10 46 00.8 +1.7
JLU Jordanelle 13.14 13 *e*Pn Pn 10 46 03.5 +3.3
BGU Big Grassy Mou 13.21 8 *e*Pn Pn 10 46 05.5 +4.4
SMCO Snowmass 13.28 29 *e*Pn Pn 10 46 04.5 +2.3
AMTX Amarillo 13.60 55 *e*Pn Pn 10 46 08.8 +2.5
comp=Z,131nm,1.4s
O20A White River Ci 13.60 24 *e*Pn Pn 10 46 08.4 +1.9
TCUT Toone Canyon 13.65 13 *e*Pn Pn 10 46 10.9 +3.8
comp=Z,23nm,0.8s
KIPM Iron Peak 13.74 333 *e*Pn Pn 10 46 10.4 +2.1
comp=Z,68nm,1.6s
JCT Junction City 13.80 75 *e*P Pn 10 46 10.5 +1.4
JCT Junction City 13.80 75 *e*Pn Pn 10 46 10.5 +1.4
Q24A Divide 13.97 35 *e*Pn Pn 10 46 13.4 +1.8
WDC Whiskeytown Da 14.06 337 *e*P Pn 10 46 14.4 +1.9
WDC Whiskeytown Da 14.06 337 *e*Pn Pn 10 46 14.4 +1.9
HVU Hansel Valley 14.08 8 *e*P Pn 10 46 14.6 +1.7
HVU Hansel Valley 14.08 8 *e*Pn Pn 10 46 14.6 +1.7
HWUT Hardware Ranch 14.09 12 *e*Pn Pn 10 46 16.3 +3.2
KMRM Mail Ridge 14.19 333 *e*Pn Pn 10 46 18.1 +3.7
ABTX Abilene, Hawle 14.36 67 *e*Pn Pn 10 46 17.9 +1.3

ISCO Idaho Springs 14.40 31 ePn Pn 10 46 19.4 +2.0
ISCO Idaho Springs 14.40 31 ePn Pn 10 46 19.4 +2.0
KHMM Horse Mountain 14.75 334 ePn Pn 10 46 25.5 +3.3
WVOR Wild Horse Val 14.83 350 ePn Pn 10 46 25.9 +2.7
WVOR pmax pmax
comp=Z,36nm,1.3s
WVOR Wild Horse Val 14.83 350 ePn Pn 10 46 25.9 +2.7
comp=Z,36nm,1.3s
M02C Callahan 14.89 337 ⇑P Pn 10 46 27.3 +3.4
baz=15,SNR=26
M04C Macdoel 14.92 341 ⇑P P 10 46 28.6 -1.4
baz=15,SNR=38
YBH Yreka Blue Hor 15.14 338 Pn Pn 10 46 29.1 +1.8
comp=Z,0.1nm,0.3s,baz=177,slow=6.6,SNR=14
YBH Yreka Blue Hor 15.14 338 ePn Pn 10 46 30.0 +2.7
YBH pmax pmax
comp=Z,38nm,1.4s
YBH Yreka Blue Hor 15.14 338 ePn Pn 10 46 30.0 +2.7
comp=Z,38nm,1.4s
N23A Red Feather La 15.15 28 ePn Pn 10 46 29.0 +1.5
comp=Z,166nm,1.8s
N23A Red Feather La 15.15 28 ⇑P Pn 10 46 28.6 +1.1
baz=15
AHID Auburn Hatcher 15.30 12 ePn Pn 10 46 30.4 +0.9
comp=Z,45nm,1.0s
M22A Cedar Creek Ra 15.32 26 ⇑P Pn 10 46 31.5 +1.7
baz=15
O25A Wiggins 15.36 34 ⇑P Pn 10 46 31.5 +1.3
baz=15
KSCO Kaye Shedlock' 15.36 40 ePn Pn 10 46 30.6 +0.3
comp=Z,164nm,1.1s
KTRM Thompson Ridge 15.53 337 P Pn 10 46 34.9 +2.5
K05A Summer Lake 15.55 344 ePn P 10 46 36.2 -1.0
MFID Camas Ranch 15.57 359 ePn P 10 46 35.3 -2.0
comp=Z,28nm,1.1s
Y33A Hilltop Ranch, 15.58 63 ⇑P Pn 10 46 32.9 -0.1
baz=16
BW06 Boulder Array 15.63 16 ePn Pn 10 46 34.3 +0.5
comp=Z,24nm,0.9s
PDAR Pinedale Array 15.63 16 Pn Pn 10 46 34.0 +0.1
comp=Z,0.4nm,0.3s,baz=185,slow=8.9,SNR=44
K04D Chiloquin, OR 15.67 342 ⇑P P 10 46 38.0 -0.4
baz=16
PHWY Pilot Hill 15.69 28 ePn Pn 10 46 34.9 +0.2
comp=Z,26nm,1.2s
WMOK Wichita Mounta 15.71 60 eP Pn 10 46 35.3 +0.5
WMOK pmax pmax
comp=Z,24nm,0.9s
WMOK Wichita Mounta 15.71 60 ePn Pn 10 46 35.3 +0.5
comp=Z,24nm,0.9s
M23A Laramie 15.72 28 ⇑P P 10 46 37.2 -1.8
baz=16
HLID Hailey 15.72 2 ePn Pn 10 46 37.0 +1.9
comp=Z,26nm,1.1s
P27A Ficken Ranch, 15.77 39 ⇑P P 10 46 37.0 -2.5
baz=16
X33A Lawton 15.86 61 ⇑P Pn 10 46 36.6 0.0
baz=16
O26A Horse Wrangler 15.86 36 ⇑P Pn 10 46 38.0 +1.2
baz=16
REDW Red Top Meadow 15.92 12 ePn P 10 46 40.0 -1.3
comp=Z,259nm,2.5s
HUMO Hull Mountain 16.01 339 eP P 10 46 43.1 +1.1
comp=Z,18nm,1.3s
WHTX Lake Whitney, 16.02 71 eP P 10 46 41.2 -1.1
comp=Z,71nm,1.1s
TPAW Teton Pass 16.03 12 ePn Pn 10 46 39.9 +0.9
comp=Z,49nm,1.0s
SNOW Snow King Moun 16.04 12 ePn Pn 10 46 39.9 +0.8
comp=Z,44nm,1.2s
KBO Bosley Butte 16.10 335 ePn Pn 10 46 41.6 +1.9
comp=Z,47nm,1.1s
FXWY Fox Creek 16.16 11 ePn Pn 10 46 41.6 +0.9
comp=Z,51nm,1.3s
J05D Fort Rock, OR 16.16 344 ⇑P P 10 46 44.5 +0.7
baz=16,SNR=41
K21A Alcova 16.16 22 ⇓P P 10 46 43.1 -0.9
baz=16
LOHW Long Hollow 16.21 12 ePn Pn 10 46 41.4 0.0
comp=Z,147nm,2.0s
L23A Garrett 16.27 26 ⇓P P 10 46 44.4 -0.8
baz=16
MOOW Moose Ponds 16.31 12 ePn Pn 10 46 43.1 +0.4
comp=Z,51nm,1.0s
R30A Dighton 16.34 46 ⇑P P 10 46 44.1 -1.7
baz=16
X34A Smith Ranch, M 16.39 61 ⇑P Pn 10 46 43.8 +0.3
baz=16
IMW Indian Meadow 16.42 11 ePn Pn 10 46 45.1 +1.0
comp=Z,42nm,0.9s
K22A Casper 16.43 23 ePn Pn 10 46 44.1 0.0
comp=Z,161nm,1.3s
J20A Shoshoni 16.56 19 ⇓P P 10 46 46.9 -1.4
baz=17
I07A Izee 16.58 349 ePn P 10 46 48.8 +0.4
O28A Krutsinger Ran 16.61 39 ⇑P Pn 10 46 46.8 +0.5
baz=17
FLWY Flagg Ranch 16.65 12 ePn P 10 46 48.0 -1.3
comp=Z,46nm,1.0s
W34A Bridge Creek, 16.66 59 ePn Pn 10 46 46.8 -0.1
comp=Z,62nm,0.8s
N27A Anderson Farm, 16.68 36 ⇓P Pn 10 46 47.6 +0.4
baz=17
KEBM Edson Butte 16.71 336 ePn P 10 46 49.2 -0.6
comp=Z,187nm,1.4s
P29A Atwood 16.74 42 ⇓P P 10 46 49.5 -0.7
baz=17
J21A Lysite 16.75 20 ⇑P P 10 46 49.4 -1.0
baz=17
R31A Burdett 16.83 48 ⇓P P 10 46 49.7 -1.4
baz=17
U33A Lingo Farm, Me 16.89 55 ⇓P Pn 10 46 49.4 -0.4
baz=17
I04A Tendick Farm, 16.94 342 ⇓P P 10 46 55.5 +3.1
baz=17,SNR=7.1
I19A Meeteetse 16.96 16 ⇑P P 10 46 52.8 0.0
baz=17
H17A Grant Village 16.97 12 ePn P 10 46 52.7 -0.2
comp=Z,98nm,2.1s
YFT Old Faithful 16.98 11 eP P 10 46 54.9 +1.8
comp=Z,117nm,2.0s
X35A Drake 17.00 63 ⇓P Pn 10 46 50.8 -0.5
baz=17
OGNE Ogallala 17.04 36 ePn Pn 10 46 51.4 -0.4
comp=Z,228nm,1.6s
OGNE Ogallala 17.04 36 ⇓P Pn 10 46 51.9 +0.2
baz=17
BMO Blue Mountains 17.07 355 ePn P 10 46 53.9 0.0
comp=Z,25nm,1.4s
V34A Guthrie 17.08 58 ePn Pn 10 46 50.9 -1.3
comp=Z,88nm,1.3s
MCMT McKenzie Canyo 17.09 6 ePn P 10 46 54.6 +0.4
comp=Z,53nm,1.6s
I20A Worland 17.10 18 ⇓P P 10 46 53.7 -0.6
baz=17
J22A Midwest 17.12 22 ⇓P P 10 46 53.5 -1.0
baz=17
LKWY Lake 17.17 12 eP P 10 46 55.1 0.0
LKWY pmax pmax
comp=Z,14nm,0.9s
LKWY Lake 17.17 12 ePn P 10 46 55.1 0.0
comp=Z,14nm,0.9s
YMR Madison River 17.17 11 ePn P 10 46 55.1 0.0
comp=Z,52nm,1.5s
I05D Terrebonne, OR 17.18 345 ⇓P P 10 46 56.6 +1.5
baz=17,SNR=17
HKT Hockley 17.18 78 eP P 10 46 55.0 0.0
HKT pmax pmax
comp=Z,109nm,1.4s
HKT Hockley 17.18 78 eP P 10 46 55.0 0.0
comp=Z,109nm,1.4s
QLMT Earthquake Lak 17.26 9 ePn P 10 46 56.1 0.0
YNR Norris Junctio 17.26 11 ePn P 10 46 57.8 +1.7
comp=Z,78nm,1.7s
U34A Anderson Ranch 17.31 56 ePn Pn 10 46 54.0 -1.1
comp=Z,103nm,1.4s
K25A Mack Ranch, Ha 17.44 29 ⇑P P 10 46 57.6 -0.4
baz=18
H19A Powell 17.56 15 ⇑P P 10 46 59.8 +0.5
baz=18
V35A Meyer Ranch, C 17.57 59 ⇓P Pn 10 46 57.1 -1.1
baz=18
O30A MW Ranch, Wils 17.63 42 ⇓P Pn 10 46 58.8 -0.2
baz=18
P31A Stockton 17.63 44 ⇓P Pn 10 46 58.9 -0.2
baz=18
H20A Greybull 17.63 17 ⇓P P 10 47 00.6 +0.5
baz=18
DLMT Dillon 17.64 6 eP P 10 47 01.4 +1.2
comp=Z,45nm,1.4s
G08A Pilot Rock 17.68 351 ePn P 10 47 01.9 +1.3
H04A Detroit Lake 17.71 344 ePn P 10 47 01.7 +0.8
J24A Dixon Ranch, L 17.71 26 ⇑P P 10 47 01.4 +0.5
baz=18
N29A Votaw Ranch, W 17.72 39 ⇑P P 10 47 00.3 -0.7
baz=18
CROR Criterion Ridg 17.72 347 P P 10 47 02.5 +1.4
T34A McCloskey Farm 17.81 54 ⇓P Pn 10 47 00.8 -0.5
baz=18
Q32A Meitler Ranch, 17.84 47 ⇑P Pn 10 47 01.0 -0.7
baz=18
G06A Carlson Farm, 17.89 348 ePn P 10 47 04.6 +1.7
RLMT Red Lodge 17.93 14 eP P 10 47 03.6 +0.2
comp=Z,30nm,1.4s
N30A Hueftle Ranch, 18.00 40 ⇑P P 10 47 03.7 -0.4
baz=18
BOZ Bozeman (W) 18.03 8 eP P 10 47 05.1 +0.6
BOZ pmax pmax
comp=Z,14nm,1.1s
BOZ Bozeman (W) 18.03 8 eP P 10 47 05.1 +0.6
comp=Z,14nm,1.1s
H21A Big Horn, Sher 18.03 19 ⇓P P 10 47 05.1 +0.6
baz=18
G05D Wamic, OR 18.04 346 ⇓P P 10 47 06.2 +1.7
baz=18
O31A Woolen Ranch, 18.05 43 ⇑P P 10 47 03.8 -0.9
baz=18
J25A Sunshine Ranch 18.10 28 ⇑P P 10 47 05.7 +0.4
baz=18
LRM Limekiln Ridge 18.11 6 eP P 10 47 06.1 +0.6
M29A Burnside Ranch 18.11 38 ⇓P P 10 47 05.2 -0.1
baz=18
VFP Flag Point 18.14 346 P P 10 47 08.3 +2.6
I24A Kuemmerle Ranc 18.17 25 ⇑P Pn 10 47 05.1 -0.7
baz=18
P32A Huiting Farm, 18.18 45 ⇑P Pn 10 47 04.9 -0.9
baz=18
F10A Beach Ranch, E 18.18 356 ePn P 10 47 07.1 +1.0
H22A Clearmont 18.21 21 ⇓P P 10 47 06.4 -0.1
baz=18
K27A Flueckinger Fa 18.25 32 ⇓P Pn 10 47 06.3 -0.4
baz=18
T35A Sooner Cattle 18.26 55 ⇑P Pn 10 47 05.7 -1.1
baz=18
X37A Clayton 18.32 63 ⇓P Pn 10 47 06.0 -1.6
baz=18
Q33A Connelly Farm, 18.32 48 ⇓P Pn 10 47 06.4 -1.2
baz=18
J26A Sides Ranch, S 18.35 29 ⇓P P 10 47 07.7 -0.3
baz=18
TUL1 Leonard 18.41 59 eP Pn 10 47 06.5 -2.1
comp=Z,46nm,1.0s
TUL1 Leonard 18.41 59 ⇓P Pn 10 47 06.5 -2.1
baz=18
W37A Quinton 18.44 62 ⇑P Pn 10 47 07.1 -1.9
baz=18
G03D McMinnville, O 18.48 342 ⇓P Pn 10 47 10.9 +1.5
baz=19
H23A Clabaugh Cattl 18.50 23 ⇑P Pn 10 47 10.1 +0.4
baz=19
RSSD Black Hills 18.62 26 eP P 10 47 09.7 -1.4
RSSD pmax pmax
comp=Z,26nm,1.1s
RSSD Black Hills 18.62 26 eP P 10 47 09.7 -1.4
comp=Z,26nm,1.1s
I25A Richford 18.65 27 ⇓P Pn 10 47 11.3 -0.4
baz=19
L29A Maesberg Ranch 18.66 37 ⇑P P 10 47 10.6 -0.8
baz=19
K28A Ten Mile Ranch 18.68 34 ⇑P P 10 47 11.2 -0.4
baz=19
F19A Roth Farm, Mol 18.69 14 ⇓P Pn 10 47 12.5 +0.4
baz=19
S35A Otter Creek Ra 18.72 54 ⇑P Pn 10 47 11.5 -0.9
baz=19
O32A Brockman Farm, 18.75 44 ⇓P P 10 47 10.5 -1.9
baz=19
T36A Boggs Farm, Ca 18.78 56 ⇓P P 10 47 11.4 -1.3
baz=19
J27A Elkhorn Farm, 18.78 31 ⇑P P 10 47 12.0 -0.7
baz=19
G22A Birney 18.79 20 ⇑P Pn 10 47 13.2 -0.2
baz=19
E09A Wood Farm, Sta 18.79 354 ePn Pn 10 47 14.7 +1.5
F20A Billings 18.82 16 ⇓P P 10 47 12.7 -0.5
baz=19
HAWA Hanford 18.84 351 eP Pn 10 47 14.8 +1.1
comp=Z,20nm,1.3s
F04A Amboy 18.94 345 eP Pn 10 47 16.2 +1.3
340A Bronson 18.96 74 ⇑P Pn 10 47 15.6 +0.3
baz=19
H24A Dirks Ranch, A 18.96 24 ⇑P Pn 10 47 15.2 -0.1
baz=19
Z39A Irene McRaven, 18.97 68 ⇓P P 10 47 14.1 -0.6
baz=19
L30A Spencer Herefo 18.99 38 ⇓P P 10 47 14.7 -0.3
baz=19
M31A Lambtecht Ranc 19.00 41 ⇑P Pn 10 47 15.6 -0.2
baz=19
MSO Missoula 19.01 3 eP Pn 10 47 16.0 +0.1
comp=Z,18nm,0.9s
MSO Missoula 19.01 3 ⇓P Pn 10 47 17.8 +1.9
baz=19
I26A New Underwood 19.02 28 ⇓P Pn 10 47 17.6 +1.5
baz=19
N32A Stulken Farm, 19.04 43 ⇑P Pn 10 47 15.6 -0.7
baz=19
HRY Holter Researc 19.05 7 eP Pn 10 47 16.8 +0.3
G23A Biddle 19.06 22 ⇑P Pn 10 47 16.5 -0.1
baz=19
LVP Lakeview Peak 19.06 345 P Pn 10 47 16.6 0.0
CHMT Chamberlain Mo 19.13 4 eP Pn 10 47 17.4 -0.1
W38A Poteau 19.13 63 ⇑P Pn 10 47 16.5 -0.9
baz=19
KSU1 Kansas State U 19.19 49 eP P 10 47 16.7 -0.5
comp=Z,59nm,1.0s
KSU1 Kansas State U 19.19 49 ⇑P Pn 10 47 18.0 -0.1
baz=19
H25A Fruitdale 19.21 26 ⇑P Pn 10 47 19.9 +1.6
baz=19
K29A Lazy Trails An 19.24 35 ⇓P Pn 10 47 18.7 0.0
baz=19
S36A Lake Cedric, C 19.26 54 ⇑P Pn 10 47 17.8 -1.1
baz=19
ERK Elk Rock 19.27 345 P Pn 10 47 19.2 +0.1
J28A Allard Ranch, 19.27 32 ⇓P Pn 10 47 19.4 +0.3
baz=19
F22A Rosebud 19.31 19 ⇓P Pn 10 47 19.5 -0.1
baz=19
I27A Quinn 19.40 30 ⇑P Pn 10 47 20.9 +0.3
baz=20
D08A Wollman Farm, 19.41 353 eP Pn 10 47 21.6 +0.9
SLMT Seeley Lake 19.44 4 eP Pn 10 47 21.1 -0.1
E20A Meyer Farm, Mu 19.49 15 ⇑P Pn 10 47 22.1 +0.4
baz=20
BGNE Belgrade 19.52 42 eP P 10 47 20.6 -0.2
comp=Z,111nm,1.1s
BGNE Belgrade 19.52 42 ⇑P Pn 10 47 21.8 -0.3
baz=20
K30A Basset 19.54 37 ⇑P Pn 10 47 22.4 +0.1
baz=20
LON Longmire 19.58 347 eP P 10 47 22.3 +0.9
LON pmax pmax
comp=Z,17nm,1.1s
LON Longmire 19.58 347 eP P 10 47 22.3 +0.9
comp=Z,17nm,1.1s
R36A Gordon, Harris 19.58 53 ⇑P Pn 10 47 21.6 -1.2
baz=20
SWMT Swartz Lake 19.68 3 eP P 10 47 22.7 +0.1
FMW Mount Fremont 19.72 347 P Pn 10 47 25.2 +0.6
I28A Midland 19.75 31 ⇑P P 10 47 23.5 +0.2
baz=20
MIAR Mount Ida 19.75 65 eP P 10 47 23.0 -0.3
MIAR pmax pmax
comp=Z,22nm,1.0s
MIAR Mount Ida 19.75 65 eP P 10 47 23.0 -0.3
comp=Z,22nm,1.0s
TWW Teanaway 19.77 349 P Pn 10 47 25.6 +0.5
E21A Keefer Ranch, 19.78 17 ⇓P Pn 10 47 24.3 -0.9
baz=20
E03A Lebam 19.79 343 eP Pn 10 47 25.5 +0.3
H27A Howes 19.84 29 ⇑P Pn 10 47 24.8 -1.0
baz=20
LTY Liberty 19.86 349 eP P 10 47 25.5 +1.1
JTMT Jette 19.91 2 eP P 10 47 25.1 0.0
F24A Ekalaka 19.95 23 ⇑P P 10 47 25.9 +0.5
baz=20
D19A Cripps Ranch, 19.96 13 ⇑P P 10 47 26.2 +0.6
baz=20
E22A Miles City 20.00 19 ⇑P P 10 47 25.9 -0.1
baz=20
BSMT Bassoo Peak 20.00 1 eP P 10 47 26.2 0.0
D05A Enumclaw 20.03 347 ePn Pn 10 47 29.1 +1.1
YBMT Yellow Bay 20.04 3 eP P 10 47 26.8 +0.3
J30A Dallas 20.06 35 ⇓P P 10 47 26.4 -0.3
baz=20
C09A Chrisman Ranch 20.08 354 eP P 10 47 26.9 0.0
LAO LASA Array 20.15 18 eP P 10 47 27.9 +0.2
comp=Z,39nm,1.1s
G26A Maurine 20.16 27 ⇓P P 10 47 28.1 +0.3
baz=20
BLMT Blacktail Moun 20.17 2 eP P 10 47 28.0 0.0
D21A La Casta Ranch 20.29 17 ⇓P Pn 10 47 30.0 -1.2
baz=20
NEW Newport 20.46 357 P P 10 47 30.6 -0.4
comp=Z,7.4nm,0.7s,baz=160,slow=10,SNR=20
NEW LR LR 10 55 44.1
comp=Z,572nm,18.0s,baz=163,slow=38
NEW Newport 20.46 357 eP P 10 47 30.9 -0.1
NEW pmax pmax
comp=Z,33nm,1.3s
NEW Newport 20.46 357 eP P 10 47 30.9 -0.1
comp=Z,32nm,1.3s
NEW Newport 20.46 357 ⇑P P 10 47 31.9 +0.9
baz=21
C19A Slack Wire Ran 20.47 12 ⇑P Pn 10 47 32.1 -1.2
baz=21
G27A Dupree 20.50 28 ⇓P P 10 47 31.6 +0.1
baz=21
I30A Oacoma 20.52 34 ⇓P Pn 10 47 32.5 -1.3
baz=21
F26A Lodgepole 20.60 26 ⇑P P 10 47 32.5 0.0
baz=21
E24A Baker 20.62 22 ⇓P P 10 47 33.1 +0.4
baz=21
EGMT Eagleton 20.63 11 eP P 10 47 33.0 +0.2
comp=Z,94nm,1.0s
EGMT Eagleton 20.63 11 ⇑P Pn 10 47 34.2 -1.0
baz=21
NLWA Neilton Lookou 20.66 343 eP Pn 10 47 35.0 -0.5
comp=Z,26nm,0.9s
C20A Veseth Ranch, 20.66 14 ⇓P P 10 47 33.9 +0.7
baz=21
UALR University of 20.79 65 eP P 10 47 33.7 -0.9
comp=Z,24nm,1.0s
F27A Lemmon 20.87 27 ⇑P P 10 47 35.6 +0.1
baz=21
D23A Lindsay 20.88 20 ⇓P P 10 47 35.9 +0.3
baz=21
C21A Desert Coulee 20.98 16 ⇑P P 10 47 36.6 0.0
baz=21
JCW Jim Creek 20.98 348 P P 10 47 37.2 +0.6
BRSD Miller 21.14 34 eP P 10 47 37.5 -0.8
comp=Z,72nm,1.0s
BRSD Miller 21.14 34 ⇓P P 10 47 37.8 -0.5
baz=21
B19A Brinkman Farms 21.18 12 ⇑P P 10 47 39.5 +0.6
baz=21
B06A Marblemount 21.21 349 eP P 10 47 40.0 +0.9
comp=Z,16nm,0.8s
WALA Waterton Lakes 21.23 3 eP P 10 47 39.2 -0.2
comp=Z,45nm,1.2s
B20A Solberg Farm, 21.35 13 ⇓P P 10 47 40.5 0.0
baz=22
F28A McLaughlin 21.35 29 ⇓P P 10 47 40.5 -0.1
baz=21
C24A Savage 21.44 20 ⇓P P 10 47 41.5 0.0
baz=22
C23A Lambert 21.45 19 ⇓P P 10 47 42.3 +0.5
baz=22
G30A Faulkton 21.55 32 ⇓P P 10 47 41.8 -0.9
baz=22
CMIG Matias Romero 21.65 115 P P 10 47 45.0 +1.0
comp=Z,23nm,1.0s,baz=309,slow=9.4,SNR=17
CMIG LR LR 10 56 07.6
comp=Z,1μm,21.7s,baz=294,slow=37
A19A Klindworth Far 21.68 12 ⇑P P 10 47 44.0 -0.2
baz=22
PGC Sidney 21.73 345 eP P 10 47 45.3 +0.7
comp=Z,35nm,1.1s
A05A Maple Falls 21.79 348 eP P 10 47 45.9 +0.7
A20A Cobblestone Ra 21.79 13 ⇑P P 10 47 45.4 +0.1
baz=22
ECSD EROS Data Cent 21.88 39 eP P 10 47 44.8 -1.5
comp=Z,172nm,1.9s
ECSD EROS Data Cent 21.88 39 ⇓P P 10 47 45.1 -1.2
baz=22
C25A Freed Ranch, W 21.97 22 ⇓P P 10 47 46.9 -0.4
baz=22
E28A Huff 21.98 28 ⇑P P 10 47 46.0 -1.3
baz=22
D27A Center 22.08 26 ⇓P P 10 47 47.2 -1.2
baz=22
B23A Brockton 22.11 18 ⇑P P 10 47 49.1 +0.4
baz=22
HBAR Harrisburg 22.31 64 eP P 10 47 50.5 -0.4
DGMT Dagmar 22.34 20 eP P 10 47 50.8 -0.5
comp=Z,70nm,1.4s
E29A Napoleon 22.42 29 ⇑P P 10 47 53.3 +1.2
baz=22
C26A Wahner Farm, P 22.47 24 ⇓P P 10 47 53.2 +0.6
baz=23
A23A Redstone 22.59 18 ⇑P P 10 47 53.8 -0.1
baz=23
E30A Jud 22.69 30 ⇓P P 10 47 53.7 -1.2
baz=23
PBMO Poplar Bluff 22.79 61 eP P 10 47 54.7 -1.4
A24A Westby 22.81 19 ⇑P P 10 47 55.7 -0.5
baz=23
D29A Pettibone, Tap 22.82 29 ⇑P P 10 47 54.9 -1.4
baz=23
SCIA State Center 22.85 46 eP P 10 47 55.8 -0.9
comp=Z,123nm,1.2s
B26A Jensen Ranch, 22.89 23 ⇓P P 10 47 56.7 -0.3
baz=23
A25A Svangstu Ranch 23.09 21 ⇑P P 10 47 59.5 +0.4
baz=23
D30A Buchanan 23.22 30 ⇓P P 10 47 58.9 -1.5
baz=23
B27A Peters Farms, 23.26 24 ⇓P P 10 47 59.8 -1.1
baz=23
A26A Wade Farm, Ken 23.41 22 ⇑P P 10 48 01.3 -1.0
baz=24
MDND Maddock 23.44 27 eP P 10 48 01.0 -1.7
comp=Z,842nm,1.2s
MDND Maddock 23.44 27 ⇑P P 10 48 01.4 -1.3
baz=24
GLAT Glass 23.55 62 eP P 10 48 03.8 0.0
B28A Dugan Ranch, T 23.63 25 ⇑P P 10 48 04.0 -0.5
baz=24
A27A Ledoux Ranch, 23.73 23 ⇓P P 10 48 05.5 0.0
baz=24
C30A Mose, Pekin 23.80 29 ⇓P P 10 48 04.3 -1.9
baz=24
B29A Wagenman Farm, 24.04 27 ⇓P P 10 48 07.6 -0.8
baz=24
A28A Rude Farm, Bot 24.05 25 ⇑P P 10 48 08.1 -0.4
baz=24
B30A Myrvik Farm, E 24.44 28 ⇑P P 10 48 11.0 -1.2
baz=24
A29A Manning Farm, 24.45 26 ⇑P P 10 48 11.6 -0.6
baz=25
WVT Waverly 24.67 63 eP P 10 48 12.2 -2.2
WVT pmax pmax
comp=Z,55nm,1.4s
WVT Waverly 24.67 63 eP P 10 48 12.2 -2.2
comp=Z,55nm,1.4s
BRAL Brewton 24.78 76 eP P 10 48 13.9 -1.4
comp=Z,67nm,0.9s
A30A Hoffart Farm, 24.84 27 ⇑P P 10 48 14.1 -1.6
baz=25
LRAL Lakeview Retre 24.92 71 eP P 10 48 15.2 -1.3
comp=Z,31nm,1.4s
SPMN Marine on St. 24.94 40 eP P 10 48 15.2 -1.5
comp=Z,34nm,0.9s
SPMN Marine on St. 24.94 40 ⇓P P 10 48 15.7 -0.9
baz=25
OLIL Olney 25.13 57 eP P 10 48 17.3 -1.1
comp=Z,32nm,0.9s
JFWS Jewell Farm 25.25 47 eP P 10 48 18.4 -1.2
JFWS pmax pmax
comp=Z,47nm,1.1s
JFWS Jewell Farm 25.25 47 eP P 10 48 18.4 -1.2

AGMN **Agassiz Nation** 25.41 31 *e*P P 10 48 19.1 -1.7
comp=Z,43nm,1.0s
AGMN **Agassiz Nation** 25.41 31 ⇑P P 10 48 20.1 -0.8
baz=26
EDM **Edmonton** 25.42 3 *e*P P 10 48 20.2 -0.7
EDM pmax pmax
comp=Z,27nm,0.8s
EDM **Edmonton** 25.42 3 *e*P P 10 48 20.2 -0.7
comp=Z,27nm,0.8s
TEIG **Tepich** 25.78 101 P P 10 48 24.1 -0.4
comp=Z,7.6nm,0.7s,baz=4.4,slow=13,SNR=7.0
TEIG **Tepich** 25.78 101 *e*P P 10 48 25.4 +0.9
comp=Z,11nm,0.8s
SWET **Sewanee** 26.04 66 *e*P P 10 48 25.3 -1.5
comp=Z,118nm,0.6s
WCI **Wyandotte Cave** 26.35 59 *e*P P 10 48 28.7 -0.8
WCI pmax pmax
comp=Z,32nm,1.0s
WCI **Wyandotte Cave** 26.35 59 *e*P P 10 48 28.7 -0.8
comp=Z,32nm,1.0s
SFIN **Lafayette** 26.38 54 *e*P P 10 48 28.4 -1.5
comp=Z,101nm,0.9s
SFIN **Lafayette** 26.38 54 ⇑P P 10 48 28.3 -1.5
baz=26
BLO **Bloomington** 26.43 57 *e*P P 10 48 29.2 -1.0
BLO pmax pmax
comp=Z,65nm,1.2s
BLO **Bloomington** 26.43 57 *e*P P 10 48 29.2 -1.0
comp=Z,65nm,1.2s
ULM **Lac du Bonnet** 26.85 28 P P 10 48 31.8 -2.1
comp=Z,29nm,0.9s,baz=223,slow=9.6,SNR=58
ULM **Lac du Bonnet** 26.85 28 *e*P P 10 48 31.6 -2.3
ULM pmax pmax
comp=Z,59nm,1.2s
ULM **Lac du Bonnet** 26.85 28 *e*P P 10 48 31.6 -2.3
comp=Z,59nm,1.2s
CPCT **Cooper Cave** 27.21 66 *e*P P 10 48 36.1 -1.2
EYMN **Ely** 27.32 36 *e*P P 10 48 36.1 -2.0
comp=Z,104nm,2.2s
COWI **Conover** 27.56 42 *e*P P 10 48 38.7 -1.6
comp=Z,18nm,1.1s
TKL **Tuckaleechee C** 27.84 66 P P 10 48 41.6 -1.4
comp=Z,6.3nm,0.8s,baz=244,slow=4.7,SNR=6.7
GOGA **Godfrey** 27.89 71 *e*P P 10 48 41.9 -1.6
GOGA pmax pmax
comp=Z,27nm,1.0s
GOGA **Godfrey** 27.89 71 *e*P P 10 48 41.9 -1.6
comp=Z,27nm,1.0s
FFC **Flin Flon** 28.59 16 *e*P P 10 48 47.8 -1.6
FFC pmax pmax
comp=Z,5.0nm,0.9s
FFC **Flin Flon** 28.59 16 *e*P P 10 48 47.8 -1.6
comp=Z,4.6nm,0.9s
ACSO **Alum Creek Sta** 29.34 57 *e*P P 10 48 55.7 -0.6
comp=Z,94nm,0.9s
AAM **Ann Arbor** 29.46 52 *e*P P 10 48 56.4 -0.9
AAM pmax pmax
comp=Z,40nm,0.8s
AAM **Ann Arbor** 29.46 52 *e*P P 10 48 56.4 -0.9
comp=Z,40nm,0.8s
KMSC **Kings Mountain** 29.77 67 *e*P P 10 48 59.4 -0.7
comp=Z,34nm,0.8s
DLBC **Dease Lake** 32.28 346 *e*P P 10 49 23.8 +1.7
comp=Z,7.3nm,0.8s
SSPA **Standing Stone** 33.23 58 *e*P P 10 49 29.4 -1.0
comp=Z,34nm,0.9s
CBN **Corbin Frederi** 33.25 62 *e*P P 10 49 29.3 -1.4
comp=Z,21nm,0.9s
JTS **JuntasAbangare** 33.43 115 *e*P P 10 49 32.6 +0.1
JTS **JuntasAbangare** 33.43 115 *e*P P 10 49 32.5 +0.1
FCC **Fort Churchill** 34.26 20 *e*P P 10 49 37.3 -1.9
FCC pmax pmax
comp=Z,15nm,1.4s
FCC **Fort Churchill** 34.26 20 *e*P P 10 49 37.2 -1.9
comp=Z,15nm,1.4s
YKA **Yellowknife Ar** 34.68 1 P P 10 49 41.7 -1.1
comp=Z,2.6nm,0.9s,baz=176,slow=8.9,SNR=38
YKA PcP PcP 10 52 17.0 +0.4
comp=Z,2.1nm,1.1s,baz=175,slow=2.7,SNR=9.0
BINY **Binghamton** 34.93 55 *e*P P 10 49 44.1 -1.2
comp=Z,75nm,1.1s
ODNJ **Ogdensburg** 35.75 58 *e*P P 10 49 50.8 -1.6
comp=Z,33nm,1.0s
PTN **Potsdam (NY)** 36.16 52 *e*P P 10 49 55.4 -0.4
PTN **Potsdam (NY)** 36.16 52 *e*P P 10 49 55.4 -0.4
HYT **Haines Junctio** 36.24 342 *e*P P 10 49 58.3 +1.8
PAL **Palisades** 36.27 58 *e*P P 10 49 55.7 -1.0
PAL **Palisades** 36.27 58 *e*P P 10 49 55.7 -1.0
LONY **Lake Ozonia** 36.45 52 *e*P P 10 49 57.7 -0.6
comp=Z,40nm,1.0s
TRY **Troy** 36.72 55 *e*P P 10 49 59.5 -1.1
comp=Z,34nm,1.1s
ACCN **Adirondack Com** 36.84 54 *e*P P 10 50 00.7 -0.9
comp=Z,61nm,1.3s
MDV **Middlebury** 37.30 53 *e*P P 10 50 04.7 -0.8
RAGM **Ragged Mountai** 38.16 337 *e*P P 10 50 15.2 +2.6
BMRM **Bremner River** 38.55 337 *e*P P 10 50 18.3 +2.3
comp=Z,15nm,1.2s
EYAK **Cordova Ski Ar** 38.65 336 *e*P P 10 50 19.2 +2.6
DAWY **Dawson** 39.42 344 *e*P P 10 50 24.6 +1.5
comp=Z,20nm,1.4s
KDAK **Kodiak Island** 39.69 329 *e*P P 10 50 27.1 +1.8
KDAK pmax pmax
comp=Z,72nm,1.8s
KDAK **Kodiak Island** 39.69 329 *e*P P 10 50 27.1 +1.8
comp=Z,72nm,1.8s
SEW **Seward** 39.73 334 *e*P P 10 50 27.3 +1.6
comp=Z,48nm,1.4s
WVL **Waterville** 39.89 53 *e*P P 10 50 27.1 -0.1
comp=Z,97nm,1.1s
PAX **Paxson** 40.29 339 *e*P P 10 50 32.0 +1.6
PAX pmax pmax
comp=Z,8.0nm,1.1s
PAX **Paxson** 40.29 339 *e*P P 10 50 31.9 +1.6
comp=Z,8.2nm,1.1s
DOT **Dot Lake** 40.36 341 *e*P P 10 50 32.1 +1.1
comp=Z,6.1nm,0.8s
EGAK **Eagle** 40.45 343 *e*P P 10 50 32.9 +1.3
comp=Z,13nm,1.3s
RC01 **Rabbit Creek A** 40.47 335 *e*P P 10 50 33.6 +1.7
PMR **Palmer** 40.57 336 *e*P P 10 50 33.9 +1.2
PMR pmax pmax
comp=Z,19nm,1.0s
PMR **Palmer** 40.57 336 *e*P P 10 50 33.9 +1.2
comp=Z,19nm,1.0s
RSO **Redoubt South** 41.27 333 *e*P P 10 50 40.4 +1.7
PQI **Presque Isle** 41.38 50 *e*P P 10 50 39.0 -0.6
comp=Z,57nm,1.0s
SPU **Mount Spurr** 41.41 334 *e*P P 10 50 41.1 +1.4
MCK **McKinley** 41.94 338 *e*P P 10 50 45.1 +1.2
MCK pmax pmax
comp=Z,19nm,1.1s
MCK **McKinley** 41.94 338 *e*P P 10 50 45.1 +1.2
comp=Z,19nm,1.1s
INK **Inuvik** 41.95 350 P P 10 50 44.5 +0.6
comp=Z,12nm,1.2s,baz=158,slow=9.2,SNR=12
INK **Inuvik** 41.95 350 *e*P P 10 50 44.3 +0.5
INK pmax pmax
comp=Z,16nm,1.3s
INK **Inuvik** 41.95 350 *e*P P 10 50 44.3 +0.5
comp=Z,16nm,1.3s
ILAR **Eielson Array** 42.03 340 P P 10 50 45.4 +0.8
comp=Z,8.0nm,0.8s,baz=153,slow=7.2,SNR=111
ILAR PcP PcP 10 52 40.3 +0.9
comp=Z,1.0nm,0.9s,baz=198,slow=1.7,SNR=4.4
TRF **Thorofare Moun** 42.20 337 *e*P P 10 50 47.3 +1.0
comp=Z,22nm,0.9s
COLA **College** 42.39 340 ⇑*i*P P 10 50 48.6 +1.1
COLA **College** 42.39 340 *e*P P 10 50 48.2 +0.7
comp=Z,11nm,1.0s
KTH **Kantishna Hill** 42.48 337 *e*P P 10 50 48.6 +0.2
comp=Z,21nm,0.9s
PPLA **Purkeypile** 42.51 336 *e*P P 10 50 50.0 +1.3
comp=Z,49nm,0.9s
SVW2 **Sparrevohn** 42.77 332 *e*P P 10 50 51.4 +0.6
SCHQ **Schefferville** 44.08 39 P P 10 51 00.5 -0.9
comp=Z,29nm,1.0s,baz=252,slow=7.4,SNR=17
SCHQ LR LR 11 09 09.8
comp=Z,473nm,19.2s,baz=258,slow=36
SCHQ **Schefferville** 44.08 39 *e*P P 10 51 00.0 -1.3
comp=Z,50nm,1.1s
OTAV **Otavalo** 44.71 122 *e*P P 10 51 09.7 +2.3
comp=Z,24nm,1.1s
COLD **Coldfoot** 44.73 342 *e*P P 10 51 07.9 +1.5
comp=Z,12nm,1.1s
IM04 **Indian Mountai** 44.97 339 *e*P P 10 51 09.0 +0.6

ROSC **El Rosal** 45.14 113 P P 10 51 12.0 +1.3
comp=Z,3.1nm,0.4s,baz=319,slow=7.3,SNR=6.3
CELP **Cerrillos** 45.66 91 *e*P P 10 51 13.6 -0.8
SJG **San Juan** 46.02 91 *e*P P 10 51 16.7 -0.5
SJG pmax pmax
comp=Z,30nm,1.1s
SJG **San Juan** 46.02 91 *e*P P 10 51 16.7 -0.5
comp=Z,30nm,1.1s
SDV **Santo Domingo** 46.08 105 *e*P P 10 51 17.4 -0.5
comp=Z,37nm,1.0s
RES **Resolute Bay** 48.08 7 P P 10 51 31.5 -1.0
comp=Z,4.8nm,1.1s,baz=204,slow=10.0,SNR=7.4
RES PcP PcP 10 53 00.2 +0.1
comp=Z,6.0nm,1.1s,baz=210,slow=5.8,SNR=6.8
RES **Resolute Bay** 48.08 7 *e*P P 10 51 31.6 -1.0
RES 10 53 00.2
RES pmax pmax
comp=Z,9.0nm,1.3s
RES **Resolute Bay** 48.08 7 *e*P P 10 51 31.6 -1.0
comp=Z,8.7nm,1.3s
RES PcP PcP 10 53 00.2 +0.1
NNA **Nana** 54.35 132 P P 10 52 22.4 +1.9
comp=Z,20nm,1.0s,baz=314,slow=9.6,SNR=3.9
SFJD **Kangerlussuaq** 54.85 26 *i*P P 10 52 23.0 -0.3
comp=Z,22nm,1.1s
SFJD **Kangerlussuaq** 54.85 26 P P 10 52 23.0 -0.3
comp=Z,12nm,0.8s,baz=260,slow=11,SNR=6.8
SFJD **Kangerlussuaq** 54.85 26 *i*P P 10 52 23.0 -0.3
SFJD pmax pmax
comp=Z,22nm,1.1s
SFJD **Kangerlussuaq** 54.85 26 *e*P P 10 52 22.6 -0.7
comp=Z,12nm,0.9s
SUMG **Summit** 59.78 20 ⇓*i*P P 10 52 57.6 -1.0
comp=Z,11nm,0.9s
SUMG **Summit** 59.78 20 ⇓*i*P P 10 52 57.6 -1.0
SUMG pmax pmax
comp=Z,11nm,0.9s
SUMG **Summit** 59.78 20 *e*P P 10 52 57.5 -1.1
comp=Z,13nm,1.2s
LPAZ **La Paz** 63.33 128 P P 10 53 24.4 +0.8
comp=Z,4.7nm,1.0s,baz=297,slow=7.5,SNR=4.4
PETK **Petropavlovsk-** 66.52 319 P P 10 53 44.2 +1.0
comp=Z,6.2nm,0.9s,baz=95,slow=11,SNR=5.6
SEY **Seymchan** 66.64 330 P P 10 53 43.5 -0.3
comp=Z,3.1nm,0.8s,baz=73,slow=5.4,SNR=7.7
SIV **San Ignacio** 68.23 123 P P 10 53 54.0 -0.5
comp=Z,11nm,0.9s,baz=308,slow=4.9,SNR=6.0
H11N3 **WAKE ISLAND Hy** 70.60 283 T T 12 11 12.7
baz=65,slow=74,SNR=29
H11N2 **WAKE ISLAND Hy** 70.60 283 T T 12 11 13.1
baz=65,slow=74,SNR=22
H11N1 **WAKE ISLAND Hy** 70.61 283 T T 12 11 14.0
baz=65,slow=74,SNR=23
H11S1 **WAKE ISLAND Hy** 71.26 281 T T 12 12 04.4
baz=62,slow=74,SNR=4.1
H11S2 **WAKE ISLAND Hy** 71.26 281 T T 12 12 04.2
baz=62,slow=74,SNR=4.0
H11S3 **WAKE ISLAND Hy** 71.28 281 T T 12 12 08.5
baz=62,slow=74,SNR=4.0
TIXI **Tiksi** 71.45 342 ⇓*e*P P 10 54 12.9 -0.6
TIXI pmax pmax
comp=Z,34nm,2.0s
TIXI **Tiksi** 71.45 342 *e*P P 10 54 13.2 -0.3
comp=Z,16nm,1.0s
YAK **Yakutsk** 76.53 334 P P 10 54 42.7 -0.7
comp=Z,6.0nm,0.5s,baz=100,slow=1.4,SNR=2.8
YAK **Yakutsk** 76.53 334 *e*P P 10 54 46.0 +2.6
YAK pmax pmax
comp=Z,10.0nm,1.1s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.2s
CPUP **Villa Florida** 77.48 129 P P 10 54 49.1 0.0
comp=E,4.5nm,1.1s,baz=315,slow=19,SNR=3.5
ARCES **ARCESS Array B** 78.86 13 P P 10 54 55.8 -0.5
comp=E,5.3nm,0.8s,baz=317,slow=5.1,SNR=7.7
EKA **Eskdalemuir Ar** 79.03 33 P P 10 54 57.0 -0.5
comp=E,2.9nm,0.8s,baz=302,slow=5.0,SNR=7.3
EKA **Eskdalemuir Ar** 79.03 33 P P 10 54 57.0 -0.5
ASAJ **Asahikawa** 79.14 314 P P 10 54 59.3 +1.0
comp=E,13nm,1.0s,baz=233,slow=10,SNR=5.4
PLCA **Paso Flores** 79.85 147 P P 10 55 05.1 +3.1
comp=E,8.1nm,0.9s,baz=348,slow=6.6,SNR=4.5
NB2 **NORSAR Subarra** 81.43 23 P P 10 55 10.4 +0.1
comp=E,6.6nm,1.4s,baz=311,slow=5.6
NOA **NORSAR Array B** 81.43 23 P P 10 55 10.7 +0.4
comp=Z,8.0nm,1.1s,baz=312,slow=5.3,SNR=6.3
LVZ **Lovozero** 81.98 11 *e*P P 10 55 13.9 +0.8
LVZ pmax pmax
comp=Z,37nm,1.7s
QUIF **Quistinic** 83.17 39 *e*P P 10 55 19.1 -0.5
comp=Z,242nm,1.7s
QUIF **Quistinic** 83.17 39 *e*P P 10 55 19.1 -0.5
QUIF pmax pmax
comp=Z,242nm,1.7s
QUIF **Quistinic** 83.17 39 *e*P P 10 55 19.1 -0.5
comp=Z,242nm,1.7s
MUD **Monsted U'grnd** 83.81 27 *i*P P 10 55 23.4 +0.7
comp=Z,33nm,1.2s
MUD **Monsted U'grnd** 83.81 27 *e*P P 10 55 23.4 +0.7
MUD pmax pmax
comp=Z,33nm,1.2s
FLN **La Foliniere** 84.14 37 *e*P P 10 55 24.5 -0.1
comp=Z,52nm,1.2s
FLN **La Foliniere** 84.14 37 *e*P P 10 55 24.5 -0.1
FLN pmax pmax
comp=Z,52nm,1.2s
FLN **La Foliniere** 84.14 37 *e*P P 10 55 24.5 -0.1
comp=Z,52nm,1.2s
GRR **Gorron** 84.16 38 *e*P P 10 55 23.9 -0.8
GRR **Gorron** 84.16 38 *e*P P 10 55 23.9 -0.8
GRR **Gorron** 84.16 38 *e*P P 10 55 23.9 -0.8
LDF **La Druitiere** 84.44 37 *e*P P 10 55 25.6 -0.5
comp=Z,64nm,1.4s
LDF **La Druitiere** 84.44 37 *e*P P 10 55 25.6 -0.5
LDF pmax pmax
comp=Z,64nm,1.4s
LDF **La Druitiere** 84.44 37 *e*P P 10 55 25.6 -0.5
comp=Z,64nm,1.4s
BOD **Bodaibo** 85.23 336 *e*P P 10 55 22.0 -7.9
BOD *e* 10 55 28.0
BOD pmax pmax
comp=Z,11nm,1.2s
EVOP **Sao Brissos** 85.25 49 *e*P P 10 55 30.2 -0.2
EVOP pmax pmax
comp=Z,93nm,1.2s
EVOP **Sao Brissos** 85.25 49 *e*P P 10 55 30.2 -0.2
comp=Z,93nm,1.2s
EVO **Evora** 85.32 49 *e*P P 10 55 30.2 -0.6
comp=Z,93nm,1.2s
MFF **Saint Martin d** 85.61 39 *e*P P 10 55 31.8 -0.2
comp=Z,94nm,1.5s
MFF **Saint Martin d** 85.61 39 *e*P P 10 55 31.8 -0.2
MFF pmax pmax
comp=Z,94nm,1.5s
MFF **Saint Martin d** 85.61 39 *e*P P 10 55 31.8 -0.2
comp=Z,94nm,1.5s
USRK **Ussuriysk Ar.** 85.61 318 P P 10 55 32.7 +0.7
comp=Z,5.0nm,0.8s,baz=73,slow=13,SNR=9.3
FINES **FINESS Array B** 85.72 18 P P 10 55 32.5 +0.2
comp=Z,6.3nm,1.0s,baz=32,slow=9.0,SNR=11
BAIF **Baives** 85.77 34 *e*P P 10 55 32.3 -0.4
comp=Z,52nm,1.3s
BAIF **Baives** 85.77 34 *e*P P 10 55 32.3 -0.4
BAIF pmax pmax
comp=Z,52nm,1.3s
BAIF **Baives** 85.77 34 *e*P P 10 55 32.3 -0.4
comp=Z,52nm,1.3s
MJAR **Matsushiro Arr** 85.83 309 P P 10 55 33.7 +0.4
comp=Z,3.6nm,0.8s,baz=54,slow=3.6,SNR=15
MAJO **Matsushiro** 85.83 309 ⇑*e*P P 10 55 33.9 +0.6
MAJO pmax pmax
comp=Z,128nm,1.9s
MAJO **Matsushiro** 85.83 309 *e*P P 10 55 33.8 +0.4
comp=Z,8.3nm,0.8s
GIVF **Givet** 86.05 34 *e*P P 10 55 32.7 -1.4
comp=Z,26nm,1.0s
GIVF **Givet** 86.05 34 *e*P P 10 55 32.7 -1.4
GIVF pmax pmax
comp=Z,26nm,1.0s
GIVF **Givet** 86.05 34 *e*P P 10 55 32.7 -1.4
comp=Z,26nm,1.0s
TCF **Toulx Ste Croi** 87.09 38 *e*P P 10 55 38.2 -1.2
TCF **Toulx Ste Croi** 87.09 38 *e*P P 10 55 38.2 -1.2
TCF **Toulx Ste Croi** 87.09 38 *e*P P 10 55 38.2 -1.2
SSF **Saint Saulge** 87.31 37 *e*P P 10 55 39.3 -1.1

SSF **Saint Saulge** 87.31 37 *e*P P 10 55 39.3 -1.1
SSF **Saint Saulge** 87.31 37 *e*P P 10 55 39.3 -1.1
ESDC **Sonseca Array** 87.34 46 P P 10 55 39.6 -1.2
comp=Z,0.4nm,0.5s,baz=297,slow=6.4,SNR=3.8
LOR **Lormes** 87.36 37 *e*P P 10 55 38.6 -2.0
comp=Z,18nm,1.0s
LOR **Lormes** 87.36 37 *e*P P 10 55 38.6 -2.0
LOR pmax pmax
comp=Z,18nm,1.0s
LOR **Lormes** 87.36 37 *e*P P 10 55 38.6 -2.0
comp=Z,18nm,1.0s
PAGF **Fort de Pagny** 87.50 35 *e*P P 10 55 39.5 -1.8
comp=Z,12nm,1.4s
PAGF **Fort de Pagny** 87.50 35 *e*P P 10 55 39.5 -1.8
comp=Z,12nm,1.4s
HAU **Haudompre** 88.17 35 *e*P P 10 55 43.5 -1.0
HAU **Haudompre** 88.17 35 *e*P P 10 55 43.5 -1.0
HAU **Haudompre** 88.17 35 *e*P P 10 55 43.5 -1.0
BFO **Black Forest** 88.95 34 *i*P P 10 55 47.5 -0.7
HIA **Hailar** 88.95 328 *i*P P 10 55 42.4 -5.8
HIA pmax pmax
comp=Z,3.0nm,0.8s
CLL **Collm** 89.04 30 *e*P P 10 55 47.0 -1.5
CLL LmH 11 55 00.0
comp=N,300nm,19.6s
CLL LmH 11 55 00.0
comp=E,300nm,21.5s
CLL LmV 11 56 00.0
comp=Z,400nm,19.2s
CLL LmV 12 50 00.0
comp=Z,300nm,20.0s
CLL **Collm** 89.04 30 *e*P P 10 55 47.0 -1.5
KLMR **Klimovskoe** 89.29 12 *e*P P 10 55 49.0 -0.4
KLMR pmax pmax
comp=Z,15nm,1.8s
PRGR **Permogore** 89.53 9 *e*P P 10 55 50.5 -0.1
PRGR pmax pmax
comp=Z,8.0nm,0.8s
CN2 **Changchun** 89.61 321 *e*P P 10 55 50.4 -0.9
GERES **GERESS Array B** 91.13 31 P P 10 55 56.9 -1.6
comp=Z,0.4nm,0.6s,baz=327,slow=2.2,SNR=3.5
DPC **Dobruska-Polom** 91.17 29 *e*P P 10 55 57.7 -0.8
DPC **Dobruska-Polom** 91.17 29 *e*P P 10 55 57.7 -0.8
EFI **East Falkland** 93.72 148 *i*P P 10 56 08.7 -1.1
TLY **Talaya** 93.76 337 P P 10 56 11.9 +1.5
comp=Z,2.5nm,0.8s,baz=1.7,slow=5.5,SNR=5.0
TLY **Talaya** 93.76 337 *e*P P 10 56 12.1 +1.7
TLY pmax pmax
comp=Z,6.0nm,1.1s
TLY **Talaya** 93.76 337 *e*P P 10 56 11.1 +0.6
comp=Z,6.5nm,1.1s
OBN **Obninsk** 93.94 16 *e*P P 10 56 10.8 -0.3
OBN pmax pmax
comp=Z,21nm,1.8s
OBN MLR MLR
comp=Z,153nm,20.0s
KECS **Kecovo** 94.35 28 *e*P P 10 56 16.4 +3.2
KECS **Kecovo** 94.35 28 *e*pP P 10 56 16.4 +3.2
KOLS **Kolonicke sedl** 94.71 27 *e*P P 10 56 12.9 -1.9
KOLS **Kolonicke sedl** 94.71 27 *e*P P 10 56 12.9 -1.9
ULN **Ulaanbaatar** 95.59 333 ⇑*e*P P 10 56 19.8 +0.7
ULN pmax pmax
comp=Z,5.0nm,1.3s
AKASG **Malin Array Be** 95.76 22 P P 10 56 18.1 -1.4
comp=Z,0.1nm,0.3s,baz=308,slow=3.3,SNR=5.4
SONM **Songino Array** 95.88 333 P P 10 56 21.0 +0.7
comp=Z,2.1nm,0.8s,baz=359,slow=7.2,SNR=4.0
ARU **Arti** 95.92 3 *d*/*i*P P 10 56 20.3 +0.1
ARU 11 00 13.5
ARU S SKSac 11 06 56.7 +0.1
ARU SS SS 11 14 08.9 +2.1
ARU pmax pmax
comp=Z,9.0nm,1.2s
ARU **Arti** 95.92 3 *e*P P 10 56 20.5 +0.3
comp=Z,5.9nm,0.9s
ZALV **Zalesovo Beam** 96.73 348 P P 10 56 24.0 +0.2
comp=Z,1.0nm,0.6s,baz=5.7,slow=3.0,SNR=5.6
ZALV **Zalesovo Beam** 96.73 348 *i*P P 10 56 24.2 +0.3
ZALV pmax pmax
comp=Z,1.0nm,0.5s
HVS **Khovu-Aksy** 97.33 342 *i*P P 10 56 26.9 +0.1
HVS pmax pmax
comp=Z,379nm,1.0s
HHC **Hu-ho-hao-te** 99.03 326 *e*P Pdif 10 56 33.0 -1.7
HHC pP pP 10 56 37.8 -0.2
HHC sP sP 10 56 40.4 +1.2
HHC PP PP 11 00 37.3 +1.4
HHC SKS SKSac 11 07 09.8 -3.6
HHC S S 11 07 59.9 -5.9
HHC LN
comp=Z,150nm,19.1s
HHC LE
comp=Z,290nm,22.6s
HHC LZ
comp=Z,170nm,18.6s
BVAR **Borovoye Array** 99.34 357 P Pdif 10 56 35.9 +0.2
comp=Z,1.0nm,0.3s,baz=35,slow=5.3,SNR=2.4
NJ2 **Nanjing** 101.26 315 *e*P Pdif 10 56 44.0 -0.6
CD2 **Chengdu** 110.72 325 *e*PKP PKiKP 11 01 25.9 -1.0
KSH **Kashi** 112.19 351 *e*PKP PKiKP 11 01 30.4 +0.9
KSH PP PP 11 02 22.0 +9.3
KSH PKS PKSdf 11 05 05.8 -0.6
KSH SKKS 11 09 15.2
KSH LN
comp=Z,72nm,4.2s
KSH LE
comp=Z,130nm,4.6s
KSH LZ
comp=Z,190nm,9.0s
KMI **Kunming** 115.87 322 PKP PKPdf 11 01 34.3 -2.8
WRA **Warramunga Arr** 116.57 260 PKP PKPdf 11 01 39.0 +0.9
comp=Z,0.8nm,0.9s,baz=61,slow=2.2,SNR=8.7
ASAR **Alice Springs** 118.27 257 PKP PKPdf 11 01 42.0 +0.6
comp=Z,0.5nm,0.8s,baz=87,slow=2.4,SNR=5.7
ASAR PKKPbc PKKPab 11 12 02.0 +0.2
comp=Z,0.8nm,0.9s,baz=242,slow=4.4,SNR=7.0
ASAR **Alice Springs** 118.27 257 PKIKP PKPdf 11 01 42.0 +0.6
CMAR **Chiang Mai Arr** 123.29 320 PKP PKPdf 11 01 52.8 +1.5
comp=Z,1.1nm,0.3s,baz=324,slow=1.6,SNR=11
CMAR **Chiang Mai Arr** 123.29 320 *c*/*i*PKIKP PKPdf 11 01 52.7 +1.5
CMAR pmax pmax
comp=Z,1.0nm,0.3s
NVL **N'lazarevskaya** 127.97 160 *i*PKIKP PKPdf 11 01 53.8 -4.7
NVL *e*SSS SSS 11 09 04.9
LSZ **Lusaka** 143.96 77 *e*PKIKP PKPbc 11 02 28.6 +0.9
LSZ **Lusaka** 143.96 77 *e*PKPdf PKPbc 11 02 28.6 +0.9
LBTB **Lobatse** 144.97 95 *e*PKIKP PKPab 11 02 30.6 -0.1
LBTB **Lobatse** 144.97 95 *e*PKPdf PKPab 11 02 30.6 -0.1

GUC ***09*** *10:44:49.2±0.5, 37.°60S×74.°58W, h35km±3km, ML5.2*
IDC ***09*** *10:44:53.4±0.5, 37.°52S×73.°89W, h0km, mb4.6/15, mb1 4.7/20, mb1mx4.6/22, mbtmp4.6/20, ML3.9/4, MS5.1/7, Ms1 5.0/7, ms1mx4.6/18, Error ellipse: s-maj=16.3km s-min=11.9km az=85.0*
ISCJB ***09*** *10:44:54.3±0.2, 37.°45S±0.°03×73.°73W±0.°05, h10km, mb4.9/81, MS5.0/11, Error ellipse: s-maj=5.8km s-min=4.7km az=1.5*
BJI ***09*** *10:44:58.0, 37.°55S×73.°76W, h33km, mB5.2/15, Ms5.5/12, Ms7 5.3/12*
MOS ***09*** *10:44:58.1±1.2, 37.°47S×73.°63W, h33km, mb5.2/30, Error ellipse: s-maj=17.0km s-min=8.4km az=98.6*
NEIC ***09*** *10:44:59.5±1.0, 37.°51S×73.°62W, h37km±8km, mb4.9/68, ML5.2(GUC), Error ellipse: s-maj=10.1km s-min=5.3km az=77.0*
NEIC Felt [II] at Curanilahue and Lebu. Also felt at Canete and Curico.

ISC 09 10:44:55.1±0.3, 37.°54S±0.°04×73.°78W±0.°06, h10km, n418, σ1°32/435, mb4.9/82, MS5.0/11, 3C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.88**	**38**	*e*P	**Pn**		**10 45 13.2**	**-0.2**
CCSP				*e*S	**Sn**		**10 45 31.5**	**+5.3**
CCSP				AML	AML		10 45 37.5	
	comp=E,67μm,0.4s							
VLCH	**Valdivia**	**2.31**	**170**	*e*P	Pn		10 45 27.8	-5.3
VLCH				*e*S	**Sn**		**10 45 57.0**	**-4.6**
LNCH	**Linares**	**2.43**	**47**	*e*P	**Pn**		**10 45 35.2**	**+0.3**
LNCH				*e*S	**Sb**		**10 46 09.0**	**+0.1**
TALC	**Talca**	**2.75**	**40**	*e*P	**Pn**		**10 45 37.0**	**-2.2**

TALC eS Sn 10 46 14.6 +2.1
NICH Los Niches 3.26 40 eP Pn 10 45 45.6 -0.7
PMCH Puerto Montt 4.01 170 eP Pn 10 45 49.3 -7.2
PLCA Paso Flores 4.06 143 Pn Pn 10 45 58.5 +1.2
comp=E,2.3nm,0.3s,baz=318,slow=14,SNR=86
PLCA Pg Pb 10 46 09.0 +2.2
comp=E,22nm,0.3s,baz=307,slow=17,SNR=32
PLCA Lg Lg 10 47 04.1
comp=E,38nm,0.3s,baz=15,slow=18,SNR=4.7
PLCA Paso Flores 4.06 143 eP Pn 10 45 59.1 +1.7
PLCA Paso Flores 4.06 143 eP Pn 10 45 56.8 -0.6
PLCA Paso Flores 4.06 143 ePn Pn 10 45 59.1 +1.7
PLCA Lg Lg 10 47 04.1
SAN Santiago 4.80 33 eP Pn 10 46 06.1 -1.4
IHA Instituto Hidr 4.83 22 eP Pn 10 46 05.2 -2.6
CLCH Cerro Calan 4.91 34 eP Pn 10 46 09.3 +0.3
ROCH El Roble 5.09 27 eP Pn 10 46 09.1 -2.5
CFAA Coronel Fontan 7.48 39 Pn Pn 10 46 44.0 -0.3
comp=E,0.8nm,0.3s,baz=213,slow=12,SNR=75
CFAA Sn Sn 10 48 10.2 +1.1
comp=E,0.9nm,0.3s,baz=208,slow=23,SNR=1.4
CFAA Lg Lg 10 48 50.5
comp=E,0.2nm,0.3s,baz=324,slow=7.5,SNR=4.1
CFAA LR LR 10 50 06.7
comp=E,892nm,21.5s,baz=225,slow=42
CFAA Coronel Fontan 7.48 39 Pn Pn 10 46 44.0 -0.3
CFAA Sn Sn 10 48 10.2 +1.1
CFAA Lg Lg 10 48 50.5
TLL Tololo Astrono 7.75 19 eP Pn 10 46 46.6 -1.6
COYC Coyhaique 8.13 172 eP Pn 10 46 53.3 +0.2
LCO Las Campanas 8.88 18 eP Pn 10 47 01.3 -2.4
LCO Las Campanas 8.88 18 ePn Pn 10 47 02.2 -1.5
LCO eSn Sn 10 48 43.2 -0.8
TRQA Tornquist 9.36 97 ePn Pn 10 47 12.1 +2.0
PB06 IPOC Station P 15.22 15 eP Pn 10 48 26.0 -4.2
LVC Limon Verde 15.46 17 Pn Pn 10 48 33.1 -0.3
comp=E,14nm,0.3s,baz=231,slow=18,SNR=7.8
LVC LR LR 10 54 25.4
comp=E,11µm,21.0s,baz=202,slow=37
LVC Limon Verde 15.46 17 ePn Pn 10 48 33.3 -0.1
comp=E,86nm,1.1s
PB04 IPOC Station P 15.66 15 eP Pn 10 48 32.0 -3.9
PB07 IPOC Station P 16.11 13 eP Pn 10 48 40.2 -1.6
PB01 IPOC Station P 16.85 14 eP Pn 10 48 50.1 -1.1
PATCX Punta Patache 16.95 12 eP Pn 10 48 51.9 -0.6
USHA Ushuaia 17.68 170 Pn P 10 49 01.7 -0.4
comp=E,0.3nm,0.3s,baz=332,slow=9.7,SNR=7.6
USHA LR LR 10 56 31.0
comp=E,4µm,18.1s,baz=322,slow=39
USHA Ushuaia 17.68 170 Pn P 10 49 01.7 -0.4
CPUP Villa Florida 17.86 56 P P 10 49 04.3 +0.1
comp=E,0.2nm,0.3s,baz=232,slow=11,SNR=12
CPUP LR LR 10 56 26.3
comp=E,14µm,18.2s,baz=234,slow=39
CPUP Villa Florida 17.86 56 eP Pn 10 49 03.4 -0.2
CPUP pmax pmax
comp=Z,1.0nm,1.1s
CPUP Villa Florida 17.86 56 ePn Pn 10 49 03.4 -0.2
comp=Z,1.2nm,1.1s
EFI East Falkland 17.97 147⇑ eP P 10 49 05.2 -0.2
EFI pmax pmax
comp=Z,545nm,1.2s
EFI East Falkland 17.97 147 eP Pn 10 49 04.9 +0.1
comp=Z,130nm,0.8s
PSGC Pisagua 18.16 11 eP Pn 10 49 05.2 -2.3
LPAZ La Paz 21.75 15 P P 10 49 48.6 +1.2
comp=Z,28nm,0.9s,baz=184,slow=6.6,SNR=51
LPAZ La Paz 21.75 15 eP P 10 49 49.3 +1.9
LPAZ pmax pmax
comp=Z,11nm,1.2s
LPAZ La Paz 21.75 15 eP P 10 49 49.3 +1.9
comp=Z,11nm,1.2s
SIV San Ignacio 24.23 31 P P 10 50 12.1 0.0
comp=Z,13nm,0.9s,baz=227,slow=12,SNR=23
SIV LR LR 11 01 37.5
comp=Z,4µm,19.5s,baz=222,slow=41
SIV San Ignacio 24.23 31 P P 10 50 12.1 0.0
NNA Nana 25.59 353 P P 10 50 24.8 +0.3
comp=Z,4.3nm,0.5s,baz=225,slow=8.6,SNR=2.5
NNA Nana 25.59 353 P P 10 50 24.8 +0.3
NNA Nana 25.59 353 P P 10 50 24.8 +0.3
SAML Samuel 30.03 21 eP P 10 51 03.9 -0.3
comp=Z,36nm,1.3s
BDFB Brasilia 31.54 53 P P 10 51 17.6 -0.1
comp=Z,14nm,0.9s,baz=214,slow=6.3,SNR=13
BDFB LR LR 11 05 20.1
comp=Z,3µm,18.1s,baz=224,slow=39
BDFB Brasilia 31.54 53 P P 10 51 17.6 -0.1
BDFB Brasilia 31.54 53 P P 10 51 17.6 -0.1
OTAV Otavalo 37.83 352 eP P 10 52 14.9 +2.5
comp=Z,31nm,1.3s
PTGA Pitinga 38.78 22 eP P 10 52 19.9 -0.1
comp=Z,24nm,1.1s
ROSC El Rosal 42.18 359 P P 10 52 48.5 0.0
comp=Z,4.2nm,0.5s,baz=107,slow=19,SNR=1.9
ROSC El Rosal 42.18 359 P P 10 52 48.5 0.0
SDV Santo Domingo 46.27 4 eP P 10 53 20.1 -0.9
comp=Z,16nm,1.0s
VNA3 Neumayer Olymp 46.66 156 P P 10 53 24.5 +1.1
RCBR Riachuelo 46.73 57 P P 10 53 25.0 +0.4
comp=Z,31nm,1.1s,baz=206,slow=7.2,SNR=6.2
RCBR Riachuelo 46.73 57 eP P 10 53 26.6 +2.1
comp=Z,50nm,1.3s
VNA1 Neumayer--Stat 47.02 156 P P 10 53 27.5 +1.5
VNA2 Neumayer--Watz 47.34 156 P P 10 53 29.8 +1.2
baz=283,slow=8.6
SNAA Sanae 48.88 157 P P 10 53 41.5 +0.9
SNAA Sanae 48.88 157 eP P 10 53 40.6 0.0
SNAA pmax pmax
comp=Z,73nm,1.2s
SNAA Sanae 48.88 157 eP P 10 53 40.6 0.0
comp=Z,73nm,1.2s
GRGR Grenville 50.70 15 eP P 10 53 56.2 +1.3
comp=Z,179nm,1.0s
QSPA South Pole Qui 52.71 180 eP P 10 54 10.6 +1.0
comp=Z,56nm,1.1s
FDF Fort de France 53.33 15 eP P 10 54 14.9 +0.4
FDF pmax pmax
comp=Z,66nm,1.1s
FDF Fort de France 53.33 15 eP P 10 54 14.9 +0.4
comp=Z,66nm,1.1s
NVL N'lazarevskaya 53.66 156‖ i/P P 10 54 07.8 -8.5
NVL e*PP pP 10 54 17.1 -2.4
NVL pmax pmax
comp=Z,19nm,0.8s
RKT Rikitea 53.87 267 eLR LR 11 10 02.3
comp=Z,1µm,26.8s,baz=126
RKT Rikitea 53.87 267 eT T 11 52 19.1
comp=Z,1.2nm,0.2s
CRPR Cabo Rojo, PR 55.60 8 eP P 10 54 30.4 -0.5
CELP Cerrillos 55.73 8 eP P 10 54 31.6 -0.2
SJG San Juan 55.81 9 eP P 10 54 31.7 -0.8
SJG San Juan 55.81 9 eP P 10 54 31.6 -0.8
LRS Lares 55.91 8 eP P 10 54 32.1 -1.1
SBA Scott Base 59.33 192 eP P 10 55 00.2 +3.6
SBA pmax pmax
comp=Z,114nm,2.3s
SBA Scott Base 59.33 192 eP P 10 55 00.2 +3.6
comp=Z,114nm,2.3s
VNDA Vanda 60.36 192 P P 10 55 04.8 +1.1
comp=Z,1.1nm,0.9s,baz=130,slow=1.2,SNR=4.1
VNDA Vanda 60.36 192 eP P 10 55 04.8 +1.1
VNDA pmax pmax
comp=Z,18nm,1.6s
VNDA Vanda 60.36 192 eP P 10 55 04.8 +1.1
comp=Z,18nm,1.6s
SYO Syowa Base 63.11 158‖ eP P 10 55 19.8 -2.5
TBI Tubuai 65.18 259 eS S 11 04 23.1 +3.3
comp=Z,993nm,26.8s
TBI Tubuai 65.18 259 eLR LR 11 15 10.6
comp=Z,1µm,28.0s,baz=110
MEH Mehetia 67.03 265 eT T 12 08 46.5
comp=Z,10nm,0.2s
PPT2 Papeete2 68.39 264 eLR LR 11 16 39.2
comp=Z,1µm,26.8s
PPT Papeete 68.40 264 LR LR 11 18 29.6
comp=Z,515nm,18.7s,baz=122,slow=30
832A Faith Ranch, C 69.93 336 P P 10 56 05.3 -1.1
baz=70
MAW Mawson 70.19 164 P P 10 56 07.8 +0.3
comp=Z,15nm,1.1s,baz=215,slow=9.0,SNR=8.9
MAW LR LR 11 27 19.1
comp=Z,746nm,18.5s,baz=233,slow=36
MAW Mawson 70.19 164 eP P 10 56 08.0 +0.5
MAW pmax pmax
comp=Z,5.0nm,1.2s
MAW Mawson 70.19 164 eP P 10 56 08.0 +0.5
comp=Z,4.8nm,1.2s
732A Laxson Ranch, 70.34 336 P P 10 56 08.6 -0.3
baz=71
LRAL Lakeview Retre 71.28 348 eP P 10 56 14.9 +0.4
comp=Z,6.7nm,0.9s
533A Kerrville 71.29 337 P P 10 56 14.7 0.0
baz=72
532A Rocksprings 71.62 336 P P 10 56 16.9 +0.2
baz=72
434A Burnet 71.75 338 P P 10 56 18.1 +0.7
baz=72
531A Rocksprings 71.86 336 P P 10 56 18.0 -0.1
baz=72
336A Riesel 71.87 339 P P 10 56 18.3 +0.3
baz=72
JCT Junction City 71.91 337 eP P 10 56 18.8 +0.4
JCT pmax pmax
comp=Z,19nm,1.2s
JCT Junction City 71.91 337 eP P 10 56 18.8 +0.4
comp=Z,18nm,1.2s
JCT Junction City 71.91 337 P P 10 56 18.6 +0.3
baz=72
433A Art 71.94 337 P P 10 56 18.7 +0.2
baz=72
238A Jacksonville 71.99 341 P P 10 56 20.5 +1.7
baz=72
530A J-C Ranch, Com 72.10 335 P P 10 56 20.1 +0.6
baz=72
TXAR Lajitas Array 72.17 333 P P 10 56 19.8 -0.3
comp=Z,1.6nm,0.9s,baz=154,slow=7.3,SNR=11
TXAR Lajitas Array 72.17 333 P P 10 56 19.8 -0.3
TXAR Lajitas Array 72.17 333 P P 10 56 19.8 -0.3
334A Lometa 72.22 338 P P 10 56 20.5 +0.3
baz=73
431A Sonora 72.36 336 P P 10 56 20.4 -0.7
baz=73
529A Stev Forest Ra 72.38 334 P P 10 56 21.7 +0.4
baz=73
333A Richland Sprin 72.44 338 P P 10 56 21.7 +0.2
baz=73
KMSC Kings Mountain 72.65 354 eP P 10 56 23.1 +0.4
comp=Z,33nm,1.4s
KMSC Kings Mountain 72.65 354 P P 10 56 21.4 -1.3
baz=73
430A Baggett Ranch, 72.66 335 P P 10 56 23.3 +0.4
baz=73
332A Millersview 72.73 337 P P 10 56 23.5 +0.3
baz=73
429A Davenport Ranc 72.73 335 P P 10 56 24.0 +0.7
baz=73
234A Clairette 72.82 338 P P 10 56 24.7 +0.9
baz=73
331A San Angelo 72.88 336 P P 10 56 24.1 -0.1
baz=73
232A Coleman 73.17 337 P P 10 56 26.1 +0.3
baz=74
TKL Tuckaleechee C 73.41 352 P P 10 56 26.6 -0.6
comp=Z,5.9nm,0.8s,baz=181,slow=6.4,SNR=5.6
TKL Tuckaleechee C 73.41 352 P P 10 56 26.6 -0.6
TKL Tuckaleechee C 73.41 352 P P 10 56 26.6 -0.6
231A Bronte 73.42 337 P P 10 56 27.7 +0.4
baz=74
329A Wagon Wheel Ra 73.55 335 P P 10 56 28.9 +0.8
baz=74
133A Hamilton Ranch 73.62 338 P P 10 56 29.0 +0.5
baz=74
Z35A Perchaven, San 73.82 340 P P 10 56 30.2 +0.6
baz=74
Z32A Haskell 74.44 338 P P 10 56 33.3 +0.1
baz=75
WVT Waverly 74.44 348 eP P 10 56 33.4 +0.2
WVT pmax pmax
comp=Z,7.0nm,0.8s
WVT Waverly 74.44 348 eP P 10 56 33.4 +0.2
comp=Z,7.2nm,0.8s
Z31A Sharp Cattle R 74.65 337 P P 10 56 34.4 0.0
baz=75
W38A Poteau 74.76 342 P P 10 56 35.3 +0.3
baz=75
Y33A Hilltop Ranch, 74.84 339 P P 10 56 35.4 -0.1
baz=75
Z30A Sanderson Ranc 74.93 337 P P 10 56 36.3 +0.1
baz=75
MNTX Cornudas Mount 74.94 332 eP P 10 56 34.8 -1.3
comp=Z,11nm,1.4s
MNTX Cornudas Mount 74.94 332 P P 10 56 34.6 -1.6
baz=75
Z29A Hungry Hill Ra 75.09 336 P P 10 56 37.0 -0.1
baz=75
X34A Smith Ranch, M 75.17 340 P P 10 56 38.0 +0.6
baz=76
W36A Wetumka 75.25 341 P P 10 56 39.2 +1.3
baz=76
WMOK Wichita Mounta 75.57 339 eP P 10 56 41.7 +2.0
WMOK pmax pmax
comp=Z,129nm,2.8s
WMOK Wichita Mounta 75.57 339 eP P 10 56 41.7 +2.0
comp=Z,129nm,2.8s
Y29A Porterfield Fa 75.63 336 P P 10 56 41.0 +0.8
baz=76
X31A Mcdonald Ranch 75.82 338 P P 10 56 42.1 +0.9
baz=76
Y28A McKinney Farm, 75.86 336 P P 10 56 41.6 +0.1
baz=76
W33A Caddo, Fort Co 75.87 339 P P 10 56 42.7 +1.2
baz=76
TUL1 Leonard 75.87 342 eP P 10 56 41.7 +0.3
comp=Z,12nm,1.0s
TUL1 Leonard 75.87 342 P P 10 56 41.4 -0.1
baz=76
V35A Meyer Ranch, C 76.00 341 P P 10 56 41.5 -0.6
baz=76
W32A Sentinel 76.06 339 P P 10 56 41.0 -1.6
baz=76
MSTX Muleshoe 76.09 335 eP P 10 56 46.3 +3.5
comp=Z,8.0nm,1.0s
MSTX Muleshoe 76.09 335 P P 10 56 43.3 +0.5
baz=76
319A Douglas 76.16 329 P P 10 56 43.8 +0.5
baz=76
V33A Lossen Ranch, 76.44 340 P P 10 56 44.2 -0.6
baz=77
CASY Casey 76.46 182 eP P 10 56 45.1 +0.6
comp=Z,17nm,1.1s
121A Cookes Peak, D 76.58 331 eP P 10 56 47.7 +1.9
comp=Z,5.4nm,1.1s
LIC Lamto 77.23 72 eP P 10 56 50.2 +0.5
comp=Z,96nm,1.2s
T34A McClaskey Farm 77.28 341 P P 10 56 50.1 +0.7
baz=78
TIC Toumodi 77.51 72 eP P 10 56 51.9 +0.6
comp=Z,18nm,0.2s
KIC Kosan Boka 77.54 72 eP P 10 56 52.1 +0.7
comp=Z,92nm,1.0s
TUC Tucson 77.59 329 eP P 10 56 52.3 +1.0
TUC pmax pmax
comp=Z,7.0nm,1.3s
TUC Tucson 77.59 329 eP P 10 56 52.3 +1.0
comp=Z,6.9nm,1.3s
DBIC Dimbokro 77.65 72 P P 10 56 52.8 +0.8
comp=Z,22nm,0.9s,baz=207,slow=5.8,SNR=25
DBIC Dimbokro 77.65 72 eP P 10 56 52.6 +0.6
comp=Z,46nm,1.1s
214A Organ Pipe Nat 78.15 327 eP P 10 56 55.7 +1.3
comp=Z,11nm,1.2s
ANMO Albuquerque 78.24 333⇑ eP P 10 56 56.3 +1.3
ANMO pmax pmax
comp=Z,20nm,1.7s
ANMO Albuquerque 78.24 333 eP P 10 56 55.6 +0.6
comp=Z,9.2nm,1.2s
T28A Walsh 78.77 337 P P 10 56 58.3 +0.5
baz=79
113A Mohawk Valley, 79.26 327 P P 10 57 02.0 +1.6
baz=80
T25A Trinidad 79.52 336 eP P 10 57 03.2 +1.1
comp=Z,37nm,1.6s
T25A Trinidad 79.52 336 P P 10 57 02.9 +0.9
baz=80
X16A Lo Mia Camp, P 79.69 329 P P 10 57 04.0 +1.0
baz=80
R28A Tribune 79.81 338 P P 10 57 04.0 +0.6
baz=80
Q30A Quinter 79.94 339 P P 10 57 04.1 0.0
baz=80
R27A Eads 80.05 337 P P 10 57 04.2 -0.5
baz=80
SDCO Great Sand Dun 80.43 335 eP P 10 57 08.4 +1.4
comp=Z,64nm,3.0s
SDCO Great Sand Dun 80.43 335 P P 10 57 06.7 -0.3
baz=81
WUAZ Wupatki 80.62 330 eP P 10 57 09.6 +1.6
comp=Z,5.0nm,0.9s
S22A 4UR Ranch, Cre 80.89 334 eP P 10 57 11.0 +1.5
comp=Z,83nm,2.8s
S22A 4UR Ranch, Cre 80.89 334 P P 10 57 10.5 +1.0
baz=81
MVCO Mesa Verde 81.00 333 eP P 10 57 11.6 +1.5
comp=Z,20nm,1.6s
Q24A Divide 81.42 336 eP P 10 57 14.2 +1.9
comp=Z,7.4nm,1.0s
PV01 Paradox Valley 81.85 333 eP P 10 57 15.9 +1.4
comp=Z,427nm,1.0s
LBTB Lobatse 82.09 115 eP P 10 57 16.9 +0.7
LBTB pmax pmax
comp=Z,37nm,1.0s
LBTB Lobatse 82.09 115 eP P 10 57 16.9 +0.7
comp=Z,37nm,1.0s
SMCO Snowmass 82.22 335 eP P 10 57 18.0 +1.4
comp=Z,3.3nm,0.9s
PV10 Paradox Valley 82.23 333 eP P 10 57 16.6 +0.1
comp=Z,78nm,0.8s
L31A Butterfield Fa 82.56 341 P P 10 57 19.3 +1.4
baz=83
O22A Kremmling 82.96 335 P P 10 57 21.0 +0.6
baz=83
SRU San Rafael Swe 83.43 332 eP P 10 57 23.1 +0.4
SRU pmax pmax
comp=Z,8.0nm,1.2s
SRU San Rafael Swe 83.43 332 eP P 10 57 23.1 +0.4
comp=Z,8.1nm,1.2s
ECSD EROS Data Cent 83.50 344 eP P 10 57 22.8 +0.1
comp=Z,18nm,1.0s
ECSD EROS Data Cent 83.50 344 P P 10 57 22.5 -0.2
baz=84
MSU Marysvale 83.54 331 eP P 10 57 24.8 +1.5
MSU pmax pmax
comp=Z,7.0nm,1.2s
MSU Marysvale 83.54 331 eP P 10 57 24.8 +1.5
comp=Z,6.7nm,1.2s
MVU Marysvale 83.54 331 eP P 10 57 24.5 +1.2
comp=Z,3.2nm,1.0s
TPNV Topopah Spring 83.88 327 eP P 10 57 26.5 +1.5
TPNV Topopah Spring 83.88 327 eP P 10 57 26.5 +1.5
TPNV Topopah Spring 83.88 327 P P 10 57 25.7 +0.7
baz=84
MPU Maple Canyon 84.63 332 eP P 10 57 29.9 +1.1
comp=Z,5.4nm,0.9s
J26A Sides Ranch, S 84.76 339 P P 10 57 30.3 +1.1
baz=85
R11A Troy Canyon, C 84.77 328 eP P 10 57 30.6 +1.1
comp=Z,3.1nm,0.9s
R11A Troy Canyon, C 84.77 328 P P 10 57 30.5 +0.9
baz=85
I28A Midland 84.87 341 P P 10 57 30.0 +0.3
baz=85
DUG Dugway, Tooele 85.24 331 eP P 10 57 33.2 +1.4
DUG pmax pmax
comp=Z,9.0nm,1.1s
DUG Dugway, Tooele 85.24 331 eP P 10 57 33.2 +1.4
comp=Z,9.0nm,1.1s
TPH Tonopah 85.24 327 eP P 10 57 33.6 +1.7
TPH pmax pmax
comp=Z,6.0nm,0.9s
TPH Tonopah 85.24 327 eP P 10 57 33.5 +1.7
comp=Z,5.5nm,0.9s
K21A Alcova 85.41 336 P P 10 57 32.9 +0.2
baz=86
RSSD Black Hills 85.78 339 eP P 10 57 34.5 +0.1
RSSD pmax pmax
comp=Z,18nm,1.5s
RSSD Black Hills 85.78 339 eP P 10 57 34.5 +0.1
comp=Z,18nm,1.5s
HWUT Hardware Ranch 86.00 333 eP P 10 57 36.5 +0.9
comp=Z,37nm,1.8s
NVAR Mina Array Bea 86.01 326 P P 10 57 35.8 +0.1
comp=Z,1.1nm,0.9s,baz=147,slow=5.8,SNR=7.5
NVAR Mina Array Bea 86.01 326 P P 10 57 35.8 +0.1
H25A Fruitdale 86.11 339 P P 10 57 36.4 +0.6
baz=86
BW06 Boulder Array 86.30 334 eP P 10 57 36.9 -0.2
comp=Z,11nm,1.5s
PDAR Pinedale Array 86.30 334 P P 10 57 37.0 -0.1
comp=Z,1.6nm,1.0s,baz=132,slow=4.2,SNR=9.1
PDAR Pinedale Array 86.30 334 P P 10 57 37.0 -0.1
J20A Shoshoni 86.33 336 P P 10 57 38.2 +1.1
baz=87
G27A Dupree 86.35 341 P P 10 57 36.8 -0.2
baz=87
G26A Maurine 86.45 340 P P 10 57 37.4 -0.1
baz=87
I21A Big Trails, Te 86.48 336 P P 10 57 37.4 -0.5
baz=87
F28A McLaughlin 86.50 341 P P 10 57 38.2 +0.5
baz=87
H24A Dirks Ranch, A 86.50 339 P P 10 57 37.2 -0.6
baz=87
J19A Crowheart 86.57 335 P P 10 57 38.1 -0.2
baz=87
HVU Hansel Valley 86.59 332 eP P 10 57 38.8 +0.3
HVU pmax pmax
comp=Z,50nm,2.1s
HVU Hansel Valley 86.59 332 eP P 10 57 38.8 +0.3
comp=Z,50nm,2.1s
ELK Elko 86.66 330 eP P 10 57 40.2 +1.2
ELK pmax pmax
comp=Z,9.0nm,1.3s
ELK Elko 86.66 330 eP P 10 57 40.1 +1.2
comp=Z,8.9nm,1.3s
TORD Torodi Ar. Bea 86.73 71 P P 10 57 39.4 -0.1
comp=Z,10nm,0.9s,baz=227,slow=4.4,SNR=47
TORD PP PP 11 00 59.7 -2.4
comp=Z,1.1nm,0.9s,baz=237,slow=6.5,SNR=3.7
TORD Torodi Ar. Bea 86.73 71 P P 10 57 39.4 -0.1
TORD PP PP 11 00 59.7 -2.4
F27A Lemmon 86.83 341 P P 10 57 39.2 -0.2
baz=87
I20A Worland 86.88 336 P P 10 57 40.3 +0.5
baz=87
E28A Huff 87.15 342 P P 10 57 39.6 -1.3
baz=88
D30A Buchanan 87.18 343 P P 10 57 41.6 +0.6
baz=88
I19A Meeteetse 87.24 335 P P 10 57 41.7 +0.1
baz=88
REDW Red Top Meadow 87.28 334 eP P 10 57 42.4 +0.6
comp=Z,15nm,1.5s
SNOW Snow King Moun 87.33 334 eP P 10 57 42.5 +0.4
comp=Z,4.7nm,0.9s
LOHW Long Hollow 87.41 334 eP P 10 57 42.9 +0.4
comp=Z,76nm,3.0s
TPAW Teton Pass 87.42 334 eP P 10 57 43.3 +0.7
comp=Z,7.0nm,1.1s
E26A Carlson Angus 87.50 341 P P 10 57 43.4 +0.8
baz=88
FXWY Fox Creek 87.58 334 eP P 10 57 43.8 +0.4
comp=Z,11nm,1.6s
I17A Pilgrim Ck. 87.67 334 P P 10 57 44.2 +0.4
baz=88
C30A Mose, Pekin 87.68 344 P P 10 57 43.4 0.0
baz=88
AGMN Agassiz Nation 87.69 345 eP P 10 57 42.8 -0.6
comp=Z,17nm,1.3s
AGMN Agassiz Nation 87.69 345 P P 10 57 43.7 +0.3
baz=88
IMW Indian Meadow 87.77 334 eP P 10 57 44.7 +0.4
comp=Z,5.0nm,1.0s
E25A Miller Ranch, 87.78 340 P P 10 57 44.6 +0.6
baz=88
FLWY Flagg Ranch 87.85 334 eP P 10 57 45.3 +0.7
comp=Z,6.3nm,0.8s
D26A Manning 88.01 341 P P 10 57 45.3 +0.3
baz=88
H18A Shoshone NF, C 88.03 335 P P 10 57 45.3 -0.1
baz=88
G20A Bridger 88.04 336 P P 10 57 45.2 -0.1
baz=88
MDND Maddock 88.08 343 eP P 10 57 45.6 +0.4
comp=Z,28nm,1.1s
MDND Maddock 88.08 343 P P 10 57 45.5 +0.3
baz=88
RLMT Red Lodge 88.29 336 eP P 10 57 46.5 -0.1
comp=Z,11nm,1.5s
B30A Myrvik Farm, E 88.35 344 P P 10 57 46.9 +0.4
baz=89

YMR	Madison River	88.46	334	*e*P		P		10 57 49.1	+1.7
	comp=Z,12nm,1.1s								
HLID	Hailey	88.74	332	*e*P		P		10 57 50.0	+1.2
	comp=Z,17nm,1.6s								
HLID	Hailey	88.74	332	P		P		10 57 49.9	+1.2
	baz=89								
QLMT	Earthquake Lak	88.76	334	*e*P		P		10 57 50.3	+1.4
	comp=Z,0.2nm,0.4s								
A30A	Hoffart Farm,	88.81	344	P		P		10 57 48.4	-0.3
	baz=89								
B28A	Dugan Ranch, T	88.82	343	P		P		10 57 49.4	+0.7
	baz=89								
D23A	Lindsay	88.90	339	P		P		10 57 49.4	+0.1
	baz=89								
A29A	Manning Farm,	89.00	344	P		P		10 57 50.0	+0.4
	baz=89								
MFID	Camas Ranch	89.16	331	*e*P		P		10 57 51.9	+1.2
	comp=Z,48nm,2.5s								
MCMT	McKenzie Canyo	89.26	333	*e*P		P		10 57 50.6	-0.6
	comp=Z,5.1nm,1.4s								
WVOR	Wild Horse Val	89.46	329	*e*P		P		10 57 53.2	+1.1
WVOR					pmax	pmax			
	comp=Z,6.0nm,1.3s								
WVOR	Wild Horse Val	89.46	329	*e*P		P		10 57 53.2	+1.1
	comp=Z,6.1nm,1.3s								
ULM	Lac du Bonnet	89.56	346	P		P		10 57 50.9	-1.2
	comp=Z,5.4nm,1.1s,baz=177,slow=4.4,SNR=6.3								
ULM	Lac du Bonnet	89.56	346	*e*P		P		10 57 51.8	-0.4
ULM					pmax	pmax			
	comp=Z,9.0nm,1.2s								
ULM	Lac du Bonnet	89.56	346	*e*P		P		10 57 51.8	-0.4
	comp=Z,9.5nm,1.2s								
LSZ	Lusaka	90.02	109	*e*P		P		10 57 57.4	+1.9
LSZ					pmax	pmax			
	comp=Z,18nm,1.1s								
LSZ	Lusaka	90.02	109	*e*P		P		10 57 57.4	+1.9
	comp=Z,18nm,1.1s								
F10A	Beach Ranch, E	91.85	331	*e*P		P		10 58 11.8	+8.7
G08A	Pilot Rock	91.96	330	*e*P		P		10 58 13.2	+10
TAM	Tamanrasset	95.60	66	*e*P		P		10 58 22.0	+1.0
TAM					pmax	pmax			
	comp=Z,3.0nm,0.8s								
TAM	Tamanrasset	95.60	66	*e*P		P		10 58 22.0	+1.0
	comp=Z,3.0nm,0.8s								
ESDC	Sonseca Array	100.03	47	P		Pdif		10 58 41.3	+0.8
	comp=Z,0.9nm,0.8s,baz=267,slow=30,SNR=4.9								
ESDC	Sonseca Array	100.03	47	P		Pdif		10 58 41.2	+0.8
ASAR	Alice Springs	113.78	208	PKKPbc	PKKPbc			11 14 15.8	-0.2
	comp=Z,0.5nm,0.9s,baz=344,slow=3.4,SNR=3.4								
ASAR				PKKPab		PKKPab		11 14 23.5	-3.0
	comp=Z,1.2nm,0.9s,baz=340,slow=3.6,SNR=6.3								
ASAR	Alice Springs	113.78	208	PKKPbc	PKKPbc			11 14 15.8	-0.2
ASAR				PKKPab		PKKPab		11 14 23.5	-3.0
GERES	GERESS Array B	115.62	47	PKP		PKPdf		11 03 36.3	-0.8
	comp=Z,2.2nm,0.9s,baz=207,slow=2.7,SNR=11								
GERES	GERESS Array B	115.62	47	PKIKP		PKPdf		11 03 36.3	-0.8
GERES	GERESS Array B	115.62	47	PKP		PKPdf		11 03 36.3	-0.8
KHC	Kasperske Hory	115.69	47	AMS		AMS		11 51 50.0	
	comp=Z,300nm,16.7s								
PRU	Pruhonice	116.64	46	AMS		AMS		11 54 20.0	
	comp=Z,400nm,20.3s								
ILAR	Eielson Array	116.69	333	PKP		PKPdf		11 03 38.2	-0.3
	comp=Z,0.4nm,0.9s,baz=182,slow=2.9,SNR=4.1								
ILAR	Eielson Array	116.69	333	PKIKP		PKPdf		11 03 38.2	-0.3
ILAR	Eielson Array	116.69	333	PKP		PKPdf		11 03 38.2	-0.3
GOPC	GO Pecny, Ondr	116.75	46	AMS		AMS		11 54 40.0	
	comp=Z,500nm,17.3s								
TREC	Trest	116.87	47	AMS		AMS		11 54 30.0	
	comp=Z,300nm,16.9s								
WRA	Warramunga Arr	116.99	210	PKP		PKPdf		11 03 38.8	-1.8
	comp=Z,0.4nm,0.9s,baz=157,slow=2.1,SNR=5.3								
WRA	Warramunga Arr	116.99	210	PKIKP		PKPdf		11 03 38.8	-1.8
WRA	Warramunga Arr	116.99	210	PKP		PKPdf		11 03 38.8	-1.8
DPC	Dobruska-Polom	117.83	46	*e*PKP		PKPdf		11 03 41.9	+0.7
DPC				AMS		AMS		11 56 50.0	
DPC	Dobruska-Polom	117.83	46	*e*PKIKP		PKPdf		11 03 41.9	+0.7
KRLC	Kraliky	117.97	47	*e*PKP		PKPdf		11 03 42.2	+0.7
KRLC				*ex*		x		11 03 47.0	
KRLC	Kraliky	117.97	47	*e*PKIKP		PKPdf		11 03 42.2	+0.7
KRLC				*e*				11 03 47.0	
OKC	Ostrava-Krasne	118.67	48	AMS		AMS		11 51 30.0	
	comp=Z,300nm,19.5s								
BUR08	Bucovina Ar. S	122.07	52	*e*PKPdf		PKPdf		11 03 49.7	+0.2
BR131	Keskin Array S	124.73	64	*e*PKPdf		PKPdf		11 03 55.3	+0.4
BRTR	Keskin Array B	124.73	64	PKP		PKPdf		11 03 55.1	+0.1
	comp=Z,4.5nm,0.9s,baz=197,slow=2.6,SNR=17								
BRTR	Keskin Array B	124.73	64	*c i*PKIKP		PKPdf		11 03 55.5	+0.6
BRTR					pmax	pmax			
	comp=Z,5.0nm,0.9s								
BRTR	Keskin Array B	124.73	64	PKP		PKPdf		11 03 55.1	+0.1
AK02	Malin Array Si	125.57	50	*e*PKPdf		PKPdf		11 03 55.1	-0.8
KIEV	Kiev	125.58	50	*e*PKIKP		PKPdf		11 03 55.3	-0.7
KIEV	Kiev	125.58	50	*e*PKPdf		PKPdf		11 03 55.3	-0.7
AKASG	Malin Array Be	125.59	50	PKP		PKPdf		11 03 54.0	-2.0
	comp=Z,3.1nm,0.9s,baz=266,slow=2.7,SNR=11								
AKASG				PP		PP		11 05 44.1	-4.1
	comp=Z,3.4nm,1.1s,baz=255,slow=6.9,SNR=12								
AKASG	Malin Array Be	125.59	50	PKIKP		PKPdf		11 03 54.0	-2.0
AKASG								11 05 44.1	
AKASG	Malin Array Be	125.59	50	PKP		PKPdf		11 03 54.0	-2.0
AKASG				PP		PP		11 05 44.1	-4.1
FINES	FINESS Array B	126.69	36	PKP		PKPdf		11 03 56.0	-1.7
	comp=Z,3.3nm,1.1s,baz=204,slow=3.0,SNR=4.7								
FINES	FINESS Array B	126.69	36	PKIKP		PKPdf		11 03 56.1	-1.7
FINES	FINESS Array B	126.69	36	PKP		PKPdf		11 03 56.0	-1.7
RAYN	Ar Rayn	126.71	87	*e*PKPdf		PKPdf		11 04 00.0	+0.9
ARCES	ARCESS Array B	127.81	26	PKP		PKPdf		11 03 57.5	-2.2
	comp=Z,3.1nm,0.9s,baz=3.8,slow=3.6,SNR=4.2								
ARCES	ARCESS Array B	127.81	26	PKIKP		PKPdf		11 03 57.6	-2.2
ARCES	ARCESS Array B	127.81	26	PKP		PKPdf		11 03 57.5	-2.2
OBN	Obninsk	130.95	45	*i*PKIKP		PKPdf		11 04 05.8	-0.2
OBN				*e*				11 06 22.8	
OBN				*e*PPP		PPP		11 09 15.2	
OBN				*e*SS		SS		11 24 26.9	+33
OBN				pmax	pmax				
	comp=Z,26nm,1.4s								
OBN				MLR		MLR			
	comp=Z,403nm,19.0s								
KBZ	Khabaz	132.58	62	PKhKP		PKPdf		11 04 06.8	-2.7
	comp=Z,1.3nm,0.4s,baz=56,slow=24,SNR=5.5								
KBZ	Khabaz	132.58	62	PKIKP		PKPdf		11 04 06.8	-2.7
KBZ	Khabaz	132.58	62	PKPpre		PKPdf		11 04 06.8	-2.7
GNI	Garni	132.89	67	PKP		PKPdf		11 04 10.6	+0.1
	comp=Z,2.6nm,0.4s,baz=36,slow=19,SNR=4.1								
GNI	Garni	132.89	67	*d i*PKIKP		PKPdf		11 04 11.7	+1.2
GNI				pmax	pmax				
	comp=Z,10.0nm,1.7s								
GNI	Garni	132.89	67	PKP		PKPdf		11 04 10.6	+0.1
ZEI	Tsey	133.04	63	*i*PKIKP		PKPdf		11 04 09.8	-0.9
ZEI				pmax	pmax				
	comp=Z,7.0nm,1.2s								
KLMR	Klimovskoe	133.07	38	*e*PKIKP		PKPdf		11 04 10.1	+0.2
KLMR				pmax	pmax				
	comp=Z,15nm,1.0s								
PRGR	Permogore	136.01	37	*e*PKIKP		PKPdf		11 04 15.7	+0.3
PRGR				pmax	pmax				
	comp=Z,14nm,1.2s								
GEYT	Alibeck	142.30	74	PKhKP		PKPpre		11 04 23.1	
	comp=Z,4.7nm,0.8s,baz=274,slow=7.3,SNR=7.7								
SEY	Seymchan	142.31	327	PKhKP		PKPpre		11 04 22.2	
	comp=Z,1.1nm,0.8s,baz=37,slow=20,SNR=2.6								
SEY				PKP		PKPdf		11 04 27.1	+0.2
	comp=Z,3.3nm,0.9s,baz=76,slow=2.1,SNR=7.0								
SEY	Seymchan	142.31	327	PKHKP		PKPpre		11 04 22.2	
SEY								11 04 27.1	
SEY	Seymchan	142.31	327	PKPpre		PKPpre		11 04 22.2	
SEY				PKP		PKPdf		11 04 27.1	+0.2
ARU	Arti	143.31	43	*i*PKIKP		PKPbc		11 04 25.8	-0.2
ARU	Arti	143.31	43	*e*PKPdf		PKPbc		11 04 25.7	-0.3
AKTO	Aktyubinsk	143.63	54	PKhKP		PKPbc		11 04 26.8	-0.3
	comp=Z,16nm,1.0s,baz=268,slow=3.4,SNR=43								
AKTO	Aktyubinsk	143.63	54	PKIKP		PKPbc		11 04 26.8	-0.3
AKTO	Aktyubinsk	143.63	54	PKPpre		PKPbc		11 04 26.8	-0.3
TIXI	Tiksi	143.88	348	*e*PKIKP		PKPbc		11 04 27.4	+0.2
TIXI	Tiksi	143.88	348	*e*PKPdf		PKPbc		11 04 27.4	+0.2
SVE	Sverdlovsk	144.36	42	*i*PKIKP		PKPdf		11 04 29.7	-0.9
SVE				pmax	pmax				
	comp=Z,28nm,1.2s								
SVE				MLR		MLR			
	comp=Z,475nm,19.0s								
PSI	Prapat	144.79	167	PKP		PKPab		11 04 31.1	-0.6
	comp=Z,33nm,1.0s,baz=200,slow=5.4,SNR=6.0								
PSI	Prapat	144.79	167	PKIKP		PKPab		11 04 31.1	-0.6
PSI	Prapat	144.79	167	PKP		PKPab		11 04 31.1	-0.6
AB31	Akbulak array	144.92	55	*i*PKIKP		PKPbc		11 04 31.1	0.0
AB31				pmax	pmax				
	comp=Z,61nm,0.8s								
ABKAR	Akbulak array	144.92	55	*e*PKPdf		PKPbc		11 04 31.0	-0.1
URV	Uravakonda	145.88	123	*e*PKPdf		PKPdf		11 04 34.6	+0.1
POO	Poona	145.97	115	*ex*		PKPab		11 04 35.0	-0.9
SKHT	Srikalahasti	146.56	128	*e*PKPdf		PKPbc		11 04 37.2	+0.1
IPM	Ipoh	146.76	171	*e*PKPdf		PKPdf		11 04 35.9	-0.3
NJS	Nagarjunasagar	148.39	124	*e*PKPdf		PKPdf		11 04 39.0	+0.3
HYB	Hyderabad	148.50	122	*i* PKP		PKPbc		11 04 42.0	-0.5
HYBB	Hyderabad (bro	148.51	122	*e*PKPdf		PKPbc		11 04 41.9	-0.6
KBL	Kabul	149.92	84	*e*PKP2		PKPbc		11 04 45.4	-0.4
KBL	Kabul	149.92	84	*e*PKPbc		PKPbc		11 04 45.4	-0.4
RPR	Rampur	150.01	121	*e*PKPdf		PKPdf		11 04 42.9	+1.6
DZET	Dzherino	150.71	76	PKIKP		PKPbc		11 04 46.7	-0.8
DZET				pmax	pmax				
	comp=Z,44nm,0.9s								
BRVK	Borovoye	150.72	46	*i*PKIKP		PKPdf		11 04 41.8	+0.5
BRVK				pmax	pmax				
	comp=Z,11nm,2.5s								
BRVK	Borovoye	150.72	46	*e*PKPdf		PKPdf		11 04 42.1	+0.8
BRVK				*e*PKPbc		PKiKP		11 04 47.4	-0.2
BVA0	Borovoye Array	150.79	46	PKIKP		PKPbc		11 04 47.0	0.0
BVA0				pmax	pmax				
	comp=Z,33nm,1.2s								
BVAR	Borovoye Array	150.79	46	PKP		PKPdf		11 04 41.9	+0.5
	comp=Z,0.9nm,0.7s,baz=270,slow=1.5,SNR=9.2								
BVAR				PKPbc		PKiKP		11 04 47.9	+0.2
	comp=Z,18nm,1.0s,baz=298,slow=3.1,SNR=56								
BVAR	Borovoye Array	150.79	46	PKIKP		PKPdf		11 04 41.9	+0.5
BVAR								11 04 47.9	
BVAR	Borovoye Array	150.79	46	PKP		PKPdf		11 04 41.9	+0.5
BVAR				PKPbc		PKiKP		11 04 47.9	+0.2
YAK	Yakutsk	151.50	337	PKPbc		PKPbc		11 04 48.0	-0.3
	comp=Z,46nm,0.8s,baz=7.0,slow=1.0,SNR=15								
YAK	Yakutsk	151.50	337	*e*PKIKP		PKPbc		11 04 47.2	-1.1
YAK				*e*				11 04 53.6	
YAK				*e*				11 04 59.1	
YAK				pmax	pmax				
	comp=Z,59nm,1.1s								
YAK				pmax	pmax				
	comp=E,5.0nm,1.4s								
YAK				pmax	pmax				
	comp=N,3.0nm,1.3s								
YAK	Yakutsk	151.50	337	*e*PKPbc		PKPbc		11 04 48.0	-0.3
YSS	Yuzh-Sakhalins	151.58	301	*e*PKIKP		PKPbc		11 04 48.8	-0.2
ASAJ	Asahikawa	151.86	295	PKPbc		PKPbc		11 04 50.0	+0.2
	comp=N,8.7nm,0.8s,baz=251,slow=9.3,SNR=5.7								
ASAJ	Asahikawa	151.86	295	PKPbc		PKPbc		11 04 50.0	+0.2
KK31	Karatay Array	152.36	67	*i*PKIKP		PKPbc		11 04 50.8	-0.2
KK31				pmax	pmax				
	comp=Z,13nm,1.0s								
KKAR	Karatay Array	152.36	67	*e*PKIKP		PKPdf		11 04 44.8	+0.6
KKAR				*e*				11 04 50.9	
KKAR	Karatay Array	152.36	67	*e*PKPdf		PKPdf		11 04 44.8	+0.6
KKAR				*e*PKPbc		PKiKP		11 04 50.9	-0.4
MJAR	Matsushiro Arr	154.50	278	PKPab		PKPab		11 05 09.3	-1.1
	comp=Z,2.6nm,0.9s,baz=142,slow=1.6,SNR=7.0								
MJAR	Matsushiro Arr	154.50	278	PKP2		PKPab		11 05 09.3	-1.1
MJAR	Matsushiro Arr	154.50	278	PKPab		PKPab		11 05 09.3	-1.1
EKS2	Erkin-Say	154.76	68	*e*PKIKP		PKPdf		11 04 48.2	+0.4
EKS2				*e*				11 04 56.9	
EKS2	Erkin-Say	154.76	68	*e*PKPdf		PKPdf		11 04 48.2	+0.4
EKS2				*e*PKPbc		PKiKP		11 04 56.9	+0.5
AAK	Ala-Archa	155.29	68	PKP		PKPdf		11 04 49.4	+0.8
	comp=Z,2.4nm,0.8s,baz=232,slow=2.5,SNR=6.4								
AAK				PKPbc		PKPbc		11 04 58.9	
	comp=Z,7.6nm,0.9s,baz=251,slow=1.5,SNR=12								
AAK				PKPab		PKPab		11 05 14.7	+0.9
	comp=Z,11nm,0.7s,baz=208,slow=4.0,SNR=14								
AAK				PP		PP		11 08 50.6	-0.1
	comp=Z,0.6nm,0.3s,baz=246,slow=7.3,SNR=3.8								
AAK	Ala-Archa	155.29	68	*e*PKIKP		PKPdf		11 04 49.4	+0.8
AAK				*e*				11 04 58.8	
AAK								11 08 50.6	
AAK	Ala-Archa	155.29	68	*e*PKPdf		PKPdf		11 04 49.4	+0.8
AAK				*e*PKPbc		PKPbc		11 04 58.8	
AAK				PKPab		PKPab		11 05 14.7	+0.9
AAK				PP		PP		11 08 50.6	-0.1
FRU	Bishkek	155.37	68	*e*PKP2		PKPab		11 05 14.0	0.0
FRU				*e*				11 08 50.0	
FRU				pmax	pmax				
	comp=Z,60nm,2.0s								
TKM2	Tokmak 2	156.09	67	*e*PKIKP		PKPdf		11 04 49.8	+0.1
TKM2				*e*				11 05 17.6	
TKM2	Tokmak 2	156.09	67	*e*PKPdf		PKPdf		11 04 49.8	+0.1
TKM2				*e*PKPab		PKPab		11 05 17.6	+0.3
KSH	Kashi	156.31	76	PKP		PKPdf		11 04 50.3	+0.3
KSH				PKS		PKSdf		11 08 23.2	-0.8
KSH				PP		PP		11 08 58.9	+2.4
KSH				SKKS				11 15 42.1	
KSH				SS		SS		11 28 41.9	-5.3
KSH				PPMZ					
	comp=Z,150nm,4.9s								
KSH				LN					
	comp=Z,73nm,5.0s								
KSH				LE					
	comp=Z,110nm,5.5s								
KSH				LZ					
	comp=Z,180nm,7.6s								
NVS	Novosibirsk	156.67	35	*i*PKIKP		PKPdf		11 04 48.2	-1.5
NVS				pmax	pmax				
	comp=Z,22nm,1.1s								
NVS				pmax	pmax				
	comp=E,5.0nm,1.4s								
ZAA0	Zalesovo Array	157.95	35	*e*PKPdf		PKPdf		11 04 50.2	-1.2
ZAA0				*e*PKPbc		PKPab		11 05 25.5	+0.9
ZALV	Zalesovo Beam	157.95	35	PKP		PKPdf		11 04 50.6	-0.8
	comp=E,6.2nm,1.0s,baz=270,slow=2.4,SNR=16								
ZALV				PKPab		PKPab		11 05 25.6	+1.0
	comp=E,16nm,0.8s,baz=298,slow=6.2,SNR=16								
ZALV	Zalesovo Beam	157.95	35	PKIKP		PKPdf		11 04 50.6	-0.8
ZALV	Zalesovo Beam	157.95	35	PKP		PKPdf		11 04 50.6	-0.8
ZALV				PKPab		PKPab		11 05 25.6	+1.0
KOLN	Koldanda	158.66	111	*e*P		PKPab		11 05 28.2	-0.5
	comp=E,8.5nm,0.7s								
BOD	Bodaibo	159.07	348	*e*PKIKP		PKPdf		11 04 55.5	+2.9
BOD				*e*				11 05 26.5	
BOD				pmax	pmax				
	comp=Z,4.0nm,1.3s								
GKN	Gorkha	159.55	111	*e*P		PKPab		11 05 32.2	-0.4
	comp=Z,48nm,1.1s								
DMN	Daman	159.68	113	*e*P		PKPab		11 05 32.6	-0.6
	comp=Z,36nm,1.0s								
PKIN	Phulchoki	159.88	114	*e*P		PKPab		11 05 33.3	-0.8
	comp=Z,8.2nm,0.5s								
PKI	Pulchoki	159.88	114	*e*P		PKPab		11 05 33.4	-0.8
	comp=Z,51nm,1.1s								
KKN	Kakani	159.91	113	*e*P		PKPab		11 05 33.7	-0.5
	comp=Z,40nm,0.9s								
CMAR	Chiang Mai Arr	159.95	159	PKP		PKPdf		11 04 55.4	+0.6
	comp=Z,0.4nm,0.3s,baz=218,slow=2.1,SNR=5.3								
CMAR				PKPab		PKPab		11 05 33.3	-0.8
	comp=Z,0.6nm,0.3s,baz=224,slow=5.2,SNR=5.4								
CMAR	Chiang Mai Arr	159.95	159	PKIKP		PKPdf		11 04 55.4	+0.6
CMAR								11 05 33.3	
CMAR	Chiang Mai Arr	159.95	159	PKP		PKPdf		11 04 55.4	+0.6
CMAR				PKPab		PKPab		11 05 33.3	-0.8
MK31	Makanchi Array	160.06	55	*e*PKPdf		PKPdf		11 04 53.7	-0.4
MK31				*e*				11 05 34.5	
MK31	Makanchi Array	160.06	55	*e*PKPdf		PKPdf		11 04 53.7	-0.4
MK31				*e*PKPab		PKPab		11 05 34.5	+0.4
MKAR	Makanchi Array	160.06	55	PKP		PKPdf		11 04 54.0	-0.2
	comp=Z,4.1nm,1.2s,baz=268,slow=8.4,SNR=17								
MKAR				PKPab		PKPab		11 05 34.5	+0.4
	comp=Z,3.6nm,0.9s,baz=267,slow=5.5,SNR=8.7								
MKAR				PP		PP		11 09 16.6	+0.2
	comp=Z,1.8nm,1.1s,baz=273,slow=8.4,SNR=5.9								
MKAR	Makanchi Array	160.06	55	PKIKP		PKPdf		11 04 54.0	-0.2
MKAR								11 09 16.6	
MKAR	Makanchi Array	160.06	55	PKP		PKPdf		11 04 54.0	-0.2
MKAR				PKPab		PKPab		11 05 34.5	+0.4
MKAR				PP		PP		11 09 16.6	+0.2
RAMN	Ramite	160.37	117	*e*P		PKPab		11 05 35.7	-0.5
	comp=Z,64nm,1.1s								
GUN	Gumba	160.42	113	*e*P		PKPab		11 05 36.0	-0.6
	comp=Z,39nm,1.0s								
JIRN	Jiri	160.50	115	*e*P		PKPab		11 05 36.7	-0.2
	comp=Z,66nm,1.1s								
ODAN	Odare	160.87	118	*e*P		PKPab		11 05 38.1	-0.3
	comp=Z,71nm,1.1s								
TAPN	Taplejung	161.40	118	*e*P		PKPab		11 05 40.1	-0.7
	comp=Z,33nm,1.1s								
KSRS	Korea Array	162.77	276	PKP		PKPdf		11 04 56.3	-0.9
	comp=Z,0.8nm,0.9s,baz=95,slow=0.3,SNR=4.7								
KSAR	Wonju Array Be	162.80	276	PKIKP		PKPdf		11 04 56.3	-1.0
KSAR	Wonju Array Be	162.80	276	PKP		PKPdf		11 04 56.3	-1.0
CN2	Changchun	164.14	299	*e*PKP		PKPdf		11 04 59.7	+1.4
WMQ	Urumqi	164.62	60	*e*PKP		PKPdf		11 04 59.8	+0.9
WMQ				LN					
	comp=Z,310nm,22.6s								
WMQ				LE					
	comp=Z,270nm,20.0s								
WMQ				LZ					
	comp=Z,320nm,17.6s								
ZAK	Zakamensk	166.99	8	*e*PKP2		PKPab		11 06 04.6	+0.3
ZAK				pmax	pmax				
	comp=Z,4.0nm,1.3s								
KMI	Kunming	167.28	166	PKP		PKPdf		11 05 01.9	+0.1
NJ2	Nanjing	168.26	246	*e*PKP		PKPdf		11 05 03.1	+1.2
GYA	Guiyang	168.95	182	*e*PKP		PKPdf		11 05 02.8	0.0
GYA				PKPab		PKPab		11 06 15.4	+1.8
GYA				PKS		PKSdf		11 08 34.0	-1.5
GYA				PP		PP		11 10 05.2	+3.2
GYA				PPMZ					
	comp=Z,120nm,8.0s								
SONM	Songino Array	169.71	359	PKPab		PKPab		11 06 16.8	+0.4
	comp=Z,3.7nm,1.0s,baz=262,slow=2.2,SNR=4.3								
SONM	Songino Array	169.71	359	PKP2		PKPab		11 06 16.8	+0.4
SONM	Songino Array	169.71	359	PKPab		PKPab		11 06 16.8	+0.4
CD2	Chengdu	173.09	162	*e*PKP		PKPdf		11 05 05.3	+0.6
GTA	Gaotai	174.64	68	*e*PKP		PKPdf		11 05 04.8	-0.3
GTA				pPKP		pPKPdf		11 05 15.1	+6.6
GTA				sPKP				11 05 19.5	
GTA				PKPab		PKPab		11 06 40.1	+1.3
GTA				PP		PP		11 10 32.9	+1.3
GTA				SKS		SKSdf		11 12 02.8	-5.4
GTA				SKKS		SKKSac		11 17 14.3	-3.5
GTA				SS		SS		11 31 47.4	-6.6
GTA				PPMZ					
	comp=Z,430nm,7.8s								
GTA				LN					
	comp=Z,180nm,19.5s								
GTA				LE					
	comp=Z,190nm,15.7s								
GTA				LZ					
	comp=Z,250nm,20.4s								
HHC	Hu-ho-hao-te	174.69	310	*e*PKP		PKPdf		11 05 06.0	+1.0
HHC				pPKP		pPKPdf		11 05 15.9	+7.5
HHC				PP		PP		11 10 36.1	+4.7
HHC				SKS		SKSdf		11 12 03.3	-4.8
HHC				SS		SS		11 31 53.8	+0.3
HHC				PPMZ					
	comp=Z,130nm,6.1s								
HHC				LN					
	comp=Z,220nm,20.9s								
HHC				LE					
	comp=Z,110nm,20.6s								
HHC				LZ					
	comp=Z,230nm,20.2s								
XAN	Xi'an	175.88	213	PKP		PKPdf		11 05 05.4	-0.1

IDC 09 10:45:08.7±1.5, 9°38S×127°53E, h0km, mb3.6/2, mb1 3.6/4, mb1mx3.4/28, mbtmp3.5/4, ML3.7/2, Error ellipse: s-maj=230.5km s-min=24.8km az=61.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op	ISC	h	m	s		ISC
KDU	Kakadu	5.86	125	P	Pn	10	46	30.4		-6.5
	baz=5.4,SNR=12									
KNRA	Kunun

FINES	**FINESS Array B**	**69.87**	**20**	P		P		11 13 09.9	+0.4
	2.1nm,1.0s,baz=224,slow=5.8,SNR=3.4								
SNAA	**Sanae**	**71.58**	**175**	LR		LR		11 39 27.1	
	comp=Z,34nm,19.3s,baz=9.0,slow=31								
YKA	**Yellowknife Ar**	**94.10**	**333**	P		P		11 15 16.8	-0.5
	0.4nm,0.9s,baz=70,slow=5.5,SNR=4.2								
ASAR	**Alice Springs**	**142.71**	**132**	PKP		PKPdf		11 21 32.9	-0.5
	0.1nm,0.5s,baz=231,slow=3.0,SNR=2.6								

WEL 09 11:27:43.4±0.2, 40°.19S×173°.63E, h160km±2km, ML4.1/17, 25C-16D, Error ellipse: s-maj=1.5km s-min=0.7km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.65**	**160**	⇓PN	Pn	11 28 06.7	0.0
DUWZ				SN	Sn	11 28 23.1	-1.6
NMEZ	**Namu Road**	**0.80**	**14**	PN	Pn	11 28 07.6	-0.1
NMEZ				SN	Sn	11 28 25.5	-0.6
NWEZ	**Newall Road**	**0.93**	**11**	PN	Pn	11 28 08.6	0.0
PREZ	**Palmer Road**	**0.94**	**26**	PN	Pn	11 28 08.5	-0.2
PREZ				SN	Sn	11 28 28.0	-0.1
LREZ	**Lake Rotokare**	**0.94**	**39**	⇑PN	Pn	11 28 08.7	0.0
LREZ				SN	Sn	11 28 27.7	-0.3
KHEZ	**Kahui Hut**	**0.94**	**18**	⇑PN	Pn	11 28 08.7	-0.1
KHEZ				SN	Sn	11 28 27.4	-0.8
NEZ	**North Egmont**	**0.98**	**21**	PN	Pn	11 28 08.8	-0.3
PKE	**Pukeiti**	**1.03**	**16**	PN	Pn	11 28 09.3	-0.1
PKE				SN	Sn	11 28 28.3	-1.1
NNZ	**Nelson**	**1.05**	**191**	⇓PN	Pn	11 28 09.3	-0.1
NNZ				SN	Sn	11 28 27.8	-1.8
QRZ	**Quartz Range**	**1.06**	**232**	⇑PN	Pn	11 28 09.1	-0.5
QRZ				SN	Sn	11 28 27.3	-2.4
DREZ	**Durham Road**	**1.09**	**24**	PN	Pn	11 28 09.8	-0.1
WAZ	**Wanganui**	**1.12**	**68**	⇑PN	Pn	11 28 10.5	+0.3
TCW	**Tory Channel**	**1.13**	**155**	⇓PN	Pn	11 28 10.5	+0.3
TCW				AML	AML	11 28 29.8	
TCW				AML	AML	11 28 30.1	
KIW	**Kapiti Island**	**1.18**	**125**	⇑PN	Pn	11 28 10.7	0.0
KIW				AML	AML	11 28 29.3	
KIW				AML	AML	11 28 30.0	
MHEZ	**Mangahewa**	**1.23**	**26**	⇓PN	Pn	11 28 11.2	+0.1
TUWZ	**Tuamarina**	**1.26**	**169**	⇓PN	Pn	11 28 11.3	-0.1
TUWZ				AML	AML	11 28 31.8	
TUWZ				AML	AML	11 28 32.4	
OGWZ	**Otaki Gorge**	**1.33**	**119**	PN	Pn	11 28 12.1	+0.1
VRZ	**Vera Road**	**1.37**	**40**	PN	Pn	11 28 11.9	-0.5
WEL	**Wellington**	**1.40**	**142**	⇓PN	Pn	11 28 12.7	+0.1
WEL				AML	AML	11 28 33.8	
WEL				AML	AML	11 28 34.8	
CAW	**Cannon Point**	**1.43**	**131**	PN	Pn	11 28 13.1	+0.1
CAW				AML	AML	11 28 35.7	
CAW				AML	AML	11 28 35.7	
BSWZ	**Blackbirch Sta**	**1.54**	**173**	PN	Pn	11 28 14.3	+0.2
BSWZ				AML	AML	11 28 38.3	
BSWZ				AML	AML	11 28 38.9	
BHW	**Baring Head**	**1.54**	**143**	⇓PN	Pn	11 28 14.0	-0.1
BHW				AML	AML	11 28 36.2	
BHW				AML	AML	11 28 36.8	
MRZ	**Mangatainoka R**	**1.56**	**108**	PN	Pn	11 28 14.2	-0.2
MRZ				AML	AML	11 28 35.6	
MRZ				AML	AML	11 28 35.7	
PKVZ	**Pokaka**	**1.60**	**56**	PN	Pn	11 28 14.4	-0.4
HOWZ	**Holdsworth Sta**	**1.60**	**117**	PN	Pn	11 28 14.6	-0.1
CMWZ	**Cape Campbell**	**1.62**	**164**	PN	Pn	11 28 15.5	+0.6
CMWZ				AML	AML	11 28 39.9	
MTVZ	**Mangateitei**	**1.63**	**61**	PN	Pn	11 28 14.3	-0.9
POWZ	**Post Office Ro**	**1.65**	**98**	PN	Pn	11 28 15.0	-0.2
THZ	**Tophouse**	**1.67**	**199**	⇓PN	Pn	11 28 15.1	-0.4
MTW	**Mount Morrison**	**1.72**	**125**	PN	Pn	11 28 15.9	-0.1
MTW				AML	AML	11 28 39.9	
MTW				AML	AML	11 28 39.9	
TRVZ	**Turoa**	**1.72**	**60**	PN	Pn	11 28 15.7	-0.7
MSWZ	**Moikau Station**	**1.73**	**135**	PN	Pn	11 28 16.1	0.0
MSWZ				AML	AML	11 28 39.8	
MSWZ				AML	AML	11 28 40.4	
WNVZ	**Wahianoa**	**1.74**	**61**	⇑PN	Pn	11 28 15.8	-0.6
DRZ	**Dome Shelter**	**1.75**	**59**	PN	Pn	11 28 16.4	-0.4
FWVZ	**Far West T-bar**	**1.75**	**58**	⇑PN	Pn	11 28 15.9	-0.8
WHVZ	**Whangaehu Hut**	**1.76**	**60**	PN	Pn	11 28 15.9	-0.8
WPVZ	**Whakapapa**	**1.77**	**57**	⇑PN	Pn	11 28 16.1	-0.7
COVZ	**Chateau Observ**	**1.77**	**57**	PN	Pn	11 28 16.0	-0.7
TWVZ	**Taurewa**	**1.79**	**52**	PN	Pn	11 28 16.0	-0.9
TSZ	**Takapari Road**	**1.79**	**87**	PN	Pn	11 28 16.4	-0.4
TSZ				AML	AML	11 28 44.8	
TSZ				AML	AML	11 28 45.8	
MOVZ	**Moawhango**	**1.81**	**65**	PN	Pn	11 28 16.1	-1.0
TUVZ	**Tukino**	**1.81**	**60**	⇑PN	Pn	11 28 16.7	-0.5
PAWZ	**Paruwai Farm**	**1.81**	**132**	⇓PN	Pn	11 28 16.9	0.0
PAWZ				AML	AML	11 28 40.6	
PAWZ				AML	AML	11 28 40.9	
TIWZ	**Tintock**	**1.82**	**110**	⇑PN	Pn	11 28 16.9	-0.2
TIWZ				AML	AML	11 28 41.2	
TIWZ				AML	AML	11 28 41.4	
PRWZ	**Pori Road**	**1.82**	**102**	⇑PN	Pn	11 28 17.2	+0.1
NGZ	**Ngauruhoe**	**1.82**	**57**	PN	Pn	11 28 16.6	-0.8
PLWZ	**Palliser**	**1.85**	**139**	⇓PN	Pn	11 28 17.3	-0.2
WTVZ	**West Tongariro**	**1.85**	**55**	PN	Pn	11 28 16.8	-0.8
OTVZ	**Oturere**	**1.87**	**58**	⇑PN	Pn	11 28 17.3	-0.6
KRVZ	**Karewarewa**	**1.90**	**56**	PN	Pn	11 28 17.3	-0.8
HIZ	**Hauiti**	**1.92**	**30**	PN	Pn	11 28 17.3	-0.9
DVHZ	**Dannevirke**	**1.94**	**94**	⇑PN	Pn	11 28 18.0	-0.5
TMWZ	**Te Maipa**	**1.95**	**119**	⇑PN	Pn	11 28 18.5	-0.1
TRWZ	**Traveller**	**1.97**	**128**	PN	Pn	11 28 18.9	+0.1
TRWZ				AML	AML	11 28 45.9	
TRWZ				AML	AML	11 28 45.0	
PNHZ	**Pukenui**	**1.99**	**83**	⇑PN	Pn	11 28 18.5	-0.5
BHHZ	**Black Hill Sta**	**2.00**	**70**	⇓PN	Pn	11 28 18.1	-1.1
KATZ	**Kakaramea**	**2.00**	**53**	PN	Pn	11 28 18.6	-0.7
BFZ	**Birch Farm**	**2.05**	**105**	⇓PN	Pn	11 28 19.4	-0.3
DSZ	**Denniston Nort**	**2.08**	**221**	⇓PN	Pn	11 28 19.7	-0.4
CPWZ	**Castlepoint**	**2.08**	**111**	⇓PN	Pn	11 28 20.5	+0.4
RATZ	**Rangitukua**	**2.12**	**52**	⇑PN	Pn	11 28 20.3	-0.2
WPHZ	**Waipukurau**	**2.16**	**88**	⇑PN	Pn	11 28 20.5	-0.4
KRHZ	**Kereru**	**2.17**	**76**	⇑PN	Pn	11 28 20.5	-0.7
ANWZ	**Angora Road**	**2.19**	**98**	⇑PN	Pn	11 28 21.1	-0.2
WATZ	**Wairara**	**2.20**	**48**	PN	Pn	11 28 21.0	-0.4
KHZ	**Kahutara**	**2.23**	**182**	PN	Pn	11 28 21.5	-0.2
KHZ				AML	AML	11 28 22.0	
KHZ				AML	AML	11 28 22.1	
HATZ	**Hinemaiaia**	**2.30**	**57**	⇑PN	Pn	11 28 21.5	-1.1
PRHZ	**Porangahau**	**2.30**	**93**	⇑PN	Pn	11 28 22.2	-0.4
TLZ	**Tolley Road**	**2.37**	**39**	PN	Pn	11 28 22.4	-1.1
BKZ	**Black Stump Fm**	**2.43**	**66**	PN	Pn	11 28 22.9	-1.3
BKZ				AML	AML	11 28 54.9	
PXZ	**Pawanui**	**2.48**	**87**	⇑PN	Pn	11 28 24.2	-0.5
KAHZ	**Kahuranaki**	**2.52**	**82**	PN	Pn	11 28 24.7	-0.6
ALRZ	**Allen Road**	**2.65**	**53**	PN	Pn	11 28 25.6	-1.3
NMHZ	**Naumai**	**2.68**	**67**	PN	Pn	11 28 26.9	-0.4
CKHZ	**Cape Kidnapper**	**2.70**	**80**	PN	Pn	11 28 27.0	-0.4
ARHZ	**Aropaoanui**	**2.75**	**71**	PN	Pn	11 28 27.2	-0.9
LTZ	**Lake Taylor**	**2.79**	**201**	PN	Pn	11 28 27.4	-1.1
RAHZ	**Arahi**	**2.96**	**66**	PN	Pn	11 28 29.5	-1.1
WHHZ	**Waihua**	**2.99**	**69**	⇓PN	Pn	11 28 30.1	-1.0
SNGZ	**Shannon Statio**	**3.19**	**65**	PN	Pn	11 28 32.3	-1.4
URZ	**Urewera**	**3.32**	**56**	⇑PN	Pn	11 28 32.7	-2.4
KNZ	**Kokohu**	**3.33**	**71**	PN	Pn	11 28 33.4	-1.9
OXZ	**Oxford**	**3.35**	**200**	PN	Pn	11 28 33.6	-2.0
MHGZ	**Mahia Peninsul**	**3.46**	**74**	PN	Pn	11 28 35.6	-1.3
CRLZ	**Canterbury Las**	**3.47**	**192**	PN	Pn	11 28 35.6	-2.0
PRGZ	**Paritu Road**	**3.52**	**70**	PN	Pn	11 28 35.6	-2.2
RIGZ	**Rimuhau**	**3.52**	**66**	PN	Pn	11 28 35.9	-1.9
MWZ	**Matawai**	**3.54**	**60**	⇑PN	Pn	11 28 35.9	-2.2
MQZ	**McQueen's Vall**	**3.59**	**191**	⇓PN	Pn	11 28 36.2	-2.3
WVZ	**Waitaha Valley**	**3.61**	**216**	⇑PN	Pn	11 28 37.3	-1.5
TKGZ	**Te Karaka**	**3.71**	**63**	PN	Pn	11 28 38.1	-2.0
TWGZ	**Tauwhareparae**	**3.93**	**61**	PN	Pn	11 28 41.1	-2.0
CNGZ	**Carnagh Statio**	**3.93**	**66**	PN	Pn	11 28 41.4	-1.6
RPZ	**Rata Peaks**	**4.01**	**208**	PN	Pn	11 28 42.3	-1.7
HAZ	**Te Kaha**	**4.04**	**54**	PN	Pn	11 28 41.4	-3.1
PUZ	**Puketiti**	**4.17**	**61**	PN	Pn	11 28 43.4	-2.7
WMGZ	**Waiomatatini S**	**4.41**	**59**	PN	Pn	11 28 46.5	-2.8
MXZ	**Matakaoa Point**	**4.49**	**56**	PN	Pn	11 28 47.8	-2.4
JCZ	**Jackson Bay**	**5.31**	**221**	PN	Pn	11 28 58.6	-2.5
ODZ	**Otahua Downs**	**5.33**	**203**	PN	Pn	11 28 59.0	-2.2
WKZ	**Wanaka**	**5.75**	**215**	PN	Pn	11 29 04.4	-2.5

*JMA **09** 11:29:49.2±0.2, 26°.21N×129°.29E, h45km, M3.7*

*IDC **09** 11:29:52.9±1.3, 26°.22N×129°.13E, h38km±9km, mb2.9/3, mb1 3.2/4, mb1mx3.1/34, mbtmp3.2/4, ML3.5/1, Error ellipse: s-maj=45.5km s-min=15.7km az=64.0*

ISC 09 11:29:51.6±1.0, 26°.29N±0°.06×129°.19E±0°.06, h44km±14km, n23, σ1°00/32, mb3.1/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**0.98**	**303**	P	**Pn**	**11 30 08.7**	**-0.3**
JOW				eS	**Sn**	**11 30 21.9**	**+0.1**
JOW	**Kunigami**	**0.98**	**303**	Pn	**Pn**	**11 30 08.8**	**-0.3**
	baz=131,slow=14						
JNTH	**Nagotoyohara**	**1.07**	**282**	P	**Pn**	**11 30 09.5**	**-0.7**
JNTH				eS	**Sn**	**11 30 23.1**	**-0.9**
JOKE	**Okinoerabujima**	**1.20**	**333**	P	**Pn**	**11 30 12.0**	**0.0**
JOKE				eS	**Sn**	**11 30 27.7**	**+0.6**
JJT2	**Tamagusuku 2**	**1.31**	**264**	P	**Pn**	**11 30 12.9**	**-0.5**
JJT2				eS	**Sn**	**11 30 29.7**	**+0.1**
JIH	**Iheya**	**1.32**	**304**	P	**Pn**	**11 30 13.9**	**+0.3**
JIH				eS	**Sn**	**11 30 30.9**	**+0.8**
JTK	**Tokunoshima**	**1.50**	**352**	P	**Pn**	**11 30 15.8**	**-0.3**
JTK				S	**Sn**	**11 30 33.7**	**-0.8**
JAGN	**Aguni-jima**	**1.77**	**280**	P	**Pn**	**11 30 20.0**	**+0.2**
JAGN				eS	**Sn**	**11 30 41.7**	**+0.6**
JMZ	**Minamidaito 2**	**1.88**	**104**	P	Pn	11 30 17.3	-4.0
JMZ				eS	Sn	11 30 35.7	-8.1
JAMN	**Amaminishikomi**	**1.94**	**360**	P	**Pn**	**11 30 21.9**	**-0.2**
JAMN				eS	**Sn**	**11 30 45.5**	**+0.2**
JZK	**Kikaishima**	**2.13**	**19**	P	**Pn**	**11 30 24.5**	**-0.2**
JZK				eS	**Sn**	**11 30 50.3**	**+0.3**
JAM	**Amami Oshima**	**2.14**	**10**	P	**Pn**	**11 30 24.2**	**-0.7**
JAM				eS	**Sn**	**11 30 49.4**	**-0.8**
JKE	**Kume jima 2**	**2.16**	**271**	P	**Pn**	**11 30 24.2**	**-0.9**
JKE				eS	**Sn**	**11 30 49.6**	**-1.1**
JOGS	**Gusukube**	**3.75**	**247**	P	**Pn**	**11 30 45.9**	**-1.0**
JIKM	**Ikemajima**	**3.81**	**250**	P	**Pn**	**11 30 46.9**	**-0.9**
JISG	**Ishigakijimahi**	**4.73**	**250**	P	**Pn**	**11 30 58.0**	**-2.4**
JIJ	**Ishigaki jima**	**4.96**	**248**	P	Pn	11 31 00.2	-3.3
JNU	**Nakatsue**	**6.96**	**12**	Pn	**Pn**	**11 31 32.1**	**+1.0**
	0.8nm,0.3s,baz=309,slow=4.6,SNR=9.5						
JNU				Sn	**Sn**	**11 32 45.8**	**-3.2**
	0.7nm,0.3s,baz=26,slow=16,SNR=2.2						
MKAR	**Makanchi Array**	**42.14**	**312**	P	P	11 37 43.2	+3.6
	0.1nm,0.6s,baz=114,slow=8.3,SNR=2.5						
MKAR				pP	pP	11 37 52.2	+0.4
	0.3nm,0.7s,baz=101,slow=6.4,SNR=4.2						
WRA	**Warramunga Arr**	**46.23**	**173**	P	**P**	**11 38 13.0**	**+0.5**
	0.2nm,0.7s,baz=354,slow=8.3,SNR=3.3						
WRA				pP	**pP**	**11 38 24.9**	**+0.1**
	0.5nm,0.5s,baz=353,slow=8.4,SNR=3.3						
ASAR	**Alice Springs**	**49.87**	**174**	P	**P**	**11 38 41.7**	**+1.1**
	0.1nm,0.4s,baz=3.1,slow=15,SNR=3.2						
ASAR				pP	**pP**	**11 38 53.9**	**+0.8**
	0.3nm,0.4s,baz=3.6,slow=15,SNR=3.0						
FINES	**FINESS Array B**	**73.23**	**331**	pP	pP	11 41 31.3	+0.6
	1.2nm,0.7s,baz=90,slow=3.8,SNR=2.0						
BRTR	**Keskin Array B**	**77.68**	**308**	pP	pP	11 41 58.0	+1.0
	0.5nm,0.7s,baz=43,slow=6.7,SNR=2.4						

*ISCJB **09** 11:30:19.5±0.8, 24°.57S±0°.05×69°.4W±0°.2, h80km, mb3.5/3, Error ellipse: s-maj=25.8km s-min=6.4km az=3.2*

*IDC **09** 11:30:21.2±1.0, 24°.52S×69°.37W, h83km±7km, mb3.4/3, mb1 3.5/7, mb1mx3.3/19, mbtmp3.6/7, Error ellipse: s-maj=32.1km s-min=8.6km az=94.0*

ISC 09 11:30:21.0±0.8, 24°.53S±0°.06×69°.4W±0°.2, h80km, n13, σ0°77/15, mb3.5/3, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.96**	**14**	P	**Pn**	**11 30 52.6**	**0.0**
	1µm,0.3s,baz=147,slow=6.2,SNR=194						
LVC				S	**Sn**	**11 31 16.9**	**+0.3**
	5µm,0.3s,baz=344,slow=23,SNR=14						
CFAA	**Coronel Fontan**	**7.13**	**172**	P	**Pn**	**11 32 02.8**	**+0.2**
	0.1nm,0.3s,baz=338,slow=3.2,SNR=9.9						
CFAA				S	**Sn**	**11 33 21.9**	**-0.2**
	0.1nm,0.3s,baz=266,slow=19,SNR=1.8						
LPAZ	**La Paz**	**8.28**	**9**	P	**Pn**	**11 32 18.6**	**-0.3**
	0.2nm,0.3s,baz=206,slow=5.8,SNR=2.8						
SIV	**San Ignacio**	**11.54**	**44**	P	**Pn**	**11 33 02.2**	**-0.7**
	2.1nm,0.3s,baz=266,slow=7.6,SNR=16						
PLCA	**Paso Flores**	**16.19**	**183**	P	**Pn**	**11 34 03.4**	**-0.3**
	0.1nm,0.3s,baz=342,slow=16,SNR=3.5						
TXAR	**Lajitas Array**	**62.86**	**326**	P	**P**	**11 40 39.0**	**+0.3**
	0.1nm,0.5s,baz=163,slow=9.4,SNR=3.9						
TORD	**Torodi Ar. Bea**	**78.81**	**70**	P	**P**	**11 42 15.1**	**-0.5**
	1.2nm,0.5s,baz=256,slow=5.2,SNR=15						
TORD				pP	**pP**	**11 42 37.5**	**+0.6**
	1.4nm,0.6s,baz=260,slow=5.8,SNR=7.6						
TORD				sP	**sP**	**11 42 47.7**	**+2.1**
	0.8nm,0.5s,baz=255,slow=5.9,SNR=3.8						
YKA	**Yellowknife Ar**	**93.88**	**341**	P	**P**	**11 43 28.9**	**-0.1**
	0.1nm,0.6s,baz=126,slow=4.3,SNR=4.2						
YKA				pP	**pP**	**11 43 49.7**	**-1.0**
	0.3nm,0.8s,baz=133,slow=5.3,SNR=3.7						
ASAR	**Alice Springs**	**127.02**	**207**	PKP	**PKPdf**	**11 49 16.6**	**0.0**
	0.4nm,0.8s,baz=136,slow=1.7,SNR=2.8						
H11S2	**WAKE ISLAND Hy**	**27.74**	**275**	T	T	14 09 19.8	
	baz=108,slow=75,SNR=5.1						
H11S1	**WAKE ISLAND Hy**	**27.75**	**275**	T	T	14 09 19.8	
	baz=108,slow=75,SNR=8.4						
H11S3	**WAKE ISLAND Hy**	**27.75**	**275**	T	T	14 09 20.2	
	baz=108,slow=75,SNR=8.4						
ZALV	**Zalesovo Beam**	**144.87**	**27**	PKP	**PKPdf**	**11 49 48.2**	**-0.2**
	3.8nm,0.6s,baz=301,slow=3.0,SNR=6.3						

*IDC **09** 11:35:54.0±1.2, 28°.51N×143°.61E, h0km, mb3.7/6, mb1 3.9/8, mb1mx3.7/26, mbtmp3.7/8, ML3.5/2, Error ellipse: s-maj=31.3km s-min=22.3km az=111.0*

*ISCJB **09** 11:35:57.8±0.8, 28°.68N±0°.03×143°.1E±0°.1, h35km, mb3.8/6, Error ellipse: s-maj=14.0km s-min=4.2km az=0.4*

*JMA **09** 11:35:57.6±0.2, 28°.66N×143°.17E, h40km, M3.7*

ISC 09 11:35:59.7±1.0, 28°.59N±0°.05×143°.2E±0°.1, h35km, n21, σ1°35/27, mb3.8/6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.75**	**212**	P	**Pn**	**11 36 27.2**	**-0.3**
CBIJ				eS	**Sn**	**11 36 48.3**	**-0.3**
JCJ	**Chichijima**	**1.75**	**212**	Pn	**Pn**	**11 36 27.2**	**-0.3**
	baz=324,slow=17						
JCJ				Sn	**Sn**	**11 36 48.2**	**-0.5**
	53nm,0.3s,baz=95,slow=23,SNR=18						
JHJ2	**Mitsune**	**5.37**	**328**	P	**Pn**	**11 37 16.8**	**-0.5**
JHJ2				eS	**Sn**	**11 38 15.1**	**-2.8**
BSO1	**Boso 1**	**6.34**	**343**	P	**Pn**	**11 37 29.1**	**-1.0**
BSO1				eS	**Sn**	**11 38 40.8**	**-0.2**
BSO2	**Boso 2**	**6.49**	**342**	eS	**Sn**	**11 38 45.2**	**+0.2**
BSO3	**Boso 3**	**6.61**	**340**	P	**Pn**	**11 37 35.1**	**+1.1**
BSO4	**Boso 4**	**6.83**	**340**	eS	**Sn**	**11 38 55.3**	**+1.5**
JOD2	**Odawara 2**	**7.52**	**333**	P	**Pn**	**11 37 47.3**	**+0.5**
JHU	**Hanno**	**7.97**	**336**	P	**Pn**	**11 37 52.3**	**-0.7**
JRY	**Ryogami san**	**8.26**	**335**	P	**Pn**	**11 37 56.4**	**-0.5**
JHO	**Hitachi**	**8.30**	**345**	P	**Pn**	**11 37 55.6**	**-1.9**
JAG	**Ashikaga**	**8.43**	**339**	P	**Pn**	**11 37 58.4**	**-0.9**
MJAR	**Matsushiro Arr**	**8.98**	**333**	Pn	**Pn**	**11 38 06.3**	**-0.6**
	0.8nm,0.3s,baz=160,slow=12,SNR=13						
MJAR				Sn	**Sn**	**11 39 45.0**	**-1.8**
	0.2nm,0.3s,baz=204,slow=23,SNR=2.3						
MAT	**Matsushiro**	**8.98**	**333**	P	**Pn**	**11 38 06.4**	**-0.5**
MAT				eS	**Sn**	**11 39 44.0**	**-2.9**
KSRS	**Korea Array**	**15.56**	**309**	Pn	**P**	**11 39 40.1**	**-0.2**
	0.1nm,0.3s,baz=104,slow=13,SNR=4.1						
SONM	**Songino Array**	**34.30**	**314**	P	**P**	**11 42 45.2**	**+2.4**
	1.0nm,0.6s,baz=104,slow=6.1,SNR=2.3						
WRA	**Warramunga Arr**	**49.01**	**191**	P	**P**	**11 44 42.4**	**-0.7**
	3.8nm,0.9s,baz=15,slow=8.6,SNR=2.7						
MKAR	**Makanchi Array**	**50.25**	**309**	P	**P**	**11 44 54.3**	**+1.9**
	0.2nm,0.5s,baz=88,slow=8.8,SNR=4.4						
ILAR	**Eielson Array**	**55.96**	**29**	P	**P**	**11 45 32.9**	**-1.2**
	0.4nm,0.8s,baz=253,slow=5.3,SNR=6.7						
YKA	**Yellowknife Ar**	**70.39**	**29**	P	**P**	**11 47 09.2**	**-0.5**
	0.5nm,0.7s,baz=294,slow=6.3,SNR=6.2						
FINES	**FINESS Array B**	**77.01**	**334**	P	**P**	**11 47 49.4**	**+0.8**
	0.8nm,0.7s,baz=99,slow=8.6,SNR=4.1						

*IDC **09** 11:38:45.6±0.4, 1°.38S×119°.33E, h0km, mb4.5/24, mb1 4.5/25, mb1mx4.5/29, mbtmp4.5/25, ML4.2/1, MS4.5/25, Ms1 4.5/25, ms1mx4.3/36, Error ellipse: s-maj=19.3km s-min=9.9km az=74.0*

*ISCJB **09** 11:38:48.5±0.6, 1°.45S±0°.02×119°.29E±0°.02, h28km±4km, mb4.7/72, MS4.5/36, Error ellipse: s-maj=3.9km s-min=3.5km az=31.2*

*DJA **09** 11:38:48.9±0.1, 1°.S±2°×119°.9E±°, h10km, M5.0/33, mb4.9/33, mB5.5/19, MLv5.3/29, Mw(mB)5.0/19*

*MOS **09** 11:38:49.3±1.3, 1°.36S×119°.40E, h36km, mb5.2/25, MS4.7/7, Error ellipse: s-maj=13.6km s-min=6.6km az=113.9*

*BJI **09** 11:38:51.3, 1°.40S×119°.30E, h33km, mb4.9/54, mB5.2/39, Ms4.8/42, Ms7 4.6/41*

*NEIC **09** 11:38:51.1±0.2, 1°.42S×119°.30E, h35km, mb5.0/32, Error ellipse: s-maj=5.9km s-min=4.6km az=49.0*

*KLM **09** 11:38:54.5, 1°.34S×119°.42E, h51km, mb4.8, ML5.6, MS5.9*

ISC 09 11:38:51.4±0.4, 1°.48S±0°.03×119°.27E±0°.04, h35km±1km, h35km:pP-P, n261, σ1°40/282, mb4.8/72, MS4.5/36, 15C-12D, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.80**	**45**	P	Pn	11 39 00.7	-5.6
PCI				S	**Sn**	**11 39 13.8**	**-3.2**
TTSI	**Tana Toraja**	**1.65**	**161**	P	**Pn**	**11 39 17.3**	**-0.6**
TTSI				S	**Sb**	**11 39 43.2**	**+1.5**
MPSI	**Mapaga**	**1.91**	**19**	P	Pn	11 39 18.1	-3.4
BKB	**Balikpapan**	**2.38**	**275**	P	**Pn**	**11 39 27.1**	**-0.9**
APSI	**Ampana**	**2.44**	**77**	P	**Pn**	**11 39 28.1**	**-0.7**
SPSI	**Sidrap Palu**	**2.52**	**169**	P	**Pn**	**11 39 29.0**	**-0.9**
TOLI	**Toli-Toli**	**3.00**	**31**	ePn	**Pn**	**11 39 34.6**	**-1.9**
BNSI	**Bone**	**3.02**	**164**	P	**Pn**	**11 39 36.7**	**-0.1**
MRSI	**Marisa**	**3.30**	**54**	P	Pn	11 39 36.7	-4.0
MRSI				S	**Sn**	**11 40 20.2**	**+1.4**
LUWI	**Luwuk**	**3.53**	**83**	P	**Pn**	**11 39 43.2**	**-0.6**
LUWI				S	**Sb**	**11 40 39.0**	**+3.4**
LUWI	**Luwuk**	**3.53**	**83**	P	**Pn**	**11 39 42.8**	**-0.9**
	baz=3.3,SNR=21						
LUWI	**Luwuk**	**3.53**	**83**	ePn	**Pn**	**11 39 42.9**	**-0.9**
LUWI				eSn	**Sn**	**11 40 26.0**	**+1.7**
KAPI	**Kappang**	**3.54**	**172**	Pn	**Pn**	**11 39 43.3**	**-0.7**
	2µm,0.5s,SNR=41						
KAPI	**Kappang**	**3.54**	**172**	Pn	**Pn**	**11 39 43.7**	**-0.3**
	18nm,0.3s,baz=341,slow=11,SNR=23						
KAPI				Lg	Lg	11 40 40.5	
	20nm,0.3s,baz=128,slow=20,SNR=3.6						
KAPI				LR	LR	11 41 27.7	
	comp=Z,18µm,21.6s,baz=347,slow=45						
KBKI	**Kotabaru**	**3.59**	**240**	P	**Pn**	**11 39 42.1**	**-2.5**
BKSI	**Bulukumba**	**3.91**	**167**	P	**Pn**	**11 39 50.1**	**+1.1**
MTKI	**Muara Teweh, K**	**4.41**	**277**	P	**Pn**	**11 39 54.2**	**-1.7**
BSSI	**Bau Bau, Buton**	**4.79**	**165**	P	**Pn**	**11 40 03.1**	**+2.0**
BBKI	**Banjar Baru**	**4.84**	**246**	P	**Pn**	**11 40 00.4**	**-1.5**
KMSI	**Cibinong**	**5.13**	**67**	P	**Pn**	**11 40 04.6**	**-1.3**
	2µm,0.8s,17µm17nm						
TSM	**Tawau**	**5.90**	**346**	⇓P	**Pn**	**11 40 14.4**	**-2.0**
SANI	**Sanana**	**6.74**	**95**	P	**Pn**	**11 40 25.6**	**-2.3**
	415nm,1.

comp=Z,5μm,19.0s
WRAB Tennant Creek 23.53 142 *e*P **P 11 43 57.1 -1.6**
comp=Z,137nm,1.5s
KHON Khomkaen 24.03 318 P P 11 44 08.5 +5.2
comp=Z,8.6nm,1.0s,comp=Z,579nm
CHAI Chaiyaphum 24.29 316 P **P 11 44 05.9 +0.1**
comp=Z,15nm,0.9s,comp=Z,127nm
COCO West Island 24.66 243 *i*P **P 11 44 10.0 +0.9**
TPUB Ta-pu 24.67 3 *e*P **P 11 44 08.6 -0.6**
comp=Z,79nm,1.3s
YULB Yu-li 24.80 4 *e*P **P 11 44 10.6 +0.2**
comp=Z,56nm,1.3s
WRKA Warakurna 24.99 160 P **P 11 44 11.7 -0.4**
baz=25,SNR=9.8
WRKA S S 11 48 50.2 +16
baz=25,SNR=6.2
MEEK Meekatharra 25.02 181 P **P 11 44 13.1 +0.8**
baz=25,SNR=3.5
SSLB Suanglung 25.17 4 *e*P **P 11 44 13.3 -0.4**
comp=Z,27nm,0.9s
SRDT SRDT 25.41 309 P P 11 44 22.3 +6.4
comp=Z,87nm,1.0s,comp=Z,3μm
PBKT Sadao Pong 25.46 316 P **P 11 44 15.9 -0.4**
comp=Z,13nm,0.8s,comp=Z,4μm
AS31 Alice Springs 26.22 148 *e*P **P 11 44 25.2 +1.9**
ASAR Alice Springs 26.22 148 P **P 11 44 22.7 -0.6**
comp=Z,4.1nm,0.9s,baz=330,slow=8.6,SNR=22
ASAR PcP **PcP 11 47 49.6 -0.1**
comp=Z,1.5nm,0.9s,baz=356,slow=2.5,SNR=5.9
ASAR LR LR 11 56 27.5
comp=Z,1μm,19.3s,baz=326,slow=40
QZH Quanzhou 26.27 359 *e*P **P 11 44 26.7 +3.0**
QZH S **S 11 48 55.9 +1.8**
QZH LN
comp=Z,1μm,13.3s
QZH LE
comp=Z,750nm,7.6s
QZH LZ
comp=Z,2μm,19.9s
UTTA Uttaradit 26.55 317 P **P 11 44 26.6 +0.4**
comp=Z,4.2nm,0.9s,comp=Z,142nm
SUKH Sukhothai 27.01 315 P **P 11 44 35.1 +4.7**
comp=Z,2.6nm,1.1s
LAMP Lampang 27.72 317 P **P 11 44 38.9 +2.1**
comp=Z,4.2nm,1.0s,comp=Z,107nm
CMAR Chiang Mai Arr 28.15 316 P **P 11 44 40.4 -0.3**
comp=Z,3.5nm,0.8s,baz=140,slow=7.2,SNR=16
CMAR Chiang Mai Arr 28.15 316*ce*P **P 11 44 40.4 -0.3**
CMAR pmax pmax
comp=Z,4.0nm,0.8s
CMMT Chiang Mai 28.39 316 P **P 11 44 43.3 +0.5**
comp=Z,19nm,1.4s
CHTO Chiang Mai 28.39 316 P **P 11 44 43.4 +0.6**
comp=Z,45nm,1.1s
CHTO Chiang Mai 28.39 316 *e*P **P 11 44 43.0 +0.2**
CHTO pmax pmax
comp=Z,6.0nm,1.0s
CHTO Chiang Mai 28.39 316 *e*P **P 11 44 43.0 +0.2**
comp=Z,6.5nm,1.0s
CRAI Chiangrai 28.44 320 P P 11 44 39.4 -3.8
comp=Z,5.7nm,1.0s
CMAI Chiengmai2 29.09 318 P **P 11 44 50.9 +1.7**
comp=Z,16nm,1.2s
FORT Forrest 30.31 165 *e*P **P 11 45 00.3 +0.6**
comp=Z,35nm,1.1s
GYA Guiyang 30.33 337 *e*P **P 11 45 02.0 +2.0**
GYA sP **sP 11 45 15.6 +1.4**
GYA PP **PnPn 11 46 02.4 +3.5**
GYA S **S 11 49 58.8 +0.7**
GYA sS **sS 11 50 16.2 +1.5**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,4.8s
GYA LN
comp=Z,540nm,18.5s
GYA LE
comp=Z,480nm,19.2s
GYA LZ
comp=Z,530nm,18.6s
KMI Kunming 30.92 330 P **P 11 45 06.7 +1.3**
KMI pP **pP 11 45 15.9 +0.5**
KMI sP **sP 11 45 19.5 -0.1**
KMI PP **PnPn 11 46 09.9 +3.1**
KMI S **S 11 50 06.4 -1.3**
KMI sS **sS 11 50 25.0 +0.8**
KMI PMZ
comp=Z,9.0nm,0.5s
KMI PMZ
comp=Z,120nm,4.7s
KMI LN
comp=Z,460nm,13.6s
KMI LE
comp=Z,560nm,18.7s
KMI LZ
comp=Z,560nm,28.8s
WHN Wuhan 32.19 352 ⇑P **P 11 45 17.1 +0.9**
WHN S **S 11 50 32.5 +5.6**
WHN LN
comp=Z,1μm,11.2s
WHN LE
comp=Z,1μm,13.8s
WHN LZ
comp=Z,2μm,19.2s
CTA Charters Tower 32.21 127 LR LR 12 00 04.3
comp=Z,764nm,18.3s,baz=285,slow=40
NJ2 Nanjing 33.35 359 *e*P **P 11 45 26.0 -0.3**
NJ2 PMZ
comp=Z,50nm,0.9s
QLP Quilpie 34.62 138 P **P 11 45 37.2 -0.3**
baz=34,SNR=9.1
BBOO Buckleboo 34.94 155 *e*P **P 11 45 40.4 +0.2**
comp=Z,81nm,1.8s
CD2 Chengdu 35.43 337 ⇑*i*P **P 11 45 44.0 -0.5**
CD2 sP **sP 11 45 59.4 +0.6**
CD2 S **S 11 51 15.9 -1.4**
CD2 PMZ
comp=Z,30nm,0.8s
CD2 PMZ
comp=Z,320nm,10.8s
CD2 LE
comp=Z,210nm,14.3s
CD2 LZ
comp=Z,1μm,19.0s
JCJ Chichijima 35.98 36 LR LR 11 57 57.7
comp=Z,656nm,20.9s,baz=155,slow=32
XAN Xi'an 36.65 346 P **P 11 45 54.6 -0.2**
XAN pP **pP 11 46 04.9 0.0**
XAN S **S 11 51 39.3 +3.5**
XAN PMZ
comp=Z,2.0nm,0.8s
XAN LN
comp=Z,540nm,20.8s
XAN LE
comp=Z,200nm,16.4s
XAN LZ
comp=Z,220nm,23.8s
STKA Stephens Creek 36.85 147 P **P 11 45 56.3 -0.2**
comp=Z,7.6nm,0.9s,baz=320,slow=6.2,SNR=9.6
STKA LR LR 12 03 49.5
comp=Z,813nm,19.7s,baz=323,slow=41
STKA Stephens Creek 36.85 147 *e*P **P 11 45 56.1 -0.4**
STKA pmax pmax
comp=Z,5.0nm,1.4s
STKA Stephens Creek 36.85 147 P **P 11 45 56.4 -0.1**
baz=37,SNR=8.1
STKA Stephens Creek 36.85 147 *e*P **P 11 45 56.1 -0.4**
comp=Z,5.5nm,1.4s
TIA Tai'an 37.55 357 ⇑P **P 11 46 03.9 +1.5**
TIA PMZ
comp=Z,10.0nm,0.5s
SHL Shillong 37.75 317 *e*P **P 11 46 05.0 +0.5**
SHL *e*S S 11 52 05.0 +12
CMSA Cobar Meteorol 38.94 143 P P 11 46 17.8 +3.6
baz=39,SNR=7.5
KSAR Wonju Array Be 39.54 11 P **P 11 46 18.3 -0.8**
KSAR Wonju Array Be 39.54 11 P **P 11 46 18.3 -0.8**
KSRS Korea Array 39.56 11 P **P 11 46 18.3 -0.9**
comp=Z,1.5nm,0.6s,baz=191,slow=8.3,SNR=9.8
KSRS LR LR 12 03 02.5
comp=Z,462nm,20.4s,baz=210,slow=37
LZH Lanzhou 40.05 340 *e*P P 11 46 28.6 +5.1
LZH PMZ
comp=Z,40nm,1.2s
LZH PMZ
comp=Z,210nm,5.0s
LSA Lhasa 41.02 321 P **P 11 46 32.0 -0.1**
LSA Lhasa 41.02 321 *e*P **P 11 46 33.0 +0.9**
LSA pmax pmax
comp=Z,37nm,1.3s
LSA Lhasa 41.02 321 *e*P **P 11 46 33.0 +0.9**
comp=Z,37nm,1.3s
BJT Baijiatuan 41.40 356 *e*P **P 11 46 35.1 +0.7**
BJT pmax pmax
comp=Z,34nm,0.8s
BJT Baijiatuan 41.40 356 *e*P **P 11 46 35.1 +0.7**
comp=Z,34nm,0.8s
BJI Beijing 41.42 356 P **P 11 46 35.3 +0.8**
BJI S **S 11 52 49.6 +2.3**
BJI PMZ
comp=Z,45nm,1.2s
BJI PMZ
comp=Z,200nm,4.0s
BJI LN
comp=Z,700nm,20.2s
BJI LE
comp=Z,470nm,21.9s
BJI LZ
comp=Z,640nm,21.9s
ODAN Odare 41.69 315 *e*P **P 11 46 37.3 0.0**
MJAR Matsushiro Arr 41.73 23 P P 11 46 33.9 -3.4
comp=Z,3.2nm,0.9s,baz=198,slow=8.0,SNR=10
MJAR PcP **PcP 11 48 32.7 -0.6**
comp=Z,3.0nm,1.1s,baz=216,slow=4.2,SNR=4.7
MJAR LR LR 12 01 55.1
comp=Z,742nm,21.6s,baz=205,slow=33
MAJO Matsushiro 41.73 23 P P 11 46 33.0 -4.2
MAJO pmax pmax
comp=Z,44nm,1.2s
MAJO MLR MLR
comp=Z,3μm,20.0s
TAPN Taplejung 41.76 316 *e*P **P 11 46 37.8 -0.2**
comp=Z,86nm,1.0s
SKHT Srikalahasti 42.02 292 *e*P **P 11 46 39.3 -0.7**
RAMN Ramite 42.30 314 *e*P **P 11 46 42.6 +0.3**
comp=Z,47nm,1.0s
YNG Young 42.49 143 P P 11 46 48.0 +4.4
baz=42,SNR=5.5
HHC Hu-ho-hao-te 42.71 351 *e*P **P 11 46 45.3 0.0**
HHC pP **pP 11 46 55.3 -0.2**
HHC sP **sP 11 46 59.1 -0.6**
HHC PP **PP 11 48 27.4 +2.6**
HHC S **S 11 53 06.9 +0.3**
HHC sS **sS 11 53 24.7 +1.2**
HHC ScS **ScS 11 56 41.1 -2.9**
HHC PMZ
comp=Z,27nm,0.6s
HHC PMZ
comp=Z,67nm,5.7s
HHC LN
comp=Z,290nm,15.1s
HHC LE
comp=Z,490nm,16.5s
HHC LZ
comp=Z,220nm,18.6s
JIRN Jiri 43.02 315 *e*P **P 11 46 48.1 -0.2**
comp=Z,46nm,0.8s
NJS Nagarjunasagar 43.32 296 *e*P **P 11 46 50.1 -0.3**
GUN Gumba 43.39 315 *e*P **P 11 46 51.1 -0.2**
comp=Z,61nm,0.8s
PKI Pulchoki 43.52 314 *e*P **P 11 46 51.8 -0.5**
comp=Z,28nm,0.8s
PKIN Phulchoki 43.54 314 *e*P **P 11 46 51.8 -0.6**
comp=Z,20nm,0.8s
KKN Kakani 43.74 314 *e*P **P 11 46 53.6 -0.4**
comp=Z,29nm,0.8s
DMN Daman 43.77 314 *e*P **P 11 46 54.0 -0.2**
comp=Z,49nm,0.9s
RPR Rampur 44.18 299 *e*P **P 11 46 56.4 -0.9**
HYB Hyderabad 44.30 297 *i*P **P 11 46 57.0 -1.3**
HYBB Hyderabad (bro 44.30 297 *e*P **P 11 46 57.9 -0.5**
GKN Gorkha 44.33 314 *e*P **P 11 46 58.4 -0.2**
comp=Z,49nm,0.8s
GTA Gaotai 44.44 338 *e*P **P 11 46 59.3 +0.1**
GTA pP **pP 11 47 09.3 -0.2**
GTA sP **sP 11 47 13.3 -0.4**
GTA S **S 11 53 32.4 +0.4**
GTA sS **sS 11 53 48.4 -0.5**
GTA SS SS 11 56 44.2 -7.9
GTA PMZ
comp=Z,8.0nm,1.5s
GTA PMZ
comp=Z,160nm,4.9s
GTA LN
comp=Z,390nm,17.6s
GTA LE
comp=Z,620nm,15.7s
GTA LZ
comp=Z,650nm,16.6s
KOLN Koldanda 44.95 313 *e*P **P 11 47 03.2 -0.4**
comp=Z,30nm,0.8s
MDJ Mudanjiang 46.81 10 P **P 11 47 17.9 +0.2**
MDJ PMZ
comp=Z,21nm,1.2s
MDJ PMZ
comp=Z,190nm,10.0s
MDJ Mudanjiang 46.81 10 *e*P **P 11 47 17.2 -0.5**
comp=Z,47nm,1.1s
USRK Ussuriysk Ar. 46.88 13 P **P 11 47 16.9 -1.3**
comp=Z,2.0nm,0.5s,baz=205,slow=7.8,SNR=7.1
POO Poona 48.88 296 *ex* **P 11 47 32.0 -2.3**
ASAJ Asahikawa 49.96 22 P **P 11 47 40.1 -1.8**
comp=Z,6.3nm,0.7s,baz=219,slow=7.0,SNR=7.9
ASAJ LR LR 12 08 07.1
comp=Z,470nm,21.0s,baz=212,slow=35
ASAJ Asahikawa 49.96 22 *e*P **P 11 47 40.5 -1.5**
comp=Z,6.2nm,1.2s
ULN Ulaanbaatar 50.29 349 *e*P **P 11 47 43.8 -0.8**
ULN pmax pmax
comp=Z,16nm,1.0s
ULN Ulaanbaatar 50.29 349 *e*P **P 11 47 43.8 -0.8**
comp=Z,16nm,1.0s
SONM Songino Array 50.38 349 P **P 11 47 44.7 -0.6**
comp=Z,4.1nm,0.7s,baz=168,slow=8.6,SNR=10
SONM LR LR 12 12 09.6
comp=Z,370nm,18.6s,baz=160,slow=40
HIA Hailar 50.55 0 P **P 11 47 47.0 +0.6**
HIA pmax pmax
comp=Z,10.0nm,1.3s
HABR Khabarovsk 51.61 13 *e*P P 11 47 50.8 -3.5
HABR *e**PP pP 11 48 00.5 -4.3
HABR *e*SP 11 48 04.8
HABR *e* 11 49 04.6
HABR 11 49 48.2
HABR *e* 11 50 47.9
HABR *e*S **S 11 55 09.2 -3.7**
HABR *e*SS x 11 55 25.5
HABR *e* 11 57 38.1
HABR *e*SS **SS 11 58 45.9 -3.7**
HABR *e*SSS SSS 12 00 23.3
HABR pmax pmax
comp=Z,21nm,1.5s
HABR MLR MLR
comp=Z,360nm,18.0s
KLR Kul'dur 51.65 10 *e*P P 11 47 48.8 -5.9
WMQ Urumqi 53.22 332 P **P 11 48 06.9 +0.4**
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ pmax pmax
comp=Z,260nm,4.6s
WMQ LR LR
comp=N,550nm,21.8s
WMQ LR LR
comp=E,430nm,23.8s
WMQ LR LR
comp=Z,390nm,24.2s
WMQ Urumqi 53.22 332 P **P 11 48 06.5 0.0**
WMQ pP **pP 11 48 16.5 -0.5**
WMQ sP **sP 11 48 20.4 -0.7**
WMQ PcP **PcP 11 49 14.6 +0.5**
WMQ PP **PP 11 50 07.6 +0.7**
WMQ PcS **PcS 11 53 11.9 -1.1**
WMQ S **S 11 55 32.9 -2.4**
WMQ ScS **ScS 11 57 52.8 -0.8**
WMQ PMZ
comp=Z,11nm,0.6s
WMQ PMZ
comp=Z,270nm,4.4s
WMQ LN
comp=Z,340nm,14.8s
WMQ LE
comp=Z,300nm,17.0s
WMQ LZ
comp=Z,400nm,20.8s
ZAK Zakamensk 53.45 347 *e*P **P 11 48 08.0 -0.1**
ZAK pmax pmax
comp=Z,5.0nm,1.8s
TLY Talaya 54.60 348 *e*P **P 11 48 18.6 +2.2**
TLY pmax pmax
comp=Z,16nm,1.5s
TLY MLR MLR
comp=Z,438nm,22.0s
IRK Irkutsk 55.01 349 *e*P **P 11 48 20.5 +1.2**
IRK pmax pmax
comp=Z,25nm,2.6s
MOY Mondy 55.17 346 *e*P **P 11 48 22.5 +1.9**
KSH Kashi 56.87 321 P **P 11 48 33.3 +0.3**
KSH pP **pP 11 48 43.6 0.0**
KSH sP **sP 11 48 47.2 -0.5**
KSH PP **PP 11 50 40.7 +0.9**
KSH S **S 11 56 21.0 -3.5**
KSH PMZ
comp=Z,100nm,5.7s
KSH LN
comp=Z,190nm,5.8s
KSH LE
comp=Z,120nm,7.2s
KSH LZ
comp=Z,180nm,9.1s
MK31 Makanchi Array 57.99 331 *e*P **P 11 48 40.2 -0.5**
MK31 Makanchi Array 57.99 331 *e*P **P 11 48 40.2 -0.5**
MKAR Makanchi Array 57.99 331 P **P 11 48 40.0 -0.7**
comp=Z,3.3nm,0.8s,baz=179,slow=5.9,SNR=34
MKAR LR LR 12 18 14.2
comp=Z,374nm,18.6s,baz=246,slow=41
MKAR Makanchi Array 57.99 331*ce*P **P 11 48 40.2 -0.5**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 57.99 331 *e*P **P 11 48 40.4 -0.3**
TKM2 Tokmak 2 59.09 324 *e*P **P 11 48 48.7 0.0**
TKM2 pmax pmax
comp=Z,38nm,1.9s
TKM2 Tokmak 2 59.09 324 *e*P **P 11 48 48.7 0.0**
comp=Z,38nm,1.9s
KBL Kabul 59.11 312 *e*P **P 11 48 48.0 -0.9**
KBL pmax pmax
comp=Z,18nm,0.7s
KBL Kabul 59.11 312 *e*P **P 11 48 48.0 -0.9**
comp=Z,18nm,0.7s
AAK Ala-Archa 59.58 323‖ *e*P **P 11 48 51.8 -0.2**
AAK pmax pmax
comp=Z,39nm,2.5s
AAK MLR MLR
comp=Z,1μm,19.0s
AAK Ala-Archa 59.58 323 *e*P **P 11 48 51.0 -0.9**
comp=Z,24nm,1.5s
FRU Bishkek 59.62 323 *e*P **P 11 48 52.0 -0.1**
FRU *e* 11 49 11.0
ZAA0 Zalesovo Array 62.19 338 *e*P **P 11 49 07.8 -1.5**
ZALV Zalesovo Beam 62.19 338 P **P 11 49 07.7 -1.6**
comp=Z,7.9nm,0.7s,baz=136,slow=5.7,SNR=28
ZALV Zalesovo Beam 62.19 338 *i*P **P 11 49 07.8 -1.4**
ZALV pmax pmax
comp=Z,8.0nm,0.7s
RPZ Rata Peaks 62.22 140 P **P 11 49 10.6 +0.8**
comp=Z,14nm,0.9s,baz=225,slow=11,SNR=3.3
RPZ LR LR 12 15 38.6
comp=Z,552nm,21.9s,baz=300,slow=36
KURK Kurchatov 62.46 332 P **P 11 49 10.3 -0.8**
comp=Z,87nm,1.0s,SNR=8.5
KURK Kurchatov 62.46 332 *e*P **P 11 49 10.1 -1.1**
KURK pmax pmax
comp=Z,35nm,1.0s
KURK Kurchatov 62.46 332 *e*P **P 11 49 10.1 -1.1**
comp=Z,35nm,1.0s
PETK Petropavlovsk- 63.15 25 LR LR 12 17 14.4
comp=Z,124nm,20.0s,baz=222,slow=37
NVS Novosibirsk 63.47 338‖ *i*P **P 11 49 15.1 -2.6**
NVS *e* 11 53 08.3
NVS pmax pmax
comp=Z,26nm,1.9s
NVS pmax pmax
comp=N,18nm,1.8s
NVS pmax pmax
comp=E,13nm,1.8s
YAK Yakutsk 63.84 5 P **P 11 49 18.5 -1.5**
comp=E,26nm,0.6s,baz=133,slow=0.5,SNR=9.8
YAK Yakutsk 63.84 5 *e*P **P 11 49 18.7 -1.3**
YAK *e**PP **pP 11 49 29.7 -1.0**
YAK *e* 11 49 58.1
YAK *e* 11 51 35.8
YAK *e*S **S 11 57 53.8 +1.1**
YAK *e**SS **sS 11 58 08.0 -2.3**
YAK *e* 11 59 04.8
YAK pmax pmax
comp=Z,34nm,0.9s
YAK pmax pmax
comp=N,15nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK pmax pmax
comp=Z,86nm,3.6s
YAK pmax pmax
comp=N,64nm,4.8s
YAK pmax pmax
comp=E,74nm,4.4s
YAK smax smax
comp=N,100nm,3.7s
YAK smax smax
comp=E,58nm,2.8s
YAK MLR MLR
comp=Z,357nm,20.0s
YAK MLR MLR
comp=N,366nm,22.0s
YAK MLR MLR
comp=E,168nm,22.0s
YAK Yakutsk 63.84 5 *e*P **P 11 49 19.1 -0.9**
comp=E,46nm,0.8s
RAO Raoul Island 65.69 121 LR LR 12 17 55.2
comp=E,382nm,20.3s,baz=357,slow=36
BRVK Borovoye 67.95 331⇑ *e*P **P 11 49 46.3 -0.4**
BRVK pmax pmax
comp=Z,15nm,1.0s
BRVK Borovoye 67.95 331 *e*P **P 11 49 46.1 -0.5**
comp=Z,23nm,1.3s
GEYT Alibeck 68.55 312 P **P 11 49 50.7 -0.1**
comp=Z,3.7nm,0.8s,baz=186,slow=2.7,SNR=8.1
SEY Seymchan 68.89 16 P **P 11 49 51.7 -0.7**
comp=Z,4.9nm,0.8s,baz=226,slow=11,SNR=12
ABKAR Akbulak array 71.66 324 *e*P **P 11 50 08.2 -1.4**
comp=Z,4.0nm,0.8s
TIXI Tiksi 73.27 3⇑ *e*P **P 11 50 17.3 -1.5**
TIXI pmax pmax
comp=Z,19nm,1.0s
TIXI MLR MLR
comp=Z,492nm,20.0s
TIXI Tiksi 73.27 3 *e*P **P 11 50 17.2 -1.5**
comp=Z,81nm,1.5s
SVE Sverdlovsk 74.66 331‖ *i*P **P 11 50 26.4 -0.8**
SVE pmax pmax
comp=Z,40nm,1.7s
ARU Arti 75.50 330*c i*P **P 11 50 30.8 -1.2**
ARU S **S 12 00 09.6 -0.4**
ARU pmax pmax
comp=Z,14nm,1.0s
ARU Arti 75.50 330 *e*P **P 11 50 30.5 -1.6**
comp=Z,24nm,1.3s
RAYN Ar Rayn 75.74 295 *e*P **P 11 50 32.2 -1.9**
comp=Z,13nm,1.3s
MAW Mawson 76.37 199 P **P 11 50 36.9 +0.1**
comp=Z,4.5nm,0.9s,baz=42,slow=5.1,SNR=4.3
MAW LR LR 12 24 54.7
comp=Z,378nm,18.1s,baz=65,slow=36
VNDA Vanda 79.33 171 P **P 11 50 52.6 -0.5**
comp=Z,2.2nm,0.5s,baz=321,slow=6.5,SNR=22
VNDA LR LR 12 26 54.3
comp=Z,660nm,18.2s,baz=340,slow=36
VNDA Vanda 79.33 171 *e*P **P 11 50 53.2 +0.1**
VNDA pmax pmax
comp=Z,3.0nm,0.7s
VNDA Vanda 79.33 171 *e*P **P 11 50 53.2 +0.1**
comp=Z,2.7nm,0.7s
ZEI Tsey 80.30 314 *e*P P 11 50 55.7 -3.6
ZEI pmax pmax
comp=Z,9.0nm,1.0s
KBZ Khabaz 81.20 315 P **P 11 51 02.5 -1.2**
comp=Z,2.2nm,0.7s,baz=56,slow=24,SNR=6.7
KBZ LR LR 12 34 12.5
comp=Z,135nm,18.3s,baz=128,slow=41

KMBO	**Kilima Mbogo**	**81.99**	**269**	P		**P**	**11 51 08.5**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=63,slow=11,SNR=4.7							
KMBO				LR		LR	12 26 01.6	
	comp=Z,299nm,19.6s,baz=90,slow=35							
KMBO	**Kilima Mbogo**	**81.99**	**269**	*ce*P		**P**	**11 51 10.5**	**+1.5**
KMBO				pmax		pmax		
	comp=Z,1.0nm,0.3s							
VORD	**Divnogorie**	**84.83**	**321**	*e*P		**P**	**11 51 21.8**	**-0.6**
VORD				pmax		pmax		
	comp=Z,10.0nm,1.1s							
VORD				pmax		pmax		
	comp=N,7.0nm,1.0s							
VORD				pmax		pmax		
	comp=E,10.0nm,0.8s							
SYO	**Syowa Base**	**84.92**	**201⇑**	*e*P		**P**	**11 51 21.5**	**-1.0**
VSR	**Storozhevoye**	**84.95**	**322**	*e*P		**P**	**11 51 21.6**	**-1.4**
VSR				pmax		pmax		
	comp=E,10.0nm,1.6s							
VSR				pmax		pmax		
	comp=Z,10.0nm,1.6s							
VSR				pmax		pmax		
	comp=N,10.0nm,1.5s							
LPSR	**Galich'ya Gora**	**85.30**	**323**	*e*P		**P**	**11 51 23.0**	**-1.7**
LPSR				pmax		pmax		
	comp=Z,7.0nm,1.0s							
LPSR				pmax		pmax		
	comp=N,7.0nm,1.4s							
LPSR				pmax		pmax		
	comp=E,5.0nm,0.5s							
EIL	**Elat**	**85.79**	**300**	P		**P**	**11 51 28.1**	**+0.3**
	baz=86,SNR=5.5							
KLMR	**Klimovskoe**	**86.29**	**331**	*e*P		**P**	**11 51 27.6**	**-1.9**
KLMR				pmax		pmax		
	comp=Z,42nm,1.1s							
MOS	**Moscow**	**86.50**	**326**	*e*P		**P**	**11 51 31.5**	**+0.9**
MOS				*e*			11 51 47.9	
MOS				pmax		pmax		
	comp=Z,58nm,1.5s							
OBN	**Obninsk**	**87.02**	**325⇑**	*e*P		**P**	**11 51 31.8**	**-1.4**
OBN				*e*			11 54 58.2	
OBN				*i* S		S	12 02 03.0	-6.5
OBN				*i* SS		**SS**	**12 07 59.5**	**+6.6**
OBN				pmax		pmax		
	comp=Z,48nm,1.7s							
CSS	**Prodhromos**	**87.51**	**305**	*e*P		**P**	**11 51 34.7**	**-1.3**
	comp=Z,3.6nm,1.0s							
BR131	**Keskin Array S**	**87.57**	**310**	*e*P		**P**	**11 51 35.0**	**-1.4**
	comp=Z,5.7nm,0.8s							
BRTR	**Keskin Array B**	**87.57**	**310**	P		**P**	**11 51 35.0**	**-1.4**
	comp=Z,6.6nm,0.9s,baz=116,slow=5.6,SNR=18							
BRTR				LR		LR	12 37 24.9	
	comp=Z,201nm,19.7s,baz=111,slow=40							
BRTR	**Keskin Array B**	**87.57**	**310**	*ce*P		**P**	**11 51 35.2**	**-1.2**
BRTR				pmax		pmax		
	comp=Z,7.0nm,0.9s							
QSPA	**South Pole Qui**	**88.46**	**180**	*e*P		**P**	**11 51 40.0**	**-0.1**
	comp=Z,10nm,1.2s							
PPT	**Papeete**	**90.66**	**107**	LR		LR	12 31 01.2	
	comp=Z,44nm,20.4s,baz=204,slow=35							
AKASG	**Malin Array Be**	**91.17**	**321**	P		**P**	**11 51 50.8**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=68,slow=4.9,SNR=6.8							
AKASG				LR		LR	12 40 43.7	
	comp=Z,160nm,18.2s,baz=75,slow=41							
KIEV	**Kiev**	**91.17**	**320**	*e*P		**P**	**11 51 52.0**	**-0.9**
FINES	**FINESS Array B**	**92.82**	**331**	P		**P**	**11 51 58.8**	**-1.5**
	comp=Z,2.2nm,0.9s,baz=32,slow=11,SNR=5.0							
ILAR	**Eielson Array**	**92.97**	**25**	P		**P**	**11 52 00.1**	**-0.8**
	comp=Z,0.1nm,0.6s,baz=327,slow=6.5,SNR=4.9							
ILAR				LR		LR	12 34 26.8	
	comp=Z,63nm,21.2s,baz=274,slow=36							
BUR08	**Bucovina Ar. S**	**93.84**	**317**	*e*P		**P**	**11 52 04.3**	**-1.1**
KOLS	**Kolonicke sedl**	**95.72**	**319**	*e*P		**P**	**11 52 14.9**	**+1.0**
KOLS	**Kolonicke sedl**	**95.72**	**319**	*e*P		**P**	**11 52 14.9**	**+1.0**
VYHS	**Vyhne**	**98.03**	**319**	*e*P		Pdif	11 52 27.4	+3.0
VYHS	**Vyhne**	**98.03**	**319**	*e*		Pdif	11 52 27.4	+3.0
OKC	**Ostrava-Krasne**	**98.31**	**320**	AMS		AMS	12 49 50.0	
	comp=Z,200nm,18.5s							
NOA	**NORSAR Array B**	**99.97**	**332**	LR		LR	12 43 12.6	
	comp=Z,87nm,18.5s,baz=60,slow=39							
TREC	**Trest**	**100.10**	**320**	AMS		AMS	12 48 00.0	
	comp=Z,200nm,16.2s							
GOPC	**GO Pecny, Ondr**	**100.44**	**320**	AMS		AMS	12 51 10.0	
	comp=Z,300nm,16.9s							
PRU	**Pruhonice**	**100.58**	**321**	AMS		AMS	12 50 40.0	
	comp=Z,200nm,18.4s							
KHC	**Kasperske Hory**	**101.36**	**320**	AMS		AMS	12 50 40.0	
	comp=Z,200nm,20.7s							
YKA	**Yellowknife Ar**	**107.24**	**23**	PKiKP		**PKiKP**	**11 57 12.1**	**-1.6**
	comp=Z,0.5nm,0.7s,baz=316,slow=2.1,SNR=7.3							
NVAR	**Mina Array Bea**	**115.91**	**47**	PKP		**PKPdf**	**11 57 32.0**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=303,slow=3.0,SNR=3.6							
HLID	**Hailey**	**116.61**	**41**	*e*PKPdf		**PKPdf**	**11 57 32.2**	**-0.2**
SNOW	**Snow King Moun**	**119.03**	**40**	*e*PKPdf		**PKPdf**	**11 57 38.8**	**+1.6**
PDAR	**Pinedale Array**	**120.13**	**40**	PKP		**PKPdf**	**11 57 39.7**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=293,slow=1.1,SNR=4.0							
ULM	**Lac du Bonnet**	**122.99**	**26**	PKP		**PKPdf**	**11 57 43.6**	**-0.7**
	comp=Z,3.4nm,1.0s,baz=282,slow=3.4,SNR=5.8							
ANMO	**Albuquerque**	**126.01**	**47**	*e*PKiKP		**PKPdf**	**11 57 52.7**	**+1.9**
ANMO	**Albuquerque**	**126.01**	**47**	*e*PKPdf		**PKPdf**	**11 57 52.7**	**+1.9**
ECSD	**EROS Data Cent**	**127.21**	**32**	*e*PKPdf		**PKPdf**	**11 57 51.8**	**-0.8**
TXAR	**Lajitas Array**	**130.66**	**52**	PKP		**PKPdf**	**11 58 00.1**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=232,slow=1.4,SNR=3.6							
JCT	**Junction City**	**133.07**	**48**	*e*PKiKP		**PKPdf**	**11 58 04.1**	**0.0**
JCT	**Junction City**	**133.07**	**48**	*e*PKPdf		**PKPdf**	**11 58 04.1**	**0.0**
LCO	**Las Campanas**	**148.21**	**163**	*e*PKPbc		**PKPbc**	**11 58 33.9**	**-1.0**
CPUP	**Villa Florida**	**152.16**	**187**	PKPbc		**PKPbc**	**11 58 43.8**	**-0.3**
	comp=Z,2.8nm,0.9s,baz=122,slow=1.4,SNR=12							
LPAZ	**La Paz**	**160.89**	**158**	PKP		**PKPdf**	**11 58 51.5**	**+1.7**
	comp=Z,6.7nm,1.3s,baz=268,slow=2.8,SNR=6.1							
LPAZ				PKPab		**PKPab**	**11 59 33.2**	**+1.2**
	comp=Z,2.4nm,0.9s,baz=111,slow=3.4,SNR=5.0							
LPAZ	**La Paz**	**160.89**	**158**	*e*PKiKP		**PKPdf**	**11 58 50.5**	**+0.7**
LPAZ	**La Paz**	**160.89**	**158**	*e*PKPdf		**PKPdf**	**11 58 50.5**	**+0.7**
LPAZ				PKP		**PKPdf**	**11 58 51.5**	**+1.7**
LPAZ				PKPab		**PKPab**	**11 59 33.2**	**+1.2**

*NEIC **09** 11:46:27.8, 36°.62S×177°.08E, h12km, ML4.0(WEL), After WEL.*

WEL 09 11:46:27.5±0.6, 36°.63S×177°.04E, h5km, ML3.9/3, Error ellipse: s-maj=4.2km s-min=3.5km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MYRZ	**Mayor Island**	**0.92**	**224**	P*		Pg	11 46 44.4	-0.7
MYRZ				S*		Sg	11 46 56.5	-0.6
KUZ	**Kuaotunu**	**1.07**	**263**	P*		Pg	11 47 01.1	-0.8
KUZ				S*		Sg	11 47 01.1	-0.8
KUZ				AML		AML	11 47 01.9	
KUZ				AML		AML	11 47 03.8	
KUZ				AML		AML	11 47 03.8	
KUZ	**Kuaotunu**	**1.07**	**263**	P*		Pg	11 46 47.4	-0.7
KUZ				S*		Sg	11 47 01.1	-0.8
TGRZ	**Tauranga**	**1.27**	**209**	P*		Pg	11 46 49.6	-2.2
TGRZ				AML		AML	11 47 11.7	
TGRZ				AML		AML	11 47 20.0	
TGRZ	**Tauranga**	**1.27**	**209**	P*		Pg	11 46 49.6	-2.2
HAZ	**Te Kaha**	**1.27**	**153**	P*		Pg	11 46 49.7	-2.2
HAZ				S*		Sg	11 47 05.8	-2.6
OPRZ	**Ohinepanea**	**1.28**	**198**	P*		Pn	11 46 48.6	-3.4
OPRZ	**Ohinepanea**	**1.28**	**198**	P*		Pn	11 46 48.6	-3.4
MKAZ	**Moumakai**	**1.58**	**252**	PN		Pn	11 46 56.0	-0.2
MKAZ				SN		Sn	11 47 15.9	-1.1
MKAZ				AML		AML	11 47 17.8	
MKAZ	**Moumakai**	**1.58**	**252**	Pn		Pn	11 46 56.0	-0.2
MKAZ				Sn		Sn	11 47 15.9	-1.1
URZ	**Urewera**	**1.63**	**178**	P*		Pn	11 46 54.1	-2.7
URZ	**Urewera**	**1.63**	**178**	P*		Pn	11 46 54.1	-2.7
TOZ	**Tahuroa Road**	**1.65**	**228**	P*		Pn	11 46 55.9	-1.2
TOZ	**Tahuroa Road**	**1.65**	**228**	P*		Pn	11 46 55.9	-1.2
ETAZ	**East Tamaki Re**	**1.73**	**259**	PN		Pn	11 46 58.0	-0.2

IDC 09 12:05:04.1±9.5, 21°.41S×178°.47W, h417km±84km, mb3.3/6, mb1 3.4/7, mb1mx3.1/20, mbtmp4.1/7, Error ellipse: s-maj=78.5km s-min=23.6km az=39.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**17.23**	**192**	P		P	12 08 39.6	-0.1
	0.6nm,0.3s,baz=129,slow=19,SNR=4.8							
CTA	**Charters Tower**	**32.97**	**266**	P		P	12 11 03.4	+0.9
	1.9nm,0.4s,baz=90,slow=10,SNR=3.5							
STKA	**Stephens Creek**	**37.00**	**245**	P		P	12 11 36.2	0.0
	1.4nm,0.5s,baz=92,slow=12,SNR=5.6							
ASAR	**Alice Springs**	**43.89**	**258**	P		P	12 12 31.5	-0.5
	3.6nm,0.8s,baz=100,slow=8.1,SNR=62							
WRA	**Warramunga Arr**	**44.05**	**263**	P		P	12 12 32.6	-0.6
	3.2nm,1.0s,baz=96,slow=8.0,SNR=33							
VNDA	**Vanda**	**56.97**	**185**	P		P	12 14 07.7	+0.1
	0.5nm,0.7s,baz=35,slow=7.3,SNR=4.3							
CMAR	**Chiang Mai Arr**	**90.00**	**290**	P		P	12 17 19.5	+1.3
	0.2nm,0.3s,baz=130,slow=3.2,SNR=5.1							
AKASG	**Malin Array Be**	**143.58**	**330**	PKP		PKPab	12 23 47.9	-0.1
	0.1nm,0.3s,baz=39,slow=3.7,SNR=5.6							

IDC 09 12:16:52.4±1.9, 17°.28S×177°.56W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/28, mbtmp3.7/5, Error ellipse: s-maj=110.8km s-min=26.7km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**39.64**	**241**	P		P	12 24 26.1	0.0
	0.8nm,0.5s,baz=78,slow=9.2,SNR=5.1							
WRA	**Warramunga Arr**	**45.54**	**259**	P		P	12 25 14.6	+0.2
	0.9nm,0.4s,baz=98,slow=7.2,SNR=52							
ASAR	**Alice Springs**	**45.74**	**254**	P		P	12 25 15.4	-0.5
	1.1nm,0.5s,baz=88,slow=7.8,SNR=26							
TXAR	**Lajitas Array**	**84.98**	**57**	P		P	12 29 31.0	+0.9
	0.2nm,0.7s,baz=246,slow=6.7,SNR=3.5							
ILAR	**Eielson Array**	**85.10**	**13**	P		P	12 29 28.8	-1.0
	0.1nm,0.4s,baz=212,slow=4.8,SNR=4.1							

*ISCJB **09** 12:54:12.1±0.6, 17°.23N±0°.05×100°.34W±0°.05, h47km±6km, mb3.0/4, Error ellipse: s-maj=8.3km s-min=6.9km az=27.4*
*IDC **09** 12:54:14.2±2.1, 17°.24N×100°.26W, h49km±10km, mb2.9/4, mb1 3.3/7, mb1mx3.2/25, mbtmp3.2/7, ML3.2/3, Error ellipse: s-maj=47.1km s-min=15.7km az=20.0*
*MEX **09** 12:54:15.1±0.7, 17°.33N×100°.42W, h12km, MD4.1*
*NEIC **09** 12:54:15.1, 17°.33N×100°.42W, h12km, MD4.1(MEX), After MEX.*

ISC 09 12:54:13.1±0.8, 17°.21N±0°.05×100°.38W±0°.04, h47km±6km, n23, σ1s78/38, mb3.0/4, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CAIG	**El Cayaco**	**0.19**	**146**	*i* P		**Pn**	**12 54 20.8**	**-0.2**
CAIG				*i* S		Sn	12 54 26.3	-0.2
CAIG	**El Cayaco**	**0.19**	**146**	*i* P		Pn	12 54 20.8	-0.2
CAIG				*i* S		Sn	12 54 26.3	-0.2
ACX	**Acapulco**	**0.60**	**124**	*i* P		Pn	12 54 23.3	-2.1
ACX				*i* S		Sn	12 54 31.5	-2.8
ACX	**Acapulco**	**0.60**	**124**	*i* P		Pn	12 54 23.3	-2.1
ACX				*i* S		Sn	12 54 31.5	-2.8
MEIG	**Mezcala**	**1.02**	**45**	*e*P		Pn	12 54 30.5	-0.6
MEIG				*e*S		Sn	12 54 42.2	-2.1
MEIG	**Mezcala**	**1.02**	**45**	*e*P		Pn	12 54 30.5	-0.6
MEIG				*e*S		Sn	12 54 42.2	-2.1
ARIG	**Puente Sto Nin**	**1.07**	**2**	*e*P		Pn	12 54 30.5	-1.2
ARIG				*i* S		Sn	12 54 42.4	-3.1
ZIIG	**Zihuatanejo**	**1.11**	**291**	*e*P		Pn	12 54 31.8	-0.4
ZIIG				*e*S		Sn	12 54 43.2	-3.2
ZIIG	**Zihuatanejo**	**1.11**	**291**	*e*P		Pn	12 54 31.8	-0.4
ZIIG				*e*S		Sn	12 54 43.2	-3.2
PLIG	**Platanillo**	**1.45**	**35**	*i* P		Pn	12 54 36.9	0.0
PLIG				*e*S		Sn	12 54 53.2	-1.5
PLIG	**Platanillo**	**1.45**	**35**	*i* P		Pn	12 54 36.9	0.0
PLIG				*e*S		Sn	12 54 53.2	-1.5
TLIG	**Tlapa**	**1.77**	**78**	*e*P		Pn	12 54 42.1	+0.8
TLIG				*e*S		Sn	12 55 02.1	-0.5
HUIG	**Huatulco**	**4.34**	**109**	*e*P		Pn	12 55 16.8	+0.3
HUIG	**Huatulco**	**4.34**	**109**	*e*P		Pn	12 55 16.8	+0.3
CMIG	**Matias Romero**	**5.25**	**90**	P		Pn	12 55 30.3	+1.2
	1.1nm,0.3s,baz=268,slow=10,SNR=7.9							
CMIG				S		Sn	12 56 27.1	-1.3
	2.4nm,0.3s,baz=257,slow=12,SNR=3.9							
TEIG	**Tepich**	**11.85**	**73**	S		Sn	12 59 06.8	-3.6
	0.3nm,0.3s,baz=37,slow=23,SNR=1.5							
TXAR	**Lajitas Array**	**12.44**	**347**	P		Pn	12 57 10.4	+2.8
	0.0nm,0.3s,baz=169,slow=14,SNR=3.3							
ANMO	**Albuquerque**	**18.48**	**344**	P		**Pn**	**12 58 26.4**	**+0.5**
	0.1nm,0.3s,baz=132,slow=14,SNR=2.1							
NVAR	**Mina Array Bea**	**26.33**	**327**	P		**P**	**12 59 47.2**	**+2.3**
	1.0nm,0.9s,baz=148,slow=8.8,SNR=5.8							
NVAR				pP		**pP**	**13 00 00.1**	**+3.1**
	0.6nm,0.7s,baz=140,slow=10,SNR=4.2							
PDAR	**Pinedale Array**	**26.65**	**345**	P		**P**	**12 59 48.1**	**+0.4**
	0.1nm,0.4s,baz=134,slow=13,SNR=2.3							
PDAR				pP		**pP**	**13 00 01.6**	**+1.6**
	0.7nm,0.7s,baz=123,slow=11,SNR=5.6							
YKA	**Yellowknife Ar**	**46.33**	**351**	P		**P**	**13 02 34.8**	**+0.7**
	0.1nm,0.7s,baz=158,slow=7.0,SNR=3.6							
ILAR	**Eielson Array**	**56.80**	**338**	P		**P**	**13 03 51.5**	**-0.8**
	0.2nm,0.8s,baz=146,slow=6.3,SNR=2.6							
ILAR				pP		**pP**	**13 04 05.0**	**-0.5**
	0.7nm,0.9s,baz=147,slow=6.3,SNR=3.8							
WRA	**Warramunga Arr**	**128.25**	**258**	PKP		**PKPdf**	**13 13 16.2**	**+1.0**
	0.4nm,0.8s,baz=92,slow=0.2,SNR=3.6							

*IDC **09** 12:59:26.0±1.6, 3°.80S×140°.11E, h0km, mb3.7/4, mb1 4.1/5, mb1mx3.7/21, mbtmp3.8/5, ML4.3/1, Error ellipse: s-maj=70.8km s-min=26.7km az=97.0*
*ISCJB **09** 12:59:34.5±0.6, 4°.13S±0°.04×139°.82E±0°.08, h37km, mb3.4/3, Error ellipse: s-maj=12.3km s-min=5.5km az=10.2*
*DJA **09** 12:59:36.2±1.7, 4°S±12°×14°0E±1°5, h69km±76km, M4.1/3, MLv4.1/3*

ISC 09 12:59:34.7±0.9, 4°.03S±0°.05×139°.74E±0°.10, h37km, n13, σ2s94/15, mb3.5/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GENI	**Genyem**	**1.49**	**17**	P		**Pn**	**13 00 01.4**	**+2.4**
GENI				S		Sn	13 00 20.0	+2.8
JAY	**Jayapura**	**1.79**	**33**	P		Pn	13 00 04.6	+1.5
JAY				S		Sn	13 00 23.9	-0.6
SMPI	**Sarmi**	**2.27**	**333**	P		Pn	13 00 11.6	+1.9
SMPI				S		Sn	13 00 40.5	+4.0
MMPI	**Merauke**	**4.45**	**172**	P		Pn	13 00 42.3	+2.5
MMPI				S		Sn	13 01 35.2	+4.8
FAKI	**Fak Fak**	**7.56**	**278**	P		Pn	13 01 28.5	+6.1
	baz=4.6,SNR=4.8							
KDU	**Kakadu**	**11.21**	**219**	P		**Pn**	**13 02 13.2**	**+0.7**
	baz=8.8,SNR=96							
QIS	**Mount Isa**	**16.43**	**180**	P		**P**	**13 03 25.1**	**+0.1**
	baz=16,SNR=5.0							
WRA	**Warramunga Arr**	**16.67**	**198**	P		**Pn**	**13 03 24.3**	**-1.4**
	1.1nm,0.3s,baz=20,slow=12,SNR=42							
WRA				S		Sn	13 06 21.4	-8.4
	0.4nm,0.3s,baz=18,slow=22,SNR=4.9							
ASAR	**Alice Springs**	**20.32**	**196**	P		**P**	**13 04 08.1**	**+0.3**
	7.0nm,0.6s,baz=27,slow=9.7,SNR=79							
ASAR				S		**S**	**13 07 49.7**	**-4.0**
	0.3nm,0.7s,baz=57,slow=11,SNR=3.3							
MKAR	**Makanchi Array**	**71.46**	**322**	P		**P**	**13 10 49.3**	**-2.2**
	0.3nm,0.5s,baz=98,slow=7.7,SNR=5.6							
ZALV	**Zelesovo Beam**	**73.59**	**330**	P		P	13 11 00.8	-3.1
	0.3nm,0.5s,baz=101,slow=7.5,SNR=2.2							
ILAR	**Eielson Array**	**86.60**	**24**	P		P	13 12 09.4	-4.6
	0.1nm,0.5s,baz=260,slow=4.5,SNR=4.2							
DBIC	**Dimbokro**	**144.66**	**276**	PKPbc		**PKPab**	**13 19 03.6**	**-3.7**
	2.6nm,0.7s,baz=135,slow=1.8,SNR=4.7							

*ISK **09** 12:59:49.5, 35°.89N×29°.73E, h11km, MD3.3*
*DDA **09** 12:59:50.0, 35°.94N×29°.83E, h39km, MD3.3*
*ISCJB **09** 12:59:51.5±0.8, 35°.91N±0°.04×29°.76E±0°.03, h27km±5km, Error ellipse: s-maj=7.6km s-min=3.6km az=154.8*
*CSEM **09** 12:59:52.6±0.3, 36°.00N×29°.73E, h20km, MD3.3, Error ellipse: s-maj=6.9km s-min=3.1km az=151.0*
*ATH **09** 12:59:53.8, 36°.15N×29°.53E, h35km±22km, MD3.6/9*

ISC 09 12:59:49.6±1.3, 35°.88N±0°.04×29°.77E±0°.02, h16km±9km, n87, σ1s52/111, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AKAS	**Kas**	**0.38**	**340**	*i* P		**Pb**	**12 59 59.0**	**+0.9**
AKAS				*i* S		**Sb**	**13 00 04.5**	**+0.7**
AKAS	**Kas**	**0.38**	**340**	*i* P		**Pb**	**12 59 59.0**	**+0.9**
AKAS				*i* S		**Sb**	**13 00 04.5**	**+0.7**
ELL	**Elmali**	**0.88**	**7**	*e*PG		**Pg**	**13 00 06.1**	**-0.6**
ELL				*e*SG		**Sb**	**13 00 06.1**	**+0.8**
ELL	**Elmali**	**0.88**	**7**	*e*Pg		**Pg**	**13 00 06.1**	**-0.6**
ELL				*e*Sg		**Sb**	**13 00 19.0**	**+0.8**
FETY	**Fethiye**	**0.94**	**324**	*e*PG		**Pn**	**13 00 08.2**	**0.0**
FETY	**Fethiye**	**0.94**	**324**	*e*Pg		Pn	13 00 08.2	0.0
KORT	**Korkueli**	**1.22**	**23**	*i* P		Pn	13 00 11.5	-0.6
KORT				*i* S		Sb	13 00 27.1	-0.8
KORT	**Korkueli**	**1.22**	**23**	*i* P		Pn	13 00 11.5	-0.6
KORT				*i* S		Sb	13 00 27.1	-0.8
ANTB	**Antalya**	**1.25**	**35**	*e*PN		**Pg**	**13 00 13.4**	**-0.3**
ANTB				*e*SN		**Sg**	**13 00 30.8**	**+0.8**
ANTB	**Antalya**	**1.25**	**35**	*e*Pn		**Pg**	**13 00 13.4**	**-0.3**
ANTB				*e*Sn		**Sg**	**13 00 30.8**	**+0.8**
DALY	**Dalyan (Mu¨la**	**1.30**	**317**	*e*PN		**Pg**	**13 00 13.8**	**-0.9**
DALY	**Dalyan (Mu¨la**	**1.30**	**317**	*e*Pn		**Pg**	**13 00 13.8**	**-0.9**
TURN	**Turunc**	**1.37**	**317**	*i* P		**Pg**	**13 00 17.8**	**+1.9**
TURN				*i* S		**Sg**	**13 00 36.9**	**+3.1**
GOLH	**Golhisar**	**1.37**	**353**	*i* P		**Pg**	**13 00 15.3**	**-0.7**
GOLH				*i* S		**Sg**	**13 00 32.9**	**-1.0**
GOLH	**Golhisar**	**1.37**	**353**	*i* P		**Pg**	**13 00 15.3**	**-0.7**
GOLH				*i* S		**Sg**	**13 00 32.9**	**-1.0**
ARG	**Arkhangelos**	**1.37**	**285**	*e*PN		**Pg**	**13 00 15.2**	**-0.8**
ARG	**Arkhangelos**	**1.37**	**285**	*e*Pn		**Pg**	**13 00 15.2**	**-0.8**
BCK	**Bucak**	**1.72**	**22**	*e*PN		**Pb**	**13 00 20.6**	**-0.2**
BCK	**Bucak**	**1.72**	**22**	*e*Pn		**Pb**	**13 00 20.6**	**-0.2**
YER	**Yerkesik**	**1.73**	**317**	*e*PN		Pn	13 00 19.8	**+0.7**
YER	**Yerkesik**	**1.73**	**317**	*e*Pn		Pn	13 00 19.8	**+0.7**
DAT	**Datca**	**1.96**	**296**	*e*PN		Pn	13 00 23.0	**+0.7**
DAT	**Datca**	**1.96**	**296**	*e*Pn		Pn	13 00 23.0	**+0.7**
DENT	**Denizli**	**1.97**	**343**	*e*PN		Pn	13 00 23.4	**+1.1**
DENT	**Denizli**	**1.97**	**343**	*e*Pn		Pn	13 00 23.4	**+1.1**
ISPT	**Isparta**	**2.04**	**17**	*e*PN		Pn	13 00 25.0	**+1.6**
ISP	**Isparta**	**2.04**	**17**	*e*Pn		Pn	13 00 25.0	**+1.6**
GAZI	**Gazipasa**	**2.10**	**79**	*i* P		Pn	13 00 23.2	**-0.9**
GAZI				*i* S		Sn	13 00 45.4	**-4.5**
KARP	**Karpathos**	**2.15**	**262**	*e*PN		**Pb**	**13 00 27.6**	**-0.5**
KARP	**Karpathos**	**2.15**	**262**	*e*Pn		**Pb**	**13 00 27.6**	**-0.5**
NIS1	**Nisyros Isl.**	**2.21**	**290**	*e*PN		Pn	13 00 27.0	**+1.3**
NIS1	**Nisyros Isl.**	**2.21**	**290**	*e*PN		Pn	13 00 25.8	**+0.1**
NIS1				*e*SN		Sn	13 00 50.5	**-2.3**
NIS1	**Nisyros Isl.**	**2.21**	**290**	*e*Pn		Pn	13 00 27.0	**+1.3**
NIS1				*e*Sn		Sn	13 00 50.5	**-2.3**
BDRM	**Kayabasi**	**2.22**	**303**	*i* P		**Pb**	**13 00 27.5**	**-1.8**
BDRM				*i* S		**Sb**	**13 00 54.6**	**-1.9**
BDRM	**Kayabasi**	**2.22**	**303**	*i* P		**Pb**	**13 00 27.5**	**-1.8**
BDRM				*i* S		**Sb**	**13 00 54.6**	**-1.9**
BODT	**Bodrum**	**2.31**	**302**	*e*PN		Pn	13 00 27.6	**+0.6**
BODT	**Bodrum**	**2.31**	**302**	*e*Pn		Pn	13 00 27.6	**+0.6**
KHL	**Karahalli**	**2.45**	**356**	*e*PN		Pn	13 00 30.8	**+1.7**
KHL	**Karahalli**	**2.45**	**356**	*e*Pn		Pn	13 00 30.8	**+1.7**
AYDB	**Zeytinkoy-Aydi**	**2.56**	**325**	*e*PN		Pn	13 00 31.1	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**2.56**	**325**	*e*Pn		Pn	13 00 31.2	**+0.6**
ERMK	**Ermenek**	**2.66**	**72**	*i* P		Pn	13 00 33.6	**+1.6**
ERMK				*i* S		Sn	13 01 04.5	**+0.6**
ERMK	**Ermenek**	**2.66**	**72**	*i* P		Pn	13 00 33.6	**+1.6**
ERMK				*i* S		Sn	13 01 04.5	**+0.6**
GCAM	**G?zelcaml?**	**2.73**	**313**	*i* P		Pn	13 00 33.1	**+0.4**
GCAM				*i* S		Sn	13 01 04.5	**-0.9**
GCAM	**G?zelcaml?**	**2.73**	**313**	*i* P		Pn	13 00 33.1	**+0.4**
GCAM				*i* S		Sn	13

LBTB Lobatse 30.04 28 LR LR 13 27 43.9
comp=Z,181nm,18.8s,baz=178,slow=34
QSPA South Pole Qui 37.45 180 P **P** **13 17 47.7 +0.3**
1.5nm,1.1s,baz=210,slow=8.1,SNR=3.0
QSPA South Pole Qui 37.45 180 P **P** **13 17 48.2 +0.9**
6.4nm,1.4s
VNDA Vanda 48.76 172 P **P** **13 19 18.9 +0.5**
1.1nm,0.7s,baz=220,slow=3.3,SNR=9.8
CPUP Villa Florida 56.11 270 P **P** **13 20 14.0 +0.5**
0.5nm,0.8s,baz=112,slow=11,SNR=2.2
DBIC Dimbokro 60.62 343 P **P** **13 20 45.5 +0.5**
4.4nm,0.8s,baz=153,slow=8.0,SNR=6.1
DBIC Dimbokro 60.62 343 *eP* **P** **13 20 45.4 +0.4**
7.5nm,1.0s
LVC Limon Verde 65.90 264 P **P** **13 21 19.7 -0.7**
17nm,0.9s,baz=180,slow=9.3,SNR=2.8
TORD Torodi Ar. Bea 66.08 351 P **P** **13 21 21.1 -0.1**
1.5nm,0.8s,baz=188,slow=6.3,SNR=8.1
LPAZ La Paz 70.25 269 P **P** **13 21 48.2 0.0**
6.4nm,0.8s,baz=124,slow=5.2,SNR=25
STKA Stephens Creek 85.60 140 P **P** **13 23 12.4 -0.2**
2.1nm,0.8s,baz=260,slow=4.1,SNR=3.8
MKAR Makanchi Array 116.61 47 PKP **PKPdf** **13 29 16.4 -1.1**
0.1nm,0.5s,baz=255,slow=10.0,SNR=2.4
SWMT Swartz Lake 144.71 284 *e*PKP **PKPab** **13 30 09.1 -0.1**
TIXI Tiksi 147.71 31 *e*PKPbc **PKPbc** **13 30 17.4 +0.1**
YKA Yellowknife Ar 149.90 311 PKPbc **PKPbc** **13 30 22.8 -0.3**
1.6nm,0.6s,baz=99,slow=2.3,SNR=26

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*IDC **09** 13:10:47.6±1.4, 8˚.33S×118˚.25E, h0km, mb3.7/6, mb1 3.8/8, mb1mx3.7/23, mbtmp3.7/8, ML3.6/2, MS3.3/2, Ms1 3.4/2, ms1mx2.9/26, Error ellipse: s-maj=56.2km s-min=18.5km az=62.0*
*ISCJB **09** 13:10:48.6±0.6, 8˚.15S±0˚.04×118˚.44E±0˚.06, h10km, mb3.7/6, MS3.3/2, Error ellipse: s-maj=8.4km s-min=4.5km az=161.6*
*DJA **09** 13:10:51.0±0.5, 8˚S±3˚×11˚8E±˚, h15km±6km, M4.2/15, mb4.4/1, mB4.6/1, MLv4.1/15, Mw(mB)3.8/1*
ISC 09 13:10:48.7±0.7, 8˚24S±0˚.05×118˚29E±0˚.06, h10km, n30, σ1§60/32, mb3.7/6, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**1.77**	**142**	P	**Pg**	**13 11 20.7**	**-2.0**
WBSI				S	**Sb**	**13 11 42.2**	**-1.4**
WSI	**Waingapu**	**2.44**	**126**	P	**Pn**	**13 11 28.7**	**0.0**
WSI				S	**Sn**	**13 11 58.9**	**+0.3**
WSI	**Waingapu**	**2.44**	**126**	P	**Pg**	**13 11 36.6**	**+1.0**
	baz=2.5,SNR=4.2						
BASI	**Baing, Sumba**	**3.00**	**131**	P	Pb	13 11 37.8	-4.4
BSSI	**Bau Bau, Buton**	**3.02**	**47**	P	**Pn**	**13 11 36.0**	**-0.7**
EDFI	**Ende, Flores**	**3.40**	**99**	P	**Pn**	**13 11 41.8**	**-0.2**
EDFI				S	**Sn**	**13 12 20.8**	**-1.8**
BKSI	**Bulukumba**	**3.42**	**32**	P	**Pn**	**13 11 42.1**	**-0.1**
BKSI				S	**Sn**	**13 12 18.9**	**-4.0**
KAPI	**Kappang**	**3.52**	**24**	Pn	**Pn**	**13 11 43.4**	**-0.1**
	9.8nm,0.3s,baz=202,slow=10,SNR=32						
KAPI				Sn	**Sn**	**13 12 21.5**	**-3.8**
	25nm,0.3s,baz=174,slow=22,SNR=17						
MMRI	**Maumere**	**3.93**	**96**	P	**Pn**	**13 11 48.3**	**-0.9**
JAGI	**Jajag, Banyuwa**	**4.10**	**267**	P	**Pb**	**13 11 58.6**	**-2.5**
	baz=4.4,SNR=4.9						
BNSI	**Bone**	**4.22**	**25**	P	**Pn**	**13 11 54.5**	**+1.3**
SPSI	**Sidrap Palu**	**4.50**	**19**	P	**Pn**	**13 11 57.1**	**+0.1**
BLJI	**Banyuglugur**	**4.67**	**276**	P	**Pb**	**13 12 11.5**	**+0.6**
TTSI	**Tana Toraja**	**5.38**	**17**	P	**Pn**	**13 12 10.9**	**+1.8**
SOEI	**Soe**	**6.09**	**105**	S	**Sn**	**13 13 28.3**	**-0.7**
	baz=6.0,SNR=3.1						
KNRA	**Kununurra**	**12.63**	**127**	P	**Pn**	**13 13 48.9**	**+0.3**
	baz=13,SNR=11						
KDU	**Kakadu**	**14.63**	**109**	P	**Pn**	**13 14 17.9**	**+1.9**
	baz=14,SNR=4.9						
MEEK	**Meekatharra**	**18.30**	**179**	P	P	13 15 12.5	+9.4
	baz=19,SNR=5.5						
MEEK				S	Sn	13 18 18.7	-8.7
	baz=19,SNR=9.0						
WRKA	**Warakurna**	**19.24**	**151**	P	**Pn**	**13 15 14.8**	**+0.5**
	baz=20,SNR=7.3						
WRA	**Warramunga Arr**	**19.41**	**128**	P	**Pn**	**13 15 14.7**	**-1.7**
	0.2nm,0.3s,baz=302,slow=12,SNR=15						
ASAR	**Alice Springs**	**21.43**	**138**	P	**P**	**13 15 37.2**	**0.0**
	3.0nm,0.8s,baz=320,slow=9.8,SNR=30						
ASAR				LR	LR	13 24 38.0	
	comp=Z,46nm,21.8s,baz=282,slow=39						
COEN	**Coen**	**25.06**	**105**	P	**P**	**13 16 13.1**	**-0.5**
	baz=25,SNR=4.1						
MANU	**Manus Island**	**29.59**	**80**	P	**P**	**13 16 52.6**	**-1.7**
	baz=29,SNR=5.7						
MANU				S	S	13 21 20.0	-30
	baz=29,SNR=3.4						
STKA	**Stephens Creek**	**31.98**	**141**	P	**P**	**13 17 15.4**	**+0.2**
	2.7nm,0.8s,baz=321,slow=9.1,SNR=9.3						
STKA	**Stephens Creek**	**31.98**	**141**	P	**P**	**13 17 15.4**	**+0.2**
	baz=32,SNR=8.1						
KSRS	**Korea Array**	**46.34**	**11**	P	**P**	**13 19 17.0**	**+2.0**
	0.3nm,0.4s,baz=213,slow=11,SNR=2.9						
SONM	**Songino Array**	**56.81**	**350**	P	**P**	**13 20 36.0**	**+2.6**
	0.6nm,0.7s,baz=146,slow=8.2,SNR=3.3						
MKAR	**Makanchi Array**	**63.47**	**333**	P	**P**	**13 21 19.1**	**+0.2**
	0.2nm,0.6s,baz=150,slow=6.1,SNR=3.7						
ZALV	**Zalesovo Beam**	**68.09**	**339**	P	**P**	**13 21 48.3**	**-0.2**
	0.5nm,0.4s,baz=159,slow=4.3,SNR=2.9						
ILAR	**Eielson Array**	**99.46**	**26**	LR	LR	14 07 57.9	
	comp=Z,32nm,20.8s,baz=113,slow=34						

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*ISCJB **09** 13:11:37.9±0.4, 35˚.06S±0˚.03×179˚.89W±0˚.06, h39km, mb4.6/19, MS3.7/4, Error ellipse: s-maj=7.5km s-min=3.9km az=15.8*
*BJI **09** 13:11:37.6, 34˚.96S×179˚.74W, h39km, mb4.9/5, Ms4.8/3, Ms7 4.3/4*
*NEIC **09** 13:11:38.0±0.4, 34˚.90S×179˚.79W, h35km, mb4.7/6, Error ellipse: s-maj=12.5km s-min=11.0km az=41.0*
*IDC **09** 13:11:44.9±2.4, 34˚.88S×179˚.98W, h92km±19km, mb4.2/15, mb1 4.3/16, mb1mx4.2/22, mbtmp4.5/16, MS3.7/5, Ms1 3.6/5, ms1mx3.3/22, Error ellipse: s-maj=18.7km s-min=11.6km az=24.0*
ISC 09 13:11:38.8±0.4, 35˚.03S±0˚.05×179˚.81W±0˚.07, h39km, n136, σ1§78/132, mb4.6/19, MS3.8/4, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.96**	**211**	PN	**Pn**	**13 12 22.8**	**-0.4**
MXZ				SN	**Sn**	**13 12 58.5**	**+1.0**
WMGZ	**Waiomatatini S**	**3.13**	**207**	PN	**Pn**	**13 12 26.7**	**+1.0**
WMGZ				SN	**Sn**	**13 13 05.3**	**+3.5**
HAZ	**Te Kaha**	**3.35**	**215**	PN	**Pn**	**13 12 27.8**	**-0.8**
PUZ	**Puketiti**	**3.42**	**207**	PN	**Pn**	**13 12 29.6**	**0.0**
PUZ				SN	**Sn**	**13 13 09.2**	**+0.4**
WIZ	**White Island**	**3.48**	**223**	PN	**Pn**	**13 12 30.0**	**-0.5**
WIZ				SN	**Sn**	**13 13 05.8**	**-4.6**
TWGZ	**Tauwhareparae**	**3.61**	**209**	PN	**Pn**	**13 12 32.8**	**+0.4**
CNGZ	**Carnagh Statio**	**3.80**	**204**	PN	**Pn**	**13 12 35.3**	**+0.4**
TKGZ	**Te Karaka**	**3.89**	**208**	PN	**Pn**	**13 12 35.6**	**-0.5**
TKGZ				SN	**Sn**	**13 13 21.7**	**+1.2**
MWZ	**Matawai**	**3.94**	**212**	PN	**Pn**	**13 12 36.4**	**-0.3**
KUZ	**Kuaotunu**	**4.02**	**243**	PN	**Pn**	**13 12 38.0**	**+0.2**
OPRZ	**Ohinepanea**	**4.07**	**225**	PN	**Pn**	**13 12 38.4**	**0.0**
URZ	**Urewera**	**4.07**	**217**	P	**Pn**	**13 12 38.3**	**-0.2**
	49nm,0.3s,baz=39,slow=4.9,SNR=138						
URZ				S	**Sn**	**13 13 23.8**	**-1.1**
	120nm,0.3s,baz=88,slow=22,SNR=12						
URZ				LR	LR	13 14 26.7	
	comp=Z,420nm,21.5s,baz=36,slow=39						
URZ	**Urewera**	**4.07**	**217**	PN	**Pn**	**13 12 38.3**	**-0.2**
URZ				SN	**Sn**	**13 13 23.0**	**-1.9**
URZ	**Urewera**	**4.07**	**217**	*e*Pn	**Pn**	**13 12 38.5**	**0.0**
URZ				S	**Sn**	**13 13 23.8**	**-1.1**
URZ				*e*Sn	Sn	13 13 24.9	0.0
RIGZ	**Rimuhau**	**4.16**	**207**	PN	**Pn**	**13 12 39.2**	**-0.6**
TGRZ	**Tauranga**	**4.17**	**228**	PN	**Pn**	**13 12 40.4**	**+0.6**
SNGZ	**Shannon Statio**	**4.39**	**211**	PN	**Pn**	**13 12 43.0**	**+0.1**
KNZ	**Kokohu**	**4.47**	**206**	PN	**Pn**	**13 12 42.6**	**-1.4**
MKAZ	**Moumakai**	**4.57**	**241**	PN	**Pn**	**13 12 46.4**	**+0.9**
TOZ	**Tahuroa Road**	**4.65**	**233**	PN	**Pn**	**13 12 47.3**	**+0.8**
WHHZ	**Waihua**	**4.68**	**209**	PN	**Pn**	**13 12 47.3**	**+0.4**
ALRZ	**Allen Road**	**4.69**	**220**	PN	**Pn**	**13 12 47.0**	**-0.1**
KBAZ	**Karaka Road Bo**	**4.77**	**243**	PN	**Pn**	**13 12 50.2**	**+2.1**
WCZ	**Waipu Caves**	**4.86**	**258**	PN	**Pn**	**13 12 49.6**	**+0.2**
RVAZ	**Riverhead Bore**	**4.88**	**247**	PN	**Pn**	**13 12 51.2**	**+1.6**
ARHZ	**Aropaoanui**	**4.94**	**210**	PN	**Pn**	**13 12 49.9**	**-0.6**
TLZ	**Tolley Road**	**4.99**	**227**	PN	**Pn**	**13 12 51.5**	**+0.3**
BKZ	**Black Stump Fm**	**5.08**	**215**	PN	**Pn**	**13 12 51.3**	**-1.2**
MCHZ	**McNeill Hill**	**5.22**	**211**	PN	**Pn**	**13 12 54.0**	**-0.3**
RATZ	**Rangitukua**	**5.22**	**221**	PN	**Pn**	**13 12 54.0**	**-0.4**
CKHZ	**Cape Kidnapper**	**5.25**	**207**	PN	**Pn**	**13 12 53.2**	**-1.5**
OUZ	**Omahuta**	**5.41**	**266**	PN	**Pn**	**13 12 56.6**	**-0.4**
OUZ	**Omahuta**	**5.41**	**266**	*e*Pn	**Pn**	**13 12 56.8**	**-0.2**
	207nm,0.8s						
KAHZ	**Kahuranaki**	**5.44**	**208**	PN	**Pn**	**13 12 55.2**	**-2.3**
KRVZ	**Karewarewa**	**5.45**	**221**	PN	**Pn**	**13 12 56.7**	**-0.9**
KRHZ	**Kereru**	**5.53**	**212**	PN	**Pn**	**13 12 56.8**	**-1.7**
COVZ	**Chateau Observ**	**5.58**	**225**	PN	**Pn**	**13 12 58.4**	**-1.0**
PXZ	**Pawanui**	**5.65**	**207**	PN	**Pn**	**13 12 57.2**	**-3.0**
PRHZ	**Porangahau**	**5.95**	**207**	PN	**Pn**	**13 13 02.1**	**-2.1**
BFZ	**Birch Farm**	**6.45**	**208**	PN	Pn	13 13 07.7	-3.6
KHEZ	**Kahui Hut**	**6.52**	**227**	*e*PN	Pn	13 13 15.8	+3.6
TIWZ	**Tintock**	**6.67**	**209**	PN	**Pn**	**13 13 11.3**	**-3.0**
MRZ	**Mangatainoka R**	**6.71**	**212**	*e*PN	Pn	13 13 10.7	-4.0
HOWZ	**Holdsworth Sta**	**6.93**	**211**	PN	Pn	13 13 14.3	-3.5
OGWZ	**Otaki Gorge**	**7.01**	**213**	PN	**Pn**	**13 13 16.0**	**-2.9**
KIW	**Kapiti Island**	**7.17**	**214**	PN	Pn	13 13 17.2	-3.8
MSWZ	**Moikau Station**	**7.47**	**210**	PN	Pn	13 13 21.5	-3.8
SNZO	**South Karori**	**7.62**	**213**	*e*Pn	**Pn**	**13 13 24.9**	**-2.2**
	216nm,0.9s						
KHZ	**Kahutara**	**9.02**	**213**	PN	Pn	13 13 41.7	-4.8
KHZ	**Kahutara**	**9.02**	**213**	*e*Pn	Pn	13 13 42.0	-4.5
	47nm,0.5s						
RPZ	**Rata Peaks**	**11.19**	**216**	P	Pn	13 14 10.2	-6.0
	1.7nm,0.3s,baz=30,slow=1.5,SNR=9.0						
RPZ				S	Sn	13 16 08.2	-12
	3.9nm,0.3s,baz=49,slow=18,SNR=7.9						
RPZ	**Rata Peaks**	**11.19**	**216**	*e*Pn	Pn	13 14 10.7	-5.5
RPZ				S	Sn	13 16 08.2	-12
MSVF	**Nonsavu**	**17.33**	**353**	*e*P	**Pn**	**13 15 37.0**	**-0.9**
	12nm,0.9s						
DZM	**Mont Dzumac**	**17.65**	**313**	P	**P**	**13 15 42.5**	**0.0**
	0.3nm,0.3s,baz=90,slow=24,SNR=4.0						
MGCD	**Manawa Creek**	**24.11**	**266**	P	**P**	**13 16 54.9**	**+4.0**
	baz=25,SNR=5.6						
ARMA	**Armidale**	**24.43**	**273**	P	**P**	**13 16 57.2**	**+3.3**
	baz=25,SNR=8.7						
ARMA				S	S	13 20 53.5	-18
	baz=25,SNR=5.9						
ARMA	**Armidale**	**24.43**	**273**	*e*P	**P**	**13 16 56.6**	**+2.7**
	24nm,1.0s						
MCQ	**Macquarie Isla**	**24.45**	**211**	P	**P**	**13 16 54.3**	**+0.6**
	baz=25,SNR=3.1						
CNB	**Canberra Magne**	**25.16**	**260**	P	**P**	**13 17 05.1**	**+4.7**
	baz=26,SNR=9.9						
CAN	**Canberra**	**25.45**	**260**	*e*P	**P**	**13 17 07.3**	**+4.2**
EIDS	**Eidsvold**	**26.86**	**283**	P	P	13 17 21.9	+6.1
	baz=27,SNR=4.4						
EIDS	**Eidsvold**	**26.86**	**283**	*e*P	**P**	**13 17 18.1**	**+2.3**
TOO	**Toolangi**	**27.99**	**255**	P	**P**	**13 17 27.8**	**+1.8**
	baz=28,SNR=4.7						
RMQ	**Roma**	**28.23**	**279**	P	**P**	**13 17 30.5**	**+2.3**
	baz=29,SNR=13						
TBI	**Tubuai**	**28.82**	**74**	*e*LR	LR	13 25 00.1	
	336nm,27.2s						
TBI	**Tubuai**	**28.82**	**74**	*e*T	T	13 47 41.6	
	7.6nm,0.3s						
CMSA	**Cobar Meteorol**	**28.97**	**267**	P	**P**	**13 17 36.9**	**+2.2**
	baz=30,SNR=27						
QLP	**Quilpie**	**31.88**	**275**	P	**P**	**13 18 01.3**	**+0.9**
	baz=32,SNR=21						
PAE	**Paea**	**31.96**	**65**	*e*T	T	13 51 31.8	
	2.8nm,0.3s						
PPT2	**Papeete2**	**32.01**	**65**	*e*LR	LR	13 26 24.6	
	420nm,26.8s						
PPT2	**Papeete2**	**32.01**	**65**	*e*T	T	13 51 36.5	
	3.6nm,0.3s						
PPT	**Papeete**	**32.02**	**65**	LR	LR	13 31 33.7	
	comp=Z,63nm,18.9s,baz=251,slow=37						
STKA	**Stephens Creek**	**32.23**	**264**	P	**P**	**13 18 03.6**	**+0.2**
	3.1nm,0.5s,baz=107,slow=11,SNR=9.2						
STKA				LR	LR	13 29 52.8	
	comp=Z,219nm,21.0s,baz=30,slow=34						
STKA	**Stephens Creek**	**32.23**	**264**	P	**P**	**13 18 06.0**	**+2.6**
	baz=33,SNR=8.3						
STKA	**Stephens Creek**	**32.23**	**264**	*e*P	**P**	**13 18 05.8**	**+2.4**
CTA	**Charters Tower**	**33.38**	**287**	P	**P**	**13 18 13.7**	**0.0**
	7.3nm,0.7s,baz=113,slow=7.5,SNR=7.0						
CTAO	**Charters Tower**	**33.38**	**287**	*e*P	**P**	**13 18 14.1**	**+0.4**
	17nm,1.3s						
VAH	**Vahoa**	**34.94**	**64**	*e*T	T	13 55 10.2	
	12nm,0.3s						
BBOO	**Buckleboo**	**36.47**	**261**	P	**P**	**13 18 41.6**	**+1.5**
	baz=37,SNR=7.4						
QIS	**Mount Isa**	**38.42**	**281**	P	**P**	**13 18 57.8**	**+1.0**
	baz=39,SNR=10						
COEN	**Coen**	**39.37**	**293**	P	**P**	**13 19 05.1**	**+0.3**
	baz=40,SNR=5.7						
RABL	**Rabaul**	**40.18**	**313**	P	**P**	**13 19 13.3**	**+1.8**
	baz=41,SNR=5.7						
RKT	**Rikitea**	**40.63**	**85**	*e*LR	LR	13 30 17.5	
	368nm,30.0s						
AS31	**Alice Springs**	**41.58**	**273**	*e*P	**P**	**13 19 22.3**	**-0.7**
ASAR	**Alice Springs**	**41.58**	**273**	P	**P**	**13 19 22.1**	**-0.9**
	48nm,0.5s,baz=114,slow=7.9,SNR=342						
ASAR				ScP	**ScP**	**13 25 00.8**	**-6.0**
	0.4nm,0.5s,baz=118,slow=3.6,SNR=4.7						
ASAR				S	S	13 25 30.1	-6.5
	0.4nm,0.6s,baz=112,slow=15,SNR=4.7						
ASAR				LR	LR	13 35 56.4	
	comp=Z,222nm,21.3s,baz=128,slow=35						
WRAB	**Tennant Creek**	**42.99**	**278**	*e*P	**P**	**13 19 33.2**	**-1.2**
	18nm,0.6s						
WRA	**Warramunga Arr**	**42.99**	**278**	P	**P**	**13 19 32.9**	**-1.6**
	16nm,0.6s,baz=120,slow=7.7,SNR=56						
WRA				S	**S**	**13 25 53.3**	**-4.1**
	1.1nm,1.0s,baz=131,slow=17,SNR=4.1						
SBA	**Scott Base**	**43.32**	**184**	P	**P**	**13 19 38.6**	**+2.1**
	7.3nm,1.0s						
WRKA	**Warakurna**	**45.59**	**268**	P	**P**	**13 19 53.5**	**-1.8**
	baz=46,SNR=8.6						
JAY	**Jayapura**	**48.88**	**303**	P	**P**	**13 20 21.5**	**+0.5**
	14nm,1.0s,baz=159,slow=14,SNR=3.5						
KNRA	**Kununurra**	**49.74**	**279**	P	**P**	**13 20 26.2**	**-1.3**
	baz=50,SNR=7.8						
MEEK	**Meekatharra**	**52.81**	**261**	P	**P**	**13 20 48.3**	**-2.2**
	baz=53,SNR=3.6						
QSPA	**South Pole Qui**	**55.09**	**180**	P	**P**	**13 21 09.1**	**+2.4**
	22nm,0.9s,baz=28,slow=1.6,SNR=52						
QSPA	**South Pole Qui**	**55.09**	**180**	*e*P	**P**	**13 21 08.8**	**+2.1**
	19nm,0.8s						
MAW	**Mawson**	**67.45**	**202**	P	**P**	**13 22 30.5**	**+0.4**
	6.2nm,1.0s,baz=112,slow=10,SNR=4.7						
SNAA	**Sanae**	**73.58**	**179**	P	**P**	**13 23 08.7**	**+1.2**
SNAA	**Sanae**	**73.58**	**179**	P	**P**	**13 23 07.8**	**+0.3**
	2.2nm,0.9s,baz=179,slow=8.5,SNR=11						
VNA3	**Neumayer Olymp**	**73.79**	**177**	P	**P**	**13 23 09.4**	**+0.7**
VNA2	**Neumayer--Watz**	**74.21**	**177**	P	**P**	**13 23 12.0**	**+0.9**
	190.0s,baz=5.2						
VNA1	**Neumayer--Stat**	**74.45**	**177**	P	**P**	**13 23 13.5**	**+1.1**
PLCA	**Paso Flores**	**80.46**	**133**	P	**P**	**13 23 47.5**	**+0.8**
	3.7nm,0.7s,baz=243,slow=6.5,SNR=14						
KSRS	**Korea Array**	**86.92**	**321**	P	**P**	**13 24 18.6**	**-0.8**
	1.0nm,0.8s,baz=140,slow=6.7,SNR=4.8						
KSAR	**Wonju Array Be**	**86.94**	**321**	P	**P**	**13 24 18.6**	**-0.9**
CFAA	**Coronel Fontan**	**87.67**	**127**	P	**P**	**13 24 25.2**	**+1.6**
	0.7nm,0.9s,baz=243,slow=3.5,SNR=9.5						
PETK	**Petropavlovsk-**	**89.93**	**347**	P	**P**	**13 24 32.8**	**-0.5**
	3.9nm,0.9s,baz=96,slow=4.6,SNR=6.9						
MDJ	**Mudanjiang**	**91.60**	**326**	P	**P**	**13 24 42.7**	**+1.4**
MDJ				PMZ			
	4.0nm,0.5s						
NVAR	**Mina Array Bea**	**92.64**	**44**	P	**P**	**13 24 46.3**	**-0.3**
	0.9nm,0.8s,baz=216,slow=7.6,SNR=7.2						
CN2	**Changchun**	**92.93**	**324**	*e*P	**P**	**13 24 49.8**	**+2.3**
LVC	**Limon Verde**	**92.98**	**120**	P	**P**	**13 24 50.5**	**+1.7**
	15nm,0.9s,baz=321,slow=4.0,SNR=3.8						
CMAR	**Chiang Mai Arr**	**93.52**	**290**	P	**P**	**13 24 49.6**	**-1.2**
	0.8nm,0.8s,baz=159,slow=3.3,SNR=6.0						
KMI	**Kunming**	**94.57**	**297**	P	**P**	**13 24 56.3**	**+0.5**
KMI				PMZ			
	10.0nm,1.0s						
TXAR	**Lajitas Array**	**96.13**	**58**	P	**P**	**13 25 02.2**	**-0.5**
	0.1nm,0.4s,baz=224,slow=7.5,SNR=2.7						
CD2	**Chengdu**	**97.28**	**303**	*e*P	Pdif	13 25 07.9	+0.1
HHC	**Hu-ho-hao-te**	**98.36**	**314**	*e*P	Pdif	13 25 14.2	+1.7
HHC				pP	pP	13 25 25.9	+1.3
HHC				sP	sP	13 25 28.8	-0.2
HHC				PP	**PP**	**13 29 18.3**	**+5.0**
HHC				SKS	**SKSac**	**13 35 48.6**	**+1.5**
HHC				S	**S**	**13 36 37.3**	**-0.4**
HHC				sS	sS	13 36 54.4	-3.6
HHC				LN			
	100nm,17.9s						
HHC				LE			
	130nm,17.8s						
HHC				LZ			
	70nm,17.0s						
SEY	**Seymchan**	**100.14**	**347**	LR	LR	14 05 44.5	
	comp=Z,30nm,21.2s,baz=126,slow=32						
ILAR	**Eielson Array**	**102.77**	**14**	PP	PP	13 29 42.7	-3.3
	0.4nm,1.0s,baz=220,slow=4.1,SNR=2.9						
YKA	**Yellowknife Ar**	**110.26**	**27**	PKiKP	**PKiKP**	**13 30 05.9**	**+0.3**
	0.3nm,0.5s,baz=245,slow=1.8,SNR=8.0						
YKA				PKKPbc	**PKKPbc**	**13 41 05.5**	**-2.6**
	0.2nm,0.6s,baz=43,slow=3.3,SNR=6.0						
YKA				PKKPab	**PKKPab**	**13 41 14.8**	**-0.2**
	0.3nm,0.9s,baz=61,slow=3.9,SNR=3.3						
WMQ	**Urumqi**	**114.84**	**307**	*e*PKP	PKPdf	13 30 15.0	0.0
WMQ				LN			
	74nm,19.2s						
WMQ				LE			
	55nm,20.4s						
WMQ				LZ			
	54nm,22.4s						
MKAR	**Makanchi Array**	**119.52**	**309**	PKP	**PKPdf**	**13 30 21.4**	**-2.5**
	0.7nm,0.9s,baz=279,slow=2.3,SNR=5.8						
MKAR				PKKPbc	**PKKPbc**	**13 40 37.6**	**+1.9**
	0.3nm,0.6s,baz=289,slow=7.6,SNR=4.1						
KSH	**Kashi**	**121.20**	**299**	*e*PKP	**PKPdf**	**13 30 28.9**	**+1.4**
KSH				PP	PP	13 32 06.6	+7.8
KSH				PKS	**PKSdf**	**13 34 04.3**	**+0.1**
KSH				SKS	**SKSdf**	**13 37 35.7**	**-0.8**
KSH				PPMZ			
	35nm,3.3s						
KSH				LZ			
	170nm,6.9s						
KKAR	**Karatay Array**	**126.26**	**301**	*e*PKPdf	**PKPdf**	**13 30 35.0**	**-2.0**
GEYT	**Alibeck**	**133.98**	**291**	PKP	**PKPdf**	**13 30 51.7**	**-0.1**
	1.2nm,0.5s,baz=63,slow=6.6,SNR=3.4						
ARCES	**ARCESS Array B**	**142.73**	**346**	PKhKP	PKPpre	13 31 03.1	
	3.0nm,0.8s,baz=58,slow=3.0,SNR=9.2						
KBZ	**Khabaz**	**146.18**	**298**	PKPbc	**PKPdf**	**13 31 13.2**	**-0.3**
	2.2nm,0.7s,baz=56,slow=2.4,SNR=6.7						
FINES	**FINESS Array B**	**148.86**	**336**	PKPbc	**PKPbc**	**13 31 19.7**	**-1.7**
	3.1nm,0.5s,baz=50,slow=2.7,SNR=40						
LIC	**Lamto**	**150.94**	**169**	*e*PKP1	**PKPbc**	**13 31 28.2**	**+0.3**
	51nm,0.9s						
KIC	**Kosan Boka**	**151.11**	**170**	*e*PKP1	**PKPbc**	**13 31 28.4**	**0.0**
	30nm,0.9s						
TIC	**Toumodi**	**151.35**	**169**	*e*PKP1	**PKPbc**	**13 31 29.2**	**+0.3**
	8.9nm,0.2s						
DBIC	**Dimbokro**	**151.40**	**169**	PKPbc	**PKPbc**	**13 31 29.1**	**+0.1**
	13nm,0.9s,baz=162,slow=3.3,SNR=14						
NB2	**NORSAR Subarra**	**153.02**	**348**	PKP	**PKPbc**	**13 31 29.6**	**-1.7**
	comp=Z,1.9nm,0.7s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**153.02**	**348**	PKPbc	**PKPbc**	**13 31 30.1**	**-1.2**
	comp=Z,4.9nm,0.8s,baz=29,slow=2.0,SNR=14						
BR131	**Keskin Array S**	**153.11**	**290**	*e*PKPbc	**PKPbc**	**13 31 30.4**	**-1.9**
BRTR	**Keskin Array B**	**153.11**	**290**	PKPbc	**PKPbc**	**13 31 29.9**	**-2.4**
	comp=Z,3.7nm,0.7s,baz=138,slow=3.7,SNR=16						
AKASG	**Malin Array Be**	**153.80**	**316**	PKP	**PKPdf**	**13 31 22.6**	**-2.6**
	comp=Z,0.1nm,0.4s,baz=56,slow=2.8,SNR=4.0						
AKASG				PKPbc	**PKPbc**	**13 31 31.0**	**-2.2**
	comp=Z,1.5nm,0.7s,baz=63,slow=2.4,SNR=10						
AK02	**Malin Array Si**	**153.83**	**316**	*e*PKPbc	**PKPbc**	**13 31 31.3**	**-2.0**
TORD	**Torodi Ar. Bea**	**158.17**	**184**	PKP	**PKPdf**	**13 31 30.9**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=36,slow=0.3,SNR=4.0						
TORD				PKPab	**PKPab**	**13 32 05.7**	**-0.2**
	comp=Z,5.8nm,0.8s,baz=176,slow=3.7,SNR=23						
TORD				PP	**PP**	**13 35 44.7**	**+0.2**
	comp=Z,0.7nm,0.9s,baz=193

PTGA **Pitinga** 38.15 24 *e*P P 13 50 17.1 0.0
comp=Z,22nm,1.4s
PTGA *e*pP pP 13 50 26.3 +0.4
ROSC **El Rosal** 41.23 0 P P 13 50 44.6 +1.3
comp=Z,5.2nm,0.6s,baz=76,slow=19,SNR=2.9
SDV **Santo Domingo** 45.38 5 *e*P P 13 51 14.8 -1.7
comp=Z,7.1nm,0.8s
VNA3 **Neumayer Olymp** 47.76 157 P P 13 51 35.1 +0.8
VNA1 **Neumayer--Stat** 48.12 156 P P 13 51 38.7 +1.6
VNA2 **Neumayer--Watz** 48.45 156 P P 13 51 40.6 +1.0
baz=293,slow=9.4
SNAA **Sanae** 49.98 157 P P 13 51 52.5 +1.0
SNAA **Sanae** 49.98 157 P P 13 51 52.3 +0.8
comp=Z,9.3nm,0.9s,baz=282,slow=6.0,SNR=32
NVL **N'lazarevskaya** 54.77 156 *i* P P 13 52 20.0 -6.8
NVL pmax pmax
comp=Z,10.0nm,0.8s
VNDA **Vanda** 61.16 192 P P 13 53 13.0 +1.4
comp=Z,2.8nm,1.0s,baz=134,slow=5.2,SNR=9.3
VNDA **Vanda** 61.16 192 *e*P P 13 53 12.6 +1.1
VNDA pmax pmax
comp=Z,12nm,1.6s
VNDA **Vanda** 61.16 192 *e*P P 13 53 12.6 +1.1
comp=Z,12nm,1.6s
936A **North Padre Is** 67.19 338 ⇓P P 13 53 52.9 +1.3
baz=68
934A **Benavides** 67.73 337 ⇑P P 13 53 57.0 +2.0
baz=68
PPT **Papeete** 67.90 264 LR LR 14 16 12.9
comp=Z,95nm,18.6s,baz=129,slow=29
933A **Laredo** 67.98 336 ⇑P P 13 53 57.8 +1.2
baz=68
835A **Beeville** 68.16 338 ⇑P P 13 53 59.1 +1.5
baz=68
834A **Tilden** 68.22 337 ⇑P P 13 53 59.4 +1.3
baz=68
736A **Circle Diamond** 68.56 339 ⇓P P 13 54 02.1 +1.9
baz=69
833A **Chaparral WMA,** 68.68 337 ⇑P P 13 54 01.9 +1.0
baz=69
832A **Faith Ranch, C** 68.83 336 ⇑P P 13 54 02.3 +0.4
baz=69
734A **La Parita Cree** 68.90 337 ⇑P P 13 54 03.4 +1.0
baz=69
733A **Divot King Ran** 69.01 337 ⇓P P 13 54 04.2 +1.1
baz=69
636A **Smothers Creek** 69.05 339 ⇑P P 13 54 05.1 +1.9
baz=69
635A **Leesville** 69.17 338 ⇓P P 13 54 05.5 +1.5
baz=70
732A **Laxson Ranch,** 69.24 336 ⇓P P 13 54 05.0 +0.6
baz=70
538A **Harpers Horsep** 69.31 341 ⇑P P 13 54 05.3 +0.5
baz=70
537A **Green Hill Far** 69.40 340 ⇓P P 13 54 06.1 +0.7
baz=70
536A **Bastrop** 69.61 339 ⇓P P 13 54 07.4 +0.7
baz=70
633A **Saathoff Ranch** 69.66 337 ⇓P P 13 54 08.6 +1.6
baz=70
438A **Sam Houston St** 69.81 341 ⇓P P 13 54 08.7 +0.7
baz=70
632A **Uvalde** 69.90 337 ⇓P P 13 54 09.5 +1.0
baz=70
534A **Blanco** 69.98 338 ⇑P P 13 54 10.3 +1.3
baz=70
631A **Perdido Creek** 70.07 336 ⇑P P 13 54 12.2 +2.6
baz=70
339A **Huntington** 70.13 342 ⇑P P 13 54 10.1 +0.2
baz=70
GOGA **Godfrey** 70.14 352 *e*P P 13 54 09.1 -0.8
GOGA pmax pmax
comp=Z,6.0nm,0.6s
GOGA **Godfrey** 70.14 352 *e*P P 13 54 09.1 -0.8
comp=Z,5.5nm,0.6s
533A **Kerrville** 70.19 338 ⇑P P 13 54 10.8 +0.4
baz=70
435B **Jarrell** 70.42 339 ⇓P P 13 54 13.3 +1.6
baz=71
337A **Centerville** 70.45 341 ⇑P P 13 54 13.6 +1.7
baz=71
532A **Rocksprings** 70.51 337 ⇓P P 13 54 12.7 +0.4
baz=71,SNR=7.0
434A **Burnet** 70.65 338 ⇑P P 13 54 13.7 +0.6
baz=71
531A **Rocksprings** 70.75 336 ⇓P P 13 54 14.7 +0.9
baz=71,SNR=7.0
336A **Riesel** 70.78 340 ⇓P P 13 54 14.9 +1.0
baz=71
JCT **Junction City** 70.81 337 *e*P P 13 54 14.2 +0.1
JCT pmax pmax
comp=Z,25nm,1.4s
JCT **Junction City** 70.81 337 *e*P P 13 54 14.2 +0.1
comp=Z,25nm,1.4s
JCT **Junction City** 70.81 337 ⇓P P 13 54 14.8 +0.7
baz=71
433A **Art** 70.84 338 ⇓P P 13 54 14.8 +0.5
baz=71
530A **J-C Ranch, Com** 71.00 336 ⇑P P 13 54 15.9 +0.6
baz=71
TXAR **Lajitas Array** 71.06 333 P P 13 54 15.9 +0.2
comp=Z,2.9nm,0.8s,baz=152,slow=8.7,SNR=32
334A **Lometa** 71.13 339 ⇑P P 13 54 16.4 +0.4
baz=72
431A **Sonora** 71.25 336 ⇑P P 13 54 18.3 +1.5
baz=72
MAW **Mawson** 71.27 164 P P 13 54 17.3 +0.9
comp=Z,7.3nm,0.7s,baz=219,slow=7.3,SNR=9.8
MAW LR LR 14 25 13.3
comp=Z,94nm,18.6s,baz=243,slow=36
529A **Stev Forest Ra** 71.27 335 ⇓P P 13 54 17.7 +0.7
baz=72
333A **Richland Sprin** 71.34 338 ⇑P P 13 54 17.8 +0.5
baz=72
430A **Baggett Ranch,** 71.55 336 ⇓P P 13 54 19.1 +0.5
baz=72,SNR=6.5
429A **Davenport Ranc** 71.62 335 ⇑P P 13 54 19.7 +0.6
baz=72
332A **Millersview** 71.63 337 ⇓P P 13 54 19.5 +0.5
baz=72,SNR=6.5
KMSC **Kings Mountain** 71.65 354 ⇑P P 13 54 18.4 -0.6
baz=72
234A **Clairette** 71.73 339 ⇑P P 13 54 20.0 +0.4
baz=72
331A **San Angelo** 71.77 337 ⇑P P 13 54 19.9 0.0
baz=72,SNR=7.9
233A **Rising Star** 71.96 338 ⇑P P 13 54 21.5 +0.5
baz=72
Z38A **Mt. Pleasant** 72.06 342 ⇓P P 13 54 22.2 +0.7
baz=72
232A **Coleman** 72.07 338 ⇓P P 13 54 22.0 +0.3
baz=72,SNR=5.2
330A **Mertzon** 72.10 336 ⇓P P 13 54 22.2 +0.2
baz=72
134A **White-Moore Ra** 72.25 339 ⇓P P 13 54 22.8 +0.1
baz=73
CPCT **Cooper Cave** 72.28 351 *e*P P 13 54 22.6 -0.2
CPCT *e*pP pP 13 54 30.9 -1.3
231A **Bronte** 72.32 337 ⇑P P 13 54 23.3 +0.2
baz=73
329A **Wagon Wheel Ra** 72.44 336 ⇑P P 13 54 24.6 +0.6
baz=73
133A **Hamilton Ranch** 72.52 339 ⇓P P 13 54 25.0 +0.7
baz=73
Z35A **Perchaven, San** 72.73 340 ⇓P P 13 54 26.1 +0.6
baz=73
ABTX **Abilene, Hawle** 72.75 338 *e*P P 13 54 24.9 -0.9
comp=Z,21nm,1.4s
ABTX **Abilene, Hawle** 72.75 338 ⇑P P 13 54 25.9 +0.2
baz=73
Z34A **Collier Ranch,** 72.95 340 ⇑P P 13 54 27.3 +0.4
baz=73
131A **Roby** 73.03 337 ⇑P P 13 54 28.1 +0.7
baz=73
Z33A **Whitaker Ranch** 73.11 339 ⇓P P 13 54 28.6 +0.8
baz=74
130A **Snyder** 73.14 337 ⇑P P 13 54 27.9 -0.1
baz=74
228A **UT Block 9, Go** 73.22 335 ⇑P P 13 54 29.1 +0.5
baz=74
Z32A **Haskell** 73.34 338 ⇑P P 13 54 29.7 +0.5
baz=74
WVT **Waverly** 73.40 349 *e*P P 13 54 28.4 -1.0
WVT pmax pmax
comp=Z,16nm,1.3s
WVT **Waverly** 73.40 349 *e*P P 13 54 28.4 -1.0
comp=Z,16nm,1.3s
X37A **Clayton** 73.43 342 ⇓P P 13 54 30.6 +1.0
baz=74
129A **Stewart Farms,** 73.46 336 ⇓P P 13 54 30.3 +0.4
baz=74
Y34A **Reagan Ranch,** 73.46 340 ⇑P P 13 54 30.8 +1.0
baz=74
Z31A **Sharp Cattle R** 73.55 338 ⇑P P 13 54 30.5 +0.1
baz=74
128A **Castleberry Fa** 73.65 336 ⇓P P 13 54 31.6 +0.5
baz=74
X36A **Centrahoma** 73.66 341 ⇓P P 13 54 31.0 0.0
baz=74
X35A **Drake** 73.66 341 ⇓P P 13 54 31.9 +0.9
baz=74
W38A **Poteau** 73.69 343 ⇓P P 13 54 32.0 +0.8
baz=74
MNTX **Cornudas Mount** 73.82 333 *e*P P 13 54 31.2 -0.9
comp=Z,3.2nm,1.0s
MNTX *e*pP pP 13 54 39.3 -2.2
MNTX **Cornudas Mount** 73.82 333 ⇑P P 13 54 31.8 -0.2
baz=74
Z30A **Sanderson Ranc** 73.82 337 ⇑P P 13 54 32.0 -0.1
baz=74
W37A **Quinton** 73.97 342 ⇑P P 13 54 33.9 +1.1
baz=74
Z29A **Hungry Hill Ra** 73.98 337 ⇓P P 13 54 33.0 0.0
baz=74,SNR=5.4
W36A **Wetumka** 74.17 342 ⇓P P 13 54 34.2 +0.2
baz=74
Y31A **Rekieta Farm,** 74.18 338 ⇓P P 13 54 34.9 +0.8
baz=74
Z28A **Tucker Farm, M** 74.23 336 ⇓P P 13 54 35.3 +0.8
baz=75
Y30A **Stafford Cattl** 74.30 337 ⇑P P 13 54 35.6 +0.7
baz=75
X32A **Elmer** 74.32 339 ⇓P P 13 54 35.0 +0.1
baz=75
W35A **Tecumseh** 74.35 341 ⇓P P 13 54 36.1 +1.0
baz=75
Y29A **Porterfield Fa** 74.53 337 ⇑P P 13 54 36.4 +0.3
baz=75
W34A **Bridge Creek,** 74.66 340 ⇓P P 13 54 37.5 +0.6
baz=75
X31A **McDonald Ranch** 74.72 338 ⇓P P 13 54 37.8 +0.5
baz=75
Y28A **McKinney Farm,** 74.75 336 ⇑P P 13 54 38.4 +0.9
baz=75
W33A **Caddo, Fort Co** 74.78 340 ⇓P P 13 54 38.1 +0.6
baz=75
TUL1 **Leonard** 74.79 342 *e*P P 13 54 37.0 -0.6
comp=Z,14nm,0.9s
TUL1 **Leonard** 74.79 342 ⇑P P 13 54 38.0 +0.4
baz=75
X30A **Coker Ranch, T** 74.82 338 ⇓P P 13 54 39.1 +1.3
baz=75
V35A **Meyer Ranch, C** 74.92 341 ⇓P P 13 54 38.3 0.0
baz=75
W32A **Sentinel** 74.97 339 ⇓P P 13 54 39.5 +0.8
baz=75
MSTX **Muleshoe** 74.98 336 ⇑P P 13 54 38.4 -0.5
baz=75
319A **Douglas** 75.04 330 ⇑P P 13 54 41.0 +1.7
baz=75
X29A **Tulia** 75.07 337 ⇓P P 13 54 40.0 +0.7
baz=75
V34A **Guthrie** 75.16 341 ⇑P P 13 54 40.1 +0.4
baz=76
W31A **Holland Ranch,** 75.23 339 ⇑P P 13 54 40.7 +0.5
baz=76
V33A **Lossen Ranch,** 75.35 340 ⇑P P 13 54 41.4 +0.6
baz=76
V32A **Arapaho** 75.47 340 ⇑P P 13 54 43.6 +2.1
baz=76
121A **Cookes Peak, D** 75.47 331 ⇓P P 13 54 43.0 +1.2
baz=76
AMTX **Amarillo** 75.47 337 *e*P P 13 54 41.6 -0.1
comp=Z,15nm,1.2s
AMTX **Amarillo** 75.47 337 ⇑P P 13 54 42.0 +0.4
baz=76
W29A **Amarillo** 75.68 337 ⇑P P 13 54 43.1 +0.3
baz=76
V31A **Spring Creek L** 75.75 339 ⇑P P 13 54 44.2 +1.1
baz=76
T36A **Boggs Farm, Ca** 75.91 343 ⇑P P 13 54 43.8 -0.1
baz=76
T35A **Sooner Cattle** 75.93 342 ⇓P P 13 54 44.2 +0.1
baz=76
U32A **Winter Ranch,** 76.08 340 ⇓P P 13 54 45.3 +0.3
baz=76
T34A **McClaskey Farm** 76.20 341 ⇓P P 13 54 46.4 +0.8
baz=77
S36A **Lake Cedric, C** 76.47 343 ⇑P P 13 54 47.9 +0.7
baz=77
TUC **Tucson** 76.48 329 *e*P P 13 54 48.2 +0.8
TUC *e**PP pP 13 54 56.9 +0.1
TUC pmax pmax
comp=Z,5.0nm,1.3s
TUC **Tucson** 76.48 329 *e*P P 13 54 48.2 +0.8
comp=Z,5.4nm,1.3s
TUC *e*pP pP 13 54 56.9 +0.1
Y22D **IRIS PASSCAL I** 76.52 333 ⇓P P 13 54 48.7 +1.0
baz=77
T33A **Patterson Ranc** 76.53 341 ⇑P P 13 54 48.1 +0.6
baz=77
S35A **Otter Creek Ra** 76.61 342 ⇓P P 13 54 48.3 +0.4
baz=77
V27A **Dan Oppiter Fa** 76.64 337 ⇑P P 13 54 48.9 +0.6
baz=77
U30A **WK&E Inc. Balk** 76.69 339 ⇓P P 13 54 49.4 +0.9
baz=77
S34A **Willow Spring** 76.82 342 ⇑P P 13 54 49.7 +0.5
baz=77
R37A **Teagarden Farm** 76.86 344 ⇑P P 13 54 50.0 +0.7
baz=77
LAZ **Ladron** 76.89 333 *e*P P 13 54 50.8 +0.9
comp=Z,2.9nm,1.2s
R36A **Gordon, Harris** 77.02 343 ⇓P P 13 54 51.1 +0.8
baz=77
214A **Organ Pipe Nat** 77.03 327 *e*P P 13 54 50.8 +0.3
comp=Z,9.4nm,1.4s
214A *e*pP pP 13 55 00.2 +0.2
214A **Organ Pipe Nat** 77.03 327 ⇓P P 13 54 51.7 +1.2
baz=77
ANMO **Albuquerque** 77.13 334 ⇑*e*P P 13 54 51.5 +0.3
ANMO pmax pmax
comp=Z,20nm,0.9s
ANMO **Albuquerque** 77.13 334 *e*P P 13 54 51.7 +0.5
comp=Z,5.7nm,1.1s
T30A **Plains** 77.14 339 ⇑P P 13 54 53.3 +2.3
baz=78
U27A **Thompson Grove** 77.25 337 ⇑P P 13 54 53.3 +1.6
baz=78
S32A **Newby Ranch, P** 77.30 340 ⇑P P 13 54 53.9 +2.1
baz=78
Q37A **Longview Farm,** 77.31 344 ⇑P P 13 54 54.0 +2.1
baz=78
S31A **Mullinville** 77.37 340 ⇓P P 13 54 53.8 +1.5
baz=78
T29A **Hugoton** 77.46 338 ⇑P P 13 54 54.2 +1.4
baz=78
R32A **Long Quarter,** 77.91 341 ⇑P P 13 54 56.4 +1.2
baz=78
DBIC **Dimbokro** 77.92 72 P P 13 54 56.6 +0.7
comp=Z,8.6nm,0.6s,baz=205,slow=5.1,SNR=17
DBIC LR LR 14 25 26.3
comp=Z,99nm,21.7s,baz=208,slow=33
DBIC **Dimbokro** 77.92 72 *e*P P 13 54 56.6 +0.7
DBIC *e* 13 55 05.3
DBIC pmax pmax
comp=Z,24nm,1.3s
DBIC **Dimbokro** 77.92 72 *e*P P 13 54 56.6 +0.7
comp=Z,24nm,1.3s
DBIC *e* 13 55 05.3
R31A **Burdett** 78.01 340 ⇓P P 13 54 56.7 +0.8
baz=78
KSU1 **Kansas State U** 78.02 343 ⇓P P 13 54 57.2 +1.4
baz=78
S28A **Manter** 78.04 338 ⇓P P 13 54 56.6 +0.6
baz=78
X18A **Snowflake** 78.08 331 ⇑P P 13 54 58.0 +1.6
baz=78
113A **Mohawk Valley,** 78.14 327 ⇑P P 13 54 57.1 +0.5
baz=78
T26A **Comanche Natio** 78.18 337 ⇑P P 13 54 57.9 +0.9
baz=78
Q32A **Meitler Ranch,** 78.41 341 ⇑P P 13 55 00.1 +2.1
baz=79
T25A **Trinidad** 78.41 336 ⇑P P 13 54 59.5 +1.2
baz=79,SNR=7.3
W18A **Petrified Fore** 78.51 331 ⇑P P 13 55 01.1 +2.3
baz=79
S26A **Kim** 78.55 337 ⇑P P 13 54 59.7 +0.8
baz=79,SNR=8.0
X16A **Lo Mia Camp, P** 78.58 330 ⇓P P 13 55 00.6 +1.4
baz=79
R28A **Tribune** 78.71 338 ⇓P P 13 55 01.2 +1.4
baz=79
Q30A **Quinter** 78.84 340 ⇑P P 13 55 01.1 +0.7
baz=79
R27A **Eads** 78.95 338 ⇓P P 13 55 01.5 +0.4
baz=79,SNR=5.1
Q29A **Oakley** 78.97 339 ⇑P P 13 55 01.1 -0.1
baz=79
P32A **Huiting Farm,** 79.01 341 ⇓P P 13 55 01.6 +0.3
baz=79
P31A **Stockton** 79.12 341 ⇓P P 13 55 02.1 +0.2
baz=80
R26A **Arlington** 79.17 337 ⇑P P 13 55 03.5 +1.2
baz=80,SNR=6.3
Y12C **Blythe** 79.31 327 ⇓P P 13 55 04.8 +1.8
baz=80
SDCO **Great Sand Dun** 79.33 335 *e*P P 13 55 04.0 +0.6
comp=Z,3.3nm,1.2s
SDCO **Great Sand Dun** 79.33 335 ⇓P P 13 55 05.0 +1.6
baz=80
P30A **Selden** 79.38 340 ⇓P P 13 55 06.2 +2.9
baz=80
WUAZ **Wupatki** 79.50 330 ⇑P P 13 55 06.0 +1.7
baz=80
BC3 **Big Chuckawall** 79.64 326 ⇑P P 13 55 06.7 +1.8
baz=80
Q26A **Hugo** 79.76 337 ⇑P P 13 55 07.8 +2.2
baz=80
S22A **4UR Ranch, Cre** 79.78 335 ⇓P P 13 55 07.6 +1.7
baz=80
P28A **Saint Francis** 79.83 339 ⇓P P 13 55 06.9 +1.0
baz=80
R23A **Moffat** 79.84 335 ⇓P P 13 55 08.4 +2.3
baz=80
MVCO **Mesa Verde** 79.89 333 ⇓P P 13 55 08.1 +1.7
baz=80
IRM **Iron Mountain** 79.93 327 ⇓P P 13 55 07.5 +1.0
baz=80
PFO **Pinyon Flats O** 80.05 326 ⇓P P 13 55 09.0 +1.7
baz=80
BELC **Belle Mtn. Jos** 80.17 326 ⇑P P 13 55 10.4 +2.5
baz=80
W13A **Hualapai Mount** 80.18 328 ⇑P P 13 55 09.3 +1.3
baz=80
P26A **Davis Ranch, A** 80.29 338 ⇓P P 13 55 09.4 +1.0
baz=81
Q24A **Divide** 80.31 336 ⇑P P 13 55 09.8 +1.0
baz=81
Q23A **Hartsel** 80.48 336 ⇓P P 13 55 11.2 +1.6
baz=81
SCI **San Clemente I** 80.51 324 ⇑P P 13 55 11.0 +1.5
baz=81
U15A **North Rim** 80.66 330 ⇓P P 13 55 11.4 +0.7
baz=81
GMRC **Granite Mounta** 80.68 327 ⇑P P 13 55 12.3 +1.8
baz=81
O26A **Horse Wrangler** 80.91 338 ⇑P P 13 55 13.5 +1.9
baz=81
P23A **Jefferson** 80.91 336 ⇓P P 13 55 13.9 +1.9
baz=81
FMP **Fort Macarthur** 80.99 324 ⇑P P 13 55 14.3 +2.3
baz=81
SMCO **Snowmass** 81.11 335 *e*P P 13 55 13.5 +0.4
comp=Z,13nm,1.3s
ISCO **Idaho Springs** 81.22 336 *e*P P 13 55 14.3 +0.7
ISCO pmax pmax
comp=Z,13nm,1.5s
ISCO **Idaho Springs** 81.22 336 *e*P P 13 55 14.3 +0.7
comp=Z,13nm,1.5s
ISCO **Idaho Springs** 81.22 336 ⇑P P 13 55 15.0 +1.5
baz=82
RRX **Edison Barstow** 81.36 326 ⇑P P 13 55 16.4 +2.4
baz=82
P22A **Eagle** 81.42 335 ⇑P P 13 55 14.9 +0.4
baz=82
L31A **Butterfield Fa** 81.48 342 ⇓P P 13 55 16.6 +2.1
baz=82
O23A **Lake Granby, G** 81.69 336 ⇑P P 13 55 17.5 +1.5
baz=82,SNR=5.9
O22A **Kremmling** 81.86 336 ⇑P P 13 55 18.4 +1.4
baz=82,SNR=5.7
N24A **Carr** 81.92 337 ⇓P P 13 55 19.4 +2.3
baz=82
N23A **Red Feather La** 82.32 337 ⇓P P 13 55 20.4 +1.1
baz=83
N22A **Wattenberg Ran** 82.40 336 ⇑P P 13 55 21.2 +1.5
baz=83,SNR=5.5
O20A **White River Ci** 82.40 335 *e*P P 13 55 19.0 -0.6
comp=Z,12nm,1.3s
O20A **White River Ci** 82.40 335 ⇑P P 13 55 20.9 +1.2
baz=83
MSU **Marysvale** 82.42 331 *e*P P 13 55 20.8 +0.9
MSU pmax pmax
comp=Z,5.0nm,1.2s
MSU **Marysvale** 82.42 331 *e*P P 13 55 20.8 +0.9
comp=Z,5.1nm,1.2s
MVU **Marysvale** 82.43 331 *e*P P 13 55 20.8 +0.9
comp=Z,5.0nm,1.3s
ECSD **EROS Data Cent** 82.43 344 *e*P P 13 55 19.2 -0.3
comp=Z,16nm,1.2s
ECSD **EROS Data Cent** 82.43 344 ⇑P P 13 55 19.7 +0.3
baz=83
M24A **Cheyenne** 82.49 338 ⇓P P 13 55 21.6 +1.5
baz=83
ISA **Isabella, Lake** 82.68 325 ⇑P P 13 55 23.1 +2.0
baz=83
TPNV **Topopah Spring** 82.76 327 ⇑P P 13 55 23.3 +1.7
baz=83
K27A **Flueckinger Fa** 82.87 340 ⇑P P 13 55 23.8 +1.9
baz=83
M22A **Cedar Creek Ra** 82.99 336 ⇑P P 13 55 24.5 +1.8
baz=83
J29A **Okreek** 83.01 341 ⇑P P 13 55 23.2 +0.7
baz=83
N20A **Spence Gulch,** 83.03 335 ⇓P P 13 55 23.8 +0.8
baz=83
LBTB **Lobatse** 83.04 116 *e*P P 13 55 23.7 +0.3
LBTB pmax pmax
comp=Z,16nm,1.0s
LBTB **Lobatse** 83.04 116 *e*P P 13 55 23.7 +0.3
comp=Z,16nm,1.0s
L24A **Wheatland** 83.05 338 ⇑P P 13 55 23.9 +1.0
baz=83
VES **Vestal, Richgr** 83.11 325 ⇓P P 13 55 25.5 +2.4
baz=83
CWC **Cottonwood Cre** 83.14 326 ⇑P P 13 55 25.8 +2.2
baz=84
J28A **Allard Ranch,** 83.26 341 ⇓P P 13 55 25.3 +1.5
baz=84
J27A **Elkhorn Farm,** 83.31 340 ⇓P P 13 55 26.0 +1.8
baz=84
L22A **Ellis Ranch, M** 83.50 337 ⇓P P 13 55 26.2 +0.9
baz=84
I29A **Vivian Onida** 83.58 342 ⇓P P 13 55 26.8 +1.4
baz=84
K24A **Anderson Ranch** 83.63 338 ⇓P P 13 55 27.1 +1.3
baz=84
R11A **Troy Canyon, C** 83.66 329 *e*P P 13 55 27.2 +1.0
comp=Z,5.0nm,1.2s
R11A **Troy Canyon, C** 83.66 329 ⇑P P 13 55 27.1 +0.9
baz=84
J26A **Sides Ranch, S** 83.66 339 ⇓P P 13 55 27.6 +1.7
baz=84
K23A **Bowen Ranch, D** 83.91 338 ⇑P P 13 55 28.7 +1.4
baz=84
J25A **Sunshine Ranch** 83.94 339 ⇓P P 13 55 28.3 +0.9
baz=84
K22A **Casper** 84.09 337 *e*P P 13 55 28.1 -0.1
comp=Z,14nm,1.2s
K22A **Casper** 84.09 337 ⇑P P 13 55 29.2 +0.9
baz=84,SNR=6.0
DUG **Dugway, Tooele** 84.12 332 *e*P P 13 55 28.9 +0.5
DUG pmax pmax
comp=Z,4.0nm,0.9s
DUG **Dugway, Tooele** 84.12 332 *e*P P 13 55 28.9 +0.5
comp=Z,4.5nm,0.9s
DUG **Dugway, Tooele** 84.12 332 ⇑P P 13 55 29.4 +0.9
baz=84
TPH **Tonopah** 84.12 327 *e*P P 13 55 29.1 +0.5
TPH pmax pmax
comp=Z,9.0nm,1.2s
TPH **Tonopah** 84.12 327 *e*P P 13 55 29.1 +0.5

	comp=Z,8.7nm,1.2s								
K21A	**Alcova**	**84.31**	**336**	⇑P		**P**		**13 55 30.1**	**+0.7**
	baz=85,SNR=5.2								
G30A	**Faulkton**	**84.33**	**343**	⇑P		**P**		**13 55 30.5**	**+1.3**
	baz=85								
MLAC	**Mammoth, Mammo**	**84.47**	**326**	⇑P		**P**		**13 55 31.0**	**+0.6**
	baz=85								
I25A	**Rochford**	**84.50**	**339**	⇑P		**P**		**13 55 31.2**	**+0.8**
	baz=85								
I24A	**Kuemmerle Ranc**	**84.61**	**339**	⇓P		**P**		**13 55 32.3**	**+1.4**
	baz=85								
RSSD	**Black Hills**	**84.68**	**339**	*e*P		**P**		**13 55 31.2**	**-0.1**
RSSD				pmax		pmax			
	comp=Z,5.0nm,1.1s								
RSSD	**Black Hills**	**84.68**	**339**	*e*P		**P**		**13 55 31.2**	**-0.1**
	comp=Z,4.8nm,1.1s								
J22A	**Midwest**	**84.77**	**337**	⇓P		**P**		**13 55 31.5**	**-0.2**
	baz=85								
HWUT	**Hardware Ranch**	**84.88**	**333**	*e*P		**P**		**13 55 32.3**	**-0.1**
	comp=Z,15nm,1.3s								
NVAR	**Mina Array Bea**	**84.89**	**327**	P		**P**		**13 55 32.8**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=160,slow=4.3,SNR=9.8								
F29A	**Eureka**	**85.16**	**343**	⇑P		**P**		**13 55 34.4**	**+1.0**
	baz=86								
PDAR	**Pinedale Array**	**85.19**	**335**	P		**P**		**13 55 33.9**	**0.0**
	comp=Z,3.5nm,1.1s,baz=140,slow=4.8,SNR=15								
BW06	**Boulder Array**	**85.19**	**335**	*e*P		**P**		**13 55 32.8**	**-1.1**
	comp=Z,6.5nm,1.4s								
I22A	**9 Mile Ranch,**	**85.20**	**337**	⇓P		**P**		**13 55 33.5**	**-0.3**
	baz=86								
J20A	**Shoshoni**	**85.22**	**336**	⇑P		**P**		**13 55 35.3**	**+1.3**
	baz=86,SNR=6.6								
G27A	**Dupree**	**85.27**	**341**	⇑P		**P**		**13 55 36.8**	**+2.8**
	baz=86								
I21A	**Big Trails, Te**	**85.38**	**337**	⇑P		**P**		**13 55 35.0**	**+0.2**
	baz=86								
H24A	**Dirks Ranch, A**	**85.40**	**339**	⇓P		**P**		**13 55 34.8**	**+0.1**
	baz=86								
J19A	**Crowheart**	**85.47**	**335**	⇑P		**P**		**13 55 35.8**	**+0.6**
	baz=86,SNR=8.5								
G25A	**Newell**	**85.49**	**340**	⇓P		**P**		**13 55 35.8**	**+0.7**
	baz=86								
I20A	**Worland**	**85.77**	**336**	⇑P		**P**		**13 55 37.4**	**+0.8**
	baz=86								
E28A	**Huff**	**86.06**	**342**	⇑P		**P**		**13 55 38.6**	**+0.7**
	baz=86								
D30A	**Buchanan**	**86.11**	**344**	⇓P		**P**		**13 55 39.2**	**+1.1**
	baz=86								
I19A	**Meeteetse**	**86.13**	**336**	⇓P		**P**		**13 55 39.5**	**+0.9**
	baz=86								
E27A	**Carson**	**86.15**	**342**	⇓P		**P**		**13 55 39.1**	**+0.8**
	baz=86								
REDW	**Red Top Meadow**	**86.17**	**334**	*e*P		**P**		**13 55 38.5**	**-0.3**
	comp=Z,4.7nm,1.0s								
SNOW	**Snow King Moun**	**86.22**	**334**	*e*P		**P**		**13 55 39.3**	**+0.3**
	comp=Z,2.7nm,0.6s								
LOHW	**Long Hollow**	**86.30**	**335**	*e*P		**P**		**13 55 39.4**	**0.0**
	comp=Z,3.7nm,1.0s								
TPAW	**Teton Pass**	**86.31**	**334**	*e*P		**P**		**13 55 39.1**	**-0.3**
	comp=Z,6.4nm,1.1s								
E26A	**Carlson Angus**	**86.42**	**341**	⇓P		**P**		**13 55 40.1**	**+0.5**
	baz=87								
F23A	**Volborg**	**86.54**	**339**	⇓P		**P**		**13 55 40.7**	**+0.4**
	baz=87								
I17A	**Pilgrim Ck.**	**86.56**	**335**	⇓P		**P**		**13 55 41.7**	**+1.0**
	baz=87,SNR=6.5								
C30A	**Mose, Pekin**	**86.61**	**344**	⇓P		**P**		**13 55 41.5**	**+1.0**
	baz=87								
IMW	**Indian Meadow**	**86.67**	**335**	*e*P		**P**		**13 55 41.4**	**+0.1**
	comp=Z,6.5nm,1.1s								
H19A	**Powell**	**86.69**	**336**	⇑P		**P**		**13 55 42.1**	**+0.9**
	baz=87								
FLWY	**Flagg Ranch**	**86.75**	**335**	*e*P		**P**		**13 55 42.2**	**+0.6**
	comp=Z,15nm,1.2s								
F22A	**Rosebud**	**86.84**	**338**	⇑P		**P**		**13 55 42.4**	**+0.6**
	baz=87								
H18A	**Shoshone NF, C**	**86.92**	**336**	⇑P		**P**		**13 55 42.7**	**+0.3**
	baz=87,SNR=8.7								
D26A	**Manning**	**86.93**	**341**	⇑P		**P**		**13 55 42.7**	**+0.6**
	baz=87								
G20A	**Bridger**	**86.94**	**337**	⇓P		**P**		**13 55 42.7**	**+0.4**
	baz=87								
H17A	**Grant Village**	**86.98**	**335**	⇓P		**P**		**13 55 43.3**	**+0.6**
	baz=87								
TOA0	**Torodi Ar. Sit**	**86.99**	**71**	*e*P		**P**		**13 55 41.9**	**-1.3**
TORD	**Torodi Ar. Bea**	**86.99**	**71**	P		**P**		**13 55 42.9**	**-0.3**
	comp=Z,3.2nm,0.9s,baz=246,slow=2.9,SNR=14								
TORD				PP		**PP**		**13 59 04.5**	**-2.2**
	comp=Z,0.5nm,0.9s,baz=245,slow=6.2,SNR=2.5								
TORD				LR		LR		14 32 54.6	
	comp=Z,54nm,19.0s,baz=235,slow=34								
E24A	**Baker**	**86.99**	**340**	⇓P		**P**		**13 55 43.3**	**+0.8**
	baz=87								
MDND	**Maddock**	**87.00**	**343**	⇑P		**P**		**13 55 43.5**	**+1.1**
	baz=87								
RLMT	**Red Lodge**	**87.19**	**336**	P		**P**		**13 55 42.7**	**-1.0**
	comp=Z,4.3nm,1.0s								
B30A	**Myrvik Farm, E**	**87.28**	**344**	⇓P		**P**		**13 55 44.2**	**+0.4**
	baz=88								
C27A	**Sayler Ranch,**	**87.33**	**342**	⇑P		**P**		**13 55 44.5**	**+0.5**
	baz=88								
E22A	**Miles City**	**87.35**	**339**	⇓P		**P**		**13 55 43.6**	**-0.6**
	baz=88								
YMR	**Madison River**	**87.35**	**335**	*e*P		**P**		**13 55 45.1**	**+0.6**
	comp=Z,14nm,1.0s								
B29A	**Wagenman Farm,**	**87.52**	**344**	⇓P		**P**		**13 55 45.7**	**+0.8**
	baz=88								
HLID	**Hailey**	**87.63**	**332**	⇑P		**P**		**13 55 47.0**	**+1.2**
	baz=88								
QLMT	**Earthquake Lak**	**87.65**	**335**	*e*P		**P**		**13 55 46.4**	**+0.5**
	comp=Z,0.5nm,0.7s								
F19A	**Roth Farm, Mol**	**87.73**	**337**	⇓P		**P**		**13 55 47.2**	**+1.0**
	baz=88								
B28A	**Dugan Ranch, T**	**87.74**	**343**	⇑P		**P**		**13 55 46.6**	**+0.7**
	baz=88								
A30A	**Hoffart Farm,**	**87.74**	**345**	⇑P		**P**		**13 55 46.0**	**0.0**
	baz=88								
C24A	**Savage**	**87.92**	**340**	⇑P		**P**		**13 55 47.5**	**+0.7**
	baz=88								
A29A	**Manning Farm,**	**87.93**	**344**	⇓P		**P**		**13 55 46.8**	**0.0**
	baz=88								
MCMT	**McKenzie Canyo**	**88.15**	**334**	*e*P		**P**		**13 55 49.1**	**+0.8**
	comp=Z,3.7nm,1.2s								
E19A	**Rath Farm, Rou**	**88.22**	**337**	⇑P		**P**		**13 55 48.5**	**+0.1**
	baz=89								
WVOR	**Wild Horse Val**	**88.35**	**329**	*e*P		**P**		**13 55 49.9**	**+0.7**
WVOR				pmax		pmax			
	comp=Z,7.0nm,1.2s								
WVOR	**Wild Horse Val**	**88.35**	**329**	*e*P		**P**		**13 55 49.9**	**+0.7**
	comp=Z,6.5nm,1.2s								
C23A	**Lambert**	**88.37**	**340**	⇑P		**P**		**13 55 49.7**	**+0.7**
	baz=89								
ULM	**Lac du Bonnet**	**88.50**	**346**	P		**P**		**13 55 48.9**	**-0.6**
	comp=Z,2.9nm,0.6s,baz=161,slow=3.9,SNR=7.9								
ULM	**Lac du Bonnet**	**88.50**	**346**	*e*P		**P**		**13 55 48.7**	**-0.8**
ULM				pmax		pmax			
	comp=Z,10.0nm,1.1s								
ULM	**Lac du Bonnet**	**88.50**	**346**	*e*P		**P**		**13 55 48.7**	**-0.8**
	comp=Z,10nm,1.1s								
A26A	**Wade Farm, Ken**	**88.56**	**342**	⇓P		**P**		**13 55 50.2**	**+0.3**
	baz=89								
YKA	**Yellowknife Ar**	**103.87**	**342**	Pdiff		**Pdif**		**13 56 57.3**	**-1.8**
	comp=Z,0.1nm,0.7s,baz=140,slow=5.3,SNR=2.3								
ASAR	**Alice Springs**	**114.33**	**209**	PKP		PKPdf		14 01 36.6	-1.1
	comp=Z,0.5nm,0.8s,baz=143,slow=2.5,SNR=5.1								
ASAR				PKKPbc		**PKKPbc**		**14 12 16.3**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=336,slow=3.0,SNR=7.7								
GERES	**GERESS Array B**	**115.41**	**47**	PKP		**PKPdf**		**14 01 38.5**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=233,slow=1.3,SNR=6.8								
ILAR	**Eielson Array**	**115.58**	**333**	PKP		**PKPdf**		**14 01 38.2**	**-0.4**
	comp=Z,0.7nm,0.9s,baz=176,slow=1.2,SNR=7.2								
WRA	**Warramunga Arr**	**117.50**	**211**	PKP		**PKPdf**		**14 01 42.5**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=162,slow=1.5,SNR=4.6								
BRTR	**Keskin Array B**	**124.84**	**63**	PKP		**PKPdf**		**14 01 56.3**	**-1.1**
	comp=Z,1.4nm,0.7s,baz=184,slow=3.5,SNR=8.5								
AKASG	**Malin Array Be**	**125.43**	**49**	PKP		**PKPdf**		**14 01 56.5**	**-1.4**
	comp=Z,1.5nm,0.9s,baz=267,slow=2.7,SNR=10								
AKASG				PP		**PP**		**14 03 46.2**	**-3.4**
	comp=Z,0.1nm,0.3s,baz=254,slow=7.2,SNR=5.5								
ARCES	**ARCESS Array B**	**127.22**	**26**	PKP		**PKPdf**		**14 01 59.4**	**-1.4**
	comp=Z,2.1nm,0.8s,baz=349,slow=2.9,SNR=4.4								
PETK	**Petropavlovsk-**	**140.42**	**312**	PKP		**PKPdf**		**14 02 26.3**	**+0.3**
	comp=Z,4.6nm,1.0s,baz=131,slow=5.9,SNR=3.1								
SEY	**Seymchan**	**141.19**	**328**	PKP		**PKPdf**		**14 02 25.6**	**-1.5**
	comp=Z,1.7nm,0.6s,baz=121,slow=5.0,SNR=8.3								
GEYT	**Alibeck**	**142.60**	**73**	PKhKP		PKPpre		14 02 25.2	
	comp=Z,1.1nm,0.7s,baz=230,slow=8.7,SNR=3.4								
TIXI	**Tiksi**	**142.84**	**348**	⇓*i*PKIKP		**PKPdf**		**14 02 27.7**	**-2.1**
ARU	**Arti**	**143.03**	**42**	*i* PKIKP		**PKPdf**		**14 02 32.1**	**+1.6**
ARU								14 05 37.7	
KSM	**Kuching**	**144.77**	**188**	*e*PKP		**PKPab**		**14 02 33.9**	**+0.1**
ABKAR	**Akbulak array**	**144.87**	**54**	*e*PKP		**PKPab**		**14 02 32.9**	**-0.2**
IPM	**Ipoh**	**147.78**	**172**	*e*PKPbc		**PKPbc**		**14 02 42.1**	**-0.8**
NJS	**Nagarjunasagar**	**149.41**	**124**	*e*PKPdf		**PKPbc**		**14 02 46.5**	**-0.5**
HYB	**Hyderabad**	**149.51**	**122**	*i* PKP		**PKPab**		**14 02 56.5**	**+4.3**
HYBB	**Hyderabad (bro**	**149.51**	**122**	*e*PKPdf		**PKPbc**		**14 02 47.1**	**-0.1**
YAK	**Yakutsk**	**150.40**	**337**	PKPbc		**PKPbc**		**14 02 47.7**	**-0.3**
	comp=Z,35nm,0.6s,baz=236,slow=0.3,SNR=16								
YAK	**Yakutsk**	**150.40**	**337**	*e*PKIKP		**PKPbc**		**14 02 46.9**	**-1.1**
YAK				*e*				14 02 55.1	
YAK				pmax		pmax			
	comp=Z,40nm,0.9s								
BRVK	**Borovoye**	**150.48**	**45**	⇑*i*PKIKP		**PKPbc**		**14 02 49.7**	**+1.2**
BRVK	**Borovoye**	**150.48**	**45**	*e*PKPbc		**PKPbc**		**14 02 49.2**	**+0.7**
BVAR	**Borovoye Array**	**150.56**	**45**	PKP		**PKPdf**		**14 02 43.5**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=327,slow=2.4,SNR=6.6								
BVAR				PKPbc		**PKPbc**		**14 02 49.5**	**+0.8**
	comp=Z,9.4nm,1.0s,baz=298,slow=3.2,SNR=31								
YSS	**Yuzh-Sakhalins**	**150.58**	**302**	*e*PKIKP		PKPdf		14 02 36.3	-7.2
ASAJ	**Asahikawa**	**150.92**	**297**	PKPbc		**PKPbc**		**14 02 49.9**	**0.0**
	comp=Z,13nm,0.9s,baz=240,slow=4.1,SNR=6.7								
MJAR	**Matsushiro Arr**	**153.77**	**280**	PKPbc		**PKPbc**		**14 02 56.1**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=148,slow=4.6,SNR=3.2								
AAK	**Ala-Archa**	**155.47**	**66**	PKPab		**PKPab**		**14 03 16.2**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=172,slow=5.4,SNR=5.8								
TKM2	**Tokmak 2**	**156.26**	**65**	*e*PKIKP		**PKPdf**		**14 02 52.7**	**+0.6**
TKM2	**Tokmak 2**	**156.26**	**65**	*e*PKPdf		**PKPdf**		**14 02 52.7**	**+0.6**
KSH	**Kashi**	**156.64**	**74**	PKP		**PKPdf**		**14 02 53.1**	**+0.5**
KSH				*es*PKP				14 03 07.8	
KSH				PKS		**PKSdf**		**14 06 25.6**	**-0.9**
KSH				LN					
	comp=Z,140nm,6.4s								
KSH				LE					
	comp=Z,110nm,5.3s								
KSH				LZ					
	comp=Z,120nm,5.6s								
ZAA0	**Zalesovo Array**	**157.50**	**33**	*e*PKPdf		**PKPdf**		**14 02 52.3**	**-0.7**
ZALV	**Zalesovo Beam**	**157.50**	**33**	PKP		**PKPdf**		**14 02 52.6**	**-0.4**
	comp=Z,3.4nm,0.7s,baz=283,slow=2.1,SNR=16								
ZALV				PKPab		**PKPab**		**14 03 25.8**	**+0.9**
	comp=Z,5.5nm,0.7s,baz=296,slow=5.5,SNR=12								
BOD	**Bodaibo**	**158.02**	**348**	*e*PKP2		**PKPab**		**14 03 24.1**	**-2.9**
BOD				pmax		pmax			
	comp=Z,4.0nm,1.0s								
MK31	**Makanchi Array**	**159.98**	**52**	*e*PKIKP		**PKPdf**		**14 02 56.3**	**0.0**
MK31	**Makanchi Array**	**159.98**	**52**	*e*PKPdf		**PKPdf**		**14 02 56.3**	**0.0**
MKAR	**Makanchi Array**	**159.98**	**52**	PKP		**PKPdf**		**14 02 55.5**	**-0.7**
	comp=Z,1.5nm,0.9s,baz=272,slow=9.3,SNR=14								
MKAR				PKPab		**PKPab**		**14 03 35.6**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=277,slow=10,SNR=5.6								
MKAR				PP		**PP**		**14 07 20.9**	**+2.6**
	comp=Z,0.3nm,0.9s,baz=268,slow=6.9,SNR=3.7								
CMAR	**Chiang Mai Arr**	**161.04**	**161**	PKP		**PKPdf**		**14 02 58.0**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=240,slow=2.8,SNR=4.5								
CMAR				PKPab		**PKPab**		**14 03 41.0**	**-0.1**
	comp=Z,2.7nm,1.1s,baz=218,slow=5.2,SNR=9.2								
KSRS	**Korea Array**	**162.05**	**279**	PKP		**PKPdf**		**14 02 58.2**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=342,slow=1.9,SNR=3.6								
KSAR	**Wonju Array Be**	**162.08**	**279**	PKIKP		**PKPdf**		**14 02 58.2**	**-0.6**
KSAR	**Wonju Array Be**	**162.08**	**279**	PKP		**PKPdf**		**14 02 58.1**	**-0.6**
CN2	**Changchun**	**163.15**	**301**	*e*PKP		**PKPdf**		**14 02 58.5**	**-1.1**
WMQ	**Urumqi**	**164.63**	**57**	*e*PKP		**PKPdf**		**14 03 00.1**	**-1.0**
WMQ				LN					
	comp=Z,54nm,23.8s								
WMQ				LE					
	comp=Z,42nm,21.2s								
WMQ				LZ					
	comp=Z,61nm,23.8s								
NJ2	**Nanjing**	**168.05**	**252**	*e*PKP		**PKPdf**		**14 03 03.9**	**-0.1**
KMI	**Kunming**	**168.33**	**168**	PKP		**PKPdf**		**14 03 03.2**	**-1.5**
SONM	**Songino Array**	**168.74**	**357**	PKP		**PKPdf**		**14 03 03.7**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=177,slow=2.9,SNR=2.6								
SONM				PKPab		**PKPab**		**14 04 14.8**	**+0.3**
	comp=Z,2.5nm,1.0s,baz=347,slow=4.4,SNR=6.6								
HHC	**Hu-ho-hao-te**	**173.62**	**314**	*e*PKP		**PKPdf**		**14 03 05.6**	**-1.2**
HHC				pPKP		**pPKPdf**		**14 03 16.4**	**-0.3**
HHC				sPKP				14 03 20.9	
HHC				PP		**PP**		**14 08 30.5**	**+2.1**
HHC				SKS		**SKSdf**		**14 10 04.6**	**-3.2**
HHC				PPMZ					
	comp=Z,33nm,6.1s								
HHC				LN					
	comp=Z,86nm,21.2s								
HHC				LE					
	comp=Z,89nm,20.6s								
HHC				LZ					
	comp=Z,60nm,21.0s								
CD2	**Chengdu**	**174.16**	**165**	*e*PKP		**PKPdf**		**14 03 07.2**	**-0.1**
GTA	**Gaotai**	**174.72**	**56**	*e*PKP		**PKPdf**		**14 03 07.6**	**+0.3**
GTA				pPKP		**pPKPdf**		**14 03 18.1**	**+0.9**
GTA				sPKP				14 03 22.5	
XAN	**Xi'an**	**176.20**	**229**	PKP		**PKPdf**		**14 03 07.4**	**-0.3**

*ISCJB **09** 14:46:47.8±0.4, 32.28N±0.02×115.24W±0.03, h21km±4km, Error ellipse: s-maj=4.8km s-min=3.6km az=30.3*
*MEX **09** 14:46:49.8±0.4, 32.34N×115.12W, h19km±7km, MD3.7*
*NEIC **09** 14:46:49.2, 32.26N×115.28W, h9km, MD3.7(MEX), ML3.4(PAS), ML3.5(ECX), After ECX.*
*ECX **09** 14:46:49.2±0.5, 32.26N×115.29W, h9km, MD3.3, ML3.5*
ISC 09 14:46:47.7±0.9, 32°26N±0.03×115°28W±0.02, h18km±6km, n38, σ1§12/58, 4C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CPBX	**Cerro Prieto**	**0.16**	**354**	⇓*e*P		**Pg**	**14 46 52.2**	**+0.2**
CPBX				*e*S		**Sg**	**14 46 55.0**	**0.0**
MBIG	**Mexicali**	**0.17**	**26**	*e*P		**Pb**	**14 46 52.6**	**+0.4**
MBIG				*e*S		**Sg**	**14 46 54.9**	**-0.1**
SGL	**Mount Signal**	**0.54**	**316**	⇓*i*P		**Pg**	**14 46 58.8**	**+0.3**
EMSC	**East Mesa**	**0.54**	**28**	⇑*i*P		**Pg**	**14 46 59.0**	**+0.4**
ERPC	**Ernies Place**	**0.58**	**327**	⇓*i*P		**Pb**	**14 46 59.8**	**+0.4**
COA	**Coachella**	**0.62**	**13**	⇑*i*P		**Pg**	**14 46 60.0**	**0.0**
WESC	**Westside Schoo**	**0.63**	**323**	*e*P		**Pg**	**14 47 00.3**	**+0.2**
RDX	**Rancho Dawling**	**0.65**	**240**	⇑*e*P		**Pb**	**14 47 01.0**	**+0.3**
RDX				*e*S		**Sb**	**14 47 10.1**	**+0.7**
RDX				⇓*e*			14 47 11.3	
	comp=N,2μm,0.3s							
YUH	**Yuha Desert**	**0.67**	**306**	⇓*i*P		**Pg**	**14 47 00.7**	**-0.1**
RMX	**La Rumorosa**	**0.76**	**297**	*e*P		**Pg**	**14 47 02.4**	**-0.1**
RMX				*e*S		**Sb**	**14 47 12.7**	**+0.2**
RMX				⇓*e*			14 47 13.8	
	comp=N,2μm,0.4s							
ECBX	**El Chinero**	**0.81**	**166**	*e*P9			14 47 02.2	
ECBX				*e*S		**Sg**	**14 47 13.2**	**-1.0**
ECBX				⇑*e*			14 47 14.8	
	comp=E,1μm,0.3s							
GLA	**Glamis**	**0.88**	**26**	*e*P		**Pg**	**14 47 03.6**	**-1.3**
GLA				*e*S		**Sg**	**14 47 14.0**	**-2.5**
ZAX	**El Zacaton**	**1.12**	**229**	*e*P		**Pb**	**14 47 08.6**	**-0.1**
ZAX				*e*S		**Sn**	**14 47 24.3**	**+0.6**
CBX	**Cerro Bola**	**1.17**	**273**	*e*P		**Pn**	**14 47 10.0**	**+0.6**
CBX				*e*S		**Sb**	**14 47 25.0**	**+0.6**
CBX	**Cerro Bola**	**1.17**	**273**	*e*P		**Pn**	**14 47 10.0**	**+0.6**
CBX				*e*S		**Sb**	**14 47 25.0**	**+0.6**
CBX	**Cerro Bola**	**1.17**	**273**	*e*P		**Pb**	**14 47 09.3**	**-0.3**
CBX				*e*S		**Sb**	**14 47 25.2**	**+0.8**
SPIG	**San Pedro Mart**	**1.22**	**187**	*e*P		**Pn**	**14 47 10.1**	**-0.1**
SPIG				*i* S		**Sb**	**14 47 26.6**	**+0.6**
SPIG	**San Pedro Mart**	**1.22**	**187**	*e*P		**Pn**	**14 47 10.1**	**-0.1**
SPIG				*i* S		**Sb**	**14 47 26.6**	**+0.6**
SPX	**San Pedro Mart**	**1.22**	**187**	*e*P		**Pn**	**14 47 10.2**	**-0.1**
SPX				*i* S		**Sb**	**14 47 25.9**	**-0.1**
SPX	**San Pedro Mart**	**1.22**	**187**	*e*P		**Pn**	**14 47 10.0**	**-0.2**
SPX				*e*S		**Sn**	**14 47 27.1**	**+0.7**
BAR	**Barrett**	**1.25**	**290**	*e*Pn		**Pn**	**14 47 10.5**	**+0.1**
BAR				*e*S		**Sb**	**14 47 26.1**	**-0.5**
BAR	**Barrett**	**1.25**	**290**	*e*P		**Pn**	**14 47 10.3**	**0.0**
BAR				*e*S		**Sb**	**14 47 27.1**	**+0.6**
ECNX	**Esteban Cantu**	**1.27**	**242**	*e*P		**Pn**	**14 47 11.0**	**+0.4**
PBX	**Punta Banda**	**1.33**	**240**	*e*P		**Pn**	**14 47 11.9**	**+0.4**
PFO	**Pinyon Flats O**	**1.67**	**324**	*e*Pn		**Pn**	**14 47 15.1**	**-1.1**
214A	**Organ Pipe Nat**	**2.12**	**98**	*e*Pn		**Pn**	**14 47 21.0**	**-1.3**
214A				*e*Pg		**Pg**	**14 47 29.5**	**+1.1**
214A				*e*Sg		**Sb**	**14 47 53.0**	**+1.3**
LDFC	**Landfair**	**2.82**	**3**	Pn		**Pn**	**14 47 32.6**	**+0.6**
MWC	**Mount Wilson**	**3.04**	**311**	*e*Pn		**Pb**	**14 47 40.3**	**-1.1**
GSC	**Goldstone, Bar**	**3.29**	**338**	Pn		**Pn**	**14 47 39.1**	**+0.6**
GSC				*e*Pg		**Pg**	**14 47 50.7**	**-0.1**
OSI	**Osito Audit: C**	**3.71**	**310**	*e*Pn		**Pn**	**14 47 44.6**	**+0.3**
TUC	**Tucson**	**3.81**	**88**	*e*Pn		**Pn**	**14 47 45.7**	**+0.1**
TUC				*e*Pg		**Pg**	**14 48 00.5**	**-0.2**
TUC				*e*Sg		**Sg**	**14 48 46.2**	**-3.9**
WUAZ	**Wupatki**	**4.60**	**44**	*e*Pn		**Pn**	**14 47 58.2**	**+1.7**
W18A	**Petrified Fore**	**5.43**	**57**	*e*Pn		**Pn**	**14 48 09.6**	**+1.5**
R11A	**Troy Canyon, C**	**6.08**	**358**	*e*Pg		**Pg**	**14 48 42.0**	**-2.1**
	comp=E,2.6nm,0.6s							
121A	**Cookes Peak, D**	**6.35**	**86**	*e*Pn		**Pn**	**14 48 20.6**	**0.0**
	comp=E,8.0nm,0.3s							
MVU	**Marysvale**	**6.72**	**21**	Pn		**Pn**	**14 48 28.1**	**+2.4**
	comp=E,3.1nm,0.5s							
MVU				*e*Pg		Pg	14 48 52.5	-3.8
MSU	**Marysvale**	**6.74**	**21**	Pn		**Pn**	**14 48 28.1**	**+2.2**
	comp=E,5.7nm,0.7s							
MVCO	**Mesa Verde**	**7.45**	**47**	*e*Pn		**Pn**	**14 48 38.9**	**+3.1**
	comp=E,5.2nm,0.5s							

*ISCJB **09** 14:49:21.6±0.7, 38.93N±0.03×26.38E±0.08, h11km, Error ellipse: s-maj=9.5km s-min=3.8km az=171.1*
*CSEM **09** 14:49:21.0±0.4, 38.93N×26.46E, h5km, ML2.0, Error ellipse: s-maj=11.5km s-min=5.1km az=77.0*
*ATH **09** 14:49:21.2, 38.92N×26.45E, h4km±1km, MD3.0/7*
*THE **09** 14:49:21.7, 38.94N×26.39E, h7km±2km, ML2.0/5, Error ellipse: s-maj=2.3km s-min=0.5km az=273.0*
ISC 09 14:49:21.3±1.0, 38.93N±0.02×26.43E±0.06, h11km, n20, σ0§22/32, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PRK	**Paraskevi**	**0.34**	**339**	P		**Pg**	**14 49 28.1**	**-0.1**
PRK				S		**Sg**	**14 49 33.1**	**+0.3**
PRK	**Paraskevi**	**0.34**	**339**	*e*PG		**Pg**	**14 49 28.1**	**-0.1**
PRK				*e*SG		**Sg**	**14 49 33.3**	**+0.5**
PRK	**Paraskevi**	**0.34**	**339**	P		**Pg**	**14 49 28.1**	**-0.1**
PRK				S		**Sg**	**14 49 33.1**	**+0.3**
SIGR	**SIGRI**	**0.53**	**303**	P		**Pg**	**14 49 31.5**	**-0.1**
SIGR				S		**Sg**	**14 49 38.5**	**-0.2**
SIGR	**SIGRI**	**0.53**	**303**	*e*PG		**Pg**	**14 49 31.6**	**-0.1**
SIGR				*e*SG		**Sg**	**14 49 38.5**	**-0.2**
SIGR	**SIGRI**	**0.53**	**303**	*e*Pg		**Pg**	**14 49 31.6**	**-0.1**
SIGR				S		**Sg**	**14 49 38.5**	**-0.2**
CHOS	**Chios island**	**0.61**	**209**	P		**Pg**	**14 49 33.2**	**0.0**
CHOS				S		**Sb**	**14 49 42.8**	**+0.1**
**

YKA pP **pP** 15 07 01.6 +1.1
comp=E,1.0nm,0.8s,baz=136,slow=4.5,SNR=12
YKA sP **sP** 15 07 13.8 +1.5
comp=E,0.4nm,0.7s,baz=138,slow=4.6,SNR=4.2
ASAR Alice Springs 129.38 207 PKP **PKPdf** 15 12 32.6 +0.3
comp=E,0.4nm,0.4s,baz=128,slow=1.6,SNR=15
GEYT Alibeck 132.00 58 PKP **PKPdf** 15 12 37.5 +0.7
comp=E,0.6nm,0.6s,baz=352,slow=9.3,SNR=2.3
WRA Warramunga Arr 132.44 210 PKP **PKPdf** 15 12 38.4 +0.2
comp=E,0.5nm,0.5s,baz=153,slow=1.7,SNR=11
PETK Petropavlovsk- 133.26 323 PKP **PKPdf** 15 12 38.9 +0.3
comp=E,4.5nm,1.0s,baz=113,slow=6.7,SNR=2.2
ZALV Zalesovo Beam 142.51 26 PKP **PKPdf** 15 12 56.2 +0.6
comp=E,1.2nm,0.6s,baz=264,slow=2.9,SNR=4.6
MKAR Makanchi Array 146.08 37 PKPbc **PKPbc** 15 13 03.0 -0.1
comp=E,1.6nm,0.9s,baz=281,slow=8.1,SNR=15
MJAR Matsushiro Arr 152.67 307 PKPbc **PKPbc** 15 13 20.4 +0.4
comp=E,0.7nm,0.8s,baz=93,slow=1.9,SNR=3.6
SONM Songino Array 154.13 8 PKPbc **PKPbc** 15 13 23.2 +0.2
comp=E,0.4nm,0.5s,baz=27,slow=3.5,SNR=2.8

IDC 09 14:59:03.1±5.2,15.70S×172.19W,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.5/21,mbtmp3.6/4,Error ellipse: s-maj=230.0km s-min=36.0km az=136.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**44.90**	**240**	P		15 07 19.3	-0.5
	1.4nm,0.8s,baz=84,slow=10,SNR=2.8						
WRA	**Warramunga Arr**	**50.91**	**257**	P		15 08 06.3	-0.3
	0.2nm,0.5s,baz=94,slow=6.9,SNR=7.9						
ASAR	**Alice Springs**	**51.13**	**252**	P		15 08 08.4	+0.2
	1.1nm,0.6s,baz=86,slow=7.8,SNR=29						
ILAR	**Eielson Array**	**82.52**	**11**	P		15 11 27.4	0.0
	0.2nm,0.8s,baz=224,slow=5.6,SNR=4.3						

*ISCJB **09** 15:44:42.8±0.5,28.61S±0.09×177.5W±0.1,h54km, mb4.1/14,Error ellipse: s-maj=15.8km s-min=11.2km az=30.8*
*NEIC **09** 15:44:43.5±1.7,28.70S×177.41W,h51km±15km,mb4.4/4, Error ellipse: s-maj=17.5km s-min=16.1km az=157.0*
*IDC **09** 15:44:44.5±1.5,28.68S×177.45W,h58km±13km,mb3.8/11, mb1 4.0/11,mb1mx3.9/22,mbtmp4.0/11,Error ellipse: s-maj=28.6km s-min=20.6km az=150.0*
ISC 09 15:44:44.0±0.6,28.7S±0.1×177.4W±0.1,h54km,n44, σ1ş19/33,mb4.0/14,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.73**	**219**	P		**Pn**	15 44 59.3	**+1.0**
	baz=108,slow=20						
RAO				S		**Sn**	15 45 10.4	**+1.7**
	4μm,0.3s,baz=30,slow=20,SNR=46						
RAO	**Raoul Island**	**0.73**	**219**	*e*Pn		**Pn**	15 44 58.9	**+0.6**
RAO				Sn		**Sn**	15 45 09.5	**+0.8**
RAO				S		**Sn**	15 45 10.4	**+1.7**
URZ	**Urewera**	**10.60**	**204**	P		Pn	15 47 03.7	-9.3
	baz=352,slow=18,SNR=1.9						
URZ				S		Sn	15 49 03.1	-7.0
	2.0nm,0.3s,baz=83,slow=20,SNR=9.2						
URZ	**Urewera**	**10.60**	**204**	Pn		Pn	15 47 09.7	-3.3
URZ				S		Sn	15 49 03.1	-7.0
RPZ	**Rata Peaks**	**17.64**	**209**	P		**Pn**	15 48 41.4	**-4.4**
	0.6nm,0.3s,baz=350,slow=12,SNR=4.0						
TBI	**Tubuai**	**25.62**	**84**	*e*LR		LR	15 56 23.3	
	120nm,31.0s						
TBI	**Tubuai**	**25.62**	**84**	*e*T		T	16 16 38.3	
	13nm,0.4s						
PAE	**Paea**	**27.75**	**73**	*e*T		T	16 19 15.7	
	5.4nm,0.3s						
PPT2	**Papeete2**	**27.79**	**73**	*e*LR		LR	15 57 31.4	
	98nm,27.0s						
PPT2	**Papeete2**	**27.79**	**73**	*e*T		T	16 19 19.3	
	3.9nm,0.3s						
TVO	**Taravao**	**27.97**	**73**	*e*T		T	16 19 32.3	
	1.3nm,0.4s						
VAH	**Vaihoa**	**30.57**	**70**	*e*T		T	16 22 46.4	
	13nm,0.2s						
STKA	**Stephens Creek**	**35.42**	**254**	P		**P**	15 51 35.4	**+0.6**
	1.2nm,0.5s,baz=102,slow=11,SNR=9.8						
STKA	**Stephens Creek**	**35.42**	**254**	*e*P		**P**	15 51 35.5	**+0.6**
	0.4nm,0.7s						
AS31	**Alice Springs**	**43.76**	**265**	*e*P		**P**	15 52 44.4	**-0.1**
ASAR	**Alice Springs**	**43.76**	**265**	P		**P**	15 52 43.8	**-0.7**
	2.2nm,0.6s,baz=99,slow=7.2,SNR=43						
WRAB	**Tennant Creek**	**44.59**	**270**	*e*P		**P**	15 52 50.9	**-0.2**
	3.5nm,0.7s						
WRA	**Warramunga Arr**	**44.60**	**270**	P		**P**	15 52 50.1	**-1.0**
	2.9nm,0.8s,baz=108,slow=7.8,SNR=23						
SBA	**Scott Base**	**49.78**	**184**	P		**P**	15 53 31.7	**+1.1**
	7.8nm,1.0s						
QSPA	**South Pole Qui**	**61.42**	**180**	*e*P		**P**	15 54 55.4	**+1.0**
	4.5nm,0.9s						
MAW	**Mawson**	**74.10**	**200**	P		**P**	15 56 13.4	**-0.6**
	3.3nm,0.9s,baz=124,slow=7.3,SNR=3.4						
MJAR	**Matsushiro Arr**	**77.15**	**325**	P		**P**	15 56 31.6	**-0.2**
	0.7nm,0.6s,baz=164,slow=7.5,SNR=4.7						
VNA3	**Neumayer Olymp**	**79.97**	**176**	P		**P**	15 56 46.8	**-0.2**
VNA2	**Neumayer--Watz**	**80.42**	**177**	P		**P**	15 56 49.7	**+0.4**
	baz=179,slow=4.7						
VNA1	**Neumayer--Stat**	**80.64**	**176**	P		**P**	15 56 51.1	**+0.6**
PETK	**Petropavlovsk-**	**84.29**	**345**	P		**P**	15 57 09.4	**-0.1**
	3.9nm,0.9s,baz=111,slow=8.1,SNR=5.7						
NVAR	**Mina Array Bea**	**86.62**	**42**	P		**P**	15 57 22.5	**+0.7**
	0.9nm,0.8s,baz=217,slow=7.8,SNR=8.1						
TXAR	**Lajitas Array**	**91.01**	**57**	P		**P**	15 57 42.9	**+0.2**
	0.2nm,0.6s,baz=250,slow=2.6,SNR=4.2						
CMAR	**Chiang Mai Arr**	**93.34**	**289**	P		**P**	15 57 55.2	**+1.6**
	0.3nm,0.5s,baz=134,slow=3.9,SNR=3.0						
PDAR	**Pinedale Array**	**94.52**	**43**	P		**P**	15 57 58.3	**-0.4**
	0.3nm,0.8s,baz=290,slow=10,SNR=2.6						
ILAR	**Eielson Array**	**96.14**	**13**	P		**P**	15 58 05.4	**+0.2**
	0.2nm,0.8s,baz=224,slow=6.3,SNR=3.7						
MKAR	**Makanchi Array**	**117.07**	**311**	PKP		**PKPdf**	16 03 20.7	**-2.0**
	0.2nm,0.6s,baz=202,slow=1.6,SNR=3.6						
H10S3	**ASCENSION HYDR**	**139.03**	**153**	T		T	18 40 17.6	
	baz=205,slow=75,SNR=4.0						
H10S2	**ASCENSION HYDR**	**139.03**	**153**	T		T	18 40 19.4	
	baz=205,slow=75,SNR=11						
H10S1	**ASCENSION HYDR**	**139.05**	**153**	T		T	18 40 28.5	
	baz=205,slow=75,SNR=6.6						
H10N3	**ASCENSION HYDR**	**140.11**	**153**	T		T	18 41 48.7	
	baz=204,slow=75,SNR=7.1						
H10N1	**ASCENSION HYDR**	**140.11**	**153**	T		T	18 41 20.7	
	baz=204,slow=75,SNR=7.1						
H10N2	**ASCENSION HYDR**	**140.13**	**153**	T		T	18 41 49.2	
	baz=204,slow=75,SNR=6.7						
FINES	**FINESS Array B**	**143.71**	**341**	PKhKP		PKPpre	16 04 08.5	
	1.3nm,0.7s,baz=65,slow=3.7,SNR=6.6						
FINES				PKP		**PKPdf**	16 04 13.2	**+1.0**
	1.3nm,0.9s,baz=90,slow=1.9,SNR=3.9						
NOA	**NORSAR Array B**	**147.13**	**352**	PKPbc		**PKPbc**	16 04 20.0	**-0.4**
	0.5nm,0.7s,baz=17,slow=4.5,SNR=3.7						
AKASG	**Malin Array Be**	**150.23**	**325**	PKPbc		**PKPbc**	16 04 28.0	**-0.6**
	2.3nm,0.6s,baz=48,slow=3.0,SNR=10						
KIEV	**Kiev**	**150.25**	**325**	*e*PKPbc		**PKPbc**	16 04 28.0	**-0.6**
BRTR	**Keskin Array B**	**152.21**	**302**	PKPbc		**PKPbc**	16 04 33.2	**-0.6**
	1.0nm,0.6s,baz=154,slow=5.9,SNR=5.4						
TORD	**Torodi Ar. Bea**	**164.52**	**177**	PKP		**PKPdf**	16 04 42.1	**-0.2**
	0.6nm,0.9s,baz=164,slow=3.6,SNR=3.8						
TORD				PKPab		**PKPab**	16 05 37.8	**+0.7**
	0.4nm,0.8s,baz=164,slow=2.9,SNR=3.6						

*AZER **09** 16:15:56.7±99.0,40.30N×45.21E,h45km±3km,Error ellipse: s-maj=5.3km s-min=2.2km az=284.0*
*NSSP **09** 16:15:57.2,40.23N×45.60E,h10km,Ms2.7*
*TIF **09** 16:15:57.1,40.27N×45.58E,h20km±3km*
*CSEM **09** 16:15:58.7±0.3,40.27N×45.53E,h2km,ML2.7,Error ellipse: s-maj=7.9km s-min=6.4km az=160.0*
ISC 09 16:15:58.5±1.7,40.24N±0.03×45.46E±0.03,h14km±13km, n32,σ0ş94/49,9C-10D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GNI	**Garni**	**0.56**	**261**	*e*P		**Pb**	16 16 09.6	**-0.5**
GNI				*e*S		**Sn**	16 16 19.8	**-1.5**
GNI	**Garni**	**0.56**	**261**	P		**Pb**	16 16 09.6	**-0.5**
GNI				S		**Sn**	16 16 19.8	**-1.5**
KAPZ	**Kaputan**	**0.58**	**278**	*e*P		**Pn**	16 16 13.7	**+1.0**
KAPZ				⇑S		**Sn**	16 16 23.7	**+1.6**
KAPZ	**Kaputan**	**0.58**	**278**	P		**Pn**	16 16 13.7	**+1.0**
KAPZ				S		**Sn**	16 16 23.7	**+1.6**
GANJ	**Ganja**	**0.78**	**58**	⇓P		Pb	16 16 10.8	-3.0
GANJ	**Ganja**	**0.78**	**58**	P		Pb	16 16 10.8	-3.0
QZX	**Qazax, Azerbai**	**0.82**	**356**	⇑P		**Pb**	16 16 13.1	**-1.5**
QZX				⇑S		**Sb**	16 16 24.9	**-0.6**
QZX	**Qazax, Azerbai**	**0.82**	**356**	P		**Pb**	16 16 13.1	**-1.5**
QZX				S		**Sb**	16 16 24.9	**-0.6**
NAX	**Nakhchivan**	**1.06**	**178**	⇑P		**Pb**	16 16 18.3	**-0.5**
NAX				⇓S		**Sn**	16 16 33.6	**-0.2**
NAX	**Nakhchivan**	**1.06**	**178**	P		**Pb**	16 16 18.3	**-0.5**
NAX				S		**Sn**	16 16 33.6	**-0.2**
DGRG	**David-gareji**	**1.21**	**357**	P		**Pn**	16 16 20.9	**-0.3**
DGRG				S		**Sn**	16 16 38.0	**+0.6**
BRDA	**Brd**	**1.32**	**88**	⇓P		**Pn**	16 16 22.3	**-0.2**
BRDA				⇓S		**Sg**	16 16 41.8	**+0.8**
BRDA	**Brd**	**1.32**	**88**	P		**Pn**	16 16 22.3	**-0.2**
BRDA				S		**Sg**	16 16 41.8	**+0.8**
MNGR	**Mingechevir, A**	**1.35**	**66**	⇓P		**Pb**	16 16 23.9	**+0.3**
MNGR				⇓S		**Sg**	16 16 41.9	**-0.2**
MNGR	**Mingechevir, A**	**1.35**	**66**	P		**Pb**	16 16 23.9	**+0.3**
MNGR				S		**Sg**	16 16 41.9	**-0.2**
KZR	**Kazreti**	**1.39**	**326**	P		**Pn**	16 16 23.9	**+0.3**
KZR				S		**Sn**	16 16 40.9	**-0.8**
TBLG	**Delisi**	**1.59**	**340**	P		**Pn**	16 16 26.8	**+0.5**
TBLG				S		**Sb**	16 16 47.9	**+0.3**
SEAG	**Tbilisi Sea**	**1.60**	**342**	P		**Pn**	16 16 26.9	**+0.5**
SEAG				S		**Sb**	16 16 47.7	**-0.4**
SEKA	**Sheki**	**1.64**	**53**	⇓P		**Pn**	16 16 27.4	**+0.3**
SEKA				⇑S		**Sb**	16 16 49.3	**+0.1**
SEKA	**Sheki**	**1.64**	**53**	P		**Pn**	16 16 27.4	**+0.3**
SEKA				S		**Sb**	16 16 49.3	**+0.1**
ZKTA	**Zakatala**	**1.65**	**32**	⇑P		**Pn**	16 16 27.1	**-0.1**
ZKTA				⇓S		**Sb**	16 16 50.0	**+0.5**
DUS	**Dusheti**	**1.94**	**343**	P		**Pb**	16 16 34.2	**+0.6**
DUS				S		Sg	16 17 02.6	+1.6
PQL	**Pirkuli**	**2.45**	**76**	⇑Pn		**Pn**	16 16 39.6	**+1.3**
PQL	**Pirkuli**	**2.45**	**76**	Pn		**Pn**	16 16 39.6	**+1.3**
GLBA	**Clilabad**	**2.47**	**113**	⇑Pn		**Pn**	16 16 38.9	**+0.5**
GLBA	**Clilabad**	**2.47**	**113**	Pn		**Pn**	16 16 38.9	**+0.5**
ALIB	**Äli-Bayra**	**2.74**	**95**	⇓Pn		**Pn**	16 16 43.6	**+1.6**
ALIB	**Äli-Bayra**	**2.74**	**95**	Pn		**Pn**	16 16 43.6	**+1.6**
LRK	**Lerik**	**2.74**	**125**	⇑Pn		**Pb**	16 16 45.6	**-1.9**
LRK	**Lerik**	**2.74**	**125**	Pn		**Pb**	16 16 45.6	**-1.9**
LKRN	**Lenkeran, Azer**	**2.99**	**120**	⇓Pn		**Pn**	16 16 46.3	**+0.8**
LKRN	**Lenkeran, Azer**	**2.99**	**120**	Pn		**Pn**	16 16 46.3	**+0.8**

*AZER **09** 16:16:31.6±7.3,40.39N×45.53E,h2km,Error ellipse: s-maj=6.1km s-min=3.7km az=253.0*
*TIF **09** 16:16:33.4,40.35N×45.62E,h18km±3km*
*CSEM **09** 16:16:34.6±0.2,40.40N×45.56E,h2km,MD3.3,Error ellipse: s-maj=4.5km s-min=2.9km az=6.0*
*DDA **09** 16:16:42.6,40.25N×44.80E,h21km,MD3.3*
*NSSP **09** 16:17:31.0,40.23N×45.62E,h10km,Ms3.3*
ISC 09 16:16:33.0±1.1,40.32N±0.02×45.52E±0.01,h3km±10km, n75,σ1ş46/129,21C-22D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VADZ	**Vardenis**	**0.23**	**131**	*e*P		**Pg**	16 16 37.0	**-0.5**
VADZ				*e*S		**Sg**	16 16 40.5	**0.0**
VADZ	**Vardenis**	**0.23**	**131**	P		**Pg**	16 16 37.0	**-0.5**
GNI	**Garni**	**0.62**	**254**	⇑*i*P		**Pg**	16 16 44.6	**-0.4**
GNI				⇓*i*S		**Sb**	16 16 54.8	**-1.0**
GNI	**Garni**	**0.62**	**254**	⇑P		**Pg**	16 16 44.6	**-0.4**
GNI				S		**Sb**	16 16 54.8	**-1.0**
KAPZ	**Kaputan**	**0.63**	**270**	*e*P		**Pn**	16 16 48.8	**-0.3**
KAPZ				*e*S		**Sn**	16 16 58.2	**-1.5**
KAPZ	**Kaputan**	**0.63**	**270**	P		**Pn**	16 16 48.8	**-0.3**
KAPZ				S		**Sn**	16 16 58.2	**-1.5**
GANJ	**Ganja**	**0.69**	**62**	⇑P		**Pg**	16 16 45.9	**-0.4**
GANJ				⇓S		**Sg**	16 16 56.0	**+0.7**
GANJ	**Ganja**	**0.69**	**62**	P		**Pg**	16 16 45.9	**-0.4**
GANJ				S		**Sg**	16 16 56.0	**+0.7**
QZX	**Qazax, Azerbai**	**0.74**	**351**	⇑P		**Pb**	16 16 48.0	**-0.7**
QZX				⇓S		**Sn**	16 16 59.9	**-2.4**
QZX	**Qazax, Azerbai**	**0.74**	**351**	P		**Pb**	16 16 48.0	**-0.7**
PAAR	**P'arak'ar**	**0.89**	**259**	*e*P		**Pg**	16 16 48.9	**-1.2**
PAAR	**P'arak'ar**	**0.89**	**259**	P		**Pg**	16 16 48.9	**-1.2**
CKLZ	**Chkalov**	**0.90**	**313**	⇓*i*P		**Pg**	16 16 49.6	**-0.7**
CKLZ				⇓*i*S		**Sn**	16 17 04.9	**-1.5**
CKLZ	**Chkalov**	**0.90**	**313**	⇓P		**Pg**	16 16 49.7	**-0.7**
CKLZ				S		**Sn**	16 17 04.9	**-1.5**
GRS	**Goris**	**1.03**	**142**	⇑*i*P		**Pn**	16 16 56.0	**+1.4**
GRS				⇓*i*S		**Sn**	16 17 09.0	**-0.6**
GRS	**Goris**	**1.03**	**142**	⇑P		**Pn**	16 16 56.0	**+1.4**
GRS				S		**Sn**	16 17 09.0	**-0.6**
VRNZ	**Vardanashen**	**1.05**	**255**	*e*P		**Pn**	16 16 56.4	**+1.6**
VRNZ				*e*S		**Sn**	16 17 12.3	**+2.2**
VRNZ	**Vardanashen**	**1.05**	**255**	P		**Pn**	16 16 56.4	**+1.6**
VRNZ				S		**Sn**	16 17 12.3	**+2.2**
STKZ		**1.07**	**118**	⇓*i*P		Pb	16 16 48.5	-5.8
STKZ				⇓*i*S		**Sg**	16 17 02.5	**-5.0**
SPIZ	**Spitak**	**1.08**	**298**	⇑*i*P		**Pg**	16 16 51.2	**-2.5**
SPIZ				⇑*i*S		**Sg**	16 17 06.8	**-0.8**
SPIZ	**Spitak**	**1.08**	**298**	⇑P		**Pg**	16 16 51.2	**-2.5**
SPIZ				S		**Sg**	16 17 06.8	**-0.8**
STEZ	**Stepenevan**	**1.09**	**309**	⇑*i*P		**Pg**	16 16 52.2	**-1.7**
STEZ				⇓*i*S		**Sn**	16 17 09.4	**-1.7**
STE	**Stepanavan**	**1.11**	**308**	⇑P		**Pb**	16 16 52.2	**-2.7**
STE				S		**Sb**	16 17 09.4	**-0.4**
DGRG	**David-gareji**	**1.13**	**354**	P		**Pn**	16 16 55.8	**-0.1**
DGRG				S		**Sn**	16 17 14.2	**+2.2**
DGRG	**David-gareji**	**1.13**	**354**	P		**Pn**	16 16 55.8	**-0.1**
DGRG				S		**Sn**	16 17 14.2	**+2.2**
AKSZ	**Araks**	**1.26**	**264**	*e*P		**Pg**	16 16 59.4	**+2.3**
AKSZ				*e*S		**Sn**	16 17 16.4	**+1.2**
AKSZ	**Araks**	**1.26**	**264**	P		**Pg**	16 16 59.5	**+2.3**
AKSZ				S		**Sn**	16 17 16.4	**+1.2**
BRDA	**Brd**	**1.27**	**92**	⇑P		**Pn**	16 16 57.3	**-0.4**
BRDA				⇓S		**Sg**	16 17 16.5	**+2.6**
BRDA	**Brd**	**1.27**	**92**	P		**Pn**	16 16 57.3	**-0.4**
BRDA				S		**Sg**	16 17 16.5	**+2.6**
MNGR	**Mingechevir, A**	**1.27**	**69**	⇓P		**Pb**	16 16 57.4	**-0.3**
MNGR				⇓S		**Sg**	16 17 15.2	**+1.2**
MNGR	**Mingechevir, A**	**1.27**	**69**	P		**Pb**	16 16 57.4	**-0.3**
MNGR				S		**Sg**	16 17 15.2	**+1.2**
VNNZ	**Vanand**	**1.32**	**261**	*e*P		**Pg**	16 17 01.2	**+2.9**
VNNZ				*e*S		**Sg**	16 17 19.8	**+4.4**
VNNZ	**Vanand**	**1.32**	**261**	P		**Pg**	16 17 01.2	**+2.9**
VNNZ				S		**Sg**	16 17 19.8	**+4.4**
KZR	**Kazreti**	**1.35**	**322**	P		**Pb**	16 16 58.8	**-0.2**
KZR				S		**Sg**	16 17 16.7	**+0.3**
KZR	**Kazreti**	**1.35**	**322**	P		**Pb**	16 16 58.8	**-0.2**
KZR				S		**Sg**	16 17 16.7	**+0.3**
EAK	**Akyaka**	**1.50**	**285**	*i* P		**Pn**	16 17 00.2	**-0.9**
EAK				*i* S		**Sg**	16 17 22.4	**+1.1**
EAK	**Akyaka**	**1.50**	**285**	*i* P		**Pn**	16 17 00.2	**-0.9**
EAK				*i* S		**Sg**	16 17 22.4	**+1.1**
TBLG	**Delisi**	**1.53**	**337**	P		**Pb**	16 17 01.2	**-0.8**
TBLG				S		**Sg**	16 17 22.8	**+0.7**
TBLG	**Delisi**	**1.53**	**337**	P		**Pb**	16 17 01.2	**-0.8**
TBLG				S		**Sg**	16 17 22.8	**+0.7**
SEAG	**Tbilisi Sea**	**1.54**	**340**	P		**Pb**	16 17 01.4	**-0.8**
SEAG				S		**Sg**	16 17 22.6	**+0.1**
SEAG	**Tbilisi Sea**	**1.54**	**340**	P		**Pb**	16 17 01.4	**-0.8**
SEAG				S		**Sg**	16 17 22.6	**+0.1**
SEKA	**Sheki**	**1.55**	**55**	⇑P		**Pb**	16 17 02.3	**-0.2**
SEKA				⇑S		**Sg**	16 17 24.4	**+1.5**
SEKA	**Sheki**	**1.55**	**55**	P		**Pb**	16 17 02.3	**-0.2**
ZKTA	**Zakatala**	**1.56**	**32**	⇑P		**Pb**	16 17 02.1	**-0.4**
	SNR=7.3						
ZKTA				⇓S		**Sg**	16 17 24.9	**+1.9**
DYDN	**Diyadin**	**1.61**	**242**	*i* P		**Pn**	16 17 01.9	**-0.7**
DYDN				*i* S		**Sb**	16 17 24.9	**+0.6**
DYDN	**Diyadin**	**1.61**	**242**	*i* P		**Pn**	16 17 01.9	**-0.7**
DYDN				*i* S		**Sb**	16 17 24.9	**+0.6**
DIGO	**Kars**	**1.64**	**274**	*i* P		**Pn**	16 17 01.7	**-1.4**
DIGO				*i* S		**Sg**	16 17 26.0	**+0.2**
DIGO	**Kars**	**1.64**	**274**	*i* P		**Pn**	16 17 01.7	**-1.4**
DIGO				*i* S		**Sg**	16 17 26.0	**+0.2**
DUS	**Dusheti**	**1.87**	**341**	P		**Pg**	16 17 08.7	**-0.2**
DUS				S		**Sg**	16 17 37.1	**+4.0**
DUS	**Dusheti**	**1.87**	**341**	P		**Pg**	16 17 08.7	**-0.2**
AKH	**Akhalkalaki**	**1.88**	**306**	P		**Pb**	16 17 08.2	**0.0**
AKH				S		**Sg**	16 17 34.1	**+0.6**
AKH	**Akhalkalaki**	**1.88**	**306**	P		**Pb**	16 17 08.2	**0.0**
AKH				S		**Sg**	16 17 34.1	**+0.6**
IML	**Ismayilli**	**2.08**	**76**	⇓P		**Pb**	16 17 10.5	**-1.0**
IML				⇓S		**Sg**	16 17 40.3	**+0.4**
IML	**Ismayilli**	**2.08**	**76**	P		**Pb**	16 17 10.5	**-1.0**
SAAT	**Saatly**	**2.27**	**101**	⇑S		**Sb**	16 17 43.5	**+0.3**
TUTA	**Tutak**	**2.28**	**247**	*i* P		**Pn**	16 17 10.7	**-1.1**
TUTA	**Tutak**	**2.28**	**247**	*i* P		**Pn**	16 17 10.7	**-1.1**
PQL	**Pirkuli**	**2.39**	**78**	⇑P		**Pn**	16 17 13.8	**+0.6**
PQL				⇓S		**Sb**	16 17 47.7	**+1.0**
PQL	**Pirkuli**	**2.39**	**78**	P		**Pn**	16 17 13.8	**+0.6**
TVAN	**Van**	**2.43**	**223**	*i* P		**Pb**	16 17 16.7	**-0.8**
TVAN				*i* S		**Sg**	16 17 51.1	**+0.1**
TVAN	**Van**	**2.43**	**223**	*i* P		**Pb**	16 17 16.7	**-0.8**
TVAN				*i* S		**Sg**	16 17 51.1	**+0.1**
GLBA	**Clilabad**	**2.46**	**115**	⇑P		**Pn**	16 17 15.2	**+1.1**
GLBA				⇓S		**Sb**	16 17 48.9	**+0.2**
GLBA	**Clilabad**	**2.46**	**115**	P		**Pn**	16 17 15.2	**+1.1**
QUBA	**Quba, Azerbaij**	**2.48**	**64**	⇑P		**Pn**	16 17 15.1	**+0.7**
QUBA	**Quba, Azerbaij**	**2.48**	**64**	P		**Pn**	16 17 15.1	**+0.7**
ATGJ	**Altiaghaj**	**2.66**	**77**	⇓P		**Pn**	16 17 18.0	**+1.1**
ATGJ	**Altiaghaj**	**2.66**	**77**	P		**Pn**	16 17 18.0	**+1.1**
ALIB	**Äli-Bayra**	**2.70**	**97**	⇓P		**Pb**	16 17 19.7	**-2.2**
ALIB	**Äli-Bayra**	**2.70**	**97**	P		**Pb**	16 17 19.7	**-2.2**
ONI	**Oni**	**2.75**	**326**	P		**Pb**	16 17 22.8	**0.0**
ONI				S		**Sb**	16 17 57.3	**+0.3**
LRK	**Lerik**	**2.75**	**127**	⇑P		**Pb**	16 17 21.0	**-2.0**
LRK				⇓S		**Sb**	16 17 57.4	**+0.2**
LRK	**Lerik**	**2.75**	**127**	P		**Pb**	16 17 21.0	**-2.0**
DAGI	**Agillar**	**2.84**	**287**	*i* P		**Pn**	16 17 20.9	**+1.5**
DAGI				*i* S		**Sg**	16 18 03.8	**-0.6**
LKRN	**Lenkeran, Azer**	**2.99**	**122**	⇓P		**Pn**	16 17 22.7	**+1.3**
LKRN				⇑S		**Sb**	16 18 03.0	**-0.9**
LKRN	**Lenkeran, Azer**	**2.99**	**122**	P		**Pn**	16 17 22.7	**+1.3**

*ISCJB **09** 16:26:37.5±0.6,51.49N±0.03×16.19E±0.03,h0km,Error ellipse: s-maj=4.3km s-min=3.0km az=18.5*
*CSEM **09** 16:26:38.6±0.3,51.52N×16.18E,h2km,ML3.2/13,Error ellipse: s-maj=4.3km s-min=3.5km az=11.0*
*IPEC **09** 16:26:38.5±0.3,51.57N×16.32E,h0km,ML2.2/3,Error ellipse: s-maj=3.1km s-min=1.7km az=66.0*
*IDC **09** 16:26:40.4±1.1,51.42N×16.20E,h0km,mb1 2.9/4, mb1mx2.8/26,mbtmp2.7/4,ML2.6/4,Error ellipse: s-maj=18.5km s-min=9.8km az=126.0*
*VIE **09** 16:26:41.7±0.7,51.27N×16.09E,h0km,mb2.2/3,ML2.6/4, Error ellipse: s-maj=4.7km s-min=4.0km az=9.0 67 km WNW of Wroclaw Suspected Mining induced.*
ISC 09 16:26:37.9±0.8,51.59N±0.03×16.21E±0.02,h0km,n43, σ1ş15/84,2C-3D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.75**	**176**	*i* Pg		**Pg**	16 26 52.8	**+0.5**
KSP				*e*Sg		**Sg**	16 27 01.9	**-0.1**
KSP	**Ksiaz**	**0.75**	**176**	⇓*i*Pg		**Pg**	16 26 52.8	**+0.5**
KSP				*e*Sg		**Sg**	16 27 01.9	**-0.1**
UPC

comp=Z,8.8nm,0.6s
MOA Molln 3.95 199 Pn **Pn** **16 27 39.6 -0.2**
MOA Sg **Sg** **16 28 41.5 -3.3**
comp=Z,8.8nm,0.6s
AKASG Malin Array Be 8.24 91 Pn **Pn** **16 28 38.1 -0.5**
comp=Z,0.5nm,0.3s,baz=280,slow=12,SNR=4.6
FINES FINESS Array B 11.26 25 Pn **Pn** **16 29 19.3 -0.7**
comp=Z,0.1nm,0.3s,baz=211,slow=14,SNR=4.4

IDC 09 16:27:01.9±59.0, 20.60S×177.29E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/25, mbtmp4.1/3, Error ellipse: s-maj=1040.0km s-min=141.8km az=81.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**33.78**	**243**	P	P	16 33 45.0	-0.6
	1.1nm,0.5s,baz=79,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**40.19**	**257**	P	P	16 34 40.0	-0.3
	1.9nm,0.6s,baz=92,slow=8.0,SNR=59						
WRA	**Warramunga Arr**	**40.21**	**263**	P	P	16 34 40.8	+0.4
	0.9nm,0.2s,baz=96,slow=7.8,SNR=166						

IDC 09 16:39:03.6±7.0, 18.43S×178.80W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/19, mbtmp3.6/3, Error ellipse: s-maj=302.4km s-min=38.2km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.18**	**260**	P	P	16 47 15.4	+0.8
	0.4nm,0.4s,baz=94,slow=8.0,SNR=20						
ASAR	**Alice Springs**	**44.30**	**255**	P	P	16 47 14.4	-1.1
	1.1nm,0.7s,baz=96,slow=8.4,SNR=19						
ILAR	**Eielson Array**	**86.47**	**13**	P	P	16 51 47.7	-0.1
	0.1nm,0.5s,baz=228,slow=5.4,SNR=4.4						

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*LDG **09** 16:56:20.7±0.1, 36.55N×4.69W, h10km, Ml3.0/4, Error ellipse: s-maj=2.9km s-min=1.5km az=172.0*
*SFS **09** 16:56:20.0, 36.50N×4.68W, h20km, ML2.5*
*ISCJB **09** 16:56:21.0±0.5, 36.67N±0.03×4.74W±0.02, h78km±6km, Error ellipse: s-maj=5.7km s-min=2.7km az=174.8*
*MDD **09** 16:56:22.3±0.6, 36.54N×4.67W, h49km±5km, mb4.1/18, Error ellipse: s-maj=7.2km s-min=3.3km az=175.0, PRXIMO*
*IGIL **09** 16:56:22.0, 36.50N×4.68W, h29km, ML2.5*
*CSEM **09** 16:56:22.9±0.2, 36.69N×4.72W, h40km, ML3.0/11, Error ellipse: s-maj=4.4km s-min=2.3km az=173.0*
*INMG **09** 16:56:23.3±1.0, 36.67N×4.84W, h19km±5km, ML2.4, Error ellipse: s-maj=3.0km s-min=2.3km az=123.0*
ISC 09 16:56:20.4±1.3, 36.55N±0.05×4.68W±0.02, h64km±7km, n126, σ1°43/229, 1C-5D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIJ	**Mijas**	**0.07**	**281**	⇓P	**Pn**	**16 56 29.6**	**-0.3**
	97nm,0.1s,SNR=18						
EMIJ				S	**Sn**	**16 56 34.9**	**-1.9**
	218nm,0.2s,SNR=5.0						
EMIJ	**Mijas**	**0.07**	**281**	P	**Pn**	**16 56 29.6**	**-0.3**
	97nm,0.1s,SNR=18						
EMIJ				S	**Sn**	**16 56 34.9**	**-1.9**
	218nm,0.2s,SNR=5.0						
EMAL	**Malaga-Limoner**	**0.29**	**44**	*e*P	**Pn**	**16 56 30.5**	**-0.4**
EMAL				*i* S	**Sn**	**16 56 37.5**	**-0.9**
REAL	**Reales**	**0.43**	**261**	P	**Pn**	**16 56 34.0**	**+1.8**
REAL	**Reales**	**0.43**	**261**	P	**Pn**	**16 56 34.0**	**+1.8**
LIJA	**Lijar**	**0.68**	**302**	P	**Pn**	**16 56 37.5**	**+2.7**
LIJA				S	Sn	16 56 51.4	+6.1
LIJA	**Lijar**	**0.68**	**302**	*e*P	**Pn**	**16 56 37.5**	**+2.7**
EGUA	**Guajares**	**0.94**	**72**	P	**Pn**	**16 56 37.6**	**-0.3**
	4.8nm,0.1s,SNR=7.9						
EGUA				S	**Sn**	**16 56 49.6**	**-1.2**
	35nm,0.2s,SNR=7.9						
ESPR	**Espera**	**1.00**	**289**	P	**Pn**	**16 56 39.7**	**+1.1**
	1.0nm,0.1s,SNR=5.7						
ESPR				S	**Sn**	**16 56 53.0**	**+1.0**
	3.5nm,0.1s,SNR=4.6						
ESPR	**Espera**	**1.00**	**289**	P	**Pn**	**16 56 39.7**	**+1.1**
	1.0nm,0.1s,SNR=5.7						
ESPR				S	**Sn**	**16 56 53.0**	**+1.0**
	3.5nm,0.1s,SNR=4.6						
SELV	**Sierra Elvira**	**1.03**	**48**	P	**Pn**	**16 56 40.6**	**+1.6**
	3.4nm,0.1s,SNR=7.9						
SELV				S	**Sn**	**16 56 55.1**	**+2.3**
	8.9nm,0.2s,SNR=7.9						
SELV	**Sierra Elvira**	**1.03**	**48**	P	**Pn**	**16 56 40.6**	**+1.6**
	3.4nm,0.1s,SNR=7.9						
SELV				S	**Sn**	**16 56 55.1**	**+2.3**
	8.9nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**1.06**	**18**	P	**Pn**	**16 56 40.7**	**+1.2**
	15nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**16 56 54.8**	**+1.2**
	34nm,0.1s,SNR=7.9						
ELUQ	**Luque**	**1.06**	**18**	P	**Pn**	**16 56 40.7**	**+1.2**
	15nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**1.19**	**56**	P	**Pn**	**16 56 42.8**	**+1.6**
	1.0nm,0.1s,SNR=13						
EQUE				S	**Sn**	**16 56 57.5**	**+0.8**
	4.9nm,0.1s,SNR=9.6						
EQUE	**Quentar**	**1.19**	**56**	P	**Pn**	**16 56 42.8**	**+1.6**
	1.0nm,0.1s,SNR=13						
EQUE				S	**Sn**	**16 56 57.5**	**+0.8**
	4.9nm,0.1s,SNR=9.6						
EBER	**Berja**	**1.48**	**76**	P	**Pn**	**16 56 45.7**	**+0.6**
	2.0nm,0.1s,SNR=13						
EBER				S	**Sn**	**16 57 03.8**	**+0.1**
	8.5nm,0.2s,SNR=10						
EBER	**Berja**	**1.48**	**76**	P	**Pn**	**16 56 45.7**	**+0.6**
	2.0nm,0.1s,SNR=13						
EADA	**Adamuz**	**1.62**	**3**	P	**Pn**	**16 56 47.8**	**+1.0**
	2.9nm,0.0s,SNR=36						
EADA				S	**Sn**	**16 57 07.1**	**+0.4**
	10nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**1.62**	**3**	P	**Pn**	**16 56 47.8**	**+1.0**
	2.9nm,0.0s,SNR=36						
EADA				S	**Sn**	**16 57 07.1**	**+0.4**
	10nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**1.63**	**339**	P	**Pn**	**16 56 48.1**	**+1.1**
	0.9nm,0.0s,SNR=15						
ECAB				S	**Sn**	**16 57 08.5**	**+1.4**
	38nm,0.1s,SNR=5.0						
ECAB	**El Cabril**	**1.63**	**339**	P	**Pn**	**16 56 48.1**	**+1.1**
	0.9nm,0.0s,SNR=15						
EBAN	**Banos Encina**	**1.76**	**24**	⇓P	**Pn**	**16 56 49.5**	**+0.7**
	4.0nm,0.1s,SNR=18						
EBAN				S	**Sn**	**16 57 10.2**	**0.0**
	11nm,0.1s,SNR=7.2						
EBAN	**Banos Encina**	**1.76**	**24**	P	**Pn**	**16 56 49.5**	**+0.7**
	4.0nm,0.1s,SNR=18						
EBAN				S	**Sn**	**16 57 10.2**	**0.0**
	11nm,0.1s,SNR=7.2						
EQES	**Quesada**	**1.79**	**45**	P	**Pn**	**16 56 50.5**	**+1.2**
	1.0nm,0.0s,SNR=13						
EQES				S	**Sn**	**16 57 11.3**	**+0.2**
	6.4nm,0.1s,SNR=6.7						
EQES	**Quesada**	**1.79**	**45**	P	**Pn**	**16 56 50.5**	**+1.2**
	1.0nm,0.0s,SNR=13						
EQES				S	**Sn**	**16 57 11.3**	**+0.2**
	6.4nm,0.1s,SNR=6.7						
EMIN	**Mina Concepcio**	**2.00**	**308**	⇓P	**Pn**	**16 56 52.7**	**+0.7**
	9.1nm,0.1s,SNR=18						
EMIN				S	**Sn**	**16 57 14.9**	**-1.1**
	12nm,0.1s,SNR=5.8						
EMIN	**Mina Concepcio**	**2.00**	**308**	P	**Pn**	**16 56 52.7**	**+0.7**
	9.1nm,0.1s,SNR=18						
EMIN				S	**Sn**	**16 57 14.9**	**-1.1**
	12nm,0.1s,SNR=5.8						
EHUE	**Huescar**	**2.09**	**52**	P	**Pn**	**16 56 54.8**	**+1.5**
	1.3nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**16 57 18.5**	**+0.2**
	2.4nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**2.09**	**52**	P	**Pn**	**16 56 54.8**	**+1.5**
	1.3nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**16 57 18.5**	**+0.2**
	2.4nm,0.1s,SNR=7.9						
SESP	**Santiago Espad**	**2.31**	**47**	P	**Pn**	**16 56 57.4**	**+1.0**
	1.7nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**16 57 22.6**	**-1.2**
	9.1nm,0.1s,SNR=7.9						
SESP	**Santiago Espad**	**2.31**	**47**	P	**Pn**	**16 56 57.4**	**+1.0**
	1.7nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**16 57 22.6**	**-1.2**
	9.1nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.45**	**294**	P	**Pn**	**16 56 58.9**	**+0.9**
	1.3nm,0.1s,SNR=13						
EGRO				S	**Sn**	**16 57 25.5**	**-1.3**
	8.9nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.45**	**294**	P	**Pn**	**16 56 58.9**	**+0.9**
	1.3nm,0.1s,SNR=13						
EGRO				S	**Sn**	**16 57 25.5**	**-1.3**
	8.9nm,0.1s,SNR=7.9						
PBAR	**Barrancos**	**2.48**	**312**	*e*Pn	**Pn**	**16 56 59.3**	**+0.8**
PBAR				*e*Sn	**Sn**	**16 57 26.6**	**-1.1**
PBAR				A	A	16 57 28.5	
	21nm,0.2s						
PBAR	**Barrancos**	**2.48**	**312**	P	**Pn**	**16 56 59.3**	**+0.8**
PBAR				S	**Sn**	**16 57 26.6**	**-1.1**
	21nm,0.2s						
PBAR	**Barrancos**	**2.48**	**312**	P	**Pn**	**16 56 59.3**	**+0.8**
PBAR				S	**Sn**	**16 57 26.6**	**-1.1**
	21nm,0.2s						
PVAQ	**Vaqueiros**	**2.58**	**290**	*e*Pn	**Pn**	**16 57 00.5**	**+0.7**
PVAQ				*e*Sn	**Sn**	**16 57 28.6**	**-1.4**
PVAQ				*e*Sn	Sn	16 57 29.0	-1.0
PVAQ				A	A	16 57 32.9	
	8.9nm,0.1s						
PVAQ	**Vaqueiros**	**2.58**	**290**	P	**Pn**	**16 57 00.5**	**+0.7**
PVAQ				S	**Sn**	**16 57 28.6**	**-1.4**
PVAQ	**Vaqueiros**	**2.58**	**290**	P	**Pn**	**16 57 00.5**	**+0.7**
PVAQ				S	**Sn**	**16 57 28.6**	**-1.4**
PVAQ				*e*Sn	Sn	16 57 29.0	-1.0
	8.9nm,0.1s						
PBDV	**Barranco-do-Ve**	**2.69**	**286**	*e*Pn	**Pn**	**16 57 02.6**	**+1.2**
PBDV				*e*Sn	**Sn**	**16 57 32.6**	**-0.3**
PBDV				A	A	16 57 38.7	
	7.1nm,0.3s						
PBDV	**Barranco-do-Ve**	**2.69**	**286**	P	**Pn**	**16 57 02.6**	**+1.2**
PBDV				S	**Sn**	**16 57 32.6**	**-0.3**
	7.1nm,0.3s						
PBDV	**Barranco-do-Ve**	**2.69**	**286**	P	**Pn**	**16 57 02.6**	**+1.2**
PBDV				S	**Sn**	**16 57 32.6**	**-0.3**
	7.1nm,0.3s						
EVIA	**Vianos**	**2.71**	**39**	P	**Pn**	**16 57 02.9**	**+1.2**
	6.1nm,0.1s,SNR=6.4						
EVIA				S	**Sn**	**16 57 29.7**	**-3.7**
	5.7nm,0.1s,SNR=5.0						
EVIA	**Vianos**	**2.71**	**39**	P	**Pn**	**16 57 02.9**	**+1.2**
	6.1nm,0.1s,SNR=6.4						
EBAD	**Badajoz**	**2.88**	**321**	⇓P	**Pn**	**16 57 04.8**	**+0.9**
	2.5nm,0.1s,SNR=18						
EBAD				S	**Sn**	**16 57 36.2**	**-1.1**
	8.0nm,0.1s,SNR=30						
EBAD	**Badajoz**	**2.88**	**321**	P	**Pn**	**16 57 04.8**	**+0.9**
	2.5nm,0.1s,SNR=18						
EBAD				S	**Sn**	**16 57 36.2**	**-1.1**
	8.0nm,0.1s,SNR=30						
PAB	**San Pablo**	**3.00**	**5**	P	**Pn**	**16 57 06.6**	**+0.9**
	0.4nm,0.0s,SNR=7.9						
PAB				S	**Sn**	**16 57 40.6**	**+0.1**
	1.9nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**3.00**	**5**	P	**Pn**	**16 57 06.6**	**+0.9**
	0.4nm,0.0s,SNR=7.9						
PAB				S	**Sn**	**16 57 40.6**	**+0.1**
	1.9nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**3.04**	**64**	S	**Sn**	**16 57 41.9**	**+0.6**
	0.3nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**3.04**	**64**	S	**Sn**	**16 57 41.9**	**+0.6**
	0.3nm,0.1s,SNR=7.9						
MESJ	**Messejana**	**3.10**	**296**	*e*P	**Pn**	**16 57 08.2**	**+1.2**
MESJ				*e*S	**Sn**	**16 57 41.4**	**-1.5**
MESJ				AML	AML	16 57 44.1	
	comp=N,6.9nm,0.2s						
MESJ	**Messejana**	**3.10**	**296**	*e*Pn	**Pn**	**16 57 08.2**	**+1.2**
MESJ				*e*Sn	**Sn**	**16 57 41.6**	**-1.3**
MESJ				A	A	16 57 43.6	
	comp=N,3.3nm,0.1s						
MESJ	**Messejana**	**3.10**	**296**	P	**Pn**	**16 57 08.2**	**+1.2**
MESJ				S	**Sn**	**16 57 41.6**	**-1.3**
	comp=N,3.3nm,0.1s						
MESJ	**Messejana**	**3.10**	**296**	P	**Pn**	**16 57 08.2**	**+1.2**
MESJ				S	**Sn**	**16 57 41.6**	**-1.3**
	comp=N,3.3nm,0.1s						
ESDC	**Sonseca Array**	**3.17**	**10**	P	**Pn**	**16 57 08.8**	**+0.9**
	comp=N,1.1nm,0.2s,baz=188,slow=12,SNR=20						
ESDC				S	**Sn**	**16 57 44.3**	**-0.3**
	comp=N,4.2nm,0.1s,baz=187,slow=23,SNR=47						
ESDC	**Sonseca Array**	**3.17**	**10**	P	**Pn**	**16 57 08.8**	**+0.9**
	comp=N,1.1nm,0.2s,SNR=20						
ESDC				S	**Sn**	**16 57 44.3**	**-0.3**
	comp=N,4.2nm,0.1s,SNR=47						
ETOB	**Tobarra**	**3.25**	**49**	⇓P	**Pn**	**16 57 09.7**	**+0.7**
	comp=N,5.7nm,0.1s,SNR=18						
ETOB				S	**Sn**	**16 57 43.8**	**-2.7**
	comp=N,1.7nm,0.2s,SNR=5.0						
ETOB	**Tobarra**	**3.25**	**49**	P	**Pn**	**16 57 09.7**	**+0.7**
	comp=N,5.7nm,0.1s,SNR=18						
PESTR	**Estremoz**	**3.27**	**316**	*e*Pn	**Pn**	**16 57 10.2**	**+1.0**
PESTR				*e*Sn	**Sn**	**16 57 45.3**	**-1.6**
PESTR				A	A	16 58 12.6	
	comp=N,4.6nm,0.4s						
PESTR	**Estremoz**	**3.27**	**316**	*e*Pn	**Pn**	**16 57 10.2**	**+1.0**
PESTR				*e*Sn	**Sn**	**16 57 45.3**	**-1.6**
	comp=N,4.6nm,0.4s						
MORF	**Marmelete**	**3.27**	**285**	*e*P	**Pn**	**16 57 10.1**	**+0.8**
MORF				*e*S	**Sn**	**16 57 45.8**	**-1.2**
MORF				AML	AML	16 57 50.8	
	comp=E,31nm,0.3s						
MORF	**Marmelete**	**3.27**	**285**	*e*Pn	**Pn**	**16 57 10.6**	**+1.3**
MORF				*e*Sn	**Sn**	**16 57 46.0**	**-1.0**
MORF				A	A	16 57 50.1	
	comp=E,20nm,0.2s						
MORF	**Marmelete**	**3.27**	**285**	P	**Pn**	**16 57 10.6**	**+1.3**
MORF				S	**Sn**	**16 57 46.0**	**-1.0**
	comp=E,20nm,0.2s						
MORF	**Marmelete**	**3.27**	**285**	P	**Pn**	**16 57 10.6**	**+1.3**
MORF				S	**Sn**	**16 57 46.0**	**-1.0**
	comp=E,20nm,0.2s						
EVO	**Evora**	**3.31**	**308**	*e*Pn	**Pn**	**16 57 11.5**	**+1.8**
EVO				*e*Sn	**Sn**	**16 57 48.3**	**+0.5**
	comp=E,8.2nm,0.3s						
EVO	**Evora**	**3.31**	**308**	*e*Pn	**Pn**	**16 57 10.9**	**+1.2**
EVO				*e*Sn	**Sn**	**16 57 46.4**	**-1.4**
EVO				A	A	16 57 48.6	
	comp=E,12nm,0.3s						
EVO	**Evora**	**3.31**	**308**	P	**Pn**	**16 57 10.9**	**+1.2**
EVO				S	**Sn**	**16 57 46.4**	**-1.4**
	comp=E,12nm,0.3s						
EVO	**Evora**	**3.31**	**308**	P	**Pn**	**16 57 10.9**	**+1.2**
EVO				S	**Sn**	**16 57 46.4**	**-1.4**
	comp=E,12nm,0.3s						
EVOP	**Sao Brissos**	**3.37**	**307**	*e*Pn	**Pn**	**16 57 11.5**	**+0.8**
EVOP				*e*Sn	**Sn**	**16 57 48.3**	**-1.2**
	comp=E,4.1nm,0.3s						
PFVI	**Vila Bisbo**	**3.38**	**281**	*e*Pn	**Pn**	**16 57 11.9**	**+1.2**
PFVI				*e*Sn	**Sn**	**16 57 47.4**	**-2.1**
PFVI				A	A	16 57 53.1	
	comp=E,8.1nm,0.1s						
PFVI	**Vila Bisbo**	**3.38**	**281**	P	**Pn**	**16 57 12.1**	**+1.4**
	comp=E,2.2nm,0.1s,SNR=6.5						
PFVI				S	**Sn**	**16 57 47.0**	**-2.6**
	comp=E,5.5nm,0.1s,SNR=7.7						
PFVI	**Vila Bisbo**	**3.38**	**281**	P	**Pn**	**16 57 12.1**	**+1.4**
	comp=E,2.2nm,0.1s,SNR=6.5						
PFVI				*e*Sn	**Sn**	**16 57 47.4**	**-2.1**
	comp=E,8.1nm,0.1s						
PTEO	**Sao Teotonio**	**3.38**	**288**	*e*Pn	**Pn**	**16 57 12.4**	**+1.6**
PTEO				*e*Sn	**Sn**	**16 57 48.5**	**-1.2**
PTEO				A	A	16 57 52.1	
	comp=E,6.3nm,0.4s						
PTEO	**Sao Teotonio**	**3.38**	**288**	P	**Pn**	**16 57 12.4**	**+1.6**
PTEO				S	**Sn**	**16 57 48.5**	**-1.2**
	comp=E,3.2nm,0.4s						
PTEO	**Sao Teotonio**	**3.38**	**288**	P	**Pn**	**16 57 12.4**	**+1.6**
PTEO				S	**Sn**	**16 57 48.5**	**-1.2**
	comp=E,3.2nm,0.4s						
PNCL	**Nicolau / Gran**	**3.44**	**298**	*e*Pn	**Pn**	**16 57 12.5**	**+0.9**
PNCL				*e*Sn	**Sn**	**16 57 50.1**	**-1.0**
PNCL				A	A	16 57 51.2	
	comp=E,4.7nm,0.3s						
PNCL	**Nicolau / Gran**	**3.44**	**298**	*e*Pn	**Pn**	**16 57 12.5**	**+0.9**
PNCL				*e*Sn	**Sn**	**16 57 50.1**	**-1.0**
	comp=E,4.7nm,0.3s						
PMRV	**Marv??o**	**3.58**	**324**	*e*Pn	**Pn**	**16 57 14.9**	**+1.4**
PMRV				*e*Sn	**Sn**	**16 57 53.5**	**-1.1**
PMRV				A	A	16 58 23.3	
	comp=E,4.4nm,0.3s						
PMRV	**Marv??o**	**3.58**	**324**	P	**Pn**	**16 57 14.9**	**+1.4**
PMRV				S	**Sn**	**16 57 53.5**	**-1.1**
	comp=E,4.4nm,0.3s						
PMRV	**Marv??o**	**3.58**	**324**	P	**Pn**	**16 57 14.9**	**+1.4**
PMRV				S	**Sn**	**16 57 53.5**	**-1.1**
	comp=E,4.4nm,0.3s						
EPLA	**Plasencia**	**3.68**	**343**	P	**Pn**	**16 57 15.9**	**+1.1**
	comp=E,0.6nm,0.0s,SNR=9.8						
EPLA				S	**Sn**	**16 57 56.1**	**-0.9**
	comp=E,2.1nm,0.1s,SNR=8.3						
EPLA	**Plasencia**	**3.68**	**343**	P	**Pn**	**16 57 15.9**	**+1.1**
	comp=E,0.6nm,0.0s,SNR=9.8						
EPLA				S	**Sn**	**16 57 56.1**	**-0.9**
	comp=E,2.1nm,0.1s,SNR=8.3						
PMTG	**Montargil**	**3.77**	**313**	*e*Pn	**Pn**	**16 57 17.3**	**+1.3**
PMTG				*e*Sn	**Sn**	**16 57 57.4**	**-1.7**
PMTG				A	A	16 57 59.5	
	comp=E,2.9nm,0.2s						
PMTG	**Montargil**	**3.77**	**313**	*e*Pn	**Pn**	**16 57 17.3**	**+1.3**
PMTG				*e*Sn	**Sn**	**16 57 57.4**	**-1.7**
	comp=E,2.9nm,0.2s						
PCBR	**Castelo Branco**	**3.96**	**327**	*e*Pn	**Pn**	**16 57 20.3**	**+1.7**
PCBR				*e*Sn	**Sn**	**16 58 01.9**	**-1.8**
PCBR				A	A	16 58 02.9	
	comp=E,6.1nm,0.8s						
PCBR	**Castelo Branco**	**3.96**	**327**	P	**Pn**	**16 57 20.3**	**+1.7**
PCBR				S	**Sn**	**16 58 01.9**	**-1.8**
	comp=E,3.1nm,0.8s						
PCBR	**Castelo Branco**	**3.96**	**327**	P	**Pn**	**16 57 20.3**	**+1.7**
PCBR				S	**Sn**	**16 58 01.9**	**-1.8**
	comp=E,3.1nm,0.8s						
PACT	**Alcochete**	**3.97**	**305**	*e*Pn	**Pn**	**16 57 20.7**	**+1.9**
PACT				A	A	16 58 04.5	
	comp=E,19nm,0.8s						
PACT				*e*Sn	**Sn**	**16 58 04.8**	**+0.8**
PACT	**Alcochete**	**3.97**	**305**	*e*Pn	**Pn**	**16 57 20.7**	**+1.9**
	comp=E,19nm,0.8s						
PACT				*e*Sn	**Sn**	**16 58 04.8**	**+0.8**
GUD	**Guadarrama**	**4.11**	**6**	P	**Pn**	**16 57 21.8**	**+1.0**
	comp=E,0.5nm,0.1s,SNR=12						
GUD				S	**Sn**	**16 58 06.5**	**-1.1**
	comp=E,0.8nm,0.1s,SNR=5.0						
GUD	**Guadarrama**	**4.11**	**6**	P	**Pn**	**16 57 21.8**	**+1.0**
	comp=E,0.5nm,0.1s,SNR=12						
GUD				S	**Sn**	**16 58 06.5**	**-1.1**
	comp=E,0.8nm,0.1s,SNR=5.0						
PTOM	**Tomar**	**4.25**	**317**	*e*Pn	**Pn**	**16 57 24.2**	**+1.6**
PTOM				*e*Sn	**Sn**	**16 58 09.3**	**-1.6**
PTOM				A	A	16 58 11.3	
	comp=E,4.3nm,0.5s						
PTOM	**Tomar**	**4.25**	**317**	P	**Pn**	**16 57 24.2**	**+1.6**
PTOM				S	**Sn**	**16 58 09.3**	**-1.6**
	comp=E,2.2nm,0.5s						
PTOM	**Tomar**	**4.25**	**317**	P	**Pn**	**16 57 24.2**	**+1.6**
PTOM				S	**Sn**	**16 58 09.3**	**-1.6**
	comp=E,2.2nm,0.5s						
PMAFR	**Mafra**	**4.37**	**305**	*e*Sn	**Sn**	**16 58 12.2**	**-1.6**
PMAFR				A	A	16 58 15.4	
	comp=E,12nm,0.5s						
PMAFR	**Mafra**	**4.37**	**305**	S	**Sn**	**16 58 12.1**	**-1.6**
	comp=E,16nm,0.2s,SNR=10						
PMAFR	**Mafra**	**4.37**	**305**	*e*Sn	**Sn**	**16 58 12.2**	**-1.6**
	comp=E,12nm,0.5s						
PCAS	**Casmilo, Conde**	**4.61**	**321**	*e*Pn	**Pn**	**16 57 29.0**	**+1.4**
PCAS				*e*Sn	**Sn**	**16 58 17.9**	**-1.9**
PCAS				A	A	16 58 18.4	
	comp=E,5.7nm,0.7s						
PCAS	**Casmilo, Conde**	**4.61**	**321**	*e*Pn	**Pn**	**16 57 29.0**	**+1.4**
PCAS				*e*Sn	**Sn**	**16 58 17.9**	**-1.9**
	comp=E,5.7nm,0.7s						
ETOR	**Torete**	**4.73**	**25**	⇑P	**Pn**	**16 57 30.3**	**+1.0**
	comp=E,22nm,0.0s,SNR=18						
ETOR				S	**Sn**	**16 58 17.5**	**-5.4**
	comp=E,33nm,0.1s,SNR=9.4						
ETOR	**Torete**	**4.73**	**25**	P	**Pn**	**16 57 30.3**	**+1.0**
	comp=E,22nm,0.0s,SNR=18						
PVIS	**Viseu**	**4.86**	**330**	*e*Pn	**Pn**	**16 57 32.6**	**+1.6**
PVIS				*e*Sn	**Sn**	**16 58 24.5**	**-1.5**
PVIS				A	A	16 58 37.9	
	comp=E,2.6nm,0.8s						
PVIS	**Viseu**	**4.86**	**330**	P	**Pn**	**16 57 32.6**	**+1.6**
PVIS				S	**Sn**	**16 58 24.5**	**-1.5**
	comp=E,1.3nm,0.8s						
PVIS	**Viseu**	**4.86**	**330**	P	**Pn**	**16 57 32.6**	**+1.6**
PVIS				S	**Sn**	**16 58 24.5**	**-1.5**
	comp=E,1.3nm,0.8s						
MVO	**Moncorvo**	**4.96**	**339**	*e*Pn	**Pn**	**16 57 34.1**	**+1.7**
MVO				*e*Sn	**Sn**	**16 58 27.3**	**-1.1**
MVO				A	A	16 59 03.4	
	comp=E,3.3nm,0.5s						
MVO	**Moncorvo**	**4.96**	**339**	P	**Pn**	**16 57 34.1**	**+1.7**
	comp=E,3.3nm,0.1s,SNR=14						
MVO				S	**Sn**	**16 58 25.1**	**-3.3**
	comp=E,0.9nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**4.96**	**339**	P	**Pn**	**16 57 34.1**	**+1.7**
	comp=E,3.3nm,0.1s,SNR=14						
MVO				S	**Sn**	**16 58 25.1**	**-3.3**
	comp=E,0.9nm,0.2s,SNR=7.9						
MVO				*e*Sn	Sn	16 58 27.3	-1.2
	comp=E,3.3nm,0.5s						
PVRL	**Vila Real**	**5.28**	**334**	*e*Pn	**Pn**	**16 57 38.4**	**+1.6**
PVRL				*e*Sn	**Sn**	**16 58 34.7**	**-1.5**
PVRL				A	A	16 58 37.5	
	comp=E,5.5nm,0.2s						
PVRL	**Vila Real**	**5.28**	**334**	P	**Pn**	**16 57 38.4**	**+1.6**
PVRL				S	**Sn**	**16 58 34.7**	**-1.5**
	comp=E,2.8nm,0.2s						
PVRL	**Vila Real**	**5.28**	**334**	P	**

WRA	**Warramunga Arr**	**14.14**	**159**	Pn		**Pn**	**17 04 35.8**	**+1.1**
	0.6nm,0.3s,baz=341,slow=12,SNR=19							
WRA				Sn		Sn	17 07 01.1	-11
	0.6nm,0.3s,baz=332,slow=24,SNR=6.7							
QIS	**Mount Isa**	**17.19**	**144**	P		**P**	**17 05 17.3**	**+1.1**
	baz=17,SNR=6.1							
ASAR	**Alice Springs**	**17.51**	**165**	P		**P**	**17 05 20.9**	**+1.2**
	0.5nm,0.3s,baz=343,slow=11,SNR=72							
ASAR				S		Sn	17 08 22.7	-11
	0.1nm,0.3s,baz=353,slow=26,SNR=4.4							
WRKA	**Warakurna**	**18.23**	**182**	P		**P**	**17 05 29.7**	**+1.9**
	baz=18,SNR=6.7							
MKAR	**Makanchi Array**	**67.44**	**327**	P		**P**	**17 12 09.8**	**-0.3**
	0.1nm,0.3s,baz=116,slow=6.6,SNR=2.8							

*ISCJB **09** 17:12:01.9±1.4,20°.1S±0°.3×178°.1W±0°.2,h569km,mb3.4/6, Error ellipse: s-maj=38.1km s-min=27.8km az=155.1*
*IDC **09** 17:12:04.6±9.6,20°.11S×178°.14W,h589km±110km, mb2.8/6,mb1 3.0/6,mb1mx2.8/30,mbtmp3.8/6, Error ellipse: s-maj=51.4km s-min=31.0km az=76.0*

ISC 09 17:12:02.8±1.4,20°.1S±0°.3×178°.1W±0°.2,h569km,n6, σ0§39/7,mb3.3/6,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.46**	**264**	P	**P**	**17 17 56.0**	**+0.2**
	3.6nm,0.8s,baz=79,slow=10,SNR=3.6						
STKA	**Stephens Creek**	**37.91**	**244**	P	**P**	**17 18 32.6**	**+0.2**
	2.5nm,1.0s,baz=90,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**44.55**	**256**	P	**P**	**17 19 25.1**	**0.0**
	0.6nm,0.7s,baz=92,slow=8.4,SNR=9.6						
ASAR				PcP	**PcP**	**17 20 55.1**	**-0.6**
	0.4nm,0.7s,baz=104,slow=4.8,SNR=4.4						
WRA	**Warramunga Arr**	**44.59**	**262**	P	**P**	**17 19 24.9**	**-0.4**
	0.3nm,0.3s,baz=98,slow=7.9,SNR=15						
QSPA	**South Pole Qui**	**69.99**	**180**	P	**P**	**17 22 17.5**	**0.0**
	0.7nm,0.6s,baz=108,slow=2.4,SNR=3.5						
ILAR	**Eielson Array**	**87.92**	**13**	P	**P**	**17 23 52.1**	**+0.2**
	0.2nm,0.5s,baz=216,slow=4.5,SNR=3.3						

*IDC **09** 17:13:01.8±1.1,24°.72N×123°.98E,h0km,mb3.6/5, mb1 3.8/5,mb1mx3.4/42,mbtmp3.6/5,MS2.9/3,Ms1 2.9/3, ms1mx2.5/34,Error ellipse: s-maj=61.1km s-min=20.5km az=69.0*
*ISCJB **09** 17:13:09.2±0.4,24°.68N±0°.06×123°.73E±0°.04,h71km±5km, mb3.4/5,Error ellipse: s-maj=10.9km s-min=4.9km az=163.3*
*JMA **09** 17:13:11.0±0.1,24°.66N×123°.78E,h61km±2km,M3.2*

ISC 09 17:13:10.2±0.9,24°.67N±0°.08×123°.74E±0°.04,h65km±8km, n28,σ0§68/37,mb3.5/5,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.33**	**182**	P	**Pn**	**17 13 21.4**	**+0.3**
IRIF				S	**Sn**	**17 13 29.3**	**+0.3**
JIJ	**Ishigaki jima**	**0.47**	**129**	P	**Pn**	**17 13 22.3**	**-0.1**
JIJ				S	**Sn**	**17 13 30.4**	**-0.8**
JKRS	**Kuro-shima**	**0.49**	**150**	P	**Pn**	**17 13 22.8**	**+0.3**
JKRS				S	**Sn**	**17 13 31.6**	**+0.1**
JISG	**Ishigakijimahi**	**0.52**	**98**	P	**Pn**	**17 13 23.1**	**+0.2**
JISG				S	**Sn**	**17 13 32.1**	**0.0**
HATJ	**Hateruma jima**	**0.61**	**175**	P	**Pn**	**17 13 24.1**	**+0.3**
HATJ				S	**Sn**	**17 13 33.7**	**0.0**
YOJ	**Yonaguni jima**	**0.70**	**253**	P	**Pn**	**17 13 25.9**	**+1.1**
YOJ				S	**Sn**	**17 13 34.2**	**-1.2**
JYNG	**Yonagunijimaku**	**0.76**	**254**	P	**Pn**	**17 13 26.6**	**+1.1**
JYNG				S	**Sn**	**17 13 35.0**	**-1.7**
JTJ	**Tarama**	**0.87**	**91**	P	**Pn**	**17 13 27.2**	**+0.3**
JTJ				S	**Sn**	**17 13 39.2**	**0.0**
JIRB	**Irabujima**	**1.31**	**83**	P	**Pn**	**17 13 32.8**	**+0.3**
JIRB				S	**Sn**	**17 13 48.6**	**-0.7**
JIKM	**Ikemajima**	**1.39**	**79**	P	**Pn**	**17 13 34.2**	**+0.6**
JIKM				S	**Sn**	**17 13 51.3**	**+0.1**
JMJ	**Miyako jima 2**	**1.42**	**84**	P	**Pn**	**17 13 34.6**	**+0.6**
JMJ				S	**Sn**	**17 13 51.9**	**+0.1**
JOGS	**Gusukube**	**1.52**	**86**	P	**Pn**	**17 13 36.0**	**+0.7**
JOGS				S	**Sn**	**17 13 54.6**	**+0.5**
JKE	**Kume jima 2**	**3.21**	**58**	P	**Pn**	**17 13 58.7**	**+0.5**
JAGN	**Aguni-jima**	**3.69**	**58**	P	**Pn**	**17 14 06.1**	**+1.2**
JNTH	**Nagotoyohara**	**4.28**	**64**	P	**Pn**	**17 14 12.9**	**0.0**
JIH	**Iheya**	**4.48**	**57**	P	**Pn**	**17 14 15.6**	**0.0**
JOW	**Kunigami**	**4.62**	**61**	P	**Pn**	**17 14 17.4**	**-0.2**
JOKE	**Okinoerabujima**	**5.11**	**57**	P	**Pn**	**17 14 23.3**	**-0.9**
JTK	**Tokunoshima**	**5.62**	**55**	P	**Pn**	**17 14 30.1**	**-1.1**
JAMN	**Amaminishikomi**	**6.03**	**53**	P	**Pn**	**17 14 37.5**	**+0.6**
JNU	**Nakatsue**	**10.49**	**35**	LR	LR	17 20 05.5	
	comp=Z,24nm,19.7s,baz=206,slow=41						
KSRS	**Korea Array**	**13.24**	**15**	LR	LR	17 21 22.5	
	comp=Z,45nm,19.3s,baz=221,slow=38						
SONM	**Songino Array**	**26.90**	**334**	P	**P**	**17 18 45.8**	**+0.6**
	0.3nm,0.3s,baz=150,slow=9.4,SNR=3.3						
MKAR	**Makanchi Array**	**39.64**	**315**	P	**P**	**17 20 35.8**	**+0.2**
	0.2nm,0.3s,baz=90,slow=9.5,SNR=10						
WRA	**Warramunga Arr**	**45.52**	**166**	P	**P**	**17 21 22.9**	**-0.5**
	1.3nm,0.8s,baz=347,slow=8.8,SNR=8.4						
ASAR	**Alice Springs**	**49.05**	**168**	P	**P**	**17 21 51.1**	**+0.3**
	0.2nm,0.4s,baz=349,slow=7.0,SNR=10						
HFS	**Hagfors**	**78.28**	**331**	LR	LR	18 03 12.5	
	comp=Z,22nm,18.2s,baz=71,slow=38						
YKA	**Yellowknife Ar**	**81.61**	**24**	P	**P**	**17 25 20.3**	**-0.5**
	0.2nm,0.7s,baz=308,slow=4.6,SNR=5.6						

IDC 09 17:20:45.2±1.7,1°.63N×126°.06E,h0km,mb3.4/4, mb1 3.6/4,mb1mx3.3/37,mbtmp3.5/4,Error ellipse: s-maj=157.5km s-min=22.9km az=64.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.92**	**160**	P	P	17 25 50.7	-0.4
	0.4nm,0.4s,baz=338,slow=11,SNR=12						
ASAR	**Alice Springs**	**26.27**	**164**	P	P	17 26 22.9	+0.3
	0.3nm,0.4s,baz=343,slow=7.8,SNR=16						
STKA	**Stephens Creek**	**36.43**	**157**	P	P	17 27 51.8	0.0
	2.1nm,1.0s,baz=346,slow=8.3,SNR=2.7						
MKAR	**Makanchi Array**	**58.91**	**326**	P	P	17 30 46.1	-0.1
	0.1nm,0.5s,baz=116,slow=6.7,SNR=3.4						

*IDC **09** 18:00:30.6±0.6,8°.26S×118°.42E,h0km,mb4.0/13, mb1 4.2/15,mb1mx4.0/30,mbtmp4.1/15,ML4.2/2,MS3.5/10, Ms1 3.6/10,ms1mx3.2/32,Error ellipse: s-maj=22.7km s-min=10.5km az=63.0*
*NEIC **09** 18:00:31.9±0.4,8°.27S×118°.38E,h10km,mb4.3/4,Error ellipse: s-maj=10.6km s-min=6.2km az=49.0*
*ISCJB **09** 18:00:34.6±0.2,8°.17S±0°.03×118°.52E±0°.03,h33km, mb4.1/16,MS3.5/8,Error ellipse: s-maj=4.2km s-min=3.4km az=31.3*
*DJA **09** 18:00:34.6±0.2,8°.2S±2°×11°.9E±°,h10km,M4.7/26,mb4.8/5, mB5.1/4,MLv4.7/26,Mw(mB)4.4/4*

ISC 09 18:00:36.0±0.5,8°.14S±0°.04×118°.47E±0°.05,h35km,n77, σ1§33/80,mb4.2/16,MS3.6/8,1D,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**1.74**	**149**	P	**Pn**	**18 01 03.5**	**-0.3**
WBSI				S	**Sn**	**18 01 25.9**	**+1.0**
WSI	**Waingapu**	**2.35**	**130**	P	**Pn**	**18 01 13.4**	**+1.2**
WSI				S	**Sn**	**18 01 43.6**	**+3.7**
WSI	**Waingapu**	**2.35**	**130**	‖P	**Pn**	**18 01 11.9**	**-0.3**
	baz=2.0,SNR=29						
BSSI	**Bau Bau, Buton**	**2.82**	**45**	P	**Pn**	**18 01 18.6**	**0.0**
BSSI				S	**Sn**	**18 01 52.0**	**+0.5**
BASI	**Baing, Sumba**	**2.93**	**135**	P	**Pn**	**18 01 21.3**	**+1.2**
SRBI	**Singaraja**	**3.23**	**271**	P	**Pn**	**18 01 23.7**	**-0.5**
EDFI	**Ende, Flores**	**3.24**	**101**	P	**Pn**	**18 01 24.8**	**+0.3**
EDFI				S	**Sn**	**18 02 04.1**	**+2.2**
BKSI	**Bulukumba**	**3.25**	**30**	P	**Pn**	**18 01 24.7**	**+0.2**
BKSI				S	**Sn**	**18 02 02.3**	**+0.4**
DNP	**Denpasar**	**3.27**	**260**	P	Pn	18 01 28.1	+3.3
IGBI	**Denpasar**	**3.36**	**258**	P	**Pn**	**18 01 27.2**	**+1.2**
KAPI	**Kappang**	**3.36**	**22**	Pn	**Pn**	**18 01 26.3**	**+0.3**
	25nm,0.3s,baz=223,slow=4.2,SNR=161						
KAPI				Sn	**Sn**	**18 02 04.6**	**-0.1**
	52nm,0.3s,baz=133,slow=18,SNR=15						
KAPI				LR	LR	18 03 04.7	
	comp=Z,1μm,19.8s,baz=197,slow=44						
KAPI	**Kappang**	**3.36**	**22**	Pn	**Pn**	**18 01 26.3**	**+0.3**
KAPI				Sn	**Sn**	**18 02 04.6**	**-0.1**
KAPI				*e*Sn	Sn	18 02 05.0	+0.3
MMRI	**Maumere**	**3.76**	**98**	P	**Pn**	**18 01 31.0**	**-0.5**
MMRI	**Maumere**	**3.76**	**98**	*e*Pn	**Pn**	**18 01 31.0**	**-0.5**
MMRI				*e*Sn	**Sn**	**18 02 13.7**	**-0.8**
BNSI	**Bone**	**4.06**	**24**	P	**Pn**	**18 01 37.3**	**+1.6**
ABJI	**Asem Bagus**	**4.21**	**274**	P	Pn	18 01 41.4	+3.6
SPSI	**Sidrap Palu**	**4.35**	**17**	P	**Pn**	**18 01 40.0**	**+0.4**
KMMI	**Kalianget**	**4.60**	**283**	P	**Pn**	**18 01 44.7**	**+1.6**
BLJI	**Banyuglugur**	**4.85**	**274**	P	**Pn**	**18 01 49.1**	**+2.6**
TTSI	**Tana Toraja**	**5.24**	**15**	P	**Pn**	**18 01 53.7**	**+1.8**
	71nm,0.7s,1μm0.4nm						
BBKI	**Banjar Baru**	**5.89**	**322**	P	**Pn**	**18 02 03.5**	**+2.7**
	84nm,1.0s,2μm0.6nm						
SOEI	**Soe**	**5.94**	**106**	P	**Pn**	**18 02 03.8**	**+2.1**
	124nm,0.8s,2μm0.9nm						
SOEI	**Soe**	**5.94**	**106**	P	**Pn**	**18 02 04.0**	**+2.3**
	baz=5.5,SNR=7.1						
SOEI	**Soe**	**5.94**	**106**	*e*Pn	**Pn**	**18 02 01.4**	**-0.3**
	130nm,0.8s						
SOEI				*e*Sn	**Sn**	**18 03 09.0**	**+0.3**
GRJI	**Gresik**	**6.07**	**281**	P	**Pn**	**18 02 03.9**	**+0.6**
LEM	**Lembang**	**10.84**	**276**	LR	LR	18 07 58.4	
	comp=Z,391nm,20.9s,baz=78,slow=41						
KNRA	**Kununurra**	**12.54**	**128**	P	**Pn**	**18 03 30.8**	**-1.3**
	baz=12,SNR=33						
MBWA	**Marble Bar**	**13.00**	**175**	*e*Pn	Pn	18 03 34.9	-3.3
	17nm,0.9s						
KDU	**Kakadu**	**14.49**	**109**	P	**Pn**	**18 03 57.5**	**-1.2**
	baz=14,SNR=4.4						
FAKI	**Fak Fak**	**14.66**	**70**	P	**P**	**18 04 05.0**	**-1.8**
	baz=14,SNR=6.8						
GIRL	**Girilia**	**14.98**	**195**	P	**Pn**	**18 04 05.9**	**+0.6**
	baz=15,SNR=5.6						
MEEK	**Meekatharra**	**18.39**	**180**	P	**Pn**	**18 04 52.6**	**+4.2**
	baz=18,SNR=3.8						
WRKA	**Warakurna**	**19.24**	**152**	P	**Pn**	**18 04 57.7**	**-0.9**
	baz=19,SNR=34						
WRA	**Warramunga Arr**	**19.33**	**129**	P	**P**	**18 04 56.8**	**-1.7**
	0.6nm,0.3s,baz=302,slow=12,SNR=46						
WRA				S	S	18 08 25.4	-10
	0.1nm,0.3s,baz=301,slow=23,SNR=2.7						
WRAB	**Tennant Creek**	**19.33**	**129**	*e*P	**P**	**18 04 57.5**	**-1.0**
	11nm,0.8s						
MORW	**Morawa**	**20.94**	**186**	P	Pn	18 05 18.2	-0.4
	baz=21,SNR=6.3						
AS31	**Alice Springs**	**21.38**	**138**	*e*P	**P**	**18 05 18.8**	**-1.8**
ASAR	**Alice Springs**	**21.38**	**138**	P	**P**	**18 05 19.9**	**-0.8**
	6.5nm,0.7s,baz=310,slow=8.9,SNR=70						
ASAR				S	**S**	**18 09 17.3**	**+1.0**
	0.9nm,0.7s,baz=314,slow=24,SNR=3.0						
ASAR				PcP	**PcP**	**18 09 23.4**	**-0.6**
	0.7nm,0.5s,baz=308,slow=1.8,SNR=5.5						
IPM	**Ipoh**	**21.45**	**305**	*e*P	**P**	**18 05 21.1**	**-0.4**
	22nm,1.1s						
KULM	**Kulim**	**22.23**	**306**	*e*P	**P**	**18 05 26.8**	**-3.1**
	34nm,1.4s						
PSI	**Prapat**	**22.32**	**298**	P	**P**	**18 05 31.1**	**0.0**
	1.7nm,0.3s,baz=148,slow=15,SNR=2.2						
QIS	**Mount Isa**	**23.86**	**123**	P	**P**	**18 05 45.4**	**-1.1**
	baz=24,SNR=12						
COEN	**Coen**	**24.91**	**106**	P	**P**	**18 05 55.6**	**-0.4**
	baz=24,SNR=11						
COEN	**Coen**	**24.91**	**106**	*e*P	**P**	**18 05 54.7**	**-1.4**
	23nm,0.9s						
BBOO	**Buckleboo**	**29.46**	**149**	P	**P**	**18 06 36.7**	**-0.1**
	baz=29,SNR=6.5						
STKA	**Stephens Creek**	**31.94**	**141**	P	**P**	**18 06 58.3**	**-0.3**
	5.3nm,0.5s,baz=317,slow=9.0,SNR=27						
STKA				PcP	**PcP**	**18 09 48.0**	**-0.5**
	1.4nm,0.7s,baz=352,slow=9.0,SNR=3.2						
STKA				LR	LR	18 19 34.5	
	comp=Z,170nm,19.1s,baz=6.7,slow=36						
STKA	**Stephens Creek**	**31.94**	**141**	P	**P**	**18 06 58.2**	**-0.4**
	baz=32,SNR=9.7						
STKA	**Stephens Creek**	**31.94**	**141**	*e*P	**P**	**18 06 57.9**	**-0.7**
	1.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**32.71**	**324**	P	**P**	**18 07 04.8**	**-0.6**
	0.5nm,0.7s,baz=148,slow=7.0,SNR=5.0						
CMAR				LR	LR	18 21 29.7	
	comp=Z,122nm,20.8s,baz=162,slow=38						
CMSA	**Cobar Meteorol**	**34.41**	**136**	P	**P**	**18 07 20.3**	**+0.1**
	baz=34,SNR=8.2						
ODAN	**Odare**	**46.04**	**320**	*e*P	**P**	**18 08 58.3**	**+1.5**
	24nm,0.8s						
TAPN	**Taplejung**	**46.18**	**321**	*e*P	**P**	**18 08 59.3**	**+1.3**
	59nm,1.1s						
KSAR	**Wonju Array Be**	**46.20**	**10**	P	**P**	**18 08 59.2**	**+1.7**
KSRS	**Korea Array**	**46.21**	**10**	P	**P**	**18 08 59.2**	**+1.6**
	2.1nm,0.9s,baz=185,slow=7.8,SNR=4.2						
KSRS				LR	LR	18 29 11.5	
	comp=Z,24nm,19.7s,baz=200,slow=37						
RAMN	**Ramite**	**46.60**	**320**	*e*P	**P**	**18 09 02.9**	**+1.7**
	28nm,0.9s						
JIRN	**Jiri**	**47.36**	**320**	*e*P	**P**	**18 09 07.8**	**+0.5**
	34nm,0.9s						
GUN	**Gumba**	**47.73**	**320**	*e*P	**P**	**18 09 11.3**	**+1.2**
	38nm,0.8s						
PKI	**Pulchoki**	**47.80**	**319**	*e*P	**P**	**18 09 11.9**	**+1.3**
	24nm,1.0s						
PKIN	**Phulchoki**	**47.81**	**319**	*e*P	**P**	**18 09 11.9**	**+1.2**
	1.9nm,0.4s						
DMN	**Daman**	**48.02**	**319**	*e*P	**P**	**18 09 13.2**	**+0.9**
	33nm,1.0s						
KKN	**Kakani**	**48.03**	**319**	*e*P	**P**	**18 09 13.7**	**+1.4**
	20nm,0.9s						
MJAR	**Matsushiro Arr**	**48.16**	**21**	P	**P**	**18 09 14.8**	**+1.9**
	0.7nm,0.7s,baz=206,slow=8.4,SNR=3.2						
GKN	**Gorkha**	**48.59**	**319**	*e*P	**P**	**18 09 16.7**	**+0.1**
	20nm,0.9s						
KOLN	**Koldanda**	**49.12**	**318**	*e*P	**P**	**18 09 20.1**	**-0.6**
	11nm,0.7s						
USRK	**Ussuriysk Ar.**	**53.52**	**12**	P	**P**	**18 09 53.8**	**+0.7**
	2.2nm,0.6s,baz=151,slow=6.3,SNR=5.5						
ASAJ	**Asahikawa**	**56.41**	**21**	LR	LR	18 32 39.3	
	comp=Z,68nm,19.6s,baz=232,slow=34						
SONM	**Songino Array**	**56.75**	**350**	P	**P**	**18 10 16.9**	**+0.4**
	1.0nm,0.8s,baz=171,slow=6.5,SNR=4.0						
MKAR	**Makanchi Array**	**63.46**	**333**	P	**P**	**18 11 02.4**	**-0.1**
	0.7nm,0.6s,baz=179,slow=5.8,SNR=12						
MKAR				LR	LR	18 40 56.3	
	comp=Z,21nm,21.1s,baz=137,slow=38						
ZALV	**Zalesovo Beam**	**68.06**	**339**	P	**P**	**18 11 31.1**	**-0.8**
	1.5nm,0.5s,baz=136,slow=4.5,SNR=8.2						
PETK	**Petropavlovsk-**	**69.51**	**24**	P	**P**	**18 11 41.9**	**+1.0**
	1.6nm,0.7s,baz=216,slow=7.1,SNR=3.2						
MAW	**Mawson**	**69.86**	**200**	P	**P**	**18 11 43.0**	**+0.1**
	1.2nm,0.5s,baz=11,slow=5.2,SNR=3.1						
VNDA	**Vanda**	**72.91**	**171**	P	**P**	**18 12 01.3**	**+0.1**
	0.6nm,0.6s,baz=313,slow=7.3,SNR=9.2						
AKASG	**Malin Array Be**	**95.76**	**320**	LR	LR	19 04 47.2	
	comp=Z,24nm,18.3s,baz=130,slow=40						
FINES	**FINESS Array B**	**98.24**	**331**	LR	LR	19 06 49.6	
	comp=Z,22nm,19.1s,baz=77,slow=40						
ARCES	**ARCESS Array B**	**98.61**	**339**	LR	LR	19 06 55.4	
	comp=Z,33nm,18.6s,baz=172,slow=40						
TORD	**Torodi Ar. Bea**	**117.80**	**281**	PKP	**PKPdf**	**18 19 17.9**	**-1.9**
	0.3nm,0.7s,baz=66,slow=1.9,SNR=4.9						
LVC	**Limon Verde**	**148.59**	**167**	PKPbc	**PKPbc**	**18 20 20.4**	**-0.1**
	13nm,0.8s,baz=200,slow=3.6,SNR=5.3						

IDC 09 18:20:23.0±2.3,1°.02N×127°.19E,h0km,mb3.1/3, mb1 3.3/3,mb1mx3.1/22,mbtmp3.1/3,Error ellipse: s-maj=172.8km s-min=27.7km az=66.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.98**	**162**	P	P	18 25 17.9	-0.8
	0.4nm,0.7s,baz=340,slow=11,SNR=9.0						
ASAR	**Alice Springs**	**25.39**	**166**	P	P	18 25 52.8	+0.5
	0.2nm,0.3s,baz=345,slow=11,SNR=12						
MKAR	**Makanchi Array**	**60.04**	**326**	P	P	18 30 31.7	-0.1
	0.1nm,0.3s,baz=132,slow=6.0,SNR=3.3						

*ISCJB **09** 18:30:36.7±0.4,36°.42S±0°.03×72°.23W±0°.06,h35km, mb4.0/8,MS3.1/1,Error ellipse: s-maj=7.2km s-min=3.8km az=20.4*
*IDC **09** 18:30:38.8±0.8,36°.32S×72°.21W,h49km±7km,mb3.7/9, mb1 3.8/12,mb1mx3.7/20,mbtmp3.9/12,MS3.7/2, Ms1 3.7/2,ms1mx2.9/25,Error ellipse: s-maj=23.3km s-min=13.5km az=107.0*
*NEIC **09** 18:30:38.0,36°.33S×72°.34W,h41km,mb4.1/2,After GUC. NEIC Felt [IV] at Cauquenes and [III] at Constitucion, Linares, Parral and San Javier.*

*GUC **09** 18:30:38.0±0.5,36°.34S×72°.34W,h41km±2km,ML4.9*

ISC 09 18:30:37.7±0.6,36°.33S±0°.05×72°.37W±0°.06,h35km,n35, σ1§39/48,mb4.1/8,1C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNCH	**Linares**	**0.79**	**52**	*e*P	**Pn**	**18 30 52.8**	**+0.6**
LNCH				*e*S	**Sn**	**18 31 03.6**	**+0.8**
CCSP	**San Pedro de C**	**0.79**	**229**	*e*P	**Pn**	**18 30 53.2**	**+1.0**
CCSP				*e*S	**Sn**	**18 31 04.4**	**+1.6**
TALC	**Talca**	**1.11**	**33**‖	*e*P	**Pn**	**18 30 57.9**	**+1.3**
TALC				*e*S	**Sn**	**18 31 12.4**	**+1.8**
NICH	**Los Niches**	**1.62**	**35**↑	*e*P	**Pn**	**18 31 05.0**	**+1.4**
NICH				*e*S	**Sn**	**18 31 25.4**	**+2.1**
TACH	**Talagante**	**2.92**	**24**	*e*P	**Pn**	**18 31 22.8**	**+1.2**
RCDM	**Rinconada Maip**	**3.11**	**25**	*e*P	**Pn**	**18 31 25.2**	**+0.9**
RCDM				*e*S	**Sn**	**18 32 01.4**	**+1.2**
SAN	**Santiago**	**3.20**	**26**	*e*P	**Pn**	**18 31 27.0**	**+1.6**
CLCH	**Cerro Calan**	**3.29**	**28**	*e*P	**Pn**	**18 31 28.1**	**+1.3**
CLCH				*e*S	**Sn**	**18 32 05.9**	**+1.1**
CLCH				AML	AML	18 32 26.8	
	comp=N,2μm,0.2s						
CLCH				AML	AML	18 32 27.4	
	comp=N,2μm,0.7s						
PEL	**Peldehue**	**3.47**	**24**	*e*P	**Pn**	**18 31 30.4**	**+1.2**
PEL				*e*S	**Sn**	**18 32 10.4**	**+1.3**
PEL				AML	AML	18 32 25.0	
	comp=N,2μm,0.6s						
PLCA	**Paso Flores**	**4.62**	**163**	P	**Pn**	**18 31 45.9**	**+0.9**
	comp=N,3.7nm,0.3s,baz=322,slow=9.6,SNR=22						
PLCA	**Paso Flores**	**4.62**	**163**	*e*Pn	**Pn**	**18 31 44.8**	**-0.2**
PLCA				*e*Sn	**Sn**	**18 32 37.1**	**-0.3**
CFAA	**Coronel Fontan**	**5.83**	**37**	P	**Pn**	**18 32 02.1**	**+0.5**
	comp=N,0.5nm,0.3s,baz=202,slow=7.4,SNR=39						
CFAA				S	**Sn**	**18 33 07.0**	**-0.3**
	comp=N,1.4nm,0.3s,baz=207,slow=14,SNR=6.2						
LCO	**Las Campanas**	**7.43**	**11**	*e*Pn	**Pn**	**18 32 22.4**	**-1.5**
LCO				*e*Sn	**Sn**	**18 33 44.7**	**-2.4**
TRQA	**Tornquist**	**8.47**	**105**	*e*Pn	**Pn**	**18 32 39.3**	**+1.5**
TRQA				*e*Sn	**Sn**	**18 34 10.9**	**-1.2**
CPUP	**Villa Florida**	**16.24**	**56**	P	**Pn**	**18 34 23.9**	**+0.8**
	comp=N,0.1nm,0.3s,baz=223,slow=14,SNR=4.6						
CPUP				LR	LR	18 41 22.5	
	comp=N,733nm,18.6s,baz=192,slow=40						
LPAZ	**La Paz**	**20.32**	**12**	P	**P**	**18 35 11.8**	**+0.4**
	comp=N,2.2nm,0.7s,baz=199,slow=4.9,SNR=13						
LPAZ	**La Paz**	**20.32**	**12**	*e*P	**P**	**18 35 10.4**	**-1.0**
	comp=N,4.5nm,0.9s						
SIV	**San Ignacio**	**22.62**	**29**	P	**P**	**18 35 34.1**	**-1.4**
	comp=N,6.5nm,0.7s,baz=216,slow=8.9,SNR=14						
ATAH	**Atahualpa**	**29.58**	**348**	LR	LR	18 46 41.3	
	comp=N,40nm,18.7s,baz=345,slow=32						
BDFB	**Brasilia**	**29.91**	**53**	P	**P**	**18 36 40.8**	**-1.6**
	comp=N,1.9nm,0.6s,baz=258,slow=9.3,SNR=2.2						
VNA3	**Neumayer Olymp**	**47.31**	**157**	P	**P**	**18 39 07.2**	**-0.2**
VNA2	**Neumayer--Watz**	**47.98**	**156**	P	**P**	**18 39 11.7**	**-0.8**
	baz=304,slow=8.6						
SNAA	**Sanae**	**49.54**	**157**	P	**P**	**18 39 24.6**	**+0.1**
SNAA	**Sanae**	**49.54**	**157**	P	**P**	**18 39 24.0**	**-0.5**
	comp=N,0.8nm,0.8s,baz=282,slow=9.0,SNR=6.1						
QSPA	**South Pole Qui**	**53.91**	**180**	P	**P**	**18 39 57.6**	**+0.2**
	comp=N,2.1nm,0.8s,baz=345,slow=0.5,SNR=7.5						
QSPA	**South Pole Qui**	**53.91**	**180**	*e*P	**P**	**18 39 57.3**	**-0.1**
	comp=N,2.6nm,0.8s						
TXAR	**Lajitas Array**	**71.64**	**331**	P	**P**	**18 41 55.2**	**-0.5**
	comp=N,0.4nm,0.7s,baz=152,slow=7.7,SNR=6.6						
TXAR				pP	**pP**	**18 42 09.4**	**+2.8**
	comp=N,0.4nm,0.6s,baz=149,slow=8.6,SNR=4.9						
DBIC	**Dimbokro**	**76.19**	**71**	P	**P**	**18 42 21.5**	**-1.1**
	comp=N,2.9nm,0.6s,baz=211,slow=6.2,SNR=9.7						
TORD	**Torodi Ar. Bea**	**85.26**	**70**	P	**P**	**18 43 09.4**	**-1.6**
	comp=N,1.8nm,1.1s,baz=241,slow=4.2,SNR=6.4						
TORD				pP	**pP**	**18 43 23.6**	**+1.5**
	comp=N,0.8nm,0.8s,baz=249,slow=4.7,SNR=3.0						
NVAR	**Mina Array Bea**	**85.65**	**326**	P	**P**	**18 43 12.9**	**+0.2**
	comp=N,0.2nm,0.5s,baz=163,

KZV	**Kizimen**	**5.22**	**17**	*e*P		**Pn**	**18 33 12.6**	**+1.4**
TUMR	**Tumrok**	**5.35**	**16**	*e*P		**Pn**	**18 33 15.1**	**+2.1**
ESO	**Esso**	**5.81**	**6**	*e*P		**Pn**	**18 33 21.1**	**+1.9**
ESO	**Esso**	**5.81**	**6**	PN		**Pn**	**18 33 21.1**	**+1.9**
KMNR	**Kamenistaya**	**5.82**	**15**	*e*P		**Pn**	**18 33 21.8**	**+2.4**
KPT	**Kopyto**	**6.02**	**14**	*e*P		**Pn**	**18 33 24.1**	**+2.0**
KOZ	**Kozyrevsk**	**6.06**	**12**	*e*P		**Pn**	**18 33 23.9**	**+1.3**
KOZR	**Kozyr**	**6.07**	**12**	PN		**Pn**	**18 33 23.9**	**+1.2**
SRDR	**Sredinnyy**	**6.29**	**11**	*e*P		**Pn**	**18 33 27.9**	**+2.1**
KLY	**Klyuchi**	**6.42**	**15**	*e*P		**Pn**	**18 33 29.9**	**+2.3**
KLY	**Klyuchi**	**6.42**	**15**	PN		**Pn**	**18 33 29.9**	**+2.3**
KBTR	**Krutoberegovo**	**6.81**	**25**	*e*P		**Pn**	**18 33 33.6**	**+0.7**
KBTR	**Krutoberegovo**	**6.81**	**25**	PN		**Pn**	**18 33 33.6**	**+0.7**
BKI	**Bering**	**7.16**	**42**	*e*P		**Pn**	**18 33 37.4**	**-0.2**
BKI				*e*S		Sn	18 34 51.4	-6.2
BKI	**Bering**	**7.16**	**42**	PN		**Pn**	**18 33 37.4**	**-0.2**
H11N2	**WAKE ISLAND Hy**	**31.25**	**163**	T		T	19 11 49.8	
	baz=348,slow=76,SNR=25							
H11N3	**WAKE ISLAND Hy**	**31.27**	**163**	T		T	19 11 52.1	
	baz=348,slow=76,SNR=30							
H11N1	**WAKE ISLAND Hy**	**31.27**	**163**	T		T	19 11 51.5	
	baz=348,slow=76,SNR=22							
H11S1	**WAKE ISLAND Hy**	**32.41**	**164**	T		T	19 13 12.1	
	baz=349,slow=76,SNR=23							
H11S3	**WAKE ISLAND Hy**	**32.42**	**164**	T		T	19 13 12.1	
	baz=349,slow=76,SNR=26							
H11S2	**WAKE ISLAND Hy**	**32.43**	**164**	T		T	19 13 12.1	
	baz=349,slow=76,SNR=20							
YKA	**Yellowknife Ar**	**46.39**	**40**	P		**P**	**18 40 18.0**	**+0.6**
	comp=Z,0.5nm,1.0s,baz=294,slow=9.3,SNR=3.6							
MKAR	**Makanchi Array**	**48.06**	**297**	P		**P**	**18 40 28.7**	**-2.0**
	comp=Z,0.1nm,0.4s,baz=40,slow=11,SNR=4.1							
CMAR	**Chiang Mai Arr**	**56.05**	**258**	P		**P**	**18 41 31.4**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=40,slow=7.1,SNR=4.2							
WRA	**Warramunga Arr**	**72.77**	**203**	P		**P**	**18 43 20.2**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=18,slow=6.2,SNR=8.0							
ASAR	**Alice Springs**	**76.45**	**202**	P		**P**	**18 43 42.2**	**+1.4**
	comp=Z,0.4nm,0.9s,baz=17,slow=5.5,SNR=5.9							

*IDC **09** 18:32:26.6±2.3, 14°.35S×166°.64E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.6/4, Error ellipse: s-maj=129.9km s-min=27.9km az=140.0*
*ISCJB **09** 18:32:29.3±2.4, 14°.4S±0°.6×166°.6E±0°.5, h28km, mb3.5/4, Error ellipse: s-maj=106.2km s-min=28.3km az=136.4*
ISC 09 18:32:30.9±2.1,**14°.4S**±0°.6×**166°.6E**±0°.6,**h28**km,**n6,** σ0**818**/6,**mb3.5**/4,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**28.75**	**228**	P		**P**		**18 38 26.3**	**+0.1**
	1.7nm,0.9s,baz=58,slow=9.5,SNR=3.0								
WRA	**Warramunga Arr**	**31.31**	**255**	P		**P**		**18 38 49.1**	**+0.1**
	0.4nm,0.9s,baz=81,slow=7.0,SNR=8.2								
ASAR	**Alice Springs**	**32.22**	**248**	P		**P**		**18 38 56.8**	**-0.3**
	0.3nm,0.7s,baz=75,slow=9.1,SNR=6.2								
ILAR	**Eielson Array**	**86.39**	**18**	P		**P**		**18 45 10.2**	**-0.1**
	0.5nm,0.7s,baz=238,slow=4.6,SNR=7.7								
ARCES	**ARCESS Array B**	**119.77**	**345**	PKP		**PKPdf**		**18 51 18.0**	**+0.1**
	2.0nm,0.9s,baz=55,slow=1.9,SNR=7.9								
FINES	**FINESS Array B**	**125.17**	**338**	PKP		**PKPdf**		**18 51 28.4**	**0.0**
	0.6nm,0.7s,baz=135,slow=0.8,SNR=4.4								

*ISCJB **09** 18:39:17.2±0.7, 32°.21N±0°.03×115°.22W±0°.06, h20km±8km, Error ellipse: s-maj=8.5km s-min=5.4km az=177.3*
*ECX **09** 18:39:18.3±0.6, 32°.18N×115°.24W, h4km, MD2.9, ML3.1*
*MEX **09** 18:39:19.5±0.5, 32°.28N×115°.23W, h16km±68km, MD3.5*
ISC 09 18:39:16.9±1.1,**32°.20N**±0°.03×**115°.26W**±0°.04,**h16**km±9km, **n17,** σ0**861**/25,**6C-3D,California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.22**	**13**	*e*P		**Pb**		**18 39 22.6**	**+0.1**
MBIG				*e*S		**Sg**		**18 39 24.9**	**-0.5**
CPBX	**Cerro Prieto**	**0.23**	**350**	*e*P		**Pb**		**18 39 22.7**	**+0.1**
CPBX				*e*S		**Sb**		**18 39 27.0**	**+0.5**
CPBX				⇓*e*				18 39 29.9	
CPBX					AML	AML		18 39 29.9	
	comp=N,11μm,0.4s								
EMSC	**East Mesa**	**0.59**	**23**	⇓*i*P		**Pb**		**18 39 28.9**	**+0.1**
SGL	**Mount Signal**	**0.60**	**319**	⇑*i*P		**Pb**		**18 39 29.1**	**+0.1**
RDX	**Rancho Dawling**	**0.64**	**246**	⇓*e*P		**Pb**		**18 39 30.4**	**+0.6**
RDX				*e*S		**Sb**		**18 39 39.1**	**+0.6**
RDX				⇑*e*				18 39 40.8	
RDX					AML	AML		18 39 40.8	
	comp=N,681nm,0.7s								
ERPC	**Ernies Place**	**0.65**	**328**	*e*P2		**Pg**		**18 39 30.3**	**+0.7**
YUH	**Yuha Desert**	**0.72**	**309**	⇑*i*P		**Pb**		**18 39 31.1**	**0.0**
ECBX	**El Chinero**	**0.74**	**166**	*e*P9		**Pg**		**18 39 31.1**	**-0.3**
ECBX				*e*S		**Sb**		**18 39 41.2**	**-0.1**
RMX	**La Rumorosa**	**0.81**	**301**	⇑*e*P		**Pb**		**18 39 32.6**	**0.0**
RMX				⇓*e*				18 39 44.2	
RMX					AML	AML		18 39 44.2	
	comp=N,819nm,0.2s								
ZAX	**El Zacaton**	**1.10**	**232**	*e*P		**Pn**		**18 39 37.8**	**+0.2**
ZAX				*e*S		**Sn**		**18 39 52.6**	**+0.1**
SPIG	**San Pedro Mart**	**1.16**	**189**	*e*P		**Pn**		**18 39 38.7**	**0.0**
SPIG				*i* S		**Sb**		**18 39 53.9**	**+0.2**
SPIG	**San Pedro Mart**	**1.16**	**189**	P		**Pn**		**18 39 38.6**	**-0.2**
SPX	**San Pedro Mart**	**1.16**	**189**	*e*P		**Pn**		**18 39 38.6**	**-0.2**
CBX	**Cerro Bola**	**1.20**	**276**	*e*P		**Pn**		**18 39 38.8**	**-0.3**
CBX				*i* S		**Sb**		**18 39 52.2**	**-2.4**
CBX	**Cerro Bola**	**1.20**	**276**	*e*P		**Pn**		**18 39 39.0**	**-0.1**
CBX				*e*S		**Sg**		**18 39 55.7**	**0.0**
CBX				⇑*e*				18 39 57.3	
CBX					AML	AML		18 39 57.3	
	comp=E,332nm,0.5s								
ECNX	**Esteban Cantu**	**1.26**	**245**	*e*P		**Pb**		**18 39 40.5**	**+0.2**
PBX	**Punta Banda**	**1.33**	**251**	*e*P		**Pb**		**18 39 41.6**	**+0.2**

*ISCJB **09** 18:39:55.3±0.8, 38°.3S±0°.1×93°.8W±0°.2, h10km, mb4.0/9, MS3.0/2, Error ellipse: s-maj=17.7km s-min=16.6km az=21.2*
*IDC **09** 18:39:55.2±0.8, 38°.26S×93°.83W, h0km, mb4.2/8, mb1 4.4/9, mb1mx4.2/18, mbtmp4.1/9, ML3.4/1, MS3.3/3, Ms1 3.3/3, ms1mx3.1/24, Error ellipse: s-maj=24.3km s-min=20.3km az=108.0*
ISC 09 18:39:56.7±0.8,**38°.3S**±0°.1×**93°.8W**±0°.2,**h10**km,**n18,** σ1**901**/14,**mb4.1**/9,**West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**18.13**	**105**	P		**P**		**18 44 09.5**	**+0.5**
	0.0nm,0.3s,baz=263,slow=10.0,SNR=3.7								
PLCA					LR	LR		18 48 56.6	
	comp=Z,229nm,20.4s,baz=280,slow=30								
CFAA	**Coronel Fontan**	**21.97**	**80**	P		**P**		**18 44 50.2**	**-0.6**
	0.7nm,1.0s,baz=256,slow=8.4,SNR=9.2								
CFAA					LR	LR		18 51 10.4	
	comp=Z,22nm,21.0s,baz=303,slow=31								
LVC	**Limon Verde**	**26.43**	**61**	P		**P**		**18 45 33.6**	**-0.3**
	16nm,0.9s,baz=232,slow=12,SNR=3.7								
LPAZ	**La Paz**	**31.45**	**53**	P		**P**		**18 46 18.6**	**-0.5**
	3.1nm,0.7s,baz=197,slow=7.1,SNR=11								
ATAH	**Atahualpa**	**33.99**	**28**	P		**P**		**18 46 42.4**	**+1.4**
	8.5nm,0.8s,baz=129,slow=8.0,SNR=5.0								
PTGA	**Pitinga**	**48.59**	**48**	LR		LR		19 06 29.3	
	comp=Z,56nm,21.0s,baz=207,slow=33								
QSPA	**South Pole Qui**	**51.97**	**180**	P		**P**		**18 49 05.3**	**-0.4**
	1.9nm,0.7s,baz=141,slow=4.0,SNR=11								
VNDA	**Vanda**	**55.98**	**195**	P		**P**		**18 49 35.7**	**+1.1**
	0.8nm,0.8s,baz=113,slow=6.0,SNR=3.9								
TXAR	**Lajitas Array**	**67.86**	**351**	P		**P**		**18 50 55.3**	**+0.1**
	0.7nm,0.9s,baz=157,slow=6.8,SNR=6.0								
NVAR	**Mina Array Bea**	**79.56**	**341**	P		**P**		**18 52 04.9**	**+1.1**
	1.5nm,0.8s,baz=181,slow=6.3,SNR=9.5								
PDAR	**Pinedale Array**	**81.90**	**348**	P		**P**		**18 52 16.4**	**+0.1**
	1.2nm,0.8s,baz=156,slow=4.7,SNR=12								
H11S2	**WAKE ISLAND Hy**	**108.49**	**279**	T		T		20 55 49.8	
	baz=128								
H11S1	**WAKE ISLAND Hy**	**108.51**	**279**	T		T		20 55 53.7	
	baz=128								
H11S3	**WAKE ISLAND Hy**	**108.51**	**279**	T		T		20 55 54.7	
	baz=128								
KBZ	**Khabaz**	**147.17**	**66**	PKPbc		**PKPbc**		**18 59 39.0**	**-0.7**
	0.9nm,0.7s,baz=236,slow=24,SNR=3.9								
KBZ	**Khabaz**	**147.17**	**66**	PKPbc		**PKPbc**		**18 59 39.0**	**-0.7**
BVAR	**Borovoye Array**	**161.63**	**31**	PKPab		**PKPab**		**19 00 41.6**	**-0.6**
	0.9nm,0.7s,baz=353,slow=5.8,SNR=5.4								
SONM	**Songino Array**	**162.43**	**309**	PKPab		**PKPab**		**19 00 43.9**	**-2.2**
	0.3nm,0.7s,baz=31,slow=3.4,SNR=2.4								

*IDC **09** 18:44:16.0±3.0, 4°.24S×101°.04E, h0km, mb3.4/7, mb1 3.5/7, mb1mx3.4/49, mbtmp3.4/7, Error ellipse: s-maj=130.3km s-min=18.2km az=58.0*
*ISCJB **09** 18:44:18.2±2.7, 4°.3S±0°.4×100°.9E±0°.7, h33km, mb3.5/7, Error ellipse: s-maj=112.3km s-min=15.1km az=148.6*
ISC 09 18:44:20.4±4.5,**4°.3S**±0°.6×**100°.9E**±1.0,**h35**km,**n11,** σ0**883**/6,**mb3.6**/7,**Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**22.72**	**355**	P		**P**		**18 49 18.8**	**-0.7**
	0.4nm,0.8s,baz=186,slow=7.9,SNR=4.3								
H01W3	**Cape Leeuwin H**	**32.78**	**160**	T		T		19 25 13.6	
	baz=337,slow=76,SNR=19								
H01W2	**Cape Leeuwin H**	**32.80**	**160**	T		T		19 25 15.7	
	baz=337,slow=76,SNR=25								
H01W1	**Cape Leeuwin H**	**32.80**	**160**	T		T		19 25 14.7	
	baz=337,slow=76,SNR=19								
WRA	**Warramunga Arr**	**36.06**	**118**	P		**P**		**18 51 18.4**	**-0.5**
	0.5nm,0.9s,baz=298,slow=10,SNR=9.2								
ASAR	**Alice Springs**	**37.17**	**124**	P		**P**		**18 51 28.4**	**0.0**
	0.3nm,0.6s,baz=290,slow=7.9,SNR=4.6								
STKA	**Stephens Creek**	**46.94**	**131**	P		P		18 52 48.6	+0.7
	0.8nm,0.8s,baz=321,slow=13,SNR=1.8								
SONM	**Songino Array**	**52.16**	**5**	P		**P**		**18 53 28.3**	**+0.7**
	0.5nm,0.7s,baz=184,slow=8.6,SNR=4.4								
MKAR	**Makanchi Array**	**53.50**	**344**	P		P		18 53 38.0	+0.6
	0.5nm,0.7s,baz=168,slow=8.3,SNR=6.9								
ZALV	**Zalesovo Beam**	**59.60**	**349**	P		**P**		**18 54 20.2**	**-0.4**
	0.3nm,0.4s,baz=160,slow=4.6,SNR=2.6								
TXAR	**Lajitas Array**	**145.92**	**40**	PKPbc		**PKPab**		**19 03 58.4**	**+0.8**
	0.2nm,0.4s,baz=4.2,slow=1.0,SNR=4.3								

*ISCJB **09** 18:44:46.1±0.3, 55°.64S±0°.05×26°.90W±0°.09, h25km, mb4.8/36, MS4.2/23, Error ellipse: s-maj=8.5km s-min=6.3km az=139.7*
*MOS **09** 18:44:48.4±1.2, 55°.86S×27°.19W, h32km, mb5.1/15, Error ellipse: s-maj=30.2km s-min=12.4km az=98.0*
*AWI **09** 18:44:48.7, 55°.83S×26°.93W*
*NEIC **09** 18:44:49.8±0.3, 55°.69S×26°.93W, h35km, mb5.2/15, Error ellipse: s-maj=11.7km s-min=8.5km az=205.0*
*BJI **09** 18:44:50.8, 55°.90S×27°.40W, h35km, mB5.4/16, Ms5.3/11, Ms7 4.9/12*
*IDC **09** 18:44:50.8±1.2, 55°.71S×26°.90W, h49km±9km, mb4.5/24, mb1 4.5/25, mb1mx4.5/27, mbtmp4.7/25, ML4.2/1, MS4.0/19, Ms1 4.0/19, ms1mx3.9/27, Error ellipse: s-maj=13.2km s-min=10.2km az=35.0*
ISC 09 18:44:47.7±0.2,**55°.71S**±0°.07×**27°.06W**±0°.06,**h25**km,**n241,** σ1**967**/287,**mb4.8**/35,**MS4.2**/24,**3C-4D,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.61**	**281**	Pn		**Pn**		**18 46 10.9**	**+1.4**
	1μm,0.9s,SNR=16								
HOPE	**Hope Point**	**5.61**	**281**	*e*Pn		**Pn**		**18 46 09.5**	**0.0**
	237nm,0.8s								
HOPE				*e*Sn		Sn		18 47 02.5	-11
VNA1	**Neumayer--Stat**	**17.09**	**159**	P		**ScP**		**18 57 00.0**	**-0.8**
VNA1	**Neumayer--Stat**	**17.09**	**159**	P		**P**		**18 48 46.5**	**+0.5**
VNA3	**Neumayer Olymp**	**17.29**	**161**	P		**ScP**		**18 56 59.6**	**-1.7**
VNA3	**Neumayer Olymp**	**17.29**	**161**	P		**P**		**18 48 48.2**	**-0.1**
VNA2	**Neumayer--Watz**	**17.48**	**158**	P		**ScP**		**18 57 01.0**	**-0.7**
	baz=325,slow=5.5								
VNA2	**Neumayer--Watz**	**17.48**	**158**	P		**P**		**18 48 50.3**	**-0.2**
	baz=311,slow=15								
SNAA	**Sanae**	**19.03**	**157**	P		**ScP**		**18 57 04.4**	**-0.7**
SNAA	**Sanae**	**19.03**	**157**	P		**P**		**18 49 07.0**	**-0.5**
SNAA	**Sanae**	**19.03**	**157**	P		**P**		**18 49 06.8**	**-0.7**
	0.7nm,0.3s,baz=313,slow=9.2,SNR=41								
SNAA					LR	LR		18 55 02.7	
	comp=Z,148nm,20.0s,baz=322,slow=32								
SNAA					ScP	**ScP**		**18 57 01.8**	**-3.3**
	0.2nm,0.3s,baz=261,slow=3.9,SNR=11								
SNAA	**Sanae**	**19.03**	**157**	P		**P**		**18 49 06.8**	**-0.7**
SNAA					ScP	**ScP**		**18 57 01.8**	**-3.3**
NVL	**N'lazarevskaya**	**22.51**	**147**	*e*P		P		18 49 38.4	-6.6
NVL				*e*S		S		18 53 35.4	-15
NVL					pmax	pmax			
	comp=Z,37nm,1.5s								
USHA	**Ushuaia**	**23.34**	**255**	P		**P**		**18 49 54.0**	**+0.3**
	comp=Z,7.0nm,0.6s,baz=77,slow=12,SNR=9.2								
USHA					LR	LR		18 56 51.0	
	comp=Z,876nm,19.4s,baz=91,slow=31								
USHA	**Ushuaia**	**23.34**	**255**	P		**P**		**18 49 54.0**	**+0.3**
TRQA	**Tornquist**	**29.26**	**292**	*e*P		**P**		**18 50 48.4**	**+0.8**
	comp=Z,17nm,0.8s								
SYO	**Syowa Base**	**31.80**	**141**	⇓*e*P		**P**		**18 51 07.6**	**-2.0**
PLCA	**Paso Flores**	**32.02**	**279**	P		**P**		**18 51 13.3**	**+1.4**
	comp=Z,1.5nm,0.8s,baz=139,slow=7.3,SNR=4.3								
PLCA					PcP	**PcP**		**18 54 01.0**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=176,slow=3.8,SNR=3.4								
PLCA					ScP	**ScP**		**18 57 39.6**	**-3.1**
	comp=Z,2.7nm,0.8s,baz=124,slow=2.2,SNR=6.9								
PLCA					LR	LR		19 03 42.4	
	comp=Z,135nm,19.6s,baz=154,slow=35								
PLCA	**Paso Flores**	**32.02**	**279**	P		**P**		**18 51 13.3**	**+1.4**
PLCA					PcP	**PcP**		**18 54 01.0**	**-0.2**
PLCA					ScP	**ScP**		**18 57 39.6**	**-3.1**
QSPA	**South Pole Qui**	**34.54**	**180**	P		**P**		**18 51 34.2**	**+0.4**
	comp=Z,25nm,0.6s,baz=199,slow=3.6,SNR=212								
QSPA					ScP	**ScP**		**18 57 47.7**	**-3.5**
	comp=Z,7.0nm,0.9s,baz=203,slow=2.4,SNR=7.2								
QSPA					LR	LR		19 05 09.1	
	comp=Z,542nm,20.0s,baz=191,slow=35								
QSPA	**South Pole Qui**	**34.54**	**180**	P		**P**		**18 51 34.2**	**+0.4**
	comp=Z,22nm,0.6s								
QSPA					ScP	**ScP**		**18 57 47.7**	**-3.5**
CPUP	**Villa Florida**	**36.64**	**311**	P		**P**		**18 51 52.5**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=164,slow=7.1,SNR=9.7								
CPUP					PcP	**PcP**		**18 54 15.1**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=184,slow=1.0,SNR=4.3								
CPUP					LR	LR		19 06 02.1	
	comp=Z,1μm,19.7s,baz=156,slow=35								
CPUP	**Villa Florida**	**36.64**	**311**	P		**P**		**18 51 52.5**	**+0.5**
CPUP								18 54 15.1	
CPUP					pmax	pmax			
	comp=Z,10.0nm,1.1s								
CPUP	**Villa Florida**	**36.64**	**311**	P		**P**		**18 51 52.5**	**+0.5**
	comp=Z,10nm,1.1s								
CPUP					PcP	**PcP**		**18 54 15.1**	**+0.6**
CFAA	**Coronel Fontan**	**37.49**	**293**	P		**P**		**18 51 59.3**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=156,slow=7.4,SNR=13								
CFAA					ScP	**ScP**		**18 57 59.5**	**-2.9**
	comp=Z,0.4nm,0.9s,baz=308,slow=6.9,SNR=5.7								
CFAA					LR	LR		19 07 28.8	
	comp=Z,23nm,20.9s,baz=161,slow=36								
CFAA	**Coronel Fontan**	**37.49**	**293**	P		**P**		**18 51 59.3**	**+0.1**
CFAA					ScP	**ScP**		**18 57 59.5**	**-2.9**
MAW	**Mawson**	**40.38**	**144**	P		**P**		**18 52 23.2**	**+0.3**
	comp=Z,15nm,0.9s,baz=223,slow=6.3,SNR=13								
MAW					PcP	**PcP**		**18 54 24.1**	**-1.4**
	comp=Z,2.7nm,0.6s,baz=179,slow=2.9,SNR=3.5								
MAW					ScP	**ScP**		**18 58 11.0**	**-1.8**
	comp=Z,4.1nm,0.8s,baz=302,slow=10,SNR=4.2								
MAW					LR	LR		19 09 20.0	
	comp=Z,106nm,18.2s,baz=250,slow=36								
MAW	**Mawson**	**40.38**	**144**	P		**P**		**18 52 23.2**	**+0.3**
MAW								18 54 24.1	
MAW					pmax	pmax			
	comp=Z,7.0nm,1.0s								
MAW	**Mawson**	**40.38**	**144**	P		**P**		**18 52 23.2**	**+0.3**
	comp=Z,6.7nm,1.0s								
MAW					PcP	**PcP**		**18 54 24.1**	**-1.4**
MAW					ScP	**ScP**		**18 58 11.0**	**-1.8**
SUR	**Sutherland**	**40.48**	**75**	P		**P**		**18 52 24.4**	**0.0**
	comp=Z,15nm,0.9s,baz=218,slow=5.7,SNR=4.3								
SUR					LR	LR		19 05 11.6	
	comp=Z,529nm,19.7s,baz=206,slow=30								
SUR	**Sutherland**	**40.48**	**75**	P		**P**		**18 52 24.4**	**0.0**
LCO	**Las Campanas**	**40.84**	**292**	*e*P		**P**		**18 52 25.3**	**-2.2**
SHEL	**Horse Pasture**	**42.90**	**31**	*i* P		**P**		**18 52 46.3**	**+2.1**
BDFB	**Brasilia**	**43.10**	**330**	P		**P**		**18 52 47.8**	**+2.0**
	comp=Z,3.5nm,0.9s,baz=135,slow=4.3,SNR=2.9								
BDFB	**Brasilia**	**43.10**	**330**	P		**P**		**18 52 47.8**	**+2.0**
LVC	**Limon Verde**	**45.19**	**300**	P		**P**		**18 53 04.8**	**+2.0**
	comp=Z,28nm,0.5s,baz=115,slow=4.9,SNR=19								
LVC					ScP	**ScP**		**18 58 31.3**	**-2.0**
	comp=Z,13nm,0.9s,baz=181,slow=12,SNR=3.6								
LVC	**Limon Verde**	**45.19**	**300**	P		**P**		**18 53 04.8**	**+2.0**
	comp=Z,10nm,0.8s								
LVC					ScP	**ScP**		**18 58 31.3**	**-2.0**
SBA	**Scott Base**	**46.43**	**184**	P		**P**		**18 53 12.7**	**+1.1**
SBA					pmax	pmax			
	comp=Z,9.0nm,0.8s								
SBA	**Scott Base**	**46.43**	**184**	P		**P**		**18 53 12.7**	**+1.1**
	comp=Z,9.4nm,0.8s								
VNDA	**Vanda**	**46.92**	**183**	P		**P**		**18 53 16.5**	**+1.1**
	comp=Z,18nm,0.8s,baz=188,slow=7.6,SNR=106								
VNDA					ScP	**ScP**		**18 58 36.5**	**-2.8**
	comp=Z,2.3nm,0.9s,baz=254,slow=1.9,SNR=6.9								
VNDA					LR	LR		19 14 06.4	
	comp=Z,116nm,18.4s,baz=154,slow=37								
VNDA	**Vanda**	**46.92**	**183**	P		**P**		**18 53 16.5**	**+1.1**
VNDA					pmax	pmax			
	comp=Z,11nm,0.7s								
VNDA	**Vanda**	**46.92**	**183**	P		**P**		**18 53 16.5**	**+1.1**
	comp=Z,12nm,0.7s								
VNDA					ScP	**ScP**		**18 58 36.5**	**-2.8**
SIV	**San Ignacio**	**47.40**	**313**	P		**P**		**18 53 20.0**	**+0.2**
	comp=Z,2.9nm,0.6s,baz=161,slow=8.3,SNR=8.9								
SIV					LR	LR		19 12 06.3	
	comp=Z,118nm,21.6s,baz=58,slow=34								
SIV	**San Ignacio**	**47.40**	**313**	P		**P**		**18 53 20.0**	**+0.2**
H10S2	**ASCENSION HYDR**	**47.65**	**17**	T		T		19 44 47.9	
	baz=189,slow=75,SNR=54								
H10S3	**ASCENSION HYDR**	**47.65**	**17**	T		T		19 44 48.5	
	baz=189,slow=75,SNR=48								
H10S1	**ASCENSION HYDR**	**47.67**	**17**	T		T		19 44 48.9	
	baz=189,slow=75,SNR=45								
H10N1	**ASCENSION HYDR**	**48.77**	**17**	T		T		19 46 10.6	
	baz=188,slow=75,SNR=20								
H10N3	**ASCENSION HYDR**	**48.77**	**17**	T		T		19 46 12.2	
	baz=188,slow=75,SNR=42								
H10N2	**ASCENSION HYDR**	**48.78**	**17**	T		T		19 46 12.3	
	baz=188,slow=75,SNR=32								
LBTB	**Lobatse**	**48.84**	**73**	P		**P**		**18 53 29.7**	**-1.3**
	comp=Z,23nm,0.9s,baz=229,slow=9.4,SNR=25								
LBTB	**Lobatse**	**48.84**	**73**	*e*P		**P**		**18 53 29.0**	**-2.0**
LBTB					pmax	pmax			
	comp=Z,58nm,1.3s								
LBTB	**Lobatse**	**48.84**	**73**	*e*P		**P**		**18 53 29.0**	**-2.0**
	comp=Z,58nm,1.3s								
TSUM	**Tsumeb**	**49.45**	**61**	P		**P**		**18 53 34.9**	**-0.8**
	comp=Z,9.2nm,0.9s,baz=186,slow=7.9,SNR=17								
TSUM	**Tsumeb**	**49.45**	**61**	P		**P**		**18 53 34.9**	**-0.8**
LPAZ	**La Paz**	**50.24**	**305**	P		**P**		**18 53 43.9**	**+1.6**
	comp=Z,6.7nm,0.6s,baz=147,slow=4.0,SNR=26								
LPAZ					ScP	**ScP**		**18 58 52.2**	**-2.9**
	comp=Z,1.4nm,0.7s,baz=146,slow=6.8,SNR=3.9								
LPAZ					LR	LR		19 14 26.5	
	comp=Z,92nm,21.7s,baz=240,slow=35								
LPAZ	**La Paz**	**50.24**	**305**	*e*P		**P**		**18 53 44.0**	**+1.6**
LPAZ	**La Paz**	**50.24**	**305**	P		**P**		**18 53 43.9**	**+1.6**
	comp=Z,15nm,0.8s								
LPAZ					ScP	**ScP**		**18 58 52.2**	**-2.9**
SAML	**Samuel**	**54.61**	**314**	*e*P		**P**		**18 54 13.8**	**-0.3**
	comp=Z,33nm,1.1s								
LSZ	**Lusaka**	**58.18**	**69**	*e*P		**P**		**18 54 37.8**	**-1.8**
LSZ					pmax	pmax			
	comp=Z,23nm,0.8s								
LSZ

KBZ	Khabaz	115.29	49	PKP	PKPdf	19 03 25.8	-0.2
	comp=Z,1.2nm,0.7s,baz=233,slow=20,SNR=4.5						
KBZ	Khabaz	115.29	49	PKP	PKPdf	19 03 25.8	-0.2
AKASG	Malin Array Be	115.88	36	PKP	PKPdf	19 03 24.7	-2.2
	comp=Z,0.2nm,0.4s,baz=229,slow=1.4,SNR=5.5						
AKASG	Malin Array Be	115.88	36	*i* PKIKP	PKPdf	19 03 27.1	+0.2
AKASG	Malin Array Be	115.88	36	PKP	PKPdf	19 03 24.7	-2.2
GEYT	Alibeck	117.84	63	PKP	PKPdf	19 03 30.5	-0.6
	comp=Z,0.7nm,0.6s,baz=205,slow=6.6,SNR=4.2						
PDAR	Pinedale Array	120.22	302	PKP	PKPdf	19 03 34.0	-1.9
	comp=Z,0.3nm,0.7s,baz=130,slow=4.9,SNR=3.2						
PDAR				PKKPbc	PKKPab	19 13 42.5	-0.2
	comp=Z,0.5nm,0.7s,baz=36,slow=2.8,SNR=4.4						
PDAR	Pinedale Array	120.22	302	PKP	PKPdf	19 03 34.0	-1.9
PDAR				PKKPbc	PKKPab	19 13 42.5	-0.2
NOA	NORSAR Array B	120.26	20	PKP	PKPdf	19 03 32.9	-2.2
	comp=Z,1.6nm,0.8s,baz=199,slow=2.3,SNR=3.7						
NOA	NORSAR Array B	120.26	20	PKP	PKPdf	19 03 32.9	-2.2
NVAR	Mina Array Bea	121.33	293	PKP	PKPdf	19 03 38.1	0.0
	comp=Z,0.5nm,0.6s,baz=160,slow=2.9,SNR=6.1						
NVAR	Mina Array Bea	121.33	293	PKP	PKPdf	19 03 38.1	0.0
OBN	Obninsk	122.03	37⇑	*i* PKIKP	PKPdf	19 03 38.0	-0.5
OBN				*e*PPP	PPP	19 07 50.1	
OBN				pmax	pmax		
	comp=Z,25nm,2.3s						
KOLN	Koldanda	123.99	90	*e*P	PKPdf	19 03 42.8	-0.7
	comp=Z,26nm,0.7s						
FINES	FINESS Array B	124.04	28	PKP	PKPdf	19 03 41.8	-0.5
	comp=Z,3.9nm,0.7s,baz=177,slow=2.8,SNR=33						
FINES	FINESS Array B	124.04	28	PKP	PKPdf	19 03 41.8	-0.5
WVOR	Wild Horse Val	124.46	296	*e*PKIKP	PKPdf	19 03 47.5	+3.7
WVOR	Wild Horse Val	124.46	296	*e*PKPdf	PKPdf	19 03 47.5	+3.7
DMN	Daman	124.72	91	*e*P	PKPdf	19 03 44.3	-0.7
	comp=Z,18nm,1.0s						
GKN	Gorkha	124.75	90	*e*P	PKPdf	19 03 44.1	-0.8
	comp=Z,37nm,1.2s						
PKIN	Phulchoki	124.86	91	*e*P	PKPdf	19 03 44.2	-1.1
	comp=Z,5.4nm,0.7s						
PKI	Pulchoki	124.86	91	*e*P	PKPdf	19 03 44.4	-1.0
	comp=Z,20nm,0.9s						
KKN	Kakani	124.95	91	*e*P	PKPdf	19 03 44.6	-0.8
	comp=Z,9.5nm,0.7s						
RAMN	Ramite	125.06	93	*e*P	PKPdf	19 03 45.5	-0.2
	comp=Z,28nm,0.8s						
CM31	Chiang Mai Arr	125.11	110	*e*PKPdf	PKPdf	19 03 45.8	+0.1
CMAR	Chiang Mai Arr	125.11	110	PKP	PKPdf	19 03 45.7	0.0
	comp=Z,4.1nm,0.8s,baz=232,slow=3.8,SNR=35						
CMAR	Chiang Mai Arr	125.11	110	PKP	PKPdf	19 03 45.7	0.0
JIRN	Jiri	125.37	92	*e*P	PKPdf	19 03 46.0	-0.4
	comp=Z,30nm,0.7s						
GUN	Gumba	125.39	91	*e*P	PKPdf	19 03 45.8	-0.6
	comp=Z,16nm,0.8s						
ODAN	Odare	125.43	94	*e*P	PKPdf	19 03 46.3	-0.1
	comp=Z,32nm,1.1s						
BMO	Blue Mountains	125.54	299	*e*PKIKP	PKPdf	19 03 49.3	+3.5
BMO	Blue Mountains	125.54	299	*e*PKPdf	PKPdf	19 03 49.3	+3.5
TAPN	Taplejung	125.99	93	*e*P	PKPdf	19 03 47.3	-0.2
	comp=Z,10nm,0.9s						
AKTO	Aktyubinsk	127.06	53	PKP	PKPdf	19 03 48.1	-0.3
	comp=Z,5.0nm,0.9s,baz=170,slow=3.8,SNR=16						
AKTO	Aktyubinsk	127.06	53	PKP	PKPdf	19 03 48.1	-0.3
ABKAR	Akbulak array	127.11	55	*e*PKPdf	PKPdf	19 03 48.3	-0.2
ABKAR				*e*PKPdf	PKiKP	19 03 50.5	+1.5
KLMR	Klimovskoe	127.50	34	*e*PKIKP	PKPdf	19 03 49.7	+0.8
KLMR				pmax	pmax		
	comp=Z,19nm,1.1s						
KKAR	Karatay Array	128.02	67	*e*PKIKP	PKPdf	19 03 53.4	+2.9
KKAR	Karatay Array	128.02	67	*e*PKPdf	PKPdf	19 03 53.4	+2.9
SUMG	Summit	128.24	356	*i* P	PKPdf	19 03 51.6	+1.1
	comp=Z,4.4nm,0.9s						
SUMG	Summit	128.24	356	*i* PKIKP	PKPdf	19 03 51.6	+1.1
SUMG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SUMG	Summit	128.24	356	*e*PKPdf	PKPdf	19 03 52.5	+2.0
KSH	Kashi	128.40	74	PKP	PKPdf	19 03 51.4	-0.1
KSH				*es*PKP		19 04 05.5	
KSH				PKS	PKSdf	19 07 26.6	-1.5
KSH				PPMZ			
	comp=Z,120nm,5.2s						
KSH				LN			
	comp=Z,87nm,4.9s						
KSH				LE			
	comp=Z,110nm,6.5s						
KSH				LZ			
	comp=Z,140nm,6.2s						
AML	Almayashu	129.01	70	P	PKPdf	19 03 53.2	+0.2
	SNR=9.0						
EKS2	Erkin-Say	129.43	70	P	PKPdf	19 03 53.6	+0.2
	SNR=18						
EKS2	Erkin-Say	129.43	70	*e*PKIKP	PKPdf	19 03 53.7	+0.3
EKS2	Erkin-Say	129.43	70	*e*PKPdf	PKPdf	19 03 53.7	+0.3
UCH	Uchtor	129.52	71	P	PKPdf	19 03 54.3	+0.3
	SNR=12						
LSA	Lhasa	129.73	94	*e*PKIKP	PKPdf	19 03 55.1	+0.3
LSA	Lhasa	129.73	94	*e*PKPdf	PKPdf	19 03 55.1	+0.3
AAK	Ala-Archa	129.79	70	P	PKPdf	19 03 54.4	+0.3
	SNR=10						
AAK	Ala-Archa	129.79	70	*d* iPKIKP	PKPdf	19 03 54.2	+0.1
AAK				MLR	MLR		
	comp=Z,140nm,19.0s						
AAK	Ala-Archa	129.79	70	*e*PKPdf	PKPdf	19 03 55.5	+1.4
KZA	Kyzart	129.81	71	P	PKPdf	19 03 54.8	+0.4
	SNR=11						
KBK	Karagaybulak	130.05	70	P	PKPdf	19 03 55.1	+0.5
	SNR=7.0						
PRGR	Permogore	130.08	37	*e*PKIKP	PKPdf	19 03 54.1	+0.4
PRGR				pmax	pmax		
	comp=Z,18nm,0.7s						
TKM2	Tokmak 2	130.58	71	P	PKPdf	19 03 55.1	-0.6
	SNR=5.2						
TKM2	Tokmak 2	130.58	71	*e*PKIKP	PKPdf	19 03 58.3	+2.6
TKM2	Tokmak 2	130.58	71	*e*PKPdf	PKPdf	19 03 58.3	+2.6
ARCES	ARCESS Array B	130.60	22	PKP	PKPdf	19 03 54.1	-0.4
	comp=Z,9.6nm,0.8s,baz=191,slow=1.3,SNR=27						
ARCES	ARCESS Array B	130.60	22	PKP	PKPdf	19 03 54.1	-0.4
QIZ	Qiongzhong	131.16	121	PKP	PKPdf	19 04 00.3	+3.1
QIZ				PP	PP	19 06 18.1	+3.5
QIZ				SS	SS	19 23 50.1	+5.4
QIZ				PPMZ			
	comp=Z,150nm,5.9s						
ARU	Arti	131.41	48	*i* PKIKP	PKPdf	19 03 56.2	-0.3
ARU	Arti	131.41	48	*e*PKPdf	PKPdf	19 03 58.1	+1.7
DAG	Danmarks Havn	132.32	3	*i* P	PKPdf	19 03 56.7	-0.9
	comp=Z,7.3nm,1.2s						
DAG	Danmarks Havn	132.32	3	*i* PKIKP	PKPdf	19 03 56.7	-0.9
DAG				pmax	pmax		
	comp=Z,11nm,1.2s						
SVE	Sverdlovsk	132.54	48	*e*PKIKP	PKPdf	19 03 59.3	+0.7
SVE				pmax	pmax		
	comp=Z,27nm,1.3s						
KMI	Kunming	132.57	109	PKP	PKPdf	19 04 01.3	+1.3
BRVK	Borovoye	134.50	57	*d* iPKIKP	PKPdf	19 04 02.5	+0.1
BRVK	Borovoye	134.50	57	*e*PKPdf	PKPdf	19 04 03.0	+0.6
BVAR	Borovoye Array	134.53	57	PKP	PKPdf	19 04 02.8	+0.3
	comp=Z,7.2nm,0.7s,baz=208,slow=1.3,SNR=32						
BVAR				PP	PP	19 06 35.7	-0.7
	comp=Z,1.3nm,1.0s,baz=211,slow=5.0,SNR=3.4						
BVAR	Borovoye Array	134.53	57	PKP	PKPdf	19 04 02.8	+0.3
BVAR				PP	PP	19 06 35.7	-0.7
GYA	Guiyang	135.73	112	*e*Pdif	Pdif	19 01 11.9	+2.6
GYA				PKP	PKiKP	19 04 08.2	+0.9
GYA				PP	PP	19 06 50.8	+6.7
GYA				PKS	PKSdf	19 07 42.6	+0.4
GYA				SKKS		19 13 37.5	
GYA				SS	SS	19 24 44.2	+3.8
GYA				PPMZ			
	comp=Z,120nm,7.8s						
GYA				LN			
	comp=Z,140nm,22.2s						
GYA				LE			
	comp=Z,120nm,23.0s						
GYA				LZ			
	comp=Z,130nm,22.4s						
YKA	Yellowknife Ar	135.97	318	PKhKP	PKPpre	19 03 52.1	
	comp=Z,0.1nm,0.5s,baz=124,slow=2.8,SNR=6.0						
YKA				PKP	PKPdf	19 04 04.8	0.0
	comp=Z,2.1nm,0.7s,baz=132,slow=1.9,SNR=16						
YKA				PP	PP	19 06 42.0	-3.1
	comp=Z,0.4nm,0.7s,baz=121,slow=6.9,SNR=5.4						
YKA				SKPbc	SKPbc	19 07 31.6	-2.9
	comp=Z,1.1nm,0.8s,baz=128,slow=2.1,SNR=7.1						
YKA	Yellowknife Ar	135.97	318	PKP	PKPdf	19 04 04.8	0.0
YKA				PP	PP	19 06 42.0	-3.1
YKA				SKPbc	SKPbc	19 07 31.6	-2.9
MK31	Makanchi Array	136.71	71	*e*PKIKP	PKPdf	19 04 08.2	+1.4
MK31	Makanchi Array	136.71	71	*e*PKPdf	PKPdf	19 04 08.2	+1.4
MKAR	Makanchi Array	136.71	71	PKhKP	PKPpre	19 03 53.7	
	comp=Z,0.2nm,0.4s,baz=276,slow=4.2,SNR=5.8						
MKAR				PKP	PKPdf	19 04 05.5	-1.2
	comp=Z,1.5nm,0.7s,baz=258,slow=7.2,SNR=15						
MKAR				PP	PP	19 06 50.2	0.0
	comp=Z,0.7nm,1.0s,baz=250,slow=7.2,SNR=4.3						
MKAR				SKPbc	SKPbc	19 07 33.5	-3.9
	comp=Z,0.5nm,0.8s,baz=263,slow=8.1,SNR=3.7						
MKAR	Makanchi Array	136.71	71	PKP	PKPdf	19 04 05.5	-1.2
MKAR				PP	PP	19 06 50.2	0.0
MKAR				SKPbc	SKPbc	19 07 33.5	-3.9
KURK	Kurchatov	137.19	64	*e*PKIKP	PKPdf	19 04 08.9	+1.4
KURK	Kurchatov	137.19	64	*e*PKPdf	PKPdf	19 04 08.9	+1.4
RES	Resolute Bay	137.56	339	*e*PKIKP	PKPdf	19 04 08.2	+0.7
RES	Resolute Bay	137.56	339	*e*PKPdf	PKPdf	19 04 08.2	+0.7
CD2	Chengdu	137.68	105	*e*PKP	PKPdf	19 04 11.0	+1.9
CD2				sPKP		19 04 26.4	
CD2				PP	PP	19 07 03.5	+7.3
CD2				PKS	PKSdf	19 07 47.3	+1.9
CD2				SKKS		19 13 47.7	
CD2				PPMZ			
	comp=Z,150nm,8.2s						
CD2				LE			
	comp=Z,190nm,17.8s						
CD2				LZ			
	comp=Z,150nm,13.1s						
WMQ	Urumqi	137.76	78	*e*PKP	PKPdf	19 04 11.2	+2.3
WMQ				LN			
	comp=Z,50nm,20.0s						
WMQ				LE			
	comp=Z,40nm,18.2s						
WMQ				LZ			
	comp=Z,28nm,18.6s						
GTA	Gaotai	141.66	92	*e*PKP	PKPdf	19 04 11.1	-5.1
GTA				pPKP	PKiKP	19 04 21.7	+2.6
GTA				sPKP		19 04 25.5	
NVS	Novosibirsk	141.81	61⇑	*i* PKHKP	PKPpre	19 04 09.3	
NVS				pmax	pmax		
	comp=N,2.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.9s						
NVS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ZAA0	Zalesovo Array	142.15	63	*e*PKPdf	PKPdf	19 04 19.0	+2.6
ZALV	Zalesovo Beam	142.15	63	PKhKP	PKPpre	19 04 10.3	
	comp=Z,3.2nm,0.7s,baz=231,slow=4.1,SNR=14						
XAN	Xi'an	142.87	107	PKP	PKPdf	19 04 19.5	+1.1
INK	Inuvik	145.58	321	PKPbc	PKPab	19 04 22.4	-0.1
	comp=Z,8.0nm,0.5s,baz=82,slow=3.2,SNR=53						
INK				SKPbc	SKPbc	19 07 56.0	-3.6
	comp=Z,2.6nm,0.8s,baz=100,slow=2.1,SNR=6.4						
INK	Inuvik	145.58	321	PKPbc	PKPab	19 04 22.4	-0.1
INK				SKPbc	SKPbc	19 07 56.0	-3.6
NJ2	Nanjing	146.45	121	*e*PKPbc	PKPab	19 04 27.1	+0.1
KRAR	Krasnoyarsk	147.22	64	*i* PKIKP	PKPdf	19 04 24.0	-1.1
KRAR				MLR	MLR		
	comp=Z,121nm,23.0s						
EGAK	Eagle	147.56	313	*e*PKPdf	PKPbc	19 04 28.0	-0.1
EGAK				*e*PKPab	PKPab	19 04 33.5	+3.2
BMRM	Bremner River	147.93	305	*e*PKPdf	PKPbc	19 04 28.1	-1.2
BMRM				*e*PKPbc	PKPab	19 04 32.5	+0.4
DOT	Dot Lake	148.48	310	*e*PKPdf	PKPbc	19 04 30.0	-0.6
DIV	Divide	148.52	305	*e*PKPdf	PKPbc	19 04 30.6	-0.3
DIV				*e*PKPbc	PKPab	19 04 34.1	-0.3
TIA	Tai'an	148.88	114	PKPbc	PKPbc	19 04 31.8	-0.7
PAX	Paxson	148.91	309	*e*PKIKP	PKPbc	19 04 30.4	-1.5
PAX				*e*		19 04 34.6	
PAX	Paxson	148.91	309	*e*PKPdf	PKPbc	19 04 30.4	-1.5
PAX				*e*PKPbc	PKPab	19 04 34.6	-1.5
HHC	Hu-ho-hao-te	149.24	101	*e*PKPbc	PKPdf	19 04 31.1	+2.0
HHC				PP	PP	19 08 10.8	+4.9
HHC				SKS	SKSdf	19 11 37.6	+2.3
HHC				SS	SS	19 27 22.0	+5.0
HHC				PPMZ			
	comp=Z,35nm,5.8s						
HHC				LN			
	comp=Z,150nm,21.5s						
HHC				LE			
	comp=Z,190nm,22.7s						
HHC				LZ			
	comp=Z,170nm,20.3s						
MOY	Mondy	149.57	76	*e*PKP2	PKPbc	19 04 34.3	+0.4
MOY				pmax	pmax		
	comp=Z,52nm,2.1s						
SEW	Seward	149.93	302	*e*PKPbc	PKPbc	19 04 36.8	+2.6
ILAR	Eielson Array	149.94	312	PKP	PKPdf	19 04 26.7	-2.6
	comp=Z,0.5nm,0.8s,baz=309,slow=0.5,SNR=5.2						
ILAR				PKPbc	PKPbc	19 04 34.5	+0.2
	comp=Z,14nm,0.8s,baz=132,slow=1.8,SNR=111						
ILAR				SKPbc		19 08 07.5	
	comp=Z,0.8nm,1.0s,baz=85,slow=2.1,SNR=3.0						
ILAR	Eielson Array	149.94	312	PKP	PKPdf	19 04 26.7	-2.6
ILAR				PKPbc	PKPbc	19 04 34.5	+0.2
ILAR				SKPbc		19 08 07.5	
ZAK	Zakamensk	150.21	79	*e*PKIKP	PKPdf	19 04 29.6	-0.7
ZAK				pmax	pmax		
	comp=Z,19nm,1.2s						
RC01	Rabbit Creek A	150.35	304	*e*PKPdf	PKPdf	19 04 32.2	+2.2
RC01				*e*PKPbc	PKiKP	19 04 38.8	+2.7
COLA	College	150.37	312	*c* iPKIKP	PKPbc	19 04 35.3	+0.1
COLA	College	150.37	312	*e*PKPdf	PKPbc	19 04 32.6	-2.6
COLA				*e*PKPbc	PKiKP	19 04 38.0	+2.1
MCK	McKinley	150.61	310	*e*PKIKP	PKPbc	19 04 39.0	+3.1
MCK	McKinley	150.61	310	*e*PKPbc	PKPbc	19 04 39.0	+3.1
SONM	Songino Array	150.63	86	PKP	PKPdf	19 04 30.3	-0.8
	comp=Z,2.2nm,0.9s,baz=248,slow=1.8,SNR=19						
SONM				PKPbc	PKPbc	19 04 35.9	-0.7
	comp=Z,19nm,0.8s,baz=224,slow=2.6,SNR=102						
SONM	Songino Array	150.63	86	PKP	PKPdf	19 04 30.3	-0.8
SONM				PKPbc	PKPbc	19 04 35.9	-0.7
KDAK	Kodiak Island	150.73	297	*i* PKIKP	PKPbc	19 04 36.5	+0.3
ULN	Ulaanbaatar	151.02	86	*d* iPKIKP	PKPbc	19 04 36.7	-0.8
ULN	Ulaanbaatar	151.02	86	*e*PKPbc	PKPbc	19 04 39.1	+1.6
TLY	Talaya	151.04	77	*e*PKIKP	PKPdf	19 04 33.8	+2.3
TLY				*e*		19 04 39.9	
TLY	Talaya	151.04	77	*e*PKPdf	PKPdf	19 04 33.8	+2.3
TLY				*e*PKPbc	PKiKP	19 04 39.9	+2.1
BJT	Baijiatuau	151.19	107	*e*PKIKP	PKPbc	19 04 37.6	-0.4
BJT	Baijiatuau	151.19	107	*e*PKPbc	PKPbc	19 04 37.6	-0.4
RSO	Redoubt South	151.61	302	*e*PKPbc	PKPbc	19 04 39.2	+0.7
PPLA	Purkeypile	151.89	307	*e*PKPbc	PKPbc	19 04 39.2	+0.2
IM04	Indian Mountai	152.96	314	*e*PKPbc	PKPbc	19 04 41.7	+0.5
KSAR	Wonju Array Be	155.12	127	PKP2	PKPab	19 05 01.1	-1.5
KSAR	Wonju Array Be	155.12	127	PKPab	PKPab	19 05 01.1	-1.5
KSRS	Korea Array	155.15	127	PKPab	PKPab	19 05 01.1	-1.6
	comp=Z,1.6nm,0.7s,baz=241,slow=4.3,SNR=5.5						
CIT	Chita	156.70	83	*e*PKP2	PKPab	19 05 09.4	+0.3
CIT				pmax	pmax		
	comp=Z,33nm,1.5s						
MJAR	Matsushiro Arr	158.37	146	PKPab	PKPab	19 05 16.7	+0.2
	comp=Z,0.7nm,0.6s,baz=194,slow=3.9,SNR=3.5						
MJAR	Matsushiro Arr	158.37	146	PKPab	PKPab	19 05 16.7	+0.2
BOD	Bodaibo	158.75	68	*e*PKIKP	PKPdf	19 04 39.2	-2.5
BOD				pmax	pmax		
	comp=Z,4.0nm,1.4s						
CN2	Changchun	158.77	113	*e*PKP	PKPdf	19 04 45.2	+3.0

*IDC **09** 18:53:02.0±1.2,32.74S×178.31W,h0km,mb4.3/4, mb1 4.4/6,mb1mx4.0/21,mbtmp4.3/6,ML4.0/2,Error ellipse: s-maj=31.4km s-min=27.6km az=89.0*
*ISCJB **09** 18:53:04.9±1.8,32.9S±0.1×178.3W±0.3,h33km,mb4.3/4, Error ellipse: s-maj=32.0km s-min=14.3km az=10.6*
ISC 09 18:53:07.0±1.1,32.8S±0.1×178.4W±0.2,h33km,n12, σ1§10/13,mb4.2/4,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
URZ	Urewera	6.60	213	Pn		Pn	18 54 41.1	-0.6
	4.9nm,0.3s,baz=276,slow=2.8,SNR=29							
URZ					Sn	Sn	18 55 57.3	+1.4
	4.9nm,0.3s,baz=150,slow=16,SNR=7.2							
RPZ	Rata Peaks	13.72	214	Pn		Pn	18 56 16.8	-2.4
	0.4nm,0.3s,baz=45,slow=5.7,SNR=2.3							
RPZ					Sn	Sn	18 58 38.0	-12
	0.4nm,0.3s,baz=19,slow=18,SNR=3.1							
CTA	Charters Tower	33.96	283	P		P	18 59 48.1	+0.7
	3.9nm,0.5s,baz=122,slow=11,SNR=10							
ASAR	Alice Springs	42.74	270	P		P	19 01 01.6	+0.3
	1.8nm,0.5s,baz=106,slow=7.8,SNR=46							
WRA	Warramunga Arr	43.94	275	P		P	19 01 10.9	-0.2
	2.4nm,0.3s,baz=113,slow=8.0,SNR=100							
QSPA	South Pole Qui	57.34	180	P		P	19 02 51.9	+0.3
	2.0nm,1.1s,baz=97,slow=8.1,SNR=2.1							
KMBO	Kilima Mbogo	132.40	232	PKP		PKPdf	19 12 19.2	+0.4
	1.3nm,0.5s,baz=73,slow=1.1,SNR=3.2							
ARCES	ARCESS Array B	140.84	347	PKP		PKPdf	19 12 31.8	-0.7
	1.6nm,0.8s,baz=50,slow=1.5,SNR=3.6							
FINES	FINESS Array B	147.25	338	PKPbc		PKPbc	19 12 45.5	-0.7
	1.9nm,0.5s,baz=61,slow=3.4,SNR=34							
AKASG	Malin Array Be	152.96	320	PKPbc		PKPbc	19 13 00.7	+0.3
	0.3nm,0.3s,baz=60,slow=2.3,SNR=3.6							
BRTR	Keskin Array B	153.38	294	PKPbc		PKPbc	19 13 01.5	-0.4
	0.8nm,0.5s,baz=149,slow=4.1,SNR=8.2							
TORD	Torodi Ar. Bea	160.46	180	PKPab		PKPab	19 13 46.3	+1.5
	0.5nm,1.1s,baz=163,slow=5.1,SNR=2.8							

RSPR 09 18:56:26.2,19.18N×67.17W,h16km±17km,MD2.5/5, 3C-2D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
AGPR	Aguadilla, PR	0.71	176	⇓ *e*P		Pg	18 56 38.0	-2.1
AGPR	Aguadilla, PR	0.71	176	*e*S		Sg	18 56 47.8	-1.6
IDE	Isla Desecheo	0.84	200	⇓ *e*P		Pb	18 56 40.2	-2.1
IDE	Isla Desecheo	0.84	200	*e*S		Sb	18 56 51.7	-1.7
AOPR	Arecibo Observ	0.92	154	⇑ *e*P		Pb	18 56 41.5	-2.2
AOPR	Arecibo Observ	0.92	154	*e*S		Sb	18 56 52.8	-2.8
CRPR	Cabo Rojo, PR	1.17	177	⇑ *e*P		Pn	18 56 44.7	-3.1
CRPR	Cabo Rojo, PR	1.17	177	*e*S		Sb	18 56 59.5	-3.3
OBIP	Obispado Ponce	1.25	155	⇑ *e*P		Pn	18 56 46.5	-2.4
OBIP	Obispado Ponce	1.25	155	*e*S		Sb	18 57 01.9	-3.3

*ISCJB **09** 18:58:23.5±0.6,30.73N±0.04×141.8E±0.2,h28km, mb3.6/3,MS3.4/1,Error ellipse: s-maj=20.9km s-min=3.8km az=165.7*
*IDC **09** 18:58:23.9±1.8,30.45N×140.68E,h0km,mb3.6/3, mb1 3.7/5,mb1mx3.4/27,mbtmp3.6/5,ML3.3/2,MS2.9/2, Ms1 3.0/2,ms1mx2.4/39,Error ellipse: s-maj=105.2km s-min=20.5km az=77.0*
*JMA **09** 18:58:25.9±0.2,30.81N×141.85E,h49km,M3.6*
ISC 09 18:58:25.6±1.1,30.73N±0.07×141.9E±0.2,h28km,n17, σ1§46/24,mb3.8/3,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JHCJ	Hachijojimakas	2.91	324	*e*S		Sb	18 59 43.6	-8.5
JHJ2	Mitsune	2.94	325	P		Pn	18 59 10.8	+0.4
JHJ2				S		Sn	18 59 42.8	-1.9
CBIJ	Chichi jima	3.63	175	P		Pn	18 59 22.1	+2.1
CBIJ				*e*S		Sn	18 59 59.7	-2.3
JCJ	Chichijima	3.63	175	Pn		Pn	18 59 20.1	+0.1
	4.4nm,0.3s,baz=306,slow=19,SNR=7.1							
JCJ					Sn	Sn	19 00 00.2	-1.8
	9.0nm,0.3s,baz=270,slow=22,SNR=6.6							
BSO1	Boso 1	3.98	350	P		Pn	18 59 24.9	+0.6
BSO1				*e*S		Sn	19 00 09.0	-0.7
BSO3	Boso 3	4.21	345	P		Pn	18 59 29.8	+2.1
BSO3				*e*S		Sn	19 00 14.7	-1.2
JHU	Hanno	5.54	338	P		Pn	18 59 47.6	+1.4
JHU				*e*S		Sn	19 00 46.7	-2.3
JYT	Yasato	5.65	346	P		Pn	18 59 48.2	+0.5
JRY	Ryogami san	5.82	336	P		Pn	18 59 51.5	+1.4
JRY				*e*S		Sn	19 00 55.4	-0.5
JHO	Hitachi	5.96	350	P		Pn	18 59 52.0	0.0
JHO				S		Sn	19 00 56.7	-2.6
JAG	Ashikaga	6.02	341	P		Pn	18 59 53.7	+0.9
JAG				S		Sn	19 00 59.5	-1.3
MJAR	Matsushiro Arr	6.54	333	Pn		Pn	19 00 00.4	+0.4
	0.5nm,0.3s,baz=159,slow=12,SNR=8.5							
MJAR					Sn	Sn	19 01 14.6	+1.0
	0.2nm,0.3s,baz=167,slow=17,SNR=3.1							
KSRS	Korea Array	13.34	304	LR		LR	19 06 40.6	
	comp=Z,20nm,18.3s,baz=210,slow=39							
WRA	Warramunga Arr	50.90	189	P		P	19 07 24.1	-0.2
	0.7nm,0.6s,baz=5.7,slow=7.6,SNR=10							
ASAR	Alice Springs	54.62	189	P		P	19 07 51.1	-0.7
	0.1n

BARS				*e*Sg	Sn	19 03 52.2	+0.1
BARS	**Barje**	**1.24**	**77**	*e*Pg	Pn	19 03 35.0	-0.3
BARS				*e*Sg	Sn	19 03 52.2	+0.1
HCY	**Herceg Novi**	**1.24**	**266**	*e*Pg	Pn	19 03 35.1	-0.2
HCY				*e*Sg	Sn	19 03 54.7	+2.6
HCY	**Herceg Novi**	**1.24**	**266**	*e*Pg	Pn	19 03 35.1	-0.2
HCY				*e*Sg	Sn	19 03 54.7	+2.6
BRY	**Bratogost**	**1.25**	**287**	*e*Pg	Pn	19 03 35.2	-0.4
BRY				*e*Sg	Sn	19 03 55.0	+2.3
BRY	**Bratogost**	**1.25**	**287**	*e*Pg	Pn	19 03 35.2	-0.4
BRY				*e*Sg	Sn	19 03 55.0	+2.3
GRUS	**Gruza**	**1.40**	**16**	*e*Pg	Pg	19 03 39.0	+0.2
GRUS				*e*Sg	Sg	19 03 58.5	+1.5
GRUS	**Gruza**	**1.40**	**16**	*e*Pg	Pg	19 03 39.0	+0.2
GRUS				*e*Sg	Sg	19 03 58.5	+1.5
BBLS	**Lazići**	**1.44**	**337**	*e*Pg	Pg	19 03 39.2	-0.3
BBLS				*e*Sg	Sg	19 03 59.2	+0.9
BBLS	**Lazići**	**1.44**	**337**	*e*Pg	Pg	19 03 39.2	-0.3
BBLS				*e*Sg	Sg	19 03 59.2	+0.9
DIVS	**Divibare**	**1.56**	**355**	*e*Pg	Pg	19 03 41.6	-0.3
DIVS				*e*Sg	Sg	19 04 02.6	+0.3
DIVS	**Divibare**	**1.56**	**355**	*e*Pg	Pg	19 03 41.6	-0.3
DIVS				*e*Sg	Sg	19 04 02.6	+0.3
BOLS	**Boljevac**	**1.83**	**45**	*e*Pg	Pg	19 03 46.7	-0.2
BOLS	**Boljevac**	**1.83**	**45**	*e*Pg	Pg	19 03 46.7	-0.2
STON	**Ston**	**1.85**	**281**	*e*Pn	Pg	19 03 46.8	-0.5
STON				Sn	Sg	19 04 12.4	+1.2
STON	**Ston**	**1.85**	**281**	*e*Pn	Pg	19 03 46.7	-0.6
ZAPS	**Zavoj**	**1.95**	**67**	*e*Pg	Pg	19 03 48.6	-0.7
ZAPS	**Zavoj**	**1.95**	**67**	*e*Pg	Pg	19 03 48.6	-0.7
TEKS	**Tekeris**	**2.06**	**347**	*e*Pg	Pg	19 03 50.9	-0.5
TEKS				*e*Sg	Sg	19 04 19.4	+1.3
TEKS	**Tekeris**	**2.06**	**347**	*e*Pg	Pg	19 03 50.9	-0.5
TEKS				*e*Sg	Sg	19 04 19.4	+1.3

*NNC **09** 19:13:24.7±2.6,40.°61N×75.°33E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=26.2km s-min=8.6km az=129.0*
*KRNET **09** 19:13:26.4±0.1,40.°89N×74.°85E,h2km,mb3.3*

ISC 09 19:13:26.9±1.2,40.°87N±0.°04×74.°88E±0.°03,h6km±12km, n34,σ1§15/53,25C-8D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALK	**Salom-Alik**	**0.81**	**271**	*e*P	**Pg**	**19 13 41.9**	**-0.5**
SALK	baz=269			*e*S	**Sg**	**19 13 52.9**	**0.0**
	baz=269						
NRN	**Naryn**	**1.02**	**56**	*e*P	**Pg**	**19 13 46.1**	**-0.3**
NRN	baz=58			*e*S	**Sb**	**19 14 00.5**	**-0.4**
	baz=58						
KZA	**Kyzart**	**1.24**	**13**	P	**Pn**	**19 13 50.8**	**-0.5**
	SNR=14						
KZA	**Kyzart**	**1.24**	**13**	⇑*i*P	**Pn**	**19 13 50.6**	**-0.6**
	baz=14						
KZA				⇑*i*S	**Sb**	**19 14 06.8**	**-0.7**
	baz=14						
SFK	**Sufi-Kurgan**	**1.35**	**231**	⇑P	**Pg**	**19 13 52.6**	**-0.3**
	6.0nm,0.3s						
SFK				⇑S	**Sg**	**19 14 13.3**	**+2.8**
	18nm,0.3s						
UCH	**Uchtor**	**1.39**	**349**	P	**Pb**	**19 13 53.5**	**-0.1**
	SNR=14						
UCH	**Uchtor**	**1.39**	**349**	⇑*i*P	**Pn**	**19 13 53.3**	**0.0**
	baz=349						
UCH				⇑*i*S	**Sb**	**19 14 13.1**	**+1.4**
	baz=349						
AML	**Almayashu**	**1.55**	**325**	P	**Pb**	**19 13 56.3**	**+0.1**
	SNR=6.2						
AML	**Almayashu**	**1.55**	**325**	⇑*i*P	**Pb**	**19 13 56.1**	**-0.1**
	baz=325						
AML				⇑*i*S	**Sn**	**19 14 16.0**	**0.0**
	baz=325						
ULHL	**Ulahol**	**1.71**	**36**	P	**Pg**	**19 14 01.0**	**+1.2**
	SNR=5.5						
ULHL	**Ulahol**	**1.71**	**36**	⇑*i*P	**Pg**	**19 13 59.2**	**-0.6**
	baz=37						
ULHL				⇑*i*S	**Sb**	**19 14 21.0**	**+0.1**
	baz=37						
AAK	**Ala-Archa**	**1.79**	**351**	P	**Pb**	**19 14 00.9**	**+0.7**
	SNR=28						
AAK	**Ala-Archa**	**1.79**	**351**	Pn	**Pb**	**19 14 00.7**	**+0.5**
	18nm,0.4s						
AAK				⇑Sn	**Sg**	**19 14 27.8**	**+3.4**
	51nm,0.7s						
AAK	**Ala-Archa**	**1.79**	**351**	⇑*i*P	**Pb**	**19 14 00.7**	**+0.5**
	baz=351						
AAK				⇑*i*S	**Sb**	**19 14 24.1**	**+1.1**
	baz=351						
KBK	**Karagaybulak**	**1.79**	**2**	P	**Pb**	**19 14 00.8**	**+0.6**
	SNR=29						
KBK	**Karagaybulak**	**1.79**	**2**	⇑*i*P	**Pb**	**19 14 00.8**	**+0.6**
	baz=2.0						
KBK				⇑*i*S	**Sb**	**19 14 23.7**	**+0.7**
	baz=2.0						
BOOM	**Boomskoye usch**	**1.81**	**26**	*e*P	**Pg**	**19 14 01.0**	**-0.5**
	baz=27						
BOOM				*e*S	**Sb**	**19 14 24.2**	**+0.8**
	baz=27						
EKS2	**Erkin-Say**	**1.98**	**336**	P	**Pb**	**19 14 04.1**	**+0.7**
	SNR=8.9						
EKS2	**Erkin-Say**	**1.98**	**336**	⇑*i*P	**Pb**	**19 14 03.8**	**+0.4**
	baz=336						
EKS2				⇑*i*S	**Sb**	**19 14 29.0**	**+0.7**
	baz=336						
FRU	**Bishkek**	**1.98**	**354**	*e*P	**Pb**	**19 14 04.0**	**+0.7**
	baz=355						
EKS	**Erkin-Say**	**1.98**	**336**	⇓*i*P	**Pg**	**19 14 04.7**	**-0.1**
	baz=336						
EKS				⇓*e*S	**Sb**	**19 14 30.2**	**+1.8**
	baz=336						
TKM2	**Tokmak 2**	**2.12**	**14**	P	**Pg**	**19 14 07.0**	**-0.6**
	SNR=21						
TKM2	**Tokmak 2**	**2.12**	**14**	⇓Pn	**Pn**	**19 14 01.2**	**-1.9**
	11nm,0.4s						
TKM2				⇑Sn	**Sg**	**19 14 35.7**	**+0.6**
	31nm,0.3s						
TKM2	**Tokmak 2**	**2.12**	**14**	⇓*i*P	**Pb**	**19 14 06.6**	**+0.7**
	baz=15						
TKM2				⇓*i*S	**Sb**	**19 14 34.1**	**+1.5**
	baz=15						
CHMS	**Chumysh**	**2.13**	**357**	P	**Pb**	**19 14 06.9**	**+0.9**
	SNR=26						
CHMS	**Chumysh**	**2.13**	**357**	⇑*i*P	**Pb**	**19 14 06.5**	**+0.5**
	baz=358						
CHMS				⇑*i*S	**Sb**	**19 14 34.2**	**+1.5**
	baz=358						
KDJ	**Kajisay**	**2.14**	**53**	*e*P	**Pb**	**19 14 06.0**	**-0.2**
	baz=54						
KDJ				*e*S	**Sg**	**19 14 34.6**	**-1.0**
	baz=54						
CHVK	**Chauvay**	**2.16**	**251**	*e*P	**Pb**	**19 14 07.0**	**+0.5**
	baz=251						
CHVK				*e*S	**Sg**	**19 14 36.0**	**-0.3**
	baz=251						
USP	**Ospenovka**	**2.42**	**353**	P	**Pg**	**19 14 12.2**	**-1.0**
	SNR=39						
KNDC	**Almaty**	**2.82**	**33**	⇓Pg	**Pg**	**19 14 19.6**	**-1.2**
	11nm,0.4s						
KNDC				⇑Lg	Lg	19 14 57.8	
	58nm,0.3s						
BTK	**Batken**	**3.20**	**257**	*e*P	**Pg**	**19 14 28.0**	**-0.3**
	baz=256						
BTK				*e*S	**Sg**	**19 15 10.4**	**+0.6**
	baz=256						
KK31	**Karatay Array**	**3.95**	**306**	⇑Pn	**Pb**	**19 14 35.4**	**-1.6**
	1.0nm,0.3s,baz=123,slow=14,SNR=4.3						
KK31				⇑Sn	**Sg**	**19 15 30.3**	**-3.5**
	5.2nm,0.3s,baz=125,slow=29,SNR=15						
PDGK	**Podgornoye**	**4.22**	**53**	⇓Pg	**Pb**	**19 14 42.3**	**+0.9**
	5.7nm,0.8s						
PDGK				⇑Lg	Lg	19 15 36.5	
	24nm,0.9s						
MK31	**Makanchi Array**	**7.98**	**40**	⇑Pg	Pb	19 15 50.5	+4.9
	0.5nm,0.5s,baz=227,slow=16,SNR=5.2						
MK31				⇓Lg	Lg	19 17 41.1	
	0.7nm,0.6s,baz=235,slow=24						

*IDC **09** 19:16:52.2±0.8,33.°08S×178.°97W,h0km,mb4.2/5, mb1 4.4/6,mb1mx4.0/31,mbtmp4.2/6,ML4.2/1,MS4.0/1, Ms1 3.9/1,ms1mx2.9/25,Error ellipse: s-maj=29.5km s-min=26.8km az=123.0*

*ISCJB **09** 19:16:55.1±1.2,33.°34S±0.°07×178.°6W±0.°2,h45km, mb4.0/5,MS3.9/1,Error ellipse: s-maj=24.7km s-min=7.6km az=14.6*

ISC 09 19:16:57.2±0.9,33.°34S±0.°09×178.°6W±0.°2,h45km,n36, σ1§69/42,mb4.1/5,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.92**	**210**	*e*PN	**Pn**	**19 18 09.8**	**+1.2**
WMGZ	**Waiomatatini S**	**5.10**	**208**	PN	**Pn**	**19 18 11.5**	**+0.5**
WMGZ				SN	**Sn**	**19 19 11.1**	**+2.5**
HAZ	**Te Kaha**	**5.31**	**213**	PN	**Pn**	**19 18 16.2**	**+2.3**
HAZ				SN	**Sn**	**19 19 18.5**	**+4.6**
CNGZ	**Carnagh Statio**	**5.76**	**206**	PN	**Pn**	**19 18 20.0**	**-0.1**
MWZ	**Matawai**	**5.90**	**211**	PN	**Pn**	**19 18 21.8**	**-0.3**
MWZ				SN	**Sn**	**19 19 29.1**	**+0.6**
URZ	**Urewera**	**6.03**	**214**	Pn	**Pn**	**19 18 23.3**	**-0.5**
	5.3nm,0.3s,baz=63,slow=4.2,SNR=29						
URZ				Sn	**Sn**	**19 19 32.5**	**+0.9**
	6.7nm,0.3s,baz=330,slow=19,SNR=6.3						
URZ	**Urewera**	**6.03**	**214**	PN	**Pn**	**19 18 22.2**	**-1.6**
URZ				SN	**Sn**	**19 19 31.5**	**0.0**
RAGZ	**Rawiri**	**6.09**	**211**	PN	**Pn**	**19 18 24.4**	**-0.2**
RAGZ				SN	**Sn**	**19 19 33.2**	**+0.2**
RIGZ	**Rimuhau**	**6.12**	**208**	PN	**Pn**	**19 18 23.8**	**-1.3**
SNGZ	**Shannon Statio**	**6.36**	**210**	PN	**Pn**	**19 18 28.2**	**-0.1**
KNZ	**Kokohu**	**6.43**	**207**	PN	**Pn**	**19 18 27.0**	**-2.3**
KNZ				SN	**Sn**	**19 19 38.5**	**-2.7**
MHGZ	**Mahia Peninsul**	**6.46**	**205**	PN	**Pn**	**19 18 29.9**	**+0.2**
TOZ	**Tahuroa Road**	**6.52**	**226**	PN	**Pn**	**19 18 32.2**	**+1.7**
WHHZ	**Waihua**	**6.65**	**209**	PN	**Pn**	**19 18 32.5**	**+0.2**
OUZ	**Omahuta**	**6.75**	**252**	PN	**Pn**	**19 18 33.5**	**-0.1**
ARHZ	**Aropaoanui**	**6.91**	**210**	PN	**Pn**	**19 18 36.5**	**+0.7**
BKZ	**Black Stump Fm**	**7.05**	**213**	PN	**Pn**	**19 18 36.4**	**-1.4**
FWVZ	**Far West T-bar**	**7.57**	**217**	PN	**Pn**	**19 18 43.7**	**-1.4**
BFZ	**Birch Farm**	**8.41**	**208**	SN	**Sn**	**19 20 24.6**	**-5.5**
TCW	**Tory Channel**	**9.70**	**214**	PN	Pn	19 19 09.4	-4.7
THZ	**Tophouse**	**10.79**	**216**	SN	Sn	19 21 19.8	-8.5
STKA	**Stephens Creek**	**33.44**	**261**	LR	LR	19 35 28.5	
	comp=Z,246nm,19.0s,baz=183,slow=34						
ASAR	**Alice Springs**	**42.55**	**270**	P	**P**	**19 24 47.5**	**-1.2**
	2.9nm,0.7s,baz=109,slow=7.5,SNR=44						
ASAR				PcP	**PcP**	**19 26 41.2**	**+0.6**
	0.6nm,1.0s,baz=122,slow=5.0,SNR=2.6						
WRA	**Warramunga Arr**	**43.80**	**276**	P	**P**	**19 24 57.2**	**-1.6**
	5.1nm,0.8s,baz=116,slow=7.8,SNR=19						
WRA				PcP	**PcP**	**19 26 44.4**	**-0.4**
	0.4nm,0.8s,baz=122,slow=3.1,SNR=2.5						
MJAR	**Matsushiro Arr**	**80.38**	**326**	P	**P**	**19 29 04.1**	**+0.4**
	0.3nm,0.4s,baz=170,slow=4.6,SNR=4.1						
PLCA	**Paso Flores**	**80.87**	**133**	P	P	19 29 11.8	+5.2
	3.2nm,1.1s,baz=257,slow=14,SNR=3.0						
KSRS	**Korea Array**	**86.27**	**320**	P	**P**	**19 29 33.5**	**-0.4**
	0.7nm,0.7s,baz=144,slow=5.1,SNR=3.4						
ARCES	**ARCESS Array B**	**141.34**	**347**	PKP	**PKPdf**	**19 36 21.6**	**-0.4**
	1.7nm,0.9s,baz=340,slow=1.4,SNR=4.8						
FINES	**FINESS Array B**	**147.71**	**338**	PKPbc	**PKPab**	**19 36 36.4**	**-2.1**
	5.2nm,0.6s,baz=99,slow=2.5,SNR=23						
NB2	**NORSAR Subarra**	**151.56**	**350**	PKP	**PKPbc**	**19 36 46.4**	**+0.8**
	comp=Z,1.9nm,0.6s,baz=16,slow=2.6						
NOA	**NORSAR Array B**	**151.56**	**350**	PKPbc	**PKPbc**	**19 36 46.7**	**+1.1**
	comp=Z,2.2nm,0.7s,baz=13,slow=4.1,SNR=9.6						
MMAI	**Mount Meron Ar**	**151.63**	**279**	PKPbc	**PKPbc**	**19 36 47.5**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=75,slow=6.1,SNR=5.3						
HFS	**Hagfors**	**152.00**	**347**	PKPbc	**PKPbc**	**19 36 46.7**	**+0.1**
	comp=Z,4.0nm,0.7s,baz=169,slow=1.5,SNR=8.0						
AKASG	**Malin Array Be**	**153.26**	**319**	PKPbc	**PKPbc**	**19 36 50.1**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=59,slow=2.1,SNR=5.0						
BRTR	**Keskin Array B**	**153.44**	**293**	PKPbc	**PKPbc**	**19 36 50.5**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=148,slow=5.2,SNR=4.7						
BRTR				PKPab	**PKPab**	**19 37 03.8**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=119,slow=3.7,SNR=6.0						
TORD	**Torodi Ar. Bea**	**159.90**	**181**	PKPab	**PKPab**	**19 37 33.8**	**+2.8**
	comp=Z,0.9nm,0.8s,baz=170,slow=4.3,SNR=4.0						

*IDC **09** 19:26:18.3±1.2,27.°92S×176.°37W,h0km,mb3.8/4, mb1 4.1/5,mb1mx3.8/19,mbtmp3.9/5,ML4.2/1,Error ellipse: s-maj=31.3km s-min=25.2km az=106.0*

ISC 09 19:26:23.7±1.2,28.°0S±0.°2×176.°4W±0.°2,h37km,n10, σ1§40/10,mb3.8/4,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.88**	**226**	Pn	**Pn**	**19 26 51.9**	**-1.4**
	63nm,0.3s,baz=72,slow=20,SNR=2.2						
RAO				Sn	**Sn**	**19 27 17.9**	**+2.1**
	232nm,0.3s,baz=77,slow=22,SNR=6.1						
URZ	**Urewera**	**11.64**	**206**	Sn	Sn	19 31 06.0	-10
	0.4nm,0.3s,baz=41,slow=19,SNR=4.2						
RPZ	**Rata Peaks**	**18.71**	**209**	P	**P**	**19 30 37.3**	**-1.6**
	0.7nm,0.3s,baz=117,slow=4.5,SNR=4.1						
ASAR	**Alice Springs**	**44.73**	**264**	P	**P**	**19 34 33.9**	**+0.3**
	0.6nm,0.5s,baz=100,slow=7.1,SNR=21						
WRA	**Warramunga Arr**	**45.51**	**269**	P	**P**	**19 34 39.7**	**-0.1**
	0.7nm,0.4s,baz=109,slow=7.9,SNR=21						
QSPA	**South Pole Qui**	**62.15**	**180**	P	**P**	**19 36 41.7**	**+0.7**
	2.3nm,0.9s,baz=5.6,slow=1.3,SNR=9.6						
MJAR	**Matsushiro Arr**	**77.08**	**324**	P	**P**	**19 38 12.8**	**-0.3**
	0.4nm,0.5s,baz=160,slow=7.5,SNR=3.8						
ARCES	**ARCESS Array B**	**136.49**	**349**	PKP	**PKPdf**	**19 45 42.6**	**+1.9**
	1.3nm,0.8s,baz=11,slow=1.8,SNR=3.8						
AKASG	**Malin Array Be**	**150.14**	**327**	PKPbc	**PKPbc**	**19 46 09.6**	**-0.6**
	0.3nm,0.4s,baz=48,slow=3.3,SNR=6.1						
TORD	**Torodi Ar. Bea**	**165.16**	**173**	PKPab	**PKPab**	**19 47 21.6**	**0.0**
	1.0nm,0.8s,baz=191,slow=4.0,SNR=6.2						

MAN 09 19:33:18,11.°33N×125.°41E,h32km,mb4.3,ML3.1,MS2.9, 1D,Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.27**	**6**	*e*P	Pn	19 33 27.0	+1.2
PLP	**Palo**	**0.45**	**249**	⇓*e*P	Pn	19 33 29.0	+0.8
PLP				*e*S	Sn	19 33 36.7	+1.4
OCLP	**Ormoc**	**0.83**	**251**	*e*P	Pb	19 33 34.5	+0.5
OCLP				*e*S	Sb	19 33 45.8	+0.9
MSLP	**Maasin**	**1.30**	**205**	*e*P	Pn	19 33 40.8	+0.8

*IDC **09** 19:41:23.2±1.7,34.°74S×179.°85W,h0km,mb3.9/3, mb1 4.1/4,mb1mx3.8/18,mbtmp3.9/4,ML3.5/1,Error ellipse: s-maj=45.3km s-min=30.7km az=54.0*
*ISCJB **09** 19:41:27.9±1.8,34.°90S±0.°09×179.°9E±0.°3,h33km, mb3.9/3,Error ellipse: s-maj=34.6km s-min=12.8km az=2.1*

ISC 09 19:41:29.4±1.5,34.°9S±0.°1×179.°9E±0.°2,h35km,n17, σ1§29/19,mb4.0/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**3.14**	**202**	PN	**Pn**	**19 42 17.2**	**+0.9**
HAZ	**Te Kaha**	**3.31**	**211**	PN	**Pn**	**19 42 20.5**	**+1.8**
PUZ	**Puketiti**	**3.42**	**202**	PN	**Pn**	**19 42 20.4**	**+0.2**
PUZ				SN	**Sn**	**19 43 00.8**	**+1.3**
TWGZ	**Tauwhareparae**	**3.60**	**205**	PN	**Pn**	**19 42 23.2**	**+0.5**
CNGZ	**Carnagh Statio**	**3.81**	**201**	PN	**Pn**	**19 42 26.1**	**+0.5**
MWZ	**Matawai**	**3.91**	**209**	PN	**Pn**	**19 42 27.7**	**+0.7**
URZ	**Urewera**	**4.03**	**213**	Pn	**Pn**	**19 42 28.8**	**+0.3**
	2.4nm,0.3s,baz=16,slow=7.1,SNR=13						
URZ				Sn	**Sn**	**19 43 11.3**	**-3.1**
	2.8nm,0.3s,baz=97,slow=17,SNR=4.5						
URZ	**Urewera**	**4.03**	**213**	PN	**Pn**	**19 42 29.4**	**+0.9**
RAGZ	**Rawiri**	**4.09**	**209**	PN	**Pn**	**19 42 30.0**	**+0.5**
SNGZ	**Shannon Statio**	**4.37**	**207**	PN	**Pn**	**19 42 34.0**	**+0.6**
KNZ	**Kokohu**	**4.47**	**203**	*e*PN	**Pn**	**19 42 33.0**	**-1.6**
BKZ	**Black Stump Fm**	**5.04**	**212**	PN	**Pn**	**19 42 43.0**	**+0.4**
ASAR	**Alice Springs**	**41.34**	**273**	P	**P**	**19 49 12.9**	**+0.9**
	1.9nm,0.5s,baz=114,slow=8.0,SNR=58						
WRA	**Warramunga Arr**	**42.74**	**278**	P	**P**	**19 49 23.5**	**0.0**
	0.7nm,0.6s,baz=120,slow=7.7,SNR=11						
QSPA	**South Pole Qui**	**55.20**	**180**	P	**P**	**19 50 59.6**	**+1.1**
	1.6nm,1.1s,baz=29,slow=19,SNR=4.7						
FINES	**FINESS Array B**	**148.66**	**336**	PKPbc	**PKPbc**	**20 01 10.6**	**-1.4**
	1.5nm,0.9s,baz=58,slow=5.2,SNR=3.1						
TORD	**Torodi Ar. Bea**	**158.26**	**185**	PKPab	**PKPab**	**20 01 56.0**	**-1.3**
	0.2nm,0.7s,baz=176,slow=4.3,SNR=2.5						

*ISCJB **09** 19:49:41.9±0.6,32.°23N±0.°04×115.°26W±0.°06,h14km±7km, Error ellipse: s-maj=9.6km s-min=5.6km az=153.0*
*MEX **09** 19:49:43.5±0.5,32.°28N×115.°13W,h20km±13km,MD3.6*
*ECX **09** 19:49:43.2±0.7,32.°24N×115.°29W,h5km,MD2.8,ML3.0*

ISC 09 19:49:41.4±1.0,32.°22N±0.°03×115.°26W±0.°04,h15km±8km, n16,σ0§30/25,2C-3D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.20**	**16**	*e*P	**Pb**	**19 49 47.2**	**+0.4**
MBIG				*i* S	**Sg**	**19 49 49.4**	**+0.2**
CPBX	**Cerro Prieto**	**0.20**	**350**	*e*P	**Pg**	**19 49 45.8**	**-0.4**
CPBX				*e*S	**Sg**	**19 49 49.5**	**+0.2**
CPBX				AML	AML	19 49 51.3	
	comp=N,11μm,0.2s						
CPBX				*e*		19 49 51.3	
CPBX				⇑*e*		19 49 54.0	
CPBX				AML	AML	19 49 54.0	
	comp=E,11μm,0.2s						
SGL	**Mount Signal**	**0.58**	**318**	*e*P2	**Pg**	**19 49 53.1**	**+0.3**
RDX	**Rancho Dawling**	**0.64**	**244**	*e*P	**Pb**	**19 49 54.7**	**+0.3**
RDX				*e*S	**Sg**	**19 50 03.2**	**+0.5**
RDX				AML	AML	19 50 03.9	
	comp=N,478nm,0.3s						
RDX				*e*		19 50 03.9	
COA	**Coachella**	**0.66**	**10**	⇓*i*P	**Pb**	**19 49 54.7**	**+0.2**
WESC	**Westside Schoo**	**0.67**	**324**	*e*P	**Pb**	**19 49 54.9**	**+0.1**
YUH	**Yuha Desert**	**0.70**	**308**	⇑*i*P	**Pg**	**19 49 55.0**	**-0.1**
ECBX	**El Chinero**	**0.76**	**166**	*e*P9	**Pg**	**19 49 56.0**	**-0.3**
ECBX				*e*S	**Sb**	**19 50 06.8**	**+0.3**
RMX	**La Rumorosa**	**0.79**	**299**	*e*P9	**Pg**	**19 49 56.6**	**-0.2**
RMX				*e*S	**Sg**	**19 50 07.0**	**-0.3**
RMX				⇓*e*		19 50 08.6	
RMX				AML	AML	19 50 08.6	
	comp=N,924nm,0.2s						
ZAX	**El Zacaton**	**1.11**	**231**	*e*P	**Pn**	**19 50 02.7**	**+0.3**
ZAX				*e*S	**Sg**	**19 50 17.8**	**+0.4**
SPIG	**San Pedro Mart**	**1.18**	**188**	*e*P	**Pn**	**19 50 03.3**	**-0.4**
SPIG				*i* S	**Sb**	**19 50 18.5**	**-0.4**
SPX	**San Pedro Mart**	**1.18**	**188**	*e*P	**Pb**	**19 50 04.0**	**+0.3**
CBX	**Cerro Bola**	**1.19**	**275**	*e*P	**Pn**	**19 50 03.5**	**-0.2**
CBX				*i* S	**Sb**	**19 50 18.8**	**-0.2**
CBX	**Cerro Bola**	**1.19**	**275**	*e*P	**Pn**	**19 50 03.4**	**-0.2**
CBX				*e*S	**Sn**	**19 50 19.5**	**-0.1**
CBX				AML	AML	19 50 21.4	
	comp=N,265nm,0.3s						
CBX				⇓*e*		19 50 21.4	
ECNX	**Esteban Cantu**	**1.26**	**244**	*e*P	**Pb**	**19 50 05.0**	**0.0**
BAR	**Barrett**	**1.28**	**292**	*e*P	**Pn**	**19 50 04.6**	**-0.1**

*IDC **09** 19:52:44.0±1.3,3.°77S×149.°97E,h0km,mb4.0/8, mb1 4.2/8,mb1mx3.9/18,mbtmp3.9/8,MS3.6/10, Ms1 3.6/10,ms1mx3.4/35,Error ellipse: s-maj=46.2km s-min=20.6km az=119.0*
*ISCJB **09** 19:52:47.4±1.1,3.°8S±0.°1×149.°9E±0.°2,h33km,mb4.0/10, MS3.8/10,Error ellipse: s-maj=37.3km s-min=14.5km az=25.6*
*NEIC **09** 19:52:49.1±1.0,3.°87S×149.°92E,h35km,mb4.4/2,Error ellipse: s-maj=36.3km s-min=13.6km az=116.0*

ISC 09 19:52:49.0±1.4,3.°9S±0.°2×149.°9E±0.°3,h35km,n23, σ1§12/11,mb4.0/10,MS3.7/10,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**9.30**	**278**	LR	LR	19 58 04.8	
	comp=Z,378nm,19.0s,baz=200,slow=34						
WRAB	**Tennant Creek**	**22.03**	**222**	*e*P	**P**	**19 57 39.3**	**-1.4**
	28nm,1.1s						
WRA	**Warramunga Arr**	**22.04**	**222**	P	**P**	**19 57 41.3**	**+0.4**
	1.9nm,0.8s,baz=47,slow=11,SNR=14						
ASAR	**Alice Springs**	**25.03**	**217**	P	**P**	**19 58 11.8**	**+1.8**
	3.5nm,0.9s,baz=49,slow=8.1,SNR=22						
ASAR				LR	LR	20 08 54.7	
	comp=Z,176nm,18.9s,baz=42,slow=39						
H11S3	**WAKE ISLAND Hy**	**27.70**	**36**	T	T	20 27 40.5	
	baz=220						
H11S2	**WAKE ISLAND Hy**	**27.70**	**36**	T	T	20 27 37.6	
	baz=220						
H11S1	**WAKE ISLAND Hy**	**27.71**	**36**	T	T	20 27 36.5	
	baz=220						
MJAR	**Matsushiro Arr**	**41.67**	**346**	LR	LR	20 15 04.2	
	comp=Z,56nm,20.7s,baz=160,slow=32						
URZ	**Urewera**	**42.26**	**148**	LR	LR	20 15 34.8	
	comp=Z,143nm,19.0s,baz=296,slow=32						
RPZ	**Rata Peaks**	**43.86**	**158**	LR	LR	20 18 11.8	
	comp=Z,168nm,19.9s,baz=307,slow=35						
KSRS	**Korea Array**	**45.93**	**335**	LR	LR	20 18 27.3	
	comp=Z,31nm,22.0s,baz=165,slow=34						
CMAR	**Chiang Mai Arr**	**54.89**	**296**	P	**P**	**20 02 16.5**	**-0.2**
	1.5nm,0.8s,baz=124,slow=5.6,SNR=13						
PETK	**Petropavlovsk-**	**57.15**

2.0nm,0.3s,baz=75,slow=18,SNR=9.2
ASAR Alice Springs 42.81 270 P P 20 10 30.3 -0.4
0.8nm,0.6s,baz=107,slow=8.4,SNR=6.6
WRA Warramunga Arr 44.01 275 P P 20 10 40.6 +0.2
0.7nm,0.3s,baz=116,slow=7.5,SNR=17
FINES FINESS Array B 147.22 339 PKPbc PKPbc 20 22 14.4 -0.9
0.8nm,0.5s,baz=63,slow=3.7,SNR=10

*ISCJB **09** 20:04:09.8±0.6,3˚.36N±0˚.05×95˚.75E±0˚.07,h38km,*
mb3.6/10,MS3.5/1,Error ellipse: s-maj=11.4km
s-min=5.7km az=156.9
*DJA **09** 20:04:10.1±0.6,3˚N±3˚×9˚6E±˚,h10km,M4.0/6,mb4.1/2,*
mB4.8/1,MLv3.9/6,Mw(mB)4.0/1
*IDC **09** 20:04:11.7±1.1,3.49N×95.96E,h41km±7km,mb3.5/10,*
mb1 3.6/11,mb1mx3.4/26,mbtmp3.6/11,ML3.4/1,MS3.5/1,
Ms1 3.4/1,ms1mx2.6/30,Error ellipse: s-maj=40.2km
s-min=18.3km az=53.0
ISC 09 20:04:11.3±0.7,3˚37N±0˚.06×95˚78E±0˚.09,h38km,n20,
σ1§06/24,mb3.5/10,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SNSI	**Sinabang, Aceh**	**1.10**	**150**	P		**Pn**	**20 04 31.5**	**+1.3**
BSI	**Banda Aceh**	**2.17**	**347**	P		**Pn**	**20 04 45.5**	**+0.7**
BSI				S		**Sn**	**20 05 10.2**	**-0.2**
LHMI	**Lhok Sumawe**	**2.18**	**32**	P		**Pn**	**20 04 46.2**	**+1.2**
LHMI				S		**Sn**	**20 05 10.4**	**-0.4**
GSI	**Gunungsitoli**	**2.73**	**139**	P		**Pn**	**20 04 53.3**	**+0.8**
GSI				S		**Sn**	**20 05 22.9**	**-1.4**
PSI	**Prapat**	**3.19**	**100**	P		**Pn**	**20 05 00.9**	**+1.9**
	1.0nm,0.3s,baz=236,slow=9.6,SNR=3.5							
CMAR	**Chiang Mai Arr**	**15.31**	**11**	P		**Pn**	**20 07 44.7**	**0.0**
	0.1nm,0.3s,baz=199,slow=13,SNR=2.7							
H01W3	**Cape Leeuwin H**	**41.78**	**157**	T		T	20 55 42.0	
	baz=333,slow=76,SNR=4.0							
H01W2	**Cape Leeuwin H**	**41.79**	**157**	T		T	20 55 41.5	
	baz=333,slow=76,SNR=3.4							
H01W1	**Cape Leeuwin H**	**41.80**	**157**	T		T	20 55 44.2	
	baz=333,slow=76,SNR=3.6							
WRA	**Warramunga Arr**	**44.39**	**123**	P		**P**	**20 12 18.2**	**-0.3**
	0.4nm,0.5s,baz=300,slow=9.3,SNR=4.8							
MKAR	**Makanchi Array**	**44.81**	**347**	P		**P**	**20 12 20.4**	**-1.1**
	0.2nm,0.4s,baz=178,slow=6.6,SNR=6.2							
SONM	**Songino Array**	**45.23**	**10**	P		**P**	**20 12 24.3**	**-0.6**
	0.5nm,0.7s,baz=186,slow=8.7,SNR=7.5							
SONM				pP		**pP**	**20 12 35.5**	**-0.5**
	0.4nm,0.8s,baz=190,slow=6.9,SNR=3.6							
ASAR	**Alice Springs**	**45.83**	**128**	P		**P**	**20 12 29.8**	**-0.2**
	0.3nm,0.6s,baz=297,slow=8.1,SNR=4.9							
ASAR				PcP		**PcP**	**20 14 05.0**	**-2.1**
	0.3nm,0.6s,baz=307,slow=1.5,SNR=4.8							
GEYT	**Alibeck**	**48.65**	**320**	P		**P**	**20 12 52.3**	**+0.6**
	1.0nm,0.6s,baz=134,slow=8.5,SNR=5.2							
ZALV	**Zalesovo Beam**	**51.21**	**352**	P		**P**	**20 13 09.8**	**-1.0**
	1.0nm,0.6s,baz=188,slow=6.0,SNR=7.9							
ZALV				pP		**pP**	**20 13 21.1**	**-0.9**
	0.6nm,0.6s,baz=181,slow=9.3,SNR=2.9							
STKA	**Stephens Creek**	**55.86**	**133**	LR		LR	20 39 56.4	
	comp=Z,42nm,18.9s,baz=204,slow=38							
BRTR	**Keskin Array B**	**66.61**	**312**	P		**P**	**20 14 58.6**	**+0.4**
	0.3nm,0.6s,baz=90,slow=8.6,SNR=2.3							
FINES	**FINESS Array B**	**77.43**	**333**	P		**P**	**20 16 01.9**	**-0.4**
	1.1nm,0.9s,baz=115,slow=16,SNR=2.5							
ARCES	**ARCESS Array B**	**80.03**	**340**	P		**P**	**20 16 16.6**	**+0.1**
	2.6nm,1.1s,baz=95,slow=7.3,SNR=3.2							
ARCES				pP		**pP**	**20 16 28.3**	**+0.1**
	0.5nm,0.7s,baz=86,slow=5.5,SNR=0.9							
GERES	**GERESS Array B**	**82.26**	**319**	P		**P**	**20 16 30.2**	**+1.3**
	0.2nm,0.4s,baz=111,slow=5.4,SNR=4.7							
GERES				pP		**pP**	**20 16 42.5**	**+1.9**
	0.2nm,0.6s,baz=152,slow=4.4,SNR=1.9							

*IDC **09** 20:05:11.0±1.2,8˚.11S×118˚.09E,h0km,mb3.5/5,*
mb1 3.6/7,mb1mx3.4/43,mbtmp3.5/7,ML3.6/2,Error
ellipse: s-maj=42.0km s-min=18.4km az=62.0
*DJA **09** 20:05:14.7±0.4,8˚S±2˚×11˚8E±˚,h12km±3km,M4.0/15,*
MLv4.0/15
*ISCJB **09** 20:05:15.8±0.5,8.03S±0˚.04×118˚.13E±0˚.04,h33km,*
mb3.6/5,Error ellipse: s-maj=6.2km s-min=5.0km
az=159.8
ISC 09 20:05:17.0±0.8,8˚07S±0˚.04×118˚16E±0˚.05,h35km,n20,
σ1§63/23,mb3.6/5,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WBSI	**Waikabubak, Su**	**1.98**	**142**	P		**Pn**	**20 05 48.2**	**+0.2**
WBSI				S		**Sn**	**20 06 14.3**	**+2.7**
WSI	**Waingapu**	**2.64**	**127**	P		**Pn**	**20 05 57.3**	**+0.2**
WSI				S		**Sn**	**20 06 30.6**	**+2.7**
SRBI	**Singaraja**	**2.92**	**270**	P		**Pn**	**20 06 00.7**	**-0.3**
BSSI	**Bau Bau, Buton**	**3.00**	**50**	P		**Pn**	**20 06 02.2**	**+0.2**
IGBI	**Denpasar**	**3.08**	**256**	P		**Pn**	**20 06 03.6**	**+0.5**
IGBI				S		Sn	20 06 50.3	+12
BASI	**Baing, Sumba**	**3.20**	**132**	S		**Sn**	**20 06 44.5**	**+2.8**
BKSI	**Bulukumba**	**3.35**	**36**	P		**Pn**	**20 06 06.8**	**-0.1**
BKSI				S		**Sn**	**20 06 45.9**	**+0.4**
KAPI	**Kappang**	**3.42**	**28**	Pn		**Pn**	**20 06 07.8**	**0.0**
	8.0nm,0.3s,baz=185,slow=3.7,SNR=34							
KAPI				Sn		**Sn**	**20 06 47.8**	**+0.6**
	21nm,0.3s,baz=30,slow=22,SNR=21							
EDFI	**Ende, Flores**	**3.55**	**101**	P		**Pn**	**20 06 09.7**	**-0.1**
ABJI	**Asem Bagus**	**3.90**	**274**	P		**Pn**	**20 06 15.7**	**+1.3**
MMRI	**Maumere**	**4.07**	**98**	P		**Pn**	**20 06 16.3**	**-0.5**
BNSI	**Bone**	**4.12**	**28**	P		**Pn**	**20 06 19.4**	**+1.9**
SPSI	**Sidrap Palu**	**4.38**	**21**	P		Pn	20 06 25.1	+4.1
SPSI				S		**Sn**	**20 07 14.9**	**+4.0**
BLJI	**Banyuglugur**	**4.54**	**274**	P		Pn	20 06 30.1	+6.9
WRA	**Warramunga Arr**	**19.61**	**129**	P		**P**	**20 09 41.1**	**-1.4**
	0.2nm,0.3s,baz=303,slow=12,SNR=14							
ASAR	**Alice Springs**	**21.64**	**138**	P		**P**	**20 10 04.0**	**-0.4**
	3.0nm,0.6s,baz=311,slow=8.7,SNR=34							
STKA	**Stephens Creek**	**32.19**	**141**	P		**P**	**20 11 40.5**	**-1.2**
	1.2nm,0.7s,baz=302,slow=8.9,SNR=3.4							
SONM	**Songino Array**	**56.63**	**351**	P		**P**	**20 14 55.9**	**-0.7**
	0.2nm,0.4s,baz=168,slow=7.5,SNR=3.0							
MKAR	**Makanchi Array**	**63.26**	**333**	P		**P**	**20 15 42.8**	**+0.8**
	0.1nm,0.6s,baz=131,slow=6.3,SNR=2.5							
ZALV	**Zalesovo Beam**	**67.88**	**339**	P		**P**	**20 16 09.8**	**-1.9**
	0.2nm,0.4s,baz=160,slow=6.0,SNR=3.9							

IDC 09 20:15:49.7±2.0,50˚36N×88˚95E,h0km,mb1 2.7/3,
mb1mx2.6/57,mbtmp2.7/3,ML2.3/3,Error ellipse:
s-maj=27.8km s-min=23.1km az=142.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZALV	**Zalesovo Beam**	**4.41**	**326**	Pn		Pn	20 16 58.2	+0.4
	0.2nm,0.3s,baz=139,slow=13,SNR=3.1							
ZALV				Pg		Pb	20 17 09.7	+1.7
	0.5nm,0.3s,baz=140,slow=15,SNR=7.4							
ZALV				Lg		Lg	20 18 18.9	
	1.0nm,0.3s,baz=137,slow=26,SNR=9.9							
MKAR	**Makanchi Array**	**5.68**	**234**	Pn		Pn	20 17 16.5	+1.2
	0.1nm,0.3s,baz=53,slow=16,SNR=11							
MKAR				Lg		Lg	20 18 56.0	
	0.2nm,0.3s,baz=65,slow=21,SNR=2.8							
TLY	**Talaya**	**9.36**	**76**	Sn		Sn	20 19 41.4	-10
	0.0nm,0.3s,baz=252,slow=20,SNR=4.1							
SONM	**Songino Array**	**11.71**	**96**	Pn		Pn	20 18 38.4	+0.3
	0.0nm,0.3s,baz=295,slow=15,SNR=2.6							
SONM				Sn		Sn	20 20 49.9	+0.3
	0.1nm,0.3s,baz=290,slow=26,SNR=4.4							

KRSC 09 20:25:07.9±2.3,49˚44N×156˚63E,h99km±40km,ML4.0,
Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKR	**Severo-Kuril's**	**1.28**	**345**	*eP*		Pn	20 25 31.8	+0.3
SKR				*eS*		Sn	20 25 49.5	+0.3
PAU	**Pauzhetka**	**2.03**	**3**	*eP*		Pn	20 25 42.0	+1.2
PAU				*eS*		Sn	20 26 08.0	+2.1
MIPR	**Malaya Ipel'ka**	**2.84**	**2**	*eP*		Pn	20 25 51.1	-0.4
ASAK	**Asacha**	**3.05**	**15**	*eP*		Pn	20 25 57.1	+2.7
MTVR	**Mutnovka**	**3.20**	**17**	*eP*		Pn	20 25 59.6	+3.2
MTVR				*eS*		Sn	20 26 37.5	+3.6
RUS	**Russkaya**	**3.22**	**21**	*eP*		Pn	20 25 59.0	+2.5
RUS				*eS*		Sn	20 26 36.6	+2.6
PET	**Petropavlovsk**	**3.80**	**19**	*eS*		Sn	20 26 50.4	+2.4
UGLR	**Uglovaya**	**4.01**	**19**	*eP*		Pn	20 26 10.7	+3.3
AVH	**Avacha**	**4.05**	**18**	*eP*		Pn	20 26 10.8	+3.0
KOK	**Koryaka**	**4.05**	**17**	*eP*		Pn	20 26 11.0	+3.1
SMAR	**Somma**	**4.06**	**19**	*eP*		Pn	20 26 11.5	+3.4
KRER	**Koryakskii**	**4.09**	**18**	*eP*		Pn	20 26 11.4	+2.9
SDLR	**Sedlovina**	**4.09**	**19**	*eP*		Pn	20 26 11.1	+2.7
KRX	**Arik**	**4.12**	**17**	*eP*		Pn	20 26 11.5	+2.7
SPN	**Mys Shipunski**	**4.23**	**29**	*eP*		Pn	20 26 12.0	+1.8
GNL	**Ganaly**	**4.34**	**10**	*eP*		Pn	20 26 12.4	+0.7
MKZ	**Mys Kozlova**	**6.01**	**30**	*eP*		Pn	20 26 36.1	+1.9
BKI	**Bering**	**8.12**	**41**	*eS*		Sn	20 28 31.6	-1.3

*IDC **09** 20:40:43.1±3.4,4˚.50S×101˚.71E,h0km,mb3.4/6,*
mb1 3.5/6,mb1mx3.3/23,mbtmp3.4/6,MS3.5/1,Ms1 3.5/1,
ms1mx2.6/23,Error ellipse: s-maj=152.8km s-min=20.0km
az=56.0
*ISCJB **09** 20:40:46.9±1.6,4˚.59S±0˚.07×101˚.69E±0˚.09,h46km±14km,*
mb3.5/6,MS3.5/1,Error ellipse: s-maj=16.8km
s-min=9.2km az=146.8
*DJA **09** 20:40:47.4±0.8,5˚S±3˚×10˚2E±˚,h10km,M3.8/8,MLv3.8/8*
ISC 09 20:40:48.6±1.2,4˚.6S±0˚.1×101˚.7E±0˚.2,h39km±11km,n21,
σ0§76/28,mb3.5/6,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MNAI	**Manna**	**1.22**	**81**	P		**Pn**	**20 41 08.6**	**-0.7**
MNAI				S		**Sn**	**20 41 24.6**	**0.0**
MNAI	**Manna**	**1.22**	**81**	P		**Pn**	**20 41 07.7**	**-1.6**
MNAI				S		**Sn**	**20 41 24.7**	**+0.1**
MASI	**Maura Aman, Be**	**1.49**	**19**	P		**Pn**	**20 41 12.4**	**-0.5**
MASI				S		**Sn**	**20 41 30.8**	**-0.3**
MASI	**Maura Aman, Be**	**1.49**	**19**	P		**Pn**	**20 41 13.3**	**+0.4**
MASI				S		**Sn**	**20 41 32.3**	**+1.2**
LHSI	**Lahat**	**1.92**	**68**	P		**Pn**	**20 41 18.2**	**-0.6**
LHSI	**Lahat**	**1.92**	**68**	P		**Pn**	**20 41 18.2**	**-0.6**
LHSI				S		**Sn**	**20 41 43.1**	**+1.4**
LWLI	**Liwa**	**2.35**	**101**	P		**Pn**	**20 41 25.5**	**+0.6**
LWLI	**Liwa**	**2.35**	**101**	P		**Pn**	**20 41 25.3**	**+0.4**
MDSI	**Maura Dua**	**2.43**	**89**	P		**Pn**	**20 41 26.1**	**+0.3**
MDSI				S		**Sn**	**20 41 55.0**	**+0.7**
MDSI	**Maura Dua**	**2.43**	**89**	P		**Pn**	**20 41 26.2**	**+0.4**
KASI	**Kota Agung**	**2.91**	**110**	P		**Pn**	**20 41 32.7**	**+0.3**
KASI				S		**Sn**	**20 42 05.3**	**-0.8**
KASI	**Kota Agung**	**2.91**	**110**	P		**Pn**	**20 41 32.9**	**+0.5**
KASI				S		**Sn**	**20 42 05.4**	**-0.7**
CGJI	**Cibinong**	**4.43**	**118**	P		**Pn**	**20 41 53.1**	**-0.3**
WRA	**Warramunga Arr**	**35.23**	**119**	P		**P**	**20 47 39.2**	**-0.5**
	0.1nm,0.3s,baz=302,slow=11,SNR=7.6							
ASAR	**Alice Springs**	**36.37**	**125**	P		**P**	**20 47 50.0**	**+0.6**
	0.2nm,0.6s,baz=300,slow=7.5,SNR=3.9							
STKA	**Stephens Creek**	**46.17**	**131**	P		**P**	**20 49 10.3**	**+0.6**
	1.1nm,0.7s,baz=328,slow=9.7,SNR=3.2							
SONM	**Songino Array**	**52.33**	**4**	P		**P**	**20 49 56.6**	**0.0**
	0.2nm,0.6s,baz=183,slow=12,SNR=2.8							
MKAR	**Makanchi Array**	**53.95**	**344**	P		**P**	**20 50 08.1**	**-0.3**
	0.3nm,0.5s,baz=154,slow=6.6,SNR=9.3							
USRK	**Ussuriysk Ar.**	**55.62**	**26**	LR		LR	21 15 41.6	
	comp=Z,42nm,19.0s,baz=129,slow=38							
ZALV	**Zalesovo Beam**	**59.99**	**349**	P		**P**	**20 50 49.7**	**-1.3**
	0.4nm,0.5s,baz=151,slow=6.6,SNR=2.6							
TXAR	**Lajitas Array**	**145.56**	**41**	PKPbc		**PKPab**	**21 00 24.7**	**+0.8**
	0.5nm,0.6s,baz=284,slow=0.7,SNR=8.8							

*ISCJB **09** 20:44:10.2±0.7,32˚.09N±0˚.03×115˚.03W±0˚.04,h13km±5km,*
Error ellipse: s-maj=5.6km s-min=5.2km az=146.2
*NEIC **09** 20:44:11.7,32˚.05N×115˚.04W,h16km,ML3.1(PAS),*
ML3.5(ECX),After ECX.
*ECX **09** 20:44:11.8±0.3,32˚.07N×115˚.07W,h8km,MD3.2,ML3.4*
*MEX **09** 20:44:13.1±1.0,32˚.20N×115˚.02W,h16km±27km,MD3.5*
ISC 09 20:44:10.2±1.2,32˚08N±0˚.03×115˚05W±0˚.03,
h15km±10km,n19,σ0§71/27,6C-6D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MBIG	**Mexicali**	**0.35**	**339**	*eP*		**Pg**	**20 44 18.4**	**+0.3**
MBIG				*eS*		**Sg**	**20 44 21.0**	**-1.2**
CPBX	**Cerro Prieto**	**0.40**	**327**	*eP*		**Pg**	**20 44 19.0**	**+0.7**
CPBX				*eS*		**Sb**	**20 44 24.8**	**-0.2**
CPBX				AML		AML	20 44 27.4	
	comp=N,13μm,0.1s							
CPBX				⇓*e*			20 44 27.4	
ECBX	**El Chinero**	**0.61**	**180**	⇑*eP*		**Pb**	**20 44 22.4**	**-0.1**
ECBX				*eS*		**Sb**	**20 44 30.7**	**-0.1**
YMD	**Yuma Desert**	**0.64**	**42**	⇑*iP*		**Pg**	**20 44 23.4**	**+0.7**
EMSC	**East Mesa**	**0.66**	**5**	⇑*iP*		**Pg**	**20 44 23.7**	**+0.6**
RDX	**Rancho Dawling**	**0.78**	**259**	⇑*eP*		**Pb**	**20 44 25.1**	**-0.3**
RDX				*eS*		**Sb**	**20 44 35.6**	**-0.3**
RDX				⇓*e*			20 44 37.1	
RDX				AML		AML	20 44 37.1	
	comp=N,1μm,0.3s							
COA	**Coachella**	**0.78**	**355**	*eP2*		**Pg**	**20 44 25.4**	**0.0**
SGL	**Mount Signal**	**0.81**	**315**	⇓*iP*		**Pb**	**20 44 25.4**	**-0.5**
RMX	**La Rumorosa**	**1.02**	**301**	*eP*		**Pb**	**20 44 29.2**	**-0.4**
RMX				AML		AML	20 44 42.7	
	comp=N,718nm,0.1s							
RMX				⇓*e*			20 44 42.7	
SPX	**San Pedro Mart**	**1.09**	**199**	*eP*		**Pb**	**20 44 31.3**	**+0.3**
SPX				*i* S		**Sn**	**20 44 46.4**	**+0.1**
SPX	**San Pedro Mart**	**1.09**	**199**	⇑*eP*		**Pb**	**20 44 30.7**	**-0.2**
SPX				AML		AML	20 44 47.4	
	comp=N,480nm,0.5s							
SPX				⇓*e*			20 44 47.4	
ZAX	**El Zacaton**	**1.19**	**242**	⇓*eP*		**Pn**	**20 44 31.8**	**-0.5**
CBX	**Cerro Bola**	**1.39**	**280**	*eP*		**Pn**	**20 44 34.7**	**-0.5**
CBX	**Cerro Bola**	**1.39**	**280**	*eP*		**Pn**	**20 44 34.7**	**-0.5**
CBX	**Cerro Bola**	**1.39**	**280**	AML		AML	20 44 54.5	
	comp=E,1μm,0.2s							
CBX				⇑*e*			20 44 54.5	
BAR	**Barrett**	**1.50**	**294**	*ePn*		**Pn**	**20 44 35.8**	**-0.8**
BAR				*ePg*		**Pg**	**20 44 40.8**	**+1.8**
BAR				*eSn*		**Sn**	**20 44 55.8**	**-0.1**
214A	**Organ Pipe Nat**	**1.90**	**93**	*ePn*		**Pn**	**20 44 41.0**	**-1.2**
214A				*eSn*		**Sn**	**20 45 06.8**	**+0.8**
PFO	**Pinyon Flats O**	**1.93**	**323**	Pn		**Pn**	**20 44 43.7**	**+1.0**
PFO				*eSn*		**Sb**	**20 45 09.2**	**0.0**
TUC	**Tucson**	**3.62**	**85**	*ePn*		**Pn**	**20 45 06.0**	**+0.2**

*IDC **09** 20:46:16.4±3.6,17˚.98N×103˚.64W,h0km,mb3.5/5,*
mb1 3.8/7,mb1mx3.7/24,mbtmp3.5/7,ML3.5/2,MS3.3/3,
Ms1 3.3/3,ms1mx2.7/21,Error ellipse: s-maj=84.2km
s-min=29.4km az=31.0
*ISCJB **09** 20:46:25.5±0.6,18˚.42N±0˚.06×103˚.15W±0˚.04,h58km±6km,*
mb3.5/5,MS3.1/2,Error ellipse: s-maj=10.8km
s-min=5.0km az=29.9
*MEX **09** 20:46:28.3±0.9,18˚.50N×103˚.02W,h5km±20km,MD4.3*
ISC 09 20:46:26.4±0.9,18˚41N±0˚.07×103˚18W±0˚.05,h53km±9km,
n20,σ1§00/23,mb3.5/5,Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MMIG	**Aquila**	**0.20**	**232**	*i* P		**Pn**	**20 46 34.6**	**-0.5**
MMIG				*i* S		**Sn**	**20 46 41.1**	**-0.2**
R15V		**1.07**	**315**	*eP*		**Pn**	**20 46 44.6**	**-0.6**
R15V				*eS*		**Sn**	**20 46 59.6**	**+0.3**
EZ5V		**1.14**	**340**	*i* P		**Pn**	**20 46 46.0**	**-0.3**
EZ5V				*i* S		**Sn**	**20 47 01.2**	**+0.1**
ZIIG	**Zihuatanejo**	**1.82**	**116**	*eP*		**Pn**	**20 46 54.9**	**-0.4**
ZIIG				*i* S		**Sn**	**20 47 16.8**	**-0.5**
SFJM	**Santa Fe**	**2.07**	**4**	*eP*		Pn	20 46 55.1	-3.8
MOIG	**Morelia**	**2.27**	**56**	*eP*		**Pn**	**20 47 01.7**	**0.0**
MOIG				*i* S		**Sn**	**20 47 26.4**	**-2.3**
ARIG	**Puente Sto Nin**	**2.70**	**92**	*eP*		**Pn**	**20 47 08.0**	**+0.6**
ARIG				*i* S		**Sn**	**20 47 37.9**	**-0.9**
CAIG	**El Cayaco**	**3.09**	**116**	*eP*		**Pn**	**20 47 12.9**	**+0.1**
CAIG				*i* S		**Sn**	**20 47 48.3**	**-0.2**
PLIG	**Platanillo**	**3.50**	**90**	*eP*		**Pn**	**20 47 18.5**	**+0.1**
PLIG				*eS*		**Sn**	**20 47 57.9**	**-0.7**
ACX	**Acapulco**	**3.52**	**115**	*eP*		Pn	20 47 08.9	-10
H06E1	**SOCORRO T-PHAS**	**7.35**	**274**	T		T	20 55 25.7	
	SNR=30							
H06S1	**SOCORRO T**	**7.38**	**274**	T		T	20 55 19.3	
CMIG	**Matias Romero**	**8.02**	**98**	Pn		**Pn**	**20 48 21.6**	**+1.3**
	0.3nm,0.3s,baz=240,slow=20,SNR=3.1							
CMIG				Sn		Sn	20 49 55.8	+6.2
	0.3nm,0.3s,baz=329,slow=5.9,SNR=2.7							
CMIG				Lg		Lg	20 50 36.0	
	0.7nm,0.3s,baz=137,slow=17,SNR=3.9							
TXAR	**Lajitas Array**	**10.88**	**358**	Pn		**Pn**	**20 49 01.6**	**+1.9**
	0.1nm,0.3s,baz=179,slow=14,SNR=25							
TXAR				Lg		Lg	20 52 00.2	
	0.0nm,0.3s,baz=187,slow=31,SNR=3.6							
TXAR				LR		LR	20 53 33.9	
	comp=Z,136nm,18.2s,baz=0.0,slow=39							
ELK	**Elko**	**24.56**	**338**	LR		LR	21 02 50.5	
	comp=Z,48nm,18.2s,baz=5.0,slow=40							
PDAR	**Pinedale Array**	**24.88**	**349**	P		**P**	**20 51 45.4**	**+1.0**
	0.6nm,0.8s,baz=154,slow=8.1,SNR=4.5							
PDAR				LR		LR	21 02 25.7	
	comp=Z,84nm,18.5s,baz=212,slow=38							
YKA	**Yellowknife Ar**	**44.76**	**352**	P		**P**	**20 54 33.1**	**-1.2**
	0.1nm,0.4s,baz=157,slow=7.3,SNR=3.7							
ILAR	**Eielson Array**	**54.71**	**339**	P		**P**	**20 55 49.0**	**-1.1**
	0.8nm,1.0s,baz=139,slow=4.9,SNR=7.3							
EKA	**Eskdalemuir Ar**	**80.61**	**35**	P		**P**	**20 58 32.6**	**-0.7**
	0.3nm,0.5s,baz=300,slow=6.0,SNR=4.8							
ARCES	**ARCESS Array B**	**85.12**	**16**	P		**P**	**20 58 57.5**	**+1.1**
	1.4nm,0.8s,baz=316,slow=3.3,SNR=4.1							

IDC 09 20:56:21.5±5.1,4˚30N×94˚30E,h0km,mb3.3/2,mb1 3.4/4,
mb1mx3.2/50,mbtmp3.3/4,ML3.6/2,Error ellipse:
s-maj=113.1km s-min=37.1km az=43.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PSI	**Prapat**	**4.85**	**108**	Pn		Pn	20 57 36.4	+0.4
	1.7nm,0.3s,baz=287,slow=13,SNR=8.0							
PSI				Sn		Sn	20 58 29.4	-3.6
	0.8nm,0.3s,baz=253,slow=13,SNR=5.4							
CMAR	**Chiang Mai Arr**	**14.79**	**18**	Pn		Pn	20 59 51.9	-0.3
	0.1nm,0.3s,baz=205,slow=15,SNR=2.8							
H01W3	**Cape Leeuwin H**	**43.21**	**156**	T		T	21 50 14.8	
	baz=330							
H01W2	**Cape Leeuwin H**	**43.23**	**156**	T		T	21 50 14.2	
	baz=330							
H01W1	**Cape Leeuwin H**	**43.23**	**156**	T		T	21 50 16.3	
	baz=330							
MKAR	**Makanchi Array**	**43.59**	**348**	P		P	21 04 27.3	-0.2
	0.3nm,0.4s,baz=162,slow=8.3,SNR=6.6							
SONM	**Songino Array**	**44.60**	**12**	P		P	21 04 35.7	0.0
	0.2nm,0.5s,baz=200,slow=7.7,SNR=2.5							

IDC 09 20:59:34.3±1.4,8˚49S×135˚50E,h0km,mb3.7/2,
mb1 4.0/5,mb1mx3.6/19,mbtmp3.9/5,ML3.9/3,Error ellipse: s-maj=44.3km s-min=24.1km az=85.0,Arafura Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KDU	**Kakadu**	**5.13**	**215**	P		Pn	21 00 49.8	-2.7
	baz=5.2,SNR=109							
JAY	**Jayapura**	**7.87**	**41**	Pn		Pn	21 01 30.0	-0.3
	0.7nm,0.3s,baz=235,slow=11,SNR=4.4							
JAY				Sn		Sn	21 02 54.2	-6.0
	0.4nm,0.3s,baz=281,slow=19,SNR=2.0							
KNRA	**Kununurra**	**9.72**	**222**	P		Pn	21 01 48.5	-7.1
	baz=9.6,SNR=21							
WRA	**Warramunga Arr**	**11.44**	**186**	Pn		Pn	21 02 18.4	-0.8
	1.0nm,0.3s,baz=7.5,slow=13,SNR=51							
WRA				Sn		Sn	21 04 22.6	-5.3
	1.0nm,0.3s,baz=8.7,slow=24,SNR=6.8							
QIS	**Mount Isa**	**12.63**	**162**	P		Pn	21 02 41.7	+6.2
	baz=14,SNR=5.6							
QIS				S		Sn	21 05 04.4	+7.3
	baz=14,SNR=4.2							
ASAR	**Alice Springs**	**15.17**	**186**	Pn		Pn	21 03 08.9	-1.2
	1.1nm,0.3s,baz=8.1,slow=11,SNR=60							
ASAR				Sn		Sn	21 05 55.4	-3.7
	0.2nm,0.3s,baz=2.3,slow=29,SNR=3.9							
WRKA	**Warakurna**	**17.84**	**202**	P		Pn	21 03 38.2	-6.0
	baz=18,SNR=

K21A	Alcova	1.80	232	⇓Pb		Pn	21 06 05.4	+0.6
	baz=1.8,SNR=81							
I26A	New Underwood	1.80	80	⇑Pb		Pn	21 06 05.5	+0.9
	baz=1.8,SNR=56							
L25A	Engebretsen Ra	1.88	148	⇓Pb		Pn	21 06 07.2	+1.4
	baz=1.9,SNR=13							
K26A	Motz Farm, Whi	1.89	123	⇓Pb		Pn	21 06 06.8	+0.9
	baz=1.9,SNR=12							
L22A	Ellis Ranch, M	1.91	206	⇑Pb		Pn	21 06 07.2	+1.0
	baz=1.9,SNR=45							
F23A	Volborg	1.97	358	⇑P		Pn	21 06 07.7	+0.7
	baz=1.9,SNR=248							
G25A	Newell	1.98	43	⇓Pb		Pb	21 06 08.6	-0.6
	baz=2.0,SNR=9.9							
G21A	Lodge Grass	2.00	318	⇑P		Pb	21 06 08.3	-1.2
	baz=2.0,SNR=40							
H26A	Fairpoint	2.03	64	Pb		Pb	21 06 09.5	-0.5
	baz=2.0,SNR=66							
I20A	Worland	2.04	276	⇑P		Pb	21 06 09.2	-1.1
	baz=2.0,SNR=304							
J20A	Shoshoni	2.05	260	Pb		Pb	21 06 10.5	+0.1
	baz=2.0,SNR=449							
H20A	Greybull	2.06	292	⇓P		Pn	21 06 09.0	+0.8
	baz=2.0,SNR=44							
F22A	Rosebud	2.13	342	P		Pn	21 06 09.5	+0.3
	baz=2.1,SNR=94							
F24A	Ekalaka	2.18	16	⇓P		Pn	21 06 11.1	+1.2
	baz=2.2,SNR=69							
M23A	Laramie	2.30	187	⇓P		Pn	21 06 13.1	+1.4
	baz=2.3,SNR=19							
M24A	Cheyenne	2.31	171	⇓P		Pn	21 06 13.3	+1.5
	baz=2.4,SNR=140							
I27A	Quinn	2.38	81	⇓P		Pn	21 06 14.1	+1.4
	baz=2.4,SNR=15							
F21A	Absaloka Mine,	2.43	329	⇑P		Pn	21 06 13.1	-0.2
	baz=2.4,SNR=20							
PHWY	Pilot Hill	2.45	182	ePn		Pn	21 06 14.6	+0.8
PHWY				eSn		Sn	21 06 46.0	+1.4
J27A	Elkhorn Farm,	2.46	101	⇓P		Pn	21 06 15.6	+1.9
	baz=2.5,SNR=18							
G26A	Maurine	2.48	51	⇑P		Pn	21 06 15.5	+1.5
	baz=2.5,SNR=30							
H27A	Howes	2.49	68	⇓P		Pn	21 06 15.7	+1.6
	baz=2.5,SNR=9.7							
M22A	Cedar Creek Ra	2.53	202	P		Pn	21 06 16.9	+2.1
	baz=2.6,SNR=126							
G20A	Bridger	2.54	306	P		Pn	21 06 15.0	+0.2
	baz=2.5,SNR=245							
F25A	Bowman	2.54	31	⇑P		Pn	21 06 16.5	+1.7
	baz=2.5,SNR=7.1							
I19A	Meeteetse	2.67	277	P		Pn	21 06 18.5	+1.8
	baz=2.6,SNR=49							
E22A	Miles City	2.72	351	⇓P		Pn	21 06 17.3	0.0
	baz=2.7,SNR=20							
J19A	Crowheart	2.76	261	P		Pb	21 06 20.1	-2.4
	baz=2.7,SNR=103							
H19A	Powell	2.79	290	P		Pn	21 06 19.7	+1.5
	baz=2.8,SNR=20							
F20A	Billings	2.87	316	P		Pn	21 06 19.6	+0.3
	baz=2.8,SNR=29							
N23A	Red Feather La	2.89	189	ePn		Pn	21 06 21.2	+1.5
N23A				eSn		Sn	21 06 53.6	-1.8
N23A	Red Feather La	2.89	189	⇓P		Pn	21 06 21.3	+1.5
	baz=2.9,SNR=37							
E24A	Baker	2.90	14	⇓P		Pn	21 06 21.2	+1.5
	baz=2.9,SNR=20							
LAO	LASA Array	3.00	348	ePn		Pn	21 06 20.6	-0.5
LAO				ePg		Pg	21 06 30.7	+0.9
E21A	Keefer Ranch,	3.05	337	⇑P		Pn	21 06 21.9	+0.1
	baz=3.0							
PDAR	Pinedale Array	3.25	254	Pn		Pn	21 06 25.4	+0.7
	4.7nm,0.3s,baz=71,slow=19,SNR=56							
PDAR				Lg		Lg	21 07 09.3	
	7.9nm,0.3s,baz=64,slow=20,SNR=5.7							
H18A	Shoshone NF, C	3.25	288	⇑P		Pn	21 06 25.8	+1.0
	baz=3.2,SNR=17							
F19A	Roth Farm, Mol	3.32	310	P		Pn	21 06 26.6	+1.0
	baz=3.3,SNR=184							
D23A	Lindsay	3.42	1	⇓P		Pn	21 06 28.4	+1.5
	baz=3.4,SNR=42							
D24A	Glendive	3.43	11	⇓P		Pn	21 06 28.7	+1.7
	baz=3.4,SNR=9.2							
D22A	Cohagen	3.45	350	P		Pn	21 06 27.8	+0.5
	baz=3.4,SNR=40							
N20A	Spence Gulch,	3.64	218	P		Pn	21 06 31.8	+1.7
	baz=3.7,SNR=12							
E19A	Rath Farm, Rou	3.65	319	⇑P		Pn	21 06 30.1	+0.1
	baz=3.6,SNR=28							
O22A	Kremmling	3.70	195	⇑P		Pn	21 06 33.5	+2.5
	baz=3.7,SNR=6.7							
C24A	Savage	3.83	9	⇑P		Pn	21 06 34.3	+1.8
	baz=3.8,SNR=15							
LOHW	Long Hollow	3.83	270	ePn		Pn	21 06 33.0	+0.3
H17A	Grant Village	3.84	281	ePn		Pn	21 06 30.6	-2.2
FLWY	Flagg Ranch	3.90	277	ePn		Pn	21 06 34.0	+0.4
MOOW	Moose Ponds	3.93	272	ePn		Pn	21 06 33.6	-0.4
ISCO	Idaho Springs	3.96	183	ePn		Pn	21 06 36.1	+1.7
ISCO	Idaho Springs	3.96	183	P		Pn	21 06 36.0	+1.5
	baz=4.0,SNR=9.7							
C22A	Vida	4.01	355	P		Pn	21 06 36.6	+1.7
	baz=4.0,SNR=27							
YFT	Old Faithful	4.03	282	ePn		Pn	21 06 35.7	+0.3
YFT				ePg		Pg	21 06 48.9	-0.7
REDW	Red Top Meadow	4.04	266	ePn		Pn	21 06 36.1	+0.6
C23A	Lambert	4.05	1	⇑P		Pn	21 06 37.2	+1.7
	baz=4.0,SNR=53							
IMW	Indian Meadow	4.07	274	ePn		Pn	21 06 37.3	+1.4
TPAW	Teton Pass	4.09	268	ePn		Pn	21 06 38.5	+2.1
FXWY	Fox Creek	4.14	270	ePn		Pn	21 06 38.4	+1.5
YMR	Madison River	4.16	285	ePn		Pn	21 06 37.3	+0.1
AHID	Auburn Hatcher	4.33	259	ePn		Pn	21 06 39.5	-0.1
P26A	Davis Ranch, A	4.44	160	⇑P		Pn	21 06 42.2	+1.1
	baz=4.5,SNR=9.9							
QLMT	Earthquake Lak	4.51	286	ePn		Pn	21 06 39.1	-2.9
QLMT				ePg		Pb	21 06 54.7	+2.3
P27A	Ficken Ranch,	4.67	153	⇑P		Pn	21 06 44.7	+0.5
	baz=4.7,SNR=11							
SMCO	Snowmass	4.74	196	ePn		Pn	21 06 46.0	+0.8
C19A	Slack Wire Ran	4.76	328	⇑P		Pn	21 06 46.1	+0.8
	baz=4.7,SNR=9.3							
B25A	Knox Farm, Ray	4.76	18	⇓P		Pn	21 06 46.6	+1.3
	baz=4.7,SNR=6.5							
DGMT	Dagmar	4.78	9	ePn		Pn	21 06 46.9	+1.3
Q24A	Divide	4.79	178	ePn		Pn	21 06 46.2	+0.3
Q24A				eSb		Sg	21 08 03.2	-2.9
HWUT	Hardware Ranch	5.08	247	ePn		Pn	21 06 50.9	+1.1
KSCO	Kaye Shedlock'	5.15	156	ePn		Pn	21 06 50.8	0.0
KSCO				ePg		Pg	21 07 10.3	-0.7
A24A	Westby	5.25	10	⇓P		Pn	21 06 53.9	+1.9
	baz=5.2,SNR=6.9							
DLMT	Dillon	5.44	290	ePn		Pn	21 06 52.7	-2.0
DLMT				ePg		Pg	21 07 12.2	-4.2
HRY	Holter Researc	5.46	305	ePn		Pn	21 06 54.7	-0.3
LRM	Limekiln Ridge	5.48	295	ePn		Pn	21 06 54.8	-0.6
JLU	Jordanelle	5.54	237	ePn		Pn	21 06 54.9	-1.3
JLU				ePg		Pg	21 07 18.4	+0.1
R26A	Arlington	5.63	165	⇑P		Pn	21 06 57.8	+0.5
	baz=5.7,SNR=12							
HVU	Hansel Valley	5.83	253	ePn		Pn	21 07 02.3	+2.2
MPU	Maple Canyon	6.01	234	ePn		Pn	21 07 02.0	-0.6
SRU	San Rafael Swe	6.07	222	ePn		Pn	21 07 04.8	+1.5
S22A	4UR Ranch, Cre	6.11	191	ePn		Pn	21 07 00.8	-3.2
S22A				eSg		Sg	21 08 54.0	+5.5
TMUT	Trail Mountain	6.27	227	ePn		Pn	21 07 08.5	+2.2
S26A	Kim	6.29	166	⇓P		Pn	21 07 06.6	+0.3
	baz=6.3,SNR=7.7							
ECSD	EROS Data Cent	6.31	87	ePn		Pn	21 07 07.3	+0.8
ECSD				eSb		Sg	21 08 51.6	-3.2
BGU	Big Grassy Mou	6.37	246	ePn		Pn	21 07 07.5	0.0
CHMT	Chamberlain Mo	6.42	302	ePn		Pn	21 07 09.4	+1.2
HLID	Hailey	6.60	271	ePn		Pn	21 07 11.0	+0.4
DUG	Dugway, Tooele	6.62	240	⇓P		Pn	21 07 12.4	+1.6
	baz=6.6,SNR=11							
T25A	Trinidad	6.64	174	ePn		Pn	21 07 13.6	+2.3
T25A				eSb		Sg	21 09 03.4	-2.2
SLMT	Seeley Lake	6.72	304	ePn		Pn	21 07 12.9	+0.6
SWMT	Swartz Lake	7.15	305	ePn		Pn	21 07 19.2	+1.1
YBMT	Yellow Bay	7.33	307	ePn		Pn	21 07 22.6	+1.9
AGMN	Agassiz Nation	8.00	52	ePn		Pn	21 07 35.8	+6.1
ULM	Lac du Bonnet	9.15	41	Pn		Pn	21 07 44.1	-1.4
	1.0nm,0.3s,baz=230,slow=11,SNR=8.8							
ULM				Lg		Lg	21 10 11.1	
	0.2nm,0.3s,baz=156,slow=20,SNR=1.9							
ULM	Lac du Bonnet	9.15	41	ePn		Pn	21 07 45.6	+0.1
ULM				Lg		Lg	21 10 11.1	

I56US	NEWPORT INFRAS	9.37	303	*i*			22 01 00.0	
	baz=115,slow=325,SNR=1.2							
FFC	Flin Flon	11.20	10	ePn		Pn	21 08 12.2	-1.3
YKA	Yellowknife Ar	19.54	347	P		P	21 09 59.5	-1.6
	0.1nm,0.3s,baz=152,slow=13,SNR=5.6							
ARCES	ARCESS Array B	61.41	18	P		P	21 15 48.4	-1.3
	0.6nm,0.6s,baz=338,slow=8.7,SNR=3.5							

MEX 09 21:08:22.8±0.6, 15°.84N×96°.29W, h17km±126km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.19	112	*i* P	Pg	21 08 26.7	-0.8
HUIG				*i* S	Sg	21 08 29.8	-0.8
VHO	Vista Hermosa	1.30	341	*e*P	Pn	21 08 42.7	-3.8
VHO				*i* S	Sn	21 08 58.0	-5.7
PNIG	Pinotepa	1.85	288	*e*P	Pn	21 08 50.4	-3.5
PNIG				*i* S	Sn	21 09 12.4	-4.5
TLIG	Tlapa	2.78	308	*e*P	Pn	21 09 06.9	+0.2

*IDC **09** 21:10:53.3±1.5, 35°.48S×107°.48W, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.8/26, mbtmp3.9/5, MS3.8/7, Ms1 3.8/7, ms1mx3.5/15, Error ellipse: s-maj=47.3km s-min=35.2km az=159.0*

ISC 09 21:10:54.7±1.8, 35°.5S±0°.4×107°.5W±0°.3, h10km, n15, σ0s88/7, mb4.0/5, MS4.1/7, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	29.35	111	LR	LR	21 25 11.7	
	comp=Z,105nm,21.1s,baz=183,slow=29						
LPAZ	La Paz	39.89	72	P	P	21 18 29.8	+0.1
	1.4nm,0.6s,baz=254,slow=6.8,SNR=6.9						
LPAZ				LR	LR	21 31 27.3	
	comp=Z,35nm,19.4s,baz=262,slow=31						
CPUP	Villa Florida	43.57	92	LR	LR	21 33 40.4	
	comp=Z,333nm,20.1s,baz=210,slow=31						
ROSC	El Rosal	50.79	45	P	P	21 19 55.4	-0.4
	1.9nm,0.4s,baz=90,slow=19,SNR=4.1						
ROSC				LR	LR	21 37 57.6	
	comp=Z,38nm,18.2s,baz=260,slow=32						
TXAR	Lajitas Array	64.60	4	P	P	21 21 33.1	+0.8
	0.2nm,0.8s,baz=189,slow=11,SNR=2.7						
NVAR	Mina Array Bea	74.26	351	P	P	21 22 31.5	-0.5
	0.4nm,0.3s,baz=187,slow=7.5,SNR=4.6						
PDAR	Pinedale Array	77.93	358	P	P	21 22 53.0	+0.2
	1.3nm,0.8s,baz=138,slow=5.0,SNR=11						
STKA	Stephens Creek	86.80	233	LR	LR	21 55 28.2	
	comp=Z,114nm,18.3s,baz=202,slow=31						
ASAR	Alice Springs	97.34	234	LR	LR	22 02 24.5	
	comp=Z,74nm,18.5s,baz=144,slow=32						
WRA	Warramunga Arr	99.59	237	LR	LR	22 04 48.9	
	comp=Z,67nm,20.7s,baz=180,slow=32						
H01W1	Cape Leeuwin H	99.91	214	T	T	23 17 08.8	
	baz=144,slow=75,SNR=7.6						
H01W2	Cape Leeuwin H	99.91	214	T	T	23 17 06.5	
	baz=144,slow=75,SNR=7.1						
H01W3	Cape Leeuwin H	99.92	214	T	T	23 17 05.7	
	baz=144,slow=75,SNR=7.7						
CMAR	Chiang Mai Arr	151.12	241	PKPbc	PKPbc	21 30 49.4	+0.8
	0.9nm,0.8s,baz=197,slow=2.1,SNR=8.6						
SONM	Songino Array	152.11	307	PKPbc	PKPbc	21 30 49.0	-1.2
	0.7nm,0.8s,baz=122,slow=1.9,SNR=5.9						

*IDC **09** 21:19:55.6±1.6, 0°.50N×123°.15E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/38, mbtmp3.5/4, MS3.1/1, Ms1 3.1/1, ms1mx2.4/25, Error ellipse: s-maj=195.4km s-min=24.1km az=61.0*

*ISCJB **09** 21:20:21.6±1.1, 0°.4N±0°.1×123°.7E±0°.1, h264km, mb3.1/4, Error ellipse: s-maj=22.4km s-min=10.2km az=32.6*

*DJA **09** 21:20:26.4±1.1, 1°.1N±.8°×12°.4E±°, h10km, M3.6/3, MLv3.6/3*

ISC 09 21:20:22.7±1.2, 0°.4N±0°.2×123°.6E±0°.1, h264km, n8, σ1s71/10, mb3.2/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	1.69	211	P	Pn	21 21 04.1	+0.3
LUWI				S	S	21 21 34.8	-1.5
MRSI	Marisa	1.70	272	P	Pn	21 21 03.6	-0.3
MRSI				S	S	21 21 34.2	-2.2
SANI	Sanana	3.39	136	P	Pn	21 21 20.0	-0.3
SANI				S	S	21 22 03.1	-3.0
WRA	Warramunga Arr	22.78	153	P	P	21 25 03.4	+0.5
	0.7nm,0.5s,baz=330,slow=10,SNR=18						
ASAR	Alice Springs	25.93	158	P	P	21 25 32.8	+1.5
	0.1nm,0.3s,baz=332,slow=8.3,SNR=4.3						
STKA	Stephens Creek	36.33	154	P	P	21 27 03.2	+1.4
	2.7nm,1.0s,baz=315,slow=10.0,SNR=3.0						
USRK	Ussuriysk Ar.	44.23	9	LR	LR	21 49 47.7	
	comp=Z,19nm,18.4s,baz=174,slow=40						
MKAR	Makanchi Array	58.60	328	P	P	21 29 52.3	0.0
	0.2nm,0.4s,baz=130,slow=6.9,SNR=5.5						

*ISCJB **09** 21:30:59.4±0.4, 39°.90N±0°.04×54°.62E±0°.04, h10km, mb3.3/2, Error ellipse: s-maj=5.8km s-min=3.4km az=28.2*

*IDC **09** 21:30:59.1±1.9, 39°.55N×54°.44E, h0km, mb3.4/3, mb1 3.6/6, mb1mx3.3/40, mbtmp3.5/6, ML3.3/3, Error ellipse: s-maj=33.9km s-min=18.3km az=9.0*

*CSEM **09** 21:31:01.9±0.3, 39°.81N×54°.72E, h10km, ML3.8, Error ellipse: s-maj=9.4km s-min=6.9km az=31.0*

*TEH **09** 21:31:02.2, 39°.85N×54°.59E, h10km, ML3.8*

*NNC **09** 21:31:09.2±6.7, 40°.36N×55°.51E, h0km, mb3.7, Error ellipse: s-maj=59.8km s-min=32.4km az=46.0*

*AZER **09** 21:31:11.4±1.0, 39°.54N×53°.82E, h10km, Error ellipse: s-maj=9.0km s-min=7.3km az=2.0*

ISC 09 21:31:00.9±0.6, 39°.82N±0°.05×54°.66E±0°.03, h10km, n71, σ1s78/81, 15C-16D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEYT	Alibeck	3.29	124	Pn	Pn	21 31 53.2	+0.7
	4.0nm,0.3s,baz=313,slow=16,SNR=95						
GEYT				Sn	Sn	21 32 27.7	-4.2
	7.3nm,0.3s,baz=303,slow=7.9,SNR=9.2						
ISHV	Shirvan	3.30	133	ePn	Pn	21 31 54.3	+1.5
ISHV				*e*		21 32 37.9	
	comp=Z,1μm,0.1s						
IGLO	Ghaloghah	3.38	191	ePn	Pn	21 31 53.4	-0.5
IGLO				*e*		21 32 33.3	
	comp=Z,1μm,0.1s						
GALA	Gala	3.50	281	⇑S	Sn	21 32 36.9	0.0
GALA	Gala	3.50	281	S	Sn	21 32 36.9	0.0
ISFR	Sfrayin	3.81	135	ePn	Pn	21 32 01.4	+1.5
ISFR				*e*		21 32 46.8	
	comp=Z,1μm,0.1s						
IALA	Alasht	4.01	202	ePn	Pn	21 32 02.8	+0.2
IALA				*e*		21 32 48.1	
	comp=Z,5μm,0.2s						
IALA	Alasht	4.01	202	ePn	Pn	21 32 02.8	+0.2
IPRN	Peran	4.01	208	ePn	Pn	21 32 01.9	-0.7
IPRN				*e*		21 32 49.9	
	comp=Z,2μm,0.1s						
ISHM	Shahmirzad	4.15	196	ePn	Pn	21 32 05.5	+0.9
ISHM				*e*		21 32 56.0	
	comp=Z,4μm,0.2s						
IKRD	Kardeh	4.29	134	ePn	Pb	21 32 15.9	-0.8
IKRD				*e*		21 33 14.5	
	comp=Z,910nm,0.1s						
IKRD	Kardeh	4.29	134	ePn	Pb	21 32 15.9	-0.8
IANJ	Anjilo	4.38	188	*e*		21 32 10.7	
	comp=Z,573nm,0.1s						
IANJ				ePn	Pn	21 32 09.1	+1.3
IANJ	Anjilo	4.38	188	ePn	Pn	21 32 09.1	+1.3
IFIR	Firoozkooh	4.44	200	ePn	Pn	21 32 10.1	+1.5
IFIR				*e*		21 32 10.9	
	comp=Z,2μm,0.1s						
IFIR	Firoozkooh	4.44	200	ePn	Pn	21 32 10.0	+1.5
ATGJ	Altiaghaj	4.49	285	⇑P	Pn	21 32 12.7	+3.6
ATGJ				⇓S	Sn	21 33 01.1	-0.5
ATGJ	Altiaghaj	4.49	285	P	Pn	21 32 12.7	+3.6
ATGJ				S	Sn	21 33 01.0	-0.5
IAKL	Akhelmad	4.55	134	*e*	Sn	21 33 08.6	+5.4
	comp=Z,616nm,0.1s						
ILAS	Lasjerd	4.63	197	ePn	Pn	21 32 12.5	+1.3
ILAS				*e*		21 32 13.4	
	comp=Z,1μm,0.2s						
ILAS				eSn	Sn	21 33 02.8	-2.3
ILAS	Lasjerd	4.63	197	ePn	Pn	21 32 12.5	+1.3
ILAS				*e*Sn	Sn	21 33 02.8	-2.3
LKRN	Lenkeran, Azer	4.70	258	⇓S	Sn	21 33 01.2	-5.1
LKRN	Lenkeran, Azer	4.70	258	S	Sn	21 33 01.2	-5.1
IDMV	Damavand	4.72	207	ePn	Pn	21 32 13.7	+1.3
IDMV				*e*		21 32 16.2	
	comp=Z,462nm,0.2s						
IDMV	Damavand	4.72	207	ePn	Pn	21 32 13.7	+1.3
PQL	Pirkuli	4.74	284	⇑P	Pn	21 32 14.9	+2.4
PQL				⇓S	Sn	21 33 06.0	-1.6
PQL	Pirkuli	4.74	284	P	Pn	21 32 14.9	+2.4
PQL				S	Sn	21 33 06.0	-1.6
IPAY	Payeh	4.80	133	ePn	Pn	21 32 14.9	+1.4
IPAY				*e*		21 33 14.7	
	comp=Z,412nm,0.1s						
IPAY	Payeh	4.80	133	ePn	Pn	21 32 14.9	+1.4
GLBA	Clilabad	4.88	265	⇑P	Pn	21 32 15.8	+1.5
	SNR=11						
GLBA				⇓S	Sn	21 33 06.6	-4.2
GLBA	Clilabad	4.88	265	P	Pn	21 32 15.8	+1.5
	SNR=11						
GLBA				S	Sn	21 33 06.6	-4.2
IGZV	Ghazvin	4.90	227	ePn	Pn	21 32 14.1	-0.7
IGZV				*e*		21 32 17.1	
	comp=Z,473nm,0.0s						
IGZV	Ghazvin	4.90	227	ePn	Pn	21 32 14.1	-0.7
QUBA	Quba, Azerbaij	4.94	290	⇓P	Pn	21 32 19.6	+4.4
QUBA				⇑S	Sn	21 33 12.2	-0.2
QUBA	Quba, Azerbaij	4.94	290	P	Pn	21 32 19.6	+4.4
QUBA				S	Sn	21 33 12.2	-0.2
KDMR	Kurdemir	5.00	278	⇓S	Sn	21 33 11.5	-2.2
KDMR	Kurdemir	5.00	278	S	Sn	21 33 11.5	-2.2
LRK	Lerik	5.04	259	⇑P	Pn	21 32 17.4	+0.6
	SNR=3.7						
LRK				⇓S	Sn	21 33 09.0	-6.2
LRK	Lerik	5.04	259	P	Pn	21 32 17.4	+0.6
	SNR=3.7						
LRK				S	Sn	21 33 09.0	-6.2
IML	Ismayilli	5.05	283	⇑P	Pn	21 32 19.6	+2.9
IML				⇑S	Sn	21 33 14.6	-0.5
IML	Ismayilli	5.05	283	P	Pn	21 32 19.6	+2.9
IML				S	Sn	21 33 14.6	-0.5
IMHD	Mahdasht	5.20	219	ePn	Pn	21 32 20.0	+1.1
IMHD				*e*		21 32 22.6	
	comp=Z,256nm,0.1s						
IMHD	Mahdasht	5.20	219	ePn	Pn	21 32 20.0	+1.1
IMOG	Moghan	5.24	134	ePn	Pn	21 32 18.5	-1.0
IMOG				*e*		21 33 21.6	
	comp=Z,188nm,0.2s						
IMOG	Moghan	5.24	134	ePn	Pn	21 32 18.5	-1.0
IVRN	Varamin	5.35	207	ePn	Pn	21 32 21.7	+0.8
IVRN				*e*		21 32 29.9	
	comp=Z,239nm,0.1s						
IVRN	Varamin	5.35	207	ePn	Pn	21 32 21.7	+0.8
IMYA	Miami	5.52	127	ePn	Pn	21 32 24.7	+1.3
IMYA				*e*		21 33 38.5	
	comp=Z,207nm,0.1s						
IMYA	Miami	5.52	127	ePn	Pn	21 32 24.7	+1.3
BRDA	Brd	5.76	277	⇓P	Pn	21 32 28.3	+1.9
BRDA				⇑S	Sn	21 33 29.5	-3.0
BRDA	Brd	5.76	277	P	Pn	21 32 28.3	+1.9
BRDA				S	Sn	21 33 29.5	-3.0
SEKA	Sheki	5.85	286	⇑P	Pn	21 32 31.0	+3.2
	SNR=5.8						
SEKA				⇑S	Sn	21 33 34.5	-0.5
SEKA	Sheki	5.85	286	P	Pn	21 32 31.0	+3.2
	SNR=5.8						
SEKA				S	Sn	21 33 34.5	-0.5
ZKTA	Zakatala	6.37	289	⇑P	Pn	21 32 38.4	+3.6
ZKTA				⇓S	Sn	21 33 47.3	-0.3
GANJ	Ganja	6.43	280	⇓P	Pn	21 32 38.3	+2.6
	SNR=5.7						
GANJ				⇑S	Sn	21 33 44.8	-4.4
GANJ	Ganja	6.43	280	P	Pn	21 32 38.3	+2.6
	SNR=5.7						
GANJ				S	Sn	21 33 44.8	-4.4
QAM	Ghamsar	6.58	204	ePn	Pn	21 32 38.1	+0.2
QAM				*e*		21 32 38.5	
	comp=Z,265nm,0.1s						
QZX	Qazax, Azerbai	7.19	283	⇓P	Pn	21 32 48.9	+2.8
	SNR=13						
QZX				⇓S	Sn	21 34 04.1	-3.8
QZX	Qazax, Azerbai	7.19	283	P	Pn	21 32 48.9	+2.8
	SNR=13						
QZX				S	Sn	21 34 04.1	-3.8
DGRG	David-gareji	7.25	286	P	Pn	21 32 48.8	+1.9
DGRG				S	Sn	21 34 06.1	-3.2
KBZ	Khabaz	9.61	298	Pn	Pn	21 33 19.0	-0.3
	comp=Z,0.1nm,0.3s,baz=233,slow=20,SNR=4.9						
KBZ				Sn	Sn	21 34 60.0	-7.3
	comp=Z,0.2nm,0.3s,baz=53,slow=20,SNR=3.2						
AB31	Akbulak array	10.16	20	⇓Pn	Pn	21 33 27.1	+0.4
	comp=Z,0.7nm,0.3s,baz=202,slow=14,SNR=39						
AB31				⇑Sn	Sn	21 35 13.2	-7.4
	comp=Z,2.3nm,0.5s,baz=198,slow=21,SNR=5.4						
AB31	Akbulak array	10.16	20	Pn	Pn	21 33 27.1	+0.4
	comp=Z,0.7nm,0.3s,SNR=39						
AB31				Sn	Sn	21 35 13.2

PETK					MLR	MLR		
	comp=Z,62nm,18.5s							
PET	**Petropavlovsk**	**4.21**	**22**	*e*S	**Sn**	**21 43 19.3 +0.2**		
PET	**Petropavlovsk**	**4.21**	**22**	*e*PN	**Pn**	**21 42 33.6 +2.4**		
PET				*e*S	**Sn**	**21 43 20.6 +1.5**		
PET				pmax	pmax			
	comp=Z,16nm,0.6s							
PET				smax	smax			
	comp=E,108nm,0.5s							
UGLR	**Uglovaya**	**4.42**	**22**	*e*P	**Pn**	**21 42 36.0 +1.8**		
UGLR				*e*S	**Sn**	**21 43 23.6 -0.9**		
AVH	**Avacha**	**4.45**	**21**	*e*P	**Pn**	**21 42 37.3 +2.7**		
AVH				*e*S	**Sn**	**21 43 27.4 +2.2**		
KOK	**Koryaka**	**4.45**	**20**	*e*P	**Pn**	**21 42 37.2 +2.6**		
KOK				*e*S	**Sn**	**21 43 27.0 +1.7**		
SMAR	**Somma**	**4.46**	**21**	*e*P	**Pn**	**21 42 37.5 +2.6**		
KRER	**Koryakskii**	**4.49**	**21**	*e*P	**Pn**	**21 42 37.4 +2.2**		
KRER				*e*S	**Sn**	**21 43 27.4 +1.1**		
SDLR	**Sedlovina**	**4.50**	**22**	*e*P	**Pn**	**21 42 36.5 +1.2**		
SDLR				*e*S	**Sn**	**21 43 26.1 -0.3**		
KRX	**Arik**	**4.52**	**20**	*e*P	**Pn**	**21 42 38.1 +2.5**		
KRX				*e*S	**Sn**	**21 43 28.7 +1.8**		
SPN	**Mys Shipunski**	**4.67**	**31**	*e*P	**Pn**	**21 42 38.3 +0.8**		
SPN				*e*S	**Sn**	**21 43 29.3 -1.2**		
SPN	**Mys Shipunski**	**4.67**	**31**	PN	**Pn**	**21 42 38.3 +0.8**		
GNL	**Ganaly**	**4.70**	**14**	*e*P	**Pn**	**21 42 40.4 +2.3**		
MKZ	**Mys Kozlova**	**6.45**	**31**	*e*P	**Pn**	**21 43 01.1 -0.8**		
MKZ				*e*S	**Sn**	**21 44 10.3 -3.9**		
MKZ	**Mys Kozlova**	**6.45**	**31**	PN	**Pn**	**21 43 01.1 -0.8**		
TUMR	**Tumrok**	**6.64**	**21**	*e*P	**Pn**	**21 43 07.1 +2.5**		
KBTR	**Krutoberegovo**	**8.17**	**27**	*e*P	**Pn**	**21 43 25.6 +0.1**		
KBTR	**Krutoberegovo**	**8.17**	**27**	PN	**Pn**	**21 43 25.6 +0.1**		
BKI	**Bering**	**8.58**	**41**	*e*P	**Pn**	**21 43 31.4 +0.3**		
BKI	**Bering**	**8.58**	**41**	PN	**Pn**	**21 43 31.4 +0.3**		
ASAJ	**Asahikawa**	**10.55**	**247**	P	**Pn**	**21 43 57.7 -0.4**		
	comp=E,0.2nm,0.3s,baz=94,slow=15,SNR=2.0							
ERM	**Erimo**	**11.52**	**237**	*e*PN	**Pn**	**21 44 12.1 +0.7**		
YAK	**Yakutsk**	**19.54**	**321**	LR	LR	21 52 57.6		
	comp=E,44nm,18.5s,baz=273,slow=35							
H11N2	**WAKE ISLAND Hy**	**30.60**	**160**	T	T	22 20 29.4		
	baz=347,slow=76,SNR=12							
H11N1	**WAKE ISLAND Hy**	**30.62**	**160**	T	T	22 20 31.2		
	baz=347,slow=76,SNR=7.2							
H11N3	**WAKE ISLAND Hy**	**30.62**	**160**	T	T	22 20 34.6		
	baz=347,slow=76,SNR=15							
H11S1	**WAKE ISLAND Hy**	**31.74**	**161**	T	T	22 21 56.5		
	baz=347,slow=76,SNR=137							
H11S3	**WAKE ISLAND Hy**	**31.75**	**161**	T	T	22 21 58.7		
	baz=347,slow=76,SNR=154							
H11S2	**WAKE ISLAND Hy**	**31.76**	**161**	T	T	22 21 57.7		
	baz=347,slow=76,SNR=96							
ILAR	**Eielson Array**	**33.43**	**41**	P	**P**	**21 48 04.8 +0.2**		
	comp=E,0.7nm,0.8s,baz=254,slow=6.5,SNR=9.4							
ILAR	**Eielson Array**	**33.43**	**41**	*e*P	**P**	**21 48 05.0 +0.4**		
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
INK	**Inuvik**	**38.55**	**34**	P	**P**	**21 48 49.0 +0.6**		
	comp=Z,0.8nm,0.6s,baz=301,slow=4.6,SNR=5.6							
INK	**Inuvik**	**38.55**	**34**	P	**P**	**21 48 49.0 +0.6**		
INK				pmax	pmax			
	comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**47.63**	**297**	LR	LR	22 10 41.4		
	comp=Z,23nm,19.0s,baz=61,slow=37							
YKA	**Yellowknife Ar**	**47.81**	**39**	P	**P**	**21 50 01.9 -1.2**		
	comp=Z,0.2nm,0.6s,baz=297,slow=7.5,SNR=3.7							
CMAR	**Chiang Mai Arr**	**54.86**	**257**	P	**P**	**21 50 56.0 -0.6**		
	comp=Z,1.8nm,0.8s,baz=34,slow=7.0,SNR=12							
CMAR	**Chiang Mai Arr**	**54.86**	**257**	*e*P	**P**	**21 50 55.9 -0.6**		
CMAR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
FINES	**FINESS Array B**	**62.71**	**336**	P	**P**	**21 51 49.9 -0.5**		
	comp=Z,0.6nm,0.7s,baz=59,slow=6.8,SNR=6.1							
FINES	**FINESS Array B**	**62.71**	**336**	*e*P	**P**	**21 51 50.5 +0.1**		
FINES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
WRA	**Warramunga Arr**	**71.45**	**202**	P	**P**	**21 52 46.0 -0.3**		
	comp=Z,0.4nm,0.9s,baz=15,slow=6.7,SNR=2.7							
WRA	**Warramunga Arr**	**71.45**	**202**	P	**P**	**21 52 46.0 -0.3**		
TXAR	**Lajitas Array**	**74.60**	**63**	P	**P**	**21 53 05.9 +0.7**		
	comp=Z,0.2nm,0.6s,baz=316,slow=5.1,SNR=2.9							
ASAR	**Alice Springs**	**75.14**	**201**	P	**P**	**21 53 09.0 +1.0**		
	comp=Z,0.4nm,0.8s,baz=6.4,slow=4.0,SNR=3.5							

*IDC **09** 21:46:35.3±1.1,5.°06N×94.°29E,h0km,mb3.7/8, mb1 3.8/10,mb1mx3.6/40,mbtmp3.7/10,ML3.9/2,MS3.0/1, Ms1 3.0/1,ms1mx2.4/32,Error ellipse: s-maj=41.4km s-min=16.4km az=47.0*

*ISCJB **09** 21:46:39.6±0.9,5.°1N±0.°1×94.°3E±0.°1,h43km,mb3.8/8, Error ellipse: s-maj=24.2km s-min=8.5km az=41.0*

ISC 09 21:46:41.5±1.0,5.°1N±0.°1×94.°3E±0.°1,h43km,n11, σ0.°50/12,mb3.8/8,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**5.13**	**116**	Pn	**Pn**	**21 47 56.5**	**+0.5**
	3.9nm,0.3s,baz=314,slow=16,SNR=6.2						
PSI				Sn	**Sn**	**21 48 53.9**	**-0.1**
	1.1nm,0.3s,baz=343,slow=20,SNR=2.4						
PSI				LR	LR	21 50 25.7	
	comp=Z,133nm,19.1s,baz=288,slow=44						
CMAR	**Chiang Mai Arr**	**14.03**	**18**	Pn	**Pn**	**21 49 58.1**	**+0.4**
	0.2nm,0.3s,baz=206,slow=15,SNR=4.1						
MKAR	**Makanchi Array**	**42.82**	**348**	P	**P**	**21 54 35.4**	**+0.1**
	0.8nm,0.6s,baz=195,slow=8.7,SNR=13						
SONM	**Songino Array**	**43.83**	**12**	P	**P**	**21 54 43.0**	**-0.5**
	0.4nm,0.7s,baz=188,slow=8.7,SNR=3.3						
GEYT	**Alibeck**	**46.40**	**320**	P	**P**	**21 55 03.9**	**-0.1**
	0.7nm,0.5s,baz=165,slow=7.7,SNR=4.1						
WRA	**Warramunga Arr**	**46.55**	**124**	P	**P**	**21 55 04.9**	**-0.4**
	1.2nm,0.7s,baz=302,slow=9.4,SNR=19						
ASAR	**Alice Springs**	**48.04**	**128**	P	**P**	**21 55 16.5**	**-0.4**
	0.4nm,0.4s,baz=301,slow=8.3,SNR=4.9						
ZALV	**Zalesovo Beam**	**49.32**	**353**	P	**P**	**21 55 25.4**	**-0.8**
	0.5nm,0.3s,baz=185,slow=9.7,SNR=5.1						
BRTR	**Keskin Array B**	**64.38**	**312**	P	**P**	**21 57 13.6**	**0.0**
	0.7nm,0.7s,baz=74,slow=4.4,SNR=3.6						
GERES	**GERESS Array B**	**80.01**	**319**	P	**P**	**21 58 47.3**	**+0.7**
	0.8nm,0.8s,baz=98,slow=5.5,SNR=7.6						
BDFB	**Brasilia**	**141.56**	**251**	PKP	**PKPdf**	**22 06 09.4**	**+0.1**
	1.3nm,0.4s,baz=143,slow=0.4,SNR=3.8						

*IDC **09** 22:07:20.8±3.4,26.°02N×103.°72E,h0km,mb3.7/8, mb1 3.8/8,mb1mx3.5/37,mbtmp3.7/8,MS3.0/4,Ms1 3.0/4, ms1mx2.6/38,Error ellipse: s-maj=70.5km s-min=42.7km az=157.0*

*ISCJB **09** 22:07:22.1±0.5,26.°13N±0.°04×103.°63E±0.°05,h10km, mb3.7/8,MS2.8/4,Error ellipse: s-maj=6.9km s-min=4.7km az=36.1*

*BJI **09** 22:07:23.5,26.°08N×103.°61E,h6km,mb3.6/3,ML3.4/9*

ISC 09 22:07:23.2±0.7,26.°04N±0.°06×103.°65E±0.°06,h10km,n17, σ1.°09/17,mb3.7/8,MS2.8/4,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**1.23**	**222**	Pg	**Pb**	**22 07 47.4**	**+0.6**
KMI				Sg	**Sn**	**22 08 05.3**	**+1.7**
KMI				SMN			
	460nm,1.1s						
KMI				SME			
	440nm,0.8s						
GYA	**Guiyang**	**2.73**	**81**	Pn	**Pn**	**22 08 08.1**	**+0.8**
GYA				Sn	**Sn**	**22 08 41.9**	**+1.4**
GYA				Sg	**Sg**	**22 08 50.9**	**-0.2**
GYA				SMN			
	210nm,0.8s						
GYA				SME			
	170nm,0.8s						
CD2	**Chengdu**	**4.85**	**1**	*e*Pn	**Pn**	**22 08 37.0**	**+0.7**
CD2				Sn	**Sn**	**22 09 33.6**	**+1.0**
CD2				Sg	**Sg**	**22 10 00.6**	**+1.6**
CD2				SMN			
	70nm,1.2s						
CD2				SME			
	90nm,1.3s						
CMAR	**Chiang Mai Arr**	**8.72**	**211**	Pn	Pn	22 09 34.9	+5.4
	baz=20,slow=11,SNR=4.7						
GTA	**Gaotai**	**13.71**	**347**	*e*P	**P**	**22 10 47.1**	**+0.5**
GTA				pP	pP	22 10 51.6	
GTA				sP		22 10 54.2	
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
SONM	**Songino Array**	**21.86**	**5**	P	**P**	**22 12 15.2**	**-0.9**
	comp=Z,1.4nm,0.9s,baz=194,slow=10,SNR=6.5						
JOW	**Kunigami**	**22.05**	**82**	LR	LR	22 21 13.8	
	comp=Z,25nm,19.7s,slow=38						
JNU	**Nakatsue**	**24.66**	**67**	LR	LR	22 22 46.0	
	comp=Z,36nm,21.6s,baz=40,slow=38						
MKAR	**Makanchi Array**	**26.76**	**326**	P	**P**	**22 13 03.6**	**+0.5**
	comp=Z,1.3nm,1.0s,baz=167,slow=7.5,SNR=9.6						
AAK	**Ala-Archa**	**29.02**	**312**	LR	LR	22 26 56.6	
	comp=Z,43nm,20.1s,baz=148,slow=40						
MJAR	**Matsushiro Arr**	**31.18**	**62**	LR	LR	22 26 41.3	
	comp=Z,21nm,18.7s,baz=225,slow=37						
ZALV	**Zalesovo Beam**	**31.18**	**338**	P	**P**	**22 13 41.1**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=128,slow=9.7,SNR=6.0						
GEYT	**Alibeck**	**40.04**	**299**	P	**P**	**22 14 58.9**	**+0.2**
	comp=Z,2.7nm,0.8s,baz=123,slow=5.5,SNR=9.2						
AKASG	**Malin Array Be**	**60.62**	**315**	P	**P**	**22 17 32.6**	**-1.6**
	comp=Z,1.3nm,0.8s,baz=69,slow=6.4,SNR=6.6						
FINES	**FINESS Array B**	**61.58**	**328**	P	**P**	**22 17 40.4**	**0.0**
	comp=Z,0.8nm,0.8s,baz=134,slow=6.0,SNR=3.0						
GERES	**GERESS Array B**	**70.83**	**316**	P	**P**	**22 18 39.2**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=70,slow=4.3,SNR=4.5						
YKA	**Yellowknife Ar**	**86.63**	**17**	P	**P**	**22 20 06.3**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=332,slow=5.3,SNR=3.2						

IDC 09 22:18:16.1±6.9,8.°17S×118.°92E,h0km,mb3.6/2, mb1 3.5/4,mb1mx3.3/33,mbtmp3.4/4,ML3.2/2,Error ellipse: s-maj=160.9km s-min=25.7km az=84.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**3.24**	**15**	Pn	Pn	22 19 09.0	+0.7
	1.7nm,0.3s,baz=150,slow=6.4,SNR=3.9						
KAPI				Sn	Sn	22 19 47.1	-0.6
	4.8nm,0.3s,baz=167,slow=21,SNR=10						
WRA	**Warramunga Arr**	**18.97**	**130**	P	P	22 22 39.4	+0.1
	0.1nm,0.3s,baz=303,slow=12,SNR=10						
ASAR	**Alice Springs**	**21.06**	**139**	P	P	22 23 02.6	+0.5
	0.4nm,0.3s,baz=314,slow=8.8,SNR=7.4						
STKA	**Stephens Creek**	**31.64**	**141**	P	P	22 24 40.6	-0.6
	2.2nm,0.9s,baz=337,slow=6.4,SNR=3.9						

*IDC **09** 22:27:46.4±2.3,6.°73S×129.°14E,h0km,mb3.3/1, mb1 3.5/3,mb1mx3.3/27,mbtmp3.3/3,ML3.4/2,Error ellipse: s-maj=146.8km s-min=32.3km az=68.0*

ISC 09 22:27:47.9±1.3,6.°8S±0.°1×129.°1E±0.°2,h10km,n8,σ1.°67/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**4.99**	**40**	P	Pg	22 29 28.3	+4.8
	baz=5.8,SNR=3.4						
FAKI				S	**Sg**	**22 30 28.2**	**+0.1**
	baz=5.8,SNR=3.2						
SOEI	**Soe**	**5.59**	**238**	P	Pn	22 29 15.8	+4.6
	baz=4.9,SNR=9.5						
SOEI				S	Sn	22 30 09.5	-6.1
	baz=4.9,SNR=4.7						
KDU	**Kakadu**	**6.75**	**150**	P	Pn	22 29 35.0	+8.0
	baz=6.4,SNR=14						
KNRA	**Kununurra**	**8.83**	**182**	P	**Pn**	**22 29 57.5**	**+1.8**
	baz=8.2,SNR=5.3						
KNRA				S	Sn	22 31 14.9	-20
	baz=8.2,SNR=6.0						
WRA	**Warramunga Arr**	**14.04**	**159**	Pn	**Pn**	**22 31 07.5**	**+0.5**
	0.2nm,0.3s,baz=342,slow=12,SNR=10.0						
WRA				Sn	Sn	22 33 29.6	-13
	0.4nm,0.3s,baz=340,slow=22,SNR=5.5						
ASAR	**Alice Springs**	**17.41**	**165**	P	**P**	**22 31 51.2**	**-1.1**
	0.2nm,0.3s,baz=343,slow=11,SNR=12						
ASAR				S	Sn	22 34 53.0	-12
	0.1nm,0.3s,baz=316,slow=18,SNR=3.5						
WRKA	**Warakurna**	**18.16**	**182**	P	**Pn**	**22 31 58.4**	**-1.9**
	baz=18,SNR=3.6						
MKAR	**Makanchi Array**	**67.55**	**327**	P	**P**	**22 38 44.7**	**+0.1**
	0.2nm,0.5s,baz=134,slow=4.2,SNR=4.1						

IGQ 09 22:48:51±0.7,3.°64S×77.°90W,h4km±164km,Mb4.2,5C-1D, Error ellipse: s-maj=10.5km s-min=3.8km az=31.3, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MACE	**Macas**	**1.41**	**348**	⇑P	Pn	22 49 17.8	0.0
MACE	**Macas**	**1.41**	**348**	⇑S	Sb	22 49 35.1	-1.5
RIOE	**Riobamba**	**2.01**	**339**	P	Pn	22 49 26.9	+0.7
PAT1	**Patacocha**	**2.19**	**346**	P	Pn	22 49 28.4	-0.4
BPAT	**Tungurahua Vol**	**2.19**	**346**	⇑P	Pn	22 49 28.4	-0.5
ARRY	**Arrayan**	**2.19**	**345**	S	Sn	22 49 54.3	-2.4
ARRY	**Arrayan**	**2.19**	**345**	P	Pn	22 49 28.8	+0.1
BMAS	**Trigal station**	**2.20**	**345**	P	Pn	22 49 28.4	-0.5
ULBA	**Ulba**	**2.23**	**347**	P	Pn	22 49 29.9	+0.5
RETU	**Refugio**	**2.24**	**346**	P	Pn	22 49 29.1	-0.6
BULB	**Ulba Tungurahu**	**2.25**	**347**	⇑P	Pn	22 49 29.9	+0.4
BBIL	**Ulba Tungurahu**	**2.25**	**345**	P	Pn	22 49 30.9	+1.4
BRUN	**Tungurahua Vol**	**2.26**	**347**	P	Pn	22 49 30.6	+0.9
RUN5	**Runtun**	**2.27**	**347**	P	Pn	22 49 30.7	+0.9
JUI6	**Juive**	**2.27**	**345**	P	Pn	22 49 28.6	-0.2
PISA	**Pisayambo**	**2.61**	**349**	P	Pn	22 49 34.1	-0.5
MOV1	**Cotopaxi Vol s**	**2.96**	**349**	P	Pn	22 49 40.7	+1.1
TAMB	**Tambo**	**2.96**	**351**	P	Pn	22 49 39.5	-0.1
BTAM	**Cotopaxi Volca**	**2.99**	**350**	P	Pn	22 49 40.5	+0.6
BREF	**Cotopaxi Volca**	**3.00**	**350**	P	Pn	22 49 40.2	0.0
CAMI	**Rancho Maria**	**3.00**	**348**	P	Pn	22 49 40.4	+0.3
BVC2	**Cotopaxi Volca**	**3.01**	**350**	⇑P	Pn	22 49 40.1	-0.1
VC1	**Cotopaxi 1**	**3.02**	**350**	P	Pn	22 49 41.6	+1.3
PITA	**Cotopaxi Volc**	**3.11**	**350**	P	Pn	22 49 42.8	+1.3
ANTI	**Antisana**	**3.18**	**355**	P	Pn	22 49 41.1	-1.5
GGP	**Refugio Guagua**	**3.51**	**349**	P	Pn	22 49 47.5	+0.3
PINO	**Pino**	**3.53**	**348**	P	Pn	22 49 47.6	+0.1
CAYA	**Cayambe**	**3.69**	**359**	P	Pn	22 49 50.6	+1.1
OTAV	**Otavalo**	**3.89**	**352**	⇓P	Pn	22 49 52.8	+0.6

DJA 09 22:49:47.3±0.7,9.°5±6.°×10.°9E±.°,h46km±16km,M3.6/8, MLv3.6/8,Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMJI	**Cimerak**	**0.82**	**350**	P	Pn	22 50 03.1	+0.5
CMJI				S	Sn	22 50 14.6	+0.9
CISI	**Cisompet, Garu**	**1.29**	**323**	P	Pn	22 50 08.7	-0.3
CISI				S	Sn	22 50 24.1	-1.1
CNJI	**Cibinong**	**1.93**	**311**	P	Pn	22 50 16.8	-0.9
CNJI				S	Sn	22 50 38.6	-2.2
UGM	**Wanagama**	**2.03**	**70**	P	Pn	22 50 19.5	+0.4
UGM				S	Sn	22 50 43.4	+0.1
PCJI	**Pacitan**	**2.59**	**81**	P	Pn	22 50 27.7	+1.0
PCJI				S	Sn	22 50 57.6	+0.6
PWJI	**Pagerwojo**	**3.23**	**80**	P	Pn	22 50 34.6	-0.9
PWJI				S	Sn	22 51 12.6	-0.2

IDC 09 22:54:01.5±6.5,9.°49N×93.°41E,h106km±56km,mb3.4/8, mb1 3.6/9,mb1mx3.2/44,mbtmp3.7/9,Error ellipse: s-maj=52.1km s-min=17.1km az=54.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**10.40**	**30**	P	Pn	22 56 29.1	+1.3
	baz=220,slow=15,SNR=5.0						
AAK	**Ala-Archa**	**36.94**	**337**	P	P	23 01 01.1	+0.5
	0.4nm,0.2s,baz=159,slow=8.3,SNR=4.7						
MKAR	**Makanchi Array**	**38.36**	**348**	P	P	23 01 10.9	-1.4
	0.2nm,0.5s,baz=188,slow=7.4,SNR=4.4						
SONM	**Songino Array**	**39.76**	**14**	P	P	23 01 23.9	-0.2
	0.4nm,0.4s,baz=210,slow=8.6,SNR=7.5						
GEYT	**Alibeck**	**42.52**	**317**	P	P	23 01 46.7	0.0
	1.0nm,0.5s,baz=138,slow=9.1,SNR=6.4						
ZALV	**Zalesovo Beam**	**44.87**	**353**	P	P	23 02 04.6	-0.6
	0.4nm,0.3s,baz=179,slow=9.3,SNR=2.8						
WRA	**Warramunga Arr**	**49.79**	**126**	P	P	23 02 43.4	-0.5
	0.7nm,0.5s,baz=304,slow=8.7,SNR=6.0						
WRA				PcP	PcP	23 04 04.6	+1.3
	0.5nm,0.8s,baz=325,slow=2.9,SNR=3.6						
ASAR	**Alice Springs**	**51.51**	**130**	P	P	23 02 56.0	-0.9
	0.3nm,0.5s,baz=302,slow=6.8,SNR=5.7						
INK	**Inuvik**	**95.64**	**16**	P	P	23 07 15.3	+0.5
	0.3nm,0.4s,baz=239,slow=2.1,SNR=3.2						

MEX 09 22:56:27.5±1.2,18.°52N×103.°01W,h10km,MD3.7,Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.40**	**234**	*i* P	Pg	22 56 34.7	-0.7
MMIG				*i* S	Sg	22 56 41.0	+0.4
EZ5V		**1.10**	**329**	*i* P	Pb	22 56 46.2	-2.9
EZ5V				*e*S	Sg	22 56 60.0	-3.8
R15V		**1.13**	**305**	*e*P	Pb	22 56 44.8	-4.4
R15V				*e*S	Sb	22 56 57.0	-6.9
ARIG	**Puente Sto Nin**	**2.54**	**95**	*e*P	Pn	22 57 05.2	-3.6
ARIG				*e*S	Sn	22 57 41.5	+1.6

*ISCJB **09** 23:05:24.8±1.7,33.°97S±0.°03×72.°32W±0.°05,h27km±12km, mb4.5/25,MS3.9/9,Error ellipse: s-maj=6.8km s-min=4.9km az=11.5*

*NEIC **09** 23:05:25.0,34.°02S×72.°20W,h31km,mb4.7/15, ML4.6(GUC),After GUC.*

NEIC Felt [IV] at Pichilemu; [III] at Paredones and in Maipo; [II] at Rancagua, San Fernando and Santiago. Also felt at Curico and Quilpue.

*GUC **09** 23:05:25.9±0.7,34.°02S×72.°22W,h31km±7km,ML4.6*

*IDC **09** 23:05:26.2±0.5,33.°94S×72.°19W,h23km±3km,mb4.2/13, mb1 4.3/17,mb1mx4.2/28,mbtmp4.3/17,ML4.0/4,MS4.1/12, Ms1 4.1/12,ms1mx3.8/21,Error ellipse: s-maj=20.6km s-min=11.9km az=89.0*

*BJI **09** 23:05:27.5,33.°90S×72.°10W,h34km,mB4.9/4,Ms5.2/4, Ms7 4.7/4*

ISC 09 23:05:26.4±0.5,33.°96S±0.°04×72.°18W±0.°05,h27km±3km, h27km:pP-P,n77,σ1.°19/98,mb4.6/25,MS4.0/9,4C-3D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**1.04**	**261**	*e*P	**Pb**	**23 05 45.2**	**-0.5**
IHA				*i* S	**Sb**	**23 06 00.4**	**+1.5**
TACH	**Talagante**	**1.08**	**74**	*e*P	**Pn**	**23 05 45.4**	**-0.4**
RCDM	**Rinconada Maip**	**1.24**	**68**	*e*P	**Pn**	**23 05 48.0**	**0.0**
RCDM				*e*S	**Sb**	**23 06 05.0**	**+0.3**
NICH	**Los Niches**	**1.30**	**143**	*e*P	**Pn**	**23 05 48.0**	**-0.7**
NICH				*e*S	**Sn**	**23 06 05.7**	**+0.4**
SAN	**Santiago**	**1.36**	**69**	*e*P	**Pb**	**23 05 50.7**	**-0.6**
SAN				*e*S	**Sb**	**23 06 08.8**	**+0.5**
PCH	**Pirque**	**1.43**	**77**	*e*P	**Pn**	**23 05 51.5**	**+0.9**
PCH				*i* S	**Sb**	**23 06 10.6**	**+0.3**
CLCH	**Cerro Calan**	**1.48**	**68**	*e*P	**Pn**	**23 05 52.3**	**+0.9**
CLCH				*e*S	**Sb**	**23 06 12.3**	**+0.5**
CLCH				AML	AML	23 06 20.6	
	comp=E,11μm,0.8s						
PEL	**Peldehue**	**1.49**	**57**	*e*P	**Pb**	**23 05 52.6**	**-0.9**
PEL				*e*S	**Sb**	**23 06 12.8**	**+0.7**
PEL				AML	AML	23 06 21.5	
	comp=N,22μm,0.3s						
TALC	**Talca**	**1.50**	**163**	*e*P	**Pn**	**23 05 50.9**	**-0.6**
TALC				*e*S	**Sn**	**23 06 09.9**	**-0.3**
YECH	**El Yeso**	**1.77**	**81**	*e*P	**Pb**	**23 05 58.9**	**+0.5**
YECH				AML	AML	23 06 28.9	
	comp=E,6μm,0.5s						
LNCH	**Linares**	**1.94**	**166**	*e*P	**Pn**	**23 05 57.5**	**0.0**
CFAA	**Coronel Fontan**	**4.07**	**56**	Pn	**Pn**	**23 06 28.9**	**+2.0**
	comp=E,1.0nm,0.3s,baz=217,slow=10,SNR=32						
CFAA				Lg	Lg	23 07 26.4	
	comp=E,2.2nm,0.3s,baz=68,slow=14,SNR=4.5						
CFAA				LR	LR	23 08 27.1	
	comp=E,180nm,21.2s,baz=225,slow=44						
LCO	**Las Campanas**	**5.09**	**15**	*e*Pn	**Pn**	**23 06 40.9**	**-0.3**
LCO				*e*Sn	**Sn**	**23 07 38.7**	**-0.6**
PLCA	**Paso Flores**	**6.88**	**170**	Pn	**Pn**	**23 07 05.8**	**+0.3**
	comp=E,1.4nm,0.3s,baz=347,slow=11,SNR=11						
PLCA				Lg	Lg	23 09 01.4	
	comp=E,1.3nm,0.3s,baz=71,slow=24,SNR=4.6						
PLCA				LR	LR	23 10 03.5	
	comp=E,1μm,18.6s,baz=353,slow=40						
PLCA	**Paso Flores**	**6.88**	**170**	*e*Pn	**Pn**	**23 07 05.5**	**0.0**
PLCA				Lg	Lg	23 09 01.4	
TRQA	**Tornquist**	**9.22**	**119**	*e*Pn	**Pn**	**23 07 37.5**	**-0.1**
LVC	**Limon Verde**	**11.67**	**15**	Pn	Pn	23 08 06.7	-4.7
	comp=E,30nm,0.3s,baz=193,slow=11,SNR=6.9						
LVC				Sn	Sn	23 10 37.2	+16
	comp=E,6.6nm,0.3s,baz=156,slow=17,SNR=1.8						
LVC				LR	LR	23 12 57.6	
	comp=E,3μm,19.8s,baz=205,slow=39						
LVC	**Limon Verde**	**11.67**	**15**	*e*Pn	Pn	23 08 07.5	-3.9
LVC				Sn	Sn	23 10 37.2	+16
CPUP	**Villa Florida**	**14.92**	**63**	Pn	**Pn**	**23 08 57.1**	**+1.6**
	comp=E,0.1nm,0.3s,baz=235,slow=12,SNR=7.6						
CPUP				Sn	**Sn**	**23 11 36.8**	**-3.1**
	comp=E,0.0nm,0.3s,baz=158,slow=11,SN

	comp=E,66nm,18.9s,baz=198,slow=35								
T25A	**Trinidad**	**76.85**	**334**	*e*P		**P**	**23**	**17**	**15.7**	**-0.3**
	comp=E,4.7nm,0.9s								
ECSD	**EROS Data Cent**	**80.48**	**342**	*e*P		**P**	**23**	**17**	**35.5**	**0.0**
	comp=E,7.6nm,0.9s								
PHWY	**Pilot Hill**	**80.92**	**335**	*e*P		**P**	**23**	**17**	**39.1**	**+0.9**
	comp=E,9.0nm,1.3s								
DUG	**Dugway, Tooele**	**82.78**	**330**	*e*P		**P**	**23**	**17**	**48.8**	**+0.9**
	comp=E,12nm,1.6s								
TPH	**Tonopah**	**82.99**	**326**	*e*P		**P**	**23**	**17**	**48.6**	**-0.5**
	comp=E,22nm,2.0s								
PDAR	**Pinedale Array**	**83.68**	**333**	P		**P**	**23**	**17**	**51.4**	**-1.3**
	comp=E,0.8nm,0.8s,baz=132,slow=2.2,SNR=3.6								
TOA0	**Torodi Ar. Sit**	**84.31**	**70**	*e*P		**P**	**23**	**17**	**56.0**	**-0.2**
TORD	**Torodi Ar. Bea**	**84.31**	**70**	P		**P**	**23**	**17**	**56.5**	**+0.3**
	comp=E,7.2nm,0.9s,baz=259,slow=4.5,SNR=35								
TORD				LR		LR	23	54	46.2	
	comp=E,65nm,18.5s,baz=115,slow=35								
RLMT	**Red Lodge**	**85.60**	**335**	*e*P		**P**	**23**	**18**	**01.4**	**-0.8**
	comp=E,52nm,2.8s								
HLID	**Hailey**	**86.25**	**331**	*e*P		**P**	**23**	**18**	**05.2**	**-0.2**
	comp=E,4.6nm,1.3s								
ULM	**Lac du Bonnet**	**86.43**	**345**	P		**P**	**23**	**18**	**05.7**	**-0.2**
	comp=E,1.0nm,0.6s,baz=163,slow=8.5,SNR=5.7								
MCMT	**McKenzie Canyo**	**86.68**	**332**	*e*P		**P**	**23**	**18**	**08.0**	**+0.3**
WDC	**Whiskeytown Da**	**87.50**	**324**	*e*P		**P**	**23**	**18**	**10.9**	**-0.5**
	comp=E,11nm,1.5s								
YKA	**Yellowknife Ar**	**101.98**	**341**	P		**Pdif**	**23**	**19**	**16.9**	**-0.2**
	comp=E,0.2nm,0.7s,baz=142,slow=4.7,SNR=4.6								
WRA	**Warramunga Arr**	**120.74**	**209**	PKP		**PKPdf**	**23**	**24**	**15.5**	**-0.9**
	comp=E,0.7nm,0.6s,baz=156,slow=1.7,SNR=11								
BRTR	**Keskin Array B**	**121.92**	**61**	PKP		**PKPdf**	**23**	**24**	**16.4**	**-1.7**
	comp=E,1.2nm,1.0s,baz=193,slow=5.1,SNR=4.4								
AK11	**Malin Array Si**	**122.21**	**47**	*e*PKPdf		**PKPdf**	**23**	**24**	**17.1**	**-1.1**
AKASG	**Malin Array Be**	**122.25**	**47**	PKP		**PKPdf**	**23**	**24**	**17.5**	**-0.7**
	comp=E,1.1nm,0.7s,baz=264,slow=2.8,SNR=11								
FINES	**FINESS Array B**	**123.03**	**35**	PKP		**PKPdf**	**23**	**24**	**19.1**	**-0.3**
	comp=E,1.2nm,0.8s,baz=90,slow=1.4,SNR=3.8								
ARCES	**ARCESS Array B**	**124.03**	**25**	PKP		**PKPdf**	**23**	**24**	**20.9**	**-0.2**
	comp=E,0.6nm,0.6s,baz=321,slow=1.6,SNR=6.4								
KSH	**Kashi**	**153.97**	**68**	PKPbc		**PKPdf**	**23**	**25**	**18.3**	**+2.9**
KSH				*e*pPKP		**pPKPdf**	**23**	**25**	**29.2**	**+4.7**
KSH				PKS		**PKSdf**	**23**	**28**	**50.7**	**+1.0**
KSH				SKS		**SKSdf**	**23**	**32**	**18.8**	**-1.6**
KSH				PPMZ						
	comp=E,34nm,3.2s									
KSH				LN						
	comp=E,100nm,5.8s									
KSH				LE						
	comp=E,64nm,5.4s									
KSH				LZ						
	comp=E,160nm,6.4s									
ZALV	**Zalesovo Beam**	**154.26**	**32**	PKP		**PKPdf**	**23**	**25**	**14.9**	**-0.2**
	comp=E,1.4nm,0.6s,baz=299,slow=3.1,SNR=9.3									
ZALV				pPKP		**PKPbc**	**23**	**25**	**23.2**	**-0.1**
	comp=E,9.1nm,0.7s,baz=294,slow=3.2,SNR=24									
MKAR	**Makanchi Array**	**156.83**	**49**	PKP		**PKPdf**	**23**	**25**	**19.2**	**+0.4**
	comp=E,0.5nm,0.9s,baz=267,slow=8.5,SNR=5.3									
MKAR				pPKP		**pPKPdf**	**23**	**25**	**28.0**	**0.0**
	comp=E,0.6nm,0.8s,baz=278,slow=9.3,SNR=5.0									
MKAR				PKPab		**PKPab**	**23**	**25**	**49.5**	**+0.7**
	comp=E,1.3nm,0.7s,baz=283,slow=8.6,SNR=10									
WMQ	**Urumqi**	**161.54**	**52**	*e*PKP		**PKPdf**	**23**	**25**	**23.9**	**-0.6**
WMQ				LN						
	comp=E,24nm,18.4s									
WMQ				LE						
	comp=E,55nm,20.4s									
WMQ				LZ						
	comp=E,17nm,18.0s									
SONM	**Songino Array**	**166.10**	**4**	PKPab		**PKPab**	**23**	**26**	**30.6**	**+1.5**
	comp=E,1.2nm,0.9s,baz=342,slow=7.8,SNR=8.1									
KMI	**Kunming**	**170.15**	**152**	PKP		**PKPdf**	**23**	**25**	**31.0**	**-1.3**
GTA	**Gaotai**	**171.58**	**47**	*e*PKP		**PKPdf**	**23**	**25**	**33.3**	**+0.8**
GTA				pPKP		**pPKPdf**	**23**	**25**	**44.1**	**+2.5**
GTA				sPKP			23	25	47.6	
HHC	**Hu-ho-hao-te**	**172.51**	**338**	*e*PKP		**PKPdf**	**23**	**25**	**30.2**	**-2.6**
HHC				pPKP		**pPKPdf**	**23**	**25**	**40.9**	**-1.0**
HHC				sPKP			23	25	44.5	
HHC				PP		**PP**	**23**	**30**	**50.9**	**+2.3**
HHC				SKS		SKSdf	23	32	26.6	-7.6
HHC				SS		**SS**	**23**	**51**	**57.1**	**-0.8**
HHC				PPMZ						
	comp=E,67nm,6.2s									
HHC				LN						
	comp=E,130nm,20.6s									
HHC				LE						
	comp=E,110nm,19.0s									
HHC				LZ						
	comp=E,47nm,22.2s									
XAN	**Xi'an**	**179.08**	**275**	PKP		**PKPdf**	**23**	**25**	**31.5**	**-3.0**

*IDC **09** 23:26:42.1±1.7, 62.˚57S×167.˚97E, h0km, mb4.0/3, mb1 4.0/4, mb1mx3.8/19, mbtmp4.0/4, ML3.5/1, MS3.8/7, Ms1 3.8/7, ms1mx3.5/19, Error ellipse: s-maj=87.4km s-min=23.8km az=70.0*

ISC 09 23:26:43.6±1.8, 62.˚6S±0.˚2×167.˚9E±0.˚5, h10km, n14, σ0§65/6, mb3.8/3, MS3.6/5, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time			Res
				Op			h	m	s	ISC
VNDA	**Vanda**	**15.11**	**185**	Pn		**Pn**	**23**	**30**	**16.4**	**-0.4**
	0.2nm,0.3s,baz=16,slow=14,SNR=15									
VNDA				LR		LR	23	34	57.0	
	comp=Z,469nm,18.6s,baz=12,slow=33									
RPZ	**Rata Peaks**	**19.01**	**7**	LR		LR	23	37	12.6	
	comp=Z,245nm,20.5s,baz=210,slow=33									
QSPA	**South Pole Qui**	**27.49**	**180**	P		**P**	**23**	**32**	**30.1**	**+0.4**
	5.1nm,1.0s,baz=4.2,slow=2.2,SNR=10									
QSPA				LR		LR	23	42	15.9	
	comp=Z,148nm,18.1s,baz=36,slow=34									
STKA	**Stephens Creek**	**35.03**	**319**	P		**P**	**23**	**33**	**36.3**	**+0.1**
	1.2nm,0.8s,baz=299,slow=19,SNR=2.2									
STKA				LR		LR	23	45	33.1	
	comp=Z,319nm,18.3s,baz=201,slow=32									
H01W1	**Cape Leeuwin H**	**43.12**	**284**	T		T	00	20	42.0	
	baz=146,slow=75,SNR=26									
H01W2	**Cape Leeuwin H**	**43.13**	**284**	T		T	00	20	42.3	
	baz=146,slow=75,SNR=29									
H01W3	**Cape Leeuwin H**	**43.14**	**284**	T		T	00	20	43.2	
	baz=146,slow=75,SNR=23									
ASAR	**Alice Springs**	**45.12**	**314**	P		**P**	**23**	**34**	**59.8**	**-0.2**
	0.8nm,0.6s,baz=151,slow=8.4,SNR=5.2									
WRA	**Warramunga Arr**	**48.44**	**316**	LR		LR	23	53	43.5	
	comp=Z,188nm,21.6s,baz=250,slow=34									
PPT	**Papeete**	**53.77**	**53**	LR		LR	23	52	14.0	
	comp=Z,55nm,20.3s,baz=26,slow=28									
GUMO	**Guam**	**78.05**	**337**	LR		LR	00	09	02.2	
	comp=Z,16nm,19.0s,baz=112,slow=33									
TORD	**Torodi Ar. Bea**	**129.64**	**198**	PKP		**PKPdf**	**23**	**45**	**53.4**	**+0.7**
	0.8nm,1.1s,baz=163,slow=1.5,SNR=3.2									
ILAR	**Eielson Array**	**131.41**	**24**	PKP		**PKPdf**	**23**	**45**	**53.8**	**-0.6**
	0.6nm,1.0s,baz=210,slow=5.2,SNR=3.1									
BRTR	**Keskin Array B**	**144.41**	**252**	PKP		PKPbc	23	46	17.5	-0.3
	2.3nm,1.0s,baz=104,slow=2.5,SNR=7.2									

*IDC **09** 23:42:25.7±1.9, 8.˚18S×117.˚92E, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.4/29, mbtmp3.6/4, ML3.7/2, MS3.0/2, Ms1 3.1/2, ms1mx2.6/24, Error ellipse: s-maj=60.2km s-min=25.0km az=61.0*

*ISCJB **09** 23:42:30.8±0.5, 8.˚12S±0.˚04×118.˚16E±0.˚04, h33km, mb3.7/2, MS2.9/1, Error ellipse: s-maj=6.3km s-min=4.6km az=148.6*

*DJA **09** 23:42:30.3±0.5, 8.˚S±3.˚×11.˚8E±.˚, h14km±4km, M4.0/14, MLv4.0/14*

ISC 09 23:42:31.6±0.8, 8.˚21S±0.˚05×118.˚16E±0.˚04, h35km, n20, σ2§27/24, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time			Res
				Op			h	m	s	ISC
WBSI	**Waikabubak, Su**	**1.88**	**139**	P		**Pn**	**23**	**43**	**03.3**	**+2.0**
WBSI				S		Sn	23	43	29.6	+5.8
SRBI	**Singaraja**	**2.92**	**272**	P		**Pn**	**23**	**43**	**15.8**	**+0.3**
SRBI				S		**Sn**	**23**	**43**	**50.8**	**+1.4**
BKSI	**Bulukumba**	**3.47**	**34**	P		**Pn**	**23**	**43**	**22.3**	**-0.8**
BKSI				S		**Sn**	**23**	**44**	**01.5**	**-1.5**
EDFI	**Ende, Flores**	**3.54**	**99**	P		**Pn**	**23**	**43**	**25.4**	**+1.2**
KAPI	**Kappang**	**3.55**	**27**	Pn		**Pn**	**23**	**43**	**23.3**	**-0.9**
	6.3nm,0.3s,baz=207,slow=4.3,SNR=35									
KAPI				Sn		**Sn**	**23**	**44**	**03.4**	**-1.5**
	24nm,0.3s,baz=29,slow=23,SNR=20									
ABJI	**Asem Bagus**	**3.91**	**276**	P		**Pn**	**23**	**43**	**29.1**	**0.0**
MMRI	**Maumere**	**4.06**	**96**	P		**Pn**	**23**	**43**	**31.7**	**+0.4**
BNSI	**Bone**	**4.25**	**27**	P		**Pn**	**23**	**43**	**34.6**	**+0.7**
BNSI				S		**Sn**	**23**	**44**	**24.0**	**+1.7**
SPSI	**Sidrap Palu**	**4.51**	**21**	P		**Pn**	**23**	**43**	**40.1**	**+2.6**
SPSI				S		**Sn**	**23**	**44**	**27.8**	**-0.9**
BLJI	**Banyuglugur**	**4.54**	**275**	P		**Pn**	**23**	**43**	**39.2**	**+1.3**
BLJI				S		**Sn**	**23**	**44**	**31.7**	**+2.2**
LUWI	**Luwuk**	**8.47**	**33**	P		**Pn**	**23**	**44**	**33.7**	**+1.7**
	baz=8.3,SNR=5.0									
LEM	**Lembang**	**10.54**	**277**	LR		LR	23	48	35.4	
	comp=Z,87nm,21.8s,baz=157,slow=36									
KNRA	**Kununurra**	**12.76**	**127**	P		**P**	**23**	**45**	**39.5**	**-1.7**
	baz=13,SNR=3.7									
MEEK	**Meekatharra**	**18.34**	**179**	P		Pn	23	46	48.9	+5.7
	baz=19,SNR=3.8									
MEEK				S		**Sn**	**23**	**50**	**00.1**	**-7.1**
	baz=19,SNR=6.5									
WRKA	**Warakurna**	**19.33**	**151**	P		**Pn**	**23**	**46**	**57.3**	**+2.0**
	baz=20,SNR=4.7									
WRA	**Warramunga Arr**	**19.54**	**128**	P		**P**	**23**	**46**	**56.7**	**+0.4**
	0.2nm,0.3s,baz=307,slow=11,SNR=11									
ASAR	**Alice Springs**	**21.54**	**137**	P		**P**	**23**	**47**	**19.1**	**+1.1**
	2.6nm,0.6s,baz=310,slow=8.7,SNR=28									
MMPI	**Merauke**	**22.00**	**92**	S		**S**	**23**	**51**	**27.7**	**+3.8**
	baz=22,SNR=4.0									
CMAR	**Chiang Mai Arr**	**32.58**	**325**	LR		LR	00	04	28.2	
	comp=Z,26nm,20.7s,baz=295,slow=41									
ZALV	**Zalesovo Beam**	**68.01**	**339**	P		**P**	**23**	**53**	**25.9**	**-1.2**
	0.2nm,0.3s,baz=151,slow=6.3,SNR=2.8									

*ISCJB **09** 23:57:27.0±0.9, 35.˚11S±0.˚04×71.˚9W±0.˚1, h57km±7km, mb4.0/5, Error ellipse: s-maj=18.8km s-min=5.5km az=12.9*

*IDC **09** 23:57:27.0±1.0, 35.˚20S×71.˚99W, h43km±8km, mb3.8/5, mb1 3.9/8, mb1mx3.7/24, mbtmp4.0/8, ML3.6/2, MS3.3/3, Ms1 3.3/3, ms1mx2.9/19, Error ellipse: s-maj=29.2km s-min=15.1km az=125.0*

*NEIC **09** 23:57:27.0, 35.˚07S×71.˚91W, h42km, mb4.3/1, After GUC.*
NEIC Felt [IV] at Talca; [III] at Cauquenes, Constitucion, Curico, Linares and Rio Claro; [II] at Chanco and Nirivilo.

*GUC **09** 23:57:27.7±0.7, 35.˚07S×71.˚91W, h42km±6km, ML4.4*

ISC 09 23:57:27.6±0.8, 35.˚09S±0.˚04×71.˚97W±0.˚10, h43km±7km, n25, σ1§09/36, mb4.2/5, 3D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time			Res
				Op			h	m	s	ISC
TALC	**Talca**	**0.41**	**138**	⇓*i*P		**Pn**	**23**	**57**	**37.6**	**+0.3**
TALC				*i* S		**Sn**	**23**	**57**	**44.6**	**+0.3**
NICH	**Los Niches**	**0.61**	**82**	⇓*i*P		**Pn**	**23**	**57**	**39.7**	**-0.2**
NICH				*i* S		**Sn**	**23**	**57**	**48.3**	**-0.5**
LNCH	**Linares**	**0.82**	**158**	⇓*i*P		**Pn**	**23**	**57**	**43.0**	**+0.4**
LNCH				*i* S		**Sn**	**23**	**57**	**55.0**	**+1.4**
TACH	**Talagante**	**1.67**	**31**	*e*P		**Pn**	**23**	**57**	**54.6**	**+0.2**
RCDM	**Rinconada Maip**	**1.86**	**32**	*e*P		**Pn**	**23**	**57**	**56.9**	**-0.2**
RCDM				*e*S		**Sn**	**23**	**58**	**19.9**	**+0.6**
PCH	**Pirque**	**1.90**	**40**	*e*P		**Pn**	**23**	**57**	**57.9**	**+0.4**
SAN	**Santiago**	**1.96**	**34**	*e*P		**Pn**	**23**	**57**	**58.9**	**+0.5**
SAN				*e*S		**Sn**	**23**	**58**	**22.2**	**+0.5**
CLCH	**Cerro Calan**	**2.06**	**36**	*e*P		**Pn**	**23**	**58**	**00.3**	**+0.4**
CLCH				*e*S		**Sn**	**23**	**58**	**24.9**	**+0.5**
CLCH				AML		AML	23	58	32.5	
	comp=N,4μm,0.7s									
PEL	**Peldehue**	**2.21**	**29**	*e*P		**Pn**	**23**	**58**	**02.4**	**+0.5**
PEL				*e*S		**Sn**	**23**	**58**	**29.3**	**+1.3**
PEL				AML		AML	23	58	36.2	
	comp=N,3μm,0.5s									
CFAA	**Coronel Fontan**	**4.67**	**43**	P		**Pn**	**23**	**58**	**36.2**	**+0.6**
	comp=N,0.5nm,0.3s,baz=199,slow=9.0,SNR=49									
CFAA				S		**Sn**	**23**	**59**	**32.6**	**+4.0**
	comp=N,0.8nm,0.3s,baz=254,slow=7.4,SNR=2.9									
CFAA				LR		LR	00	00	22.4	
	comp=N,14nm,19.0s,baz=221,slow=37									
PLCA	**Paso Flores**	**5.75**	**169**	P		**Pn**	**23**	**58**	**52.1**	**+1.7**
	comp=N,1.1nm,0.3s,baz=340,slow=9.5,SNR=16									
PLCA				LR		LR	00	00	37.8	
	comp=N,188nm,20.0s,baz=272,slow=34									
PLCA	**Paso Flores**	**5.75**	**169**	*e*Pn		**Pn**	**23**	**58**	**51.1**	**+0.8**
LCO	**Las Campanas**	**6.15**	**10**	*e*Pn		**Pn**	**23**	**58**	**54.7**	**-1.5**
TRQA	**Tornquist**	**8.57**	**113**	*e*Pn		**Pn**	**23**	**59**	**29.1**	**+0.1**
LVC	**Limon Verde**	**12.71**	**13**	P		**Pn**	**00**	**00**	**27.0**	**+1.0**
	comp=N,8.5nm,0.3s,baz=190,slow=6.1,SNR=3.8									
LVC				LR		LR	00	06	38.5	
	comp=N,257nm,18.4s,baz=216,slow=43									
LVC	**Limon Verde**	**12.71**	**13**	*e*Pn		**Pn**	**00**	**00**	**26.1**	**+0.1**
LPAZ	**La Paz**	**19.04**	**11**	P		**Pn**	**00**	**01**	**47.8**	**0.0**
	comp=N,0.2nm,0.3s,baz=192,slow=6.2,SNR=11									
LPAZ				LR		LR	00	10	58.0	
	comp=N,54nm,20.0s,baz=142,slow=42									
LPAZ	**La Paz**	**19.04**	**11**	*e*P		**P**	**00**	**01**	**47.1**	**+0.4**
SIV	**San Ignacio**	**21.38**	**30**	P		**P**	**00**	**02**	**10.0**	**-1.5**
	comp=N,2.4nm,0.5s,baz=238,slow=15,SNR=10									
QSPA	**South Pole Qui**	**55.15**	**180**	P		**P**	**00**	**06**	**55.3**	**-0.2**
	comp=N,2.2nm,1.0s,baz=332,slow=0.3,SNR=4.8									
QSPA	**South Pole Qui**	**55.15**	**180**	*e*P		**P**	**00**	**06**	**56.4**	**+0.9**
	comp=N,2.7nm,0.9s									
TXAR	**Lajitas Array**	**70.71**	**331**	P		**P**	**00**	**08**	**39.5**	**+0.4**
	comp=N,0.2nm,0.5s,baz=152,slow=7.7,SNR=6.1									
TXAR				pP		**pP**	**00**	**08**	**52.0**	**+0.2**
	comp=N,0.2nm,0.5s,baz=155,slow=8.9,SNR=3.3									
DBIC	**Dumbokro**	**75.48**	**71**	P		**P**	**00**	**09**	**06.6**	**-0.9**
	comp=N,2.8nm,0.7s,baz=210,slow=5.2,SNR=3.1									
TORD	**Torodi Ar. Bea**	**84.53**	**70**	P		**P**	**00**	**09**	**55.5**	**-0.9**
	comp=N,1.5nm,0.7s,baz=236,slow=4.2,SNR=25									
TORD				pP		**pP**	**00**	**10**	**08.6**	**-0.7**
	comp=N,0.5nm,0.5s,baz=240,slow=3.7,SNR=3.3									
WRA	**Warramunga Arr**	**119.84**	**209**	PKP		**PKPdf**	**00**	**16**	**12.6**	**-1.1**
	comp=N,0.5nm,1.1s,baz=146,slow=1.5,SNR=4.0									
WRA				pPKP		**pPKPdf**	**00**	**16**	**25.8**	**-1.3**
	comp=N,0.5nm,0.9s,baz=172,slow=1.3,SNR=2.2									

*SKHL **10** 00:02:31.3±0.7, 44.˚44N×148.˚26E, h55km±4km, mb4.4/2*
*JMA **10** 00:02:31.6±0.3, 44.˚02N×147.˚99E, h0km, M3.9*

ISC 10 00:02:29.5±3.2, 44.˚37N±0.˚08×148.˚4E±0.˚2, h35km, n13, σ1§45/22, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time			Res
				Op			h	m	s	ISC
KUR	**Kuril'sk**	**0.95**	**335**	*i* P		**Pn**	**00**	**02**	**46.4**	**0.0**
KUR				AMB		AMB	00	02	46.8	
	20nm,0.4s									
KUR				AMB		AMB	00	02	46.8	
	140nm,0.4s									
KUR				*i* S		**Sn**	**00**	**02**	**58.2**	**-0.6**
KUR				A		A	00	02	59.8	
	340nm,0.5s									
KUR				A		A	00	02	59.8	
	720nm,0.5s									
SHO	**Shikotan**	**1.25**	**247**	*e*P		**Pn**	**00**	**02**	**50.7**	**+0.2**
SHO				*e*S		**Sn**	**00**	**03**	**05.0**	**-1.1**
SHO				A		A	00	03	07.5	
	530nm,0.2s									
YUK	**Yuzh-Kuril'sk**	**1.88**	**261**	*i* P		**Pn**	**00**	**02**	**59.7**	**+0.6**
YUK				AMB		AMB	00	03	02.5	
	30nm,0.1s									
YUK				AMB		AMB	00	03	02.5	
	80nm,0.1s									
YUK				*i* S		**Sn**	**00**	**03**	**21.4**	**-0.1**
YUK				A		A	00	03	27.2	
	170nm,0.5s									
YUK				A		A	00	03	32.8	
	200nm,0.4s									
NEM2	**Nemuro 2**	**2.19**	**244**	P		**Pn**	**00**	**03**	**03.5**	**+0.2**
NEM2				*e*S		**Sn**	**00**	**03**	**26.9**	**-2.2**
JRA	**Rausu**	**2.42**	**261**	P		**Pn**	**00**	**03**	**08.3**	**+1.8**
JRA				*e*S		**Sn**	**00**	**03**	**35.5**	**+0.6**
JNK	**Nakash**	**2.79**	**255**	P		**Pn**	**00**	**03**	**13.2**	**+1.5**
JAK	**Akkeshi**	**3.03**	**244**	P		**Pn**	**00**	**03**	**15.8**	**+0.8**
JAK				*e*S		**Sn**	**00**	**03**	**48.1**	**-2.0**
JAR	**Ashorobuto**	**3.54**	**254**	P		**Pn**	**00**	**03**	**24.0**	**+2.1**
JCH	**Churui**	**4.08**	**246**	*e*S		**Sn**	**00**	**04**	**15.4**	**-0.5**
JNBK	**Urakawa-nobuka**	**4.64**	**245**	P		**Pn**	**00**	**03**	**38.8**	**+1.8**
YSS	**Yuzh-Sakhalins**	**4.74**	**305**	*e*P		**Pn**	**00**	**03**	**39.0**	**+0.5**
YSS				*e*S		**Sn**	**00**	**04**	**31.4**	**-0.8**
JKB	**Kayabe**	**5.95**	**248**	P		**Pn**	**00**	**03**	**56.7**	**+1.6**
JKB				*e*S		**Sn**	**00**	**05**	**00.1**	**-1.9**
JOT	**Ohata**	**6.19**	**244**	P		**Pn**	**00**	**03**	**59.6**	**+1.3**
JOT				*e*S		**Sn**	**00**	**05**	**05.3**	**-2.5**

*NIED **10** 00:25:00, 32.˚90N×132.˚00E, h17km, Mw3.4 Best double couple: M0 1.22000×10^14 NP1:φs=42.00000°, δ68.00000°, λ160.00000°. NP2:φs139.00000°, δ71.00000°, λ23.00000°.*

JMA 10 00:25:20.7, 32.˚92N×132.˚00E, h16km±1km, M3.5, 2C-5D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time			Res
				Op			h	m	s	ISC
JUS	**Usuki**	**0.26**	**305**	⇓P		Pg	00	25	26.4	+0.1
JUS				S		Sg	00	25	30.2	0.0
JKIT	**Kitakata**	**0.55**	**238**	⇓P		Pg	00	25	31.4	-0.2
JKIT				S		Sg	00	25	38.4	-0.5
UWA2	**Uwa jima 2**	**0.60**	**61**	⇓P		Pg	00	25	32.2	-0.4
UWA2				S		Sg	00	25	40.3	-0.4
JTO	**Tosashimizu**	**0.68**	**95**	⇓P		Pg	00	25	33.3	-0.7
JTO				S		Sg	00	25	42.3	-0.7
JNA	**Nagahama**	**0.75**	**32**	⇑P		Pg	00	25	34.5	-0.9
JNA				S		Sg	00	25	44.5	-0.9
JTSN	**Tsuno**	**0.79**	**212**	⇑P		Pb	00	25	35.8	-0.3
JTSN				S		Sb	00	25	46.1	-0.5
JKU	**Kubokawa**	**0.97**	**66**	⇓P		Pb	00	25	38.3	-0.9
JKU				S		Sb	00	25	51.1	-0.8
JET	**Tanbara**	**1.23**	**45**	P		Pn	00	25	42.8	-0.4

*IDC **10** 00:25:27.6±1.0, 2.˚95S×101.˚05E, h38km±7km, mb3.9/16, mb1 4.0/17, mb1mx3.8/26, mbtmp4.1/17, MS3.2/2, Ms1 3.3/2, ms1mx2.7/27, Error ellipse: s-maj=33.6km s-min=12.8km az=48.0*

*ISCJB **10** 00:25:29.0±0.8, 3.˚00S±0.˚05×101.˚06E±0.˚06, h72km±6km, mb4.1/19, Error ellipse: s-maj=12.3km s-min=4.3km az=146.3*

*NEIC **10** 00:25:29.7±1.0, 2.˚88S×101.˚10E, h57km±8km, mb4.6/3, Error ellipse: s-maj=20.3km s-min=6.2km az=49.0*

*DJA **10** 00:25:31.5±1.2, 3.˚S±3.˚×10.˚1E±.˚, h39km±12km, M4.2/4, MLv4.2/4*

ISC 10 00:25:28.0±0.8, 3.˚02S±0.˚06×100.˚98E±0.˚07, h43km±7km, n49, σ1§71/57, mb4.2/19, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time			Res
				Op			h	m	s	ISC
MASI	**Maura Aman, Be**	**1.26**	**95**	P		**Pn**	**00**	**25**	**49.9**	**+0.7**
MASI				S		**Sn**	**00**	**26**	**03.7**	**-1.3**
SDSI	**Sungai Dareh**	**2.12**	**12**	P		**Pn**	**00**	**26**	**03.0**	**+1.9**
SDSI				S		**Sn**	**00**	**26**	**28.6**	**+2.4**
PDSI	**Padang**	**2.16**	**346**	P		**Pn**	**00**	**26**	**02.4**	**+0.8**
MNAI	**Manna**	**2.38**	**124**	P		**Pn**	**00**	**26**	**05.6**	**+1.1**
MNAI				S		**Sn**	**00**	**26**	**35.0**	**+2.5**
MNAI	**Manna**	**2.38**	**124**	*e*Pn		**Pn**	**00**	**26**	**06.6**	**+2.1**
MNAI				*e*Sn		**Sn**	**00**	**26**	**34.9**	**+2.4**
LHSI	**Lahat**	**2.66**	**108**	P		**Pn**	**00**	**26**	**09.4**	**+1.0**
LHSI				S		Sn	00	26	46.4	+7.0
RGRI	**Rengat**	**2.98**	**27**	P		**Pn**	**00**	**26**	**14.8**	**+2.0**
JMBI	**JAMBI**	**2.99**	**63**	P		**Pn**	**00**	**26**	**14.3**	**+1.3**
JMBI				S		**Sn**	**00**	**26**	**47.8**	**+0.1**
BKNI	**Bangkinang**	**3.33**	**1**	P		Pn	00	26	20.7	+3.1
BKNI				S		**Sn**	**00**	**26**	**59.9**	**+4.0**
MDSI	**Maura Dua**	**3.50**	**115**	P		**Pn**	**00**	**26**	**21.9**	**+

	comp=E,948nm,0.6s							
CLCH					AML	AML	00 38 30.7	
	comp=E,1µm,0.5s							
PEL	**Peldehue**	**2.42**	**34**	*e*P	**Pn**	**00 37 49.0**	**+1.8**
PEL				*i* S	**Sn**	**00 38 18.8**	**+1.9**
PEL				AML	AML	00 38 26.6	
	comp=E,1µm,0.3s							
FCH	**Farellones**	**2.48**	**43**	AML	AML	00 38 23.3	
	comp=E,456nm,0.4s							
PLCA	**Paso Flores**	**5.72**	**167**	*e*Pn	**Pn**	**00 38 32.9**	**+0.1**
LCO	**Las Campanas**	**6.29**	**13**	*e*Pn	**Pn**	**00 38 39.6**	**-1.0**
TRQA	**Tornquist**	**8.78**	**112**	*e*Pn	**Pn**	**00 39 14.3**	**-0.3**
LPAZ	**La Paz**	**19.17**	**12**	*e*P	**P**	**00 41 31.5**	**-0.4**
NNA	**Nana**	**23.44**	**349**	*e*P	**P**	**00 42 17.2**	**+0.1**

IDC 10 01:06:47.9±5.2, 6°15'N×73°46'W, h186km±29km, mb2.8/1, mb1 3.1/1, mb1mx2.7/22, mbtmp3.3/1, Error ellipse: s-maj=156.5km s-min=42.3km az=97.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**1.55**	**214**	P	Pn	01 07 21.3	0.0
	2.2nm,0.3s,baz=84,slow=14,SNR=22						
ROSC				S	Sn	01 07 47.2	0.0
	10nm,0.3s,baz=69,slow=20,SNR=12						
YKA	**Yellowknife Ar**	**63.77**	**340**	P	P	01 16 59.8	0.0
	0.2nm,0.7s,baz=131,slow=6.4,SNR=5.4						
WRA	**Warramunga Arr**	**149.72**	**240**	PKPbc	PKPbc	01 26 16.3	-0.4
	0.2nm,0.4s,baz=110,slow=2.2,SNR=9.1						

*NNC **10** 01:07:52.4±1.3, 40°19'N×77°16'E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=11.3km s-min=5.2km az=135.0*
*KRNET **10** 01:07:55.3±0.1, 40°12'N×77°13'E, h2km, mb3.5*
ISC 10 01:07:53.6±2.1, 40°19'N±0'.07×77°13'E±0'.06, h4km±13km, n27, σ1°§04/38, 11C-11D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**1.51**	**326**	*e*P	**Pg**	**01 08 23.0**	**+0.4**
	baz=327						
NRN				*e*S	**Sg**	**01 08 43.8**	**+1.6**
	baz=327						
KDJ	**Kajisay**	**1.94**	**1**	*e*P	**Pb**	**01 08 29.0**	**-0.7**
	baz=1.0						
KDJ				*e*S	**Sg**	**01 08 56.0**	**-0.1**
	baz=1.0						
ULHL	**Ulahol**	**2.16**	**342**	P	**Pg**	**01 08 34.9**	**-0.2**
	SNR=50						
ULHL	**Ulahol**	**2.16**	**342**	⇓*i*P	**Pg**	**01 08 34.6**	**-0.5**
	baz=343						
ULHL				⇓*i*S	**Sg**	**01 09 03.8**	**+0.7**
	baz=343						
KZA	**Kyzart**	**2.36**	**324**	P	**Pb**	**01 08 38.0**	**+1.0**
	SNR=68						
KZA	**Kyzart**	**2.36**	**324**	⇑*i*P	**Pg**	**01 08 38.3**	**-0.6**
	baz=325						
KZA				⇑*i*S	**Sg**	**01 09 11.0**	**+1.5**
	baz=325						
BOOM	**Boomskoye usch**	**2.47**	**339**	*e*P	**Pb**	**01 08 39.4**	**+0.7**
	baz=340						
BOOM				*e*S	**Sg**	**01 09 13.5**	**+0.6**
	baz=340						
SALK	**Salom-Alik**	**2.61**	**286**	*e*P	**Pb**	**01 08 39.8**	**-1.3**
	baz=288						
SALK				*e*S	**Sb**	**01 09 14.5**	**+0.9**
	baz=288						
ANVS	**Anan'yevo**	**2.63**	**9**	*i* P	**Pg**	**01 08 43.3**	**-0.7**
	baz=8.0						
ANVS				*e*S	**Sg**	**01 09 18.9**	**+0.9**
	baz=8.0						
SFK	**Sufi-Kurgan**	**2.78**	**268**	⇑Pg	**Pb**	**01 08 43.7**	**-0.3**
	4.9nm,0.3s						
SFK				⇓Lg	Lg	01 09 22.6	
	15nm,0.4s						
UCH	**Uchtor**	**2.84**	**317**	P	**Pb**	**01 08 44.5**	**-0.5**
	SNR=10						
UCH	**Uchtor**	**2.84**	**317**	⇑*i*P	**Pb**	**01 08 44.7**	**-0.4**
	baz=318						
UCH				⇑*i*S	**Sb**	**01 09 21.8**	**+1.5**
	baz=318						
KBK	**Karagaybulak**	**2.96**	**327**	P	**Pg**	**01 08 49.5**	**-0.9**
	SNR=11						
KBK	**Karagaybulak**	**2.96**	**327**	*e*P	**Pn**	**01 08 41.0**	**-0.6**
	baz=22						
KBK				*e*S	**Sn**	**01 09 15.8**	**-1.9**
	baz=22						
TKM2	**Tokmak 2**	**2.96**	**338**	P	**Pb**	**01 08 46.6**	**-0.5**
	SNR=31						
TKM2	**Tokmak 2**	**2.96**	**338**	⇑Pg	**Pb**	**01 08 46.7**	**-0.4**
	6.4nm,0.3s						
TKM2				⇓Lg	Lg	01 09 26.5	
	18nm,0.6s						
KNDC	**Almaty**	**3.03**	**358**	Pg	**Pb**	**01 08 48.6**	**+0.4**
KNDC				Lg	Lg	01 09 31.4	
AAK	**Ala-Archa**	**3.15**	**322**	P	**Pg**	**01 08 53.4**	**-0.5**
	SNR=8.6						
AAK	**Ala-Archa**	**3.15**	**322**	⇓Pg	**Pb**	**01 08 48.9**	**-1.2**
	8.9nm,0.7s						
AAK				⇓Lg	Lg	01 09 33.5	
	21nm,0.7s						
AAK	**Ala-Archa**	**3.15**	**322**	⇓*i*P	**Pg**	**01 08 53.1**	**-0.8**
	baz=323						
AAK				⇓*i*S	**Sg**	**01 09 35.3**	**+0.6**
	baz=323						
AML	**Almayashu**	**3.24**	**308**	P	**Pb**	**01 08 50.4**	**-1.5**
	SNR=9.5						
AML	**Almayashu**	**3.24**	**308**	⇑*i*P	**Pb**	**01 08 50.3**	**-1.6**
	baz=309						
AML				⇑*i*S	**Sb**	**01 09 33.0**	**+1.2**
	baz=309						
CHMS	**Chumysh**	**3.33**	**328**	P	**Pb**	**01 08 51.6**	**-1.6**
	SNR=7.5						
PDGK	**Podgornoye**	**3.60**	**29**	⇑Pg	**Pb**	**01 08 57.9**	**+0.1**
	5.4nm,0.5s						
PDGK				⇓Lg	Lg	01 09 44.8	
	19nm,0.6s						
USP	**Ospenovka**	**3.65**	**328**	P	**Pg**	**01 09 01.6**	**-2.0**
	SNR=6.4						
KK31	**Karatay Array**	**5.75**	**303**	⇓Pg	Pb	01 09 38.2	+3.8
	2.0nm,0.8s,baz=127,slow=17,SNR=6.9						
KK31				⇑Lg	Lg	01 10 55.5	
	1.6nm,0.6s,baz=117,slow=28,SNR=4.5						
DZET	**Dzherino**	**6.56**	**261**	⇓Pn	**Pn**	**01 09 31.6**	**+0.6**
	12nm,0.4s						
DZET				⇑Sn	**Sn**	**01 10 47.4**	**+1.0**
	6.8nm,0.6s						

*ISCJB **10** 01:09:53.2±0.9, 54°.6S±0°.1×28°.4W±0°.4, h10km, mb3.6/4, Error ellipse: s-maj=39.8km s-min=13.5km az=153.7*
*IDC **10** 01:09:54.2±1.3, 54°.54S×28°.63W, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.7/14, mbtmp3.6/4, Error ellipse: s-maj=43.7km s-min=33.8km az=70.0*
ISC 10 01:09:55.2±0.9, 54°.6S±0°.2×28°.6W±0°.3, h10km, n9, σ0§85/9, mb3.6/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**18.62**	**161**	P	**P**	**01 14 12.4**	**0.0**
VNA2	**Neumayer--Watz**	**18.83**	**158**	P	**P**	**01 14 13.7**	**-1.0**
	baz=316,slow=14						
SNAA	**Sanae**	**20.38**	**157**	P	**P**	**01 14 30.7**	**-1.0**
CPUP	**Villa Florida**	**35.27**	**312**	P	**P**	**01 16 49.1**	**-0.7**
	0.3nm,0.7s,baz=151,slow=10,SNR=4.1						
VNDA	**Vanda**	**47.98**	**183**	P	**P**	**01 18 34.4**	**+1.0**
	0.5nm,0.8s,baz=153,slow=2.3,SNR=3.0						
LPAZ	**La Paz**	**48.90**	**306**	P	**P**	**01 18 42.4**	**+0.5**
	1.1nm,0.7s,baz=159,slow=6.2,SNR=4.8						
TORD	**Torodi Ar. Bea**	**72.20**	**31**	P	**P**	**01 21 20.6**	**+0.5**
	0.3nm,0.7s,baz=204,slow=6.4,SNR=6.8						
YKA	**Yellowknife Ar**	**134.57**	**319**	PKP	**PKPdf**	**01 29 12.0**	**-0.2**
	0.1nm,0.6s,baz=128,slow=2.3,SNR=3.3						
ILAR	**Eielson Array**	**148.56**	**314**	PKPbc	**PKPbc**	**01 29 40.4**	**-0.4**
	1.1nm,0.8s,baz=106,slow=1.7,SNR=11						

IDC 10 01:28:41.6±1.8, 8°69S×128°16E, h0km, mb3.6/1, mb1 3.6/3, mb1mx3.3/19, mbtmp3.4/3, ML3.2/2, MS2.9/1, Ms1 2.9/1, ms1mx2.4/25, Error ellipse: s-maj=133.8km s-min=25.4km az=64.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**9.11**	**293**	LR	LR	01 34 48.3	
	comp=Z,61nm,18.1s,baz=185,slow=40						
WRA	**Warramunga Arr**	**12.68**	**153**	Pn	Pn	01 31 44.0	+0.6
	0.1nm,0.3s,baz=329,slow=14,SNR=9.4						
WRA				Sn	Sn	01 34 05.3	-0.2
	0.3nm,0.3s,baz=332,slow=23,SNR=9.0						
ASAR	**Alice Springs**	**15.87**	**160**	Pn	Pn	01 32 26.1	-0.6
	0.1nm,0.3s,baz=341,slow=11,SNR=6.5						
ASAR				Sn	Sn	01 35 25.8	+2.3
	0.1nm,0.3s,baz=338,slow=22,SNR=3.2						
MKAR	**Makanchi Array**	**68.66**	**328**	P	P	01 39 46.9	0.0
	0.5nm,0.7s,baz=179,slow=7.2,SNR=8.1						

WEL 10 01:30:05.4±0.5, 36°.63S×177°.10E, h33km, ML4.0/4, Error ellipse: s-maj=4.1km s-min=3.1km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MYRZ	**Mayor Island**	**0.95**	**226**	P*	Pn	01 30 22.4	-0.1
MYRZ				S*	Sn	01 30 32.9	-1.9
KUZ	**Kuaotunu**	**1.12**	**264**	PN	Pn	01 30 23.7	-1.0
KUZ				SN	Sn	01 30 37.3	-1.6
KUZ				AML	AML	01 30 38.3	
KUZ				AML	AML	01 30 38.4	
KUZ				AML	AML	01 30 38.5	
HAZ	**Te Kaha**	**1.25**	**154**	P*	Pn	01 30 25.6	-0.9
HAZ				S*	Sn	01 30 40.6	-1.6
TGRZ	**Tauranga**	**1.29**	**211**	P*	Pn	01 30 26.7	-0.4
TGRZ				AML	AML	01 30 43.9	
TGRZ				AML	AML	01 30 50.1	
MARZ	**Manawahe**	**1.40**	**194**	P*	Pn	01 30 28.7	+0.1
MARZ				S*	Sn	01 30 45.8	-0.1
WMGZ	**Waiomatatini S**	**1.58**	**139**	PN	Pn	01 30 31.0	-0.1
MKAZ	**Moumakai**	**1.63**	**252**	PN	Pn	01 30 31.9	+0.2
MKAZ				AML	AML	01 30 53.6	
MKAZ				AML	AML	01 30 55.2	
TOZ	**Tahuroa Road**	**1.69**	**229**	P*	Pn	01 30 32.3	-0.2
PUZ	**Puketiti**	**1.71**	**148**	PN	Pn	01 30 32.1	-0.8
MWZ	**Matawai**	**1.74**	**169**	P*	Pn	01 30 31.7	-1.6
MWZ				AML	AML	01 31 00.9	
MWZ				AML	AML	01 31 04.6	
ETAZ	**East Tamaki Re**	**1.78**	**259**	PN	Pn	01 30 33.7	-0.1

*NEIC **10** 01:30:14.0, 15°.45N×93°.08W, h93km, MD4.0(MEX), After MEX.*
MEX 10 01:30:14.0±0.4, 15°.45N×93°.08W, h93km±5km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.28**	**332**	*i* P	Pn	01 30 26.5	-1.3
PCIG				*e*S	Sn	01 30 36.2	-1.7
PCIG		**0.28**	**332**	*i* P	Pn	01 30 26.5	-1.3
PCIG				*e*S	Sn	01 30 36.2	-1.7
THIG		**0.96**	**124**	*i* P	Pn	01 30 31.9	-1.5
THIG				*e*S	Sn	01 30 46.7	-1.3
THIG		**0.96**	**124**	*i* P	Pn	01 30 31.9	-1.5
THIG				*e*S	Sn	01 30 46.7	-1.3
CCIG	**Comitan**	**1.23**	**48**	*e*P	Pn	01 30 35.7	-1.1
CCIG				*e*S	Sn	01 30 52.1	-1.9
CCIG	**Comitan**	**1.23**	**48**	*e*P	Pn	01 30 35.7	-1.1
CCIG				*e*S	Sn	01 30 52.1	-1.9
CMIG	**Matias Romero**	**2.38**	**314**	*i* P	Pn	01 30 50.4	-0.9
CMIG				*e*S	Sn	01 31 18.1	-1.8
CMIG	**Matias Romero**	**2.38**	**314**	*i* P	Pn	01 30 50.4	-0.9
CMIG				*e*S	Sn	01 31 18.1	-1.8
TEIG	**Tepich**	**6.59**	**43**	*e*Pn	Pn	01 31 46.5	-1.9
TEIG				*e*S	Sn	01 32 57.1	-5.0
JTS	**JuntasAbangare**	**9.44**	**122**	*e*Pn	Pn	01 32 26.2	-1.0

*ISCJB **10** 01:40:14.3±0.7, 32°.11N±0°.02×115°.10W±0°.05, h6km±5km, Error ellipse: s-maj=6.9km s-min=4.0km az=171.8*
*MEX **10** 01:40:14.3±0.4, 32°.24N×114°.90W, h11km±6km, MD3.6*
*NEIC **10** 01:40:16.8, 32°.15N×115°.14W, h10km, ML3.3(PAS), After PAS.*
*ECX **10** 01:40:17.5±0.5, 32°.15N×115°.19W, h6km, MD3.2, ML3.4*
ISC 10 01:40:14.9±1.1, 32°09N±0°.02×115°18W±0°.03, h6km±11km, n26, σ1§15/40, 3C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.32**	**357**	*e*P	**Pg**	**01 40 19.9**	**-1.1**
MBIG				*e*S	**Sg**	**01 40 24.6**	**-0.6**
CPBX	**Cerro Prieto**	**0.34**	**342**	*e*P9	**Pg**	**01 40 22.7**	**+1.1**
CPBX				*e*S	**Sg**	**01 40 26.9**	**+0.8**
CPBX				⇑*e*		01 40 29.3	
CPBX				AML	AML	01 40 29.3	
	comp=N,16µm,0.3s						
ECBX	**El Chinero**	**0.63**	**170**	*e*P9	**Pg**	**01 40 26.6**	**-0.3**
ECBX				*e*S	**Sg**	**01 40 35.9**	**+0.9**
EMSC	**East Mesa**	**0.67**	**14**	*e*P2	**Pg**	**01 40 27.1**	**+0.4**
RDX	**Rancho Dawling**	**0.67**	**256**	*e*P	**Pg**	**01 40 29.3**	**+0.2**
RDX				*e*S	**Sb**	**01 40 38.5**	**-0.2**
RDX				⇑*e*		01 40 40.1	
RDX				AML	AML	01 40 40.1	
	comp=N,988nm,0.3s						
YMD	**Yuma Desert**	**0.71**	**49**	*e*P2	**Pg**	**01 40 28.6**	**+0.1**
SGL	**Mount Signal**	**0.72**	**320**	⇓*i*P	**Pb**	**01 40 29.4**	**-0.6**
DREC	**Desert Rsrch C**	**0.75**	**342**	*e*P	**Pb**	**01 40 29.7**	**-0.6**
COA	**Coachella**	**0.77**	**3**	⇓*i*P	**Pg**	**01 40 29.5**	**-0.2**
YUH	**Yuha Desert**	**0.84**	**312**	⇑*i*P	**Pg**	**01 40 31.2**	**+0.2**
SPIG	**San Pedro Mart**	**1.07**	**193**	*e*P	**Pg**	**01 40 35.0**	**-0.4**
SPIG				*e*S	**Sb**	**01 40 50.7**	**+0.3**
SPIG	**San Pedro Mart**	**1.07**	**193**	*e*P	**Pg**	**01 40 35.0**	**-0.4**
SPIG				*e*S	**Sb**	**01 40 50.7**	**+0.3**
SPIG	**San Pedro Mart**	**1.07**	**193**	*e*P	**Pn**	**01 40 36.9**	**+0.2**
SPX	**San Pedro Mart**	**1.07**	**193**	*e*P	**Pg**	**01 40 34.3**	**-1.1**
SPX				*i* S	**Sg**	**01 40 49.8**	**+0.5**
SPX	**San Pedro Mart**	**1.07**	**193**	*e*P	**Pn**	**01 40 37.0**	**+0.2**
ZAX	**El Zacaton**	**1.10**	**239**	*e*P	**Pn**	**01 40 37.2**	**+0.3**
ZAX				*e*S	**Sn**	**01 40 52.3**	**-0.1**
CBX	**Cerro Bola**	**1.28**	**280**	*e*P	**Pn**	**01 40 37.4**	**-2.1**
CBX				*i* S	**Sg**	**01 40 55.7**	**-0.3**
CBX	**Cerro Bola**	**1.28**	**280**	*e*P	**Pn**	**01 40 37.4**	**-2.1**
CBX				*i* S	**Sg**	**01 40 55.7**	**-0.3**
CBX	**Cerro Bola**	**1.28**	**280**	*e*P	**Pb**	**01 40 39.5**	**0.0**
CBX				*e*S	**Sg**	**01 40 56.1**	**0.0**
CBX				AML	AML	01 40 57.5	
	comp=N,1µm,0.4s						
CBX				⇓*e*		01 40 57.5	
ECNX	**Esteban Cantu**	**1.28**	**251**	*e*P	**Pg**	**01 40 40.2**	**+0.6**
BAR	**Barrett**	**1.40**	**295**	*e*Pn	**Pb**	**01 40 41.2**	**-0.2**
BAR				*e*S	**Sb**	**01 40 58.9**	**-0.6**
BAR	**Barrett**	**1.40**	**295**	*e*P	**Pb**	**01 40 41.1**	**-0.2**
PFO	**Pinyon Flats O**	**1.86**	**325**	*e*Pn	**Pn**	**01 40 45.5**	**-2.0**
PFO				*e*S	**Sb**	**01 41 13.5**	**+0.6**
214A	**Organ Pipe Nat**	**2.01**	**93**	*e*Pn	**Pn**	**01 40 47.3**	**-2.2**
MWC	**Mount Wilson**	**3.22**	**312**	*e*Pn	**Pn**	**01 41 08.6**	**+2.4**
MWC				*e*S	**Sb**	**01 41 54.8**	**+2.6**
TUC	**Tucson**	**3.73**	**85**	*e*Pn	Pb	01 41 17.5	-3.8
TUC				*e*S	**Sb**	**01 42 09.7**	**+2.9**

IDC 10 01:52:10.9±4.2, 48°.88S×124°.65E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/25, mbtmp3.5/3, Error ellipse: s-maj=126.1km s-min=73.7km az=108.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**15.99**	**327**	T	T	02 12 42.4	
	baz=158,slow=79,SNR=12						
H01W2	**Cape Leeuwin H**	**15.99**	**327**	T	T	02 12 41.6	
	baz=158,slow=79,SNR=9.2						
H01W3	**Cape Leeuwin H**	**16.00**	**327**	T	T	02 12 43.7	
	baz=158,slow=79,SNR=13						
STKA	**Stephens Creek**	**21.25**	**43**	P	P	01 56 58.5	-0.1
	1.8nm,0.6s,baz=234,slow=14,SNR=3.1						
ASAR	**Alice Springs**	**26.21**	**20**	P	P	01 57 47.4	0.0
	0.5nm,0.8s,baz=196,slow=8.9,SNR=6.4						
WRA	**Warramunga Arr**	**29.91**	**19**	P	P	01 58 20.4	0.0
	0.2nm,0.6s,baz=194,slow=8.7,SNR=3.8						
YKA	**Yellowknife Ar**	**145.28**	**44**	PKPbc	PKPbc	02 11 48.2	-0.9
	0.2nm,0.8s,baz=255,slow=3.6,SNR=3.7						

IDC 10 01:56:03.8±1.9, 35°.81S×72°.94W, h0km, mb3.5/3, mb1 3.5/6, mb1mx3.5/17, mbtmp3.4/6, ML3.5/3, MS3.7/2, Ms1 3.7/2, ms1mx3.1/14, Error ellipse: s-maj=47.5km s-min=30.2km az=89.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**5.26**	**160**	Pn	Pn	01 57 22.4	-1.4
	0.7nm,0.3s,baz=339,slow=12,SNR=8.8						
PLCA				Lg	Lg	01 58 43.8	
	1.3nm,0.3s,baz=227,slow=7.3,SNR=4.3						
CFAA	**Coronel Fontan**	**5.74**	**44**	Pn	Pn	01 57 30.1	-0.3
	0.2nm,0.3s,baz=231,slow=14,SNR=57						
CFAA				Sn	Sn	01 58 26.4	-11
	0.4nm,0.3s,baz=160,slow=20,SNR=7.3						
CFAA				LR	LR	01 59 27.7	
	comp=Z,8.9nm,21.0s,baz=228,slow=36						
LVC	**Limon Verde**	**13.61**	**16**	LR	LR	02 04 22.5	
	comp=Z,258nm,20.8s,baz=186,slow=37						
CPUP	**Villa Florida**	**16.36**	**59**	LR	LR	02 07 07.9	
	comp=Z,360nm,18.5s,baz=201,slow=41						
LPAZ	**La Paz**	**19.91**	**14**	P	P	02 00 37.9	0.0
	0.1nm,0.3s,baz=208,slow=9.2,SNR=2.2						
SIV	**San Ignacio**	**22.40**	**31**	P	P	02 01 02.7	-1.3
	1.1nm,0.7s,baz=225,slow=13,SNR=2.3						
TXAR	**Lajitas Array**	**70.97**	**332**	P	P	02 07 23.1	-0.1
	0.3nm,0.9s,baz=154,slow=6.7,SNR=3.2						
TORD	**Torodi Ar. Bea**	**85.52**	**70**	P	P	02 08 45.5	+1.5
	0.4nm,0.8s,baz=215,slow=4.8,SNR=3.0						

*IDC **10** 01:59:39.9±1.1, 63°.82N×147°.69W, h0km, mb3.6/8, mb1 3.8/11, mb1mx3.6/32, mbtmp3.6/11, ML3.3/3, MS3.0/1, Ms1 3.1/1, ms1mx2.3/32, Error ellipse: s-maj=18.6km s-min=10.2km az=85.0*
*ISCJB **10** 01:59:40.0±0.5, 63°.80N±0°.02×147°.56W±0°.04, h6km±4km, mb3.7/7, MS3.0/1, Error ellipse: s-maj=3.2km s-min=2.8km az=14.1*
*NEIC **10** 01:59:40.2, 63°.77N×147°.57W, h1km, ML3.4(AEIC), After AEIC.*
ISC 10 01:59:39.8±1.2, 63°.80N±0°.02×147°.51W±0°.02, h1km±8km, n87, σ1§40/102, mb3.7/7, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCK	**McKinley**	**0.64**	**265**	P	**Pg**	**01 59 51.6**	**-0.3**
MCK				S	**Sg**	**02 00 00.9**	**+0.7**
RND	**Reindeer**	**0.72**	**237**	P	**Pg**	**01 59 53.3**	**-0.2**
RND				S	**Sg**	**02 00 02.5**	**-0.2**
WRH	**Wood River Hil**	**0.72**	**340**	P	**Pg**	**01 59 54.5**	**+1.0**
WRH				S	**Sb**	**02 00 05.0**	**-0.5**
DHY	**Denali Highway**	**0.73**	**175**	P	**Pg**	**01 59 53.1**	**-0.5**
DDM	**Donnelly Dome**	**0.73**	**90**	P	**Pg**	**01 59 54.6**	**+0.8**
PS08	**TAPS Pump Stn8**	**0.81**	**22**	P	**Pg**	**01 59 56.3**	**+1.1**
PS08				S	**Sb**	**02 00 08.6**	**+0.6**
CCB	**Clear Creek Bu**	**0.86**	**352**	P	**Pg**	**01 59 57.0**	**+0.7**
CCB				S	**Sb**	**02 00 09.6**	**0.0**
PS10	**TAPS Pump St10**	**0.86**	**115**	P	**Pg**	**01 59 56.5**	**+0.2**
BWN	**Browne**	**0.94**	**294**	P	**Pg**	**01 59 56.9**	**-0.8**
IL1	**Eielson Array**	**1.02**	**15**	P	**Pg**	**02 00 00.2**	**+1.0**
ILAR	**Eielson Array**	**1.02**	**15**	Pg	**Pg**	**01 59 59.9**	**+0.8**
	175nm,0.3s,baz=198,slow=16,SNR=1788						
ILAR				Lg	Lg	02 00 14.3	
	484nm,0.3s,baz=197,slow=26,SNR=108						
ILB	**Eielson Array**	**1.02**	**15**	P	**Pg**	**02 00 00.0**	**+0.8**
COLA	**College**	**1.09**	**352**	*e*Pg	**Pb**	**02 00 01.6**	**+0.2**
COLA				*e*S	**Sb**	**02 00 16.3**	**+0.2**
MDM	**Murphy Dome**	**1.21**	**345**	P	**Pb**	**02 00 03.5**	**+0.1**
PAX	**Paxson**	**1.24**	**131**	*e*Pn	**Pg**	**02 00 02.4**	**-1.0**
PAX				*e*S	**Sg**	**02 00 18.0**	**-1.5**
HUR	**Hurricane**	**1.26**	**230**	P	**Pg**	**02 00 03.1**	**-0.8**
TRF	**Thorofare Moun**	**1.29**	**256**	P	**Pg**	**02 00 03.2**	**-1.2**
DOT	**Dot Lake**	**1.54**	**94**	P	**Pn**	**02 00 08.1**	**-0.3**
KTH	**Kantishna Hill**	**1.54**	**262**	*e*Pn	**Pn**	**02 00 07.9**	**-0.5**
KTH				*e*S	**Sg**	**02 00 29.3**	**+0.1**
BPAW	**Bear Paw Mtn.**	**1.56**	**283**	P	**Pn**	**02 00 07.7**	**-0.9**
SCRK	**Sand Creek**	**1.57**	**82**	P	**Pn**	**02 00 08.5**	**-0.3**
HARP	**HAARP**	**1.76**	**141**	P	**Pn**	**02 00 10.1**	**+0.8**
MLY	**Manley**	**1.87**	**313**	P	**Pn**	**02 00 12.3**	**-0.6**
CUT	**Chulitna**	**1.88**	**223**	P	**Pn**	**02 00 13.0**	**+0.1**
TRAP	**Trapper Creek**	**1.92**	**222**	P	**Pn**	**02 00 12.9**	**-0.6**
SCM	**Sheep Creek Mo**	**1.97**	**177**	P	**Pn**	**02 00 14.2**	**-0.2**
CAST	**Castle Rocks**	**2.08**	**262**	P	**Pn**	**02 00 15.0**	**-0.7**
CHUM	**Lake Minchumin**	**2.13**	**274**	P	**Pn**	**02 00 16.1**	**-0.3**
PS06	**TAPS Pump Stn6**	**2.27**	**336**	P	**Pn**	**02 00 18.9**	**+0.5**
PPLA	**Purkeypile**	**2.29**	**249**	P	**Pn**	**02 00 19.9**	**+1.1**
WASW	**Wrangell South**	**2.42**	**139**	P	**Pn**	**02 00 21.8**	**+1.2**
KLU	**Klutina**	**2.43**	**162**	P	**Pn**	**02 00 21.6**	**+1.1**
SKT	**Skwentna**	**2.59**	**227**	P	**Pn**	**02 00 23.0**	**+0.2**
BCA3	**Beaver Creek A**	**2.68**	**103**	P	**Pn**	**02 00 23.7**	**-0.3**
VLZ	**Valdez**	**2.73**	**168**	P	**Pn**	**02 00 25.8**	**+1.2**
SUA	**Susitna One**	**2.78**	**214**	P	**Pn**	**02 00 25.7**	**+0.3**
JPK	**Jack Peak**	**2.78**	**171**	P	**Pn**	**02 00 26.1**	**+0.7**
DIV	**Divide**	**2.80**	**162**	*e*Pn	**Pn**	**02 00 27.6**	**+2.0**
DIV				*e*S	**Sb**	**02 01 04.4**	**-0.8**
RC01	**Rabbit Creek A**	**2.91**	**202**	*e*Pn	**Pn**	**02 00 28.4**	**+1.3**
RC01				*e*S	**Sb**	**02 01 07.6**	**-0.8**
GLB	**Gilahina Butte**	**2.92**	**142**	P	**Pn**	**02 00 29.1**	**+1.8**
EGAK	**Eagle**	**2.94**	**68**	P	**Pn**	**02 00 28.9**	**+1.4**
FYU	**Fort Yukon**	**2.94**	**18**	P	**Pn**	**

3.2nm,1.1s,baz=8.8,slow=8.2,SNR=3.1

NOA	**NORSAR Array B**	**54.45**	**13**	LR	LR	02 34 01.5	
	comp=Z,12nm,18.3s,baz=350,slow=38						
SONM	**Songino Array**	**54.60**	**307**	P	**P**	**02 09 08.8**	**-0.7**
	0.4nm,0.7s,baz=30,slow=4.5,SNR=2.3						
FINES	**FINESS Array B**	**54.98**	**4**	P	**P**	**02 09 11.5**	**-0.3**
	0.4nm,0.5s,baz=12,slow=7.1,SNR=5.2						
AKASG	**Malin Array Be**	**65.81**	**2**	P	**P**	**02 10 25.2**	**-0.8**
	0.2nm,0.4s,baz=357,slow=6.5,SNR=5.5						

*IDC **10** 02:06:23.7±2.2,60.73°S×35.86°W,h0km,mb4.0/1, mb1 4.0/1,mb1mx3.5/14,mbtmp4.0/1,MS3.5/3,Ms1 3.5/3, ms1mx3.1/14,Error ellipse: s-maj=140.3km s-min=74.1km az=157.0*

*AWI **10** 02:07:01.1,63°18S×30°51W*

ISC 10 02:06:24.6±2.4,61°S±1°×35°9W±0°7,h10km,n17,sd0°20/4, MS3.4/3,Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**14.69**	**146**	P	Pn	02 09 42.8	-9.4
VNA1	**Neumayer--Stat**	**14.80**	**143**	P	Pn	02 09 44.0	-10
VNA2	**Neumayer--Watz**	**15.18**	**143**	P	Pn	02 09 48.4	-10
	baz=301,slow=16						
SNAA	**Sanae**	**16.83**	**143**	P	Pn	02 10 11.4	-8.7
PLCA	**Paso Flores**	**29.24**	**298**	LR	LR	02 22 39.9	
	comp=Z,96nm,19.0s,baz=190,slow=34						
CPUP	**Villa Florida**	**37.51**	**327**	LR	LR	02 28 01.9	
	comp=Z,208nm,21.0s,baz=184,slow=35						
LPAZ	**La Paz**	**50.19**	**318**	LR	LR	02 36 37.0	
	comp=Z,18nm,21.5s,baz=142,slow=36						
H10S2	**ASCENSION HYDR**	**54.18**	**26**	T	T	03 14 57.6	
	baz=193,slow=75,SNR=27						
H10S3	**ASCENSION HYDR**	**54.19**	**26**	T	T	03 14 55.9	
	baz=193,slow=75,SNR=45						
H10S1	**ASCENSION HYDR**	**54.20**	**26**	T	T	03 14 58.9	
	baz=193,slow=75,SNR=34						
H10N1	**ASCENSION HYDR**	**55.30**	**26**	T	T	03 16 24.9	
	baz=192,slow=75,SNR=17						
H10N3	**ASCENSION HYDR**	**55.30**	**26**	T	T	03 16 20.5	
	baz=192,slow=75,SNR=39						
H10N2	**ASCENSION HYDR**	**55.31**	**26**	T	T	03 16 22.9	
	baz=192,slow=75,SNR=40						
TORD	**Torodi Ar. Bea**	**79.61**	**37**	P	**P**	**02 18 31.8**	**0.0**
	1.2nm,0.9s,baz=205,slow=6.3,SNR=5.7						
YKA	**Yellowknife Ar**	**136.74**	**318**	PKP	**PKPdf**	**02 25 45.3**	**-0.1**
	0.1nm,0.6s,baz=121,slow=2.6,SNR=3.3						
ZALV	**Zalesovo Beam**	**148.34**	**76**	PKPbc	**PKPbc**	**02 26 09.8**	**0.0**
	0.5nm,0.4s,baz=204,slow=3.2,SNR=2.4						
ILAR	**Eielson Array**	**149.68**	**308**	PKPbc	**PKPbc**	**02 26 12.9**	**+0.1**
	1.1nm,1.1s,baz=134,slow=1.2,SNR=5.1						

*THE **10** 02:25:00.8,38.43N×21.83E,h1km±1km,ML3.3/16,Error ellipse: s-maj=1.3km s-min=0.3km az=269.0*

*ISCJB **10** 02:25:00.6±0.3,38.44N±0.01×21.83E±0.02,h6km±2km, mb3.5/5,Error ellipse: s-maj=2.2km s-min=2.0km az=170.2*

*IDC **10** 02:25:00.5±1.3,38.39N×21.81E,h0km,mb3.4/6, mb1 3.6/7,mb1mx3.4/28,mbtmp3.5/7,ML2.9/1,MS2.7/1, Ms1 2.7/1,ms1mx2.2/20,Error ellipse: s-maj=33.1km s-min=21.8km az=149.0*

*CSEM **10** 02:25:00.9±0.1,38.42N×21.84E,h5km,MD3.1,Error ellipse: s-maj=2.3km s-min=2.1km az=54.0*

*ATH **10** 02:25:01.3,38.42N×21.86E,h12km±1km,MD3.1/27, ML3.0*

*IASPEI **10** 02:25:01.1±0.8,38.43N±0.01×21.84E±0.01,h9km±4km, mb3.4/5,Error ellipse: s-maj=2.1km s-min=1.9km az=109.3*

ISC 10 02:25:01.3±0.7,38.43N±0.01×21.84E±0.01,h8km±4km, n151,sd0.82/231,mb3.4/5,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.05**	**89**	P	**Pg**	**02 25 02.9**	**-0.1**
EFP				S	**Sg**	**02 25 03.6**	**-0.8**
EFP	**Efpalio**	**0.05**	**89**	*e*Pg	**Pg**	**02 25 03.0**	**-0.1**
EFP				*e*Sg	**Sg**	**02 25 04.6**	**+0.2**
EFP	**Efpalio**	**0.05**	**89**	P	**Pg**	**02 25 02.9**	**-0.1**
EFP				S	**Sg**	**02 25 04.3**	**-0.1**
UPR	**University Cam**	**0.15**	**196**	P	**Pg**	**02 25 04.5**	**0.0**
UPR				S	**Sg**	**02 25 06.2**	**-0.4**
UPR	**University Cam**	**0.15**	**196**	P	**Pg**	**02 25 04.5**	**0.0**
UPR				S	**Sg**	**02 25 07.2**	**+0.6**
KALE	**Kalithea**	**0.24**	**98**	P	**Pg**	**02 25 05.9**	**-0.2**
KALE				S	**Sg**	**02 25 09.4**	**0.0**
KALE	**Kalithea**	**0.24**	**98**	*e*Pg	**Pg**	**02 25 06.0**	**-0.2**
KALE				*e*Sg	**Sg**	**02 25 10.0**	**+0.6**
KALE	**Kalithea**	**0.24**	**98**	P	**Pg**	**02 25 06.0**	**-0.2**
KALE				S	**Sg**	**02 25 09.4**	**0.0**
KALE				*e*Sg	Sg	02 25 10.0	+0.5
PVO	**Paravola**	**0.31**	**308**	P	**Pg**	**02 25 07.0**	**-0.5**
PVO				S	**Sg**	**02 25 11.5**	**-0.1**
PVO	**Paravola**	**0.31**	**308**	P	**Pg**	**02 25 07.0**	**-0.5**
PVO				S	**Sg**	**02 25 11.5**	**-0.1**
KLV	**Kalavryta, Ach**	**0.45**	**147**	P	**Pg**	**02 25 09.8**	**-0.3**
KLV				S	**Sg**	**02 25 16.5**	**+0.4**
KLV	**Kalavryta, Ach**	**0.45**	**147**	*e*PB	**Pg**	**02 25 09.8**	**-0.3**
KLV				*e*SB	**Sg**	**02 25 17.0**	**+0.9**
KLV	**Kalavryta, Ach**	**0.45**	**147**	P	**Pg**	**02 25 09.8**	**-0.3**
KLV				S	**Sg**	**02 25 16.5**	**+0.4**
KLV				*e*Sb	**Sg**	**02 25 17.0**	**+0.9**
RLS	**Riolos of Patr**	**0.47**	**219**	P	**Pg**	**02 25 10.2**	**-0.2**
RLS				S	**Sg**	**02 25 16.9**	**+0.3**
RLS	**Riolos of Patr**	**0.47**	**219**	*e*PG	**Pg**	**02 25 10.4**	**0.0**
RLS				*e*SB	**Sg**	**02 25 17.6**	**+1.0**
RLS	**Riolos of Patr**	**0.47**	**219**	P	**Pg**	**02 25 10.2**	**-0.2**
RLS				S	**Sg**	**02 25 16.9**	**+0.3**
RLS				*e*Sb	**Sg**	**02 25 17.6**	**+1.0**
DRO	**Drossia**	**0.48**	**192**	P	**Pg**	**02 25 10.1**	**-0.6**
DRO				S	**Sg**	**02 25 17.4**	**+0.4**
DRO	**Drossia**	**0.48**	**192**	*e*PG	**Pg**	**02 25 10.4**	**-0.3**
DRO				*e*SB	**Sg**	**02 25 18.0**	**+1.0**
DRO	**Drossia**	**0.48**	**192**	*e*Pg	**Pg**	**02 25 10.4**	**-0.3**
DRO				S	**Sg**	**02 25 17.4**	**+0.4**
DRO				*e*Sb	**Sg**	**02 25 18.0**	**+1.0**
EVR	**Evrytania**	**0.49**	**357**	P	**Pg**	**02 25 10.1**	**-0.7**
EVR				S	**Sg**	**02 25 17.3**	**0.0**
EVR	**Evrytania**	**0.49**	**357**	*e*PB	**Pg**	**02 25 10.3**	**-0.5**
EVR				*e*SB	**Sb**	**02 25 18.9**	**-0.7**
EVR	**Evrytania**	**0.49**	**357**	*e*Pb	**Pg**	**02 25 10.3**	**-0.5**
EVR				S	**Sg**	**02 25 17.3**	**0.0**
EVR				*e*Sb	**Sb**	**02 25 18.9**	**-0.7**
DSF	**Desfina**	**0.54**	**91**	P	**Pg**	**02 25 10.7**	**-1.1**
DSF				S	**Sg**	**02 25 19.3**	**+0.4**
DSF	**Desfina**	**0.54**	**91**	*e*PB	**Pg**	**02 25 10.9**	**-0.9**
DSF				*e*SB	**Sb**	**02 25 19.7**	**-1.3**
DSF	**Desfina**	**0.54**	**91**	*e*Pb	**Pg**	**02 25 10.9**	**-0.9**
DSF				S	**Sg**	**02 25 19.2**	**+0.4**
PDO	**Prodromos**	**0.54**	**289**	P	**Pg**	**02 25 10.3**	**-1.5**
PDO				S	**Sg**	**02 25 18.8**	**-0.1**
PDO	**Prodromos**	**0.54**	**289**	*e*PG	**Pg**	**02 25 11.8**	**0.0**
PDO				*e*SB	**Sb**	**02 25 20.6**	**-0.4**
PDO	**Prodromos**	**0.54**	**289**	P	**Pg**	**02 25 10.6**	**-1.2**
PDO	**Prodromos**	**0.54**	**289**	*e*Pg	**Pg**	**02 25 11.8**	**0.0**
PDO				S	**Sg**	**02 25 18.8**	**-0.1**
MAKR	**Makrakomi, Fth**	**0.63**	**21**	P	**Pg**	**02 25 13.0**	**-0.4**
MAKR				S	**Sg**	**02 25 22.3**	**+0.5**
MAKR	**Makrakomi, Fth**	**0.63**	**21**	*e*PG	**Pg**	**02 25 13.1**	**-0.4**
MAKR				*e*SB	**Sb**	**02 25 23.1**	**-0.4**
MAKR	**Makrakomi, Fth**	**0.63**	**21**	P	**Pg**	**02 25 13.0**	**-0.4**
MAKR				S	**Sg**	**02 25 22.2**	**+0.5**
MAKR				*e*Sb	**Sb**	**02 25 23.1**	**-0.4**
GUR	**Goura**	**0.63**	**141**	P	**Pg**	**02 25 12.6**	**-0.9**
GUR				S	**Sg**	**02 25 22.4**	**+0.7**
GUR	**Goura**	**0.63**	**141**	*e*PG	**Pg**	**02 25 12.8**	**-0.7**
GUR				*e*SB	**Sb**	**02 25 22.6**	**-1.0**
GUR	**Goura**	**0.63**	**141**	*e*Pg	**Pg**	**02 25 12.8**	**-0.7**
GUR				S	**Sg**	**02 25 22.0**	**+0.3**
AGG	**Agios Georgios**	**0.71**	**33**	P	**Pg**	**02 25 13.7**	**-1.2**
AGG				S	**Sg**	**02 25 24.4**	**+0.2**
AGG	**Agios Georgios**	**0.71**	**33**	*e*PG	**Pg**	**02 25 14.6**	**-0.4**
AGG				*e*SB	**Sb**	**02 25 25.1**	**-0.7**
AGG	**Agios Georgios**	**0.71**	**33**	P	**Pg**	**02 25 13.8**	**-1.2**
AGG	**Agios Georgios**	**0.71**	**33**	*e*Pg	**Pg**	**02 25 14.6**	**-0.4**
AGG				S	**Sg**	**02 25 24.4**	**+0.2**
AGG				*e*Sb	**Sb**	**02 25 25.1**	**-0.7**
AXAR	**Agios Charalam**	**0.73**	**62**	P	**Pg**	**02 25 14.2**	**-1.1**
AXAR				S	**Sb**	**02 25 25.6**	**-0.7**
AXAR	**Agios Charalam**	**0.73**	**62**	*e*PG	**Pg**	**02 25 14.9**	**-0.4**
AXAR				*e*SB	**Sb**	**02 25 25.4**	**-0.9**
AXAR	**Agios Charalam**	**0.73**	**62**	P	**Pg**	**02 25 14.2**	**-1.1**
AXAR	**Agios Charalam**	**0.73**	**62**	*e*Pb	**Pg**	**02 25 14.9**	**-0.4**
AXAR				S	**Sb**	**02 25 25.4**	**-0.9**
KFL	**Anninata**	**0.89**	**249**	P	**Pg**	**02 25 17.4**	**-0.9**
KFL	**Anninata**	**0.89**	**249**	P	**Pg**	**02 25 17.4**	**-0.9**
AMT	**Artemida-Makis**	**0.90**	**187**	P	**Pg**	**02 25 18.3**	**-0.3**
AMT				S	**Sb**	**02 25 30.9**	**-0.3**
AMT	**Artemida-Makis**	**0.90**	**187**	*e*PB	**Pg**	**02 25 18.5**	**-0.1**
AMT				*e*SB	**Sb**	**02 25 30.8**	**-0.4**
AMT	**Artemida-Makis**	**0.90**	**187**	*e*Pb	**Pg**	**02 25 18.5**	**-0.1**
AMT				*e*Sb	**Sb**	**02 25 30.8**	**-0.4**
DSL	**Palaion Diasel**	**0.91**	**321**	P	**Pg**	**02 25 17.1**	**-1.8**
DSL	**Palaion Diasel**	**0.91**	**321**	*e*PN	**Pb**	**02 25 19.4**	**0.0**
DSL				*e*SN	**Sb**	**02 25 32.0**	**+0.3**
DSL	**Palaion Diasel**	**0.91**	**321**	P	**Pg**	**02 25 17.1**	**-1.8**
DSL	**Palaion Diasel**	**0.91**	**321**	*e*Pn	**Pb**	**02 25 19.4**	**0.0**
DSL				*e*Sn	**Sb**	**02 25 32.0**	**+0.3**
LKR	**Lokris**	**0.94**	**76**	*e*PB	**Pg**	**02 25 18.8**	**-0.5**
LKR				*e*SN	**Sb**	**02 25 32.6**	**+0.3**
LKR	**Lokris**	**0.94**	**76**	*e*Pb	**Pg**	**02 25 18.8**	**-0.5**
LKR				*e*Sn	**Sb**	**02 25 32.6**	**+0.3**
LTK	**Loutraki**	**0.97**	**114**	P	**Pg**	**02 25 19.5**	**-0.5**
LTK				S	**Sb**	**02 25 33.4**	**0.0**
LTK	**Loutraki**	**0.97**	**114**	*e*PB	**Pg**	**02 25 19.8**	**-0.2**
LTK				*e*SN	**Sb**	**02 25 33.1**	**-0.3**
LTK	**Loutraki**	**0.97**	**114**	P	**Pg**	**02 25 19.5**	**-0.5**
LTK	**Loutraki**	**0.97**	**114**	*e*Pb	**Pg**	**02 25 19.8**	**-0.2**
LTK				S	**Sb**	**02 25 33.4**	**0.0**
LKD2	**Lefkada island**	**0.99**	**292**	P	**Pg**	**02 25 19.1**	**-1.3**
LKD2	**Lefkada island**	**0.99**	**292**	*e*PG	**Pg**	**02 25 19.7**	**-0.7**
LKD2	**Lefkada island**	**0.99**	**292**	P	**Pg**	**02 25 19.1**	**-1.3**
LKD2	**Lefkada island**	**0.99**	**292**	*e*Pg	**Pg**	**02 25 19.7**	**-0.7**
VLS	**Valsamata**	**1.01**	**256**	P	**Pg**	**02 25 19.0**	**-1.7**
VLS	**Valsamata**	**1.01**	**256**	*e*PB	**Pg**	**02 25 19.1**	**-1.7**
VLS				*e*SB	**Sb**	**02 25 35.1**	**+0.5**
VLS	**Valsamata**	**1.01**	**256**	*e*Pb	**Pg**	**02 25 19.1**	**-1.7**
VLS				*e*Sb	**Sb**	**02 25 35.1**	**+0.5**
VLX	**Vlachokerasia**	**1.14**	**158**	P	**Pg**	**02 25 21.8**	**-1.3**
VLX	**Vlachokerasia**	**1.14**	**158**	*e*PG	**Pg**	**02 25 21.9**	**-1.2**
VLX				*e*SB	**Sn**	**02 25 39.0**	**-0.4**
VLX	**Vlachokerasia**	**1.14**	**158**	*e*Pg	**Pg**	**02 25 21.9**	**-1.2**
VLX				*e*Sb	**Sn**	**02 25 39.0**	**-0.4**
THL	**Klokotos Trika**	**1.15**	**7**	P	**Pg**	**02 25 21.7**	**-1.6**
THL				S	**Sn**	**02 25 39.2**	**-0.2**
THL	**Klokotos Trika**	**1.15**	**7**	*e*PG	**Pg**	**02 25 22.6**	**-0.7**
THL				*e*SB	**Sb**	**02 25 38.7**	**+0.4**
THL	**Klokotos Trika**	**1.15**	**7**	P	**Pg**	**02 25 21.7**	**-1.6**
THL	**Klokotos Trika**	**1.15**	**7**	*e*Pg	**Pg**	**02 25 22.6**	**-0.7**
THL				*e*Sb	**Sb**	**02 25 38.7**	**+0.4**
THL				S	**Sn**	**02 25 39.2**	**-0.2**
SMIA	**Simia**	**1.16**	**67**	P	**Pg**	**02 25 22.2**	**-1.4**
SMIA				S	**Sn**	**02 25 39.7**	**-0.2**
SMIA	**Simia**	**1.16**	**67**	*e*PB	**Pn**	**02 25 24.1**	**+0.2**
SMIA				*e*SB	**Sb**	**02 25 38.6**	**-0.3**
SMIA	**Simia**	**1.16**	**67**	P	**Pg**	**02 25 22.2**	**-1.4**
SMIA	**Simia**	**1.16**	**67**	*e*Pb	**Pn**	**02 25 24.1**	**+0.2**
SMIA				*e*Sb	**Sb**	**02 25 38.6**	**-0.3**
SMIA				S	**Sn**	**02 25 39.7**	**-0.2**
ITM	**Ithomi**	**1.25**	**177**	*e*PB	**Pn**	**02 25 23.4**	**-1.6**
ITM				*e*SB	**Sn**	**02 25 42.5**	**+0.5**
ITM	**Ithomi**	**1.25**	**177**	*e*Pb	**Pn**	**02 25 23.4**	**-1.6**
ITM				*e*Sb	**Sn**	**02 25 42.5**	**+0.5**
NEO	**Neokhori**	**1.39**	**50**	*e*PG	**Pn**	**02 25 27.1**	**+0.1**
NEO				*e*SG	**Sb**	**02 25 45.2**	**-0.3**
NEO	**Neokhori**	**1.39**	**50**	*e*Pg	**Pn**	**02 25 27.1**	**+0.1**
NEO				*e*Sg	**Sb**	**02 25 45.2**	**-0.3**
MRKA	**Markates**	**1.40**	**78**	P	**Pn**	**02 25 26.4**	**-0.7**
MRKA				S	**Sg**	**02 25 47.0**	**+0.8**
MRKA	**Markates**	**1.40**	**78**	*e*PG	**Pn**	**02 25 27.2**	**+0.1**
MRKA				*e*SB	**Sg**	**02 25 47.1**	**+0.8**
MRKA	**Markates**	**1.40**	**78**	P	**Pn**	**02 25 26.4**	**-0.7**
MRKA	**Markates**	**1.40**	**78**	*e*Pg	**Pn**	**02 25 27.2**	**+0.1**
MRKA				*e*Sb	**Sg**	**02 25 47.1**	**+0.8**
XOR	**Xorichti**	**1.41**	**48**	P	**Pn**	**02 25 27.1**	**-0.2**
XOR	**Xorichti**	**1.41**	**48**	*e*PG	**Pn**	**02 25 27.3**	**0.0**
XOR	**Xorichti**	**1.41**	**48**	P	**Pn**	**02 25 27.1**	**-0.2**
DID	**Didima**	**1.44**	**129**	*e*PB	**Pg**	**02 25 28.4**	**-0.5**
DID				*e*SB	**Sg**	**02 25 47.2**	**-0.3**
DID	**Didima**	**1.44**	**129**	*e*Pb	**Pg**	**02 25 28.4**	**-0.5**
DID				*e*Sb	**Sg**	**02 25 47.2**	**-0.3**
JAN	**Janina**	**1.45**	**328**	*e*PB	**Pg**	**02 25 29.8**	**+0.7**
JAN	**Janina**	**1.45**	**328**	*e*Pb	**Pg**	**02 25 29.8**	**+0.7**
SKIA	**Skiathos**	**1.47**	**59**	*e*PB	**Pg**	**02 25 29.5**	**0.0**
SKIA	**Skiathos**	**1.47**	**59**	*e*Pb	**Pg**	**02 25 29.5**	**0.0**
PYL	**PYLOS**	**1.53**	**183**	*e*PN	**Pn**	**02 25 28.6**	**-0.3**
PYL	**PYLOS**	**1.53**	**183**	*e*Pn	**Pn**	**02 25 28.6**	**-0.3**
ATH	**Athens Observa**	**1.55**	**106**	*e*PB	**Pg**	**02 25 30.6**	**-0.4**
ATH				*e*SG	**Sn**	**02 25 49.5**	**+0.2**
ATH	**Athens Observa**	**1.55**	**106**	*e*Pb	**Pg**	**02 25 30.6**	**-0.4**
ATH				*e*Sg	**Sn**	**02 25 49.5**	**+0.2**
IGT	**Igoumenitsa**	**1.61**	**314**	*e*PB	**Pg**	**02 25 33.3**	**+1.1**
IGT				*e*SB	**Sg**	**02 25 54.7**	**+1.6**
IGT	**Igoumenitsa**	**1.61**	**314**	*e*Pb	**Pg**	**02 25 33.3**	**+1.1**
IGT				*e*Sb	**Sg**	**02 25 54.7**	**+1.6**
PTL	**Penteli**	**1.64**	**103**	P	**Pn**	**02 25 30.5**	**+0.1**
PTL	**Penteli**	**1.64**	**103**	*e*PG	**Pg**	**02 25 32.6**	**-0.1**
PTL	**Penteli**	**1.64**	**103**	P	**Pn**	**02 25 30.5**	**+0.1**
PTL	**Penteli**	**1.64**	**103**	*e*Pg	**Pg**	**02 25 32.6**	**-0.1**
LIT	**Litokhoron**	**1.75**	**17**	P	**Pn**	**02 25 31.7**	**-0.2**
LIT	**Litokhoron**	**1.75**	**17**	*e*PN	**Pn**	**02 25 32.5**	**+0.6**
LIT	**Litokhoron**	**1.75**	**17**	P	**Pn**	**02 25 31.7**	**-0.2**
LIT	**Litokhoron**	**1.75**	**17**	*e*Pn	**Pn**	**02 25 32.5**	**+0.6**
AOS	**Alonnisos**	**1.76**	**64**	P	**Pn**	**02 25 31.3**	**-0.7**
AOS	**Alonnisos**	**1.76**	**64**	*e*PN	**Pn**	**02 25 32.4**	**+0.4**
AOS	**Alonnisos**	**1.76**	**64**	P	**Pn**	**02 25 31.3**	**-0.7**
AOS	**Alonnisos**	**1.76**	**64**	*e*Pn	**Pn**	**02 25 32.4**	**+0.4**
KZN	**Kozani**	**1.88**	**358**	*e*PN	**Pb**	**02 25 35.1**	**-0.8**
KZN	**Kozani**	**1.88**	**358**	*e*Pn	**Pb**	**02 25 35.1**	**-0.8**
VLI	**Veliai**	**1.92**	**153**	P	**Pn**	**02 25 34.1**	**-0.1**
VLI	**Veliai**	**1.92**	**153**	*e*PB	**Pn**	**02 25 34.4**	**+0.2**
VLI	**Veliai**	**1.92**	**153**	P	**Pn**	**02 25 34.1**	**-0.1**
KEK	**Kerkira**	**2.04**	**310**	*e*PN	**Pb**	**02 25 38.0**	**-0.6**
KEK	**Kerkira**	**2.04**	**310**	*e*Pn	**Pb**	**02 25 38.0**	**-0.6**
NEST	**Nestorio**	**2.08**	**343**	*e*PG	**Pb**	**02 25 39.3**	**0.0**
NEST	**Nestorio**	**2.08**	**343**	*e*Pg	**Pb**	**02 25 39.3**	**0.0**
PLG	**Polygyros**	**2.31**	**32**	*e*PN	**Pn**	**02 25 39.2**	**-0.4**
PLG	**Polygyros**	**2.31**	**32**	*e*Pn	**Pn**	**02 25 39.2**	**-0.4**
KYTH	**Kithira**	**2.34**	**156**	*e*PN	**Pb**	**02 25 42.9**	**+0.9**
FNA	**Florina**	**2.38**	**352**	*e*PB	**Pn**	**02 25 42.1**	**+1.3**
GRG	**Griva**	**2.56**	**10**	*e*PB	**Pn**	**02 25 43.8**	**+0.7**
SOH	**Sokhos**	**2.66**	**26**	*e*PN	**Pn**	**02 25 44.6**	**+0.1**
SOH	**Sokhos**	**2.66**	**26**	*e*Pn	**Pn**	**02 25 44.6**	**+0.1**
OHR	**Ohrid**	**2.80**	**344**	*e*Pn	**Pn**	**02 25 46.9**	**+0.4**
OHR	**Ohrid**	**2.80**	**344**	*e*Pn	**Pn**	**02 25 46.8**	**+0.4**
KNT	**Kendrikon**	**2.85**	**16**	*e*PN	**Pn**	**02 25 48.6**	**+1.5**
KNT	**Kendrikon**	**2.85**	**16**	*e*Pn	**Pn**	**02 25 48.6**	**+1.5**
SRS	**Serrai**	**3.01**	**26**	*e*PN	**Pn**	**02 25 49.9**	**+0.7**
SRS	**Serrai**	**3.01**	**26**	*e*Pn	**Pn**	**02 25 49.9**	**+0.7**
NVR	**Nevrokopi**	**3.31**	**27**	*e*PN	**Pn**	**02 25 55.0**	**+1.6**
NVR	**Nevrokopi**	**3.31**	**27**	*e*Pn	**Pn**	**02 25 55.0**	**+1.6**
BARS	**Barje**	**4.39**	**360**	*e*Pn	Pn	02 26 12.3	+4.2
IVAS	**Ivanjica**	**5.30**	**347**	*e*Pn	**Pn**	**02 26 23.6**	**+2.8**
STON	**Ston**	**5.44**	**326**	*e*Pn	**Pn**	**02 26 22.2**	**-0.4**
STON				Sn	**Sn**	**02 27 21.8**	**-3.5**
STON	**Ston**	**5.44**	**326**	*e*Pn	**Pn**	**02 26 22.2**	**-0.4**
GRUS	**Gruza**	**5.52**	**352**	*e*Pn	**Pn**	**02 26 22.7**	**-1.0**
DIVS	**Divibare**	**5.83**	**347**	*e*Pn	**Pn**	**02 26 28.9**	**+0.8**
UDBI	**Udbina**	**7.61**	**325**	*e*Pn	**Pn**	**02 26 52.2**	**-0.3**
UDBI				Sn	**Sn**	**02 28 15.4**	**-3.5**
UDBI	**Udbina**	**7.61**	**325**	*e*Pn	**Pn**	**02 26 52.2**	**-0.3**
BRTR	**Keskin Array B**	**9.27**	**78**	Pn	Pn	02 27 19.0	+3.7
	0.1nm,0.3s,baz=267,slow=10,SNR=7.8						
GERES	**GERESS Array B**	**11.96**	**333**	LR	LR	02 33 17.0	
	comp=Z,31nm,18.8s,baz=40,slow=42						
ESDC	**Sonseca Array**	**20.06**	**282**	P	**P**	**02 29 35.8**	**+0.8**
	0.3nm,0.4s,baz=74,slow=11,SNR=4.7						
NOA	**NORSAR Array B**	**23.59**	**347**	P	**P**	**02 30 13.7**	**+1.5**
	0.5nm,0.8s,baz=155,slow=8.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**30.89**	**221**	P	**P**	**02 31 18.2**	**-0.1**
	0.4nm,0.7s,baz=31,slow=8.7,SNR=7.4						
ARCES	**ARCESS Array B**	**31.23**	**2**	P	**P**	**02 31 20.5**	**-0.4**
	2.6nm,1.1s,baz=183,slow=12,SNR=3.0						
MKAR	**Makanchi Array**	**44.29**	**59**	P	**P**	**02 33 11.2**	**-0.1**
	0.3nm,0.5s,baz=290,slow=8.0,SNR=7.9						
ZALV	**Zalesovo Beam**	**44.75**	**48**	P	**P**	**02 33 17.1**	**+2.2**
	0.6nm,0.6s,baz=292,slow=8.1,SNR=2.8						

MEX 10 02:36:50.2±0.5,18.11N×103.31W,h5km±5km,MD3.5, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.18**	**350**	*e*P	Pg	02 36 53.3	-0.5
MMIG				*i* S	Sg	02 36 56.5	+0.3
R15V		**1.23**	**329**	*e*P	Pg	02 37 10.5	-3.4
R15V				*e*S	Sg	02 37 25.9	-4.1
EZ5V		**1.39**	**349**	*e*P	Pn	02 37 13.0	-3.7
EZ5V				*i* S	Sb	02 37 30.0	-5.3

BJI 10 02:38:50.0,24.91N×98.47E,h6km,ML3.7/3, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**3.88**	**86**	Pg	Pg	02 40 05.9	+1.2
KMI				Sg	Sb	02 40 49.4	+2.8
KMI				smax	smax		
	comp=N,65nm,0.7s						
KMI				smax	smax		
	comp=E,77nm,0.7s						

*ISCJB **10** 02:47:33.2±0.6,31.89N±0.03×114.89W±0.05,h21km±7km, Error ellipse: s-maj=6.6km s-min=4.6km az=10.1*

*NEIC **10** 02:47:33.1,31.81N×114.88W,h10km,ML3.1(PAS),After PAS.*

*ECX **10** 02:47:34.9±0.5,31.90N×114.96W,h10km,MD3.1,ML3.3*

*MEX **10** 02:47:35.1±0.5,31.94N×114.81W,h16km±11km,MD3.6*

ISC 10 02:47:32.8±1.1,31.88N±0.03×114.90W±0.03,h16km±9km, n22,sd0.78/37,5C-3D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECBX	**El Chinero**	**0.42**	**198**	*e*P9	**Pg**	**02 47 41.6**	**+0.2**
ECBX				*e*S	**Sb**	**02 47 47.3**	**-0.8**
ECBX				⇓*e*		02 47 47.6	
ECBX				AML	AML	02 47 47.6	
	comp=N,2µm,0.1s						
MBIG	**Mexicali**	**0.58**	**335**	*e*P	**Pg**	**02 47 44.4**	**0.0**
MBIG				*i* S	**Sg**	**02 47 51.3**	**-0.9**
CPBX	**Cerro Prieto**	**0.64**	**328**	*e*P9	**Pg**	**02 47 45.9**	**+0.6**
CPBX				*e*S	**Sg**	**02 47 54.0**	**+0.2**
CPBX				⇑*e*		02 47 57.3	
CPBX				AML	AML	02 47 57.3	
	comp=E,6µm,0.2s						
YMD	**Yuma Desert**	**0.74**	**24**	⇓*i* P	**Pg**	**02 47 47.6**	**+0.4**
EMSC	**East Mesa**	**0.86**	**355**	⇑*i* P	**Pg**	**02 47 49.6**	**0.0**
RDX	**Rancho Dawling**	**0.89**	**273**	*e*P	**Pg**	**02 47 49.3**	**-0.8**
RDX				*e*S	**Sg**	**02 48 01.2**	**-0.5**
RDX				AML	AML	02 48 03.1	
	comp=N,776nm,0.4

TLZ	**Tolley Road**	**2.04 217**	P*	**Pn**	**03 08 43.8**	**-0.3**
WTAZ	**Waiatarua**	**2.04 263**	PN	**Pn**	**03 08 44.2**	**+0.2**
WTAZ	**Waiatarua**	**2.04 263**	Pn	**Pn**	**03 08 44.2**	**+0.2**
RIGZ	**Rimuhau**	**2.06 166**	PN	**Pb**	**03 08 45.9**	**-0.7**
SNGZ	**Shannon Statio**	**2.08 175**	Pn	**Pn**	**03 08 44.9**	**+0.4**
WCZ	**Waipu Caves**	**2.36 288**	PN	**Pn**	**03 08 48.0**	**-0.4**
WCZ	**Waipu Caves**	**2.36 288**	Pn	**Pn**	**03 08 48.0**	**-0.4**
NMHZ	**Naumai**	**2.40 186**	PN	**Pb**	**03 08 51.2**	**-1.3**
NMHZ	**Naumai**	**2.40 186**	Pn	**Pb**	**03 08 52.2**	**-0.3**
BKZ	**Black Stump Fm**	**2.50 191**	P*	**Pn**	**03 08 51.9**	**+1.5**
BKZ			AML	AML	03 09 31.8	
BKZ			AML	AML	03 09 31.8	
BKZ	**Black Stump Fm**	**2.50 191**	P*	**Pb**	**03 08 53.4**	**-0.9**
HIZ	**Hauiti**	**2.54 224**	PN	**Pn**	**03 08 51.2**	**+0.4**
HIZ			AML	AML	03 09 44.2	
HIZ			AML	AML	03 09 47.4	
HIZ	**Hauiti**	**2.54 224**	Pn	**Pn**	**03 08 51.2**	**+0.4**
MCHZ	**McNeill Hill**	**2.75 187**	Pn	**Pb**	**03 08 58.3**	**-0.1**
FWVZ	**Far West T-bar**	**2.82 205**	AML	AML	03 09 16.2	
FWVZ	**Far West T-bar**	**2.82 205**	P*	**Pb**	**03 08 58.7**	**-1.1**
WNVZ	**Wahianoa**	**2.87 204**	P*	**Pb**	**03 08 59.6**	**-1.0**
BHHZ	**Black Hill Sta**	**2.89 196**	P*	**Pn**	**03 08 58.3**	**+2.5**
OUZ	**Omahuta**	**3.21 297**	*e*Pn	**Pn**	**03 08 60.0**	**-0.1**
OUZ			*e*S	**Sb**	**03 09 48.5**	**+2.5**
SNZO	**South Karori**	**4.96 201**	*e*Pn	**Pn**	**03 09 25.0**	**+0.9**
RPZ	**Rata Peaks**	**8.39 212**	Pn	**Pn**	**03 10 10.1**	**-1.1**
	0.3nm,0.3s,baz=42,slow=16,SNR=3.0					
STKA	**Stephens Creek**	**29.62 269**	LR	LR	03 24 39.9	
	comp=Z,74nm,18.3s,baz=203,slow=34					
ASAR	**Alice Springs**	**39.23 277**	P	**P**	**03 15 39.5**	**+1.0**
	0.5nm,0.6s,baz=120,slow=7.6,SNR=7.4					
ASAR			LR	LR	03 31 53.7	
	comp=Z,27nm,18.2s,baz=149,slow=36					
WRA	**Warramunga Arr**	**40.82 282**	P	**P**	**03 15 52.5**	**+0.7**
	0.5nm,0.7s,baz=120,slow=7.5,SNR=6.8					
FINES	**FINESS Array B**	**149.29 333**	PKPbc	**PKPab**	**03 28 02.2**	**-0.5**
	0.6nm,0.5s,baz=64,slow=3.2,SNR=6.1					
TORD	**Torodi Ar. Bea**	**156.18 191**	PKPab	**PKPab**	**03 28 34.0**	**+1.2**
	0.5nm,0.8s,baz=170,slow=4.1,SNR=3.8					

*IDC **10** 03:11:43.5±1.5,1°04S×120°59E,h0km,mb3.3/3, mb1 3.6/4,mb1mx3.4/23,mbtmp3.4/4,ML3.8/1,Error ellipse: s-maj=56.7km s-min=22.7km az=70.0*
*ISCJB **10** 03:11:45.8±0.6,0°98S±0°05×119°98E±0°06,h30km±7km, mb3.3/3,Error ellipse: s-maj=11.7km s-min=6.1km az=26.8*
*DJA **10** 03:11:45.7±0.3,1°S±4°×120°0E±°,h17km±6km,M3.6/8, MLv3.6/8*

ISC 10 03:11:46.0±2.4,0°98S±0°05×120°03E±0°05,h17km±17km, n12,σ1°65/19,mb3.3/3,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.20**	**291**	P	**Pb**	**03 11 51.4**	**+0.2**
PCI				S	**Sb**	**03 11 55.8**	**+1.0**
MPSI	**Mapaga**	**1.31**	**354**	P	**Pn**	**03 12 07.9**	**-1.6**
MPSI				S	**Sg**	**03 12 29.1**	**+0.5**
MRSI	**Marisa**	**2.40**	**53**	P	**Pn**	**03 12 24.2**	**-0.3**
MRSI				S	**Sn**	**03 12 53.0**	**-0.5**
LUWI	**Luwuk**	**2.75**	**91**	P	**Pn**	**03 12 29.4**	**+0.2**
LUWI				S	**Sn**	**03 13 04.1**	**+2.1**
SPSI	**Sidrap Palu**	**2.98**	**185**	P	**Pn**	**03 12 32.3**	**-0.1**
SPSI				S	**Sn**	**03 13 08.0**	**+0.3**
BNSI	**Bone**	**3.40**	**179**	P	**Pn**	**03 12 38.4**	**+0.2**
BNSI				S	**Sn**	**03 13 19.4**	**+1.2**
KAPI	**Kappang**	**4.02**	**184**	Pn	**Pn**	**03 12 47.2**	**+0.5**
	5.6nm,0.3s,baz=356,slow=7.0,SNR=13						
KAPI				Sn	**Sn**	**03 13 32.9**	**-0.5**
	3.4nm,0.3s,baz=74,slow=23,SNR=5.7						
BKSI	**Bulukumba**	**4.31**	**179**	P	**Pn**	**03 12 49.8**	**-1.0**
KBKI	**Kotabaru**	**4.49**	**239**	P	**Pn**	**03 12 52.6**	**-0.7**
WRA	**Warramunga Arr**	**23.48**	**144**	P	**P**	**03 16 50.6**	**-4.4**
	0.6nm,0.6s,baz=322,slow=11,SNR=7.8						
ASAR	**Alice Springs**	**26.26**	**150**	P	**P**	**03 17 18.6**	**-2.0**
	0.6nm,0.6s,baz=346,slow=15,SNR=5.9						
MKAR	**Makanchi Array**	**57.93**	**330**	P	**P**	**03 21 39.7**	**+2.4**
	0.2nm,0.7s,baz=133,slow=10,SNR=3.0						

*SJA **10** 03:18:26.2±0.9,33°64S×73°51W,h30km,ML4.0*
*IDC **10** 03:18:32.5±1.0,34°04S×72°33W,h0km,mb3.9/4, mb1 4.0/6,mb1mx3.8/16,mbtmp3.8/6,ML3.6/3,MS3.6/4, Ms1 3.6/4,ms1mx3.1/23,Error ellipse: s-maj=39.9km s-min=23.6km az=100.0*
*GUC **10** 03:18:35.4±0.5,34°02S×72°23W,h7km±2km,ML3.8*

ISC 10 03:18:33.0±2.1,34°01S±0°05×72°30W±0°08,h3km±12km, n30,σ1°17/37,mb4.3/3,2C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**1.12**	**29**	*i*P	**Pn**	**03 18 55.4**	**-0.2**
TACH	**Talagante**	**1.18**	**73**	*e*P	**Pb**	**03 18 56.0**	**-0.1**
NICH	**Los Niches**	**1.33**	**139**	*e*P	**Pb**	**03 18 58.5**	**0.0**
NICH				*i*S	**Sb**	**03 19 16.0**	**0.0**
RCDM	**Rinconada Maip**	**1.34**	**68**	*e*P	**Pn**	**03 18 58.4**	**-0.3**
SAN	**Santiago**	**1.47**	**68**	*e*P	**Pb**	**03 19 00.9**	**-0.1**
SAN				*e*S	**Sn**	**03 19 19.9**	**-0.4**
TALC	**Talca**	**1.49**	**159**	*e*P	**Pg**	**03 19 01.5**	**-0.1**
TALC				*e*S	**Sb**	**03 19 20.5**	**-0.1**
PCH	**Pirque**	**1.53**	**76**	*e*P	**Pb**	**03 19 01.8**	**-0.4**
CLCH	**Cerro Calan**	**1.59**	**68**	*i*P	**Pb**	**03 19 02.9**	**-0.2**
CLCH				*i*S	**Sb**	**03 19 23.5**	**0.0**
CLCH				AML	AML	03 19 35.8	
	comp=N,2μm,0.7s						
PEL	**Peldehue**	**1.60**	**58**	*e*P	**Pb**	**03 19 03.1**	**-0.1**
PEL				*e*S	**Sg**	**03 19 24.2**	**-0.1**
PEL				AML	AML	03 19 33.4	
	comp=N,3μm,0.3s						
AUSP	**Uspallata**	**3.02**	**55**	*e*P	**Pb**	**03 19 25.2**	**-2.4**
AUSP				*e*S	**Sg**	**03 20 10.2**	**+0.1**
AAGR	**Agrelo**	**3.04**	**73**	*e*P	**Pb**	**03 19 28.0**	**+0.2**
ARCO	**CERRO ARCO**	**3.04**	**68**	*e*P	**Pb**	**03 19 27.9**	**-0.1**
ARCO				AML	AML	03 20 19.5	
	comp=Z,204nm,0.7s						
ASAL	**Salagasta**	**3.22**	**65**	*e*P	**Pb**	**03 19 30.5**	**-0.4**
ASAL				*e*S	**Sg**	**03 20 16.4**	**-0.2**
RTLS	**Leoncito**	**3.35**	**50**	*e*P	**Pb**	03 19 29.7	-3.5
RTLS				*e*S	**Sb**	**03 20 16.6**	**+2.2**
RTCV	**Cerro Valdivia**	**3.81**	**57**	*e*P	Pn	03 19 36.5	+3.8
CFAA	**Coronel Fontan**	**4.17**	**56**	Pn	**Pn**	**03 19 39.6**	**+2.0**
	comp=Z,0.7nm,0.3s,baz=232,slow=13,SNR=22						
CFAA				Lg	Lg	03 20 39.5	
	comp=Z,0.7nm,0.3s,baz=75,slow=12,SNR=8.7						
RTLL	**Cerro Villicun**	**4.18**	**51**	*e*P	**Pn**	**03 19 40.2**	**+2.4**
RTLL				*e*S	**Sb**	**03 20 35.0**	**-3.3**
AMOG	**MOGNA**	**4.44**	**47**	*e*P	**Pn**	**03 19 43.6**	**+2.3**
AMOG				*e*P	**Pn**	**03 19 43.6**	**+2.3**
PLCA	**Paso Flores**	**6.86**	**169**	Pn	**Pn**	**03 20 15.1**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=341,slow=11,SNR=3.2						
PLCA				Lg	Lg	03 22 05.4	
	comp=Z,0.1nm,0.3s,baz=282,slow=19,SNR=2.5						
LVC	**Limon Verde**	**11.74**	**16**	LR	LR	03 25 55.4	
	comp=Z,431nm,20.1s,baz=208,slow=38						
CPUP	**Villa Florida**	**15.03**	**63**	Pn	**P**	**03 22 12.1**	**+0.2**
	comp=Z,0.0nm,0.3s,baz=235,slow=16,SNR=2.0						
CPUP				LR	LR	03 28 10.1	
	comp=Z,509nm,19.7s,baz=205,slow=38						
LPAZ	**La Paz**	**18.04**	**13**	P	**P**	**03 22 46.3**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=194,slow=8.8,SNR=10.0						
SIV	**San Ignacio**	**20.59**	**32**	P	**P**	**03 23 12.8**	**-0.5**
	comp=Z,2.7nm,0.7s,baz=215,slow=9.3,SNR=8.1						
SIV				LR	LR	03 31 46.7	
	comp=Z,76nm,19.7s,baz=239,slow=38						
BDFB	**Brasilia**	**28.52**	**56**	LR	LR	03 37 44.8	
	comp=Z,71nm,19.8s,baz=192,slow=40						
TXAR	**Lajitas Array**	**69.64**	**331**	P	**P**	**03 29 44.5**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=160,slow=7.5,SNR=3.9						
MAW	**Mawson**	**73.23**	**164**	P	**P**	**03 30 04.9**	**0.0**
	comp=Z,1.8nm,0.7s,baz=231,slow=6.5,SNR=3.4						
TORD	**Torodi Ar. Bea**	**84.41**	**70**	P	**P**	**03 31 06.9**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=226,slow=3.8,SNR=13						
WRA	**Warramunga Arr**	**120.65**	**209**	PKP	**PKPdf**	**03 37 25.9**	**-1.0**
	comp=Z,0.1nm,0.5s,baz=162,slow=1.8,SNR=3.9						
ZALV	**Zalesovo Beam**	**154.35**	**32**	PKPbc	**PKPbc**	**03 38 34.2**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=298,slow=3.1,SNR=8.9						
ZALV				PKPab	**PKPab**	**03 38 48.4**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=292,slow=4.7,SNR=3.5						
MKAR	**Makanchi Array**	**156.93**	**49**	PKPab	**PKPab**	**03 38 59.1**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=280,slow=4.9,SNR=3.7						

*SKO **10** 03:39:22.3,40°98N×22°38E,h15km,M1.1,ML1.4*
*ATH **10** 03:39:27.1,41°01N×22°70E,h22km±4km,MD2.9/7*

CSEM 10 03:39:27.1±0.2,41°02N×22°73E,h20km,MD2.9,Error ellipse: s-maj=6.7km s-min=4.6km az=155.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNT	**Kendrikon**	**0.19**	**41**	*e*PB	Pb	03 39 31.5	-0.2
KNT				*e*SB	Sg	03 39 37.2	+1.6
KNT	**Kendrikon**	**0.19**	**41**	*e*Pb	Pb	03 39 31.5	-0.2
KNT				*e*Sb	Sg	03 39 37.2	+1.6
VAY	**Valandovo**	**0.33**	**338**	*i* Pg	Pg	03 39 29.9	-4.3
VAY				*i* Sg	Sg	03 39 34.6	-4.5
VAY				*e*Lg	Lg	03 39 34.8	
	comp=E,72nm,0.9s						
VAY				*e*Lg	Lg	03 39 34.8	
	comp=N,34nm,0.3s						
VAY	**Valandovo**	**0.33**	**338**	*i* Pg	Pg	03 39 29.9	-4.4
VAY				*i* Sg	Sg	03 39 34.6	-4.5
VAY				*e*Lg	Lg	03 39 34.7	
	comp=N,34nm,0.3s						
THE	**Thessaloniki**	**0.42**	**155**	*e*PB	Pg	03 39 35.9	0.0
THE				*e*SB	Sb	03 39 42.1	+0.2
THE	**Thessaloniki**	**0.42**	**155**	*e*Pb	Pg	03 39 35.9	0.0
THE				*e*Sb	Sb	03 39 42.1	+0.2
HORT	**Hortiatis**	**0.50**	**146**	*e*PN	Pb	03 39 36.5	-0.9
HORT	**Hortiatis**	**0.50**	**146**	*e*Pn	Pb	03 39 36.5	-0.9
SOH	**Sokhos**	**0.51**	**112**	*e*PN	Pg	03 39 37.8	+0.2
SOH				*e*SN	Sn	03 39 46.7	-1.0
SOH	**Sokhos**	**0.51**	**112**	*e*Pn	Pg	03 39 37.8	+0.2
SOH				*e*Sn	Sn	03 39 46.7	-1.0
SRS	**Serrai**	**0.66**	**81**	*e*PN	Pg	03 39 40.4	+0.1
SRS				*e*SN	Sn	03 39 50.8	-0.4
SRS	**Serrai**	**0.66**	**81**	*e*Pn	Pg	03 39 40.4	+0.1
SRS				*e*Sn	Sn	03 39 50.8	-0.4
NVR	**Nevrokopi**	**0.92**	**68**	*e*PN	Pn	03 39 44.9	-0.1
NVR				*e*SN	Sn	03 39 59.0	+1.4
NVR	**Nevrokopi**	**0.92**	**68**	*e*Pn	Pn	03 39 44.9	-0.1
NVR				*e*Sn	Sn	03 39 59.0	+1.4
KZN	**Kozani**	**1.02**	**226**	*e*PN	Pn	03 39 46.6	+0.2
KZN				*e*SN	Sg	03 40 01.0	+0.5
KZN	**Kozani**	**1.02**	**226**	*e*Pn	Pn	03 39 46.6	+0.2
KZN				*e*Sn	Sg	03 40 01.0	+0.5
FNA	**Florina**	**1.05**	**258**	*e*PN	Pn	03 39 47.2	+0.4
FNA				*e*SN	Sn	03 40 00.7	-0.3
FNA	**Florina**	**1.05**	**258**	*e*Pn	Pn	03 39 47.2	+0.4
FNA				*e*Sn	Sn	03 40 00.7	-0.3

*IDC **10** 03:41:16.4±3.2,26°82N×53°39E,h0km,mb3.5/6, mb1 3.8/7,mb1mx3.5/27,mbtmp3.6/7,ML3.3/1,MS3.1/6, Ms1 3.1/6,ms1mx2.7/33,Error ellipse: s-maj=65.9km s-min=41.8km az=119.0*

ISC 10 03:41:18.1±2.7,26°8N×53°4E±0°4,h10km,n13, σ1°06/7,mb3.5/5,MS3.0/4,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEYT	**Alibeck**	**11.79**	**19**	LR	LR	03 49 26.9	
	comp=Z,62nm,19.4s,baz=150,slow=42						
MMAI	**Mount Meron Ar**	**16.74**	**296**	LR	LR	03 51 53.5	
	comp=Z,28nm,21.9s,baz=90,slow=38						
KBZ	**Khabaz**	**18.89**	**336**	P	**Pn**	**03 45 40.4**	**+1.3**
	0.1nm,0.3s,baz=53,slow=20,SNR=5.2						
BRTR	**Keskin Array B**	**20.87**	**313**	P	**P**	**03 46 00.6**	**+0.2**
	1.5nm,0.8s,baz=124,slow=11,SNR=7.8						
AAK	**Ala-Archa**	**23.38**	**42**	LR	LR	03 56 56.9	
	comp=Z,42nm,18.8s,baz=222,slow=40						
AKTO	**Aktyubinsk**	**23.86**	**7**	LR	LR	03 57 36.1	
	comp=Z,40nm,18.2s,baz=148,slow=41						
AKASG	**Malin Array Be**	**30.13**	**329**	P	**P**	**03 47 26.9**	**-1.0**
	0.2nm,0.3s,baz=123,slow=7.1,SNR=3.4						
KMBO	**Kilima Mbogo**	**31.82**	**212**	LR	LR	04 03 03.3	
	comp=Z,40nm,18.4s,baz=116,slow=41						
ZALV	**Zalesovo Beam**	**35.66**	**32**	LR	LR	04 04 59.0	
	comp=Z,43nm,18.3s,baz=68,slow=40						
FINES	**FINESS Array B**	**39.19**	**340**	P	**P**	**03 48 44.6**	**-1.3**
	1.0nm,0.8s,baz=146,slow=10,SNR=3.9						
ARCES	**ARCESS Array B**	**45.74**	**347**	P	**P**	**03 49 39.6**	**+0.4**
	1.6nm,1.1s,baz=146,slow=6.6,SNR=4.1						
TORD	**Torodi Ar. Bea**	**50.10**	**265**	P	**P**	**03 50 13.9**	**+0.2**
	0.3nm,0.7s,baz=64,slow=7.5,SNR=5.0						
YKA	**Yellowknife A**	**90.49**	**354**	P	**P**	**03 54 20.1**	**+0.3**
	0.2nm,0.7s,baz=15,slow=3.9,SNR=5.0						

*ISCJB **10** 03:43:34.4±0.5,40°00N±0°02×20°46E±0°03,h18km±5km, Error ellipse: s-maj=4.7km s-min=3.2km az=44.6*
*THE **10** 03:43:34.2,39°96N×20°53E,h7km±1km,ML2.2/8,Error ellipse: s-maj=1.8km s-min=0.6km az=300.0*
*ATH **10** 03:43:34.3,39°97N×20°54E,h23km±1km,MD3.2/24*
*SKO **10** 03:43:34.1,39°97N×20°48E,h19km*
*CSEM **10** 03:43:34.1±0.2,39°98N×20°53E,h8km,ML2.2,Error ellipse: s-maj=4.3km s-min=2.9km az=139.0*

ISC 10 03:43:34.3±0.9,39°95N±0°02×20°53E±0°02,h14km±8km, n69,σ0°81/118,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.38**	**139**	P	**Pg**	**03 43 41.9**	**-0.1**
JAN				S	**Sb**	**03 43 48.3**	**-0.4**
JAN	**Janina**	**0.38**	**139**	*e*PB	**Pg**	**03 43 42.2**	**+0.2**
JAN				*e*SB	**Sb**	**03 43 49.1**	**+0.4**
JAN	**Janina**	**0.38**	**139**	P	**Pg**	**03 43 41.9**	**-0.1**
JAN	**Janina**	**0.38**	**139**	*e*Pb	**Pg**	**03 43 42.2**	**+0.2**
JAN				S	**Sb**	**03 43 48.3**	**-0.4**
JAN				*e*Sb	**Sb**	**03 43 49.1**	**+0.4**
SRN	**Sarande**	**0.41**	**261**	P	**Pg**	**03 43 42.3**	**-0.3**
SRN				S	**Sg**	**03 43 48.9**	**+0.8**
SRN	**Sarande**	**0.41**	**261**	P	**Pg**	**03 43 42.3**	**-0.3**
SRN				S	**Sg**	**03 43 48.9**	**+0.8**
IGT	**Igoumenitsa**	**0.44**	**200**	P	**Pg**	**03 43 42.8**	**-0.3**
IGT				S	**Sg**	**03 43 48.6**	**-0.5**
IGT	**Igoumenitsa**	**0.44**	**200**	*e*PB	**Pg**	**03 43 43.1**	**0.0**
IGT				*e*SB	**Sb**	**03 43 50.5**	**+0.2**
IGT	**Igoumenitsa**	**0.44**	**200**	P	**Pg**	**03 43 42.8**	**-0.3**
IGT	**Igoumenitsa**	**0.44**	**200**	*e*Pb	**Pg**	**03 43 43.1**	**0.0**
IGT				S	**Sg**	**03 43 48.6**	**-0.5**
IGT				*e*Sb	**Sb**	**03 43 50.5**	**+0.2**
KEK	**Kerkira**	**0.61**	**248**	P	**Pg**	**03 43 45.8**	**-0.4**
KEK				S	**Sb**	**03 43 55.0**	**-0.2**
KEK	**Kerkira**	**0.61**	**248**	*e*PN	**Pb**	**03 43 47.0**	**+0.3**
KEK				*e*SN	**Sb**	**03 43 55.6**	**+0.4**
KEK	**Kerkira**	**0.61**	**248**	P	**Pg**	**03 43 45.8**	**-0.4**
KEK	**Kerkira**	**0.61**	**248**	*e*Pn	**Pb**	**03 43 47.0**	**+0.3**
KEK				S	**Sb**	**03 43 55.0**	**-0.2**
NEST	**Nestorio**	**0.61**	**40**	P	**Pg**	**03 43 45.7**	**-0.7**
NEST				S	**Sg**	**03 43 54.9**	**+0.3**
NEST	**Nestorio**	**0.61**	**40**	*e*PN	**Pg**	**03 43 45.7**	**-0.7**
NEST				*e*SN	**Sb**	**03 43 55.4**	**0.0**
NEST	**Nestorio**	**0.61**	**40**	P	**Pg**	**03 43 45.7**	**-0.7**
NEST				S	**Sg**	**03 43 54.9**	**+0.3**
NEST				*e*Sn	**Sb**	**03 43 55.4**	**0.0**
DSL	**Palaion Diasel**	**0.92**	**151**	*e*PN	**Pg**	**03 43 52.4**	**+0.2**
DSL				*e*SN	**Sn**	**03 44 05.8**	**-0.2**
DSL	**Palaion Diasel**	**0.92**	**151**	*e*Pn	**Pg**	**03 43 52.4**	**+0.2**
DSL				*e*Sn	**Sn**	**03 44 05.8**	**-0.2**
KZN	**Kozani**	**1.02**	**69**	P	**Pb**	**03 43 53.2**	**-0.6**
KZN				S	**Sn**	**03 44 08.1**	**-0.3**
KZN	**Kozani**	**1.02**	**69**	*e*PN	**Pg**	**03 43 54.3**	**+0.3**
KZN				*e*SN	**Sg**	**03 44 07.4**	**+0.1**
KZN	**Kozani**	**1.02**	**69**	P	**Pb**	**03 43 53.2**	**-0.6**
KZN	**Kozani**	**1.02**	**69**	*e*Pn	**Pg**	**03 43 54.3**	**+0.3**
KZN				*e*Sn	**Sg**	**03 44 07.4**	**+0.1**
KZN				S	**Sn**	**03 44 08.1**	**-0.3**
FNA	**Florina**	**1.06**	**37**	P	**Pb**	**03 43 53.4**	**-1.0**
FNA				S	**Sg**	**03 44 08.9**	**+0.3**
FNA	**Florina**	**1.06**	**37**	*e*PB	**Pb**	**03 43 53.5**	**-1.0**
FNA				*e*SN	**Sg**	**03 44 08.9**	**+0.3**
FNA	**Florina**	**1.06**	**37**	P	**Pb**	**03 43 53.4**	**-1.0**
FNA				S	**Sg**	**03 44 08.9**	**+0.3**
LKD2	**Lefkada island**	**1.16**	**175**	*e*PN	**Pb**	**03 43 56.0**	**-0.2**
LKD2				*e*SN	**Sg**	**03 44 13.0**	**+1.2**
LKD2	**Lefkada island**	**1.16**	**175**	*e*Pn	**Pb**	**03 43 56.0**	**-0.2**
LKD2				*e*Sn	**Sg**	**03 44 13.0**	**+1.2**
OHR	**Ohrid**	**1.18**	**10**	*e*Pn	**Pn**	**03 43 55.6**	**-0.9**
OHR				*e*Sg	**Sg**	**03 44 15.0**	**+2.4**
OHR	**Ohrid**	**1.18**	**10**	*e*Pn	**Pn**	**03 43 55.6**	**-0.9**
OHR				*e*Sg	**Sg**	**03 44 14.9**	**+2.4**
THL	**Klokotos Trika**	**1.21**	**108**	P	**Pn**	**03 43 55.9**	**-0.8**
THL				S	**Sg**	**03 44 15.1**	**+1.8**
THL	**Klokotos Trika**	**1.21**	**108**	*e*PB	**Pn**	**03 43 56.0**	**-0.8**
THL	**Klokotos Trika**	**1.21**	**108**	*e*Pb	**Pn**	**03 43 56.0**	**-0.8**
THL				S	**Sg**	**03 44 15.1**	**+1.8**
EVR	**Evrytania**	**1.43**	**136**	*e*PN	**Pb**	**03 44 00.4**	**-0.4**
EVR				*e*SN	**Sg**	**03 44 21.0**	**+0.6**
EVR	**Evrytania**	**1.43**	**136**	*e*Pn	**Pb**	**03 44 00.4**	**-0.4**
EVR				*e*Sn	**Sg**	**03 44 21.0**	**+0.6**
PDO	**Prodromos**	**1.44**	**159**	*e*PN	**Pg**	**03 44 01.9**	**-0.1**
PDO				*e*SN	**Sg**	**03 44 20.3**	**-0.4**
PDO	**Prodromos**	**1.44**	**159**	*e*Pn	**Pg**	**03 44 01.9**	**-0.1**
PDO				*e*Sn	**Sg**	**03 44 20.3**	**-0.4**
LIT	**Litokhoron**	**1.51**	**84**	P	**Pn**	**03 44 01.2**	**+0.2**
LIT				S	**Sb**	**03 44 21.3**	**0.0**
LIT	**Litokhoron**	**1.51**	**84**	*e*PN	**Pb**	**03 44 02.2**	**0.0**
LIT				*e*SN	**Sb**	**03 44 21.2**	**0.0**
LIT	**Litokhoron**	**1.51**	**84**	P	**Pn**	**03 44 01.2**	**+0.2**
LIT	**Litokhoron**	**1.51**	**84**	*e*Pn	**Pb**	**03 44 02.2**	**0.0**
LIT				*e*Sn	**Sb**	**03 44 21.2**	**0.0**
MAKR	**Makrakomi, Fth**	**1.55**	**126**	*e*PN	**Pb**	**03 44 02.9**	**+0.1**
MAKR				*e*SN	**Sg**	**03 44 23.9**	**-0.4**
MAKR	**Makrakomi, Fth**	**1.55**	**126**	*e*Pn	**Pb**	**03 44 02.9**	**+0.1**
MAKR				*e*Sn	**Sg**	**03 44 23.9**	**-0.4**
AGG	**Agios Georgios**	**1.67**	**123**	*e*PN	**Pb**	**03 44 04.6**	**-0.3**
AGG				*e*SN	**Sg**	**03 44 27.2**	**-1.0**
AGG	**Agios Georgios**	**1.67**	**123**	*e*Pn	**Pb**	**03 44 04.6**	**-0.3**
AGG				*e*Sn	**Sg**	**03 44 27.2**	**-1.0**
GRG	**Griva**	**1.75**	**54**	*e*PN	**Pb**	**03 44 05.5**	**-0.7**
GRG				*e*SN	**Sn**	**03 44 26.6**	**+0.2**
GRG	**Griva**	**1.75**	**54**	*e*Pn	**Pb**	**03 44 05.5**	**-0.7**
GRG				*e*Sn	**Sn**	**03 44 26.6**	**+0.2**
EFP	**Efpalio**	**1.86**	**144**	*e*PN	**Pb**	**03 44 07.2**	**-0.8**
EFP				*e*SN	**Sb**	**03 44 31.4**	**+0.3**
EFP	**Efpalio**	**1.86**	**144**	*e*Pn	**Pb**	**03 44 07.2**	**-0.8**
EFP				*e*Sn	**Sb**	**03 44 31.4**	**+0.3**
KALE	**Kalithea**	**2.00**	**141**	*e*PN	**Pb**	**03 44 09.5**	**-0.9**
KALE	**Kalithea**	**2.00**	**141**	*e*Pn	**Pb**	**03 44 09.5**	**-0.9**
RLS	**Riolos of Patr**	**2.02**	**159**	*e*PN	**Pb**	**03 44 09.9**	**-0.9**
RLS	**Riolos of Patr**	**2.02**	**159**	*e*Pn	**Pb**	**03 44 09.9**	**-0.9**
HORT	**Hortiatis**	**2.07**	**71**	*e*PN	**Pb**	**03 44 10.2**	**-1.5**
HORT				*e*SN	**Sn**	**03 44 34.9**	**+0.5**
HORT	**Hortiatis**	**2.07**	**71**	*e*Pn	**Pb**	**03 44 10.2**	**-1.5**
HORT				*e*Sn	**Sn**	**03 44 34.9**	**+0.5**
XOR	**Xorichti**	**2.14**	**105**	*e*PN	**Pn**	**03 44 10.8**	**+1.2**
XOR	**Xorichti**	**2.14**	**105**	*e*Pn	**Pn**	**03 44 10.8**	**+1.2**
DSF	**Desfina**	**2.18**	**134**	*e*PN	**Pn**	**03 44 11.3**	**+1.1**
DSF	**Desfina**	**2.18**	**134**	*e*Pn	**Pn**	**03 44 11.3**	**+1.1**
DRO	**Drossia**	**2.19**	**155**	*e*PN	**Pb**	**03 44 11.9**	**-1.9**
DRO	**Drossia**	**2.19**	**155**	*e*Pn	**Pb**	**03 44 11.9**	**-1.9**
SOH	**Sokhos**	**2.33**	**67**	*e*PN	**Pn**	**03 44 13.0**	**+0.8**
SOH	**Sokhos**	**2.33**	**67**	*e*Pn	**Pn**	**03 44 13.0**	**+0.8**
PAIG	**Paliouri**	**2.42**	**89**	*e*PN	**Pn**	**03 44 14.4**	**+0.9**
PAIG	**Paliouri**	**2.42**	**89**	*e*Pn	**Pn**	**03 44 14.4**	**+0.9**
GUR	**Goura**	**2.46**	**144**	*e*PN	**Pn**	**03 44 13.2**	**-0.8**
GUR	**Goura**	**2.46**	**144**	*

baz=12,SNR=41
KNRA S **S** 04 06 50.0 +1.0
baz=12,SNR=4.7
FAKI Fak Fak 13.64 71 P **Pn** 04 04 50.5 -1.0
baz=14,SNR=14
FAKI S **S** 04 07 22.8 +0.7
baz=14,SNR=5.5
KDU Kakadu 13.82 112 P **Pn** 04 04 54.0 +0.3
baz=14,SNR=14
KDU S **S** 04 07 23.6 -2.3
baz=14,SNR=3.9
MEEK Meekatharra 18.90 182 P **P** 04 05 51.4 +3.0
baz=19,SNR=9.9
MEEK S S 04 09 33.4 +26
baz=19,SNR=5.0
WRA Warramunga Arr 18.96 132 P **P** 04 05 51.1 +2.0
1.3nm,0.3s,baz=304,slow=12,SNR=63
WRA S **S** 04 09 09.5 +1.2
0.1nm,0.3s,baz=309,slow=20,SNR=4.2
WRKA Warakurna 19.27 155 P **P** 04 05 55.3 +2.9
baz=20,SNR=4.1
ASAR Alice Springs 21.16 140 P **P** 04 06 14.1 +2.4
2.0nm,0.4s,baz=315,slow=9.4,SNR=33
ASAR S **S** 04 09 49.6 +3.1
0.2nm,0.3s,baz=329,slow=25,SNR=3.1
STKA Stephens Creek 31.77 142 P **P** 04 07 48.5 +2.4
1.1nm,0.4s,baz=312,slow=11,SNR=3.9
CMAR Chiang Mai Arr 32.86 322 P **P** 04 07 56.7 +1.1
0.9nm,0.3s,baz=153,slow=7.3,SNR=3.3
RAMN Ramite 46.82 318 *e*P **P** 04 09 50.6 +0.6
7.8nm,0.5s
JIRN Jiri 47.57 319 *e*P **P** 04 09 56.3 +0.4
8.6nm,0.5s
GUN Gumba 47.94 319 *e*P **P** 04 09 58.9 +0.2
8.9nm,0.5s
PKI Pulchoki 48.02 318 *e*P **P** 04 09 59.2 -0.1
PKIN Phulchoki 48.04 318 *e*P **P** 04 09 59.4 +0.1
7.0nm,0.5s
GKN Gorkha 48.82 318 *e*P **P** 04 10 05.2 +0.1
13nm,0.3s
KOLN Koldanda 49.37 317 *e*P **P** 04 10 09.3 0.0
SONM Songino Array 56.42 350 P **P** 04 11 01.0 +0.9
1.3nm,0.8s,baz=167,slow=8.4,SNR=9.0
MKAR Makanchi Array 63.44 332 P **P** 04 11 48.0 +0.6
2.1nm,0.4s,baz=148,slow=8.1,SNR=47
ZALV Zalesovo Beam 67.92 339 P **P** 04 12 15.4 -0.3
2.4nm,0.5s,baz=126,slow=5.6,SNR=8.5
TORD Torodi Ar. Bea 118.59 281 PKP **PKPdf** 04 20 02.6 +0.2
0.3nm,0.6s,baz=74,slow=3.8,SNR=5.6

*ASRS **10** 04:21:12.6±2.2,50.°55N×96.°26E,h15km,Ms3.7/4*
*MOS **10** 04:21:16.0±1.7,51.°03N×95.°69E,h16km,mb4.0/3,Error ellipse: s-maj=13.2km s-min=10.1km az=13.2*
MOS Felt (II) at Samagaltay, Erzin.
*ISCJB **10** 04:21:17.7±0.5,51.°26N±0.°07×95.°44E±0.°05,h10km, mb3.5/8,MS2.8/1,Error ellipse: s-maj=10.2km s-min=4.1km az=0.4*
*IDC **10** 04:21:17.6±0.9,51.°40N×95.°55E,h0km,mb3.6/8, mb1 3.7/11,mb1mx3.6/32,mbtmpb3.6/11,ML3.3/3,MS2.6/2, Ms1 2.7/2,ms1mx2.3/32,Error ellipse: s-maj=29.8km s-min=12.2km az=175.0*
*NNC **10** 04:21:23.8±3.6,51.°45N×94.°95E,h0km,mb3.8,Error ellipse: s-maj=33.6km s-min=30.0km az=70.0*
ISC 10 04:21:18.4±0.7,51.°3N±0.°1×95.°49E±0.°05,h10km,n43, σ1s84/37,mb3.6/8,7C-4D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HVS	**Khovu-Aksy**	**1.14**	**263**	*de*PG		**Pb**	**04 21 38.3**	**-1.9**
ORL	**Orlik**	**2.95**	**63**	*e*PN		**Pn**	**04 22 03.4**	**-2.1**
ORL				*e*			04 22 42.2	
ORL				pmax		pmax		
	comp=Z,139nm,0.7s							
ORL				smax		smax		
	comp=N,534nm,0.7s							
CERR	**Cheremushki**	**2.97**	**304**	*e*Pn		**Pg**	**04 22 14.5**	**-0.7**
CERR				*e*Pg		Pb	04 22 21.3	+10
CERR				*e*Sg		Sg	04 23 10.8	+17
CERR	**Cheremushki**	**2.97**	**304**	*e*PN		**Pg**	**04 22 14.5**	**-0.7**
CERR				*e*			04 22 21.3	
CERR				*e*			04 23 10.8	
MOY	**Mondy**	**3.46**	**82**	*e*PN		Pn	04 22 05.8	-6.6
MOY				*e*			04 22 48.7	
MOY				pmax		pmax		
	comp=Z,278nm,0.7s							
MOY				smax		smax		
	comp=N,2μm,1.3s							
ARS	**Arshan**	**4.37**	**79**	*e*PN		**Pn**	**04 22 23.4**	**-1.4**
ARS				*e*			04 23 16.8	
ARS				pmax		pmax		
	comp=Z,221nm,0.8s							
ARS				smax		smax		
	comp=N,1μm,0.8s							
TASR	**Tashtagol**	**4.93**	**290**	*i* Pg		**Pg**	**04 22 54.2**	**+1.4**
TASR				*e*Sg		Sg	04 24 09.4	+13
TASR	**Tashtagol**	**4.93**	**290**	*i* PN		**Pg**	**04 22 54.2**	**+1.4**
TASR				*e*			04 24 09.4	
KRAR	**Krasnoyarsk**	**4.98**	**343**	*e*PN		Pn	04 22 36.3	+3.1
KRAR				*e*			04 22 54.6	
ZAK	**Zakamensk**	**5.02**	**97**	*e*PN		Pn	04 22 29.7	-4.1
ZAK				*e*			04 23 28.7	
ZAK				pmax		pmax		
	comp=Z,5.0nm,0.7s							
ZAK				smax		smax		
	comp=N,771nm,1.4s							
AKAR	**Aktash**	**5.09**	**262**	*e*Pn		**Pn**	**04 22 37.2**	**+2.4**
AKAR				*e*Pg		**Pg**	**04 22 53.2**	**-2.6**
AKAR				*e*Sg		**Sg**	**04 24 04.3**	**+2.6**
AKAR	**Aktash**	**5.09**	**262**	*e*PN		**Pn**	**04 22 37.2**	**+2.4**
AKAR				*e*			04 22 53.2	
TLY	**Talaya**	**5.11**	**82**	Pn		**Pn**	**04 22 35.6**	**+0.6**
	comp=N,0.1nm,0.3s,baz=265,slow=14,SNR=30							
TLY				Sn		**Sn**	**04 23 37.2**	**+3.2**
	comp=N,0.2nm,0.3s,baz=103,slow=16,SNR=15							
TLY				LR		LR	04 24 03.6	
	comp=N,44nm,19.8s,baz=191,slow=33							
TLY	**Talaya**	**5.11**	**82**	*e*PN		**Pn**	**04 22 35.9**	**+0.9**
TLY				*e*			04 23 36.5	
TLY				pmax		pmax		
	comp=Z,48nm,0.8s							
TLY				smax		smax		
	comp=N,199nm,0.6s							
IRK	**Irkutsk**	**5.53**	**77**	*e*PN		Pn	04 22 44.6	+3.8
IRK				pmax		pmax		
	comp=Z,157nm,0.2s							
ZALV	**Zalesovo Beam**	**7.02**	**296**	Pn		Pn	04 23 06.8	+5.6
	comp=Z,0.6nm,0.3s,baz=102,slow=11,SNR=6.0							
ZALV				Lg		Lg	04 25 09.5	
	comp=Z,1.0nm,0.3s,baz=123,slow=23,SNR=2.9							
SONM	**Songino Array**	**7.88**	**112**	Pn		Pn	04 23 16.6	+3.4
	comp=Z,5.4nm,0.3s,baz=295,slow=16,SNR=46							
SONM				Sn		Sn	04 24 54.3	+12
	comp=Z,3.1nm,0.3s,baz=290,slow=27,SNR=4.1							
NVS	**Novosibirsk**	**8.20**	**300**	*e*Pg		**Pg**	**04 23 54.3**	**-0.9**
NVS				*i* Sn		Sb	04 25 06.9	-11
NVS				*e*Sg		Sg	04 25 50.4	+9.2
ULN	**Ulaanbaatar**	**8.26**	**110**	⇓*e*P		Pn	04 23 26.8	+8.5
NIZ	**Nizh Angarsk**	**9.49**	**56**	*e*P		Pn	04 23 30.7	-4.4
NIZ				pmax		pmax		
	comp=Z,8.0nm,0.9s							
MK31	**Makanchi Array**	**9.76**	**248**	⇑Pn		**Pn**	**04 23 41.6**	**+2.8**
	comp=Z,1.0nm,0.7s,baz=52,slow=9.3,SNR=5.2							
MK31				⇑Pg			04 24 15.9	
	comp=Z,0.8nm,0.5s,baz=57,slow=12,SNR=5.0							
MK31				⇑Lg		Lg	04 26 25.3	
	comp=Z,42nm,1.0s,baz=55,slow=29,SNR=5.7							
MKAR	**Makanchi Array**	**9.76**	**248**	Pn		**Pn**	**04 23 40.5**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=50,slow=12,SNR=3.7							
MKAR				Lg		Lg	04 26 24.5	
	comp=Z,0.5nm,0.3s,baz=98,slow=29,SNR=6.6							
KURK	**Kurchatov**	**10.65**	**274**	⇑Pn		**Pn**	**04 23 52.9**	**+1.9**
	comp=Z,1.2nm,1.0s							
KURK				⇓Lg		Lg	04 26 54.4	
	comp=Z,66nm,1.3s							
KURK	**Kurchatov**	**10.65**	**274**	*e*P		**Pn**	**04 23 51.0**	**0.0**
KURBB	**Kurchatov Arra**	**10.73**	**273**	⇑Pn		**Pn**	**04 23 53.9**	**+2.0**
	comp=Z,3.0nm,0.8s,baz=89,slow=15							
KURBB				⇑Lg		Lg	04 26 55.9	
	comp=Z,29nm,1.2s							
PDGK	**Podgornoye**	**13.45**	**240**	⇑Lg		Lg	04 28 20.6	
	comp=Z,29nm,1.2s							
BVAR	**Borovoye Array**	**15.48**	**286**	Pn		**P**	**04 24 58.3**	**-2.8**
	comp=Z,0.4nm,0.3s,baz=89,slow=13,SNR=15							
BRVK	**Borovoye**	**15.55**	**286**	⇓*e*P		**P**	**04 24 59.7**	**-2.1**
BRVK				pmax		pmax		
	comp=Z,9.0nm,1.3s							
AAK	**Ala-Archa**	**16.70**	**247**	Pn		**P**	**04 25 14.6**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=246,slow=4.8,SNR=3.0							
AAK				Lg		Lg	04 30 03.6	
	comp=Z,0.2nm,0.3s,baz=142,slow=23,SNR=8.9							
AAK	**Ala-Archa**	**16.70**	**247**	*i* P		**Pn**	**04 25 09.6**	**-2.9**
ARU	**Arti**	**22.19**	**298**	*i* P		**P**	**04 26 14.5**	**0.0**
AKTO	**Aktyubinsk**	**23.51**	**283**	P		**P**	**04 26 28.4**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=113,slow=9.4,SNR=4.0							
TIXI	**Tiksi**	**25.27**	**24**	*e*P		**P**	**04 26 41.1**	**-3.3**
ARCES	**ARCESS Array B**	**36.48**	**326**	P		**P**	**04 28 24.4**	**+1.3**
	comp=Z,1.6nm,0.8s,baz=71,slow=9.6,SNR=6.1							
ARCES	**ARCESS Array B**	**36.48**	**326**	P		**P**	**04 28 24.4**	**+1.3**
ARCES				pmax		pmax		
	comp=Z,2.0nm,0.8s							
FINES	**FINESS Array B**	**37.95**	**313**	P		**P**	**04 28 36.8**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=345,slow=6.5,SNR=3.3							
FINES	**FINESS Array B**	**37.95**	**313**	P		**P**	**04 28 36.8**	**+1.2**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.8s							
AKASG	**Malin Array Be**	**40.42**	**296**	P		**P**	**04 28 56.4**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=57,slow=8.9,SNR=4.4							
BRTR	**Keskin Array B**	**43.63**	**280**	P		**P**	**04 29 22.9**	**0.0**
	comp=Z,0.6nm,0.7s,baz=38,slow=7.3,SNR=3.9							
NOA	**NORSAR Array B**	**44.74**	**317**	P		**P**	**04 29 31.5**	**0.0**
	comp=Z,0.8nm,0.8s,baz=65,slow=7.4,SNR=2.9							
NOA				LR		LR	04 48 21.7	
	comp=Z,9.3nm,18.3s,baz=265,slow=36							
NOA	**NORSAR Array B**	**44.74**	**317**	P		**P**	**04 29 31.5**	**0.0**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
NOA				MLR		MLR		
	comp=Z,9.0nm,18.3s							
ESDC	**Sonseca Array**	**65.47**	**303**	P		**P**	**04 32 00.6**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=40,slow=7.8,SNR=4.6							
TORD	**Torodi Ar. Bea**	**82.22**	**281**	P		**P**	**04 33 42.2**	**+2.3**
	comp=Z,0.4nm,0.9s,baz=26,slow=4.5,SNR=2.5							

*IDC **10** 04:27:01.8±1.2,62.°88S×167.°36E,h0km,mb4.0/4, mb1 4.3/6,mb1mx4.1/13,mbtmpb4.2/6,ML4.3/2,MS3.9/10, Ms1 3.9/10,ms1mx3.8/14,Error ellipse: s-maj=51.0km s-min=20.6km az=84.0*
*ISCJB **10** 04:27:02.2±1.0,62.°86S±0.°09×167.°2E±0.°6,h10km, mb3.9/4,MS3.9/8,Error ellipse: s-maj=39.3km s-min=12.5km az=178.8*
ISC 10 04:27:03.4±1.1,62.°9S±0.°1×167.°4E±0.°3,h10km,n28, σ0s82/9,mb3.8/4,MS3.9/8,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.84**	**185**	Pn		**Pn**	**04 30 33.2**	**+0.3**
	0.8nm,0.3s,baz=16,slow=14,SNR=49							
VNDA				LR		LR	04 35 04.1	
	comp=Z,744nm,21.4s,baz=3.5,slow=33							
RPZ	**Rata Peaks**	**19.29**	**8**	P		**Pn**	**04 31 30.3**	**+1.1**
	1.6nm,0.3s,baz=225,slow=2.9,SNR=12							
RPZ				LR		LR	04 37 42.4	
	comp=Z,494nm,19.7s,baz=228,slow=33							
URZ	**Urewera**	**25.33**	**18**	LR		LR	04 42 18.4	
	comp=Z,231nm,18.6s,baz=182,slow=36							
QSPA	**South Pole Qui**	**27.23**	**180**	P		**P**	**04 32 46.8**	**-0.5**
	9.4nm,1.0s,baz=34,slow=2.5,SNR=16							
QSPA				LR		LR	04 42 23.2	
	comp=Z,225nm,18.1s,baz=30,slow=34							
STKA	**Stephens Creek**	**35.09**	**320**	LR		LR	04 45 23.3	
	comp=Z,160nm,20.9s,baz=183,slow=31							
MAW	**Mawson**	**39.05**	**216**	P		**P**	**04 34 30.5**	**+0.9**
	2.6nm,0.8s,baz=139,slow=9.3,SNR=3.8							
MAW				LR		LR	04 50 13.2	
	comp=Z,221nm,19.0s,baz=77,slow=36							
H01W1	**Cape Leeuwin H**	**42.98**	**285**	T		T	05 21 27.8	
	baz=147,slow=76							
H01W2	**Cape Leeuwin H**	**42.98**	**285**	T		T	05 21 28.1	
	baz=147,slow=76							
H01W3	**Cape Leeuwin H**	**43.00**	**285**	T		T	05 21 29.0	
	baz=147,slow=76							
ASAR	**Alice Springs**	**45.14**	**314**	P		**P**	**04 35 19.9**	**0.0**
	0.9nm,0.8s,baz=159,slow=8.4,SNR=6.3							
ASAR				LR		LR	04 53 38.4	
	comp=Z,118nm,18.8s,baz=160,slow=35							
WRA	**Warramunga Arr**	**48.48**	**317**	P		**P**	**04 35 45.3**	**-0.7**
	0.6nm,1.1s,baz=145,slow=7.2,SNR=2.6							
WRA				LR		LR	04 54 14.3	
	comp=Z,152nm,18.9s,baz=130,slow=34							
TBI	**Tubuai**	**48.87**	**57**	*e*LQ		LQ	04 47 02.2	
	241nm,26.5s							
TBI				*e*LR		LR	04 49 21.6	
	70nm,28.0s							
TBI	**Tubuai**	**48.87**	**57**	*e*T		T	05 27 28.0	
	30nm,0.3s							
PAE	**Pae**	**54.00**	**54**	*e*T		T	05 33 52.9	
	6.2nm,0.3s							
TVO	**Taravao**	**54.01**	**54**	*e*T		T	05 33 54.2	
	4.2nm,0.4s							
PPT2	**Papeete2**	**54.07**	**53**	*e*T		T	05 33 58.4	
	17nm,0.3s							
TIAR	**Tiarei**	**54.19**	**54**	*e*T		T	05 34 06.8	
	6.3nm,0.4s							
MEH	**Mehetia**	**54.37**	**55**	*e*T		T	05 34 20.7	
	15nm,0.3s							
RKT	**Rikitea**	**55.03**	**72**	*e*T		T	05 35 08.9	
	17nm,0.2s							
VAH	**Vaihoa**	**56.95**	**54**	*e*T		T	05 37 33.6	
	70nm,0.3s							
CMAR	**Chiang Mai Arr**	**96.88**	**297**	LR		LR	05 22 58.7	
	comp=Z,36nm,18.6s,baz=214,slow=35							
BDFB	**Brasilia**	**97.01**	**146**	LR		LR	05 22 06.4	
	comp=Z,35nm,19.1s,baz=212,slow=34							
H06E1	**SOCORRO T-PHAS**	**102.79**	**74**	T		T	06 35 23.4	
	SNR=59							
H02S1	**DAWSON INLET T**	**124.92**	**39**	T		T	07 03 12.9	
	SNR=20							
H02N1	**VAN INLET T-PH**	**124.94**	**39**	T		T	07 03 14.6	
TORD	**Torodi Ar. Bea**	**129.33**	**198**	PKP		**PKPdf**	**04 46 11.1**	**-0.7**
	0.5nm,0.9s,baz=136,slow=0.7,SNR=2.8							
ILAR	**Eielson Array**	**131.73**	**24**	PKP		**PKPdf**	**04 46 14.3**	**-0.5**
	0.6nm,1.1s,baz=241,slow=1.9,SNR=3.2							
BRTR	**Keskin Array B**	**144.13**	**252**	PKP		**PKPab**	**04 46 35.6**	**-0.6**
	1.1nm,0.8s,baz=143,slow=4.2,SNR=5.6							

IDC 10 05:11:22.5±3.5,3.°98N×30.°78W,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.5/26,mbtmpb3.7/4,MS3.4/2,Ms1 3.5/2, ms1mx2.8/24,Error ellipse: s-maj=112.6km s-min=34.7km az=177.0,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
H10N3	**ASCENSION HYDR**	**20.04**	**126**	T		T	05 36 29.4	
	baz=302,slow=75,SNR=16							
H10N2	**ASCENSION HYDR**	**20.04**	**126**	T		T	05 36 31.6	
	baz=302,slow=75,SNR=7.7							
H10N1	**ASCENSION HYDR**	**20.06**	**126**	T		T	05 36 31.2	
	baz=302,slow=75,SNR=15							
H10S3	**ASCENSION HYDR**	**20.57**	**129**	T		T	05 37 02.6	
	baz=305,slow=74,SNR=57							
H10S1	**ASCENSION HYDR**	**20.57**	**129**	T		T	05 37 03.0	
	baz=305,slow=74,SNR=66							
H10S2	**ASCENSION HYDR**	**20.59**	**129**	T		T	05 37 03.9	
	baz=305,slow=74,SNR=54							
TORD	**Torodi Ar. Bea**	**33.34**	**72**	P		P	05 18 02.5	-0.1
	1.7nm,1.0s,baz=259,slow=9.6,SNR=6.5							
LPAZ	**La Paz**	**42.06**	**240**	LR		LR	05 34 57.0	
	comp=Z,59nm,20.3s,baz=96,slow=34							
ROSC	**El Rosal**	**43.43**	**273**	LR		LR	05 36 25.3	
	comp=Z,44nm,18.3s,baz=8.5,slow=35							
NOA	**NORSAR Array B**	**65.10**	**21**	P		P	05 22 04.8	-0.1
	0.9nm,0.8s,baz=226,slow=6.3,SNR=2.6							
AKASG	**Malin Array Be**	**68.26**	**36**	P		P	05 22 25.4	+0.2
	0.2nm,0.3s,baz=266,slow=8.1,SNR=5.1							
TXAR	**Lajitas Array**	**73.15**	**299**	P		P	05 22 55.6	0.0
	0.4nm,0.7s,baz=118,slow=7.3,SNR=5.4							

*IDC **10** 05:17:25.5±1.2,3.°63N×126.°65E,h0km,mb4.0/5, mb1 4.2/5,mb1mx3.8/24,mbtmpb4.0/5,Error ellipse: s-maj=122.0km s-min=19.3km az=69.0*
*ISCJB **10** 05:17:30.0±0.9,3.°70N±0.°08×126.°82E±0.°06,h48km, mb3.9/5,Error ellipse: s-maj=12.3km s-min=7.6km az=27.3*
*DJA **10** 05:17:31.4±1.0,4.°N±9.°×12.°7E±.°,h10km,M4.2/6,mb4.2/4, mB5.1/1,MLv4.2/6,Mw(mB)4.4/1*

ISC 10 05:17:31.9±1.1,3.°7N±0.°1×126.°80E±0.°08,h48km,n17, σ0s83/16,mb3.5/5,1C,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.27**	**271**	P		**Pn**	**05 17 52.4**	**-0.8**
SGSI				S		**Sn**	**05 18 08.3**	**-0.8**
TNTI	**Ternate**	**2.94**	**169**	P		**Pn**	**05 18 16.2**	**+0.1**
KMSI	**Cibinong**	**4.17**	**222**	P		**Pn**	**05 18 33.5**	**+0.5**
LBMI	**Labuha**	**4.34**	**171**	P		**Pn**	**05 18 36.0**	**+0.6**
CTBH	**Cotabato--PC H**	**4.34**	**324**	⇑*i*P		Pn	05 18 40.2	+4.9
GTOI	**Gorontalo**	**4.84**	**232**	P		**Pn**	**05 18 43.1**	**+0.9**
SANI	**Sanana**	**5.74**	**188**	P		**Pn**	**05 18 55.0**	**+0.4**
	14nm,0.7s,0.1nm							
MRSI	**Marisa**	**5.80**	**237**	P		**Pn**	**05 18 56.6**	**+1.2**
	30nm,0.6s,1μm0.2nm							
LUWI	**Luwuk**	**6.18**	**221**	P		Pn	05 19 04.0	+3.4
SWI	**Sorong**	**6.34**	**135**	P		**Pn**	**05 19 04.0**	**+1.2**
NLAI	**Namlea**	**6.88**	**177**	P		**Pn**	**05 19 09.2**	**-1.0**
	23nm,1.0s,0.1nm							
SPSI	**Sidrap Palu**	**10.34**	**223**	P		**Pn**	**05 19 57.1**	**-0.6**
WRA	**Warramunga Arr**	**24.61**	**163**	P		**P**	**05 22 47.2**	**-0.7**
	11nm,0.7s,baz=343,slow=10,SNR=46							
ASAR	**Alice Springs**	**28.05**	**166**	P		**P**	**05 23 18.3**	**-0.5**
	0.5nm,0.5s,baz=351,slow=8.2,SNR=7.4							
STKA	**Stephens Creek**	**38.05**	**159**	P		**P**	**05 24 46.8**	**+0.9**
	6.5nm,0.7s,baz=336,slow=8.1,SNR=9.6							
SONM	**Songino Array**	**47.37**	**341**	P		**P**	**05 26 01.7**	**+0.4**
	0.2nm,0.4s,baz=167,slow=7.2,SNR=2.8							
MKAR	**Makanchi Array**	**57.64**	**325**	P		**P**	**05 27 16.6**	**-0.6**
	0.2nm,0.4s,baz=117,slow=5.5,SNR=5.4							

*IDC **10** 05:18:49.2±1.0,32.°60N×91.°42E,h0km,mb3.8/7, mb1 3.8/9,mb1mx3.6/27,mbtmpb3.7/9,MS3.2/1,Ms1 3.2/1, ms1mx2.5/28,Error ellipse: s-maj=34.3km s-min=20.7km az=59.0*
*ISCJB **10** 05:18:52.3±0.9,32.°7N±0.°1×91.°5E±0.°2,h33km,mb3.8/7, MS3.1/1,Error ellipse: s-maj=23.4km s-min=15.7km az=146.9*
ISC 10 05:18:54.4±1.1,32.°7N±0.°2×91.°5E±0.°2,h35km,n9,σ1s21/9, mb3.8/7,Xizang

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.71**	**336**	Pn		**Pn**	**05 22 31.4**	**-1.6**
	baz=181,slow=11,SNR=3.0							
SONM	**Songino Array**	**18.86**	**32**	P		**Pn**	**05 23 12.3**	**0.0**
	baz=218,slow=13,SNR=5.8							
ZALV	**Zalesovo Beam**	**21.74**	**349**	P		**P**	**05 23 43.2**	**+0.7**
	1.4nm,0.6s,baz=165,slow=12,SNR=4.7							
KSRS	**Korea Array**	**30.08**	**71**	P		**P**	**05 24 59.4**	**-1.0**
	0.9nm,0.5s,baz=278,slow=8.5,SNR=3.3							
KSRS				LR		LR	05 38 03.1	
	comp=Z,41nm,18.2s,baz=115,slow=38							
FINES	**FINESS Array B**	**50.17**	**325**	P		**P**	**05 27 46.5**	**+0.3**
	0.7nm,0.8s,baz=183,slow=36,SNR=2.4							
WRA	**Warramunga Arr**	**66.50**	**136**	P		**P**	**05 29 40.5**	**-0.3**
	1.3nm,0.8s,baz=331,slow=6.3,SNR=7.6							
ASAR	**Alice Springs**	**69.17**	**139**	P		**P**	**05 29 57.8**	**+0.3**
	1.6nm,0.8s,baz=319,slow=6.6,SNR=11							
YKA	**Yellowknife Ar**	**82.82**	**12**	P		**P**	**05 31 16.7**	**+2.0**
	0.3nm,0.9s,baz=339,slow=4.9,SNR=3.7							
TORD	**Torodi Ar. Bea**	**82.83**	**281**	P		**P**	**05 31 15.0**	**-0.6**
	0.5nm,0.6s,baz=50,slow=4.1,SNR=4.5							

*IDC **10** 06:05:36.5±1.9,32.°63S×178.°69W,h0km,mb3.7/2, mb1 4.0/3,mb1mx3.7/18,mbtmpb3.8/3,ML3.6/1,Error ellipse: s-maj=45.1km s-min=42.1km az=68.0*
*ISCJB **10** 06:05:38.9±1.8,32.°98S±0.°09×178.°5W±0.°3,h33km, mb3.6/2,Error ellipse: s-maj=38.4km s-min=9.8km az=13.4*
ISC 10 06:05:41.1±1.8,32.°9S±0.°1×178.°6W±0.°3,h33km,n13, σ1s19/19,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**5.48**	**206**	PN		**Pn**	**06 07 01.6**	**+1.3**
WMGZ				SN		**Sn**	**06 08 02.0**	**-0.3**
PUZ	**Puketiti**	**5.76**	**206**	PN		**Pn**	**06 07 04.1**	**-0.2**
PUZ				SN		**Sn**	**06 08 09.1**	**-0.2**
CNGZ	**Carnagh Statio**	**6.15**	**204**	PN		**Pn**	**06 07 09.5**	**0.0**
CNGZ				SN		**Sn**	**06 08 15.9**	**-2.8**
MWZ	**Matawai**	**6.27**	**209**	PN		**Pn**	**06 07 11.4**	**+0.1**
MWZ				SN		**Sn**	**06 08 22.5**	**+0.7**
URZ	**Urewera**	**6.39**	**212**	Pn		**Pn**	**06 07 12.7**	**-0.2**
	1.3nm,0.3s,baz=41,slow=9.3,SNR=12							
URZ				Sn		**Sn**	**06 08 26.5**	**+1.8**
	2.1nm,0.3s,baz=26,slow=22,SNR=6.6							
URZ	**Urewera**	**6.39**	**212**	PN		**Pn**	**06 07 12.8**	**0.0**
RAGZ	**Rawiri**	**6.46**	**209**	PN		**Pn**	**06 07 15.6**	**+1.7**
RIGZ	**Rimuhau**	**6.50**	**206**	PN		**Pn**	**06 07 13.7**	**-0.7**
RIGZ				SN		**Sn**	**06 08 27.3**	**-0.2**
KNZ	**Kokohu**	**6.81**	**205**	PN		**Pn**	**06 07 17.5**	**-1.1**
ASAR	**Alice Springs**	**42.55**	**270**	P		**P**	**06 13 33.6**	**-0.3**
	0.6nm,0.7s,baz=107,slow=6.5,SNR=5.2							
WRA	**Warramunga Arr**	**43.76**	**275**	P		**P**	**06 13 43.0**	**-0.6**
	0.7nm,0.4s,baz=113,slow=8.0,SNR=25							
FINES	**FINESS Array B**	**147.31**	**338**	PKPbc		**PKPbc**	**06 25 19.6**	**-0.7**
	0.6nm,0.3s,baz=48,slow=2.1,SNR=9.7							
TORD	**Torodi Ar. Bea**	**160.33**	**181**	PKPab		**PKPab**	**06 26 20.1**	**+1.8**
	0.4nm,0.8s,baz=185,slow=5.4,SNR=2.6							

*IDC **10** 06:09:15.3±0.8,19.°58S×66.°89W,h272km±17km,mb3.5/1, mb1 3.1/6,mb1mx2.9/21,mbtmpb3.7/6,Error ellipse: s-maj=31.3km s-min=10.5km az=99.0*
*ISCJB **10** 06:09:16.5±0.6,19.°61S±0.

ISC 10 06:37:19.6±0.6, 35°11'S±0'04×71°93'W±0'07, h46km±5km, n52, σ0899/58, mb4.3/14, 4D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.37**	**140**	‖*eP*	**Pn**	**06 37 29.4**	**+0.3**
TALC				*eS*	**Sn**	**06 37 35.9**	**+0.2**
NICH	**Los Niches**	**0.58**	**79**	‖*eP*	**Pn**	**06 37 31.7**	**+0.1**
NICH				*eS*	**Sn**	**06 37 40.8**	**+0.6**
LNCH	**Linares**	**0.78**	**160**	‖*eP*	**Pn**	**06 37 34.5**	**+0.3**
LNCH				*eS*	**Sn**	**06 37 45.7**	**+0.9**
TACH	**Talagante**	**1.67**	**30**	*eP*	**Pn**	**06 37 47.0**	**+0.6**
RCDM	**Rinconada Maip**	**1.87**	**30**	*eP*	**Pn**	**06 37 49.5**	**+0.4**
RCDM				*eS*	**Sn**	**06 38 12.9**	**+1.4**
PCH	**Pirque**	**1.89**	**38**	*eP*	**Pn**	**06 37 50.5**	**+1.0**
SAN	**Santiago**	**1.96**	**33**	*eP*	**Pn**	**06 37 51.3**	**+1.0**
CCSP	**San Pedro de C**	**1.98**	**209**	*eP*	**Pn**	**06 37 51.3**	**+0.8**
CCSP				AML	AML	06 38 32.1	
	comp=E,4µm,0.5s						
CLCH	**Cerro Calan**	**2.06**	**34**	*eP*	**Pn**	**06 37 52.6**	**+0.8**
CLCH				*eS*	**Sn**	**06 38 17.7**	**+1.4**
CLCH				AML	AML	06 38 31.0	
	comp=E,5µm,0.8s						
CLCH				AML	AML	06 38 31.5	
	comp=E,5µm,0.8s						
IHA	**Instituto Hidr**	**2.10**	**7**	*eP*	**Pn**	**06 37 52.5**	**+0.3**
YECH	**El Yeso**	**2.10**	**47**	‖*eP*	**Pn**	**06 37 54.3**	**+1.8**
PEL	**Peldehue**	**2.22**	**28**	*eP*	**Pn**	**06 37 54.8**	**+0.8**
PEL				AML	AML	06 38 28.7	
	comp=N,5µm,0.7s						
CFAA	**Coronel Fontan**	**4.67**	**42**	P	**Pn**	**06 38 28.4**	**+0.9**
	comp=N,0.7nm,0.3s,baz=203,slow=15,SNR=55						
CFAA				S	Sn	06 39 28.8	+8.4
	comp=N,1.4nm,0.3s,baz=109,slow=22,SNR=13						
CFAA				LR	LR	06 40 03.9	
	comp=N,13nm,21.7s,baz=229,slow=36						
VLCH	**Valdivia**	**4.80**	**192**	*eP*	**Pn**	**06 38 29.7**	**+0.4**
PLCA	**Paso Flores**	**5.71**	**169**	P	**Pn**	**06 38 44.2**	**+2.3**
	comp=N,2.2nm,0.3s,baz=350,slow=9.2,SNR=29						
PLCA				Lg	Lg	06 40 17.5	
	comp=N,0.6nm,0.3s,baz=255,slow=19,SNR=2.0						
PLCA				LR	LR	06 41 03.9	
	comp=N,229nm,20.6s,baz=322,slow=40						
PLCA	**Paso Flores**	**5.71**	**169**	*ePn*	**Pn**	**06 38 43.6**	**+1.7**
	comp=N,16nm,0.7s						
PLCA				*eSn*	**Sn**	**06 39 45.4**	**-0.8**
PLCA				Lg	Lg	06 40 17.5	
LCO	**Las Campanas**	**6.17**	**10**	*ePn*	**Pn**	**06 38 47.8**	**-0.6**
	comp=N,27nm,0.6s						
LCO				*eSn*	**Sn**	**06 39 56.4**	**-1.4**
TRQA	**Tornquist**	**8.52**	**113**	*ePn*	**Pn**	**06 39 21.9**	**+1.6**
	comp=N,5.4nm,0.6s						
TRQA				*eSn*	**Sn**	**06 40 55.4**	**+0.2**
LVC	**Limon Verde**	**12.73**	**13**	P	**Pn**	**06 40 19.4**	**+1.2**
	comp=N,11nm,0.3s,baz=204,slow=12,SNR=4.3						
LVC				LR	LR	06 45 43.2	
	comp=N,465nm,18.5s,baz=206,slow=40						
LVC	**Limon Verde**	**12.73**	**13**	*ePn*	**Pn**	**06 40 16.5**	**-1.7**
	comp=N,6.4nm,1.0s						
CPUP	**Villa Florida**	**15.29**	**59**	P	**Pn**	**06 40 50.8**	**-1.5**
	comp=N,0.0nm,0.3s,baz=241,slow=19,SNR=2.4						
CPUP				LR	LR	06 47 23.3	
	comp=N,983nm,19.8s,baz=224,slow=40						
LPAZ	**La Paz**	**19.05**	**11**	P	**Pn**	**06 41 40.2**	**+0.4**
	comp=N,0.4nm,0.3s,baz=180,slow=15,SNR=19						
LPAZ	**La Paz**	**19.05**	**11**	*eP*	**Pn**	**06 41 40.4**	**+0.6**
	comp=N,4.9nm,0.8s						
SIV	**San Ignacio**	**21.38**	**30**	P	**P**	**06 42 02.3**	**-1.1**
	comp=N,7.4nm,1.0s,baz=211,slow=11,SNR=13						
BDFB	**Brasilia**	**88.90**	**54**	P	**P**	**06 43 12.9**	**-1.5**
	comp=N,2.0nm,0.7s,baz=198,slow=6.4,SNR=3.1						
VNA3	**Neumayer Olymp**	**48.30**	**157**	P	**P**	**06 45 56.2**	**+0.4**
VNA2	**Neumayer--Watz**	**48.95**	**157**	P	**P**	**06 46 01.2**	**+0.3**
	baz=291,slow=8.8						
SNAA	**Sanae**	**50.52**	**157**	P	**P**	**06 46 13.4**	**+0.5**
SNAA	**Sanae**	**50.52**	**157**	P	**P**	**06 46 12.6**	**-0.3**
	comp=N,1.0nm,0.8s,baz=278,slow=9.4,SNR=6.9						
QSPA	**South Pole Qui**	**55.12**	**180**	P	**P**	**06 46 47.8**	**+0.8**
	comp=N,3.5nm,1.0s,baz=146,slow=3.0,SNR=8.6						
QSPA				pP	**pP**	**06 46 59.5**	**-0.3**
	comp=N,2.1nm,0.7s,baz=116,slow=6.9,SNR=4.3						
TXAR	**Lajitas Array**	**70.75**	**331**	P	**P**	**06 48 32.0**	**+1.0**
	comp=N,0.7nm,0.7s,baz=158,slow=9.2,SNR=14						
TXAR				pP	**pP**	**06 48 45.1**	**+0.8**
	comp=N,0.4nm,0.6s,baz=159,slow=7.7,SNR=4.6						
MAW	**Mawson**	**72.09**	**163**	P	**P**	**06 48 39.1**	**+0.5**
	comp=N,2.4nm,0.7s,baz=217,slow=11,SNR=3.9						
WVT	**Waverly**	**72.41**	**347**	*eP*	**P**	**06 48 40.9**	**+0.1**
	comp=N,3.7nm,0.7s						
LIC	**Lamto**	**75.04**	**71**	*eP*	**P**	**06 48 54.9**	**-1.9**
	comp=N,43nm,1.6s						
TIC	**Toumodi**	**75.31**	**71**	*eP*	**P**	**06 48 57.5**	**-0.8**
	comp=N,2.6nm,0.2s						
KIC	**Kosan Boka**	**75.35**	**71**	*eP*	**P**	**06 48 57.7**	**-0.8**
	comp=N,21nm,0.9s						
DBIC	**Dimbokro**	**75.45**	**71**	P	**P**	**06 48 58.9**	**-0.2**
	comp=N,7.2nm,1.0s,baz=193,slow=6.5,SNR=6.6						
TORD	**Torodi Ar. Bea**	**84.50**	**70**	P	**P**	**06 49 47.4**	**-0.6**
	comp=N,3.0nm,0.7s,baz=249,slow=4.4,SNR=16						
TORD				pP	**pP**	**06 50 00.9**	**-0.5**
	comp=N,0.9nm,0.8s,baz=248,slow=4.5,SNR=3.2						
PDAR	**Pinedale Array**	**84.80**	**333**	P	**P**	**06 49 49.3**	**+0.2**
	comp=N,0.3nm,0.6s,baz=156,slow=6.8,SNR=2.9						
NVAR	**Mina Array Bea**	**84.85**	**325**	P	**P**	**06 49 50.6**	**+1.2**
	comp=N,0.2nm,0.5s,baz=137,slow=5.8,SNR=3.1						
WRA	**Warramunga Arr**	**119.83**	**209**	PKP	**PKPdf**	**06 56 04.2**	**-1.1**
	comp=N,0.7nm,1.1s,baz=156,slow=1.7,SNR=7.7						
WRA				pPKP	**pPKPdf**	**06 56 18.6**	**-0.8**
	comp=N,0.3nm,0.5s,baz=170,slow=1.6,SNR=2.1						
H11S2	**WAKE ISLAND Hy**	**125.84**	**268**	T	T	09 14 40.3	
	baz=118						
H11S1	**WAKE ISLAND Hy**	**125.85**	**268**	T	T	09 14 39.6	
	baz=118						
H11S3	**WAKE ISLAND Hy**	**125.86**	**268**	T	T	09 14 53.9	
	baz=118						
H11N3	**WAKE ISLAND Hy**	**126.28**	**270**	T	T	09 15 08.6	
	baz=117						
H11N1	**WAKE ISLAND Hy**	**126.29**	**270**	T	T	09 15 08.2	
	baz=117,slow=74						
H11N2	**WAKE ISLAND Hy**	**126.30**	**270**	T	T	09 15 13.1	
	baz=117,slow=74						
BVAR	**Borovoye Array**	**148.02**	**44**	PKPbc	**PKPbc**	**06 56 59.7**	**+0.3**
	comp=N,1.5nm,0.6s,baz=263,slow=3.8,SNR=7.5						
AAK	**Ala-Archa**	**152.93**	**64**	*ePKPbc*	**PKPbc**	**06 57 12.2**	**+0.4**
ZALV	**Zalesovo Beam**	**155.11**	**34**	PKPab	**PKPab**	**06 57 30.9**	**-0.8**
	comp=N,1.0nm,0.7s,baz=321,slow=2.0,SNR=4.3						
MKAR	**Makanchi Array**	**157.41**	**51**	PKPab	**PKPab**	**06 57 41.7**	**-0.2**
	comp=N,0.6nm,0.8s,baz=316,slow=4.0,SNR=5.8						
SONM	**Songino Array**	**167.23**	**5**	PKPab	**PKPab**	**06 58 26.2**	**+1.3**
	comp=N,0.4nm,0.6s,baz=40,slow=2.5,SNR=3.4						

*NIED **10** 06:39:00, 28.80N×130.00E, h35km, Mw4.2 Best double couple: M○2.24000×10^15 NP1:φ○s191.00000°, δ13.00000°, λ54.00000°. NP2:φ○s47.00000°, δ80.00000°, λ98.00000°.*

*ISCJB **10** 06:39:36.5±0.5, 28°81N±0'03×130°06E±0'07, h54km±4km, mb3.8/13, MS3.2/8, Error ellipse: s-maj=10.6km s-min=4.4km az=18.5*

*IDC **10** 06:39:37.3±0.8, 28°81N×129°94E, h43km±6km, mb3.6/13, mb1 3.8/14, mb1mx3.7/27, mbtmp3.8/14, ML3.8/1, MS3.2/12, Ms1 3.2/12, ms1mx3.0/33, Error ellipse: s-maj=26.0km s-min=15.7km az=76.0*

*JMA **10** 06:39:37.0±0.2, 28°80N×130°00E, h40km, MS3.7*

ISC 10 06:39:37.2±0.7, 28°81N±0'04×130°03E±0'07, h43km±6km, n36, σ0992/40, mb3.8/13, MS3.1/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.49**	**186**	P	**Pn**	**06 39 47.3**	**-0.7**
JZK				S	Sn	**06 39 56.7**	**+1.1**
JAM	**Amami Oshima**	**0.55**	**224**	P	**Pn**	**06 39 47.4**	**-1.2**
JAM				*eS*	**Sn**	**06 39 55.5**	**-1.3**
JTAJ	**Takarajima**	**0.81**	**295**	P	**Pn**	**06 39 51.8**	**-0.3**
JTAJ				S	**Sn**	**06 40 04.0**	**+1.1**
JAMN	**Amaminishikomi**	**0.94**	**233**	P	**Pn**	**06 39 53.9**	**-0.1**
JNN	**Nakanoshima**	**1.04**	**352**	P	**Pn**	**06 39 55.6**	**+0.3**
JNN				*eS*	**Sn**	**06 40 08.1**	**-0.6**
JTK	**Tokunoshima**	**1.40**	**223**	P	**Pn**	**06 40 01.0**	**+0.8**
JTK				*eS*	**Sn**	**06 40 19.3**	**+1.8**
JYAK	**Yakushimahirau**	**1.48**	**16**	P	**Pn**	**06 40 01.5**	**+0.1**
JYAK				S	**Sn**	**06 40 21.4**	**+1.8**
JKC	**Kuchinoerabu**	**1.65**	**5**	P	**Pn**	**06 40 04.5**	**+0.8**
JOKE	**Okinoerabujima**	**1.94**	**222**	P	**Pn**	**06 40 08.2**	**+0.6**
JOKE				*eS*	**Sn**	**06 40 33.0**	**+2.2**
JTN	**Tanegashima 3**	**2.02**	**24**	P	**Pn**	**06 40 08.9**	**+0.2**
JOW	**Kunigami**	**2.51**	**219**	P	**Pn**	**06 40 15.5**	**0.0**
JIH	**Iheya**	**2.54**	**226**	P	**Pn**	**06 40 16.4**	**+0.5**
JNTH	**Nagotoyohara**	**2.90**	**218**	P	**Pn**	**06 40 21.3**	**+0.5**
JAGN	**Aguni-jima**	**3.32**	**229**	P	**Pn**	**06 40 27.8**	**+1.2**
JNU	**Nakatsue**	**4.36**	**9**	P	**Pn**	**06 40 42.3**	**+1.3**
	6.0nm,0.3s,baz=199,slow=12,SNR=45						
JNU				S	**Sn**	**06 41 29.9**	**-0.6**
	1.2nm,0.3s,baz=245,slow=17,SNR=1.7						
JNU				LR	LR	06 42 46.9	
	comp=Z,220nm,19.2s,baz=152,slow=43						
KSRS	**Korea Array**	**8.80**	**349**	P	Pn	06 41 45.2	+3.4
	0.2nm,0.3s,baz=165,slow=14,SNR=9.9						
KSRS				LR	LR	06 45 21.4	
	comp=Z,160nm,19.5s,baz=162,slow=39						
JCJ	**Chichijima**	**10.88**	**96**	LR	LR	06 46 06.0	
	comp=Z,37nm,20.6s,baz=346,slow=36						
USRK	**Ussuriysk Ar.**	**15.44**	**5**	LR	LR	06 48 59.5	
	comp=Z,53nm,18.8s,baz=181,slow=36						
SONM	**Songino Array**	**26.37**	**323**	P	**P**	**06 45 09.2**	**-0.3**
	1.6nm,0.9s,baz=136,slow=10.0,SNR=4.6						
SONM				LR	LR	06 56 51.3	
	comp=Z,64nm,19.1s,baz=124,slow=39						
CMAR	**Chiang Mai Arr**	**30.21**	**257**	LR	LR	06 59 19.0	
	comp=Z,40nm,20.7s,baz=140,slow=39						
PETK	**Petropavlovsk-**	**31.67**	**32**	LR	LR	06 58 33.2	
	comp=Z,36nm,19.8s,baz=207,slow=36						
YAK	**Yakutsk**	**33.23**	**360**	LR	LR	06 59 45.3	
	comp=Z,28nm,18.4s,baz=116,slow=36						
MKAR	**Makanchi Array**	**41.08**	**309**	P	**P**	**06 47 16.5**	**-0.2**
	0.4nm,0.7s,baz=95,slow=9.2,SNR=6.8						
MKAR				LR	LR	07 05 57.2	
	comp=Z,38nm,18.6s,baz=107,slow=38						
ZALV	**Zalesovo Beam**	**41.23**	**320**	P	**P**	**06 47 17.8**	**+0.1**
	1.2nm,0.4s,baz=109,slow=9.8,SNR=4.9						
AAK	**Ala-Archa**	**46.37**	**303**	LR	LR	07 09 31.9	
	comp=Z,34nm,18.0s,baz=46,slow=39						
WRA	**Warramunga Arr**	**48.64**	**175**	P	**P**	**06 48 16.2**	**-0.8**
	0.9nm,0.8s,baz=355,slow=8.4,SNR=6.3						
ASAR	**Alice Springs**	**52.30**	**176**	P	**P**	**06 48 45.0**	**+0.4**
	0.3nm,0.6s,baz=10,slow=14,SNR=9.3						
ASAR				pP	**pP**	**06 48 57.6**	**+0.8**
	0.5nm,0.7s,baz=9.5,slow=13,SNR=3.0						
ILAR	**Eielson Array**	**61.41**	**29**	P	**P**	**06 49 48.4**	**-0.3**
	0.4nm,0.7s,baz=298,slow=9.1,SNR=5.2						
ARCES	**ARCESS Array B**	**68.20**	**338**	P	**P**	**06 50 31.7**	**-1.1**
	1.5nm,1.0s,baz=61,slow=7.5,SNR=3.6						
KBZ	**Khabaz**	**68.78**	**309**	P	**P**	**06 50 36.8**	**0.0**
	3.4nm,0.9s,baz=53,slow=20,SNR=6.4						
KBZ				pP	**pP**	**06 50 49.7**	**+0.3**
	1.6nm,0.7s,baz=236,slow=23,SNR=3.1						
FINES	**FINESS Array B**	**71.41**	**331**	P	**P**	**06 50 51.4**	**-1.3**
	0.5nm,0.4s,baz=58,slow=4.7,SNR=5.6						
FINES				LR	LR	07 23 30.4	
	comp=Z,36nm,19.2s,baz=7.0,slow=37						
AKASG	**Malin Array Be**	**74.61**	**320**	P	**P**	**06 51 11.1**	**-0.7**
	0.3nm,0.4s,baz=62,slow=6.1,SNR=3.2						
YKA	**Yellowknife Ar**	**75.52**	**26**	P	**P**	**06 51 17.9**	**+1.1**
	0.8nm,0.7s,baz=301,slow=5.7,SNR=12						
YKA				pP	**PcP**	**06 51 29.5**	**-0.1**
	0.5nm,0.7s,baz=303,slow=5.8,SNR=5.5						
BRTR	**Keskin Array B**	**76.72**	**308**	P	**P**	**06 51 24.1**	**-0.1**
	1.6nm,0.9s,baz=74,slow=6.3,SNR=6.3						
NOA	**NORSAR Array B**	**77.71**	**334**	LR	LR	07 27 12.4	
	comp=Z,8.6nm,19.4s,baz=315,slow=37						
GERES	**GERESS Array B**	**84.10**	**329**	P	**P**	**06 52 03.9**	**+0.3**
	0.3nm,0.2s,baz=46,slow=5.9,SNR=5.9						
GERES				pP	**pP**	**06 52 15.9**	**-0.7**
	0.2nm,0.3s,baz=8.6,slow=28,SNR=2.1						

*IDC **10** 06:57:53.0±3.8, 55°38N×153°13W, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/28, mbtmp3.4/4, ML3.3/1, MS3.1/2, Ms1 3.1/2, ms1mx2.4/36, Error ellipse: s-maj=75.1km s-min=37.1km az=155.0*

*ISCJB **10** 06:57:57.4±0.8, 56°07N±0'06×153°00W±0'07, h22km, mb3.9/2, MS3.6/1, Error ellipse: s-maj=9.2km s-min=5.2km az=159.4*

*NEIC **10** 06:58:01.6, 56°19N×153°26W, h18km, ML2.9(AEIC), After AEIC.*

ISC 10 06:58:00.8±1.5, 56°24N±0'10×153°17W±0'06, h22km, n39, σ1908/35, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**0.99**	**356**	P	**Pb**	**06 58 19.2**	**0.0**
OHAK				S	**Sn**	**06 58 33.8**	**+1.2**
KDAK	**Kodiak Island**	**1.58**	**11**	P	**Pn**	**06 58 27.9**	**+0.4**
KDAK				S	**Sb**	**06 58 48.5**	**-0.3**
KABR	**Katmai Barrier**	**2.14**	**333**	P	**Pn**	**06 58 34.8**	**-0.4**
PLK3	**Peulik 3**	**2.23**	**312**	P	**Pn**	**06 58 37.5**	**+1.0**
KCE	**Katmai Mt Cerb**	**2.29**	**332**	P	**Pn**	**06 58 38.2**	**+0.9**
KAKN	**Katmai Knife C**	**2.31**	**334**	P	**Pn**	**06 58 38.2**	**+0.6**
PLK1	**Peulik 1**	**2.45**	**311**	P	**Pn**	**06 58 39.7**	**+0.3**
CHGN	**Chignik**	**2.93**	**273**	*ePn*	**Pn**	**06 58 43.3**	**-2.6**
CHGN				*eSn*	**Sn**	**06 59 21.2**	**+0.9**
AUH	**Augustine H**	**3.14**	**357**	P	**Pn**	**06 58 49.2**	**+0.3**
OPT	**Oil Point**	**3.42**	**359**	P	**Pn**	**06 58 53.7**	**+0.9**
SDPT	**Sand Point**	**4.22**	**261**	P	**Pn**	**06 59 01.9**	**-1.8**
RSO	**Redoubt South**	**4.24**	**3**	P	**Pn**	**06 59 05.2**	**+1.0**
SEW	**Seward**	**4.35**	**25**	P	**Pn**	**06 59 07.2**	**+1.7**
SLKM	**Skilak Lake**	**4.55**	**19**	P	**Pn**	**06 59 08.4**	**0.0**
RC01	**Rabbit Creek A**	**5.18**	**19**	*ePn*	**Pn**	**06 59 17.4**	**+0.5**
RC01				*eSn*	**Sn**	**07 00 10.2**	**+0.2**
SUA	**Susitna One**	**5.39**	**13**	P	**Pn**	**06 59 20.6**	**+0.7**
EYAK	**Cordova Ski Ar**	**5.82**	**39**	P	**Pn**	**06 59 25.7**	**0.0**
RAGM	**Ragged Mountai**	**6.11**	**44**	P	**Pn**	**06 59 29.6**	**-0.1**
GOAT	**Goat Mountain**	**6.21**	**42**	P	**Pn**	**06 59 31.2**	**+0.1**
GOAT				S	**Sn**	**07 00 40.6**	**-0.9**
SCM	**Sheep Creek Mo**	**6.37**	**26**	P	**Pn**	**06 59 33.7**	**+0.5**
KLU	**Klutina**	**6.47**	**32**	P	**Pn**	**06 59 35.0**	**+0.3**
BMRM	**Bremner River**	**6.52**	**40**	P	**Pn**	**06 59 35.5**	**+0.2**
BARK	**Barkley Ridge**	**7.00**	**49**	P	**Pn**	**06 59 42.9**	**+0.9**
KIAG	**Kiagna River**	**7.34**	**46**	P	**Pn**	**06 59 46.5**	**-0.2**
TRF	**Thorofare Moun**	**7.38**	**10**	P	**Pn**	**06 59 46.9**	**-0.3**
GRNC	**Granite Creek**	**7.49**	**48**	P	**Pn**	**06 59 49.1**	**+0.4**
ILAR	**Eielson Array**	**9.10**	**17**	Pn	**Pn**	**07 00 11.8**	**+1.2**
	0.1nm,0.3s,baz=200,slow=14,SNR=6.8						
ILAR				Sn	**Sn**	**07 01 48.7**	**-3.5**
	0.1nm,0.3s,baz=201,slow=24,SNR=3						
ILAR				LR	LR	07 04 29.1	
	comp=Z,41nm,19.7s,baz=286,slow=40						
H02N1	**VAN INLET T-PH**	**12.28**	**95**	T	T	07 13 27.6	
H02S1	**DAWSON INLET T**	**12.33**	**96**	T	T	07 13 26.8	
	SNR=4.8						
YKA	**Yellowknife Ar**	**20.37**	**56**	P	Pn	07 02 36.6	-1.0
	0.2nm,0.7s,baz=268,slow=11,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**47.02**	**236**	T	T	07 56 46.9	
	baz=29						
H11N3	**WAKE ISLAND Hy**	**47.03**	**236**	T	T	07 56 46.0	
	baz=29						
H11N1	**WAKE ISLAND Hy**	**47.04**	**236**	T	T	07 56 49.2	
	baz=29						
H11S1	**WAKE ISLAND Hy**	**48.18**	**235**	T	T	07 58 11.4	
	baz=28,slow=75,SNR=23						
H11S2	**WAKE ISLAND Hy**	**48.19**	**235**	T	T	07 58 12.6	
	baz=28,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hy**	**48.19**	**235**	T	T	07 58 13.4	
	baz=28,slow=75,SNR=9.4						
ARCES	**ARCESS Array B**	**54.53**	**1**	P	**P**	**07 07 26.2**	**-0.1**
	1.1nm,0.8s,baz=14,slow=7.7,SNR=3.8						
SONM	**Songino Array**	**56.98**	**308**	P	**P**	**07 07 44.8**	**+0.4**
	0.6nm,0.5s,baz=46,slow=6.4,SNR=3.9						
JAY	**Jayapura**	**79.07**	**249**	LR	LR	07 39 07.5	
	comp=Z,26nm,20.3s,baz=326,slow=31						

*MOS **10** 07:03:52.5±1.2, 22°05S×179°66W, h580km, mb4.7/13, Error ellipse: s-maj=12.3km s-min=10.0km az=72.5*

*ISCJB **10** 07:03:52.2±0.5, 22°25S±0'03×179°63W±0'03, h579km±6km, mb4.5/87, Error ellipse: s-maj=5.4km s-min=4.1km az=38.3*

*IDC **10** 07:03:53.0±1.1, 22°12S×179°58W, h574km±11km, mb4.0/25, mb1 4.1/26, mb1mx4.1/27, mbtmp4.8/26, Error ellipse: s-maj=12.7km s-min=10.3km az=113.0*

*NEIC **10** 07:03:53.6±0.5, 22°19S×179°62W, h586km±6km, mb4.7/60, Error ellipse: s-maj=7.5km s-min=5.1km az=131.0*

*SZGRF **10** 07:03:54.8, 22°01S×178°69W, h600km, South of Fiji Islands*

*BJI **10** 07:03:55.6, 22°20S×179°50W, h570km, mb4.7/7, mB4.8/6*

ISC 10 07:03:53.3±0.4, 22°20S±0'05×179°62W±0'05, h583km±4km, h583km=pP-P, n519, σ1908/576, mb4.6/86, 102C-119D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.96**	**333**	*eP*	**P**	**07 05 25.8**	**+0.8**
MSVF				*eS*	**S**	**07 06 41.9**	**+2.3**
MSVF	**Nonsavu**	**4.96**	**333**	*eP*	**P**	**07 05 25.8**	**+0.8**
MSVF				*eS*	**S**	**07 06 41.9**	**+2.3**
RAO	**Raoul Island**	**7.19**	**168**	P	**P**	**07 05 44.0**	**-0.2**
	197nm,0.3s,baz=65,slow=11,SNR=8.6						
RAO				S	S	07 07 07.7	-7.4
	73nm,0.3s,baz=18,slow=20,SNR=2.0						
NIUE	**Niue**	**9.59**	**73**	P	**P**	**07 06 06.2**	**-1.5**
	baz=9.2,SNR=12						
NIUE				S	**S**	**07 08 01.5**	**+3.5**
	baz=9.2,SNR=6.9						
AFI	**Afiamalu**	**11.11**	**43**	*eP*	P	07 06 19.2	-3.9
AFI				pmax	pmax		
	comp=Z,195nm,0.6s						
AFI	**Afiamalu**	**11.11**	**43**	*eP*	P	07 06 19.2	-3.9
	comp=Z,196nm,0.6s						
DZM	**Mont Dzumac**	**12.92**	**268**	P	**P**	**07 06 41.6**	**0.0**
	comp=Z,2.7nm,0.3s,baz=90,slow=20,SNR=12						
OUZ	**Omahuta**	**14.27**	**203**	*eP*	**P**	**07 06 56.7**	**+1.8**
	comp=Z,269nm,2.7s						
WMGZ	**Waiomatatini S**	**15.66**	**186**	PN	**P**	**07 07 06.5**	**-1.6**
WMGZ				SN	**S**	**07 09 44.5**	**-2.5**
PUZ	**Puketiti**	**15.93**	**186**	PN	**P**	**07 07 08.8**	**-1.8**
PUZ				SN	**S**	**07 09 48.1**	**-3.4**
TWGZ	**Tauwhareparae**	**16.06**	**187**	PN	**P**	**07 07 10.5**	**-1.3**
TWGZ				SN	**S**	**07 09 50.5**	**-3.2**
URZ	**Urewera**	**16.25**	**189**	P	**P**	**07 07 10.8**	**-2.8**
	comp=Z,46nm,0.3s,baz=273,slow=2.6,SNR=189						
URZ				S	**S**	**07 09 53.3**	**-3.5**
	comp=Z,2.9nm,0.3s,baz=236,slow=23,SNR=11						
URZ	**Urewera**	**16.25**	**189**	PN	**P**	**07 07 10.3**	**-3.2**
URZ				SN	**S**	**07 09 52.8**	**-3.9**
URZ	**Urewera**	**16.25**	**189**	*eP*	**P**	**07 07 10.3**	**-3.2**
	comp=Z,117nm,0.9s						
URZ				S	**S**	**07 09 53.2**	**-3.5**
MWZ	**Matawai**	**16.27**	**188**	PN	**P**	**07 07 11.6**	**-2.1**
MWZ				SN	**S**	**07 09 53.6**	**-3.5**
TKGZ	**Te Karaka**	**16.33**	**187**	PN	**P**	**07 07 13.4**	**-0.8**
TKGZ				SN	**S**	**07 09 56.3**	**-1.7**
CNGZ	**Carnagh Statio**	**16.34**	**186**	PN	**P**	**07 07 13.7**	**-0.6**
RRRZ	**Republican Roa**	**16.43**	**191**	PN	**P**	**07 07 14.6**	**-0.6**
RAGZ	**Rawiri**	**16.44**	**188**	PN	**P**	**07 07 14.3**	**-1.1**
PRRZ	**Plateau Road**	**16.60**	**191**	PN	**P**	**07 07 16.3**	**-0.5**
RIGZ	**Rimuhau**	**16.61**	**187**	PN	**P**	**07 07 15.2**	**-1.6**
RAHZ	**Arahi**	**16.90**	**189**	PN	**P**	**07 07 17.0**	**-2.5**
KNZ	**Kokohu**	**16.93**	**187**	PN	**P**	**07 07 18.0**	**-1.6**
KNZ				SN	**S**	**07 10 08.0**	**+0.4**
WHHZ	**Waihua**	**17.04**	**188**	PN	**P**	**07 07 20.3**	**-0.3**
NMHZ	**Naumai**	**17.12**	**189**	PN	**P**	**07 07 19.2**	**-2.3**
BKZ	**Black Stump Fm**	**17.24**	**190**	PN	**P**	**07 07 19.5**	**-3.0**
BKZ	**Black Stump Fm**	**17.24**	**190**	*eP*	**P**	**07 07 20.5**	**-2.0**
	comp=Z,66nm,0.3s						
OTVZ	**Oturere**	**17.39**	**192**	PN	**P**	**07 07 22.4**	**-1.7**
MCHZ	**McNeill Hill**	**17.48**	**190**	PN	**P**	**07 07 24.0**	**-0.6**
TUVZ	**Tukino**	**17.49**	**192**	PN	**P**	**07 07 24.2**	**-0.7**
WHVZ	**Whangaehu Hut**	**17.52**	**192**	PN	**P**	**07 07 23.6**	**-1.7**
TRVZ	**Turoa**	**17.54**	**193**	PN	**P**	**07 07 23.7**	**-1.9**
MOVZ	**Moawhango**	**17.61**	**192**	PN	**P**	**07 07 25.6**	**-0.3**
BHHZ	**Black Hill Sta**	**17.63**	**191**	PN	**P**	**07 07 23.3**	**-2.8**
MTVZ	**Mangateitei**	**17.64**	**193**	PN	**P**	**07 07 26.2**	**0.0**
**

comp=Z,76nm,0.8s
WRAB Tennant Creek 42.90 264 *e*P **P** 07 11 01.5 -0.3
comp=Z,36nm,0.9s
WRA Warramunga Arr 42.90 264 P **P** 07 11 01.5 -0.4
comp=Z,9.2nm,0.3s,baz=94,slow=8.0,SNR=594
WRA ScP **ScP** 07 15 37.5 +2.2
comp=Z,2.6nm,0.8s,baz=98,slow=3.9,SNR=8.0
WRA S **S** 07 16 43.5 -2.0
comp=Z,2.9nm,1.1s,baz=99,slow=13,SNR=5.8
KDU Kakadu 46.51 273 P **P** 07 11 29.4 -0.2
baz=47,SNR=44
KDU S S 07 17 14.1 -22
baz=47,SNR=5.1
FORT Forrest 47.25 248 P **P** 07 11 34.9 0.0
baz=48,SNR=16
FORT Forrest 47.25 248 *e*P **P** 07 11 35.0 +0.1
comp=Z,68nm,0.7s
WRKA Warakurna 47.57 256 P **P** 07 11 37.7 +0.2
baz=48,SNR=146
WRKA S **S** 07 17 49.8 -1.1
baz=48,SNR=4.1
KNRA Kununurra 49.07 268 P **P** 07 11 48.7 +0.1
baz=49,SNR=10
KNRA S **S** 07 18 09.9 -1.5
baz=49,SNR=4.8
SOEI Soe 55.07 274 P **P** 07 12 33.5 +1.8
baz=55,SNR=6.8
SOEI Soe 55.07 274 *e*P **P** 07 12 33.5 +1.8
comp=Z,37nm,0.6s
MEEK Meekatharra 55.95 252 P **P** 07 12 37.2 -0.4
baz=56,SNR=12
VNDA Vanda 56.10 185 P **P** 07 12 39.7 +2.1
comp=Z,5.4nm,0.7s,baz=0.6,slow=7.8,SNR=58
BLDU Ballidu 57.00 247 P **P** 07 12 44.7 0.0
baz=57,SNR=22
MORW Morawa 57.80 249 P **P** 07 12 50.5 +0.4
baz=58,SNR=3.6
GIRL Giralia 60.66 256 P **P** 07 13 10.6 +1.3
baz=61,SNR=4.1
CASY Casey 61.79 206 *e*P **P** 07 13 16.6 +0.7
comp=Z,16nm,1.0s
JAGI Jajag, Banyuwa 64.88 271 P **P** 07 13 35.8 -0.8
baz=65,SNR=3.6
QSPA South Pole Qui 67.88 180 *e*P **P** 07 13 55.1 +0.8
comp=Z,15nm,0.8s
MJAR Matsushiro Arr 70.71 325 P **P** 07 14 11.1 -0.3
comp=Z,10nm,0.8s,baz=162,slow=5.8,SNR=20
MAJO Matsushiro 70.71 325 *e*P **P** 07 14 11.3 -0.1
MAJO pmax pmax
comp=Z,7.0nm,0.3s
MAJO Matsushiro 70.71 325 *e*P **P** 07 14 11.2 -0.1
comp=Z,7.1nm,0.3s
MAT Matsushiro 70.71 325 P **P** 07 14 11.4 0.0
KSM Kuching 72.17 279 P **P** 07 14 21.0 +0.6
baz=73,SNR=4.8
KSM Kuching 72.17 279 *e*P **P** 07 14 20.6 +0.2
comp=Z,20nm,1.0s
JNU Nakatsue 72.50 318 P **P** 07 14 22.0 +0.1
comp=Z,26nm,1.1s,baz=136,slow=5.6,SNR=4.7
ASAJ Asahikawa 74.52 333 P **P** 07 14 34.6 +1.5
comp=Z,12nm,0.7s,baz=56,slow=1.1,SNR=7.0
YSS Yuzh-Sakhalins 76.75 335⇑ *i*P **P** 07 14 46.5 +1.2
KSRS Korea Array 77.18 320 P **P** 07 14 48.8 +0.9
comp=Z,3.7nm,0.8s,baz=137,slow=6.1,SNR=14
KSAR Wonju Array Be 77.20 320 P **P** 07 14 48.8 +0.8
KSAR Wonju Array Be 77.20 320 P **P** 07 14 48.8 +0.8
PETK Petropavlovsk- 77.54 346 P **P** 07 14 49.4 -0.1
comp=Z,26nm,0.7s,baz=134,slow=8.5,SNR=37
MAW Mawson 79.46 200 P **P** 07 15 00.9 +1.3
comp=Z,3.8nm,0.6s,baz=133,slow=7.0,SNR=6.9
USRK Ussuriysk Ar. 79.54 327 P **P** 07 15 01.2 +0.9
comp=Z,14nm,1.0s,baz=106,slow=4.2,SNR=11
ARVC Arvin 81.05 46⇑ P **P** 07 15 09.4 +1.0
baz=81
HABR Khabarovsk 81.19 331⇑ *e*P **P** 07 15 06.5 -2.2
HABR *e**PP **pP** 07 17 10.7 -1.5
HABR *e*SP 07 18 09.6
HABR *e* 07 18 21.5
HABR *e*S **S** 07 24 27.3 -4.0
HABR *e*SS **SS** 07 29 59.0 -5.8
HABR *e*SSS SSS 07 33 33.9
HABR MLR MLR
comp=Z,205nm,17.0s
VES Vestal, Richgr 81.29 46⇑ P **P** 07 15 09.8 +0.2
baz=82
KHMM Horse Mountain 81.42 39 *e*P **P** 07 15 11.2 +0.8
comp=Z,19nm,1.0s
MONP Monument Peak, 81.45 49⇓ P **P** 07 15 11.6 +0.8
baz=82
EDW2 Edwards Air Fo 81.47 47⇓ P **P** 07 15 11.3 +0.6
baz=82
ISA Isabella, Lake 81.59 46 *e*P **P** 07 15 11.8 +0.6
ISA pmax pmax
comp=Z,20nm,1.3s
ISA Isabella, Lake 81.59 46 *e*P **P** 07 15 11.8 +0.6
comp=Z,20nm,1.3s
ISA Isabella, Lake 81.59 46⇓ P **P** 07 15 11.9 +0.7
baz=82
CMB Columbia Colle 81.72 43 *e*P **P** 07 15 12.1 +0.2
CMB pmax pmax
comp=Z,11nm,0.8s
CMB Columbia Colle 81.72 43 *e*P **P** 07 15 12.1 +0.2
comp=Z,11nm,0.8s
IPM Ipoh 81.87 278 *e*P **P** 07 15 13.1 0.0
comp=Z,9.9nm,0.9s
WDC Whiskeytown Da 81.94 40 *e*P **P** 07 15 13.6 +0.8
WDC pmax pmax
comp=Z,10.0nm,1.0s
WDC Whiskeytown Da 81.94 40 *e*P **P** 07 15 13.6 +0.8
comp=Z,10nm,1.0s
N02D Trinity Center 82.08 40⇓ P **P** 07 15 14.9 +1.3
baz=82
M02C Callahan 82.25 39⇓ P **P** 07 15 15.9 +1.4
baz=82
L02D Cave Junction, 82.30 38⇓ P **P** 07 15 15.9 +1.3
baz=82
BELC Belle Mtn. Jos 82.36 49⇓ P **P** 07 15 16.0 +0.8
baz=82
MPMC Manual Prospec 82.48 46⇑ P **P** 07 15 16.4 +0.5
baz=83
MLAC Mammoth, Mammo 82.48 44⇓ P **P** 07 15 16.5 +0.6
baz=83
GSC Goldstone, Bar 82.51 47⇓ P **P** 07 15 16.4 +0.4
baz=83
BC3 Big Chuckawall 82.55 49⇓ P **P** 07 15 16.7 +0.5
baz=83
TIN Tinemaha, Big 82.55 45⇑ P **P** 07 15 17.1 +1.0
baz=83
YBH Yreka Blue Hor 82.55 39 P **P** 07 15 17.0 +1.0
comp=Z,8.5nm,0.7s,baz=200,slow=2.1,SNR=35
YBH Yreka Blue Hor 82.55 39 P **P** 07 15 17.0 +1.0
HEC Hector,Ludlow 82.58 48⇓ P **P** 07 15 16.6 +0.3
baz=83
WAKR Walker 82.61 43 *e*P **P** 07 15 17.2 +0.7
comp=Z,5.2nm,0.7s
GLA Glamis 82.67 50⇓ P **P** 07 15 17.8 +1.1
baz=83
CN2 Changchun 82.74 323 *e*P **P** 07 15 17.6 +0.9
CN2 pmax pmax
comp=Z,30nm,1.0s
KDAK Kodiak Island 82.82 14*c**e*P **P** 07 15 16.8 0.0
KDAK Kodiak Island 82.82 14 *e*P **P** 07 15 16.6 -0.1
comp=Z,6.3nm,0.9s
HUMO Hull Mountain 82.95 38 *e*P **P** 07 15 19.1 +1.2
comp=Z,24nm,1.3s
GMRC Granite Mounta 83.01 48⇑ P **P** 07 15 18.9 +0.4
baz=83
IRM Iron Mountain 83.03 49⇓ P **P** 07 15 19.3 +0.8
baz=83
GRAC Grapevine Rang 83.08 46⇑ P **P** 07 15 19.5 +0.8
baz=83
M04C Macdoel 83.09 40⇑ P **P** 07 15 19.5 +0.7
baz=83
FURC Furnace Creek, 83.13 46⇓ P **P** 07 15 19.5 +0.6
baz=83
TUQ Turquoise Moun 83.19 47⇓ P **P** 07 15 19.8 +0.4
baz=83
SHOC Shoshone, Teco 83.20 47⇓ P **P** 07 15 19.7 +0.4
baz=83
KLR Kul'dur 83.23 330 *e*P P 07 15 15.2 -3.9
Y12C Blythe 83.25 50⇑ P **P** 07 15 20.4 +0.8
baz=83
NVAR Mina Array Bea 83.29 44 P **P** 07 15 20.3 +0.4
comp=Z,5.2nm,0.8s,baz=224,slow=8.6,SNR=47
TIA Tai'an 83.32 313⇑ P **P** 07 15 21.1 +1.2
TIA pmax pmax
comp=Z,30nm,1.1s
I03D Drain, OR 83.42 37⇓ P **P** 07 15 21.1 +1.0
baz=84
K04D Chiloquin, OR 83.66 39⇓ P **P** 07 15 22.5 +1.0
baz=84
NEE2 Needles Airpor 83.73 49⇑ P **P** 07 15 22.8 +0.9
baz=84
TPH Tonopah 83.79 45 *e*P **P** 07 15 22.5 +0.1
TPH pmax pmax
comp=Z,10.0nm,1.1s
TPH Tonopah 83.79 45 *e*P **P** 07 15 22.5 +0.1
comp=Z,10nm,1.1s
TPNV Topopah Spring 83.80 46⇓ P **P** 07 15 22.8 +0.4
baz=84
PDMCI Parker Dam,Lak 83.81 49⇓ P **P** 07 15 22.9 +0.6
baz=84
J04D Umpqua Nationa 83.83 38⇑ P **P** 07 15 23.2 +0.7
baz=84,SNR=8.4
I04A Tendick Farm, 84.00 38⇓ P **P** 07 15 23.6 +0.5
baz=84,SNR=6.6
Z14A Wintersburg 84.17 51⇑ P **P** 07 15 25.1 +1.0
baz=84
J05D Fort Rock, OR 84.37 39⇑ P **P** 07 15 26.0 +1.0
baz=85,SNR=18
W13A Hualapai Mount 84.41 49⇑ P **P** 07 15 26.2 +0.6
baz=85
G03D McMinnville, O 84.42 36⇑ P **P** 07 15 25.9 +0.9
baz=85
SYO Syowa Base 84.74 193‖ *e*P **P** 07 15 24.6 -1.7
I05D Terrebonne, OR 84.95 38⇓ P **P** 07 15 28.3 +0.6
baz=85
R11A Troy Canyon, C 85.01 45⇑ P **P** 07 15 28.8 +0.4
baz=85
RSO Redoubt South 85.22 13 *e*P **P** 07 15 27.6 -1.2
comp=Z,21nm,0.8s
WVOR Wild Horse Val 85.39 40 *e*P **P** 07 15 30.3 +0.3
WVOR *e**PP **pP** 07 17 30.5 -4.6
WVOR pmax pmax
comp=Z,7.0nm,0.9s
WVOR Wild Horse Val 85.39 40 *e*P **P** 07 15 30.3 +0.3
comp=Z,7.1nm,0.9s
WVOR *e*pP **pP** 07 17 30.5 -4.6
NLWA Neilton Lookou 85.48 34 *e*P **P** 07 15 30.6 +0.4
comp=Z,3.1nm,0.6s
OOW Octopus West 85.54 34 P **P** 07 15 32.0 +1.6
TDL Tradedollar La 85.70 36 P **P** 07 15 32.2 +0.8
X16A Lo Mia Camp, P 85.78 50⇓ P **P** 07 15 33.0 +0.9
baz=86
OSD Olympics--Snow 85.84 34 P **P** 07 15 33.3 +1.2
319A Douglas 85.86 54⇓ P **P** 07 15 33.7 +1.3
baz=86
GYA Guiyang 86.19 300 *e*P **P** 07 15 36.0 +1.8
GYA pP **pP** 07 17 40.8 +1.2
GYA sP **sP** 07 18 36.2 -1.9
GYA PP **PP** 07 19 09.4 +3.2
GYA SKS **SKSac** 07 25 07.0 +1.5
GYA PMZ
comp=Z,10.0nm,1.0s
SNAA Sanae 86.35 179 P pP 07 17 44.3 +4.9
WUAZ Wupatki 86.39 49⇑ P **P** 07 15 35.7 +0.8
baz=87
RC01 Rabbit Creek A 86.44 14 *e*P **P** 07 15 34.0 -0.3
comp=Z,32nm,1.1s
ELK Elko 86.54 43 P **P** 07 15 36.3 +0.6
comp=Z,2.4nm,0.7s,baz=149,slow=1.1,SNR=16
VNA3 Neumayer Olymp 86.55 177 P pP 07 17 45.6 +5.3
VNA3 Neumayer Olymp 86.55 177 P **P** 07 15 34.5 -0.4
X18A Snowflake 86.91 51⇑ P **P** 07 15 38.2 +0.8
baz=87
VNA2 Neumayer--Watz 86.97 177 P **P** 07 15 37.3 +0.5
baz=202,slow=4.3
VNA2 Neumayer--Watz 86.97 177 P pP 07 17 47.6 +5.1
baz=178,slow=5.1
TBM Table Mountain 87.08 36 P **P** 07 15 38.5 +0.7
HAWA Hanford 87.20 37 *e*P **P** 07 15 39.1 +0.8
comp=Z,22nm,1.1s
DIV Divide 87.41 16 *e*P **P** 07 15 38.9 -0.1
comp=Z,5.4nm,0.6s
ETW Entiat 87.49 36 P **P** 07 15 40.2 +0.4
121A Cookes Peak, D 87.53 53⇓ P **P** 07 15 41.2 +0.8
baz=88
PPLA Purkeypile 87.55 12 *e*P **P** 07 15 37.6 -2.1
comp=Z,8.2nm,1.1s
BMRM Bremner River 87.57 16 *e*P **P** 07 15 39.6 -0.1
comp=Z,18nm,0.8s
BMO Blue Mountains 87.58 39 *e*P **P** 07 15 40.0 -0.2
comp=Z,2.3nm,0.6s
MFID Camas Ranch 87.65 41 *e*P **P** 07 15 40.8 +0.2
comp=Z,13nm,1.0s
SEY Seymchan 87.69 348 P **P** 07 15 40.1 0.0
comp=Z,12nm,0.8s,baz=146,slow=5.1,SNR=41
WTV Warville 87.75 36 P **P** 07 15 41.1 +0.2
WRAK Wrangell Islan 87.87 24 *e*P **P** 07 15 41.6 +0.6
comp=Z,18nm,1.1s
XAN Xi'an 87.97 308 P **P** 07 15 43.4 +1.1
XAN pP **pP** 07 17 49.2 +0.9
XAN pmax pmax
comp=Z,5.0nm,1.0s
KTH Kantishna Hill 88.39 12 *e*P **P** 07 15 41.9 -1.6
comp=Z,19nm,0.9s
TMUT Trail Mountain 88.41 46 *e*P **P** 07 15 45.5 +1.0
comp=Z,7.7nm,0.8s
TRF Thorofare Moun 88.42 13 *e*P **P** 07 15 42.9 -0.8
comp=Z,35nm,0.8s
HLID Hailey 88.59 41 *e*P **P** 07 15 45.6 +0.6
comp=Z,7.6nm,0.8s
HLID Hailey 88.59 41⇑ P **P** 07 15 45.9 +0.8
baz=89,SNR=15
HVU Hansel Valley 88.67 43 *e*P **P** 07 15 46.2 +0.7
HVU pmax pmax
comp=Z,7.0nm,0.8s
HVU Hansel Valley 88.67 43 *e*P **P** 07 15 46.2 +0.7
comp=Z,6.8nm,0.8s
SRU San Rafael Swe 88.78 47 *e*P **P** 07 15 46.5 +0.4
SRU pmax pmax
comp=Z,20nm,1.2s
SRU San Rafael Swe 88.78 47 *e*P **P** 07 15 46.5 +0.4
comp=Z,20nm,1.2s
KMI Kunming 88.79 298 P **P** 07 15 47.2 +0.7
KMI pmax pmax
comp=Z,12nm,0.6s
LAZ Ladron 88.89 52 *e*P **P** 07 15 47.6 +0.9
comp=Z,3.3nm,1.2s
MCK McKinley 88.95 13 *e*P **P** 07 15 45.5 -0.6
MCK pmax pmax
comp=Z,19nm,1.1s
MCK McKinley 88.95 13 *e*P **P** 07 15 45.5 -0.6
comp=Z,19nm,1.1s
MNTX Cornudas Mount 88.95 55 *e*P **P** 07 15 47.5 +0.6
comp=Z,7.4nm,0.7s
MNTX Cornudas Mount 88.95 55⇓ P **P** 07 15 47.4 +0.6
baz=89
PLCA Paso Flores 89.19 134 P **P** 07 15 48.4 +0.4
comp=Z,1.2nm,0.6s,baz=236,slow=6.1,SNR=4.6
TCUT Toone Canyon 89.20 45 *e*P **P** 07 15 48.6 +0.5
comp=Z,15nm,1.1s
HIA Hailar 89.21 325 *e*P **P** 07 15 46.7 -0.9
HIA pmax pmax
comp=Z,4.0nm,1.0s
TXAR Lajitas Array 89.23 58 P **P** 07 15 49.2 +0.9
comp=Z,4.6nm,0.9s,baz=216,slow=5.8,SNR=42
TXAR pP **pP** 07 17 56.5 +1.8
comp=Z,0.1nm,0.3s,baz=147,slow=48,SNR=3.1
CMAR Chiang Mai Arr 89.27 290 P **P** 07 15 50.4 +1.8
comp=Z,11nm,0.9s,baz=132,slow=3.2,SNR=49
CHTO Chiang Mai 89.41 290 *e*P **P** 07 15 51.1 +1.9
CHTO pmax pmax
comp=Z,16nm,1.0s
CHTO Chiang Mai 89.41 290 *e*P **P** 07 15 51.1 +1.9
comp=Z,16nm,1.0s
HHC Hu-ho-hao-te 89.47 315 *e*P P 07 15 53.4 +4.3
HHC PP PP 07 19 37.7 +6.0
HHC S S 07 25 57.6 +6.6
HHC SS SS 07 32 14.6 +9.3
HHC PMZ
comp=Z,15nm,0.8s
HHC PMZ
comp=Z,84nm,6.2s
NEW Newport 89.63 36 P **P** 07 15 49.2 -0.4
comp=Z,1.1nm,0.6s,baz=257,slow=2.0,SNR=4.4
NEW Newport 89.63 36⇓ P **P** 07 15 49.3 -0.2
baz=90
ANMO Albuquerque 89.63 52 *d* *i*P **P** 07 15 50.4 +0.3
ANMO pmax pmax
comp=Z,14nm,0.9s
ANMO Albuquerque 89.63 52 *e*P **P** 07 15 50.1 -0.1
comp=Z,6.7nm,1.2s
DOT Dot Lake 89.98 15 *e*P **P** 07 15 50.5 -0.4
comp=Z,5.2nm,0.8s
IM04 Indian Mountai 90.07 10 *e*P **P** 07 15 51.0 -0.2
COLA College 90.19 13 *d* *i*P **P** 07 15 50.0 -1.7
COLA pmax pmax
comp=Z,45nm,1.0s
COLA College 90.19 13 *e*P **P** 07 15 50.7 -1.0
comp=Z,20nm,1.1s
DLBC Dease Lake 90.20 24 *e*P **P** 07 15 52.4 +0.4
MCMT McKenzie Canyo 90.22 41 *e*P **P** 07 15 53.2 +0.5
comp=Z,3.4nm,1.1s
ILAR Eielson Array 90.30 13 P **P** 07 15 51.0 -1.3
comp=Z,3.1nm,0.7s,baz=216,slow=4.7,SNR=42
ILAR Eielson Array 90.30 13 P **P** 07 15 51.0 -1.3
CD2 Chengdu 90.45 303 *e*P **P** 07 15 54.9 +1.1
CD2 pmax pmax
comp=Z,20nm,1.3s
MSO Missoula 90.63 39⇑ P **P** 07 15 54.2 -0.1
baz=91
S22A 4UR Ranch, Cre 90.66 49⇑ P **P** 07 15 55.4 +0.4
baz=91
BSMT Bassoo Peak 90.70 38 P **P** 07 15 54.3 -0.4
REDW Red Top Meadow 90.70 43 *e*P **P** 07 15 55.4 +0.5
comp=Z,11nm,1.1s
TPAW Teton Pass 90.70 43 *e*P **P** 07 15 55.5 +0.5
comp=Z,1.3nm,0.6s
529A Stev Forest Ra 90.71 58⇑ P **P** 07 15 55.0 0.0
baz=91,SNR=5.3
SNOW Snow King Moun 90.81 43 *e*P **P** 07 15 56.1 +0.6
comp=Z,8.3nm,0.8s
O20A White River Ci 90.82 47 *e*P **P** 07 15 55.8 +0.3
comp=Z,2.0nm,0.5s
O20A White River Ci 90.82 47⇑ P **P** 07 15 55.4 -0.1
baz=91
IMW Indian Meadow 90.91 42 *e*P **P** 07 15 56.4 +0.5
comp=Z,7.0nm,1.1s
N20A Spence Gulch, 91.14 46⇑ P **P** 07 15 57.2 +0.2
baz=91,SNR=6.2
I17A Pilgrim Ck. 91.15 42⇓ P **P** 07 15 57.8 +0.8
baz=91
429A Davenport Ranc 91.17 57⇑ P **P** 07 15 57.2 0.0
baz=91,SNR=12
PDAR Pinedale Array 91.22 44 P **P** 07 15 57.0 -0.4
comp=Z,2.7nm,0.8s,baz=211,slow=1.8,SNR=20
228A UT Block 9, Go 91.27 56⇓ P **P** 07 15 57.7 +0.1
baz=91
H17A Grant Village 91.39 42⇓ P **P** 07 15 59.5 +1.4
baz=92
530A J-C Ranch, Com 91.41 58⇓ P **P** 07 15 58.1 -0.1
baz=92
329A Wagon Wheel Ra 91.47 57⇑ P **P** 07 15 58.9 +0.4
baz=92
DAWY Dawson 91.50 17 *e*P **P** 07 15 57.8 -0.1
128A Castleberry Fa 91.57 55⇓ P **P** 07 15 59.0 0.0
baz=92
P22A Eagle 91.57 48⇑ P **P** 07 15 59.5 +0.5
baz=92
R23A Moffat 91.57 49⇑ P **P** 07 15 58.9 -0.3
baz=92
SDCO Great Sand Dun 91.60 50 *e*P **P** 07 15 59.4 +0.1
comp=Z,2.4nm,0.8s
SDCO Great Sand Dun 91.60 50⇓ P **P** 07 15 59.2 -0.1
baz=92,SNR=6.6
EGAK Eagle 91.63 15 *e*P **P** 07 15 58.1 -0.2
comp=Z,6.5nm,0.7s
631A Perdido Creek 91.71 59⇑ P **P** 07 15 59.8 +0.2
baz=92,SNR=9.6
832A Faith Ranch, C 91.72 60⇓ P **P** 07 15 59.4 -0.3
baz=92,SNR=5.2
J19A Crowheart 91.79 44⇑ P **P** 07 16 00.2 +0.4
baz=92
Q23A Hartsel 91.89 49⇑ P **P** 07 16 00.4 -0.2
baz=92
MSTX Muleshoe 91.93 54⇑ P **P** 07 16 00.6 0.0
baz=92
O22A Kremmling 91.98 47⇑ P **P** 07 16 00.8 -0.1
baz=92
933A Laredo 92.02 61⇑ P **P** 07 16 01.2 +0.2
baz=92
531A Rocksprings 92.04 58⇑ P **P** 07 16 01.4 +0.2
baz=92
129A Stewart Farms, 92.04 56⇓ P **P** 07 16 00.8 -0.3
baz=92
330A Mertzon 92.06 57⇓ P **P** 07 16 01.1 -0.2
baz=92
H18A Shoshone NF, C 92.09 42⇑ P **P** 07 16 01.9 +0.6
baz=92
T25A Trinidad 92.10 51⇑ P **P** 07 16 01.7 +0.2
baz=92
I19A Meeteetse 92.20 43⇓ P **P** 07 16 02.4 +0.6
baz=92
833A Chaparral WMA, 92.21 60⇑ P **P** 07 16 02.0 +0.1
baz=92
N22A Wattenberg Ran 92.33 47⇑ P **P** 07 16 02.9 +0.4
baz=92
632A Uvalde 92.37 59⇓ P **P** 07 16 03.1 +0.5
baz=92,SNR=5.5
ISCO Idaho Springs 92.45 48⇑ P **P** 07 16 02.8 -0.4
baz=93
J20A Shoshoni 92.45 44⇑ P **P** 07 16 03.4 +0.6
baz=93
H19A Powell 92.51 42⇑ P **P** 07 16 04.1 +1.0
baz=93
M22A Cedar Creek Ra 92.52 46⇓ P **P** 07 16 03.5 +0.1
baz=93
532A Rocksprings 92.53 59⇑ P **P** 07 16 03.6 +0.1
baz=93
LZH Lanzhou 92.61 308 *e*P P 07 16 07.6 +3.8
LZH PMZ
comp=Z,45nm,1.2s
LZH PMZ
comp=Z,200nm,5.3s
Y29A Porterfield Fa 92.71 55⇑ P **P** 07 16 04.4 +0.2
baz=93
I20A Worland 92.71 43⇑ P **P** 07 16 04.3 +0.3
baz=93
N23A Red Feather La 92.72 47⇑ P **P** 07 16 04.7 +0.3
baz=93
JCT Junction City 92.76 58⇑ P **P** 07 16 03.8 -0.6
baz=93
834A Tilden 92.81 61⇓ P **P** 07 16 05.3 +0.6
baz=93
633A Saathoff Ranch 92.84 59⇓ P **P** 07 16 05.1 +0.3
baz=93
J21A Lysite 92.86 44⇓ P **P** 07 16 04.9 +0.1
baz=93
Z30A Sanderson Ranc 92.88 55⇑ P **P** 07 16 05.2 +0.3
baz=93
L22A Ellis Ranch, M 92.91 46⇓ P **P** 07 16 05.5 +0.5
baz=93
432A Menard 92.92 58⇑ P **P** 07 16 05.1 -0.1
baz=93
231A Bronte 92.95 57⇓ P **P** 07 16 05.2 -0.1
baz=93
S26A Kim 92.99 51⇓ P **P** 07 16 05.6 +0.2
baz=93
H20A Greybull 93.05 43⇑ P **P** 07 16 05.5 0.0
baz=93
F19A Roth Farm, Mol 93.11 41⇓ P **P** 07 16 05.8 +0.1
baz=93
YAK Yakutsk 93.13 339 *e*P P 07 16 04.3 -0.9
YAK pmax pmax
comp=Z,13nm,0.8s
K22A Casper 93.14 45⇓ P **P** 07 16 06.7 +0.7
baz=93
332A Millersview 93.17 57⇓ P **P** 07 16 06.2 -0.1
baz=93,SNR=6.2
I21A Big Trails, Te 93.18 44⇑ P **P** 07 16 06.3 +0.1
baz=93
131A Roby 93.19 56⇓ P **P** 07 16 06.2 -0.2
baz=93
533A Kerrville 93.20 59⇓ P **P** 07 16 06.4 -0.1
baz=93
T27A Campo 93.29 51⇑ P **P** 07 16 06.9 +0.1
baz=93
R26A Arlington 93.30 50⇑ P **P** 07 16 06.5 -0.3
baz=94,SNR=5.4
N24A Carr 93.41 47⇓ P **P** 07 16 07.5 +0.2
baz=94
433A Art 93.43 58⇓ P **P** 07 16 07.0 -0.5
baz=94,SNR=5.2
L23A Garrett 93.44 46⇑ P **P** 07 16 07.9 +0.4
baz=94
232A Coleman 93.45 57⇑ P **P** 07 16 07.6 0.0
baz=94
E19A Rath Farm, Rou 93.50 41⇓ P **P** 07 16 08.2 +0.7
baz=94
J22A Midwest 93.52 44⇑ P **P** 07 16 08.2 +0.5
baz=94

Q26A	**Hugo**	**93.52**	**49**	⇓P		**P**	**07 16 08.1**	**+0.3**
	baz=94								
O25A	**Wiggins**	**93.62**	**48**	⇓P		**P**	**07 16 08.4**	**+0.2**
	baz=94								
534A	**Blanco**	**93.63**	**59**	⇓P		**P**	**07 16 08.4**	**0.0**
	baz=94								
EGMT	**Eagleton**	**93.68**	**39**	⇓P		**P**	**07 16 08.7**	**+0.4**
	baz=94								
R27A	**Eads**	**93.75**	**50**	⇓P		**P**	**07 16 08.9**	**0.0**
	baz=94								
D19A	**Cripps Ranch,**	**93.78**	**40**	⇑P		**P**	**07 16 09.8**	**+1.0**
	baz=94								
Y31A	**Rekieta Farm,**	**93.82**	**55**	⇓P		**P**	**07 16 09.3**	**+0.1**
	baz=94								
P26A	**Davis Ranch, A**	**93.91**	**49**	⇓P		**P**	**07 16 10.7**	**+1.1**
	baz=94								
E20A	**Meyer Farm, Mu**	**93.92**	**41**	⇑P		**P**	**07 16 09.9**	**+0.5**
	baz=94								
C19A	**Slack Wire Ran**	**93.96**	**40**	⇑P		**P**	**07 16 10.3**	**+0.7**
	baz=94								
233A	**Rising Star**	**94.08**	**57**	⇑P		**P**	**07 16 10.3**	**-0.1**
	baz=94								
434A	**Burnet**	**94.10**	**59**	⇓P		**P**	**07 16 10.5**	**-0.1**
	baz=94								
S28A	**Manter**	**94.10**	**51**	⇑P		**P**	**07 16 10.4**	**-0.1**
	baz=94								
Z32A	**Haskell**	**94.15**	**56**	⇑P		**P**	**07 16 10.9**	**+0.2**
	baz=94								
KSCO	**Kaye Shedlock'**	**94.18**	**50**	⇑P		**P**	**07 16 11.0**	**+0.1**
	baz=94								
334A	**Lometa**	**94.33**	**58**	⇑P		**P**	**07 16 11.5**	**0.0**
	baz=94								
EDM	**Edmonton**	**94.35**	**34**	*e*P		**P**	**07 16 10.4**	**-0.7**
EDM	**Edmonton**	**94.35**	**34**	*e*P		**P**	**07 16 10.4**	**-0.7**
B19A	**Brinkman Farms**	**94.36**	**39**	⇑P		**P**	**07 16 11.7**	**+0.4**
	baz=95								
P27A	**Ficken Ranch,**	**94.45**	**49**	⇓P		**P**	**07 16 12.1**	**+0.1**
	baz=95								
R28A	**Tribune**	**94.48**	**50**	⇑P		**P**	**07 16 12.3**	**+0.2**
	baz=95								
C20A	**Veseth Ranch,**	**94.57**	**40**	⇓P		**P**	**07 16 12.2**	**0.0**
	baz=95								
J24A	**Dixon Ranch, L**	**94.66**	**45**	⇑P		**P**	**07 16 13.4**	**+0.5**
	baz=95								
Z33A	**Whitaker Ranch**	**94.69**	**56**	⇓P		**P**	**07 16 13.4**	**+0.3**
	baz=95								
N27A	**Anderson Farm,**	**95.00**	**48**	⇓P		**P**	**07 16 15.1**	**+0.6**
	baz=95								
G23A	**Biddle**	**95.02**	**43**	⇑P		**P**	**07 16 15.3**	**+0.8**
	baz=95								
A20A	**Cobblestone Ra**	**95.16**	**39**	⇑P		**P**	**07 16 14.7**	**-0.3**
	baz=95								
O28A	**Krutsinger Ran**	**95.25**	**49**	⇓P		**P**	**07 16 15.7**	**+0.1**
	baz=95								
H24A	**Dirks Ranch, A**	**95.36**	**44**	⇑P		**P**	**07 16 16.2**	**+0.3**
	baz=96								
D22A	**Cohagen**	**95.41**	**41**	⇓P		**P**	**07 16 16.8**	**+0.7**
	baz=96								
ULN	**Ulaanbaatar**	**95.67**	**320**	*e*P		**P**	**07 16 16.1**	**-1.3**
ULN				pmax	pmax				
	comp=Z,1.0nm,1.0s								
Q30A	**Quinter**	**95.88**	**50**	⇓P		**P**	**07 16 18.7**	**+0.3**
	baz=96								
SONM	**Songino Array**	**96.05**	**319**	P		**P**	**07 16 18.4**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=64,slow=3.4,SNR=3.5								
SONM				PP		**PP**	**07 20 18.3**	**-4.0**
	comp=Z,0.2nm,0.4s,baz=130,slow=7.8,SNR=3.5								
P30A	**Selden**	**96.08**	**50**	⇓P		**P**	**07 16 19.9**	**+0.6**
	baz=96								
INK	**Inuvik**	**96.30**	**16**	P		**P**	**07 16 18.1**	**-1.4**
	comp=Z,2.0nm,0.7s,baz=237,slow=4.6,SNR=5.4								
C24A	**Savage**	**96.64**	**41**	⇑Pdiff		**P**	**07 16 22.4**	**+0.8**
	baz=97								
GTA	**Gaotai**	**96.89**	**310**	*e*P		**P**	**07 16 23.8**	**+0.8**
GTA				pP		pP	07 18 36.1	+5.8
GTA				sP		sP	07 19 35.3	+7.0
GTA				pmax	pmax				
	comp=Z,3.0nm,1.5s								
DGMT	**Dagmar**	**97.19**	**40**	⇓Pdiff		**P**	**07 16 25.4**	**+1.4**
	baz=97								
G29A	**Hoven**	**98.53**	**45**	⇓Pdiff		**P**	**07 16 31.1**	**+1.0**
	baz=99								
YKA	**Yellowknife Ar**	**98.68**	**25**	P		Pdif	07 16 29.7	-0.5
	comp=Z,0.6nm,0.7s,baz=245,slow=4.6,SNR=8.9								
TIXI	**Tiksi**	**100.00**	**345**	*e*P		**Pdif**	**07 16 33.9**	**-2.0**
TIXI				pmax	pmax				
	comp=Z,1.0nm,1.2s								
ECSD	**EROS Data Cent**	**100.19**	**47**	⇑Pdiff		**Pdif**	**07 16 38.2**	**+0.7**
	baz=100								
ZALV	**Zalesovo Beam**	**110.86**	**321**	PKiKP		**PKiKP**	**07 21 19.4**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=154,slow=1.8,SNR=4.8								
MK31	**Makanchi Array**	**111.26**	**313**	*e*PKPdf		**PKiKP**	**07 21 20.7**	**-0.8**
MKAR	**Makanchi Array**	**111.26**	**313**	Pdiff		**Pdif**	**07 17 28.2**	**+1.6**
	comp=Z,0.3nm,0.8s,baz=104,slow=6.1,SNR=2.8								
MKAR				PKiKP		**PKiKP**	**07 21 20.4**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=52,slow=31,SNR=8.5								
KURK	**Kurchatov**	**114.21**	**317**	*e*PKiKP		PKPdf	07 21 26.2	-0.8
KURK				pmax	pmax				
	comp=Z,2.0nm,1.7s								
KSH	**Kashi**	**114.61**	**305**	*e*PKP		PKPdf	07 21 35.7	+7.4
KSH				sPKP			07 24 34.8		
KSH				PPMZ					
	comp=Z,120nm,4.5s								
AAK	**Ala-Archa**	**116.15**	**308**	*i* PKiKP		**PKPdf**	**07 21 30.9**	**-0.3**
AAK				pmax	pmax				
	comp=Z,8.0nm,2.5s								
KKAR	**Karatay Array**	**119.11**	**308**	*e*PKiKP		**PKPdf**	**07 21 35.7**	**-1.0**
KKAR	**Karatay Array**	**119.11**	**308**	*e*PKPdf		**PKPdf**	**07 21 35.6**	**-1.0**
BRVK	**Borovoye**	**119.46**	**319**	*i* PKiKP		**PKPdf**	**07 21 35.7**	**-1.3**
BRVK				pmax	pmax				
	comp=Z,1.0nm,0.6s								
SVE	**Sverdlovsk**	**124.51**	**325**	*e*PKiKP		**PKPdf**	**07 21 46.1**	**-0.5**
SUMG	**Summit**	**125.15**	**13**	*i* P		**PKPdf**	**07 21 47.8**	**-0.1**
	comp=Z,7.0nm,1.0s								
SUMG	**Summit**	**125.15**	**13**	*i* PKiKP		**PKPdf**	**07 21 47.8**	**-0.1**
SUMG				pmax	pmax				
	comp=Z,7.0nm,1.0s								
ARU	**Arti**	**125.72**	**324**	*i* PKiKP		**PKPdf**	**07 21 48.3**	**-0.6**
ARU							07 23 50.6		
ARU							07 27 57.0		
ARU	**Arti**	**125.72**	**324**	*e*PKPdf		**PKPdf**	**07 21 48.8**	**-0.1**
ABKAR	**Akbulak array**	**126.26**	**316**	*e*PKPdf		**PKPdf**	**07 21 50.0**	**-0.1**
GEYT	**Alibeck**	**128.40**	**301**	PKP		**PKPdf**	**07 21 54.6**	**-0.1**
	comp=Z,3.1nm,0.7s,baz=90,slow=0.1,SNR=6.5								
ARCES	**ARCESS Array B**	**130.30**	**349**	PKhKP		PKPpre	07 21 44.6		
	comp=Z,1.9nm,1.0s,baz=294,slow=0.9,SNR=3.9								
ARCES				PKP		**PKPdf**	**07 21 56.8**	**-0.5**
	comp=Z,3.9nm,0.6s,baz=44,slow=1.3,SNR=30								
ARCES				SKPbc		**SKPab**	**07 24 27.4**	**+0.2**
	comp=Z,7.5nm,1.0s,baz=45,slow=3.1,SNR=12								
KLMR	**Klimovskoe**	**132.80**	**335**	*e*PKiKP		**PKPdf**	**07 22 02.5**	**+0.3**
KLMR				*e**PP		**PP**	**07 24 35.8**	**-0.2**
KLMR				pmax	pmax				
	comp=Z,12nm,1.1s								
FINES	**FINESS Array B**	**136.95**	**342**	PKhKP		PKPpre	07 21 58.1		
	comp=Z,0.5nm,0.4s,baz=96,slow=1.9,SNR=5.9								
FINES				PKP		**PKPdf**	**07 22 09.1**	**-0.8**
	comp=Z,4.3nm,0.7s,baz=90,slow=3.8,SNR=9.4								
FINES				SKPbc		**SKPbc**	**07 24 48.7**	**0.0**
	comp=Z,1.6nm,0.6s,baz=52,slow=2.3,SNR=5.4								
KMBO	**Kilima Mbogo**	**137.22**	**242**	SKPbc		**SKPbc**	**07 24 52.6**	**+1.2**
	comp=Z,1.4nm,0.5s,baz=50,slow=17,SNR=4.4								
OBN	**Obninsk**	**137.50**	**330**	⇑*e*PKiKP		**PKPdf**	**07 22 11.8**	**+0.7**
OBN				*e*			07 24 16.7		
OBN				pmax	pmax				
	comp=Z,7.0nm,0.4s								
NB2	**NORSAR Subarra**	**140.46**	**352**	PKP		PKPpre	07 22 10.0		
	comp=Z,9.3nm,1.2s,baz=17,slow=2.6								
NOA	**NORSAR Array B**	**140.46**	**352**	PKhKP		PKPpre	07 22 09.5		
	comp=Z,1.0nm,0.5s,baz=1.1,slow=2.3,SNR=6.2								
NOA				PKP		**PKiKP**	**07 22 18.0**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=14,slow=4.1,SNR=5.3								
NOA				SKPbc		**SKPbc**	**07 24 58.5**	**+0.1**
	comp=Z,2.5nm,0.9s,baz=15,slow=4.4,SNR=4.6								
MALT	**Malatya**	**143.72**	**305**	⇓PKiKP		**PKPdf**	**07 22 22.6**	**-0.4**
MALT	**Malatya**	**143.72**	**305**	⇓*i*P		**PKPdf**	**07 22 22.6**	**-0.4**
AKASG	**Malin Array Be**	**143.72**	**329**	PKP		PKPbc	07 22 20.4	-1.2
	comp=Z,5.1nm,0.4s,baz=41,slow=4.0,SNR=74								
AKASG				SKPbc		**SKPbc**	**07 25 05.9**	**-0.7**
	comp=Z,0.3nm,0.2s,baz=43,slow=2.7,SNR=9.6								
AKBB	**Malin Array Si**	**143.72**	**329**	*e*PKiKP		PKPbc	07 22 20.3	-1.3
AKBB	**Malin Array Si**	**143.72**	**329**	*e*PKPbc		PKPbc	07 22 20.3	-1.2
AK01	**Malin Array Si**	**143.74**	**329**	*e*PKPbc		PKPbc	07 22 20.3	-1.3
KIEV	**Kiev**	**143.74**	**329**	*e*PKiKP		PKPbc	07 22 20.4	-1.2
KIEV	**Kiev**	**143.74**	**329**	*e*PKPbc		PKPbc	07 22 20.4	-1.2
AK02	**Malin Array Si**	**143.76**	**329**	*e*PKPbc		PKPbc	07 22 20.5	-1.2

SUW	**Suwalki**	**143.85**	**337**	*e*PKP		PKPbc	07 22 21.3	-0.5
SUW	**Suwalki**	**143.85**	**337**	*e*PKiKP		PKPbc	07 22 21.6	-0.2
SUW	**Suwalki**	**143.85**	**337**	*e*PKPbc		PKPbc	07 22 21.6	-0.2
BSD	**Bornholm Skovb**	**145.38**	**345**	⇓*i*P		**PKPdf**	**07 22 25.6**	**+0.5**
	comp=Z,36nm,0.8s								
BSD	**Bornholm Skovb**	**145.38**	**345**	⇓*i*PKiKP		**PKPdf**	**07 22 25.6**	**+0.5**
BSD				pmax	pmax				
	comp=Z,36nm,0.8s								
GKP	**Gorka Klasztor**	**146.42**	**342**	*e*PKP		**PKPbc**	**07 22 30.4**	**+1.0**
GKP	**Gorka Klasztor**	**146.42**	**342**	*e*PKP2		**PKPbc**	**07 22 30.4**	**+1.0**
BEL	**Belsk**	**146.46**	**337**	*e*PKP		**PKPbc**	**07 22 29.7**	**+0.2**
BEL	**Belsk**	**146.46**	**337**	*e*PKP2		**PKPbc**	**07 22 29.8**	**+0.2**
LVV	**L'vov**	**146.73**	**332**	*e*PKP2		**PKPbc**	**07 22 29.8**	**-0.6**
BR131	**Keskin Array S**	**146.81**	**309**	*e*PKPdf		**PKPdf**	**07 22 27.7**	**-0.5**
BR131				*e*PKPbc		**PKPbc**	**07 22 30.7**	**-0.5**
BR131				*e*PKPab		**PKPab**	**07 22 34.8**	**+0.5**
BRTR	**Keskin Array B**	**146.81**	**309**	PKP		**PKPdf**	**07 22 27.9**	**-0.3**
	comp=Z,4.8nm,0.7s,baz=140,slow=2.8,SNR=26								
BRTR				PKPbc		**PKPbc**	**07 22 30.8**	**-0.3**
	comp=Z,5.1nm,0.7s,baz=131,slow=4.3,SNR=26								
ANTO	**Ankara**	**147.35**	**310**	⇓PKP2		**PKPbc**	**07 22 32.4**	**-0.1**
ANTO	**Ankara**	**147.35**	**310**	⇓*i*P		**PKPbc**	**07 22 32.4**	**-0.1**
ANTO	**Ankara**	**147.35**	**310**	*e*PKPbc		**PKPbc**	**07 22 32.3**	**-0.1**
ANTO				*e*PKPab		**PKPab**	**07 22 37.4**	**+0.9**
BSEG	**Bad Segeberg**	**147.43**	**349**	*e*PKPbc		**PKPbc**	**07 22 31.9**	**-0.1**
BSEG				*e*PKPab		**PKPab**	**07 22 35.7**	**-0.4**
KWP	**Kalwaria Pacla**	**147.44**	**333**	*e*PKP		**PKPbc**	**07 22 32.1**	**-0.2**
KWP	**Kalwaria Pacla**	**147.44**	**333**	⇓PKP2		**PKPbc**	**07 22 32.2**	**-0.1**
KWP	**Kalwaria Pacla**	**147.44**	**333**	⇓*i*P		**PKPbc**	**07 22 32.2**	**-0.1**
KWP	**Kalwaria Pacla**	**147.44**	**333**	*e*PKPdf		**PKPdf**	**07 22 29.9**	**+1.1**
KWP				*e*PKPbc		**PKPbc**	**07 22 32.3**	**0.0**
KWP				*e*PKPab		**PKPab**	**07 22 37.1**	**+0.7**
BUR08	**Bucovina Ar. S**	**147.73**	**328**	*e*PKPbc		**PKPbc**	**07 22 33.5**	**+0.3**
BUR08				*e*PKPab		**PKPab**	**07 22 38.3**	**+0.6**
CFR	**Carcaliu**	**147.74**	**322**	⇓PKP2		**PKPbc**	**07 22 32.8**	**-0.3**
CFR	**Carcaliu**	**147.74**	**322**	⇓*i*P		**PKPbc**	**07 22 32.8**	**-0.3**
BURAR	**Bucovina Array**	**147.75**	**328**	⇓PKP2		**PKPbc**	**07 22 34.0**	**+0.8**
BURAR	**Bucovina Array**	**147.75**	**328**	⇓*i*P		**PKPbc**	**07 22 34.0**	**+0.8**
TIRR	**Tirgusor**	**148.00**	**321**	⇓PKP2		**PKPbc**	**07 22 33.3**	**-0.5**
TIRR	**Tirgusor**	**148.00**	**321**	⇓*i*P		**PKPbc**	**07 22 33.3**	**-0.5**
VRI	**Vrincioaia**	**148.11**	**324**	⇓PKP2		**PKPbc**	**07 22 34.3**	**+0.2**
VRI	**Vrincioaia**	**148.11**	**324**	⇓*i*P		**PKPbc**	**07 22 34.3**	**+0.2**
OJC	**Ojcow**	**148.15**	**336**	*e*PKP		**PKPbc**	**07 22 33.7**	**-0.3**
OJC	**Ojcow**	**148.15**	**336**	*e*PKP2		**PKPbc**	**07 22 33.7**	**-0.3**
STHS	**Stebnicka Huta**	**148.22**	**334**	*e*PKP2		**PKPbc**	**07 22 34.7**	**+0.4**
STHS	**Stebnicka Huta**	**148.22**	**334**	*e*PKP		**PKPbc**	**07 22 34.7**	**+0.4**
UZH	**Uzhgorod**	**148.38**	**332**	⇓*i*PKP2		**PKPbc**	**07 22 34.9**	**+0.3**
MSAB	**Monastry St. A**	**148.55**	**320**	⇓*i*P		**PKPbc**	**07 22 35.5**	**+0.3**
PSN	**Preselentsi**	**148.57**	**320**	⇓PKP2		**PKPbc**	**07 22 35.7**	**+0.4**
PSN	**Preselentsi**	**148.57**	**320**	⇓*i*P		**PKPbc**	**07 22 35.7**	**+0.4**
NIE	**Niedzica**	**148.59**	**335**	*e*PKP		**PKPbc**	**07 22 35.8**	**+0.6**
NIE	**Niedzica**	**148.59**	**335**	*e*PKP2		**PKPbc**	**07 22 35.8**	**+0.6**
TRPA	**Tarpa**	**148.64**	**331**	⇓*i*P		**PKPbc**	**07 22 34.8**	**-0.5**
DOPR	**Dopca**	**148.76**	**325**	⇑*i*P		**PKPbc**	**07 22 36.1**	**+0.4**
MLR	**Muntele Rosu**	**148.77**	**324**	⇓*i*P		**PKPbc**	**07 22 35.3**	**-0.6**
KSP	**Ksiaz**	**148.82**	**340**	*e*PKP		**PKPbc**	**07 22 35.8**	**+0.1**
KSP	**Ksiaz**	**148.82**	**340**	*e*PKP2		**PKPbc**	**07 22 35.8**	**+0.1**
NRDL	**Niedersach Rie**	**148.84**	**348**	*e*PKPbc		**PKPbc**	**07 22 35.4**	**-0.1**
NRDL				*e*PKPab		**PKPab**	**07 22 41.3**	**-0.5**
OKC	**Ostrava-Krasne**	**149.06**	**337**	⇑*e*PKP		**PKPbc**	**07 22 36.5**	**+0.2**
OKC				*e*PKPAB		**PKPab**	**07 22 43.6**	**+0.6**
DPC	**Dobruska-Polom**	**149.24**	**340**	*e*PKPDF		**PKPdf**	**07 22 31.8**	**+0.1**
DPC				⇑*e*PKP		**PKPbc**	**07 22 37.0**	**+0.2**
DPC				*ex*	x		07 22 41.5		
DPC				*e*PKPAB		**PKPab**	**07 22 44.7**	**+0.9**
VOIR		**149.29**	**325**	⇓*i*P		**PKPbc**	**07 22 37.3**	**+0.2**
MORC	**Moravsky Berou**	**149.33**	**338**	⇓*i*P		**PKPbc**	**07 22 36.9**	**-0.1**
MORC	**Moravsky Berou**	**149.33**	**338**	*e*PKPdf		**PKPdf**	**07 22 33.5**	**+1.6**
MORC				*e*PKPbc		**PKPbc**	**07 22 36.3**	**-0.7**
MORC				*e*PKPab		**PKPab**	**07 22 44.7**	**+0.6**
CLL	**Collm**	**149.33**	**344**	*e*PKPbc		**PKPbc**	**07 22 36.7**	**-0.2**
CLL				*e*PKPab		**PKPab**	**07 22 43.6**	**-0.4**
CLL	**Collm**	**149.33**	**344**	⇓*i*PKPbc		**PKPbc**	**07 22 36.7**	**-0.2**
	comp=Z,50nm,0.8s								
CLL				⇑*i*PKPab		**PKPab**	**07 22 43.8**	**-0.2**
	comp=Z,26nm,0.8s								
KRLC	**Kraliky**	**149.33**	**339**	⇑*e*PKP		**PKPbc**	**07 22 37.1**	**+0.1**
KRLC				*e*PKPAB		**PKPab**	**07 22 44.4**	**+0.3**
IBBN	**Ibbenburen**	**149.41**	**351**	*e*PKPbc		**PKPbc**	**07 22 36.9**	**-0.1**
IBBN				*e*PKPab		**PKPab**	**07 22 43.7**	**-0.6**
CLZ	**Clausthal**	**149.41**	**348**	*e*PKPbc		**PKPbc**	**07 22 37.0**	**-0.1**
CLZ				*e*PKPab		**PKPab**	**07 22 44.4**	**0.0**
BRG	**Berggiesshubel**	**149.48**	**343**	*i* PKP		**PKPbc**	**07 22 37.1**	**-0.1**
	comp=Z,38nm,0.8s								
BRG				*i*			07 22 44.9		
	comp=Z,12nm,0.8s								
BRG				*e*pPKP		pPKPdf	07 24 59.6	+12	
	comp=Z,2.6nm,0.9s								
BRG	**Berggiesshubel**	**149.48**	**343**	*e*PKPbc		**PKPbc**	**07 22 37.1**	**-0.1**
DRGR		**149.54**	**329**	⇓*i*P		**PKPbc**	**07 22 37.5**	**-0.1**
PVCC	**Panska Ves**	**149.62**	**342**	*e*PKP		**PKPbc**	**07 22 37.8**	**+0.2**
PVCC				*ex*	x		07 22 41.0		
PVCC				*e*PKPAB		**PKPab**	**07 22 45.6**	**+0.4**
VYHS	**Vyhne**	**149.91**	**335**	*e*PKP		**PKPbc**	**07 22 38.5**	**+0.1**
VYHS				*e*			07 22 47.0		
PSZ	**Piszkesteto**	**149.95**	**333**	⇓*i*P		**PKPbc**	**07 22 38.4**	**-0.2**
PSZ	**Piszkesteto**	**149.95**	**333**	*e*PKPdf		**PKPdf**	**07 22 31.9**	**-1.1**
PSZ				*e*PKPbc		**PKPbc**	**07 22 38.0**	**-0.5**
PSZ				*e*PKPab		**PKPab**	**07 22 47.4**	**+0.5**
PSZ	**Piszkesteto**	**149.95**	**333**	⇑*e*		**PKPbc**	**07 22 38.7**	**+0.1**
PRA	**Prague**	**150.06**	**342**	⇑*e*PKP		**PKPbc**	**07 22 38.8**	**+0.2**
PRA				*ex*	x		07 22 42.3		
PRA				*e*PKPAB		**PKPab**	**07 22 47.7**	**+0.6**
GOPC	**GO Pecny, Ondr**	**150.10**	**341**	⇑*e*PKP		**PKPbc**	**07 22 39.7**	**+0.3**
GOPC				*e*PKPAB		**PKPab**	**07 22 47.7**	**+0.4**
PRU	**Pruhonice**	**150.11**	**342**	⇑*e*PKP		**PKPbc**	**07 22 38.9**	**+0.2**
PRU				*e*PKPAB		**PKPab**	**07 22 46.9**	**-0.4**
MOX	**Moxa**	**150.28**	**346**	*e*PKPbc		**PKPbc**	**07 22 38.8**	**-0.3**
MOX				*e*PKPab		**PKPab**	**07 22 47.6**	**-0.4**
TANN	**Tannenbergstha**	**150.28**	**344**	*e*PKPbc		**PKPbc**	**07 22 39.0**	**-0.2**
TANN				*e*PKPab		**PKPab**	**07 22 48.2**	**+0.1**
BUG	**Bochum--Univer**	**150.32**	**351**	*e*PKPbc		**PKPbc**	**07 22 38.7**	**-0.5**
NKC	**Novy Kostel**	**150.46**	**344**	⇑*e*PKP		**PKPbc**	**07 22 39.6**	**0.0**
NKC				*e*PKPAB		**PKPab**	**07 22 49.0**	**+0.2**
NKC	**Novy Kostel**	**150.46**	**344**	*e*PKiKP		**PKPbc**	**07 22 39.6**	**0.0**
NKC				*e*			07 22 49.0		
UBBA	**Unterbreizbach**	**150.46**	**348**	*e*PKPbc		**PKPbc**	**07 22 38.8**	**-0.6**
GZR	**Gura Zlata**	**150.50**	**327**	⇓PKiKP		**PKPbc**	**07 22 39.9**	**0.0**
GZR	**Gura Zlata**	**150.50**	**327**	⇓*i*P		**PKPbc**	**07 22 39.9**	**0.0**
SRE	**Strehaia**	**150.78**	**325**	⇓PKiKP		**PKPbc**	**07 22 40.9**	**+0.4**
SRE	**Strehaia**	**150.78**	**325**	⇓*i*P		**PKPbc**	**07 22 40.9**	**+0.4**
BZS	**Buzias**	**150.91**	**328**	⇓PKiKP		**PKPbc**	**07 22 40.1**	**-0.6**
BZS	**Buzias**	**150.91**	**328**	⇓*i*P		**PKPbc**	**07 22 40.1**	**-0.6**
PKSG		**150.98**	**334**	⇑*e*		**PKPbc**	**07 22 40.6**	**-0.2**
CSKK	**Cs^ákako**	**151.06**	**334**	⇑*e*		**PKPbc**	**07 22 40.9**	**-0.1**
KHC	**Kasperske Hory**	**151.16**	**342**	*e*PKPDF		**PKPdf**	**07 22 34.3**	**-0.4**
KHC				⇑*e*PKP		**PKPbc**	**07 22 41.0**	**-0.2**
KHC				*e*PKPAB		**PKPab**	**07 22 52.0**	**+0.2**
KHC	**Kasperske Hory**	**151.16**	**342**	*e*PKiKP		**PKPdf**	**07 22 34.3**	**-0.4**
KHC				*e*			07 22 52.0		
PKST	**T^'s**	**151.23**	**335**	⇑*e*		**PKPbc**	**07 22 41.0**	**-0.4**
GRF	**Grafenberg Arr**	**151.26**	**345**	*e*PKPab		**PKPab**	**07 22 52.4**	**+0.2**
GEC2	**Kecel**	**151.35**	**332**	⇑*e*		**PKPbc**	**07 22 42.2**	**+0.5**
GEC2	**GERESS Array S**	**151.38**	**341**	*e*PKPbc		**PKPbc**	**07 22 41.4**	**-0.4**
GEC2				*e*PKPab		**PKPab**	**07 22 52.9**	**0.0**
GERES	**GERESS Array B**	**151.38**	**341**	PKP		**PKPdf**	**07 22 35.0**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=42,slow=3.1,SNR=3.9								
GERES				PKPbc		**PKPbc**	**07 22 41.6**	**-0.2**
	comp=Z,5.7nm,0.8s,baz=45,slow=2.1,SNR=34								
GERES				PKPab		**PKPab**	**07 22 52.8**	**0.0**
	comp=Z,3.1nm,0.7s,baz=35,slow=4.9,SNR=9.8								
KDZ	**Kurdzhali**	**151.41**	**319**	⇓PKiKP		**PKPbc**	**07 22 42.1**	**+0.1**
KDZ	**Kurdzhali**	**151.41**	**319**	⇓*i*P		**PKPbc**	**07 22 42.1**	**+0.1**
CONA	**Conrad Observa**	**151.49**	**338**	⇓*i*PKiKP		**PKiKP**	**07 22 42.2**	**-0.1**
	comp=Z,11nm,0.7s								
CONA				⇑*i*PKPab		**PKPab**	**07 22 54.0**	**+0.7**
	comp=Z,17nm,1.4s								
PKSM	**Moragy**	**151.82**	**333**	⇓PKiKP		**PKPbc**	**07 22 42.1**	**-0.6**
PKSM	**Moragy**	**151.82**	**333**	⇓*i*P		**PKPbc**	**07 22 42.1**	**-0.6**
PKSM	**Moragy**	**151.82**	**333**	⇑*e*		**PKPbc**	**07 22 42.5**	**-0.2**
DOU	**Dourbes**	**151.96**	**354**	PKPbc		**PKPbc**	**07 22 42.9**	**0.0**
VTS	**Vitosha**	**152.14**	**322**	⇓PKiKP		**PKPdf**	**07 22 39.6**	**+3.1**
VTS	**Vitosha**	**152.14**	**322**	⇓*i*P		**PKPdf**	**07 22 39.6**	**+3.1**
WLF	**Walferdange**	**152.21**	**352**	PKPbc		**PKPbc**	**07 22 44.1**	**+0.6**
WLF	**Walferdange**	**152.21**	**352**	*e*PKPbc		**PKPbc**	**07 22 43.6**	**+0.1**
STU	**Stuttgart**	**152.57**	**347**	*e*PKPbc		**PKPbc**	**07 22 43.9**	**-0.4**

RJOB	**Jochberg**	**152.64**	**342**	*e*PKPab		**PKPab**	**07 22 58.6**	**+0.4**
FUR	**Furstenfeldbru**	**152.66**	**344**	*e*PKPab		**PKPab**	**07 22 58.7**	**+0.5**
DIVS	**Divibare**	**152.81**	**328**	⇓*i*P		**PKPbc**	**07 22 44.9**	**-0.2**
BFO	**Black Forest**	**153.16**	**348**	*e*PKPab		**PKPab**	**07 22 59.8**	**-0.5**
MYKA	**Terra Mystica**	**153.36**	**339**	⇑*i*PKPbc		**PKPbc**	**07 22 45.4**	**-0.8**
	comp=Z,3.9nm,0.4s								
MYKA				⇑*i*PKPab		**PKPab**	**07 23 00.9**	**-0.4**
	comp=Z,6.8nm,0.7s								
WTTA	**Wattenberg**	**153.40**	**343**	⇓*i*PKPdf		**PKPdf**	**07 22 38.1**	**-0.1**
	comp=Z,4.9nm,0.7s								
WTTA				⇓*i*PKPab		**PKPab**	**07 23 01.5**	**0.0**
	comp

VANB	**Van**	**1.99**	**121**	*e*Pn	**Pb**	07 41 40.4	-0.6
CLDR	**Caldiran**	**2.15**	**103**	*e*PN	**Pb**	07 41 43.1	-0.7
CLDR	**Caldiran**	**2.15**	**103**	*e*Pn	**Pb**	07 41 43.1	-0.7
MARD	**Mardin**	**2.36**	**188**	*i* P	**Pb**	07 41 46.4	-0.8
MARD				*i* S	**Sb**	07 42 16.9	+0.3
SUSE	**Susehri**	**2.38**	**284**	*i* P	**Pb**	07 41 47.6	-0.1
SUSE	**Susehri**	**2.38**	**284**	*i* P	**Pb**	07 41 47.6	-0.1
SUSE				*i* S	**Sg**	07 42 20.3	-0.6
AKH	**Akhalkalaki**	**2.47**	**44**	P	**Pg**	07 41 52.8	+1.1
MALT	**Malatya**	**2.55**	**239**	P	**Pn**	07 41 47.5	+1.2
MALT	**Malatya**	**2.55**	**239**	*e*PN	**Pn**	07 41 47.5	+1.2
MALT	**Malatya**	**2.55**	**239**	*e*Pn	**Pn**	07 41 47.5	+1.2
CHVG	**Ch'k'valeri**	**3.13**	**12**	P	**Pb**	07 42 01.5	+1.2
SVSK	**Karacayir**	**3.26**	**276**	*e*PN	**Pn**	07 41 57.8	+1.9
SVSK	**Karacayir**	**3.26**	**276**	*e*Pn	**Pn**	07 41 57.8	+1.9
ONI	**Oni**	**3.39**	**29**	P	**Pb**	07 42 01.6	-3.1
DGRG	**David-gareji**	**3.64**	**59**	P	**Pn**	07 42 01.1	0.0
DGRG	**David-gareji**	**3.64**	**59**	P	**Pn**	07 42 01.1	0.0

*ISCJB **10** 07:44:53.9±0.2, 60°.21N±0°.02×150°.43W±0°.04, h62km±5km, mb3.1/3, Error ellipse: s-maj=3.9km s-min=3.0km az=149.5*
*NEIC **10** 07:44:55.5, 60°.21N×150°.48W, h44km, ML3.1(AEIC), After AEIC.*
*IDC **10** 07:45:01.1±6.2, 60°.41N×149°.65W, h75km±52km, mb3.0/3, mb1 3.4/5, mb1mx3.1/29, mbtmp3.3/5, ML3.2/2, Error ellipse: s-maj=64.9km s-min=31.1km az=76.0*

ISC 10 07:44:55.4±0.9, **60°.21N**±0°.03×**150°.47W**±0°.03, **h50**km±8km, **n90**, σ0°**94**/104, **mb3.1/3, Kenai Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLKM	**Skilak Lake**	**0.32**	**22**	P	**Pn**	07 45 04.0	-0.8
NNL	**Ninilchik**	**0.45**	**249**	P	**Pn**	07 45 05.8	-0.3
BRLK	**Bradley Lake**	**0.49**	**206**	P	**Pn**	07 45 06.0	-0.6
BRLK				S	**Sn**	07 45 14.6	-0.1
SEW	**Seward**	**0.52**	**101**	P	**Pn**	07 45 06.7	-0.1
SEW				S	**Sn**	07 45 15.4	+0.3
NKA	**Nikishka**	**0.66**	**325**	P	**Pn**	07 45 08.8	+0.2
HOM	**Homer**	**0.81**	**228**	P	**Pn**	07 45 10.3	-0.3
HOM				S	**Sn**	07 45 22.1	+0.5
RC01	**Rabbit Creek A**	**0.95**	**22**	P	**Pn**	07 45 12.2	-0.3
RC01				S	**Sn**	07 45 25.1	0.0
FIB	**Fire Island**	**0.97**	**8**	P	**Pn**	07 45 12.9	+0.3
FIB				S	**Sn**	07 45 27.1	+1.6
RSO	**Redoubt South**	**1.17**	**284**	*e*Pn	**Pn**	07 45 14.1	-1.4
RSO				*e*Sn	**Sn**	07 45 30.7	+0.3
DFR	**Drift River**	**1.17**	**290**	P	**Pn**	07 45 14.1	-1.4
RDN	**Redoubt North**	**1.18**	**286**	P	**Pn**	07 45 14.1	-1.5
SUA	**Susitna One**	**1.27**	**354**	P	**Pn**	07 45 16.1	-0.8
SUA				S	**Sn**	07 45 32.9	+0.1
NCT	**North Crescent**	**1.27**	**287**	P	**Pn**	07 45 15.6	-1.3
IVE	**Iliamna Volcan**	**1.29**	**263**	P	**Pn**	07 45 16.0	-1.1
CKN	**Chakachatna No**	**1.32**	**321**	P	**Pn**	07 45 16.7	-0.8
ILS	**Iliamna Low So**	**1.32**	**260**	P	**Pn**	07 45 16.6	-1.0
ILW	**Iliamna West**	**1.34**	**265**	P	**Pn**	07 45 16.8	-1.1
CKL	**Chakachamna La**	**1.35**	**318**	P	**Pn**	07 45 16.9	-1.1
SPBG	**Spurr Blockage**	**1.41**	**319**	P	**Pn**	07 45 17.8	-0.9
SPBG				S	**Sn**	07 45 35.2	-1.0
BGL	**Barrier Glacie**	**1.42**	**319**	P	**Pn**	07 45 18.0	-0.9
STLK	**Strandline Lak**	**1.46**	**333**	P	**Pn**	07 45 19.1	-0.2
OPT	**Oil Point**	**1.50**	**249**	P	**Pn**	07 45 19.3	-0.6
PMR	**Palmer**	**1.54**	**25**	P	**Pn**	07 45 19.9	-0.4
PMR				S	**Sn**	07 45 38.7	-0.4
AUP	**Augustine Pinn**	**1.72**	**242**	P	**Pn**	07 45 23.0	0.0
AUI	**Augustine Isla**	**1.73**	**241**	P	**Pn**	07 45 23.2	+0.1
AUI				S	**Sn**	07 45 44.1	+0.1
GLI	**Glacier Island**	**1.80**	**67**	P	**Pn**	07 45 23.0	-0.9
SKT	**Skwentna**	**1.85**	**344**	P	**Pn**	07 45 24.4	-0.3
PDB	**Pedro Bay**	**1.92**	**259**	P	**Pn**	07 45 25.8	+0.2
JPK	**Jack Peak**	**2.09**	**64**	P	**Pn**	07 45 27.4	-0.5
TRAP	**Trapper Creek**	**2.14**	**3**	P	**Pn**	07 45 28.0	-0.5
MCNL	**McNeil River**	**2.21**	**244**	P	**Pn**	07 45 30.0	+0.4
SCM	**Sheep Creek Mo**	**2.23**	**42**	P	**Pn**	07 45 30.6	+0.6
EYAK	**Cordova Ski Ar**	**2.37**	**80**	P	**Pn**	07 45 30.7	-1.0
DIV	**Divide**	**2.49**	**66**	P	**Pn**	07 45 33.1	-0.3
KLU	**Klutina**	**2.57**	**58**	P	**Pn**	07 45 34.6	0.0
KDAK	**Kodiak Island**	**2.67**	**205**	P	**Pn**	07 45 35.2	-0.6
SVW2	**Sparrevohn**	**2.67**	**292**	P	**Pn**	07 45 34.9	-1.0
PPLA	**Purkeypile**	**2.82**	**344**	P	**Pn**	07 45 38.1	0.0
GOAT	**Goat Mountain**	**2.87**	**80**	P	**Pn**	07 45 37.8	-0.9
RAGM	**Ragged Mountai**	**2.89**	**84**	P	**Pn**	07 45 38.0	-0.9
BMRM	**Bremner River**	**2.99**	**73**	P	**Pn**	07 45 39.4	-0.9
KAKN	**Katmai Knife C**	**3.04**	**233**	P	**Pn**	07 45 41.6	+0.6
PS11	**TAPS Pump St11**	**3.06**	**50**	P	**Pn**	07 45 41.7	+0.5
KVTA	**Katmai Vly 10**	**3.08**	**236**	P	**Pn**	07 45 41.3	-0.2
KABR	**Katmai Barrier**	**3.12**	**230**	P	**Pn**	07 45 41.8	-0.3
KCE	**Katmai Mt Cerb**	**3.12**	**233**	P	**Pn**	07 45 42.9	+0.8
TRF	**Thorofare Moun**	**3.26**	**1**	P	**Pn**	07 45 44.5	+0.5
RND	**Reindeer**	**3.30**	**13**	P	**Pn**	07 45 44.7	+0.3
CAST	**Castle Rocks**	**3.31**	**347**	P	**Pn**	07 45 44.6	+0.1
OHAK	**Old Harbor**	**3.34**	**207**	P	**Pn**	07 45 43.8	-1.2
KTH	**Kantishna Hill**	**3.36**	**357**	P	**Pn**	07 45 45.0	-0.5
BERG	**Berg Lake**	**3.37**	**84**	P	**Pn**	07 45 44.2	-1.2
GLB	**Gilahina Butte**	**3.49**	**66**	P	**Pn**	07 45 46.8	-0.3
WASW	**Wrangell South**	**3.51**	**58**	P	**Pn**	07 45 48.0	+0.4
VRDI	**Verde Repeater**	**3.59**	**70**	P	**Pn**	07 45 47.9	-0.8
KHIT	**Khitrov Hills**	**3.60**	**83**	P	**Pn**	07 45 46.9	-1.7
MCK	**McKinley**	**3.61**	**11**	P	**Pn**	07 45 49.7	+1.0
PAX	**Paxson**	**3.66**	**39**	P	**Pn**	07 45 50.0	+0.6
TT01	**Tatalina**	**3.79**	**318**	P	**Pn**	07 45 50.6	-0.6
BARK	**Barkley Ridge**	**3.97**	**84**	P	**Pn**	07 45 52.7	-1.1
ISLE	**Juniper Island**	**4.05**	**81**	P	**Pn**	07 45 53.5	-1.4
PTPK	**Patty Peak**	**4.05**	**73**	P	**Pn**	07 45 54.7	-0.3
KIAG	**Kiagna River**	**4.07**	**76**	P	**Pn**	07 45 54.3	-0.8
BAGL	**Bagley Icefiel**	**4.17**	**82**	P	**Pn**	07 45 55.7	-0.6
DDM	**Donnelly Dome**	**4.20**	**29**	P	**Pn**	07 45 59.0	+2.2
MESA	**MESA**	**4.20**	**87**	P	**Pn**	07 45 57.0	-0.7
GRNC	**Granite Creek**	**4.34**	**79**	P	**Pn**	07 45 57.8	-1.2
BARN	**Barnard Glacie**	**4.42**	**75**	P	**Pn**	07 45 59.3	-0.7
WRH	**Wood River Hil**	**4.42**	**13**	P	**Pn**	07 46 00.1	+0.3
RKAV	**Rock Avalanche**	**4.54**	**85**	P	**Pn**	07 46 02.1	+0.4
DOT	**Dot Lake**	**4.59**	**38**	*e*Pn	**Pn**	07 46 02.2	0.0
DOT				*e*Sn	**Sn**	07 46 49.5	-4.7
CCB	**Clear Creek Bu**	**4.62**	**14**	P	**Pn**	07 46 02.8	+0.2
TABL	**Table Mountain**	**4.64**	**83**	P	**Pn**	07 46 02.1	-1.0
COLA	**College**	**4.84**	**13**	P	**Pn**	07 46 05.8	+0.3
MLY	**Manley**	**4.84**	**359**	P	**Pn**	07 46 06.0	+0.3
SCRK	**Sand Creek**	**4.85**	**36**	P	**Pn**	07 46 05.8	-0.1
IL1	**Eielson Array**	**4.87**	**18**	P	**Pn**	07 46 06.5	+0.4
ILAR	**Eielson Array**	**4.87**	**18**	P	**Pn**	07 46 06.4	+0.4
	1.5nm,0.3s,baz=200,slow=14,SNR=69						
ILAR				S	**Sn**	07 47 00.1	-0.9
	0.8nm,0.3s,baz=192,slow=25,SNR=6.8						
ILB	**Eielson Array**	**4.87**	**18**	P	**Pn**	07 46 06.5	+0.4
MDM	**Murphy Dome**	**4.88**	**11**	P	**Pn**	07 46 06.3	+0.2
BCA3	**Beaver Creek A**	**5.03**	**52**	P	**Pn**	07 46 09.1	+0.8
IM04	**Indian Mountai**	**5.98**	**347**	*e*Pn	**Pn**	07 46 21.3	+0.1
IM04				*e*Sn	**Sn**	07 47 25.7	-2.6
IM3	**Indian Mountai**	**5.99**	**347**	P	**Pn**	07 46 20.7	-0.5
DAWY	**Dawson**	**6.47**	**49**	P	**Pn**	07 46 28.4	+0.5
COLD	**Coldfoot**	**7.05**	**1**	*e*Pn	**Pn**	07 46 36.0	+0.2
COLD				*e*Sn	**Sn**	07 47 55.6	+1.2
BM3	**Burnt Mountain**	**7.69**	**17**	P	**Pn**	07 46 44.2	-0.3
YKA	**Yellowknife Ar**	**17.21**	**67**	P	**Pn**	07 48 50.7	-1.0
	0.1nm,0.3s,baz=276,slow=10.0,SNR=8.8						
RES	**Resolute Bay**	**24.46**	**32**	P	**P**	07 50 08.3	-0.6
	0.7nm,0.6s,baz=276,slow=9.4,SNR=6.2						
NVAR	**Mina Array Bea**	**29.74**	**123**	P	**P**	07 50 58.2	+1.2
	0.3nm,0.7s,baz=308,slow=9.0,SNR=2.8						
TXAR	**Lajitas Array**	**43.88**	**113**	P	**P**	07 52 58.0	+1.3
	0.1nm,0.4s,baz=316,slow=7.6,SNR=3.5						

*ISCJB **10** 07:49:14.6±0.3, 21°.65N±0°.03×142°.99E±0°.09, h300km, mb3.9/31, Error ellipse: s-maj=11.4km s-min=3.9km az=170.9*
*IDC **10** 07:49:15.6±1.7, 21°.65N×143°.01E, h298km±16km, mb3.6/23, mb1 3.8/26, mb1mx3.8/34, mbtmp4.3/26, Error ellipse: s-maj=13.5km s-min=9.2km az=83.0*
*JMA **10** 07:49:16.9±0.2, 22°.02N×143°.75E, h316km, M4.4*
*NEIC **10** 07:49:16.4±1.0, 21°.66N×143°.03E, h296km±10km, mb4.1/11, Error ellipse: s-maj=17.8km s-min=10.5km az=88.0*

ISC 10 07:49:16.2±0.5, **21°.74N**±0°.06×**143°.0E**±0°.1, **h300**km, **n60**, σ1°**27**/75, **mb3.8/31, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**4.92**	**351**	P	**Pn**	07 50 33.3	+0.5
JHHJ				S	**S**	07 51 33.3	-1.0
CBIJ	**Chichi jima**	**5.38**	**352**	P	**Pn**	07 50 38.2	+0.1
CBIJ				S	**S**	07 51 41.9	-2.1
CBIJ	**Chichi jima**	**5.38**	**352**	*e*Pn	**Pn**	07 50 38.3	+0.2
JCJ	**Chichijima**	**5.38**	**352**	P	**Pn**	07 50 38.3	+0.2
	81nm,0.3s,baz=272,slow=23,SNR=58						
JCJ				S	**S**	07 51 42.2	-1.8
	46nm,0.3s,baz=304,slow=22,SNR=9.8						
GUMO	**Guam**	**8.30**	**167**	P	**Pn**	07 51 13.2	-0.4
	13nm,0.3s,baz=199,slow=6.5,SNR=7.1						
GUMO	**Guam**	**8.30**	**167**	*e*Pn	**Pn**	07 51 13.6	0.0
GUMO				*e*S	S	07 52 41.6	-7.3
BSO1	**Boso 1**	**12.99**	**353**	P	**P**	07 52 11.2	+0.8
BSO1				*e*S	**S**	07 54 32.8	-0.6
BSO3	**Boso 3**	**13.19**	**351**	P	**Pn**	07 52 12.4	-0.4
BSO3				S	**S**	07 54 38.6	+0.1
BSO4	**Boso 4**	**13.40**	**351**	P	**Pn**	07 52 14.9	-0.6
JIE	**Ise**	**13.77**	**338**	P	**Pn**	07 52 21.2	+1.3
JKN2	**Miekihoku**	**13.79**	**336**	P	**Pn**	07 52 22.1	+1.9
HMMJ	**Hamamatsu 2**	**13.86**	**342**	P	**Pn**	07 52 22.5	+1.4
JOD2	**Odawara 2**	**13.90**	**347**	P	**Pn**	07 52 22.0	+0.5
JOD2				S	**S**	07 54 52.6	-1.8
JNY	**Yasuok**	**14.29**	**343**	P	**Pn**	07 52 26.6	+0.3
JHU	**Hanno**	**14.43**	**348**	P	**P**	07 52 27.3	+0.4
JHU				S	**S**	07 55 00.5	-4.8
JRY	**Ryogami san**	**14.67**	**347**	P	**P**	07 52 30.6	+1.1
JRY				S	**S**	07 55 10.0	-0.1
JAG	**Ashikaga**	**14.95**	**349**	P	**P**	07 52 33.3	+0.6
JAG				S	**S**	07 55 11.2	-4.6
JHO	**Hitachi**	**14.97**	**352**	P	**P**	07 52 34.1	+1.3
JHO				S	**S**	07 55 15.4	-0.6
MJAR	**Matsushiro Arr**	**15.32**	**345**	P	**P**	07 52 37.5	+0.7
	1.7nm,0.3s,baz=166,slow=11,SNR=14						
MAJO	**Matsushiro**	**15.33**	**345**	*e*P	**Pn**	07 52 38.6	+0.2
	14nm,0.5s						
MAT	**Matsushiro**	**15.33**	**345**	P	**P**	07 52 37.9	+1.1
ERM	**Erimo**	**20.21**	**0**	*e*P	**P**	07 53 31.2	+2.1
	12nm,0.8s						
KSRS	**Korea Array**	**20.38**	**324**	P	**P**	07 53 31.4	+0.5
	2.6nm,0.6s,baz=145,slow=9.0,SNR=15						
SBUM	**Sibu**	**35.54**	**242**	*e*P	**P**	07 55 46.8	+1.1
	6.8nm,0.6s						
SONM	**Songino Array**	**39.19**	**321**	P	**P**	07 56 16.8	+0.8
	0.5nm,0.4s,baz=121,slow=7.2,SNR=5.4						
CMAR	**Chiang Mai Arr**	**41.40**	**274**	P	**P**	07 56 34.3	+0.2
	1.1nm,0.3s,baz=83,slow=6.2,SNR=9.1						
WRAB	**Tennant Creek**	**42.27**	**192**	*e*P	**P**	07 56 39.3	-1.7
	10nm,0.5s						
WRA	**Warramunga Arr**	**42.28**	**192**	P	**P**	07 56 39.5	-1.6
	6.9nm,0.6s,baz=15,slow=8.5,SNR=118						
ASAR	**Alice Springs**	**45.99**	**192**	P	**P**	07 57 08.5	-1.8
	1.9nm,0.6s,baz=17,slow=12,SNR=44						
STKA	**Stephens Creek**	**53.33**	**181**	P	**P**	07 58 03.5	-1.6
	2.0nm,0.4s,baz=23,slow=6.9,SNR=11						
ZALV	**Zalesovo Beam**	**54.07**	**322**	P	**P**	07 58 10.3	+0.1
	2.6nm,0.7s,baz=110,slow=7.4,SNR=8.7						
ZALV				PcP	**PcP**	07 59 10.4	-0.5
	3.0nm,0.5s,baz=126,slow=3.7,SNR=9.8						
MKAR	**Makanchi Array**	**54.54**	**313**	P	**P**	07 58 14.6	+0.8
	1.0nm,0.6s,baz=85,slow=5.2,SNR=13						
MKAR				PcP	**PcP**	07 59 13.1	+0.1
	1.0nm,0.6s,baz=90,slow=1.4,SNR=7.4						
MKAR	**Makanchi Array**	**54.54**	**313**	*e*P	**P**	07 58 14.9	+1.1
KURK	**Kurchatov**	**57.32**	**317**	*e*P	**P**	07 58 33.8	+0.5
	2.4nm,0.3s						
KURK				*e*PcP	**PcP**	07 59 22.8	-0.8
CAST	**Castle Rocks**	**59.59**	**28**	*e*P	**P**	07 58 49.5	+0.8
	2.1nm,0.9s						
ILAR	**Eielson Array**	**62.08**	**27**	P	**P**	07 59 04.3	-1.0
	1.2nm,0.6s,baz=260,slow=5.4,SNR=27						
KKAR	**Karatay Array**	**62.89**	**308**	*e*P	**P**	07 59 11.9	+0.9
	1.3nm,0.5s						
EGAK	**Eagle**	**64.52**	**27**	*e*P	**P**	07 59 21.8	+0.6
	0.5nm,0.3s						
YKA	**Yellowknife Ar**	**76.50**	**28**	P	**P**	08 00 33.0	-0.1
	2.4nm,0.6s,baz=291,slow=5.9,SNR=48						
RES	**Resolute Bay**	**77.07**	**13**	P	**P**	08 00 36.2	+0.1
	1.2nm,0.6s,baz=358,slow=5.6,SNR=9.1						
ARCES	**ARCESS Array B**	**78.82**	**341**	P	**P**	08 00 46.0	+0.2
	5.3nm,0.6s,baz=73,slow=8.4,SNR=57						
YBH	**Yreka Blue Hor**	**78.92**	**50**	P	**P**	08 00 47.2	+0.2
	1.2nm,0.7s,baz=281,slow=5.2,SNR=5.2						
NEW	**Newport**	**80.36**	**42**	P	**P**	08 00 54.4	-0.2
	1.8nm,0.6s,baz=288,slow=3.4,SNR=5.3						
BMO	**Blue Mountains**	**81.52**	**45**	*e*P	**P**	08 01 00.8	0.0
	0.9nm,0.8s						
KBZ	**Khabaz**	**82.21**	**314**	P	**P**	08 01 05.0	+0.8
	5.7nm,0.7s,baz=56,slow=24,SNR=14						
FINES	**FINESS Array B**	**83.07**	**334**	P	**P**	08 01 07.5	-0.7
	4.3nm,0.5s,baz=78,slow=4.5,SNR=51						
NVAR	**Mina Array Bea**	**83.25**	**51**	P	**P**	08 01 10.2	+0.3
	2.2nm,0.7s,baz=274,slow=5.7,SNR=13						
CHMT	**Chamberlain Mo**	**83.31**	**42**	*e*P	**P**	08 01 12.3	+2.3
ELK	**Elko**	**84.53**	**48**	P	**P**	08 01 17.4	+1.1
	1.3nm,0.6s,baz=78,slow=12,SNR=9.7						
PFO	**Pinyon Flats O**	**86.51**	**55**	*e*P	**P**	08 01 25.3	-0.8
	4.1nm,0.4s						
AKASG	**Malin Array Be**	**87.37**	**324**	P	**P**	08 01 28.3	-1.3
	1.1nm,0.6s,baz=56,slow=5.2,SNR=6.4						
PDAR	**Pinedale Array**	**87.48**	**45**	P	**P**	08 01 30.4	-0.3
	0.3nm,0.4s,baz=112,slow=0.6,SNR=4.3						
NOA	**NORSAR Array B**	**88.84**	**339**	P	**P**	08 01 35.4	-1.0
	1.0nm,0.9s,baz=53,slow=1.5,SNR=2.5						
BRTR	**Keskin Array B**	**90.18**	**313**	P	**P**	08 01 42.2	-1.0
	0.8nm,0.7s,baz=116,slow=2.9,SNR=4.7						
KONO	**Kongsberg**	**90.41**	**338**	*e*P	**P**	08 01 45.4	+1.8
	23nm,1.4s						
TXAR	**Lajitas Array**	**98.17**	**54**	P	**P**	08 02 20.4	+0.6
	0.1nm,0.5s,baz=252,slow=1.8,SNR=2.2						
TORD	**Torodi Ar. Bea**	**128.58**	**309**	PKP	**PKPdf**	08 07 47.8	-0.8
	0.3nm,0.4s,baz=22,slow=3.3,SNR=8.2						
PLCA	**Paso Flores**	**145.92**	**131**	PKPbc	**PKPdf**	08 08 20.5	+0.8
	9.6nm,0.7s,baz=243,slow=3.5,SNR=38						
LPAZ	**La Paz**	**150.11**	**85**	PKPbc	**PKPbc**	08 08 33.2	0.0
	4.3nm,0.6s,baz=323,slow=3.0,SNR=17						
LPAZ	**La Paz**	**150.11**	**85**	*e*PKPdf	**PKPdf**	08 08 29.5	+1.7
LPAZ				*e*PKPbc	**PKPbc**	08 08 33.2	0.0
LPAZ				*e*PKPab	**PKPab**	08 08 40.8	+0.6

FUNV 10 08:27:51.4, 6°.07N×72°.28W, h8km, MW3.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.79**	**359**	*e*P	Pn	08 28 22.4	-0.5
CAPV				*e*S	Sn	08 28 45.4	-0.7
SOCV	**Socops**	**2.62**	**33**	*e*P	Pn	08 28 33.0	-1.1
SOCV				*e*S	Sn	08 29 04.5	-1.7
VIGV	**El Vigia**	**2.90**	**18**	*e*P	Pn	08 28 37.2	-0.9
VIGV				*e*S	Sn	08 29 10.8	-2.4
ELOV	**Elorza**	**2.93**	**71**	*e*P	Pn	08 28 37.8	-0.7
ELOV				*e*S	Sn	08 29 11.3	-2.6
SANV	**Sanarito**	**4.37**	**38**	*e*P	Pn	08 28 56.4	-1.9
VIRV	**Villa del Rosa**	**4.41**	**358**	*e*P	Pn	08 28 57.2	-1.5
VIRV				*e*S	Sn	08 29 45.6	-4.8
CURV	**Curarigua**	**4.55**	**30**	*e*P	Pn	08 28 58.9	-1.8
TEPV	**Terepaima**	**4.94**	**38**	*e*P	Pn	08 29 04.8	-1.2
BAUV	**El Baul**	**5.08**	**56**	*e*P	Pn	08 29 06.0	-2.0
TURV	**Turiamo**	**6.19**	**45**	*e*P	Pn	08 29 21.1	-2.2
BIRV	**Birongo**	**7.39**	**53**	*e*P	Pn	08 29 37.1	-2.7
CUPV	**Cœpira**	**7.55**	**58**	*e*P	Pn	08 29 39.8	-2.3

MEX 10 08:37:29.2±0.8, **17°.10N**×**100°.21W, h5**km±11km, **MD3.8, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.07**	**229**	*i* P	Pg	08 37 30.1	-0.7
CAIG				*i* S	Sg	08 37 31.8	-0.2
MEIG	**Mezcala**	**1.00**	**34**	*e*P	Pg	08 37 45.3	-3.2
MEIG				*i* S	Sg	08 37 58.5	-3.1
ARIG	**Puente Sto Nin**	**1.18**	**354**	*e*P	Pg	08 37 49.1	-2.9
ARIG				*e*S	Sg	08 38 03.6	-3.8
ZIIG	**Zihuatanejo**	**1.30**	**293**	*i* P	Pn	08 37 50.4	-3.7
ZIIG				*i* S	Sg	08 38 06.8	-4.4
PLIG	**Platanillo**	**1.45**	**27**	*e*P	Pn	08 37 53.0	-3.3
PLIG				*e*S	Sb	08 38 10.4	-5.5
TLIG	**Tlapa**	**1.64**	**73**	*e*P	Pn	08 37 55.8	-3.1
TLIG				*i* S	Sn	08 38 15.4	-5.0

*NNC **10** 08:39:38.0±4.4, 40°.09N×76°.67E, h0km, mb4.0, mpv3.6,*
Error ellipse: s-maj=37.0km s-min=14.5km az=123.0
*KRNET **10** 08:39:42.0±0.1, 39°.82N×76°.71E, h57km, mb3.8*

ISC 10 08:39:37.4±2.9, **39°.9N**±0°.1×**76°.6E**±0°.1, **h11**km±23km, **n21**, σ1°**29**/28, **8C-6D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**2.26**	**11**	*e*P	**Pb**	08 40 19.0	+0.6
	baz=9.0						
KDJ				*e*S	**Sb**	08 40 45.0	-1.4
	baz=9.0						
SALK	**Salom-Alik**	**2.35**	**295**	*e*P	**Pb**	08 40 20.9	+1.0
	baz=296						
SALK				*e*S	**Sb**	08 40 48.0	-1.0
	baz=296						
ULHL	**Ulahol**	**2.35**	**353**	P	**Pb**	08 40 20.7	+0.7
	SNR=38						
ULHL	**Ulahol**	**2.35**	**353**	⇑*i*P	**Pb**	08 40 20.6	+0.7
	baz=352						
ULHL				⇑*i*S	**Sb**	08 40 49.5	+0.4
	baz=352						
SFK	**Sufi-Kurgan**	**2.40**	**273**	⇓Pg	**Pg**	08 40 22.8	-0.6
	7.8nm,0.3s						
SFK				⇓Lg	Lg	08 40 54.5	
	61nm,0.7s						
KZA	**Kyzart**	**2.40**	**335**	P	**Pb**	08 40 21.7	+0.8
	SNR=136						
KZA	**Kyzart**	**2.40**	**335**	⇓*i*P	**Pb**	08 40 21.9	+1.0
	baz=334						
KZA				⇓*i*S	**Sb**	08 40 50.9	+0.2
	baz=334						
BOOM	**Boomskoye usch**	**2.63**	**349**	*e*P	**Pb**	08 40 25.4	+0.7
	baz=348						
BOOM				*e*S	**Sb**	08 40 56.4	-0.6
	baz=348						
UCH	**Uchtor**	**2.81**	**326**	P	**Pb**	08 40 27.6	-0.4
	SNR=29						
UCH	**Uchtor**	**2.81**	**326**	⇑*i*P	**Pb**	08 40 27.4	-0.5
	baz=326						
UCH				⇑*i*S	**Sb**	08 41 03.8	+1.2
	baz=326						
KBK	**Karagaybulak**	**3.02**	**336**	P	**Pg**	08 40 35.7	+0.4
	SNR=16						
KBK	**Karagaybulak**	**3.02**	**336**	*e*P	**Pb**	08 40 33.0	+1.7
	baz=25						
KBK				*e*S	**Sb**	08 41 09.0	+0.7
	baz=25						
TKM2	**Tokmak 2**	**3.10**	**346**	P	**Pb**	08 40 32.0	-0.8
	SNR=36						
TKM2	**Tokmak 2**	**3.10**	**346**	⇑Pg	**Pb**	08 40 31.8	-1.1
	11nm,0.3s						
TKM2				⇓Lg	Lg	08 41 12.5	
	20nm,0.6s						
AML	**Almayashu**	**3.13**	**316**	P	**Pb**	08 40 32.0	-1.4
	SNR=33						
AAK	**Ala-Archa**	**3.16**	**330**	P	**Pg**	08 40 38.2	+0.3
	SNR=14						
AAK	**Ala-Archa**	**3.16**	**330**	⇑Pg	**Pb**	08 40 32.3	-1.4
	26nm,0.7s						
AAK

comp=Z,0.5nm,0.7s,baz=66,slow=20,SNR=3.8
TORD Torodi Ar. Bea 72.98 68 P **P 08 59 42.3 +1.0**
comp=Z,0.8nm,0.7s,baz=248,slow=6.2,SNR=9.1
PDAR Pinedale Array 75.74 327 P **P 08 59 56.5 -0.6**
comp=Z,0.3nm,0.5s,baz=114,slow=9.2,SNR=5.2
ULM Lac du Bonnet 76.02 340 P **P 08 59 57.0 -1.1**
comp=Z,2.3nm,0.5s,baz=144,slow=4.4,SNR=6.8
YKA Yellowknife Ar 91.98 339 P **P 09 01 19.1 -0.2**
comp=Z,0.5nm,0.5s,baz=125,slow=4.7,SNR=16
RAO Raoul Island 99.08 234 LR LR 09 36 27.0
comp=Z,168nm,19.5s,baz=62,slow=29
ASAR Alice Springs 132.47 203 PKP **PKPdf 09 07 26.4 +0.1**
comp=Z,0.2nm,0.5s,baz=90,slow=1.9,SNR=3.4
WRA Warramunga Arr 135.69 205 PKP **PKPdf 09 07 32.3 0.0**
comp=Z,0.4nm,0.8s,baz=144,slow=1.9,SNR=3.5
MKAR Makanchi Array 142.37 38 PKP **PKPdf 09 07 44.2 +0.4**
comp=Z,0.1nm,0.5s,baz=284,slow=5.8,SNR=2.8
SONM Songino Array 151.91 14 PKPbc **PKPbc 09 08 06.7 +0.6**
comp=Z,0.6nm,0.4s,baz=265,slow=1.4,SNR=5.4

IDC 10 08:54:08.0±3.0, 32°67S×178°03W, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.8/30, mbtmp4.0/4, ML3.4/1, Error ellipse: s-maj=63.7km s-min=36.2km az=115.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.84**	**214**	Pn	Pn	08 55 49.7	+0.2
	0.7nm,0.3s,baz=351,slow=18,SNR=9.0						
URZ				Sn	Sn	08 57 06.9	-1.2
	3.6nm,0.3s,baz=256,slow=2.2,SNR=12						
CTA	**Charters Tower**	**34.20**	**283**	P	P	09 00 56.0	+0.6
	1.6nm,0.4s,baz=119,slow=12,SNR=3.7						
ASAR	**Alice Springs**	**43.01**	**269**	P	P	09 02 09.5	+0.1
	1.1nm,0.6s,baz=109,slow=7.8,SNR=18						
WRA	**Warramunga Arr**	**44.27**	**274**	P	P	09 02 18.4	-0.6
	1.0nm,0.3s,baz=115,slow=8.1,SNR=54						
QSPA	**South Pole Qui**	**57.44**	**180**	P	P	09 04 08.8	+10
	0.5nm,0.5s,baz=15,slow=4.4,SNR=7.1						
FINES	**FINESS Array B**	**147.26**	**339**	PKPbc	PKPbc	09 13 51.6	-1.0
	1.1nm,0.7s,baz=90,slow=2.8,SNR=5.3						

*ISCJB **10** 08:56:40.9±1.1, 28°3S±0.2×74°2E±0.2, h10km, mb3.6/5, Error ellipse: s-maj=35.9km s-min=28.8km az=26.6*
*IDC **10** 08:56:41.3±1.0, 28°39S×74°16E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/24, mbtmp3.7/5, Error ellipse: s-maj=38.7km s-min=28.2km az=29.0*
ISC 10 08:56:43.0±1.0, 28°4S±0.2×74°2E±0.2, h10km, n6, σ1§44/6, mb3.6/5, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**53.43**	**100**	P	**P**	**09 06 03.1**	**-0.3**
	0.4nm,0.7s,baz=252,slow=6.7,SNR=3.0						
WRA	**Warramunga Arr**	**55.07**	**95**	P	**P**	**09 06 14.3**	**-1.1**
	1.1nm,0.8s,baz=248,slow=6.8,SNR=2.7						
QSPA	**South Pole Qui**	**61.79**	**180**	P	**P**	**09 07 02.4**	**+0.7**
	0.9nm,0.9s,baz=318,slow=5.0,SNR=3.0						
MKAR	**Makanchi Array**	**75.15**	**6**	P	**P**	**09 08 25.6**	**+0.5**
	0.2nm,0.5s,baz=191,slow=7.4,SNR=2.5						
TORD	**Torodi Ar. Bea**	**81.27**	**290**	P	**P**	**09 08 58.5**	**-1.2**
	0.7nm,1.1s,baz=141,slow=5.2,SNR=2.5						
YKA	**Yellowknife Ar**	**145.37**	**7**	PKPbc	**PKPab**	**09 16 22.1**	**+1.6**
	0.4nm,0.9s,baz=337,slow=3.9,SNR=5.5						

*ISCJB **10** 08:57:46.2±0.6, 32°.72N±0°.04×115°.92W±0°.03, h10km±4km, Error ellipse: s-maj=7.4km s-min=4.6km az=178.8*
*ECX **10** 08:57:46.8±0.6, 32°.71N×115°.89W, h3km, MD2.8, ML3.1*
*MEX **10** 08:57:49.6±0.4, 32°.77N×116°.01W, h16km±10km, MD3.6*
ISC 10 08:57:46.2±1.0, 32°70N±0°.04×115°91W±0°.03, h11km±6km, n20, σ0§51/28, 6C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUH	**Yuha Desert**	**0.05**	**194**	⇑*i* P	**Pg**	**08 57 48.2**	**-0.1**
SGL	**Mount Signal**	**0.16**	**107**	⇑*i* P	**Pg**	**08 57 49.5**	**-0.3**
WESC	**Westside Schoo**	**0.16**	**67**	*e* P	**Pg**	**08 57 49.5**	**-0.3**
RMX	**La Rumorosa**	**0.17**	**237**	*e* P	**Pg**	**08 57 50.4**	**+0.4**
RMX				*e* S	**Sg**	**08 57 53.4**	**+0.6**
CRR	**Carrizo Plain**	**0.20**	**345**	⇓*i* P	**Pg**	**08 57 50.3**	**-0.1**
COK	**Cook Ranch**	**0.22**	**45**	⇑*i* P	**Pg**	**08 57 50.6**	**-0.2**
DREC	**Desert Rsrch C**	**0.40**	**74**	*e* P	**Pg**	**08 57 54.3**	**+0.1**
CPBX	**Cerro Prieto**	**0.58**	**118**	*e* P9	**Pg**	**08 57 57.2**	**-0.3**
CPBX				*e* S	**Sg**	**08 58 05.5**	**+0.3**
CPBX				⇑*e*		08 58 07.2	
CPBX				AML	AML	08 58 07.2	
	comp=E,4μm,0.2s						
BAR	**Barrett**	**0.64**	**269**	⇑*e* P	**Pg**	**08 57 58.9**	**+0.2**
MBIG	**Mexicali**	**0.67**	**115**	*i* P	**Pn**	**08 58 01.8**	**+0.2**
MBIG				*i* S	**Sb**	**08 58 10.3**	**+1.3**
CBX	**Cerro Bola**	**0.74**	**239**	*i* P	**Pg**	**08 58 00.9**	**+0.3**
CBX				*i* S	**Sg**	**08 58 09.9**	**-0.5**
CBX	**Cerro Bola**	**0.74**	**239**	⇑*e* P	**Pg**	**08 58 00.9**	**+0.3**
CBX				*e* S	**Sb**	**08 58 11.3**	**-0.2**
RDX	**Rancho Dawling**	**0.77**	**182**	*e* P	**Pg**	**08 58 00.5**	**-0.5**
RDX				AML	AML	08 58 16.5	
	comp=N,427nm,0.4s						
RDX				*e*		08 58 16.5	
SDRC	**San Diego Road**	**0.87**	**273**	*e* P	**Pg**	**08 58 02.8**	**-0.2**
PBX	**Punta Banda**	**1.18**	**216**	*e* P	**Pb**	**08 58 08.0**	**-0.6**
ECNX	**Esteban Cantu**	**1.19**	**210**	*e* P	**Pb**	**08 58 08.5**	**-0.3**
ZAX	**El Zacaton**	**1.22**	**195**	*e* P	**Pn**	**08 58 08.6**	**-0.7**
ZAX				*e* S	**Sb**	**08 58 25.1**	**0.0**
ZAX				⇓*e*		08 58 29.1	
ZAX				AML	AML	08 58 29.1	
	comp=N,428nm,0.4s						
ECBX	**El Chinero**	**1.42**	**149**	*e* P9	**Pn**	**08 58 11.5**	**-0.4**
ECBX				⇓*e*		08 58 36.8	
ECBX				AML	AML	08 58 36.8	
	comp=E,136nm,0.5s						
SPIG	**San Pedro Mart**	**1.69**	**167**	*i* P	**Pn**	**08 58 16.4**	**+0.5**
SPIG				*i* S	**Sn**	**08 58 37.6**	**-0.2**
SPX	**San Pedro Mart**	**1.69**	**167**	*e* P2	**Pn**	**08 58 17.0**	**+1.0**
SPX				*e* S	**Sb**	**08 58 39.6**	**+0.7**

*IDC **10** 08:59:38.7±0.9, 0°.79S×122°.47E, h0km, mb3.9/9, mb1 4.1/10, mb1mx3.9/24, mbtmp4.0/10, ML4.4/1, MS3.1/3, Ms1 3.1/3, ms1mx2.7/29, Error ellipse: s-maj=32.4km s-min=15.7km az=64.0*
*ISCJB **10** 08:59:39.0±0.4, 0°.70S±0°.03×122°.46E±0°.03, h10km, mb3.9/9, MS3.0/3, Error ellipse: s-maj=5.2km s-min=4.1km az=137.7*
*DJA **10** 08:59:41.0±0.3, 1°S±3°×12°3E±°, h10km, M4.6/15, mb4.8/6, mB5.0/2, MLv4.5/15, Mw(mB)4.3/2*
ISC 10 08:59:40.4±0.7, 0.70S±0°.05×122°47E±0°.04, h10km, n29, σ1§38/30, mb4.0/9, MS3.0/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.45**	**138**	P	Pg	08 59 48.8	-0.5
LUWI				S	**Sg**	**08 59 56.4**	**+1.1**
MRSI	**Marisa**	**1.28**	**336**	P	Pn	09 00 01.6	-2.8
MRSI				S	**Sb**	**09 00 17.3**	**-3.9**
GTOI	**Gorontalo**	**1.44**	**22**	P	**Pn**	**09 00 07.2**	**+0.7**
KMSI	**Cibinong**	**1.98**	**50**	P	**Pn**	**09 00 13.7**	**-0.2**
PCI	**Palu**	**2.64**	**266**	P	**Pn**	**09 00 25.0**	**+2.0**
PCI				S	**Sb**	**09 00 58.8**	**-1.5**
MPSI	**Mapaga**	**2.77**	**292**	P	**Pn**	**09 00 25.7**	**+0.9**
MPSI				S	**Sn**	**09 01 00.4**	**+2.1**
SANI	**Sanana**	**3.77**	**111**	P	Pn	09 00 37.1	-1.5
SANI				S	**Sn**	**09 01 24.1**	**+1.1**
SPSI	**Sidrap Palu**	**4.21**	**220**	P	**Pn**	**09 00 44.5**	**-0.2**
SPSI				S	**Sn**	**09 01 35.8**	**+1.7**
BNSI	**Bone**	**4.37**	**213**	P	**Pn**	**09 00 47.7**	**+0.9**
BBSI	**Bau Bau**	**4.75**	**179**	P	**Pn**	**09 00 53.7**	**+1.5**
LBMI	**Labuha**	**5.03**	**89**	P	**Pn**	**09 00 56.1**	**+0.1**
	59nm,0.7s,0.5nm						
KAPI	**Kappang**	**5.07**	**212**	Pn	**Pn**	**09 00 56.4**	**-0.1**
	13nm,0.3s,baz=25,slow=8.0,SNR=53						
KAPI				Sn	**Sn**	**09 01 53.1**	**-2.0**
	5.7nm,0.3s,baz=41,slow=19,SNR=5.2						
BKSI	**Bulukumba**	**5.15**	**207**	P	**Pn**	**09 00 57.5**	**-0.1**
	56nm,0.9s,0.3nm						
NLAI	**Namlea**	**5.27**	**119**	P	**Pn**	**09 01 00.2**	**+0.9**
	71nm,0.8s,0.3nm						
BSSI	**Bau Bau, Buton**	**5.75**	**200**	P	**Pn**	**09 01 06.0**	**+0.1**
	138nm,0.7s,1μm0.4nm						
KBKI	**Kotabaru**	**6.80**	**248**	P	Pn	09 01 18.5	-1.8
EDFI	**Ende, Flores**	**8.03**	**186**	P	**Pn**	**09 01 37.9**	**+0.6**
WRA	**Warramunga Arr**	**22.38**	**149**	P	**P**	**09 04 37.2**	**-1.8**
	3.3nm,0.9s,baz=333,slow=10.0,SNR=12						
PSI	**Prapat**	**23.79**	**279**	P	**P**	**09 04 53.5**	**-0.2**
	13nm,1.1s,baz=90,slow=2.0,SNR=5.1						
ASAR	**Alice Springs**	**25.38**	**155**	P	**P**	**09 05 07.5**	**-0.6**
	1.4nm,0.6s,baz=333,slow=8.9,SNR=23						
ASAR				LR	LR	09 16 18.4	
	comp=Z,65nm,19.8s,baz=326,slow=40						
CMAR	**Chiang Mai Arr**	**29.96**	**311**	P	**P**	**09 05 50.1**	**+1.0**
	0.8nm,0.3s,baz=140,slow=7.1,SNR=2.8						
STKA	**Stephens Creek**	**35.89**	**152**	P	**P**	**09 06 40.8**	**0.0**
	3.0nm,1.0s,baz=336,slow=10.0,SNR=2.9						
KSRS	**Korea Array**	**38.30**	**7**	LR	LR	09 24 19.4	
	comp=Z,22nm,18.6s,baz=189,slow=39						
MJAR	**Matsushiro Arr**	**39.84**	**20**	LR	LR	09 21 32.7	
	comp=Z,17nm,21.3s,baz=225,slow=33						
SONM	**Songino Array**	**50.33**	**346**	P	**P**	**09 08 38.7**	**+1.1**
	1.0nm,0.7s,baz=168,slow=6.2,SNR=5.1						
MKAR	**Makanchi Array**	**58.93**	**329**	P	**P**	**09 09 39.3**	**-0.6**
	0.9nm,0.7s,baz=185,slow=5.2,SNR=3.2						
ZALV	**Zalesovo Beam**	**62.73**	**336**	P	**P**	**09 10 06.6**	**+1.0**
	0.7nm,0.4s,baz=131,slow=8.1,SNR=3.9						
VNDA	**Vanda**	**79.63**	**172**	P	**P**	**09 11 47.0**	**-0.5**
	0.3nm,0.6s,baz=316,slow=6.5,SNR=2.9						
TORD	**Torodi Ar. Bea**	**120.07**	**285**	PKP	**PKPdf**	**09 18 30.8**	**-1.7**
	0.3nm,0.7s,baz=83,slow=4.6,SNR=2.3						

*ISCJB **10** 09:00:05.5±2.4, 28°.5S±0°.2×74°.3E±0°.5, h10km, mb3.7/4, MS3.6/4, Error ellipse: s-maj=62.8km s-min=31.5km az=8.3*
*IDC **10** 09:00:06.2±1.9, 28°.47S×74°.31E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/23, mbtmp3.7/4, MS3.5/4, Ms1 3.6/4, ms1mx3.1/29, Error ellipse: s-maj=54.3km s-min=32.7km az=92.0*
ISC 10 09:00:07.3±2.0, 28°5S±0°.2×74°2E±0°.4, h10km, n8, σ0§69/5, mb3.7/4, MS3.6/4, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**52.41**	**30**	P	**P**	**09 09 20.5**	**+0.4**
	0.9nm,0.6s,baz=205,slow=7.9,SNR=2.1						
CMAR				LR		09 29 03.8	
	comp=Z,57nm,18.5s,baz=194,slow=33						
ASAR	**Alice Springs**	**53.37**	**99**	P	**P**	**09 09 27.1**	**-0.2**
	0.3nm,0.6s,baz=247,slow=6.6,SNR=3.9						
WRA	**Warramunga Arr**	**55.02**	**95**	P	**P**	**09 09 39.1**	**-0.2**
	0.5nm,0.7s,baz=249,slow=7.5,SNR=3.7						
VNDA	**Vanda**	**61.93**	**166**	P	**P**	**09 10 27.0**	**+0.3**
	0.5nm,0.7s,baz=284,slow=7.7,SNR=3.4						
MKAR	**Makanchi Array**	**75.25**	**6**	LR	LR	09 43 59.7	
	comp=Z,24nm,18.6s,baz=179,slow=35						
SONM	**Songino Array**	**81.27**	**21**	LR	LR	09 46 35.0	
	comp=Z,15nm,18.6s,baz=201,slow=34						
KSRS	**Korea Array**	**82.66**	**40**	LR	LR	09 46 44.9	
	comp=Z,34nm,20.5s,baz=208,slow=34						
YKA	**Yellowknife Ar**	**145.47**	**7**	PKPbc	**PKPdf**	**09 19 44.1**	**-0.8**
	0.2nm,0.7s,baz=342,slow=4.3,SNR=3.6						

DJA 10 09:02:44.1±0.6, 2°S±9°×14°0E±°, h10km, M3.9/5, mb4.5/1, MLv3.5/5, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.80**	**130**	P	Pg	09 02 58.7	-0.9
GENI				S	Sg	09 03 10.5	+0.5
SMPI	**Sarmi**	**0.84**	**276**	P	Pg	09 02 58.8	-1.6
SMPI				S	Sn	09 03 15.1	+0.6
JAY	**Jayapura**	**1.23**	**111**	P	Pn	09 03 05.3	-2.2
WAMI	**Wamena**	**1.98**	**205**	P	Pn	09 03 18.9	+1.2
RKPI	**Ransiki, Papua**	**5.40**	**276**	P	Pn	09 04 04.8	0.0

SKHL 10 09:05:11.0±1.0, 45°22N×150°82E, h58km±5km, mb4.6/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.09**	**271**	*i* P	Pn	09 05 43.7	+0.1
KUR				AMB	AMB	09 05 45.3	
	270nm,0.3s						
KUR				*i* S	Sn	09 06 09.0	+0.6
KUR				A	A	09 06 10.0	
	680nm,0.6s						
KUR				A	A	09 06 10.0	
	930nm,0.6s						
SHO	**Shikotan**	**3.16**	**246**	*e* P	Pn	09 05 58.6	+0.4
SHO				AMB	AMB	09 06 06.4	
	144nm,1.0s						
SHO				*e* S	Sn	09 06 33.6	-1.0
SHO				A	A	09 06 35.1	
	137nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.73**	**253**	*e* P	Pn	09 06 07.6	+1.5
YUK				AMB	AMB	09 06 10.2	
	40nm,0.5s						
YUK				AMB	AMB	09 06 10.2	
	50nm,0.5s						
YUK				AMB	AMB	09 06 10.2	
	60nm,0.5s						
YUK				*i* S	Sn	09 06 49.3	+0.6
YUK				A	A	09 06 57.4	
	60nm,0.6s						
YUK				A	A	09 06 57.4	
	90nm,0.6s						
YSS	**Yuzh-Sakhalins**	**5.87**	**290**	*e* P	Pn	09 06 35.6	+0.3
YSS				AMB	AMB	09 06 36.2	
	20nm,0.6s						
YSS				*e* S	Sn	09 07 39.8	-1.4
YSS				A	A	09 07 43.7	
	20nm,0.8s						
MYR	**Moyori**	**6.19**	**244**	*e* P	Pn	09 06 39.9	+0.1
MYR				*e* S	Sn	09 07 44.4	-4.7

*IDC **10** 09:08:58.2±1.2, 32°.62S×178°.26W, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.9/20, mbtmp4.2/5, ML4.2/1, MS3.5/1, Ms1 3.4/1, ms1mx2.8/21, Error ellipse: s-maj=35.3km s-min=29.6km az=42.0*
*ISCJB **10** 09:09:00.2±1.0, 32°.80S±0°.05×178°.2W±0°.2, h33km, mb4.2/5, MS3.4/1, Error ellipse: s-maj=21.2km s-min=6.0km az=14.4*
*NEIC **10** 09:09:03.6±0.8, 32°.78S×178°.38W, h35km, mb4.5/1, Error ellipse: s-maj=19.0km s-min=11.6km az=104.0*
ISC 10 09:09:03.6±1.0, 32°70S±0°.08×178°4W±0°.2, h33km, n27, σ1§37/33, mb4.1/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**5.93**	**211**	PN	**Pn**	**09 10 28.2**	**-0.8**
HAZ				SN	**Sn**	**09 11 37.1**	**+1.3**
PUZ	**Puketiti**	**6.01**	**206**	PN	**Pn**	**09 10 29.1**	**-1.1**
PUZ				SN	**Sn**	**09 11 39.6**	**+1.7**
TWGZ	**Tauwhareparae**	**6.21**	**207**	PN	**Pn**	**09 10 32.5**	**-0.4**
TWGZ				SN	**Sn**	**09 11 44.1**	**+1.3**
CNGZ	**Carnagh Statio**	**6.40**	**205**	PN	**Pn**	**09 10 35.0**	**-0.5**
MWZ	**Matawai**	**6.53**	**209**	PN	**Pn**	**09 10 35.3**	**-2.0**
MWZ				SN	**Sn**	**09 11 50.7**	**+0.2**
URZ	**Urewera**	**6.64**	**212**	Pn	**Pn**	**09 10 36.8**	**-2.0**
	4.4nm,0.3s,baz=17,slow=13,SNR=36						
URZ				Sn	**Sn**	**09 11 53.0**	**-0.4**
	3.6nm,0.3s,baz=228,slow=9.0,SNR=8.9						
URZ	**Urewera**	**6.64**	**212**	PN	**Pn**	**09 10 36.8**	**-2.0**
URZ	**Urewera**	**6.64**	**212**	Pn	**Pn**	**09 10 36.8**	**-2.0**
URZ				*e*Pn	Pb	09 10 38.4	-20
URZ				Sn	**Sn**	**09 11 53.0**	**-0.4**
RAGZ	**Rawiri**	**6.71**	**209**	PN	**Pn**	**09 10 38.4**	**-1.4**
RIGZ	**Rimuhau**	**6.75**	**206**	PN	**Pn**	**09 10 39.1**	**-1.3**
RIGZ				SN	**Sn**	**09 11 56.3**	**+0.2**
KNZ	**Kokohu**	**7.06**	**206**	PN	**Pn**	**09 10 42.1**	**-2.5**
SNZO	**South Karori**	**10.20**	**211**	Pn	**Pn**	**09 11 26.8**	**-0.8**
RPZ	**Rata Peaks**	**13.76**	**214**	Pn	**Pn**	**09 12 13.1**	**-3.1**
DZM	**Mont Dzumac**	**17.10**	**304**	Pn	**Pn**	**09 13 00.2**	**0.0**
AFI	**Afiamalu**	**19.66**	**19**	Pn	**Pn**	**09 13 30.8**	**-0.6**
STKA	**Stephens Creek**	**33.69**	**260**	LR	LR	09 27 23.6	
	comp=Z,83nm,20.7s,baz=219,slow=33						
CTA	**Charters Tower**	**33.90**	**283**	P	**P**	**09 15 45.8**	**+2.3**
	3.4nm,0.5s,baz=125,slow=10,SNR=9.6						
CTAO	**Charters Tower**	**33.90**	**283**	*e* P	**P**	**09 15 44.9**	**+1.4**
ASAR	**Alice Springs**	**42.69**	**270**	P	**P**	**09 16 57.9**	**+0.4**
	1.1nm,0.5s,baz=107,slow=7.6,SNR=27						
WRAB	**Tennant Creek**	**43.88**	**275**	*e* P	**P**	**09 17 06.6**	**-0.5**
	13nm,1.6s						
WRA	**Warramunga Arr**	**43.89**	**275**	P	**P**	**09 17 06.8**	**-0.3**
	1.3nm,0.3s,baz=114,slow=7.9,SNR=31						
QSPA	**South Pole Qui**	**57.42**	**180**	P	**P**	**09 18 50.3**	**+1.6**
	1.4nm,1.1s,baz=47,slow=3.0,SNR=2.7						
MKAR	**Makanchi Array**	**118.97**	**309**	PKP	**PKPdf**	**09 27 48.2**	**-0.2**
	1.0nm,0.5s,baz=264,slow=3.9,SNR=2.5						
FINES	**FINESS Array B**	**147.16**	**338**	PKPbc	**PKPbc**	**09 28 41.8**	**-0.7**
	3.3nm,0.8s,baz=50,slow=4.3,SNR=13						
AKASG	**Malin Array Be**	**152.87**	**320**	PKPbc	**PKPbc**	**09 28 56.2**	**-0.6**
	0.2nm,0.4s,baz=70,slow=1.1,SNR=2.6						
BRTR	**Keskin Array B**	**153.31**	**294**	PKPbc	**PKPbc**	**09 28 58.0**	**-0.4**
	0.7nm,0.5s,baz=126,slow=3.6,SNR=4.8						
TORD	**Torodi Ar. Bea**	**160.54**	**180**	PKPab	**PKPab**	**09 29 41.7**	**+0.1**
	0.4nm,0.9s,baz=178,slow=3.2,SNR=2.6						

*ISCJB **10** 09:22:54.5±1.6, 28°.5S±0°.4×74°.3E±0°.3, h10km, mb3.6/5, MS3.3/2, Error ellipse: s-maj=62.8km s-min=26.5km az=24.9*
*IDC **10** 09:22:54.7±1.9, 28°.46S×74°.22E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/23, mbtmp3.7/5, MS3.3/2, Ms1 3.4/2, ms1mx2.8/30, Error ellipse: s-maj=76.0km s-min=31.2km az=27.0*
ISC 10 09:22:56.2±1.7, 28°5S±0°.5×74°2E±0°.3, h10km, n8, σ0§12/6, mb3.6/5, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**52.42**	**30**	LR	LR	09 51 22.4	
	comp=Z,24nm,19.4s,baz=230,slow=33						
ASAR	**Alice Springs**	**53.36**	**99**	P	**P**	**09 32 16.1**	**0.0**
	0.5nm,0.8s,baz=247,slow=6.5,SNR=6.2						
WRA	**Warramunga Arr**	**55.01**	**95**	P	**P**	**09 32 28.2**	**0.0**
	1.5nm,1.0s,baz=250,slow=7.0,SNR=4.8						
MKAR	**Makanchi Array**	**75.26**	**6**	P	**P**	**09 34 39.0**	**-0.1**
	0.1nm,0.3s,baz=213,slow=10.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**81.35**	**290**	P	**P**	**09 35 13.4**	**0.0**
	0.5nm,0.8s,baz=116,slow=3.4,SNR=2.9						
ZALV	**Zalesovo Beam**	**82.58**	**6**	P	**P**	**09 35 19.2**	**+0.2**
	0.3nm,0.3s,baz=163,slow=6.0,SNR=3.1						
KSRS	**Korea Array**	**82.67**	**40**	LR	LR	10 12 39.5	
	comp=Z,14nm,18.1s,baz=180,slow=36						
YKA	**Yellowknife Ar**	**145.48**	**7**	PKPbc	**PKPab**	**09 42 34.0**	**-0.1**
	0.8nm,1.1s,baz=343,slow=3.8,SNR=8.3						

*IDC **10** 09:33:57.1±1.7, 8°.03S×118°.63E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.5/23, mbtmp3.4/5, ML3.2/2, Error ellipse: s-maj=63.9km s-min=22.8km az=60.0*
*DJA **10** 09:34:00.4±0.4, 8°S±3°×11°9E±°, h10km, M3.6/7, MLv3.6/7*
*ISCJB **10** 09:34:01.3±0.7, 7°.92S±0°.05×118°.71E±0°.08, h3km, mb3.6/3, Error ellipse: s-maj=11.0km s-min=6.8km az=3.0*
ISC 10 09:34:03.0±1.0, 7°94S±0°.05×118°77E±0°.07, h35km, n12, σ1§18/14, mb3.5/3, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**1.80**	**160**	P	**Pn**	**09 34 30.5**	**-1.1**
WBSI				S	**Sn**	**09 34 55.5**	**+2.2**
TWSI	**Taliwang, Sumb**	**2.03**	**247**	P	**Pn**	**09 34 35.2**	**+0.4**
WSI	**Waingapu**	**2.29**	**139**	P	**Pn**	**09 34 38.6**	**+0.4**
BSSI	**Bau Bau, Buton**	**2.46**	**44**	P	**Pn**	**09 34 40.0**	**-0.7**
BSSI				S	**Sn**	**09 35 12.0**	**+2.4**
BASI	**Baing, Sumba**	**2.88**	**142**	P	**Pn**	**09 34 47.0**	**+0.5**
BKSI	**Bulukumba**	**2.92**	**27**	P	**Pn**	**09 34 47.3**	**+0.3**
EDFI	**Ende, Flores**	**3.00**	**106**	P	**Pn**	**09 34 47.7**	**-0.4**
KAPI	**Kappang**	**3.06**	**19**	Pn	**Pn**	**09 34 49.0**	**+0.1**
	1.3nm,0.3s,baz=200,slow=12,SNR=5.1						
KAPI				Sn	Sn	09 35 33.9	+10
	7.3nm,0.3s,baz=48,slow=23,SNR=6.0						
WRA	**Warramunga Arr**	**19.23**	**130**	P	**P**	**09 38 23.4**	**-0.9**
	0.1nm,0.3s,baz=308,slow=12,SNR=11						
ASAR	**Alice Springs**	**21.33**	**139**	P	**P**	**09 38 46.5**	**-0.7**
	1.1nm,0.6s,baz=313,slow=8.6,SNR=24						
SONM	**Songino Array**	**56.60**	**350**	P	**P**	**09 43 41.6**	**-0.8**
	0.3nm,0.6s,baz=160,slow=4.6,SNR=2.9						
MKAR	**Makanchi Array**	**63.41**	**333**	P	**P**	**09 44 28.8**	**-0.3**
	0.7nm,0.8s,baz=165,slow=6.0,SNR=7.5						

*IDC **10** 09:53:35.3±0.6, 8°.24S×128°.91E, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.1/17, mbtmp4.1/9, MS3.5/4, Ms1 3.5/4, ms1mx2.9/28, Error ellipse: s-maj=40.4km s-min=16.9km az=63.0*
*MOS **10** 09:53:36.9±1.0, 8°.58S×128°.94E, h33km, mb4.9/7, Error ellipse: s-maj=22.4km s-min=9.3km az=113.7*
*ISCJB **10** 09:53:37.1±0.3, 8°.56S±0°.03×129°.05E±0°.06, h33km, mb4.2/18, MS3.5/3, Error ellipse: s-maj=9.1km s-min=4.2km az=172.3*
*NEIC **10** 09:53:39.0±0.4, 8°.58S×128°.84E, h35km, mb4.3/4, Error ellipse: s-maj=13.5km s-min=8.4km az=76.0*
*DJA **10** 09:53:42.9±0.4, 8°S±4°×12°9E±°, h187km±11km, M4.4/9, mB4.8/3, mb4.4/6, MLv4.4/9, Mw(mB)4.1/3*
**ISC 10 09:53:39.4±0.4, 8°54S±0°.05×128°91E±0°.06, h35km, n75, σ

	comp=Z,145nm,1.2s							
CTA	**Charters Tower**	**20.33**	**126**	P		Pn	09 58 16.9	+1.9
	comp=Z,2.5nm,0.5s,baz=296,slow=14,SNR=4.3							
MEEK	**Meekatharra**	**20.48**	**207**	P		Pn	09 58 17.5	+0.9
	baz=21,SNR=4.2							
KSM	**Kuching**	**21.04**	**297**	*e*P		**P**	**09 58 18.3**	**-2.1**
	comp=Z,14nm,0.9s							
FORT	**Forrest**	**22.14**	**182**	P		P	09 58 36.3	+4.2
	baz=22,SNR=11							
QLP	**Quilpie**	**23.10**	**143**	P		**P**	**09 58 46.4**	**+4.2**
	baz=23,SNR=7.7							
RABL	**Rabaul**	**23.51**	**81**	P		P	09 58 39.0	-7.5
	baz=23,SNR=5.4							
BBOO	**Buckleboo**	**25.05**	**166**	P		P	09 59 04.7	+4.3
	baz=25,SNR=7.0							
STKA	**Stephens Creek**	**26.05**	**155**	P		**P**	**09 59 12.7**	**+3.1**
	comp=Z,3.7nm,0.6s,baz=329,slow=9.5,SNR=10							
STKA				LR		LR	10 10 17.6	
	comp=Z,156nm,18.1s,baz=201,slow=38							
STKA	**Stephens Creek**	**26.05**	**155**	*e*P		**P**	**09 59 09.5**	**0.0**
STKA	**Stephens Creek**	**26.05**	**155**	P		**P**	**09 59 12.9**	**+3.4**
	baz=26,SNR=7.5							
STKA	**Stephens Creek**	**26.05**	**155**	*e*P		**P**	**09 59 09.5**	**0.0**
CMSA	**Cobar Meteorol**	**27.71**	**148**	P		**P**	**09 59 28.3**	**+3.8**
	baz=28,SNR=20							
CMAR	**Chiang Mai Arr**	**39.92**	**312**	P		**P**	**10 01 10.3**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=138,slow=7.5,SNR=5.4							
CMAR				PcP		**PcP**	**10 03 18.1**	**+2.4**
	comp=Z,1.0nm,0.5s,baz=172,slow=3.0,SNR=7.9							
CMAR				LR		LR	10 19 19.7	
	comp=Z,31nm,18.3s,baz=140,slow=39							
KSAR	**Wonju Array Be**	**45.75**	**359**	PcP		**PcP**	**10 03 36.2**	**+1.5**
KSRS	**Korea Array**	**45.76**	**359**	PcP		**PcP**	**10 03 36.2**	**+1.5**
	comp=Z,1.9nm,0.8s,baz=187,slow=2.2,SNR=6.4							
RPZ	**Rata Peaks**	**50.71**	**141**	LR		LR	10 23 59.8	
	comp=Z,86nm,19.6s,baz=274,slow=36							
ULN	**Ulaanbaatar**	**59.40**	**343**	*e*P		**P**	**10 03 38.1**	**-0.4**
ULN				pmax		pmax		
	comp=Z,1.0nm,1.0s							
SONM	**Songino Array**	**59.56**	**343**	P		**P**	**10 03 39.4**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=151,slow=6.0,SNR=7.4							
PETK	**Petropavlovsk-**	**66.11**	**19**	P		**P**	**10 04 22.6**	**-0.3**
	comp=Z,3.3nm,0.8s,baz=203,slow=6.1,SNR=6.5							
MK31	**Makanchi Array**	**68.92**	**328**	*e*P		**P**	**10 04 40.5**	**-0.3**
MK31	**Makanchi Array**	**68.92**	**328**	*e*P		**P**	**10 04 40.5**	**-0.3**
MKAR	**Makanchi Array**	**68.92**	**328**	P		**P**	**10 04 40.5**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=165,slow=5.0,SNR=19							
YAK	**Yakutsk**	**70.36**	**0**	*e*P		**P**	**10 04 50.8**	**+1.5**
YAK				pmax		pmax		
	comp=Z,10.0nm,0.8s							
AAK	**Ala-Archa**	**71.02**	**321**	*e*P		**P**	**10 04 54.8**	**+0.8**
AAK				pmax		pmax		
	comp=Z,8.0nm,1.7s							
VNDA	**Vanda**	**71.06**	**173**	P		**P**	**10 04 55.1**	**+1.7**
	comp=Z,0.3nm,0.4s,baz=317,slow=8.1,SNR=4.4							
ZALV	**Zalesovo Beam**	**72.48**	**334**	P		**P**	**10 05 01.1**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=127,slow=4.4,SNR=5.8							
KURK	**Kurchatov**	**73.27**	**329**	*e*P		**P**	**10 05 06.4**	**-0.6**
KURK				pmax		pmax		
	comp=Z,4.0nm,0.6s							
KURK	**Kurchatov**	**73.27**	**329**	*e*P		**P**	**10 05 06.4**	**-0.6**
	comp=Z,4.0nm,0.6s							
SEY	**Seymchan**	**73.51**	**11**	*e*P		**P**	**10 05 08.2**	**0.0**
BRVK	**Borovoye**	**78.86**	**328**	*e*P		**P**	**10 05 39.4**	**+0.6**
BRVK				pmax		pmax		
	comp=Z,7.0nm,2.5s							
TIXI	**Tiksi**	**80.02**	**360**	*e*P		**P**	**10 05 44.0**	**-0.7**
TIXI				pmax		pmax		
	comp=Z,8.0nm,2.5s							
ABKAR	**Akbulak array**	**83.04**	**322**	*e*P		**P**	**10 06 00.7**	**-0.5**
	comp=Z,1.4nm,0.8s							
ARU	**Arti**	**86.44**	**328**	*d i*P		**P**	**10 06 18.5**	**+0.4**
ARU							10 09 34.7	
ARU				S		S	10 16 42.1	-9.5
ARU				SS		**SS**	**10 22 26.6**	**-5.7**
ARU				pmax		pmax		
	comp=Z,6.0nm,1.7s							
MCK	**McKinley**	**94.13**	**26**	*e*P		**P**	**10 06 53.2**	**-1.0**
MCK				pmax		pmax		
	comp=Z,4.0nm,0.4s							
MCK	**McKinley**	**94.13**	**26**	*e*P		**P**	**10 06 53.2**	**-1.0**
	comp=Z,4.0nm,0.4s							
ILAR	**Eielson Array**	**95.19**	**25**	P		**P**	**10 06 57.7**	**-1.2**
	comp=Z,1.7nm,0.8s,baz=263,slow=4.6,SNR=18							
DOT	**Dot Lake**	**96.27**	**27**	*e*P		**P**	**10 07 03.8**	**-0.1**
OBN	**Obninsk**	**98.27**	**325**	LR		LR	10 55 45.1	
	comp=Z,2μm,19.7s,baz=162,slow=38							
YKA	**Yellowknife Ar**	**109.60**	**26**	PKiKP		**PKiKP**	**10 12 06.9**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=304,slow=1.2,SNR=6.1							
ANMO	**Albuquerque**	**123.09**	**54**	*c i*PKiKP		**PKPdf**	**10 12 32.0**	**-1.0**
ANMO				pmax		pmax		
	comp=Z,20nm,2.5s							
TXAR	**Lajitas Array**	**126.64**	**60**	PKP		**PKPdf**	**10 12 41.4**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=214,slow=3.2,SNR=5.6							
TORD	**Torodi Ar. Bea**	**128.03**	**280**	PKP		**PKPdf**	**10 12 44.1**	**+1.4**
	comp=Z,0.6nm,0.4s,baz=22,slow=2.7,SNR=7.1							
CPUP	**Villa Florida**	**144.81**	**170**	PKPbc		**PKPdf**	**10 13 15.2**	**+1.7**
	comp=Z,0.4nm,0.4s,baz=228,slow=1.8,SNR=13							
LPAZ	**La Paz**	**150.12**	**146**	PKPbc		**PKPbc**	**10 13 29.9**	**+1.6**
	comp=Z,2.2nm,0.7s,baz=108,slow=4.7,SNR=9.8							

WEL 10 09:57:52.0±0.4, 36°88S×177°13E, h186km±4km, ML3.8/16, 1C-5D, Error ellipse: s-maj=4.5km s-min=4.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**1.02**	**150**	PN	Pn	09 58 20.5	+0.1
HAZ				SN	Sn	09 58 42.1	-0.5
URZ	**Urewera**	**1.38**	**181**	↓PN	Pn	09 58 23.5	+0.1
URZ				SN	Sn	09 58 48.3	+0.4
WMGZ	**Waiomatatini S**	**1.39**	**133**	PN	Pn	09 58 23.3	-0.1
WMGZ				SN	Sn	09 58 47.6	-0.4
TWGZ	**Tauwhareparae**	**1.46**	**153**	PN	Pn	09 58 24.9	+0.6
TWGZ				SN	Sn	09 58 49.5	+0.2
MWZ	**Matawai**	**1.49**	**168**	↓PN	Pn	09 58 24.5	0.0
MWZ				SN	Sn	09 58 49.4	-0.4
MWZ				AML	AML	09 58 50.5	
PUZ	**Puketiti**	**1.49**	**143**	↑PN	Pn	09 58 24.3	-0.2
PUZ				SN	Sn	09 58 48.1	-1.6
RAGZ	**Rawiri**	**1.63**	**172**	PN	Pn	09 58 26.0	+0.1
TKGZ	**Te Karaka**	**1.66**	**160**	PN	Pn	09 58 26.0	0.0
CNGZ	**Carnagh Statio**	**1.82**	**152**	PN	Pn	09 58 27.9	+0.3
RIGZ	**Rimuhau**	**1.89**	**165**	PN	Pn	09 58 28.5	0.0
SNGZ	**Shannon Statio**	**1.91**	**175**	PN	Pn	09 58 28.5	-0.1
SNGZ				SN	Sn	09 58 54.8	-2.4
RAHZ	**Arahi**	**2.04**	**181**	PN	Pn	09 58 30.1	+0.2
KNZ	**Kokohu**	**2.18**	**169**	↓PN	Pn	09 58 30.8	-0.6
WHHZ	**Waihua**	**2.20**	**178**	PN	Pn	09 58 31.6	-0.1
NMHZ	**Naumai**	**2.23**	**187**	PN	Pn	09 58 32.2	+0.1
BKZ	**Black Stump Fm**	**2.34**	**192**	↓PN	Pn	09 58 32.6	-0.7
MHGZ	**Mahia Peninsul**	**2.35**	**165**	PN	Pn	09 58 32.8	-0.6
ARHZ	**Aropaoanui**	**2.38**	**183**	PN	Pn	09 58 33.7	-0.1
MCHZ	**McNeill Hill**	**2.58**	**187**	PN	Pn	09 58 35.3	-0.8
WPVZ	**Whakapapa**	**2.64**	**208**	PN	Pn	09 58 37.2	+0.3
TUVZ	**Tukino**	**2.66**	**206**	PN	Pn	09 58 36.9	-0.1
FWVZ	**Far West T-bar**	**2.68**	**207**	PN	Pn	09 58 37.2	-0.3
WHVZ	**Whangaehu Hut**	**2.69**	**206**	PN	Pn	09 58 37.3	-0.3
WNVZ	**Wahianoa**	**2.73**	**206**	PN	Pn	09 58 37.5	-0.4
BHHZ	**Black Hill Sta**	**2.74**	**198**	PN	Pn	09 58 36.9	-1.1
KRHZ	**Kereru**	**2.83**	**192**	PN	Pn	09 58 37.9	-1.0
MTVZ	**Mangateitei**	**2.83**	**207**	PN	Pn	09 58 38.7	-0.2
KAHZ	**Kahuranaki**	**2.92**	**184**	PN	Pn	09 58 39.1	-0.9
PNHZ	**Pukenui**	**3.12**	**193**	PN	Pn	09 58 40.9	-1.5
PXZ	**Pawanui**	**3.16**	**184**	PN	Pn	09 58 41.1	-1.7
WPHZ	**Waipukurau**	**3.23**	**189**	PN	Pn	09 58 42.1	-1.6
TSZ	**Takapari Road**	**3.31**	**196**	PN	Pn	09 58 43.0	-1.7
WAZ	**Wanganui**	**3.33**	**210**	PN	Pn	09 58 44.4	-0.6
DVHZ	**Dannevirke**	**3.50**	**192**	PN	Pn	09 58 44.7	-2.3
ANWZ	**Angora Road**	**3.61**	**188**	PN	Pn	09 58 46.7	-1.8
POWZ	**Post Office Ro**	**3.67**	**197**	PN	Pn	09 58 47.2	-2.0
PRWZ	**Pori Road**	**3.78**	**194**	PN	Pn	09 58 48.7	-1.9
BFZ	**Birch Farm**	**3.86**	**190**	PN	Pn	09 58 49.0	-2.5
MRZ	**Mangatainoka R**	**3.97**	**197**	↓PN	Pn	09 58 50.2	-2.7
TIWZ	**Tintock**	**4.01**	**194**	PN	Pn	09 58 50.9	-2.6
HOWZ	**Holdsworth Sta**	**4.21**	**197**	PN	Pn	09 58 52.8	-3.2
OGWZ	**Otaki Gorge**	**4.22**	**201**	PN	Pn	09 58 53.3	-2.7
KIW	**Kapiti Island**	**4.34**	**203**	PN	Pn	09 58 54.7	-3.0
MTW	**Mount Morrison**	**4.46**	**196**	PN	Pn	09 58 55.7	-3.4
CAW	**Cannon Point**	**4.52**	**200**	PN	Pn	09 58 56.6	-3.3
MSWZ	**Moikau Station**	**4.76**	**197**	PN	Pn	09 58 59.2	-3.8
BHW	**Baring Head**	**4.85**	**201**	PN	Pn	09 59 00.4	-3.7
TCW	**Tory Channel**	**4.87**	**206**	PN	Pn	09 59 00.8	-3.5
PLWZ	**Palliser**	**4.91**	**197**	PN	Pn	09 59 00.9	-4.0
TUWZ	**Tuamarina**	**5.18**	**208**	PN	Pn	09 59 04.7	-3.6
BSWZ	**Blackbirch Sta**	**5.45**	**207**	AML	AML	09 59 09.7	

*IDC **10** 10:33:55.9±1.4, 55°.96N×162°.13E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.3/48, mbtmp3.4/5, ML2.6/1, MS2.3/1, Ms1 2.3/1, ms1mx2.1/31, Error ellipse: s-maj=46.2km s-min=23.6km az=142.0*
*KRSC **10** 10:33:58.9±0.6, 55°.71N×162°.25E, h54km±14km, ML3.9*
*ISCJB **10** 10:34:00.4±0.3, 55°.73N±0°.02×162°.25E±0°.05, h50km±7km, mb3.3/4, Error ellipse: s-maj=4.6km s-min=3.3km az=24.4*
ISC 10 10:34:01.2±1.1, 55°.75N±0°.03×162°.23E±0°.03, h41km±13km, n47, σ1°.07/74, mb3.3/4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBG	**Krutoberegovo**	**0.57**	**28**	*e*P	**Pn**	**10 34 12.3**	**-0.6**
KBG				*e*S	**Sn**	**10 34 21.9**	**+0.6**
ZLN	**Zelenaya**	**0.84**	**289**	*e*P	**Pn**	**10 34 16.3**	**-0.4**
ZLN				*e*S	**Sn**	**10 34 28.2**	**+0.2**
BZGR	**Bezymyannyi-Gr**	**0.88**	**283**	*e*P	**Pn**	**10 34 16.6**	**-0.7**
BZGR				*e*S	**Sn**	**10 34 28.6**	**-0.4**
CIRR	**Tsirk**	**0.91**	**294**	*e*P	**Pn**	**10 34 17.2**	**-0.4**
CIRR				*e*S	**Sn**	**10 34 29.7**	**+0.1**
LGNR	**Loginova**	**0.93**	**292**	*e*P	**Pn**	**10 34 17.7**	**-0.3**
LGNR				*e*S	**Sn**	**10 34 30.1**	**-0.2**
SMKR	**Semkarok**	**0.94**	**333**	*e*P	**Pn**	**10 34 17.6**	**-0.4**
SMKR				*e*S	**Sn**	**10 34 30.2**	**0.0**
BZMR	**Bezymyannaya**	**1.00**	**282**	*e*P	**Pn**	**10 34 18.2**	**-0.6**
BZMR				*e*S	**Sn**	**10 34 31.4**	**-0.4**
BZWR	**Bezymyannyi-We**	**1.00**	**283**	*e*P	**Pn**	**10 34 18.4**	**-0.5**
BZWR				*e*S	**Sn**	**10 34 31.8**	**-0.1**
BDR	**Baidarnaya**	**1.00**	**326**	*e*P	**Pn**	**10 34 18.6**	**-0.2**
BDR				*e*S	**Sn**	**10 34 32.9**	**+1.1**
KLY	**Klyuchi**	**1.05**	**303**	*e*P	**Pn**	**10 34 17.5**	**-1.9**
KLY				*e*S	**Sn**	**10 34 30.3**	**-2.5**
KIRR	**Kirishev**	**1.08**	**282**	*e*P	**Pn**	**10 34 19.7**	**-0.3**
KIRR				*e*S	**Sn**	**10 34 34.0**	**+0.1**
SRKR	**Sorokina**	**1.08**	**327**	*e*P	**Pn**	**10 34 19.8**	**-0.2**
SRKR				*e*S	**Sn**	**10 34 34.2**	**+0.4**
KMNR	**Kamenistaya**	**1.12**	**271**	*e*P	**Pn**	**10 34 20.6**	**+0.1**
KMNR				*e*S	**Sn**	**10 34 36.1**	**+1.3**
KPT	**Kopyto**	**1.15**	**282**	*e*P	**Pn**	**10 34 20.8**	**-0.1**
KPT				*e*S	**Sn**	**10 34 36.0**	**+0.5**
MKZ	**Mys Kozlova**	**1.23**	**194**	*e*P	**Pn**	**10 34 20.8**	**-1.0**
MKZ				*e*S	**Sn**	**10 34 36.2**	**-1.0**
KZV	**Kizimen**	**1.27**	**241**	*e*P	**Pn**	**10 34 22.1**	**-0.5**
KZV				*e*S	**Sn**	**10 34 38.0**	**-0.5**
TUMR	**Tumrok**	**1.27**	**249**	*e*P	**Pn**	**10 34 22.7**	**+0.1**
KOZ	**Kozyrevsk**	**1.36**	**284**	*e*P	**Pn**	**10 34 24.5**	**+0.8**
KOZ				*e*S	**Sn**	**10 34 43.0**	**+2.5**
SRDR	**Sredinnyy**	**1.52**	**293**	*e*P	**Pn**	**10 34 26.4**	**+0.5**
SRDR				*e*S	**Sn**	**10 34 45.5**	**+1.0**
ESO	**Esso**	**2.00**	**277**	*e*P	**Pn**	**10 34 32.5**	**+0.1**
ESO				*e*S	**Sn**	**10 34 57.2**	**+1.0**
BKI	**Bering**	**2.20**	**103**	*e*P	**Pn**	**10 34 35.4**	**+0.2**
BKI				*e*S	**Sn**	**10 35 01.7**	**+0.6**
KII	**Karymskiy**	**2.35**	**224**	*e*P	**Pn**	**10 34 38.0**	**+0.7**
KII				*e*S	**Sn**	**10 35 06.3**	**+1.4**
SPN	**Mys Shipunski**	**2.95**	**207**	*e*P	**Pn**	**10 34 44.5**	**-1.0**
SPN				*e*S	**Sn**	**10 35 17.1**	**-2.6**
NLC	**Nalytchevo**	**3.08**	**214**	*e*P	**Pn**	**10 34 47.1**	**-0.2**
NLC				*e*S	**Sn**	**10 35 22.3**	**-0.5**
SDLR	**Sedlovina**	**3.15**	**220**	*e*P	**Pn**	**10 34 48.7**	**+0.3**
SDLR				*e*S	**Sn**	**10 35 25.3**	**+0.6**
KRX	**Arik**	**3.17**	**222**	*e*P	**Pn**	**10 34 49.8**	**+1.1**
KRER	**Koryakskii**	**3.18**	**221**	*e*P	**Pn**	**10 34 49.6**	**+0.8**
KRER				*e*S	**Sn**	**10 35 26.8**	**+1.2**
SMAR	**Somma**	**3.19**	**220**	*e*P	**Pn**	**10 34 49.3**	**+0.3**
AVH	**Avacha**	**3.21**	**221**	*e*P	**Pn**	**10 34 50.2**	**+1.0**
AVH				*e*S	**Sn**	**10 35 27.2**	**+0.9**
GNL	**Ganaly**	**3.23**	**232**	*e*P	**Pn**	**10 34 49.8**	**+0.4**
UGLR	**Uglovaya**	**3.23**	**219**	*e*P	**Pn**	**10 34 50.0**	**+0.6**
KOK	**Koryaka**	**3.23**	**222**	*e*P	**Pn**	**10 34 50.1**	**+0.7**
PET	**Petropavlovsk**	**3.44**	**219**	*e*P	**Pn**	**10 34 53.3**	**+1.1**
PET				*e*S	**Sn**	**10 35 31.9**	**+0.3**
OSSR	**Ossora**	**3.54**	**7**	*e*P	**Pn**	**10 34 55.3**	**+1.7**
PETK	**Petropavlovsk-**	**3.74**	**227**	Pn	**Pn**	**10 34 57.1**	**+0.8**
	2.1nm,0.3s,baz=63,slow=17,SNR=94						
PETK				Sn	**Sn**	**10 35 42.4**	**+3.3**
	0.3nm,0.3s,baz=18,slow=24,SNR=3.2						
PETK				LR	LR	10 36 52.4	
	comp=Z,34nm,19.2s,baz=80,slow=46						
RUS	**Russkaya**	**3.98**	**215**	*e*S	**Sn**	**10 35 44.8**	**-0.1**
MTVR	**Mutnovka**	**4.04**	**218**	*e*P	**Pn**	**10 35 01.9**	**+1.2**
MTVR				*e*S	**Sn**	**10 35 47.8**	**+1.0**
ASAK	**Asacha**	**4.23**	**219**	*e*P	**Pn**	**10 35 04.8**	**+1.7**
ASAK				*e*S	**Sn**	**10 35 52.7**	**+1.5**
MIPR	**Malaya Ipel'ka**	**4.74**	**225**	*e*P	**Pn**	**10 35 11.7**	**+1.6**
TILK	**Tilichiki**	**5.15**	**22**	*e*P	**Pn**	**10 35 18.3**	**+2.7**
ILAR	**Eielson Array**	**26.09**	**49**	P	**P**	**10 39 29.9**	**-0.8**
	0.5nm,0.9s,baz=270,slow=8.0,SNR=8.0						
H11N2	**WAKE ISLAND Hy**	**36.13**	**173**	T	T	11 20 06.1	
	baz=357,slow=76,SNR=10						
H11N3	**WAKE ISLAND Hy**	**36.15**	**173**	T	T	11 20 09.0	
	baz=357,slow=76,SNR=7.7						
H11N1	**WAKE ISLAND Hy**	**36.15**	**173**	T	T	11 19 38.5	
	baz=357,slow=76,SNR=9.7						
YKA	**Yellowknife Ar**	**40.38**	**45**	P	**P**	**10 41 34.4**	**-0.2**
	0.1nm,0.4s,baz=301,slow=8.2,SNR=3.9						
FINES	**FINESS Array B**	**58.17**	**337**	P	**P**	**10 43 49.0**	**-1.2**
	0.6nm,0.5s,baz=43,slow=8.4,SNR=3.6						
TXAR	**Lajitas Array**	**68.49**	**69**	P	**P**	**10 44 59.6**	**+0.4**
	0.3nm,0.7s,baz=296,slow=4.3,SNR=5.4						

*IDC **10** 10:50:57.9±1.4, 34°.93S×72°.60W, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.6/20, mbtmp3.5/5, ML3.7/2, MS1.9/1, Ms1 1.9/1, ms1mx1.9/17, Error ellipse: s-maj=38.3km s-min=30.4km az=72.0*
*ISCJB **10** 10:50:59.1±0.8, 34°.92S±0°.06×72°.72W±0°.07, h18km, mb3.5/3, Error ellipse: s-maj=9.1km s-min=7.2km az=137.6*
*GUC **10** 10:51:00.0±0.7, 34°.88S×72°.68W, h24km±4km, ML3.9*
ISC 10 10:51:00.7±1.0, 34°.91S±0°.06×72°.54W±0°.08, h18km, n12, σ0°.76/16, mb3.7/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.89**	**123**	*e*P	**Pg**	**10 51 17.5**	**-0.5**
TALC				*e*S	**Sn**	**10 51 30.8**	**+0.1**
NICH	**Los Niches**	**1.08**	**95**	*e*P	**Pn**	**10 51 21.1**	**+0.1**
NICH				*e*S	**Sg**	**10 51 37.0**	**+1.2**
LNCH	**Linares**	**1.21**	**141**	*e*P	**Pb**	**10 51 22.9**	**-0.2**
TACH	**Talagante**	**1.83**	**47**	*e*P	**Pn**	**10 51 30.6**	**-0.6**
CLCH	**Cerro Calan**	**2.25**	**48**	*e*P	**Pn**	**10 51 37.7**	**+0.6**
CLCH				*e*S	**Sb**	**10 52 06.8**	**-1.5**
CLCH				AML	AML	10 52 22.2	
	comp=E,836nm,0.5s						
PEL	**Peldehue**	**2.34**	**42**	*e*P	**Pn**	**10 51 38.9**	**+0.5**
PEL				*e*S	**Sn**	**10 52 07.2**	**+0.5**
PEL				AML	AML	10 52 21.0	
	comp=E,922nm,0.4s						
CFAA	**Coronel Fontan**	**4.89**	**49**	Pn	**Pn**	**10 52 14.1**	**+0.8**
	comp=E,0.1nm,0.3s,baz=221,slow=13,SNR=9.1						
CFAA				Lg	Lg	10 53 27.1	
	comp=E,0.2nm,0.3s,baz=130,slow=18,SNR=6.3						
CFAA				LR	LR	10 54 07.0	
	comp=E,13nm,18.1s,baz=206,slow=38						
PLCA	**Paso Flores**	**6.02**	**165**	Pn	**Pn**	**10 52 29.9**	**+0.9**
	comp=E,0.6nm,0.3s,baz=338,slow=12,SNR=10						
PLCA				Lg	Lg	10 54 04.7	
	comp=E,0.3nm,0.3s,baz=64,slow=12,SNR=3.9						
LPAZ	**La Paz**	**18.96**	**13**	P	**Pn**	**10 55 22.9**	**+0.6**
	comp=E,0.1nm,0.3s,baz=187,slow=7.4,SNR=5.4						
TXAR	**Lajitas Array**	**70.33**	**331**	P	**P**	**11 02 13.3**	**+0.1**
	comp=E,0.4nm,0.6s,baz=159,slow=8.8,SNR=6.4						
NVAR	**Mina Array Bea**	**84.40**	**326**	P	**P**	**11 03 32.2**	**+0.1**
	comp=E,0.1nm,0.3s,baz=159,slow=13,SNR=3.3						
TORD	**Torodi Ar. Bea**	**84.91**	**70**	P	**P**	**11 03 34.3**	**-0.6**
	comp=E,0.3nm,0.6s,baz=284,slow=5.6,SNR=2.9						

MEX 10 10:58:19.5±0.7, 16°.68N×99°.65W, h16km±12km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.69**	**301**	*i* P	Pg	10 58 30.5	-2.7
CAIG				*e*S	Sg	10 58 38.6	-3.8
MEIG	**Mezcala**	**1.23**	**1**	*i* P	Pn	10 58 38.3	-3.9
MEIG				*e*S	Sb	10 58 52.9	-5.5
TLIG	**Tlapa**	**1.35**	**50**	*e*P	Pn	10 58 40.2	-3.7
TLIG				*i* S	Sn	10 58 55.7	-6.0
PLIG	**Platanillo**	**1.71**	**5**	*e*P	Pn	10 58 45.3	-3.4
PLIG				*i* S	Sn	10 59 04.8	-5.5
ARIG	**Puente Sto Nin**	**1.72**	**337**	*e*P	Pn	10 58 46.1	-2.8
ARIG				*e*S	Sn	10 59 06.1	-4.5
ZIIG	**Zihuatanejo**	**1.97**	**298**	*i* P	Pn	10 58 48.6	-3.5
ZIIG				*i* S	Sn	10 59 11.6	-4.9

*ISCJB **10** 11:00:05.7±0.5, 59°.88N±0°.03×24°.55E±0°.06, h0km, Error ellipse: s-maj=4.8km s-min=3.7km az=29.9*
*HEL **10** 11:00:07.8±0.1, 59°.84N×24°.72E, h0km, ML1.7, Explosion*
*IDC **10** 11:00:08.8±2.6, 59°.83N×24°.97E, h0km, mb1 3.2/2, mb1mx2.8/39, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=29.0km s-min=10.1km az=134.0*
ISC 10 11:00:06.9±0.9, 59°.83N±0°.03×24°.73E±0°.04, h0km, n13, σ0°.67/20, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRPE	**Suurupi**	**0.41**	**205**	*e*P	**Pg**	**11 00 15.3**	**+0.6**
SRPE				*e*S	**Sg**	**11 00 20.5**	**+0.5**
MEF	**Metsahovi**	**0.42**	**337**	*e*P	**Pg**	**11 00 15.2**	**+0.3**
MEF				*e*S	**Sg**	**11 00 20.7**	**+0.4**
PVF	**Pernaja**	**0.91**	**38**	*e*P	**Pg**	**11 00 24.2**	**-0.2**
PVF				*e*S	**Sg**	**11 00 35.4**	**-0.8**
MTSE	**Matsula**	**1.22**	**203**	*e*PB	**Pg**	**11 00 30.3**	**+0.1**
MTSE				*e*S	**Sg**	**11 00 45.2**	**-0.6**
VJF	**Virojoki**	**1.58**	**62**	*e*SN	**Sg**	**11 00 58.2**	**+0.6**
FIA0	**FINESS Array S**	**1.75**	**22**	*e*SN	**Sg**	**11 01 03.7**	**+0.7**
FIA0				MSG		11 01 05.8	
	comp=Z,4.5nm,0.1s						
FINES	**FINESS Array B**	**1.75**	**22**	Pg	**Pb**	**11 00 39.3**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=196,slow=18,SNR=66						
FINES				Lg	Lg	11 01 02.3	
	comp=Z,0.7nm,0.3s,baz=199,slow=29,SNR=12						
RAF	**Rauma**	**1.89**	**310**	*e*PG	**Pb**	**11 00 41.5**	**-0.7**
RAF				*e*SG	**Sb**	**11 01 06.2**	**-0.2**
RAF				MSG		11 01 08.8	
	comp=Z,4.5nm,0.1s						
AAL	**Aland**	**2.40**	**280**	*e*PG	**Pb**	**11 00 50.2**	**-0.7**
AAL				*e*SG	**Sb**	**11 01 21.1**	**+0.1**
SLIT	**Slitere, Latvi**	**2.55**	**211**	*e*PB	**Pb**	**11 00 52.1**	**-1.3**
SLIT				*e*SG	**Sb**	**11 01 26.5**	**+1.2**
HFS	**Hagfors**	**5.55**	**278**	Sn	**Sn**	**11 02 34.6**	**-0.4**
	comp=Z,0.0nm,0.3s,baz=100,slow=25,SNR=2.3						
NOA	**NORSAR Array B**	**6.79**	**286**	Pn	**Pn**	**11 01 48.0**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=90,slow=13,SNR=2.5						
ARCES	**ARCESS Array B**	**9.75**	**2**	Pn	**Pn**	**11 02 28.4**	**+0.3**
	comp=Z,

ISC 10 12:01:22.7±0.8, 21°20S±0.05×68°8W±0.1, h129km±10km, n18, σ1°8/24, 1C-5D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.67**	**283**	*e*P	**Pn**	**12 01 42.6**	**-0.3**
PB01				*e*S	**Sn**	**12 01 57.6**	**-0.5**
PB01				AML	AML	12 01 58.5	
	comp=N,4μm,0.3s						
PB09	**IPOC Station P**	**0.73**	**215**	*e*P	**Pn**	**12 01 43.7**	**+0.2**
PB09				*e*S	**Sn**	**12 01 58.9**	**-0.3**
PB09				AML	AML	12 02 00.1	
	comp=N,12μm,0.5s						
PB07	**IPOC Station P**	**1.16**	**243**	*e*P	**Pn**	**12 01 47.5**	**+0.3**
PB07				*e*S	**Sn**	**12 02 05.6**	**-0.2**
PB07				AML	AML	12 02 07.0	
	comp=N,5μm,0.4s						
PB04	**IPOC Station P**	**1.25**	**211**	*e*P	Pn	12 01 53.6	+5.6
PB04				*e*S	Sn	12 02 16.6	+9.4
PB04				AML	AML	12 02 17.7	
	comp=E,2μm,0.3s						
PATCX	**Punta Patache**	**1.33**	**286**	*e*P	**Pn**	**12 01 49.3**	**+0.3**
PATCX				*e*S	**Sn**	**12 02 08.8**	**-0.1**
PATCX				AML	AML	12 02 11.3	
	comp=E,7μm,0.3s						
LVC	**Limon Verde**	**1.42**	**185**	P	**Pn**	**12 01 50.5**	**+0.5**
	comp=E,657nm,0.3s,baz=36,slow=13,SNR=283						
LVC				S	**Sn**	**12 02 11.2**	**+0.3**
	comp=E,2μm,0.3s,baz=225,slow=20,SNR=62						
LVC				LR	LR	12 02 29.7	
	comp=E,371nm,19.2s,baz=230,slow=44						
PB06	**IPOC Station P**	**1.67**	**206**	*e*P	**Pn**	**12 01 53.1**	**+0.2**
PB06				⇑*i*P	**Pn**	**12 01 53.4**	**+0.5**
PB06				*e*S	**Sn**	**12 02 16.2**	**+0.3**
PB06				AML	AML	12 02 17.3	
	comp=E,2μm,0.4s						
PSGC	**Pisagua**	**2.03**	**321**	*e*P	**Pn**	**12 01 56.3**	**-0.8**
PSGC				*e*S	**Sn**	**12 02 22.0**	**-1.3**
PSGC				AML	AML	12 02 25.8	
	comp=N,931nm,0.6s						
MNMC	**Minimini**	**2.19**	**339**	⇓*e*P	**Pn**	**12 01 59.2**	**-0.1**
MNMC				AML	AML	12 02 32.8	
	comp=N,2μm,0.5s						
PB10	**IPOC Station P**	**2.83**	**215**	*e*P	**Pn**	**12 02 07.0**	**-0.1**
LPAZ	**La Paz**	**4.92**	**7**	P	**Pn**	**12 02 35.7**	**+0.3**
	comp=N,0.9nm,0.3s,baz=188,slow=7.1,SNR=26						
LPAZ	**La Paz**	**4.92**	**7**	*e*P	**Pn**	**12 02 37.8**	**+2.4**
SIV	**San Ignacio**	**8.96**	**56**	P	Pn	12 03 23.0	-6.1
	comp=N,1.2nm,0.3s,baz=251,slow=15,SNR=18						
NNA	**Nana**	**11.97**	**319**	P	**Pn**	**12 04 11.4**	**+1.9**
	comp=N,2.8nm,0.3s,baz=159,slow=14,SNR=4.2						
BDFB	**Brasilia**	**20.46**	**78**	P	**P**	**12 05 48.7**	**-1.7**
	comp=N,3.0nm,0.5s,baz=268,slow=16,SNR=3.6						
DBIC	**Dimbokro**	**68.53**	**73**	P	**P**	**12 12 12.3**	**+0.4**
	comp=N,4.0nm,0.8s,baz=249,slow=8.6,SNR=3.7						
TORD	**Torodi Ar. Bea**	**77.14**	**70**	P	**P**	**12 13 00.5**	**-2.2**
	comp=N,0.9nm,0.7s,baz=253,slow=5.7,SNR=10						
MKAR	**Makanchi Array**	**145.32**	**36**	PKPbc	**PKPab**	**12 20 46.8**	**+1.2**
	comp=N,0.6nm,0.7s,baz=296,slow=9.0,SNR=6.0						

*SKHL **10** 12:09:22.8±0.9, 46°78N×153°95E, h35km±5km, mb4.5/5, Ms3.8/1*
*IDC **10** 12:09:25.5±0.9, 47°50N×152°99E, h0km, mb3.6/11, mb1 3.8/13, mb1mx3.6/47, mbtmp3.6/13, ML3.2/2, MS3.1/4, Ms1 3.1/4, ms1mx2.7/32, Error ellipse: s-maj=25.9km s-min=18.9km az=153.0*
*ISCJB **10** 12:09:28.0±0.7, 47°38N±0°09×153°0E±0°1, h35km, mb3.7/10, MS3.1/4, Error ellipse: s-maj=18.0km s-min=5.0km az=135.7*
*MOS **10** 12:09:28.9±1.5, 47°42N×152°92E, h44km, mb4.3/3, Error ellipse: s-maj=17.0km s-min=10.9km az=63.3*

ISC 10 12:09:29.7±0.8, 47°37N±0°10×153°05E±0°10, h35km, n48, σ1°54/37, mb3.7/10, MS3.1/4, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.88**	**30**	*e*P	**Pn**	**12 10 24.9**	**-1.9**
SKR				AMB	AMB	12 10 27.0	
	100nm,0.8s						
SKR				*e*S	**Sn**	**12 11 12.2**	**+1.2**
SKR				A	A	12 11 20.9	
	190nm,0.9s						
KUR	**Kuril'sk**	**4.18**	**241**	⇓*i*PN	**Pn**	**12 10 30.9**	**-0.1**
KUR				*i* S	**Sn**	**12 11 21.2**	**+2.7**
KUR				pmax	pmax		
	comp=E,10.0nm,1.1s						
KUR				pmax	pmax		
	comp=Z,21nm,1.1s						
KUR				pmax	pmax		
	comp=N,11nm,0.2s						
KUR				smax	smax		
	comp=E,9.0nm,0.3s						
KUR				smax	smax		
	comp=N,29nm,0.5s						
KUR	**Kuril'sk**	**4.18**	**241**	*i* P	**Pn**	**12 10 30.9**	**-0.1**
KUR				AMB	AMB	12 10 37.7	
	comp=N,10.0nm,1.1s						
KUR				AMB	AMB	12 10 37.7	
	comp=N,20nm,1.1s						
KUR				*i* S	**Sn**	**12 11 21.3**	**+2.7**
KUR				A	A	12 11 26.1	
	comp=N,30nm,0.4s						
KUR				A	A	12 11 26.1	
	comp=N,10.0nm,0.4s						
SHO	**Shikotan**	**5.60**	**234**	*e*P	**Pn**	**12 10 47.4**	**-3.0**
SHO				AMB	AMB	12 10 54.4	
	comp=N,140nm,1.3s						
SHO				*e*S	**Sn**	**12 11 50.4**	**-3.0**
SHO				A	A	12 11 54.9	
	comp=N,130nm,0.9s						
YUK	**Yuzh-Kuril'sk**	**6.04**	**239**	*c i*PN	**Pn**	**12 10 54.3**	**-2.2**
YUK				pmax	pmax		
	comp=N,24nm,0.7s						
YUK				pmax	pmax		
	comp=E,24nm,0.7s						
YUK				pmax	pmax		
	comp=Z,42nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**6.04**	**239**	*i* P	**Pn**	**12 10 54.4**	**-2.1**
YUK				AMB	AMB	12 10 57.3	
	comp=Z,20nm,0.7s						
YUK				AMB	AMB	12 10 57.3	
	comp=Z,40nm,0.7s						
YUK				*i* S	**Sn**	**12 12 03.4**	**-1.0**
YUK				A	A	12 12 04.7	
	comp=Z,100nm,1.0s						
YUK				A	A	12 12 07.7	
	comp=Z,80nm,0.7s						
YUK				A	A	12 12 07.7	
	comp=Z,50nm,0.7s						
PETK	**Petropavlovsk-**	**6.47**	**26**	Pn	**Pn**	**12 11 01.9**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=174,slow=14,SNR=16						
PETK	**Petropavlovsk-**	**6.47**	**26**	PN	**Pn**	**12 11 01.9**	**-0.4**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YSS	**Yuzh-Sakhalins**	**7.03**	**270**	*e*PN	**Pn**	**12 11 09.1**	**-1.0**
YSS	**Yuzh-Sakhalins**	**7.03**	**270**	*e*P	Pn	12 11 18.1	+8.0
YSS				*e*S	Sn	12 12 40.6	+12
TYV	**Tymovskoe**	**7.66**	**301**	*e*P	Pn	12 11 25.0	+6.3
TYV				AMB	AMB	12 11 27.9	
	comp=Z,20nm,0.9s						
JKA	**Kamikawa-asahi**	**8.00**	**250**	*e*P	**Pn**	**12 11 24.1**	**+0.7**
ASAJ	**Asahikawa**	**8.01**	**250**	PN	**Pn**	**12 11 24.1**	**+0.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**8.85**	**236**	*e*PN	Pn	12 11 38.2	+3.2
ERM	**Erimo**	**8.85**	**236**	*e*P	Pn	12 11 38.2	+3.2
NKL	**Nikolayevsk**	**9.80**	**311**	*e*P	Pn	12 11 57.4	+9.4
NKL				AMS	AMS	12 17 00.0	
	comp=Z,300nm,14.0s						
NKL				AMS	AMS	12 17 00.0	
	comp=Z,400nm,14.0s						
EKMR	**Ekimchan**	**14.05**	**301**	*e*P	**P**	**12 12 53.0**	**-0.5**
SEY	**Seymchan**	**15.60**	**359**	*e*P	**P**	**12 13 08.1**	**-2.4**
SEY	**Seymchan**	**15.60**	**359**	*e*P	**P**	**12 13 08.1**	**-2.4**
KSRS	**Korea Array**	**20.95**	**251**	P	Pn	12 14 12.2	0.0
	comp=Z,1.1nm,0.7s,baz=58,slow=12,SNR=5.5						
KSRS	**Korea Array**	**20.95**	**251**	*e*P	Pn	12 14 11.5	-0.7
KSRS	**Korea Array**	**20.95**	**251**	*e*P	Pn	12 14 11.5	-0.7
TIXI	**Tiksi**	**26.86**	**343**	*e*P	**P**	**12 15 07.9**	**+1.3**
TIXI	**Tiksi**	**26.86**	**343**	*e*P	**P**	**12 15 07.9**	**+1.3**
H11N2	**WAKE ISLAND Hy**	**29.79**	**153**	T	T	12 47 04.8	
	baz=340,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**29.81**	**153**	T	T	12 47 10.5	
	baz=340,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**29.81**	**153**	T	T	12 47 09.1	
	baz=340,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**30.89**	**154**	T	T	12 48 23.1	
	baz=341,slow=76,SNR=24						
H11S3	**WAKE ISLAND Hy**	**30.89**	**154**	T	T	12 48 19.6	
	baz=341,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**30.90**	**154**	T	T	12 48 18.9	
	baz=341,slow=76,SNR=26						
SONM	**Songino Array**	**31.09**	**288**	LR	LR	12 29 52.7	
	comp=Z,62nm,18.4s,baz=250,slow=40						
ZALV	**Zalesovo Beam**	**42.22**	**305**	LR	LR	12 36 00.1	
	comp=Z,15nm,19.3s,baz=237,slow=38						
MKAR	**Makanchi Array**	**46.62**	**297**	P	**P**	**12 17 53.7**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=73,slow=1.6,SNR=3.8						
MKAR	**Makanchi Array**	**46.62**	**297**	*e*P	**P**	**12 17 54.4**	**+0.1**
MKAR	**Makanchi Array**	**46.62**	**297**	*e*P	**P**	**12 17 54.4**	**+0.1**
BVAR	**Borovoye Array**	**50.43**	**309**	P	**P**	**12 18 23.5**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=45,slow=6.5,SNR=3.7						
ARCES	**ARCESS Array B**	**57.25**	**341**	P	**P**	**12 19 13.6**	**+0.5**
	comp=Z,2.4nm,1.0s,baz=25,slow=9.4,SNR=4.6						
ARCES	**ARCESS Array B**	**57.25**	**341**	P	**P**	**12 19 13.6**	**+0.5**
ARCES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
NVAR	**Mina Array Bea**	**62.18**	**63**	P	**P**	**12 19 48.6**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=242,slow=1.9,SNR=2.5						
FINES	**FINESS Array B**	**63.46**	**335**	P	**P**	**12 19 55.5**	**0.0**
	comp=Z,1.2nm,0.7s,baz=41,slow=6.1,SNR=5.5						
FINES				LR	LR	12 52 24.4	
	comp=Z,18nm,19.7s,baz=31,slow=41						
FINES	**FINESS Array B**	**63.46**	**335**	P	**P**	**12 19 55.5**	**0.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,18nm,19.7s						
PDAR	**Pinedale Array**	**64.41**	**54**	P	**P**	**12 20 05.1**	**+2.7**
	comp=Z,0.4nm,0.3s,baz=315,slow=0.8,SNR=5.0						
NOA	**NORSAR Array B**	**67.62**	**341**	P	**P**	**12 20 23.3**	**+0.8**
	comp=Z,1.7nm,0.9s,baz=27,slow=6.2,SNR=3.5						
NOA				LR	LR	12 54 59.6	
	comp=Z,9.5nm,20.2s,baz=235,slow=40						
NOA	**NORSAR Array B**	**67.62**	**341**	P	**P**	**12 20 23.3**	**+0.8**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA				MLR	MLR		
	comp=Z,10.0nm,20.2s						
AKASG	**Malin Array Be**	**71.01**	**326**	P	**P**	**12 20 42.2**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=36,slow=6.6,SNR=4.7						
ASAR	**Alice Springs**	**72.79**	**198**	P	**P**	**12 20 55.9**	**+1.5**
	comp=Z,0.3nm,0.8s,baz=3.3,slow=6.5,SNR=3.0						
TXAR	**Lajitas Array**	**77.22**	**61**	P	**P**	**12 21 19.6**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=294,slow=4.5,SNR=3.5						

*ISCJB **10** 12:13:42.4±0.8, 31°14S±0°03×71°7W±0°1, h66km±9km, mb3.7/3, Error ellipse: s-maj=14.4km s-min=5.2km az=179.3*
*IDC **10** 12:13:43.0±0.9, 31°14S×71°70W, h52km±6km, mb3.7/3, mb1 3.7/9, mb1mx3.6/32, mbtmp3.8/9, MS3.8/2, Ms1 3.8/2, ms1mx3.0/20, Error ellipse: s-maj=21.5km s-min=13.0km az=11.0*
*GUC **10** 12:13:43.2±0.7, 31°15S×71°58W, h48km±6km, ML4.5*

ISC 10 12:13:43.0±0.9, 31°14S±0°04×71°7W±0°1, h52km±7km, n19, σ0°64/29, mb3.9/3, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSCH	**La Serena**	**1.29**	**18**	*e*P	**Pn**	**12 14 05.2**	**+0.5**
LSCH				*e*S	**Sn**	**12 14 21.0**	**+0.1**
ROCH	**El Roble**	**1.92**	**162**	⇑*e*P	**Pn**	**12 14 13.8**	**+0.4**
ROCH				*e*S	**Sn**	**12 14 37.5**	**+1.0**
ROCH				AML	AML	12 14 42.8	
	comp=N,5μm,0.5s						
PEL	**Peldehue**	**2.17**	**157**	*e*P	**Pn**	**12 14 17.3**	**+0.5**
PEL				*e*S	**Sn**	**12 14 42.7**	**+0.1**
PEL				AML	AML	12 14 47.0	
	comp=E,5μm,0.2s						
CLCH	**Cerro Calan**	**2.45**	**157**	*e*P	**Pn**	**12 14 20.9**	**+0.2**
CLCH				*e*S	**Sn**	**12 14 50.2**	**+0.7**
CLCH				AML	AML	12 15 03.3	
	comp=E,3μm,0.6s						
SAN	**Santiago**	**2.47**	**159**	*e*P	**Pn**	**12 14 20.9**	**+0.2**
PCH	**Pirque**	**2.67**	**158**	*e*P	**Pn**	**12 14 23.2**	**-0.4**
VACH	**Vallenar**	**2.68**	**18**	*e*P	**Pn**	**12 14 24.4**	**+0.6**
VACH				*e*S	**Sn**	**12 14 55.5**	**+0.4**
CFAA	**Coronel Fontan**	**3.00**	**100**	P	**Pn**	**12 14 28.2**	**+0.2**
	comp=E,7.5nm,0.3s,baz=264,slow=11,SNR=138						
CFAA				S	**Sn**	**12 15 03.8**	**+1.1**
	comp=E,27nm,0.3s,baz=125,slow=19,SNR=9.1						
CFAA				LR	LR	12 15 46.0	
	comp=E,35nm,20.4s,baz=278,slow=41						
LVC	**Limon Verde**	**8.85**	**17**	P	**Pn**	**12 15 50.0**	**+1.5**
LVC	comp=E,16nm,0.3s,baz=213,slow=12,SNR=4.0			LR	LR	12 19 28.8	
	comp=E,345nm,19.3s,baz=199,slow=39						
PLCA	**Paso Flores**	**9.62**	**175**	P	**Pn**	**12 15 59.1**	**+0.3**
	comp=E,0.3nm,0.3s,baz=332,slow=12,SNR=3.1						
CPUP	**Villa Florida**	**13.48**	**73**	P	**Pn**	**12 16 51.5**	**-0.2**
	comp=E,0.2nm,0.3s,baz=243,slow=12,SNR=3.9						
CPUP				LR	LR	12 22 02.2	
	comp=E,689nm,21.7s,baz=188,slow=37						
LPAZ	**La Paz**	**15.14**	**13**	P	**Pn**	**12 17 14.4**	**+0.2**
	comp=E,0.1nm,0.3s,baz=180,slow=5.1,SNR=2.9						
SIV	**San Ignacio**	**17.93**	**35**	P	**Pn**	**12 17 48.6**	**-0.1**
	comp=E,0.7nm,0.3s,baz=222,slow=9.9,SNR=12						
VNDA	**Vanda**	**66.95**	**191**	P	**P**	**12 24 29.8**	**+0.2**
	comp=E,0.8nm,0.9s,baz=119,slow=4.8,SNR=4.3						
DBIC	**Dimbokro**	**74.00**	**72**	P	**P**	**12 25 12.8**	**-0.7**
	comp=E,1.9nm,0.7s,baz=225,slow=4.3,SNR=2.1						
DBIC				pP	**pP**	**12 25 27.4**	**-0.8**
	comp=E,5.4nm,0.9s,baz=224,slow=5.5,SNR=3.1						
TORD	**Torodi Ar. Bea**	**82.97**	**70**	P	**P**	**12 26 02.4**	**-0.5**
	comp=E,1.0nm,0.8s,baz=256,slow=4.5,SNR=5.1						
TORD				pP	**pP**	**12 26 16.6**	**-1.2**
	comp=E,1.7nm,0.6s,baz=281,slow=6.3,SNR=9.9						
WRA	**Warramunga Arr**	**123.39**	**210**	PKP	**PKPdf**	**12 32 34.6**	**-0.4**
	comp=E,0.4nm,0.6s,baz=163,slow=1.7,SNR=11						
ZALV	**Zalesovo Beam**	**151.63**	**30**	PKPbc	**PKPbc**	**12 33 31.6**	**+0.5**
	comp=E,2.3nm,0.6s,baz=292,slow=2.8,SNR=11						
ZALV				pPKPbc	**pPKPbc**	**12 33 47.4**	**+0.8**
	comp=E,1.8nm,0.5s,baz=299,slow=2.8,SNR=8.0						
MKAR	**Makanchi Array**	**154.60**	**45**	PKPbc	**PKPbc**	**12 33 37.7**	**-0.2**
	comp=E,0.2nm,0.3s,baz=243,slow=9.4,SNR=4.4						
MKAR				pPKPbc	**pPKPbc**	**12 33 53.2**	**-0.2**
	comp=E,0.4nm,0.6s,baz=272,slow=7.9,SNR=3.2						

*IDC **10** 12:38:28.5±0.9, 12°58N×144°20E, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.6/34, mbtmp3.6/6, MS3.2/1, Ms1 3.2/1, ms1mx2.5/27, Error ellipse: s-maj=32.8km s-min=15.6km az=117.0*
*ISCJB **10** 12:38:30.9±0.8, 12°6N±0°1×144°1E±0°2, h27km, mb3.6/6, Error ellipse: s-maj=25.9km s-min=9.4km az=34.6*

ISC 10 12:38:32.4±1.0, 12°6N±0°1×144°2E±0°2, h27km, n14, σ0°95/8, mb3.6/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.17**	**33**	Pn	**Pb**	**12 38 53.3**	**-0.7**
	375nm,0.3s,baz=286,slow=5.0,SNR=260						
GUMO				Sn	**Sb**	**12 39 09.1**	**+0.4**
	342nm,0.3s,baz=24,slow=23,SNR=54						
GUMO				LR	LR	12 39 31.7	
	comp=Z,577nm,18.1s,baz=255,slow=53						
JAY	**Jayapura**	**15.42**	**193**	LR	LR	12 48 21.3	
	comp=Z,79nm,18.0s,baz=138,slow=38						
H11S3	**WAKE ISLAND Hy**	**22.42**	**72**	T	T	13 06 35.0	
	baz=258,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hy**	**22.43**	**72**	T	T	13 06 32.1	
	baz=258,slow=75,SNR=10						
H11S2	**WAKE ISLAND Hy**	**22.43**	**72**	T	T	13 06 49.7	
	baz=258,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**22.88**	**69**	T	T	13 07 06.3	
	baz=255,slow=75,SNR=5.2						
H11N2	**WAKE ISLAND Hy**	**22.89**	**69**	T	T	13 07 07.5	
	baz=255,slow=75,SNR=3.6						
H11N3	**WAKE ISLAND Hy**	**22.90**	**69**	T	T	13 07 08.0	
	baz=255,slow=75,SNR=31						
WRA	**Warramunga Arr**	**33.77**	**197**	P	**P**	**12 45 11.7**	**-0.4**
	1.0nm,0.6s,baz=18,slow=9.5,SNR=12						
ASAR	**Alice Springs**	**37.43**	**196**	P	**P**	**12 45 43.5**	**0.0**
	0.6nm,0.6s,baz=20,slow=12,SNR=14						
CMAR	**Chiang Mai Arr**	**43.92**	**284**	P	**P**	**12 46 36.9**	**-0.4**
	0.4nm,0.3s,baz=119,slow=9.0,SNR=5.0						
SONM	**Songino Array**	**47.18**	**326**	P	**P**	**12 47 03.6**	**+0.8**
	0.2nm,0.3s,baz=131,slow=4.0,SNR=2.7						
ILAR	**Eielson Array**	**69.73**	**25**	P	**P**	**12 49 38.7**	**-1.0**
	0.1nm,0.5s,baz=256,slow=5.6,SNR=4.1						
NVAR	**Mina Array Bea**	**88.03**	**51**	P	**P**	**12 51 22.3**	**+1.4**
	0.4nm,0.6s,baz=280,slow=5.4,SNR=3.4						

*ISCJB **10** 12:59:28.2±0.4, 32°34N±0°03×115°36W±0°03, h7km±4km, Error ellipse: s-maj=5.0km s-min=3.5km az=162.0*
*NEIC **10** 12:59:29.7, 32°34N×115°34W, h7km, ML3.0(PAS), ML3.3(ECX), After ECX.*
*ECX **10** 12:59:29.6±0.5, 32°34N×115°33W, h7km, MD3.0, ML3.2*
*MEX **10** 12:59:30.4±0.5, 32°42N×115°19W, h17km±5km, MD3.8*

ISC 10 12:59:28.2±0.9, 32°31N±0°03×115°35W±0°02, h10km±7km, n28, σ0°79/44, 5C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.11**	**22**	*e*P9	**Pg**	**12 59 30.9**	**-0.1**
CPBX				*e*S	**Sg**	**12 59 32.6**	**-0.4**
CPBX				⇑*e*		12 59 35.2	
CPBX				AML	AML	12 59 35.2	
	comp=N,37μm,0.4s						
CPBX				⇓*e*		12 59 35.5	
CPBX				AML	AML	12 59 35.5	
	comp=E,36μm,0.4s						
MBIG	**Mexicali**	**0.16**	**54**	*i* P	**Pg**	**12 59 32.2**	**+0.5**
MBIG				*i* S	**Sg**	**12 59 34.5**	**+0.3**
SGL	**Mount Signal**	**0.46**	**317**	⇓*i*P	**Pg**	**12 59 37.5**	**+0.3**
EMSC	**East Mesa**	**0.53**	**36**	*e*P2		12 59 38.7	
COA	**Coachella**	**0.58**	**19**	⇓*i*P	**Pg**	**12 59 39.7**	**+0.1**
YUH	**Yuha Desert**	**0.59**	**305**	⇓*i*P	**Pg**	**12 59 39.7**	**+0.1**
COK	**Cook Ranch**	**0.62**	**330**	*e*P2	**Pg**	**12 59 40.1**	**-0.2**
RDX	**Rancho Dawling**	**0.63**	**233**	⇑*e*P	**Pg**	**12 59 41.2**	**+0.7**
RDX				*e*S	**Sb**	**12 59 50.6**	**+0.2**
RDX				⇑*e*		12 59 52.1	
	comp=N,775nm,0.3s						
RMX	**La Rumorosa**	**0.68**	**295**	*e*P	**Pg**	**12 59 41.5**	**+0.1**
YMD	**Yuma Desert**	**0.72**	**70**	⇑*e*P	**Pg**	**12 59 41.5**	**-0.7**
CRR	**Carrizo Plain**	**0.77**	**318**	⇓*e*P	**Pg**	**12 59 43.0**	**-0.1**
GLA	**Glamis**	**0.86**	**31**	*e*Pg	**Pg**	**12 59 44.3**	**-0.5**
GLA				*e*Sg	**Sg**	**12 59 55.0**	**-1.1**
ECBX	**El Chinero**	**0.88**	**163**	*e*P9	**Pg**	**12 59 44.0**	**-1.1**
ECBX				*e*S	**Sg**	**12 59 56.2**	**-0.3**
ECBX				⇑*e*		12 59 57.7	
	comp=E,455nm,0.4s						
CBX	**Cerro Bola**	**1.11**	**270**	*i* P	**Pg**	**12 59 49.8**	**+0.2**
CBX				*i* S	**Sb**	**13 00 04.3**	**+0.1**
CBX	**Cerro Bola**	**1.11**	**270**	*i* P	**Pg**	**12 59 49.8**	**+0.2**
CBX				*i* S	**Sb**	**13 00 04.3**	**+0.1**
CBX	**Cerro Bola**	**1.11**	**270**	*e*P	**Pb**	**12 59 49.5**	**-0.1**
CBX				*e*S	**Sb**	**13 00 04.3**	**+0.1**
ZAX	**El Zacaton**	**1.12**	**225**	*e*P	**Pb**	**12 59 49.7**	**0.0**
ZAX				*e*S	**Sg**	**13 00 05.1**	**+1.0**
BAR	**Barrett**	**1.17**	**289**	*e*Pg	**Pb**	**12 59 50.2**	**-0.4**
BAR				*e*Sg	**Sb**	**13 00 05.2**	**-0.8**
ECNX	**Esteban Cantu**	**1.24**	**239**	*e*P	**Pn**	**12 59 51.8**	**0.0**
ECNX				*e*S	**Sn**	**13 00 09.0**	**+0.3**
SPIG	**San Pedro Mart**	**1.27**	**184**	*e*P	**Pn**	**12 59 51.8**	**-0.5**
SPIG				*e*S	**Sb**	**13 00 08.4**	**-0.4**
SPIG	**San Pedro Mart**	**1.27**	**184**	*e*P	**Pn**	**12 59 51.8**	**-0.5**
SPIG				*e*S	**Sb**	**13 00 08.4**	**-0.4**
SPX	**San Pedro Mart**	**1.27**	**184**	*e*P	**Pn**	**12 59 51.9**	**-0.5**
SPX				*e*S	**Sb**	**13 00 08.3**	**-0.6**
SPX	**San Pedro Mart**	**1.27**	**184**	*e*P	**Pn**	**12 59 51.8**	**-0.6**
SPX				*e*S	**Sn**	**13 00 10.1**	**+0.5**
SPX				*e*		13 00 12.9	
	comp=E,279nm,0.3s						
PBX	**Punta Banda**	**1.30**	**244**	*e*P	**Pn**	**12 59 52.6**	**+0.1**
PBX				*e*S	**Sn**	**13 00 10.0**	**+0.1**
PFO	**Pinyon Flats O**	**1.59**	**325**	*e*Pn	**Pn**	**12 59 54.4**	**-2.2**
214A	**Organ Pipe Nat**	**2.19**	**99**	*e*Pn	**Pn**	**13 00 05.8**	**+1.1**
214A				*e*Sn	**Sb**	**13 00 34.4**	**-0.7**
LDFC	**Landfair**	**2.77**	**4**	Pn	**Pn**	**13 00 14.3**	**+1.5**
TUC	**Tucson**	**3.87**	**89**	Pn	**Pn**	**13 00 30.6**	**+2.7**

*IDC **10** 13:05:18.0±0.5, 12°07S×166°30E, h0km, mb4.7/19, mb1 4.8/20, mb1mx4.7/30, mbtmp4.6/20, ML4.3/1, MS4.4/22, Ms1 4.4/22, ms1mx4.3/27, Error ellipse: s-maj=19.4km s-min=12.8km az=91.0*
*ISCJB **10** 13:05:20.6±1.9, 12°10S±0°04×166°25E±0°05, h25km±13km, mb5.0/62, MS4.5/32, Error ellipse: s-maj=8.0km s-min=7.1km az=150.6*
*MOS **10** 13:05:22.2±1.2, 12°08S×166°14E, h35km, mb5.4/25, MS4.6/5, Error ellipse: s-maj=10.7km s-min=7.9km az=34.4*
*GCMT **10** 13:05:24.5±0.2, 12°08S×165°98E, h24km, MW5.2/92, Moment Tensor Solution. s92,c133; s82,c138; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.71±.02; $M_{\theta\theta}$0.02±.01; $M_{\phi\phi}$-0.73±.01; $M_{r\theta}$0.19±.04; $M_{\theta\phi}$0.23±.01; $M_{\phi r}$-0.46±.03; Best double couple: $M

QLP Quilpie 25.27 232 P **P** **13 10 46.9 +0.1**
baz=26,SNR=6.0
QLP S S 13 15 01.7 -8.1
baz=26,SNR=4.0
QIS Mount Isa 26.94 248 P P 13 11 09.0 +6.9
baz=28,SNR=3.9
CMSA Cobar Meteorol 27.13 221 P **P** **13 11 06.0 +2.3**
baz=28,SNR=17
URZ Urewera 27.80 162 P **P** **13 11 10.7 +1.1**
comp=Z,12nm,0.9s,baz=338,slow=3.9,SNR=2.6
STKA Stephens Creek 30.08 225 P **P** **13 11 31.1 +1.2**
comp=Z,5.7nm,0.7s,baz=56,slow=11,SNR=6.4
STKA PcP **PcP** **13 14 30.8 -0.2**
comp=Z,6.8nm,0.9s,baz=162,slow=3.8,SNR=3.1
STKA LR LR 13 22 55.7
comp=Z,2µm,20.6s,baz=54,slow=35
STKA Stephens Creek 30.08 225 P **P** **13 11 30.5 +0.5**
STKA 13 14 30.8
STKA pmax pmax
comp=Z,6.0nm,1.1s
STKA Stephens Creek 30.08 225 P **P** **13 11 30.5 +0.5**
comp=Z,6.2nm,1.1s
STKA PcP **PcP** **13 14 30.8 -0.2**
TOO Toolangi 31.49 213 P **P** **13 11 44.5 +2.2**
baz=32,SNR=4.8
WRAB Tennant Creek 31.64 252 *e*P **P** **13 11 41.1 -2.8**
WRAB pmax pmax
comp=Z,84nm,2.5s
WRAB Tennant Creek 31.64 252 *e*P **P** **13 11 41.3 -2.6**
WRA Warramunga Arr 31.66 252 P **P** **13 11 42.0 -2.0**
comp=Z,1.9nm,0.8s,baz=80,slow=9.2,SNR=12
WRA PcP **PcP** **13 14 35.3 -0.1**
comp=Z,14nm,0.9s,baz=80,slow=3.1,SNR=25
WRA ScP **ScP** **13 18 17.8 +2.6**
comp=Z,2.5nm,1.1s,baz=81,slow=4.6,SNR=5.6
WRA LR LR 13 24 02.9
comp=Z,834nm,18.4s,baz=70,slow=36
RPZ Rata Peaks 31.79 173 P **P** **13 11 44.1 -0.7**
comp=Z,18nm,0.8s,baz=13,slow=4.0,SNR=10
RPZ LR LR 13 23 44.3
comp=Z,788nm,18.8s,baz=346,slow=35
AS31 Alice Springs 32.83 245 *e*P **P** **13 11 51.8 -2.4**
ASAR Alice Springs 32.83 245 P **P** **13 11 52.2 -2.1**
comp=Z,4.0nm,0.8s,baz=67,slow=9.4,SNR=36
ASAR PcP **PcP** **13 14 38.8 +0.2**
comp=Z,14nm,0.9s,baz=80,slow=3.3,SNR=25
ASAR ScP **ScP** **13 18 23.2 +4.0**
comp=Z,2.0nm,1.0s,baz=79,slow=3.9,SNR=5.1
ASAR LR LR 13 24 18.3
comp=Z,718nm,19.6s,baz=84,slow=35
KDU Kakadu 33.03 265 P **P** **13 11 55.1 -1.0**
baz=34,SNR=7.1
GUMO Guam 33.20 320 LR LR 13 25 45.5
comp=Z,792nm,19.6s,baz=92,slow=37
KNRA Kununurra 36.58 260 P **P** **13 12 28.3 +1.6**
baz=37,SNR=9.5
WRKA Warakurna 38.12 245 P **P** **13 12 38.8 -1.0**
baz=39,SNR=8.4
FITZ Fitzroy Crossi 39.65 256 P P 13 12 56.0 +3.5
baz=40,SNR=7.2
TNTI Ternate 40.71 286 P **P** **13 13 02.1 +0.8**
comp=Z,121nm,1.4s
PPT Papeete 42.93 103 LR LR 13 27 57.1
comp=Z,827nm,19.3s,baz=272,slow=32
PPT2 Papeete2 42.93 103 *e*S S 13 19 49.2 +7.4
comp=Z,540nm,26.2s
PPT2 *e*LQ LQ 13 23 28.8
comp=Z,2µm,27.2s
PPT2 *e*LR LR 13 25 18.9
comp=Z,916nm,22.0s,baz=273
TBI Tubuai 43.45 111 *e*S S 13 19 57.3 +8.2
comp=Z,350nm,27.8s
TBI *e*LQ LQ 13 23 51.4
comp=Z,1µm,32.8s
TBI *e*LR LR 13 25 33.8
comp=Z,530nm,22.2s,baz=283
MBWA Marble Bar 45.39 252 *e*P **P** **13 13 38.9 -0.3**
comp=Z,8.7nm,1.1s
KAPI Kappang 46.51 275 LR LR 13 36 48.3
comp=Z,146nm,18.2s,baz=115,slow=41
MEEK Meekatharra 46.99 245 P **P** **13 13 51.4 -0.4**
baz=48,SNR=8.1
MORW Morawa 49.61 242 P P 13 14 17.2 +5.3
baz=50,SNR=4.5
KKM Kota Kinabalu 52.95 287 P **P** **13 14 38.4 +1.2**
baz=54,SNR=4.3
KKM Kota Kinabalu 52.95 287 *e*P **P** **13 14 37.4 +0.2**
comp=Z,71nm,1.2s
MJAR Matsushiro Arr 55.13 332 P **P** **13 14 51.7 -0.9**
comp=Z,8.9nm,1.1s,baz=162,slow=7.2,SNR=18
MAJO Matsushiro 55.13 332 *e*P **P** **13 14 50.9 -1.7**
MAJO pmax pmax
comp=Z,46nm,1.6s
MAJO Matsushiro 55.13 332 *e*P **P** **13 14 50.9 -1.7**
comp=Z,46nm,1.6s
MAT Matsushiro 55.13 332 P **P** **13 14 51.8 -0.8**
MAT S **S** **13 22 33.4 +0.9**
JNU Nakatsue 56.23 324 P **P** **13 15 00.9 +0.4**
comp=Z,46nm,1.0s,baz=129,slow=2.6,SNR=11
JNU Nakatsue 56.23 324 *e*P **P** **13 15 01.3 +0.8**
RKT Rikitea 56.73 110 *e*LR LR 13 31 51.5
comp=Z,488nm,26.0s
KSM Kuching 57.21 280 P **P** **13 15 08.6 +0.8**
KSM baz=58,SNR=5.1 S S 13 23 07.5 +6.8
baz=58,SNR=3.7
KSM Kuching 57.21 280 *e*P **P** **13 15 08.0 +0.1**
comp=Z,19nm,1.1s
ERM Erimo 57.89 340 *e*P **P** **13 15 12.5 +0.5**
ERM pmax pmax
comp=Z,18nm,1.7s
LEM Lembang 58.03 269 LR LR 13 42 27.3
comp=Z,209nm,18.2s,baz=92,slow=38
YUK Yuzh-Kuril'sk 58.87 343 *e*P P 13 15 22.9 +4.1
YUK *i*S **S** **13 23 16.6 -4.7**
YUK *e*SS **SS** **13 27 13.4 -2.3**
KSULJ Uljin 59.67 326 P **P** **13 15 25.7 +1.2**
SNR=7.2
KSTBA Taebaek 60.23 326 P **P** **13 15 29.6 +1.1**
SNR=18
KSBON Boeun 60.42 325 P **P** **13 15 30.7 +1.0**
SNR=6.7
KSCHJ Chungju 60.59 325 P **P** **13 15 31.7 +0.9**
SNR=8.4
KSDGY Daegwallycong 60.79 326 P **P** **13 15 33.7 +1.4**
SNR=14
KSJMJ Jumunjin 60.89 327 P **P** **13 15 34.0 +1.2**
SNR=9.7
KSCEA Cheonan 60.95 325 P **P** **13 15 34.0 +0.7**
SNR=6.6
KSRS Korea Array 61.03 326 P **P** **13 15 33.7 -0.1**
comp=Z,11nm,0.8s,baz=137,slow=7.1,SNR=43
KSRS LR LR 13 39 17.1
comp=Z,142nm,21.3s,baz=130,slow=33
KSAR Wonju Array Be 61.04 326 P **P** **13 15 33.7 -0.2**
KSAR Wonju Array Be 61.04 326 P **P** **13 15 33.7 -0.2**
KSIJA INJE 61.31 326 P **P** **13 15 37.0 +1.3**
SNR=10.0
KSCWO Cheorwon 61.71 326 P **P** **13 15 39.9 +1.5**
SNR=7.9
KSMUS Musan 61.99 325 P **P** **13 15 41.4 +1.2**
SNR=8.2
YNCB YEONCHEON 62.00 325 P **P** **13 15 41.8 +1.4**
SNR=9.3
YSS Yuzh-Sakhalins 62.43 342 *e*P **P** **13 15 43.0 0.0**
YSS pmax pmax
comp=Z,26nm,1.7s
NJ2 Nanjing 63.13 315 *e*P **P** **13 15 47.7 -0.3**
NJ2 S **S** **13 24 15.0 -1.1**
NJ2 PMZ
comp=Z,40nm,0.6s
NJ2 PMZ
comp=Z,860nm,11.4s
NJ2 LN
comp=Z,390nm,20.2s
NJ2 LE
comp=Z,710nm,19.6s
NJ2 LZ
comp=Z,5µm,23.4s
QIZ Qiongzhong 63.64 298 P **P** **13 15 52.2 +0.5**
QIZ sP **sP** **13 16 08.8 -1.0**
QIZ PP **PP** **13 18 12.3 +0.1**
QIZ S **S** **13 24 23.3 +0.3**
QIZ sS **sS** **13 24 43.8 -0.7**
QIZ PMZ
comp=Z,61nm,2.4s
USRK Ussuriysk Ar. 64.11 333 P **P** **13 15 54.2 0.0**
comp=Z,20nm,1.0s,baz=144,slow=6.8,SNR=18
USRK LR LR 13 40 53.9
comp=Z,236nm,21.8s,baz=140,slow=33
PETK Petropavlovsk- 65.34 354 LR LR 13 39 31.1
comp=Z,204nm,20.9s,baz=175,slow=31
VNDA Vanda 65.47 181 P **P** **13 16 02.7 0.0**
comp=Z,13nm,0.9s,baz=356,slow=6.9,SNR=48
VNDA LR LR 13 42 17.4
comp=Z,214nm,18.1s,baz=2.5,slow=34
VNDA Vanda 65.47 181 *e*P **P** **13 16 02.2 -0.5**
VNDA pmax pmax
comp=Z,55nm,1.4s
VNDA Vanda 65.47 181 *e*P **P** **13 16 02.2 -0.5**
comp=Z,55nm,1.4s
WHN Wuhan 65.48 312 ⇑P **P** **13 16 05.7 +2.3**
WHN S **S** **13 24 44.5 -0.7**
WHN LZ
comp=Z,930nm,23.1s
MDJ Mudanjiang 65.51 332 P **P** **13 16 04.0 +0.7**
MDJ pP **pP** **13 16 15.8 -0.5**
MDJ sP **sP** **13 16 19.3 -2.2**
MDJ PcP **PcP** **13 16 30.2 -4.6**
MDJ S **S** **13 24 46.4 +1.3**
MDJ ScS **SKSac** **13 25 49.6 -5.4**
MDJ PMZ
comp=Z,24nm,1.9s
MDJ PMZ
comp=Z,140nm,7.8s
MDJ LN
comp=Z,160nm,25.8s
MDJ LE
comp=Z,130nm,23.4s
MDJ LZ
comp=Z,170nm,23.4s
MDJ Mudanjiang 65.51 332 *e*P **P** **13 16 04.1 +0.7**
comp=Z,47nm,1.4s
CASY Casey 65.62 202 *e*P **P** **13 16 01.4 -2.3**
comp=Z,42nm,1.3s
SBA Scott Base 65.77 180 *e*P **P** **13 16 04.8 +0.2**
SBA pmax pmax
comp=Z,71nm,1.0s
SBA Scott Base 65.77 180 *e*P **P** **13 16 04.8 +0.2**
comp=Z,71nm,1.0s
HABR Khabarovsk 66.34 338 *e*P **P** **13 16 06.8 -1.8**
HABR *e**PP **pP** **13 16 17.1 -4.5**
HABR *e*SP 13 16 21.3
HABR *e* 13 16 36.5
HABR 13 20 08.9
HABR *e*S **S** **13 24 54.3 -0.7**
HABR *e*SS **SPn** **13 25 12.4 -1.6**
HABR *e* 13 26 01.0
HABR *e*SS **SS** **13 29 10.3 -2.1**
HABR pmax pmax
comp=N,37nm,2.2s
HABR pmax pmax
comp=E,68nm,3.0s
HABR pmax pmax
comp=Z,83nm,2.2s
HABR MLR MLR
comp=Z,259nm,18.0s
TIA Tai'an 66.74 318 ⇓P **P** **13 16 12.2 +0.7**
TIA PMZ
comp=Z,20nm,1.2s
TIA PMZ
comp=Z,210nm,6.9s
TIA LN
comp=Z,280nm,16.8s
TIA LE
comp=Z,400nm,20.9s
TIA LZ
comp=Z,470nm,22.9s
CN2 Changchun 66.90 329 ⇑P **P** **13 16 13.0 +0.7**
CN2 *e*sP **sP** **13 16 31.5 +1.1**
CN2 *e*S **S** **13 25 01.7 -0.3**
CN2 PMZ
comp=Z,50nm,1.0s
CN2 LN
comp=Z,350nm,17.0s
CN2 LE
comp=Z,210nm,17.0s
CN2 LZ
comp=Z,260nm,12.0s
IPM Ipoh 66.93 280 *e*P **P** **13 16 13.2 +0.1**
comp=Z,26nm,1.1s
SKNT Sakolnakorn 68.00 294 P **P** **13 16 20.8 +1.0**
comp=Z,33nm,0.9s
KLR Kul'dur 68.22 336 *e*P P 13 16 17.2 -3.3
KLR pmax pmax
comp=Z,50nm,1.8s
PSI Prapat 68.55 278 LR LR 13 49 36.1
comp=Z,124nm,18.3s,baz=122,slow=39
ENH Enshi 68.97 309 *e*P **P** **13 16 25.7 +0.1**
GYA Guiyang 69.44 304 P **P** **13 16 30.2 +1.4**
GYA pP **pP** **13 16 43.8 +1.9**
GYA sP **sP** **13 16 50.4 +3.4**
GYA PP **PP** **13 19 06.3 +3.4**
GYA S **S** **13 25 33.6 +0.3**
GYA sS **sS** **13 25 55.6 +0.5**
GYA SKS **SKSac** **13 26 22.2 -3.8**
GYA SS **SS** **13 30 03.0 +1.4**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,5.0s
GYA LN
comp=Z,670nm,19.2s
GYA LE
comp=Z,580nm,20.0s
GYA LZ
comp=Z,650nm,18.8s
BJI Beijing 69.62 321 P **P** **13 16 30.7 +1.3**
BJI S **S** **13 25 37.6 +3.1**
BJI PMZ
comp=Z,52nm,1.0s
BJI PMZ
comp=Z,160nm,3.8s
BJI LN
comp=Z,320nm,23.9s
BJI LE
comp=Z,270nm,23.2s
BJI LZ
comp=Z,370nm,25.9s
PBKT Sadao Pong 70.57 292 P P 13 16 43.5 +7.8
XAN Xi'an 71.21 312 P **P** **13 16 40.0 +0.7**
XAN pP **pP** **13 16 52.3 -0.2**
XAN PP **PP** **13 19 18.5 +0.6**
XAN S **S** **13 25 55.9 +2.4**
XAN SS **SS** **13 30 31.2 +2.8**
XAN PMZ
comp=Z,7.0nm,1.5s
XAN PMZ
comp=Z,25nm,6.4s
XAN LN
comp=Z,99nm,14.4s
XAN LE
comp=Z,99nm,18.7s
XAN LZ
comp=Z,95nm,21.2s
NANT Nan 71.57 295 P **P** **13 16 44.2 +2.5**
comp=Z,18nm,1.1s,comp=Z,851nm
KMI Kunming 72.12 301 P **P** **13 16 46.5 +1.3**
KMI pP **pP** **13 17 00.3 +2.0**
KMI sP **sP** **13 17 04.7 +1.3**
KMI PP **PP** **13 19 29.2 +3.2**
KMI S **S** **13 26 03.1 -1.5**
KMI sS **sS** **13 26 25.8 -0.8**
KMI SS **SS** **13 30 42.6 -0.3**
KMI PMZ
comp=Z,14nm,1.0s
KMI LN
comp=Z,190nm,13.0s
KMI LE
comp=Z,240nm,18.1s
KMI LZ
comp=Z,260nm,17.2s
CRAI Chiangrai 72.35 296 P **P** **13 16 43.8 -2.6**
comp=Z,7.5nm,1.1s
LAMP Lampang 72.42 294 P P 13 16 51.2 +4.3
comp=Z,5.9nm,0.8s
HHC Hu-ho-hao-te 72.97 320 *e*P **P** **13 16 52.8 +3.0**
HHC PP **PP** **13 19 37.8 +5.0**
HHC S **SKiKP** **13 26 17.8 -1.4**
HHC sS **sS** **13 26 33.9 -1.5**
HHC PMZ
comp=Z,18nm,0.9s
HHC PMZ
comp=Z,100nm,7.5s
HHC LN
comp=Z,320nm,16.7s
HHC LE
comp=Z,310nm,17.2s
HHC LZ
comp=Z,350nm,21.6s
CMAR Chiang Mai Arr 73.02 294 P **P** **13 16 51.5 +1.0**
comp=Z,4.1nm,0.8s,baz=124,slow=4.6,SNR=16
CMAR LR LR 13 48 36.5
comp=Z,68nm,19.6s,baz=120,slow=36
CHTO Chiang Mai 73.14 294 *e*P **P** **13 16 50.8 -0.3**
CHTO pmax pmax
comp=Z,11nm,1.1s
CHTO Chiang Mai 73.14 294 *e*P **P** **13 16 50.8 -0.3**
comp=Z,11nm,1.1s
CMAI Chiengmai2 73.42 295 P **P** **13 16 54.6 +1.7**
comp=Z,8.0nm,1.1s
HIA Hailar 73.53 330 *e*P **P** **13 16 53.3 +0.5**
HIA pmax pmax
comp=Z,63nm,1.3s
HIA Hailar 73.53 330 *e*P **P** **13 16 53.3 +0.5**
comp=Z,63nm,1.3s
CD2 Chengdu 73.66 307 *e*P **P** **13 16 55.4 +1.4**
CD2 pP **pP** **13 17 08.0 +0.8**
CD2 PP **PP** **13 19 40.4 +1.5**
CD2 S **S** **13 26 25.4 +3.8**
CD2 ScS **ScS** **13 26 59.2 -0.9**
CD2 PMZ
comp=Z,30nm,1.3s
CD2 PMZ
comp=Z,180nm,7.1s
CD2 LN
comp=Z,310nm,13.1s
CD2 LE
comp=Z,250nm,13.1s
CD2 LZ
comp=Z,310nm,20.2s
BTO Baotou 73.82 319 *e*P **P** **13 16 56.1 +1.3**
SEY Seymchan 75.56 353 *e*P **P** **13 17 04.1 -0.1**
LZH Lanzhou 75.85 312 *e*P **P** **13 17 09.6 +2.9**
LZH PcP **PcP** **13 17 20.6 +1.5**
LZH pP **pP** **13 17 23.1 +3.2**
LZH sP **sP** **13 17 28.9 +3.9**
LZH *e*S **S** **13 26 46.6 +0.5**
LZH sS **sS** **13 27 07.2 -1.0**
LZH PMZ
comp=Z,110nm,1.4s
LZH PMZ
comp=Z,190nm,4.6s
LZH LN
comp=Z,1µm,17.1s
LZH LE
comp=Z,1µm,18.6s
LZH LZ
comp=Z,1µm,19.8s
CIT Chita 78.32 330 *e*P **P** **13 17 21.4 +1.3**
CIT *e* 13 17 35.8
CIT pmax pmax
comp=Z,190nm,1.4s
YAK Yakutsk 79.24 343 *e*P **P** **13 17 23.0 -1.8**
YAK *e* 13 17 31.8
YAK *e**PP **PcP** **13 17 34.4 +1.5**
YAK *e* 13 20 21.8
YAK *e*S **S** **13 27 20.9 -0.3**
YAK *e*SS **SKSac** **13 27 35.1 -1.7**
YAK *e* 13 27 40.8
YAK pmax pmax
comp=Z,6.0nm,0.9s
YAK pmax pmax
comp=Z,38nm,2.7s
YAK smax smax
comp=N,50nm,4.1s
YAK smax smax
comp=E,86nm,3.8s
YAK MLR MLR
comp=E,267nm,17.0s
YAK MLR MLR
comp=Z,639nm,18.0s
YAK MLR MLR
comp=N,429nm,21.0s
ULN Ulaanbaatar 79.45 324 *c i*P **P** **13 17 27.5 +1.0**
ULN pmax pmax
comp=Z,114nm,1.4s
ULN Ulaanbaatar 79.45 324 *e*P **P** **13 17 27.5 +1.0**
comp=Z,67nm,1.0s
SONM Songino Array 79.82 324 P **P** **13 17 29.4 +0.9**
comp=Z,21nm,1.0s,baz=138,slow=5.8,SNR=85
SONM LR LR 13 49 10.2
comp=Z,185nm,21.9s,baz=94,slow=33
GTA Gaotai 80.16 314 ⇑P **P** **13 17 32.2 +1.7**
GTA pP **pP** **13 17 45.5 +1.7**
GTA sP **sP** **13 17 50.6 +1.7**
GTA S **S** **13 27 36.7 +4.4**
GTA SKS **SKSac** **13 27 42.4 -2.3**
GTA PMZ
comp=Z,53nm,1.2s
GTA PMZ
comp=Z,230nm,6.1s
GTA LN
comp=Z,170nm,20.0s
GTA LE
comp=Z,240nm,20.4s
GTA LZ
comp=Z,270nm,19.0s
BOD Bodaibo 81.69 335 *e*P **P** **13 17 37.9 -0.2**
BOD pmax pmax
comp=Z,14nm,1.5s
KTH Kantishna Hill 82.21 18 *e*P **P** **13 17 41.6 +0.8**
comp=Z,6.1nm,1.0s
ZAK Zakamensk 82.86 325 ⇓*i*P **P** **13 17 44.3 -0.2**
ZAK pmax pmax
comp=Z,27nm,1.4s
IRK Irkutsk 83.22 327 *e*P **P** **13 17 45.2 -1.0**
IRK pmax pmax
comp=Z,57nm,1.7s
TLY Talaya 83.28 326 P **P** **13 17 47.3 +0.8**
comp=Z,208nm,1.1s,SNR=7.3
TLY Talaya 83.28 326 *e*P **P** **13 17 47.3 +0.8**
TLY *e*S **S** **13 27 58.7 -5.0**
TLY pmax pmax
comp=Z,51nm,1.2s
TLY MLR MLR
comp=Z,128nm,19.0s
TLY Talaya 83.28 326 *e*P **P** **13 17 47.1 +0.6**
comp=Z,56nm,1.3s
MAW Mawson 83.97 202 P **P** **13 17 48.7 -1.1**
comp=Z,12nm,1.0s,baz=91,slow=5.9,SNR=12
MAW LR LR 13 51 56.7
comp=Z,126nm,18.2s,baz=66,slow=33
MAW Mawson 83.97 202 *e*P **P** **13 17 49.9 +0.1**
MAW Mawson 83.97 202 P **P** **13 17 50.1 +0.3**
baz=84,SNR=4.9
MAW Mawson 83.97 202 *e*P **P** **13 17 49.9 +0.1**
COLA College 84.10 18 *e*P **P** **13 17 49.6 -0.7**
ILAR Eielson Array 84.32 18 P **P** **13 17 50.1 -1.4**
comp=Z,2.9nm,0.8s,baz=232,slow=4.4,SNR=16
ILAR PKKP **PKKPdf** **13 36 02.6 +3.5**
comp=Z,0.4nm,0.9s,baz=328,slow=1.8,SNR=4.2
ILAR LR LR 13 55 35.8
comp=Z,210nm,18.1s,baz=212,slow=36
DOT Dot Lake 84.46 20 *e*P **P** **13 17 51.0 -1.3**
comp=Z,13nm,1.1s
MOY Mondy 84.73 325 *e*P **P** **13 17 54.3 +0.2**
MOY pmax pmax
comp=Z,47nm,2.6s
TAPN Taplejung 85.58 299 *e*P **P** **13 17 59.3 +0.2**
ODAN Odare 85.72 298 *e*P **P** **13 18 00.3 +0.6**
EGAK Eagle 86.16 20 *e*P **P** **13 18 00.2 -0.5**
comp=Z,8.4nm,0.9s
NVAR Mina Array Bea 86.28 50 P **P** **13 18 02.4 +0.2**
comp=Z,0.6nm,0.7s,baz=233,slow=8.5,SNR=5.6
RAMN Ramite 86.42 298 *e*P **P** **13 18 03.4 +0.2**
JIRN Jiri 86.96 299 *e*P **P** **13 18 06.4 +0.4**
TIXI Tiksi 87.20 349 *e*P **P** **13 18 05.3 -0.4**
TIXI pmax pmax
comp=Z,6.0nm,1.7s
TIXI Tiksi 87.20 349 P **P** **13 18 03.2 -2.5**
comp=Z,3.5nm,1.1s
GUN Gumba 87.29 299 *e*P **P** **13 18 07.8 +0.2**
PKI Pulchoki 87.61 299 *e*P **P** **13 18 09.1 0.0**
PKIN Phulchoki 87.62 299 *e*P **P** **13 18 09.3 +0.3**
KKN Kakani 87.77 299 *e*P **P** **13 18 09.9 +0.2**
DMN Daman 87.88 299 *e*P **P** **13 18 10.6 +0.3**
comp=Z,117nm,1.2s

GKN	Gorkha	88.38	299	*e*P		P	13 18 12.3	-0.2
KOLN	Koldanda	89.21	298	*e*P		P	13 18 16.2	-0.3
	comp=Z,24nm,1.0s							
WMQ	Urumqi	90.20	315	P		P	13 18 21.3	+0.7
WMQ				pP		pP	13 18 31.9	-2.2
WMQ				sP		sP	13 18 35.8	-3.3
WMQ				PP		PP	13 21 57.6	+2.7
WMQ				SKS		SKSac	13 28 47.8	-0.4
WMQ				S		S	13 29 09.4	-1.8
WMQ				sS		sS	13 29 28.0	-5.9
WMQ				SS		SS	13 35 13.3	+1.7
WMQ				PMZ				
	comp=Z,54nm,1.0s							
WMQ				PMZ				
	comp=Z,220nm,5.0s							
WMQ				LN				
	comp=Z,120nm,21.8s							
WMQ				LE				
	comp=Z,150nm,20.8s							
WMQ				LZ				
	comp=Z,160nm,21.0s							
HLID	Hailey	90.61	46	*e*P		P	13 18 22.0	-0.6
	comp=Z,2.4nm,0.9s							
SYO	Syowa Base	90.96	197⇑	*e*P		P	13 18 21.7	-1.8
PDAR	Pinedale Array	93.85	47	P		P	13 18 37.7	0.0
	comp=Z,0.4nm,0.9s,baz=289,slow=2.8,SNR=3.1							
PDAR				LR		LR	13 55 54.3	
	comp=Z,287nm,19.3s,baz=259,slow=32							
MK31	Makanchi Array	94.64	317	*e*P		P	13 18 41.1	+0.1
MK31	Makanchi Array	94.64	317	*e*P		P	13 18 41.1	+0.1
MKAR	Makanchi Array	94.64	317	P		P	13 18 41.4	+0.4
	comp=Z,29nm,0.8s,baz=132,slow=1.8,SNR=243							
MKAR				LR		LR	13 59 54.1	
	comp=Z,129nm,22.0s,baz=90,slow=35							
ZAA0	Zalesovo Array	94.71	324	*e*P		P	13 18 40.0	-1.1
ZALV	Zalesovo Beam	94.71	324	P		P	13 18 40.2	-0.8
	comp=Z,14nm,0.9s,baz=108,slow=4.8,SNR=53							
ZALV				LR		LR	13 59 35.7	
	comp=Z,166nm,21.8s,baz=68,slow=34							
NVL	N'lazarevskaya	95.53	188	*i* P		P	13 18 36.1	-8.4
NVL				*e**PP		pP	13 18 53.8	-4.3
NVL				*e*			13 29 47.5	
NVL				*e*SP		SP	13 31 28.5	+14
NVL				pmax		pmax		
	comp=Z,21nm,1.1s							
YKA	Yellowknife Ar	95.64	27	P		P	13 18 45.3	+0.2
	comp=Z,0.5nm,0.8s,baz=258,slow=4.6,SNR=7.2							
NVS	Novosibirsk	95.81	325⇑	*i* P		P	13 18 45.4	-0.6
NVS				pmax		pmax		
	comp=Z,40nm,2.0s							
NVS				pmax		pmax		
	comp=N,6.0nm,1.7s							
NVS				pmax		pmax		
	comp=E,15nm,1.7s							
TXAR	Lajitas Array	95.85	61	LR		LR	13 55 10.7	
	comp=E,293nm,19.8s,baz=0.0,slow=31							
SNAA	Sanae	96.12	183	P		P	13 18 46.3	-1.1
SNAA	Sanae	96.12	183	*i* P		P	13 18 46.4	-1.0
SNAA				pmax		pmax		
	comp=Z,22nm,1.2s							
SNAA	Sanae	96.12	183	*e*P		P	13 18 45.8	-1.6
	comp=Z,28nm,1.4s							
VNA3	Neumayer Olymp	96.83	181	P		P	13 18 49.1	-1.4
VNA2	Neumayer--Watz	97.08	182	P		P	13 18 50.5	-1.1
	baz=139,slow=4.7							
VNA1	Neumayer--Stat	97.38	182	P		P	13 18 52.0	-0.9
KURK	Kurchatov	97.78	320	*e*P		P	13 18 53.7	-1.3
KURK				pmax		pmax		
	comp=Z,18nm,1.5s							
KURK	Kurchatov	97.78	320	*e*P		P	13 18 53.7	-1.3
	comp=Z,18nm,1.5s							
KSH	Kashi	97.82	309	P		Pdif	13 18 57.2	+1.4
KSH				sP		sP	13 19 15.9	+1.6
KSH				PP		PP	13 22 59.3	+4.7
KSH				SKS		SKSac	13 29 29.9	-0.1
KSH				S		S	13 30 16.8	-1.8
KSH				SS		SS	13 37 03.6	+3.0
KSH				PMZ				
	comp=Z,86nm,5.5s							
KSH				LN				
	comp=Z,110nm,7.6s							
KSH				LE				
	comp=Z,67nm,6.3s							
KSH				LZ				
	comp=Z,190nm,5.4s							
TKM2	Tokmak 2	98.62	312	*e*P		P	13 18 58.9	-0.4
TKM2				pmax		pmax		
	comp=Z,3.0nm,0.8s							
TKM2	Tokmak 2	98.62	312	*e*P		P	13 18 58.9	-0.4
	comp=Z,2.5nm,0.8s							
AAK	Ala-Archa	99.38	312	*e*P		Pdif	13 19 02.9	+0.2
AAK				pmax		pmax		
	comp=Z,11nm,1.2s							
ARCES	ARCESS Array B	117.47	345	PKP		PKPdf	13 24 04.2	-0.7
	comp=Z,1.0nm,0.7s,baz=64,slow=2.8,SNR=14							
ZEI	Tsey	121.77	313	*e*PKIKP		PKPdf	13 24 12.7	-1.6
ZEI				pmax		pmax		
	comp=Z,4.0nm,0.9s							
GOF	Gofitskoye	121.79	316	*e*PKIKP		PKPdf	13 24 11.0	-3.0
OBN	Obninsk	121.96	329⇑	*e*PKIKP		PKPdf	13 24 14.4	+0.5
OBN				*i*			13 25 44.4	
OBN				*i* PPP		PPP	13 28 21.6	
OBN				*e*			13 31 21.8	
OBN				pmax		pmax		
	comp=Z,4.0nm,1.0s							
KBZ	Khabaz	122.25	314	PKP		PKPdf	13 24 14.6	-0.2
	comp=Z,2.1nm,0.9s,baz=236,slow=24,SNR=4.5							
KIV	Kislovodsk	122.34	315	*i* PKIKP		PKPdf	13 24 15.2	0.0
KIV				*e*			13 25 50.7	
KIV				*e*PS		PS	13 35 46.4	-0.5
KIV				*e*SS		SS	13 42 29.2	+0.7
KIV				pmax		pmax		
	comp=Z,3.0nm,0.9s							
KIV				MLR		MLR		
	comp=Z,142nm,20.0s							
RAYN	Ar Rayn	122.83	290	*e*PKPdf		PKPdf	13 24 16.9	+0.2
FINES	FINESS Array B	122.93	339	PKP		PKPdf	13 24 15.1	-0.6
	comp=Z,3.3nm,1.0s,baz=197,slow=2.0,SNR=7.4							
KMBO	Kilima Mbogo	127.73	259	PKP		PKPdf	13 24 27.7	+1.1
	comp=Z,8.2nm,1.0s,baz=74,slow=6.9,SNR=8.6							
KMBO	Kilima Mbogo	127.73	259	PKP		PKPdf	13 24 27.7	+1.1
KMBO				*e*PKPdf		PKiKP	13 24 28.2	+1.0
AKASG	Malin Array Be	128.02	327	PKP		PKPdf	13 24 25.6	-0.1
	comp=Z,0.2nm,0.2s,baz=57,slow=1.9,SNR=9.9							
KIEV	Kiev	128.03	327	*e*PKIKP		PKPdf	13 24 24.4	-1.3
BRTR	Keskin Array B	130.06	312	PKP		PKPdf	13 24 30.2	0.0
	comp=Z,1.2nm,0.8s,baz=180,slow=5.3,SNR=3.7							
BRTR				SKPbc		SKPbc	13 27 54.1	+4.7
	comp=Z,1.1nm,0.9s,baz=118,slow=4.8,SNR=5.3							
BRTR	Keskin Array B	130.06	312	*i* PKIKP		PKPdf	13 24 32.0	+1.8
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
BUR08	Bucovina Ar. S	131.91	325	*e*PKPdf		PKPdf	13 24 34.7	+1.4
OKC	Ostrava-Krasne	134.14	332	AMS		AMS	14 29 50.0	
	comp=Z,200nm,16.3s							
VYHS	Vyhne	134.73	330	*e*PKIKP		PKPdf	13 24 39.3	+0.7
VYHS	Vyhne	134.73	330	*e*PKP		PKPdf	13 24 39.2	+0.7
GOPC	GO Pecny, Ondr	135.59	334	AMS		AMS	14 26 10.0	
	comp=Z,200nm,20.3s							
PRU	Pruhonice	135.65	334	AMS		AMS	14 26 50.0	
	comp=Z,200nm,18.4s							
TREC	Trest	135.75	333	AMS		AMS	14 25 20.0	
	comp=Z,300nm,17.8s							
NKC	Novy Kostel	136.32	336	AMS		AMS	14 29 20.0	
	comp=Z,200nm,16.6s							
KHC	Kasperske Hory	136.70	334	*e*PKPdf		PKPdf	13 24 43.5	+1.3
KHC				AMS		AMS	14 23 50.0	
	comp=Z,300nm,22.7s							
KHC	Kasperske Hory	136.70	334	*e*PKIKP		PKPdf	13 24 43.5	+1.3
KHC				MLR		MLR		
	comp=Z,300nm,22.7s							
GERES	GERESS Array B	136.87	334	PKP		PKPdf	13 24 42.5	-0.1
	comp=Z,0.3nm,0.3s,baz=46,slow=3.9,SNR=4.7							
GERES				SKPbc		SKiKP	13 28 16.7	-0.3
	comp=Z,0.5nm,0.4s,baz=29,slow=3.0,SNR=7.6							
CEL	Celeste	142.92	320	*e*PKPpre		PKPpre	13 24 51.0	
KEST	Kesra	148.56	322	PKPbc		PKPbc	13 25 07.1	-0.2
	comp=Z,8.6nm,0.9s,baz=296,slow=2.1,SNR=23							
KEST	Kesra	148.56	322	*e*PKPbc		PKPbc	13 25 07.5	+0.2
CMAH	Djebel Manchou	149.04	326	P		PKPbc	13 25 06.7	-1.7
CAEH	'Ain El Ouahch	149.24	327	P		PKPbc	13 25 09.9	+1.0
ABSA	Djebel Ababsia	149.26	325	P		PKPbc	13 25 07.3	-1.8
CKFL	Kef-Lekhel	149.59	326	P		PKPbc	13 25 08.4	-1.5
DFRA	Djebel Bou Aff	149.93	327	P		PKPbc	13 25 09.7	-1.0
CTEI	Djebel Teioual	150.01	326	P		PKPdf	13 25 07.5	+1.5
SET	Setif	150.44	328	P		PKPbc	13 25 13.0	+1.1
ESDC	Sonseca Array	151.19	344	PKPbc		PKPbc	13 25 12.6	-0.9
	comp=Z,0.1nm,0.2s,baz=3.8,slow=3.0,SNR=8.7							
ESDC				PKPab		PKPab	13 25 21.9	+0.5
	comp=Z,0.2nm,0.3s,baz=17,slow=2.5,SNR=5.2							
TOA0	Torodi Ar. Sit	164.94	276	*e*PKPdf		PKPdf	13 25 24.3	-0.6
TORD	Torodi Ar. Bea	164.94	276	PKP		PKPdf	13 25 24.3	-0.6
	comp=Z,6.5nm,1.1s,baz=54,slow=0.6,SNR=23							
TORD				PKPab		PKPab	13 26 20.9	-0.5
	comp=Z,5.7nm,1.0s,baz=82,slow=3.8,SNR=11							
DBIC	Dimbokro	169.75	239	PKPab		PKPab	13 26 42.7	+0.1
	comp=Z,3.1nm,0.8s,baz=133,slow=10,SNR=3.4							

MAN 10 13:07:13,13°.26N×120°.80E, h50km, mb5.1, ML4.1, MS4.2, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PGP	Puerto Galera	0.28	32	*i* P		Pn		13 07 24.0	+2.0
PGP				*i* S		Sn		13 07 30.7	+2.3
LUBP	Lubang	0.72	311	*e*P		Pn		13 07 29.6	+2.6
SJMP	San Jose	0.85	159	*e*P		Pn		13 07 30.9	+2.1
SJMP				*e*S		Sn		13 07 43.0	+2.7
BUSP	Coron	1.38	205	*e*P		Pn		13 07 37.1	+1.2
BUSP				*e*S		Sn		13 07 53.9	+0.7
OTRP	Odiongan	1.49	127	*e*P		Pn		13 07 38.7	+1.4
CUYO	Cuyo Island	2.41	175	*e*P		Pn		13 07 51.1	+1.1
ENPP	El Nido	2.45	214	*e*P		Pn		13 07 51.6	+1.1

*CSEM **10** 13:08:09.6,57°.23N×12°.39E, h0km, ML1.3, Mining explosion.*

UPP 10 13:08:09.6,57°.23N×12°.39E, h0km, ML1.3, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FABU	Falkenberg	0.29	142	P		Pg		13 08 15.2	0.0
FABU				S		Sg		13 08 19.1	+0.1
BORU	Boraas	0.45	27	P		Pg		13 08 18.2	-0.1
BORU				S		Sg		13 08 23.8	-0.4
GNOU	Gnosjoe	0.74	85	P		Pg		13 08 23.7	-0.2
VANU	Vaenersborg	1.28	353	P		Pg		13 08 33.2	-0.8
VANU				S		Sg		13 08 50.0	-0.6
NASU	Vaermlandsnaes	1.75	14	P		Pn		13 08 41.3	+0.1
STRU	Stroemstad	1.92	341	P		Pn		13 08 44.1	+0.6
FINU	Finntorp	2.18	1	P		Pb		13 08 49.1	-0.7

IDC 10 13:09:56.1±2.0, 18°.78S×167°.30E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/26, mbtmp3.9/4, ML3.4/1, Error ellipse: s-maj=53.8km s-min=32.7km az=129.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.37	194	Pn		Pn		13 10 49.6	-0.5
	4.1nm,0.3s,baz=270,slow=24,SNR=6.2								
DZM				Sn		Sn		13 11 26.5	-4.5
	8.0nm,0.3s,baz=90,slow=20,SNR=4.4								
WRA	Warramunga Arr	31.10	262	P		P		13 16 15.8	-0.6
	0.9nm,0.9s,baz=90,slow=8.6,SNR=7.7								
ASAR	Alice Springs	31.47	255	P		P		13 16 20.2	+0.6
	3.4nm,0.7s,baz=82,slow=9.1,SNR=9.4								
ILAR	Eielson Array	90.35	18	P		P		13 22 58.7	0.0
	0.3nm,0.8s,baz=225,slow=3.7,SNR=2.7								

*IDC **10** 13:21:05.2±1.9, 2°.01N×95°.92E, h0km, mb3.5/4, mb1 3.5/6, mb1mx3.4/36, mbtmp3.4/6, ML3.3/2, Error ellipse: s-maj=57.8km s-min=22.2km az=55.0*

*ISCJB **10** 13:21:07.7±1.0, 2°.19N±0°.08×95°.94E±0°.08, h27km, mb3.4/4, Error ellipse: s-maj=12.7km s-min=10.4km az=142.3*

*DJA **10** 13:21:07.6±0.9, 2°.N±6°×9°6E±°, h11km±5km, M3.6/6, MLv3.6/6*

ISC 10 13:21:09.4±1.3, 2°.28N±0°.09×95°.98E±0°.10, h27km, n11, σ1°38/12, mb3.4/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNSI	Sinabang, Aceh	0.37	69	P		Pb		13 21 15.8	-1.8
GSI	Gunungsitoli	1.86	121	P		Pn		13 21 39.9	+0.3
KCSI	Kotacane, Aceh	2.17	55	P		Pn		13 21 43.5	-0.4
KCSI				S		Sn		13 22 11.9	+2.0
PSI	Prapat	2.98	80	Pn		Pn		13 21 55.2	+0.1
	1.4nm,0.3s,baz=330,slow=8.6,SNR=6.2								
BSI	Banda Aceh	3.27	348	P		Pn		13 21 58.3	-0.7
MNSI	Mandailing Nat	3.88	112	P		Pn		13 22 07.8	+0.4
CMAR	Chiang Mai Arr	16.34	10	Pn		P		13 24 59.8	-0.1
	0.1nm,0.3s,baz=205,slow=10,SNR=4.1								
WRA	Warramunga Arr	43.63	122	P		P		13 29 11.4	-0.6
	0.4nm,0.8s,baz=303,slow=9.0,SNR=3.5								
ASAR	Alice Springs	45.01	127	P		P		13 29 21.4	-1.6
	0.2nm,0.8s,baz=296,slow=7.1,SNR=2.6								
MKAR	Makanchi Array	45.92	347	P		P		13 29 31.7	+1.9
	0.6nm,0.7s,baz=160,slow=6.9,SNR=8.1								
ZALV	Zalesovo Beam	52.32	352	P		P		13 30 20.2	+1.6
	0.7nm,0.4s,baz=186,slow=9.9,SNR=5.2								

*DDA **10** 13:43:03.0, 39°.65N×29°.48E, h7km, MD2.9*

*ISK **10** 13:43:02.3, 39°.65N×29°.62E, h2km, ML2.7*

*ISCJB **10** 13:43:03.4±0.5, 39°.67N±0°.03×29°.50E±0°.05, h0km, Error ellipse: s-maj=5.3km s-min=3.9km az=175.4*

*CSEM **10** 13:43:03.3±0.3, 39°.66N×29°.50E, h1km, ML2.7, Error ellipse: s-maj=7.2km s-min=5.2km az=78.0, Mining explosion.*

ISC 10 13:43:03.3±0.8, 39°.68N±0°.03×29°.51E±0°.03, h0km, n25, σ0°76/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TVSB	Tavsanli	0.23	189	*e*PG		Pg		13 43 08.0	+0.3
TVSB				*e*SG		Sg		13 43 12.3	+1.6
TVSB	Tavsanli	0.23	189	*e*Pg		Pg		13 43 08.0	+0.3
TVSB				*e*Sg		Sg		13 43 12.3	+1.6
GDZ	Gediz	0.59	182	*i* P		Pg		13 43 14.4	-0.1
GDZ				*i* S		Sg		13 43 22.8	+0.6
GDZ	Gediz	0.59	182	*i* P		Pg		13 43 14.4	-0.1
GDZ				*i* S		Sg		13 43 22.8	+0.6
GDZ				*i* S		Sg		13 43 22.8	+0.6
IZI	Iznik	0.66	358	*e*PG		Pg		13 43 16.7	+0.8
IZI	Iznik	0.66	358	*e*Pg		Pg		13 43 16.7	+0.8
BORA	Eskisehir	0.76	74	*i* P		Pg		13 43 17.3	-0.5
BORA				*i* S		Sb		13 43 30.5	+0.2
BORA	Eskisehir	0.76	74	*i* P		Pg		13 43 17.3	-0.5
BORA				*i* S		Sb		13 43 30.5	+0.2
MDNY	Mudanya-Bursa	0.84	325	*e*PG		Pb		13 43 21.4	+0.7
MDNY	Mudanya-Bursa	0.84	325	*e*Pg		Pb		13 43 21.4	+0.7
ARMT	Armutlu	1.02	331	*e*PN		Pb		13 43 23.8	0.0
ARMT	Armutlu	1.02	331	*e*Pn		Pb		13 43 23.8	0.0
SEYT	Eskypehyr	1.05	98	*i* P		Sn		13 43 40.2	-0.6
KCTX	Karacabey (Bur	1.06	304	*e*PN		Pn		13 43 25.2	-0.3
KCTX	Karacabey (Bur	1.06	304	*e*Pn		Pn		13 43 25.2	-0.3
BUY	Buyukada	1.21	346	*i* P		Pg		13 43 25.6	-0.9
BUY				*i* S		Sn		13 43 45.2	+0.6
BUY	Buyukada	1.21	346	*i* P		Pg		13 43 25.6	-0.9
BUY				*i* S		Sn		13 43 45.2	+0.6
BALY	Balya	1.46	273	*i* P		Pn		13 43 29.5	-1.4
BALY				*i* S		Sn		13 43 50.4	-0.4
BALY	Balya	1.46	273	*i* P		Pn		13 43 29.5	-1.4
BALY				*i* S		Sn		13 43 50.4	-0.4
BOLV	Bolvadin	1.47	130	*i* P		Pn		13 43 30.5	-0.7
BOLV	Bolvadin	1.47	130	*i* P		Pn		13 43 30.5	-0.7
SILT	Sile	1.48	4	*e*PN		Pn		13 43 31.1	0.0
SILT	Sile	1.48	4	*e*Pn		Pn		13 43 31.1	0.0
SLVT	Silivri	1.84	328	*e*PN		Pb		13 43 37.0	-0.8
SLVT	Silivri	1.84	328	*e*Pn		Pb		13 43 37.0	-0.8

*IDC **10** 13:52:18.7±1.6, 8°.68S×157°.40E, h0km, mb3.9/10, mb1 4.1/10, mb1mx3.9/27, mbtmp3.9/10, MS3.7/1, Ms1 3.7/1, ms1mx2.8/27, Error ellipse: s-maj=50.9km s-min=20.2km az=113.0*

*ISCJB **10** 13:52:19.6±0.7, 8°.7S±0°.1×157°.4E±0°.1, h16km, mb3.9/10, MS3.6/1, Error ellipse: s-maj=16.9km s-min=15.0km az=170.8*

ISC 10 13:52:21.3±0.8, 8°.7S±0°.2×157°.4E±0°.1, h16km, n11, σ0°84/12, mb4.0/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.62	107	P		Pn		13 53 03.0	+0.1
HNR				*e*S		Sg		13 53 51.0	+5.6
WRA	Warramunga Arr	24.95	241	P		P		13 57 44.0	-0.3
	3.3nm,0.9s,baz=66,slow=9.5,SNR=10								
WRA				PcP		PcP		14 01 20.4	+0.7
	0.6nm,0.9s,baz=61,slow=3.0,SNR=5.6								
ASAR	Alice Springs	26.97	234	P		P		13 58 01.4	-1.2
	1.2nm,1.0s,baz=63,slow=8.4,SNR=3.2								
ASAR				LR		LR		14 07 37.9	
	comp=Z,145nm,18.9s,baz=106,slow=34								
STKA	Stephens Creek	27.35	210	P		P		13 58 06.5	+0.7
	3.0nm,0.7s,baz=36,slow=14,SNR=7.5								
KSRS	Korea Array	53.56	331	P		P		14 01 42.1	+0.6
	1.6nm,0.8s,baz=145,slow=8.9,SNR=8.0								
PETK	Petropavlovsk-	61.56	0	P		P		14 02 37.8	+0.2
	1.1nm,0.7s,baz=158,slow=8.3,SNR=4.6								
CMAR	Chiang Mai Arr	63.67	295	P		P		14 02 52.5	+0.1
	1.2nm,0.6s,baz=133,slow=5.2,SNR=7.8								
SONM	Songino Array	72.05	327	P		P		14 03 45.5	+0.8
	0.7nm,0.6s,baz=121,slow=5.8,SNR=3.9								
ILAR	Eielson Array	84.08	21	P		P		14 04 50.3	-0.7
	0.6nm,0.9s,baz=247,slow=5.4,SNR=4.7								
MKAR	Makanchi Array	86.25	318	P		P		14 05 02.0	-0.3
	0.6nm,0.6s,baz=126,slow=2.0,SNR=8.3								
ZALV	Zalesovo Beam	86.92	326	P		P		14 05 03.8	-1.5
	0.4nm,0.5s,baz=114,slow=5.4,SNR=2.5								

DJA 10 13:54:17.3±1.1, 0°.S±5°×12°.4E±°, h138km±9km, M3.6/4, MLv3.6/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	0.80	33	P		Pn		13 54 41.9	+2.7
KMSI				S		Sn		13 54 57.9	+2.0
LUWI	Luwuk	1.22	220	P		Pn		13 54 45.2	+2.2
LUWI				S		Sn		13 55 04.3	+1.7
MRSI	Marisa	1.71	290	P		Pn		13 54 49.1	+0.8
MRSI				S		Sn		13 55 10.7	-1.3
SANI	Sanana	3.11	128	P		Pn		13 55 06.7	+1.0
SANI				S		Sn		13 55 42.1	-1.0

*ISCJB **10** 13:59:21.1±0.4, 19°.21S±0°.08×177°.60W±0°.08, h570km, mb3.9/16, Error ellipse: s-maj=11.4km s-min=9.0km az=159.2*

*IDC **10** 13:59:23.8±1.8, 19°.27S×177°.60W, h592km±21km, mb3.5/16, mb1 3.7/18, mb1mx3.6/36, mbtmp4.5/18, Error ellipse: s-maj=13.9km s-min=11.0km az=141.0*

ISC 10 13:59:22.2±0.5, 19°.3S±0°.1×177°.59W±0°.09, h570km, n70, σ1°23/71, mb4.0/16, 8C-5D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIUE	Niue	7.25	90	P		P		14 01 12.7	-0.6
	baz=7.0,SNR=3.1								
DZM	Mont Dzumac	15.20	257	P		P		14 02 33.0	-0.3
	0.9nm,0.3s,baz=89,slow=23,SNR=6.1								
URZ	Urewera	19.48	193	P		P		14 03 11.4	-1.0
	5.4nm,0.3s,baz=290,slow=1.9,SNR=44								
ARMA	Armidale	29.96	242	P		P		14 04 47.0	+1.6
	baz=30,SNR=4.9								
CTA	Charters Tower	34.01	262	P		P		14 05 19.3	-0.4
	9.2nm,0.7s,baz=72,slow=9.2,SNR=7.9								
CMSA	Cobar Meteorol	35.18	242	P		P		14 05 30.3	+1.0
	baz=36,SNR=23								
QLP	Quilpie	35.80	251	P		P		14 05 35.1	+0.5
	baz=36,SNR=12								
TOO	Toolangi	36.94	233	P		P		14 05 44.9	+1.2
	baz=37,SNR=9.2								
STKA	Stephens Creek	38.68	243	P		P		14 05 59.1	+1.1
	18nm,0.8s,baz=86,slow=8.8,SNR=23								
STKA	Stephens Creek	38.68	243	P		P		14 05 59.1	+1.1
	baz=39,SNR=18								
BBOO	Buckleboo	43.45	242	P		P		14 06 36.3	+0.6
	baz=44,SNR=19								
JAY	Jayapura	44.04	287	P		P		14 06 41.2	+0.6
	32nm,0.7s,baz=184,slow=6.1,SNR=12								
WRA	Warramunga Arr	45.16	261	P		P		14 06 48.7	-0.4
	6.4nm,0.6s,baz=97,slow=8.1,SNR=103								
WRA				PcP		PcP		14 08 16.8	-0.4
	3.1nm,0.8s,baz=92,slow=3.8,SNR=8.6								
WRA				S		S		14 12 46.1	-1.9
	1.8nm,0.8s,baz=95,slow=13,SNR=6.7								
ASAR	Alice Springs	45.19	255	P		P		14 06 49.5	+0.3
	22nm,0.8s,baz=88,slow=8.1,SNR=227								
ASAR				PcP		PcP		14 08 16.9	-0.3
	4.2nm,0.7s,baz=106,slow=4.0,SNR=10								
ASAR				S		S		14 12 47.2	-1.0
	2.8nm,0.7s,baz=91,slow=15,SNR=20								
KDU	Kakadu	48.32	270	P		P		14 07 12.9	0.0
	baz=48,SNR=9.9								
WRKA	Warakurna	50.18	253	P		P		14 07 26.7	+0.2
	baz=50,SNR=63								
KNRA	Kununurra	51.13	265	P		P		14 07 33.2	-0.2
	baz=51,SNR=19								
FITZ	Fitzroy Crossi	53.58	261	P		P		14 07 51.2	+0.2
	baz=54,SNR=9.3								
SOEI	Soe	56.86	271	P		P		14 08 15.6	+1.6
	baz=57,SNR=6.3								
MEEK	Meekatharra	58.69	250	P		P		14 08 25.6	-0.5
	baz=59,SNR=6.9

DPC	**Dobruska-Polom**	**147.07**	**344**	*e*P	**PKPbc**	**14 18 01.6**	**0.0**
DPC				*ex*	x	14 18 04.9	
BRG	**Berggiesshubel**	**147.17**	**346**	*e*P	**PKPdf**	**14 18 00.9**	**+2.4**
	comp=Z,3.2nm,0.5s						
	comp=N,110nm,16.2s						
	comp=E,271nm,27.9s						
	comp=Z,276nm,27.0s						
KRLC	**Kralíky**	**147.19**	**343**	*e*P	**PKPbc**	**14 18 01.6**	**-0.3**
MORC	**Moravsky Berou**	**147.24**	**342**⇑	*i*P	**PKPbc**	**14 18 03.8**	**+1.8**
DOPR	**Dopca**	**147.32**	**330**⇑	*i*P	**PKPbc**	**14 18 02.3**	**0.0**
MLR	**Muntele Rosu**	**147.39**	**329**⇑	*i*P	**PKPdf**	**14 18 01.4**	**+2.1**
PRU	**Pruhonice**	**147.85**	**345**	*e*P	**PKPbc**	**14 18 03.2**	**-0.3**
GOPC	**GO Pecny, Ondr**	**147.86**	**345**	*e*P	**PKPbc**	**14 18 03.2**	**-0.4**
GOPC				*ex*	x	14 18 06.8	
VYHS	**Vyhne**	**147.96**	**339**	*e*PKP	**PKPdf**	**14 18 02.9**	**+3.0**
PSZ	**Piszkesteto**	**148.08**	**338**⇓	*i*P	**PKPbc**	**14 18 03.9**	**-0.4**
SIRR	**Siria**	**148.75**	**334**⇓	*i*P	**PKPbc**	**14 18 05.3**	**-0.6**
KHC	**Kasperske Hory**	**148.88**	**346**	*e*P	**PKPbc**	**14 18 05.8**	**-0.4**
KHC				*ex*	x	14 18 12.0	
GERES	**GERESS Array B**	**149.12**	**345**	PKPbc	**PKPbc**	**14 18 06.3**	**-0.5**
	comp=Z,2.6nm,0.6s,baz=356,slow=2.0,SNR=11						
PKSM	**Moragy**	**149.98**	**337**⇑	*i*P	**PKPbc**	**14 18 07.4**	**-1.4**
VTS	**Vitosha**	**150.85**	**327**⇑	*i*P	PKPdf	14 17 56.3	-8.6
TORD	**Torodi Ar. Bea**	**173.87**	**173**	PKP	**PKPdf**	**14 18 25.9**	**-1.6**
	comp=Z,0.6nm,0.8s,baz=219,slow=3.8,SNR=4.3						

IDC 10 14:05:58.2s1.2, **14°16'S×166°57'E, h0**km, **mb3.8/6, mb1 4.0/7, mb1mx3.7/34, mbtmp3.9/7, ML3.8/1, Error ellipse: s-maj=36.0km s-min=24.9km az=114.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.87**	**181**	Pn	Pn	14 07 54.5	+0.3
	1.3nm,0.3s,baz=271,slow=23,SNR=11						
STKA	**Stephens Creek**	**28.86**	**228**	P	P	14 11 59.8	+1.1
	1.8nm,0.6s,baz=52,slow=9.1,SNR=7.6						
WRA	**Warramunga Arr**	**31.32**	**255**	P	P	14 12 19.5	-1.1
	1.0nm,0.6s,baz=86,slow=9.5,SNR=12						
ASAR	**Alice Springs**	**32.25**	**248**	P	P	14 12 28.1	-0.7
	0.7nm,0.6s,baz=74,slow=9.3,SNR=19						
QSPA	**South Pole Qui**	**75.86**	**180**	P	P	14 17 46.5	+0.1
	1.5nm,1.0s,baz=344,slow=0.6,SNR=6.4						
SONM	**Songino Array**	**81.64**	**324**	P	P	14 18 20.1	+1.7
	0.3nm,0.6s,baz=134,slow=8.3,SNR=2.4						
ILAR	**Eielson Array**	**86.20**	**18**	P	P	14 18 40.2	-1.0
	0.3nm,0.7s,baz=235,slow=5.4,SNR=5.6						
ARCES	**ARCESS Array B**	**119.54**	**345**	PKP	PKPdf	14 24 48.6	-0.9
	1.7nm,0.9s,baz=54,slow=2.1,SNR=4.2						

MAN 10 14:27:32, 12°56'N×123°73'E, h18km, **mb4.6, ML3.5, MS3.5, 1C, Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMPH	**Masbate**	**0.23**	**206**	*e*P	Pb	14 27 38.5	+1.1
MMPH				*i* S	Sb	14 27 43.3	+2.3
PVCP	**Virac**	**1.11**	**22**	*e*P	Pg	14 27 53.2	-0.3
PVCP				*e*S	Sn	14 28 07.8	+0.3
AUUP	**San Andres**	**1.27**	**307**	*e*P	Pb	14 27 55.5	0.0
RCP	**Roxas**	**1.38**	**224**⇑	*e*P	Pn	14 27 56.6	+0.2
RCP				*e*S	Sb	14 28 15.4	+0.7
OTRP	**Odiongan**	**1.68**	**263**	*e*P	Pn	14 28 00.0	-0.5
GUIM	**Jordan**	**2.22**	**210**	*e*P	Pn	14 28 09.7	+1.7

*ISCJB **10** 14:39:54.7*s*0.6, 9°.35'N*±*0°.03'*×125°.68'E*±*0°.05, h31*km*±4*km*, mb3.8/6, Error ellipse: s-maj=8.2km s-min=4.5km az=157.6*

*MAN **10** 14:39:55, 9°.31'N×125°.56'E, h13*km*, mb4.9, ML3.9, MS4.0*

MAN INTENSITY III - BRGY TOLOSA CABADBARAN CITY AGUSAN DEL NORTE; INTENSITY II - ALEGRIA SURIGAO DEL NORTE.

*IDC **10** 14:39:55.6*s*1.4, 7°.97'N×123°.02'E, h0*km*, mb3.8/5, mb1 3.9/5, mb1mx3.6/33, mbtmp3.8/5, Error ellipse: s-maj=212.6km s-min=21.0km az=65.0*

*NEIC **10** 14:39:56.4*s*0.8, 8°.18'N×123°.54'E, h10*km*, mb4.4/2, Error ellipse: s-maj=31.1km s-min=13.5km az=64.0*

NEIC Felt [II PIVS] at Alegria.

ISC 10 14:39:55.0s1.1, **9°.34'N**±0°.03'×**125°.64'E**±0°.05, **h25**km±9km, **n26,** σ1°**54**/34, **mb3.9/6, 7C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.37**	**183**	*e*P	**Pb**	**14 40 01.9**	**-1.2**
BUTP				*e*S	**Sb**	**14 40 08.9**	**+0.3**
SCPH	**Surigao**	**0.47**	**341**⇑	*i*P	**Pb**	**14 40 05.1**	**+0.5**
SCPH				*i* S	**Sb**	**14 40 11.9**	**+0.7**
MSLP	**Maasin**	**1.10**	**316**	*e*P	**Pn**	**14 40 14.1**	**-0.8**
MSLP				*e*S	**Sn**	**14 40 31.1**	**+1.7**
CGP	**Cagayan de Oro**	**1.29**	**227**⇑	*i*P	**Pn**	**14 40 16.5**	**-0.9**
CGP				*i* S	**Sn**	**14 40 33.7**	**-0.1**
BIPH	**Bislig**	**1.35**	**148**⇓	*e*P	**Pn**	**14 40 18.1**	**-0.2**
BIPH				*i* S	**Sn**	**14 40 35.3**	**-0.2**
BUKP	**Musuan**	**1.56**	**202**	*e*P	**Pb**	**14 40 21.9**	**-1.4**
BUKP				*e*S	**Sb**	**14 40 43.0**	**+0.4**
TBP	**Tagbilaran**	**1.79**	**281**	*e*P	**Pn**	**14 40 23.9**	**-0.5**
TBP				*e*S	**Sb**	**14 40 47.9**	**-1.3**
PLP	**Palo**	**1.93**	**340**⇓	*e*P	**Pb**	**14 40 28.0**	**-1.5**
PLP				*e*S	**Sn**	**14 40 46.3**	**-3.5**
OCLP	**Ormoc**	**1.98**	**329**	*e*P	**Pn**	**14 40 28.4**	**+1.3**
DAV	**Davao City (W)**	**2.26**	**182**	*e*Pn	**Pb**	**14 40 33.5**	**-1.5**
SNPH	**Sibulan**	**2.38**	**270**⇑	*i*P	Pn	14 40 27.4	-5.0
SNPH				*i* S	**Sn**	**14 40 58.9**	**-2.0**
DCPH	**Dipolog City**	**2.38**	**252**⇑	*e*P	**Pn**	**14 40 32.2**	**-0.3**
DCPH				*e*S	**Sb**	**14 41 11.0**	**+4.7**
MATI	**Mati**	**2.46**	**166**	*e*P	**Pn**	**14 40 35.6**	**+2.0**
CTBH	**Cotabato--PC H**	**2.52**	**213**⇓	*e*P	**Pn**	**14 40 34.3**	**-0.1**
PAGZ	**Pagadian**	**2.68**	**237**	*e*P	**Pn**	**14 40 37.2**	**+0.5**
GUIM	**Jordan**	**3.27**	**293**	*e*P	**Pn**	**14 40 44.5**	**-0.2**
IPIL	**Ipil**	**3.41**	**243**	*e*P	**Pn**	**14 40 49.0**	**+2.4**
RCP	**Roxas**	**3.60**	**308**⇓	*e*P	**Pn**	**14 40 50.1**	**+0.8**
WRAB	**Tennant Creek**	**30.33**	**164**	*e*P	**P**	**14 46 03.2**	**-1.5**
	3.0nm,0.8s						
WRA	**Warramunga Arr**	**30.33**	**164**	P	**P**	**14 46 04.3**	**-0.6**
	0.3nm,0.5s,baz=346,slow=7.8,SNR=4.6						
AS31	**Alice Springs**	**33.78**	**166**	*e*P	**P**	**14 46 34.9**	**-0.3**
ASAR	**Alice Springs**	**33.78**	**166**	P	**P**	**14 46 34.8**	**-0.4**
	0.3nm,0.5s,baz=343,slow=7.3,SNR=18						
STKA	**Stephens Creek**	**43.73**	**160**	P	**P**	**14 48 00.1**	**+1.6**
	2.5nm,0.8s,baz=344,slow=9.5,SNR=3.4						
MK31	**Makanchi Array**	**52.40**	**323**	*e*P	**P**	**14 49 05.3**	**0.0**
MKAR	**Makanchi Array**	**52.40**	**323**	P	**P**	**14 49 05.5**	**+0.2**
	0.7nm,0.7s,baz=115,slow=7.4,SNR=7.8						
ARCES	**ARCESS Array B**	**84.85**	**340**	P	P	14 52 35.3	+8.1
	1.9nm,1.0s,baz=79,slow=5.6,SNR=4.3						

*IDC **10** 14:47:29.5*s*2.1, 4°.79'S×102°.92'E, h0*km*, mb3.8/9, mb1 3.9/9, mb1mx3.7/34, mbtmp3.8/9, Error ellipse: s-maj=105.6km s-min=17.2km az=55.0*

*ISCJB **10** 14:47:34.6*s*0.7, 5°.06'S*±*0°.07'×102°.71'E*±*0°.07, h59*km*, mb3.9/10, Error ellipse: s-maj=11.5km s-min=7.0km az=137.6*

*DJA **10** 14:47:38.0*s*1.3, 5°'S*±*7°'×10°'3E*±*°, h12*km*±7*km*, M4.0/11, MLv4.0/11*

*NEIC **10** 14:47:38.8*s*0.7, 4°.62'S×103°.20'E, h67*km*±6*km*, mb4.1/1, Error ellipse: s-maj=38.2km s-min=6.5km az=48.0*

ISC 10 14:47:36.2s0.9, **5°.01'S**±0°.09'×**102°.78'E**±0°.09, **h59**km, **n28,** σ1°**33**/27, **mb4.0**/10, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**0.67**	**15**	P	Pn	**14 47 50.6**	**+0.5**
MNAI				S	**Sn**	**14 47 59.4**	**-0.8**
MNAI	**Manna**	**0.67**	**15**	*e*Pg	**Pn**	**14 47 50.6**	**+0.5**
MNAI				*e*Sg	**Sn**	**14 48 00.6**	**+0.5**
LWLI	**Liwa**	**1.27**	**90**	P	**Pn**	**14 47 57.1**	**-0.8**
LWLI				S	**Sn**	**14 48 11.4**	**-2.8**
LHSI	**Lahat**	**1.39**	**32**	P	**Pn**	**14 48 00.1**	**+0.7**
MDSI	**Maura Dua**	**1.48**	**70**	P	**Pn**	**14 48 00.8**	**+0.1**
KASI	**Kota Agung**	**1.78**	**107**	P	**Pn**	**14 48 04.3**	**-0.4**
MASI	**Maura Aman, Be**	**1.93**	**344**	P	Pn	14 48 11.2	+4.3
KLSI		**1.97**	**81**	P	**Pn**	**14 48 07.7**	**+0.5**
KLI	**Kotabumi**	**2.07**	**86**	P	**Pn**	**14 48 10.1**	**+1.4**
BLSI	**Bandar Lampung**	**2.48**	**98**	P	**Pn**	**14 48 15.3**	**+1.1**
JMBI	**JAMBI**	**3.46**	**14**	P	Pn	14 48 31.8	+4.1
CISI	**Cisompet, Garu**	**5.61**	**117**	*e*Pn	**Pn**	**14 48 57.0**	**-0.1**
GSI	**Gunungsitoli**	**8.15**	**320**	*e*Pn	**Pn**	**14 49 33.9**	**+2.0**
GSI				*e*Sn	**Sn**	**14 50 58.8**	**-3.8**
CMAR	**Chiang Mai Arr**	**23.62**	**351**	P	**P**	**14 52 40.0**	**-2.2**
	0.6nm,0.4s,baz=183,slow=8.6,SNR=5.8						
H01W3	**Cape Leeuwin H**	**31.53**	**162**	T	T	15 27 11.5	
	baz=340,slow=76,SNR=4.9						
H01W2	**Cape Leeuwin H**	**31.54**	**162**	T	T	15 27 15.8	
	baz=340,slow=76,SNR=9.0						
H01W1	**Cape Leeuwin H**	**31.54**	**162**	T	T	15 27 15.4	
	baz=340,slow=76,SNR=9.3						
WRA	**Warramunga Arr**	**34.10**	**119**	P	**P**	**14 54 16.2**	**+0.6**
	1.0nm,0.6s,baz=298,slow=9.4,SNR=15						
WRAB	**Tennant Creek**	**34.11**	**119**	*e*P	**P**	**14 54 16.5**	**+0.8**
	1.5nm,0.6s						
AS31	**Alice Springs**	**35.26**	**125**	*e*P	**P**	**14 54 26.5**	**+0.9**
ASAR	**Alice Springs**	**35.26**	**125**	P	**P**	**14 54 26.9**	**+1.4**
	0.4nm,0.4s,baz=300,slow=8.0,SNR=17						
STKA	**Stephens Creek**	**45.09**	**131**	P	**P**	**14 55 47.4**	**+0.6**
	2.2nm,0.7s,baz=303,slow=4.7,SNR=4.3						
SONM	**Songino Array**	**52.72**	**3**	P	**P**	**14 56 44.3**	**-0.7**
	0.4nm,0.3s,baz=187,slow=10,SNR=4.1						
MKAR	**Makanchi Array**	**54.68**	**343**	P	**P**	**14 56 59.7**	**+0.4**
	0.4nm,0.6s,baz=153,slow=6.2,SNR=6.6						
ZALV	**Zalesovo Beam**	**60.65**	**348**	P	**P**	**14 57 40.7**	**-0.3**
	0.6nm,0.3s,baz=161,slow=6.4,SNR=4.9						
BVAR	**Borovoye Array**	**63.96**	**339**	P	**P**	**14 58 03.6**	**+0.4**
	0.8nm,0.5s,baz=130,slow=14,SNR=3.8						
ARCES	**ARCESS Array B**	**90.23**	**340**	P	**P**	**15 00 30.9**	**+0.9**
	0.7nm,0.8s,baz=48,slow=1.8,SNR=3.5						
TXAR	**Lajitas Array**	**145.20**	**43**	PKP	**PKPdf**	**15 07 08.2**	**+0.1**
	0.3nm,0.5s,baz=283,slow=1.1,SNR=5.7						

GUC 10 14:49:46.9s0.6, **34°.27'S×72°.13'W, h24**km±3km, **ML3.5, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**1.04**	**135**	*e*P	Pn	14 50 05.1	-0.9
NICH				*e*S	Sb	14 50 19.5	-0.1
TALC	**Talca**	**1.20**	**160**	*e*P	Pn	14 50 07.8	-0.3
TALC				*i* S	Sn	14 50 23.6	+0.1
RCDM	**Rinconada Maip**	**1.35**	**55**	*e*P	Pn	14 50 09.8	-0.5
SAN	**Santiago**	**1.47**	**57**	*e*P	Pn	14 50 12.0	0.0
SAN				*e*S	Sb	14 50 31.4	-0.5
PCH	**Pirque**	**1.49**	**65**	*e*P	Pn	14 50 12.4	+0.1
CLCH	**Cerro Calan**	**1.59**	**57**	*e*P	Pn	14 50 14.2	+0.6
CLCH				*e*S	Sn	14 50 34.3	+0.9
CLCH				AML	AML	14 50 44.1	
	comp=N,806nm,0.9s						
PEL	**Peldehue**	**1.65**	**47**	*e*P	Pn	14 50 15.3	+0.9
PEL				*e*S	Sb	14 50 36.8	-0.3
PEL				AML	AML	14 50 43.0	
	comp=N,1μm,0.5s						

*ISCJB **10** 15:00:05.7*s*0.4, 59°.77'N*±*0°.02'×24°.49'E*±*0°.06, h0*km*, Error ellipse: s-maj=4.7km s-min=3.2km az=16.3*

*IDC **10** 15:00:06.7*s*2.2, 59°.78'N×24°.72'E, h0*km*, mb1 3.1/2, mb1mx2.8/41, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=27.7km s-min=10.2km az=134.0*

*HEL **10** 15:00:07.3*s*0.1, 59°.78'N×24°.47'E, h0*km*, ML1.7, Explosion*

ISC 10 15:00:06.5s0.8, **59°.79'N**±0°.03'×**24°.54'E**±0°.04, **h0**km, **n13,** σ1°**01**/22, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPE	**Suurupi**	**0.33**	**194**	*e*P	**Pg**	**15 00 12.8**	**0.0**
SRPE				*e*S	**Sg**	**15 00 16.8**	**-0.3**
MEF	**Metsahovi**	**0.44**	**351**	*e*P	**Pg**	**15 00 15.0**	**+0.1**
MEF				*e*S	**Sg**	**15 00 20.6**	**0.0**
PVF	**Pernaja**	**1.01**	**40**	*e*P	**Pg**	**15 00 25.7**	**-0.1**
PVF				*e*S	**Sg**	**15 00 39.2**	**+0.4**
MTSE	**Matsula**	**1.14**	**199**	*e*P	**Pg**	**15 00 27.2**	**-1.0**
MTSE				*e*S	**Sg**	**15 00 42.2**	**-0.7**
VJF	**Virojoki**	**1.69**	**62**	*e*P	**Pn**	**15 00 37.6**	**+0.4**
VJF				*e*S	**Sb**	**15 00 59.8**	**-0.2**
VJF				MSG		15 01 02.9	
	comp=Z,6.7nm,0.2s						
VSU	**Vasula**	**1.74**	**139**	*e*PG	**Pb**	**15 00 39.1**	**-0.2**
VSU				*e*S	**Sg**	**15 01 01.7**	**-0.7**
FIA0	**FINESS Array S**	**1.83**	**24**	*e*SN	**Sb**	**15 01 04.6**	**+0.5**
FIA0				MSG		15 01 07.1	
	comp=Z,3.8nm,0.2s						
FINES	**FINESS Array B**	**1.83**	**24**	Pn	**Pb**	**15 00 40.3**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=199,slow=17,SNR=75						
FINES				Lg	Lg	15 01 02.5	
	comp=Z,1.1nm,0.3s,baz=201,slow=31,SNR=22						
RAF	**Rauma**	**1.86**	**313**	*e*PN	**Pn**	**15 00 39.9**	**+0.4**
RAF				*e*SN	**Sn**	**15 01 03.8**	**+0.2**
RAF				MSG		15 01 08.1	
	comp=Z,6.0nm,0.2s						
AAL	**Aland**	**2.32**	**282**	*e*PB	**Pn**	**15 00 47.3**	**+1.5**
AAL				*e*SB	**Sn**	**15 01 16.4**	**+1.4**
SLIT	**Slitere, Latvi**	**2.46**	**209**	*e*PB	**Pn**	**15 00 49.7**	**+1.9**
SLIT				*e*SB	**Sn**	**15 01 20.1**	**+1.6**
NOA	**NORSAR Array B**	**6.72**	**287**	Pn	**Pn**	**15 01 44.0**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=124,slow=11,SNR=6.5						
ARCES	**ARCESS Array B**	**9.80**	**2**	Pn	**Pn**	**15 02 27.7**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=179,slow=13,SNR=7.3						

*SZGRF **10** 15:00:47.6, 17°.77'S×177°.03'W, h33*km*, Fiji Islands region*

*NEIC **10** 15:01:43.9*s*1.1, 17°.92'S×178°.50'W, h530*km*±12*km*, mb4.1/13, Error ellipse: s-maj=29.6km s-min=11.3km az=134.0*

*IDC **10** 15:01:45.9*s*1.3, 17°.99'S×178°.50'W, h552*km*±15*km*, mb3.6/20, mb1 3.8/21, mb1mx3.7/30, mbtmp4.5/21, Error ellipse: s-maj=12.7km s-min=8.6km az=155.0*

*ISCJB **10** 15:01:47.2*s*0.3, 17°.95'S*±*0°.08'×178°.53'W*±*0°.06, h579*km*, mb4.1/33, Error ellipse: s-maj=11.8km s-min=5.9km az=150.8*

ISC 10 15:01:47.9s0.4, **17°.99'S**±0°.09'×**178°.46'W**±0°.08, **h579**km, **n107,** σ0°**94**/110, **mb4.1**/33, **8C-7D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.61**	**59**	*e*Pn	P	15 03 37.1	-5.8
	150nm,1.0s						
DZM	**Mont Dzumac**	**14.75**	**252**	P	**P**	**15 04 52.6**	**-1.9**
	2.4nm,0.3s,baz=270,slow=20,SNR=16						
URZ	**Urewera**	**20.56**	**190**	P	**P**	**15 05 45.1**	**-2.4**
	4.0nm,0.3s,baz=271,slow=3.6,SNR=13						
URZ	**Urewera**	**20.56**	**190**	*e*P	**P**	**15 05 46.1**	**-1.4**
RPZ	**Rata Peaks**	**27.13**	**197**	P	**P**	**15 06 43.1**	**-2.6**
	2.3nm,0.3s,baz=16,slow=7.4,SNR=5.3						
PPT	**Papeete**	**27.50**	**94**	P	**P**	**15 06 49.0**	**-0.4**
	27nm,0.5s,baz=39,slow=1.5,SNR=10						
EIDS	**Eidsvold**	**29.19**	**250**	P	**P**	**15 07 03.6**	**-0.3**
	baz=30,SNR=4.4						
ARMA	**Armidale**	**29.85**	**240**	P	**P**	**15 07 10.8**	**+1.1**
	baz=30,SNR=14						
RMQ	**Roma**	**31.42**	**249**	P	**P**	**15 07 24.1**	**+1.0**
	baz=32,SNR=9.3						
CNB	**Canberra Magne**	**33.33**	**232**	P	**P**	**15 07 40.3**	**+1.2**
	baz=34,SNR=18						
CTA	**Charters Tower**	**33.38**	**261**	P	**P**	**15 07 39.8**	**0.0**
	6.2nm,0.6s,baz=92,slow=11,SNR=8.8						
CMSA	**Cobar Meteorol**	**35.06**	**241**	P	**P**	**15 07 54.2**	**+0.7**
	baz=35,SNR=25						
QLP	**Quilpie**	**35.45**	**249**	P	**P**	**15 07 57.1**	**+0.2**
	baz=36,SNR=35						
COEN	**Coen**	**37.05**	**271**	P	**P**	**15 08 10.8**	**+0.7**
	baz=37,SNR=11						
TOO	**Toolangi**	**37.08**	**231**	P	**P**	**15 08 11.7**	**+1.6**
	baz=37,SNR=6.0						
STKA	**Stephens Creek**	**38.54**	**241**	P	**P**	**15 08 22.3**	**+0.3**
	6.7nm,0.5s,baz=90,slow=9.4,SNR=32						
STKA				PcP	**PcP**	**15 10 20.5**	**+0.9**
	2.9nm,0.8s,baz=359,slow=3.8,SNR=3.0						
STKA	**Stephens Creek**	**38.54**	**241**	P	**P**	**15 08 23.1**	**+1.0**
	baz=39,SNR=25						
MMPI	**Merauke**	**41.08**	**278**	P	P	15 08 54.5	+12
	baz=41,SNR=3.3						
JAY	**Jayapura**	**42.88**	**286**	P	**P**	**15 08 56.6**	**-0.1**
	4.4nm,0.4s,baz=169,slow=7.6,SNR=6.2						
BBOO	**Buckleboo**	**43.32**	**241**	P	**P**	**15 09 00.4**	**+0.6**
	baz=44,SNR=8.0						
WRA	**Warramunga Arr**	**44.56**	**260**	P	**P**	**15 09 08.8**	**-0.8**
	4.0nm,0.5s,baz=96,slow=7.0,SNR=145						
WRA				PcP	**PcP**	**15 10 40.4**	**+0.4**
	1.3nm,0.4s,baz=89,slow=3.6,SNR=8.4						
WRA				S	**S**	**15 15 02.7**	**-1.5**
	0.3nm,0.5s,baz=96,slow=13,SNR=3.5						
AS31	**Alice Springs**	**44.72**	**254**	*e*P	**P**	**15 09 10.8**	**0.0**
ASAR	**Alice Springs**	**44.72**	**254**	P	**P**	**15 09 11.0**	**+0.2**
	33nm,0.5s,baz=88,slow=8.4,SNR=1255						
ASAR				PcP	**PcP**	**15 10 40.9**	**+0.3**
	2.6nm,0.7s,baz=102,slow=3.8,SNR=7.8						
ASAR				ScP	**ScP**	**15 13 42.6**	**+4.4**
	0.4nm,0.7s,baz=102,slow=4.3,SNR=4.4						
ASAR				S	**S**	**15 15 06.2**	**-0.2**
	1.4nm,0.9s,baz=94,slow=15,SNR=8.2						
KDU	**Kakadu**	**47.50**	**269**	P	**P**	**15 09 31.8**	**-0.2**
	baz=48,SNR=7.1						
WRKA	**Warakurna**	**49.77**	**252**	P	**P**	**15 09 48.9**	**+0.2**
	baz=50,SNR=8.2						
KNRA	**Kununurra**	**50.43**	**264**	P	**P**	**15 09 53.4**	**-0.1**
	baz=51,SNR=14						
VNDA	**Vanda**	**60.36**	**185**	P	**P**	**15 11 02.5**	**+1.3**
	2.4nm,0.8s,baz=355,slow=7.7,SNR=18						
MJAR	**Matsushiro Arr**	**67.94**	**323**	P	**P**	**15 11 50.0**	**+0.1**
	0.5nm,0.5s,baz=93,slow=8.5,SNR=2.8						
PETK	**Petropavlovsk-**	**73.75**	**345**	P	**P**	**15 12 23.6**	**+0.1**
	1.1nm,0.5s,baz=119,slow=8.9,SNR=3.7						
ISA	**Isabella, Lake**	**77.91**	**46**	*e*P	**P**	**15 12 47.6**	**+0.5**
	4.5nm,0.9s						
NVAR	**Mina Array Bea**	**79.52**	**44**	P	**P**	**15 12 56.0**	**+0.3**
	3.6nm,0.8s,baz=225,slow=8.7,SNR=26						
R11A	**Troy Canyon, C**	**81.29**	**45**	*e*P	**P**	**15 13 05.0**	**+0.2**
	1.7nm,1.0s						
WVOR	**Wild Horse Val**	**81.50**	**40**	*e*P	**P**	**15 13 05.8**	**0.0**
TUC	**Tucson**	**81.79**	**52**	*e*P	**P**	**15 13 08.2**	**+0.8**
	5.7nm,1.2s						
ELK	**Elko**	**82.75**	**43**	*e*P	**P**	**15 13 12.6**	**+0.3**
	2.0nm,0.8s						
MSU	**Marysvale**	**83.69**	**46**	*e*P	**P**	**15 13 17.7**	**+0.7**
	1.7nm,0.7s						
MAW	**Mawson**	**83.76**	**200**	P	**P**	**15 13 17.4**	**+0.9**
	3.2nm,0.5s,baz=123,slow=5.2,SNR=10						
MFID	**Camas Ranch**	**83.77**	**41**	*e*P	**P**	**15 13 17.2**	**+0.1**
	4.0nm,1.0s						
TRF	**Thorofare Moun**	**84.11**	**12**	*e*P	**P**	**15 13 17.0**	**-1.4**
	6.5nm,0.8s						
HLID	**Hailey**	**84.73**	**41**	*e*P	**P**	**15 13 22.2**	**+0.3**
	2.3nm,0.8s						
ILAR	**Eielson Array**	**85.98**	**13**	P	**P**	**15 13 25.9**	**-1.3**
	1.0nm,0.4s,baz=224,slow=5.2,SNR=26						
ILAR				pP	**pP**	**15 15 29.4**	**-2.4**
	0.8nm,1.0s,baz=221,slow=5.0,SNR=4.4						
TXAR	**Lajitas Array**	**86.08**	**58**	P	**P**	**15 13 29.9**	**+1.3**
	5.7nm,0.8s,baz=218,slow=6.1,SNR=58						
ANMO	**Albuquerque**	**86.19**	**52**	P	**P**	**15 13 28.8**	**-0.3**
	1.7nm,0.8s,baz=238,slow=6.0,SNR=4.1						
MCMT	**McKenzie Canyo**	**86.34**	**40**	*e*P	**P**	**15 13 30.2**	**+0.6**
	3.7nm,1.1s						
REDW	**Red Top Meadow**	**86.89**	**42**	*e*P	**P**	**15 13 32.6**	**+0.3**
	34nm,2.0s						
IMW	**Indian Meadow**	**87.08**	**42**	*e*P	**P**	**15 13 33.4**	**+0.1**
	7.2nm,1.0s						
HHC	**Hu-ho-hao-te**	**87.29**	**314**	*e*P	**P**	**15 13 33.6**	**-0.5**
HHC				sP	sP	15 16 25.9	-11
HHC				PP	**PP**	**15 17 10.5**	**+1.0**
HHC				S	**S**	**15 23 27.9**	**+1.5**
HHC	**Hu-ho-hao-te**	**87.29**	**314**	sS	sS	15 26 57.9	-12
HHC	**Hu-ho-hao-te**	**87.29**	**314**	SS	SS	15 29 32.5	+3.2
HHC				pmax	pmax		
	comp=Z,17nm,0.7s						
HHC				pmax	pmax		
	comp=Z,91nm,6.2s						
BW06	**Boulder Array**	**87.45**	**43**	*e*P	**P**	**15 13 34.4**	**-0.6**
	comp=Z,6.3nm,1.1s						
PDAR	**Pinedale Array**	**87.45**	**43**	P	**P**	**15 13 35.0**	**0.0**
	comp=Z,2.4nm,0.6s,baz=235,slow=1.4,SNR=22						
H17A	**Grant Village**	**87.55**	**42**	*e*P	**P**	**15 13 36.7**	**+1.3**
	comp=Z,2.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**88.86**	**290**	P	**P**	**15 13 43

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.14**	**82**	*e*Pg	Pg	15 04 02.3	-0.3
CHZP				*e*Sg	Sg	15 04 04.0	-0.5
OKC	**Ostrava-Krasne**	**0.59**	**223**	*e*PG	Pg	15 04 10.8	-0.3
OKC	comp=Z,13nm,0.3s			*e*SG	Sg	15 04 19.3	+0.5
OKC	**Ostrava-Krasne**	**0.59**	**223**	Pg	Pg	15 04 10.8	-0.3
OKC	13nm,0.3s			Sg	Sg	15 04 19.3	+0.5
OJC	**Ojcow**	**0.66**	**94**	*e*Pg	Pg	15 04 11.9	-0.6
OJC				*e*Sg	Sg	15 04 20.5	-0.7
MORC	**Moravsky Berou**	**0.93**	**239**	*e*Pg	Pg	15 04 18.1	+0.3
MORC	11nm,0.3s			*e*Sg	Sg	15 04 30.9	+0.9
LANS	**Liptovska Anna**	**1.21**	**158**	*e*Pg	Pg	15 04 22.9	-0.2
LANS				*e*Sg	Sg	15 04 39.2	+0.4
NIE	**Niedzica**	**1.31**	**130**	*e*Pg	Pg	15 04 24.4	-0.6
NIE				*e*Sg	Sg	15 04 42.4	+0.3
NIE	**Niedzica**	**1.31**	**130**	*e*Pg	Pg	15 04 24.4	-0.6
NIE				*e*Sg	Sg	15 04 42.4	+0.3
DPC	**Dobruska-Polom**	**1.57**	**274**	*e*PG	Pn	15 04 28.2	-0.8
DPC	comp=Z,54nm,0.4s			*e*SG	Sn	15 04 50.1	0.0
DPC	**Dobruska-Polom**	**1.57**	**274**	Pg	Pn	15 04 28.2	-0.8
DPC	54nm,0.4s			Sg	Sn	15 04 50.1	0.0
KSP	**Ksiaz**	**1.68**	**291**	*i* Pg	Pg	15 04 32.3	+0.2
KSP				*e*Sg	Sg	15 04 55.1	+1.2
VRAC	**Vranov**	**1.71**	**237**	*e*Pn	Pn	15 04 31.0	+0.1
VRAC	9.2nm,0.3s			*e*Sg	Sg	15 04 54.7	-0.1
VYHS	**Vyhne**	**1.78**	**179**	*e*Pn	Pn	15 04 31.1	-0.7
VYHS				*e*Sn	Sn	15 04 51.5	-3.6
VYHS	**Vyhne**	**1.78**	**179**	*e*PN	Pn	15 04 31.1	-0.7
VYHS				*e*SN	Sn	15 04 51.5	-3.6
STHS	**Stebnicka Huta**	**1.81**	**117**	*e*Pn	Pb	15 04 33.3	-0.6
STHS				*e*Sn	Sn	15 04 54.7	-1.4
STHS	**Stebnicka Huta**	**1.81**	**117**	*e*PN	Pb	15 04 33.2	-0.7
STHS				*e*SN	Sn	15 04 54.7	-1.4
KRUC	**Moravsky**	**1.96**	**233**	*e*Pn	Pn	15 04 34.7	+0.4
TREC	**Trest**	**2.34**	**247**	*e*SG	Sg	15 05 14.1	-1.0
TREC	comp=Z,3.2nm,0.2s **Trest**	**2.34**	**247**	Sg	Sg	15 05 14.1	-1.0
GOPC	3.2nm,0.2s **GO Pecny, Ondr**	**2.59**	**264**	*e*PG	Pb	15 04 47.1	0.0
GOPC	comp=Z,5.7nm,0.5s			*e*SG	Sg	15 05 21.5	-1.6
GOPC	**GO Pecny, Ondr**	**2.59**	**264**	Pg	Pb	15 04 47.1	0.0
GOPC	5.7nm,0.5s			Sg	Sg	15 05 21.5	-1.6
KOLS	**Kolonicke sedl**	**2.64**	**119**	*e*Sn	Sn	15 05 11.9	-4.6
KOLS	**Kolonicke sedl**	**2.64**	**119**	*e*SN	Sn	15 05 11.9	-4.6
PVCC	**Panska Ves**	**2.70**	**277**	*e*SG	Sg	15 05 25.1	-1.5
PVCC	comp=Z,10.0nm,0.3s **Panska Ves** 10.0nm,0.3s	**2.70**	**277**	Sg	Sg	15 05 25.1	-1.5
PRU	**Pruhonice**	**2.74**	**266**	*e*SG	Sb	15 05 25.4	+1.7
PRU	comp=Z,4.4nm,0.4s **Pruhonice** 4.4nm,0.4s	**2.74**	**266**	Sg	Sb	15 05 25.4	+1.7
BRG	**Berggiesshubel** 3.5nm,0.6s	**3.14**	**283**	SG	Sg	15 05 40.9	+0.3
KHC	**Kasperske Hory**	**3.56**	**253**	*e*PN	Pn	15 04 55.6	-0.7
KHC				*e*PG	Pb	15 05 04.9	+1.2
KHC	comp=Z,6.6nm,0.6s			*e*SG	Sg	15 05 52.4	-1.8
KHC	**Kasperske Hory**	**3.56**	**253**	Pn	Pn	15 04 55.6	-0.7
KHC	6.6nm,0.6s			Sg	Sg	15 05 52.4	-1.8
NKC	**Novy Kostel**	**4.06**	**272**	*e*SG	Sg	15 06 08.1	-2.1
NKC	**Novy Kostel**	**4.06**	**272**	Sg	Sg	15 06 08.1	-2.1

IDC ***10*** *15:04:16.2±1.6, 11°.70N×86°.84W, h0km, mb3.6/6, mb1 3.9/8, mb1mx3.6/31, mbtmp3.6/8, ML3.7/2, MS2.3/1, Ms1 2.3/1, ms1mx2.2/26, Error ellipse: s-maj=55.7km s-min=19.4km az=43.0*

CASC ***10*** *15:04:22.7±4.6, 11°.81N×86°.86W, h36km±999km, MD3.9*

ISC 10 15:04:22.0±1.0, 11°.8N±0°.2×86°.9W±0°.2, h35km, n15, σ1§96/17, mb3.4/6, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.78**	**328**	*e*P	**Pn**	**15 04 51.5**	**+1.1**
VSM	**San Miguel**	**2.15**	**321**	*e*P	**Pn**	**15 04 56.5**	**+0.8**
JTS	**JuntasÁbangare** 9.3nm,0.3s,baz=333,slow=21,SNR=23	**2.38**	**127**	Pn	**Pn**	**15 04 57.0**	**-1.6**
JTS	12nm,0.3s,baz=215,slow=20,SNR=6.3			Sn	**Sn**	**15 05 24.3**	**-2.4**
JTS	comp=Z,63nm,19.5s,baz=292,slow=44			LR	LR	15 05 58.8	
JCR	**Jicaral**	**2.57**	**137**	*e*P	**Pn**	**15 05 03.8**	**+2.6**
LFRS	**El Faro**	**2.83**	**311**	*e*P	**Pn**	**15 05 04.4**	**-0.4**
LFRS				*e*S	**Sn**	**15 05 37.2**	**-0.6**
CGA2	**Cerro Gallo 2**	**2.93**	**126**	*e*P	Pn	15 05 11.7	+5.4
CGA2				*e*S	**Sn**	**15 05 39.2**	**-1.1**
RBDL	**Robledal**	**3.60**	**311**	*e*P	**Pn**	**15 05 17.1**	**+1.6**
CMIG	**Matias Romero** 1.3nm,0.3s,baz=123,slow=9.5,SNR=8.6	**9.39**	**305**	Pn	**Pn**	**15 06 34.7**	**-0.2**
CMIG	0.3nm,0.3s,baz=0.0,slow=19,SNR=2.2			Sn	**Sn**	**15 08 15.0**	**-4.4**
TXAR	**Lajitas Array** 0.6nm,0.5s,baz=136,slow=9.6,SNR=10	**23.46**	**321**	P	**P**	**15 09 28.6**	**0.0**
TKL	**Tuckaleechee C** 2.4nm,0.6s,baz=169,slow=15,SNR=2.9	**23.96**	**6**	P	**P**	**15 09 34.4**	**+1.2**
PDAR	**Pinedale Array** 0.3nm,0.6s,baz=126,slow=9.2,SNR=3.3	**36.65**	**332**	P	**P**	**15 11 25.4**	**-0.2**
NVAR	**Mina Array Bea** 0.1nm,0.4s,baz=97,slow=6.8,SNR=2.7	**38.59**	**319**	P	**P**	**15 11 42.5**	**+0.5**
ULM	**Lac du Bonnet** 1.4nm,0.6s,baz=165,slow=14,SNR=3.0	**39.09**	**351**	P	P	15 11 44.4	-1.3
YKA	**Yellowknife Ar** 0.3nm,0.6s,baz=137,slow=7.4,SNR=7.5	**54.43**	**345**	P	**P**	**15 13 44.7**	**-0.7**
CMAR	**Chiang Mai Arr** 0.7nm,0.7s,baz=341,slow=4.6,SNR=5.6	**149.44**	**349**	PKPbc	**PKPdf**	**15 24 07.2**	**+3.3**

MEX 10 15:14:47.4±0.6, 17°.03N×100°.34W, h4km±10km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.07**	**74**	*i* P	Pg	15 14 48.2	-0.7
CAIG				*i* S	Sg	15 14 50.2	+0.2
ACX	**Acapulco**	**0.48**	**109**	*e*P	Pg	15 14 56.0	-0.8
ACX				*e*S	Sg	15 15 01.4	-1.8
ARIG	**Puente Sto Nin**	**1.25**	**360**	*e*P	Pg	15 15 07.8	-3.5
ARIG				*i* S	Sg	15 15 23.4	-4.1
PLIG	**Platanillo**	**1.57**	**30**	*e*P	Pn	15 15 12.8	-3.5
PLIG				*i* S	Sn	15 15 32.0	-5.1

DJA 10 15:18:53.9±0.6, 8°.3S×117°.9E±°, h14km±6km, M3.6/11, MLv3.6/11, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.50**	**168**	P	Pn	15 19 19.8	-0.6
WSI	**Waingapu**	**1.92**	**141**	P	Pn	15 19 25.9	-0.3
WSI				S	Sn	15 19 50.4	+0.2
BSSI	**Bau Bau, Buton**	**2.46**	**35**	P	Pn	15 19 33.0	-0.6
BASI	**Baing, Sumba**	**2.52**	**144**	P	Pn	15 19 34.1	-0.4
EDFI	**Ende, Flores**	**2.66**	**103**	P	Pn	15 19 36.6	+0.1
BKSI	**Bulukumba**	**3.02**	**20**	P	Pn	15 19 40.6	-0.7
MMRI	**Maumere**	**3.17**	**99**	P	Pn	15 19 43.4	0.0

IDC ***10*** *15:31:23.7±0.8, 20°.77S×177°.02E, h0km, mb4.2/14, mb1 4.3/14, mb1mx4.2/28, mbtmp4.2/14, MS3.7/5, Ms1 3.7/5, ms1mx3.3/22, Error ellipse: s-maj=25.8km s-min=18.3km az=112.0*

NEIC ***10*** *15:31:25.0±0.6, 20°.61S×177°.13E, h10km, mb4.4/6, Error ellipse: s-maj=17.0km s-min=11.8km az=112.0*

ISCJB ***10*** *15:31:26.1±0.5, 20°.57S±0°.06×177°.18E±0°.10, h33km, mb4.2/19, MS3.7/4, Error ellipse: s-maj=13.6km s-min=7.2km az=21.0*

ISC 10 15:31:27.5±0.6, 20°.61S±0°.08×177°.36E±0°.09, h35km, n30, σ1§53/29, mb4.2/19, MS3.8/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.93**	**13**	*e*Pn	**Pn**	**15 32 10.1**	**-1.6**
MSVF				*e*Sn	**Sn**	**15 32 45.2**	**-0.5**
DZM	**Mont Dzumac** 0.6nm,0.3s,baz=93,slow=23,SNR=5.6	**10.28**	**260**	Pn	**Pn**	**15 33 51.2**	**-1.4**
DZM	**Mont Dzumac**	**10.28**	**260**	*e*P	**Pn**	**15 33 52.2**	**-0.4**
URZ	**Urewera** 1.5nm,0.3s,baz=6.6,slow=5.8,SNR=6.9	**17.60**	**181**	P	**P**	**15 35 32.7**	**+2.0**
URZ	comp=Z,215nm,19.7s,baz=26,slow=31			LR	LR	15 40 19.1	
URZ	**Urewera** 37nm,0.9s	**17.60**	**181**	*e*P	**P**	**15 35 32.3**	**+1.6**
RPZ	**Rata Peaks** 7.1nm,0.6s,baz=32,slow=1.8,SNR=9.0	**23.64**	**191**	P	**P**	**15 36 34.6**	**-0.9**
ARMA	**Armidale** 9.6nm,1.1s	**25.14**	**242**	*e*P	**P**	**15 36 46.9**	**-2.7**
TBI	**Tubuai** 46nm,30.8s	**30.86**	**101**	*e*S	**S**	**15 42 41.2**	**-1.1**
TBI	164nm,32.5s			*e*LR	LR	15 45 45.7	
PPT2	**Papeete2** 52nm,24.8s	**31.36**	**90**	*e*S	**S**	**15 42 47.4**	**-3.0**
PPT2	269nm,29.5s			*e*LR	LR	15 46 02.2	
PPT	**Papeete** comp=Z,55nm,18.5s,baz=273,slow=33	**31.37**	**90**	LR	LR	15 49 00.5	
STKA	**Stephens Creek** 1.4nm,0.6s,baz=89,slow=7.7,SNR=4.2	**33.84**	**243**	P	**P**	**15 38 05.7**	**-1.0**
STKA	comp=Z,207nm,19.4s,baz=54,slow=33			LR	LR	15 49 44.4	
STKA	**Stephens Creek**	**33.84**	**243**	*e*P	**P**	**15 38 07.2**	**+0.5**
AS31	**Alice Springs**	**40.25**	**257**	*e*P	**P**	**15 39 00.2**	**-1.2**
ASAR	**Alice Springs** 3.6nm,0.8s,baz=86,slow=9.5,SNR=34	**40.25**	**257**	P	**P**	**15 39 00.3**	**-1.0**
ASAR	1.2nm,0.9s,baz=106,slow=3.0,SNR=5.2			PcP	**PcP**	**15 41 03.4**	**-1.5**
ASAR	comp=Z,107nm,18.2s,baz=132,slow=38			LR	LR	15 56 46.7	
WRAB	**Tennant Creek** 3.7nm,1.0s	**40.26**	**263**	*e*P	**P**	**15 38 59.5**	**-1.9**
WRA	**Warramunga Arr** 1.9nm,0.8s,baz=98,slow=8.4,SNR=21	**40.27**	**263**	P	**P**	**15 38 59.7**	**-1.8**
VNDA	**Vanda** 0.6nm,0.8s,baz=6.1,slow=8.7,SNR=3.9	**57.46**	**184**	P	**P**	**15 41 11.9**	**-0.6**
VNDA	**Vanda** 0.8nm,0.8s	**57.46**	**184**	*e*P	**P**	**15 41 12.2**	**-0.3**
SBA	**Scott Base** 3.6nm,0.8s	**57.52**	**183**	*e*P	**P**	**15 41 14.4**	**+1.5**
MJAR	**Matsushiro Arr** 3.1nm,0.8s,baz=159,slow=5.9,SNR=12	**67.81**	**327**	P	**P**	**15 42 23.1**	**+1.0**
QSPA	**South Pole Qui** 11nm,1.2s	**69.46**	**180**	*e*P	**P**	**15 42 32.5**	**+0.3**
ASAJ	**Asahikawa** 5.1nm,0.8s,baz=210,slow=5.5,SNR=3.9	**71.84**	**334**	P	**P**	**15 42 49.6**	**+3.0**
PETK	**Petropavlovsk-** 3.0nm,0.9s,baz=126,slow=9.3,SNR=5.7	**75.36**	**348**	P	**P**	**15 43 08.7**	**+1.6**
MAW	**Mawson** 4.0nm,0.8s,baz=87,slow=7.5,SNR=4.9	**79.96**	**201**	P	**P**	**15 43 32.8**	**+0.1**
NVAR	**Mina Array Bea** 0.4nm,0.6s,baz=230,slow=7.0,SNR=2.8	**84.14**	**45**	P	P	15 43 59.5	+4.1
SEY	**Seymchan** 1.4nm,0.8s,baz=155,slow=8.6,SNR=6.6	**85.56**	**349**	P	**P**	**15 44 02.7**	**+1.1**
CMAR	**Chiang Mai Arr** 1.2nm,0.9s,baz=124,slow=4.1,SNR=6.2	**86.07**	**291**	P	**P**	**15 44 06.1**	**+0.9**
ILAR	**Eielson Array** 1.0nm,0.8s,baz=240,slow=5.5,SNR=4.3	**89.44**	**15**	P	**P**	**15 44 20.6**	**+0.4**
TXAR	**Lajitas Array** 0.3nm,0.8s,baz=171,slow=6.1,SNR=3.1	**90.81**	**59**	P	P	15 44 31.7	+4.1
TXAR	comp=Z,42nm,21.1s,baz=0.0,slow=30			LR	LR	16 17 05.8	
SONM	**Songino Array** 0.4nm,0.3s,baz=145,slow=5.3,SNR=3.7	**93.02**	**320**	P	**P**	**15 44 38.1**	**+0.6**

NIED ***10*** *15:41:00, 47°.20N×153°.60E, h11km, Mw3.9 Best double couple: M0 8.84000×10^14 NP1:φs349.00000°, δ32.00000°, λ42.00000°. NP2:φs222.00000°, δ69.00000°, λ115.00000°.*

SKHL ***10*** *15:41:45.6±1.1, 47°.08N×153°.61E, h15km±5km, mb4.8/4, Ms4.0/1*

IDC ***10*** *15:41:45.2±0.7, 46°.81N×153°.67E, h0km, mb3.8/16, mb1 4.0/19, mb1mx3.8/33, mbtmp3.7/19, ML3.1/3, MS3.0/3, Ms1 3.0/3, ms1mx2.5/38, Error ellipse: s-maj=21.5km s-min=14.7km az=137.0*

NEIC ***10*** *15:41:46.7±0.5, 46°.84N×153°.62E, h10km, mb4.0/2, Error ellipse: s-maj=13.0km s-min=6.1km az=133.0*

ISCJB ***10*** *15:41:48.6±0.5, 47°.01N±0°.07×153°.40E±0°.08, h31km, mb3.8/17, MS2.9/3, Error ellipse: s-maj=11.6km s-min=5.1km az=142.6*

MOS ***10*** *15:41:48.9±1.6, 46°.89N×153°.51E, h41km, mb4.1/4, Error ellipse: s-maj=18.8km s-min=10.1km az=57.5*

ISC 10 15:41:50.2±0.6, 47°.01N±0°.08×153°.53E±0°.07, h31km, n59, σ1§70/50, mb3.8/17, MS3.1/3, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.05**	**24**	*e*P	**Pn**	**15 42 47.2**	**-2.8**
SKR	170nm,0.9s			AMB	AMB	15 42 56.7	
SKR				*e*S	**Sn**	**15 43 32.6**	**-3.7**
SKR	830nm,0.7s			A	A	15 43 42.6	
KUR	**Kuril'sk**	**4.32**	**248**	*i* PN	**Pn**	**15 42 51.9**	**-1.8**
KUR				*i* S	**Sn**	**15 43 47.3**	**+4.4**
KUR	comp=Z,43nm,0.7s			pmax	pmax		
KUR	comp=E,8.0nm,0.8s			pmax	pmax		
KUR	comp=N,21nm,0.4s			pmax	pmax		
KUR	comp=N,60nm,0.7s			smax	smax		
KUR	comp=E,41nm,0.7s			smax	smax		
KUR	**Kuril'sk**	**4.32**	**248**	*i* P	**Pn**	**15 42 51.9**	**-1.8**
KUR	comp=E,800nm,0.3s			AMB	AMB	15 42 56.8	
KUR	comp=E,90nm,0.5s			AMB	AMB	15 42 56.8	
KUR				*e*S	**Sn**	**15 43 42.5**	**-0.4**
KUR	comp=E,140nm,0.5s			A	A	15 43 56.8	
KUR	comp=E,90nm,0.5s			A	A	15 43 56.8	
PAU	**Pauzhetka**	**4.95**	**25**	*e*P	Pn	15 42 56.3	-6.0
PAU				*e*S	Sn	15 43 50.0	-8.5
PAU	comp=E,420nm,0.9s			A	A	15 43 51.9	
SHO	**Shikotan**	**5.66**	**239**	*e*P	**Pn**	**15 43 12.0**	**-0.1**
SHO	comp=E,120nm,0.8s			AMB	AMB	15 43 16.3	
SHO				*e*S	**Sn**	**15 44 16.5**	**+0.4**
SHO	comp=E,150nm,0.8s			A	A	15 44 25.4	
YUK	**Yuzh-Kuril'sk**	**6.15**	**244**	*e*PN	Pn	15 43 26.6	+7.7
YUK	comp=Z,52nm,0.9s			pmax	pmax		
YUK	comp=N,32nm,0.4s			pmax	pmax		
YUK	comp=E,16nm,0.4s			pmax	pmax		
YUK	comp=E,284nm,5.0s			MLR	MLR		
YUK	comp=Z,243nm,5.0s			MLR	MLR		
YUK	**Yuzh-Kuril'sk** comp=Z,300nm,5.0s	**6.15**	**244**	AMS	AMS	15 46 59.8	
YUK	comp=Z,200nm,5.0s			AMS	AMS	15 46 59.8	
PEA0B	**Petropavlovsk-**	**6.67**	**22**	Pn	**Pn**	**15 43 25.7**	**-0.2**
PETK	**Petropavlovsk-** comp=Z,0.5nm,0.3s,baz=179,slow=14,SNR=16	**6.67**	**22**	Pn	**Pn**	**15 43 25.2**	**-0.7**
PETK	**Petropavlovsk-**	**6.67**	**22**	PN	**Pn**	**15 43 25.2**	**-0.7**
PETK	comp=Z,1.0nm,0.3s			pmax	pmax		
PET	**Petropavlovsk**	**6.86**	**27**	PN	**Pn**	**15 43 28.9**	**+0.3**
PET	**Petropavlovsk**	**6.86**	**27**	*e*P	Pn	15 43 20.9	-7.7
PET	comp=Z,200nm,1.6s			AMB	AMB	15 43 30.0	
PET	**Petropavlovsk**	**6.86**	**27**	Pn	**Pn**	**15 43 28.9**	**+0.3**
YSS	**Yuzh-Sakhalins**	**7.37**	**273**	*e*P	Pn	15 43 32.0	-3.6
YSS				*e*S	**Sn**	**15 44 56.2**	**-1.9**
YSS	comp=Z,20nm,0.7s			A	A	15 45 11.8	
TYV	**Tymovskoe**	**8.13**	**302**	*e*P	**Pn**	**15 43 45.0**	**-0.9**
TYV				*e*rx	rx	15 43 54.0	
JKA	**Kamikawa-asahi**	**8.20**	**253**	*e*P	**Pn**	**15 43 46.0**	**-0.9**
ASAJ	**Asahikawa** comp=Z,0.4nm,0.3s,baz=301,slow=19,SNR=4.6	**8.20**	**253**	Pn	**Pn**	**15 43 46.0**	**-0.9**
NKL	**Nikolayevsk**	**10.29**	**311**	*e*P	**Pn**	**15 44 15.0**	**-0.4**
NKL				*e*rx	rx	15 44 28.0	
EKMR	**Ekimchan**	**14.52**	**302**	*e*P	**P**	**15 45 19.6**	**0.0**
KLR	**Kul'dur**	**14.71**	**287**	*e*P	**P**	**15 45 18.7**	**-3.0**
MAJO	**Matsushiro**	**15.46**	**233**	*e*P	**Pn**	**15 45 22.2**	**-3.8**
MAJO	**Matsushiro**	**15.46**	**233**	*e*Pn	**Pn**	**15 45 22.2**	**-3.8**
MJAR	**Matsushiro Arr** comp=Z,0.1nm,0.3s,baz=324,slow=15,SNR=3.6	**15.46**	**233**	Pn	**Pn**	**15 45 24.4**	**-1.6**
YAK	**Yakutsk** comp=Z,2.4nm,0.3s,baz=139,slow=3.2,SNR=3.6	**20.26**	**327**	P	Pn	15 46 27.5	+2.7
YAK	**Yakutsk**	**20.26**	**327**	*e*P	Pn	15 46 25.7	+0.9
YAK	**Yakutsk** comp=Z,6.1nm,0.8s	**20.26**	**327**	Pn	Pn	15 46 25.7	+1.0
KSRS	**Korea Array** comp=Z,1.6nm,0.7s,baz=57,slow=9.0,SNR=7.5	**21.15**	**252**	P	**P**	**15 46 32.5**	**0.0**
KSRS	comp=Z,20nm,18.1s,baz=140,slow=39			LR	LR	15 55 39.9	
KSAR	**Wonju Array Be**	**21.18**	**252**	P	**P**	**15 46 32.5**	**-0.3**
KSAR	**Wonju Array Be**	**21.18**	**252**	P	**P**	**15 46 32.5**	**-0.3**
H11N2	**WAKE ISLAND Hy** baz=340,slow=76,SNR=7.1	**29.32**	**154**	T	T	16 19 32.4	
H11N1	**WAKE ISLAND Hy** baz=340,slow=76,SNR=6.6	**29.34**	**154**	T	T	16 19 21.0	
H11N3	**WAKE ISLAND Hy** baz=340,slow=76,SNR=7.2	**29.34**	**154**	T	T	16 19 22.7	
H11S1	**WAKE ISLAND Hy** baz=341,slow=76,SNR=19	**30.42**	**155**	T	T	16 21 18.0	
H11S3	**WAKE ISLAND Hy** baz=341,slow=76,SNR=14	**30.43**	**155**	T	T	16 21 07.6	
H11S2	**WAKE ISLAND Hy** baz=341,slow=76,SNR=13	**30.44**	**155**	T	T	16 21 08.4	
ILAR	**Eielson Array** comp=Z,0.3nm,0.7s,baz=236,slow=6.4,SNR=3.2	**36.17**	**39**	P	**P**	**15 48 50.6**	**+1.3**
ZALV	**Zalesovo Beam** comp=Z,0.6nm,0.5s,baz=59,slow=5.7,SNR=3.5	**42.69**	**306**	P	**P**	**15 49 44.4**	**+0.6**
MK31	**Makanchi Array**	**47.07**	**297**	*e*P	**P**	**15 50 19.7**	**+0.9**
MKAR	**Makanchi Array** comp=Z,0.4nm,0.5s,baz=72,slow=2.9,SNR=7.0	**47.07**	**297**	P	**P**	**15 50 20.1**	**+1.2**
MKAR	comp=Z,22nm,20.6s,baz=7.0,slow=37			LR	LR	16 11 11.6	
KURK	**Kurchatov**	**47.46**	**304**	*e*P	**P**	**15 50 22.0**	**+0.3**
KURK	**Kurchatov** comp=Z,1.9nm,0.6s	**47.46**	**304**	*e*P	**P**	**15 50 22.0**	**+0.3**
YKA	**Yellowknife Ar** comp=Z,0.7nm,0.8s,baz=297,slow=7.6,SNR=4.9	**50.54**	**37**	P	**P**	**15 50 46.8**	**+1.7**
CMAR	**Chiang Mai Arr** comp=Z,0.5nm,0.7s,baz=34,slow=6.6,SNR=4.0	**52.71**	**256**	P	**P**	**15 51 03.7**	**+1.8**
CMAR	**Chiang Mai Arr**	**52.71**	**256**	P	**P**	**15 51 03.7**	**+1.8**
CMAR	comp=Z,1.0nm,0.7s			pmax	pmax		
ARCES	**ARCESS Array B** comp=Z,1.6nm,0.8s,baz=34,slow=6.6,SNR=4.6	**57.70**	**341**	P	**P**	**15 51 38.1**	**+0.9**
FINES	**FINESS Array B** comp=Z,1.9nm,0.6s,baz=40,slow=7.4,SNR=9.6	**63.92**	**335**	P	**P**	**15 52 21.3**	**+1.7**
PDAR	**Pinedale Array** comp=Z,0.6nm,1.0s,baz=270,slow=4.2,SNR=3.9	**64.36**	**54**	P	**P**	**15 52 23.4**	**+0.2**
PDAR	comp=Z,17nm,21.9s,baz=277,slow=34			LR	LR	16 17 42.5	
NB2	**NORSAR Subarra** comp=Z,1.1nm,0.6s,baz=27,slow=6.5	**68.07**	**341**	P	**P**	**15 52 48.1**	**+1.8**
NOA	**NORSAR Array B** comp=Z,1.5nm,0.6s,baz=27,slow=6.3,SNR=7.1	**68.07**	**341**	P	**P**	**15 52 47.4**	**+1.0**
WRA	**Warramunga Arr** comp=Z,1.5nm,1.1s,baz=20,slow=6.7,SNR=4.2	**68.85**	**199**	P	**P**	**15 52 49.0**	**-2.6**
WRA	**Warramunga Arr**	**68.85**	**199**	P	**P**	**15 52 49.0**	**-2.6**
WRA	comp=Z,2.0nm,1.1s			pmax	pmax		
AKASG	**Malin Array Be** comp=Z,0.3nm,0.3s,baz=33,slow=6.3,SNR=6.1	**71.49**	**326**	P	**P**	**15 53 08.0**	**+0.6**
ASAR	**Alice Springs** comp=Z,0.7nm,0.6s,baz=14,slow=6.1,SNR=16	**72.55**	**199**	P	**P**	**15 53 13.3**	**-0.7**
ASAR	**Alice Springs**	**72.55**	**199**	P	**P**	**15 53 13.4**	**-0.7**
ASAR	comp=Z,1.0nm,0.6s			pmax	pmax		
CLL	**Collm**	**76.34**	**336**	*e*P	**P**	**15 53 37.0**	**+1.2**
TXAR	**Lajitas Array** comp=Z,0.6nm,0.6s,baz=301,slow=3.5,SNR=11	**77.12**	**61**	P	**P**	**15 53 40.6**	**-0.1**
TXAR	**Lajitas Array**	**77.12**	**61**	P	**P**	**15 53 40.7**	**-0.1**
TXAR	comp=Z,1.0nm,0.6s			pmax	pmax		
GERES	**GERESS Array B** comp=Z,0.4nm,0.4s,baz=30,slow=8.0,SNR=3.5	**78.34**	**334**	P	**P**	**15 53 47.6**	**+0.3**
BRTR	**Keskin Array B** comp=Z,0.5nm,0.5s,baz=54,slow=6.3,SNR=3.6	**78.39**	**317**	P	**P**	**15 53 49.4**	**+1.7**

MEX 10 15:43:44.0±0.6, 16°.11N×97°.99W, h4km±13km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.31**	**335**	*i* P	Pg	15 43 50.0	-0.1
PNIG				*i* S	Sg	15 43 54.1	-0.2
VHO	**Vista Hermosa**	**1.54**	**51**	*e*P	Pn	15 44 08.3	-4.2
VHO				*i* S	Sn	15 44 28.7	-4.5
HUIG	**Huatulco**	**1.84**	**100**	*e*P	Pn	15 44 13.1	-3.3
HUIG				*i* S	Sn	15 44 35.4	-4.8
CMIG	**Matias Romero**	**3.14**	**71**	*e*P	Pg	15 44 46.5	+2.3
CMIG				*i* S	Sb	15 45 18.9	-0.1

GUC 10 16:18:19.5±0.9, 36°.43S×72°.83W, h15km±9km, ML3.8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.47**	**209**	*e*P	Pg	16 18 28.6	-0.3
CCSP				*e*S	Sg	16 18 35.6	+0.3
CCSP	comp=N,6μm,0.3s			AML	AML	16 18 36.9	
LNCH	**Linares**	**1.15**	**60**	*e*P	Pn	16 18 40.0	-1.1
LNCH				*e*S	Sb	16 18 54.7	-1.1
TALC	**Talca**	**1.41**	**44**	*e*P	Pn	16 18 43.4	-1.3
TALC				*e*S	Sn	16 19 01.5	-1.5
CLCH	**Cerro Calan**	**3.56**	**33**	*e*P	Pn	16 19 15.2	+0.8
CLCH	comp=N,318nm,0.7s			AML	AML	16 20 14.1	
PEL	**Peldehue**	**3.72**	**29**	*e*P	Pn	16 19 18.1	+1.5

IDC 10 16:43:26.9±2.1, 7°.31S×128°.64E, h0km, mb3.6/1, mb1 3.4/3, mb1mx3.3/35, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=113.1km s-min=32.6km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=336,slow=13,SNR=12	**13.72**	**157**	Pn	Pn	16 46 41.8	-1.

YBH	**Yreka Blue Hor**	**79.43**	**38**	P		**P**	17 07 00.1	**+0.7**
	3.4nm,1.0s,baz=256,slow=8.3,SNR=3.0							
TXAR	**Lajitas Array**	**85.87**	**57**	P		**P**	17 07 32.8	**-0.1**
	0.5nm,0.8s,baz=212,slow=6.9,SNR=4.7							
SEY	**Seymchan**	**86.75**	**346**	P		**P**	17 07 36.4	**+0.3**
	0.7nm,0.5s,baz=124,slow=3.7,SNR=4.9							
ILAR	**Eielson Array**	**88.05**	**12**	P		**P**	17 07 40.4	**-1.9**
	0.2nm,0.5s,baz=243,slow=3.8,SNR=4.9							
CMAR	**Chiang Mai Arr**	**91.49**	**289**	P		**P**	17 08 01.2	**+1.8**
	0.7nm,0.7s,baz=137,slow=2.9,SNR=5.6							
ARCES	**ARCESS Array B**	**129.22**	**350**	PKP		**PKPdf**	17 13 59.3	**+0.7**
	1.2nm,0.7s,baz=28,slow=2.9,SNR=8.0							
AKASG	**Malin Array Be**	**143.74**	**332**	PKhKP		PKPpre	17 14 23.1	
	0.7nm,0.5s,baz=44,slow=4.8,SNR=5.7							
BRTR	**Keskin Array B**	**147.93**	**313**	PKPbc		**PKPbc**	17 14 36.6	**-0.4**
	1.0nm,0.6s,baz=119,slow=4.4,SNR=6.5							
CLL	**Collm**	**148.41**	**349**	*i* PKP		**PKPbc**	17 14 38.1	**+0.5**
	comp=Z,9.0nm,1.0s							
BRG	**Berggiesshubel**	**148.64**	**347**	*e*P		**PKPbc**	17 14 39.1	**+0.9**
	comp=Z,4.1nm,0.8s							
GERES	**GERESS Array B**	**150.61**	**346**	PKPbc		**PKPbc**	17 14 44.0	**+0.8**
	comp=Z,1.4nm,0.6s,baz=54,slow=2.3,SNR=16							

DJA 10 17:06:49.6±0.4,**1°S**±3°×**12°0E**±°,**h10km,M3.6/8,MLv3.6/8,**
Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCI	**Palu**	**0.20**	**161**	P	Pg	17 06 51.0	-2.9
PCI				S	Sg	17 06 58.8	+1.9
MPSI	**Mapaga**	**1.05**	**7**	P	Pg	17 07 08.3	-1.5
MRSI	**Marisa**	**2.47**	**61**	P	Pn	17 07 29.5	-0.4
LUWI	**Luwuk**	**3.02**	**96**	P	Pn	17 07 37.6	+0.1
LUWI				S	Sn	17 08 14.3	+0.5
SPSI	**Sidrap Palu**	**3.23**	**180**	P	Pn	17 07 40.4	0.0
BNSI	**Bone**	**3.68**	**175**	P	Pn	17 07 47.7	+1.1

*ISCJB **10** 17:08:19.5±0.4, 67°.03N±0°.02×20°.81E±0°.08, h0km, Error ellipse: s-maj=4.8km s-min=2.8km az=5.2*
*CSEM **10** 17:08:20.8±0.2, 67°.04N×20°.89E, h0km±1km, ML1.7, Error ellipse: s-maj=5.9km s-min=4.3km az=76.0, Mining explosion.*
*HEL **10** 17:08:21.6±0.1, 67°.02N×20°.92E, h0km, ML2.2, ML1.7(UPP), Explosion*
*HEL **10** 17:08:21.2, 67°.05N×20°.80E, h0km, ML2.2, Explosion*
*UPP **10** 17:08:21.4, 67°.06N×20°.93E, h0km, ML1.7, Mining explosion.*
*IDC **10** 17:08:22.1±1.0, 67°.02N×21°.31E, h0km, mb1 2.7/3, mb1mx2.7/35, mbtmp2.6/3, ML2.2/3, Error ellipse: s-maj=17.9km s-min=8.6km az=114.0*
ISC 10 17:08:21.5±0.8,**67.06N**±0°.02×**20.94E**±0°.03,**h0km, n48,**
σ0s96/71, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASU	**Masugnsbyn**	**0.57**	**46**	*i* P	**Pg**	**17 08 32.4**	**0.0**
MASU				*i* S	**Sg**	**17 08 41.0**	**+1.2**
MASU	**Masugnsbyn**	**0.57**	**46**	P	**Pg**	**17 08 32.4**	**0.0**
MASU				S	**Sg**	**17 08 41.0**	**+1.2**
MASU	**Masugnsbyn**	**0.57**	**46**	P	**Pg**	**17 08 32.4**	**0.0**
MASU				S	**Sg**	**17 08 41.0**	**+1.2**
ERTU	**Ertsjaerv**	**0.71**	**135**	*e*PB	**Pg**	**17 08 34.6**	**-0.5**
	baz=305						
ERTU				*e*S	**Sg**	**17 08 44.3**	**0.0**
ERTU	**Ertsjaerv**	**0.71**	**135**	Pb	**Pg**	**17 08 34.6**	**-0.5**
ERTU				S	**Sg**	**17 08 44.2**	**0.0**
ERTU	**Ertsjaerv**	**0.71**	**135**	P	**Pg**	**17 08 34.8**	**-0.3**
HARU	**Harads**	**0.90**	**179**	*e*P	**Pg**	**17 08 38.2**	**-0.5**
HARU	**Harads**	**0.90**	**179**	P	**Pg**	**17 08 38.2**	**-0.5**
HARU	**Harads**	**0.90**	**179**	P	**Pg**	**17 08 38.2**	**-0.5**
KUA	**Kurravaara**	**0.93**	**346**	*e*P	**Pg**	**17 08 38.6**	**-0.6**
KUA	**Kurravaara**	**0.93**	**346**	P	**Pg**	**17 08 38.6**	**-0.6**
KUA	**Kurravaara**	**0.93**	**346**	P	**Pg**	**17 08 38.6**	**-0.6**
SALU	**Saltoluokta**	**1.00**	**290**	*e*P	**Pg**	**17 08 40.3**	**-0.3**
SALU	**Saltoluokta**	**1.00**	**290**	P	**Pg**	**17 08 40.3**	**-0.3**
SALU	**Saltoluokta**	**1.00**	**290**	P	**Pg**	**17 08 40.3**	**-0.3**
LANU	**Lannavaara**	**1.07**	**22**	*e*P	**Pg**	**17 08 41.1**	**-0.9**
	baz=218						
LANU				*e*SB	**Sg**	**17 08 56.3**	**+0.5**
LANU	**Lannavaara**	**1.07**	**22**	P	**Pg**	**17 08 41.3**	**-0.7**
LANU				Sb	**Sg**	**17 08 56.3**	**+0.5**
LANU	**Lannavaara**	**1.07**	**22**	P	**Pg**	**17 08 41.3**	**-0.7**
NIKU	**Nikkaluokta**	**1.09**	**319**	*e*P	**Pg**	**17 08 41.7**	**-0.6**
NIKU	**Nikkaluokta**	**1.09**	**319**	P	**Pg**	**17 08 41.7**	**-0.6**
NIKU	**Nikkaluokta**	**1.09**	**319**	P	**Pg**	**17 08 41.7**	**-0.6**
KALU	**Kalix**	**1.55**	**140**	*e*PN	**Pn**	**17 08 50.0**	**-0.3**
KALU				*e*SN	**Sn**	**17 09 10.2**	**-0.8**
KALU	**Kalix**	**1.55**	**140**	P	**Pn**	**17 08 49.9**	**-0.3**
KALU				Sn	**Sn**	**17 09 10.2**	**-0.8**
KALU	**Kalix**	**1.55**	**140**	P	**Pn**	**17 08 49.9**	**-0.3**
HEF	**Hetta**	**1.70**	**36**	*e*P	**Pn**	**17 08 52.0**	**-0.4**
	baz=222						
HEF				MSG		17 09 13.3	
	comp=Z,14nm,0.2s						
HEF				*e*S	**Sn**	**17 09 14.8**	**-0.1**
HEF	**Hetta**	**1.70**	**36**	P	**Pn**	**17 08 52.0**	**-0.4**
HEF				S	**Sn**	**17 09 14.7**	**-0.1**
KIF	**Kilpisjarvi**	**1.95**	**359**	*e*PB	**Pb**	**17 08 57.3**	**-0.5**
KIF				MSG		17 09 20.6	
	comp=Z,21nm,0.2s						
KIF				*e*SG	**Sg**	**17 09 24.3**	**+0.2**
KIF	**Kilpisjarvi**	**1.95**	**359**	Pb	**Pb**	**17 08 57.3**	**-0.5**
SGF	**Sodankyl**	**2.21**	**77**	*e*PB	**Pn**	**17 09 00.3**	**+1.0**
	baz=266						
SGF				*e*SG	**Sb**	**17 09 30.7**	**+0.7**
SGF	**Sodankyl**	**2.21**	**77**	Pb	**Pn**	**17 09 00.3**	**+1.0**
SGF				Sg	**Sb**	**17 09 30.7**	**+0.7**
BURU	**Burvik**	**2.50**	**176**	*e*PB	**Pn**	**17 09 04.7**	**+1.5**
BURU				*e*SB	**Sn**	**17 09 35.2**	**+0.9**
BURU	**Burvik**	**2.50**	**176**	Pb	**Pn**	**17 09 04.7**	**+1.5**
BURU				Sb	**Sn**	**17 09 35.2**	**+0.9**
OUL	**Oulu**	**2.83**	**132**	*e*PG	**Pb**	**17 09 11.3**	**-1.5**
	baz=312						
OUL	**Oulu**	**2.83**	**132**	Pg	**Pb**	**17 09 11.3**	**-1.5**
ARCES	**ARCESS Array B**	**3.01**	**32**	Pn	**Pn**	**17 09 10.7**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=214,slow=14,SNR=23						
ARCES				Sn	**Sn**	**17 09 46.9**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=213,slow=21,SNR=11						
UMAU	**Umeaa**	**3.19**	**182**	*e*PB	**Pn**	**17 09 14.0**	**+1.2**
	baz=5.0						
UMAU				*e*SB	**Sn**	**17 09 53.2**	**+1.7**
UMAU	**Umeaa**	**3.19**	**182**	Pb	**Pn**	**17 09 14.0**	**+1.2**
UMAU				Sb	**Sn**	**17 09 53.2**	**+1.7**
VRF	**Varrio**	**3.42**	**74**	*e*P	**Pn**	**17 09 17.4**	**+1.4**
VRF	**Varrio**	**3.42**	**74**	P	**Pn**	**17 09 17.3**	**+1.4**
MSF	**Maaselka**	**3.45**	**106**	*e*PB	**Pn**	**17 09 19.1**	**+2.8**
KEV	**Kevo**	**3.51**	**37**	*e*P	**Pn**	**17 09 17.8**	**+0.6**
KEV				*e*S	**Sn**	**17 09 59.3**	**-0.2**
KEV	**Kevo**	**3.51**	**37**	P	**Pn**	**17 09 17.8**	**+0.6**
KEV				S	**Sn**	**17 09 59.2**	**-0.2**
KU6	**Riekki**	**3.73**	**102**	*e*P	**Pn**	**17 09 21.2**	**+1.0**
	baz=285						
KU6	**Riekki**	**3.73**	**102**	P	**Pn**	**17 09 21.2**	**+1.0**
VAF	**Ylistaro**	**4.10**	**169**	*e*P	**Pn**	**17 09 27.3**	**+1.9**
	baz=345						
VAF				*e*		17 10 30.2	
VAF	**Ylistaro**	**4.10**	**169**	P	**Pn**	**17 09 27.2**	**+1.9**
FINES	**FINESS Array B**	**6.07**	**156**	Pn	**Pn**	**17 09 52.2**	**0.0**
	comp=Z,0.1nm,0.3s,baz=344,slow=14,SNR=5.3						
FINES				Sn	**Sn**	**17 11 00.2**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=340,slow=22,SNR=9.4						
NOA	**NORSAR Array B**	**7.39**	**220**	Pn	**Pn**	**17 10 10.4**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=340,slow=16,SNR=2.6						
NOA				Sn	**Sn**	**17 11 33.5**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=33,slow=11,SNR=2.8						

*IDC **10** 17:11:30.9±1.2, 12°.88N×120°.37E, h0km, mb3.3/5, mb1 3.5/5, mb1mx3.3/38, mbtmp3.3/5, Error ellipse: s-maj=58.8km s-min=20.2km az=63.0*
*ISCJB **10** 17:11:33.8±0.7, 12°.89N±0°.05×120°.20E±0°.06, h27km, mb3.3/5, Error ellipse: s-maj=8.2km s-min=6.2km az=20.0*
*MAN **10** 17:11:35, 12°.85N×120°.25E, h33km, mb4.5, ML3.3, MS3.2*
ISC 10 17:11:35.0±0.8,**12°.85N**±0°.05×**120°.27E**±0°.07,**h27km,n10,**
σ0s44/13, mb3.3/5,1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUSP	**Coron**	**0.84**	**185**	*e*P	**Pb**	**17 11 51.0**	**0.0**
BUSP				*e*S	**Sn**	**17 12 02.4**	**-0.2**
SJMP	**San Jose**	**0.91**	**115**	*e*P	**Pb**	**17 11 52.4**	**+0.2**
SJMP				*e*S	**Sn**	**17 12 04.7**	**+0.5**
PGP	**Puerto Galera**	**0.93**	**45**	||*e*P	**Pb**	**17 11 52.5**	**0.0**
PGP				*e*S	**Sb**	**17 12 04.2**	**-0.2**
ENPP	**El Nido**	**1.83**	**207**	*e*P	**Pn**	**17 12 04.7**	**0.0**
CUYO	**Cuyo Island**	**2.12**	**160**	*e*P	**Pn**	**17 12 08.3**	**-0.3**
CMAR	**Chiang Mai Arr**	**21.27**	**288**	P	**P**	**17 16 20.4**	**+1.0**
	0.9nm,0.8s,baz=96,slow=8.2,SNR=7.0						
WRA	**Warramunga Arr**	**35.40**	**157**	P	**P**	**17 18 28.3**	**-0.5**
	0.4nm,0.9s,baz=332,slow=10,SNR=3.3						
SONM	**Songino Array**	**36.76**	**344**	P	**P**	**17 18 40.3**	**+0.1**
	0.3nm,0.4s,baz=165,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**38.66**	**160**	P	**P**	**17 18 56.8**	**+0.2**
	0.3nm,0.8s,baz=338,slow=6.3,SNR=4.0						
ZALV	**Zalesovo Beam**	**49.62**	**333**	P	**P**	**17 20 23.4**	**-0.5**
	0.3nm,0.4s,baz=142,slow=7.3,SNR=2.7						

*BJI **10** 17:13:51.8, 24°.12N×126°.15E, h54km, mb4.3/14, mB4.4/7, Ms3.8/4, Ms7 3.6/4*
*NIED **10** 17:14:00, 24°.80N×125°.40E, h41km, Mw4.3 Best double couple: M0 2.90000×10^15 NP1:φs204.00000°, δ22.00000°, λ71.00000°. NP2:φs44.00000°, δ70.00000°, λ97.00000°.*
*ISCJB **10** 17:14:00.9±0.4, 24°.77N±0°.05×125°.41E±0°.03, h52km±2km, mb4.2/29, MS3.3/10, Error ellipse: s-maj=9.1km s-min=3.6km az=152.5*
*JMA **10** 17:14:01.6±0.1, 24°.82N×125°.38E, h50km±1km, M4.4*
JMA Felt III J1.
*IDC **10** 17:14:02.4±3.0, 24°.84N×125°.37E, h48km±29km, mb3.9/18, mb1 4.0/18, mb1mx3.9/38, mbtmp4.1/18, MS3.3/12, Ms1 3.3/12, ms1mx3.1/36, Error ellipse: s-maj=17.4km s-min=15.3km az=76.0*
*NEIC **10** 17:14:02.6±0.4, 24°.75N×125°.31E, mb4.2/10, Error ellipse: s-maj=10.6km s-min=6.1km az=148.0*
NEIC Recorded [3 JMA] on Miyako-jima and [2 JMA] on Ikema-jima.
ISC 10 17:14:02.4±0.6,**24°.77N**±0°.07×**125°.39E**±0°.04,**h49**km±4km,
n83,σ1s13/93, mb4.1/29, MS3.4/10, Southwestern
Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**0.02**	**126**	P	**Pn**	**17 14 09.2**	**-0.8**
JOGS				S	**Sn**	**17 14 14.8**	**-0.6**
JMJ	**Miyako jima 2**	**0.10**	**297**	P	**Pn**	**17 14 09.2**	**-1.0**
JMJ				S	**Sn**	**17 14 14.7**	**-1.0**
JIKM	**Ikemajima**	**0.20**	**320**	P	**Pn**	**17 14 09.6**	**-1.1**
JIKM				S	**Sn**	**17 14 15.7**	**-0.9**
JIRB	**Irabujima**	**0.21**	**286**	P	**Pn**	**17 14 09.8**	**-1.0**
JIRB				S	**Sn**	**17 14 15.3**	**-1.4**
JTJ	**Tarama**	**0.64**	**259**	P	**Pn**	**17 14 14.9**	**-0.5**
JTJ				S	**Sn**	**17 14 24.4**	**-0.3**
JISG	**Ishigakijimahi**	**1.00**	**260**	P	**Pn**	**17 14 19.2**	**-0.9**
JISG				S	**Sn**	**17 14 32.8**	**-0.4**
JIJ	**Ishigaki jima**	**1.21**	**251**	P	**Pn**	**17 14 22.5**	**-0.5**
JIJ				S	**Sn**	**17 14 38.1**	**-0.1**
JKRS	**Kuro-shima**	**1.37**	**248**	P	**Pn**	**17 14 25.2**	**+0.1**
JKRS				*e*S	**Sn**	**17 14 42.6**	**+0.5**
IRIF	**Iriomote-Funau**	**1.57**	**254**	P	**Pn**	**17 14 27.5**	**-0.4**
HATJ	**Hateruma jima**	**1.61**	**244**	P	**Pn**	**17 14 28.3**	**-0.2**
JKE	**Kume jima 2**	**2.00**	**39**	P	**Pn**	**17 14 33.3**	**-0.4**
YOJ	**Yonaguni jima**	**2.19**	**262**	P	**Pn**	**17 14 35.7**	**-0.7**
YOJ				S	**Sn**	**17 15 01.4**	**-0.9**
YOJ	**Yonaguni jima**	**2.19**	**262**	*e*P	**Pn**	**17 14 35.5**	**-0.9**
JYNG	**Yonagunijimaku**	**2.25**	**262**	P	**Pn**	**17 14 36.8**	**-0.4**
JYNG				S	**Sn**	**17 15 02.8**	**-1.0**
JAGN	**Aguni-jima**	**2.46**	**42**	P	**Pn**	**17 14 40.1**	**0.0**
JAGN				S	**Sn**	**17 15 07.9**	**-1.1**
JJT2	**Tamagusuku 2**	**2.53**	**57**	P	**Pn**	**17 14 41.2**	**+0.2**
JNTH	**Nagotoyohara**	**2.94**	**53**	P	**Pn**	**17 14 46.7**	**0.0**
JIH	**Iheya**	**3.23**	**45**	P	**Pn**	**17 14 50.4**	**-0.3**
JOW	**Kunigami**	**3.31**	**51**	P	**Pn**	**17 14 51.4**	**-0.4**
JOW	**Kunigami**	**3.31**	**51**	P	**Pn**	**17 14 51.6**	**-0.2**
	baz=163,slow=17						
NACB	**Ninganchiao**	**3.51**	**261**	*e*P	**Pn**	**17 14 53.6**	**-0.9**
TATO	**Taipei**	**3.55**	**274**	*e*P	**Pn**	**17 14 56.7**	**+1.6**
YHNB	**Yeheng**	**3.65**	**269**	*e*P	**Pn**	**17 14 57.3**	**+0.7**
JOKE	**Okinoerabujima**	**3.85**	**47**	P	**Pn**	**17 14 58.1**	**-1.1**
YULB	**Yu-li**	**3.99**	**251**	*e*P	**Pn**	**17 14 58.7**	**-2.4**
SSLB	**Suanglung**	**4.17**	**257**	*e*P	**Pn**	**17 15 02.4**	**-1.1**
JTK	**Tokunoshima**	**4.38**	**46**	P	**Pn**	**17 15 05.0**	**-1.5**
TWG	**Pinlang**	**4.41**	**245**	*e*P	**Pn**	**17 15 03.9**	**-2.9**
TPUB	**Ta-pu**	**4.59**	**252**	*e*P	**Pn**	**17 15 09.3**	**0.0**
JAMN	**Amaminishikomi**	**4.84**	**44**	P	**Pn**	**17 15 10.9**	**-1.9**
JAM	**Amami Oshima**	**5.23**	**45**	P	**Pn**	**17 15 16.3**	**-1.8**
JMZ	**Minamidaito 2**	**5.38**	**78**	P	**Pn**	17 15 16.6	-3.5
JMZ				S	**Sn**	17 16 13.5	-7.2
NJ2	**Nanjing**	**9.26**	**323**	*e*P	**Pn**	17 16 20.7	+7.4
NJ2				PMZ			
	20nm,0.6s						
NJ2				LN			
	150nm,15.6s						
NJ2				LE			
	770nm,14.5s						
NJ2				LZ			
	390nm,11.5s						
JNU	**Nakatsue**	**9.61**	**29**	LR	LR	17 19 50.2	
	comp=Z,97nm,19.9s,baz=214,slow=36						
KSAR	**Wonju Array Be**	**12.81**	**9**	P	**Pn**	**17 17 03.8**	**+2.0**
KSRS	**Korea Array**	**12.83**	**9**	P	**Pn**	**17 17 03.8**	**+1.8**
	0.1nm,0.3s,baz=190,slow=13,SNR=7.6						
KSRS				LR	LR	17 22 19.6	
	comp=Z,95nm,18.3s,baz=171,slow=39						
MAT	**Matsushiro**	**16.08**	**40**	P	**P**	**17 17 48.8**	**+1.0**
MJAR	**Matsushiro Arr**	**16.08**	**40**	P	**P**	**17 17 48.6**	**+0.8**
	0.6nm,0.3s,baz=219,slow=6.9,SNR=11						
HHC	**Hu-ho-hao-te**	**19.76**	**328**	*e*P	**Pn**	**17 18 31.6**	**+1.3**
HHC				pP	**pP**	**17 18 43.2**	**+3.4**
HHC				sP	sP	17 18 52.2	+6.1
HHC				S	**S**	**17 22 05.8**	**-2.7**
HHC				PMZ			
	13nm,0.9s						
HHC				PMZ			
	56nm,7.8s						
HHC				LN			
	290nm,14.8s						
HHC				LE			
	280nm,14.8s						
HHC				LZ			
	230nm,16.0s						
USRK	**Ussuriysk Ar.**	**20.12**	**14**	LR	LR	17 25 34.9	
	comp=Z,76nm,21.4s,baz=189,slow=34						
GUMO	**Guam**	**21.46**	**118**	LR	LR	17 25 33.7	
	comp=Z,40nm,19.6s,baz=346,slow=32						
ASAJ	**Asahikawa**	**23.87**	**32**	P	**P**	**17 19 10.5**	**-0.7**
	0.1nm,0.9s,baz=191,slow=10,SNR=6.6						
CHTO	**Chiang Mai**	**25.24**	**262**	*e*P	**P**	**17 19 24.1**	**+0.1**
	2.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**25.35**	**261**	P	**P**	**17 19 25.8**	**+0.8**
	1.7nm,0.8s,baz=60,slow=8.4,SNR=14						
CMAR				LR	LR	17 30 12.5	
	comp=Z,39nm,20.8s,baz=80,slow=38						
GTA	**Gaotai**	**26.01**	**310**	*e*P	**P**	**17 19 30.1**	**-0.9**
GTA				PMZ			
	6.0nm,1.1s						
ULN	**Ulaanbaatar**	**27.24**	**332**	*e*P	**P**	**17 19 40.5**	**-1.4**
	4.1nm,1.0s						
SONM	**Songino Array**	**27.50**	**332**	P	**P**	**17 19 42.9**	**-1.4**
	1.2nm,0.5s,baz=157,slow=9.9,SNR=6.9						
SONM				PcP	**PcP**	**17 23 00.1**	**-1.4**
	0.6nm,0.7s,baz=128,slow=3.4,SNR=2.6						
SONM				LR	LR	17 32 10.7	
	comp=Z,118nm,19.3s,baz=116,slow=40						
LSA	**Lhasa**	**30.77**	**287**	*e*P	**P**	**17 20 13.9**	**+0.1**
	1.9nm,0.6s						
PETK	**Petropavlovsk-**	**37.28**	**32**	P	**P**	**17 21 09.6**	**+0.1**
	1.4nm,0.6s,baz=213,slow=5.9,SNR=12						
MK31	**Makanchi Array**	**40.64**	**314**	*e*P	**P**	**17 21 36.6**	**-1.1**
MKAR	**Makanchi Array**	**40.64**	**314**	P	**P**	**17 21 36.9**	**-0.8**
	2.1nm,0.5s,baz=99,slow=7.5,SNR=27						
MKAR				LR	LR	17 39 53.1	
	comp=Z,46nm,20.6s,baz=118,slow=38						
ZAA0	**Zalesovo Array**	**41.91**	**325**	*e*P	**P**	**17 21 45.6**	**-2.2**
ZALV	**Zalesovo Beam**	**41.91**	**325**	P	**P**	**17 21 46.2**	**-1.7**
	3.0nm,0.5s,baz=113,slow=8.5,SNR=18						
ZALV				LR	LR	17 40 55.9	
	comp=Z,42nm,18.4s,baz=68,slow=39						
KURK	**Kurchatov**	**44.16**	**318**	*e*P	**P**	**17 22 05.4**	**-0.8**
	2.3nm,0.6s						
TKM2	**Tokmak 2**	**44.46**	**307**	*e*P	**P**	**17 22 09.4**	**+0.5**
	4.2nm,0.8s						
WRAB	**Tennant Creek**	**45.28**	**168**	P	**P**	**17 22 14.7**	**-0.7**
WRAB				*e*pP	**pP**	**17 22 28.8**	**+0.1**
WRA	**Warramunga Arr**	**45.29**	**168**	P	**P**	**17 22 15.8**	**+0.4**
	1.2nm,0.8s,baz=349,slow=8.7,SNR=11						
WRA				pP	**pP**	**17 22 28.8**	**0.0**
	12nm,0.9s,baz=349,slow=8.8,SNR=20						
ASAR	**Alice Springs**	**48.85**	**170**	P	**P**	**17 22 43.8**	**+0.6**
	0.3nm,0.5s,baz=355,slow=7.2,SNR=12						
ASAR				pP	**pP**	**17 22 57.0**	**+0.3**
	2.1nm,0.5s,baz=356,slow=8.2,SNR=7.3						
ABKAR	**Akbulak array**	**55.79**	**314**	*e*P	**P**	**17 23 34.4**	**0.0**
	0.7nm,0.3s						
GEYT	**Alibeck**	**57.81**	**300**	P	**P**	**17 23 49.7**	**+0.7**
	6.3nm,0.7s,baz=66,slow=4.0,SNR=15						
IM04	**Indian Mountai**	**63.93**	**27**	*e*P	**P**	**17 24 32.9**	**+2.8**
ILAR	**Eielson Array**	**66.92**	**28**	P	**P**	**17 24 50.2**	**+0.8**
	1.0nm,0.6s,baz=242,slow=4.2,SNR=19						
KBZ	**Khabaz**	**68.09**	**309**	P	**P**	**17 24 58.0**	**+0.9**
	6.6nm,0.8s,baz=56,slow=24,SNR=19						
KIV	**Kislovodsk**	**68.19**	**310**	*e*P	**P**	**17 24 58.4**	**+0.6**
	12nm,0.6s						
EGAK	**Eagle**	**69.33**	**27**	*e*P	**P**	**17 25 06.5**	**+2.0**
	2.9nm,0.7s						
ARCES	**ARCESS Array B**	**70.42**	**338**	P	**P**	**17 25 11.0**	**-0.1**
	0.8nm,0.8s,baz=75,slow=6.9,SNR=4.2						
ARCES				LR	LR	18 00 56.0	
	comp=Z,27nm,19.2s,baz=26,slow=40						
FINES	**FINESS Array B**	**72.86**	**330**	P	**P**	**17 25 25.9**	**+0.1**
	1.2nm,0.4s,baz=78,slow=4.6,SNR=13						
FINES				LR	LR	18 01 05.5	
	comp=Z,31nm,19.6s,baz=88,slow=39						
AKASG	**Malin Array Be**	**74.96**	**319**	P	**P**	**17 25 37.5**	**-0.8**
	3.1nm,0.7s,baz=56,slow=6.1,SNR=13						
AK01	**Malin Array Si**	**74.97**	**319**	*e*P	**P**	**17 25 37.6**	**-0.8**
BR131	**Keskin Array S**	**75.89**	**307**	*e*P	**P**	**17 25 43.9**	**-0.2**
	5.4nm,0.9s						
BRTR	**Keskin Array B**	**75.89**	**307**	P	**P**	**17 25 44.3**	**+0.2**
	6.0nm,0.8s,baz=97,slow=6.3,SNR=33						
DAG	**Danmarks Havn**	**76.35**	**352**	*i* P	**P**	**17 25 44.6**	**-1.2**
	3.7nm,1.1s						
BUR08	**Bucovina Ar. S**	**78.57**	**317**	*e*P	**P**	**17 25 58.6**	**-0.3**
NB2	**NORSAR Subarra**	**79.47**	**333**	P	**P**	**17 26 02.8**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=56,slow=5.6						
NOA	**NORSAR Array B**	**79.47**	**333**	P	**P**	**17 26 02.9**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=56,slow=4.8,SNR=5.9						
NOA				LR	LR	18 05 12.4	
	comp=Z,26nm,18.1s,baz=95,slow=39						
YKA	**Yellowknife**	**80.91**	**24**	P	**P**	**17 26 11.2**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=303,slow=5.5,SNR=11						
SUMG	**Summit**	**82.29**	**355**	*i* P	**P**	**17 26 18.9**	**+0.2**
	comp=Z,7.9nm,0.8s						
SUMG	**Summit**	**82.29**	**355**	*e*P	**P**	**17 26 19.0**	**+0.3**
	comp=Z,6.6nm,0.8s						
CLL	**Collm**	**83.86**	**324**	*i* P	**P**	**17 26 27.1**	**+0.4**
	comp=Z,4.0nm,0.7s						
GERES	**GERESS Array B**	**84.79**	**322**	P	**P**	**17 26 31.3**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=58,slow=5.0,SNR=8.1						
SCHQ	**Schefferville**	**100.03**	**7**	LR	LR	18 15 36.3	
	comp=Z,16nm,19.9s,baz=302,slow=37						
TORD	**Torodi Ar. Bea**	**113.40**	**298**	PKiKP	**PKiKP**	**17 32 34.4**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=25,slow=1.6,SNR=3.2						
QSPA	**South Pole Qui**	**114.56**	**180**	PKP	PKPdf	17 32 36.1	-0.3
	comp=Z,3.7nm,0.6s,baz=33,slow=2.3,SNR=5.7						

*ISCJB **10** 17:20:04.5±0.2, 6°.35S±0°.03×130°.42E±0°.03, h90km, mb4.4/39, Error ellipse: s-maj=5.1km s-min=3.8km az=160.4*
*MOS **10** 17:20:05.2±1.1, 6°.37S×130°.40E, h100km, mb4.6/10, Error ellipse: s-maj=13.8km s-min=7.3km az=115.9*
*IDC **10** 17:20:08.0±3.0, 6°.35S×130°.38E, h110km±27km, mb4.1/16, mb1 4.2/18, mb1mx4.1/31, mbtmp4.5/18, MS3.4/3, Ms1 3.4/3, ms1mx2.8/31, Error ellipse: s-maj=16.7km s-min=10.9km az=73.0*
*BJI **10** 17:20:07.3, 6°.32S×130°.51E, h126km, mb4.4/8, mB4.7/6*
*NEIC **10** 17:20:08.8±0.7, 6°.36S×130°.46E, h120km±6

comp=Z,227nm,21.8s,baz=104,slow=39
KSM Kuching 21.56 291 P P 17 24 49.4 +1.2
baz=22,SNR=3.5
LEM Lembang 22.67 268 P P 17 25 00.7 +0.5
comp=Z,12nm,0.5s,baz=330,slow=20,SNR=5.0
LEM Lembang 22.67 268 S S 17 28 53.7 -8.4
baz=23,SNR=4.5
MEEK Meekatharra 23.07 208 P P 17 25 04.4 +0.5
baz=23,SNR=5.7
MEEK S Sn 17 29 23.6 -9.0
baz=23,SNR=3.4
QLP Quilpie 24.00 148 P P 17 25 14.1 +1.8
baz=24,SNR=23
FORT Forrest 24.36 185 P P 17 25 16.8 +1.2
baz=24,SNR=28
FORT Forrest 24.36 185 *eP* **P 17 25 16.5 +0.9**
comp=Z,58nm,0.6s
KMBL Kambalda 26.11 197 P P 17 25 32.5 +1.0
baz=26,SNR=16
MORW Morawa 26.34 209 P P 17 25 34.4 +0.9
baz=26,SNR=6.0
BLDU Ballidu 27.33 206 P P 17 25 43.3 +0.9
baz=27,SNR=8.0
STKA Stephens Creek 27.42 159 P P 17 25 44.4 +1.2
comp=Z,7.1nm,0.6s,baz=334,slow=9.8,SNR=18
STKA LR LR 17 36 59.9
comp=Z,166nm,21.7s,baz=215,slow=37
STKA Stephens Creek 27.42 159 *eP* **P 17 25 44.1 +0.9**
STKA pmax pmax
comp=Z,3.0nm,0.9s
STKA Stephens Creek 27.42 159 P P 17 25 44.4 +1.2
baz=27,SNR=15
STKA Stephens Creek 27.42 159 *eP* **P 17 25 44.0 +0.9**
comp=Z,2.9nm,0.9s
MYKOM Kota Tinggi 27.76 286 ⇑P **P 17 25 48.7 +2.3**
CMSA Cobar Meterol 28.80 152 P P 17 25 57.3 +1.8
baz=29,SNR=22
FRIM Kepong 30.31 288 ⇑P **P 17 26 10.8 +1.7**
YNG Young 32.36 152 P P 17 26 29.4 +2.5
baz=32,SNR=5.1
PSI Prapat 32.76 285 P P 17 26 28.1 -2.6
comp=Z,2.2nm,0.4s,baz=106,slow=7.4,SNR=5.5
SKNT Sakolnakorn 34.97 312 P P 17 26 49.9 +0.2
comp=Z,16nm,0.9s
CHAI Chaiyaphum 35.83 308 P P 17 26 56.8 -0.3
comp=Z,4.3nm,0.6s,comp=Z,61nm
UTHA Uthaitani 37.66 306 P P 17 27 13.4 +0.8
comp=Z,3.3nm,0.7s
CMAR Chiang Mai Arr 39.68 309 P P 17 27 29.5 0.0
comp=Z,6.3nm,0.6s,baz=134,slow=7.1,SNR=57
CMAR PcP **PcP 17 29 33.9 -0.9**
comp=Z,1.0nm,0.7s,baz=174,slow=2.5,SNR=6.0
CMMT Chiang Mai 39.88 310 P P 17 27 31.1 -0.1
comp=Z,25nm,1.1s
CHTO Chiang Mai 39.89 310 P P 17 27 31.2 0.0
comp=Z,1.7nm,0.7s
CMAI Chiengmai2 40.47 311 P P 17 27 35.9 -0.3
comp=Z,15nm,1.4s
MAT Matsushiro 43.32 9 P P 17 27 58.2 -0.8
MJAR Matsushiro Arr 43.32 9 P P 17 27 58.0 -1.0
comp=Z,5.3nm,0.8s,baz=187,slow=9.6,SNR=18
MJAR Matsushiro Arr 43.32 9 P P 17 27 58.0 -1.0
KSAR Wonju Array Be 43.67 357 P P 17 28 02.5 +0.8
KSAR Wonju Array Be 43.67 357 P P 17 28 02.5 +0.8
KSRS Korea Array 43.68 357 P P 17 28 02.5 +0.7
comp=Z,1.5nm,0.7s,baz=176,slow=9.6,SNR=7.4
KSRS LR LR 17 46 39.8
comp=Z,9.2nm,19.3s,baz=96,slow=36
USRK Ussuriysk Ar. 50.37 1 P P 17 28 53.6 -0.1
comp=Z,1.9nm,0.5s,baz=193,slow=7.6,SNR=4.6
LSA Lhasa 52.06 316 *eP* **P 17 29 07.4 +0.1**
LSA pmax pmax
comp=Z,5.0nm,0.7s
LSA Lhasa 52.06 316 *eP* **P 17 29 07.4 +0.1**
comp=Z,5.3nm,0.7s
ODAN Odare 53.19 310 *eP* **P 17 29 15.0 -0.4**
comp=Z,29nm,0.8s
TAPN Taplejung 53.21 311 *eP* **P 17 29 15.0 -0.6**
comp=Z,18nm,0.5s
GTA Gaotai 53.65 331 *eP* **P 17 29 18.2 -0.2**
GTA PMZ
comp=Z,4.0nm,1.4s
RAMN Ramite 53.84 310 *eP* **P 17 29 20.0 -0.1**
JIRN Jiri 54.52 311 *eP* **P 17 29 24.7 -0.5**
GUN Gumba 54.88 311 *eP* **P 17 29 27.2 -0.6**
comp=Z,32nm,0.7s
PKI Pulchoki 55.06 310 *eP* **P 17 29 28.2 -0.9**
KKN Kakani 55.27 310 *eP* **P 17 29 29.8 -0.7**
DMN Daman 55.31 310 *eP* **P 17 29 30.2 -0.6**
GKN Gorkha 55.87 310 *eP* **P 17 29 34.0 -0.7**
comp=Z,21nm,0.6s
KOLN Koldanda 56.55 309 *eP* **P 17 29 39.1 -0.5**
comp=Z,31nm,0.9s
ULN Ulaanbaatar 57.82 342 *eP* **P 17 29 48.7 +0.6**
ULN pmax pmax
comp=Z,2.0nm,0.6s
ULN Ulaanbaatar 57.82 342 *eP* **P 17 29 48.7 +0.6**
comp=Z,1.7nm,0.6s
SONM Songino Array 58.01 341 P P 17 29 49.7 +0.4
comp=Z,2.2nm,0.6s,baz=162,slow=7.1,SNR=15
PETK Petropavlovsk- 63.61 18 P P 17 30 27.7 +0.5
comp=Z,8.6nm,0.6s,baz=172,slow=3.7,SNR=59
BOD Bodaibo 65.37 350 *eP* **P 17 30 35.6 -2.9**
MK31 Makanchi Array 67.96 326 *eP* **P 17 30 55.3 +0.1**
MK31 Makanchi Array 67.96 326 *eP* **P 17 30 55.3 +0.1**
MKAR Makanchi Array 67.96 326 P P 17 30 55.5 +0.3
comp=Z,8.2nm,0.4s,baz=110,slow=9.0,SNR=68
YAK Yakutsk 68.22 360*c iP* **P 17 30 56.0 -0.5**
YAK pmax pmax
comp=Z,25nm,1.0s
YAK pmax pmax
comp=N,7.0nm,1.3s
YAK Yakutsk 68.22 360 *eP* **P 17 30 55.5 -1.0**
comp=N,27nm,0.7s
KZA Kyzart 69.60 319 P P 17 31 06.7 +0.7
SNR=8.2
KZA Kyzart 69.60 319 *i* **P P 17 31 06.7 +0.7**
TKM2 Tokmak 2 69.79 320 P P 17 31 07.0 +0.1
SNR=8.2
TKM2 Tokmak 2 69.79 320 *i* **P P 17 31 07.0 +0.1**
TKM2 Tokmak 2 69.79 320 *eP* **P 17 31 06.7 -0.2**
comp=N,3.9nm,0.6s
UCH Uchtor 70.15 319 P P 17 31 10.2 +0.7
SNR=6.9
UCH Uchtor 70.15 319 *i* **P P 17 31 10.1 +0.7**
AAK Ala-Archa 70.36 320 *eP* **P 17 31 11.0 +0.7**
AAK pmax pmax
comp=Z,13nm,1.2s
AML Almayashu 70.64 319 P P 17 31 13.1 +0.8
SNR=6.2
AML Almayashu 70.64 319 *i* **P P 17 31 13.1 +0.8**
USP Ospenovka 70.66 320 P P 17 31 12.3 +0.3
SNR=6.3
USP Ospenovka 70.66 320 *i* **P P 17 31 12.3 +0.3**
EKS2 Erkin-Say 70.83 319 P P 17 31 13.8 +0.6
SNR=7.8
EKS2 Erkin-Say 70.83 319 *i* **P P 17 31 13.8 +0.6**
EKS2 Erkin-Say 70.83 319 *eP* **P 17 31 13.4 +0.3**
comp=Z,4.1nm,0.7s
ZAA0 Zalesovo Array 71.23 334 *eP* **P 17 31 13.3 -1.8**
ZALV Zalesovo Beam 71.23 334 P P 17 31 14.1 -1.1
comp=Z,3.5nm,0.6s,baz=122,slow=5.0,SNR=22
KURK Kurchatov 72.23 328 *eP* **P 17 31 20.5 -0.7**
KURK pmax pmax
comp=Z,8.0nm,1.1s
KURK Kurchatov 72.23 328 *eP* **P 17 31 20.5 -0.7**
comp=Z,8.1nm,1.1s
NVS Novosibirsk 72.52 334⇑ *iP* **P 17 31 21.5 -1.3**
NVS pmax pmax
comp=N,4.0nm,1.2s
NVS pmax pmax
comp=E,5.0nm,1.2s
NVS pmax pmax
comp=Z,9.0nm,1.2s
VNDA Vanda 73.00 173 P P 17 31 25.6 +0.2
comp=Z,0.7nm,0.7s,baz=316,slow=9.1,SNR=4.0
KKAR Karatay Array 73.17 319 *eP* **P 17 31 26.7 -0.3**
KKAR pmax pmax
comp=Z,1.0nm,0.6s
KKAR Karatay Array 73.17 319 *eP* **P 17 31 26.7 -0.3**
comp=Z,1.2nm,0.6s
MAW Mawson 75.67 201 P P 17 31 41.8 +0.8
comp=Z,1.8nm,0.6s,baz=95,slow=11,SNR=2.7
BRVK Borovoye 77.85 328 *eP* **P 17 31 53.5 0.0**
BRVK pmax pmax
comp=Z,2.0nm,0.7s
TIXI Tiksi 77.89 359 *eP* **P 17 31 52.5 -0.8**
TIXI pmax pmax
comp=Z,6.0nm,1.0s
TIXI Tiksi 77.89 359 *eP* **P 17 31 52.1 -1.1**
comp=Z,3.2nm,0.5s
GEYT Alibeck 80.15 310 P P 17 32 05.8 -0.7
comp=Z,1.8nm,0.8s,baz=130,slow=2.3,SNR=3.7
ABKAR Akbulak array 82.30 321 *eP* **P 17 32 16.7 -0.8**
comp=Z,2.0nm,0.6s
QSPA South Pole Qui 83.58 180 P P 17 32 23.8 -0.3
comp=Z,1.8nm,0.6s,baz=174,slow=5.4,SNR=4.2
SVE Sverdlovsk 84.47 329 *eP* **P 17 32 26.6 -1.9**
SVE pmax pmax
comp=Z,11nm,1.0s
ARU Arti 85.42 328*c iP* **P 17 32 32.3 -1.0**
ARU S S 17 42 47.6 -9.3
ARU SS **SS 17 48 30.4 -3.7**
ARU pmax pmax
comp=Z,6.0nm,1.0s
RAYN Ar Rayn 87.90 294 *eP* **P 17 32 45.2 -0.9**
comp=Z,4.2nm,0.8s
PPLA Purkeypile 89.93 27 *eP* **P 17 32 55.2 +0.3**
ILAR Eielson Array 92.61 25 P P 17 33 04.3 -2.8
comp=Z,0.9nm,0.7s,baz=276,slow=3.8,SNR=8.4
OBN Obninsk 97.41 325‖ *eP* **P 17 33 27.8 -1.4**
OBN *e**PP **pP 17 33 57.4 +4.1**
OBN *e* 17 37 32.1
OBN *e*PPP PPP 17 39 33.4
OBN pmax pmax
comp=Z,3.0nm,1.0s
ARCES ARCESS Array B 101.16 340 P Pdif 17 33 44.1 -1.7
comp=Z,0.8nm,0.5s,baz=76,slow=6.8,SNR=14
YKA Yellowknife Ar 107.02 26 PKiKP **PKiKP 17 38 19.5 -1.5**
comp=Z,0.3nm,0.6s,baz=296,slow=1.9,SNR=5.4
STHS Stebnicka Huta 107.28 320 *eP* **Pdif 17 34 15.4 +2.0**
STHS Stebnicka Huta 107.28 320 PDIF **Pdif 17 34 15.4 +2.0**
GERES GERESS Array B 112.23 320 PKiKP **PKiKP 17 38 29.0 -2.3**
comp=Z,0.2nm,0.4s,baz=141,slow=4.5,SNR=4.0
PDAR Pinedale Array 116.16 45 PKP **PKPdf 17 38 38.8 -0.4**
comp=Z,0.2nm,0.4s,baz=132,slow=1.3,SNR=2.7
TXAR Lajitas Array 124.24 59 PKP **PKPdf 17 38 53.9 -1.1**
comp=Z,0.5nm,0.8s,baz=48,slow=1.9,SNR=4.1
TORD Torodi Ar. Bea 129.11 282 PKP **PKPdf 17 39 04.1 -0.4**
comp=Z,1.3nm,0.7s,baz=95,slow=1.8,SNR=9.5
CPUP Villa Florida 146.61 167 PKPbc **PKPdf 17 39 36.2 0.0**
comp=Z,0.8nm,0.8s,baz=286,slow=1.5,SNR=5.4
LPAZ La Paz 150.93 141 PKPbc **PKPbc 17 39 49.6 -0.3**
comp=Z,1.9nm,0.4s,baz=150,slow=1.1,SNR=11

*ISCJB **10** 17:49:22.2±0.4, 26°.07N±0°.03×103°.62E±0°.04, h10km, mb3.9/22, MS3.4/14, Error ellipse: s-maj=5.2km s-min=4.5km az=141.4*
*IDC **10** 17:49:22.0±0.7, 26°.03N×103°.63E, h0km, mb3.9/17, mb1 4.0/17, mb1mx3.8/49, mbtmp3.9/17, MS3.4/15, Ms1 3.4/15, ms1mx3.3/31, Error ellipse: s-maj=25.4km s-min=13.9km az=50.0*
*BJI **10** 17:49:23.4, 26°.03N×103°.59E, h13km, mb4.2/11, mB4.4/5, ML3.9/13, Ms4.0/6, Ms7 3.9/10*
*NEIC **10** 17:49:23.3±0.4, 26°.03N×103°.68E, h10km, mb4.2/5, Error ellipse: s-maj=10.8km s-min=7.4km az=221.0*
ISC 10 17:49:23.5±0.5, 25°.99N±0°.05×103°.66E±0°.05, h10km, n42, σ1s36/41, mb4.0/22, MS3.5/14, 1C, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
KMI	**Kunming**	**1.20**	**224**	Pg		**Pb**	**17 49 45.8**	**-0.7**
KMI				Sg		**Sn**	**17 50 05.9**	**+2.9**
KMI				SMN				
	760nm,1.1s							
KMI				SME				
	1μm,0.9s							
GYA	**Guiyang**	**2.74**	**80**	Pn		**Pn**	**17 50 08.7**	**+1.1**
GYA				Sn		**Sn**	**17 50 42.9**	**+2.1**
GYA				Sg		**Sg**	**17 50 53.4**	**+2.0**
GYA				SMN				
	400nm,1.0s							
GYA				SME				
	730nm,1.0s							
CD2	**Chengdu**	**4.90**	**1**	Pn		**Pn**	**17 50 37.7**	**+0.5**
CD2				Sn		**Sn**	**17 51 35.2**	**+1.2**
CD2				Sg		**Sg**	**17 52 00.8**	**0.0**
CD2				SMN				
	400nm,1.4s							
CD2				SME				
	510nm,1.4s							
CD2				LZ				
	810nm,6.5s							
ENH	**Enshi**	**6.68**	**49**	P		**Pn**	**17 51 00.0**	**-1.7**
	18nm,0.9s							
CMAR	**Chiang Mai Arr**	**8.68**	**211**	Pn		Pn	17 51 32.9	+3.7
	0.1nm,0.3s,baz=22,slow=12,SNR=5.0							
CMAR				LR		LR	17 54 48.5	
	comp=Z,31nm,18.4s,baz=295,slow=38							
QIZ	**Qiongzhong**	**8.98**	**139**	*eP*		**Pn**	**17 51 32.6**	**-0.7**
XAN	**Xi'an**	**9.22**	**28**	P		**Pn**	**17 51 36.5**	**-0.1**
XAN				SMN				
	23nm,1.3s							
XAN				SME				
	10.0nm,1.2s							
WHN	**Wuhan**	**10.45**	**62**	⇑P		Pn	17 51 57.1	+3.7
WHN				pP			17 51 59.8	
WHN				S		**Sn**	**17 53 47.2**	**-3.4**
LSA	**Lhasa**	**11.67**	**291**	*eP*		**Pn**	**17 52 10.5**	**0.0**
	4.4nm,1.0s							
GTA	**Gaotai**	**13.76**	**347**	*eP*		**Pn**	**17 52 38.6**	**-0.2**
GTA				pP		pP	17 52 42.0	
GTA				sP		sP	17 52 45.3	
GTA				S		**Sn**	**17 55 13.1**	**+1.3**
GTA				sS		sS	17 55 17.9	
GTA				SS		**SnSn**	**17 55 28.7**	**+4.2**
GTA				PMZ				
	3.0nm,1.4s							
GTA				PMZ				
	40nm,5.5s							
GTA				LN				
	260nm,10.3s							
GTA				LE				
	330nm,11.2s							
GTA				LZ				
	290nm,10.3s							
SONM	**Songino Array**	**21.91**	**5**	P		**P**	**17 54 16.5**	**-0.4**
	2.3nm,0.9s,baz=185,slow=11,SNR=11							
ULN	**Ulaanbaatar**	**21.99**	**6**	*eP*		**P**	**17 54 17.2**	**-0.6**
	8.1nm,1.1s							
KSAR	**Wonju Array Be**	**23.49**	**55**	P		**P**	**17 54 33.2**	**-0.2**
KSRS	**Korea Array**	**23.52**	**55**	P		**P**	**17 54 33.2**	**-0.5**
	1.6nm,0.8s,baz=240,slow=10,SNR=6.0							
KSRS				LR		LR	18 03 36.1	
	comp=Z,42nm,18.4s,baz=244,slow=36							
JNU	**Nakatsue**	**24.67**	**67**	LR		LR	18 04 20.8	
	comp=Z,112nm,19.3s,baz=240,slow=36							
TLY	**Talaya**	**25.65**	**360**	LR		LR	18 04 26.7	
	comp=Z,17nm,21.9s,baz=156,slow=35							
MKAR	**Makanchi Array**	**26.80**	**326**	P		**P**	**17 55 04.4**	**+0.6**
	1.0nm,0.8s,baz=132,slow=8.6,SNR=12							
MKAR				LR		LR	18 06 42.1	
	comp=Z,176nm,18.4s,baz=124,slow=39							
AAK	**Ala-Archa**	**29.06**	**312**	P		**P**	**17 55 24.7**	**+0.6**
	0.5nm,0.3s,baz=92,slow=15,SNR=3.9							
AAK				LR		LR	18 08 33.5	
	comp=Z,223nm,20.4s,baz=93,slow=40							
MJAR	**Matsushiro Arr**	**31.20**	**62**	LR		LR	18 08 44.2	
	comp=Z,65nm,19.4s,baz=215,slow=37							
ZALV	**Zalesovo Beam**	**31.23**	**338**	P		**P**	**17 55 42.3**	**-0.7**
	1.1nm,0.6s,baz=141,slow=9.6,SNR=7.9							
ZALV				LR		LR	18 09 01.4	
	comp=Z,89nm,20.1s,baz=70,slow=38							
KURK	**Kurchatov**	**31.26**	**329**	*eP*		**P**	**17 55 42.7**	**-0.5**
	8.6nm,1.0s							
BVAR	**Borovoye Array**	**36.69**	**326**	P		**P**	**17 56 30.2**	**-0.2**
	2.4nm,0.7s,baz=125,slow=10,SNR=10							
BRVK	**Borovoye**	**36.76**	**326**	*eP*		**P**	**17 56 30.8**	**-0.2**
	4.7nm,0.8s							
YAK	**Yakutsk**	**40.03**	**19**	P		**P**	**17 56 58.6**	**+0.3**
	2.6nm,0.6s,baz=248,slow=2.2,SNR=4.3							
GEYT	**Alibeck**	**40.07**	**299**	P		**P**	**17 56 59.5**	**+0.3**
	2.6nm,0.7s,baz=126,slow=7.5,SNR=7.2							
GEYT				LR		LR	18 15 43.4	
	comp=Z,90nm,18.9s,baz=310,slow=40							
ABKAR	**Akbulak array**	**40.93**	**316**	*eP*		**P**	**17 57 06.2**	**+0.2**
	0.7nm,0.4s							
AKTO	**Aktyubinsk**	**42.48**	**317**	P		**P**	**17 57 18.9**	**+0.2**
	0.9nm,0.5s,baz=92,slow=8.1,SNR=7.0							
KBZ	**Khabaz**	**51.76**	**306**	LR		LR	18 24 54.9	
	comp=Z,49nm,19.7s,baz=142,slow=41							
WRA	**Warramunga Arr**	**54.52**	**144**	P		**P**	**17 58 53.6**	**+1.8**
	1.0nm,0.7s,baz=331,slow=8.5,SNR=12							
ASAR	**Alice Springs**	**57.39**	**147**	P		**P**	**17 59 13.2**	**+0.9**
	0.4nm,0.7s,baz=322,slow=6.6,SNR=6.6							
BRTR	**Keskin Array B**	**59.03**	**302**	P		**P**	**17 59 23.5**	**-0.4**
	1.1nm,0.9s,baz=72,slow=7.9,SNR=5.8							
BRTR				LR		LR	18 29 18.7	
	comp=Z,32nm,19.3s,baz=112,slow=41							
AKASG	**Malin Array Be**	**60.66**	**315**	P		**P**	**17 59 33.4**	**-1.3**
	2.6nm,0.9s,baz=71,slow=6.5,SNR=11							
AK02	**Malin Array Si**	**60.68**	**315**	*eP*		**P**	**17 59 33.5**	**-1.3**
FINES	**FINESS Array B**	**61.62**	**328**	LR		LR	18 28 25.9	
	comp=Z,58nm,20.9s,baz=86,slow=38							
ARCES	**ARCESS Array B**	**61.77**	**337**	LR		LR	18 26 46.8	
	comp=Z,24nm,20.8s,baz=146,slow=36							
MLR	**Muntele Rosu**	**63.61**	**310**	P		**P**	**17 59 53.7**	**-1.1**
	1.0nm,0.9s,baz=114,slow=11,SNR=11							
STKA	**Stephens Creek**	**67.99**	**146**	P		**P**	**18 00 21.7**	**-1.1**
	1.7nm,0.9s,baz=290,slow=12,SNR=2.9							
NOA	**NORSAR Array B**	**68.77**	**329**	LR		LR	18 32 24.5	
	comp=Z,34nm,18.1s,baz=70,slow=38							
GERES	**GERESS Array B**	**70.87**	**316**	P		**P**	**18 00 41.0**	**+0.2**
	0.8nm,0.9s,baz=123,slow=9.7,SNR=4.9							
GERES				LR		LR	18 34 05.1	
	comp=Z,62nm,18.6s,baz=72,slow=38							
BMRM	**Bremner River**	**77.41**	**28**	*eP*		**P**	**18 01 20.1**	**+1.4**
	4.4nm,0.8s							
YKA	**Yellowknife Ar**	**86.67**	**17**	P		**P**	**18 02 07.2**	**0.0**
	0.4nm,0.6s,baz=323,slow=4.5,SNR=7.1							
SDV	**Santo Domingo**	**144.89**	**350**	*e*PKPdf		**PKPab**	**18 08 59.9**	**-1.0**

*IDC **10** 18:00:14.1±0.5, 28°.08S×176°.40W, h0km, mb4.5/20, mb1 4.6/21, mb1mx4.6/25, mbtmp4.4/21, ML4.5/1, MS4.2/9, Ms1 4.2/9, ms1mx3.9/23, Error ellipse: s-maj=17.4km s-min=14.8km az=153.0*
*ISCJB **10** 18:00:18.5±0.3, 28°.12S±0°.06×176°.47W±0°.07, h37km, mb4.5/26, MS4.2/8, Error ellipse: s-maj=9.5km s-min=8.6km az=30.7*
*NEIC **10** 18:00:18.3±4.0, 28°.07S×176°.45W, h27km±27km, mb4.9/7, Error ellipse: s-maj=11.3km s-min=10.1km az=186.0*
ISC 10 18:00:19.7±0.4, 28°.13S±0°.07×176°.32W±0°.09, h37km, n73, σ1s21/73, mb4.5/26, MS4.2/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
RAO	**Raoul Island**	**1.79**	**231**	Pn		**Pn**	**18 00 47.9**	**-0.2**
	292nm,0.3s,baz=75,slow=19,SNR=3.6							
RAO				Sn		**Sn**	**18 01 14.6**	**+5.0**
	577nm,0.3s,baz=72,slow=23,SNR=18							
URZ	**Urewera**	**11.50**	**207**	Pn		Pn	18 02 52.4	-8.8
	0.4nm,0.3s,baz=70,slow=15,SNR=6.0							
URZ				Sn		**Sn**	**18 05 04.7**	**-3.7**
	2.1nm,0.3s,baz=170,slow=23,SNR=10.0							
MSVF	**Nonsavu**	**11.57**	**332**	*eP*		**Pn**	**18 03 03.3**	**+0.8**
	74nm,1.3s							
KHZ	**Kahutara**	**16.46**	**207**	*eP*		**Pn**	**18 04 06.8**	**-1.0**
	30nm,0.8s							
RPZ	**Rata Peaks**	**18.58**	**210**	P		**P**	**18 04 30.8**	**-2.7**
	1.5nm,0.3s,baz=1.2,slow=2.7,SNR=8.5							
RPZ				LR		LR	18 11 59.2	
	comp=Z,565nm,19.3s,baz=24,slow=38							
TBI	**Tubuai**	**24.64**	**85**	*eS*		S	18 10 04.5	+8.6
	371nm,26.2s							
TBI				*e*LR		LR	18 11 24.5	
	561nm,21.0s							
PPT2	**Papeete2**	**26.73**	**73**	*eS*		S	18 10 42.9	+14
	313nm,24.0s							
PPT2				*e*LR		LR	18 12 57.5	
	438nm,21.0s							
PPT	**Papeete**	**26.74**	**73**	P		**P**	**18 05 55.8**	**-0.2**
	8.3nm,0.3s,baz=202,slow=9.2,SNR=1.7							
PPT				LR		LR	18 14 17.6	
	comp=Z,531nm,19.0s,baz=238,slow=32							
RMQ	**Roma**	**31.01**	**265**	P		**P**	**18 06 35.9**	**+2.0**
	baz=30,SNR=4.5							
QLP	**Quilpie**	**34.96**	**263**	P		**P**	**18 07 08.6**	**+0.2**
	baz=34,SNR=3.4							
CTA	**Charters Tower**	**34.98**	**275**	P		**P**	**18 07 07.3**	**-1.3**
	2.7nm,0.6s,baz=113,slow=13,SNR=3.5							
STKA	**Stephens Creek**	**36.47**	**254**	P		**P**	**18 07 21.4**	**+0.1**
	6.1nm,1.0s,baz=116,slow=7.0,SNR=4.3							
STKA				LR		LR	18 20 57.0	
	comp=Z,289nm,18.9s,baz=83,slow=34							
RKT	**Rikitea**	**37.48**	**92**	*e*LR		LR	18 17 23.5	
	350nm,22.2s							
AS31	**Alice Springs**	**44.75**	**264**	*eP*		**P**	**18 08 29.0**	**-0.9**
ASAR	**Alice Springs**	**44.75**	**264**	P		**P**	**18 08 28.1**	**-1.7**
	2.5nm,0.8s,baz=96,slow=7.0,SNR=28							
ASAR				LR		LR	18 27 31.7	
	comp=Z,440nm,18.4s,baz=108,slow=37							
WRA	**Warramunga Arr**	**45.54**	**269**	P		**P**	**18 08 34.4**	**-1.7**
	3.6nm,0.7s,baz=109,slow=7.8,SNR=32							
WRKA	**Warakurna**	**49.27**	**260**	P		**P**	**18 09 03.2**	**-1.9**
	baz=48,SNR=7.5							
SBA	**Scott Base**	**50.41**	**185**	*eP*		**P**	**18 09 15.7**	**+2.8**
	25nm,1.5s							
VNDA	**Vanda**	**50.49**	**186**	P		**P**	**18 09 14.8**	**+1.3**
	2.2nm,1.2s,baz=7.1,slow=9.2,SNR=4.7							
VNDA				LR		LR	18 26 54.4	
	comp=Z,168nm,20.8s,baz=7.0,slow=32							
KNRA	**Kununurra**	**52.05**	**272**	P		**P**	**18 09 27.1**	**+1.0**
	baz=52,SNR=4.7							
CASY	**Casey**	**57.82**	**207**	*eP*		**P**	**18 10 07.1**	**0.0**
	9.8nm,0.8s							
QSPA	**South Pole Qui**	**61.97**	**180**	*eP*		**P**	**18 10 36.4**	**+0.6**
	26nm,1.1s							
KKM	**Kota Kinabalu**	**73.29**	**286**	P		**P**	**18 11 47.2**	**-0.7**
	baz=73,SNR=3.3							
MAW	**Mawson**	**74.94**	**200**	P		**P**	**18 11 57.2**	**+0.8**
	5.4nm,0.9s,baz=171,slow=7.8,SNR=5.2							
KSM	**Kuching**	**76.07**	**279**	P		**P**	**18 12 03.8**	**-0.2**
	baz=76,SNR=8.5							
KSM	**Kuching**	**76.07**	**279**	*eP*		**P**	**18 12 03.1**	**-0.8**
	16nm,1.1s							
MJAR	**Matsushiro Arr**	**77.25**	**324**	P		**P**	**18 12 09.3**	**-0.8**
	4.3nm,0.9s,baz=158,slow=5.4,SNR=9.9							
MAT	**Matsushiro**	**77.25**	**324**	P		**P**	**18 12 09.6**	**-0.5**
SNAA	**Sanae**	**80.37**	**178**	P		**P**	**18 12 27.2**	**+0.4**
SNAA	**Sanae**	**80.37**	**178**	P		**P**	**18 12 26.7**	**-0.1**
	3.9nm,1.1s,baz=186,slow=7.7,SNR=7.3							
SNAA	**Sanae**	**80.37**	**178**	*eP*		**P**	**18 12 27.3**	**+0.4**
VNA3	**Neumayer Olymp**	**80.45**	**176**	P		**P**	**18 12 27.3**	**+0.1**
VNA2	**Neumayer--Watz**	**80.91**	**176**	P		**P**	**18 12 30.1**	**+0.4**
	baz=171,slow=4.0							
VNA1	**Neumayer--Stat**	**81.13**	**176**	P		**P**	**18 12 31.2**	**+0.5**
PLCA	**Paso Flores**	**82.97**	**133**	P		**P**	**18 12 40.1**	**-1.0**
	5.6nm,1.1s,baz=175,slow=1.6,SNR=4.9							
PLCA				LR		LR	18 42 15.8	
	comp=Z,184nm,18.9s,baz=259,slow=30							
KSRS	**Korea Array**	**83.60**	**319**	P		**P**	**18 12 44.7**	**+0.6**
	4.4nm,1.0s,baz=135,slow=6.3,SNR=12							
KSAR	**Wonju Array Be**	**83.61**	**319**	P		**P**	**18 12 44.7**	**+0.5**
PETK	**Petropavlovsk-**	**84.00**	**345**	P		**P**	**18 12 46.1**	**+0.3**
	4.2nm,0.9s,baz=134,slow=8.5,SNR=3.8							
NVAR	**Mina Array Bea**	**85.58**	**42**	P		**P**	**18 12 55.2**	**+0.8**
	3.1nm,0.9s,baz=222,slow=8.5,SNR=9.8							
TPH	**Tonopah**	**85.99**	**43**	*eP*		**P**	**18 12 57.1**	**+0.7**
	12nm,1.4s							
USRK	**Ussuriysk Ar.**	**86.11**	**326**	P		**P**	**18 12 57.0**	**+0.5**
	5.1nm,0.9s,baz=125,slow=9.6,SNR=4.8							
WUAZ	**Wupatki**	**88.06**	**48**	*eP*		**P**	**18 13 07.7**	**+1.2**
	6.2nm,1.1s							
TXAR	**Lajitas Array**	**89.92**	**56**	P		**P**	**18 13 16.2**	**+0.9**
	0.3nm,0.4s,baz=228,slow=2.3,SNR=6.5							
TXAR				LR		LR	18 47 13.7	
	comp=Z,110nm,19.1s,baz=0.0,slow=31							
PDAR	**Pinedale Array**	**93.48**	**43

GEYT	**Alibeck**	**133.89**	**297**	PKP	**PKPdf**	**18**	**19**	**33.5 +0.6**
	0.7nm,0.4s,baz=216,slow=7.3,SNR=3.9							
FINES	**FINESS Array B**	**143.48**	**342**	PKhKP	PKPpre	18	19	45.1
	0.6nm,0.5s,baz=56,slow=5.2,SNR=7.3							
FINES				PKP	**PKPdf**	**18**	**19**	**50.5 +0.8**
	2.5nm,0.8s,baz=129,slow=2.7,SNR=7.3							
KBZ	**Khabaz**	**145.00**	**307**	PKP	**PKPdf**	**18**	**19**	**52.8 -0.1**
	5.9nm,1.0s,baz=118,slow=2.4,SNR=6.9							
KIV	**Kislovodsk**	**145.09**	**307**	*e*PKPdf	**PKPbc**	**18**	**19**	**52.2 -0.5**
NB2	**NORSAR Subarra**	**146.71**	**353**	PKP	**PKPdf**	**18**	**19**	**56.1 +0.8**
	comp=Z,3.6nm,0.7s,baz=9.8,slow=2.9							
NOA	**NORSAR Array B**	**146.71**	**353**	PKPbc	**PKPbc**	**18**	**19**	**56.6 -0.4**
	comp=Z,6.6nm,0.8s,baz=13,slow=4.4,SNR=15							
NACGM	**Naroch**	**148.44**	**334**	*e*	**PKPbc**	**18**	**20**	**01.0 -0.8**
AKASG	**Malin Array Be**	**150.31**	**326**	PKPbc	**PKPbc**	**18**	**20**	**06.2 -0.4**
	comp=Z,17nm,1.0s,baz=44,slow=2.6,SNR=49							
AKBB	**Malin Array Si**	**150.31**	**326**	*e*PKPbc	**PKPbc**	**18**	**20**	**06.0 -0.6**
AK01	**Malin Array Si**	**150.32**	**326**	*e*PKPbc	**PKPbc**	**18**	**20**	**06.0 -0.6**
KIEV	**Kiev**	**150.32**	**326**	*e*PKPbc	**PKPbc**	**18**	**20**	**05.9 -0.7**
AK02	**Malin Array Si**	**150.34**	**326**	*e*PKPbc	**PKPbc**	**18**	**20**	**06.1 -0.6**
SUW	**Suwalki**	**150.46**	**336**	*e*PKPbc	**PKPbc**	**18**	**20**	**06.8 -0.1**
BR131	**Keskin Array S**	**152.71**	**303**	*e*PKPbc	**PKPbc**	**18**	**20**	**12.4 -0.4**
BRTR	**Keskin Array B**	**152.71**	**303**	PKPbc	**PKPbc**	**18**	**20**	**12.7 -0.1**
	comp=Z,2.3nm,0.9s,baz=106,slow=2.7,SNR=11							
BRTR				PKPab	**PKPab**	**18**	**20**	**21.9 -1.7**
	comp=Z,2.8nm,0.8s,baz=116,slow=2.9,SNR=8.5							
CLL	**Collm**	**155.81**	**346**	*e*PKPdiff	PKPdf	18	20	19.0 +10
CLL				*i* PKPab	**PKPab**	**18**	**20**	**35.7 -0.4**
	comp=Z,6.0nm,1.1s							
DPC	**Dobruska-Polom**	**155.81**	**340**	*e*PKPAB	**PKPab**	**18**	**20**	**35.8 -0.4**
DPC				*e*pPKP	pPKP	18	20	46.0
BRG	**Berggiesshubel**	**155.99**	**344**	*e*P	**PKPab**	**18**	**20**	**37.2 +0.3**
	comp=Z,4.2nm,0.9s							
PRU	**Pruhonice**	**156.65**	**342**	*e*PKPAB	**PKPab**	**18**	**20**	**39.2 -0.6**
PRU				*ex*	x	18	20	48.5
KHC	**Kasperske Hory**	**157.69**	**343**	*e*PKPAB	**PKPab**	**18**	**20**	**44.5 +0.2**
KHC				*ep*PKP	pPKP	18	20	55.3
KHC				*ex*	x	18	21	02.5
GERES	**GERESS Array B**	**157.92**	**342**	PKPab	**PKPab**	**18**	**20**	**45.7 +0.3**
	comp=Z,0.4nm,0.7s,baz=38,slow=6.8,SNR=3.5							
TORD	**Torodi Ar. Bea**	**164.98**	**173**	PKP	**PKPdf**	**18**	**20**	**20.7 +0.1**
	comp=Z,1.5nm,1.0s,baz=267,slow=1.8,SNR=7.2							
TORD				PKPab	**PKPab**	**18**	**21**	**17.3 +0.4**
	comp=Z,12nm,1.1s,baz=186,slow=3.6,SNR=23							

*ISK **10** 18:02:01.2,34˚.41N×30˚.76E,h19km, ML3.6*
*ISCJB **10** 18:02:02.3±0.2,34˚.34N±0˚.02×30˚.74E±0˚.02, h38km±6km, mb3.8/9, MS3.1/1, Error ellipse: s-maj=3.2km s-min=2.4km az=34.0*
*IDC **10** 18:02:03.9±3.6, 34˚.44N×30˚.75E, h33km±31km, mb3.5/6, mb1 3.6/13, mb1mx3.4/38, mbtmp3.6/13, ML3.9/7, MS3.1/1, Ms1 3.1/1, ms1mx2.2/25, Error ellipse: s-maj=18.9km s-min=16.4km az=18.0*
*NEIC **10** 18:02:04.4±0.7, 34˚.38N×30˚.79E, h38km±9km, mb4.3/3, Error ellipse: s-maj=8.8km s-min=6.7km az=208.0*
*CSEM **10** 18:02:04.2±0.1, 34˚.36N×30˚.77E, h40km, ML3.7, Error ellipse: s-maj=2.5km s-min=2.0km az=39.0*
*HLW **10** 18:02:05.2, 34˚.35N×30˚.71E, h33km±21km, Md3.1, Ml3.5*
*THE **10** 18:02:05.2, 34˚.37N×30˚.81E, h58km±5km, ML4.2/3, Error ellipse: s-maj=5.4km s-min=1.0km az=60.0*
*DDA **10** 18:02:05.3, 34˚.93N×30˚.81E, h11km, ML4.1*
*NIC **10** 18:02:05.6, 34˚.46N×30˚.90E, h49km, mb4.0, ML3.7*
ISC 10 18:02:03.8±0.9,**34˚.35N**×0˚.03×**30˚.78E**±0˚.03,**h37**km±1km, **n226**,σ1š**20**/274,**mb3.8**/9,**2C, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	**Paphos**	**1.39**	**67**	P	**Pn**	**18 02 27.2**	**+0.5**
	baz=250						
PPCY	**Paphos**	**1.39**	**67**	P	**Pn**	**18 02 27.2**	**+0.5**
AKMC	**Akamas**	**1.44**	**62**	*i* P	**Pn**	**18 02 27.7**	**+0.3**
	baz=244						
AKMC	**Akamas**	**1.44**	**62**	*i* P	**Pn**	**18 02 27.7**	**+0.3**
ALFC	**Alevga**	**1.70**	**61⇑**	*i*P	**Pn**	**18 02 31.3**	**+0.4**
	baz=243						
ALFC				S	**Sn**	**18 02 51.1**	**-0.3**
ALFC	**Alevga**	**1.70**	**61⇑**	*i*P	**Pn**	**18 02 31.3**	**+0.4**
ALFC				S	**Sn**	**18 02 51.1**	**-0.3**
SZAC	**Souni-Zanaja**	**1.78**	**76**	P	**Pn**	**18 02 32.7**	**+0.7**
	baz=260						
SZAC				S	**Sn**	**18 02 53.7**	**+0.3**
SZAC	**Souni-Zanaja**	**1.78**	**76**	P	**Pn**	**18 02 32.7**	**+0.7**
SZAC				S	**Sn**	**18 02 53.7**	**+0.3**
LEF	**Lefka**	**1.90**	**66**	*e*PN	**Pn**	**18 02 33.3**	**-0.3**
LEF	**Lefka**	**1.90**	**66**	*e*Pn	**Pn**	**18 02 33.3**	**-0.3**
AKDN	**Akdeniz- K¯–br**	**2.03**	**62**	*e*PN	**Pn**	**18 02 35.3**	**-0.1**
AKDN	**Akdeniz- K¯–br**	**2.03**	**62**	*e*Pn	**Pn**	**18 02 35.3**	**-0.1**
MAMC	**Mammari**	**2.17**	**67**	P	**Pn**	**18 02 38.4**	**+1.1**
	baz=250						
MAMC	**Mammari**	**2.17**	**67**	P	**Pn**	**18 02 38.4**	**+1.1**
CSS	**Prodhromos**	**2.19**	**73**	*e*PN	**Pn**	**18 02 37.5**	**-0.1**
CSS				*e*SN	**Sn**	**18 03 04.2**	**+0.8**
CSS	**Prodhromos**	**2.19**	**73**	P	**Pn**	**18 02 38.2**	**+0.6**
	baz=256						
CSS	**Prodhromos**	**2.19**	**73**	P	**Pn**	**18 02 37.5**	**-0.1**
CSS				S	**Sn**	**18 03 03.4**	**0.0**
CSS	**Prodhromos**	**2.19**	**73**	*e*Pn	**Pn**	**18 02 37.5**	**-0.1**
CSS	**Prodhromos**	**2.19**	**73**	P	**Pn**	**18 02 38.2**	**+0.6**
CSS				S	**Sn**	**18 03 03.4**	**0.0**
CSS				*e*Sn	Sn	18 03 04.2	+0.7
CSS	**Prodhromos**	**2.19**	**73**	*e*P	**Pn**	**18 02 37.6**	**-0.1**
GAZI	**Gazipasa**	**2.26**	**33**	*i* P	**Pn**	**18 02 38.1**	**-0.5**
GAZI				*i* S	**Sn**	**18 03 03.7**	**-1.5**
GAZI	**Gazipasa**	**2.26**	**33**	*i* P	**Pn**	**18 02 38.1**	**-0.5**
GAZI				*i* S	**Sn**	**18 03 03.7**	**-1.5**
LFK	**Lefkose**	**2.44**	**67**	*e*PN	**Pn**	**18 02 41.5**	**+0.4**
LFK	**Lefkose**	**2.44**	**67**	*e*Pn	**Pn**	**18 02 41.6**	**+0.4**
ELL	**Elmali**	**2.49**	**344**	*e*PN	**Pn**	**18 02 41.2**	**-0.7**
ELL	**Elmali**	**2.49**	**344**	*e*Pn	**Pn**	**18 02 41.2**	**-0.7**
ANTB	**Antalya**	**2.54**	**358**	*e*PN	**Pn**	**18 02 42.0**	**-0.5**
ANTB	**Antalya**	**2.54**	**358**	*e*Pn	**Pn**	**18 02 42.0**	**-0.5**
ARG	**Arkhangelos**	**2.86**	**311**	P	**Pn**	**18 02 47.2**	**+0.4**
ARG				S	**Sn**	**18 03 20.2**	**+0.2**
ARG	**Arkhangelos**	**2.86**	**311**	*e*P	**Pn**	**18 02 47.2**	**+0.4**
ARG	**Arkhangelos**	**2.86**	**311**	P	**Pn**	**18 02 47.2**	**+0.4**
ARG				S	**Sn**	**18 03 20.2**	**+0.2**
EREN	**Erenkoy**	**3.02**	**66**	*e*PN	**Pn**	**18 02 49.7**	**+0.6**
EREN	**Erenkoy**	**3.02**	**66**	*e*Pn	**Pn**	**18 02 49.7**	**+0.6**
GOLH	**Golhisar**	**3.04**	**341**	*i* P	**Pn**	**18 02 52.0**	**+2.6**
GOLH				*i* S	**Sn**	**18 03 24.4**	**-0.3**
GOLH	**Golhisar**	**3.04**	**341**	*i* P	**Pn**	**18 02 52.0**	**+2.6**
GOLH				*i* S	**Sn**	**18 03 24.4**	**-0.3**
TURN	**Turunc**	**3.08**	**325**	*i* P	**Pn**	**18 02 52.2**	**+2.4**
TURN				*i* S	**Sn**	**18 03 26.5**	**+1.2**
TURN	**Turunc**	**3.08**	**325**	*i* P	**Pn**	**18 02 52.2**	**+2.4**
TURN				*i* S	**Sn**	**18 03 26.5**	**+1.2**
KARP	**Karpathos**	**3.20**	**293**	P	**Pn**	**18 02 52.5**	**+0.9**
KARP				S	**Sn**	**18 03 28.3**	**-0.2**
KARP	**Karpathos**	**3.20**	**293**	P	**Pn**	**18 02 52.5**	**+0.9**
KARP				S	**Sn**	**18 03 28.3**	**-0.2**
YER	**Yerkesik**	**3.44**	**324**	*e*PN	**Pn**	**18 02 54.7**	**-0.2**
YER	**Yerkesik**	**3.44**	**324**	*e*Pn	**Pn**	**18 02 54.7**	**-0.2**
ISP	**Isparta**	**3.47**	**357**	*e*PN	**Pn**	**18 02 55.3**	**0.0**
ISP	**Isparta**	**3.47**	**357**	*e*Pn	**Pn**	**18 02 55.3**	**0.0**
KIZK	**Mersin**	**3.47**	**51**	*i* P	**Pn**	**18 02 57.6**	**+2.4**
KIZK				*i* S	**Sn**	**18 03 35.7**	**+0.7**
KIZK	**Mersin**	**3.47**	**51**	*i* P	**Pn**	**18 02 57.6**	**+2.4**
KIZK				*i* S	**Sn**	**18 03 35.7**	**+0.7**
DAT	**Datca**	**3.53**	**313**	*e*PN	**Pn**	**18 02 56.4**	**+0.3**
DAT	**Datca**	**3.53**	**313**	*e*Pn	**Pn**	**18 02 56.4**	**+0.3**
NIS1	**Nisyros Isl.**	**3.70**	**308**	*e*PN	**Pn**	**18 02 58.3**	**-0.1**
NIS1	**Nisyros Isl.**	**3.70**	**308**	P	**Pn**	**18 02 58.3**	**-0.1**
NIS1				S	**Sn**	**18 03 40.9**	**+0.2**
NIS1	**Nisyros Isl.**	**3.70**	**308**	P	**Pn**	**18 02 58.3**	**-0.1**
NIS1				S	**Sn**	**18 03 40.9**	**+0.2**
KONT	**Konya--Tatoy**	**3.81**	**19**	*e*PN	**Pn**	**18 02 59.7**	**-0.2**
KONT	**Konya--Tatoy**	**3.81**	**19**	*e*Pn	**Pn**	**18 02 59.7**	**-0.2**
BDRM	**Kayabasi**	**3.83**	**316**	*i* P	**Pn**	**18 03 01.1**	**+0.9**
BDRM				*i* S	**Sn**	**18 03 41.1**	**-2.9**
BDRM	**Kayabasi**	**3.83**	**316**	*i* P	**Pn**	**18 03 01.1**	**+0.9**
BDRM				*i* S	**Sn**	**18 03 41.1**	**-2.9**
ZKR	**Zakros**	**3.83**	**283**	P	**Pn**	**18 03 00.9**	**+0.7**
ZKR				S	**Sn**	**18 03 43.4**	**-0.7**
ZKR	**Zakros**	**3.83**	**283**	*e*P	**Pn**	**18 03 00.4**	**+0.2**
ZKR	**Zakros**	**3.83**	**283**	P	**Pn**	**18 03 00.9**	**+0.7**
ZKR				S	**Sn**	**18 03 43.4**	**-0.7**
HBRG	**Burj al 'Arab**	**3.85**	**192**	S	**Sn**	**18 03 41.3**	**-3.2**
	baz=192						
HBRG	**Burj al 'Arab**	**3.85**	**192**	S	**Sn**	**18 03 41.3**	**-3.2**
BODT	**Bodrum**	**3.91**	**315**	*e*PN	**Pn**	**18 03 01.2**	**-0.1**
BODT	**Bodrum**	**3.91**	**315**	*e*Pn	**Pn**	**18 03 01.2**	**-0.1**
MERS	**Mersin**	**3.95**	**49**	*e*PN	**Pn**	**18 03 02.4**	**+0.5**
MERS	**Mersin**	**3.95**	**49**	*e*Pn	**Pn**	**18 03 02.4**	**+0.5**
DQRL	**Deir Qamar**	**4.03**	**98**	*e*P	**Pn**	**18 03 03.1**	**+0.1**
DQRL	**Deir Qamar**	**4.03**	**98**	*e*P	**Pn**	**18 03 03.1**	**+0.1**
LADK	**Ladik-KONYA**	**4.05**	**18**	*e*PN	**Pn**	**18 03 03.4**	**+0.1**
LADK	**Ladik-KONYA**	**4.05**	**18**	*e*Pn	**Pn**	**18 03 03.4**	**+0.1**
AYDN	**Tasoluk**	**4.05**	**325**	*i* P	**Pn**	**18 03 06.0**	**+2.7**
AYDN				*i* S	**Sn**	**18 03 49.7**	**+0.2**
AYDN	**Tasoluk**	**4.05**	**325**	*i* P	**Pn**	**18 03 06.0**	**+2.7**
AYDN				*i* S	**Sn**	**18 03 49.7**	**+0.2**
BHL	**Bhannes**	**4.07**	**95**	*e*P	**Pn**	**18 03 03.9**	**+0.4**
BHL	**Bhannes**	**4.07**	**95**	*e*P	**Pn**	**18 03 03.9**	**+0.4**
MMAI	**Mount Meron Ar**	**4.08**	**108**	Pn	**Pn**	**18 03 04.2**	**+0.5**
	16nm,0.3s,baz=300,slow=12,SNR=54						
MMAI				Sn	**Sn**	**18 03 50.3**	**+0.1**
	21nm,0.3s,baz=297,slow=19,SNR=8.8						
KHL	**Karahalli**	**4.09**	**346**	*e*PN	**Pn**	**18 03 03.9**	**+0.1**
KHL	**Karahalli**	**4.09**	**346**	*e*Pn	**Pn**	**18 03 03.9**	**+0.1**
RSH		**4.20**	**143**	P	**Pn**	**18 03 06.4**	**+1.2**
	baz=142						
RSH		**4.20**	**143**	P	**Pn**	**18 03 06.4**	**+1.2**
SHUT	**Suhut-Afyon**	**4.20**	**358**	*e*PN	**Pn**	**18 03 05.5**	**+0.2**
SHUT	**Suhut-Afyon**	**4.20**	**358**	*e*Pn	**Pn**	**18 03 05.5**	**+0.2**
AMAG	**Maghara**	**4.23**	**150**	P	**Pn**	**18 03 06.5**	**+0.8**
	baz=149						
AMAG	**Maghara**	**4.23**	**150**	P	**Pn**	**18 03 06.5**	**+0.8**
HWQ	**Hawqa**	**4.28**	**90**	*e*P	**Pn**	**18 03 07.1**	**+0.7**
HWQ	**Hawqa**	**4.28**	**90**	*e*P	**Pn**	**18 03 07.1**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**4.28**	**328**	*e*PN	**Pn**	**18 03 07.0**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**4.28**	**328**	*e*Pn	**Pn**	**18 03 07.0**	**+0.5**
RCY	**Rachaya**	**4.29**	**100**	*e*P	**Pn**	**18 03 07.0**	**+0.4**
RCY	**Rachaya**	**4.29**	**100**	*e*P	**Pn**	**18 03 07.0**	**+0.4**
KDHN	**Kadinhani**	**4.30**	**14**	*i* P	**Pn**	**18 03 07.8**	**+1.1**
KDHN				*i* S	**Sn**	**18 03 52.0**	**-3.6**
KDHN	**Kadinhani**	**4.30**	**14**	*i* P	**Pn**	**18 03 07.8**	**+1.1**
KDHN				*i* S	**Sn**	**18 03 52.0**	**-3.6**
MMLI	**Mount Malkishu**	**4.33**	**115**	*e*PN	**Pn**	**18 03 08.4**	**+1.4**
MMLI	**Mount Malkishu**	**4.33**	**115**	*e*Pn	**Pn**	**18 03 08.4**	**+1.4**
NPS	**Neapolis**	**4.35**	**283**	P	**Pn**	**18 03 08.6**	**+1.3**
NPS				S	**Sn**	**18 03 56.4**	**-0.3**
NPS	**Neapolis**	**4.35**	**283**	*e*P	**Pn**	**18 03 08.7**	**+1.4**
NPS	**Neapolis**	**4.35**	**283**	P	**Pn**	**18 03 08.6**	**+1.3**
NPS				S	**Sn**	**18 03 56.4**	**-0.3**
KRTS	**Karatas**	**4.35**	**58**	*e*PN	**Pn**	**18 03 07.8**	**+0.4**
KRTS	**Karatas**	**4.35**	**58**	*e*Pn	**Pn**	**18 03 07.8**	**+0.4**
GCAM	**G?zelcaml?**	**4.41**	**320**	*i* P	**Pn**	**18 03 08.5**	**+0.4**
GCAM				*i* S	**Sn**	**18 03 54.1**	**-4.0**
GCAM	**G?zelcaml?**	**4.41**	**320**	*i* P	**Pn**	**18 03 08.5**	**+0.4**
GCAM				*i* S	**Sn**	**18 03 54.1**	**-4.0**
LAST	**Lasithi**	**4.44**	**282**	P	**Pn**	**18 03 09.0**	**+0.4**
LAST	**Lasithi**	**4.44**	**282**	*e*P	**Pn**	**18 03 10.1**	**+1.5**
LAST	**Lasithi**	**4.44**	**282**	P	**Pn**	**18 03 09.0**	**+0.4**
SQR		**4.47**	**175**	P	**Pn**	**18 03 09.7**	**+0.7**
	baz=174						
SQR		**4.47**	**175**	P	**Pn**	**18 03 09.7**	**+0.7**
KULA	**Kula-Manisa**	**4.49**	**338**	*e*PN	**Pn**	**18 03 09.7**	**+0.4**
KULA	**Kula-Manisa**	**4.49**	**338**	P	**Pn**	**18 03 09.6**	**+0.3**
KULA	**Kula-Manisa**	**4.49**	**338**	P	**Pn**	**18 03 09.6**	**+0.3**
HMAT	**Matruh**	**4.50**	**225**	P	**Pn**	**18 03 09.1**	**-0.2**
	baz=225						
HMAT	**Matruh**	**4.50**	**225**	P	**Pn**	**18 03 09.1**	**-0.2**
MANT	**Manisa**	**4.50**	**337**	*i* P	**Pn**	**18 03 10.3**	**+0.7**
MANT				*i* S	**Sn**	**18 04 00.1**	**-0.7**
MANT	**Manisa**	**4.50**	**337**	*i* P	**Pn**	**18 03 10.3**	**+0.7**
MANT				*i* S	**Sn**	**18 04 00.1**	**-0.7**
KOT	**Kottamia**	**4.50**	**168**	P	**Pn**	**18 03 09.6**	**+0.1**
	baz=167						
KOT	**Kottamia**	**4.50**	**168**	P	**Pn**	**18 03 09.6**	**+0.1**
KARA	**Karaisali**	**4.52**	**49**	*e*PN	**Pn**	**18 03 10.5**	**+0.8**
KARA	**Karaisali**	**4.52**	**49**	*e*Pn	**Pn**	**18 03 10.5**	**+0.8**
HHAG	**Hagoal**	**4.53**	**165**	P	**Pn**	**18 03 10.4**	**+0.6**
	baz=164						
HHAG				S	**Sn**	**18 03 57.8**	**-3.4**
	baz=164						
HHAG				AMP		18 04 00.0	
	comp=E,120μm,0.2s,logA/T=5.8,baz=164						
HHAG	**Hagoal**	**4.53**	**165**	P	**Pn**	**18 03 10.4**	**+0.6**
HHAG				S	**Sn**	**18 03 57.8**	**-3.4**
KZIT	**Kziot**	**4.59**	**137**	*e*PN	**Pn**	**18 03 12.7**	**+2.0**
KZIT	**Kziot**	**4.59**	**137**	*e*Pn	**Pn**	**18 03 12.7**	**+2.0**
KIZT	**Kizilcal**	**4.60**	**11**	*e*PN	**Pn**	**18 03 11.6**	**+0.7**
KIZT	**Kizilcal**	**4.60**	**11**	*e*Pn	**Pn**	**18 03 11.6**	**+0.7**
SMG	**Samos**	**4.63**	**317**	P	**Pn**	**18 03 11.0**	**-0.2**
SMG				S	**Sn**	**18 04 02.5**	**-1.1**
SMG	**Samos**	**4.63**	**317**	*e*P	**Pn**	**18 03 11.2**	**0.0**
SMG	**Samos**	**4.63**	**317**	P	**Pn**	**18 03 11.0**	**-0.2**
SMG				S	**Sn**	**18 04 02.5**	**-1.1**
YAYL	**Yayladag**	**4.67**	**67**	*i* P	**Pn**	**18 03 10.6**	**-1.3**
YAYL				*i* S	**Sn**	**18 04 01.4**	**-3.5**
YAYL	**Yayladag**	**4.67**	**67**	*i* P	**Pn**	**18 03 10.6**	**-1.3**
YAYL				*i* S	**Sn**	**18 04 01.4**	**-3.5**
HNAT	**Natroun**	**4.71**	**182**	P	**Pn**	**18 03 12.6**	**+0.3**
	baz=181						
HNAT	**Natroun**	**4.71**	**182**	P	**Pn**	**18 03 12.6**	**+0.3**
ALT	**Altintas**	**4.72**	**354**	*e*PN	**Pn**	**18 03 12.8**	**+0.3**
ALT	**Altintas**	**4.72**	**354**	*e*Pn	**Pn**	**18 03 12.8**	**+0.3**
SUZ		**4.82**	**158**	P	**Pn**	**18 03 14.9**	**+1.0**
	baz=157						
SUZ		**4.82**	**158**	P	**Pn**	**18 03 14.9**	**+1.0**
GLL	**Jalalah**	**4.83**	**170**	P	**Pn**	**18 03 14.4**	**+0.5**
	baz=169						
GLL	**Jalalah**	**4.83**	**170**	P	**Pn**	**18 03 14.4**	**+0.5**
THR6	**Thira Island,**	**4.83**	**296**	P	**Pn**	**18 03 13.9**	**0.0**
THR6	**Thira Island,**	**4.83**	**296**	P	**Pn**	**18 03 13.9**	**0.0**
IDI	**Anoyia**	**4.94**	**283**	Pn	**Pn**	**18 03 15.1**	**-0.3**
	comp=E,2.2nm,0.3s,baz=347,slow=10.0,SNR=29						
IDI				Sn	**Sn**	**18 04 09.2**	**-2.1**
	comp=E,19nm,0.3s,baz=51,slow=22,SNR=15						
SIVA	**Sivas**	**4.96**	**279**	P	**Pn**	**18 03 16.3**	**+0.5**
SIVA	**Sivas**	**4.96**	**279**	P	**Pn**	**18 03 16.3**	**+0.5**
SVRH	**Sivrihisar-ESK**	**5.12**	**6**	*e*PN	**Pn**	**18 03 18.6**	**+0.6**
SVRH	**Sivrihisar-ESK**	**5.12**	**6**	*e*Pn	**Pn**	**18 03 18.6**	**+0.6**
KOZT	**Kozan**	**5.15**	**51**	*e*PN	**Pn**	**18 03 19.6**	**+1.3**
KOZT	**Kozan**	**5.15**	**51**	*e*Pn	**Pn**	**18 03 19.6**	**+1.3**
HNKL	**Nakhl**	**5.18**	**148**	P	**Pn**	**18 03 19.3**	**+0.6**
	baz=146						
HNKL				S	**Sn**	**18 04 13.8**	**-3.5**
	baz=146						
HNKL	**Nakhl**	**5.18**	**148**	P	**Pn**	**18 03 19.3**	**+0.6**
HNKL				S	**Sn**	**18 04 13.8**	**-3.5**
ZEY	**˙zmir**	**5.19**	**320**	*i* P	**Pn**	**18 03 19.7**	**-0.2**
TVSB	**Tavsanli**	**5.20**	**349**	*e*PN	**Pn**	**18 03 19.7**	**+0.7**
TVSB	**Tavsanli**	**5.20**	**349**	*e*Pn	**Pn**	**18 03 19.7**	**+0.7**
ZAF		**5.28**	**163**	P	**Pn**	**18 03 20.4**	**+0.4**
	baz=162						
ZAF		**5.28**	**163**	P	**Pn**	**18 03 20.4**	**+0.4**
SLUM		**5.48**	**240**	P	**Pn**	**18 03 22.8**	**-0.1**
	baz=240						
SLUM		**5.48**	**240**	P	**Pn**	**18 03 22.8**	**-0.1**
VAM	**Vamos**	**5.51**	**283**	P	**Pn**	**18 03 22.5**	**-0.8**
VAM	**Vamos**	**5.51**	**283**	*e*P	**Pn**	**18 03 24.1**	**+0.8**
VAM	**Vamos**	**5.51**	**283**	P	**Pn**	**18 03 22.5**	**-0.8**
KAMA	**Osmaniye**	**5.56**	**58**	*i* P	**Pn**	**18 03 25.1**	**+1.1**
KAMA				*i* S	**Sn**	**18 04 24.5**	**-2.1**
ASF	**Jabal al Asfar**	**5.56**	**111**	Pn	**Pn**	**18 03 25.7**	**+1.6**
	comp=E,2.2nm,0.3s,baz=246,slow=1.5,SNR=12						
HRFI	**Mount Harif**	**5.62**	**139**	*e*PN	**Pn**	**18 03 27.2**	**+2.4**
HRFI	**Mount Harif**	**5.62**	**139**	*e*Pn	**Pn**	**18 03 27.2**	**+2.4**
KARN	**Karanos**	**5.74**	**282**	P	**Pn**	**18 03 27.0**	**+0.5**
KARN	**Karanos**	**5.74**	**282**	*e*P	**Pn**	**18 03 26.9**	**+0.5**
KARN	**Karanos**	**5.74**	**282**	P	**Pn**	**18 03 27.0**	**+0.5**
BR131	**Keskin Array S**	**5.83**	**22**	*e*P	**Pn**	**18 03 28.2**	**+0.5**
	comp=E,0.9nm,0.4s						
BR131	**Keskin Array S**	**5.83**	**22**	*e*P	**Pn**	**18 03 28.2**	**+0.5**
	comp=E,0.9nm,0.4s						
BRTR	**Keskin Array B**	**5.83**	**22**	Pn	**Pn**	**18 03 28.6**	**+0.8**
	comp=E,0.6nm,0.3s,baz=182,slow=16,SNR=12						
BRTR				Sn	**Sn**	**18 04 31.6**	**-1.8**
	comp=E,0.4nm,0.3s,baz=279,slow=18,SNR=5.3						
EIL	**Elat**	**5.86**	**142**	Pn	**Pn**	**18 03 28.6**	**+0.5**
	comp=E,3.5nm,0.3s,baz=341,slow=3.6,SNR=44						
EIL				Sn	**Sn**	**18 04 32.6**	**-1.4**
	comp=E,9.7nm,0.3s,baz=59,slow=2.0,SNR=12						
KMRS	**Kahramanmaras**	**5.88**	**56**	*e*PN	**Pn**	**18 03 30.1**	**+1.9**
KMRS	**Kahramanmaras**	**5.88**	**56**	*e*Pn	**Pn**	**18 03 30.2**	**+1.9**
HBST	**Basata**	**6.13**	**146**	P	**Pn**	**18 03 32.4**	**+0.6**
	baz=145						
HBST	**Basata**	**6.13**	**146**	P	**Pn**	**18 03 32.3**	**+0.6**
AWBH		**6.22**	**195**	P	**Pn**	**18 03 33.5**	**+0.4**
	baz=195						
AWBH		**6.22**	**195**	P	**Pn**	**18 03 33.5**	**+0.4**
NUB		**6.25**	**147**	P	**Pn**	**18 03 34.2**	**+0.8**
	baz=146						
ANKY	**Antikythira Is**	**6.31**	**286**	P	**Pn**	**18 03 34.1**	**-0.2**
ANKY	**Antikythira Is**	**6.31**	**286**	P	**Pn**	**18 03 34.1**	**-0.2**
HKAT	**Jabal Katrina**	**6.43**	**154**	P	**Pn**	**18 03 36.8**	**+0.7**
	baz=153						
HKAT	**Jabal Katrina**	**6.43**	**154**	P	**Pn**	**18 03 36.8**	**+0.7**
TR2		**6.46**	**156**	P	**Pn**	**18 03 36.9**	**+0.6**
	baz=155						
TR2		**6.46**	**156**	P	**Pn**	**18 03 36.9**	**+0.6**
HDHB	**Dhahab**	**6.50**	**149**	P	**Pn**	**18 03 37.4**	**+0.5**
	baz=148						
HDHB	**Dhahab**	**6.50**	**149**	P	**Pn**	**18 03 37.4**	**+0.5**
KYTH	**Kithira**	**6.62**	**289**	P	**Pn**	**18 03 37.5**	**-1.0**
KYTH	**Kithira**	**6.62**	**289**	P	**Pn**	**18 03 37.5**	**-1.0**
VLI	**Veliai**	**6.82**	**292**	P	**Pn**	**18 03 40.2**	**-1.0**
VLI	**Veliai**	**6.82**	**292**	P	**Pn**	**18 03 40.2**	**-1.0**
SWA2		**6.82**	**223**	P	**Pn**	**18 03 40.9**	**-0.4**
	baz=223						
SWA2				S	Sn	18 04 51.0	-6.6
	baz=223						
SWA2		**6.82**	**223**	P	**Pn**	**18 03 40.8**	**-0.4**
TR1		**6.88**	**156**	P	**Pn**	**18 03 43.0**	**+0.7**
	baz=155						
TR1		**6.88**	**156**	P	**Pn**	**18 03 42.9**	**+0.7**
HFRF	**Wahat Farafira**	**7.49**	**197**	P	**Pn**	**18 03 50.2**	**-0.2**
	baz=197						
HFRF	**Wahat

ECNX	**Esteban Cantu**	**1.22**	**241**	*e*P	**Pn**	**18 14 04.5**	**+0.1**
ECNX				*e*S	**Sn**	**18 14 21.1**	**+0.4**
PBX	**Punta Benda**	**1.28**	**247**	*e*P	**Pn**	**18 14 05.4**	**+0.3**
PBX				*e*S	**Sn**	**18 14 22.6**	**+0.6**
PFO	**Pinyon Flats O**	**1.64**	**326**	*e*Pn	**Pn**	**18 14 08.8**	**-1.4**
214A	**Organ Pipe Nat**	**2.17**	**97**	*e*Pn	**Pn**	**18 14 16.0**	**-1.4**
MWC	**Mount Wilson**	**3.00**	**312**	*e*Pn	**Pb**	**18 14 34.8**	**-0.3**
GSC	**Goldstone, Bar**	**3.27**	**339**	*e*Pg	**Pg**	**18 14 44.1**	**-0.4**
TUC	**Tucson**	**3.86**	**88**	*e*Pn	**Pn**	**18 14 40.1**	**-0.7**
ISA	**Isabella, Lake**	**4.28**	**323**	P	Pn	18 14 50.7	+4.3
ISA				*e*Pg	**Pg**	**18 15 03.4**	**-0.3**
DAC	**Darwin (Calif)**	**4.42**	**336**	*e*P	**Pb**	**18 14 58.5**	**-0.8**
WUAZ	**Wupatki**	**4.63**	**44**	*e*Pn	**Pn**	**18 14 53.1**	**+1.7**
W18A	**Petrified Fore**	**5.48**	**57**	*e*Pn	**Pn**	**18 15 04.7**	**+1.7**
	comp=N,25nm,1.0s						
R11A	**Troy Canyon, C**	**6.08**	**358**	*e*Pn	Pn	18 15 14.8	+3.5
R11A				*e*Pg	**Pg**	**18 15 37.5**	**-0.7**
121A	**Cookes Peak, D**	**6.40**	**86**	*e*Pn	**Pn**	**18 15 15.8**	**+0.2**
	comp=N,6.8nm,0.3s						
MVU	**Marysvale**	**6.74**	**21**	*e*Pn	**Pn**	**18 15 21.1**	**+0.8**
	comp=N,4.1nm,0.6s						

*ISCJB **10** 18:21:05.7±0.6,2.˝10S±0.˝06×99.˝78E±0.˝06, h34km, mb3.9/11, Error ellipse: s-maj=10.2km s-min=6.5km az=135.1*

*DJA **10** 18:21:07.0±0.5,2˚S±4.˝×10˚0E±˚, h10km, M4.4/10, mb4.8/2, mB5.2/2, MLv4.2/10, Mw(mB)4.6/2*

*IDC **10** 18:21:09.8±4.4, 1.˚97S×99.˚93E, h57km±37km, mb3.5/12, mb1 3.7/13, mb1mx3.5/31, mbtmp3.8/13, ML3.2/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/26, Error ellipse: s-maj=38.4km s-min=16.8km az=50.0*

*KLM **10** 18:21:15.4, 1.˚70S×100.˚09E, h71km, mb4.0, ML3.8, MS4.7*

ISC 10 18:21:07.3±0.8, 2.˚08S±0.˚08×99.˚86E±0.˝07, h34km, n29, σ1§59/30, mb4.0/11, 1C-4D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SDSI	**Sungai Dareh**	**1.94**	**54**	P	P		**Pn**	**18 21 39.2**	**+1.3**
SDSI				S	S		**Sn**	**18 21 59.4**	**-1.7**
MASI	**Maura Aman, Be**	**2.60**	**114**	P	P		**Pn**	**18 21 48.5**	**+1.4**
BKNI	**Bangkinang**	**2.67**	**26**	P	P		**Pn**	**18 21 48.7**	**+0.8**
MNSI	**Mandailing Nat**	**2.87**	**354**	P	P		**Pn**	**18 21 51.5**	**+0.8**
JMBI	**JAMBI**	**3.81**	**83**	P	P		Pb	18 22 28.8	+15
LHSI	**Lahat**	**4.05**	**115**	P	P		**Pn**	**18 22 08.9**	**+1.9**
GSI	**Gunungsitoli**	**4.06**	**326**	P	P		**Pn**	**18 22 07.4**	**+0.2**
GSI				S	S		**Sn**	**18 22 57.1**	**+3.5**
MDSI	**Maura Dua**	**4.93**	**119**	P	P		**Pn**	**18 22 20.7**	**+1.6**
PSI	**Prapat**	**4.94**	**349**	P	P		**Pn**	**18 22 20.4**	**+1.0**
	1.0nm,0.3s,baz=168,slow=14,SNR=4.8								
PSI				LR	LR		LR	18 24 10.2	
	comp=Z,85nm,21.0s,baz=197,slow=38								
LWLI	**Liwa**	**5.11**	**125**	P	P		**Pn**	**18 22 22.8**	**+1.2**
	90nm,0.7s,4µm0.4nm								
TPRI	**Tanjung Pinang**	**5.54**	**57**	P	P		**Pn**	**18 22 28.2**	**+0.8**
MYKOM	**Kota Tinggi**	**5.54**	**46**	⇓P	P		**Pn**	**18 22 29.6**	**+2.1**
KULM	**Kulim**	**7.37**	**6**	⇓P	P		**Pn**	**18 22 55.4**	**+2.9**
KTGM	**Kuala Trenggan**	**8.05**	**24**	⇓P	P		**Pn**	**18 23 04.1**	**+2.1**
SBUM	**Sibu**	**13.15**	**70**	⇓P	P		**Pn**	**18 24 14.8**	**+2.9**
SDKM	**Sandakan**	**18.94**	**66**	⇑P	P		**P**	**18 25 26.7**	**+1.0**
CMAR	**Chiang Mai Arr**	**20.43**	**358**	P	P		**P**	**18 25 39.5**	**-2.4**
	0.7nm,0.7s,baz=185,slow=10,SNR=8.0								
WRA	**Warramunga Arr**	**38.07**	**120**	P	P		**P**	**18 28 22.6**	**-0.6**
	0.8nm,0.5s,baz=287,slow=7.6,SNR=3.7								
ASAR	**Alice Springs**	**39.32**	**126**	P	P		**P**	**18 28 33.9**	**+0.3**
	0.7nm,0.7s,baz=302,slow=7.6,SNR=8.1								
KSRS	**Korea Array**	**47.16**	**31**	P	P		**P**	**18 29 36.1**	**-0.5**
	0.9nm,0.7s,baz=222,slow=7.7,SNR=2.7								
SONM	**Songino Array**	**50.04**	**6**	P	P		**P**	**18 29 57.1**	**-1.6**
	1.3nm,0.7s,baz=192,slow=8.2,SNR=6.6								
MKAR	**Makanchi Array**	**51.07**	**345**	P	P		**P**	**18 30 06.0**	**-0.5**
	0.7nm,0.4s,baz=153,slow=8.2,SNR=20								
USRK	**Ussuriysk Ar.**	**54.29**	**28**	P	P		**P**	**18 30 29.4**	**-0.9**
	1.6nm,0.6s,baz=220,slow=2.3,SNR=4.0								
ZALV	**Zalesovo Beam**	**57.22**	**349**	P	P		**P**	**18 30 50.1**	**-1.0**
	0.7nm,0.3s,baz=183,slow=5.9,SNR=5.9								
KBZ	**Khabaz**	**68.28**	**319**	P	P		**P**	**18 32 05.2**	**+0.3**
	1.6nm,0.8s,baz=102,slow=5.5,SNR=4.4								
BRTR	**Keskin Array B**	**73.27**	**313**	P	P		**P**	**18 32 34.8**	**-0.9**
	0.6nm,0.7s,baz=111,slow=7.9,SNR=4.4								
FINES	**FINESS Array B**	**84.12**	**332**	P	P		**P**	**18 33 34.5**	**-0.1**
	0.8nm,0.7s,baz=116,slow=8.7,SNR=6.0								
ARCES	**ARCESS Array B**	**86.50**	**340**	P	P		**P**	**18 33 46.5**	**+0.1**
	0.5nm,0.7s,baz=79,slow=4.7,SNR=4.6								
TXAR	**Lajitas Array**	**144.85**	**37**	PKP			**PKPab**	**18 40 41.3**	**+0.6**
	0.2nm,0.4s,baz=204,slow=1.9,SNR=5.3								

*ISCJB **10** 18:34:22.3±0.2,8.˚25S±0.˝03×128.˚88E±0.˝04, h10km, mb4.5/34, MS4.0/2, Error ellipse: s-maj=6.1km s-min=4.6km az=166.8*

*IDC **10** 18:34:22.8±0.5,8.˚20S×128.˚95E, h0km, mb4.4/17, mb1 4.5/19, mb1mx4.4/28, mbtmp4.4/19, ML3.5/2, MS3.8/4, Ms1 3.8/4, ms1mx3.3/26, Error ellipse: s-maj=19.3km s-min=12.9km az=56.0*

*MOS **10** 18:34:26.2±1.0,8.˚14S×128.˚98E, h33km, mb4.7/12, Error ellipse: s-maj=13.1km s-min=8.6km az=129.8*

*BJI **10** 18:34:27.4,8.˚47S×128.˚76E, h60km, mb4.4/16, mB4.8/12, Ms4.4/2, Ms7 4.0/2*

*DJA **10** 18:34:27.1±0.4,9˚S±4˝×12˚9E±˚, h10km, M4.4/5, mb4.8/5, mB4.7/2, MLv4.2/2, Mw(mB)3.9/2*

*NEIC **10** 18:34:30.4±0.8,8.˚21S×128.˚98E, h58km±7km, mb4.5/19, Error ellipse: s-maj=8.0km s-min=6.3km az=47.0*

ISC 10 18:34:23.9±0.3, 8.˚32S±0.˝04×128.˚94E±0.˝05, h10km, n139, σ1§57/120, mb4.6/34, 2C, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.36**	**82**	P	P		**Pb**	**18 35 06.3**	**-0.3**
SAUI				S	S		**Sg**	**18 35 37.7**	**-2.2**
SOEI	**Soe**	**4.83**	**252**	P	P		**Pn**	**18 35 38.5**	**+1.6**
SOEI	**Soe**	**4.83**	**252**	P	P		Pn	18 35 40.5	+3.6
	baz=4.9,SNR=9.8								
SOEI	**Soe**	**4.83**	**252**	*e*P	P		Pn	18 35 40.4	+3.5
MSAI	**Masohi**	**4.94**	**360**	P	P		Pb	18 35 44.1	-6.4
	38nm,0.7s,444nm0.1nm								
NLAI	**Namlea**	**5.36**	**340**	P	P		Pn	18 35 50.2	+6.1
KDU	**Kakadu**	**5.56**	**142**	P	P		**Pn**	**18 35 47.4**	**+0.5**
	baz=5.4,SNR=300								
FAKI	**Fak Fak**	**6.29**	**32**	P	P		**Pn**	**18 35 58.4**	**+1.5**
FAKI				S	S		**Sn**	**18 37 09.0**	**+0.1**
FAKI	**Fak Fak**	**6.29**	**32**	P	P		**Pn**	**18 35 58.3**	**+1.5**
	baz=6.4,SNR=108								
FAKI				S	S		**Sn**	**18 37 09.0**	**+0.1**
	baz=6.4,SNR=9.1								
FAKI	**Fak Fak**	**6.29**	**32**	*e*P	P		**Pn**	**18 35 58.3**	**+1.5**
	62nm,0.4s								
MMRI	**Maumere**	**6.64**	**267**	P	P		Pn	18 36 07.4	+5.8
MMRI	**Maumere**	**6.64**	**267**	*e*P	P		Pn	18 36 07.4	+5.8
	86nm,0.9s								
SANI	**Sanana**	**6.88**	**335**	P	P		Pn	18 36 12.8	+7.8
EDFI	**Ende, Flores**	**7.18**	**266**	P	P		Pn	18 36 16.7	+7.5
	34nm,1.0s								
KNRA	**Kununurra**	**7.32**	**181**	P	P		**Pn**	**18 36 11.1**	**+0.1**
	baz=7.2,SNR=272								
KNRA				S	S		**Sn**	**18 37 30.7**	**-3.5**
	baz=7.2,SNR=13								
RKPI	**Ransiki, Papua**	**8.54**	**38**	P	P		Pn	18 36 30.6	+2.9
WSI	**Waingapu**	**8.64**	**260**	P	P		Pn	18 36 34.9	+5.7
	baz=8.7,SNR=6.0								
BSSI	**Bau Bau, Buton**	**8.65**	**284**	P	P		Pn	18 36 37.8	+8.5
BKSI	**Bulukumba**	**9.24**	**288**	P	P		Pn	18 36 45.0	+7.6
LUWI	**Luwuk**	**9.48**	**319**	P	P		Pn	18 36 50.4	+10
LUWI	**Luwuk**	**9.48**	**319**	*e*P	P		Pn	18 36 49.1	+8.4
	56nm,1.1s								
BNSI	**Bone**	**9.60**	**293**	P	P		Pn	18 36 52.5	+10
KAPI	**Kappang**	**9.70**	**289**	Pn	P		**Pn**	**18 36 42.6**	**-1.0**
	0.6nm,0.3s,baz=120,slow=20,SNR=2.5								
KAPI				LR	LR		LR	18 40 29.7	
	comp=Z,474nm,19.4s,baz=129,slow=38								
KAPI	**Kappang**	**9.70**	**289**	*e*P	P		Pn	18 36 49.6	+6.0
SPSI	**Sidrap Palu**	**10.09**	**295**	P	P		Pn	18 36 59.3	+10
WRAB	**Tennant Creek**	**12.68**	**156**	*e*P	P		Pn	18 37 21.1	-3.5
WRAB				pmax	pmax				
	comp=Z,96nm,0.8s								
WRAB	**Tennant Creek**	**12.68**	**156**	*e*P	P		Pn	18 37 21.0	-3.5
	comp=Z,38nm,0.8s								
WRAB				*e*S	S		Sn	18 39 34.6	-11
WRA	**Warramunga Arr**	**12.69**	**156**	Pn	P		Pn	18 37 21.4	-3.2
	comp=Z,5.3nm,0.3s,baz=325,slow=15,SNR=162								
WRA				Sn	S		Sn	18 39 35.4	-11
	comp=Z,7.6nm,0.3s,baz=328,slow=24,SNR=16								
WRA	**Warramunga Arr**	**12.69**	**156**	*i* P	P		Pn	18 37 21.0	-3.6
WRA				pmax	pmax				
	comp=Z,12nm,0.4s								
JAY	**Jayapura**	**13.05**	**64**	Pn	P		**Pn**	**18 37 27.9**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=342,slow=13,SNR=2.1								
COEN	**Coen**	**15.05**	**113**	P	P		**Pn**	**18 37 54.2**	**-2.6**
	baz=15,SNR=14								
COEN				S	S		Sn	18 40 31.3	-12
	baz=15,SNR=6.3								
COEN	**Coen**	**15.05**	**113**	*e*P	P		**Pn**	**18 37 53.8**	**-3.0**
	comp=Z,27nm,0.8s								
MBWA	**Marble Bar**	**15.56**	**214**	*e*P	P		**Pn**	**18 38 01.6**	**-1.8**
QIS	**Mount Isa**	**15.95**	**141**	P	P		**Pn**	**18 38 04.8**	**-3.8**
	baz=16,SNR=13								
QIS				S	S		Sn	18 40 54.4	-11
	baz=16,SNR=6.4								
AS31	**Alice Springs**	**15.99**	**163**	*e*P	P		Pn	18 38 04.2	-4.9
ASAR	**Alice Springs**	**15.99**	**163**	Pn	P		**Pn**	**18 38 05.9**	**-3.2**
	comp=Z,2.0nm,0.3s,baz=332,slow=9.2,SNR=159								
ASAR				Sn	S		Sn	18 40 57.6	-9.0
	comp=Z,2.8nm,0.3s,baz=357,slow=28,SNR=6.8								
ASAR				LR	LR			18 44 33.7	
	comp=Z,172nm,19.6s,baz=349,slow=38								
WRKA	**Warakurna**	**16.64**	**182**	P	P		**Pn**	**18 38 14.4**	**-3.1**
	baz=17,SNR=22								
WRKA				S	S		Sn	18 41 10.2	-12
	baz=17,SNR=4.5								
PMG	**Port Moresby**	**18.04**	**95**	*e*P	P		**P**	**18 38 37.8**	**+2.4**
PMG				pmax	pmax				
	comp=Z,143nm,1.0s								
PMG	**Port Moresby**	**18.04**	**95**	P	P		**P**	**18 38 38.8**	**+3.5**
	baz=18,SNR=4.3								
UGM	**Wanagama**	**18.24**	**270**	P	P			18 38 42.9	+5.3
	baz=18,SNR=3.8								
KKM	**Kota Kinabalu**	**19.09**	**318**	*e*P	P		**P**	**18 38 42.8**	**-4.2**
	comp=Z,27nm,1.0s								
CTA	**Charters Tower**	**20.44**	**127**	P	P		Pn	18 39 03.8	0.0
	comp=Z,17nm,0.8s,baz=305,slow=13,SNR=11								
CTAO	**Charters Tower**	**20.44**	**127**	*e*P	P		Pn	18 39 04.4	+0.6
CTAO				pmax	pmax				
	comp=Z,30nm,1.1s								
CTAO	**Charters Tower**	**20.44**	**127**	*e*P	P		Pn	18 39 04.4	+0.6
	comp=Z,30nm,1.1s								
MEEK	**Meekatharra**	**20.69**	**207**	P	P		**P**	**18 39 05.1**	**+0.7**
	baz=21,SNR=7.1								
CISI	**Cisompet, Garu**	**20.93**	**271**	P	P		**P**	**18 39 07.1**	**-0.1**
	baz=21,SNR=6.6								
KSM	**Kuking**	**20.97**	**297**	P	P		Pn	18 39 11.1	+1.1
	baz=21,SNR=7.5								
KSM	**Kuching**	**20.97**	**297**	*e*P	P		**P**	**18 39 08.2**	**+0.8**
	comp=Z,20nm,0.9s								
LEM	**Lembang**	**21.19**	**273**	P	P		**P**	**18 39 11.9**	**+1.9**
	comp=Z,7.8nm,0.5s,baz=344,slow=15,SNR=3.4								
FORT	**Forrest**	**22.36**	**182**	*e*P	P		**P**	**18 39 22.3**	**0.0**
	comp=Z,61nm,0.8s								
QLP	**Quilpie**	**23.26**	**143**	P	P		**P**	**18 39 33.5**	**+1.8**
	baz=23,SNR=35								
QLP				S	S		**S**	**18 43 46.2**	**+2.2**
	baz=23,SNR=3.9								
MORW	**Morawa**	**23.95**	**209**	P	P		**P**	**18 39 38.7**	**+0.3**
	baz=24,SNR=5.0								
BLDU	**Ballidu**	**24.96**	**206**	P	P		**P**	**18 39 49.6**	**+1.9**
	baz=25,SNR=4.4								
BBOO	**Buckleboo**	**25.25**	**166**	P	P		**P**	**18 39 52.8**	**+2.5**
	baz=25,SNR=6.0								
RMQ	**Roma**	**26.09**	**136**	P	P		**P**	**18 39 59.8**	**+1.8**
	baz=26,SNR=11								
STKA	**Stephens Creek**	**26.23**	**155**	P	P		**P**	**18 39 60.0**	**+0.7**
	comp=Z,19nm,0.9s,baz=327,slow=8.4,SNR=17								
STKA				LR	LR			18 51 25.8	
	comp=Z,459nm,18.9s,baz=207,slow=39								
STKA	**Stephens Creek**	**26.23**	**155**	P	P		**P**	**18 40 00.0**	**+0.7**
STKA	**Stephens Creek**	**26.23**	**155**	P	P		**P**	**18 40 00.2**	**+1.0**
	baz=26,SNR=11								
CMSA	**Cobar Meteorol**	**27.88**	**148**	P	P		**P**	**18 40 15.7**	**+1.6**
	baz=28,SNR=39								
YNG	**Young**	**31.45**	**148**	P	P		**P**	**18 40 48.1**	**+2.4**
	baz=31,SNR=6.8								
PSI	**Prapat**	**31.90**	**289**	P	P		**P**	**18 40 49.4**	**-0.7**
	comp=Z,8.2nm,0.7s,baz=56,slow=6.2,SNR=6.5								
CNB	**Canberra Magne**	**32.74**	**148**	P	P		**P**	**18 40 59.5**	**+2.4**
	baz=33,SNR=6.0								
TOO	**Toolangi**	**32.76**	**155**	P	P		**P**	**18 41 00.1**	**+3.0**
	baz=33,SNR=4.7								
MILA	**Mila**	**33.99**	**150**	P	P		**P**	**18 41 10.7**	**+2.7**
	baz=34,SNR=5.5								
DZM	**Mont Dzumac**	**38.57**	**115**	P	P		**P**	**18 41 48.6**	**+1.3**
	comp=Z,9.1nm,0.8s,baz=136,slow=16,SNR=3.0								
CMAR	**Chiang Mai Arr**	**39.80**	**312**	P	P		**P**	**18 41 57.4**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=145,slow=7.2,SNR=11								
CMAR				PcP			**PcP**	**18 44 05.8**	**+2.0**
	comp=Z,2.8nm,0.9s,baz=171,slow=2.7,SNR=12								
CHTO	**Chiang Mai**	**40.02**	**313**	*e*P	P		**P**	**18 41 59.9**	**+0.5**
CHTO				pmax	pmax				
	comp=Z,5.0nm,1.1s								
CHTO	**Chiang Mai**	**40.02**	**313**	*e*P	P		**P**	**18 41 59.9**	**+0.5**
	comp=Z,4.7nm,1.1s								
MJAR	**Matsushiro Arr**	**45.46**	**10**	P	P		**P**	**18 42 41.3**	**-2.0**
	comp=Z,2.6nm,0.8s,baz=189,slow=9.6,SNR=8.2								
MJAR				PcP			**PcP**	**18 44 23.0**	**+0.6**
	comp=Z,2.7nm,0.9s,baz=200,slow=4.0,SNR=5.4								
KSAR	**Wonju Array Be**	**45.53**	**359**	P	P		**P**	**18 42 44.2**	**+0.4**
KSAR	**Wonju Array Be**	**45.53**	**359**	P	P		**P**	**18 42 44.2**	**+0.4**
KSRS	**Korea Array**	**45.54**	**359**	P	P		**P**	**18 42 44.2**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=187,slow=28,SNR=4.3								
LZH	**Lanzhou**	**50.08**	**333**	*e*P	P			18 43 26.1	+6.7
LZH				pP	pP			18 43 41.9	+19
LZH				sP	sP			18 43 48.3	+25
LZH				pmax	pmax				
	comp=Z,21nm,1.0s								
LZH				pmax	pmax				
	comp=Z,98nm,4.5s								
HHC	**Hu-ho-hao-te**	**51.47**	**343**	*e*P	P			18 43 32.8	+3.1
HHC				pP	pP			18 43 48.5	+16
HHC				sP	sP			18 43 55.7	+22
HHC				PP	**PP**			**18 45 31.6**	**+4.4**
HHC				S	**S**			**18 50 48.0**	**-2.0**
HHC				sS	sS			18 51 15.0	+20
HHC				PMZ					
	comp=Z,17nm,0.8s								
HHC				PMZ					
	comp=Z,91nm,8.4s								
HHC				LN					
	comp=Z,150nm,17.3s								
HHC				LE					
	comp=Z,320nm,17.3s								
HHC				LZ					
	comp=Z,180nm,17.3s								
LSA	**Lhasa**	**52.44**	**318**	P	P		**P**	**18 43 37.4**	**-0.2**
LSA	**Lhasa**	**52.44**	**318**	*e*P	P		**P**	**18 43 36.9**	**-0.7**
LSA				pmax	pmax				
	comp=Z,6.0nm,0.8s								
LSA	**Lhasa**	**52.44**	**318**	*e*P	P		**P**	**18 43 36.9**	**-0.7**
	comp=Z,5.9nm,0.8s								
ODAN	**Odare**	**53.34**	**312**	*e*P	P		**P**	**18 43 42.6**	**-1.4**
TAPN	**Taplejung**	**53.39**	**313**	*e*P	P		**P**	**18 43 43.7**	**-0.7**
	comp=Z,19nm,0.9s								
RAMN	**Ramite**	**53.97**	**312**	*e*P	P		**P**	**18 43 47.7**	**-0.9**
	comp=Z,38nm,0.9s								
GTA	**Gaotai**	**54.63**	**332**	*e*P	P		**P**	**18 43 53.1**	**0.0**
GTA				PMZ					
	comp=Z,3.0nm,1.4s								
GTA				PMZ					
	comp=Z,66nm,5.3s								
GTA				LN					
	comp=Z,64nm,15.7s								
GTA				LE					
	comp=Z,76nm,19.9s								
GTA				LZ					
	comp=Z,89nm,20.9s								
JIRN	**Jiri**	**54.67**	**312**	*e*P	P		**P**	**18 43 53.3**	**-0.6**
GUN	**Gumba**	**55.04**	**313**	*e*P	P		**P**	**18 43 55.7**	**-0.8**
	comp=Z,18nm,0.7s								
PKI	**Pulchoki**	**55.20**	**312**	*e*P	P		**P**	**18 43 56.5**	**-1.1**
PKIN	**Phulchoki**	**55.21**	**312**	*e*P	P		**P**	**18 43 56.4**	**-1.3**
KKN	**Kakani**	**55.41**	**312**	*e*P	P		**P**	**18 43 58.2**	**-0.9**
DMN	**Daman**	**55.44**	**312**	*e*P	P		**P**	**18 43 58.1**	**-1.2**
GKN	**Gorkha**	**56.00**	**312**	*e*P	P		**P**	**18 44 02.4**	**-0.8**
	comp=Z,6.3nm,0.5s								
KOLN	**Koldanda**	**56.65**	**311**	*e*P	P		**P**	**18 44 07.2**	**-0.7**
	comp=Z,14nm,0.8s								
ULN	**Ulaanbaatar**	**59.20**	**343**	*e*P	P		**P**	**18 44 26.9**	**+1.6**
ULN				pmax	pmax				
	comp=Z,3.0nm,1.0s								
ULN	**Ulaanbaatar**	**59.20**	**343**	*e*P	P		**P**	**18 44 24.8**	**-0.5**
	comp=Z,2.5nm,0.9s								
SONM	**Songino Array**	**59.36**	**343**	P	P		**P**	**18 44 26.4**	**0.0**
	comp=Z,1.4nm,0.8s,baz=160,slow=7.5,SNR=7.4								
ZAK	**Zakamensk**	**62.57**	**342**	*e*P	P		**P**	**18 44 47.2**	**-1.0**
ZAK				pmax	pmax				
	comp=Z,2.0nm,2.0s								
MOY	**Mondy**	**64.40**	**341**	*e*P	P			18 45 10.2	+10
PETK	**Petropavlovsk-**	**65.89**	**19**	P	P		**P**	**18 45 10.4**	**+0.6**
	comp=Z,8.3nm,0.8s,baz=185,slow=4.6,SNR=25								
MK31	**Makanchi Array**	**68.75**	**328**	*e*P	P		**P**	**18 45 27.7**	**-0.4**
MK31	**Makanchi Array**	**68.75**	**328**	*e*P	P		**P**	**18 45 27.7**	**-0.4**
MKAR	**Makanchi Array**	**68.75**	**328**	P	P		**P**	**18 45 28.1**	**-0.1**
	comp=Z,4.6nm,1.0s,baz=177,slow=4.9,SNR=20								
YAK	**Yakutsk**	**70.13**	**0**	*e*P	P		**P**	**18 45 35.1**	**-1.1**
YAK				pmax	pmax				
	comp=Z,9.0nm,1.0s								
TKM2	**Tokmak 2**	**70.33**	**321**	*e*P	P		**P**	**18 45 38.8**	**+0.6**
TKM2				pmax	pmax				
	comp=Z,2.0nm,0.8s								
TKM2	**Tokmak 2**	**70.33**	**321**	*e*P	P		**P**	**18 45 38.8**	**+0.6**
	comp=Z,2.4nm,0.8s								
AAK	**Ala-Archa**	**70.87**	**321**	*e*P	P		**P**	**18 45 42.4**	**+0.9**
AAK				pmax	pmax				
	comp=Z,12nm,1.7s								
AAK	**Ala-Archa**	**70.87**	**321**	*e*P	P		**P**	**18 45 42.3**	**+0.9**
	comp=Z,3.1nm,1.0s								
VNDA	**Vanda**	**71.28**	**173**	P	P		**P**	**18 45 43.6**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=280,slow=6.8,SNR=8.2								
VNDA				LR	LR			19 15 19.0	
	comp=Z,73nm,20.5s,baz=328,slow=34								
VNDA	**Vanda**	**71.28**	**173**	*e*P	P		**P**	**18 45 43.9**	**+0.8**
VNDA				pmax	pmax				
	comp=Z,3.0nm,1.0s								
VNDA	**Vanda**	**71.28**	**173**	*e*P	P		**P**	**18 45 43.9**	**+0.8**
	comp=Z,3.2nm,1.0s								
SBA	**Scott Base**	**72.18**	**172**	*e*P	P		**P**	**18 45 50.6**	**+2.1**
SBA	**Scott Base**	**72.18**	**172**	*e*P	P		**P**	**18 45 50.6**	**+2.1**
ZAA0	**Zalesovo Array**	**72.30**	**334**	*e*P	P		**P**	**18 45 48.2**	**-1.4**
ZALV	**Zalesovo Beam**	**72.30**	**334**	P	P		**P**	**18 45 48.7**	**-0.9**
	comp=Z,2.6nm,0.9s,baz=122,slow=5.4,SNR=11								
KURK	**Kurchatov**	**73.09**	**329**	*e*P	P		**P**	**18 45 53.8**	**-0.6**
KURK				pmax	pmax				
	comp=Z,12nm,1.0s								
KURK	**Kurchatov**	**73.09**	**329**	*e*P	P		**P**	**18 45 53.8**	**-0.6**
	comp=Z,12nm,1.0s								
NVS	**Novosibirsk**	**73.59**	**334**	*e*P	P		**P**	**18 45 56.3**	**-0.9**
BRVK	**Borovoye**	**78.69**	**328**	*e*P	P		**P**	**18 46 26.3**	**0.0**
BRVK				pmax	pmax				
	comp=Z,6.0nm,1.0s								
BRVK	**Borovoye**	**78.69**	**328**	*e*P	P		**P**	**18 46 25.7**	**-0.6**
	comp=Z,5.8nm,1.0s								
TIXI	**Tiksi**	**79.79**	**360**	*e*P	P		**P**	**18 46 32.5**	**+0.6**
TIXI				pmax	pmax				
	comp=Z,3.0nm,0.7s								
TIXI	**Tiksi**	**79.79**	**360**	*e*P	P		**P**	**18 46 30.9**	**-1.0**
	comp=Z,4.1nm,0.7s								
QSPA	**South Pole Qui**	**81.67**	**180**	P	P		**P**	**18 46 42.8**	**+0.4**
	comp=Z,6.6nm,0.9s,baz=331,slow=3.1,SNR=16								
QSPA	**South Pole Qui**	**81.67**	**180**	*e*P	P		**P**	**18 46 43.1**	**+0.7**
	comp=Z,9.9nm,1.1s								
ABKAR	**Akbulak array**	**82.88**	**322**	*e*P	P		**P**	**18 46 47.9**	**

QZH SMN
280nm,0.8s
QZH SME
470nm,1.1s
QZH LN
2µm,16.1s
QZH LE
2µm,14.5s
QZH LZ
2µm,16.4s
PLP Palo 8.69 154⇓*e*P **Pn 18 58 38.2 0.0**
JOW Kunigami 10.11 39 Pn **Pn 18 58 59.0 +1.3**
2.6nm,0.3s,baz=181,slow=10,SNR=79
QIZ Qiongzhong 10.72 272 P **Pn 18 59 06.5 +0.4**
QIZ S **Sn 19 01 06.5 +1.4**
QIZ PMZ
96nm,2.4s
QIZ LN
720nm,18.9s
QIZ LZ
1µm,17.6s
QIZ Qiongzhong 10.72 272 *e*P Pn 18 59 02.2 -3.9
29nm,0.6s
WHN Wuhan 12.98 333 ⇓P **Pn 18 59 34.6 -2.3**
WHN pP P 18 59 39.3 -7.8
WHN S Sn 19 01 53.2 -7.1
WHN LN
1µm,11.2s
WHN LE
1µm,15.2s
WHN LZ
2µm,17.0s
NJ2 Nanjing 13.08 351 *e*P **Pn 18 59 40.0 +1.7**
NJ2 S **Sn 19 02 07.0 +4.2**
NJ2 PMZ
10.0nm,0.5s
NJ2 LN
800nm,24.4s
NJ2 LE
720nm,23.0s
NJ2 LZ
780nm,21.5s
KKM Kota Kinabalu 13.84 201 ⇓P **P 18 59 55.7 -1.1**
SDKM Sandakan 13.92 197 ⇓P Pn 18 59 53.2 +3.3
DLV T Lat 14.14 242 *e*Pn **Pn 18 59 52.8 -0.2**
TSM Tawau 15.05 193 ⇑P **P 19 00 07.8 -2.4**
ENH Enshi 15.38 319 *e*P **Pn 19 00 10.3 +0.9**
17nm,1.0s
JNU Nakatsue 16.45 30 Pn **Pn 19 00 24.4 +1.1**
1.8nm,0.3s,baz=184,slow=6.5,SNR=26
JNU LR LR 19 06 44.5
comp=Z,359nm,21.4s,baz=213,slow=37
JNU Nakatsue 16.45 30 *e*Pn **P 19 00 24.5 -1.2**
SKNT Sakolnakorn 16.49 265 P **P 19 00 28.5 +2.3**
TIA Tai'an 17.43 349 ⇓P **P 19 00 37.1 +0.6**
TIA PMZ
40nm,0.8s
TIA PMZ
570nm,7.5s
TIA LN
400nm,17.6s
TIA LE
620nm,12.6s
TIA LZ
430nm,14.0s
BTM Bintulu 17.66 208 ⇓P **P 19 00 39.8 +0.6**
KHON Khomkaen 17.70 264 P **P 19 00 40.7 +1.1**
7.9nm,0.7s
KMI Kunming 18.10 293 P **P 19 00 46.3 +2.1**
KMI pP **pP 19 00 51.4 -0.6**
KMI sP **sP 19 00 54.9 -0.8**
KMI PP **PnPn 19 01 01.0 +5.6**
KMI S **Sn 19 04 02.0 -3.4**
KMI sS **S 19 04 10.7 +0.2**
KMI SS **SnSn 19 04 27.5 +8.3**
KMI PMZ
14nm,1.1s
KMI PMZ
51nm,3.1s
KMI LN
2µm,13.3s
KMI LE
1µm,13.0s
KMI LZ
1µm,13.6s
XAN Xi'an 18.47 326 P **P 19 00 47.9 -0.1**
XAN PMZ
9.0nm,0.9s
XAN PMZ
82nm,5.2s
XAN LN
340nm,14.7s
XAN LE
110nm,13.4s
XAN LZ
160nm,13.8s
MRSI Marisa 18.51 178 P **Pn 19 00 49.0 +0.2**
23nm,0.9s,433nm
CHAI Chaiyaphum 18.57 263 P **Pn 19 00 50.6 +0.9**
3.5nm,1.3s
KMSI Cibinong 18.60 171 P **P 19 00 46.3 -3.2**
110nm,1.2s,1µm
MPSI Mapaga 18.68 184 P **Pn 19 00 51.7 +0.9**
10nm,1.0s
SBUM Sibu 18.71 209 ⇑P **Pn 19 00 51.3 0.0**
SBUM Sibu 18.71 209 *e*P **P 19 00 51.0 +0.2**
63nm,1.5s
INCN Inchon 18.94 13 *e*P **P 19 00 52.8 -0.3**
36nm,1.1s
LOEI Loei 18.97 268 P **P 19 00 52.0 -1.6**
235nm,1.0s
KSGAH Ganghwa 19.12 13 P **P 19 00 55.3 +0.3**
SNR=12
KSAR Wonju Array Be 19.21 16 P **P 19 00 56.2 +0.2**
KSAR Wonju Array Be 19.21 16 P **P 19 00 56.1 +0.2**
KSWJU Wonju 19.22 17 P **P 19 00 56.5 +0.4**
SNR=7.0
KSTBA Taebaek 19.22 19 P **P 19 00 56.7 +0.4**
SNR=9.0
KSRS Korea Array 19.23 16 P **P 19 00 56.1 -0.1**
6.1nm,0.3s,baz=198,slow=11,SNR=147
KSRS LR LR 19 08 56.9
comp=Z,310nm,19.1s,baz=196,slow=38
PBKT Sadao Pong 19.40 266 P **Pn 19 01 01.6 +2.0**
14nm,1.1s
KSCHC Chuncheon 19.50 16 P **P 19 00 59.8 +0.5**
SNR=14
YNCB YEONCHEON 19.54 14 P **Pn 19 01 00.3 -0.7**
SNR=6.1
UTTA Uttaradit 19.61 269 P **Pn 19 01 06.9 +4.8**
CRAI Chiangrai 19.63 277 P **P 19 00 59.4 -1.4**
57nm,1.5s
KSDGY Daegwallycong 19.66 18 P **P 19 01 01.8 +0.7**
SNR=8.8
CD2 Chengdu 19.66 310⇓*i*P **P 19 01 01.7 +0.6**
CD2 sP **sP 19 01 13.1 +0.5**
CD2 PP **PnPn 19 01 19.1 +2.5**
CD2 S **S 19 04 34.7 -6.8**
CD2 sS **Sn 19 04 43.1 +0.3**
CD2 PMZ
120nm,0.8s
CD2 PMZ
210nm,4.0s
CD2 LN
930nm,14.3s
CD2 LE
880nm,11.9s
CD2 LZ
720nm,15.5s
KSCWO Cheorwon 19.72 15 P **P 19 01 02.1 +0.4**
SNR=12
KSIJA INJE 19.78 16 P **P 19 01 02.8 +0.5**
SNR=14
PCI Palu 19.91 184 P **Pn 19 01 07.9 +2.2**
33nm,1.1s,689nm
LUWI Luwuk 20.06 175 P **P 19 01 05.6 +0.1**
90nm,1.2s,841nm
LUWI Luwuk 20.06 175 *e*P **P 19 01 04.2 -1.3**
88nm,1.0s
TIY Taiyuan 20.07 339 *e*P Pn 19 01 07.1 -0.4
TIY PMZ
100nm,0.8s
TIY PMZ
200nm,4.0s
TIY LN
430nm,12.6s
TIY LE
200nm,12.1s
TIY LZ
420nm,14.6s
SEHB SEOHWA 20.08 16 P Pn 19 01 06.6 -1.0
SNR=11
KSM Kuching 20.49 213 ⇓P **P 19 01 09.8 -0.4**
KSM Kuching 20.49 213 *e*P **P 19 01 09.6 -0.6**
38nm,1.1s
CMAI Chiengmai2 20.88 276 P **P 19 01 15.7 +1.1**
16nm,1.2s,2µm
CBIJ Chichi jima 20.89 64 *e*P **P 19 01 14.2 -0.2**
JCJ Chichijima 20.89 64 P **P 19 01 14.1 -0.3**
70nm,0.7s,baz=134,slow=23,SNR=5.9
CMMT Chiang Mai 21.03 273 P **P 19 01 16.8 +0.8**
33nm,1.1s,509nm
CHTO Chiang Mai 21.03 273 P **P 19 01 16.8 +0.7**
76nm,1.2s
CHTO Chiang Mai 21.03 273 *e*P **P 19 01 16.3 +0.2**
CHTO pmax pmax
comp=Z,22nm,1.0s
CHTO Chiang Mai 21.03 273 *e*P **P 19 01 16.3 +0.2**
comp=Z,22nm,1.0s
UTHA Uthaitani 21.04 264 P **P 19 01 17.4 +1.3**
comp=Z,11nm,1.0s,comp=Z,81nm
CM31 Chiang Mai Arr 21.06 272 *e*P **P 19 01 16.4 +0.1**
comp=Z,12nm,0.8s
CMAR Chiang Mai Arr 21.06 272 P **P 19 01 16.4 0.0**
comp=Z,3.8nm,0.9s,baz=94,slow=7.8,SNR=17
CMAR PcP **PcP 19 05 23.1 +0.6**
comp=Z,1.0nm,0.8s,baz=42,slow=0.6,SNR=7.1
CMAR ScP **ScP 19 08 56.3 -1.2**
comp=Z,1.0nm,0.9s,baz=111,slow=1.5,SNR=5.4
CMAR LR LR 19 09 47.8
comp=Z,260nm,18.5s,baz=104,slow=38
BJT Baijiatuau 21.30 349 *e*P **P 19 01 19.7 +0.9**
BJT pmax pmax
comp=Z,184nm,1.0s
BJT Baijiatuau 21.30 349 *e*P **P 19 01 19.7 +0.9**
comp=Z,184nm,1.0s
BJI Beijing 21.32 349 P **P 19 01 19.6 +0.7**
BJI S **S 19 05 18.0 +3.7**
BJI PMZ
comp=Z,160nm,1.0s
BJI PMZ
comp=Z,220nm,3.5s
BJI LN
comp=Z,330nm,18.3s
BJI LE
comp=Z,330nm,18.3s
BJI LZ
comp=Z,140nm,19.9s
SANI Sanana 21.53 167 P **P 19 01 19.4 -2.0**
SRDT SRDT 21.64 261 P P 19 01 33.4 +11
MHMT Maesarieng 22.05 271 P P 19 01 41.7 +15
KTGM Kuala Trenggan 22.28 234 ⇓P **P 19 01 30.0 +0.5**
LZH Lanzhou 22.80 321 *e*P **P 19 01 35.7 +0.6**
LZH pP **pP 19 01 44.1 +1.2**
LZH sP **sP 19 01 48.8 +2.2**
LZH *e*S **S 19 05 37.1 -5.5**
LZH sS sS 19 05 46.2 -10
LZH SS **SnSn 19 06 21.1 +6.7**
LZH PMZ
comp=Z,97nm,1.0s
LZH PMZ
comp=Z,370nm,4.6s
LZH LN
comp=Z,2µm,16.0s
LZH LE
comp=Z,1µm,15.4s
LZH LZ
comp=Z,1µm,15.8s
MAJO Matsushiro 22.94 37 *e*P **P 19 01 36.2 -0.1**
MAJO pmax pmax
comp=Z,152nm,1.2s
MAJO Matsushiro 22.94 37 *e*P **P 19 01 35.6 -0.7**
comp=Z,21nm,0.9s
MAT Matsushiro 22.94 37 P **P 19 01 35.3 -1.0**
MAT S **S 19 05 48.0 +3.3**
MJAR Matsushiro Arr 22.94 37 P **P 19 01 36.1 -0.3**
comp=Z,9.7nm,0.7s,baz=221,slow=8.9,SNR=26
HHC Hu-ho-hao-te 23.20 341 *e*P **P 19 01 39.9 +0.9**
HHC PP **PnPn 19 02 11.5 +6.4**
HHC S **S 19 05 48.2 -0.9**
HHC sS **sS 19 05 58.5 -4.5**
HHC PMZ
comp=Z,29nm,0.7s
HHC PMZ
comp=Z,220nm,4.9s
HHC LN
comp=Z,570nm,14.9s
HHC LE
comp=Z,660nm,16.1s
HHC LZ
comp=Z,470nm,14.1s
GUMO Guam 23.37 100 LR LR 19 11 00.8
comp=Z,320nm,18.6s,baz=286,slow=37
BTO Baotou 23.49 338 *e*P **P 19 01 41.6 -0.2**
TRTT Trang 23.67 245 P **P 19 01 44.1 +0.4**
comp=Z,20nm,0.9s
KAPI Kappang 23.99 183 *e*P **P 19 01 47.4 +0.7**
MYKOM Kota Tinggi 24.16 227 ⇑P **P 19 01 47.6 -0.7**
MYKOM Kota Tinggi 24.16 227 *e*P **P 19 01 47.4 -0.8**
comp=Z,13nm,1.0s
KULM Kulim 24.26 238 *e*P **P 19 01 48.6 -0.6**
comp=Z,60nm,1.3s
KGM Kluang 24.36 228 ⇓P **P 19 01 49.6 -0.6**
IPM Ipoh 24.45 236 ⇑P **P 19 01 49.9 -1.1**
IPM Ipoh 24.45 236 *e*P **P 19 01 49.4 -1.6**
comp=Z,29nm,1.1s
CN2 Changchun 24.90 7 *e*P **P 19 01 55.2 +0.4**
CN2 *e*pP **pP 19 02 02.3 -0.9**
CN2 *e*S **S 19 06 15.0 -1.2**
CN2 PMZ
comp=Z,30nm,0.6s
CN2 LN
comp=Z,330nm,14.0s
CN2 LE
comp=Z,500nm,14.0s
CN2 LZ
comp=Z,450nm,16.0s
VLA Vladivostok 25.61 18 ⇑P **P 19 02 00.3 -0.9**
VLA *e* 19 02 36.8
VLA *e*S **S 19 06 26.4 -1.0**
VLA pmax pmax
comp=Z,26nm,1.1s
IMP Imphal 25.88 288 *e*P **P 19 02 04.0 +0.1**
MDJ Mudanjiang 26.41 14 P **P 19 02 11.1 +2.7**
MDJ pP **pP 19 02 16.4 -0.4**
MDJ sP **sP 19 02 20.4 0.0**
MDJ S **S 19 06 44.2 +4.1**
MDJ ScS **ScS 19 13 07.9 +6.4**
MDJ PMZ
comp=Z,18nm,0.9s
MDJ PMZ
comp=Z,140nm,5.6s
MDJ LN
comp=Z,110nm,25.0s
MDJ LE
comp=Z,390nm,25.0s
MDJ LZ
comp=Z,160nm,23.5s
USRK Ussuriysk Ar. 26.63 18 P **P 19 02 11.0 +0.6**
comp=Z,21nm,0.7s,baz=202,slow=8.3,SNR=20
PSI Prapat 27.13 236 P **P 19 02 14.7 -0.7**
comp=Z,3.0nm,0.4s,baz=262,slow=1.6,SNR=5.1
PSI LR LR 19 12 26.8
comp=Z,197nm,18.4s,baz=86,slow=35
GTA Gaotai 27.40 322 *e*P **P 19 02 17.9 +0.3**
GTA pP **pP 19 02 25.1 -0.9**
GTA sP **sP 19 02 28.6 -0.9**
GTA PcP **PcP 19 05 36.7 +0.6**
GTA S **S 19 06 57.4 +1.3**
GTA sS **sS 19 07 09.3 -0.7**
GTA ScP **ScP 19 09 16.5 +1.8**
GTA PMZ
comp=Z,9.0nm,1.1s
GTA PMZ
comp=Z,150nm,5.0s
GTA LN
comp=Z,250nm,17.1s
GTA LE
comp=Z,320nm,15.7s
GTA LZ
comp=Z,310nm,14.2s
JAY Jayapura 28.80 136 LR LR 19 11 42.9
comp=Z,198nm,22.0s,baz=304,slow=32
LEM Lembang 29.01 209 LR LR 19 14 07.6
comp=Z,168nm,19.0s,baz=12,slow=36
GSI Gunungsitoli 29.11 235 *e*P **P 19 02 31.5 -1.4**
comp=Z,21nm,1.0s
LSA Lhasa 29.24 297 P **P 19 02 34.7 +0.2**
LSA Lhasa 29.24 297 *e*P **P 19 02 34.4 -0.1**
LSA pmax pmax
comp=Z,9.0nm,1.0s
LSA Lhasa 29.24 297 *e*P **P 19 02 34.4 -0.1**
comp=Z,9.2nm,1.0s
HIA Hailar 30.13 358 *e*P **P 19 02 41.2 -0.4**
HIA pmax pmax
comp=Z,19nm,0.8s
HIA Hailar 30.13 358 *e*P **P 19 02 41.2 -0.4**
comp=Z,19nm,0.8s
ASAJ Asahikawa 30.73 31 P **P 19 02 47.6 +0.7**
comp=Z,6.9nm,0.6s,baz=229,slow=12,SNR=8.1
ASAJ Asahikawa 30.73 31 *e*P **P 19 02 48.6 +1.7**
ULN Ulaanbaatar 30.92 341*d i*P **P 19 02 49.4 +0.6**
ULN pmax pmax
comp=Z,19nm,1.0s
ULN Ulaanbaatar 30.92 341 *e*P **P 19 02 49.0 +0.2**
comp=Z,16nm,0.9s
SONM Songino Array 31.10 341 P **P 19 02 51.0 +0.6**
comp=Z,16nm,0.8s,baz=160,slow=9.4,SNR=72
SONM LR LR 19 16 17.3
comp=Z,159nm,19.3s,baz=162,slow=38
SONM Songino Array 31.10 341 P **P 19 02 51.0 +0.6**
KLR Kul'dur 31.25 13 *e*P P 19 02 46.2 -5.3
HABR Khabarovsk 31.39 18 *e*P **P 19 02 50.5 -2.2**
HABR *e**PP **pP 19 03 00.0 -1.2**
HABR *e* 19 03 53.6
HABR *e*S **S 19 07 56.5 -1.9**
HABR *e*SS **sS 19 08 12.9 +0.6**
HABR *e*SS **SnSn 19 09 42.2 -1.4**
HABR pmax pmax
comp=Z,10.0nm,1.8s
HABR MLR MLR
comp=Z,196nm,17.0s
TAPN Taplejung 31.76 291 *e*P **P 19 02 56.4 -0.2**
comp=Z,28nm,1.1s
ODAN Odare 31.98 290 *e*P **P 19 02 58.4 -0.1**
comp=Z,30nm,0.7s
RAMN Ramite 32.69 290 *e*P **P 19 03 05.0 +0.3**
comp=Z,58nm,0.8s
YSS Yuzh-Sakhalins 32.94 28 *e*P **P 19 03 06.6 +0.3**
YSS *e* 19 03 13.7
YSS pmax pmax
comp=Z,30nm,1.0s
YSS Yuzh-Sakhalins 32.94 28 *e*P **P 19 03 07.3 +1.0**
comp=Z,41nm,1.1s
JIRN Jiri 33.14 292 *e*P **P 19 03 08.7 -0.1**
comp=Z,35nm,0.9s
GUN Gumba 33.45 292 *e*P **P 19 03 11.3 -0.1**
comp=Z,45nm,0.8s
PKI Pulchoki 33.82 291 *e*P **P 19 03 13.9 -0.7**
PKIN Phulchoki 33.83 291 *e*P **P 19 03 13.9 -0.8**
comp=Z,12nm,0.8s
KKN Kakani 33.96 292 *e*P **P 19 03 15.0 -0.7**
comp=Z,26nm,0.9s
DMN Daman 34.09 291 *e*P **P 19 03 16.4 -0.5**
comp=Z,51nm,1.2s
ZAK Zakamensk 34.33 340 *e*P **P 19 03 18.4 -0.1**
ZAK pmax pmax
comp=Z,9.0nm,1.0s
GKN Gorkha 34.55 292 *e*P **P 19 03 19.8 -1.0**
comp=Z,44nm,1.1s
TLY Talaya 35.33 341 P **P 19 03 28.1 +0.9**
comp=Z,12nm,0.8s,baz=170,slow=6.6,SNR=32
TLY Talaya 35.33 341 *e*P **P 19 03 27.9 +0.8**
TLY *e*S **S 19 08 55.1 -4.4**
TLY pmax pmax
comp=Z,20nm,0.9s
TLY MLR MLR
comp=Z,128nm,14.0s
TLY Talaya 35.33 341 *e*P **P 19 03 28.0 +0.9**
comp=Z,18nm,0.9s
KOLN Koldanda 35.43 291 *e*P **P 19 03 27.9 -0.6**
comp=Z,25nm,0.8s
IRK Irkutsk 35.64 342 *e*P **P 19 03 29.0 -0.7**
IRK *e* 19 04 53.7
IRK pmax pmax
comp=Z,39nm,1.3s
MOY Mondy 36.18 339 *e*P **P 19 03 35.2 +0.7**
MOY pmax pmax
comp=Z,29nm,1.8s
WMQ Urumqi 37.33 319 P **P 19 03 45.7 +1.4**
WMQ pP **pP 19 03 53.0 +0.2**
WMQ sP **sP 19 03 56.4 +0.1**
WMQ PcP **PcP 19 06 04.7 +1.6**
WMQ S **S 19 09 32.0 +1.8**
WMQ sS **sS 19 09 43.3 -1.0**
WMQ PcS **PcS 19 09 51.9 +0.4**
WMQ SS **SnSn 19 12 04.6 -2.9**
WMQ ScS **ScS 19 13 54.3 -2.1**
WMQ PMZ
comp=Z,11nm,1.0s
WMQ PMZ
comp=Z,130nm,4.6s
WMQ LN
comp=Z,330nm,16.2s
WMQ LE
comp=Z,310nm,14.8s
WMQ LZ
comp=Z,140nm,15.0s
BOD Bodaibo 39.04 354 *e*P **P 19 03 57.8 -0.6**
BOD pmax pmax
comp=Z,5.0nm,0.9s
WRAB Tennant Creek 40.87 161 *e*P **P 19 04 14.9 +0.9**
WRAB pmax pmax
comp=Z,15nm,1.4s
WRAB Tennant Creek 40.87 161 *e*P P 19 04 10.3 -3.8
comp=Z,8.5nm,0.9s
WRA Warramunga Arr 40.88 161 P P 19 04 10.3 -3.8
comp=Z,3.2nm,0.7s,baz=342,slow=9.2,SNR=18
WRA PcP **PcP 19 06 14.2 -0.3**
comp=Z,2.4nm,0.6s,baz=341,slow=3.3,SNR=8.7
WRA ScP **ScP 19 10 00.6 -1.7**
comp=Z,0.7nm,0.8s,baz=343,slow=4.2,SNR=5.3
MK31 Makanchi Array 42.10 320 *e*P **P 19 04 24.4 +0.5**
MK31 Makanchi Array 42.10 320 *e*P **P 19 04 24.4 +0.5**
MKAR Makanchi Array 42.10 320 P **P 19 04 24.6 +0.6**
comp=Z,6.6nm,0.7s,baz=137,slow=6.0,SNR=54
MKAR PcP **PcP 19 06 17.9 -0.3**
comp=Z,3.6nm,0.8s,baz=129,slow=1.7,SNR=4.5
MKAR LR LR 19 22 38.7
comp=Z,96nm,21.5s,baz=124,slow=37
H11S3 WAKE ISLAND Hy 42.99 83 T T 19 50 09.5
baz=278,slow=75,SNR=203
H11S1 WAKE ISLAND Hy 43.01 83 T T 19 50 10.4
baz=278,slow=75,SNR=111
H11S2 WAKE ISLAND Hy 43.01 83 T T 19 50 10.4
baz=278,slow=75,SNR=125
H11N1 WAKE ISLAND Hy 43.02 81 T T 19 50 30.5
baz=277,slow=75,SNR=1119
H11N2 WAKE ISLAND Hy 43.03 81 T T 19 50 30.3
baz=277,slow=75,SNR=756
H11N3 WAKE ISLAND Hy 43.04 81 T T 19 50 33.6
baz=277,slow=75,SNR=903
YAK Yakutsk 43.31 6 P **P 19 04 32.9 -0.5**
comp=Z,20nm,0.6s,baz=298,slow=0.8,SNR=23
YAK Yakutsk 43.31 6 *e*P **P 19 04 32.7 -0.7**
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK pmax pmax
comp=Z,18nm,0.9s
YAK Yakutsk 43.31 6 *e*P **P 19 04 32.9 -0.5**
comp=Z,28nm,0.8s
KSH Kashi 43.83 308⇓*i*P **P 19 04 41.2 +3.1**
KSH pP **pP 19 04 48.9 +2.1**
KSH sP **sP 19 04 52.0 +1.7**
KSH PP **PcP 19 06 25.4 +1.1**
KSH PcS **PcS 19 10 18.9 +1.6**
KSH S **S 19 11 11.4 +4.0**
KSH SS **SS 19 14 20.3 -3.6**
KSH PMZ
comp=Z,23nm,0.8s
KSH PMZ
comp=Z,86nm,2.6s
KSH LN
comp=Z,190nm,8.9s
KSH LE
comp=Z,130nm,5.7s

KSH				LZ					
	comp=Z,360nm,15.2s								
PEA0B	**Petropavlovsk-**	**44.15**	**31**	*eP*		**P**		**19 04 40.1**	**-0.2**
PETK	**Petropavlovsk-**	**44.15**	**31**	P		**P**		**19 04 40.0**	**-0.4**
	comp=Z,9.0nm,0.7s,baz=217,slow=5.0,SNR=32								
PETK				LR		LR		19 24 38.5	
	comp=Z,58nm,18.5s,baz=219,slow=38								
PETK	**Petropavlovsk-**	**44.15**	**31**	P		**P**		**19 04 40.0**	**-0.4**
AS31	**Alice Springs**	**44.27**	**163**	*eP*		**P**		**19 04 40.4**	**-1.3**
ASAR	**Alice Springs**	**44.27**	**163**	P		**P**		**19 04 39.0**	**-2.6**
	comp=Z,1.4nm,0.8s,baz=340,slow=7.0,SNR=19								
ASAR				ScP		**ScP**		**19 10 14.4**	**-1.4**
	comp=Z,1.5nm,1.0s,baz=344,slow=2.7,SNR=6.7								
ASAR				LR		LR		19 24 43.4	
	comp=Z,112nm,18.5s,baz=350,slow=38								
ULHL	**Ulahol**	**44.37**	**311**	P		**P**		**19 04 43.9**	**+1.3**
	SNR=5.0								
ULHL	**Ulahol**	**44.37**	**311**	*i* P		**P**		**19 04 43.8**	**+1.3**
PET	**Petropavlovsk**	**44.57**	**32**	*eP*		**P**		**19 04 43.4**	**-0.3**
PET				pmax		pmax			
	comp=Z,43nm,1.7s								
ZAA0	**Zalesovo Array**	**44.57**	**330**	*eP*		**P**		**19 04 43.3**	**-0.4**
ZALV	**Zalesovo Beam**	**44.57**	**330**	P		**P**		**19 04 43.5**	**-0.2**
	comp=Z,12nm,0.8s,baz=119,slow=7.7,SNR=46								
ZALV				ScP		**ScP**		**19 10 14.5**	**-2.2**
	comp=Z,1.1nm,0.8s,baz=152,slow=6.7,SNR=3.9								
ZALV				LR		LR		19 24 23.4	
	comp=Z,164nm,18.7s,baz=70,slow=37								
TKM2	**Tokmak 2**	**45.03**	**312**	P		**P**		**19 04 48.9**	**+1.1**
	SNR=6.4								
TKM2	**Tokmak 2**	**45.03**	**312**	*i* P		**P**		**19 04 48.8**	**+1.1**
TKM2	**Tokmak 2**	**45.03**	**312**	*eP*		**P**		**19 04 48.9**	**+1.1**
	comp=Z,5.8nm,0.8s								
KZA	**Kyzart**	**45.03**	**311**	P		**P**		**19 04 49.7**	**+1.6**
	SNR=17								
KZA	**Kyzart**	**45.03**	**311**	*i* P		**P**		**19 04 49.6**	**+1.6**
KBK	**Karagaybulak**	**45.41**	**312**	P		**P**		**19 04 52.3**	**+1.5**
	SNR=10								
KBK	**Karagaybulak**	**45.41**	**312**	*i* P		**P**		**19 04 52.3**	**+1.5**
UCH	**Uchtor**	**45.60**	**311**	P		**P**		**19 04 54.4**	**+1.7**
	SNR=32								
UCH	**Uchtor**	**45.60**	**311**	*i* P		**P**		**19 04 54.3**	**+1.7**
CHMS	**Chumysh**	**45.64**	**312**	P		**P**		**19 04 53.3**	**+0.9**
	SNR=8.0								
CHMS	**Chumysh**	**45.64**	**312**	*i* P		**P**		**19 04 53.3**	**+0.9**
AAK	**Ala-Archa**	**45.72**	**311**	P		**P**		**19 04 54.3**	**+1.1**
	comp=Z,3.4nm,0.7s,baz=84,slow=2.7,SNR=9.6								
AAK	**Ala-Archa**	**45.72**	**311**	*eP*		**P**		**19 04 54.2**	**+1.0**
AAK				pmax		pmax			
	comp=Z,13nm,0.8s								
AAK	**Ala-Archa**	**45.72**	**311**	*eP*		**P**		**19 04 54.4**	**+1.1**
	comp=Z,4.5nm,0.8s								
NVS	**Novosibirsk**	**45.85**	**330**	⇓ *i* P		**P**		**19 04 53.4**	**-0.4**
NVS				pmax		pmax			
	comp=N,9.0nm,1.6s								
NVS				pmax		pmax			
	comp=E,11nm,1.6s								
NVS				pmax		pmax			
	comp=Z,19nm,1.6s								
USP	**Ospenovka**	**45.90**	**312**	P		**P**		**19 04 55.3**	**+0.9**
	SNR=5.2								
USP	**Ospenovka**	**45.90**	**312**	*i* P		**P**		**19 04 55.3**	**+0.9**
KURK	**Kurchatov**	**46.07**	**323**	*eP*		**P**		**19 04 55.6**	**0.0**
KURK				pmax		pmax			
	comp=Z,13nm,0.9s								
KURK	**Kurchatov**	**46.07**	**323**	*eP*		**P**		**19 04 55.6**	**0.0**
	comp=Z,13nm,0.9s								
AML	**Almayashu**	**46.16**	**311**	P		**P**		**19 04 58.5**	**+1.5**
	SNR=18								
AML	**Almayashu**	**46.16**	**311**	*i* P		**P**		**19 04 58.5**	**+1.5**
EKS2	**Erkin-Say**	**46.24**	**311**	P		**P**		**19 04 58.4**	**+1.1**
	SNR=10								
EKS2	**Erkin-Say**	**46.24**	**311**	*eP*		**P**		**19 04 58.4**	**+1.1**
EKS2				pmax		pmax			
	comp=Z,9.0nm,1.0s								
EKS2	**Erkin-Say**	**46.24**	**311**	*eP*		**P**		**19 04 58.4**	**+1.1**
	comp=Z,8.9nm,1.0s								
KBL	**Kabul**	**48.50**	**300**	*eP*		**P**		**19 05 15.5**	**+0.4**
KBL				pmax		pmax			
	comp=Z,21nm,1.1s								
KBL	**Kabul**	**48.50**	**300**	*eP*		**P**		**19 05 15.5**	**+0.4**
	comp=Z,21nm,1.1s								
KKAR	**Karatay Array**	**48.67**	**311**	*eP*		**P**		**19 05 16.5**	**+0.5**
KKAR	**Karatay Array**	**48.67**	**311**	*eP*		**P**		**19 05 16.5**	**+0.5**
SEY	**Seymchan**	**48.77**	**18**	*i* P		**P**		**19 05 17.4**	**+1.0**
BRVK	**Borovoye**	**51.74**	**323**	*d i* P		**P**		**19 05 39.4**	**+0.3**
BRVK				pmax		pmax			
	comp=Z,20nm,0.8s								
BRVK	**Borovoye**	**51.74**	**323**	*eP*		**P**		**19 05 39.5**	**+0.4**
	comp=Z,20nm,0.9s								
TIXI	**Tiksi**	**52.76**	**3**	*d i* P		**P**		**19 05 45.6**	**-0.7**
TIXI				pmax		pmax			
	comp=Z,29nm,0.8s								
TIXI	**Tiksi**	**52.76**	**3**	*eP*		**P**		**19 05 45.3**	**-1.0**
	comp=Z,26nm,0.8s								
STKA	**Stephens Creek**	**54.32**	**159**	P		**P**		**19 05 57.6**	**-0.7**
	comp=Z,2.6nm,0.7s,baz=345,slow=5.8,SNR=4.0								
STKA				LR		LR		19 31 21.4	
	comp=Z,95nm,18.0s,baz=227,slow=38								
ABKAR	**Akbulak array**	**57.06**	**317**	*eP*		**P**		**19 06 18.1**	**+0.2**
GEYT	**Alibeck**	**57.47**	**303**	P		**P**		**19 06 21.4**	**+0.4**
	comp=Z,3.7nm,0.8s,baz=60,slow=3.6,SNR=13								
GEYT				LR		LR		19 34 13.2	
	comp=Z,194nm,18.2s,baz=115,slow=39								
SVE	**Sverdlovsk**	**58.18**	**326**	*c i* P		**P**		**19 06 25.9**	**+0.3**
SVE				pmax		pmax			
	comp=Z,50nm,0.9s								
SVE				MLR		MLR			
	comp=Z,134nm,20.0s								
ARU	**Arti**	**59.21**	**325**	*c i* P		**P**		**19 06 32.0**	**-0.8**
ARU				S		**S**		**19 14 38.5**	**-0.1**
ARU				pmax		pmax			
	comp=Z,21nm,0.6s								
ARU	**Arti**	**59.21**	**325**	*eP*		**P**		**19 06 31.9**	**-0.8**
	comp=Z,28nm,0.6s								
SOKR	**Solikamsk**	**60.80**	**328**	⇑ *i* P		**P**		**19 06 42.0**	**-1.6**
SOKR				pmax		pmax			
	comp=Z,10.0nm,0.9s								
SOKR				MLR		MLR			
	comp=Z,300nm,17.0s								
PRGR	**Permogore**	**66.53**	**330**	*eP*		**P**		**19 07 20.8**	**-0.5**
PRGR				pmax		pmax			
	comp=Z,12nm,0.7s								
GNI	**Garni**	**67.74**	**306**	*eP*		**P**		**19 07 30.0**	**+0.3**
GNI				pmax		pmax			
	comp=Z,9.0nm,1.0s								
GNI	**Garni**	**67.74**	**306**	*eP*		**P**		**19 07 31.7**	**+2.0**
	comp=Z,7.2nm,0.8s								
ZEI	**Tsey**	**68.08**	**309**	*eP*		**P**		**19 07 30.1**	**-1.7**
ZEI				pmax		pmax			
	comp=Z,7.0nm,0.6s								
KBZ	**Khabaz**	**68.70**	**310**	P		**P**		**19 07 35.2**	**-0.2**
	comp=Z,7.4nm,0.9s,baz=236,slow=24,SNR=18								
KBZ				LR		LR		19 41 37.1	
	comp=Z,96nm,18.8s,baz=144,slow=39								
KIV	**Kislovodsk**	**68.83**	**311**	*eP*		**P**		**19 07 36.0**	**-0.4**
KIV				pmax		pmax			
	comp=Z,27nm,1.1s								
KIV				MLR		MLR			
	comp=Z,91nm,17.0s								
KIV	**Kislovodsk**	**68.83**	**311**	*eP*		**P**		**19 07 36.1**	**-0.2**
	comp=Z,20nm,0.8s								
KLMR	**Klimovskoe**	**69.48**	**329**	*eP*		**P**		**19 07 39.1**	**-0.8**
KLMR				pmax		pmax			
	comp=Z,21nm,1.1s								
RAYN	**Ar Rayn**	**69.89**	**289**	*eP*		**P**		**19 07 41.9**	**-1.4**
SVW2	**Sparrevohn**	**70.23**	**31**	*eP*		**P**		**19 07 45.2**	**+0.6**
	comp=Z,8.5nm,0.9s								
VORD	**Divnogorie**	**70.35**	**318**	*eP*		**P**		**19 07 43.2**	**-2.2**
VORD				pmax		pmax			
	comp=Z,7.0nm,0.9s								
VORD				pmax		pmax			
	comp=N,10.0nm,0.5s								
VORD				pmax		pmax			
	comp=E,20nm,0.6s								
LPSR	**Galich'ya Gora**	**70.40**	**320**	*eP*		**P**		**19 07 44.4**	**-1.3**
LPSR				pmax		pmax			
	comp=Z,10.0nm,0.9s								
LPSR				pmax		pmax			
	comp=N,4.0nm,0.6s								
LPSR				pmax		pmax			
	comp=E,6.0nm,1.1s								
VSR	**Storozhevoye**	**70.40**	**319**	*eP*		**P**		**19 07 44.5**	**-1.3**
VSR				pmax		pmax			
	comp=Z,10.0nm,1.1s								
VSR				pmax		pmax			
	comp=N,6.0nm,0.6s								
VSR				pmax		pmax			
	comp=E,10.0nm,1.0s								
IM04	**Indian Mountai**	**70.73**	**26**	*eP*		**P**		**19 07 47.2**	**-0.4**
OBN	**Obninsk**	**71.51**	**323**	⇑ *eP*		**P**		**19 07 51.5**	**-0.9**
OBN				*e*				19 10 31.6	
OBN				*e*	PPP	PPP		19 12 16.0	
OBN				pmax		pmax			
	comp=Z,8.0nm,0.7s								
OBN				MLR		MLR			
	comp=Z,53nm,15.0s								
CAST	**Castle Rocks**	**71.67**	**28**	*eP*		**P**		**19 07 53.7**	**+0.4**
	comp=Z,18nm,0.7s								
PPLA	**Purkeypile**	**71.68**	**29**	*eP*		**P**		**19 07 54.0**	**+0.5**
	comp=Z,77nm,2.0s								
APA	**Apatity**	**71.68**	**336**	⇓ *iP*		**P**		**19 07 51.5**	**-1.7**
APA				pmax		pmax			
	comp=Z,11nm,0.8s								
APA				MLR		MLR			
	comp=Z,400nm,16.0s								
COLD	**Coldfoot**	**72.05**	**24**	*eP*		**P**		**19 07 56.2**	**+0.8**
	comp=Z,8.2nm,1.2s								
KDAK	**Kodiak Island**	**72.08**	**34**	*ceP*		**P**		**19 07 55.5**	**-0.2**
KDAK	**Kodiak Island**	**72.08**	**34**	*eP*		**P**		**19 07 55.6**	**-0.2**
	comp=Z,20nm,0.7s								
KTH	**Kantishna Hill**	**72.17**	**28**	*eP*		**P**		**19 07 56.5**	**+0.2**
	comp=Z,7.2nm,0.9s								
TRF	**Thorofare Moun**	**72.47**	**28**	*eP*		**P**		**19 07 58.7**	**+0.4**
	comp=Z,6.1nm,0.8s								
MALT	**Malatya**	**72.87**	**305**	⇑ *iP*		**P**		**19 08 00.3**	**-0.7**
MCK	**McKinley**	**73.03**	**28**	*eP*		**P**		**19 08 01.2**	**-0.2**
MCK				pmax		pmax			
	comp=Z,20nm,0.9s								
MCK	**McKinley**	**73.03**	**28**	*eP*		**P**		**19 08 01.2**	**-0.2**
	comp=Z,20nm,0.9s								
PMR	**Palmer**	**73.27**	**30**	*eP*		**P**		**19 08 02.1**	**-0.6**
PMR	**Palmer**	**73.27**	**30**	*eP*		**P**		**19 08 02.1**	**-0.6**
ILAR	**Eielson Array**	**73.74**	**26**	P		**P**		**19 08 04.0**	**-1.5**
	comp=Z,2.0nm,0.7s,baz=289,slow=5.0,SNR=18								
ARCES	**ARCESS Array B**	**74.25**	**339**	P		**P**		**19 08 07.2**	**-1.2**
	comp=Z,3.8nm,0.7s,baz=72,slow=7.1,SNR=24								
ARCES				LR		LR		19 44 30.7	
	comp=Z,93nm,18.4s,baz=66,slow=39								
DIV	**Divide**	**74.94**	**30**	*eP*		**P**		**19 08 12.9**	**+0.3**
	comp=Z,19nm,0.9s								
EYAK	**Cordova Ski Ar**	**75.08**	**31**	*eP*		**P**		**19 08 12.7**	**-0.7**
	comp=Z,58nm,1.8s								
DOT	**Dot Lake**	**75.18**	**27**	*eP*		**P**		**19 08 14.0**	**+0.1**
	comp=Z,9.2nm,1.0s								
BMRM	**Bremner River**	**75.53**	**30**	*eP*		**P**		**19 08 16.6**	**+0.5**
	comp=Z,12nm,0.9s								
RAGM	**Ragged Mountai**	**75.63**	**31**	*eP*		**P**		**19 08 17.0**	**+0.4**
	comp=Z,14nm,1.1s								
FINES	**FINESS Array B**	**75.84**	**330**	P		**P**		**19 08 16.9**	**-0.8**
	comp=Z,3.5nm,0.7s,baz=66,slow=6.0,SNR=21								
FINES				LR		LR		19 43 28.8	
	comp=Z,91nm,20.7s,baz=82,slow=37								
EGAK	**Eagle**	**76.13**	**26**	*eP*		**P**		**19 08 19.2**	**-0.2**
	comp=Z,12nm,1.1s								
BR131	**Keskin Array S**	**76.22**	**308**	*eP*		**P**		**19 08 19.3**	**-1.2**
	comp=Z,0.9nm,0.6s								
BRTR	**Keskin Array B**	**76.22**	**308**	P		**P**		**19 08 19.2**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=132,slow=5.5,SNR=9.2								
BRTR				LR		LR		19 46 18.8	
	comp=Z,43nm,20.9s,baz=74,slow=39								
AKASG	**Malin Array Be**	**76.68**	**319**	P		**P**		**19 08 21.1**	**-1.6**
	comp=Z,4.2nm,0.7s,baz=61,slow=5.7,SNR=23								
AKBB	**Malin Array Si**	**76.68**	**319**	*eP*		**P**		**19 08 21.0**	**-1.7**
AKBB	**Malin Array Si**	**76.68**	**319**	*eP*		**P**		**19 08 21.0**	**-1.7**
AK01	**Malin Array Si**	**76.69**	**319**	*eP*		**P**		**19 08 21.2**	**-1.5**
KIEV	**Kiev**	**76.69**	**319**	*eP*		**P**		**19 08 20.9**	**-1.8**
KIEV	**Kiev**	**76.69**	**319**	*eP*		**P**		**19 08 21.4**	**-1.3**
	comp=Z,6.4nm,0.8s								
AK02	**Malin Array Si**	**76.70**	**319**	*eP*		**P**		**19 08 21.3**	**-1.6**
DAWY	**Dawson**	**77.07**	**26**	*eP*		**P**		**19 08 25.0**	**+0.3**
NACGM	**Naroch**	**77.08**	**324**	*e*		P		19 08 21.0	-3.9
INK	**Inuvik**	**77.94**	**22**	P		**P**		**19 08 29.0**	**-0.4**
	comp=Z,6.0nm,0.7s,baz=302,slow=6.3,SNR=27								
INK	**Inuvik**	**77.94**	**22**	*eP*		**P**		**19 08 28.9**	**-0.4**
INK				pmax		pmax			
	comp=Z,7.0nm,0.8s								
INK	**Inuvik**	**77.94**	**22**	*eP*		**P**		**19 08 28.9**	**-0.5**
	comp=Z,7.4nm,0.8s								
TLCR		**78.33**	**314**	⇑ *iP*		**P**		**19 08 29.4**	**-2.6**
BFZ	**Birch Farm**	**78.42**	**140**	*eP*		**P**		**19 08 32.5**	**+0.1**
	comp=Z,26nm,0.7s								
CFR	**Carcaliu**	**78.80**	**314**	⇑ *iP*		**P**		**19 08 32.2**	**-2.4**
TIRR	**Tirgusor**	**78.80**	**313**	⇑ *iP*		P		19 08 28.4	-6.2
HYT	**Haines Junctio**	**78.91**	**29**	*eP*		**P**		**19 08 36.0**	**+0.9**
TLB	**Topalu**	**79.02**	**313**	⇓ *iP*		**P**		**19 08 34.4**	**-1.4**
PSN	**Preselentsi**	**79.17**	**312**	⇓ *iP*		**P**		**19 08 36.2**	**-0.5**
SUW	**Suwalki**	**79.35**	**324**	*eP*		**P**		**19 08 36.2**	**-1.3**
SUW	**Suwalki**	**79.35**	**324**	*eP*		**P**		**19 08 36.7**	**-0.8**
SUW				pmax		pmax			
	comp=Z,30nm,0.9s								
SUW	**Suwalki**	**79.35**	**324**	*eP*		**P**		**19 08 36.7**	**-0.8**
	comp=Z,30nm,0.9s								
TESR	**Tescani**	**79.43**	**316**	⇓ *iP*		**P**		**19 08 37.1**	**-0.9**
VRI	**Vrincioaia**	**79.56**	**315**	⇑ *iP*		**P**		**19 08 38.4**	**-0.4**
PLOR	**Plostina**	**79.61**	**315**	⇑ *iP*		**P**		**19 08 38.3**	**-0.8**
BURAR	**Bucovina Array**	**80.04**	**317**	⇑ *iP*		**P**		**19 08 40.7**	**-0.8**
BUR08	**Bucovina Ar. S**	**80.05**	**317**	*eP*		**P**		**19 08 41.1**	**-0.4**
LVV	**L'vov**	**80.13**	**319**	*eP*		**P**		**19 08 41.3**	**-0.5**
MLR	**Muntele Rosu**	**80.19**	**315**	⇓ *iP*		**P**		**19 08 42.4**	**0.0**
KWP	**Kalwaria Pacla**	**81.00**	**319**	*eP*		**P**		**19 08 45.9**	**-0.6**
KWP	**Kalwaria Pacla**	**81.00**	**319**	*eP*		**P**		**19 08 45.9**	**-0.6**
SIT	**Sitka**	**81.28**	**33**	*eP*		**P**		**19 08 48.7**	**+1.0**
SIT				pmax		pmax			
	comp=Z,24nm,0.8s								
SIT	**Sitka**	**81.28**	**33**	*eP*		**P**		**19 08 48.7**	**+1.0**
	comp=Z,24nm,0.8s								
KOLS	**Kolonicke sedl**	**81.50**	**319**	*eP*		**P**		**19 08 48.7**	**-0.4**
KOLS				pmax		pmax			
	comp=Z,2.0nm,0.9s								
KOLS	**Kolonicke sedl**	**81.50**	**319**	*eP*		**P**		**19 08 48.7**	**-0.4**
UZH	**Uzhgorod**	**81.59**	**319**	*eP*		**P**		**19 08 48.5**	**-1.1**
UZH				*e*				19 08 54.9	
STHS	**Stebnicka Huta**	**81.97**	**319**	*eP*		**P**		**19 08 51.5**	**-0.2**
STHS				pmax		pmax			
	comp=Z,3.0nm,0.8s								
STHS	**Stebnicka Huta**	**81.97**	**319**	*eP*		**P**		**19 08 51.5**	**-0.2**
NIE	**Niedzica**	**82.54**	**320**	*eP*		**P**		**19 08 54.5**	**-0.2**
NIE	**Niedzica**	**82.54**	**320**	*eP*		**P**		**19 08 54.5**	**-0.2**
OJC	**Ojcow**	**82.57**	**321**	*eP*		**P**		**19 08 54.1**	**-0.6**
OJC	**Ojcow**	**82.57**	**321**	*eP*		**P**		**19 08 54.2**	**-0.5**
NB2	**NORSAR Subarra**	**82.71**	**333**	P		**P**		**19 08 53.6**	**-1.7**
	comp=Z,1.5nm,0.6s,baz=64,slow=5.1								
NOA	**NORSAR Array B**	**82.71**	**333**	P		**P**		**19 08 54.0**	**-1.3**
	comp=Z,2.0nm,0.7s,baz=65,slow=5.1,SNR=9.4								
NOA				LR		LR		19 50 05.2	
	comp=Z,90nm,18.1s,baz=70,slow=39								
NOA	**NORSAR Array B**	**82.71**	**333**	P		**P**		**19 08 54.0**	**-1.3**
MMB	**Musomiste**	**82.94**	**311**	⇓ *iP*		**P**		**19 08 54.4**	**-2.5**
VTS	**Vitosha**	**82.97**	**313**	⇑ *iP*		**P**		**19 08 56.3**	**-0.9**
DLBC	**Dease Lake**	**83.33**	**30**	P		**P**		**19 08 59.6**	**+1.1**
	comp=Z,3.7nm,0.7s,baz=305,slow=5.9,SNR=11								
RES	**Resolute Bay**	**83.67**	**9**	P		**P**		**19 08 59.7**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=281,slow=9.5,SNR=3.5								
VYHS	**Vyhne**	**83.78**	**319**	*eP*		**P**		**19 09 00.7**	**-0.4**
VYHS				*e*				19 09 07.2	
VYHS				*e*				19 09 14.2	
VYHS				pmax		pmax			
	comp=Z,5.0nm,1.4s								
VYHS	**Vyhne**	**83.78**	**319**	*eP*		**P**		**19 09 00.7**	**-0.4**
VYHS				*e*				19 09 07.2	
VYHS				*eS*		**sP**		**19 09 14.2**	**+0.5**
MORC	**Moravsky Berou**	**84.09**	**321**	⇑ *iP*		**P**		**19 09 01.5**	**-1.1**
KSP	**Ksiaz**	**84.41**	**322**	*eP*		**P**		**19 09 03.8**	**-0.4**
KSP	**Ksiaz**	**84.41**	**322**	*eP*		**P**		**19 09 03.8**	**-0.4**
DPC	**Dobruska-Polom**	**84.59**	**322**	*eP*		**P**		**19 09 04.8**	**-0.4**
DPC				*ePCP*		**PcP**		**19 09 08.4**	**-0.3**
DPC				*ex*		x		19 09 10.8	
DPC	**Dobruska-Polom**	**84.59**	**322**	*eP*		**P**		**19 09 04.8**	**-0.4**
DPC				*e*				19 09 10.8	
DPC	**Dobruska-Polom**	**84.59**	**322**	*eP*		**P**		**19 09 04.3**	**-0.9**
	comp=Z,45nm,1.1s								
DIVS	**Divibare**	**84.65**	**315**	⇑ *iP*		**P**		**19 09 04.9**	**-0.7**
PKSM	**Moragy**	**84.76**	**317**	⇓ *iP*		**P**		**19 09 04.6**	**-1.4**
VRAC	**Vranov**	**84.84**	**321**	⇑ *iP*		**P**		**19 09 06.0**	**-0.4**
TREC	**Trest**	**85.51**	**321**	*eP*		**P**		**19 09 09.4**	**-0.4**
TREC				*ePCP*		**PcP**		**19 09 14.2**	**+1.5**
TREC	**Trest**	**85.51**	**321**	*eP*		**P**		**19 09 09.4**	**-0.4**
PVCC	**Panska Ves**	**85.54**	**322**	*eP*		**P**		**19 09 08.2**	**-1.7**
PVCC				*e*				19 09 13.2	
GOPC	**GO Pecny, Ondr**	**85.67**	**322**	*eP*		**P**		**19 09 10.5**	**0.0**
GOPC				*ePCP*		**PcP**		**19 09 14.5**	**+1.1**
BRG	**Berggiesshubel**	**85.76**	**323**	*eP*		**P**		**19 09 10.5**	**-0.4**
	comp=Z,5.3nm,0.7s								
BRG	**Berggiesshubel**	**85.76**	**323**	*eP*		**P**		**19 09 10.5**	**-0.4**
BRG				pmax		pmax			
	comp=Z,5.0nm,0.7s								
PRU	**Pruhonice**	**85.78**	**322**	*eP*		**P**		**19 09 10.3**	**-0.8**
PRU				*ePCP*		**PcP**		**19 09 15.5**	**+1.6**
PRU	**Pruhonice**	**85.78**	**322**	*eP*		**P**		**19 09 10.3**	**-0.8**
PRU				*e*				19 09 15.5	
CONA	**Conrad Observa**	**85.84**	**319**	⇑ *iP*		**P**		**19 09 11.4**	**-0.1**
	comp=Z,7.4nm,1.4s								
CLL	**Collm**	**86.11**	**323**	*eP*		**P**		**19 09 11.0**	**-1.6**
CLL				*ePcP*		**PcP**		**19 09 16.0**	**+0.8**
CLL				LmV				19 53 00.0	
	comp=Z,100nm,19.7s								
CLL	**Collm**	**86.11**	**323**	*eP*		**P**		**19 09 11.0**	**-1.6**
CLL				*e*				19 09 16.0	
CLL				pmax		pmax			
	comp=Z,3.0nm,0.5s								
KHC	**Kasperske Hory**	**86.72**	**321**	*eP*		**P**		**19 09 14.7**	**-1.0**
KHC	**Kasperske Hory**	**86.72**	**321**	*eP*		**P**		**19 09 14.7**	**-1.0**
GEC2	**GERESS Array S**	**86.77**	**321**	*eP*		**P**		**19 09 16.2**	**+0.1**
GEC2	**GERESS Array S**	**86.77**	**321**	*eP*		**P**		**19 09 16.2**	**+0.1**
GERES	**GERESS Array B**	**86.77**	**321**	P		**P**		**19 09 14.3**	**-1.7**
	comp=Z,1.7nm,0.8s,baz=69,slow=4.4,SNR=15								
SUMG	**Summit**	**87.54**	**354**	*i* P		**P**		**19 09 19.0**	**-0.7**
	comp=Z,4.5nm,1.0s								
SUMG	**Summit**	**87.54**	**354**	*eP*		**P**		**19 09 20.1**	**+0.3**
SUMG				pmax		pmax			
	comp=Z,9.0nm,1.2s								
SUMG	**Summit**	**87.54**	**354**	*eP*		**P**		**19 09 20.1**	**+0.3**
	comp=Z,8.6nm,1.2s								
YKA	**Yellowknife Ar**	**87.65**	**23**	P		**P**		**19 09 19.7**	**-0.2**
	comp=Z,7.9nm,0.5s,baz=310,slow=4.5,SNR=142								
NEW	**Newport**	**95.18**	**35**	P		**P**		**19 09 54.6**	**-0.7**
	comp=Z,3.9nm,0.8s,baz=294,slow=3.6,SNR=4.5								
MAW	**Mawson**	**96.31**	**199**	LR		LR		19 50 22.3	
	comp=Z,34nm,18.9s,baz=58,slow=34								
VNDA	**Vanda**	**99.28**	**172**	LR		LR		19 56 36.2	
	comp=Z,30nm,19.2s,baz=328,slow=36								
NVAR	**Mina Array Bea**	**100.14**	**43**	P		**Pdif**		**19 10 18.3**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=284,slow=3.6,SNR=3.1								
TORD	**Torodi Ar. Bea**	**112.33**	**294**	PKiKP		**PKiKP**		**19 15 07.4**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=336,slow=2.2,SNR=2.1								
TXAR	**Lajitas Array**	**115.28**	**43**	PKP		**PKPdf**		**19 15 13.8**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=45,slow=1.9,SNR=3.9								
TKL	**Tuckaleechee C**	**120.64**	**24**	*e*PKKPab	PKKPab			19 25 32.3	0.0
SDV	**Santo Domingo**	**149.86**	**24**	*e*PKPbc		**PKPbc**		**19 16 22.0**	**-1.0**
ROSC	**El Rosal**	**151.73**	**34**	PKPbc		**PKPbc**		**19 16 28.3**	**+0.6**
	comp=Z,7.7nm,0.4s,baz=328,slow=2.5,SNR=4.9								
PLCA	**Paso Flores**	**156.20**	**157**	PKPbc	PKPdf			19 16 36.0	+9.5
	comp=Z,1.0nm,0.6s

231nm,0.4s
PRMA PARMA 0.33 106 Pg **Pb** **19 13 06.8 0.0**
PRMA Sg **Sb** **19 13 13.0 +1.1**

231nm,0.4s
CTL8 Castelleone 0.43 350 Pg **Pb** **19 13 09.9 +1.4**
CTL8 Sg **Sg** **19 13 14.6 +0.8**
CODM Codolo 0.46 181 P **Pg** **19 13 08.1 -0.4**
CODM S **Sb** **19 13 15.7 -0.1**
SC2M Scurtabo 0.51 208 Pg **Pg** **19 13 08.7 -0.6**
2µm,2.0s
SC2M Scurtabo 0.51 208 P **Pg** **19 13 08.7 -0.6**
SC2M S **Sg** **19 13 16.8 +0.7**
ERBM Eremo 0.58 138 Pg **Pb** **19 13 11.2 0.0**
ERBM Sg **Sn** **19 13 22.0 -0.4**

61nm,0.8s
ERBM Eremo 0.58 138 Pg **Pb** **19 13 11.2 0.0**
MSSA Maissana 0.59 205 Pg **Pg** **19 13 10.2 -0.7**
MSSA Sg **Sg** **19 13 18.9 +0.1**
MSSA Maissana 0.59 205 Pg **Pg** **19 13 10.2 -0.7**
MSSA Sg **Sg** **19 13 18.9 +0.1**
NOVE Novellara 0.61 95 Pg **Pn** **19 13 13.1 -0.2**
NOVE Sg **Sn** **19 13 23.2 +0.4**
NOVE Novellara 0.61 95 Pg **Pn** **19 13 13.1 -0.2**
GSCL Gusciola 0.72 134 Pg **Pb** **19 13 14.2 +0.7**
9.0nm,0.4s
GSCL Gusciola 0.72 134 Pg **Pb** **19 13 14.2 +0.7**
9.0nm,0.4s
RAVA Ravarino 0.90 96 Pg **Pn** **19 13 18.8 +1.5**
RAVA Ravarino 0.90 96 Pg **Pn** **19 13 18.8 +1.5**
MAIM Mastiano 1.04 154 P **Pg** **19 13 17.7 -1.7**
MAIM S **Sg** **19 13 30.8 -2.1**
BALD Monte Baldo 1.07 39 *e*Pg **Pg** **19 13 19.7 -0.3**
BALD *e*Sg **Sn** **19 13 35.0 +0.5**
BALD Monte Baldo 1.07 39 *e*Pg **Pg** **19 13 19.7 -0.2**
BALD *e*Sg **Sn** **19 13 35.0 +0.4**
MAGA Magasa 1.07 30 Pg **Pg** **19 13 19.3 -0.6**
MAGA Sg **Sn** **19 13 35.0 +0.6**

326nm,0.4s
MAGA Magasa 1.07 30 Pg **Pg** **19 13 19.3 -0.6**
MAGA Sg **Sn** **19 13 35.0 +0.6**

326nm,0.4s
ROVR Rover¯¤ Verone 1.17 47 Pg **Pb** **19 13 20.5 -0.7**
ROVR Sg **Sb** **19 13 36.6 +0.5**

235nm,0.4s
ROVR Rover¯¤ Verone 1.17 47 Pg **Pb** **19 13 20.5 -0.7**
ROVR Sg **Sb** **19 13 36.6 +0.5**

235nm,0.4s
FIU Minerbio Fiu 1.18 100 Pg **Pg** **19 13 23.5 +1.5**
FIU Minerbio Fiu 1.18 100 Pg **Pg** **19 13 23.5 +1.5**
PII Pisa 1.23 157 Pg **Pn** **19 13 22.3 +0.5**
PII Sg **Sn** **19 13 38.8 +0.7**

29nm,0.3s
PII Pisa 1.23 157 Pg **Pn** **19 13 22.3 +0.5**
PII Sg **Sn** **19 13 38.8 +0.7**

29nm,0.3s
MARN Marana (Italy) 1.23 50 *e*Pg **Pn** **19 13 21.4 -0.5**
MARN *e*Sg **Sb** **19 13 38.6 +0.6**
MARN Marana (Italy) 1.23 50 *e*Pg **Pn** **19 13 21.4 -0.5**
MARN *e*Sg **Sb** **19 13 38.6 +0.6**
RNI Roncone 1.25 26⇑ *e*Pg **Pn** **19 13 22.2 -0.2**
RNI *e*Sg **Sg** **19 13 40.1 +0.3**
RNI Roncone 1.25 26 *e*Pg **Pn** **19 13 22.2 -0.2**
RNI *e*Sg **Sg** **19 13 40.1 +0.3**
VARE Varese 1.27 323 Pg **Pn** **19 13 23.0 +0.4**
VARE Sg **Sb** **19 13 40.5 +1.2**

44nm,0.6s
VARE Varese 1.27 323 Pg **Pn** **19 13 23.0 +0.4**
VARE Sg **Sb** **19 13 40.5 +1.2**

44nm,0.6s
TEOL Teolo 1.38 68 *e*Pg **Pn** **19 13 23.6 -0.3**
TEOL *e*Sg **Sn** **19 13 42.9 +1.1**
TEOL Teolo 1.38 68 *e*Pg **Pn** **19 13 23.6 -0.3**
TEOL *e*Sg **Sn** **19 13 42.9 +1.1**
CMPO Campotto Po 1.41 100 Pg **Pg** **19 13 27.2 +0.8**
RORO Rocca Rossa 1.49 241 Pg **Pn** **19 13 26.1 +0.7**
RORO Rocca Rossa 1.49 241 Pg **Pn** **19 13 26.1 +0.7**
BRMO Bormio 1.66 12 Pg **Pn** **19 13 29.0 +1.0**
BRMO Sg **Sg** **19 13 52.4 -0.4**

7.0nm,0.4s
BRMO Bormio 1.66 12 Pg **Pn** **19 13 29.0 +1.0**
BRMO Sg **Sg** **19 13 52.4 -0.4**

7.0nm,0.4s
CGRP Cima Grappa 1.71 52⇑ *e*Pg **Pn** **19 13 28.3 -0.3**
CGRP *e*Sg **Sn** **19 13 50.0 -0.3**
CGRP Cima Grappa 1.71 52 Pg **Pn** **19 13 28.3 -0.3**
CGRP Cima Grappa 1.71 52 Pg **Pn** **19 13 28.3 -0.3**
CGRP *e*Sg **Sn** **19 13 50.0 -0.3**
MOSI Grossmontoni 1.83 15 Pg **Pb** **19 13 32.3 -0.2**
31nm,0.3s
MOSI Grossmontoni 1.83 15 *e*Pn **Pn** **19 13 32.0 +1.7**
MOSI Grossmontoni 1.83 15 Pg **Pb** **19 13 32.3 -0.2**
31nm,0.3s
SAOF Saorge 1.87 243 Pg **Pn** **19 13 31.9 +1.2**
SAOF Sg **Sn** **19 13 55.9 +1.9**
SAOF Saorge 1.87 243 Pg **Pn** **19 13 31.9 +1.2**
SAOF Sg **Sn** **19 13 55.9 +1.9**
APPI Appiano 1.89 30 Pg **Pn** **19 13 31.6 +0.6**
APPI Sg **Sn** **19 13 55.6 +1.0**

43nm,0.3s
APPI Appiano 1.89 30 Pg **Pn** **19 13 31.6 +0.6**
APPI Sg **Sn** **19 13 55.6 +1.0**

43nm,0.3s
KOSI Kohlern 1.93 33 Pg **Pn** **19 13 32.3 +0.6**
30nm,0.6s
KOSI Kohlern 1.93 33 *e*Pn **Pn** **19 13 32.0 +0.3**
KOSI Kohlern 1.93 33 Pg **Pn** **19 13 32.3 +0.6**
30nm,0.6s
AUTN L'Aution 1.95 245 Pg **Pn** **19 13 33.6 +1.7**
AUTN Sg **Sn** **19 13 57.7 +1.5**
AUTN L'Aution 1.95 245 Pg **Pn** **19 13 33.6 +1.7**
AUTN Sg **Sn** **19 13 57.7 +1.5**
PZZ Stroppo 1.99 261 Pg **Pn** **19 13 33.1 +0.6**
PZZ Stroppo 1.99 261 Pg **Pn** **19 13 33.1 +0.6**
SBF Sospel 2.00 241 *e*Pn **Pn** **19 13 32.9 +0.3**
SNR=1.0
SBF *e*Sn **Sn** **19 13 57.2 -0.2**

17nm,0.3s,SNR=1.0
SBF Sospel 2.00 241 *e*Pn **Pn** **19 13 32.9 +0.3**
SNR=1.0
SBF *e*Sn **Sn** **19 13 57.2 -0.2**

8.5nm,0.3s,SNR=1.0
TOUF Mont Tournerai 2.05 247 Pg **Pn** **19 13 35.1 +1.7**
TOUF Sg **Sn** **19 13 59.9 +1.1**
TOUF Mont Tournerai 2.05 247 Pg **Pn** **19 13 35.1 +1.7**
TOUF Sg **Sn** **19 13 59.9 +1.1**
REVF Revere 2.11 239 Pg **Pb** **19 13 38.0 +0.8**
REVF Sg **Sb** **19 14 04.1 +0.9**
REVF Revere 2.11 239 Pg **Pb** **19 13 38.0 +0.8**
REVF Sg **Sb** **19 14 04.1 +0.9**
ABSI Aberstueckl 2.13 28 Pg **Pn** **19 13 35.3 +0.7**
29nm,0.6s
ABSI Aberstueckl 2.13 28⇑ *e*Pn **Pn** **19 13 35.2 +0.7**
MVIF Mont Vial 2.17 245 Pg **Pn** **19 13 36.6 +1.7**
MVIF Sg **Sn** **19 14 04.8 +3.2**
MVIF Mont Vial 2.17 245 Pg **Pn** **19 13 36.6 +1.7**
MVIF Sg **Sn** **19 14 04.8 +3.2**
MBDF Montbardon 2.21 268 *e*Pn **Pn** **19 13 36.0 +0.5**
SNR=1.0
MBDF *e*Sn **Sn** **19 14 02.8 +0.2**

8.8nm,0.5s
MBDF Montbardon 2.21 268 *e*Pn **Pn** **19 13 36.0 +0.5**
SNR=1.0
MBDF *e*Sn **Sn** **19 14 02.8 +0.2**

4.4nm,0.5s
FETA Feichten 2.25 15⇑ *i*Pn **Pn** **19 13 36.1 0.0**
FETA ⇑ *i*Sn **Sn** **19 14 05.6 +1.9**
FETA Feichten 2.25 15 Pn **Pn** **19 13 36.1 0.0**
FETA Sn **Sn** **19 14 05.6 +1.9**
LPG La Plagne 2.29 287 *e*Pn **Pn** **19 13 36.9 +0.1**
SNR=1.0
LPG *e*Sn **Sn** **19 14 04.8 -0.1**

4.0nm,0.4s,SNR=1.0
LPG La Plagne 2.29 287 *e*Pn **Pn** **19 13 36.9 +0.1**
SNR=1.0
LPG *e*Sn **Sn** **19 14 04.8 -0.1**

2.0nm,0.4s,SNR=1.0
LPL La Plagne 2.31 288 *e*Pn **Pn** **19 13 35.9 -1.1**
SNR=1.0
LPL *e*Sn **Sn** **19 14 05.0 -0.3**

6.4nm,0.4s,SNR=1.0
LPL La Plagne 2.31 288 *e*Pn **Pn** **19 13 35.9 -1.1**
SNR=1.0
LPL *e*Sn **Sn** **19 14 05.0 -0.3**

3.2nm,0.4s,SNR=1.0
PGF Pioggiola 2.39 196 *e*Pn **Pn** **19 13 37.6 -0.3**
SNR=1.0
PGF *e*Sn **Sn** **19 14 05.6 -1.4**

2.2nm,0.2s,SNR=1.0
PGF Pioggiola 2.39 196 *e*Pn **Pn** **19 13 37.6 -0.3**
SNR=1.0
PGF *e*Sn **Sn** **19 14 05.6 -1.4**

1.1nm,0.2s,SNR=1.0
DAVA Damuels 2.43 0 ⇓ *i*Pn **Pn** **19 13 39.7 +1.1**
DAVA ⇓ *i*Sn **Sn** **19 14 10.9 +2.7**
DAVA Damuels 2.43 0 Pn **Pn** **19 13 39.7 +1.1**
DAVA Sn **Sn** **19 14 10.9 +2.7**
RISI Rein 2.60 36 Pg **Pn** **19 13 42.2 +1.2**
32nm,0.5s
RISI Rein 2.60 36 Pg **Pn** **19 13 42.2 +1.2**
32nm,0.5s
FRF La Foret Royal 2.65 242 *e*Pn **Pn** **19 13 42.2 +0.8**
SNR=1.0
FRF *e*Sn **Sn** **19 14 12.5 -0.8**

5.6nm,0.4s,SNR=1.0
FRF La Foret Royal 2.65 242 *e*Pn **Pn** **19 13 42.2 +0.8**
SNR=1.0
FRF *e*Sn **Sn** **19 14 12.5 -0.8**

2.8nm,0.4s,SNR=1.0
ORIF Oris-en-Rattie 2.83 273 *e*Pn **Pn** **19 13 44.4 +0.4**
SNR=1.0
ORIF *e*Sn **Sn** **19 14 17.6 -0.3**

4.0nm,0.4s,SNR=1.0
ORIF Oris-en-Rattie 2.83 273 *e*Pn **Pn** **19 13 44.4 +0.4**
SNR=1.0
ORIF *e*Sn **Sn** **19 14 17.6 -0.3**

2.0nm,0.4s,SNR=1.0
LMR La Mourre 2.85 239 *e*Pn **Pn** **19 13 44.5 +0.3**
SNR=1.0
LMR *e*Sn **Sn** **19 14 16.5 -1.8**

5.4nm,0.4s,SNR=1.0
LMR La Mourre 2.85 239 *e*Pn **Pn** **19 13 44.5 +0.3**
SNR=1.0
LMR *e*Sn **Sn** **19 14 16.5 -1.8**

2.7nm,0.4s,SNR=1.0
CABF La Chapelle 3.18 305 *e*Pn **Pn** **19 13 49.9 +1.2**
SNR=1.0
CABF *e*Sn **Sn** **19 14 25.1 -1.3**

2.7nm,0.3s,SNR=1.0
CABF La Chapelle 3.18 305 *e*Pn **Pn** **19 13 49.9 +1.2**
SNR=1.0
CABF *e*Sn **Sn** **19 14 25.1 -1.3**

1.4nm,0.3s,SNR=1.0
SMRF Simiane la Rot 3.20 256 *e*Pn **Pn** **19 13 49.6 +0.6**
SNR=1.0
SMRF Simiane la Rot 3.20 256 *e*Pn **Pn** **19 13 49.6 +0.6**
SNR=1.0
NVLJ Novalja 3.58 93 *e*Pn **Pn** **19 13 53.9 -0.3**
NVLJ Sn **Sn** **19 14 33.6 -2.5**
NVLJ Novalja 3.58 93 *e*Pn **Pn** **19 13 53.8 -0.3**
NVLJ Sn **Sn** **19 14 33.6 -2.5**
HINF Hinteralfeld 3.62 326 *e*Pn **Pn** **19 13 54.0 -0.9**
SNR=1.0
HINF *e*Sn **Sn** **19 14 34.6 -2.8**

5.8nm,0.3s,SNR=1.0
HINF Hinteralfeld 3.62 326 *e*Pn **Pn** **19 13 54.0 -0.9**
SNR=1.0
HINF *e*Sn **Sn** **19 14 34.6 -2.8**

2.9nm,0.3s,SNR=1.0
VIVF Saint-Julien-l 3.69 272 *e*Pn **Pn** **19 13 56.6 +0.8**
SNR=1.0
VIVF Saint-Julien-l 3.69 272 *e*Pn **Pn** **19 13 56.6 +0.8**
SNR=1.0
CDF Champ du Feu 3.98 334 *e*Pn **Pn** **19 14 00.0 +0.2**
SNR=1.0
CDF *e*Sn **Sn** **19 14 43.7 -2.5**

6.5nm,0.3s,SNR=1.0
CDF Champ du Feu 3.98 334 *e*Pn **Pn** **19 14 00.0 +0.2**
SNR=1.0
CDF *e*Sn **Sn** **19 14 43.7 -2.5**

3.2nm,0.3s,SNR=1.0
HAU Haudompre 3.98 324 *e*Pn **Pn** **19 13 59.9 +0.2**
HAU *e*Sn **Sn** **19 14 43.1 -3.1**

10nm,0.2s,SNR=1.0
HAU Haudompre 3.98 324 *e*Pn **Pn** **19 13 59.9 +0.2**
HAU *e*Sn **Sn** **19 14 43.1 -3.1**

5.2nm,0.2s,SNR=1.0
LASF Ste Croix 4.37 262 *e*Pn **Pn** **19 14 04.5 -0.6**
SNR=1.0
LASF *e*Sn **Sn** **19 14 54.1 -1.6**

1.3nm,0.3s
LASF Ste Croix 4.37 262 *e*Pn **Pn** **19 14 04.5 -0.6**
SNR=1.0
LASF *e*Sn **Sn** **19 14 54.1 -1.6**

0.6nm,0.3s
SMF Signal de Mont 4.58 295 *e*Pn **Pn** **19 14 07.0 -1.0**
SNR=1.0
SMF *e*Sn **Sn** **19 14 58.7 -2.2**

6.2nm,0.6s,SNR=1.0
SMF Signal de Mont 4.58 295 *e*Pn **Pn** **19 14 07.0 -1.0**
SNR=1.0
SMF *e*Sn **Sn** **19 14 58.7 -2.2**

3.1nm,0.6s,SNR=1.0
PAGF Fort de Pagny 4.67 324 *e*Pn **Pn** **19 14 09.7 +0.5**
baz=151
PAGF Fort de Pagny 4.67 324 *e*Pn **Pn** **19 14 09.7 +0.5**
LOR Lormes 4.83 302 *e*Pn **Pn** **19 14 12.2 +0.8**
baz=121
LOR *e*Sn **Sn** **19 15 04.4 -2.6**

5.4nm,0.3s,SNR=1.0
LOR Lormes 4.83 302 *e*Pn **Pn** **19 14 12.2 +0.8**
AVF Avril sur Loir 4.95 295 *e*Pn **Pn** **19 14 13.0 0.0**
SNR=1.0
AVF Avril sur Loir 4.95 295 *e*Pn **Pn** **19 14 13.0 0.0**
SNR=1.0
KHC Kasperske Hory 4.98 29 *e*PN **Pn** **19 14 12.9 -0.5**
KHC *ex* x 19 14 22.1
KHC *e*SN **Sn** **19 15 08.0 -2.7**
KHC *e*SG **Sg** **19 15 37.6 -1.3**

MAN 10 19:34:50.9≈61N×122≈21E, h27km, mb4.5, ML3.3, MS3.2, 1C, Negros

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
SNPH	**Sibulan**	**1.04**	**105**	⇑ *i*	*P*		19 35 02.1	-6.8
SNPH				*i*	*S*		19 35 15.6	-7.1
GUIM	**Jordan**	**1.08**	**20**	*e*	*P*		19 35 09.0	-0.4
GUIM				*e*	*S*		19 35 23.3	-0.2
DCPH	**Dipolog City**	**1.52**	**132**	*e*	*P*		19 35 15.2	-0.2
CUYO	**Cuyo Island**	**1.70**	**317**	*e*	*P*		19 35 18.7	+0.7
CUYO				*e*	*S*		19 35 39.6	+0.6
IPIL	**Ipil**	**1.84**	**169**	*e*	*P*		19 35 19.4	-0.4
PAGZ	**Pagadian**	**2.10**	**146**	*e*	*P*		19 35 24.9	+1.5
MSLP	**Maasin**	**2.66**	**78**	*e*	*P*		19 35 32.0	+0.8
OTRP	**Odiongan**	**2.74**	**356**	*e*	*P*		19 35 34.0	+1.7
BUSP	**Coron**	**3.09**	**320**	*e*	*P*		19 35 37.8	+0.6
ENPP	**El Nido**	**3.17**	**300**	*e*	*P*		19 35 38.9	+0.8

*KLM **10** 19:36:46.0, 3.68N×95.08E, h303km, mb4.5, ML4.3, MS5.6*
*ISCJB **10** 19:36:52.7±0.3, 3.08N±0.04×95.79E±0.04, h31km, mb4.3/39, MS3.5/8, Error ellipse: s-maj=7.2km s-min=4.0km az=42.3*
*BJI **10** 19:36:52.1, 2.94N×95.75E, h57km, mb4.7/13, mB4.8/10, Ms4.5/1, Ms7 4.1/2*
*DJA **10** 19:36:53.7±0.8, 3°N±3°×9°E±°, h78km±19km, M4.5/9, mb4.6/2, mB4.7/2, MLv4.5/9, Mw(mB)3.9/2*
*MOS **10** 19:36:53.3±1.0, 3.29N×96.11E, h33km, mb4.7/19, Error ellipse: s-maj=19.3km s-min=7.1km az=103.3*
*NEIC **10** 19:36:57.4±1.0, 3.21N×95.98E, h55km±8km, mb4.3/11, Error ellipse: s-maj=11.3km s-min=5.8km az=57.0*
*IDC **10** 19:36:58.0±3.7, 3.25N×95.98E, h58km±32km, mb3.8/17, mb1 3.9/19, mb1mx3.8/29, mbtmp4.1/19, ML4.1/2, MS3.4/8, Ms1 3.5/8, ms1mx3.2/29, Error ellipse: s-maj=27.6km s-min=14.1km az=48.0*
ISC 10 19:36:55.0±0.5, 3.18N±0.04×95.94E±0.06, h31km, n118, σ1°35/115, mb4.4/39, MS3.5/8, 9C-3D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
SNSI	**Sinabang, Aceh**	**0.86**	**153**		P		**19 37 12.1**	**+0.7**
LHMI	**Lhok Sumawe**	**2.27**	**26**		P		**19 37 32.0**	**+1.6**
LHMI					S		**19 38 03.8**	**+0.8**
LHMI	**Lhok Sumawe**	**2.27**	**26**	*e*	*P*		**19 37 32.2**	**+1.8**
BSI	**Banda Aceh**	**2.39**	**345**		P		**19 37 32.0**	**0.0**
BSI					S		**19 38 00.7**	**+0.4**
GSI	**Gunungsitoli**	**2.48**	**139**		P		**19 37 33.7**	**+0.4**
GSI					S		**19 38 02.8**	**+0.2**
GSI	**Gunungsitoli**	**2.48**	**139**	*e*	*P*		**19 37 34.3**	**+1.0**
TSI	**Tuntungan**	**2.64**	**83**		P		**19 37 39.8**	**-1.9**
TSI					S		19 38 22.2	+8.4
PSI	**Prapat**	**3.01**	**97**		P		**19 37 42.7**	**+2.0**
9.9nm,0.3s,baz=301,slow=8.6,SNR=32								
PSI					LR		LR	19 39 11.0
comp=Z,477nm,20.3s,baz=284,slow=44								
MNSI	**Mandailing Nat**	**4.34**	**123**		P		**19 38 00.7**	**+1.8**
MNSI					S		**19 38 48.6**	**+0.1**
KULM	**Kulim**	**5.15**	**66**	⇑	*P*		**19 38 12.3**	**+2.3**
KULM	**Kulim**	**5.15**	**66**	*e*	*P*		**19 38 11.4**	**+1.4**
38nm,0.6s								
IPM	**Ipoh**	**5.24**	**76**	⇑	*P*		**19 38 12.9**	**+1.6**
IPM	**Ipoh**	**5.24**	**76**	*e*	*P*		**19 38 12.4**	**+1.1**
39nm,0.5s								
PKDT	**Phuket**	**5.25**	**27**		P		19 38 20.3	-5.9
102nm,0.7s,3µm0.6nm								
FRIM	**Kepong**	**5.68**	**89**	⇑	*P*		**19 38 18.9**	**+1.6**
TRTT	**Trang**	**5.95**	**39**		P		**19 38 24.0**	**+3.0**
44nm,0.6s,890nm0.2nm								
SKLT	**Songkhla**	**6.12**	**49**		P		**19 38 25.4**	**+2.0**
SURT	**Suratani**	**6.41**	**26**		P		19 38 31.9	+4.6
22nm,0.7s,326nm0.1nm								
KGM	**Kluang**	**7.47**	**99**	⇓	*P*		**19 38 44.2**	**+2.3**
KTGM	**Kuala Trenggan**	**7.49**	**73**	⇓	*P*		**19 38 42.0**	**-0.1**
MYKOM	**Kota Tinggi**	**8.03**	**100**	⇓	*P*		**19 38 52.2**	**+2.6**
CHAI	**Chaiyaphum**	**13.97**	**25**		P		**19 40 18.4**	**-0.2**
6.9nm,0.7s,66nm								
PBKT	**Sadao Pong**	**14.20**	**20**		P		19 40 17.6	-3.5
15nm,0.6s								
KHON	**Khomkaen**	**14.73**	**27**		P		**19 40 27.0**	**0.0**
33nm,0.8s								
UTTA	**Uttaradit**	**15.17**	**17**		P		**19 40 31.5**	**-0.3**
2.8nm,0.7s								
LOEI	**Loei**	**15.17**	**20**		P		**19 40 32.8**	**+0.9**
58nm,0.8s								
CMAR	**Chiang Mai Arr**	**15.47**	**11**		P		**19 40 31.9**	**+0.9**
0.5nm,0.3s,baz=203,slow=12,SNR=15								
CMAR					LR		LR	19 47 02.2
comp=Z,155nm,18.2s,baz=198,slow=39								
CMAR	**Chiang Mai Arr**	**15.47**	**11**	*i*	*P*		**19 40 34.7**	**-0.5**
CMAR					pmax		pmax	
comp=Z,3.0nm,0.5s								
CHTO	**Chiang Mai**	**15.81**	**11**	*e*	*P*		**19 40 32.9**	**-2.7**
CHTO					pmax		pmax	
comp=Z,10.0nm,1.6s								
CHTO	**Chiang Mai**	**15.81**	**11**	*e*	*P*		**19 40 32.9**	**-2.7**
comp=Z,10nm,1.6s								
CMMT	**Chiang Mai**	**15.81**	**11**		P		**19 40 42.7**	**+3.6**
comp=Z,7.3nm,1.0s								
CMAI	**Chiengmai2**	**16.93**	**10**		P		19 41 04.1	+12
KKM	**Kota Kinabalu**	**20.41**	**81**	*e*	*P*		**19 41 29.3**	**-0.5**
comp=Z,18nm,0.6s								
KAPI	**Kappang**	**25.15**	**109**		P		**19 42 18.8**	**+1.2**
comp=Z,9.2nm,0.6s,baz=307,slow=6.9,SNR=8.3								
LSA	**Lhasa**	**26.76**	**351**		P		**19 42 31.5**	**-1.2**
LSA	**Lhasa**	**26.76**	**351**	*e*	*P*		**19 42 31.3**	**-1.3**
LSA					pmax		pmax	
comp=Z,7.0nm,0.5s								
LSA	**Lhasa**	**26.76**	**351**	*e*	*P*		**19 42 31.3**	**-1.3**
comp=Z,6.7nm,0.5s								
GTA	**Gaotai**	**36.23**	**5**	*e*	*P*		**19 43 54.3**	**-1.1**
GTA					PMZ			
comp=Z,6.0nm,1.0s								
HHC	**Hu-ho-hao-te**	**40.06**	**19**	*e*	*P*		**19 44 30.6**	**+3.0**
HHC					pP		pP	19 44 43.0 +6.2
HHC					sP		sP	19 44 48.8 +8.3
HHC					S		**S**	**19 50 36.1**	**+4.3**
HHC					sS		sS	19 50 56.0 +9.1
HHC					PMZ			
comp=Z,22nm,0.7s								
HHC					PMZ			
comp=Z,56nm,9.3s								
HHC					LN			
comp=Z,260nm,14.8s								
HHC					LE			
comp=Z,260nm,14.8s								
HHC					LZ			
comp=Z,210nm,16.5s								
H01W3	**Cape Leeuwin H**	**41.55**	**157**		T		T	20 28 21.3
baz=333,slow=75,SNR=25								
H01W2	**Cape Leeuwin H**	**41.56**	**157**		T		T	20 28 22.3
baz=333,slow=75,SNR=26								
H01W1	**Cape Leeuwin H**	**41.56**	**157**		T		T	20 28 23.4
baz=333,slow=75,SNR=20								
UCH	**Uchtor**	**43.34**	**337**		P		**19 44 55.4**	**+0.6**
SNR=13								
UCH	**Uchtor**	**43.34**	**337**	*i*	*P*		**19 44 55.4**	**+0.6**
KBK	**Karagaybulak**	**43.54**	**337**		P		**19 44 57.3**	**+1.2**
SNR=9.6								
KBK	**Karagaybulak**	**43.54**	**337**	*i*	*P*		**19 44 57.3**	**+1.2**
AML	**Almayashu**	**43.59**	**336**		P		**19 44 57.6**	**+0.8**
SNR=7.3								
AML	**Almayashu**	**43.59**	**336**	*i*	*P*		**19 44 57.6**	**+0.8**
AAK	**Ala-Archa**	**43.69**	**337**	*e*	*P*		**19 44 55.9**	**-1.5**
AAK					pmax		pmax	
comp=Z,8.0nm,0.8s								
AAK	**Ala-Archa**	**43.69**	**337**	*e*	*P*		**19 44 58.6**	**+1.2**
comp=Z,2.6nm,0.6s								
EKS2	**Erkin-Say**	**44.00**	**336**		P		**19 45 00.7**	**+0.9**
SNR=12								
EKS2	**Erkin-Say**	**44.00**	**336**	*i*	*P*		**19 45 00.7**	**+0.9**
EKS2	**Erkin-Say**	**44.00**	**336**	*e*	*P*		**19 45 00.4**	**+0.7**
comp=Z,5.9nm,0.8s								
WRA	**Warramunga Arr**	**44.16**	**123**		P		**19 45 01.1**	**-0.1**
comp=Z,1.8nm,0.5s,baz=301,slow=9.1,SNR=27								
WRAB	**Tennant Creek**	**44.16**	**123**	*e*	*P*		P	19 44 54.1 -7.2
WRAB					pmax		pmax	
comp=Z,12nm,1.2s								
WRAB	**Tennant Creek**	**44.16**	**123**	*e*	*P*		**19 45 01.0**	**-0.3**
USP	**Ospenovka**	**44.23**	**337**		P		**19 45 01.9**	**+0.3**
SNR=16								
USP	**Ospenovka**	**44.23**	**337**	*i*	*P*		**19 45 01.8**	**+0.3**
KSAR	**Wonju Array Be**	**44.95**	**37**		P		**19 45 07.1**	**-0.2**
KSAR	**Wonju Array Be**	**44.95**	**37**		P		**19 45 07.1**	**-0.2**
KSRS	**Korea Array**	**44.98**	**37**		P		**19 45 07.1**	**-0.4**
comp=Z,0.7nm,0.7s,baz=235,slow=8.5,SNR=4.7								
KSRS					LR		LR	20 06 33.1
comp=Z,52nm,18.2s,baz=208,slow=40								
MK31	**Makanchi Array**	**45.03**	**347**	*e*	*P*		**19 45 06.8**	**-1.0**
MK31	**Makanchi Array**	**45.03**	**347**	*e*	*P*		**19 45 06.8**	**-1.0**
MKAR	**Makanchi Array**	**45.03**	**347**		P		**19 45 07.1**	**-0.7**
comp=Z,2.6nm,0.4s,baz=155,slow=8.9,SNR=64								
MKAR					LR		LR	20 07 24.7
comp=Z,23nm,18.9s,baz=184,slow=41								
MKAR	**Makanchi Array**	**45.03**	**347**	*ce*	*P*		**19 45 07.0**	**-0.8**
MKAR					pmax		pmax	
comp=Z,3.0nm,0.4s								
SONM	**Songino Array**	**45.39**	**10**		P		**P**	**19 45 10.1**	**-0.6**
comp=Z,3.5nm,0.8s,baz=195,slow=8.5,SNR=20								
SONM					PcP		**PcP**	**19 46 49.9**	**+0.2**
comp=Z,1.9nm,0.7s,baz=195,slow=3.7,SNR=6.3								
SONM					LR		LR	20 06 08.4
comp=Z,88nm,19.7s,baz=271,slow=39								
ULN	**Ulaanbaatar**	**45.54**	**10**	*e*	*P*		**P**	**19 45 11.2**	**-0.8**
ULN					pmax		pmax	
comp=Z,7.0nm,2.5s								
ULN	**Ulaanbaatar**	**45.54**	**10**	*e*	*P*		**P**	**19 45 10.9**	**-1.0**
comp=Z,1.7nm,0.6s								
ASAR	**Alice Springs**	**45.59**	**128**		P		**P**	**19 45 12.5**	**-0.2**
comp=Z,0.5nm,0.5s,baz=297,slow=7.7,SNR=14								
KKAR	**Karatay Array**	**45.73**	**334**	*e*	*P*		**P**	**19 45 13.9**	**+0.4**
KKAR					pmax		pmax	
comp=Z,1.0nm,0.4s								
KKAR	**Karatay Array**	**45.73**	**334**	*e*	*P*		**P**	**19 45 13.9**	**+0.4**
comp=Z,1.1nm,0.4s								
TLY	**Talaya**	**48.76**	**6**	*e*	*P*		**P**	**19 45 36.6**	**-0.3**
TLY					pmax		pmax	
comp=Z,3.0nm,0.6s								
TLY					MLR		MLR	
comp=Z,49nm,15.0s								
GEYT	**Alibeck**	**48.89**	**320**		P		**P**	**19 45 39.2**	**+1.0**
comp=Z,6.7nm,0.8s,baz=148,slow=8.7,SNR=20								
KURK	**Kurchatov**	**49.57**	**346**	*e*	*P*		**P**	**19 45 42.3**	**-0.7**
KURK					pmax		pmax	
comp=Z,8.0nm,0.9s								
KURK	**Kurchatov**	**49.57**	**346**	*e*	*P*		**P**	**19 45 42.3**	**-0.7**
comp=Z,8.2nm,0.9s								
MJAR	**Matsushiro Arr**	**51.12**	**44**		P		**P**	**19 45 54.1**	**-1.0**
comp=Z,0.5nm,0.7s,baz=245,slow=8.8,SNR=4.4								
MJAR					LR		LR	20 10 18.4
comp=Z,29nm,18.1s,baz=245,slow=39								
ZAA0	**Zalesovo Array

ZALV	**Zalesovo Beam**	**51.42**	**352**	P		**P**		**19 45 56.5**	**-0.4**		
	comp=Z,9.7nm,0.5s,baz=179,slow=7.1,SNR=43										
ZALV	**Zalesovo Beam**	**51.42**	**352**	*i* P		**P**		**19 45 56.5**	**-0.4**		
ZALV				pmax		pmax					
	comp=Z,10.0nm,0.5s										
USRK	**Ussuriysk Ar.**	**51.77**	**33**	P		**P**		**19 45 59.0**	**-0.7**		
	comp=Z,3.5nm,0.7s,baz=239,slow=5.8,SNR=4.9										
USRK				LR		LR		20 09 19.9			
	comp=Z,52nm,18.5s,baz=182,slow=38										
NVS	**Novosibirsk**	**52.53**	**351**	⇑*i* P		**P**		**19 46 04.9**	**-0.3**		
NVS				pmax		pmax					
	comp=Z,7.0nm,0.9s										
NVS				pmax		pmax					
	comp=N,4.0nm,0.8s										
NVS				pmax		pmax					
	comp=E,4.0nm,0.8s										
BRVK	**Borovoye**	**54.04**	**341**	*e*P		**P**		**19 46 15.5**	**-0.9**		
BRVK				pmax		pmax					
	comp=Z,2.0nm,0.6s										
BRVK	**Borovoye**	**54.04**	**341**	*e*P		**P**		**19 46 15.4**	**-0.9**		
	comp=Z,4.7nm,0.9s										
KLR	**Kul'dur**	**55.08**	**28**	*e*P		P		19 46 19.2	-4.8		
ABKAR	**Akbulak array**	**55.18**	**332**	*e*P		**P**		**19 46 24.5**	**-0.2**		
	comp=Z,3.2nm,0.8s										
BOD	**Bodaibo**	**56.32**	**12**	*e*P		**P**		**19 46 30.5**	**-2.2**		
BOD				pmax		pmax					
	comp=Z,3.0nm,1.2s										
SVE	**Sverdlovsk**	**60.39**	**339**	⇑*i* P		**P**		**19 47 00.8**	**-0.4**		
SVE				pmax		pmax					
	comp=Z,6.0nm,0.8s										
ARU	**Arti**	**60.88**	**337**	*c i* P		**P**		**19 47 03.5**	**-1.0**		
ARU								19 49 15.7			
ARU				S		**S**		**19 55 22.6**	**+2.4**		
ARU				SS		**SS**		**19 59 19.8**	**+0.1**		
ARU				pmax		pmax					
	comp=Z,8.0nm,1.7s										
KIV	**Kislovodsk**	**61.99**	**319**	*e*P		**P**		**19 47 11.6**	**-0.8**		
KIV				pmax		pmax					
	comp=Z,5.0nm,1.1s										
YAK	**Yakutsk**	**63.90**	**17**	*e*P		**P**		**19 47 22.1**	**-2.4**		
YAK				pmax		pmax					
	comp=Z,11nm,0.9s										
ANN	**Anapa**	**65.79**	**318**	*e*P		P		19 47 25.6	-12		
ANN				pmax		pmax					
	comp=Z,20nm,1.0s										
BRTR	**Keskin Array B**	**66.85**	**312**	P		**P**		**19 47 43.5**	**-0.9**		
	comp=Z,0.5nm,0.5s,baz=147,slow=7.0,SNR=3.8										
BRTR	**Keskin Array B**	**66.85**	**312**	*ce*P		**P**		**19 47 45.2**	**+0.8**		
BRTR				pmax		pmax					
	comp=Z,1.0nm,0.5s										
OBN	**Obninsk**	**70.28**	**328**	⇓*e*P		**P**		**19 48 04.8**	**-0.4**		
OBN				*e*				19 48 27.5			
OBN				*e*				19 50 39.8			
OBN				*e*SS		SS		20 01 43.2	-2.6		
OBN				pmax		pmax					
	comp=Z,4.0nm,0.7s										
OBN				MLR		MLR					
	comp=Z,31nm,18.0s										
PETK	**Petropavlovsk-**	**70.81**	**34**	LR		LR		20 20 05.6			
	comp=Z,24nm,20.0s,baz=307,slow=37										
PET	**Petropavlovsk**	**71.31**	**35**	*e*P		**P**		**19 48 12.6**	**+1.0**		
PET				pmax		pmax					
	comp=Z,37nm,2.5s										
KLMR	**Klimovskoe**	**71.43**	**335**	*e*P		**P**		**19 48 11.6**	**-0.5**		
KLMR				pmax		pmax					
	comp=Z,14nm,1.6s										
TIXI	**Tiksi**	**71.47**	**10**	*e*P		**P**		**19 48 12.0**	**-0.2**		
TIXI				pmax		pmax					
	comp=Z,1.0nm,0.6s										
TIXI	**Tiksi**	**71.47**	**10**	*e*P		**P**		**19 48 10.2**	**-2.0**		
	comp=Z,3.5nm,0.8s										
AKASG	**Malin Array Be**	**72.93**	**322**	P		**P**		**19 48 20.4**	**-0.8**		
	comp=Z,1.4nm,0.5s,baz=89,slow=5.4,SNR=14										
AK01	**Malin Array Si**	**72.93**	**322**	*e*P		**P**		**19 48 20.5**	**-0.8**		
KIEV	**Kiev**	**72.94**	**322**	*e*P		**P**		**19 48 20.4**	**-0.9**		
BUR08	**Bucovina Ar. S**	**74.73**	**319**	*e*P		**P**		**19 48 32.9**	**+0.8**		
KOLS	**Kolonicke sedl**	**76.90**	**319**	*e*P		**P**		**19 48 45.1**	**+0.8**		
KOLS				*e*				19 48 55.9			
KOLS	**Kolonicke sedl**	**76.90**	**319**	*e*P		**P**		**19 48 45.1**	**+0.8**		
KOLS				*e*PCP		**PcP**		**19 48 55.9**	**+0.5**		
STHS	**Stebnicka Huta**	**77.65**	**320**	*e*P		**P**		**19 48 49.4**	**+0.9**		
STHS				*e*				19 49 02.6			
STHS	**Stebnicka Huta**	**77.65**	**320**	*e*P		**P**		**19 48 49.4**	**+0.9**		
STHS				*ep*P		**PcP**		**19 49 02.6**	**+4.0**		
FINES	**FINESS Array B**	**77.67**	**332**	P		**P**		**19 48 47.9**	**-0.4**		
	comp=Z,1.9nm,0.5s,baz=120,slow=6.5,SNR=13										
VYHS	**Vyhne**	**79.08**	**319**	*e*P		**P**		**19 48 58.1**	**+1.6**		
VYHS				*e*				19 49 06.3			
VYHS	**Vyhne**	**79.08**	**319**	*e*P		**P**		**19 48 58.1**	**+1.6**		
VYHS				*e*				19 49 06.3			
ARCES	**ARCESS Array B**	**80.26**	**340**	P		**P**		**19 49 02.2**	**-0.2**		
	comp=Z,1.5nm,0.6s,baz=94,slow=5.3,SNR=23										
BRG	**Berggiesshubel**	**82.49**	**321**	*e*(P)		P		19 49 26.8	+12		
	comp=Z,2.5nm,0.8s										
BRG	**Berggiesshubel**	**82.49**	**321**	*e*P		P		19 49 26.8	+12		
BRG				pmax		pmax					
	comp=Z,3.0nm,0.8s										
GERES	**GERESS Array B**	**82.50**	**319**	P		**P**		**19 49 13.4**	**-1.4**		
	comp=Z,0.2nm,0.4s,baz=101,slow=6.9,SNR=4.8										
NOA	**NORSAR Array B**	**84.67**	**331**	P		**P**		**19 49 25.5**	**-0.1**		
	comp=Z,0.8nm,0.7s,baz=93,slow=5.3,SNR=3.8										
TORD	**Torodi Ar. Bea**	**93.41**	**283**	P		**P**		**19 50 08.7**	**+0.6**		
	comp=Z,0.2nm,0.8s,baz=78,slow=4.8,SNR=2.5										
NVAR	**Mina Array Bea**	**127.89**	**34**	PKP		**PKPdf**		**19 55 56.8**	**-1.7**		
	comp=Z,0.6nm,0.3s,baz=162,slow=6.2,SNR=3.6										
PDAR	**Pinedale Array**	**128.79**	**24**	PKP		**PKPdf**		**19 55 58.9**	**-1.1**		
	comp=Z,0.3nm,0.6s,baz=54,slow=2.3,SNR=3.2										

*MEX **10** 20:03:39.4±0.4, 32.°57N×115.°16W, h6km±3km, MD3.7*
*ECX **10** 20:03:41.7±0.5, 32.°36N×115.°21W, h5km, MD2.4, ML2.6*

ISC 10 20:03:39.6±0.8, 32.°37N±0.°03×115.°22W±0.°03, h15km±5km, n24, σ0°70/36, 14C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MBIG	**Mexicali**	**0.04**	**29**	*i* P		**Pg**	**20 03 42.3**	**-0.1**
MBIG				*e*S		**Sg**	**20 03 44.8**	**+0.6**
CPBX	**Cerro Prieto**	**0.08**	**302**	*e*P9		**Pg**	**20 03 42.5**	**-0.2**
CPBX				*e*S		**Sg**	**20 03 44.4**	**-0.5**
EMSC	**East Mesa**	**0.41**	**29**	⇑*i* P		**Pb**	**20 03 49.5**	**+0.8**
DRSC	**Desert Rsrch C**	**0.47**	**336**	*e*P		**Pb**	**20 03 50.6**	**+0.9**
COA	**Coachella**	**0.50**	**10**	⇑*i* P		**Pb**	**20 03 50.6**	**+0.6**
SGL	**Mount Signal**	**0.51**	**303**	⇑*i* P		**Pb**	**20 03 50.4**	**+0.1**
COK	**Cook Ranch**	**0.64**	**318**	⇑*i* P		**Pb**	**20 03 52.8**	**+0.3**
YUH	**Yuha Desert**	**0.65**	**295**	⇑*i* P		**Pb**	**20 03 52.9**	**+0.1**
SWSC	**Sam W. Stewart**	**0.74**	**320**	⇓P		**Pg**	**20 03 54.1**	**-0.1**
	baz=0.7,SNR=13							
GLA	**Glamis**	**0.75**	**26**	P		**Pg**	**20 03 54.3**	**0.0**
	baz=0.7,SNR=41							
GLA				⇓S		**Sg**	**20 04 03.9**	**-0.4**
	baz=0.7							
IBP	**Imperial Bould**	**0.79**	**292**	⇑P		**Pg**	**20 03 55.1**	**0.0**
	baz=0.8,SNR=12							
IBP				⇑S		**Sb**	**20 04 06.3**	**+0.6**
	baz=0.8							
ECBX	**El Chinero**	**0.91**	**171**	*e*P9		**Pb**	**20 03 57.0**	**-0.1**
ECBX				*e*S		**Sb**	**20 04 09.0**	**0.0**
MONP	**Monument Peak,**	**1.14**	**297**	⇓P		**Pb**	**20 04 00.5**	**-0.6**
	baz=1.1							
MONP				⇑S		**Sb**	**20 04 15.8**	**0.0**
	baz=1.1							
CBX	**Cerro Bola**	**1.22**	**268**	*e*P		**Pb**	**20 04 02.8**	**+0.2**
CBX				*i* S		**Sb**	**20 04 16.6**	**-1.6**
CBX	**Cerro Bola**	**1.22**	**268**	*e*P		**Pg**	**20 04 03.4**	**+0.1**
CBX				*e*S		**Sg**	**20 04 20.0**	**+0.8**
CBX				⇓*e*			20 04 27.5	
CBX				AML		AML	20 04 27.5	
	comp=E,142nm,0.6s							
BAR	**Barrett**	**1.26**	**284**	*e*P		**Pg**	**20 04 03.7**	**-0.3**
113A	**Mohawk Valley,**	**1.29**	**72**	⇓P		**Pn**	**20 04 02.7**	**-0.4**
	baz=1.3,SNR=24							
113A				⇑Sb		**Sn**	**20 04 20.6**	**+0.5**
	baz=1.3							
BC3	**Big Chuckawall**	**1.29**	**351**	⇑P		**Pn**	**20 04 02.1**	**-1.1**
	baz=1.3							
SPIG	**San Pedro Mart**	**1.34**	**189**	*e*P		**Pn**	**20 04 04.3**	**+0.2**
SPIG				*i* S		**Sb**	**20 04 23.1**	**+1.4**
SPX	**San Pedro Mart**	**1.34**	**189**	*e*P		**Pb**	**20 04 05.0**	**+0.4**
Y12C	**Blythe**	**1.49**	**23**	⇑Pb		**Pb**	**20 04 07.6**	**+0.6**
	baz=1.5,SNR=25							
109C	**Camp Elliot, M**	**1.67**	**288**	⇓Sb		**Sb**	**20 04 32.0**	**+1.0**
	baz=1.7							
IRM	**Iron Mountain**	**1.78**	**2**	⇑Pb		**Pg**	**20 04 13.4**	**-0.5**
	baz=1.7,SNR=25							
IRM				⇑Sb		**Sb**	**20 04 35.1**	**+0.9**
	baz=1.7							
214A	**Organ Pipe Nat**	**2.08**	**101**	⇑P		**Pn**	**20 04 13.5**	**-0.6**
	baz=2.1							
214A				⇓Sb		**Sg**	**20 04 45.3**	**-1.5**
	baz=2.1							

IDC 10 20:18:50.1±1.9, 4.°74N×124.°52E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.3/43, mbtmp3.4/4, Error ellipse: s-maj=107.3km s-min=20.9km az=58.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.36**	**159**	P		P	20 24 28.7	+0.5
	0.4nm,0.3s,baz=338,slow=9.5,SNR=23							
CMAR	**Chiang Mai Arr**	**28.46**	**301**	P		P	20 24 47.7	+0.6
	0.4nm,1.0s,baz=144,slow=7.8,SNR=3.9							
ASAR	**Alice Springs**	**29.68**	**162**	P		P	20 24 57.2	-0.6
	0.2nm,0.3s,baz=333,slow=7.9,SNR=9.0							
MKAR	**Makanchi Array**	**55.48**	**326**	P		P	20 28 26.2	-0.6
	0.2nm,0.7s,baz=120,slow=7.6,SNR=3.8							

IDC 10 20:21:55.0±42.0, 25.°24S×72.°58E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/37, mbtmp3.4/3, MS3.6/1, Ms1 3.6/1, ms1mx2.8/17, Error ellipse: s-maj=1014.0km s-min=51.3km az=69.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LBTB	**Lobatse**	**42.37**	**260**	LR		LR	20 43 26.5	
	comp=Z,83nm,20.6s,baz=230,slow=30							
CMAR	**Chiang Mai Arr**	**50.45**	**33**	P		P	20 30 54.6	0.0
	0.6nm,0.9s,baz=230,slow=7.7,SNR=5.5							
ASAR	**Alice Springs**	**55.41**	**102**	P		P	20 31 31.3	-0.2
	0.5nm,1.0s,baz=243,slow=6.1,SNR=3.2							
WRA	**Warramunga Arr**	**56.84**	**98**	P		P	20 31 41.8	0.0
	0.4nm,0.9s,baz=259,slow=7.1,SNR=2.6							

IDC 10 20:36:39.9±33.0, 25.°48S×71.°76E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/26, mbtmp3.5/3, MS3.5/2, Ms1 3.5/2, ms1mx2.8/29, Error ellipse: s-maj=800.0km s-min=49.4km az=70.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**37.58**	**115**	T		T	21 24 50.2	
	baz=272,slow=75,SNR=8.6							
H01W3	**Cape Leeuwin H**	**37.58**	**115**	T		T	21 24 52.9	
	baz=272,slow=75,SNR=6.9							
H01W1	**Cape Leeuwin H**	**37.60**	**115**	T		T	21 24 54.7	
	baz=272,slow=75,SNR=5.3							
LBTB	**Lobatse**	**41.59**	**260**	LR		LR	20 58 18.4	
	comp=Z,77nm,21.2s,baz=164,slow=31							
CMAR	**Chiang Mai Arr**	**51.06**	**34**	P		P	20 45 44.1	-0.2
	1.0nm,0.9s,baz=215,slow=7.7,SNR=8.1							
ASAR	**Alice Springs**	**56.09**	**102**	P		P	20 46 21.0	-0.4
	0.3nm,0.7s,baz=249,slow=6.9,SNR=3.6							
WRA	**Warramunga Arr**	**57.55**	**98**	P		P	20 46 32.0	+0.3
	0.7nm,0.9s,baz=253,slow=7.1,SNR=3.8							
MSKU	**Masuku**	**60.72**	**283**	LR		LR	21 09 16.8	
	comp=Z,29nm,18.7s,baz=175,slow=32							

IDC 10 20:41:45.6±1.9, 28.°68S×176.°53W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/17, mbtmp3.4/2, Error ellipse: s-maj=76.9km s-min=44.7km az=15.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**10.93**	**207**	Sn		Sn	20 46 31.6	+5.3
	0.4nm,0.3s,baz=189,slow=13,SNR=2.8							
ASAR	**Alice Springs**	**44.52**	**265**	P		P	20 49 59.6	+0.4
	0.2nm,0.5s,baz=106,slow=8.0,SNR=5.2							
WRA	**Warramunga Arr**	**45.35**	**270**	P		P	20 50 05.4	-0.6
	0.3nm,0.3s,baz=109,slow=8.0,SNR=8.2							
AKASG	**Malin Array Be**	**150.66**	**326**	PKPbc		PKPbc	21 01 39.0	-0.3
	0.2nm,0.3s,baz=46,slow=1.5,SNR=3.7							
TORD	**Torodi Ar. Bea**	**164.46**	**174**	PKPab		PKPab	21 02 46.0	-0.4
	0.3nm,0.8s,baz=193,slow=4.4,SNR=2.7							

*IDC **10** 21:08:43.2±0.5, 1.°30N×126.°35E, h0km, mb4.3/21, mb1 4.4/21, mb1mx4.3/32, mbtmp4.3/21, MS3.5/13, Ms1 3.5/13, ms1mx3.4/29, Error ellipse: s-maj=22.0km s-min=12.3km az=74.0*
*NEIC **10** 21:08:44.8±3.2, 1.°30N×126.°46E, h13km±20km, mb4.9/30, Error ellipse: s-maj=8.6km s-min=5.8km az=58.0*
*BJI **10** 21:08:45.6, 1.°19N×126.°38E, h46km, mb4.4/26, mB4.9/18, Ms4.1/3, Ms7 4.1/3*
*MOS **10** 21:08:46.3±1.2, 1.°27N×126.°36E, h33km, mb5.1/23, Error ellipse: s-maj=15.4km s-min=6.4km az=114.1*
*ISCJB **10** 21:08:47.5±0.2, 1.°29N±0.°03×126.°46E±0.°04, h47km, mb4.7/69, MS3.5/15, Error ellipse: s-maj=6.0km s-min=3.9km az=160.5*
*DJA **10** 21:08:48.2±0.3, 1.°N±3.°×12.°7E±.°, h10km, M4.4/10, mb4.4/2, MLv4.3/10*

ISC 10 21:08:49.4±0.3, 1.°25N±0.°04×126.°60E±0.°05, h47km, n165, σ1°51/164, mb4.7/70, MS3.6/15, 4C-2D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**0.91**	**122**	P		**Pn**	**21 09 05.8**	**0.0**
TNTI				S		Sn	21 09 33.4	+16
TNTI	**Ternate**	**0.91**	**122**	*e*Pn		**Pn**	**21 09 04.9**	**-0.9**
TNTI				*e*Sn		**Sn**	**21 09 19.1**	**+1.3**
SGSI	**Sangihe**	**2.64**	**336**	P		**Pn**	**21 09 29.7**	**+0.1**
SGSI				S		**Sn**	**21 10 06.1**	**+5.6**
KMSI	**Cibinong**	**2.70**	**256**	P		Pn	21 09 27.0	-3.4
KMSI				S		**Sn**	**21 10 05.2**	**+3.3**
SANI	**Sanana**	**3.33**	**191**	P		**Pn**	**21 09 37.6**	**-1.5**
LUWI	**Luwuk**	**4.45**	**239**	P		**Pn**	**21 09 57.5**	**+3.1**
	baz=4.6,SNR=3.9							
LUWI	**Luwuk**	**4.45**	**239**	*e*Pn		**Pn**	**21 09 54.1**	**-0.4**
NLAI	**Namlea**	**4.49**	**174**	P		**Pn**	**21 09 54.0**	**-1.0**
MRSI	**Marisa**	**4.72**	**261**	P		**Pn**	**21 09 56.0**	**-2.1**
MSAI	**Masohi**	**5.13**	**153**	P		Pn	21 10 09.0	+5.3
	20nm,0.9s,0.2nm							
TOLI	**Toli-Toli**	**5.80**	**269**	*e*Pn		Pn	21 10 07.8	-5.3
CTBH	**Cotabato--PC H**	**6.38**	**339**	⇑*i* P		**Pn**	**21 10 19.0**	**-1.9**
FAKI	**Fak Fak**	**7.01**	**126**	P		Pn	21 10 33.9	+4.3
	baz=7.1,SNR=15							
FAKI	**Fak Fak**	**7.01**	**126**	*e*Pn		**Pn**	**21 10 30.2**	**+0.7**
KAPI	**Kappang**	**9.24**	**228**	Pn		**Pn**	**21 11 01.7**	**+1.4**
	2.2nm,0.3s,baz=66,slow=8.2,SNR=16							
KAPI				Sn		**Sn**	**21 12 46.3**	**+3.4**
	0.1nm,0.3s,baz=221,slow=19,SNR=1.6							
KAPI				LR		LR	21 13 54.0	
	comp=Z,86nm,20.6s,baz=75,slow=34							
MMRI	**Maumere**	**10.74**	**204**	*e*Pn		Pn	21 11 16.1	-4.6
KKM	**Kota Kinabalu**	**11.40**	**295**	P		**Pn**	**21 11 29.9**	**+0.1**
	baz=11,SNR=6.1							
KKM	**Kota Kinabalu**	**11.40**	**295**	*e*Pn		Pn	21 11 21.3	-8.5
SBUM	**Sibu**	**14.42**	**275**	*e*Pn		**Pn**	**21 12 08.7**	**-2.2**
JAY	**Jayapura**	**14.59**	**105**	LR		LR	21 18 05.4	
	comp=Z,474nm,21.4s,baz=272,slow=38							
KDU	**Kakadu**	**15.03**	**157**	P		**P**	**21 12 26.2**	**+2.8**
	baz=15,SNR=7.2							
KSM	**Kuching**	**16.29**	**271**	P		**P**	**21 12 36.7**	**-0.7**
	baz=16,SNR=5.2							
KSM	**Kuching**	**16.29**	**271**	*e*Pn		**P**	**21 12 37.9**	**+0.5**
	20nm,1.0s							
KNRA	**Kununurra**	**16.95**	**173**	P		**P**	**21 12 44.5**	**-0.3**
	baz=17,SNR=5.8							
FITZ	**Fitzroy Crossi**	**19.25**	**183**	P		**Pn**	**21 13 11.1**	**-0.4**
	baz=20,SNR=4.1							
LEM	**Lembang**	**20.57**	**247**	LR		LR	21 23 04.9	
	comp=Z,327nm,19.6s,baz=58,slow=42							
GUMO	**Guam**	**21.85**	**55**	LR		LR	21 21 23.3	
	comp=Z,92nm,19.5s,baz=226,slow=34							
PMBI	**Palembang**	**22.21**	**259**	*e*P		**P**	**21 13 44.4**	**+2.3**
	105nm,0.5s							
WRAB	**Tennant Creek**	**22.38**	**161**	*e*P		**P**	**21 13 44.6**	**+0.6**
WRAB				pmax		pmax		
	comp=Z,37nm,1.0s							
WRAB	**Tennant Creek**	**22.38**	**161**	*e*P		**P**	**21 13 44.5**	**+0.6**
	comp=Z,38nm,1.0s							
WRA	**Warramunga Arr**	**22.39**	**161**	P		**P**	**21 13 44.0**	**0.0**
	comp=Z,17nm,0.5s,baz=339,slow=11,SNR=88							
WRA				S		**S**	**21 17 47.4**	**+0.2**
	comp=Z,1.1nm,0.9s,baz=325,slow=22,SNR=2.9							
TPUB	**Ta-pu**	**22.67**	**346**	*e*P		**P**	**21 13 43.7**	**-3.3**
	comp=Z,178nm,1.8s							
MYKOM	**Kota Tinggi**	**22.74**	**272**	*e*P		**P**	**21 13 46.6**	**-1.3**
	comp=Z,40nm,1.3s							
SSLB	**Suanglung**	**23.06**	**347**	*e*P		P	21 13 42.1	-8.9
	comp=Z,27nm,1.3s							
MBWA	**Marble Bar**	**23.26**	**196**	*e*P		**P**	**21 13 51.1**	**-1.9**
	comp=Z,166nm,2.4s							
YHNB	**Yeheng**	**23.82**	**348**	*e*P		P	21 13 52.5	-5.9
	comp=Z,101nm,1.8s							
QIS	**Mount Isa**	**25.14**	**150**	P		**P**	**21 14 12.0**	**+1.6**
	baz=25,SNR=5.3							
AS12	**Alice Springs**	**25.77**	**164**	*e*P		**P**	**21 14 16.2**	**+0.2**
ASAR	**Alice Springs**	**25.77**	**164**	P		**P**	**21 14 16.2**	**+0.2**
	comp=Z,6.8nm,0.8s,baz=348,slow=7.5,SNR=42							
ASAR				PcP		**PcP**	**21 17 47.0**	**+1.9**
	comp=Z,1.0nm,0.7s,baz=345,slow=2.2,SNR=4.3							
ASAR				S		S	21 18 53.0	+11
	comp=Z,0.8nm,1.1s,baz=342,slow=20,SNR=3.8							
ASAR				LR		LR	21 25 41.7	
	comp=Z,126nm,21.1s,baz=13,slow=39							
AS01	**Alice Springs**	**25.78**	**164**	*e*P		**P**	**21 14 16.2**	**+0.1**
WRKA	**Warakurna**	**26.18**	**177**	P		**P**	**21 14 20.7**	**+0.9**
	baz=26,SNR=18							
KULM	**Kulim**	**26.21**	**279**	*e*P		**P**	**21 14 18.0**	**-2.1**
	comp=Z,8.8nm,1.0s							
PSI	**Prapat**	**27.70**	**274**	P		**P**	**21 14 31.8**	**-1.9**
	comp=Z,3.2nm,0.4s,baz=79,slow=11,SNR=6.7							
PSI				LR		LR	21 26 06.4	
	comp=Z,148nm,18.0s,baz=116,slow=38							
MEEK	**Meekatharra**	**28.77**	**195**	P		P	21 14 48.6	+5.7
	baz=29,SNR=4.1							
GSI	**Gunungsitoli**	**29.01**	**270**	*e*P		P	21 14 40.1	-5.1
	comp=Z,12nm,0.9s							
LOEI	**Loei**	**29.68**	**304**	P		P	21 14 47.5	-3.7
	comp=Z,79nm,0.9s,comp=Z,11µm							
NANT	**Nan**	**30.80**	**306**	P		**P**	**21 15 01.3**	**+0.3**
	comp=Z,18nm,0.8s							
CRAI	**Chiangrai**	**31.82**	**308**	P		P	21 15 06.7	-3.3
	comp=Z,54nm,1.3s							
FORT	**Forrest**	**31.88**	**178**	*e*P		**P**	**21 15 09.2**	**-1.1**
	comp=Z,35nm,0.9s							
CM01	**Chiang Mai Arr**	**32.04**	**304**	*e*P		**P**	**21 15 09.5**	**-2.4**
CM31	**Chiang Mai Arr**	**32.07**	**304**	*e*P		**P**	**21 15 10.1**	**-2.1**
CMAR	**Chiang Mai Arr**	**32.07**	**304**	P		**P**	**21 15 10.1**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=151,slow=6.5,SNR=4.8							
CMAR				LR		LR	21 29 13.7	
	comp=Z,75nm,18.0s,baz=136,slow=39							
CMMT	**Chiang Mai**	**32.24**	**305**	P		**P**	**21 15 13.6**	**-0.1**
	comp=Z,9.4nm,1.6s							
CHTO	**Chiang Mai**	**32.24**	**305**	*e*P		**P**	**21 15 12.0**	**-1.7**
CHTO				pmax		pmax		
	comp=Z,21nm,2.0s							
CHTO	**Chiang Mai**	**32.24**	**305**	*e*P		**P**	**21 15 12.0**	**-1.7**
	comp=Z,21nm,2.0s							
CMAI	**Chiengmai2**	**32.72**	**306**	P		**P**	**21 15 18.8**	**+0.7**
	comp=Z,36nm,0.7s							
MHMT	**Maesarieng**	**32.78**	**303**	P		**P**	**21 15 16.9**	**-1.5**
	comp=Z,14nm,0.4s,comp=Z,338nm							
BBOO	**Buckleboo**	**35.04**	**166**	*e*P		**P**	**21 15 38.3**	**+0.5**
	comp=Z,478nm,3.0s							
STKA	**Stephens Creek**	**35.88**	**158**	P		**P**	**21 15 45.6**	**+0.6**
	comp=Z,4.9nm,0.7s,baz=322,slow=6.8,SNR=7.9							
STKA	**Stephens Creek**	**35.88**	**158**	P		**P**	**21 15 45.9**	**+0.8**
	baz=36,SNR=4.6							
KS15	**Wonju Array Si**	**36.03**	**2**	*e*P		**P**	**21 15 47.3**	**+1.0**
KSAR	**Wonju Array Be**	**36.03**	**2**	P		**P**	**21 15 47.3**	**+1.0**
KSAR	**Wonju Array Be**	**36.03**	**2**	P		**P**	**21 15 47.3**	**+1.0**
KSRS	**Korea Array**	**36.05**	**2**	P		**P**	**21 15 47.3**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=194,slow=8.8,SNR=4.1							
KS01	**Wonju Array Si**	**36.07**	**2**	*e*P		P	21 15 43.3	-3.3
XAN	**

MKAR	Makanchi Array	59.52	326	*e*P		P	21 18 46.4	-1.6
MKAR	Makanchi Array	59.52	326	*e*P		P	21 18 46.4	-1.6
YAK	Yakutsk	60.67	2	*e*P		P	21 18 56.2	+0.7
YAK				pmax	pmax			
	comp=Z,15nm,0.9s							
YAK				pmax	pmax			
	comp=N,8.0nm,1.3s							
TKM2	Tokmak 2	61.52	319	*e*P		P	21 19 00.8	-1.2
TKM2				pmax	pmax			
	comp=Z,8.0nm,1.4s							
TKM2	Tokmak 2	61.52	319	*e*P		P	21 19 00.8	-1.2
	comp=Z,8.2nm,1.4s							
AAK	Ala-Archa	62.11	319	*e*P		P	21 19 05.8	0.0
AAK				pmax	pmax			
	comp=Z,15nm,1.7s							
AAK	Ala-Archa	62.11	319	*e*P		P	21 19 05.9	0.0
	comp=Z,3.0nm,0.9s							
EKS2	Erkin-Say	62.59	319	*e*P		P	21 19 09.3	+0.2
EKS2				pmax	pmax			
	comp=Z,10.0nm,1.4s							
EKS2	Erkin-Say	62.59	319	*e*P		P	21 19 09.3	+0.2
	comp=Z,10nm,1.4s							
ZAA0	Zalesovo Array	62.73	334	*e*P		P	21 19 07.0	-2.6
ZALV	Zalesovo Beam	62.73	334	P		P	21 19 07.4	-2.2
	comp=Z,1.1nm,0.5s,baz=116,slow=5.1,SNR=8.3							
ZALV				LR	LR		21 48 04.5	
	comp=Z,37nm,20.9s,baz=70,slow=38							
ZALV	Zalesovo Beam	62.73	334	*i* P		P	21 19 08.3	-1.3
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ZAA1	Zalesovo Array	62.73	334	*e*P		P	21 19 07.4	-2.2
KBL	Kabul	62.93	309	*e*P		P	21 19 11.8	+0.2
KBL				pmax	pmax			
	comp=Z,27nm,1.9s							
KBL	Kabul	62.93	309	*e*P		P	21 19 11.8	+0.2
	comp=Z,27nm,1.9s							
KURK	Kurchatov	63.76	328	*e*P		P	21 19 14.9	-1.5
KURK				pmax	pmax			
	comp=Z,13nm,0.8s							
KURK	Kurchatov	63.76	328	*e*P		P	21 19 14.9	-1.5
	comp=Z,13nm,0.8s							
NVS	Novosibirsk	64.02	334	⇓*i* P		P	21 19 15.6	-2.4
NVS				pmax	pmax			
	comp=E,7.0nm,1.3s							
NVS				pmax	pmax			
	comp=Z,10.0nm,1.3s							
NVS				pmax	pmax			
	comp=N,6.0nm,1.5s							
SEY	Seymchan	64.46	13	*e*P		P	21 19 23.2	+2.4
KKAR	Karatay Array	64.96	318	*e*P		P	21 19 23.5	-1.0
KKAR	Karatay Array	64.96	318	*e*P		P	21 19 23.5	-1.0
CASY	Casey	68.36	187	*e*P		P	21 19 45.0	-0.6
	comp=N,148nm,2.9s							
BVAR	Borovoye Array	69.32	328	P		P	21 19 50.5	-1.4
BRVK	Borovoye	69.39	328	*e*P		P	21 19 52.5	+0.1
BRVK				pmax	pmax			
	comp=Z,18nm,1.7s							
BRVK	Borovoye	69.39	328	*e*P		P	21 19 52.2	-0.2
	comp=Z,15nm,1.3s							
TIXI	Tiksi	70.31	1	*e*P		P	21 19 58.3	+0.7
TIXI				pmax	pmax			
	comp=Z,10.0nm,1.2s							
TIXI	Tiksi	70.31	1	*e*P		P	21 19 57.5	-0.1
	comp=Z,17nm,1.6s							
GEYT	Alibeck	72.34	309	P		P	21 20 09.8	-0.9
	comp=Z,1.8nm,0.6s,baz=151,slow=3.4,SNR=5.1							
GEYT				LR		LR	21 53 06.7	
	comp=Z,70nm,21.0s,baz=175,slow=37							
SVE	Sverdlovsk	76.00	329	⇓*i* P		P	21 20 30.9	-0.6
SVE				pmax	pmax			
	comp=Z,34nm,1.4s							
ARU	Arti	76.95	328	*c i* P		P	21 20 35.8	-1.1
ARU							21 23 23.9	
ARU				S		S	21 30 20.2	-1.3
ARU				pmax	pmax			
	comp=Z,27nm,1.7s							
ARU	Arti	76.95	328	*e*P		P	21 20 35.2	-1.7
	comp=Z,19nm,1.2s							
OPO	Ambohidratompo	80.36	251	P		P	21 20 57.7	+1.1
	comp=Z,4.1nm,1.0s,baz=45,slow=4.7,SNR=2.5							
VNDA	Vanda	81.00	173	P		P	21 20 59.8	+1.1
	comp=Z,1.9nm,0.6s,baz=314,slow=6.3,SNR=26							
VNDA	Vanda	81.00	173	*e*P		P	21 21 00.1	+1.4
VNDA	Vanda	81.00	173	*e*P		P	21 21 00.1	+1.4
RAYN	Ar Rayn	81.33	293	*e*P		P	21 21 01.5	-0.2
	comp=Z,4.4nm,1.2s							
GNI	Garni	82.96	310	*e*P		P	21 21 10.5	+0.5
GNI				pmax	pmax			
	comp=Z,12nm,1.7s							
GNI	Garni	82.96	310	*e*P		P	21 21 11.7	+1.7
	comp=Z,23nm,1.4s							
ZEI	Tsey	83.79	313	*e*P		P	21 21 11.6	-2.6
ZEI				pmax	pmax			
	comp=Z,19nm,1.5s							
NCK	Nalchik	84.06	313	*e*P		P	21 21 14.4	-1.0
GOF	Gofitskoye	84.56	315	*e*P		P	21 21 16.2	-1.6
KBZ	Khabaz	84.58	314	P		P	21 21 17.6	-0.4
	comp=Z,3.1nm,1.0s,baz=237,slow=24,SNR=8.7							
PRGR	Permogore	84.61	332	*e*P		P	21 21 17.3	-0.4
PRGR				pmax	pmax			
	comp=Z,19nm,1.4s							
KIV	Kislovodsk	84.75	314	*e*P		P	21 21 18.9	0.0
KIV				pmax	pmax			
	comp=Z,10.0nm,1.1s							
KIV				MLR	MLR			
	comp=Z,37nm,19.0s							
KIV	Kislovodsk	84.75	314	*e*P		P	21 21 18.4	-0.5
	comp=Z,33nm,1.7s							
ILAR	Eielson Array	87.39	25	P		P	21 21 33.2	+1.9
	comp=Z,0.2nm,0.5s,baz=232,slow=4.4,SNR=3.4							
ILB	Eielson Array	87.39	25	*e*P		P	21 21 33.2	+1.9
KLMR	Klimovskoe	87.49	331	*e*P		P	21 21 30.5	-1.4
KLMR				pmax	pmax			
	comp=Z,15nm,1.5s							
MOS	Moscow	88.39	326	*e*P		P	21 21 30.5	-5.8
MOS				pmax	pmax			
	comp=Z,36nm,1.1s							
ANN	Anapa	88.53	315	*e*P		P	21 21 36.3	-0.9
ANN				pmax	pmax			
	comp=Z,61nm,1.6s							
OBN	Obninsk	89.00	325	⇑*e*P		P	21 21 39.1	-0.1
OBN				*i*			21 25 03.0	
OBN				*e*S		SKSac	21 32 03.5	-1.5
OBN				pmax	pmax			
	comp=Z,30nm,1.7s							
OBN				MLR	MLR			
	comp=Z,57nm,23.0s							
KMBO	Kilima Mbogo	89.37	269	P		P	21 21 45.5	+3.3
	comp=Z,0.7nm,0.4s,baz=79,slow=5.2,SNR=4.6							
BR101	Keskin Array S	91.49	310	*e*P		P	21 21 49.8	-1.6
BRTR	Keskin Array B	91.49	310	P		P	21 21 49.8	-1.6
	comp=Z,1.2nm,0.8s,baz=107,slow=4.2,SNR=5.9							
ARA0	ARCESS Array S	92.71	340	*e*P		P	21 21 56.7	+0.4
ARCES	ARCESS Array B	92.71	340	P		P	21 21 56.7	+0.4
	comp=Z,2.8nm,0.9s,baz=69,slow=6.6,SNR=5.2							
AKASG	Malin Array Be	93.72	321	P		P	21 22 00.4	-0.8
	comp=Z,0.3nm,0.5s,baz=80,slow=3.2,SNR=4.1							
AKBB	Malin Array Si	93.72	321	*e*P		P	21 22 00.4	-0.8
AKBB	Malin Array Si	93.72	321	*e*P		P	21 22 00.4	-0.8
KIEV	Kiev	93.73	321	*e*P		P	21 22 00.9	-0.4
FIA0	FINESS Array S	93.94	332	*e*P		P	21 22 03.7	+1.7
FIA0	FINESS Array S	93.94	332	*e*P		P	21 22 03.6	+1.7
FINES	FINESS Array B	93.94	332	P		P	21 22 03.6	+1.7
	comp=Z,0.9nm,0.6s,baz=104,slow=3.4,SNR=4.3							
BUR04	Bucovina Ar. S	96.75	318	*e*P		P	21 22 14.9	-0.4
VYHS	Vyhne	100.76	320	*e*P		Pdif	21 22 34.3	+1.2
VYHS	Vyhne	100.76	320	PDIF		Pdif	21 22 34.3	+1.2
YKA	Yellowknife Ar	101.80	25	P		Pdif	21 22 38.8	+1.4
	comp=Z,0.1nm,0.5s,baz=295,slow=5.0,SNR=2.6							
TXAR	Lajitas Array	123.19	53	PKP		PKPdf	21 27 41.2	-0.7
	comp=Z,0.3nm,0.8s,baz=335,slow=4.0,SNR=3.2							
TORD	Torodi Ar. Bea	123.53	287	PKP		PKPdf	21 27 43.1	+0.4
	comp=Z,1.8nm,0.8s,baz=68,slow=1.6,SNR=11							
LPAZ	La Paz	159.17	137	PKP		PKPdf	21 28 45.5	+1.2
	comp=Z,1.1nm,0.8s,baz=238,slow=1.0,SNR=5.7							
SIV	San Ignacio	163.52	153	PKP		PKPdf	21 28 49.6	+1.4
	comp=Z,0.8nm,0.5s,baz=258,slow=1.5,SNR=4.3							
SIV				PKPab		PKPab	21 29 41.2	+1.7
	comp=Z,0.6nm,0.3s,baz=247,slow=6.2,SNR=5.1							

*ISCJB **10** 21:17:21.0±0.9,26°.2S±0°.2×70°.2E±0°.3,h10km,mb3.7/8, MS3.9/8,Error ellipse: s-maj=34.5km s-min=23.1km az=167.3*
*IDC **10** 21:17:21.1±1.1,26°.17S×70°.09E,h0km,mb3.8/8, mb1 3.9/8,mb1mx3.6/39,mbtmp3.8/8,MS3.9/8,Ms1 3.9/8, ms1mx3.4/32,Error ellipse: s-maj=40.3km s-min=28.3km az=73.0*

ISC 10 21:17:22.7±1.1,26°.2S±0°.2×70°.1E±0°.3,h10km,n18, σ0§61/8,mb3.7/8,MS3.9/8,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	38.65	114	T	T	22 05 43.1	
	baz=272,slow=75,SNR=18						
H01W3	Cape Leeuwin H	38.66	114	T	T	22 05 43.3	
	baz=272,slow=75,SNR=15						
H01W1	Cape Leeuwin H	38.67	114	T	T	22 05 44.4	
	baz=272,slow=75,SNR=16						
MAW	Mawson	41.68	184	LR	LR	21 38 12.9	
	comp=Z,232nm,21.6s,baz=54,slow=30						
CMAR	Chiang Mai Arr	52.48	35	P	P	21 26 36.0	0.0
	2.4nm,1.0s,baz=222,slow=7.1,SNR=14						
CMAR				LR	LR	21 44 32.6	
	comp=Z,91nm,21.7s,baz=200,slow=31						
ASAR	Alice Springs	57.39	102	P	P	21 27 12.2	+0.4
	0.6nm,0.7s,baz=260,slow=6.6,SNR=5.3						
STKA	Stephens Creek	61.75	114	LR	LR	21 50 50.5	
	comp=Z,186nm,18.5s,baz=211,slow=32						
QSPA	South Pole Qui	63.95	180	P	P	21 27 55.6	-0.3
	1.9nm,0.9s,baz=121,slow=6.3,SNR=3.1						
MKAR	Makanchi Array	73.46	9	P	P	21 28 54.2	-1.0
	0.7nm,1.0s,baz=201,slow=7.7,SNR=4.8						
BRTR	Keskin Array B	73.86	332	P	P	21 28 58.0	+0.2
	1.3nm,1.0s,baz=144,slow=5.2,SNR=5.1						
TORD	Torodi Ar. Bea	77.12	292	LR	LR	22 02 19.9	
	comp=Z,37nm,18.5s,baz=135,slow=35						
SONM	Songino Array	80.58	24	P	P	21 29 35.0	-0.4
	0.3nm,0.4s,baz=284,slow=5.8,SNR=3.7						
ZALV	Zalesovo Beam	80.81	9	P	P	21 29 36.5	+0.3
	0.5nm,0.2s,baz=204,slow=3.2,SNR=3.8						
KSRS	Korea Array	83.39	43	LR	LR	22 06 07.2	
	comp=Z,49nm,18.1s,baz=213,slow=35						
AKASG	Malin Array Be	84.64	335	P	P	21 29 56.8	+0.5
	0.1nm,0.3s,baz=149,slow=4.7,SNR=4.0						
MJAR	Matsushiro Arr	89.44	48	LR	LR	22 10 11.3	
	comp=Z,38nm,18.6s,baz=275,slow=35						
USRK	Ussuriysk Ar.	90.02	39	LR	LR	22 11 08.9	
	comp=Z,54nm,18.0s,baz=281,slow=36						
USHA	Ushuaia	91.82	203	LR	LR	22 07 29.4	
	comp=Z,44nm,18.4s,baz=166,slow=33						

*IDC **10** 21:20:54.4±1.2,17°.50S×167°.85E,h0km,mb4.2/7, mb1 4.3/8,mb1mx4.0/35,mbtmp4.2/8,ML3.8/1,Error ellipse: s-maj=35.8km s-min=23.7km az=91.0*
*ISCJB **10** 21:20:56.3±0.5,17°.55S±0°.06×167°.86E±0°.08,h27km, mb4.5/15,Error ellipse: s-maj=11.5km s-min=8.1km az=177.2*
*NEIC **10** 21:20:57.9±3.9,17°.50S×167°.83E,h24km±28km,mb4.7/7, Error ellipse: s-maj=11.1km s-min=10.1km az=156.0*

ISC 10 21:20:58.3±0.6,17°.52S±0°.08×167°.8E±0°.1,h27km,n29, σ1§40/31,mb4.6/15,1D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.70	195	Pn	Pn	21 22 08.6	+1.1
	4.5nm,0.3s,baz=82,slow=16,SNR=9.3						
DZM				Sn	Sn	21 22 60.0	-1.2
	3.6nm,0.3s,baz=0.0,slow=20,SNR=4.7						
MSVF	Nonsavu	9.79	93	*e*Pn	Pn	21 23 16.3	-1.3
EIDS	Eidsvold	17.38	240	*e*Pn	Pn	21 24 56.0	-3.1
	154nm,2.8s						
CTA	Charters Tower	20.54	259	P	Pn	21 25 38.4	+1.2
	6.8nm,0.9s,baz=74,slow=10,SNR=3.1						
URZ	Urewera	22.22	160	P	P	21 25 57.0	+4.3
	3.7nm,0.4s,baz=16,slow=15,SNR=4.3						
URZ	Urewera	22.22	160	*e*P	P	21 25 54.0	+1.3
	45nm,1.4s						
BKZ	Black Stump Fm	22.86	162	*e*P	P	21 25 59.1	-0.5
	143nm,2.7s						
BFZ	Birch Farm	24.21	164	*e*P	P	21 26 12.4	-0.2
	390nm,2.5s						
STKA	Stephens Creek	27.66	234	P	P	21 26 46.6	+2.6
	4.8nm,1.0s,baz=51,slow=9.7,SNR=3.0						
STKA	Stephens Creek	27.66	234	*e*P	P	21 26 44.0	0.0
	16nm,2.1s						
WRAB	Tennant Creek	31.72	260	*e*P	P	21 27 19.6	-0.6
	2.3nm,0.9s						
WRA	Warramunga Arr	31.73	260	P	P	21 27 20.1	-0.2
	0.5nm,0.7s,baz=83,slow=6.2,SNR=5.6						
WRA				PcP	PcP	21 30 11.2	-0.4
	0.9nm,0.8s,baz=82,slow=1.5,SNR=5.6						
AS01	Alice Springs	32.20	253	*e*P	P	21 27 25.3	+0.9
AS12	Alice Springs	32.24	253	*e*P	P	21 27 25.3	+0.6
ASAR	Alice Springs	32.24	253	P	P	21 27 25.3	+0.6
	1.5nm,0.7s,baz=78,slow=8.7,SNR=19						
ASAR				PcP	PcP	21 30 12.3	-0.6
	1.0nm,0.9s,baz=79,slow=3.6,SNR=5.6						
SBA	Scott Base	60.36	180	*e*P	P	21 31 03.6	-0.9
	94nm,2.7s						
MJAR	Matsushiro Arr	60.60	333	P	P	21 31 07.6	+0.9
	1.8nm,0.9s,baz=159,slow=7.2,SNR=5.5						
MAJO	Matsushiro	60.60	333	*e*P	P	21 31 07.6	+0.9
	60nm,2.3s						
QSPA	South Pole Qui	72.52	180	P	P	21 32 22.6	0.0
	7.7nm,0.9s,baz=9.2,slow=1.7,SNR=22						
BJT	Baijiatuan	74.73	321	*e*P	P	21 32 34.7	-1.1
	11nm,0.5s						
CM01	Chiang Mai Arr	76.51	294	*e*P	P	21 32 47.1	+0.7
CM31	Chiang Mai Arr	76.54	294	*e*P	P	21 32 47.4	+0.8
CMAR	Chiang Mai Arr	76.54	294	P	P	21 32 47.4	+0.8
	1.5nm,0.9s,baz=123,slow=4.3,SNR=8.7						
ULN	Ulaanbaatar	84.67	324	*e*P	P	21 33 29.2	-0.5
	7.0nm,0.9s						
SONA0	Songino Array	85.02	324	*e*P	P	21 33 31.2	-0.2
SONM	Songino Array	85.02	324	P	P	21 33 31.2	-0.2
	4.4nm,1.0s,baz=131,slow=4.8,SNR=15						
SONA1	Songino Array	85.02	324	*e*P	P	21 33 30.8	-0.7
ARCES	ARCESS Array B	123.06	345	PKP	PKPdf	21 39 53.9	+2.2
	0.7nm,0.5s,baz=54,slow=1.6,SNR=9.0						
DAVA	Damuels	145.19	333	⇓*i* PKPdf	PKPbc	21 40 32.5	-0.7
	8.7nm,1.1s						

*ISCJB **10** 21:22:21.5±1.3,26°.1S±0°.3×70°.4E±0°.2,h10km,mb3.6/7, MS4.0/4,Error ellipse: s-maj=46.5km s-min=22.4km az=24.2*
*IDC **10** 21:22:21.7±1.4,26°.07S×70°.29E,h0km,mb3.7/7, mb1 3.8/7,mb1mx3.6/26,mbtmp3.7/7,MS4.0/4,Ms1 4.0/4, ms1mx3.3/33,Error ellipse: s-maj=52.4km s-min=25.1km az=23.0*

ISC 10 21:22:23.3±1.6,26°.1S±0°.4×70°.3E±0°.2,h10km,n14, σ0§41/7,mb3.7/7,MS4.0/4,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	Cape Leeuwin H	38.53	114	T	T	22 10 47.0	
	baz=267						
H01W3	Cape Leeuwin H	38.53	114	T	T	22 10 40.4	
	baz=267						
H01W1	Cape Leeuwin H	38.55	114	T	T	22 10 42.3	
	baz=267						
PSI	Prapat	39.89	48	LR	LR	21 42 52.2	
	comp=Z,139nm,19.1s,slow=31						
LBTB	Lobatse	40.20	261	LR	LR	21 43 15.0	
	comp=Z,300nm,20.7s,baz=134,slow=31						
LEM	Lembang	40.37	68	LR	LR	21 42 54.6	
	comp=Z,120nm,21.3s,slow=30						
SUR	Sutherland	43.34	250	LR	LR	21 45 02.0	
	comp=Z,314nm,19.8s,baz=128,slow=31						
CMAR	Chiang Mai Arr	52.29	35	P	P	21 31 35.3	0.0
	0.8nm,0.9s,baz=222,slow=7.5,SNR=5.9						
ASAR	Alice Springs	57.24	102	P	P	21 32 11.2	-0.1
	0.4nm,0.7s,baz=254,slow=6.1,SNR=4.2						
WRA	Warramunga Arr	58.76	98	P	P	21 32 22.1	+0.1
	1.3nm,1.0s,baz=252,slow=7.4,SNR=4.4						
BRTR	Keskin Array B	73.85	331	P	P	21 33 58.6	+0.3
	0.9nm,1.0s,baz=95,slow=1.4,SNR=4.8						
TORD	Torodi Ar. Bea	77.25	292	P	P	21 34 18.4	+0.2
	0.8nm,1.1s,baz=153,slow=4.8,SNR=3.0						
ZALV	Zalesovo Beam	80.67	9	P	P	21 34 36.3	+0.2
	0.6nm,0.7s,baz=182,slow=4.3,SNR=2.4						
AKASG	Malin Array Be	84.62	335	P	P	21 34 56.0	-0.7
	0.2nm,0.4s,baz=143,slow=4.2,SNR=3.5						

*IDC **10** 21:25:51.8±1.6,34°.88S×72°.34W,h0km,mb3.8/2, mb1 3.9/3,mb1mx3.6/25,mbtmp3.6/3,ML3.7/1,Error ellipse: s-maj=38.1km s-min=32.3km az=103.0*

*GUC **10** 21:25:56.4±0.6,34°.91S×72°.20W,h24km±3km,ML4.1*

ISC 10 21:25:52.7±2.4,34°.89S±0°.04×72°.30W±0°.09,h2km±14km, n16,σ1§02/23,1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	Talca	0.75	133	⇓*e*P	Pb	21 26 08.9	+0.6
TALC				*e*S	Sb	21 26 18.1	-0.9
NICH	Los Niches	0.89	98	*e*P	Pn	21 26 11.4	-0.7
NICH				*e*S	Sb	21 26 22.5	-0.5
LNCH	Linares	1.12	150	*e*P	Pn	21 26 15.3	0.0
LNCH				*e*S	Sb	21 26 29.3	-0.3
LNV	Longovilo	1.18	39	*e*P	Pn	21 26 16.4	+0.3
LNV				*i* S	Sb	21 26 31.6	+0.1
CACH	El Canelo	1.60	62	*e*P	Pg	21 26 23.3	0.0
CHCH	Chadas Angostu	1.66	56	*e*P	Pb	21 26 23.8	-0.2
TACH	Talagante	1.67	43	*e*P	Pb	21 26 23.9	-0.2
RCDM	Rinconada Maip	1.86	42	*e*P	Pb	21 26 27.1	-0.2
PCH	Pirque	1.94	50	*e*P	Pb	21 26 28.4	-0.4
CLCH	Cerro Calan	2.08	45	*e*P	Pb	21 26 30.6	-0.6
CLCH				*e*S	Sn	21 26 55.9	+0.8
CLCH				AML	AML	21 27 01.8	
	comp=E,2µm,0.1s						
PEL	Peldehue	2.19	38	*e*P	Pb	21 26 32.2	-0.8
PEL				*e*S	Sb	21 26 59.5	-1.2
PEL				AML	AML	21 27 06.4	
	comp=N,2µm,0.3s						
CFAA	Coronel Fontan	4.72	47	Pn	Pn	21 27 06.7	+1.8
	comp=N,0.1nm,0.3s,baz=223,slow=13,SNR=24						
CFAA				Sn	Sn	21 28 02.1	+1.9
	comp=N,0.2nm,0.3s,baz=243,slow=16,SNR=2.2						
PLCA	Paso Flores	6.00	167	Pn	Pn	21 27 23.8	+1.3
	comp=N,0.5nm,0.3s,baz=340,slow=12,SNR=8.0						
PLCA				Lg	Lg	21 28 56.4	
	comp=N,0.5nm,0.3s,baz=286,slow=20,SNR=4.1						
LPAZ	La Paz	18.89	12	P	Pn	21 30 17.2	+1.6
	comp=N,0.1nm,0.3s,baz=207,slow=9.0,SNR=2.7						
TXAR	Lajitas Array	70.40	331	P	P	21 37 08.0	-0.2
	comp=N,0.4nm,0.5s,baz=159,slow=6.9,SNR=3.4						
TORD	Torodi Ar. Bea	84.71	70	P	P	21 38 26.6	-1.8
	comp=N,1.0nm,1.1s,baz=251,slow=5.3,SNR=6.8						

*ISCJB **10** 21:28:54.0±0.3,35°.52N±0°.01×118°.36W±0°.02,h4km±2km, mb3.0/1,Error ellipse: s-maj=2.5km s-min=2.3km az=159.3*
*IDC **10** 21:28:54.7±2.2,35°.49N×118°.32W,h0km,mb3.3/1, mb1 3.8/4,mb1mx3.4/44,mbtmp3.4/4,ML4.0/3,MS2.5/1, Ms1 2.5/1,ms1mx2.1/19,Error ellipse: s-maj=32.6km s-min=13.8km az=70.0*
*NEIC **10** 21:28:55.0,35°.53N×118°.36W,h0km,ML3.9(PAS),After PAS.*
NEIC Felt [III] at Bodfish, Kernville, Lake Isabella, Onyx and Weldon; [II] at Caliente, Porterville and Wofford Heights. Also felt at Bakersfield, Inyokern, Ridgecrest, Tehachapi, Three Rivers, Ventura, Visalia and Woody.

ISC 10 21:28:54.7±1.0,35°.52N±0°.02×118°.38W±0°.02,h4km±9km, n110,σ1§05/126,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISA	Isabella, Lake	0.16	331	*e*Pg	Pg	21 28 58.1	+0.2
ISA				*e*Sg	Sg	21 28 59.8	-0.3
ISA	Isabella, Lake	0.16	331	P	Pg	21 28 57.8	-0.1
	baz=0.2						
ISA				S	Sg	21 29 00.5	+0.5
	baz=0.2						
WHFM	Hanning Flat	0.17	8	*e*Pg	Pg	21 28 58.3	+0.1
WBSM	Bird Springs	0.20	86	*e*Pg	Pg	21 28 58.9	+0.3
WORM	Onyx Ranch	0.21	33	*e*Pg	Pg	21 28 58.8	+0.1
WOFM	Oak Flat	0.27	273	*e*Pg	Pg	21 29 00.5	+0.5
WWPM	Walker Pass	0.32	48	*e*Pg	Pb	21 29 03.8	+0.7
WCHM	Chimney Peak	0.44	34	*e*Pg	Pg	21 29 03.1	-0.1
CCAC	Calif City Air	0.47	141	*e*Pg	Pg	21 29 04.2	+0.4
ARVC	Arvin	0.54	223	*e*Pg	Pg	21 29 05.8	+0.7
ARVC	Arvin	0.54	223	P	Pg	21 29 05.8	+0.7
	baz=0.6						
ARVC				S	Sg	21 29 12.9	+0.8
	baz=0.6						
SRTC	Snort	0.54	72	*e*Pg	Pg	21 29 05.6	+0.5
LRMC	Laurel Mtn Rad	0.56	94	P	Pg	21 29 05.6	0.0
	baz=0.6						
TJR	Tejon Ranch	0.58	211	*e*Pg	Pg	21 29 03.0	-2.8
TJR				*e*Sg	Sg	21 29 06.2	-7.0
RVCM	Rose Valley Ce	0.63	39	*e*Pg	Pg	21 29 06.6	-0.2
WLHM	Little Horse	0.63	5	*e*Pg	Pg	21 29 06.8	-0.1
VES	Vestal, Richgr	0.66	299	P	Pg	21 29 07.3	0.0
	baz=0.7						
VES				S	Sg	21 29 16.0	+0.2
	baz=0.7						
CLC	China Lake	0.70	65	*e*Pg	Pg	21 29 08.0	-0.2
EDW2	Edwards Air Fo	0.71	153	*e*Pg	Pg	21 29 08.3	-0.1
EDW2	Edwards Air Fo	0.71	153	P	Pg	21 29 08.3	-0.1
	baz=0.7						
WSHM	Spangler Hills	0.73	84	*e*Pg	Pg	21 29 08.5	-0.1
RCWM	Renegade Canyo	0.73	54	*e*Pg	Pg	21 29 08.7	-0.1
STTC	Scott Ranch	0.73	185	*e*Pg	Pg	21 29 09.3	+0.5
FOXC	Fox Airport	0.79	171	*e*Pg	Pg	21 29 07.5	-2.3
FOXC				*e*Sg	Sg	21 29 10.7	-9.4
PLEC	Pleito Hills	0.79	226	*e*Pg	Pg	21 29 10.9	+1.1
CCCA	Chr Cany lake	0.83	90	*e*Pg	Pg	21 29 10.7	+0.1
LEOC	Leona Valley	0.89

	baz=1.7								
HEC	**Hector,Ludlow**	**1.81**	**112**	P		**Pn**	**21 29 25.7**	**-1.1**
	baz=1.8								
MTUM	**Tungsten Hills**	**1.83**	**355**	*e*Pn		**Pb**	**21 29 28.4**	**-0.5**
TUQ	**Turquoise Moun**	**2.00**	**92**	P		**Pn**	**21 29 28.1**	**-1.4**
	baz=2.0								
MLAC	**Mammoth, Mammo**	**2.14**	**350**	Pb		**Pb**	**21 29 33.3**	**-0.8**
	baz=2.1								
MURC	**Murrieta**	**2.15**	**153**	P		**Pn**	**21 29 31.0**	**-0.3**
	baz=2.2								
MURC				Sb		**Sb**	**21 30 01.8**	**+0.5**
	baz=2.2								
TPNV	**Topopah Spring**	**2.23**	**50**	*e*Pn		**Pn**	**21 29 32.6**	**0.0**
TPNV				*e*Sn		**Sb**	**21 30 02.1**	**-1.7**
GMRC	**Granite Mounta**	**2.35**	**108**	*e*Pn		**Pn**	**21 29 32.8**	**-1.3**
GMRC	**Granite Mounta**	**2.35**	**108**	P		**Pn**	**21 29 32.3**	**-1.9**
	baz=2.3								
PFO	**Pinyon Flats O**	**2.48**	**140**	*e*Pn		**Pn**	**21 29 35.3**	**-0.7**
PFO				*e*Sn		**Sn**	**21 30 06.2**	**-0.6**
LDFC	**Landfair**	**2.71**	**98**	*e*Pn		**Pn**	**21 29 37.2**	**-1.9**
TPH	**Tonopah**	**2.71**	**20**	*e*Pn		**Pn**	**21 29 39.6**	**+0.4**
BORC	**Borrego Spring**	**2.77**	**144**	*e*Sn		Sn	21 30 06.7	-7.1
SAO	**San Andreas Ge**	**2.78**	**297**	*e*Pn		**Pn**	**21 29 40.3**	**+0.4**
109C	**Camp Elliot, M**	**2.83**	**158**	Sb		**Sb**	**21 30 21.2**	**+0.4**
	baz=2.8								
NV01	**Mina Array Sit**	**2.90**	**1**	*e*Pn		**Pn**	**21 29 43.2**	**+1.3**
NVAR	**Mina Array Bea**	**2.90**	**1**	Pn		**Pn**	**21 29 42.6**	**+0.7**
	18nm,0.3s,baz=180,slow=15,SNR=71								
NVAR				Pg		**Pb**	**21 29 47.9**	**+0.7**
	31nm,0.3s,baz=184,slow=18,SNR=118								
NVAR				Lg		Lg	21 30 26.1		
	37nm,0.3s,baz=195,slow=33,SNR=10.0								
CMB	**Columbia Colle**	**2.98**	**328**	*e*Pn		**Pn**	**21 29 44.4**	**+1.6**
IRM	**Iron Mountain**	**2.98**	**116**	*e*Pn		**Pn**	**21 29 41.5**	**-1.4**
IRM	**Iron Mountain**	**2.98**	**116**	P		**Pn**	**21 29 41.2**	**-1.6**
	baz=3.0								
WAKR	**Walker**	**3.10**	**344**	*e*Pn		**Pb**	**21 29 47.5**	**-2.9**
BAR	**Barrett**	**3.17**	**153**	*e*Pn		**Pn**	**21 29 45.7**	**+0.3**
NEE2	**Needles Airpor**	**3.17**	**103**	P		**Pn**	**21 29 43.8**	**-1.6**
	baz=3.2								
SWSC	**Sam W. Stewart**	**3.35**	**140**	*e*Pn		**Pn**	**21 29 49.6**	**+1.9**
R11A	**Troy Canyon, C**	**3.60**	**38**	*e*Pn		**Pb**	**21 29 59.5**	**+0.4**
Y12C	**Blythe**	**3.64**	**118**	P		**Pn**	**21 29 50.3**	**-1.5**
	baz=3.6								
W13A	**Hualapai Mount**	**3.70**	**95**	P		**Pn**	**21 29 51.7**	**-1.1**
	baz=3.7								
GLA	**Glamis**	**3.84**	**129**	*e*Pn		**Pn**	**21 29 52.9**	**-1.6**
GLA	**Glamis**	**3.84**	**129**	P		**Pn**	**21 29 53.0**	**-1.5**
	baz=3.8								
SAC	**San Andreas**	**3.85**	**303**	*e*Pn		**Pn**	**21 29 54.6**	**0.0**
MCCM	**Marconi Confer**	**4.46**	**307**	*e*Pn		**Pn**	**21 30 03.5**	**+0.5**
KNB	**Kanab**	**4.73**	**70**	*e*Pn		**Pn**	**21 30 07.6**	**+0.6**
KNB				*e*Pg		**Pb**	**21 30 20.1**	**+1.8**
Z14A	**Wintersburg**	**4.98**	**114**	P		**Pn**	**21 30 09.0**	**-1.3**
	baz=5.0								
BMN	**Battle Mountai**	**4.99**	**10**	*e*Pn		**Pn**	**21 30 10.3**	**-0.1**
BMN				*e*Pg		**Pg**	**21 30 30.0**	**-0.3**
HOPS	**Hopland Field**	**5.10**	**314**	*e*Pn		**Pn**	**21 30 13.0**	**+1.1**
WUAZ	**Wupatki**	**5.71**	**88**	*e*Pn		**Pn**	**21 30 19.8**	**-0.7**
ELK	**Elko**	**5.77**	**24**	Pn		**Pn**	**21 30 23.6**	**+2.2**
	4.6nm,0.3s,baz=182,slow=11,SNR=55								
ELK				Lg		Lg	21 31 56.3		
	3.0nm,0.3s,baz=178,slow=3.5,SNR=7.1								
ELK	**Elko**	**5.77**	**24**	*e*Pn		**Pn**	**21 30 22.8**	**+1.5**
ELK				Lg		Lg	21 31 56.3		
MSU	**Marysvale**	**5.79**	**57**	*e*Pn		Pn	21 30 24.7	+3.1
MSU				*e*Pg		Pg	21 30 42.3	-3.4
WDC	**Whiskeytown Da**	**6.02**	**328**	*e*Pn		**Pn**	**21 30 25.5**	**+0.9**
DUG	**Dugway, Tooele**	**6.41**	**42**	*e*Pn		**Pn**	**21 30 32.4**	**+2.4**
DUG				*e*Pg		**Pg**	**21 30 56.8**	**-0.8**
BGU	**Big Grassy Mou**	**6.84**	**36**	*e*Pn		**Pn**	**21 30 38.3**	**+2.4**
BGU				*e*Pg		**Pg**	**21 31 05.1**	**-0.7**
DBD	**Des Bee Dove**	**6.92**	**55**	*e*Pg		Pg	21 31 01.6	-5.7
YBH	**Yreka Blue Hor**	**7.07**	**333**	Lg		Lg	21 32 28.5	
	0.2nm,0.3s,baz=129,slow=13,SNR=2.8								
YBH				LR		LR	21 33 04.0		
	comp=Z,42nm,21.2s,baz=234,slow=35								
TUC	**Tucson**	**7.08**	**115**	*e*Pn		**Pn**	**21 30 38.0**	**-1.1**
HVU	**Hansel Valley**	**7.63**	**33**	*e*Pn		**Pn**	**21 30 49.0**	**+2.2**
KBO	**Bosley Butte**	**8.09**	**327**	*e*Pn		**Pn**	**21 30 54.4**	**+1.4**
ANMO	**Albuquerque**	**9.77**	**90**	Pg		Pn	21 31 59.7	+43
	0.1nm,0.3s,baz=280,slow=11,SNR=3.5								
ANMO				Lg		Lg	21 34 00.7		
	0.1nm,0.3s,baz=203,slow=15,SNR=2.3								
PAT2	**Paterson 2**	**10.40**	**355**	*e*Pn		Pn	21 31 28.1	+3.4
SVTR	**Two Rivers Sch**	**12.23**	**349**	*e*Pn		**Pn**	**21 31 49.0**	**-0.6**
LTX	**Lajitas**	**13.87**	**112**	*e*Pn		**Pn**	**21 32 13.5**	**+1.4**
TXAR	**Lajitas Array**	**13.87**	**112**	Pn		**Pn**	**21 32 13.5**	**+1.4**
	0.2nm,0.3s,baz=291,slow=13,SNR=5.5								
YKA	**Yellowknife Ar**	**27.10**	**4**	P		**P**	**21 34 40.4**	**+2.1**
	0.2nm,0.4s,baz=179,slow=9.7,SNR=6.2								

*NEIC **10** 21:37:56.9, 17.04N×100.50W, h5km, MD4.0(MEX), After MEX.*

MEX 10 21:37:56.9±0.6, 17.04N×100.50W, h5km, MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.22**	**88**	*i* P	Pg	21 38 00.3	-0.9
CAIG				*i* S	Sg	21 38 03.9	-0.2
CAIG	**El Cayaco**	**0.22**	**88**	*i* P	Pg	21 38 00.3	-0.9
CAIG				*i* S	Sg	21 38 03.9	-0.2
ACX	**Acapulco**	**0.63**	**105**	*e*P	Pb	21 38 11.2	+0.8
ACX				*e*S	Sb	21 38 19.7	0.0
ACX	**Acapulco**	**0.63**	**105**	*e*P	Pb	21 38 11.2	+0.8
ACX				*e*S	Sb	21 38 19.7	0.0
ZIIG	**Zihuatanejo**	**1.08**	**301**	*e*P	Pg	21 38 14.4	-3.3
ZIIG				*i* S	Sg	21 38 28.6	-3.3
ZIIG	**Zihuatanejo**	**1.08**	**301**	*e*P	Pg	21 38 14.4	-3.3
ZIIG				*i* S	Sg	21 38 28.6	-3.3
MEIG	**Mezcala**	**1.21**	**43**	*i* P	Pg	21 38 17.2	-3.2
MEIG				*i* S	Sg	21 38 32.7	-3.5
MEIG	**Mezcala**	**1.21**	**43**	*i* P	Pg	21 38 17.2	-3.2
MEIG				*i* S	Sg	21 38 32.7	-3.5
ARIG	**Puente Sto Nin**	**1.24**	**6**	*e*P	Pg	21 38 17.3	-3.5
ARIG				*i* S	Sg	21 38 32.4	-4.6
PLIG	**Platanillo**	**1.64**	**35**	*e*P	Pn	21 38 23.2	-3.4
PLIG				*i* S	Sn	21 38 43.6	-4.7
PLIG	**Platanillo**	**1.64**	**35**	*e*P	Pn	21 38 23.2	-3.4
PLIG				*i* S	Sn	21 38 43.6	-4.7
TLIG	**Tlapa**	**1.91**	**74**	*e*P	Pn	21 38 27.0	-3.3
TLIG				*e*S	Sn	21 38 49.9	-5.1
YAIG	**Yautepec**	**2.27**	**37**	*e*P	Pn	21 38 31.3	-3.9
YAIG				*e*S	Sn	21 38 59.8	-3.9
YAIG	**Yautepec**	**2.27**	**37**	*e*P	Pn	21 38 31.3	-3.9
YAIG				*e*S	Sn	21 38 59.8	-3.9
PNIG	**Pinotepa**	**2.36**	**106**	*e*P	Pn	21 38 33.7	-2.7
PNIG				*i* S	Sn	21 39 01.5	-4.3
PNIG	**Pinotepa**	**2.36**	**106**	*e*P	Pn	21 38 33.7	-2.7
PNIG				*i* S	Sn	21 39 01.5	-4.3
MMIG	**Aquila**	**2.99**	**295**	*e*P	Pn	21 38 42.7	-2.3
MMIG				*i* S	Sn	21 39 18.4	-2.8
MMIG	**Aquila**	**2.99**	**295**	*e*P	Pn	21 38 42.7	-2.3
MMIG				*i* S	Sn	21 39 18.4	-2.8

*ISCJB **10** 21:38:13.1±2.3, 26.1S±0.4×70.3E±0.4, h10km, mb3.8/7, MS3.4/2, Error ellipse: s-maj=69.5km s-min=26.1km az=42.2*
*IDC **10** 21:38:13.2±2.6, 26.07S×70.20E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.7/31, mbtmp3.9/7, MS3.4/2, Ms1 3.5/2, ms1mx2.9/30, Error ellipse: s-maj=79.1km s-min=28.6km az=43.0*

ISC 10 21:38:14.9±2.7, 26.1S±0.4×70.2E±0.4, h10km, n11, σ0°74/7, mb3.8/7, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**38.58**	**114**	T	T	22 26 35.8	
	baz=272,slow=74,SNR=5.1						
H01W3	**Cape Leeuwin H**	**38.59**	**114**	T	T	22 26 32.3	
	baz=272,slow=74,SNR=3.7						
H01W1	**Cape Leeuwin H**	**38.60**	**114**	T	T	22 26 34.0	
	baz=272,slow=74,SNR=4.3						
MAW	**Mawson**	**41.77**	**184**	LR	LR	21 59 02.9	
	comp=Z,64nm,21.3s,baz=61,slow=30						
CMAR	**Chiang Mai Arr**	**52.35**	**35**	P	**P**	**21 47 27.7**	**+0.4**
	0.5nm,0.3s,baz=223,slow=6.0,SNR=8.5						
CMAR				LR	LR	22 07 19.0	
	comp=Z,33nm,18.5s,baz=171,slow=33						
ASAR	**Alice Springs**	**57.30**	**102**	P	**P**	**21 48 03.0**	**-0.3**
	0.8nm,0.9s,baz=244,slow=5.2,SNR=5.8						
WRA	**Warramunga Arr**	**58.82**	**98**	P	**P**	**21 48 14.4**	**+0.4**
	0.9nm,0.2s,baz=253,slow=7.8,SNR=17						
MKAR	**Makanchi Array**	**73.36**	**9**	P	**P**	**21 49 45.8**	**-0.9**
	0.8nm,0.9s,baz=224,slow=8.1,SNR=4.4						
BRTR	**Keskin Array B**	**73.84**	**331**	P	**P**	**21 49 50.4**	**+0.5**
	0.7nm,0.8s,baz=162,slow=5.2,SNR=5.0						
SONM	**Songino Array**	**80.46**	**24**	P	**P**	**21 50 27.1**	**+0.2**
	0.6nm,0.9s,baz=260,slow=2.7,SNR=3.6						
ZALV	**Zalesovo Beam**	**80.71**	**9**	P	**P**	**21 50 27.1**	**-0.7**
	0.5nm,0.4s,baz=160,slow=4.6,SNR=3.2						

MEX 10 21:39:44.6±0.5, 32.04N×116.35W, h14km±7km, MD3.5, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBX	**Cerro Bola**	**0.39**	**316**	*i* P	Pg	21 39 51.3	-1.3
CBX				*e*S	Sg	21 39 57.5	-0.5
MBIG	**Mexicali**	**1.04**	**69**	*i* P	Pb	21 40 01.1	-3.3
MBIG				*i* S	Sb	21 40 13.6	-4.4
SPIG	**San Pedro Mart**	**1.24**	**142**	*e*P	Pn	21 40 04.0	-4.1
SPIG				*i* S	Sb	21 40 19.1	-5.4

ROM 10 21:42:08.2±0.1, 42.42N×13.37E, h5km, Md1.1/3, Ml0.3/1, Error ellipse: s-maj=1.3km s-min=1.1km az=34.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T0104	**Madonna delle**	**0.07**	**203**	Pg	Pg	21 42 10.1	+0.3
T0104				Sg	Sg	21 42 11.2	+0.2
AQU	**L'Aquila**	**0.07**	**162**	Pg	Pg	21 42 10.1	+0.2
AQU				Sg	Sg	21 42 11.3	+0.2
	21nm,0.2s						
T0106	**Roio Piano**	**0.11**	**176**	Pg	Pg	21 42 11.0	+0.3
T0106				Sg	Sg	21 42 13.1	+0.7
	27nm,1.3s						

*ISCJB **10** 21:43:48.3±0.5, 38.59N±0.02×23.75E±0.02, h11km±3km, Error ellipse: s-maj=3.1km s-min=2.9km az=173.3*
*ATH **10** 21:43:48.2, 38.63N×23.76E, h26km, MD3.2/22, ML2.5*
*CSEM **10** 21:43:49.0±0.1, 38.60N×23.68E, h10km, ML2.6, Error ellipse: s-maj=3.3km s-min=3.0km az=121.0*
*THE **10** 21:43:49.1, 38.60N×23.73E, h7km±1km, ML2.6/8, Error ellipse: s-maj=1.1km s-min=0.6km az=328.0*

ISC 10 21:43:49.1±0.8, 38.62N±0.02×23.73E±0.02, h13km±6km, n106, σ0°78/156, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKA	**Markates**	**0.14**	**310**	P	**Pg**	**21 43 52.6**	**-0.1**
MRKA				S	**Sg**	**21 43 55.1**	**-0.1**
MRKA	**Markates**	**0.14**	**310**	*e*PB	**Pg**	**21 43 52.6**	**-0.1**
MRKA	**Markates**	**0.14**	**310**	P	**Pg**	**21 43 52.6**	**-0.1**
MRKA				S	**Sg**	**21 43 55.1**	**-0.1**
SMIA	**Simia**	**0.48**	**303**	P	**Pg**	**21 43 58.5**	**-0.1**
SMIA	**Simia**	**0.48**	**303**	*e*PB	**Pg**	**21 43 58.7**	**+0.1**
SMIA				*e*SB	**Sg**	**21 44 06.0**	**+0.9**
SMIA	**Simia**	**0.48**	**303**	P	**Pg**	**21 43 58.5**	**-0.1**
SMIA				*e*Sb	**Sg**	**21 44 06.0**	**+0.9**
AOS	**Alonnisos**	**0.57**	**12**	PG	**Pg**	**21 43 58.9**	**-1.3**
AOS	**Alonnisos**	**0.57**	**12**	P	**Pg**	**21 44 00.0**	**-0.2**
AOS				S	**Sb**	**21 44 08.8**	**-0.2**
AOS	**Alonnisos**	**0.57**	**12**	*i* Pg	**Pg**	**21 43 58.9**	**-1.3**
AOS	**Alonnisos**	**0.57**	**12**	P	**Pg**	**21 44 00.0**	**-0.2**
AOS				S	**Sb**	**21 44 08.8**	**-0.2**
LKR	**Lokris**	**0.57**	**274**	P	**Pg**	**21 43 59.3**	**-1.0**
LKR				S	**Sg**	**21 44 08.1**	**+0.3**
LKR	**Lokris**	**0.57**	**274**	*e*PN	**Pg**	**21 43 59.4**	**-0.9**
LKR				*e*SN	**Sg**	**21 44 08.5**	**+0.7**
LKR	**Lokris**	**0.57**	**274**	P	**Pg**	**21 43 59.3**	**-1.0**
LKR				S	**Sg**	**21 44 08.1**	**+0.3**
PTL	**Penteli**	**0.57**	**169**	P	**Pg**	**21 44 00.0**	**-0.3**
PTL	**Penteli**	**0.57**	**169**	*e*PN	**Pg**	**21 44 00.1**	**-0.3**
PTL				*e*SN	**Sg**	**21 44 07.9**	**-0.1**
PTL	**Penteli**	**0.57**	**169**	P	**Pg**	**21 44 00.0**	**-0.3**
PTL				*e*Sn	**Sg**	**21 44 07.9**	**-0.1**
SKIA	**Skiathos**	**0.59**	**340**	P	**Pg**	**21 44 00.8**	**+0.2**
SKIA				S	**Sb**	**21 44 10.1**	**+0.5**
SKIA	**Skiathos**	**0.59**	**340**	*e*PN	**Pg**	**21 44 00.9**	**+0.3**
SKIA				*e*SN	**Sb**	**21 44 10.0**	**+0.5**
SKIA	**Skiathos**	**0.59**	**340**	P	**Pg**	**21 44 00.8**	**+0.2**
SKIA				*e*Sn	**Sb**	**21 44 10.0**	**+0.5**
ATH	**Athens Observa**	**0.64**	**181**	P	**Pg**	**21 44 01.4**	**-0.2**
ATH				S	**Sg**	**21 44 09.5**	**-0.5**
ATH	**Athens Observa**	**0.64**	**181**	*e*PN	**Pg**	**21 44 01.4**	**-0.2**
ATH				*e*SN	**Sg**	**21 44 09.9**	**-0.1**
ATH	**Athens Observa**	**0.64**	**181**	P	**Pg**	**21 44 01.4**	**-0.2**
ATH				S	**Sg**	**21 44 09.5**	**-0.5**
ATHU	**Athens Univers**	**0.65**	**176**	P	**Pg**	**21 44 01.4**	**-0.3**
ATHU	**Athens Univers**	**0.65**	**176**	P	**Pg**	**21 44 01.4**	**-0.3**
NEO	**Neokhori**	**0.80**	**331**	P	**Pg**	**21 44 04.3**	**-0.2**
NEO				S	**Sg**	**21 44 15.4**	**+0.5**
NEO	**Neokhori**	**0.80**	**331**	*e*PN	**Pg**	**21 44 04.4**	**-0.1**
NEO				*e*SN	**Sg**	**21 44 15.3**	**+0.4**
NEO	**Neokhori**	**0.80**	**331**	P	**Pg**	**21 44 04.3**	**-0.2**
NEO				S	**Sg**	**21 44 15.4**	**+0.5**
LTK	**Loutraki**	**0.84**	**226**	P	**Pg**	**21 44 04.3**	**-1.1**
LTK				S	**Sb**	**21 44 17.9**	**+1.1**
LTK	**Loutraki**	**0.84**	**226**	*e*PN	**Pg**	**21 44 04.6**	**-0.8**
LTK				*e*SN	**Sb**	**21 44 17.9**	**+1.1**
LTK	**Loutraki**	**0.84**	**226**	P	**Pg**	**21 44 04.3**	**-1.1**
LTK				S	**Sb**	**21 44 17.9**	**+1.1**
AXAR	**Agios Charalam**	**0.85**	**281**	P	**Pg**	**21 44 04.8**	**-0.7**
AXAR				S	**Sb**	**21 44 17.8**	**+0.7**
AXAR	**Agios Charalam**	**0.85**	**281**	*e*PN	**Pg**	**21 44 05.4**	**-0.1**
AXAR				*e*SN	**Sb**	**21 44 17.9**	**+0.8**
AXAR	**Agios Charalam**	**0.85**	**281**	P	**Pg**	**21 44 04.8**	**-0.7**
AXAR	**Agios Charalam**	**0.85**	**281**	*e*Pn	**Pg**	**21 44 05.4**	**-0.1**
AXAR				*e*Sn	**Sb**	**21 44 17.9**	**+0.8**
XOR	**Xorichti**	**0.86**	**331**	P	**Pg**	**21 44 05.3**	**-0.4**
XOR				S	**Sb**	**21 44 18.3**	**+0.9**
XOR	**Xorichti**	**0.86**	**331**	P	**Pg**	**21 44 05.3**	**-0.4**
XOR				S	**Sb**	**21 44 18.3**	**+0.9**
DSF	**Desfina**	**0.96**	**258**	*e*PB	**Pg**	**21 44 06.0**	**-1.7**
DSF				*e*SN	**Sb**	**21 44 21.4**	**+1.0**
DSF	**Desfina**	**0.96**	**258**	*e*Pb	**Pg**	**21 44 06.0**	**-1.7**
DSF				*e*Sn	**Sb**	**21 44 21.4**	**+1.0**
AGG	**Agios Georgios**	**1.17**	**291**	*e*PG	**Pb**	**21 44 09.5**	**-1.6**
AGG	**Agios Georgios**	**1.17**	**291**	P	**Pb**	**21 44 10.8**	**-0.3**
AGG				S	**Sn**	**21 44 28.2**	**+1.2**
AGG	**Agios Georgios**	**1.17**	**291**	*e*Pg	**Pb**	**21 44 09.5**	**-1.6**
AGG	**Agios Georgios**	**1.17**	**291**	P	**Pb**	**21 44 10.8**	**-0.3**
AGG				S	**Sn**	**21 44 28.2**	**+1.2**
KALE	**Kalithea**	**1.27**	**260**	P	**Pn**	**21 44 11.6**	**-1.0**
KALE				S	**Sg**	**21 44 29.9**	**0.0**
KALE	**Kalithea**	**1.27**	**260**	*e*PB	**Pn**	**21 44 11.5**	**-1.0**
KALE				*e*SN	**Sn**	**21 44 30.2**	**+0.7**
KALE	**Kalithea**	**1.27**	**260**	P	**Pn**	**21 44 11.6**	**-1.0**
KALE				S	**Sg**	**21 44 29.9**	**0.0**
KALE				*e*Sn	**Sn**	**21 44 30.2**	**+0.7**
GUR	**Goura**	**1.28**	**239**	*e*PN	**Pn**	**21 44 12.2**	**-0.7**
GUR				*e*SN	**Sb**	**21 44 30.0**	**+0.4**
GUR	**Goura**	**1.28**	**239**	*e*Pn	**Pn**	**21 44 12.2**	**-0.7**
GUR				*e*Sn	**Sb**	**21 44 30.0**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.31**	**288**	P	**Pn**	**21 44 13.5**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.31**	**288**	*e*PN	**Pn**	**21 44 13.7**	**+0.6**
MAKR				*e*SN	**Sb**	**21 44 30.4**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.31**	**288**	*e*Pn	**Pn**	**21 44 13.7**	**+0.6**
MAKR				*e*Sn	**Sb**	**21 44 30.4**	**+0.1**
PAIG	**Paliouri**	**1.31**	**358**	P	**Pn**	**21 44 12.5**	**-0.6**
PAIG	**Paliouri**	**1.31**	**358**	P	**Pn**	**21 44 12.5**	**-0.6**
KLV	**Kalavryta, Ach**	**1.36**	**246**	P	**Pn**	**21 44 14.1**	**+0.2**
KLV	**Kalavryta, Ach**	**1.36**	**246**	*e*PN	**Pn**	**21 44 14.2**	**+0.3**
KLV	**Kalavryta, Ach**	**1.36**	**246**	P	**Pn**	**21 44 14.1**	**+0.2**
EVR	**Evrytania**	**1.53**	**282**	P	**Pn**	**21 44 16.7**	**+0.5**
EVR				S	**Sb**	**21 44 37.7**	**+1.0**
EVR	**Evrytania**	**1.53**	**282**	*e*PN	**Pn**	**21 44 16.6**	**+0.4**
EVR				*e*SN	**Sn**	**21 44 35.3**	**-0.8**
EVR	**Evrytania**	**1.53**	**282**	*e*Pn	**Pn**	**21 44 16.6**	**+0.4**
EVR				*e*Sn	**Sn**	**21 44 35.3**	**-0.8**
EVR				S	**Sb**	**21 44 37.7**	**+1.0**
THL	**Klokotos Trika**	**1.64**	**306**	*e*PN	**Pn**	**21 44 17.6**	**0.0**
THL	**Klokotos Trika**	**1.64**	**306**	*e*Pn	**Pn**	**21 44 17.6**	**0.0**
VLX	**Vlachokerasia**	**1.64**	**221**	*e*PN	**Pn**	**21 44 18.2**	**+0.5**
VLX				*e*SN	**Sn**	**21 44 39.3**	**+0.6**
VLX	**Vlachokerasia**	**1.64**	**221**	*e*Pn	**Pn**	**21 44 18.2**	**+0.5**
VLX				*e*Sn	**Sn**	**21 44 39.3**	**+0.6**
LIA	**Limnos Island**	**1.71**	**41**	P	**Pn**	**21 44 18.1**	**-0.6**
LIA	**Limnos Island**	**1.71**	**41**	*e*PN	**Pn**	**21 44 18.0**	**-0.6**
LIA				*e*SN	**Sn**	**21 44 39.4**	**-0.9**
LIA	**Limnos Island**	**1.71**	**41**	*e*Pn	**Pn**	**21 44 18.0**	**-0.6**
LIA				*e*Sn	**Sn**	**21 44 39.4**	**-0.9**
DRO	**Drossia**	**1.72**	**248**	*e*PN	**Pn**	**21 44 19.4**	**+0.6**
DRO	**Drossia**	**1.72**	**248**	*e*Pn	**Pn**	**21 44 19.4**	**+0.6**
OUR	**Ouranopolis**	**1.73**	**6**	*e*PN	**Pn**	**21 44 18.6**	**-0.2**
OUR	**Ouranopolis**	**1.73**	**6**	P	**Pn**	**21 44 18.5**	**-0.4**
OUR	**Ouranopolis**	**1.73**	**6**	*e*Pn	**Pn**	**21 44 18.7**	**-0.2**
SIGR	**SIGRI**	**1.76**	**70**	*e*PN	**Pb**	**21 44 21.3**	**0.0**
SIGR	**SIGRI**	**1.76**	**70**	P	**Pn**	**21 44 19.0**	**-0.3**
SIGR	**SIGRI**	**1.76**	**70**	P	**Pn**	**21 44 19.0**	**-0.3**
SIGR	**SIGRI**	**1.76**	**70**	*e*Pn	**Pb**	**21 44 21.3**	**0.0**
CHOS	**Chios island**	**1.84**	**96**	*e*PN	**Pb**	**21 44 22.8**	**+0.1**
CHOS	**Chios island**	**1.84**	**96**	P	**Pn**	**21 44 20.8**	**+0.3**
CHOS	**Chios island**	**1.84**	**96**	P	**Pn**	**21 44 20.8**	**+0.3**
CHOS	**Chios island**	**1.84**	**96**	*e*Pn	**Pb**	**21 44 22.8**	**+0.1**
AMT	**Artemida-Makis**	**1.93**	**236**	*e*PN	**Pn**	**21 44 22.5**	**+0.9**
AMT	**Artemida-Makis**	**1.93**	**236**	*e*Pn	**Pn**	**21 44 22.5**	**+0.9**
VLI	**Veliai**	**1.99**	**199**	*e*PB	**Pn**	**21 44 22.8**	**+0.3**
VLI	**Veliai**	**1.99**	**199**	*e*Pb	**Pn**	**21 44 22.8**	**+0.3**
ITM	**Ithomi**	**2.02**	**225**	*e*PB	**Pn**	**21 44 23.4**	**+0.5**
ITM	**Ithomi**	**2.02**	**225**	*e*Pb	**Pn**	**21 44 23.4**	**+0.5**
HORT	**Hortiatis**	**2.04**	**346**	*e*PN	**Pn**	**21 44 23.1**	**-0.1**
HORT	**Hortiatis**	**2.04**	**346**	*e*Pn	**Pn**	**21 44 23.2**	**-0.1**
APE	**Apeiranthos**	**2.10**	**137**	*e*PN	**Pb**	**21 44 26.6**	**-0.5**
APE	**Apeiranthos**	**2.10**	**137**	*e*PB	**Pn**	**21 44 24.0**	**-0.1**
APE				*e*SN	**Sn**	**21 44 49.9**	**-0.2**
APE	**Apeiranthos**	**2.10**	**137**	*e*Pb	**Pn**	**21 44 24.0**	**-0.1**
APE	**Apeiranthos**	**2.10**	**137**	*e*Pn	**Pb**	**21 44 26.6**	**-0.5**
APE				*e*Sn	**Sn**	**21 44 49.9**	**-0.2**
GADA	**Gvkgeada**	**2.30**	**46**	*e*PN	**Pb**	**21 44 29.0**	**-1.5**
GADA	**Gvkgeada**	**2.30**	**46**	*e*Pn	**Pb**	**21 44 29.0**	**-1.5**
SMTH	**Samothraki Isl**	**2.32**	**36**	*e*PN	**Pn**	**21 44 26.5**	**-0.5**
SMTH	**Samothraki Isl**	**2.32**	**36**	*e*Pn	**Pn**	**21 44 26.5**	**-0.5**
EZN	**Ezine**	**2.35**	**58**	*e*PN	**Pn**	**21 44 29.6**	**+2.1**
EZN	**Ezine**	**2.35**	**58**	*e*Pn	**Pn**	**21 44 29.6**	**+2.1**
KYTH	**Kithira**	**2.39**	**193**	P	**Pn**	**21 44 28.1**	**0.0**
KYTH	**Kithira**	**2.39**	**193**	P	**Pn**	**21 44 28.1**	**0.0**
GRG	**Griva**	**2.55**	**337**	*e*PN	**Pn**	**21 44 30.0**	**-0.3**
GRG	**Griva**	**2.55**	**337**	*e*Pn	**Pn**	**21 44 30.0**	**-0.3**
KNT	**Kendrikon**	**2.62**	**346**	*e*PN	**Pn**	**21 44 30.9**	**-0.3**
KNT	**Kendrikon**	**2.62**	**346**	*e*Pn	**Pn**	**21 44 30.9**	**-0.3**
GELI	**Tayfur-

comp=E,60nm,0.3s
KUR *i* S **Sn** **21 54 05.4 +1.8**
KUR A A 21 54 22.0
comp=E,150nm,0.6s
KUR A A 21 54 22.0
comp=E,80nm,0.6s
KUR A A 21 54 22.3
comp=E,100nm,0.9s
SHO Shikotan 5.70 242 *e*P **Pn** **21 53 31.2 +0.2**
SHO AMB AMB 21 53 46.4
comp=E,100nm,1.0s
SHO *e*S **Sn** **21 54 34.0 -1.5**
SHO A A 21 54 58.9
comp=E,190nm,1.0s
NEM2 Nemuro 2 6.64 242 P **Pn** **21 53 41.8 -2.1**
NEM2 *e*S **Sn** **21 54 54.2 -4.4**
JRA Rausu 6.73 248 P **Pn** **21 53 46.4 +1.2**
PETK Petropavlovsk- 6.83 20 Pn **Pn** **21 53 46.4 -0.1**
comp=E,1.0nm,0.3s,baz=180,slow=16,SNR=7.9
PETK Sn **Sn** **21 55 02.4 -0.8**
comp=E,0.4nm,0.3s,baz=235,slow=12,SNR=2.9
JNK Nakash 7.16 247 P **Pn** **21 53 51.3 +0.2**
JAK Akkeshi 7.48 243 P **Pn** **21 53 53.5 -2.0**
JAK *e*S Sn 21 55 12.3 -7.0
JTKR Abashiri--Toko 7.50 252 P **Pn** **21 53 56.8 +1.1**
YSS Yuzh-Sakhalins 7.57 275 *e*P **Pn** **21 53 59.7 +3.1**
JMP Maruseppu 7.84 253 P **Pn** **21 54 01.7 +1.2**
JAR Ashorobuto 7.90 248 P **Pn** **21 54 01.4 +0.1**
JAR *e*S **Sn** **21 55 28.8 -0.9**
JOB Onbets 8.06 245 P **Pn** **21 54 01.7 -1.7**
JKK2 Kamakawa 2 8.30 254 P **Pn** **21 54 08.4 +1.6**
JKA Kamikawa-asahi 8.30 255 *e*P **Pn** **21 54 08.9 +2.1**
ASAJ Asahikawa 8.31 255 P **Pn** **21 54 08.9 +2.1**
ASAJ Asahikawa 8.31 255 Pn **Pn** **21 54 08.9 +2.1**
comp=E,1.4nm,0.3s,baz=135,slow=33,SNR=8.6
ASAJ Asahikawa 8.31 255 PN **Pn** **21 54 08.9 +2.1**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
TYV Tymovskoe 8.41 303 *e*P Pn 21 54 11.5 +3.3
TYV AMB AMB 21 54 13.8
comp=Z,10.0nm,0.8s
JCH Churui 8.51 245 *e*S **Sn** **21 55 39.0 -5.7**
ERM Erimo 8.97 242 *e*PN **Pn** **21 54 16.1 +0.2**
ERM Erimo 8.97 242 *e*P **Pn** **21 54 16.1 +0.2**
JNBK Urakawa-nobuka 9.07 244 *e*S Sn 21 55 52.0 -6.4
JKB Kayabe 10.36 246 *e*S Sn 21 56 23.0 -7.0
NKL Nikolayevsk 10.58 312 *e*P **Pn** **21 54 39.0 +1.2**
EKMR Ekimchan 14.80 303 *e*P **P** **21 55 41.4 +0.2**
MJA0 Matsu Arr-Jizo 15.44 234 *e*P **P** **21 55 50.1 +1.6**
MJAR Matsushiro Arr 15.47 234 Pn **Pn** **21 55 43.6 -0.8**
comp=Z,0.5nm,0.3s,baz=34,slow=8.8,SNR=3.9
MJAR Matsushiro Arr 15.47 234 P **Pn** **21 55 43.6 -0.8**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MAJO Matsushiro 15.47 234 *e*P **P** **21 55 48.9 +0.2**
USRK Ussuriysk Ar. 15.50 268 Pn **Pn** **21 55 45.2 +0.4**
comp=Z,0.2nm,0.3s,baz=69,slow=11,SNR=5.1
KSRS Korea Array 21.25 253 P **P** **21 56 53.5 +1.5**
comp=Z,0.9nm,0.5s,baz=57,slow=8.8,SNR=5.2
KSRS Korea Array 21.25 253 P **P** **21 56 53.6 +1.5**
KSRS pmax pmax
comp=Z,1.0nm,0.5s
H11N2 WAKE ISLAND Hy 29.03 154 T T 22 29 50.8
baz=340,slow=75,SNR=28
H11N1 WAKE ISLAND Hy 29.05 154 T T 22 29 47.1
baz=340,slow=75,SNR=16
H11N3 WAKE ISLAND Hy 29.05 154 T T 22 29 51.3
baz=340,slow=75,SNR=10
H11S1 WAKE ISLAND Hy 30.13 155 T T 22 30 57.8
baz=341,slow=76,SNR=46
H11S3 WAKE ISLAND Hy 30.14 155 T T 22 30 59.4
baz=341,slow=76,SNR=43
H11S2 WAKE ISLAND Hy 30.15 155 T T 22 30 59.2
baz=341,slow=76,SNR=46
ULN Ulaanbaatar 31.33 289 *e*P P 21 58 20.3 -6.0
ULN pmax pmax
comp=Z,2.0nm,1.7s
TLY Talaya 32.58 297 *e*P **P** **21 58 34.7 -2.4**
TLY pmax pmax
comp=Z,3.0nm,0.8s
TLY Talaya 32.58 297 *e*P **P** **21 58 34.7 -2.4**
ZALV Zalesovo Beam 42.97 306 *e*P **P** **22 00 02.6 -2.0**
comp=Z,0.6nm,0.5s,baz=60,slow=8.8,SNR=3.6
ZALV Zalesovo Beam 42.97 306 *e*P **P** **22 00 02.9 -1.8**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 47.34 298 P **P** **22 00 38.5 -0.9**
comp=Z,0.5nm,0.4s,baz=75,slow=12,SNR=13
MKAR Makanchi Array 47.34 298 P **P** **22 00 38.6 -0.9**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
KURK Kurchatov 47.74 304 *e*P **P** **22 00 41.1 -1.3**
YKA Yellowknife Ar 50.63 37 P **P** **22 01 05.0 +0.7**
comp=Z,0.3nm,0.7s,baz=295,slow=7.1,SNR=3.6
CMAR Chiang Mai Arr 52.83 257 P **P** **22 01 21.7 +0.3**
comp=Z,0.4nm,0.6s,baz=40,slow=7.7,SNR=4.6
TAPN Taplejung 54.56 274 *e*P **P** **22 01 35.9 +1.5**
ODAN Odare 55.09 273 *e*P **P** **22 01 39.2 +1.1**
ARU Arti 55.31 318*c* *i*P **P** **22 01 38.7 -0.3**
ARU 22 03 39.1
ARU pmax pmax
comp=Z,1.0nm,0.3s
ARU Arti 55.31 318 *i*P **P** **22 01 38.7 -0.3**
JIRN Jiri 55.41 275 *e*P **P** **22 01 41.6 +1.0**
comp=Z,8.1nm,0.5s
GUN Gumba 55.46 275 *e*P **P** **22 01 41.7 +0.8**
RAMN Ramite 55.58 274 *e*P **P** **22 01 42.4 +0.8**
comp=Z,6.3nm,0.3s
PKI Pulchoki 56.00 275 *e*P **P** **22 01 45.4 +0.7**
PKIN Phulchoki 56.00 275 *e*P **P** **22 01 45.8 +1.1**
DMN Daman 56.18 276 *e*P **P** **22 01 47.2 +1.2**
GKN Gorkha 56.25 276 *e*P **P** **22 01 47.2 +0.8**
KOLN Koldanda 57.11 277 *e*P **P** **22 01 53.4 +0.9**
ARCES ARCESS Array B 57.98 341 P **P** **22 01 57.1 -0.7**
comp=Z,1.8nm,0.9s,baz=23,slow=7.3,SNR=7.4
ARCES ARCESS Array B 57.98 341 *e*P **P** **22 01 57.2 -0.6**
ARCES pmax pmax
comp=Z,2.0nm,0.9s
ARCES ARCESS Array B 57.98 341 *e*P **P** **22 01 57.2 -0.6**
FINES FINESS Array B 64.22 335 P **P** **22 02 39.7 -0.4**
comp=Z,2.0nm,0.6s,baz=39,slow=7.1,SNR=12
FINES FINESS Array B 64.22 335 *e*P **P** **22 02 39.8 -0.3**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 64.22 335 *e*P **P** **22 02 39.8 -0.3**
PDAR Pinedale Array 64.36 54 P **P** **22 02 40.8 -0.9**
comp=Z,0.2nm,0.4s,baz=354,slow=0.9,SNR=3.0
PDAR pP **pP** **22 02 53.1 +2.9**
comp=Z,0.6nm,0.8s,baz=343,slow=1.5,SNR=4.0
GEYT Alibeck 66.99 301 P **P** **22 02 58.5 0.0**
comp=Z,0.7nm,0.4s,baz=359,slow=10,SNR=3.2
NB2 NORSAR Subarra 68.36 341 P **P** **22 03 06.4 -0.3**
comp=Z,0.7nm,0.6s,baz=26,slow=6.5
NOA NORSAR Array B 68.36 341 P **P** **22 03 06.4 -0.3**
comp=Z,1.3nm,0.7s,baz=28,slow=6.5,SNR=8.0
NOA NORSAR Array B 68.36 341 *e*P **P** **22 03 06.8 +0.1**
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 68.36 341 *e*P **P** **22 03 06.8 +0.1**
WRA Warramunga Arr 68.69 200 P **P** **22 03 08.4 -0.8**
comp=Z,0.6nm,0.9s,baz=19,slow=6.8,SNR=4.8
WRA Warramunga Arr 68.69 200 P **P** **22 03 08.4 -0.8**
WRA pmax pmax
comp=Z,1.0nm,0.9s
KIV Kislovodsk 71.11 315 *e*P **P** **22 03 22.4 -1.7**
KIV pmax pmax
comp=Z,3.0nm,1.0s
KIV MLR MLR
comp=Z,31nm,17.0s
KIV Kislovodsk 71.11 315 *e*P **P** **22 03 22.4 -1.7**
AKASG Malin Array Be 71.78 327 P **P** **22 03 27.0 -0.9**
comp=Z,0.5nm,0.4s,baz=33,slow=5.9,SNR=6.8
AKASG Malin Array Be 71.78 327 *e*P **P** **22 03 26.5 -1.3**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
KIEV Kiev 71.80 327 *e*P **P** **22 03 26.4 -1.5**
ASAR Alice Springs 72.38 199 P **P** **22 03 31.7 +0.1**
comp=Z,0.8nm,0.7s,baz=9.1,slow=5.8,SNR=7.5
ASAR pP **pP** **22 03 43.1 +2.9**
comp=Z,0.4nm,0.6s,baz=5.8,slow=5.0,SNR=2.5
ASAR Alice Springs 72.38 199 P **P** **22 03 31.7 +0.1**
ASAR *PP **pP** **22 03 43.1 +2.9**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 77.08 61 P **P** **22 03 59.3 +0.2**
comp=Z,0.5nm,0.7s,baz=282,slow=5.6,SNR=5.5
TXAR pP **PcP** **22 04 10.4 +0.4**
comp=Z,0.6nm,0.5s,baz=309,slow=4.8,SNR=5.4
TXAR Lajitas Array 77.08 61 P **P** **22 03 59.3 +0.2**
TXAR *PP **PcP** **22 04 10.4 +0.4**
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 78.64 334 P **P** **22 04 08.2 +0.7**
comp=Z,0.3nm,0.4s,baz=33,slow=4.6,SNR=5.0
GERES GERESS Array B 78.64 334 *e*P **P** **22 04 08.5 +1.0**
GERES GERESS Array B 78.64 334 *e*P **P** **22 04 08.5 +1.0**
BRTR Keskin Array B 78.69 317 P **P** **22 04 07.1 -0.9**
comp=Z,0.6nm,0.6s,baz=48,slow=1.8,SNR=4.1
BRTR Keskin Array B 78.69 317 *e*P **P** **22 04 10.2 +2.2**
BRTR pmax pmax
comp=Z,1.0nm,0.6s

*ISCJB **10** 22:10:00.8±0.7, 46.94N±0.07×153.7E±0.1, h27km, mb3.7/13, MS3.0/1, Error ellipse: s-maj=13.6km s-min=5.2km az=137.0*
*SKHL **10** 22:10:03.0±0.8, 46.91N×153.81E, h58km±5km, mb4.6/3*
*IDC **10** 22:10:05.6±3.2, 46.77N×153.73E, h57km±28km, mb3.4/11, mb1 3.6/14, mb1mx3.4/42, mbtmp3.7/14, ML3.1/3, MS3.1/1, Ms1 3.1/1, ms1mx2.3/24, Error ellipse: s-maj=25.1km s-min=17.0km az=121.0*
*MOS **10** 22:10:05.2±1.6, 46.98N×153.62E, h65km, mb4.2/6, Error ellipse: s-maj=16.5km s-min=10.0km az=60.7*
ISC 10 22:10:02.5±0.8, 46.87N±0.09×153.80E±0.09, h27km, n53, σ1s31/52, mb3.7/13, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.11**	**21**	*e*P	**Pn**	**22 11 03.0**	**-0.4**
SKR				AMB	AMB	22 11 08.0	
	100nm,0.9s						
SKR				*e*S	**Sn**	**22 11 47.5**	**-3.0**
SKR				A	A	22 11 52.2	
	100nm,0.2s						
KUR	**Kuril'sk**	**4.45**	**251**	↑*i*PN	**Pn**	**22 11 08.9**	**+0.9**
KUR				*i* S	**Sn**	**22 11 58.4**	**-0.5**
KUR				pmax	pmax		
	comp=E,22nm,0.6s						
KUR				pmax	pmax		
	comp=Z,31nm,0.6s						
KUR				pmax	pmax		
	comp=N,14nm,0.3s						
KUR				smax	smax		
	comp=N,39nm,0.6s						
KUR				smax	smax		
	comp=E,33nm,0.6s						
KUR	**Kuril'sk**	**4.45**	**251**	*i* P	**Pn**	**22 11 09.0**	**+0.9**
KUR				AMB	AMB	22 11 16.6	
	comp=E,10.0nm,0.5s						
KUR				AMB	AMB	22 11 16.6	
	comp=E,20nm,0.5s						
KUR				AMB	AMB	22 11 16.6	
	comp=E,30nm,0.5s						
KUR				*i* S	**Sn**	**22 11 58.4**	**-0.5**
KUR				A	A	22 12 17.9	
	comp=E,140nm,0.5s						
SHO	**Shikotan**	**5.76**	**241**	*e*P	**Pn**	**22 11 27.0**	**+0.9**
SHO				AMB	AMB	22 11 34.0	
	comp=E,110nm,0.8s						
SHO				*e*S	**Sn**	**22 12 30.7**	**-0.5**
SHO				A	A	22 12 45.6	
	comp=E,170nm,0.8s						
PETK	**Petropavlovsk-**	**6.73**	**20**	P	**Pn**	**22 11 42.6**	**+3.2**
	comp=E,0.5nm,0.3s,baz=179,slow=13,SNR=4.8						
PETK				S	Sn	22 13 04.4	+9.3
	baz=153,slow=19,SNR=2.3						
PETK	**Petropavlovsk-**	**6.73**	**20**	PN	**Pn**	**22 11 42.6**	**+3.2**
PETK				S	Sn	22 13 04.4	+9.3
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YSS	**Yuzh-Sakhalins**	**7.57**	**275**	*e*P	**Pn**	**22 11 51.8**	**+0.9**
JKA	**Kamikawa-asahi**	**8.34**	**255**	*e*P	**Pn**	**22 12 03.6**	**+2.1**
ASAJ	**Asahikawa**	**8.34**	**255**	P	**Pn**	**22 12 03.6**	**+2.0**
	comp=Z,0.9nm,0.3s,baz=67,slow=21,SNR=4.5						
ASAJ	**Asahikawa**	**8.34**	**255**	PN	**Pn**	**22 12 03.6**	**+2.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TYV	**Tymovskoe**	**8.36**	**303**	*e*P	**Pn**	**22 12 02.1**	**+0.3**
MYR	**Moyori**	**8.79**	**242**	*e*P	**Pn**	**22 12 05.4**	**-2.3**
ERM	**Erimo**	**9.03**	**241**	*e*PN	**Pn**	**22 12 12.7**	**+1.7**
ERM	**Erimo**	**9.03**	**241**	*e*P	**Pn**	**22 12 12.7**	**+1.7**
NKL	**Nikolayevsk**	**10.52**	**311**	*e*P	**Pn**	**22 12 31.4**	**+0.1**
MJA0	**Matsu Arr-Jizo**	**15.51**	**234**	*e*P	**P**	**22 13 43.7**	**+0.2**
USRK	**Ussuriysk Ar.**	**15.51**	**268**	P	**Pn**	**22 13 40.3**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=76,slow=14,SNR=3.8						
MAJO	**Matsushiro**	**15.53**	**234**	*e*P	**P**	**22 13 43.5**	**-0.2**
MJAR	**Matsushiro Arr**	**15.53**	**234**	P	**P**	**22 13 43.2**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=37,slow=8.7,SNR=7.1						
KSRS	**Korea Array**	**21.29**	**253**	P	**P**	**22 14 47.1**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=55,slow=10.0,SNR=3.4						
TIXI	**Tiksi**	**27.48**	**343**	*e*P	**P**	**22 15 46.1**	**+0.1**
TIXI	**Tiksi**	**27.48**	**343**	*e*P	**P**	**22 15 46.1**	**+0.1**
H11N2	**WAKE ISLAND Hy**	**29.12**	**154**	T	T	22 47 37.3	
	baz=340,slow=76,SNR=6.8						
H11N1	**WAKE ISLAND Hy**	**29.13**	**154**	T	T	22 47 44.4	
	baz=340,slow=76,SNR=7.4						
H11N3	**WAKE ISLAND Hy**	**29.13**	**154**	T	T	22 47 48.2	
	baz=340,slow=76,SNR=4.9						
H11S1	**WAKE ISLAND Hy**	**30.21**	**155**	T	T	22 48 51.7	
	baz=341,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	**30.22**	**155**	T	T	22 48 51.4	
	baz=341,slow=76,SNR=31						
H11S2	**WAKE ISLAND Hy**	**30.23**	**155**	T	T	22 48 46.1	
	baz=341,slow=76,SNR=23						
ZALV	**Zalesovo Beam**	**42.92**	**306**	LR	LR	22 36 43.8	
	comp=Z,20nm,18.6s,baz=70,slow=37						
MKAR	**Makanchi Array**	**47.30**	**298**	P	**P**	**22 18 32.4**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=73,slow=12,SNR=7.2						
MKAR	**Makanchi Array**	**47.30**	**298**	*i* P	**P**	**22 18 32.5**	**-1.0**
MKAR	**Makanchi Array**	**47.30**	**298**	*e*P	**P**	**22 18 32.5**	**-1.0**
KURK	**Kurchatov**	**47.69**	**304**	*e*P	**P**	**22 18 34.9**	**-1.4**
KURK				pmax	pmax		
	comp=Z,1.0nm,1.3s						
KURK	**Kurchatov**	**47.69**	**304**	*e*P	**P**	**22 18 34.9**	**-1.4**
YKA	**Yellowknife Ar**	**50.54**	**37**	P	**P**	**22 18 59.3**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=289,slow=6.1,SNR=4.0						
ARU	**Arti**	**55.24**	**318***c*	*i*P	**P**	**22 19 31.5**	**-1.2**
ARU						22 21 32.5	
ARU				S	S	22 27 06.0	-8.3
ARU				SS	SS	22 30 48.7	-9.2
ARU				pmax	pmax		
	comp=Z,11nm,2.5s						
ARU	**Arti**	**55.24**	**318**	*i* P	**P**	**22 19 31.5**	**-1.2**
ARCES	**ARCESS Array B**	**57.89**	**341**	P	**P**	**22 19 51.4**	**0.0**
	comp=Z,1.7nm,1.0s,baz=21,slow=7.7,SNR=3.4						
ARCES	**ARCESS Array B**	**57.89**	**341**	P	**P**	**22 19 51.4**	**0.0**
ARCES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
FINES	**FINESS Array B**	**64.13**	**335**	P	**P**	**22 20 33.3**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=46,slow=8.2,SNR=9.9						
FINES	**FINESS Array B**	**64.13**	**335**	*e*P	**P**	**22 20 33.7**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**64.13**	**335**	*e*P	**P**	**22 20 33.7**	**-0.1**
NOA	**NORSAR Array B**	**68.26**	**341**	P	**P**	**22 21 00.6**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=26,slow=6.4,SNR=3.6						
NOA	**NORSAR Array B**	**68.26**	**341**	P	**P**	**22 21 00.6**	**+0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**68.79**	**200**	P	**P**	**22 21 02.4**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=14,slow=6.7,SNR=3.0						
AKASG	**Malin Array Be**	**71.71**	**327**	P	**P**	**22 21 20.9**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=35,slow=6.0,SNR=4.8						
AKASG	**Malin Array Be**	**71.71**	**327**	*e*P	**P**	**22 21 21.7**	**+0.1**
KIEV	**Kiev**	**71.72**	**327**	*e*P	**P**	**22 21 20.1**	**-1.6**
KIEV	**Kiev**	**71.72**	**327**	*e*P	**P**	**22 21 20.1**	**-1.6**
ASAR	**Alice Springs**	**72.48**	**199**	P	**P**	**22 21 25.6**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=14,slow=5.6,SNR=4.8						
TXAR	**Lajitas Array**	**77.02**	**61**	P	**P**	**22 21 53.0**	**0.0**
	comp=Z,0.3nm,0.7s,baz=304,slow=4.5,SNR=4.1						
TXAR				pP	**PcP**	**22 22 04.0**	**0.0**
	comp=Z,0.5nm,0.6s,baz=300,slow=4.3,SNR=5.8						
TXAR	**Lajitas Array**	**77.02**	**61**	P	**P**	**22 21 53.0**	**0.0**
TXAR				*PP	**PcP**	**22 22 04.0**	**0.0**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**78.62**	**317**	P	**P**	**22 22 03.4**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=354,slow=1.4,SNR=3.0						

*TIF **10** 22:15:25.0, 41.54N×42.34E, h18km*
*CSEM **10** 22:15:24.5±0.3, 41.53N×42.39E, h10km, MD2.5, Error ellipse: s-maj=4.1km s-min=3.0km az=72.0*
*DDA **10** 22:15:26.8, 41.57N×41.69E, h7km, MD2.5*
ISC 10 22:15:24.7±4.0, 41.5N±0.1×42.3E±0.2, h29km±12km, n9, σ0s22/18, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARTV	**Artvin**	**0.46**	**222**	*i* P	**Pb**	**22 15 34.4**	**-0.2**
ARTV				*i* S	**Sb**	**22 15 41.1**	**-0.2**
ARTV	**Artvin**	**0.46**	**222**	*i* P	**Pb**	**22 15 34.4**	**-0.2**
ARTV				*i* S	**Sb**	**22 15 41.1**	**-0.2**
BCA	**Borcka**	**0.54**	**261**	*e*PG	**Pb**	**22 15 35.9**	**+0.2**
BCA				*e*SG	**Sb**	**22 15 43.3**	**0.0**
BCA	**Borcka**	**0.54**	**261**	*e*Pg	**Pb**	**22 15 35.9**	**+0.2**
BCA				*e*Sg	**Sb**	**22 15 43.3**	**0.0**
DAGI	**Agillar**	**0.55**	**215**	*i* P	**Pb**	**22 15 36.3**	**+0.4**
DAGI				*i* S	**Sb**	**22 15 44.0**	**+0.4**
DBAD	**Bademkaya**	**0.70**	**224**	*i* P	**Pn**	**22 15 38.7**	**-0.1**
DBAD				*i* S	**Sb**	**22 15 48.0**	**+0.2**
DBAD	**Bademkaya**	**0.70**	**224**	*i* P	**Pn**	**22 15 38.7**	**-0.1**
DBAD				*i* S	**Sb**	**22 15 48.0**	**+0.2**
DDEM	**Demirkent**	**0.78**	**215**	*i* P	**Pb**	**22 15 39.9**	**+0.2**
DDEM				*i* S	**Sn**	**22 15 50.4**	**-0.1**
DDEM	**Demirkent**	**0.78**	**215**	*i* P	**Pb**	**22 15 39.9**	**+0.2**
DDEM				*i* S	**Sn**	**22 15 50.4**	**-0.1**

IDC 10 22:21:01.4±6.1, 18.43S×177.75W, h551km±72km, mb3.2/6, mb1 3.4/6, mb1mx3.1/30, mbtmp4.1/6, Error ellipse: s-maj=40.6km s-min=25.4km az=178.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**20.26**	**192**	P	P	22 24 59.0	-0.7
	3.4nm,0.6s,baz=348,slow=3.3,SNR=4.8						
STKA	**Stephens Creek**	**38.94**	**242**	P	P	22 27 41.4	+0.9
	3.4nm,0.8s,baz=63,slow=10,SNR=3.8						
WRA	**Warramunga Arr**	**45.16**	**260**	P	P	22 28 29.2	-0.4
	1.7nm,0.4s,baz=98,slow=7.1,SNR=66						
WRA				PcP	PcP	22 29 57.9	-0.4
	0.1nm,0.3s,baz=93,slow=3.6,SNR=2.8						
ASAR	**Alice Springs**	**45.26**	**255**	P	P	22 28 30.5	+0.1
	4.4nm,0.6s,baz=86,slow=8.7,SNR=38						
ASAR				PcP	PcP	22 29 57.9	-0.6
	0.4nm,0.5s,baz=90,slow=4.6,SNR=3.6						
TXAR	**Lajitas Array**	**85.74**	**57**	P	P	22 32 44.5	+1.6
	0.7nm,0.8s,baz=230,slow=5.9,SNR=5.8						
ILAR	**Eielson Array**	**86.25**	**13**	P	P	22 32 43.0	-1.4
	0.2nm,0.4s,baz=218,slow=4.6,SNR=4.0						

GUC 10 22:23:45.3±0.6, 35.95S×73.17W, h48km±292km, ML4.1, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.90**	**177**	*e*P	Pn	22 24 02.2	+0.7
CCSP				*e*S	Sn	22 24 14.3	+0.8
LNCH	**Linares**	**1.28**	**86**	*e*P	Pn	22 24 07.3	+0.6
LNCH				*e*S	Sn	22 24 23.7	+0.9
TALC	**Talca**	**1.37**	**67**	*e*P	Pn	22 24 08.6	+0.7
TALC				*e*S	Sn	22 24 26.3	+1.4
CLCH	**Cerro Calan**	**3.34**	**41**	*e*P	Pn	22 24 35.7	+0.5
CLCH				*e*S	Sn	22 25 13.9	+0.2
CLCH				AML	AML	22 25 38.2	
	comp=E,316nm,0.7s						
PEL	**Peldehue**	**3.47**	**37**	*e*P	Pn	22 24 37.5	+0.6
PEL				*e*S	Sn	22 25 17.1	+0.3
PEL				AML	AML	22 25 38.6	
	comp=N,310nm,0.4s						

*IDC **10** 22:27:27.6±1.0, 4.27S×102.00E, h0km, mb3.9/13, mb1 4.1/13, mb1mx3.9/27, mbtmp3.9/13, MS3.3/3, Ms1 3.3/3, ms1mx2.8/31, Error ellipse: s-maj=37.1km s-min=15.7km az=49.0*
*ISCJB **10** 22:27:28.8±0.5, 4.71S±0.05×101.69E±0.04, h37km, mb4.2/16, MS3.4/2, Error ellipse: s-maj=8.6km s-min=3.9km az=31.7*
*DJA **10** 22:27:29.6±1.1, 5°S±4°×10°2E±°, h18km±13km, M4.8/18, mb4.7/10, mB5.2/2, MLv4.8/18, Mw(mB)4.6/2*
*NEIC **10** 22:27:33.2±1.0, 4.46S×101.96E, h48km±8km, mb4.7/3, Error ellipse: s-maj=16.4km s-min=6.1km az=47.0*
ISC 10 22:27:31.8±0.7, 4.57S±0.09×101.85E±0.07, h37km, n63, σ1s44/62, mb4.2/16, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**1.13**	**79**	P	**Pn**	**22 27 50.9**	**-0.1**
MNAI	**Manna**	**1.13**	**79**	*e*Pn	**Pn**	**22 27 50.5**	**-0.6**
MNAI				*e*Sn	**Sn**	**22 28 04.8**	**-0.4**
MASI	**Maura Aman, Be**	**1.48**	**15**	P	**Pn**	**22 27 58.4**	**+2.5**
LHSI	**Lahat**	**1.83**	**66**	P	**Pn**	**22 28 02.1**	**+1.4**
LWLI	**Liwa**	**2.25**	**101**	P	**Pn**	**22 28 07.4**	**+0.8**
LWLI				S	**Sn**	**22 28 36.0**	**+2.8**
MDSI	**Maura Dua**	**2.33**	**88**	P	**Pn**	**22 28 07.8**	**+0.3**
MDSI				S	**Sn**	**22 28 38.4**	**+3.5**
KASI	**Kota Agung**	**2.81**	**110**	P	**Pn**	**22 28 14.7**	**+0.6**
KASI				S	**Sn**	**22 28 48.6**	**+1.9**
KLI	**Kotabumi**	**3.02**	**96**	P	**Pn**	**22 28 18.2**	**+1.2**
PMBI	**Palembang**	**3.35**	**61**	P	**Pn**	**22 28 23.9**	**+2.3**
JAMBI	**JAMBI**	**3.43**	**32**	P	**Pn**	**22 28 24.5**	**+1.8**
CGJI	**Cibinong**	**4.33**	**118**	P	**Pn**	**22 28 34.7**	**-0.4**
BKNI	**Bangkinang**	**4.93**	**351**	*e*Pn	**Pn**	**22 28 44.5**	**+1.1**
CNJI	**Cibinong**	**5.92**	**118**	P	**Pn**	**22 28 55.7**	**-1.2**
	77nm,0.8s,1μm0.7nm						
TPRI	**Tanjung Pinang**	**6.08**	**26**	P	**Pn**	**22 29 01.8**	**+2.7**
	70nm,0.9s,0.8nm						
LEM	**Lembang**	**6.17**	**112**	Pn	**Pn**	**22 29 02.9**	**+2.4**
	2.9nm,0.3s,baz=317,slow=19,SNR=3.3						
LEM				Sn	**Sn**	**22 30 11.3**	**+1.4**
	baz=0.0,slow=20,SNR=2.3						
LEM				LR	LR	22 31 33.7	
	comp=Z,125nm,21.1s,baz=7.5,slow=40						
MYKOM	**Kota Tinggi**	**6.63**	**18**	*e*Pn	**Pn**	**22 29 05.9**	**-0.8**
CISI	**Cisompet, Garu**	**6.63**	**117**	P	**Pn**	**22 29 05.7**	**-1.2**
	97nm,0.7s,2μm0.5nm						
CISI	**Cisompet, Garu**	**6.63**	**117**	*e*Pn	**Pn**	**22 29 05.8**	**-1.0**
GSI	**Gunungsitoli**	**7.23**	**324**	P	**Pn**	**22 29 15.3**	**+0.3**
	39nm,0.8s,0.3nm						
GSI	**Gunungsitoli**	**7.23**	**324**	*e*Pn	**Pn**	**22 29 14.9**	**-0.1**
CMJI	**Cimerak**	**7.30**	**116**	P	**Pn**	**22 29 15.0**	**-0.9**
	98nm,1.4s,0.4nm						
PSI	**Prapat**	**7.88**	**338**	Pn	**Pn**	**22 29 22.3**	**-1.8**
	0.7nm,0.3s,baz=169,slow=16,SNR=3.4						
PSI	**Prap

STKA	**Stephens Creek**	**46.08**	**131**	*e*P	**P**		**22 35 52.5**	**+0.1**
	22nm,2.5s							
SONA0	**Songino Array**	**52.34**	**4**	*e*P	**P**		**22 36 40.0**	**-0.1**
SONM	**Songino Array**	**52.34**	**4**	P	**P**		**22 36 40.0**	**-0.1**
	2.4nm,0.6s,baz=183,slow=9.1,SNR=13							
SONA1	**Songino Array**	**52.35**	**4**	*e*P	**P**		**22 36 39.9**	**-0.2**
MAJO	**Matsushiro**	**53.16**	**37**	*e*P	**P**		**22 36 43.5**	**-2.8**
	56nm,2.3s							
MJAR	**Matsushiro Arr**	**53.16**	**37**	P	**P**		**22 36 43.5**	**-2.8**
	0.7nm,0.5s,baz=212,slow=8.1,SNR=4.3							
MK01	**Makanchi Array**	**53.97**	**343**	*e*P	**P**		**22 36 53.5**	**+1.5**
MK32	**Makanchi Array**	**53.99**	**343**	*e*P	**P**		**22 36 51.8**	**-0.3**
MKAR	**Makanchi Array**	**53.99**	**343**	P	**P**		**22 36 51.8**	**-0.3**
	0.8nm,0.6s,baz=168,slow=9.4,SNR=10							
MKAR	**Makanchi Array**	**53.99**	**343**	*e*P	**P**		**22 36 50.7**	**-1.5**
USRK	**Ussuriysk Ar.**	**55.60**	**26**	P	**P**		**22 37 02.2**	**-1.5**
	2.5nm,0.6s,baz=238,slow=8.3,SNR=4.3							
GEYT	**Alibeck**	**58.59**	**320**	P	**P**		**22 37 25.4**	**+0.3**
	0.8nm,0.6s,baz=161,slow=14,SNR=3.3							
ZAA0	**Zalesovo Array**	**60.03**	**348**	*e*P	**P**		**22 37 34.0**	**-0.7**
ZALV	**Zalesovo Beam**	**60.03**	**348**	P	**P**		**22 37 33.6**	**-1.1**
	1.1nm,0.4s,baz=174,slow=5.8,SNR=9.5							
ZAA1	**Zalesovo Array**	**60.03**	**348**	*e*P	**P**		**22 37 33.6**	**-1.1**
MAW	**Mawson**	**68.28**	**195**	LR	LR		23 03 39.2	
	comp=Z,88nm,21.5s,baz=51,slow=32							
KBZ	**Khabaz**	**71.44**	**319**	P	**P**		**22 38 49.9**	**+1.4**
	1.0nm,0.9s,baz=233,slow=20,SNR=2.7							
BR101	**Keskin Array S**	**76.41**	**313**	*e*P	**P**		**22 39 17.2**	**-0.6**
BRTR	**Keskin Array B**	**76.41**	**313**	P	**P**		**22 39 17.2**	**-0.6**
	0.8nm,0.8s,baz=140,slow=6.0,SNR=6.5							
FIA0	**FINESS Array S**	**87.23**	**332**	*e*P	**P**		**22 40 15.7**	**+1.6**
FINES	**FINESS Array B**	**87.23**	**332**	P	**P**		**22 40 15.7**	**+1.6**
	2.0nm,1.0s,baz=100,slow=4.6,SNR=3.8							
TXAR	**Lajitas Array**	**145.50**	**42**	PKPbc	**PKPab**		**22 47 07.0**	**-0.1**
	1.2nm,0.6s,baz=284,slow=1.6,SNR=12							

ISK ***10*** *22:39:38.8,34°.91N×29°.27E,h36km, MD3.5*
DDA ***10*** *22:39:38.5,34°.95N×29°.35E,h27km, MD3.0*
ISCJB ***10*** *22:39:39.5±0.8,34°.96N±0°.06×29°.30E±0°.07, h33km, Error ellipse: s-maj=10.4km s-min=5.1km az=41.2*
CSEM ***10*** *22:39:40.7±0.4,34°.99N×29°.29E, h30km, MD3.0, Error ellipse: s-maj=10.8km s-min=5.2km az=46.0*

ISC 10 22:39:40.7±1.4,**34°.99N**±0°.06×**29°.34E**±0°.05,**h35**km,**n34,**
σ1**s28**/42,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**1.26**	**10**	*i* P	**Pn**	**22 40 02.3**	**+0.4**
AKAS	**Kas**	**1.26**	**10**	*i* P	**Pn**	**22 40 02.3**	**+0.4**
ELL	**Elmali**	**1.81**	**15**	*e*PN	**Pn**	**22 40 10.0**	**+0.5**
ELL	**Elmali**	**1.81**	**15**	*e*Pn	**Pn**	**22 40 10.0**	**+0.5**
DALY	**Dalyan (Mu¨la**	**1.90**	**343**	*e*PN	**Pn**	**22 40 10.8**	**+0.2**
DALY	**Dalyan (Mu¨la**	**1.90**	**343**	*e*Pn	**Pn**	**22 40 10.8**	**+0.2**
DAT	**Datca**	**2.24**	**321**	*e*PN	**Pn**	**22 40 15.2**	**-0.2**
DAT				*e*SN	**Sn**	**22 40 41.8**	**-0.2**
GOLH	**Golhisar**	**2.25**	**5**	*i* P	**Pn**	**22 40 17.0**	**+1.5**
GOLH				*i* S	**Sn**	**22 40 42.1**	**+0.1**
GOLH	**Golhisar**	**2.25**	**5**	*i* P	**Pn**	**22 40 17.0**	**+1.5**
GOLH				*i* S	**Sn**	**22 40 42.1**	**+0.1**
YER	**Yerkesik**	**2.30**	**339**	*e*PN	**Pn**	**22 40 16.0**	**-0.2**
YER	**Yerkesik**	**2.30**	**339**	*e*Pn	**Pn**	**22 40 16.0**	**-0.2**
BODT	**Bodrum**	**2.64**	**322**	*e*PN	**Pn**	**22 40 21.2**	**+0.4**
BODT				*e*SN	**Sn**	**22 40 50.9**	**-0.7**
BODT	**Bodrum**	**2.64**	**322**	*e*Pn	**Pn**	**22 40 21.2**	**+0.4**
BODT				*e*Sn	**Sn**	**22 40 50.9**	**-0.7**
GAZI	**Gazipasa**	**2.73**	**62**	*i* P	**Pn**	**22 40 22.1**	**+0.1**
GAZI	**Gazipasa**	**2.73**	**62**	*i* P	**Pn**	**22 40 22.1**	**+0.1**
GAZI				*i* S	**Sn**	**22 40 50.3**	**-3.5**
AYDN	**Tasoluk**	**2.91**	**337**	*i* P	Pn	22 40 28.3	+3.8
AYDN				*i* S	**Sn**	**22 40 55.3**	**-3.1**
LEF	**Lefka**	**2.92**	**87**	*e*PN	**Pn**	**22 40 25.1**	**+0.5**
LEF	**Lefka**	**2.92**	**87**	*e*Pn	**Pn**	**22 40 25.1**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**3.17**	**339**	*e*PN	**Pn**	**22 40 29.1**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**3.17**	**339**	*e*Pn	**Pn**	**22 40 29.1**	**+0.9**
CSS	**Prodhromos**	**3.28**	**89**	*e*PN	**Pn**	**22 40 29.9**	**+0.3**
CSS	**Prodhromos**	**3.28**	**89**	*e*Pn	**Pn**	**22 40 29.9**	**+0.3**
ERMK	**Ermenek**	**3.34**	**59**	*i* P	**Pn**	**22 40 33.4**	**+2.8**
ERMK	**Ermenek**	**3.34**	**59**	*i* P	**Pn**	**22 40 33.4**	**+2.8**
ERMK				*i* S	Sn	22 40 58.4	-11
LFK	**Lefkose**	**3.45**	**84**	*e*PN	**Pn**	**22 40 32.6**	**+0.6**
LFK	**Lefkose**	**3.45**	**84**	*e*Pn	**Pn**	**22 40 32.6**	**+0.6**
KONT	**Konya--Tatoy**	**3.82**	**39**	*e*PN	**Pn**	**22 40 39.0**	**+1.9**
KONT	**Konya--Tatoy**	**3.82**	**39**	*e*Pn	**Pn**	**22 40 39.0**	**+1.9**
KDHN	**Kadinhani**	**4.17**	**32**	*i* P	**Pn**	**22 40 43.4**	**+1.5**
KDHN				*i* S	**Sn**	**22 41 28.5**	**-1.0**
KDHN	**Kadinhani**	**4.17**	**32**	*i* P	**Pn**	**22 40 43.4**	**+1.5**
KDHN				*i* S	**Sn**	**22 41 28.5**	**-1.0**
KZIT	**Kziot**	**5.89**	**132**	*e*PN	**Pn**	**22 41 06.7**	**+1.2**
KZIT	**Kziot**	**5.89**	**132**	*e*Pn	**Pn**	**22 41 06.7**	**+1.2**
HRFI	**Mount Harif**	**6.90**	**134**	*e*PN	**Pn**	**22 41 19.9**	**+0.5**
HRFI	**Mount Harif**	**6.90**	**134**	*e*Pn	**Pn**	**22 41 19.9**	**+0.5**

IDC ***10*** *22:54:57.9±0.4, 19°.04N×66°.58W, h0km, mb4.2/31, mb1 4.3/31, mb1mx4.3/44, mbtmp4.2/31, MS3.3/13, Ms1 3.4/13, ms1mx3.2/35, Error ellipse: s-maj=12.9km s-min=9.6km az=75.0*
ISCJB ***10*** *22:54:58.9±0.1, 19°.17N±0°.02×66°.50W±0°.02, h10km, mb4.4/65, MS3.3/12, Error ellipse: s-maj=3.2km s-min=2.3km az=0.4*
NEIC ***10*** *22:55:02.7, 19°.16N×66°.44W, h19km, mb4.7/29, ML4.0(RSPR), After RSPR.*
RSPR ***10*** *22:55:02.8, 19°.16N×66°.44W, h19km, 9km, MD4.0/14*

ISC 10 22:54:59.7±0.8,**19°.07N**±0°.03×**66°.53W**±0°.03,**h9**km±5km,
n192, σ1**s27**/200,**mb4.5**/65,**MS3.3**/12,**27C-5D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**0.76**	**197**	*e*Pg	**Pb**	**22 55 15.9**	**+0.9**
AOPR				*e*Sn	**Sn**	**22 55 27.7**	**-0.3**
AOPR	**Arecibo Observ**	**0.76**	**197**¯	*e*P	**Pn**	**22 55 16.7**	**+0.2**
AOPR	**Arecibo Observ**	**0.76**	**197**	*e*S	**Sn**	**22 55 28.3**	**+0.3**
AGPR	**Aguadilla, PR**	**0.82**	**223**¯	*e*P	**Pn**	**22 55 17.6**	**+0.2**
LRS	**Lares**	**0.83**	**201**	*e*Pg	**Pn**	**22 55 17.4**	**-0.2**
LRS	**Lares**	**0.83**	**201**¯	*e*P	**Pn**	**22 55 17.6**	**0.0**
AGP	**Aguadilla**	**0.88**	**221**	*e*Pg	**Pg**	**22 55 16.4**	**-0.3**
AGP				*e*Sn	**Sg**	**22 55 25.6**	**-2.5**
CELP	**Cerrillos**	**0.99**	**183**	*e*Pn	**Pn**	**22 55 20.0**	**+0.2**
CELP				*e*Sn	**Sg**	**22 55 29.6**	**-2.2**
CELP	**Cerrillos**	**0.99**	**183**¯	*e*P	**Pn**	**22 55 20.1**	**+0.3**
SJG	**San Juan**	**1.02**	**159**	*e*Pn	**Pb**	**22 55 20.0**	**+0.5**
SJG				*e*Sg	**Sg**	**22 55 28.9**	**-3.7**
SJG	**San Juan**	**1.02**	**159**¯	*e*P	**Pg**	**22 55 20.2**	**+0.9**
SJG				*e*S	**Sg**	**22 55 33.1**	**+0.5**
SJG	**San Juan**	**1.02**	**159**¯	*e*P	**Pg**	**22 55 20.2**	**+0.9**
OBIP	**Obispado Ponce**	**1.03**	**184**	*e*Pn	**Pg**	**22 55 20.6**	**+0.4**
OBIP				*e*Sn	**Sg**	**22 55 31.0**	**-1.9**
OBIP	**Obispado Ponce**	**1.03**	**184**¯	*e*P	**Pn**	**22 55 20.6**	**+0.4**
OBIP	**Obispado Ponce**	**1.03**	**184**	*e*S	**Sn**	**22 55 35.4**	**+0.7**
MPR	**Mayaguez**	**1.04**	**214**	*e*Pn	**Pg**	**22 55 20.3**	**+0.7**
MPR				*e*Sn	**Sg**	**22 55 29.4**	**-3.7**
MPR	**Mayaguez**	**1.04**	**214**¯	*e*P	**Pg**	**22 55 20.5**	**+0.9**
LSP	**Las Mesas**	**1.04**	**211**	*e*Pn	**Pn**	**22 55 20.7**	**+0.3**
LSP				*e*Sn	**Sg**	**22 55 33.4**	**+0.2**
LSP	**Las Mesas**	**1.04**	**211**¯	*e*P	**Pn**	**22 55 20.8**	**+0.3**
HUMP	**Col San Antoni**	**1.13**	**145**	*e*Pn	**Pb**	**22 55 21.1**	**-0.2**
HUMP				*e*Sn	**Sb**	**22 55 32.1**	**-3.9**
HUMP	**Col San Antoni**	**1.13**	**145**¯	*e*P	**Pb**	**22 55 21.4**	**+0.1**
HUMP	**Col San Antoni**	**1.13**	**145**	*e*S	**Sb**	**22 55 36.0**	**-0.1**
IDE	**Isla Desecheo**	**1.13**	**233**¯	*e*P	**Pb**	**22 55 21.6**	**+0.3**
GBPR	**Guanica, Bosqu**	**1.14**	**197**¯	*e*P	**Pg**	**22 55 22.6**	**+1.0**
ICM	**Isla Caja Muer**	**1.17**	**180**¯	*e*P	**Pg**	**22 55 23.3**	**+1.0**
ICMP	**Isla Caja de M**	**1.18**	**180**	*e*Pn	**Pg**	**22 55 23.1**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.20**	**208**	*e*Pn	**Pn**	**22 55 23.0**	**+0.5**
CRPR				*e*Sn	**Sb**	**22 55 33.8**	**-4.3**
CRPR	**Cabo Rojo, PR**	**1.20**	**208**¯	*e*P	**Pn**	**22 55 23.1**	**+0.5**
IMO	**Isla Mona**	**1.62**	**234**¯	*e*P	**Pb**	**22 55 29.9**	**+0.1**
STVI	**Saint Thomas**	**1.66**	**115**	*e*Pn	**Pn**	**22 55 27.9**	**-0.9**
STVI				*e*Sn	**Sn**	**22 55 47.6**	**-2.6**
STVI	**Saint Thomas**	**1.66**	**115**¯	*e*P	**Pn**	**22 55 27.9**	**-0.9**
STVI	**Saint Thomas**	**1.66**	**115**	*e*S	**Sn**	**22 55 46.3**	**-3.9**
PCDR	**Punta Cana, DR**	**1.84**	**253**	*e*Pn	**Pb**	**22 55 33.5**	**0.0**
PCDR	**Punta Cana, DR**	**1.84**	**253**¯	*e*P	**Pb**	**22 55 33.3**	**-0.2**
TBVI	**Tortola**	**1.93**	**110**¯	*e*P	**Pn**	**22 55 32.0**	**-0.6**
CDVI	**St. Croix**	**2.13**	**128**	*e*Pn	**Pn**	**22 55 36.5**	**+1.2**
SMN1	**Samana, DR**	**2.60**	**273**	*e*Pn	**Pn**	**22 55 42.5**	**+0.6**
SDD	**Santo Domingo**	**3.27**	**260**	*e*Pn	**Pb**	**22 55 56.5**	**-1.3**
SMRT	**St. Maarten**	**3.43**	**107**	*e*Pn	**Pn**	**22 55 55.8**	**+2.5**
SABA	**Saba**	**3.44**	**114**	*e*Pn	**Pn**	**22 55 54.6**	**+1.2**
SDDR	**Presa de Saban**	**4.50**	**270**	*e*Pn	**Pn**	**22 56 10.6**	**+2.4**
SDDR	**Presa de Saban**	**4.50**	**270**¯	*e*P	**Pn**	**22 56 11.3**	**+3.2**
ANWB	**Willy Bob**	**4.71**	**106**	*e*P	**Pn**	**22 56 11.1**	**+0.1**
ANWB	**Willy Bob**	**4.71**	**106**	*e*Pn	**Pn**	**22 56 10.1**	**-0.9**
GRTK	**Grand Turk**	**4.96**	**300**	*e*Pn	**Pn**	**22 56 13.2**	**-1.0**
GRTK				*e*Sn	**Sn**	**22 57 08.5**	**-3.2**
LZG	**Guadaloupe-1**	**5.39**	**122**	*e*P	**Pn**	**22 56 23.1**	**+2.9**
SEG	**Port Louis**	**5.47**	**118**	*e*P	**Pn**	**22 56 24.5**	**+3.1**
SSG	**Sans Toucher**	**5.50**	**122**	*e*P	Pn	22 56 26.0	+4.2
FNG	**Fond-Bernard**	**5.50**	**122**	*e*P	**Pn**	**22 56 24.8**	**+2.9**
JAKH	**Jacmel**	**5.74**	**263**	*e*Pn	Pb	22 56 34.0	-6.0
H05N1	**Guadeloupe/Mar**	**5.89**	**117**	Pn	**Pn**	**22 56 28.5**	**+1.3**
H05S1	**Guadeloupe/Mar**	**7.15**	**129**	Pn	**Pn**	**22 56 44.5**	**+0.1**
PCRV	**Puerto La Cruz**	**9.03**	**168**	Pn	**Pn**	**22 57 12.1**	**+1.7**
	2.7nm,0.3s,baz=303,slow=2.8,SNR=8.1						
PCRV				Sn	**Sn**	**22 58 50.5**	**-1.8**
	2.1nm,0.3s,baz=214,slow=18,SNR=2.9						
SDV	**Santo Domingo**	**10.88**	**202**	*e*Pn	Pn	22 57 39.2	+3.4
BBSR	**BB Station**	**13.34**	**7**	*e*Pn	Pn	22 58 06.8	-2.4
ROSC	**El Rosal**	**16.05**	**209**	Pn	**P**	**22 58 49.7**	**+0.1**
	3.1nm,0.3s,baz=50,slow=18,SNR=7.8						
ROSC				LR	LR	23 06 36.2	
	comp=Z,57nm,18.0s,baz=285,slow=44						
ROSC	**El Rosal**	**16.05**	**209**	*e*Pn	**P**	**22 58 52.2**	**+2.6**
JTS	**JuntasAbangare**	**19.83**	**246**	P	**Pn**	**22 59 33.5**	**+1.1**
	0.6nm,0.3s,baz=90,slow=12,SNR=3.1						
JTS	**JuntasAbangare**	**19.83**	**246**	*e*P	**Pn**	**22 59 36.6**	**+4.1**
TEIG	**Tepich**	**20.52**	**277**	P	**P**	**22 59 39.2**	**+0.9**
	10nm,0.7s,baz=137,slow=5.3,SNR=4.5						
PTGA	**Pitinga**	**20.71**	**161**	P	**P**	**22 59 41.0**	**+0.6**
	11nm,0.5s,baz=340,slow=15,SNR=16						
PTGA				LR	LR	23 07 52.0	
	comp=Z,64nm,18.4s,baz=348,slow=37						
PTGA	**Pitinga**	**20.71**	**161**	*e*P	**P**	**22 59 40.9**	**+0.6**
	14nm,0.6s						
URVA	**University of**	**20.79**	**335**	*e*P	Pn	22 59 44.8	+1.3
JSRW	**J. Sargeant Re**	**21.04**	**334**	*e*P	**P**	**22 59 43.9**	**+0.2**
BLA	**Blacksburg**	**21.79**	**329**	*e*P	**P**	**22 59 54.2**	**+2.3**
	34nm,0.6s						
BLA				*e*S	**S**	**23 03 53.4**	**+0.5**
OTAV	**Otavalo**	**22.07**	**213**	*e*P	**P**	**22 59 58.2**	**+2.6**
	44nm,0.8s						
TKL	**Tuckaleechee C**	**22.47**	**321**	P	**P**	**22 59 60.0**	**+0.7**
	2.1nm,0.3s,baz=194,slow=12,SNR=6.5						
TKL				S	S	23 03 57.2	-8.7
	2.9nm,0.6s,baz=217,slow=20,SNR=4.5						
TKL				LR	LR	23 08 58.4	
	comp=Z,70nm,18.5s,baz=154,slow=37						
WCI	**Wyandotte Cave**	**25.69**	**322**	*e*P	**P**	**23 00 32.2**	**+2.1**
	8.4nm,0.8s						
CMIG	**Matias Romero**	**27.02**	**270**	P	**P**	**23 00 41.2**	**-1.0**
	1.7nm,0.7s,baz=69,slow=8.6,SNR=3.0						
SADO	**Sadowa**	**27.70**	**340**	P	**P**	**23 00 47.1**	**-1.0**
	1.9nm,0.6s,baz=243,slow=6.8,SNR=2.7						
SADO				LR	LR	23 13 45.5	
	comp=Z,138nm,18.3s,baz=154,slow=41						
SAML	**Samuel**	**28.04**	**173**	*e*P	**P**	**23 00 52.3**	**+1.0**
	6.8nm,0.9s						
ATAH	**Atahualpa**	**28.55**	**205**	LR	LR	23 14 05.2	
	comp=Z,46nm,19.9s,baz=51,slow=40						
COWI	**Conover**	**32.77**	**330**	*e*P	**P**	**23 01 33.4**	**+0.3**
	7.1nm,0.8s						
LPAZ	**La Paz**	**35.18**	**183**	P	**P**	**23 01 53.8**	**-0.9**
	2.5nm,0.6s,baz=346,slow=3.3,SNR=12						
LPAZ				LR	LR	23 18 27.4	
	comp=Z,38nm,18.1s,baz=327,slow=40						
LPAZ	**La Paz**	**35.18**	**183**	*e*P	**P**	**23 01 54.3**	**-0.4**
ECSD	**EROS Data Cent**	**35.22**	**321**	*e*P	**P**	**23 01 54.6**	**+0.4**
	3.4nm,0.7s						
ECSD				*e*S	**S**	**23 07 28.1**	**+0.3**
TX31	**Lajitas Ar. Si**	**35.25**	**294**	*e*P	**P**	**23 01 55.1**	**+0.3**
TXAR	**Lajitas Array**	**35.25**	**294**	P	**P**	**23 01 55.3**	**+0.4**
	1.4nm,0.7s,baz=115,slow=10.0,SNR=18						
TXAR				PcP	**PcP**	**23 04 26.5**	**+0.8**
	1.6nm,0.8s,baz=131,slow=5.1,SNR=6.5						
TXAR				ScP	**ScP**	**23 08 12.2**	**+0.5**
	0.1nm,0.5s,baz=111,slow=4.9,SNR=4.0						
SIV	**San Ignacio**	**35.26**	**171**	P	**P**	**23 01 54.0**	**-0.8**
	3.7nm,0.7s,baz=24,slow=9.8,SNR=7.7						
SCHQ	**Schefferville**	**35.70**	**360**	P	**P**	**23 01 58.0**	**-0.2**
	5.6nm,0.6s,baz=188,slow=7.3,SNR=11						
AGMN	**Agassiz Nation**	**37.59**	**328**	*e*P	**P**	**23 02 14.2**	**-0.3**
	10nm,0.6s						
ULM	**Lac du Bonnet**	**38.90**	**330**	P	**P**	**23 02 24.3**	**-1.1**
	5.4nm,0.6s,baz=135,slow=7.9,SNR=11						
ULM				LR	LR	23 19 22.3	
	comp=Z,57nm,18.2s,baz=41,slow=38						
ULM	**Lac du Bonnet**	**38.90**	**330**	*e*P	**P**	**23 02 24.6**	**-0.8**
BDFB	**Brasilia**	**39.01**	**151**	P	**P**	**23 02 26.9**	**0.0**
	1.7nm,0.5s,baz=295,slow=17,SNR=2.5						
RCBR	**Riachuelo**	**39.02**	**126**	P	**P**	**23 02 28.0**	**+1.1**
	2.6nm,0.6s,baz=298,slow=3.5,SNR=3.2						
ISCO	**Idaho Springs**	**39.41**	**310**	*e*P	**P**	**23 02 31.4**	**+1.1**
	3.9nm,1.1s						
LVC	**Limon Verde**	**41.50**	**183**	P	**P**	**23 02 46.1**	**-1.4**
	39nm,0.6s,baz=23,slow=5.6,SNR=19						
LVC	**Limon Verde**	**41.50**	**183**	*e*P	**P**	**23 02 46.1**	**-1.4**
	9.4nm,0.6s						
BW06	**Boulder Array**	**43.21**	**313**	*e*P	**P**	**23 03 01.2**	**-0.2**
PDAR	**Pinedale Array**	**43.21**	**313**	P	**P**	**23 03 00.5**	**-0.9**
	0.7nm,0.6s,baz=111,slow=10,SNR=8.4						
PDAR				PcP	**PcP**	**23 04 50.4**	**-0.4**
	0.5nm,0.6s,baz=91,slow=4.5,SNR=3.7						
RLMT	**Red Lodge**	**43.85**	**316**	*e*P	**P**	**23 03 07.0**	**+0.5**
LOHW	**Long Hollow**	**44.21**	**314**	*e*P	**P**	**23 03 10.0**	**+0.6**
	6.3nm,0.8s						
REDW	**Red Top Meadow**	**44.30**	**313**	*e*P	**P**	**23 03 10.8**	**+0.7**
	7.8nm,1.0s						
MOOW	**Moose Ponds**	**44.35**	**314**	*e*P	**P**	**23 03 10.6**	**+0.1**
	3.7nm,0.7s						
TPAW	**Teton Pass**	**44.41**	**313**	*e*P	**P**	**23 03 11.7**	**+0.7**
	5.7nm,0.8s						
FCC	**Fort Churchill**	**44.42**	**340**	*e*P	**P**	**23 03 10.3**	**-0.2**
	150nm,0.6s						
FXWY	**Fox Creek**	**44.51**	**313**	*e*P	**P**	**23 03 13.1**	**+1.3**
IMW	**Indian Meadow**	**44.53**	**314**	*e*P	**P**	**23 03 12.3**	**+0.2**
	4.0nm,0.6s						
FRB	**Frobisher Bay**	**44.66**	**359**	P	**P**	**23 03 11.5**	**-0.8**
	7.6nm,0.8s,baz=182,slow=9.9,SNR=7.3						
QLMT	**Earthquake Lak**	**45.18**	**315**	*e*P	**P**	**23 03 19.0**	**+1.9**
QPUP	**Villa Florida**	**46.01**	**168**	P	**P**	**23 03 21.9**	**-1.5**
	0.6nm,0.6s,baz=342,slow=9.6,SNR=8.9						
YUH	**Yuha Desert**	**46.08**	**297**	*e*P	P	23 03 27.6	+3.5
MCMT	**McKenzie Canyo**	**46.13**	**314**	*e*P	**P**	**23 03 25.9**	**+1.3**
DLMT	**Dillon**	**46.13**	**315**	*e*P	**P**	**23 03 25.9**	**+1.4**
	3.9nm,0.8s						
SNDA	**J Saunders Pla**	**46.73**	**298**	*e*P	**P**	**23 03 29.4**	**0.0**
DNR	**Dunn Ranch,Anz**	**46.74**	**298**	*e*P	**P**	**23 03 28.7**	**-0.8**
HLID	**Hailey**	**46.83**	**312**	*e*P	**P**	**23 03 30.8**	**+0.6**
NVAR	**Mina Array Bea**	**48.65**	**305**	P	**P**	**23 03 43.5**	**-0.8**
	0.6nm,0.3s,baz=102,slow=8.6,SNR=3.0						
SFJD	**Kangerlussuaq**	**48.99**	**8**	P	**P**	**23 03 45.4**	**-0.8**
	5.4nm,0.7s,baz=225,slow=1.4,SNR=2.8						
BMO	**Blue Mountains**	**49.18**	**313**	*e*P	**P**	**23 03 48.0**	**-0.2**
NEW	**Newport**	**50.00**	**318**	*e*P	**P**	**23 03 54.4**	**+0.1**
CFAA	**Coronel Fontan**	**50.42**	**182**	P	**P**	**23 03 55.8**	**-1.7**
	0.3nm,0.5s,baz=355,slow=8.9,SNR=3.7						
YKA	**Yellowknife Ar**	**54.47**	**335**	P	**P**	**23 04 26.3**	**-0.9**
	2.0nm,0.8s,baz=110,slow=7.5,SNR=26						
SUMG	**Summit**	**55.86**	**10**	*i* P	**P**	**23 04 38.1**	**+0.5**
	5.8nm,0.7s						
SUMG	**Summit**	**55.86**	**10**	*e*P	**P**	**23 04 38.3**	**+0.6**
	167nm,2.9s						
MDT	**Midelt**	**56.62**	**63**	P	**P**	**23 04 44.0**	**+0.6**
	2.7nm,0.8s,baz=285,slow=4.4,SNR=5.6						
ESDC	**Sonseca Array**	**57.12**	**55**	P	**P**	**23 04 47.1**	**+0.4**
	1.2nm,0.7s,baz=270,slow=7.1,SNR=13						
ES19	**SONSECA Array**	**57.17**	**55**	*e*P	**P**	**23 04 47.1**	**0.0**
SJPF	**Ste Jean**	**59.30**	**51**	*e*P	**P**	**23 05 02.2**	**+0.3**
	8.4nm,0.9s						
SJPF	**Ste Jean**	**59.30**	**51**	*e*P	**P**	**23 05 02.2**	**+0.3**
	8.4nm,0.9s						
PLCA	**Paso Flores**	**59.62**	**184**	P	**P**	**23 05 02.5**	**-1.5**
	2.3nm,0.7s,baz=1.1,slow=7.7,SNR=5.7						
EPF	**Esparros**	**60.44**	**51**	*e*P	**P**	**23 05 10.8**	**+1.0**
	5.4nm,0.6s						
EPF	**Esparros**	**60.44**	**51**	*e*P	**P**	**23 05 10.8**	**+1.0**
	5.4nm,0.6s						
TIC	**Toumodi**	**60.95**	**93**	*e*P	P	23 05 18.0	+4.3
	5.7nm,0.2s						
LIC	**Lamto**	**61.08**	**93**	*e*P	P	23 05 18.3	+3.8
	73nm,1.7s						
KIC	**Kosan Boka**	**61.30**	**93**	*e*P	**P**	**23 05 16.6**	**+0.6**
	24nm,0.9s						
CAF	**Calviac**	**61.72**	**49**	*e*P	**P**	**23 05 18.9**	**+0.5**
	5.0nm,0.7s						
CAF	**Calviac**	**61.72**	**49**	*e*P	**P**	**23 05 18.9**	**+0.5**
	5.0nm,0.7s						
TCF	**Toulx Ste Croi**	**61.84**	**47**	*e*P	**P**	**23 05 19.1**	**-0.1**
	9.1nm,0.9s						
TCF	**Toulx Ste Croi**	**61.84**	**47**	*e*P	**P**	**23 05 19.1**	**-0.1**
	9.1nm,0.9s						
DAG	**Danmarks Havn**	**62.47**	**11**	*i* P	**P**	**23 05 22.6**	**-0.2**
	3.0nm,0.8s						
LOR	**Lormes**	**62.99**	**46**	*e*P	**P**	**23 05 27.1**	**+0.2**
	5.2nm,0.7s						
LOR	**Lormes**	**62.99**	**46**	*e*P	**P**	**23 05 27.1**	**+0.2**
	5.2nm,0.7s						
VIVF	**Saint-Julien-l**	**63.57**	**49**	*e*P	**P**	**23 05 31.0**	**+0.2**
VIVF	**Saint-Julien-l**	**63.57**	**49**	*e*P	**P**	**23 05 31.0**	**+0.2**
MEZF	**Maizieres J'vi**	**63.81**	**45**	*e*P	**P**	**23 05 32.3**	**+0.1**
	14nm,0.7s						
MEZF	**Maizieres J'vi**	**63.81**	**45**	*e*P	**P**	**23 05 32.3**	**+0.1**
	14nm,0.7s						
INK	**Inuvik**	**63.96**	**338**	*e*P	**P**	**23 05 32.2**	**-0.6**
	12nm,1.5s						
ORIF	**Oris-en-Rattie**	**64.42**	**49**	*e*P	**P**	**23 05 37.1**	**+0.6**
	7.2nm,0.9s						
ORIF	**Oris-en-Rattie**	**64.42**	**49**	*e*P	**P**	**23 05 37.1**	**+0.6**
	7.2nm,0.9s						
LPL	**La Plagne**	**65.01**	**48**	*e*P	**P**	**23 05 41.6**	**+1.2**
LPL	**La Plagne**	**65.01**	**48**	*e*P	**P**	**23 05 41.6**	**+1.2**
LPG	**La Plagne**	**65.02**	**48**	*e*P	**P**	**23 05 41.7**	**+1.1**
	6.2n

baz=57,SNR=3.3
KNRA Kununurra 53.84 263 P **P** **23 07 54.5 -0.6**
baz=57,SNR=4.9
SOEI Soe 59.37 269 P **P** **23 08 35.7 +1.6**
baz=62,SNR=4.2
MEEK Meekatharra 61.79 249 P **P** **23 08 49.0 -1.1**
baz=65,SNR=14
BLDU Balliduu 63.09 244 P **P** **23 08 57.7 -0.9**
baz=66,SNR=12
MJAR Matsushiro Arr 69.30 321 P **P** **23 09 37.6 -0.2**
1.8nm,0.7s,baz=162,slow=5.9,SNR=7.2
UGM Wanagama 72.97 267 P **P** **23 10 00.1 -0.1**
baz=76,SNR=3.3
PETK Petropavlovsk- 73.81 343 P **P** **23 10 04.5 +0.3**
2.2nm,0.5s,baz=127,slow=9.5,SNR=8.9
KSRS Korea Array 76.34 317 P **P** **23 10 20.4 +1.5**
2.5nm,0.8s,baz=125,slow=6.4,SNR=5.4
NVAR Mina Array Bea 76.60 42 P **P** **23 10 19.6 -1.0**
0.4nm,0.3s,baz=238,slow=9.4,SNR=3.0
TXAR Lajitas Array 82.81 56 P **P** **23 10 54.6 +0.7**
0.3nm,0.6s,baz=224,slow=7.0,SNR=5.2
ILAR Eielson Array 84.41 12 P **P** **23 11 01.0 -0.2**
0.4nm,0.6s,baz=233,slow=5.3,SNR=5.3
PDAR Pinedale Array 84.54 42 P **P** **23 11 02.4 -0.2**
0.5nm,0.5s,baz=191,slow=1.7,SNR=6.4
MAW Mawson 85.70 199 P **P** **23 11 07.8 +0.1**
1.9nm,0.6s,baz=112,slow=11,SNR=3.3
CMAR Chiang Mai Arr 91.73 289 P **P** **23 11 38.2 +1.2**
1.0nm,0.3s,baz=106,slow=3.1,SNR=7.4
ARCES ARCESS Array B 126.08 351 PKP **PKPdf** **23 17 28.0 -1.0**
1.6nm,0.9s,baz=112,slow=2.1,SNR=3.6
KMBO Kilima Mbogo 143.44 243 PKP PKPbc 23 18 01.0 -0.2
2.6nm,0.8s,baz=62,slow=11,SNR=4.2
MALT Malatya 143.97 313⇑*i*P PKPbc 23 18 02.4 +0.6
BURAR Bucovina Array 145.35 336⇑*i*P **PKPab** **23 18 06.8 +0.6**
TESR Tescani 145.64 333⇑*i*P **PKPbc** **23 18 06.4 -0.1**
VRI Vrancioaia 146.11 332⇑*i*P **PKPbc** **23 18 08.0 0.0**
TIRR Tirgusor 146.38 329⇑*i*P **PKPbc** **23 18 08.5 -0.2**
TLB Topalu 146.47 330⇑*i*P **PKPbc** **23 18 08.8 -0.2**
BRTR Keskin Array B 146.48 318 PKPbc **PKPbc** **23 18 09.1 -0.3**
2.0nm,0.8s,baz=141,slow=3.6,SNR=16
DOPR Dopca 146.61 334⇑*i*P **PKPbc** **23 18 08.9 -0.5**
DRGR 146.99 337⇑*i*P **PKPbc** **23 18 10.3 -0.2**
GERES GERESS Array B 147.57 349 PKPbc **PKPbc** **23 18 11.5 -0.6**
0.5nm,0.5s,baz=10,slow=1.5,SNR=4.9

IDC 10 23:41:04.3±3.7, 17.12S×176.76W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/19, mbtmp4.0/3, Error ellipse: s-maj=111.8km s-min=40.7km az=131.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.33**	**259**	P	P	23 49 32.2	-0.3
	0.5nm,0.5s,baz=95,slow=7.5,SNR=6.3						
ASAR	**Alice Springs**	**46.53**	**253**	P	P	23 49 34.0	0.0
	1.9nm,0.5s,baz=87,slow=8.5,SNR=22						
MJAR	**Matsushiro Arr**	**68.23**	**322**	P	P	23 52 06.9	-0.1
	1.0nm,0.6s,baz=134,slow=7.0,SNR=3.3						
GERES	**GERESS Array B**	**147.23**	**347**	PKPbc	PKPbc	00 00 48.9	-0.9
	0.2nm,0.4s,baz=46,slow=4.2,SNR=2.8						

*ISCJB **10** 23:51:35.1±1.2, 37.2S±0.1×179.0W±0.1, h18km, mb3.6/2, Error ellipse: s-maj=21.2km s-min=10.1km az=158.4*
*IDC **10** 23:51:36.5±1.7, 36.83S×179.46W, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.7/17, mbtmp3.7/3, ML3.0/1, Error ellipse: s-maj=51.9km s-min=33.6km az=160.0*
*WEL **10** 23:51:36.7±0.5, 37.00S×178.96W, h33km, ML3.8/6, Error ellipse: s-maj=7.4km s-min=6.2km az=0.0*

ISC 10 23:51:38.1±1.6, 37.2S±0.2×179.2W±0.1, h18km, n21, σ0.99/27, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**2.01**	**252**	PN	**Pn**	**23 52 11.1**	**0.0**
WMGZ				SN	**Sn**	**23 52 36.5**	**+0.7**
CNGZ	**Carnagh Statio**	**2.43**	**238**	PN	**Pn**	**23 52 17.7**	**+0.8**
CNGZ				SN	**Sn**	**23 52 47.9**	**+1.7**
TWGZ	**Tauwhareparae**	**2.45**	**246**	PN	**Pn**	**23 52 15.8**	**-1.4**
TWGZ				SN	**Sn**	**23 52 46.5**	**-0.3**
TKGZ	**Te Karaka**	**2.66**	**242**	PN	**Pn**	**23 52 19.9**	**0.0**
TKGZ				SN	**Sn**	**23 52 51.8**	**+0.1**
RIGZ	**Rimuhau**	**2.84**	**238**	PN	**Pn**	**23 52 23.0**	**+0.4**
MWZ	**Matawai**	**2.84**	**246**	PN	**Pn**	**23 52 22.7**	**+0.1**
MWZ				SN	**Sn**	**23 52 56.6**	**+0.2**
MWZ				AML	AML	23 52 57.5	
PRGZ	**Paritu Road**	**2.88**	**233**	PN	**Pn**	**23 52 23.5**	**+0.4**
KNZ	**Kokohu**	**3.07**	**233**	PN	**Pn**	**23 52 25.6**	**0.0**
URZ	**Urewera**	**3.12**	**249**	PN	**Pn**	**23 52 26.6**	**+0.1**
URZ				AML	AML	23 53 04.4	
URZ				AML	AML	23 53 05.5	
URZ	**Urewera**	**3.12**	**249**	Pn	**Pn**	**23 52 26.9**	**+0.5**
	1.8nm,0.3s,baz=88,slow=2.1,SNR=11						
URZ				Sn	**Sn**	**23 53 03.3**	**0.0**
	14nm,0.3s,baz=314,slow=21,SNR=31						
MCHZ	**McNeill Hill**	**3.94**	**234**	PN	**Pn**	**23 52 37.8**	**+0.3**
KAHZ	**Kahuranaki**	**4.03**	**229**	PN	**Pn**	**23 52 38.6**	**-0.3**
PXZ	**Pawanui**	**4.19**	**227**	PN	**Pn**	**23 52 40.1**	**-0.9**
BHHZ	**Black Hill Sta**	**4.38**	**237**	PN	**Pn**	**23 52 43.7**	**0.0**
BFZ	**Birch Farm**	**4.97**	**225**	PN	**Pn**	**23 52 50.2**	**-1.7**
TIWZ	**Tintock**	**5.24**	**226**	PN	**Pn**	**23 52 54.4**	**-1.1**
MRZ	**Mangatainoka R**	**5.34**	**228**	PN	**Pn**	**23 52 55.5**	**-1.5**
ASAR	**Alice Springs**	**42.24**	**275**	P	**P**	**23 59 29.6**	**-0.9**
	1.5nm,0.8s,baz=120,slow=7.3,SNR=10						
WRA	**Warramunga Arr**	**43.84**	**280**	P	**P**	**23 59 41.9**	**-1.5**
	0.6nm,0.5s,baz=122,slow=7.8,SNR=2.7						
FINES	**FINESS Array B**	**151.06**	**335**	PKPbc	**PKPbc**	**00 11 29.1**	**+0.1**
	0.8nm,0.8s,baz=7.6,slow=4.2,SNR=3.5						
TORD	**Torodi Ar. Bea**	**156.02**	**182**	PKPab	**PKPab**	**00 12 01.4**	**+2.6**
	0.3nm,0.8s,baz=166,slow=5.2,SNR=3.5						

MEX 11 00:01:35.9±0.7, 16.98N×100.47W, h9km±4km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.21**	**70**	*i* P	Pg	00 01 39.6	-0.7
CAIG				*e*S	Sg	00 01 42.9	-0.3
ACX	**Acapulco**	**0.60**	**100**	*e*P	Pn	00 01 50.1	-0.5
ACX				*e*S	Sb	00 01 57.8	+0.6
ZIIG	**Zihuatanejo**	**1.14**	**304**	*e*P	Pb	00 01 53.3	-4.4
ZIIG				*i* P	Pg	00 01 53.8	-4.0
ZIIG				*e*S	Sg	00 02 08.1	-4.5
ZIIG				*e*S	Sb	00 02 08.5	-4.2
MEIG	**Mezcala**	**1.25**	**41**	*i* P	Pn	00 01 56.2	-3.5
MEIG				*i* S	Sb	00 02 11.0	-5.1
ARIG	**Puente Sto Nin**	**1.30**	**5**	*i* P	Pn	00 01 56.9	-3.5
ARIG				*i* S	Sb	00 02 12.1	-5.4
PLIG	**Platanillo**	**1.69**	**33**	*e*P	Pn	00 02 02.6	-3.1
PLIG				*e*S	Sn	00 02 22.6	-5.0
TLIG	**Tlapa**	**1.91**	**72**	*i* P	Pn	00 02 05.3	-3.6
TLIG				*e*S	Sn	00 02 28.1	-5.1
PNIG	**Pinotepa**	**2.32**	**104**	*e*P	Pn	00 02 13.9	-0.4
PNIG				*e*S	Sn	00 02 41.7	-1.4

IDC 11 00:11:17.4±0.9, 15.62S×174.09W, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.8/35, mbtmp3.9/6, Error ellipse: s-maj=48.5km s-min=22.4km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**23.85**	**197**	P	P	00 16 32.6	+0.2
	5.9nm,0.7s,baz=0.0,slow=2.0,SNR=6.3						
WRA	**Warramunga Arr**	**49.15**	**257**	P	P	00 20 07.5	0.0
	0.3nm,0.5s,baz=92,slow=6.8,SNR=3.1						
ASAR	**Alice Springs**	**49.41**	**252**	P	P	00 20 09.2	-0.3
	1.4nm,0.5s,baz=87,slow=8.2,SNR=19						
TXAR	**Lajitas Array**	**81.29**	**56**	P	P	00 23 36.4	+0.2
	0.8nm,1.0s,baz=235,slow=4.4,SNR=4.4						
ILAR	**Eielson Array**	**82.79**	**11**	P	P	00 23 43.3	+0.2
	0.6nm,0.7s,baz=215,slow=7.1,SNR=5.5						
PDAR	**Pinedale Array**	**82.87**	**42**	P	P	00 23 44.4	0.0
	0.9nm,0.8s,baz=259,slow=2.3,SNR=8.7						
ARCES	**ARCESS Array B**	**124.74**	**352**	PKP	PKPdf	00 30 16.8	-1.8
	1.3nm,0.8s,baz=323,slow=3.0,SNR=4.3						
FINES	**FINESS Array B**	**132.01**	**347**	PKP	PKPdf	00 30 32.0	-0.6
	2.3nm,1.0s,baz=225,slow=0.7,SNR=3.3						
BRTR	**Keskin Array B**	**145.91**	**320**	PKPbc	PKPbc	00 30 59.6	+0.1
	0.3nm,0.6s,baz=111,slow=3.2,SNR=3.0						

RSPR 11 00:13:13.6, 18.19N×68.13W, h75km±2km, MD3.6/5, 14C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMO	**Isla Mona**	**0.23**	**111**⇑	*e*P	Pn	00 13 24.5	-0.4
IMO				*e*S	Sn	00 13 33.2	0.0
PCDR	**Punta Cana, DR**	**0.40**	**323**⇓	*e*P	Pn	00 13 25.0	-1.1
PCDR	**Punta Cana, DR**	**0.40**	**323**	*e*S	Sn	00 13 35.2	-0.1
IDE	**Isla Desecheo**	**0.65**	**73**⇓	*e*P	Pn	00 13 26.9	-1.5
IDE	**Isla Desecheo**	**0.65**	**73**	*e*S	Sn	00 13 38.4	-1.0
CRPR	**Cabo Rojo, PR**	**0.99**	**101**⇑	*e*P	Pn	00 13 31.1	-1.2
CRPR	**Cabo Rojo, PR**	**0.99**	**101**	*e*S	Sn	00 13 45.3	-0.8
LSP	**Las Mesas**	**0.99**	**91**⇑	*e*P	Pn	00 13 31.4	-0.9
LSP	**Las Mesas**	**0.99**	**91**	*e*S	Sn	00 13 46.2	-0.1
AGPR	**Aguadilla, PR**	**1.00**	**74**⇑	*e*P	Pn	00 13 31.6	-0.8
AGPR	**Aguadilla, PR**	**1.00**	**74**	*e*S	Sn	00 13 45.9	-0.6
GBPR	**Guanica, Bosqu**	**1.21**	**100**⇑	*e*P	Pn	00 13 35.4	+0.4
GBPR	**Guanica, Bosqu**	**1.21**	**100**	*e*S	Sn	00 13 49.9	-1.1
LRS	**Lares**	**1.22**	**85**⇑	*e*P	Pn	00 13 34.4	-0.8
LRS				*e*S	Sn	00 13 51.5	0.0
AOPR	**Arecibo Observ**	**1.31**	**83**⇑	*e*P	Pn	00 13 35.8	-0.7
AOPR	**Arecibo Observ**	**1.31**	**83**	*e*S	Sn	00 13 52.9	-0.7
OBIP	**Obispado Ponce**	**1.46**	**96**⇑	*e*P	Pn	00 13 37.6	-0.6
OBIP	**Obispado Ponce**	**1.46**	**96**	*e*S	Sn	00 13 57.2	+0.5
SMN1	**Samana, DR**	**1.47**	**313**⇑	*e*P	Pn	00 13 38.4	-0.1
CELP	**Cerrillos**	**1.48**	**94**⇓	*e*P	Pn	00 13 37.3	-1.2
ICM	**Isla Caja Muer**	**1.56**	**101**⇑	*e*P	Pn	00 13 38.6	-0.9
SJG	**San Juan**	**1.88**	**92**⇑	*e*P	Pn	00 13 43.2	-0.6
SJG				*e*S	Sn	00 14 06.0	-0.8
SJG	**San Juan**	**1.88**	**92**	*e*P	Pn	00 13 43.8	-0.1
SJG				*e*S	Sn	00 14 07.2	+0.4
HUMP	**Col San Antoni**	**2.17**	**91**⇑	*e*P	Pn	00 13 47.2	-0.4
HUMP	**Col San Antoni**	**2.17**	**91**	*e*S	Sn	00 14 12.6	-1.0

*ISCJB **11** 01:03:04.8±0.5, 43.18N±0.06×138.75E±0.06, h200km, mb3.2/10, Error ellipse: s-maj=9.1km s-min=6.4km az=7.4*
*IDC **11** 01:03:05.7±1.2, 43.02N×138.95E, h218km±9km, mb3.1/10, mb1 3.3/12, mb1mx3.1/32, mbtmp3.6/12, Error ellipse: s-maj=20.4km s-min=11.8km az=171.0*
*JMA **11** 01:03:06.0±0.3, 43.04N×139.00E, h222km±3km, M3.1*

ISC 11 01:03:04.7±0.7, 43.04N±0.07×138.89E±0.06, h200km, n31, σ2.08/34, mb3.4/10, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOSM	**Okushiri--Mats**	**1.05**	**155**	P	Pn	01 03 38.3	+3.5
JSK	**Shakotan**	**1.21**	**74**	P	**Pn**	**01 03 38.6**	**+2.7**
JYM2	**Yakumo 2**	**1.43**	**129**	P	**Pn**	**01 03 40.8**	**+3.0**
JYM2				*e*S	**Sn**	**01 04 08.5**	**+5.1**
JNB	**Noboribetsu**	**1.68**	**109**	P	**Pn**	**01 03 42.5**	**+2.5**
JSR	**Shiriuchi**	**1.89**	**142**	P	**Pn**	**01 03 44.9**	**+2.9**
JKB	**Kayabe**	**1.96**	**125**	P	**Pn**	**01 03 45.1**	**+2.3**
JHR	**Hokuryu**	**2.19**	**70**	P	**Pn**	**01 03 47.8**	**+2.7**
JOT	**Ohata**	**2.30**	**135**	P	**Pn**	**01 03 48.2**	**+1.8**
JYG	**Yagishiri**	**2.31**	**52**	P	**Pn**	**01 03 48.6**	**+2.2**
JFR	**Furan**	**2.72**	**86**	P	**Pn**	**01 03 53.0**	**+2.0**
ASAJ	**Asahikawa**	**2.91**	**67**	P	**Pn**	**01 03 55.1**	**+2.0**
	9.3nm,0.3s,baz=245,slow=8.1,SNR=18						
ASAJ				S	**Sn**	**01 04 33.6**	**+2.5**
	2.2nm,0.3s,baz=108,slow=20,SNR=3.0						
JKK2	**Kamakawa 2**	**2.93**	**72**	P	**Pn**	**01 03 55.6**	**+2.1**
JKK2				*e*S	**Sn**	**01 04 33.3**	**+1.6**
JNBK	**Urakawa-nobuka**	**2.95**	**104**	P	**Pn**	**01 03 54.9**	**+1.2**
JWK2	**Keihoku**	**3.15**	**43**	P	**Pn**	**01 03 59.0**	**+3.1**
JSE	**Soyaes**	**3.29**	**53**	P	**Pn**	**01 04 00.3**	**+2.6**
JANG	**Nango**	**3.31**	**143**	P	**Pn**	**01 03 59.2**	**+1.2**
JCH	**Churui**	**3.32**	**96**	P	**Pn**	**01 03 58.2**	**+0.1**
JCH				*e*S	**Sn**	**01 04 38.2**	**-1.7**
JAR	**Ashorobuto**	**3.58**	**84**	P	**Pn**	**01 04 02.0**	**+0.7**
JAR				*e*S	**Sn**	**01 04 46.0**	**+0.4**
JTKR	**Abashiri--Toko**	**3.77**	**74**	P	**Pn**	**01 04 04.8**	**+1.2**
USRK	**Ussuriysk Ar.**	**5.14**	**285**	P	**Pn**	**01 04 22.9**	**+2.1**
	0.5nm,0.3s,baz=90,slow=12,SNR=5.6						
SONM	**Songino Array**	**23.20**	**293**	P	**P**	**01 07 53.8**	**+0.1**
	0.7nm,0.7s,baz=108,slow=9.3,SNR=3.2						
ZALV	**Zalesovo Beam**	**36.60**	**307**	P	**P**	**01 09 50.8**	**-0.5**
	1.9nm,0.5s,baz=94,slow=9.1,SNR=10.0						
MKAR	**Makanchi Array**	**39.52**	**296**	P	**P**	**01 10 15.1**	**-0.7**
	0.6nm,0.7s,baz=76,slow=6.1,SNR=6.4						
ILAR	**Eielson Array**	**45.59**	**35**	P	P	01 11 01.4	-3.0
	0.1nm,0.4s,baz=288,slow=7.1,SNR=3.4						
INK	**Inuvik**	**50.01**	**29**	P	**P**	**01 11 37.6**	**-0.5**
	0.7nm,0.4s,baz=307,slow=6.6,SNR=9.9						
YKA	**Yellowknife Ar**	**59.63**	**31**	P	**P**	**01 12 46.3**	**-0.9**
	0.2nm,0.5s,baz=303,slow=6.6,SNR=8.9						
YKA				PcP	**PcP**	**01 13 31.3**	**-0.8**
	0.1nm,0.4s,baz=306,slow=3.6,SNR=4.9						
FINES	**FINESS Array B**	**62.63**	**330**	P	**P**	**01 13 06.7**	**-0.6**
	0.4nm,0.5s,baz=64,slow=6.5,SNR=5.7						
WRA	**Warramunga Arr**	**62.80**	**185**	P	**P**	**01 13 07.6**	**-1.3**
	0.5nm,0.5s,baz=2.5,slow=6.7,SNR=7.2						
PDAR	**Pinedale Array**	**74.83**	**45**	P	**P**	**01 14 22.4**	**-0.8**
	0.7nm,0.7s,baz=347,slow=2.8,SNR=7.4						
TXAR	**Lajitas Array**	**87.92**	**51**	P	**P**	**01 15 31.5**	**-0.4**
	0.1nm,0.6s,baz=256,slow=1.9,SNR=2.6						
TBI	**Tubuai**	**93.20**	**119**	*e*T	T	01 16 18.4	
	7.6nm,0.3s						

*BJI **11** 01:28:20.9, 0.71N×126.83E, h70km, mb4.7/16, mB4.9/11, Ms4.4/8, Ms7 4.0/7*
*ISCJB **11** 01:28:23.5±0.4, 1.07N±0.03×126.81E±0.03, h76km±4km, mb4.3/23, Error ellipse: s-maj=5.8km s-min=4.7km az=141.7*
*IDC **11** 01:28:24.3±3.6, 1.03N×126.86E, h75km±33km, mb4.0/14, mb1 4.2/15, mb1mx3.9/34, mbtmp4.3/15, MS3.2/10, Ms1 3.2/10, ms1mx3.0/32, Error ellipse: s-maj=27.2km s-min=12.2km az=71.0*
*DJA **11** 01:28:24.7±0.5, 1.1N±2.2×12.7E±, h34km±6km, M4.9/13, mb5.1/8, mB5.2/4, MLv4.9/13, Mw(mB)4.5/4*
*NEIC **11** 01:28:24.8±0.7, 1.07N×126.89E, h76km±6km, mb4.5/10, Error ellipse: s-maj=8.5km s-min=6.2km az=50.0*

ISC 11 01:28:25.4±0.4, 1.02N±0.04×126.81E±0.05, h80km±3km, n69, σ1.58/98, mb4.3/23, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.60**	**114**	P	**Pn**	**01 28 38.6**	**-1.5**
TNTI				S	**Sn**	**01 28 46.0**	**-5.0**
TNTI	**Ternate**	**0.60**	**114**	*e*Pn	**Pn**	**01 28 38.4**	**-1.8**
TNTI				*e*S	**Sn**	**01 28 48.8**	**-2.2**
LBMI	**Labuha**	**1.78**	**157**	P	**Pn**	**01 28 55.3**	**+0.8**
LBMI				S	**Sn**	**01 29 18.8**	**+2.3**
KMSI	**Cibinong**	**2.87**	**261**	P	**Pn**	**01 29 09.3**	**+0.3**
KMSI				S	**Sn**	**01 29 41.6**	**-0.9**
SGSI	**Sangihe**	**2.94**	**334**	P	**Pn**	**01 29 08.2**	**-1.9**
SGSI				S	**Sn**	**01 29 41.3**	**-3.1**
SANI	**Sanana**	**3.16**	**195**	P	**Pn**	**01 29 12.4**	**-0.5**
SANI				S	**Sn**	**01 29 47.2**	**-2.4**
NLAI	**Namlea**	**4.24**	**176**	P	**Pn**	**01 29 28.7**	**+1.1**
LUWI	**Luwuk**	**4.53**	**243**	P	**Pn**	**01 29 33.1**	**+1.5**
LUWI	**Luwuk**	**4.53**	**243**	*e*Pn	**Pn**	**01 29 33.0**	**+1.4**
LUWI				*e*S	**Sn**	**01 30 21.6**	**-1.4**
SWI	**Sorong**	**4.82**	**113**	P	**Pn**	**01 29 36.8**	**+1.2**
MRSI	**Marisa**	**4.90**	**264**	P	**Pn**	**01 29 35.4**	**-1.3**
TOLI	**Toli-Toli**	**6.02**	**271**	Pn	**Pn**	**01 29 50.2**	**-1.7**
TOLI				S	**Sn**	**01 30 59.9**	**+0.4**
FAKI	**Fak Fak**	**6.70**	**126**	P	**Pn**	**01 30 03.3**	**+2.1**
	74nm,0.9s,0.2nm						
FAKI	**Fak Fak**	**6.70**	**126**	*e*Pn	**Pn**	**01 30 02.0**	**+0.8**
FAKI				*e*S	Sn	01 31 09.6	-6.4
BNSI	**Bone**	**8.60**	**231**	P	**Pn**	**01 30 27.8**	**+0.7**
	139nm,0.8s,966nm						
SPSI	**Sidrap Palu**	**8.61**	**235**	P	**Pn**	**01 30 27.8**	**+0.5**
	138nm,0.7s,1μm						
BKSI	**Bulukumba**	**9.18**	**227**	P	**Pn**	**01 30 36.8**	**+1.7**
	123nm,0.7s,1μm						
KAPI	**Kappang**	**9.26**	**230**	P	**Pn**	**01 30 36.1**	**-0.1**
	8.0nm,0.3s,baz=11,slow=2.9,SNR=20						
KAPI				S	**Sn**	**01 32 16.3**	**-2.3**
	4.0nm,0.3s,baz=75,slow=20,SNR=3.6						
KAPI				LR	LR	01 35 16.4	
	comp=Z,78nm,19.9s,baz=77,slow=44						
KAPI	**Kappang**	**9.26**	**230**	*e*Pn	**Pn**	**01 30 36.0**	**-0.1**
KAPI				S	**Sn**	**01 32 16.3**	**-2.3**
KAPI				*e*S	**Sn**	**01 32 18.7**	**+0.1**
EDFI	**Ende, Flores**	**10.96**	**208**	P	Pn	01 31 02.8	+3.2
	76nm,0.8s						

SOEI Soe 11.00 193 Pn **Pn** **01 31 00.9 +0.8**
SBUM Sibu 14.65 276 *e*Pn **Pn** **01 31 49.7 +0.9**
13nm,1.0s
KSM Kuching 16.51 272 *e*Pn **Pn** **01 32 12.5 +0.3**
21nm,0.9s
PCJI Pacitan 18.08 239 P **Pn** **01 32 33.6 +2.2**
112nm,1.5s
LEM Lembang 20.68 248 P Pn 01 33 02.5 +0.1
52nm,0.9s,baz=26,slow=5.0,SNR=5.2
GUMO Guam 21.80 54 LR LR 01 40 12.5
comp=Z,88nm,20.8s,baz=224,slow=32
WRAB Tennant Creek 22.09 161 *e*P **P** **01 33 13.2 -1.1**
16nm,0.7s
WRAB *e* 01 37 05.5
WRA Warramunga Arr 22.10 161 P **P** **01 33 13.4 -0.9**
9.2nm,0.6s,baz=336,slow=11,SNR=31
WRA S **S** **01 37 10.1 -3.2**
1.9nm,0.8s,baz=326,slow=22,SNR=4.8
MBWA Marble Bar 23.10 197 *e*P **P** **01 33 23.6 -1.1**
9.5nm,0.6s
QIZ Qiongzhong 24.44 318 P **P** **01 33 36.9 0.0**
QIZ S **S** **01 37 53.5 +2.1**
AS31 Alice Springs 25.48 165 *e*P **P** **01 33 46.3 -0.1**
AS31 *e*S **S** **01 38 13.7 +5.6**
ASAR Alice Springs 25.49 165 P **P** **01 33 46.1 -0.3**
10nm,0.7s,baz=341,slow=11,SNR=41
ASAR PcP **PcP** **01 37 16.6 +0.2**
0.7nm,0.7s,baz=357,slow=2.0,SNR=4.1
ASAR S **S** **01 38 07.8 -0.3**
1.1nm,0.9s,baz=344,slow=17,SNR=4.6
ASAR LR LR 01 44 02.4
comp=Z,55nm,18.4s,baz=346,slow=37
PSI Prapat 27.93 274 LR LR 01 47 20.6
comp=Z,34nm,18.6s,baz=71,slow=41
FORT Forrest 31.64 178 *e*P **P** **01 34 41.8 +0.7**
44nm,0.7s
WHN Wuhan 31.66 339 P P 01 34 45.7 +4.5
NJ2 Nanjing 31.77 347 *e*P **P** **01 34 42.8 +0.6**
NJ2 PMZ
30nm,0.8s
GYA Guiyang 31.87 324 *e*P **P** **01 34 43.8 +0.5**
GYA pP **pP** **01 35 04.0 +2.0**
GYA sP **sP** **01 35 13.2 +1.9**
GYA PP **PnPn** **01 35 52.8 +1.8**
GYA S **S** **01 39 49.7 +1.2**
GYA PMZ
10.0nm,0.8s
CMAR Chiang Mai Arr 32.38 304 P **P** **01 34 46.7 -1.0**
0.9nm,0.4s,baz=140,slow=7.1,SNR=3.5
CMAR LR LR 01 49 16.4
comp=Z,14nm,19.9s,baz=120,slow=39
STKA Stephens Creek 35.59 158 P **P** **01 35 14.7 -0.6**
4.4nm,0.9s,baz=325,slow=10,SNR=4.3
STKA LR LR 01 49 55.1
comp=Z,77nm,20.0s,baz=337,slow=36
STKA Stephens Creek 35.59 158 *e*P **P** **01 35 13.6 -1.7**
0.6nm,0.9s
KSRS Korea Array 36.27 1 LR LR 01 54 44.0
comp=Z,8.1nm,18.1s,baz=10.0,slow=44
MJAR Matsushiro Arr 36.89 15 P **P** **01 35 24.7 -1.7**
1.0nm,0.4s,baz=188,slow=9.6,SNR=3.6
CD2 Chengdu 36.90 326 *e*P **P** **01 35 26.2 -0.4**
CD2 sP **sP** **01 35 53.3 -1.5**
CD2 S **S** **01 41 07.9 +2.1**
CD2 sS **sS** **01 41 38.8 +0.5**
CD2 PMZ
10.0nm,0.7s
CD2 PMZ
90nm,6.2s
CD2 LE
90nm,11.9s
CD2 LZ
110nm,8.3s
BJI Beijing 40.03 347 P **P** **01 35 52.6 0.0**
BJI PMZ
19nm,0.9s
BJI PMZ
63nm,3.6s
LZH Lanzhou 40.89 331 *e*P **P** **01 36 01.9 +1.9**
LZH pP **pP** **01 36 19.1 -0.1**
LZH sP **sP** **01 36 29.7 +1.3**
LZH PMZ
12nm,1.1s
HHC Hu-ho-hao-te 41.99 343 *e*P **P** **01 36 10.5 +1.6**
HHC sP **sP** **01 36 37.9 +0.6**
HHC PP **PnPn** **01 37 52.3 -1.1**
HHC S **S** **01 42 24.2 +2.3**
HHC sS **sS** **01 42 56.0 +1.1**
HHC SS **SS** **01 45 28.0 -3.9**
HHC PMZ
18nm,0.8s
HHC PMZ
130nm,6.2s
HHC LN
190nm,18.5s
HHC LE
190nm,16.0s
HHC LZ
140nm,17.3s
GTA Gaotai 45.47 330 *e*P P 01 36 44.4 +7.6
GTA pP pP 01 37 03.3 +6.9
GTA sP sP 01 37 12.1 +6.6
GTA pmax pmax
comp=Z,3.0nm,1.4s
ULN Ulaanbaatar 49.71 343 *e*P **P** **01 37 08.6 -1.0**
comp=Z,9.7nm,1.3s
SONM Songino Array 49.88 342 P **P** **01 37 10.6 -0.3**
comp=Z,4.1nm,1.0s,baz=150,slow=6.8,SNR=8.3
WMQ Urumqi 54.99 326 *e*P **P** **01 37 49.9 +1.2**
WMQ pP **pP** **01 38 09.0 +0.2**
WMQ sP **sP** **01 38 17.7 0.0**
WMQ PcP **PcP** **01 38 50.5 +1.0**
WMQ S **S** **01 45 22.7 -2.2**
WMQ sS **sS** **01 45 57.4 -1.7**
WMQ PMZ
comp=Z,9.0nm,0.5s
WMQ PMZ
comp=Z,99nm,5.2s
WMQ LN
comp=Z,55nm,20.0s
WMQ LE
comp=Z,34nm,22.4s
WMQ LZ
comp=Z,31nm,21.0s
PETK Petropavlovsk- 57.90 21 P **P** **01 38 08.7 -0.4**
comp=Z,1.0nm,0.5s,baz=188,slow=6.0,SNR=3.9
MK31 Makanchi Array 59.83 326 *e*P **P** **01 38 22.4 -0.2**
MKAR Makanchi Array 59.83 326 P **P** **01 38 22.5 -0.1**
comp=Z,1.8nm,0.3s,baz=124,slow=6.0,SNR=42
MKAR LR LR 02 05 38.8
comp=Z,24nm,19.8s,baz=31,slow=37
MKAR Makanchi Array 59.83 326 *e*P **P** **01 38 22.6 +0.1**
**K

MAW	**Mawson**	**81.26 200**	P	**P**	**01 40 31.7**	**-0.7**
	comp=Z,6.6nm,0.8s,baz=76,slow=4.2,SNR=6.5					
RAYN	**Ar Rayn**	**81.62 293**	P	**P**	**01 40 35.5**	**+0.1**
	comp=Z,3.1nm,0.8s					
BRTR	**Keskin Array B**	**91.80 310**	P	**P**	**01 41 23.4**	**-1.5**
	comp=Z,0.4nm,0.8s,baz=104,slow=6.1,SNR=3.1					
TORD	**Torodi Ar. Bea**	**123.80 286**	PKP	**PKPdf**	**01 47 14.5**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=62,slow=1.7,SNR=6.0					

BNS ***11*** *02:13:40.0±0.5,45°.14N×7°.89E,h10km,ML3.5*
ISCJB ***11*** *02:13:41.1±0.2,45°.770N±0°.009×9°.70E±0°.01,h8km±1km, Error ellipse: s-maj=1.5km s-min=1.4km az=40.4*
ZUR ***11*** *02:13:41.9,45°.73N×9°.74E,h5km±4km, ML3.4/18*
CSEM ***11*** *02:13:42.4±0.1,45°.74N×9°.71E,h10km, ML3.8/37, Error ellipse: s-maj=1.4km s-min=1.3km az=141.0*
LDG ***11*** *02:13:42.5±0.1,45°.71N×9°.84E,h3km, Ml3.6/24, Error ellipse: s-maj=2.1km s-min=1.6km az=41.0*
VIE ***11*** *02:13:42.8±0.3,45°.78N×9°.69E,h10km±2km,mb3.0/16, ML3.3/18, Error ellipse: s-maj=2.4km s-min=1.8km az=124.0 46 km SSW of Sondrio*
PRU ***11*** *02:13:42.8,45°.66N×9°.69E,h11km*
ROM ***11*** *02:13:42.3±0.1,45°.80N×9°.72E,h3km, Ml3.5/34, Error ellipse: s-maj=1.8km s-min=1.5km az=135.0*
NEIC ***11*** *02:13:43.0,45°.77N×9°.79E,h3km, ML3.3(ROM), After ROM.*
NEIC Felt [IV] in the Dalmine-Albino-Sarnico area and [II] at Brescia. Felt in much of Lombardia.
STR ***11*** *02:13:44.9±0.2,45°.77N×9°.60E,h10km, Ml3.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
GEN ***11*** *02:13:44.0,45°.83N×9°.65E,h20km, ML3.6*
BGR ***11*** *02:13:44.4±0.5,45°.74N×9°.64E,h10km, ML3.7/12, Error ellipse: s-maj=8.9km s-min=8.9km az=73.0*
SZGRF ***11*** *02:13:44.0,45°.71N×9°.60E,h10km,mb3.6,Northern Italy*

ISC 11 02:13:42.9±0.9, 45.75N±0°.01×9.70E±0°.01, h14km±8km, n376, σ1°§10/575, 11C-35D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
CTL8	**Castelleone**	**0.47**	**174**	Pg	**Pb**	**02 13 53.6**	**+0.6**
CTL8				Sg	**Sb**	**02 14 03.8**	**+4.0**
MUGIO	**Muggio**	**0.49**	**291**	⇓*i*Pg	**Pg**	**02 13 52.1**	**-0.5**
	3µm,0.3s						
MUGIO	**Muggio**	**0.49**	**291**	Pg	**Pg**	**02 13 52.2**	**-0.4**
MUGIO	**Muggio**	**0.49**	**291**	Pg	**Pg**	**02 13 52.2**	**-0.4**
MUGIO	**Muggio**	**0.49**	**291**	P	**Pb**	**02 13 53.1**	**-0.2**
MUGIO	**Muggio**	**0.49**	**291**	P	**Pb**	**02 13 53.1**	**-0.2**
SALO	**Salr**	**0.59**	**102**	Pg	**Pg**	**02 13 53.8**	**-0.8**
SALO	**Salr**	**0.59**	**102**	Pg	**Pg**	**02 13 53.8**	**-0.8**
MABI	**Malga Bissina**	**0.65**	**62**	⇓*i*Pg	**Pg**	**02 13 54.3**	**-1.3**
	2µm,0.1s						
MABI	**Malga Bissina**	**0.65**	**62**	Pg	**Pg**	**02 13 54.3**	**-1.3**
	638nm,0.5s						
MABI	**Malga Bissina**	**0.65**	**62**	P	**Pg**	**02 13 54.3**	**-1.3**
MABI				S	**Sg**	**02 14 03.3**	**-0.9**
MABI	**Malga Bissina**	**0.65**	**62**	P	**Pg**	**02 13 54.3**	**-1.3**
MABI				S	**Sg**	**02 14 03.3**	**-0.9**
MAGA	**Magasa**	**0.65**	**87**	Pg	**Pg**	**02 13 54.5**	**-1.2**
MAGA				Sg	**Sg**	**02 14 04.9**	**+0.5**
	4µm,0.5s						
MAGA	**Magasa**	**0.65**	**87**	Pg	**Pg**	**02 13 54.5**	**-1.2**
MAGA				Sg	**Sg**	**02 14 04.9**	**+0.5**
	4µm,0.5s						
VARE	**Varese**	**0.66**	**281**	*e*Pg	**Pg**	**02 13 55.8**	**0.0**
	30µm,0.4s						
VARE	**Varese**	**0.66**	**281**	Pg	**Pb**	**02 13 56.6**	**+0.4**
	3µm,0.5s						
VARE	**Varese**	**0.66**	**281**	*e*Pg	**Pg**	**02 13 55.8**	**0.0**
	30µm,0.4s						
BERNI	**Berninapass**	**0.70**	**19**	⇓*i*Pg	**Pg**	**02 13 56.0**	**-0.6**
	1µm,0.4s						
BERNI	**Berninapass**	**0.70**	**19**	P	**Pg**	**02 13 56.1**	**-0.6**
BERNI				S	**Sg**	**02 14 06.7**	**+0.7**
BERNI	**Berninapass**	**0.70**	**19**	P	**Pg**	**02 13 56.1**	**-0.6**
BERNI				S	**Sg**	**02 14 06.7**	**+0.7**
VDL	**Val di Lei**	**0.76**	**347**	⇓*i*P	**Pg**	**02 13 57.4**	**-0.2**
	1µm,0.3s						
VDL	**Val di Lei**	**0.76**	**347**	⇓*i*P	**Pg**	**02 13 57.4**	**-0.2**
	1µm,0.3s						
SCEL	**Celerina**	**0.77**	**8**	⇓*i*P	**Pg**	**02 13 57.4**	**-0.5**
SCEL	**Celerina**	**0.77**	**8**	⇓*i*P	**Pg**	**02 13 57.4**	**-0.5**
BRMO	**Bormio**	**0.87**	**33**	Pg	**Pg**	**02 13 58.7**	**-1.0**
BRMO				Sg	**Sg**	**02 14 10.6**	**-0.5**
	297nm,0.7s						
BRMO	**Bormio**	**0.87**	**33**	Pg	**Pg**	**02 13 58.7**	**-1.0**
BRMO				Sg	**Sg**	**02 14 10.6**	**-0.5**
	297nm,0.7s						
FUORN	**Ofenpass-Fuorn**	**0.96**	**24**	⇓*i*P	**Pg**	**02 14 00.5**	**-0.9**
	1µm,0.6s						
FUORN	**Ofenpass-Fuorn**	**0.96**	**24**	P	**Pg**	**02 14 00.6**	**-0.9**
FUORN	**Ofenpass-Fuorn**	**0.96**	**24**	P	**Pg**	**02 14 00.6**	**-0.8**
DOETR	**Doetra (Olivon**	**0.97**	**324**	⇓*i*P	**Pg**	**02 14 01.3**	**-0.4**
	7µm,0.5s						
DOETR	**Doetra (Olivon**	**0.97**	**324**	⇓*i*P	**Pg**	**02 14 01.3**	**-0.4**
	7µm,0.5s						
ROVR	**Rover¯¤ Verone**	**0.97**	**96**	Pg	**Pg**	**02 14 00.9**	**-0.8**
ROVR				Sg	**Sg**	**02 14 14.6**	**+0.2**
	1µm,0.3s						
ROVR	**Rover¯¤ Verone**	**0.97**	**96**	Pg	**Pg**	**02 14 00.9**	**-0.8**
ROVR				Sg	**Sg**	**02 14 14.6**	**+0.2**
	1µm,0.3s						
BOB	**Bobbio (Coli)**	**1.00**	**190**	Pg	**Pn**	**02 14 03.0**	**+0.5**
	908nm,0.5s						
BOB	**Bobbio (Coli)**	**1.00**	**190**	P	**Pn**	**02 14 02.6**	**+0.1**
BOB	**Bobbio (Coli)**	**1.00**	**190**	Pg	**Pn**	**02 14 03.0**	**+0.5**
	908nm,0.5s						
BOB				S	**Sn**	**02 14 17.3**	**+0.9**
BOB	**Bobbio (Coli)**	**1.00**	**190**	P	**Pn**	**02 14 02.6**	**+0.1**
BOB				S	**Sn**	**02 14 17.3**	**+0.9**
FUSIO	**Fusio**	**1.01**	**315**	⇓*i*P	**Pg**	**02 14 01.8**	**-0.6**
	4µm,0.5s						
FUSIO	**Fusio**	**1.01**	**315**	Pg	**Pg**	**02 14 01.8**	**-0.6**
FUSIO	**Fusio**	**1.01**	**315**	⇓*i*P	**Pg**	**02 14 01.8**	**-0.6**
	4µm,0.5s						
FUSIO				S	**Sn**	**02 14 17.1**	**+0.3**
FUSIO	**Fusio**	**1.01**	**315**	P	**Pg**	**02 14 01.8**	**-0.6**
FUSIO				S	**Sn**	**02 14 17.1**	**+0.3**
PIORA	**Tunnel**	**1.01**	**322**	⇓*i*P	**Pg**	**02 14 02.1**	**-0.4**
	2µm,0.4s						
PIORA	**Tunnel**	**1.01**	**322**	⇓*i*P	**Pg**	**02 14 02.1**	**-0.4**
	2µm,0.4s						
DAVOX	**Davos/Dischmat**	**1.04**	**7**	⇓*i*P	**Pg**	**02 14 02.4**	**-0.6**
	1µm,0.6s						
DAVOX	**Davos/Dischmat**	**1.04**	**7**	⇓*i*P	**Pg**	**02 14 02.4**	**-0.6**
	1µm,0.6s						
MOSI	**Grossmontoni**	**1.05**	**34**	⇓*i*P	**Pg**	**02 14 01.9**	**-1.3**
	5µm,0.3s						
MOSI	**Grossmontoni**	**1.05**	**34**	Pg	**Pg**	**02 14 02.2**	**-1.0**
MOSI				Sg	**Sg**	**02 14 16.8**	**-0.2**
	1µm,0.5s						
MOSI	**Grossmontoni**	**1.05**	**34**	P	**Pg**	**02 14 02.1**	**-1.1**
MOSI				Sg	**Sg**	**02 14 16.8**	**-0.2**
	1µm,0.5s						
MOSI	**Grossmontoni**	**1.05**	**34**	P	**Pg**	**02 14 02.1**	**-1.1**
MOSI				S	**Sg**	**02 14 16.6**	**-0.4**
PRMA	**PARMA**	**1.08**	**156**	Pg	**Pn**	**02 14 04.5**	**+1.0**
	1µm,0.5s						
PRMA	**PARMA**	**1.08**	**156**	Pg	**Pn**	**02 14 04.5**	**+1.0**
	1µm,0.5s						
CUNA	**Curaglia**	**1.09**	**328**	⇓*i*P	**Pb**	**02 14 03.6**	**-0.1**
	3µm,0.6s						
CUNA	**Curaglia**	**1.09**	**328**	⇓*i*P	**Pb**	**02 14 03.6**	**-0.1**
	3µm,0.6s						
SBPO	**S.Benedetto Po**	**1.11**	**129**	Pg	**Pn**	**02 14 04.4**	**+0.4**
SBPO				Sg	**Sn**	**02 14 21.4**	**+2.4**
	2µm,0.6s						
SBPO	**S.Benedetto Po**	**1.11**	**129**	Pg	**Pn**	**02 14 04.4**	**+0.4**
CURA	**Stauanlage Cun**	**1.12**	**323**	⇓*i*P	**Pb**	**02 14 02.5**	**-1.7**
	6µm,0.6s						
CURA	**Stauanlage Cun**	**1.12**	**323**	⇓*i*P	**Pb**	**02 14 02.5**	**-1.7**
	6µm,0.6s						
NOVE	**Novellara**	**1.19**	**142**	Pg	**Pg**	**02 14 05.7**	**-0.2**
NOVE				Sg	**Sn**	**02 14 24.4**	**+3.3**
	6µm,0.4s						
NOVE	**Novellara**	**1.19**	**142**	Pg	**Pg**	**02 14 05.7**	**-0.2**
LLS	**Linth-Limmern**	**1.20**	**337**	⇓*i*P	**Pn**	**02 14 04.1**	**-1.3**
	2µm,0.7s						
MMK	**Mattmark**	**1.25**	**285**	Pg	**Pn**	**02 14 06.2**	**+0.1**
MMK	**Mattmark**	**1.25**	**285**	Pg	**Pn**	**02 14 06.2**	**+0.1**
SATI	**Passo dei Sala**	**1.28**	**276**	Pg	**Pn**	**02 14 06.8**	**+0.1**
	749nm,0.2s						
SATI	**Passo dei Sala**	**1.28**	**276**	P	**Pn**	**02 14 06.9**	**+0.2**
SATI				S	**Sb**	**02 14 22.0**	**-1.5**
APPI	**Appiano**	**1.29**	**55**	Pg	**Pn**	**02 14 06.0**	**-0.6**
APPI				Sg	**Sb**	**02 14 23.6**	**+0.1**
	827nm,0.5s						
APPI	**Appiano**	**1.29**	**55**	Pg	**Pn**	**02 14 06.0**	**-0.6**
APPI				Sg	**Sb**	**02 14 23.6**	**+0.1**
	827nm,0.5s						
ROTM	**Rocchetta Tana**	**1.31**	**227**	P	**Pb**	**02 14 07.5**	**+0.3**
ROTM				S	**Sb**	**02 14 22.8**	**-1.0**
PLONS	**Plons/SG**	**1.32**	**351**	*e*P	**Pn**	**02 14 05.6**	**-1.4**
	1µm,0.6s						
PLONS	**Plons/SG**	**1.32**	**351**	*e*P	**Pn**	**02 14 05.6**	**-1.4**
	1µm,0.6s						
SC2M	**Scurtabo**	**1.35**	**185**	Pg	**Pg**	**02 14 08.5**	**-0.3**
	739nm,0.3s						
SC2M	**Scurtabo**	**1.35**	**185**	P	**Pg**	**02 14 08.5**	**-0.3**
SC2M				S	**Sb**	**02 14 24.3**	**-0.8**
CODM	**Codolo**	**1.36**	**175**	P	**Pb**	**02 14 08.2**	**0.0**
CODM				S	**Sb**	**02 14 24.1**	**-1.3**
KOSI	**Kohlern**	**1.37**	**58**	Pg	**Pn**	**02 14 07.9**	**+0.1**
	1µm,0.8s						
KOSI	**Kohlern**	**1.37**	**58**	Pg	**Pn**	**02 14 07.9**	**+0.1**
	1µm,0.8s						
TRAV	**Traversella**	**1.39**	**261**	P	**Pn**	**02 14 07.4**	**-0.5**
TRAV				S	**Sb**	**02 14 22.9**	**-3.3**
RAVA	**Ravarino**	**1.41**	**134**	Pg	**Pg**	**02 14 10.1**	**0.0**
	3µm,0.5s						
RAVA	**Ravarino**	**1.41**	**134**	Pg	**Pg**	**02 14 10.1**	**0.0**
	3µm,0.5s						
ERBM	**Eremo**	**1.42**	**159**	Pg	**Pg**	**02 14 09.9**	**-0.4**
	678nm,1.1s						
ERBM	**Eremo**	**1.42**	**159**	Pg	**Pg**	**02 14 09.9**	**-0.4**
	678nm,1.1s						
MUO	**Muotathal**	**1.42**	**329**	⇓*i*P	**Pn**	**02 14 07.7**	**-0.8**
	4µm,0.8s						
MUO	**Muotathal**	**1.42**	**329**	⇓*i*P	**Pn**	**02 14 07.7**	**-0.8**
	4µm,0.8s						
BNALP	**Bannalp**	**1.43**	**322**	⇑*i*P	**Pn**	**02 14 07.8**	**-0.7**
	959nm,0.6s						
BNALP	**Bannalp**	**1.43**	**322**	⇑*i*P	**Pn**	**02 14 07.8**	**-0.7**
	959nm,0.6s						
GENL	**Genova Univers**	**1.44**	**201**	P	**Pn**	**02 14 08.7**	**+0.2**
GENL				S	**Sn**	**02 14 25.1**	**-2.0**
MSSA	**Maissana**	**1.44**	**185**	Pg	**Pb**	**02 14 09.8**	**+0.3**
MSSA				Sg	**Sg**	**02 14 30.8**	**+1.6**
	351nm,0.6s						
MSSA	**Maissana**	**1.44**	**185**	Pg	**Pb**	**02 14 09.8**	**+0.3**
MSSA				Sg	**Sg**	**02 14 30.8**	**+1.6**
	351nm,0.6s						
VALM	**Valbona**	**1.45**	**164**	P	**Pb**	**02 14 09.7**	**0.0**
VALM				S	**Sn**	**02 14 26.4**	**-1.2**
PCP	**Piancastagn**	**1.46**	**214**	P	**Pn**	**02 14 09.2**	**+0.4**
PCP				S	**Sn**	**02 14 26.1**	**-1.6**
FETA	**Feichten**	**1.46**	**29**	⇑*e*Pn	**Pn**	**02 14 09.5**	**+0.5**
	SNR=47						
FETA				⇑*i*Sn	**Sn**	**02 14 28.4**	**+0.4**
FETA	**Feichten**	**1.46**	**29**	Pn	**Pn**	**02 14 09.5**	**+0.5**
	SNR=47						
FETA				Sn	**Sn**	**02 14 28.4**	**+0.4**
CGRP	**Cima Grappa**	**1.48**	**84**	Pg	**Pn**	**02 14 09.2**	**0.0**
CGRP				Sg	**Sn**	**02 14 29.4**	**+1.0**
	1µm,0.6s						
CGRP	**Cima Grappa**	**1.48**	**84**	Pg	**Pn**	**02 14 09.2**	**0.0**
CGRP				Sg	**Sn**	**02 14 29.4**	**+1.0**
	1µm,0.6s						
ABSI	**Aberstueckl**	**1.49**	**48**	Pg	**Pn**	**02 14 09.9**	**+0.4**
ABSI				Sg	**Sg**	**02 14 31.2**	**+0.1**
	833nm,0.8s						
ABSI	**Aberstueckl**	**1.49**	**48**	Pg	**Pn**	**02 14 09.9**	**+0.4**
ABSI				Sg	**Sg**	**02 14 31.2**	**+0.1**
	833nm,0.8s						
GSCL	**Gusciola**	**1.53**	**155**	Pg	**Pb**	**02 14 11.1**	**0.0**
	84nm,0.4s						
GSCL	**Gusciola**	**1.53**	**155**	Pg	**Pb**	**02 14 11.1**	**0.0**
	84nm,0.4s						
DAVA	**Damuels**	**1.54**	**5**	*e*Pn	**Pb**	**02 14 11.9**	**+0.5**
DAVA				*e*Sg	**Sg**	**02 14 36.4**	**+3.7**
DAVA	**Damuels**	**1.54**	**5**	*e*Pg	**Pb**	**02 14 11.8**	**+0.5**
	SNR=358						
DAVA				⇓*i*Sg	**Sg**	**02 14 33.6**	**+0.9**
	255nm,0.3s						
DAVA	**Damuels**	**1.54**	**5**	*e*P	**Pn**	**02 14 09.0**	**-1.1**
	2µm,0.8s						
DAVA	**Damuels**	**1.54**	**5**	*e*P	**Pn**	**02 14 09.0**	**-1.1**
	2µm,0.8s						
DAVA	**Damuels**	**1.54**	**5**	Pg	**Pb**	**02 14 11.8**	**+0.4**
	SNR=358						
DAVA				*e*Sg	**Sg**	**02 14 36.4**	**+3.7**
VLC	**Villacollemand**	**1.66**	**163**	Pg	**Pb**	**02 14 12.8**	**-0.5**
VLC	**Villacollemand**	**1.66**	**163**	*e*Pn	**Pn**	**02 14 12.4**	**+0.8**
VLC	**Villacollemand**	**1.66**	**163**	Pg	**Pb**	**02 14 12.8**	**-0.5**
VLC	**Villacollemand**	**1.66**	**163**	*e*Pn	**Pn**	**02 14 12.4**	**+0.8**
ZCCA	**Zocca**	**1.67**	**147**	Pg	**Pb**	**02 14 13.3**	**-0.1**
	787nm,0.9s						
ZCCA	**Zocca**	**1.67**	**147**	Pg	**Pb**	**02 14 13.3**	**-0.1**
	787nm,0.9s						
ROSI	**Rosskopf**	**1.68**	**45**	Pg	**Pb**	**02 14 13.8**	**+0.2**
	485nm,0.8s						
ROSI	**Rosskopf**	**1.68**	**45**	Pg	**Pb**	**02 14 13.8**	**+0.2**
	485nm,0.8s						
FIU	**Minerbio Fiu**	**1.69**	**130**	Pg	**Pg**	**02 14 14.9**	**-0.4**
FIU	**Minerbio Fiu**	**1.69**	**130**	Pg	**Pg**	**02 14 14.9**	**-0.4**
QLNO	**Quiliano**	**1.72**	**214**	Pg	**Pn**	**02 14 13.0**	**+0.6**
	159nm,0.6s						
QLNO	**Quiliano**	**1.72**	**214**	Pg	**Pn**	**02 14 13.0**	**+0.6**
	159nm,0.6s						
AGOR	**Agordo**	**1.72**	**71**	Pg	**Pn**	**02 14 13.5**	**+1.0**
	418nm,0.5s						
LSD	**Lago del Serru**	**1.82**	**262**	Pg	**Pb**	**02 14 16.8**	**+0.7**
LSD				Sg	**Sb**	**02 14 40.0**	**+1.1**
	249nm,0.4s						
MTRZ	**Monterenzio**	**1.86**	**137**	Pg	**Pg**	**02 14 17.7**	**-0.9**
MTRZ	**Monterenzio**	**1.86**	**137**	Pg	**Pg**	**02 14 17.7**	**-0.9**
MOTA	**Moosalm**	**1.87**	**31**	⇓*e*Pn	**Pn**	**02 14 14.7**	**+0.1**
	SNR=147						
MOTA	**Moosalm**	**1.87**	**31**	Pn	**Pn**	**02 14 14.7**	**+0.1**
	SNR=147						
RETA	**Reutte**	**1.89**	**23**	⇑*e*Pn	**Pn**	**02 14 15.8**	**+1.0**
	SNR=45						
RETA				⇓*i*Sg	**Sg**	**02 14 44.9**	**+1.2**
	125nm,0.7s						
RETA	**Reutte**	**1.89**	**23**	Pn	**Pn**	**02 14 15.8**	**+1.0**
	SNR=45						
RETA				Sg	**Sg**	**02 14 44.9**	**+1.2**
	125nm,0.7s						
CMPO	**Campotto Po**	**1.90**	**127**	Pg	**Pb**	**02 14 17.1**	**-0.1**
CMPO	**Campotto Po**	**1.90**	**127**	Pg	**Pb**	**02 14 17.1**	**-0.1**
MAIM	**Mastiano**	**1.92**	**163**	Pg	**Pn**	**02 14 16.1**	**+1.0**
	180nm,0.4s						
POLC	**Polcenigo**	**1.98**	**81**	Pg	**Pb**	**02 14 18.3**	**-0.4**
	689nm,0.4s						
POLC	**Polcenigo**	**1.98**	**81**	Pg	**Pb**	**02 14 18.3**	**-0.4**
	689nm,0.4s						
WTTA	**Wattenberg**	**2.02**	**41**	*e*Pn	**Pb**	**02 14 19.6**	**0.0**
WTTA	**Wattenberg**	**2.02**	**41**	⇓*e*Pn	**Pn**	**02 14 16.7**	**0.0**
	SNR=36						
WTTA				⇓*i*Sn	**Sn**	**02 14 42.3**	**+0.4**
WTTA				⇑*i*Sg	**Sg**	**02 14 48.9**	**+0.9**
	326nm,0.8s						
WTTA	**Wattenberg**	**2.02**	**41**	*e*Pn	**Pb**	**02 14 19.6**	**0.0**
WTTA				Sn	**Sn**	**02 14 42.3**	**+0.4**
WTTA				Sg	**Sg**	**02 14 48.9**	**+0.9**
	326nm,0.8s						
RISI	**Rein**	**2.04**	**53**	Pg	**Pn**	**02 14 18.8**	**+1.8**
	457nm,0.6s						
WATA	**Walderalm**	**2.05**	**39**	⇓*e*Pn	**Pn**	**02 14 17.4**	**+0.3**
	SNR=53						
WATA	**Walderalm**	**2.05**	**39**	Pn	**Pn**	**02 14 17.4**	**+0.3**
	SNR=53						
SEI	**Scarperia**	**2.06**	**145**	Pg	**Pb**	**02 14 19.0**	**-1.2**
	297nm,0.3s						
LPG	**La Plagne**	**2.08**	**264**	*e*Pn	**Pn**	**02 14 17.4**	**-0.2**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**02 14 44.1**	**+0.6**
	116nm,0.3s						
LPG	**La Plagne**	**2.08**	**264**	*e*Pn	**Pn**	**02 14 17.4**	**-0.2**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**02 14 44.1**	**+0.6**
	58nm,0.3s						
LPL	**La Plagne**	**2.09**	**265**	*e*Pn	**Pn**	**02 14 17.9**	**+0.2**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**02 14 43.7**	**+0.1**
	123nm,0.3s						
LPL	**La Plagne**	**2.09**	**265**	*e*Pn	**Pn**	**02 14 17.9**	**+0.2**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**02 14 43.7**	**+0.1**
	61nm,0.3s						
PII	**Pisa**	**2.11**	**163**	Pg	**Pn**	**02 14 18.3**	**+0.6**
ABTA	**Abfaltersbach**	**2.19**	**62**	⇓*e*Pn	**Pn**	**02 14 19.4**	**+0.4**
	SNR=25						
ABTA				⇓*i*Sn	**Sn**	**02 14 47.2**	**+1.2**
ABTA	**Abfaltersbach**	**2.19**	**62**	Pn	**Pn**	**02 14 19.4**	**+0.4**
	SNR=25						
ABTA				Sn	**Sn**	**02 14 47.2**	**+1.2**
VMG	**Vicchio**	**2.22**	**143**	Pg	**Pn**	**02 14 20.4**	**+1.1**
	246nm,0.8s						
BNI	**Bardonecchia**	**2.24**	**253**	Pg	**Pn**	**02 14 19.7**	**+0.1**
	42nm,0.4s						
BNI	**Bardonecchia**	**2.24**	**253**	*e*Pn	**Pn**	**02 14 18.9**	**-0.7**
BNI	**Bardonecchia**	**2.24**	**253**	*e*Pn	**Pn**	**02 14 18.9**	**-0.7**
BBS	**Basel-Blauen**	**2.28**	**320**	Pn	**Pn**	**02 14 20.2**	**0.0**
BBS	**Basel-Blauen**	**2.28**	**320**	Pg	**Pg**	**02 14 26.7**	**0.0**
BBS				Sg	**Sg**	**02 14 57.3**	**+1.0**
FVI	**Forni Avoltri**	**2.31**	**67**	Pg	**Pb**	**02 14 23.3**	**-1.0**
	161nm,0.8s						
MBDF	**Montbardon**	**2.31**	**245**	*e*Pn	**Pn**	**02 14 19.7**	**-0.9**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**02 14 48.8**	**0.0**
	89nm,0.3s						
MBDF	**Montbardon**	**2.31**	**245**	*e*Pn	**Pn**	**02 14 19.7**	**-0.9**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**02 14 48.8**	**0.0**
	44nm,0.3s						
SAOF	**Saorge**	**2.33**	**222**	Pn	**Pn**	**02 14 21.2**	**+0.4**
SAOF	**Saorge**	**2.33**	**222**	Pn	**Pn**	**02 14 21.2**	**+0.4**
AUTN	**L'Aution**	**2.38**	**223**	Pn	**Pn**	**02 14 21.8**	**+0.1**
AUTN	**L'Aution**	**2.38**	**223**	Pn	**Pn**	**02 14 21.8**	**+0.1**
SFI	**Santa Sofia**	**2.40**	**140**	Pg	**Pn**	**02 14 22.4**	**+0.7**
	256nm,0.9s						
SURF	**Saint Ours**	**2.40**	**239**	Pn	**Pn**	**02 14 22.0**	**0.0**
SURF	**Saint Ours**	**2.40**	**239**	Pn	**Pn**	**02 14 22.0**	**0.0**
FELD	**Feldberg im Sc**	**2.42**	**332**	Pn	**Pn**	**02 14 22.8**	**+0.6**
FELD				Sg	**Sg**	**02 15 02.4**	**+1.6**
SPAK	**Spaichingen-Ko**	**2.44**	**346**	Pn	**Pn**	**02 14 22.7**	**+0.4**
SPAK	**Spaichingen-Ko**	**2.44**	**346**	Pg	**Pg**	**02 14 29.3**	**-0.3**
SPAK				Sg	**Sg**	**02 15 03.3**	**+2.1**
TOUF	**Mont Tournerai**	**2.46**	**226**	Pn	**Pn**	**02 14 22.9**	**+0.2**
TOUF	**Mont Tournerai**	**2.46**	**226**	Pn	**Pn**	**02 14 22.9**	**+0.2**
SBF	**Sospel**	**2.48**	**221**	*e*Pn	**Pn**	**02 14 23.4**	**+0.5**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**02 14 52.0**	**-1.0**
	186nm,0.4s,SNR=1.0						
SBF	**Sospel**	**2.48**	**221**	*e*Pn	**Pn**	**02 14 23.4**	**+0.5**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**02 14 52.0**	**-1.0**
	93nm,0.4s,SNR=1.0						
CSNT	**Castellina Chi**	**2.54**	**153**	Pg	**Pn**	**02 14 23.9**	**+0.1**
	143nm,0.9s						
LOMF	**Lomont**	**2.55**	**310**	Pn	**Pn**	**02 14 23.9**	**+0.1**
LOMF				Sg	**Sg**	**02 15 06.8**	**+2.1**
LOMF	**Lomont**	**2.55**	**310**	Pn	**Pn**	**02 14 23.9**	**+0.1**
LOMF				Sg	**Sg**	**02 15 06.8**	**+2.1**
VINO	**Villanova**	**2.55**	**77**	Pg	**Pn**	**02 14 23.8**	**0.0**
	112nm,0.6s						
GDM	**Grand'Maison**	**2.58**	**259**	Pn	**Pn**	**02 14 23.6**	**-0.7**
GDM				Sg	**Sg**	**02 15 06.4**	**+0.7**
GDM	**Grand'Maison**	**2.58**	**259**	Pn	**Pn**	**02 14 23.6**	**-0.7**
GDM				Sg	**Sg**	**02 15 06.4**	**+0.7**
MVIF	**Mont Vial**	**2.59**	**225**	Pn	**Pn**	**02 14 24.6**	**+0.1**
MVIF	**Mont Vial**	**2.59**	**225**	Pn	**Pn**	**02 14 24.6**	**+0.1**
REVF	**Revere**	**2.60**	**220**	Pn	**Pn**	**02 14 25.1**	**+0.5**
REVF	**Revere**	**2.60**	**220**	Pn	**Pn**	**02 14 25.1**	**+0.5**
FUR	**Furstenfeldbru**	**2.65**	**24**	*e*Pn	**Pn**	**02 14 27.1**	**+1.8**
FUR				*e*Sg	**Sg**	**02 15 09.5**	**+1.5**
FUR	**Furstenfeldbru**	**2.65**	**24**	*e*Pn	**Pn**	**02 14 26.8**	**+1.6**
FUR				*e*Sg	**Sg**	**02 15 09.6**	**+1.6**
FUR	**Furstenfeldbru**	**2.65**	**24**	*e*Pn	**Pn**	**02 14 26.8**	**+1.6**
FUR				*e*Sg	**Sg**	**02

	SNR=1.0								
CDF					*e*Sn	**Sn**	02 15 08.6	-0.6	
CDF					*e*Sg	**Sg**	02 15 23.3	-0.3	
	58nm,0.6s								
HAU	**Haudompre**	**3.22**	**316**	*e*Pn	**Pn**	02 14 34.0	+1.0		
	SNR=1.0								
HAU					*e*Sn	**Sn**	02 15 11.2	0.0	
	SNR=1.0								
HAU					*e*Sg	**Sg**	02 15 25.6	-0.7	
	65nm,0.3s,SNR=1.0								
HAU	**Haudompre**	**3.22**	**316**	*e*Pn	**Pn**	02 14 34.0	+1.0		
	SNR=1.0								
HAU					*e*Sn	**Sn**	02 15 11.2	0.0	
	SNR=1.0								
HAU					*e*Sg	**Sg**	02 15 25.6	-0.7	
	33nm,0.3s,SNR=1.0								
PGF	**Pioggiola**	**3.24**	**189**	*e*Pn	**Pn**	02 14 32.9	-0.5		
	SNR=1.0								
PGF					*e*Sn	**Sn**	02 15 09.6	-2.2	
	22nm,0.2s,SNR=1.0								
PGF	**Pioggiola**	**3.24**	**189**	*e*Pn	**Pn**	02 14 32.9	-0.5		
	SNR=1.0								
PGF					*e*Sn	**Sn**	02 15 09.6	-2.2	
	11nm,0.2s,SNR=1.0								
LMR	**La Mourre**	**3.32**	**224**	*e*Pn	**Pn**	02 14 34.0	-0.4		
	SNR=1.0								
LMR					*e*Sn	**Sn**	02 15 10.6	-3.0	
	34nm,0.3s,SNR=1.0								
LMR	**La Mourre**	**3.32**	**224**	*e*Pn	**Pn**	02 14 34.0	-0.4		
	SNR=1.0								
LMR					*e*Sn	**Sn**	02 15 10.6	-3.0	
	17nm,0.3s,SNR=1.0								
SMRF	**Simiane la Rot**	**3.42**	**240**	*e*Pn	**Pn**	02 14 36.0	+0.1		
	SNR=1.0								
SMRF					*e*Sn	**Sn**	02 15 16.2	0.0	
	28nm,0.4s								
SMRF	**Simiane la Rot**	**3.42**	**240**	*e*Pn	**Pn**	02 14 36.0	+0.1		
	SNR=1.0								
SMRF					*e*Sn	**Sn**	02 15 16.2	0.0	
	14nm,0.4s								
OBKA	**Obir**	**3.46**	**76**	*e*Pn	**Pn**	02 14 38.2	+1.8		
OBKA					*e*Sg	**Sg**	02 15 37.1	+3.1	
OBKA	**Obir**	**3.46**	**76**	⇓*i*Pn	**Pn**	02 14 37.3	+0.9		
OBKA	**Obir**	**3.46**	**76**	*e*Pn	**Pn**	02 14 38.2	+1.8		
OBKA					*e*Sg	**Sg**	02 15 37.1	+3.1	
LANF	**Langenberg**	**3.48**	**339**	Pn	**Pn**	02 14 36.6	0.0		
LANF	**Langenberg**	**3.48**	**339**	Pn	**Pn**	02 14 36.6	0.0		
THEF	**They Montfort**	**3.55**	**316**	Pn	**Pn**	02 14 38.3	+0.8		
THEF	**They Montfort**	**3.55**	**316**	Pn	**Pn**	02 14 38.3	+0.8		
SSB	**Saint Sauveur**	**3.65**	**264**	Pn	**Pn**	02 14 38.9	-0.1		
SSB	**Saint Sauveur**	**3.65**	**264**	*e*Pn	**Pn**	02 14 39.4	+0.4		
SSB	**Saint Sauveur**	**3.65**	**264**	*e*Pn	**Pn**	02 14 39.4	+0.4		
VIVF	**Saint-Julien-l**	**3.66**	**258**	*e*Pn	**Pn**	02 14 39.5	+0.5		
	SNR=1.0								
VIVF					*e*Sn	**Sn**	02 15 20.1	-1.8	
	12nm,0.3s,SNR=1.0								
VIVF	**Saint-Julien-l**	**3.66**	**258**	*e*Pn	**Pn**	02 14 39.5	+0.5		
	SNR=1.0								
VIVF					*e*Sn	**Sn**	02 15 20.1	-1.8	
	6.1nm,0.3s,SNR=1.0								
MOA	**Molln**	**3.78**	**55**	*e*Pn	**Pn**	02 14 41.5	+0.8		
MOA					*e*Sg	**Sg**	02 15 45.9	+1.7	
MOA	**Molln**	**3.78**	**55**	⇓*i*Pn	**Pn**	02 14 40.8	+0.1		
MOA	**Molln**	**3.78**	**55**	*e*Pn	**Pn**	02 14 41.5	+0.8		
MOA					*e*Sg	**Sg**	02 15 45.9	+1.7	
NVLJ	**Novalja**	**3.85**	**106**	*i* Pn	**Pn**	02 14 41.3	-0.4		
NVLJ					Sn	Sn	02 15 20.5	-6.1	
NVLJ	**Novalja**	**3.85**	**106**	*i* Pn	**Pn**	02 14 41.2	-0.4		
PAGF	**Fort de Pagny**	**3.90**	**317**	*e*Pn	**Pn**	02 14 43.5	+1.1		
	baz=141								
PAGF	**Fort de Pagny**	**3.90**	**317**	*e*Pn	**Pn**	02 14 43.5	+1.1		
	baz=141								
BOJS	**Bojanci**	**3.91**	**92**	*i* Pn	**Pn**	02 14 42.5	+0.1		
BOJS				*i* Sn	**Sn**	02 15 26.8	-1.3		
BOJS	**Bojanci**	**3.91**	**92**	*i* Pn	**Pn**	02 14 42.5	+0.1		
BOJS				*i* Sn	**Sn**	02 15 26.8	-1.3		
TOD	**Tromm**	**3.91**	**351**	Pn	**Pn**	02 14 42.4	-0.1		
TOD	**Tromm**	**3.91**	**351**	Pg	**Pg**	02 14 58.3	+0.6		
TOD				Sg	**Sg**	02 15 51.5	+3.2		
SFTF	**Sexfontaines**	**4.03**	**309**	*e*Pn	**Pn**	02 14 45.2	+1.1		
	baz=127								
SFTF	**Sexfontaines**	**4.03**	**309**	*e*Pn	**Pn**	02 14 45.2	+1.1		
	baz=127								
WET	**Wettzell**	**4.03**	**31**	*e*Pn	**Pn**	02 14 45.0	+0.9		
WET				*e*Pg	**Pg**	02 14 58.5	-1.5		
WET				*e*Sg	**Sg**	02 15 48.5	-3.6		
WET	**Wettzell**	**4.03**	**31**	*e*Pn	**Pn**	02 14 44.8	+0.7		
WET	**Wettzell**	**4.03**	**31**	*e*Pn	**Pn**	02 14 44.8	+0.7		
GRFO	**Grafenberg**	**4.08**	**14**	*e*Pn	**Pn**	02 14 44.8	0.0		
GRFO				*e*Sg	**Sg**	02 15 52.7	-1.1		
GRFO	**Grafenberg**	**4.08**	**14**	*e*Pn	**Pn**	02 14 44.8	0.0		
GRFO				*e*Sg	**Sg**	02 15 52.7	-1.1		
GRA1	**Grafenberg Arr**	**4.08**	**14**	*e*Pn	**Pn**	02 14 44.9	+0.1		
GRA1				*e*Sg	**Sg**	02 15 54.8	+1.0		
GRF	**Grafenberg Arr**	**4.08**	**14**	*e*Pn	**Pn**	02 14 45.1	+0.2		
GRF				*e*Pg	**Pg**	02 15 00.3	-0.7		
GRF				*e*Sg	**Sg**	02 15 54.9	+1.1		
GRF	**Grafenberg Arr**	**4.08**	**14**	*e*Pn	**Pn**	02 14 44.9	+0.1		
GRF				*e*Sg	**Sg**	02 15 54.8	+1.0		
GEC2	**GERESS Array S**	**4.13**	**40**	*e*Pn	**Pn**	02 14 46.1	+0.5		
GEC2				*e*Sn	**Sn**	02 15 34.4	+0.8		
GEC2	**GERESS Array S**	**4.13**	**40**	*e*Pn	**Pn**	02 14 46.0	+0.5		
GEC2				*e*Sg	**Sg**	02 15 56.5	+1.2		
GEC2	**GERESS Array S**	**4.13**	**40**	*e*Pn	**Pn**	02 14 46.0	+0.5		
GEC2				*e*Sg	**Sg**	02 15 56.5	+1.2		
SMF	**Signal de Mont**	**4.16**	**285**	*e*Pn	**Pn**	02 14 46.8	+0.8		
	SNR=1.0								
SMF					*e*Sn	**Sn**	02 15 33.1	-1.3	
	22nm,0.3s								
SMF	**Signal de Mont**	**4.16**	**285**	*e*Pn	**Pn**	02 14 46.8	+0.8		
	SNR=1.0								
SMF					*e*Sn	**Sn**	02 15 33.1	-1.3	
	11nm,0.3s								
MEZF	**Maizieres J'vi**	**4.20**	**313**	*e*Pn	**Pn**	02 14 47.8	+1.3		
	baz=133,SNR=1.0								
MEZF					*e*Sn	**Sn**	02 15 34.4	-0.9	
	35nm,0.5s,SNR=1.0								
MEZF	**Maizieres J'vi**	**4.20**	**313**	*e*Pn	**Pn**	02 14 47.8	+1.3		
	baz=133,SNR=1.0								
MEZF					*e*Sn	**Sn**	02 15 34.4	-0.9	
	18nm,0.5s,SNR=1.0								
PLDF	**La Plantade**	**4.25**	**275**	Pn	**Pn**	02 14 47.7	+0.5		
PLDF	**La Plantade**	**4.25**	**275**	Pn	**Pn**	02 14 47.7	+0.5		
KHC	**Kasperske Hory**	**4.29**	**36**	*e*PN	**Pn**	02 14 48.8	+1.1		
KHC				*e*PG	**Pb**	02 15 01.1	+3.0		
KHC				*e*SN	**Sn**	02 15 37.9	+0.4		
KHC				*e*SG	**Sg**	02 16 00.2	-0.3		
	comp=Z,52nm,0.7s								
KHC	**Kasperske Hory**	**4.29**	**36**	Pn	**Pn**	02 14 48.8	+1.1		
KHC	**Kasperske Hory**	**4.29**	**36**	Pg	**Pb**	02 15 01.1	+3.0		
KHC				Sn	**Sn**	02 15 37.9	+0.4		
KHC				Sg	**Sg**	02 16 00.2	-0.3		
	52nm,0.7s								
ARSA	**Arzberg**	**4.30**	**67**	⇓*i*Pn	**Pn**	02 14 48.3	+0.5		
ARSA	**Arzberg**	**4.30**	**67**	Pn	**Pn**	02 14 48.3	+0.5		
LOR	**Lormes**	**4.31**	**293**	*e*Pn	**Pn**	02 14 49.0	+1.0		
	baz=113,SNR=1.0								
LOR					*e*Sn	**Sn**	02 15 37.1	-0.9	
	25nm,0.3s								
LOR	**Lormes**	**4.31**	**293**	*e*Pn	**Pn**	02 14 49.0	+1.0		
	baz=113,SNR=1.0								
LOR					*e*Sn	**Sn**	02 15 37.1	-0.9	
	13nm,0.3s								
RUP	**Ruppelstein**	**4.34**	**337**	Pn	**Pn**	02 14 48.7	+0.3		
RUP	**Ruppelstein**	**4.34**	**337**	Pg	**Pg**	02 15 05.5	-0.4		
RUP				Sg	**Sg**	02 16 05.0	+2.9		
ROTZ	**Rotzenmuhle**	**4.36**	**22**	*e*Pn	**Pn**	02 14 49.0	+0.2		
ROTZ				*e*Sg	**Sg**	02 16 02.5	-0.6		
ROTZ	**Rotzenmuhle**	**4.36**	**22**	*e*Pn	**Pn**	02 14 48.8	+0.1		
ROTZ				*e*Sg	**Sg**	02 16 04.4	+1.5		
ROTZ	**Rotzenmuhle**	**4.36**	**22**	*e*Pn	**Pn**	02 14 48.8	+0.1		
ROTZ				*e*Sg	**Sg**	02 16 04.4	+1.5		
ABH	**Alteburg**	**4.38**	**341**	Pn	**Pn**	02 14 49.0	0.0		
UDBI	**Udbina**	**4.46**	**104**	*e*Pn	**Pn**	02 14 51.0	+0.8		
UDBI				Sn	Sn	02 15 35.6	-6.3		
UDBI	**Udbina**	**4.46**	**104**	*e*Pn	**Pn**	02 14 50.9	+0.8		
LASF	**Ste Croix**	**4.47**	**250**	*e*Pn	**Pn**	02 14 50.2	0.0		
	SNR=1.0								
LASF					*e*Sn	**Sn**	02 15 38.7	-3.4	
	21nm,0.4s,SNR=1.0								
LASF	**Ste Croix**	**4.47**	**250**	*e*Pn	**Pn**	02 14 50.2	0.0		
	SNR=1.0								
LASF					*e*Sn	**Sn**	02 15 38.7	-3.4	
	10nm,0.4s,SNR=1.0								

SSF	**Saint Saulge**	**4.48**	**289**	*e*Pn	**Pn**	02 14 51.5	+1.2		
	SNR=1.0								
SSF					*e*Sn	**Sn**	02 15 41.7	-0.5	
	SNR=1.0								
SSF					*e*Sg	**Sg**	02 16 05.8	-0.8	
	19nm,0.6s,SNR=1.0								
SSF	**Saint Saulge**	**4.48**	**289**	*e*Pn	**Pn**	02 14 51.5	+1.2		
	SNR=1.0								
SSF					*e*Sn	**Sn**	02 15 41.7	-0.5	
	SNR=1.0								
SSF					*e*Sg	**Sg**	02 16 05.8	-0.8	
	9.4nm,0.6s,SNR=1.0								
AVF	**Avril sur Loir**	**4.52**	**286**	*e*Pn	**Pn**	02 14 51.7	+0.8		
	SNR=1.0								
AVF					*e*Sn	**Sn**	02 15 40.7	-2.5	
	5.9nm,0.3s,SNR=1.0								
AVF	**Avril sur Loir**	**4.52**	**286**	*e*Pn	**Pn**	02 14 51.7	+0.8		
	SNR=1.0								
AVF					*e*Sn	**Sn**	02 15 40.7	-2.5	
	3.0nm,0.3s,SNR=1.0								
MANZ	**Manzenberg**	**4.54**	**20**	*e*Pn	**Pn**	02 14 51.4	+0.3		
MANZ				*e*Pg	**Pg**	02 15 09.8	0.0		
MANZ				*e*Sn	**Sn**	02 15 44.1	+0.4		
MANZ	**Manzenberg**	**4.54**	**20**	*e*Pn	**Pn**	02 14 51.3	+0.1		
MANZ				*e*Sg	**Sg**	02 16 09.7	+1.1		
MANZ	**Manzenberg**	**4.54**	**20**	*e*Pn	**Pn**	02 14 51.3	+0.1		
MANZ				*e*Sg	**Sg**	02 16 09.7	+1.1		
TNS	**Taunus Mts**	**4.55**	**350**	*e*Pn	**Pn**	02 14 53.1	+1.7		
TNS				*e*Sg	**Sg**	02 16 09.7	+0.6		
TNS	**Taunus Mts**	**4.55**	**350**	*e*Pn	**Pn**	02 14 52.8	+1.4		
TNS				*e*Sg	**Sg**	02 16 09.9	+0.8		
TNS	**Taunus Mts**	**4.55**	**350**	*e*Pn	**Pn**	02 14 52.8	+1.4		
TNS				*e*Sg	**Sg**	02 16 09.9	+0.8		
LBL	**Lubilhac**	**4.56**	**266**	Pn	**Pn**	02 14 51.9	+0.3		
LBL	**Lubilhac**	**4.56**	**266**	Pn	**Pn**	02 14 51.9	+0.3		
WLF	**Walferdange**	**4.59**	**330**	*e*Sg	**Sg**	02 16 09.7	-0.5		
WLF	**Walferdange**	**4.59**	**330**	*e*Sg	**Sg**	02 16 10.9	+0.7		
WLF	**Walferdange**	**4.59**	**330**	*e*Sg	**Sg**	02 16 10.9	+0.7		
AGO	**Saint Agoulin**	**4.59**	**276**	Pn	**Pn**	02 14 52.2	+0.3		
AGO	**Saint Agoulin**	**4.59**	**276**	Pn	**Pn**	02 14 52.2	+0.3		
PYM	**Petit Puy Mans**	**4.68**	**272**	Pn	**Pn**	02 14 53.8	+0.6		
PYM	**Petit Puy Mans**	**4.68**	**272**	Pn	**Pn**	02 14 53.8	+0.6		
BGG	**Burgeitz**	**4.73**	**341**	*e*Pn	**Pn**	02 14 54.5	+0.7		
CONA	**Conrad Observa**	**4.76**	**61**	⇑*i*Pn	**Pn**	02 14 55.0	+0.7		
CONA				⇑*i*Sn	**Sn**	02 15 50.2	+0.9		
CONA	**Conrad Observa**	**4.76**	**61**	Pn	**Pn**	02 14 55.0	+0.7		
NKC	**Novy Kostel**	**4.85**	**21**	*e*PN	**Pn**	02 14 56.7	+1.2		
NKC				*e*PG	**Pg**	02 15 14.3	-1.5		
NKC				*e*SN	**Sn**	02 15 52.0	+0.6		
NKC				*e*SG	**Sg**	02 16 19.9	+1.3		
	comp=Z,26nm,1.0s								
NKC	**Novy Kostel**	**4.85**	**21**	Pn	**Pn**	02 14 56.7	+1.2		
NKC				Sn	**Sn**	02 15 52.0	+0.6		
NKC				Sg	**Sg**	02 16 19.9	+1.3		
	26nm,1.0s								
KOE	**Koeppel**	**4.86**	**345**	*e*Pn	**Pn**	02 14 58.0	+2.4		
WERD	**Werda**	**5.02**	**19**	*e*Pn	**Pn**	02 14 58.4	+0.7		
WERD				*e*Pg	**Pg**	02 15 18.6	-0.3		
WERD				*e*Sg	**Sg**	02 16 23.6	-0.3		
TANN	**Tannenbergstha**	**5.02**	**21**	*e*Pn	**Pn**	02 14 57.9	+0.1		
TANN				*e*Pg	**Pg**	02 15 19.4	+0.3		
TANN				*e*Sg	**Sg**	02 16 25.1	+1.0		
TANN	**Tannenbergstha**	**5.02**	**21**	*e*Pn	**Pn**	02 14 57.9	+0.1		
TANN				*e*Sg	**Sg**	02 16 24.9	+0.8		
TANN	**Tannenbergstha**	**5.02**	**21**	*e*Pn	**Pn**	02 14 57.9	+0.1		
TANN				*e*Sg	**Sg**	02 16 24.9	+0.8		
MOX	**Moxa**	**5.07**	**14**	*e*Pn	**Pn**	02 14 58.2	-0.2		
MOX				*e*Pg	**Pg**	02 15 21.3	+1.4		
MOX				*e*Sn	**Sn**	02 15 55.1	-1.5		
MOX				*e*Sg	**Sg**	02 16 28.1	+2.7		
MOX	**Moxa**	**5.07**	**14**	*e*Sg	**Sg**	02 16 27.6	+2.2		
MOX	**Moxa**	**5.07**	**14**	*e*Sg	**Sg**	02 16 27.6	+2.2		
HYF	**Humbligny**	**5.10**	**290**	*e*Pn	**Pn**	02 15 00.0	+1.1		
HYF	**Humbligny**	**5.10**	**290**	*e*Pn	**Pn**	02 15 00.0	+1.1		
TCF	**Toulx Ste Croi**	**5.24**	**279**	*e*Pn	**Pn**	02 15 01.6	+0.8		
	SNR=1.0								
TCF					*e*Sn	**Sn**	02 15 57.8	-3.2	
	11nm,0.3s,SNR=1.0								
TCF	**Toulx Ste Croi**	**5.24**	**279**	*e*Pn	**Pn**	02 15 01.6	+0.8		
	SNR=1.0								
TCF					*e*Sn	**Sn**	02 15 57.8	-3.2	
	5.6nm,0.3s,SNR=1.0								
TREC	**Trest**	**5.29**	**46**	*e*PN	**Pn**	02 15 01.9	+0.4		
TREC				*e*PG	Pb	02 15 18.9	+3.8		
TREC				*e*SN	**Sn**	02 16 00.8	-1.4		
TREC				*e*SG	**Sg**	02 16 32.2	-0.4		
	comp=Z,15nm,0.6s								
TREC	**Trest**	**5.29**	**46**	Pn	**Pn**	02 15 01.9	+0.4		
PRU	**Pruhonice**	**5.35**	**36**	*e*PN	**Pn**	02 15 02.8	+0.5		
PRU				*e*PG	Pb	02 15 20.8	+4.7		
PRU				*e*SN	**Sn**	02 16 03.5	-0.1		
PRU				*e*SG	**Sg**	02 16 35.3	+0.8		
	comp=Z,14nm,0.8s								
PRU	**Pruhonice**	**5.35**	**36**	Pn	**Pn**	02 15 02.8	+0.5		
PRU	**Pruhonice**	**5.35**	**36**	Pg	Pb	02 15 20.8	+4.7		
PRU				Sn	**Sn**	02 16 03.5	-0.1		
PRU				Sg	**Sg**	02 16 35.3	+0.8		
	14nm,0.8s								
PRA	**Prague**	**5.37**	**35**	*e*SG	**Sg**	02 16 35.3	+0.1		
	comp=Z,49nm,0.9s								
PRA	**Prague**	**5.37**	**35**	Sg	**Sg**	02 16 35.3	+0.1		
	49nm,0.9s								
GOPC	**GO Pecny, Ondr**	**5.40**	**38**	*e*PN	**Pn**	02 15 03.5	+0.6		
GOPC				*e*PG	Pg	02 15 22.3	-3.9		
GOPC				*e*SN	**Sn**	02 16 04.5	-0.3		
GOPC				*e*SG	**Sg**	02 16 35.8	-0.2		
	comp=Z,16nm,0.7s								
GOPC	**GO Pecny, Ondr**	**5.40**	**38**	Pn	**Pn**	02 15 03.5	+0.6		
GOPC				Sn	**Sn**	02 16 04.5	-0.3		
GOPC				Sg	**Sg**	02 16 35.8	-0.2		
	16nm,0.7s								
DREG	**Dreilaegerbach**	**5.43**	**336**	*e*Pn	**Pn**	02 15 02.7	-0.7		
DREG				*e*Sn	**Sn**	02 16 05.4	-0.3		
CAF	**Calviac**	**5.44**	**264**	*e*Pn	**Pn**	02 15 04.2	+0.6		
	SNR=1.0								
CAF					*e*Sn	**Sn**	02 16 04.0	-2.0	
	9.1nm,0.5s								
CAF	**Calviac**	**5.44**	**264**	*e*Pn	**Pn**	02 15 04.2	+0.6		
	SNR=1.0								
CAF					*e*Sn	**Sn**	02 16 04.0	-2.0	
	4.6nm,0.5s								
GIVF	**Givet**	**5.45**	**325**	*e*Pn	**Pn**	02 15 04.0	+0.4		
GIVF	**Givet**	**5.45**	**325**	*e*Pn	**Pn**	02 15 04.0	+0.4		
MEM	**Membach**	**5.45**	**334**	P	**Pn**	02 15 06.0	+2.3		
MEM	**Membach**	**5.45**	**334**	P	**Pn**	02 15 05.9	+2.3		
HOBG	**Hohbusch**	**5.47**	**344**	*e*Pn	**Pn**	02 15 06.0	+2.1		
BNS	**Bensberg**	**5.48**	**343**	*e*Pn	**Pn**	02 15 05.7	+1.6		
BCLA	**Clavier**	**5.52**	**329**	P	**Pn**	02 15 07.1	+2.4		
BCLA	**Clavier**	**5.52**	**329**	P	**Pn**	02 15 07.0	+2.4		
DOU	**Dourbes**	**5.54**	**324**	P	Pn	02 15 08.9	+4.1		
BAIF	**Baives**	**5.67**	**321**	*e*Pn	**Pn**	02 15 08.0	+1.3		
BAIF	**Baives**	**5.67**	**321**	*e*Pn	**Pn**	02 15 08.0	+1.3		
RJF	**Les Rejaudoux**	**5.76**	**269**	*e*Pn	**Pn**	02 15 08.1	+0.1		
	SNR=1.0								
RJF	**Les Rejaudoux**	**5.76**	**269**	*e*Pn	**Pn**	02 15 08.1	+0.1		
	SNR=1.0								
PVCC	**Panska Ves**	**5.79**	**33**	*e*SG	**Sg**	02 16 48.7	+0.1		
	comp=Z,17nm,0.6s								
PVCC	**Panska Ves**	**5.79**	**33**	Sg	**Sg**	02 16 48.7	+0.1		
	17nm,0.6s								
BRG	**Berggiesshubel**	**5.86**	**27**	*e*PN	Pn	02 15 14.9	+5.7		
BRG				PG	**Pg**	02 15 33.4	-1.6		
BRG				*e*		02 16 36.2			
BRG				*e*		02 16 51.5			
	22nm,1.0s								
MTLF	**Montolieu**	**5.86**	**248**	*e*Pn	**Pn**	02 15 09.1	-0.2		
	SNR=1.0								
MTLF					*e*Sn	**Sn**	02 16 13.1	-3.2	
	2.6nm,0.3s								
MTLF	**Montolieu**	**5.86**	**248**	*e*Pn	**Pn**	02 15 09.1	-0.2		
	SNR=1.0								
VRAC	**Vranov**	**5.87**	**50**	*e*Pn	**Pn**	02 15 09.3	-0.2		
SMOL	**Smolenice**	**5.96**	**60**	*e*PN	Pn	02 15 07.6	-3.0		
CLL	**Collm**	**5.98**	**20**	*e*Pg	**Pg**	02 15 37.0	-0.3		
CLL				*e*Sg	**Sg**	02 16 55.0	+0.3		
	comp=Z,22nm,1.1s								
LFF	**La Frestale**	**6.36**	**266**	*e*Pn	**Pn**	02 15 15.6	-0.6		
	SNR=1.0								
LFF	**La Frestale**	**6.36**	**266**	*e*Pn	**Pn**	02 15 15.6	-0.6		
	SNR=1.0								
DPC	**Dobruska-Polom**	**6.40**	**42**	*e*PN	**Pn**	02 15 17.4	+0.7		
DPC				*e*PG	**Pg**	02 15 44.4	-0.9		
DPC				*e*SN	**Sn**	02 16 27.2	-2.3		

DPC				*e*SG	**Sg**	02 17 07.6	-0.5		
	comp=Z,64nm,1.0s								
DPC	**Dobruska-Polom**	**6.40**	**42**	Pn	**Pn**	02 15 17.4	+0.7		
DPC				Sg	**Sg**	02 17 07.6	-0.5		
	comp=Z,64nm,1.0s								
STON	**Ston**	**6.42**	**114**	*e*Pn	**Pn**	02 15 16.4	-0.6		
STON				Sn	Sn	02 16 24.2	-5.8		
STON	**Ston**	**6.42**	**114**	*e*Pn	**Pn**	02 15 16.4	-0.6		
KRLC	**Kraliky**	**6.43**	**45**	*e*PN	**Pn**	02 15 17.7	+0.5		
KRLC				*e*PG	**Pg**	02 15 46.8	+0.8		
KRLC				*e*SN	**Sn**	02 16 28.8	-1.6		
KRLC				*e*SG	**Sg**	02 17 09.3	0.0		
KRLC	**Kraliky**	**6.43**	**45**	Pn	**Pn**	02 15 17.7	+0.5		
KRLC				Sn	**Sn**	02 16 28.8	-1.6		
KRLC				Sg	**Sg**	02 17 09.3	0.0		
MORC	**Moravsky Berou**	**6.65**	**50**	*e*Pn	**Pn**	02 15 19.8	-0.3		
VYHS	**Vyhne**	**6.81**	**63**	*e*PN	Pn	02 15 19.2	-3.2		
MFF	**Saint Martin d**	**6.89**	**281**	*e*Pn	**Pn**	02 15 23.7	+0.3		
	SNR=1.0								
MFF				*e*Sn	**Sn**	02 16 38.5	-3.0		
	comp=Z,6.0nm,0.5s,SNR=1.0								
MFF	**Saint Martin d**	**6.89**	**281**	*e*Pn	**Pn**	02 15 23.7	+0.3		
	SNR=1.0								
OKC	**Ostrava-Krasne**	**7.01**	**51**	*e*SN	**Sn**	02 16 42.5	-2.0		
OKC				*e*SG	**Sg**	02 17 27.2	-0.5		
	comp=Z,12nm,0.8s								
OKC	**Ostrava-Krasne**	**7.01**	**51**	Sn	**Sn**	02 16 42.5	-2.0		
OKC				Sg	**Sg**	02 17 27.2	-0.5		
	comp=Z,12nm,0.8s								
EPF	**Esparros**	**7.23**	**251**	*e*Pn	**Pn**	02 15 28.1	-0.1		
EPF	**Esparros**	**7.23**	**251**	*e*Pn	**Pn**	02 15 28.1	-0.1		
FLN	**La Foliniere**	**7.55**	**297**	*e*P	Pn	02 15 36.4	+3.9		
	baz=116,SNR=1.0								
GRR	**Gorron**	**7.67**	**294**	*e*Pn	**Pn**	02 15 34.5	+0.3		
GRR	**Gorron**	**7.67**	**294**	*e*Pn	**Pn**	02 15 34.5	+0.3		
SGMF	**Saint Gilles**	**8.74**	**291**	*e*Pn	**Pn**	02 15 48.7	-0.1		
	SNR=1.0								
SGMF	**Saint Gilles**	**8.74**	**291**	*e*Pn	**Pn**	02 15 48.7	-0.1		
	SNR=1.0								
QUIF	**Quistinic**	**9.08**	**288**	*e*Pn	**Pn**	02 15 54.4	+1.0		
	SNR=1.0								
QUIF	**Quistin

MSZ				S*	Sg	02 54 05.7	+2.8	
APZ	**The Paps**	**1.61**	**146**	PN	Pn	02 53 51.2	-1.0	
APZ				AML	AML	02 54 13.0		
APZ				AML	AML	02 54 13.4		
APZ	**The Paps**	**1.61**	**146**	Pn	Pn	02 53 51.2	-1.0	
WKZ	**Wanaka**	**1.79**	**69**	PN	Pn	02 53 55.0	+0.5	
WKZ				AML	AML	02 54 26.4		
WKZ				AML	AML	02 54 26.5		
WKZ				AML	AML	02 54 31.1		
WKZ				AML	AML	02 54 31.1		
WKZ	**Wanaka**	**1.79**	**69**	Pn	Pn	02 53 55.0	+0.5	
EAZ	**Earnscleugh**	**1.88**	**83**	⇑Pn	Pn	02 53 56.6	+0.9	
EAZ				AML	AML	02 54 28.0		
EAZ				AML	AML	02 54 28.0		
EAZ				AML	AML	02 54 28.1		
EAZ	**Earnscleugh**	**1.88**	**83**	Pn	Pn	02 53 56.6	+0.9	
SYZ	**Scrubby Hill**	**2.01**	**122**	PN	Pn	02 53 58.0	+0.5	
SYZ				AML	AML	02 54 29.9		
SYZ				AML	AML	02 54 29.9		
SYZ				AML	AML	02 54 38.5		
SYZ				AML	AML	02 54 38.5		
SYZ	**Scrubby Hill**	**2.01**	**122**	Pn	Pn	02 53 58.6	+1.1	
JCZ	**Jackson Bay**	**2.06**	**47**	PN	Pn	02 53 58.6	+0.2	
JCZ				AML	AML	02 54 36.4		
JCZ				AML	AML	02 54 36.6		
JCZ	**Jackson Bay**	**2.06**	**47**	Pn	Pn	02 53 58.6	+0.2	
TUZ	**Tuapeka**	**2.12**	**103**	PN	Pn	02 54 00.4	+1.4	
TUZ	**Tuapeka**	**2.12**	**103**	Pn	Pn	02 54 00.4	+1.4	
LBZ	**Lake Benmore**	**2.73**	**67**	PN	Pn	02 54 07.2	-0.3	
LBZ				AML	AML	02 54 47.3		
LBZ				AML	AML	02 55 07.4		
LBZ	**Lake Benmore**	**2.73**	**67**	Pn	Pn	02 54 07.2	-0.3	
HHSZ	**Highcliff Hill**	**2.78**	**99**	*e*PN	Pn	02 54 08.5	+0.4	
HHSZ	**Highcliff Hill**	**2.78**	**99**	Pn	Pn	02 54 09.9	+1.7	
ODZ	**Otahua Downs**	**2.84**	**82**	PN	Pn	02 54 08.7	-0.2	
ODZ	**Otahua Downs**	**2.84**	**82**	*e*Pn	Pn	02 54 09.0	0.0	
ODZ				*e*S	Sb	02 54 48.6	-0.6	
FOZ	**Fox Glacier**	**2.90**	**49**	PN	Pn	02 54 11.0	+1.3	
FOZ				AML	AML	02 55 04.4		
FOZ				AML	AML	02 55 06.1		
FOZ	**Fox Glacier**	**2.90**	**49**	⇑Pn	Pn	02 54 11.1	+1.3	
RPZ	**Rata Peaks**	**3.60**	**62**	PN	Pn	02 54 18.4	-1.1	
RPZ				AML	AML	02 55 10.5		
RPZ				AML	AML	02 55 13.1		
RPZ	**Rata Peaks**	**3.60**	**62**	*e*Pn	Pn	02 54 19.7	+0.2	
RPZ				*e*S	Sb	02 55 07.3	-3.8	
MQZ	**McQueen's Vall**	**4.63**	**69**	⇑PN	Pn	02 54 33.5	0.0	
MQZ	**McQueen's Vall**	**4.63**	**69**	Pn	Pn	02 54 33.5	0.0	
LTZ	**Lake Taylor**	**4.86**	**58**	AML	AML	02 55 44.7		
LTZ	**Lake Taylor**	**4.86**	**58**	Pn	Pn	02 54 36.9	+0.1	
THZ	**Tophouse**	**5.87**	**53**	*e*PN	Pn	02 54 50.0	-0.6	
THZ				AML	AML	02 56 10.3		
THZ				AML	AML	02 56 12.3		
THZ	**Tophouse**	**5.87**	**53**	Pn	Pn	02 54 51.5	+0.9	

MEX 11 02:53:48.9±0.7, **16°49N**×**95°74W**, **h16**km±21km, **MD3.9, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.80**	**206**	*e*P	Pb	02 54 01.3	-3.1
HUIG				*e*S	Sb	02 54 11.7	-3.3
VHO	**Vista Hermosa**	**1.11**	**302**	*i* P	Pb	02 54 05.7	-4.3
VHO				*i* S	Sb	02 54 19.4	-5.2
PNIG	**Pinotepa**	**2.29**	**268**	*e*P	Pn	02 54 23.2	-2.8
PNIG				*e*S	Sn	02 54 49.6	-4.4

IDC ***11*** *02:55:44.6±1.6, 22°76S×174°64W, h0km, mb4.2/11, mb1 4.4/11, mb1mx4.2/29, mbtmp4.2/11, Error ellipse: s-maj=59.3km s-min=21.6km az=147.0*
ISCJB ***11*** *02:55:48.7±1.4, 22°7S×174°7W×0°2, h36km, mb4.2/11, Error ellipse: s-maj=53.6km s-min=18.0km az=147.9*
ISC 11 02:55:50.1±1.5, **22°8S**×**174°6W**×0°2, **h36**km, **n13, σ0§97/14, mb4.2/11, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.44**	**267**	P	**P**	**03 02 51.6**	**-0.1**
	1.3nm,0.3s,baz=124,slow=11,SNR=5.0						
STKA	**Stephens Creek**	**39.71**	**247**	P	**P**	**03 03 20.3**	**+1.2**
	1.8nm,0.6s,baz=85,slow=9.8,SNR=4.5						
ASAR	**Alice Springs**	**47.09**	**258**	P	**P**	**03 04 17.8**	**-1.1**
	2.1nm,0.8s,baz=96,slow=7.9,SNR=19						
WRA	**Warramunga Arr**	**47.42**	**263**	P	**P**	**03 04 19.7**	**-1.7**
	1.8nm,0.6s,baz=101,slow=8.1,SNR=8.1						
MJAR	**Matsushiro Arr**	**73.91**	**322**	P	**P**	**03 07 20.9**	**-0.6**
	1.5nm,0.5s,baz=154,slow=6.3,SNR=7.4						
PETK	**Petropavlovsk-**	**79.31**	**343**	P	**P**	**03 07 51.4**	**-0.3**
	2.3nm,0.6s,baz=133,slow=8.2,SNR=7.3						
USRK	**Ussuriysk Ar.**	**82.62**	**324**	P	**P**	**03 08 11.3**	**+1.8**
	6.0nm,0.9s,baz=151,slow=6.3,SNR=5.4						
TXAR	**Lajitas Array**	**85.69**	**56**	P	**P**	**03 08 25.6**	**-0.1**
	0.6nm,0.9s,baz=224,slow=5.2,SNR=5.5						
SEY	**Seymchan**	**89.33**	**346**	P	**P**	**03 08 42.6**	**+0.4**
	1.7nm,0.6s,baz=149,slow=4.1,SNR=3.8						
ILAR	**Eielson Array**	**89.88**	**12**	P	**P**	**03 08 44.5**	**-0.2**
	0.9nm,1.0s,baz=238,slow=5.9,SNR=6.2						
YKA	**Yellowknife Ar**	**97.30**	**24**	P	**P**	**03 09 18.3**	**-0.6**
	0.2nm,0.7s,baz=238,slow=4.5,SNR=6.2						
AKASG	**Malin Array Be**	**146.50**	**332**	PKPbc	**PKPbc**	**03 15 26.8**	**-0.5**
	2.4nm,0.6s,baz=39,slow=4.1,SNR=16						
BRTR	**Keskin Array B**	**150.69**	**312**	PKPbc	**PKPbc**	**03 15 39.2**	**+0.4**
	0.6nm,0.8s,baz=63,slow=1.8,SNR=4.3						
BRTR				PKPab	**PKPab**	**03 15 46.1**	**+0.4**
	0.7nm,0.7s,baz=104,slow=3.2,SNR=4.1						

ATH ***11*** *03:06:05.4, 36°02N×21°32E, h8km±3km, MD3.6/8*
THE ***11*** *03:06:07.8, 36°09N×21°46E, h0km±4km, ML2.8/2, Error ellipse: s-maj=7.3km s-min=1.5km az=253.0*
CSEM ***11*** *03:06:07.7±0.8, 36°08N×21°48E, h2km, ML2.8, Error ellipse: s-maj=17.6km s-min=7.1km az=62.0*
ISC 11 03:06:07.5±2.5, **36°10N**±0°07×**21°4E**±0°1, **h11**km±11km, **n38, σ1§06/51, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.84**	**18**	P	**Pg**	**03 06 23.2**	**-0.5**
PYL				S	**Sg**	**03 06 36.0**	**+1.4**
PYL	**PYLOS**	**0.84**	**18**	*e*PB	**Pg**	**03 06 23.3**	**-0.5**
PYL	**PYLOS**	**0.84**	**18**	P	**Pg**	**03 06 23.2**	**-0.5**
PYL				S	**Sg**	**03 06 36.0**	**+1.4**
ITM	**Ithomi**	**1.16**	**20**	P	**Pn**	**03 06 29.0**	**-0.6**
ITM				S	**Sn**	**03 06 46.2**	**+0.8**
ITM	**Ithomi**	**1.16**	**20**	*e*PB	**Pn**	**03 06 29.1**	**-0.6**
ITM				*e*SB	**Sn**	**03 06 46.5**	**+1.1**
ITM	**Ithomi**	**1.16**	**20**	P	**Pn**	**03 06 29.0**	**-0.6**
ITM				S	**Sn**	**03 06 46.2**	**+0.8**
KYTH	**Kithira**	**1.32**	**81**	P	**Pn**	**03 06 31.0**	**-0.8**
KYTH	**Kithira**	**1.32**	**81**	P	**Pn**	**03 06 31.0**	**-0.8**
AMT	**Artemida-Makis**	**1.45**	**9**	*e*PB	**Pg**	**03 06 35.0**	**-0.4**
AMT	**Artemida-Makis**	**1.45**	**9**	*e*Pb	**Pg**	**03 06 35.0**	**-0.4**
VLX	**Vlachokerasia**	**1.48**	**31**	P	**Pn**	**03 06 34.6**	**+0.4**
VLX	**Vlachokerasia**	**1.48**	**31**	*e*PG	**Pn**	**03 06 34.2**	**0.0**
VLX				*e*SB	**Sg**	**03 06 56.5**	**+1.2**
VLX	**Vlachokerasia**	**1.48**	**31**	*e*Pg	**Pn**	**03 06 34.2**	**0.0**
VLX	**Vlachokerasia**	**1.48**	**31**	P	**Pn**	**03 06 34.6**	**+0.4**
VLX				*e*Sb	**Sg**	**03 06 56.5**	**+1.2**
ANKY	**Antikythira Is**	**1.54**	**98**	P	**Pb**	**03 06 35.5**	**-0.4**
ANKY				S	**Sg**	**03 06 57.4**	**+0.4**
ANKY	**Antikythira Is**	**1.54**	**98**	*e*PG	**Pb**	**03 06 35.6**	**-0.4**
ANKY				*e*SB	**Sg**	**03 06 58.2**	**+1.2**
ANKY	**Antikythira Is**	**1.54**	**98**	P	**Pb**	**03 06 35.5**	**-0.4**
ANKY				S	**Sg**	**03 06 57.4**	**+0.4**
ANKY				*e*Sb	**Sg**	**03 06 58.2**	**+1.2**
GUR	**Goura**	**1.98**	**22**	*e*PN	**Pb**	**03 06 43.3**	**-0.3**
GUR	**Goura**	**1.98**	**22**	*e*Pn	**Pb**	**03 06 43.3**	**-0.3**
KLV	**Kalavryta, Ach**	**2.03**	**16**	P	**Pb**	**03 06 43.5**	**-0.9**
KLV	**Kalavryta, Ach**	**2.03**	**16**	*e*PN	**Pb**	**03 06 44.2**	**-0.2**
KLV	**Kalavryta, Ach**	**2.03**	**16**	P	**Pb**	**03 06 43.5**	**-0.9**
KLV	**Kalavryta, Ach**	**2.03**	**16**	*e*Pn	**Pb**	**03 06 44.2**	**-0.2**
KARN	**Karanos**	**2.14**	**108**	P	**Pn**	**03 06 43.9**	**+0.8**
KARN	**Karanos**	**2.14**	**108**	*e*PN	**Pn**	**03 06 44.0**	**+0.8**
KARN	**Karanos**	**2.14**	**108**	P	**Pn**	**03 06 43.9**	**+0.8**
LTK	**Loutraki**	**2.29**	**32**	P	**Pb**	**03 06 47.0**	**-1.7**
LTK	**Loutraki**	**2.29**	**32**	P	**Pb**	**03 06 47.0**	**-1.7**
EFP	**Efpalio**	**2.36**	**9**	*e*PG	**Pb**	**03 06 49.5**	**-0.5**
EFP	**Efpalio**	**2.36**	**9**	*e*Pg	**Pb**	**03 06 49.5**	**-0.5**
VAM	**Vamos**	**2.36**	**106**	P	**Pn**	**03 06 45.9**	**-0.2**
VAM	**Vamos**	**2.36**	**106**	P	**Pn**	**03 06 45.9**	**-0.2**
KALE	**Kalithea**	**2.36**	**14**	*e*PN	**Pb**	**03 06 48.9**	**-1.2**
KALE				*e*SG	**Sb**	**03 07 18.6**	**-0.6**
KALE	**Kalithea**	**2.36**	**14**	*e*Pn	**Pb**	**03 06 48.9**	**-1.2**
KALE				*e*Sg	**Sb**	**03 07 18.6**	**-0.6**
AGG	**Agios Georgios**	**3.01**	**14**	P	**Pn**	**03 06 57.1**	**+2.0**
AGG	**Agios Georgios**	**3.01**	**14**	*e*PB	**Pb**	**03 06 58.4**	**-2.7**
AGG	**Agios Georgios**	**3.01**	**14**	P	**Pn**	**03 06 57.1**	**+2.0**
AGG	**Agios Georgios**	**3.01**	**14**	*e*Pb	**Pb**	**03 06 58.4**	**-2.7**

ISCJB ***11*** *03:10:23.4±0.8, 36°27N±0°08×71°2E±0°1, h114km, mb3.5/8, Error ellipse: s-maj=14.3km s-min=8.8km az=39.3*
IDC ***11*** *03:10:27.3±3.5, 36°30N×71°17E, h138km±30km, mb3.2/9, Error ellipse: s-maj=26.1km s-min=19.5km az=1.0*
NNC ***11*** *03:10:37.3±4.7, 37°15N×71°40E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=40.4km s-min=14.8km az=170.0*
ISC 11 03:10:25.0±1.0, **36°37N**±0°10×**71°29E**±0°08, **h114**km, **n22, σ2§23/22, mb3.4/8, 9C-4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**3.12**	**322**	⇑Pn	Pn	03 11 20.4	+7.5
	62nm,0.4s						
DZET				⇓Sn	**Sn**	**03 11 55.5**	**+5.8**
	372nm,0.4s						
SFK	**Sufi-Kurgan**	**4.04**	**25**	⇑Pn	Pn	03 11 31.7	+6.6
	3.9nm,0.1s						
SFK				⇑Sn	**Sn**	**03 12 14.0**	**+2.3**
	37nm,0.2s						
AAK	**Ala-Archa**	**6.73**	**21**	⇑Pn	Pn	03 12 06.1	+4.7
	2.2nm,0.4s						
AAK				⇑Sn	**Sn**	**03 13 16.1**	**-0.6**
	16nm,0.6s						
AAK	**Ala-Archa**	**6.73**	**21**	P	Pn	03 12 06.5	+5.1
	2.1nm,0.3s,baz=194,slow=5.6,SNR=9.9						
AAK				S	**Sn**	**03 13 15.3**	**-1.3**
	2.1nm,0.3s,baz=182,slow=20,SNR=12						
KK31	**Karatay Array**	**6.76**	**355**	Pn	Pn	03 12 05.4	+3.9
	2.5nm,0.3s,baz=176,slow=13,SNR=67						
KK31				⇑Sn	**Sn**	**03 13 12.8**	**-4.2**
	5.9nm,0.3s,baz=187,slow=31,SNR=14						
TKM2	**Tokmak 2**	**7.34**	**26**	⇑Pn	Pn	03 12 14.0	+4.3
	5.0nm,0.6s						
TKM2				⇓Sn	**Sn**	**03 13 30.8**	**-0.8**
	4.6nm,0.7s						
GEYT	**Alibeck**	**10.63**	**282**	P	**Pn**	**03 12 53.3**	**-0.7**
	0.6nm,0.3s,baz=84,slow=14,SNR=4.0						
MK31	**Makanchi Array**	**13.27**	**35**	⇓Pn	**P**	**03 13 35.5**	**+1.1**
	1.0nm,0.6s,baz=266,slow=14,SNR=7.4						
MKAR	**Makanchi Array**	**13.27**	**35**	P	**Pn**	**03 13 31.4**	**+2.6**
	0.1nm,0.3s,baz=221,slow=15,SNR=3.4						
AB31	**Akbulak array**	**15.31**	**331**	⇓Pn	**Pn**	**03 13 50.3**	**-4.5**
	0.6nm,0.5s,baz=324,slow=26,SNR=10.0						
AB31				⇑Sn	Sn	03 16 25.8	-18
	1.5nm,0.5s,baz=154,slow=22,SNR=6.4						
BVAR	**Borovoye Array**	**16.67**	**358**	P	**P**	**03 14 12.6**	**+0.6**
	0.4nm,0.3s,baz=151,slow=10,SNR=5.6						
AKTO	**Aktyubinsk**	**17.01**	**330**	⇑Pn	**P**	**03 14 17.1**	**+1.2**
	2.0nm,0.5s						
AKTO	**Aktyubinsk**	**17.01**	**330**	P	**P**	**03 14 17.4**	**+1.6**
	0.8nm,0.3s,baz=133,slow=10.0,SNR=13						
ZALV	**Zalesovo Beam**	**19.94**	**24**	P	**P**	**03 14 48.0**	**+0.3**
	1.9nm,0.5s,baz=232,slow=7.3,SNR=6.8						
FINES	**FINESS Array B**	**37.72**	**326**	P	**P**	**03 17 29.4**	**+0.1**
	3.8nm,1.2s,baz=122,slow=10,SNR=3.8						
ARCES	**ARCESS Array B**	**41.36**	**338**	P	**P**	**03 17 59.2**	**0.0**
	1.9nm,1.0s,baz=114,slow=9.0,SNR=3.9						
NOA	**NORSAR Array B**	**44.63**	**323**	P	**P**	**03 18 25.6**	**-0.2**
	0.3nm,0.5s,baz=104,slow=6.0,SNR=2.8						
ESDC	**Sonseca Array**	**57.72**	**298**	P	**P**	**03 20 04.1**	**+0.2**
	0.1nm,0.3s,baz=59,slow=7.3,SNR=2.9						
TORD	**Torodi Ar. Bea**	**65.95**	**269**	P	**P**	**03 20 58.1**	**-1.1**
	0.5nm,0.4s,baz=50,slow=6.1,SNR=19						
YKA	**Yellowknife Ar**	**81.37**	**3**	P	**P**	**03 22 28.0**	**-0.6**
	0.2nm,0.6s,baz=351,slow=5.7,SNR=5.0						
WRA	**Warramunga Arr**	**81.72**	**122**	P	**P**	**03 22 31.1**	**0.0**
	0.2nm,0.4s,baz=325,slow=4.6,SNR=3.3						
ASAR	**Alice Springs**	**83.99**	**125**	P	**P**	**03 22 42.6**	**-0.2**
	0.3nm,0.6s,baz=311,slow=4.8,SNR=3.7						

NIED ***11*** *03:19:00, 37°80N×141°70E, h86km, Mw3.8 Best double couple: M0 5.45000×10^14 NP1:φs 5.00000°, δ44.00000°, λ-41.00000°. NP2:φs 127.00000°, δ63.00000°, λ-126.00000°.*
JMA 11 03:19:06.4±0.1, **37°85N**×**141°62E**, **h83**km±1km, **M3.6, 5C-3D Broadband fault plane solution: P waves. NP1:**φs 346.00000°, δ46.00000°, λ-85.00000°. **NP2:** φs 158.00000°, δ44.00000°, λ-96.00000°. **Principal axes:** T Plg1.0000°, Azm72.0000°; N Plg4.0000°, Azm162.0000°; P Plg86.0000°, Azm328.0000°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.64**	**341**	⇓P	Pn	03 19 21.9	+0.2
JIO				S	Sn	03 19 33.2	+0.2
JMM	**Marumori**	**0.66**	**272**	⇑P	Pn	03 19 22.0	+0.2
JMM				S	Sn	03 19 33.5	+0.2
JFK	**Kawauchi**	**0.76**	**231**	⇑P	Pn	03 19 22.8	-0.2
JFK				S	Sn	03 19 34.9	-0.5
JOU	**Okura**	**0.91**	**305**	P	Pn	03 19 24.7	+0.1
JFT	**Otama**	**1.07**	**252**	P	Pn	03 19 26.6	+0.1
JFT				S	Sn	03 19 42.0	+0.5
JMK	**Ichinoseki**	**1.14**	**344**	⇓P	Pn	03 19 27.3	0.0
JMK				S	Sn	03 19 43.4	+0.3
JYS	**Shirataka**	**1.28**	**287**	⇑P	Pn	03 19 29.6	+0.5
JYS				S	Sn	03 19 47.5	+1.4
JYK	**Kaneyama**	**1.46**	**317**	P	Pn	03 19 31.5	+0.2
JYK				S	Sn	03 19 51.0	+1.0
JFY	**Yanaizu**	**1.58**	**254**	⇑P	Pn	03 19 33.4	+0.5
JOM	**Ohasama**	**1.64**	**351**	P	Pn	03 19 33.8	+0.1
JOM				S	Sn	03 19 54.3	0.0
JYA	**Atsumi**	**1.68**	**297**	P	Pn	03 19 34.6	+0.5
JRG	**Rokugo**	**1.73**	**334**	⇓P	Pn	03 19 35.3	+0.5
JNS	**Sasagawa**	**1.82**	**270**	P	Pn	03 19 36.8	+0.8
JAW	**Awa shima**	**1.96**	**289**	⇑P	Pn	03 19 38.4	+0.5
MAT	**Matsushiro**	**3.02**	**245**	P	Pn	03 19 53.1	+1.0
MAT				*e*S	Sn	03 20 27.2	-0.1

MEX 11 03:30:11.0±0.4, **16°10N**×**97°16W**, **h17**km±713km, **MD3.8, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.97**	**288**	*e*P	Pb	03 30 26.2	-3.3
PNIG				*e*S	Sb	03 30 38.0	-4.1
VHO	**Vista Hermosa**	**1.05**	**23**	*i* P	Pb	03 30 27.7	-3.4
VHO				*i* S	Sb	03 30 40.1	-4.7
HUIG	**Huatulco**	**1.06**	**108**	*e*P	Pb	03 30 27.7	-3.4
HUIG				*i* S	Sb	03 30 40.1	-4.6

SJA ***11*** *03:37:24.1±0.8, 33°66S×73°96W, h45km±14km, ML3.6*
IDC ***11*** *03:37:32.7±1.7, 34°06S×72°53W, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.5/20, mbtmp3.4/5, ML2.9/3, Error ellipse: s-maj=37.8km s-min=30.2km az=108.0*
ISCJB ***11*** *03:37:33.2±2.4, 34°12S±0°08×72°63W±0°10, h15km±18km, mb3.5/2, Error ellipse: s-maj=15.8km s-min=11.9km az=138.3*
GUC ***11*** *03:37:37.0±0.6, 33°97S×72°36W, h34km±2km, ML3.7*
ISC 11 03:37:33.9±2.1, **33°96S**±0°06×**72°49W**±0°07, **h6**km±12km, **n22, σ1§56/33, 1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.89**	**90**	⇓*i*P	**Pn**	**03 37 52.1**	**-0.9**
LNV				*i* S	**Sb**	**03 38 02.9**	**-1.1**
IHA	**Instituto Hidr**	**1.17**	**37**	*e*P	**Pn**	**03 37 56.5**	**-0.2**
TACH	**Talagante**	**1.32**	**77**	*e*P	**Pb**	**03 37 58.5**	**-0.7**
TACH				*i* S	**Sg**	**03 38 14.9**	**-1.6**
NICH	**Los Niches**	**1.47**	**135**	*e*P	**Pg**	**03 38 02.9**	**+0.8**
NICH				*e*S	**Sn**	**03 38 22.8**	**+2.2**
RCDM	**Rinconada Maip**	**1.48**	**72**	*e*P	**Pn**	**03 38 00.6**	**-0.5**
CHCH	**Chadas Angostu**	**1.52**	**90**	*e*P	**Pb**	**03 38 01.9**	**-0.7**
CACH	**El Canelo**	**1.57**	**96**	*e*P	**Pb**	**03 38 03.1**	**-0.4**
CACH				*i* S	**Sb**	**03 38 23.2**	**-0.6**
SAN	**Santiago**	**1.60**	**72**	*e*P	**Pb**	**03 38 02.9**	**-1.0**
SAN				*e*S	**Sn**	**03 38 22.2**	**-1.6**
PEL	**Peldehue**	**1.71**	**62**	*e*P	**Pb**	**03 38 04.9**	**-0.9**
PEL				*e*S	**Sn**	**03 38 25.7**	**-0.8**
PEL				AML	AML	03 38 35.7	
	comp=N,2μm,0.4s						
CLCH	**Cerro Calan**	**1.72**	**72**	*e*P	**Pb**	**03 38 04.8**	**-1.1**
CLCH				*e*S	**Sn**	**03 38 25.5**	**-1.3**
CLCH				AML	AML	03 38 37.0	
	comp=N,1μm,0.8s						
AUSP	**Uspallata**	**3.12**	**57**	*i* P	**Pb**	**03 38 27.4**	**-2.7**
AUSP				*i* S	**Sg**	**03 39 15.1**	**+0.8**
ARCO	**CERRO ARCO**	**3.17**	**70**	*i* P	**Pb**	**03 38 30.2**	**-0.6**
ARCO				*i* S	**Sg**	**03 39 18.1**	**+2.2**
ARCO				AML	AML	03 39 20.5	
	comp=Z,65nm,0.6s						
AAGR	**Agrelo**	**3.18**	**75**	*i* P	**Pb**	**03 38 31.0**	**+0.1**
AAGR				*i* P	**Pb**	**03 38 31.0**	**+0.1**
ASAL	**Salagasta**	**3.35**	**67**	*i* P	**Pb**	**03 38 31.4**	**-2.3**
ASAL				*i* S	**Sg**	**03 39 22.5**	**+1.1**
RTLS	**Leoncito**	**3.44**	**52**	*i* P	Pb	03 38 31.5	-3.9
CFAA	**Coronel Fontan**	**4.28**	**58**	Pn	**Pn**	**03 38 41.0**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=233,slow=12,SNR=13						
CFAA				Sn	**Sn**	**03 39 34.5**	**+4.6**
	comp=Z,0.2nm,0.3s,baz=251,slow=4.8,SNR=4.1						
AMOG	**MOGNA**	**4.52**	**49**	*i* P	**Pn**	**03 38 44.3**	**+1.3**
PLCA	**Paso Flores**	**6.94**	**168**	Pn	**Pn**	**03 39 14.0**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=38,slow=16,SNR=2.8						
LPAZ	**La Paz**	**18.03**	**14**	P	**P**	**03 41 46.7**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=165,slow=5.7,SNR=4.8						
SIV	**San Ignacio**	**20.64**	**33**	P	**P**	**03 42 13.5**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=221,slow=2.9,SNR=3.9						
TXAR	**Lajitas Array**	**69.52**	**331**	P	**P**	**03 48 44.1**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=156,slow=7.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**84.55**	**70**	P	**P**	**03 50 08.6**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=242,slow=4.8,SNR=6.6						

IDC ***11*** *03:52:31.4±1.2, 1°99S×127°93E, h0km, mb4.1/4, mb1 4.3/6, mb1mx3.9/32, mbtmp4.1/6, ML4.1/2, MS3.5/2, Ms1 3.5/2, ms1mx2.7/28, Error ellipse: s-maj=38.1km s-min=20.6km az=77.0*
ISCJB ***11*** *03:52:37.5±0.4, 1°93S±0°03×128°09E±0°04, h67km±7km, mb4.1/4, Error ellipse: s-maj=5.9km s-min=5.6km az=155.2*
DJA ***11*** *03:52:37.9±0.6, 2°S±2°×12°8E±°, h73km±14km, M4.0/11, MLv4.0/11*
ISC 11 03:52:38.6±1.0, **1°95S**±0°04×**128°09E**±0°04, **h66**km±12km, **n17, σ1§69/25, mb4.2/4, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**1.43**	**336**	P	**Pn**	**03 53 01.3**	**-1.2**
LBMI				S	**Sn**	**03 53 21.2**	**+0.7**
NLAI	**Namlea**	**1.62**	**218**	P	**Pn**	**03 53 05.2**	**+0.2**
NLAI				S	**Sn**	**03 53 24.4**	**-0.6**
MSAI	**Masohi**	**1.62**	**149**	P	**Pn**	**03 53 05.8**	**+0.7**
MSAI				S	**Sn**	**03 53 26.7**	**+1.6**
AAI	**Ambon**	**1.73**	**176**	P	**Pn**	**03 53 07.4**	**+0.8**
AAI				S	**Sn**	**03 53 27.8**	**+0.1**
SANI	**Sanana**	**2.10**	**267**	P	**Pn**	**03 53 10.3**	**-1.2**
SANI				S	**Sn**	**03 53 34.6**	**-2.1**
TNTI	**Ternate**	**2.80**	**345**	P	**Pn**	**03 53 21.1**	**+0.1**
TNTI				S	Sn	03 54 00.9	+7.3
BNDI	**Bandanaira**	**3.13**	**145**	P	**Pn**	**03 53 25.7**	**+0.1**
BNDI				S	**Sn**	**03 54 02.2**	**+0.3**
SWI	**Sorong**	**3.35**	**71**	P	**Pn**	**03 53 29.1**	**+0.5**
SWI				S	**Sn**	**03 54 07.4**	**+0.2**
SIJI	**Sorong**	**3.35**	**71**	Pn	**Pn**	**03 53 28.5**	**-0.1**
	15nm,0.3s,baz=249,slow=11,SNR=56						
SIJI				Sn	**Sn**	**03 54 06.3**	**-1.0**
	16nm,0.3s,baz=163,slow=19,SNR=34						
FAKI	**Fak Fak**	**4.27**	**103**	P	**Pn**	**03 53 39.6**	**-1.5**
FAKI				S	**Sn**	**03 54 25.5**	**-4.2**
WRA	**Warramunga Arr**	**18.90**	**162**	P	**P**	**03 56 53.1**	**-0.9**
	0.7nm,0.3s,baz=343,slow=12,SNR=20						
**AS

RTLS	**Leoncito**	**3.58**	**55**	*i* P	**Pb**	**04 09 40.9**	**-1.6**
RTLS				*i* S	**Sb**	**04 10 27.2**	**+1.6**
RTCV	**Cerro Valdivia**	**4.08**	**61**	*i* P	Pb	04 09 46.8	-4.1
RTLL	**Cerro Villicun**	**4.42**	**56**	*i* P	Pb	04 09 51.5	-5.2

IDC ***11*** *04:13:57.6±1.5,34˚.58N×6˚.95E,h0km,mb3.0/4,mb1 3.2/5, mb1mx3.1/29,mbtmp3.0/5,ML2.2/1,MS2.7/1,Ms1 2.7/1, ms1mx1.9/18,Error ellipse: s-maj=42.3km s-min=24.2km az=129.0*

ISCJB ***11*** *04:13:58.2±0.8,34˚.56N±0˚.08×7˚.1E±0˚.1,h10km,mb2.9/4, Error ellipse: s-maj=12.4km s-min=10.8km az=29.8*

CSEM ***11*** *04:14:00.6,34˚.62N×7˚.12E,h0km,ML3.7*

CRAAG ***11*** *04:14:00.6,34˚.61N×7˚.12E,Ml3.7*

ISC 11 04:14:00.1±1.0,34˚.64N±0˚.09×7˚.08E±0˚.07,h10km,n25, σ1§41/21,mb3.0/4,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTEI	**Djebel Teioual**	**1.52**	**339**	P	**Pb**	**04 14 27.5**	**-0.9**
CTEI	**Djebel Teioual**	**1.52**	**339**	P	**Pb**	**04 14 27.5**	**-0.9**
ABSA	**Djebel Ababsia**	**1.66**	**11**	P	**Pn**	**04 14 28.7**	**-0.6**
ABSA	**Djebel Ababsia**	**1.66**	**11**	P	**Pn**	**04 14 28.7**	**-0.6**
CASM	**Ain Smara**	**1.68**	**344**	P	**Pn**	**04 14 29.1**	**-0.5**
CASM	**Ain Smara**	**1.68**	**344**	P	**Pn**	**04 14 29.1**	**-0.5**
CKFL	**Kef-Lekhel**	**1.78**	**351**	P	**Pn**	**04 14 30.0**	**-1.0**
CKFL	**Kef-Lekhel**	**1.78**	**351**	P	**Pn**	**04 14 30.0**	**-1.0**
CMAH	**Djebel Manchou**	**2.00**	**8**	P	**Pn**	**04 14 32.6**	**-1.3**
CMAH	**Djebel Manchou**	**2.00**	**8**	P	**Pn**	**04 14 32.6**	**-1.3**
SET	**Setif**	**2.07**	**319**	P	**Pg**	**04 14 42.0**	**+2.2**
SET	**Setif**	**2.07**	**319**	P	**Pg**	**04 14 42.0**	**+2.2**
DFRA	**Djebel Bou Aff**	**2.13**	**333**	P	**Pn**	**04 14 35.6**	**-0.3**
DFRA	**Djebel Bou Aff**	**2.13**	**333**	P	**Pn**	**04 14 35.6**	**-0.3**
KEST	**Kesra**	**2.15**	**59**	Pn	**Pn**	**04 14 37.0**	**+0.9**
	0.6nm,0.3s,baz=253,slow=14,SNR=15						
EMHD	**Djebel Mahouad**	**3.71**	**296**	P	Pg	04 15 20.4	+9.2
EMHD	**Djebel Mahouad**	**3.71**	**296**	P	Pg	04 15 20.4	+9.2
ETRT	**Tiaret**	**4.80**	**281**	P	Pg	04 15 44.0	+12
ETRT	**Tiaret**	**4.80**	**281**	P	Pg	04 15 44.0	+12
MDT	**Midelt**	**9.91**	**263**	Pn	**Pn**	**04 16 25.1**	**+2.5**
	0.0nm,0.3s,baz=135,slow=2.9,SNR=2.1						
MDT				Sn	**Sn**	**04 18 11.6**	**-2.4**
	0.1nm,0.3s,baz=45,slow=20,SNR=4.0						
DAVOX	**Davos/Dischmat**	**12.31**	**9**	LR	LR	04 21 49.2	
	comp=Z,35nm,19.7s,baz=264,slow=38						
BRTR	**Keskin Array B**	**21.72**	**69**	P	**P**	**04 18 52.1**	**+0.5**
	0.3nm,0.7s,baz=265,slow=6.7,SNR=2.8						
TORD	**Torodi Ar. Bea**	**21.95**	**194**	P	**P**	**04 18 52.0**	**-2.0**
	0.4nm,0.4s,baz=11,slow=9.8,SNR=17						
AKASG	**Malin Array Be**	**22.73**	**38**	P	**P**	**04 19 01.3**	**-0.7**
	0.1nm,0.3s,baz=235,slow=10,SNR=1.9						
YKA	**Yellowknife Ar**	**72.53**	**336**	P	**P**	**04 25 26.4**	**-0.4**
	0.1nm,0.7s,baz=52,slow=5.8,SNR=3.8						

DDA ***11*** *04:19:41.9,37˚.88N×28˚.44E,h7km,MD3.1*

ATH ***11*** *04:19:41.0,37˚.94N×28˚.46E,h15km±2km,MD3.5/18*

ISK ***11*** *04:19:41.6,37˚.83N×28˚.38E,h5km,ML3.2*

THE ***11*** *04:19:42.9,37˚.94N×28˚.42E,h0km±1km,ML3.4/5,Error ellipse: s-maj=1.1km s-min=0.7km az=74.0*

ISCJB ***11*** *04:19:42.6±0.5,37˚.88N±0˚.01×28˚.39E±0˚.02,h4km±3km, Error ellipse: s-maj=2.6km s-min=2.3km az=42.6*

CSEM ***11*** *04:19:42.9±0.1,37˚.85N×28˚.39E,h2km,ML3.2,Error ellipse: s-maj=2.8km s-min=2.7km az=133.0*

ISC 11 04:19:42.3±1.1,37˚.88N±0˚.01×28˚.41E±0˚.01,h2km±10km, n186,σ1§05/236,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYDB	**Zeytinkoy-Aydi**	**0.42**	**279**	PG	**Pg**	**04 19 50.8**	**+0.4**
AYDB				SG	**Sg**	**04 19 57.5**	**+1.7**
AYDN	**Tasoluk**	**0.47**	**243**	*i* P	**Pb**	**04 19 53.4**	**0.0**
AYDN				*i* S	**Sb**	**04 19 59.9**	**-1.0**
AYDN	**Tasoluk**	**0.47**	**243**	*i* P	**Pb**	**04 19 53.4**	**0.0**
AYDN				*i* S	**Sb**	**04 19 59.9**	**-1.0**
DENT	**Denizli**	**0.51**	**104**	*e*PG	**Pg**	**04 19 52.8**	**+0.7**
KULA	**Kula-Manisa**	**0.66**	**17**	*e*PG	**Pb**	**04 19 56.4**	**-0.3**
KULA	**Kula-Manisa**	**0.66**	**17**	P	**Pg**	**04 19 54.8**	**-0.3**
KULA				S	**Sg**	**04 20 04.1**	**+0.4**
KULA	**Kula-Manisa**	**0.66**	**17**	P	**Sg**	**04 19 54.8**	**-0.3**
YER	**Yerkesik**	**0.75**	**188**	*e*PG	**Pg**	**04 19 56.5**	**-0.2**
YER				*e*SG	**Sg**	**04 20 06.1**	**-0.3**
YER	**Yerkesik**	**0.75**	**188**	*e*Pg	**Pg**	**04 19 56.5**	**-0.2**
YER				*e*Sg	**Sg**	**04 20 06.1**	**-0.3**
GCAM	**G?zelcaml?**	**0.95**	**260**	*i* P	**Pg**	**04 20 00.5**	**0.0**
GCAM				*i* S	**Sb**	**04 20 14.6**	**+0.1**
GCAM	**G?zelcaml?**	**0.95**	**260**	*i* P	**Pg**	**04 20 00.5**	**0.0**
GCAM				*i* S	**Sb**	**04 20 14.6**	**+0.1**
KHL	**Karahalli**	**0.98**	**63**	*e*PG	**Pb**	**04 20 02.4**	**+0.3**
KHL	**Karahalli**	**0.98**	**63**	*e*Pg	**Pb**	**04 20 02.4**	**+0.3**
TURN	**Turunc**	**1.01**	**171**	*i* P	**Pb**	**04 20 02.7**	**+0.1**
TURN	**Turunc**	**1.01**	**171**	*i* P	**Pb**	**04 20 02.7**	**+0.1**
TURN				*i* S	**Sn**	**04 20 19.9**	**+1.6**
IZM	**Izmir**	**1.04**	**300**	*e*PG	**Pg**	**04 20 02.3**	**-0.1**
IZM	**Izmir**	**1.04**	**300**	*e*Pg	**Pg**	**04 20 02.3**	**-0.1**
DALY	**Dalyan (Mu˘la**	**1.08**	**170**	*e*PG	**Pg**	**04 20 02.6**	**-0.4**
DALY	**Dalyan (Mu˘la**	**1.08**	**170**	*e*Pg	**Pg**	**04 20 02.6**	**-0.4**
AKHS	**Akhisar**	**1.10**	**335**	*i* P	**Pb**	**04 20 03.8**	**-0.3**
AKHS				*i* S	**Sg**	**04 20 17.9**	**+0.1**
AKHS	**Akhisar**	**1.10**	**335**	*i* P	**Pb**	**04 20 03.8**	**-0.3**
AKHS				*i* S	**Sg**	**04 20 17.9**	**+0.1**
AKS	**Akhisar**	**1.10**	**335**	*e*PN	**Pg**	**04 20 03.7**	**+0.2**
GOLH	**Golhisar**	**1.11**	**125**	*i* P	**Pg**	**04 20 03.2**	**-0.5**
GOLH				*i* S	**Sg**	**04 20 17.8**	**-0.4**
GOLH	**Golhisar**	**1.11**	**125**	*i* P	**Pg**	**04 20 03.2**	**-0.5**
GOLH				*i* S	**Sg**	**04 20 17.8**	**-0.4**
BDRM	**Kayabasi**	**1.12**	**224**	*i* P	**Pg**	**04 20 03.2**	**-0.6**
BDRM				*i* S	**Sb**	**04 20 19.8**	**+0.4**
BDRM	**Kayabasi**	**1.12**	**224**	*i* P	**Pg**	**04 20 03.2**	**-0.6**
BDRM				*i* S	**Sb**	**04 20 19.8**	**+0.4**
DEMI	**Demirci**	**1.19**	**12**	*i* P	**Pg**	**04 20 04.2**	**-0.9**
DEMI				*i* S	**Sg**	**04 20 20.1**	**-0.4**
DEMI	**Demirci**	**1.19**	**12**	*i* P	**Pg**	**04 20 04.2**	**-0.9**
DEMI				*i* S	**Sg**	**04 20 20.1**	**-0.4**
BLCB	**Balcova**	**1.19**	**296**	*e*PN	**Pg**	**04 20 05.2**	**0.0**
BLCB	**Balcova**	**1.19**	**296**	*e*Pn	**Pg**	**04 20 05.2**	**0.0**
BODT	**Bodrum**	**1.20**	**227**	*e*PN	**Pg**	**04 20 04.6**	**-0.7**
BODT	**Bodrum**	**1.20**	**227**	*e*Pn	**Pg**	**04 20 04.6**	**-0.7**
SMG	**Samos**	**1.26**	**263**	P	**Pg**	**04 20 05.8**	**-0.7**
SMG				S	**Sn**	**04 20 24.9**	**+0.4**
SMG	**Samos**	**1.26**	**263**	*e*PN	**Pg**	**04 20 05.7**	**-0.7**
SMG				*e*SN	**Sb**	**04 20 23.4**	**-0.1**
SMG	**Samos**	**1.26**	**263**	P	**Pg**	**04 20 05.8**	**-0.7**
SMG				*e*Sn	**Sb**	**04 20 23.4**	**-0.1**
SMG				S	**Sn**	**04 20 24.9**	**+0.4**
DAT	**Datca**	**1.33**	**210**	*e*PN	**Pg**	**04 20 07.0**	**-0.8**
DAT	**Datca**	**1.33**	**210**	*e*Pn	**Pg**	**04 20 07.0**	**-0.8**
FETY	**Fethiye**	**1.35**	**156**	*e*PN	**Pg**	**04 20 08.0**	**-0.3**
FETY	**Fethiye**	**1.35**	**156**	*e*Pn	**Pg**	**04 20 08.0**	**-0.3**
GDZ	**Gediz**	**1.47**	**34**	*i* P	**Pn**	**04 20 09.8**	**-0.2**
GDZ				*i* S	**Sn**	**04 20 30.1**	**+0.2**
GDZ	**Gediz**	**1.47**	**34**	*i* P	**Pn**	**04 20 09.8**	**-0.2**
GDZ				*i* S	**Sn**	**04 20 30.1**	**+0.2**
ZEY	**˘zmir**	**1.55**	**284**	*i* P	**Pn**	**04 20 09.9**	**-1.0**
ZEY				*i* S	**Sg**	**04 20 33.5**	**+1.4**
NIS1	**Nisyros Isl.**	**1.61**	**218**	*e*PN	**Pn**	**04 20 11.4**	**-0.4**
NIS1	**Nisyros Isl.**	**1.61**	**218**	P	**Pn**	**04 20 11.4**	**-0.4**
NIS1				S	**Sg**	**04 20 34.4**	**+0.3**
NIS1	**Nisyros Isl.**	**1.61**	**218**	*e*PN	**Pn**	**04 20 11.4**	**-0.4**
NIS1	**Nisyros Isl.**	**1.61**	**218**	P	**Pn**	**04 20 11.4**	**-0.4**
NIS1				S	**Sg**	**04 20 34.4**	**+0.3**
ELL	**Elmali**	**1.64**	**133**	*e*PN	**Pn**	**04 20 12.5**	**+0.2**
ELL	**Elmali**	**1.64**	**133**	*e*Pn	**Pn**	**04 20 12.5**	**+0.2**
ISP	**Isparta**	**1.67**	**91**	*e*PN	**Pn**	**04 20 13.1**	**+0.4**
ISP	**Isparta**	**1.67**	**91**	P	**Pn**	**04 20 11.7**	**-1.0**
ISP				S	**Sn**	**04 20 34.3**	**-0.5**
ISP	**Isparta**	**1.67**	**91**	P	**Pn**	**04 20 11.7**	**-1.0**
ISP	**Isparta**	**1.67**	**91**	*e*Pn	**Pn**	**04 20 13.1**	**+0.4**
ISP				S	**Sn**	**04 20 34.3**	**-0.5**
ARG	**Arkhangelos**	**1.68**	**188**	P	**Pn**	**04 20 13.2**	**+0.6**
ARG				S	**Sg**	**04 20 36.1**	**0.0**
ARG	**Arkhangelos**	**1.68**	**188**	*e*PN	**Pn**	**04 20 13.0**	**+0.4**
ARG				*e*SN	**Sg**	**04 20 36.2**	**+0.1**
ARG	**Arkhangelos**	**1.68**	**188**	*e*Pn	**Pn**	**04 20 13.0**	**+0.4**
ARG				S	**Sg**	**04 20 36.1**	**0.0**
DST	**Dursunbey**	**1.73**	**5**	*e*PN	**Pg**	**04 20 15.1**	**-0.4**
DST	**Dursunbey**	**1.73**	**5**	*e*Pn	**Pg**	**04 20 15.1**	**-0.4**
TVSB	**Tavsanli**	**1.77**	**27**	*e*PN	**Pb**	**04 20 15.1**	**-0.5**
TVSB	**Tavsanli**	**1.77**	**27**	*e*Pn	**Pb**	**04 20 15.1**	**-0.5**
ALT	**Altintas**	**1.78**	**48**	*e*PN	**Pb**	**04 20 15.5**	**-0.2**
ALT	**Altintas**	**1.78**	**48**	P	**Pn**	**04 20 13.0**	**-1.2**
ALT				S	**Sn**	**04 20 36.8**	**-0.6**
ALT	**Altintas**	**1.78**	**48**	P	**Pn**	**04 20 13.0**	**-1.2**
ALT	**Altintas**	**1.78**	**48**	*e*Pn	**Pb**	**04 20 15.5**	**-0.2**
ALT				S	**Sn**	**04 20 36.8**	**-0.6**
BCK	**Bucak**	**1.78**	**103**	*e*PN	**Pb**	**04 20 15.1**	**-0.5**
BCK	**Bucak**	**1.78**	**103**	*e*Pn	**Pb**	**04 20 15.1**	**-0.5**
BALB	**Balikesir**	**1.81**	**347**	*e*PN	**Pb**	**04 20 15.8**	**-0.3**
BALB	**Balikesir**	**1.81**	**347**	*e*Pn	**Pb**	**04 20 15.8**	**-0.3**
SHUT	**Suhut-Afyon**	**1.81**	**68**	*e*PN	**Pb**	**04 20 16.1**	**-0.2**
SHUT	**Suhut-Afyon**	**1.81**	**68**	*e*Pn	**Pb**	**04 20 16.1**	**-0.2**
AKAS	**Kas**	**1.90**	**149**	*i* P	**Pb**	**04 20 17.4**	**-0.4**
AKAS	**Kas**	**1.90**	**149**	*i* P	**Pb**	**04 20 17.4**	**-0.4**
AKAS				*i* S	**Sg**	**04 20 44.7**	**+1.3**
CHOS	**Chios island**	**1.93**	**286**	*e*PN	**Pn**	**04 20 16.6**	**+0.4**
CHOS	**Chios island**	**1.93**	**286**	P	**Pn**	**04 20 15.9**	**-0.3**
CHOS				S	**Sn**	**04 20 41.2**	**+0.2**
CHOS	**Chios island**	**1.93**	**286**	*e*PN	**Pn**	**04 20 16.0**	**-0.3**
CHOS	**Chios island**	**1.93**	**286**	P	**Pn**	**04 20 15.9**	**-0.3**
CHOS	**Chios island**	**1.93**	**286**	*e*Pn	**Pn**	**04 20 16.6**	**+0.4**
CHOS				S	**Sn**	**04 20 41.2**	**+0.2**
BALY	**Balya**	**1.96**	**342**	*i* P	**Pn**	**04 20 15.8**	**-0.8**
BALY				*i* S	**Sn**	**04 20 41.0**	**-0.8**
BALY	**Balya**	**1.96**	**342**	*i* P	**Pn**	**04 20 15.8**	**-0.8**
BALY				*i* S	**Sn**	**04 20 41.0**	**-0.8**
AYVA	**Ayvalik**	**1.96**	**317**	*i* P	**Pb**	**04 20 19.0**	**+0.2**
AYVA	**Ayvalik**	**1.96**	**317**	*i* P	**Pb**	**04 20 19.0**	**+0.2**
AYVA				*i* S	**Sg**	**04 20 47.2**	**+1.8**
ANTB	**Antalya**	**2.04**	**118**	*e*PN	**Pb**	**04 20 18.7**	**-1.3**
ANTB	**Antalya**	**2.04**	**118**	*e*Pn	**Pb**	**04 20 18.7**	**-1.3**
PRK	**Paraskevi**	**2.16**	**310**	*e*PN	**Pn**	**04 20 18.4**	**-1.0**
PRK				*e*SN	**Sn**	**04 20 45.9**	**-0.8**
PRK	**Paraskevi**	**2.16**	**310**	*e*Pn	**Pn**	**04 20 18.4**	**-1.0**
PRK				*e*Sn	**Sn**	**04 20 45.9**	**-0.8**
BOLV	**Bolvadin**	**2.17**	**66**	*i* P	**Pn**	**04 20 18.7**	**-0.8**
BOLV				*i* S	**Sn**	**04 20 47.7**	**+0.7**
BOLV	**Bolvadin**	**2.17**	**66**	*i* P	**Pn**	**04 20 18.7**	**-0.8**
BOLV				*i* S	**Sn**	**04 20 47.7**	**+0.7**
ORLT	**Orhaneli**	**2.20**	**10**	*e*PN	**Pb**	**04 20 21.7**	**-1.1**
ORLT	**Orhaneli**	**2.20**	**10**	*e*Pn	**Pb**	**04 20 21.7**	**-1.1**
KCTX	**Karacabey (Bur**	**2.38**	**359**	*e*PN	**Pb**	**04 20 24.3**	**-1.7**
KCTX	**Karacabey (Bur**	**2.38**	**359**	*e*Pn	**Pb**	**04 20 24.3**	**-1.7**
SIGR	**SIGRI**	**2.41**	**304**	*e*PN	**Pn**	**04 20 23.8**	**+1.1**
SIGR	**SIGRI**	**2.41**	**304**	P	**Pn**	**04 20 21.5**	**-1.2**
SIGR				S	**Sn**	**04 20 51.9**	**-0.8**
SIGR	**SIGRI**	**2.41**	**304**	*e*PB	**Pn**	**04 20 21.5**	**-1.2**
SIGR	**SIGRI**	**2.41**	**304**	P	**Pn**	**04 20 21.5**	**-1.2**
SIGR	**SIGRI**	**2.41**	**304**	*e*Pn	**Pn**	**04 20 23.8**	**+1.1**
SIGR				S	**Sn**	**04 20 51.9**	**-0.8**
APE	**Apeiranthos**	**2.43**	**251**	*e*PN	**Pn**	**04 20 23.4**	**+0.3**
APE	**Apeiranthos**	**2.43**	**251**	*e*PN	**Pn**	**04 20 23.9**	**+0.8**
APE	**Apeiranthos**	**2.43**	**251**	*e*Pn	**Pn**	**04 20 23.4**	**+0.3**
EDC	**Edincik**	**2.50**	**350**	*e*PN	**Pn**	**04 20 25.6**	**+1.6**
EDC	**Edincik**	**2.50**	**350**	*e*Pn	**Pn**	**04 20 25.6**	**+1.6**
MDNY	**Mudanya-Bursa**	**2.51**	**8**	*e*PN	**Pn**	**04 20 25.9**	**+1.7**
MDNY	**Mudanya-Bursa**	**2.51**	**8**	*e*Pn	**Pn**	**04 20 25.9**	**+1.7**
ESKT	**Eskisehir**	**2.52**	**49**	*e*PN	**Pn**	**04 20 25.9**	**+1.6**
ESKT	**Eskisehir**	**2.52**	**49**	*e*Pn	**Pn**	**04 20 25.9**	**+1.6**
KARP	**Karpathos**	**2.54**	**204**	*e*PN	**Pn**	**04 20 24.2**	**-0.3**
KARP	**Karpathos**	**2.54**	**204**	*e*Pn	**Pn**	**04 20 24.2**	**-0.3**
EZN	**Ezine**	**2.54**	**321**	*e*PN	**Pn**	**04 20 25.6**	**+1.1**
EZN	**Ezine**	**2.54**	**321**	*e*Pn	**Pn**	**04 20 25.6**	**+1.1**
BORA	**Eskisehir**	**2.56**	**38**	*i* P	**Pg**	**04 20 30.1**	**-1.2**
BORA	**Eskisehir**	**2.56**	**38**	*i* P	**Pg**	**04 20 30.1**	**-1.2**
BORA				*i* S	**Sg**	**04 21 06.4**	**+2.0**
IZI	**Iznik**	**2.59**	**18**	*e*PN	**Pb**	**04 20 27.2**	**+1.9**
IZI	**Iznik**	**2.59**	**18**	*e*Pn	**Pn**	**04 20 27.2**	**+1.9**
GEMT	**Gemlik**	**2.62**	**13**	*e*PN	**Pb**	**04 20 27.9**	**-2.2**
GEMT	**Gemlik**	**2.62**	**13**	*e*Pn	**Pb**	**04 20 27.9**	**-2.2**
KRBG	**Karabiga-Canak**	**2.66**	**341**	*e*PN	**Pn**	**04 20 27.6**	**+1.4**
KRBG	**Karabiga-Canak**	**2.66**	**341**	*e*Pn	**Pn**	**04 20 27.6**	**+1.4**
BOZC	**Bozcaada**	**2.69**	**318**	*i* P	**Pn**	**04 20 25.8**	**-0.8**
BOZC				*i* S	**Sn**	**04 21 00.5**	**+0.8**
ARMT	**Armutlu**	**2.71**	**7**	*e*PN	**Pn**	**04 20 28.6**	**+1.7**
ARMT	**Armutlu**	**2.71**	**7**	*e*Pn	**Pn**	**04 20 28.6**	**+1.7**
ADVT	**Abdulvahap**	**2.75**	**22**	*e*PN	**Pn**	**04 20 29.5**	**+2.0**
ADVT	**Abdulvahap**	**2.75**	**22**	*e*Pn	**Pn**	**04 20 29.5**	**+2.0**
MRMT	**Marmara Adasi**	**2.79**	**347**	*e*PN	**Pn**	**04 20 29.8**	**+1.7**
MRMT	**Marmara Adasi**	**2.79**	**347**	*e*Pn	**Pn**	**04 20 29.8**	**+1.7**
THR5	**Thira Island,**	**2.85**	**240**	*e*PN	**Pn**	**04 20 29.1**	**+0.3**
THR5	**Thira Island,**	**2.85**	**240**	*e*Pn	**Pn**	**04 20 29.1**	**+0.3**
SVRH	**Sivrihisar-ESK**	**2.90**	**56**	*e*PN	**Pn**	**04 20 31.5**	**+2.0**
SVRH	**Sivrihisar-ESK**	**2.90**	**56**	*e*Pn	**Pn**	**04 20 31.5**	**+2.0**
KIZT	**Kizilcal**	**2.90**	**69**	*e*PN	**Pn**	**04 20 31.8**	**+2.1**
KIZT	**Kizilcal**	**2.90**	**69**	*e*Pn	**Pn**	**04 20 31.8**	**+2.1**
GELI	**Tayfur-Gelibol**	**2.93**	**330**	*e*PN	**Pn**	**04 20 31.4**	**+1.4**
GELI	**Tayfur-Gelibol**	**2.93**	**330**	*e*Pn	**Pn**	**04 20 31.4**	**+1.4**
RKY	**Sarkoy-Tekirda**	**2.96**	**342**	*e*PN	**Pn**	**04 20 31.8**	**+1.4**
RKY	**Sarkoy-Tekirda**	**2.96**	**342**	*e*Pn	**Pn**	**04 20 31.8**	**+1.4**
BUY	**Buyukada**	**3.02**	**10**	*i* P	**Pg**	**04 20 39.8**	**-0.4**
BUY				*i* S	**Sg**	**04 21 19.1**	**-0.2**
GADA	**Gvkgeada**	**3.03**	**320**	*e*PN	**Pn**	**04 20 32.6**	**+1.4**
GADA	**Gvkgeada**	**3.03**	**320**	*e*Pn	**Pn**	**04 20 32.6**	**+1.4**
GULT	**Gulveren**	**3.03**	**32**	*e*PN	**Pn**	**04 20 33.4**	**+2.0**
GULT	**Gulveren**	**3.03**	**32**	*e*Pn	**Pn**	**04 20 33.4**	**+2.0**
KONT	**Konya--Tatoy**	**3.12**	**88**	*e*PN	**Pn**	**04 20 34.1**	**+1.5**
KONT	**Konya--Tatoy**	**3.12**	**88**	*e*Pn	**Pn**	**04 20 34.1**	**+1.5**
LADK	**Ladik-KONYA**	**3.14**	**83**	*e*PN	**Pn**	**04 20 34.4**	**+1.5**
LADK	**Ladik-KONYA**	**3.14**	**83**	*e*Pn	**Pn**	**04 20 34.4**	**+1.5**
ERIK	**Erikli-Kesan**	**3.15**	**333**	*e*PN	**Pn**	**04 20 34.4**	**+1.4**
ERIK	**Erikli-Kesan**	**3.15**	**333**	*e*Pn	**Pn**	**04 20 34.4**	**+1.4**
ISK	**Istanbul-Kandi**	**3.22**	**9**	*e*PN	**Pn**	**04 20 36.0**	**+2.1**
ISK	**Istanbul-Kandi**	**3.22**	**9**	*e*Pn	**Pn**	**04 20 36.0**	**+2.1**
LIA	**Limnos Island**	**3.23**	**310**	*e*PN	**Pn**	**04 20 34.1**	**+0.1**
LIA	**Limnos Island**	**3.23**	**310**	*e*Pn	**Pn**	**04 20 34.1**	**+0.1**
BGKT	**Bogazkoy**	**3.31**	**5**	*e*PN	**Pn**	**04 20 37.3**	**+2.2**
BGKT	**Bogazkoy**	**3.31**	**5**	*e*Pn	**Pn**	**04 20 37.3**	**+2.2**
CTKS	**Kestanelik-??a**	**3.35**	**1**	*e*PN	**Pn**	**04 20 38.0**	**+2.3**
CTKS	**Kestanelik-??a**	**3.35**	**1**	*e*Pn	**Pn**	**04 20 38.0**	**+2.3**
KLYT	**Kilyos**	**3.41**	**8**	*e*PN	**Pn**	**04 20 39.0**	**+2.6**
KLYT	**Kilyos**	**3.41**	**8**	*e*Pn	**Pn**	**04 20 39.0**	**+2.6**
SILT	**Sile**	**3.41**	**16**	*e*PN	**Pn**	**04 20 39.0**	**+2.5**
SILT	**Sile**	**3.41**	**16**	*e*Pn	**Pn**	**04 20 39.0**	**+2.5**
SMTH	**Samothraki Isl**	**3.42**	**320**	P	**Pn**	**04 20 36.5**	**-0.2**
SMTH	**Samothraki Isl**	**3.42**	**320**	*e*PN	**Pn**	**04 20 36.4**	**-0.2**
SMTH	**Samothraki Isl**	**3.42**	**320**	P	**Pn**	**04 20 36.5**	**-0.2**
NPS	**Neapolis**	**3.45**	**222**	*e*PN	**Pn**	**04 20 38.6**	**+1.5**
NPS	**Neapolis**	**3.45**	**222**	*e*Pn	**Pn**	**04 20 38.6**	**+1.5**
ALLN	**Alexandroupoli**	**3.53**	**329**	P	**Pn**	**04 20 37.7**	**-0.4**
ALN				S	**Sn**	**04 21 19.0**	**-1.4**
ALN	**Alexandroupoli**	**3.53**	**329**	*e*PN	**Pn**	**04 20 37.7**	**-0.4**
ALN	**Alexandroupoli**	**3.53**	**329**	P	**Pn**	**04 20 37.7**	**-0.4**
ALN				S	**Sn**	**04 21 19.0**	**-1.4**
LAST	**Lasithi**	**3.60**	**222**	*e*PN	**Pn**	**04 20 40.3**	**+1.1**
LAST	**Lasithi**	**3.60**	**222**	*e*Pn	**Pn**	**04 20 40.3**	**+1.1**
AOS	**Alonnisos**	**3.78**	**291**	*e*PN	**Pn**	**04 20 41.5**	**-0.1**
AOS	**Alonnisos**	**3.78**	**291**	*e*Pn	**Pn**	**04 20 41.5**	**-0.1**
SKIA	**Skiathos**	**4.09**	**290**	*e*PN	**Pn**	**04 20 46.1**	**+0.3**
SKIA	**Skiathos**	**4.09**	**290**	*e*Pn	**Pn**	**04 20 46.1**	**+0.3**
SMIA	**Simia**	**4.21**	**285**	*e*PN	**Pn**	**04 20 48.2**	**+0.7**
SMIA	**Simia**	**4.21**	**285**	*e*Pn	**Pn**	**04 20 48.2**	**+0.7**
PAIG	**Paliouri**	**4.22**	**300**	*e*PN	**Pn**	**04 20 48.2**	**+0.6**
PAIG	**Paliouri**	**4.22**	**300**	*e*Pn	**Pn**	**04 20 48.2**	**+0.6**
OUR	**Ouranopolis**	**4.23**	**307**	*e*PN	**Pn**	**04 20 47.9**	**+0.1**
OUR	**Ouranopolis**	**4.23**	**307**	*e*Pn	**Pn**	**04 20 47.9**	**+0.1**
KAVA	**Kavala**	**4.34**	**317**	*e*PN	**Pn**	**04 20 49.3**	**+0.1**
KAVA	**Kavala**	**4.34**	**317**	*e*Pn	**Pn**	**04 20 49.3**	**+0.1**
SRS	**Serrai**	**4.94**	**312**	*e*PN	**Pn**	**04 20 57.0**	**-0.5**
SRS	**Serrai**	**4.94**	**312**	*e*Pn	**Pn**	**04 20 57.0**	**-0.5**
HORT	**Hortiatis**	**4.94**	**305**	*e*PN	**Pn**	**04 20 58.2**	**+0.6**
HORT	**Hortiatis**	**4.94**	**305**	*e*Pn	**Pn**	**04 20 58.2**	**+0.6**
KNT	**Kendrikon**	**5.38**	**309**	*e*PN	**Pn**	**04 21 04.5**	**+0.9**
KNT	**Kendrikon**	**5.38**	**309**	*e*Pn	**Pn**	**04 21 04.5**	**+0.9**
GRG	**Griva**	**5.58**	**305**	*e*PN	**Pn**	**04 21 07.7**	**+1.4**
GRG	**Griva**	**5.58**	**305**	*e*Pn	**Pn**	**04 21 07.7**	**+1.4**

CSEM ***11*** *04:21:53.8±0.8,46˚.34N×13˚.64E,h2km,ML0.4,Error ellipse: s-maj=14.6km s-min=7.7km az=158.0*

LJU 11 04:21:54.3,46˚.27N×13˚.67E,h7km,ML0.3,6C,Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CADS	**Cadrg**	**0.07**	**130**	⇑*i* Pg	Pg	04 21 56.0	-0.1
CADS				*i* Sg	Sg	04 21 57.4	-0.1
	comp=Z,6.0nm,0.0s						
CADS	**Cadrg**	**0.07**	**130**	⇑*i* Pg	Pg	04 21 56.0	-0.1
CADS				*i* Sg	Sg	04 21 57.4	0.0
	comp=Z,6.0nm,0.0s						
DRE	**Drenchia**	**0.10**	**189**	⇑*e*Pg	Pg	04 21 56.6	0.0
DRE				*e*Sg	Sg	04 21 58.5	+0.2
DRE	**Drenchia**	**0.10**	**189**	⇑*e*Pg	Pg	04 21 56.6	0.0
DRE				*e*Sg	Sg	04 21 58.5	+0.2
ROBS	**Robic**	**0.11**	**257**	⇑*i* Pg	Pg	04 21 56.8	0.0
ROBS				*i* Sg	Sg	04 21 58.7	+0.2
	comp=Z,2.0nm,0.1s						
ROBS	**Robic**	**0.11**	**257**	⇑*i* Pg	Pg	04 21 56.

comp=Z,438nm,18.7s,baz=112,slow=37
WRKA Warakurna 37.86 255 P **P** 05 05 49.4 -0.4
baz=38,SNR=22
TBI Tubuai 38.43 102 *e*LQ LQ 05 14 52.9
302nm,30.0s
TBI *e*LR LR 05 16 31.1
321nm,26.0s,baz=264
KNRA Kununurra 38.62 270 P **P** 05 05 56.0 -0.1
baz=39,SNR=6.7
PPT2 Papeete2 39.06 93 *e*S S 05 12 07.4 +10
78nm,27.2s
PPT2 *e*LR LR 05 16 53.4
560nm,25.5s,baz=251
PPT Papeete 39.06 93 LR LR 05 18 58.2
comp=Z,59nm,21.3s,baz=274,slow=32
GUMO Guam 41.37 323 LR LR 05 21 03.3
comp=Z,116nm,22.0s,baz=134,slow=33
KMBL Kambalda 43.61 246 P **P** 05 06 36.7 -0.4
baz=44,SNR=7.0
MBWA Marble Bar 46.05 260 *e*P **P** 05 06 56.6 -0.1
MEEK Meekatharra 46.51 252 P **P** 05 06 59.9 -0.3
baz=46,SNR=13
KLBR Kellerberrin 47.14 245 P **P** 05 07 04.4 -0.7
baz=47,SNR=11
KAPI Kappang 50.34 281 *e*P **P** 05 07 30.8 +1.0
26nm,0.9s
RKT Rikitea 51.70 104 *e*LR LR 05 22 38.7
263nm,28.0s
VNDA Vanda 57.26 182 P **P** 05 08 18.9 -0.7
1.0nm,0.8s,baz=348,slow=6.2,SNR=6.1
SBA Scott Base 57.49 181 P **P** 05 08 19.8 -1.4
5.2nm,0.8s
STKI Sintang 59.92 282 P **P** 05 08 41.0 +2.0
KSM Kuching 61.55 283 *e*P **P** 05 08 50.9 +0.7
8.4nm,0.6s
CGJI Cibinong 62.86 273 P **P** 05 08 58.5 -0.5
42nm,1.0s,2µm
MJAR Matsushiro Arr 63.75 333 LR LR 05 34 59.1
comp=Z,22nm,20.8s,baz=125,slow=34
KASI Kota Agung 64.35 274 P **P** 05 09 07.5 -1.3
JNU Nakatsue 64.57 325 LR LR 05 36 24.3
comp=Z,30nm,18.7s,slow=35
ASAJ Asahikawa 68.67 340 LR LR 05 34 43.9
comp=Z,41nm,20.7s,slow=32
KSRS Korea Array 69.42 326 LR LR 05 38 54.9
comp=Z,50nm,19.3s,baz=162,slow=35
QSPA South Pole Qui 69.64 180 LR LR 05 38 38.8
comp=Z,70nm,18.1s,baz=50,slow=35
QSPA South Pole Qui 69.64 180 *e*P **P** 05 09 41.4 -0.4
18nm,1.2s
QIZ Qiongzhong 70.09 300 P **P** 05 09 47.3 +2.3
QIZ S **S** 05 18 48.7 -5.6
NJ2 Nanjing 70.99 316 *e*P **P** 05 09 53.0 +2.7
NJ2 PMZ
20nm,0.5s
WHN Wuhan 73.07 313 P P 05 10 11.9 +9.1
PETK Petropavlovsk- 73.89 353 P **P** 05 10 07.9 +0.8
5.9nm,0.7s,baz=153,slow=9.8,SNR=18
PETK LR LR 05 36 37.7
comp=Z,23nm,20.6s,baz=146,slow=31
GYA Guiyang 76.42 305 *e*P **P** 05 10 25.0 +2.6
GYA PMZ
10.0nm,1.0s
MAW Mawson 77.32 202 P **P** 05 10 26.4 -0.3
2.6nm,0.7s,baz=85,slow=9.8,SNR=4.2
CMAR Chiang Mai Arr 78.91 295 P **P** 05 10 37.0 +0.6
2.9nm,0.3s,baz=126,slow=4.8,SNR=9.6
CD2 Chengdu 80.88 308 *e*P **P** 05 10 48.5 +1.7
CD2 PMZ
10.0nm,0.6s
HHC Hu-ho-hao-te 81.05 320 *e*P **P** 05 10 49.6 +2.0
HHC PP PP 05 13 59.1 +6.0
HHC S **S** 05 20 51.2 -3.8
HHC SS **SS** 05 26 12.0 +1.3
HHC PMZ
13nm,0.6s
HHC PMZ
85nm,7.4s
HHC LN
130nm,17.3s
HHC LE
55nm,17.3s
LZH Lanzhou 83.45 312 *e*P **P** 05 11 01.9 +1.6
LZH pP pP 05 11 19.3 +9.1
LZH sP sP 05 11 28.1 +14
LZH PMZ
17nm,1.0s
ULN Ulaanbaatar 87.75 323 *e*P **P** 05 11 22.4 +1.0
7.6nm,1.1s
GTA Gaotai 87.87 314 *e*P **P** 05 11 22.7 +0.5
GTA pP pP 05 11 45.1 +13
GTA PMZ
2.0nm,1.5s
SNAA Sanae 87.99 183 P **P** 05 11 20.2 -2.0
SNAA Sanae 87.99 183 P **P** 05 11 20.7 -1.5
0.7nm,0.6s,baz=220,slow=10,SNR=7.1
SNAA Sanae 87.99 183 *e*P **P** 05 11 21.4 -0.8
CMB Columbia Colle 88.00 48 P **P** 05 11 22.1 -0.7
2.4nm,0.7s
SONM Songino Array 88.10 323 P **P** 05 11 22.5 -0.6
0.7nm,0.3s,baz=138,slow=8.9,SNR=2.4
YBH Yreka Blue Hor 88.20 44 LR LR 05 42 22.7
comp=Z,75nm,19.5s,baz=252,slow=30
VNA3 Neumayer Olymp 88.58 180 P **P** 05 11 23.7 -1.2
VNA2 Neumayer--Watz 88.87 181 P **P** 05 11 25.5 -0.8
baz=179,slow=4.7
NVAR Mina Array Bea 89.64 49 P **P** 05 11 29.9 -0.7
1.8nm,0.7s,baz=228,slow=9.1,SNR=8.7
BBB Bella Bella 90.50 33 LR LR 05 45 34.5
comp=Z,31nm,19.4s,baz=269,slow=31
COLA College 91.19 17 P **P** 05 11 37.3 +0.4
4.2nm,0.9s
ILAR Eielson Array 91.38 17 P **P** 05 11 35.7 -2.1
1.4nm,0.7s,baz=239,slow=5.3,SNR=9.5
ILAR LR LR 05 45 41.4
comp=Z,59nm,20.8s,baz=211,slow=31
TUC Tucson 92.72 57 P **P** 05 11 44.9 0.0
1.9nm,0.8s
DLBC Dease Lake 93.12 27 LR LR 05 46 05.7
comp=Z,87nm,20.6s,baz=235,slow=31
TXAR Lajitas Array 97.40 62 P **P** 05 12 06.3 -0.2
0.7nm,0.8s,baz=225,slow=6.7,SNR=8.8
TXAR LR LR 05 49 06.2
comp=Z,85nm,19.0s,baz=0.0,slow=31
PDAR Pinedale Array 97.47 47 P **P** 05 12 06.2 -0.4
0.3nm,0.6s,baz=274,slow=4.2,SNR=3.3
PDAR LR LR 05 50 06.2
comp=Z,26nm,20.2s,baz=257,slow=32
INK Inuvik 97.68 18 LR LR 05 51 21.4
comp=Z,22nm,19.4s,baz=85,slow=32
WMQ Urumqi 97.95 314 *e*P Pdif 05 12 10.2 +1.6
WMQ pP pP 05 12 31.0 +12
WMQ sP sP 05 12 39.3 +17
WMQ PMZ
74nm,4.2s
WMQ LN
31nm,20.2s
WMQ LE
47nm,20.4s
YKA Yellowknife Ar 101.75 27 P **Pdif** 05 12 27.4 +2.6
0.1nm,0.4s,baz=259,slow=5.0,SNR=4.8
KSH Kashi 105.06 307 *e*Pdif **Pdif** 05 12 43.6 +3.2
KSH PP PP 05 17 10.5 +8.9
KSH S **Sdif** 05 24 37.8 +4.9
KSH PPMZ
73nm,4.1s
SPITS Spitsbergen Ar 120.75 354 PKP **PKPdf** 05 17 21.7 -1.8
6.0nm,1.0s,baz=110,slow=6.3,SNR=10
ARCES ARCESS Array B 126.18 345 PKP **PKPdf** 05 17 32.5 -1.6
2.4nm,0.8s,baz=64,slow=2.9,SNR=8.2
PTGA Pitinga 127.56 108 PKP **PKPdf** 05 17 36.3 -2.2
1.9nm,0.3s,baz=329,slow=20,SNR=5.6
FINES FINESS Array B 131.63 337 PKP **PKPdf** 05 17 43.4 -1.3
2.1nm,0.9s,baz=103,slow=6.0,SNR=3.1
FINES SKPbc **SKPbc** 05 21 04.8 -3.1
1.5nm,0.7s,baz=97,slow=3.2,SNR=5.1
STHS Stebnicka Huta 141.40 326 *e* **PKPdf** 05 18 07.5 +4.3
BRG Berggiesshubel 143.88 333 *e*PKP PKPab 05 18 03.8 -0.9
12nm,1.6s
BRG *e* 05 18 15.8
5.9nm,0.9s
BRG Berggiesshubel 143.88 333 *e*PKPbc PKPbc 05 18 05.6 +0.3
CLL Collm 143.94 334 *e*PKPbc PKPab 05 18 05.2 +0.4
CLL Collm 143.94 334 *e*PKiKP **PKiKP** 05 18 11.0 -0.1
CLL *e* 05 18 14.0
comp=Z,4.0nm,0.6s
PRU Pruhonice 144.27 332 *e*PKP **PKPdf** 05 18 07.9 -0.3
PRU *ex* x 05 18 17.7
CLZ Clausthal 144.53 337 *e*PKPbc **PKPab** 05 18 06.6 -0.5
TANN Tannenbergstha 144.84 334 *e*PKPbc **PKPab** 05 18 07.9 -0.4
TANN *e* 05 18 18.6
WERD Werda 144.88 334 *e*PKPbc **PKPab** 05 18 07.7 -0.7
PLN Plauen 144.91 334 *e*PKPbc **PKPab** 05 18 07.9 -0.6
GUNZ Gunzen 144.94 334 *e*PKPbc **PKPab** 05 18 08.1 -0.6
WERN Wernitzgruen 144.98 334 *e*PKPbc **PKPbc** 05 18 08.4 -0.4
NKC Novy Kostel 144.99 334 *e*PKPbc **PKPbc** 05 18 08.5 -0.3
NKC Novy Kostel 144.99 334 *e*PKP **PKPbc** 05 18 08.8 0.0
NKC *ex* x 05 18 19.7
NKC *ex* x 05 18 24.7
MOX Moxa 145.01 335 *e*PKPbc **PKPbc** 05 18 08.3 -0.6
IBBN Ibbenburen 145.03 340 *e*PKPbc **PKPbc** 05 18 08.0 -0.8
ROHR Rohrbach 145.04 334 *e*PKPbc **PKPbc** 05 18 08.8 -0.2
ROHR *e* 05 18 19.2
CONA Conrad Observa 145.09 328 ⇑ *i*PKPdf **PKPab** 05 18 09.7 +0.3
comp=Z,8.9nm,0.7s
KHC Kasperske Hory 145.32 331 *e*PKP **PKPbc** 05 18 09.8 -0.2
KHC *ex* x 05 18 13.6
KHC *ex* x 05 18 20.8
KHC *ex* x 05 18 26.3
ROTZ Rotzenmuhle 145.44 333 *e*PKPbc **PKPdf** 05 18 10.0 -0.3
GEC2 GERESS Array S 145.48 331 *e*PKPbc **PKPdf** 05 18 09.8 -0.7
GEC2 *e* 05 18 21.0
GERES GERESS Array B 145.48 331 PKPbc **PKPdf** 05 18 10.5 0.0
comp=Z,3.6nm,0.6s,baz=48,slow=2.0,SNR=23
UBBA Unterbreizbach 145.49 337 *e*PKPbc **PKPdf** 05 18 09.5 -0.7
WET Wettzell 145.63 332 *e*PKPbc **PKPdf** 05 18 10.6 -0.1
GRF Grafenberg Arr 145.91 334 *e*PKPbc **PKPdf** 05 18 11.3 +0.2
TNS Taunus Mts 146.55 337 *e*PKPbc **PKPdf** 05 18 11.2 -1.0
KBA Koelnbreinsper 146.91 329 ⇑ *i*PKiKP **PKPab** 05 18 17.0 +0.6
comp=Z,4.7nm,0.8s
FETA Feichten 148.17 331 ⇑ PKiKP **PKPbc** 05 18 17.7 -0.7
comp=Z,7.4nm,1.4s
DAVOX Davos/Dischmat 148.73 332 PKPbc **PKPbc** 05 18 18.4 -1.5
comp=Z,6.2nm,0.6s,baz=61,slow=3.9,SNR=8.4
TORD Torodi Ar. Bea 165.98 241 PKPab **PKPab** 05 19 36.0 -2.4
comp=Z,0.9nm,1.1s,baz=150,slow=4.0,SNR=3.4

*SJA **11** 05:17:56.6±0.3, 19°.99S×67°.49W, h162km±175km, ML3.2*
*ISCJB **11** 05:17:59.7±0.4, 20°.20S±0°.05×67°.30W±0°.05, h198km±6km, mb3.4/6, Error ellipse: s-maj=8.3km s-min=6.5km az=37.4*
*IDC **11** 05:18:01.8±1.2, 20°.24S×67°.28W, h207km±12km, mb3.3/6, mb1 3.4/11, mb1mx3.3/30, mbtmp3.8/11, Error ellipse: s-maj=16.6km s-min=15.7km az=19.0*
*GUC **11** 05:18:01.8±0.5, 20°.32S×67°.71W, h220km, ML4.0*

ISC 11 05:18:00.4±0.8, 20°.25S±0°.05×67°.28W±0°.06, h193km±9km, n25,σ1s31/35, mb3.4/6, 5C, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**2.21**	**249**	⇑	*e*P	**Pn**		**05 18 41.3**	**+0.5**
PB01					*e*S	**S**		**05 19 11.5**	**-0.6**
PB01					AML	AML		05 19 14.0	
	comp=N,174nm,0.3s								
PB09	**IPOC Station P**	**2.39**	**230**	⇑	*e*P	**Pn**		**05 18 44.3**	**+1.4**
PB09					*e*S	**S**		**05 19 16.4**	**+0.5**
PB09					AML	AML		05 19 21.9	
	comp=N,381nm,0.7s								
MNMC	**Minimini**	**2.45**	**297**		*e*P	**Pn**		**05 18 45.1**	**+1.5**
MNMC					*e*S	**S**		**05 19 18.6**	**+1.6**
MNMC					AML	AML		05 19 22.0	
	comp=E,659nm,0.3s								
PSGC	**Pisagua**	**2.75**	**283**	⇑	*e*P	**Pn**		**05 18 47.0**	**+0.2**
PSGC					*e*S	**S**		**05 19 21.7**	**-1.3**
PSGC					AML	AML		05 19 26.2	
	comp=E,168nm,0.4s								
PATCX	**Punta Patache**	**2.75**	**258**		*e*P	**Pn**		**05 18 46.9**	**+0.1**
PATCX					*e*S	**S**		**05 19 21.3**	**-1.7**
PATCX					AML	AML		05 19 22.6	
	comp=E,253nm,0.2s								
LVC	**Limon Verde**	**2.80**	**213**		P	**Pn**		**05 18 48.8**	**+1.2**
	comp=E,576nm,0.3s,baz=24,slow=7.1,SNR=145								
LVC					S	**S**		**05 19 24.6**	**+0.2**
	comp=E,492nm,0.3s,baz=112,slow=19,SNR=18								
PB07	**IPOC Station P**	**2.84**	**238**		*e*P	**Pn**		**05 18 48.6**	**+0.6**
PB04	**IPOC Station P**	**2.88**	**225**	⇑	*e*P	Pn		05 18 54.9	+6.7
PB04					*e*S			05 19 33.6	
PB04					AML	AML		05 19 35.0	
	comp=E,213nm,0.5s								
PB06	**IPOC Station P**	**3.25**	**221**	⇑	*e*P	**Pn**		**05 18 53.3**	**+0.5**
PB06					*e*S	**S**		**05 19 32.2**	**-1.6**
PB06					AML	AML		05 19 33.2	
	comp=E,354nm,0.4s								
LPAZ	**La Paz**	**4.02**	**348**		P	Pn		**05 19 05.7**	**+2.8**
	comp=E,3.1nm,0.3s,baz=152,slow=5.6,SNR=94								
LPAZ	**La Paz**	**4.02**	**348**		*e*P	**Pn**		**05 19 05.8**	**+2.9**
AZAP	**Zapla**	**4.46**	**153**		*i*P	**Pn**		**05 19 08.8**	**+0.8**
ASTB	**Santa Barbara**	**4.51**	**145**		*i*P	**Pn**		**05 19 09.4**	**+0.9**
ALOL	**LOMAS DE OLMED**	**4.69**	**140**		*i*P	**Pn**		**05 19 10.3**	**-0.5**
ALOL					*i*P	**Pn**		**05 19 10.3**	**-0.5**
SLA	**San Lorenzo**	**4.75**	**160**		*i*P	**Pn**		**05 19 10.9**	**-0.6**
SLA					*i*S	**S**		**05 20 07.8**	**+0.2**
SLA					AML	AML		05 20 11.4	
	comp=Z,12nm,0.6s								
FSA	**Cafayete**	**5.93**	**169**		*i*P	**Pn**		**05 19 27.9**	**+1.0**
FSA					*i*S	**S**		**05 20 35.5**	**+0.2**
SIV	**San Ignacio**	**7.26**	**55**		P	**Pn**		**05 19 44.6**	**+0.4**
	comp=Z,1.5nm,0.3s,baz=255,slow=10,SNR=18								
SIV					S	**S**		**05 21 03.6**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=221,slow=19,SNR=3.0								
CPUP	**Villa Florida**	**10.97**	**125**		P	**Pn**		**05 20 34.7**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=294,slow=11,SNR=9.5								
BDFB	**Brasilia**	**18.89**	**79**		P	**P**		**05 22 07.7**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=233,slow=10,SNR=6.3								
RCBR	**Riachuelo**	**33.67**	**69**		P	**P**		**05 24 23.9**	**+0.5**
	comp=Z,3.2nm,0.7s,baz=234,slow=11,SNR=4.9								
TXAR	**Lajitas Array**	**60.50**	**323**		P	**P**		**05 27 50.5**	**0.0**
	comp=Z,0.1nm,0.5s,baz=142,slow=9.1,SNR=3.4								
QSPA	**South Pole Qui**	**69.94**	**180**		P	**P**		**05 28 51.0**	**+0.4**
	comp=Z,0.9nm,0.9s,baz=99,slow=16,SNR=2.7								
PDAR	**Pinedale Array**	**73.81**	**329**		P	**P**		**05 29 13.8**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=144,slow=3.2,SNR=3.4								
TORD	**Torodi Ar. Bea**	**75.50**	**70**		P	**P**		**05 29 22.9**	**-1.1**
	comp=Z,4.2nm,0.5s,baz=255,slow=5.5,SNR=73								
YKA	**Yellowknife Ar**	**90.53**	**340**		P	**P**		**05 30 39.8**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=128,slow=4.9,SNR=6.4								

*IDC **11** 05:23:11.8±0.7, 39°.39N×25°.97E, h0km, mb3.9/17, mb1 4.0/24, mb1mx3.9/44, mbtmp3.8/24, ML3.7/7, MS2.8/9, Ms1 2.8/9, ms1mx2.6/39, Error ellipse: s-maj=13.9km s-min=12.4km az=89.0*
*NEIC **11** 05:23:12.7, 39°.47N×25°.94E, h5km, mb4.3/3, ML3.7(ATH), ML4.0(THE), ML4.2(ISK), After ISK.*
*ATH **11** 05:23:12.5, 39°.44N×25°.92E, h26km, MD3.8/22, ML3.8*
*MOS **11** 05:23:12.8±1.1, 39°.44N×25°.99E, h19km, mb4.4/4, Error ellipse: s-maj=7.9km s-min=5.4km az=99.8*
*DDA **11** 05:23:12.8, 39°.46N×25°.97E, h25km, ML4.4*
*ISCJB **11** 05:23:12.4±0.4, 39°.47N±0°.01×25°.89E±0°.02, h7km±2km, mb3.8/18, MS2.8/3, Error ellipse: s-maj=2.1km s-min=1.8km az=44.4*
*CSEM **11** 05:23:13.5±0.1, 39°.45N×25°.91E, h10km, mb3.9/9, Error ellipse: s-maj=1.8km s-min=1.6km az=16.0*
*ISK **11** 05:23:13.0, 39°.48N×25°.95E, h8km, ML4.2*
*THE **11** 05:23:13.5, 39°.45N×25°.91E, h4km±1km, ML4.0/15, Error ellipse: s-maj=1.1km s-min=0.4km az=81.0*
*SOF **11** 05:23:15.0, 39°.72N×25°.90E, h2km, MD3.7*

ISC 11 05:23:13.5±0.9, 39°.45N±0°.01×25°.94E±0°.01, h10km±6km, n404,σ0s90/481, mb3.9/18, MS2.8/3, 22C-11D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.24**	**195**		*e*PB	**Pg**		**05 23 18.8**	**+0.3**
SIGR	**SIGRI**	**0.24**	**195**		*e*Pb	**Pg**		**05 23 18.8**	**+0.3**
PRK	**Paraskevi**	**0.33**	**128**		P	**Pg**		**05 23 20.2**	**+0.2**
PRK					S	**Sb**		**05 23 25.6**	**-1.2**
PRK	**Paraskevi**	**0.33**	**128**		*e*PB	**Pg**		**05 23 20.3**	**+0.2**
PRK					*e*SB	**Sb**		**05 23 25.6**	**-1.2**
PRK	**Paraskevi**	**0.33**	**128**		P	**Pg**		**05 23 20.2**	**+0.2**
PRK					S	**Sb**		**05 23 25.6**	**-1.2**
PRK	**Paraskevi**	**0.33**	**128**		*e*Pb	**Pg**		**05 23 20.3**	**+0.2**
PRK					S	**Sb**		**05 23 25.6**	**-1.2**
PRK	**Paraskevi**	**0.33**	**128**		P	**Pg**		**05 23 20.2**	**+0.2**
PRK					S	**Sb**		**05 23 25.6**	**-1.2**
BOZC	**Bozcaada**	**0.40**	**13**		*i*P	**Pg**		**05 23 20.9**	**-0.5**
BOZC					*i*S	**Sg**		**05 23 26.7**	**-0.1**
EZN	**Ezine**	**0.48**	**38**		*e*PG	**Pg**		**05 23 22.3**	**-0.6**
EZN					*e*SG	**Sg**		**05 23 29.4**	**+0.2**
EZN	**Ezine**	**0.48**	**38**		*e*Pg	**Pg**		**05 23 22.3**	**-0.6**
EZN					*e*Sg	**Sg**		**05 23 29.4**	**+0.2**
AYVA	**Ayvalik**	**0.60**	**103**		*i*P	**Pg**		**05 23 24.9**	**-0.2**
AYVA					*i*S	**Sb**		**05 23 33.9**	**-0.7**
AYVA	**Ayvalik**	**0.60**	**103**		*i*P	**Pg**		**05 23 24.9**	**-0.2**
AYVA					*i*S	**Sb**		**05 23 33.9**	**-0.7**
LIA	**Limnos Island**	**0.73**	**308**		P	**Pg**		**05 23 27.5**	**-0.1**
LIA					S	**Sb**		**05 23 38.3**	**-0.2**
LIA	**Limnos Island**	**0.73**	**308**		*e*PN	**Pg**		**05 23 27.6**	**-0.1**
LIA					*e*SN	**Sg**		**05 23 37.5**	**+0.2**
LIA	**Limnos Island**	**0.73**	**308**		P	**Pg**		**05 23 27.5**	**-0.1**
LIA					*e*Sn	**Sg**		**05 23 37.5**	**+0.2**
LIA					S	**Sb**		**05 23 38.3**	**-0.2**
LIA	**Limnos Island**	**0.73**	**308**		P	**Pg**		**05 23 27.5**	**-0.1**
LIA					S	**Sb**		**05 23 38.3**	**-0.2**
GADA	**Gvkgeada**	**0.74**	**358**		*e*PG	**Pg**		**05 23 27.1**	**-0.7**
GADA					*e*SG	**Sg**		**05 23 37.3**	**-0.2**
GADA	**Gvkgeada**	**0.74**	**358**		*e*Pg	**Pg**		**05 23 27.1**	**-0.7**
GADA					*e*Sg	**Sg**		**05 23 37.3**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.03**	**23**		*e*PG	**Pg**		**05 23 32.5**	**-0.9**
GELI	**Tayfur-Gelibol**	**1.03**	**23**		*e*Pg	**Pg**		**05 23 32.5**	**-0.9**
CHOS	**Chios island**	**1.06**	**175**		*e*PN	**Pn**		**05 23 34.8**	**+0.2**
CHOS	**Chios island**	**1.06**	**175**		P	**Pg**		**05 23 33.6**	**-0.3**
CHOS					S	**Sn**		**05 23 48.9**	**-0.5**
CHOS	**Chios island**	**1.06**	**175**		*e*PN	**Pg**		**05 23 33.7**	**-0.2**
CHOS	**Chios island**	**1.06**	**175**		P	**Pg**		**05 23 33.6**	**-0.3**
CHOS	**Chios island**	**1.06**	**175**		*e*Pn	**Pn**		**05 23 34.8**	**+0.2**
CHOS					S	**Sn**		**05 23 48.9**	**-0.5**
CHOS	**Chios island**	**1.06**	**175**		P	**Pg**		**05 23 33.6**	**-0.3**
CHOS					S	**Sn**		**05 23 48.9**	**-0.5**
SMTH	**Samothraki Isl**	**1.07**	**343**		P	**Pg**		**05 23 33.1**	**-0.9**
SMTH					S	**Sb**		**05 23 48.5**	**+0.4**
SMTH	**Samothraki Isl**	**1.07**	**343**		*e*PN	**Pg**		**05 23 33.2**	**-0.8**
SMTH	**Samothraki Isl**	**1.07**	**343**		P	**Pg**		**05 23 33.1**	**-0.9**
SMTH					S	**Sb**		**05 23 48.5**	**+0.4**
SMTH	**Samothraki Isl**	**1.07**	**343**		P	**Pg**		**05 23 33.1**	**-0.9**
SMTH					S	**Sb**		**05 23 48.5**	**+0.4**
LPK	**Lapseki**	**1.12**	**34**		*e*PN	**Pb**		**05 23 34.1**	**-0.9**
LPK					*e*SN	**Sb**		**05 23 49.9**	**+0.3**
LPK	**Lapseki**	**1.12**	**34**		*e*Pn	**Pb**		**05 23 34.1**	**-0.9**
LPK					*e*Sn	**Sb**		**05 23 49.9**	**+0.3**
URLA	**Izmir**	**1.20**	**154**		*i*P	**Pg**		**05 23 37.1**	**+0.5**
URLA					*i*S	**Sg**		**05 23 52.1**	**-0.1**
URLA	**Izmir**	**1.20**	**154**		*i*P	**Pg**		**05 23 37.1**	**+0.5**
URLA					*i*S	**Sg**		**05 23 52.1**	**-0.1**
ZEY	**˜zmir**	**1.29**	**160**		*i*P	**Pn**		**05 23 36.7**	**-0.8**
ZEY					*i*S	**Sb**		**05 23 53.7**	**-0.7**
ENEZ	**Enez**	**1.30**	**7**		*e*PN	**Pn**		**05 23 37.5**	**-0.1**
ENEZ	**Enez**	**1.30**	**7**		*e*Pn	**Pn**		**05 23 37.5**	**-0.1**
ERIK	**Erikli-Kesan**	**1.30**	**20**		*e*PN	**Pn**		**05 23 37.4**	**-0.3**
ERIK					*e*SN	**Sb**		**05 23 54.9**	**+0.2**
ERIK	**Erikli-Kesan**	**1.30**	**20**		*e*Pn	**Pn**		**05 23 37.4**	**-0.3**
ERIK					*e*Sn	**Sb**		**05 23 54.9**	**+0.2**
BALY	**Balya**	**1.33**	**77**		*i*P	**Pn**		**05 23 37.7**	**-0.5**
BALY					*i*S	**Sn**		**05 23 56.0**	**0.0**
BALY	**Balya**	**1.33**	**77**		*i*P	**Pn**		**05 23 37.7**	**-0.5**
BALY					*i*S	**Sn**		**05 23 56.0**	**0.0**
BLCB	**Balcova**	**1.37**	**141**		*e*PN	**Pg**		**05 23 39.4**	**-0.3**
BLCB	**Balcova**	**1.37**	**141**		*e*Pn	**Pg**		**05 23 39.4**	**-0.3**
KRBG	**Karabiga-Canak**	**1.41**	**48**		*e*PN	**Pn**		**05 23 38.8**	**-0.4**
KRBG	**Karabiga-Canak**	**1.41**	**48**		*e*Pn	**Pn**		**05 23 38.8**	**-0.4**
ALN	**Alexandroupoli**	**1.45**	**3**		*e*PN	**Pn**		**05 23 39.7**	**-0.1**
ALN	**Alexandroupoli**	**1.45**	**3**		P	**Pn**		**05 23 39.1**	**-0.7**
ALN					S	**Sg**		**05 23 59.6**	**-0.5**
ALN	**Alexandroupoli**	**1.45**	**3**		P	**Pn**		**05 23 39.1**	**-0.7**
ALN					S	**Sg**		**05 23 59.6**	**-0.5**
ALN	**Alexandroupoli**	**1.45**	**3**		P	**Pn**		**05 23 39.7**	**-0.1**
ALN	**Alexandroupoli**	**1.45**	**3**		*e*Pn	**Pn**		**05 23 39.7**	**-0.1**
ALN					S	**Sg**		**05 23 59.6**	**-0.5**
ALN	**Alexandroupoli**	**1.45**	**3**		P	**Pn**		**05 23 39.1**	**-0.7**
ALN					S	**Sg**		**05 23 59.6**	**-0.5**
IZM	**Izmir**	**1.47**	**135**		*e*PN	**Pn**		**05 23 40.2**	**+0.1**
IZM	**Izmir**	**1.47**	**135**		*e*Pn	**Pn**		**05 23 40.2**	**+0.1**
BALB	**Balikesir**	**1.52**	**82**		*e*PN	**Pn**		**05 23 40.5**	**-0.2**
BALB	**Balikesir**	**1.52**	**82**		*e*Pn	**Pn**		**05 23 40.5**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.56**	**37**		*e*PN	**Pn**		**05 23 41.3**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.56**	**37**		*e*Pn	**Pn**		**05 23 41.3**	**-0.1**
SART	**Tekirdag**	**1.56**	**37**		*i*P	**Pn**		**05 23 41.3**	**-0.1**
SART					*i*S	**Sb**		**05 24 02.6**	**+0.2**
SART	**Tekirdag**	**1.56**	**37**		*i*P	**Pn**		**05 23 41.3**	**-0.1**
SART					*i*S	**Sb**		**05 24 02.6**	**+0.2**
AKS	**Akhisar**	**1.56**	**111**		*e*PN	**Pn**		**05 23 41.3**	**-0.1**
AKS	**Akhisar**	**1.56**	**111**		*e*Pn	**Pn**		**05 23 41.3**	**-0.1**
AKHS	**Akhisar**	**1.57**	**111**		*i*P	**Pn**		**05 23 41.4**	**0.0**
AKHS					*i*S	**Sb**		**05 24 02.6**	**+0.2**
AKHS	**Akhisar**	**1.57**	**111**		*i*P	**Pn**		**05 23 41.4**	**0.0**
AKHS					*i*S	**Sb**		**05 24 02.6**	**+0.2**
AOS	**Alonnisos**	**1.62**	**261**		*e*PN	**Pn**		**05 23 42.7**	**+0.6**
AOS	**Alonnisos**	**1.62**	**261**		P	**Pn**		**05 23 41.4**	**-0.7**
AOS					S	**Sb**		**05 24 04.0**	**0.0**
AOS	**Alonnisos**	**1.62**	**261**		*e*PN	**Pn**		**05 23 41.5**	**-0.7**
AOS	**Alonnisos**	**1.62**	**261**		*e*Pn	**Pn**		**05 23 41.5**	**-0.7**
AOS					S	**Sb**		**05 24 04.0**	**0.0**
AOS	**Alonnisos**	**1.62**	**261**		P	**Pn**		**05 23 41.4**	**-0.7**
MRMT	**Marmara Adasi**	**1.72**	**47**		*e*PN	**Pn**		**05 23 43.9**	**+0.4**
MRMT	**Marmara Adasi**	**1.72**	**47**		*e*Pn	**Pn**		**05 23 43.9**	**+0.4**
EDC	**Edincik**	**1.73**	**58**		*e*PN	**Pn**		**05 23 43.6**	**-0.1**
EDC	**Edincik**	**1.73**	**58**		*e*Pn	**Pn**		**05 23 43.6**	**-0.1**
OUR	**Ouranopolis**	**1.75**	**301**		*e*PN	**Pn**		**05 23 44.1**	**+0.3**
OUR	**Ouranopolis**	**1.75**	**301**		P	**Pn**		**05 23 43.1**	**-0.7**
OUR					S	**Sn**		**05 24 08.8**	**+0.7**
OUR	**Ouranopolis**	**1.75**	**301**		*e*PN	**Pn**		**05 23 43.2**	**-0.6**
OUR	**Ouranopolis**	**1.75**	**301**		P	**Pn**		**05 23 43.1**	**-0.7**
OUR	**Ouranopolis**	**1.75**	**301**		*e*Pn	**Pn**		**05 23 43.2**	**-0.6**
OUR					S	**Sn**		**05 24 06.8**	**+0.7**
OUR	**Ouran

| | | |

mpv5.8,Error ellipse: s-maj=19.9km s-min=9.5km az=170.0

ISC 11 06:31:37.6±0.2,36°53N±0"03,71°16E±0"03,h163km±1km, h163km:pP-P,n422,σ1§63/526,mb4.7/113,41C-27D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KBL	**Kabul**	**2.63**	**222**	*e*PN		**Pn**	**06 32 18.8**	**-2.4**
KBL	**Kabul**	**2.63**	**222**	*e*Pn		**Pn**	**06 32 18.8**	**-2.4**
CEP	**Cherat**	**2.77**	**167**	⇓P		**Pn**	**06 32 21.8**	**-1.1**
CEP				D			06 32 55.0	
DZET	**Dzherino** 1μm,0.3s	**2.93**	**322**	⇑P		**Pn**	**06 32 22.4**	**-2.4**
DZET				⇑S		Sn	06 32 51.5	-10
	12μm,0.7s							
DZET	**Dzherino**	**2.93**	**322**	PN		**Pn**	**06 32 22.3**	**-2.4**
DZET				pmax	pmax			
	comp=Z,1μm,0.3s							
THW	**Thamme Wali**	**3.76**	**172**	⇓P		**Pn**	**06 32 33.7**	**-1.5**
SFK	**Sufi-Kurgan**	**3.94**	**27**	⇑P		**Pn**	**06 32 37.5**	**-0.2**
	comp=Z,1μm,0.6s							
SFK				⇑S		**Sn**	**06 33 22.8**	**-1.6**
	comp=Z,3μm,0.4s							
SFK	**Sufi-Kurgan**	**3.94**	**27**	PN		**Pn**	**06 32 37.4**	**-0.2**
SFK				S		**Sn**	**06 33 22.7**	**-1.6**
SFK				pmax	pmax			
	comp=Z,1μm,0.6s							
SFK				smax	smax			
	comp=N,3μm,0.4s							
SARP	**Sargodha**	**4.76**	**164**	⇓P		**Pn**	**06 32 45.9**	**-2.3**
KSH	**Kashi**	**4.83**	**50**	P		Pn	06 32 44.6	-4.5
KSH				S		Sn	06 33 33.5	-12
KSH				SMN				
	comp=N,41μm,0.8s							
KSH				SME				
	comp=N,49μm,1.1s							
JMU	**Jammu**	**4.90**	**140**	*e*P		Pn	06 32 45.0	-4.9
JMU				*e*S		Sn	06 33 38.5	-7.9
DLH	**Dalhousie**	**5.62**	**134**	*e*P		**Pn**	**06 32 57.0**	**-2.7**
DLH				*e*S		**Sn**	**06 33 59.0**	**-4.8**
AML	**Almayashu** SNR=1773	**5.93**	**19**	P		**Pn**	**06 33 02.7**	**-1.2**
DHRM	**DHARAMSHALA**	**6.03**	**134**	*e*P		**Pn**	**06 33 03.2**	**-1.8**
DHRM				*e*S		**Sn**	**06 34 09.0**	**-4.5**
UCH	**Uchtor** SNR=258	**6.26**	**24**	P		**Pn**	**06 33 07.0**	**-1.2**
KZA	**Kyzart** SNR=183	**6.38**	**29**	P		**Pn**	**06 33 08.2**	**-1.6**
EKS2	**Erkin-Say** SNR=308	**6.45**	**17**	P		**Pn**	**06 33 09.4**	**-1.0**
EKS2	**Erkin-Say**	**6.45**	**17**	*e*PN		**Pn**	**06 33 09.4**	**-1.0**
EKS2	**Erkin-Say**	**6.45**	**17**	*e*Pn		**Pn**	**06 33 09.4**	**-1.0**
KK31	**Karatay Array** comp=N,245nm,0.5s,baz=183,slow=13,SNR=2298	**6.58**	**356**	P		**Pn**	**06 33 10.8**	**-1.4**
KK31				⇑S		Sn	06 34 19.7	-6.7
	comp=N,1μm,0.7s,baz=176,slow=26,SNR=4.2							
KK31	**Karatay Array**	**6.58**	**356**	*i* PN		**Pn**	**06 33 10.7**	**-1.4**
KK31				pmax	pmax			
	comp=Z,244nm,0.3s							
KKAR	**Karatay Array**	**6.58**	**356**	*e*PN		**Pn**	**06 33 10.8**	**-1.3**
KKAR	**Karatay Array**	**6.58**	**356**	*e*Pn		**Pn**	**06 33 10.8**	**-1.3**
AAK	**Ala-Archa** SNR=670	**6.62**	**22**	P		**Pn**	**06 33 11.9**	**-0.8**
AAK	**Ala-Archa** comp=Z,282nm,0.5s	**6.62**	**22**	⇓P		**Pn**	**06 33 11.7**	**-1.0**
AAK				⇓S		**Sn**	**06 34 24.9**	**-2.5**
	comp=Z,2μm,0.8s							
AAK	**Ala-Archa**	**6.62**	**22**	P		**Pn**	**06 33 11.7**	**-1.0**
	comp=Z,174nm,0.3s,baz=165,slow=6.5,SNR=216							
AAK				S		**Sn**	**06 34 25.1**	**-2.3**
	comp=Z,81nm,0.3s,baz=308,slow=17,SNR=14							
AAK	**Ala-Archa**	**6.62**	**22**	*e*PN		**Pn**	**06 33 11.9**	**-0.8**
AAK	**Ala-Archa** SNR=194	**6.62**	**22**	P		**Pn**	**06 33 12.0**	**-0.8**
BHK	**Bhakra**	**6.71**	**138**	*e*P		**Pn**	**06 33 11.0**	**-3.0**
BHK				*e*S		Sn	06 34 23.4	-6.2
KBK	**Karagaybulak** SNR=23	**6.78**	**24**	P		**Pn**	**06 33 14.0**	**-0.9**
FRU	**Bishkek**	**6.84**	**22**	⇑ *i* PN		**Pn**	**06 33 15.0**	**-0.5**
FRU				pmax	pmax			
	comp=Z,380nm,1.3s							
ULHL	**Ulahol** SNR=150	**6.93**	**33**	P		**Pn**	**06 33 15.5**	**-1.5**
SDNR	**Sundarnagar**	**6.96**	**134**	*e*P		Pn	06 33 12.5	-4.7
SDNR				*e*S		Sn	06 34 27.0	-8.5
CHMS	**Chumysh** SNR=360	**7.03**	**22**	P		**Pn**	**06 33 16.8**	**-1.2**
USP	**Ospenovka** SNR=46	**7.20**	**20**	P		**Pn**	**06 33 18.7**	**-1.7**
TKM2	**Tokmak 2** SNR=1708	**7.24**	**27**	P		**Pn**	**06 33 19.9**	**-1.1**
TKM2	**Tokmak 2**	**7.24**	**27**	⇑P		**Pn**	**06 33 19.9**	**-1.1**
	comp=Z,794nm,0.5s							
TKM2				⇑S		**Sn**	**06 34 39.0**	**-3.4**
	comp=Z,474nm,1.4s							
TKM2	**Tokmak 2**	**7.24**	**27**	PN		**Pn**	**06 33 19.9**	**-1.1**
TKM2				pmax	pmax			
	comp=Z,794nm,0.5s							
TKM2	**Tokmak 2**	**7.24**	**27**	*e*Pn		**Pn**	**06 33 19.9**	**-1.1**
SMLA	**Simla**	**7.35**	**135**	*i* P		**Pn**	**06 33 20.0**	**-2.3**
SMLA				*ex*		**Sn**	**06 34 39.1**	**-5.6**
SMLA				AML	AML		06 34 43.2	
	comp=N,2μm,0.5s							
SMLA				AML	AML		06 34 44.1	
	comp=E,2μm,0.5s							
KNDC	**Almaty** comp=E,868nm,0.7s	**8.03**	**32**	⇓P		**Pn**	**06 33 30.9**	**-0.5**
AAA	**Alma-Ata**	**8.07**	**32**	*i* PN		**Pn**	**06 33 30.2**	**-1.7**
AAA				*i* S		**Sn**	**06 35 01.7**	**-0.3**
AAA				pmax	pmax			
	comp=Z,2μm,0.5s							
AAA				smax	smax			
	comp=E,1μm,1.6s							
AAA				MLR	MLR			
	comp=Z,1μm,2.0s							
DDI	**Dehra Dun**	**8.46**	**135**	*ex*		Pn	06 33 33.0	-4.1
DDI				*e*P		**Pn**	**06 33 34.5**	**-2.7**
DDI				*e*S		**Sn**	**06 35 05.9**	**-5.5**
DDI				*e*S		**Sn**	**06 35 06.4**	**-5.0**
IMYA	**Miami**	**8.91**	**272**	*e*P		Pn	06 33 39.6	-3.6
KHET	**Khetri**	**9.30**	**154**	*e*P		Pn	06 33 44.2	-4.0
KHET				*e*S		Sn	06 35 21.9	-10
PDGK	**Podgornoye** comp=Z,215nm,0.9s	**9.32**	**41**	⇑P		**Pn**	**06 33 46.4**	**-2.0**
PDGK	**Podgornoye**	**9.32**	**41**	P		**Pn**	**06 33 46.3**	**-2.0**
PDGK				pmax	pmax			
	comp=Z,215nm,0.9s							
NDI	**New Delhi**	**9.34**	**145**	⇓ *i* P		**Pn**	**06 33 46.0**	**-2.8**
NDI				*i* x		Sn	06 35 22.0	-11
ISRO	**Mashad**	**9.42**	**272**	*e*P		Pn	06 33 46.0	-3.9
AYAN	**Aya Nagar**	**9.47**	**146**	*e*P		Pn	06 33 40.0	-11
AYAN				*e*S		Sn	06 35 18.6	-17
AYAN				AML	AML		06 35 27.8	
	comp=Z,220nm,0.4s							
KUDL	**Kundal**	**9.50**	**150**	*e*P		Pn	06 33 47.4	-3.4
KUDL				*e*S		Sn	06 35 25.6	-11
KUDL				AML	AML		06 35 28.6	
	comp=N,173nm,0.6s							
KUDL				AML	AML		06 35 29.4	
	comp=E,441nm,0.3s							
IMOG	**Moghan**	**9.55**	**271**	*e*P		**Pn**	**06 33 49.8**	**-1.9**
SONA	**Sohna**	**9.65**	**147**	*e*P		Pn	06 33 49.0	-3.8
SONA				*e*S		Sn	06 35 30.3	-10
SONA				AML	AML		06 35 36.5	
	comp=N,168nm,0.8s							
SONA				AML	AML		06 35 37.0	
	comp=E,540nm,0.4s							
IPAY	**Payeh**	**9.79**	**273**	*e*P		Pn	06 33 50.8	-4.1
LGTI	**Lohaghat**	**10.39**	**130**	*e*S		Sn	06 35 48.6	-9.2
AJM	**Ajmer**	**10.45**	**163**	*e*P		Pn	06 34 00.0	-3.4
AJM				*ex*		Sn	06 35 51.0	-8.4
GEYT	**Alibeck** comp=E,11nm,0.3s,baz=104,slow=11,SNR=49	**10.49**	**282**	P		Pn	06 33 59.1	-4.8
GEYT				S		Sn	06 35 53.4	-6.8
	comp=E,62nm,0.3s,baz=223,slow=28,SNR=15							
OTUK	**Ortayu** comp=E,54nm,0.6s	**11.74**	**4**	⇑P		**Pn**	**06 34 17.8**	**-2.2**
MK31	**Makanchi Array** comp=E,153nm,0.7s,baz=242,slow=12,SNR=585	**13.19**	**36**	⇓P		**Pn**	**06 34 37.4**	**-1.3**
MK31	**Makanchi Array**	**13.19**	**36**	*e*P		**Pn**	**06 34 37.8**	**-0.9**
MK31	**Makanchi Array**	**13.19**	**36**	*e*Pn		**Pn**	**06 34 37.8**	**-0.9**
MKAR	**Makanchi Array** comp=E,4.1nm,0.3s,baz=235,slow=14,SNR=71	**13.19**	**36**	P		**Pn**	**06 34 37.6**	**-1.1**
MKAR	**Makanchi Array**	**13.19**	**36**	P		**Pn**	**06 34 37.6**	**-1.1**
MKAR				pmax	pmax			
	comp=Z,4.0nm,0.3s							
KOLN	**Koldanda** comp=Z,344nm,0.4s	**13.68**	**126**	*e*P		Pn	06 34 41.6	-3.6
IGLO	**Ghaloghah**	**13.94**	**275**	*e*P		**Pn**	**06 34 48.3**	**-0.1**
IKIA	**Kiasar**	**14.09**	**274**	*e*P		**Pn**	**06 34 50.9**	**+0.7**
GKN	**Gorkha** comp=Z,972nm,0.5s	**14.21**	**123**	*e*P		Pn	06 34 48.6	-3.2
BHPL	**Bhopal**	**14.31**	**156**	*ex*		Pn	06 34 49.7	-3.3
BHPL				*e*P		**P**	**06 34 55.4**	**+0.1**
BHPL				*ex*		x	06 37 18.5	
WMQ	**Urumqi**	**14.58**	**55**	P		**Pn**	**06 34 55.1**	**-1.0**
WMQ				sP			06 35 37.6	
WMQ				S		**Sn**	**06 37 32.9**	**-5.3**
WMQ				PcP		**PcP**	**06 39 59.7**	**+1.9**
WMQ				ScP		**ScP**	**06 43 15.7**	**-0.5**
WMQ				PcS		**PcS**	**06 43 32.1**	**-0.7**
WMQ				ScS		**ScS**	**06 46 52.2**	**-1.7**
WMQ				PMZ				
	comp=Z,160nm,0.7s							
WMQ				PMZ				
	comp=Z,530nm,3.6s							
WMQ				LN				
	comp=Z,550nm,6.2s							
WMQ				LE				
	comp=Z,580nm,9.6s							
WMQ				LZ				
	comp=Z,140nm,15.8s							
DMN	**Daman** comp=Z,852nm,0.7s	**14.78**	**123**	*e*P		**Pn**	**06 34 56.2**	**-2.8**
KKN	**Kakani**	**14.79**	**122**	*e*P		**Pn**	**06 34 56.6**	**-2.4**
IALA	**Alasht**	**14.80**	**274**	*e*P		**P**	**06 35 02.3**	**+1.3**
IFIR	**Firoozkooh**	**14.91**	**272**	*e*P		**P**	**06 35 02.9**	**+0.7**
PKIN	**Phulchoki** comp=Z,668nm,0.5s	**15.00**	**122**	*e*P		Pn	06 34 58.5	-3.2
PKI	**Pulchoki** comp=Z,1μm,0.6s	**15.01**	**122**	*e*P		**Pn**	**06 34 59.3**	**-2.7**
KURBB	**Kurchatov Arra** comp=Z,123nm,0.6s	**15.05**	**18**	⇓P		**Pn**	**06 34 59.1**	**-2.8**
AB31	**Akbulak array** comp=Z,47nm,0.7s,baz=126,slow=11,SNR=544	**15.12**	**331**	P		**Pn**	**06 35 00.2**	**-2.5**
AB31				S		Sn	06 37 38.9	-12
	comp=Z,46nm,0.5s,baz=142,slow=22,SNR=8.5							
ABKAR	**Akbulak array**	**15.12**	**331**	*e*Pn		**Pn**	**06 34 60.0**	**-2.7**
GUN	**Gumba**	**15.12**	**120**	*e*P		**Pn**	**06 35 00.0**	**-3.3**
KURK	**Kurchatov** comp=Z,66nm,1.0s	**15.16**	**18**	⇑P		**Pn**	**06 34 59.7**	**-3.5**
KURK	**Kurchatov**	**15.16**	**18**	*e*P		**Pn**	**06 35 00.0**	**-3.2**
KURK				pmax	pmax			
	comp=Z,106nm,0.9s							
KURK	**Kurchatov** SNR=59	**15.16**	**18**	P		**Pn**	**06 35 00.4**	**-2.8**
KURK	**Kurchatov** comp=Z,106nm,0.9s	**15.16**	**18**	*e*Pn		**Pn**	**06 34 60.0**	**-3.2**
IPRN	**Peran**	**15.16**	**275**	*e*P		**P**	**06 35 04.9**	**+0.1**
IBND	**Bandar-abas**	**15.34**	**238**	*e*P		**Pn**	**06 35 04.7**	**-0.9**
JIRN	**Jiri** comp=Z,563nm,0.4s	**15.49**	**121**	*e*P		**Pn**	**06 35 05.1**	**-2.8**
IVRN	**Varamin**	**15.85**	**270**	*e*P		**Pn**	**06 35 10.1**	**-1.8**
RAMN	**Ramite** comp=Z,360nm,0.5s	**16.22**	**122**	*e*P		**Pn**	**06 35 14.5**	**-2.2**
BVA0	**Borovoye Array** comp=Z,60nm,0.8s,baz=163,slow=12,SNR=318	**16.50**	**358**	P		**P**	**06 35 18.6**	**-0.8**
BVA0				⇑S		S	06 38 12.1	-10
	comp=Z,83nm,1.1s,baz=168,slow=18,SNR=14							
BVA0	**Borovoye Array**	**16.50**	**358**	*i* P		**P**	**06 35 18.5**	**-0.8**
BVA0				*i* S		S	06 38 12.1	-10
BVA0				pmax	pmax			
	comp=Z,60nm,0.8s							
BVA0				smax	smax			
	comp=N,83nm,1.1s							
BVAR	**Borovoye Array** comp=N,12nm,0.3s,baz=161,slow=13,SNR=154	**16.50**	**358**	P		**P**	**06 35 17.9**	**-1.4**
BVAR				S		**S**	**06 38 15.1**	**-7.0**
	comp=N,4.1nm,0.3s,baz=165,slow=23,SNR=11							
BVAR	**Borovoye Array**	**16.50**	**358**	P		**P**	**06 35 17.9**	**-1.4**
BVAR				S		**S**	**06 38 15.1**	**-7.0**
BVAR				pmax	pmax			
	comp=Z,12nm,0.3s							
BVAR				smax	smax			
	comp=N,4.0nm,0.3s							
BANOM	**Banah** SNR=34	**16.51**	**234**	P		**P**	**06 35 18.9**	**-0.8**
BANOM				P		**Pn**	**06 35 19.1**	**-0.9**
	SNR=19							
BANOM	**Banah**	**16.51**	**234**	⇓P		**P**	**06 35 17.5**	**-2.2**
BRVK	**Borovoye** comp=N,103nm,0.6s	**16.54**	**358**	⇑P		**P**	**06 35 18.3**	**-1.5**
BRVK				⇑S		S	06 38 12.9	-10
	comp=N,23nm,0.8s							
BRVK	**Borovoye**	**16.54**	**358**	P		**P**	**06 35 18.2**	**-1.5**
BRVK				S		S	06 38 12.9	-10
BRVK				pmax	pmax			
	comp=Z,103nm,0.6s							
BRVK				smax	smax			
	comp=N,147nm,1.3s							
BRVK	**Borovoye** SNR=37	**16.54**	**358**	P		**P**	**06 35 18.8**	**-0.9**
BRVK	**Borovoye** comp=N,91nm,0.6s	**16.54**	**358**	*e*P		**P**	**06 35 18.8**	**-0.9**
IPAR	**Pars**	**16.55**	**251**	*e*P		**P**	**06 35 20.1**	**-0.3**
ISRV	**Sarvestan**	**16.72**	**250**	*e*P		**P**	**06 35 20.7**	**-1.6**
TAPN	**Taplejung** comp=N,368nm,0.4s	**16.75**	**118**	*e*P		**P**	**06 35 21.1**	**-1.5**
NGP	**Nagpur**	**16.80**	**154**	*ex*		**P**	**06 35 21.6**	**-1.3**
NGP				*ex*		S	06 38 17.3	-12
AKTO	**Aktyubinsk** comp=N,131nm,0.7s	**16.82**	**330**	⇓P		**P**	**06 35 22.2**	**-0.6**
AKTO				⇑S		S	06 38 18.7	-11
	comp=N,222nm,1.3s							
AKTO	**Aktyubinsk** comp=N,8.4nm,0.3s,baz=127,slow=11,SNR=227	**16.82**	**330**	P		**P**	**06 35 22.3**	**-0.5**
AKTO				pP		**pP**	**06 35 50.6**	**+0.3**
	comp=N,7.1nm,0.3s,baz=156,slow=7.1,SNR=5.8							
AKTO				S		S	06 38 21.9	-7.5
	comp=N,4.8nm,0.3s,baz=39,slow=21,SNR=8.0							
AKTO	**Aktyubinsk**	**16.82**	**330**	P		**P**	**06 35 22.3**	**-0.5**
AKTO				S		S	06 38 21.9	-7.5
AKTO				pmax	pmax			
	comp=Z,8.0nm,0.3s							
AKTO				pmax	pmax			
	comp=Z,7.0nm,0.3s							
AKTO				smax	smax			
	comp=N,5.0nm,0.3s							
ODAN	**Odare** comp=N,379nm,0.5s	**16.83**	**120**	*e*P		**P**	**06 35 22.9**	**-0.5**
IRAZ	**Razeghan**	**17.22**	**273**	*e*P		**P**	**06 35 27.9**	**+0.3**
HATD	**Hatta, Dubai**	**17.38**	**232**	⇑P		**P**	**06 35 28.3**	**-0.9**
WBK	**Wadi Bani Khal** SNR=25	**17.43**	**221**	P		**Pn**	**06 35 31.8**	**+0.8**
WBK				P		**P**	**06 35 32.2**	**+2.3**
	SNR=14							
ASHO	**Ashiyiah** SNR=17	**17.53**	**232**	P		**P**	**06 35 30.1**	**-0.8**
ASHO				P		**Pn**	**06 35 30.4**	**-1.8**
	SNR=33							
ASHO	**Ashiyiah**	**17.53**	**232**	⇑P		**P**	**06 35 30.1**	**-0.8**
NAZ	**Nazwa, Dubai**	**17.57**	**233**	⇓P		**P**	**06 35 30.8**	**-0.5**
SMDO	**Samad** SNR=5.9	**17.57**	**224**	P		**P**	**06 35 31.5**	**+0.1**
BOK	**Bokaro**	**17.95**	**131**	*ex*		**P**	**06 35 35.8**	**+0.3**
BOK				*ex*		S	06 38 42.1	-11
ASUD	**Al Ashush, Dub**	**18.04**	**233**	⇓P		**P**	**06 35 35.5**	**-0.8**
LSA	**Lhasa**	**18.07**	**106**	P		**Pn**	**06 35 39.6**	**+0.7**
LSA	**Lhasa**	**18.07**	**106**	*e*P		**Pn**	**06 35 40.1**	**+1.2**
LSA				pmax	pmax			
	comp=Z,55nm,0.4s							
LSA	**Lhasa** comp=Z,55nm,0.4s	**18.07**	**106**	*e*P		**Pn**	**06 35 40.1**	**+1.2**
JMDO	**Jabal Madar** SNR=8.2	**18.09**	**222**	P		**P**	**06 35 37.6**	**+0.6**
ARQ	**Araqi** SNR=9.6	**18.24**	**228**	P		**Pn**	**06 35 41.2**	**+0.7**
BSY	**Bisya** SNR=16	**18.30**	**225**	P		**P**	**06 35 39.5**	**+0.3**
BSY				P		**Pn**	**06 35 39.8**	**-1.4**
	SNR=11							
RPR	**Rampur**	**19.01**	**156**	*e*P		**P**	**06 35 48.0**	**+1.1**
RPR				*e*S		**S**	**06 39 14.3**	**+0.3**
IHRS	**Heris**	**19.23**	**283**	*e*P		**P**	**06 35 50.1**	**+0.6**
IBST	**Bostanabad**	**19.38**	**281**	*e*P		**P**	**06 35 51.3**	**+0.2**
ZAA0	**Zalesovo Array**	**19.84**	**24**	*e*P		**P**	**06 35 55.7**	**+0.1**
ZALV	**Zalesovo Beam** comp=Z,42nm,0.3s,baz=223,slow=11,SNR=615	**19.84**	**24**	P		**P**	**06 35 55.6**	**0.0**
ZALV	**Zalesovo Beam**	**19.84**	**24**	P		**P**	**06 35 55.6**	**0.0**
ZALV				pmax	pmax			
	comp=Z,42nm,0.3s							
NVS	**Novosibirsk**	**20.11**	**21**	⇑ *i* P		**P**	**06 35 57.6**	**-0.9**
NVS				*e*S		**S**	**06 39 32.6**	**-2.6**
NVS				pmax	pmax			
	comp=Z,308nm,1.0s							
NVS				pmax	pmax			
	comp=N,205nm,1.0s							
NVS				pmax	pmax			
	comp=E,47nm,0.8s							
NVS				smax	smax			
	comp=E,147nm,2.5s							
HYBB	**Hyderabad (bro**	**20.13**	**159**	*e*P		**P**	**06 35 59.4**	**+0.3**
HYBB				*e*S		**S**	**06 39 36.7**	**+0.4**
HYB	**Hyderabad**	**20.13**	**159**	⇓ *i* P		**P**	**06 35 58.5**	**-0.6**
HYB				*e*S		**S**	**06 39 34.0**	**-2.3**
HYB	**Hyderabad**	**20.13**	**159**	*e*P		**P**	**06 35 58.5**	**-0.6**
HYB				*e*S		**S**	**06 39 32.0**	**-4.3**
HYB	**Hyderabad**	**20.13**	**159**	*e*P		**P**	**06 35 58.5**	**-0.6**
HYB				*e*S		**S**	**06 39 32.0**	**-4.3**
IDHR	**Dehrash**	**20.21**	**272**	*e*P		**P**	**06 36 00.5**	**+0.5**
IMRD	**Marand**	**20.26**	**284**	*e*P		**P**	**06 36 01.5**	**+1.0**
SHL	**Shillong**	**20.81**	**116**	*ex*		**P**	**06 36 07.5**	**+1.1**
SHL				*ex*		S	06 39 40.0	-10
GNI	**Garni** comp=E,23nm,0.6s,baz=36,slow=1.6,SNR=27	**21.00**	**288**	P		**P**	**06 36 10.2**	**+1.8**
GNI	**Garni**	**21.00**	**288**	*d* /P		**P**	**06 36 09.9**	**+1.5**
GNI				pmax	pmax			
	comp=Z,132nm,1.3s							
GNI	**Garni** comp=Z,6.7nm,1.2s	**21.00**	**288**	P		**P**	**06 36 10.2**	**+1.8**
NJS	**Nagarjunasagar**	**21.17**	**158**	*e*P		**P**	**06 36 10.1**	**0.0**
NJS				*e*pP		**pP**	**06 36 36.4**	**-2.4**
NJS				*e*S		**S**	**06 39 56.7**	**+0.6**
CHLP	**Challavanipeta**	**21.25**	**144**	*e*P		**P**	**06 36 10.8**	**-0.2**
CHLP				*e*S		**S**	**06 39 59.8**	**+2.3**
SVE	**Sverdlovsk**	**21.50**	**344**	*d* /P		**P**	**06 36 13.4**	**+0.1**
SVE				*e*S		**S**	**06 40 07.1**	**+5.9**
SVE				pmax	pmax			
	comp=Z,99nm,0.8s							
VIS	**Vishakhapatnam**	**21.60**	**147**	*i* P		P	06 36 09.5	-5.3
VIS				*i* S		**S**	**06 40 10.2**	**+6.6**
ARU	**Arti**	**21.65**	**341**	*c* /P		**P**	**06 36 14.7**	**-0.2**
ARU							06 36 58.1	
ARU				S		**S**	**06 40 05.4**	**+1.8**
ARU				SS		**SnSn**	**06 40 48.2**	**+1.8**
ARU				pmax	pmax			
	comp=Z,104nm,1.2s							
ARU	**Arti** comp=Z,83nm,1.0s	**21.65**	**341**	*e*P		**P**	**06 36 14.6**	**-0.3**
ZEI	**Tsey**	**21.84**	**295**	*e*P		**P**	**06 36 15.9**	**-1.4**
ZEI				pmax	pmax			
	comp=Z,29nm,1.1s							
URV	**Uravakonda**	**22.17**	**164**	*e*P		**P**	**06 36 20.0**	**-0.6**
URV				*e*pP		**pP**	**06 36 47.4**	**-2.3**
KBZ	**Khabaz** comp=Z,11nm,0.9s,baz=236,slow=24,SNR=23	**22.70**	**297**	P		**P**	**06 36 24.7**	**-0.5**
KBZ	**Khabaz**	**22.70**	**297**	P		**P**	**06 36 24.7**	**-0.5**
KBZ				pmax	pmax			
	comp=Z,11nm,0.9s							
GTA	**Gaotai**	**22.74**	**74**	⇑P		**P**	**06 36 27.7**	**+1.9**
GTA				pP		**pP**	**06 36 58.8**	**+3.1**
GTA				sP		**sP**	**06 37 18.3**	**+2.2**
GTA				S		**S**	**06 40 25.4**	**+3.3**
GTA				ScS		**ScS**	**06 47 17.3**	**-2.9**
GTA				PMZ				
	comp=Z,48nm,1.0s							
GTA				PMZ				
	comp=Z,310nm,4.5s							
GTA				LN				
	comp=Z,210nm,10.5s							
GTA				LE				
	comp=Z,250nm,10.0s							
GTA				LZ				
	comp=Z,390nm,12.8s							
NEY	**Neytrino**	**22.76**	**296**	*i* P		**P**	**06 36 27.9**	**+1.9**
GOF	**Gofitskoye**	**22.84**	**301**	*e*P		**P**	**06 36 27.5**	**+1.0**
GOF				pmax	pmax			
	comp=Z,80nm,1.3s							
KIV	**Kislovodsk**	**22.89**	**298**	*e*P		**P**	**06 36 27.9**	**+0.8**
KIV				*e**PP		**pP**	**06 36 56.8**	**-0.5**
KIV				*e**SP		**sP**	**06 37 18.2**	**+0.6**
KIV				*e*			06 40 11.5	
KIV				*e*S		**S**	**06 40 25.9**	**+1.6**
KIV				pmax	pmax			
	comp=Z,12nm,0.9s							
KIV				MLR	MLR			
	comp=Z,57nm,14.0s							
KIV	**Kislovodsk** SNR=5.7	**22.89**	**298**	P		**P**	**06 36 27.8**	**+0.7**
KIV	**Kislovodsk**	**22.89**	**298**	*e*pP		pP	06 36 56.5	-0.7
SKHT	**Srikalahasti**	**23.95**	**159**	*e*P		**P**	**06 36 37.4**	**+0.5**
SKHT				*e*			06 36 39.5	
KRAR	**Krasnoyarsk**	**24.41**	**30**	⇓ *e*P		**P**	**06 36 41.8**	**+1.1**
KRAR				pmax	pmax			
	comp=Z,118nm,1.2s							
ABTO	**Aybut** SNR=9.2	**24.79**	**224**	P		**P**	**06 36 44.9**	**+0.4**
SOKR	**Solikamsk**	**24.89**	**343**	*c* /P		**P**	**06 36 45.9**	**+1.0**
SOKR				pmax	pmax			
	comp=Z,40nm,0.9s							
RAYN	**Ar Rayn**	**25.62**	**247**	*e*P		**P**	**06 36 50.6**	**-1.5**
MOY	**Mondy**	**26.00**	**45**	*e*P		**P**	**06 36 56.8**	**+1.6**
MOY				pmax	pmax			
	comp=Z,39nm,1.7s							
LZH	**Lanzhou**	**26.28**	**81**	*e*P		**P**	**06 37 00.1**	**+2.1**
LZH				pP		**pP**	**06 37 31.6**	**-0.1**
LZH				sP		**sP**	**06 37 50.6**	**0.0**
LZH				PP		**PnPn**	**06 37 52.1**	**+4.5**
LZH				*e*S		**S**	**06 41 20.0**	**+1.4**
LZH				sS		**sS**	**06 42 15.3**	**-3.2**
LZH				SS		**SnSn**	**06 42 42.3**	**+3.5**
LZH				PMZ				
	comp=Z,61nm,1.3s							
LZH				PMZ				
	comp=Z,100

comp=N,5.0nm,1.4s
LPSR pmax pmax
comp=E,10.0nm,0.8s
SONM Songino Array 28.21 55 P **P** **06 37 16.5 +1.4**
comp=E,9.9nm,0.9s,baz=255,slow=9.9,SNR=22
SONM Songino Array 28.21 55 P **P** **06 37 16.5 +1.4**
SONM pmax pmax
comp=Z,10.0nm,0.9s
ULN Ulaanbaatar 28.66 55 *ce*P **P** **06 37 19.9 +0.9**
ULN *i* *PP **pP** **06 37 49.9 -3.2**
ULN pmax pmax
comp=Z,15nm,1.4s
ULN Ulaanbaatar 28.66 55 *e*P **P** **06 37 20.2 +1.2**
comp=Z,8.6nm,0.8s
ULN *e*pP pP 06 38 01.0 +8.0
CMAI Chiengmai2 29.47 117 P **P** **06 37 28.4 +1.9**
comp=Z,6.5nm,0.7s
BR131 Keskin Array S 29.55 288 *e*P **P** **06 37 26.6 -0.4**
comp=Z,4.9nm,0.8s
BRTR Keskin Array B 29.55 288 P **P** **06 37 27.8 +0.8**
comp=Z,2.2nm,0.7s,baz=105,slow=9.2,SNR=14
BRTR pP **pP** **06 38 03.4 +2.3**
comp=Z,3.4nm,0.7s,baz=94,slow=9.3,SNR=3.6
BRTR sP **sP** **06 38 21.5 +1.6**
comp=Z,4.1nm,0.8s,baz=88,slow=8.0,SNR=3.5
BRTR Keskin Array B 29.55 288 P **P** **06 37 27.8 +0.8**
BRTR *PP **pP** **06 38 03.4 +2.3**
BRTR *SP **sP** **06 38 21.5 +1.6**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR pmax pmax
comp=Z,4.0nm,0.8s
MOS Moscow 29.72 321 *e*P P 06 37 22.2 -5.9
MOS *e**PP pP 06 37 58.4 -3.8
MOS *e* 06 38 14.8
MOS *e* 06 38 39.7
MOS pmax pmax
comp=Z,34nm,0.8s
PRGR Permogore 29.80 336 *e*P **P** **06 37 29.0 +0.3**
PRGR pmax pmax
comp=Z,26nm,0.9s
OBN Obninsk 30.00 319 P **P** **06 37 31.0 +0.5**
comp=Z,20nm,0.3s,baz=109,slow=13,SNR=5.7
OBN Obninsk 30.00 319 *d* *i*P **P** **06 37 31.0 +0.5**
OBN *i* *PP **pP** **06 38 05.7 +1.0**
OBN *i* *SP **sP** **06 38 19.5 -4.0**
OBN *e*S **S** **06 42 16.5 +0.3**
OBN pmax pmax
comp=Z,52nm,1.6s
CHTO Chiang Mai 30.12 118 *e*P **P** **06 37 33.9 +1.8**
CHTO pmax pmax
comp=Z,6.0nm,0.9s
CHTO Chiang Mai 30.12 118 *e*P **P** **06 37 33.9 +1.8**
comp=Z,6.3nm,0.9s
CMMT Chiang Mai 30.13 118 P P 06 37 35.4 +3.3
comp=Z,10nm,0.7s
CRAI Chiangrai 30.25 114 P **P** **06 37 30.4 -2.8**
comp=Z,12nm,0.7s
CMAR Chiang Mai Arr 30.36 119 P **P** **06 37 35.5 +1.4**
comp=Z,6.2nm,0.7s,baz=306,slow=8.5,SNR=34
CMAR pP **pP** **06 38 10.2 +1.8**
comp=Z,3.3nm,0.7s,baz=302,slow=8.9,SNR=2.3
CMAR Chiang Mai Arr 30.36 119 P **P** **06 37 35.5 +1.4**
CMAR *PP **pP** **06 38 10.2 +1.8**
CMAR pmax pmax
comp=Z,6.0nm,0.7s
CMAR pmax pmax
comp=Z,3.0nm,0.7s
PALK Pallekele 30.40 161 *e*P **P** **06 37 35.1 +0.6**
PALK pmax pmax
comp=Z,14nm,0.6s
PALK Pallekele 30.40 161 *e*P **P** **06 37 35.1 +0.6**
comp=Z,14nm,0.6s
XAN Xi'an 30.80 83 P **P** **06 37 38.8 +0.8**
XAN PMZ
comp=Z,11nm,0.8s
XAN PMZ
comp=Z,15nm,4.6s
KLMR Klimovskoe 31.52 331 *e*P **P** **06 37 43.9 +0.1**
KLMR *e**PP **pP** **06 38 17.6 -0.5**
KLMR pmax pmax
comp=Z,18nm,0.8s
HHC Hu-ho-hao-te 31.64 70 *e*P **P** **06 37 46.7 +1.4**
HHC sP **sP** **06 38 39.2 +0.8**
HHC PP **PnPn** **06 38 57.8 +1.8**
HHC S **S** **06 42 42.4 0.0**
HHC sS **sS** **06 43 42.3 -0.5**
HHC SS **SnSn** **06 44 44.6 -4.1**
HHC PMZ
comp=Z,14nm,0.9s
HHC PMZ
comp=Z,84nm,7.4s
HHC LN
comp=Z,78nm,13.6s
HHC LE
comp=Z,180nm,14.8s
HHC LZ
comp=Z,150nm,13.6s
GYA Guiyang 31.74 98 P **P** **06 37 49.0 +2.6**
GYA pP **pP** **06 38 22.4 +1.7**
GYA sP **sP** **06 38 41.2 +1.8**
GYA PcP **PcP** **06 40 35.6 +1.7**
GYA S **S** **06 42 45.3 +1.0**
GYA sS **sS** **06 43 46.6 +1.8**
GYA ScP **ScP** **06 44 02.1 +0.3**
GYA ScS **ScS** **06 48 00.2 -0.4**
GYA PMZ
comp=Z,10.0nm,0.8s
GYA PMZ
comp=Z,110nm,4.8s
UTTA Uttaradit 31.97 118 P **P** **06 37 49.7 +1.4**
comp=Z,9.9nm,0.7s
ENH Enshi 32.45 90 *e*P **P** **06 37 53.0 +0.6**
comp=Z,6.4nm,0.8s
LOEI Loei 32.63 117 P **P** **06 37 56.9 +2.8**
comp=Z,37nm,0.7s
UTHA Uthaitani 32.69 122 P **P** **06 37 56.6 +2.0**
AKASG Malin Array Be 33.02 309 P **P** **06 37 57.1 0.0**
comp=Z,9.4nm,0.5s,baz=81,slow=7.1,SNR=88
AKASG pP **pP** **06 38 30.9 -0.7**
comp=Z,12nm,0.7s,baz=81,slow=7.1,SNR=7.5
AKASG sP **sP** **06 38 50.9 +0.6**
comp=Z,3.8nm,0.7s,baz=90,slow=7.4,SNR=2.0
AKASG Malin Array Be 33.02 309 P **P** **06 37 57.1 0.0**
AKASG *PP **pP** **06 38 30.9 -0.7**
AKASG *SP **sP** **06 38 50.9 +0.6**
AKASG pmax pmax
comp=Z,9.0nm,0.5s
AKASG pmax pmax
comp=Z,13nm,0.7s
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKBB Malin Array Si 33.02 309 *e*P **P** **06 37 57.2 +0.1**
AKBB Malin Array Si 33.02 309 *e*P **P** **06 37 57.2 +0.1**
AK01 Malin Array Si 33.03 309 *e*P **P** **06 37 57.1 0.0**
AK02 Malin Array Si 33.03 309 *e*P **P** **06 37 57.0 -0.1**
KIEV Kiev 33.03 309 *e*P **P** **06 37 57.2 0.0**
KIEV pmax pmax
comp=Z,17nm,0.6s
KIEV Kiev 33.03 309 *e*P **P** **06 37 57.2 0.0**
comp=Z,17nm,0.6s
PBKT Sadao Pong 33.05 119 P **P** **06 37 59.3 +1.6**
comp=Z,27nm,1.1s
CFR Carcaliu 33.34 299 ⇓ *i*P **P** **06 38 00.5 +0.6**
MSAB Monastry St. A 33.58 297 ⇑ *i*P **P** **06 38 03.4 +1.4**
TMCR Tamitsa 34.07 335 *i* P **P** **06 38 06.2 +0.2**
TMCR *e* 06 39 21.3
TMCR *e*S **S** **06 43 21.4 +2.2**
TMCR pmax pmax
comp=Z,60nm,1.2s
CHAI Chaiyaphum 34.22 119 P **P** **06 38 09.4 +1.6**
comp=Z,12nm,0.8s
VRI Vrincioaia 34.32 300 ⇓ *i*P **P** **06 38 09.3 +0.8**
PLOR Plostina 34.38 300 ⇑ *i*P **P** **06 38 10.6 +1.6**
TESR Tescani 34.38 301 ⇑ *i*P **P** **06 38 09.4 +0.5**
KHON Khomkaen 34.52 117 P **P** **06 38 11.8 +1.4**
comp=Z,28nm,0.8s
MLR Muntele Rosu 34.88 299 ⇑ *i*P **P** **06 38 15.2 +1.8**
SKNT Sakolnakorn 34.95 115 P **P** **06 38 14.8 +0.7**
comp=Z,74nm,0.8s
BOD Bodaibo 35.25 39 *e*P **P** **06 38 16.4 +0.2**
BOD pmax pmax
comp=Z,25nm,1.0s

BURAR Bucovina Array 35.38 303 ⇑ *i*P **P** **06 38 18.4 +0.8**
BUR08 Bucovina Ar. S 35.39 303 *e*P **P** **06 38 17.9 +0.2**
VOIR 35.51 299 ⇓ *i*P **P** **06 38 20.1 +1.4**
ARR Arges 35.80 299 ⇓ *i*P **P** **06 38 22.5 +1.3**
VSU Vasula 36.24 322 ⇓ *i*P **P** **06 38 24.9 +0.3**
VSU pmax pmax
comp=Z,55nm,1.0s
WHN Wuhan 36.27 87 ⇑ *i*P **P** **06 38 26.8 +1.6**
WHN pP **pP** **06 39 02.7 +2.7**
WHN PMZ
comp=Z,68nm,0.8s
TIA Tai'an 36.74 76 ⇓ P **P** **06 38 31.3 +2.1**
TIA PMZ
comp=Z,30nm,1.0s
KWP Kalwaria Pacla 37.09 306 *e*P **P** **06 38 33.4 +1.4**
KWP Kalwaria Pacla 37.09 306 *e*P **P** **06 38 33.4 +1.4**
KWP Kalwaria Pacla 37.09 306 ⇑ *i*P P 06 38 25.3 -6.7
TRPA Tarpa 37.18 304 ⇑ *i*P **P** **06 38 33.9 +1.2**
IDI Anoyia 37.22 282 P **P** **06 38 32.4 -0.9**
comp=Z,1.6nm,0.3s,baz=72,slow=13,SNR=4.8
KOLS Kolonicke sedl 37.36 305 *e*P **P** **06 38 35.2 +0.9**
KOLS pmax pmax
comp=Z,5.0nm,1.1s
KOLS Kolonicke sedl 37.36 305 *e*P **P** **06 38 35.2 +0.9**
LVZ Lovozero 37.48 338 *d* *i*P **P** **06 38 35.5 +0.5**
LVZ pmax pmax
comp=Z,24nm,1.0s
LVZ Lovozero 37.48 338 *e*P **P** **06 38 35.7 +0.6**
comp=Z,19nm,0.8s
FIA1 FINESS Array S 37.53 326 *e*P **P** **06 38 35.4 -0.1**
FINES FINESS Array B 37.53 326 P **P** **06 38 35.9 +0.4**
comp=Z,12nm,0.6s,baz=111,slow=11,SNR=52
FINES pP **pP** **06 39 09.0 -1.4**
comp=Z,6.4nm,0.6s,baz=111,slow=11,SNR=4.6
FINES LR LR 06 56 10.4
comp=Z,74nm,18.4s,baz=318,slow=39
FINES FINESS Array B 37.53 326 P **P** **06 38 35.9 +0.4**
FINES *PP **pP** **06 39 09.0 -1.4**
FINES pmax pmax
comp=Z,12nm,0.6s
FINES pmax pmax
comp=Z,6.0nm,0.6s
FINES MLR MLR
comp=Z,74nm,18.5s
STHS Stebnicka Huta 38.04 306 *e*P **P** **06 38 40.9 +0.9**
STHS pmax pmax
comp=Z,2.0nm,0.9s
STHS Stebnicka Huta 38.04 306 *e*P **P** **06 38 40.9 +0.9**
QIZ Qiongzhong 38.11 107 P **P** **06 38 42.6 +1.8**
QIZ S **S** **06 44 26.1 +4.5**
QIZ LZ
comp=Z,45nm,18.9s
NIE Niedzica 38.65 306 *e*P **P** **06 38 47.0 +1.9**
NIE Niedzica 38.65 306 *e*P **P** **06 38 47.0 +1.9**
OJC Ojcow 38.99 307 *e*P **P** **06 38 48.7 +0.9**
OJC Ojcow 38.99 307 *e*P **P** **06 38 48.8 +0.9**
DIVS Divibare 39.20 297 ⇑ *i*P **P** **06 38 51.7 +1.9**
NJ2 Nanjing 39.35 82 *e*P **P** **06 38 53.3 +2.3**
NJ2 PMZ
comp=Z,20nm,0.6s
VYHS Vyhne 39.65 304 *e*P **P** **06 38 54.4 +1.1**
VYHS pmax pmax
comp=Z,2.0nm,1.1s
VYHS Vyhne 39.65 304 *e*P **P** **06 38 54.4 +1.1**
MORC Moravsky Berou 40.45 306 *e*P **P** **06 38 59.8 -0.1**
MORC pmax pmax
comp=Z,8.0nm,1.1s
MORC Moravsky Berou 40.45 306 ⇑ *i*P **P** **06 39 00.5 +0.6**
MORC Moravsky Berou 40.45 306 *e*P **P** **06 38 59.8 -0.1**
comp=Z,8.3nm,1.1s
KEV Kevo 40.82 338 *e*P **P** **06 39 03.3 +0.7**
KEV pmax pmax
comp=Z,24nm,1.0s
KEV Kevo 40.82 338 *e*P **P** **06 39 03.3 +0.7**
comp=Z,24nm,1.0s
KRLC Kraliky 40.93 307 *e*P **P** **06 39 04.8 +0.9**
KRLC Kraliky 40.93 307 *e*P **P** **06 39 04.8 +0.9**
VRAC Vranov 41.08 306 ⇑ *i*P **P** **06 39 04.7 -0.4**
ARCES ARCESS Array B 41.16 338 P **P** **06 39 06.2 +0.8**
comp=Z,18nm,0.6s,baz=112,slow=8.5,SNR=119
ARCES pP **pP** **06 39 41.2 +0.2**
comp=Z,11nm,0.6s,baz=116,slow=8.5,SNR=5.0
ARCES ARCESS Array B 41.16 338 P **P** **06 39 06.3 +0.8**
ARCES *PP **pP** **06 39 41.2 +0.2**
ARCES pmax pmax
comp=Z,18nm,0.6s
ARCES pmax pmax
comp=Z,11nm,0.6s
ARE0 ARCESS Array S 41.16 338 *e*P **P** **06 39 06.0 +0.5**
ARE0 IAmb IAmb 06 39 06.9
comp=Z,21nm,0.8s
ARE0 *e*pP **pP** **06 39 41.1 +0.1**
ARE0 ARCESS Array S 41.16 338 *e*P **P** **06 39 05.6 +0.1**
DPC Dobruska-Polom 41.21 307 *e*P **P** **06 39 07.6 +1.4**
DPC *ex* x 06 39 09.7
DPC *ex* x 06 39 46.7
DPC *es*P **sP** **06 39 58.0 -2.2**
DPC *e*PP **PnPn** **06 40 50.4 -0.3**
DPC *ex* x 06 40 57.8
DPC *ex* x 06 41 05.8
DPC Dobruska-Polom 41.21 307 *e*P **P** **06 39 07.6 +1.4**
DPC *e* 06 39 46.7
DPC *e* 06 39 58.0
DPC *e* 06 40 50.4
DPC *e* 06 41 05.8
SSE Sheshan 41.55 82 P **P** **06 39 11.3 +2.2**
SSE PMZ
comp=Z,87nm,0.8s
SSE PMZ
comp=Z,79nm,3.8s
KTK1 Kautokeino 41.64 336 *e*P **P** **06 39 09.5 +0.2**
CONA Conrad Observa 41.67 304 ⇑ *i*P **P** **06 39 11.0 +1.0**
comp=Z,12nm,1.5s
IPM Ipoh 42.07 132 *e*P **P** **06 39 13.3 -0.2**
comp=Z,24nm,0.8s
BSD Bornholm Skovb 42.08 315 *i* P **P** **06 39 12.1 -1.0**
comp=Z,15nm,1.0s
BSD Bornholm Skovb 42.08 315 *i* P **P** **06 39 12.1 -1.0**
BSD pmax pmax
comp=Z,15nm,1.0s
PSI Prapat 42.22 136 P **P** **06 39 14.4 -0.4**
comp=Z,7.8nm,0.5s,baz=339,slow=9.3,SNR=13
PSI Prapat 42.22 136 P **P** **06 39 14.4 -0.4**
PSI pmax pmax
comp=Z,8.0nm,0.5s
GOPC GO Pecny, Ondr 42.22 307 *e*P **P** **06 39 15.8 +1.4**
PRU Pruhonice 42.38 307 *e*P **P** **06 39 17.0 +1.4**
PRU Pruhonice 42.38 307 *e*P **P** **06 39 17.0 +1.4**
BRG Berggiesshubel 42.70 308 *i* P **P** **06 39 19.2 +1.0**
comp=Z,9.2nm,0.7s
BRG Berggiesshubel 42.70 308 *i* P **P** **06 39 19.2 +1.0**
BRG pmax pmax
comp=Z,9.0nm,0.7s
GSI Gunungsitoli 42.73 139 *e*P **P** **06 39 19.4 +0.6**
comp=Z,54nm,0.6s
RGN Rugen 42.99 314 *e*P P 06 39 17.0 -3.4
comp=Z,48nm,0.9s
CUC Castrocucco 43.01 292 *e*P **P** **06 39 23.2 +2.4**
comp=Z,12nm,0.9s
GERES GERESS Array B 43.02 305 P **P** **06 39 21.8 +0.9**
comp=Z,0.5nm,0.4s,baz=83,slow=8.0,SNR=4.4
GERES pP **pP** **06 39 57.7 +1.0**
comp=Z,0.9nm,0.6s,baz=67,slow=10,SNR=2.7
GERES PP **PP** **06 41 04.0 +0.1**
comp=Z,2.8nm,1.0s,baz=95,slow=8.4,SNR=4.1
GERES GERESS Array B 43.02 305 P **P** **06 39 21.8 +0.9**
GERES *PP **pP** **06 39 57.7 +1.0**
GERES 06 41 04.0
GERES pmax pmax
comp=Z,1.0nm,0.4s
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES pmax pmax
comp=Z,3.0nm,1.0s
KHC Kasperske Hory 43.07 306 *es*P **sP** **06 40 13.6 -1.8**
KHC *e*PP **PP** **06 41 03.7 -0.7**
KHC *ex* x 06 41 10.0
CLL Collm 43.27 309 *e*P **P** **06 39 23.0 +0.3**
CLL *e*pP **pP** **06 39 58.0 -0.6**
CLL *es*P **sP** **06 40 16.0 -1.0**
CLL *e*PP **PP** **06 41 07.0 +0.5**
CLL *e*PPP PPP 06 41 45.0
CLL Collm 43.27 309 *e*P **P** **06 39 23.0 +0.3**
CLL *e**PP **pP** **06 39 58.0 -0.6**
CLL *e**SP **sP** **06 40 16.0 -1.0**
TRO Tromso 43.29 336 *e*P **P** **06 39 22.1 -0.5**
MOR8 Moi Rana 43.85 331 *e*P **P** **06 39 27.0 -0.2**
MOR8 IAmb IAmb 06 39 27.4
comp=Z,50nm,0.7s
YAK Yakutsk 43.87 35 P **P** **06 39 27.6 +0.3**
comp=Z,83nm,0.6s,baz=252,slow=1.8,SNR=14
YAK Yakutsk 43.87 35 *e*P **P** **06 39 27.0 -0.3**
YAK *e* 06 41 08.1
YAK *e* 06 41 13.7
YAK *e*S **S** **06 45 45.6 -0.2**
YAK *es*S **SS** **06 49 03.1 -4.8**
YAK pmax pmax
comp=Z,70nm,0.9s
YAK pmax pmax
comp=E,16nm,1.1s
YAK pmax pmax
comp=Z,24nm,1.3s
YAK pmax pmax
comp=N,26nm,2.4s
YAK pmax pmax
comp=E,20nm,1.5s
YAK smax smax
comp=N,30nm,1.5s
YAK smax smax
comp=E,32nm,1.6s
YAK smax smax
comp=N,3.0nm,0.8s
YAK smax smax
comp=E,3.0nm,0.9s
YAK smax smax
comp=N,13nm,0.9s
YAK smax smax
comp=E,8.0nm,0.9s
YAK Yakutsk 43.87 35 *e*P **P** **06 39 27.6 +0.3**
comp=E,94nm,0.8s
STEI Steigen 44.00 333 *e*P **P** **06 39 29.1 +0.8**
NC602 NORSAR Array S 44.24 323 *e*P **P** **06 39 30.1 -0.3**
FLOS Flostrand 44.31 331 *e*P P 06 39 36.7 +5.9
NB2 NORSAR Subarra 44.43 323 P **P** **06 39 31.6 -0.3**
comp=Z,32nm,0.8s,baz=97,slow=7.9
NB2 NORSAR Subarra 44.43 323 P **P** **06 39 31.6 -0.3**
baz=97,slow=7.9
NOA NORSAR Array B 44.43 323 P **P** **06 39 31.6 -0.3**
comp=Z,19nm,0.6s,baz=96,slow=7.8,SNR=84
NOA pP **pP** **06 40 07.6 -0.3**
comp=Z,6.5nm,0.7s,baz=97,slow=8.1,SNR=3.7
NOA LR LR 06 58 57.2
comp=Z,25nm,20.3s,baz=100,slow=37
NOA NORSAR Array B 44.43 323 P **P** **06 39 31.6 -0.3**
NOA *PP **pP** **06 40 07.6 -0.3**
NOA pmax pmax
comp=Z,19nm,0.6s
NOA pmax pmax
comp=Z,7.0nm,0.7s
NOA MLR MLR
comp=Z,25nm,20.3s
SSLB Suanglung 44.44 92 *e*P **P** **06 39 35.1 +2.6**
comp=Z,34nm,1.0s
KONS Konsvik 44.45 331 *e*P **P** **06 39 32.1 +0.3**
STOK Stokkvagen 44.45 331 *e*P **P** **06 39 32.4 +0.5**
NAO01 NORSAR Array S 44.58 323 *e*P **P** **06 39 32.1 -0.9**
comp=Z,15nm,0.9s
KSAR Wonju Array Be 44.73 71 P **P** **06 39 35.2 +0.7**
KSAR Wonju Array Be 44.73 71 P **P** **06 39 35.2 +0.7**
KSRS Korea Array 44.75 71 P **P** **06 39 35.2 +0.5**
comp=Z,4.2nm,0.7s,baz=288,slow=6.0,SNR=9.3
KSRS Korea Array 44.75 71 P **P** **06 39 35.2 +0.5**
KSRS pmax pmax
comp=Z,4.0nm,0.7s
TWG Pinlang 45.00 93 *e*P **P** **06 39 37.3 +0.4**
comp=Z,43nm,0.5s
KLR Kul'dur 45.02 54 *e*P **P** **06 39 33.7 -3.0**
KLR pmax pmax
comp=E,24nm,1.4s
KLR pmax pmax
comp=Z,43nm,1.4s
KONO Kongsberg 45.14 321 *e*P **P** **06 39 37.7 +0.2**
KONO pmax pmax
comp=Z,16nm,0.8s
KONO Kongsberg 45.14 321 *e*P **P** **06 39 37.7 +0.2**
comp=Z,16nm,0.8s
TIXI Tiksi 45.70 22 *c* *i*P **P** **06 39 41.9 +0.2**
TIXI pmax pmax
comp=Z,38nm,1.0s
TIXI Tiksi 45.70 22 *e*P **P** **06 39 41.0 -0.7**
comp=Z,36nm,1.0s
DAVA Damuels 45.76 304 ⇑ *i*P **P** **06 39 42.6 -0.2**
comp=Z,8.0nm,0.5s
TUE Stuetta 46.27 303 *e*P P 06 39 39.4 -7.4
comp=Z,438nm,0.5s
BLS5 Blasjo 46.74 321 *e*P **P** **06 39 51.5 +1.5**
HSPB Hornsund (broa 47.14 345 *e*P **P** **06 39 54.0 +1.2**
HSPB IAmb IAmb 06 39 55.5
comp=Z,21nm,0.9s
HABR Khabarovsk 47.30 54 *e*P **P** **06 39 53.3 -1.1**
HABR *e**PP **pP** **06 40 29.4 -1.4**
HABR *e*SP 06 40 47.6
HABR *e* 06 41 22.1
HABR 06 41 45.8
HABR *e*S **S** **06 46 34.7 -0.5**
HABR *e* 06 49 30.3
HABR *e*SS **SS** **06 50 05.7 +1.3**
HABR pmax pmax
comp=Z,29nm,1.3s
HABR MLR MLR
comp=Z,60nm,17.0s
PGF Pioggiola 47.37 297 *e*P **P** **06 39 54.5 -0.7**
PGF Pioggiola 47.37 297 *e*P **P** **06 39 54.5 -0.7**
PGF Pioggiola 47.37 297 *e*P **P** **06 39 54.5 -0.7**
SPA0 Spitsbergen Ar 47.49 347 *e*P **P** **06 39 56.9 +1.3**
SPA0 IAmb IAmb 06 39 57.7
comp=Z,20nm,0.9s
SENIN Lac Senin/Sane 47.68 303 *e*P **P** **06 39 57.7 0.0**
LPG La Plagne 48.24 302 *e*P **P** **06 40 02.9 +0.8**
LPG La Plagne 48.24 302 *e*P **P** **06 40 02.9 +0.8**
LPG La Plagne 48.24 302 *e*P **P** **06 40 02.9 +0.8**
LPL La Plagne 48.25 302 *e*P **P** **06 40 02.6 +0.5**
comp=Z,3.4nm,0.3s
LPL La Plagne 48.25 302 *e*P **P** **06 40 02.6 +0.5**
LPL pmax pmax
comp=Z,3.0nm,0.3s
LPL La Plagne 48.25 302 *e*P **P** **06 40 02.6 +0.5**
comp=Z,3.4nm,0.3s
MBDF Montbardon 48.40 301 *e*P **P** **06 40 02.4 -0.8**
comp=Z,8.2nm,0.6s
MBDF Montbardon 48.40 301 *e*P **P** **06 40 02.4 -0.8**
MBDF pmax pmax
comp=Z,8.0nm,0.6s
MBDF Montbardon 48.40 301 *e*P **P** **06 40 02.4 -0.8**
comp=Z,8.2nm,0.6s
CABF La Chapelle 48.44 303 *e*P **P** **06 40 04.1 +0.7**
comp=Z,9.1nm,0.6s
CABF La Chapelle 48.44 303 *e*P **P** **06 40 04.1 +0.7**
CABF pmax pmax
comp=Z,9.0nm,0.6s
CABF La Chapelle 48.44 303 *e*P **P** **06 40 04.1 +0.7**
comp=Z,9.1nm,0.6s
JNU Nakatsue 48.46 76 *e*P P 06 39 59.8 -3.9
comp=Z,15nm,1.0s
KBS Kingsbay 48.61 347 *e*P **P** **06 40 05.5 +1.4**
KBS pmax pmax
comp=Z,8.0nm,0.8s
KBS Kingsbay 48.61 347 *e*P **P** **06 40 05.5 +1.4**
comp=Z,8.3nm,0.8s
KMBO Kilima Mbogo 48.94 228 P **P** **06 40 08.1 +0.4**
comp=Z,8.3nm,0.2s,baz=44,slow=24,SNR=1.3
KMBO pP **pP** **06 40 45.0 +0.6**
comp=Z,18nm,0.2s,baz=59,slow=24,SNR=4.7
KMBO Kilima Mbogo 48.94 228 P **P** **06 40 08.1 +0.4**
KMBO *PP **pP** **06 40 45.0 +0.6**
KMBO pmax pmax
comp=Z,8.0nm,0.2s
KMBO pmax pmax
comp=Z,18nm,0.2s
KEST Kesra 49.15 289 P **P** **06 40 09.3 +0.4**
comp=Z,1.3nm,0.6s,baz=27,slow=6.8,SNR=3.9
VIVF Saint-Julien-l 49.82 301 *e*P **P** **06 40 13.5 -0.3**
VIVF Saint-Julien-l 49.82 301 *e*P **P** **06 40 13.5 -0.3**
VIVF Saint-Julien-l 49.82 301 *e*P **P** **06 40 13.5 -0.3**
SMF Signal de Mont 49.94 304 *e*P **P** **06 40 14.1 -0.6**
comp=Z,5.5nm,0.5s
SMF Signal de Mont 49.94 304 *e*P **P** **06 40 14.1 -0.6**
SMF pmax pmax
comp=Z,6.0nm,0.5s
SMF Signal de Mont 49.94 304 *e*P **P** **06 40 14.1 -0.6**

	comp=Z,5.5nm,0.5s								
SSF	**Saint Saulge**	**50.06**	**304**	*e*P		**P**	**06 40 16.4**	**+0.8**
SSF	**Saint Saulge**	**50.06**	**304**	*e*P		**P**	**06 40 16.4**	**+0.8**
SSF	**Saint Saulge**	**50.06**	**304**	*e*P		**P**	**06 40 16.4**	**+0.8**
AVF	**Avril sur Loir**	**50.23**	**304**	*e*P		**P**	**06 40 16.9**	**+0.1**
	comp=Z,13nm,0.8s								
AVF	**Avril sur Loir**	**50.23**	**304**	*e*P		**P**	**06 40 16.9**	**+0.1**
AVF					pmax	pmax			
	comp=Z,13nm,0.8s								
AVF	**Avril sur Loir**	**50.23**	**304**	*e*P		**P**	**06 40 16.9**	**+0.1**
	comp=Z,13nm,0.8s								
MFF	**Saint Martin d**	**52.61**	**305**	*e*P		**P**	**06 40 35.2**	**+0.7**
MFF	**Saint Martin d**	**52.61**	**305**	*e*P		**P**	**06 40 35.2**	**+0.7**
MFF	**Saint Martin d**	**52.61**	**305**	*e*P		**P**	**06 40 35.2**	**+0.7**
YSS	**Yuzh-Sakhalins**	**52.70**	**55**⇓	*e*P		**P**	**06 40 36.0**	**+0.8**
YSS					pmax	pmax			
	comp=Z,40nm,1.0s								
MAJO	**Matsushiro**	**52.82**	**69**	*d iP*		**P**	**06 40 36.1**	**-0.2**
MAJO					pmax	pmax			
	comp=Z,170nm,1.6s								
MAT	**Matsushiro**	**52.82**	**69**	P		**P**	**06 40 36.4**	**+0.1**
MJAR	**Matsushiro Arr**	**52.83**	**69**	P		**P**	**06 40 36.8**	**+0.5**
	comp=Z,6.6nm,0.8s,baz=287,slow=9.9,SNR=15								
MJAR	**Matsushiro Arr**	**52.83**	**69**	P		**P**	**06 40 36.8**	**+0.5**
MJAR					pmax	pmax			
	comp=Z,7.0nm,0.8s								
ETSF	**Etsaut**	**54.01**	**300**	*e*P		**P**	**06 40 44.7**	**-0.2**
	comp=Z,7.9nm,0.7s								
ETSF	**Etsaut**	**54.01**	**300**	*e*P		**P**	**06 40 44.7**	**-0.2**
ETSF					pmax	pmax			
	comp=Z,8.0nm,0.7s								
ETSF	**Etsaut**	**54.01**	**300**	*e*P		**P**	**06 40 44.7**	**-0.2**
	comp=Z,7.9nm,0.7s								
SEY	**Seymchan**	**54.32**	**34**	*i* P		**P**	**06 40 47.9**	**+1.2**
DAG	**Danmarks Havn**	**54.74**	**344**⇑	*i*P		**P**	**06 40 50.2**	**+0.7**
	comp=Z,29nm,0.8s								
DAG	**Danmarks Havn**	**54.74**	**344**⇑	*i*P		**P**	**06 40 50.2**	**+0.7**
DAG					pmax	pmax			
	comp=Z,21nm,0.8s								
ESDC	**Sonseca Array**	**57.55**	**298**	P		**P**	**06 41 10.0**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=65,slow=8.8,SNR=6.7								
ESDC					pP	**pP**	**06 41 47.3**	**-0.6**
	comp=Z,2.4nm,0.8s,baz=61,slow=7.3,SNR=3.2								
OPO	**Ambohidratompo**	**59.30**	**207**	P		**P**	**06 41 23.3**	**+0.8**
	comp=Z,7.4nm,0.8s,baz=68,slow=7.0,SNR=6.7								
OPO					pP	**pP**	**06 42 01.3**	**+0.9**
	comp=Z,1.5nm,0.4s,baz=84,slow=2.1,SNR=1.9								
PETK	**Petropavlovsk-**	**59.86**	**44**	P		**P**	**06 41 25.1**	**-0.6**
	comp=Z,3.9nm,0.7s,baz=204,slow=3.3,SNR=9.8								
PETK	**Petropavlovsk-**	**59.86**	**44**	P		**P**	**06 41 25.2**	**-0.6**
PETK					pmax	pmax			
	comp=Z,4.0nm,0.7s								
SUMG	**Summit**	**61.07**	**341**	*i* P		**P**	**06 41 35.3**	**+1.2**
	comp=Z,30nm,1.0s								
SUMG	**Summit**	**61.07**	**341**	*e*P		**P**	**06 41 35.4**	**+1.2**
SUMG					pmax	pmax			
	comp=Z,26nm,0.9s								
SUMG	**Summit**	**61.07**	**341**	*e*P		**P**	**06 41 35.4**	**+1.2**
	comp=Z,26nm,0.9s								
LSZ	**Lusaka**	**65.57**	**226**	*e*P		**P**	**06 42 03.9**	**-0.2**
LSZ					pmax	pmax			
	comp=Z,6.0nm,0.8s								
LSZ	**Lusaka**	**65.57**	**226**	*e*P		**P**	**06 42 03.9**	**-0.2**
	comp=Z,5.9nm,0.8s								
TOA0	**Torodi Ar. Sit**	**65.84**	**269**	*e*P		**P**	**06 42 03.3**	**-2.5**
TORD	**Torodi Ar. Bea**	**65.84**	**269**	P		**P**	**06 42 03.5**	**-2.4**
	comp=Z,5.3nm,0.6s,baz=52,slow=5.9,SNR=50								
TORD					pP	**pP**	**06 42 42.5**	**-2.1**
	comp=Z,5.0nm,0.7s,baz=46,slow=5.7,SNR=3.9								
TORD					sP	**sP**	**06 43 02.7**	**+0.5**
	comp=Z,6.9nm,0.7s,baz=46,slow=5.5,SNR=3.6								
FAKI	**Fak Fak**	**68.97**	**110**	*e*P		**P**	**06 42 25.7**	**+0.2**
	comp=Z,17nm,1.0s								
COLD	**Coldfoot**	**71.91**	**16**	*e*P		**P**	**06 42 43.1**	**+0.7**
	comp=Z,19nm,1.0s								
IM04	**Indian Mountai**	**72.11**	**18**	*e*P		**P**	**06 42 43.7**	**0.0**
INK	**Inuvik**	**73.86**	**9**	P		**P**	**06 42 54.4**	**+0.5**
	comp=Z,16nm,0.6s,baz=1.2,slow=7.8,SNR=50								
INK					pP	**pP**	**06 43 35.5**	**+2.1**
	comp=Z,4.7nm,0.6s,baz=333,slow=9.1,SNR=2.6								
INK	**Inuvik**	**73.86**	**9**	P		**P**	**06 42 54.4**	**+0.5**
INK					*PP	**pP**	**06 43 35.5**	**+2.1**
INK					pmax	pmax			
	comp=Z,16nm,0.6s								
INK					pmax	pmax			
	comp=Z,5.0nm,0.6s								
INK	**Inuvik**	**73.86**	**9**	*e*P		**P**	**06 42 54.7**	**+0.9**
INK					pP	**pP**	**06 43 35.5**	**+2.1**
COLA	**College**	**74.41**	**16***c*	*i* P		**P**	**06 42 57.3**	**+0.1**
COLA					pmax	pmax			
	comp=Z,94nm,0.8s								
COLA	**College**	**74.41**	**16**	*e*P		**P**	**06 42 56.6**	**-0.5**
	comp=Z,24nm,0.9s								
CAST	**Castle Rocks**	**74.61**	**19**	*e*P		**P**	**06 42 58.9**	**+0.5**
	comp=Z,29nm,1.0s								
ILAR	**Eielson Array**	**74.72**	**16**	P		**P**	**06 42 58.5**	**-0.4**
	comp=Z,6.7nm,0.9s,baz=318,slow=4.7,SNR=61								
ILAR					pP	**pP**	**06 43 38.5**	**0.0**
	comp=Z,2.5nm,0.8s,baz=322,slow=5.2,SNR=3.8								
ILAR					sP	**sP**	**06 43 58.7**	**+2.7**
	comp=Z,3.4nm,1.0s,baz=313,slow=4.8,SNR=3.4								
ILAR					PP	**PP**	**06 45 45.2**	**-2.3**
	comp=Z,2.7nm,1.0s,baz=316,slow=7.4,SNR=4.4								
ILAR	**Eielson Array**	**74.72**	**16**	P		**P**	**06 42 58.6**	**-0.4**
ILAR					*PP	**pP**	**06 43 38.6**	**0.0**
ILAR							06 45 45.2		
ILAR					pmax	pmax			
	comp=Z,7.0nm,0.9s								
ILAR					pmax	pmax			
	comp=Z,3.0nm,0.8s								
ILAR					pmax	pmax			
	comp=Z,3.0nm,1.0s								
ILAR					pmax	pmax			
	comp=Z,3.0nm,1.0s								
KTH	**Kantishna Hill**	**74.80**	**18**	*e*P		**P**	**06 43 00.0**	**+0.5**
	comp=Z,22nm,1.0s								
LIC	**Lamto**	**75.22**	**267**	*e*P		**P**	**06 43 00.9**	**-1.8**
	comp=Z,25nm,1.0s								
LIC	**Lamto**	**75.22**	**267**	*e*P		**P**	**06 43 00.9**	**-1.8**
	comp=Z,25nm,1.0s								
EGAK	**Eagle**	**75.89**	**14**	*e*P		**P**	**06 43 06.0**	**+0.3**
	comp=Z,8.2nm,0.9s								
DOT	**Dot Lake**	**76.31**	**15**	*e*P		**P**	**06 43 08.0**	**-0.1**
DAWY	**Dawson**	**76.86**	**13**	*e*P		**P**	**06 43 11.6**	**+0.4**
DIV	**Divide**	**78.13**	**17**	*e*P		**P**	**06 43 19.1**	**+0.8**
	comp=Z,9.8nm,0.8s								
HYT	**Haines Junctio**	**80.19**	**14**	*e*P		**P**	**06 43 30.6**	**+1.0**
YKA	**Yellowknife Ar**	**81.21**	**3**	P		**P**	**06 43 35.0**	**+0.2**
	comp=Z,10nm,0.6s,baz=351,slow=5.4,SNR=222								
YKA					pP	**pP**	**06 44 14.9**	**-0.1**
	comp=Z,4.3nm,0.8s,baz=350,slow=5.5,SNR=3.3								
YKA	**Yellowknife Ar**	**81.21**	**3**	P		**P**	**06 43 35.0**	**+0.2**
YKA					*PP	**pP**	**06 44 14.9**	**-0.1**
YKA					pmax	pmax			
	comp=Z,11nm,0.6s								
YKA					pmax	pmax			
	comp=Z,4.0nm,0.8s								
SKAG	**Skagway**	**81.87**	**13**	*e*P		**P**	**06 43 39.3**	**+1.1**
	comp=Z,14nm,1.1s								
WRA	**Warramunga Arr**	**81.90**	**122**	P		**P**	**06 43 37.8**	**-1.2**
	comp=Z,15nm,0.8s,baz=324,slow=4.9,SNR=167								
WRA					pP	**pP**	**06 44 19.3**	**0.0**
	comp=Z,1.8nm,0.6s,baz=322,slow=4.9,SNR=1.6								
WRA	**Warramunga Arr**	**81.90**	**122**	P		**P**	**06 43 37.8**	**-1.2**
WRA					*PP	**pP**	**06 44 19.3**	**0.0**
WRA					pmax	pmax			
	comp=Z,15nm,0.8s								
WRA					pmax	pmax			
	comp=Z,2.0nm,0.6s								
WRAB	**Tennant Creek**	**81.90**	**122***c*	*e*P		**P**	**06 43 37.9**	**-1.1**
WRAB					pmax	pmax			
	comp=Z,55nm,0.9s								
WRAB	**Tennant Creek**	**81.90**	**122**	*e*P		**P**	**06 43 37.3**	**-1.7**
	comp=Z,17nm,0.7s								
DLBC	**Dease Lake**	**83.74**	**11**	*e*P		**P**	**06 43 49.3**	**+1.2**
AS31	**Alice Springs**	**84.17**	**125**	*e*P		**P**	**06 43 49.1**	**-1.5**
ASAR	**Alice Springs**	**84.17**	**125**	P		**P**	**06 43 49.7**	**-0.9**
	comp=Z,14nm,0.8s,baz=318,slow=5.3,SNR=114								
ASAR					pP	**pP**	**06 44 33.8**	**+2.6**
	comp=Z,1.7nm,0.7s,baz=322,slow=5.9,SNR=1.4								
ASAR					sP	**sP**	**06 44 52.5**	**+4.2**
	comp=Z,2.9nm,0.8s,baz=322,slow=5.4,SNR=2.8								
ASAR	**Alice Springs**	**84.17**	**125**	P		**P**	**06 43 49.7**	**-0.9**
ASAR					pmax	pmax			
	comp=Z,15nm,0.8s								
ASAR					pmax	pmax			
	comp=Z,2.0nm,0.7s								
ASAR					pmax	pmax			
	comp=Z,3.0nm,0.8s								
FCC	**Fort Churchill**	**84.27**	**352**	*e*P		**P**	**06 43 51.6**	**+1.0**
FCC				*e*PP		**pP**	**06 44 31.7**	**+0.6**
FCC	**Fort Churchill**	**84.27**	**352**	*e*P		**P**	**06 43 51.6**	**+1.0**
FCC				*e*pP		**pP**	**06 44 31.7**	**+0.6**
FFC	**Flin Flon**	**88.92**	**356**	*e*P		**P**	**06 44 13.6**	**+0.3**
FFC					pmax	pmax			
	comp=Z,8.0nm,0.9s								
FFC	**Flin Flon**	**88.92**	**356**	*e*P		**P**	**06 44 13.6**	**+0.3**
	comp=Z,7.6nm,0.9s								
CTAO	**Charters Tower**	**90.44**	**115**	*e*P		**P**	**06 44 20.1**	**-0.7**
CTAO					pmax	pmax			
	comp=Z,12nm,0.8s								
CTAO	**Charters Tower**	**90.44**	**115**	*e*P		**P**	**06 44 20.1**	**-0.7**
	comp=Z,12nm,0.8s								
EDM	**Edmonton**	**90.53**	**3**	*e*P		P	06 44 13.1	-7.8
EDM	**Edmonton**	**90.53**	**3**	*e*P		P	06 44 13.1	-7.8
EDM				*e*pP		pP	06 45 02.6	+0.7
ULM	**Lac du Bonnet**	**92.84**	**352**	P		**P**	**06 44 31.4**	**-0.1**
	comp=Z,3.8nm,0.9s,baz=0.9,slow=6.1,SNR=5.2								
ULM					LR	LR	07 31 32.1		
	comp=Z,22nm,18.1s,baz=27,slow=39								
WALA	**Waterton Lakes**	**94.67**	**3**	*e*P		**P**	**06 44 41.0**	**+0.9**
PDAR	**Pinedale Array**	**101.08**	**1**	P		**Pdif**	**06 45 09.1**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=17,slow=3.8,SNR=3.5								
LDFC	**Landfair**	**108.52**	**5**	*e*Pdif		**Pdif**	**06 45 38.6**	**-3.7**
TXAR	**Lajitas Array**	**114.30**	**355**	PKKPab		PKKPab	07 00 45.5	-2.9
	comp=Z,0.4nm,0.8s,baz=182,slow=7.6,SNR=4.9								
CPUP	**Villa Florida**	**135.34**	**268**	PKP		**PKPdf**	**06 50 37.1**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=166,slow=4.2,SNR=5.3								
LPAZ	**La Paz**	**138.72**	**288**	SKPbc		**SKPbc**	**06 54 02.3**	**-2.6**
	comp=Z,1.5nm,1.0s,baz=341,slow=7.1,SNR=3.9								
PLCA	**Paso Flores**	**149.95**	**250**	PKPbc		**PKPbc**	**06 51 08.2**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=266,slow=1.5,SNR=3.5								
PLCA	**Paso Flores**	**149.95**	**250**	PKP2		**PKPbc**	**06 51 08.2**	**-0.3**
PLCA					pmax	pmax			
	comp=Z,2.0nm,0.7s								

NNC 11 07:00:46.1±16.0, **37.10N**×**71.01E, h0**km, **mb3.6, mpv3.2, 5C-1D, Error ellipse: s-maj=134.0km s-min=43.6km az=169.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.42**	**315**	⇑P	Pn	07 01 26.4	-0.8
	7.7nm,0.4s						
DZET				⇑S	Sb	07 02 00.2	-1.1
	22nm,0.5s						
SFK	**Sufi-Kurgan**	**3.50**	**33**	⇑S	Sn	07 02 27.9	+3.3
	5.6nm,0.4s						
KK31	**Karatay Array**	**6.01**	**357**	⇑P	Pn	07 02 13.1	-3.2
	0.5nm,0.3s,baz=177,slow=13,SNR=5.0						
KK31				⇓S	Sn	07 03 22.3	-3.5
	1.5nm,0.4s,baz=188,slow=24,SNR=9.7						
AAK	**Ala-Archa**	**6.14**	**25**	⇑S	Sn	07 03 26.1	-3.4
	2.2nm,0.6s						

*IDC **11** 07:03:35.6±0.9, 38.63N×23.68E, h0km, mb3.7/9, mb1 3.7/12, mb1mx3.6/44, mbtmp3.6/12, ML3.0/3, MS3.0/4, Ms1 3.0/4, ms1mx2.5/44, Error ellipse: s-maj=18.8km s-min=16.3km az=130.0*

*ATH **11** 07:03:36.2, 38.62N×23.77E, h24km, MD3.6/43, ML4.2*

*THE **11** 07:03:36.6, 38.62N×23.80E, h3km±1km, ML4.0/10, Error ellipse: s-maj=1.3km s-min=0.6km az=251.0*

*NEIC **11** 07:03:36.1, 38.62N×23.77E, h24km, ML4.0(THE), ML4.2(ATH), After ATH.*

NEIC Felt at Athens.

*ISCJB **11** 07:03:37.0±0.3, 38.62N±0.01×23.76E±0.02, h18km±3km, mb3.6/9, MS3.1/3, Error ellipse: s-maj=2.5km s-min=2.1km az=174.5*

*CSEM **11** 07:03:37.8±0.1, 38.62N×23.71E, h20km, ML4.1, Error ellipse: s-maj=2.9km s-min=2.8km az=149.0*

ISC 11 07:03:37.2±0.8, **38.61N**±0.01×**23.73E**±0.02, **h12**km±5km, **n325**, σ0**89**/379, **mb3.6**/9, **MS3.1**/3, **12C-1D, Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRKA	**Markas**	**0.15**	**310**	P	**Pg**	**07 03 40.5**	**-0.2**
MRKA				S	**Sg**	**07 03 43.2**	**+0.1**
MRKA	**Markas**	**0.15**	**310**	*e*PB	**Pg**	**07 03 40.8**	**+0.1**
MRKA	**Markas**	**0.15**	**310**	P	**Pg**	**07 03 40.5**	**-0.2**
MRKA	**Markas**	**0.15**	**310**	*e*Pb	**Pg**	**07 03 40.8**	**+0.1**
MRKA				S	**Sg**	**07 03 43.2**	**+0.1**
SMIA	**Simia**	**0.49**	**303**	P	**Pg**	**07 03 46.5**	**-0.2**
SMIA				S	**Sb**	**07 03 54.6**	**-0.2**
SMIA	**Simia**	**0.49**	**303**	*e*PN	**Pg**	**07 03 46.6**	**-0.2**
SMIA				*e*SN	**Sg**	**07 03 54.0**	**+0.8**
SMIA	**Simia**	**0.49**	**303**	P	**Pg**	**07 03 46.5**	**-0.2**
SMIA				*e*Sn	**Sg**	**07 03 54.0**	**+0.8**
AOS	**Alonnisos**	**0.57**	**12**	*e*PG	**Pg**	**07 03 47.2**	**-0.4**
AOS				*e*SG	**Sg**	**07 03 55.9**	**+0.1**
AOS	**Alonnisos**	**0.57**	**12**	P	**Pg**	**07 03 47.8**	**-0.5**
AOS				S	**Sg**	**07 03 56.0**	**+0.1**
AOS	**Alonnisos**	**0.57**	**12**	*e*PN	**Pg**	**07 03 47.8**	**-0.5**
AOS				*e*SN	**Sg**	**07 03 55.8**	**-0.1**
AOS	**Alonnisos**	**0.57**	**12**	*e*Pn	**Pg**	**07 03 47.8**	**-0.5**
AOS				*e*Sn	**Sg**	**07 03 55.8**	**-0.1**
AOS	**Alonnisos**	**0.57**	**12**	P	**Pg**	**07 03 47.8**	**-0.5**
AOS				S	**Sg**	**07 03 56.0**	**+0.1**
PTL	**Penteli**	**0.57**	**169**	P	**Pg**	**07 03 48.0**	**-0.3**
PTL				S	**Sg**	**07 03 55.8**	**-0.1**
PTL	**Penteli**	**0.57**	**169**	*e*PN	**Pg**	**07 03 48.0**	**-0.3**
PTL	**Penteli**	**0.57**	**169**	P	**Pg**	**07 03 48.0**	**-0.3**
PTL				S	**Sg**	**07 03 55.8**	**-0.1**
PTL	**Penteli**	**0.57**	**169**	P	**Pg**	**07 03 48.0**	**-0.3**
PTL				S	**Sg**	**07 03 55.8**	**-0.1**
LKR	**Lokris**	**0.57**	**274**	P	**Pg**	**07 03 47.5**	**-0.8**
LKR				S	**Sb**	**07 03 57.9**	**+0.6**
LKR	**Lokris**	**0.57**	**274**	*e*PB	**Pg**	**07 03 47.8**	**-0.5**
LKR	**Lokris**	**0.57**	**274**	P	**Pg**	**07 03 47.5**	**-0.8**
LKR	**Lokris**	**0.57**	**274**	*e*Pb	**Pg**	**07 03 47.8**	**-0.5**
LKR				S	**Sb**	**07 03 57.9**	**+0.6**
LKR	**Lokris**	**0.57**	**274**	P	**Pg**	**07 03 47.5**	**-0.8**
LKR				S	**Sb**	**07 03 57.9**	**+0.6**
SKIA	**Skiathos**	**0.59**	**340**	P	**Pg**	**07 03 48.4**	**-0.3**
SKIA				S	**Sb**	**07 03 57.7**	**-0.1**
SKIA	**Skiathos**	**0.59**	**340**	*e*PN	**Pg**	**07 03 48.5**	**-0.3**
SKIA	**Skiathos**	**0.59**	**340**	P	**Pg**	**07 03 48.4**	**-0.3**
SKIA				S	**Sb**	**07 03 57.5**	**-0.3**
ATH	**Athens Observa**	**0.64**	**181**	P	**Pg**	**07 03 49.1**	**-0.5**
ATH				S	**Sb**	**07 03 58.9**	**-0.2**
ATH	**Athens Observa**	**0.64**	**181**	*e*PN	**Pg**	**07 03 49.2**	**-0.4**
ATH				*e*SN	**Sg**	**07 03 58.0**	**0.0**
ATH	**Athens Observa**	**0.64**	**181**	P	**Pg**	**07 03 49.2**	**-0.4**
ATH				*e*Sn	**Sg**	**07 03 58.0**	**0.0**
ATH	**Athens Observa**	**0.64**	**181**	P	**Pg**	**07 03 49.1**	**-0.5**
ATH				S	**Sb**	**07 03 58.9**	**-0.2**
ATHU	**Athens Univers**	**0.65**	**176**	P	**Pg**	**07 03 49.2**	**-0.5**
ATHU	**Athens Univers**	**0.65**	**176**	P	**Pg**	**07 03 49.2**	**-0.5**
ATHU				S	**Sg**	**07 03 57.5**	**-0.7**
ATHU	**Athens Univers**	**0.65**	**176**	P	**Pg**	**07 03 49.2**	**-0.5**
NEO	**Neokhori**	**0.80**	**331**	P	**Pg**	**07 03 52.1**	**-0.5**
NEO	**Neokhori**	**0.80**	**331**	*e*PN	**Pg**	**07 03 52.2**	**-0.4**
NEO	**Neokhori**	**0.80**	**331**	P	**Pg**	**07 03 52.1**	**-0.5**
NEO				S	**Sg**	**07 04 02.1**	**-1.0**
NEO	**Neokhori**	**0.80**	**331**	P	**Pg**	**07 03 52.1**	**-0.5**
LTK	**Loutraki**	**0.84**	**226**	P	**Pg**	**07 03 52.2**	**-1.1**
LTK				S	**Sb**	**07 04 05.7**	**+0.7**
LTK	**Loutraki**	**0.84**	**226**	*e*PB	**Pg**	**07 03 52.3**	**-1.1**
LTK				*e*SN	**Sb**	**07 04 05.9**	**+0.9**
LTK	**Loutraki**	**0.84**	**226**	P	**Pg**	**07 03 52.3**	**-1.1**
LTK				*e*Sn	**Sb**	**07 04 05.9**	**+0.9**
LTK	**Loutraki**	**0.84**	**226**	P	**Pg**	**07 03 52.2**	**-1.1**
AXAR	**Agios Charalam**	**0.85**	**281**	P	**Pg**	**07 03 53.7**	**+0.1**
AXAR				S	**Sn**	**07 04 06.5**	**-1.0**
AXAR	**Agios Charalam**	**0.85**	**281**	*e*PN	**Pg**	**07 03 52.7**	**-0.9**
AXAR	**Agios Charalam**	**0.85**	**281**	*e*Pn	**Pg**	**07 03 52.7**	**-0.9**
AXAR	**Agios Charalam**	**0.85**	**281**	P	**Pg**	**07 03 53.7**	**+0.1**
AXAR				S	**Sn**	**07 04 06.5**	**-1.0**
AXAR	**Agios Charalam**	**0.85**	**281**	P	**Pg**	**07 03 53.7**	**+0.1**
XOR	**Xorichti**	**0.86**	**331**	P	**Pg**	**07 03 53.1**	**-0.7**
XOR				S	**Sb**	**07 04 06.3**	**+0.6**
XOR	**Xorichti**	**0.86**	**331**	*e*PN	**Pg**	**07 03 53.2**	**-0.6**
XOR				*e*SN	**Sg**	**07 04 05.4**	**+0.3**
XOR	**Xorichti**	**0.86**	**331**	P	**Pg**	**07 03 53.2**	**-0.6**
XOR				S	**Sg**	**07 04 05.4**	**+0.3**
XOR	**Xorichti**	**0.86**	**331**	P	**Pg**	**07 03 53.1**	**-0.7**

DSF	**Desfina**	**0.96**	**258**	P		**Pg**	**07 03 54.7**	**-1.1**
DSF	**Desfina**	**0.96**	**258**	*e*PB		**Pg**	**07 03 54.5**	**-1.3**
DSF	**Desfina**	**0.96**	**258**	P		**Pg**	**07 03 54.7**	**-1.1**
DSF				S		**Sg**	**07 04 08.3**	**0.0**
DSF	**Desfina**	**0.96**	**258**	P		**Pg**	**07 03 54.7**	**-1.1**
AGG	**Agios Georgios**	**1.17**	**291**	*e*PN		**Pg**	**07 03 59.8**	**+0.2**
AGG				*e*SN		**Sn**	**07 04 16.3**	**+1.0**
AGG	**Agios Georgios**	**1.17**	**291**	P		**Pb**	**07 03 59.2**	**-0.1**
AGG	**Agios Georgios**	**1.17**	**291**	*e*PN		**Pb**	**07 03 58.8**	**-0.5**
AGG				*e*SN		**Sn**	**07 04 15.4**	**+0.1**
AGG	**Agios Georgios**	**1.17**	**291**	*e*Pn		**Pb**	**07 03 58.8**	**-0.5**
AGG	**Agios Georgios**	**1.17**	**291**	P		**Pb**	**07 03 59.2**	**-0.1**
AGG				*e*Sn		**Sn**	**07 04 15.4**	**+0.1**
AGG	**Agios Georgios**	**1.17**	**291**	P		**Pb**	**07 03 59.2**	**-0.1**
DID	**Didima**	**1.17**	**200**	*e*PN		**Pb**	**07 03 58.4**	**-1.0**
DID	**Didima**	**1.17**	**200**	P		**Pb**	**07 03 58.4**	**-1.0**
DID				S		**Sb**	**07 04 13.1**	**-1.4**
KALE	**Kalithea**	**1.27**	**260**	P		**Pn**	**07 03 59.9**	**-0.8**
KALE	**Kalithea**	**1.27**	**260**	*e*PN		**Pn**	**07 04 00.0**	**-0.8**
KALE	**Kalithea**	**1.27**	**260**	*e*Pn		**Pn**	**07 04 00.0**	**-0.8**
KALE	**Kalithea**	**1.27**	**260**	P		**Pn**	**07 03 59.9**	**-0.8**
GUR	**Goura**	**1.28**	**239**	P		**Pn**	**07 04 00.9**	**-0.1**
GUR	**Goura**	**1.28**	**239**	*e*PN		**Pn**	**07 04 00.3**	**-0.7**
GUR	**Goura**	**1.28**	**239**	*e*Pn		**Pn**	**07 04 00.3**	**-0.7**
GUR	**Goura**	**1.28**	**239**	P		**Pn**	**07 04 00.9**	**-0.1**
GUR				S		**Sb**	**07 04 17.1**	**-0.7**
GUR	**Goura**	**1.28**	**239**	P		**Pn**	**07 04 00.9**	**-0.1**
MAKR	**Makrakomi, Fth**	**1.31**	**288**	P		**Pn**	**07 04 01.6**	**+0.2**
MAKR				S		**Sg**	**07 04 21.0**	**+1.6**
MAKR	**Makrakomi, Fth**	**1.31**	**288**	*e*PN		**Pn**	**07 04 01.6**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.31**	**288**	P		**Pn**	**07 04 01.6**	**+0.2**
MAKR				S		**Sg**	**07 04 21.0**	**+1.6**
MAKR	**Makrakomi, Fth**	**1.31**	**288**	P		**Pn**	**07 04 01.6**	**+0.2**
MAKR				S		**Sg**	**07 04 21.0**	**+1.6**
PAIG	**Paliouri**	**1.31**	**358**	P		**Pn**	**07 04 00.4**	**-0.9**
PAIG				S		**Sg**	**07 04 19.8**	**+0.3**
PAIG	**Paliouri**	**1.31**	**358**	*e*PN		**Pn**	**07 04 00.5**	**-0.9**
PAIG	**Paliouri**	**1.31**	**358**	P		**Pn**	**07 04 00.5**	**-0.9**
PAIG				S		**Sg**	**07 04 19.8**	**+0.3**
PAIG	**Paliouri**	**1.31**	**358**	P		**Pn**	**07 04 00.4**	**-0.9**
PAIG				S		**Sg**	**07 04 19.8**	**+0.3**
KLV	**Kalavryta, Ach**	**1.36**	**246**	P		**Pn**	**07 04 02.3**	**+0.2**
KLV	**Kalavryta, Ach**	**1.36**	**246**	*e*PN		**Pn**	**07 04 02.4**	**+0.3**
KLV	**Kalavryta, Ach**	**1.36**	**246**	P		**Pn**	**07 04 02.3**	**+0.2**
KLV	**Kalavryta, Ach**	**1.36**	**246**	P		**Pn**	**07 04 02.3**	**+0.2**
EFP	**Efpalio**	**1.44**	**263**	P		**Pn**	**07 04 02.9**	**-0.2**
EFP	**Efpalio**	**1.44**	**263**	*e*PN		**Pn**	**07 04 02.9**	**-0.2**
EFP	**Efpalio**	**1.44**	**263**	P		**Pn**	**07 04 02.9**	**-0.2**
EFP				S		**Sn**	**07 04 21.9**	**-0.1**
EVR	**Evrytania**	**1.53**	**282**	P		**Pn**	**07 04 04.3**	**+0.3**
EVR	**Evrytania**	**1.53**	**282**	*e*PN		**Pn**	**07 04 04.6**	**+0.1**
EVR	**Evrytania**	**1.53**	**282**	*e*Pn		**Pn**	**07 04 04.6**	**+0.1**
EVR

PYL PYLOS 2.33 223 P Pn 07 04 16.7 +1.4
PYL PYLOS 2.33 223 P Pn 07 04 16.7 +1.4
EZN Ezine 2.35 58 ePN Pn 07 04 15.5 -0.1
EZN Ezine 2.35 58 ePn Pn 07 04 15.5 -0.1
KYTH Kithira 2.39 194 ePN Pn 07 04 16.0 -0.2
KYTH Kithira 2.39 194 ePn Pn 07 04 16.0 -0.2
LKD2 Lefkada island 2.41 275 ePB Pn 07 04 17.7 +1.2
LKD2 Lefkada island 2.41 275 ePb Pn 07 04 17.7 +1.2
AYVA Ayvalik 2.41 72 i P Pg 07 04 26.9 +3.5
KAVA Kavala 2.46 14 P Pn 07 04 15.9 -1.1
KAVA Kavala 2.46 14 ePN Pn 07 04 16.0 -1.1
KAVA Kavala 2.46 14 ePn Pn 07 04 16.0 -1.1
KAVA Kavala 2.46 14 P Pn 07 04 15.9 -1.1
SRS Serrai 2.50 358 P Pn 07 04 17.4 -0.4
SRS Serrai 2.50 358 ePN Pn 07 04 17.1 -0.7
SRS Serrai 2.50 358 ePn Pn 07 04 17.1 -0.7
SRS Serrai 2.50 358 P Pn 07 04 17.4 -0.4
SRS Serrai 2.50 358 P Pn 07 04 17.4 -0.4
VLS Valsamata 2.50 261 ePB Pn 07 04 19.3 +1.5
VLS Valsamata 2.50 261 ePb Pn 07 04 19.3 +1.5
GRG Griva 2.56 337 ePN Pn 07 04 18.2 -0.3
GRG Griva 2.56 337 P Pn 07 04 18.2 -0.3
GRG Griva 2.56 337 ePN Pn 07 04 18.2 -0.3
GRG Griva 2.56 337 P Pn 07 04 18.2 -0.3
GRG Griva 2.56 337 P Pn 07 04 18.2 -0.3
SMG Samos 2.61 109 ePN Pn 07 04 19.4 +0.2
SMG Samos 2.61 109 ePn Pn 07 04 19.4 +0.2
KNT Kendrikon 2.63 346 ePN Pn 07 04 20.0 +0.5
KNT Kendrikon 2.63 346 P Pn 07 04 19.8 +0.4
KNT Kendrikon 2.63 346 ePN Pn 07 04 19.8 +0.4
KNT Kendrikon 2.63 346 P Pn 07 04 19.8 +0.4
KNT Kendrikon 2.63 346 P Pn 07 04 19.8 +0.4
KNS Konitsa 2.72 303 P Pn 07 04 22.0 +1.2
KNS Konitsa 2.72 303 P Pn 07 04 22.0 +1.2
KNS Konitsa 2.72 303 P Pn 07 04 22.0 +1.2
NVR Nevrokopi 2.74 2 P Pn 07 04 20.3 -0.7
NVR Nevrokopi 2.74 2 ePN Pn 07 04 20.2 -0.7
NVR Nevrokopi 2.74 2 P Pn 07 04 20.3 -0.7
NVR Nevrokopi 2.74 2 P Pn 07 04 20.3 -0.7
NEST Nestorio 2.75 312 P Pn 07 04 22.2 +1.0
NEST Nestorio 2.75 312 ePB Pn 07 04 22.2 +1.0
NEST Nestorio 2.75 312 P Pn 07 04 22.2 +1.0
ANKY Antikythira Is 2.76 187 P Pn 07 04 20.7 -0.5
ANKY Antikythira Is 2.76 187 ePN Pn 07 04 20.8 -0.5
ANKY Antikythira Is 2.76 187 ePn Pn 07 04 20.8 -0.5
ANKY Antikythira Is 2.76 187 P Pn 07 04 20.7 -0.5
GELI Tayfur-Gelibol 2.77 49 ePN Pn 07 04 21.6 +0.2
GELI Tayfur-Gelibol 2.77 49 ePn Pn 07 04 21.6 +0.2
ENEZ Enez 2.83 41 ePN Pn 07 04 22.4 +0.2
ENEZ Enez 2.83 41 ePn Pn 07 04 22.4 +0.2
FNA Florina 2.83 321 ePN Pn 07 04 23.3 +1.0
FNA Florina 2.83 321 P Pn 07 04 23.0 +0.7
FNA Florina 2.83 321 ePN Pn 07 04 23.0 +0.7
FNA Florina 2.83 321 P Pn 07 04 23.0 +0.7
FNA Florina 2.83 321 P Pn 07 04 23.0 +0.7
VAY Valandovo 2.85 342 ePn Pn 07 04 22.5 +0.1
VAY eSg Sn 07 04 57.6 +0.9
VAY Valandovo 2.85 342 ePn Pn 07 04 22.5 +0.1
VAY eSg Sn 07 04 57.6 +0.9
ALN Alexandroupoli 2.90 37 ePN Pn 07 04 23.5 +0.4
ALN Alexandroupoli 2.90 37 P Pn 07 04 21.7 -1.4
ALN Alexandroupoli 2.90 37 ePN Pn 07 04 22.0 -1.1
ALN Alexandroupoli 2.90 37 P Pn 07 04 21.7 -1.4
ALN Alexandroupoli 2.90 37 ePn Pn 07 04 22.0 -1.1
ALN Alexandroupoli 2.90 37 P Pn 07 04 21.7 -1.4
MMB Musomiste 2.97 360 i P Pn 07 04 23.6 -0.6
ERIK Erikli-Kesan 2.98 45 ePN Pn 07 04 24.7 +0.5
ERIK Erikli-Kesan 2.98 45 ePn Pn 07 04 24.7 +0.5
KARN Karanos 3.21 177 ePN Pn 07 04 28.8 +1.4
KARN Karanos 3.21 177 ePn Pn 07 04 28.8 +1.4
VAM Vamos 3.22 173 ePN Pn 07 04 27.6 0.0
VAM Vamos 3.22 173 ePn Pn 07 04 27.6 0.0
BALY Balya 3.23 68 i P Pn 07 04 26.1 -1.6
BALY Balya 3.23 68 i P Pn 07 04 26.1 -1.6
BODT Bodrum 3.23 118 ePN Pn 07 04 28.2 +0.5
BODT Bodrum 3.23 118 ePn Pn 07 04 28.2 +0.5
KEK Kerkira 3.25 291 ePN Pn 07 04 29.5 +1.5
KEK Kerkira 3.25 291 ePn Pn 07 04 29.5 +1.5
KRBG Karabiga-Canak 3.28 56 ePN Pn 07 04 29.4 +0.9
KRBG Karabiga-Canak 3.28 56 ePn Pn 07 04 29.4 +0.9
KDZ Kurdzhali 3.30 23 i P Pn 07 04 28.1 -0.6
KDZ Kurdzhali 3.30 23 S Sn 07 05 04.7 -3.1
BDRM Kayabasi 3.32 117 i P Pn 07 04 28.8 -0.2
BDRM Kayabasi 3.32 117 i P Pn 07 04 28.8 -0.2
BDRM i S Sg 07 05 25.7 +1.8
OHR Ohrid 3.36 319 ePn Pn 07 04 27.0 -2.6
OHR eSg Sg 07 05 31.6 +6.3
OHR Ohrid 3.36 319 ePn Pn 07 04 27.0 -2.6
RKY Sarkoy-Tekirda 3.37 51 ePN Pn 07 04 30.4 +0.7
RKY Sarkoy-Tekirda 3.37 51 ePn Pn 07 04 30.4 +0.7
SART Tekirdag 3.38 51 i P Pn 07 04 30.4 +0.6
SART Tekirdag 3.38 51 i P Pn 07 04 30.4 +0.6
BALB Balikesir 3.39 71 ePN Pn 07 04 30.4 +0.6
BALB Balikesir 3.39 71 ePn Pn 07 04 30.4 +0.6
AYDN Tasoluk 3.41 105 i P Pn 07 04 32.6 +2.4
AYDN Tasoluk 3.41 105 i P Pn 07 04 32.6 +2.4
IDI Anoyia 3.44 164 Pn Pn 07 04 31.1 +0.3
3.5nm,0.3s,baz=343,slow=11,SNR=26
IDI Sn Sn 07 05 14.0 +2.5
5.4nm,0.3s,baz=234,slow=21,SNR=6.8
DAT Datca 3.58 120 ePN Pn 07 04 33.5 +0.8
DAT Datca 3.58 120 ePn Pn 07 04 33.5 +0.8
MRMT Marmara Adasi 3.59 55 ePN Pn 07 04 33.3 +0.6
MRMT Marmara Adasi 3.59 55 ePn Pn 07 04 33.3 +0.6
EDC Edincik 3.64 60 ePN Pn 07 04 34.0 +0.7
EDC Edincik 3.64 60 ePn Pn 07 04 34.0 +0.7
NPS Neapolis 3.67 155 ePN Pn 07 04 33.0 -0.7
NPS Neapolis 3.67 155 ePn Pn 07 04 33.0 -0.7
SIVA Sivas 3.69 166 ePN Pn 07 04 35.3 +1.3
SIVA Sivas 3.69 166 ePn Pn 07 04 35.3 +1.3
LAST Lasithi 3.72 157 ePN Pn 07 04 35.9 +1.4
LAST Lasithi 3.72 157 ePn Pn 07 04 35.9 +1.4
MANT Manisa 3.79 90 i P Pg 07 04 51.4 +1.7
EDRB Edirne 3.97 35 ePN Pn 07 04 38.9 +1.0
EDRB Edirne 3.97 35 ePn Pn 07 04 38.9 +1.0
VTS Vitosha 4.00 354 i P Pn 07 04 39.8 +0.2
VTS S Pg 07 04 52.8 -0.9
KARP Karpathos 4.11 137 ePN Pn 07 04 40.2 +0.4
KARP Karpathos 4.11 137 ePn Pn 07 04 40.2 +0.4
TURN Turunc 4.24 113 i P Pn 07 04 38.7 -2.8
TURN Turunc 4.24 113 i P Pn 07 04 38.7 -2.8
ARMT Armutlu 4.42 62 ePN Pn 07 04 45.8 +1.8
ARMT Armutlu 4.42 62 ePn Pn 07 04 45.8 +1.8
FETY Fethiye 4.69 113 ePN Pn 07 04 49.2 +1.4
FETY Fethiye 4.69 113 ePn Pn 07 04 49.2 +1.4
AKAS Kas 5.25 115 i P Pn 07 04 59.5 +4.0
AKAS Kas 5.25 115 i P Pn 07 04 59.5 +4.0
GZR Gura Zlata 6.81 354 i P Pn 07 05 20.1 +3.1
TIRR Tirgusor 6.81 30 i P Pn 07 05 18.3 +1.4
VOIR 6.89 8 i P Pn 07 05 18.1 0.0
MLR Muntele Rosu 7.07 13 Pn Pn 07 05 21.4 +0.9
0.1nm,0.3s,baz=167,slow=11,SNR=5.9
MLR Muntele Rosu 7.07 13 i P Pn 07 05 21.4 +0.9
BZS Buzias 7.17 348 i P Pn 07 05 21.0 -0.9
DOPR Dopca 7.45 9 i P Pn 07 05 27.0 +1.3
PLOR Plostina 7.55 16 i P Pn 07 05 28.2 +1.1
VRI Vrincioaia 7.58 16 i P Pn 07 05 29.0 +1.5
BRTR Keskin Array B 7.78 79 Pn Pn 07 05 32.2 +1.8
0.3nm,0.3s,baz=252,slow=11,SNR=4.8
BURAR Bucovina Array 9.06 6 i P Pn 07 05 49.5 +1.6
OKC Ostrava-Krasne 11.91 342 AMS AMS 07 12 00.0
comp=Z,200nm,11.8s
EIL Elat 12.87 131 LR LR 07 12 10.2
comp=Z,16nm,20.0s,baz=75,slow=40
PRU Pruhonice 13.13 333 AMS AMS 07 12 40.0
comp=Z,100nm,9.9s
NKC Novy Kostel 14.12 329 AMS AMS 07 13 00.0
comp=Z,100nm,12.5s
ESDC Sonseca Array 21.48 282 P P 07 08 25.5 -0.1
1.2nm,0.6s,baz=76,slow=11,SNR=7.0
HFS Hagfors 22.46 347 P P 07 08 35.0 -1.0
0.9nm,0.6s,baz=115,slow=10,SNR=4.4
FINES FINESS Array B 22.90 3 LR LR 07 18 49.4
comp=Z,27nm,18.9s,baz=205,slow=40
MDT Midelt 23.68 265 P P 07 08 50.1 +1.3
2.2nm,0.8s,baz=61,slow=8.1,SNR=5.2
EKA Eskdalemuir Ar 24.59 322 P P 07 08 56.8 -0.2
0.8nm,0.5s,baz=131,slow=9.7,SNR=2.8
TORD Torodi Ar. Bea 32.02 224 P P 07 10 03.1 -0.5
1.3nm,0.6s,baz=33,slow=9.2,SNR=16
BVAR Borovoye Array 34.91 50 LR LR 07 27 06.9
comp=Z,62nm,20.2s,baz=253,slow=40
SPITS Spitsbergen Ar 39.80 358 LR LR 07 28 03.3
comp=Z,26nm,18.6s,baz=305,slow=37
MKAR Makanchi Array 42.92 59 P P 07 11 36.4 +0.7
0.5nm,0.7s,baz=284,slow=12,SNR=4.3
SONM Songino Array 58.22 52 P P 07 13 32.0 +0.7
1.1nm,0.5s,baz=282,slow=7.1,SNR=3.2
SCHQ Schefferville 59.84 318 P P 07 13 41.9 -0.4
1.0nm,0.5s,baz=45,slow=8.6,SNR=3.9
YKA Yellowknife Ar 73.82 341 P P 07 15 10.6 -0.5
0.3nm,0.8s,baz=33,slow=4.8,SNR=5.9

SZGRF ***11*** *07:16:55.6, 36.76N×72.67E, h33km, mb4.8, Afghanistan-Tajikistan border region*
ISCJB ***11*** *07:17:06.3±0.3, 37.39N±0.02×72.01E±0.03, h111km±3km, mb4.5/99, Error ellipse: s-maj=3.9km s-min=3.0km az=142.1*
MOS ***11*** *07:17:08.3±0.9, 37.51N×71.96E, h127km, mb4.7/50, Error ellipse: s-maj=7.0km s-min=4.1km az=115.2*
BJI ***11*** *07:17:08.1, 37.44N×72.00E, h125km, mb4.6/22, mB4.4/10*
NEIC ***11*** *07:17:09.3±0.6, 37.52N×71.98E, h122km±5km, mb4.5/16, Error ellipse: s-maj=5.6km s-min=4.7km az=178.0*
IDC ***11*** *07:17:10.6±0.6, 37.53N×72.05E, h135km±4km, mb4.0/24, mb1 4.1/28, mb1mx4.0/34, mbtmp4.4/28, MS2.9/6, Ms1 2.9/6, ms1mx2.5/37, Error ellipse: s-maj=12.6km s-min=9.9km az=180.0*
NNC ***11*** *07:17:12.7±2.9, 38.13N×71.64E, h0km, mb4.8, mpv4.4, Error ellipse: s-maj=29.2km s-min=8.5km az=161.0*
ISC 11 07:17:10.1±0.3, 37.50N±0.03×72.06E±0.03, h130km±2km, h130km:pP-P, n371, o1926/408, mb4.5/98, 50C-20D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SFK	Sufi-Kurgan	2.75	24	⇑P		Pn	07 17 54.1	+0.3
	66nm,0.4s							
SFK				⇑S		Sn	07 18 26.8	-0.6
	280nm,0.2s							
SFK	Sufi-Kurgan	2.75	24	PN		Pn	07 17 54.0	+0.3
SFK				S		Sn	07 18 26.9	-0.5
SFK				pmax	pmax			
	comp=Z,66nm,0.4s							
SFK				smax	smax			
	comp=N,432nm,0.2s							
DZET	Dzherino	2.86	298	⇑P		Pn	07 17 51.6	-3.4
	comp=N,104nm,0.6s							
DZET				⇓S		Sn	07 18 23.6	-6.1
	comp=N,2μm,0.4s							
DZET	Dzherino	2.86	298	PN		Pn	07 17 51.6	-3.4
DZET				pmax	pmax			
	comp=Z,100nm,0.7s							
CEP	Cherat	3.67	182	⇑P		Pn	07 18 05.1	-0.5
CEP				S		Sn	07 18 48.0	-0.6
KSH	Kashi	3.67	56	P		Pn	07 18 02.5	-3.1
KSH				S		Sn	07 18 40.2	-8.4
KSH				SMN				
	comp=Z,18μm,0.6s							
KSH				SME				
	comp=Z,9μm,0.9s							
KBL	Kabul	3.83	221	ePN		Pn	07 18 07.0	-0.9
KBL				e			07 18 50.8	
KBL	Kabul	3.83	221	ePn		Pn	07 18 07.0	-0.9
KBL				eSn		Sn	07 18 50.8	-1.7
CHCP	Chirah Chowk	3.96	165	⇑P		Pn	07 18 09.5	+0.2
THW	Thamme Wali	4.70	183	⇑P		Pn	07 18 17.7	-1.5
AML	Almayashu	4.80	15	P		Pn	07 18 20.2	-0.5
	SNR=154							
UCH	Uchtor	5.09	21	P		Pn	07 18 24.4	-0.3
	SNR=46							
KZA	Kyzart	5.19	27	P		Pn	07 18 25.6	-0.5
	SNR=29							
EKS2	Erkin-Say	5.32	14	P		Pn	07 18 27.4	-0.2
	SNR=60							
EKS2	Erkin-Say	5.32	14	ePN		Pn	07 18 27.4	-0.2
EKS2	Erkin-Say	5.32	14	ePn		Pn	07 18 27.4	-0.2
EKS2				eSn		Sn	07 19 24.1	-3.8
AAK	Ala-Archa	5.46	19	P		Pn	07 18 29.6	+0.2
	SNR=93							
AAK	Ala-Archa	5.46	19	⇑P		Pn	07 18 29.4	0.0
	comp=Z,35nm,0.5s							
AAK				⇑S		Sn	07 19 28.9	-2.4
	comp=Z,260nm,0.9s							
AAK	Ala-Archa	5.46	19	P		Pn	07 18 29.5	0.0
	comp=Z,20nm,0.3s,baz=184,slow=11,SNR=171							
AAK				S		Sn	07 19 29.2	-2.1
	comp=Z,9.2nm,0.3s,baz=202,slow=2.7,SNR=4.0							
AAK				LR		LR	07 20 13.6	
	comp=Z,31nm,20.0s,baz=209,slow=34							
AAK	Ala-Archa	5.46	19	ePn		Pn	07 18 29.4	0.0
AAK				eSn		Sn	07 19 28.9	-2.4
KBK	Karagaybulak	5.61	22	P		Pn	07 18 31.9	+0.4
	SNR=11							
FRU	Bishkek	5.68	19	⇑i	PN	Pn	07 18 32.0	-0.3
FRU				i			07 19 46.0	
FRU				pmax	pmax			
	comp=Z,100nm,2.0s							
FRU				pmax	pmax			
	comp=E,300nm,2.1s							
KK31	Karatay Array	5.72	349	P		Pn	07 18 31.4	-1.4
	comp=E,80nm,0.4s,baz=172,slow=12,SNR=755							
KK31				⇑S		Sn	07 19 27.7	-10
	comp=E,56nm,0.2s,baz=175,slow=24,SNR=11							
KK31	Karatay Array	5.72	349	i	PN	Pn	07 18 31.4	-1.4
KK31				pmax	pmax			
	comp=Z,147nm,0.4s							
KKAR	Karatay Array	5.72	349	ePN		Pn	07 18 31.4	-1.4
KKAR	Karatay Array	5.72	349	ePn		Pn	07 18 31.4	-1.4
KKAR				eSn		Sn	07 19 31.5	-5.9
ULHL	Ulahol	5.73	33	P		Pn	07 18 33.5	+0.4
	SNR=12							
CHMS	Chumysh	5.87	20	P		Pn	07 18 34.6	-0.2
	SNR=32							
TKM2	Tokmak 2	6.05	25	P		Pn	07 18 37.3	-0.3
	SNR=47							
TKM2	Tokmak 2	6.05	25	⇓P		Pn	07 18 36.9	-0.6
	comp=Z,20nm,0.7s							
TKM2				⇑S		Sn	07 19 43.2	-2.5
	comp=Z,46nm,0.8s							
TKM2	Tokmak 2	6.05	25	ePN		Pn	07 18 37.2	-0.3
TKM2	Tokmak 2	6.05	25	ePn		Pn	07 18 37.2	-0.3
USP	Ospenovka	6.06	17	P		Pn	07 18 37.0	-0.4
	SNR=6.0							
DHRM	DHARAMSHALA	6.29	145	eP		Pn	07 18 38.7	-2.1
DHRM				eS		Sn	07 19 45.9	-5.5
DHRM				AML	AML		07 19 48.3	
	comp=N,2μm,0.5s							
DHRM				AML	AML		07 19 48.3	
	comp=E,2μm,0.4s							
SMLA	Simla	7.63	145	eP		Pn	07 18 56.3	-2.2
SMLA				eS		Sn	07 20 14.5	-8.9
SMLA				AML	AML		07 20 18.9	
	comp=N,669nm,0.4s							
SMLA				AML	AML		07 20 21.4	
	comp=E,1μm,0.4s							
PDGK	Podgornoye	8.12	42	⇑P		Pn	07 19 04.4	-0.7
	comp=E,12nm,0.7s							
KKR	Kurukshetra	8.50	151	eP		Pn	07 19 05.5	-4.7
IMYA	Miami	9.65	267	eP		Pn	07 19 19.6	-6.2
BHGR	Bahadurgarh	9.69	154	eP		Pn	07 19 20.6	-5.6
KHET	Khetri	9.91	160	eP		Pn	07 19 24.7	-4.6
KHET				eS		Sn	07 21 07.6	-11
KHET				AML	AML		07 21 13.3	
	comp=E,276nm,0.3s							
KHET				AML	AML		07 21 13.6	
	comp=N,305nm,0.2s							
AYAN	Aya Nagar	9.94	153	eP		Pn	07 19 23.8	-5.9
KUDL	Kundal	10.04	157	eP		Pn	07 19 26.6	-4.4
KUDL				eS		Sn	07 21 10.1	-12
KUDL				AML	AML		07 21 17.7	
	comp=E,58nm,0.6s							
KUDL				AML	AML		07 21 18.2	
	comp=N,28nm,0.3s							
SONA	Sohna	10.14	154	eP		Pn	07 19 27.0	-5.3
SONA				eS		Sn	07 21 12.8	-12
SONA				AML	AML		07 21 18.1	
	comp=E,134nm,0.4s							
SONA				AML	AML		07 21 20.1	
	comp=N,78nm,0.4s							
ISRO	Mashad	10.15	267	eP		Pn	07 19 27.4	-5.1
IMOG	Moghan	10.29	266	eP		Pn	07 19 28.1	-6.6
IPAY	Payeh	10.51	268	eP		Pn	07 19 31.9	-5.5
GEYT	Alibeck	11.05	276	P		Pn	07 19 38.6	-5.9
	comp=N,5.7nm,0.3s,baz=81,slow=6.9,SNR=21							
GEYT				S		Sn	07 21 36.5	-10
	comp=N,13nm,0.3s,baz=123,slow=16,SNR=14							
AGRA	Agra	11.38	152	eP		Pn	07 19 44.8	-4.0
AGRA				eS		Sn	07 21 42.4	-12
AGRA				AML	AML		07 21 48.7	
	comp=E,152nm,0.4s							
AGRA				AML	AML		07 21 50.3	
	comp=N,124nm,0.4s							
MK31	Makanchi Array	11.99	36	⇑P		Pn	07 19 54.9	-1.9
	comp=N,4.6nm,0.8s,baz=224,slow=15,SNR=9.8							
MK31	Makanchi Array	11.99	36	P		Pn	07 19 54.8	-1.9
MK31	Makanchi Array	11.99	36	ePn		Pn	07 19 55.5	-1.2
MKAR	Makanchi Array	11.99	36	P		Pn	07 19 55.9	-0.8
	comp=N,0.2nm,0.3s,baz=238,slow=18,SNR=10							
MKAR	Makanchi Array	11.99	36	eP		Pn	07 19 56.7	0.0
MKAR	Makanchi Array	11.99	36	ePn		Pn	07 19 56.7	0.0
WMQ	Urumqi	13.44	57	eP		Pn	07 20 16.4	+0.8
WMQ				sP			07 20 50.4	
WMQ				S		Sn	07 22 43.8	0.0
WMQ				PcP		PcP	07 25 34.9	+2.1
WMQ				PcS		PcS	07 29 08.3	+0.9
WMQ				ScS		ScS	07 32 32.2	+1.4
WMQ				PMZ				
	comp=N,9.0nm,0.6s							
WMQ				PMZ				
	comp=N,92nm,4.6s							
WMQ				LN				
	comp=N,76nm,22.8s							
WMQ				LE				
	comp=N,170nm,23.4s							
WMQ				LZ				
	comp=N,29nm,22.2s							
KOLN	Koldanda	13.72	132	eP		Pn	07 20 15.5	-4.0
	comp=N,52nm,0.5s							
KURBB	Kurchatov Arra	13.91	17	⇑P		P	07 20 24.0	-1.4
	comp=N,7.5nm,0.9s							
KURK	Kurchatov	14.02	17	⇑P		Pn	07 20 24.4	+1.5
	comp=N,5.1nm,1.2s							
KURK	Kurchatov	14.02	17	eP		Pn	07 20 24.3	+1.4
KURK	Kurchatov	14.02	17	ePn		Pn	07 20 24.3	+1.4
GKN	Gorkha	14.19	128	eP		Pn	07 20 21.4	-3.9
	comp=N,253nm,0.9s							
AB31	Akbulak array	14.66	327	P		Pn	07 20 27.3	-3.7
	comp=N,10nm,0.5s,baz=125,slow=11,SNR=193							
AB31				⇓S		Sn	07 22 57.6	-16
	comp=N,37nm,0.5s,baz=133,slow=21,SNR=22							
ABKAR	Akbulak array	14.66	327	ePn		Pn	07 20 27.1	-3.9
	comp=N,23nm,0.6s							
KKN	Kakani	14.74	127	eP		Pn	07 20 28.2	-4.2
	comp=N,53nm,0.5s							
DMN	Daman	14.76	128	eP		Pn	07 20 28.3	-4.4
	comp=N,125nm,0.9s							
IBAF	Bafgh	14.81	251	eP		Pn	07 20 31.5	-1.7
PKIN	Phulchoki	14.96	128	eP		Pn	07 20 31.0	-4.2
	comp=N,43nm,0.5s							
PKI	Pulchoki	14.97	128	eP		Pn	07 20 31.2	-4.2
	comp=N,65nm,0.6s							
GUN	Gumba	15.04	125	eP		Pn	07 20 32.1	-4.2
	comp=N,151nm,0.9s							
JIRN	Jiri	15.41	125	eP		Pn	07 20 36.6	-4.3
	comp=N,84nm,0.5s							
BVA0	Borovoye Array	15.57	356	⇓P		Pn	07 20 40.4	-2.0
	comp=N,3.3nm,0.4s,baz=169,slow=14,SNR=33							
BVA0				⇑S		Sn	07 23 26.6	-8.3
	comp=N,11nm,0.9s							
BVA0	Borovoye Array	15.57	356	i P		Pn	07 20 40.3	-2.0
BVA0				S		Sn	07 23 24.7	-10
BVA0				pmax	pmax			
	comp=Z,6.0nm,0.3s							
BVA0				smax	smax			
	comp=N,12nm,0.9s							
BVAR	Borovoye Array	15.57	356	P		Pn	07 20 39.6	-2.7
	comp=N,1.9nm,0.3s,baz=164,slow=12,SNR=23							
BVAR	Borovoye Array	15.57	356	P		Pn	07 20 39.6	-2.7
BVAR				pmax	pmax			
	comp=Z,2.0nm,0.3s							
BRVK	Borovoye	15.61	356	⇑P		Pn	07 20 40.7	-2.1
	comp=Z,32nm,0.9s							
BRVK				⇓S		Sn	07 23 29.9	-5.9
	comp=Z,20nm,1.0s							
BRVK	Borovoye	15.61	356	P		Pn	07 20 40.7	-2.1
BRVK				S		Sn	07 23 24.5	-11
BRVK				pmax	pmax			
	comp=Z,21nm,0.6s							
BRVK				smax	smax			
	comp=N,20nm,0.8s							
BRVK	Borovoye	15.61	356	eP		Pn	07 20 40.7	-2.1
	comp=N,19nm,0.9s							
RAMN	Ramite	16.17	126	eP		Pn	07 20 45.8	-4.3
	comp=N,101nm,0.8s							
AKTO	Aktyubinsk	16.38	327	⇑P		Pn	07 20 50.1	-2.2
	comp=N,50nm,0.7s							
AKTO				⇓S		Sn	07 23 45.2	-9.2
	comp=N,25nm,0.7s							
AKTO	Aktyubinsk	16.38	327	P		Pn	07 20 50.6	-1.6
	comp=N,5.1nm,0.3s,baz=126,slow=13,SNR=38							
AKTO				LR		LR	07 27 00.2	
	comp=N,30nm,19.7s,baz=160,slow=36							
AKTO	Aktyubinsk	16.38	327	P		Pn	07 20 50.6	-1.6
AKTO				pmax	pmax			
	comp=Z,5.0nm,0.3s							
AKTO				MLR	MLR			
	comp=Z,30nm,19.7s							
TAPN	Taplejung	16.62	123	eP		Pn	07 20 51.6	-4.1
	comp=Z,53nm,0.7s							
ODAN	Odare	16.74	125	eP		Pn	07 20 54.0	-3.1
	comp=Z,47nm,0.6s							
BANOM	Banah	17.66	234	⇓i	P	P	07 21 05.3	-1.8
	SNR=8.9							
LSA	Lhasa	17.68	110	P		Pn	07 21 08.4	-0.3
LSA	Lhasa	17.68	110	eP		Pn	07 21 09.5	+0.8
LSA				pmax	pmax			
	comp=Z,20nm,0.9s							
LSA	Lhasa	17.68	110	eP		Pn	07 21 09.5	+0.8
	comp=Z,20nm,0.9s							
HATD	Hatta, Dubai	18.55	232	⇑P		P	07 21 15.6	-1.2
ZAA0	Zalesovo Array	18.66	24	eP		P	07 21 17.2	-0.5
ZALV	Zalesovo Beam	18.66	24	P		P	07 21 17.5	-0.2
	comp=Z,0.8nm,0.3s,baz=225,slow=11,SNR=24							
ZALV	Zalesovo Beam	18.66	24	P		P	07 21 17.5	-0.2
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ASHO	Ashiyiah	18.70	231	⇑i	P	P	07 21 17.4	-1.1
	SNR=21							
NVS	Novosibirsk	18.95	20	eP		P	07 21 19.5	-1.4
ASUD	Al Ashush, Dub	19.20	233	⇓P		P	07 21 23.0	-0.8
RPR	Rampur	19.62	159	eP		P	07 21 29.6	+1.2
RPR				e			07 24 59.0	
RPR				eS		S	07 25 04.6	+1.8
SVE	Sverdlovsk	20.79	342	⇓eP		P	07 21 40.5	-0.1
SVE				eS		S	07 25 28.9	+3.7
SVE				pmax	pmax			
	comp=Z,24nm,1.0s							
HYBB	Hyderabad (bro	20.80	162	eP		P	07 21 41.1	-0.1
HYBB				eS		S	07 25 27.2	+1.0
HYB	Hyderabad	20.80	162	i P		P	07 21 39.0	-2.2
HYB	Hyderabad	20.80	162	eP		P	07 21 40.0	-1.2
HYB	Hyderabad	20.80	162	eP		P	07 21 40.0	-1.2
ARU	Arti	20.99	339	d i P		P	07 21 42.1	-0.7
ARU				S		S	07 25 30.6	+1.5
ARU				SS		SS	07 26 06.6	
ARU				pmax	pmax			
	comp=Z,44nm,1.2s							
ARU	Arti	20.99	339	eP		P

NJS	**Nagarjunasagar**	**21.82**	**161**	*e*P		**P**	**07 21 52.1**	**+0.1**
NJS				*ep*P		**pP**	**07 22 17.1**	**+1.2**
ZEI	**Tsey**	**22.11**	**293**	*e*P		**P**	**07 21 53.7**	**-1.4**
ZEI				pmax	pmax			
comp=Z,13nm,1.1s								
NCK	**Nalchik**	**22.40**	**294**	⇑*i*P		**P**	**07 21 58.0**	**+0.3**
KBZ	**Khabaz**	**22.92**	**295**	P		**P**	**07 22 01.5**	**-1.2**
comp=Z,4.6nm,0.8s,baz=236,slow=24,SNR=12								
KBZ				pP		**pP**	**07 22 30.1**	**+2.5**
comp=Z,9.9nm,0.8s,baz=235,slow=23,SNR=7.0								
KBZ	**Khabaz**	**22.92**	**295**	P		**P**	**07 22 01.5**	**-1.2**
KBZ				*PP		**pP**	**07 22 30.1**	**+2.5**
KBZ				pmax	pmax			
comp=Z,5.0nm,0.8s								
KBZ				pmax	pmax			
comp=Z,10.0nm,0.8s								
URV	**Uravakonda**	**22.93**	**167**	*e*P		**P**	**07 22 01.7**	**-1.3**
NEY	**Neytrino**	**23.01**	**294**	*i* P		**P**	**07 22 04.7**	**+0.9**
NEY				pmax	pmax			
comp=Z,11nm,2.5s								
KIV	**Kislovodsk**	**23.10**	**295**	*e*P		**P**	**07 22 06.4**	**+1.9**
KIV				*e**PP		**pP**	**07 22 31.9**	**+2.2**
KIV				*e**SP		**sP**	**07 22 48.1**	**+2.3**
KIV				*e*			07 25 49.3	
KIV				*e*S		**S**	**07 26 09.1**	**+3.5**
KIV				pmax	pmax			
comp=Z,11nm,0.8s								
KIV				MLR	MLR			
comp=Z,20nm,14.0s								
SOKR	**Solikamsk**	**24.20**	**341**	*e*P		**P**	**07 22 14.7**	**+0.6**
SOKR				pmax	pmax			
comp=Z,10.0nm,0.8s								
SKHT	**Srikalahasti**	**24.62**	**162**	*e*P		**P**	**07 22 17.4**	**-1.0**
SKHT				*ep*P		**pP**	**07 22 46.7**	**+0.9**
ZAK	**Zakamensk**	**25.70**	**50**	*e*P		**P**	**07 22 28.1**	**+0.1**
ZAK				*e*			07 22 58.7	
ZAK				pmax	pmax			
comp=Z,3.0nm,1.2s								
RAYN	**Ar Rayn**	**26.68**	**246**	*e*P		**P**	**07 22 35.8**	**-1.2**
comp=Z,4.6nm,0.5s								
VORD	**Divnogorie**	**26.81**	**311**	*e*P		**P**	**07 22 37.1**	**-0.8**
VORD				pmax	pmax			
comp=Z,10.0nm,1.0s								
VORD				pmax	pmax			
comp=N,10.0nm,0.8s								
VORD				pmax	pmax			
comp=E,20nm,1.3s								
ANN	**Anapa**	**26.92**	**297**	*e*P		**P**	**07 22 38.1**	**-0.8**
ANN				pmax	pmax			
comp=Z,15nm,0.9s								
CD2	**Chengdu**	**26.94**	**95**	*e*P		**P**	**07 22 40.7**	**+1.4**
CD2				PMZ				
comp=Z,10.0nm,0.6s								
VSR	**Storozhevoye**	**26.96**	**311**	*e*P		**P**	**07 22 38.8**	**-0.4**
VSR				pmax	pmax			
comp=Z,7.0nm,0.5s								
VSR				pmax	pmax			
comp=N,20nm,0.9s								
VSR				pmax	pmax			
comp=E,10.0nm,0.6s								
SONM	**Songino Array**	**27.07**	**57**	P		**P**	**07 22 43.3**	**+2.8**
comp=E,2.0nm,0.6s,baz=267,slow=8.6,SNR=4.1								
SONM	**Songino Array**	**27.07**	**57**	P		**P**	**07 22 43.3**	**+2.8**
SONM				pmax	pmax			
comp=Z,2.0nm,0.6s								
LPSR	**Galich'ya Gora**	**27.55**	**314**	*e*P		**P**	**07 22 42.9**	**-1.6**
LPSR				pmax	pmax			
comp=Z,7.0nm,0.9s								
LPSR				pmax	pmax			
comp=N,3.0nm,1.6s								
LPSR				pmax	pmax			
comp=E,2.0nm,0.4s								
OBN	**Obninsk**	**29.75**	**318**	P		**P**	**07 23 03.5**	**-0.4**
comp=E,12nm,0.4s,baz=35,slow=10,SNR=3.5								
OBN	**Obninsk**	**29.75**	**318**	*d* P		**P**	**07 23 03.4**	**-0.5**
OBN				*i* *PP		**pP**	**07 23 28.7**	**-3.3**
OBN				*e*			07 24 02.9	
OBN				*e*S		S	07 27 42.5	-7.8
OBN				pmax	pmax			
comp=Z,8.0nm,0.4s								
BR131	**Keskin Array S**	**29.95**	**286**	*e*P		**P**	**07 23 06.4**	**+0.3**
comp=Z,5.3nm,0.5s								
BRTR	**Keskin Array B**	**29.95**	**286**	P		**P**	**07 23 06.1**	**0.0**
comp=Z,5.3nm,0.5s,baz=103,slow=8.2,SNR=36								
BRTR				pP		**pP**	**07 23 35.8**	**+1.6**
comp=Z,0.8nm,0.6s,baz=88,slow=6.4,SNR=1.6								
BRTR	**Keskin Array B**	**29.95**	**286**	P		**P**	**07 23 06.1**	**0.0**
BRTR				*PP		**pP**	**07 23 35.8**	**+1.6**
BRTR				pmax	pmax			
comp=Z,5.0nm,0.5s								
BRTR				pmax	pmax			
comp=Z,1.0nm,0.6s								
CMAR	**Chiang Mai Arr**	**30.22**	**121**	P		**P**	**07 23 08.7**	**+0.3**
comp=Z,0.6nm,0.3s,baz=304,slow=9.6,SNR=3.5								
CMAR	**Chiang Mai Arr**	**30.22**	**121**	*ce*P		P	07 23 14.6	+6.2
CMAR				pmax	pmax			
comp=Z,1.0nm,0.4s								
HHC	**Hu-ho-hao-te**	**30.63**	**71**	*e*P		**P**	**07 23 13.2**	**+1.2**
HHC				PP		**PnPn**	**07 24 18.4**	**+1.2**
HHC				S		**S**	**07 28 04.7**	**0.0**
HHC				sS		**sS**	**07 28 52.6**	**-1.3**
HHC				SS		**SnSn**	**07 29 55.7**	**-1.6**
HHC				PMZ				
comp=Z,16nm,0.7s								
HHC				PMZ				
comp=Z,40nm,7.4s								
KLMR	**Klimovskoe**	**31.04**	**329**	*e*P		**P**	**07 23 14.9**	**-0.3**
KLMR				pmax	pmax			
comp=Z,9.0nm,0.9s								
GYA	**Guiyang**	**31.19**	**101**	*e*P		**P**	**07 23 19.4**	**+2.3**
GYA				pP		**pP**	**07 23 46.6**	**+1.4**
GYA				sP		**sP**	**07 24 01.0**	**+0.8**
GYA				PcP		**PcP**	**07 26 10.2**	**+1.4**
GYA				S		**S**	**07 28 11.4**	**-2.3**
GYA				sS		**sS**	**07 29 02.1**	**-0.9**
GYA				ScP		**ScP**	**07 29 40.6**	**+1.0**
GYA				ScS		**ScS**	**07 33 37.3**	**-0.1**
GYA				PMZ				
comp=Z,10.0nm,0.8s								
GYA				PMZ				
comp=Z,90nm,4.7s								
EIL	**Elat**	**31.73**	**267**	P		**P**	**07 23 21.8**	**+0.2**
comp=Z,11nm,1.0s,baz=72,slow=9.6,SNR=4.6								
AKASG	**Malin Array Be**	**33.00**	**307**	P		**P**	**07 23 31.8**	**-0.6**
comp=Z,9.7nm,0.7s,baz=81,slow=7.3,SNR=37								
AKASG				pP		**pP**	**07 24 00.8**	**+0.1**
comp=Z,0.6nm,0.5s,baz=101,slow=9.5,SNR=1.4								
AKASG	**Malin Array Be**	**33.00**	**307**	P		**P**	**07 23 31.8**	**-0.6**
AKASG				*PP		**pP**	**07 24 00.8**	**+0.1**
AKASG				pmax	pmax			
comp=Z,10.0nm,0.7s								
AKASG				pmax	pmax			
comp=Z,1.0nm,0.5s								
AKBB	**Malin Array Si**	**33.00**	**307**	*e*P		**P**	**07 23 31.7**	**-0.7**
AKBB	**Malin Array Si**	**33.00**	**307**	*e*P		**P**	**07 23 31.7**	**-0.7**
AK01	**Malin Array Si**	**33.00**	**307**	*e*P		**P**	**07 23 32.0**	**-0.5**
AK02	**Malin Array Si**	**33.00**	**307**	*e*P		**P**	**07 23 32.1**	**-0.4**
KIEV	**Kiev**	**33.01**	**307**	*c* *i*P		**P**	**07 23 32.1**	**-0.4**
KIEV				*i* *PP		**pP**	**07 24 01.2**	**+0.4**
KIEV	**Kiev**	**33.01**	**307**	*e*P		**P**	**07 23 31.9**	**-0.7**
comp=Z,17nm,0.9s								
CFR	**Carcaliu**	**33.52**	**297**	⇑*i*P		**P**	**07 23 37.5**	**+0.5**
MSAB	**Monastry St. A**	**33.81**	**295**	⇑*i*P		**P**	**07 23 40.5**	**+1.0**
BJI	**Beijing**	**34.23**	**72**	P		**P**	**07 23 44.0**	**+0.8**
BJI				PMZ				
comp=Z,13nm,0.7s								
VRI	**Vrincioaia**	**34.48**	**299**	⇑*i*P		**P**	**07 23 46.5**	**+1.1**
TESR	**Tescani**	**34.51**	**300**	⇑*i*P		**P**	**07 23 46.5**	**+0.9**
PLOR	**Plostina**	**34.54**	**299**	⇑*i*P		**P**	**07 23 47.5**	**+1.6**
MLR	**Muntele Rosu**	**35.05**	**298**	⇓*i*P		**P**	**07 23 51.9**	**+1.5**
DOPR	**Dopca**	**35.41**	**299**	⇑*i*P		**P**	**07 23 54.6**	**+1.2**
BURAR	**Bucovina Array**	**35.47**	**302**	⇑*i*P		**P**	**07 23 54.8**	**+0.9**
BUR08	**Bucovina Ar. S**	**35.48**	**302**	*e*P		**P**	**07 23 54.5**	**+0.4**
VOIR		**35.68**	**298**	⇑*i*P		**P**	**07 23 56.6**	**+0.9**
VSU	**Vasula**	**35.94**	**320**	⇑*e*P		**P**	**07 23 57.6**	**-0.1**
VSU				*i* *PP		**pP**	**07 24 27.1**	**+0.8**
VSU				pmax	pmax			
comp=Z,34nm,0.8s								
ARR	**Arges**	**35.98**	**298**	⇑*i*P		**P**	**07 23 57.9**	**-0.4**
APE	**Apeiranthos**	**36.73**	**284**	⇓*i*P		**P**	**07 24 04.9**	**+0.2**
KWP	**Kalwaria Pacla**	**37.12**	**305**	⇑*i*P		**P**	**07 24 05.3**	**-2.5**
FINES	**FINESS Array B**	**37.14**	**325**	P		**P**	**07 24 07.6**	**-0.2**
comp=Z,7.9nm,0.3s,baz=124,slow=10,SNR=75								
FINES				LR		LR	07 40 32.7	
comp=Z,30nm,18.5s,baz=344,slow=38								
FINES	**FINESS Array B**	**37.14**	**325**	P		**P**	**07 24 07.6**	**-0.2**
FINES				pmax	pmax			
comp=Z,8.0nm,0.3s								
FINES				MLR	MLR			
comp=Z,30nm,18.5s								
DRGR		**37.21**	**300**	⇓*i*P		**P**	**07 24 09.8**	**+1.1**
TRPA	**Tarpa**	**37.26**	**303**	⇑*i*P		**P**	**07 24 10.6**	**+1.6**
GZR	**Gura Zlata**	**37.28**	**298**	⇑*i*P		**P**	**07 24 09.9**	**+0.6**
QIZ	**Qiongzhong**	**37.71**	**109**	P		**P**	**07 24 14.4**	**+1.3**
QIZ				sP		**sP**	**07 24 55.6**	**-1.2**
QIZ				S		**S**	**07 29 53.9**	**+0.1**
IDI	**Anoyia**	**37.73**	**281**	P		**P**	**07 24 13.0**	**-0.2**
comp=Z,5.3nm,0.3s,baz=90,slow=11,SNR=5.8								
SIRR	**Siria**	**37.98**	**300**	⇓*i*P		**P**	**07 24 16.6**	**+1.5**
STHS	**Stebnicka Huta**	**38.07**	**305**	*e*P		**P**	**07 24 15.7**	**-0.2**
STHS				pmax	pmax			
comp=Z,5.0nm,0.7s								
STHS	**Stebnicka Huta**	**38.07**	**305**	*e*P		**P**	**07 24 15.7**	**-0.2**
NJ2	**Nanjing**	**38.51**	**84**	*e*P		**P**	**07 24 21.5**	**+1.8**
NJ2				PMZ				
comp=Z,20nm,0.7s								
NIE	**Niedzica**	**38.68**	**305**	*e*P		**P**	**07 24 21.8**	**+0.8**
NIE	**Niedzica**	**38.68**	**305**	*e*P		**P**	**07 24 21.8**	**+0.8**
OJC	**Ojcow**	**38.99**	**306**	*e*P		**P**	**07 24 23.5**	**0.0**
OJC	**Ojcow**	**38.99**	**306**	*e*P		**P**	**07 24 23.5**	**0.0**
PSZ	**Piszkesteto**	**39.04**	**302**	*e*P		**P**	**07 24 24.8**	**+0.8**
PSZ				pmax	pmax			
comp=Z,3.0nm,0.6s								
PSZ	**Piszkesteto**	**39.04**	**302**	⇑*i*P		**P**	**07 24 25.3**	**+1.3**
PSZ	**Piszkesteto**	**39.04**	**302**	*e*P		**P**	**07 24 24.8**	**+0.8**
comp=Z,2.9nm,0.6s								
LANS	**Liptovska Anna**	**39.25**	**304**	*e*P		P	07 24 21.3	-4.4
DIVS	**Divibare**	**39.41**	**296**	⇑*i*P		**P**	**07 24 27.1**	**-0.1**
VYHS	**Vyhne**	**39.70**	**303**	*e*P		**P**	**07 24 29.6**	**+0.1**
VYHS				pmax	pmax			
comp=Z,4.0nm,1.4s								
VYHS	**Vyhne**	**39.70**	**303**	*e*P		**P**	**07 24 29.5**	**+0.1**
PKSM	**Moragy**	**40.06**	**300**	⇓*i*P		**P**	**07 24 33.0**	**+0.6**
ARCES	**ARCESS Array B**	**40.55**	**337**	P		**P**	**07 24 36.3**	**+0.1**
comp=Z,7.0nm,0.5s,baz=111,slow=8.3,SNR=70								
ARCES				pP		**pP**	**07 25 04.6**	**-0.6**
comp=Z,2.1nm,0.8s,baz=124,slow=8.8,SNR=1.9								
ARCES				LR		LR	07 40 43.2	
comp=Z,22nm,18.4s,baz=56,slow=35								
ARCES	**ARCESS Array B**	**40.55**	**337**	P		**P**	**07 24 36.3**	**+0.1**
ARCES				*PP		**pP**	**07 25 04.6**	**-0.6**
ARCES				pmax	pmax			
comp=Z,7.0nm,0.5s								
ARCES				pmax	pmax			
comp=Z,2.0nm,0.8s								
ARCES				MLR	MLR			
comp=Z,22nm,18.4s								
ARE0	**ARCESS Array S**	**40.55**	**337**	*e*P		**P**	**07 24 36.3**	**+0.1**
KRLC	**Kraliky**	**40.94**	**306**	*e*P		**P**	**07 24 39.7**	**+0.1**
KRLC	**Kraliky**	**40.94**	**306**	*e*P		**P**	**07 24 39.7**	**+0.1**
VRAC	**Vranov**	**41.12**	**305**	⇑*i*P		**P**	**07 24 41.7**	**+0.7**
DPC	**Dobruska-Polom**	**41.21**	**307**	*e*P		**P**	**07 24 42.6**	**+0.8**
DPC	**Dobruska-Polom**	**41.21**	**307**	*e*P		**P**	**07 24 42.6**	**+0.8**
UPC	**Upice**	**41.40**	**307**	*e*P		**P**	**07 24 43.8**	**+0.5**
UPC	**Upice**	**41.40**	**307**	*e*P		**P**	**07 24 43.8**	**+0.5**
CONA	**Conrad Observa**	**41.74**	**303**	⇑*i*P		**P**	**07 24 46.6**	**+0.4**
comp=Z,14nm,0.7s,SNR=8.7								
TREC	**Trest**	**41.84**	**305**	*e*P		**P**	**07 24 47.7**	**+0.8**
TREC	**Trest**	**41.84**	**305**	*e*P		**P**	**07 24 47.7**	**+0.8**
BSD	**Bornholm Skovb**	**41.92**	**314**	*i* P		**P**	**07 24 46.2**	**-1.3**
comp=Z,7.2nm,0.7s								
BSD	**Bornholm Skovb**	**41.92**	**314**	*i* P		**P**	**07 24 46.2**	**-1.3**
BSD				pmax	pmax			
comp=Z,7.0nm,0.7s								
GROS	**Grobnik**	**42.18**	**301**	*i* P		**P**	**07 24 50.0**	**+0.1**
GOPC	**GO Pecny, Ondr**	**42.23**	**306**	*e*P		**P**	**07 24 49.9**	**-0.2**
PRU	**Pruhonice**	**42.38**	**306**	*e*P		**P**	**07 24 51.7**	**+0.4**
PRU	**Pruhonice**	**42.38**	**306**	*e*P		**P**	**07 24 51.7**	**+0.4**
SOKA	**Soboth**	**42.47**	**301**	⇑*i*P		**P**	**07 24 52.7**	**+0.5**
comp=Z,11nm,0.7s,SNR=6.9								
BOJS	**Bojanci**	**42.51**	**299**	*i* P		**P**	**07 24 53.0**	**+0.6**
BRG	**Berggiesshubel**	**42.68**	**307**	⇓*i*P		**P**	**07 24 54.4**	**+0.7**
comp=Z,16nm,0.8s								
BRG	**Berggiesshubel**	**42.68**	**307**	*e*P		**P**	**07 24 54.2**	**+0.5**
comp=Z,16nm,0.8s								
BRG	**Berggiesshubel**	**42.68**	**307**	⇓*i*P		**P**	**07 24 54.4**	**+0.7**
BRG				pmax	pmax			
comp=Z,16nm,0.8s								
MOA	**Molln**	**42.81**	**303**	⇑*i*P		**P**	**07 24 54.7**	**-0.1**
comp=Z,9.8nm,0.9s								
LJU	**Ljubljana**	**42.92**	**300**	*i* P		**P**	**07 24 56.6**	**+0.9**
GEC2	**GERESS Array S**	**43.05**	**305**	*e*P		**P**	**07 24 58.0**	**+1.1**
comp=Z,3.0nm,0.6s								
GERES	**GERESS Array B**	**43.05**	**305**	P		**P**	**07 24 57.1**	**+0.2**
comp=Z,1.8nm,0.6s,baz=82,slow=7.3,SNR=15								
GERES	**GERESS Array B**	**43.05**	**305**	P		**P**	**07 24 57.1**	**+0.2**
GERES				pmax	pmax			
comp=Z,2.0nm,0.6s								
KHC	**Kasperske Hory**	**43.10**	**305**	*e*P		**P**	**07 24 57.9**	**+0.7**
KHC	**Kasperske Hory**	**43.10**	**305**	*e*P		**P**	**07 24 57.9**	**+0.7**
CLL	**Collm**	**43.23**	**308**	*e*P		**P**	**07 24 58.3**	**+0.2**
comp=Z,9.0nm,0.9s								
CLL	**Collm**	**43.23**	**308**	⇓*i*P		**P**	**07 24 58.0**	**-0.1**
comp=Z,9.0nm,0.9s								
CLL				*e*			07 25 00.0	
CLL	**Collm**	**43.23**	**308**	⇓*i*P		**P**	**07 24 58.0**	**-0.1**
CLL				pmax	pmax			
comp=Z,9.0nm,0.9s								
CUC	**Castrocucco**	**43.32**	**291**	*e*P		**P**	**07 24 59.4**	**+0.3**
comp=Z,14nm,0.7s								
WET	**Wettzell**	**43.55**	**305**	*e*P		**P**	**07 25 01.4**	**+0.6**
comp=Z,3.0nm,0.8s								
TANN	**Tannenbergstha**	**43.67**	**307**	*e*P		**P**	**07 25 02.2**	**+0.5**
comp=Z,4.0nm,0.7s								
ROTZ	**Rotzenmuhle**	**43.91**	**306**	*e*P		**P**	**07 25 04.9**	**+1.3**
comp=Z,5.0nm,1.0s								
NB2	**NORSAR Subarra**	**44.10**	**322**	P		**P**	**07 25 04.2**	**-0.8**
comp=Z,9.9nm,0.7s,baz=92,slow=7.9								
NOA	**NORSAR Array B**	**44.10**	**322**	P		**P**	**07 25 04.1**	**-0.9**
comp=Z,9.3nm,0.7s,baz=94,slow=7.8,SNR=38								
NOA				LR		LR	07 44 25.4	
comp=Z,11nm,18.9s,baz=110,slow=37								
NOA	**NORSAR Array B**	**44.10**	**322**	P		**P**	**07 25 04.1**	**-0.9**
NOA				pmax	pmax			
comp=Z,9.0nm,0.7s								
NOA				MLR	MLR			
comp=Z,11nm,19.0s								
ABTA	**Abfaltersbach**	**44.17**	**302**	⇑*i*P		**P**	**07 25 05.3**	**-0.5**
comp=Z,7.0nm,1.1s								
MOX	**Moxa**	**44.18**	**307**	*e*P		**P**	**07 25 06.2**	**+0.5**
comp=Z,7.0nm,0.8s								
TIXI	**Tiksi**	**44.53**	**22**	*ce*P		**P**	**07 25 08.2**	**0.0**
TIXI				pmax	pmax			
comp=Z,3.0nm,0.9s								
TIXI	**Tiksi**	**44.53**	**22**	*e*P		**P**	**07 25 07.8**	**-0.4**
comp=Z,4.6nm,0.3s								
GRF	**Grafenberg Arr**	**44.55**	**306**	*e*P		**P**	**07 25 10.1**	**+1.4**
comp=Z,19nm,1.1s								
BSEG	**Bad Segeberg**	**44.64**	**312**	*e*P		**P**	**07 25 09.9**	**+0.6**
comp=Z,10.0nm,0.6s								
WTTA	**Wattenberg**	**44.67**	**303**	⇑*i*P		**P**	**07 25 09.3**	**-0.5**
comp=Z,8.0nm,0.7s								
FUR	**Furstenfeldbru**	**44.75**	**304**	*e*P		**P**	**07 25 10.9**	**+0.6**
comp=Z,22nm,0.6s								
CLZ	**Clausthal**	**44.81**	**309**	*e*P		**P**	**07 25 11.0**	**+0.2**
comp=Z,6.0nm,0.7s								
KONO	**Kongsberg**	**44.85**	**320**	*e*P		**P**	**07 25 10.4**	**-0.5**
KONO				pmax	pmax			
comp=Z,15nm,0.8s								
KONO	**Kongsberg**	**44.85**	**320**	*e*P		**P**	**07 25 10.4**	**-0.5**
comp=Z,15nm,0.8s								
NRDL	**Niedersach Rie**	**44.90**	**310**	*e*P		**P**	**07 25 12.1**	**+0.8**
comp=Z,9.0nm,0.8s								
MOTA	**Moosalm**	**45.01**	**303**	⇑*i*P		**P**	**07 25 11.9**	**-0.6**
comp=Z,6.8nm,0.7s								
UBBA	**Unterbreizbach**	**45.17**	**308**	*e*P		**P**	**07 25 13.6**	**+0.2**
comp=Z,5.0nm,0.8s								
FETA	**Feichten**	**45.32**	**302**	⇑*i*P		**P**	**07 25 14.3**	**-0.8**
comp=Z,4.0nm,0.5s								
DAVA	**Damuels**	**45.84**	**303**	⇑*i*P		**P**	**07 25 18.8**	**-0.3**
comp=Z,28nm,0.5s,SNR=11								
DAVOX	**Davos/Dischmat**	**45.94**	**302**	P		**P**	**07 25 19.4**	**-0.5**
comp=Z,16nm,0.6s,baz=101,slow=7.4,SNR=27								
DAVOX	**Davos/Dischmat**	**45.94**	**302**	P		**P**	**07 25 19.4**	**-0.5**
DAVOX				pmax	pmax			
comp=Z,16nm,0.6s								
TNS	**Taunus Mts**	**46.24**	**307**	*e*P		**P**	**07 25 22.7**	**+0.6**
comp=Z,7.0nm,1.0s								
IBBN	**Ibbenburen**	**46.35**	**310**	*e*P		**P**	**07 25 23.6**	**+0.8**
comp=Z,12nm,0.5s								
TUE	**Stuetta**	**46.36**	**302**	*e*P		**P**	**07 25 22.5**	**-0.8**
comp=Z,3.7nm,0.6s								
BFO	**Black Forest**	**46.66**	**305**	*ce*P		**P**	**07 25 25.9**	**+0.6**
SPITS	**Spitsbergen Ar**	**46.72**	**346**	P		**P**	**07 25 26.2**	**+0.8**
comp=Z,1.8nm,0.5s,baz=107,slow=11,SNR=15								
SPITS	**Spitsbergen Ar**	**46.72**	**346**	P		**P**	**07 25 26.2**	**+0.8**
SPITS				pmax	pmax			
comp=Z,2.0nm,0.5s								
BUG	**Bochum-Univer**	**46.78**	**309**	*e*P		**P**	**07 25 26.9**	**+0.7**
comp=Z,18nm,0.5s								
CDF	**Champ du Feu**	**47.33**	**305**	*e*P		**P**	**07 25 31.1**	**+0.5**
comp=Z,8.8nm,0.7s								
CDF	**Champ du Feu**	**47.33**	**305**	*e*P		**P**	**07 25 31.1**	**+0.5**
CDF				pmax	pmax			
comp=Z,9.0nm,0.7s								
CDF	**Champ du Feu**	**47.33**	**305**	*e*P		**P**	**07 25 31.1**	**+0.5**
comp=Z,8.8nm,0.7s								
PGF	**Pioggiola**	**47.57**	**297**	*e*P		**P**	**07 25 31.7**	**-0.9**
comp=Z,16nm,0.7s								
PGF	**Pioggiola**	**47.57**	**297**	*e*P		**P**	**07 25 31.7**	**-0.9**
PGF				pmax	pmax			
comp=Z,16nm,0.7s								
PGF	**Pioggiola**	**47.57**	**297**	*e*P		**P**	**07 25 31.7**	**-0.9**
comp=Z,16nm,0.7s								
HINF	**Hinteralfeld**	**47.73**	**304**	*e*P		**P**	**07 25 33.0**	**-0.7**
comp=Z,12nm,0.6s								
HINF	**Hinteralfeld**	**47.73**	**304**	*e*P		**P**	**07 25 33.0**	**-0.7**
HINF				pmax	pmax			
comp=Z,12nm,0.6s								
HINF	**Hinteralfeld**	**47.73**	**304**	*e*P		**P**	**07 25 33.0**	**-0.7**
comp=Z,12nm,0.6s								
HAU	**Haudompre**	**48.02**	**305**	*e*P		**P**	**07 25 35.4**	**-0.5**
comp=Z,13nm,0.6s								
HAU	**Haudompre**	**48.02**	**305**	*e*P		**P**	**07 25 35.4**	**-0.5**
HAU				pmax	pmax			
comp=Z,13nm,0.6s								
HAU	**Haudompre**	**48.02**	**305**	*e*P		**P**	**07 25 35.4**	**-0.5**
comp=Z,13nm,0.6s								
SBF	**Sospel**	**48.31**	**299**	*e*P		**P**	**07 25 37.9**	**-0.3**
comp=Z,53nm,0.9s								
SBF	**Sospel**	**48.31**	**299**	*e*P		**P**	**07 25 37.9**	**-0.3**
SBF				pmax	pmax			
comp=Z,53nm,0.9s								
SBF	**Sospel**	**48.31**	**299**	*e*P		**P**	**07 25 37.9**	**-0.3**
comp=Z,53nm,0.9s								
LPG	**La Plagne**	**48.35**	**301**	*e*P		**P**	**07 25 38.5**	**-0.3**
comp=Z,12nm,0.6s								
LPG	**La Plagne**	**48.35**	**301**	*e*P		**P**	**07 25 38.5**	**-0.3**
LPG				pmax	pmax			
comp=Z,12nm,0.6s								
LPG	**La Plagne**	**48.35**	**301**	*e*P		**P**	**07 25 38.5**	**-0.3**
comp=Z,12nm,0.6s								
LPL	**La Plagne**	**48.36**	**301**	*e*P		**P**	**07 25 38.5**	**-0.2**
comp=Z,11nm,0.6s								
LPL	**La Plagne**	**48.36**	**301**	*e*P		**P**	**07 25 38.5**	**-0.2**
LPL				pmax	pmax			
comp=Z,11nm,0.6s								
LPL	**La Plagne**	**48.36**	**301**	*e*P		**P**	**07 25 38.5**	**-0.2**
comp=Z,11nm,0.6s								
CABF	**La Chapelle**	**48.52**	**303**	*e*P		**P**	**07 25 40.5**	**+0.7**
comp=Z,16nm,0.6s								
CABF	**La Chapelle**	**48.52**	**303**	*e*P		**P**	**07 25 40.5**	**+0.7**
CABF				pmax	pmax			
comp=Z,16nm,0.6s								
CABF	**La Chapelle**	**48.52**	**303**	*e*P		**P**	**07 25 40.5**	**+0.7**
comp=Z,16nm,0.6s								
MBDF	**Montbardon**	**48.54**	**300**	*e*P		**P**	**07 25 39.2**	**-0.8**
comp=Z,18nm,0.9s								
MBDF	**Montbardon**	**48.54**	**300**	*e*P		**P**	**07 25 39.2**	**-0.8**
MBDF				pmax	pmax			
comp=Z,18nm,0.9s								
MBDF	**Montbardon**	**48.54**	**300**	*e*P		**P**	**07 25 39.2**	**-0.8**
comp=Z,18nm,0.9s								
GIVF	**Givet**	**48.55**	**308**	*e*P		**P**	**07 25 39.9**	**0.0**
GIVF	**Givet**	**48.55**	**308**	*e*P		**P**	**07 25 39.9**	**0.0**
GIVF	**Givet**	**48.55**	**308**	*e*P		**P**	**07 25 39.9**	**0.0**
FRF	**La Foret Royal**	**48.94**	**299**	*

	comp=Z,6.0nm,0.7s							
MTLF	**Montolieu**	**52.08**	**300**	*e*P		**P**	**07 26 06.3**	**-0.2**
	comp=Z,6.0nm,0.7s							
FLN	**La Foliniere**	**52.24**	**307**	*e*P		**P**	**07 26 06.7**	**-0.9**
FLN	**La Foliniere**	**52.24**	**307**	*e*P		**P**	**07 26 06.7**	**-0.9**
FLN	**La Foliniere**	**52.24**	**307**	*e*P		**P**	**07 26 06.7**	**-0.9**
LFF	**La Frestale**	**52.58**	**302**	*e*P		**P**	**07 26 09.8**	**-0.4**
LFF	**La Frestale**	**52.58**	**302**	*e*P		**P**	**07 26 09.8**	**-0.4**
LFF	**La Frestale**	**52.58**	**302**	*e*P		**P**	**07 26 09.8**	**-0.4**
GRR	**Gorron**	**52.59**	**307**	*e*P		**P**	**07 26 09.3**	**-0.8**
	comp=Z,23nm,0.7s							
GRR	**Gorron**	**52.59**	**307**	*e*P		**P**	**07 26 09.3**	**-0.8**
GRR					pmax	pmax		
	comp=Z,23nm,0.7s							
GRR	**Gorron**	**52.59**	**307**	*e*P		**P**	**07 26 09.3**	**-0.8**
	comp=Z,23nm,0.7s							
MFF	**Saint Martin d**	**52.65**	**304**	*e*P		**P**	**07 26 09.7**	**-1.0**
	comp=Z,10nm,0.7s							
MFF	**Saint Martin d**	**52.65**	**304**	*e*P		**P**	**07 26 09.7**	**-1.0**
MFF					pmax	pmax		
	comp=Z,10.0nm,0.7s							
MFF	**Saint Martin d**	**52.65**	**304**	*e*P		**P**	**07 26 09.7**	**-1.0**
	comp=Z,10nm,0.7s							
EPF	**Esparros**	**53.48**	**300**	*e*P		**P**	**07 26 18.6**	**+1.7**
EPF	**Esparros**	**53.48**	**300**	*e*P		**P**	**07 26 18.6**	**+1.7**
EPF	**Esparros**	**53.48**	**300**	*e*P		**P**	**07 26 18.6**	**+1.7**
SGMF	**Saint Gilles**	**53.71**	**307**	*e*P		**P**	**07 26 17.8**	**-0.6**
SGMF	**Saint Gilles**	**53.71**	**307**	*e*P		**P**	**07 26 17.8**	**-0.6**
SGMF	**Saint Gilles**	**53.71**	**307**	*e*P		**P**	**07 26 17.8**	**-0.6**
DAG	**Danmarks Havn**	**54.02**	**343**	*i* P		**P**	**07 26 20.3**	**+0.1**
	comp=Z,6.7nm,0.9s							
DAG	**Danmarks Havn**	**54.02**	**343**	*i* P		**P**	**07 26 20.3**	**+0.1**
DAG					pmax	pmax		
	comp=Z,6.0nm,0.9s							
ETSF	**Etsaut**	**54.15**	**300**	*e*P		**P**	**07 26 21.5**	**-0.2**
	comp=Z,8.3nm,0.6s							
ETSF	**Etsaut**	**54.15**	**300**	*e*P		**P**	**07 26 21.5**	**-0.2**
ETSF					pmax	pmax		
	comp=Z,8.0nm,0.6s							
ETSF	**Etsaut**	**54.15**	**300**	*e*P		**P**	**07 26 21.5**	**-0.2**
	comp=Z,8.3nm,0.6s							
QUIF	**Quistinic**	**54.20**	**307**	*e*P		**P**	**07 26 20.2**	**-1.7**
	comp=Z,17nm,0.7s							
QUIF	**Quistinic**	**54.20**	**307**	*e*P		**P**	**07 26 20.2**	**-1.7**
QUIF					pmax	pmax		
	comp=Z,17nm,0.7s							
QUIF	**Quistinic**	**54.20**	**307**	*e*P		**P**	**07 26 20.2**	**-1.7**
	comp=Z,17nm,0.7s							
ESDC	**Sonseca Array**	**57.74**	**298**	P		**P**	**07 26 47.0**	**-0.4**
	comp=Z,2.8nm,0.5s,baz=56,slow=7.4,SNR=17							
ESDC					pP	**pP**	**07 27 18.4**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=46,slow=7.3,SNR=1.8							
ESLA	**Sonseca Array**	**57.74**	**298**	*e*P		**P**	**07 26 47.2**	**-0.2**
	comp=Z,0.8nm,0.7s							
BORG	**Borgarnes**	**58.17**	**330**	LR		LR	07 52 58.1	
	comp=Z,16nm,18.9s,baz=61,slow=37							
SUMG	**Summit**	**60.40**	**341**	*i* P		**P**	**07 27 06.3**	**+0.8**
	comp=Z,8.1nm,0.8s							
SUMG	**Summit**	**60.40**	**341**	*i* P		**P**	**07 27 06.3**	**+0.8**
SUMG					pmax	pmax		
	comp=Z,8.0nm,0.8s							
SUMG	**Summit**	**60.40**	**341**	*e*P		**P**	**07 27 06.3**	**+0.8**
	comp=Z,7.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**66.59**	**269**	P		**P**	**07 27 45.0**	**-1.6**
	comp=Z,3.7nm,0.5s,baz=49,slow=5.6,SNR=63							
TORD					pP	**pP**	**07 28 18.2**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=39,slow=5.9,SNR=3.7							
INK	**Inuvik**	**72.78**	**10**	P		**P**	**07 28 23.8**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=342,slow=2.0,SNR=4.1							
INK	**Inuvik**	**72.78**	**10**	P		**P**	**07 28 23.8**	**+0.1**
INK					pmax	pmax		
	comp=Z,1.0nm,0.7s							
ILAR	**Eielson Array**	**73.59**	**16**	P		**P**	**07 28 28.8**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=301,slow=4.7,SNR=4.4							
ILAR					pP	**pP**	**07 29 02.4**	**+1.6**
	comp=Z,0.7nm,0.8s,baz=320,slow=5.9,SNR=3.7							
ILAR	**Eielson Array**	**73.59**	**16**	P		**P**	**07 28 28.8**	**+0.3**
ILAR					*PP	**pP**	**07 29 02.4**	**+1.6**
ILAR					pmax	pmax		
	comp=Z,1.0nm,0.9s							
YKA	**Yellowknife Ar**	**80.21**	**3**	P		**P**	**07 29 05.6**	**0.0**
	comp=Z,1.2nm,0.6s,baz=352,slow=5.4,SNR=34							
YKA					pP	**pP**	**07 29 39.8**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=350,slow=5.4,SNR=3.9							
YKA	**Yellowknife Ar**	**80.21**	**3**	P		**P**	**07 29 05.6**	**0.0**
YKA					*PP	**pP**	**07 29 39.8**	**+1.4**
YKA					pmax	pmax		
	comp=Z,1.0nm,0.6s							
YKA					pmax	pmax		
	comp=Z,1.0nm,0.6s							
SCHQ	**Schefferville**	**81.51**	**337**	P		**P**	**07 29 12.6**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=29,slow=10,SNR=5.5							
WRA	**Warramunga Arr**	**81.81**	**123**	P		**P**	**07 29 13.9**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=325,slow=5.1,SNR=7.4							
WRA					pP	**pP**	**07 29 48.9**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=328,slow=5.0,SNR=2.9							
WRA	**Warramunga Arr**	**81.81**	**123**	P		**P**	**07 29 13.9**	**-0.8**
WRA					*PP	**pP**	**07 29 48.9**	**+1.3**
WRA					pmax	pmax		
	comp=Z,1.0nm,0.6s							
WRA					pmax	pmax		
	comp=Z,1.0nm,0.8s							
WRAB	**Tennant Creek**	**81.81**	**123**	*e*P		**P**	**07 29 14.5**	**-0.2**
WRAB					pmax	pmax		
	comp=Z,10.0nm,1.4s							
WRAB	**Tennant Creek**	**81.81**	**123**	*e*P		**P**	**07 29 14.5**	**-0.2**
	comp=Z,10.0nm,1.4s							
FCC	**Fort Churchill**	**83.40**	**353**	*e*P		**P**	**07 29 23.3**	**+0.9**
FCC	**Fort Churchill**	**83.40**	**353**	*e*P		**P**	**07 29 23.3**	**+0.9**
ASAR	**Alice Springs**	**84.14**	**126**	P		**P**	**07 29 26.9**	**+0.3**
	comp=Z,0.4nm,0.9s,baz=319,slow=4.9,SNR=3.2							
ASAR					pP	**pP**	**07 30 01.8**	**+2.1**
	comp=Z,0.6nm,0.9s,baz=324,slow=5.8,SNR=3.5							
ASAR	**Alice Springs**	**84.14**	**126**	P		**P**	**07 29 26.9**	**+0.3**
ASAR					*PP	**pP**	**07 30 01.8**	**+2.1**
ASAR					pmax	pmax		
	comp=Z,1.0nm,0.9s							

WEL 11 07:41:47.8±0.3, 38°.84S×179°.47E, h33km, ML3.8/12, 4C, Error ellipse: s-maj=3.1km s-min=1.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
CNGZ	**Carnagh Statio**	**1.05**	**289**	PN	Pn	07 42 05.9		-0.2
PUZ	**Puketiti**	**1.22**	**309**	⇑PN	Pn	07 42 07.7		-0.9
PUZ				*e*SN	Sn	07 42 23.4		-0.5
PUZ				AML	AML	07 42 32.8		
PRGZ	**Paritu Road**	**1.24**	**266**	PN	Pn	07 42 07.8		-1.0
WMGZ	**Waiomatatini S**	**1.31**	**321**	PN	Pn	07 42 09.0		-0.8
WMGZ				*e*SN	Sn	07 42 24.4		-1.8
TKGZ	**Te Karaka**	**1.33**	**287**	⇑PN	Pn	07 42 09.4		-0.6
TKGZ				SN	Sn	07 42 27.0		+0.4
RIGZ	**Rimuhau**	**1.34**	**275**	PN	Pn	07 42 09.6		-0.6
RIGZ				SN	Sn	07 42 26.8		-0.1
TWGZ	**Tauwhareparae**	**1.34**	**299**	PN	Pn	07 42 09.8		-0.5
KNZ	**Kokohu**	**1.41**	**262**	PN	Pn	07 42 10.2		-0.9
KNZ				*e*SN	Sn	07 42 27.8		-0.7
MXZ	**Matakaoa Point**	**1.57**	**324**	PN	Pn	07 42 12.9		-0.4
MXZ				AML	AML	07 42 34.2		
MXZ				AML	AML	07 42 34.8		
MXZ				AML	AML	07 42 40.8		
MWZ	**Matawai**	**1.60**	**288**	PN	Pn	07 42 13.2		-0.6
MWZ				*e*SN	Sn	07 42 31.3		-2.0
MWZ				AML	AML	07 42 35.1		
MWZ				AML	AML	07 42 35.2		
MWZ				AML	AML	07 42 43.7		
RAGZ	**Rawiri**	**1.64**	**282**	PN	Pn	07 42 14.0		-0.5
SNGZ	**Shannon Statio**	**1.66**	**271**	PN	Pn	07 42 13.9		-0.7
HAZ	**Te Kaha**	**1.71**	**309**	PN	Pn	07 42 14.6		-0.6
WHHZ	**Waihua**	**1.75**	**262**	PN	Pn	07 42 15.7		-0.2
RAHZ	**Arahi**	**1.86**	**267**	PN	Pn	07 42 17.3		0.0
URZ	**Urewera**	**1.94**	**287**	PN	Pn	07 42 18.4		+0.1
URZ				AML	AML	07 42 44.1		
URZ				AML	AML	07 42 45.4		
ARHZ	**Aropaoanui**	**1.97**	**257**	PN	Pn	07 42 18.5		-0.3
CKHZ	**Cape Kidnapper**	**2.03**	**245**	PN	Pn	07 42 17.9		-1.7
NMHZ	**Naumai**	**2.09**	**262**	PN	Pn	07 42 20.4		-0.2
KAHZ	**Kahuranaki**	**2.22**	**244**	*e*PN	Pn	07 42 21.9		-0.5
MCHZ	**McNeill Hill**	**2.23**	**254**	PN	Pn	07 42 22.1		-0.4
BKZ	**Black Stump Fm**	**2.34**	**261**	⇑PN	Pn	07 42 23.5		-0.5
BKZ				AML	AML	07 42 53.3		
BKZ				AML	AML	07 42 54.2		
PXZ	**Pawanui**	**2.34**	**239**	PN	Pn	07 42 21.8		-2.1
PXZ				SN	Sn	07 42 47.9		-3.6
MARZ	**Manawahe**	**2.35**	**290**	PN	Pn	07 42 24.2		0.0
RRRZ	**Republican Roa**	**2.37**	**281**	PN	Pn	07 42 25.2		+0.8
TARZ	**Mount Tarawera**	**2.40**	**284**	PN	Pn	07 42 25.3		+0.4
ALRZ	**Allen Road**	**2.46**	**276**	PN	Pn	07 42 25.6		0.0
OPRZ	**Ohinepanea**	**2.50**	**293**	⇑PN	Pn	07 42 25.5		-0.5
KRHZ	**Kereru**	**2.53**	**251**	PN	Pn	07 42 25.8		-0.8
PRHZ	**Porangahau**	**2.61**	**236**	PN	Pn	07 42 25.6		-2.0
HATZ	**Hinemaiaia**	**2.63**	**268**	*e*PN	Pn	07 42 27.8		-0.2
HATZ				AML	AML	07 43 00.9		
HATZ				AML	AML	07 43 01.2		
BHHZ	**Black Hill Sta**	**2.72**	**255**	PN	Pn	07 42 28.3		-0.9
PNHZ	**Pukenui**	**2.75**	**246**	PN	Pn	07 42 28.3		-1.3
ANWZ	**Angora Road**	**2.82**	**234**	PN	Pn	07 42 27.8		-2.7
DVHZ	**Dannevirke**	**2.94**	**239**	PN	Pn	07 42 30.2		-2.0
MOVZ	**Moawhango**	**2.94**	**258**	PN	Pn	07 42 32.4		+0.1
WNVZ	**Wahianoa**	**3.05**	**260**	PN	Pn	07 42 33.6		-0.3
WHVZ	**Whangaehu Hut**	**3.05**	**260**	PN	Pn	07 42 33.7		-0.3
FWVZ	**Far West T-bar**	**3.08**	**261**	PN	Pn	07 42 34.0		-0.3
FWVZ				AML	AML	07 43 14.5		
BFZ	**Birch Farm**	**3.09**	**232**	PN	Pn	07 42 30.9		-3.3
BFZ				*e*SN	Sn	07 43 05.8		-4.2
PRWZ	**Pori Road**	**3.19**	**236**	PN	Pn	07 42 33.6		-2.0
POWZ	**Post Office Ro**	**3.25**	**240**	PN	Pn	07 42 35.0		-1.4
CPWZ	**Castlepoint**	**3.25**	**230**	PN	Pn	07 42 33.7		-2.7
TIWZ	**Tintock**	**3.37**	**234**	PN	Pn	07 42 35.7		-2.4
TIWZ				AML	AML	07 43 17.2		
TIWZ				AML	AML	07 43 21.0		
MRZ	**Mangatainoka R**	**3.50**	**238**	PN	Pn	07 42 37.2		-2.7
MRZ				*e*SN	Sn	07 43 16.0		-4.3
MRZ				AML	AML	07 43 20.1		
TMWZ	**Te Maipa**	**3.56**	**229**	PN	Pn	07 42 37.3		-3.5
WAZ	**Wanganui**	**3.59**	**254**	PN	Pn	07 42 41.4		+0.2
HOWZ	**Holdsworth Sta**	**3.67**	**235**	PN	Pn	07 42 39.2		-3.1
OGWZ	**Otaki Gorge**	**3.85**	**238**	PN	Pn	07 42 42.1		-2.5
PAWZ	**Paruwai Farm**	**4.00**	**229**	AML	AML	07 43 33.6		
KIW	**Kapiti Island**	**4.04**	**239**	PN	Pn	07 42 44.9		-2.4
CAW	**Cannon Point**	**4.07**	**235**	PN	Pn	07 42 44.5		-3.1
CAW				AML	AML	07 43 31.9		
MSWZ	**Moikau Station**	**4.13**	**230**	*e*PN	Pn	07 42 44.5		-4.0
TCW	**Tory Channel**	**4.63**	**238**	PN	Pn	07 42 52.1		-3.4
QRZ	**Quartz Range**	**5.70**	**247**	*e*PN	Pn	07 43 07.3		-2.7
CTZ	**Chatham Island**	**5.71**	**150**	PN	Pn	07 43 08.8		-1.4
CTZ				SN	Sn	07 44 05.3		-9.2
KHZ	**Kahutara**	**5.75**	**230**	*e*PN	Pn	07 43 07.0		-3.8
THZ	**Tophouse**	**5.80**	**238**	PN	Pn	07 43 07.8		-3.8
THZ				AML	AML	07 45 39.8		
MQZ	**McQueen's Vall**	**7.07**	**224**	PN	Pn	07 43 24.0		-4.8
MQZ				*e*SN	Sn	07 44 36.6		-11
OXZ	**Oxford**	**7.18**	**229**	*e*PN	Pn	07 43 26.0		-4.4

IDC 11 07:44:52.2±26.0, 18°.93S×173°.22W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.7/38, mbtmp4.1/4, Error ellipse: s-maj=483.1km s-min=150.0km az=74.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
CTA	**Charters Tower**	**38.15**	**261**	P	P	07 52 14.4		+0.8
	2.8nm,0.4s,baz=92,slow=10,SNR=6.1							
STKA	**Stephens Creek**	**42.52**	**243**	P	P	07 52 49.5		-0.2
	4.7nm,1.1s,baz=120,slow=16,SNR=2.8							
ASAR	**Alice Springs**	**49.27**	**255**	P	P	07 53 42.6		-0.5
	1.2nm,0.7s,baz=98,slow=7.5,SNR=14							
WRA	**Warramunga Arr**	**49.30**	**260**	P	P	07 53 43.0		-0.4
	0.7nm,0.3s,baz=96,slow=7.6,SNR=38							

IDC 11 07:49:59.3±16.0, 56°.90S×27°.56W, h0km, mb3.5/1, mb1 3.5/1, mb1mx3.3/18, mbtmp3.5/1, Error ellipse: s-maj=1023.0km s-min=76.7km az=143.0
AWI 11 07:50:37.4, 61°.31S×26°.91W
ISC 11 07:50:01.7±1.5, 58°.0S±0°.2×25°.9W±0°.5, h35km, n7, σ0s83/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
VNA1	**Neumayer--Stat**	**14.69**	**157**	P	**Pn**	**07 53 25.3**		**-1.1**
VNA3	**Neumayer Olymp**	**14.88**	**159**	P	**Pn**	**07 53 28.9**		**-0.2**
VNA2	**Neumayer--Watz**	**15.09**	**156**	P	**Pn**	**07 53 32.5**		**+0.7**
	baz=319,slow=14							
SNAA	**Sanae**	**16.64**	**154**	P	**P**	**07 53 54.9**		**+1.0**
TORD	**Torodi Ar. Bea**	**74.45**	**28**	P	**P**	**08 01 35.9**		**-0.1**
	0.1nm,0.3s,baz=198,slow=6.3,SNR=4.2							
YKA	**Yellowknife Ar**	**138.11**	**316**	PKP	**PKPdf**	**08 09 21.2**		**+0.1**
	0.0nm,0.3s,baz=123,slow=2.7,SNR=4.5							
ILAR	**Eielson Array**	**151.94**	**309**	PKPbc	**PKPbc**	**08 09 51.1**		**-0.2**
	0.5nm,0.8s,baz=133,slow=3.9,SNR=5.7							

SJA 11 07:51:46.7±1.3, 33°.84S×74°.12W, h40km, ML3.6
GUC 11 07:52:01.4±0.7, 33°.99S×72°.23W, h4km±4km, ML3.1
ISC 11 07:52:01.6±2.5, 34°.05S±0°.07×72°.3W±0°.1, h19km, n17, σ1s82/24, 1C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
LNV	**Longovilo**	**0.78**	**84**	⇓*i* P	**Pb**	**07 52 15.7**		**-0.8**
LNV				*i* S	**Sb**	**07 52 25.9**		**-0.7**
IHA	**Instituto Hidr**	**1.17**	**30**	⇑*i* P	Pn	07 52 21.4		-1.6
TACH	**Talagante**	**1.23**	**72**	*e*P	**Pn**	**07 52 22.3**		**-1.5**
NICH	**Los Niches**	**1.32**	**137**	⇓*e*P	**Pn**	**07 52 25.1**		**0.0**
NICH				*e*S	**Sn**	**07 52 43.3**		**+1.2**
CHCH	**Chadas Angostu**	**1.40**	**86**	⇓*i* P	**Pn**	**07 52 25.6**		**-0.7**
CACH	**El Canelo**	**1.44**	**93**	⇓*i* P	**Pn**	**07 52 26.8**		**-0.1**
SAN	**Santiago**	**1.52**	**67**	*e*P	**Pn**	**07 52 27.1**		**-0.7**
LACH	**Col Las Americ**	**1.62**	**69**	*e*P	**Pn**	**07 52 27.2**		**-1.0**
LACH				*e*S	**Sn**	**07 52 48.8**		**-0.7**
CLCH	**Cerro Calan**	**1.64**	**67**	*e*P	**Pn**	**07 52 28.7**		**-0.7**
CLCH				*e*S	**Sn**	**07 52 48.8**		**-1.2**
CLCH				AML	AML	07 52 54.5		
	comp=E,472nm,0.3s							
AUSP	**Uspallata**	**3.07**	**55**	*i* P	**Pb**	**07 52 54.3**		**-1.5**
AUSP				*i* S	**Sg**	**07 53 42.1**		**+1.7**
AAGR	**Agrelo**	**3.08**	**73**	*i* P	**Pb**	**07 52 54.3**		**-1.6**
ARCO	**CERRO ARCO**	**3.09**	**68**	*i* P	**Pb**	**07 52 55.5**		**-0.6**
ARCO				*i* S	**Sg**	**07 53 45.9**		**+4.9**
ARCO				AML	AML	07 53 47.7		
	comp=Z,57nm,0.7s							
ASAL	**Salagasta**	**3.27**	**65**	*i* P	Pb	07 52 57.2		-1.9
ASAL				*i* S	**Sg**	**07 53 47.9**		**+1.1**
RTLL	**Leoncito**	**3.40**	**50**	*i* P	**Pn**	**07 52 56.8**		**+2.9**
RTLS				*i* S	**Sg**	**07 53 48.5**		**-2.4**
RTCV	**Cerro Valdivia**	**3.86**	**57**	*i* P	**Pn**	**07 53 03.3**		**+3.2**
RTLL	**Cerro Villicun**	**4.24**	**51**	*i* P	**Pn**	**07 53 06.6**		**+1.4**
AMOG	**MOGNA**	**4.49**	**47**	*i* P	**Pn**	**07 53 09.3**		**+0.6**
AMOG				*i* P	**Pn**	**07 53 09.3**		**+0.6**

NIED 11 08:12:00, 37°.40N×139°.00E, h14km, Mw3.3 Best double couple: Ms9.42000×10^13 NP1:φs10.00000°, δ26.00000°, λ59.00000°. NP2:φs224.00000°, δ68.00000°, λ104.00000°.
ISCJB 11 08:12:11.1±0.7, 37°.40N±0°.04×138°.93E±0°.06, h24km±7km, mb3.9/1, Error ellipse: s-maj=8.6km s-min=6.0km az=36.0
JMA 11 08:12:11.9, 37°.40N×138°.94E, h11km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φs342.00000°, δ63.00000°, λ-61.00000°. NP2: φs112.00000°, δ39.00000°, λ-133.00000°. Principal axes: T Plg13.0000°, Azm52.0000°; N Plg25.0000°, Azm148.0000°; P Plg61.0000°, Azm297.0000°;
JMA Felt II J1.
IDC 11 08:12:15.1±6.6, 37°.26N×138°.71E, h35km±37km, mb3.5/1, mb1 3.9/2, mb1mx3.1/34, mbtmp3.8/2, ML3.8/1 Error ellipse: s-maj=58.8km s-min=14.4km az=30.0
ISC 11 08:12:11.6±1.0, 37°.38N±0°.04×138°.95E±0°.06, h16km±8km, n10, σ0s63/16, 2C-2D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
JHK	**Hiroka**	**0.14**	**159**	⇓P	**Pg**	**08 12 15.4**		**-0.1**
JHK				S	**Sg**	**08 12 18.3**		**+0.3**
JIZZ	**Izumozaki**	**0.24**	**308**	⇓P	**Pb**	**08 12 17.1**		**-0.5**
JNS	**Sasagawa**	**0.52**	**34**	⇑P	**Pg**	**08 12 21.7**		**-0.3**
JNS				S	**Sg**	**08 12 28.8**		**-0.2**
JFY	**Yanaizu**	**0.60**	**87**	⇑P	**Pg**	**08 12 23.5**		**+0.1**
JFY				S	**Sg**	**08 12 31.8**		**+0.4**
JKT	**Katashina**	**0.66**	**159**	P	**Pg**	**08 12 24.7**		**+0.2**
JKT				S	**Sb**	**08 12 33.7**		**0.0**
MAT	**Matsushiro**	**1.03**	**216**	P	**Pb**	**08 12 30.2**		**-0.8**
MAT				S	**Sb**	**08 12 44.1**		**-0.3**
MAT	**Matsushiro**	**1.03**	**216**	P	**Pb**	**08 12 30.3**		**-0.8**
MAT				S	**Sb**	**08 12 44.0**		**-0.3**
MJAR	**Matsushiro Arr**	**1.03**	**216**	Pg	**Pb**	**08 12 30.4**		**-0.7**
	38nm,0.3s,baz=25,slow=17,SNR=364							
MJAR				Lg	Lg	08 12 43.3		
	70nm,0.3s,baz=27,slow=31,SNR=19							
MJAR				LR	LR	08 12 54.2		
	comp=Z,43nm,19.4s,baz=330,slow=48							
KSRS	**Korea Array**	**8.78**	**274**	Pn	**Pn**	**08 14 19.2**		**+1.5**
	1.2nm,0.3s,baz=90,slow=15,SNR=6.1							
WRA	**Warramunga Arr**	**57.18**	**185**	P	**P**	**08 21 57.4**		**-0.4**
	0.4nm,0.3s,baz=0.4,slow=7.5,SNR=17							

SKO 11 08:14:41.5, 41°.01N×22°.37E, h11km, M1.2, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
VAY	**Valandovo**	**0.35**	**26**	*i* Pg	Pg	08 14 48.5		0.0
VAY				*i* Sg	Sg	08 14 53.3		+0.2
VAY				*e*Lg	Lg	08 14 53.4		
	comp=E,106nm,0.9s							
VAY				*e*Lg	Lg	08 14 53.6		
	comp=N,40nm,0.3s							

CSEM 11 08:31:01.6±0.2, 42°.40N×19°.02E, h24km±2km, ML1.8, Error ellipse: s-maj=4.6km s-min=3.9km az=62.0
PDG 11 08:31:02.2±0.1, 42°.42N×19°.04E, h18km, ML1.8/9, 7C-6D, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
BUM	**Brajici-Budva**	**0.16**	**222**	⇓*i* Pg	Pg	08 31 06.5		-0.2
BUM				*e*Sg	Sg	08 31 09.7		0.0
BUM	**Brajici-Budva**	**0.16**	**222**	⇓*i* Pg	Pg	08 31 06.5		-0.2
BUM				*e*Sg	Sg	08 31 09.7		0.0
PDG	**Podgorica**	**0.16**	**86**	⇑*i* Pg	Pg	08 31 06.5		-0.1
PDG				*e*Sg	Sg	08 31 10.3		+0.6
TTG	**Podgorica**	**0.16**	**86**	⇑*i* Pg	Pg	08 31 06.5		-0.1
TTG				*e*Sg	Sg	08 31 10.3		+0.6
DRME	**Dracevica, Mon**	**0.26**	**154**	⇓*i* Pg	Pg	08 31 07.9		-0.1
DRME				*e*Sg	Sg	08 31 12.6		+0.5
DRME	**Dracevica, Mon**	**0.26**	**154**	⇓*i* Pg	Pg	08 31 07.9		-0.1
DRME				*e*Sg	Sg	08 31 12.6		+0.5
NKME	**Niksic**	**0.35**	**350**	⇑*i* Pg	Pg	08 31 09.4		-0.4
NKME				*e*Sg	Sb	08 31 15.3		-0.1
NKME	**Niksic**	**0.35**	**350**	⇑*i* Pg	Pg	08 31 09.4		-0.4
NKME				*e*Sg	Sb	08 31 15.3		-0.1
NKY	**Niksic**	**0.40**	**355**	*e*Pg	Pg	08 31 10.1		-0.5
NKY				*e*Sg	Sb	08 31 16.8		0.0
NKY	**Niksic**	**0.40**	**355**	*e*Pg	Pg	08 31 10.1		-0.5
NKY				*e*Sg	Sb	08 31 16.8		0.0
HCY	**Herceg Novi**	**0.40**	**274**	⇓*i* Pg	Pg	08 31 10.0		-0.5
HCY				*e*Sg	Sb	08 31 16.8		+0.1
HCY	**Herceg Novi**	**0.40**	**274**	⇓*i* Pg	Pg	08 31 10.0		-0.5
HCY				*e*Sg	Sb	08 31 16.8		+0.1
ULC	**Ulcinj**	**0.48**	**161**	*e*Pg	Pg	08 31 11.6		-0.4
ULC				*e*Sg	Sb	08 31 19.2		+0.3
ULC	**Ulcinj**	**0.48**	**161**	*e*Pg	Pg	08 31 11.6		-0.4
ULC				*e*Sg	Sb	08 31 19.2		+0.3
PVY	**Plav**	**0.70**	**75**	⇑*i* Pg	Pb	08 31 15.8		-0.3
PVY				*e*Sg	Sn	08 31 26.9		-1.0
UPM	**Unac-Piva**	**0.79**	**353**	⇑*i* Pg	Pg	08 31 17.8		-0.1
UPM				*e*Sg	Sn	08 31 29.4		-0.7
UPM	**Unac-Piva**	**0.79**	**353**	⇑*i* Pg	Pg	08 31 17.8		-0.1
UPM				*e*Sg	S

SPIG	**San Pedro Mart**	**1.22**	**186**	*eP*	**Pn**	**08 40 56.9**	**-0.2**
SPIG				*eS*	**Sb**	**08 41 12.8**	**-0.2**
SPIG	**San Pedro Mart**	**1.22**	**186**	*eP*	**Pn**	**08 40 56.9**	**-0.2**
SPIG				*eS*	**Sb**	**08 41 12.8**	**-0.2**
SPX	**San Pedro Mart**	**1.22**	**186**	*eP*	**Pn**	**08 40 57.1**	**0.0**
SPX				*eS*	**Sg**	**08 41 14.3**	**+0.6**
SPX	**San Pedro Mart**	**1.22**	**186**	*eP*	**Pn**	**08 40 57.1**	**0.0**
SPX				*eS*	**Sg**	**08 41 14.3**	**+0.6**
SPX				⇑*e*		08 41 17.4	
SPX				IAML		08 41 17.4	
	comp=N,1μm,0.5s						
ECNX	**Esteban Cantu**	**1.24**	**241**	*eP*	**Pn**	**08 40 57.2**	**0.0**
ECNX				*eS*	**Sg**	**08 41 14.1**	**-0.2**
ECNX	**Esteban Cantu**	**1.24**	**241**	*eP*	**Pn**	**08 40 57.2**	**0.0**
ECNX				*eS*	**Sg**	**08 41 14.1**	**-0.2**
PBX	**Punta Banda**	**1.30**	**247**	*eP*	**Pn**	**08 40 57.9**	**0.0**
PBX				*eS*	**Sn**	**08 41 15.2**	**+0.1**
PBX	**Punta Banda**	**1.30**	**247**	*eP*	**Pn**	**08 40 57.9**	**0.0**
PBX				*eS*	**Sn**	**08 41 15.2**	**+0.1**
PFO	**Pinyon Flats O**	**1.65**	**325**	*ePn*	**Pn**	**08 41 01.2**	**-1.6**
214A	**Organ Pipe Nat**	**2.15**	**98**	*ePn*	**Pn**	**08 41 08.6**	**-1.1**
214A				*ePg*	**Pg**	**08 41 16.9**	**+1.4**
MWC	**Mount Wilson**	**3.01**	**311**	*ePg*	**Pb**	**08 41 27.4**	**-0.3**
MWC				*eSg*	**Sb**	**08 42 07.6**	**+3.2**
PASC	**Pasadena Art C**	**3.06**	**309**	*ePg*	**Pb**	**08 41 28.9**	**+0.5**
PASC				*eSg*	**Sb**	**08 42 08.5**	**+2.8**
GSC	**Goldstone, Bar**	**3.27**	**338**	*ePg*	**Pg**	**08 41 37.1**	**+0.1**
TUC	**Tucson**	**3.84**	**88**	*ePn*	**Pn**	**08 41 31.9**	**-1.0**
TUC				*eSg*	**Sg**	**08 42 35.2**	**-2.5**
DAC	**Darwin (Calif)**	**4.42**	**335**	*Pn*	**Pn**	**08 41 43.9**	**+2.8**
DAC				*ePg*	**Pg**	**08 41 58.3**	**-0.7**

ISCJB ***11*** *09:00:05.7±0.4,59.7′79N±0.′02×24.′48E±0.′05, h0km, Error ellipse: s-maj=3.7km s-min=3.3km az=33.2*
CSEM ***11*** *09:00:06.6±0.1,59.′78N×24.′54E, h2km, ML2.4, Error ellipse: s-maj=2.9km s-min=2.6km az=115.0, Mining explosion.*
NAO ***11*** *09:00:07.6±1.0,59.′79N×24.′62E, ML2.1*
HEL ***11*** *09:00:07.4±0.0,59.′78N×24.′45E, h0km, ML2.4, ML1.5(UPP), Explosion*
UPP ***11*** *09:00:07.1,59.′77N×24.′50E, h0km, ML1.5, Suspected Mining explosion.*
IDC ***11*** *09:00:07.1±1.8,59.′76N×24.′73E, h0km, mb1 3.5/4, mb1mx3.1/27, mbtmp3.5/4, ML3.2/4, Error ellipse: s-maj=19.7km s-min=6.8km az=143.0*
BER ***11*** *09:00:08.1±3.0,59.′81N×24.′66E, h0km, ML2.1(NAO), Suspected explosion*

ISC 11 09:00:06.4±0.7,**59.′78N**±0.′02×**24.′51E**±0.′03,**h0km**,**n48, σ0s63/65, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SRPE	**Suurupi**	**0.33**	**192**	*eP*		**Pg**		**09 00 13.2**	**+0.6**
SRPE				*eS*		**Sg**		**09 00 17.5**	**+0.7**
SRPE	**Suurupi**	**0.33**	**192**	P		**Pg**		**09 00 13.2**	**+0.6**
SRPE				S		**Sg**		**09 00 17.5**	**+0.7**
MEF	**Metsahovi**	**0.44**	**352**	*eP*		**Pg**		**09 00 15.4**	**+0.6**
MEF				*eS*		**Sg**		**09 00 21.2**	**+0.6**
MEF	**Metsahovi**	**0.44**	**352**	P		**Pg**		**09 00 15.4**	**+0.6**
MEF				S		**Sg**		**09 00 21.1**	**+0.6**
PVF	**Pernaja**	**1.02**	**41**	*eP*		**Pg**		**09 00 26.1**	**+0.2**
PVF				*eS*		**Sg**		**09 00 39.4**	**+0.2**
PVF	**Pernaja**	**1.02**	**41**	P		**Pg**		**09 00 26.1**	**+0.2**
PVF				S		**Sg**		**09 00 39.3**	**+0.2**
MTSE	**Matsula**	**1.13**	**199**	*eP*		**Pg**		**09 00 27.7**	**-0.3**
MTSE				*eS*		**Sg**		**09 00 42.6**	**0.0**
MTSE	**Matsula**	**1.13**	**199**	P		**Pg**		**09 00 27.7**	**-0.3**
MTSE				S		**Sg**		**09 00 42.6**	**0.0**
VJF	**Virojoki**	**1.70**	**62**	*eP*		**Pb**		**09 00 38.0**	**-0.5**
VJF				*eS*		**Sb**		**09 01 00.1**	**-0.3**
VJF	**Virojoki**	**1.70**	**62**	P		**Pb**		**09 00 38.0**	**-0.5**
VJF				S		**Sb**		**09 01 00.0**	**-0.3**
VSU	**Vasula**	**1.75**	**138**	Pg		**Pb**		**09 00 39.1**	**-0.2**
VSU				Lg		Lg		09 01 01.5	
VSU	**Vasula**	**1.75**	**138**	Pg		**Pb**		**09 00 39.1**	**-0.2**
VSU				Lg		Lg		09 01 01.5	
VSU	**Vasula**	**1.75**	**138**	*eP*		**Pn**		**09 00 38.4**	**+0.5**
VSU				*eS*		**Sn**		**09 01 01.4**	**+0.4**
VSU	**Vasula**	**1.75**	**138**	P		**Pn**		**09 00 38.4**	**+0.5**
VSU	**Vasula**	**1.75**	**138**	Pg		**Pb**		**09 00 39.1**	**-0.2**
	SNR=90								
VSU				S		**Sn**		**09 01 01.3**	**+0.4**
FIA0	**FINESS Array S**	**1.84**	**24**	Pg		**Pb**		**09 00 40.8**	**0.0**
	baz=193,slow=18								
FIA0				Lg		Lg		09 01 03.8	
	baz=187,slow=37								
FIA0	**FINESS Array S**	**1.84**	**24**	Pg		**Pb**		**09 00 40.8**	**0.0**
	baz=193,slow=18								
FIA0				Lg		Lg		09 01 03.8	
	baz=187,slow=37								
FIA0	**FINESS Array S**	**1.84**	**24**	Pg		**Pb**		**09 00 40.8**	**0.0**
	SNR=90								
FIA0				Lg		Lg		09 01 03.8	
	SNR=90								
FINES	**FINESS Array B**	**1.84**	**24**	Pn		**Pb**		**09 00 40.6**	**-0.2**
	4.4nm,0.3s,baz=198,slow=17,SNR=263								
FINES				Lg		Lg		09 01 03.8	
	4.9nm,0.3s,baz=205,slow=30,SNR=29								
RAF	**Rauma**	**1.85**	**314**	MSG				09 01 08.6	
	comp=Z,30nm,0.2s								
AAL	**Aland**	**2.31**	**282**	*eP*		**Pn**		**09 00 46.5**	**+0.9**
AAL				*eSB*		**Sn**		**09 01 16.1**	**+1.4**
AAL	**Aland**	**2.31**	**282**	P		**Pn**		**09 00 46.4**	**+0.9**
AAL				S		**Sn**		**09 01 16.0**	**+1.4**
KEF	**Keuruu**	**2.40**	**4**	MSG				09 01 22.0	
	comp=Z,16nm,0.2s								
KAF	**Kangasniemi**	**2.50**	**20**	MSG				09 01 25.7	
	comp=Z,13nm,0.2s								
NRTU	**Norrtaelje**	**2.98**	**271**	*eP*		**Pn**		**09 00 55.3**	**+0.5**
NRTU	**Norrtaelje**	**2.98**	**271**	P		**Pn**		**09 00 55.3**	**+0.5**
GRAU	**Graesoe**	**3.05**	**283**	*eP*		**Pn**		**09 00 56.0**	**+0.3**
GRAU				*eS*		**Sn**		**09 01 33.2**	**+0.4**
GRAU	**Graesoe**	**3.05**	**283**	P		**Pn**		**09 00 56.0**	**+0.3**
GRAU				S		**Sn**		**09 01 33.2**	**+0.4**
FLYU	**Flymyra**	**3.35**	**279**	*eP*		**Pn**		**09 01 00.4**	**+0.5**
FLYU	**Flymyra**	**3.35**	**279**	P		**Pn**		**09 01 00.4**	**+0.5**
OSTU	**Oestervaala**	**3.73**	**280**	*eP*		**Pn**		**09 01 05.6**	**+0.5**
OSTU	**Oestervaala**	**3.73**	**280**	P		**Pn**		**09 01 05.6**	**+0.5**
IGGU	**Iggoen**	**3.74**	**290**	*eP*		**Pn**		**09 01 05.9**	**+0.6**
IGGU	**Iggoen**	**3.74**	**290**	P		**Pn**		**09 01 05.9**	**+0.6**
HFS	**Hagfors**	**5.45**	**278**	Pn		**Pn**		**09 01 29.0**	**+0.3**
	baz=96,slow=12								
HFS				Sn		**Sn**		**09 02 30.9**	**-1.1**
	baz=87,slow=28								
HFS	**Hagfors**	**5.45**	**278**	Pn		**Pn**		**09 01 29.0**	**+0.3**
	baz=96,slow=12								
HFS				Sn		**Sn**		**09 02 30.9**	**-1.1**
	baz=87,slow=28								
HFS	**Hagfors**	**5.45**	**278**	Pn		**Pn**		**09 01 29.0**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=86,slow=12,SNR=13								
HFS				Sn		**Sn**		**09 02 31.1**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=92,slow=29,SNR=6.6								
HFS				Lg		Lg		09 02 52.3	
	comp=Z,0.8nm,0.3s,baz=87,slow=30,SNR=6.5								
NB2	**NORSAR Subarra**	**6.71**	**287**	Pn		**Pn**		**09 01 45.8**	**-0.2**
	baz=91,slow=14								
NB2	**NORSAR Subarra**	**6.71**	**287**	Pn		**Pn**		**09 01 45.8**	**-0.2**
	baz=91,slow=14								
NB2	**NORSAR Subarra**	**6.71**	**287**	Pn		**Pn**		**09 01 45.8**	**-0.2**
	SNR=50								
NOA	**NORSAR Array B**	**6.71**	**287**	Pn		**Pn**		**09 01 45.7**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=49,slow=8.1,SNR=36								
NOA				Sn		**Sn**		**09 03 01.1**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=111,slow=20,SNR=4.3								
NOA				Lg		Lg		09 03 41.5	
	comp=Z,0.4nm,0.3s,baz=109,slow=16,SNR=2.9								
ARA0	**ARCESS Array S**	**9.80**	**2**	Pn		**Pn**		**09 02 27.5**	**-0.9**
	baz=187,slow=11								
ARA0	**ARCESS Array S**	**9.80**	**2**	Pn		**Pn**		**09 02 27.5**	**-0.9**
	baz=187,slow=11								
ARA0	**ARCESS Array S**	**9.80**	**2**	Pn		**Pn**		**09 02 27.5**	**-0.9**
	SNR=50								
ARCES	**ARCESS Array B**	**9.80**	**2**	Pn		**Pn**		**09 02 27.6**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=179,slow=13,SNR=29								
ARCES				Sn		Sn		09 04 12.8	-6.2
	comp=Z,0.1nm,0.3s,baz=195,slow=28,SNR=2.2								
SPA0	**Spitsbergen Ar**	**18.68**	**355**	P		**Pn**		**09 04 25.9**	**+0.1**
	baz=159,slow=11								
SPA0	**Spitsbergen Ar**	**18.68**	**355**	P		**Pn**		**09 04 25.9**	**+0.1**
	SNR=5.5								
SPITS	**Spitsbergen Ar**	**18.68**	**355**	P		**Pn**		**09 04 26.4**	**+0.6**
	baz=156,slow=14,SNR=5.4								

NIED ***11*** *09:18:00,38.′00N×139.′50E, h11km, Mw3.8 Best double couple: M0=5.52000×10^14 NP1:φs=359.00000°, δ33.00000°, λ80.00000°. NP2:φs=191.00000°, δ57.00000°, λ96.00000°.*
ISCJB ***11*** *09:18:04.0±0.3,38.′06N±0.′02×139.′46E±0.′03, h25km±3km, mb3.9/8, Error ellipse: s-maj=4.9km s-min=3.7km az=36.8*
JMA ***11*** *09:18:04.2,38.′04N×139.′47E, h12km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs=198.00000°, δ70.00000°, λ93.00000°. NP2:φs=10.00000°, δ20.00000°, λ82.00000°. Principal axes: T Plg65.0000°, Azm113.0000°; N Plg3.0000°, Azm17.0000°; P Plg25.0000°, Azm286.0000°;*
JMA Felt III J1.
IDC ***11*** *09:18:08.4±1.6,38.′11N×139.′26E, h50km±18km, mb3.6/8, mb1 3.8/11, mb1mx3.6/35, mbtmp3.8/11, ML3.4/2, MS2.5/1, Ms1 2.5/1, ms1mx2.1/30 Error ellipse: s-maj=24.6km s-min=10.4km az=97.0*

ISC 11 09:18:03.8±1.4,**38.′04N**±0.′03×**139.′48E**±0.′03,**h16**km±9km, **n23,σ1s02/36,mb3.9/8,1C-8D,Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JNS	**Sasagawa**	**0.25**	**210**	⇓*P*		**Pb**		**09 18 09.3**	**-0.6**
JNS				S		**Sg**		**09 18 13.0**	**-0.2**
JAW	**Awa shima**	**0.45**	**337**	⇓P		**Pb**		**09 18 13.0**	**-0.4**
JAW				S		**Sb**		**09 18 19.6**	**-0.3**
JYS	**Shirataka**	**0.50**	**68**	⇓P		**Pb**		**09 18 14.0**	**-0.2**
JYS				S		**Sb**		**09 18 21.1**	**-0.1**
JYA	**Atsumi**	**0.58**	**19**	⇑P		**Pb**		**09 18 15.1**	**-0.5**
JYA				S		**Sb**		**09 18 23.4**	**-0.3**
JFY	**Yanaizu**	**0.66**	**164**	⇓P		**Pb**		**09 18 16.7**	**-0.1**
JFY				S		**Sb**		**09 18 25.8**	**+0.1**
JIZZ	**Izumozaki**	**0.79**	**230**	⇓P		**Pn**		**09 18 19.6**	**-0.6**
JIZZ				S		**Sn**		**09 18 31.7**	**+0.1**
JFT	**Otama**	**0.86**	**127**	⇓P		**Pn**		**09 18 20.7**	**-0.5**
JFT				S		**Sn**		**09 18 32.2**	**-1.2**
JHK	**Hiroka**	**0.87**	**205**	⇓P		**Pb**		**09 18 20.0**	**-0.4**
JHK				S		**Sg**		**09 18 31.8**	**-0.3**
JSD	**Sado**	**0.96**	**270**	⇓P		**Pb**		**09 18 21.2**	**-0.8**
JSD				S		**Sb**		**09 18 34.1**	**-0.3**
JOU	**Okura**	**0.99**	**70**	P		**Pn**		**09 18 22.7**	**-0.3**
JOU				S		**Sn**		**09 18 36.1**	**-0.6**
MAT	**Matsushiro**	**1.80**	**214**	P		**Pn**		**09 18 34.4**	**+0.2**
MAT				S		**Sb**		**09 18 58.6**	**-0.1**
MJAR	**Matsushiro Arr**	**1.80**	**214**	P		**Pn**		**09 18 34.9**	**+0.7**
	79nm,0.3s,baz=17,slow=16,SNR=405								
MJAR				S		**Sb**		**09 18 58.8**	**+0.1**
	255nm,0.3s,baz=277,slow=29,SNR=69								
ASAJ	**Asahikawa**	**6.51**	**20**	P		**Pn**		**09 19 41.5**	**+2.6**
	0.6nm,0.3s,baz=235,slow=12,SNR=4.0								
USRK	**Ussuriysk Ar.**	**8.35**	**320**	P		**Pn**		**09 20 04.1**	**+0.1**
	0.2nm,0.3s,baz=112,slow=16,SNR=2.8								
USRK				S		**Sn**		**09 21 34.9**	**-3.1**
	0.3nm,0.3s,baz=101,slow=29,SNR=4.4								
KSRS	**Korea Array**	**9.17**	**270**	P		**Pn**		**09 20 18.1**	**+2.7**
	0.9nm,0.3s,baz=81,slow=14,SNR=9.0								
KSRS				LR		LR		09 23 57.2	
	comp=Z,30nm,18.1s,baz=56,slow=39								
ILAR	**Eielson Array**	**49.48**	**33**	P		**P**		**09 26 53.3**	**+0.4**
	1.3nm,0.7s,baz=275,slow=6.4,SNR=14								
WRA	**Warramunga Arr**	**57.87**	**186**	P		**P**		**09 27 54.5**	**-0.2**
	1.3nm,0.6s,baz=2.1,slow=7.2,SNR=23								
ASAR	**Alice Springs**	**61.60**	**186**	P		**P**		**09 28 21.0**	**+0.6**
	0.9nm,0.9s,baz=8.2,slow=8.4,SNR=6.6								
YKA	**Yellowknife Ar**	**63.71**	**30**	P		**P**		**09 28 34.5**	**+0.4**
	0.5nm,0.6s,baz=303,slow=6.7,SNR=9.7								
FINES	**FINESS Array B**	**67.20**	**331**	P		**P**		**09 28 56.0**	**-0.7**
	0.9nm,0.7s,baz=29,slow=8.7,SNR=4.1								
AKASG	**Malin Array Be**	**72.56**	**321**	P		**P**		**09 29 29.1**	**-0.7**
	0.4nm,0.4s,baz=43,slow=5.8,SNR=4.5								
NVAR	**Mina Array Bea**	**75.61**	**52**	P		**P**		**09 29 49.5**	**+1.3**
	0.8nm,0.6s,baz=312,slow=5.6,SNR=6.3								
PDAR	**Pinedale Array**	**78.05**	**45**	P		**P**		**09 30 02.9**	**+1.0**
	0.6nm,0.7s,baz=316,slow=2.5,SNR=6.3								

GUC 11 09:20:37.0±0.9,**36.′13S×73.′30W,h23**km±7km,**ML4.1, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.73**	**168**	*eP*			Pb	09 20 50.6	-0.5
CCSP				*eS*			Sb	09 21 00.2	-0.5
LNCH	**Linares**	**1.41**	**79**	*eP*			Pn	09 21 01.6	+0.3
LNCH				*eS*			Sb	09 21 19.7	-0.3
TALC	**Talca**	**1.54**	**62**	*eP*			Pn	09 21 03.3	+0.3
TALC				*eS*			Sn	09 21 22.4	+0.1
NICH	**Los Niches**	**2.03**	**57**	*eP*			Pn	09 21 11.3	+1.5
NICH				*eS*			Sb	09 21 36.9	-1.1
CLCH	**Cerro Calan**	**3.55**	**41**	*eP*			Pn	09 21 31.8	+0.9
CLCH				AML		AML		09 22 34.1	
	comp=N,220nm,0.6s								
PEL	**Peldehue**	**3.67**	**37**	*eP*			Pn	09 21 33.5	+1.0
PEL				AML		AML		09 22 39.3	
	comp=N,220nm,0.6s								

CSEM ***11*** *09:49:18.9±0.2, 43.′57N×17.′49E, h2km, ML2.4, Error ellipse: s-maj=6.2km s-min=3.0km az=44.0*
BEO ***11*** *09:49:18.6±0.5, 43.′57N×17.′41E, h0km, ML2.4/8*
PDG ***11*** *09:49:18.8±0.3, 43.′55N×17.′41E, h9km, ML2.5/10, Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*
VIE ***11*** *09:49:21.4±0.6, 43.′98N×17.′94E, h10km, mb2.4/2, ML2.3/2, Error ellipse: s-maj=9.6km s-min=5.1km az=43.0 42 km WNW of Sarajevo*

ISC 11 09:49:19.0±1.1,**43.′58N**±0.′02×**17.′47E**±0.′02,**h6**km±10km, **n56,σ1s16/99,9C-8D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.73**	**166**	*i* P	g	**Pg**		**09 49 31.9**	**-1.0**
STON					Sg	**Sg**		**09 49 42.7**	**+0.4**
STON	**Ston**	**0.73**	**166**	*e*Pg		**Pg**		**09 49 31.7**	**-1.2**
STON				*e*Sg		**Sg**		**09 49 42.4**	**+0.1**
STON	**Ston**	**0.73**	**166**	*e*Pg		**Pg**		**09 49 31.7**	**-1.2**
STON				*e*Sg		**Sg**		**09 49 42.4**	**+0.1**
BRY	**Bratogost**	**1.03**	**130**	⇑*i*Pg		**Pg**		**09 49 37.7**	**-1.1**
BRY				*e*Sg		**Sn**		**09 49 54.7**	**-0.2**
BRY	**Bratogost**	**1.03**	**130**	⇑*i*Pg		**Pg**		**09 49 37.7**	**-1.1**
TREB	**Trebinje**	**1.07**	**143**	*e*Pg		**Pg**		**09 49 38.1**	**-1.5**
TREB				*e*Sg		**Sb**		**09 49 53.5**	**-0.7**
TREB	**Trebinje**	**1.07**	**143**	*e*Pg		**Pg**		**09 49 38.1**	**-1.5**
TREB				*e*Sg		**Sb**		**09 49 53.5**	**-0.7**
UPM	**Unac-Piva**	**1.11**	**109**	⇓*i*Pg		**Pg**		**09 49 39.7**	**-0.6**
UPM				*e*Sg		**Sn**		**09 49 57.9**	**+1.0**
UPM	**Unac-Piva**	**1.11**	**109**	⇓*i*Pg		**Pg**		**09 49 39.7**	**-0.6**
UPM				*e*Sg		**Sn**		**09 49 57.9**	**+1.0**
BLY	**Banja Luka**	**1.19**	**350**	*e*Pg		**Pb**		**09 49 41.3**	**-0.6**
BLY				*e*Sg		**Sb**		**09 49 56.6**	**-0.9**
BLY	**Banja Luka**	**1.19**	**350**	*e*Pg		**Pb**		**09 49 41.3**	**-0.6**
BLY				*e*Sg		**Sb**		**09 49 56.6**	**-0.9**
NKME	**Niksic**	**1.35**	**126**	⇑*i*Pg		**Pg**		**09 49 44.9**	**0.0**
NKME				*e*Sg		**Sg**		**09 50 06.1**	**+3.6**
NKME	**Niksic**	**1.35**	**126**	⇑*i*Pg		**Pg**		**09 49 44.9**	**0.0**
NKME				*e*Sg		**Sg**		**09 50 06.1**	**+3.6**
HCY	**Herceg Novi**	**1.36**	**146**	⇑*i*Pg		**Pb**		**09 49 44.4**	**-0.4**
HCY				*e*Sg		**Sg**		**09 50 05.1**	**+2.5**
HCY	**Herceg Novi**	**1.36**	**146**	⇑*i*Pg		**Pb**		**09 49 44.4**	**-0.4**
HCY				*e*Sg		**Sg**		**09 50 05.1**	**+2.5**
PLE	**Pljevlja**	**1.42**	**99**	*e*Pg		**Pb**		**09 49 45.5**	**-0.4**
PLE				*e*Sg		**Sg**		**09 50 08.1**	**+3.5**
PLE	**Pljevlja**	**1.42**	**99**	*e*Pg		**Pb**		**09 49 45.5**	**-0.4**
PLE				*e*Sg		**Sg**		**09 50 08.1**	**+3.5**
BBLS	**Lazići**	**1.43**	**78**	*e*Pg		**Pn**		**09 49 45.3**	**-0.2**
BBLS				*e*Sg		**Sg**		**09 50 05.3**	**+0.3**
BBLS	**Lazići**	**1.43**	**78**	*e*Pg		**Pn**		**09 49 45.3**	**-0.2**
BBLS				*e*Sg		**Sg**		**09 50 05.3**	**+0.3**
UDBI	**Udbina**	**1.55**	**308**	*e*Pn		**Pb**		**09 49 47.7**	**-0.5**
UDBI				Sg		**Sg**		**09 50 11.3**	**+2.3**
UDBI	**Udbina**	**1.55**	**308**	*e*Pn		**Pb**		**09 49 47.6**	**-0.5**
UDBI				Sg		**Sg**		**09 50 11.2**	**+2.3**
BUM	**Brajici-Budva**	**1.65**	**140**	⇑*i*Pn		**Pb**		**09 49 49.0**	**-0.8**
BUM				*e*Sn		**Sg**		**09 50 12.9**	**+0.9**
BUM	**Brajici-Budva**	**1.65**	**140**	⇑*i*Pn		**Pb**		**09 49 49.0**	**-0.8**
BUM				*e*Sn		**Sg**		**09 50 12.9**	**+0.9**
PDG	**Podgorica**	**1.74**	**131**	*e*Pg		**Pn**		**09 49 49.9**	**+0.2**
PDG	**Podgorica**	**1.74**	**131**	*e*Pg		**Pn**		**09 49 49.9**	**+0.2**
PDG	**Podgorica**	**1.74**	**131**	⇓*i*Pn		**Pb**		**09 49 50.5**	**-0.8**
PDG				*e*Sn		**Sg**		**09 50 15.2**	**+0.3**
TTG	**Podgorica**	**1.74**	**131**	⇓*i*Pn		**Pb**		**09 49 50.5**	**-0.8**
TTG				*e*Sn		**Sg**		**09 50 15.2**	**+0.3**
TEKS	**Tekeris**	**1.77**	**56**	*e*Pn		**Pg**		**09 49 52.4**	**-0.6**
TEKS				*e*Sn		**Sg**		**09 50 15.7**	**-0.3**
TEKS	**Tekeris**	**1.77**	**56**	*e*Pn		**Pg**		**09 49 52.4**	**-0.6**
DRME	**Dracevica, Mon**	**1.88**	**137**	*e*Pn		**Pb**		**09 49 52.7**	**-0.9**
DRME				*e*Sn		**Sg**		**09 50 18.9**	**-0.3**
DRME	**Dracevica, Mon**	**1.88**	**137**	*e*Pn		**Pb**		**09 49 52.7**	**-0.9**
DRME				*e*Sn		**Sg**		**09 50 18.9**	**-0.3**
DIVS	**Divibare**	**1.90**	**73**	*e*Pn		**Pn**		**09 49 52.1**	**+0.2**
DIVS				*e*Sn		**Sb**		**09 50 17.7**	**-0.3**
DIVS	**Divibare**	**1.90**	**73**	*e*Pn		**Pn**		**09 49 52.1**	**+0.2**
DIVS				*e*Sn		**Sb**		**09 50 17.7**	**-0.3**
BEY	**Berane**	**1.91**	**111**	*e*Pn		**Pb**		**09 49 53.9**	**-0.3**
BEY				*e*Sn		**Sg**		**09 50 20.4**	**+0.2**
IVA	**Berane**	**1.91**	**111**	*e*Pn		**Pb**		**09 49 53.9**	**-0.3**
IVA				*e*Sn		**Sg**		**09 50 20.4**	**+0.2**
IVAS	**Ivanjica**	**1.95**	**89**	*e*Pn		**Pn**		**09 49 52.7**	**+0.1**
IVAS				*e*Sg		**Sg**		**09 50 22.2**	**+0.6**
IVAS	**Ivanjica**	**1.95**	**89**	*e*Pn		**Pn**		**09 49 52.7**	**+0.1**
IVAS				*e*Sg		**Sg**		**09 50 22.2**	**+0.6**
ULC	**Ulcinj**	**2.08**	**140**	⇓*i*Pn		**Pn**		**09 49 54.7**	**+0.4**
ULC				*e*Sn		**Sb**		**09 50 23.7**	**+0.6**
ULC	**Ulcinj**	**2.08**	**140**	⇓*i*Pn		**Pn**		**09 49 54.7**	**+0.4**
ULC				*e*Sn		**Sb**		**09 50 23.7**	**+0.6**
NVLJ	**Novalja**	**2.12**	**299**	*i* Pn		**Pn**		**09 49 55.2**	**+0.4**
NVLJ				Sn		**Sb**		**09 50 23.4**	**-0.8**
NVLJ	**Novalja**	**2.12**	**299**	*i* Pn		**Pn**		**09 49 55.2**	**+0.4**
NVLJ				Sn		**Sb**		**09 50 23.4**	**-0.8**
GRUS	**Gruza**	**2.37**	**81**	*e*Pn		**Pn**		**09 49 58.4**	**0.0**
GRUS	**Gruza**	**2.37**	**81**	*e*Pn		**Pn**		**09 49 58.4**	**0.0**
BOJS	**Bojanci**	**2.49**	**321**	*i* Pn		**Pn**		**09 50 01.1**	**+1.0**
BOJS				*i* Sn		**Sb**		**09 50 33.9**	**-1.2**
BOJS	**Bojanci**	**2.49**	**321**	Pn		**Pn**		**09 50 01.1**	**+1.0**
BOJS				*i* Sn		**Sb**		**09 50 33.9**	**-1.2**
SELS	**Selova**	**2.68**	**96**	*e*Pn		**Pn**		**09 50 03.7**	**+1.0**
SELS	**Selova**	**2.68**	**96**	*e*Pn		**Pn**		**09 50 03.7**	**+1.0**
GBRS	**Gornja Briga**	**2.73**	**317**	*i* Pn		**Pn**		**09 50 05.3**	**+2.0**
SKDS	**Skadanscina**	**3.16**	**310**	*i* Pn		**Pn**		**09 50 10.2**	**+0.9**
SKDS				*i* Sn		**Sn**		**09 50 48.8**	**+1.6**
SKDS	**Skadanscina**	**3.16**	**310**	*i* Pn		**Pn**		**09 50 10.1**	**+0.9**
SKDS				*i* Sn		**Sn**		**09 50 48.8**	**+1.6**
PERS	**Pernice**	**3.48**	**332**	*i* Pn		**Pn**		**09 50 13.7**	**-0.1**
PERS	**Pernice**	**3.48**	**332**	*i* Pn		**Pn**		**09 50 13.6**	**-0.1**
SOKA	**Soboth**	**3.55**	**332**	⇓*i*Pn		**Pn**		**09 50 14.6**	**0.0**
SOKA				⇑*i*Sn		**Sn**		**09 50 55.4**	**-1.5**
SOKA	**Soboth**	**3

KUR	**Kuril'sk**	**2.75**	**41**	*eP*		**Pn**	**10 17 31.7**	**0.0**
KUR				*eS*		**Sn**	**10 18 04.2**	**+0.5**
KUR				A		A	10 18 18.0	
	70nm,0.4s							
YSS	**Yuzh-Sakhalins**	**4.20**	**335**	*eP*		**Pn**	**10 17 53.9**	**+2.3**
YSS				AMB		AMB	10 17 54.4	
	20nm,0.1s							
YSS				*eS*		**Sn**	**10 18 42.5**	**+3.2**

IDC ***11*** *10:28:05.2±1.0,20.00N×122.35E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/26, mbtmp3.8/6, Error ellipse: s-maj=73.6km s-min=18.7km az=65.0*

ISCJB ***11*** *10:28:08.8±0.9, 19.9N±0.2×122.2E±0.4, h36km, mb3.8/6, Error ellipse: s-maj=60.1km s-min=16.5km az=155.0*

ISC 11 10:28:10.4±1.2, 20.0N±0.2×122.4E±0.5, h36km, n12, σ0s55/6, mb3.9/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.39**	**163**	P	**P**	**10 35 52.9**	**-0.5**
	2.2nm,0.6s,baz=343,slow=9.0,SNR=28						
H11S3	**WAKE ISLAND Hy**	**41.80**	**84**	T	T	11 20 48.1	
	baz=280,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**41.80**	**82**	T	T	11 20 48.1	
	baz=278,slow=75,SNR=8.3						
H11N2	**WAKE ISLAND Hy**	**41.80**	**82**	T	T	11 20 55.1	
	baz=278,slow=75,SNR=7.8						
H11S1	**WAKE ISLAND Hy**	**41.81**	**84**	T	T	11 20 46.0	
	baz=280,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy**	**41.81**	**84**	T	T	11 20 48.8	
	baz=280,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**41.82**	**82**	T	T	11 20 48.0	
	baz=278,slow=75,SNR=6.7						
MKAR	**Makanchi Array**	**42.14**	**319**	P	**P**	**10 35 59.6**	**+0.3**
	0.6nm,0.6s,baz=113,slow=9.5,SNR=6.9						
ZALV	**Zalesovo Beam**	**44.36**	**329**	P	**P**	**10 36 16.5**	**-0.5**
	0.6nm,0.4s,baz=120,slow=10,SNR=3.6						
ASAR	**Alice Springs**	**44.83**	**165**	P	**P**	**10 36 21.6**	**+0.4**
	1.3nm,0.6s,baz=342,slow=6.8,SNR=23						
KURBB	**Kurchatov Arra**	**46.03**	**322**	P	**P**	**10 36 30.3**	**-0.1**
	1.2nm,0.7s,baz=116,slow=8.1,SNR=4.5						
YKA	**Yellowknife Ar**	**86.39**	**23**	P	**P**	**10 40 49.1**	**+0.3**
	0.2nm,0.6s,baz=305,slow=4.9,SNR=3.7						

IDC ***11*** *10:30:05.6±1.5, 38.52N×137.16E, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.3/45, mbtmp3.3/4, ML3.4/1, MS2.9/1, Ms1 3.0/1, ms1mx2.0/22, Error ellipse: s-maj=50.1km s-min=23.2km az=102.0*

ISCJB ***11*** *10:30:11.5±0.6, 38.06N±0.03×139.46E±0.04, h13km±5km, mb3.4/3, MS2.9/1, Error ellipse: s-maj=5.9km s-min=3.6km az=136.8*

JMA ***11*** *10:30:11.9, 38.04N×139.47E, h13km±1km, M3.3 Broadband fault plane solution: P waves. NP1: φs207.00000°, δ64.00000°, λ101.00000°. NP2:φs3.00000°, δ28.00000°, λ69.00000°. Principal axes: T Plg69.0000°, Azm139.0000°; N Plg10.0000°, Azm22.0000°; P Plg18.0000°, Azm289.0000°;*

JMA Felt II J1.

ISC 11 10:30:11.5±0.9, 38.04N±0.03×139.46E±0.03, h15km±7km, n16, σ0s62/27, mb3.6/3, 2C-6D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNS	**Sasagawa**	**0.25**	**207**	⇑P	**Pg**	**10 30 17.1**	**+0.1**
JNS				S	**Sg**	**10 30 20.7**	**0.0**
JAW	**Awa shima**	**0.45**	**338**	⇓P	**Pg**	**10 30 20.6**	**+0.1**
JYS	**Shirataka**	**0.51**	**69**	⇓P	**Pg**	**10 30 21.7**	**+0.1**
JYS				S	**Sg**	**10 30 29.0**	**+0.5**
JYA	**Atsumi**	**0.58**	**20**	⇑P	**Pg**	**10 30 22.9**	**-0.2**
JYA				S	**Sg**	**10 30 31.0**	**+0.1**
JFY	**Yanaizu**	**0.66**	**163**	P	**Pg**	**10 30 24.6**	**+0.1**
JFY				S	**Sg**	**10 30 33.5**	**+0.2**
JIZZ	**Izumozaki**	**0.78**	**230**	⇓P	**Pg**	**10 30 27.3**	**+0.5**
JIZZ				S	**Sn**	**10 30 39.3**	**-0.2**
JHK	**Hiroka**	**0.87**	**204**	P	**Pg**	**10 30 27.8**	**-0.6**
JHK				S	**Sg**	**10 30 39.6**	**-0.1**
JFT	**Otama**	**0.87**	**127**	⇓P	**Pg**	**10 30 28.4**	**0.0**
JFT				S	**Sg**	**10 30 39.8**	**0.0**
JSD	**Sado**	**0.95**	**270**	⇓P	**Pb**	**10 30 28.9**	**-0.8**
JOU	**Okura**	**1.00**	**71**	P	**Pb**	**10 30 30.5**	**-0.1**
JOU				S	**Sb**	**10 30 43.7**	**+0.1**
JMM	**Marumori**	**1.07**	**99**	⇓P	**Pb**	**10 30 30.9**	**-0.8**
JMM				S	**Sb**	**10 30 45.2**	**-0.2**
MAT	**Matsushiro**	**1.80**	**214**	P	**Pn**	**10 30 42.3**	**+0.2**
MAT				S	**Sn**	**10 31 05.9**	**+1.3**
MJAR	**Matsushiro Arr**	**1.80**	**214**	Pn	**Pn**	**10 30 42.9**	**+0.9**
	12nm,0.3s,baz=336,slow=26,SNR=105						
MJAR				Sn	**Sn**	**10 31 06.3**	**+1.6**
	46nm,0.3s,baz=355,slow=26,SNR=59						
ILAR	**Eielson Array**	**49.48**	**33**	P	**P**	**10 39 01.4**	**+0.5**
	0.4nm,0.7s,baz=266,slow=6.2,SNR=6.1						
ILAR				LR	LR	10 59 47.9	
	comp=Z,12nm,21.8s,baz=230,slow=36						
WRA	**Warramunga Arr**	**57.88**	**186**	P	**P**	**10 40 01.7**	**-1.1**
	0.5nm,0.8s,baz=3.2,slow=7.3,SNR=4.8						
YKA	**Yellowknife Ar**	**63.71**	**30**	P	**P**	**10 40 41.8**	**-0.3**
	0.1nm,0.6s,baz=306,slow=7.0,SNR=3.4						

IDC 11 10:31:49.1±2.1, 4.89S×152.03E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/27, mbtmp3.3/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/17, Error ellipse: s-maj=147.6km s-min=27.6km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.82**	**227**	P	P	10 36 54.2	+0.3
	0.4nm,0.5s,baz=54,slow=9.8,SNR=8.6						
ASAR	**Alice Springs**	**25.57**	**221**	P	P	10 37 20.5	+0.4
	0.5nm,0.9s,baz=54,slow=3.3,SNR=4.4						
PETK	**Petropavlovsk-**	**57.98**	**4**	LR	LR	11 00 47.4	
	comp=Z,13nm,20.8s,baz=120,slow=30						
ILAR	**Eielson Array**	**82.53**	**22**	P	P	10 44 14.6	+1.1
	0.2nm,0.5s,baz=250,slow=4.5,SNR=3.3						
TORD	**Torodi Ar. Bea**	**149.60**	**288**	PKPbc	PKPdf	10 51 39.4	+2.2
	0.4nm,0.4s,baz=92,slow=2.1,SNR=6.2						

ISCJB ***11*** *10:41:15.5±0.6, 32.13N±0.02×115.17W±0.03, h5km±4km, Error ellipse: s-maj=4.2km s-min=3.5km az=40.9*

NEIC ***11*** *10:41:17.1, 32.13N×115.19W, h2km, MD3.7(MEX), ML3.6(PAS), ML3.6(ECX), After ECX.*

ECX ***11*** *10:41:17.1±0.5, 32.13N×115.19W, h2km, MD3.5, ML3.7*

MEX ***11*** *10:41:18.6±0.3, 32.20N×115.12W, h12km, MD3.7*

ISC 11 10:41:16.1±1.1, 32.12N±0.03×115.18W±0.02, h8km±9km, n28, σ1s41/47, 4C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.29**	**357**	*i* P	**Pg**	**10 41 22.8**	**+1.0**
MBIG				*i* S	**Sg**	**10 41 25.7**	**+0.1**
CPBX	**Cerro Prieto**	**0.32**	**341**	*e*P9		10 41 23.2	
CPBX				*e*S	**Sg**	**10 41 28.1**	**+1.5**
CPBX				IAML		10 41 30.3	
	comp=N,34μm,0.6s						
CPBX				⇑*e*		10 41 30.3	
EMSC	**East Mesa**	**0.64**	**15**	⇓*e*P	**Pg**	**10 41 28.7**	**+0.3**
RDX	**Rancho Dawling**	**0.67**	**254**	⇓*e*P	**Pg**	**10 41 29.8**	**+0.7**
RDX				*e*S	**Sg**	**10 41 38.7**	**+0.8**
RDX				⇓*e*		10 41 40.3	
	comp=N,3μm,0.5s						
YMD	**Yuma Desert**	**0.69**	**51**	⇑*e*P	**Pg**	**10 41 29.4**	**-0.1**
SGL	**Mount Signal**	**0.70**	**319**	⇓*e*P	**Pg**	**10 41 29.3**	**-0.3**
DREC	**Desert Rsrch C**	**0.72**	**342**	*e*P	**Pg**	**10 41 30.1**	**+0.1**
COA	**Coachella**	**0.74**	**4**	⇓*e*P	**Pg**	**10 41 30.0**	**-0.4**
YUH	**Yuha Desert**	**0.82**	**310**	⇓*e*P	**Pg**	**10 41 31.1**	**-0.8**
RMX	**La Rumorosa**	**0.90**	**303**	*e*P	**Pg**	**10 41 32.8**	**-0.6**
RMX				*e*S	**Sg**	**10 41 45.1**	**0.0**
RMX				⇑*e*		10 41 45.6	
	comp=E,2μm,0.4s						
GLA	**Glamis**	**0.98**	**18**	*e*Pg	**Pg**	**10 41 33.0**	**-1.9**
GLA				*e*Sg	**Sg**	**10 41 45.1**	**-2.5**
SPIG	**San Pedro Mart**	**1.10**	**193**	*e*P	**Pb**	**10 41 37.6**	**+0.1**
SPIG				*e*S	**Sg**	**10 41 52.4**	**+1.0**
SPIG	**San Pedro Mart**	**1.10**	**193**	*e*P	**Pb**	**10 41 37.6**	**+0.1**
SPIG				*e*S	**Sg**	**10 41 52.4**	**+1.0**
SPX	**San Pedro Mart**	**1.10**	**193**	*e*S	**Sg**	**10 41 51.8**	**+0.4**

ZAX	**El Zacaton**	**1.11**	**237**	*e*P		**Pb**	**10 41 36.6**	**-1.0**
ZAX				*e*S		**Sg**	**10 41 52.1**	**+0.3**
CBX	**Cerro Bola**	**1.27**	**279**	*e*P		**Pn**	**10 41 39.1**	**-1.2**
CBX				*e*S		**Sb**	**10 41 55.0**	**-2.0**
CBX	**Cerro Bola**	**1.27**	**279**	*e*P		**Pn**	**10 41 39.1**	**-1.2**
CBX				*e*S		**Sb**	**10 41 55.0**	**-2.0**
CBX	**Cerro Bola**	**1.27**	**279**	*e*P		**Pn**	**10 41 39.5**	**-0.8**
CBX				*e*S		**Sb**	**10 41 56.4**	**-0.6**
CBX				*e*			10 41 57.5	
	comp=E,2μm,0.3s							
ECNX	**Esteban Cantu**	**1.29**	**250**	*e*P		**Pn**	**10 41 39.4**	**-1.2**
ECNX				*e*S		**Sb**	**10 41 57.0**	**-0.4**
PBX	**Punta Banda**	**1.37**	**254**	*e*P		**Pn**	**10 41 40.5**	**-1.0**
PBX				*e*S		**Sb**	**10 41 59.4**	**-0.2**
PFO	**Pinyon Flats O**	**1.83**	**325**	*e*Pn		**Pn**	**10 41 45.6**	**-2.5**
PFO				*e*Sn		**Sb**	**10 42 13.6**	**+0.4**
214A	**Organ Pipe Nat**	**2.02**	**94**	*e*Pn		**Pn**	**10 41 48.2**	**-2.3**
214A				*e*Sn		**Sb**	**10 42 18.5**	**+0.2**
MWC	**Mount Wilson**	**3.20**	**312**	*e*Pn		**Pn**	**10 42 08.2**	**+1.3**
MWC				*e*Sn		**Sn**	**10 42 45.9**	**+0.6**
GSC	**Goldstone, Bar**	**3.45**	**337**	Pn		**Pn**	**10 42 13.1**	**+2.8**
GSC				Sn		**Sn**	**10 42 52.9**	**+1.5**
TUC	**Tucson**	**3.73**	**86**	*e*Pn		**Pn**	**10 42 13.8**	**-0.3**
TUC				*e*Sn		**Sn**	**10 43 00.4**	**+2.1**
DAC	**Darwin (Calif)**	**4.61**	**335**	*e*Pn		**Pn**	**10 42 26.8**	**+0.6**
DAC				*e*Sn		**Sn**	**10 43 18.4**	**-1.6**
R11A	**Troy Canyon, C**	**6.23**	**357**	*e*Pn		**Pn**	**10 42 48.8**	**+0.3**
	comp=E,3.8nm,0.5s							
R11A				Sn		**Sn**	**10 44 04.5**	**+4.5**
121A	**Cookes Peak, D**	**6.27**	**84**	*e*Pn		**Pn**	**10 42 48.0**	**-1.1**
	comp=E,5.0nm,0.3s							

CSEM ***11*** *10:48:44.0, 39.65N×29.40E, h7km, MD2.5, Mining explosion.*

DDA 11 10:48:44.0, 39.65N±29.40E, h7km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.57**	**174**	*i* P	Pg	10 48 54.9	-0.2
GDZ				*i* S	Sb	10 49 04.3	-0.6
GDZ	**Gediz**	**0.57**	**174**	*i* P	Pg	10 48 54.9	-0.2
GDZ				*i* S	Sb	10 49 04.3	-0.6
DEMI	**Demirci**	**0.81**	**221**	*i* P	Pg	10 48 59.9	+0.2
DEMI				*i* S	Sn	10 49 16.7	+2.4
DEMI	**Demirci**	**0.81**	**221**	*i* P	Pg	10 48 59.9	+0.3
DEMI				*i* S	Sn	10 49 16.7	+2.4
BORA	**Eskisehir**	**0.84**	**74**	*i* P	Pg	10 48 58.7	-1.6
BORA				*i* S	Sg	10 49 11.1	-0.3
BORA	**Eskisehir**	**0.84**	**74**	*i* P	Pg	10 48 58.7	-1.6
BORA				*i* S	Sg	10 49 11.1	-0.3
SEYT	**Eskypehyr**	**1.13**	**96**	*i* P	Pg	10 49 04.8	-1.0
SEYT				*i* S	Sn	10 49 22.4	+0.2
SEYT	**Eskypehyr**	**1.13**	**96**	*i* P	Pg	10 49 04.8	-1.0
SEYT				*i* S	Sn	10 49 22.4	+0.2

CSEM ***11*** *10:58:43.2±0.3, 37.14N×27.91E, h22km, MD2.6, Error ellipse: s-maj=10.9km s-min=5.5km az=1.0*

ISK 11 10:58:43.2, 37.14N±27.91E, h22km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.30**	**90**	*e*Pg	Pb	10 58 50.3	+0.3
YER				*e*Sg	Sb	10 58 55.7	+0.9
YER	**Yerkesik**	**0.30**	**90**	*e*Pg	Pb	10 58 50.3	+0.2
YER				*e*Sg	Sb	10 58 55.7	+1.0
BDRM	**Kayabasi**	**0.38**	**259**	*i* P	Pb	10 58 51.6	+0.3
BDRM				*i* S	Sn	10 58 58.6	-1.5
BDRM	**Kayabasi**	**0.38**	**259**	*i* P	Pb	10 58 51.8	+0.5
BDRM				*i* S	Sn	10 58 58.7	-1.4
BDRM	**Kayabasi**	**0.38**	**259**	*i* P	Pb	10 58 51.6	+0.3
BDRM				*i* S	Sn	10 58 58.6	-1.5
BODT	**Bodrum**	**0.49**	**261**	*e*PG	Pb	10 58 53.6	+0.5
BODT				*e*SG	Sb	10 59 01.1	+1.3
BODT	**Bodrum**	**0.49**	**261**	*e*Pg	Pb	10 58 53.6	+0.5
BODT				*e*Sg	Sb	10 59 01.2	+1.4
DAT	**Datca**	**0.49**	**213**	*e*PG	Pb	10 58 53.6	+0.4
DAT	**Datca**	**0.49**	**213**	*e*Pg	Pb	10 58 53.6	+0.3
TURN	**Turunc**	**0.61**	**115**	*i* P	Pb	10 58 53.4	-1.9
TURN				*i* S	Sb	10 59 03.3	-0.2
TURN	**Turunc**	**0.61**	**115**	*i* P	Pb	10 58 53.4	-1.9
TURN				*i* S	Sb	10 59 03.3	-0.2
DALY	**Dalyan (Mu˘la**	**0.68**	**118**	*e*PG	Pn	10 58 57.1	-0.3
DALY	**Dalyan (Mu˘la**	**0.68**	**118**	*e*Pg	Pn	10 58 57.1	-0.3
AYDB	**Zeytinkoy-Aydi**	**0.81**	**359**	*e*PG	Pn	10 58 59.5	+0.1
AYDB	**Zeytinkoy-Aydi**	**0.81**	**359**	*e*Pg	Pn	10 58 59.5	0.0

IDC ***11*** *11:01:28.0±1.0, 1.99N×96.57E, h0km, mb4.2/12, mb1 4.3/14, mb1mx4.1/48, mbtmp4.2/14, ML3.8/2, MS3.3/8, Ms1 3.3/8, ms1mx3.0/35, Error ellipse: s-maj=26.6km s-min=16.7km az=36.0*

ISCJB ***11*** *11:01:31.9±0.7, 1.96N±0.04×96.62E±0.04, h41km±6km, mb4.2/15, MS3.3/5, Error ellipse: s-maj=8.8km s-min=5.2km az=137.9*

DJA ***11*** *11:01:31.6±0.6, 2˚N±3˚×9˚7E±˚, h49km±7km, M4.3/9, MLv4.3/9*

NEIC ***11*** *11:01:33.9±1.4, 2.03N×96.71E, h39km±11km, mb4.3/4, Error ellipse: s-maj=17.5km s-min=7.0km az=61.0*

ISC 11 11:01:31.6±1.9, 2.00N±0.05×96.64E±0.05, h23km±14km, n43, σ1s27/47, mb4.2/15, MS3.3/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.51**	**323**	P	**Pn**	**11 01 44.1**	**+0.6**
SNSI				S	**Sn**	**11 01 52.7**	**+1.2**
GSI	**Gunungsitoli**	**1.17**	**126**	P	**Pb**	**11 01 53.2**	**+0.2**
GSI				S	**Sn**	**11 02 07.5**	**-0.2**
GSI	**Gunungsitoli**	**1.17**	**126**	*e*Pg	**Pb**	**11 01 53.2**	**+0.2**
GSI				*e*Sn	**Sn**	**11 02 03.7**	**-4.0**
KCSI	**Kotacane, Aceh**	**1.89**	**37**	P	**Pn**	**11 02 02.8**	**+0.3**
KCSI				S	**Sn**	**11 02 27.1**	**+1.5**
PSI	**Prapat**	**2.42**	**71**	Pn	**Pn**	**11 02 10.1**	**+0.2**
	6.2nm,0.3s,baz=268,slow=15,SNR=17						
PSI				Sn	**Sn**	**11 02 40.3**	**+1.4**
	14nm,0.3s,baz=330,slow=16,SNR=4.3						
PSI				LR	LR	11 02 59.4	
	comp=Z,356nm,19.9s,baz=301,slow=37						
TSI	**Tuntungan**	**2.44**	**52**	P	**Pn**	**11 02 09.7**	**-0.3**
TSI				S	**Sn**	**11 02 41.1**	**+2.0**
MNSI	**Mandailing Nat**	**3.17**	**112**	P	**Pn**	**11 02 21.4**	**+1.2**
MNSI				S	**Sn**	**11 02 58.6**	**+1.3**
LHMI	**Lhok Sumawe**	**3.22**	**5**	P	**Pn**	**11 02 19.9**	**-0.9**
LHMI				S	**Sn**	**11 02 59.9**	**+1.4**
LHMI	**Lhok Sumawe**	**3.22**	**5**	*e*Pn	**Pn**	**11 02 21.3**	**+0.5**
BSI	**Banda Aceh**	**3.72**	**339**	P	**Pn**	**11 02 26.5**	**-1.2**
BSI				S	**Sn**	**11 03 07.6**	**-3.3**
BKNI	**Bangkinang**	**4.71**	**111**	P	**Pn**	**11 02 40.5**	**-0.7**
PDSI	**Padang**	**4.79**	**127**	P	**Pn**	**11 02 43.4**	**+0.9**
IPM	**Ipoh**	**5.03**	**61**	*e*Pn	**Pn**	**11 02 46.0**	**+0.3**
IPM				*e*Sn	**Sn**	**11 03 40.2**	**-2.8**
KULM	**Kulim**	**5.17**	**51**	*e*Pn	**Pn**	**11 02 46.9**	**-0.7**
	207nm,0.6s						
KULM				*e*Sn	**Sn**	**11 03 43.3**	**-3.2**
SDSI	**Sungai Dareh**	**5.61**	**121**	P	**Pn**	**11 02 52.9**	**-0.7**
LEM	**Lembang**	**14.04**	**129**	LR	LR	11 09 52.3	
	comp=Z,110nm,22.0s,baz=230,slow=36						
CM31	**Chiang Mai Arr**	**16.51**	**8**	*e*P	**P**	**11 05 24.1**	**-0.2**
	16nm,0.9s						
CMAR	**Chiang Mai Arr**	**16.51**	**8**	Pn	**Pn**	**11 05 21.2**	**-0.6**
	0.3nm,0.3s,baz=198,slow=11,SNR=47						
CMAR				LR	LR	11 12 06.7	
	comp=Z,115nm,18.9s,baz=210,slow=39						
H01W3	**Cape Leeuwin H**	**40.19**	**157**	T	T	11 51 54.7	
	baz=334,slow=76,SNR=13						
H01W2	**Cape Leeuwin H**	**40.21**	**157**	T	T	11 52 03.6	
	baz=334,slow=76,SNR=13						
H01W1	**Cape Leeuwin H**	**40.21**	**157**	T	T	11 52 00.1	
	baz=334,slow=76,SNR=12						
WRA	**Warramunga Arr**	**42.93**	**122**	P	**P**	**11 09 29.1**	**0.0**
	2.4nm,0.7s,baz=300,slow=9.3,SNR=17						
WRAB	**Tennant Creek**	**42.94**	**122**	*e*P	**P**	**11 09 29.1**	**+0.1**
	3.3nm,0.6s						
ASAR	**Alice Springs**	**44.32**	**127**	P	**P**	**11 09 40.9**	**+0.6**
	1.9nm,0.8s,baz=305,slow=8.1,SNR=12						
KSAR	**Wonju Array Be**	**45.49**	**35**	P	**P**	**11 09 48.9**	**-0.3**
KSRS	**Korea Array**	**45.52**	**35**	P	**P**	**11 09 48.9**	**-0.6**
	3.2nm,0.8s,baz=226,slow=9.4,SNR=10.0						
MKAR	**Makanchi Array**	**46.34**	**346**	P	**P**	**11 09 56.0**	**+0.2**
	6.1nm,0.7s,baz=162,slow=6.7,SNR=55						
MKAR				LR	LR	11 33 24.4	
	comp=Z,26nm,18.4s,baz=170,slow=41						
MK31	**Makanchi Array**	**46.34**	**346**	*e*P	**P**	**11 09 56.2**	**+0.4**
SONM	**Songino Array**	**46.43**	**9**	P	**P**	**11 09 57.1**	**+0.4**
	4.2nm,0.8s,baz=191,slow=8.3,SNR=19						
KURK	**Kurchatov**	**50.88**	**345**	*e*P	**P**	**11 10 31.0**	**+0.4**
	2.3nm,0.3s						
USRK	**Ussuriysk Ar.**	**52.38**	**32**	P	**P**	**11 10 42.4**	**+0.4**
	1.9nm,0.7s,baz=224,slow=8.0,SNR=4.7						
ZAA0	**Zalesovo Array**	**52.69**	**351**	*e*P	**P**	**11 10 44.1**	**0.0**
ZALV	**Zalesovo Beam**	**52.69**	**351**	P	**P**	**11 10 44.1**	**0.0**
	9.1nm,0.7s,baz=176,slow=6.9,SNR=36						
ZALV				LR	LR	11 37 09.8	
	comp=Z,13nm,18.9s,baz=231,slow=41						
ABKAR	**Akbulak array**	**56.55**	**332**	*e*P	**P**	**11 11 12.5**	**+0.3**
	4.6nm,0.9s						
ASAJ	**Asahikawa**	**58.37**	**37**	LR	LR	11 37 14.1	
	comp=Z,20nm,18.6s,baz=345,slow=37						
BRTR	**Keskin Array B**	**68.16**	**312**	P	**P**	**11 12 30.0**	**-0.3**
	0.4nm,0.5s,baz=111,slow=6.5,SNR=2.8						
AKASG	**Malin Array Be**	**74.29**	**322**	P	**P**	**11 13 06.5**	**-0.5**
	0.2nm,0.3s,baz=89,slow=5.4,SNR=3.5						
FINES	**FINESS Array B**	**79.03**	**333**	P	**P**	**11 13 33.8**	**+0.2**
	1.2nm,0.7s,baz=180,slow=1.9,SNR=4.7						
FINES				LR	LR	11 53 14.8	
	comp=Z,20nm,18.3s,baz=176,slow=39						
ARCES	**ARCESS Array B**	**81.60**	**340**	P	**P**	**11 13 47.4**	**+0.1**
	1.9nm,0.7s,baz=87,slow=4.6,SNR=8.2						
GERES	**GERESS Array B**	**83.84**	**319**	P	**P**	**11 14 00.5**	**+0.9**
	0.5nm,0.2s,baz=112,slow=5.9,SNR=3.4						
TORD	**Torodi Ar. Bea**	**94.36**	**283**	LR	LR	11 54 58.8	
	comp=Z,24nm,19.6s,baz=40,slow=34						
SRU	**San Rafael Swe**	**132.07**	**29**	*e*PKPdf	**PKPdf**	**11 20 43.8**	**-0.4**
TXAR	**Lajitas Array**	**143.28**	**30**	PKP	PKPbc	11 21 02.8	+0.9
	0.2nm,0.7s,baz=297,slow=1.4,SNR=3.6						

ISCJB ***11*** *11:26:52.2±0.6, 51.51N±0.07×175.84W±0.05, h47km, mb3.8/7, MS3.0/1, Error ellipse: s-maj=10.7km s-min=3.9km az=172.0*

IDC ***11*** *11:26:53.0±0.8, 51.71N×175.98W, h52km±7km, mb3.6/7, mb1 3.8/8, mb1mx3.5/27, mbtmp3.8/8, MS2.7/2, Ms1 2.7/2, ms1mx2.3/27, Error ellipse: s-maj=35.7km s-min=15.2km az=150.0*

NEIC ***11*** *11:26:53.3, 51.65N×175.88W, h45km, ML4.0(AEIC), After AEIC.*

ISC 11 11:26:53.1±0.7, 51.7N±0.1×175.89W±0.04, h47km, n44, σ1s40/44, mb3.9/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ETKA	**Kagalaska Isla**	**0.37**	**300**	P	**Pn**	**11 27 03.5**	**+0.9**
GSCK	**Great Sitkin C**	**0.38**	**333**	P	**Pn**	**11 27 03.7**	**+0.9**
GSMY	**Great Sitkin M**	**0.38**	**344**	P	**Pn**	**11 27 03.6**	**+0.8**
GSTD	**Great Sitkin T**	**0.41**	**337**	P	**Pn**	**11 27 04.0**	**+0.8**
GSTR	**Great Sitkin T**	**0.43**	**346**	P	**Pn**	**11 27 04.4**	**+1.1**
ADK	**Adak**	**0.54**	**293**	P	**Pn**	**11 27 05.0**	**+0.4**
ADK				S	**Sn**	**11 27 13.6**	**+0.8**
KIRH	**Kanaga Island**	**0.78**	**287**	P	**Pn**	**11 27 08.6**	**+0.8**
KIKV	**Kanaga Island**	**0.82**	**285**	P	**Pn**	**11 27 09.0**	**+0.7**
ATKA	**Atka Island**	**1.17**	**63**	P	**Pn**	**11 27 13.6**	**+0.6**
ATKA				S	**Sn**	**11 27 29.1**	**+1.3**
TAFL	**Tanaga Flats**	**1.25**	**274**	P	**Pn**	**11 27 15.0**	**+0.9**
KOFP	**Korovin Flat P**	**1.26**	**61**	P	**Pn**	**11 27 16.1**	**+1.8**
TAFP	**Tanaga Falls P**	**1.32**	**281**	P	**Pn**	**11 27 15.8**	**+0.8**
TAFP				S	**Sn**	**11 27 32.8**	**+1.3**
TASE	**Tanaga Southea**	**1.34**	**278**	P	**Pn**	**11 27 16.4**	**+1.0**
TANO	**Tanaga North**	**1.41**	**281**	P	**Pn**	**11 27 17.2**	**+1.0**
GAEA	**Gareloi East**	**1.78**	**275**	P	**Pn**	**11 27 22.3**	**+1.0**
CEAP	**Semis' Anvil P**	**2.83**	**278**	P	**Pn**	**11 27 36.6**	**+0.9**
CETU	**Semis' Tuman**	**2.88**	**278**	P	**Pn**	**11 27 37.7**	**+1.2**
AMKA	**Amchitka**	**3.02**	**266**	P	**Pn**	**11 27 39.0**	**+0.7**
AMKA				S	**Sn**	**11 28 16.6**	**+3.4**
LSPA	**Little Sitkin**	**3.45**	**277**	P	**Pn**	**11 27 45.5**	**+1.3**
LSPA				S	**Sn**	**11 28 27.4**	**+3.6**
LSNW	**Little Sitkin**	**3.48**	**277**	P	**Pn**	**11 27 45.6**	**+0.9**
LSSA	**Little Sitkin**	**3.49**	**277**	P	**Pn**	**11 27 46.0**	**+1.3**
NIKH	**Nikolski High**	**4.51**	**

CSOR	**Sort**	**1.86**	**41**	Pg	Pn	11 59 00.1	-0.3		
	SNR=7.9								
CSOR				Lg	Lg	11 59 25.1			
	SNR=7.9								
IEPA	**Eparoz**	**1.87**	**343**	P	Pn	11 58 59.3	-1.1		
	SNR=7.9								
IEPA				Sn	Sn	11 59 21.8	-3.0		
	3.9nm,0.5s,SNR=7.9								
IELO	**Elcoad**	**1.93**	**344**	P	Pn	11 59 00.1	-1.0		
	SNR=7.9								
IELO				Sn	Sn	11 59 24.7	-1.4		
	1.5nm,0.2s,SNR=7.9								

CSEM ***11*** *12:12:25.6, 37.40N×38.72E, h22km, MD2.5*
ISK 11 12:12:25.6, 37.40N×38.72E, h22km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.09**	**62**	*e*PG	Pb	12 12 30.0	+0.1
URFA				*e*SG	Sb	12 12 33.2	+0.4
URFA	**Urfa**	**0.09**	**62**	*e*Pg	Pb	12 12 30.0	+0.1
URFA				*e*Sg	Sb	12 12 33.2	+0.4
MALT	**Malatya**	**0.94**	**346**	*e*PG	Pn	12 12 43.9	+0.2
MALT				*e*SG	Sn	12 12 57.2	+0.7
MALT	**Malatya**	**0.94**	**346**	*e*Pg	Pn	12 12 43.9	+0.2
MALT				*e*Sg	Sn	12 12 57.3	+0.7
SVRC	**Sivrice-ELAZID**	**1.08**	**25**	*e*PG	Pn	12 12 45.8	+0.1
SVRC	**Sivrice-ELAZID**	**1.08**	**25**	*e*Pg	Pb	12 12 45.8	-0.1
MAZI	**Mazidag**	**1.37**	**87**	*e*PN	Pn	12 12 50.1	+0.5
MAZI	**Mazidag**	**1.37**	**87**	*e*Pn	Pn	12 12 50.1	+0.5

BJI ***11*** *12:17:42.5, 3.32N×95.72E, h35km, mb5.5/83, mB5.5/55, Ms5.4/93, Ms7 5.3/83*
MOS ***11*** *12:17:45.4±1.1, 3.57N×95.89E, h38km, mb6.0/90, MS5.0/30, Error ellipse: s-maj=6.9km s-min=3.5km az=119.1*
IDC ***11*** *12:17:46.6±0.8, 3.57N×95.95E, h36km±5km, mb5.0/38, mb1 5.0/39, mb1mx5.0/39, mbtmp5.2/39, ML4.8/1, MS4.9/32, Ms1 4.9/32, ms1mx4.8/33, Error ellipse: s-maj=13.1km s-min=9.3km az=45.0*
ISCJB ***11*** *12:17:46.2±0.3, 3.50N±0.02×95.87E±0.02, h48km±3km, mb5.6/225, MS5.2/252, Error ellipse: s-maj=3.4km s-min=2.3km az=42.7*
GCMT ***11*** *12:17:47.1±0.1, 3.24N×95.69E, h42km, MW5.4/94, Moment Tensor Solution. s94,c160; s92,c182; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr 1.27±.03; Mθθ -0.76±.02; Mφφ -0.50±.02; Mrθ 0.92±.02; Mθφ 0.68±.02; Mφr -0.71±.02; Best double couple: M0 1.74400×10^17 NP1:φs128.00000°, δ66.00000°, λ89.00000°. NP2:φs311.00000°, δ24.00000°, λ93.00000°. Principal axes: T 1.7180, Plg69.0000°, Azm36.0000°; N 0.0570, Plg1.0000°, Azm129.0000°; P -1.7710, Plg21.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***11*** *12:17:47.1±0.1, 3.50N×95.85E, mb5.6/51, MS5.3/203, MW5.3 Error ellipse: s-maj=4.4km s-min=3.0km az=36.0, Moment Tensor Solution. s32 Moment tensor: Scale 10^17 Nm; Mrr 1.12; Mθθ 0.10; Mφφ -1.22; Mrθ 0.43; Mθφ -0.04; Mφr -0.41; Best double couple: M0 1.30000×10^17 NP1: φs163.00000°, δ58.00000°, λ68.00000°. NP2:φs20.00000°, δ39.00000°, λ121.00000°. Principal axes: T 1.3400, Plg68.0000°, Azm25.0000°; N -0.0500, Plg18.0000°, Azm175.0000°; P -1.2900, Plg9.0000°, Azm268.0000°;*
NEIC Felt [III] at Banda Aceh and Meulaboh; [II] at Sigli.
DJA ***11*** *12:17:49.3±0.3, 3.1N±2.9×96.4E±, h47km±3km, M5.5/68, mb5.6/68, mB5.9/52, MLv5.5/1, Mw(mB)5.5/52, Mwp6.5/3*
SZGRF ***11*** *12:17:49.0, 3.21N×95.13E, h44km, mb5.8, MS4.9, Off west coast of northern Sumatera, Indonesia*
KLM ***11*** *12:17:50.2, 3.42N×95.97E, h35km, mb5.4, ML5.4, MS6.3*
ISC 11 12:17:46.8±0.2, 3.47N±0.02×95.82E±0.03, h41km±1km, h40km:pP-P, n1588, σ1s34/1804, mb5.7/231, MS5.2/257, 374C-182D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**1.17**	**155**	P	**Pn**	**12 18 07.6**	**+0.8**
KCSI	**Kotacane, Aceh**	**1.95**	**89**	P	**Pn**	**12 18 18.8**	**+1.4**
KCSI				S	**Sn**	**12 18 42.4**	**+1.8**
LHMI	**Lhok Sumawe**	**2.07**	**33**	P	**Pn**	**12 18 21.6**	**+2.5**
LHMI				S	**Sn**	**12 18 47.4**	**+3.7**
LHMI	**Lhok Sumawe**	**2.07**	**33**	*e*Pn	**Pn**	**12 18 22.1**	**+2.9**
BSI	**Banda Aceh**	**2.08**	**345**	P	**Pn**	**12 18 22.1**	**+2.9**
BSI				S	**Sn**	**12 18 48.4**	**+4.5**
TSI	**Tuntungan**	**2.74**	**89**	P	**Pn**	**12 18 29.8**	**+1.5**
TSI				S	**Sn**	**12 19 02.8**	**+2.7**
GSI	**Gunungsitoli**	**2.78**	**141**	P	**Pn**	**12 18 29.6**	**+0.8**
GSI	**Gunungsitoli**	**2.78**	**141**	*e*Pn	**Pn**	**12 18 28.1**	**-0.7**
GSI				*e*Sn	**Sn**	**12 19 00.2**	**-1.0**
PSI	**Prapat**	**3.17**	**102**	Pn	**Pn**	**12 18 36.0**	**+1.7**
	17nm,0.3s,baz=285,slow=9.1,SNR=102						
PSI				Sn	**Sn**	**12 19 13.7**	**+2.8**
	125nm,0.3s,baz=138,slow=7.4,SNR=7.6						
PSI				LR	LR	12 20 08.3	
	comp=Z,27μm,21.0s,baz=277,slow=46						
CMBY	**CAMPBELL BAY**	**3.99**	**332**	*e*P	**Pn**	**12 18 45.2**	**-0.3**
CMBY				AMB	AMB	12 19 11.1	
	comp=Z,2μm,0.6s						
MNSI	**Mandailing Nat**	**4.60**	**125**	P	**Pn**	**12 18 54.7**	**+0.8**
MNSI				S	**Sn**	**12 19 47.3**	**+1.2**
PKDT	**Phuket**	**5.05**	**30**	P	**Pn**	**12 18 59.1**	**-1.0**
	comp=Z,2μm,0.8s,comp=Z,19μmcomp=Z,6.0nm						
KULM	**Kulim**	**5.14**	**69**	⇑P	**Pn**	**12 19 02.9**	**+1.6**
IPM	**Ipoh**	**5.29**	**79**	⇑P	**Pn**	**12 19 05.0**	**+1.7**
TRTT	**Trang**	**5.80**	**41**	P	**Pn**	**12 19 11.5**	**+1.2**
	comp=Z,944nm,0.9s,comp=Z,13μmcomp=Z,6.8nm						
FRIM	**Kepong**	**5.80**	**92**	⇓P	**Pn**	**12 19 11.5**	**+1.2**
SKLT	**Songkhla**	**6.02**	**52**	P	**Pn**	**12 19 15.0**	**+1.5**
	comp=Z,1μm,1.0s,comp=Z,16μmcomp=Z,7.7nm						
BKNI	**Bangkinang**	**6.08**	**121**	P	**Pn**	**12 19 15.2**	**+1.0**
BKNI				S	**Sn**	**12 20 23.9**	**+1.3**
BKNI	**Bangkinang**	**6.08**	**121**	P	**Pn**	**12 19 14.9**	**+0.6**
	baz=5.9,SNR=7.9						
BKNI	**Bangkinang**	**6.08**	**121**	*e*Pn	**Pn**	**12 19 14.4**	**+0.2**
BKNI				*e*Sn	**Sn**	**12 20 28.2**	**+5.7**
SURT	**Suratani**	**6.20**	**28**	P	**Pn**	**12 19 17.0**	**+1.2**
	comp=Z,376nm,0.9s,comp=Z,4μmcomp=Z,1.5nm						
PDSI	**Padang**	**6.36**	**133**	P	**Pn**	**12 19 18.9**	**+0.8**
SDSI	**Sungai Dareh**	**7.11**	**128**	P	**Pn**	**12 19 29.5**	**+1.1**
KGM	**Kluang**	**7.63**	**101**	⇓P	**Pn**	**12 19 36.9**	**+1.4**
MYKOM	**Kota Tinggi**	**8.19**	**102**	⇑P	**Pn**	**12 19 44.3**	**+1.0**
MYKOM	**Kota Tinggi**	**8.19**	**102**	*e*Pn	**Pn**	**12 19 43.4**	**+0.2**
BTDF	**Bukit Timah Da**	**8.21**	**105**	⇓P	**Pn**	**12 19 44.5**	**+0.9**
	baz=8.1,SNR=6.3						
PBA	**Port Blair**	**8.68**	**340**	*e*P	Pn	12 19 49.3	-0.6
PBA				AMB	AMB	12 20 12.9	
	comp=Z,154nm,0.7s						
TPRI	**Tanjung Pinang**	**9.06**	**106**	P	**Pn**	**12 19 56.4**	**+1.3**
MASI	**Maura Aman, Be**	**9.18**	**136**	P	**Pn**	**12 19 57.7**	**+0.8**
JMBI	**JAMBI**	**9.32**	**123**	P	**Pn**	**12 19 59.6**	**+0.9**
DSRI	**Dabo**	**9.59**	**114**	P	**Pn**	**12 20 03.4**	**+1.0**
DGPR	**DIGLIPUR**	**10.06**	**344**	*e*P	**Pn**	**12 20 06.4**	**-2.4**
DGPR				AMB	AMB	12 20 33.0	
	comp=Z,395nm,1.7s						
MNAI	**Manna**	**10.55**	**137**	P	**Pn**	**12 20 16.4**	**+0.8**
MNAI	**Manna**	**10.55**	**137**	P	**Pn**	**12 20 15.0**	**-0.6**
	baz=10,SNR=14						
MNAI				S	Sn	12 22 04.7	-7.9
	baz=10,SNR=7.8						
MNAI	**Manna**	**10.55**	**137**	*e*Pn	**Pn**	**12 20 14.0**	**-1.7**
	comp=Z,598nm,0.6s						
LHSI	**Lahat**	**10.57**	**133**	P	**Pn**	**12 20 16.8**	**+0.9**
PMBI	**Palembang**	**10.97**	**125**	P	**Pn**	**12 20 21.5**	**+0.1**
PMBI	**Palembang**	**10.97**	**125**	P	Pn	12 20 28.7	+7.3
	baz=11,SNR=5.7						
SRDT	**SRDT**	**11.29**	**17**	P	Pn	12 20 28.9	+3.3
	comp=Z,435nm,1.3s,comp=Z,14μm						
MDSI	**Maura Dua**	**11.50**	**133**	P	**Pn**	**12 20 26.7**	**-1.8**
	comp=Z,548nm,0.8s,comp=Z,4μm						
KHLT	**Khaolaem Dam**	**11.58**	**13**	P	**Pn**	**12 20 32.1**	**+2.5**
	comp=Z,56nm,1.3s,comp=Z,1μm						
PPBI	**Pangkal Pinang**	**11.73**	**118**	P	**Pn**	**12 20 32.6**	**+0.9**
	comp=Z,225nm,1.3s,comp=Z,3μm						
LWLI	**Liwa**	**11.78**	**136**	P	**Pn**	**12 20 31.3**	**-1.3**
	comp=Z,369nm,0.8s,comp=Z,11μm						
NAYO	**Nakonayok**	**12.06**	**26**	P	**Pn**	**12 20 39.1**	**+2.9**
	comp=Z,184nm,1.1s,comp=Z,2μm						
KLI	**Kotabumi**	**12.25**	**132**	P	**Pn**	**12 20 38.6**	**-0.2**
	comp=Z,505nm,0.8s,comp=Z,6μm						
KASI	**Kota Agung**	**12.45**	**136**	P	**Pn**	**12 20 39.4**	**-2.1**
	comp=Z,323nm,0.9s,comp=Z,3μm						
UTHA	**Uthaitani**	**12.53**	**16**	P	**Pn**	**12 20 44.7**	**+2.1**
	comp=Z,35nm,0.9s,comp=Z,324nm						
TPI	**Tanjungpandan**	**13.35**	**117**	P	**Pn**	**12 20 54.5**	**+0.7**
	comp=Z,168nm,1.4s,comp=Z,3μm						
CHAI	**Chaiyaphum**	**13.76**	**26**	P	**Pn**	**12 21 01.3**	**+1.9**
	comp=Z,75nm,0.9s,comp=Z,593nm						
PBKT	**Sadao Pong**	**13.96**	**21**	P	**Pn**	**12 21 03.5**	**+1.3**
	comp=Z,228nm,0.7s,comp=Z,3μm						
SBJI	**Serang**	**14.03**	**133**	P	P	12 21 13.6	+3.5
CGJI	**Cibinong**	**14.05**	**135**	P	Pn	12 20 58.2	-5.3
KHON	**Khomkaen**	**14.52**	**28**	P	**P**	**12 21 16.3**	**+0.7**
UTTA	**Uttaradit**	**14.92**	**18**	P	**Pn**	**12 21 16.2**	**+1.1**
	comp=Z,51nm,1.1s,comp=Z,482nm						
LOEI	**Loei**	**14.94**	**21**	P	**P**	**12 21 17.9**	**-2.4**
	comp=Z,260nm,1.0s,comp=Z,4μm						
DLV	**T Lat**	**15.10**	**55**	*e*Pn	**P**	**12 21 20.1**	**-2.2**
CM01	**Chiang Mai Arr**	**15.17**	**11**	*e*Pn	**Pn**	**12 21 19.2**	**+0.8**
CM01				*e*ScP	**ScP**	**12 29 56.0**	**+1.4**
CM31	**Chiang Mai Arr**	**15.20**	**11**	*e*Pn	**Pn**	**12 21 19.5**	**+0.7**
	comp=Z,318nm,1.0s						
CMAR	**Chiang Mai Arr**	**15.20**	**11**	Pn	**Pn**	**12 21 19.6**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=202,slow=13,SNR=92						
CMAR				LR	LR	12 27 48.0	
	comp=Z,13μm,18.0s,baz=204,slow=40						
CMAR				ScP	**ScP**	**12 29 56.0**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=231,slow=3.6,SNR=4.2						
LAMP	**Lampang**	**15.41**	**14**	P	**Pn**	**12 21 22.7**	**+1.1**
	comp=Z,51nm,1.1s,comp=Z,401nm						
PALK	**Pallekele**	**15.52**	**285**	*e*P	**Pn**	**12 21 24.3**	**+1.3**
PALK				pmax	pmax		
	comp=Z,148nm,1.1s						
PALK	**Pallekele**	**15.52**	**285**	Pn	**P**	**12 21 30.6**	**+3.8**
	SNR=24						
PALK	**Pallekele**	**15.52**	**285**	⇑*i*P	**Pn**	**12 21 23.5**	**+0.5**
	SNR=8.8						
PALK	**Pallekele**	**15.52**	**285**	*e*Pn	**Pn**	**12 21 24.2**	**+1.3**
	comp=Z,148nm,1.1s						
CMMT	**Chiang Mai**	**15.55**	**11**	P	**Pn**	**12 21 23.6**	**+0.3**
	comp=Z,266nm,1.2s,comp=Z,3μm						
CHTO	**Chiang Mai**	**15.55**	**11**	P	**Pn**	**12 21 23.7**	**+0.4**
	comp=Z,921nm,1.2s,comp=Z,11μm						
CHTO	**Chiang Mai**	**15.55**	**11**	*e*P	**Pn**	**12 21 24.1**	**+0.8**
CHTO				pmax	pmax		
	comp=Z,276nm,1.2s						
CHTO	**Chiang Mai**	**15.55**	**11**	Pn	**Pn**	**12 21 24.1**	**+0.8**
	SNR=92						
CHTO	**Chiang Mai**	**15.55**	**11**	*e*Pn	**Pn**	**12 21 24.1**	**+0.8**
	comp=Z,276nm,1.2s						
CNJI	**Cibinong**	**15.56**	**134**	P	P	12 21 34.4	+7.2
COCO	**West Island**	**15.59**	**176**	*e*P	**Pn**	**12 21 23.0**	**-0.9**
COCO				pmax	pmax		
	comp=Z,355nm,1.0s						
COCO	**West Island**	**15.59**	**176**	*e*Pn	**Pn**	**12 21 22.9**	**-0.9**
	comp=Z,355nm,1.0s						
LEM	**Lembang**	**15.60**	**131**	P	**Pn**	**12 21 22.7**	**-1.4**
	comp=Z,119nm,0.9s,comp=Z,2μm						
LEM	**Lembang**	**15.60**	**131**	Pn	**Pn**	**12 21 22.1**	**-2.0**
	comp=Z,3.8nm,0.3s,baz=357,slow=22,SNR=4.5						
SKNT	**Sakolnakorn**	**15.63**	**30**	P	**Pn**	**12 21 25.0**	**+0.7**
	comp=Z,359nm,1.1s,comp=Z,5μm						
STKI	**Sintang**	**16.01**	**102**	P	**Pn**	**12 21 30.4**	**+1.2**
	comp=Z,316nm,1.1s						
CISI	**Cisompet, Garu**	**16.23**	**132**	P	**P**	**12 21 35.0**	**+0.3**
CISI	**Cisompet, Garu**	**16.23**	**132**	P	**Pn**	**12 21 29.4**	**-2.6**
	baz=16,SNR=3.4						
CISI	**Cisompet, Garu**	**16.23**	**132**	*e*Pn	**Pn**	**12 21 28.7**	**-3.3**
	comp=Z,101nm,0.8s						
SBUM	**Sibu**	**16.41**	**93**	*e*Pn	**Pn**	**12 21 34.6**	**+0.3**
	comp=Z,222nm,1.2s						
CMAI	**Chiengmai2**	**16.66**	**11**	P	**Pn**	**12 21 37.8**	**+0.2**
	comp=Z,150nm,1.3s,comp=Z,2μm						
PBKI	**Pangkalan Bun**	**16.99**	**111**	P	**P**	**12 21 42.5**	**-0.6**
	comp=Z,802nm,1.3s,comp=Z,10μm						
CRAI	**Chiangrai**	**17.23**	**15**	P	**Pn**	**12 21 41.5**	**-3.1**
	comp=Z,692nm,1.2s,comp=Z,11μm						
SMRI	**Semarang**	**17.95**	**126**	P	**P**	**12 21 53.7**	**0.0**
	comp=Z,617nm,1.1s,comp=Z,5μm						
SMRI	**Semarang**	**17.95**	**126**	P	**P**	**12 21 53.7**	**0.0**
	baz=18,SNR=4.7						
SMRI	**Semarang**	**17.95**	**126**	*e*Pn	**Pn**	**12 21 52.7**	**-0.8**
	comp=Z,666nm,1.1s						
UWJI	**Ujung Watu**	**18.02**	**123**	P	**P**	**12 21 55.6**	**+1.2**
UGM	**Wanagama**	**18.52**	**128**	P	Pn	12 22 08.6	+8.1
UGM	**Wanagama**	**18.52**	**128**	P	**P**	**12 21 56.2**	**-3.8**
	baz=18,SNR=5.5						
UGM	**Wanagama**	**18.52**	**128**	*e*Pn	**Pn**	**12 22 04.1**	**+3.7**
	comp=Z,517nm,1.5s						
VIS	**Vishakhapatnam**	**18.72**	**320**	*i* P	**Pn**	**12 22 03.7**	**+0.9**
VIS				*i* x	x	12 25 18.1	
CHLP	**Challavanipeta**	**18.86**	**323**	*e*P	**P**	**12 22 03.9**	**+0.2**
CHLP				IAmb	IAmb	12 22 08.7	
	comp=Z,115nm,0.8s						
CHLP				*e*pP	**pP**	**12 22 13.3**	**-0.4**
CHLP				IVMs_BB	IVMs_BB	12 30 47.1	
	comp=Z,960nm,16.8s						
SKHT	**Srikalahasti**	**18.90**	**304**	*e*P	**Pn**	**12 22 06.9**	**+1.9**
SKHT				*e*pP	**pP**	**12 22 14.0**	**-0.2**
SKHT				*e*sP	**sP**	**12 22 20.3**	**+1.0**
SKHT				IVMs_BB	IVMs_BB	12 28 47.9	
	comp=Z,1μm,20.5s						
TBJI	**Tambak Boyo**	**18.98**	**123**	P	sP	12 22 21.4	+1.1
PCJI	**Pacitan**	**19.21**	**127**	P	sP	12 22 26.5	+3.8
TRD	**Trivandrum**	**19.41**	**286**	⇑*i*P	**sP**	**12 22 25.2**	**+0.2**
TRD				*i* S	Sn	12 26 08.2	+20
MTKI	**Muara Teweh, K**	**19.56**	**103**	P	**P**	**12 22 12.1**	**+0.7**
	comp=Z,378nm,0.9s						
GRJI	**Gresik**	**19.57**	**122**	P	**Pn**	**12 22 15.6**	**+2.6**
PWJI	**Pagerwojo**	**19.61**	**126**	P	**Pn**	**12 22 13.9**	**+0.4**
	comp=Z,100nm,1.0s,comp=Z,2μm						
BBKI	**Banjar Baru**	**20.22**	**110**	P	**P**	**12 22 19.2**	**+0.6**
	comp=Z,582nm,1.6s,comp=Z,8μm						
KKM	**Kota Kinabalu**	**20.48**	**82**	PFAKE		12 22 30.0	+6.1
KKM				LR	LR		
	comp=Z,2μm,20.0s						
QIZ	**Qiongzhong**	**20.66**	**41**	P	**P**	**12 22 24.2**	**+0.9**
QIZ				sP	**sP**	**12 22 38.0**	**-0.6**
QIZ				S	**S**	**12 26 14.9**	**+2.8**
QIZ				sS	**sS**	**12 26 27.8**	**-0.6**
QIZ				PMZ			
	comp=Z,120nm,0.9s						
QIZ				LN			
	comp=Z,8μm,17.1s						
QIZ				LZ			
	comp=Z,10μm,19.3s						
QIZ	**Qiongzhong**	**20.66**	**41**	PFAKE		12 22 40.0	+14
QIZ				LR	LR		
	comp=Z,10μm,20.0s						
NJS	**Nagarjunasagar**	**20.79**	**310**	*e*P	Pn	12 22 26.9	-0.5
NJS				IAmb	IAmb	12 22 27.9	
	comp=Z,87nm,1.0s						
NJS				*e*pP	pP	12 22 34.9	0.0
NJS				*e*sP	sP	12 22 40.2	+0.2
NJS				IVMs_BB	IVMs_BB	12 31 03.3	
	comp=Z,1μm,18.9s						
KMMI	**Kalianget**	**20.91**	**120**	P	Pn	12 22 27.5	-1.3
	comp=Z,832nm,0.9s,comp=Z,7μm						
BLJI	**Banyuglugur**	**20.94**	**122**	P	Pn	12 22 29.2	0.0
GMJI	**Gumukmas**	**21.10**	**124**	P	**P**	**12 22 32.0**	**+4.0**
KBKI	**Kotabaru**	**21.42**	**108**	P	**P**	**12 22 32.4**	**+0.9**
	comp=Z,246nm,1.7s,comp=Z,3μm						
ABJI	**Asem Bagus**	**21.51**	**121**	P	**P**	**12 22 33.9**	**+1.4**
	comp=Z,313nm,0.8s,comp=Z,4μm						
URV	**Uravakonda**	**21.55**	**303**	*e*P	**P**	**12 22 34.5**	**+1.5**
URV				IAmb	IAmb	12 22 39.8	
	comp=Z,437nm,2.5s						
URV				*e*pP	**pP**	**12 22 44.7**	**+1.5**
URV				*e*sP	**sP**	**12 22 48.8**	**+0.4**
URV				*e*S	**S**	**12 26 29.9**	**0.0**
URV				IVMs_BB	IVMs_BB	12 30 45.7	
	comp=Z,1μm,20.6s						
BKB	**Balikpapan**	**21.58**	**102**	P	**P**	**12 22 35.7**	**+2.4**
HYB	**Hyderabad**	**21.89**	**311**	*i* P	**P**	**12 22 37.0**	**+0.5**
	comp=Z,107nm,1.2s						
HYB				*e*sP	**sP**	**12 22 54.0**	**+2.1**
HYB				*e*S	**S**	**12 26 36.0**	**-0.3**
HYB	**Hyderabad**	**21.89**	**311**	*e*P	**P**	**12 22 38.3**	**+1.8**
HYBB	**Hyderabad (bro**	**21.89**	**311**	*e*P	**P**	**12 22 38.2**	**+1.7**
HYBB				IAmb	IAmb	12 22 40.8	
	comp=Z,65nm,1.1s						
HYBB				*e*pP	**pP**	**12 22 44.5**	**-2.3**
HYBB				*e*sP	**sP**	**12 22 51.9**	**0.0**
HYBB				*e*S	**S**	**12 26 36.8**	**+0.4**
HYBB				IVMs_BB	IVMs_BB	12 31 01.6	
	comp=Z,800nm,17.4s						
SHL	**Shillong**	**22.29**	**351**	*ex*	**P**	**12 22 38.1**	**-2.9**
BOK	**Bokaro**	**22.37**	**335**	*e*P	**P**	**12 22 41.0**	**-0.7**
BOK				AMB	AMB	12 22 45.4	
	comp=Z,440nm,1.2s						
SRBI	**Singaraja**	**22.49**	**121**	P	**P**	**12 22 43.4**	**+0.4**
	comp=Z,583nm,0.9s,comp=Z,6μm						
KMI	**Kunming**	**22.53**	**17**	P	**P**	**12 22 44.3**	**+0.7**
KMI				pP	**pP**	**12 22 55.2**	**+1.4**
KMI				sP	**sP**	**12 22 59.8**	**+0.9**
KMI				PP	**PnPn**	**12 23 14.7**	**+6.6**
KMI				S	**S**	**12 26 44.9**	**-3.4**
KMI				sS	Sn	12 27 04.3	+1.0
KMI				SS	**SnSn**	**12 27 28.2**	**+8.5**
KMI				PMZ			
	comp=Z,250nm,1.1s						
KMI				PMZ			
	comp=Z,1μm,5.9s						
KMI				LN			
	comp=Z,9μm,14.6s						
KMI				LE			
	comp=Z,3μm,16.4s						
KMI				LZ			
	comp=Z,10μm,14.6s						
MNGI	**Mangalore**	**22.79**	**296**	*e*P	**P**	**12 22 45.7**	**-0.5**
MNGI				*ex*	x	12 26 33.0	
NGP	**Nagpur**	**23.98**	**318**	*e*P	**P**	**12 22 59.9**	**+2.2**
NGP				*e*S	**S**	**12 27 13.9**	**+1.9**
MPSI	**Mapaga**	**24.26**	**97**	P	**P**	**12 23 00.7**	**+0.3**
	comp=Z,276nm,1.5s,comp=Z,3μm						
PCI	**Palu**	**24.39**	**100**	P	**P**	**12 23 02.0**	**+0.4**
	comp=Z,550nm,1.4s,comp=Z,6μm						
ODAN	**Odare**	**24.62**	**342**	*e*P	**P**	**12 23 03.6**	**-0.2**
	comp=Z,584nm,1.0s						
RAMN	**Ramite**	**24.96**	**340**	*e*P	**P**	**12 23 07.0**	**+0.1**
	comp=Z,926nm,0.9s						
TAPN	**Taplejung**	**24.98**	**343**	*e*P	**P**	**12 23 06.3**	**-0.8**
	comp=Z,304nm,0.7s						
SPSI	**Sidrap Palu**	**25.04**	**107**	P	**P**	**12 23 07.2**	**-0.3**
	comp=Z,220nm,0.9s,comp=Z,2μm						
TOLI	**Toli-Toli**	**25.06**	**95**	*e*P	**P**	**12 23 07.9**	**+0.3**
	comp=Z,394nm,0.8s						
TOLI				LR	LR		
	comp=Z,2μm,21.0s						
GYA	**Guiyang**	**25.11**	**23**	⇑*i*P	**P**	**12 23 07.6**	**-0.5**
GYA				pP	**pP**	**12 23 20.0**	**+0.9**
GYA				PP	**PnPn**	**12 23 49.8**	**+6.7**
GYA				PcP	**PcP**	**12 26 44.2**	**+2.3**
GYA				S	**S**	**12 27 29.1**	**-1.1**
GYA				sS	**sS**	**12 27 47.8**	**-0.9**
GYA				SS	**SnSn**	**12 28 31.2**	**+8.7**
GYA				PMZ			
	comp=Z,230nm,0.9s						
GYA				PMZ			
	comp=Z,600nm,9.0s						
GYA				LN			
	comp=Z,4μm,19.9s						
GYA				LE			
	comp=Z,3μm,17.1s						
GYA				LZ			
	comp=Z,7μm,18.9s						
KAPI	**Kappang**	**25.35**	**109**	P	**P**	**12 23 10.1**	**-0.1**
	comp=Z,216nm,1.1s,baz=290,slow=7.3,SNR=38						
KAPI	**Kappang**	**25.35**	**109**	P	**P**	**12 23 10.9**	**+0.7**
	SNR=32						
KAPI	**Kappang**	**25.35**	**109**	*e*P	**P**	**12 23 10.5**	**+0.2**
KAPI				LR	LR		
	comp=Z,1μm,21.0s						
BNSI	**Bone**	**25.49**	**108**	P	**P**	**12 23 12.7**	**+1.1**
	comp=Z,301nm,1.2s,comp=Z,3μm						
DGAR	**Diego Garcia**	**25.71**	**245**	⇑P	**P**	**12 23 13.1**	**-0.4**
DGAR	**Diego Garcia**	**25.71**	**245**	PFAKE		12 23 30.0	+16
DGAR				LR	LR		
	comp=Z,7μm,20.0s						
JIRN	**Jiri**	**25.75**	**340**	*e*P	**P**	**12 23 14.4**	**+0.2**
	comp=Z,964nm,0.7s						
BKSI	**Bulukumba**	**25.80**	**110**	P	**P**	**12 23 15.0**	**+0.7**
	comp=Z,766nm,0.9s,comp=Z,7μm						
GZH	**Guangzhou**	**25.84**	**39**	P	**P**	**12 23 19.1**	**+4.5**
GZH				pP	**pP**	**12 23 28.9**	**+3.2**
GZH				PP	**PnPn**	**12 23 58.0**	**+5.0**
GZH				LN			
	comp=Z,10μm,18.7s						
GZH				LE			
	comp=Z,9μm,16.3s						
PKI	**Pulchoki**	**25.95**	**338**	*e*P	**P**	**12 23 15.7**	**-0.2**
	comp=Z,300nm,0.7s						
PKIN	**Phulchoki**	**25.95**	**338**	*e*P	**P**	**12 23 15.7**	**-0.2**
	comp=Z,213nm,0.7s						
GUN	**Gumba**	**26.09**	**340**	*e*P	**P**	**12 23 17.4**	**+0.2**
	comp=Z,840nm,0.7s						
DMN	**Daman**	**26.09**	**338**	*e*P	**P**	**12 23

QZH Quanzhou 30.59 44⇑ *i*P **P** **12 23 56.7 -0.4**
QZH S **S** **12 28 55.0 -1.5**
QZH LN
comp=Z,6μm,16.0s
QZH LE
comp=Z,3μm,11.3s
QZH LZ
comp=Z,8μm,23.3s
SANI Sanana 30.65 100 P **P** **12 23 56.2 -1.5**
comp=Z,49nm,1.6s,comp=Z,973nm
NDI New Delhi 30.69 327 *e*P **P** **12 23 58.0 +0.1**
NDI *ex* x 12 29 08.0
TPUB Ta-pu 31.05 48 PFAKE 12 24 10.0 +8.9
TPUB LR LR
comp=Z,3μm,22.0s
TWG Pinlang 31.11 50 PFAKE 12 24 10.0 +8.4
TWG LR LR
comp=Z,9μm,22.0s
SOEI Soe 31.24 115 P **P** **12 24 00.2 -2.9**
SOEI Soe 31.24 115 P **P** **12 24 00.1 -2.9**
baz=31,SNR=8.2
SOEI Soe 31.24 115 *e*P **P** **12 23 59.9 -3.2**
comp=Z,213nm,0.9s
SOEI *e*ScS ScS 12 34 39.4 +4.5
SOEI LR LR
comp=Z,3μm,18.0s
DDI Dehra Dun 31.55 330 *e*P **P** **12 24 05.5 0.0**
DDI AMB AMB 12 24 08.4
comp=Z,231nm,1.5s
SSLB Suanglung 31.57 48 *e*P **P** **12 24 05.9 +0.1**
comp=Z,34nm,0.9s
SSLB LR LR
comp=Z,3μm,21.0s
YULB Yu-li 31.60 49 PFAKE 12 24 20.0 +14
YULB LR LR
comp=Z,3μm,22.0s
TNTI Ternate 31.63 94 *e*P **P** **12 24 04.0 -2.3**
comp=Z,76nm,0.8s
TNTI LR LR
comp=Z,400nm,19.0s
LBMI Labuha 31.92 97 P **P** **12 24 10.1 +1.1**
comp=Z,254nm,2.0s,comp=Z,4μm
NLAI Namlea 31.96 102 P **P** **12 24 11.2 +1.9**
comp=Z,104nm,0.9s,comp=Z,1μm
WHN Wuhan 32.12 31 ⇑P **P** **12 24 10.5 +0.1**
WHN pP **pP** **12 24 22.9 +1.3**
WHN PP **PnPn** **12 25 18.5 +1.4**
WHN S **S** **12 29 22.6 +2.4**
WHN PMZ
comp=Z,1μm,3.9s
WHN LN
comp=Z,17μm,27.3s
WHN LE
comp=Z,7μm,15.6s
WHN LZ
comp=Z,13μm,14.8s
NACB Ninganchiao 32.27 48 PFAKE 12 24 20.0 +8.1
NACB LR LR
comp=Z,4μm,21.0s
YHNB Yeheng 32.40 47 PFAKE 12 24 30.0 +17
YHNB LR LR
comp=Z,3μm,18.0s
SMLA Simla 32.65 329 *i*P **P** **12 24 15.6 +0.5**
SMLA AMB AMB 12 24 28.4
comp=Z,284nm,2.4s
TATO Taipei 32.67 47 PFAKE 12 24 30.0 +15
TATO LR LR
comp=Z,2μm,18.0s
XAN Xi'an 32.77 20 P **P** **12 24 15.1 -1.0**
XAN pP **pP** **12 24 25.1 -2.3**
XAN sP **sP** **12 24 29.0 -3.2**
XAN PMZ
comp=Z,58nm,0.9s
XAN PMZ
comp=Z,100nm,7.0s
XAN LN
comp=Z,2μm,14.8s
XAN LE
comp=Z,1μm,14.8s
XAN LZ
comp=Z,1μm,13.3s
SDNR Sundarnagar 33.05 330 *e*P **P** **12 24 18.0 -0.6**
AAI Ambon 33.12 102 P **P** **12 24 18.1 -1.4**
comp=Z,122nm,0.8s,comp=Z,2μm
BHK Bhakra 33.27 329 *e*P **P** **12 24 20.8 +0.3**
LZH Lanzhou 33.29 12 ⇑P **P** **12 24 20.1 -0.7**
LZH pP **pP** **12 24 30.9 -1.1**
LZH sP **sP** **12 24 34.8 -2.1**
LZH PP **PnPn** **12 25 33.3 +1.1**
LZH PcP **PcP** **12 27 04.0 +1.6**
LZH *e*S **S** **12 29 37.0 -1.6**
LZH sS **sS** **12 29 54.4 -2.9**
LZH SS **SnSn** **12 31 42.0 +0.4**
LZH PMZ
comp=Z,230nm,1.0s
LZH PMZ
comp=Z,620nm,4.1s
LZH LN
comp=Z,2μm,15.7s
LZH LE
comp=Z,2μm,13.7s
LZH LZ
comp=Z,3μm,16.3s
YOJ Yonaguni jima 33.50 49 PFAKE 12 24 30.0 +7.4
YOJ LR LR
comp=Z,3μm,21.0s
MBWA Marble Bar 33.88 137 *e*P **P** **12 24 26.1 +0.2**
comp=Z,74nm,1.0s
MBWA LR LR
comp=Z,2μm,22.0s
DHRM DHARAMSHALA 33.99 330 *e*P **P** **12 24 27.0 0.0**
DHRM AMB AMB 12 24 29.3
comp=Z,265nm,1.4s
DLH Dalhousie 34.39 329 *e*P **P** **12 24 30.0 -0.5**
SIJI Sorong 35.69 96 LR LR 12 39 27.5
comp=Z,613nm,21.1s,baz=262,slow=37
NJ2 Nanjing 35.72 35 *e*P **P** **12 24 43.1 +1.4**
NJ2 pP **pP** **12 24 51.1 -1.9**
NJ2 sP **sP** **12 24 54.4 -3.4**
NJ2 S **S** **12 30 18.0 +2.1**
NJ2 PMZ
comp=Z,110nm,0.8s
NJ2 PMZ
comp=Z,240nm,5.2s
NJ2 LN
comp=Z,3μm,15.0s
NJ2 LE
comp=Z,8μm,13.7s
NJ2 LZ
comp=Z,8μm,14.6s
GTA Gaotai 35.95 5 ⇑P **P** **12 24 42.9 -0.8**
GTA pP **pP** **12 24 52.5 -2.5**
GTA sP **sP** **12 24 56.4 -3.5**
GTA PcP **PcP** **12 27 11.2 +1.2**
GTA S **S** **12 30 18.0 -1.6**
GTA sS **sS** **12 30 34.7 -3.7**
GTA ScP **ScP** **12 30 53.0 -0.2**
GTA PcS **PcS** **12 30 56.4 -1.1**
GTA SS **SnSn** **12 32 42.0 -4.1**
GTA ScS **ScS** **12 34 57.1 -1.6**
GTA PMZ
comp=Z,73nm,1.3s
GTA PMZ
comp=Z,450nm,5.1s
GTA LN
comp=Z,2μm,15.2s
GTA LE
comp=Z,2μm,19.0s
GTA LZ
comp=Z,3μm,15.2s
SSE Sheshan 36.42 38 P **P** **12 24 47.7 0.0**
SSE PP **PP** **12 26 15.7 +4.6**
SSE PMZ
comp=Z,430nm,2.2s
SSE LN
comp=Z,1μm,19.1s
SSE LE
comp=Z,2μm,18.8s
SSE LZ
comp=Z,3μm,17.6s
FAKI Fak Fak 36.96 99 P **P** **12 24 51.3 -1.2**
comp=Z,160nm,1.0s,comp=Z,2μm
FAKI Fak Fak 36.96 99 P **P** **12 24 51.8 -0.7**
baz=37,SNR=21
FAKI S **S** **12 30 32.4 -2.9**
baz=37,SNR=7.7

FAKI Fak Fak 36.96 99 *e*P **P** **12 24 51.9 -0.7**
comp=Z,93nm,0.8s
FAKI LR LR
comp=Z,900nm,22.0s
MEEK Meekatharra 37.17 145 ⇑P **P** **12 24 55.0 +0.8**
baz=37,SNR=4.4
TIY Taiyuan 37.32 22 *e*P **P** **12 24 55.3 0.0**
TIY PP **PnPn** **12 26 24.4 +2.5**
TIY S S 12 30 33.0 -7.4
TIY PMZ
comp=Z,360nm,9.2s
TIY LN
comp=Z,6μm,15.0s
TIY LE
comp=Z,630nm,11.2s
TIY LZ
comp=Z,7μm,16.5s
MORW Morawa 37.73 150 ⇓P **P** **12 25 00.7 +1.8**
baz=38,SNR=7.0
KNRA Kununurra 37.74 121 P P 12 24 55.3 -3.8
baz=38,SNR=15
TIA Tai'an 38.05 28 ⇑P **P** **12 25 01.1 -0.3**
TIA PMZ
comp=Z,50nm,0.8s
TIA PMZ
comp=Z,680nm,3.0s
TIA LN
comp=Z,4μm,18.3s
TIA LE
comp=Z,3μm,15.1s
TIA LZ
comp=Z,6μm,16.1s
RKPI Ransiki, Papua 38.66 97 P **P** **12 25 07.0 +0.1**
comp=Z,245nm,0.9s,comp=Z,8μm
JOW Kunigami 38.77 50 *e*P **P** **12 25 07.4 -0.3**
comp=Z,23nm,0.7s
JOW LR LR
comp=Z,1μm,18.0s
BTO Baotou 39.12 17 *e*P **P** **12 25 09.9 -0.6**
BLDU Ballidu 39.33 151 ⇓P **P** **12 25 13.1 +0.9**
baz=39,SNR=7.4
KBL Kabul 39.68 324 *e*P **P** **12 25 15.2 -0.2**
KBL pmax pmax
comp=Z,19nm,0.7s
KBL MLR MLR
comp=Z,1μm,19.0s
KBL Kabul 39.68 324 *e*P **P** **12 25 15.2 -0.2**
comp=Z,19nm,0.7s
KBL LR LR
comp=Z,1μm,19.0s
KDU Kakadu 39.79 114 P **P** **12 25 14.9 -1.4**
baz=40,SNR=3.1
HHC Hu-ho-hao-te 39.82 19 *e*P **P** **12 25 17.2 +0.9**
HHC PP **PnPn** **12 26 53.7 +1.8**
HHC S **S** **12 31 19.8 +1.7**
HHC sS **sS** **12 31 36.1 -0.9**
HHC SS **SS** **12 34 12.1 -3.4**
HHC PMZ
comp=Z,160nm,0.8s
HHC PMZ
comp=Z,190nm,4.9s
HHC LN
comp=Z,6μm,16.2s
HHC LE
comp=Z,3μm,15.3s
HHC LZ
comp=Z,5μm,17.4s
KSH Kashi 40.15 336 ⇑*i*P **P** **12 25 17.8 -1.3**
KSH pP **pP** **12 25 27.6 -2.9**
KSH PP **PnPn** **12 26 54.1 -1.7**
KSH PcS **PcS** **12 31 13.2 -0.2**
KSH S **S** **12 31 20.0 -3.0**
KSH sS sS 12 31 36.1 -5.9
KSH ScS **ScS** **12 35 20.8 -1.9**
KSH PMZ
comp=Z,640nm,4.2s
KSH LN
comp=Z,380nm,13.1s
KSH LE
comp=Z,2μm,20.1s
KSH LZ
comp=Z,1μm,19.5s
KLBR Kellerberrin 40.64 151 ⇑P **P** **12 25 24.2 +1.1**
baz=41,SNR=6.9
BJT Baijiatuau 40.77 24 PFAKE 12 25 40.0 +16
BJT LR LR
comp=Z,2μm,18.0s
BJI Beijing 40.80 24 P **P** **12 25 25.0 +0.8**
BJI pP **pP** **12 25 34.8 -0.9**
BJI sP **sP** **12 25 39.0 -1.5**
BJI PP **PnPn** **12 27 01.4 -1.8**
BJI S **S** **12 31 36.7 +4.3**
BJI sS **sS** **12 31 54.6 +3.2**
BJI PMZ
comp=Z,260nm,0.8s
BJI PMZ
comp=Z,940nm,6.7s
BJI LN
comp=Z,2μm,17.3s
BJI LE
comp=Z,2μm,17.1s
BJI LZ
comp=Z,1μm,27.5s
WMQ Urumqi 40.82 351 P **P** **12 25 24.3 -0.2**
WMQ pP **pP** **12 25 34.1 -1.8**
WMQ sP **sP** **12 25 38.1 -2.7**
WMQ PP **PnPn** **12 27 02.3 -1.2**
WMQ PcP **PcP** **12 27 25.6 +0.6**
WMQ ScP **ScP** **12 31 10.6 -0.9**
WMQ PcS **PcS** **12 31 15.1 -0.7**
WMQ S **S** **12 31 33.6 +0.8**
WMQ sS **sS** **12 31 49.0 -2.8**
WMQ SS **SS** **12 34 32.0 -3.1**
WMQ PMZ
comp=Z,62nm,1.0s
WMQ PMZ
comp=Z,580nm,5.2s
WMQ LN
comp=Z,1μm,14.6s
WMQ LE
comp=Z,2μm,19.0s
WMQ LZ
comp=Z,890nm,20.2s
MSEY Mahe Island 41.11 259 PFAKE 12 25 40.0 +13
MSEY LR LR
comp=Z,3μm,22.0s
NWAO Narrogin (SRO) 41.50 152 P **P** **12 25 31.4 +1.2**
comp=Z,18nm,0.9s,baz=329,slow=6.3,SNR=4.9
SFK Sufi-Kurgan 41.60 334 P **P** **12 25 31.9 +0.7**
SFK pmax pmax
comp=Z,247nm,0.8s
H01W3 Cape Leeuwin H 41.86 157 T T 13 09 14.7
baz=333,slow=76,SNR=82
H01W2 Cape Leeuwin H 41.87 157 T T 13 09 17.5
baz=333,slow=76,SNR=10
H01W1 Cape Leeuwin H 41.87 157 T T 13 09 22.6
baz=333,slow=76,SNR=65
BSY Bisya 42.01 301 P **P** **12 25 37.6 +3.1**
SNR=11
PDGK Podgornoye 42.26 342 P **P** **12 25 36.1 0.0**
PDGK pmax pmax
comp=Z,63nm,1.2s
DL2 Dalian 42.37 30 P **P** **12 25 37.6 +0.4**
DL2 S **S** **12 31 56.6 +0.8**
DL2 PMZ
comp=Z,260nm,0.7s
DL2 PMZ
comp=Z,410nm,4.3s
DL2 LN
comp=Z,1μm,17.2s
DL2 LE
comp=Z,1μm,18.1s
DL2 LZ
comp=Z,1μm,19.1s
WRKA Warakurna 42.39 134 ⇑P **P** **12 25 37.4 -0.2**
baz=42,SNR=8.9
KZA Kyzart 42.62 337 P **P** **12 25 40.6 +0.9**
SNR=38
KZA Kyzart 42.62 337 *i*P **P** **12 25 40.5 +0.9**
KMBL Kambalda 42.62 146 ⇓P **P** **12 25 40.5 +1.1**
baz=43,SNR=4.7
KSKWJ Gwangju 42.75 39 P **P** **12 25 41.2 +0.9**
SNR=6.9
KSKWJ Gwangju 42.75 39 P **P** **12 25 41.2 +0.9**
SNR=6.9
RKGY Rocky Gully 42.79 154 ⇑P **P** **12 25 40.0 -0.7**
baz=43,SNR=4.5

DZET Dzherino 42.90 329 P **P** **12 25 40.8 -0.9**
DZET pmax pmax
comp=Z,150nm,1.4s
KSJEU Jeongeup 42.93 38 P **P** **12 25 41.4 -0.4**
SNR=9.5
KSJEU Jeongeup 42.93 38 P **P** **12 25 41.4 -0.4**
SNR=9.5
UCH Uchtor 43.03 337 P **P** **12 25 44.1 +1.0**
SNR=235
UCH Uchtor 43.03 337 *i*P **P** **12 25 44.0 +1.0**
TKM2 Tokmak 2 43.21 338 P **P** **12 25 45.0 +0.7**
SNR=64
TKM2 Tokmak 2 43.21 338 *e*P **P** **12 25 44.9 +0.7**
TKM2 pmax pmax
comp=Z,184nm,1.4s
TKM2 MLR MLR
comp=Z,500nm,22.0s
TKM2 Tokmak 2 43.21 338 *e*P **P** **12 25 44.9 +0.7**
comp=Z,184nm,1.4s
TKM2 LR LR
comp=Z,500nm,22.0s
SMPI Sarmi 43.21 97 P **P** **12 25 44.3 -0.1**
comp=Z,141nm,1.6s,comp=Z,4μm
KBK Karagaybulak 43.23 337 P **P** **12 25 45.9 +1.6**
SNR=47
AML Almayashu 43.28 336 P **P** **12 25 46.3 +1.3**
SNR=162
AML Almayashu 43.28 336 *i*P **P** **12 25 46.3 +1.3**
KSBAR Backryungdo 43.32 34 P **P** **12 25 44.4 -0.5**
SNR=6.8
KSBAR Backryungdo 43.32 34 P **P** **12 25 44.6 -0.3**
SNR=5.3
AAK Ala-Archa 43.38 337 P **P** **12 25 46.8 +1.3**
SNR=59
AAK Ala-Archa 43.38 337 LR LR 12 47 01.0
comp=Z,1μm,18.7s,baz=145,slow=40
AAK Ala-Archa 43.38 337 *e*P **P** **12 25 46.7 +1.1**
AAK pmax pmax
comp=Z,96nm,0.9s
AAK Ala-Archa 43.38 337 P **P** **12 25 47.0 +1.5**
SNR=82
AAK Ala-Archa 43.38 337 *e*P **P** **12 25 46.7 +1.1**
comp=Z,96nm,0.9s
KSJEO Jeonju 43.44 38 P **P** **12 25 45.9 0.0**
SNR=13
KSJEO Jeonju 43.44 38 P **P** **12 25 45.9 0.0**
SNR=13
KSSES Seosan 43.50 36 P **P** **12 25 45.8 -0.5**
SNR=7.4
KSSES Seosan 43.50 36 P **P** **12 25 45.8 -0.5**
SNR=7.4
FRU Bishkek 43.50 337⇑ *i*P **P** **12 25 47.0 +0.6**
FRU *i* 12 25 59.0
FRU *e*S **S** **12 32 15.0 +2.6**
FRU *e* 12 32 34.0
FRU *e* 12 35 38.0
FRU pmax pmax
comp=Z,420nm,2.1s
FRU MLR MLR
comp=E,1μm,22.0s
CHMS Chumysh 43.59 338 P **P** **12 25 47.8 +0.7**
SNR=28
CHMS Chumysh 43.59 338 *i*P **P** **12 25 47.8 +0.7**
EKS2 Erkin-Say 43.69 336 P **P** **12 25 49.4 +1.4**
SNR=57
EKS2 Erkin-Say 43.69 336 *i*P **P** **12 25 49.3 +1.4**
EKS2 Erkin-Say 43.69 336 *e*P **P** **12 25 49.3 +1.4**
comp=E,96nm,0.7s
EKS2 LR LR
comp=Z,1μm,20.0s
HATD Hatta, Dubai 43.69 303⇓ *i*P **P** **12 25 50.3 +2.2**
SNR=15
ASHO Ashiyiah 43.70 303 P **P** **12 25 50.5 +2.2**
SNR=11
ASHO Ashiyiah 43.70 303⇓ *i*P **P** **12 25 50.3 +2.1**
SNR=8.8
KSKOJ Gongju 43.70 37 P **P** **12 25 48.9 +0.9**
SNR=6.6
KSKOJ Gongju 43.70 37 P **P** **12 25 48.3 +0.3**
SNR=5.1
KSTEJ Daejeon 43.77 38 P **P** **12 25 48.4 -0.1**
SNR=7.9
KSTEJ Daejeon 43.77 38 P **P** **12 25 48.4 -0.1**
SNR=7.9
TJN Taejon 43.77 38 *i*P **P** **12 25 47.8 -0.8**
ABTO Aybut 43.91 291 P **P** **12 25 52.8 +2.7**
SNR=5.3
USP Ospenovka 43.92 337 P **P** **12 25 50.6 +0.9**
SNR=97
USP Ospenovka 43.92 337 *i*P **P** **12 25 50.6 +0.9**
KSCEA Cheonan 44.00 37 P **P** **12 25 50.2 -0.3**
SNR=5.9
KSCEA Cheonan 44.00 37 P **P** **12 25 50.2 -0.3**
SNR=5.9
INCN Inchon 44.07 36 *e*P **P** **12 25 50.4 -0.7**
comp=Z,158nm,1.5s
INCN LR LR
comp=Z,4μm,18.0s
JNU Nakatsue 44.07 44 LR LR 12 45 02.2
comp=Z,2μm,20.7s,baz=218,slow=37
JNU Nakatsue 44.07 44 *e*P **P** **12 25 50.4 -0.7**
comp=Z,70nm,1.6s
JNU *e*pP **pP** **12 26 03.4 +0.7**
FAQ Al Faqa, Dubai 44.11 302⇓ *i*P **P** **12 25 53.4 +1.9**
SNR=11
KSBON Boeun 44.12 38 P **P** **12 25 51.5 +0.1**
SNR=21
KSBON Boeun 44.12 38 P **P** **12 25 51.5 +0.1**
SNR=21
KSSAJ Sangju 44.28 38 P **P** **12 25 52.5 -0.2**
SNR=8.5
KSSAJ Sangju 44.28 38 P **P** **12 25 52.5 -0.2**
SNR=8.5
ASUD Al Ashush, Dub 44.29 302⇑ *i*P **P** **12 25 55.5 +2.6**
SNR=21
WRA Warramunga Arr 44.41 123 P **P** **12 25 53.5 -0.5**
comp=Z,58nm,0.8s,baz=301,slow=9.0,SNR=325
WRA ScP **ScP** **12 31 26.9 +0.5**
comp=Z,6.0nm,1.0s,baz=308,slow=3.8,SNR=10
WRA S **S** **12 32 20.7 -5.5**
comp=Z,11nm,1.2s,baz=294,slow=16,SNR=6.6
WRA LR LR 12 44 54.6
comp=Z,1μm,21.2s,baz=280,slow=37
WRAB Tennant Creek 44.42 123 *e*P **P** **12 25 53.8 -0.2**
WRAB pmax pmax
comp=Z,90nm,0.9s
WRAB MLR MLR
comp=Z,2μm,22.0s
WRAB Tennant Creek 44.42 123 *e*P **P** **12 25 53.8 -0.2**
comp=Z,90nm,0.9s
WRAB LR LR
comp=Z,2μm,22.0s
KSMUS Musan 44.42 36 P **P** **12 25 53.6 -0.1**
SNR=6.7
AIS Amsterdam Isla 44.42 201 S **S** **12 32 20.0 -5.7**
AIS SS **ScS** **12 35 49.0 +0.4**
AIS R 12 38 00.0
KSCHJ Chungju 44.47 38 P **P** **12 25 54.0 -0.2**
SNR=6.5
KSCHJ Chungju 44.47 38 P **P** **12 25 54.0 -0.2**
SNR=6.5
YNCB YEONCHEON 44.62 36 P **P** **12 25 55.6 +0.3**
SNR=8.4
YNCB YEONCHEON 44.62 36 P **P** **12 25 55.6 +0.3**
SNR=8.4
MK01 Makanchi Array 44.70 347 *e*P **P** **12 25 55.4 -0.5**
MK01 *ep*P **pP** **12 26 09.2 +1.8**
MK31 Makanchi Array 44.72 347 P **P** **12 25 55.3 -0.8**
MK31 pmax pmax
comp=Z,17nm,0.5s
MK31 Makanchi Array 44.72 347 P **P** **12 25 55.8 -0.3**
baz=45,SNR=50
MK32 Makanchi Array 44.72 347 *e*P **P** **12 25 55.6 -0.4**
MK32 *e*PcP **PcP** **12 27 38.3 +0.4**
MKAR Makanchi Array 44.72 347 P **P** **12 25 55.6 -0.4**
comp=Z,15nm,0.5s,baz=196,slow=8.3,SNR=155
MKAR PcP **PcP** **12 27 38.3 +0.4**
comp=Z,8.8nm,0.9s,baz=192,slow=2.7,SNR=2.6
MKAR LR LR 12 47 48.0
comp=Z,1μm,20.2s,baz=161,slow=40
MKAR Makanchi Array 44.72 347 *e*P **P** **12 25 55.8 -0.3**
MKAR *e**PP **pP** **12 26 09.4 +1.8**
MKAR 12 27 38.3
MKAR Makanchi Array 44.72 347 *e*P **P** **12 25 55.8 -0.3**
MKAR *ep*P **pP** **12 26 09.4 +1.8**
MKAR PcP **PcP** **12 27 38.3 +0.4**

GENI	**Genyem**	**44.73**	**97**	P	**P**	**12 25 55.5**	**-1.1**		
	comp=Z,166nm,1.4s,comp=Z,2µm								
KS15	**Wonju Array Si**	**44.78**	**37**	*e*P	**P**	**12 25 56.1**	**-0.6**		
KS15				*e*PcP	**PcP**	**12 27 38.5**	**+0.2**		
KSAR	**Wonju Array Be**	**44.78**	**37**	P	**P**	**12 25 56.1**	**-0.6**		
KSAR						12 27 38.5			
KSAR	**Wonju Array Be**	**44.78**	**37**	P	**P**	**12 25 56.1**	**-0.6**		
KSAR				PcP	**PcP**	**12 27 38.5**	**+0.2**		
KS01	**Wonju Array Si**	**44.81**	**37**	*e*P	**P**	**12 25 56.1**	**-0.8**		
KSRS	**Korea Array**	**44.82**	**37**	P	**P**	**12 25 56.1**	**-0.8**		
	comp=Z,27nm,0.8s,baz=226,slow=8.8,SNR=68								
KSRS				PcP	**PcP**	**12 27 38.5**	**+0.1**		
	comp=Z,3.4nm,0.8s,baz=215,slow=4.0,SNR=4.7								
KSRS				LR	LR	12 46 55.0			
	comp=Z,4µm,18.9s,baz=222,slow=39								
KSWJU	**Wonju**	**44.86**	**37**	P	**P**	**12 25 58.0**	**+0.7**		
	SNR=5.2								
KSCWO	**Cheorwon**	**44.99**	**36**	P	**P**	**12 25 58.0**	**-0.4**		
	SNR=9.0								
KSCWO	**Cheorwon**	**44.99**	**36**	P	**P**	**12 25 58.0**	**-0.4**		
	SNR=9.0								
SONA0	**Songino Array**	**45.12**	**10**	*e*P	**P**	**12 25 59.0**	**-0.4**		
SONA0				*e*PcP	**PcP**	**12 27 39.9**	**+0.5**		
SONM	**Songino Array**	**45.12**	**10**	P	**P**	**12 25 59.0**	**-0.4**		
	comp=Z,80nm,0.8s,baz=189,slow=9.0,SNR=106								
SONM				PcP	**PcP**	**12 27 39.9**	**+0.5**		
	comp=Z,26nm,0.8s,baz=189,slow=4.2,SNR=6.2								
SONM				LR	LR	12 46 53.7			
	comp=Z,5µm,18.9s,baz=192,slow=39								
SONA1	**Songino Array**	**45.14**	**10**	*e*P	**P**	**12 25 58.4**	**-1.1**		
KSTBA	**Taebaek**	**45.23**	**38**	P	**P**	**12 26 00.6**	**+0.3**		
	SNR=15								
JAY	**Jayapura**	**45.25**	**97**	P	**P**	**12 26 00.3**	**-0.5**		
	comp=Z,52nm,0.8s								
ULN	**Ulaanbaatar**	**45.27**	**11**	*c i*P	**P**	**12 25 59.9**	**-0.7**		
ULN				pmax	pmax				
	comp=Z,119nm,1.7s								
ULN	**Ulaanbaatar**	**45.27**	**11**	P	**P**	**12 26 00.3**	**-0.3**		
	SNR=41								
ULN	**Ulaanbaatar**	**45.27**	**11**	*e*P	**P**	**12 25 59.8**	**-0.7**		
ULN				LR	LR				
	comp=Z,5µm,19.0s								
KSIJA	**INJE**	**45.28**	**36**	P	**P**	**12 26 01.3**	**+0.7**		
	SNR=11								
KK31	**Karatay Array**	**45.42**	**334**	*i* P	**P**	**12 26 02.0**	**+0.3**		
KK31				pmax	pmax				
	comp=Z,241nm,1.3s								
KKAR	**Karatay Array**	**45.42**	**334**	*e*P	**P**	**12 26 02.1**	**+0.4**		
KKAR	**Karatay Array**	**45.42**	**334**	*e*P	**P**	**12 26 02.1**	**+0.4**		
SNY	**Shenyang**	**45.56**	**29**	⇑P	**P**	**12 26 02.4**	**-0.3**		
SNY				PP	**PP**	**12 27 51.3**	**+1.4**		
SNY				S	**S**	**12 32 41.8**	**-0.4**		
SNY				sS	sS	12 32 55.2	-6.1		
SNY				PMZ					
	comp=Z,140nm,1.9s								
SNY				PMZ					
	comp=Z,550nm,6.6s								
SNY				LN					
	comp=Z,3µm,21.1s								
SNY				LE					
	comp=Z,2µm,16.7s								
SNY				LZ					
	comp=Z,4µm,18.9s								
KSSKC	**Sokcho**	**45.72**	**36**	P	**P**	**12 26 05.0**	**+0.9**		
	SNR=8.5								
AS12	**Alice Springs**	**45.86**	**128**	*e*P	**P**	**12 26 05.1**	**-0.4**		
AS12				*e*PcP	**PcP**	**12 27 42.7**	**+0.4**		
AS12				*e*ScP	**ScP**	**12 31 32.8**	**+0.4**		
ASAR	**Alice Springs**	**45.86**	**128**	P	**P**	**12 26 05.1**	**-0.4**		
	comp=Z,23nm,0.8s,baz=296,slow=7.2,SNR=187								
ASAR				PcP	**PcP**	**12 27 42.7**	**+0.4**		
	comp=Z,9.9nm,0.8s,baz=308,slow=3.6,SNR=6.0								
ASAR				ScP	**ScP**	**12 31 32.8**	**+0.4**		
	comp=Z,6.2nm,0.9s,baz=303,slow=4.4,SNR=9.2								
ASAR				LR	LR	12 48 10.2			
	comp=Z,695nm,18.6s,baz=298,slow=40								
FORT	**Forrest**	**45.89**	**140**	P	**P**	**12 26 06.5**	**+1.0**		
	baz=46,SNR=13								
FORT	**Forrest**	**45.89**	**140**	*e*P	**P**	**12 26 06.3**	**+0.8**		
	comp=Z,130nm,1.0s								
FORT				*e*pP	**pP**	**12 26 17.8**	**+0.7**		
AS01	**Alice Springs**	**45.90**	**128**	*e*P	**P**	**12 26 05.2**	**-0.6**		
AS01				*e*pP	**pP**	**12 26 17.2**	**-0.1**		
ZAK	**Zakamensk**	**47.17**	**7**	⇓*i*P	**P**	**12 26 13.5**	**-1.8**		
ZAK				*e*		12 27 46.7			
ZAK				pmax	pmax				
	comp=Z,35nm,1.6s								
CN2	**Changchun**	**47.95**	**29**	*e*P	**P**	**12 26 21.0**	**-0.4**		
CN2				*e*sP	**sP**	**12 26 38.7**	**+0.9**		
CN2				*e*S	**S**	**12 33 13.7**	**-2.6**		
CN2				PMZ					
	comp=Z,30nm,1.0s								
CN2				PMZ					
	comp=Z,200nm,5.0s								
CN2				LN					
	comp=Z,2µm,17.0s								
CN2				LE					
	comp=Z,1µm,17.0s								
MOY	**Mondy**	**48.22**	**4**	*e*P	**P**	**12 26 23.0**	**-0.5**		
MOY				pmax	pmax				
	comp=Z,65nm,3.1s								
TLY	**Talaya**	**48.49**	**6**	P	**P**	**12 26 25.3**	**-0.2**		
	comp=Z,298nm,0.9s,SNR=19								
TLY	**Talaya**	**48.49**	**6**	LR	LR	12 48 33.5			
	comp=Z,3µm,21.4s,baz=176,slow=38								
TLY	**Talaya**	**48.49**	**6**	*e*P	**P**	**12 26 25.7**	**+0.3**		
TLY				*e*		12 28 12.8			
TLY				*e*S	S	12 33 15.4	-8.3		
TLY				*e*		12 36 04.7			
TLY				pmax	pmax				
	comp=Z,62nm,1.1s								
TLY				MLR	MLR				
	comp=Z,3µm,19.0s								
TLY	**Talaya**	**48.49**	**6**	P	**P**	**12 26 26.0**	**+0.6**		
	SNR=45								
TLY	**Talaya**	**48.49**	**6**	*e*P	**P**	**12 26 25.7**	**+0.3**		
	comp=Z,45nm,0.9s								
GEYT	**Alibeck**	**48.60**	**320**	P	**P**	**12 26 27.7**	**+1.1**		
	comp=Z,90nm,0.8s,baz=149,slow=6.9,SNR=124								
GEYT				LR	LR	12 51 28.2			
	comp=Z,476nm,18.6s,baz=135,slow=42								
IRK	**Irkutsk**	**49.11**	**7**	⇑*i*P	**P**	**12 26 30.0**	**-0.2**		
IRK				*e*		12 26 40.3			
IRK				pmax	pmax				
	comp=Z,176nm,2.1s								
QIS	**Mount Isa**	**49.13**	**121**	P	**P**	**12 26 31.0**	**+0.1**		
	baz=49,SNR=49								
QIS				S	**S**	**12 33 31.3**	**-2.4**		
	baz=49,SNR=10.0								
KURK	**Kurchatov**	**49.26**	**346**	P	**P**	**12 26 30.8**	**-0.5**		
KURK				pmax	pmax				
	comp=Z,94nm,1.3s								
KURK	**Kurchatov**	**49.26**	**346**	P	**P**	**12 26 31.7**	**+0.4**		
	SNR=71								
KURK	**Kurchatov**	**49.26**	**346**	*e*P	**P**	**12 26 30.3**	**-1.1**		
	comp=Z,255nm,1.4s								
KURK				LR	LR				
	comp=Z,2µm,18.0s								
GUMO	**Guam**	**49.44**	**75**	LR	LR	12 46 12.4			
	comp=Z,2µm,21.5s,baz=244,slow=35								
GUMO	**Guam**	**49.44**	**75**	PFAKE		12 26 50.0	+17		
GUMO				LR	LR				
	comp=Z,2µm,20.0s								
HIA	**Hailar**	**49.97**	**20**	PFAKE		12 26 50.0	+13		
HIA				LR	LR				
	comp=Z,4µm,18.0s								
COEN	**Coen**	**50.05**	**111**	P	**P**	**12 26 37.0**	**-1.0**		
	baz=50,SNR=9.9								
COEN	**Coen**	**50.05**	**111**	*e*P	**P**	**12 26 37.0**	**-1.0**		
	comp=Z,5.8nm,0.9s								
COEN				LR	LR				
	comp=Z,1µm,20.0s								
CBIJ	**Chichi jima**	**50.11**	**57**	P	**P**	**12 26 35.9**	**-2.3**		
JCJ	**Chichijima**	**50.11**	**57**	P	**P**	**12 26 35.9**	**-2.3**		
	comp=Z,76nm,0.7s,baz=255,slow=16,SNR=4.1								
CBI	**Chichi jima**	**50.11**	**57**	*e*P	**P**	**12 26 35.9**	**-2.3**		
CIT	**Chita**	**50.59**	**14**	*e*P	**P**	**12 26 41.6**	**+0.1**		
CIT				*e*		12 27 58.9			
CIT				pmax	pmax				
	comp=Z,298nm,1.8s								
MDJ	**Mudanjiang**	**50.60**	**31**	P	**P**	**12 26 42.0**	**+0.3**		
MDJ				pP	**pP**	**12 26 51.0**	**-2.3**		
MDJ				sP	**sP**	**12 26 54.8**	**-3.3**		
MDJ				PcP	**PcP**	**12 28 00.5**	**+1.6**		
MDJ				PP	**PP**	**12 28 37.3**	**-0.6**		
MDJ				ScP	**ScP**	**12 31 50.3**	**-1.6**		
MDJ				PcS	**PcS**	**12 31 56.6**	**+0.5**		
MDJ				S	**S**	**12 33 55.9**	**+2.5**		
MDJ				ScS	**ScS**	**12 36 29.4**	**+0.1**		
MDJ				PMZ					
	comp=Z,98nm,1.4s								
MDJ				PMZ					
	comp=Z,490nm,5.1s								
MDJ				LN					
	comp=Z,740nm,16.1s								
MDJ				LE					
	comp=Z,1µm,17.6s								
MDJ				LZ					
	comp=Z,2µm,19.0s								
MDJ	**Mudanjiang**	**50.60**	**31**	PFAKE		12 26 50.0	+8.3		
MDJ				LR	LR				
	comp=Z,2µm,20.0s								
VLA	**Vladivostok**	**50.81**	**34**	⇓*i*P	**P**	**12 26 43.0**	**-0.3**		
VLA				pmax	pmax				
	comp=Z,377nm,1.7s								
MAJO	**Matsushiro**	**50.99**	**44**	*e*P	**P**	**12 26 44.1**	**-0.7**		
MAJO				*e*		12 28 00.9			
MAJO				pmax	pmax				
	comp=Z,80nm,1.5s								
MAJO				MLR	MLR				
	comp=Z,2µm,21.0s								
MAJO	**Matsushiro**	**50.99**	**44**	*e*P	**P**	**12 26 44.1**	**-0.7**		
	comp=Z,80nm,1.5s								
MAJO				*e*PcP	**PcP**	**12 28 00.9**	**+0.3**		
MAJO				*e*ScP	**ScP**	**12 31 53.2**	**-0.7**		
MAJO				LR	LR				
	comp=Z,2µm,21.0s								
MAT	**Matsushiro**	**50.99**	**44**	P	**P**	**12 26 43.3**	**-1.5**		
MAT				S	**S**	**12 33 58.8**	**-0.4**		
MJAR	**Matsushiro Arr**	**50.99**	**44**	P	**P**	**12 26 43.3**	**-1.5**		
	comp=Z,14nm,0.9s,baz=230,slow=8.3,SNR=29								
MJAR				PcP	**PcP**	**12 28 00.9**	**+0.3**		
	comp=Z,21nm,0.9s,baz=238,slow=3.6,SNR=15								
MJAR				ScP	**ScP**	**12 31 53.2**	**-0.7**		
	comp=Z,5.8nm,1.2s,baz=225,slow=6.0,SNR=5.6								
MJAR				LR	LR	12 51 18.0			
	comp=Z,2µm,18.3s,baz=250,slow=40								
ZAA0	**Zalesovo Array**	**51.12**	**352**	P	**P**	**12 26 45.1**	**-0.2**		
	baz=51,SNR=65								
ZALV	**Zalesovo Beam**	**51.12**	**352**	P	**P**	**12 26 44.8**	**-0.6**		
	comp=Z,126nm,0.7s,baz=179,slow=6.8,SNR=439								
ZALV				ScP	**ScP**	**12 31 52.6**	**-1.3**		
	comp=Z,4.9nm,1.0s,baz=219,slow=1.8,SNR=4.0								
ZALV				S	**S**	**12 33 57.3**	**-3.0**		
	comp=Z,3.0nm,0.8s,baz=148,slow=14,SNR=4.0								
ZAA1	**Zalesovo Array**	**51.12**	**352**	*e*P	**P**	**12 26 44.8**	**-0.6**		
ZAA1				*e*ScP	**ScP**	**12 31 52.6**	**-1.3**		
ZAA1				*e*S	**S**	**12 33 57.3**	**-3.0**		
USRK	**Ussuriysk Ar.**	**51.58**	**33**	P	**P**	**12 26 48.8**	**-0.2**		
	comp=Z,52nm,0.8s,baz=239,slow=6.9,SNR=77								
USRK				LR	LR	12 50 00.6			
	comp=Z,2µm,20.7s,baz=213,slow=38								
MANU	**Manus Island**	**51.81**	**95**	P	**P**	**12 26 51.6**	**+0.3**		
	baz=52,SNR=6.2								
DAMY	**Dhamar**	**51.86**	**286**	*e*P	**P**	**12 26 51.7**	**-0.3**		
DAMY				*e*pP	**pP**	**12 27 03.1**	**-0.6**		
DAMY				LR	LR				
	comp=Z,1µm,21.0s								
NVS	**Novosibirsk**	**52.22**	**351**	⇑*i*P	**P**	**12 26 51.7**	**-1.9**		
NVS				*i*		12 27 02.2			
NVS				*i* S	**S**	**12 34 12.9**	**-2.5**		
NVS				pmax	pmax				
	comp=N,71nm,0.9s								
NVS				pmax	pmax				
	comp=Z,104nm,0.9s								
NVS				pmax	pmax				
	comp=E,35nm,0.6s								
NVS				smax	smax				
	comp=N,19nm,1.4s								
NVS				smax	smax				
	comp=E,30nm,1.4s								
KRAR	**Krasnoyarsk**	**52.44**	**358**	*c i*P	**P**	**12 26 55.3**	**+0.2**		
KRAR				pmax	pmax				
	comp=Z,295nm,1.2s								
RAYN	**Ar Rayn**	**52.49**	**297**	*e*P	**P**	**12 26 57.5**	**+1.3**		
RAYN				LR	LR				
	comp=Z,4µm,20.0s								
PMG	**Port Moresby**	**52.73**	**104**	*c i*P	**P**	**12 26 57.7**	**-0.4**		
PMG				pmax	pmax				
	comp=Z,367nm,0.6s								
PMG	**Port Moresby**	**52.73**	**104**	P	**P**	**12 26 57.8**	**-0.2**		
	baz=53,SNR=16								
PMG	**Port Moresby**	**52.73**	**104**	*e*P	**P**	**12 26 57.9**	**-0.2**		
ABPO	**Ambohimpanom**	**52.77**	**243**	PFAKE		12 27 10.0	+12		
ABPO				LR	LR				
	comp=Z,900nm,22.0s								
BVA0	**Borovoye Array**	**53.67**	**341**	P	**P**	**12 27 03.1**	**-1.2**		
BVA0				pmax	pmax				
	comp=Z,118nm,0.9s								
BRVK	**Borovoye**	**53.73**	**341**	*e*P	**P**	**12 27 04.7**	**-0.1**		
BRVK				*e**PP	**pP**	**12 27 16.3**	**-0.2**		
BRVK				pmax	pmax				
	comp=Z,138nm,1.0s								
BRVK				MLR	MLR				
	comp=Z,800nm,20.0s								
BRVK	**Borovoye**	**53.73**	**341**	P	**P**	**12 27 04.9**	**+0.1**		
	SNR=54								
BRVK	**Borovoye**	**53.73**	**341**	*e*P	**P**	**12 27 04.7**	**-0.1**		
	comp=Z,138nm,1.0s								
BRVK				*e*pP	**pP**	**12 27 16.2**	**-0.2**		
BRVK				LR	LR				
	comp=Z,800nm,20.0s								
CTA	**Charters Tower**	**54.75**	**117**	LR	LR	12 51 14.0			
	comp=Z,742nm,21.7s,baz=283,slow=37								
CTAO	**Charters Tower**	**54.75**	**117**	*e*P	**P**	**12 27 12.9**	**+0.1**		
CTAO				*e**PP	**pP**	**12 27 23.5**	**-1.1**		
CTAO				pmax	pmax				
	comp=Z,99nm,0.9s								
CTAO	**Charters Tower**	**54.75**	**117**	*e*P	**P**	**12 27 12.9**	**+0.1**		
	comp=Z,99nm,0.9s								
CTAO				*e*pP	**pP**	**12 27 23.5**	**-1.1**		
HTT	**Hallett**	**54.80**	**136**	P	**P**	**12 27 13.2**	**+0.2**		
	baz=55,SNR=5.0								
AB31	**Akbulak array**	**54.87**	**332**	*i* P	**P**	**12 27 12.5**	**-0.6**		
AB31				pmax	pmax				
	comp=Z,131nm,0.9s								
ABKAR	**Akbulak array**	**54.87**	**332**	*e*P	**P**	**12 27 13.4**	**+0.3**		
ABKAR				*e*pP	**pP**	**12 27 24.3**	**-0.6**		
KLR	**Kul'dur**	**54.88**	**28**	⇓*i*P	**P**	**12 27 10.0**	**-3.2**		
KLR				*e*S	**S**	**12 34 52.5**	**+0.8**		
KLR				pmax	pmax				
	comp=N,100nm,1.8s								
KLR				pmax	pmax				
	comp=Z,500nm,1.8s								
KLR				MLR	MLR				
	comp=N,900nm,13.5s								
KLR				MLR	MLR				
	comp=E,1µm,13.5s								
KLR				MLR	MLR				
	comp=Z,6µm,13.5s								
QLP	**Quilpie**	**55.49**	**126**	P	**P**	**12 27 18.7**	**+0.7**		
	baz=55,SNR=63								
STKA	**Stephens Creek**	**55.90**	**133**	P	**P**	**12 27 20.6**	**-0.2**		
	comp=Z,18nm,0.8s,baz=306,slow=7.4,SNR=25								
STKA				LR	LR	12 53 29.5			
	comp=Z,777nm,20.6s,baz=302,slow=38								
STKA	**Stephens Creek**	**55.90**	**133**	*e*P	**P**	**12 27 20.8**	**0.0**		
STKA	**Stephens Creek**	**55.90**	**133**	P	**P**	**12 27 20.8**	**0.0**		
	baz=56,SNR=14								
STKA	**Stephens Creek**	**55.90**	**133**	*e*P	**P**	**12 27 20.8**	**0.0**		
HABR	**Khabarovsk**	**55.98**	**31**	*c i*P	**P**	**12 27 20.5**	**-0.6**		
HABR				*e**PP	**pP**	**12 27 30.4**	**-2.5**		
HABR				*e*SP		12 27 35.4			
HABR				*e*		12 28 17.0			
HABR				*e*		12 29 23.9			
HABR				*e*		12 30 37.8			
HABR				S	**S**	**12 35 06.9**	**+0.5**		
HABR				*e*SS	**PnS**	**12 35 24.1**	**+3.2**		
HABR				*e*		12 37 05.1			
HABR				*e*SS	**SS**	**12 38 52.0**	**-0.9**		
HABR				pmax	pmax				
	comp=N,42nm,1.3s								
HABR				pmax	pmax				
	comp=E,51nm,1.3s								
HABR				pmax	pmax				
	comp=Z,179nm,1.3s								
HABR				pmax	pmax				
	comp=Z,409nm,1.5s								
HABR				MLR	MLR				
	comp=Z,2µm,19.0s								
BOD	**Bodaibo**	**56.06**	**12**	*e*P	**P**	**12 27 21.2**	**-0.3**		
BOD				pmax	pmax				
	comp=Z,104nm,1.5s								
AKTO	**Aktyubinsk**	**56.59**	**332**	S	**S**	**12 35 12.0**	**-2.5**		
	comp=Z,0.9nm,0.4s,baz=10,slow=22,SNR=7.4								
FURI	**Furi**	**57.02**	**278**	PFAKE		12 27 40.0	+10		
FURI				LR	LR				
	comp=Z,1µm,22.0s								
ERM	**Erimo**	**57.03**	**41**	⇓*e*P	**P**	**12 27 29.8**	**+1.1**		
ERM				pmax	pmax				
	comp=Z,50nm,1.0s								
ERM	**Erimo**	**57.03**	**41**	PFAKE		12 27 40.0	+11		
ERM				LR	LR				
	comp=Z,2µm,19.0s								
PAF	**Port-aux-Franc**	**57.10**	**200**	P	**P**	**12 27 29.0**	**0.0**		
PAF				S	**S**	**12 35 20.0**	**-1.1**		
PAF				R		12 43 00.0			
ASAJ	**Asahikawa**	**57.71**	**38**	P	**P**	**12 27 33.5**	**0.0**		
	comp=Z,59nm,0.9s,baz=255,slow=10,SNR=21								
ASAJ	**Asahikawa**	**57.71**	**38**	*e*P	**P**	**12 27 33.6**	**+0.1**		
ASAJ				LR	LR				
	comp=Z,2µm,20.0s								
CLNS	**Chul'man**	**58.01**	**18**	*e*P	**P**	**12 27 35.3**	**-0.1**		
CLNS				*e**PP	**pP**	**12 27 45.3**	**-2.0**		
CLNS				*e*		12 28 26.1			
CLNS				*e*		12 29 41.6			
CLNS				*e*PPP	PPP	12 31 02.1			
CLNS				*e*S	**S**	**12 35 34.1**	**+1.1**		
CLNS				pmax	pmax				
	comp=Z,98nm,0.9s								
CLNS				pmax	pmax				
	comp=E,47nm,0.9s								
CLNS				pmax	pmax				
	comp=N,57nm,0.9s								
CLNS				pmax	pmax				
	comp=E,12nm,0.9s								
CLNS				pmax	pmax				
	comp=Z,9.0nm,1.0s								
CLNS				pmax	pmax				
	comp=N,15nm,0.8s								
CLNS				smax	smax				
	comp=E,118nm,10.9s								
CLNS				smax	smax				
	comp=N,73nm,8.5s								
CLNS				MLR	MLR				
	comp=Z,6µm,18.0s								
CLNS				MLR	MLR				
	comp=E,4µm,18.0s								
CLNS				MLR	MLR				
	comp=N,3µm,18.0s								
MAK	**Makhachkala**	**58.12**	**320**	*e*P	P	12 27 29.3	-7.0		
MAK				*e*		12 28 28.0			
MAK				*e*		12 29 45.9			
MAK				*e*S	S	12 35 28.2	-6.6		
MAK				*e*		12 37 24.2			
MAK				pmax	pmax				
	comp=Z,322nm,2.2s								
MAK				MLR	MLR				
	comp=Z,546nm,20.0s								
HAKT	**HAKKARI**	**58.42**	**313**	*i* P	**P**	**12 27 38.2**	**-0.8**		
GNI	**Garni**	**58.71**	**316**	*c i*P	**P**	**12 27 41.4**	**+0.6**		
GNI				*i* *PP	**pP**	**12 27 54.3**	**+1.6**		
GNI				pmax	pmax				
	comp=Z,99nm,1.2s								
GNI	**Garni**	**58.71**	**316**	P	**P**	**12 27 42.0**	**+1.2**		
	SNR=14								
GNI	**Garni**	**58.71**	**316**	⇑*i*P	**P**	**12 27 41.7**	**+0.8**		
	SNR=9.6								
GNI	**Garni**	**58.71**	**316**	*e*P	**P**	**12 27 41.6**	**+0.8**		
	comp=Z,120nm,1.2s								
KMBO	**Kilima Mbogo**	**58.72**	**267**	P	**P**	**12 27 43.1**	**+1.8**		
	comp=Z,7.9nm,0.8s,baz=62,slow=9.0,SNR=13								
KMBO				LR	LR	12 50 37.1			
	comp=Z,2µm,19.1s,baz=82,slow=34								
CMSA	**Cobar Meteorol**	**58.80**	**130**	⇑P	**P**	**12 27 41.6**	**+0.2**		
	baz=59,SNR=49								
RMQ	**Roma**	**59.17**	**124**	P	**P**	**12 27 45.4**	**+1.4**		
	baz=59,SNR=17								
YSS	**Yuzh-Sakhalins**	**59.28**	**36**	*α i*P	**P**	**12 27 44.5**	**+0.2**		
YSS				*e*		12 27 53.0			
YSS				*e**SP	**sP**	**12 28 05.0**	**+4.0**		
YSS				*e*		12 28 30.5			
YSS				*e*S	**S**	**12 35 52.0**	**+2.2**		
YSS				*e*		12 36 06.0			
YSS				pmax	pmax				
	comp=Z,330nm,1.0s								
YSS				MLR	MLR				
	comp=Z,2µm,19.0s								
YSS				MLR	MLR				
	comp=N,1µm,18.0s								
YSS				MLR	MLR				
	comp=E,2µm,19.0s								
YSS	**Yuzh-Sakhalins**	**59.28**	**36**	*e*P	**P**	**12 27 44.6**	**+0.2**		
	comp=E,296nm,0.9s								
YSS				LR	LR				
	comp=Z,900nm,20.0s								
EAK	**Akyaka**	**59.72**	**316**	*i* P	**P**	**12 27 48.6**	**+0.8**		
YUK	**Yuzh-Kuril'sk**	**59.73**	**40**	*d i*P	**P**	**12 27 44.6**	**-2.9**		
YUK				*i* S	**S**	**12 35 54.8**	**-0.8**		
YUK				pmax	pmax				
	comp=Z,380nm,1.5s								
YUK				pmax	pmax				
	comp=N,51nm,0.5s								
YUK				pmax	pmax				
	comp=E,104nm,0.5s								
YUK				MLR	MLR				
	comp=N,736nm,22.0s								
YUK				MLR	MLR				
	comp=E,1µm,22.0s								
YUK				MLR	MLR				
	comp=Z,2µm,22.0s								
SVE	**Sverdlovsk**	**60.08**	**339**	*d i*P	**P**	**12 27 49.9**	**+0.2**		
SVE				*e*		12 30 08.8			
SVE				*e*S	**S**	**12 35 57.9**	**-1.8**		
SVE				*e*		12 37 40.1			
SVE				pmax	pmax				
	comp=Z,136nm,0.9s								
SVE				MLR	MLR				
	comp=Z,1µm,19.0s								
EATA	**Eleskirt**	**60.18**	**315**	*i* P	**P**	**12 27 51.7**	**+0.5**		
EKAR	**Karacoban**	**60.26**	**314**	*i* P	**P**	**12 27 52.9**	**+1.3**		
MARD	**Mardin**	**60.51**	**311**	*i* P	**P**	**12 27 53.7**	**+0.5**		
ARU	**Arti**	**60.57**	**337**	P	**P**	**12 27 52.8**	**-0.2**		
	comp=Z,415nm,1.0s,SNR=21								
ARU	**Arti**	**60.57**	**337**	*c i*P	**P**	**12 27 52.5**	**-0.5**		
ARU				*e**PP	**pP**	**12 28 02.9**	**-2.1**		
ARU						12 28 37.7			
ARU						12 30 03.4			
ARU				S	**S**	**12 36 05.6**	**-0.4**		
ARU				*SS	**sS**	**12 36 23.2**	**-2.6**		
ARU	

KIV MLR MLR
comp=Z,321nm,17.0s
KIV Kislovodsk 61.70 319 P **P** **12 28 01.7 +0.5**
SNR=37
KIV Kislovodsk 61.70 319⇓*iP* **P** **12 28 01.6 +0.5**
SNR=24
KIV Kislovodsk 61.70 319 *e*P **P** **12 28 01.6 +0.5**
KIV *e*pP **pP** **12 28 14.2 +1.2**
GOF Gofitskoye 61.94 320 *e*P **P** **12 28 03.0 +0.4**
GOF pmax pmax
comp=Z,130nm,1.3s
ELZG Elazig 62.24 312 *i*P **P** **12 28 05.9 +1.0**
MALT Malatya 62.60 312⇑*iP* **P** **12 28 08.3 +1.1**
KELT Kelkit 62.60 314 *i*P **P** **12 28 08.4 +1.1**
GZT Gaziantep 62.95 310 *i*P **P** **12 28 10.9 +1.2**
ARMA Armidale 62.98 127 P **P** **12 28 11.5 +1.6**
baz=63,SNR=5.5
ARMA Armidale 62.98 127 *e*P **P** **12 28 11.6 +1.6**
comp=Z,46nm,1.0s
ARMA *e*pP **pP** **12 28 21.6 -0.3**
CRZF Crozet Islands 63.03 213 P **P** 12 28 00.0 -10
CRZF S S 12 36 27.0 -10
CRZF R 12 46 00.0
EIL Elat 63.09 302 ⇑P **P** **12 28 12.2 +1.6**
baz=63,SNR=6.9
SUSE Susehri 63.38 314 *i*P **P** **12 28 13.4 +1.0**
HCB Kahramanmara˜ 63.44 310 *i*P **P** **12 28 13.8 +1.0**
SOKR Solikamsk 63.50 339*c iP* **P** **12 28 12.6 0.0**
SOKR S **S** **12 36 40.8 -2.0**
SOKR pmax pmax
comp=Z,110nm,0.9s
SOKR MLR MLR
comp=E,860nm,15.0s
SOC Sochi 63.52 318*c iP* **P** **12 28 12.7 -0.4**
SOC *e**PP **pP** **12 28 23.1 -2.0**
SOC *e**SP **sP** **12 28 28.6 -1.2**
SOC *e* 12 28 50.1
SOC *e* 12 30 30.2
SOC *e*S **S** **12 36 45.8 +2.1**
SOC *e**SS **sS** **12 37 02.1 -1.6**
SOC *e* 12 37 59.9
SOC pmax pmax
comp=Z,131nm,0.9s
SOC MLR MLR
comp=Z,336nm,20.0s
GRSN GIRESUNGRSN 63.57 314 *i*P **P** **12 28 13.7 +0.1**
YAK Yakutsk 63.65 17 P P 12 28 03.4 -10
comp=Z,3.5nm,0.4s,baz=157,slow=4.0,SNR=1.3
YAK Yakutsk 63.65 17*c iP* **P** **12 28 12.9 -0.6**
YAK *e**PP **pP** **12 28 23.6 -2.0**
YAK *e* 12 28 48.4
YAK *e* 12 30 31.4
YAK *e*PPP PPP 12 32 02.3
YAK *e*S **S** **12 36 40.1 -4.5**
YAK *e* 12 37 59.7
YAK *e*SS **SS** **12 40 52.0 -0.7**
YAK pmax pmax
comp=Z,249nm,0.9s
YAK pmax pmax
comp=N,78nm,1.1s
YAK pmax pmax
comp=E,87nm,1.1s
YAK pmax pmax
comp=Z,98nm,3.5s
YAK pmax pmax
comp=N,51nm,3.2s
YAK pmax pmax
comp=E,39nm,1.5s
YAK smax smax
comp=N,70nm,1.8s
YAK smax smax
comp=E,78nm,1.9s
YAK Yakutsk 63.65 17 *e*P **P** **12 28 12.9 -0.6**
YAK *e*pP **pP** **12 28 24.5 -1.1**
YAK LR LR
comp=Z,5μm,19.0s
YAYL Yayladag 63.69 309 *i*P **P** **12 28 13.6 -1.0**
PINB Pinarbasi 64.22 312 *i*P **P** **12 28 19.0 +0.9**
GULE Gulek 65.06 310 *i*P **P** **12 28 24.8 +1.2**
HNR Honiara 65.16 102 *e*P **P** **12 28 24.0 -0.4**
HNR Honiara 65.16 102 PFAKE 12 28 40.0 +16
HNR LR LR
comp=Z,6μm,20.0s
MBAR Mbarara 65.17 268 *e*P **P** **12 28 25.9 +1.2**
MBAR pmax pmax
comp=Z,62nm,1.4s
MBAR MLR MLR
comp=Z,700nm,19.0s
MBAR Mbarara 65.17 268 *e*P **P** **12 28 25.9 +1.2**
comp=Z,62nm,1.4s
MBAR LR LR
comp=Z,700nm,19.0s
KIZK Mersin 65.34 309 *i*P **P** **12 28 24.8 -0.3**
HAVZ Havza 65.45 314 *i*P **P** **12 28 26.6 +0.8**
ANN Anapa 65.50 318 *e*P **P** **12 28 24.7 -1.3**
ANN *e**PP **pP** **12 28 37.2 -0.8**
ANN *e* 12 30 52.2
ANN *e*S **S** **12 37 04.6 -3.4**
ANN pmax pmax
comp=Z,70nm,1.3s
CSS Prodhromos 65.61 307 *e*P **P** **12 28 27.9 +0.9**
CSS *e*pP **pP** **12 28 40.5 +1.5**
CSS LR LR
comp=Z,200nm,18.0s
CDAG Cicekdag 66.00 312 *i*P **P** **12 28 29.7 +0.2**
BOYT Boyabat 66.14 314 *i*P **P** **12 28 30.9 +0.7**
BR101 Keskin Array S 66.58 312 *e*P **P** **12 28 33.1 -0.1**
BR131 Keskin Array S 66.58 312 P **P** **12 28 33.4 +0.2**
baz=67,SNR=7.3
BRTR Keskin Array B 66.58 312 P **P** **12 28 33.1 -0.1**
comp=Z,14nm,0.8s,baz=124,slow=6.6,SNR=67
BRTR LR LR 12 59 05.8
comp=Z,392nm,21.8s,baz=106,slow=37
VORD Divnogorie 66.75 325 *e*P **P** **12 28 32.7 -1.2**
VORD pmax pmax
comp=Z,90nm,0.7s
VORD pmax pmax
comp=N,80nm,0.8s
VORD pmax pmax
comp=E,160nm,0.9s
ILGA Ilgaz 66.89 313 *i*P **P** **12 28 36.0 +0.7**
VSR Storozhevoye 66.93 325 *e*P **P** **12 28 33.8 -1.2**
VSR pmax pmax
comp=Z,120nm,1.0s
VSR pmax pmax
comp=N,40nm,0.8s
VSR pmax pmax
comp=E,130nm,1.1s
ELDT Eldivan 66.94 313 *i*P **P** **12 28 35.6 +0.1**
ANTO Ankara 67.24 312 *e*P **P** **12 28 38.1 +0.7**
ANTO *e**PP **pP** **12 28 50.2 +0.8**
ANTO pmax pmax
comp=Z,45nm,1.0s
ANTO MLR MLR
comp=Z,500nm,19.0s
ANTO Ankara 67.24 312⇑*iP* **P** **12 28 37.4 0.0**
ANTO Ankara 67.24 312 P **P** **12 28 37.7 +0.3**
SNR=14
ANTO Ankara 67.24 312 *e*P **P** **12 28 38.1 +0.7**
comp=Z,45nm,1.0s
ANTO *e*pP **pP** **12 28 50.2 +0.8**
ANTO LR LR
comp=Z,500nm,19.0s
KDHN Kadinhani 67.41 310 *i*P **P** **12 28 38.1 -0.4**
LPSR Galich'ya Gora 67.65 326 *e*P **P** **12 28 38.8 -0.8**
LPSR *e*S **S** **12 37 29.8 -4.0**
LPSR pmax pmax
comp=N,8.0nm,0.9s
LPSR pmax pmax
comp=Z,100nm,0.9s
LPSR pmax pmax
comp=E,80nm,1.3s
LPSR smax smax
comp=E,510nm,2.2s
LPSR smax smax
comp=Z,30nm,3.1s
LPSR smax smax
comp=N,400nm,2.2s
SIM Simferopol' 67.77 318*c iP* **P** **12 28 39.8 -0.7**
SIM *e*S **S** **12 37 34.0 -1.6**
SIM pmax pmax
comp=Z,111nm,0.8s
BCAM Yenicaga 68.03 313 *i*P **P** **12 28 42.2 -0.1**
BOLV Bolvadin 68.34 310 *i*P **P** **12 28 44.6 +0.2**
ISP Isparta 68.47 309 P **P** **12 28 44.7 -0.5**
ISP Isparta 68.47 309⇑*iP* **P** **12 28 44.9 -0.3**
ISP Isparta 68.47 309 P **P** **12 28 44.7 -0.5**
BORA Eskisehir 68.99 311 *i*P **P** **12 28 48.1 -0.3**
PRGR Permogore 69.02 337⇑*iP* **P** **12 28 47.6 -0.3**
PRGR *e*S **S** **12 37 47.5 -2.3**
PRGR pmax pmax
comp=Z,144nm,0.7s
ALT Altintas 69.06 311 P **P** **12 28 49.0 +0.2**
ALT Altintas 69.06 311 P **P** **12 28 49.0 +0.2**
GOLH Golhisar 69.09 309 *i*P **P** **12 28 49.0 -0.1**
LSZ Lusaka 69.46 252 *e*P **P** **12 28 52.7 +1.0**
LSZ *e**PP **pP** **12 29 03.5 -0.4**
LSZ MLR MLR
comp=Z,2μm,20.0s
LSZ Lusaka 69.46 252 *e*P **P** **12 28 52.7 +1.0**
LSZ *e*pP **pP** **12 29 03.5 -0.4**
LSZ LR LR
comp=Z,2μm,20.0s
GDZ Gediz 69.54 310 *i*P **P** **12 28 51.6 -0.3**
MOS Moscow 69.69 329 *e*P **P** **12 28 49.8 -2.4**
MOS *e**PP **pP** **12 28 59.5 -4.8**
MOS *e* 12 29 14.2
MOS *e* 12 31 29.1
MOS *e*S **S** **12 37 53.7 -4.2**
MOS *e* 12 38 23.9
MOS pmax pmax
comp=Z,240nm,0.9s
MOS pmax pmax
comp=Z,700nm,1.8s
MOS smax smax
comp=N,900nm,3.2s
MOS smax smax
comp=E,600nm,3.0s
MOS MLR MLR
comp=Z,1μm,19.0s
TURN Turunc 69.76 308 *i*P P 12 28 57.6 +4.6
OBN Obninsk 69.97 328 P **P** **12 28 53.5 -0.5**
comp=Z,750nm,0.6s,SNR=10
OBN Obninsk 69.97 328 P **P** **12 28 53.5 -0.5**
comp=Z,68nm,0.6s,baz=337,slow=0.7,SNR=7.0
OBN Obninsk 69.97 328*c iP* **P** **12 28 53.8 -0.1**
OBN *e* 12 29 03.4
OBN *e*S **S** **12 38 04.4 +3.2**
OBN *e*SS **SS** **12 42 25.2 -5.8**
OBN pmax pmax
comp=Z,261nm,1.7s
OBN MLR MLR
comp=Z,758nm,17.0s
OBN Obninsk 69.97 328 *e*P **P** **12 28 53.2 -0.8**
OBN *e*pP **pP** **12 29 05.8 -0.3**
OBN LR LR
comp=Z,900nm,19.0s
ARG Arkhangelos 70.02 307 P pP 12 29 08.2 +1.4
ARG Arkhangelos 70.02 307 P pP 12 29 08.2 +1.4
ARG Arkhangelos 70.02 307 P pP 12 29 08.2 +1.4
KULA Kula-Manisa 70.05 310 P **P** **12 28 54.7 -0.2**
KULA Kula-Manisa 70.05 310 P **P** **12 28 54.7 -0.2**
MANT Manisa 70.12 310 *i*P **P** **12 28 55.2 -0.3**
ISK Istanbul-Kandi 70.30 312 P **P** **12 28 56.0 -0.3**
ISK Istanbul-Kandi 70.30 312 P **P** **12 28 56.0 -0.3**
ISK Istanbul-Kandi 70.30 312 P **P** **12 28 56.0 -0.3**
CASY Casey 70.39 174 *e*P **P** **12 28 57.1 +0.8**
CASY *e*pP **pP** **12 29 05.8 -2.7**
CASY *e*PKiKP **PKiKP** **12 35 11.4 +4.2**
CASY LR LR
comp=Z,2μm,20.0s
AYDN Tasoluk 70.48 309 *i*P **P** **12 28 59.7 +2.2**
PEA0 Petropavlovsk- 70.63 34 *e*P **P** **12 28 57.6 -0.4**
PETK Petropavlovsk- 70.63 34 P **P** **12 28 57.4 -0.7**
comp=Z,14nm,1.0s,baz=204,slow=3.3,SNR=27
PETK LR LR 13 03 39.2
comp=Z,1μm,18.1s,baz=231,slow=39
PEA2 Petropavlovsk- 70.63 34 *e*P **P** **12 28 57.4 -0.7**
KARP Karpathos 70.67 306 P pP 12 29 12.0 +1.1
KARP Karpathos 70.67 306 *e*P pP 12 29 11.9 +1.1
KARP Karpathos 70.67 306 P pP 12 29 12.0 +1.1
AKHS Akhisar 70.77 310 *i*P **P** **12 28 57.5 -1.8**
BALY Balya 71.09 311 *i*P **P** **12 29 01.4 +0.3**
KLMR Klimovskoe 71.12 335*c iP* **P** **12 29 00.4 -0.5**
KLMR *e**PP **PP** **12 31 41.5 +2.6**
KLMR pmax pmax
comp=Z,121nm,1.1s
PET Petropavlovsk 71.14 35 *e*P **P** **12 29 00.3 -0.8**
PET *e* 12 31 37.8
PET *e*S **S** **12 38 10.9 -4.0**
PET *e*PS **PnS** **12 38 40.1 -7.4**
PET *e*SS **SS** **12 42 42.4 -6.6**
PET pmax pmax
comp=Z,90nm,1.0s
PET pmax pmax
comp=Z,200nm,17.7s
PET MLR MLR
comp=Z,2μm,19.0s
PET MLR MLR
comp=Z,2μm,17.0s
PET Petropavlovsk 71.14 35 *e*P **P** **12 29 00.3 -0.8**
comp=Z,78nm,1.0s
PET LR LR
comp=Z,2μm,20.0s
TIXI Tiksi 71.21 11*c iP* **P** **12 29 00.0 -1.2**
TIXI pmax pmax
comp=Z,244nm,1.7s
TIXI Tiksi 71.21 11 *e*P **P** **12 29 00.2 -1.0**
comp=Z,207nm,1.3s
TIXI LR LR
comp=Z,3μm,18.0s
TLCR 71.44 317⇑*iP* **P** **12 29 04.1 +1.0**
PSN Preselentsi 71.52 315⇑*iP* **P** **12 29 04.3 +0.6**
PSN Preselentsi 71.52 315 P **P** **12 29 03.7 0.0**
TIRR Tirgusor 71.54 316 *e*P **P** **12 29 03.2 -0.5**
TIRR *e**PP **pP** **12 29 16.3 +0.4**
TIRR Tirgusor 71.54 316⇓*iP* **P** **12 29 04.1 +0.4**
TIRR Tirgusor 71.54 316 *e*P **P** **12 29 03.2 -0.5**
TIRR *e*pP **pP** **12 29 16.3 +0.4**
TLB Topalu 71.83 316⇓*iP* **P** **12 29 05.8 +0.3**
MSAB Monastry St. A 71.87 315⇑*iP* **P** **12 29 06.3 +0.6**
NPS Neapolis 71.87 306 P **P** **12 29 07.0 +1.0**
NPS Neapolis 71.87 306 *e*P pP 12 29 19.1 +1.0
NPS Neapolis 71.87 306 P **P** **12 29 07.0 +1.0**
NPS Neapolis 71.87 306 P **P** **12 29 07.0 +1.0**
KIS Kishinev 71.89 318⇑*iP* **P** **12 29 05.0 -0.8**
comp=Z,500nm,2.0s
KIS Kishinev 71.89 318 *e*PcP **PcP** **12 29 20.0 -4.4**
KIS *e*S **SKiKP** **12 38 40.0 -0.5**
KIS Kishinev 71.89 318⇑*iP* **P** **12 29 05.0 -0.8**
KIS *e* 12 29 20.0
KIS *e* 12 33 30.0
KIS pmax pmax
comp=Z,500nm,2.0s
KIS MLR MLR
comp=Z,300nm,16.0s
CFR Carcaliu 71.91 316⇑*iP* **P** **12 29 06.3 +0.4**
HARR Harsova 71.93 316⇓*iP* **P** **12 29 06.5 +0.4**
PRD Provadia 71.97 314 P **P** **12 29 06.7 +0.4**
PRK Paraskevi 72.02 310 P **P** **12 29 06.9 +0.2**
PRK Paraskevi 72.02 310 *e*P **P** **12 29 07.3 +0.6**
PRK Paraskevi 72.02 310 P **P** **12 29 06.9 +0.2**
PRK Paraskevi 72.02 310 P **P** **12 29 06.9 +0.2**
CHOS Chios island 72.03 309 P **P** **12 29 07.8 +0.9**
CHOS Chios island 72.03 309 *e*P **P** **12 29 07.8 +0.9**
CHOS Chios island 72.03 309 P **P** **12 29 07.8 +0.9**
APE Apeiranthos 72.22 308⇓*iP* **P** **12 29 07.7 -0.4**
SEY Seymchan 72.23 24 P **P** **12 29 06.9 -0.6**
comp=Z,46nm,1.0s,baz=235,slow=5.4,SNR=62
SEY Seymchan 72.23 24 *i*P **P** **12 29 07.2 -0.3**
SEY *i* AP **pP** **12 29 18.4 -1.3**
BOZC Bozcaada 72.29 311 *i*P **P** **12 29 08.4 0.0**
SIGR SIGRI 72.33 310 P **P** **12 29 08.8 +0.2**
SIGR SIGRI 72.33 310 *e*P **P** **12 29 08.8 +0.2**
SIGR SIGRI 72.33 310 P **P** **12 29 08.8 +0.2**
IDI Anoyia 72.46 306 P **P** **12 29 10.2 +0.6**
comp=Z,17nm,0.8s,baz=124,slow=4.7,SNR=8.2
ALN Alexandroupoli 72.49 312 P **P** **12 29 09.1 -0.4**
ALN Alexandroupoli 72.49 312 *e*P **P** **12 29 09.4 -0.1**
ALN Alexandroupoli 72.49 312 P **P** **12 29 09.1 -0.4**
ALN Alexandroupoli 72.49 312 P **P** **12 29 09.1 -0.4**
AKASG Malin Array Be 72.63 322 P **P** **12 29 09.6 -0.5**
comp=Z,37nm,0.8s,baz=91,slow=4.7,SNR=60
AKASG *e*P **pP** **12 29 21.6 -0.8**
comp=Z,79nm,1.0s,baz=88,slow=4.9,SNR=8.2
AKASG PP PP 12 31 46.2 -5.8
comp=Z,2.0nm,0.7s,baz=88,slow=6.6,SNR=3.4
AKASG LR LR 13 04 45.9
comp=Z,285nm,21.1s,baz=90,slow=39
AKBB Malin Array Si 72.63 322 *e*PP PP 12 31 46.2 -5.9
KIEV Kiev 72.64 322*c iP* **P** **12 29 09.7 -0.5**
KIEV Kiev 72.64 322 *e*P P 12 29 15.5 +5.3
KIEV LR LR
comp=Z,400nm,22.0s
AK11 Malin Array Si 72.66 322 *e*P **P** **12 29 09.8 -0.5**
AK11 *e*pP **pP** **12 29 22.3 -0.2**
SMTH Samothraki Isl 72.80 311 P **P** **12 29 09.9 -1.5**
SMTH Samothraki Isl 72.80 311 *e*P **P** **12 29 11.3 -0.1**
SMTH Samothraki Isl 72.80 311 P **P** **12 29 09.9 -1.5**
LIA Limnos Island 72.96 311 P **P** **12 29 12.5 +0.2**
LIA Limnos Island 72.96 311 *e*P **P** **12 29 12.3 0.0**
LIA Limnos Island 72.96 311 P **P** **12 29 12.5 +0.2**
VRI Vrincioaia 73.03 317⇑*iP* **P** **12 29 13.9 +1.3**
SZH Strazhica 73.03 314 P **P** **12 29 12.2 -0.5**
VAM Vamos 73.03 306 P **P** **12 29 12.0 -0.9**
VAM Vamos 73.03 306 *e*P **P** **12 29 11.9 -0.9**
VAM Vamos 73.03 306 P **P** **12 29 12.0 -0.9**
VAM Vamos 73.03 306 P **P** **12 29 12.0 -0.9**
GVD Gavdhos 73.05 305 *e*P **P** **12 29 13.6 +0.6**
GVD *e*pP **pP** **12 29 26.0 +0.9**
GVD LR LR
comp=Z,2μm,21.0s
PLOR Plostina 73.08 317⇑*iP* **P** **12 29 14.1 +1.1**
KDZ Kurdzhali 73.10 312⇑*iP* **P** **12 29 13.5 +0.3**
TESR Tescani 73.22 318⇑*iP* **P** **12 29 14.5 +0.7**
KARN Karanos 73.26 306 *e*P **P** **12 29 14.9 +0.6**
SECR 73.30 316⇑*iP* **P** **12 29 15.7 +1.4**
TMCR Tamitsa 73.31 337 *e*P **P** **12 29 13.0 -0.8**
TMCR *e* 12 29 29.8
TMCR *e* 12 31 54.8
TMCR pmax pmax
comp=Z,138nm,1.3s
DZM Mont Dzumac 73.46 114 *e*P **P** **12 29 16.8 +1.1**
comp=Z,128nm,1.4s
DZM Mont Dzumac 73.46 114 *e*LR LR 12 51 36.4
comp=Z,2μm,24.9s
MLR Muntele Rosu 73.48 316⇑*iP* **P** **12 29 16.3 +0.8**
comp=Z,15nm,1.1s,baz=62,slow=2.5,SNR=88
MLR S **S** **12 38 40.5 -1.8**
comp=Z,1.4nm,1.1s,baz=200,slow=23,SNR=22
MLR Muntele Rosu 73.48 316⇑*iP* **P** **12 29 16.3 +0.8**
ZIMR 73.52 314⇓*iP* **P** **12 29 16.6 +1.1**
RZN Rozhen 73.62 312 P **P** **12 29 16.5 0.0**
KAVA Kavala 73.65 312 P **P** **12 29 16.2 -0.2**
KAVA Kavala 73.65 312 *e*P **P** **12 29 16.5 +0.1**
KAVA Kavala 73.65 312 P **P** **12 29 16.2 -0.2**
LBTB Lobatse 73.67 243 *e*P **P** **12 29 18.0 +1.1**
LBTB *e**PP **pP** **12 29 29.7 +0.5**
LBTB Lobatse 73.67 243 *e*P **P** **12 29 18.0 +1.1**
LBTB *e*pP **pP** **12 29 29.7 +0.5**
PTL Penteli 73.68 309 P **P** **12 29 16.2 -0.5**
PTL Penteli 73.68 309 *e*P **P** **12 29 16.2 -0.5**
PTL Penteli 73.68 309 P **P** **12 29 16.2 -0.5**
PRAR RASCA 73.70 318⇑*iP* **P** **12 29 16.8 +0.3**
PLD Plovdiv 73.71 313 P **P** **12 29 16.4 -0.3**
PLD Plovdiv 73.71 313 P **P** **12 29 16.4 -0.3**
PLD Plovdiv 73.71 313 P **P** **12 29 16.4 -0.3**
ANKY Antikythira Is 73.82 306 P P 12 29 12.3 -5.2
ANKY Antikythira Is 73.82 306 *e*P P 12 29 12.1 -5.4
ANKY Antikythira Is 73.82 306 P P 12 29 12.3 -5.2
AOS Alonnisos 73.84 310 P **P** **12 29 16.1 -1.4**
AOS Alonnisos 73.84 310 *e*P **P** **12 29 16.4 -1.1**
AOS Alonnisos 73.84 310 P **P** **12 29 16.1 -1.4**
OUR Ouranopolis 73.94 311 P **P** **12 29 18.1 0.0**
OUR Ouranopolis 73.94 311 *e*P **P** **12 29 18.0 0.0**
OUR Ouranopolis 73.94 311 P **P** **12 29 18.1 0.0**
OUR Ouranopolis 73.94 311 P **P** **12 29 18.1 0.0**
MTUR Matau 74.04 316⇑*iP* **P** **12 29 18.9 +0.2**
VOIR 74.09 316⇑*iP* **P** **12 29 19.0 0.0**
PAIG Paliouri 74.11 310 P **P** **12 29 19.1 0.0**
PAIG Paliouri 74.11 310 *e*P **P** **12 29 19.0 0.0**
PAIG Paliouri 74.11 310 P **P** **12 29 19.1 0.0**
PAIG Paliouri 74.11 310 P **P** **12 29 19.1 0.0**
NVR Nevrokopi 74.20 312 P **P** **12 29 19.4 -0.2**
NVR Nevrokopi 74.20 312 *e*P **P** **12 29 19.4 -0.2**
NVR Nevrokopi 74.20 312 P **P** **12 29 19.4 -0.2**
VLI Veliai 74.22 307 P **P** **12 29 18.4 -1.4**
VLI Veliai 74.22 307 *e*P **P** **12 29 18.5 -1.4**
VLI Veliai 74.22 307 P **P** **12 29 18.4 -1.4**
MMB Musomiste 74.33 312 P **P** **12 29 19.1 -1.3**
PLG Polygyros 74.35 311 P **P** **12 29 19.9 -0.7**
PLG Polygyros 74.35 311 *e*P **P** **12 29 20.3 -0.3**
PLG Polygyros 74.35 311 P **P** **12 29 19.9 -0.7**
PLG Polygyros 74.35 311 P **P** **12 29 19.9 -0.7**
SRS Serrai 74.36 312 P **P** **12 29 19.9 -0.7**
SRS Serrai 74.36 312 *e*P **P** **12 29 19.9 -0.7**
SRS Serrai 74.36 312 P **P** **12 29 19.9 -0.7**
SRS Serrai 74.36 312 P **P** **12 29 19.9 -0.7**
ARR Arges 74.36 316⇑*iP* **P** **12 29 20.7 +0.2**
XOR Xorichti 74.39 310 *e*P **P** **12 29 19.5 -1.3**
BURAR Bucovina Array 74.42 319⇓*iP* **P** **12 29 21.9 +1.0**
BUR04 Bucovina Ar. S 74.42 319 *e*P **P** **12 29 21.9 +1.0**
BUR04 *e*pP **PcP** **12 29 34.5 -0.9**
MICGM Minsk 74.48 326⇑*eP* **P** **12 29 19.0 -1.9**
SOH Sokhos 74.49 311 P **P** **12 29 21.0 -0.4**
SOH Sokhos 74.49 311 *e*P **P** **12 29 20.9 -0.4**
SOH Sokhos 74.49 311 P **P** **12 29 21.0 -0.4**
SOH Sokhos 74.49 311 P **P** **12 29 21.0 -0.4**
MNK Minsk 74.51 326⇑*eP* **P** **12 29 19.0 -2.1**
MNK *e* 12 38 48.0
MNK pmax pmax
comp=E,380nm,1.4s
MNK pmax pmax
comp=Z,4μm,1.0s
MAW Mawson 74.61 192 P **P** **12 29 22.0 +0.7**
comp=Z,3.7nm,0.9s,baz=58,slow=9.5,SNR=2.7
MAW LR LR 12 58 21.2
comp=Z,460nm,18.4s,baz=52,slow=33
MAW Mawson 74.61 192 P **P** **12 29 22.0 +0.7**
MAW *e**PP **pP** **12 29 30.4 -3.2**
MAW Mawson 74.61 192 P **P** **12 29 22.0 +0.7**
MAW *e*pP **pP** **12 29 30.4 -3.2**
MPEP Malo Peshtene 74.62 314 P **P** **12 29 22.0 0.0**
HORT Hortiatis 74.65 311 P **P** **12 29 21.6 -0.7**
HORT Hortiatis 74.65 311 *e*P **P** **12 29 21.6 -0.7**
HORT Hortiatis 74.65 311 P **P** **12 29 21.6 -0.7**
DSF Desfina 74.77 309 P **P** **12 29 20.7 -2.4**
DSF Desfina 74.77 309 *e*P **P** **12 29 21.2 -1.9**
DSF Desfina 74.77 309 P **P** **12 29 20.7 -2.4**
PUL Pulkovo 74.85 332⇓*iP* **P** **12 29 23.6 +0.7**
PUL pmax pmax
comp=Z,275nm,0.9s
GUR Goura 74.86 308 P **P** **12 29 22.5 -1.1**
GUR Goura 74.86 308 *e*P **P** **12 29 22.5 -1.1**
GUR Goura 74.86 308 P **P** **12 29 22.5 -1.1**
KKB Krupnik 74.86 312 P **P** **12 29 21.6 -1.8**
VTS Vitosha 74.88 313 P **P** **12 29 23.8 +0.1**
VTS Vitosha 74.88 313 P **P** **12 29 23.8 +0.1**
VTS Vitosha 74.88 313⇑*iP* **P** **12 29 23.8 +0.1**
VTS Vitosha 74.88 313 P **P** **12 29 23.3 -0.4**
VTS Vitosha 74.88 313 P **P** **12 29 23.8 +0.1**
KNT Kendrikon 74.89 312 P **P** **12 29 23.2 -0.4**
KNT Kendrikon 74.89 312 *e*P **P** **12 29 23.1 -0.5**
KNT Kendrikon 74.89 312 P **P** **12 29 23.2 -0.4**
KNT Kendrikon 74.89 312 P **P** **12 29 23.2 -0.4**
AGG Agios Georgios 75.01 309 *e*P **P** **12 29 23.0 -1.4**
AGG *e**PP **pP** **12 29 35.5 -1.1**
AGG MLR MLR
comp=Z,500nm,20.0s
AGG Agios Georgios 75.01 309 *e*P **P** **12 29 23.0 -1.4**
AGG *e*pP **pP** **12 29 35.5 -1.1**
AGG LR LR
comp=Z,500nm,20.0s
KLV Kalavryta, Ach 75.02 308 P **P** **12 29 23.6 -0.9**
KLV Kalavryta, Ach 75.02 308 *e*P **P** **12 29 23.5 -0.9**
KLV Kalavryta, Ach 75.02 308 P **P** **12 29 23.6 -0.9**
LIT Litokhoron 75.04 310 P **P** **12 29 23.6 -0.9**
LIT Litokhoron 75.04 310 *e*P **P** **12 29 23.5 -0.9**
LIT Litokhoron 75.04 310 P **P** **12 29 23.6 -0.9**
LIT Litokhoron 75.04 310 P **P** **12 29 23.6 -0.9**
KALE Kalithea 75.07 309 P **P** **12 29 23.8 -1.0**
KALE Kalithea 75.07 309 P **P** **12 29 23.8 -1.0**
ITM Ithomi 75.09 307 P **P** **12 29 24.1 -0.8**
ITM Ithomi 75.09 307 *e*P **P** **12 29 24.4 -0.5**
ITM Ithomi 75.09 307 P **P** **12 29 24.1 -0.8**
PYL PYLOS 75.20 307 P **P** **12 29 24.3 -1.2**
PYL PYLOS 75.20 307 *e*P **P** **12 29 24.6 -0.9**
PYL PYLOS 75.20 307 P **P** **12 29 24.3 -1.2**

NACGM **Naroch** 75.20 326 *e*P **P** 12 29 22.0 -3.1
GRG Griva 75.23 311 P **P** 12 29 24.9 -0.7
GRG Griva 75.23 311 *e*P **P** 12 29 25.0 -0.7
GRG Griva 75.23 311 P **P** 12 29 24.9 -0.7
GRG Griva 75.23 311 P **P** 12 29 24.9 -0.7
EFP Efpalio 75.26 309 P pP 12 29 37.4 -0.6
AMT Artemide-Makis 75.30 308 P **P** 12 29 25.9 -0.2
AMT Artemide-Makis 75.30 308 *e*P **P** 12 29 25.7 -0.4
CJR Cluj-Napoca 75.32 317⇑ *i*P **P** 12 29 27.2 +1.1
THL Klokotos Trika 75.32 310 *e*P **P** 12 29 24.5 -1.6
EVR Evrytania 75.40 309 P **P** 12 29 25.6 -1.1
EVR Evrytania 75.40 309 P **P** 12 29 25.6 -1.1
RLS Riolos of Patr 75.56 308 *e*P **P** 12 29 27.8 +0.3
BMR Baia Mare 75.57 318⇑ *i*P **P** 12 29 27 +1.3
LVV L'vov 75.65 321 *e*P **P** 12 29 28.0 +0.2
LVV *e* 12 29 40.6
LVV *e*S **S** 12 39 05.0 -1.1
LVV *e*SS SS 12 44 06.4 +8.4
GZR Gura Zlata 75.65 316⇑ *i*P **P** 12 29 28.5 +0.5
DRGR 75.94 317⇑ *i*P **P** 12 29 30.6 +1.0
FNA Florina 75.97 311 P **P** 12 29 28.5 -1.4
FNA Florina 75.97 311 *e*P **P** 12 29 28.7 -1.2
FNA Florina 75.97 311 P **P** 12 29 28.5 -1.4
FNA Florina 75.97 311 P **P** 12 29 28.5 -1.4
DSL Palaion Diasel 75.97 309 P **P** 12 29 29.0 -0.9
DSL Palaion Diasel 75.97 309 P **P** 12 29 29.0 -0.9
SKO Skopje 76.08 312 *e*P **P** 12 29 28.7 -1.7
VSU Vasula 76.20 330*c* *i*P **P** 12 29 30.9 +0.2
VSU pmax pmax
comp=Z,259nm,1.0s
VLS Valsamata 76.26 308 *e*P **P** 12 29 31.1 -0.4
TRPA Tarpa 76.29 319⇑ *i*P **P** 12 29 32.5 +1.1
TRPA Tarpa 76.29 319⇑ *e*P **P** 12 29 32.6 +1.1
OHR Ohrid 76.45 311 *e*P **P** 12 29 30.1 -2.5
KWP Kalwaria Pacla 76.45 320 *i* P **P** 12 29 33.4 +1.1
KWP *e*pP **pP** 12 29 45.4 +0.7
KWP *e*S **S** 12 39 13.4 -1.6
KWP Kalwaria Pacla 76.45 320⇑ *i*P **P** 12 29 33.5 +1.1
KWP *e**PP **pP** 12 29 45.4 +0.7
KWP *e*S **S** 12 39 13.4 -1.6
KWP Kalwaria Pacla 76.45 320⇑ *i*P **P** 12 29 33.5 +1.1
KWP Kalwaria Pacla 76.45 320 *e*P **P** 12 29 33.1 +0.7
KWP *e*pP **pP** 12 29 45.8 +1.1
BZS Buzias 76.49 316⇑ *i*P **P** 12 29 33.1 +0.4
APA Apatity 76.53 340⇓ *i*P **P** 12 29 32.0 -0.4
APA *i* 12 29 41.5
APA *i*S **S** 12 39 16.0 +0.9
APA *i* 12 39 34.0
APA *i*PS **PnS** 12 40 04.0 +6.7
APA pmax pmax
comp=Z,55nm,1.0s
UZH Uzhgorod 76.54 319*d* *i*P **P** 12 29 33.4 +0.6
UZH *i*S **S** 12 39 14.0 -1.9
SIRR Siria 76.57 317⇑ *i*P **P** 12 29 34.3 +1.2
KOLS Kolonicke sedl 76.61 319 *e*P **P** 12 29 34.2 +0.9
KOLS pmax pmax
comp=Z,132nm,1.1s
KOLS Kolonicke sedl 76.61 319 *e*P **P** 12 29 34.2 +0.9
DRV Dumont d'Urvil 76.71 163 S **SKiKP** 12 38 42.0 -5.2
DRV R 12 52 00.0
SUW Suwalki 77.03 325 *i* P **P** 12 29 35.6 +0.1
SUW *e*pP **pP** 12 29 47.5 -0.3
SUW *e*S **S** 12 39 18.1 -3.0
SUW LMZ LR 13 09 42.4
SUW Suwalki 77.03 325⇑ *i*P **P** 12 29 35.6 +0.1
SUW *e**PP **pP** 12 29 47.6 -0.3
SUW *e*S **S** 12 39 18.1 -3.0
SUW Suwalki 77.03 325 *e*P **P** 12 29 35.7 +0.2
comp=Z,399nm,1.0s
SUW *e*pP **pP** 12 29 47.8 0.0
KEK Kerkira 77.04 310 P **P** 12 29 34.7 -1.2
KEK Kerkira 77.04 310 *e*P **P** 12 29 35.5 -0.4
KEK Kerkira 77.04 310 P **P** 12 29 34.7 -1.2
STHS Stebnicka Huta 77.35 320 *e*P **P** 12 29 38.6 +1.1
STHS pmax pmax
comp=Z,62nm,0.9s
STHS Stebnicka Huta 77.35 320 *e*P **P** 12 29 38.6 +1.1
FIA0 FINESS Array S 77.36 332 *e*P **P** 12 29 37.2 0.0
FIA0 FINESS Array S 77.36 332 *e*P **P** 12 29 37.2 0.0
FINES FINESS Array B 77.36 332 P **P** 12 29 37.2 0.0
comp=Z,39nm,0.7s,baz=104,slow=8.0,SNR=118
FINES LR LR 13 07 38.7
comp=Z,394nm,21.6s,baz=116,slow=39
DIVS Divibare 77.42 314 P **P** 12 29 38.1 0.0
DIVS Divibare 77.42 314⇑ *i*P **P** 12 29 38.3 +0.2
NIE Niedzica 77.95 320 *i* P **P** 12 29 42.2 +1.4
NIE *e*pP **pP** 12 29 54.4 +1.3
NIE *e*S **S** 12 39 31.0 -0.4
NIE Niedzica 77.95 320⇑ *i*P **P** 12 29 42.2 +1.4
NIE *e**PP **pP** 12 29 54.4 +1.3
NIE *e*S **S** 12 39 31.0 -0.4
PSZ Piszkesteto 78.01 318 *e*P **P** 12 29 42.1 +0.9
PSZ pmax pmax
comp=Z,86nm,1.0s
PSZ Piszkesteto 78.01 318⇑ *i*P **P** 12 29 42.1 +0.9
PSZ Piszkesteto 78.01 318 *e*P **P** 12 29 42.1 +0.9
comp=Z,86nm,1.0s
PSZ Piszkesteto 78.01 318⇑ *e*P **P** 12 29 42.1 +0.9
BEL Belsk 78.04 322 *i* P **P** 12 29 42.0 +0.8
BEL *e*S **S** 12 39 31.4 -0.8
BEL *e*SKSac **SKSac** 12 39 52.2 0.0
BEL LMZ LR 13 11 00.1
BEL Belsk 78.04 322⇑ *i*P **P** 12 29 42.1 +0.8
BEL *e*S **S** 12 39 31.4 -0.8
BEL *e* 12 39 52.2
OJC Ojcow 78.41 320 *i* P **P** 12 29 44.2 +0.9
OJC *e*pP **pP** 12 29 56.4 +0.8
OJC *e*S **S** 12 39 34.1 -2.1
OJC *e*SKSac **SKKSac** 12 39 56.4 +0.4
OJC Ojcow 78.41 320⇑ *i*P **P** 12 29 44.2 +0.9
OJC *e**PP **pP** 12 29 56.4 +0.8
OJC *e*S **S** 12 39 34.1 -2.1
OJC *e* 12 39 56.5
OJC Ojcow 78.41 320 *e*P **P** 12 29 43.5 +0.2
comp=Z,122nm,1.1s
BUD Budapest 78.53 318⇑ *e*P **P** 12 29 44.5 +0.5
PKSM Moragy 78.63 316⇑ *i*P **P** 12 29 45.0 +0.5
PKSM Moragy 78.63 316⇑ *e*P **P** 12 29 45.1 +0.5
VYHS Vyhne 78.79 319 *e*P **P** 12 29 45.9 +0.5
VYHS pmax pmax
comp=Z,80nm,1.8s
VYHS Vyhne 78.79 319 *e*P **P** 12 29 45.9 +0.5
PKSG 78.95 317⇑ *e*P **P** 12 29 47.1 +0.8
CSKK Cs˘‡kako 79.03 317⇓ *e*P **P** 12 29 48.0 +1.2
PKST T"s 79.17 317⇑ *e*P **P** 12 29 48.3 +0.7
TIP Timpagrande 79.34 309 *e*P **P** 12 29 49.7 +1.0
TIP *e*pP **pP** 12 30 01.8 +0.8
OKC Ostrava-Krasne 79.41 320⇑ *e*P **P** 12 29 49.9 +1.1
OKC *e*PCP **PcP** 12 29 54.7 -2.1
OKC *e*pP **pP** 12 30 01.0 -0.1
OKC *e*S **S** 12 39 45.7 -1.1
OKC *e*XS **SKKSac** 12 40 03.5 0.0
OKC Ostrava-Krasne 79.41 320 *e*P **P** 12 29 49.9 +1.1
OKC *e* 12 29 54.7
OKC *e**PP **pP** 12 30 01.0 -0.1
OKC *e*S **S** 12 39 45.7 -1.1
OKC *e* 12 40 03.5
DCZ Deep Cove 79.51 137 *e*P **P** 12 29 50.4 +1.0
DCZ *e*pP **pP** 12 30 00.5 -1.2
KEV Kevo 79.52 341 *e*P **P** 12 29 49.2 +0.3
KEV *e**PP **pP** 12 30 06.1 +4.8
KEV MLR MLR
comp=Z,900nm,19.0s
KEV Kevo 79.52 341 *e*P **P** 12 29 49.2 +0.3
KEV *e*pP **pP** 12 30 06.1 +4.8
KEV LR LR
comp=Z,900nm,19.0s
ARA0 ARCESS Array S 79.94 340 *e*P **P** 12 29 51.7 +0.4
ARCES ARCESS Array B 79.94 340 P **P** 12 29 51.7 +0.4
comp=Z,12nm,0.5s,baz=93,slow=5.9,SNR=76
ARCES LR LR 13 08 55.7
comp=Z,976nm,19.6s,baz=112,slow=38
ARE0 ARCESS Array S 79.94 340 *e*P **P** 12 29 52.0 +0.7
ARE0 *e*S **S** 12 39 51.2 -0.7
BEHE Becsehely 79.95 316⇓ *e*P **P** 12 29 53.5 +1.7
CEL Celeste 79.95 308 *e*P **P** 12 29 53.5 +1.5
CEL *e*pP **pP** 12 30 05.8 +1.4
TSUM Tsumeb 80.06 250 *e*P **P** 12 29 54.6 +1.6
TSUM *e*pP **pP** 12 30 07.1 +1.7
CUC Castrocucco 80.12 310 *e*P **P** 12 29 52.8 -0.1
comp=Z,20nm,0.8s
CUC *e*pP **pP** 12 30 06.3 +1.0
CUC LR LR
comp=Z,300nm,20.0s
SOP Sopron 80.21 318⇑ *e*P **P** 12 29 54.0 +0.8
KOGS Kog 80.31 316 *e*P **P** 12 29 54.7 +1.0
VRAC Vranov 80.35 319 P **P** 12 29 54.3 +0.4
comp=Z,8.3nm,0.7s,baz=84,slow=4.5,SNR=17
VRAC pP **pP** 12 30 05.6 -0.7
comp=Z,16nm,0.9s,baz=107,slow=6.6,SNR=3.8
VRAC Vranov 80.35 319⇑ *i*P **P** 12 29 54.7 +0.8
GKP Gorka Klasztor 80.40 323 *e*P **P** 12 29 54.2 +0.2
GKP *e*S **S** 12 39 56.4 -0.7
GKP *e*SKSac **ScS** 12 40 16.5 -0.3
GKP Gorka Klasztor 80.40 323⇑ *e*P **P** 12 29 54.3 +0.2
GKP *e*S **S** 12 39 56.4 -0.7
KTK1 Kautokeino 80.57 340 *e*P **P** 12 29 55.2 +0.5
DPC Dobruska-Polom 80.63 320⇑ *i*P **P** 12 29 56.9 +1.4
DPC *e*PCP **PcP** 12 30 02.1 -0.1
DPC *e*pP **pP** 12 30 07.6 -0.2
DPC *e*sP **sP** 12 30 12.2 -0.2
DPC *e*S **S** 12 39 59.5 -0.4
DPC *e*XS **sS** 12 40 20.8 +0.4
DPC AMS AMS 13 13 20.0
DPC Dobruska-Polom 80.63 320⇑ *i*P **P** 12 29 56.9 +1.4
DPC *e**PP **pP** 12 30 07.6 -0.2
DPC *e* 12 30 12.2
DPC *e*S **S** 12 39 59.5 -0.4
CONA Conrad Observa 80.70 318⇓ *i*P **P** 12 29 56.5 +0.5
comp=Z,22nm,1.0s,SNR=12
KSP Ksiaz 80.70 321 *i* P **P** 12 29 57.0 +1.2
KSP *e*pP **pP** 12 30 07.5 -0.6
KSP *e*S **S** 12 40 01.1 +0.6
KSP LMZ LR 13 13 12.2
KSP Ksiaz 80.70 321⇑ *i*P **P** 12 29 57.0 +1.2
KSP *e**PP **pP** 12 30 07.6 -0.6
KSP *e*S **S** 12 40 01.2 +0.7
UPC Upice 80.85 320⇑ *e*P **P** 12 29 57.6 +1.1
UPC *e*pP **pP** 12 30 08.5 -0.4
UPC Upice 80.85 320 *e*P **P** 12 29 57.6 +1.1
UPC *e**PP **pP** 12 30 08.5 -0.4
ARSA Arzberg 80.87 317⇑ *i*P **P** 12 29 57.7 +0.9
comp=Z,88nm,1.9s,SNR=22
BOJS Bojanci 80.92 315 *i* P **P** 12 29 57.6 +0.5
TREC Trest 81.07 319⇑ *e*P **P** 12 29 58.7 +0.9
TREC *e*pP **pP** 12 30 09.8 -0.3
TREC AMS AMS 13 14 00.0
comp=Z,300nm,16.7s
TREC Trest 81.07 319 *e*P **P** 12 29 58.7 +0.9
TREC *e**PP **pP** 12 30 09.8 -0.3
TREC MLR MLR
comp=Z,300nm,16.7s
PERS Pernice 81.10 317 *e*P **P** 12 29 58.9 +0.9
PERS *e* 12 30 14.9
PERS *e*S **S** 12 40 02.5 -2.4
SOKA Soboth 81.16 317 *i* P **P** 12 29 59.4 +1.0
comp=Z,62nm,1.1s,SNR=39
LJU Ljubljana 81.47 316 *e*P **P** 12 30 00.9 +1.0
LJU *e*S **S** 12 40 05.2 -3.4
OBKA Obir 81.48 316 *i* P **P** 12 30 01.1 +0.9
comp=Z,64nm,1.8s,SNR=11
GOPC GO Pecny, Ondr 81.58 320⇑ *e*P **P** 12 30 01.6 +1.1
GOPC *e*pP **pP** 12 30 11.8 -1.0
GOPC *e*sP **sP** 12 30 16.2 -1.2
GOPC *e*S **S** 12 40 08.4 -1.2
GOPC *e*XS **sS** 12 40 29.9 -0.3
GOPC AMS AMS 13 12 10.0
comp=Z,400nm,17.7s
SYO Syowa Base 81.73 198⇓ *e*P **P** 12 30 03.4 +2.6
PRU Pruhonice 81.74 320⇑ *e*P **P** 12 30 02.3 +1.0
PRU *e*pP **pP** 12 30 13.1 -0.5
PRU *e*sP **sP** 12 30 17.7 -0.6
PRU *e*S **S** 12 40 10.6 -0.7
PRU *e*XS **sS** 12 40 31.9 +0.1
PRU AMS AMS 13 12 00.0
comp=Z,400nm,16.8s
PRU Pruhonice 81.74 320 *e*P **P** 12 30 02.3 +1.0
PRU *e**PP **pP** 12 30 13.1 -0.5
PRU *e* 12 30 17.7
PRU *e*S **S** 12 40 10.6 -0.7
PRU MLR MLR
comp=Z,400nm,16.8s
PVCC Panska Ves 81.77 320⇑ *e*P **P** 12 30 02.6 +1.2
PVCC *e*pP **pP** 12 30 14.2 +0.4
PVCC *e*sP **sP** 12 30 18.0 -0.4
PVCC AMS AMS 13 13 20.0
comp=Z,600nm,17.6s
PVCC Panska Ves 81.77 320 *e*P **P** 12 30 02.6 +1.2
PVCC *e**PP **pP** 12 30 14.2 +0.4
PVCC *e* 12 30 18.0
PVCC MLR MLR
comp=Z,600nm,17.6s
MOA Molln 81.77 318 *i* P **P** 12 30 02.0 +0.5
comp=Z,37nm,1.5s,SNR=16
RPZ Rata Peaks 81.78 135 *e*P **P** 12 30 02.0 +0.5
comp=Z,57nm,1.0s
RPZ *e*pP **pP** 12 30 13.8 -0.2
PRA Prague 81.82 320⇑ *e*P **P** 12 30 02.8 +1.1
PRA *e*pP **pP** 12 30 13.3 -0.7
PRA *e*S **S** 12 40 13.4 +1.4
PRA Prague 81.82 320 *e*P **P** 12 30 02.8 +1.1
PRA *e**PP **pP** 12 30 13.3 -0.7
PRA *e*S **S** 12 40 13.4 +1.4
BSD Bornholm Skovb 81.96 325⇑ *i*P **P** 12 30 02.2 -0.1
comp=Z,84nm,1.0s
BSD Bornholm Skovb 81.96 325⇑ *i*P **P** 12 30 02.2 -0.1
BSD pmax pmax
comp=Z,84nm,1.0s
CADS Cadrg 82.03 316 *i* P **P** 12 30 03.3 +0.3
MYKA Terra Mystica 82.11 316⇑ *i*P **P** 12 30 04.1 +0.6
comp=Z,29nm,1.0s,SNR=11
BRG Berggiesshubel 82.19 321 *i* P **P** 12 30 04.6 +0.9
comp=Z,181nm,2.0s
BRG *i* 12 30 15.2
comp=Z,47nm,1.2s
comp=Z,603nm,18.5s
comp=N,338nm,15.6s
comp=E,440nm,15.6s
BRG Berggiesshubel 82.19 321 *e*P **P** 12 30 04.5 +0.9
comp=Z,181nm,2.0s
BRG *e*S **S** 12 40 15.0 -0.8
BRG Berggiesshubel 82.19 321 *i* P **P** 12 30 04.6 +0.9
BRG *i* 12 30 15.2
BRG pmax pmax
comp=Z,181nm,2.0s
BRG pmax pmax
comp=Z,47nm,1.2s
BRG MLR MLR
comp=Z,603nm,18.5s
BRG MLR MLR
comp=N,338nm,15.6s
BRG MLR MLR
comp=E,440nm,15.6s
TRO Tromso 82.21 340 *e*P **P** 12 30 02.3 -1.0
GEC2 GERESS Array S 82.21 319 *e*P **P** 12 30 04.8 +0.8
comp=Z,259nm,1.8s
GEC2 *e*S **S** 12 40 16.0 -0.3
GEC2 GERESS Array S 82.21 319 *e*P **P** 12 30 04.7 +0.8
GEC2 *e**PP **pP** 12 30 17.2 +0.9
GEC2 GERESS Array S 82.21 319 *e*P **P** 12 30 04.7 +0.8
GEC2 *e*pP **pP** 12 30 17.2 +0.9
GERES GERESS Array B 82.21 319 P **P** 12 30 04.7 +0.8
comp=Z,33nm,0.9s,baz=95,slow=5.9,SNR=142
GERES LR LR 13 12 22.9
comp=Z,167nm,18.7s,baz=86,slow=40
HOPEN Hopen 82.21 347 *e*P **P** 12 30 03.7 +0.4
KHC Kasperske Hory 82.31 319⇑ *e*P **P** 12 30 04.9 +0.6
KHC *e*pP **pP** 12 30 15.7 -1.0
KHC *e*sP **sP** 12 30 20.3 -1.0
KHC *e*S **S** 12 40 17.6 +0.4
KHC *e*XS **sS** 12 40 36.1 -1.7
KHC AMS AMS 13 13 10.0
comp=Z,400nm,18.1s
KHC Kasperske Hory 82.31 319 *e*P **P** 12 30 04.9 +0.6
KHC *e**PP **pP** 12 30 15.7 -1.0
KHC *e* 12 30 20.3
KHC *e*S **S** 12 40 17.6 +0.4
KHC MLR MLR
comp=Z,400nm,18.1s
MSKU Masuku 82.33 268 *e*P **P** 12 30 05.1 -0.1
MSKU *e*pP **pP** 12 30 18.3 +0.8
MSKU LR LR
comp=Z,1μm,22.0s
KBA Koelnbreinsper 82.34 317 *i* P **P** 12 30 04.8 +0.1
comp=Z,28nm,1.1s,SNR=10
RUE Ruedersdorf 82.41 322 *e*P **P** 12 30 05.5 +0.8
comp=Z,160nm,1.1s
RUE *e*pP **pP** 12 30 18.4 +1.3
RJOB Jochberg 82.75 318 *e*P **P** 12 30 06.8 +0.1
comp=Z,36nm,1.2s
WET Wettzell 82.77 319 *e*P **P** 12 30 07.5 +0.8
comp=Z,232nm,2.1s
WET *e*S **S** 12 40 22.8 +0.9
CLL Collm 82.81 321 *e*P **P** 12 30 07.2 +0.4
comp=Z,47nm,1.2s
CLL *e*S **S** 12 40 20.4 -1.7
CLL Collm 82.81 321⇑ *i*P **P** 12 30 07.3 +0.4
comp=Z,46nm,1.2s
CLL *i* PcP **PcP** 12 30 10.2 -1.4
CLL *e*pP **pP** 12 30 18.0 -1.2
CLL *e*sP **sP** 12 30 23.0 -0.8
CLL *e*(PP) 12 33 24.0
CLL *e*PPP PPP 12 35 05.0
CLL *e*S **S** 12 40 21.0 -1.1
CLL *e*SS **SS** 12 45 42.0 -3.3
CLL *e*SSS SSS 12 49 12.0
CLL *e* 12 52 00.0
CLL Lm MLR 13 13 00.0
comp=N,300nm,20.5s
CLL Lm MLR 13 13 00.0
comp=E,300nm,19.8s
CLL Lm MLR 13 13 00.0
comp=Z,400nm,18.6s
CLL Collm 82.81 321⇑ *i*P **P** 12 30 07.3 +0.4
CLL *e**PP **pP** 12 30 18.0 -1.2
CLL *e*S **S** 12 40 21.0 -1.1
CLL pmax pmax
comp=Z,46nm,1.2s
CLL MLR MLR
comp=Z,400nm,18.6s
CLL Collm 82.81 321 *e*P **P** 12 30 07.4 +0.6
CLL *e*pP **pP** 12 30 18.4 -0.8
CLL LR LR
comp=Z,500nm,18.0s
RGN Rugen 82.83 324 *e*P **P** 12 30 07.9 +1.1
RGN *e*pP **pP** 12 30 20.3 +1.1
ABTA Abfaltersbach 82.90 317 *i* P **P** 12 30 07.5 -0.1
comp=Z,30nm,1.1s,SNR=13
HFS Hagfors 83.08 330 P **P** 12 30 08.4 +0.3
comp=Z,40nm,0.9s,baz=108,slow=4.8,SNR=48
NKC Novy Kostel 83.10 320⇑ *e*P **P** 12 30 09.4 +1.0
NKC *e*PCP **PcP** 12 30 15.0 +2.0
NKC *e*pP **pP** 12 30 19.4 -1.4
NKC AMS AMS 13 14 10.0
comp=Z,300nm,17.5s
NKC Novy Kostel 83.10 320 *e*P **P** 12 30 09.4 +1.0
NKC *e**PP **pP** 12 30 19.4 -1.4
NKC MLR MLR
comp=Z,300nm,17.5s
TANN Tannenbergstha 83.10 320 *e*P **P** 12 30 09.1 +0.6
comp=Z,80nm,1.9s
ROTZ Rotzenmuhle 83.23 320 *e*P **P** 12 30 10.3 +1.2
comp=Z,235nm,2.2s
STEI Steigen 83.25 338 *e*P **P** 12 30 09.8 +1.0
KHZ Kahutara 83.29 133 *e*P **P** 12 30 09.0 -0.5
KHZ *e*pP **pP** 12 30 21.3 -0.5
COP Copenhagen 83.42 326 *i* P **P** 12 30 10.7 +0.9
comp=Z,38nm,1.0s
COP Copenhagen 83.42 326 *i* P **P** 12 30 10.7 +0.9
COP pmax pmax
comp=Z,38nm,1.0s
WTTA Wattenberg 83.52 317⇑ *i*P **P** 12 30 10.8 0.0
comp=Z,56nm,1.0s,SNR=14
LLD Lille Linde 83.52 325 *i* P **P** 12 30 11.3 +0.9
LLD Lille Linde 83.52 325 *i* P **P** 12 30 11.3 +0.9
WATA Walderalm 83.56 317⇑ *i*P **P** 12 30 10.8 -0.2
comp=Z,27nm,1.0s
MOX Moxa 83.65 320 *e*P **P** 12 30 11.9 +0.7
comp=Z,92nm,1.8s
MOX *e*S **S** 12 40 30.3 -0.5
MOX *e*L L 13 14 54.4
comp=Z,477nm,19.2s
MSVF Nonsavu 83.66 108 *e*P **P** 12 30 13.7 +1.7
MSVF Nonsavu 83.66 108 *e*P **P** 12 30 13.7 +1.7
FUR Furstenfeldbru 83.79 318 *e*P **P** 12 30 12.2 +0.2
comp=Z,54nm,1.2s
FUR *e*S **S** 12 40 29.6 -2.7
GRF Grafenberg Arr 83.87 319 *e*P **P** 12 30 13.4 +1.0
comp=Z,70nm,1.1s
GRF *e*pP **pP** 12 30 26.1 +1.3
GRF *e*S **S** 12 40 33.7 +0.7
GRF *e*L L 13 15 13.1
comp=Z,432nm,22.0s
GRFO Grafenberg 83.87 319 *e*P **P** 12 30 13.6 +1.2
GRFO *e**PP **pP** 12 30 26.3 +1.5
GRFO Grafenberg 83.87 319 *e*P **P** 12 30 13.6 +1.2
GRFO *e*pP **pP** 12 30 26.3 +1.5
MOTA Moosalm 83.88 317⇑ *i*P **P** 12 30 12.5 -0.1
comp=Z,33nm,1.0s,SNR=11
LOF Lofoten 83.91 338 *e*P **P** 12 30 10.0 -2.1
RETA Reutte 84.12 317⇑ *i*P **P** 12 30 14.0 +0.2
comp=Z,41nm,1.0s,SNR=14
FETA Feichten 84.13 317⇑ *i*P **P** 12 30 14.1 +0.2
comp=Z,29nm,1.1s,SNR=13
NC602 NORSAR Array S 84.19 331 *e*P **P** 12 30 13.6 -0.1
NSS Namsos 84.23 334 *e*P **P** 12 30 14.1 +0.2
NSS IAmb IAmb 12 30 15.0
comp=Z,197nm,1.6s
VLC Villacollemand 84.32 314 PFAKE 12 30 30.0 +15
VLC LR LR
comp=Z,400nm,21.0s
NB2 NORSAR Subarra 84.36 331 P **P** 12 30 14.3 -0.4
comp=Z,65nm,1.1s,baz=91,slow=5.3
NB2 NORSAR Subarra 84.36 331 P **P** 12 30 14.3 -0.4
baz=91,slow=5.3
NB200 NORSAR Array S 84.36 331 *e*P **P** 12 30 14.6 -0.1
NB200 *e*PP **PP** 12 33 29.0 -0.7
NOA NORSAR Array B 84.36 331 P **P** 12 30 14.6 -0.1
comp=Z,19nm,0.9s,baz=94,slow=5.4,SNR=41
NOA PP **PP** 12 33 29.0 -0.7
comp=Z,1.7nm,0.8s,baz=96,slow=8.1,SNR=3.6
NOA LR LR 13 13 10.9
comp=Z,190nm,18.4s,baz=105,slow=39
FUORN Ofenpass-Fuorn 84.44 316 *e*P **P** 12 30 16.5 +0.8
comp=Z,75nm,1.3s
HSPB Hornsund (broa 84.45 347 *e*P **P** 12 30 15.0 +0.3
HSPB *e*SKSac **SKSac** 12 40 35.1 +0.2
HSPB IAMs_20 IAMs_20 13 13 29.3
comp=Z,1μm,21.4s
SPA0 Spitsbergen Ar 84.46 348 *e*P **P** 12 30 14.7 -0.1
SPA0 IAmb IAmb 12 30 15.7
comp=Z,103nm,1.1s
SPA0 *e*SKSac **SKSac** 12 40 34.5 -0.6
SPA0 Spitsbergen Ar 84.46 348 *e*P **P** 12 30 14.4 -0.4
SPITS Spitsbergen Ar 84.46 348 P **P** 12 30 14.4 -0.4
baz=104,slow=9.4
CLZ Clausthal 84.47 322 *e*P **P** 12 30 16.1 +0.7
comp=Z,63nm,1.1s
CLZ *e*S **S** 12 40 36.4 -2.6
NBO02 NORSAR Array S 84.54 331 *e*P **P** 12 30 15.3 -0.2
OSL Oslo 84.55 330 *e*P **P** 12 30 16.8 +1.2
OSL IAmb IAmb 12 30 17.4
comp=Z,108nm,1.1s
BSEG Bad Segeberg 84.56 324 *e*P **P** 12 30 16.7 +1.0
comp=Z,136nm,1.3s
BSEG *e*S **S** 12 40 37.8 -1.8
NRDL Niedersach Rie 84.65 322 *e*P **P** 12 30 17.2 +1.1
comp=Z,150nm,1.6s
NRDL *e*S **S** 12 40 38.5 -2.0
UBBA Unterbreizbach 84.68 321 *e*P **P** 12 30 17.1 +0.8
comp=Z,82nm,2.0s
UBBA *e*S **S** 12 40 39.5 -1.3
DAVOX Davos/Dischmat 84.71 316 P **P** 12 30 17.8 +0.9
comp=Z,36nm,0.9s,baz=103,slow=4.5,SNR=43
DAVA Damuels 84.71 317⇑ *i*P **P** 12 30 17.4 +0.5
comp=Z,50nm,1.0s,SNR=17
BKZ Black Stump Fm 84.95 130 *e*P **P** 12 30 18.1 0.0
VSL Villasalto 85.06 309 *e*P **P** 12 30 19.0 +0.3
comp=Z,46nm,0.9s
VSL *e*pP **pP** 12 30 32.4 +1.4
TUE Stuetta 85.07 316 *e*P **P** 12 30 17.7 -1.1
KONO Kongsberg 85.11 329 *e*P **P** 12 30 18.8 +0.4
KONO IAmb IAmb 12 30 20.0
comp=Z,123nm,1.2s
KONO *e*SKSac **SKSac** 12 40 39.6 -0.1
KONO Kongsberg 85.11 329 *e*P **P** 12 30 19.0 +0.6
KONO Kongsberg 85.11 329 *e*P **P** 12 30 18.9 +0.6
KEST Kesra 85.13 305 P **P** 12 30 20.5 +1.3
comp=Z,6.3nm,0.8s,baz=37,slow=1.4,SNR=9.6

KEST LR LR 13 13 50.3
comp=Z,35nm,19.9s,baz=26,slow=40
KEST Kesra 85.13 305 *e*P **P 12 30 20.7 +1.6**
STU Stuttgart 85.18 318 *e*P **P 12 30 19.4 +0.4**
comp=Z,34nm,1.0s
MUD Monsted U'grnd 85.27 326⇑ *i*P **P 12 30 20.6 +1.4**
comp=Z,94nm,1.0s
MUD Monsted U'grnd 85.27 326⇑ *i*P **P 12 30 20.6 +1.4**
MUD pmax pmax
comp=Z,94nm,1.0s
URZ Urewera 85.30 129 P **P 12 30 19.0 -0.8**
comp=Z,44nm,1.1s,baz=350,slow=5.0,SNR=7.3
URZ Urewera 85.30 129 *e*P **P 12 30 19.1 -0.6**
KBS Kingsbay 85.43 349 *e*P **P 12 30 19.4 -0.3**
KBS IAMs_20 IAMs_20 13 16 33.2
comp=Z,815nm,18.8s
KBS Kingsbay 85.43 349 *e*P **P 12 30 19.5 -0.1**
KBS *e**PP **pP 12 30 32.4 +0.3**
KBS MLR MLR
comp=Z,700nm,22.0s
KBS Kingsbay 85.43 349 *e*P **P 12 30 19.5 -0.1**
KBS *e*pP **pP 12 30 32.4 +0.3**
KBS LR LR
comp=Z,700nm,22.0s
HOMB Homborsund 85.65 328 *e*P **P 12 30 20.6 -0.5**
HOMB IAmb IAmb 12 30 22.8
comp=Z,50nm,1.0s
TNS Taunus Mts 85.67 320 *e*P **P 12 30 22.2 +0.7**
comp=Z,42nm,1.1s
BFO Black Forest 85.76 318 *e*P **P 12 30 22.0 +0.1**
comp=Z,29nm,1.0s
BFO *e*S **S 12 40 51.4 -0.4**
BFO Black Forest 85.76 318 *e*P **P 12 30 22.3 +0.4**
BFO MLR MLR
comp=Z,400nm,21.0s
BFO Black Forest 85.76 318 *e*P **P 12 30 22.2 +0.4**
BFO LR LR
comp=Z,400nm,21.0s
IBBN Ibbenburen 86.09 322 *e*P **P 12 30 24.3 +0.9**
comp=Z,305nm,2.0s
LANF Langenberg 86.10 319⇑ *e*P **P 12 30 24.4 +0.8**
SAOF Saorge 86.36 314⇑ *e*P **P 12 30 25.5 +0.5**
AKN Aaknes 86.40 332 *e*P **P 12 30 25.9 +1.1**
AKN IAmb IAmb 12 30 26.9
comp=Z,96nm,1.1s
BUG Bochum--Univer 86.40 321 *e*P **P 12 30 25.8 +0.8**
comp=Z,229nm,2.0s
BUG *e*S **S 12 40 58.2 +0.3**
SBF Sospel 86.45 314⇑ *i*P **P 12 30 25.9 +0.4**
comp=Z,69nm,0.8s
SBF Sospel 86.45 314⇑ *i*P **P 12 30 25.9 +0.4**
SBF pmax pmax
comp=Z,69nm,0.8s
SBF Sospel 86.45 314⇑ *i*P **P 12 30 25.9 +0.4**
comp=Z,69nm,0.8s
AUTN L'Aution 86.45 314⇑ *e*P **P 12 30 26.3 +0.6**
CDF Champ du Feu 86.46 318⇑ *i*P **P 12 30 25.6 +0.1**
comp=Z,46nm,1.1s
CDF Champ du Feu 86.46 318⇑ *i*P **P 12 30 25.6 +0.1**
CDF pmax pmax
comp=Z,46nm,1.1s
CDF Champ du Feu 86.46 318⇑ *i*P **P 12 30 25.6 +0.1**
comp=Z,46nm,1.1s
SENIN Lac Senin/Sane 86.49 316 *e*P **P 12 30 26.8 +1.0**
REVF Revere 86.50 313⇑ *e*P **P 12 30 26.2 +0.5**
ECH Echery 86.54 318⇑ *e*P **P 12 30 25.9 +0.1**
MOF Molkenrain 86.57 318⇑ *e*P **P 12 30 26.1 +0.1**
TOUF Mont Tournerai 86.58 314⇑ *e*P **P 12 30 26.8 +0.5**
ODD1 Odda 86.61 330 *e*P **P 12 30 27.4 +1.5**
ABSA Djebel Ababsia 86.63 306 P **P 12 30 26.4 -0.2**
MVIF Mont Vial 86.66 314⇑ *e*P **P 12 30 27.3 +0.7**
CMAH Djebel Manchou 86.67 306 P **P 12 30 26.2 -0.5**
BLS5 Blasjo 86.71 329 *e*P **P 12 30 27.5 +1.1**
BLS5 IAmb IAmb 12 30 28.4
comp=Z,51nm,1.0s
LOMF Lomont 86.79 317⇑ *e*P **P 12 30 27.3 +0.2**
HYA Hoyanger 86.81 331 *e*P **P 12 30 27.9 +1.2**
HYA IAmb IAmb 12 30 28.6
comp=Z,78nm,1.0s
CALN Calern 86.85 313⇑ *e*P **P 12 30 28.3 +0.8**
LPG La Plagne 86.89 315⇑ *i*P **P 12 30 28.3 +0.4**
comp=Z,56nm,0.8s
LPG La Plagne 86.89 315⇑ *i*P **P 12 30 28.3 +0.4**
LPG pmax pmax
comp=Z,56nm,0.8s
LPG La Plagne 86.89 315⇑ *i*P **P 12 30 28.3 +0.4**
comp=Z,56nm,0.8s
MBDF Montbardon 86.91 314⇑ *i*P **P 12 30 27.4 -0.4**
comp=Z,22nm,0.7s
MBDF Montbardon 86.91 314⇑ *i*P **P 12 30 27.4 -0.4**
MBDF pmax pmax
comp=Z,22nm,0.7s
MBDF Montbardon 86.91 314⇑ *i*P **P 12 30 27.4 -0.4**
comp=Z,22nm,0.7s
LPL La Plagne 86.91 315⇑ *i*P **P 12 30 28.3 +0.4**
comp=Z,68nm,0.9s
LPL La Plagne 86.91 315⇑ *i*P **P 12 30 28.3 +0.4**
LPL pmax pmax
comp=Z,68nm,0.9s
LPL La Plagne 86.91 315⇑ *i*P **P 12 30 28.3 +0.4**
comp=Z,68nm,0.9s
FRF La Foret Royal 87.03 313⇑ *i*P **P 12 30 28.9 +0.6**
comp=Z,36nm,0.8s
FRF La Foret Royal 87.03 313⇑ *i*P **P 12 30 28.9 +0.6**
FRF pmax pmax
comp=Z,36nm,0.8s
FRF La Foret Royal 87.03 313⇑ *i*P **P 12 30 28.9 +0.6**
comp=Z,36nm,0.8s
HAU Haudompre 87.09 318⇑ *i*P **P 12 30 28.6 +0.1**
comp=Z,57nm,0.9s
HAU *e*R
comp=Z,421nm,20.5s
HAU Haudompre 87.09 318⇑ *i*P **P 12 30 28.6 +0.1**
HAU pmax pmax
comp=Z,57nm,0.9s
HAU Haudompre 87.09 318⇑ *i*P **P 12 30 28.6 +0.1**
comp=Z,57nm,0.9s
WLF Walferdange 87.16 319 P **P 12 30 30.4 +1.6**
comp=Z,35nm,2.0s
WLF Walferdange 87.16 319 *e*P **P 12 30 29.9 +1.2**
comp=Z,262nm,2.4s
WLF Walferdange 87.16 319 *e*P **P 12 30 30.4 +1.6**
WLF MLR MLR
comp=Z,400nm,20.0s
WLF Walferdange 87.16 319 *e*P **P 12 30 30.4 +1.6**
WLF LR LR
comp=Z,400nm,20.0s
MEM Membach 87.22 320 P **P 12 30 29.8 +0.8**
MEM Membach 87.22 320 *e*P **P 12 30 30.2 +1.2**
MEM *e**PP **pP 12 30 40.3 -1.2**
MEM pmax pmax
comp=Z,278nm,2.4s
MEM MLR MLR
comp=Z,400nm,21.0s
MEM Membach 87.22 320 *e*P **P 12 30 30.2 +1.2**
comp=Z,278nm,2.4s
MEM *e*pP **pP 12 30 40.3 -1.2**
MEM LR LR
comp=Z,400nm,21.0s
CKFL Kef-Lekhel 87.24 306 P **P 12 30 30.2 +0.6**
THEF They Montfort 87.33 318⇑ *e*P **P 12 30 29.9 +0.3**
BEBN Eben Emael 87.43 321 P **P 12 30 30.5 +0.6**
CASM Ain Smara 87.43 306 P **P 12 30 30.3 -0.1**
PAGF Fort de Pagny 87.49 318⇑ *i*P **P 12 30 30.7 +0.4**
comp=Z,4.7nm,0.8s
PAGF Fort de Pagny 87.49 318⇑ *i*P **P 12 30 30.7 +0.4**
comp=Z,4.7nm,0.8s
CTEI Djebel Teioual 87.51 306 P **P 12 30 30.6 -0.3**
ORIF Oris-en-Rattie 87.53 315⇑ *i*P **P 12 30 31.3 +0.5**
comp=Z,30nm,0.8s
ORIF *e*R
comp=Z,496nm,22.0s
ORIF Oris-en-Rattie 87.53 315⇑ *i*P **P 12 30 31.3 +0.5**
ORIF pmax pmax
comp=Z,31nm,0.8s
ORIF Oris-en-Rattie 87.53 315⇑ *i*P **P 12 30 31.3 +0.5**
comp=Z,30nm,0.8s
BCLA Clavier 87.68 320 P **P 12 30 31.8 +0.6**
comp=Z,26nm,2.1s
DFRA Djebel Bou Aff 87.91 306 P **P 12 30 32.9 +0.1**
GIVF Givet 88.00 320⇑ *i*P **P 12 30 33.4 +0.6**
comp=Z,66nm,1.3s
GIVF Givet 88.00 320⇑ *i*P **P 12 30 33.4 +0.6**
GIVF pmax pmax
comp=Z,66nm,1.3s
GIVF Givet 88.00 320⇑ *i*P **P 12 30 33.4 +0.6**
comp=Z,66nm,1.3s
DOU Dourbes 88.15 320 P **P 12 30 34.3 +0.9**
comp=Z,16nm,1.6s
UCC Uccle 88.26 321 PFAKE 12 30 50.0 +16
UCC LR LR
comp=Z,400nm,22.0s
VNDA Vanda 88.31 169 P **P 12 30 34.5 +0.8**
comp=Z,2.3nm,1.1s,baz=334,slow=4.1,SNR=6.2
VNDA PKKPbc **PKKPdf 12 48 17.4 +2.8**
comp=Z,1.2nm,1.0s,baz=93,slow=3.9,SNR=4.6
VNDA LR LR 13 06 45.4
comp=Z,634nm,18.1s,baz=300,slow=33
VNDA Vanda 88.31 169 *e*P **P 12 30 35.3 +1.7**
VNDA Vanda 88.31 169 *e*P **P 12 30 35.3 +1.7**
VNDA PKKPbc **PKKPdf 12 48 17.4 +2.8**
SNF Seneffe 88.33 320 P **P 12 30 35.5 +1.2**
VIVF Saint-Julien-l 88.39 315⇑ *i*P **P 12 30 35.4 +0.6**
comp=Z,25nm,0.9s
VIVF Saint-Julien-l 88.39 315⇑ *i*P **P 12 30 35.4 +0.6**
VIVF pmax pmax
comp=Z,25nm,0.9s
VIVF Saint-Julien-l 88.39 315⇑ *i*P **P 12 30 35.4 +0.6**
comp=Z,25nm,0.9s
BAIF Baives 88.40 320⇑ *i*P **P 12 30 35.7 +1.1**
comp=Z,98nm,1.1s
BAIF Baives 88.40 320⇑ *i*P **P 12 30 35.7 +1.1**
BAIF pmax pmax
comp=Z,98nm,1.1s
BAIF Baives 88.40 320⇑ *i*P **P 12 30 35.7 +1.1**
comp=Z,98nm,1.1s
LOR Lormes 88.81 317⇑ *i*P **P 12 30 37.1 +0.4**
comp=Z,94nm,1.3s
LOR *e*R
comp=Z,355nm,21.5s
LOR Lormes 88.81 317⇑ *i*P **P 12 30 37.1 +0.4**
LOR pmax pmax
comp=Z,94nm,1.3s
LOR Lormes 88.81 317⇑ *i*P **P 12 30 37.1 +0.4**
comp=Z,94nm,1.3s
SMF Signal de Mont 88.86 316⇑ *i*P **P 12 30 37.3 +0.4**
comp=Z,55nm,1.1s
SMF Signal de Mont 88.86 316⇑ *i*P **P 12 30 37.3 +0.4**
SMF pmax pmax
comp=Z,55nm,1.1s
SMF Signal de Mont 88.86 316⇑ *i*P **P 12 30 37.3 +0.4**
comp=Z,55nm,1.1s
PLDF La Plantade 89.06 316⇑ *e*P **P 12 30 38.2 +0.2**
SSF Saint Saulge 89.06 317⇑ *i*P **P 12 30 38.5 +0.7**
comp=Z,68nm,1.5s
SSF Saint Saulge 89.06 317⇑ *i*P **P 12 30 38.5 +0.7**
SSF pmax pmax
comp=Z,68nm,1.5s
SSF Saint Saulge 89.06 317⇑ *i*P **P 12 30 38.5 +0.7**
comp=Z,68nm,1.5s
AVF Avril sur Loir 89.19 317⇑ *i*P **P 12 30 38.9 +0.5**
comp=Z,60nm,1.3s
AVF Avril sur Loir 89.19 317⇑ *i*P **P 12 30 38.9 +0.5**
AVF pmax pmax
comp=Z,60nm,1.3s
AVF Avril sur Loir 89.19 317⇑ *i*P **P 12 30 38.9 +0.5**
comp=Z,60nm,1.3s
LBL Lubilhac 89.38 315 *e*P **P 12 30 40.0 +0.5**
AGO Saint Agoulin 89.40 316⇑ *e*P **P 12 30 39.3 -0.2**
SBA Scott Base 89.41 168 *e*P **P 12 30 41.0 +2.2**
SBA *e**PP **pP 12 30 51.4 +0.1**
SBA Scott Base 89.41 168 *e*P **P 12 30 41.0 +2.2**
SBA *e*pP **pP 12 30 51.4 +0.1**
TNA Tin City 89.46 24 PFAKE 12 30 50.0 +11
TNA LR LR
comp=Z,1μm,19.0s
PYM Petit Puy Mans 89.50 316⇑ *e*P **P 12 30 40.0 0.0**
MENF Mencas 89.68 320⇑ *e*P **P 12 30 41.9 +1.3**
TCF Toulx Ste Croi 90.01 316⇑ *i*P **P 12 30 43.3 +0.9**
comp=Z,99nm,1.7s
TCF Toulx Ste Croi 90.01 316⇑ *i*P **P 12 30 43.3 +0.9**
TCF pmax pmax
comp=Z,99nm,1.7s
TCF Toulx Ste Croi 90.01 316⇑ *i*P **P 12 30 43.3 +0.9**
comp=Z,99nm,1.7s
MTLF Montolieu 90.27 313⇑ *i*P **P 12 30 44.5 +0.9**
comp=Z,28nm,1.0s
MTLF Montolieu 90.27 313⇑ *i*P **P 12 30 44.5 +0.9**
MTLF pmax pmax
comp=Z,28nm,1.0s
MTLF Montolieu 90.27 313⇑ *i*P **P 12 30 44.5 +0.9**
comp=Z,28nm,1.0s
NVL N'lazarevskaya 91.27 199 *e*P P 12 30 54.6 +7.1
NVL pmax pmax
comp=Z,12nm,0.9s
LDF La Druitiere 91.35 319⇑ *i*P **P 12 30 49.3 +0.8**
comp=Z,78nm,1.0s
LDF La Druitiere 91.35 319⇑ *i*P **P 12 30 49.3 +0.8**
LDF pmax pmax
comp=Z,78nm,1.0s
LDF La Druitiere 91.35 319⇑ *i*P **P 12 30 49.3 +0.8**
comp=Z,78nm,1.0s
FLN La Foliniere 91.57 319⇑ *i*P **P 12 30 50.3 +0.8**
comp=Z,65nm,1.0s
FLN *e*R
comp=Z,572nm,19.2s
FLN La Foliniere 91.57 319⇑ *i*P **P 12 30 50.3 +0.8**
FLN pmax pmax
comp=Z,65nm,1.0s
FLN La Foliniere 91.57 319⇑ *i*P **P 12 30 50.3 +0.8**
comp=Z,65nm,1.0s
MFF Saint Martin d 91.60 317⇑ *i*P **P 12 30 50.5 +0.8**
comp=Z,100nm,1.3s
MFF Saint Martin d 91.60 317⇑ *i*P **P 12 30 50.5 +0.8**
MFF pmax pmax
comp=Z,101nm,1.3s
MFF Saint Martin d 91.60 317⇑ *i*P **P 12 30 50.5 +0.8**
comp=Z,100nm,1.3s
GRR Gorron 91.86 319⇑ *i*P **P 12 30 51.8 +1.0**
comp=Z,107nm,1.2s
GRR Gorron 91.86 319⇑ *i*P **P 12 30 51.8 +1.0**
GRR pmax pmax
comp=Z,107nm,1.2s
GRR Gorron 91.86 319⇑ *i*P **P 12 30 51.8 +1.0**
comp=Z,107nm,1.2s
DAG Danmarks Havn 92.10 348⇑ *i*P **P 12 30 50.7 -0.7**
comp=Z,29nm,1.1s
DAG Danmarks Havn 92.10 348⇑ *i*P **P 12 30 50.7 -0.7**
DAG pmax pmax
comp=Z,37nm,1.1s
EKA Eskdalemuir Ar 92.27 326 P **P 12 30 53.3 +0.7**
comp=Z,15nm,0.8s,baz=100,slow=5.2,SNR=18
EKA PP PP 12 34 27.1 -6.1
comp=Z,4.2nm,0.8s,baz=92,slow=7.8,SNR=3.4
ESK Eskdalemuir 92.30 326 *e*P **P 12 30 53.8 +1.1**
ESK *e**PP **pP 12 31 06.0 +0.8**
ESK Eskdalemuir 92.30 326 *e*P **P 12 30 53.8 +1.1**
ESK *e*pP **pP 12 31 06.0 +0.8**
TOA0 Torodi Ar. Sit 93.23 283 P **P 12 30 59.0 +1.1**
baz=93,SNR=4.0
TOA0 Torodi Ar. Sit 93.23 283 *e*PP PP 12 34 42.2 +0.3
TOA0 *e*PKKPdf **PKKPbc 12 48 05.7 0.0**
TORD Torodi Ar. Bea 93.23 283 P **P 12 30 58.5 +0.7**
comp=Z,2.9nm,0.9s,baz=92,slow=4.9,SNR=18
TORD PP **PP 12 34 42.2 +0.3**
comp=Z,0.2nm,0.7s,baz=35,slow=5.5,SNR=2.5
TORD PKKP **PKKPbc 12 48 05.7 0.0**
comp=Z,0.6nm,0.7s,baz=300,slow=3.3,SNR=5.1
TORD LR LR 13 13 05.0
comp=Z,368nm,18.3s,baz=70,slow=36
QSPA South Pole Qui 93.40 180 P **P 12 30 58.7 +1.0**
comp=Z,1.3nm,1.0s,baz=297,slow=3.6,SNR=3.8
QSPA PKKP **PKKPdf 12 48 04.3 -1.7**
comp=Z,2.9nm,1.1s,baz=170,slow=0.7,SNR=4.3
QSPA LR LR 13 07 24.7
comp=Z,2μm,20.1s,baz=322,slow=32
ALE Alert 93.56 357 P **P 12 30 58.0 0.0**
comp=Z,190nm,0.8s,SNR=10
ES19 SONSECA Array 95.26 310 *e*P **P 12 31 07.4 +0.6**
ESDC Sonseca Array 95.32 310 P **P 12 31 07.6 +0.6**
comp=Z,0.8nm,0.5s,baz=52,slow=4.6,SNR=9.5
ESDC LR LR 13 17 54.7
comp=Z,203nm,19.8s,baz=130,slow=38
PAB San Pablo 95.63 310 PFAKE 12 31 20.0 +12
PAB LR LR
comp=Z,400nm,21.0s
SVW2 Sparrevohn 95.86 28 *e*P **P 12 31 09.9 +0.9**
COLD Coldfoot 95.88 21 PFAKE 12 31 20.0 +11
COLD LR LR
comp=Z,2μm,18.0s
SNAA Sanae 96.01 198 PFAKE 12 31 20.0 +11
SNAA LR LR
comp=Z,500nm,18.0s
MLY Manley 96.55 23 *e*P **P 12 31 11.9 -0.2**
comp=Z,59nm,1.8s
MLY LR LR
comp=Z,1μm,22.0s
CAST Castle Rocks 96.61 25 *e*P **P 12 31 12.8 +0.5**
comp=Z,38nm,1.1s
CAST LR LR
comp=Z,1μm,19.0s
PPLA Purkeypile 96.76 25 PFAKE 12 31 20.0 +6.8
PPLA LR LR
comp=Z,1μm,20.0s
PBRG Braganca 97.03 313 *e*LR LR 13 14 27.9
comp=Z,338nm,20.0s
KTH Kantishna Hill 97.05 24 PFAKE 12 31 30.0 +16
KTH LR LR
comp=Z,1μm,19.0s
TRF Thorofare Moun 97.35 24 PFAKE 12 31 30.0 +14
TRF LR LR
comp=Z,1μm,20.0s
MVO Moncorvo 97.36 312 *e*LR LR 13 15 37.5
comp=Z,291nm,20.0s
BWN Browne 97.39 24 PFAKE 12 31 30.0 +14
BWN LR LR
comp=Z,1μm,20.0s
MDM Murphy Dome 97.55 23 *e*P **P 12 31 16.4 -0.1**
comp=Z,61nm,2.1s
MDM LR LR
comp=Z,600nm,21.0s
COLA College 97.73 23 PFAKE 12 31 30.0 +13
COLA LR LR
comp=Z,600nm,20.0s
MCK McKinley 97.79 24 *e*P **P 12 31 16.7 -0.9**
MCK *e**PP **pP 12 31 31.1 +0.9**
MCK MLR MLR
comp=Z,1μm,19.0s
MCK McKinley 97.79 24 *e*P **P 12 31 16.7 -0.9**
MCK *e*pP **pP 12 31 31.1 +0.9**
MCK LR LR
comp=Z,1μm,19.0s
WRH Wood River Hil 97.81 23 PFAKE 12 31 30.0 +12
WRH LR LR
comp=Z,1μm,18.0s
CCB Clear Creek Bu 97.85 23 PFAKE 12 31 30.0 +12
CCB LR LR
comp=Z,700nm,20.0s
POLO Lamas de Olo 97.89 312 *e*LR LR 13 16 04.1
comp=Z,106nm,20.0s
MTE Manteigas 97.90 311 *e*LR LR 13 16 59.9
comp=Z,222nm,20.0s
FYU Fort Yukon 97.94 21 PFAKE 12 31 30.0 +12
FYU LR LR
comp=Z,1μm,18.0s
PBAR Barrancos 97.94 309 *e*P Pdif 12 31 20.3 +1.4
comp=Z,29nm,1.2s
PBAR Barrancos 97.94 309 *e*LR LR 13 14 27.9
comp=Z,633nm,20.0s
RND Reindeer 97.96 24 PFAKE 12 31 30.0 +11
RND LR LR
comp=Z,1μm,18.0s
PMRV Marv??o 97.97 310 *e*LR LR 13 15 42.7
comp=Z,252nm,18.0s
PCAB Cabril 97.99 313 *e*P Pdif 12 31 21.2 +2.1
comp=Z,44nm,1.3s
IL1 Eielson Array 98.15 23 *e*P **P 12 31 17.2 -2.0**
ILAR Eielson Array 98.15 23 P **P 12 31 17.1 -2.1**
comp=Z,1.7nm,0.9s,baz=296,slow=4.5,SNR=19
ILAR PP PP 12 35 12.4 -6.0
comp=Z,3.9nm,0.9s,baz=291,slow=7.2,SNR=4.4
ILAR PKKPbc **PKKPdf 12 47 56.5 +0.2**
comp=Z,0.9nm,1.0s,baz=159,slow=2.1,SNR=5.6
ILAR LR LR 13 18 53.8
comp=Z,504nm,20.8s,baz=316,slow=37
ILB Eielson Array 98.15 23 *e*P **P 12 31 17.8 -1.4**
ILB *e*PP PP 12 35 12.4 -6.0
ILB *e*PKKPbc **PKKPdf 12 47 56.5 +0.2**
PESTR Estremoz 98.23 310 *e*LR LR 13 13 38.0
comp=Z,230nm,20.0s
PVAQ Vaqueiros 98.61 308 *e*LR LR 13 15 39.1
comp=Z,321nm,20.0s
PMTG Montargil 98.67 310 *e*P Pdif 12 31 25.9 +3.7
comp=Z,14nm,1.8s
PMTG Montargil 98.67 310 *e*LR LR 13 14 27.9
comp=Z,206nm,20.0s
SUMG Summit 98.78 347 *i* P Pdif 12 31 22.7 +0.3
comp=Z,7.0nm,1.1s
SUMG Summit 98.78 347 *i* P Pdif 12 31 22.7 +0.3
SUMG pmax pmax
comp=Z,7.0nm,1.1s
PBDV Barranco-do-Ve 98.81 308 *e*LR LR 13 15 28.5
comp=Z,419nm,18.0s
PCVE Castro Verde 98.82 309 *e*LR LR 13 14 31.5
comp=Z,1μm,20.0s
SML Sawmill 98.84 26 PFAKE 12 31 30.0 +7.6
SML LR LR
comp=Z,200nm,19.0s
MESJ Messejana 98.92 309 *e*P P 12 31 18.4 -4.8
comp=Z,23nm,1.6s
DDM Donnelly Dome 98.99 23 PFAKE 12 31 30.0 +6.9
DDM LR LR
comp=Z,1μm,19.0s
PNCL Nicolau / Gran 99.10 309 *e*Pdif **Pdif 12 31 23.6 -0.5**
PNCL A A 12 31 49.9
comp=Z,15nm,1.7s
PNCL Nicolau / Gran 99.10 309 *e*LR LR 13 15 03.5
comp=Z,326nm,20.0s
MORF Marmelete 99.36 309 *e*LR LR 13 16 00.5
comp=Z,374nm,22.0s
PMAFR Mafra 99.50 310 *e*LR LR 13 15 07.1
comp=Z,214nm,22.0s
PAX Paxson 99.53 24 PFAKE 12 31 40.0 +14
PAX LR LR
comp=Z,1μm,22.0s
SCRK Sand Creek 99.64 23 PFAKE 12 31 40.0 +14
SCRK LR LR
comp=Z,900nm,20.0s
EGAK Eagle 100.29 21 *e*Pdif **Pdif 12 31 28.4 -0.3**
EGAK *e*PP **PP 12 35 30.6 -4.1**
EGAK LR LR
comp=Z,1μm,20.0s
INK Inuvik 100.71 17 P **Pdif 12 31 30.1 -0.5**
comp=Z,6.6nm,0.9s,baz=327,slow=8.0,SNR=16
INK PP **PP 12 35 38.2 +0.5**
comp=Z,7.5nm,1.0s,baz=319,slow=6.2,SNR=6.8
INK PKKPbc **PKKPbc 12 47 43.9 -3.0**
comp=Z,1.8nm,0.8s,baz=117,slow=4.5,SNR=4.0
BMRM Bremner River 100.82 26 PFAKE 12 31 40.0 +8.7
BMRM LR LR
comp=Z,1μm,19.0s
RES Resolute Bay 101.69 3 P **Pdif 12 31 34.9 +0.1**
comp=Z,12nm,1.1s,baz=343,slow=4.6,SNR=7.6
RES PP **PP 12 35 48.0 +3.1**
comp=Z,4.1nm,1.1s,baz=350,slow=6.3,SNR=3.5
RES Resolute Bay 101.69 3 P **Pdif 12 31 34.9 +0.1**
RES 12 35 48.0
RES MLR MLR
comp=Z,1μm,22.0s
RES Resolute Bay 101.69 3 P **Pdif 12 31 34.9 +0.1**
RES PP **PP 12 35 48.0 +3.1**
RES LR LR
comp=Z,1μm,22.0s
HYT Haines Junctio 103.86 24 *e*Pdif **Pdif 12 31 45.6 +0.7**
HYT *e*PP **PKiKP 12 36 03.5 +1.0**
BESE Bessie Mountai 106.27 25 PFAKE 12 36 20.0
BESE LR LR
comp=Z,300nm,20.0s
PMOZ Porto Moniz, M 107.23 306 *e*LR LR 13 16 46.9
comp=Z,344nm,20.0s
DLBC Dease Lake 108.33 23 PP PP 12 36 34.6 +0.1
comp=Z,3.4nm,0.9s,baz=285,slow=12,SNR=4.8
DLBC Dease Lake 108.33 23 PP PP 12 36 34.6 +0.1
DLBC LR LR
comp=Z,900nm,19.0s
WRAK Wrangell Islan 108.66 26 PFAKE 12 36 20.0
WRAK LR LR
comp=Z,800nm,20.0s
YKA Yellowknife Ar 110.26 15 Pdiff **Pdif 12 32 12.6 -0.5**
comp=Z,0.5nm,0.8s,baz=325,slow=4.1,SNR=9.4
YKA PKiKP **PKiKP 12 36 13.6 -0.5**
comp=Z,1.3nm,1.0s,baz=314,slow=2.0,SNR=5.0
YKA PP PP 12 36 41.2 -7.0
comp=Z,3.0nm,1.0s,baz=329,slow=7.9,SNR=8.9
YKA PKKPbc **PKKPbc 12 47 15.1 -2.5**
comp=Z,1.0nm,1.1s,baz=124,slow=2.9,SNR=4.2
YKA PKKP **PKKPdf 12 47 31.5 -2.4**

comp=Z,0.8nm,0.8s,baz=142,slow=3.4,SNR=7.4
YKB5 Yellowknife Ar 110.26 15 *e*PKiKP **PKiKP** 12 36 13.6 **-0.5**
YKB5 *e*PP PP 12 36 41.2 -7.0
YKB5 *e*PKKPbc **PKKPbc** 12 47 15.1 **-2.5**
YKB5 *e*PKKPdf **PKKPdf** 12 47 31.5 **-2.4**
ASCN Ascension 110.45 263 PFAKE 12 36 30.0
ASCN LR LR
comp=Z,800nm,19.0s
TBI Tubuai 114.04 114 *e*LR LR 13 10 35.0
comp=Z,578nm,24.5s
PPT2 Papeete2 114.48 108 *e*PP PP 12 37 10.0 -10
PPT2 *e*SP SP 12 46 51.6 -2.9
comp=Z,185nm,25.0s
PPT2 *e*SS SS 12 52 56.5 -15
comp=Z,76nm,24.5s
PPT2 Papeete2 114.48 108 *e*LR LR 13 10 47.9
comp=Z,728nm,26.0s
PGC Sidney 117.86 28 PFAKE 12 36 40.0 +11
PGC LR LR
comp=Z,500nm,20.0s
A05A Maple Falls 118.25 27 *e*PKPdf **PKPdf** 12 36 29.9 **+0.1**
A05A *ep*PKPdf **pPKPdf** 12 36 40.5 **-2.2**
EDM Edmonton 118.42 19 *ep*PKPdf **pPKPdf** 12 36 44.6 **+1.6**
EDM LR LR
comp=Z,2μm,21.0s
B08A Colville Reser 119.96 26 *e*PKPdf **PKPdf** 12 36 33.3 **+0.1**
LON Longmire 119.99 29 *e*PKIKP **PKPdf** 12 36 33.8 **+0.4**
LON Longmire 119.99 29 *e*PKPdf **PKPdf** 12 36 33.8 **+0.4**
SCHQ Schefferville 120.14 348 PKP **PKPdf** 12 36 33.3 **0.0**
comp=Z,4.9nm,0.8s,baz=14,slow=2.3,SNR=6.3
SCHQ PP **PP** 12 38 01.6 **+3.9**
comp=Z,3.4nm,0.7s,baz=39,slow=5.2,SNR=4.4
FFC Flin Flon 120.15 12 *e*PP PP 12 37 54.4 -3.4
FFC LR LR
comp=Z,900nm,20.0s
LTY Liberty 120.17 28 *e*PKPdf **PKPdf** 12 36 33.5 **-0.2**
F04A Amboy 120.27 30 *e*PKPdf **PKPdf** 12 36 34.5 **+0.6**
G03D McMinnville, O 120.34 31 ⇑PKiKP **PKiKP** 12 36 34.2 **+0.1**
baz=120
C09A Chrisman Ranch 120.85 26 *e*PKPdf **PKPdf** 12 36 35.3 **+0.4**
C09A LR LR
comp=Z,800nm,20.0s
NEW Newport 120.99 25 PKP **PKPdf** 12 36 35.0 **-0.2**
comp=Z,3.7nm,0.8s,baz=334,slow=3.3,SNR=5.0
NEW Newport 120.99 25 PKIKP **PKPdf** 12 36 35.0 **-0.2**
NEW MLR MLR
comp=Z,600nm,20.0s
NEW Newport 120.99 25 PKP **PKPdf** 12 36 35.0 **-0.2**
NEW LR LR
comp=Z,600nm,20.0s
NEW Newport 120.99 25 ⇑PKiKP **PKiKP** 12 36 35.4 **+0.1**
baz=121
D08A Wollman Farm, 121.12 27 *e*PKPdf **PKPdf** 12 36 36.1 **+0.7**
H04A Detroit Lake 121.26 31 *e*PKPdf **PKPdf** 12 36 36.2 **+0.4**
G05D Wamic, OR 121.30 30 ⇑PKiKP **PKiKP** 12 36 36.4 **+0.4**
baz=121
I03D Drain, OR 121.32 32 ⇑PKiKP **PKiKP** 12 36 36.7 **+0.7**
baz=121
WALA Waterton Lakes 121.66 23 *e*PKPdf **PKPdf** 12 36 37.0 **+0.5**
WALA *e*PP **PP** 12 38 10.9 **+2.5**
WALA LR LR
comp=Z,1μm,21.0s
I05D Terrebonne, OR 121.93 31 ⇓PKiKP **PKiKP** 12 36 37.8 **+0.5**
baz=122
L02D Cave Junction, 122.21 34 ⇑PKiKP **PKiKP** 12 36 38.6 **+0.8**
baz=122
BSMT Bassoo Peak 122.29 24 *e*PKPdf **PKPdf** 12 36 38.1 **+0.2**
J04D Umpqua Nationa 122.29 32 ⇓PKiKP **PKiKP** 12 36 38.7 **+0.4**
baz=122
G08A Pilot Rock 122.42 28 *e*PKPdf **PKPdf** 12 36 38.8 **+0.7**
F10A Beach Ranch, E 122.71 27 *e*PKPdf **PKPdf** 12 36 38.9 **+0.2**
J05D Fort Rock, OR 122.72 32 ⇑PKiKP **PKiKP** 12 36 39.1 **+0.1**
baz=122
SWMT Swartz Lake 122.88 24 *e*PP PP 12 38 17.6 +0.8
K04D Chiloquin, OR 122.91 32 ⇑PKiKP **PKiKP** 12 36 39.3 **0.0**
baz=123
I07A Izee 123.04 30 *e*PKPdf **PKPdf** 12 36 40.4 **+1.1**
M02C Callahan 123.14 34 ⇑PKiKP **PKiKP** 12 36 39.9 **+0.1**
baz=123
K05A Summer Lake 123.29 32 *e*PKPdf **PKPdf** 12 36 41.2 **+1.2**
M04C Macdoel 123.44 33 ⇓PKiKP **PKPdf** 12 36 40.2 **0.0**
baz=123
MSO Missoula 123.45 24 *e*PKPdf **PKPdf** 12 36 39.8 **-0.3**
MSO LR LR
comp=Z,900nm,20.0s
MSO Missoula 123.45 24 ⇓PKiKP **PKPdf** 12 36 39.8 **-0.3**
baz=123
N02D Trinity Center 123.50 34 ⇑PKiKP **PKPdf** 12 36 40.3 **+0.1**
baz=123
BMO Blue Mountains 123.52 28 *e*PKIKP **PKPdf** 12 36 40.0 **-0.3**
BMO MLR MLR
comp=Z,800nm,20.0s
BMO Blue Mountains 123.52 28 *e*PKPdf **PKPdf** 12 36 40.0 **-0.3**
BMO LR LR
comp=Z,800nm,20.0s
A19A Klindworth Far 123.61 19 ⇑PKiKP **PKPdf** 12 36 39.8 **-0.4**
baz=123
A20A Cobblestone Ra 123.91 19 ⇓PKiKP **PKPdf** 12 36 40.2 **-0.6**
baz=124
B19A Brinkman Farms 123.95 20 ⇑PKiKP **PKPdf** 12 36 40.7 **-0.2**
baz=124
EGMT Eagleton 124.04 20 PFAKE 12 36 50.0 +8.9
EGMT LR LR
comp=Z,600nm,19.0s
EGMT Eagleton 124.04 20 ⇓PKiKP **PKPdf** 12 36 41.2 **+0.1**
baz=124
A21A Bergtoll Ranch 124.13 18 ⇓PKiKP **PKPdf** 12 36 41.0 **-0.2**
baz=124
B20A Solberg Farm, 124.27 19 ⇓PKiKP **PKPdf** 12 36 41.1 **-0.4**
baz=124
A22A Carney Farms, 124.43 17 ⇑PKiKP **PKPdf** 12 36 41.8 **0.0**
baz=124
C19A Slack Wire Ran 124.53 20 ⇑PKiKP **PKiKP** 12 36 42.5 **+0.1**
baz=124
B21A Ellsworth Farm 124.60 18 ⇑PKiKP **PKPdf** 12 36 42.3 **+0.1**
baz=124
A23A Redstone 124.76 16 ⇓PKiKP **PKPdf** 12 36 42.3 **-0.1**
baz=124
C20A Veseth Ranch, 124.91 19 ⇓PKiKP **PKiKP** 12 36 43.0 **-0.1**
baz=125
B22A Reddig Ranch S 125.03 18 ⇓PKiKP **PKiKP** 12 36 43.2 **-0.1**
baz=125
A24A Westby 125.04 16 ⇓PKiKP **PKiKP** 12 36 43.2 **-0.1**
baz=125
D19A Cripps Ranch, 125.08 20 ⇑PKiKP **PKPdf** 12 36 43.1 **-0.1**
baz=125
C21A Desert Coulee 125.10 19 ⇑PKiKP **PKiKP** 12 36 43.5 **0.0**
baz=125
B23A Brockton 125.18 17 ⇑PKiKP **PKPdf** 12 36 43.2 **0.0**
baz=125
A25A Svangstu Ranch 125.26 15 ⇓PKiKP **PKiKP** 12 36 43.6 **-0.1**
baz=125
MFID Camas Ranch 125.31 28 PFAKE 12 37 00.0 +16
MFID LR LR
comp=Z,500nm,21.0s
BOZ Bozeman (W) 125.34 23 *e*PKIKP **PKPdf** 12 36 44.7 **+0.9**
BOZ MLR MLR
comp=Z,1μm,19.0s
BOZ Bozeman (W) 125.34 23 *e*PKPdf **PKPdf** 12 36 44.7 **+0.9**
BOZ LR LR
comp=Z,1μm,19.0s
DGMT Dagmar 125.40 16 PFAKE 12 37 00.0 +16
DGMT LR LR
comp=Z,800nm,19.0s
DGMT Dagmar 125.40 16 ⇑PKiKP **PKiKP** 12 36 43.9 **-0.1**
baz=125
MCMT McKenzie Canyo 125.52 25 *e*PP PP 12 38 34.1 -0.6
ULM Lac du Bonnet 125.55 9 PKP **PKPdf** 12 36 43.1 **-0.7**
comp=Z,20nm,0.8s,baz=355,slow=3.8,SNR=45
ULM Lac du Bonnet 125.55 9 PKP **PKPdf** 12 36 43.1 **-0.7**
ULM *e*PKPdf **PKiKP** 12 36 43.4 **-0.8**
A26A Wade Farm, Ken 125.57 14 ⇑PKiKP **PKPdf** 12 36 44.1 **+0.2**
baz=125
A27A Ledoux Ranch, 125.72 14 ⇓PKiKP **PKiKP** 12 36 44.5 **-0.1**
baz=126
C23A Lambert 125.72 17 ⇑PKiKP **PKiKP** 12 36 44.9 **+0.2**
baz=126
E19A Rath Farm, Rou 125.72 21 ⇓PKiKP **PKPdf** 12 36 44.0 **-0.4**
baz=126
D21A La Casta Ranch 125.81 19 ⇓PKiKP **PKPdf** 12 36 44.7 **+0.2**
baz=126
HLID Hailey 125.84 27 *e*PKPdf **PKPdf** 12 36 45.5 **+0.7**
HLID *ep*PKPdf **pPKPdf** 12 36 59.3 **+1.5**
HLID *e*PP **PP** 12 38 38.3 **+1.4**
HLID LR LR
comp=Z,600nm,20.0s
HLID Hailey 125.84 27 ⇑PKiKP **PKPdf** 12 36 45.5 **+0.7**
baz=126
B25A Knox Farm, Ray 125.86 16 ⇑PKiKP **PKiKP** 12 36 45.0 **+0.1**
baz=126
E20A Meyer Farm, Mu 125.92 20 ⇓PKiKP **PKiKP** 12 36 45.4 **+0.2**
baz=126
A28A Rude Farm, Bot 125.98 13 ⇓PKiKP **PKiKP** 12 36 45.1 **0.0**
baz=126
D22A Cohagen 125.99 18 ⇑PKiKP **PKiKP** 12 36 45.2 **-0.1**
baz=126
B26A Jensen Ranch, 126.01 15 ⇓PKiKP **PKPdf** 12 36 44.8 **0.0**
baz=126
C24A Savage 126.18 17 ⇓PKiKP **PKPdf** 12 36 45.4 **+0.2**
baz=126
F19A Roth Farm, Mol 126.19 21 ⇑PKiKP **PKPdf** 12 36 45.3 **-0.1**
baz=126
A29A Manning Farm, 126.20 12 ⇓PKiKP **PKPdf** 12 36 45.0 **-0.1**
baz=126
B27A Peters Farms, 126.22 14 ⇑PKiKP **PKPdf** 12 36 45.2 **0.0**
baz=126
E21A Keefer Ranch, 126.24 19 ⇓PKiKP **PKiKP** 12 36 45.6 **-0.2**
baz=126
D23A Lindsay 126.27 18 ⇑PKiKP **PKiKP** 12 36 45.8 **0.0**
baz=126
C25A Freed Ranch, W 126.35 16 ⇓PKiKP **PKPdf** 12 36 45.7 **+0.2**
baz=126
A30A Hoffart Farm, 126.37 12 ⇑PKiKP **PKPdf** 12 36 45.3 **-0.2**
baz=126
LAO LASA Array 126.39 19 *ep*PKPdf **pPKPdf** 12 37 01.1 **+2.6**
LAO LR LR
comp=Z,900nm,21.0s
B28A Dugan Ranch, T 126.39 13 ⇑PKiKP **PKiKP** 12 36 45.8 **-0.2**
baz=126
YNR Norris Junctio 126.49 23 *ep*PKPdf pPKPdf 12 37 02.4 +3.4
F20A Billings 126.52 21 ⇓PKiKP **PKPdf** 12 36 46.0 **+0.1**
baz=126
C26A Wahner Farm, P 126.55 15 ⇑PKiKP **PKPdf** 12 36 46.0 **+0.1**
baz=126
D24A Glendive 126.59 17 ⇓PKiKP **PKPdf** 12 36 46.2 **+0.2**
baz=126
E22A Miles City 126.70 19 ⇑PKiKP **PKiKP** 12 36 46.5 **-0.2**
baz=126
LKWY Lake 126.73 23 PFAKE 12 37 00.0 +13
LKWY LR LR
comp=Z,2μm,19.0s
H17A Grant Village 126.80 23 *e*PKPdf **PKPdf** 12 36 49.0 **+2.3**
H17A *ep*PKPdf **pPKPdf** 12 37 03.4 **+3.7**
H17A LR LR
comp=Z,900nm,19.0s
H17A Grant Village 126.80 23 ⇑PKiKP **PKiKP** 12 36 47.6 **+0.3**
baz=127
CMB Columbia Colle 126.80 36 *e*PKIKP **PKPdf** 12 36 47.4 **+0.7**
CMB Columbia Colle 126.80 36 *e*PKPdf **PKPdf** 12 36 47.4 **+0.7**
C27A Sayler Ranch, 126.81 15 ⇓PKiKP **PKiKP** 12 36 46.8 **0.0**
baz=127
B30A Myrvik Farm, E 126.83 12 ⇓PKiKP **PKPdf** 12 36 46.1 **-0.2**
baz=127
D25A Fairfield 126.84 16 ⇓PKiKP **PKiKP** 12 36 46.8 **-0.2**
baz=127
E23A Ismay 126.85 18 ⇓PKiKP **PKPdf** 12 36 46.5 **0.0**
baz=127
F21A Absaloka Mine, 126.85 20 ⇑PKiKP **PKPdf** 12 36 46.7 **+0.1**
baz=127
BMN Battle Mountai 126.86 31 *e*PKIKP PKPpre 12 36 41.3
BMN *e* 12 36 48.1
BMN MLR MLR
comp=Z,400nm,21.0s
BMN Battle Mountai 126.86 31 *e*PKPpre PKPpre 12 36 41.3
BMN *e*PKPdf **PKiKP** 12 36 48.1 **+0.7**
BMN *ep*PKPdf pPKPdf 12 37 02.0 +2.3
BMN LR LR
comp=Z,400nm,21.0s
H18A Shoshone NF, C 126.92 23 ⇓PKiKP **PKPdf** 12 36 47.0 **+0.1**
baz=127
G20A Bridger 126.99 21 ⇑PKiKP **PKPdf** 12 36 46.9 **0.0**
baz=127
FLWY Flagg Ranch 127.01 24 *ep*PKPdf **pPKPdf** 12 37 02.7 **+2.7**
FLWY LR LR
comp=Z,700nm,20.0s
WAKR Walker 127.03 35 *ep*PKPdf pPKPdf 12 37 02.1 +1.9
IMW Indian Meadow 127.06 24 PFAKE 12 37 00.0 +13
IMW LR LR
comp=Z,1μm,20.0s
C28A Hausauer Farms 127.08 14 ⇓PKiKP **PKPdf** 12 36 47.0 **+0.1**
baz=127
E24A Baker 127.09 17 ⇓PKiKP **PKPdf** 12 36 47.0 **0.0**
baz=127
MDND Maddock 127.13 13 PFAKE 12 37 00.0 +13
MDND LR LR
comp=Z,500nm,18.0s
MDND Maddock 127.13 13 ⇑PKiKP **PKPdf** 12 36 46.8 **-0.1**
baz=127
F22A Rosebud 127.18 19 ⇓PKiKP **PKPdf** 12 36 47.2 **0.0**
baz=127
H19A Powell 127.18 22 ⇑PKiKP **PKiKP** 12 36 47.7 **-0.2**
baz=127
RKT Rikitea 127.18 116 *e*LR LR 13 16 33.6
comp=Z,499nm,24.0s
I17A Pilgrim Ck. 127.19 24 ⇑PKiKP **PKPdf** 12 36 47.7 **+0.2**
baz=127
D26A Manning 127.20 16 ⇑PKiKP **PKiKP** 12 36 47.6 **-0.1**
baz=127
FXWY Fox Creek 127.24 24 *e*PKPdf **PKPdf** 12 36 48.1 **+0.5**
FXWY LR LR
comp=Z,700nm,20.0s
MOOW Moose Ponds 127.27 24 *ep*PKPdf **pPKPdf** 12 37 01.9 **+1.4**
MOOW LR LR
comp=Z,600nm,20.0s
G21A Lodge Grass 127.34 20 ⇑PKiKP **PKPdf** 12 36 47.6 **0.0**
baz=127
D27A Center 127.36 15 ⇓PKiKP **PKiKP** 12 36 48.0 **0.0**
baz=127
TPAW Teton Pass 127.40 24 PFAKE 12 37 00.0 +12
TPAW LR LR
comp=Z,700nm,20.0s
E25A Miller Ranch, 127.41 17 ⇓PKiKP **PKiKP** 12 36 48.2 **+0.1**
baz=127
LOHW Long Hollow 127.44 24 *e*PKPdf **PKPdf** 12 36 48.3 **+0.3**
LOHW LR LR
comp=Z,600nm,20.0s
AGMN Agassiz Nation 127.44 10 PFAKE 12 37 00.0 +12
AGMN LR LR
comp=Z,900nm,20.0s
AGMN Agassiz Nation 127.44 10 ⇑PKiKP **PKiKP** 12 36 47.9 **-0.1**
baz=127
SNOW Snow King Moun 127.50 24 PFAKE 12 37 00.0 +12
SNOW LR LR
comp=Z,600nm,20.0s
F23A Volborg 127.51 19 ⇑PKiKP **PKiKP** 12 36 48.2 **-0.2**
baz=127
C30A Mose, Pekin 127.51 12 ⇑PKiKP **PKPdf** 12 36 47.4 **-0.3**
baz=127
D28A Regan 127.52 14 ⇓PKiKP **PKPdf** 12 36 47.6 **-0.2**
baz=127
REDW Red Top Meadow 127.54 24 *e*PKPdf **PKPdf** 12 36 48.7 **+0.6**
REDW LR LR
comp=Z,600nm,20.0s
ELK Elko 127.63 30 PKP **PKPdf** 12 36 49.6 **+1.2**
comp=Z,6.4nm,0.9s,baz=101,slow=19,SNR=18
ELK Elko 127.63 30 PKIKP **PKPdf** 12 36 49.6 **+1.2**
ELK *e* 12 37 04.2
ELK Elko 127.63 30 PKP **PKPdf** 12 36 49.6 **+1.2**
ELK *ep*PKPdf **pPKPdf** 12 37 04.2 **+2.9**
G22A Birney 127.66 20 ⇑PKiKP **PKPdf** 12 36 48.2 **0.0**
baz=127
F24A Ekalaka 127.70 18 ⇑PKiKP **PKPdf** 12 36 48.3 **+0.1**
baz=128
E26A Carlson Angus 127.70 16 ⇑PKiKP **PKPdf** 12 36 48.2 **0.0**
baz=128
H20A Greybull 127.70 21 ⇑PKiKP **PKPdf** 12 36 48.0 **-0.2**
baz=128
NV01 Mina Array Sit 127.71 34 *e*PKPdf **PKPdf** 12 36 50.0 **+1.4**
NVAR Mina Array Bea 127.71 34 PKP **PKPdf** 12 36 50.0 **+1.4**
comp=Z,9.4nm,0.8s,baz=272,slow=1.9,SNR=29
I19A Meeteetse 127.72 22 ⇑PKiKP **PKPdf** 12 36 48.2 **-0.3**
baz=128
D29A Pettibone, Tap 127.88 13 ⇑PKiKP **PKPdf** 12 36 48.1 **-0.3**
baz=128
F25A Bowman 127.92 17 ⇑PKiKP **PKPdf** 12 36 48.8 **+0.2**
baz=128
H21A Big Horn, Sher 127.92 21 ⇓PKiKP **PKPdf** 12 36 48.5 **-0.3**
baz=128
AHID Auburn Hatcher 127.93 25 PFAKE 12 37 00.0 +11
AHID LR LR
comp=Z,1μm,20.0s
MLAC Mammoth, Mammt 127.97 35 ⇑PKiKP **PKPdf** 12 36 48.3 **-0.8**
baz=128
G23A Biddle 127.98 19 ⇓PKiKP **PKPdf** 12 36 48.9 **+0.2**
baz=128
E27A Carson 127.98 15 ⇓PKiKP **PKPdf** 12 36 48.9 **+0.3**
baz=128
HVU Hansel Valley 127.99 27 *e*PKIKP **PKPdf** 12 36 50.0 **+1.0**
HVU MLR MLR
comp=Z,400nm,19.0s
HVU Hansel Valley 127.99 27 *e*PKPdf **PKPdf** 12 36 50.0 **+1.0**
HVU LR LR
comp=Z,400nm,19.0s
D30A Buchanan 128.02 13 ⇓PKiKP **PKPdf** 12 36 48.5 **-0.2**
baz=128
PQI Presque Isle 128.07 346 PFAKE 12 37 00.0 +11
PQI LR LR
comp=Z,2μm,22.0s
E28A Huff 128.07 14 ⇑PKiKP **PKPdf** 12 36 48.6 **-0.2**
baz=128
I20A Worland 128.12 22 ⇓PKiKP **PKPdf** 12 36 48.9 **-0.2**
baz=128
G24A Alzada 128.17 18 ⇑PKiKP **PKPdf** 12 36 48.8 **-0.3**
baz=128
H22A Clearmont 128.19 20 ⇑PKiKP **PKPdf** 12 36 49.2 **0.0**
baz=128
F26A Lodgepole 128.21 16 ⇑PKiKP **PKPdf** 12 36 49.1 **0.0**
baz=128
E29A Napoleon 128.33 14 ⇓PKiKP **PKPdf** 12 36 49.1 **-0.2**
baz=128
J19A Crowheart 128.35 23 ⇓PKiKP **PKPdf** 12 36 49.6 **0.0**
baz=128
F27A Lemmon 128.37 16 ⇑PKiKP **PKPdf** 12 36 49.5 **+0.1**
baz=128
EYMN Ely 128.39 6 PFAKE 12 37 00.0 +11
EYMN LR LR
comp=Z,900nm,18.0s
H23A Clabaugh Cattl 128.54 19 ⇓PKiKP **PKPdf** 12 36 49.6 **-0.3**
baz=128
I21A Big Trails, Te 128.54 21 ⇓PKiKP **PKPdf** 12 36 49.6 **-0.4**
baz=128
BGU Big Grassy Mou 128.55 28 PFAKE 12 37 00.0 +10
BGU LR LR
comp=Z,500nm,20.0s
E30A Jud 128.56 13 ⇑PKiKP **PKPdf** 12 36 49.8 **0.0**
baz=128
BW06 Boulder Array 128.56 24 *ep*PKPdf **pPKPdf** 12 37 04.6 **+1.6**
BW06 LR LR
comp=Z,800nm,19.0s
PD31 Pinedale Array 128.56 24 *e*PKPdf **PKPdf** 12 36 50.1 **0.0**
PD31 *ep*PKPdf **pPKPdf** 12 37 04.7 **+1.7**
PD31 *e*PP **PP** 12 38 58.4 **+3.6**
PDAR Pinedale Array 128.56 24 PKP **PKPdf** 12 36 50.1 **0.0**
comp=Z,5.4nm,0.9s,baz=17,slow=1.5,SNR=30
PDAR PP **PP** 12 38 58.4 **+3.6**
comp=Z,2.3nm,0.8s,baz=316,slow=5.0,SNR=4.6
TPH Tonopah 128.56 33 *e*PKIKP **PKPdf** 12 36 51.6 **+1.4**
TPH *e* 12 37 05.9
TPH Tonopah 128.56 33 *e*PKPdf **PKPdf** 12 36 51.6 **+1.4**
TPH *ep*PKPdf **pPKPdf** 12 37 05.9 **+2.8**
G25A Newell 128.60 17 ⇓PKiKP **PKPdf** 12 36 49.6 **-0.3**
baz=128
RCTC Rector, Farmer 128.64 36 ⇓PKiKP **PKPdf** 12 36 50.2 **+0.1**
baz=128
J20A Shoshoni 128.64 22 ⇓PKiKP **PKPdf** 12 36 50.1 **-0.1**
baz=128
H24A Dirks Ranch, A 128.65 19 ⇑PKiKP **PKPdf** 12 36 49.6 **-0.5**
baz=128
HWUT Hardware Ranch 128.67 26 *e*PP PP 12 38 54.8 -0.7
HWUT LR LR
comp=Z,700nm,20.0s
F28A McLaughlin 128.72 15 ⇑PKiKP **PKPdf** 12 36 49.6 **-0.5**
baz=128
G26A Maurine 128.74 17 ⇑PKiKP **PKPdf** 12 36 50.1 **-0.1**
baz=128
I22A 9 Mile Ranch, 128.76 21 ⇑PKiKP **PKPdf** 12 36 50.3 **-0.1**
baz=128
SMMC Simmler 128.85 38 ⇑PKiKP **PKPdf** 12 36 50.3 **-0.4**
baz=129
G27A Dupree 128.85 16 ⇑PKiKP **PKPdf** 12 36 50.3 **0.0**
baz=129
J21A Lysite 128.89 22 ⇑PKiKP **PKPdf** 12 36 50.4 **-0.3**
baz=129
F29A Eureka 128.97 14 ⇑PKiKP **PKPdf** 12 36 50.6 **0.0**
baz=129
H25A Fruitdale 129.06 18 ⇑PKiKP **PKPdf** 12 36 50.7 **-0.1**
baz=129
TCUT Toone Canyon 129.13 26 PFAKE 12 37 00.0 +8.7
TCUT LR LR
comp=Z,600nm,22.0s
F30A Leola 129.16 13 ⇑PKiKP **PKPdf** 12 36 50.8 **-0.1**
baz=129
J22A Midwest 129.18 21 ⇓PKiKP **PKPdf** 12 36 50.6 **-0.6**
baz=129
DUG Dugway, Tooele 129.23 28 PFAKE 12 37 00.0 +8.6
DUG LR LR
comp=Z,500nm,20.0s
DUG Dugway, Tooele 129.23 28 ⇓PKiKP **PKPdf** 12 36 51.7 **+0.3**
baz=129
R11A Troy Canyon, C 129.25 32 PFAKE 12 37 00.0 +8.5
R11A LR LR
comp=Z,400nm,19.0s
R11A Troy Canyon, C 129.25 32 ⇓PKiKP **PKiKP** 12 36 52.0 **-0.2**
baz=129
GRAC Grapevine Rang 129.25 34 ⇓PKiKP **PKiKP** 12 36 51.9 **-0.2**
baz=129
H26A Fairpoint 129.31 17 ⇑PKiKP **PKPdf** 12 36 51.1 **-0.2**
baz=129
RSSD Black Hills 129.38 18 PFAKE 12 37 00.0 +8.4
RSSD LR LR
comp=Z,500nm,20.0s
G28A Parade 129.41 15 ⇑PKiKP **PKPdf** 12 36 51.4 **-0.1**
baz=129
I24A Kuemmerle Ranc 129.42 19 ⇓PKiKP **PKPdf** 12 36 51.2 **-0.4**
baz=129
H27A Howes 129.50 17 ⇓PKiKP **PKPdf** 12 36 51.3 **-0.3**
baz=129
J23A Dilts Ranch, B 129.51 20 ⇑PKiKP **PKPdf** 12 36 51.3 **-0.5**
baz=129
JLU Jordanelle 129.53 27 PFAKE 12 37 00.0 +7.9
JLU LR LR
comp=Z,500nm,21.0s
ISA Isabella, Lake 129.54 37 ⇓PKiKP **PKPdf** 12 36 51.9 **-0.1**
baz=129
G29A Hoven 129.55 14 ⇑PKiKP **PKPdf** 12 36 51.4 **-0.3**
baz=129
I25A Rochford 129.56 18 ⇑PKiKP **PKPdf** 12 36 51.5 **-0.4**
baz=129
K21A Alcova 129.57 22 ⇑PKiKP **PKPdf** 12 36 51.8 **-0.2**
baz=129
ARVC Arvin 129.69 37 ⇓PKiKP **PKiKP** 12 36 52.6 **-0.4**
baz=130
H28A Mission Ridge 129.75 16 ⇑PKiKP **PKPdf** 12 36 51.8 **-0.3**
baz=130
NLU North Lily Min 129.76 28 PFAKE 12 37 00.0 +7.5
NLU LR LR
comp=Z,600nm,19.0s
G30A Faulkton 129.80 14 ⇓PKiKP **PKPdf** 12 36 51.9 **-0.3**
baz=130
I26A New Underwood 129.82 18 ⇑PKiKP **PKPdf** 12 36 52.0 **-0.3**
baz=130
K22A Casper 129.83 21 PFAKE 12 37 00.0 +7.5
K22A LR LR
comp=Z,400nm,21.0s
K22A Casper 129.83 21 ⇑PKiKP **PKPdf** 12 36 52.1 **-0.4**
baz=130
MPMC Manual Prospec 129.84 35 ⇓PKiKP **PKPdf** 12 36 53.0 **+0.3**
baz=130
J24A Dixon Ranch, L 129.88 19 ⇓PKiKP **PKPdf** 12 36 52.3 **-0.2**
baz=130
TPNV Topopah Spring 129.91 34 ⇓PKiKP **PKPdf** 12 36 52.6 **-0.2**
baz=130
FURC Furnace Creek, 129.91 35 ⇓PKiKP **PKiKP** 12 36 53.1 **-0.2**
baz=130
MPU Maple Canyon 129.92 27 *ep*PKPdf pPKPdf 12 37 07.5 +1.9
BSC Santa Cruz Isl 129.94 39 ⇑PKiKP **PKiKP** 12 36 53.5 **-0.1**
baz=130
H29A Onida 130.01 15 ⇓PKiKP **PKPdf** 12 36 52.5 **0.0**
baz=130
I27A Quinn 130.02 17 ⇓PKiKP **PKPdf** 12 36 52.5 **-0.1**
baz=130
K23A Bowen Ranch, D 130.06 21 ⇑PKiKP **PKPdf** 12 36 52.9 **0.0**
baz=130
J25A Sunshine Ranch 130.11 19 ⇓PKiKP **PKPdf** 12 36 52.6 **-0.3**
baz=130
LRMC Laurel Mtn Rad 130.13 36 ⇑PKiKP **PKPdf** 12 36 52.7 **-0.5**
baz=130
I28A Midland 130.34 16 ⇓PKiKP **PKPdf** 12 36 53.5 **+0.3**
baz=130

EDW2	Edwards Air Fo	130.36	37	⇓PKiKP	PKPdf	12 36 54.0	+0.4			
	baz=130									
L22A	Ellis Ranch, M	130.40	22	⇓PKiKP	PKPdf	12 36 53.6	0.0			
	baz=130									
J26A	Sides Ranch, S	130.40	18	⇓PKiKP	PKPdf	12 36 53.0	-0.4			
	baz=130									
COWI	Conover	130.44	5	*e*PKPdf	PKPdf	12 36 53.4	+0.1			
COWI				*ep*PKPdf	pPKPdf	12 37 09.3	+3.1			
COWI				LR	LR					
	comp=Z,600nm,19.0s									
BRSD	Miller	130.49	14	*e*PKPdf	PKPdf	12 36 54.4	+1.0			
BRSD				*e*PP	PP	12 39 06.0	-0.9			
BRSD				LR	LR					
	comp=Z,600nm,19.0s									
BRSD	Miller	130.49	14	⇑PKiKP	PKPdf	12 36 53.4	-0.1			
	baz=130									
I29A	Vivian Onida	130.55	15	⇓PKiKP	PKPdf	12 36 53.5	-0.1			
	baz=130									
DECC	Green Verdugo	130.58	38	⇓PKiKP	PKPdf	12 36 53.9	-0.1			
	baz=130									
L23A	Garrett	130.59	21	⇓PKiKP	PKPdf	12 36 53.4	-0.7			
	baz=130									
SHOC	Shoshone, Teco	130.65	35	⇑PKiKP	PKPdf	12 36 54.3	+0.2			
	baz=130									
TMUT	Trail Mountain	130.69	28	*e*PKPdf	PKPdf	12 36 55.7	+1.3			
TMUT				*ep*PKPdf	pPKPdf	12 37 10.1	+2.8			
N20A	Spence Gulch,	130.71	24	⇑PKiKP	PKPdf	12 36 54.2	-0.1			
	baz=130									
GSC	Goldstone, Bar	130.77	36	*e*PKiKP	PKPdf	12 36 56.6	+2.3			
GSC				*e*		12 37 10.5				
GSC	Goldstone, Bar	130.77	36	*e*PKPdf	PKPdf	12 36 56.6	+2.3			
GSC				*ep*PKPdf	pPKPdf	12 37 10.5	+3.2			
GSC	Goldstone, Bar	130.77	36	⇓PKiKP	PKPdf	12 36 54.6	+0.3			
	baz=131									
J27A	Elkhorn Farm,	130.78	17	⇑PKiKP	PKPdf	12 36 54.5	+0.3			
	baz=131									
K25A	Mack Ranch, Ha	130.78	19	⇑PKiKP	PKPdf	12 36 54.0	-0.3			
	baz=131									
MVU	Marysvale	130.84	29	*ep*PKPdf	pPKPdf	12 37 11.0	+3.5			
MVU				*e*SKPbc	SKPab	12 40 17.4	+1.6			
MVU				LR	LR					
	comp=Z,500nm,22.0s									
J28A	Allard Ranch,	130.85	16	⇑PKiKP	PKPdf	12 36 54.2	0.0			
	baz=131									
MSU	Marysvale	130.85	29	*e*SKPbc	SKPab	12 40 17.3	+1.5			
I30A	Oacoma	130.87	15	⇑PKiKP	PKPdf	12 36 54.4	+0.2			
	baz=131									
M22A	Cedar Creek Ra	130.88	22	⇑PKiKP	PKPdf	12 36 54.5	-0.1			
	baz=131									
SPMN	Marine on St.	130.91	8	*e*PKPdf	PKPdf	12 36 55.5	+1.3			
SPMN				LR	LR					
	comp=Z,700nm,18.0s									
SPMN	Marine on St.	130.91	8	⇑PKiKP	PKPdf	12 36 54.3	+0.1			
	baz=131									
K26A	Motz Farm, Whi	130.92	19	⇑PKiKP	PKPdf	12 36 54.1	-0.3			
	baz=131									
L24A	Wheatland	130.93	20	⇑PKiKP	PKPdf	12 36 54.0	-0.5			
	baz=131									
BFSC	Mount Baldy Ra	131.00	37	⇑PKiKP	PKPdf	12 36 54.4	-0.4			
	baz=131									
CIS	Catalina Islan	131.10	39	⇑PKiKP	PKPdf	12 36 54.8	-0.2			
	baz=131									
J29A	Okreek	131.11	16	⇓PKiKP	PKPdf	12 36 55.0	+0.3			
	baz=131									
CHNC	Chino	131.15	38	*e*PKPpre	PKPpre	12 36 47.1				
M23A	Laramie	131.15	22	⇓PKiKP	PKPdf	12 36 55.2	+0.1			
	baz=131									
SRU	San Rafael Swe	131.16	27	*ep*PKPdf	pPKPdf	12 37 09.8	+1.8			
L25A	Engebretsen Ra	131.16	20	⇓PKiKP	PKPdf	12 36 55.0	+0.1			
	baz=131									
TUQ	Turquoise Moun	131.18	35	⇓PKiKP	PKPdf	12 36 55.1	-0.1			
	baz=131									
K27A	Flueckinger Fa	131.22	18	⇑PKiKP	PKPdf	12 36 55.0	0.0			
	baz=131									
O20A	White River Ci	131.31	25	PFAKE		12 37 10.0	+15			
O20A				LR	LR					
	comp=Z,700nm,21.0s									
O20A	White River Ci	131.31	25	⇓PKiKP	PKPdf	12 36 54.8	-0.5			
	baz=131									
LONY	Lake Ozonia	131.36	351	*e*PKPdf	PKPdf	12 36 56.2	+1.1			
LONY				*e*SKPbc	SKPab	12 40 17.9	+0.4			
LONY				LR	LR					
	comp=Z,600nm,21.0s									
PHWY	Pilot Hill	131.39	21	*e*PKPdf	PKPdf	12 36 55.3	-0.3			
PHWY				*e*SKPbc	SKPab	12 40 18.8	+0.7			
J30A	Dallas	131.41	15	⇑PKiKP	PKPdf	12 36 55.4	+0.1			
	baz=131									
N22A	Wattenberg Ran	131.45	23	⇑PKiKP	PKPdf	12 36 55.9	+0.1			
	baz=131									
K28A	Ten Mile Ranch	131.46	17	⇓PKiKP	PKPdf	12 36 55.4	-0.1			
	baz=131									
PTN	Potsdam (NY)	131.47	351	PFAKE		12 37 10.0	+15			
PTN				LR	LR					
	comp=Z,1μm,20.0s									
M24A	Cheyenne	131.47	21	⇓PKiKP	PKPdf	12 36 55.5	-0.1			
	baz=131									
L26A	Underwood Farm	131.56	19	⇑PKiKP	PKPdf	12 36 55.9	+0.2			
	baz=131									
N23A	Red Feather La	131.57	22	*e*PKPdf	PKPdf	12 36 57.4	+1.4			
N23A				*ep*PKPdf	pPKPdf	12 37 10.6	+1.8			
N23A				LR	LR					
	comp=Z,500nm,22.0s									
N23A	Red Feather La	131.57	22	⇓PKiKP	PKPdf	12 36 55.7	-0.3			
	baz=131									
KNB	Kanab	131.69	31	*e*PKiKP	PKPdf	12 36 57.8	+1.6			
KNB				*e*		12 37 12.1				
KNB	Kanab	131.69	31	*e*PKPdf	PKPdf	12 36 57.8	+1.6			
KNB				*ep*PKPdf	pPKPdf	12 37 12.1	+3.1			
KNB				*e*SKPbc	SKPab	12 40 20.8	+1.5			
ECSD	EROS Data Cent	131.69	12	*e*PKPdf	PKPdf	12 36 56.0	+0.2			
ECSD				LR	LR					
	comp=Z,900nm,19.0s									
ECSD	EROS Data Cent	131.69	12	⇓PKiKP	PKPdf	12 36 55.9	+0.2			
	baz=132									
MURC	Murrieta	131.71	38	⇑PKiKP	PKiKP	12 36 56.7	-0.5			
	baz=132									
K29A	Lazy Trails An	131.72	16	⇓PKiKP	PKPdf	12 36 56.0	+0.1			
	baz=132									
L27A	T5 Ranch, Ells	131.75	18	⇓PKiKP	PKPdf	12 36 55.5	-0.5			
	baz=132									
M25A	Palm-Egli Farm	131.77	20	⇑PKiKP	PKPdf	12 36 56.0	-0.2			
	baz=132									
GMRC	Granite Mounta	131.80	35	⇓PKiKP	PKPdf	12 36 56.3	-0.1			
	baz=132									
RCBR	Riachuelo	131.84	265	PFAKE		12 37 10.0	+13			
RCBR				LR	LR					
	comp=Z,700nm,18.0s									
FFD	Franklin Falls	131.93	348	PFAKE		12 37 10.0	+14			
FFD				LR	LR					
	comp=Z,500nm,21.0s									
NCB	Newcomb	131.93	350	PFAKE		12 37 10.0	+14			
NCB				LR	LR					
	comp=Z,900nm,19.0s									
O22A	Kremmling	131.97	23	⇑PKiKP	PKPdf	12 36 56.5	-0.3			
	baz=132									
K30A	Basset	131.99	15	⇓PKiKP	PKPdf	12 36 56.6	+0.2			
	baz=132									
N24A	Carr	132.02	21	⇓PKiKP	PKPdf	12 36 56.4	-0.3			
	baz=132									
M26A	McRoberts Ranc	132.05	19	⇑PKiKP	PKPdf	12 36 56.6	-0.1			
	baz=132									
L28A	Connealy Angus	132.07	17	⇑PKiKP	PKPdf	12 36 56.3	-0.4			
	baz=132									
BELC	Belle Mtn. Jos	132.15	36	⇓PKiKP	PKPdf	12 36 56.8	-0.2			
	baz=132									
PFO	Pinyon Flats O	132.16	37	⇑PKiKP	PKPdf	12 36 56.7	-0.4			
	baz=132									
O23A	Lake Granby, G	132.17	23	⇓PKiKP	PKPdf	12 36 57.2	+0.1			
	baz=132									
M27A	Reverse DX Ran	132.24	18	⇑PKiKP	PKPdf	12 36 56.8	-0.2			
	baz=132									
N25A	Grover	132.31	20	⇑PKiKP	PKPdf	12 36 57.0	-0.3			
	baz=132									
L29A	Maesberg Ranch	132.32	16	⇑PKiKP	PKPdf	12 36 57.2	+0.1			
	baz=132									
P22A	Eagle	132.37	24	⇓PKiKP	PKPdf	12 36 57.1	-0.4			
	baz=132									
ACCN	Adirondack Com	132.40	350	PFAKE		12 37 10.0	+13			
ACCN				LR	LR					
	comp=Z,500nm,22.0s									
U15A	North Rim	132.41	31	⇓PKiKP	PKPdf	12 36 57.7	0.0			
	baz=132									
BORC	Borrego Spring	132.41	37	*e*PKPdf	PKPdf	12 37 00.0	+2.6			
W13A	Hualapai Mount	132.57	33	⇑PKiKP	PKPdf	12 36 58.4	+0.4			
	baz=132									
L30A	Spencer Herefo	132.63	16	⇓PKiKP	PKPdf	12 36 57.8	+0.2			
	baz=132									
SMCO	Snowmass	132.64	24	*ep*PKPdf	pPKPdf	12 37 12.2	+1.1			
SMCO				*e*PP	PP	12 39 15.3	-6.1			
SMCO				*e*SKPdf	SKiKP	12 40 35.7	+3.3			
SMCO				LR	LR					
	comp=Z,600nm,19.0s									
ISCO	Idaho Springs	132.64	23	*e*PP	PP	12 39 19.9	-1.4			
ISCO				LR	LR					
	comp=Z,500nm,21.0s									
ISCO	Idaho Springs	132.64	23	⇑PKiKP	PKPdf	12 36 57.8	-0.2			
	baz=132									
L31A	Butterfield Fa	132.65	15	⇑PKiKP	PKPdf	12 36 57.6	-0.1			
	baz=132									
M28A	Bar X Bar Ranc	132.67	18	⇓PKiKP	PKPdf	12 36 57.9	+0.1			
	baz=132									
MONP	Monument Peak,	132.67	38	⇑PKiKP	PKPdf	12 36 57.8	-0.4			
	baz=132									
BC3	Big Chuckawall	132.72	36	⇓PKiKP	PKPdf	12 36 58.6	+0.5			
	baz=132									
HRV	Adam Dziewonsk	132.83	347	PFAKE		12 37 10.0	+12			
HRV				LR	LR					
	comp=Z,600nm,20.0s									
N27A	Anderson Farm,	132.84	19	⇑PKiKP	PKiKP	12 36 58.8	-0.5			
	baz=133									
OGNE	Ogallala	132.88	18	⇑PKiKP	PKPdf	12 36 58.4	+0.2			
	baz=133									
O25A	Wiggins	132.92	21	⇑PKiKP	PKPdf	12 36 58.4	0.0			
	baz=133									
PDMCI	Parker Dam,Lak	133.01	34	⇓PKiKP	PKPdf	12 36 58.7	+0.2			
	baz=133									
O26A	Horse Wrangler	133.09	20	⇑PKiKP	PKiKP	12 36 59.3	-0.6			
	baz=133									
Y12C	Blythe	133.19	35	⇑PKiKP	PKiKP	12 36 59.7	-0.4			
	baz=133									
N28A	Pribbeno Ranch	133.27	18	⇑PKiKP	PKPdf	12 36 58.7	-0.2			
	baz=133									
M31A	Lambtecht Ranc	133.40	15	⇓PKiKP	PKPdf	12 36 58.7	-0.4			
	baz=133									
O27A	Beecher Island	133.41	19	⇑PKiKP	PKPdf	12 36 59.1	-0.1			
	baz=133									
N29A	Votaw Ranch, W	133.42	17	⇑PKiKP	PKPdf	12 36 58.9	-0.3			
	baz=133									
JFWS	Jewell Farm	133.50	6	PFAKE		12 37 10.0	+11			
JFWS				LR	LR					
	comp=Z,700nm,18.0s									
Q24A	Divide	133.55	23	*e*PKPdf	PKPdf	12 36 59.8	0.0			
Q24A				LR	LR					
	comp=Z,500nm,20.0s									
BGNE	Belgrade	133.55	15	*e*SKPbc	SKPbc	12 40 25.5	+0.7			
BGNE				LR	LR					
	comp=Z,800nm,21.0s									
BGNE	Belgrade	133.55	15	⇓PKiKP	PKPdf	12 36 59.4	0.0			
	baz=133									
MVCO	Mesa Verde	133.63	27	PFAKE		12 37 10.0	+10			
MVCO				LR	LR					
	comp=Z,600nm,20.0s									
MVCO	Mesa Verde	133.63	27	⇓PKiKP	PKPdf	12 36 59.6	-0.3			
	baz=133									
MMNY	Mt. Morris Dam	133.66	354	*e*PKPdf	PKPdf	12 36 60.0	+0.5			
MMNY				LR	LR					
	comp=Z,1μm,20.0s									
P26A	Davis Ranch, A	133.68	21	⇑PKiKP	PKPdf	12 36 59.7	-0.2			
	baz=134									
O28A	Krutsinger Ran	133.70	19	⇑PKiKP	PKPdf	12 36 59.4	-0.3			
	baz=134									
S22A	4UR Ranch, Cre	133.91	25	PFAKE		12 37 10.0	+9.5			
S22A				LR	LR					
	comp=Z,800nm,19.0s									
BINY	Binghamton	133.94	352	PFAKE		12 37 10.0	+10			
BINY				LR	LR					
	comp=Z,700nm,19.0s									
O29A	4D Ranch, Culb	134.01	18	⇑PKiKP	PKPdf	12 37 00.5	+0.2			
	baz=134									
SCIA	State Center	134.09	9	PFAKE		12 37 10.0	+10			
SCIA				LR	LR					
	comp=Z,500nm,20.0s									
N32A	Stulken Farm,	134.12	15	⇓PKiKP	PKPdf	12 37 00.5	0.0			
	baz=134									
O30A	MW Ranch, Wils	134.18	17	⇑PKiKP	PKPdf	12 37 00.6	0.0			
	baz=134									
Z14A	Wintersburg	134.37	34	⇑PKiKP	PKiKP	12 37 01.9	-0.6			
	baz=134									
X16A	Lo Mia Camp, P	134.40	32	⇑PKiKP	PKPdf	12 37 01.9	+0.5			
	baz=134									
O31A	Woolen Ranch,	134.41	16	⇓PKiKP	PKPdf	12 37 00.8	-0.3			
	baz=134									
KSCO	Kaye Shedlock'	134.42	20	*e*PKPdf	PKPdf	12 37 03.2	+2.0			
KSCO				*e*PP	PP	12 39 26.4	-6.0			
KSCO				LR	LR					
	comp=Z,800nm,18.0s									
AAM	Ann Arbor	134.44	359	PFAKE		12 37 10.0	+9.1			
AAM				LR	LR					
	comp=Z,700nm,20.0s									
SDCO	Great Sand Dun	134.46	24	PFAKE		12 37 10.0	+8.5			
SDCO				LR	LR					
	comp=Z,400nm,22.0s									
SDCO	Great Sand Dun	134.46	24	⇑PKiKP	PKPdf	12 37 02.0	+0.5			
	baz=134									
KSPA	Keystone Colle	134.53	351	*e*PKPdf	PKPdf	12 37 03.8	+2.7			
KSPA				LR	LR					
	comp=Z,600nm,20.0s									
W18A	Petrified Fore	134.73	30	PFAKE		12 37 10.0	+8.0			
W18A				LR	LR					
	comp=Z,400nm,20.0s									
W18A	Petrified Fore	134.73	30	⇓PKiKP	PKPdf	12 37 02.6	+0.7			
	baz=134									
PAL	Palisades	134.75	349	PFAKE		12 37 10.0	+8.5			
PAL				LR	LR					
	comp=Z,500nm,20.0s									
R26A	Arlington	134.77	21	⇑PKiKP	PKPdf	12 37 02.3	+0.4			
	baz=134									
ODNJ	Ogdensburg	134.80	350	*e*PKPdf	PKPdf	12 37 03.7	+2.1			
ODNJ				LR	LR					
	comp=Z,700nm,19.0s									
P31A	Stockton	134.99	17	⇑PKiKP	PKPdf	12 37 02.4	+0.3			
	baz=135									
R27A	Eads	135.01	21	⇑PKiKP	PKPdf	12 37 02.4	+0.1			
	baz=135									
Q29A	Oakley	135.08	19	⇓PKiKP	PKPdf	12 37 02.7	+0.4			
	baz=135									
X18A	Snowflake	135.09	31	⇑PKiKP	PKiKP	12 37 03.7	-0.5			
	baz=135									
P32A	Huiting Farm,	135.11	16	⇑PKiKP	PKPdf	12 37 02.0	-0.3			
	baz=135									
Q30A	Quinter	135.24	18	⇑PKiKP	PKPdf	12 37 02.3	-0.3			
	baz=135									
R28A	Tribune	135.30	20	⇓PKiKP	PKPdf	12 37 02.2	-0.7			
	baz=135									
S26A	Kim	135.36	22	⇓PKiKP	PKPdf	12 37 02.5	-0.5			
	baz=135									
T25A	Trinidad	135.42	23	*e*PKPdf	PKPdf	12 37 04.0	+0.8			
T25A				*e*SKPbc	SKPbc	12 40 32.0	+0.7			
T25A				LR	LR					
	comp=Z,600nm,21.0s									
T25A	Trinidad	135.42	23	⇓PKiKP	PKPdf	12 37 02.6	-0.6			
	baz=135									
214A	Organ Pipe Nat	135.48	36	⇓PKiKP	PKPdf	12 37 03.5	+0.3			
	baz=135									
P33A	Williams Farm,	135.52	15	⇓PKiKP	PKPdf	12 37 03.6	+0.5			
	baz=135									
T26A	Comanche Natio	135.70	22	⇑PKiKP	PKPdf	12 37 03.5	-0.2			
	baz=136									
SSPA	Standing Stone	135.73	353	PFAKE		12 37 20.0	+17			
SSPA				LR	LR					
	comp=Z,500nm,20.0s									
Q33A	Connelly Farm,	135.90	15	⇑PKiKP	PKPdf	12 37 04.3	+0.5			
	baz=136									
S28A	Mater	135.95	20	⇑PKiKP	PKPdf	12 37 04.4	+0.3			
	baz=136									
R31A	Burdett	136.08	17	⇓PKiKP	PKPdf	12 37 04.2	0.0			
	baz=136									
KSU1	Kansas State U	136.11	14	PFAKE		12 37 20.0	+16			
KSU1				LR	LR					
	comp=Z,600nm,22.0s									
KSU1	Kansas State U	136.11	14	⇓PKiKP	PKPdf	12 37 04.4	+0.2			
	baz=136									
T27A	Campo	136.13	22	⇑PKiKP	PKPdf	12 37 04.6	+0.1			
	baz=136									
MVL	Millersville	136.15	351	*e*PKPdf	PKPdf	12 37 05.2	+1.0			
MVL				*ep*PKPdf	pPKPdf	12 37 18.2	+1.1			
SFIN	Lafayette	136.28	3	PFAKE		12 37 20.0	+16			
SFIN				LR	LR					
	comp=Z,800nm,21.0s									
T28A	Walsh	136.30	21	⇑PKiKP	PKPdf	12 37 05.1	+0.4			
	baz=136									
TUC	Tucson	136.36	33	*ep*PKPdf	pPKPdf	12 37 23.0	+5.2			
TUC				LR	LR					
	comp=Z,300nm,20.0s									
ANMO	Albuquerque	136.42	27	*ep*PKPdf	pPKPdf	12 37 22.8	+4.7			
ANMO				*e*PP	PP	12 39 44.2	-1.0			
ANMO				LR	LR					
	comp=Z,500nm,20.0s									
ACSO	Alum Creek Sta	136.49	359	PFAKE		12 37 20.0	+15			
ACSO				LR	LR					
	comp=Z,800nm,21.0s									
R33A	Oilander Ranch,	136.50	16	⇑PKiKP	PKPdf	12 37 05.6	+0.7			
	baz=136									
T29A	Hugoton	136.55	20	⇓PKiKP	PKiKP	12 37 06.2	-0.7			
	baz=136									
LAZ	Ladron	136.56	28	*e*PKPdf	PKPdf	12 37 06.8	+1.3			
S31A	Mullinville	136.71	18	⇑PKiKP	PKiKP	12 37 06.9	-0.3			
	baz=136									
LPM	Los Pinos Moun	136.87	28	*e*PKPdf	PKPdf	12 37 07.2	+1.2			
T30A	Plains	136.90	19	⇑PKiKP	PKPdf	12 37 06.1	+0.3			
	baz=137									
BNM	Barren Site	137.01	28	*e*PKPdf	PKPdf	12 37 07.2	+0.9			
R36A	Gordon, Harris	137.11	13	⇑PKiKP	PKPdf	12 37 06.5	+0.4			
	baz=137									
T31A	Randall Ranch,	137.13	18	⇓PKiKP	PKPdf	12 37 06.5	+0.4			
	baz=137									
S33A	Kaszmaul Farm,	137.17	16	⇓PKiKP	PKPdf	12 37 06.6	+0.4			
	baz=137									
V27A	Dan Oppiter Fa	137.24	23	⇑PKiKP	PKPdf	12 37 06.4	-0.2			
	baz=137									
U30A	WK&E Inc. Balk	137.33	20	⇓PKiKP	PKPdf	12 37 06.7	0.0			
	baz=137									
V28A	Channing	137.48	22	⇓PKiKP	PKPdf	12 37 06.9	0.0			
	baz=137									
S35A	Otter Creek Ra	137.53	14	⇑PKiKP	PKPdf	12 37 07.1	+0.3			
	baz=137									
T33A	Patterson Ranc	137.58	17	⇓PKiKP	PKPdf	12 37 06.8	-0.1			
	baz=137									
S36A	Lake Cedric, C	137.66	13	⇑PKiKP	PKPdf	12 37 07.2	+0.2			
	baz=137									
121A	Cookes Peak, D	137.77	30	⇑PKiKP	PKPdf	12 37 07.8	+0.2			
	baz=138									
OLIL	Olney	137.85	5	PFAKE		12 37 20.0	+13			
OLIL				LR	LR					
	comp=Z,700nm,22.0s									
319A	Douglas	137.90	33	⇓PKiKP	PKPdf	12 37 08.0	+0.1			
	baz=138									
W28A	Vega	137.92	22	⇓PKiKP	PKPdf	12 37 07.9	+0.1			
	baz=138									
V30A	Spur Ranch, Mi	138.02	20	⇓PKiKP	PKPdf	12 37 07.7	-0.3			
	baz=138									
CBN	Corbin Frederi	138.06	352	PFAKE		12 37 20.0	+12			
CBN				LR	LR					
	comp=Z,600nm,21.0s									
U33A	Lingo Farm, Me	138.22	17	⇑PKiKP	PKPdf	12 37 08.3	+0.1			
	baz=138									
U34A	Anderson Ranch	138.38	16	PFAKE		12 37 20.0	+12			
U34A				LR	LR					
	comp=Z,1μm,20.0s									
U34A	Anderson Ranch	138.38	16	⇓PKiKP	PKPdf	12 37 08.6	+0.1			
	baz=138									
AMTX	Amarillo	138.45	22	*e*PKPdf	PKPdf	12 37 07.9	-0.8			
AMTX				*ep*PKPdf	pPKPdf	12 37 21.1	-0.5			
AMTX				*e*PP	PP	12 40 01.5	+3.9			
AMTX				LR	LR					
	comp=Z,500nm,20.0s									
WCI	Wyandotte Cave	138.46	3	PFAKE		12 37 20.0	+11			
WCI				LR	LR					
	comp=Z,500nm,20.0s									
V32A	Arapaho	138.60	18	⇓PKiKP	PKPdf	12 37 09.0	0.0			
	baz=138									
JSRW	J. Sargeant Re	138.63	352	*e*PKPdf	PKPdf	12 37 09.7	+0.9			
JSRW				*ep*PKPdf	pPKPdf	12 37 22.3	+0.6			
V33A	Lossen Ranch,	138.74	17	⇓PKiKP	PKPdf	12 37 09.8	+0.7			
	baz=138									
W31A	Holland Ranch,	138.79	20	⇓PKiKP	PKPdf	12 37 09.6	+0.3			
	baz=139									
X29A	Tulia	138.83	22	⇑PKiKP	PKPdf	12 37 09.5	+0.1			
	baz=139									
MSTX	Muleshoe	138.83	24	PFAKE		12 37 20.0	+11			
MSTX				LR	LR					
	comp=Z,400nm,19.0s									
MSTX	Muleshoe	138.83	24	⇑PKiKP	PKPdf	12 37 09.8	+0.3			
	baz=139									
V34A	Guthrie	138.95	17	*e*PKPdf	PKPdf	12 37 09.8	+0.3			
V34A				LR	LR					
	comp=Z,900nm,21.0s									
V34A	Guthrie	138.95	17	⇑PKiKP	PKPdf	12 37 09.7	+0.2			
	baz=139									
W32A	Sentinel	139.08	19	⇓PKiKP	PKPdf	12 37 09.8	0.0			
	baz=139									
Y28A	McKinney Farm

	baz=141							
PLCA	**Paso Flores**	**140.93**	**196**	PKP		**PKPdf**	**12 37 13.8**	**+0.8**
	comp=Z,3.1nm,0.8s,baz=203,slow=11,SNR=4.2							
CNNC	**Cliffs of the**	**141.04**	**352**	PFAKE			12 37 30.0	+17
CNNC				LR	LR			
	comp=Z,1µm,21.0s							
MIAR	**Mount Ida**	**141.16**	**12**	PFAKE			12 37 30.0	+16
MIAR				LR	LR			
	comp=Z,700nm,20.0s							
ABTX	**Abilene, Hawle**	**141.22**	**21**	*e*PKPdf		**PKPdf**	**12 37 14.7**	**+0.9**
ABTX				*e*PP		**PP**	**12 40 14.5**	**0.0**
ABTX				LR	LR			
	comp=Z,600nm,19.0s							
ABTX	**Abilene, Hawle**	**141.22**	**21**	⇑PKiKP		**PKPdf**	**12 37 14.2**	**+0.4**
	baz=141							
CPCT	**Cooper Cave**	**141.28**	**0**	*e*PKPdf		**PKPdf**	**12 37 14.0**	**+0.3**
230A	**Sterling City**	**141.32**	**23**	⇓PKiKP		**PKPdf**	**12 37 14.5**	**+0.5**
	baz=141							
SWET	**Sewanee**	**141.48**	**2**	*e*PKPpre	PKPpre		12 37 08.0	
SWET				*e*PKPdf		**PKPdf**	**12 37 14.8**	**+0.6**
KMSC	**Kings Mountain**	**141.50**	**356**	PFAKE			12 37 30.0	+16
KMSC				LR	LR			
	comp=Z,900nm,21.0s							
KMSC	**Kings Mountain**	**141.50**	**356**	⇓PKiKP		**PKPdf**	**12 37 14.7**	**+0.6**
	baz=141							
231A	**Bronte**	**141.59**	**22**	⇓PKiKP		**PKPdf**	**12 37 14.6**	**+0.1**
	baz=141							
330A	**Mertzon**	**141.72**	**24**	⇓PKiKP		**PKPdf**	**12 37 15.1**	**+0.3**
	baz=142							
134A	**White-Moore Ra**	**141.80**	**19**	⇑PKiKP		**PKPdf**	**12 37 15.2**	**+0.4**
	baz=142							
232A	**Coleman**	**141.88**	**22**	⇑PKiKP		**PKPdf**	**12 37 15.5**	**+0.5**
	baz=142							
OXF	**Oxford**	**141.90**	**7**	PFAKE			12 37 30.0	+15
OXF				LR	LR			
	comp=Z,600nm,20.0s							
135A	**Vickery Place,**	**142.03**	**18**	⇓PKiKP		**PKPdf**	**12 37 15.6**	**+0.4**
	baz=142							
233A	**Rising Star**	**142.03**	**21**	⇓PKiKP		**PKPdf**	**12 37 15.9**	**+0.6**
	baz=142							
331A	**San Angelo**	**142.10**	**23**	⇓PKiKP		**PKPdf**	**12 37 16.0**	**+0.6**
	baz=142							
TX31	**Lajitas Ar. Si**	**142.40**	**29**	*e*PKPpre	PKPpre		12 37 10.9	
LTX	**Lajitas**	**142.40**	**29**	*e*PKHKP	PKPpre		12 37 11.0	
LTX				*e*			12 40 24.8	
LTX	**Lajitas**	**142.40**	**29**	*e*PKPpre	PKPpre		12 37 11.0	
LTX				*e*PP	**PP**		**12 40 24.8**	**+2.7**
TXAR	**Lajitas Array**	**142.40**	**29**	PKhKP	PKPpre		12 37 11.0	
	comp=Z,2.5nm,0.7s,baz=307,slow=1.9,SNR=16							
TXAR				PP	**PP**		**12 40 24.8**	**+2.7**
	comp=Z,1.8nm,0.8s,baz=304,slow=6.4,SNR=4.6							
BDFB	**Brasilia**	**142.42**	**249**	PKP		**PKPdf**	**12 37 16.5**	**+0.1**
	comp=Z,2.4nm,0.5s,baz=70,slow=2.2,SNR=3.6							
WHTX	**Lake Whitney,**	**142.54**	**19**	PFAKE			12 37 30.0	+14
WHTX				LR	LR			
	comp=Z,500nm,18.0s							
SLBS	**Sierra La Lagu**	**143.13**	**42**	*e*PKPdf		PKPbc	12 37 15.5	+1.1
GOGA	**Godfrey**	**143.31**	**359**	*e*PKIKP		**PKPdf**	**12 37 18.5**	**+1.1**
GOGA				MLR	MLR			
	comp=Z,600nm,20.0s							
GOGA	**Godfrey**	**143.31**	**359**	*e*PKPdf		**PKPdf**	**12 37 18.4**	**+1.1**
GOGA				LR	LR			
	comp=Z,600nm,20.0s							
LRAL	**Lakeview Retre**	**143.59**	**4**	PFAKE			12 37 30.0	+12
LRAL				LR	LR			
	comp=Z,600nm,20.0s							
VBMS	**Vicksburg**	**144.00**	**9**	PFAKE			12 37 30.0	+11
VBMS				LR	LR			
	comp=Z,600nm,20.0s							
635A	**Leesville**	**144.82**	**21**	⇓PKiKP		**PKPdf**	**12 37 19.9**	**-0.2**
	baz=145							
733A	**Divot King Ran**	**144.85**	**23**	⇑PKiKP		PKPbc	12 37 19.7	+0.4
	baz=145							
HKT	**Hockley**	**144.94**	**18**	PFAKE			12 37 30.0	+10
HKT				LR	LR			
	comp=Z,1µm,18.0s							
832A	**Faith Ranch, C**	**144.96**	**25**	⇑PKiKP		**PKPdf**	**12 37 20.3**	**-0.1**
	baz=145							
636A	**Smothers Creek**	**144.98**	**20**	⇑PKiKP		**PKPdf**	**12 37 20.6**	**+0.2**
	baz=145							
734A	**La Parita Cree**	**145.02**	**22**	⇑PKiKP		**PKPab**	**12 37 20.1**	**+0.3**
	baz=145							
539A	**Cross D Ranch,**	**145.12**	**16**	⇓PKiKP		**PKPdf**	**12 37 20.8**	**+0.2**
	baz=145							
833A	**Chaparral WMA,**	**145.16**	**24**	⇓PKiKP		**PKPdf**	**12 37 20.7**	**-0.1**
	baz=145							
TIGA	**Tifton**	**145.28**	**359**	⇑PKiKP		**PKPdf**	**12 37 21.0**	**+0.1**
	baz=145							
735A	**Kenedy**	**145.29**	**21**	⇑PKiKP		**PKPdf**	**12 37 22.0**	**+1.0**
	baz=145							
736A	**Circle Diamond**	**145.46**	**20**	⇓PKiKP		**PKPab**	**12 37 22.7**	**+1.2**
	baz=145							
BRAL	**Brewton**	**145.60**	**4**	PFAKE			12 37 30.0	+8.1
BRAL				LR	LR			
	comp=Z,600nm,22.0s							
CPUP	**Villa Florida**	**145.67**	**226**	PKPbc		**PKPdf**	**12 37 21.2**	**-0.4**
	comp=Z,2.7nm,0.9s,baz=98,slow=2.8,SNR=14							
834A	**Tilden**	**145.67**	**23**	⇓PKiKP		**PKPab**	**12 37 23.5**	**+1.2**
	baz=146							
835A	**Beeville**	**145.80**	**22**	⇑PKiKP		**PKPab**	**12 37 23.9**	**+1.2**
	baz=146							
933A	**Laredo**	**145.84**	**24**	⇑PKiKP		**PKPab**	**12 37 23.8**	**+1.0**
	baz=146							
738A	**Farr-Stevens R**	**146.03**	**18**	⇓PKiKP		**PKPab**	**12 37 24.9**	**+1.4**
	baz=146							
934A	**Benavides**	**146.15**	**23**	⇑PKiKP		**PKPab**	**12 37 25.2**	**+1.2**
	baz=146							
KVTX	**Kingsville**	**146.44**	**22**	*e*pPKPdf		pPKPdf	12 37 38.7	+2.8
034A	**Hebbronville**	**146.56**	**24**	⇑PKiKP		**PKPab**	**12 37 26.6**	**+0.9**
	baz=146							
035A	**Encino**	**146.91**	**23**	⇓PKiKP		**PKPab**	**12 37 27.4**	**+0.4**
	baz=147							
035Z	**Hargill**	**147.35**	**24**	⇑PKiKP		**PKPab**	**12 37 28.3**	**-0.3**
	baz=147							
SMRT	**St. Maarten**	**150.16**	**316**	*e*PKPbc		**PKPab**	**12 37 39.5**	**-0.9**
LCO	**Las Campanas**	**151.56**	**205**	*e*PKPab		**PKPab**	**12 37 45.2**	**-0.9**
HUMP	**Col San Antoni**	**151.93**	**321**	*e*PKPbc		**PKPbc**	**12 37 39.4**	**+0.9**
SJG	**San Juan**	**152.15**	**321**	PFAKE			12 37 40.0	+1.1
SJG				LR	LR			
	comp=Z,2µm,21.0s							
LRS	**Lares**	**152.44**	**322**	*e*PKPdf		**PKPdf**	**12 37 33.3**	**+0.5**
CELP	**Cerrillos**	**152.44**	**322**	*e*PKPab		**PKPab**	**12 37 47.2**	**-2.6**
OBIP	**Obispado Ponce**	**152.48**	**322**	*e*PKPab		**PKPab**	**12 37 47.6**	**-2.3**
SDDR	**Presa de Saban**	**154.33**	**331**	PFAKE			12 37 50.0	+6.2
SDDR				LR	LR			
	comp=Z,700nm,20.0s							
PTGA	**Pitinga**	**155.66**	**276**	*e*PKPdf		**PKPdf**	**12 37 38.4**	**+0.9**
PTGA				LR	LR			
	comp=Z,1µm,20.0s							
LVC	**Limon Verde**	**155.90**	**217**	*e*PKPdf		**PKPdf**	**12 37 33.4**	**-4.4**
LVC				*e*PKPab		**PKPab**	**12 38 00.3**	**-4.4**
LVC				*e*pPKPab		**pPKPab**	**12 38 19.2**	**+2.0**
TEIG	**Tepich**	**156.11**	**10**	*e*PKPab		**PKPab**	**12 38 05.1**	**0.0**
TEIG				*e*pPKPab		**pPKPab**	**12 38 16.0**	**-1.7**
TEIG				LR	LR			
	comp=Z,600nm,19.0s							
SAML	**Samuel**	**158.44**	**254**	*e*PKPdf		**PKPdf**	**12 37 41.2**	**+0.3**
SAML				*e*PKPab		**PKPab**	**12 38 20.5**	**+4.8**
SAML				LR	LR			
	comp=Z,400nm,19.0s							
LPAZ	**La Paz**	**159.73**	**230**	PKPab		**PKPab**	**12 38 22.9**	**+1.1**
	comp=Z,3.7nm,0.9s,baz=167,slow=2.5,SNR=5.3							
SDV	**Santo Domingo**	**161.75**	**312**	*e*PKPdf		**PKPdf**	**12 37 42.6**	**-2.3**
SDV				*e*PKPab		**PKPab**	**12 38 31.3**	**+1.1**

ISCJB ***11*** *12:35:51.3±0.8, 32°.97S±0°.05×180°.0W±0°.2, h100km, mb4.0/5, Error ellipse: s-maj=20.3km s-min=6.6km az=8.7*
IDC ***11*** *12:35:51.6±5.9, 32°.86S×179°.83W, h97km±47km, mb3.7/5, mb1 3.8/6, mb1mx3.6/27, mbtmp4.1/6, Error ellipse: s-maj=46.0km s-min=22.7km az=50.0*

ISC 11 12:35:51.9±1.0, 32°.95S±0°.08×179°.8W±0°.2, h100km, n27, σ1§37/31, mb4.0/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.87**	**198**	*e*PN	**Pn**	**12 37 04.1**	**+1.4**
MXZ				*e*SN	**Sn**	**12 37 58.1**	**+0.3**
WMGZ	**Waiomatatini S**	**5.08**	**196**	*e*PN	**Pn**	**12 37 07.5**	**+1.9**
WMGZ				*e*SN	**Sn**	**12 38 03.0**	**-0.1**
HAZ	**Te Kaha**	**5.20**	**202**	*e*PN	**Pn**	**12 37 09.4**	**+2.2**
HAZ				SN	**Sn**	**12 38 07.3**	**+1.4**
PUZ	**Puketiti**	**5.36**	**197**	PN	**Pn**	**12 37 10.4**	**+0.9**
PUZ				*e*SN	**Sn**	**12 38 07.8**	**-2.1**
OPRZ	**Ohinepanea**	**5.73**	**210**	*e*PN	**Pn**	**12 37 17.0**	**+2.6**
MWZ	**Matawai**	**5.81**	**201**	PN	**Pn**	**12 37 15.8**	**+0.2**
MWZ				*e*SN	**Sn**	**12 38 19.0**	**-1.8**
URZ	**Urewera**	**5.88**	**205**	P	**Pn**	**12 37 16.7**	**+0.3**
	2.4nm,0.3s,baz=272,slow=4.9,SNR=25						
URZ				S	**Sn**	**12 38 19.9**	**-2.5**
	7.1nm,0.3s,baz=172,slow=24,SNR=11						
URZ	**Urewera**	**5.88**	**205**	PN	**Pn**	**12 37 16.8**	**+0.3**
URZ				*e*SN	**Sn**	**12 38 22.3**	**-0.1**
SNGZ	**Shannon Statio**	**6.28**	**201**	*e*PN	**Pn**	**12 37 21.7**	**-0.2**
KNZ	**Kokohu**	**6.41**	**198**	*e*PN	**Pn**	**12 37 22.3**	**-1.3**
ALRZ	**Allen Road**	**6.43**	**208**	*e*PN	**Pn**	**12 37 26.7**	**+2.7**
NMHZ	**Naumai**	**6.74**	**203**	*e*PN	**Pn**	**12 37 27.3**	**-0.9**
BKZ	**Black Stump Fm**	**6.90**	**205**	*e*PN	**Pn**	**12 37 28.9**	**-1.6**
PXZ	**Pawanui**	**7.57**	**200**	*e*PN	Pn	12 37 36.4	-3.0
MRZ	**Mangatainoka R**	**8.55**	**204**	*e*PN	Pn	12 37 48.2	-4.7
RPZ	**Rata Peaks**	**12.93**	**211**	P	Pn	12 38 46.8	-4.9
	0.3nm,0.3s,baz=0.0,slow=11,SNR=4.9						
RPZ				S	Sn	12 40 57.3	-17
	0.3nm,0.3s,baz=228,slow=19,SNR=4.7						
CTA	**Charters Tower**	**32.83**	**284**	P	**P**	**12 42 16.3**	**+0.2**
	1.3nm,0.5s,baz=95,slow=11,SNR=2.5						
ASAR	**Alice Springs**	**41.54**	**271**	P	**P**	**12 43 28.9**	**-0.8**
	0.4nm,0.3s,baz=111,slow=7.8,SNR=10						
WRA	**Warramunga Arr**	**42.76**	**276**	P	**P**	**12 43 39.0**	**-0.7**
	1.1nm,0.5s,baz=116,slow=7.8,SNR=28						
QSPA	**South Pole Qui**	**57.17**	**180**	P	**P**	**12 45 29.1**	**+1.0**
	1.4nm,0.5s,baz=34,slow=1.3,SNR=11						
SNAA	**Sanae**	**75.65**	**179**	P	**P**	**12 47 26.2**	**+0.6**
VNA3	**Neumayer Olymp**	**75.87**	**177**	P	**P**	**12 47 26.7**	**-0.1**
VNA2	**Neumayer--Watz**	**76.28**	**177**	P	**P**	**12 47 29.6**	**+0.5**
	baz=177,slow=5.0						
PETK	**Petropavlovsk-**	**87.91**	**347**	P	**P**	**12 48 30.2**	**+0.4**
	1.7nm,0.8s,baz=129,slow=5.7,SNR=4.9						
FINES	**FINESS Array B**	**146.96**	**337**	PKPbc	**PKPbc**	**12 55 20.9**	**-1.1**
	1.1nm,0.5s,baz=54,slow=4.9,SNR=7.1						
NOA	**NORSAR Array B**	**150.99**	**349**	PKPbc	**PKPbc**	**12 55 30.8**	**-1.5**
	0.4nm,0.8s,baz=12,slow=4.0,SNR=3.3						
TORD	**Torodi Ar. Bea**	**160.25**	**184**	PKPab	**PKPab**	**12 56 20.7**	**-0.1**
	0.5nm,0.5s,baz=173,slow=4.0,SNR=7.0						

IDC ***11*** *12:37:34.4±2.9, 54°.18N×87°.33E, h0km, mb1 3.1/2, mb1mx2.9/30, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=23.1km s-min=16.0km az=61.0*
NNC ***11*** *12:37:38.6±5.9, 54°.04N×87°.08E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=48.0km s-min=39.0km az=177.0*

ISC 11 12:37:35.8±4.4, 54°.4N±0°.2×87°.4E±0°.2, h35km, n8, σ1§51/12, 5C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.58**	**253**	*i*		12 46 30.0	
	baz=80,slow=326,SNR=3.4						
ZALV	**Zalesovo Beam**	**1.58**	**253**	Pg	**Pn**	**12 38 02.0**	**+0.7**
	5.6nm,0.3s,baz=82,slow=16,SNR=35						
ZALV				Lg	Lg	12 38 21.8	
	3.5nm,0.3s,baz=79,slow=25,SNR=12						
KURK	**Kurchatov**	**6.51**	**239**	⇓Pn	**Pn**	**12 39 10.6**	**+1.6**
	1.8nm,1.0s						
KURK				⇑Sn	**Sn**	**12 40 22.6**	**+0.7**
	1.4nm,0.6s						
KURK				⇑Lg	Lg	12 40 55.9	
	3.5nm,0.7s						
KURBB	**Kurchatov Arra**	**6.61**	**238**	⇑Pn	**Pn**	**12 39 11.7**	**+1.3**
	0.9nm,0.3s						
KURBB				⇑Sn	**Sn**	**12 40 25.7**	**+1.2**
	8.6nm,0.5s						
KURBB				⇓Lg	Lg	12 40 53.4	
	9.3nm,0.6s						
KURBB	**Kurchatov Arra**	**6.61**	**238**	Pn	**Pn**	**12 39 11.2**	**+0.8**
	0.2nm,0.3s,baz=56,slow=14,SNR=4.8						
KURBB				Sn	**Sn**	**12 40 24.7**	**+0.3**
	0.1nm,0.3s,baz=54,slow=21,SNR=3.5						
KURBB				Lg	Lg	12 40 59.0	
	0.1nm,0.3s,baz=60,slow=33,SNR=4.7						
MK31	**Makanchi Array**	**8.30**	**205**	⇓Pn	**Pn**	**12 39 34.9**	**+1.2**
	0.5nm,0.6s,baz=39,slow=16,SNR=6.2						
MK31				⇓Sn	**Sn**	**12 41 05.6**	**-0.6**
	0.5nm,0.5s,baz=39,slow=59,SNR=5.4						
MK31				⇑Lg	Lg	12 41 48.1	
	6.5nm,1.1s,baz=1.7,slow=35,SNR=3.8						
MKAR	**Makanchi Array**	**8.30**	**205**	Pn	**Pn**	**12 39 33.6**	**-0.1**
	0.2nm,0.3s,baz=43,slow=15,SNR=5.4						
MKAR				Sn	**Sn**	**12 41 04.6**	**-1.6**
	0.2nm,0.3s,baz=17,slow=26,SNR=5.0						
MKAR				Lg	Lg	12 41 49.2	
	0.1nm,0.3s,baz=16,slow=28,SNR=3.2						
BVAR	**Borovoye Array**	**10.17**	**269**	Pn	Pn	12 40 03.6	+4.5
	0.3nm,0.3s,baz=84,slow=13,SNR=2.7						
BVAR				Sn	**Sn**	**12 41 48.9**	**-2.9**
	0.1nm,0.3s,baz=75,slow=24,SNR=6.3						

WEL 11 12:38:17.2±0.3, 38°.07S×176°.43E, h124km±2km, ML3.6/6, 2C, Error ellipse: s-maj=2.1km s-min=1.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPRZ	**Ohinepanea**	**0.24**	**24**	⇑PN	Pn	12 38 34.5	+0.1
RRRZ	**Republican Roa**	**0.28**	**167**	⇑PN	Pn	12 38 34.7	0.0
PRRZ	**Plateau Road**	**0.43**	**184**	PN	Pn	12 38 35.3	0.0
ALRZ	**Allen Road**	**0.50**	**188**	PN	Pn	12 38 35.6	-0.1
URZ	**Urewera**	**0.57**	**110**	PN	Pn	12 38 35.6	-0.4
URZ				SN	Sn	12 38 50.3	+0.1
URZ				AML	AML	12 38 53.9	
KUTZ	**Kaahu Road**	**0.64**	**228**	*e*PN	Pn	12 38 36.5	0.0
HATZ	**Hinemaiaia**	**0.87**	**198**	PN	Pn	12 38 38.6	+0.2
MWZ	**Matawai**	**0.91**	**108**	PN	Pn	12 38 38.8	+0.1
MWZ				SN	Sn	12 38 55.5	+0.4
MWZ				AML	AML	12 39 01.8	
MWZ				AML	AML	12 39 02.4	
MWZ				AML	AML	12 39 02.6	
RAHZ	**Arahi**	**0.99**	**149**	PN	Pn	12 38 40.2	+0.6
SNGZ	**Shannon Statio**	**1.01**	**135**	PN	Pn	12 38 40.4	+0.7
NMHZ	**Naumai**	**1.07**	**164**	PN	Pn	12 38 41.2	+0.8
BKZ	**Black Stump Fm**	**1.10**	**178**	PN	Pn	12 38 40.6	-0.1
BKZ				SN	Sn	12 38 58.4	-0.1
BKZ				AML	AML	12 39 07.0	
HAZ	**Te Kaha**	**1.11**	**74**	PN	Pn	12 38 41.3	+0.6
RIGZ	**Rimuhau**	**1.23**	**122**	PN	Pn	12 38 42.3	+0.4
ARHZ	**Aropaoanui**	**1.27**	**160**	PN	Pn	12 38 43.0	+0.6
HIZ	**Hauiti**	**1.32**	**250**	PN	Pn	12 38 42.9	0.0
KNZ	**Kokohu**	**1.36**	**135**	PN	Pn	12 38 43.6	+0.3
WHVZ	**Whangaehu Hut**	**1.38**	**208**	PN	Pn	12 38 44.1	+0.3
MCHZ	**McNeill Hill**	**1.39**	**171**	*e*PN	Pn	12 38 43.9	+0.2
WNVZ	**Wahianoa**	**1.42**	**207**	PN	Pn	12 38 44.4	+0.2
PUZ	**Puketiti**	**1.44**	**91**	SN	Sn	12 39 04.0	-0.8
PUZ				AML	AML	12 39 13.9	
MOVZ	**Moawhango**	**1.44**	**201**	PN	Pn	12 38 44.0	-0.3
BHHZ	**Black Hill Sta**	**1.45**	**191**	PN	Pn	12 38 43.9	-0.5
PKVZ	**Pokaka**	**1.49**	**214**	PN	Pn	12 38 45.1	+0.3
MTVZ	**Mangateitei**	**1.52**	**209**	*e*PN	Pn	12 38 44.3	-0.8
MXZ	**Matakaoa Point**	**1.57**	**72**	PN	Pn	12 38 45.7	0.0
MXZ				AML	AML	12 39 17.0	
MXZ				AML	AML	12 39 18.4	
KRHZ	**Kereru**	**1.58**	**182**	PN	Pn	12 38 45.3	-0.5
CKHZ	**Cape Kidnapper**	**1.67**	**163**	PN	Pn	12 38 46.9	+0.1
VRZ	**Vera Road**	**1.69**	**231**	PN	Pn	12 38 47.2	+0.2
KAHZ	**Kahuranaki**	**1.76**	**169**	*e*PN	Pn	12 38 47.7	-0.3
PXZ	**Pawanui**	**1.99**	**170**	PN	Pn	12 38 50.0	-0.7
TSZ	**Takapari Road**	**2.03**	**190**	AML	AML	12 38 51.1	
TSZ				AML	AML	12 39 24.8	
WAZ	**Wanganui**	**2.03**	**213**	PN	Pn	12 38 50.6	-0.7
PRHZ	**Porangahau**	**2.21**	**176**	*e*PN	Pn	12 38 52.7	-0.7
DVHZ	**Dannevirke**	**2.24**	**185**	PN	Pn	12 38 52.1	-1.7
ANWZ	**Angora Road**	**2.39**	**179**	*e*PN	Pn	12 38 54.3	-1.4
PRWZ	**Pori Road**	**2.51**	**188**	*e*PN	Pn	12 38 55.9	-1.4
BFZ	**Birch Farm**	**2.62**	**183**	*e*PN	Pn	12 38 56.8	-1.9
MRZ	**Mangatainoka R**	**2.68**	**194**	PN	Pn	12 38 56.7	-2.7
TIWZ	**Tintock**	**2.74**	**189**	PN	Pn	12 38 58.2	-2.1
HOWZ	**Holdsworth Sta**	**2.92**	**194**	*e*PN	Pn	12 38 59.8	-2.7
OGWZ	**Otaki Gorge**	**2.92**	**199**	PN	Pn	12 38 59.9	-2.6
TRWZ	**Traveller**	**3.38**	**190**	PN	Pn	12 39 05.5	-3.1
WEL	**Wellington**	**3.46**	**201**	PN	Pn	12 39 06.1	-3.6
MQZ	**McQueen's Vall**	**6.32**	**206**	PN	Pn	12 39 41.3	-6.6

IDC ***11*** *13:04:51.1±0.6, 35°.62S×72°.93W, h0km, mb4.3/13, mb1 4.5/15, mb1mx4.4/25, mbtmp4.3/15, ML3.5/3, MS4.1/3, Ms1 4.0/3, ms1mx3.6/20, Error ellipse: s-maj=22.8km s-min=14.3km az=100.0*

ISCJB ***11*** *13:04:52.5±0.2, 35°.66S±0°.03×73°.02W±0°.03, h17km, mb4.5/27, MS4.3/2, Error ellipse: s-maj=4.4km s-min=3.9km az=10.2*
GUC ***11*** *13:04:53.8±0.7, 35°.71S×73°.01W, h29km±10km, ML5.2*
NEIC ***11*** *13:04:56.5±0.3, 35°.60S×72°.93W, h35km, mb4.5/13, Error ellipse: s-maj=10.0km s-min=6.9km az=88.0*
NEIC Felt [IV] at Cauquenes, Chanco and Constitucion; [III] at Linares, Longavi, San Javier and Talca; [II] at Curico.

ISC 11 13:04:53.7±0.5, 35°.68S±0°.04×73°.01W±0°.06, h17km, n178, σ0§82/179, mb4.6/27, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNCH	**Linares**	**1.15**	**99**	⇓*e*P	**Pn**	**13 05 14.2**	**-0.9**
LNCH				*e*S	**Sb**	**13 05 29.4**	**-0.5**
TALC	**Talca**	**1.15**	**76**	*e*P	**Pn**	**13 05 13.8**	**-1.3**
TALC				*e*S	**Sb**	**13 05 29.0**	**-0.9**
CCSP	**San Pedro de C**	**1.16**	**184**	*e*P	**Pn**	**13 05 13.7**	**-1.5**
CCSP				*e*S	**Sb**	**13 05 28.8**	**-1.3**
NICH	**Los Niches**	**1.60**	**65**	*e*P	**Pn**	**13 05 21.5**	**+0.3**
NICH				*e*S	**Sn**	**13 05 42.5**	**+1.0**
PCH	**Pirque**	**2.91**	**46**	*e*P	**Pn**	**13 05 40.9**	**+1.6**
SAN	**Santiago**	**2.95**	**42**	*e*P	**Pn**	**13 05 41.9**	**+2.1**
CLCH	**Cerro Calan**	**3.06**	**42**	*e*P	**Pn**	**13 05 41.8**	**+0.4**
CLCH				*e*S	**Sb**	**13 06 23.6**	**-1.2**
CLCH				AML	AML	13 06 34.3	
	comp=N,6µm,0.7s						
CLCH				AML	AML	13 06 34.8	
	comp=N,7µm,0.6s						
PEL	**Peldehue**	**3.18**	**38**	*e*P	**Pn**	**13 05 43.6**	**+0.7**
PEL				AML	AML	13 06 41.8	
	comp=N,4µm,0.9s						
PLCA	**Paso Flores**	**5.40**	**160**	Pn	**Pn**	**13 06 14.8**	**+1.3**
	comp=N,2.2nm,0.3s,baz=333,slow=10,SNR=31						
PLCA				Lg	Lg	13 07 37.3	
	comp=N,7.9nm,0.3s,baz=261,slow=17,SNR=3.4						
PLCA				LR	LR	13 08 33.1	
	comp=N,452nm,19.6s,baz=328,slow=41						
PLCA	**Paso Flores**	**5.40**	**160**	*e*Pn	**Pn**	**13 06 14.7**	**+1.1**
	comp=N,42nm,0.6s						
PLCA				Lg	Lg	13 07 37.3	
CFAA	**Coronel Fontan**	**5.69**	**46**	Pn	**Pn**	**13 06 17.3**	**-0.2**
	comp=N,0.3nm,0.3s,baz=218,slow=12,SNR=21						
CFAA				Sn	**Sn**	**13 07 22.8**	**+0.4**
	comp=N,0.7nm,0.3s,baz=232,slow=17,SNR=3.1						
LCO	**Las Campanas**	**6.93**	**17**	*e*Pn	**Pn**	**13 06 32.8**	**-2.0**
	comp=N,26nm,0.6s						
LCO				*e*Sg	Sb	13 08 24.2	+7.8
TRQA	**Tornquist**	**9.15**	**108**	*e*Pn	**Pn**	**13 07 06.8**	**+1.9**
	comp=N,22nm,0.6s						
LVC	**Limon Verde**	**13.50**	**16**	Pn	**Pn**	**13 08 04.5**	**-0.3**
	comp=N,11nm,0.3s,baz=218,slow=12,SNR=2.5						
LVC	**Limon Verde**	**13.50**	**16**	Pn	**Pn**	**13 08 07.0**	**+2.2**
CPUP	**Villa Florida**	**16.34**	**60**	Pn	**Pn**	**13 08 42.3**	**0.0**
	comp=N,0.0nm,0.3s,baz=245,slow=15,SNR=2.1						
USHA	**Ushuaia**	**19.41**	**172**	P	**Pn**	**13 09 22.7**	**+2.7**
	comp=N,0.3nm,0.3s,baz=8.1,slow=14,SNR=2.9						
LPAZ	**La Paz**	**19.80**	**14**	P	**Pn**	**13 09 25.6**	**0.0**
	comp=N,0.5nm,0.3s,baz=176,slow=7.8,SNR=26						
LPAZ	**La Paz**	**19.80**	**14**	*e*P	**Pn**	**13 09 25.5**	**-0.1**
	comp=N,22nm,1.1s						
SIV	**San Ignacio**	**22.32**	**32**	P	**P**	**13 09 49.6**	**-1.0**
	comp=N,29nm,1.0s,baz=222,slow=9.1,SNR=54						
SIV				LR	LR	13 20 05.3	
	comp=N,416nm,19.3s,baz=253,slow=41						
BDFB	**Brasilia**	**29.95**	**55**	P	**P**	**13 10 59.4**	**-1.8**
	comp=N,4.3nm,0.6

TUL1	Leonard	74.32	341	P	P	13 16 30.1	+0.1
	baz=75						
W33A	Caddo, Fort Co	74.37	339	P	P	13 16 31.4	+1.1
	baz=75						
V35A	Meyer Ranch, C	74.47	340	P	P	13 16 30.6	-0.2
	baz=75						
W32A	Sentinel	74.58	338	P	P	13 16 32.1	+0.6
	baz=75						
MSTX	Muleshoe	74.67	335	*e*P	P	13 16 30.8	-1.5
	comp=N,5.3nm,0.8s						
V34A	Guthrie	74.73	340	P	P	13 16 32.7	+0.3
	baz=75						
W31A	Holland Ranch,	74.85	337	P	P	13 16 33.8	+0.6
	baz=75						
AMTX	Amarillo	75.13	336	*e*P	P	13 16 35.0	+0.2
	comp=N,10nm,0.9s						
AMTX	Amarillo	75.13	336	P	P	13 16 35.4	+0.5
	baz=75						
T36A	Boggs Farm, Ca	75.43	341	P	P	13 16 36.7	+0.3
	baz=76						
U33A	Lingo Farm, Me	75.46	339	P	P	13 16 36.9	+0.3
	baz=76						
T35A	Sooner Cattle	75.46	341	P	P	13 16 37.0	+0.4
	baz=76						
T34A	McClaskey Farm	75.75	340	P	P	13 16 39.0	+0.7
	baz=76						
LIC	Lamto	76.06	72	*e*P	P	13 16 39.7	-0.9
	comp=N,52nm,1.3s						
T33A	Patterson Ranc	76.10	339	P	P	13 16 40.9	+0.7
	baz=76						
S35A	Otter Creek Ra	76.13	341	P	P	13 16 41.2	+0.8
	baz=76						
U30A	WK&E Inc. Balk	76.31	337	P	P	13 16 42.6	+1.1
	baz=77						
TIC	Toumodi	76.33	71	*e*P	P	13 16 41.7	-0.4
	comp=N,9.4nm,0.2s						
KIC	Kosan Boka	76.36	72	*e*P	P	13 16 42.1	-0.2
	comp=N,32nm,1.0s						
DBIC	Dimbokro	76.47	71	P	P	13 16 42.4	-0.5
	comp=N,4.7nm,0.7s,baz=213,slow=5.7,SNR=7.0						
ANMO	Albuquerque	76.89	332	*e*P	P	13 16 45.8	+0.8
	comp=N,2.9nm,1.0s						
U27A	Thompson Grove	76.91	336	P	P	13 16 45.9	+0.8
	baz=77						
S30A	Montezuma	77.27	338	P	P	13 16 47.8	+0.9
	baz=78						
T28A	Walsh	77.32	337	P	P	13 16 48.0	+0.8
	baz=78						
S28A	Manter	77.67	337	P	P	13 16 50.3	+1.1
	baz=78						
T26A	Comanche Natio	77.86	335	P	P	13 16 51.1	+0.7
	baz=78						
T25A	Trinidad	78.10	335	P	P	13 16 52.8	+1.0
	baz=78						
S26A	Kim	78.22	336	P	P	13 16 53.3	+1.0
	baz=78						
R28A	Tribune	78.33	337	P	P	13 16 53.5	+0.7
	baz=79						
Q30A	Quinter	78.43	339	P	P	13 16 54.0	+0.7
	baz=79						
R27A	Eads	78.60	336	P	P	13 16 54.9	+0.6
	baz=79						
R26A	Arlington	78.83	336	P	P	13 16 56.5	+0.8
	baz=79						
SDCO	Great Sand Dun	79.03	334	*e*P	P	13 16 57.9	+0.9
	comp=N,1.9nm,0.3s						
SDCO	Great Sand Dun	79.03	334	P	P	13 16 58.0	+1.0
	baz=79						
Q24A	Divide	80.00	335	P	P	13 17 03.4	+1.2
	baz=80						
ISCO	Idaho Springs	80.91	335	P	P	13 17 08.1	+1.0
	baz=81						
O23A	Lake Granby, G	81.38	335	P	P	13 17 10.7	+1.1
	baz=82						
O22A	Kremmling	81.55	335	P	P	13 17 11.3	+0.8
	baz=82						
ECSD	EROS Data Cent	81.91	343	*e*P	P	13 17 11.2	-0.8
	comp=N,12nm,0.9s						
ECSD	EROS Data Cent	81.91	343	P	P	13 17 12.1	+0.2
	baz=82						
N22A	Wattenberg Ran	82.09	335	P	P	13 17 14.5	+1.2
	baz=82						
J29A	Okreek	82.56	340	P	P	13 17 16.0	+0.6
	baz=83						
I28A	Midland	83.34	340	P	P	13 17 20.6	+1.1
	baz=84						
R11A	Troy Canyon, C	83.54	328	P	P	13 17 22.4	+1.6
	baz=84						
K23A	Bowen Ranch, D	83.56	336	P	P	13 17 21.6	+0.9
	baz=84						
H29A	Onida	83.66	341	P	P	13 17 21.3	+0.2
	baz=84						
DUG	Dugway, Tooele	83.93	330	*e*P	P	13 17 23.3	+0.6
	comp=N,7.6nm,1.2s						
DUG	Dugway, Tooele	83.93	330	P	P	13 17 23.5	+0.9
	baz=84						
K21A	Alcova	83.99	335	P	P	13 17 23.4	+0.4
	baz=84						
I25A	Rochford	84.10	338	P	P	13 17 23.9	+0.3
	baz=84						
RAO	Raoul Island	84.31	238	LR	LR	13 46 24.1	
	comp=N,400nm,20.6s,baz=84,slow=30						
J22A	Midwest	84.42	336	P	P	13 17 24.8	-0.3
	baz=85						
HWUT	Hardware Ranch	84.65	332	*e*P	P	13 17 26.5	+0.1
	comp=N,3.1nm,0.9s						
NVAR	Mina Array Bea	84.82	326	P	P	13 17 27.7	+0.3
	comp=N,2.2nm,0.8s,baz=144,slow=6.2,SNR=5.5						
I22A	9 Mile Ranch,	84.85	336	P	P	13 17 26.9	-0.3
	baz=85						
J20A	Shoshoni	84.91	335	P	P	13 17 28.2	+0.7
	baz=85						
PDAR	Pinedale Array	84.91	334	P	P	13 17 28.1	+0.4
	comp=N,0.4nm,0.4s,baz=116,slow=5.1,SNR=4.9						
G26A	Maurine	84.93	340	P	P	13 17 27.8	+0.3
	baz=85						
H24A	Dirks Ranch, A	85.01	338	P	P	13 17 28.1	+0.1
	baz=85						
I21A	Big Trails, Te	85.05	336	P	P	13 17 28.1	-0.1
	baz=85						
J19A	Crowheart	85.17	334	P	P	13 17 28.8	-0.1
	baz=86						
F27A	Lemmon	85.30	340	P	P	13 17 29.5	+0.2
	baz=86						
G24A	Alzada	85.50	338	P	P	13 17 30.6	+0.3
	baz=86						
TOA0	Torodi Ar. Sit	85.53	70	*e*P	P	13 17 30.0	-1.1
TORD	Torodi Ar. Bea	85.53	70	P	P	13 17 30.4	-0.7
	comp=N,3.4nm,0.8s,baz=247,slow=3.9,SNR=19						
H21A	Big Horn, Sher	85.69	336	P	P	13 17 31.4	-0.1
	baz=86						
F25A	Bowman	85.76	339	P	P	13 17 31.8	+0.2
	baz=86						
I19A	Meeteetse	85.82	335	P	P	13 17 32.2	0.0
	baz=86						
H20A	Greybull	85.88	336	P	P	13 17 32.2	-0.1
	baz=86						
F24A	Ekalaka	85.97	339	P	P	13 17 32.9	+0.2
	baz=86						
G22A	Birney	85.98	337	P	P	13 17 32.5	-0.3
	baz=86						
AGMN	Agassiz Nation	86.06	345	P	P	13 17 33.0	0.0
	baz=86						
C30A	Mose, Pekin	86.09	343	P	P	13 17 33.5	+0.3
	baz=86						
G21A	Lodge Grass	86.28	337	P	P	13 17 34.0	-0.2
	baz=87						
I17A	Pilgrim Ck.	86.28	334	P	P	13 17 35.3	+0.8
	baz=87						
D26A	Manning	86.48	340	P	P	13 17 35.3	+0.2
	baz=87						
MDND	Maddock	86.50	342	P	P	13 17 35.5	+0.4
	baz=87						
G20A	Bridger	86.60	336	P	P	13 17 35.6	-0.3
	baz=87						
H18A	Shoshone NF, C	86.62	335	P	P	13 17 36.3	+0.2
	baz=87						
B30A	Myrvik Farm, E	86.75	343	P	P	13 17 36.3	-0.1
	baz=87						
D25A	Fairfield	86.83	340	P	P	13 17 37.2	+0.3
	baz=87						
B29A	Wagenman Farm,	87.01	343	P	P	13 17 37.9	+0.2
	baz=87						
A30A	Hoffart Farm,	87.21	344	P	P	13 17 38.5	-0.1
	baz=88						
D23A	Lindsay	87.40	339	P	P	13 17 39.6	-0.1
	baz=88						
E21A	Keefer Ranch,	87.40	337	P	P	13 17 40.1	+0.5
	baz=88						
A29A	Manning Farm,	87.41	343	P	P	13 17 40.1	+0.5
	baz=88						
HLID	Hailey	87.42	331	P	P	13 17 41.0	+1.0
	baz=88						
C24A	Savage	87.49	339	P	P	13 17 40.9	+0.9
	baz=88						
E20A	Meyer Farm, Mu	87.71	337	P	P	13 17 41.3	+0.2
	baz=88						
B25A	Knox Farm, Ray	87.81	340	P	P	13 17 42.3	+0.8
	baz=88						
E19A	Rath Farm, Rou	87.88	336	P	P	13 17 42.0	0.0
	baz=88						
ULM	Lac du Bonnet	87.92	346	P	P	13 17 41.4	-0.6
	comp=N,4.5nm,0.8s,baz=172,slow=5.4,SNR=10						
ULM	Lac du Bonnet	87.92	346	*e*P	P	13 17 41.3	-0.6
	comp=N,2.8nm,0.7s						
C23A	Lambert	87.96	339	P	P	13 17 42.5	+0.2
	baz=88						
YKA	Yellowknife Ar	103.39	342	Pdiff	Pdif	13 18 51.1	-1.1
	comp=N,0.1nm,0.6s,baz=140,slow=4.1,SNR=4.4						
WRA	Warramunga Arr	118.91	210	PKP	PKPdf	13 23 40.4	-1.4
	comp=N,0.9nm,1.2s,baz=145,slow=1.3,SNR=4.7						
H11S2	WAKE ISLAND Hyl	24.94	269	T	T	15 41 25.6	
	baz=118						
H11S1	WAKE ISLAND Hyl	24.95	269	T	T	15 41 27.8	
	baz=118						
H11S3	WAKE ISLAND Hyl	24.96	269	T	T	15 41 27.1	
	baz=118						
ABKAR	Akbulak array	143.33	53	*e*PKPpre	PKPpre	13 24 22.8	
PSI	Prapat	146.44	165	PKPbc	PKPdf	13 24 33.2	0.0
	comp=N,2.8nm,0.6s,baz=220,slow=7.9,SNR=4.1						
BVAR	Borovoye Array	149.04	44	PKPbc	PKPbc	13 24 39.2	-1.1
	comp=N,1.7nm,0.6s,baz=276,slow=4.0,SNR=9.8						
AAK	Ala-Archa	153.97	65	PKPab	PKPab	13 25 05.1	-0.6
	comp=N,1.3nm,0.5s,baz=219,slow=6.5,SNR=4.9						
KURBB	Kurchatov Arra	154.63	45	PKPbc	PKPbc	13 24 51.3	-1.8
	comp=N,0.4nm,0.3s,baz=284,slow=2.2,SNR=6.1						
KURK	Kurchatov	154.64	45	PKPbc	PKPbc	13 24 51.3	-1.9
ZALV	Zalesovo Beam	156.07	33	PKPab	PKPab	13 25 13.7	-0.3
	comp=N,2.6nm,0.7s,baz=301,slow=5.2,SNR=9.5						

DJA ***11*** *13:28:30.1±1.4,5˚N±3˚×9˚5E±1˚5,h10km,M4.7/3,mb5.2/1, mB5.2/1,MLv4.5/3,Mw(mB)4.6/1*
MOS ***11*** *13:28:31.4±1.1,4˚.72N×95˚.17E,h56km,mb4.8/22,Error ellipse: s-maj=13.7km s-min=5.8km az=115.3*
ISCJB ***11*** *13:28:31.3±0.7,4˚.57N±0˚.04×95˚.02E±0˚.05,h59km±6km, mb4.5/46,MS3.8/13,Error ellipse: s-maj=8.6km s-min=4.9km az=146.1*
NEIC ***11*** *13:28:32.5±0.3,4˚.61N×95˚.04E,mb4.6/11,Error ellipse: s-maj=11.3km s-min=5.3km az=49.0*
NEIC Felt at Banda Aceh.
BJI ***11*** *13:28:32.8,4˚.50N×95˚.20E,h84km,mb4.8/30,mB4.8/17, Ms4.2/11,Ms7 4.0/8*
IDC ***11*** *13:28:33.1±0.9,4˚.72N×95˚.10E,h56km±7km,mb4.0/17, mb1 4.2/18,mb1mx4.0/38,mbtmp4.3/18,MS3.7/14, Ms1 3.8/14,ms1mx3.4/49,Error ellipse: s-maj=24.1km s-min=13.2km az=40.0*

ISC 11 13:28:34.1±0.5,4˚.59N±0˚.05×94˚.99E±0˚.05, h74km±3km, h74km:pP-P,n175,σ1s79/190,mb4.6/45,19C-7D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BSI	Banda Aceh	0.95	19	P		Pn		13 28 48.9	-3.4
BSI				S		Sn		13 29 01.1	-4.7
LHMI	Lhok Sumawe	2.05	72	P		Pn		13 29 04.3	-2.2
LHMI				S		Sn		13 29 21.6	-10
LHMI	Lhok Sumawe	2.05	72	*e*Pn		Pn		13 29 04.3	-2.2
LHMI				*e*Sn		Sn		13 29 19.1	-12
SNSI	Sinabang, Aceh	2.54	148	P		Pn		13 29 10.4	-2.8
TSI	Tuntungan	3.73	107	P		Pn		13 29 28.0	-1.2
GSI	Gunungsitoli	4.16	142	P		Pn		13 29 32.4	-2.8
GSI	Gunungsitoli	4.16	142	*e*Pn		Pn		13 29 32.5	-2.6
PSI	Prapat	4.31	114	P		Pn		13 29 37.2	-0.1
	12nm,0.3s,baz=315,slow=15,SNR=33								
PSI				S		Sn		13 30 25.9	-0.5
	7.3nm,0.3s,baz=334,slow=9.8,SNR=4.3								
PSI				LR		LR		13 31 38.6	
	comp=Z,877nm,20.2s,baz=276,slow=43								
PKDT	Phuket	4.67	45	P		Pn		13 29 40.2	-2.0
TRTT	Trang	5.68	55	P		Pn		13 29 53.6	-2.4
SURT	Surabani	5.76	41	P		Pn		13 29 55.5	-1.5
MNSI	Mandailing Nat	5.93	129	P		Pn		13 29 58.2	-1.2
SKLT	Songkhla	6.16	65	P		Pn		13 30 01.2	-1.3
SRDT	SRDT	10.52	22	P		Pn		13 31 07.1	+5.0
	56nm,0.8s								
CHBT	CHBT	10.88	41	P		Pn		13 31 08.4	+1.4
	29nm,0.7s								
NAYO	Nakonayok	11.51	32	P		Pn		13 31 16.5	+1.0
	13nm,1.1s								
MNAI	Manna	11.93	138	*e*Pn		Pn		13 31 18.8	-2.5
CHAI	Chaiyaphum	13.18	31	P		Pn		13 31 41.6	+3.3
	3.3nm,0.8s								
UTTA	Uttaradit	14.17	22	P		P		13 31 56.7	+0.2
	3.3nm,0.6s								
LOEI	Loei	14.24	25	P		P		13 31 57.0	-0.3
	29nm,0.7s								
CM31	Chiang Mai Arr	14.32	15	*e*P		P		13 31 55.8	-2.5
	9.0nm,0.4s								
CMAR	Chiang Mai Arr	14.32	15	P		Pn		13 31 53.4	+0.2
	0.8nm,0.3s,baz=208,slow=11,SNR=11								
CMAR				LR		LR		13 37 20.2	
	comp=Z,221nm,20.5s,baz=208,slow=37								
CMAR	Chiang Mai Arr	14.32	15	*ce*P		P		13 31 58.0	-0.2
CMAR				pmax		pmax			
	comp=Z,14nm,0.6s								
PALK	Pallekele	14.46	281	P		P		13 31 59.3	-0.6
PALK	Pallekele	14.46	281	Pn		P		13 31 59.3	-0.6
PALK				*e*Sn		Sn		13 34 21.9	-12
LAMP	Lampang	14.58	18	P		P		13 32 01.2	+0.1
	comp=Z,7.0nm,0.8s								
CHTO	Chiang Mai	14.66	15	*e*P		P		13 32 00.9	-1.1
CHTO				pmax		pmax			
	comp=Z,21nm,1.0s								
CHTO	Chiang Mai	14.66	15	*e*P		P		13 32 00.9	-1.1
	comp=Z,21nm,1.0s								
SKNT	Sakolnakorn	15.14	35	P		P		13 32 07.3	-0.1
	comp=Z,22nm,1.0s								
CHLP	Challavanipeta	17.48	323	*e*P		P		13 32 33.9	+0.6
CHLP				*e*S		Sn		13 35 37.5	-10
NJS	Nagarjunasagar	19.45	309	*e*P		P		13 32 54.3	-0.6
NJS				*e*S		S		13 36 25.8	-5.3
QIZ	Qiongzhong	20.40	44	P		P		13 33 05.2	0.0
QIZ				sP		sP		13 33 31.7	+1.9
QIZ				S		S		13 36 49.8	0.0
HYB	Hyderabad	20.54	310	*i* P		Pn		13 33 12.0	+2.4
HYBB	Hyderabad (bro	20.54	310	*e*P		Pn		13 33 08.3	-1.3
HYBB				*e*				13 36 47.8	
HYBB				*e*S		S		13 36 54.6	+2.0
KMI	Kunming	21.73	19	P		P		13 33 22.2	+2.5
KMI				pP		pP		13 33 34.8	-0.3
KMI				PMZ					
	comp=Z,13nm,1.3s								
KMI				LZ					
	comp=Z,290nm,20.1s								
ODAN	Odare	23.31	343	*e*P		P		13 33 38.3	+2.2
RAMN	Ramite	23.64	341	*e*P		P		13 33 41.0	+1.9
	comp=Z,21nm,0.6s								
TAPN	Taplejung	23.68	344	*e*P		P		13 33 39.6	+0.1
	comp=Z,8.5nm,0.4s								
JIRN	Jiri	24.43	341	*e*P		P		13 33 46.8	+0.5
	comp=Z,12nm,0.3s								
GYA	Guiyang	24.45	26	*e*P		P		13 33 47.8	+1.6
GYA				PMZ					
	comp=Z,10.0nm,0.8s								
PKIN	Phulchoki	24.62	339	*e*P		P		13 33 48.6	+0.6
	comp=Z,7.3nm,0.5s								
GUN	Gumla	24.77	340	*e*P		P		13 33 48.7	-0.7
	comp=Z,27nm,0.6s								
KKN	Kakani	24.86	339	*e*P		P		13 33 50.7	+0.6
	comp=Z,21nm,1.0s								
LSA	Lhasa	25.24	352	P		P		13 33 53.2	-0.6
LSA	Lhasa	25.24	352	*e*P		P		13 33 53.2	-0.6
LSA				pmax		pmax			
	comp=Z,9.0nm,0.6s								
LSA	Lhasa	25.24	352	*e*P		P		13 33 53.2	-0.6
	comp=Z,9.3nm,0.6s								
GKN	Gorkha	25.29	338	*e*P		P		13 33 54.5	+0.6
	comp=Z,11nm,0.3s								
KOLN	Koldanda	25.48	336	*e*P		P		13 33 56.6	+0.9
	comp=Z,36nm,0.6s								

CD2	Chengdu	27.46	17	P	P	13 34 12.0	-1.3
CD2				sP	sP	13 34 42.8	+3.4
CD2				PP	PnPn	13 35 05.3	+3.3
CD2				S	S	13 38 45.4	-3.3
CD2				SS	SnSn	13 40 07.2	+1.2
CD2				PMZ			
	comp=Z,30nm,0.5s						
CD2				PMZ			
	comp=Z,90nm,5.9s						
CD2				LE			
	comp=Z,190nm,14.3s						
CD2				LZ			
	comp=Z,180nm,10.7s						
XAN	Xi'an	32.04	22	P	P	13 34 52.5	-1.3
XAN				PMZ			
	comp=Z,10.0nm,0.7s						
LZH	Lanzhou	32.39	13	*e*P	P	13 35 02.1	+5.1
LZH				pP	pP	13 35 21.1	+6.5
LZH				sP	sP	13 35 31.5	+8.2
LZH				PMZ			
	comp=Z,12nm,1.2s						
GTA	Gaotai	34.94	7	*e*P	P	13 35 17.9	-1.2
GTA				pP	pP	13 35 37.9	+1.1
GTA				sP	sP	13 35 48.2	+2.8
GTA				S	S	13 40 42.7	-2.8
GTA				SS	SnSn	13 42 59.6	-7.9
GTA				PMZ			
	comp=Z,9.0nm,1.2s						
GTA				PMZ			
	comp=Z,38nm,4.8s						
GTA				LN			
	comp=Z,73nm,16.1s						
GTA				LE			
	comp=Z,55nm,15.7s						
GTA				LZ			
	comp=Z,130nm,14.7s						
NJ2	Nanjing	35.31	36	*e*P	P	13 35 22.8	+0.6
NJ2				PMZ			
	comp=Z,20nm,0.6s						
FITZ	Fitzroy Crossi	37.71	128	P	P	13 35 42.3	-0.5
	baz=37,SNR=5.4						
KSH	Kashi	38.80	336	P	P	13 35 50.9	-1.0
KSH				sP	sP	13 36 18.3	-0.1
KSH				S	ScP	13 41 39.7	-4.1
KSH				PMZ			
	comp=Z,16nm,0.6s						
KSH				PMZ			
	comp=Z,110nm,4.4s						
KSH				LN			
	comp=Z,440nm,13.5s						
KSH				LE			
	comp=Z,220nm,13.4s						
KSH				LZ			
	comp=Z,150nm,6.2s						
KNRA	Kununurra	39.03	122	P	P	13 35 53.1	-0.8
	baz=38,SNR=9.2						
HHC	Hu-ho-hao-te	39.06	20	*e*P	P	13 35 56.3	+2.4
HHC				PP	PnPn	13 37 31.8	+3.8
HHC				S	S	13 41 50.8	+2.8
HHC				sS	sS	13 42 22.2	+3.5
HHC				SS	SS	13 44 39.4	-3.6
HHC				PMZ			
	comp=Z,21nm,0.9s						
HHC				PMZ			
	comp=Z,95nm,6.2s						
HHC				LN			
	comp=Z,190nm,18.5s						
HHC				LE			
	comp=Z,180nm,18.5s						
HHC				LZ			
	comp=Z,190nm,17.3s						
WMQ	Urumqi	39.60	352	*e*P	P	13 36 00.4	+2.0
WMQ				pP	pP	13 36 19.0	+2.6
WMQ				sP	sP	13 36 27.8	+2.9
WMQ				PMZ			
	comp=Z,12nm,0.4s						
WMQ				PMZ			
	comp=Z,78nm,4.6s						
WMQ				LN			
	comp=Z,70nm,19.4s						
WMQ				LE			
	comp=Z,140nm,23.0s						
SFK	Sufi-Kurgan	40.25	334	P	P	13 36 05.2	+1.2
SFK				pmax	pmax		
	comp=Z,24nm,0.5s						
PDGK	Podgornoye	40.95	343	P	P	13 36 10.2	+0.8
PDGK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KZA	Kyzart	41.28	338	P	P	13 36 14.2	+1.6
	SNR=7.6						
KZA	Kyzart	41.28	338	*i* P	P	13 36 14.2	+1.6
UCH	Uchtor	41.69	337	P	P	13 36 17.3	+1.2
	SNR=21						
UCH	Uchtor	41.69	337	*i* P	P	13 36 17.3	+1.2
TKM2	Tokmak 2	41.88	339	P	P	13 36 18.7	+1.4
	SNR=12						
TKM2	Tokmak 2	41.88	339	P	P	13 36 17.6	+0.3
TKM2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
TKM2	Tokmak 2	41.88	339	*e*P	P	13 36 18.0	+0.7
	comp=Z,14nm,1.0s						
KBK	Karagaybulak	41.89	338	P	P	13 36 19.4	+2.0
	SNR=23						
KBK	Karagaybulak	41.89	338	*i* P	P	13 36 19.4	+2.0
AML	Almayashu	41.93	336	P	P	13 36 19.7	+1.7
	SNR=18						
AML	Almayashu	41.93	336	*i* P	P	13 36 19.7	+1.7
AAK	Ala-Archa	42.04	337	P	P	13 36 21.5	+2.9
	SNR=11						
AAK	Ala-Archa	42.04	337	*c i* P	P	13 36 20.1	+1.5
AAK				pmax	pmax		
	comp=Z,67nm,1.5s						
AAK	Ala-Archa	42.04	337	*e*P	P	13 36 19.8	+1.2
	comp=Z,16nm,1.0s						
CHMS	Chumysh	42.26	338	P	P	13 36 21.8	+1.6
	SNR=6.4						
CHMS	Chumysh	42.26	338	*i* P	P	13 36 21.8	+1.6
EKS2	Erkin-Say	42.34	337	P	P	13 36 22.7	+1.6
	SNR=8.8						
EKS2	Erkin-Say	42.34	337	*e*P	P	13 36 22.6	+1.6
EKS2				pmax	pmax		
	comp=Z,8.0nm,0.7s						
EKS2	Erkin-Say	42.34	337	*e*P	P	13 36 22.6	+1.5
	comp=Z,7.6nm,0.7s						
USP	Ospenovka	42.58	338	P	P	13 36 24.2	+1.3
	SNR=18						
USP	Ospenovka	42.58	338	*i* P	P	13 36 24.1	+1.3
H01W3	Cape Leeuwin H	43.20	157	T	T	14 22 32.9	
	baz=330						
H01W2	Cape Leeuwin H	43.21	157	T	T	14 22 46.4	
	baz=330						
H01W1	Cape Leeuwin H	43.22	157	T	T	14 22 39.9	
	baz=330						
MK31	Makanchi Array	43.46	347	*e*P	P	13 36 29.6	-0.3
MK31	Makanchi Array	43.46	347	P	P	13 36 29.9	0.0
	baz=42,SNR=16						
MK31	Makanchi Array	43.46	347	*e*P	P	13 36 29.6	-0.3
MKAR	Makanchi Array	43.46	347	P	P	13 36 29.8	-0.1
	comp=Z,1.6nm,0.3s,baz=162,slow=8.7,SNR=41						
MKAR				LR	LR	13 57 33.3	
	comp=Z,65nm,20.6s,baz=189,slow=40						
WRKA	Warakurna	43.76	134	P	P	13 36 33.2	+0.6
	baz=43,SNR=3.9						
KKAR	Karatay Array	44.06	334	*e*P	P	13 36 35.8	+1.0
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KKAR	Karatay Array	44.06	334	*e*P	P	13 36 35.8	+1.0
	comp=Z,4.4nm,0.7s						
SONM	Songino Array	44.19	11	P	P	13 36 35.0	-0.8
	comp=Z,1.2nm,0.6s,baz=188,slow=4.4,SNR=2.9						
SONM				PcP	PP	13 38 20.5	+0.4
	comp=Z,1.5nm,0.7s,baz=187,slow=5.8,SNR=3.6						
KSAR	Wonju Array Be	44.41	38	P	P	13 36 37.3	-0.3
KSAR	Wonju Array Be	44.41	38	P	P	13 36 37.3	-0.3
KSRS	Korea Array	44.45

WRAB pmax pmax
comp=Z,25nm,1.2s
WRAB Tennant Creek 45.72 124 *eP* **P 13 36 48.6 +0.4**
comp=Z,25nm,1.2s
AS31 Alice Springs 47.20 128 *eP* **P 13 37 00.1 +0.2**
ASAR Alice Springs 47.20 128 P **P 13 37 00.3 +0.5**
comp=Z,2.2nm,0.5s,baz=298,slow=7.7,SNR=73
ASAR PcP **PcP 13 38 31.4 +1.1**
comp=Z,1.2nm,0.8s,baz=294,slow=4.3,SNR=4.3
GEYT Alibeck 47.22 320 P **P 13 37 01.3 +1.5**
comp=Z,5.3nm,0.7s,baz=142,slow=7.5,SNR=11
GEYT pP **pP 13 37 15.0 -3.2**
comp=Z,2.8nm,0.5s,baz=160,slow=9.1,SNR=3.0
TLY Talaya 47.49 7 *eP* P 13 37 05.0 +3.4
TLY pmax pmax
comp=Z,6.0nm,1.0s
TLY MLR MLR
comp=Z,85nm,18.0s
KURK Kurchatov 47.98 346 P **P 13 37 05.0 -0.4**
KURK pmax pmax
comp=Z,4.0nm,0.8s
ZAA0 Zalesovo Array 49.91 352 P **P 13 37 20.1 +0.1**
baz=48,SNR=4.6
ZAA0 Zalesovo Array 49.91 352 *eP* **P 13 37 18.8 -1.2**
ZALV Zalesovo Beam 49.91 352 P **P 13 37 19.9 -0.1**
comp=Z,5.4nm,0.6s,baz=185,slow=7.5,SNR=32
ZALV PcP **PcP 13 38 39.5 +0.1**
comp=Z,1.3nm,0.4s,baz=161,slow=3.4,SNR=2.9
GUMO Guam 49.97 76 LR LR 13 58 29.4
comp=Z,24nm,19.8s,baz=216,slow=36
MDJ Mudanjiang 50.09 32 P **P 13 37 21.9 +0.3**
MDJ PMZ
comp=Z,9.0nm,1.1s
MDJ PMZ
comp=Z,56nm,3.5s
VLA Vladivostok 50.37 35*c* *iP* **P 13 37 26.1 +2.4**
VLA pmax pmax
comp=Z,45nm,1.2s
QIS Mount Isa 50.41 121 P **P 13 37 25.1 +0.6**
baz=49,SNR=6.2
MJAR Matsushiro Arr 50.79 45 LR LR 14 00 04.2
comp=Z,49nm,21.9s,baz=285,slow=37
USRK Ussuriysk Ar. 51.11 34 P **P 13 37 29.3 0.0**
comp=Z,2.8nm,0.6s,baz=256,slow=4.5,SNR=6.7
USRK LR LR 13 59 19.0
comp=Z,91nm,18.3s,baz=295,slow=36
KRAR Krasnoyarsk 51.31 358⇓ *eP* **P 13 37 29.9 -0.6**
KRAR pmax pmax
comp=Z,38nm,0.6s
BVA0 Borovoye Array 52.35 341 *iP* **P 13 37 38.2 -0.2**
BVA0 pmax pmax
comp=Z,10.0nm,0.8s
OPO Ambohidratompo 52.41 242 LR LR 13 56 57.6
comp=Z,105nm,19.0s,baz=36,slow=32
BRVK Borovoye 52.42 341*c* *iP* **P 13 37 39.0 +0.1**
BRVK pmax pmax
comp=Z,22nm,1.4s
AB31 Akbulak array 53.51 332 *iP* **P 13 37 47.8 +0.8**
AB31 pmax pmax
comp=Z,3.0nm,0.5s
ABKAR Akbulak array 53.51 332 *eP* **P 13 37 48.2 +1.3**
comp=Z,4.7nm,0.8s
BOD Bodaibo 55.15 12 *eP* **P 13 37 57.9 -0.8**
BOD pmax pmax
comp=Z,3.0nm,1.1s
QLP Quilpie 56.81 126 P **P 13 38 12.5 +1.4**
baz=56,SNR=4.1
STKA Stephens Creek 57.26 133 LR LR 14 06 13.2
comp=Z,96nm,18.2s,baz=31,slow=40
KMBO Kilima Mbogo 57.96 266 LR LR 14 01 19.8
comp=Z,71nm,18.2s,baz=98,slow=34
SVE Sverdlovsk 58.75 339⇓ *iP* **P 13 38 24.8 +0.6**
SVE pmax pmax
comp=Z,14nm,1.0s
ARU Arti 59.23 337*c* *iP* **P 13 38 27.6 +0.1**
ARU *PP **pP 13 38 43.8 -2.8**
ARU 13 40 36.8
ARU S **S 13 46 33.4 +3.7**
ARU pmax pmax
comp=Z,10.0nm,1.2s
KBZ Khabaz 60.09 319 P **P 13 38 34.0 +0.4**
comp=Z,2.2nm,0.8s,baz=53,slow=20,SNR=7.2
KIV Kislovodsk 60.32 319 *eP* **P 13 38 36.1 +0.7**
KIV pmax pmax
comp=Z,7.0nm,1.1s
YAK Yakutsk 62.84 18 *iP* **P 13 38 50.5 -1.3**
YAK *iAP **pP 13 39 07.7 -3.4**
YAK pmax pmax
comp=Z,4.0nm,0.8s
ARMA Armidale 64.31 127 S S 13 47 44.6 +10
baz=63,SNR=56
BRTR Keskin Array B 65.22 312 P **P 13 39 08.7 +0.6**
comp=Z,2.5nm,0.6s,baz=128,slow=7.9,SNR=7.5
BRTR pP **pP 13 39 23.4 -4.1**
comp=Z,0.7nm,0.5s,baz=325,slow=24,SNR=3.0
OBN Obninsk 68.60 328⇑ *eP* **P 13 39 29.3 +0.3**
OBN *iP **pP 13 39 45.1 -3.4**
OBN *e* 13 39 55.8
OBN *i* 13 42 01.6
OBN pmax pmax
comp=Z,13nm,0.5s
KLMR Klimovskoe 69.77 335 *eP* **P 13 39 34.8 -1.3**
KLMR pmax pmax
comp=Z,13nm,1.5s
PETK Petropavlovsk- 70.19 35 P **P 13 39 38.5 -0.4**
comp=Z,0.3nm,0.6s,baz=208,slow=8.8,SNR=3.6
PETK LR LR 14 10 32.3
comp=Z,38nm,21.8s,baz=213,slow=36
TIXI Tiksi 70.28 11*ce* **P 13 39 37.6 -1.5**
TIXI pmax pmax
comp=Z,6.0nm,0.6s
TIXI Tiksi 70.28 11 *eP* **P 13 39 37.5 -1.5**
comp=Z,5.7nm,0.7s
TLB Topalu 70.46 316⇑ *iP* **P 13 39 41.4 +0.7**
TLB Topalu 70.46 316⇑ *iP* **P 13 39 41.4 +0.7**
CFR Carcaliu 70.53 316⇑ *iP* **P 13 39 42.1 +1.0**
CFR Carcaliu 70.53 316⇑ *iP* **P 13 39 42.1 +1.0**
AKASG Malin Array Be 71.25 322 P **P 13 39 45.3 -0.1**
comp=Z,2.8nm,0.5s,baz=89,slow=5.4,SNR=11
AKASG Malin Array Be 71.25 322*ce* *eP* **P 13 39 45.2 -0.1**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AK01 Malin Array Si 71.25 322 *eP* **P 13 39 45.2 -0.2**
KIEV Kiev 71.25 322 *eP* **P 13 39 45.2 -0.2**
KIEV pmax pmax
comp=Z,3.0nm,0.6s
KIEV Kiev 71.25 322 *eP* **P 13 39 45.2 -0.2**
comp=Z,2.8nm,0.6s
SEY Seymchan 71.56 24 *iP* **P 13 39 46.8 -0.2**
VRI Vrincioaia 71.65 317⇑ *iP* **P 13 39 49.9 +1.9**
VRI Vrincioaia 71.65 317⇑ *iP* **P 13 39 49.9 +1.9**
TESR Tescani 71.85 318⇑ *iP* **P 13 39 50.0 +0.9**
MLR Muntele Rosu 72.11 316⇑ *iP* **P 13 39 52.8 +1.9**
MLR Muntele Rosu 72.11 316⇑ *iP* **P 13 39 52.8 +1.9**
VOIR 72.71 316⇓ *iP* **P 13 39 55.2 +0.8**
VOIR 72.71 316⇓ *iP* **P 13 39 55.2 +0.8**
BURAR Bucovina Array 73.04 318⇑ *iP* **P 13 39 58.1 +1.8**
BURAR Bucovina Array 73.04 318⇑ *iP* **P 13 39 58.1 +1.8**
LBTB Lobatse 73.45 242 LR LR 14 07 33.1
comp=Z,107nm,21.6s,baz=90,slow=32
TRPA Tarpa 74.91 319⇓ *iP* **P 13 40 08.7 +1.6**
STHS Stebnicka Huta 75.97 320 *eP* **P 13 40 15.4 +2.2**
STHS pmax pmax
comp=Z,4.0nm,0.9s
STHS Stebnicka Huta 75.97 320 *eP* **P 13 40 15.4 +2.2**
FINES FINESS Array B 76.00 332 P **P 13 40 13.4 +0.5**
comp=Z,2.6nm,0.3s,baz=115,slow=5.7,SNR=44
FINES LR LR 14 18 30.2
comp=Z,39nm,18.9s,baz=182,slow=40
ARCES ARCESS Array B 78.63 340 P **P 13 40 28.3 +0.7**
comp=Z,2.3nm,0.4s,baz=90,slow=5.8,SNR=36
BRG Berggiesshubel 80.81 321 *e*(P) pP 13 40 56.6 -3.2
comp=Z,5.4nm,1.3s
GERES GERESS Array B 80.83 319 P **P 13 40 42.0 +1.9**
comp=Z,1.9nm,0.6s,baz=90,slow=6.7,SNR=9.7
CLL Collm 81.43 321⇓ *iP* **P 13 40 44.7 +1.7**
CLL *PP **PP 13 43 53.0 +3.2**
CLL Collm 81.43 321⇓ *iP* **P 13 40 44.7 +1.7**
NOA NORSAR Array B 82.99 331 P **P 13 40 51.7 +0.6**
comp=Z,2.3nm,0.9s,baz=94,slow=5.4,SNR=2.5
LPG La Plagne 85.53 315 *eP* **P 13 41 05.8 +1.2**
comp=Z,10nm,0.9s
LPG La Plagne 85.53 315 *eP* **P 13 41 05.8 +1.2**
LPG pmax pmax
comp=Z,10.0nm,0.9s
LPG La Plagne 85.53 315 *eP* **P 13 41 05.8 +1.2**
comp=Z,10nm,0.9s
LPL La Plagne 85.54 315 *eP* **P 13 41 05.8 +1.2**
comp=Z,6.1nm,0.8s
LPL La Plagne 85.54 315 *eP* **P 13 41 05.8 +1.2**
LPL pmax pmax
comp=Z,6.0nm,0.8s
LPL La Plagne 85.54 315 *eP* **P 13 41 05.8 +1.2**
comp=Z,6.1nm,0.8s
VNDA Vanda 89.56 168 LR LR 14 12 31.5
comp=Z,388nm,21.3s,baz=336,slow=29
TORD Torodi Ar. Bea 92.17 283 P **P 13 41 38.2 +1.9**
comp=Z,1.3nm,1.3s,baz=85,slow=4.9,SNR=3.0
TORD pP **pP 13 41 54.7 -1.9**
comp=Z,0.1nm,0.4s,baz=150,slow=33,SNR=2.7
PDAR Pinedale Array 127.88 23 PKP **PKPdf 13 47 33.1 +1.1**
comp=Z,0.4nm,0.4s,baz=358,slow=4.5,SNR=3.5
TXAR Lajitas Array 141.81 27 PKP **PKPdf 13 47 56.2 -1.9**
comp=Z,0.1nm,0.4s,baz=210,slow=1.2,SNR=6.1

*ISCJB **11** 13:37:00.2±0.3, 33°.87N±0°.03×132°.62E±0°.04, h53km±3km, mb3.8/8, MS3.4/1, Error ellipse: s-maj=6.0km s-min=4.9km az=2.1*
*NIED **11** 13:37:00, 33°.90N×132°.60E, h41km, Mw4.0 Best double couple: M0 9.58000×10^14 NP1:φ=290.00000°, δ45.00000°, λ166.00000°. NP2:φ=31.00000°, δ80.00000°, λ46.00000°.*
*JMA **11** 13:37:01.0, 33°.87N×132°.63E, h45km, M3.9 Broadband fault plane solution: P waves. NP1:φ=30.00000°, δ89.00000°, λ36.00000°. NP2:φ=300.00000°, δ54.00000°, λ179.00000°. Principal axes: T Plg25.0000°, Azm261.0000°; N Plg54.0000°, Azm31.0000°; P Plg24.0000°, Azm159.0000°;*
JMA Felt II J1.
*IDC **11** 13:37:02.2±2.1, 33°.89N×132°.54E, h55km±18km, mb3.5/8, mb1 3.6/10, mb1mx3.4/39, mbtmp3.7/10, ML3.1/2, MS2.9/3, Ms1 3.0/3, ms1mx2.7/38 Error ellipse: s-maj=17.5km s-min=12.3km az=97.0*
ISC 11 13:37:01.2±0.8, 33°.86N±0°.03×132°.62E±0°.04, h46km±6km, n25, σ=0°.73/34, mb3.9/8, 2C-7D, Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHM	**Kurahashi**	**0.29**	**345**	⇓P		**Pn**	**13 37 09.3**	**-0.6**
JHM				S		**Sn**	**13 37 15.5**	**-0.5**
JNA	**Nagahama**	**0.32**	**201**	⇓P		**Pn**	**13 37 09.8**	**-0.4**
JNA				S		**Sn**	**13 37 16.7**	**+0.2**
JET	**Tanbara**	**0.37**	**102**	P		**Pn**	**13 37 10.2**	**-0.5**
JET				S		**Sn**	**13 37 17.0**	**-0.4**
UWA2	**Uwa jima 2**	**0.64**	**179**	⇓P		**Pn**	**13 37 13.9**	**-0.2**
UWA2				S		**Sn**	**13 37 23.8**	**+0.5**
JKU	**Kubokawa**	**0.66**	**146**	⇓P		**Pn**	**13 37 14.0**	**-0.3**
JKU				S		**Sn**	**13 37 23.6**	**-0.1**
JHT	**Toyohira**	**0.82**	**349**	⇓P		**Pn**	**13 37 16.1**	**-0.3**
JHT				S		**Sn**	**13 37 27.3**	**-0.2**
JTO	**Tosashimizu**	**1.01**	**171**	⇓P		**Pn**	**13 37 18.9**	**0.0**
JMN	**Monobe**	**1.06**	**97**	⇑P		**Pn**	**13 37 19.1**	**-0.6**
JGT	**Gotsu**	**1.19**	**349**	P		**Pn**	**13 37 21.2**	**-0.2**
JJS	**Sakaide**	**1.21**	**64**	⇑P		**Pn**	**13 37 20.8**	**-0.8**
JHS	**Saijyo**	**1.21**	**20**	⇓P		**Pn**	**13 37 21.6**	**-0.1**
JHS				S		**Sn**	**13 37 37.0**	**0.0**
JNU	**Nakatsue**	**1.63**	**244**	P		**Pn**	**13 37 27.7**	**+0.3**
	38nm,0.3s,baz=55,slow=5.0,SNR=540							
JNU				S		**Sn**	**13 37 47.4**	**+0.2**
	45nm,0.3s,baz=349,slow=19,SNR=11							
JNU				LR		LR	13 38 22.0	
	comp=Z,163nm,19.9s,baz=30,slow=50							
KSRS	**Korea Array**	**5.24**	**315**	P		**Pn**	**13 38 17.2**	**+0.3**
	0.2nm,0.3s,baz=128,slow=14,SNR=2.9							
KSRS				S		**Sn**	**13 39 16.8**	**+0.7**
	2.3nm,0.3s,baz=132,slow=24,SNR=7.7							
KSRS				LR		LR	13 40 41.0	
	comp=Z,76nm,18.2s,baz=345,slow=42							
MAT	**Matsushiro**	**5.30**	**58**	P		**Pn**	**13 38 19.3**	**+1.5**
MAT				*e*S		**Sn**	**13 39 18.3**	**+0.7**
MJAR	**Matsushiro Arr**	**5.30**	**58**	P		**Pn**	**13 38 19.6**	**+1.7**
	2.7nm,0.3s,baz=242,slow=14,SNR=15							
MJAR				S		Sn	13 39 31.2	+13
	baz=221,slow=28,SNR=2.6							
MJAR				LR		LR	13 40 38.9	
	comp=Z,52nm,20.0s,baz=345,slow=40							
SONM	**Songino Array**	**24.11**	**313**	P		**P**	**13 42 12.5**	**-0.1**
	2.4nm,0.6s,baz=130,slow=8.7,SNR=4.2							
CMAR	**Chiang Mai Arr**	**33.71**	**251**	LR		LR	13 57 29.9	
	comp=Z,72nm,20.5s,baz=164,slow=36							
ZALV	**Zalesovo Beam**	**38.95**	**316**	P		**P**	**13 44 22.2**	**-0.3**
	0.7nm,0.4s,baz=82,slow=10,SNR=3.0							
WRA	**Warramunga Arr**	**53.52**	**178**	P		**P**	**13 46 16.6**	**-0.6**
	0.4nm,0.9s,baz=351,slow=8.0,SNR=3.0							
ILAR	**Eielson Array**	**55.95**	**31**	pP		pP	13 46 48.1	+0.9
	0.2nm,0.7s,baz=359,slow=30,SNR=2.2							
ASAR	**Alice Springs**	**57.22**	**179**	P		**P**	**13 46 45.0**	**+1.2**
	0.2nm,0.8s,baz=14,slow=12,SNR=3.7							
KBZ	**Khabaz**	**67.36**	**308**	P		**P**	**13 47 51.0**	**-0.4**
	2.0nm,0.9s,baz=236,slow=24,SNR=5.1							
FINES	**FINESS Array B**	**68.13**	**330**	P		**P**	**13 47 55.2**	**-0.8**
	1.7nm,1.0s,baz=69,slow=9.1,SNR=3.9							
FINES				pP		**pP**	**13 48 11.2**	**+1.9**
	1.5nm,0.7s,baz=86,slow=7.1,SNR=2.8							
AKASG	**Malin Array Be**	**72.22**	**319**	P		**P**	**13 48 20.6**	**-0.7**
	1.3nm,0.6s,baz=53,slow=6.3,SNR=9.8							
BRTR	**Keskin Array B**	**75.35**	**308**	P		**P**	**13 48 39.9**	**-0.2**
	1.0nm,0.9s,baz=111,slow=6.8,SNR=3.9							

*VIE **11** 13:41:20.4±0.6, 44°.78N×14°.85E, h10km±2km, mb1.9/2, ML2.6/2, Error ellipse: s-maj=3.4km s-min=2.4km az=161.0 72 km SSE of Rijeka*
*CSEM **11** 13:41:21.0±0.4, 44°.77N×14°.86E, h18km±3km, ML2.8/5, Error ellipse: s-maj=9.5km s-min=5.3km az=66.0*
ISC 11 13:41:20.9±0.9, 44°.78N±0°.03×14°.97E±0°.06, h14km±9km, n13, σ=0°.53/26, 5C, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NVLJ	**Novalja**	**0.23**	**198**	*i* Pg		**Pg**	**13 41 25.7**	**-0.2**
NVLJ				Sg		**Sg**	**13 41 29.3**	**+0.1**
NVLJ	**Novalja**	**0.23**	**198**	*i* Pg		**Pg**	**13 41 25.7**	**-0.2**
NVLJ				Sg		**Sg**	**13 41 29.3**	**+0.1**
UDBI	**Udbina**	**0.62**	**114**	*i* Pg		**Pn**	**13 41 35.0**	**-0.4**
UDBI				Sg		**Sn**	**13 41 46.1**	**+0.9**
UDBI	**Udbina**	**0.62**	**114**	*i* Pg		**Pn**	**13 41 34.9**	**-0.4**
UDBI				Sg		**Sn**	**13 41 46.0**	**+0.9**
BOJS	**Bojanci**	**0.75**	**15**	*i* Pg		**Pb**	**13 41 35.6**	**-0.1**
BOJS				*i* Sg		**Sn**	**13 41 47.9**	**-0.3**
	comp=Z,18nm,0.2s							
BOJS	**Bojanci**	**0.75**	**15**	*i* Pg		**Pb**	**13 41 35.6**	**-0.1**
BOJS				*i* Sg		**Sn**	**13 41 47.9**	**-0.3**
	comp=Z,18nm,0.2s							
GBRS	**Gornja Briga**	**0.76**	**352**	Pg		**Pg**	**13 41 35.2**	**-0.4**
GBRS				*i* Sg		**Sn**	**13 41 47.7**	**-0.8**
	comp=Z,5.0nm,0.1s							
SKDS	**Skadanscina**	**1.02**	**319**	*i* Pg		**Pg**	**13 41 41.1**	**+0.5**
SKDS				*i* Sg		**Sn**	**13 41 54.8**	**-0.1**
	comp=Z,8.0nm,0.1s							
SKDS	**Skadanscina**	**1.02**	**319**	*i* Pg		**Pg**	**13 41 41.1**	**+0.5**
SKDS				*i* Sg		**Sn**	**13 41 54.8**	**-0.1**
	comp=Z,8.0nm,0.1s							
OBKA	**Obir**	**1.75**	**350**	⇑*i* Pn		**Pn**	**13 41 50.9**	**0.0**
OBKA				⇑*i* Pg		**Pg**	**13 41 53.8**	**-0.7**
OBKA				⇑*i* Sg		**Sg**	**13 42 18.2**	**+0.9**
	comp=Z,21nm,0.3s							
OBKA	**Obir**	**1.75**	**350**	Pn		**Pn**	**13 41 50.9**	**0.0**
SOKA	**Soboth**	**1.90**	**1**	⇑*i* Pn		**Pn**	**13 41 52.6**	**-0.3**
SOKA				⇑*i* Sg		**Sg**	**13 42 22.6**	**+0.7**
	comp=Z,1.9nm,0.2s							
SOKA	**Soboth**	**1.90**	**1**	Pn		**Pn**	**13 41 52.6**	**-0.3**
SOKA				Sg		**Sg**	**13 42 22.6**	**+0.7**
	comp=Z,1.9nm,0.2s							

*ISCJB **11** 13:46:29.5±2.1, 17°.2S±0°.4×179°.2W±0°.4, h539km, mb3.7/4, Error ellipse: s-maj=70.4km s-min=23.1km az=43.4*
*IDC **11** 13:46:30.4±11.0, 16°.94S×179°.39W, h530km±118km, mb3.3/4, mb1 3.5/4, mb1mx3.0/35, mbtmp4.2/4, Error ellipse: s-maj=108.9km s-min=43.1km az=129.0*
ISC 11 13:46:30.0±2.3, 17°.3S±0°.5×179°.1W±0°.4, h539km, n13, σ=0°.46/14, mb3.9/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EIDS	**Eidsvold**	**28.86**	**249**	P	**P**	**13 51 45.3**	**-0.1**
	baz=36,SNR=3.4						

MGCD Mangrove Creek 31.12 234 P **P 13 52 05.0 +0.3**
baz=38,SNR=7.6
RMQ Roma 31.12 247 P **P 13 52 05.5 +0.7**
baz=39,SNR=8.0
CMSA Cobar Meteorol 34.89 239 P **P 13 52 36.5 -0.1**
baz=42,SNR=14
QLP Quilpie 35.14 248 P **P 13 52 38.6 -0.1**
baz=43,SNR=9.8
STKA Stephens Creek 38.35 240 P **P 13 53 05.4 +0.3**
4.0nm,0.4s,baz=86,slow=8.6,SNR=28
STKA Stephens Creek 38.35 240 P **P 13 53 05.5 +0.3**
baz=46,SNR=21
HTT Hallett 40.90 239 P **P 13 53 25.8 +0.2**
baz=48,SNR=4.6
WRA Warramunga Arr 44.09 259 P **P 13 53 49.8 -1.0**
0.8nm,0.6s,baz=92,slow=8.2,SNR=38
ASAR Alice Springs 44.32 254 P **P 13 53 52.5 -0.1**
9.6nm,0.5s,baz=90,slow=7.9,SNR=213
ASAR PcP **PcP 13 55 25.4 +0.3**
0.3nm,0.4s,baz=98,slow=3.9,SNR=3.5
KDU Kakadu 46.90 269 P **P 13 54 12.9 +0.6**
baz=55,SNR=12
WRKA Warakurna 49.40 252 P **P 13 54 30.8 -0.1**
baz=57,SNR=7.7
ILAR Eielson Array 85.42 13 P **P 13 58 10.1 -0.1**
0.1nm,0.4s,baz=221,slow=5.2,SNR=4.1

IDC 11 13:46:32.5±1.7, 35°.61S×71°.63W, h0km, mb3.4/1, mb1 3.7/3, mb1mx3.5/21, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=102.3km s-min=21.0km az=82.0, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**5.18**	**171**	Pn	Pn	13 47 50.8	-0.5
	0.2nm,0.3s,baz=331,slow=12,SNR=5.2						
PLCA				Lg	Lg	13 49 17.8	
	0.3nm,0.3s,baz=251,slow=18,SNR=2.2						
LPAZ	**La Paz**	**19.50**	**10**	P	P	13 51 01.9	-0.1
	0.1nm,0.3s,baz=175,slow=11,SNR=3.2						
TXAR	**Lajitas Array**	**71.30**	**331**	P	P	13 57 54.0	+0.1
	0.2nm,0.6s,baz=159,slow=7.7,SNR=2.9						

*ISCJB **11** 13:47:22.3±0.5, 2°.44N±0°.06×96°.80E±0°.05, h30km, mb3.9/7, MS3.5/1, Error ellipse: s-maj=9.2km s-min=5.8km az=37.0*
*DJA **11** 13:47:22.2±0.9, 2°N±7°×9°6E±1°1, h51km±6km, M4.0/8, mb4.2/2, MLv4.0/8*
*IDC **11** 13:47:28.8±5.2, 2°.45N×97°.13E, h83km±38km, mb3.6/7, mb1 3.8/8, mb1mx3.4/51, mbtmp4.0/8, MS3.2/2, Ms1 3.2/2, ms1mx2.8/40, Error ellipse: s-maj=63.5km s-min=18.0km az=60.0*
ISC 11 13:47:22.5±0.8, 2°.34N±0°.06×96°.70E±0°.06, h30km, n22, σ=1°.44/19, mb4.1/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.38**	**281**	P		**Pn**	**13 47 32.4**	**+0.5**
SNSI				S		**Sn**	**13 47 40.1**	**+1.9**
GSI	**Gunungsitoli**	**1.35**	**139**	P		**Pn**	**13 47 45.9**	**+0.6**
TSI	**Tuntungan**	**2.19**	**58**	P		**Pb**	**13 48 02.0**	**+0.5**
PSI	**Prapat**	**2.27**	**78**	P		**Pn**	**13 47 58.5**	**+0.4**
	3.0nm,0.3s,baz=302,slow=7.5,SNR=15							
LHMI	**Lhok Sumawe**	**2.88**	**5**	P		**Pn**	**13 48 08.5**	**+2.1**
MNSI	**Mandailing Nat**	**3.26**	**118**	P		**Pn**	**13 48 13.3**	**+1.7**
BSI	**Banda Aceh**	**3.44**	**336**	P		**Pn**	**13 48 14.3**	**+0.3**
BSI				S		**Sn**	**13 48 54.8**	**+1.0**
PDSI	**Padang**	**4.96**	**131**	P		**Pn**	**13 48 36.7**	**+1.7**
	11nm,1.0s,0.1nm							
SDSI	**Sungai Dareh**	**5.74**	**124**	P		**Pn**	**13 48 47.9**	**+2.2**
LEM	**Lembang**	**14.20**	**130**	LR		LR	13 56 59.7	
	comp=Z,59nm,18.5s,baz=184,slow=41							
CMAR	**Chiang Mai Arr**	**16.17**	**8**	P		**Pn**	**13 51 08.2**	**+0.4**
	0.1nm,0.3s,baz=201,slow=12,SNR=20							
H01W3	**Cape Leeuwin H**	**40.48**	**158**	T		T	14 37 48.5	
	baz=334,slow=76,SNR=9.6							
H01W2	**Cape Leeuwin H**	**40.49**	**158**	T		T	14 37 46.7	
	baz=334,slow=76,SNR=11							
H01W1	**Cape Leeuwin H**	**40.49**	**158**	T		T	14 37 50.4	
	baz=334,slow=76,SNR=10							
WRA	**Warramunga Arr**	**43.06**	**123**	P		**P**	**13 55 18.1**	**-1.9**
	0.5nm,0.5s,baz=301,slow=9.1,SNR=5.6							
ASAR	**Alice Springs**	**44.48**	**128**	P		**P**	**13 55 29.9**	**-1.5**
	0.3nm,0.5s,baz=299,slow=8.3,SNR=4.7							
KSRS	**Korea Array**	**45.21**	**36**	P		**P**	**13 55 34.8**	**-2.1**
	0.6nm,0.7s,baz=231,slow=11,SNR=3.0							
MKAR	**Makanchi Array**	**46.03**	**346**	P		**P**	**13 55 44.0**	**+0.6**
	2.2nm,0.7s,baz=195,slow=7.5,SNR=21							
SONM	**Songino Array**	**46.09**	**9**	P		**P**	**13 55 43.1**	**-0.9**
	1.9nm,0.7s,baz=189,slow=8.5,SNR=3.1							
ZALV	**Zalesovo Beam**	**52.37**	**351**	P		**P**	**13 56 31.9**	**+0.3**
	3.6nm,0.6s,baz=185,slow=7.0,SNR=18							
ASAJ	**Asahikawa**	**58.07**	**38**	LR		LR	14 22 47.5	
	comp=Z,32nm,18.9s,baz=314,slow=37							
ARCES	**ARCESS Array B**	**81.30**	**340**	P		**P**	**13 59 36.0**	**+0.4**
	5.0nm,1.1s,baz=104,slow=6.6,SNR=3.0							

*ISCJB **11** 14:00:25.0±0.3, 59°.43N±0°.03×22°.38E±0°.04, h0km, Error ellipse: s-maj=3.9km s-min=3.1km az=6.8*
*UPP **11** 14:00:25.7, 59°.51N×22°.47E, h0km, ML2.7, Suspected Mining explosion.*
*HEL **11** 14:00:26.6±0.1, 59°.42N×22°.36E, h0km, ML2.7, ML2.7(UPP), Explosion*
*CSEM **11** 14:00:26.2±0.1, 59°.44N×22°.39E, h2km, ML2.7, Error ellipse: s-maj=4.5km s-min=3.4km az=162.0, Mining explosion.*
*IDC **11** 14:00:27.7±0.9, 59°.53N×22°.43E, h0km, mb1 3.6/6, mb1mx3.3/40, mbtmp3.6/6, ML3.6/6, Error ellipse: s-maj=11.6km s-min=8.9km az=153.0*
*NAO **11** 14:00:27.2±1.5, 59°.49N×22°.30E, ML2.8*
*BER **11** 14:00:29.1±3.0, 59°.50N×22°.21E, h0km, ML2.8(NAO), Suspected explosion*
ISC 11 14:00:25.1±0.7, 59°.41N±0°.03×22°.33E±0°.02, h0km, n80, σ=1°.38/101, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTSE	**Matsula**	**1.03**	**132**	*e*P		**Pg**	**14 00 45.1**	**+0.2**
MTSE				*e*S		**Sg**	**14 00 58.1**	**-0.2**
MTSE	**Matsula**	**1.03**	**132**	P		**Pg**	**14 00 45.0**	**+0.2**
MTSE				S		**Sg**	**14 00 58.1**	**-0.2**
SRPE	**Suurupi**	**1.05**	**86**	*e*P		**Pg**	**14 00 45.2**	**+0.1**
SRPE				*e*S		**Sg**	**14 00 57.5**	**-1.2**
SRPE	**Suurupi**	**1.05**	**86**	P		**Pg**	**14 00 45.2**	**+0.1**
SRPE				S		**Sg**	**14 00 57.4**	**-1.2**
MEF	**Metsahovi**	**1.32**	**51**	*e*P		**Pg**	**14 00 49.8**	**-0.6**
MEF				*e*S		**Sg**	**14 01 06.5**	**-1.0**
MEF	**Metsahovi**	**1.32**	**51**	P		**Pg**	**14 00 49.8**	**-0.6**
MEF				S		**Sg**	**14 01 06.4**	**-1.0**
AAL	**Aland**	**1.41**	**304**	*e*P		**Pn**	**14 00 51.8**	**-0.2**
AAL				*e*S		**Sb**	**14 01 10.4**	**-0.4**
AAL	**Aland**	**1.41**	**304**	P		**Pb**	**14 00 52.0**	**-0.3**
AAL				S		**Sb**	**14 01 10.4**	**-0.4**
AAL	**Aland**	**1.41**	**304**	P		**Pb**	**14 00 52.0**	**-0.3**
AAL				S		**Sb**	**14 01 10.2**	**-0.6**
RAF	**Rauma**	**1.64**	**350**	*e*P		**Pb**	**14 00 55.8**	**-0.5**
RAF				*e*S		**Sn**	**14 01 17.0**	**0.0**
RAF	**Rauma**	**1.64**	**350**	P		**Pb**	**14 00 55.7**	**-0.5**
RAF				S		**Sn**	**14 01 17.0**	**0.0**
SLIT	**Slitere, Latvi**	**1.79**	**181**	*e*P		**Pn**	**14 00 58.3**	**+1.1**
SLIT				*e*S		**Sb**	**14 01 22.1**	**+0.5**
SLIT	**Slitere, Latvi**	**1.79**	**181**	P		**Pn**	**14 00 58.2**	**+1.1**
SLIT				S		**Sb**	**14 01 22.0**	**+0.5**

VSU					Sn		Sb	14 01 41.0	-0.2
	SNR=50								
FIA0	**FINESS Array S**	**2.76**	**41**		Pn		Pn	**14 01 12.4**	**+1.9**
	baz=216,slow=14								
FIA0					Sn		Sn	**14 01 45.8**	**+1.3**
	baz=221,slow=28								
FIA0	**FINESS Array S**	**2.76**	**41**		Pn		Pn	**14 01 12.4**	**+1.9**
	baz=216,slow=14								
FIA0					Sn		Sn	**14 01 45.8**	**+1.3**
	baz=221,slow=28								
FIA0	**FINESS Array S**	**2.76**	**41**		MSG			14 01 49.3	
	comp=Z,33nm,0.3s								
FIA0	**FINESS Array S**	**2.76**	**41**		Pn		Pn	**14 01 12.4**	**+1.9**
	baz=216,slow=14,SNR=50								
FIA0					Sn		Sn	**14 01 45.8**	**+1.3**
	baz=221,slow=24,SNR=50								
FINES	**FINESS Array B**	**2.76**	**41**		Pn		Pn	**14 01 12.0**	**+1.5**
	comp=Z,6.7nm,0.3s,baz=222,slow=15,SNR=91								
FINES					Sn		Sn	**14 01 45.1**	**+0.7**
	comp=Z,17nm,0.3s,baz=225,slow=23,SNR=31								
VJF	**Virojoki**	**2.86**	**64**		MSG			14 01 55.9	
	comp=Z,34nm,0.3s								
VIKU	**Vikbolandet**	**3.06**	**255**	*e*P			**Pn**	**14 01 16.4**	**+1.8**
VIKU	**Vikbolandet**	**3.06**	**255**	P			**Pn**	**14 01 16.4**	**+1.8**
VIKU	**Vikbolandet**	**3.06**	**255**	P			**Pn**	**14 01 16.4**	**+1.8**
VSTU	**Vaestervik**	**3.51**	**243**	*e*P			**Pn**	**14 01 22.9**	**+2.1**
VSTU	**Vaestervik**	**3.51**	**243**	P			**Pn**	**14 01 22.8**	**+2.1**
VSTU	**Vaestervik**	**3.51**	**243**	P			**Pn**	**14 01 22.9**	**+2.1**
ASPU	**Aespoe**	**3.62**	**239**	*e*P			**Pn**	**14 01 24.3**	**+2.0**
ASPU	**Aespoe**	**3.62**	**239**	P			**Pn**	**14 01 24.2**	**+2.0**
ASPU	**Aespoe**	**3.62**	**239**	P			**Pn**	**14 01 24.3**	**+2.0**
VAF	**Ylistaro**	**3.65**	**2**		MSG			14 02 26.5	
	comp=Z,13nm,0.3s								
LNKU	**Linkoeping**	**3.75**	**254**	*e*P			**Pn**	**14 01 26.5**	**+2.4**
LNKU	**Linkoeping**	**3.75**	**254**	P			**Pn**	**14 01 26.4**	**+2.4**
LNKU	**Linkoeping**	**3.75**	**254**	P			**Pn**	**14 01 26.5**	**+2.4**
SUF	**Sumiainen**	**3.80**	**28**		MSG			14 02 30.4	
	comp=Z,26nm,0.3s								
ASKU	**Askersund**	**3.90**	**266**	*e*P			**Pn**	**14 01 28.3**	**+2.1**
ASKU	**Askersund**	**3.90**	**266**	P			**Pn**	**14 01 28.3**	**+2.1**
ASKU	**Askersund**	**3.90**	**266**	P			**Pn**	**14 01 28.3**	**+2.1**
OSKU	**Oskarshamn**	**3.97**	**239**	*e*P			**Pn**	**14 01 28.7**	**+1.6**
OSKU	**Oskarshamn**	**3.97**	**239**	P			**Pn**	**14 01 28.7**	**+1.6**
OSKU	**Oskarshamn**	**3.97**	**239**	P			**Pn**	**14 01 28.7**	**+1.6**
EKSU	**Eksjoe**	**4.12**	**247**	*e*P			**Pn**	**14 01 30.5**	**+1.2**
EKSU	**Eksjoe**	**4.12**	**247**	P			**Pn**	**14 01 30.5**	**+1.2**
EKSU	**Eksjoe**	**4.12**	**247**	P			**Pn**	**14 01 30.5**	**+1.2**
HFS	**Hagfors**	**4.43**	**283**		Pn		**Pn**	**14 01 35.3**	**+1.9**
	baz=90,slow=14								
HFS					Lg		Lg	14 02 42.7	
	baz=100,slow=37								
HFS	**Hagfors**	**4.43**	**283**		Pn		**Pn**	**14 01 35.3**	**+1.9**
	baz=90,slow=14								
HFS					Lg		Lg	14 02 42.7	
	baz=100,slow=37								
HFS	**Hagfors**	**4.43**	**283**		Pn		**Pn**	**14 01 35.3**	**+1.9**
	comp=Z,1.4nm,0.3s,baz=98,slow=15,SNR=44								
HFS					Pg		**Pb**	**14 01 45.1**	**+1.4**
	comp=Z,3.4nm,0.3s,baz=99,slow=20,SNR=23								
HFS					Sn		**Sn**	**14 02 21.3**	**-4.3**
	comp=Z,1.3nm,0.3s,baz=93,slow=28,SNR=3.4								
HFS					Lg		Lg	14 02 41.3	
	comp=Z,8.5nm,0.3s,baz=95,slow=32,SNR=13								
HFS	**Hagfors**	**4.43**	**283**		Pn		**Pn**	**14 01 35.3**	**+1.9**
	baz=90,slow=13,SNR=50								
HFS					Lg		Lg	14 02 42.7	
	SNR=22								
BLEU	**Blekinge**	**4.67**	**231**	*e*P			**Pn**	**14 01 38.1**	**+1.3**
BLEU	**Blekinge**	**4.67**	**231**	P			**Pn**	**14 01 38.1**	**+1.3**
BLEU	**Blekinge**	**4.67**	**231**	P			**Pn**	**14 01 38.1**	**+1.3**
KJN	**Kajaani**	**5.34**	**26**		MSG			14 03 13.8	
	comp=Z,15nm,0.3s								
NB2	**NORSAR Subarra**	**5.78**	**291**		Pn		**Pn**	**14 01 51.7**	**-0.3**
	baz=97,slow=14								
NB2					Sn		**Sn**	**14 02 58.1**	**-0.8**
	baz=99,slow=28								
NB2					Lg		Lg	14 03 23.6	
	baz=103,slow=37								
NB2	**NORSAR Subarra**	**5.78**	**291**		Pn		**Pn**	**14 01 51.7**	**-0.3**
	baz=97,slow=14								
NB2					Sn		**Sn**	**14 02 58.1**	**-0.8**
	baz=99,slow=28								
NB2					Lg		Lg	14 03 23.6	
	baz=103,slow=37								
NB2	**NORSAR Subarra**	**5.78**	**291**		Pn		**Pn**	**14 01 51.7**	**-0.3**
	baz=97,slow=12,SNR=50								
NB2					Lg		Lg	14 03 23.6	
	SNR=15								
NOA	**NORSAR Array B**	**5.78**	**291**		Pn		**Pn**	**14 01 52.1**	**+0.1**
	comp=Z,1.8nm,0.3s,baz=46,slow=13,SNR=32								
NOA					Sn		Sn	14 02 52.1	-6.9
	comp=Z,1.0nm,0.3s,baz=145,slow=15,SNR=2.7								
NOA					Lg		Lg	14 03 21.7	
	comp=Z,3.0nm,0.3s,baz=109,slow=18,SNR=5.9								
BSD	**Bornholm Skovb**	**5.89**	**226**	*i* P			**Pn**	**14 01 53.5**	**0.0**
BSD				*i* S			**Sn**	**14 02 59.0**	**-2.7**
BSD	**Bornholm Skovb**	**5.89**	**226**	*i* P			**Pn**	**14 01 53.6**	**0.0**
	SNR=100								
APA0	**Apatity Array**	**9.49**	**25**		Pn		**Pn**	**14 02 43.9**	**+1.1**
	baz=211,slow=12								
APA0	**Apatity Array**	**9.49**	**25**		Pn		**Pn**	**14 02 43.9**	**+1.1**
	baz=211,slow=12								
APA0	**Apatity Array**	**9.49**	**25**		Pn		**Pn**	**14 02 43.8**	**+1.1**
	baz=211,slow=11,SNR=50								
AKASG	**Malin Array Be**	**9.57**	**153**		Pn		**Pn**	**14 02 42.7**	**-1.3**
	comp=Z,2.2nm,0.3s,baz=336,slow=12,SNR=7.9								
ARA0	**ARCESS Array S**	**10.26**	**6**		Pn		**Pn**	**14 02 51.8**	**-1.5**
	baz=189,slow=12								
ARA0	**ARCESS Array S**	**10.26**	**6**		Pn		**Pn**	**14 02 51.8**	**-1.5**
	baz=189,slow=12								
ARA0	**ARCESS Array S**	**10.26**	**6**		Pn		**Pn**	**14 02 51.8**	**-1.5**
	baz=189,slow=12,SNR=50								
ARCES	**ARCESS Array B**	**10.26**	**6**		Pn		**Pn**	**14 02 51.7**	**-1.6**
	comp=Z,1.4nm,0.3s,baz=186,slow=12,SNR=48								
ARCES					Sn		Sn	14 04 40.1	-8.7
	comp=Z,0.8nm,0.3s,baz=186,slow=25,SNR=6.5								
SPA0	**Spitsbergen Ar**	**18.96**	**356**		P		**Pn**	**14 04 48.9**	**+0.9**
	baz=161,slow=10								
SPA0	**Spitsbergen Ar**	**18.96**	**356**		P		**Pn**	**14 04 48.9**	**+0.9**
	baz=161,slow=10								
SPA0	**Spitsbergen Ar**	**18.96**	**356**		P		**Pn**	**14 04 48.9**	**+0.9**
	baz=161,slow=9.4,SNR=47								
SPITS	**Spitsbergen Ar**	**18.96**	**356**		P		**Pn**	**14 04 48.6**	**+0.6**
	baz=164,slow=12,SNR=8.2								

WEL 11 14:05:54.6±0.4, 38.46S×175.63E, h162km±3km, ML3.7/14, 6C-7D, Error ellipse: s-maj=2.0km s-min=1.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUTZ	**Kaahu Road**	**0.15**	**102**	⇑PN	Pn	14 06 16.5	+0.3
HATZ	**Hinemaiaia**	**0.56**	**140**	PN	Pn	14 06 17.4	-0.2
HIZ	**Hauiti**	**0.61**	**264**	⇑PN	Pn	14 06 17.8	0.0
OTVZ	**Oturere**	**0.71**	**178**	PN	Pn	14 06 19.0	+0.3
COVZ	**Chateau Observ**	**0.74**	**185**	⇑PN	Pn	14 06 18.7	-0.1
COVZ				SN	Sn	14 06 37.5	0.0
FWVZ	**Far West T-bar**	**0.80**	**184**	PN	Pn	14 06 19.4	+0.1
TUVZ	**Tukino**	**0.81**	**179**	PN	Pn	14 06 19.4	+0.2
WHVZ	**Whangaehu Hut**	**0.82**	**182**	PN	Pn	14 06 19.6	+0.1
PKVZ	**Pokaka**	**0.86**	**195**	PN	Pn	14 06 19.4	-0.1
WNVZ	**Wahianoa**	**0.87**	**182**	⇓PN	Pn	14 06 19.9	+0.1
MTVZ	**Mangateitei**	**0.94**	**188**	⇓PN	Pn	14 06 20.1	0.0
MOVZ	**Moawhango**	**0.95**	**174**	⇓PN	Pn	14 06 20.0	-0.2
MOVZ				SN	Sn	14 06 39.5	-0.6
VRZ	**Vera Road**	**0.95**	**225**	PN	Pn	14 06 20.2	+0.1
BKZ	**Black Stump Fm**	**0.98**	**137**	PN	Pn	14 06 20.0	-0.3
BKZ				SN	Sn	14 06 39.4	-0.8
BKZ				AML	AML	14 06 41.6	
BHHZ	**Black Hill Sta**	**1.08**	**162**	PN	Pn	14 06 20.9	-0.4
NMHZ	**Naumai**	**1.12**	**125**	PN	Pn	14 06 22.4	+0.8
URZ	**Urewera**	**1.18**	**81**	PN	Pn	14 06 21.5	-0.5
URZ				SN	Sn	14 06 41.9	-1.1
URZ				AML	AML	14 06 43.1	
RAHZ	**Arahi**	**1.23**	**112**	PN	Pn	14 06 23.0	+0.6
MCHZ	**McNeill Hill**	**1.29**	**140**	PN	Pn	14 06 23.9	+0.9
KRHZ	**Kereru**	**1.32**	**154**	⇑PN	Pn	14 06 23.3	0.0
ARHZ	**Aropaoanui**	**1.33**	**127**	PN	Pn	14 06 24.0	+0.6
SNGZ	**Shannon Statio**	**1.38**	**104**	PN	Pn	14 06 24.3	+0.4
LREZ	**Lake Rotokare**	**1.39**	**223**	*e*PN	Pn	14 06 24.3	+0.4
WAZ	**Wanganui**	**1.39**	**201**	PN	Pn	14 06 24.1	+0.1
WHHZ	**Waihua**	**1.40**	**117**	PN	Pn	14 06 24.6	+0.6
RAGZ	**Rawiri**	**1.40**	**92**	PN	Pn	14 06 24.3	+0.1
MWZ	**Matawai**	**1.50**	**86**	⇑PN	Pn	14 06 24.7	-0.4
MWZ				*e*SN	Sn	14 06 47.0	-1.5
MWZ				AML	AML	14 06 49.8	
MWZ				AML	AML	14 06 49.9	
MWZ				AML	AML	14 06 50.0	
PNHZ	**Pukenui**	**1.52**	**163**	PN	Pn	14 06 25.0	-0.3
TSZ	**Takapari Road**	**1.62**	**171**	PN	Pn	14 06 25.9	-0.5
TSZ				SN	Sn	14 06 50.3	-0.6
TSZ				AML	AML	14 06 51.9	
CKHZ	**Cape Kidnapper**	**1.65**	**137**	PN	Pn	14 06 26.9	+0.4
KAHZ	**Kahuranaki**	**1.65**	**144**	PN	Pn	14 06 26.9	+0.2
RIGZ	**Rimuhau**	**1.69**	**99**	PN	Pn	14 06 27.2	+0.2
KNZ	**Kokohu**	**1.69**	**110**	PN	Pn	14 06 27.1	+0.1
WPHZ	**Waipukurau**	**1.73**	**159**	PN	Pn	14 06 27.0	-0.4
TKGZ	**Te Karaka**	**1.74**	**90**	PN	Pn	14 06 28.1	+0.6
HAZ	**Te Kaha**	**1.84**	**68**	PN	Pn	14 06 27.9	-0.2
PXZ	**Pawanui**	**1.84**	**149**	⇓PN	Pn	14 06 28.3	-0.3
PXZ				AML	AML	14 06 55.7	
PXZ				AML	AML	14 06 55.7	
TWGZ	**Tauwhareparae**	**1.87**	**82**	PN	Pn	14 06 29.3	+0.3
DVHZ	**Dannevirke**	**1.89**	**167**	PN	Pn	14 06 28.3	-0.9
POWZ	**Post Office Ro**	**1.94**	**177**	PN	Pn	14 06 28.7	-1.0
PRHZ	**Porangahau**	**1.97**	**157**	⇓PN	Pn	14 06 29.6	-0.5
CNGZ	**Carnagh Statio**	**2.02**	**92**	⇑PN	Pn	14 06 31.1	+0.5
PUZ	**Puketiti**	**2.10**	**80**	⇑PN	Pn	14 06 31.4	-0.2
PUZ				*e*SN	Sn	14 06 58.2	-2.0
PUZ				AML	AML	14 07 01.6	
ANWZ	**Angora Road**	**2.10**	**162**	PN	Pn	14 06 31.0	-0.6
PRWZ	**Pori Road**	**2.11**	**173**	PN	Pn	14 06 30.8	-0.9
MRZ	**Mangatainoka R**	**2.20**	**181**	⇓PN	Pn	14 06 31.3	-1.5
MRZ				AML	AML	14 07 01.2	
MRZ				AML	AML	14 07 01.3	
BFZ	**Birch Farm**	**2.27**	**168**	PN	Pn	14 06 32.4	-1.1
WMGZ	**Waiomatatini S**	**2.29**	**75**	PN	Pn	14 06 33.4	-0.3
TIWZ	**Tintock**	**2.33**	**175**	PN	Pn	14 06 32.8	-1.4
TIWZ				AML	AML	14 07 03.9	
TIWZ				AML	AML	14 07 04.0	
OGWZ	**Otaki Gorge**	**2.38**	**188**	PN	Pn	14 06 33.4	-1.5
HOWZ	**Holdsworth Sta**	**2.44**	**182**	PN	Pn	14 06 33.7	-1.9
KIW	**Kapiti Island**	**2.47**	**193**	PN	Pn	14 06 34.0	-1.8
CPWZ	**Castlepoint**	**2.49**	**170**	PN	Pn	14 06 35.0	-1.1
TMWZ	**Te Maipa**	**2.66**	**176**	PN	Pn	14 06 36.3	-1.9
CAW	**Cannon Point**	**2.68**	**189**	PN	Pn	14 06 36.5	-2.0
CAW				AML	AML	14 07 10.6	
CAW				AML	AML	14 07 10.7	
DUWZ	**D'Urville Isla**	**2.69**	**209**	PN	Pn	14 06 36.6	-2.0
MTW	**Mount Morrison**	**2.70**	**182**	⇓PN	Pn	14 06 36.5	-2.2
MTW				AML	AML	14 07 10.5	
MTW				AML	AML	14 07 10.5	
WEL	**Wellington**	**2.90**	**193**	PN	Pn	14 06 38.8	-2.4
PAWZ	**Paruwai Farm**	**2.93**	**183**	PN	Pn	14 06 39.8	-2.5
TRWZ	**Traveller**	**2.94**	**179**	PN	Pn	14 06 39.5	-2.2
TRWZ				AML	AML	14 07 17.2	
TCW	**Tory Channel**	**2.94**	**200**	PN	Pn	14 06 39.3	-2.3
TCW				AML	AML	14 07 15.3	
TCW				AML	AML	14 07 15.4	
MSWZ	**Moikau Station**	**2.97**	**186**	PN	Pn	14 06 39.5	-2.6
MSWZ				AML	AML	14 07 16.3	
BHW	**Baring Head**	**3.01**	**191**	PN	Pn	14 06 39.9	-2.5
PLWZ	**Palliser**	**3.12**	**185**	PN	Pn	14 06 41.1	-2.8
TUWZ	**Tuamarina**	**3.24**	**203**	PN	Pn	14 06 42.8	-2.6
TUWZ				AML	AML	14 07 22.5	
TUWZ				AML	AML	14 07 23.1	
NNZ	**Nelson**	**3.26**	**211**	PN	Pn	14 06 42.6	-3.0
NNZ				SN	Sn	14 07 21.0	-4.3
QRZ	**Quartz Range**	**3.37**	**224**	PN	Pn	14 06 43.8	-3.2
THZ	**Tophouse**	**3.91**	**211**	PN	Pn	14 06 50.7	-3.3
KHZ	**Kahutara**	**4.27**	**201**	PN	Pn	14 06 55.4	-3.2
OXZ	**Oxford**	**5.57**	**208**	PN	Pn	14 07 10.5	-5.2
MQZ	**McQueen's Vall**	**5.71**	**202**	PN	Pn	14 07 12.3	-5.2

*ISCJB **11** 14:23:07.9±2.5, 37.8N±0.1×36.10E±0.07, h15km, Error ellipse: s-maj=20.7km s-min=7.6km az=169.1*
*DDA **11** 14:23:10.3, 37.59N×36.17E, h7km, MD2.6*
ISC 11 14:23:08.7±2.9, 37.7N±0.2×36.15E±0.05, h15km, n4, σ0.25/7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.34**	**229**	*e*PG	**Pg**	**14 23 15.7**	**0.0**
KOZT				*e*SG	**Sg**	**14 23 20.7**	**+0.1**
KMRS	**Kahramanmaras**	**0.63**	**108**	*e*PG	**Pg**	**14 23 21.1**	**0.0**
HCB	**Kahramanmara¯**	**0.70**	**121**	*i* P	**Pb**	**14 23 22.7**	**0.0**
HCB				*i* S	**Sb**	**14 23 32.6**	**+0.3**
KUZU	**Kuzuini**	**1.19**	**141**	*i* P	**Pg**	**14 23 31.6**	**0.0**
KUZU				*i* S	**Sn**	**14 23 46.5**	**-0.3**

*HLW **11** 14:23:23.6, 35.21N×34.26E, h15km±20km, Md3.2, Ml3.1*
*DDA **11** 14:23:24.4, 34.94N×34.18E, h6km, MD3.6*
*ISK **11** 14:23:25.4, 34.82N×34.29E, h5km, ML3.6*
*IDC **11** 14:23:26.1±0.9, 34.90N×34.19E, h0km, mb3.5/8, mb1 3.7/14, mb1mx3.5/37, mbtmp3.5/14, ML3.6/5, MS2.7/1, Ms1 2.7/1, ms1mx2.1/33, Error ellipse: s-maj=19.8km s-min=15.5km az=78.0*
*NIC **11** 14:23:26.4, 34.86N×34.27E, h11km, mb4.0, ML3.7*
*CSEM **11** 14:23:27.4±0.1, 34.80N×34.18E, h10km, MD3.1, Error ellipse: s-maj=3.6km s-min=2.3km az=70.0*
*GII **11** 14:23:28.3±0.3, 34.76N×34.15E, h10km, MD3.1/10*
ISC 11 14:23:27.5±1.2, 34.84N±0.02×34.20E±0.02, h13km±8km, n137, σ1.9/20/182, mb3.3/7, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EREN	**Erenkoy**	**0.68**	**358**	*e*PG	**Pg**	**14 23 39.9**	**-0.9**
EREN	**Erenkoy**	**0.68**	**358**	*e*Pg	**Pg**	**14 23 39.9**	**-0.9**
LFK	**Lefkose**	**0.69**	**309**	*e*PG	**Pg**	**14 23 41.3**	**+0.3**
LFK				*e*SG	**Sn**	**14 23 53.2**	**-0.5**
LFK	**Lefkose**	**0.69**	**309**	*e*Pg	**Pg**	**14 23 41.3**	**+0.3**
LFK				*e*Sg	**Sn**	**14 23 53.3**	**-0.5**
CSS	**Prodhromos**	**0.72**	**280**	*e*PG	**Pb**	**14 23 42.1**	**+0.2**
CSS				*e*SG	**Sn**	**14 23 54.6**	**+0.3**
CSS	**Prodhromos**	**0.72**	**280**	P	**Pg**	**14 23 40.8**	**-0.7**
	baz=97						
CSS				S	**Sb**	**14 23 52.0**	**+0.3**
CSS	**Prodhromos**	**0.72**	**280**	Pg	**Pg**	**14 23 41.6**	**+0.1**
CSS	**Prodhromos**	**0.72**	**280**	P	**Pg**	**14 23 40.8**	**-0.7**
CSS	**Prodhromos**	**0.72**	**280**	Pg	**Pg**	**14 23 41.6**	**+0.1**
CSS				S	**Sb**	**14 23 52.0**	**+0.3**
CSS				*e*Sg	**Sn**	**14 23 54.6**	**+0.3**
MAMC	**Mammari**	**0.86**	**292**	P	**Pg**	**14 23 44.1**	**-0.1**
	baz=109						
MAMC	**Mammari**	**0.86**	**292**	P	**Pg**	**14 23 44.1**	**-0.1**
SZAC	**Souni-Zanaja**	**1.08**	**266**	P	**Pb**	**14 23 48.2**	**+0.1**
	baz=84						
SZAC				S	**Sn**	**14 24 04.0**	**+0.7**
SZAC	**Souni-Zanaja**	**1.08**	**266**	P	**Pb**	**14 23 48.2**	**+0.1**
SZAC				S	**Sn**	**14 24 04.0**	**+0.7**
AKDN	**Akdeniz- K¯-br**	**1.10**	**295**	*e*PN	**Pn**	**14 23 48.5**	**-0.1**
AKDN	**Akdeniz- K¯-br**	**1.10**	**295**	*e*Pn	**Pn**	**14 23 48.5**	**-0.1**
LEF	**Lefka**	**1.10**	**285**	*e*PN	**Pg**	**14 23 49.4**	**+0.6**
LEF	**Lefka**	**1.10**	**285**	*e*Pn	**Pg**	**14 23 49.4**	**+0.6**
ALFC	**Alevga**	**1.35**	**284**	P	**Pn**	**14 23 51.5**	**-0.5**
	baz=101						
ALFC				S	**Sg**	**14 24 10.9**	**0.0**
ALFC	**Alevga**	**1.35**	**284**	P	**Pn**	**14 23 51.5**	**-0.5**
ALFC				S	**Sg**	**14 24 10.9**	**0.0**
BHL	**Bhannes**	**1.53**	**127**	*e*P	**Pn**	**14 23 53.8**	**-0.8**
BHL	**Bhannes**	**1.53**	**127**	*e*P	**Pn**	**14 23 53.8**	**-0.8**
HWQ	**Hawqa**	**1.55**	**111**	*e*P	**Pn**	**14 23 55.3**	**+0.4**
HWQ	**Hawqa**	**1.55**	**111**	*e*P	**Pn**	**14 23 55.3**	**+0.4**
DQRL	**Deir Qamar**	**1.61**	**135**	*e*P	**Pn**	**14 23 55.5**	**-0.2**
DQRL	**Deir Qamar**	**1.61**	**135**	*e*P	**Pn**	**14 23 55.5**	**-0.2**
KIZK	**Mersin**	**1.63**	**359**	*i* P	**Pn**	**14 23 53.2**	**-2.8**
KIZK				*i* S	**Sn**	**14 24 16.2**	**-0.6**
KIZK	**Mersin**	**1.63**	**359**	*i* P	**Pn**	**14 23 53.2**	**-2.8**
KIZK				*i* S	**Sn**	**14 24 16.2**	**-0.6**
RCY	**Rachaya**	**1.91**	**134**	*e*P	**Pn**	**14 23 59.8**	**-0.1**
RCY	**Rachaya**	**1.91**	**134**	*e*P	**Pn**	**14 23 59.8**	**-0.1**
FKH	**Fakeheh**	**1.92**	**107**	*e*P	**Pn**	**14 24 00.8**	**+0.7**
FKH	**Fakeheh**	**1.92**	**107**	*e*P	**Pn**	**14 24 00.8**	**+0.7**
HNTI	**Hanita**	**1.94**	**155**	Pn	**Pn**	**14 24 00.0**	**-0.1**
HNTI				Sn	**Sn**	**14 24 24.0**	**-0.3**
HNTI	**Hanita**	**1.94**	**155**	Pn	**Pn**	**14 24 00.0**	**-0.1**
HNTI				Sn	**Sn**	**14 24 24.0**	**-0.3**
YAYL	**Yayladag**	**1.96**	**52**	*i* P	**Pn**	**14 23 58.9**	**-1.7**
YAYL				*i* S	**Sn**	**14 24 21.6**	**-3.6**
YAYL	**Yayladag**	**1.96**	**52**	*i* P	**Pn**	**14 23 58.9**	**-1.7**
YAYL				*i* S	**Sn**	**14 24 21.6**	**-3.6**
KRTS	**Karatas**	**1.97**	**29**	*e*PN	**Pn**	**14 24 01.1**	**+0.5**
KRTS	**Karatas**	**1.97**	**29**	*e*Pn	**Pn**	**14 24 01.1**	**+0.5**
MERS	**Mersin**	**2.04**	**7**	*e*PN	**Pn**	**14 24 02.2**	**+0.6**
MERS	**Mersin**	**2.04**	**7**	*e*Pn	**Pn**	**14 24 02.2**	**+0.6**
KSDI	**Kefar Szold**	**2.05**	**143**	Pn	**Pn**	**14 24 01.7**	**+0.1**
KSDI				SN	**Sn**	**14 24 26.0**	**-1.1**
KSDI	**Kefar Szold**	**2.05**	**143**	Pn	**Pn**	**14 24 01.7**	**+0.1**
KSDI				SN	**Sn**	**14 24 26.0**	**-1.1**
GAZI	**Gazipasa**	**2.07**	**313**	*i* P	**Pn**	**14 24 00.8**	**-1.1**
GAZI				*i* S	**Sn**	**14 24 23.8**	**-3.8**
GAZI	**Gazipasa**	**2.07**	**313**	*i* P	**Pn**	**14 24 00.8**	**-1.1**
GAZI				*i* S	**Sn**	**14 24 23.8**	**-3.8**
MMC7	**Mount Meron ar**	**2.07**	**151**	Pn	**Pn**	**14 24 01.7**	**-0.4**
MMC7	**Mount Meron ar**	**2.07**	**151**	Pn	**Pn**	**14 24 01.7**	**-0.4**
ERMK	**Ermenek**	**2.07**	**330**	*i* P	**Pn**	**14 24 01.9**	**-0.3**
ERMK				*i* SN	**Sn**	**14 24 28.5**	**+0.5**
ERMK	**Ermenek**	**2.07**	**330**	*i* P	**Pn**	**14 24 01.9**	**-0.3**
ERMK				*i* S	**Sn**	**14 24 28.5**	**+0.5**
MMA0B	**Mount Meron ar**	**2.08**	**151**	Pn	**Pn**	**14 24 01.5**	**-0.7**
MMA0B	**Mount Meron ar**	**2.08**	**151**	Pn	**Pn**	**14 24 01.5**	**-0.7**
MMAI	**Mount Meron Ar**	**2.08**	**151**	Pn	**Pn**	**14 24 01.9**	**-0.3**
	54nm,0.3s,baz=334,slow=13,SNR=297						
MMAI				Sn	**Sn**	**14 24 24.3**	**-3.7**
	58nm,0.3s,baz=338,slow=23,SNR=6.4						
BLGI	**Bet Lehem HaGe**	**2.26**	**158**	Pn	**Pn**	**14 24 04.8**	**+0.2**
BLGI	**Bet Lehem HaGe**	**2.26**	**158**	Pn	**Pn**	**14 24 04.8**	**+0.2**
OFRI	**'Ofer**	**2.31**	**163**	Pn	**Pn**	**14 24 04.7**	**-0.6**
GULE	**Gulek**	**2.48**	**11**	*i* P	**Pn**	**14 24 09.1**	**+1.3**
GULE				*i* S	**Sn**	**14 24 39.6**	**+1.6**
GULE	**Gulek**	**2.48**	**11**	*i* P	**Pn**	**14 24 09.1**	**+1.3**
GULE				*i* S	**Sn**	**14 24 39.6**	**+1.6**
CEYT	**Ceyhan**	**2.50**	**30**	*e*PN	**Pn**	**14 24 08.5**	**+0.6**
CEYT	**Ceyhan**	**2.50**	**30**	*e*Pn	**Pn**	**14 24 08.5**	**+0.6**
KARA	**Karaisali**	**2.51**	**16**	*e*PN	**Pn**	**14 24 09.3**	**+1.2**
KARA	**Karaisali**	**2.51**	**16**	*e*Pn	**Pn**	**14 24 09.3**	**+1.2**
MMLI	**Mount Malkishu**	**2.61**	**157**	*e*PN	**Pn**	**14 24 09.5**	**+0.1**
MMLI	**Mount Malkishu**	**2.61**	**157**	Pn	**Pn**	**14 24 09.6**	**+0.2**
MMLI				Sn	**Sn**	**14 24 41.1**	**+0.1**
MMLI	**Mount Malkishu**	**2.61**	**157**	*e*Pn	**Pn**	**14 24 09.5**	**+0.1**
SLTI	**Sal'it**	**2.69**	**165**	Pn	**Pn**	**14 24 09.9**	**-0.6**
SLTI				Sn	**Sn**	**14 24 44.0**	**+1.0**
KOZT	**Kozan**	**2.94**	**26**	*e*PN	**Pn**	**14 24 15.4**	**+1.5**
KOZT	**Kozan**	**2.94**	**26**	*e*Pn	**Pn**	**14 24 15.5**	**+1.5**
KAMA	**Osmaniye**	**3.08**	**40**	*i* P	**Pn**	**14 24 17.3**	**+1.4**
NIG	**Nigde**	**3.28**	**6**	*e*PN	**Pn**	**14 24 20.6**	**+1.8**
NIG	**Nigde**	**3.

comp=N,3.7nm,0.8s,baz=176,slow=4.9,SNR=5.9
KURBB Kurchatov Arra 35.59 50 P **P 14 30 24.7 +0.1**
comp=N,0.2nm,0.5s,baz=260,slow=8.4,SNR=3.9
TORD Torodi Ar. Bea 36.46 242 P **P 14 30 34.1 +1.8**
comp=N,0.1nm,0.5s,baz=48,slow=7.0,SNR=3.4
MKAR Makanchi Array 37.75 57 P **P 14 30 44.0 +1.0**
comp=N,0.3nm,0.8s,baz=259,slow=13,SNR=3.0
YKA Yellowknife Ar 79.80 346 P **P 14 35 34.5 -0.6**
comp=N,0.1nm,0.5s,baz=44,slow=5.5,SNR=3.1

*IDC **11** 14:30:45.6±2.0,54°.20N×86°.06E,h0km,mb1 3.4/3, mb1mx3.2/31,mbtmp3.4/3,ML3.4/3,Error ellipse: s-maj=16.5km s-min=9.7km az=61.0*
*NNC **11** 14:30:47.8±2.6,54°.09N×85°.97E,h0km,mb3.9,mpv3.5, Error ellipse: s-maj=19.3km s-min=16.2km az=26.0*
ISC 11 14:30:47.2±4.4,54°.4N±0°.2×86°.0E±0°.2,h35km,n8, σ2°66/11,5C-3D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.84**	**237**	*i*			14 36 00.0	
	baz=67,slow=324,SNR=8.2							
ZALV	**Zalesovo Beam**	**0.84**	**237**	Pg		Pn	14 30 59.0	-3.5
	3.9nm,0.3s,baz=70,slow=17,SNR=39							
ZALV				Lg		Lg	14 31 12.4	
	12nm,0.3s,baz=71,slow=31,SNR=46							
ZALV				Rg		Rg	14 31 16.2	
	128nm,1.0s,baz=66,slow=35,SNR=43							
KURK	**Kurchatov**	**5.83**	**234**	⇓Pn		**Pn**	**14 32 12.5**	**+1.5**
	2.4nm,1.1s							
KURK				⇑Sn		**Sn**	**14 33 18.8**	**+2.1**
	1.0nm,0.8s							
KURK				⇑Lg		Lg	14 33 49.6	
	5.2nm,1.4s							
KURBB	**Kurchatov Arra**	**5.94**	**233**	⇓Pn		**Pn**	**14 32 14.5**	**+2.0**
	6.7nm,0.8s,baz=52,slow=13							
KURBB				⇑Sn		**Sn**	**14 33 21.2**	**+1.9**
	4.0nm,0.5s							
KURBB				⇓Lg		Lg	14 33 52.3	
	14nm,0.7s,baz=49,slow=31							
KURBB	**Kurchatov Arra**	**5.94**	**233**	Pn		**Pn**	**14 32 14.1**	**+1.6**
	0.4nm,0.3s,baz=51,slow=13,SNR=26							
KURBB				Lg		Lg	14 33 48.1	
	0.0nm,0.3s,baz=54,slow=30,SNR=3.2							
MK31	**Makanchi Array**	**7.98**	**199**	Pn		**Pn**	**14 32 41.1**	**+0.5**
	2.5nm,0.6s,baz=42,slow=43,SNR=54							
MK31				⇑Sn		**Sn**	**14 34 08.5**	**-1.1**
	1.2nm,0.7s							
MK31				⇑Lg		Lg	14 34 54.2	
	4.3nm,1.1s							
MKAR	**Makanchi Array**	**7.98**	**199**	Pn		**Pn**	**14 32 41.5**	**+0.9**
	1.3nm,0.3s,baz=38,slow=14,SNR=45							
MKAR				Sn		**Sn**	**14 34 07.1**	**-2.5**
	0.2nm,0.3s,baz=20,slow=26,SNR=3.6							
MKAR				Lg		Lg	14 34 50.0	
	baz=17,slow=31,SNR=2.4							
BVAR	**Borovoye Array**	**9.37**	**268**	Pn		**Pn**	**14 33 01.6**	**+2.0**
	0.3nm,0.3s,baz=79,slow=18,SNR=4.6							
BVAR				Sn		**Sn**	**14 34 38.5**	**-5.2**
	0.2nm,0.3s,baz=71,slow=26,SNR=3.5							

*VIE **11** 14:37:44.2±0.8,44°.75N×14°.84E,h9km±6km,mb1.8/1, ML2.6/1,Error ellipse: s-maj=4.7km s-min=3.0km az=175.0 74 km SSE of Rijeka*
*CSEM **11** 14:37:45.0±0.4,44°.77N×14°.86E,h15km,ML2.6,Error ellipse: s-maj=10.4km s-min=5.4km az=68.0*
ISC 11 14:37:45.0±0.9,44°.78N±0°.03×14°.91E±0°.06,h13km±9km, n11,σ0°49/22,2C,Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NVLJ	**Novalja**	**0.21**	**188**	*e*Pg		**Pg**	**14 37 49.3**	**-0.4**
NVLJ				Sg		**Sg**	**14 37 53.0**	**+0.2**
NVLJ	**Novalja**	**0.21**	**188**	*e*Pg		**Pg**	**14 37 49.3**	**-0.4**
NVLJ				Sg		**Sg**	**14 37 53.0**	**+0.2**
UDBI	**Udbina**	**0.66**	**112**	*i* Pg		**Pb**	**14 37 58.8**	**+0.3**
UDBI				Sg		**Sn**	**14 38 10.0**	**-0.4**
UDBI	**Udbina**	**0.66**	**112**	*i* Pg		**Pb**	**14 37 58.7**	**+0.3**
UDBI				Sg		**Sn**	**14 38 10.0**	**-0.4**
GBRS	**Gornja Briga**	**0.76**	**355**	*i* Pg		**Pg**	**14 37 59.0**	**-0.7**
GBRS				*i* Sg		**Sn**	**14 38 12.0**	**-0.9**
BOJS	**Bojanci**	**0.77**	**18**	*i* Pg		**Pg**	**14 37 59.5**	**-0.4**
BOJS				*i* Sg		**Sb**	**14 38 11.1**	**+0.5**
	comp=Z,5.0nm,0.2s							
BOJS	**Bojanci**	**0.77**	**18**	*i* Pg		**Pg**	**14 37 59.5**	**-0.4**
BOJS				*i* Sg		**Sb**	**14 38 11.1**	**+0.5**
	comp=Z,5.0nm,0.2s							
SKDS	**Skadanscina**	**1.00**	**321**	*i* Pg		**Pn**	**14 38 04.8**	**0.0**
SKDS				*i* Sg		**Sn**	**14 38 18.8**	**0.0**
SKDS	**Skadanscina**	**1.00**	**321**	*i* Pg		**Pn**	**14 38 04.8**	**0.0**
SKDS				*i* Sg		**Sn**	**14 38 18.8**	**0.0**
OBKA	**Obir**	**1.75**	**352**	⇑*i*Pg		**Pg**	**14 38 18.1**	**-0.6**
OBKA				⇑*i*Sg		**Sg**	**14 38 42.0**	**+0.6**
	comp=Z,17nm,0.3s							
OBKA	**Obir**	**1.75**	**352**	Pg		**Pg**	**14 38 18.1**	**-0.6**
OBKA				Sg		**Sg**	**14 38 42.0**	**+0.6**
	comp=Z,17nm,0.3s							

*SJA **11** 14:45:42.6±0.6,21°.61S×68°.29W,h217km±38km,ML2.6*
*ISCJB **11** 14:45:45.9±0.4,21°.92S±0°.04×68°.52W±0°.05,h127km±5km, mb3.8/4,Error ellipse: s-maj=9.5km s-min=4.6km az=137.8*
*IDC **11** 14:45:45.8±0.8,22°.04S×68°.17W,h108km±9km,mb3.6/4, mb1 3.6/8,mb1mx3.4/38,mbtmp3.8/8,MS2.2/1,Ms1 2.4/1, ms1mx2.1/21,Error ellipse: s-maj=25.4km s-min=17.5km az=115.0*
*GUC **11** 14:45:46.2±0.6,21°.92S×68°.59W,h126km±4km,ML4.1*
ISC 11 14:45:46.9±0.7,21°.89S±0°.05×68°.50W±0°.05,h119km±6km, n36,σ0°92/39,mb3.8/4,5C-3D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB09	**IPOC Station P**	**0.70**	**278**	⇑*i*P		**Pn**	**14 46 06.4**	**0.0**
PB09				*i* S		**Sn**	**14 46 21.0**	**0.0**
PB09				AML		AML	14 46 26.2	
	comp=N,7μm,0.7s							
LVC	**Limon Verde**	**0.81**	**208**	P		**Pn**	**14 46 06.8**	**-0.6**
	comp=N,9μm,0.3s,baz=14,slow=9.6,SNR=1013							
LVC				S		**Sn**	**14 46 22.0**	**-0.9**
	comp=N,11μm,0.3s,baz=244,slow=2.1,SNR=86							
PB04	**IPOC Station P**	**0.99**	**248**	⇑*e*P		Pn	14 46 14.9	+6.2
PB04				*e*S		Sn	14 46 36.8	+12
PB04				AML		AML	14 46 39.9	
	comp=N,2μm,0.4s							
PB01	**IPOC Station P**	**1.25**	**312**	⇑*e*P		**Pn**	**14 46 11.3**	**-0.3**
PB01				*e*S		**Sn**	**14 46 31.0**	**+0.8**
PB01				AML		AML	14 46 33.2	
	comp=E,3μm,0.3s							
PB06	**IPOC Station P**	**1.28**	**231**	⇑*e*P		**Pn**	**14 46 11.6**	**-0.4**
PB06				*e*S		**Sn**	**14 46 30.9**	**-0.1**
PB07	**IPOC Station P**	**1.30**	**277**	⇑*e*P		**Pn**	**14 46 11.9**	**-0.3**
PB07				*e*S		**Sn**	**14 46 31.3**	**-0.1**
PB07				AML		AML	14 46 32.6	
	comp=E,3μm,0.2s							
PATCX	**Punta Patache**	**1.88**	**304**	*e*P		**Pn**	**14 46 18.5**	**-0.4**
PATCX				*e*S		**Sn**	**14 46 43.3**	**0.0**
PATCX				AML		AML	14 46 45.4	
	comp=E,4μm,0.4s							
CEN1	**Los Morros**	**2.17**	**226**	*e*P		**Pn**	**14 46 23.4**	**+0.8**
PB11	**IPOC Station P**	**2.38**	**333**	⇓*e*P		**Pn**	**14 46 25.1**	**-0.2**
PB11				*e*S		**Sn**	**14 46 55.4**	**+0.6**
ANCH	**Antofagasta**	**2.51**	**224**	*e*P		**Pn**	**14 46 26.2**	**-0.6**
PSGC	**Pisagua**	**2.74**	**326**	⇓*e*P		**Pn**	**14 46 28.5**	**-1.5**
MNMC	**Minimini**	**2.93**	**339**	⇓*e*P		**Pn**	**14 46 32.5**	**-0.2**
HJA	**Humahuaca**	**3.14**	**115**	*i* P		**Pn**	**14 46 35.8**	**+0.4**
HJA				*i* P		**Pn**	**14 46 35.8**	**+0.4**
AZAP	**Zapla**	**3.92**	**127**	*i* P		**Pn**	**14 46 45.2**	**-0.4**
AZAP				*i* S		**Sn**	**14 47 32.6**	**+1.5**
AZAP				AML		AML	14 47 35.8	
	comp=Z,7.7nm,0.4s							
SLA	**San Lorenzo**	**3.94**	**136**	*i* P		**Pn**	**14 46 46.3**	**+0.5**
SLA				*i* S		**Sn**	**14 47 33.1**	**+1.8**
SLA				AML		AML	14 47 37.5	
	comp=Z,4.5nm,0.6s							
ASTB	**Santa Barbara**	**4.23**	**120**	*i* P		**Pn**	**14 46 48.7**	**-1.0**
ASTB				*i* S		**Sn**	**14 47 37.4**	**-0.9**
ALOL	**LOMAS DE OLMED**	**4.59**	**115**	*i* P		**Pn**	**14 46 52.8**	**-1.7**
FSA	**Cafayete**	**4.76**	**152**	*i* P		**Pn**	**14 46 57.8**	**+1.0**
LPAZ	**La Paz**	**5.59**	**4**	P		**Pn**	**14 47 10.2**	**+1.8**
	comp=Z,1.1nm,0.3s,baz=185,slow=5.6,SNR=19							
LPAZ				S		Sn	14 47 59.2	-13
	comp=Z,0.2nm,0.3s,baz=163,slow=19,SNR=2.8							
LPAZ				LR		LR	14 50 14.9	
	comp=Z,27nm,21.9s,baz=59,slow=47							
SIV	**San Ignacio**	**9.15**	**51**	P		Pn	14 47 52.3	-3.8
	comp=Z,1.4nm,0.3s,baz=244,slow=13,SNR=19							
SIV				S		Sn	14 49 26.5	-11
	comp=Z,0.1nm,0.3s,baz=180,slow=20,SNR=2.2							
CFAA	**Coronel Fontan**	**9.68**	**179**	P		Pn	14 47 58.7	-4.4
	comp=Z,0.1nm,0.3s,baz=356,slow=14,SNR=4.8							
PLCA	**Paso Flores**	**18.86**	**185**	P		**P**	**14 49 57.7**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=14,slow=3.0,SNR=2.8							
TXAR	**Lajitas Array**	**61.17**	**325**	P		**P**	**14 55 51.4**	**+2.1**
	comp=Z,0.2nm,0.8s,baz=144,slow=8.5,SNR=4.2							
DBIC	**Dimbokro**	**68.48**	**73**	P		**P**	**14 56 35.6**	**-1.2**
	comp=Z,3.9nm,0.6s,baz=226,slow=8.0,SNR=6.5							
TORD	**Torodi Ar. Bea**	**77.13**	**70**	P		**P**	**14 57 26.5**	**-1.4**
	comp=Z,1.2nm,0.4s,baz=260,slow=5.5,SNR=24							
YKA	**Yellowknife Ar**	**91.68**	**340**	P		**P**	**14 58 40.5**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=134,slow=4.1,SNR=3.9							
YKA				pP		**pP**	**14 59 11.7**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=145,slow=4.8,SNR=3.0							
H11S2	**WAKE ISLAND Hyd**	**128.31**	**277**	T		T	17 24 58.8	
	baz=103							
H11S1	**WAKE ISLAND Hyd**	**128.31**	**277**	T		T	17 24 59.7	
	baz=103							
H11S3	**WAKE ISLAND Hyd**	**128.32**	**277**	T		T	17 25 00.2	
	baz=103							
H11N3	**WAKE ISLAND Hyd**	**128.40**	**278**	T		T	17 25 06.4	
	baz=102							
H11N2	**WAKE ISLAND Hyd**	**128.41**	**278**	T		T	17 25 09.2	
	baz=102							
H11N1	**WAKE ISLAND Hyd**	**128.41**	**278**	T		T	17 25 06.7	
	baz=102							
ASAR	**Alice Springs**	**129.74**	**207**	PKP		**PKPdf**	**15 04 42.5**	**-0.4**
	comp=Z,0.1nm,0.5s,baz=128,slow=1.8,SNR=3.2							
WRA	**Warramunga Arr**	**132.81**	**210**	PKP		**PKPdf**	**15 04 49.2**	**+0.4**
	comp=Z,0.6nm,1.0s,baz=157,slow=1.8,SNR=3.4							
ZALV	**Zalesovo Beam**	**142.14**	**26**	PKP		**PKPdf**	**15 05 05.1**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=290,slow=4.2,SNR=2.5							
MKAR	**Makanchi Array**	**145.72**	**37**	PKPbc		**PKPdf**	**15 05 11.0**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=288,slow=7.1,SNR=4.4							

*IDC **11** 15:13:17.0±1.5,34°.59S×72°.18W,h0km,mb3.6/3, mb1 3.9/6,mb1mx3.8/20,mbtmp3.7/6,ML3.8/3,MS3.5/1, Ms1 3.5/1,ms1mx2.7/17,Error ellipse: s-maj=33.9km s-min=22.3km az=127.0*
*GUC **11** 15:13:16.0±0.7,34°.66S×72°.04W,h13km±5km,ML4.3*
*NEIC **11** 15:13:18.1±1.1,34°.62S×72°.25W,h10km,ML4.3(GUC), Error ellipse: s-maj=29.3km s-min=13.9km az=97.0*
NEIC Felt [IV] at Paredones, [III] at Pichilemu and [II] at San Fernando and Santa Cruz.
ISC 11 15:13:17.3±2.1,34°.65S±0°.04×71°.95W±0°.09,h12km±14km, n26,σ0°98/23,6C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NICH	**Los Niches**	**0.69**	**121**	⇓*i*P		**Pn**	**15 13 31.9**	**-1.0**
NICH				*i* S		**Sn**	**15 13 42.9**	**-0.7**
TALC	**Talca**	**0.79**	**161**	⇑*i*P		**Pb**	**15 13 32.3**	**-0.6**
TALC				*i* S		**Sb**	**15 13 43.5**	**-0.1**
LNV	**Longovilo**	**0.83**	**33**	⇓*i*P		**Pb**	**15 13 33.2**	**-0.4**
LNCH	**Linares**	**1.23**	**167**	⇑*i*P		**Pn**	**15 13 39.0**	**-1.3**
LNCH				*i* S		**Sn**	**15 13 55.7**	**-1.1**
LNCH				AML		AML	15 13 57.4	
	comp=E,9μm,0.2s							
CACH	**El Canelo**	**1.24**	**65**	⇓*i*P		**Pg**	**15 13 41.1**	**0.0**
CHCH	**Chadas Angostu**	**1.29**	**57**	⇑*i*P		**Pb**	**15 13 41.6**	**0.0**
RCDM	**Rinconada Maip**	**1.50**	**40**	⇑*i*P		**Pb**	**15 13 44.6**	**-0.5**
RCDM				*i* S		**Sg**	**15 14 05.9**	**+0.4**
PCH	**Pirque**	**1.58**	**50**	*e*P		**Pb**	**15 13 46.2**	**-0.2**
PCH				*i* S		**Sg**	**15 14 08.9**	**+0.9**
SAN	**Santiago**	**1.61**	**42**	⇑*i*P		**Pb**	**15 13 46.3**	**-0.6**
SAN				*e*S		**Sg**	**15 14 08.9**	**-0.1**
IHA	**Instituto Hidr**	**1.64**	**9**	*e*P		**Pb**	**15 13 45.8**	**-1.7**
CLCH	**Cerro Calan**	**1.72**	**44**	⇓*i*P		**Pb**	**15 13 48.0**	**-0.9**
CLCH				*i* S		**Sg**	**15 14 12.6**	**+0.1**
CLCH				AML		AML	15 14 24.2	
	comp=E,5μm,0.7s							
CLCH				AML		AML	15 14 24.8	
	comp=E,6μm,0.7s							
PEL	**Peldehue**	**1.84**	**35**	⇑*i*P		**Pb**	**15 13 49.4**	**-1.4**
PEL				AML		AML	15 14 19.3	
	comp=N,6μm,0.6s							
FCH	**Farellones**	**1.91**	**47**	AML		AML	15 14 22.2	
	comp=E,2μm,0.5s							
CFAA	**Coronel Fontan**	**4.35**	**47**	Pn		Pn	15 14 27.2	+3.9
	comp=E,0.7nm,0.3s,baz=222,slow=12,SNR=39							
CFAA				Sn		Sb	15 15 20.4	-5.8
	comp=E,0.4nm,0.3s,baz=229,slow=20,SNR=1.8							
CFAA				Lg			15 15 36.8	
	comp=E,1.3nm,0.3s,baz=286,slow=21,SNR=5.9							
PLCA	**Paso Flores**	**6.17**	**170**	Pn		**Pn**	**15 14 50.2**	**+1.9**
	comp=E,1.1nm,0.3s,baz=330,slow=8.8,SNR=19							
PLCA				Lg		Lg	15 16 25.6	
	comp=E,0.5nm,0.3s,baz=242,slow=20,SNR=5.7							
LVC	**Limon Verde**	**12.29**	**13**	LR		LR	15 21 54.3	
	comp=E,224nm,18.7s,baz=212,slow=42							
LPAZ	**La Paz**	**18.61**	**12**	P		**Pn**	**15 17 36.9**	**+1.4**
	comp=E,0.1nm,0.3s,baz=172,slow=3,SNR=11							
SIV	**San Ignacio**	**21.00**	**30**	P		**P**	**15 18 01.1**	**+0.4**
	comp=E,1.5nm,0.5s,baz=212,slow=11,SNR=5.8							
TXAR	**Lajitas Array**	**70.34**	**331**	P		**P**	**15 24 31.4**	**+0.5**
	comp=E,0.4nm,0.6s,baz=152,slow=8.9,SNR=6.7							
TORD	**Torodi Ar. Bea**	**84.37**	**70**	P		P	15 25 52.8	+3.1
	comp=E,0.3nm,0.7s,baz=241,slow=5.9,SNR=2.9							
H11S2	**WAKE ISLAND Hyd**	**125.83**	**269**	T		T	17 50 42.4	
	baz=120,slow=74,SNR=15							
H11S1	**WAKE ISLAND Hyd**	**125.84**	**269**	T		T	17 50 29.8	
	baz=120,slow=74,SNR=17							
H11S3	**WAKE ISLAND Hyd**	**125.85**	**269**	T		T	17 50 34.1	
	baz=120,slow=74,SNR=14							
H11N3	**WAKE ISLAND Hyd**	**126.26**	**270**	T		T	17 51 08.3	
	baz=121,slow=75,SNR=7.1							
H11N1	**WAKE ISLAND Hyd**	**126.27**	**270**	T		T	17 51 09.4	
	baz=121,slow=75,SNR=18							
H11N2	**WAKE ISLAND Hyd**	**126.28**	**270**	T		T	17 51 09.5	
	baz=121,slow=75,SNR=9.7							

MAN 11 15:36:01,10°.11N×122°.23E,h48km,mb4.6,ML3.4,MS3.3, 1C-1D,Panay

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUIM	**Jordan**	**0.63**	**35**	*e*P		Pn	15 36 15.4	+1.7
GUIM				*e*S		Sn	15 36 26.1	+3.2
SNPH	**Sibulan**	**1.25**	**127**	⇓*i*P		Pn	15 36 16.6	-5.6
SNPH				*i* S		Sn	15 36 35.9	-2.1
RCP	**Roxas**	**1.53**	**19**	*e*P		Pn	15 36 31.7	+5.8
RCP				*e*S		Sn	15 36 54.4	+10
TBP	**Tagbilaran**	**1.67**	**104**	*e*P		Pn	15 36 30.4	+2.6
TBP				*e*S		Sn	15 36 46.4	-1.6
DCPH	**Dipolog City**	**1.88**	**144**	⇑*e*P		Pn	15 36 30.9	+0.2
IPIL	**Ipil**	**2.33**	**172**	*e*P		Pn	15 36 38.3	+1.4
IPIL				*e*S		Sn	15 37 01.6	-2.8
PAGZ	**Pagadian**	**2.52**	**153**	*e*P		Pn	15 36 41.1	+1.6
PAGZ				*e*S		Sn	15 37 07.5	-1.5

CASC 11 15:43:12.5±1.4,13°.29N×89°.62W,h61km±10km,MD3.8, ML3.7,El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SBLS	**San Blas**	**0.55**	**360**	*e*P		Pn	15 43 25.2	-0.2
SNET	**Serv Nac Est T**	**0.55**	**44**	*e*P		Pn	15 43 24.8	-0.4
SNET				*e*S		Sn	15 43 35.5	+1.1
SNET				AML		AML	15 43 37.7	
	comp=Z,2μm,0.2s							
BOQS	**Boqueron**	**0.55**	**37**	*e*P		Pn	15 43 25.1	-0.3
BOQS				*e*S		Sn	15 43 36.3	+1.4
SNJE	**San Jose**	**0.58**	**1**	*e*P		Pn	15 43 25.2	-0.5
RTR	**El Retiro**	**0.60**	**358**	*e*P		Pn	15 43 25.7	-0.3
LFRS	**El Faro**	**0.64**	**58**	*e*P		Pn	15 43 26.2	0.0
LBRS	**Las Brisas**	**0.72**	**51**	*e*P		Pn	15 43 26.6	-0.5
RBDL	**Robledal**	**0.82**	**355**	*e*P		Pn	15 43 27.5	-1.1
SNVI	**San Vicente**	**0.82**	**67**	*e*P		Pn	15 43 28.9	+0.3
SNVI				*e*S		Sn	15 43 41.2	+0.8
IXG	**Ixpaco**	**1.20**	**317**	*e*P		Pn	15 43 32.4	-1.0
VSM	**San Miguel**	**1.32**	**84**	*e*P		Pn	15 43 35.6	+0.5
CAHU	**Cacacuatique**	**1.45**	**71**	*e*P		Pn	15 43 36.3	-0.5
PCG	**Pacaya**	**1.46**	**319**	*e*P		Pn	15 43 37.2	+0.1
PCG				*e*S		Sn	15 43 57.2	+1.8
NBG	**Las Nubes**	**1.47**	**331**	*e*P		Pn	15 43 37.6	+0.4
NBG				*e*S		Sn	15 43 56.8	+1.0
FUG	**Fuego 3**	**1.65**	**314**	*e*P		Pn	15 43 39.9	+0.4
CNCH	**Conchagua**	**1.74**	**90**	*e*P		Pn	15 43 40.9	+0.3
MRL	**Marmol**	**1.77**	**358**	*e*P		Pn	15 43 41.0	-0.1
MRL				*e*S		Sn	15 44 04.2	+1.5
JAT	**Jato**	**2.21**	**298**	*e*P		Pn	15 43 48.4	+1.5

*SJA **11** 15:53:41.0±1.0,33°.23S×72°.68W,h5km±999km,ML3.6*
*GUC **11** 15:53:43.7±0.5,33°.56S×71°.94W,h37km±5km,ML3.6*
ISC 11 15:53:42.9±2.1,33°.56S±0°.05×72°.04W±0°.10,h27km±14km, n18,σ1°48/30,1C-4D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IHA	**Instituto Hidr**	**0.62**	**33**	*e*P		**Pb**	**15 53 55.4**	**+0.2**
IHA				*e*S		**Sb**	**15 54 04.3**	**+0.7**
LNV	**Longovilo**	**0.66**	**127**	⇓*i*P		**Pb**	**15 53 55.5**	**-0.4**
TACH	**Talagante**	**0.93**	**96**	*e*P		**Pb**	**15 53 59.2**	**-1.1**
TACH				*i* S		**Sb**	**15 54 11.2**	**-1.1**
RCDM	**Rinconada Maip**	**1.03**	**87**	*e*P		**Pn**	**15 54 00.9**	**-0.7**
RCDM				*e*S		**Sb**	**15 54 13.9**	**-1.4**
PEL	**Peldehue**	**1.21**	**70**	⇑*e*P		**Pb**	**15 54 05.0**	**-0.1**
PEL				*e*S		**Sb**	**15 54 20.6**	**+0.3**
PEL				AML		AML	15 54 24.2	
	comp=N,4μm,0.4s							
CHCH	**Chadas Angostu**	**1.22**	**108**	*e*P		**Pn**	**15 54 03.8**	**-0.3**
CLCH	**Cerro Calan**	**1.27**	**83**	*e*P		**Pn**	**15 54 05.0**	**+0.2**
CLCH				*e*S		**Sn**	**15 54 20.3**	**-0.7**
CLCH				AML		AML	15 54 28.9	
	comp=N,2μm,0.8s							
FSR	**Penalolen**	**1.27**	**87**	*e*P		**Pn**	**15 54 04.8**	**0.0**
CACH	**El Canelo**	**1.32**	**115**	⇓*e*P		**Pn**	**15 54 06.5**	**+0.8**
CACH				*i* S		**Sb**	**15 54 23.8**	**0.0**
SJCH	**San Jose de Ma**	**1.41**	**94**	*e*P		**Pn**	**15 54 06.3**	**-0.6**
SJCH				*e*S		**Sn**	**15 54 24.2**	**-0.4**
FCH	**Farellones**	**1.48**	**82**	*e*P		**Pn**	**15 54 09.1**	**+1.1**
FCH				*e*S		**Sb**	**15 54 30.4**	**+1.9**
NICH	**Los Niches**	**1.59**	**155**	*e*P		**Pn**	**15 54 10.0**	**+0.8**
AUSP	**Uspallata**	**2.60**	**60**	*i* P		**Pb**	**15 54 27.9**	**-1.0**
AUSP				*i* S		**Sb**	**15 55 03.5**	**+2.9**
ARCO	**CERRO ARCO**	**2.70**	**76**	*i* P		**Pb**	**15 54 31.1**	**+0.5**
ARCO				*i* S		**Sb**	**15 55 08.0**	**+4.5**
ARCO				AML		AML	15 55 10.2	
	comp=Z,158nm,0.3s							
AAGR	**Agrelo**	**2.73**	**81**	⇓*i*P		**Pb**	**15 54 31.1**	**+0.1**
AAGR				⇓*i*P		**Pb**	**15 54 31.1**	**+0.1**
ASAL	**Salagasta**	**2.86**	**71**	*i* P		**Pb**	**15 54 33.3**	**0.0**
RTLS	**Leoncito**	**2.90**	**54**	*i* P		**Pb**	**15 54 31.7**	**-2.4**
RTLS				*i* S		**Sb**	**15 55 09.1**	**-0.1**
RTCV	**Cerro Valdivia**	**3.40**	**61**	*i* P		**Pb**	**15 54 39.7**	**-2.8**

*CSEM **11** 15:57:58.9±0.1,41°.89N×15°.27E,h26km±1km,ML3.8/14, Error ellipse: s-maj=2.9km s-min=2.3km az=12.0*
ROM 11 15:57:58.4±0.1,41°.90N×15°.30E,h30km±1km,MI2.8/36,2D, Error ellipse: s-maj=1.9km s-min=1.4km az=2.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MELA	**Melanico ??? S**	**0.23**	**214**	⇓*i*Pg		Pb	15 58 04.6	-0.4
MELA				Sg		Sb	15 58 09.5	+0.1
	9μm,0.3s							
MELA	**Melanico ??? S**	**0.23**	**214**	⇓*i*Pg		Pb	15 58 04.6	-0.4
MELA				Sg		Sb	15 58 09.5	+0.1
	9μm,0.3s							
SGRT	**San Giovanni R**	**0.36**	**113**	Pg		Pb	15 58 06.8	-0.1
SGRT				Sg		Sb	15 58 13.1	+0.5
	1μm,0.1s							
SGRT	**San Giovanni R**	**0.36**	**113**	Pg		Pb	15 58 06.8	-0.1
SGRT				Sg		Sb	15 58 13.1	+0.5
	1μm,0.1s							
GATE	**Gambatesa**	**0.48**	**217**	Pg		Pn	15 58 09.1	-0.2
GATE				Sg		Sb	15 58 15.5	-0.1
	348nm,0.4s							
GATE	**Gambatesa**	**0.48**	**217**

CERA	**Filignano**	**1.00 253**	Pg	Pb	15 58 17.0	-0.3
	185nm,0.7s					
PAOL	**Paolisi**	**1.02 213**	Pg	Pb	15 58 17.8	+0.1
	112nm,0.4s					
PAOL	**Paolisi**	**1.02 213**	Pg	Pb	15 58 17.8	+0.1
	112nm,0.4s					
INTR	**Introdacqua**	**1.05 277**	Pg	Pn	15 58 17.1	0.0
INTR			Sg	Sb	15 58 31.9	+0.4
	363nm,0.2s					
INTR	**Introdacqua**	**1.05 277**	Pg	Pn	15 58 17.1	0.0
INTR			Sg	Sb	15 58 31.9	+0.4
	363nm,0.2s					
MRVN	**Minervino Murg**	**1.07 141**	Pg	Pn	15 58 17.9	+0.4
	84nm,0.2s					
MRVN	**Minervino Murg**	**1.07 141**	Pg	Pn	15 58 17.9	+0.4
	84nm,0.2s					
PALZ	**Palazzo San Ge**	**1.07 152**	Pg	Pn	15 58 17.9	+0.4
	103nm,0.5s					
PALZ	**Palazzo San Ge**	**1.07 152**	Pg	Pn	15 58 17.9	+0.4
	103nm,0.5s					
CDT	**Castel del Mon**	**1.10 138**	*e*Pg	Pb	15 58 18.4	-0.4
CDT			Sg	Sb	15 58 35.5	+2.7
MCRV	**Calabrutti - M**	**1.12 185**	Pg	Pn	15 58 18.2	0.0
	170nm,0.5s					
MCRV	**Calabrutti - M**	**1.12 185**	Pg	Pn	15 58 18.2	0.0
	170nm,0.5s					
SDI	**San Donato**	**1.13 261**	Pg	Pn	15 58 18.4	+0.2
	64nm,0.2s					
SDI	**San Donato**	**1.13 261**	Pg	Pn	15 58 18.4	+0.2
	64nm,0.2s					
MRLC	**Muro Lucano**	**1.15 173**	Pg	Pn	15 58 19.0	+0.5
	74nm,0.3s					
MRLC	**Muro Lucano**	**1.15 173**	Pg	Pn	15 58 19.0	+0.5
	74nm,0.3s					
VCEL	**Villa Celiera**	**1.19 295**	Pg	Pb	15 58 20.1	-0.5
	223nm,0.3s					
VCEL	**Villa Celiera**	**1.19 295**	Pg	Pb	15 58 20.1	-0.5
	223nm,0.3s					
POFI	**Posta Fibreno**	**1.20 262**	Pg	Pn	15 58 19.6	+0.4
	74nm,0.6s					
POFI	**Posta Fibreno**	**1.20 262**	Pg	Pn	15 58 19.6	+0.4
	74nm,0.6s					
ACER	**Acerenza**	**1.21 156**	Pg	Pn	15 58 20.0	+0.6
	156nm,0.8s					
ACER	**Acerenza**	**1.21 156**	Pg	Pn	15 58 20.0	+0.6
	156nm,0.8s					
VVLD	**Villa Vallelon**	**1.25 269**	Pg	Pn	15 58 20.4	+0.4
	158nm,0.4s					
VVLD	**Villa Vallelon**	**1.25 269**	Pg	Pn	15 58 20.4	+0.4
	158nm,0.4s					
MODR	**Mondragone**	**1.30 235**	Pg	Pb	15 58 21.8	-0.5
	64nm,0.7s					
MODR	**Mondragone**	**1.30 235**	Pg	Pb	15 58 21.8	-0.5
	64nm,0.7s					
FAGN	**Fagnano**	**1.33 287**	Pg	Pb	15 58 22.6	-0.2
	392nm,0.7s					
FAGN	**Fagnano**	**1.33 287**	Pg	Pb	15 58 22.6	-0.2
	392nm,0.7s					
SGO	**Sicignano**	**1.34 180**	Pg	Pn	15 58 21.7	+0.6
	46nm,0.4s					
SGO	**Sicignano**	**1.34 180**	Pg	Pn	15 58 21.7	+0.6
	46nm,0.4s					
AMUR	**Altamura**	**1.40 135**	Pg	Pn	15 58 22.6	+0.7
	107nm,0.3s					
AMUR	**Altamura**	**1.40 135**	Pg	Pn	15 58 22.6	+0.7
	107nm,0.3s					
CDRU	**Civita di Ruta**	**1.41 180**	Pg	Pn	15 58 22.8	+0.7
	42nm,0.4s					
CDRU	**Civita di Ruta**	**1.41 180**	Pg	Pn	15 58 22.8	+0.7
	42nm,0.4s					
BAI	**Bari**	**1.43 123**	*e*Pg	Pb	15 58 26.7	+2.4
TERO	**Teramo**	**1.45 301**	Pg	Pn	15 58 23.3	+0.6
	83nm,0.5s					
TERO	**Teramo**	**1.45 301**	Pg	Pn	15 58 23.3	+0.6
	83nm,0.5s					
SG1	**Sgolgore (BA)**	**1.48 135**	*e*Pg	Pb	15 58 26.4	+1.0
T0106	**Roio Piano**	**1.48 287**	Pg	Pb	15 58 24.6	-0.9
	114nm,0.4s					
MIGL	**Miglionico**	**1.55 146**	Pg	Pn	15 58 24.9	+0.9
	172nm,0.3s					
MIGL	**Miglionico**	**1.55 146**	Pg	Pn	15 58 24.9	+0.9
	172nm,0.3s					
CMPR	**Campora**	**1.58 180**	Pg	Pn	15 58 25.2	+0.8
	80nm,1.1s					
CMPR	**Campora**	**1.58 180**	Pg	Pn	15 58 25.2	+0.8
	80nm,1.1s					
SMA1	**SAN MARTINO**	**1.63 297**	Pg	Pn	15 58 26.0	+0.8
	80nm,0.5s					
STON	**Ston**	**2.03 61**	*e*Pn	Pn	15 58 31.8	+1.3
STON			Sn	Sn	15 58 55.6	+0.9
STON	**Ston**	**2.03 61**	*e*Pn	Pn	15 58 31.7	+1.2
STON			Sn	Sn	15 58 55.6	+0.8
TREB	**Trebinje**	**2.41 69**	*e*Pn	Pn	15 58 36.8	+1.1
UDBI	**Udbina**	**2.65 7**	*e*Pn	Pn	15 58 39.5	+0.3
UDBI	**Udbina**	**2.65 7**	*e*Pn	Pn	15 58 39.5	+0.3
NVLJ	**Novalja**	**2.68 353**	*e*Pn	Pn	15 58 39.4	-0.1
NVLJ			Sn	Sn	15 59 10.6	-0.3
NVLJ	**Novalja**	**2.68 353**	*e*Pn	Pn	15 58 39.4	-0.1
NVLJ			Sn	Sn	15 59 10.6	-0.3
BBLS	**Lazići**	**3.60 56**	*e*Pn	Pn	15 58 55.2	+2.9
BOJS	**Bojanci**	**3.60 359**	*i* Pn	Pn	15 58 54.0	+1.7
BOJS			*i* Sn	Sn	15 59 33.3	-0.5
BOJS	**Bojanci**	**3.60 359**	Pn	Pn	15 58 54.0	+1.8
BOJS			*i* Sn	Sn	15 59 33.3	-0.4
GBRS	**Gornja Briga**	**3.65 355**	*i* Pn	Pn	15 58 54.7	+1.8
GBRS			*i* Sn	Sn	15 59 36.2	+1.3
IVAS	**Ivanjica**	**3.95 63**	*e*Pn	Pn	15 58 58.7	+1.7
SELS	**Selova**	**4.50 71**	*e*Pn	Pn	15 59 06.1	+1.6

IDC 11 15:58:31.8±1.6, 7°02'S×120°57'E, h574km±18km, mb3.0/4, mb1 3.2/6, mb1mx2.8/23, mbtmpg3.9/6, Error ellipse: s-maj=157.3km s-min=13.9km az=57.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.16**	**338**	P	P	15 59 44.5	+0.1
WRA	**Warramunga Arr**	**18.53**	**135**	P	P	16 02 13.6	+0.1
	0.7nm,0.3s,baz=314,slow=11,SNR=32						
ASAR	**Alice Springs**	**20.92**	**144**	P	P	16 02 34.8	-0.4
	0.8nm,0.3s,baz=321,slow=8.7,SNR=51						
STKA	**Stephens Creek**	**31.56**	**144**	P	P	16 04 08.4	+0.1
	1.7nm,0.3s,baz=325,slow=8.5,SNR=9.5						
MKAR	**Makanchi Array**	**63.45**	**332**	P	P	16 08 06.0	-0.2
	0.7nm,0.6s,baz=163,slow=5.5,SNR=8.6						
ZALV	**Zalesovo Beam**	**67.78**	**338**	P	P	16 08 33.2	+0.2
	0.8nm,0.4s,baz=140,slow=4.8,SNR=5.4						

IDC 11 16:13:02.3±75.0, 17°02'S×177°70'W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/27, mbtmpg3.8/3, Error ellipse: s-maj=1373.0km s-min=162.7km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.65**	**240**	P	P	16 20 36.6	+0.4
	1.3nm,0.8s,baz=90,slow=12,SNR=4.0						
WRA	**Warramunga Arr**	**45.47**	**259**	P	P	16 21 23.1	-0.5
	0.4nm,0.8s,baz=95,slow=7.6,SNR=2.9						
ASAR	**Alice Springs**	**45.69**	**253**	P	P	16 21 25.1	-0.2
	1.5nm,0.4s,baz=89,slow=7.9,SNR=59						

MAN 11 16:45:59, 9°56N×126°19E, h16km, mb4.5, ML3.4, MS3.3, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.72**	**288**	*i* P	Pb	16 46 13.3	+0.1
BUTP	**Butuan**	**0.81**	**224**	*e*P	Pb	16 46 14.2	-0.5
BUTP				*e*S	Sn	16 46 28.4	+0.9
MSLP	**Maasin**	**1.43**	**294**	*e*P	Pn	16 46 23.8	-0.5
CGP	**Cagayan de Oro**	**1.84**	**233**	*e*P	Sn	16 46 55.2	+2.3
BUKP	**Musuan**	**2.01**	**214**	*e*P	Pn	16 46 33.5	+1.2
PAGZ	**Pagadian**	**3.25**	**239**	*e*P	Pn	16 46 49.5	+0.1
OTRP	**Odiongan**	**4.95**	**305**	*e*P	Pg	16 47 40.3	+6.4

IDC 11 16:46:58.2±1.4, 12°.49N×120°.25E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.2/43, mbtmpg3.4/3, Error ellipse: s-maj=38.0km s-min=23.6km az=79.0
MAN 11 16:47:15, 13°.25N×120°.71E, h44km, mb4.8, ML3.7, MS3.7
ISC 11 16:47:02.7±1.2, 12°48'N±0°.06×120°.1E±0°.1, h35km, n8, σ2s02/9, mb3.4/3, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**1.03**	**91**	*e*P	**Sn**	**16 47 33.2**	**-0.6**
LUBP	**Lubang**	**1.25**	**8**	*e*P	Pn	16 47 28.6	+4.8
LUBP				*e*S	**Sn**	**16 47 36.8**	**-2.7**
PGP	**Puerto Galera**	**1.33**	**40**	*i* P	**Pn**	**16 47 27.2**	**+2.4**
PGP				*i* S	**Sn**	**16 47 41.8**	**+0.4**
TGY	**Tagaytay City**	**1.82**	**28**	Pn	**Pn**	**16 47 29.7**	**-1.9**
	446nm,0.3s,baz=109,slow=6.4,SNR=45						
CUYO	**Cuyo Island**	**1.87**	**150**	*e*P	**Sn**	**16 47 52.9**	**-1.9**
CMAR	**Chiang Mai Arr**	**21.20**	**289**	P	**P**	**16 51 47.4**	**+1.9**
	0.7nm,0.7s,baz=95,slow=8.1,SNR=2.2						
WRA	**Warramunga Arr**	**35.15**	**156**	P	**P**	**16 53 52.8**	**-0.6**
	0.4nm,0.6s,baz=336,slow=9.5,SNR=6.8						
ASAR	**Alice Springs**	**38.39**	**159**	P	**P**	**16 54 21.2**	**+0.3**
	0.2nm,0.3s,baz=334,slow=7.2,SNR=14						

ISCJB 11 16:47:51.6±0.8, 39°.72N±0°.04×27°.88E±0°.06, h3km±8km, Error ellipse: s-maj=8.5km s-min=6.4km az=140.4
ISK 11 16:47:51.7, 39°.72N×27°.85E, h7km, MD2.7
CSEM 11 16:47:51.8±0.2, 39°.71N×27°.86E, h5km, MD2.7, Error ellipse: s-maj=7.3km s-min=4.6km az=72.0
DDA 11 16:47:54.6, 39°.76N×27°.61E, h8km, MD2.6
ISC 11 16:47:52.2±0.9, 39°.71N±0°.03×27°.81E±0°.03, h10km±6km, n26, σ0s65/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.09**	**144**	*e*PG	**Pg**	**16 47 54.3**	**-0.3**
BALB	**Balikesir**	**0.09**	**144**	*e*Pg	**Pg**	**16 47 54.3**	**-0.3**
BALY	**Balya**	**0.15**	**280**	*i* P	**Pg**	**16 47 54.0**	**-1.6**
BALY				*i* S	**Sg**	**16 47 59.4**	**+1.4**
BALY	**Balya**	**0.15**	**280**	*i* P	**Pg**	**16 47 54.0**	**-1.6**
BALY				*i* S	**Sg**	**16 47 59.4**	**+1.4**
EDC	**Edincik**	**0.63**	**4**	*e*PG	**Pg**	**16 48 04.2**	**-0.3**
EDC	**Edincik**	**0.63**	**4**	*e*Pg	**Pg**	**16 48 04.2**	**-0.3**
AKS	**Akhisar**	**0.83**	**180**	*e*PG	**Pg**	**16 48 08.2**	**0.0**
AKS	**Akhisar**	**0.83**	**180**	*e*Pg	**Pg**	**16 48 08.2**	**0.0**
MRMT	**Marmara Adasi**	**0.90**	**350**	*e*PG	**Pg**	**16 48 09.3**	**-0.3**
MRMT	**Marmara Adasi**	**0.90**	**350**	*e*Pg	**Pg**	**16 48 09.3**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.09**	**334**	*e*PN	**Pn**	**16 48 13.6**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.09**	**334**	*e*Pn	**Pn**	**16 48 13.6**	**+0.1**
SART	**Tekirdag**	**1.09**	**334**	*i* P	**Pn**	**16 48 13.7**	**+0.1**
SART				*i* S	**Sn**	**16 48 29.1**	**+0.3**
SART	**Tekirdag**	**1.09**	**334**	*i* P	**Pn**	**16 48 13.7**	**+0.1**
SART				*i* S	**Sn**	**16 48 29.1**	**+0.3**
ARMT	**Armutlu**	**1.17**	**43**	*e*PN	**Pb**	**16 48 14.0**	**-0.5**
ARMT				*e*SN	**Sn**	**16 48 30.4**	**-0.3**
ARMT	**Armutlu**	**1.17**	**43**	*e*Pn	**Pb**	**16 48 14.0**	**-0.5**
ARMT				*e*Sn	**Sn**	**16 48 30.4**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.23**	**304**	*e*PN	**Pn**	**16 48 15.7**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.23**	**304**	*e*Pn	**Pn**	**16 48 15.7**	**+0.2**
TVSB	**Tavsanli**	**1.30**	**101**	*e*PN	**Pb**	**16 48 16.8**	**0.0**
TVSB	**Tavsanli**	**1.30**	**101**	*e*Pn	**Pb**	**16 48 16.8**	**0.0**
KULA	**Kula-Manisa**	**1.37**	**151**	*e*PN	**Pn**	**16 48 16.9**	**-0.5**
KULA	**Kula-Manisa**	**1.37**	**151**	*e*Pn	**Pn**	**16 48 16.9**	**-0.5**
ERIK	**Erikli-Kesan**	**1.38**	**314**	*e*PN	**Pb**	**16 48 18.3**	**+0.3**
ERIK	**Erikli-Kesan**	**1.38**	**314**	*e*Pn	**Pb**	**16 48 18.3**	**+0.3**
SIGR	**SIGRI**	**1.59**	**252**	*e*PN	**Pb**	**16 48 21.4**	**-0.3**
SIGR	**SIGRI**	**1.59**	**252**	*e*Pn	**Pb**	**16 48 21.5**	**-0.3**

IDC 11 16:55:07.8±3.6, 3°04S×151°53E, h0km, mb4.2/3, mb1 4.5/3, mb1mx3.6/34, mbtmpg4.2/3, Error ellipse: s-maj=121.8km s-min=31.0km az=105.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.74**	**224**	P	P	17 00 23.2	+1.2
	26nm,0.5s,baz=49,slow=9.7,SNR=231						
ASAR	**Alice Springs**	**26.66**	**218**	P	P	17 00 48.0	-0.7
	0.7nm,0.3s,baz=48,slow=8.5,SNR=22						
MKAR	**Makanchi Array**	**78.18**	**319**	P	P	17 07 09.3	+0.1
	0.3nm,0.4s,baz=110,slow=9.2,SNR=8.6						
TORD	**Torodi Ar. Bea**	**148.53**	**290**	PKPbc	PKPbc	17 14 56.6	-1.2
	0.2nm,0.4s,baz=82,slow=2.3,SNR=4.9						

IDC 11 17:08:03.4±8.5, 9°.11S×112°.42E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.4/34, mbtmpg3.6/4, ML3.6/1, Error ellipse: s-maj=138.2km s-min=50.3km az=113.0
DJA 11 17:08:24.4±0.8, 10°S±4°×11°4E±°, h27km±9km, M4.1/18, mb4.6/1, MLv3.9/18
ISC 11 17:08:21.6±1.1, 9°66S±0°.07×114°.01E±0°.06, h31km, n16, σ1s81/22, mb3.4/3, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**1.40**	**54**	P	**Pn**	**17 08 44.5**	**-0.5**
IGBI				S	**Sn**	**17 08 59.5**	**-2.9**
GMJI	**Gumukmas**	**1.48**	**338**	P	**Pb**	**17 08 49.4**	**+0.8**
GMJI				S	**Sb**	**17 09 08.6**	**+1.6**
DNP	**Denpasar**	**1.53**	**51**	P	**Pn**	**17 08 47.5**	**+0.6**
DNP				S	**Sn**	**17 09 05.3**	**-0.5**
ABJI	**Asem Bagus**	**1.86**	**7**	P	**Pb**	**17 08 55.7**	**+0.7**
BLJI	**Banyuglugur**	**1.94**	**348**	P	**Pb**	**17 08 57.5**	**+1.1**
BLJI				S	**Sb**	**17 09 22.9**	**+2.7**
SRBI	**Singaraja**	**1.96**	**37**	P	**Pn**	**17 08 54.2**	**+1.4**
SRBI				S	**Sn**	**17 09 17.7**	**+1.3**
KMMI	**Kalianget**	**2.59**	**359**	P	**Pb**	**17 09 05.8**	**-1.6**
PWJI	**Pagerwojo**	**2.72**	**307**	P	**Pb**	**17 09 09.4**	**-0.2**
PWJI				S	**Sb**	**17 09 42.7**	**+0.2**
GRJI	**Gresik**	**3.12**	**331**	P	**Pb**	**17 09 14.2**	**-2.2**
GRJI				S	**Sb**	**17 09 51.1**	**-2.9**
PCJI	**Pacitan**	**3.15**	**297**	P	**Pb**	**17 09 16.2**	**-0.8**
UGM	**Wanagama**	**3.86**	**296**	P	Pb	17 09 26.0	-3.0
UWJI	**Ujung Watu**	**4.42**	**316**	P	Pb	17 09 33.5	-5.1
KAPI	**Kappang**	**7.33**	**51**	Pn	**Pn**	**17 10 06.8**	**+0.3**
	0.7nm,0.3s,baz=253,slow=19,SNR=4.8						
KAPI				Sn	**Sn**	**17 11 24.4**	**-4.4**
	0.9nm,0.3s,baz=90,slow=20,SNR=4.0						
WRA	**Warramunga Arr**	**22.13**	**120**	P	**P**	**17 13 15.8**	**+0.9**
	0.5nm,0.7s,baz=295,slow=11,SNR=7.7						
ASAR	**Alice Springs**	**23.56**	**129**	P	**P**	**17 13 30.3**	**+0.6**
	0.6nm,0.5s,baz=303,slow=8.7,SNR=19						
STKA	**Stephens Creek**	**33.79**	**135**	P	**P**	**17 15 01.5**	**+0.6**
	1.8nm,0.9s,baz=303,slow=10,SNR=3.5						

CSEM 11 17:11:27.6±0.8, 51°.51N×16°.08E, h2km, ML3.0/9, Error ellipse: s-maj=11.9km s-min=6.4km az=6.0
PRU 11 17:11:29.5, 51°.45N×16°.10E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.62**	**169**	*e*Pg	Pg	17 11 41.5	+0.1
KSP				*e*Sg	Sg	17 11 50.8	+1.3
KSP	**Ksiaz**	**0.62**	**169**	*e*Pg	Pg	17 11 41.5	+0.1
KSP				*e*Sg	Sg	17 11 50.8	+1.3
UPC	**Upice**	**0.95**	**183**	*e*PG	Pg	17 11 47.1	-0.6
UPC	**Upice**	**0.95**	**183**	Pg	Pg	17 11 47.1	-0.6
DPC	**Dobruska-Polom**	**1.11**	**173**	*e*PG	Pg	17 11 50.0	-0.9
DPC				*e*SG	Sg	17 12 05.1	-0.2
	comp=Z,34nm,0.3s						
DPC	**Dobruska-Polom**	**1.11**	**173**	Pg	Pg	17 11 50.0	-0.9
DPC				Sg	Sg	17 12 05.1	-0.2
	34nm,0.3s						
PVCC	**Panska Ves**	**1.34**	**227**	*e*PG	Pg	17 11 54.7	-0.5
PVCC				*e*SG	Sb	17 12 12.9	-0.2
	comp=Z,40nm,0.2s						
PVCC	**Panska Ves**	**1.34**	**227**	Pg	Pg	17 11 54.7	-0.5
PVCC				Sg	Sb	17 12 12.9	-0.2
	40nm,0.2s						
BRG	**Berggiesshubel**	**1.48**	**248**	PG	Pn	17 11 56.9	-0.4
BRG				SG	Sb	17 12 17.2	+0.1
	18nm,0.9s						
PRA	**Prague**	**1.74**	**218**	*e*SG	Sg	17 12 25.2	-0.2
	comp=Z,7.3nm,0.3s						
PRA	**Prague**	**1.74**	**218**	Sg	Sg	17 12 25.2	-0.2
	7.3nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.75**	**209**	*e*PG	Pn	17 12 01.7	+0.6
GOPC				*e*SG	Sg	17 12 25.5	-0.3
	comp=Z,5.1nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.75**	**209**	Pg	Pn	17 12 01.7	+0.6
GOPC				Sg	Sg	17 12 25.5	-0.3
	5.1nm,0.2s						
PRU	**Pruhonice**	**1.77**	**215**	*e*PG	Pn	17 12 01.9	+0.6
PRU				*e*SG	Sb	17 12 25.9	+0.4
	comp=Z,14nm,0.3s						
PRU	**Pruhonice**	**1.77**	**215**	Pg	Pn	17 12 01.9	+0.6
PRU				Sg	Sb	17 12 25.9	+0.4
	14nm,0.3s						
CLL	**Collm**	**1.95**	**267**	*e*Pg	Pb	17 12 05.0	-0.8
CLL				*e*Sg	Sb	17 12 31.0	+0.4
OKC	**Ostrava-Krasne**	**2.08**	**140**	*e*PG	Pb	17 12 07.2	-0.8
OKC				*e*SG	Sb	17 12 35.1	+0.8
	comp=Z,11nm,0.7s						
OKC	**Ostrava-Krasne**	**2.08**	**140**	Pg	Pb	17 12 07.2	-0.8
OKC				Sg	Sb	17 12 35.1	+0.8
	11nm,0.7s						
VRAC	**Vranov**	**2.17**	**171**	*e*Pn	Pn	17 12 07.2	+0.3
TREC	**Trest**	**2.19**	**191**	*e*SG	Sg	17 12 39.4	-0.7
	comp=Z,7.5nm,0.2s						
TREC	**Trest**	**2.19**	**191**	Sg	Sg	17 12 39.4	-0.7
	7.5nm,0.2s						
NKC	**Novy Kostel**	**2.62**	**244**	*e*PG	Pb	17 12 17.5	+0.2
NKC				*e*SG	Sg	17 12 53.2	-0.5
	comp=Z,9.8nm,0.3s						
NKC	**Novy Kostel**	**2.62**	**244**	Pg	Pb	17 12 17.5	+0.2
NKC				Sg	Sg	17 12 53.2	-0.5
	9.8nm,0.3s						
KHC	**Kasperske Hory**	**2.83**	**216**	*e*PN	Pn	17 12 15.5	-0.5
KHC				*e*PG	Pb	17 12 20.7	-0.3
KHC				*e*SN	Sn	17 12 49.9	-0.9
KHC				*e*SG	Sg	17 12 59.2	-1.3
	comp=Z,3.3nm,0.3s						
KHC	**Kasperske Hory**	**2.83**	**216**	Pn	Pn	17 12 15.5	-0.5
KHC	**Kasperske Hory**	**2.83**	**216**	Pg	Pb	17 12 20.7	-0.3
KHC				Sn	Sn	17 12 49.9	-0.9
KHC				Sg	Sg	17 12 59.2	-1.3
	3.3nm,0.3s						

ISCJB 11 17:16:09.6±1.3, 14°.9S±0°.4×173°.9W±0°.3, h10km, mb4.0/8, MS3.1/3, Error ellipse: s-maj=62.2km s-min=16.4km az=147.2
IDC 11 17:16:09.6±1.5, 14°.96S×173°.72W, h0km, mb3.9/7, mb1 4.3/7, mb1mx4.0/19, mbtmp3.9/7, MS3.1/3, Ms1 3.1/3, ms1mx2.8/24, Error ellipse: s-maj=72.7km s-min=23.3km az=148.0
NEIC 11 17:16:11.2±0.8, 14°.96S×173°.78W, h10km, mb4.3/1, Error ellipse: s-maj=43.2km s-min=11.9km az=147.0
ISC 11 17:16:10.9±1.5, 15°0S±0°.4×173°7W±0°.3, h10km, n25, σ0s45/13, mb3.9/8, MS3.1/3, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.18**	**61**	*e*Pn	Pn	17 16 38.7	-8.7
MSVF	**Nonsavu**	**8.34**	**250**	*e*Pn	Pn	17 18 22.3	+10
PPT	**Papeete**	**23.33**	**100**	LR	LR	17 29 47.4	
	comp=Z,57nm,18.5s,baz=196,slow=35						
PPT2	**Papeete2**	**23.33**	**100**	*e*LR	LR	17 26 39.9	
	203nm,29.5s						
TBI	**Tubuai**	**24.36**	**114**	*e*LR	LR	17 27 15.6	
	247nm,32.0s						
H11S2	**WAKE ISLAND Hy**	**38.45**	**329**	T	T	18 04 39.9	
	baz=149,slow=76,SNR=23						
H11S3	**WAKE ISLAND Hy**	**38.46**	**329**	T	T	18 04 39.0	
	baz=149,slow=76,SNR=29						
H11S1	**WAKE ISLAND Hy**	**38.47**	**329**	T	T	18 04 33.1	
	baz=149,slow=76,SNR=17						
H11N3	**WAKE ISLAND Hy**	**39.40**	**331**	T	T	18 05 43.5	
	baz=150,slow=76,SNR=15						
H11N1	**WAKE ISLAND Hy**	**39.41**	**331**	T	T	18 05 43.4	
	baz=150,slow=76,SNR=14						
H11N2	**WAKE ISLAND Hy**	**39.42**	**331**	T	T	18 05 42.5	
	baz=150,slow=76,SNR=18						
WRAB	**Tennant Creek**	**49.61**	**256**	P	**P**	**17 25 02.7**	**-0.3**
	3.6nm,1.0s						
WRA	**Warramunga Arr**	**49.62**	**256**	P	**P**	**17 25 03.0**	**0.0**
	0.7nm,0.8s,baz=97,slow=7.8,SNR=10						
AS31	**Alice Springs**	**49.93**	**252**	*e*P	**P**	**17 25 05.0**	**-0.3**
ASAR	**Alice Springs**	**49.93**	**252**	P	**P**	**17 25 05.5**	**+0.2**
	4.2nm,0.8s,baz=88,slow=7.9,SNR=38						
ASAR				LR	LR	17 44 10.1	
	comp=Z,25nm,18.4s,baz=108,slow=34						
PETK	**Petropavlovsk-**	**72.15**	**342**	P	**P**	**17 27 35.6**	**0.0**
	1.4nm,0.7s,baz=120,slow=8.8,SNR=5.0						
KSRS	**Korea Array**	**75.64**	**316**	LR	LR	17 56 59.8	
	comp=Z,8.2nm,20.4s,baz=145,slow=32						
TXAR	**Lajitas Array**	**80.66**	**56**	P	**P**	**17 28 25.1**	**+0.5**
	0.9nm,1.0s,baz=214,slow=4.2,SNR=5.4						
ILAR	**Eielson Array**	**82.11**	**11**	P	**P**	**17 28 31.1**	**-0.2**
	0.7nm,0.8s,baz=238,slow=8.4,SNR=5.3						
PDAR	**Pinedale Array**	**82.18**	**42**	P	**P**	**17 28 31.9**	**-0.6**
	0.8nm,0.7s,baz=151,slow=3.4,SNR=5.4						
YKA	**Yellowknife Ar**	**89.86**	**23**	P	**P**	**17 29 09.5**	**-0.1**
	0.5nm,0.7s,baz=240,slow=4.7,SNR=7.0						
BR131	**Keskin Array S**	**145.64**	**321**	*e*PKPdf	**PKPab**	**17 35 51.6**	**+0.9**
BRTR	**Keskin Array B**	**145.64**	**321**	PKPbc	**PKPab**	**17 35 50.8**	**+0.2**
	1.2nm,0.8s,baz=35,slow=3.0,SNR=6.6						
GERES	**GERESS Array B**	**145.70**	**351**	PKPbc	**PKPab**	**17 35 51.0**	**+0.5**
	0.5nm,0.5s,baz=38,slow=2.4,SNR=6.2						
CSS	**Prodhromos**	**148.59**	**314**	P	**PKPdf**	**17 35 54.9**	**-0

PRK					*e*SN		**Sg**	17 49 26.2	+0.3
PRK	**Paraskevi**	0.73	332		*e*Pn		**Pb**	17 49 15.4	-0.5
PRK	**Paraskevi**	0.73	332		P		**Pb**	17 49 16.1	+0.2
PRK					*e*Sn		**Sg**	17 49 26.2	+0.3
SMG	**Samos**	0.89	174		P		**Pb**	17 49 18.2	-0.4
SMG					S		**Sn**	17 49 31.5	-0.3
SMG	**Samos**	0.89	174		*e*PN		**Pb**	17 49 18.3	-0.4
SMG					*e*SN		**Sn**	17 49 32.0	+0.2
SMG	**Samos**	0.89	174		P		**Pb**	17 49 18.2	-0.4
SMG					S		**Sn**	17 49 31.5	-0.3
SMG					*e*Sn		**Sn**	17 49 32.0	+0.2
AKHS	**Akhisar**	0.90	72		*i* P		**Pb**	17 49 18.3	-0.5
AKHS					*i* S		**Sb**	17 49 30.5	+0.2
AKHS	**Akhisar**	0.90	72		*i* P		**Pb**	17 49 18.3	-0.5
AKHS					*i* S		**Sb**	17 49 30.5	+0.2
AKS	**Akhisar**	0.90	72		*e*PG		**Pb**	17 49 18.7	0.0
AKS	**Akhisar**	0.90	72		*e*Pg		**Pb**	17 49 18.7	0.0
SIGR	**SIGRI**	0.91	312		*e*PG		**Pb**	17 49 19.1	+0.1
SIGR					*e*SG		**Sn**	17 49 32.5	+0.3
SIGR	**SIGRI**	0.91	312		P		**Pb**	17 49 18.9	0.0
SIGR					S		**Sg**	17 49 31.4	0.0
SIGR	**SIGRI**	0.91	312		*e*PN		**Pb**	17 49 19.1	+0.1
SIGR					*e*SN		**Sg**	17 49 31.5	0.0
SIGR	**SIGRI**	0.91	312		P		**Pb**	17 49 18.9	0.0
SIGR					*e*Sn		**Sg**	17 49 31.5	0.0
SIGR					*e*Sg		**Sn**	17 49 32.5	+0.3
GCAM	**G?zelcaml?**	0.98	156		*i* P		**Pb**	17 49 19.5	-0.7
GCAM					*i* S		**Sb**	17 49 32.1	-0.7
GCAM	**G?zelcaml?**	0.98	156		*i* P		**Pb**	17 49 19.5	-0.7
GCAM					*i* S		**Sb**	17 49 32.1	-0.7
AYDB	**Zeytinkoy-Aydi**	1.13	125		*e*PN		**Pn**	17 49 22.2	-0.5
AYDB	**Zeytinkoy-Aydi**	1.13	125		*e*Pn		**Pn**	17 49 22.2	-0.5
EZN	**Ezine**	1.26	346		*e*PN		**Pn**	17 49 24.6	+0.2
EZN	**Ezine**	1.26	346		*e*Pn		**Pn**	17 49 24.6	+0.2
AYDN	**Tasoluk**	1.31	135		*i* P		**Pb**	17 49 26.2	+0.5
AYDN					*i* S		**Sb**	17 49 42.8	+0.6
AYDN	**Tasoluk**	1.31	135		*i* P		**Pb**	17 49 26.2	+0.5
AYDN					*i* S		**Sb**	17 49 42.8	+0.6
BALY	**Balya**	1.34	31		*i* P		**Pn**	17 49 24.6	-0.8
BALY					*i* S		**Sb**	17 49 43.7	+0.7
BALY	**Balya**	1.34	31		*i* P		**Pn**	17 49 24.6	-0.8
BALY					*i* S		**Sb**	17 49 43.7	+0.7
BOZC	**Bozcaada**	1.34	337		*i* P		**Pn**	17 49 24.2	-1.4
BOZC					*i* S		**Sn**	17 49 42.0	-1.0
BALB	**Balikesir**	1.38	41		*e*PN		**Pn**	17 49 25.9	0.0
BALB	**Balikesir**	1.38	41		*e*Pn		**Pn**	17 49 25.9	0.0
MANT	**Manisa**	1.44	94		*i* P		**Pb**	17 49 28.9	+0.7
MANT					*i* S		**Sn**	17 49 45.8	+0.1
MANT	**Manisa**	1.44	94		*i* P		**Pb**	17 49 28.9	+0.7
MANT					*i* S		**Sn**	17 49 45.8	+0.1
KULA	**Kula-Manisa**	1.52	93		*e*PN		**Pn**	17 49 28.5	+0.5
KULA	**Kula-Manisa**	1.52	93		P		**Pn**	17 49 27.8	-0.2
KULA					S		**Sb**	17 49 48.9	+0.5
KULA	**Kula-Manisa**	1.52	93		P		**Pn**	17 49 27.8	-0.2
KULA	**Kula-Manisa**	1.52	93		*e*Pn		**Pn**	17 49 28.5	+0.5
KULA					S		**Sb**	17 49 48.9	+0.5
BODT	**Bodrum**	1.60	163		*e*PN		**Pn**	17 49 29.2	+0.1
BODT	**Bodrum**	1.60	163		*e*Pn		**Pn**	17 49 29.2	+0.1
DEMI	**Demirci**	1.62	74		*i* P		**Pb**	17 49 31.3	+0.2
DEMI					*i* S		**Sb**	17 49 51.5	+0.3
DEMI	**Demirci**	1.62	74		*i* P		**Pb**	17 49 31.3	+0.2
DEMI					*i* S		**Sb**	17 49 51.5	+0.3
BDRM	**Kayabasi**	1.64	159		*i* P		**Pn**	17 49 28.8	-0.8
BDRM	**Kayabasi**	1.64	159		*i* P		**Pn**	17 49 28.8	-0.8
GADA	**Gvkgeada**	1.71	338		*e*PN		**Pn**	17 49 30.0	-0.6
GADA	**Gvkgeada**	1.71	338		*e*Pn		**Pn**	17 49 30.0	-0.6
LIA	**Limnos Island**	1.76	318		P		**Pn**	17 49 31.2	-0.1
LIA					S		**Sb**	17 49 52.4	-0.8
LIA	**Limnos Island**	1.76	318		*e*PB		**Pn**	17 49 31.2	-0.1
LIA					*e*SN		**Sn**	17 49 52.6	-0.6
LIA	**Limnos Island**	1.76	318		P		**Pn**	17 49 31.2	-0.1
LIA					*e*Sb		**Sn**	17 49 52.6	-0.6
LPK	**Lapseki**	1.77	1		*e*PN		**Pn**	17 49 31.4	0.0
LPK	**Lapseki**	1.77	1		*e*Pn		**Pn**	17 49 31.4	0.0
DST	**Dursunbey**	1.79	55		*e*PN		**Pn**	17 49 30.7	-1.0
DST	**Dursunbey**	1.79	55		*e*Pn		**Pn**	17 49 30.7	-1.0
APE	**Apeiranthos**	1.80	212		*e*PN		**Pn**	17 49 32.0	+0.2
APE	**Apeiranthos**	1.80	212		*e*PN		**Pn**	17 49 30.6	-1.2
APE	**Apeiranthos**	1.80	212		*e*Pn		**Pn**	17 49 32.0	+0.2
GELI	**Tayfur-Gelibol**	1.81	354		*e*PN		**Pn**	17 49 32.5	+0.6
GELI	**Tayfur-Gelibol**	1.81	354		*e*Pn		**Pn**	17 49 32.5	+0.6
KRBG	**Karabiga-Canak**	1.85	14		*e*PN		**Pn**	17 49 31.8	-0.6
KRBG	**Karabiga-Canak**	1.85	14		*e*Pn		**Pn**	17 49 31.8	-0.6
YER	**Yerkesik**	1.91	139		*e*PN		**Pn**	17 49 33.6	+0.2
YER	**Yerkesik**	1.91	139		*e*Pn		**Pn**	17 49 33.6	+0.2
EDC	**Edincik**	1.96	26		*e*PN		**Pn**	17 49 34.4	+0.4
EDC	**Edincik**	1.96	26		*e*Pn		**Pn**	17 49 34.4	+0.4
BNT	**Bandirma**	1.98	27		*e*PN		**Pn**	17 49 34.2	-0.1
BNT	**Bandirma**	1.98	27		*e*Pn		**Pn**	17 49 34.2	-0.1
DAT	**Datca**	1.99	160		*e*PN		**Pn**	17 49 33.6	-0.9
DAT	**Datca**	1.99	160		*e*Pn		**Pn**	17 49 33.6	-0.9
DENT	**Denizli**	2.01	114		*e*PN		**Pn**	17 49 34.4	-0.3
DENT	**Denizli**	2.01	114		*e*Pn		**Pn**	17 49 34.4	-0.3
ERIK	**Erikli-Kesan**	2.08	356		*e*PN		**Pn**	17 49 35.6	0.0
ERIK	**Erikli-Kesan**	2.08	356		*e*Pn		**Pn**	17 49 35.6	0.0
SMTH	**Samothraki Isl**	2.08	334		P		**Pn**	17 49 35.3	-0.4
SMTH	**Samothraki Isl**	2.08	334		*e*PN		**Pn**	17 49 35.3	-0.4
SMTH	**Samothraki Isl**	2.08	334		P		**Pn**	17 49 35.3	-0.4
KCTX	**Karacabey (Bur**	2.09	37		*e*PN		**Pn**	17 49 35.3	-0.5
KCTX	**Karacabey (Bur**	2.09	37		*e*Pn		**Pn**	17 49 35.3	-0.5
MRMT	**Marmara Adasi**	2.11	18		*e*PN		**Pn**	17 49 35.5	-0.7
MRMT	**Marmara Adasi**	2.11	18		*e*Pn		**Pn**	17 49 35.5	-0.7
RKY	**Sarkoy-Tekirda**	2.12	9		*e*PN		**Pn**	17 49 36.2	0.0
RKY	**Sarkoy-Tekirda**	2.12	9		*e*Pn		**Pn**	17 49 36.2	0.0
SART	**Tekirdag**	2.12	9		*i* P		**Pn**	17 49 35.4	-0.8
SART	**Tekirdag**	2.12	9		*i* P		**Pn**	17 49 35.4	-0.8
SART					*i* S		**Sb**	17 50 06.3	+0.8
ENEZ	**Enez**	2.18	349		*e*PN		**Pn**	17 49 36.6	-0.4
ENEZ	**Enez**	2.18	349		*e*Pn		**Pn**	17 49 36.6	-0.4
GDZ	**Gediz**	2.21	76		*i* P		**Pb**	17 49 39.7	-1.4
GDZ	**Gediz**	2.21	76		*i* P		**Pb**	17 49 39.7	-1.4
KHL	**Karahalli**	2.22	96		*e*PN		**Pn**	17 49 36.9	-0.7
KHL	**Karahalli**	2.22	96		*e*Pn		**Pn**	17 49 36.9	-0.7
ORLT	**Orhaneli**	2.22	49		*e*PN		**Pn**	17 49 38.0	+0.4
ORLT	**Orhaneli**	2.22	49		*e*Pn		**Pn**	17 49 38.0	+0.4
TVSB	**Tavsanli**	2.30	67		*e*PN		**Pn**	17 49 38.0	-0.7
TVSB	**Tavsanli**	2.30	67		*e*Pn		**Pn**	17 49 38.0	-0.7
ALN	**Alexandroupoli**	2.35	347		*e*PN		**Pn**	17 49 40.3	+0.9
ALN	**Alexandroupoli**	2.35	347		P		**Pn**	17 49 39.1	-0.3
ALN	**Alexandroupoli**	2.35	347		*e*PN		**Pn**	17 49 39.3	-0.3
ALN	**Alexandroupoli**	2.35	347		P		**Pn**	17 49 39.1	-0.3
MDNY	**Mudanya-Bursa**	2.43	43		*e*PN		**Pn**	17 49 40.8	+0.3
MDNY	**Mudanya-Bursa**	2.43	43		*e*Pn		**Pn**	17 49 40.8	+0.3
THR5	**Thira Island,**	2.44	207		*e*PN		**Pn**	17 49 41.4	+0.9
THR5	**Thira Island,**	2.44	207		*e*Pn		**Pn**	17 49 41.4	+0.9
TKR	**Tekirdag**	2.47	14		*e*PN		**Pn**	17 49 42.0	+1.0
TKR	**Tekirdag**	2.47	14		*e*Pn		**Pn**	17 49 42.0	+1.0
ARMT	**Armutlu**	2.57	39		*e*PN		**Pn**	17 49 42.8	+0.5
ARMT	**Armutlu**	2.57	39		*e*Pn		**Pn**	17 49 42.8	+0.5
ARG	**Arkhangelos**	2.63	154		*e*PN		**Pn**	17 49 43.0	-0.2
ARG	**Arkhangelos**	2.63	154		*e*Pn		**Pn**	17 49 43.0	-0.2
ALT	**Altintas**	2.69	79		*e*PN		**Pn**	17 49 45.1	+1.0
ALT	**Altintas**	2.69	79		*e*Pn		**Pn**	17 49 45.1	+1.0
PAIG	**Paliouri**	2.71	300		*e*PN		**Pn**	17 49 44.3	0.0
PAIG	**Paliouri**	2.71	300		*e*Pn		**Pn**	17 49 44.3	0.0
OUR	**Ouranopolis**	2.74	310		*e*PN		**Pn**	17 49 45.7	+1.0
OUR	**Ouranopolis**	2.74	310		*e*PN		**Pn**	17 49 44.7	0.0
OUR	**Ouranopolis**	2.74	310		*e*Pn		**Pn**	17 49 44.7	0.0
IZI	**Iznik**	2.75	50		*e*PN		**Pn**	17 49 45.4	+0.5
IZI	**Iznik**	2.75	50		*e*Pn		**Pn**	17 49 45.4	+0.5
SLVT	**Silivri**	2.87	23		*e*PN		**Pn**	17 49 46.3	-0.1
SLVT	**Silivri**	2.87	23		*e*Pn		**Pn**	17 49 46.3	-0.1
ADVT	**Abdulvahap**	2.97	51		*e*PN		**Pn**	17 49 48.9	+1.1
ADVT	**Abdulvahap**	2.97	51		*e*Pn		**Pn**	17 49 48.9	+1.1
CTKS	**Kestanelik-??a**	2.97	27		*e*PN		**Pn**	17 49 49.3	+1.5
CTKS	**Kestanelik-??a**	2.97	27		*e*Pn		**Pn**	17 49 49.3	+1.5
BGKT	**Bogazkoy**	3.02	31		*e*PN		**Pn**	17 49 49.4	+0.8
BGKT	**Bogazkoy**	3.02	31		*e*Pn		**Pn**	17 49 49.4	+0.8
ISK	**Istanbul-Kandi**	3.05	35		*e*PN		**Pn**	17 49 50.0	+1.1
ISK	**Istanbul-Kandi**	3.05	35		*e*Pn		**Pn**	17 49 50.0	+1.1
KARP	**Karpathos**	3.07	173		*e*PN		**Pn**	17 49 49.1	-0.1
KARP	**Karpathos**	3.07	173		*e*Pn		**Pn**	17 49 49.1	-0.1
PHSR	**Pinarhisar**	3.09	11		*e*PN		**Pn**	17 49 50.3	+0.8
PHSR	**Pinarhisar**	3.09	11		*e*Pn		**Pn**	17 49 50.3	+0.8
CTYL	**Yal??k??y-??at**	3.11	22		*e*PN		**Pn**	17 49 51.1	+1.3
CTYL	**Yal??k??y-??at**	3.11	22		*e*Pn		**Pn**	17 49 51.1	+1.3
HRT	**Hereke**	3.18	45		*e*PN		**Pn**	17 49 52.2	+1.5
HRT	**Hereke**	3.18	45		*e*Pn		**Pn**	17 49 52.2	+1.5
KLYT	**Kilyos**	3.19	33		*e*PN		**Pn**	17 49 52.2	+1.3
KLYT	**Kilyos**	3.19	33		*e*Pn		**Pn**	17 49 52.2	+1.3
EDRB	**Edirne**	3.24	0		*e*PN		**Pn**	17 49 51.6	0.0
EDRB	**Edirne**	3.24	0		*e*Pn		**Pn**	17 49 51.6	0.0
ESKT	**Eskisehir**	3.34	73		*e*PN		**Pn**	17 49 54.4	+1.3
ESKT	**Eskisehir**	3.34	73		*e*Pn		**Pn**	17 49 54.4	+1.3
SILT	**Sile**	3.40	40		*e*PN		**Pn**	17 49 55.1	+1.4
SILT	**Sile**	3.40	40		*e*Pn		**Pn**	17 49 55.2	+1.4
GULT	**Gulveren**	3.46	57		*e*PN		**Pn**	17 49 55.6	+0.9
GULT	**Gulveren**	3.46	57		*e*Pn		**Pn**	17 49 55.6	+0.9
ZKR	**Zakros**	3.50	187		*e*PN		**Pn**	17 49 54.8	-0.4
ZKR	**Zakros**	3.50	187		*e*Pn		**Pn**	17 49 54.8	-0.4
NVR	**Nevrokopi**	3.52	322		*e*PN		**Pn**	17 49 55.7	+0.3
NVR	**Nevrokopi**	3.52	322		*e*Pn		**Pn**	17 49 55.7	+0.3
VLI	**Veliai**	3.54	239		*e*PN		**Pn**	17 49 55.3	-0.4
VLI	**Veliai**	3.54	239		*e*Pn		**Pn**	17 49 55.3	-0.4
LAST	**Lasithi**	3.57	197		*e*PN		**Pn**	17 49 57.8	+1.5
LAST	**Lasithi**	3.57	197		*e*Pn		**Pn**	17 49 57.8	+1.5

*IDC **11** 18:09:40.3±1.1,39°.29N×17°.34E,h0km,mb3.5/9, mb1 3.7/15,mb1mx3.6/38,mbtmp3.6/15,ML3.6/5,MS2.7/2, Ms1 2.7/2,ms1mx2.3/29,Error ellipse: s-maj=17.1km s-min=16.1km az=35.0*

*ISCJB **11** 18:09:42.6±0.5,39°.33N±0°.02×17°.50E±0°.02,h25km±5km, mb3.5/8,MS3.1/1,Error ellipse: s-maj=3.4km s-min=2.6km az=135.7*

*PDG **11** 18:09:42.6±1.0,39°.40N×17°.55E,h11km±1km,ML3.6/12, Error ellipse: s-maj=1.1km s-min=1.1km az=0.0*

*ROM **11** 18:09:43.0±0.2,39°.31N×17°.47E,h19km±3km,Ml3.3/29, Error ellipse: s-maj=3.8km s-min=2.7km az=111.0*

*CSEM **11** 18:09:43.4±0.1,39°.32N×17°.44E,h20km,ML3.3,Error ellipse: s-maj=3.1km s-min=2.6km az=33.0*

*THE **11** 18:09:43.8,39°.16N×17°.32E,h31km±53km,ML3.6/3,Error ellipse: s-maj=53.7km s-min=1.1km az=269.0*

ISC 11 18:09:42.1±1.0,39°30N±0°.02×17°46E±0°.02,h14km±8km, n243,σ1§10/290,mb3.6/8,22C-12D,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
LADO	**San Nicola del** 6µm,0.9s	0.38	268	Pg	**Pg**	18 09 50.2	+0.6	
LADO	**San Nicola del** 6µm,0.9s	0.38	268	Pg	**Pg**	18 09 50.2	+0.6	
PIPA	**Pietrapaola** 2µm,0.2s	0.54	291	Pg	**Pg**	18 09 52.5	-0.1	
PIPA				Sg	**Sb**	18 10 01.5	+0.6	
PIPA	**Pietrapaola** 2µm,0.2s	0.54	291	Pg	**Pg**	18 09 52.5	-0.1	
PIPA				Sg	**Sb**	18 10 01.5	+0.6	
TIP	**Timpagrande**	0.56	258	P	**Pg**	18 09 53.2	+0.1	
TIP				S	**Sg**	18 09 59.9	-0.6	
TIP	**Timpagrande**	0.56	258	P	**Pg**	18 09 53.2	+0.1	
TIP				S	**Sg**	18 09 59.9	-0.6	
SERS	**Sersale** 1µm,0.8s	0.66	247	Pg	**Pb**	18 09 55.4	0.0	
SERS	**Sersale** 1µm,0.8s	0.66	247	Pg	**Pb**	18 09 55.4	0.0	
GRI	**Girifalco** 932nm,1.1s	0.94	240	Pg	**Pn**	18 10 01.1	+0.2	
GRI	**Girifalco** 932nm,1.1s	0.94	240	Pg	**Pn**	18 10 01.1	+0.2	
SALB	**San Lorenzo Be** 374nm,0.3s	1.04	304	Pg	**Pn**	18 10 02.9	+0.5	
SALB	**San Lorenzo Be** 374nm,0.3s	1.04	304	Pg	**Pn**	18 10 02.9	+0.5	
ORI	**Oriolo Calabro** 2µm,0.6s	1.09	315	Pg	**Pg**	18 10 04.3	+1.1	
ORI	**Oriolo Calabro** 2µm,0.6s	1.09	315	Pg	**Pg**	18 10 04.3	+1.1	
SCTE	**Santa Cesarea**	1.10	45	Pg	**Pg**	18 10 03.9	+0.7	
SCTE	**Santa Cesarea**	1.10	45	Pg	**Pg**	18 10 03.9	+0.7	
PLAC	**Placanica** 635nm,1.1s	1.16	224	Pg	**Pg**	18 10 04.5	0.0	
PLAC	**Placanica** 635nm,1.1s	1.16	224	Pg	**Pg**	18 10 04.5	0.0	
MMN	**Mormanno** 225nm,0.8s	1.28	298	Pg	**Pg**	18 10 07.8	+1.1	
MMN	**Mormanno** 225nm,0.8s	1.28	298	Pg	**Pg**	18 10 07.8	+1.1	
MESG	**Mesagne**	1.32	13	Pg	**Pb**	18 10 06.6	-0.1	
MESG				Sg	**Sg**	18 10 24.8	0.0	
MESG	**Mesagne**	1.32	13	Pg	**Pb**	18 10 06.6	-0.1	
MESG				Sg	**Sg**	18 10 24.8	0.0	
CRAC	**Craco** 2µm,1.1s	1.33	324	Pg	**Pg**	18 10 07.9	+0.3	
CRAC	**Craco** 2µm,1.1s	1.33	324	Pg	**Pg**	18 10 07.9	+0.3	
LTRZ	**Laterza** 489nm,0.8s	1.40	339	Pg	**Pb**	18 10 07.6	-0.4	
LTRZ	**Laterza** 489nm,0.8s	1.40	339	Pg	**Pb**	18 10 07.6	-0.4	
SCHR	**S. Chirico Rap** 348nm,0.9s	1.40	311	Pg	**Pg**	18 10 08.7	-0.3	
CUC	**Castrocucco**	1.45	299	Pg	**Pb**	18 10 09.5	+0.6	
CUC	**Castrocucco**	1.45	299	Pg	**Pb**	18 10 09.5	+0.6	
MATE	**Matera** 570nm,0.7s	1.47	337	Pg	**Pn**	18 10 08.5	+0.3	
MATE	**Matera** 570nm,0.7s	1.47	337	Pg	**Pn**	18 10 08.5	+0.3	
PE1	**Pezze di Greco**	1.51	359	*e*Pn	**Pg**	18 10 11.7	+0.7	
SIRI	**Monte Sirino -** 363nm,0.7s	1.51	306	Pg	**Pb**	18 10 10.5	+0.5	
SIRI	**Monte Sirino -** 363nm,0.7s	1.51	306	Pg	**Pb**	18 10 10.5	+0.5	
NOCI	**Noci** 646nm,0.4s	1.52	349	Pg	**Pn**	18 10 09.1	+0.2	
NOCI	**Noci** 646nm,0.4s	1.52	349	Pg	**Pn**	18 10 09.1	+0.2	
MIGL	**Miglionico** 2µm,0.9s	1.52	329	Pg	**Pb**	18 10 09.8	-0.3	
MIGL	**Miglionico** 2µm,0.9s	1.52	329	Pg	**Pb**	18 10 09.8	-0.3	
CEL	**Celeste** 829nm,1.7s	1.60	230	Pg	**Pb**	18 10 11.5	-0.1	
CEL	**Celeste** 829nm,1.7s	1.60	230	Pg	**Pb**	18 10 11.5	-0.1	
MTSN	**Montesano sull** 136nm,0.7s	1.64	307	Pg	**Pb**	18 10 12.2	+0.1	
MTSN	**Montesano sull** 136nm,0.7s	1.64	307	Pg	**Pb**	18 10 12.2	+0.1	
MCEL	**Monticello**	1.64	309	Pg	**Pb**	18 10 12.2	0.0	
MCEL	**Monticello**	1.64	309	Pg	**Pb**	18 10 12.2	0.0	
SOI	**Samo** 221nm,0.9s	1.65	222	Pg	**Pb**	18 10 11.8	-0.4	
SOI	**Samo** 221nm,0.9s	1.65	222	Pg	**Pb**	18 10 11.8	-0.4	
SG1	**Sgrigore (BA)**	1.65	339	*e*Pn	**Pn**	18 10 11.2	+0.4	
AMUR	**Altamura** 563nm,0.8s	1.74	338	Pg	**Pn**	18 10 12.2	+0.3	
AMUR	**Altamura** 563nm,0.8s	1.74	338	Pg	**Pn**	18 10 12.2	+0.3	
BULG	**Bulgheria - Ca** 308nm,0.9s	1.79	297	Pg	**Pb**	18 10 13.9	-0.8	
BULG	**Bulgheria - Ca** 308nm,0.9s	1.79	297	Pg	**Pb**	18 10 13.9	-0.8	
KEK	**Kerkira**	1.85	76	P	**Pn**	18 10 14.0	+0.5	
KEK				S	**Sb**	18 10 39.0	+0.1	
KEK	**Kerkira** 631nm,0.8s	1.85	76	Pg	**Pn**	18 10 14.4	+0.9	
KEK	**Kerkira** 631nm,0.8s	1.85	76	P	**Pn**	18 10 14.0	+0.5	
KEK	**Kerkira** 631nm,0.8s	1.85	76	Pg	**Pn**	18 10 14.4	+0.9	
KEK				S	**Sb**	18 10 39.0	+0.1	
BAI	**Bari**	1.86	346	*e*Pn	**Pn**	18 10 14.0	-0.4	
MTTG	**Motta San Giov** 531nm,1.2s	1.90	228	Pg	**Pn**	18 10 15.0	+0.9	
MTTG	**Motta San Giov** 531nm,1.2s	1.90	228	Pg	**Pn**	18 10 15.0	+0.9	
CMPR	**Campora** 200nm,0.9s	1.95	302	Pg	**Pn**	18 10 15.6	+0.7	
CMPR	**Campora** 200nm,0.9s	1.95	302	Pg	**Pn**	18 10 15.6	+0.7	
CDT	**Castel del Mon**	2.00	333	*e*Pn	**Pn**	18 10 16.2	+0.7	
PALZ	**Palazzo San Ge** 1µm,1.4s	2.01	325	Pg	**Pn**	18 10 16.2	+0.6	
PALZ	**Palazzo San Ge** 1µm,1.4s	2.01	325	Pg	**Pn**	18 10 16.2	+0.6	
MRVN	**Minervino Murg** 256nm,0.8s	2.01	332	Pg	**Pn**	18 10 16.0	+0.3	
MRVN	**Minervino Murg** 256nm,0.8s	2.01	332	Pg	**Pn**	18 10 16.0	+0.3	
MILZ	**Milazzo** 276nm,0.9s	2.02	240	Pg	**Pn**	18 10 15.7	-0.1	
MILZ	**Milazzo** 276nm,0.9s	2.02	240	Pg	**Pn**	18 10 15.7	-0.1	
CDRU	**Civita di Ruta** 164nm,0.8s	2.04	306	Pg	**Pn**	18 10 16.9	+0.7	
CDRU	**Civita di Ruta** 164nm,0.8s	2.04	306	Pg	**Pn**	18 10 16.9	+0.7	
SRN	**Sarande**	2.05	73	*i* PN	**Pn**	18 10 14.9	-1.2	
SRN	**Sarande**	2.05	73	P	**Pn**	18 10 17.1	+1.0	
SRN	**Sarande**	2.05	73	*i* Pn	**Pn**	18 10 14.9	-1.2	
SRN	**Sarande**	2.05	73	P	**Pn**	18 10 17.1	+1.0	
MMME	**Mongiuffi-Meli** 1µm,2.7s	2.20	233	Pg	**Pn**	18 10 19.4	+1.1	
MMME	**Mongiuffi-Meli** 1µm,2.7s	2.20	233	Pg	**Pn**	18 10 19.4	+1.1	
IGT	**Igoumenitsa**	2.24	83	*e*P	**Pn**	18 10 20.1	+1.3	
IGT	**Igoumenitsa**	2.24	83	P	**Pn**	18 10 19.9	+1.2	
IGT				S	**Sb**	18 10 48.8	-1.0	
IGT	**Igoumenitsa**	2.24	83	P	**Pn**	18 10 19.9	+1.2	
IGT				S	**Sb**	18 10 48.8	-1.0	
LKD2	**Lefkada island**	2.54	101	P	**Pn**	18 10 24.0	+1.1	
LKD2				S	**Sn**	18 10 54.6	+0.9	
LKD2	**Lefkada island**	2.54	101	P	**Pn**	18 10 24.0	+1.1	
LKD2				S	**Sn**	18 10 54.6	+0.9	
KNS	**Konitsa**	2.66	72	P	**Pn**	18 10 26.1	+1.5	
KNS	**Konitsa**	2.66	72	P	**Pn**	18 10 26.1	+1.5	
MSAG	**Monte S. Angel** 322nm,0.7s	2.69	334	Pg	**Pn**	18 10 25.3	+0.3	
MSAG	**Monte S. Angel** 322nm,0.7s	2.69	334	Pg	**Pn**	18 10 25.3	+0.3	
VLS	**Valsamata**	2.69	114	P	**Pn**	18 10 25.5	+0.5	
VLS	**Valsamata**	2.69	114	P	**Pn**	18 10 25.5	+0.5	
SGRT	**San Giovanni R**	2.78	332	Pg	**Pn**	18 10 26.7	+0.4	
SGRT	**San Giovanni R**	2.78	332

ANKY	Antikythira Is	5.76	125	P	Pn	18 11 08.4	+1.2	
ANKY	Antikythira Is	5.76	125	P	Pn	18 11 08.4	+1.2	
FGSL	Fruska Gora	6.11	16	*e*Pn	Pn	18 11 11.0	-1.0	
KARN	Karanos	6.45	125	P	Pn	18 11 17.2	+0.6	
KARN	Karanos	6.45	125	P	Pn	18 11 17.2	+0.6	
SIGR	SIGRI	6.51	88	*e*P	Pn	18 11 17.7	+0.2	
SIGR	SIGRI	6.51	88	*e*P	Pn	18 11 17.7	+0.2	
GADA	Gvkgeada	6.56	80	*e*P	Pn	18 11 17.9	-0.3	
GADA	Gvkgeada	6.56	80	*e*P	Pn	18 11 17.9	-0.3	
APE	Apeiranthos	6.73	107	*e*P	Pn	18 11 21.1	+0.5	
APE	Apeiranthos	6.73	107	⇑*i*P	Pn	18 11 22.3	+1.7	
APE	Apeiranthos	6.73	107	*e*P	Pn	18 11 21.1	+0.5	
CHOS	Chios island	6.77	95	*e*P	Pn	18 11 21.1	0.0	
CHOS	Chios island	6.77	95	*e*P	Pn	18 11 21.1	0.0	
ALN	Alexandroupoli	6.77	74	*e*P	Pn	18 11 20.3	-0.7	
ALN	Alexandroupoli	6.77	74	*e*P	Pn	18 11 20.3	-0.7	
THR5	Thira Island,	6.87	112	*e*P	Pn	18 11 23.0	+0.6	
THR5	Thira Island,	6.87	112	*e*P	Pn	18 11 23.0	+0.6	
PKSM	Moragy	6.96	7	⇓*i*P	Pn	18 11 23.2	-0.5	
GELI	Tayfur-Gelibol	7.02	78	*e*P	Pn	18 11 24.1	-0.4	
GELI	Tayfur-Gelibol	7.02	78	*e*P	Pn	18 11 24.1	-0.4	
BZS	Buzias	7.02	25	⇑*i*Pn	Pn	18 11 23.8	-0.7	
ERIK	Erikli-Kesan	7.08	76	*e*P	Pn	18 11 24.5	-0.8	
ERIK	Erikli-Kesan	7.08	76	*e*P	Pn	18 11 24.5	-0.8	
IDI	Anoyia	7.14	122	Pn	Pn	18 11 26.2	-0.1	
	3.5nm,0.3s,baz=293,slow=15,SNR=24							
IDI				Sn	Sn	18 12 44.2	-3.1	
	2.0nm,0.3s,baz=324,slow=13,SNR=6.0							
EDRB	Edirne	7.51	67	*e*P	Pn	18 11 29.9	-1.3	
EDRB	Edirne	7.51	67	*e*P	Pn	18 11 29.9	-1.3	
OBKA	Obir	7.52	344	⇓*i*Pn	Pn	18 11 31.9	+0.5	
OBKA	Obir	7.52	344	Pn	Pn	18 11 31.9	+0.5	
RKY	Sarkoy-Tekirda	7.59	76	*e*P	Pn	18 11 31.9	-0.4	
RKY	Sarkoy-Tekirda	7.59	76	*e*P	Pn	18 11 31.9	-0.4	
SOKA	Soboth	7.59	347	⇑*i*Pn	Pn	18 11 33.1	+0.8	
SOKA	Soboth	7.59	347	Pn	Pn	18 11 32.0	-0.3	
ARSA	Arzberg	8.07	351	⇑*i*Pn	Pn	18 11 39.0	0.0	
ARSA	Arzberg	8.07	351	Pn	Pn	18 11 39.0	0.0	
ABTA	Abfaltersbach	8.28	336	⇑*i*Pn	Pn	18 11 41.7	-0.1	
ABTA	Abfaltersbach	8.28	336	Pn	Pn	18 11 41.7	-0.1	
VOIR		8.31	40	⇓*i*P	Pn	18 11 41.1	-1.2	
KBA	Koelnbreinsper	8.34	340	⇑*i*Pn	Pn	18 11 43.1	+0.4	
KBA	Koelnbreinsper	8.34	340	Pn	Pn	18 11 42.3	-0.4	
PSZ	Piszkesteto	8.80	11	⇑*i*P	Pn	18 11 49.1	+0.2	
MLR	Muntele Rosu	8.81	43	Pn	Pn	18 11 50.8	+1.6	
	baz=240,slow=14							
MLR				Sn	Sn	18 13 29.5	+1.2	
	baz=176,slow=18							
MLR				LR	LR	18 15 41.1		
	comp=Z,13nm,19.6s,baz=14,slow=41							
MLR	Muntele Rosu	8.81	43	⇑*i*P	Pn	18 11 49.5	+0.4	
DAVOX	Davos/Dischmat	9.31	326	Pn	Pn	18 11 56.1	+0.1	
	0.3nm,0.3s,baz=149,slow=18,SNR=3.2							
GERES	GERESS Array B	9.92	345	Pn	Pn	18 12 04.9	+0.6	
	0.2nm,0.3s,baz=167,slow=13,SNR=4.9							
BURAR	Bucovina Array	10.04	32	⇓*i*P	Pn	18 12 05.7	-0.2	
KHC	Kasperske Hory	10.22	345	*e*PN	Pn	18 12 09.1	+0.8	
KHC				*e*SN	Sn	18 13 58.9	-3.8	
BRTR	Keskin Array B	12.51	83	Pn	Pn	18 12 42.1	+2.3	
	0.1nm,0.3s,baz=264,slow=11,SNR=8.9							
MMAI	Mount Meron Ar	15.78	108	Pn	Pn	18 13 19.7	-4.3	
	1.3nm,0.3s,baz=304,slow=12,SNR=5.3							
EIL	Elat	17.30	118	P	Pn	18 13 43.2	0.0	
	0.4nm,0.3s,baz=318,slow=18,SNR=4.7							
HFS	Hagfors	20.99	355	P	P	18 14 25.0	+0.2	
	1.2nm,0.5s,baz=139,slow=7.9,SNR=6.8							
EKA	Eskdalemuir Ar	21.15	326	P	P	18 14 26.6	0.0	
	2.0nm,0.6s,baz=136,slow=13,SNR=12							
NOA	NORSAR Array B	22.11	352	P	P	18 14 35.3	-1.6	
	1.2nm,0.8s,baz=150,slow=11,SNR=3.4							
FINES	FINESS Array B	22.80	11	P	P	18 14 43.2	-0.9	
	2.2nm,0.9s,baz=188,slow=12,SNR=5.4							
TORD	Torodi Ar. Bea	29.54	212	P	P	18 15 46.0	-0.4	
	0.5nm,0.6s,baz=25,slow=8.6,SNR=5.3							
TORD				LR	LR	18 28 43.4		
	comp=Z,44nm,18.1s,baz=135,slow=39							
BVAR	Borovoye Array	38.26	51	P	P	18 17 03.2	+1.5	
	0.3nm,0.4s,baz=291,slow=12,SNR=1.9							
ZALV	Zalesovo Beam	46.73	49	P	P	18 18 12.1	+1.6	
	0.8nm,0.6s,baz=279,slow=8.6,SNR=3.1							
MKAR	Makanchi Array	46.76	59	P	P	18 18 12.0	+1.1	
	0.2nm,0.5s,baz=263,slow=12,SNR=5.5							
YKA	Yellowknife Ar	71.50	339	P	P	18 21 02.9	+0.9	
	0.6nm,0.8s,baz=39,slow=5.4,SNR=7.2							

*JMA **11** 18:49:16.6±0.2,24°.59N×122°.26E,h84km±3km,M2.8*
*ISCJB **11** 18:49:17.1±0.4,24°.62N±0°.03×122°.30E±0°.02,h76km±5km,*
Error ellipse: s-maj=4.4km s-min=2.4km az=165.0
*TAP **11** 18:49:17.0,24°.63N×122°.24E,h84km,ML3.7,C*

ISC 11 18:49:17.6±1.3,24°.60N±0°.04×122°.30E±0°.02,h75km±8km,
n60,σ0°96/116,2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.41**	**271**	*i* P	**Pn**	**18 49 30.2**	**+0.1**
	baz=266						
TWC				S	**Sn**	**18 49 39.1**	**-0.1**
	baz=266						
TWB1	**Santiao Chiao**	**0.49**	**325**	*i* P	**Pn**	**18 49 30.6**	**-0.2**
	baz=326						
TWB1				*i* S	**Sn**	**18 49 40.4**	**-0.2**
	baz=326						
ILA	**Ilan**	**0.53**	**288**	*e*P	**Pn**	**18 49 30.9**	**-0.2**
	baz=290						
ENA	**Nanau**	**0.54**	**252**	⇓*i*P	**Pn**	**18 49 31.6**	**+0.4**
	baz=245						
ENA				*e*S	**Sn**	**18 49 42.2**	**+1.0**
	baz=245						
TWE	**Neicheng**	**0.59**	**282**	*e*P	**Pn**	**18 49 32.0**	**+0.3**
	baz=280						
TWE				*e*S	**Sn**	**18 49 42.4**	**+0.3**
	baz=280						
JYNG	**Yonagunijimaku**	**0.61**	**104**	P	**Pn**	**18 49 32.2**	**+0.3**
JYNG				S	**Sn**	**18 49 43.4**	**+0.9**
NWF	**Wu-fen Shan**	**0.66**	**315**	P	**Pn**	**18 49 32.4**	**-0.2**
	baz=310						
NWF				S	**Sn**	**18 49 43.2**	**-0.5**
	baz=310						
YOJ	**Yonaguni jima**	**0.66**	**102**	P	**Pn**	**18 49 32.7**	**+0.2**
YOJ				*e*S	**Sn**	**18 49 44.3**	**+0.8**
TWA	**Mucha**	**0.75**	**300**	*i* P	**Pn**	**18 49 33.1**	**-0.4**
	baz=295						
TWA				S	**Sn**	**18 49 44.4**	**-0.8**
	baz=295						
TWD	**Chiawan**	**0.82**	**231**	*i* P	**Pn**	**18 49 34.1**	**-0.2**
	baz=226						
TWD				*e*S	**Sn**	**18 49 47.0**	**+0.4**
	baz=226						
TAP1	**Taipei**	**0.83**	**302**	*e*P	**Pn**	**18 49 33.4**	**-0.9**
	baz=302						
TAP1				*e*S	**Sn**	**18 49 45.7**	**-1.0**
	baz=302						
TAP	**Taipei**	**0.84**	**301**	*e*P	**Pn**	**18 49 33.8**	**-0.7**
	baz=302						
TAP				*e*S	**Sn**	**18 49 45.9**	**-1.1**
	baz=302						
NNS	**Nan Shan**	**0.86**	**260**	*e*P	**Pn**	**18 49 34.9**	**+0.1**
	baz=251						
NNS				*e*S	**Sn**	**18 49 47.6**	**+0.1**
	baz=251						
NSK	**Sanguang**	**0.86**	**275**	*e*P	**Pn**	**18 49 34.7**	**0.0**
	baz=273						
NSK				*e*S	**Sn**	**18 49 47.4**	**-0.1**
	baz=273						
HWA	**Hwalien**	**0.89**	**226**	*e*P	**Pn**	**18 49 34.9**	**-0.1**
	baz=221						
HWA				*e*S	**Sn**	**18 49 49.2**	**+1.3**
	baz=221						
TWY	**Chenhua**	**0.93**	**317**	*e*P	**Pn**	**18 49 34.9**	**-0.6**
	baz=311						
TWY				*e*S	**Sn**	**18 49 48.2**	**-0.5**
	baz=311						
TWS1	**Kuangyinshan**	**0.94**	**302**	⇓*i*P	**Pn**	**18 49 35.3**	**-0.3**
	baz=306						
TWS1				S	**Sn**	**18 49 48.8**	**-0.4**
	baz=306						
WHF	**Hehuan Shan**	**1.04**	**245**	*i* P	**Pn**	**18 49 37.5**	**+0.1**
	baz=241						
WHF				S	**Sn**	**18 49 51.9**	**-0.1**
	baz=241						
PCYT	**Pengchaiyu**	**1.05**	**349**	P	**Pn**	**18 49 36.9**	**0.0**
	baz=344						
PCYT				*e*S	**Sn**	**18 49 50.3**	**-1.0**
	baz=344						
NCU	**National Centr**	**1.07**	**290**	*e*P	**Pn**	**18 49 37.8**	**+0.5**
	baz=281						
NCU				*e*S	**Sn**	**18 49 52.1**	**+0.1**
	baz=281						
TWT	**Tachien**	**1.08**	**252**	*e*P	**Pn**	**18 49 38.3**	**+0.8**
	baz=241						
TWT				*e*S	**Sn**	**18 49 53.0**	**+0.6**
	baz=241						
ESL	**Shilin**	**1.11**	**225**	*e*P	**Pn**	**18 49 37.1**	**-0.6**
	baz=229						
ESL				*e*S	**Sn**	**18 49 51.7**	**-1.2**
	baz=229						
NSTT	**Nanjuang**	**1.18**	**272**	*e*P	**Pn**	**18 49 38.7**	**+0.1**
	baz=270						
NSTT				S	**Sn**	**18 49 54.3**	**-0.1**
	baz=270						
IRIF	**Iriomote-Funau**	**1.33**	**101**	P	**Pn**	**18 49 40.2**	**-0.3**
IRIF				*e*S	**Sn**	**18 49 58.0**	**+0.2**
WDT	**Danda**	**1.35**	**232**	*e*P	**Pn**	**18 49 40.8**	**-0.4**
	baz=222						
WDT				*e*S	**Sn**	**18 49 58.0**	**-0.9**
	baz=222						
EHY	**Hungye**	**1.41**	**220**	*e*P	**Pn**	**18 49 40.9**	**-0.7**
	baz=224						
EHY				*e*S	**Sn**	**18 49 57.7**	**-1.9**
	baz=224						
NSY	**Sanyi**	**1.41**	**263**	*e*P	**Pn**	**18 49 41.8**	**+0.2**
	baz=261						
NSY				*e*S	**Sn**	**18 49 59.6**	**-0.1**
	baz=261						
TWQ1	**Liyutan**	**1.41**	**260**	*e*P	**Pn**	**18 49 41.5**	**-0.1**
	baz=258						
TWQ1				*e*S	**Sn**	**18 49 59.5**	**-0.2**
	baz=258						
SMLT	**Sun Moon Lake**	**1.46**	**241**	*i* P	**Pn**	**18 49 43.5**	**+1.1**
	baz=232						
SMLT				*e*S	**Sn**	**18 50 02.7**	**+1.7**
	baz=232						
HATJ	**Hateruma jima**	**1.48**	**111**	P	**Pn**	**18 49 42.8**	**+0.4**
HATJ				*e*S	**Sn**	**18 50 02.1**	**+0.9**
TYC	**Yuchr**	**1.49**	**243**	P	**Pn**	**18 49 43.8**	**+1.2**
	baz=240						
TYC				S	**Sn**	**18 50 02.5**	**+1.1**
	baz=240						
TWF1	**Yuli**	**1.54**	**217**	*e*P	**Pn**	**18 49 42.4**	**-0.9**
	baz=221						
TWF1				*e*S	**Sn**	**18 50 00.8**	**-1.9**
	baz=221						
JKRS	**Kuro-shima**	**1.60**	**103**	P	**Pn**	**18 49 44.3**	**+0.3**
JKRS				*e*S	**Sn**	**18 50 04.6**	**+0.5**
WNT	**Mingjian**	**1.64**	**244**	*e*P	**Pn**	**18 49 45.2**	**+0.7**
	baz=253						
WNT				*e*S	**Sn**	**18 50 05.8**	**+0.8**
	baz=253						
YUS	**Yu-Shan**	**1.65**	**228**	P	**Pn**	**18 49 45.7**	**+0.4**
	baz=218						
YUS				*e*S	**Sn**	**18 50 05.9**	**-0.2**
	baz=218						
JIJ	**Ishigaki jima**	**1.70**	**98**	P	**Pn**	**18 49 45.0**	**-0.3**
JIJ				*e*S	**Sn**	**18 50 05.9**	**-0.5**
CHKT	**Chengkung**	**1.72**	**210**	*e*P	**Pn**	**18 49 44.4**	**-1.3**
	baz=199						
CHKT				*e*S	**Sn**	**18 50 05.2**	**-1.7**
	baz=199						
ALS	**Alishan**	**1.74**	**232**	P	**Pn**	**18 49 47.0**	**+0.8**
	baz=222						
ALS				*e*S	**Sn**	**18 50 08.5**	**+0.6**
	baz=222						
CHN5	**Tsauling**	**1.79**	**236**	*e*P	**Pn**	**18 49 47.3**	**+0.7**
	baz=245						
CHN5				*e*S	**Sn**	**18 50 10.2**	**+1.6**
	baz=245						
WGK	**Gukeng**	**1.83**	**241**	*e*P	**Pn**	**18 49 47.4**	**+0.3**
	baz=249						
WGK				*e*S	**Sn**	**18 50 10.8**	**+1.4**
	baz=249						
ELDTW	**Lidau**	**1.83**	**220**	*e*P	**Pn**	**18 49 46.7**	**-0.5**
	baz=211						
ELDTW				*e*S	**Sn**	**18 50 08.5**	**-1.2**
	baz=211						
JISG	**Ishigakijimahi**	**1.83**	**90**	P	**Pn**	**18 49 47.1**	**0.0**
JISG				*e*S	**Sn**	**18 50 09.9**	**+0.4**
CHN2	**Minshiung**	**1.98**	**238**	*e*P	**Pn**	**18 49 50.0**	**+1.0**
	baz=246						
CHN2				*e*S	**Sn**	**18 50 14.6**	**+1.6**
	baz=246						
CHN4	**Tsaushan**	**1.99**	**232**	*e*P	**Pn**	**18 49 50.4**	**+1.1**
	baz=229						
CHN4				*e*S	**Sn**	**18 50 15.7**	**+2.3**
	baz=229						
STYT	**Tauyuan**	**2.01**	**225**	P	**Pn**	**18 49 50.3**	**+0.8**
	baz=222						
STYT				*e*S	**Sn**	**18 50 14.9**	**+1.1**
	baz=222						
CHY	**Chiayi**	**2.03**	**238**	*e*P	**Pn**	**18 49 50.4**	**+0.6**
	baz=246						
CHY				*e*S	**Sn**	**18 50 15.2**	**+0.8**
	baz=246						
WTP	**Ta-pu**	**2.05**	**229**	*e*P	**Pn**	**18 49 50.9**	**+0.9**
	baz=226						
WTP				*e*S	**Sn**	**18 50 16.1**	**+1.3**
	baz=226						
TWG	**Pinlang**	**2.10**	**213**	*e*P	**Pn**	**18 49 48.2**	**-2.5**
	baz=209						
TWK	**Hsinying**	**2.12**	**232**	*e*P	**Pn**	**18 49 51.4**	**+0.3**
	baz=229						
TWK				*e*S	**Sn**	**18 50 17.8**	**+1.2**
	baz=229						
WSF	**Szhu**	**2.12**	**244**	*e*P	**Pn**	**18 49 49.9**	**-1.1**
	baz=241						
WSF				*e*S	**Sn**	**18 50 16.6**	**0.0**
	baz=241						
CHN1	**Nanshi**	**2.15**	**229**	*e*P	**Pn**	**18 49 52.2**	**+0.8**
	baz=227						
CHN1				S	**Sn**	**18 50 18.1**	**+0.9**
	baz=227						
SGST	**Jiashian**	**2.18**	**226**	P	**Pn**	**18 49 52.8**	**+1.0**
	baz=223						
SGST				*e*S	**Sn**	**18 50 19.4**	**+1.5**
	baz=223						
JTJ	**Tarama**	**2.19**	**88**	P	**Pn**	**18 49 52.3**	**+0.4**
JTJ				*e*S	**Sn**	**18 50 18.2**	**+0.1**
CHN3	**Shinhua**	**2.33**	**230**	*e*P	**Pn**	**18 49 53.9**	**+0.1**
	baz=227						
CHN3				*e*S	**Sn**	**18 50 23.0**	**+1.5**
	baz=227						
ECL	**Taimali**	**2.34**	**212**	*e*P	**Pn**	**18 49 52.4**	**-1.6**
	baz=209						
ECL				*e*S	**Sn**	**18 50 19.6**	**-2.2**
	baz=209						
SSD	**Sandimen**	**2.40**	**220**	*e*P	**Pn**	**18 49 55.9**	**+1.2**
	baz=229						
SSD				*e*S	**Sn**	**18 50 24.6**	**+1.5**
	baz=229						
TWM1	**Shoushan**	**2.47**	**225**	*e*P	**Pn**	**18 49 55.3**	**-0.4**
	baz=222						
EAST	**Anshuo**	**2.58**	**211**	*e*P	**Pn**	**18 49 58.4**	**+1.2**
	baz=203						
EAST				S	**Sn**	**18 50 25.9**	**-1.7**
	baz=203						
LAY	**Lan-yu**	**2.64**	**195**	*e*P	**Pn**	**18 49 56.5**	**-1.6**
	baz=195						
LAY				*e*S	**Sn**	**18 50 26.6**	**-2.5**
	baz=195						
JIKM	**Ikemajima**	**2.70**	**83**	*e*S	**Sn**	**18 50 30.9**	**+0.4**

WEL 11 19:00:01.8±0.8,36°.29S×179°.67W,h33km,ML3.7/10,
1C-1D,Error ellipse: s-maj=10.6km s-min=8.7km az=0.0,
East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**2.43**	**222**	PN	Pn	19 00 39.6	+0.3
HAZ	**Te Kaha**	**2.51**	**234**	PN	Pn	19 00 40.2	0.0
HAZ				SN	Sn	19 01 08.5	-1.2
TWGZ	**Tauwhareparae**	**2.66**	**224**	⇑PN	Pn	19 00 42.8	+0.4
MWZ	**Matawai**	**3.03**	**227**	⇓PN	Pn	19 00 47.0	-0.5
MWZ				SN	Sn	19 01 19.5	-3.1
RIGZ	**Rimuhau**	**3.16**	**220**	PN	Pn	19 00 49.0	-0.3
RAGZ	**Rawiri**	**3.20**	**226**	PN	Pn	19 00 49.3	-0.6
URZ	**Urewera**	**3.23**	**232**	PN	Pn	19 00 49.1	-1.2
URZ				SN	Sn	19 01 23.4	-4.3
SNGZ	**Shannon Statio**	**3.44**	**223**	PN	Pn	19 00 53.1	-0.1
KNZ	**Kokohu**	**3.44**	**217**	PN	Pn	19 00 52.3	-0.8
NMHZ	**Naumai**	**3.96**	**224**	PN	Pn	19 00 58.8	-1.5
ARHZ	**Aropaoanui**	**3.97**	**221**	PN	Pn	19 00 59.9	-0.6
BKZ	**Black Stump Fm**	**4.18**	**226**	PN	Pn	19 01 01.6	-1.8
MCHZ	**McNeill Hill**	**4.26**	**221**	*e*PN	Pn	19 01 03.3	-1.1
BHHZ	**Black Hill Sta**	**4.65**	**225**	PN	Pn	19 01 08.8	-1.0
MOVZ	**Moawhango**	**4.78**	**228**	AML	AML	19 02 01.4	
TIWZ	**Tintock**	**5.67**	**217**	AML	AML	19 01 23.0	
MRZ	**Mangatainoka R**	**5.74**	**219**	*e*PN	Pn	19 01 21.6	-3.1
MRZ				SN	Sn	19 02 22.1	-7.4
MSWZ	**Moikau Station**	**6.47**	**216**	AML	AML	19 02 06.6	
TCW	**Tory Channel**	**6.82**	**222**	AML	AML	19 03 17.9	
TUWZ	**Tuamarina**	**7.15**	**222**	AML	AML	19 02 59.2	
NNZ	**Nelson**	**7.33**	**226**	AML	AML	19 02 59.4	

*IDC **11** 19:01:08.6±1.1,37°.40S×73°.45W,h0km,mb3.8/6,*
mb1 3.8/9,mb1mx3.7/27,mbtmp3.7/9,ML3.6/3,MS3.7/7,
Ms1 3.7/7,ms1mx3.4/18,Error ellipse: s-maj=33.5km
s-min=20.5km az=99.0
*NEIC **11** 19:01:09.8±3.7,37°.36S×73°.46W,h9km±22km,mb4.2/4,*
Error ellipse: s-maj=17.1km s-min=6.1km az=84.0
*ISCJB **11** 19:01:10.0±0.8,37°.38S±0°.06×73°.5W±0°.1,h23km,mb3.9/8,*
MS3.5/5,Error ellipse: s-maj=16.7km s-min=7.8km az=8.3

ISC 11 19:01:11.6±0.9,37°.32S±0°.06×73°.6W±0°.1,h23km,n24,
σ1s39/24,mb3.9/8,MS3.6/5,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**4.16**	**146**	Pn	**Pn**	**19 02 13.2**	**-0.6**
	1.2nm,0.3s,baz=318,slow=10,SNR=21						
PLCA				Sn	**Sb**	**19 03 16.0**	**+2.1**
	5.5nm,0.3s,baz=53,slow=19,SNR=6.0						
PLCA				LR	LR	19 04 05.4	
	comp=Z,370nm,18.0s,baz=316,slow=44						
PLCA	**Paso Flores**	**4.16**	**146**	*e*Pn	**Pn**	**19 02 12.4**	**-1.4**
PLCA				Sn	**Sb**	**19 03 16.0**	**+2.1**
CFAA	**Coronel Fontan**	**7.23**	**39**	Pn	**Pn**	**19 02 55.1**	**-0.8**
	0.4nm,0.3s,baz=181,slow=5.7,SNR=22						
CFAA				Sn	**Sn**	**19 04 20.2**	**+2.9**
	0.2nm,0.3s,baz=215,slow=16,SNR=2.7						
LCO	**Las Campanas**	**8.64**	**17**	*e*Pn	**Pn**	**19 03 14.9**	**-0.6**
	40nm,1.4s						
TRQA	**Tornquist**	**9.26**	**98**	*e*Pn	**Pn**	**19 03 21.1**	**-2.6**
	17nm,1.1s						
LVC	**Limon Verde**	**15.21**	**17**	Pn	**P**	**19 04 47.9**	**-2.1**
	8.2nm,0.3s,baz=158,slow=16,SNR=2.2						
LVC	**Limon Verde**	**15.21**	**17**	*e*Pn	**Pn**	**19 04 44.5**	**-0.7**
CPUP	**Villa Florida**	**17.63**	**56**	P	**P**	**19 05 15.6**	**-0.9**
	0.0nm,0.3s,baz=265,slow=13,SNR=2.5						
CPUP				LR	LR	19 12 54.0	
	comp=Z,2μm,18.2s,baz=234,slow=40						
EFI	**East Falkland**	**18.08**	**147**	*e*Pn	**Pn**	**19 05 20.0**	**-1.0**
	71nm,1.1s						
LPAZ	**La Paz**	**21.51**	**15**	P	**P**	**19 06 00.8**	**+1.2**
	1.1nm,0.6s,baz=208,slow=8.0,SNR=6.4						
LPAZ	**La Paz**	**21.51**	**15**	*e*Pn	**P**	**19 06 00.2**	**+0.6**
	2.8nm,0.8s						
SIV	**San Ignacio**	**23.98**	**31**	P	**P**	**19 06 24.8**	**+0.3**
	2.4nm,0.7s,baz=228,slow=9.5,SNR=8.6						
SIV				LR	LR	19 16 16.7	
	comp=Z,59nm,19.5s,baz=176,slow=38						
SAML	**Samuel**	**29.79**	**21**	P	**P**	**19 07 17.0**	**+0.3**
	1.8nm,0.9s						
BDFB	**Brasilia**	**31.31**	**53**	LR	LR	19 21 25.4	
	comp=Z,139nm,19.9s,baz=209,slow=39						
SNAA	**Sanae**	**49.02**	**157**	*e*P	**P**	**19 09 56.0**	**-0.2**
	6.0nm,1.4s						
QSPA	**South Pole Qui**	**52.92**	**180**	P	**P**	**19 10 25.6**	**-0.1**
	1.3nm,0.8s,baz=177,slow=1.4,SNR=5.4						
PPT	**Papeete**	**68.55**	**264**	LR	LR	19 35 32.0	
	comp=Z,65nm,20.4s,baz=3.0,slow=30						
TXAR	**Lajitas Array**	**72.05**	**333**	P	**P**	**19 12 35.3**	**+1.5**
	1.0nm,0.8s,baz=150,slow=7.9,SNR=8.3						
TXAR				LR	LR	19 38 56.2	
	comp=Z,21nm,19.5s,baz=0.0,slow=31						
DBIC	**Dimbokro**	**77.46**	**72**	P	**P**	**19 13 04.6**	**-0.8**
	2.5nm,1.0s,baz=190,slow=7.2,SNR=1.8						
DBIC				LR	LR	19 44 54.7	
	comp=Z,42nm,18.4s,baz=140,slow=34						
TORD	**Torodi Ar. Bea**	**86.53**	**71**	P	**P**	**19 13 52.9**	**-0.1**
	0.4nm,0.8s,baz=224,slow=4.0,SNR=3.2						
TIXI	**Tiksi**	**143.70**	**348**	*e*PKPpre	PKPpre	19 20 40.0	
ABKAR	**Akbulak array**	**144.69**	**55**	*e*PKPdf	**PKPab**	**19 20 45.0**	**+0.4**
BVAR	**Borovoye Array**	**150.55**	**46**	PKPbc	**PKPbc**	**19 21 01.7**	**+0.9**
	0.6nm,0.5s,baz=347,slow=1.9,SNR=4.8						
ZALV	**Zalesovo Beam**	**157.70**	**35**	PKPab	**PKPab**	**19 21 38.8**	**+0.9**
	0.5nm,0.5s,baz=316,slow=6.0,SNR=2.7						

*ISCJB **11** 19:10:46.5±0.5,36°.43N±0°.04×71°.29E±0°.06,h114km,*
mb3.3/1,Error ellipse: s-maj=7.9km s-min=4.5km
az=136.2
*IDC **11** 19:10:50.0±6.3,36°.64N×71°.19E,h87km±48km,mb3.1/1,*
mb1 3.2/7,mb1mx3.0/31,mbtmp3.5/7,ML3.3/6,Error
ellipse: s-maj=70.2km s-min=19.3km az=149.0
*NNC **11** 19:10:54.2±2.1,36°.91N×71°.16E,h126km±22km,mb2.8,*
mpv3.6,Error ellipse: s-maj=18.7km s-min=8.2km
az=168.0

ISC 11 19:10:47.6±1.0,36°.52N±0°.08×71°.26E±0°.07,h114km,n23,
σ2s40/30,7C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.99**	**321**	⇓P	**Pn**	**19 11 35.8**	**+2.1**
	16nm,0.5s						
DZET				⇓S	**Sn**	**19 12 09.2**	**+0.1**
	111nm

IGIL ***11*** *19:11:53.2,38˚.16N×19˚.92W,h0ᵏᵐ,ML4.1*

IDC ***11*** *19:11:53.5±3.2,38˚.03N×19˚.51W,h0ᵏᵐ,mb3.9/6, mb1 4.0/8,mb1mx3.6/36,mbtmp3.9/8,ML4.6/2,MS2.8/8, Ms1 2.8/8,ms1mx2.6/41,Error ellipse: s-maj=65.8km s-min=25.8km az=76.0*

LDG ***11*** *19:11:55.9±0.3,38˚.05N×19˚.82W,h30ᵏᵐ,Ml4.1/10,Error ellipse: s-maj=7.4km s-min=4.3km az=112.0*

PDA ***11*** *19:11:56.7±6.9,38˚.15N×19˚.76W,h35ᵏᵐ,ML5.1,Error ellipse: s-maj=328.3km s-min=35.6km az=2.0*

INMG ***11*** *19:11:57.1±5.3,38˚.17N×19˚.84W,h10ᵏᵐ,ML4.1,Error ellipse: s-maj=24.2km s-min=11.6km az=172.0*

CSEM ***11*** *19:12:01.1±0.3,37˚.86N×19˚.05W,h30ᵏᵐ,ML4.1,Error ellipse: s-maj=7.5km s-min=5.0km az=131.0*

ISC 11 19:11:52.7±0.8,37˚.98N±0˚.09×19˚.84W±0˚.08,h10ᵏᵐ,n138, σ1§39/106,mb3.9/5,MS2.7/7,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
BART	**Pico Bartolome**	**4.22**	**269**	*eP*		**Pn**	**19 12 57.4**	**+0.3**	
BART				*eS*		Sn	19 13 40.3	-6.2	
BART				A		A	19 13 49.1		
	170nm,0.2s								
PSMN	**Pico do Norte,**	**4.27**	**258**	*eP*		Pn	19 12 54.8	-2.9	
PSMN				*eS*		Sn	19 13 36.3	-11	
PSMN				A		A	19 13 40.2		
	185nm,0.1s								
PSMA	**Santa Maria**	**4.32**	**258**	*eP*		**Pn**	**19 12 56.0**	**-2.4**	
PSMA				*eS*		Sn	19 13 37.5	-11	
PSMA				A		A	19 13 44.9		
	262nm,0.2s								
GRON	**Grota Negra**	**4.51**	**269**	*eP*		**Pn**	**19 13 00.6**	**-0.4**	
GRON				*eS*		Sn	19 13 44.5	-9.0	
GRON				A		A	19 13 49.3		
	51nm,0.2s								
PSET	**Sete Cidades**	**4.65**	**270**	*eP*		**Pn**	**19 13 02.7**	**-0.3**	
PSET				*eS*		Sn	19 13 46.6	-10	
PSET				A		A	19 13 55.3		
	223nm,0.1s								
PMOZ	**Porto Moniz, M**	**5.58**	**156**	*eP*		**Pn**	**19 13 17.0**	**+1.1**	
PMOZ				*eS*		Sn	19 14 11.6	-8.5	
PMOZ				A		A	19 14 21.6		
	313nm,0.6s								
PMOZ	**Porto Moniz, M**	**5.58**	**156**	*eP*		**Pn**	**19 13 17.0**	**+1.1**	
PMPS	**Porto Santo**	**5.69**	**149**	*eP*		**Pn**	**19 13 17.6**	**+0.4**	
PMPS				*eS*		Sn	19 14 13.4	-9.1	
PMPS				A		A	19 14 20.1		
	73nm,0.2s								
PMPS	**Porto Santo**	**5.69**	**149**	*eP*		**Pn**	**19 13 17.6**	**+0.4**	
PMAR	**Madeira**	**5.77**	**155**	*eP*		**Pn**	**19 13 19.3**	**+0.8**	
PMAR				*eS*		Sn	19 14 15.2	-10	
PMAR				A		A	19 14 19.6		
	518nm,0.3s								
PMAR	**Madeira**	**5.77**	**155**	*eP*		**Pn**	**19 13 19.3**	**+0.8**	
FUL	**Funchal**	**5.84**	**155**	*eP*		**Pn**	**19 13 20.3**	**+1.0**	
FUL				*eS*		Sn	19 14 18.0	-8.4	
FUL				A		A	19 14 27.6		
	146nm,0.2s								
FUL	**Funchal**	**5.84**	**155**	*eP*		**Pn**	**19 13 20.3**	**+1.0**	
ADH	**Angra Heroismo**	**5.85**	**279**	*eP*		**Pn**	**19 13 18.9**	**-0.5**	
ADH				*eS*		Sn	19 14 16.5	-10	
ADH				A		A	19 14 22.6		
	84nm,0.2s								
PGRA	**Graciosa**	**6.47**	**282**	*eP*		**Pn**	**19 13 26.9**	**-1.0**	
PGRA				*eS*		Sn	19 14 31.4	-10	
PGRA				A		A	19 14 36.1		
	66nm,0.3s								
PMAN	**Manadas**	**6.52**	**278**	*eP*		**Pn**	**19 13 28.0**	**-0.6**	
PMAN				*eS*		Sn	19 14 32.5	-10	
PMAN				A		A	19 14 37.5		
	45nm,0.2s								
ROSA	**Rosais**	**6.64**	**279**	*eP*		**Pn**	**19 13 30.3**	**0.0**	
ROSA				*eS*		Sn	19 14 34.3	-12	
ROSA				A		A	19 14 42.1		
	52nm,0.3s								
PPNO	**Prainha do Nor**	**6.65**	**277**	*eP*		**Pn**	**19 13 29.6**	**-0.9**	
PPNO				*eS*		Sn	19 14 35.1	-11	
PPNO				A		A	19 14 41.6		
	52nm,0.2s								
PICO	**Pico**	**6.78**	**277**	*eP*		**Pn**	**19 13 31.7**	**-0.5**	
PCAN	**Candelaria**	**6.82**	**277**	*eP*		**Pn**	**19 13 32.2**	**-0.6**	
PCAN				*eS*		Sn	19 14 42.0	-8.5	
PCAN				A		A	19 14 49.5		
	43nm,0.4s								
CALA	**Caldeira**	**7.00**	**278**	*eS*		Sn	19 14 46.3	-8.6	
PCED	**Cedros**	**7.00**	**278**	*eP*		Pn	19 13 39.9	+4.7	
PMAFR	**Mafra**	**8.34**	**80**	*eP*		**Pn**	**19 13 52.5**	**-1.2**	
PMAFR				*eS*		Sn	19 15 18.0	-10	
PMAFR				A		A	19 15 28.3		
	130nm,0.5s								
PMAFR	**Mafra**	**8.34**	**80**	P		**Pn**	**19 13 52.4**	**-1.2**	
	7.7nm,0.3s,SNR=7.9								
PMAFR				*eS*		Sn	19 15 18.0	-10	
	130nm,0.5s								
PMST	**Lisbon--Monsan**	**8.41**	**82**	*eS*		Sn	19 15 21.6	-7.9	
PMST				A		A	19 15 25.9		
	63nm,0.4s								
PMST	**Lisbon--Monsan**	**8.41**	**82**	*eS*		Sn	19 15 21.6	-7.9	
	63nm,0.4s								
LIS	**Lisbon**	**8.43**	**82**	*eS*		Sn	19 15 21.0	-9.1	
LIS					AML	AML	19 15 23.2		
	comp=E,148nm,0.6s								
LIS	**Lisbon**	**8.43**	**82**	*eS*		Sn	19 15 20.5	-10	
LIS	**Lisbon**	**8.43**	**82**	*eS*		Sn	19 15 20.5	-10	
PACT	**Alcochete**	**8.68**	**81**	*eP*		**Pn**	**19 13 58.7**	**+0.4**	
PACT				*eS*		Sn	19 15 25.0	-11	
PACT	**Alcochete**	**8.68**	**81**	*eP*		**Pn**	**19 13 58.7**	**+0.4**	
PACT				*eS*		Sn	19 15 25.0	-11	
PFVI	**Vila Bisbo**	**8.79**	**92**	*eP*		**Pn**	**19 13 57.8**	**-2.0**	
PFVI				*eS*		Sn	19 15 27.9	-11	
PFVI				A		A	19 15 34.2		
	comp=E,46nm,0.5s								
PFVI	**Vila Bisbo**	**8.79**	**92**	P		**Pn**	**19 13 57.8**	**-2.0**	
	comp=E,11nm,0.6s,SNR=6.6								
PFVI				*eS*		Sn	19 15 27.9	-11	
	comp=E,46nm,0.5s								
PTEO	**Sao Teotonio**	**8.82**	**89**	*eP*		**Pn**	**19 13 58.4**	**-1.7**	
PTEO				*eS*		Sn	19 15 29.0	-11	
PTEO				A		A	19 15 35.2		
	comp=E,117nm,0.5s								
PTEO	**Sao Teotonio**	**8.82**	**89**	*eP*		**Pn**	**19 13 58.4**	**-1.7**	
PTEO				*eS*		Sn	19 15 29.0	-11	
	comp=E,117nm,0.5s								
MORF	**Marmelete**	**8.90**	**91**	*eP*		**Pn**	**19 13 59.4**	**-2.0**	
MORF				*eS*		Sn	19 15 32.5	-9.3	
MORF					AML	AML	19 15 34.6		
	comp=E,68nm,0.4s								
MORF	**Marmelete**	**8.90**	**91**	*eP*		**Pn**	**19 13 58.6**	**-2.8**	
MORF				*eS*		Sn	19 15 30.9	-11	
MORF				A		A	19 15 37.1		
	comp=E,32nm,0.2s								
MORF	**Marmelete**	**8.90**	**91**	*eP*		**Pn**	**19 13 58.6**	**-2.8**	
MORF				*eS*		Sn	19 15 30.9	-11	
	comp=E,32nm,0.2s								
PNCL	**Nicolau / Gran**	**8.93**	**86**	*eP*		**Pn**	**19 13 59.8**	**-1.8**	
PNCL				*eS*		Sn	19 15 32.4	-10	
PNCL				A		A	19 15 36.7		
	comp=E,61nm,0.5s								
PNCL	**Nicolau / Gran**	**8.93**	**86**	*eP*		**Pn**	**19 13 59.8**	**-1.8**	
PNCL				*eS*		Sn	19 15 32.4	-10	
	comp=E,61nm,0.5s								
PCAS	**Casmilo, Conde**	**9.07**	**73**	*eP*		**Pn**	**19 14 01.9**	**-1.7**	
PCAS				*eS*		Sn	19 15 35.2	-11	
PCAS				A		A	19 15 41.4		
	comp=E,30nm,0.5s								
PCAS	**Casmilo, Conde**	**9.07**	**73**	*eP*		**Pn**	**19 14 01.9**	**-1.7**	
PCAS				*eS*		Sn	19 15 35.2	-11	
	comp=E,30nm,0.5s								
PTOM	**Tomar**	**9.07**	**76**	*eP*		**Pn**	**19 14 02.6**	**-1.1**	
PTOM				*eS*		Sn	19 15 36.3	-10	
PTOM				A		A	19 15 42.5		
	comp=E,37nm,0.3s								
PTOM	**Tomar**	**9.07**	**76**	*eP*		**Pn**	**19 14 02.6**	**-1.1**	
PTOM				*eS*		Sn	19 15 36.3	-10	
	comp=E,37nm,0.3s								
PMTG	**Montargil**	**9.17**	**80**	*eP*		**Pn**	**19 14 03.7**	**-1.3**	
PMTG				*eS*		Sn	19 15 38.3	-10	
PMTG				A		A	19 15 44.6		
	comp=E,26nm,0.6s								
PMTG	**Montargil**	**9.17**	**80**	*eP*		**Pn**	**19 14 03.7**	**-1.3**	
PMTG				*eS*		Sn	19 15 38.3	-10	
	comp=E,26nm,0.6s								
MESJ	**Messejana**	**9.19**	**87**	*eS*		Sn	19 15 38.6	-10	
MESJ					AML	AML	19 15 42.5		
	comp=E,70nm,0.5s								
MESJ	**Messejana**	**9.19**	**87**	*eS*		Sn	19 15 36.4	-12	
MESJ				A		A	19 15 44.3		
	comp=E,54nm,0.5s								
MESJ	**Messejana**	**9.19**	**87**	*eS*		Sn	19 15 36.4	-12	
	comp=E,54nm,0.5s								
EVOP	**Sao Brissos**	**9.23**	**83**	*ePn*		**Pn**	**19 14 05.2**	**-0.7**	
EVOP				*eSn*		Sn	19 15 40.1	-10	
	comp=E,74nm,0.4s								
EVO	**Evora**	**9.32**	**83**	*ePn*		**Pn**	**19 14 05.2**	**-1.9**	
EVO				*eSn*		Sn	19 15 40.1	-12	
	comp=E,148nm,0.4s								
EVO	**Evora**	**9.32**	**83**	*eS*		Sn	19 15 39.6	-12	
EVO				A		A	19 15 47.8		
	comp=E,22nm,0.1s								
EVO	**Evora**	**9.32**	**83**	*eS*		Sn	19 15 39.6	-12	
	comp=E,22nm,0.1s								
PCVE	**Castro Verde**	**9.35**	**89**	*eP*		**Pn**	**19 14 06.6**	**-0.8**	
PCVE				*eS*		Sn	19 15 37.1	-16	
PCVE	**Castro Verde**	**9.35**	**89**	*eP*		**Pn**	**19 14 06.6**	**-0.8**	
PBDV	**Barranco-do-Ve**	**9.48**	**91**	*eP*		**Pn**	**19 14 07.2**	**-2.1**	
PBDV				*eS*		Sn	19 15 46.8	-9.1	
PBDV				A		A	19 15 52.5		
	comp=E,58nm,0.7s								
PBDV	**Barranco-do-Ve**	**9.48**	**91**	*eP*		**Pn**	**19 14 07.2**	**-2.1**	
PBDV				*eS*		Sn	19 15 46.8	-9.1	
	comp=E,58nm,0.7s								
PVAQ	**Vaqueiros**	**9.63**	**90**	*eP*		**Pn**	**19 14 09.8**	**-1.5**	
PVAQ				*eS*		Sn	19 15 49.6	-10	
PVAQ				A		A	19 15 55.3		
	comp=E,35nm,0.4s								
PVAQ	**Vaqueiros**	**9.63**	**90**	*eP*		**Pn**	**19 14 09.8**	**-1.5**	
PVAQ				*eS*		Sn	19 15 49.6	-10	
	comp=E,35nm,0.4s								
PVIS	**Viseu**	**9.65**	**70**	*eP*		**Pn**	**19 14 09.9**	**-1.7**	
PVIS				*eS*		Sn	19 15 48.5	-12	
PVIS	**Viseu**	**9.65**	**70**	*eP*		**Pn**	**19 14 09.9**	**-1.7**	
PESTR	**Estremoz**	**9.66**	**81**	*eP*		**Pn**	**19 14 11.2**	**-0.5**	
PESTR				*eS*		Sn	19 15 50.3	-10	
PESTR				A		A	19 15 57.4		
	comp=E,28nm,0.3s								
PESTR	**Estremoz**	**9.66**	**81**	*eP*		**Pn**	**19 14 11.2**	**-0.5**	
PESTR				*eS*		Sn	19 15 50.3	-10	
	comp=E,28nm,0.3s								
EGRO	**El Granado**	**9.80**	**89**	P		**Pn**	**19 14 13.4**	**-0.2**	
	comp=E,3.3nm,0.2s,SNR=7.2								
EGRO				*eS*		Sn	19 15 53.8	-10	
	comp=E,35nm,0.3s,SNR=17								
PCBR	**Castelo Branco**	**9.81**	**75**	*eP*		**Pn**	**19 14 12.2**	**-1.6**	
PCBR				*eS*		Sn	19 15 53.7	-10	
PCBR				A		A	19 15 57.2		
	comp=E,18nm,0.3s								
PCBR	**Castelo Branco**	**9.81**	**75**	*eP*		**Pn**	**19 14 12.2**	**-1.6**	
PCBR				*eS*		Sn	19 15 53.7	-10	
	comp=E,18nm,0.3s								
PCAB	**Cabril**	**9.82**	**64**	*eP*		**Pn**	**19 14 12.7**	**-1.2**	
PCAB				*eS*		Sn	19 15 53.7	-10	
PCAB				A		A	19 15 57.2		
	comp=E,23nm,0.3s								
PCAB	**Cabril**	**9.82**	**64**	*eP*		**Pn**	**19 14 12.7**	**-1.2**	
PMRV	**Marv??o**	**9.84**	**78**	*eP*		**Pn**	**19 14 12.6**	**-1.6**	
PMRV				*eS*		Sn	19 15 54.7	-10	
PMRV				A		A	19 16 00.1		
	comp=E,49nm,0.3s								
PMRV	**Marv??o**	**9.84**	**78**	*eP*		**Pn**	**19 14 12.6**	**-1.6**	
PMRV				*eS*		Sn	19 15 54.7	-10	
	comp=E,49nm,0.3s								
ELOB	**Lobios**	**9.84**	**63**	P		**Pn**	**19 14 12.9**	**-1.4**	
	comp=E,11nm,0.3s,SNR=19								
MTE	**Manteigas**	**9.85**	**72**	*eS*		Sn	19 15 54.1	-11	
MTE	**Manteigas**	**9.85**	**72**	*eS*		Sn	19 15 54.1	-11	
POLO	**Lamas de Olo**	**9.88**	**66**	*eP*		**Pn**	**19 14 13.9**	**-1.0**	
POLO				*eS*		Sn	19 15 54.4	-12	
POLO				A		A	19 16 00.3		
	comp=E,7.4nm,0.4s								
POLO	**Lamas de Olo**	**9.88**	**66**	*eP*		**Pn**	**19 14 13.9**	**-1.0**	
STS	**Santiago**	**9.90**	**57**	P		**Pn**	**19 14 14.1**	**-0.9**	
	comp=E,41nm,0.3s,SNR=23								
PVRL	**Vila Real**	**9.91**	**67**	*eS*		Sn	19 15 55.4	-11	
PVRL				A		A	19 16 01.7		
	comp=E,19nm,0.3s								
PBAR	**Barrancos**	**10.10**	**85**	*eP*		**Pn**	**19 14 16.9**	**-0.8**	
PBAR				*eS*		Sn	19 16 00.9	-10	
PBAR				A		A	19 16 04.1		
	comp=E,48nm,0.3s								
PBAR	**Barrancos**	**10.10**	**85**	*eP*		**Pn**	**19 14 16.9**	**-0.8**	
PBAR				*eS*		Sn	19 16 00.9	-10	
	comp=E,48nm,0.3s								
EBAD	**Badajoz**	**10.11**	**82**	P		**Pn**	**19 14 16.5**	**-1.3**	
	comp=E,1.0nm,0.2s,SNR=7.9								
EBAD				*eS*		Sn	19 16 01.4	-10	
	comp=E,31nm,0.2s,SNR=7.9								
MVO	**Moncorvo**	**10.39**	**68**	*eP*		**Pn**	**19 14 20.5**	**-1.2**	
MVO				*eS*		Sn	19 16 06.3	-12	
MVO				A		A	19 16 12.4		
	comp=E,39nm,0.4s								
MVO	**Moncorvo**	**10.39**	**68**	P		**Pn**	**19 14 20.5**	**-1.2**	
	comp=E,2.3nm,0.2s,SNR=7.9								
EMIN	**Mina Concepcio**	**10.41**	**87**	P		**Pn**	**19 14 20.9**	**-1.1**	
	comp=E,0.3nm,0.2s,SNR=6.9								
EMIN				*eS*		Sn	19 16 08.0	-11	
	comp=E,26nm,0.3s,SNR=33								
EOSO	**Osorio**	**10.52**	**159**	P		**Pn**	**19 14 23.5**	**0.0**	
	comp=E,1.4nm,0.1s,SNR=7.9								
CFUE	**Fuerteventura**	**10.54**	**150**	P		**Pn**	**19 14 23.7**	**0.0**	
	comp=E,16nm,0.2s,SNR=7.9								
PBRG	**Braganca**	**10.76**	**65**	*eS*		Sn	19 16 16.5	-11	
PBRG				A		A	19 16 22.5		
	comp=E,13nm,0.2s								
ECAL	**Calabor**	**10.81**	**64**	P		**Pn**	**19 14 26.0**	**-1.5**	
	comp=E,5.6nm,0.3s,SNR=9.4								
EPLA	**Plasencia**	**10.91**	**75**	P		**Pn**	**19 14 27.6**	**-1.2**	
	comp=E,2.0nm,0.3s,SNR=7.9								
EPLA				*eS*		Sn	19 16 21.4	-10	
	comp=E,29nm,0.4s,SNR=7.9								
EPON	**Pontenova**	**11.02**	**57**	P		**Pn**	**19 14 29.1**	**-1.2**	
	comp=E,4.6nm,0.2s,SNR=7.9								
ESPR	**Espera**	**11.18**	**91**	P		**Pn**	**19 14 30.9**	**-1.6**	
	comp=E,0.9nm,0.1s,SNR=7.9								
ESPR				*eS*		Sn	19 16 28.8	-8.7	
	comp=E,74nm,0.3s,SNR=7.9								
ECAB	**El Cabril**	**11.38**	**85**	P		**Pn**	**19 14 35.1**	**-0.2**	
	comp=E,2.7nm,0.7s,SNR=5.7								
ECAB				*eS*		Sn	19 16 31.2	-11	
	comp=E,22nm,0.3s,SNR=7.9								
EADA	**Adamuz**	**12.04**	**84**	P		**Pn**	**19 14 43.3**	**-0.9**	
	comp=E,0.9nm,0.2s,SNR=7.9								
EADA				*eS*		Sn	19 16 47.2	-11	
	comp=E,14nm,0.3s,SNR=7.9								
EMIJ	**Mijas**	**12.09**	**92**	S		Sn	19 16 51.4	-8.5	
	comp=E,21nm,0.7s,SNR=7.9								
PAB	**San Pablo**	**12.20**	**78**	P		**Pn**	**19 14 45.0**	**-1.5**	
	comp=E,1.3nm,0.3s,SNR=7.9								
PAB				*eS*		Sn	19 16 51.6	-11	
	comp=E,7.0nm,0.3s,SNR=7.9								
EARI	**Arriondas**	**12.31**	**60**	P		**Pn**	**19 14 47.5**	**-0.5**	
	comp=E,2.9nm,0.4s,SNR=8.2								
ELUQ	**Luque**	**12.34**	**87**	S		Sn	19 16 55.1	-11	
	comp=E,16nm,0.3s,SNR=7.9								
GUD	**Guadarrama**	**12.44**	**73**	P		**Pn**	**19 14 48.9**	**-1.0**	
	comp=E,1.0nm,0.3s,SNR=7.9								
ESDC	**Sonseca Array**	**12.50**	**77**	Pn		**Pn**	**19 14 48.4**	**-2.2**	
	comp=E,1.8nm,0.3s,baz=267,slow=13,SNR=19								
ESDC				*eS*		Sn	19 16 59.9	-10	
	comp=E,3.0nm,0.3s,baz=265,slow=23,SNR=13								
ESDC					LR	LR	19 19 17.0		
	comp=E,34nm,20.1s,baz=125,slow=36								
ESDC	**Sonseca Array**	**12.50**	**77**	P		**Pn**	**19 14 49.2**	**-1.4**	
	comp=E,1.1nm,0.3s,SNR=9.7								
EBAN	**Banos Encina**	**12.66**	**84**	S		Sn	19 17 02.4	-11	
	comp=E,15nm,0.3s,SNR=7.9								
EGUA	**Guajares**	**12.99**	**90**	S		Sn	19 17 11.0	-11	
	comp=E,12nm,0.8s,SNR=7.9								
EQUE	**Quentar**	**13.04**	**88**	S		Sn	19 17 12.5	-11	
	comp=E,14nm,0.5s,SNR=7.9								
EQES	**Quesada**	**13.25**	**86**	S		Sn	19 17 19.6	-8.8	
	comp=E,11nm,0.5s,SNR=7.9								
MDT	**Midelt**	**13.45**	**108**	Pn		**Pn**	**19 15 01.9**	**-1.7**	
	comp=E,0.6nm,0.3s,baz=302,slow=9.8,SNR=15								
MDT				*eS*		Sn	19 17 21.0	-12	
	comp=E,2.7nm,0.3s,baz=15,slow=22,SNR=16								
EBER	**Berja**	**13.52**	**89**	S		Sn	19 17 24.5	-11	
	comp=E,28nm,0.8s,SNR=7.9								
ELAN	**Lanestosa**	**13.52**	**62**	P		**Pn**	**19 15 04.7**	**+0.3**	
	comp=E,9.9nm,0.8s,SNR=4.9								
ELAN				*eS*		Sn	19 17 26.3	-8.3	
	comp=E,4.3nm,0.3s,SNR=7.9								
EHUE	**Huescar**	**13.63**	**85**	S		Sn	19 17 25.5	-12	
	comp=E,4.3nm,0.4s,SNR=7.9								
ETOR	**Torete**	**14.04**	**73**	P		**Pn**	**19 15 10.0**	**-1.7**	
	comp=E,2.4nm,0.3s,SNR=7.9								
ETOR				*eS*		Sn	19 17 39.1	-8.6	
	comp=E,8.5nm,0.4s,SNR=7.9								
ETOB	**Tobarra**	**14.38**	**82**	S		Sn	19 17 43.8	-12	
	comp=E,4.4nm,0.5s,SNR=7.9								
SJPF	**Ste Jean**	**15.04**	**64**	*ePn*		**Pn**	**19 15 24.1**	**-1.2**	
SJPF				*eSn*		Sn	19 17 59.7	-12	
	comp=E,4.4nm,0.5s								
SJPF	**Ste Jean**	**15.04**	**64**	*ePn*		**Pn**	**19 15 24.1**	**-1.2**	
ETSF	**Etsaut**	**15.47**	**65**	*eSn*		Sn	19 18 09.6	-13	
	comp=E,4.6nm,0.4s								
QUIF	**Quistinic**	**15.71**	**45**	*ePn*		**Pn**	**19 15 30.9**	**-3.0**	
QUIF				*eSn*		Sn	19 18 12.4	-15	
	comp=E,7.5nm,0.4s								
ROSF	**Rostrenen**	**15.88**	**44**	*ePn*		**Pn**	**19 15 32.5**	**-3.6**	
ROSF				*eSn*		Sn	19 18 18.2	-14	
	comp=E,2.1nm,0.4s								
EPF	**Esparros**	**16.15**	**65**	*ePn*		**Pn**	**19 15 39.1**	**-0.6**	
EPF				*eSn*		Sn	19 18 25.4	-13	
	comp=E,6.7nm,0.5s								
EPF	**Esparros**	**16.15**	**65**	*ePn*		**Pn**	**19 15 39.1**	**-0.6**	
SGMF	**Saint Gilles**	**16.23**	**45**	*ePn*		**Pn**	**19 15 38.1**	**-2.6**	
MFF	**Saint Martin d**	**16.89**	**53**	*ePn*		**Pn**	**19 15 47.6**	**-1.5**	
MFF				*eSn*		Sn	19 18 42.4	-14	
	comp=E,5.1nm,0.5s								
MFF	**Saint Martin d**	**16.89**	**53**	*ePn*		**Pn**	**19 15 47.6**	**-1.5**	
FLN	**La Foliniere**	**17.67**	**46**	*ePn*		**Pn**	**19 15 57.4**	**-1.4**	
	baz=232								
CAF	**Calviac**	**17.80**	**60**	*ePn*		**P**	**19 16 00.5**	**-0.7**	
CAF				*eSn*		Sn	19 19 05.4	-13	
	comp=E,1.6nm,0.4s								
CAF	**Calviac**	**17.80**	**60**	*ePn*		**P**	**19 16 00.5**	**-0.7**	
LDF	**La Druitiere**	**17.80**	**47**	*ePn*		**P**	**19 16 00.3**	**-0.8**	
LDF	**La Druitiere**	**17.80**	**47**	*ePn*		**P**	**19 16 00.3**	**-0.8**	
TCF	**Toulx Ste Croi**	**18.30**	**56**	*ePn*		**P**	**19 16 08.4**	**+1.7**	
TCF				*eSn*		Sn	19 19 13.0	-18	
	comp=E,3.6nm,0.5s								
TCF	**Toulx Ste Croi**	**18.30**	**56**	*ePn*		**P**	**19 16 08.4**	**+1.7**	
LOR	**Lormes**	**19.69**	**54**	*ePn*		**Pn**	**19 16 25.1**	**+1.7**	
	baz=241								
LOR				*eSn*		S	19 19 50.2	-14	
	comp=E,0.6nm,0.3s								
LOR	**Lormes**	**19.69**	**54**	*ePn*		**Pn**	**19 16 25.1**	**+1.7**	
EKA	**Eskdalemuir Ar**	**20.70**	**28**	P		Pn	19 16 33.2	-1.9	
	comp=E,2.2nm,1.0s,baz=226,slow=14,SNR=2.7								
DAVOX	**Davos/Dischmat**	**23.54**	**59**	LR		LR	19 26 10.9		
	comp=E,25nm,18.8s,baz=266,slow=37								
NOA	**NORSAR Array B**	**30.14**	**30**	LR		LR	19 29 32.2		
	comp=E,14nm,19.6s,baz=265,slow=35								
HFS	**Hagfors**	**30.66**	**33**	P		**P**	**19 18 08.0**	**+1.0**	
	comp=E,1.0nm,0.4s,baz=234,slow=7.1,SNR=7.4								
TORD	**Torodi Ar. Bea**	**31.29**	**136**	P		**P**	**19 18 14.0**	**+1.1**	
	comp=E,1.0nm,0.6s,baz=326,slow=8.6,SNR=9.9								
TORD						LR	19 31 13.1		
	comp=E,25nm,18.6s,baz=125,slow=37								
MLR	**Muntele Rosu**	**34.59**	**63**	LR		LR	19 35 10.3		
	comp=E,5.0nm,18.4s,baz=192,slow=41								
IDI	**Anoyia**	**35.74**	**80**	P		**P**	**19 18 52.1**	**+0.4**	
	comp=E,2.5nm,0.8s,baz=311,slow=14,SNR=4.0								
FINES	**FINESS Array B**	**36.72**	**35**	P		**P**	**19 19 00.6**	**+1.0**	
	comp=E,0.9nm,0.5s,baz=215,slow=6.8,SNR=7.1								
FINES						LR	19 35 45.2		
	comp=E,15nm,18.7s,baz=198,slow=39								
ARCES	**ARCESS Array B**	**39.73**	**23**	P		**P**	**19 19 25.4**	**+0.5**	
	comp=E,2.3nm,0.9s,baz=224,slow=7.6,SNR=3.3								
ARCES						LR	19 36 18.4		
	comp=E,9.6nm,18.2s,baz=203,slow=37								
BVAR	**Borovoye Array**	**60.89**	**44**	LR		LR	19 49 36.0		

80nm,0.8s
QIZ Qiongzhong 7.95 105 P **Pn** **19 47 02.8 -1.0**
QIZ S **Sn** **19 48 28.7 -5.1**
QIZ PMZ
21nm,0.9s
QIZ LE
200nm,12.3s
QIZ LZ
470nm,11.6s
QIZ Qiongzhong 7.95 105 *e*Pn **Pn** **19 47 02.5 -1.4**
10nm,0.6s
QIZ *e*Sn Sn 19 48 25.3 -8.5
CD2 Chengdu 9.76 10 *e*P **Pn** **19 47 27.3 -1.4**
CD2 sP 19 47 33.6
CD2 PP **PnPn** **19 47 37.8 +1.2**
CD2 S **Sn** **19 49 16.0 -2.4**
CD2 SS **SnSn** **19 49 31.6 +0.9**
CD2 PMZ
10.0nm,0.8s
CD2 PMZ
50nm,4.0s
CD2 LZ
540nm,13.1s
LSA Lhasa 12.70 313 Pn **Pn** **19 48 08.9 -0.4**
GTA Gaotai 18.14 355 *e*P **P** **19 49 20.8 +0.1**
GTA pP **pP** **19 49 24.5 +1.0**
GTA sP **sP** **19 49 26.9 +2.1**
GTA PMZ
2.0nm,1.4s
GTA PMZ
37nm,4.2s
GTA LN
110nm,8.7s
GTA LZ
86nm,17.1s
PSI Prapat 18.57 189 P **Pn** **19 49 28.9 +3.1**
0.4nm,0.3s,baz=16,slow=7.1,SNR=7.3
PSI LR LR 19 57 30.8
comp=Z,130nm,18.0s,baz=358,slow=40
KSM Kuching 21.39 156 P **P** **19 50 00.6 +4.5**
10nm,1.4s
SONM Songimo Array 26.76 7 P **P** **19 50 48.3 +0.2**
0.9nm,0.8s,baz=190,slow=13,SNR=2.5
ULN Ulaanbaatar 26.87 8 P **P** **19 50 48.2 -0.9**
3.9nm,1.3s
LEM Lembang 28.53 168 LR LR 20 03 59.7
comp=Z,73nm,19.6s,baz=192,slow=40
MKAR Makanchi Array 29.95 333 P **P** **19 51 18.2 +1.6**
0.3nm,0.5s,baz=160,slow=4.6,SNR=6.9
MKAR LR LR 20 03 18.4
comp=Z,33nm,21.1s,baz=152,slow=36
ZALV Zalesovo Beam 35.06 343 P **P** **19 52 00.4 -0.7**
2.1nm,1.0s,baz=140,slow=7.2,SNR=5.8
GEYT Alibeck 40.98 304 P **P** **19 52 51.7 +0.3**
1.5nm,0.8s,baz=122,slow=2.3,SNR=4.8
WRA Warramunga Arr 51.92 140 P **P** **19 54 17.2 -0.2**
1.0nm,0.9s,baz=327,slow=8.0,SNR=4.7
WRAB Tennant Creek 51.92 140 P **P** **19 54 17.1 -0.3**
1.8nm,0.7s
ASAR Alice Springs 54.57 143 P **P** **19 54 37.2 +0.4**
0.6nm,0.7s,baz=318,slow=6.6,SNR=7.1
FINES FINESS Array B 64.69 329 P **P** **19 55 46.2 +0.1**
0.7nm,0.7s,baz=123,slow=7.0,SNR=3.8
GERES GERESS Array B 73.01 316 P **P** **19 56 37.9 -0.4**
0.2nm,0.3s,baz=79,slow=6.9,SNR=4.4
GERES LR LR 20 33 41.5
comp=Z,170nm,18.0s,baz=54,slow=40

BJI ***11*** *19:48:51.9, 60˚.60N× 177˚.60W, h10km, mb4.7/17, mB4.8/13, Ms4.7/14, Ms7 4.4/13*
IDC ***11*** *19:48:53.9±0.7, 60˚.55N× 177˚.93W, h0km, mb3.9/19, mb1 4.1/20, mb1mx3.9/41, mbtmp3.9/20, ML2.9/1, MS4.1/27, Ms1 4.1/27, ms1mx4.0/40, Error ellipse: s-maj=24.2km s-min=13.0km az=176.0*
MOS ***11*** *19:48:55.6±0.8, 60˚.49N× 177˚.85W, h23km, mb4.5/27, MS4.1/12, Error ellipse: s-maj=12.0km s-min=11.1km az=103.4*
ISCJB ***11*** *19:48:57.0± 1.0, 60˚.51N± 0˚.07× 177˚.76W± 0˚.06, h35km± 9km, mb4.2/46, MS4.1/29, Error ellipse: s-maj=11.8km s-min=4.6km az=172.9*
GCMT ***11*** *19:48:59.3± 0.3, 60˚.36N× 177˚.56W, h23km± 1km, MW4.8/69, Moment Tensor Solution. s16,c20; s69,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.17±.12; $M_{\theta\theta}$2.25±.11; $M_{\phi\phi}$-2.08±.11; $M_{r\theta}$-0.70±.17; $M_{r\phi}$0.13±.10; $M_{\theta\phi}$-0.58±.16; Best double couple: M_o2.34900×10^{16} NP1:* ϕ_S*44.00000˚, δ90.00000˚, λ-157.00000˚. NP2: ϕ_S314.00000˚, δ67.00000˚, λ0.00000˚. Principal axes: T 2.4550, Plg16.0000˚, Azm176.0000˚; N -0.2110, Plg67.0000˚, Azm44.0000˚; P -2.2420, Plg16.0000˚, Azm271.0000˚; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***11*** *19:48:59.4±0.8, 60˚.59N× 177˚.77W, h42km± 8km, mb4.3/21 Error ellipse: s-maj=11.7km s-min=4.9km az=174.0*
ISC 11 19:48:56.6±0.7, 60˚.56N±0˚.09× 177˚.85W±0˚.05, h18km±3km, h17km:pP-P, n138, σ1§41/130, mb4.2/46, MS4.1/29, 4C-4D, Bering Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNA	**Tin City**	**6.74**	**38**	*e*Pn	**Pn**	**19 50 31.5**	**-3.0**
UNV	**Unalaska Valle**	**9.11**	**133**	*e*Pn	Pn	19 51 01.6	-5.4
RSO	**Redoubt South**	**12.34**	**79**	Pn	**Pn**	**19 51 53.1**	**+1.8**
KTH	**Kantishna Hill**	**12.93**	**65**	Pn	**Pn**	**19 52 00.1**	**+0.8**
KDAK	**Kodiak Island**	**13.22**	**91**	PN	**Pn**	**19 52 05.2**	**+2.1**
KDAK	**Kodiak Island**	**13.22**	**91**	Pn	**Pn**	**19 52 05.2**	**+2.1**
COLD	**Coldfoot**	**13.78**	**49**	*e*Pn	**Pn**	**19 52 09.7**	**-1.1**
	46nm,1.6s						
MCK	**McKinley**	**13.82**	**64**	P	**Pn**	**19 52 12.8**	**+1.4**
MCK	**McKinley**	**13.82**	**64**	Pn	**Pn**	**19 52 12.8**	**+1.4**
PMR	**Palmer**	**13.89**	**73**	P	**Pn**	**19 52 14.0**	**+1.8**
PMR	**Palmer**	**13.89**	**73**	Pn	**Pn**	**19 52 14.0**	**+1.8**
SEY	**Seymchan**	**14.23**	**293**	Pn	**Pn**	**19 52 18.0**	**+1.1**
	0.1nm,0.3s,baz=79,slow=9.3,SNR=10						
SEY				Sn	Sn	19 54 47.8	-6.4
	0.1nm,0.3s,baz=90,slow=15,SNR=1.6						
COLA	**College**	**14.33**	**60**	*i*P	**P**	**19 52 28.1**	**+2.8**
COLA				pmax	pmax		
	comp=Z,42nm,0.8s						
ILAR	**Eielson Array**	**14.74**	**60**	Pn	**Pn**	**19 52 24.2**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=264,slow=11,SNR=18						
ILAR				LR	LR	19 58 43.0	
	comp=Z,479nm,18.8s,baz=270,slow=40						
PET	**Petropavlovsk**	**14.86**	**250**	*e*P	**Pn**	**19 52 27.3**	**+1.8**
PET				*e*S	**Sn**	**19 55 08.3**	**-1.1**
PET				pmax	pmax		
	comp=Z,37nm,1.0s						
PET				MLR	MLR		
	comp=Z,400nm,18.0s						
PET				MLR	MLR		
	comp=Z,500nm,18.0s						
PET	**Petropavlovsk**	**14.86**	**250**	*e*Pn	**Pn**	**19 52 27.0**	**+1.6**
	comp=Z,48nm,1.1s						
PEA0B	**Petropavlovsk-**	**15.25**	**252**	*e*Pn	**P**	**19 52 33.5**	**-2.0**
PETK	**Petropavlovsk-**	**15.25**	**252**	Pn	**Pn**	**19 52 31.0**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=62,slow=16,SNR=9.6						
PETK	**Petropavlovsk-**	**15.25**	**252**	P	**Pn**	**19 52 31.0**	**+0.3**
EGAK	**Eagle**	**17.19**	**60**	*e*P	**Pn**	**19 52 54.6**	**-0.9**
	comp=Z,6.2nm,0.8s						
DAWY	**Dawson**	**18.01**	**62**	*e*P	**Pn**	**19 53 04.6**	**-1.2**
HYT	**Haines Junctio**	**19.54**	**72**	*e*P	**P**	**19 53 22.5**	**-0.5**
INK	**Inuvik**	**20.20**	**49**	P	**P**	**19 53 29.0**	**-0.9**
	comp=Z,2.5nm,0.7s,baz=256,slow=9.9,SNR=8.5						
INK	**Inuvik**	**20.20**	**49**	*e*P	**P**	**19 53 28.4**	**-1.5**
INK				pmax	pmax		
	comp=Z,24nm,1.1s						
INK	**Inuvik**	**20.20**	**49**	*e*P	**P**	**19 53 28.4**	**-1.5**
	comp=Z,24nm,1.1s						
TIXI	**Tiksi**	**23.33**	**320**	*de*P	**P**	**19 54 04.4**	**+1.1**
TIXI				pmax	pmax		
	comp=Z,20nm,2.5s						
TIXI	**Tiksi**	**23.33**	**320**	*e*P	**P**	**19 54 04.4**	**+1.1**
	comp=Z,8.2nm,1.0s						
YAK	**Yakutsk**	**24.68**	**296**	P	**P**	**19 54 15.9**	**-0.1**
	comp=Z,13nm,0.6s,baz=53,slow=2.2,SNR=19						
YAK	**Yakutsk**	**24.68**	**296**	*e*P	**P**	**19 54 15.4**	**-0.6**
YAK				*e*PP	**pP**	**19 54 24.8**	**+3.4**
YAK				*e*PPP	PPP	19 54 54.9	
YAK				*e*		19 57 52.5	
YAK				*e*S	**S**	**19 58 33.4**	**-3.1**
YAK				*e*SSS	SSS	19 59 34.1	
YAK				pmax	pmax		
	comp=Z,40nm,1.1s						
YAK				pmax	pmax		
	comp=E,31nm,1.3s						
YAK				pmax	pmax		
	comp=Z,27nm,1.8s						
YAK				pmax	pmax		
	comp=N,19nm,2.1s						
YAK				pmax	pmax		
	comp=E,39nm,1.8s						
YAK				smax	smax		
	comp=N,60nm,2.0s						
YAK				smax	smax		
	comp=E,164nm,3.3s						
YAK				pmax	pmax		
	comp=Z,684nm,16.0s						
YAK				pmax	pmax		
	comp=E,620nm,16.0s						
YAK				pmax	pmax		
	comp=N,610nm,15.0s						
YAK	**Yakutsk**	**24.68**	**296**	*e*P	**P**	**19 54 15.7**	**-0.4**
	comp=N,47nm,1.0s						
YKA	**Yellowknife Ar**	**29.16**	**58**	P	**P**	**19 54 56.4**	**+0.2**
	comp=N,0.6nm,0.7s,baz=290,slow=8.4,SNR=8.7						
YKA	**Yellowknife Ar**	**29.16**	**58**	P	**P**	**19 54 56.4**	**+0.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BOD	**Bodaibo**	**33.61**	**296**	*e*P	**P**	**19 55 34.5**	**-0.9**
BOD				pmax	pmax		
	comp=Z,8.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**33.73**	**264**	LR	LR	20 08 44.8	
	comp=Z,174nm,21.5s,baz=44,slow=35						
EDM	**Edmonton**	**34.66**	**73**	*e*P	**P**	**19 55 42.1**	**-2.5**
EDM	**Edmonton**	**34.66**	**73**	*e*P	**P**	**19 55 42.1**	**-2.5**
MJAR	**Matsushiro Arr**	**36.69**	**249**	P	**P**	**19 56 01.2**	**-1.0**
	comp=Z,1.3nm,0.8s,baz=14,slow=10,SNR=4.2						
MJAR				LR	LR	20 11 15.6	
	comp=Z,94nm,20.4s,baz=85,slow=37						
MJAR	**Matsushiro Arr**	**36.69**	**249**	P	**P**	**19 56 01.2**	**-1.0**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MJAR				MLR	MLR		
	comp=Z,95nm,20.4s						
MAJO	**Matsushiro**	**36.69**	**249**	*e*P	**P**	**19 56 02.8**	**+0.7**
WALA	**Waterton Lakes**	**37.09**	**78**	P	**P**	**19 56 06.1**	**+0.5**
	comp=Z,11nm,1.3s						
SWMT	**Swartz Lake**	**38.12**	**80**	*e*P	P	19 56 17.9	+3.7
CHMT	**Chamberlain Mo**	**38.90**	**80**	*e*P	**P**	**19 56 19.3**	**-1.7**
	comp=Z,0.9nm,0.7s						
FCC	**Fort Churchill**	**39.65**	**54**	*e*P	**P**	**19 56 27.8**	**+1.0**
FCC				pmax	pmax		
	comp=Z,7.0nm,1.2s						
FCC	**Fort Churchill**	**39.65**	**54**	*e*P	**P**	**19 56 27.8**	**+1.0**
	comp=Z,6.5nm,1.2s						
MFID	**Camas Ranch**	**40.15**	**86**	*e*P	P	19 56 34.9	+3.5
	comp=Z,28nm,1.8s						
HLID	**Hailey**	**40.74**	**85**	P	**P**	**19 56 34.2**	**-2.1**
KSRS	**Korea Array**	**40.86**	**261**	P	**P**	**19 56 37.0**	**0.0**
	comp=Z,2.2nm,0.8s,baz=34,slow=7.5,SNR=7.5						
KSRS				LR	LR	20 12 49.9	
	comp=Z,78nm,21.6s,baz=50,slow=35						
KSRS	**Korea Array**	**40.86**	**261**	P	**P**	**19 56 37.0**	**0.0**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KSRS				MLR	MLR		
	comp=Z,78nm,21.7s						
KSAR	**Wonju Array Be**	**40.89**	**261**	P	**P**	**19 56 37.0**	**-0.3**
KSAR	**Wonju Array Be**	**40.89**	**261**	P	**P**	**19 56 37.0**	**-0.3**
IRK	**Irkutsk**	**41.46**	**295**	*e*P	**P**	**19 56 41.6**	**-0.3**
IRK				pmax	pmax		
	comp=Z,21nm,1.6s						
TLY	**Talaya**	**42.13**	**295**	*e*P	**P**	**19 56 47.9**	**+0.5**
TLY				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TLY				MLR	MLR		
	comp=Z,295nm,19.0s						
TLY	**Talaya**	**42.13**	**295**	*e*P	**P**	**19 56 47.6**	**+0.3**
	comp=Z,3.5nm,0.8s						
IMW	**Indian Meadow**	**42.20**	**82**	*e*P	**P**	**19 56 47.2**	**-1.2**
	comp=Z,6.0nm,1.0s						
FXWY	**Fox Creek**	**42.35**	**82**	*e*P	P	19 56 53.1	+3.6
	comp=Z,51nm,2.8s						
NVAR	**Mina Array Bea**	**42.71**	**93**	P	**P**	**19 56 52.5**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=292,slow=9.6,SNR=4.0						
ULN	**Ulaanbaatar**	**43.25**	**288**	*de*P	**P**	**19 56 56.4**	**-0.3**
ULN				pmax	pmax		
	comp=Z,5.0nm,2.5s						
ULN	**Ulaanbaatar**	**43.25**	**288**	*e*P	**P**	**19 56 55.5**	**-1.2**
	comp=Z,1.5nm,0.7s						
MOY	**Moody**	**43.32**	**296**	*e*P	**P**	**19 56 57.6**	**+0.4**
TPH	**Tonopah**	**43.52**	**93**	P	**P**	**19 56 57.7**	**-1.3**
TPH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TPH	**Tonopah**	**43.52**	**93**	P	**P**	**19 56 57.7**	**-1.3**
	comp=Z,5.1nm,0.9s						
SONM	**Songino Array**	**43.58**	**289**	LR	LR	20 17 32.4	
	comp=Z,455nm,18.4s,baz=82,slow=40						
HWUT	**Hardware Ranch**	**43.60**	**85**	P	**P**	**19 56 58.4**	**-1.2**
	comp=Z,12nm,1.0s						
KRAR	**Krasnoyarsk**	**43.71**	**306**	*e*P	**P**	**19 57 00.3**	**+0.3**
KRAR				pmax	pmax		
	comp=Z,12nm,1.0s						
PDAR	**Pinedale Array**	**43.72**	**82**	P	**P**	**19 57 01.4**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=324,slow=7.3,SNR=7.3						
PDAR				LR	LR	20 16 59.5	
	comp=Z,182nm,18.3s,baz=340,slow=38						
DUG	**Dugway, Tooele**	**44.06**	**87**	P	**P**	**19 57 03.1**	**-0.1**
DUG				pmax	pmax		
	comp=Z,3.0nm,1.0s						
DUG	**Dugway, Tooele**	**44.06**	**87**	P	**P**	**19 57 03.1**	**-0.1**
	comp=Z,3.4nm,1.0s						
ULM	**Lac du Bonnet**	**44.69**	**65**	P	**P**	**19 57 08.9**	**+0.9**
	comp=Z,2.4nm,0.8s,baz=317,slow=9.7,SNR=3.6						
ULM				LR	LR	20 16 34.5	
	comp=Z,216nm,19.0s,baz=23,slow=37						
ULM	**Lac du Bonnet**	**44.69**	**65**	P	**P**	**19 57 08.9**	**+0.9**
ULM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ULM				MLR	MLR		
	comp=Z,217nm,19.0s						
RSSD	**Black Hills**	**45.38**	**76**	P	**P**	**19 57 14.2**	**+0.3**
RSSD				pmax	pmax		
	comp=Z,2.0nm,0.7s						
RSSD	**Black Hills**	**45.38**	**76**	P	**P**	**19 57 14.2**	**+0.3**
	comp=Z,2.0nm,0.7s						
MSU	**Marysvale**	**45.67**	**88**	*e*P	**P**	**19 57 16.0**	**-0.2**
MSU				pmax	pmax		
	comp=Z,18nm,1.7s						
MSU	**Marysvale**	**45.67**	**88**	*e*P	**P**	**19 57 15.9**	**-0.2**
	comp=Z,18nm,1.7s						
SRU	**San Rafael Swe**	**46.02**	**86**	*e*P	**P**	**19 57 18.4**	**-0.5**
SRU				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SRU	**San Rafael Swe**	**46.02**	**86**	*e*P	**P**	**19 57 18.4**	**-0.5**
	comp=Z,10nm,1.0s						
HHC	**Hu-ho-hao-te**	**46.29**	**278**	*e*P	**P**	**19 57 21.3**	**+0.4**
HHC				PP	**PP**	**19 59 10.1**	**+0.7**
HHC				S	**S**	**20 04 03.6**	**-3.2**
HHC				SS	**ScS**	**20 07 21.5**	**+6.4**
HHC				PMZ			
	comp=Z,16nm,0.6s						
HHC				PMZ			
	comp=Z,120nm,8.6s						
HHC				LN			
	comp=Z,410nm,17.3s						
HHC				LE			
	comp=Z,260nm,17.3s						
HHC				LZ			
	comp=Z,190nm,18.5s						
LDFC	**Landfair**	**46.92**	**93**	*e*P	**P**	**19 57 23.7**	**-2.3**
PV01	**Paxton Valley**	**47.74**	**85**	*e*P	P	19 57 29.2	-3.3
	comp=Z,723nm,0.7s						
ZALV	**Zalesovo Beam**	**48.40**	**308**	P	**P**	**19 57 36.6**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=31,slow=4.8,SNR=4.9						
ZALV				LR	LR	20 20 03.4	
	comp=Z,384nm,18.1s,baz=68,slow=39						
ZALV	**Zalesovo Beam**	**48.40**	**308**	*i* P	**P**	**19 57 38.2**	**+1.2**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES	**ARCESS Array B**	**49.13**	**349**	LR	LR	20 21 11.5	
	comp=Z,228nm,18.2s,baz=6.0,slow=39						
SCHQ	**Schefferville**	**52.66**	**43**	LR	LR	20 20 55.9	
	comp=Z,176nm,18.8s,baz=320,slow=36						
SCHQ	**Schefferville**	**52.66**	**43**	*e*P	**P**	**19 58 06.7**	**-2.4**
	comp=Z,13nm,1.4s						
GTA	**Gaotai**	**53.07**	**286**	*e*P	**P**	**19 58 12.3**	**-0.3**
GTA				pP	**pP**	**19 58 15.7**	**-2.5**
GTA				sP	**sP**	**19 58 18.4**	**-1.9**
GTA				PMZ			
	comp=Z,4.0nm,1.2s						
WHN	**Wuhan**	**53.08**	**268**	P	**P**	**19 58 12.6**	**0.0**
KURK	**Kurchatov**	**53.30**	**310**	*e*P	**P**	**19 58 14.5**	**+0.6**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KURK	**Kurchatov**	**53.30**	**310**	*e*P	**P**	**19 58 14.5**	**+0.6**
	comp=Z,7.4nm,1.0s						
LZH	**Lanzhou**	**53.77**	**280**	*e*P	**P**	**19 58 19.9**	**+2.1**
LZH				pP	**pP**	**19 58 23.3**	**-0.1**
LZH				sP	**sP**	**19 58 25.6**	**0.0**
LZH				PMZ			
	comp=Z,12nm,1.0s						
SVE	**Sverdlovsk**	**54.25**	**325**	*e*P	**P**	**19 58 23.0**	**+2.2**
SVE				*e*		20 00 28.3	
SVE				*e*		20 01 33.3	
SVE				pmax	pmax		
	comp=Z,15nm,1.7s						
SVE				MLR	MLR		
	comp=Z,308nm,17.0s						
BRVK	**Borovoye**	**54.40**	**316**	*e*P	**P**	**19 58 23.2**	**+1.2**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
MKAR	**Makanchi Array**	**55.00**	**304**	P	**P**	**19 58 26.5**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=56,slow=9.2,SNR=8.9						
MKAR				LR	LR	20 24 36.4	
	comp=Z,197nm,19.2s,baz=26,slow=39						
MKAR	**Makanchi Array**	**55.00**	**304**	P	**P**	**19 58 26.5**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,197nm,19.2s						
WMQ	**Urumqi**	**55.10**	**298**	*e*P	**P**	**19 58 28.8**	**+1.5**
WMQ				PMZ			
	comp=Z,10.0nm,0.5s						
WMQ				PMZ			
	comp=Z,72nm,4.6s						
WMQ				LN			
	comp=Z,410nm,13.0s						
WMQ				LE			
	comp=Z,260nm,17.6s						
WMQ				LZ			
	comp=Z,140nm,19.6s						
ARU	**Arti**	**55.18**	**326**	*d* iP	**P**	**19 58 29.1**	**+1.6**
ARU						20 00 29.0	
ARU				S	**S**	**20 06 08.7**	**-0.7**
ARU				SS	**SS**	**20 09 51.6**	**-1.0**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.6s						
ARU				MLR	MLR		
	comp=Z,297nm,18.0s						
ARU	**Arti**	**55.18**	**326**	*e*P	**P**	**19 58 27.6**	**+0.1**
	comp=Z,3.6nm,1.0s						
FINES	**FINESS Array B**	**56.94**	**347**	P	**P**	**19 58 40.4**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=31,slow=8.4,SNR=3.1						
FINES				LR	LR	20 26 36.3	
	comp=Z,189nm,18.4s,baz=31,slow=40						
FINES	**FINESS Array B**	**56.94**	**347**	P	**P**	**19 58 40.4**	**+0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,189nm,18.4s						
TXAR	**Lajitas Array**	**57.22**	**88**	P	**P**	**19 58 43.6**	**+0.9**
	comp=Z,1.3nm,0.8s,baz=316,slow=5.2,SNR=6.8						
TXAR	**Lajitas Array**	**57.22**	**88**	P	**P**	**19 58 43.6**	**+0.9**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CD2	**Chengdu**	**58.01**	**277**	P	**P**	**19 58 47.8**	**-0.2**
CD2				PMZ			
	comp=Z,20nm,0.6s						
NOA	**NORSAR Array B**	**58.53**	**355**	LR	LR	20 22 41.6	
	comp=Z,105nm,21.4s,baz=350,slow=35						
HFS	**Hagfors**	**59.31**	**353**	LR	LR	20 23 13.6	
	comp=Z,174nm,20.8s,baz=0.5,slow=35						
AKTO	**Aktyubinsk**	**60.59**	**323**	P	**P**	**19 59 06.4**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=31,slow=6.1,SNR=4.1						
AKTO				LR	LR	20 29 09.4	
	comp=Z,180nm,18.9s,slow=40						
AKTO	**Aktyubinsk**	**60.59**	**323**	P	**P**	**19 59 06.4**	**+0.8**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKTO				MLR	MLR		
	comp=Z,180nm,18.9s						
ABKAR	**Akbulak array**	**61.04**	**321**	*e*P	**P**	**19 59 07.5**	**-1.1**
	comp=Z,1.1nm,0.5s						
OBN	**Obninsk**	**61.48**	**338**	LR	LR	20 27 59.2	
	comp=Z,246nm,21.6s,baz=94,slow=38						
AAK	**Ala-Archa**	**61.57**	**307**	LR	LR	20 28 09.7	
	comp=Z,455nm,18.3s,baz=14,slow=38						
AAK	**Ala-Archa**	**61.57**	**307**	*e*P	**P**	**19 59 13.0**	**+0.4**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KSH	**Kashi**	**63.61**	**304**	P	P	19 59 31.1	+4.9
KSH				PP	PP	20 01 54.0	+8.4
KSH				S	**S**	**20 08 02.0**	**+3.0**
KSH				ScS	**SKKSac**	**20 09 17.3**	**-1.2**
KSH				PMZ			
	comp=Z,44nm,4.0s						
KSH				LN			
	comp=Z,78nm,4.5s						
KSH				LE			
	comp=Z,620nm,14.8s						
KSH				LZ			
	comp=Z,420nm,18.3s						
LSA	**Lhasa**	**65.10**	**286**	*e*P	**P**	**19 59 37.0**	**+0.5**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LSA	**Lhasa**	**65.10**	**286**	*e*P	**P**	**19 59 37.0**	**+0.5**
	comp=Z,2.5nm,0.8s						
AKASG	**Malin Array Be**	**66.97**	**342**	P	**P**	**19 59 46.3**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=14,slow=5.3,SNR=3.2						
AKASG				LR	LR	20 32 35.0	
	comp=Z,211nm,20.0s,baz=45,slow=39						
CLL	**Collm**	**68.15**	**353**	*e*P	P	20 00 02.0	+7.0
TAPN	**Taplejung**	**68.70**	**288**	*e*P	**P**	**19 59 58.6**	**-0.6**
	comp=Z,11nm,1.0s						
GUN	**Gumba**	**69.08**	**290**	*e*P	**P**	**20 00 01.6**	**0.0**
	comp=Z,24nm,0.7s						
JIRN	**Jiri**	**69.15**	**289**	*e*P	**P**	**20 00 02.4**	**+0.3**
	comp=Z,27nm,0.7s						
KKN	**Kakani**	**69.46**	**290**	*e*P	**P**	**20 00 03.8**	**0.0**
	comp=Z,9.6nm,0.7s						
RAMN	**Ramite**	**69.56**	**289**	*e*P	**P**	**20 00 04.0**	**-0.5**
	comp=Z,16nm,0.7s						
GKN	**Gorkha**	**69.58**	**291**	*e*P	**P**	**20 00 04.6**	**+0.1**
	comp=Z,24nm,0.9s						
PKI	**Pulchoki**	**69.59**	**290**	*e*P	**P**	**20 00 04.5**	**-0.2**
	comp=Z,9.5nm,0.6s						
PKIN	**Phulchoki**	**69.59**	**290**	*e*P	**P**	**20 00 04.3**	**-0.4**
	comp=Z,8.2nm,0.7s						
KOLN	**Koldanda**	**70.25**	**291**	*e*P	**P**	**20 00 09.0**	**+0.3**
	comp=Z,12nm,0.7s						
CMAR	**Chiang Mai Arr**	**70.79**	**274**	P	**P**	**20 00 11.7**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=23,slow=7.5,SNR=6.7						
CMAR				LR	LR	20 35 07.6	
	comp=Z,63nm,18.2s,baz=34,slow=39						
CMAR	**Chiang Mai Arr**	**70.79**	**274**	P	**P**	**20 00 11.7**	**-0.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CMAR				MLR	MLR		
	comp=Z,63nm,18.2s						
GEYT	**Alibeck**	**71.73**	**316**	P	**P**	**20 00 18.6**	**+1.4**
	comp=Z,1.8nm,0.9s,baz=2.9,slow=8.7,SNR=4.7						
GEYT				LR	LR	20 34 26.1	
	comp=Z,237nm,19.3s,baz=30,slow=38						
MLR	**Muntele Rosu**	**72.55**	**343**	LR	LR	20 36 42.0	
	comp=Z,41nm,18.1s,baz=30,slow=40						
DAVOX	**Davos/Dischmat**	**72.84**	**354**	LR	LR	20 33 22.5	
	comp=Z,76nm,18.1s,baz=27,slow=37						
BRTR	**Keskin Array B**	**76.79**	**336**	P	**P**	**20 00 47.5**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=57

comp=Z,56nm,19.3s,baz=360,slow=38
ASAR Alice Springs 92.60 223 P **P** **20 02 06.2 -0.5**
comp=Z,0.2nm,0.8s,baz=19,slow=6.9,SNR=3.9
STKA Stephens Creek 97.91 214 LR LR 20 42 20.9
comp=Z,59nm,20.2s,baz=23,slow=33
QSPA South Pole Qui 150.33 180 *e*PKPbc **PKPbc** **20 08 42.7 -2.3**

MAN 11 20:00:24, 18°51N×120°78E, h29km, mb4.9, ML3.8, MS3.9, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.24**	**218**	⇑ *i* P	Pn	20 00 32.0	+0.4
APYP	**Conner**	**0.79**	**145**	*e*P	Pn	20 00 39.1	0.0
APYP				*e*S	Sn	20 00 50.5	+0.6
ABRA	**Dolores**	**0.86**	**184**	*e*P	Pn	20 00 40.1	-0.1
ABRA				*e*S	Sn	20 00 52.2	+0.4
SGCP	**Mt. Cagua**	**1.24**	**102**	*e*P	Pn	20 00 45.4	+0.1
SGCP				*e*S	Sb	20 01 02.1	-0.2

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*ISCJB **11** 20:15:05.5±0.3, 36°.26N±0°.02×69°.89E±0°.04, h124km, mb3.6/16, Error ellipse: s-maj=5.1km s-min=2.7km az=155.4*
*MOS **11** 20:15:06.3±0.8, 36°.24N×69°.92E, h136km, mb4.0/13, Error ellipse: s-maj=12.4km s-min=6.2km az=78.1*
*IDC **11** 20:15:07.5±1.1, 36°.16N×70°.02E, h139km±7km, mb3.4/14, mb1 3.6/17, mb1mx3.4/32, mbtmp3.9/17, Error ellipse: s-maj=20.7km s-min=14.9km az=18.0*
*NNC **11** 20:15:12.3±1.5, 36°.80N×69°.64E, h164km±10km, mb3.7, mpv4.8, Error ellipse: s-maj=14.2km s-min=8.4km az=176.0*

ISC 11 20:15:07.0±0.5, 36°23N±0°.05×69°97E±0°.06, h124km, n108, σ1§60/126, mb3.7/16, 12C-15D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.72**	**341**	⇓P	**Pn**	**20 15 49.3**	**-0.7**
DZET	376nm,0.6s			⇑S	**Sn**	**20 16 19.0**	**-3.9**
	963nm,0.5s						
CEP	**Cherat**	**2.88**	**146**	⇓P	Pn	20 15 55.7	+3.6
CEP				S	**Sn**	**20 16 31.0**	**+4.3**
THW	**Thamme Wali**	**3.73**	**156**	⇓P	**Pn**	**20 16 05.0**	**+1.9**
CHCP	**Chirah Chowk**	**3.73**	**133**	⇑P	Pn	20 16 06.5	+3.4
SFK	**Sufi-Kurgan**	**4.69**	**35**	⇑P	**Pn**	**20 16 17.9**	**+1.9**
SFK	56nm,0.3s			⇑S	**Sn**	**20 17 10.9**	**+1.3**
	89nm,0.2s						
DLH	**Dalhousie**	**6.17**	**125**	*e*P	**Pn**	**20 16 37.0**	**+0.9**
DLH				*e*S	**Sn**	**20 17 47.0**	**+1.5**
PONG	**Pong**	**6.54**	**129**	*e*P	Pn	20 16 45.0	+4.2
PONG				*e*S	**Sn**	**20 17 55.0**	**+1.0**
AML	**Almayashu**	**6.56**	**25**	P	**Pn**	**20 16 41.6**	**+0.2**
	SNR=346						
KK31	**Karatay Array**	**6.87**	**3**	⇓P	**Pn**	**20 16 44.5**	**-0.7**
	39nm,0.5s,baz=196,slow=14,SNR=747						
KK31				⇓S	Sn	20 17 54.6	-7.4
	8.4nm,0.3s,baz=194,slow=27,SNR=4.5						
UCH	**Uchtor**	**6.95**	**29**	P	**Pn**	**20 16 47.1**	**+0.5**
	SNR=194						
UCH	**Uchtor**	**6.95**	**29**	*i* PN	**Pn**	**20 16 47.1**	**+0.5**
EKS2	**Erkin-Say**	**7.06**	**23**	P	**Pn**	**20 16 48.4**	**+0.5**
	SNR=89						
EKS2	**Erkin-Say**	**7.06**	**23**	*i* PN	**Pn**	**20 16 48.3**	**+0.5**
KZA	**Kyzart**	**7.13**	**33**	P	**Pn**	**20 16 49.5**	**+0.4**
	SNR=57						
KZA	**Kyzart**	**7.13**	**33**	*i* PN	**Pn**	**20 16 49.5**	**+0.4**
BHK	**Bhakra**	**7.20**	**130**	*e*P	**Pn**	**20 16 52.0**	**+2.3**
BHK				*e*S	**Sn**	**20 18 10.2**	**+0.2**
AAK	**Ala-Archa**	**7.29**	**27**	P	**Pn**	**20 16 51.8**	**+0.8**
	SNR=85						
AAK	**Ala-Archa**	**7.29**	**27**	⇑P	**Pn**	**20 16 51.6**	**+0.8**
	21nm,0.3s						
AAK				⇑S	**Sn**	**20 18 11.4**	**-0.8**
AAK	**Ala-Archa**	**7.29**	**27**	P	**Pn**	**20 16 51.7**	**+0.8**
	29nm,0.3s,baz=198,slow=9.5,SNR=163						
AAK				S	**Sn**	**20 18 11.4**	**-0.8**
	6.7nm,0.3s,baz=106,slow=20,SNR=14						
KBK	**Karagaybulak**	**7.48**	**29**	P	**Pn**	**20 16 54.5**	**+1.0**
	SNR=55						
SDNR	**Sundarnagar**	**7.49**	**127**	*e*P	**Pn**	**20 16 54.0**	**+0.3**
SDNR				*ex*	**Sn**	**20 18 14.0**	**-3.1**
FRU	**Bishkek**	**7.50**	**27**	⇓ *i* PN	**Pn**	**20 16 55.0**	**+1.3**
FRU				pmax	pmax		
	comp=Z,130nm,1.6s						
CHMS	**Chumysh**	**7.70**	**27**	P	**Pn**	**20 16 56.7**	**+0.4**
	SNR=66						
CHMS	**Chumysh**	**7.70**	**27**	*i* PN	**Pn**	**20 16 56.7**	**+0.4**
ULHL	**Ulahol**	**7.73**	**37**	P	**Pn**	**20 16 57.7**	**+0.7**
	SNR=30						
ULHL	**Ulahol**	**7.73**	**37**	*i* PN	**Pn**	**20 16 57.6**	**+0.7**
USP	**Ospenovka**	**7.84**	**25**	P	**Pn**	**20 16 58.2**	**-0.1**
	SNR=18						
USP	**Ospenovka**	**7.84**	**25**	*i* PN	**Pn**	**20 16 58.2**	**-0.1**
SMLA	**Simla**	**7.87**	**128**	*i* P	**Pn**	**20 17 00.5**	**+1.9**
SMLA				*i* S	**Sn**	**20 18 24.7**	**-1.3**
SMLA				*i* S	**Sn**	**20 18 24.8**	**-1.3**
SMLA				AML	AML	20 18 29.8	
	comp=E,360nm,0.5s						
SMLA				AML	AML	20 18 29.9	
	comp=N,369nm,0.3s						
TKM2	**Tokmak 2**	**7.97**	**31**	P	**Pn**	**20 17 00.7**	**+0.5**
	SNR=73						
TKM2	**Tokmak 2**	**7.97**	**31**	⇓P	**Pn**	**20 17 00.5**	**+0.3**
	comp=N,33nm,0.6s						
TKM2				⇑S	**Sn**	**20 18 26.8**	**-1.8**
	comp=N,33nm,0.8s						
TKM2	**Tokmak 2**	**7.97**	**31**	*i* PN	**Pn**	**20 17 00.6**	**+0.5**
KKR	**Kurukshetra**	**8.49**	**135**	*e*S	**Sn**	**20 18 40.5**	**-0.8**
KNDC	**Almaty**	**8.81**	**36**	⇓P	**Pn**	**20 17 13.2**	**+1.8**
	comp=N,19nm,0.6s						
KHET	**Khetri**	**9.52**	**147**	*e*P	**Pn**	**20 17 20.4**	**-0.6**
KHET				*e*S	Sn	20 18 59.4	-6.8
KHET				AML	AML	20 19 03.8	
	comp=E,886nm,0.1s						
KHET				AML	AML	20 19 05.4	
	comp=N,1μm,0.1s						
BHGR	**Bahadurgarh**	**9.55**	**140**	*e*S	**Sn**	**20 19 03.1**	**-3.8**
GEYT	**Alibeck**	**9.62**	**284**	P	Pn	20 17 18.4	-3.9
	comp=N,15nm,0.3s,baz=104,slow=11,SNR=101						
GEYT				S	Sn	20 18 58.5	-10
	comp=N,3.2nm,0.3s,baz=153,slow=26,SNR=3.6						
NDI	**New Delhi**	**9.70**	**139**	*e*P	**Pn**	**20 17 23.0**	**-0.4**
NDI				*e*S	**Sn**	**20 19 05.5**	**-5.1**
KUDL	**Kundal**	**9.77**	**144**	*e*P	**Pn**	**20 17 24.1**	**-0.3**
KUDL				*e*S	Sn	20 19 06.0	-6.3
KUDL				AML	AML	20 19 10.7	
	comp=N,92nm,0.2s						
KUDL				AML	AML	20 19 10.8	
	comp=E,119nm,0.3s						
BISR	**Bishrakh**	**9.91**	**138**	*ex*	**Sn**	**20 19 16.4**	**+0.9**
AJM	**Ajmer**	**10.51**	**156**	*ex*	**Pn**	**20 17 34.0**	**-0.4**
AJM				*ex*	Sn	20 19 21.0	-9.3
LGTI	**Lohaghat**	**10.97**	**125**	*e*P	**Pn**	**20 17 39.8**	**-0.6**
LGTI				*ex*	**Sn**	**20 19 35.6**	**-5.7**
AGRA	**Agra**	**11.25**	**141**	*e*S	Sn	20 19 41.4	-6.6
AGRA				AML	AML	20 19 52.2	
	comp=N,91nm,0.1s						
AGRA				AML	AML	20 19 55.4	
	comp=E,125nm,0.2s						
OTUK	**Ortayu**	**12.13**	**8**	⇑P	**Pn**	**20 17 53.1**	**-2.6**
	comp=E,20nm,0.8s						
OTUK				⇓S	Sn	20 20 02.5	-6.6
	comp=E,6.2nm,0.6s						
MK31	**Makanchi Array**	**14.00**	**37**	⇑P	**Pn**	**20 18 18.4**	**-1.5**
	comp=E,1.5nm,0.4s,baz=243,slow=11,SNR=3.0						
MKAR	**Makanchi Array**	**14.00**	**37**	P	**Pn**	**20 18 19.5**	**-0.4**
	comp=E,0.3nm,0.3s,baz=228,slow=14,SNR=14						
MKAR	**Makanchi Array**	**14.00**	**37**	*i* P	**Pn**	**20 18 20.2**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KOLN	**Koldanda**	**14.30**	**122**	*e*P	**Pn**	**20 18 23.5**	**-0.6**
	comp=Z,17nm,0.3s						
GKN	**Gorkha**	**14.88**	**119**	*e*P	**Pn**	**20 18 30.3**	**-1.0**
	comp=Z,39nm,0.3s						
AB31	**Akbulak array**	**14.94**	**334**	P	**Pn**	**20 18 28.8**	**-2.9**
	comp=Z,3.1nm,0.4s,baz=131,slow=11,SNR=171						
AB31				⇓S	Sn	20 21 02.9	-14
	comp=Z,13nm,0.5s,baz=148,slow=20,SNR=35						
DMN	**Daman**	**15.45**	**120**	*e*P	**Pn**	**20 18 38.2**	**-0.3**
	comp=Z,24nm,0.3s						
KKN	**Kakani**	**15.46**	**119**	*e*P	**Pn**	**20 18 38.5**	**-0.1**
	comp=Z,30nm,0.3s						
KURBB	**Kurchatov Arra**	**15.65**	**21**	⇓P	**Pn**	**20 18 38.0**	**-2.6**
	comp=Z,13nm,1.1s						
KURBB	**Kurchatov Arra**	**15.65**	**21**	P	**Pn**	**20 18 38.2**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=212,slow=12,SNR=25						
PKIN	**Phulchoki**	**15.67**	**119**	*e*P	**Pn**	**20 18 41.0**	**-0.3**
	comp=Z,24nm,0.2s						
PKI	**Pulchoki**	**15.69**	**119**	*e*P	**Pn**	**20 18 41.5**	**0.0**
	comp=Z,36nm,0.4s						
KURK	**Kurchatov**	**15.76**	**21**	P	**Pn**	**20 18 38.2**	**-3.7**
GUN	**Gumba**	**15.82**	**117**	*e*P	**Pn**	**20 18 43.2**	**0.0**
	comp=Z,28nm,0.3s						
JIRN	**Jiri**	**16.19**	**117**	*e*P	**Pn**	**20 18 47.6**	**-0.2**
AKTO	**Aktyubinsk**	**16.61**	**332**	⇑P	**Pn**	**20 18 50.5**	**-1.9**
	comp=Z,6.1nm,0.7s						
AKTO				⇑S	Sn	20 21 44.5	-13
	comp=Z,10nm,0.5s						
AKTO	**Aktyubinsk**	**16.61**	**332**	P	**Pn**	**20 18 51.0**	**-1.4**
	comp=Z,1.0nm,0.3s,baz=140,slow=13,SNR=16						
AKTO				S	Sn	20 21 42.2	-15
	comp=Z,1.1nm,0.3s,baz=1.3,slow=23,SNR=11						
AKTO	**Aktyubinsk**	**16.61**	**332**	P	**Pn**	**20 18 51.0**	**-1.4**
AKTO				S	Sn	20 21 42.2	-15
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				smax	smax		
	comp=N,1.0nm,0.3s						
BVA0	**Borovoye Array**	**16.79**	**1**	⇓P	**Pn**	**20 18 52.6**	**-2.0**
	comp=N,3.2nm,0.7s,baz=157,slow=15,SNR=16						
BVAR	**Borovoye Array**	**16.79**	**1**	P	**Pn**	**20 18 53.1**	**-1.4**
	comp=N,1.2nm,0.3s,baz=172,slow=11,SNR=17						
BVAR	**Borovoye Array**	**16.79**	**1**	P	**Pn**	**20 18 53.1**	**-1.4**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRVK	**Borovoye**	**16.82**	**1**	⇓P	**Pn**	**20 18 53.0**	**-1.9**
	comp=Z,7.0nm,0.7s						
BRVK	**Borovoye**	**16.82**	**1**	*de*P	**Pn**	**20 18 53.2**	**-1.7**
BRVK				pmax	pmax		
	comp=Z,13nm,2.0s						
RAMN	**Ramite**	**16.90**	**119**	*e*P	**Pn**	**20 18 56.5**	**+0.1**
	comp=Z,18nm,0.2s						
TAPN	**Taplejung**	**17.47**	**115**	*e*P	**Pn**	**20 19 04.4**	**+1.1**
	comp=Z,45nm,0.4s						
ODAN	**Odare**	**17.52**	**117**	*e*P	**Pn**	**20 19 04.6**	**+0.8**
	comp=Z,18nm,0.4s						
RPR	**Rampur**	**19.16**	**152**	*e*P	**Pn**	**20 19 23.1**	**0.0**
RPR				*e*S	**S**	**20 22 49.8**	**-1.7**
RPR	**Rampur**	**19.16**	**152**	*e*P	**Pn**	**20 19 22.9**	**-0.2**
RPR				*e*S	**S**	**20 22 50.9**	**-0.6**
GNI	**Garni**	**20.19**	**289**	P	**P**	**20 19 32.6**	**+0.6**
	comp=Z,11nm,0.5s,baz=41,slow=3.8,SNR=14						
GNI	**Garni**	**20.19**	**289**	P	**P**	**20 19 32.6**	**+0.6**
GNI				pmax	pmax		
	comp=Z,11nm,0.5s						
HYBB	**Hyderabad (bro**	**20.23**	**156**	*e*P	Pn	20 19 34.3	-1.2
HYBB	**Hyderabad (bro**	**20.23**	**156**	*e*P	Pn	20 19 34.3	-1.3
HYBB				*e*S	**S**	**20 23 13.4**	**+0.7**
HYB	**Hyderabad**	**20.23**	**156**	*e*P	**P**	**20 19 33.5**	**+1.1**
ZALV	**Zalesovo Beam**	**20.51**	**26**	P	**P**	**20 19 35.9**	**+0.8**
	comp=Z,13nm,0.4s,baz=218,slow=10,SNR=56						
ZALV	**Zalesovo Beam**	**20.51**	**26**	P	**P**	**20 19 35.9**	**+0.8**
ZALV				pmax	pmax		
	comp=Z,13nm,0.4s						
NVS	**Novosibirsk**	**20.73**	**22**	*e*P	**P**	**20 19 37.5**	**0.0**
NVS				pmax	pmax		
	comp=Z,6.0nm,0.7s						
NVS				pmax	pmax		
	comp=N,3.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,2.0nm,0.4s						
NJS	**Nagarjunasagar**	**21.29**	**155**	*e*P	**P**	**20 19 44.5**	**+0.8**
NJS	**Nagarjunasagar**	**21.29**	**155**	*e*P	**P**	**20 19 44.2**	**+0.5**
NJS				*e*S	**S**	**20 23 34.6**	**+1.5**
ARU	**Arti**	**21.63**	**343**	*d* ⇓P	**P**	**20 19 48.9**	**+1.9**
ARU				S	**S**	**20 23 41.2**	**+2.4**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KBZ	**Khabaz**	**21.99**	**298**	P	**P**	**20 19 49.8**	**-1.1**
	comp=Z,1.3nm,0.6s,baz=233,slow=20,SNR=6.7						
URV	**Uravakonda**	**22.18**	**161**	*e*P	P	20 20 00.4	+7.2
KIV	**Kislovodsk**	**22.18**	**299**	*e*P	**P**	**20 19 51.6**	**-1.5**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SKHT	**Srikalahasti**	**24.04**	**156**	*e*P	**P**	**20 20 12.1**	**+1.4**
BRTR	**Keskin Array B**	**28.72**	**288**	P	**P**	**20 20 52.3**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=103,slow=9.5,SNR=3.5						
BRTR	**Keskin Array B**	**28.72**	**288**	P	**P**	**20 20 52.3**	**-0.4**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**31.07**	**117**	P	**P**	**20 21 14.6**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=294,slow=8.1,SNR=12						
CMAR	**Chiang Mai Arr**	**31.07**	**117**	P	**P**	**20 21 14.6**	**+1.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MLR	**Muntele Rosu**	**34.19**	**300**	P	**P**	**20 21 40.6**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=36,slow=14						
FINES	**FINESS Array B**	**37.24**	**327**	P	**P**	**20 22 06.2**	**0.0**
	comp=Z,0.9nm,0.7s,baz=116,slow=9.4,SNR=6.3						
FINES				pP	**pP**	**20 22 36.0**	**+2.3**
	comp=Z,1.3nm,0.8s,baz=106,slow=8.8,SNR=2.5						
FINES	**FINESS Array B**	**37.24**	**327**	P	**P**	**20 22 06.2**	**0.0**
FINES				*PP	**pP**	**20 22 36.0**	**+2.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**41.08**	**338**	P	**P**	**20 22 38.1**	**+0.1**
	comp=Z,2.6nm,0.9s,baz=119,slow=9.0,SNR=9.0						
ARCES	**ARCESS Array B**	**41.08**	**338**	P	**P**	**20 22 38.1**	**+0.1**
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
HFS	**Hagfors**	**42.77**	**322**	P	**P**	**20 22 51.3**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=104,slow=11,SNR=6.4						
HFS				pP	**pP**	**20 23 22.1**	**+2.2**
	comp=Z,2.3nm,0.6s,baz=90,slow=6.2,SNR=4.4						
HFS	**Hagfors**	**42.77**	**322**	P	**P**	**20 22 51.3**	**-0.5**
HFS				*PP	**pP**	**20 23 22.1**	**+2.2**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
HFS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	**NORSAR Subarra**	**44.09**	**323**	P	**P**	**20 23 01.0**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=100,slow=8.6						
NOA	**NORSAR Array B**	**44.09**	**323**	P	**P**	**20 23 01.6**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=98,slow=8.0,SNR=5.0						
NOA				pP	**pP**	**20 23 33.0**	**+2.2**
	comp=Z,0.3nm,0.5s,baz=98,slow=8.0,SNR=2.7						
NOA	**NORSAR Array B**	**44.09**	**323**	P	**P**	**20 23 01.6**	**-0.9**
NOA				*PP	**pP**	**20 23 33.0**	**+2.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TIXI	**Tiksi**	**46.33**	**22**	⇑ *e*P	**P**	**20 23 20.2**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SPITS	**Spitsbergen Ar**	**47.56**	**347**	P	**P**	**20 23 29.8**	**+0.3**
	comp=Z,8.1nm,1.0s,baz=107,slow=9.5,SNR=5.3						
SPITS	**Spitsbergen Ar**	**47.56**	**347**	P	**P**	**20 23 29.8**	**+0.3**
SPITS				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ILAR	**Eielson Array**	**75.26**	**15**	P	**P**	**20 26 34.0**	**-1.8**
	comp=Z,0.3nm,0.7s,baz=297,slow=4.0,SNR=2.9						
YKA	**Yellowknife Ar**	**81.55**	**2**	P	**P**	**20 27 09.7**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=342,slow=5.5,SNR=3.3						
YKA				pP	**pP**	**20 27 45.2**	**+3.4**
	comp=Z,0.4nm,0.5s,baz=349,slow=5.6,SNR=4.1						
WRA	**Warramunga Arr**	**82.56**	**121**	P	**P**	**20 27 14.7**	**-1.7**
	comp=Z,0.7nm,0.8s,baz=322,slow=5.0,SNR=8.3						
ASAR	**Alice Springs**	**84.79**	**124**	P	**P**	**20 27 25.8**	**-1.8**
	comp=Z,0.5nm,0.7s,baz=303,slow=4.7,SNR=8.1						

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*MOS **11** 20:23:41.8±1.1, 36°.33N×21°.81E, h33km, mb4.4/23, Error ellipse: s-maj=6.5km s-min=4.3km az=80.8*
*ATH **11** 20:23:42.0, 36°.13N×21°.76E, h30km±1km, MD3.6/32, ML4.0*
*BJI **11** 20:23:42.4, 36°.71N×21°.58E, h58km, mb4.7/5, mB4.9/5, Ms4.3/2, Ms7 4.3/2*
*PDG **11** 20:23:42.7±0.8, 36°.17N×21°.78E, h34km±4km, ML4.3/12, Error ellipse: s-maj=1.8km s-min=1.5km az=90.0*
*ISCJB **11** 20:23:43.6±0.4, 36°.29N±0°.03×21°.76E±0°.03, h67km±2km, mb4.0/34, Error ellipse: s-maj=5.2km s-min=2.4km az=38.7*
*NEIC **11** 20:23:44.8±0.6, 36°.35N×21°.84E, h51km±6km, mb4.2/14, Error ellipse: s-maj=8.1km s-min=4.5km az=202.0*
*THE **11** 20:23:44.9, 36°.21N×21°.91E, h62km±4km, ML4.2/3, Error ellipse: s-maj=4.9km s-min=1.4km az=272.0*
*CSEM **11** 20:23:44.7±0.2, 36°.23N×21°.83E, h60km, mb4.3/11, Error ellipse: s-maj=6.0km s-min=3.1km az=37.0*
*IDC **11** 20:23:45.8±1.9, 36°.26N×21°.97E, h57km±17km, mb3.8/20, mb1 3.8/27, mb1mx3.7/41, mbtmp4.0/27, ML3.3/6, MS3.3/7, Ms1 3.3/7, ms1mx2.9/42, Error ellipse: s-maj=17.5km s-min=11.9km az=35.0*
*HLW **11** 20:23:52.7, 35°.34N×22°.08E, h13km±13km, Md3.7, Ml3.3*
*BEO **11** 20:24:46.4±2.6, 40°.84N×21°.19E, h0km*

ISC 11 20:23:44.3±0.6, 36°22N±0°.04×21°72E±0°.03, h54km±5km, n497, σ1§34/541, mb4.1/34, MS3.2/5, 42C-33D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.67**	**1**	P	**Pn**	**20 23 57.8**	**-0.2**
PYL				S	**Sn**	**20 24 09.4**	**+1.5**
PYL	**PYLOS**	**0.67**	**1**	*e*PN	**Pn**	**20 23 57.5**	**-0.5**
PYL				*e*SN	**Sn**	**20 24 08.1**	**+0.2**
PYL	**PYLOS**	**0.67**	**1**	*e*P	**Pn**	**20 23 58.0**	**0.0**
PYL				*e*S	**Sn**	**20 24 09.1**	**+1.2**
ITM	**Ithomi**	**0.97**	**10**	P	**Pn**	**20 24 02.2**	**+0.4**
ITM				S	**Sn**	**20 24 16.4**	**+1.7**
ITM	**Ithomi**	**0.97**	**10**	*e*PN	**Pn**	**20 24 02.4**	**+0.6**
ITM				*e*SN	**Sn**	**20 24 16.6**	**+1.9**
ITM	**Ithomi**	**0.97**	**10**	P	**Pn**	**20 24 02.2**	**+0.4**
ITM				S	**Sn**	**20 24 16.4**	**+1.7**
KYTH	**Kithira**	**1.06**	**86**	P	**Pn**	**20 24 02.4**	**-0.6**
KYTH	**Kithira**	**1.06**	**86**	*e*PN	**Pn**	**20 24 02.4**	**-0.6**
KYTH	**Kithira**	**1.06**	**86**	P	**Pn**	**20 24 02.4**	**-0.6**
VLI	**Veliai**	**1.10**	**63**	P	**Pn**	**20 24 02.7**	**-0.8**
VLI				S	**Sn**	**20 24 17.2**	**-0.5**
VLI	**Veliai**	**1.10**	**63**	*e*PN	**Pn**	**20 24 03.0**	**-0.5**
VLI				*e*SN	**Sn**	**20 24 18.9**	**+1.2**
VLI	**Veliai**	**1.10**	**63**	*e*P	**Pn**	**20 24 02.9**	**-0.5**
VLI				S	**Sn**	**20 24 17.2**	**-0.5**
SFD	**Strofades**	**1.17**	**331**	P	**Pn**	**20 24 05.6**	**+1.1**
SFD				S	**Sn**	**20 24 23.6**	**+4.1**
SFD	**Strofades**	**1.17**	**331**	*e*PN	**Pn**	**20 24 05.6**	**+1.1**
SFD	**Strofades**	**1.17**	**331**	P	**Pn**	**20 24 05.6**	**+1.1**
VLX	**Vlachokerasia**	**1.26**	**24**	P	**Pn**	**20 24 06.6**	**+0.8**
VLX	**Vlachokerasia**	**1.26**	**24**	*e*PN	**Pn**	**20 24 06.7**	**+0.9**
VLX				*e*SN	**Sn**	**20 24 24.1**	**+2.3**
VLX	**Vlachokerasia**	**1.26**	**24**	P	**Pn**	**20 24 06.6**	**+0.8**
VLX				*e*S	**Sn**	**20 24 23.9**	**+2.1**
AMT	**Artemida-Makis**	**1.31**	**360**	P	**Pn**	**20 24 07.9**	**+1.5**
AMT	**Artemida-Makis**	**1.31**	**360**	*e*PN	**Pn**	**20 24 07.8**	**+1.4**
AMT				*e*SN	**Sn**	**20 24 26.4**	**+3.6**
AMT	**Artemida-Makis**	**1.31**	**360**	P	**Pn**	**20 24 07.9**	**+1.5**
AMT				*e*S	**Sn**	**20 24 25.7**	**+2.9**
ANKY	**Antikythira Is**	**1.33**	**105**	P	**Pn**	**20 24 06.2**	**-0.3**
ANKY				S	**Sn**	**20 24 19.7**	**-3.5**
ANKY	**Antikythira Is**	**1.33**	**105**	*e*PN	**Pn**	**20 24 06.2**	**-0.3**
ANKY				*e*SN	**Sn**	**20 24 23.1**	**-0.1**
ANKY	**Antikythira Is**	**1.33**	**105**	P	**Pn**	**20 24 06.2**	**-0.3**
ANKY				S	**Sn**	**20 24 19.7**	**-3.5**
DRO	**Drossia**	**1.73**	**360**	P	**Pn**	**20 24 13.5**	**+1.5**
DRO	**Drossia**	**1.73**	**360**	P	**Pn**	**20 24 13.5**	**+1.5**
DID	**Didima**	**1.77**	**43**	*e*PN	**Pn**	**20 24 12.7**	**+0.1**
DID	**Didima**	**1.77**	**43**	*e*P	**Pn**	**20 24 12.2**	**-0.4**
GUR	**Goura**	**1.78**	**16**	*e*PB	**Pn**	**20 24 14.5**	**+1.7**
GUR				*e*SN	**Sn**	**20 24 37.0**	**+2.6**
GUR	**Goura**	**1.78**	**16**	*e*P	**Pn**	**20 24 15.1**	**+2.3**
RLS	**Riolos of Patr**	**1.84**	**354**	P	**Pn**	**20 24 15.7**	**+2.1**
RLS	**Riolos of Patr**	**1.84**	**354**	*e*PB	**Pn**	**20 24 15.5**	**+1.9**
RLS	**Riolos of Patr**	**1.84**	**354**	P	**Pn**	**20 24 15.7**	**+2.1**
KLV	**Kalavryta, Ach**	**1.85**	**11**	P	**Pn**	**20 24 15.2**	**+1.5**
KLV	**Kalavryta, Ach**	**1.85**	**11**	*e*PB	**Pn**	**20 24 15.2**	**+1.5**
KLV				*e*SN	**Sn**	**20 24 38.8**	**+2.8**
KLV	**Kalavryta, Ach**	**1.85**	**11**	P	**Pn**	**20 24 15.2**	**+1.5**
KARN	**Karanos**	**1.96**	**114**	P	**Pn**	**20 24 14.1**	**-1.1**
KARN	**Karanos**	**1.96**	**114**	*e*PN	**Pn**	**20 24 14.5**	**-0.7**
KARN				*e*SN	**Sn**	**20 24 37.8**	**-0.9**
KARN	**Karanos**	**1.96**	**114**	*e*P	**Pn**	**20 24 14.6**	**-0.7**
KFL	**Anninata**	**2.03**	**339**	P	**Pn**	**20 24 17.9**	**+1.8**
KFL	**Anninata**	**2.03**	**339**	P	**Pn**	**20 24 17.9**	**+1.8**
LTK	**Loutraki**	**2.06**	**29**	P	**Pn**	**20 24 16.8**	**+0.3**
LTK	**Loutraki**	**2.06**	**29**	*e*PN	**Pn**	**20 24 16.9**	**+0.4**
LTK				*e*SN	**Sn**	**20 24 42.8**

IGT	**Igoumenitsa**	**3.48**	**342**	P	**Pn**	**20 24 37.1**	**+1.1**
JAN	**Janina**	**3.50**	**349**	P	**Pn**	**20 24 38.3**	**+2.1**
JAN	**Janina**	**3.50**	**349**	*e*PN	**Pn**	**20 24 38.6**	**+2.4**
JAN	**Janina**	**3.50**	**349**	P	**Pn**	**20 24 38.3**	**+2.1**
KEK	**Kerkira**	**3.80**	**337**	P	**Pn**	**20 24 41.1**	**+0.7**
KEK	**Kerkira**	**3.80**	**337**	*e*PN	**Pn**	**20 24 41.5**	**+1.1**
KEK	**Kerkira**	**3.80**	**337**	P	**Pn**	**20 24 41.1**	**+0.7**
ZKR	**Zakros**	**3.82**	**105**	*e*PN	**Pn**	**20 24 40.2**	**-0.4**
SRN	**Sarande**	**3.90**	**340**	*i* PN	**Pn**	**20 24 43.1**	**+1.5**
SRN				*i* SN	**Sn**	**20 25 22.1**	**-4.0**
SRN	**Sarande**	**3.90**	**340**	P	**Pn**	**20 24 42.8**	**+1.1**
SRN	**Sarande**	**3.90**	**340**	P	**Pn**	**20 24 42.8**	**+1.1**
SRN	**Sarande**	**3.90**	**340**	*i* Pn	**Pn**	**20 24 43.1**	**+1.5**
KNS	**Konitsa**	**3.91**	**349**	P	**Pn**	**20 24 43.9**	**+2.0**
KNS	**Konitsa**	**3.91**	**349**	P	**Pn**	**20 24 43.9**	**+2.0**
LIT	**Litokhoron**	**3.92**	**9**	P	**Pn**	**20 24 43.7**	**+1.7**
LIT	**Litokhoron**	**3.92**	**9**	*e*PN	**Pn**	**20 24 43.9**	**+1.9**
LIT	**Litokhoron**	**3.92**	**9**	P	**Pn**	**20 24 43.7**	**+1.7**
PAIG	**Paliouri**	**4.01**	**22**	*e*P	**Pn**	**20 24 42.4**	**-0.8**
CHOS	**Chios island**	**4.07**	**57**	*e*P	**Pn**	**20 24 42.5**	**-1.6**
CHOS	**Chios island**	**4.07**	**57**	P	**Pn**	**20 24 42.7**	**-1.5**
CHOS	**Chios island**	**4.07**	**57**	P	**Pn**	**20 24 42.7**	**-1.5**
KZN	**Kozani**	**4.08**	**1**	P	**Pn**	**20 24 45.9**	**+1.7**
KZN	**Kozani**	**4.08**	**1**	*e*PN	**Pn**	**20 24 46.5**	**+2.3**
KZN	**Kozani**	**4.08**	**1**	P	**Pn**	**20 24 45.9**	**+1.7**
NEST	**Nestorio**	**4.22**	**353**	P	**Pn**	**20 24 48.6**	**+2.4**
NEST	**Nestorio**	**4.22**	**353**	*e*PN	**Pn**	**20 24 48.8**	**+2.6**
NEST	**Nestorio**	**4.22**	**353**	P	**Pn**	**20 24 48.6**	**+2.4**
PLG	**Polygyros**	**4.36**	**18**	*e*PN	**Pn**	**20 24 48.8**	**+0.7**
SIGR	**SIGRI**	**4.43**	**46**	*e*P	**Pn**	**20 24 48.4**	**-0.6**
SIGR	**SIGRI**	**4.43**	**46**	*e*P	**Pn**	**20 24 48.4**	**-0.6**
KARP	**Karpathos**	**4.47**	**97**	*e*P	**Pn**	**20 24 47.6**	**-1.9**
OUR	**Ouranopolis**	**4.47**	**23**	*e*P	**Pn**	**20 24 49.5**	**-0.1**
OUR	**Ouranopolis**	**4.47**	**23**	P	**Pn**	**20 24 49.4**	**-0.1**
OUR	**Ouranopolis**	**4.47**	**23**	P	**Pn**	**20 24 49.4**	**-0.1**
HORT	**Hortiatis**	**4.50**	**13**	*e*P	**Pn**	**20 24 51.0**	**+1.0**
HORT	**Hortiatis**	**4.50**	**13**	P	**Pn**	**20 24 50.3**	**+0.3**
HORT	**Hortiatis**	**4.50**	**13**	*e*PN	**Pn**	**20 24 51.5**	**+1.5**
HORT	**Hortiatis**	**4.50**	**13**	P	**Pn**	**20 24 50.3**	**+0.3**
FNA	**Florina**	**4.56**	**357**	*e*P	**Pn**	**20 24 51.8**	**+1.0**
FNA	**Florina**	**4.56**	**357**	P	**Pn**	**20 24 52.1**	**+1.2**
FNA	**Florina**	**4.56**	**357**	*e*PN	**Pn**	**20 24 52.2**	**+1.3**
FNA	**Florina**	**4.56**	**357**	P	**Pn**	**20 24 52.1**	**+1.2**
BODT	**Bodrum**	**4.57**	**78**	*e*P	Pn	20 24 47.5	-3.4
DAT	**Datca**	**4.75**	**82**	*e*P	Pn	20 24 49.6	-3.8
BLCB	**Balcova**	**4.76**	**61**	*e*P	**Pn**	**20 24 51.8**	**-1.6**
SOH	**Sokhos**	**4.77**	**15**	*e*PN	**Pn**	**20 24 55.4**	**+1.8**
SOH	**Sokhos**	**4.77**	**15**	*e*P	**Pn**	**20 24 55.4**	**+1.8**
IZM	**Izmir**	**4.92**	**62**	*e*P	**Pn**	**20 24 54.2**	**-1.5**
TIP	**Timpagrande**	**4.92**	**308**	P	**Pn**	**20 24 57.2**	**+1.4**
TIP	**Timpagrande**	**4.92**	**308**	*e*Pn	**Pn**	**20 24 56.5**	**+0.8**
TIP	**Timpagrande**	**4.92**	**308**	P	**Pn**	**20 24 57.2**	**+1.4**
TIP	**Timpagrande**	**4.92**	**308**	*e*Pn	**Pn**	**20 24 56.5**	**+0.8**
TIP				*e*Sn	**Sn**	**20 25 47.2**	**-4.2**
OHR	**Ohrid**	**4.94**	**352**	*i* Pn	**Pn**	**20 24 55.9**	**-0.1**
OHR				*e*Sn	**Sn**	**20 25 48.7**	**-3.0**
OHR	**Ohrid**	**4.94**	**352**	*i* Pn	**Pn**	**20 24 55.8**	**-0.1**
KNT	**Kendrikon**	**5.02**	**10**	*e*P	**Pn**	**20 24 58.5**	**+1.5**
KNT	**Kendrikon**	**5.02**	**10**	P	**Pn**	**20 24 58.0**	**+1.0**
KNT	**Kendrikon**	**5.02**	**10**	*e*PN	**Pn**	**20 24 58.7**	**+1.7**
KNT	**Kendrikon**	**5.02**	**10**	P	**Pn**	**20 24 58.0**	**+1.0**
CEL	**Celeste**	**5.08**	**295**	*e*Pn	**Pn**	**20 24 59.5**	**+1.6**
CEL	**Celeste**	**5.08**	**295**	*e*Pn	**Pn**	**20 24 59.5**	**+1.6**
CEL				*e*Sn	**Sn**	**20 25 50.3**	**-4.9**
SRS	**Serrai**	**5.10**	**16**	P	**Pn**	**20 24 58.4**	**+0.2**
SRS	**Serrai**	**5.10**	**16**	P	**Pn**	**20 24 58.4**	**+0.2**
VAY	**Valandovo**	**5.13**	**7**	*e*Pn	**Pn**	**20 24 57.4**	**-1.2**
VAY	**Valandovo**	**5.13**	**7**	*e*Pn	**Pn**	**20 24 57.4**	**-1.2**
GADA	**Gvkgeada**	**5.15**	**38**	*e*P	**Pn**	**20 24 59.2**	**+0.4**
GADA	**Gvkgeada**	**5.15**	**38**	*e*P	**Pn**	**20 24 59.2**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**5.22**	**69**	*e*P	**Pn**	**20 24 57.8**	**-2.1**
YER	**Yerkesik**	**5.35**	**78**	*e*P	Pn	20 24 58.6	-3.1
YER	**Yerkesik**	**5.35**	**78**	*e*P	Pn	20 24 58.6	-3.1
NVR	**Nevrokopi**	**5.39**	**17**	*e*PN	**Pn**	**20 25 03.6**	**+1.5**
NVR	**Nevrokopi**	**5.39**	**17**	*e*P	**Pn**	**20 25 03.1**	**+1.0**
SLUM		**5.54**	**147**	P	Pn	20 25 00.6	-3.6
	baz=144						
MMB	**Musomiste**	**5.58**	**16**	⇓*i*P	**Pn**	**20 25 04.8**	**0.0**
MMB	**Musomiste**	**5.58**	**16**	*i* P	**Pn**	**20 25 05.7**	**+0.9**
GELI	**Tayfur-Gelibol**	**5.60**	**40**	*e*P	**Pn**	**20 25 05.5**	**+0.5**
DALY	**Dalyan (Mu¨la**	**5.61**	**82**	*e*P	Pn	20 25 02.0	-3.1
ENEZ	**Enez**	**5.69**	**36**	*e*P	**Pn**	**20 25 07.0**	**+0.8**
LPK	**Lapseki**	**5.73**	**42**	*e*P	**Pn**	**20 25 07.4**	**+0.5**
KKB	**Krupnik**	**5.74**	**18**	*i* P	**Pn**	**20 25 07.8**	**+0.9**
SKO	**Skopje**	**5.75**	**358**	*i* Pn	**Pn**	**20 25 07.1**	**+0.1**
SKO				*e*Sn	**Sn**	**20 26 07.7**	**-3.9**
ALN	**Alexandroupoli**	**5.77**	**35**	*e*P	**Pn**	**20 25 08.2**	**+1.0**
ERIK	**Erikli-Kesan**	**5.82**	**39**	*e*P	**Pn**	**20 25 08.8**	**+0.8**
RZN	**Rozhen**	**5.94**	**22**	*i* P	**Pn**	**20 25 10.1**	**+0.3**
KULA	**Kula-Manisa**	**5.98**	**65**	*e*P	**Pn**	**20 25 08.8**	**-1.5**
CUC	**Castrocucco**	**5.99**	**311**	*e*Pn	**Pn**	**20 25 12.1**	**+1.7**
CUC	**Castrocucco**	**5.99**	**311**	*e*Pn	**Pn**	**20 25 12.1**	**+1.7**
CUC				*e*Sn	**Sn**	**20 26 14.2**	**-3.5**
KRBG	**Karabiga-Canak**	**6.05**	**45**	*e*P	**Pn**	**20 25 11.8**	**+0.7**
ULC	**Ulcinj**	**6.05**	**342**	⇓*i* Pn	**Pn**	**20 25 11.2**	**0.0**
ULC				*e*Sn	**Sn**	**20 26 18.4**	**-0.7**
ULC	**Ulcinj**	**6.05**	**342**	⇓*i* Pn	**Pn**	**20 25 11.2**	**0.0**
ULC				*e*Sn	**Sn**	**20 26 18.4**	**-0.7**
SG1	**Sgolgore (BA)**	**6.07**	**321**	*e*Pn	**Pn**	**20 25 12.7**	**+1.2**
KDZ	**Kurdzhali**	**6.14**	**27**	⇓*i* P	**Pn**	**20 25 11.3**	**-1.1**
KDZ	**Kurdzhali**	**6.14**	**27**	*i* P	**Pn**	**20 25 11.3**	**-1.1**
BAI	**Bari**	**6.18**	**324**	*e*Pn	**Pn**	**20 25 13.3**	**+0.4**
RKY	**Sarkoy-Tekirda**	**6.18**	**42**	*e*P	**Pn**	**20 25 13.3**	**+0.3**
DRME	**Dracevica, Mon**	**6.28**	**342**	⇑*i* Pn	**Pn**	**20 25 14.4**	**+0.2**
DRME				*e*Sn	**Sn**	**20 26 23.8**	**-0.7**
DRME	**Dracevica, Mon**	**6.28**	**342**	⇑*i* Pn	**Pn**	**20 25 14.4**	**+0.2**
DRME				*e*Sn	**Sn**	**20 26 23.8**	**-0.7**
BUM	**Brajici-Budva**	**6.46**	**341**	⇑*i* Pn	**Pn**	**20 25 16.7**	**-0.1**
BUM				*e*Sn	**Sn**	**20 26 27.8**	**-1.3**
BUM	**Brajici-Budva**	**6.46**	**341**	⇑*i* Pn	**Pn**	**20 25 16.7**	**-0.1**
BUM				*e*Sn	**Sn**	**20 26 27.8**	**-1.3**
CDT	**Castel del Mon**	**6.46**	**320**	*e*Pn	**Pn**	**20 25 17.5**	**+0.7**
VTS	**Vitosha**	**6.46**	**10**	⇑*i* P	**Pn**	**20 25 18.5**	**+1.5**
VTS	**Vitosha**	**6.46**	**10**	*i* P	**Pn**	**20 25 18.2**	**+1.2**
PDG	**Podgorica**	**6.49**	**344**	⇑*i* Pn	**Pn**	**20 25 17.5**	**+0.4**
PDG				*e*Sn	**Sn**	**20 26 29.2**	**-0.6**
TTG	**Podgorica**	**6.49**	**344**	⇑*i* Pn	**Pn**	**20 25 17.5**	**+0.4**
TTG				*e*Sn	**Sn**	**20 26 29.2**	**-0.6**
PVY	**Plav**	**6.51**	**348**	⇑*i* Pn	**Pn**	**20 25 18.0**	**+0.4**
PVY				*e*Sn	**Sn**	**20 26 29.5**	**-1.0**
PVY	**Plav**	**6.51**	**348**	⇑*i* Pn	**Pn**	**20 25 18.0**	**+0.4**
PVY				*e*Sn	**Sn**	**20 26 29.5**	**-1.0**
DIM	**Dimitrovgrad**	**6.53**	**26**	P	**Pn**	**20 25 18.5**	**+0.8**
BARS	**Barje**	**6.59**	**1**	⇑*i* Pn	**Pn**	**20 25 18.7**	**+0.2**
ELL	**Elmali**	**6.62**	**83**	*e*P	**Pn**	**20 25 16.1**	**-3.0**
HCY	**Herceg Novi**	**6.70**	**339**	⇑*i* Pn	**Pn**	**20 25 19.4**	**-0.7**
HCY				*e*Sn	**Sn**	**20 26 34.4**	**-0.6**
HCY	**Herceg Novi**	**6.70**	**339**	⇑*i* Pn	**Pn**	**20 25 19.4**	**-0.7**
HCY				*e*Sn	**Sn**	**20 26 34.4**	**-0.6**
BEY	**Berane**	**6.79**	**349**	⇑*i* Pn	**Pn**	**20 25 21.9**	**+0.5**
BEY				*e*Sn	**Sn**	**20 26 36.4**	**-0.9**
IVA	**Berane**	**6.79**	**349**	⇑*i* Pn	**Pn**	**20 25 21.9**	**+0.5**
IVA				*e*Sn	**Sn**	**20 26 36.4**	**-0.9**
HMAT	**Matruh**	**6.80**	**137**	S	Sn	20 26 21.6	-16
	baz=133						
HMAT				AMP		20 26 00.0	
	comp=N,40µm,0.6s,logA/T=4.8,baz=133						
EDRB	**Edirne**	**6.84**	**33**	*e*P	**Pn**	**20 25 22.8**	**+0.8**
NKME	**Niksic**	**6.88**	**343**	⇓*i* Pn	**Pn**	**20 25 22.6**	**0.0**
NKME				*e*Sn	**Sn**	**20 26 39.1**	**-0.3**
NKME	**Niksic**	**6.88**	**343**	⇓*i* Pn	**Pn**	**20 25 22.6**	**0.0**
NKME				*e*Sn	**Sn**	**20 26 39.1**	**-0.3**
NKY	**Niksic**	**6.91**	**343**	⇓*i* Pn	**Pn**	**20 25 22.9**	**-0.2**
NKY				*e*Sn	**Sn**	**20 26 39.5**	**-0.9**
NKY	**Niksic**	**6.91**	**343**	⇓*i* Pn	**Pn**	**20 25 22.9**	**-0.2**
NKY				*e*Sn	**Sn**	**20 26 39.5**	**-0.9**
SELS	**Selova**	**7.00**	**356**	⇑*i* Pn	**Pn**	**20 25 23.2**	**-1.1**
ZAPS	**Zavoj**	**7.08**	**5**	⇓*i* Pn	**Pn**	**20 25 26.9**	**+1.6**
MS1	**Monte Sant'Ang**	**7.09**	**322**	*e*Pn	**Pn**	**20 25 24.3**	**-1.2**
BRY	**Bratogost**	**7.11**	**341**	⇑*i* Pn	**Pn**	**20 25 25.3**	**-0.5**
BRY				*e*Sn	**Sn**	**20 26 43.8**	**-1.5**
BRY	**Bratogost**	**7.11**	**341**	⇑*i* Pn	**Pn**	**20 25 25.3**	**-0.5**
BRY				*e*Sn	**Sn**	**20 26 43.8**	**-1.5**
SJES	**Sjenica**	**7.16**	**350**	⇑*i* Pn	**Pn**	**20 25 26.2**	**-0.3**
ISP	**Isparta**	**7.22**	**75**	P	**Pn**	**20 25 24.4**	**-2.9**
ISP	**Isparta**	**7.22**	**75**	P	**Pn**	**20 25 24.4**	**-2.9**
ISP	**Isparta**	**7.22**	**75**	Pn	**Pn**	**20 25 24.4**	**-2.9**
MPEP	**Malo Peshtene**	**7.29**	**12**	*i* P	**Pn**	**20 25 29.7**	**+1.5**
UPM	**Unac-Piva**	**7.30**	**344**	⇓*i* Pn	**Pn**	**20 25 28.6**	**+0.1**
UPM				*e*Sn	**Sn**	**20 26 48.4**	**-1.7**
UPM	**Unac-Piva**	**7.30**	**344**	⇓*i* Pn	**Pn**	**20 25 28.6**	**+0.1**
UPM				*e*Sn	**Sn**	**20 26 48.4**	**-1.7**
PLE	**Pljevlja**	**7.32**	**347**	⇓*i* Pn	**Pn**	**20 25 28.9**	**+0.2**
PLE				*e*Sn	**Sn**	**20 26 48.8**	**-1.7**
PLE	**Pljevlja**	**7.32**	**347**	⇓*i* Pn	**Pn**	**20 25 28.9**	**+0.2**
PLE				*e*Sn	**Sn**	**20 26 48.8**	**-1.7**
STON	**Ston**	**7.33**	**336**	*i* Pn	**Pn**	**20 25 27.5**	**-1.2**
STON				Sn	Sn	20 26 44.2	-6.2
STON	**Ston**	**7.33**	**336**	*i* Pn	**Pn**	**20 25 27.5**	**-1.2**
IVAS	**Ivanjica**	**7.45**	**351**	⇑*i* Pn	**Pn**	**20 25 29.6**	**-0.7**
BOLS	**Boljevac**	**7.60**	**1**	*e*Pn	**Pn**	**20 25 30.8**	**-1.6**
SWA2		**7.63**	**155**	P	Pn	20 25 28.9	-4.0
	baz=153						
SWA2				S	Sn	20 26 39.5	-19
	baz=153						
GRUS	**Gruza**	**7.70**	**355**	⇑*i* Pn	**Pn**	**20 25 32.6**	**-1.1**
BBLS	**Lazići**	**7.84**	**348**	⇓*i* Pn	**Pn**	**20 25 35.1**	**-0.6**
DIVS	**Divibare**	**7.98**	**351**	⇑*i* Pn	**Pn**	**20 25 36.3**	**-1.4**
DIVS	**Divibare**	**7.98**	**351**	⇓*i* P	**Pn**	**20 25 36.9**	**-0.8**
TEKS	**Tekeris**	**8.48**	**349**	⇓*i* Pn	**Pn**	**20 25 43.2**	**-1.3**
HUMR	**Humele**	**8.66**	**16**	⇓*i* P	**Pn**	**20 25 47.3**	**+0.4**
AQU	**L'Aquila**	**8.89**	**316**	P	Pn	20 25 53.4	+3.3
AQU	**L'Aquila**	**8.89**	**316**	P	Pn	20 25 53.4	+3.3
AQU	**L'Aquila**	**8.89**	**316**	Pn	Pn	20 25 53.4	+3.3
PSN	**Preselentsi**	**8.95**	**32**	⇓*i* P	**Pn**	**20 25 50.6**	**-0.2**
FRGS	**Fruska Gora**	**9.04**	**351**	⇑*i* Pn	**Pn**	**20 25 50.0**	**-2.2**
MSAB	**Monastry St. A**	**9.14**	**29**	⇑*i* P	**Pn**	**20 25 54.1**	**+0.7**
GZR	**Gura Zlata**	**9.20**	**5**	⇓*i* P	**Pn**	**20 25 53.9**	**-0.4**
BZS	**Buzias**	**9.39**	**360**	⇑*i* P	**Pn**	**20 25 55.2**	**-1.6**
UDBI	**Udbina**	**9.46**	**333**	*e*Pn	**Pn**	**20 25 58.9**	**+1.0**
UDBI				Sn	**Sn**	**20 27 38.4**	**-4.3**
UDBI	**Udbina**	**9.46**	**333**	*e*Pn	**Pn**	**20 25 58.8**	**+1.0**
ANTO	**Ankara**	**9.46**	**64**	*e*P	**Pn**	**20 25 57.4**	**-0.5**
ANTO	**Ankara**	**9.46**	**64**	*e*P	**Pn**	**20 25 57.4**	**-0.5**
ANTO	**Ankara**	**9.46**	**64**	*e*Pn	**Pn**	**20 25 57.4**	**-0.5**
CSS	**Prodhromos**	**9.54**	**94**	*e*Pn	Pn	20 25 55.2	-3.8
CSS				*e*Sn	Sn	20 27 29.6	-15
VOIR		**9.54**	**14**	⇓*i* P	**Pn**	**20 25 59.8**	**+0.7**
ISR	**Istrita**	**9.61**	**21**	⇓*i* P	**Pn**	**20 26 01.3**	**+1.4**
TLB	**Topalu**	**9.64**	**28**	⇑*i* P	**Pn**	**20 26 00.3**	**0.0**
TIRR	**Tirgusor**	**9.68**	**30**	*e*P	**Pn**	**20 25 58.6**	**-2.2**
TIRR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TIRR	**Tirgusor**	**9.68**	**30**	⇓*i* P	**Pn**	**20 26 00.5**	**-0.3**
TIRR	**Tirgusor**	**9.68**	**30**	*e*P	**Pn**	**20 25 58.6**	**-2.2**
	comp=Z,5.0nm,0.8s						
TIRR	**Tirgusor**	**9.68**	**30**	*e*Pn	**Pn**	**20 25 58.6**	**-2.2**
	comp=Z,4.5nm,0.8s						
MLR	**Muntele Rosu**	**9.79**	**18**	P	**Pn**	**20 26 02.9**	**+0.3**
	comp=Z,0.0nm,0.3s,baz=219,slow=5.3,SNR=3.7						
MLR	**Muntele Rosu**	**9.79**	**18**	⇑*i* P	**Pn**	**20 26 04.8**	**+2.3**
NVLJ	**Novalja**	**9.83**	**330**	*e*Pn	**Pn**	**20 26 02.2**	**-0.7**
NVLJ				Sn	Sn	20 27 45.9	-5.8
NVLJ	**Novalja**	**9.83**	**330**	*e*Pn	**Pn**	**20 26 02.2**	**-0.7**
AWBH		**9.95**	**140**	P	**Pn**	**20 26 02.0**	**-2.5**
	baz=138						
AWBH		**9.95**	**140**	P	**Pn**	**20 26 02.0**	**-2.5**
BR131	**Keskin Array S**	**10.04**	**66**	*e*Pn	**Pn**	**20 26 05.8**	**-0.1**
	comp=Z,2.4nm,0.8s						
BR131	**Keskin Array S**	**10.04**	**66**	*e*Pn	**Pn**	**20 26 05.8**	**-0.1**
	comp=Z,2.4nm,0.8s						
BRTR	**Keskin Array B**	**10.04**	**66**	P	**Pn**	**20 26 06.5**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=253,slow=14,SNR=19						
BRTR				LR	LR	20 30 55.0	
	comp=Z,79nm,18.8s,baz=242,slow=44						
BRTR	**Keskin Array B**	**10.04**	**66**	*i* P	**Pn**	**20 26 07.1**	**+1.2**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CFR	**Carcaliu**	**10.18**	**27**	⇑*i* P	**Pn**	**20 26 07.2**	**-0.5**
PKSM	**Moragy**	**10.25**	**348**	⇓*i* P	**Pn**	**20 26 06.5**	**-2.1**
PKSM	**Moragy**	**10.25**	**348**	⇓*e*Pn	**Pn**	**20 26 06.4**	**-2.1**
PKSM				*e*Sn	Sn	20 27 54.3	-7.6
VRI	**Vrincioaia**	**10.35**	**20**	⇑*i* P	**Pn**	**20 26 10.9**	**+0.9**
BOJS	**Bojanci**	**10.48**	**334**	*i* Pn	**Pn**	**20 26 11.5**	**-0.3**
BOJS				*i* Sn	Sn	20 27 59.9	-7.8
PKS9	**Tamasi**	**10.67**	**347**	⇑*e*Pn	**Pn**	**20 26 12.1**	**-2.3**
PKS9				*e*		20 28 17.5	
CRES	**Cresnjev**	**10.70**	**336**	*i* Pn	**Pn**	**20 26 13.6**	**-1.1**
CRES				*i* Sn	Sn	20 28 05.4	-7.5
JAVS	**Javornik**	**11.25**	**332**	*i* Pn	**Pn**	**20 26 22.6**	**+0.2**
JAVS				*i* Sn	Sn	20 28 18.8	-7.8
PKST	**T¯'s**	**11.37**	**347**	⇑*e*Pn	Pn	20 26 21.0	-2.9
PKSG		**11.43**	**349**	⇑*e*P	**Pn**	**20 26 23.3**	**-1.5**
PKSG		**11.43**	**349**	⇑*e*Pn	**Pn**	**20 26 23.3**	**-1.5**
PKSG				*e*		20 28 24.1	
PERS	**Pernice**	**11.52**	**337**	*i* Pn	**Pn**	**20 26 24.4**	**-1.7**
PERS				*e*Sn	Sn	20 28 23.4	-10
SOKA	**Soboth**	**11.59**	**336**	⇑*i* Pn	**Pn**	**20 26 25.1**	**-1.8**
SOKA	**Soboth**	**11.59**	**336**	Pn	**Pn**	**20 26 25.1**	**-1.8**
OBKA	**Obir**	**11.60**	**335**	⇑*i* Pn	**Pn**	**20 26 26.4**	**-0.7**
OBKA	**Obir**	**11.60**	**335**	Pn	**Pn**	**20 26 26.4**	**-0.7**
MMAI	**Mount Meron Ar**	**11.71**	**102**	P	**Pn**	**20 26 27.3**	**-1.5**
	comp=Z,1.0nm,0.3s,baz=301,slow=11,SNR=5.6						
MMAI				S	Sn	20 28 24.6	-14
	comp=Z,1.3nm,0.3s,baz=280,slow=19,SNR=3.4						
PSZ	**Piszkesteto**	**11.77**	**354**	*e*P	**Pn**	**20 26 28.5**	**-0.9**
PSZ	**Piszkesteto**	**11.77**	**354**	⇓*i* P	**Pn**	**20 26 28.9**	**-0.5**
PSZ	**Piszkesteto**	**11.77**	**354**	*e*P	**Pn**	**20 26 28.5**	**-0.9**
PSZ	**Piszkesteto**	**11.77**	**354**	*e*Pn	**Pn**	**20 26 28.5**	**-0.9**
PSZ	**Piszkesteto**	**11.77**	**354**	⇑*e*Pn	**Pn**	**20 26 28.8**	**-0.6**
PSZ				*e*		20 27 49.1	
TRPA	**Tarpa**	**11.92**	**3**	⇑*i* P	**Pn**	**20 26 31.7**	**+0.4**
VYHS	**Vyhne**	**12.45**	**351**	*e*P	**Pn**	**20 26 38.7**	**+0.1**
VYHS	**Vyhne**	**12.45**	**351**	*e*P	**Pn**	**20 26 38.7**	**+0.1**
VYHS	**Vyhne**	**12.45**	**351**	*e*PN	**Pn**	**20 26 38.7**	**+0.1**
KOLS	**Kolonicke sedl**	**12.71**	**2**	*e*P	**Pn**	**20 26 42.2**	**0.0**
KOLS	**Kolonicke sedl**	**12.71**	**2**	*e*P	**Pn**	**20 26 42.2**	**0.0**
KOLS	**Kolonicke sedl**	**12.71**	**2**	*e*PN	**Pn**	**20 26 42.2**	**0.0**
MOA	**Molln**	**12.87**	**337**	⇓*i* Pn	**Pn**	**20 26 43.4**	**-0.9**
MOA	**Molln**	**12.87**	**337**	Pn	**Pn**	**20 26 43.4**	**-0.9**
EIL	**Elat**	**12.88**	**117**	P	**Pn**	**20 26 45.8**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=330,slow=8.1,SNR=4.6						
EIL				S	Sn	20 28 50.8	-16
	comp=Z,0.7nm,0.3s,baz=330,slow=14,SNR=4.0						
ASF	**Jabal al Asfar**	**13.19**	**103**	P	**Pn**	**20 26 51.2**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=209,slow=12,SNR=3.3						
ASF				S	Sn	20 28 58.9	-15
	comp=Z,0.2nm,0.3s,baz=34,slow=16,SNR=2.2						
MORC	**Moravsky Berou**	**13.89**	**349**	P	**Pn**	**20 26 55.8**	**-2.4**
MORC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MORC	**Moravsky Berou**	**13.89**	**349**	Pn	**Pn**	**20 26 55.8**	**-2.4**
	comp=Z,3.1nm,0.9s						
GERES	**GERESS Array B**	**13.92**	**337**	P	**Pn**	**20 26 56.1**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=157,slow=14,SNR=9.4						
GERES				S	Sn	20 29 21.5	-10
	comp=Z,0.2nm,0.3s,baz=147,slow=20,SNR=3.9						
MBDF	**Montbardon**	**14.19**	**311**	*e*P	**Pn**	**20 27 02.2**	**-0.2**
	comp=Z,13nm,1.1s						
MBDF	**Montbardon**	**14.19**	**311**	*e*P	**Pn**	**20 27 02.2**	**-0.2**
MBDF				pmax	pmax		
	comp=Z,13nm,1.1s						
MBDF	**Montbardon**	**14.19**	**311**	*e*P	**Pn**	**20 27 02.2**	**-0.2**
	comp=Z,13nm,1.1s						
KHC	**Kasperske Hory**	**14.21**	**338**	*e*P	**Pn**	**20 27 01.8**	**-0.8**
KHC				*ex*	x	20 27 09.5	
KHC				*ex*	x	20 27 29.2	
KHC				*eS*	Sn	20 29 29.4	-9.3
KHC				AMS	AMS	20 33 30.0	
	comp=Z,300nm,15.4s						
KHC	**Kasperske Hory**	**14.21**	**338**	*e*P	**Pn**	**20 27 01.8**	**-0.8**
KHC				*eS*	Sn	20 29 29.4	-9.3
KHC				MLR	MLR		
	comp=Z,300nm,15.4s						
KHC	**Kasperske Hory**	**14.21**	**338**	P	**Pn**	**20 27 01.8**	**-0.8**
KHC				S	Sn	20 29 29.4	-9.3
LPG	**La Plagne**	**14.62**	**314**	*e*P	**Pn**	**20 27 07.2**	**-0.9**
LPG	**La Plagne**	**14.62**	**314**	*e*P	**Pn**	**20 27 07.2**	**-0.9**
LPG	**La Plagne**	**14.62**	**314**	*e*P	**Pn**	**20 27 07.2**	**-0.9**
LPL	**La Plagne**	**14.64**	**314**	*e*P	**Pn**	**20 27 07.3**	**-1.1**
LPL	**La Plagne**	**14.64**	**314**	*e*P	**Pn**	**20 27 07.3**	**-1.1**
LPL	**La Plagne**	**14.64**	**314**	*e*P	**Pn**	**20 27 07.3**	**-1.1**
DPC	**Dobruska-Polom**	**14.65**	**346**	*e*P	**Pn**	**20 27 07.6**	**-0.8**
DPC				*ex*	x	20 27 15.3	
DPC				*ex*	x	20 27 28.3	
DPC				*eS*	Sn	20 29 39.0	-10
DPC				AMS	AMS	20 35 00.0	
DPC	**Dobruska-Polom**	**14.65**	**346**	*e*P	**Pn**	**20 27 07.6**	**-0.8**
DPC				*eS*	Sn	20 29 39.0	-10
DPC	**Dobruska-Polom**	**14.65**	**346**	P	**Pn**	**20 27 07.6**	**-0.8**
DPC				S	Sn	20 29 39.0	-10
ANN	**Anapa**	**14.69**	**49**	*e*P	**P**	**20 27 12.1**	**-1.6**
ANN				pmax	pmax		
	comp=Z,21nm,1.0s						
ANN	**Anapa**	**14.69**	**49**	*e*P	**P**	**20 27 12.1**	**-1.6**
	comp=Z,21nm,1.0s						
PRU	**Pruhonice**	**14.71**	**341**	*e*P	**Pn**	**20 27 08.8**	**-0.3**
PRU				AMS	AMS	20 33

	comp=Z,1.0nm,0.3s							
AKTO	**Aktyubinsk**	**29.65**	**50**	P		**P**	**20 29 43.5**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=256,slow=10,SNR=4.6							
AKTO	**Aktyubinsk**	**29.65**	**50**	P		**P**	**20 29 43.5**	**-1.0**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ABKAR	**Akbulak array**	**30.61**	**53**	*e*P		**P**	**20 29 52.1**	**-0.9**
ABKAR	**Akbulak array**	**30.61**	**53**	*e*P		**P**	**20 29 52.1**	**-0.9**
ARU	**Arti**	**31.93**	**39**	*d*P		**P**	**20 30 04.0**	**-0.5**
ARU							20 31 05.4	
ARU				S		**S**	**20 35 11.7**	**+0.1**
ARU				SS		**SnSn**	**20 37 00.8**	**-3.5**
ARU				pmax	pmax			
	comp=Z,6.0nm,1.2s							
ARU	**Arti**	**31.93**	**39**	*i* P		**P**	**20 30 04.0**	**-0.5**
	comp=Z,6.0nm,1.2s							
ARU	**Arti**	**31.93**	**39**	*e*P		**P**	**20 30 03.4**	**-1.1**
	comp=Z,3.8nm,0.6s							
SVE	**Sverdlovsk**	**33.14**	**39**	*e*P		**P**	**20 30 14.4**	**-0.7**
SVE	**Sverdlovsk**	**33.14**	**39**	*e*P		**P**	**20 30 14.4**	**-0.7**
ARCES	**ARCESS Array B**	**33.44**	**2**	P		**P**	**20 30 18.5**	**+1.0**
	comp=Z,2.0nm,0.5s,baz=187,slow=8.7,SNR=34							
ARCES				LR		LR	20 44 55.3	
	comp=Z,38nm,21.8s,baz=174,slow=38							
ARCES	**ARCESS Array B**	**33.44**	**2**	P		**P**	**20 30 18.5**	**+1.0**
ARCES				pmax	pmax			
	comp=Z,2.0nm,0.5s							
ARCES				MLR		MLR		
	comp=Z,38nm,21.8s							
ARE0	**ARCESS Array S**	**33.44**	**2**	P		**P**	**20 30 16.0**	**-1.5**
ARE0	**ARCESS Array S**	**33.44**	**2**	P		**P**	**20 30 16.0**	**-1.5**
BRVK	**Borovoye**	**37.62**	**48**	*ce*P		**P**	**20 30 54.3**	**+0.7**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.7s							
BRVK	**Borovoye**	**37.62**	**48**	*e*P		**P**	**20 30 53.9**	**+0.3**
	comp=Z,3.2nm,0.7s							
BRVK	**Borovoye**	**37.62**	**48**	*e*P		**P**	**20 30 53.9**	**+0.3**
	comp=Z,3.2nm,0.7s							
BVAR	**Borovoye Array**	**37.68**	**48**	P		**P**	**20 30 54.3**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=264,slow=6.3,SNR=12							
BVAR	**Borovoye Array**	**37.68**	**48**	P		**P**	**20 30 54.3**	**+0.2**
BVAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
KKAR	**Karatay Array**	**37.74**	**64**	*e*P		**P**	**20 30 54.3**	**-0.5**
KKAR				pmax	pmax			
	comp=Z,2.0nm,0.4s							
KKAR	**Karatay Array**	**37.74**	**64**	*e*P		**P**	**20 30 54.3**	**-0.5**
	comp=Z,1.9nm,0.4s							
KKAR	**Karatay Array**	**37.74**	**64**	*e*P		**P**	**20 30 54.3**	**-0.5**
	comp=Z,1.9nm,0.4s							
DBIC	**Dimbokro**	**38.17**	**226**	P		**P**	**20 31 00.3**	**+1.7**
DBIC	**Dimbokro**	**38.17**	**226**	P		**P**	**20 31 00.3**	**+1.7**
DBIC	**Dimbokro**	**38.17**	**226**	P		**P**	**20 31 00.3**	**+1.7**
EKS2	**Erkin-Say**	**40.18**	**64**	*e*P		**P**	**20 31 15.0**	**-0.3**
EKS2				pmax	pmax			
	comp=Z,3.0nm,0.8s							
EKS2	**Erkin-Say**	**40.18**	**64**	*e*P		**P**	**20 31 15.0**	**-0.3**
	comp=Z,3.3nm,0.8s							
EKS2	**Erkin-Say**	**40.18**	**64**	*e*P		**P**	**20 31 15.0**	**-0.3**
	comp=Z,3.3nm,0.8s							
AAK	**Ala-Archa**	**40.71**	**64**	P		**P**	**20 31 19.1**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=233,slow=5.1,SNR=4.3							
AAK	**Ala-Archa**	**40.71**	**64**	*e*P		**P**	**20 31 18.5**	**-1.2**
AAK				*i* *P		**pP**	**20 31 34.0**	**+0.1**
AAK				pmax	pmax			
	comp=Z,7.0nm,1.0s							
AAK	**Ala-Archa**	**40.71**	**64**	*e*P		**P**	**20 31 18.5**	**-1.2**
	comp=Z,7.0nm,1.0s							
AAK	**Ala-Archa**	**40.71**	**64**	*e*P		**P**	**20 31 17.9**	**-1.9**
	comp=Z,2.2nm,1.0s							
SPITS	**Spitsbergen Ar**	**42.12**	**358**	P		**P**	**20 31 32.2**	**+1.5**
	comp=Z,11nm,1.1s,baz=148,slow=8.5,SNR=7.1							
SPITS	**Spitsbergen Ar**	**42.12**	**358**	P		**P**	**20 31 32.2**	**+1.5**
SPITS				pmax	pmax			
	comp=Z,11nm,1.1s							
KURBB	**Kurchatov Arra**	**42.65**	**52**	P		**P**	**20 31 34.5**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=275,slow=8.2,SNR=3.1							
KURK	**Kurchatov**	**42.70**	**52**	P		**P**	**20 31 34.5**	**-1.2**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KURK	**Kurchatov**	**42.70**	**52**	P		**P**	**20 31 34.5**	**-1.2**
MK31	**Makanchi Array**	**45.53**	**57**	*e*P		**P**	**20 31 57.8**	**-0.7**
MK31	**Makanchi Array**	**45.53**	**57**	*e*P		**P**	**20 31 57.8**	**-0.7**
MKAR	**Makanchi Array**	**45.53**	**57**	P		**P**	**20 31 57.7**	**-0.8**
	comp=Z,1.7nm,0.3s,baz=292,slow=7.6,SNR=65							
MKAR	**Makanchi Array**	**45.53**	**57**	*ce*P		**P**	**20 31 57.9**	**-0.6**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.3s							
SACV	**Santiago Islan**	**45.54**	**254**	*e*P		**P**	**20 31 58.4**	**-0.5**
ZAA0	**Zalesovo Array**	**46.30**	**47**	*e*P		**P**	**20 32 03.0**	**-1.4**
ZALV	**Zalesovo Beam**	**46.30**	**47**	P		**P**	**20 32 03.5**	**-0.9**
	comp=Z,2.7nm,0.4s,baz=265,slow=9.3,SNR=20							
ZALV	**Zalesovo Beam**	**46.30**	**47**	*i* P		**P**	**20 32 03.7**	**-0.7**
ZALV				pmax	pmax			
	comp=Z,3.0nm,0.4s							
WMQ	**Urumqi**	**49.89**	**60**	*e*P		**P**	**20 32 32.0**	**-0.3**
WMQ				pP		**pP**	**20 32 47.6**	**+0.8**
WMQ				sP		**sP**	**20 32 54.6**	**+1.5**
WMQ				PMZ				
	comp=Z,8.0nm,0.5s							
WMQ				PMZ				
	comp=Z,86nm,5.2s							
WMQ				LN				
	comp=Z,64nm,24.0s							
WMQ				LE				
	comp=Z,44nm,21.4s							
KOLN	**Koldanda**	**52.38**	**81**	*e*P		**P**	**20 32 51.1**	**-0.3**
	comp=Z,3.2nm,0.3s							
GKN	**Gorkha**	**53.10**	**80**	*e*P		**P**	**20 32 56.1**	**-0.6**
	comp=Z,9.1nm,0.6s							
DMN	**Daman**	**53.65**	**80**	*e*P		**P**	**20 33 00.8**	**0.0**
	comp=Z,6.4nm,0.4s							
KKN	**Kakani**	**53.71**	**80**	*e*P		**P**	**20 33 00.5**	**-0.7**
	comp=Z,3.7nm,0.4s							
PKIN	**Phulchoki**	**53.90**	**80**	*e*P		**P**	**20 33 02.3**	**-0.3**
	comp=Z,16nm,1.1s							
PKI	**Pulchoki**	**53.91**	**80**	*e*P		**P**	**20 33 02.3**	**-0.5**
	comp=Z,22nm,1.1s							
GUN	**Gumba**	**54.13**	**79**	*e*P		**P**	**20 33 04.1**	**-0.3**
JIRN	**Jiri**	**54.49**	**79**	*e*P		**P**	**20 33 06.8**	**-0.2**
	comp=Z,10nm,0.8s							
RAMN	**Ramite**	**55.13**	**80**	*e*P		**P**	**20 33 10.7**	**-0.9**
	comp=Z,23nm,1.0s							
TAPN	**Taplejung**	**55.84**	**79**	*e*P		**P**	**20 33 16.2**	**-0.5**
	comp=Z,6.1nm,0.7s							
LSA	**Lhasa**	**57.50**	**75**	P		**P**	**20 33 29.0**	**+0.4**
LSA	**Lhasa**	**57.50**	**75**	*e*P		**P**	**20 33 29.1**	**+0.4**
LSA				pmax	pmax			
	comp=Z,5.0nm,0.7s							
LSA	**Lhasa**	**57.50**	**75**	*e*P		**P**	**20 33 29.1**	**+0.4**
	comp=Z,4.8nm,0.7s							
ZAK	**Zakamensk**	**58.13**	**48**	*e*P		**P**	**20 33 31.2**	**-1.1**
ZAK				pmax	pmax			
	comp=Z,1.0nm,1.0s							
SONM	**Songino Array**	**60.97**	**50**	P		**P**	**20 33 51.6**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=284,slow=5.8,SNR=3.0							
SONM				LR		LR	21 04 23.0	
	comp=Z,47nm,18.9s,baz=252,slow=40							
SONM	**Songino Array**	**60.97**	**50**	P		**P**	**20 33 51.6**	**-0.3**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.5s							
SONM				MLR		MLR		
	comp=Z,47nm,18.9s							
TIXI	**Tiksi**	**61.15**	**20**	*e*P		**P**	**20 33 53.5**	**+0.9**
TIXI				pmax	pmax			
	comp=Z,6.0nm,2.5s							
TIXI	**Tiksi**	**61.15**	**20**	*e*P		**P**	**20 33 52.9**	**+0.4**
	comp=Z,1.9nm,0.8s							
ULN	**Ulaanbaatar**	**61.36**	**50**	*i*P		**P**	**20 33 54.9**	**+0.3**
ULN				pmax	pmax			
	comp=Z,5.0nm,2.5s							
ULN	**Ulaanbaatar**	**61.36**	**50**	P		**P**	**20 33 54.0**	**-0.6**
	comp=Z,1.0nm,0.6s							
CM31	**Chiang Mai Arr**	**69.21**	**82**	*e*P		**P**	**20 34 45.8**	**+0.1**
	comp=Z,0.6nm,0.3s							
CMAR	**Chiang Mai Arr**	**69.21**	**82**	P		**P**	**20 34 45.8**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=311,slow=7.0,SNR=7.9							
CMAR	**Chiang Mai Arr**	**69.21**	**82**	*ce*P		**P**	**20 34 47.5**	**+1.8**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**75.55**	**341**	P		**P**	**20 35 24.3**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=39,slow=5.1,SNR=3.6							
PSI	**Prapat**	**78.03**	**95**	LR		LR	21 15 18.3	
	comp=Z,58nm,18.3s,baz=228,slow=40							
USRK	**Ussuriysk Ar.**	**78.04**	**44**	P		**P**	**20 35 37.1**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=300,slow=4.6,SNR=5.8							
KSAR	**Wonju Array Be**	**79.80**	**51**	P		**P**	**20 35 47.5**	**+0.7**
KSAR	**Wonju Array Be**	**79.80**	**51**	P		**P**	**20 35 47.5**	**+0.7**
KSRS	**Korea Array**	**79.82**	**51**	P		**P**	**20 35 47.5**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=310,slow=4.5,SNR=4.1							
KSRS	**Korea Array**	**79.82**	**51**	P		**P**	**20 35 47.5**	**+0.6**
KSRS				pmax	pmax			
	comp=Z,1.0nm,0.7s							
WRA	**Warramunga Arr**	**119.47**	**94**	PKP		**PKPdf**	**20 42 29.0**	**+0.8**
	comp=Z,0.4nm,0.9s,baz=291,slow=3.0,SNR=5.2							
WRA	**Warramunga Arr**	**119.47**	**94**	PKIKP		**PKPdf**	**20 42 29.0**	**+0.8**
ASAR	**Alice Springs**	**120.98**	**98**	PKP		**PKPdf**	**20 42 32.0**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=319,slow=1.4,SNR=5.8							

CSEM ***11*** *20:23:45.0, 40.71N×29.21E, h4km, MD2.6*
ISK 11 20:23:45.0, 40.71N×29.21E, h4km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GEMT	**Gemlik**	**0.27**	**183**	*e*PG	Pg	20 23 51.0	+0.8
GEMT	**Gemlik**	**0.27**	**183**	*e*Pg	Pg	20 23 51.0	+0.8
ARMT	**Armutlu**	**0.30**	**242**	*e*PG	Pg	20 23 51.3	+0.5
ARMT	**Armutlu**	**0.30**	**242**	*e*Pg	Pg	20 23 51.3	+0.5
HRT	**Hereke**	**0.37**	**71**	*e*PG	Pg	20 23 52.9	+0.6
HRT	**Hereke**	**0.37**	**71**	*e*Pg	Pg	20 23 52.9	+0.7
ISK	**Istanbul-Kandi**	**0.38**	**343**	*e*PG	Pg	20 23 52.6	+0.3
ISK				*e*SG	Sg	20 23 58.8	+1.5
ISK	**Istanbul-Kandi**	**0.38**	**343**	*e*Pg	Pg	20 23 52.6	+0.3
ISK				*e*Sg	Sg	20 23 58.8	+1.5
IZI	**Iznik**	**0.42**	**151**	*e*PG	Pg	20 23 53.8	+0.6
IZI	**Iznik**	**0.42**	**151**	*e*Pg	Pg	20 23 53.8	+0.6
ADVT	**Abdulvahap**	**0.49**	**124**	*e*PG	Pg	20 23 54.9	+0.5
ADVT	**Abdulvahap**	**0.49**	**124**	*e*Pg	Pg	20 23 54.9	+0.5
SILT	**Sile**	**0.56**	**36**	*e*PG	Pg	20 23 56.4	+0.7
SILT	**Sile**	**0.56**	**36**	*e*Pg	Pg	20 23 56.4	+0.7
KLYT	**Kilyos**	**0.56**	**347**	*e*PG	Pb	20 23 56.8	-0.6
KLYT	**Kilyos**	**0.56**	**347**	*e*Pg	Pb	20 23 56.8	-0.6
BGKT	**Bogazkoy**	**0.58**	**325**	*e*PG	Pb	20 23 56.9	-0.8
BGKT	**Bogazkoy**	**0.58**	**325**	*e*Pg	Pg	20 23 56.9	+0.8
CTKS	**Kestanelik-??a**	**0.75**	**315**	*e*PG	Pg	20 23 59.3	-0.1
CTKS	**Kestanelik-??a**	**0.75**	**315**	*e*Pg	Pg	20 23 59.3	-0.1
KCTX	**Karacabey (Bur**	**0.78**	**236**	*e*PG	Pb	20 24 01.1	-0.2
KCTX	**Karacabey (Bur**	**0.78**	**236**	*e*Pg	Pb	20 24 01.1	-0.1
SLVT	**Silivri**	**0.92**	**305**	*e*PG	Pb	20 24 03.3	-0.2
SLVT	**Silivri**	**0.92**	**305**	*e*Pg	Pb	20 24 03.3	-0.2
GULT	**Gulveren**	**1.03**	**105**	*e*PG	Pb	20 24 05.5	0.0
GULT	**Gulveren**	**1.03**	**105**	*e*Pg	Pb	20 24 05.5	-0.1
EDC	**Edincik**	**1.09**	**251**	*e*PN	Pb	20 24 06.3	-0.1
EDC	**Edincik**	**1.09**	**251**	*e*Pn	Pb	20 24 06.3	-0.1
MRMT	**Marmara Adasi**	**1.23**	**266**	*e*PN	Pn	20 24 09.1	0.0
MRMT	**Marmara Adasi**	**1.23**	**266**	*e*Pn	Pn	20 24 09.1	0.0
TVSB	**Tavsanli**	**1.27**	**171**	*e*PN	Pn	20 24 09.7	0.0
TVSB	**Tavsanli**	**1.27**	**171**	*e*Pn	Pn	20 24 09.7	0.0
KRBG	**Karabiga-Canak**	**1.49**	**259**	*e*PN	Pg	20 24 13.5	0.0
KRBG	**Karabiga-Canak**	**1.49**	**259**	*e*Pn	Pg	20 24 13.5	0.0
RKY	**Sarkoy-Tekirda**	**1.54**	**270**	*e*PN	Pb	20 24 14.2	-0.1
RKY	**Sarkoy-Tekirda**	**1.54**	**270**	*e*Pn	Pb	20 24 14.2	-0.1

ECX 11 20:34:14.6±0.5, 32.32N×115.39W, h7km, MD2.9, ML3.0, 3C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.12**	**37**	*e*P9	Pg	20 34 16.7	-0.6
CPBX				*e*S	Sg	20 34 18.6	-0.6
SGL	**Mount Signal**	**0.43**	**320**	↓*i*P	Pg	20 34 22.1	-1.0
ERPC	**Ernies Place**	**0.48**	**332**	↓*i*P	Pg	20 34 23.6	-0.4
EMSC	**East Mesa**	**0.54**	**39**	↓*i*P	Pg	20 34 24.5	-0.6
YUH	**Yuha Desert**	**0.56**	**306**	↑*i*P	Pg	20 34 24.0	-1.4
COA	**Coachella**	**0.59**	**23**	↓*i*P	Pg	20 34 25.0	-1.0
COK	**Cook Ranch**	**0.60**	**332**	*e*P2	Pg	20 34 25.3	-0.9
RDX	**Rancho Dawling**	**0.61**	**230**	*e*P	Pg	20 34 25.1	-1.5
RDX				↑*e*		20 34 34.0	
	comp=E,818nm,0.3s						
RMX	**La Rumorosa**	**0.65**	**296**	*e*P9	Pg	20 34 25.6	-1.7
RMX				*e*S	Sg	20 34 34.3	-1.6
RMX				IAML		20 34 35.5	
	comp=N,1μm,0.1s						
RMX				↑*e*		20 34 35.5	
ECBX	**El Chinero**	**0.89**	**161**	*e*P9	Pg	20 34 26.7	-5.0
ECBX				*e*S	Sg	20 34 38.7	-4.6
CBX	**Cerro Bola**	**1.08**	**270**	*e*P	Pg	20 34 33.5	-2.0
CBX				*e*S	Sg	20 34 48.1	-1.5
CBX				IAML		20 34 53.1	
	comp=N,332nm,0.4s						
CBX				↓*e*		20 34 53.1	
ZAX	**El Zacaton**	**1.10**	**223**	*e*P	Pg	20 34 33.8	-2.0
ZAX				*e*S	Sg	20 34 48.4	-1.6
BAR	**Barrett**	**1.14**	**289**	*e*P	Pg	20 34 34.4	-2.2
ECNX	**Esteban Cantu**	**1.22**	**238**	*e*P	Pb	20 34 36.0	-2.2
ECNX				*e*S	Sg	20 34 52.2	-1.9
PBX	**Punta Banda**	**1.27**	**244**	*e*P	Pn	20 34 36.4	-2.4
PBX				*e*S	Sb	20 34 53.4	-2.1
SPX	**San Pedro Mart**	**1.27**	**183**	*e*P	Pn	20 34 36.1	-3.1
SPX				*e*S	Sb	20 34 54.0	-2.2
SDRC	**San Diego Road**	**1.38**	**288**	*e*P	Pn	20 34 38.5	-1.8

ISCJB ***11*** *20:36:54.5±0.9, 32.17N±0.03×115.13W±0.04, h15km±7km, Error ellipse: s-maj=5.9km s-min=5.0km az=150.6*
ECX ***11*** *20:36:56.5±0.6, 32.14N×115.20W, h8km, MD3.2, ML3.4*
NEIC ***11*** *20:36:56.4, 32.15N×115.19W, h15km, ML3.3(PAS), ML3.6(ECX), After ECX.*
ISC 11 20:36:54.5±1.1, 32.12N±0.03×115.17W±0.03, h10km±11km, n26, σ1.8°03/31, 5C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.32**	**339**	*e*P9		20 37 01.7	
CPBX				*e*S	**Sg**	**20 37 06.1**	**+0.9**
CPBX				↑*e*		20 37 08.9	
CPBX				IAML		20 37 08.9	
	comp=E,16μm,0.3s						
CPBX				IAML		20 37 10.5	
	comp=N,14μm,0.3s						
CPBX				*e*		20 37 10.5	
EMSC	**East Mesa**	**0.64**	**14**	↓*i*P	**Pg**	**20 37 07.3**	**+0.5**
ECBX	**El Chinero**	**0.65**	**171**	↓*e*P	Pg	20 37 03.5	-3.6
ECBX				*e*S	**Sg**	**20 37 12.7**	**-2.9**
YMD	**Yuma Desert**	**0.68**	**50**	↑*i*P	**Pg**	**20 37 07.9**	**+0.2**
RDX	**Rancho Dawling**	**0.69**	**254**	↑*e*P	**Pg**	**20 37 08.6**	**+0.8**
RDX				*e*S	**Sg**	**20 37 17.7**	**+0.9**
RDX				IAML		20 37 19.3	
	comp=N,1μm,0.4s						
RDX				↑*e*		20 37 19.3	
SGL	**Mount Signal**	**0.71**	**318**	↓*i*P	**Pg**	**20 37 08.5**	**+0.3**
COA	**Coachella**	**0.74**	**3**	↓*i*P	**Pg**	**20 37 08.7**	**-0.2**
WESC	**Westside Schoo**	**0.80**	**323**	*e*P	**Pg**	**20 37 10.4**	**+0.5**
YUH	**Yuha Desert**	**0.83**	**310**	↓*i*P	**Pg**	**20 37 10.5**	**0.0**
RMX	**La Rumorosa**	**0.91**	**302**	*e*P	**Pg**	**20 37 11.8**	**-0.3**
RMX				*e*S	**Sg**	**20 37 23.8**	**-0.1**
RMX				IAML		20 37 24.7	
	comp=N,1μm,0.2s						
RMX				↑*e*		20 37 24.7	
GLA	**Glamis**	**0.97**	**17**	*e*Pg	Pg	20 37 11.6	-1.6
GLA				*e*Sg	**Sg**	**20 37 24.4**	**-1.6**
SPX	**San Pedro Mart**	**1.10**	**193**	*e*P	**Pb**	**20 37 16.4**	**+0.6**
SPX				*e*S	**Sb**	**20 37 31.4**	**+1.1**
ZAX	**El Zacaton**	**1.12**	**238**	*e*P	**Pb**	**20 37 15.5**	**-0.5**
ZAX				*e*S	**Sb**	**20 37 30.9**	**+0.3**
CBX	**Cerro Bola**	**1.28**	**279**	*e*P	**Pn**	**20 37 18.6**	**-0.1**
CBX				*e*S	**Sb**	**20 37 34.8**	**-0.6**
CBX				IAML		20 37 39.2	
	comp=E,1μm,0.4s						
CBX				*e*		20 37 39.2	
ECNX	**Esteban Cantu**	**1.30**	**250**	*e*P	**Pn**	**20 37 18.2**	**-0.6**
ECNX				*e*S	**Sb**	**20 37 35.8**	**-0.1**
PBX	**Punta Banda**	**1.38**	**255**	*e*P	**Pn**	**20 37 19.7**	**-0.1**
PBX				*e*S	**Sb**	**20 37 38.2**	**+0.1**
PBX	**Punta Banda**	**1.38**	**255**	*e*S	**Sb**	**20 37 37.8**	**-0.2**
BAR	**Barrett**	**1.39**	**294**	*e*Pn	**Pn**	**20 37 18.2**	**-1.8**
BAR				*e*Sn	**Sb**	**20 37 37.0**	**-1.5**
PFO	**Pinyon Flats O**	**1.84**	**324**	*e*Pn	Pn	20 37 23.9	-2.3
214A	**Organ Pipe Nat**	**2.01**	**94**	*e*Pn	Pn	20 37 25.7	-2.8
LDFC	**Landfair**	**2.95**	**1**	*e*Pn	**Pn**	**20 37 41.0**	**-0.5**
MWC	**Mount Wilson**	**3.21**	**312**	Pn	**Pn**	**20 37 46.3**	**+1.2**
GSC	**Goldstone, Bar**	**3.46**	**337**	*e*Pg	**Pg**	**20 38 02.7**	**+2.0**
TUC	**Tucson**	**3.72**	**86**	*e*Pn	**Pn**	**20 37 53.1**	**+1.1**
DAC	**Darwin (Calif)**	**4.61**	**335**	Pn	Pn	20 37 59.6	-4.8
R11A	**Troy Canyon, C**	**6.23**	**357**	*e*Pg	**Pg**	**20 38 53.6**	**-0.1**

MEX 11 20:39:56.1±0.4, 14.94N×92.07W, h70km±6km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.20**	**259**	*i* P	Pn	20 40 05.2	-1.5
THIG				*e*S	Sn	20 40 12.8	-1.7
CCIG	**Comitan**	**1.33**	**357**	*e*P	Pn	20 40 17.6	-1.5
CCIG				*i* S	Sn	20 40 34.6	-1.8
PCIG		**1.34**	**304**	*e*P	Pn	20 40 17.9	-1.1
PCIG				*e*S	Sn	20 40 34.2	-2.0

MEX 11 20:53:56.8±0.6, 14.67N×93.26W, h16km±999km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.99**	**76**	*i* P	Pb	20 54 11.9	-3.6
THIG				*i* S	Sb	20 54 24.3	-4.0
PCIG		**1.03**	**2**	*e*P	Pb	20 54 13.0	-3.4
PCIG				*e*S	Sb	20 54 25.1	-4.6
CCIG	**Comitan**	**1.94**	**34**	*e*P	Pn	20 54 26.5	-2.8
CCIG				*i* S	Sn	20 54 48.8	-4.7

GUC 11 20:57:52.9±0.6, 37.06S×73.28W, h17km±4km, ML4.1, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.26**	**32**	*e*P	Pb	20 57 59.1	+0.1
CCSP				*e*S	Sb	20 58 02.9	-0.3
CCSP				AML	AML	20 58 04.4	
	comp=E,45μm,0.6s						
COCH	**Cobquecura**	**1.01**	**23**	*i* P	Pb	20 58 07.6	-4.3
COCH				*e*S	Sb	20 58 17.6	-7.2
LNCH	**Linares**	**1.82**	**49**	*e*P	Pn	20 58 23.3	-0.1
LNCH				*e*S	Sn	20 58 47.0	+1.0
CLCH	**Cerro Calan**	**4.29**	**32**	*e*P	Pn	20 58 58.2	+0.7
CLCH				*e*S	Sn	20 59 48.6	+1.4
PEL	**Peldehue**	**4.45**	**29**	*e*P	Pn	20 59 00.8	+1.1

IDC ***11*** *21:01:06.6±1.8, 10.32S×151.31E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/17, mbtmp3.7/6, ML3.2/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/24, Error ellipse: s-maj=66.1km s-min=24.9km az=114.0*
ISC 11 21:01:12.1±1.6, 10.3S±0.2×151.2E±0.4, h35km, n7, σ0.92/8, mb3.9/5, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.88**	**238**	P	**P**	**21 05 29.0**	**-0.7**
	0.1nm,0.3s,baz=62,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**21.19**	**229**	P	**P**	**21 05 54.7**	**0.0**
	0.4nm,0.7s,baz=58,slow=12,SNR=5.4						
STKA	**Stephens Creek**	**23.22**	**201**	P	**P**	**21 06 16.9**	**+0.8**
	4.4nm,1.1s,baz=16,slow=12,SNR=2.9						
STKA				LR	LR	21 15 45.8	
	comp=Z,92nm,18.1s,baz=31,slow=38						
SONM	**Songino Array**	**70.22**	**330**	P	**P**	**21 12 23.1**	**+1.5**
	0.5nm,0.6s,baz=140,slow=5.4,SNR=2.7						
ZALV	**Zalesovo Beam**	**84.89**	**327**	P	**P**	**21 13 42.6**	**-0.6**
	0.5nm,0.4s,baz=127,slow=6.2,SNR=3.1						
ILAR	**Eielson Array**	**87.84**	**22**	P	**P**	**21 13 57.1**	**-0.4**
	0.6nm,0.7s,baz=250,slow=4.5,SNR=4.4						
TORD	**Torodi Ar. Bea**	**150.06**	**278**	PKPbc	**PKPbc**	**21 20 59.4**	**-0.7**
	0.6nm,1.1s,baz=97,slow=3.5,SNR=2.3						
TORD				PKPab	**PKPab**	**21 21 05.7**	**-0.3**
	1.0nm,1.0s,baz=83,slow=4.0,SNR=4.6						

MAN ***11*** *21:03:05, 7.35N×126.91E, h1km, mb4.8, ML3.7, MS3.7*
ISCJB ***11*** *21:03:07.8±0.4, 7.05N±

JJT2	**Tamagusuku 2**	**1.08**	**343**	P	Pn	21 12 17.3	+0.4
JNTH	**Nagotoyohara**	**1.42**	**357**	P	Pn	21 12 21.1	0.0
JAGN	**Aguni-jima**	**1.68**	**332**	P	Pn	21 12 25.4	+0.9
JAGN				*eS*	Sn	21 12 46.0	+0.7
JKE	**Kume jima 2**	**1.71**	**316**	P	Pn	21 12 25.4	+0.5
JKE				*eS*	Sn	21 12 47.0	+0.9
JOW	**Kunigami**	**1.73**	**5**	P	Pn	21 12 25.7	+0.4
JOW				*eS*	Sn	21 12 45.7	-1.0
JIH	**Iheya**	**1.93**	**356**	P	Pn	21 12 28.9	+1.0
JIH				*eS*	Sn	21 12 51.2	-0.1
JOKE	**Okinoerabujima**	**2.29**	**10**	P	Pn	21 12 33.4	+0.7
JOKE				*eS*	Sn	21 12 58.8	-1.2
JOGS	**Gusukube**	**2.48**	**263**	P	Pn	21 12 35.9	+0.7
JOGS				*eS*	Sn	21 13 04.1	-0.4
JMJ	**Miyako jima 2**	**2.57**	**264**	P	Pn	21 12 37.1	+0.6
JMJ				*eS*	Sn	21 13 06.7	-0.1
JIKM	**Ikemajima**	**2.60**	**267**	P	Pn	21 12 37.7	+0.8
JIKM				*eS*	Sn	21 13 07.1	-0.4
JIRB	**Irabujima**	**2.68**	**265**	P	Pn	21 12 38.3	+0.4
JIRB				*eS*	Sn	21 13 08.4	-1.0
JTK	**Tokunoshima**	**2.78**	**16**	P	Pn	21 12 40.2	+0.9
JTK				*eS*	Sn	21 13 10.6	-1.2
JMZ	**Minamidaito 2**	**2.90**	**75**	P	Pn	21 12 39.2	-1.7
JMZ				*eS*	Sn	21 13 09.1	-5.7
JTJ	**Tarama**	**3.13**	**262**	P	Pn	21 12 43.8	-0.2
JTJ				*eS*	Sn	21 13 17.8	-2.5
JAMN	**Amaminishikomi**	**3.27**	**17**	P	Pn	21 12 47.2	+1.2
JAMN				*eS*	Sn	21 13 22.9	-0.9
JISG	**Ishigakijimahi**	**3.49**	**262**	P	Pn	21 12 48.9	0.0
JISG				*eS*	Sn	21 13 26.4	-2.7
JAM	**Amami Oshima**	**3.56**	**22**	P	Pn	21 12 50.5	+0.6
JAM				*eS*	Sn	21 13 29.0	-1.8
JIJ	**Ishigaki jima**	**3.68**	**259**	P	Pn	21 12 51.3	-0.2
JIJ				*eS*	Sn	21 13 30.5	-3.3
JKRS	**Kuro-shima**	**3.83**	**258**	P	Pn	21 12 51.8	-1.7
JKRS				*eS*	Sn	21 13 35.8	-1.6
IRIF	**Iriomote-Funau**	**4.05**	**260**	P	Pn	21 12 56.1	-0.5
IRIF				*eS*	Sn	21 13 41.2	-1.7

IDC 11 21:19:06.1±3.6, 31°42S×178°65W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.7/27, mbtmp4.0/2, Error ellipse: s-maj=177.1km s-min=46.6km az=162.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.51**	**268**	P	P	21 27 03.0	-0.4
	1.3nm,0.8s,baz=109,slow=7.6,SNR=11						
WRA	**Warramunga Arr**	**43.59**	**274**	P	P	21 27 12.3	+0.1
	1.4nm,0.4s,baz=113,slow=8.0,SNR=31						
KURBB	**Kurchatov Array**	**121.38**	**313**	PKP	PKPdf	21 37 59.2	-1.7
	0.2nm,0.6s,baz=98,slow=2.2,SNR=5.3						
FINES	**FINESS Array B**	**145.90**	**339**	PKPbc	PKPab	21 38 47.2	+0.1
	1.5nm,0.6s,baz=67,slow=3.6,SNR=9.7						

IDC 11 21:32:24.8±0.8, 47°.14N×155°.00E, h0km, mb3.7/14, mb1 3.9/14, mb1mx3.7/28, mbtmp3.7/14, MS2.5/1, Ms1 2.5/1, ms1mx2.1/34, Error ellipse: s-maj=22.2km s-min=18.4km az=139.0
ISCJB 11 21:32:25.7±0.7, 47°.04N±0°.08×154°.7E±0°.1, h18km, mb3.7/15, Error ellipse: s-maj=13.9km s-min=6.6km az=139.5
SKHL 11 21:32:28.6±0.2, 47°.95N×154°.23E, h25km±5km, mb4.4/2
MOS 11 21:32:28.0±1.2, 47°.13N×154°.81E, h33km, mb4.1/7, Error ellipse: s-maj=26.5km s-min=15.0km az=88.8
ISC 11 21:32:26.9±0.8, 47°.0N±0°.1×154°.82E±0°.0, h18km, n37, σ1s23/28, mb3.8/15, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.83**	**12**	*e*PN	Pn	21 33 13.5	-11
SKR				pmax	pmax		
	comp=Z,20nm,0.4s						
SKR				pmax	pmax		
	comp=N,50nm,0.3s						
SKR	**Severo-Kuril's**	**3.83**	**12**	*e*P	Pn	21 33 13.5	-11
SKR				AMB	AMB	21 33 14.4	
	comp=N,50nm,0.4s						
SKR				AMB	AMB	21 33 14.4	
	comp=N,20nm,0.4s						
SKR				*e*S	Sn	21 33 47.0	-22
SKR				A	A	21 33 57.0	
	comp=N,80nm,0.4s						
SKR				A	A	21 33 57.0	
	comp=N,110nm,0.4s						
KUR	**Kuril'sk**	**5.14**	**253**	*e*P	**Pn**	**21 33 43.6**	**+0.8**
KUR				AMB	AMB	21 33 44.0	
	comp=N,90nm,0.6s						
KUR				*e*S	**Sn**	**21 34 40.0**	**-1.6**
KUR				A	A	21 34 41.1	
	comp=N,150nm,0.5s						
KUR				A	A	21 34 41.1	
	comp=N,110nm,0.5s						
PETK	**Petropavlovsk-**	**6.43**	**16**	Pn	**Pn**	**21 34 01.3**	**+0.7**
	comp=N,0.7nm,0.3s,baz=169,slow=15,SNR=14						
PETK				Sn	**Sn**	**21 35 15.2**	**+1.7**
	comp=N,0.4nm,0.3s,baz=206,slow=16,SNR=2.6						
PETK				LR	LR	21 36 52.3	
	comp=N,36nm,18.8s,baz=246,slow=43						
PETK	**Petropavlovsk-**	**6.43**	**16**	PN	**Pn**	**21 34 01.3**	**+0.7**
PETK						21 35 15.2	
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,36nm,18.8s						
YSS	**Yuzh-Sakhalins**	**8.26**	**274**	*e*P	**Pn**	**21 34 24.7**	**-1.0**
NKL	**Nikolayevsk**	**11.00**	**310**	*e*P	Pn	21 34 57.8	-5.3
EKMR	**Ekimchan**	**15.30**	**302**	*e*P	**Pn**	**21 35 59.0**	**-2.8**
H11N2	**WAKE ISLAND Hy**	**28.89**	**156**	T	T	22 10 32.7	
	baz=341,slow=76,SNR=4.6						
H11N1	**WAKE ISLAND Hy**	**28.91**	**156**	T	T	22 10 31.6	
	baz=341,slow=76,SNR=3.0						
H11N3	**WAKE ISLAND Hy**	**28.91**	**156**	T	T	22 10 32.6	
	baz=341,slow=76,SNR=9.6						
H11S1	**WAKE ISLAND Hy**	**30.00**	**157**	T	T	22 11 54.9	
	baz=342,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**30.01**	**157**	T	T	22 11 58.1	
	baz=342,slow=76,SNR=30						
H11S2	**WAKE ISLAND Hy**	**30.02**	**157**	T	T	22 11 54.9	
	baz=342,slow=76,SNR=21						
SONM	**Songino Array**	**32.37**	**290**	P	**P**	**21 38 56.4**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=64,slow=9.8,SNR=3.2						
SONM	**Songino Array**	**32.37**	**290**	P	**P**	**21 38 56.4**	**+1.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	**Inuvik**	**40.85**	**33**	P	**P**	**21 40 07.1**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=267,slow=13,SNR=3.1						
ZALV	**Zalesovo Beam**	**43.44**	**306**	P	**P**	**21 40 28.7**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=52,slow=9.4,SNR=2.4						
MKAR	**Makanchi Array**	**47.89**	**298**	P	**P**	**21 41 03.2**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=48,slow=8.9,SNR=3.1						
KURK	**Kurchatov**	**48.23**	**304**	P	**P**	**21 41 07.1**	**+1.0**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**48.23**	**304**	*e*P	**P**	**21 41 07.1**	**+1.0**
KURBB	**Kurchatov Arra**	**48.32**	**304**	P	**P**	**21 41 07.1**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=69,slow=8.3,SNR=4.9						
YKA	**Yellowknife Ar**	**50.05**	**37**	P	**P**	**21 41 19.4**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=294,slow=7.1,SNR=6.0						
YKA	**Yellowknife Ar**	**50.05**	**37**	P	**P**	**21 41 19.4**	**-0.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**53.56**	**258**	P	**P**	**21 41 46.7**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=38,slow=9.2,SNR=3.8						
ARCES	**ARCESS Array B**	**58.04**	**341**	P	**P**	**21 42 18.3**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=30,slow=7.5,SNR=2.3						
ARCES	**ARCESS Array B**	**58.04**	**341**	P	**P**	**21 42 18.3**	**+0.2**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
PDAR	**Pinedale Array**	**63.67**	**55**	P	**P**	**21 42 55.9**	**-1.3**
	comp=Z,0.4nm,0.8s,baz=335,slow=4.1,SNR=3.5						
FINES	**FINESS Array B**	**64.35**	**335**	P	**P**	**21 43 02.4**	**+1.5**
	comp=Z,1.4nm,0.6s,baz=36,slow=7.4,SNR=9.8						
FINES	**FINESS Array B**	**64.35**	**335**	P	**P**	**21 43 02.4**	**+1.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NB2	**NORSAR Subarra**	**68.41**	**342**	P	P	21 43 31.2	+4.2
	comp=Z,1.7nm,0.8s,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**68.41**	**342**	P	**P**	**21 43 27.0**	**0.0**
	comp=Z,0.9nm,1.0s,baz=26,slow=6.3,SNR=2.4						
NOA	**NORSAR Array B**	**68.41**	**342**	P	**P**	**21 43 27.0**	**0.0**
	comp=Z,1.0nm,1.0s			pmax	pmax		
WRA	**Warramunga Arr**	**69.10**	**201**	P	**P**	**21 43 34.0**	**+2.3**
	comp=Z,0.3nm,0.2s,baz=18,slow=6.2,SNR=11						
ASAR	**Alice Springs**	**72.79**	**200**	P	P	21 43 57.7	+3.6
	comp=Z,0.4nm,0.8s,baz=19,slow=5.9,SNR=4.2						
TXAR	**Lajitas Array**	**76.36**	**62**	P	**P**	**21 44 13.5**	**-1.6**
	comp=Z,1.4nm,0.6s,baz=300,slow=4.2,SNR=15						
TXAR	**Lajitas Array**	**76.36**	**62**	P	**P**	**21 44 13.5**	**-1.6**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

SJA 11 21:56:44.0±1.1, 31°.58S×69°.03W, h102km±7km, MD3.2, ML5.6, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTLS	**Leoncito**	**0.31**	**225**	*i* P	Pn	21 57 00.6	+1.3
RTLS				*i* S	Sn	21 57 12.8	+2.1
RTCV	**Cerro Valdivia**	**0.51**	**124**	*i* P	Pn	21 57 00.7	+0.5
RTCV				*i* S	Sn	21 57 13.4	+1.1
RTLL	**Cerro Villicun**	**0.54**	**63**	*i* P	Pn	21 57 01.4	+1.0
RTLL				*i* S	Sn	21 57 13.9	+1.2
RTLL				AML	AML	21 57 15.3	
	comp=Z,137μm,0.4s						
CFAA	**Coronel Fontan**	**0.68**	**92**	*i* P	Pn	21 57 01.8	+0.3
CFAA				*i* S	Sn	21 57 15.2	+0.5
AUSP	**Uspallata**	**0.71**	**205**	*i* P	Pn	21 57 02.8	+0.7
AUSP				*i* S	Sn	21 57 16.6	+0.9
AMOG	**MOGNA**	**0.79**	**36**	*i* P	Pn	21 57 03.5	+0.9
AMOG				*i* S	Sn	21 57 17.3	+0.8
ASAL	**Salagasta**	**1.02**	**171**	*i* P	Pn	21 57 05.9	+0.9
ASAL				*i* P	Pn	21 57 05.9	+0.9
ASAL				*i* S	Sn	21 57 22.7	+1.8

NDI 11 21:57:28.3±1.4, 34°.67N×80°.24E, h33km, ML3.2
ISCJB 11 21:57:31.9±0.6, 34°.58N±0°.05×73°.21E±0°.09, h10km, mb3.6/1, Error ellipse: s-maj=12.2km s-min=4.5km az=148.3
IDC 11 21:57:36.5±18.0, 35°.44N×72°.14E, h0km, Error ellipse: s-maj=622.9km s-min=29.9km az=137.0
NNC 11 21:57:41.0±5.2, 34°.96N×72°.83E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=40.2km s-min=30.2km az=160.0
ISC 11 21:57:34.1±0.8, 34°.59N±0°.07×73°.16E±0°.10, h10km, n22, σ1s36/22, 3C-4D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**3.11**	**130**	*e*P	**Pb**	**21 58 30.0**	**+0.3**
DLH				*e*S	**Sg**	**21 59 14.0**	**-0.1**
SDNR	**Sundarnagar**	**4.44**	**133**	*e*P	Pn	21 58 45.0	+3.4
SDNR				*e*S	**Sn**	**21 59 31.0**	**-2.4**
SFK	**Sufi-Kurgan**	**5.42**	**3**	⇑P	Pn	21 58 59.4	+4.2
	1.4nm,0.4s						
SFK				⇓S	**Sn**	**21 59 59.7**	**+2.0**
	5.6nm,0.4s						
DZET	**Dzherino**	**5.46**	**322**	⇑P	**Pn**	**21 58 57.7**	**+2.1**
	2.4nm,0.4s						
DZET				⇓S	**Sn**	**21 59 57.7**	**-0.8**
	6.1nm,0.4s						
KHET	**Khetri**	**6.88**	**160**	*e*P	**Pn**	**21 59 16.0**	**+0.9**
KHET				*e*S	**Sn**	**22 00 35.3**	**+1.8**
KUDL	**Kundal**	**7.03**	**155**	*e*P	Pn	21 59 12.4	-4.7
KUDL				*e*S	Sn	22 00 26.1	-11
KUDL				AML	AML	22 00 40.6	
	comp=E,7.4nm,0.3s						
KUDL				AML	AML	22 00 41.5	
	comp=N,6.5nm,0.4s						
AGRA	**Agra**	**8.41**	**149**	*e*S	x	22 00 36.1	
AGRA				AML	AML	22 00 41.3	
	comp=E,50nm,0.3s						
AGRA				AML	AML	22 00 41.5	
	comp=N,51nm,0.5s						
KK31	**Karatay Array**	**8.75**	**347**	⇓P	**Pn**	**21 59 41.6**	**+1.0**
	comp=N,1.0nm,0.3s,baz=151,slow=10,SNR=36						
KK31				⇓S	**Sn**	**22 01 16.5**	**-2.8**
	comp=N,1.8nm,0.6s,baz=145,slow=24,SNR=7.0						
KOLN	**Koldanda**	**11.23**	**124**	*e*P	**Pn**	**22 00 13.7**	**-1.2**
	comp=N,4.4nm,0.4s						
GKN	**Gorkha**	**11.81**	**121**	*e*P	**Pn**	**22 00 23.8**	**+1.0**
	comp=N,3.8nm,0.3s						
DMN	**Daman**	**12.38**	**121**	*e*P	**Pn**	**22 00 30.5**	**-0.1**
KKN	**Kakani**	**12.39**	**120**	*e*P	**Pn**	**22 00 31.3**	**+0.5**
PKIN	**Phulchoki**	**12.60**	**120**	*e*P	**Pn**	**22 00 33.2**	**-0.5**
PKI	**Pulchoki**	**12.61**	**120**	*e*P	**Pn**	**22 00 34.0**	**+0.1**
GUN	**Gumba**	**12.75**	**118**	*e*P	**Pn**	**22 00 36.1**	**+0.2**
	comp=N,4.6nm,0.4s						
JIRN	**Jiri**	**13.12**	**118**	*e*P	**Pn**	**22 00 40.8**	**-0.1**
MKAR	**Makanchi Array**	**14.01**	**27**	Pn	**Pn**	**22 00 52.0**	**-0.6**
	baz=220,slow=9.0						
TAPN	**Taplejung**	**14.41**	**116**	*e*P	Pn	22 00 55.3	-3.2
ODAN	**Odare**	**14.46**	**118**	*e*P	Pn	22 00 52.8	-6.2
AB31	**Akbulak array**	**17.61**	**330**	⇑P	**Pn**	**22 01 40.1**	**+0.7**
	comp=N,0.3nm,0.5s,baz=123,slow=12,SNR=6.0						
ZALV	**Zalesovo Beam**	**21.02**	**19**	P	**P**	**22 02 16.6**	**-1.2**
	comp=N,1.9nm,0.6s,baz=215,slow=11,SNR=9.2						
TORD	**Torodi Ar. Bea**	**67.47**	**271**	P	**P**	**22 08 29.2**	**-1.3**
	baz=38,slow=4.8						

CSEM 11 21:57:53.9, 38°.37N×21°.88E, h5km, MD2.6
ATH 11 21:57:53.9, 38°.37N×21°.88E, h5km±2km, MD2.6/12, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.06**	**20**	*e*PG	Pg	21 57 55.3	-0.1
EFP				*e*SG	Sg	21 57 56.5	+0.1
EFP	**Efpalio**	**0.06**	**20**	*e*Pg	Pg	21 57 55.3	-0.1
EFP				*e*Sg	Sg	21 57 56.5	+0.1
KALE	**Kalithea**	**0.20**	**84**	*e*PG	Pg	21 57 58.2	+0.1
KALE				*e*SG	Sg	21 58 01.5	+0.6
KALE	**Kalithea**	**0.20**	**84**	*e*Pg	Pg	21 57 58.2	+0.1
KALE				*e*Sg	Sg	21 58 01.5	+0.6
KLV	**Kalavryta, Ach**	**0.39**	**147**	*e*PB	Pg	21 58 01.8	+0.3
KLV				*e*SB	Sg	21 58 07.3	+0.6
KLV	**Kalavryta, Ach**	**0.39**	**147**	*e*Pb	Pg	21 58 01.8	+0.3
KLV				*e*Sb	Sg	21 58 07.3	+0.6
DRO	**Drossia**	**0.44**	**198**	*e*PB	Pg	21 58 02.5	+0.1
DRO				*e*SB	Sg	21 58 09.6	+1.4
DRO	**Drossia**	**0.44**	**198**	*e*Pb	Pg	21 58 02.5	+0.1
DRO				*e*Sb	Sg	21 58 09.6	+1.4
RLS	**Riolos of Patr**	**0.45**	**226**	*e*PB	Pg	21 58 03.0	+0.4
RLS				*e*SB	Sg	21 58 09.8	+1.3
RLS	**Riolos of Patr**	**0.45**	**226**	*e*Pb	Pg	21 58 03.0	+0.4
RLS				*e*Sb	Sg	21 58 09.8	+1.3
DSF	**Desfina**	**0.51**	**85**	*e*PB	Pg	21 58 03.3	-0.5
DSF				*e*SB	Sb	21 58 11.9	-1.3
DSF	**Desfina**	**0.51**	**85**	*e*Pb	Pg	21 58 03.3	-0.5
DSF				*e*Sb	Sb	21 58 11.9	-1.3
EVR	**Evrytania**	**0.55**	**354**	*e*PB	Pg	21 58 04.1	-0.5
EVR				*e*SB	Sg	21 58 13.1	+1.2
EVR	**Evrytania**	**0.55**	**354**	*e*Pb	Pg	21 58 04.1	-0.5
EVR				*e*Sb	Sg	21 58 13.1	+1.2
GUR	**Goura**	**0.57**	**140**	*e*PB	Pg	21 58 04.8	-0.2
GUR				*e*SB	Sg	21 58 12.9	+0.5
GUR	**Goura**	**0.57**	**140**	*e*Pb	Pg	21 58 04.8	-0.2
GUR				*e*Sb	Sg	21 58 12.9	+0.5
PDO	**Prodromos**	**0.59**	**293**	*e*PB	Pg	21 58 04.6	-0.7
PDO				*e*SB	Sb	21 58 14.8	-0.7
PDO	**Prodromos**	**0.59**	**293**	*e*Pb	Pg	21 58 04.6	-0.7
PDO				*e*Sb	Sb	21 58 14.8	-0.7
MAKR	**Makrakomi, Fth**	**0.67**	**17**	*e*PG	Pg	21 58 06.6	-0.3
MAKR				*e*SB	Sb	21 58 17.1	-0.8
MAKR	**Makrakomi, Fth**	**0.67**	**17**	*e*Pg	Pg	21 58 06.6	-0.3
MAKR				*e*Sb	Sb	21 58 17.1	-0.8
AGG	**Agios Georgios**	**0.74**	**28**	*e*PG	Pg	21 58 07.5	-0.7
AGG				*e*SB	Sg	21 58 18.7	+0.8
AGG	**Agios Georgios**	**0.74**	**28**	*e*Pg	Pg	21 58 07.5	-0.7
AGG				*e*Sb	Sg	21 58 18.7	+0.8
DID	**Didima**	**1.38**	**128**	*e*PB	Pg	21 58 20.3	-0.1
DID	**Didima**	**1.38**	**128**	*e*Pb	Pg	21 58 20.3	-0.1

ATH 11 21:58:28.5, 39°.33N×26°.35E, h15km±3km, MD2.8/6
DDA 11 21:58:29.2, 39°.31N×26°.25E, h7km, MD2.8
ISCJB 11 21:58:29.8±0.4, 39°.30N±0°.02×26°.22E±0°.03, h9km±3km, Error ellipse: s-maj=3.6km s-min=3.0km az=170.2
CSEM 11 21:58:29.9±0.1, 39°.31N×26°.25E, h5km, ML2.1, Error ellipse: s-maj=2.8km s-min=2.5km az=83.0
ISK 11 21:58:29.3, 39°.30N×26°.25E, h6km, MD2.9
THE 11 21:58:30.3, 39°.29N×26°.23E, h8km, ML2.1/4, Error ellipse: s-maj=1.0km s-min=0.6km az=188.0
ISC 11 21:58:29.7±0.8, 39°.31N±0°.02×26°.26E±0°.02, h11km±5km, n61, σ0s57/84, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRK	**Paraskevi**	**0.06**	**171**	P	**Pg**	**21 58 31.8**	**-0.1**
PRK				S	**Sg**	**21 58 33.5**	**0.0**
PRK	**Paraskevi**	**0.06**	**171**	*e*PB	**Pg**	**21 58 31.8**	**-0.1**
PRK				*e*SB	**Sg**	**21 58 33.4**	**0.0**
PRK	**Paraskevi**	**0.06**	**171**	P	**Pg**	**21 58 31.8**	**-0.1**
PRK				*e*Sb	**Sg**	**21 58 33.4**	**0.0**
SIGR	**SIGRI**	**0.33**	**254**	PG	**Pg**	**21 58 36.2**	**-0.1**
SIGR	**SIGRI**	**0.33**	**254**	P	**Pg**	**21 58 36.1**	**-0.2**
SIGR				S	**Sg**	**21 58 40.9**	**+0.2**
SIGR	**SIGRI**	**0.33**	**254**	*e*PB	**Pg**	**21 58 36.2**	**-0.1**
SIGR				*e*SB	**Sg**	**21 58 40.7**	**0.0**
SIGR	**SIGRI**	**0.33**	**254**	*e*Pb	**Pg**	**21 58 36.2**	**-0.1**
SIGR				S	**Sg**	**21 58 40.9**	**+0.2**
AYVA	**Ayvalik**	**0.33**	**89**	*i* P	**Pg**	**21 58 36.7**	**+0.3**
AYVA				*i* S	**Sb**	**21 58 42.2**	**-0.8**
AYVA	**Ayvalik**	**0.33**	**89**	*i* P	**Pg**	**21 58 36.7**	**+0.3**
AYVA				*i* S	**Sb**	**21 58 42.2**	**-0.8**
EZN	**Ezine**	**0.52**	**5**	*e*PG	**Pg**	**21 58 40.1**	**+0.2**
EZN	**Ezine**	**0.52**	**5**	*e*Pg	**Pg**	**21 58 40.1**	**+0.2**
BOZC	**Bozcaada**	**0.56**	**343**	*i* P	**Pg**	**21 58 40.7**	**+0.1**
BOZC				*i* S	**Sb**	**21 58 49.2**	**-0.4**
GADA	**Gvkgeada**	**0.93**	**343**	*e*PG	**Pg**	**21 58 47.2**	**-0.4**
GADA	**Gvkgeada**	**0.93**	**343**	*e*Pg	**Pg**	**21 58 47.2**	**-0.4**
CHOS	**Chios island**	**0.93**	**190**	*e*PG	**Pb**	**21 58 48.1**	**+0.3**
CHOS				*e*SG	**Sb**	**21 59 00.3**	**+0.1**
CHOS	**Chios island**	**0.93**	**190**	P	**Pg**	**21 58 47.4**	**-0.2**
CHOS				S	**Sb**	**21 59 00.6**	**+0.3**
CHOS	**Chios island**	**0.93**	**190**	*e*PN	**Pg**	**21 58 47.6**	**0.0**
CHOS				*e*SN	**Sb**	**21 59 00.6**	**+0.3**
CHOS	**Chios island**	**0.93**	**190**	P	**Pg**	**21 58 47.4**	**-0.2**
CHOS	**Chios island**	**0.93**	**190**	*e*Pg	**Pb**	**21 58 48.2**	**+0.3**
CHOS				*e*Sg	**Sb**	**21 59 00.4**	**+0.1**
LIA	**Limnos Island**	**1.02**	**306**	P	**Pn**	**21 58 49.7**	**-0.3**
LIA				S	**Sb**	**21 59 03.4**	**+0.5**
LIA	**Limnos Island**	**1.02**	**306**	*e*PN	**Pn**	**21 58 49.6**	**-0.4**
LIA				*e*SN	**Sb**	**21 59 03.3**	**+0.4**
LIA	**Limnos Island**	**1.02**	**306**	P	**Pn**	**21 58 49.7**	**-0.3**
LIA				S	**Sb**	**21 59 03.4**	**+0.5**
ZEY	**˜zmir**	**1.08**	**170**	*i* P	**Pg**	**21 58 49.6**	**-0.9**
ZEY				*i* S	**Sb**	**21 59 05.1**	**+0.5**
BLCB	**Balcova**	**1.10**	**146**	*e*PN	**Pb**	**21 58 50.8**	**0.0**
GELI	**Tayfur-Gelibol**	**1.10**	**9**	*e*PN	**Pn**	**21 58 51.1**	**0.0**
LPK	**Lapseki**	**1.13**	**20**	*e*PN	**Pn**	**21 58 51.6**	**0.0**
BALY	**Balya**	**1.14**	**67**	*i* P	**Pg**	**21 58 51.2**	**-0.4**
BALY				*i* S	**Sn**	**21 59 07.6**	**+0.3**
BALY	**Balya**	**1.14**	**67**	*i* P	**Pg**	**21 58 51.2**	**-0.4**
BALY				*i* S	**Sn**	**21 59 07.6**	**+0.3**
IZM	**Izmir**	**1.20**	**139**	*e*PN	**Pg**	**21 58 52.1**	**-0.6**
AKS	**Akhisar**	**1.28**	**109**	*e*PN	**Pg**	**21 58 54.6**	**+0.3**
AKS	**Akhisar**	**1.28**	**109**	*e*Pn	**Pg**	**21 58 54.6**	**+0.3**
SMTH	**Samothraki Isl**	**1.29**	**334**	P	**Pn**	**21 58 53.3**	**-0.5**
SMTH	**Samothraki Isl**	**1.29**	**334**	P	**Pn**	**21 58 53.3**	**-0.5**
BALB	**Balikesir**	**1.30**	**75**	*e*PN	**Pg**	**21 58 54.8**	**+0.2**
BALB	**Balikesir**	**1.30**	**75**	*e*Pn	**Pg**	**21 58 54.8**	**+0.2**
KRBG	**Karabiga-Canak**	**1.35**	**36**	*e*PN	**Pg**	**21 58 55.2**	**-0.4**
ERIK	**Erikli-Kesan**	**1.38**	**8**	*e*PN	**Pg**	**21 58 55.9**	**-0.3**
ERIK	**Erikli-Kesan**	**1.38**	**8**	*e*Pn	**Pg**	**21 58 55.9**	**-0.3**
ENEZ	**Enez**	**1.43**	**357**	*e*PN	**Pg**	**21 58 56.8**	**-0.4**
ENEZ	**Enez**	**1.43**	**357**	*e*Pn	**Pg**	**21 58 56.8**	**-0.4**
RKY	**Sarkoy-Tekirda**	**1.55**	**27**	*e*PN	**Pb**	**21 58 58.2**	**-0.3**
ALN	**Alexandroupoli**	**1.60**	**354**	*e*PN	**Pb**	**21 58 59.0**	**-0.3**
ALN	**Alexandroupoli**	**1.60**	**354**	P	**Pn**	**21 58 58.0**	**+0.1**
ALN	**Alexandroupoli**	**1.60**	**354**	*e*PN	**Pn**	**21 58 58.0**	**+0.1**
ALN				*e*SN	**Sn**	**21 59 18.7**	**+0.1**
ALN	**Alexandroupoli**	**1.60**	**354**	P	**Pn**	**21 58 58.0**	**+0.1**
ALN	**Alexandroupoli**	**1.60**	**354**	*e*Pn	**Pb**	**21 58 59.0**	**-0.3**
ALN				*e*Sn	**Sn**	**21 59 18.7**	**+0.1**
EDC	**Edincik**	**1.61**	**49**	*e*PN	**Pb**	**21 58 59.5**	**0

LEOM	**Leova**	**1.62**	**55**⇑	*i*P	Pn	22 17 10.6	+0.3
LEOM				*i* S	Sn	22 17 34.0	-0.1
TLCR		**1.80**	**101**⇑	*i*P	Pn	22 17 12.3	0.0
TLCR		**1.80**	**101**⇑	*i*P	Pn	22 17 12.3	0.0
TLCR				*i* S	Sn	22 17 36.8	-0.8
TLCR		**1.80**	**101**⇑	*i*P	Pn	22 17 12.3	0.0
TLCR				*i* S	Sn	22 17 36.8	-0.8
MSAB	**Monastry St. A**	**1.82**	**143**⇑	*i*P	Pn	22 17 12.6	0.0
MSAB	**Monastry St. A**	**1.82**	**143**⇑	*i*P	Pn	22 17 12.6	0.0
MSAB				*i* S	Sn	22 17 37.4	-0.7
MSAB	**Monastry St. A**	**1.82**	**143**⇑	*i*P	Pn	22 17 12.6	0.0
MSAB				*i* S	Sn	22 17 37.4	-0.7
TIRR	**Tirgusor**	**1.85**	**126**⇓	*i*P	Pn	22 17 12.6	-0.3
TIRR	**Tirgusor**	**1.85**	**126**⇓	*i*P	Pn	22 17 12.6	-0.3
TIRR				*i* S	Sn	22 17 36.1	-2.6
TIRR	**Tirgusor**	**1.85**	**126**⇓	*i*P	Pn	22 17 12.6	-0.3
TIRR				*i* S	Sn	22 17 36.1	-2.6
PSN	**Preselentsi**	**2.31**	**144**⇑	*i*P	Pn	22 17 18.6	+0.4
PSN	**Preselentsi**	**2.31**	**144**⇑	*i*P	Pn	22 17 18.6	+0.4
PSN	**Preselentsi**	**2.31**	**144**⇑	*i*P	Pn	22 17 18.6	+0.4

IDC ***11*** *22:24:45.4±0.9, 13°.20N×119°.98E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/26, mbtmp3.8/8, MS3.0/1, Ms1 3.0/1, ms1mx2.2/45, Error ellipse: s-maj=24.4km s-min=17.6km az=80.0*

ISCJB ***11*** *22:24:48.7±1.1, 13°.26N±0°.04×120°.00E±0°.06, h29km±8km, mb3.9/8, MS2.8/1, Error ellipse: s-maj=9.9km s-min=6.3km az=170.0*

MAN ***11*** *22:24:49, 13°.27N×120°.08E, h27km, mb4.8, ML3.7, MS3.7*

ISC 11 22:24:49.4±1.4, 13°.22N±0°.03×120°.08E±0°.06, h25km±11km, n23, σ1°906/27, mb3.9/8, 2C-4D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.54**	**18**	*eP*	**Pb**	**22 24 59.4**	**-0.8**
LUBP				*eS*	**Sb**	**22 25 06.8**	**-0.8**
PGP	**Puerto Galera**	**0.90**	**72**⇑	*i*P	**Pn**	**22 25 06.0**	**-0.5**
PGP				*i* S	**Sn**	**22 25 18.1**	**-0.6**
TGY	**Tagaytay City**	**1.21**	**44**	Pn	**Pb**	**22 25 11.3**	**-0.4**
TGY	1µm,0.3s,baz=226,slow=4.8,SNR=54			Sn	**Sn**	**22 25 28.9**	**+2.4**
TGY	572nm,0.3s,baz=245,slow=15,SNR=6.5 **Tagaytay City**	**1.21**	**44**⇓	*i*P	**Pn**	**22 25 10.1**	**-0.8**
BUSP	**Coron**	**1.22**	**174**	*eP*	**Pb**	**22 25 11.4**	**-0.3**
BUSP				*eS*	**Sn**	**22 25 27.9**	**+1.4**
SJMP	**San Jose**	**1.27**	**126**	*eP*	**Pb**	**22 25 12.0**	**-0.6**
SJMP				*eS*	**Sb**	**22 25 28.1**	**-0.4**
LBPH	**Los Banos**	**1.42**	**49**⇓	*eP*	Pn	22 25 07.2	-6.4
NBP	**Mount Natib**	**1.55**	**12**⇓	*i*P	**Pb**	**22 25 19.4**	**+2.0**
OTRP	**Odiongan**	**2.08**	**114**	*eP*	**Pn**	**22 25 23.4**	**+0.7**
ENPP	**El Nido**	**2.10**	**198**	*eP*	**Pn**	**22 25 18.8**	**+0.8**
GQP	**Guinayangan**	**2.40**	**73**⇓	*eP*	**Pn**	**22 25 27.6**	**+0.4**
GQP				*eS*	**Sb**	**22 26 03.5**	**+2.3**
PCPH	**Palayan**	**2.53**	**23**⇑	*eP*	**Pn**	**22 25 28.5**	**-0.4**
CUYO	**Cuyo Island**	**2.53**	**159**	*eP*	**Pn**	**22 25 29.6**	**+0.7**
BALP	**Baler**	**2.90**	**30**	*eP*	**Pn**	**22 25 35.0**	**+1.1**
KSRS	**Korea Array**	**25.13**	**15**	LR	LR	22 40 15.5	
WRA	comp=Z,32nm,19.6s,baz=180,slow=37 **Warramunga Arr**	**35.82**	**157**	P	**P**	**22 31 46.8**	**-0.3**
SONM	0.9nm,0.5s,baz=334,slow=9.7,SNR=6.1 **Songino Array**	**36.35**	**344**	P	**P**	**22 31 51.3**	**-0.2**
ASAR	1.7nm,0.7s,baz=163,slow=10,SNR=9.2 **Alice Springs**	**39.08**	**160**	P	**P**	**22 32 14.7**	**0.0**
MKAR	0.7nm,0.5s,baz=337,slow=6.8,SNR=13 **Makanchi Array**	**46.06**	**324**	P	**P**	**22 33 11.4**	**+0.2**
ZALV	0.4nm,0.6s,baz=133,slow=6.3,SNR=5.5 **Zalesovo Beam**	**49.20**	**333**	P	**P**	**22 33 35.5**	**0.0**
ARCES	0.6nm,0.4s,baz=122,slow=6.8,SNR=4.2 **ARCESS Array B**	**79.31**	**339**	P	**P**	**22 36 52.4**	**-0.2**
FINES	1.5nm,0.7s,baz=76,slow=7.3,SNR=16 **FINESS Array B**	**80.41**	**331**	P	**P**	**22 36 58.2**	**-0.4**
NOA	1.1nm,0.9s,baz=75,slow=4.6,SNR=3.1 **NORSAR Array B**	**87.40**	**333**	P	**P**	**22 37 32.8**	**-1.6**
	0.5nm,0.7s,baz=72,slow=4.2,SNR=2.6						

NIED ***11*** *22:26:00, 27°.10N×127°.30E, h83km, Mw3.9 Best double couple: M₀8.30000×10¹⁴ NP1:φ₅97.00000°, δ33.00000°, λ109.00000°. NP2:φ₅254.00000°, δ59.00000°, λ78.00000°.*

ISCJB ***11*** *22:26:33.8±0.3, 27°.01N±0°.05×127°.36E±0°.05, h102km±4km, mb3.7/10, Error ellipse: s-maj=10.3km s-min=4.0km az=138.1*

JMA ***11*** *22:26:35.2±0.2, 27°.08N×127°.33E, h91km±2km, M3.6*

IDC ***11*** *22:26:36.5±0.9, 27°.04N×127°.28E, h109km±8km, mb3.5/10, mb1 3.6/12, mb1mx3.5/29, mbtmp3.9/12, Error ellipse: s-maj=30.3km s-min=12.2km az=72.0*

ISC 11 22:26:35.4±0.6, 26°.98N±0°.05×127°.41E±0°.05, h104km±5km, n37, σ1°920/52, mb3.7/10, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.42**	**200**	P	**Pn**	**22 26 50.0**	**-1.0**
JAGN				S	**Sn**	**22 27 01.0**	**-1.7**
JIH	**Iheya**	**0.51**	**84**	P	**Pn**	**22 26 50.9**	**-0.7**
JIH				S	**Sn**	**22 27 02.2**	**-1.5**
JNTH	**Nagotoyohara**	**0.72**	**130**	P	**Pn**	**22 26 53.4**	**+0.1**
JNTH				S	**Sn**	**22 27 06.3**	**-0.5**
JOW	**Kunigami**	**0.79**	**101**	P	**Pn**	**22 26 53.6**	**-0.4**
JOW				S	**Sn**	**22 27 07.0**	**-1.0**
JKE	**Kume jima 2**	**0.86**	**220**	P	**Pn**	**22 26 53.7**	**-0.9**
JKE				S	**Sn**	**22 27 07.5**	**-1.6**
JJT2	**Tamagusuku 2**	**0.90**	**160**	P	**Pn**	**22 26 55.7**	**+0.7**
JOKE	**Okinoerabujima**	**1.10**	**70**	P	**Pn**	**22 26 56.6**	**-0.6**
JOKE				*eS*	**Sn**	**22 27 12.6**	**-1.1**
JTK	**Tokunoshima**	**1.59**	**59**	P	**Pn**	**22 27 02.3**	**-0.7**
JTK				*eS*	**Sn**	**22 27 22.3**	**-1.6**
JAMN	**Amaminishikomi**	**2.01**	**51**	P	**Pn**	**22 27 07.2**	**-1.0**
JAM	**Amami Oshima**	**2.42**	**53**	P	**Pn**	**22 27 12.8**	**-0.7**
JAM				*eS*	**Sn**	**22 27 40.8**	**-1.9**
JZK	**Kikaishima**	**2.64**	**59**	P	**Pn**	**22 27 16.2**	**-0.2**
JZK				*eS*	**Sn**	**22 27 47.7**	**-0.2**
JTAJ	**Takarajima**	**2.68**	**36**	P	**Pn**	**22 27 16.6**	**-0.4**
JTAJ				*eS*	**Sn**	**22 27 48.1**	**-0.9**
JIKM	**Ikemajima**	**2.82**	**224**	P	**Pn**	**22 27 19.1**	**+0.2**
JOGS	**Gusukube**	**2.85**	**220**	P	**Pn**	**22 27 18.9**	**-0.4**
JMJ	**Miyako jima 2**	**2.88**	**222**	P	**Pn**	**22 27 19.6**	**0.0**
JIRB	**Irabujima**	**2.94**	**224**	P	**Pn**	**22 27 19.7**	**-0.7**
JTJ	**Tarama**	**3.37**	**227**	P	**Pn**	**22 27 25.4**	**-0.8**
JMZ	**Minamidaito 2**	**3.61**	**108**	P	**Pn**	**22 27 27.9**	**-1.5**
JMZ				*eS*	**Sn**	**22 28 07.3**	**-3.9**
JISG	**Ishigakijimahi**	**3.67**	**230**	P	**Pn**	**22 27 28.8**	**-1.4**
JIJ	**Ishigaki jima**	**3.93**	**229**	P	**Pn**	**22 27 31.8**	**-1.9**
JKRS	**Kuro-shima**	**4.11**	**229**	P	**Pn**	**22 27 34.7**	**-1.4**
IRIF	**Iriomote-Funau**	**4.24**	**232**	P	**Pn**	**22 27 36.0**	**-1.8**
YOJ	**Yonaguni jima**	**4.69**	**239**	P	**Pn**	**22 27 43.0**	**-1.0**
JYNG	**Yonagunijimaku**	**4.75**	**239**	P	**Pn**	**22 27 43.7**	**-1.0**
JNU	**Nakatsue**	**6.82**	**25**	P	**Pn**	**22 28 13.5**	**+0.7**
KSRS	3.8nm,0.3s,baz=207,slow=11,SNR=29 **Korea Array**	**10.45**	**2**	P	**Pn**	**22 29 03.1**	**+1.1**
MJAR	0.4nm,0.3s,baz=190,slow=14,SNR=5.3 **Matsushiro Arr**	**13.23**	**41**	P	**P**	**22 29 45.3**	**+0.2**
SONM	0.3nm,0.3s,baz=217,slow=8.8,SNR=4.5 **Songino Array**	**26.52**	**327**	P	**P**	**22 32 04.6**	**+1.3**
SONM	1.1nm,0.4s,baz=136,slow=10,SNR=7.3			pP	**pP**	**22 32 26.8**	**+0.6**
MKAR	0.7nm,0.6s,baz=134,slow=9.3,SNR=2.5 **Makanchi Array**	**40.48**	**311**	P	**P**	**22 34 02.9**	**-1.1**
MKAR	0.3nm,0.3s,baz=91,slow=10.0,SNR=6.7			pP	**pP**	**22 34 28.6**	**+0.8**
MKAR	0.4nm,0.6s,baz=88,slow=8.3,SNR=3.6			PcP	**PcP**	**22 36 04.4**	**-0.2**
ZALV	0.2nm,0.6s,baz=29,slow=3.3,SNR=3.0 **Zalesovo Beam**	**41.20**	**323**	P	**P**	**22 34 08.2**	**-1.4**
WRA	0.5nm,0.5s,baz=123,slow=8.5,SNR=3.6 **Warramunga Arr**	**47.13**	**171**	P	**P**	**22 34 58.4**	**+1.1**
WRA	3.0nm,0.6s,baz=353,slow=8.5,SNR=16			pP	**pP**	**22 35 23.2**	**+1.4**
BVAR	0.3nm,0.5s,baz=357,slow=7.8,SNR=1.6 **Borovoye Array**	**49.22**	**318**	P	**P**	**22 35 12.7**	**-0.4**
ASAR	0.8nm,0.6s,baz=106,slow=12,SNR=2.7 **Alice Springs**	**50.74**	**172**	P	**P**	**22 35 26.1**	**+1.2**
STKA	0.9nm,0.4s,baz=1.4,slow=14,SNR=15 **Stephens Creek**	**60.08**	**166**	P	**P**	**22 36 32.6**	**+1.0**
FINES	2.2nm,0.5s,baz=343,slow=6.4,SNR=6.5 **FINESS Array B**	**71.85**	**330**	P	**P**	**22 37 45.9**	**-0.7**
BRTR	1.1nm,0.8s,baz=58,slow=5.2,SNR=2.8 **Keskin Array B**	**75.99**	**308**	P	**P**	**22 38 11.2**	**-0.3**
YKA	0.4nm,0.8s,baz=91,slow=7.2,SNR=3.4 **Yellowknife Ar**	**78.16**	**25**	P	**P**	**22 38 23.2**	**+0.3**
	0.2nm,0.5s,baz=301,slow=4.8,SNR=4.9						

ISCJB ***11*** *22:40:02.8±1.5, 39°.59N±0°.09×75°.17E±0°.08, h10km, Error ellipse: s-maj=15.0km s-min=5.8km az=149.1*

NNC ***11*** *22:40:03.0±2.2, 39°.67N×75°.11E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=19.2km s-min=7.3km az=159.0*

ISC 11 22:40:06.1±1.7, 39°.78N±0°.09×75°.13E±0°.04, h10km, n15, σ1°949/20, 12C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.27**	**281**	⇑P	Pn	22 40 26.4	-3.8
SFK	48nm,0.3s			⇑S	**Sg**	**22 40 44.9**	**-2.2**
KZA	165nm,0.4s **Kyzart**	**2.30**	**2**	P	**Pn**	**22 40 43.4**	**-1.1**
UCH	SNR=27 **Uchtor**	**2.49**	**349**	P	**Pn**	**22 40 46.7**	**-0.4**
AML	SNR=33 **Almayashu**	**2.59**	**336**	P	**Pn**	**22 40 48.3**	**-0.2**
ULHL	SNR=7.1 **Ulahol**	**2.61**	**19**	P	**Pb**	**22 40 50.4**	**-2.6**
KBK	SNR=5.9 **Karagaybulak**	**2.88**	**357**	P	**Pn**	**22 40 52.4**	**+0.1**
AAK	SNR=15 **Ala-Archa**	**2.89**	**351**	P	**Pn**	**22 40 52.9**	**+0.5**
AAK	SNR=16 **Ala-Archa**	**2.89**	**351**	⇓Pn	**Pn**	**22 40 52.8**	**+0.5**
AAK	5.9nm,0.4s			⇓Sn	**Sb**	**22 41 30.9**	**-2.6**
TKM2	33nm,0.7s **Tokmak 2**	**3.16**	**6**	P	**Pn**	**22 40 56.7**	**+0.5**
TKM2	SNR=23 **Tokmak 2**	**3.16**	**6**	⇓Pn	**Pn**	**22 40 55.6**	**-0.5**
TKM2	6.7nm,0.3s			⇑Sn	**Sn**	**22 41 37.2**	**+3.2**
CHMS	25nm,0.4s **Chumysh**	**3.23**	**355**	P	**Pn**	**22 40 57.2**	**+0.3**
KNDC	SNR=8.0 **Almaty**	**3.71**	**21**	⇑Pn	Pb	22 41 07.3	-4.4
KNDC	12nm,0.6s			⇑Lg	Lg	22 41 59.7	
KK31	47nm,0.6s **Karatay Array**	**4.80**	**315**	Pn	**Pn**	**22 41 17.4**	**-1.0**
KK31	0.4nm,0.4s,baz=133,slow=13,SNR=17			⇓Pg	**Pb**	**22 41 30.5**	**+0.2**
KK31	2.2nm,0.6s,baz=143,slow=16,SNR=7.7			⇑Sn	**Sn**	**22 42 13.4**	**-0.8**
KK31	2.6nm,0.6s,baz=173,slow=26,SNR=3.9			⇑Lg	Lg	22 42 35.3	
PDGK	2.9nm,0.4s,baz=130,slow=29,SNR=3.6 **Podgornoye**	**4.83**	**41**	⇑Pn	Pn	22 41 14.3	-4.5
PDGK	2.0nm,0.7s			⇑Pg	**Pb**	**22 41 30.3**	**-0.4**
PDGK	4.6nm,0.7s			⇓Sn	**Sn**	**22 42 16.2**	**+1.5**
DZET	11nm,1.1s **Dzherino**	**4.98**	**261**	⇑Pn	**Pn**	**22 41 19.8**	**-1.3**
DZET	5.0nm,0.4s			⇑Sn	**Sn**	**22 42 20.0**	**+1.2**
DZET	21nm,0.7s			⇑Lg	Lg	22 42 41.4	
	24nm,0.7s						

ISCJB ***11*** *22:42:07.5±1.5, 14°.6N±0°.1×92°.22W±0°.10, h77km±12km, Error ellipse: s-maj=23.2km s-min=7.3km az=40.1*

CASC ***11*** *22:42:09.9±1.5, 14°.79N×91°.97W, h68km±29km, MD3.6*

MEX ***11*** *22:42:10.7±0.5, 14°.61N×92°.26W, h73km±7km, MD3.9*

ISC 11 22:42:08.0±2.1, 14°.6N±0°.1×92°.2W±0°.1, h74km±14km, n8, σ0°972/13, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.36**	**351**	*i* P	**Pn**	**22 42 20.3**	**+0.2**
THIG				*i* S	**Sn**	**22 42 29.1**	**+0.2**
JAT	**Jato**	**0.60**	**112**	*eP*	**Pn**	**22 42 22.2**	**+0.1**
FUG	**Fuego 3**	**1.33**	**94**	*eP*	**Pn**	**22 42 30.8**	**-0.2**
PCIG		**1.51**	**320**	*eP*	**Pn**	**22 42 33.6**	**+0.4**
PCIG				*i* S	**Sn**	**22 42 51.1**	**-1.1**
CCIG	**Comitan**	**1.73**	**2**	*eP*	**Pn**	**22 42 37.1**	**+0.8**
CCIG				*i* S	**Sn**	**22 42 57.0**	**-0.7**
IXG	**Ixpaco**	**1.74**	**102**	*eP*	**Pn**	**22 42 36.8**	**+0.4**
IXG				*eS*	**Sn**	**22 42 57.5**	**-0.4**
RBDL	**Robledal**	**2.48**	**100**	*eP*	**Pn**	**22 42 45.6**	**-0.8**
SBLS	**San Blas**	**2.60**	**105**	*eP*	**Pn**	**22 42 48.8**	**+0.7**
SBLS				*eS*	**Sn**	**22 43 19.4**	**+0.5**

CSEM ***11*** *22:48:20.3±1.0, 49°.94N×18°.47E, h1km, Error ellipse: s-maj=17.1km s-min=12.0km az=91.0*

PRU 11 22:48:21.4, 49°.82N×18°.42E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.18**	**276**	*ePG*	Pg	22 48 25.0	+0.2
OKC				*eSG*	Sg	22 48 27.5	+0.3
OKC	comp=Z,13nm,0.4s **Ostrava-Krasne**	**0.18**	**276**	Pg	Pg	22 48 25.0	+0.2
OKC	13nm,0.4s			Sg	Sg	22 48 27.5	+0.3
MORC	**Moravsky Berou**	**0.57**	**266**	*ePg*	Pg	22 48 32.6	+0.2
MORC				*eSg*	Sg	22 48 39.8	-0.1
DPC	**Dobruska-Polom**	**1.45**	**292**	*ePG*	Pn	22 48 47.7	-1.3
DPC				*eSG*	Sg	22 49 07.8	-0.4
DPC	**Dobruska-Polom**	**1.45**	**292**	Pg	Pn	22 48 47.7	-1.3
DPC				Sg	Sg	22 49 07.8	-0.4

ISCJB ***11*** *22:50:14.6±0.5, 14°.37S±0°.06×167°.30E±0°.08, h170km, mb4.6/17, Error ellipse: s-maj=11.2km s-min=7.7km az=178.6*

NEIC ***11*** *22:50:14.8±1.7, 14°.36S×167°.30E, h156km±17km, mb4.8/3, Error ellipse: s-maj=13.3km s-min=9.0km az=147.0*

IDC ***11*** *22:50:16.5±4.0, 14°.43S×167°.31E, h170km±39km, mb3.8/9, mb1 4.0/10, mb1mx3.8/21, mbtmp4.3/10, Error ellipse: s-maj=29.3km s-min=23.0km az=141.0*

ISC 11 22:50:16.0±0.6, 14°.39S±0°.07×167°.36E±0°.10, h170km, n32, σ0°999/31, mb4.7/17, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.69**	**186**	P	**Pn**	**22 52 04.9**	**-0.5**
DZM	2.1nm,0.3s,baz=135,slow=14,SNR=4.4			S	**Sn**	**22 53 32.6**	**+0.9**
MSVF	1.1nm,0.3s,baz=90,slow=20,SNR=2.7 **Nonsavu**	**10.80**	**109**	*ePn*	**Pn**	**22 52 45.8**	**-0.5**
COEN	**Coen**	**23.45**	**268**	*eP*	**P**	**22 55 07.7**	**-2.6**
BFZ	34nm,1.4s **Binh Farm**	**27.32**	**165**	*eP*	**P**	**22 55 46.5**	**+1.6**
KHZ	84nm,1.3s **Kahutara**	**28.44**	**170**	*eP*	**P**	**22 55 54.9**	**+0.1**
STKA	465nm,2.8s **Stephens Creek**	**29.28**	**229**	P	**P**	**22 56 03.2**	**+0.8**
WRA	3.0nm,0.4s,baz=40,slow=8.5,SNR=11 **Warramunga Arr**	**31.99**	**255**	P	**P**	**22 56 25.4**	**-1.0**
AS01	2.0nm,0.6s,baz=85,slow=8.9,SNR=10 **Alice Springs**	**32.83**	**249**	*eP*	**P**	**22 56 33.1**	**-0.6**
AS12	**Alice Springs**	**32.88**	**249**	*eP*	**P**	**22 56 33.1**	**-1.0**
ASAR	**Alice Springs**	**32.88**	**249**	P	**P**	**22 56 33.1**	**-1.0**
BBOO	3.5nm,0.5s,baz=78,slow=9.3,SNR=36 **Buckleboo**	**33.85**	**232**	*eP*	**P**	**22 56 42.9**	**+0.5**
SIJI	103nm,1.8s **Sorong**	**38.12**	**287**	P	**P**	**22 57 19.4**	**+0.5**
FORT	14nm,0.8s,baz=89,slow=6.8,SNR=6.9 **Forrest**	**39.55**	**239**	*eP*	**P**	**22 57 30.3**	**-0.2**
MBWA	511nm,2.8s **Marble Bar**	**45.72**	**254**	*eP*	**P**	**22 58 20.2**	**-0.2**
MJAR	37nm,1.6s **Matsushiro Arr**	**57.64**	**332**	P	**P**	**22 59 48.9**	**+0.4**
MAJO	0.9nm,0.3s,baz=169,slow=7.9,SNR=4.7 **Matsushiro**	**57.65**	**332**	*eP*	**P**	**22 59 48.9**	**+0.4**
CASY	146nm,2.4s **Casey**	**63.87**	**202**	*eP*	**P**	**23 00 29.8**	**-0.4**
PEA2	207nm,2.9s **Petropavlovsk-**	**67.73**	**354**	*eP*	**P**	**23 00 56.2**	**+1.3**
PETK	**Petropavlovsk-**	**67.73**	**354**	P	**P**	**23 00 56.2**	**+1.3**
FALS	2.7nm,0.8s,baz=150,slow=9.8,SNR=4.0 **False Pass**	**73.29**	**17**	*eP*	**P**	**23 01 26.6**	**-1.9**
CM31	**Chiang Mai Arr**	**74.89**	**294**	*eP*	**P**	**23 01 39.6**	**+1.0**
CMAR	**Chiang Mai Arr**	**74.89**	**294**	P	**P**	**23 01 39.6**	**+1.0**
SONA0	0.6nm,0.3s,baz=131,slow=5.0,SNR=4.6 **Songino Array**	**82.28**	**324**	*eP*	**P**	**23 02 19.4**	**+0.9**
SONM	**Songino Array**	**82.28**	**324**	P	**P**	**23 02 19.5**	**+0.9**
	0.9nm,0.6s,baz=147,slow=5.6,SNR=5.0						

ILAR	**Eielson Array**	**86.18**	**18**	P	**P**	**23 02 36.9**	**-0.8**
	0.6nm,0.8s,baz=237,slow=6.1,SNR=4.0						
ILB	**Eielson Array**	**86.18**	**18**	*eP*	**P**	**23 02 36.9**	**-0.8**
SLMT	**Seeley Lake**	**93.23**	**42**	*eP*	**P**	**23 03 11.7**	**+0.3**
LRM	**Limekiln Ridge**	**93.50**	**44**	*ePcP*	PcP	23 03 19.6	+6.4
ARCES	**ARCESS Array B**	**119.95**	**345**	PKP	**PKPdf**	**23 08 45.7**	**+0.1**
	1.6nm,0.4s,baz=72,slow=2.2,SNR=14						
FINES	**FINESS Array B**	**125.44**	**338**	PKP	**PKPdf**	**23 08 56.6**	**+0.2**
	1.0nm,0.7s,baz=108,slow=4.5,SNR=3.0						
NB2	**NORSAR Subarra**	**130.32**	**345**	SKPa		23 12 14.1	
	comp=Z,1.8nm,1.0s,baz=25,slow=4.3						
KEST	**Kesra**	**151.00**	**321**	PKPbc	**PKPbc**	**23 09 49.6**	**+0.4**
	comp=Z,2.7nm,0.7s,baz=111,slow=3.5,SNR=18						

NIED ***11*** *22:51:00, 30°.70N×140°.70E, h8km, Mw3.8 Best double couple: M₀6.17000×10¹⁴ NP1:φ₅205.00000°, δ15.00000°, λ-125.00000°. NP2:φ₅60.00000°, δ78.00000°, λ-81.00000°.*

ISCJB ***11*** *22:51:21.6±0.3, 30°.73N±0°.03×140°.60E±0°.06, h98km, mb4.2/32, Error ellipse: s-maj=7.3km s-min=3.4km az=163.1*

JMA ***11*** *22:51:22.9±0.1, 30°.70N×140°.67E, h102km±5km, M3.8*

IDC ***11*** *22:51:23.7±0.5, 30°.66N×140°.43E, h105km±4km, mb3.8/24, mb1 3.9/28, mb1mx3.8/61, mbtmp4.2/28, MS2.6/1, Ms1 2.6/1, ms1mx2.1/34, Error ellipse: s-maj=14.0km s-min=8.7km az=66.0*

MOS ***11*** *22:51:23.7±0.9, 30°.65N×140°.33E, h120km, mb4.1/16, Error ellipse: s-maj=16.5km s-min=7.6km az=113.8*

NEIC ***11*** *22:51:23.6±0.4, 30°.67N×140°.45E, h104km±4km, mb4.6/4, Error ellipse: s-maj=8.5km s-min=4.3km az=61.0*

ISC 11 22:51:23.2±0.4, 30°.73N±0°.05×140°.59E±0°.07, h98km, n120, σ1°920/137, mb4.2/32, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.43**	**344**	P	**Pn**	**22 52 02.4**	**+1.0**
JHJ2	**Mitsune**	**2.46**	**345**	P	**Pn**	**22 52 03.3**	**+1.5**
JHJ2	**Mitsune**	**2.46**	**345**	*ePn*	**Pn**	**22 52 02.9**	**+1.1**
JHJ2				*eSn*	**Sn**	**22 52 31.6**	**+0.2**
JKO	**Kozu shima**	**3.66**	**341**	P	**Pn**	**22 52 20.1**	**+2.3**
CBIJ	**Chichi jima**	**3.88**	**159**	P	**Pn**	**22 52 20.8**	**0.0**
CBIJ				*eS*	**Sn**	**22 52 53.5**	**-0.1**
CBIJ	**Chichi jima**	**3.88**	**159**	P	**Pn**	**22 52 20.5**	**-0.3**
CBIJ				S	**Sn**	**22 53 05.3**	**-0.1**
JCJ	**Chichijima**	**3.88**	**159**	P	**Pn**	**22 52 20.5**	**-0.3**
	43nm,0.3s,baz=299,slow=18,SNR=11						
JCJ				S	**Sn**	**22 53 05.3**	**-0.1**
	30nm,0.3s,baz=308,slow=19,SNR=4.2						
CBI	**Chichi jima**	**3.89**	**159**	*ePn*	**Pn**	**22 52 20.5**	**-0.3**
BSO1	**Boso 1**	**3.93**	**5**	P	**Pn**	**22 52 20.3**	**-0.6**
BSO1				*eS*	**Sn**	**22 53 03.1**	**-2.5**
BSO3	**Boso 3**	**4.06**	**359**	P	**Pn**	**22 52 22.2**	**-0.7**
BSO3				*eS*	**Sn**	**22 53 05.8**	**-3.5**
BSO4	**Boso 4**	**4.25**	**357**	P	**Pn**	**22 52 26.3**	**+0.6**
BSO4				*eS*	**Sn**	**22 53 13.2**	**-1.0**
TTOI	**TONANKAI O.B.S**	**4.33**	**313**	P	**Pn**	**22 52 28.6**	**+2.1**
JHMK	**Hamakita**	**4.72**	**330**	P	**Pn**	**22 52 34.2**	**+2.2**
HMMJ	**Hamamatsu 2**	**4.77**	**330**	P	**Pn**	**22 52 35.0**	**+2.2**
JIE	**Ise**	**4.91**	**319**	P	**Pn**	**22 52 36.5**	**+1.9**
JWZ	**Kozaga**	**4.99**	**305**	P	**Pn**	**22 52 36.9**	**+1.1**
JKN2	**Miekihoku**	**5.06**	**315**	P	**Pn**	**22 52 38.0**	**+1.4**
JNY	**Yasuok**	**5.15**	**334**	P	**Pn**	**22 52 41.1**	**+3.0**
JHU	**Hanno**	**5.22**	**348**	P	**Pn**	**22 52 38.1**	**-0.8**
JHU				*eS*	**Sn**	**22 53 36.8**	**-1.1**
JAO	**Obara**	**5.32**	**329**	P	**Pn**	**22 52 42.9**	**+2.6**
JRY	**Ryogami san**	**5.46**	**345**	P	**Pn**	**22 52 42.0**	**-0.2**
JEG	**Eigenji**	**5.64**	**322**	P	**Pn**	**22 52 47.4**	**+2.8**
JHO	**Hitachi**	**5.87**	**360**	P	**Pn**	**22 52 45.6**	**-2.0**
MJAR	**Matsushiro Arr**	**6.13**	**342**	P	**Pn**	**22 52 52.0**	**+0.8**
	2.0nm,0.3s,baz=163,slow=12,SNR=10						
MJAR				S	**Sn**	**22 53 59.7**	**-0.2**
	0.9nm,0.3s,baz=171,slow=18,SNR=3.3						
MJAR	**Matsushiro Arr**	**6.13**	**342**	P	**Pn**	**22 52 52.0**	**+0.8**
MJAR				S	**Sn**	**22 53 59.7**	**-0.2**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR				smax	smax		
	comp=N,1.0nm,0.3s						
MAJO	**Matsushiro**	**6.13**	**342**	*eP*	**Pn**	**22 52 52.9**	**+1.7**
MAJO	**Matsushiro**	**6.13**	**342**	*ePn*	**Pn**	**22 52 52.9**	**+1.7**
JMK	**Ichinoseki**	**8.22**	**3**	P	**Pn**	**22 53 17.3**	**-2.3**
JMK				*eS*	Sn	22 54 41.8	-8.9
JNU	**Nakatsue**	**8.59**	**289**	P	**Pn**	**22 53 28.0**	**+3.2**
	comp=N,0.9nm,0.3s,baz=119

	comp=Z,95nm,1.5s									
KURBB	**Kurchatov Arra**	**49.54**	**312**	P		**P**		**23 00 02.3**	**-1.6**	
	comp=Z,1.3nm,0.6s,baz=92,slow=6.8,SNR=14									
WRA	**Warramunga Arr**	**50.74**	**188**	P		**P**		**23 00 12.0**	**-1.2**	
	comp=Z,0.3nm,0.3s,baz=360,slow=7.8,SNR=5.8									
WRA	**Warramunga Arr**	**50.74**	**188**	P		**P**		**23 00 12.0**	**-1.2**	
CAST	**Castle Rocks**	**52.88**	**31**	*e*P		**P**		**23 00 28.9**	**+0.2**	
	comp=Z,109nm,2.8s									
BVAR	**Borovoye Array**	**54.45**	**316**	P		**P**		**23 00 39.5**	**-0.8**	
	comp=Z,1.8nm,0.6s,baz=96,slow=9.7,SNR=6.1									
BVAR	**Borovoye Array**	**54.45**	**316**	P		**P**		**23 00 39.5**	**-0.8**	
BVAR				pmax		pmax				
	comp=Z,2.0nm,0.6s									
AS12	**Alice Springs**	**54.47**	**188**	*e*P		**P**		**23 00 40.0**	**-0.7**	
ASAR	**Alice Springs**	**54.47**	**188**	P		**P**		**23 00 40.0**	**-0.7**	
	comp=Z,0.3nm,0.5s,baz=359,slow=6.6,SNR=5.1									
ILAR	**Eielson Array**	**55.23**	**30**	P		**P**		**23 00 46.3**	**+0.5**	
	comp=Z,1.0nm,0.8s,baz=260,slow=5.9,SNR=9.4									
ILAR	**Eielson Array**	**55.23**	**30**	P		**P**		**23 00 46.3**	**+0.5**	
ILAR				pmax		pmax				
	comp=Z,1.0nm,0.8s									
ILB	**Eielson Array**	**55.23**	**30**	*e*P		**P**		**23 00 46.3**	**+0.5**	
INK	**Inuvik**	**60.33**	**25**	P		**P**		**23 01 21.7**	**+0.4**	
	comp=Z,0.6nm,0.3s,baz=273,slow=8.8,SNR=4.4									
INK				pP		**pP**		**23 01 47.8**	**+2.2**	
	comp=Z,0.9nm,0.8s,baz=264,slow=6.2,SNR=2.2									
INK	**Inuvik**	**60.33**	**25**	P		**P**		**23 01 21.7**	**+0.4**	
INK				*PP		**pP**		**23 01 47.8**	**+2.2**	
INK				pmax		pmax				
	comp=Z,1.0nm,0.3s									
INK				pmax		pmax				
	comp=Z,1.0nm,0.8s									
ARU	**Arti**	**60.72**	**321**	*e*P		**P**		**23 01 23.4**	**-0.8**	
ARU				pmax		pmax				
	comp=Z,39nm,0.7s									
ARU	**Arti**	**60.72**	**321**	*e*P		**P**		**23 01 23.4**	**-0.8**	
	comp=Z,39nm,0.7s									
SPA0	**Spitsbergen Ar**	**66.57**	**349**	*e*P		**P**		**23 02 02.2**	**-0.1**	
SPITS	**Spitsbergen Ar**	**66.57**	**349**	P		**P**		**23 02 02.2**	**-0.1**	
	comp=Z,5.3nm,0.9s,baz=92,slow=7.5,SNR=5.4									
SPITS	**Spitsbergen Ar**	**66.57**	**349**	P		**P**		**23 02 02.2**	**-0.1**	
SPITS				pmax		pmax				
	comp=Z,5.0nm,0.9s									
YKA	**Yellowknife Ar**	**69.62**	**29**	P		**P**		**23 02 22.1**	**+0.5**	
	comp=Z,0.4nm,0.6s,baz=297,slow=6.3,SNR=5.3									
YKA				pP		**pP**		**23 02 48.9**	**+2.5**	
	comp=Z,0.2nm,0.5s,baz=298,slow=6.3,SNR=3.4									
YKB5	**Yellowknife Ar**	**69.62**	**29**	*e*P		**P**		**23 02 22.1**	**+0.5**	
ARA0	**ARCESS Array S**	**69.66**	**340**	*e*P		**P**		**23 02 21.4**	**-0.3**	
ARCES	**ARCESS Array B**	**69.66**	**340**	P		**P**		**23 02 21.4**	**-0.3**	
	comp=Z,2.6nm,0.6s,baz=71,slow=9.1,SNR=18									
ARCES				pP		**pP**		**23 02 48.4**	**+1.8**	
	comp=Z,4.8nm,1.2s,baz=67,slow=7.9,SNR=1.4									
ARCES	**ARCESS Array B**	**69.66**	**340**	P		**P**		**23 02 21.5**	**-0.3**	
ARCES				*PP		**pP**		**23 02 48.4**	**+1.8**	
ARCES				pmax		pmax				
	comp=Z,3.0nm,0.6s									
ARCES				pmax		pmax				
	comp=Z,5.0nm,1.2s									
FIA0	**FINESS Array S**	**74.08**	**333**	*e*P		**P**		**23 02 47.7**	**-0.6**	
FIA0	**FINESS Array S**	**74.08**	**333**	*e*P		**P**		**23 02 47.7**	**-0.6**	
FINES	**FINESS Array B**	**74.08**	**333**	P		**P**		**23 02 47.7**	**-0.6**	
	comp=Z,1.1nm,0.3s,baz=86,slow=5.9,SNR=25									
FINES	**FINESS Array B**	**74.08**	**333**	P		**P**		**23 02 47.7**	**-0.6**	
FINES				pmax		pmax				
	comp=Z,1.0nm,0.3s									
KBZ	**Khabaz**	**74.53**	**312**	P		**P**		**23 02 51.1**	**-0.1**	
	comp=Z,6.2nm,0.9s,baz=233,slow=20,SNR=17									
KBZ	**Khabaz**	**74.53**	**312**	P		**P**		**23 02 51.1**	**-0.1**	
KBZ				pmax		pmax				
	comp=Z,6.0nm,0.9s									
KIV	**Kislovodsk**	**74.56**	**312**	*e*P		**P**		**23 02 51.3**	**-0.3**	
KIV				pmax		pmax				
	comp=Z,32nm,0.8s									
KIV	**Kislovodsk**	**74.56**	**312**	*e*P		**P**		**23 02 51.3**	**-0.3**	
	comp=Z,32nm,0.8s									
AKASG	**Malin Array Be**	**78.88**	**323**	P		**P**		**23 03 14.9**	**-0.6**	
	comp=Z,1.3nm,0.3s,baz=50,slow=5.7,SNR=8.2									
AKASG	**Malin Array Be**	**78.88**	**323**	P		**P**		**23 03 15.0**	**-0.6**	
AKASG				pmax		pmax				
	comp=Z,1.0nm,0.3s									
AKBB	**Malin Array Si**	**78.88**	**323**	*e*P		**P**		**23 03 15.0**	**-0.6**	
AKBB	**Malin Array Si**	**78.88**	**323**	*e*P		**P**		**23 03 14.9**	**-0.6**	
NV01	**Mina Array Sit**	**79.37**	**52**	*e*P		**P**		**23 03 19.2**	**+0.5**	
NVAR	**Mina Array Bea**	**79.37**	**52**	P		**P**		**23 03 19.3**	**+0.5**	
	comp=Z,0.5nm,0.4s,baz=286,slow=6.5,SNR=3.2									
HFS	**Hagfors**	**79.55**	**336**	P		**P**		**23 03 18.4**	**-0.6**	
	comp=Z,1.9nm,0.6s,baz=90,slow=1.5,SNR=10									
HFS	**Hagfors**	**79.55**	**336**	P		**P**		**23 03 18.4**	**-0.6**	
HFS				pmax		pmax				
	comp=Z,2.0nm,0.6s									
NB2	**NORSAR Subarra**	**79.73**	**338**	P		**P**		**23 03 19.7**	**-0.4**	
	comp=Z,0.7nm,0.5s,baz=43,slow=5.3									
NB200	**NORSAR Array S**	**79.73**	**338**	*e*P		**P**		**23 03 19.9**	**-0.2**	
NOA	**NORSAR Array B**	**79.73**	**338**	P		**P**		**23 03 19.9**	**-0.2**	
	comp=Z,0.8nm,0.5s,baz=44,slow=5.5,SNR=5.8									
NOA				pP		**pP**		**23 03 46.4**	**+1.0**	
	comp=Z,0.7nm,0.7s,baz=45,slow=5.0,SNR=2.5									
NOA	**NORSAR Array B**	**79.73**	**338**	P		**P**		**23 03 19.9**	**-0.2**	
NOA				*PP		**pP**		**23 03 46.4**	**+1.0**	
NOA				pmax		pmax				
	comp=Z,1.0nm,0.5s									
NOA				pmax		pmax				
	comp=Z,1.0nm,0.7s									
BR101	**Keskin Array S**	**82.53**	**312**	*e*P		**P**		**23 03 35.5**	**+0.1**	
BRTR	**Keskin Array B**	**82.53**	**312**	P		**P**		**23 03 35.5**	**+0.1**	
	comp=Z,3.7nm,0.7s,baz=109,slow=3.2,SNR=33									
BRTR				pP		**pP**		**23 04 01.7**	**+0.7**	
	comp=Z,0.7nm,0.8s,baz=125,slow=3.9,SNR=1.7									
BRTR	**Keskin Array B**	**82.53**	**312**	P		**P**		**23 03 35.6**	**+0.1**	
BRTR				*PP		**pP**		**23 04 01.7**	**+0.7**	
BRTR				pmax		pmax				
	comp=Z,4.0nm,0.7s									
BRTR				pmax		pmax				
	comp=Z,1.0nm,0.8s									
PD31	**Pinedale Array**	**82.61**	**44**	*e*P		**P**		**23 03 36.9**	**+1.0**	
PDAR	**Pinedale Array**	**82.61**	**44**	P		**P**		**23 03 36.9**	**+1.0**	
	comp=Z,0.4nm,0.5s,baz=1.9,slow=4.2,SNR=6.1									
MMAI	**Mount Meron Ar**	**85.06**	**306**	P		**P**		**23 03 48.4**	**+0.1**	
	comp=Z,1.9nm,0.5s,baz=37,slow=4.5,SNR=8.4									
CSS	**Prodhromos**	**85.40**	**308**	*e*P		**P**		**23 03 49.9**	**-0.1**	
	comp=Z,2.3nm,0.9s									
IDI	**Anoyia**	**90.75**	**313**	P		**P**		**23 04 14.9**	**-0.6**	
	comp=Z,3.8nm,0.9s,baz=55,slow=5.5,SNR=7.0									
TX31	**Lajitas Ar. Si**	**94.52**	**52**	*e*P		**P**		**23 04 35.0**	**+1.9**	
LTX	**Lajitas**	**94.52**	**52**	*e*P		**P**		**23 04 33.6**	**+0.5**	
LTX	**Lajitas**	**94.52**	**52**	*e*P		**P**		**23 04 33.6**	**+0.5**	
TXAR	**Lajitas Array**	**94.52**	**52**	P		**P**		**23 04 33.6**	**+0.5**	
	comp=Z,1.7nm,0.7s,baz=297,slow=2.8,SNR=15									
TXAR				pP		**pP**		**23 05 00.2**	**+1.3**	
	comp=Z,0.9nm,0.6s,baz=273,slow=2.3,SNR=4.2									
TXAR	**Lajitas Array**	**94.52**	**52**	P		**P**		**23 04 33.6**	**+0.5**	
TXAR				pmax		pmax				
	comp=Z,2.0nm,0.7s									
TXAR				pmax		pmax				
	comp=Z,1.0nm,0.6s									
LPAZ	**La Paz**	**150.10**	**68**	PKPbc		**PKPbc**		**23 11 03.6**	**-0.3**	
	comp=Z,1.0nm,0.6s,baz=282,slow=2.0,SNR=6.3									
LPAZ				pPKPbc		**pPKPbc**		**23 11 33.0**	**+2.2**	
	comp=Z,1.3nm,0.8s,baz=297,slow=2.3,SNR=2.8									
LPAZ	**La Paz**	**150.10**	**68**	PKIKP		**PKPbc**		**23 11 03.6**	**-0.3**	
LPAZ								23 11 33.0		
LPAZ				pmax		pmax				
	comp=Z,1.0nm,0.6s									
LPAZ				pmax		pmax				
	comp=Z,1.0nm,0.8s									

LDG **11** *22:58:26.6±0.1,41°.20N×72°.05E,h10km,Mb4.8/30, Ms3.5/8,Error ellipse: s-maj=9.9km s-min=5.5km az=31.0*
IDC **11** *22:58:28.5±0.4,41°.32N×71°.91E,h0km, mb4.6/37, mb1 4.7/44,mb1mx4.7/45,mbtmp4.6/44,ML4.3/7,MS3.8/26, Ms1 3.8/26,ms1mx3.7/40,Error ellipse: s-maj=10.1km s-min=6.3km az=155.0*
BJI **11** *22:58:31.7,41°.59N×71°.83E,h32km, mb4.5/32,mB4.7/24, ML4.9/7,Ms4.1/25,Ms7 3.9/27*
KRNET **11** *22:58:31.9±0.1,41°.35N×72°.06E,h1km, mb5.3*
NNC **11** *22:58:32.1±0.6,41°.38N×71°.96E,h0km, mb5.5,mpv5.2, Error ellipse: s-maj=5.8km s-min=5.1km az=64.0*
ISCJB **11** *22:58:33.7±0.3,41°.34N±0°.02×71°.83E±0°.02,h44km±3km, mb4.7/128,MS3.9/34,Error ellipse: s-maj=2.9km s-min=2.4km az=161.4*
MOS **11** *22:58:33.2±1.0,41°.47N×71°.77E,h33km,mb4.9/70,Error*

ellipse: s-maj=4.9km s-min=3.8km az=43.8
NEIC **11** *22:58:34.5±1.1,41°.45N×71°.83E,h34km±8km,mb4.9/59, Error ellipse: s-maj=4.9km s-min=3.1km az=177.0*
NEIC Felt at Osh. Felt [IV] at Namangan, Uzbekistan. Also felt at Angren, Farg'ona and Tashkent.
SZGRF **11** *22:58:36.6,40°.52N×70°.98E,h33km,mb4.4,MS4.1, Tajikistan*
ISC 11 22:58:34.3±0.4,41°.43N±0°.03×71°.87E±0°.02,h34km±1km, h34km:pP-P,n600,σ1§38/657,mb4.8/131,MS3.9/35, 94C-30D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	h	m	s	Res ISC
AML	**Almayashu**	**1.53**	**62**	P		**Pn**	**22**	**58**	**59.7**	**+0.1**
	SNR=7048									
AML	**Almayashu**	**1.53**	**62**	*i* PN		**Pn**	**22**	**58**	**59.7**	**+0.1**
AML	**Almayashu**	**1.53**	**62**	⇑*i*P		**Pn**	**22**	**58**	**59.6**	**0.0**
	baz=57									
AML				⇑*i*S		**Sn**	**22**	**59**	**20.0**	**+1.5**
	baz=57									
SALK	**Salom-Alik**	**1.57**	**110**	⇓*i*P		**Pn**	**22**	**58**	**58.9**	**-1.0**
	baz=109									
BTK	**Batken**	**1.59**	**211**	⇓*i*P		**Pb**	**22**	**59**	**02.0**	**-1.1**
	baz=217									
BTK				⇓*e*S		**Sb**	**22**	**59**	**24.0**	**+1.1**
	baz=217									
EKS2	**Erkin-Say**	**1.88**	**49**	P		**Pb**	**22**	**59**	**06.1**	**-1.9**
	SNR=934									
EKS2	**Erkin-Say**	**1.88**	**49**	*e*PN		**Pb**	**22**	**59**	**06.3**	**-1.7**
EKS2				*e*			22	59	27.6	
EKS2	**Erkin-Say**	**1.88**	**49**	⇑*i*P		**Pb**	**22**	**59**	**06.0**	**-1.9**
	baz=44									
EKS2				⇑*i*S		**Sb**	**22**	**59**	**30.5**	**-0.6**
	baz=44									
EKS2	**Erkin-Say**	**1.88**	**49**	*e*Pn		**Pb**	**22**	**59**	**06.3**	**-1.7**
EKS2				*e*Sn		**Sn**	**22**	**59**	**27.6**	**+0.9**
SFK	**Sufi-Kurgan**	**1.88**	**138**	⇓Pg		**Pn**	**22**	**59**	**04.5**	**+0.2**
	1μm,0.5s									
SFK				⇑Lg		Lg	22	59	29.2	
	8μm,0.6s									
EKS	**Erkin-Say**	**1.89**	**48**	⇓*i*P		**Pb**	**22**	**59**	**06.6**	**-1.5**
	baz=44									
KK31	**Karatay Array**	**1.95**	**329**	⇑Pn		**Pb**	**22**	**59**	**07.2**	**-2.0**
	2μm,0.6s									
KK31				⇓Sn		**Sb**	**22**	**59**	**35.0**	**+1.8**
	6μm,0.5s									
KKAR	**Karatay Array**	**1.95**	**329**	*e*PN		**Pb**	**22**	**59**	**07.3**	**-1.9**
KKAR				*e*			22	59	29.9	
KKAR	**Karatay Array**	**1.95**	**329**	*e*Pn		**Pb**	**22**	**59**	**07.3**	**-1.9**
KKAR				*e*Sn		**Sn**	**22**	**59**	**29.9**	**+1.6**
UCH	**Uchtor**	**2.13**	**67**	P		**Pn**	**22**	**59**	**09.4**	**+1.5**
	SNR=1251									
UCH	**Uchtor**	**2.13**	**67**	*i* PN		**Pn**	**22**	**59**	**09.3**	**+1.5**
UCH	**Uchtor**	**2.13**	**67**	⇑*i*P		**Pn**	**22**	**59**	**09.3**	**+1.5**
	baz=64									
UCH				⇑*i*S		**Sb**	**22**	**59**	**37.3**	**-1.3**
	baz=64									
AAK	**Ala-Archa**	**2.29**	**58**	P		**Pn**	**22**	**59**	**12.0**	**+2.1**
	SNR=272									
AAK	**Ala-Archa**	**2.29**	**58**	⇓Pn		**Pn**	**22**	**59**	**11.8**	**+1.9**
	2μm,0.7s									
AAK				⇓Lg		Lg	22	59	42.3	
	2μm,0.5s									
AAK	**Ala-Archa**	**2.29**	**58**	Pn		**Pn**	**22**	**59**	**11.8**	**+1.9**
	471nm,0.3s,baz=213,slow=9.4,SNR=735									
AAK				Lg		Lg	22	59	43.7	
	538nm,0.3s,baz=356,slow=22,SNR=15									
AAK				LR		LR	23	00	20.6	
	comp=Z,1μm,21.3s,baz=291,slow=48									
AAK	**Ala-Archa**	**2.29**	**58**	*e*PN		**Pb**	**22**	**59**	**12.5**	**-2.5**
AAK				*e*			22	59	41.8	
AAK	**Ala-Archa**	**2.29**	**58**	Pn		**Pn**	**22**	**59**	**12.2**	**+2.3**
	SNR=556									
AAK	**Ala-Archa**	**2.29**	**58**	⇑*i*P		**Pn**	**22**	**59**	**11.9**	**+2.1**
	baz=54									
AAK				⇑*i*S		**Sb**	**22**	**59**	**42.8**	**-0.3**
	baz=54									
AAK	**Ala-Archa**	**2.29**	**58**	*e*Pn		**Pb**	**22**	**59**	**12.5**	**-2.5**
AAK				*e*Sn		**Sb**	**22**	**59**	**41.8**	**-1.2**
FRU	**Bishkek**	**2.48**	**55**	*i* PN		**Pn**	**22**	**59**	**14.0**	**+1.8**
FRU				*i* S		**Sb**	**22**	**59**	**45.0**	**-3.2**
FRU				pmax		pmax				
	comp=Z,1μm,1.7s									
FRU				smax		smax				
	comp=N,4μm,1.6s									
FRU	**Bishkek**	**2.48**	**55**	⇓*i*P		**Pn**	**22**	**59**	**14.0**	**+1.8**
	baz=51									
FRU				⇓*e*S		**Sb**	**22**	**59**	**45.0**	**-3.2**
	baz=51									
KBK	**Karagaybulak**	**2.60**	**61**	P		**Pn**	**22**	**59**	**16.6**	**+2.6**
	SNR=592									
KBK	**Karagaybulak**	**2.60**	**61**	*i* PN		**Pn**	**22**	**59**	**16.6**	**+2.6**
KBK	**Karagaybulak**	**2.60**	**61**	⇑*i*P		**Pn**	**22**	**59**	**16.5**	**+2.5**
	baz=58									
KBK				⇑*i*S		**Sb**	**22**	**59**	**50.5**	**-1.3**
	baz=58									
KZA	**Kyzart**	**2.61**	**75**	P		**Pn**	**22**	**59**	**16.2**	**+1.7**
	SNR=440									
KZA	**Kyzart**	**2.61**	**75**	*i* PN		**Pn**	**22**	**59**	**16.1**	**+1.7**
KZA	**Kyzart**	**2.61**	**75**	⇑*i*P		**Pn**	**22**	**59**	**16.1**	**+1.7**
	baz=72									
KZA				⇑*i*S		**Sn**	**22**	**59**	**48.8**	**+3.7**
	baz=72									
CHMS	**Chumysh**	**2.65**	**53**	P		**Pn**	**22**	**59**	**16.8**	**+2.1**
	SNR=280									
CHMS	**Chumysh**	**2.65**	**53**	*i* PN		**Pn**	**22**	**59**	**16.7**	**+2.1**
CHMS	**Chumysh**	**2.65**	**53**	⇑*i*P		**Pn**	**22**	**59**	**16.7**	**+2.1**
	baz=50									
CHMS				⇑*i*S		**Sb**	**22**	**59**	**50.0**	**-3.2**
	baz=50									
USP	**Ospenovka**	**2.67**	**46**	P		**Pn**	**22**	**59**	**16.8**	**+1.8**
	SNR=85									
USP	**Ospenovka**	**2.67**	**46**	*i* PN		**Pn**	**22**	**59**	**16.8**	**+1.8**
USP	**Ospenovka**	**2.67**	**46**	*e*P		**Pn**	**22**	**59**	**17.1**	**+2.1**
	baz=43									
USP				*i* S		**Sb**	**22**	**59**	**51.7**	**-2.2**
	baz=43									
NRN	**Naryn**	**3.10**	**89**	*e*P		**Pn**	**22**	**59**	**21.9**	**+0.8**
	baz=87									
TKM2	**Tokmak 2**	**3.14**	**61**	P		**Pn**	**22**	**59**	**23.3**	**+1.7**
	SNR=268									
TKM2	**Tokmak 2**	**3.14**	**61**	⇑Pn		**Pn**	**22**	**59**	**23.3**	**+1.7**
	comp=N,107nm,0.5s									
TKM2				⇓Pg		Pb	22	59	33.4	+3.8
	comp=N,881nm,0.7s									
TKM2				⇑Lg		Lg	23	00	08.5	
	comp=N,3μm,0.8s									
TKM2	**Tokmak 2**	**3.14**	**61**	*i* PN		**Pn**	**22**	**59**	**23.2**	**+1.7**
TKM2	**Tokmak 2**	**3.14**	**61**	*e*Pn		**Pn**	**22**	**59**	**23.2**	**+1.7**
TKM2				*e*Sn		**Sn**	**22**	**59**	**55.8**	**-2.3**
ULHL	**Ulahol**	**3.36**	**75**	P		**Pn**	**22**	**59**	**26.2**	**+1.6**
	SNR=101									
ULHL	**Ulahol**	**3.36**	**75**	*i* PN		**Pn**	**22**	**59**	**26.2**	**+1.6**
DZET	**Dzherino**	**3.51**	**223**	⇑Pn		**Pn**	**22**	**59**	**29.1**	**+2.6**
	comp=N,427nm,0.5s									
DZET				⇑Pg		**Pb**	**22**	**59**	**34.5**	**-1.2**
	comp=N,770nm,0.5s									
DZET				⇑Sn		**Sn**	**23**	**00**	**11.8**	**+4.8**
	comp=N,2μm,0.7s									
DZET				⇓Lg		Lg	23	00	26.8	
	comp=N,2μm,0.6s									
KSH	**Kashi**	**3.67**	**120**	Pn		**Pn**	**22**	**59**	**29.3**	**+0.6**
KSH				Sn		**Sn**	**23**	**00**	**08.6**	**-2.2**
KSH				SMN						
	comp=N,4μm,0.8s									
KSH				SME						
	comp=N,4μm,1.1s									
KNDC	**Almaty**	**4.18**	**63**	⇑Pn		**Pn**	**22**	**59**	**37.9**	**+2.2**
	comp=N,126nm,0.3s									
KNDC				⇑Pg		**Pb**	**22**	**59**	**47.8**	**+0.8**
	comp=N,619nm,0.5s									
KNDC				⇓Lg		Lg	23	00	41.2	
	comp=N,2μm,0.6s									
AAA	**Alma-Ata**	**4.18**	**62**	*i* PN		**Pb**	**22**	**59**	**47.3**	**+0.1**
AAA				*i* S		**Sb**	**23**	**00**	**40.9**	**+3.6**
AAA				pmax		pmax				
	comp=Z,553nm,0.2s									
AAA				smax		smax				
	comp=N,3μm,0.3s									
PDGK	**Podgornoye**	**5.95**	**69**	⇑Pn		**Pn**	**23**	**00**	**01.0**	**+1.1**
	comp=N,31nm,0.6s									
PDGK				⇓Pg		**Pb**	**23**	**00**	**18.8**	**+1.7**
	comp=N,366nm,0.9s									
PDGK				⇑Lg		Lg	23	01	37.9	
	comp=N,793nm,0.9s									
OTUK	**Ortayu**	**6.82**	**3**	⇑Pn		**Pn**	**23**	**00**	**12.8**	**+0.9**
	comp=N,172nm,0.7s									
OTUK				⇑Sn		Sn	23	01	36.8	+8.6
	comp=N,370nm,0.6s									
OTUK				⇓Lg		Lg	23	02	07.6	
	comp=N,2μm,0.7s									
KBL	**Kabul**	**7.23**	**199**	*e*P		**Pn**	**23**	**00**	**20.0**	**+2.2**
KBL				*e*			23	01	38.6	
KBL	**Kabul**	**7.23**	**199**	*e*Pn		**Pn**	**23**	**00**	**20.0**	**+2.2**
KBL				*e*Sn		**Sn**	**23**	**01**	**38.6**	**-0.3**
CEP	**Cherat**	**7.60**	**180**	P		**Pn**	23	00	26.2	+3.5
CEP				S		**Sn**	**23**	**01**	**49.0**	**+1.3**
CHCP	**Chirah Chowk**	**7.84**	**171**	P		**Pn**	**23**	**00**	**27.0**	**+1.1**
THW	**Thamme Wali**	**8.62**	**181**	P		**Pn**	**23**	**00**	**36.0**	**-0.7**
MK01	**Makanchi Array**	**9.20**	**51**	*e*Pn		**Pn**	**23**	**00**	**45.1**	**+0.5**
MK31	**Makanchi Array**	**9.21**	**51**	Pn		**Pn**	**23**	**00**	**45.6**	**+1.0**
	comp=N,31nm,0.6s,baz=243,slow=16,SNR=202									
MK31				⇑Lg		Lg	23	03	22.9	
	comp=N,261nm,1.1s,baz=52,slow=33,SNR=5.0									
MK31	**Makanchi Array**	**9.21**	**51**	*e*P		**Pn**	**23**	**00**	**45.6**	**+1.0**
MK31				*e*			23	02	26.6	
MK31	**Makanchi Array**	**9.21**	**51**	*e*Pn		**Pn**	**23**	**00**	**45.6**	**+1.0**
MK31				*e*Sn		**Sn**	**23**	**02**	**26.6**	**-0.4**
MKAR	**Makanchi Array**	**9.21**	**51**	Pn		**Pn**	**23**	**00**	**44.5**	**-0.1**
	comp=N,4.8nm,0.3s,baz=241,slow=16,SNR=150									
MKAR				Sn		**Sn**	**23**	**02**	**26.8**	**-0.3**
	baz=246,slow=21,SNR=2.0									
MKAR				Lg		Lg	23	03	22.9	
	comp=N,14nm,0.3s,baz=236,slow=33,SNR=5.5									
MKAR				LR		LR	23	04	33.7	
	comp=N,458nm,18.7s,baz=248,slow=39									
MKAR	**Makanchi Array**	**9.21**	**51**	*e*P		**Pn**	**23**	**00**	**46.0**	**+1.3**
MKAR				*e*			23	02	28.0	
MKAR	**Makanchi Array**	**9.21**	**51**	*e*Pn		**Pn**	**23**	**00**	**46.0**	**+1.3**
MKAR				*e*Sn		**Sn**	**23**	**02**	**27.9**	**+0.9**
MKAR				Lg		Lg	23	03	22.9	
DLH	**Dalhousie**	**9.46**	**158**	*e*P		**Pn**	**23**	**00**	**50.0**	**+1.7**
DLH				*e*S		Sn	23	02	25.0	-8.5
DHRM	**DHARAMSHALA**	**9.83**	**157**	*e*P		**Pn**	**23**	**00**	**52.4**	**-0.9**
DHRM				*ex*		x	23	02	39.3	
DHRM				AML		AML	23	02	47.9	
	comp=N,368nm,0.7s									
DHRM				AML		AML	23	02	49.7	
	comp=E,406nm,0.4s									
KURBB	**Kurchatov Arra**	**10.29**	**24**	⇑Pn		**Pn**	**23**	**00**	**56.9**	**-2.4**
	comp=E,59nm,0.6s									
KURBB				⇑Lg		Lg	23	03	58.6	
	comp=E,1μm,0.7s									
KURBB	**Kurchatov Arra**	**10.29**	**24**	Pn		**Pn**	**23**	**00**	**57.5**	**-1.8**
	comp=E,0.7nm,0.3s,baz=214,slow=13,SNR=52									
KURBB				Sn		**Sn**	**23**	**02**	**52.4**	**-0.9**
	comp=E,1.1nm,0.3s,baz=218,slow=21,SNR=4.5									
KURBB				Lg		Lg	23	03	57.9	
	comp=E,4.8nm,0.3s,baz=203,slow=29,SNR=8.5									
KURK	**Kurchatov**	**10.39**	**24**	⇑Pn		**Pn**	**23**	**00**	**58.9**	**-2.0**
	comp=E,14nm,0.7s									
KURK				⇑Lg		Lg	23	04	01.7	
	comp=E,446nm,1.2s									
KURK	**Kurchatov**	**10.39**	**24**	*e*P		**Pn**	**23**	**00**	**58.8**	**-2.0**
KURK				*e*			23	02	53.9	
KURK	**Kurchatov**	**10.39**	**24**	Pn		Pn	23	01	08.4	+7.6
	SNR=8.3									
KURK	**Kurchatov**	**10.39**	**24**	*e*Pn

AKTO MLR MLR
comp=Z,658nm,18.9s
NDI New Delhi 13.45 159 *e*P **Pn 23 01 40.0 -2.7**
NDI *e*S Sn 23 03 58.0 -13
IKOO Kooshah 13.65 233 *e*P **Pn 23 01 43.6 -2.1**
LGTI Lohaghat 13.76 148 *e*P **Pn 23 01 45.8 -1.1**
LGTI *ex* x 23 04 06.2
IGLO Ghaloghah 14.87 257 *e*P **Pn 23 02 00.7 -1.5**
AJM Ajmer 15.09 170 *ex* Pn 23 02 00.0 -5.0
AJM *ex* x 23 04 41.0
ZAA0 Zalesovo Array 15.22 30 *e*Pn **Pn 23 02 03.1 -3.4**
ZALV Zalesovo Beam 15.22 30 Pn **Pn 23 02 05.0 -1.5**
comp=Z,2.3nm,0.3s,baz=223,slow=14,SNR=37
ZALV Sn **Sn 23 04 58.3 +4.4**
comp=Z,2.0nm,0.3s,baz=221,slow=24,SNR=4.4
ZALV Lg Lg 23 06 33.9
comp=Z,0.7nm,0.3s,baz=218,slow=23,SNR=2.3
ZALV LR LR 23 08 13.7
comp=Z,406nm,18.7s,baz=250,slow=38
ZALV Zalesovo Beam 15.22 30 P **Pn 23 02 05.0 -1.5**
ZALV 23 04 58.3
ZALV pmax pmax
comp=Z,2.0nm,0.3s
ZALV smax smax
comp=N,2.0nm,0.3s
ZALV MLR MLR
comp=Z,406nm,18.7s
NVS Novosibirsk 15.38 25 *e*P **Pn 23 02 06.2 -2.4**
NVS *e*S **Sn 23 04 58.5 +0.8**
IBAF Bafgh 16.36 238 *e*P **Pn 23 02 21.5 +0.1**
IDMV Damavand 16.58 256 *e*P **P 23 02 27.7 +1.1**
KOLN Koldanda 16.68 141 *e*P Pn 23 02 19.9 -5.7
comp=Z,51nm,0.5s
ICHK Chekchek 16.70 242 *e*P **Pn 23 02 25.4 -0.4**
GKN Gorkha 16.99 138 *e*P Pn 23 02 23.6 -5.8
comp=Z,39nm,0.4s
SVE Sverdlovsk 17.03 339 *e*P **Pn 23 02 28.3 -1.3**
SVE *e*S **Sn 23 05 39.5 +1.8**
SVE pmax pmax
comp=Z,49nm,1.3s
SVE MLR MLR
comp=Z,635nm,10.0s
IMEH Mehriz 17.10 240 *e*P **Pn 23 02 29.3 -1.6**
ARU Arti 17.32 335*d i*P **Pn 23 02 31.8 -1.4**
ARU S **Sn 23 05 42.9 -1.8**
ARU pmax pmax
comp=Z,32nm,1.0s
ARU MLR MLR
comp=Z,626nm,17.0s
ARU Arti 17.32 335 *e*Pn **Pn 23 02 31.4 -1.8**
comp=Z,39nm,0.7s
ISAD Sadrabad 17.38 243 *e*P **Pn 23 02 34.2 -0.2**
KKN Kakani 17.49 137 *e*P Pn 23 02 30.5 -5.2
comp=Z,51nm,0.6s
DMN Daman 17.55 138 *e*P Pn 23 02 30.5 -6.0
comp=Z,28nm,0.6s
IGZV Ghazvin 17.58 260 *e*P **Pn 23 02 36.6 -0.1**
GUN Gumba 17.71 135 *e*P Pn 23 02 33.0 -5.5
comp=Z,136nm,0.9s
PKIN Phulchoki 17.73 137 *e*P Pn 23 02 33.0 -5.7
comp=Z,34nm,0.5s
IZEF Zefreh 17.73 248 *e*P **P 23 02 40.0 +0.8**
PKI Pulchoki 17.74 137 *e*P Pn 23 02 33.3 -5.6
comp=Z,89nm,0.9s
IKLH Kolahrood 18.02 250 *e*P **P 23 02 43.8 +1.3**
JIRN Jiri 18.07 135 *e*P **Pn 23 02 38.4 -4.6**
comp=Z,93nm,0.7s
MAK Makhachkala 18.11 283 *e*P **P 23 02 47.5 +4.4**
MAK MLR MLR
comp=Z,459nm,15.0s
BHPL Bhopal 18.73 164 *e*P **P 23 02 48.4 -1.7**
BHPL *ex* x 23 06 00.5
IBND Bandar-abas 18.79 227 *e*P **Pn 23 02 51.2 -0.2**
IPIR Pirpir 18.85 249 *e*P P 23 02 46.7 -5.0
RAMN Ramite 18.86 135 *e*P **P 23 02 47.2 -4.5**
comp=Z,78nm,0.7s
TAPN Taplejung 19.14 132 *e*P **P 23 02 52.8 -2.1**
comp=Z,42nm,0.8s
IHRS Heris 19.29 269 *e*P P 23 02 49.2 -7.2
ODAN Odare 19.35 134 *e*P **P 23 02 54.5 -2.6**
comp=Z,88nm,0.7s
LSA Lhasa 19.52 121 *e*P **Pn 23 03 00.1 -0.6**
LSA pmax pmax
comp=Z,8.0nm,0.7s
LSA Lhasa 19.52 121 *e*P **Pn 23 03 00.1 -0.6**
comp=Z,8.4nm,0.7s
DGRG David-gareji 19.84 279 P **Pn 23 03 03.5 -0.4**
KRAR Krasnoyarsk 20.00 36⇓ *e*P **Pn 23 03 05.3 -0.3**
KRAR pmax pmax
comp=Z,156nm,1.7s
IMRD Marand 20.19 271 *e*P **P 23 03 04.1 -2.0**
TBLG Delisi 20.27 280 P **P 23 03 06.9 0.0**
SOKR Solikamsk 20.47 338*d i*P Pn 23 03 14.1 +3.1
SOKR pmax pmax
comp=Z,20nm,0.7s
SOKR MLR MLR
comp=Z,460nm,17.0s
GNI Garni 20.55 275 P **P 23 03 08.8 -1.3**
comp=Z,16nm,0.7s,baz=142,slow=2.7,SNR=16
GNI Garni 20.55 275*c i*P Pn 23 03 11.5 -1.0
GNI pmax pmax
comp=Z,127nm,1.7s
GNI Garni 20.55 275 P Pn 23 03 12.1 -0.4
SNR=14
GNI Garni 20.55 275⇑ *i*P Pn 23 03 11.8 -0.7
SNR=16
GNI Garni 20.55 275 *e*P Pn 23 03 12.1 -0.4
comp=Z,79nm,1.1s
ZEI Tsey 20.76 283 *e*P **P 23 03 12.8 +0.5**
ZEI pmax pmax
comp=Z,12nm,0.7s
NCK Nalchik 20.92 285⇑ *i*P **P 23 03 13.8 -0.1**
HATD Hatta, Dubai 21.11 223 ⇑P **P 23 03 17.7 +1.7**
ONI Oni 21.11 283 P **P 23 03 18.3 +2.3**
NAZ Nazwa, Dubai 21.22 224⇓ *i*P **P 23 03 17.6 +0.4**
SNR=31
GOF Gofitskoye 21.26 290 *e*P **P 23 03 18.3 +0.9**
ASHO Ashiyiah 21.27 223 P **P 23 03 18.6 +0.9**
SNR=13
ASHO Ashiyiah 21.27 223⇓ *i*P **P 23 03 18.0 +0.3**
SNR=33
GTA Gaotai 21.34 86 *e*P **P 23 03 19.1 +0.6**
GTA pP **pP 23 03 30.2 +2.8**
GTA sP **sP 23 03 35.4 +3.7**
GTA S **S 23 07 13.2 -0.4**
GTA PcS **PcS 23 11 02.7 +2.7**
GTA PMZ
comp=Z,18nm,1.1s
GTA PMZ
comp=Z,100nm,4.0s
GTA LN
comp=Z,160nm,14.7s
GTA LE
comp=Z,290nm,14.9s
GTA LZ
comp=Z,350nm,16.6s
KBZ Khabaz 21.41 286 P **P 23 03 18.9 -0.2**
comp=Z,6.4nm,0.8s,baz=233,slow=20,SNR=12
KBZ LR LR 23 13 53.5
comp=Z,189nm,19.1s,baz=171,slow=43
KBZ Khabaz 21.41 286 P **P 23 03 18.9 -0.2**
KBZ pmax pmax
comp=Z,6.0nm,0.8s
KBZ MLR MLR
comp=Z,189nm,19.1s
FAQ Al Faqa, Dubai 21.46 224⇑ *i*P **P 23 03 19.8 +0.2**
SNR=23
KIV Kislovodsk 21.55 287 *e*P **P 23 03 19.9 -0.8**
KIV *e*S **S 23 07 16.6 -1.1**
KIV pmax pmax
comp=Z,16nm,0.8s
KIV MLR MLR
comp=Z,84nm,14.0s
KIV Kislovodsk 21.55 287⇑ *i*P **P 23 03 20.1 -0.5**
SNR=13
KIV Kislovodsk 21.55 287 *e*P **P 23 03 20.4 -0.3**
comp=Z,27nm,0.7s
NEY Neytrino 21.58 285 *i* P **P 23 03 21.9 +0.8**
NEY pmax pmax
comp=Z,3.0nm,0.8s
WBK Wadi Bani Khal 21.68 214 P **P 23 03 23.2 +1.1**
SNR=8.6
SMDO Samad 21.68 217 P **P 23 03 23.0 +0.8**
SNR=9.2
ASUD Al Ashush, Dub 21.69 225⇑ *i*P **P 23 03 22.8 +0.6**
SNR=24
CHVG Ch'k'valeri 22.10 283 P **P 23 03 27.5 +1.0**
MOY Mondy 22.35 53 *e*P **P 23 03 30.0 +0.8**
MOY pmax pmax
comp=Z,28nm,1.8s
RPR Rampur 23.38 162 *e*P **P 23 03 41.5 +1.6**
ZAK Zakamensk 23.47 57⇑ *i*P **P 23 03 41.0 +0.3**
ZAK pmax pmax
comp=Z,10.0nm,1.3s
SOC Sochi 23.73 286 *e*P **P 23 03 42.0 -1.1**
SOC *e* 23 04 09.8
SOC *e*S **S 23 07 56.5 +0.6**
SOC *e*SS **SnSn 23 08 36.5 +1.3**
SOC pmax pmax
comp=Z,19nm,1.3s
SOC MLR MLR
comp=Z,190nm,17.0s
TLY Talaya 23.95 54 P **P 23 03 45.3 +0.1**
comp=Z,4.7nm,0.6s,baz=241,slow=9.6,SNR=3.1
TLY LR
comp=Z,342nm,19.5s,baz=262,slow=38 LR 23 13 40.9
TLY Talaya 23.95 54 *e*P **P 23 03 46.1 +0.9**
TLY *e*S S 23 07 50.9 -8.6
TLY pmax pmax
comp=Z,7.0nm,0.9s
TLY MLR MLR
comp=Z,344nm,18.0s
VORD Divnogorie 24.30 304 *e*P **P 23 03 48.1 -0.3**
VORD pmax pmax
comp=Z,10.0nm,0.6s
VORD pmax pmax
comp=N,50nm,0.8s
VORD pmax pmax
comp=E,80nm,0.8s
VSR Storozhevoye 24.43 305 *e*P **P 23 03 49.3 -0.2**
VSR pmax pmax
comp=Z,20nm,0.5s
VSR pmax pmax
comp=N,10.0nm,0.6s
VSR pmax pmax
comp=E,40nm,0.8s
HYBB Hyderabad (bro 24.61 165 *e*P **P 23 03 52.5 +1.0**
HYB Hyderabad 24.61 165 *i* P **P 23 03 53.0 +1.5**
HYB Hyderabad 24.61 165 *e*P **P 23 03 53.0 +1.5**
HYB Hyderabad 24.61 165 *e*P **P 23 03 53.0 +1.5**
IMP Imphal 24.73 125 *ex* **P 23 03 52.0 -0.6**
LPSR Galich'ya Gora 24.86 308 *e*P **P 23 03 53.5 0.0**
LPSR pmax pmax
comp=Z,50nm,0.8s
LPSR pmax pmax
comp=N,2.0nm,0.5s
LPSR pmax pmax
comp=E,10.0nm,0.6s
SONM Songino Array 25.24 64 P **P 23 03 56.9 -0.2**
comp=E,8.6nm,0.8s,baz=270,slow=9.9,SNR=32
SONM LR LR 23 14 22.6
comp=E,148nm,19.5s,baz=262,slow=38
SONM Songino Array 25.24 64 P **P 23 03 56.9 -0.2**
SONM pmax pmax
comp=Z,9.0nm,0.8s
SONM MLR MLR
comp=Z,149nm,19.5s
SONA1 Songino Array 25.24 64 *e*P **P 23 03 57.1 0.0**
ANN Anapa 25.25 289 *e*P **P 23 03 57.1 +0.1**
ANN *e*S **S 23 08 20.1 -0.2**
ANN pmax pmax
comp=Z,82nm,1.0s
ANN MLR MLR
comp=E,237nm,16.0s
ANN MLR MLR
comp=N,239nm,16.0s
ANN MLR MLR
comp=Z,307nm,16.0s
NJS Nagarjunasagar 25.61 163 *e*P **P 23 04 02.4 +2.0**
PRGR Permogore 25.67 331⇓ *i*P **P 23 04 01.5 +0.8**
PRGR pmax pmax
comp=Z,65nm,0.8s
ULN Ulaanbaatar 25.68 64 *e*P **P 23 04 01.5 +0.4**
ULN pmax pmax
comp=Z,13nm,0.9s
ULN Ulaanbaatar 25.68 64 P **P 23 04 02.1 +1.0**
SNR=10
ULN Ulaanbaatar 25.68 64 *e*P **P 23 04 01.5 +0.4**
comp=Z,13nm,0.9s
MOS Moscow 26.46 314 *e*P **P 23 04 06.2 -1.7**
MOS *e* 23 04 58.0
URV Uravakonda 26.80 168 *e*P **P 23 04 12.3 +1.0**
OBN Obninsk 26.86 313 P **P 23 04 11.8 +0.3**
comp=Z,9.5nm,0.6s,baz=166,slow=21,SNR=6.2
OBN LR LR 23 15 34.3
comp=Z,345nm,18.2s,baz=89,slow=38
OBN Obninsk 26.86 313*c i*P **P 23 04 11.4 0.0**
OBN *e**PP **pP 23 04 23.0 +1.9**
OBN pmax pmax
comp=Z,26nm,1.2s
OBN MLR MLR
comp=Z,287nm,16.0s
OBN Obninsk 26.86 313 *e*P **P 23 04 11.1 -0.3**
comp=Z,42nm,1.3s
SIM Simferopol' 27.59 290 *i* P **P 23 04 17.5 -0.6**
SIM S **S 23 08 58.0 +0.8**
SIM pmax pmax
comp=Z,37nm,0.9s
KLMR Klimovskoe 27.65 326 *e*P **P 23 04 19.3 +0.8**
KLMR pmax pmax
comp=Z,35nm,1.3s
KLMR MLR MLR
comp=Z,448nm,13.0s
CD2 Chengdu 27.66 102 *e*P **P 23 04 19.1 +0.1**
CD2 pP **pP 23 04 29.3 +0.6**
CD2 PP **PnPn 23 05 08.0 +2.9**
CD2 S **S 23 08 56.4 -2.3**
CD2 SS **SnSn 23 10 19.0 +7.3**
CD2 PMZ
comp=Z,10.0nm,0.7s
CD2 PMZ
comp=Z,50nm,8.2s
CD2 LN
comp=Z,200nm,15.5s
CD2 LE
comp=Z,150nm,13.1s
CD2 LZ
comp=Z,170nm,11.8s
RAYN Ar Rayn 28.36 239 *e*P **P 23 04 25.7 +0.5**
comp=Z,1.8nm,0.8s
SKHT Srikalahasti 28.42 164 *e*P P 23 04 29.0 +3.2
ABTO Aybut 28.82 219 P P 23 04 34.5 +5.1
SNR=7.7
BR131 Keskin Array S 28.93 279 *e*P **P 23 04 30.6 +0.3**
comp=Z,8.9nm,0.7s
BRTR Keskin Array B 28.93 279 P **P 23 04 30.0 -0.4**
comp=Z,12nm,0.8s,baz=94,slow=8.3,SNR=45
BRTR Keskin Array B 28.93 279*c e*P **P 23 04 31.5 +1.1**
BRTR pmax pmax
comp=Z,12nm,0.8s
BR231 Keskin MP Arra 29.54 280 *e*P P 23 04 32.4 -3.3
HHC Hu-ho-hao-te 29.72 78 *e*P **P 23 04 38.0 +0.7**
HHC PP **PnPn 23 05 35.3 +2.1**
HHC S **S 23 09 28.8 -2.3**
HHC sS **sS 23 09 48.9 +1.7**
HHC SS **SnSn 23 11 04.5 +2.7**
HHC PMZ
comp=Z,16nm,0.7s
HHC PMZ
comp=Z,93nm,8.6s
HHC LN
comp=Z,260nm,17.3s
HHC LE
comp=Z,270nm,14.8s
HHC LZ
comp=Z,290nm,19.7s
TMCR Tamitsa 29.97 331 *e*P **P 23 04 39.7 +0.6**
TMCR *e* 23 05 35.4
TMCR pmax pmax
comp=Z,31nm,0.7s
KMI Kunming 30.30 113 P **P 23 04 42.5 -0.1**
KMI pP **pP 23 04 50.0 -2.4**
KMI sP **sP 23 04 52.1 -4.4**
KMI S **S 23 09 37.3 -3.3**
KMI PMZ
comp=Z,74nm,4.6s
KMI LN
comp=Z,82nm,14.0s
KMI LE
comp=Z,130nm,16.1s
KMI LZ
comp=Z,160nm,14.5s
AKASG Malin Array Be 30.63 302 P **P 23 04 44.9 -0.1**
comp=Z,1.8nm,0.4s,baz=79,slow=7.9,SNR=14
AKASG LR LR 23 19 14.4
comp=Z,182nm,20.8s,baz=75,slow=41
AKASG Malin Array Be 30.63 302*c e*P **P 23 04 45.5 +0.5**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
KIEV Kiev 30.64 302⇓ *e*P **P 23 04 45.3 +0.2**
CSS Prodhromos 30.78 271 *e*P P 23 04 43.4 -3.2
comp=Z,1.6nm,0.8s
BOD Bodaibo 31.20 44⇑ *i*P **P 23 04 49.9 -0.2**
BOD pmax pmax
comp=Z,20nm,0.8s
TIRR Tirgusor 31.68 290 *e*P **P 23 04 54.1 -0.3**
TIRR pmax pmax
comp=Z,2.0nm,0.7s
TIRR Tirgusor 31.68 290⇑ *i*P **P 23 04 55.8 +1.4**
TIRR Tirgusor 31.68 290 *e*P **P 23 04 54.1 -0.3**
comp=Z,2.2nm,0.7s
CFR Carcaliu 31.75 292⇑P **P 23 04 55.8 +0.8**
CFR Carcaliu 31.75 292⇑ *i*P **P 23 04 55.8 +0.8**
TLB Topalu 31.92 291⇑P **P 23 04 57.4 +0.9**
TLB Topalu 31.92 291⇑ *i*P **P 23 04 57.4 +0.9**
PSN Preselentsi 31.99 289⇑P **P 23 04 58.9 +1.8**
PSN Preselentsi 31.99 289⇑ *i*P **P 23 04 58.9 +1.8**
EIL Elat 32.02 260 P **P 23 04 57.1 -0.5**
comp=Z,5.8nm,1.0s,baz=23,slow=10,SNR=5.0
MSAB Monastry St. A 32.16 290⇑ *i*P **P 23 05 00.0 +1.4**
GYA Guiyang 32.25 107 P **P 23 05 00.7 +1.0**
GYA pP **pP 23 05 12.8 +3.3**
GYA PP **PnPn 23 06 08.4 +1.9**
GYA PcP **PcP 23 07 49.2 +1.6**
GYA S **S 23 10 09.4 -1.6**
GYA sS **sS 23 10 30.0 +2.9**
GYA SS **SnSn 23 12 04.3 +0.5**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,4.8s
GYA LN
comp=Z,530nm,18.4s
GYA LE
comp=Z,490nm,17.8s
GYA LZ
comp=Z,520nm,18.4s
CMAR Chiang Mai Arr 32.54 127 P **P 23 05 01.0 -1.2**
comp=Z,1.1nm,0.3s,baz=301,slow=9.4,SNR=3.3
CMAR LR LR 23 20 47.6
comp=Z,48nm,18.8s,baz=315,slow=41
CMAR Chiang Mai Arr 32.54 127 P **P 23 05 01.0 -1.2**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR MLR MLR
comp=Z,48nm,18.8s
VRI Vrincioaia 32.63 293⇑P **P 23 05 04.8 +2.1**
VRI Vrincioaia 32.63 293⇑ *i*P **P 23 05 04.8 +2.1**
PLOR Plostina 32.68 293⇑P **P 23 05 05.1 +1.9**
PLOR Plostina 32.68 293⇑ *i*P **P 23 05 05.1 +1.9**
ISR Istrita 32.88 292⇑P **P 23 05 07.7 +2.7**
ISR Istrita 32.88 292⇑ *i*P **P 23 05 07.7 +2.7**
VSU Vasula 32.90 317*d i*P **P 23 05 05.4 +0.5**
VSU pmax pmax
comp=Z,85nm,1.0s
LVZ Lovozero 33.20 335*de*P **P 23 05 08.2 +0.8**
LVZ pmax pmax
comp=Z,63nm,1.2s
LVZ Lovozero 33.20 335 *e*P **P 23 05 08.1 +0.6**
comp=Z,40nm,0.8s
MLR Muntele Rosu 33.23 293 P **P 23 05 08.4 +0.3**
comp=Z,2.6nm,0.9s,baz=66,slow=3.5
MLR Muntele Rosu 33.23 293 P **P 23 05 08.4 +0.3**
MLR pmax pmax
comp=Z,3.0nm,0.9s
MLR Muntele Rosu 33.23 293⇑ *i*P **P 23 05 10.1 +2.0**
BJI Beijing 33.33 77 P **P 23 05 08.5 -0.3**
BJI S **S 23 10 24.0 -3.1**
BJI PMZ
comp=Z,9.0nm,0.5s
BJI LN
comp=Z,160nm,18.2s
BJI LE
comp=Z,140nm,20.3s
BJI LZ
comp=Z,100nm,18.2s
APA Apatity 33.41 334⇑ *i*P **P 23 05 10.8 +1.5**
APA *i* *PP **pP 23 05 20.0 +0.9**
APA *e*S **S 23 10 25.0 -3.0**
APA *e*SS **SnSn 23 12 38.0 +7.2**
APA pmax pmax
comp=Z,16nm,0.5s
BURAR Bucovina Array 33.42 297⇓ P **P 23 05 10.7 +1.0**
BURAR Bucovina Array 33.42 297⇓ *i*P **P 23 05 10.7 +1.0**
BUR04 Bucovina Ar. S 33.42 297 *e*P **P 23 05 10.3 +0.5**
DOPR Dopca 33.54 294⇑ *i*P **P 23 05 12.3 +1.6**
VOIR 33.86 293⇑P **P 23 05 13.8 +0.2**
VOIR 33.86 293⇑ *i*P **P 23 05 13.8 +0.2**
FIA1 FINESS Array S 33.89 322 *e*P **P 23 05 13.9 +0.4**
FINES FINESS Array B 33.89 322 P **P 23 05 14.1 +0.6**
comp=Z,13nm,0.4s,baz=117,slow=9.8,SNR=145
FINES LR LR 23 19 49.4
comp=Z,231nm,21.7s,baz=85,slow=38
FINES FINESS Array B 33.89 322 *i* P **P 23 05 14.3 +0.8**
FINES pmax pmax
comp=Z,13nm,0.4s
LVV L'vov 33.99 301 *e*P **P 23 05 14.9 +0.4**
LVV MLR MLR
comp=N,50nm,15.0s
LVV MLR MLR
comp=E,100nm,15.0s
LVV MLR MLR
comp=Z,200nm,15.0s
HUMR Humele 34.08 291⇓ *i*P **P 23 05 17.0 +1.6**
SUW Suwalki 34.40 308 *e*P **P 23 05 18.5 +0.6**
SUW Suwalki 34.40 308 *e*P **P 23 05 18.6 +0.6**
SUW Suwalki 34.40 308 *e*P **P 23 05 18.6 +0.6**
comp=Z,34nm,1.2s
SMTH Samothraki Isl 34.69 284 P **P 23 05 21.6 +0.9**
KWP Kalwaria Pacla 34.86 301 *e*P **P 23 05 23.6 +1.5**
KWP Kalwaria Pacla 34.86 301 *e*P **P 23 05 20.3 -1.8**
KWP pmax pmax
comp=Z,12nm,1.1s
KWP Kalwaria Pacla 34.86 301 *e*P **P 23 05 20.3 -1.8**
comp=Z,12nm,1.1s
TRPA Tarpa 35.14 298⇑ *i*P **P 23 05 25.6 +1.1**
KOLS Kolonicke sedl 35.22 299 *e*P **P 23 05 25.8 +0.6**
KOLS Kolonicke sedl 35.22 299 *e*P **P 23 05 25.8 +0.6**
MMB Musomiste 35.68 287⇑P **P 23 05 30.7 +1.5**
MMB Musomiste 35.68 287⇑ *i*P **P 23 05 30.7 +1.5**
WHN Wuhan 35.73 94 P P 23 05 33.2 +3.5
WHN S **S 23 11 04.2 -0.2**
WHN LZ
comp=Z,410nm,21.6s
VTS Vitosha 35.78 288⇑P **P 23 05 31.8 +1.6**
VTS Vitosha 35.78 288⇑ *i*P **P 23 05 31.8 +1.6**
STHS Stebnicka Huta 35.83 300 *e*P **P 23 05 30.5 +0.1**
STHS Stebnicka Huta 35.83 300 *e*P **P 23 05 30.5 +0.1**
SRS Serrai 35.91 286 P **P 23 05 29.9 -1.3**
BZS Buzias 36.19 294⇑P **P 23 05 35.0 +1.4**
BZS Buzias 36.19 294⇑ *i*P **P 23 05 35.0 +1.4**
KNT Kendrikon 36.40 286 P **P 23 05 36.2 +0.8**
NIE Niedzica 36.43 301 *e*P **P 23 05 36.5 +0.9**
NIE Niedzica 36.43 301 *e*P **P 23 05 36.6 +0.9**
KEV Kevo 36.53 336 *e*P **P 23 05 37.1 +1.0**
KEV pmax pmax
comp=Z,22nm,0.9s
KEV Kevo 36.53 336 *e*P **P 23 05 37.1 +1.0**
comp=Z,22nm,0.9s
LAST Lasithi 36.60 276 P **P 23 05 38.1 +0.9**
OJC Ojcow 36.67 302 *e*P **P 23 05 38.0 +0.5**
OJC Ojcow 36.67 302 *e*P **P 23 05 38.1 +0.5**
ARA0 ARCESS Array S 36.91 335 *e*P **P 23 05 39.7 +0.3**
ARCES ARCESS Array B 36.91 335 P **P 23 05 39.7 +0.3**
comp=Z,27nm,0.5s,baz=109,slow=8.7,SNR=337
ARCES PcP **PcP 23 07 59.2 -1.0**
comp=Z,1.4nm,0.5s,baz=109,slow=4.9,SNR=4.8
ARCES LR LR 23 21 51.7
comp=Z,207nm,18.8s,baz=126,slow=38
ARCES ARCESS Array B 36.91 335 P **P 23 05 39.7 +0.3**
ARCES 23 07 59.2
ARCES pmax pmax
comp=Z,27nm,0.5s
ARCES pmax pmax

comp=Z,1.0nm,0.5s
ARCES MLR MLR

comp=Z,207nm,18.8s
ARE0 ARCESS Array S 36.91 335 *e*P **P 23 05 40.4 +1.0**
ARE0 IAmb IAmb 23 05 40.9

comp=Z,40nm,0.6s
ARE0 ARCESS Array S 36.91 335 *e*P **P 23 05 39.2 -0.1**
IDI Anoyia 36.98 276 P **P 23 05 40.8 +0.3**
comp=Z,3.5nm,0.5s,baz=60,slow=7.4,SNR=19
AXAR Agios Charalam 37.34 283 P P 23 05 46.8 +3.4
KTK1 Kautokeino 37.44 334 *e*P **P 23 05 44.6 +0.8**
AGG Agios Georgios 37.49 283 P **P 23 05 44.5 -0.2**
AGG Agios Georgios 37.49 283 *e*P **P 23 05 45.1 +0.4**
AGG pmax pmax

comp=Z,7.0nm,0.7s
AGG Agios Georgios 37.49 283 *e*P **P 23 05 45.1 +0.4**
comp=Z,6.6nm,0.7s
VYHS Vyhne 37.53 299 *e*P **P 23 05 46.1 +1.2**
VYHS Vyhne 37.53 299 *e*P **P 23 05 46.1 +1.2**
FNA Florina 37.61 286 P **P 23 05 46.1 +0.4**
DIVS Divibare 37.66 292 ⇑*i*P **P 23 05 47.2 +1.0**
KARN Karanos 37.66 277 P **P 23 05 48.1 +1.9**
OKC Ostrava-Krasne 37.77 302 AMS AMS 23 23 50.0

comp=Z,200nm,14.5s
KALE Kalithea 37.85 282 P **P 23 05 48.5 +0.7**
EVR Evrytania 37.91 283 P **P 23 05 48.2 -0.1**
GKP Gorka Klasztor 37.96 307 *e*P **P 23 05 49.6 +1.2**
GKP Gorka Klasztor 37.96 307 *e*P **P 23 05 49.6 +1.2**
KLV Kalavryta, Ach 37.97 282 P **P 23 05 49.1 +0.3**
PKSM Moragy 38.10 296 ⇑P **P 23 05 50.5 +0.8**
PKSM Moragy 38.10 296 ⇑*i*P **P 23 05 50.5 +0.8**
MORC Moravsky Berou 38.17 302 *e*P **P 23 05 51.2 +0.9**
MORC pmax pmax

comp=Z,3.0nm,0.7s
MORC Moravsky Berou 38.17 302 *e*P **P 23 05 51.2 +0.9**
comp=Z,3.0nm,0.7s
DSL Palaion Diasel 38.35 284 P **P 23 05 52.8 +0.8**
NJ2 Nanjing 38.39 89 *e*P **P 23 05 52.8 +0.5**
NJ2 PMZ

comp=Z,20nm,0.7s
ITM Ithomi 38.45 281 P **P 23 05 53.1 +0.3**
PDO Prodromos 38.48 283 P **P 23 05 52.7 -0.3**
PYL PYLOS 38.69 280 P **P 23 05 52.5 -2.3**
IGT Igoumenitsa 38.77 285 P **P 23 05 55.1 -0.4**
LKD2 Lefkada island 38.79 284 P **P 23 05 54.5 -1.2**
VRAC Vranov 38.85 301 LR LR 23 25 07.7

comp=Z,172nm,19.3s,baz=78,slow=41
DPC Dobruska-Polom 38.86 303 *e*P **P 23 05 57.6 +1.5**
DPC *e*pP **pP 23 06 03.7 -2.3**
DPC *ex* x 23 06 06.4
DPC AMS AMS 23 24 30.0
DPC Dobruska-Polom 38.86 303 *e*P **P 23 05 57.6 +1.5**
DPC *e* 23 06 06.4
VLS Valsamata 39.06 283 P **P 23 05 57.9 0.0**
TRO Tromso 39.09 334 *e*P **P 23 05 57.5 -0.2**
QIZ Qiongzhong 39.25 113 P **P 23 05 59.2 -0.4**
QIZ S **S 23 11 58.6 +0.6**
QIZ LZ

comp=Z,130nm,12.6s
TREC Trest 39.57 301 AMS AMS 23 24 00.0

comp=Z,200nm,16.4s
CONA Conrad Observa 39.59 299 ⇑*i*P **P 23 06 03.2 +0.9**
comp=Z,7.3nm,0.9s
YAK Yakutsk 39.62 39 P **P 23 06 02.1 -0.1**
comp=Z,120nm,0.6s,baz=272,slow=4.4,SNR=18
YAK LR LR 23 23 18.4

comp=Z,111nm,18.8s,baz=266,slow=38
YAK Yakutsk 39.62 39 *e*P **P 23 06 01.6 -0.6**
YAK *e**PP **pP 23 06 10.9 -1.2**
YAK *e*PPP PPP 23 07 39.0
YAK *e*S **S 23 12 00.7 -2.0**
YAK pmax pmax

comp=Z,73nm,0.9s
YAK pmax pmax

comp=N,1.0nm,0.8s
YAK pmax pmax

comp=E,17nm,1.2s
YAK pmax pmax

comp=Z,21nm,0.8s
YAK pmax pmax

comp=N,5.0nm,0.9s
YAK pmax pmax

comp=E,14nm,1.4s
YAK smax smax

comp=N,3.0nm,0.6s
YAK smax smax

comp=E,7.0nm,1.2s
YAK MLR MLR

comp=Z,144nm,12.0s
YAK MLR MLR

comp=E,99nm,12.0s
YAK Yakutsk 39.62 39 *e*P **P 23 06 01.3 -1.0**
comp=E,114nm,0.6s
HFS Hagfors 39.72 318 P **P 23 06 03.5 +0.4**
comp=E,33nm,0.4s,baz=98,slow=11,SNR=260
HFS LR LR 23 23 21.1

comp=E,194nm,21.7s,baz=98,slow=38
HFS Hagfors 39.72 318 P **P 23 06 03.5 +0.4**
HFS pmax pmax

comp=Z,33nm,0.4s
HFS MLR MLR

comp=Z,194nm,21.7s
MOR8 Moi Rana 39.93 328 *e*P **P 23 06 04.4 -0.4**
PVCC Panska Ves 39.94 303 AMS AMS 23 24 00.0

comp=Z,300nm,13.4s
PRU Pruhonice 40.05 302 *e*P **P 23 06 07.2 +1.2**
PRU *e*pP **pP 23 06 13.2 -2.6**
PRU *ex* x 23 06 16.1
PRU AMS AMS 23 24 10.0

comp=Z,200nm,12.6s
PRU Pruhonice 40.05 302 *e*P **P 23 06 07.2 +1.2**
PRU *e* 23 06 16.1
PRU MLR MLR

comp=Z,200nm,12.6s
PRA Prague 40.10 303 AMS AMS 23 24 10.0

comp=Z,300nm,14.7s
BRG Berggiesshubel 40.27 304 *e*P **P 23 06 08.9 +1.1**
comp=Z,6.5nm,1.0s
BRG *e* 23 06 17.9

comp=Z,17nm,1.6s
BRG Berggiesshubel 40.27 304 *e*P **P 23 06 08.9 +1.1**
BRG *e* 23 06 17.9
BRG pmax pmax

comp=Z,7.0nm,1.0s
BRG pmax pmax

comp=Z,17nm,1.6s
SOKA Soboth 40.42 297 ⇑*i*P **P 23 06 09.9 +0.7**
comp=Z,9.9nm,1.4s
STOK Stokkvaagen 40.52 328 *e*P **P 23 06 09.7 +0.1**
LOF Lofoten 40.61 331 *e*P **P 23 06 10.4 0.0**
MOA Molln 40.66 299 ⇑*i*pP pP 23 06 20.1 -0.9
comp=Z,5.5nm,1.1s
BJO Bjornoya 40.75 341 *e*P **P 23 06 12.7 +1.3**
NSS Namsos 40.76 325 *e*P **P 23 06 12.4 +0.8**
CLL Collm 40.78 305 *e*P **P 23 06 12.0 0.0**
comp=Z,5.0nm,0.9s
CLL *e*pP **pP 23 06 21.0 -0.9**
CLL *e*PP **PP 23 07 45.0 -1.1**
CLL *i* pPP 23 07 52.7
CLL *i* sPP 23 07 57.7
CLL *i* PPP PPP 23 08 10.7
CLL Lm MLR 23 24 00.0

comp=N,100nm,19.6s
CLL Lm MLR 23 24 00.0

comp=E,200nm,18.7s
CLL Lm MLR 23 24 00.0

comp=Z,300nm,18.0s
CLL Collm 40.78 305 *e*P **P 23 06 12.0 0.0**
CLL *e* 23 06 21.0
CLL pmax pmax

comp=Z,5.0nm,0.9s
CLL MLR MLR

comp=Z,300nm,18.0s
OBKA Obir 40.79 297 ⇑*i*P **P 23 06 13.2 +1.0**
comp=Z,7.9nm,1.2s
NC602 NORSAR Array S 40.79 319 *e*P **P 23 06 12.2 +0.2**
GEC2 GERESS Array S 40.81 301 *e*P **P 23 06 13.6 +1.2**
GEC2 GERESS Array S 40.81 301 *e*P **P 23 06 13.6 +1.2**
GERES GERESS Array B 40.81 301 P **P 23 06 13.1 +0.7**
comp=Z,2.8nm,0.6s,baz=68,slow=7.7,SNR=26
GERES LR LR 23 26 15.3

comp=Z,140nm,18.6s,baz=79,slow=41
GERES GERESS Array B 40.81 301 P **P 23 06 13.1 +0.7**
GERES pmax pmax

comp=Z,3.0nm,0.6s
GERES MLR MLR

comp=Z,140nm,18.6s
KHC Kasperske Hory 40.83 301 *e*P **P 23 06 13.2 +0.7**
KHC *e*pP **pP 23 06 20.0 -2.4**
KHC AMS AMS 23 26 40.0

comp=Z,200nm,13.1s
KHC Kasperske Hory 40.83 301 *e*P **P 23 06 13.2 +0.7**
KHC *e* 23 06 20.0
KHC MLR MLR

comp=Z,200nm,13.1s
NB2 NORSAR Subarra 40.95 320 P **P 23 06 13.2 -0.2**
comp=Z,10nm,0.5s,baz=91,slow=8.6
NB2 NORSAR Subarra 40.95 320 P **P 23 06 13.2 -0.2**
baz=91,slow=8.6
NOA NORSAR Array B 40.95 320 P **P 23 06 13.3 0.0**
comp=Z,3.3nm,0.5s,baz=100,slow=8.0,SNR=57
NOA LR LR 23 23 58.2

comp=Z,245nm,18.7s,baz=90,slow=37
NOA NORSAR Array B 40.95 320 P **P 23 06 13.4 0.0**
NOA pmax pmax

comp=Z,3.0nm,0.5s
NOA MLR MLR

comp=Z,245nm,18.7s
TIXI Tiksi 40.97 24*c* *i*P **P 23 06 12.9 -0.4**
TIXI pmax pmax

comp=Z,29nm,0.8s
TIXI Tiksi 40.97 24 *e*P **P 23 06 12.4 -0.9**
comp=Z,26nm,0.6s
NAO01 NORSAR Array S 41.12 319 *e*P **P 23 06 14.3 -0.4**
comp=Z,5.8nm,0.6s
NBO02 NORSAR Array S 41.13 320 *e*P **P 23 06 14.8 +0.1**
NKC Novy Kostel 41.33 303 *e*P **P 23 06 17.9 +1.4**
NKC *e*pP **pP 23 06 27.6 +1.1**
NKC AMS AMS 23 24 50.0

comp=Z,200nm,14.0s
NKC Novy Kostel 41.33 303 *e*P **P 23 06 17.9 +1.4**
NKC *e* 23 06 27.6
NKC MLR MLR

comp=Z,200nm,14.0s
KBA Koelnbreinsper 41.45 298 ⇑*i*P **P 23 06 18.4 +0.6**
comp=Z,1.5nm,0.5s
TIP Timpagnde 41.49 286 *e*P **P 23 06 16.2 -1.9**
comp=Z,23nm,1.9s
TRI Trieste 41.52 296 *e*P **P 23 06 17.9 -0.2**
TRI pmax pmax

comp=Z,13nm,0.8s
TRI Trieste 41.52 296 *e*P **P 23 06 17.9 -0.2**
comp=Z,13nm,0.8s
KONO Kongsberg 41.79 318 *e*P **P 23 06 20.7 +0.6**
KONO Kongsberg 41.79 318 *e*P **P 23 06 18.8 -1.4**
KONO pmax pmax

comp=Z,20nm,1.2s
KONO Kongsberg 41.79 318 *e*P **P 23 06 18.8 -1.4**
comp=Z,20nm,1.2s
CUC Castrocucco 41.88 287 *e*P **P 23 06 21.9 +0.7**
comp=Z,12nm,0.8s
GRF Grafenberg Arr 42.21 303 *e*P **P 23 06 25.1 +1.3**
comp=Z,8.0nm,1.1s
GRF *e*L L 23 25 33.5

comp=Z,257nm,18.3s
GRFO Grafenberg 42.21 303 *e*P **P 23 06 22.9 -0.9**
GRFO pmax pmax

comp=Z,9.0nm,0.9s
GRFO Grafenberg 42.21 303 *e*P **P 23 06 22.9 -0.9**
comp=Z,8.8nm,0.9s
CEL Celeste 42.46 285 *e*P **P 23 06 25.9 -0.1**
comp=Z,79nm,1.9s
WTTA Wattenberg 42.53 299 ⇑*i*P **P 23 06 26.7 +0.1**
comp=Z,4.9nm,0.6s
AQU L'Aquila 42.78 292 *e*P **P 23 06 29.6 +1.1**
AQU pmax pmax

comp=Z,21nm,1.0s
AQU L'Aquila 42.78 292 *e*P **P 23 06 29.6 +1.1**
comp=Z,21nm,1.0s
KSAR Wonju Array Be 42.81 76 P **P 23 06 28.0 -0.7**
KSAR 23 08 19.1
KSAR Wonju Array Be 42.81 76 P **P 23 06 28.0 -0.7**
KSAR PcP **PcP 23 08 19.1 -0.5**
KSRS Korea Array 42.83 76 P **P 23 06 28.0 -0.9**
comp=Z,0.9nm,0.5s,baz=299,slow=7.0,SNR=4.9
KSRS PcP **PcP 23 08 19.1 -0.5**
comp=Z,2.1nm,0.7s,baz=310,slow=3.2,SNR=6.0
KSRS LR LR 23 26 01.6

comp=Z,97nm,19.2s,baz=287,slow=39
KSRS Korea Array 42.83 76 P **P 23 06 28.0 -0.9**
KSRS 23 08 19.1
KSRS pmax pmax

comp=Z,1.0nm,0.5s
KSRS pmax pmax

comp=Z,2.0nm,0.7s
KSRS MLR MLR

comp=Z,97nm,19.2s
MOTA Moosalm 42.86 299 ⇓*i*P **P 23 06 29.0 -0.3**
comp=Z,3.2nm,0.6s
SPA0 Spitsbergen Ar 42.87 346 *e*P **P 23 06 30.1 +1.3**
SPA0 IAmb IAmb 23 06 30.7

comp=Z,12nm,0.7s
SPITS Spitsbergen Ar 42.87 346 P **P 23 06 29.0 +0.3**
comp=Z,9.8nm,0.6s,baz=104,slow=7.1,SNR=26
SPITS Spitsbergen Ar 42.87 346 P **P 23 06 29.0 +0.3**
SPITS pmax pmax

comp=Z,10.0nm,0.6s
USRK Ussuriysk Ar. 43.33 65 P **P 23 06 32.1 -0.7**
comp=Z,3.5nm,0.7s,baz=292,slow=7.4,SNR=7.7
USRK LR LR 23 26 21.6

comp=Z,96nm,18.9s,baz=309,slow=39
FUORN Ofenpass-Fuorn 43.61 298 *e*P **P 23 06 36.1 +0.7**
comp=Z,4.6nm,0.6s
DAVA Damuels 43.67 299 ⇑*i*P **P 23 06 36.1 +0.3**
comp=Z,16nm,1.1s
DAVOX Davos/Dischmat 43.82 299 P **P 23 06 36.9 -0.1**
comp=Z,6.3nm,0.5s,baz=123,slow=7.7,SNR=18
DAVOX Davos/Dischmat 43.82 299 P **P 23 06 36.9 -0.1**
DAVOX pmax pmax

comp=Z,6.0nm,0.5s
KBS Kingsbay 43.98 346 *e*P **P 23 06 38.6 +0.9**
KBS IAmb IAmb 23 06 39.3

comp=Z,27nm,0.6s
KBS Kingsbay 43.98 346 *e*P **P 23 06 39.0 +1.4**
KBS pmax pmax

comp=Z,27nm,0.6s
KBS Kingsbay 43.98 346 *e*P **P 23 06 39.0 +1.4**
comp=Z,27nm,0.6s
BFO Black Forest 44.39 301 *e*P **P 23 06 41.6 +0.2**
BFO pmax pmax

comp=Z,4.0nm,0.8s
BFO Black Forest 44.39 301 *e*P **P 23 06 41.5 +0.2**
comp=Z,4.4nm,0.8s
CDF Champ du Feu 45.05 302 *e*P **P 23 06 46.5 -0.2**
comp=Z,15nm,1.0s
CDF Champ du Feu 45.05 302 *e*P **P 23 06 46.5 -0.2**
CDF pmax pmax

comp=Z,15nm,1.0s
CDF Champ du Feu 45.05 302 *e*P **P 23 06 46.5 -0.2**
comp=Z,15nm,1.0s
HINF Hinteralfeld 45.49 301 *e*P **P 23 06 49.9 -0.2**
comp=Z,5.9nm,0.6s
HINF Hinteralfeld 45.49 301 *e*P **P 23 06 49.9 -0.2**
HINF pmax pmax

comp=Z,6.0nm,0.6s
HINF Hinteralfeld 45.49 301 *e*P **P 23 06 49.9 -0.2**
comp=Z,5.9nm,0.6s
SENIN Lac Senin/Sane 45.64 299 *e*P **P 23 06 51.5 -0.1**
HAU Haudompre 45.76 301 *e*P **P 23 06 52.0 -0.2**
comp=Z,12nm,0.7s
HAU *e*R

comp=Z,192nm,21.5s
HAU Haudompre 45.76 301 *e*P **P 23 06 52.0 -0.2**
HAU pmax pmax

comp=Z,12nm,0.7s
HAU Haudompre 45.76 301 *e*P **P 23 06 52.0 -0.2**
comp=Z,12nm,0.7s
PGF Pioggiola 45.77 293 *e*P **P 23 06 52.5 0.0**
comp=Z,56nm,1.1s
PGF Pioggiola 45.77 293 *e*P **P 23 06 52.5 0.0**
PGF pmax pmax

comp=Z,56nm,1.1s
PGF Pioggiola 45.77 293 *e*P **P 23 06 52.5 0.0**
comp=Z,56nm,1.1s
PAGF Fort de Pagny 45.99 302 *e*P **P 23 06 54.5 +0.4**
comp=Z,9.0nm,1.3s
PAGF Fort de Pagny 45.99 302 *e*P **P 23 06 54.5 +0.4**
comp=Z,9.0nm,1.3s
GSI Gunungsitoli 46.19 143 *e*P **P 23 06 55.5 -0.4**
comp=Z,39nm,1.2s
LPG La Plagne 46.28 298 *e*P **P 23 06 57.0 +0.3**
comp=Z,18nm,0.8s
LPG La Plagne 46.28 298 *e*P **P 23 06 57.0 +0.3**
LPG pmax pmax

comp=Z,18nm,0.8s
LPG La Plagne 46.28 298 *e*P **P 23 06 57.0 +0.3**
comp=Z,18nm,0.8s
LPL La Plagne 46.29 298 *e*P **P 23 06 56.9 +0.2**
comp=Z,17nm,0.6s
LPL La Plagne 46.29 298 *e*P **P 23 06 56.9 +0.2**
LPL pmax pmax

comp=Z,17nm,0.6s
LPL La Plagne 46.29 298 *e*P **P 23 06 56.9 +0.2**
comp=Z,17nm,0.6s
CABF La Chapelle 46.36 300 *e*P **P 23 06 56.5 -0.6**
CABF La Chapelle 46.36 300 *e*P **P 23 06 56.5 -0.6**
CABF La Chapelle 46.36 300 *e*P **P 23 06 56.5 -0.6**
SBF Sospel 46.38 296 *e*P **P 23 06 57.3 +0.1**
comp=Z,42nm,0.8s
SBF Sospel 46.38 296 *e*P **P 23 06 57.3 +0.1**
SBF pmax pmax

comp=Z,42nm,0.8s
SBF Sospel 46.38 296 *e*P **P 23 06 57.3 +0.1**
comp=Z,42nm,0.8s
MEZF Maizieres J'vi 46.44 302 *e*P **P 23 06 57.2 -0.3**
MEZF Maizieres J'vi 46.44 302 *e*P **P 23 06 57.2 -0.3**
BAIF Baives 46.51 305 *e*P **P 23 06 57.3 -0.8**
comp=Z,9.4nm,0.8s
BAIF Baives 46.51 305 *e*P **P 23 06 57.3 -0.8**
BAIF pmax pmax

comp=Z,9.0nm,0.8s
BAIF Baives 46.51 305 *e*P **P 23 06 57.3 -0.8**
comp=Z,9.4nm,0.8s
MBDF Montbardon 46.53 297 *e*P **P 23 06 57.8 -0.7**
comp=Z,19nm,0.8s
MBDF Montbardon 46.53 297 *e*P **P 23 06 57.8 -0.7**
MBDF pmax pmax

comp=Z,19nm,0.8s
MBDF Montbardon 46.53 297 *e*P **P 23 06 57.8 -0.7**
comp=Z,19nm,0.8s
SFTF Sexfontaines 46.54 302 *e*P **P 23 06 57.8 -0.5**
SFTF Sexfontaines 46.54 302 *e*P **P 23 06 57.8 -0.5**
VSL Villasalto 46.66 289 *e*P **P 23 06 59.3 -0.1**
comp=Z,80nm,1.9s
FRF La Foret Royal 47.02 296 *e*P **P 23 07 01.9 -0.3**
comp=Z,16nm,0.7s
FRF La Foret Royal 47.02 296 *e*P **P 23 07 01.9 -0.3**
FRF pmax pmax

comp=Z,16nm,0.7s
FRF La Foret Royal 47.02 296 *e*P **P 23 07 01.9 -0.3**
comp=Z,16nm,0.7s
ORIF Oris-en-Rattie 47.06 298 *e*P **P 23 07 01.7 -0.9**
ORIF *e*R

comp=Z,138nm,21.5s
ORIF Oris-en-Rattie 47.06 298 *e*P **P 23 07 01.7 -0.9**
ORIF Oris-en-Rattie 47.06 298 *e*P **P 23 07 01.7 -0.9**
LMR La Mourre 47.19 295 *e*P **P 23 07 03.6 +0.1**
comp=Z,14nm,0.9s
LMR La Mourre 47.19 295 *e*P **P 23 07 03.6 +0.1**
LMR pmax pmax

comp=Z,14nm,0.9s
LMR La Mourre 47.19 295 *e*P **P 23 07 03.6 +0.1**
comp=Z,14nm,0.9s
LOR Lormes 47.59 301 *e*P **P 23 07 05.7 -0.9**
comp=Z,5.7nm,0.7s
LOR *e*R

comp=Z,147nm,20.8s
LOR Lormes 47.59 301 *e*P **P 23 07 05.7 -0.9**
LOR pmax pmax

comp=Z,6.0nm,0.7s
LOR Lormes 47.59 301 *e*P **P 23 07 05.7 -0.9**
comp=Z,5.7nm,0.7s
SMRF Simiane la Rot 47.59 296 *e*P **P 23 07 06.6 -0.1**
comp=Z,21nm,0.9s
SMRF Simiane la Rot 47.59 296 *e*P **P 23 07 06.6 -0.1**
comp=Z,21nm,0.9s
SMF Signal de Mont 47.81 300 *e*P **P 23 07 07.6 -0.7**
SMF Signal de Mont 47.81 300 *e*P **P 23 07 07.6 -0.7**
SMF Signal de Mont 47.81 300 *e*P **P 23 07 07.6 -0.7**
VIVF Saint-Julien-l 47.88 298 *e*P **P 23 07 08.8 -0.1**
comp=Z,9.8nm,0.6s
VIVF Saint-Julien-l 47.88 298 *e*P **P 23 07 08.8 -0.1**
VIVF pmax pmax

comp=Z,10.0nm,0.6s
VIVF Saint-Julien-l 47.88 298 *e*P **P 23 07 08.8 -0.1**
comp=Z,9.8nm,0.6s
SSF Saint Saulge 47.88 301 *e*P **P 23 07 08.1 -0.7**
SSF Saint Saulge 47.88 301 *e*P **P 23 07 08.1 -0.7**
SSF Saint Saulge 47.88 301 *e*P **P 23 07 08.1 -0.7**
AVF Avril sur Loir 48.07 301 *e*P **P 23 07 09.8 -0.5**
comp=Z,15nm,0.8s
AVF Avril sur Loir 48.07 301 *e*P **P 23 07 09.8 -0.5**
AVF pmax pmax

comp=Z,15nm,0.8s
AVF Avril sur Loir 48.07 301 *e*P **P 23 07 09.8 -0.5**
comp=Z,15nm,0.8s
KEST Kesra 48.28 285 P **P 23 07 12.1 -0.1**
comp=Z,4.8nm,1.0s,baz=312,slow=5.9,SNR=9.5
KEST Kesra 48.28 285 *e*P **P 23 07 13.4 +1.3**
HYF Humbligny 48.37 302 *e*P **P 23 07 12.2 -0.4**
HYF Humbligny 48.37 302 *e*P **P 23 07 12.2 -0.4**
LASF Ste Croix 48.71 297 *e*P **P 23 07 15.4 +0.1**
comp=Z,37nm,1.1s
LASF Ste Croix 48.71 297 *e*P **P 23 07 15.4 +0.1**
comp=Z,37nm,1.1s
TCF Toulx Ste Croi 48.99 300 *e*P **P 23 07 16.7 -0.7**
comp=Z,2.9nm,0.9s
TCF Toulx Ste Croi 48.99 300 *e*P **P 23 07 16.7 -0.7**
TCF pmax pmax

comp=Z,8.0nm,0.9s
TCF Toulx Ste Croi 48.99 300 *e*P **P 23 07 16.7 -0.7**
comp=Z,8.2nm,0.9s
CAF Calviac 49.58 299 *e*P **P 23 07 21.7 -0.3**
CAF Calviac 49.58 299 *e*P **P 23 07 21.7 -0.3**
CAF Calviac 49.58 299 *e*P **P 23 07 21.7 -0.3**
LDF La Druitiere 49.66 304 *e*P **P 23 07 21.8 -0.7**
comp=Z,15nm,0.9s
LDF La Druitiere 49.66 304 *e*P **P 23 07 21.8 -0.7**
LDF pmax pmax

comp=Z,15nm,0.9s
LDF La Druitiere 49.66 304 *e*P **P 23 07 21.8 -0.7**
comp=Z,15nm,0.9s
RJF Les Rejaudoux 49.80 300 *e*P **P 23 07 23.8 +0.2**
comp=Z,10nm,0.7s
RJF *e*R

comp=Z,76nm,20.5s
RJF Les Rejaudoux 49.80 300 *e*P **P 23 07 23.8 +0.2**
RJF pmax pmax

comp=Z,10.0nm,0.7s
RJF Les Rejaudoux 49.80 300 *e*P **P 23 07 23.8 +0.2**
comp=Z,10nm,0.7s
SEY Seymchan 49.99 36 P **P 23 07 24.7 0.0**
comp=Z,2.9nm,0.5s,baz=303,slow=7.0,SNR=9.1
SEY PcP **PcP 23 08 44.3 0.0**
comp=Z,3.0nm,0.7s,baz=280,slow=6.1,SNR=5.0
SEY LR LR 23 30 43.8

comp=Z,84nm,18.8s,baz=356,slow=39
SEY Seymchan 49.99 36 P **P 23 07 24.7 0.0**
SEY 23 08 44.3
SEY pmax pmax

comp=Z,3.0nm,0.5s
SEY pmax pmax

comp=Z,3.0nm,0.7s
SEY MLR MLR

comp=Z,84nm,18.8s
MTLF Montolieu 50.09 297 *e*P **P 23 07 25.8 0.0**
comp=Z,7.4nm,0.7s
MTLF Montolieu 50.09 297 *e*P **P 23 07 25.8 0.0**
MTLF pmax pmax

comp=Z,7.0nm,0.7s
MTLF Montolieu 50.09 297 *e*P **P 23 07 25.8 0.0**
comp=Z,7.4nm,0.7s
GRR Gorron 50.19 304 *e*P **P 23 07 25.9 -0.6**
comp=Z,58nm,1.4s
GRR Gorron 50.19 304 *e*P **P 23 07 25.9 -0.6**
GRR pmax pmax

comp=Z,58nm,1.4s
GRR Gorron 50.19 304 *e*P **P 23 07 25.9 -0.6**
comp=Z,58nm,1.4s
DAG Danmarks Havn 50.21 343 *i* P **P 23 07 26.5 +0.3**
comp=Z,17nm,0.7s
DAG Danmarks Havn 50.21 343 *i* P **P 23 07 26.5 +0.3**
DAG pmax pmax

comp=Z,12nm,0.7s
MFF Saint Martin d 50.39 302 *e*P **P 23 07 27.2 -0.8**
comp=Z,6.7nm,0.7s
MFF Saint Martin d 50.39 302 *e*P **P 23 07 27.2 -0.8**
MFF pmax pmax

	comp=Z,7.0nm,0.7s									
MFF	**Saint Martin d**	**50.39**	**302**	*e*P		**P**	**23 07 27.2**	**-0.8**		
	comp=Z,6.7nm,0.7s									
LFF	**La Frestale**	**50.45**	**299**	*e*P		**P**	**23 07 28.6**	**+0.1**		
	comp=Z,16nm,0.6s									
LFF	**La Frestale**	**50.45**	**299**	*e*P		**P**	**23 07 28.6**	**+0.1**		
LFF				pmax		pmax				
	comp=Z,16nm,0.6s									
LFF	**La Frestale**	**50.45**	**299**	*e*P		**P**	**23 07 28.6**	**+0.1**		
	comp=Z,16nm,0.6s									
MJAR	**Matsushiro Arr**	**50.66**	**72**	P		**P**	**23 07 29.4**	**-0.8**		
	comp=Z,7.4nm,1.0s,baz=287,slow=8.9,SNR=11									
MJAR				LR		LR	23 30 18.0			
	comp=Z,42nm,19.0s,baz=285,slow=38									
MJAR	**Matsushiro Arr**	**50.66**	**72**	P		**P**	**23 07 29.4**	**-0.8**		
MJAR				pmax		pmax				
	comp=Z,7.0nm,1.0s									
MJAR				MLR		MLR				
	comp=Z,42nm,19.0s									
SGMF	**Saint Gilles**	**51.30**	**304**	*e*P		**P**	**23 07 34.8**	**0.0**		
SGMF	**Saint Gilles**	**51.30**	**304**	*e*P		**P**	**23 07 34.8**	**0.0**		
SGMF	**Saint Gilles**	**51.30**	**304**	*e*P		**P**	**23 07 34.8**	**0.0**		
EPF	**Esparros**	**51.47**	**297**	*e*P		**P**	**23 07 36.0**	**-0.3**		
	comp=Z,6.6nm,0.8s									
EPF	**Esparros**	**51.47**	**297**	*e*P		**P**	**23 07 36.0**	**-0.3**		
EPF				pmax		pmax				
	comp=Z,7.0nm,0.8s									
EPF	**Esparros**	**51.47**	**297**	*e*P		**P**	**23 07 36.0**	**-0.3**		
	comp=Z,6.6nm,0.8s									
ROSF	**Rostrenen**	**51.71**	**305**	*e*P		**P**	**23 07 37.5**	**-0.4**		
ROSF	**Rostrenen**	**51.71**	**305**	*e*P		**P**	**23 07 37.5**	**-0.4**		
ROSF	**Rostrenen**	**51.71**	**305**	*e*P		**P**	**23 07 37.5**	**-0.4**		
ETSF	**Etsaut**	**52.13**	**297**	*e*P		**P**	**23 07 41.1**	**-0.1**		
	comp=Z,6.5nm,0.6s									
ETSF	**Etsaut**	**52.13**	**297**	*e*P		**P**	**23 07 41.1**	**-0.1**		
ETSF				pmax		pmax				
	comp=Z,7.0nm,0.6s									
ETSF	**Etsaut**	**52.13**	**297**	*e*P		**P**	**23 07 41.1**	**-0.1**		
	comp=Z,6.5nm,0.6s									
KMBO	**Kilima Mbogo**	**52.71**	**226**	P		**P**	**23 07 44.9**	**-1.1**		
	comp=Z,1.4nm,0.5s,baz=40,slow=16,SNR=4.0									
KMBO	**Kilima Mbogo**	**52.71**	**226**	*ce*P		**P**	**23 07 47.0**	**+1.0**		
KMBO				pmax		pmax				
	comp=Z,1.0nm,0.3s									
ES19	**SONSECA Array**	**55.80**	**295**	*e*P		**P**	**23 08 08.5**	**+0.4**		
ESDC	**Sonseca Array**	**55.86**	**295**	P		**P**	**23 08 08.3**	**-0.2**		
	comp=Z,2.3nm,0.5s,baz=59,slow=6.9,SNR=35									
ESDC				PcP		**PcP**	**23 09 07.4**	**+0.4**		
	comp=Z,1.7nm,0.9s,baz=58,slow=5.0,SNR=4.3									
ESDC				LR		LR	23 36 30.2			
	comp=Z,51nm,18.6s,baz=330,slow=41									
PEA0	**Petropavlovsk-**	**56.02**	**46**	*e*P		**P**	**23 08 09.2**	**-0.1**		
PETK	**Petropavlovsk-**	**56.02**	**46**	P		**P**	**23 08 09.1**	**-0.2**		
	comp=Z,2.4nm,0.8s,baz=340,slow=8.0,SNR=5.3									
PETK	**Petropavlovsk-**	**56.02**	**46**	P		**P**	**23 08 09.1**	**-0.2**		
PETK				pmax		pmax				
	comp=Z,2.0nm,0.8s									
PET	**Petropavlovsk**	**56.57**	**46**	*e*P		**P**	**23 08 11.1**	**-2.1**		
PET				pmax		pmax				
	comp=Z,14nm,1.7s									
SUMG	**Summit**	**56.64**	**340**	⇑*i*P		**P**	**23 08 14.9**	**+1.0**		
	comp=Z,18nm,0.7s									
SUMG	**Summit**	**56.64**	**340**	⇑*i*P		**P**	**23 08 14.9**	**+1.0**		
SUMG				pmax		pmax				
	comp=Z,18nm,0.7s									
PVIS	**Viseu**	**58.00**	**298**	*e*P		**P**	**23 08 24.6**	**+1.0**		
	comp=Z,22nm,1.4s									
PCBR	**Castelo Branco**	**58.15**	**297**	*e*P		**P**	**23 08 26.0**	**+1.4**		
	comp=Z,19nm,1.6s									
PMRV	**Marv??o**	**58.30**	**297**	*e*P		**P**	**23 08 26.2**	**+0.5**		
	comp=Z,16nm,0.9s									
PBAR	**Barrancos**	**58.69**	**295**	*e*P		**P**	**23 08 28.8**	**+0.5**		
	comp=Z,38nm,1.5s									
PVAQ	**Vaqueiros**	**59.54**	**295**	*e*P		**P**	**23 08 35.2**	**+0.9**		
	comp=Z,32nm,1.5s									
PNCL	**Nicolau / Gran**	**59.73**	**296**	*e*P		**P**	**23 08 36.4**	**+0.9**		
	comp=Z,25nm,3.0s									
PBDV	**Barranco-do-Ve**	**59.77**	**295**	*e*P		**P**	**23 08 37.0**	**+1.1**		
	comp=Z,49nm,1.6s									
TOA0	**Torodi Ar. Sit**	**66.58**	**267**	*e*P		**P**	**23 09 20.3**	**-1.0**		
TORD	**Torodi Ar. Bea**	**66.58**	**267**	P		**P**	**23 09 20.4**	**-0.9**		
	comp=Z,2.8nm,0.6s,baz=55,slow=5.9,SNR=72									
COLD	**Coldfoot**	**67.05**	**16**	*e*P		**P**	**23 09 24.1**	**+0.6**		
	comp=Z,9.9nm,0.6s									
IM04	**Indian Mountai**	**67.28**	**19**	*e*P		**P**	**23 09 24.4**	**-0.6**		
MLY	**Manley**	**68.78**	**18**	*e*P		**P**	**23 09 34.8**	**+0.3**		
	comp=Z,130nm,3.0s									
INK	**Inuvik**	**68.93**	**10**	P		**P**	**23 09 35.4**	**+0.1**		
	comp=Z,5.5nm,0.5s,baz=352,slow=6.0,SNR=55									
INK	**Inuvik**	**68.93**	**10**	P		**P**	**23 09 35.4**	**+0.1**		
INK				pmax		pmax				
	comp=Z,6.0nm,0.5s									
INK	**Inuvik**	**68.93**	**10**	*e*P		**P**	**23 09 35.5**	**+0.3**		
MDM	**Murphy Dome**	**69.40**	**17**	*e*P		**P**	**23 09 38.3**	**0.0**		
	comp=Z,53nm,2.0s									
COLA	**College**	**69.56**	**17**	⇑*e*P		**P**	**23 09 39.2**	**0.0**		
COLA				pmax		pmax				
	comp=Z,100nm,1.7s									
IL1	**Eielson Array**	**69.86**	**17**	*e*P		**P**	**23 09 40.3**	**-0.8**		
ILAR	**Eielson Array**	**69.86**	**17**	P		**P**	**23 09 40.6**	**-0.5**		
	comp=Z,4.4nm,0.8s,baz=326,slow=4.8,SNR=33									
ILAR	**Eielson Array**	**69.86**	**17**	P		**P**	**23 09 40.6**	**-0.5**		
ILAR				pmax		pmax				
	comp=Z,4.0nm,0.8s									
SCRK	**Sand Creek**	**71.17**	**16**	*e*P		**P**	**23 09 49.5**	**+0.3**		
DAWY	**Dawson**	**71.97**	**14**	*e*P		**P**	**23 09 54.1**	**+0.1**		
HYT	**Haines Junctio**	**75.31**	**14**	*e*P		**P**	**23 10 14.7**	**+1.0**		
DBIC	**Dimbokro**	**75.67**	**266**	P		**P**	**23 10 15.8**	**-0.6**		
	comp=Z,7.8nm,0.6s,baz=28,slow=7.1,SNR=16									
KIC	**Kosan Boka**	**75.78**	**266**	*e*P		**P**	**23 10 16.1**	**-0.9**		
	comp=Z,72nm,1.1s									
KIC	**Kosan Boka**	**75.78**	**266**	*e*P		**P**	**23 10 16.4**	**-0.6**		
	comp=Z,72nm,1.1s									
TIC	**Toumodi**	**75.81**	**266**	*e*P		**P**	**23 10 16.5**	**-0.7**		
	comp=Z,22nm,0.6s									
TIC	**Toumodi**	**75.81**	**266**	*e*P		**P**	**23 10 16.5**	**-0.7**		
LIC	**Lamto**	**76.09**	**266**	*e*P		**P**	**23 10 16.8**	**-1.9**		
	comp=Z,30nm,0.9s									
LIC	**Lamto**	**76.09**	**266**	*e*P		**P**	**23 10 18.1**	**-0.7**		
	comp=Z,42nm,0.9s									
LIC	**Lamto**	**76.09**	**266**	*e*P		**P**	**23 10 18.0**	**-0.7**		
	comp=Z,42nm,0.9s									
LIC	**Lamto**	**76.09**	**266**	*e*P		**P**	**23 10 16.8**	**-1.9**		
	comp=Z,30nm,0.9s									
YKA	**Yellowknife Ar**	**76.29**	**3**	P		**P**	**23 10 18.9**	**-0.2**		
	comp=Z,11nm,0.7s,baz=351,slow=6.1,SNR=150									
YKA	**Yellowknife Ar**	**76.29**	**3**	P		**P**	**23 10 18.9**	**-0.2**		
YKA				pmax		pmax				
	comp=Z,11nm,0.7s									
SCHQ	**Schefferville**	**77.83**	**337**	P		**P**	**23 10 28.0**	**0.0**		
	comp=Z,6.4nm,0.7s,baz=21,slow=6.0,SNR=17									
SCHQ	**Schefferville**	**77.83**	**337**	*e*P		**P**	**23 10 28.1**	**+0.2**		
FCC	**Fort Churchill**	**79.48**	**353**	*e*P		**P**	**23 10 37.2**	**+0.3**		
FCC	**Fort Churchill**	**79.48**	**353**	*e*P		**P**	**23 10 37.2**	**+0.3**		
WRA	**Warramunga Arr**	**84.06**	**123**	P		**P**	**23 11 00.3**	**-1.3**		
	comp=Z,1.6nm,0.6s,baz=323,slow=4.9,SNR=9.1									
WRA	**Warramunga Arr**	**84.06**	**123**	P		**P**	**23 11 00.3**	**-1.3**		
WRA				pmax		pmax				
	comp=Z,2.0nm,0.6s									
WRAB	**Tennant Creek**	**84.06**	**123**	⇑*e*P		P	23 11 07.7	+6.1		
WRAB	**Tennant Creek**	**84.06**	**123**	*e*PcP		P	23 11 07.7	+6.1		
FFC	**Flin Flon**	**84.07**	**356**	*e*P		**P**	**23 11 01.1**	**-0.1**		
FFC	**Flin Flon**	**84.07**	**356**	*e*P		**P**	**23 11 01.1**	**-0.1**		
ASAR	**Alice Springs**	**86.55**	**126**	P		**P**	**23 11 12.8**	**-1.2**		
	comp=Z,3.2nm,0.8s,baz=320,slow=5.2,SNR=29									
ASAR	**Alice Springs**	**86.55**	**126**	P		**P**	**23 11 12.8**	**-1.2**		
ASAR				pmax		pmax				
	comp=Z,3.0nm,0.8s									
AS01	**Alice Springs**	**86.58**	**126**	*e*P		**P**	**23 11 12.4**	**-1.6**		
ULM	**Lac du Bonnet**	**88.07**	**352**	P		**P**	**23 11 20.2**	**-0.7**		
	comp=Z,4.4nm,0.9s,baz=349,slow=4.3,SNR=4.3									
ULM				LR		LR	23 55 35.8			
	comp=Z,89nm,18.3s,baz=346,slow=39									
ULM	**Lac du Bonnet**	**88.07**	**352**	P		**P**	**23 11 20.3**	**-0.7**		
ULM				pmax		pmax				
	comp=Z,4.0nm,0.9s									
ULM				MLR		MLR				
	comp=Z,89nm,18.3s									
FORT	**Forrest**	**88.60**	**134**	*e*P		**P**	**23 11 23.1**	**-0.5**		
RPW	**Rockport**	**89.72**	**9**	P		**P**	**23 11 29.0**	**+0.1**		
WALA	**Waterton Lakes**	**89.75**	**4**	*e*P		**P**	**23 11 29.3**	**+0.2**		
JCW	**Jim Creek**	**89.92**	**9**	P		**P**	**23 11 30.2**	**+0.5**		
AGMN	**Agassiz Nation**	**89.99**	**352**	*e*P		**P**	**23 11 30.2**	**+0.1**		
B08A	**Colville Reser**	**90.04**	**7**	*e*P		**P**	**23 11 30.8**	**+0.4**		
NEW	**Newport**	**90.33**	**6**	P		**P**	**23 11 31.8**	**+0.1**		
	comp=Z,8.0nm,0.8s,baz=336,slow=5.4,SNR=12									
NEW	**Newport**	**90.33**	**6**	P		**P**	**23 11 31.8**	**+0.1**		
NEW				pmax		pmax				
	comp=Z,8.0nm,0.8s									
NEW	**Newport**	**90.33**	**6**	*e*P		**P**	**23 11 32.2**	**+0.5**		
BSMT	**Bassoo Peak**	**90.90**	**4**	*e*P		**P**	**23 11 35.2**	**+0.7**		
EGMT	**Eagleton**	**90.91**	**1**	*e*P		**P**	**23 11 35.4**	**+0.9**		
LTY	**Liberty**	**90.99**	**9**	*e*P		**P**	**23 11 35.0**	**+0.2**		
LON	**Longmire**	**91.36**	**9**	*e*P		**P**	**23 11 37.3**	**+0.8**		
LON	**Longmire**	**91.36**	**9**	*e*P		**P**	**23 11 37.3**	**+0.8**		
D08A	**Wollman Farm,**	**91.37**	**7**	*e*P		**P**	**23 11 37.5**	**+0.9**		
SLMT	**Seeley Lake**	**91.58**	**4**	*e*P		**P**	**23 11 37.8**	**+0.1**		
TDL	**Tradedollar La**	**91.70**	**10**	P		**P**	**23 11 38.1**	**+0.9**		
FL2	**Flat Top 2**	**91.84**	**10**	P		**P**	**23 11 39.8**	**+1.0**		
CHMT	**Chamberlain Mo**	**91.92**	**4**	*e*P		**P**	**23 11 39.6**	**+0.2**		
E09A	**Wood Farm, Sta**	**91.98**	**7**	*e*P		**P**	**23 11 40.2**	**+0.9**		
LAO	**LASA Array**	**92.25**	**359**	*e*P		**P**	**23 11 42.2**	**+1.6**		
F10A	**Beach Ranch, E**	**92.60**	**6**	*e*P		**P**	**23 11 42.9**	**+0.5**		
LRM	**Limekiln Ridge**	**93.04**	**3**	*e*P		**P**	**23 11 45.3**	**+0.7**		
LCCM	**Lewis and Clar**	**93.05**	**3**	P		**P**	**23 11 45.1**	**+0.6**		
GCMT	**Greycliff**	**93.15**	**1**	*e*P		**P**	**23 11 46.0**	**+1.0**		
BOZ	**Bozeman (W)**	**93.25**	**2**	*e*P		**P**	**23 11 46.1**	**+0.7**		
BOZ	**Bozeman (W)**	**93.25**	**2**	*e*P		**P**	**23 11 46.0**	**+0.7**		
MCMT	**McKenzie Canyo**	**94.02**	**3**	*e*P		**P**	**23 11 49.9**	**+0.8**		
I07A	**Izee**	**94.26**	**8**	*e*P		**P**	**23 11 51.4**	**+1.4**		
ECSD	**EROS Data Cent**	**94.58**	**352**	*e*P		**P**	**23 11 51.8**	**+0.4**		
RSSD	**Black Hills**	**94.75**	**357**	*e*P		**P**	**23 11 53.1**	**+0.7**		
RSSD	**Black Hills**	**94.75**	**357**	*e*P		**P**	**23 11 53.1**	**+0.7**		
IMW	**Indian Meadow**	**95.02**	**2**	*e*P		**P**	**23 11 55.4**	**+1.7**		
MFID	**Camas Ranch**	**95.25**	**6**	*e*P		**P**	**23 11 55.6**	**+1.1**		
FXWY	**Fox Creek**	**95.27**	**2**	*e*P		**P**	**23 11 56.6**	**+1.7**		
PDAR	**Pinedale Array**	**96.17**	**1**	P		**P**	**23 11 59.0**	**+0.1**		
	comp=Z,1.8nm,0.8s,baz=33,slow=5.1,SNR=16									
PDAR				LR		LR	23 58 01.9			
	comp=Z,48nm,21.7s,baz=58,slow=37									
CPUP	**Villa Florida**	**135.84**	**273**	PKP		**PKPdf**	**23 17 50.2**	**-1.2**		
	comp=Z,1.3nm,1.0s,baz=90,slow=3.0,SNR=4.9									
CPUP	**Villa Florida**	**135.84**	**273**	PKIKP		**PKPdf**	**23 17 50.2**	**-1.2**		
CPUP				pmax		pmax				
	comp=Z,1.0nm,1.0s									
PLCA	**Paso Flores**	**151.81**	**259**	PKPbc		**PKPbc**	**23 18 25.2**	**+0.1**		
	comp=Z,8.1nm,1.1s,baz=85,slow=0.7,SNR=6.8									
PLCA				PKPab		**PKPab**	**23 18 33.4**	**-1.0**		
	comp=Z,3.2nm,1.1s,baz=334,slow=3.6,SNR=4.0									
PLCA	**Paso Flores**	**151.81**	**259**	PKIKP		**PKPbc**	**23 18 25.3**	**+0.1**		
PLCA							23 18 33.4			
PLCA				pmax		pmax				
	comp=Z,8.0nm,1.1s									
PLCA				pmax		pmax				
	comp=Z,3.0nm,1.1s									

WEL 11 23:02:31.3±0.4,36.67S×178.26E,h12km,ML3.5/5,3D,
Error ellipse: s-maj=3.5km s-min=2.2km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.89**	**177**	P*	Pg	23 02 47.2	-1.4
MXZ				S*	Sg	23 02 58.5	-1.7
MXZ				AML	AML	23 03 04.5	
MXZ				AML	AML	23 03 04.5	
MXZ				AML	AML	23 03 04.6	
HAZ	**Te Kaha**	**1.15**	**199**	P*	Pb	23 02 50.5	-2.6
HAZ				*e*S*	Sb	23 03 05.7	-2.3
WMGZ	**Waiomatatini S**	**1.15**	**174**	P*	Pb	23 02 52.4	-0.9
PUZ	**Puketiti**	**1.40**	**180**	PN	Pn	23 02 55.8	-1.0
PUZ				*e*SN	Sn	23 03 13.4	-1.7
PUZ				AML	AML	23 03 22.0	
TWGZ	**Tauwhareparae**	**1.52**	**188**	*e*PN	Pb	23 02 59.0	-0.5
MWZ	**Matawai**	**1.76**	**199**	P*	Pn	23 03 00.6	-1.1
MWZ				AML	AML	23 03 37.8	
MWZ				AML	AML	23 03 41.3	
URZ	**Urewera**	**1.83**	**210**	⇓P*	Pn	23 03 01.0	-1.6
URZ				S*	Sn	23 03 22.0	-3.7
URZ				AML	AML	23 03 23.4	
RAGZ	**Rawiri**	**1.94**	**200**	P*	Pn	23 03 04.3	+0.1
KUZ	**Kuaotunu**	**2.04**	**267**	⇓PN	Pn	23 03 04.9	-0.5
KUZ				AML	AML	23 03 29.1	
KUZ				AML	AML	23 03 30.5	
RIGZ	**Rimuhau**	**2.07**	**191**	PN	Pn	23 03 04.8	-1.2
SNGZ	**Shannon Statio**	**2.23**	**199**	PN	Pn	23 03 07.8	-0.4
KNZ	**Kokohu**	**2.39**	**191**	PN	Pn	23 03 08.2	-2.1
MKAZ	**Moumakai**	**2.52**	**259**	⇓PN	Pn	23 03 12.0	-0.1
NMHZ	**Naumai**	**2.68**	**205**	*e*PN	Pn	23 03 14.6	+0.2
ARHZ	**Aropaoanui**	**2.77**	**201**	PN	Pn	23 03 14.2	-1.4
BKZ	**Black Stump Fm**	**2.85**	**209**	P*	Pn	23 03 16.2	-0.6
MRZ	**Mangatainoka R**	**4.50**	**207**	*e*PN	Pn	23 03 35.2	-4.1
MRZ				*e*SN	Sn	23 04 25.2	-6.5

NEIC 11 23:03:29.9,62.13N×156.78W,h26km,ML2.6(AEIC),
After AEIC.,Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TT01	**Tatalina**	**0.85**	**24**	P	Pb	23 03 45.3	-0.8
SVW2	**Sparrevohn**	**1.19**	**151**	P	Pn	23 03 50.1	-0.7
SVW2				S	Sn	23 04 05.0	-1.1
SPWE	**Spurr West**	**2.19**	**111**	P	Pn	23 04 06.0	+1.3
PPLA	**Purkeypile**	**2.26**	**68**	P	Pn	23 04 05.0	-0.7
SPBG	**Spurr Blockage**	**2.28**	**111**	P	Pn	23 04 07.3	+1.4
STLK	**Strandline Lak**	**2.43**	**103**	P	Pn	23 04 08.0	0.0
CAST	**Castle Rocks**	**2.52**	**57**	P	Pn	23 04 07.6	-1.5
GCSA	**Galena City Sc**	**2.62**	**359**	P	Pn	23 04 12.8	+2.3
GCSA				S	Sn	23 04 42.9	+1.5
CHUM	**Lake Minchumin**	**2.69**	**47**	P	Pn	23 04 11.2	-0.2
KTH	**Kantishna Hill**	**3.04**	**59**	P	Pn	23 04 16.2	-0.2
BPAW	**Bear Paw Mtn.**	**3.29**	**51**	P	Pn	23 04 18.5	-1.3
MLY	**Manley**	**3.97**	**40**	P	Pn	23 04 27.9	-1.1
IM3	**Indian Mountai**	**4.09**	**18**	P	Pn	23 04 30.5	-0.1
TNA	**Tin City**	**6.01**	**310**	P	Pn	23 04 58.1	+1.2

IDC ***11*** *23:07:17.1±2.0,41.15N×71.98E,h0km,mb3.7/6, mb1 3.8/9,mb1mx3.5/53,mbtmp3.7/9,ML3.2/2,Error ellipse: s-maj=44.3km s-min=11.6km az=160.0*
NNC ***11*** *23:07:21.8±0.6,41.42N×71.95E,h0km,mb4.4,mpv4.0, Error ellipse: s-maj=6.3km s-min=5.4km az=61.0*
KRNET ***11*** *23:07:21.8±0.1,41.37N×72.08E,h2km,mb4.2*
ISC 11 23:07:21.3±1.7,41.35N±0.04×71.94E±0.05,h8km±12km,
n39,σ1°81/46,mb3.7/6,22C-9D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALK	**Salom-Alik**	**1.49**	**108**	*e*P	**Pn**	**23 07 48.8**	**+0.2**
	baz=111						
SALK				*e*S	**Sn**	**23 08 08.9**	**+0.6**
	baz=111						
AML	**Almayashu**	**1.53**	**59**	P	**Pn**	**23 07 49.1**	**-0.2**
	SNR=452						
AML	**Almayashu**	**1.53**	**59**	⇑*i*P	**Pn**	**23 07 49.5**	**+0.2**
	baz=57						
AML				⇑*i*S	**Sn**	**23 08 09.6**	**+0.1**
	baz=57						
SFK	**Sufi-Kurgan**	**1.78**	**138**	⇑Pn	**Pg**	**23 07 55.4**	**-0.1**
	38nm,0.3s						
SFK				⇓Lg	Lg	23 08 18.6	
	271nm,0.4s						
EKS2	**Erkin-Say**	**1.90**	**46**	P	**Pn**	**23 07 55.7**	**+1.6**
	SNR=35						
EKS2	**Erkin-Say**	**1.90**	**46**	⇑*i*P	**Pb**	**23 07 55.9**	**-0.4**
	baz=44						
EKS2				⇑*i*S	**Sn**	**23 08 20.3**	**+2.1**
	baz=44						
EKS	**Erkin-Say**	**1.91**	**46**	*i* P	**Pb**	**23 07 56.4**	**0.0**
	baz=44						
KK31	**Karatay Array**	**2.05**	**329**	⇑Pn	**Pn**	**23 07 57.0**	**+0.9**
	63nm,0.3s						
KK31				⇑Sn	**Sn**	**23 08 23.2**	**+1.2**
	207nm,0.4s						
UCH	**Uchtor**	**2.12**	**65**	P	**Pn**	**23 07 58.9**	**+1.5**
	SNR=43						
UCH	**Uchtor**	**2.12**	**65**	⇑*i*P	**Pn**	**23 07 58.9**	**+1.5**
	baz=64						
UCH				⇑*i*S	**Sb**	**23 08 27.0**	**+0.3**
	baz=64						
AAK	**Ala-Archa**	**2.30**	**55**	P	**Pn**	**23 08 01.9**	**+2.2**
	SNR=18						
AAK	**Ala-Archa**	**2.30**	**55**	⇑Pn	**Pn**	**23 08 01.5**	**+1.9**
	48nm,0.6s						
AAK				⇓Lg	Lg	23 08 32.9	
	58nm,0.6s						
AAK	**Ala-Archa**	**2.30**	**55**	Pn	**Pn**	**23 08 00.6**	**+1.0**
	12nm,0.3s,baz=237,slow=17,SNR=21						
AAK				Sn	**Sb**	**23 08 33.0**	**+1.3**
	14nm,0.3s,baz=343,slow=19,SNR=11						
AAK	**Ala-Archa**	**2.30**	**55**	⇑*i*P	**Pn**	**23 08 01.8**	**+2.2**
	baz=54						
AAK				⇑*i*S	**Sb**	**23 08 32.8**	**+1.1**
	baz=54						
KZA	**Kyzart**	**2.58**	**72**	P	**Pn**	**23 08 05.7**	**+1.9**
	SNR=25						
KZA	**Kyzart**	**2.58**	**72**	⇑*i*P	**Pn**	**23 08 05.8**	**+2.0**
	baz=72						
KZA				⇑*i*S	**Sb**	**23 08 40.0**	**-0.1**
	baz=72						
KBK	**Karagaybulak**	**2.60**	**59**	P	**Pn**	**23 08 06.0**	**+2.3**
	SNR=24						
KBK	**Karagaybulak**	**2.60**	**59**	⇓*i*P	**Pn**	**23 08 06.1**	**+2.3**
	baz=58						
KBK				⇓*i*S	**Sb**	**23 08 40.4**	**+0.1**
	baz=58						
CHMS	**Chumysh**	**2.66**	**51**	P	**Pn**	**23 08 06.3**	**+1.8**
	SNR=11						
CHMS	**Chumysh**	**2.66**	**51**	⇑*i*P	**Pn**	**23 08 06.2**	**+1.7**
	baz=50						
CHMS				⇑*i*S	**Sn**	**23 08 40.8**	**+3.8**
	baz=50						
USP	**Ospenovka**	**2.70**	**44**	P	**Pg**	**23 08 15.1**	**+2.0**
	SNR=5.1						
USP	**Ospenovka**	**2.70**	**44**	⇑*i*P	**Pn**	**23 08 06.6**	**+1.6**
	baz=43						
USP				⇑*i*S	**Sn**	**23 08 41.6**	**+3.7**
	baz=43						
NRN	**Naryn**	**3.06**	**87**	*e*P	**Pn**	**23 08 11.6**	**+1.4**
	baz=88						
TKM2	**Tokmak 2**	**3.14**	**59**	P	**Pn**	**23 08 12.8**	**+1.5**
	SNR=10						
TKM2	**Tokmak 2**	**3.14**	**59**	⇓Pn	**Pn**	**23 08 11.0**	**-0.3**
	23nm,0.7s						
TKM2				⇑Lg	Lg	23 08 57.5	
	70nm,0.6s						
DZET	**Dzherino**	**3.48**	**224**	⇑Pn	**Pn**	**23 08 18.7**	**+2.8**
	45nm,0.5s						
DZET				⇓Sn	**Sn**	**23 09 01.0**	**+3.6**
	72nm,0.5s						
DZET				⇑Lg	Lg	23 09 15.5	
	118nm,0.5s						
KNDC	**Almaty**	**4.17**	**62**	⇓Pg	**Pg**	**23 08 38.6**	**-2.6**
	24nm,0.5s						
KNDC				⇑Lg	Lg	23 09 31.3	
	96nm,0.7s						
PDGK	**Podgornoye**	**5.93**	**68**	⇓Lg	Lg	23 10 26.3	
	36nm,1.2s						
OTUK	**Ortayu**	**6.91**	**2**	⇓Lg	Lg	23 10 53.9	
	50nm,0.7s						
MKAR	**Makanchi Array**	**9.22**	**50**	Pn	**Pn**	**23 09 34.8**	**+0.2**
	baz=251,slow=18,SNR=1.9						
MKAR				Lg	Lg	23 12 10.7	
	0.2nm,0.3s,baz=243,slow=27,SNR=3.1						
KURBB	**Kurchatov Arra**	**10.35**	**24**	Lg	Lg	23 12 46.3	
	0.1nm,0.3s,baz=217,slow=31,SNR=5.9						
BVAR	**Borovoye Array**	**11.73**	**355**	Lg	Lg	23 13 32.6	
	0.4nm,0.3s,baz=164,slow=27,SNR=3.7						
ZALV	**Zalesovo Beam**	**15.27**	**30**	Pn	**Pn**	**23 10 57.8**	**+0.7**
	0.2nm,0.3s,baz=231,slow=13,SNR=2.5

WAKR	**Walker**	**11.15**	**342**	*e*Pn	Pn	23 11 13.8	+5.1		
SRU	**San Rafael Swe**	**11.73**	**17**	*e*Pn	Pn	23 11 20.4	+3.7		
NLU	**North Lily Min**	**12.21**	**11**	*e*Pn	Pn	23 11 28.1	+4.9		
ELK	**Elko**	**12.76**	**359**	Pn	**Pn**	**23 11 33.7**	**+3.0**		
	0.0nm,0.3s,baz=175,slow=14,SNR=5.0								
ELK				LR	LR	23 16 29.7			
	comp=Z,143nm,19.2s,baz=181,slow=38								
T25A	**Trinidad**	**12.79**	**42**	*e*Pn	Pn	23 11 36.6	+5.4		
JLU	**Jordanelle**	**12.95**	**12**	*e*Pn	Pn	23 11 38.6	+5.2		
SMCO	**Snowmass**	**13.04**	**29**	*e*Pn	Pn	23 11 39.3	+4.6		
TCUT	**Toone Canyon**	**13.46**	**12**	*e*P	Pn	23 11 44.2	+3.9		
	16nm,1.1s								
HWUT	**Hardware Ranch**	**13.90**	**11**	P	Pn	23 11 50.6	+4.2		
N23A	**Red Feather La**	**14.90**	**28**	*e*Pn	**P**	**23 12 04.9**	**-0.9**		
	36nm,1.5s								
AHID	**Auburn Hatcher**	**15.11**	**11**	*e*Pn	**P**	**23 12 09.6**	**+1.5**		
	12nm,1.3s								
YBH	**Yreka Blue Hor**	**15.11**	**337**	Pn	**Pn**	**23 12 04.2**	**+1.5**		
	0.1nm,0.3s,baz=22,slow=5.4,SNR=2.3								
YBH				LR	LR	23 17 49.5			
	comp=Z,224nm,18.9s,baz=166,slow=37								
YBH	**Yreka Blue Hor**	**15.11**	**337**	*e*Pn	**Pn**	**23 12 04.2**	**+1.5**		
	41nm,1.8s								
WMOK	**Wichita Mounta**	**15.42**	**60**	*e*Pn	**P**	**23 12 12.5**	**+1.1**		
	14nm,1.2s								
BW06	**Boulder Array**	**15.42**	**15**	*e*Pn	**P**	**23 12 10.1**	**-1.5**		
	13nm,1.4s								
PDAR	**Pinedale Array**	**15.42**	**15**	Pn	**Pn**	**23 12 07.7**	**+0.7**		
	0.1nm,0.3s,baz=186,slow=8.2,SNR=16								
PDAR				LR	LR	23 18 02.2			
	comp=Z,162nm,18.9s,baz=239,slow=37								
HLID	**Hailey**	**15.58**	**2**	*e*Pn	**P**	**23 12 11.8**	**-1.5**		
	60nm,2.5s								
REDW	**Red Top Meadow**	**15.73**	**11**	*e*Pn	**P**	**23 12 14.3**	**-0.7**		
	16nm,1.3s								
TPAW	**Teton Pass**	**15.84**	**11**	*e*Pn	**P**	**23 12 18.7**	**+2.5**		
	43nm,1.6s								
FXWY	**Fox Creek**	**15.97**	**11**	*e*Pn	**P**	**23 12 17.1**	**-0.6**		
	10nm,1.1s								
LOHW	**Long Hollow**	**16.02**	**12**	*e*Pn	**Pn**	**23 12 16.7**	**+2.1**		
	50nm,1.8s								
K22A	**Casper**	**16.20**	**23**	*e*Pn	**Pn**	**23 12 18.7**	**+1.7**		
	120nm,1.7s								
IMW	**Indian Meadow**	**16.24**	**11**	*e*Pn	**Pn**	**23 12 18.8**	**+1.3**		
	13nm,0.9s								
W34A	**Bridge Creek,**	**16.37**	**59**	*e*Pn	**P**	**23 12 22.5**	**+0.6**		
	28nm,0.9s								
FLWY	**Flagg Ranch**	**16.46**	**11**	*e*Pn	**P**	**23 12 22.3**	**-0.8**		
	18nm,1.0s								
HKT	**Hockley**	**16.91**	**79**	*e*Pn	**P**	**23 12 30.8**	**+3.0**		
	52nm,1.5s								
MCMT	**McKenzie Canyo**	**16.92**	**5**	*e*Pn	**P**	**23 12 31.1**	**+2.9**		
BMO	**Blue Mountains**	**16.96**	**354**	*e*P	**P**	**23 12 27.9**	**-0.6**		
	3.4nm,0.9s								
BOZ	**Bozeman (W)**	**17.86**	**8**	*e*Pn	**P**	**23 12 41.0**	**+2.5**		
	104nm,2.8s								
TUL1	**Leonard**	**18.12**	**59**	*e*Pn	**P**	**23 12 42.1**	**+0.8**		
	19nm,1.1s								
RSSD	**Black Hills**	**18.38**	**26**	*e*P	**Pn**	**23 12 45.1**	**+0.9**		
	9.1nm,1.0s								
HAWA	**Hanford**	**18.74**	**350**	*e*P	**P**	**23 12 48.0**	**+0.1**		
	31nm,1.8s								
MSO	**Missoula**	**18.86**	**2**	*e*P	**Pn**	**23 12 51.3**	**+1.4**		
	6.7nm,1.0s								
CHMT	**Chamberlain Mo**	**18.97**	**4**	*e*P	**Pn**	**23 12 51.6**	**+0.2**		
SWMT	**Swartz Lake**	**19.53**	**2**	*e*P	**Pn**	**23 12 58.6**	**+0.5**		
JTMT	**Jette**	**19.76**	**1**	*e*P	**P**	**23 12 59.9**	**+0.6**		
LTY	**Liberty**	**19.77**	**349**	*e*P	**Pn**	**23 13 03.5**	**+2.7**		
	9.0nm,1.2s								
BSMT	**Bassoo Peak**	**19.86**	**0**	*e*P	**P**	**23 13 01.2**	**+0.8**		
LAO	**LASA Array**	**19.94**	**18**	*e*P	**Pn**	**23 13 03.0**	**+0.2**		
	29nm,1.4s								
NEW	**Newport**	**20.34**	**356**	P	**P**	**23 13 05.3**	**-0.2**		
	6.2nm,1.0s,baz=171,slow=9.9,SNR=5.0								
NEW				LR	LR	23 21 19.0			
	comp=Z,87nm,19.2s,baz=168,slow=38								
NEW	**Newport**	**20.34**	**356**	*e*P	**P**	**23 13 05.3**	**-0.2**		
	6.5nm,0.9s								
EGMT	**Eagleton**	**20.45**	**10**	*e*P	Pn	23 13 08.2	-0.7		
	38nm,1.2s								
NLWA	**Neilton Lookou**	**20.60**	**343**	*e*P	Pn	23 13 13.1	+2.5		
	304nm,2.6s								
WALA	**Waterton Lakes**	**21.09**	**2**	*e*P	**P**	**23 13 14.2**	**+0.6**		
	288nm,0.9s								
CMIG	**Matias Romero**	**21.48**	**116**	P	**P**	**23 13 17.8**	**-0.2**		
	6.5nm,0.7s,baz=314,slow=10,SNR=9.1								
CMIG				LR	LR	23 22 14.3			
	comp=Z,182nm,19.5s,baz=280,slow=38								
ECSD	**EROS Data Cent**	**21.61**	**38**	*e*P	**P**	**23 13 19.6**	**+0.4**		
	20nm,1.3s								
WVT	**Waverly**	**24.38**	**64**	*e*P	**P**	**23 13 48.4**	**+0.9**		
	66nm,2.5s								
AGMN	**Agassiz Nation**	**25.16**	**31**	*e*P	**P**	**23 13 53.9**	**-0.5**		
	7.5nm,0.8s								
TEIG	**Tepich**	**25.56**	**102**	LR	LR	23 25 48.9			
	comp=Z,95nm,20.1s,baz=291,slow=41								
TEIG	**Tepich**	**25.56**	**102**	*e*P	**P**	**23 13 59.6**	**+1.3**		
	44nm,1.4s								
SFIN	**Lafayette**	**26.09**	**54**	*e*P	**P**	**23 14 03.2**	**+0.2**		
	36nm,1.0s								
ULM	**Lac du Bonnet**	**26.61**	**28**	P	**P**	**23 14 05.4**	**-2.1**		
	8.5nm,0.9s,baz=212,slow=8.7,SNR=7.6								
ULM				LR	LR	23 24 51.6			
	comp=Z,80nm,19.2s,baz=282,slow=37								
ULM	**Lac du Bonnet**	**26.61**	**28**	*e*P	**P**	**23 14 06.8**	**-0.7**		
	14nm,1.0s								
TKL	**Tuckaleechee C**	**27.55**	**66**	LR	LR	23 25 40.2			
	comp=Z,121nm,18.6s,baz=278,slow=37								
ACSO	**Alum Creek Sta**	**29.06**	**57**	*e*P	**P**	**23 14 29.7**	**+0.1**		
	25nm,0.8s								
KMSC	**Kings Mountain**	**29.48**	**67**	*e*P	**P**	**23 14 33.9**	**+0.5**		
	14nm,0.8s								
JSC	**Jenkinsville**	**29.49**	**69**	*e*P	**P**	**23 14 33.5**	**+0.1**		
DLBC	**Dease Lake**	**32.21**	**345**	LR	LR	23 28 45.9			
	comp=Z,146nm,18.5s,baz=85,slow=38								
SSPA	**Standing Stone**	**32.94**	**58**	*e*P	**P**	**23 15 03.8**	**0.0**		
	12nm,0.9s								
FCC	**Fort Churchill**	**34.04**	**19**	*e*P	**P**	**23 15 12.3**	**-0.8**		
	1μm,2.3s								
YKA	**Yellowknife Ar**	**34.54**	**0**	P	**P**	**23 15 16.6**	**-0.8**		
	1.0nm,0.8s,baz=177,slow=8.4,SNR=10								
YKA				PcP	**PcP**	**23 17 50.8**	**-1.2**		
	0.3nm,0.8s,baz=184,slow=1.8,SNR=3.7								
BINY	**Binghamton**	**34.64**	**55**	*e*P	**P**	**23 15 19.3**	**+0.7**		
	16nm,0.8s								
BRNJ	**Basking Ridge**	**35.44**	**58**	*e*P	**P**	**23 15 26.6**	**+1.1**		
	22nm,1.8s								
PTN	**Potsdam (NY)**	**35.88**	**52**	*e*P	**P**	**23 15 29.9**	**+0.7**		
	32nm,1.2s								
NCB	**Newcomb**	**36.27**	**53**	*e*P	**P**	**23 15 32.9**	**+0.3**		
	8.1nm,0.6s								
EMMW	**East Machias**	**41.18**	**53**	*e*P	**P**	**23 16 13.6**	**-0.1**		
	14nm,0.7s								
INK	**Inuvik**	**41.86**	**350**	P	**P**	**23 16 18.6**	**-0.3**		
	1.8nm,0.7s,baz=161,slow=11,SNR=6.2								
INK	**Inuvik**	**41.86**	**350**	*e*P	**P**	**23 16 18.6**	**-0.3**		
	62nm,2.8s								
PPLA	**Purkeypile**	**42.49**	**336**	*e*P	**P**	**23 16 24.8**	**+0.5**		
	24nm,0.9s								
SCHQ	**Schefferville**	**43.81**	**39**	P	**P**	**23 16 34.6**	**-0.4**		
	6.3nm,1.0s,baz=277,slow=5.2,SNR=8.4								
SCHQ				LR	LR	23 35 16.9			
	comp=Z,160nm,18.6s,baz=318,slow=37								
SCHQ	**Schefferville**	**43.81**	**39**	*e*P	**P**	**23 16 35.0**	**-0.1**		
	14nm,1.2s								
OTAV	**Otavalo**	**44.57**	**122**	*e*P	**P**	**23 16 45.2**	**+3.2**		
	17nm,1.3s								
COLD	**Coldfoot**	**44.68**	**341**	*e*P	**P**	**23 16 43.1**	**+1.3**		
	8.0nm,1.3s								
IM04	**Indian Mountai**	**44.94**	**339**	*e*P	**P**	**23 16 41.5**	**-2.4**		
SDV	**Santo Domingo**	**45.87**	**106**	*e*P	**P**	**23 16 53.3**	**+1.1**		
	9.6nm,0.8s								
ATAH	**Atahualpa**	**49.69**	**129**	P	**P**	**23 17 21.9**	**0.0**		
	8.5nm,0.9s,baz=15,slow=5.6,SNR=3.2								
PPT	**Papeete**	**56.29**	**221**	P	**P**	**23 18 09.1**	**-1.0**		
	30nm,0.4s,baz=37,slow=16,SNR=3.4								
PPT				LR	LR	23 35 09.1			
	comp=Z,53nm,19.0s,baz=346,slow=28								
PTGA	**Pitinga**	**59.95**	**109**	*e*P	**P**	**23 18 36.4**	**+0.5**		
	5.8nm,0.9s								
LPAZ	**La Paz**	**63.22**	**128**	P	**P**	**23 18 58.1**	**-0.5**		
	1.3nm,0.6s,baz=332,slow=5.9,SNR=5.3								
LPAZ				LR	LR	23 45 21.0			
	comp=Z,43nm,19.7s,baz=203,slow=35								
LPAZ	**La Paz**	**63.22**	**128**	*e*P	**P**	**23 18 58.8**	**+0.2**		
	36nm,2.7s								
PETK	**Petropavlovsk-**	**66.59**	**319**	P	**P**	**23 19 18.3**	**-1.1**		
	2.1nm,0.8s,baz=72,slow=11,SNR=6.1								
PETK				LR	LR	23 43 10.0			
	comp=Z,20nm,18.1s,baz=106,slow=31								
LVC	**Limon Verde**	**67.14**	**134**	*e*P	**P**	**23 19 25.8**	**+2.2**		
	5.2nm,0.7s								
H11N3	**WAKE ISLAND Hy**	**70.81**	**283**	T	T	00 36 47.4			
	baz=69								
H11N2	**WAKE ISLAND Hy**	**70.82**	**283**	T	T	00 36 46.2			
	baz=69								
H11N1	**WAKE ISLAND Hy**	**70.83**	**283**	T	T	00 36 45.1			
	baz=69								
CPUP	**Villa Florida**	**77.37**	**129**	P	**P**	**23 20 24.4**	**+0.1**		
	0.9nm,0.9s,baz=350,slow=6.1,SNR=3.0								
BDFB	**Brasilia**	**77.99**	**115**	LR	LR	23 56 43.1			
	comp=Z,57nm,18.4s,baz=298,slow=37								
ARCES	**ARCESS Array B**	**78.67**	**13**	LR	LR	23 56 26.4			
	comp=Z,29nm,21.4s,baz=3.5,slow=37								
ASAJ	**Asahikawa**	**79.23**	**314**	P	**P**	**23 20 33.6**	**-1.0**		
	7.5nm,0.8s,baz=90,slow=10,SNR=3.4								
ASAJ	**Asahikawa**	**79.23**	**314**	*e*P	**P**	**23 20 33.6**	**-1.0**		
	248nm,2.5s								
NOA	**NORSAR Array B**	**81.20**	**23**	P	**P**	**23 20 44.9**	**0.0**		
	1.0nm,0.9s,baz=318,slow=4.8,SNR=3.3								
HFS	**Hagfors**	**82.71**	**23**	P	**P**	**23 20 52.6**	**-0.2**		
	4.0nm,0.9s,baz=357,slow=5.8,SNR=4.7								
FIA0	**FINESS Array S**	**85.51**	**18**	*e*P	**P**	**23 21 06.6**	**-0.4**		
FINES	**FINESS Array B**	**85.51**	**18**	P	**P**	**23 21 06.6**	**-0.4**		
	1.0nm,0.8s,baz=340,slow=12,SNR=5.2								
USRK	**Ussuriysk Ar.**	**85.67**	**318**	P	**P**	**23 21 07.2**	**-1.0**		
	0.7nm,0.5s,baz=243,slow=13,SNR=4.6								
MJAR	**Matsushiro Arr**	**85.94**	**309**	P	**P**	**23 21 08.1**	**-1.5**		
	1.4nm,0.6s,baz=64,slow=4.6,SNR=3.7								
MJAR				LR	LR	23 52 44.9			
	comp=Z,35nm,20.5s,baz=75,slow=31								
MAJO	**Matsushiro**	**85.94**	**309**	*e*P	**P**	**23 21 08.1**	**-1.5**		
	107nm,1.9s								
GERES	**GERESS Array B**	**90.88**	**31**	LR	LR	00 03 22.3			
	comp=Z,23nm,19.4s,baz=297,slow=36								
KSRS	**Korea Array**	**92.17**	**315**	LR	LR	23 58 11.9			
	comp=Z,13nm,20.0s,baz=135,slow=32								
WRA	**Warramunga Arr**	**116.84**	**261**	PKP	**PKPdf**	**23 27 11.9**	**-2.6**		
	0.5nm,0.7s,baz=92,slow=3.6,SNR=4.7								
CMAR	**Chiang Mai Arr**	**123.34**	**321**	PKP	**PKPdf**	**23 27 26.4**	**-0.8**		
	0.9nm,0.3s,baz=333,slow=2.0,SNR=4.2								

*IDC **11** 23:18:45.4±1.6,27.08N×53.27E, h0km, mb3.7/12, mb1 3.8/13, mb1mx3.6/39, mbtmp3.7/13, ML3.2/1, Error ellipse: s-maj=38.7km s-min=18.9km az=157.0*
*ISCJB **11** 23:18:46.2±0.5,27.23N±0.08×53.18E±0.09, h10km, mb3.7/11, Error ellipse: s-maj=14.8km s-min=6.9km az=138.4*
*DSN **11** 23:18:58.0±0.8,26.83N×53.91E, h15km, mb2.8/7, ML3.5/6, Error ellipse: s-maj=10.0km s-min=7.6km az=12.0*
ISC 11 23:18:47.7±0.8, 27.2N±0.1×53.2E±0.1, h10km, n19, σ0.59/19, mb3.7/11, 3C-3D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**3.04**	**114**	⇑P		**Pn**		**23 19 35.8**	**0.0**
NAZ	**Nazwa, Dubai**	**3.11**	**134**	⇓P		**Pn**		**23 19 37.7**	**+0.9**
ASUD	**Al Ashush, Dub**	**3.19**	**143**	⇑P		**Pn**		**23 19 38.3**	**+0.4**
FAQ	**Al Faqa, Dubai**	**3.25**	**138**	⇓P		**Pn**		**23 19 39.0**	**+0.3**
HATD	**Hatta, Dubai**	**3.53**	**131**	⇑P		**Pn**		**23 19 43.2**	**+0.6**
ASHO	**Ashiyiah**	**3.58**	**134**	⇓P		**Pn**		**23 19 43.6**	**+0.3**
KBZ	**Khabaz**	**18.49**	**336**	P		**Pn**		**23 23 05.3**	**+1.4**
	0.1nm,0.3s,baz=233,slow=20,SNR=4.6								
BRTR	**Keskin Array B**	**20.51**	**312**	P		**P**		**23 23 26.9**	**+0.7**
	3.3nm,0.9s,baz=138,slow=12,SNR=5.4								
IDI	**Anoyia**	**25.46**	**295**	P		**P**		**23 24 16.1**	**+0.1**
	1.6nm,0.7s,baz=124,slow=11,SNR=3.3								
BVAR	**Borovoye Array**	**28.80**	**22**	P		**P**		**23 24 46.2**	**+0.5**
	0.8nm,0.7s,baz=212,slow=5.1,SNR=5.3								
MKAR	**Makanchi Array**	**30.10**	**42**	P		**P**		**23 24 57.5**	**+0.2**
	0.6nm,0.7s,baz=234,slow=12,SNR=5.5								
ZALV	**Zalesovo Beam**	**35.40**	**32**	P		**P**		**23 25 43.2**	**-0.3**
	0.5nm,0.4s,baz=254,slow=10,SNR=4.1								
FINES	**FINESS Array B**	**38.78**	**340**	P		**P**		**23 26 11.7**	**-0.5**
	0.8nm,0.6s,baz=146,slow=9.9,SNR=6.1								
ARCES	**ARCESS Array B**	**45.34**	**347**	P		**P**		**23 27 05.7**	**0.0**
	1.2nm,0.7s,baz=148,slow=8.6,SNR=5.4								
SONM	**Songino Array**	**45.92**	**49**	P		**P**		**23 27 10.5**	**-0.2**
	0.5nm,0.6s,baz=292,slow=7.6,SNR=3.0								
TORD	**Torodi Ar. Bea**	**50.01**	**264**	P		**P**		**23 27 42.5**	**-0.2**
	0.5nm,0.8s,baz=78,slow=7.3,SNR=4.4								
DBIC	**Dimbokro**	**58.65**	**261**	P		**P**		**23 28 45.0**	**-0.5**
	3.5nm,0.9s,baz=53,slow=8.6,SNR=2.5								
ILAR	**Eielson Array**	**87.00**	**8**	P		**P**		**23 31 32.2**	**-0.8**
	0.3nm,0.7s,baz=317,slow=5.2,SNR=3.2								
YKA	**Yellowknife Ar**	**90.09**	**354**	P		**P**		**23 31 47.4**	**-0.2**
	0.3nm,0.7s,baz=10,slow=4.8,SNR=6.1								

*ISCJB **11** 23:22:36.8±0.6,41.33N±0.04×71.90E±0.05, h10km, Error ellipse: s-maj=6.5km s-min=4.6km az=151.9*
*NNC **11** 23:22:36.1±0.6,41.38N×71.91E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=7.0km s-min=5.8km az=61.0*
*KRNET **11** 23:22:36.1±0.1,41.39N×72.10E, h2km, mb3.3*
ISC 11 23:22:35.9±1.0, 41.37N±0.04×72.02E±0.05, h10km, n23, σ1.29/34, 21C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SALK	**Salom-Alik**	**1.44**	**109**	*e*P		**Pg**		**23 23 02.9**	**-0.7**
	baz=111								
SALK				*e*S		**Sg**		**23 23 23.0**	**+0.6**
	baz=111								
AML	**Almayashu**	**1.46**	**58**	⇑*i*P		**Pg**		**23 23 03.6**	**-0.5**
	SNR=85								
AML	**Almayashu**	**1.46**	**58**	⇑*i*P		**Pg**		**23 23 03.5**	**-0.5**
	baz=58								
AML				⇑*i*S		**Sg**		**23 23 23.2**	**+0.1**
	baz=58								
SFK	**Sufi-Kurgan**	**1.76**	**140**	⇑Pn		**Pg**		**23 23 09.7**	**0.0**
	4.0nm,0.2s								
SFK				⇑Lg		Lg		23 23 33.2	
	55nm,0.3s								
EKS2	**Erkin-Say**	**1.84**	**45**	P		**Pg**		**23 23 10.1**	**-1.1**
	SNR=11								
EKS2	**Erkin-Say**	**1.84**	**45**	⇑*i*P		**Pg**		**23 23 10.0**	**-1.1**
	baz=44								
EKS2				⇑*i*S		**Sg**		**23 23 34.8**	**-0.2**
	baz=44								
EKS	**Erkin-Say**	**1.85**	**45**	*i* P		**Pg**		**23 23 10.6**	**-0.7**
	baz=44								
UCH	**Uchtor**	**2.05**	**64**	P		**Pb**		**23 23 13.2**	**-0.3**
	SNR=13								
UCH	**Uchtor**	**2.05**	**64**	⇑*i*P		**Pb**		**23 23 12.8**	**-0.7**
	baz=64								
UCH				⇑*i*S		**Sg**		**23 23 40.5**	**-1.3**
	baz=64								
KK31	**Karatay Array**	**2.06**	**328**	⇑Pn		**Pn**		**23 23 11.1**	**+0.4**
	9.2nm,0.3s,baz=148,slow=12,SNR=190								
KK31				Sn		**Sn**		**23 23 38.2**	**+1.8**
	51nm,0.4s,baz=146,slow=22,SNR=18								
AAK	**Ala-Archa**	**2.23**	**55**	P		**Pb**		**23 23 16.3**	**-0.1**
	SNR=12								
AAK	**Ala-Archa**	**2.23**	**55**	⇓Pn		**Pb**		**23 23 16.0**	**-0.4**
	11nm,0.7s								
AAK				⇑Lg		Lg		23 23 46.6	
	28nm,0.6s								
AAK	**Ala-Archa**	**2.23**	**55**	⇑*i*P		**Pb**		**23 23 15.5**	**-1.0**
	baz=54								
AAK				⇑*i*S		**Sg**		**23 23 46.7**	**-1.0**
	baz=54								
KZA	**Kyzart**	**2.52**	**73**	P		**Pb**		**23 23 20.0**	**-1.4**
	SNR=12								
KZA	**Kyzart**	**2.52**	**73**	⇑*i*P		**Pb**		**23 23 19.6**	**-1.8**
	baz=73								
KZA				⇑*i*S		**Sb**		**23 23 53.8**	**+1.2**
	baz=73								
KBK	**Karagaybulak**	**2.53**	**58**	P		**Pb**		**23 23 20.4**	**-1.1**
	SNR=5.5								
KBK	**Karagaybulak**	**2.53**	**58**	⇑*i*P		**Pb**		**23 23 20.1**	**-1.4**
	baz=58								
KBK				⇑*i*S		**Sg**		**23 23 55.6**	**-1.6**
	baz=58								
CHMS	**Chumysh**	**2.60**	**50**	P		**Pb**		**23 23 20.6**	**-2.0**
	SNR=5.1								
CHMS	**Chumysh**	**2.60**	**50**	⇑*i*P		**Pb**		**23 23 20.3**	**-2.3**
	baz=50								
CHMS				⇑*i*S		**Sb**		**23 23 53.9**	**-0.8**
	baz=50								
USP	**Ospenovka**	**2.64**	**43**	P		**Pg**		**23 23 28.7**	**+2.2**
	SNR=7.9								
TKM2	**Tokmak 2**	**3.08**	**59**	P		**Pn**		**23 23 27.1**	**+2.3**
	SNR=8.3								
TKM2	**Tokmak 2**	**3.08**	**59**	⇑Pn		**Pn**		**23 23 27.1**	**+2.3**
	1.5nm,0.5s								
TKM2				⇓Pg		**Pg**		**23 23 34.2**	**-0.6**
	4.8nm,0.5s								
TKM2				⇑Lg		Lg		23 24 12.1	
	15nm,0.7s								
DZET	**Dzherino**	**3.54**	**225**	⇑Pn		**Pn**		**23 23 31.2**	**+0.1**
	7.4nm,0.3s								
DZET				⇓Sn		**Sn**		**23 24 13.9**	**+0.7**
	28nm,0.6s								
DZET				⇓Lg		Lg		23 24 31.2	
	24nm,0.6s								

*IDC **11** 23:31:08.5±1.8,36.31S×73.24W, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.7/17, mbtmp3.5/6, ML3.4/2, MS3.5/2, Ms1 3.5/2, ms1mx3.0/14, Error ellipse: s-maj=45.4km s-min=25.0km az=80.0*
*ISCJB **11** 23:31:11.0±1.1,36.27S±0.06×73.0W±0.2, h25km, mb3.5/3, Error ellipse: s-maj=19.3km s-min=7.9km az=3.0*
ISC 11 23:31:12.6±1.3, 36.27S±0.08×73.1W±0.2, h25km, n7, σ0.54/8, mb3.6/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.88**	**157**	Pn		**Pn**		**23 32 24.1**	**-0.4**
	0.6nm,0.3s,baz=328,slow=9.7,SNR=12								
PLCA				Sn		**Sn**		**23 33 20.4**	**+0.2**
	0.6nm,0.3s,baz=310,slow=18,SNR=3.3								
PLCA				LR		LR		23 34 26.5	
	comp=Z,179nm,20.4s,baz=345,slow=40								
CFAA	**Coronel Fontan**	**6.15**	**42**	Pn		**Pn**		**23 32 41.7**	**-0.2**
	0.3nm,0.3s,baz=219,slow=11,SNR=29								
CFAA				Sn		**Sn**		**23 33 51.4**	**-0.2**
	0.6nm,0.3s,baz=317,slow=14,SNR=7.2								
CFAA				LR		LR		23 35 14.0	
	comp=Z,14nm,21.6s,baz=228,slow=39								
CPUP	**Villa Florida**	**16.70**	**58**	LR		LR		23 42 07.6	
	comp=Z,397nm,19.7s,baz=232,slow=39								
LPAZ	**La Paz**	**20.39**	**14**	P		**P**		**23 35 48.9**	**+0.7**
	1.7nm,0.7s,baz=203,slow=13,SNR=9.3								
SIV	**San Ignacio**	**22.86**	**31**	P		**P**		**23 36 14.1**	**-0.1**
	1.1nm,0.6s,baz=225,slow=10.0,SNR=3.7								
TXAR	**Lajitas Array**	**71.31**	**332**	P		**P**		**23 42 29.7**	**-0.4**
	0.4nm,0.6s,baz=149,slow=6.9,SNR=4.5								
TORD	**Torodi Ar. Bea**	**85.78**	**70**	P		**P**		**23 43 50.8**	**+0.7**
	0.3nm,0.7s,baz=233,slow=6.7,SNR=3.3								

*CSEM **11** 23:40:51.0, 40.69N×29.22E, h6km, MD2.0*
ISK 11 23:40:51.0, 40.69N±29.22E, h6km, MD2.0, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARMT	**Armutlu**	**0.30**	**245**	*e*PG		Pg		23 40 57.4	+0.6
ARMT				*e*SG		Sg		23 41 01.8	+1.0
ARMT	**Armutlu**	**0.30**	**245**	*e*Pg		Pg		23 40 57.4	+0.5
ARMT				*e*Sg		Sg		23 41 01.8	+1.0
ISK	**Istanbul-Kandi**	**0.39**	**342**	*e*PG		Pg		23 40 59.2	+0.5
ISK	**Istanbul-Kandi**	**0.39**	**342**	*e*Pg		Pg		23 40 59.2	+0.6
ADVT	**Abdulvahap**	**0.47**	**123**	*e*PG		Pg		23 41 00.7	+0.5
ADVT	**Abdulvahap**	**0.47**	**123**	*e*Pg		Pg		23 41 00.6	+0.4
KLYT	**Kilyos**	**0.58**	**347**	*e*PG		Pg		23 41 02.6	+0.6
KLYT	**Kilyos**	**0.58**	**347**	*e*Pg		Pg		23 41 02.7	+0.6
CTKS	**Kestanelik-??a**	**0.76

32nm,0.2s
PFVI Vila Bisbo 1.61 50 ⇑P **Pb 01 03 30.0 +0.6**
74nm,0.1s,SNR=18
PFVI S **Sg 01 03 50.8 -1.0**
92nm,0.2s,SNR=8.3
PFVI Vila Bisbo 1.61 50 P **Pb 01 03 30.0 +0.6**
74nm,0.1s,SNR=18
PFVI S **Sg 01 03 50.8 -1.0**
92nm,0.2s,SNR=8.3
MORF Marmelete 1.83 48 *e*P **Pn 01 03 33.0 +2.2**
MORF *e*S **Sb 01 03 55.9 0.0**
MORF AML AML 01 03 57.0
comp=N,54nm,0.3s
MORF Marmelete 1.83 48 *e*Pn **Pn 01 03 33.1 +2.2**
MORF *e*Sn **Sb 01 03 56.1 +0.2**
MORF A A 01 03 58.8
comp=N,46nm,0.2s
MORF Marmelete 1.83 48 P **Pn 01 03 33.1 +2.2**
MORF S **Sb 01 03 56.1 +0.2**
comp=N,46nm,0.2s
MORF Marmelete 1.83 48 P **Pn 01 03 33.1 +2.2**
MORF S **Sb 01 03 56.1 +0.2**
comp=N,46nm,0.2s
PTEO Sao Teotonio 1.95 42 *e*Pn **Pn 01 03 34.8 +2.2**
PTEO *e*Sn **Sb 01 03 59.0 -0.4**
PTEO A A 01 04 00.7
comp=N,32nm,0.3s
PTEO Sao Teotonio 1.95 42 P **Pn 01 03 34.8 +2.2**
PTEO S **Sb 01 03 59.0 -0.4**
comp=N,16nm,0.3s
PTEO Sao Teotonio 1.95 42 P **Pn 01 03 34.8 +2.2**
PTEO S **Sb 01 03 59.0 -0.4**
comp=N,16nm,0.3s
PBDV Barranco-do-Ve 2.26 59 *e*Pn **Pn 01 03 39.0 +2.1**
PBDV *e*Sn **Sn 01 04 06.2 +1.6**
PBDV A A 01 04 14.7
comp=N,10nm,0.2s
PBDV Barranco-do-Ve 2.26 59 P **Pn 01 03 39.0 +2.1**
PBDV S **Sn 01 04 06.2 +1.6**
comp=N,10nm,0.2s
PBDV Barranco-do-Ve 2.26 59 P **Pn 01 03 39.0 +2.1**
PBDV S **Sn 01 04 06.2 +1.6**
comp=N,10nm,0.2s
MESJ Messejana 2.44 44 *e*P **Pn 01 03 41.4 +2.2**
MESJ *e*S **Sb 01 04 11.0 -2.5**
MESJ AML AML 01 04 12.9
comp=N,21nm,0.2s
MESJ Messejana 2.44 44 *e*Pn **Pn 01 03 41.5 +2.2**
MESJ *e*Sn **Sb 01 04 11.3 -2.2**
MESJ A A 01 04 13.7
comp=N,10nm,0.2s
MESJ Messejana 2.44 44 P **Pn 01 03 41.5 +2.2**
MESJ S **Sb 01 04 11.3 -2.2**
comp=N,10nm,0.2s
MESJ Messejana 2.44 44 P **Pn 01 03 41.5 +2.2**
MESJ S **Sb 01 04 11.3 -2.2**
comp=N,10nm,0.2s
PNCL Nicolau / Gran 2.49 36 *e*Pn **Pn 01 03 42.0 +2.1**
PNCL *e*Sn **Sb 01 04 12.4 -2.3**
PNCL A A 01 04 15.0
comp=N,18nm,0.2s
PNCL Nicolau / Gran 2.49 36 *e*Pn **Pn 01 03 42.0 +2.1**
PNCL *e*Sn **Sb 01 04 12.4 -2.3**
comp=N,18nm,0.2s
PVAQ Vaqueiros 2.49 58 *e*Pn **Pn 01 03 42.0 +2.0**
PVAQ *e*Sn **Sn 01 04 11.9 +1.8**
PVAQ A A 01 04 13.7
comp=N,15nm,0.1s
PVAQ Vaqueiros 2.49 58 P **Pn 01 03 42.0 +2.0**
PVAQ S **Sn 01 04 11.9 +1.8**
comp=N,15nm,0.1s
PVAQ Vaqueiros 2.49 58 P **Pn 01 03 42.0 +2.0**
PVAQ S **Sn 01 04 11.9 +1.8**
comp=N,15nm,0.1s
EGRO El Granado 2.72 57 ⇑P **Pn 01 03 45.0 +1.9**
comp=N,7.1nm,0.1s,SNR=18
EGRO S **Sn 01 04 17.0 +1.3**
comp=N,7.4nm,0.1s,SNR=4.6
EGRO El Granado 2.72 57 P **Pn 01 03 45.0 +1.9**
comp=N,7.1nm,0.1s,SNR=18
EGRO S **Sn 01 04 17.0 +1.3**
comp=N,7.4nm,0.1s,SNR=4.6
PMST Lisbon--Monsan 2.79 19 *e*Sn **Sn 01 04 19.6 +2.0**
PMST A A 01 04 22.1
comp=N,22nm,0.2s
PMST Lisbon--Monsan 2.79 19 *e*Sn **Sn 01 04 19.6 +2.0**
comp=N,22nm,0.2s
PACT Alcochete 2.93 24 *e*Pn **Pn 01 03 48.9 +2.9**
PACT *e*Sn **Sn 01 04 23.8 +2.9**
PACT A A 01 04 34.4
comp=N,21nm,0.6s
PACT Alcochete 2.93 24 *e*Pn **Pn 01 03 48.9 +2.9**
PACT *e*Sn **Sn 01 04 23.8 +2.9**
comp=N,21nm,0.6s
PMAFR Mafra 2.98 16 *e*Pn **Pn 01 03 48.0 +1.4**
PMAFR *e*Sn **Sn 01 04 23.5 +1.4**
PMAFR A A 01 04 28.7
comp=N,37nm,0.7s
PMAFR Mafra 2.98 16 ⇓P **Pn 01 03 48.1 +1.4**
comp=N,3.0nm,0.1s,SNR=18
PMAFR S **Sn 01 04 23.2 +1.1**
comp=N,9.0nm,0.1s
PMAFR Mafra 2.98 16 P **Pn 01 03 48.1 +1.4**
comp=N,3.0nm,0.1s,SNR=18
PMAFR S **Sn 01 04 23.2 +1.1**
comp=N,9.0nm,0.1s
PMAFR *e*Sn **Sn 01 04 23.5 +1.4**
comp=N,37nm,0.7s
EVO Evora 3.07 37 *e*Pn **Pn 01 03 49.7 +1.8**
EVO *e*Sn **Sn 01 04 25.6 +1.3**
EVO A A 01 04 27.0
comp=N,25nm,0.1s
EVO Evora 3.07 37 P **Pn 01 03 49.7 +1.8**
EVO S **Sn 01 04 25.6 +1.3**
comp=N,25nm,0.1s
EVO Evora 3.07 37 P **Pn 01 03 49.7 +1.8**
EVO S **Sn 01 04 25.6 +1.3**
comp=N,25nm,0.1s
PBAR Barrancos 3.37 51 *e*Pn **Pn 01 03 53.9 +1.9**
PBAR *e*Sn **Sn 01 04 33.5 +1.8**
PBAR A A 01 04 36.1
comp=N,14nm,0.4s
PBAR Barrancos 3.37 51 P **Pn 01 03 53.9 +1.9**
PBAR S **Sn 01 04 33.5 +1.8**
comp=N,14nm,0.4s
PBAR Barrancos 3.37 51 P **Pn 01 03 53.9 +1.9**
PBAR S **Sn 01 04 33.5 +1.8**
comp=N,14nm,0.4s
EMIN Mina Concepcio 3.39 60 P **Pn 01 03 54.0 +1.6**
comp=N,1.8nm,0.1s,SNR=37
EMIN S **Sn 01 04 33.2 +0.8**
comp=N,2.0nm,0.1s
EMIN Mina Concepcio 3.39 60 P **Pn 01 03 54.0 +1.6**
comp=N,1.8nm,0.1s,SNR=37
EMIN S **Sn 01 04 33.2 +0.8**
comp=N,2.0nm,0.1s
PMTG Montargil 3.42 29 *e*Pn **Pn 01 03 54.4 +1.7**
PMTG *e*Sn **Sn 01 04 33.9 +1.0**
PMTG A A 01 04 35.1
comp=N,14nm,0.5s
PMTG Montargil 3.42 29 *e*Pn **Pn 01 03 54.4 +1.7**
PMTG *e*Sn **Sn 01 04 33.9 +1.0**
comp=N,14nm,0.5s
PESTR Estremoz 3.53 38 *e*Pn **Pn 01 03 56.0 +1.7**
PESTR *e*Sn **Sn 01 04 36.7 +0.8**
PESTR A A 01 04 39.2
comp=N,6.7nm,0.5s
PESTR Estremoz 3.53 38 *e*Pn **Pn 01 03 56.0 +1.7**
PESTR *e*Sn **Sn 01 04 36.7 +0.8**
comp=N,6.7nm,0.5s
ESPR Espera 3.71 77 P **Pn 01 03 58.2 +1.4**
comp=N,14nm,0.2s,SNR=44
ESPR S **Sn 01 04 40.8 +0.5**
comp=N,9.2nm,0.2s
ESPR Espera 3.71 77 S **Sn 01 04 40.8 +0.5**
comp=N,9.2nm,0.2s
EBAD Badajoz 3.76 44 ⇑P **Pn 01 03 59.0 +1.6**
comp=N,2.1nm,0.1s,SNR=18
EBAD S **Sn 01 04 42.9 +1.5**
comp=N,5.4nm,0.1s
EBAD Badajoz 3.76 44 P **Pn 01 03 59.0 +1.6**
comp=N,2.1nm,0.1s,SNR=18
EBAD S **Sn 01 04 42.9 +1.5**
comp=N,5.4nm,0.1s
PTOM Tomar 3.84 23 *e*Pn **Pn 01 04 00.8 +2.3**
PTOM *e*Sn **Sn 01 04 44.2 +0.9**
comp=N,9.2nm,0.2s
PTOM Tomar 3.84 23 P **Pn 01 04 00.8 +2.3**
PTOM S **Sn 01 04 44.2 +0.9**
comp=N,4.6nm,0.2s
PTOM Tomar 3.84 23 P **Pn 01 04 00.8 +2.3**
PTOM S **Sn 01 04 44.2 +0.9**
comp=N,4.6nm,0.2s
PMRV Marv??o 4.07 34 *e*Pn **Pn 01 04 03.6 +1.9**
PMRV *e*Sn **Sn 01 04 49.4 +0.3**
PMRV A A 01 04 51.0
comp=N,8.8nm,0.2s
PMRV Marv??o 4.07 34 P **Pn 01 04 03.6 +1.9**
PMRV S **Sn 01 04 49.4 +0.3**
comp=N,8.8nm,0.2s
PMRV Marv??o 4.07 34 P **Pn 01 04 03.6 +1.9**
PMRV S **Sn 01 04 49.4 +0.3**
comp=N,8.8nm,0.2s
PCAS Casmilo, Conde 4.21 20 *e*Pn **Pn 01 04 05.8 +2.2**
PCAS *e*Sn **Sn 01 04 53.0 +0.4**
PCAS A A 01 05 04.2
comp=N,5.9nm,0.7s
PCAS Casmilo, Conde 4.21 20 *e*Pn **Pn 01 04 05.8 +2.2**
PCAS *e*Sn **Sn 01 04 53.0 +0.4**
comp=N,5.9nm,0.7s
PCBR Castelo Branco 4.37 31 *e*Pn **Pn 01 04 07.9 +2.0**
PCBR *e*Sn **Sn 01 04 56.6 0.0**
PCBR A A 01 04 59.8
comp=N,5.3nm,0.5s
PCBR Castelo Branco 4.37 31 P **Pn 01 04 07.9 +2.0**
PCBR S **Sn 01 04 56.6 0.0**
comp=N,2.7nm,0.5s
PCBR Castelo Branco 4.37 31 P **Pn 01 04 07.9 +2.0**
PCBR S **Sn 01 04 56.6 0.0**
comp=N,2.7nm,0.5s
ECAB El Cabril 4.42 62 ⇑P **Pn 01 04 08.1 +1.6**
comp=N,4.0nm,0.1s,SNR=18
ECAB S **Sn 01 04 57.9 +0.2**
comp=N,2.0nm,0.1s
ECAB El Cabril 4.42 62 P **Pn 01 04 08.1 +1.6**
comp=N,4.0nm,0.1s,SNR=18
ECAB S **Sn 01 04 57.9 +0.2**
comp=N,2.0nm,0.1s
EMIJ Mijas 4.54 83 P **Pn 01 04 08.7 +0.6**
comp=N,0.5nm,0.1s,SNR=7.9
EMIJ S **Sn 01 04 58.8 -1.9**
comp=N,1.7nm,0.1s,SNR=8.1
EMIJ Mijas 4.54 83 P **Pn 01 04 08.7 +0.6**
comp=N,0.5nm,0.1s,SNR=7.9
EMIJ S **Sn 01 04 58.8 -1.9**
comp=N,1.7nm,0.1s,SNR=8.1
CIA Chichaoua 4.72 163 P Pn 01 04 06.0 -4.6
CIA S Sn 01 04 54.0 -11
MTE Manteigas 4.83 26 *e*Pn **Pn 01 04 13.6 +1.4**
MTE *e*Sn **Sn 01 05 08.2 +0.3**
MTE A A 01 05 12.1
comp=N,4.8nm,0.3s
MTE Manteigas 4.83 26 P **Pn 01 04 13.6 +1.4**
MTE S **Sn 01 05 08.2 +0.3**
comp=N,2.4nm,0.3s
MTE Manteigas 4.83 26 *e*Pn **Pn 01 04 13.6 +1.4**
MTE S **Sn 01 05 08.2 +0.3**
comp=N,2.4nm,0.3s
PVIS Viseu 5.00 22 *e*Pn **Pn 01 04 16.1 +1.6**
PVIS *e*Sn **Sn 01 05 12.3 +0.3**
PVIS A A 01 05 15.7
comp=N,6.3nm,0.3s
PVIS Viseu 5.00 22 P **Pn 01 04 16.1 +1.6**
PVIS S **Sn 01 05 12.3 +0.3**
comp=N,3.2nm,0.3s
PVIS Viseu 5.00 22 *e*Pn **Pn 01 04 16.1 +1.6**
PVIS S **Sn 01 05 12.3 +0.3**
comp=N,3.2nm,0.3s
KIB El Ksiba 5.02 133 P Pn 01 04 12.0 -2.8
KIB S Sn 01 05 03.5 -9.2
KIB El Ksiba 5.02 133 P Pn 01 04 12.0 -2.8
EADA Adamuz 5.06 64 ⇓P **Pn 01 04 16.9 +1.5**
comp=N,3.9nm,0.2s,SNR=18
EADA S **Sn 01 05 12.9 -0.7**
comp=N,2.8nm,0.1s
EADA Adamuz 5.06 64 P **Pn 01 04 16.9 +1.5**
comp=N,3.9nm,0.2s,SNR=18
EADA S **Sn 01 05 12.9 -0.7**
comp=N,2.8nm,0.1s
TZC Tazercounte 5.09 140 P Pn 01 04 13.0 -2.8
TZC S Sn 01 05 05.0 -10
TZC Tazercounte 5.09 140 *i* P Pn 01 04 13.0 -2.8
EPLA Plasencia 5.20 39 P **Pn 01 04 19.2 +1.9**
comp=N,1.8nm,0.1s,SNR=15
EPLA S **Sn 01 05 17.7 +0.7**
comp=N,2.5nm,0.1s,SNR=10
EPLA Plasencia 5.20 39 P **Pn 01 04 19.2 +1.9**
comp=N,1.8nm,0.1s,SNR=15
EPLA S **Sn 01 05 17.7 +0.7**
comp=N,2.5nm,0.1s,SNR=10
CZD Col de Zad 5.35 123 P Pn 01 04 18.0 -1.6
CZD S Sn 01 05 13.0 -8.3
CZD Col de Zad 5.35 123 *i* P Pn 01 04 18.0 -1.6
SELV Sierra Elvira 5.45 76 P **Pn 01 04 23.5 +2.7**
comp=N,0.6nm,0.2s,SNR=7.9
SELV S **Sn 01 05 22.1 -1.2**
comp=N,1.0nm,0.2s,SNR=7.9
SELV Sierra Elvira 5.45 76 P **Pn 01 04 23.5 +2.7**
comp=N,0.6nm,0.2s,SNR=7.9
SELV S **Sn 01 05 22.1 -1.2**
comp=N,1.0nm,0.2s,SNR=7.9
EGUA Guajares 5.53 80 S **Sn 01 05 22.3 -2.7**
comp=N,10nm,0.7s,SNR=7.9
PVRL Vila Real 5.57 21 *e*Pn **Pn 01 04 23.8 +1.5**
PVRL *e*Sn **Sn 01 05 24.6 -1.4**
PVRL A A 01 05 28.6
comp=N,9.3nm,0.1s
PVRL Vila Real 5.57 21 P **Pn 01 04 23.8 +1.5**
PVRL S **Sn 01 05 24.6 -1.4**
comp=N,4.7nm,0.1s
PVRL Vila Real 5.57 21 P **Pn 01 04 23.8 +1.5**
PVRL S **Sn 01 05 24.6 -1.4**
comp=N,4.7nm,0.1s
POLO Lamas de Olo 5.63 20 *e*Pn **Pn 01 04 24.4 +1.1**
POLO *e*Sn **Sn 01 05 26.1 -1.7**
POLO A A 01 05 31.7
comp=N,1.7nm,1.0s
POLO Lamas de Olo 5.63 20 *e*Pn **Pn 01 04 24.4 +1.1**
POLO *e*Sn **Sn 01 05 26.1 -1.7**
comp=N,1.7nm,1.0s
EBAN Banos Encina 5.64 67 P **Pn 01 04 23.9 +0.5**
comp=N,2.6nm,0.1s,SNR=7.9
EBAN S **Sn 01 05 26.0 -1.9**
comp=N,2.2nm,0.1s,SNR=7.9
EBAN Banos Encina 5.64 67 P **Pn 01 04 23.9 +0.5**
comp=N,2.6nm,0.1s,SNR=7.9
EBAN S **Sn 01 05 26.0 -1.9**
comp=N,2.2nm,0.1s,SNR=7.9
EQUE Quentar 5.67 77 P **Pn 01 04 25.1 +1.3**
comp=N,0.5nm,0.1s,SNR=7.9
EQUE S **Sn 01 05 27.8 -1.0**
comp=N,0.9nm,0.2s,SNR=7.9
EQUE Quentar 5.67 77 P **Pn 01 04 25.1 +1.3**
comp=N,0.5nm,0.1s,SNR=7.9
EQUE S **Sn 01 05 27.8 -1.0**
comp=N,0.9nm,0.2s,SNR=7.9
MVO Moncorvo 5.69 26 *e*Pn **Pn 01 04 25.3 +1.3**
MVO *e*Sn **Sn 01 05 28.0 -1.1**
MVO A A 01 05 31.2
comp=N,4.0nm,0.1s
MVO Moncorvo 5.69 26 P **Pn 01 04 25.3 +1.3**
comp=N,2.9nm,0.1s,SNR=13
MVO S **Sn 01 05 28.0 -1.1**
comp=N,1.7nm,0.1s
MVO Moncorvo 5.69 26 P **Pn 01 04 25.3 +1.3**
comp=N,2.9nm,0.1s,SNR=13
MVO S **Sn 01 05 28.0 -1.1**
comp=N,1.7nm,0.1s
PAB San Pablo 5.87 52 P **Pn 01 04 27.6 +1.0**
comp=N,1.1nm,0.1s,SNR=7.9
PAB S **Sn 01 05 32.4 -1.2**
comp=N,0.3nm,0.1s,SNR=7.9
PAB San Pablo 5.87 52 P **Pn 01 04 27.6 +1.0**
comp=N,1.1nm,0.1s,SNR=7.9
PAB S **Sn 01 05 32.4 -1.2**
comp=N,0.3nm,0.1s,SNR=7.9
PCAB Cabril 5.89 17 *e*Pn **Pn 01 04 27.5 +0.8**
PCAB A A 01 05 38.0
comp=N,5.2nm,1.2s
PCAB Cabril 5.89 17 P **Pn 01 04 27.5 +0.8**
PCAB Cabril 5.89 17 P **Pn 01 04 27.5 +0.8**
ELOB Lobios 6.03 17 P **Pn 01 04 29.5 +0.8**
comp=N,0.6nm,0.1s,SNR=5.9
ELOB S **Sn 01 05 35.9 -1.6**
comp=N,2.1nm,0.2s
ELOB Lobios 6.03 17 P **Pn 01 04 29.5 +0.8**
comp=N,0.6nm,0.1s,SNR=5.9
ELOB S **Sn 01 05 35.9 -1.6**
comp=N,2.1nm,0.2s
GORA Gorafe 6.04 75 P **Pn 01 04 30.5 +1.7**
comp=N,1.4nm,0.1s,SNR=7.9
GORA S **Sn 01 05 37.8 +0.1**
comp=N,4.7nm,0.2s,SNR=7.9
GORA Gorafe 6.04 75 P **Pn 01 04 30.5 +1.7**
comp=N,1.4nm,0.1s,SNR=7.9
GORA S **Sn 01 05 37.8 +0.1**
comp=N,4.7nm,0.2s,SNR=7.9
EBER Berja 6.07 80 S **Sn 01 05 37.3 -1.4**
comp=N,0.4nm,0.2s,SNR=4.0
EBER Berja 6.07 80 S **Sn 01 05 37.3 -1.4**
comp=N,0.4nm,0.2s,SNR=4.0
EQES Quesada 6.08 72 P **Pn 01 04 30.8 +1.3**
comp=N,1.2nm,0.2s,SNR=17
EQES S **Sn 01 05 38.7 -0.1**
comp=N,0.6nm,0.1s,SNR=7.9
EQES Quesada 6.08 72 P **Pn 01 04 30.8 +1.3**
comp=N,1.2nm,0.2s,SNR=17
EQES S **Sn 01 05 38.7 -0.1**
comp=N,0.6nm,0.1s,SNR=7.9
ESDC Sonseca Array 6.19 53 P **Pn 01 04 31.9 +1.0**
comp=N,1.7nm,0.3s,baz=237,slow=13,SNR=45
ESDC S **Sn 01 05 41.5 +0.1**
comp=N,1.1nm,0.3s,baz=240,slow=23,SNR=18
ESDC Sonseca Array 6.19 53 P **Pn 01 04 31.9 +1.0**
comp=N,1.7nm,0.3s,baz=237,slow=13,SNR=45
ESDC S **Sn 01 05 41.5 +0.1**
comp=N,1.1nm,0.3s,slow=23,SNR=18
PBRG Braganca 6.36 25 *e*Pn **Pn 01 04 34.6 +1.5**
PBRG *e*Sn **Sn 01 05 43.5 -2.0**
PBRG A A 01 05 48.1
comp=N,2.7nm,0.1s
PBRG Braganca 6.36 25 P **Pn 01 04 34.6 +1.5**
PBRG S **Sn 01 05 43.5 -2.0**
comp=N,1.4nm,0.1s
PBRG Braganca 6.36 25 P **Pn 01 04 34.6 +1.5**
PBRG S **Sn 01 05 43.5 -2.0**
comp=N,1.4nm,0.1s
PMAR Madeira 6.38 240 *e*Pn Pn 01 04 24.9 -8.7
PMAR *e*Sn Sn 01 05 29.8 -17
PMAR Madeira 6.38 240 P Pn 01 04 24.9 -8.7
PMAR S Sn 01 05 29.8 -17
EHUE Huescar 6.45 72 P **Pn 01 04 35.4 +0.9**
comp=N,0.9nm,0.2s,SNR=7.9
EHUE S **Sn 01 05 46.8 -1.2**
SNR=7.9
EHUE Huescar 6.45 72 P **Pn 01 04 35.4 +0.9**
comp=N,0.9nm,0.2s,SNR=7.9
EHUE S **Sn 01 05 46.8 -1.2**
SNR=7.9
ECAL Calabor 6.48 25 P **Pn 01 04 36.0 +1.1**
comp=N,1.2nm,0.1s,SNR=8.6
ECAL S **Sn 01 05 46.8 -1.7**
comp=N,1.0nm,0.2s,SNR=6.0
ECAL Calabor 6.48 25 P **Pn 01 04 36.0 +1.1**
comp=N,1.2nm,0.1s,SNR=8.6
ECAL S **Sn 01 05 46.8 -1.7**
comp=N,1.0nm,0.2s,SNR=6.0
GUD Guadarrama 6.66 45 P **Pn 01 04 39.3 +1.9**
comp=N,0.0nm,0.1s,SNR=8.3
GUD S **Sn 01 05 52.2 -0.9**
comp=N,2.7nm,0.3s
GUD Guadarrama 6.66 45 P **Pn 01 04 39.3 +1.9**
SNR=8.3
GUD S **Sn 01 05 52.2 -0.9**
comp=N,2.7nm,0.3s
EVIA Vianos 6.75 66 P **Pn 01 04 39.9 +1.3**
comp=N,1.7nm,0.1s,SNR=7.9
EVIA S **Sn 01 05 54.9 -0.4**
comp=N,6.1nm,0.2s,SNR=8.3
EVIA Vianos 6.75 66 P **Pn 01 04 39.9 +1.3**
comp=N,1.7nm,0.1s,SNR=7.9
EVIA S **Sn 01 05 54.9 -0.4**
comp=N,6.1nm,0.2s,SNR=8.3
EAGO Agolada(Pontev 6.92 14 P **Pn 01 04 40.8 0.0**
comp=N,0.3nm,0.2s,SNR=7.9
EAGO S **Sn 01 05 55.1 -4.2**
comp=N,0.7nm,0.2s,SNR=7.9
EAGO Agolada(Pontev 6.92 14 P **Pn 01 04 40.8 0.0**
comp=N,0.3nm,0.2s,SNR=7.9
EMAZ Mazaricos 6.92 8 S **Sn 01 05 54.5 -4.8**
comp=N,1.9nm,0.1s
ETOB Tobarra 7.46 67 P **Pn 01 04 49.2 +0.8**
comp=N,0.7nm,0.1s,SNR=12
ETOB S **Sn 01 06 10.8 -2.0**
comp=N,1.2nm,0.2s,SNR=9.4
ETOB Tobarra 7.46 67 P **Pn 01 04 49.2 +0.8**
comp=N,0.7nm,0.1s,SNR=12
CFUE Fuerteventura 8.02 203 S Sn 01 06 09.6 -17
comp=N,3.9nm,0.3s,SNR=7.9
ETOR Torete 8.04 52 ⇑P **Pn 01 04 58.4 +2.1**
comp=N,5.3nm,0.2s,SNR=18
ETOR S **Sn 01 06 24.7 -2.2**
comp=N,1.5nm,0.1s
ETOR Torete 8.04 52 P **Pn 01 04 58.4 +2.1**
comp=N,5.3nm,0.2s,SNR=18
EMOS Mosqueruela 8.87 58 P **Pn 01 05 10.1 +2.3**
comp=N,0.2nm,0.3s,SNR=7.9
EMOS S **Sn 01 06 46.0 -1.5**
comp=N,0.2nm,0.2s,SNR=7.9
EMOS Mosqueruela 8.87 58 P **Pn 01 05 10.1 +2.3**
comp=N,0.2nm,0.3s,SNR=7.9
EMOS S **Sn 01 06 46.0 -1.5**
comp=N,0.2nm,0.2s,SNR=7.9
IELO Elcoad 9.75 44 P **Pn 01 05 21.5 +1.8**
SNR=7.9
IELO S **Sn 01 07 05.8 -3.1**
comp=N,0.1nm,0.2s,SNR=7.9
IELO Elcoad 9.75 44 P **Pn 01 05 21.5 +1.8**
SNR=7.9
IELO S **Sn 01 07 05.8 -3.1**
comp=N,0.1nm,0.2s,SNR=7.9
ATE Arette 10.21 44 P **Pn 01 05 27.4 +1.5**
SNR=7.9
ATE S **Sn 01 07 18.6 -1.4**
comp=N,0.1nm,0.2s,SNR=4.0
ATE Arette 10.21 44 P **Pn 01 05 27.4 +1.5**
SNR=7.9
ATE S **Sn 01 07 18.6 -1.4**
comp=N,0.1nm,0.2s,SNR=4.0

GEN **12** *01:11:03.6,44.71N×10.55E,h0km,ML2.0*
ROM **12** *01:11:04.9±0.2,44.66N×10.52E,h24km±3km, Md2.4/18, Ml2.2/10,Error ellipse: s-maj=3.3km s-min=2.1km az=109.0*
ISCJB **12** *01:11:05.2±0.2,44.64N±0.02×10.41E±0.03,h27km±2km, Error ellipse: s-maj=3.7km s-min=2.6km az=40.3*
CSEM **12** *01:11:05.1±0.1,44.64N×10.47E,h20km,ML2.4/22, Error ellipse: s-maj=2.4km s-min=2.1km az=106.0*
LDG **12** *01:11:05.7±0.1,44.61N×10.66E,h20km,Ml2.4/20,Error ellipse: s-maj=1.9km s-min=1.0km az=88.0*

ISC 12 01:11:05.4±0.9,**44.66N**±0.02×**10.45E**±0.02,**h23**km±5km, **n97**,σ1s**06**/163,**12C-8D,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRMA	**PARMA**	**0.15**	**318**	Pg	**Pb**	**01 11 09.7**	**-0.5**
PRMA				Sg	**Sb**	**01 11 14.7**	**+1.2**
	241nm,0.3s						
PRMA	**PARMA**	**0.15**	**318**	Pg	**Pb**	**01 11 09.7**	**-0.5**
PRMA				Sg	**Sb**	**01 11 14.7**	**+1.2**
	241nm,0.3s						
ERBM	**Eremo**	**0.24**	**187**	Pg	**Pb**	**01 11 10.9**	**-0.5**
ERBM				Sg	**Sb**	**01 11 16.8**	**+1.3**
	108nm,0.3s						
ERBM	**Eremo**	**0.24**	**187**	Pg	**Pb**	**01 11 10.9**	**-0.5**
ERBM				Sg	**Sb**	**01 11 16.8**	**+1.3**
	108nm,0.3s						
NOVE	**Novellara**	**0.24**	**53**	Pg	**Pb**	**01 11 09.8**	**-1.5**
NOVE				Sg	**Sb**	**01 11 15.4**	**0.0**
	3μm,0.2s						
NOVE	**Novellara**	**0.24**	**53**	Pg	**Pb**	**01 11 09.8**	**-1.5**
NOVE				Sg	**Sb**	**01 11 15.4**	**0.0**
	3μm,0.2s						
GSCL	**Gusciola**	**0.32**	**162**	Pg	**Pb**	**01 11 11.7**	**-0.9**
	28nm,0.4s						
GSCL	**Gusciola**	**0.32**	**162**	Pg	**Pb**	**01 11 11.7**	**-0.9**

28nm,0.4s
VALM Valbona 0.34 206 P **Pb** **01 11 12.1 -0.8**
VALM S **Sb** **01 11 17.9 -0.1**
ZCCA Zocca 0.48 129 Pg **Pb** **01 11 15.2 -0.1**
50nm,0.5s
ZCCA Zocca 0.48 129 Pg **Pb** **01 11 15.2 -0.1**
50nm,0.5s
RAVA Ravarino 0.49 78 Pg **Pb** **01 11 15.0 -0.3**
RAVA Ravarino 0.49 78 Pg **Pb** **01 11 15.0 -0.3**
VLC Villacollemand 0.50 185 Pg **Pb** **01 11 14.9 -0.6**
VLC Sg **Sb** **01 11 22.9 +0.5**
59nm,0.6s
VLC Villacollemand 0.50 185 Pg **Pb** **01 11 14.9 -0.6**
VLC Sg **Sb** **01 11 22.9 +0.5**
59nm,0.6s
CODM Codolo 0.50 239 P **Pb** **01 11 15.2 -0.4**
CODM S **Sb** **01 11 22.9 +0.3**
SBPO S.Benedetto Po 0.52 40 Pg **Pb** **01 11 14.8 -1.0**
SBPO S.Benedetto Po 0.52 40 Pg **Pb** **01 11 14.8 -1.0**
POPM Popiglio 0.65 160 P **Pb** **01 11 16.7 -1.3**
POPM S **Sb** **01 11 25.7 -1.0**
FNVD Fontana Vidola 0.69 135 Pg **Pb** **01 11 18.1 -0.6**
FNVD Fontana Vidola 0.69 135 Pg **Pb** **01 11 18.1 -0.6**
SC2M Scurtabo 0.70 249 Pg **Pb** **01 11 18.8 -0.2**
SC2M Sg **Sn** **01 11 30.9 +0.9**
126nm,1.0s
SC2M Scurtabo 0.70 249 P **Pb** **01 11 18.5 -0.5**
SC2M Scurtabo 0.70 249 Pg **Pb** **01 11 18.8 -0.2**
SC2M S **Sb** **01 11 28.8 +0.6**
BOB Bobbio (Coli) 0.72 279 Pg **Pn** **01 11 20.8 +0.6**
BOB Bobbio (Coli) 0.72 279 Pg **Pn** **01 11 20.8 +0.6**
MAIM Mastiano 0.74 178 Pg **Pb** **01 11 18.9 -0.7**
MAIM Mastiano 0.74 178 Pg **Pb** **01 11 18.9 -0.7**
MAIM S **Sb** **01 11 29.0 -0.3**
PII Pisa 0.93 177 Pg **Pb** **01 11 22.8 -0.1**
51nm,0.5s
PII Pisa 0.93 177 Pg **Pb** **01 11 22.8 -0.1**
51nm,0.5s
CRMI Carmignano 0.94 156 Pg **Pb** **01 11 22.6 -0.4**
CRMI Carmignano 0.94 156 Pg **Pb** **01 11 22.6 -0.4**
BALD Monte Baldo 1.06 14⇓ *e*Pg **Pn** **01 11 24.8 -0.2**
BALD *e*Sg **Sn** **01 11 39.3 +0.1**
BALD Monte Baldo 1.06 14⇓ *e*Pg **Pn** **01 11 24.8 -0.2**
BALD *e*Sg **Sn** **01 11 39.2 +0.1**
ROVR Rover˜¤ Verone 1.08 24 Pg **Pn** **01 11 24.7 -0.6**
119nm,0.2s
ROVR Rover˜¤ Verone 1.08 24 Pg **Pn** **01 11 24.7 -0.6**
119nm,0.2s
MARN Marana (Italy) 1.12 28⇑ *e*Pg **Pn** **01 11 25.1 -0.6**
MARN *e*Sg **Sb** **01 11 40.8 +0.6**
MARN Marana (Italy) 1.12 28⇑ *e*Pg **Pn** **01 11 25.1 -0.6**
MARN *e*Sg **Sb** **01 11 40.8 +0.6**
MAGA Magasa 1.13 6 Pg **Pn** **01 11 25.4 -0.4**
117nm,0.4s
MAGA Magasa 1.13 6 Pg **Pn** **01 11 25.4 -0.4**
117nm,0.4s
ADRI Adria, Italy 1.18 70⇓ *i*Pg **Pb** **01 11 27.2 +0.2**
ADRI *i* Sg **Sb** **01 11 44.7 +2.9**
ADRI Adria, Italy 1.18 70⇓ *i*Pg **Pb** **01 11 27.2 +0.2**
ADRI *i* Sg **Sb** **01 11 44.7 +2.9**
RNI Roncone 1.33 6 *e*Pg **Pn** **01 11 29.1 +0.4**
RNI *e*Sg **Sb** **01 11 47.8 +1.2**
RNI Roncone 1.33 6 *e*Pg **Pn** **01 11 29.1 +0.4**
RNI *e*Sg **Sb** **01 11 47.8 +1.2**
MABI Malga Bissina 1.40 2 Pg **Pn** **01 11 29.7 0.0**
17nm,0.3s
MABI Malga Bissina 1.40 2 Pg **Pn** **01 11 29.7 0.0**
17nm,0.3s
CGRP Cima Grappa 1.55 37⇑ *e*Pg **Pn** **01 11 30.6 -1.1**
CGRP *e*Sg **Sb** **01 11 53.5 +0.7**
CGRP Cima Grappa 1.55 37⇑ *e*Pg **Pn** **01 11 30.6 -1.1**
CGRP *e*Sg **Sb** **01 11 53.5 +0.7**
BRMO Bormio 1.82 358 Pg **Pn** **01 11 36.3 +0.9**
10.0nm,0.9s
BRMO Bormio 1.82 358 Pg **Pn** **01 11 36.3 +0.9**
10.0nm,0.9s
KOSI Kohlern 1.92 19⇑ *e*Pn **Pn** **01 11 37.2 +0.4**
MOSI Grossmontoni 1.96 2 *e*Pn **Pn** **01 11 38.8 +1.4**
ABSI Aberstueckl 2.16 16⇑ *e*Pn **Pn** **01 11 41.1 +1.0**
SBF Sospel 2.31 251 *e*Pn **Pn** **01 11 43.0 +1.0**
SBF *e*Sn **Sn** **01 12 09.8 +0.1**
6.1nm,0.3s
SBF Sospel 2.31 251 *e*Pn **Pn** **01 11 43.0 +1.0**
SBF *e*Sn **Sn** **01 12 09.8 +0.1**
3.0nm,0.3s
PGF Pioggiola 2.35 207 *e*Pn **Pn** **01 11 42.3 -0.4**
PGF *e*Sn **Sn** **01 12 09.2 -1.7**
1.9nm,0.3s
PGF Pioggiola 2.35 207 *e*Pn **Pn** **01 11 42.3 -0.4**
PGF *e*Sn **Sn** **01 12 09.2 -1.7**
0.9nm,0.3s
FETA Feichten 2.38 5⇑ *i*Pg **Pb** **01 11 47.5 0.0**
FETA ⇑ *i*Sn **Sn** **01 12 11.2 -0.3**
2.8nm,0.4s
FETA Feichten 2.38 5 Pg **Pn** **01 11 44.3 +1.3**
FETA Sg **Sn** **01 12 11.2 -0.3**
2.8nm,0.4s
ABTA Abfaltersbach 2.54 34⇓ Pn **Pn** **01 11 45.8 +0.6**
ABTA Abfaltersbach 2.54 34 Pn **Pn** **01 11 45.8 +0.6**
MBDF Montbardon 2.62 273 *e*Pn **Pn** **01 11 47.5 +1.1**
MBDF *e*Sn **Sn** **01 12 18.3 +0.7**
1.8nm,0.3s
MBDF Montbardon 2.62 273 *e*Pn **Pn** **01 11 47.5 +1.1**
MBDF *e*Sn **Sn** **01 12 18.3 +0.7**
0.9nm,0.3s
DAVA Damuels 2.66 352⇓ *i*Pn **Pn** **01 11 49.0 +2.0**
DAVA ⇑ *i*Sn **Sb** **01 12 22.1 -2.6**
DAVA Damuels 2.66 352 Pn **Pn** **01 11 48.7 +1.7**
DAVA Sg **Sb** **01 12 22.1 -2.6**
MOTA Moosalm 2.73 9 ⇑Pn **Pn** **01 11 47.6 -0.3**
MOTA Moosalm 2.73 9 Pn **Pn** **01 11 47.6 -0.3**
MOTA Sn **Sn** **01 12 16.4 -3.8**
WTTA Wattenberg 2.74 17⇓ *i*Pn **Pn** **01 11 49.4 +1.4**
WTTA ⇓ *i*Sn **Sn** **01 12 22.6 +2.1**
7.9nm,0.5s
WTTA Wattenberg 2.74 17 Pn **Pn** **01 11 49.4 +1.4**
WTTA Sn **Sn** **01 12 22.6 +2.1**
7.9nm,0.5s
WTTA Sg **Sb** **01 12 23.9 -3.0**
7.9nm,0.5s
LPG La Plagne 2.75 289 *e*Pn **Pn** **01 11 49.0 +0.7**
LPG *e*Sn **Sn** **01 12 21.5 +0.5**
1.8nm,0.4s
LPG La Plagne 2.75 289 *e*Pn **Pn** **01 11 49.0 +0.7**
LPG *e*Sn **Sn** **01 12 21.5 +0.5**
0.9nm,0.4s
LPL La Plagne 2.77 289 *e*Pn **Pn** **01 11 49.4 +0.9**
LPL *e*Sn **Sn** **01 12 21.9 +0.5**
3.5nm,0.4s
LPL La Plagne 2.77 289 *e*Pn **Pn** **01 11 49.4 +0.9**
LPL *e*Sn **Sn** **01 12 21.9 +0.5**
1.8nm,0.4s
RETA Reutte 2.84 4⇑ *i*Pn **Pn** **01 11 50.8 +1.5**
RETA ⇑ *i*Sn **Sn** **01 12 26.0 +3.1**
0.8nm,0.2s
RETA Reutte 2.84 4 Pn **Pn** **01 11 50.8 +1.5**
RETA Sg **Sn** **01 12 26.0 +3.1**
0.8nm,0.2s
FRF La Foret Royal 2.95 250 *e*Pn **Pn** **01 11 51.7 +0.9**
FRF *e*Sn **Sn** **01 12 25.4 0.0**
4.4nm,0.2s
FRF La Foret Royal 2.95 250 *e*Pn **Pn** **01 11 51.7 +0.9**
FRF *e*Sn **Sn** **01 12 25.4 0.0**
2.2nm,0.2s
LMR La Mourre 3.14 246 *e*Pn **Pn** **01 11 53.7 +0.4**
LMR *e*Sn **Sn** **01 12 29.5 -0.5**
4.0nm,0.3s
LMR La Mourre 3.14 246 *e*Pn **Pn** **01 11 53.7 +0.4**
LMR *e*Sn **Sn** **01 12 29.5 -0.5**
2.0nm,0.3s
ORIF Oris-en-Rattie 3.27 276 *e*Pn **Pn** **01 11 56.2 +1.0**
ORIF *e*Sn **Sn** **01 12 33.5 +0.2**
1.4nm,0.3s
ORIF Oris-en-Rattie 3.27 276 *e*Pn **Pn** **01 11 56.2 +1.0**
ORIF *e*Sn **Sn** **01 12 33.5 +0.2**
0.7nm,0.3s
SMRF Simiane la Rot 3.56 261 *e*Pn **Pn** **01 12 00.0 +0.7**
SMRF *e*Sn **Sn** **01 12 40.5 -0.2**
0.2nm,0.3s
SMRF Simiane la Rot 3.56 261 *e*Pn **Pn** **01 12 00.0 +0.7**
SMRF *e*Sn **Sn** **01 12 40.5 -0.2**
0.1nm,0.3s
CABF La Chapelle 3.63 304 *e*Pn **Pn** **01 12 01.0 +0.8**
CABF *e*Sn **Sn** **01 12 42.2 -0.2**
1.6nm,0.3s
CABF La Chapelle 3.63 304 *e*Pn **Pn** **01 12 01.0 +0.8**
CABF *e*Sn **Sn** **01 12 42.2 -0.2**
0.8nm,0.3s
HINF Hinteralfeld 4.03 323 *e*Pn **Pn** **01 12 06.0 +0.4**
HINF *e*Sn **Sn** **01 12 51.4 -0.7**
1.6nm,0.2s
HINF Hinteralfeld 4.03 323 *e*Pn **Pn** **01 12 06.0 +0.4**
HINF *e*Sn **Sn** **01 12 51.4 -0.7**
0.8nm,0.2s
CDF Champ du Feu 4.35 331 *e*Pn **Pn** **01 12 10.3 +0.2**
CDF *e*Sn **Sn** **01 12 58.7 -1.4**
1.7nm,0.3s
CDF Champ du Feu 4.35 331 *e*Pn **Pn** **01 12 10.3 +0.2**
CDF *e*Sn **Sn** **01 12 58.7 -1.4**
0.9nm,0.3s
HAU Haudompre 4.39 321 *e*Pn **Pn** **01 12 11.2 +0.6**
HAU *e*Sn **Sn** **01 13 00.2 -0.9**
6.7nm,0.3s
HAU Haudompre 4.39 321 *e*Pn **Pn** **01 12 11.2 +0.6**
HAU *e*Sn **Sn** **01 13 00.2 -0.9**
3.3nm,0.3s
SMF Signal de Mont 5.04 296 *e*Pn **Pn** **01 12 20.1 +0.6**
SMF *e*Sn **Sn** **01 13 15.9 -1.2**
1.3nm,0.3s
SMF Signal de Mont 5.04 296 *e*Pn **Pn** **01 12 20.1 +0.6**
SMF *e*Sn **Sn** **01 13 15.9 -1.2**
0.6nm,0.3s
LOR Lormes 5.29 302 *e*Pn **Pn** **01 12 23.3 +0.4**
LOR *e*Sn **Sn** **01 13 21.7 -1.4**
2.2nm,0.4s
LOR Lormes 5.29 302 *e*Pn **Pn** **01 12 23.3 +0.4**
LOR *e*Sn **Sn** **01 13 21.7 -1.4**
1.1nm,0.4s
SSF Saint Saulge 5.42 299 *e*Pn **Pn** **01 12 24.8 +0.2**
SSF *e*Sn **Sn** **01 13 24.8 -1.4**
1.1nm,0.3s
SSF Saint Saulge 5.42 299 *e*Pn **Pn** **01 12 24.8 +0.2**
SSF *e*Sn **Sn** **01 13 24.8 -1.4**
0.6nm,0.3s

GEN ***12*** *01:11:50.7, 44˚67′N×10˚61′E, h7km, ML1.5*
CSEM ***12*** *01:11:51.3±0.2, 44˚65′N×10˚53′E, h20km, ML2.1/4, Error ellipse: s-maj=4.9km s-min=3.9km az=104.0*
ROM 12 01:11:51.4±0.3**, 44˚66′N×10˚52′E, h22**km±9km**, MI1.9**/8**, Error ellipse: s-maj=4.1km s-min=3.2km az=98.0, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRMA	**PARMA**	**0.18**	**306**	Pg	Pb	01 11 55.9	-1.3
PRMA				Sg	Sb	01 12 01.0	-0.2
	55nm,0.3s						
PRMA	**PARMA**	**0.18**	**306**	Pg	Pb	01 11 55.9	-1.3
PRMA				Sg	Sb	01 12 01.0	-0.2
	55nm,0.3s						
NOVE	**Novellara**	**0.20**	**45**	Pg	Pb	01 11 56.0	-1.2
NOVE				Sg	Sb	01 12 01.6	+0.4
	914nm,0.2s						
NOVE	**Novellara**	**0.20**	**45**	Pg	Pb	01 11 56.0	-1.2
NOVE				Sg	Sb	01 12 01.6	+0.4
	914nm,0.2s						
ERBM	**Eremo**	**0.25**	**198**	Pg	Pb	01 11 57.0	-0.7
ERBM				Sg	Sb	01 12 03.0	+1.0
	52nm,0.3s						
ERBM	**Eremo**	**0.25**	**198**	Pg	Pb	01 11 57.0	-0.7
ERBM				Sg	Sb	01 12 03.0	+1.0
	52nm,0.3s						
GSCL	**Gusciola**	**0.31**	**171**	Pg	Pb	01 11 57.9	-0.5
	9.0nm,0.4s						
GSCL	**Gusciola**	**0.31**	**171**	Pg	Pb	01 11 57.9	-0.5
	9.0nm,0.4s						
VALM	**Valbona**	**0.37**	**212**	P	Pb	01 11 58.4	-0.8
ZCCA	**Zocca**	**0.45**	**133**	Pg	Pb	01 12 01.5	+0.9
	30nm,0.5s						
ZCCA	**Zocca**	**0.45**	**133**	Pg	Pb	01 12 01.5	+0.9
	30nm,0.5s						
VLC	**Villacollemand**	**0.51**	**191**	Pg	Pb	01 12 01.1	-0.6
VLC				Sg	Sb	01 12 09.2	+0.5
	37nm,0.6s						
VLC	**Villacollemand**	**0.51**	**191**	Pg	Pb	01 12 01.1	-0.6
VLC				Sg	Sb	01 12 09.2	+0.5
	37nm,0.6s						
CODM	**Codolo**	**0.55**	**241**	P	Pb	01 12 02.3	-0.2
CODM				S	Sb	01 12 09.2	-0.8
POPM	**Popiglio**	**0.64**	**164**	P	Pb	01 12 02.9	-1.0
POPM				S	Sb	01 12 10.6	-1.8
SC2M	**Scurtabo**	**0.75**	**251**	Pg	Pn	01 12 06.7	-0.1
	51nm,1.0s						
SC2M	**Scurtabo**	**0.75**	**251**	P	Pb	01 12 06.3	+0.5
SC2M	**Scurtabo**	**0.75**	**251**	Pg	Pn	01 12 06.7	-0.1
	51nm,1.0s						
SC2M				S	Sb	01 12 16.1	+0.4
PII	**Pisa**	**0.94**	**180**	Pg	Pn	01 12 09.7	+0.5
	8.0nm,0.5s						
PII	**Pisa**	**0.94**	**180**	Pg	Pn	01 12 09.7	+0.5
	8.0nm,0.5s						
ROVR	**Rover˜¤ Verone**	**1.06**	**21**	Pg	Pn	01 12 11.0	-0.2
	45nm,0.2s						
ROVR	**Rover˜¤ Verone**	**1.06**	**21**	Pg	Pn	01 12 11.0	-0.2
	45nm,0.2s						
MAGA	**Magasa**	**1.12**	**4**	Pg	Pn	01 12 12.1	+0.1
	117nm,0.4s						
MAGA	**Magasa**	**1.12**	**4**	Pg	Pn	01 12 12.1	+0.1
	117nm,0.4s						

IDC ***12*** *01:18:01.5±1.0, 2˚88S×129˚98E, h0km, mb3.9/6, mb1 4.0/8, mb1mx3.8/34, mbtmp3.9/8, ML3.7/2, MS3.0/1, Ms1 3.0/1, ms1mx2.4/25, Error ellipse: s-maj=42.4km s-min=17.1km az=72.0*
ISCJB ***12*** *01:18:03.9±0.5, 2˚86S±0˚04×130˚04E±0˚06, h25km, mb4.0/9, MS3.0/1, Error ellipse: s-maj=8.7km s-min=5.8km az=177.7*
DJA ***12*** *01:18:06.8±1.5, 3˚S×6˚×13˚0E±˚, h26km±20km, M3.7/7, MLv3.7/7*
NEIC ***12*** *01:18:07.7±2.1, 2˚87S×130˚06E, h48km±22km, mb4.1/4, Error ellipse: s-maj=21.9km s-min=8.7km az=80.0*
ISC 12 01:18:05.2±0.7**, 2˚86S**±0˚05×**130˚09E**±0˚05**, h25**km**, n24, σ0s93/25, mb4.1/9, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.25**	**247**	P	**Pb**	**01 18 29.2**	**+0.9**
BNDI	**Bandanaira**	**1.66**	**186**	P	**Pb**	**01 18 36.0**	**+0.9**
FAKI	**Fak Fak**	**2.16**	**92**	P	**Pn**	**01 18 40.6**	**+1.0**
FAKI	**Fak Fak**	**2.16**	**92**	*e*Pn	**Pn**	**01 18 41.1**	**+1.5**
SIJI	**Sorong**	**2.30**	**31**	Pn	**Pn**	**01 18 41.8**	**+0.2**
	11nm,0.3s,baz=208,slow=14,SNR=23						
SIJI				Sn	**Sn**	**01 19 09.4**	**+0.2**
	23nm,0.3s,baz=42,slow=23,SNR=20						
SWI	**Sorong**	**2.31**	**31**	P	**Pn**	**01 18 42.6**	**+0.9**
NLAI	**Namlea**	**3.01**	**263**	P	**Pn**	**01 18 52.6**	**+1.3**
LBMI	**Labuha**	**3.40**	**310**	P	**Pn**	**01 18 57.0**	**+0.2**
SANI	**Sanana**	**4.18**	**281**	P	Pb	01 19 22.7	+4.6
COEN	**Coen**	**16.99**	**131**	*e*Pn	**P**	**01 22 03.3**	**+0.3**
WRAB	**Tennant Creek**	**17.47**	**167**	*e*Pn	**P**	**01 22 08.0**	**-0.4**
WRA	**Warramunga Arr**	**17.48**	**167**	P	**P**	**01 22 08.5**	**0.0**
	0.3nm,0.3s,baz=346,slow=12,SNR=4.8						
WRA				S	**Sn**	**01 25 19.2**	**-2.2**
	0.3nm,0.3s,baz=352,slow=24,SNR=3.3						
AS31	**Alice Springs**	**21.01**	**170**	*e*P	**P**	**01 22 47.6**	**+0.5**
ASAR	**Alice Springs**	**21.01**	**170**	P	**P**	**01 22 47.6**	**+0.5**
	7.1nm,0.7s,baz=349,slow=9.8,SNR=71						
ASAR				S	**S**	**01 26 39.5**	**-0.5**
	1.8nm,0.9s,baz=349,slow=18,SNR=8.5						
CTA	**Charters Tower**	**23.28**	**139**	P	**P**	**01 23 11.9**	**+0.6**
	2.7nm,0.7s,baz=301,slow=12,SNR=3.5						
CTAO	**Charters Tower**	**23.28**	**139**	*e*P	**P**	**01 23 11.6**	**+0.3**
	18nm,1.2s						
STKA	**Stephens Creek**	**30.83**	**161**	P	**P**	**01 24 18.1**	**-1.3**
	3.0nm,0.9s,baz=336,slow=4.3,SNR=5.4						
KSRS	**Korea Array**	**40.16**	**357**	LR	LR	01 42 21.8	
	comp=Z,18nm,19.0s,baz=192,slow=36						
SONM	**Songino Array**	**54.58**	**341**	P	**P**	**01 27 32.1**	**+0.4**
	0.4nm,0.7s,baz=147,slow=6.5,SNR=3.7						
MKAR	**Makanchi Array**	**64.86**	**326**	P	**P**	**01 28 42.2**	**-0.1**
	1.3nm,1.0s,baz=188,slow=3.6,SNR=6.9						
TKM2	**Tokmak 2**	**66.89**	**319**	*e*P	**P**	**01 28 53.9**	**-1.8**
	1.4nm,0.8s						
ZALV	**Zalesovo Beam**	**67.95**	**333**	P	**P**	**01 29 01.5**	**-0.4**
	0.6nm,0.4s,baz=72,slow=4.8,SNR=4.7						
KURK	**Kurchatov**	**69.07**	**328**	*e*P	**P**	**01 29 08.7**	**-0.3**
	5.2nm,1.0s						
ABKAR	**Akbulak array**	**79.35**	**321**	*e*P	**P**	**01 30 08.7**	**-0.3**
	1.3nm,0.7s						

IDC ***12*** *01:37:52.9±1.0, 1˚91N×96˚63E, h0km, mb4.0/12, mb1 4.1/14, mb1mx3.9/28, mbtmp4.0/14, ML3.0/1, MS3.1/4, Ms1 3.1/4, ms1mx2.8/26, Error ellipse: s-maj=28.2km s-min=17.4km az=36.0*
ISCJB ***12*** *01:37:55.6±0.5, 1˚92N±0˚05×96˚65E±0˚05, h28km, mb4.1/16, MS3.4/2, Error ellipse: s-maj=8.4km s-min=4.7km az=42.8*
DJA ***12*** *01:37:56.8±0.8, 2˚N±6˚×9˚6E±˚, h38km±7km, M4.3/6, MLv4.3/6*
NEIC ***12*** *01:37:58.6±1.4, 1˚97N×96˚73E, h39km±11km, mb4.5/4, Error ellipse: s-maj=16.5km s-min=6.1km az=59.0*
ISC 12 01:37:57.2±0.6**, 1˚95N**±0˚06×**96˚66E**±0˚05**, h28**km**, n42, σ0s87/43, mb4.1**/16**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.56**	**324**	P	**Pn**	**01 38 09.4**	**0.0**
SNSI				S	**Sn**	**01 38 17.9**	**+0.1**
GSI	**Gunungsitoli**	**1.12**	**125**	*e*Pg	**Pn**	**01 38 17.1**	**0.0**
GSI				*e*Sg	**Sn**	**01 38 29.2**	**-2.3**
PSI	**Prapat**	**2.42**	**69**	Pn	**Pn**	**01 38 34.6**	**-0.4**
	3.7nm,0.3s,baz=246,slow=4.3,SNR=11						
PSI				Sn	**Sn**	**01 39 04.9**	**+1.0**
	7.7nm,0.3s,baz=253,slow=8.6,SNR=4.1						
PSI				LR	LR	01 39 13.6	
	comp=Z,153nm,21.2s,baz=286,slow=33						
TSI	**Tuntungan**	**2.45**	**51**	P	**Pn**	**01 38 37.9**	**+2.5**
TSI				S	**Sb**	**01 39 09.0**	**-1.5**
MNSI	**Mandailing Nat**	**3.14**	**111**	P	**Pn**	**01 38 46.0**	**+1.2**
LHMI	**Lhok Sumawe**	**3.27**	**5**	P	**Pn**	**01 38 47.4**	**+0.6**
LHMI	**Lhok Sumawe**	**3.27**	**5**	*e*Pn	**Pn**	**01 38 46.7**	**0.0**
LHMI				*e*Sn	**Sn**	**01 39 24.4**	**-0.3**
BSI	**Banda Aceh**	**3.78**	**339**	P	**Pn**	**01 38 52.0**	**-1.6**
IPM	**Ipoh**	**5.04**	**60**	*e*Pn	**Pn**	**01 39 10.7**	**-0.2**
	20nm,0.5s						
KULM	**Kulim**	**5.19**	**50**	*e*Pn	**Pn**	**01 39 12.1**	**-0.9**
	42nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.56**	**8**	Pn	**P**	**01 41 49.0**	**-1.0**
	baz=198,slow=12,SNR=24						
CMAR				LR	LR	01 48 21.3	
	comp=Z,57nm,20.4s,baz=185,slow=38						
RAMN	**Ramite**	**26.67**	**340**	*e*P	**P**	**01 43 35.3**	**+1.1**
	13nm,0.8s						
TAPN	**Taplejung**	**26.67**	**342**	*e*P	**P**	**01 43 35.1**	**+0.8**
	16nm,0.8s						
JIRN	**Jiri**	**27.46**	**340**	*e*P	**P**	**01 43 42.3**	**+0.8**
	10nm,0.7s						
PKI	**Pulchoki**	**27.66**	**338**	*e*P	**P**	**01 43 44.5**	**+1.3**
GUN	**Gumba**	**27.80**	**339**	*e*P	**P**	**01 43 45.1**	**+0.6**
	9.4nm,0.5s						
H01W3	**Cape Leeuwin H**	**40.14**	**157**	T	T	02 28 18.4	
	baz=334,slow=76,SNR=3.7						
H01W2	**Cape Leeuwin H**	**40.15**	**157**	T	T	02 28 20.0	
	baz=334,slow=76,SNR=8.1						
H01W1	**Cape Leeuwin H**	**40.16**	**157**	T	T	02 28 20.4	
	baz=334,slow=76,SNR=7.3						
WRA	**Warramunga Arr**	**42.89**	**122**	P	**P**	**01 45 53.5**	**-0.1**
	1.7nm,0.6s,baz=301,slow=9.2,SNR=4.6						
WRAB	**Tennant Creek**	**42.90**	**122**	*e*P	**P**	**01 45 53.2**	**-0.5**
	5.2nm,0.9s						
FORT	**Forrest**	**44.20**	**140**	*e*P	**P**	**01 46 04.4**	**+0.5**
	16nm,0.9s						
ASAR	**Alice Springs**	**44.28**	**127**	P	**P**	**01 46 04.9**	**+0.1**
	0.9nm,0.6s,baz=299,slow=8.1,SNR=9.4						
TKM2	**Tokmak 2**	**44.92**	**338**	*e*P	**P**	**01 46 10.5**	**+0.6**
	1.7nm,0.6s						
KSAR	**Wonju Array Be**	**45.52**	**35**	P	**P**	**01 46 14.0**	**-0.4**
KSRS	**Korea Array**	**45.55**	**35**	P	**P**	**01 46 14.0**	**-0.6**
	0.6nm,0.3s,baz=228,slow=9.5,SNR=5.4						
MK31	**Makanchi Array**	**46.39**	**346**	*e*P	**P**	**01 46 21.2**	**0.0**
MKAR	**Makanchi Array**	**46.39**	**346**	P	**P**	**01 46 21.4**	**+0.2**
	2.4nm,0.6s,baz=189,slow=7.1,SNR=35						
SONM	**Songino Array**	**46.48**	**9**	P	**P**	**01 46 21.6**	**-0.4**
	1.8nm,0.5s,baz=190,slow=9.1,SNR=15						
SONM				PcP	**PcP**	**01 47 56.0**	**-0.3**
	0.7nm,0.7s,baz=206,slow=6.1,SNR=3.0						
COEN	**Coen**	**48.73**	**110**	*e*P	**P**	**01 46 40.0**	**+0.2**
GEYT	**Alibeck**	**50.29**	**320**	P	**P**	**01 46 52.7**	**+1.2**
	1.3nm,0.7s,baz=134,slow=15,SNR=2.7						
KURBB	**Kurchatov Arra**	**50.87**	**345**	P	**P**	**01 46 56.0**	**+0.5**
	1.5nm,0.7s,baz=166,slow=7.1,SNR=16						
KURK	**Kurchatov**	**50.94**	**345**	P	**P**	**01 46 56.0**	**0.0**
USRK	**Ussuriysk Ar.**	**52.42**	**32**	LR	LR	02 11 23.6	
	comp=Z,51nm,18.4s,baz=175,slow=38						
ZAA0	**Zalesovo Array**	**52.74**	**351**	*e*P	**P**	**01 47 09.2**	**-0.2**
ZALV	**Zalesovo Beam**	**52.74**	**351**	P	**P**	**01 47 09.4**	**0.0**
	2.9nm,0.4s,baz=182,slow=5.9,SNR=22						
ZALV				LR	LR	02 11 35.9	
	comp=Z,16nm,18.1s,baz=70,slow=38						
ABKAR	**Akbulak array**	**56.60**	**332**	*e*P	**P**	**01 47 37.6**	**+0.1**
	16nm,1.4s						
BRTR	**Keskin Array B**	**68.21**	**312**	P	**P**	**01 48 55.6**	**0.0**
	0.2nm,0.6s,baz=118,slow=8.3,SNR=2.6						
FINES	**FINESS Array B**	**79.09**	**333**	P	**P**	**01 49 58.9**	**+0.1**
	1.6nm,0.8s,baz=103,slow=4.1,SNR=5.5						
ARCES	**ARCESS Array B**	**81.65**	**340**	P	**P**	**01 50 13.0**	**+0.5**
	1.8nm,0.8s,baz=98,slow=6.5,SNR=7.4						
GERES	**GERESS Array B**	**83.90**	**319**	P	**P**	**01 50 24.2**	**-0.5**
	0.3nm,0.5s,baz=93,slow=4.2,SNR=3.5						
TXAR	**Lajitas Array**	**143.31**	**31**	PKP	PKPbc	01 57 27.3	+0.4
	0.1nm,0.4s,baz=353,slow=3.9,SNR=3.2						

CSEM ***12*** *01:48:49.7, 40˚70N×29˚22E, h6km, MD2.4*
ISK 12 01:48:49.7, 40˚70N×29˚22E, h6km**, MD2.4, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEMT	**Gemlik**	**0.26**	**185**	*e*PG	Pg	01 48 55.5	+0.6
GEMT	**Gemlik**	**0.26**	**185**	*e*Pg	Pg	01 48 55.5	+0.7
ARMT	**Armutlu**	**0.30**	**245**	*e*PG	Pg	01 48 56.0	+0.4
ARMT				*e*SG	Sg	01 49 00.2	+0.5
ARMT	**Armutlu**	**0.30**	**245**	*e*Pg	Pg	01 48 56.0	+0.4
ARMT				*e*Sg	Sg	01 49 00.2	+0.5
HRT	**Hereke**	**0.36**	**69**	*e*PG	Pg	01 48 57.1	+0.3
HRT	**Hereke**	**0.36**	**69**	*e*Pg	Pg	01 48 57.2	+0.3
ISK	**Istanbul-Kandi**	**0.39**	**342**	*e*PG	Pg	01 48 57.9	+0.6
ISK	**Istanbul-Kandi**	**0.39**	**342**	*e*Pg	Pg	01 48 57.9	+0.6
IZI	**Iznik**	**0.41**	**152**	*e*PG	Pg	01 48 58.0	+0.3
IZI	**Iznik**	**0.41**	**152**	*e*Pg	Pg	01 48 58.0	+0.3
MDNY	**Mudanya-Bursa**	**0.41**	**218**	*e*PG	Pg	01 48 58.2	+0.5
MDNY	**Mudanya-Bursa**	**0.41**	**218**	*e*Pg	Pg	01 48 58.2	+0.5
SILT	**Sile**	**0.56**	**35**	*e*PG	Pg	01 49 01.1	+0.6
SILT	**Sile**	**0.56**	**35**	*e*Pg	Pg	01 49 01.1	+0.6
**KL

KOZT	**Kozan**	**0.66**	**112**	*e*PG	Pb	01 50 31.2	-0.4
KOZT	**Kozan**	**0.66**	**112**	*e*Pg	Pb	01 50 31.2	-0.4
CEYT	**Ceyhan**	**0.91**	**142**	*e*PG	Pn	01 50 36.6	-0.3
CEYT	**Ceyhan**	**0.91**	**142**	*e*Pg	Pn	01 50 36.6	-0.3
MERS	**Mersin**	**0.96**	**206**	*e*PG	Pb	01 50 37.0	+0.2
MERS				*e*SG	Sn	01 50 51.8	-0.2
MERS	**Mersin**	**0.96**	**206**	*e*Pg	Pb	01 50 37.0	+0.2
MERS				*e*Sg	Sn	01 50 51.8	-0.2
KRTS	**Karatas**	**1.19**	**168**	*e*PN	Pn	01 50 41.6	+0.8
KRTS	**Karatas**	**1.19**	**168**	*e*Pn	Pn	01 50 41.6	+0.9
SULT	**Sultanhani-AKS**	**1.30**	**291**	*e*PN	Pg	01 50 43.3	+0.7
SULT	**Sultanhani-AKS**	**1.30**	**291**	*e*Pn	Pg	01 50 43.3	+0.7
PINB	**Pinarbasi**	**1.42**	**48**	*i* P	Pn	01 50 43.7	-0.6
PINB				*i* S	Sg	01 51 03.8	+0.1
PINB	**Pinarbasi**	**1.42**	**48**	*i* P	Pn	01 50 43.7	-0.7
PINB				*i* S	Sg	01 51 03.8	+0.1
YOZ	**Yozgat**	**1.91**	**6**	*e*PN	Pb	01 50 52.5	-0.6
YOZ	**Yozgat**	**1.91**	**6**	*e*Pn	Pb	01 50 52.5	-0.6
KAMT	**Kaman**	**1.94**	**328**	*e*PN	Pb	01 50 53.1	-0.5
KAMT	**Kaman**	**1.94**	**328**	*e*Pn	Pb	01 50 53.1	-0.5
CDAG	**Cicekdag**	**1.96**	**344**	*i* S	Sg	01 51 21.0	+0.2
CDAG	**Cicekdag**	**1.96**	**344**	*i* S	Sg	01 51 21.0	+0.1
ERMK	**Ermenek**	**2.03**	**238**	*i* P	Pb	01 50 55.2	0.0
ERMK				*i* S	Sg	01 51 25.0	+1.8
ERMK	**Ermenek**	**2.03**	**238**	*i* P	Pb	01 50 55.2	0.0
ERMK				*i* S	Sg	01 51 25.0	+1.7
DARE	**Darende-Malaty**	**2.09**	**66**	*e*PN	Pb	01 50 55.1	-0.9
DARE	**Darende-Malaty**	**2.09**	**66**	*e*Pn	Pb	01 50 55.1	-0.9
KONT	**Konya--Tatoy**	**2.14**	**276**	*e*PN	Pb	01 50 55.9	-1.0
KONT	**Konya--Tatoy**	**2.14**	**276**	*e*Pn	Pb	01 50 55.9	-1.0
AFSR	**Af˙ar-Bala (A**	**2.31**	**318**	*e*PN	Pb	01 50 58.6	-1.2
AFSR	**Af˙ar-Bala (A**	**2.31**	**318**	*e*Pn	Pb	01 50 58.7	-1.1
EREN	**Erenkoy**	**2.31**	**198**	*e*PN	Pb	01 50 58.1	-1.6
EREN	**Erenkoy**	**2.31**	**198**	*e*Pn	Pb	01 50 58.1	-1.6
CORM	**Corum**	**2.46**	**352**	*e*PN	Pn	01 51 00.4	+1.9
CORM	**Corum**	**2.46**	**352**	*e*Pn	Pn	01 51 00.4	+1.9
SVSK	**Karacayir**	**2.66**	**34**	*e*PN	Pb	01 51 03.3	-2.2
SVSK	**Karacayir**	**2.66**	**34**	*e*Pn	Pb	01 51 03.3	-2.2
MALT	**Malatya**	**2.72**	**77**	*e*PN	Pn	01 51 04.3	+2.2
MALT	**Malatya**	**2.72**	**77**	*e*Pn	Pn	01 51 04.3	+2.2
LFK	**Lefkose**	**2.74**	**207**	*e*PN	Pn	01 51 04.5	+2.3
LFK	**Lefkose**	**2.74**	**207**	*e*Pn	Pn	01 51 04.5	+2.3
LEF	**Lefka**	**3.14**	**214**	*e*PN	Pn	01 51 10.5	+2.9
LEF	**Lefka**	**3.14**	**214**	*e*Pn	Pn	01 51 10.5	+2.9

ISCJB ***12*** *01:59:31.7±0.3, 60.˙48N±0.˙03×153.˙06W±0.˙06, h155km±3km, mb3.6/6, Error ellipse: s-maj=5.3km s-min=4.0km az=34.1*
IDC ***12*** *01:59:34.0±5.3, 60.˙73N×153.˙31W, h144km±43km, mb3.4/6, mb1 3.6/10, mb1mx3.2/34, mbtmp3.9/10, Error ellipse: s-maj=46.3km s-min=18.8km az=50.0*
NEIC ***12*** *01:59:33.8, 60.˙44N×153.˙00W, h148km, MG3.6(AEIC), After AEIC.*

ISC 12 01:59:32.7±0.8, 60.˙47N±0.˙04×153.˙06W±0.˙04, h151km±6km, n95, σ0 972/105, mb3.7/6, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NCT	**North Crescent**	**0.11**	**34**	P	**Pn**	**01 59 52.9**	**-0.2**
RSO	**Redoubt South**	**0.15**	**93**	*e*Pn	**Pn**	**01 59 53.0**	**-0.3**
RDN	**Redoubt North**	**0.15**	**73**	P	**Pn**	**01 59 53.0**	**-0.2**
REF	**Redoubt East F**	**0.18**	**83**	P	**Pn**	**01 59 53.0**	**-0.3**
REF				S	**Sn**	**02 00 08.7**	**-0.3**
DFR	**Drift River**	**0.22**	**56**	P	**Pn**	**01 59 53.0**	**-0.2**
DFR				S	**Sn**	**02 00 08.5**	**-0.4**
ILW	**Iliamna West**	**0.41**	**186**	P	**Pn**	**01 59 53.7**	**-0.3**
ILS	**Iliamna Low So**	**0.51**	**181**	P	**Pn**	**01 59 54.2**	**-0.2**
CKL	**Chakachamna La**	**0.81**	**25**	P	**Pn**	**01 59 56.4**	**+0.2**
OPT	**Oil Point**	**0.82**	**186**	P	**Pn**	**01 59 56.3**	**+0.1**
BGL	**Barrier Glacie**	**0.86**	**22**	P	**Pn**	**01 59 57.0**	**+0.5**
SPBG	**Spurr Blockage**	**0.86**	**23**	P	**Pn**	**01 59 57.0**	**+0.5**
SPBG				S	**Sn**	**02 00 14.9**	**+0.1**
CKN	**Chakachatna No**	**0.87**	**29**	P	**Pn**	**01 59 56.9**	**+0.3**
NKA	**Nikishka**	**0.94**	**72**	P	**Pn**	**01 59 58.8**	**+1.8**
HOM	**Homer**	**1.08**	**138**	P	**Pn**	**01 59 58.7**	**+0.5**
HOM				S	**Sn**	**02 00 18.2**	**+0.5**
AUP	**Augustine Pinn**	**1.13**	**190**	P	**Pn**	**01 59 59.2**	**+0.4**
AUI	**Augustine Isla**	**1.15**	**190**	P	**Pn**	**01 59 59.2**	**+0.3**
AUI				S	**Sn**	**02 00 18.9**	**0.0**
STLK	**Strandline Lak**	**1.19**	**29**	P	**Pn**	**01 59 59.5**	**+0.2**
BRLK	**Bradley Lake**	**1.30**	**122**	P	**Pn**	**02 00 00.1**	**-0.2**
BRLK				S	**Sn**	**02 00 20.5**	**-0.9**
SVW2	**Sparrevohn**	**1.39**	**298**	P	**Pn**	**02 00 00.4**	**-0.8**
SLKM	**Skilak Lake**	**1.40**	**87**	P	**Pn**	**02 00 00.9**	**-0.5**
MCNL	**McNeil River**	**1.44**	**207**	P	**Pn**	**02 00 01.6**	**-0.2**
SUA	**Susitna One**	**1.51**	**48**	P	**Pn**	**02 00 02.6**	**+0.1**
SUA				S	**Sn**	**02 00 25.5**	**+0.2**
FIB	**Fire Island**	**1.57**	**62**	P	**Pn**	**02 00 03.8**	**+0.7**
SKT	**Skwentna**	**1.69**	**25**	P	**Pn**	**02 00 04.7**	**+0.4**
RC01	**Rabbit Creek A**	**1.74**	**68**	P	**Pn**	**02 00 04.4**	**-0.5**
RC01				S	**Sn**	**02 00 29.1**	**-0.6**
SEW	**Seward**	**1.83**	**100**	P	**Pn**	**02 00 05.6**	**-0.3**
SEW				S	**Sn**	**02 00 29.6**	**-1.8**
PMR	**Palmer**	**2.22**	**58**	P	**Pn**	**02 00 09.1**	**-1.2**
TRAP	**Trapper Creek**	**2.31**	**35**	P	**Pn**	**02 00 11.9**	**+0.5**
KVTA	**Katmai Vly 10**	**2.39**	**210**	P	**Pn**	**02 00 12.5**	**0.0**
KAKN	**Katmai Knife C**	**2.41**	**206**	P	**Pn**	**02 00 12.8**	**-0.1**
KAKN				S	**Sn**	**02 00 42.6**	**-1.1**
KELA	**Mount Kelaz**	**2.46**	**215**	P	**Pn**	**02 00 13.3**	**-0.1**
PPLA	**Purkeypile**	**2.47**	**9**	P	**Pn**	**02 00 14.4**	**+0.8**
KCE	**Katmai Mt Cerb**	**2.48**	**207**	P	**Pn**	**02 00 14.4**	**+0.7**
KABR	**Katmai Barrier**	**2.54**	**204**	P	**Pn**	**02 00 14.4**	**-0.1**
KDAK	**Kodiak Island**	**2.71**	**175**	P	**Pn**	**02 00 15.1**	**-1.3**
TT01	**Tatalina**	**2.82**	**331**	P	**Pn**	**02 00 17.4**	**-0.3**
GLI	**Glacier Island**	**2.96**	**79**	P	**Pn**	**02 00 18.2**	**-1.3**
CAST	**Castle Rocks**	**3.00**	**8**	P	**Pn**	**02 00 20.1**	**+0.1**
SCM	**Sheep Creek Mo**	**3.10**	**61**	P	**Pn**	**02 00 20.6**	**-0.7**
JPK	**Jack Peak**	**3.22**	**77**	P	**Pn**	**02 00 22.3**	**-0.6**
KTH	**Kantishna Hill**	**3.25**	**17**	P	**Pn**	**02 00 23.2**	**-0.1**
OHAK	**Old Harbor**	**3.26**	**182**	P	**Pn**	**02 00 21.6**	**-1.7**
TRF	**Thorofare Moun**	**3.27**	**22**	P	**Pn**	**02 00 23.6**	**0.0**
VLZ	**Valdez**	**3.36**	**76**	P	**Pn**	**02 00 23.9**	**-0.7**
RND	**Reindeer**	**3.55**	**32**	P	**Pn**	**02 00 26.9**	**-0.2**
EYAK	**Cordova Ski Ar**	**3.62**	**86**	P	**Pn**	**02 00 28.0**	**+0.1**
KLU	**Klutina**	**3.62**	**70**	P	**Pn**	**02 00 27.3**	**-0.8**
DIV	**Divide**	**3.63**	**76**	P	**Pn**	**02 00 27.2**	**-1.0**
DHY	**Denali Highway**	**3.76**	**43**	P	**Pn**	**02 00 29.7**	**-0.2**
MCK	**McKinley**	**3.80**	**29**	P	**Pn**	**02 00 31.0**	**+0.7**
GOAT	**Goat Mountain**	**4.12**	**85**	P	**Pn**	**02 00 34.9**	**+0.4**
BMRM	**Bremner River**	**4.18**	**79**	P	**Pn**	**02 00 35.3**	**0.0**
HARP	**HAARP**	**4.26**	**59**	P	**Pn**	**02 00 36.6**	**+0.2**
PAX	**Paxson**	**4.39**	**52**	P	**Pn**	**02 00 38.2**	**+0.1**
GLB	**Gilahina Butte**	**4.61**	**74**	P	**Pn**	**02 00 40.2**	**-0.7**
WRH	**Wood River Hil**	**4.63**	**28**	P	**Pn**	**02 00 40.4**	**-0.7**
MLY	**Manley**	**4.70**	**12**	P	**Pn**	**02 00 41.4**	**-0.7**
DDM	**Donnelly Dome**	**4.74**	**42**	P	**Pn**	**02 00 41.0**	**+1.3**
VRDI	**Verde Repeater**	**4.76**	**77**	P	**Pn**	**02 00 43.3**	**+0.3**
CCB	**Clear Creek Bu**	**4.84**	**28**	P	**Pn**	**02 00 43.3**	**-0.6**
KHIT	**Khitrov Hills**	**4.86**	**86**	P	**Pn**	**02 00 44.4**	**+0.2**
MCARA	**McCarthy VSAT**	**4.98**	**75**	P	**Pn**	**02 00 46.5**	**+0.7**
PS08	**TAPS Pump Stn8**	**5.00**	**33**	P	**Pn**	**02 00 46.1**	**0.0**
MDM	**Murphy Dome**	**5.02**	**24**	P	**Pn**	**02 00 46.5**	**+0.2**
COLA	**College**	**5.03**	**26**	P	**Pn**	**02 00 46.2**	**-0.1**
IL1	**Eielson Array**	**5.17**	**31**	P	**Pn**	**02 00 47.8**	**-0.4**
ILAR	**Eielson Array** 16nm,0.3s,baz=216,slow=12,SNR=830	**5.17**	**31**	P	**Pn**	**02 00 47.8**	**-0.4**
ILAR	5.1nm,0.3s,baz=212,slow=22,SNR=6.2			S	**Sn**	**02 01 44.7**	**-2.5**
ILB	**Eielson Array**	**5.17**	**31**	P	**Pn**	**02 00 47.8**	**-0.4**
PTPK	**Patty Peak**	**5.23**	**78**	P	**Pn**	**02 00 49.5**	**+0.2**
KIAG	**Kiagna River**	**5.28**	**80**	P	**Pn**	**02 00 49.5**	**-0.3**
ISLE	**Juniper Island**	**5.29**	**84**	P	**Pn**	**02 00 49.7**	**-0.3**
DOT	**Dot Lake**	**5.30**	**49**	P	**Pn**	**02 00 49.9**	**-0.1**
BAGL	**Bagley Icefiel**	**5.42**	**85**	P	**Pn**	**02 00 52.6**	**+1.0**
SCRK	**Sand Creek**	**5.51**	**46**	P	**Pn**	**02 00 52.4**	**-0.5**
IM04	**Indian Mountai**	**5.54**	**357**	*e*Pn	**Pn**	**02 00 53.1**	**0.0**
IM3	**Indian Mountai**	**5.54**	**357**	P	**Pn**	**02 00 53.5**	**+0.4**
GRNC	**Granite Creek**	**5.58**	**82**	P	**Pn**	**02 00 54.4**	**+0.5**
BARN	**Barnard Glacie**	**5.62**	**79**	P	**Pn**	**02 00 54.7**	**+0.3**
RKAV	**Rock Avalanche**	**5.81**	**87**	P	**Pn**	**02 00 57.8**	**+0.8**
BCA3	**Beaver Creek A**	**5.95**	**59**	P	**Pn**	**02 00 59.0**	**+0.3**
COLD	**Coldfoot** 4.8nm,0.4s	**6.90**	**9**	*e*Pn	**Pn**	**02 01 10.9**	**-0.3**
EGAK	**Eagle**	**6.98**	**47**	P	**Pn**	**02 01 12.1**	**-0.1**
DAWY	**Dawson**	**7.32**	**55**	P	**Pn**	**02 01 17.4**	**+0.5**
HYT	**Haines Junctio**	**7.65**	**81**	*e*Pn	**Pn**	**02 01 21.6**	**+0.2**
BM3	**Burnt Mountain**	**7.90**	**24**	P	**Pn**	**02 01 23.1**	**-1.4**
INK	**Inuvik**	**11.48**	**39**	P	**Pn**	**02 02 11.8**	**-0.1**
	0.5nm,0.3s,baz=241,slow=15,SNR=20						
DLBC	**Dease Lake**	**11.87**	**90**	P	**Pn**	**02 02 20.2**	**+3.1**
DLBC	0.2nm,0.3s,baz=293,slow=13,SNR=3.1			S	**Sn**	**02 04 28.0**	**-0.3**
YKA	**Yellowknife Ar** 0.2nm,0.3s,baz=174,slow=19,SNR=2.5	**18.29**	**67**	P	**Pn**	**02 03 36.7**	**+0.3**
NVAR	**Mina Array Bea** 0.4nm,0.3s,baz=280,slow=11,SNR=34	**30.98**	**120**	P	P	02 05 39.6	+3.9
TXAR	**Lajitas Array** 0.7nm,0.5s,baz=315,slow=10,SNR=3.1	**45.17**	**111**	pP	pP	02 08 10.2	+2.3
ZALV	**Zalesovo Beam** 0.4nm,0.9s,baz=325,slow=7.7,SNR=3.5	**56.98**	**323**	P	**P**	**02 09 01.8**	**-0.1**
FINES	**FINESS Array B** 0.8nm,0.4s,baz=12,slow=7.5,SNR=3.8	**58.41**	**0**	P	**P**	**02 09 12.3**	**+0.6**
BVAR	**Borovoye Array** 0.9nm,0.7s,baz=28,slow=8.6,SNR=5.0	**61.64**	**332**	P	**P**	**02 09 34.0**	**+0.2**
MKAR	**Makanchi Array** 1.2nm,0.7s,baz=15,slow=6.2,SNR=7.5	**64.05**	**321**	P	**P**	**02 09 49.7**	**-0.2**
AKASG	**Malin Array Be** 0.2nm,0.5s,baz=32,slow=8.5,SNR=3.5	**69.17**	**358**	P	**P**	**02 10 22.4**	**+0.2**
	0.3nm,0.3s,baz=0.7,slow=6.2,SNR=3.3						

IGQ 12 02:37:35±0.1, 0.˙89S×79.˙44W, h2km±113km, Mb4.0, 7C-12D, Error ellipse: s-maj=1.2km s-min=0.8km az=42.0, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECV	**Mancha de Ca P**	**0.62**	**280**	P	**Pn**	**02 37 53.7**	**+2.7**
PECV	**Mancha de Ca P**	**0.62**	**280**	S	Sn	02 38 05.4	+3.8
PAST	**Pastocalle**	**0.82**	**76**	P	Pg	02 37 51.8	+0.5
PAST	**Pastocalle**	**0.82**	**76**	S	Sg	02 38 02.7	+0.4
MAG1	**Magdalena**	**0.88**	**337**	⇑P	Pg	02 37 52.3	+0.4
CAMI	**Rancho Maria**	**0.95**	**77**	P	Pb	02 37 54.5	-0.4
BMOR	**Cotopaxi Volca**	**0.99**	**81**	⇓P	Pg	02 37 54.1	-0.6
JAMA	**Jama**	**0.99**	**309**	P	Pg	02 37 53.7	-0.5
IGUA	**Igualata**	**1.00**	**127**	P	Pg	02 37 54.5	-0.4
IGUA	**Igualata**	**1.00**	**127**	S	Sg	02 38 07.9	-0.4
NAS2	**Nasa**	**1.00**	**76**	P	Pb	02 37 55.8	+0.1
MOV1	**Cotopaxi Vol s**	**1.00**	**80**	P	Pg	02 37 54.3	-0.9
BREF	**Cotopaxi Volca**	**1.02**	**78**	⇓P	Pg	02 37 55.1	-0.3
BVC2	**Cotopaxi Volca**	**1.05**	**77**	⇓P	Pg	02 37 55.4	-0.6
PITA	**Cotopaxi Volc**	**1.05**	**72**	P	Pg	02 37 55.1	-0.7
BTAM	**Cotopaxi Volca**	**1.06**	**79**	⇓P	Pg	02 37 55.4	-0.7
VC1	**Cotopaxi 1**	**1.06**	**77**	P	Pg	02 37 55.5	-0.6
PISA	**Pisayambo**	**1.06**	**99**	P	Pg	02 37 55.3	-0.8
PISA	**Pisayambo**	**1.06**	**99**	S	Sg	02 38 08.9	-1.5
JUA2	**San Juan 2**	**1.07**	**51**	P	Pg	02 37 55.1	-1.0
TAMB	**Tambo**	**1.08**	**80**	P	Pg	02 37 56.7	+0.2
TERV	**Terraza Guagua**	**1.09**	**50**	P	Pg	02 37 55.2	-1.5
GGP	**Refugio Guagua**	**1.10**	**50**	P	Pg	02 37 55.4	-1.4
PINO	**Pino**	**1.10**	**49**	P	Pg	02 37 55.4	-1.5
BBIL	**Ulba Tungurahu**	**1.10**	**121**	⇑P	Pg	02 37 56.9	+0.3
JUI6	**Juive**	**1.10**	**119**	S	Sg	02 38 09.5	-1.8
JUI6	**Juive**	**1.10**	**119**	P	Pg	02 37 56.7	+0.1
COV1	**Cotopaxi Volc**	**1.11**	**78**	⇓P	Pg	02 37 55.2	-2.1
GOLV	**Golondrinas**	**1.13**	**15**	P	Pg	02 37 54.2	-2.5
BMAS	**Trigal station**	**1.14**	**123**	P	Pg	02 37 56.3	-1.0
RETU	**Refugio**	**1.14**	**120**	P	Pg	02 37 57.6	0.0
RUN5	**Runtun**	**1.14**	**117**	S	Sg	02 38 09.4	-3.0
RUN5	**Runtun**	**1.14**	**117**	P	Pg	02 37 56.4	-0.9
BRUN	**Tungurahua Vol**	**1.15**	**117**	⇑S	Sg	02 38 09.3	-3.5
BRUN	**Tungurahua Vol**	**1.15**	**117**	⇑P	Pg	02 37 56.4	-1.2
YANA	**Yana**	**1.15**	**49**	P	Pg	02 37 56.4	-1.4
ARRY	**Arrayan**	**1.16**	**122**	⇓P	Pg	02 37 56.5	-1.2
BULB	**Ulba Tungurahu**	**1.16**	**118**	⇓S	Sg	02 38 12.0	-1.3
BULB	**Ulba Tungurahu**	**1.16**	**118**	⇓P	Pg	02 37 57.7	-0.1
ULBA	**Ulba**	**1.17**	**119**	⇓P	Pg	02 37 57.8	-0.2
ULBA	**Ulba**	**1.17**	**119**	⇓S	Sg	02 38 11.2	-2.3
PAT1	**Patacocha**	**1.17**	**122**	⇑S	Sg	02 38 11.3	-2.5
PAT1	**Patacocha**	**1.17**	**122**	⇑P	Pg	02 37 57.0	-1.1
BPAT	**Tungurahua Vol**	**1.17**	**121**	P	Pg	02 37 57.9	-0.3
BPAT	**Tungurahua Vol**	**1.17**	**121**	S	Sg	02 38 11.2	-2.6
RIOE	**Riobamba**	**1.18**	**137**	⇑P	Pg	02 37 57.9	-0.2
CHIS	**Cerro-Chispas-**	**1.30**	**263**	P	Pg	02 37 57.9	-2.1
ANTI	**Antisana**	**1.35**	**71**	P	Pn	02 38 00.7	-0.9
COTA	**Cotacachi**	**1.64**	**42**	S	Sn	02 38 26.8	-0.9
COTA	**Cotacachi**	**1.64**	**42**	P	Pn	02 38 05.8	+0.2
ISPT	**Isla de la Pla**	**1.68**	**257**	⇓P	Pn	02 38 02.7	-2.8
CAYR	**Refugio Cayamb**	**1.69**	**58**	P	Pb	02 38 07.2	-0.4
CAYA	**Cayambe**	**1.73**	**57**	P	Pn	02 38 07.0	+0.2
URCU	**Urcuqui**	**1.77**	**42**	P	Pn	02 38 06.3	-0.9
URCU	**Urcuqui**	**1.77**	**42**	S	Sn	02 38 30.2	-0.5
MACE	**Macas**	**1.84**	**138**	P	Pn	02 38 08.1	+0.3
LITE	**Lita**	**2.00**	**32**	⇓P	Pn	02 38 08.0	-2.0

KRNET ***12*** *03:13:40.3±0.1, 41.˙86N×78.˙94E, h2km, mb4.8*
IDC ***12*** *03:13:41.1±4.8, 42.˙18N×79.˙59E, h0km, mb1 3.6/3, mb1mx3.2/43, mbtmp3.6/3, ML3.6/3, Error ellipse: s-maj=72.9km s-min=34.1km az=93.0*
NNC ***12*** *03:13:41.4±1.6, 42.˙22N×79.˙43E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=12.7km s-min=4.8km az=132.0*

ISC 12 03:13:42.0±2.0, 42.˙23N±0.˙07×79.˙36E±0.˙06, h1km±13km, n25, σ1 931/34, 14C-12D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye** 142nm,0.5s	**1.10**	**5**	⇓P	**Pg**	**03 14 02.5**	**-0.7**
PDGK	109nm,0.4s			⇑S	**Sb**	**03 14 18.1**	**-0.5**
ANVS	**Anan'yevo** baz=315	**1.37**	**295**	*i* P	**Pn**	**03 14 06.5**	**-1.8**
ANVS	baz=315			*e*S	**Sb**	**03 14 25.3**	**-1.2**
KDJ	**Kajisay** baz=282	**1.62**	**267**	*e*P	Pn	03 14 04.7	-7.1
KDJ	baz=282			*e*S	Sn	03 14 24.5	-8.9
KNDC	**Almaty** 91nm,0.5s	**2.02**	**300**	⇑Pn	**Pn**	**03 14 17.6**	**+0.4**
KNDC	308nm,0.5s			⇓Sn	**Sb**	**03 14 44.3**	**-0.9**
ULHL	**Ulahol** SNR=293	**2.31**	**272**	P	**Pn**	**03 14 21.3**	**-0.1**
ULHL	**Ulahol** baz=282	**2.31**	**272**	⇑*i*P	**Pn**	**03 14 21.1**	**-0.2**
ULHL	baz=282			⇑*i*S	**Sn**	**03 14 51.6**	**+1.1**
BOOM	**Boomskoye usch** baz=287	**2.55**	**277**	⇓*i*P	**Pn**	**03 14 26.0**	**+1.5**
BOOM	baz=287			⇓*e*S	**Sb**	**03 14 58.8**	**-1.6**
NRN	**Naryn** baz=260	**2.63**	**254**	*e*P	**Pn**	**03 14 26.0**	**+0.2**
NRN	baz=260			*e*S	**Sn**	**03 14 58.7**	**+0.2**
TKM2	**Tokmak 2** SNR=66	**2.86**	**285**	P	**Pn**	**03 14 29.7**	**+0.8**
TKM2	**Tokmak 2** 30nm,0.4s	**2.86**	**285**	⇓Pn	**Pn**	**03 14 29.4**	**+0.5**
TKM2	54nm,0.3s			⇑Sn	**Sb**	**03 15 08.7**	**-0.8**
KZA	**Kyzart** SNR=44	**3.06**	**269**	P	**Pn**	**03 14 33.0**	**+1.3**
KBK	**Karagaybulak** SNR=8.2	**3.29**	**279**	P	**Pn**	**03 14 37.2**	**+2.5**
UCH	**Uchtor** SNR=22	**3.60**	**272**	P	**Pn**	**03 14 40.3**	**+1.1**
AAK	**Ala-Archa** 3.5nm,0.3s	**3.62**	**278**	⇓Pn	**Pn**	**03 14 40.3**	**+1.0**
AAK	9.8nm,0.3s			⇓Pg	**Pb**	**03 14 47.0**	**+0.2**
AAK	42nm,0.6s			⇓Lg	Lg	03 15 33.6	
USP	**Ospenovka** SNR=11	**3.73**	**288**	P	Pn	03 14 43.9	+3.3
EKS2	**Erkin-Say** SNR=16	**4.15**	**278**	P	**Pb**	**03 14 56.8**	**+0.9**
AML	**Almayashu** SNR=16	**4.21**	**271**	P	**Pb**	**03 14 56.4**	**-0.6**
SFK	**Sufi-Kurgan** 4.6nm,0.5s	**4.94**	**245**	⇑Pg	**Pb**	**03 15 10.0**	**+0.6**
SFK	45nm,1.0s			⇑Lg	Lg	03 16 15.7	
MK31	**Makanchi Array** 2.9nm,0.2s,baz=80,slow=10,SNR=290	**5.03**	**24**	⇓Pn	**Pn**	**03 14 59.3**	**+0.8**
MK31	6.0nm,0.5s			⇓Sn	**Sn**	**03 15 58.8**	**+1.7**
MK31	7.3nm,0.5s			⇓Lg	Lg	03 16 17.3	
MKAR	**Makanchi Array**	**5.03**	**24**	Pn	**Pn**	**03 14 59.1**	**+0.7**
MKAR	7.1nm,0.3s,baz=203,slow=13,SNR=304			Sn	**Sn**	**03 15 58.9**	**+1.8**
MKAR	3.1nm,0.3s,baz=198,slow=21,SNR=5.5			Lg	Lg	03 16 18.7	
KK31	**Karatay Array** 2.2nm,0.5s,baz=92,slow=15,SNR=27	**6.58**	**281**	⇑Pg	**Pb**	**03 15 39.7**	**+2.6**
KK31	25nm,0.8s			⇑Lg	Lg	03 17 12.2	
KURBB	**Kurchatov Arra** 2.4nm,0.6s	**8.42**	**356**	⇑Pg	Pb	03 16 15.1	+6.7
KURBB	4.3nm,0.6s			⇑Sn	**Sn**	**03 17 21.4**	**+0.9**
KURBB	29nm,0.7s			⇓Lg	Lg	03 18 07.5	
KURK	**Kurchatov** 0.6nm,0.4s	**8.51**	**357**	⇑Pg		03 16 16.0	
KURK	1.0nm,0.7s			⇑Sn	**Sn**	**03 17 23.1**	**+0.4**
KURK	3.9nm,0.5s			⇑Lg	Lg	03 18 12.0	
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=203,slow=13,SNR=3.5	**12.28**	**15**	Pn	**Pn**	**03 16 38.8**	**+1.0**
ZALV	0.3nm,0.3s,baz=212,slow=24,SNR=2.6			Sn	**Sn**	**03 18 52.9**	**-2.3**
SONM	**Songino Array** 0.2nm,0.3s,baz=262,slow=11,SNR=4.7	**19.86**	**64**	P	**P**	**03 18 12.2**	**-2.2**

ISCJB ***12*** *04:02:59.8±0.4, 24.˙62N±0.˙03×122.˙69E±0.˙02, h106km±4km, Error ellipse: s-maj=4.9km s-min=2.3km az=165.4*
JMA ***12*** *04:03:00.2±0.2, 24.˙59N×122.˙63E, h104km±2km, M3.1*
TAP ***12*** *04:03:00.5, 24.˙63N×122.˙65E, h106km, ML3.9, C*

ISC 12 04:02:59.7±1.3, 24.˙61N±0.˙04×122.˙69E±0.˙02, h110km±7km, n65, σ1 905/117, 8D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.28**	**124**	P	**Pn**	**04 03 15.4**	**+0.1**
JYNG				*e*S	**Sn**	**04 03 26.7**	**-0.3**
YOJ	**Yonaguni jima**	**0.33**	**116**	P	**Pn**	**04 03 15.6**	**+0.1**
YOJ				*e*S	**Sn**	**04 03 27.1**	**-0.3**
TWB1	**Santiao Chiao** baz=300	**0.75**	**302**	*i* P	**Pn**	**04 03 18.8**	**+0.3**
TWB1	baz=300			S	**Sn**	**04 03 31.6**	**-1.0**
TWC	**Suao** baz=266	**0.77**	**270**	⇓*i*P	**Pn**	**04 03 18.6**	**0.0**
TWC	baz=266			S	**Sn**	**04 03 31.6**	**-1.2**
ILA	**Ilan** baz=275	**0.87**	**281**	*i* P	**Pn**	**04 03 19.7**	**+0.2**
ILA	baz=275			*e*S	**Sn**	**04 03 34.2**	**-0.4**
ENA	**Nanau** baz=252	**0.88**	**259**	P	**Pn**	**04 03 19.9**	**+0.3**
ENA	baz=252			*e*S	**Sn**	**04 03 34.6**	**-0.2**
TWE	**Neicheng** baz=274	**0.94**	**277**	P	**Pn**	**04 03 20.7**	**+0.6**
TWE	baz=274			S	**Sn**	**04 03 34.8**	**-0.8**
NWF	**Wu-fen Shan** baz=293	**0.95**	**299**	P	**Pn**	**04 03 21.0**	**+0.6**
NWF	baz=293			S	**Sn**	**04 03 35.6**	**-0.4**
IRIF	**Iriomote-Funau**	**0.98**	**106**	P	**Pn**	**04 03 21.3**	**+0.6**
IRIF				*e*S	**Sn**	**04 03 36.9**	**+0.4**
ENTT	**Nioudou** baz=268	**1.02**	**272**	*e*P	**Pn**	**04 03 21.9**	**+0.8**

YUS	**Yu-Shan**	**1.94**	**235**	⇓*i*P		**Pn**	**04 03 33.4**	**+1.1**
	baz=228								
YUS				S		**Sn**	**04 03 56.7**	**-0.5**
	baz=228								
WNT	**Mingjian**	**1.97**	**249**	*eP*		**Pn**	**04 03 33.8**	**+1.5**
	baz=257								
ALS	**Alishan**	**2.04**	**238**	*eP*		**Pn**	**04 03 34.8**	**+1.4**
	baz=235								
ALS				*eS*		**Sn**	**04 03 59.6**	**+0.4**
	baz=235								
ELDTW	**Lidau**	**2.08**	**228**	*eP*		**Pn**	**04 03 34.0**	**+0.2**
	baz=224								
ELDTW				*eS*		**Sn**	**04 03 58.0**	**-1.9**
	baz=224								
CHN5	**Tsauling**	**2.10**	**242**	⇓*i*P		**Pn**	**04 03 35.5**	**+1.6**
	baz=233								
CHN5				*eS*		**Sn**	**04 04 01.6**	**+1.4**
	baz=233								
JIRB	**Irabujima**	**2.27**	**84**	*eS*		**Sn**	**04 04 04.7**	**+0.7**
STYT	**Tauyuan**	**2.28**	**231**	*eP*		**Pn**	**04 03 37.8**	**+1.5**
	baz=229								
STYT				*eS*		**Sn**	**04 04 05.1**	**+0.7**
	baz=229								
CHN4	**Tsaushan**	**2.29**	**237**	P		**Pn**	**04 03 38.1**	**+1.7**
	baz=235								
CHN4				*eS*		**Sn**	**04 04 05.5**	**+1.0**
	baz=235								
TWG	**Pinlang**	**2.31**	**220**	*eP*		**Pn**	**04 03 36.8**	**0.0**
	baz=217								
TWG				*eS*		**Sn**	**04 04 04.2**	**-0.9**
	baz=217								
WTP	**Ta-pu**	**2.33**	**235**	P		**Pn**	**04 03 38.3**	**+1.3**
	baz=233								
WTP				*eS*		**Sn**	**04 04 06.8**	**+1.2**
	baz=233								
JIKM	**Ikemajima**	**2.35**	**82**	*eS*		**Sn**	**04 04 06.5**	**+0.7**
TWK	**Hsinying**	**2.42**	**237**	*eP*		**Pn**	**04 03 38.9**	**+0.9**
	baz=235								
TWK				*eS*		**Sn**	**04 04 08.0**	**+0.5**
	baz=235								
CHN1	**Nanshi**	**2.43**	**235**	*eP*		**Pn**	**04 03 39.2**	**+1.0**
	baz=233								
CHN1				*eS*		**Sn**	**04 04 08.5**	**+0.7**
	baz=233								
SGST	**Jiashian**	**2.45**	**232**	*eP*		**Pn**	**04 03 40.1**	**+1.6**
	baz=239								
SGST				*eS*		**Sn**	**04 04 08.9**	**+0.6**
	baz=239								
JOGS	**Gusukube**	**2.48**	**86**	*eS*		**Sn**	**04 04 10.3**	**+1.5**
SSD	**Sandimen**	**2.64**	**226**	*eP*		**Pn**	**04 03 42.8**	**+1.8**
	baz=224								
LAY	**Lan-yu**	**2.76**	**203**	*eP*		**Pn**	**04 03 42.2**	**-0.4**
	baz=193								
LAY				*eS*		**Sn**	**04 04 12.6**	**-3.0**
	baz=193								
EAST	**Anshuo**	**2.79**	**218**	*eP*		**Pn**	**04 03 43.6**	**+0.7**
	baz=214								
EAST				*eS*		**Sn**	**04 04 15.4**	**-0.7**
	baz=214								
SCZT	**Fangliau**	**2.92**	**221**	*eP*		**Pn**	**04 03 46.3**	**+1.6**
	baz=229								
SCZT				*eS*		**Sn**	**04 04 19.6**	**+0.2**
	baz=229								
PNG	**Penghu**	**3.05**	**251**	*eP*		**Pn**	**04 03 45.9**	**-0.3**
	baz=249								
PNG				*eS*		**Sn**	**04 04 21.4**	**-0.8**
	baz=249								
JKE	**Kume jima 2**	**4.08**	**64**	P		**Pn**	**04 04 00.8**	**+0.8**
JKE				*eS*		**Sn**	**04 04 47.3**	**+0.4**
JAGN	**Aguni-jima**	**4.56**	**63**	P		**Pn**	**04 04 07.2**	**+0.7**
JNTH	**Nagotoyohara**	**5.18**	**67**	P		**Pn**	**04 04 13.9**	**-1.0**
JIH	**Iheya**	**5.33**	**62**	P		**Pn**	**04 04 16.8**	**-0.2**
JOW	**Kunigami**	**5.50**	**65**	P		**Pn**	**04 04 18.5**	**-0.8**
JOW				*eS*		**Sn**	**04 05 18.4**	**-2.9**
JOKE	**Okinoerabujima**	**5.96**	**61**	P		**Pn**	**04 04 24.0**	**-1.5**
JTK	**Tokunoshima**	**6.45**	**59**	P		**Pn**	**04 04 31.1**	**-1.0**
JAMN	**Amaminishikomi**	**6.85**	**57**	P		**Pn**	**04 04 35.3**	**-2.2**

IDC 12 04:27:22.3±7.1, 16°62S×177°42W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/29, mbtmp3.8/2, MS3.4/5, Ms1 3.4/5, ms1mx3.1/19, Error ellipse: s-maj=353.9km s-min=41.5km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**22.08**	**192**	LR	LR	04 40 01.7	
	comp=Z,108nm,19.6s,baz=18,slow=34						
PPT	**Papeete**	**26.62**	**96**	LR	LR	04 40 40.8	
	comp=Z,60nm,21.6s,baz=274,slow=30						
STKA	**Stephens Creek**	**40.08**	**240**	LR	LR	04 49 51.4	
	comp=Z,58nm,18.6s,baz=31,slow=34						
ASAR	**Alice Springs**	**46.05**	**253**	P	P	04 35 48.2	-0.1
	0.8nm,0.7s,baz=85,slow=8.4,SNR=9.2						
ASAR				LR	LR	04 53 20.4	
	comp=Z,90nm,21.4s,baz=79,slow=34						
PETK	**Petropavlovsk-**	**72.69**	**345**	LR	LR	05 04 52.3	
	comp=Z,10nm,20.9s,baz=99,slow=31						
ILAR	**Eielson Array**	**84.43**	**13**	P	P	04 39 56.5	+0.1
	0.9nm,0.9s,baz=228,slow=6.8,SNR=5.7						
BRTR	**Keskin Array B**	**144.53**	**317**	PKP	PKPbc	04 47 00.4	+0.5
	0.2nm,0.4s,baz=120,slow=8.5,SNR=3.0						

IDC 12 04:38:48.7±2.8, 12°93S×167°23E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/26, mbtmp3.9/4, Error ellipse: s-maj=129.9km s-min=30.3km az=130.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**30.15**	**227**	P	P	04 45 00.8	+0.2
	1.6nm,0.5s,baz=50,slow=9.1,SNR=7.7						
ASAR	**Alice Springs**	**33.31**	**247**	P	P	04 45 28.1	-0.4
	0.6nm,0.7s,baz=76,slow=9.2,SNR=6.9						
ILAR	**Eielson Array**	**84.84**	**18**	P	P	04 51 24.8	-0.1
	0.3nm,0.6s,baz=240,slow=5.2,SNR=8.8						
MKAR	**Makanchi Array**	**95.88**	**317**	P	P	04 52 17.6	+0.2
	0.3nm,0.6s,baz=90,slow=3.6,SNR=3.9						

DJA 12 04:41:07.4±0.7, 8°S±4°×107°E±°, h20km±6km, M3.5/7, MLv3.5/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.63**	**41**	P	Pb	04 41 19.9	0.0
CISI				S	Sn	04 41 29.7	-1.2
CNJI	**Cibinong**	**0.77**	**340**	P	Pb	04 41 21.7	-0.5
CNJI				S	Sb	04 41 31.7	-0.6
CMJI	**Cimerak**	**1.07**	**76**	P	Pb	04 41 25.9	-1.3
CMJI				S	Sb	04 41 40.2	-0.6
LEM	**Lembang**	**1.23**	**10**	P	Pn	04 41 29.2	-0.4
LEM				S	Sb	04 41 45.3	-0.3
SKJI	**Sukabumi**	**1.32**	**321**	P	Pn	04 41 30.3	-0.5
JCJI	**Jatiwangi**	**1.77**	**29**	S	Sn	04 41 53.7	-5.0
CGJI	**Cibinong**	**2.21**	**310**	P	Pn	04 41 42.5	-0.4

ISCJB ***12*** *04:55:45.4±0.8, 28°.8N±0°.1×68°.43E±0°.08, h10km, mb3.6/10, MS2.9/4, Error ellipse: s-maj=16.5km s-min=7.0km az=27.1*
IDC ***12*** *04:55:46.0±1.3, 28°.86N×68°.32E, h0km, mb3.7/11, mb1 3.8/12, mb1mx3.7/31, mbtmp3.7/12, ML3.6/1, MS2.9/5, Ms1 2.9/5, ms1mx2.7/25, Error ellipse: s-maj=29.0km s-min=23.2km az=134.0*
ISC 12 04:55:48.0±0.9, 29°.00N±0°.09×68°.45E±0°.09, h10km, n23, σ1§49/21, mb3.6/10, MS2.9/4, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JASL	**Jaisalmer**	**3.00**	**133**	*eP*	Pn	04 56 30.1	-5.6
JASL				*ex*	**Sn**	**04 57 11.7**	**0.0**
AJM	**Ajmer**	**6.04**	**113**	*ex*	Pn	04 57 27.0	+10
AGRA	**Agra**	**8.57**	**100**	*eS*	**Sn**	**04 59 30.4**	**+1.5**
AGRA				AML	AML	05 00 44.2	
	comp=E,76nm,0.5s						
AGRA				AML	AML	05 00 51.2	
	comp=N,61nm,0.7s						
GEYT	**Alibeck**	**12.38**	**319**	LR	LR	05 04 47.5	
	comp=N,22nm,20.6s,baz=60,slow=44						
KOLN	**Koldanda**	**13.40**	**92**	*eP*	**Pn**	**04 58 58.4**	**-0.1**
	comp=N,6.4nm,0.4s						
AAK	**Ala-Archa**	**14.45**	**18**	Pn	**Pn**	**04 59 13.4**	**+0.7**
	comp=N,0.3nm,0.3s,baz=202,slow=6.3,SNR=7.4						
AAK				Sn	**Sn**	**05 01 50.4**	**-2.7**
	comp=N,0.5nm,0.3s,baz=210,slow=20,SNR=2.5						
GUN	**Gumba**	**15.38**	**90**	*eP*	**Pn**	**04 59 22.0**	**-3.4**
	comp=N,50nm,0.8s						
JIRN	**Jiri**	**15.69**	**91**	*eP*	**Pn**	**04 59 27.3**	**-2.2**
	comp=N,37nm,0.9s						
RAMN	**Ramite**	**16.17**	**93**	*eP*	**Pn**	**04 59 35.3**	**-0.4**
	comp=N,21nm,0.7s						
ODAN	**Odare**	**16.88**	**93**	*eP*	**Pn**	**04 59 43.9**	**-0.8**
	comp=N,40nm,1.0s						
TAPN	**Taplejung**	**17.07**	**91**	*eP*	**Pn**	**04 59 46.4**	**-0.7**
	comp=N,22nm,0.9s						
MKAR	**Makanchi Array**	**20.80**	**28**	P	**P**	**05 00 30.5**	**+1.2**
	comp=N,2.1nm,0.8s,baz=220,slow=14,SNR=16						
MKAR				LR	LR	05 10 36.7	
	comp=N,34nm,18.0s,baz=213,slow=42						
AKTO	**Aktyubinsk**	**22.81**	**343**	P	**P**	**05 00 52.0**	**+1.1**
	comp=N,0.8nm,0.6s,baz=149,slow=9.6,SNR=3.8						
KURBB	**Kurchatov Arra**	**22.90**	**17**	P	**P**	**05 00 52.4**	**+0.6**
	comp=N,1.8nm,0.9s,baz=209,slow=9.7,SNR=8.3						
BVAR	**Borovoye Array**	**24.04**	**3**	P	**P**	**05 01 04.2**	**+1.1**
	comp=N,0.7nm,0.5s,baz=187,slow=10,SNR=4.2						
KBZ	**Khabaz**	**25.15**	**313**	P	**P**	**05 01 14.7**	**+1.5**
	comp=N,1.7nm,0.8s,baz=236,slow=24,SNR=4.4						
ZALV	**Zalesovo Beam**	**27.64**	**21**	P	**P**	**05 01 36.8**	**+1.2**
	comp=N,0.4nm,0.4s,baz=201,slow=11,SNR=3.8						
ZALV				LR	LR	05 13 58.2	
	comp=N,36nm,19.9s,baz=68,slow=39						
AKASG	**Malin Array Be**	**36.50**	**317**	P	**P**	**05 02 52.8**	**-0.5**
	comp=N,0.1nm,0.3s,baz=106,slow=6.9,SNR=2.9						
GERES	**GERESS Array B**	**45.88**	**311**	LR	LR	05 29 52.5	
	comp=N,14nm,20.1s,baz=294,slow=45						
ARCES	**ARCESS Array B**	**47.38**	**341**	P	**P**	**05 04 22.1**	**+0.1**
	comp=N,2.3nm,0.9s,baz=136,slow=7.7,SNR=9.7						
ARCES				LR	LR	05 25 45.5	
	comp=N,17nm,19.4s,baz=204,slow=38						
TORD	**Torodi Ar. Bea**	**63.52**	**271**	P	**P**	**05 06 17.1**	**-1.9**
	comp=N,1.7nm,0.6s,baz=68,slow=5.1,SNR=18						
ASAR	**Alice Springs**	**81.89**	**123**	P	**P**	**05 08 08.3**	**+0.3**
	comp=N,0.3nm,0.5s,baz=311,slow=5.2,SNR=4.1						
YKA	**Yellowknife Ar**	**88.79**	**1**	P	**P**	**05 08 42.3**	**+0.6**
	comp=N,0.3nm,0.6s,baz=348,slow=4.9,SNR=8.1						

ISCJB ***12*** *05:05:49.9±1.1, 13°.80N±0°.08×91°.80W±0°.06, h37km, Error ellipse: s-maj=12.4km s-min=5.3km az=-31.1*
CASC ***12*** *05:05:52.0±2.2, 13°.83N×91°.56W, h17km±20km, MD3.6*
MEX ***12*** *05:05:54.9±0.6, 13°.89N×92°.13W, h15km, MD4.0*
ISC 12 05:05:48.5±1.9, 13°.7N±0°.1×91°.89W±0°.06, h37km, n16, σ1§80/23, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.69**	**21**	*eP*	**Pn**	**05 06 03.0**	**+1.3**
FUG	**Fuego 3**	**1.27**	**53**	*eP*	**Pn**	**05 06 09.2**	**-0.7**
THIG		**1.28**	**343**	*i* P	**Pn**	**05 06 10.3**	**+0.4**
THIG				*i* S	**Sn**	**05 06 23.7**	**-2.1**
PCG	**Pacaya**	**1.43**	**60**	*eP*	Pn	05 06 06.9	-5.3
PCG				*eS*	**Sn**	**05 06 27.7**	**-2.2**
NBG	**Las Nubes**	**1.75**	**58**	*eP*	**Pn**	**05 06 17.4**	**+0.8**
NBG				*eS*	**Sn**	**05 06 36.5**	**-1.2**
RBDL	**Robledal**	**2.18**	**78**	*eP*	**Pn**	**05 06 22.9**	**+0.5**
RTR	**El Retiro**	**2.19**	**84**	*eP*	**Pn**	**05 06 23.2**	**+0.7**
SBLS	**San Blas**	**2.20**	**85**	*eP*	**Pn**	**05 06 23.4**	**+0.6**
SBLS				*eS*	**Sn**	**05 06 46.4**	**-2.6**
SNJE	**San Jose**	**2.22**	**85**	*eP*	**Pn**	**05 06 23.8**	**+0.8**
PCIG		**2.40**	**328**	*eP*	**Pn**	**05 06 26.6**	**+1.4**
PCIG				*i* S	**Sn**	**05 06 49.9**	**-3.5**
BOQS	**Boqueron**	**2.53**	**88**	*eP*	**Pn**	**05 06 28.3**	**+1.0**
MRL	**Marmol**	**2.54**	**57**	*eP*	**Pn**	**05 06 27.6**	**+0.3**
MRL				*eS*	**Sn**	**05 07 00.5**	**+3.4**
CCIG	**Comitan**	**2.60**	**355**	*eP*	**Pn**	**05 06 30.6**	**+2.3**
CCIG				*i* S	**Sn**	**05 06 58.6**	**-0.2**
LFRS	**El Faro**	**2.75**	**91**	*eP*	**Pn**	**05 06 31.5**	**+1.3**
LBRS	**Las Brisas**	**2.76**	**88**	*eP*	**Pn**	**05 06 31.3**	**+1.0**
CMIG	**Matias Romero**	**4.46**	**320**	*eP*	**Pn**	**05 06 55.7**	**+2.0**
CMIG				*i* S	**Sn**	**05 07 42.2**	**-2.1**

ISCJB ***12*** *05:13:54.4±0.9, 18°.0S±0°.3×178°.3W±0°.2, h579km, mb3.9/7, Error ellipse: s-maj=45.9km s-min=14.4km az=153.1*
IDC ***12*** *05:13:58.7±4.7, 18°.05S×178°.41W, h620km±55km, mb3.3/7, mb1 3.6/7, mb1mx3.2/28, mbtmp4.3/7, Error ellipse: s-maj=52.4km s-min=21.8km az=151.0*
ISC 12 05:13:55.0±1.1, 18°.0S±0°.4×178°.3W±0°.2, h579km, n14, σ0§84/16, mb4.2/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COEN	**Coen**	**37.25**	**271**	P	**P**	**05 20 19.7**	**+0.8**
	baz=35,SNR=14						
STKA	**Stephens Creek**	**38.70**	**241**	P	**P**	**05 20 31.2**	**+0.8**
	3.2nm,0.5s,baz=88,slow=9.1,SNR=6.2						
STKA	**Stephens Creek**	**38.70**	**241**	P	**P**	**05 20 31.4**	**+1.0**
	baz=36,SNR=5.0						
HTT	**Hallett**	**41.20**	**240**	P	**P**	**05 20 51.2**	**+0.7**
	baz=39,SNR=4.9						
JAY	**Jayapura**	**43.08**	**286**	P	**P**	**05 21 05.7**	**+0.3**
	5.1nm,0.5s,baz=94,slow=13,SNR=3.8						
BBOO	**Buckleboo**	**43.47**	**241**	P	**P**	**05 21 08.3**	**+0.2**
	baz=41,SNR=9.3						
WRA	**Warramunga Arr**	**44.75**	**260**	P	**P**	**05 21 17.2**	**-1.0**
	2.4nm,0.3s,baz=95,slow=7.3,SNR=48						
WRA				PcP	**PcP**	**05 22 46.8**	**-0.9**
	0.3nm,0.5s,baz=89,slow=3.5,SNR=3.4						
ASAR	**Alice Springs**	**44.90**	**254**	P	**P**	**05 21 18.9**	**-0.3**
	11nm,0.5s,baz=86,slow=8.7,SNR=105						
ASAR				PcP	**PcP**	**05 22 47.4**	**-0.9**
	0.6nm,0.4s,baz=99,slow=3.9,SNR=5.0						
WRKA	**Warakurna**	**49.94**	**252**	P	**P**	**05 21 56.7**	**-0.3**
	baz=48,SNR=30						
NVAR	**Mina Array Bea**	**79.42**	**44**	P	**P**	**05 25 03.2**	**+0.9**
	0.6nm,0.7s,baz=226,slow=7.3,SNR=3.7						
TXAR	**Lajitas Array**	**85.94**	**58**	P	**P**	**05 25 35.4**	**+0.4**
	0.7nm,0.7s,baz=225,slow=5.8,SNR=8.9						
PDAR	**Pinedale Array**	**87.34**	**43**	P	**P**	**05 25 41.6**	**+0.1**
	0.3nm,0.5s,baz=243,slow=4.0,SNR=2.4						
BRTR	**Keskin Array B**	**144.98**	**315**	PKP	**PKPdf**	**05 32 25.9**	**-1.4**
	0.4nm,0.5s,baz=108,slow=3.2,SNR=4.1						
GERES	**GERESS Array B**	**147.77**	**345**	PKPbc	**PKPbc**	**05 32 34.8**	**-0.7**
	0.4nm,0.5s,baz=350,slow=5.0,SNR=3.0						

ISCJB ***12*** *05:25:57.6±1.1, 30°.33S±0°.08×178°.1W±0°.2, h46km, mb4.4/5, MS3.0/1, Error ellipse: s-maj=29.4km s-min=8.1km az=15.0*
IDC ***12*** *05:25:58.6±4.0, 30°.29S×178°.03W, h34km±31km, mb4.3/4, mb1 4.4/5, mb1mx3.9/19, mbtmp4.4/5, ML3.8/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/21, Error ellipse: s-maj=29.0km s-min=18.0km az=107.0*
NEIC ***12*** *05:25:58.6±1.4, 30°.31S×178°.04W, h36km±13km, mb4.5/2, Error ellipse: s-maj=24.5km s-min=12.0km az=105.0*
ISC 12 05:25:59.4±1.0, 30°.32S±0°.09×178°.1W±0°.2, h46km, n15, σ1§58/17, mb4.5/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.08**	**7**	Pn	**Pn**	**05 26 17.0**	**-1.0**
	411nm,0.3s,baz=36,slow=22,SNR=9.0						
RAO				Sn	**Sn**	**05 26 30.1**	**-1.7**
	1µm,0.3s,baz=184,slow=22,SNR=12						
URZ	**Urewera**	**8.86**	**205**	Pn	**Pn**	**05 28 04.5**	**-0.3**
	0.9nm,0.3s,baz=48,slow=11,SNR=5.5						
URZ				Sn	**Sn**	**05 29 39.6**	**-3.6**
	2.0nm,0.3s,baz=184,slow=19,SNR=9.9						
RPZ	**Rata Peaks**	**15.92**	**210**	*ePn*	**Pn**	**05 29 39.9**	**-0.2**
STKA	**Stephens Creek**	**34.44**	**257**	P	**P**	**05 32 44.7**	**+2.1**
	6.5nm,0.6s,baz=99,slow=10,SNR=21						
ASAR	**Alice Springs**	**43.05**	**267**	P	**P**	**05 33 55.0**	**+0.1**
	1.5nm,0.5s,baz=104,slow=6.8,SNR=21						
WRAB	**Tennant Creek**	**44.03**	**272**	*eP*	**P**	**05 34 02.0**	**-0.8**
	3.3nm,0.6s						
WRA	**Warramunga Arr**	**44.04**	**272**	P	**P**	**05 34 02.7**	**-0.1**
	3.8nm,0.4s,baz=111,slow=8.1,SNR=38						
GUMO	**Guam**	**56.39**	**315**	LR	LR	06 00 29.2	
	comp=Z,13nm,18.8s,baz=118,slow=37						
QSPA	**South Pole Qui**	**59.78**	**180**	P	**P**	**05 36 00.7**	**+1.1**
	4.0nm,0.7s,baz=168,slow=0.5,SNR=12						
QSPA	**South Pole Qui**	**59.78**	**180**	*eP*	**P**	**05 36 00.3**	**+0.7**
	5.9nm,0.9s						
QSPA				P	**P**	**05 36 00.7**	**+1.1**
MKAR	**Makanchi Array**	**117.68**	**310**	PKP	**PKPdf**	**05 44 41.9**	**+1.7**
	0.2nm,0.5s,baz=116,slow=3.4,SNR=3.1						
FINES	**FINESS Array B**	**145.05**	**340**	PKPbc	**PKPbc**	**05 45 29.7**	**-0.7**
	2.7nm,0.4s,baz=68,slow=3.6,SNR=16						
AKASG	**Malin Array Be**	**151.21**	**323**	PKPbc	**PKPbc**	**05 45 46.5**	**-0.8**
	1.1nm,0.5s,baz=30,slow=3.0,SNR=2.2						
BRTR	**Keskin Array B**	**152.51**	**299**	PKPbc	**PKPbc**	**05 45 53.1**	**+2.3**
	0.8nm,0.6s,baz=114,slow=3.0,SNR=4.8						
TORD	**Torodi Ar. Bea**	**162.91**	**179**	PKPab	**PKPab**	**05 46 45.8**	**-0.4**
	0.3nm,0.5s,baz=166,slow=4.4,SNR=5.3						

IDC 12 05:38:52.1±9.2, 18°.16S×176°.66W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.6/26, mbtmp3.5/3, Error ellipse: s-maj=406.9km s-min=38.2km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.22**	**260**	P	P	05 47 19.1	-0.2
	0.4nm,0.8s,baz=95,slow=6.9,SNR=3.2						
ASAR	**Alice Springs**	**46.32**	**254**	P	P	05 47 20.0	-0.1
	0.7nm,0.6s,baz=88,slow=8.3,SNR=7.3						
ILAR	**Eielson Array**	**85.77**	**12**	P	P	05 51 32.8	0.0
	0.2nm,0.4s,baz=217,slow=5.3,SNR=5.5						

ISCJB ***12*** *05:50:28.5±0.7, 1°.86N±0°.07×127°.38E±0°.06, h112km, mb4.2/4, Error ellipse: s-maj=9.9km s-min=7.4km az=29.0*
DJA ***12*** *05:50:31.9±0.6, 2°N±4°×127°E±°, h93km±11km, M4.5/10, mb4.6/4, mB5.2/4, MLv4.5/10, Mw(mB)4.5/4*
IDC ***12*** *05:50:33.3±11.0, 1°.61N×127°.07E, h139km±101km, mb3.9/4, mb1 4.0/4, mb1mx3.4/33, mbtmp4.3/4, Error ellipse: s-maj=124.8km s-min=25.1km az=61.0*
ISC 12 05:50:30.4±0.9, 1°.80N±0°.07×127°.33E±0°.07, h112km, n23, σ1§64/27, mb4.5/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.02**	**178**	P	**Pn**	**05 50 54.1**	**+2.1**
TNTI				S	**Sn**	**05 51 10.3**	**+1.9**
LBMI	**Labuha**	**2.43**	**176**	P	**Pn**	**05 51 11.1**	**+2.1**
SGSI	**Sangihe**	**2.59**	**316**	P	**Pn**	**05 51 11.7**	**+0.6**
KMSI	**Cibinong**	**3.56**	**250**	P	**Pn**	**05 51 22.5**	**-1.4**
SANI	**Sanana**	**4.05**	**199**	P	**Pn**	**05 51 29.6**	**-0.9**
SANI				S	**Sn**	**05 52 13.4**	**-3.8**
NLAI	**Namlea**	**5.01**	**183**	P	**Pn**	**05 51 43.9**	**+0.4**
	80nm,0.2s,10µm1.3nm						
LUWI	**Luwuk**	**5.36**	**238**	P	Pn	05 51 52.3	+4.2
	34nm,0.6s,3µm1.1nm						
LUWI				S	**Sn**	**05 52 50.7**	**+2.0**
	34nm,0.6s,3µm1.1nm						
LUWI	**Luwuk**	**5.36**	**238**	P	**Pn**	**05 51 50.5**	**+2.4**
	baz=6.5,SNR=3.7						
LUWI				S	**Sn**	**05 52 52.1**	**+3.5**
	baz=6.5,SNR=7.2						
MRSI	**Marisa**	**5.54**	**256**	P	**Pn**	**05 51 50.1**	**-0.5**
MRSI				S	**Sn**	**05 52 53.8**	**+0.7**
KDU	**Kakadu**	**15.28**	**161**	P	**Pn**	**05 53 57.5**	**-2.7**
	baz=15,SNR=5.8						
KNRA	**Kununurra**	**17.43**	**175**	P	**Pn**	**05 54 26.4**	**-0.2**
	baz=18,SNR=5.3						
FITZ	**Fitzroy Crossi**	**19.85**	**185**	P	**P**	**05 54 52.6**	**-0.1**
	baz=20,SNR=6.1						
WRA	**Warramunga Arr**	**22.68**	**163**	P	**P**	**05 55 21.7**	**-1.0**
	11nm,0.5s,baz=343,slow=11,SNR=43						
QIS	**Mount Isa**	**25.27**	**152**	P	**P**	**05 55 47.9**	**+1.4**
	baz=25,SNR=3.8						
ASAR	**Alice Springs**	**26.11**	**166**	P	**P**	**05 55 53.6**	**-0.4**
	0.9nm,0.6s,baz=344,slow=7.3,SNR=12						
WRKA	**Warakurna**	**26.70**	**178**	P	**P**	**05 55 59.4**	**+0.1**
	baz=27,SNR=8.6						
BBOO	**Buckleboo**	**35.40**	**167**	P	**P**	**05 57 15.0**	**-0.6**
	baz=36,SNR=5.4						
STKA	**Stephens Creek**	**36.13**	**159**	P	**P**	**05 57 21.5**	**-0.4**
	5.4nm,0.7s,baz=341,slow=9.3,SNR=9.5						
STKA	**Stephens Creek**	**36.13**	**159**	P	**P**	**05 57 21.7**	**-0.1**
	baz=36,SNR=4.2						
MK31	**Makanchi Array**	**59.47**	**326**	P	**P**	**06 00 22.0**	**+0.3**
	baz=60,SNR=5.8						
MKAR	**Makanchi Array**	**59.47**	**326**	P	**P**	**06 00 21.8**	**+0.1**
	2.3nm,0.6s,baz=113,slow=7.9,SNR=29						
TXAR	**Lajitas Array**	**122.28**	**53**	PKP	**PKPdf**	**06 09 13.1**	**0.0**
	0.1nm,0.6s,baz=0.0,slow=0.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**124.06**	**287**	PKP	**PKPdf**	**06 09 15.5**	**-1.2**
	0.5nm,1.0s,baz=90,slow=3.2,SNR=3.0						

IDC 12 06:12:26.9±1.2, 22°.03S×67°.34W, h184km±13km, mb3.2/2, mb1 3.2/4, mb1mx3.0/18, mbtmp3.5/4, Error ellipse: s-maj=27.9km s-min=15.3km az=111.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.57**	**248**	P	Pn	06 13 00.8	+0.5
	145nm,0.3s,baz=63,slow=8.6,SNR=48						
LVC				S	Sn	06 13 25.9	-0.1
	63nm,0.3s,baz=311,slow=19,SNR=23						
LPAZ	**La Paz**	**5.76**	**352**	P

RTCV	**Cerro Valdivia**	**3.29**	**56**	*eP*		**Pn**	**06 21 49.1**	**+2.8**
CFAA	**Coronel Fontan**	**3.65**	**55**	Pn		**Pn**	**06 21 52.5**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=223,slow=13,SNR=47							
CFAA				Sn		**Sb**	**06 22 44.4**	**0.0**
	comp=Z,4.4nm,0.3s,baz=342,slow=19,SNR=9.4							
ACAN	**Cantantal**	**4.11**	**70**	*eP*		**Pn**	**06 22 00.0**	**+2.6**
ACAN				*eP*		**Pn**	**06 22 00.0**	**+2.6**
PLCA	**Paso Flores**	**7.05**	**173**	Pn		**Pn**	**06 22 37.9**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=337,slow=13,SNR=8.0							
PLCA				Lg		Lg	06 24 36.0	
	comp=Z,0.1nm,0.3s,baz=270,slow=20,SNR=1.8							
LPAZ	**La Paz**	**17.68**	**12**	P		**Pn**	**06 25 01.5**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=182,slow=9.6,SNR=7.0							
SIV	**San Ignacio**	**20.13**	**31**	P		**P**	**06 25 27.6**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=201,slow=10,SNR=3.0							
TXAR	**Lajitas Array**	**69.62**	**331**	P		**P**	**06 32 03.5**	**+0.4**
	comp=Z,0.1nm,0.6s,baz=152,slow=8.2,SNR=2.6							
TORD	**Torodi Ar. Bea**	**83.90**	**70**	P		**P**	**06 33 23.6**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=252,slow=3.9,SNR=7.2							

NIED ***12*** *06:49:00,22˚.40N×123˚.90E,h35km,Mw3.7 Best double couple: M0 3.55000×10^14 NP1:φs140.00000°,δ76.00000°, λ6.00000°. NP2:φs48.00000°,δ84.00000°,λ166.00000°.*

JMA 12 06:49:17.2±0.5,22˚.40N×123˚.90E,h58km,M3.5, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HATJ	**Hateruma jima**	**1.65**	**357**	P		Pn	06 49 44.7	+0.8
HATJ				*eS*		Sn	06 50 03.6	-0.5
JKRS	**Kuro-shima**	**1.83**	**3**	P		Pn	06 49 47.4	+1.1
JKRS				*eS*		Sn	06 50 09.2	+0.8
IRIF	**Iriomote-Funau**	**1.93**	**355**	P		Pn	06 49 49.0	+1.3
IRIF				*eS*		Sn	06 50 11.7	+0.8
JIJ	**Ishigaki jima**	**1.97**	**6**	P		Pn	06 49 48.7	+0.5
JIJ				*eS*		Sn	06 50 10.8	-1.0
JISG	**Ishigakijimahi**	**2.21**	**10**	P		Pn	06 49 52.0	+0.5
JISG				*eS*		Sn	06 50 17.5	-0.2
YOJ	**Yonaguni jima**	**2.21**	**338**	*eS*		Sn	06 50 19.3	+1.6
JYNG	**Yonagunijimaku**	**2.22**	**337**	P		Pn	06 49 53.3	+1.6
JYNG				*eS*		Sn	06 50 19.9	+1.9
JTJ	**Tarama**	**2.35**	**18**	*eS*		Sn	06 50 21.0	-0.1
JIRB	**Irabujima**	**2.68**	**26**	P		Pn	06 49 58.5	+0.5
JIRB				*eS*		Sn	06 50 29.4	+0.1
JOGS	**Gusukube**	**2.73**	**30**	P		Pn	06 49 59.4	+0.9
JKE	**Kume jima 2**	**4.71**	**33**	P		Pn	06 50 25.4	-0.3
JOW	**Kunigami**	**5.94**	**41**	P		Pn	06 50 42.2	-0.4
JOKE	**Okinoerabujima**	**6.51**	**40**	P		Pn	06 50 49.9	-0.5

CSEM ***12*** *06:58:48.1,38˚.51N×23˚.26E,h14km,MD2.6*

ATH 12 06:58:48.1,38˚.51N×23˚.25E,h14km±4km,MD2.6/8, Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LKR	**Lokris**	**0.24**	**306**	*ePG*		Pg	06 58 52.6	-0.8
LKR				*eSG*		Sg	06 58 57.0	+0.1
LKR	**Lokris**	**0.24**	**306**	*ePg*		Pg	06 58 52.6	-0.8
LKR				*eSg*		Sg	06 58 57.0	+0.1
MRKA	**Markates**	**0.33**	**53**	*ePG*		Pg	06 58 54.3	-0.6
MRKA				*eSB*		Sg	06 58 59.8	+0.3
MRKA	**Markates**	**0.33**	**53**	*ePg*		Pg	06 58 54.3	-0.6
MRKA				*eSb*		Sg	06 58 59.8	+0.3
AXAR	**Agios Charalam**	**0.53**	**299**	*ePB*		Pb	06 58 59.2	0.0
AXAR				*eSB*		Sg	06 59 05.8	+0.1
AXAR	**Agios Charalam**	**0.53**	**299**	*ePb*		Pb	06 58 59.2	0.0
AXAR				*eSb*		Sg	06 59 05.8	+0.1
LTK	**Loutraki**	**0.54**	**205**	*ePB*		Pg	06 58 58.6	-0.1
LTK				*eSB*		Sb	06 59 06.6	-0.3
LTK	**Loutraki**	**0.54**	**205**	*ePb*		Pg	06 58 58.6	-0.1
LTK				*eSb*		Sb	06 59 06.6	-0.3
DSF	**Desfina**	**0.58**	**260**	*ePB*		Pg	06 58 58.8	-0.7
DSF				*eSB*		Sb	06 59 08.0	-0.2
DSF	**Desfina**	**0.58**	**260**	*ePb*		Pg	06 58 58.8	-0.7
DSF				*eSb*		Sb	06 59 08.0	-0.2
SKIA	**Skiathos**	**0.68**	**14**	*ePB*		Pb	06 59 01.6	-0.1
SKIA				*eSB*		Sb	06 59 11.7	+0.7
SKIA	**Skiathos**	**0.68**	**14**	*ePb*		Pb	06 59 01.6	-0.1
SKIA				*eSb*		Sb	06 59 11.7	+0.7
KALE	**Kalithea**	**0.88**	**263**	*ePG*		Pb	06 59 04.7	-0.6
KALE	**Kalithea**	**0.88**	**263**	*ePg*		Pb	06 59 04.7	-0.6
KLV	**Kalavryta, Ach**	**0.98**	**242**	*ePN*		Pn	06 59 07.8	+0.2
KLV	**Kalavryta, Ach**	**0.98**	**242**	*ePn*		Pn	06 59 07.8	+0.2

THE ***12*** *06:59:22.9,38˚.61N×23˚.75E,h9km,ML3.6/16,Error ellipse: s-maj=0.8km s-min=0.4km az=336.0*
ATH ***12*** *06:59:22.1,38˚.62N×23˚.77E,h25km,MD3.4/47,ML3.6*
ISCJB ***12*** *06:59:23.2±0.3,38˚.62N±0˚.01×23˚.74E±0˚.02,h19km±3km, Error ellipse: s-maj=2.7km s-min=2.3km az=6.5*
CSEM ***12*** *06:59:23.0±0.1,38˚.60N×23˚.69E,h10km,ML3.6,Error ellipse: s-maj=2.9km s-min=2.6km az=109.0*

ISC 12 06:59:22.9±0.8,38˚.60N±0˚.01×23˚.73E±0˚.02,h12km±6km, n214,σ1s04/267,8C-2D,Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MRKA	**Markates**	**0.15**	**314**	P		**Pg**	**06 59 26.5**	**0.0**
MRKA				S		**Sg**	**06 59 29.0**	**0.0**
MRKA	**Markates**	**0.15**	**314**	*ePB*		**Pg**	**06 59 26.5**	**0.0**
MRKA				*eSB*		**Sg**	**06 59 29.1**	**0.0**
MRKA	**Markates**	**0.15**	**314**	P		**Pg**	**06 59 26.5**	**0.0**
MRKA				*eSb*		**Sg**	**06 59 29.1**	**0.0**
SMIA	**Simia**	**0.49**	**305**	P		**Pg**	**06 59 32.5**	**-0.1**
SMIA				S		**Sg**	**06 59 39.9**	**+0.7**
SMIA	**Simia**	**0.49**	**305**	*ePN*		**Pg**	**06 59 32.5**	**-0.1**
SMIA				*eSN*		**Sb**	**06 59 40.2**	**-0.5**
SMIA	**Simia**	**0.49**	**305**	P		**Pg**	**06 59 32.5**	**-0.1**
SMIA				S		**Sg**	**06 59 39.9**	**+0.7**
SMIA				*eSn*		**Sb**	**06 59 40.2**	**-0.5**
PTL	**Penteli**	**0.56**	**169**	P		**Pg**	**06 59 33.9**	**+0.1**
PTL				S		**Sg**	**06 59 41.2**	**0.0**
PTL	**Penteli**	**0.56**	**169**	*ePN*		**Pg**	**06 59 33.9**	**+0.1**
PTL				*eSN*		**Sg**	**06 59 41.2**	**0.0**
PTL	**Penteli**	**0.56**	**169**	P		**Pg**	**06 59 33.9**	**+0.1**
PTL				S		**Sg**	**06 59 41.2**	**0.0**
LKR	**Lokris**	**0.57**	**275**	P		**Pg**	**06 59 33.2**	**-0.9**
LKR				S		**Sg**	**06 59 42.3**	**+0.6**
LKR	**Lokris**	**0.57**	**275**	*ePB*		**Pg**	**06 59 33.3**	**-0.9**
LKR	**Lokris**	**0.57**	**275**	P		**Pg**	**06 59 33.2**	**-0.9**
LKR				S		**Sg**	**06 59 42.3**	**+0.6**
AOS	**Alonnisos**	**0.58**	**12**	*ePG*		**Pb**	**06 59 34.9**	**-0.1**
AOS	**Alonnisos**	**0.58**	**12**	P		**Pg**	**06 59 33.9**	**-0.4**
AOS				S		**Sg**	**06 59 41.9**	**-0.1**
AOS	**Alonnisos**	**0.58**	**12**	*ePN*		**Pg**	**06 59 33.9**	**-0.4**
AOS				*eSN*		**Sg**	**06 59 42.1**	**+0.1**
AOS	**Alonnisos**	**0.58**	**12**	P		**Pg**	**06 59 33.9**	**-0.4**
AOS	**Alonnisos**	**0.58**	**12**	*ePg*		**Pb**	**06 59 34.9**	**-0.1**
AOS				S		**Sg**	**06 59 41.9**	**-0.1**
SKIA	**Skiathos**	**0.60**	**340**	P		**Pg**	**06 59 34.3**	**-0.4**
SKIA				S		**Sg**	**06 59 43.2**	**+0.6**
SKIA	**Skiathos**	**0.60**	**340**	*ePN*		**Pg**	**06 59 34.4**	**-0.3**
SKIA				*eSN*		**Sb**	**06 59 44.0**	**+0.1**
SKIA	**Skiathos**	**0.60**	**340**	P		**Pg**	**06 59 34.3**	**-0.4**
SKIA				S		**Sg**	**06 59 43.2**	**+0.6**
SKIA				*eSn*		**Sb**	**06 59 44.0**	**+0.1**
ATH	**Athens Observa**	**0.63**	**181**	P		**Pg**	**06 59 35.0**	**0.0**
ATH				S		**Sb**	**06 59 44.4**	**-0.1**
ATH	**Athens Observa**	**0.63**	**181**	*ePN*		**Pg**	**06 59 35.1**	**0.0**
ATH				*eSN*		**Sb**	**06 59 44.8**	**+0.3**
ATH	**Athens Observa**	**0.63**	**181**	P		**Pg**	**06 59 35.0**	**0.0**
ATH				S		**Sb**	**06 59 44.4**	**-0.1**
ATHU	**Athens Univers**	**0.63**	**176**	P		**Pg**	**06 59 35.1**	**-0.1**
ATHU				S		**Sb**	**06 59 44.8**	**+0.1**
ATHU	**Athens Univers**	**0.63**	**176**	P		**Pg**	**06 59 35.1**	**-0.1**
ATHU				S		**Sb**	**06 59 44.8**	**+0.1**
NEO	**Neokhori**	**0.81**	**331**	P		**Pg**	**06 59 38.0**	**-0.6**
NEO				S		**Sb**	**06 59 50.7**	**+0.9**
NEO	**Neokhori**	**0.81**	**331**	*ePN*		**Pg**	**06 59 38.0**	**-0.4**
NEO				*eSN*		**Sb**	**06 59 49.8**	**0.0**
NEO	**Neokhori**	**0.81**	**331**	P		**Pg**	**06 59 38.0**	**-0.6**
NEO				*eSn*		**Sb**	**06 59 49.8**	**0.0**
NEO				S		**Sb**	**06 59 50.7**	**+0.9**
LTK	**Loutraki**	**0.83**	**226**	P		**Pg**	**06 59 38.1**	**-0.9**
LTK				S		**Sn**	**06 59 51.9**	**-0.7**
LTK	**Loutraki**	**0.83**	**226**	*ePB*		**Pg**	**06 59 38.2**	**-0.8**
LTK				*eSN*		**Sn**	**06 59 51.8**	**-0.8**
LTK	**Loutraki**	**0.83**	**226**	P		**Pg**	**06 59 38.1**	**-0.9**
LTK				*eSn*		**Sn**	**06 59 51.8**	**-0.8**
AXAR	**Agios Charalam**	**0.85**	**282**	P		**Pg**	**06 59 39.5**	**+0.1**
AXAR				S		**Sb**	**06 59 52.0**	**+0.9**
AXAR	**Agios Charalam**	**0.85**	**282**	*ePN*		**Pg**	**06 59 39.6**	**+0.1**
AXAR				*eSN*		**Sn**	**06 59 52.4**	**-0.8**
AXAR	**Agios Charalam**	**0.85**	**282**	P		**Pg**	**06 59 39.5**	**+0.1**
AXAR				S		**Sb**	**06 59 52.0**	**+0.9**
NAIG	**Nisos Aigina**	**0.86**	**193**	*ePN*		**Pg**	**06 59 39.4**	**-0.1**
NAIG	**Nisos Aigina**	**0.86**	**193**	*ePn*		**Pg**	**06 59 39.4**	**-0.1**
XOR	**Xorichti**	**0.87**	**331**	P		**Pg**	**06 59 39.1**	**-0.7**
XOR				S		**Sb**	**06 59 52.2**	**+0.5**
XOR	**Xorichti**	**0.87**	**331**	*ePN*		**Pg**	**06 59 39.2**	**-0.6**
XOR				*eSN*		**Sb**	**06 59 52.1**	**+0.4**
XOR	**Xorichti**	**0.87**	**331**	P		**Pg**	**06 59 39.1**	**-0.7**
XOR				*eSn*		**Sb**	**06 59 52.1**	**+0.4**
DSF	**Desfina**	**0.96**	**259**	P		**Pg**	**06 59 40.4**	**-1.0**
DSF				S		**Sb**	**06 59 55.0**	**+0.8**
DSF	**Desfina**	**0.96**	**259**	*ePB*		**Pg**	**06 59 40.5**	**-1.0**
DSF				*eSN*		**Sb**	**06 59 55.1**	**+0.8**
DSF	**Desfina**	**0.96**	**259**	P		**Pg**	**06 59 40.4**	**-1.0**
DSF				*eSn*		**Sb**	**06 59 55.1**	**+0.8**
DID	**Didima**	**1.16**	**200**	*ePN*		**Pb**	**06 59 44.6**	**-0.3**
DID	**Didima**	**1.16**	**200**	*ePn*		**Pb**	**06 59 44.6**	**-0.3**
AGG	**Agios Georgios**	**1.17**	**292**	P		**Pb**	**06 59 44.5**	**-0.5**
AGG				S		**Sn**	**07 00 01.4**	**+0.3**
AGG	**Agios Georgios**	**1.17**	**292**	*ePN*		**Pb**	**06 59 44.6**	**-0.5**
AGG	**Agios Georgios**	**1.17**	**292**	*ePn*		**Pb**	**06 59 44.6**	**-0.5**
AGG				S		**Sn**	**07 00 01.4**	**+0.3**
KALE	**Kalithea**	**1.27**	**261**	P		**Pn**	**06 59 45.4**	**-1.0**
KALE				S		**Sg**	**07 00 04.3**	**+0.6**
KALE	**Kalithea**	**1.27**	**261**	*ePB*		**Pn**	**06 59 45.5**	**-1.0**
KALE	**Kalithea**	**1.27**	**261**	P		**Pn**	**06 59 45.4**	**-1.0**
KALE				S		**Sg**	**07 00 04.3**	**+0.6**
GUR	**Goura**	**1.28**	**239**	P		**Pn**	**06 59 46.0**	**-0.7**
GUR				S		**Sn**	**07 00 03.9**	**+0.1**
GUR	**Goura**	**1.28**	**239**	*ePN*		**Pn**	**06 59 46.2**	**-0.5**
GUR	**Goura**	**1.28**	**239**	*ePn*		**Pn**	**06 59 46.2**	**-0.5**
GUR				S		**Sn**	**07 00 03.9**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.31**	**289**	P		**Pn**	**06 59 46.9**	**-0.2**
MAKR				S		**Sg**	**07 00 05.7**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.31**	**289**	*ePN*		**Pn**	**06 59 47.2**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.31**	**289**	P		**Pn**	**06 59 46.9**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.31**	**289**	*ePn*		**Pn**	**06 59 47.2**	**+0.1**
MAKR				S		**Sg**	**07 00 05.7**	**+0.4**
PAIG	**Paliouri**	**1.33**	**358**	P		**Pn**	**06 59 46.3**	**-0.9**
PAIG	**Paliouri**	**1.33**	**358**	*ePN*		**Pn**	**06 59 46.5**	**-0.7**
PAIG	**Paliouri**	**1.33**	**358**	*ePn*		**Pn**	**06 59 46.5**	**-0.7**
KLV	**Kalavryta, Ach**	**1.36**	**246**	P		**Pn**	**06 59 47.6**	**-0.2**
KLV				S		**Sb**	**07 00 05.3**	**-0.4**
KLV	**Kalavryta, Ach**	**1.36**	**246**	*ePN*		**Pn**	**06 59 48.1**	**+0.3**
KLV	**Kalavryta, Ach**	**1.36**	**246**	P		**Pn**	**06 59 47.6**	**-0.2**
KLV	**Kalavryta, Ach**	**1.36**	**246**	*ePn*		**Pn**	**06 59 48.1**	**+0.3**
KLV				S		**Sb**	**07 00 05.3**	**-0.4**
EFP	**Efpalio**	**1.44**	**264**	P		**Pn**	**06 59 48.8**	**0.0**
EFP				S		**Sg**	**07 00 08.8**	**-0.5**
EFP	**Efpalio**	**1.44**	**264**	*ePN*		**Pn**	**06 59 48.8**	**0.0**
EFP	**Efpalio**	**1.44**	**264**	P		**Pn**	**06 59 48.8**	**0.0**
EFP				S		**Sg**	**07 00 08.8**	**-0.5**
EVR	**Evrytania**	**1.54**	**283**	*ePN*		**Pb**	**06 59 51.1**	**-0.2**
EVR	**Evrytania**	**1.54**	**283**	*ePn*		**Pb**	**06 59 51.1**	**-0.2**
VLX	**Vlachokerasia**	**1.63**	**221**	P		**Pn**	**06 59 51.5**	**0.0**
VLX	**Vlachokerasia**	**1.63**	**221**	*ePN*		**Pn**	**06 59 51.8**	**+0.3**
VLX	**Vlachokerasia**	**1.63**	**221**	P		**Pn**	**06 59 51.5**	**0.0**
VLX	**Vlachokerasia**	**1.63**	**221**	*ePn*		**Pn**	**06 59 51.8**	**+0.3**
THL	**Klokotos Trika**	**1.65**	**306**	P		**Pn**	**06 59 51.2**	**-0.4**
THL	**Klokotos Trika**	**1.65**	**306**	*ePN*		**Pn**	**06 59 51.5**	**-0.1**
THL	**Klokotos Trika**	**1.65**	**306**	P		**Pn**	**06 59 51.2**	**-0.4**
THL	**Klokotos Trika**	**1.65**	**306**	*ePn*		**Pn**	**06 59 51.5**	**-0.1**
DRO	**Drossia**	**1.72**	**248**	*ePN*		**Pn**	**06 59 52.9**	**+0.3**
DRO	**Drossia**	**1.72**	**248**	*ePn*		**Pn**	**06 59 52.9**	**+0.3**
LIA	**Limnos Island**	**1.72**	**41**	P		**Pn**	**06 59 51.7**	**-0.9**
LIA	**Limnos Island**	**1.72**	**41**	*ePN*		**Pn**	**06 59 51.7**	**-0.9**
LIA	**Limnos Island**	**1.72**	**41**	P		**Pn**	**06 59 51.7**	**-0.9**
OUR	**Ouranopolis**	**1.74**	**6**	*ePN*		**Pn**	**06 59 52.5**	**-0.6**
OUR	**Ouranopolis**	**1.74**	**6**	P		**Pn**	**06 59 52.3**	**-0.7**
OUR	**Ouranopolis**	**1.74**	**6**	*ePN*		**Pn**	**06 59 52.4**	**-0.6**
OUR	**Ouranopolis**	**1.74**	**6**	*ePn*		**Pn**	**06 59 52.4**	**-0.6**
SIGR	**SIGRI**	**1.77**	**69**	*ePN*		**Pb**	**06 59 54.9**	**-0.3**
SIGR	**SIGRI**	**1.77**	**69**	*ePn*		**Pb**	**06 59 52.5**	**-0.8**
SIGR	**SIGRI**	**1.77**	**69**	*ePn*		**Pn**	**06 59 52.5**	**-0.8**
LIT	**Litokhoron**	**1.78**	**328**	P		**Pn**	**06 59 53.0**	**-0.5**
LIT	**Litokhoron**	**1.78**	**328**	*ePN*		**Pn**	**06 59 53.2**	**-0.3**
LIT	**Litokhoron**	**1.78**	**328**	P		**Pn**	**06 59 53.0**	**-0.5**
PLG	**Polygyros**	**1.79**	**353**	P		**Pn**	**06 59 52.9**	**-0.6**
PLG	**Polygyros**	**1.79**	**353**	*ePN*		**Pn**	**06 59 53.0**	**-0.6**
PLG	**Polygyros**	**1.79**	**353**	*ePn*		**Pn**	**06 59 53.0**	**-0.6**
CHOS	**Chios island**	**1.84**	**96**	*ePN*		**Pn**	**06 59 55.6**	**-0.8**
CHOS	**Chios island**	**1.84**	**96**	*ePN*		**Pn**	**06 59 54.3**	**0.0**
CHOS	**Chios island**	**1.84**	**96**	*ePn*		**Pn**	**06 59 54.3**	**0.0**
RLS	**Riolos of Patr**	**1.86**	**254**	*ePN*		**Pb**	**06 59 56.0**	**-0.8**
RLS	**Riolos of Patr**	**1.86**	**254**	*ePn*		**Pb**	**06 59 56.0**	**-0.8**
AMT	**Artemida-Makis**	**1.92**	**237**	*ePN*		**Pb**	**06 59 57.4**	**-0.4**
AMT	**Artemida-Makis**	**1.92**	**237**	*ePn*		**Pb**	**06 59 57.4**	**-0.4**
PDO	**Prodromos**	**2.00**	**271**	*ePB*		**Pb**	**06 59 58.3**	**-0.8**
PDO	**Prodromos**	**2.00**	**271**	*ePb*		**Pb**	**06 59 58.3**	**-0.8**
ITM	**Ithomi**	**2.01**	**226**	*ePB*		**Pn**	**06 59 58.1**	**+1.4**
ITM	**Ithomi**	**2.01**	**226**	*ePb*		**Pn**	**06 59 58.1**	**+1.4**
HORT	**Hortiatis**	**2.05**	**346**	*ePN*		**Pn**	**06 59 57.1**	**-0.3**
HORT	**Hortiatis**	**2.05**	**346**	P		**Pn**	**06 59 57.0**	**-0.3**
HORT	**Hortiatis**	**2.05**	**346**	*ePN*		**Pn**	**06 59 57.0**	**-0.3**
HORT	**Hortiatis**	**2.05**	**346**	P		**Pn**	**06 59 57.0**	**-0.3**
PRK	**Paraskevi**	**2.08**	**71**	*ePN*		**Pn**	**06 59 56.4**	**-1.3**
PRK	**Paraskevi**	**2.08**	**71**	*ePn*		**Pn**	**06 59 56.4**	**-1.3**
APE	**Apeiranthos**	**2.09**	**136**	*ePN*		**Pn**	**06 59 58.0**	**+0.2**
APE	**Apeiranthos**	**2.09**	**136**	P		**Pn**	**06 59 57.5**	**-0.3**
APE				S		**Sn**	**07 00 24.6**	**+0.8**
APE	**Apeiranthos**	**2.09**	**136**	*ePN*		**Pn**	**06 59 57.7**	**-0.1**
APE	**Apeiranthos**	**2.09**	**136**	*iP*		**Pn**	**06 59 56.0**	**-1.8**
APE	**Apeiranthos**	**2.09**	**136**	S		**Sn**	**07 00 21.6**	**-2.2**
APE	**Apeiranthos**	**2.09**	**136**	*ePn*		**Pn**	**06 59 57.7**	**-0.1**
APE				S		**Sn**	**07 00 24.6**	**+0.8**
THE	**Thessaloniki**	**2.11**	**344**	*ePB*		**Pn**	**06 59 58.1**	**0.0**
THE	**Thessaloniki**	**2.11**	**344**	*ePb*		**Pn**	**06 59 58.1**	**0.0**
BOZC	**Bozcaada**	**2.19**	**55**	*eP*		**Pn**	**07 00 00.1**	**+1.0**
ZEY	**˙zmir**	**2.21**	**99**	*iP*		**Pb**	**07 00 02.2**	**-0.5**
SOH	**Sokhos**	**2.24**	**353**	*ePB*		**Pn**	**06 59 59.8**	**0.0**
SOH	**Sokhos**	**2.24**	**353**	*ePb*		**Pn**	**06 59 59.8**	**0.0**
GADA	**Gvkgeada**	**2.31**	**46**	*ePN*		**Pn**	**07 00 02.4**	**+1.6**
GADA	**Gvkgeada**	**2.31**	**46**	*ePn*		**Pn**	**07 00 02.4**	**+1.6**
PYL	**PYLOS**	**2.32**	**225**	*ePB*		**Pn**	**07 00 02.7**	**+1.8**
PYL	**PYLOS**	**2.32**	**225**	*ePb*		**Pn**	**07 00 02.7**	**+1.8**
SMTH	**Samothraki Isl**	**2.33**	**36**	P		**Pn**	**06 59 59.5**	**-1.6**
SMTH	**Samothraki Isl**	**2.33**	**36**	*ePN*		**Pn**	**06 59 59.7**	**-1.4**
SMTH	**Samothraki Isl**	**2.33**	**36**	*ePn*		**Pn**	**06 59 59.7**	**-1.4**
EZN	**Ezine**	**2.36**	**58**	*ePN*		**Pn**	**07 00 03.2**	**+1.8**
EZN	**Ezine**	**2.36**	**58**	*ePn*		**Pn**	**07 00 03.3**	**+1.8**
KYTH	**Kithira**	**2.38**	**194**	P		**Pn**	**07 00 01.6**	**-0.2**
KYTH	**Kithira**	**2.38**	**194**	*ePN*		**Pn**	**07 00 01.9**	**+0.1**
KYTH	**Kithira**	**2.38**	**194**	P		**Pn**	**07 00 01.6**	**-0.2**
KYTH	**Kithira**	**2.38**	**194**	*ePn*		**Pn**	**07 00 01.9**	**+0.1**
VLS	**Valsamata**	**2.50**	**261**	*ePN*		**Pn**	**07 00 04.7**	**+1.3**
VLS	**Valsamata**	**2.50**	**261**	*ePn*		**Pn**	**07 00 04.7**	**+1.3**
SRS	**Serrai**	**2.52**	**358**	*ePN*		**Pn**	**07 00 03.0**	**-0.6**
SRS	**Serrai**	**2.52**	**358**	*ePn*		**Pn**	**07 00 03.0**	**-0.6**
SMG	**Samos**	**2.61**	**109**	*ePN*		**Pn**	**07 00 05.1**	**+0.2**
SMG	**Samos**	**2.61**	**109**	*ePn*		**Pn**	**07 00 05.1**	**+0.2**
KNT	**Kendrikon**	**2.64**	**346**	*ePN*		**Pn**	**07 00 06.1**	**+0.8**
KNT	**Kendrikon**	**2.64**	**346**	*ePN*		**Pn**	**07 00 05.9**	**+0.6**
KNT	**Kendrikon**	**2.64**	**346**	*ePn*		**Pn**	**07 00 05.9**	**+0.6**
ANKY	**Antikythira Is**	**2.75**	**187**	P		**Pn**	**07 00 06.4**	**-0.4**
ANKY	**Antikythira Is**	**2.75**	**187**	*ePN*		**Pn**	**07 00 06.7**	**-0.1**
ANKY	**Antikythira Is**	**2.75**	**187**	P		**Pn**	**07 00 06.4**	**-0.4**
ANKY	**Antikythira Is**	**2.75**	**187**	*ePn*		**Pn**	**07 00 06.7**	**-0.1**
NVR	**Nevrokopi**	**2.75**	**2**	*ePN*		**Pn**	**07 00 06.4**	**-0.5**
NVR	**Nevrokopi**	**2.75**	**2**	*ePn*		**Pn**	**07 00 06.4**	**-0.5**
NEST	**Nestorio**	**2.75**	**312**	*ePN*		**Pn**	**07 00 07.9**	**+0.9**
NEST	**Nestorio**	**2.75**	**312**	*ePn*		**Pn**	**07 00 07.9**	**+0.9**
GELI	**Tayfur-Gelibol**	**2.78**	**49**	*ePN*		**Pn**	**07 00 09.1**	**+1.8**
GELI	**Tayfur-Gelibol**	**2.78**	**49**	*ePn*		**Pn**	**07 00 09.1**	**+1.8**
ENEZ	**Enez**	**2.84**	**40**	*ePN*		**Pn**	**07 00 10.0**	**+2.0**
ENEZ	**Enez**	**2.84**	**40**	*ePn*		**Pn**	**07 00 10.0**	**+2.0**
FNA	**Florina**	**2.84**	**321**	*ePN*		**Pn**	**07 00 08.8**	**+0.7**
FNA	**Florina**	**2.84**	**321**	*ePn*		**Pn**	**07 00 08.8**	**+0.7**
VAY	**Valandovo**	**2.86**	**342**	*ePn*		**Pb**	**07 00 12.5**	**-1.4**
VAY	**Valandovo**	**2.86**	**342**	*ePn*		**Pn**	**07 00 07.6**	**-0.7**
ALN	**Alexandroupoli**	**2.91**	**37**	*ePN*		**Pn**	**07 00 10.8**	**+1.8**
ALN	**Alexandroupoli**	**2.91**	**37**	*ePN*		**Pn**	**07 00 07.9**	**-1.1**
ALN	**Alexandroupoli**	**2.91**	**37**	*ePn*		**Pn**	**07 00 07.9**	**-1.1**
ERIK	**Erikli-Kesan**	**2.98**	**45**	*ePN*		**Pn**	**07 00 12.0**	**+2.0**
ERIK	**Erikli-Kesan**	**2.98**	**45**	*ePn*		**Pn**	**07 00 12.0**	**+2.0**
MMB	**Musomiste**	**2.99**	**360**	*iP*		**Pn**	**07 00 09.9**	**-0.2**
MMB	**Musomiste**	**2.99**	**360**	*eP*		**Pn**	**07 00 09.7**	**-0.4**
MMB	**Musomiste**	**2.99**	**360**	*eP*		**Pn**	**07 00 09.7**	**-0.4**
RZN	**Rozhen**	**3.18**	**13**	*eP*		**Pn**	**07 00 12.6**	**-0.3**
RZN	**Rozhen**	**3.18**	**13**	*eP*		**Pn**	**07 00 12.6**	**-0.3**
BODT	**Bodrum**	**3.22**	**117**	*ePN*		**Pn**	**07 00 14.2**	**+0.8**
BODT	**Bodrum**	**3.22**	**117**	*ePn*		**Pn**	**07 00 14.2**	**+0.8**
BALY	**Balya**	**3.23**	**68**	*iP*		**Pg**	**07 00 23.5**	**-1.3**
KRBG	**Karabiga-Canak**	**3.29**	**56**	*ePN*		**Pn**	**07 00 16.8**	**+2.5**
KRBG	**Karabiga-Canak**	**3.29**	**56**	*ePn*		**Pn**	**07 00 16.8**	**+2.5**
KKB	**Krupnik**	**3.30**	**352**	*eP*		**Pn**	**07 00 15.3**	**+0.9**
KKB	**Krupnik**	**3.30**	**352**	*eP*		**

SPN					*e*S	Sn	07 57 47.5	+4.9
GNL	**Ganaly**	**4.52**	**11**		*e*P	Pn	07 56 57.1	+3.6

ARO **12** *08:19:48.8, 12°N±36″×4″4E±1″0, h15km±99km, ML5.0*
DHMR **12** *08:19:53.9±1.4, 12°.03N×43°.71E, h2km±7km, ML4.9*
CSEM **12** *08:19:53.9, 12°.03N×43°.71E, h2km, ML4.9*
ISCJB **12** *08:19:59.8±0.9, 12°.06N±0°.07×43°.89E±0°.08, h10km, mb3.9/8, MS3.4/14, Error ellipse: s-maj=14.7km s-min=4.9km az=41.5*
IDC **12** *08:20:03.2±2.3, 11°.97N×43°.84E, h21km±5km, mb3.7/8, mb1 3.8/8, mb1mx3.5/47, mbtmp3.8/8, MS3.5/14, Ms1 3.5/14, ms1mx3.2/39, Error ellipse: s-maj=53.9km s-min=21.0km az=158.0*

ISC 12 08:19:54.7±1.1, 12°.07N±0°.06×43°.83E±0°.07, h10km, n35, σ1°90/25, mb3.9/8, MS3.4/14, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATA	**Atar**	**0.86**	**225**	*e*P	**Pg**	**08 20 10.4**	**-1.0**
TDD	**Tadjoura Ara**	**0.94**	**254**	*e*P	**Pb**	**08 20 12.5**	**-0.6**
ATD	**Arta Tunnel**	**1.10**	**241**	*e*P	**Pb**	**08 20 14.7**	**-1.2**
ATD				*e*S	**Sn**	**08 20 35.9**	**+4.4**
ARO	**Arta Observato**	**1.10**	**241**	*e*P	**Pb**	**08 20 15.0**	**-0.9**
ARO				*e*S	**Sn**	**08 20 36.3**	**+4.7**
TRBA	**At Turbah**	**1.19**	**14**	*i* P	**Pb**	**08 20 17.5**	**0.0**
TRBA				*i* S	**Sn**	**08 20 35.1**	**+1.1**
TRBA				AML	AML	08 20 47.1	
	comp=E,25μm,0.5s						
SGH	**Sud-Ghoubbet**	**1.33**	**242**	*e*P	**Pn**	**08 20 18.7**	**-0.8**
MAOD	**Malaho**	**1.57**	**271**	*e*P	**Pn**	**08 20 22.5**	**-0.2**
GBR	**Grand-Bara**	**1.62**	**236**	*e*P	**Pn**	**08 20 22.6**	**-0.8**
BDHA	**Al Bayda'**	**2.54**	**42**	*i* P	**Pb**	**08 20 40.1**	**-0.5**
BDHA				*i* S	**Sg**	**08 21 16.1**	**-0.4**
BDHA				AML	AML	08 21 33.3	
	comp=E,11μm,0.5s						
BDHA	**Al Bayda'**	**2.54**	**42**	*i* P	**Pb**	**08 20 40.1**	**-0.5**
BDHA				*i* S	**Sg**	**08 21 16.1**	**-0.4**
	comp=E,5μm,0.5s						
DHBB	**Dhamar BB**	**2.55**	**12**	*i* P	**Pb**	**08 20 40.4**	**-0.3**
DHBB				*i* S	**Sg**	**08 21 15.7**	**-1.0**
DHBB	**Dhamar BB**	**2.55**	**12**	*i* P	**Pb**	**08 20 40.4**	**-0.3**
DHBB				*i* S	**Sg**	**08 21 15.7**	**-1.0**
HAJJ	**Hajjah**	**3.62**	**357**	*i* P	**Pn**	**08 20 53.1**	**+2.1**
HAJJ				*i* S	**Sb**	**08 21 41.0**	**-2.0**
HAJJ				AML	AML	08 22 03.9	
	comp=E,6μm,0.7s						
HAJJ	**Hajjah**	**3.62**	**357**	*i* P	**Pn**	**08 20 53.1**	**+2.1**
HAJJ				*i* S	**Sb**	**08 21 41.0**	**-2.0**
	comp=E,3μm,0.7s						
FURI	**Furi**	**5.96**	**239**	P	**Pb**	**08 21 41.2**	**+2.2**
FURI				S	**Sg**	**08 23 03.6**	**-2.8**
ASF	**Jabal al Asfar**	**21.00**	**343**	P	P	08 24 46.7	+8.2
	comp=Z,1.2nm,0.3s,baz=217,slow=9.7,SNR=2.2						
GNI	**Garni**	**27.98**	**1**	LR	LR	08 38 21.1	
	comp=Z,50nm,20.8s,baz=170,slow=39						
GEYT	**Alibeck**	**28.75**	**24**	LR	LR	08 39 19.5	
	comp=Z,203nm,18.5s,baz=250,slow=40						
IDI	**Anoyia**	**28.79**	**327**	LR	LR	08 35 30.0	
	comp=Z,32nm,21.3s,baz=104,slow=32						
BRTR	**Keskin Array B**	**28.99**	**344**	P	P	08 26 02.5	+7.7
	comp=Z,1.2nm,0.7s,baz=159,slow=17,SNR=3.3						
BRTR				LR	LR	08 36 58.4	
	comp=Z,111nm,19.8s,baz=144,slow=35						
AKTO	**Aktyubinsk**	**39.99**	**14**	LR	LR	08 46 34.8	
	comp=Z,66nm,21.9s,baz=209,slow=40						
AKASG	**Malin Array Be**	**40.34**	**346**	pP	pP	08 27 45.8	+10
	comp=Z,0.3nm,0.2s,baz=166,slow=7.0,SNR=2.1						
AKASG				LR	LR	08 45 32.2	
	comp=Z,47nm,19.0s,baz=205,slow=38						
AAK	**Ala-Archa**	**40.44**	**35**	pP	pP	08 27 48.7	+12
	comp=Z,3.3nm,0.9s,baz=266,slow=9.7,SNR=4.1						
TORD	**Torodi Ar. Bea**	**41.10**	**276**	P	P	08 27 45.8	+6.6
	comp=Z,3.4nm,0.8s,baz=102,slow=8.2,SNR=4.4						
TORD				pP	pP	08 27 52.9	+11
	comp=Z,3.5nm,0.8s,baz=97,slow=7.8,SNR=20						
TORD				pPeP		08 29 52.8	
	comp=Z,0.9nm,1.0s,baz=100,slow=3.2,SNR=3.9						
TORD				LR	LR	08 45 19.9	
	comp=Z,53nm,19.1s,baz=95,slow=37						
GERES	**GERESS Array B**	**44.37**	**332**	P	P	08 28 11.6	+6.2
	comp=Z,0.7nm,0.4s,baz=123,slow=9.7,SNR=6.2						
GERES				LR	LR	08 46 59.1	
	comp=Z,20nm,22.0s,baz=66,slow=36						
MKAR	**Makanchi Array**	**47.38**	**36**	P	P	08 28 36.0	+6.9
	comp=Z,0.9nm,0.8s,baz=253,slow=9.8,SNR=7.5						
MKAR				pP	pP	08 28 42.6	+10
	comp=Z,3.5nm,0.8s,baz=242,slow=12,SNR=19						
MKAR				LR	LR	08 51 20.5	
	comp=Z,40nm,20.6s,baz=224,slow=40						
KURBB	**Kurchatov Arra**	**47.75**	**29**	P	P	08 28 39.4	+7.5
	comp=Z,0.3nm,0.3s,baz=243,slow=6.1,SNR=5.7						
KURBB				pP	pP	08 28 46.0	+11
	comp=Z,1.7nm,0.8s,baz=236,slow=7.1,SNR=6.0						
ESDC	**Sonseca Array**	**50.26**	**312**	pP	pP	08 29 05.9	+11
	comp=Z,0.3nm,0.4s,baz=102,slow=6.8,SNR=2.1						
FINES	**FINESS Array B**	**50.96**	**349**	P	P	08 29 04.4	+8.2
	comp=Z,0.6nm,0.5s,baz=175,slow=9.4,SNR=3.4						
FINES				pP	pP	08 29 10.1	+11
	comp=Z,0.9nm,0.6s,baz=148,slow=11,SNR=3.2						
FINES				LR	LR	08 51 49.7	
	comp=Z,41nm,19.0s,baz=145,slow=37						
ZALV	**Zalesovo Beam**	**52.84**	**29**	LR	LR	08 55 26.7	
	comp=Z,132nm,18.7s,baz=252,slow=40						
NOA	**NORSAR Array B**	**54.38**	**341**	LR	LR	08 54 08.5	
	comp=Z,31nm,19.6s,baz=115,slow=38						
ARCES	**ARCESS Array B**	**56.60**	**353**	P	P	08 29 59.1	+7.6
	comp=Z,3.7nm,1.1s,baz=131,slow=12,SNR=3.5						
ARCES				LR	LR	08 55 14.8	
	comp=Z,38nm,21.2s,baz=193,slow=36						
SONM	**Songino Array**	**62.80**	**42**	pP	pP	08 30 35.4	+11
	comp=Z,1.7nm,0.7s,baz=261,slow=6.9,SNR=2.6						
PETK	**Petropavlovsk-**	**94.18**	**34**	LR	LR	09 20 59.3	
	comp=Z,41nm,18.3s,baz=293,slow=39						
TXAR	**Lajitas Array**	**128.25**	**323**	pPKP	pPKPdf	08 39 16.3	+11
	comp=Z,0.4nm,0.9s,baz=96,slow=1.3,SNR=3.4						

IDC 12 08:30:51.7±2.2, 42°.38S×85°.27E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/43, mbtmp3.8/4, MS3.6/2, Ms1 3.6/2, ms1mx2.9/33, Error ellipse: s-maj=64.2km s-min=28.5km az=120.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**23.68**	**81**	T	T	09 00 52.9	
	baz=244,slow=74,SNR=18						
H01W3	**Cape Leeuwin H**	**23.68**	**81**	T	T	09 00 53.8	
	baz=244,slow=74,SNR=22						
H01W1	**Cape Leeuwin H**	**23.69**	**81**	T	T	09 00 54.2	
	baz=244,slow=74,SNR=18						
ASAR	**Alice Springs**	**44.20**	**81**	P	P	08 39 02.1	-0.4
	1.1nm,0.9s,baz=223,slow=8.4,SNR=7.1						
VNDA	**Vanda**	**46.14**	**163**	P	P	08 39 18.0	+0.7
	0.6nm,1.0s,baz=288,slow=9.0,SNR=3.4						
WRA	**Warramunga Arr**	**46.82**	**77**	P	P	08 39 23.2	-0.1
	2.5nm,1.0s,baz=230,slow=7.3,SNR=8.4						
QSPA	**South Pole Qui**	**47.78**	**180**	P	P	08 39 29.6	-0.8
	2.1nm,0.9s,baz=342,slow=1.0,SNR=11						
QSPA				LR	LR	08 59 04.8	
	comp=Z,81nm,18.4s,baz=295,slow=35						
DBIC	**Dimbokro**	**94.53**	**275**	LR	LR	09 21 30.3	
	comp=Z,23nm,18.4s,baz=120,slow=32						
INK	**Inuvik**	**146.95**	**25**	PKPbc	PKPbc	08 50 34.3	-0.6
	baz=330,slow=6.8						

ISCJB **12** *08:37:12.2±0.3, 0°.51N±0°.06×99°.73E±0°.06, h162km±4km, mb4.0/8, Error ellipse: s-maj=12.7km s-min=4.6km az=135.8*
IDC **12** *08:37:12.5±1.3, 0°.66N×100°.12E, h148km±11km, mb3.7/7, mb1 3.7/9, mb1mx3.4/44, mbtmp4.1/9, MS2.9/2, Ms1 2.9/2, ms1mx2.5/34, Error ellipse: s-maj=45.7km s-min=12.2km az=54.0*
DJA **12** *08:37:13.4±0.3, 1°N±3″×10°0E±°, h149km±5km, M4.7/22, mb4.9/7, mB5.4/5, MLv4.6/21, MLv4.6/22, Mw(mB)4.8/5*

ISC 12 08:37:13.6±0.6, 0°.51N±0°.06×99°.75E±0°.06, h164km±5km, n41, σ1°45/53, mb3.8/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**0.33**	**328**	P	**Pn**	**08 37 35.0**	**-0.8**
BKNI	**Bangkinang**	**1.30**	**98**	P	**Pn**	**08 37 42.0**	**-0.3**
BKNI				S	**Sn**	**08 38 02.6**	**-1.7**
BKNI	**Bangkinang**	**1.30**	**98**	P	**Pn**	**08 37 41.7**	**-0.6**
	baz=1.2,SNR=27						
BKNI				S	**Sn**	**08 38 03.2**	**-1.1**
	baz=1.2,SNR=5.5						
PDSI	**Padang**	**1.58**	**153**	P	**Pn**	**08 37 44.8**	**-0.3**
PDSI				S	**Sn**	**08 38 09.4**	**-0.1**
SDSI	**Sungai Dareh**	**2.21**	**131**	P	**Pn**	**08 37 51.9**	**0.0**
GSI	**Gunungsitoli**	**2.31**	**290**	P	**Pn**	**08 37 53.9**	**+0.7**
GSI				S	**Sn**	**08 38 22.1**	**-1.7**
PSI	**Prapat**	**2.42**	**340**	P	**Pn**	**08 37 52.6**	**-1.9**
	13nm,0.3s,baz=156,slow=9.5,SNR=82						
PSI				S	**Sn**	**08 38 22.5**	**-3.8**
	5.0nm,0.3s,baz=271,slow=22,SNR=14						
PSI				LR	LR	08 38 42.6	
	comp=Z,189nm,19.0s,baz=310,slow=38						
KCSI	**Kotacane, Aceh**	**3.58**	**327**	P	**Pn**	**08 38 08.2**	**-0.7**
SNSI	**Sinabang, Aceh**	**3.91**	**299**	P	**Pn**	**08 38 13.2**	**+0.2**
SNSI				S	**Sn**	**08 38 56.5**	**-2.8**
MASI	**Maura Aman, Be**	**4.40**	**146**	P	**Pn**	**08 38 20.4**	**+0.9**
DSRI	**Dabo**	**4.93**	**102**	P	**Pn**	**08 38 26.3**	**0.0**
LHMI	**Lhok Sumawe**	**5.46**	**329**	P	**Pn**	**08 38 32.1**	**-1.2**
	160nm,0.4s,6μm1.1nm1.1nm						
LHMI	**Lhok Sumawe**	**5.46**	**329**	P	**Pn**	**08 38 32.7**	**-0.6**
	baz=5.5,SNR=13						
LHSI	**Lahat**	**5.73**	**139**	P	**Pn**	**08 38 37.5**	**+0.7**
	344nm,0.9s,4μm1.1nm1.1nm						
MNAI	**Manna**	**5.80**	**147**	P	**Pn**	**08 38 36.7**	**-1.2**
	335nm,0.6s,18μm2.1nm2.1nm						
MNAI	**Manna**	**5.80**	**147**	P	**Pn**	**08 38 36.5**	**-1.4**
	baz=5.8,SNR=20						
MNAI				S	**Sn**	**08 39 42.4**	**-1.6**
	baz=5.8,SNR=9.1						
MDSI	**Maura Dua**	**6.65**	**138**	P	**Pn**	**08 38 48.7**	**-0.4**
	105nm,0.9s,0.3nm0.3nm						
BSI	**Banda Aceh**	**6.65**	**318**	P	**Pn**	**08 38 48.4**	**-0.7**
	120nm,1.0s,3μm0.9nm0.9nm						
KASI	**Kota Agung**	**7.64**	**142**	P	**Pn**	**08 38 59.5**	**-2.8**
CMAR	**Chiang Mai Arr**	**17.85**	**357**	P	**P**	**08 41 07.2**	**-3.2**
	0.5nm,0.3s,baz=192,slow=11,SNR=7.6						
ODAN	**Odare**	**28.77**	**337**	*e*P	**P**	**08 42 57.4**	**+1.1**
TAPN	**Taplejung**	**29.08**	**338**	*e*P	**P**	**08 43 00.3**	**+1.1**
RAMN	**Ramite**	**29.17**	**335**	*e*P	**P**	**08 43 01.3**	**+1.4**
JIRN	**Jiri**	**29.96**	**335**	*e*P	**P**	**08 43 08.3**	**+1.2**
	16nm,0.4s						
GUN	**Gumba**	**30.31**	**335**	*e*P	**P**	**08 43 11.2**	**+1.1**
	37nm,0.4s						
DMN	**Daman**	**30.39**	**334**	*e*P	**P**	**08 43 11.5**	**+0.9**
	5.4nm,0.4s						
KKN	**Kakani**	**30.46**	**334**	*e*P	**P**	**08 43 12.1**	**+0.8**
GKN	**Gorkha**	**30.93**	**333**	*e*P	**P**	**08 43 16.4**	**+1.0**
	9.6nm,0.3s						
KOLN	**Koldanda**	**31.21**	**332**	*e*P	**P**	**08 43 18.9**	**+1.0**
	18nm,0.5s						
WRA	**Warramunga Arr**	**39.52**	**123**	P	**P**	**08 44 27.2**	**-1.5**
	0.5nm,0.3s,baz=322,slow=11,SNR=34						
WRA				PcP	**PcP**	**08 46 33.3**	**+0.2**
	0.8nm,0.5s,baz=314,slow=2.5,SNR=12						
ASAR	**Alice Springs**	**40.96**	**128**	P	**P**	**08 44 38.9**	**-1.6**
	0.7nm,0.3s,baz=298,slow=7.9,SNR=25						
ASAR				PcP	**PcP**	**08 46 38.2**	**+0.4**
	1.3nm,0.6s,baz=313,slow=2.8,SNR=15						
HHC	**Hu-ho-hao-te**	**41.56**	**14**	*e*P	**P**	**08 44 47.6**	**+2.4**
HHC				pP	**pP**	**08 45 23.0**	**+2.0**
HHC				sP	**sP**	**08 45 41.2**	**+1.7**
HHC				PP	**PnPn**	**08 46 29.9**	**-1.3**
HHC				S	**S**	**08 50 51.2**	**+2.3**
HHC				sS	**sS**	**08 51 53.0**	**+1.6**
HHC				pmax	pmax		
	comp=Z,17nm,0.9s						
HHC				pmax	pmax		
	comp=Z,83nm,6.7s						
MKAR	**Makanchi Array**	**48.56**	**344**	P	**P**	**08 45 40.7**	**+0.5**
	comp=Z,2.2nm,0.3s,baz=148,slow=9.8,SNR=28						
STKA	**Stephens Creek**	**51.02**	**133**	P	**P**	**08 45 57.9**	**-1.2**
	comp=Z,1.8nm,0.6s,baz=314,slow=6.5,SNR=12						
ZALV	**Zalesovo Beam**	**54.67**	**349**	P	**P**	**08 46 25.6**	**+0.2**
	comp=Z,5.6nm,0.6s,baz=176,slow=6.6,SNR=10						
GNI	**Garni**	**63.56**	**315**	LR	LR	09 18 41.0	
	comp=Z,13nm,18.0s,baz=104,slow=39						
FINES	**FINESS Array B**	**81.78**	**332**	P	**P**	**08 49 14.2**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=95,slow=5.9,SNR=3.9						
ARCES	**ARCESS Array B**	**84.04**	**340**	P	**P**	**08 49 25.9**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=111,slow=3.1,SNR=10						
TXAR	**Lajitas Array**	**142.83**	**35**	PKhKP	PKPpre	08 56 25.3	
	comp=Z,0.1nm,0.4s,baz=271,slow=1.4,SNR=5.9						
TXAR				SKP		08 59 50.6	
	comp=Z,0.2nm,0.6s,baz=355,slow=1.0,SNR=4.6						
CPUP	**Villa Florida**	**146.15**	**219**	PKPbc	**PKPab**	**08 56 36.3**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=126,slow=3.4,SNR=3.8						
CFAA	**Coronel Fontan**	**147.05**	**199**	PKPbc	**PKPbc**	**08 56 38.0**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=148,slow=3.7,SNR=4.3						

NIED **12** *08:52:00, 37°.90N×141°.90E, h41km, Mw4.0 Best double couple: Mo1.32000×10¹⁵ NP1:φ₁81.00000°, δ22.00000°, λ70.00000°. NP2:φ₂22.00000°, δ69.00000°, λ98.00000°.*
ISCJB **12** *08:52:55.1±0.5, 37°.92N±0°.04×142°.09E±0°.05, h30km, mb3.8/13, MS3.1/7, Error ellipse: s-maj=6.1km s-min=4.9km az=43.6*
IDC **12** *08:52:58.0±0.7, 37°.94N×141°.96E, h40km±6km, mb3.6/13, mb1 3.8/16, mb1mx3.7/49, mbtmp3.8/16, ML3.5/3, MS3.1/10, Ms1 3.1/10, ms1mx2.9/33, Error ellipse: s-maj=19.1km s-min=14.5km az=106.0*
JMA **12** *08:52:57.7±0.1, 37°.94N×141°.91E, h43km±1km, M4.1*
JMA Felt I J1.

ISC 12 08:52:57.0±0.6, 37°.96N±0°.05×141°.98E±0°.06, h30km, n43, σ1°20/44, mb3.9/13, MS3.2/7, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.70**	**315**	⇓P	**Pn**	**08 53 11.1**	**+0.3**
JIO				S	**Sb**	**08 53 20.1**	**+0.1**
JMM	**Marumori**	**0.94**	**265**	⇓P	**Pn**	**08 53 13.9**	**-0.3**
JMM				*e*S	**Sn**	**08 53 25.6**	**-1.0**
JFK	**Kawauchi**	**1.06**	**236**	⇓P	**Pn**	**08 53 15.1**	**-0.7**
JFK				S	**Sn**	**08 53 27.5**	**-2.0**
JOU	**Okura**	**1.11**	**292**	⇓P	**Pn**	**08 53 16.9**	**+0.4**
JOU				*e*S	**Sn**	**08 53 30.7**	**-0.2**
JMK	**Ichinoseki**	**1.15**	**329**	⇓P	**Pn**	**08 53 17.6**	**+0.5**
JMK				S	**Sn**	**08 53 31.9**	**0.0**
JFT	**Otama**	**1.37**	**252**	P	**Pn**	**08 53 20.7**	**+0.6**
JFT				S	**Sn**	**08 53 37.5**	**+0.2**
JYS	**Shirataka**	**1.53**	**280**	P	**Pn**	**08 53 22.6**	**+0.3**
JYK	**Kaneyama**	**1.59**	**307**	P	**Pn**	**08 53 23.7**	**+0.6**
JOM	**Ohasama**	**1.60**	**341**	⇓P	**Pn**	**08 53 24.2**	**+0.9**
JOM				S	**Sn**	**08 53 43.5**	**+0.5**
JRG	**Rokugo**	**1.78**	**324**	⇓P	**Pn**	**08 53 26.9**	**+1.2**
JFY	**Yanaizu**	**1.89**	**254**	⇓P	**Pn**	**08 53 27.6**	**+0.4**
JYA	**Atsumi**	**1.89**	**290**	P	**Pn**	**08 53 28.0**	**+0.8**
MJAR	**Matsushiro Arr**	**3.32**	**246**	P	**Pn**	**08 53 48.3**	**+1.3**
	5.8nm,0.3s,baz=93,slow=15,SNR=33						
MJAR				S	**Sb**	**08 54 33.5**	**-1.7**
	8.2nm,0.3s,baz=206,slow=7.3,SNR=6.3						
MJAR				LR	LR	08 55 18.0	
	comp=Z,222nm,18.4s,baz=75,slow=43						
MAT	**Matsushiro**	**3.32**	**246**	P	**Pn**	**08 53 48.2**	**+1.2**
MAT				S	**Sn**	**08 54 29.4**	**+3.9**
ASAJ	**Asahikawa**	**6.17**	**4**	P	**Pn**	**08 54 26.2**	**+0.2**
	2.4nm,0.3s,baz=207,slow=16,SNR=14						
ASAJ				S	**Sn**	**08 55 33.3**	**-2.2**
	1.7nm,0.3s,baz=204,slow=20,SNR=2.1						
USRK	**Ussuriysk Ar.**	**9.78**	**313**	P	**Pn**	**08 55 17.0**	**+1.5**
	0.5nm,0.3s,baz=119,slow=14,SNR=10						
JNU	**Nakatsue**	**10.25**	**245**	LR	LR	08 59 39.7	
	comp=Z,97nm,19.6s,baz=54,slow=39						
KSRS	**Korea Array**	**11.15**	**272**	P	Pn	08 55 37.9	+3.6
	0.3nm,0.3s,baz=82,slow=14,SNR=6.8						
KSRS				LR	LR	08 59 21.1	
	comp=Z,72nm,20.3s,baz=81,slow=34						
GUMO	**Guam**	**24.41**	**173**	LR	LR	09 09 52.2	
	comp=Z,8.4nm,19.1s,baz=21,slow=42						
SEY	**Seymchan**	**25.80**	**11**	P	**P**	**08 58 25.8**	**+0.7**
	2.3nm,0.7s,baz=192,slow=7.2,SNR=5.5						
SONM	**Songino Array**	**27.65**	**302**	P	**P**	**08 58 41.6**	**-0.5**
	1.2nm,0.3s,baz=106,slow=11,SNR=3.8						
SONM				LR	LR	09 09 47.4	
	comp=Z,68nm,21.1s,baz=155,slow=36						
H11N2	**WAKE ISLAND Hy**	**28.26**	**123**	T	T	09 29 10.0	
	baz=316,slow=75,SNR=658						
H11N1	**WAKE ISLAND Hy**	**28.27**	**123**	T	T	09 29 10.7	
	baz=316,slow=75,SNR=709						
H11N3	**WAKE ISLAND Hy**	**28.27**	**123**	T	T	09 29 10.9	
	baz=316,slow=75,SNR=518						
H11S1	**WAKE ISLAND Hy**	**29.01**	**125**	T	T	09 29 37.2	
	baz=317,slow=76,SNR=294						
H11S3	**WAKE ISLAND Hy**	**29.01**	**125**	T	T	09 29 59.2	
	baz=317,slow=76,SNR=436						
H11S2	**WAKE ISLAND Hy**	**29.02**	**125**	T	T	09 30 07.4	
	baz=317,slow=76,SNR=232						
TLY	**Talaya**	**30.07**	**310**	LR	LR	09 12 10.6	
	comp=Z,54nm,19.2s,baz=199,slow=38						
MKAR	**Makanchi Array**	**44.01**	**301**	P	**P**	**09 01 01.1**	**-0.6**
	0.5nm,0.4s,baz=87,slow=6.4,SNR=7.0						
MKAR				LR	LR	09 20 35.5	
	comp=Z,16nm,18.3s,baz=151,slow=38						
ILAR	**Eielson Array**	**48.47**	**33**	P	**P**	**09 01 37.0**	**+0.5**
	0.5nm,0.7s,baz=262,slow=6.0,SNR=4.8						
WRA	**Warramunga Arr**	**58.04**	**188**	P	**P**	**09 02 46.0**	**-1.2**
	1.1nm,0.7s,baz=6.5,slow=7.2,SNR=12						
WRA				pP	**pP**	**09 02 58.5**	**+2.1**
	2.2nm,0.7s,baz=6.0,slow=7.1,SNR=8.5						
ASAR	**Alice Springs**	**61.77**	**188**	P	**P**	**09 03 12.4**	**-0.4**
	0.4nm,0.7s,baz=10,slow=5.7,SNR=4.1						
YKA	**Yellowknife Ar**	**62.78**	**31**	P	**P**	**09 03 19.0**	**-0.1**
	0.3nm,0.6s,baz=300,slow=5.7,SNR=6.8						
ARCES	**ARCESS Array B**	**63.29**	**339**	P	**P**	**09 03 21.4**	**-1.0**
	1.0nm,0.5s,baz=55,slow=7.8,SNR=5.5						
FINES	**FINESS Array B**	**68.20**	**332**	LR	LR	09 36 30.2	
	comp=Z,20nm,20.5s,baz=4.5,slow=38						
KBZ	**Khabaz**	**70.64**	**311**	P	**P**	**09 04 09.7**	**+0.1**
	1.9nm,0.8s,baz=237,slow=24,SNR=4.8						
NB2	**NORSAR Subarra**	**73.50**	**337**	P	**P**	**09 04 26.2**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**73.50**	**337**	P	**P**	**09 04 25.9**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=40,slow=6.0,SNR=4.2						
NOA				LR	LR	09 39 17.7	
	comp=Z,18nm,21.6s,baz=25,slow=38						
AKASG	**Malin Array Be**	**73.84**	**322**	P	**P**	**09 04 28.0**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=47,slow=5.7,SNR=4.4						
PDAR	**Pinedale Array**	**76.70**	**46**	P	**P**	**09 04 44.6**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=308,slow=3.1,SNR=3.0						
PDAR				pP	**PcP**	**09 04 56.5**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=325,slow=1.8,SNR=3.8						
SCHQ	**Schefferville**	**84.32**	**16**	LR	LR	09 46 47.2	
	comp=Z,19nm,18.3s,baz=57,slow=38						
TXAR	**Lajitas Array**	**89.20**	**53**	P	**P**	**09 05 50.7**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=272,slow=1.9,SNR=3.8						
TXAR				pP	**pP**	**09 06 03.0**	**+3.1**
	comp=Z,0.4nm,0.7s,baz=298,slow=3.8,SNR=4.6						
LPAZ	**La Paz**	**145.84**	**59**	PKPbc	**PKPdf**	**09 12 33.9**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=7.5,slow=3.9,SNR=5.5						

IDC **12** *09:08:05.4±4.7, 37°.22N×72°.26E, h175km±35km, mb3.2/3, mb1 3.3/9, mb1mx3.1/34, mbtmp3.9/9, Error ellipse: s-maj=55.7km s-min=29.1km az=143.0*
NNC **12** *09:08:12.9±5.2, 37°.88N×71°.97E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=50.1km s-min=14.7km az=158.0*

ISC 12 09:08:06.9±2.7, 37°.4N±0°.2×72°.23E±0°.10, h130km, n20, σ2°40/21, mb3.6/3, 5C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.77**	**21**	⇑Pn	Pn	09 08 54.4	+3.7
	39nm,0.4s						
SFK				⇓Sn	**Sn**	**09 09 28.2**	**+3.8**
	166nm,0.5s						
DZET	**Dzherino**	**3.02**	**298**	⇑Pn	**Pn**	**09 08 56.7**	**+2.9**
	21nm,0.3s						
DZET				⇓Sn	**Sn**	**09 09 31.8**	**+1.8**
	144nm,0.4s						
AML	**Almayashu**	**4.83**	**13**	P	**Pn**	**09 09 19.6**	**+1.6**
	SNR=23						
UCH	**Uchtor**	**5.11**	**19**	P	**Pn**	**09 09 23.0**	**+1.3**
	SNR=16						
KZA	**Kyzart**	**5.20**	**26**	P	**Pn**	**09 09 24.0**	**+1.1**
	SNR=9.2						
EKS2	**Erkin-Say**	**5.36**	**12**	P	**Pn**	**09 09 26.5**	**+1.7**
	SNR=8.4						
AAK	**Ala-Archa**	**5.48**	**18**	P	**Pn**	**09 09 28.4**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOIR		**0.26**	**301**	⇓*i*P	Pg	09 12 09.0	+0.5
VOIR		**0.26**	**301**	S	Sg	09 12 13.2	+1.2
VOIR		**0.26**	**301**	⇓*i*P	Pg	09 12 09.0	+0.5
VOIR				*i* S	Sg	09 12 13.2	+1.2
MLR	**Muntele Rosu**	**0.45**	**66**	⇑*i*P	Pg	09 12 12.8	+0.4
MLR	**Muntele Rosu**	**0.45**	**66**	S	Sb	09 12 20.3	-1.0
MLR	**Muntele Rosu**	**0.45**	**66**	⇑*i*P	Pg	09 12 12.8	+0.4
MLR				*i* S	Sb	09 12 20.3	-1.0
MLR	**Muntele Rosu**	**0.45**	**66**	S	Sb	09 12 20.3	-1.0
ARR	**Arges**	**0.52**	**277**	⇓*i*P	Pb	09 12 14.5	-0.6
ARR	**Arges**	**0.52**	**277**	S	Sb	09 12 22.0	-0.9
ARR	**Arges**	**0.52**	**277**	⇓*i*P	Pb	09 12 14.5	-0.6
ARR				*i* S	Sb	09 12 22.0	-0.9
ARR	**Arges**	**0.52**	**277**	S	Sb	09 12 22.0	-0.9
DOPR	**Dopca**	**0.66**	**2**	⇑*i*P	Pb	09 12 17.4	-0.1
DOPR	**Dopca**	**0.66**	**2**	⇑*i*P	Pb	09 12 17.4	-0.1
DOPR				*i* S	Sb	09 12 26.9	-0.2

*NNC **12** 09:32:45.9±1.8,42.˚65N×78.˚90E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=19.1km s-min=4.1km az=148.0*
*KRNET **12** 09:32:47.5±0.1,42.˚31N×78.˚86E, h28km, mb4.0*
ISC 12 09:32:46.2±1.8,**42.˚4N**±0.˚1×**78.˚94E**±0.˚07,**h35**km±11km, **n13,σ1♀34**/17,**11C-8D,Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANVS	**Anan'yevo** baz=299	**1.03**	**295**	⇓*i*P	**Pn**	**09 33 03.1**	**-1.3**
ANVS				⇓*e*S	**Sn**	**09 33 16.7**	**-1.0**
PDGK	**Podgornoye** 29nm,0.3s	**1.06**	**22**	⇓P	Pn	09 33 01.3	-3.2
PDGK				⇑S	Sn	09 33 12.8	-5.2
KDJ	**Kajisay** baz=262	**1.32**	**261**	*e*P	**Pn**	**09 33 07.8**	**-0.5**
KDJ				*e*S	**Sn**	**09 33 23.8**	**-1.0**
KNDC	**Almaty**	**1.69**	**302**	⇓Sn	**Sn**	**09 33 34.6**	**+0.9**
ULHL	**Ulahol** baz=269	**2.00**	**268**	⇑*i*P	**Pb**	**09 33 21.0**	**-1.1**
ULHL				⇑*i*S	**Sb**	**09 33 47.2**	**+0.5**
BOOM	**Boomskoye usch** baz=275	**2.22**	**275**	*e*P	**Pb**	**09 33 26.0**	**+0.2**
BOOM				*e*S	**Sb**	**09 33 54.5**	**+1.5**
NRN	**Naryn** baz=248	**2.38**	**248**	*e*P	**Pb**	**09 33 28.0**	**-0.5**
NRN				*e*S	**Sb**	**09 33 58.6**	**+1.1**
TKM2	**Tokmak 2** 6.0nm,0.5s	**2.53**	**284**	⇓Pn	**Pn**	**09 33 28.0**	**+3.1**
TKM2				⇑Sn	**Sb**	**09 34 01.1**	**-0.7**
AAK	**Ala-Archa** 1.8nm,0.3s	**3.30**	**276**	⇑Pg	**Pb**	**09 33 42.9**	**-1.1**
AAK				⇓Lg	Lg	09 34 29.3	
SFK	**Sufi-Kurgan** 2.3nm,0.4s	**4.72**	**242**	⇑Lg	Lg	09 35 17.5	
MK31	**Makanchi Array** 0.1nm,0.3s,baz=268,slow=10,SNR=11	**5.05**	**27**	⇑Pn	**Pn**	**09 34 00.5**	**+1.1**
MK31				⇑Pg	**Pb**	**09 34 13.1**	**-0.7**
MK31	0.5nm,0.3s			⇓Sn	**Sn**	**09 34 55.6**	**-0.9**
MK31	1.6nm,0.5s,baz=73,slow=32,SNR=5.4			⇑Lg	Lg	09 35 17.4	
KK31	**Karatay Array** 0.5nm,0.5s,baz=91,slow=16,SNR=5.7	**6.25**	**280**	⇑Pg	Pb	09 34 38.3	+4.1
KK31				⇑Lg	Lg	09 36 01.6	
KURK	**Kurchatov** 1.4nm,0.7s	**8.37**	**359**	1.6nm,0.4s,baz=92,slow=29,SNR=14 ⇓Lg	Lg	09 36 58.3	

*ISCJB **12** 09:41:21.7±0.5,38.˚77N±0.˚01×25.˚86E±0.˚02, h12km±4km, Error ellipse: s-maj=3.3km s-min=2.3km az=161.6*
*ATH **12** 09:41:21.2,38.˚78N×25.˚87E, h23km±1km, MD3.5/18*
*DDA **12** 09:41:21.6,38.˚79N×25.˚98E, h29km, MD3.3*
*THE **12** 09:41:22.2,38.˚79N×25.˚94E, h13km±1km, ML3.4/7, Error ellipse: s-maj=2.0km s-min=0.7km az=80.0*
*ISK **12** 09:41:22.4,38.˚79N×25.˚98E, h9km, ML3.5*
*CSEM **12** 09:41:22.1±0.1,38.˚75N×25.˚88E, h10km, ML3.5, Error ellipse: s-maj=3.1km s-min=2.8km az=72.0*
ISC 12 09:41:22.1±0.9,**38.78N**±0.˚01×**25.92E**±0.˚02,**h17**km±7km, **n163,σ1♀08**/198,**3C-2D,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.40**	**164**	*e*PG	**Pg**	**09 41 30.7**	**+0.3**
CHOS				*e*SG	**Sb**	**09 41 37.3**	**+0.6**
CHOS	**Chios island**	**0.40**	**164**	P	**Pg**	**09 41 30.6**	**+0.2**
CHOS				S	**Sg**	**09 41 36.1**	**+0.1**
CHOS	**Chios island**	**0.40**	**164**	*e*PB	**Pg**	**09 41 30.6**	**+0.2**
CHOS				*e*SB	**Sg**	**09 41 36.3**	**+0.3**
CHOS	**Chios island**	**0.40**	**164**	*e*Pg	**Pg**	**09 41 30.7**	**+0.3**
CHOS				*e*Sb	**Sg**	**09 41 36.3**	**+0.3**
CHOS				*e*Sg	**Sb**	**09 41 37.3**	**+0.6**
SIGR	**SIGRI**	**0.44**	**354**	*e*PG	**Pb**	**09 41 31.8**	**+0.4**
SIGR	**SIGRI**	**0.44**	**354**	P	**Pg**	**09 41 30.7**	**-0.2**
SIGR				S	**Sg**	**09 41 36.6**	**-0.4**
SIGR	**SIGRI**	**0.44**	**354**	*e*PB	**Pg**	**09 41 30.8**	**-0.2**
SIGR				*e*SB	**Sg**	**09 41 36.7**	**-0.3**
SIGR	**SIGRI**	**0.44**	**354**	*e*Pb	**Pg**	**09 41 30.8**	**-0.2**
SIGR	**SIGRI**	**0.44**	**354**	*e*Pg	**Pb**	**09 41 31.8**	**+0.4**
SIGR				S	**Sg**	**09 41 36.6**	**-0.4**
PRK	**Paraskevi**	**0.55**	**30**	P	**Pg**	**09 41 32.3**	**-0.7**
PRK				S	**Sg**	**09 41 40.5**	**+0.2**
PRK	**Paraskevi**	**0.55**	**30**	*e*PN	**Pg**	**09 41 32.4**	**-0.6**
PRK				*e*SN	**Sb**	**09 41 40.7**	**0.0**
PRK	**Paraskevi**	**0.55**	**30**	*e*Pn	**Pg**	**09 41 32.4**	**-0.6**
PRK				*e*Sn	**Sb**	**09 41 40.7**	**0.0**
URLA	**Izmir**	**0.68**	**128**	*i* S	**Sn**	**09 41 46.5**	**-0.6**
URLA	**Izmir**	**0.68**	**128**	*i* S	**Sn**	**09 41 46.5**	**-0.6**
ZEY	**˙zmir**	**0.71**	**139**	*i* P	**Pb**	**09 41 35.7**	**-0.2**
ZEY				*i* S	**Sg**	**09 41 45.0**	**-0.4**
AYVA	**Ayvalik**	**0.80**	**48**	*i* P	**Pb**	**09 41 37.0**	**-0.6**
AYVA				*i* S	**Sb**	**09 41 47.4**	**-0.7**
AYVA	**Ayvalik**	**0.80**	**48**	*i* P	**Pb**	**09 41 37.0**	**-0.6**
AYVA				*i* S	**Sb**	**09 41 47.4**	**-0.7**
BLCB	**Balcova**	**0.96**	**114**	*e*PG	**Pn**	**09 41 40.8**	**0.0**
BLCB	**Balcova**	**0.96**	**114**	*e*Pg	**Pn**	**09 41 40.8**	**0.0**
BOZC	**Bozcaada**	**1.07**	**6**	*i* P	**Pb**	**09 41 41.7**	**-0.4**
BOZC				*i* S	**Sg**	**09 41 56.8**	**0.0**
EZN	**Ezine**	**1.09**	**17**	*e*PG	**Pg**	**09 41 43.3**	**0.0**
EZN	**Ezine**	**1.09**	**17**	*e*Pg	**Pg**	**09 41 43.3**	**0.0**
IZM	**Izmir**	**1.12**	**109**	*e*PN	**Pn**	**09 41 43.0**	**0.0**
IZM	**Izmir**	**1.12**	**109**	*e*Pn	**Pn**	**09 41 43.0**	**0.0**
LIA	**Limnos Island**	**1.26**	**333**	P	**Pb**	**09 41 45.1**	**-0.2**
LIA				S	**Sb**	**09 42 00.8**	**-0.4**
LIA	**Limnos Island**	**1.26**	**333**	*e*PN	**Pb**	**09 41 45.2**	**-0.1**
LIA				*e*SN	**Sn**	**09 42 01.3**	**0.0**
LIA	**Limnos Island**	**1.26**	**333**	*e*Pn	**Pb**	**09 41 45.2**	**-0.1**
LIA				S	**Sb**	**09 42 00.8**	**-0.4**
LIA				*e*Sn	**Sn**	**09 42 01.3**	**0.0**
SMG	**Samos**	**1.29**	**145**	P	**Pn**	**09 41 45.2**	**-0.1**
SMG				S	**Sb**	**09 42 02.2**	**+0.1**
SMG	**Samos**	**1.29**	**145**	*e*PN	**Pb**	**09 41 46.2**	**+0.3**
SMG				*e*SN	**Sg**	**09 42 04.6**	**+0.8**
SMG	**Samos**	**1.29**	**145**	P	**Pn**	**09 41 45.2**	**-0.1**
SMG	**Samos**	**1.29**	**145**	*e*Pn	**Pb**	**09 41 46.2**	**+0.3**
SMG				S	**Sb**	**09 42 02.2**	**+0.1**
SMG				*e*Sn	**Sg**	**09 42 04.6**	**+0.8**
GADA	**Gvkgeada**	**1.41**	**359**	*e*PN	**Pb**	**09 41 48.3**	**+0.3**
GADA	**Gvkgeada**	**1.41**	**359**	*e*Pn	**Pb**	**09 41 48.3**	**+0.3**
AKS	**Akhisar**	**1.48**	**85**	*e*PN	**Pb**	**09 41 49.2**	**0.0**
AKS	**Akhisar**	**1.48**	**85**	*e*Pn	**Pb**	**09 41 49.2**	**0.0**
AKHS	**Akhisar**	**1.49**	**85**	*i* P	**Pn**	**09 41 48.2**	**+0.2**
AKHS	**Akhisar**	**1.49**	**85**	*i* P	**Pn**	**09 41 48.2**	**+0.2**
GCAM	**G?zelcaml?**	**1.49**	**136**	*i* P	**Pg**	**09 41 50.7**	**-0.1**
GCAM				*i* S	**Sg**	**09 42 10.2**	**-0.1**
GCAM	**G?zelcaml?**	**1.49**	**136**	*i* P	**Pg**	**09 41 50.7**	**-0.1**
GCAM				*i* S	**Sg**	**09 42 10.2**	**-0.1**
AOS	**Alonnisos**	**1.64**	**285**	*e*PN	**Pg**	**09 41 53.0**	**-0.6**
AOS	**Alonnisos**	**1.64**	**285**	P	**Pn**	**09 41 50.5**	**+0.4**
AOS	**Alonnisos**	**1.64**	**285**	*e*PN	**Pb**	**09 41 51.2**	**-0.6**
AOS				*e*SN	**Sn**	**09 42 10.7**	**0.0**
AOS	**Alonnisos**	**1.64**	**285**	P	**Pn**	**09 41 50.5**	**+0.4**
AOS	**Alonnisos**	**1.64**	**285**	*e*Pn	**Pb**	**09 41 51.2**	**-0.6**
AOS				*e*Sn	**Sn**	**09 42 10.7**	**0.0**
BALY	**Balya**	**1.64**	**53**	*i* P	**Pn**	**09 41 50.0**	**-0.1**
BALY	**Balya**	**1.64**	**53**	*i* P	**Pn**	**09 41 50.0**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.68**	**15**	*e*PN	**Pb**	**09 41 52.3**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.68**	**15**	*e*Pn	**Pb**	**09 41 52.3**	**-0.2**
SMTH	**Samothraki Isl**	**1.72**	**350**	P	**Pn**	**09 41 51.2**	**0.0**
SMTH				S	**Sn**	**09 42 12.5**	**-0.3**
SMTH	**Samothraki Isl**	**1.72**	**350**	*e*PB	**Pn**	**09 41 51.1**	**-0.1**
SMTH	**Samothraki Isl**	**1.72**	**350**	P	**Pn**	**09 41 51.2**	**0.0**
SMTH				S	**Sn**	**09 42 12.5**	**-0.3**
LPK	**Lapseki**	**1.72**	**22**	*e*PN	**Pb**	**09 41 52.8**	**-0.5**
LPK	**Lapseki**	**1.72**	**22**	*e*Pn	**Pb**	**09 41 52.8**	**-0.5**
APE	**Apeiranthos**	**1.73**	**190**	P	**Pn**	**09 41 50.6**	**-0.8**
APE	**Apeiranthos**	**1.73**	**190**	*e*PB	**Pn**	**09 41 50.9**	**-0.5**
APE	**Apeiranthos**	**1.73**	**190**	⇑*i*P	**Pn**	**09 41 50.8**	**-0.6**
APE	**Apeiranthos**	**1.73**	**190**	S	**Sn**	**09 42 13.5**	**+0.4**
APE	**Apeiranthos**	**1.73**	**190**	P	**Pn**	**09 41 50.6**	**-0.8**
APE	**Apeiranthos**	**1.73**	**190**	*e*Pb	**Pn**	**09 41 50.9**	**-0.5**
BALB	**Balikesir**	**1.75**	**60**	*e*PN	**Pb**	**09 41 52.9**	**-0.9**
BALB	**Balikesir**	**1.75**	**60**	*e*Pn	**Pb**	**09 41 52.9**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**1.76**	**117**	*e*PN	**Pb**	**09 41 53.2**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**1.76**	**117**	*e*Pn	**Pb**	**09 41 53.2**	**-0.8**
MRKA	**Markates**	**1.82**	**269**	*e*PN	**Pn**	**09 41 53.1**	**+0.4**
MRKA	**Markates**	**1.82**	**269**	*e*Pn	**Pn**	**09 41 53.1**	**+0.4**
AYDN	**Tasoluk**	**1.91**	**125**	*i* P	**Pb**	**09 41 55.8**	**-0.6**
AYDN	**Tasoluk**	**1.91**	**125**	*i* P	**Pb**	**09 41 55.8**	**-0.6**
KRBG	**Karabiga-Canak**	**1.94**	**33**	*e*PN	**Pb**	**09 41 55.9**	**-1.0**
KRBG	**Karabiga-Canak**	**1.94**	**33**	*e*Pn	**Pb**	**09 41 55.9**	**-1.0**
ERIK	**Erikli-Kesan**	**1.95**	**13**	*e*PN	**Pb**	**09 41 56.1**	**-1.0**
ERIK	**Erikli-Kesan**	**1.95**	**13**	*e*Pn	**Pb**	**09 41 56.1**	**-1.0**
SKIA	**Skiathos**	**1.95**	**282**	*e*PN	**Pn**	**09 41 55.2**	**+0.8**
SKIA	**Skiathos**	**1.95**	**282**	*e*Pn	**Pn**	**09 41 55.2**	**+0.8**
PAIG	**Paliouri**	**2.08**	**304**	*e*PN	**Pn**	**09 41 56.5**	**+0.3**
PAIG	**Paliouri**	**2.08**	**304**	*e*Pn	**Pn**	**09 41 56.5**	**+0.3**
MANT	**Manisa**	**2.09**	**97**	*i* P	**Pn**	**09 41 56.6**	**+0.1**
MANT				*i* S	**Sn**	**09 42 20.5**	**-1.7**
MANT	**Manisa**	**2.09**	**97**	*i* P	**Pn**	**09 41 56.6**	**+0.1**
MANT				*i* S	**Sn**	**09 42 20.5**	**-1.7**
BDRM	**Kayabasi**	**2.09**	**144**	*i* P	**Pn**	**09 41 56.7**	**+0.4**
BDRM	**Kayabasi**	**2.09**	**144**	*i* P	**Pn**	**09 41 56.7**	**+0.4**
SMIA	**Simia**	**2.12**	**274**	*e*PN	**Pn**	**09 41 57.5**	**+0.8**
SMIA	**Simia**	**2.12**	**274**	*e*Pn	**Pn**	**09 41 57.5**	**+0.8**
ALN	**Alexandroupoli**	**2.12**	**3**	*e*PN	**Pb**	**09 41 58.8**	**-1.2**
ALN	**Alexandroupoli**	**2.12**	**3**	P	**Pn**	**09 41 56.7**	**0.0**
ALN				S	**Sn**	**09 42 23.4**	**+0.7**
ALN	**Alexandroupoli**	**2.12**	**3**	*e*PB	**Pn**	**09 41 56.8**	**0.0**
ALN	**Alexandroupoli**	**2.12**	**3**	P	**Pn**	**09 41 56.7**	**0.0**
ALN	**Alexandroupoli**	**2.12**	**3**	*e*Pn	**Pb**	**09 41 58.8**	**-1.2**
ALN				S	**Sn**	**09 42 23.4**	**+0.7**
RKY	**Sarkoy-Tekirda**	**2.14**	**27**	*e*PN	**Pb**	**09 41 58.9**	**-1.6**
RKY	**Sarkoy-Tekirda**	**2.14**	**27**	*e*Pn	**Pb**	**09 41 58.9**	**-1.6**
SART	**Tekirdag**	**2.15**	**27**	*i* P	**Pn**	**09 41 57.4**	**+0.3**
SART				*i* S	**Sb**	**09 42 27.3**	**+0.4**
SART	**Tekirdag**	**2.15**	**27**	*i* P	**Pn**	**09 41 57.4**	**+0.3**
SART				*i* S	**Sb**	**09 42 27.3**	**+0.4**
OUR	**Ouranopolis**	**2.16**	**317**	*e*PN	**Pb**	**09 41 60.0**	**-0.7**
OUR	**Ouranopolis**	**2.16**	**317**	P	**Pn**	**09 41 57.3**	**+0.1**
OUR	**Ouranopolis**	**2.16**	**317**	*e*PB	**Pn**	**09 41 58.0**	**+0.8**
OUR	**Ouranopolis**	**2.16**	**317**	P	**Pn**	**09 41 57.3**	**+0.1**
OUR	**Ouranopolis**	**2.16**	**317**	*e*Pb	**Pn**	**09 41 58.0**	**+0.8**
OUR	**Ouranopolis**	**2.16**	**317**	*e*Pn	**Pb**	**09 42 00.0**	**-0.7**
NAIG	**Nisos Aigina**	**2.16**	**243**	*e*PN	**Pn**	**09 41 57.2**	**-0.1**
NAIG	**Nisos Aigina**	**2.16**	**243**	*e*Pn	**Pn**	**09 41 57.2**	**-0.1**
KULA	**Kula-Manisa**	**2.17**	**96**	*e*PN	**Pn**	**09 41 59.0**	**+1.6**
KULA	**Kula-Manisa**	**2.17**	**96**	*e*Pn	**Pn**	**09 41 59.0**	**+1.6**
DEMI	**Demirci**	**2.20**	**82**	*i* P	**Pn**	**09 41 58.3**	**+0.4**
DEMI	**Demirci**	**2.20**	**82**	*i* P	**Pn**	**09 41 58.3**	**+0.4**
MRMT	**Marmara Adasi**	**2.24**	**35**	*e*PN	**Pb**	**09 42 00.7**	**-1.4**
MRMT	**Marmara Adasi**	**2.24**	**35**	*e*Pn	**Pb**	**09 42 00.7**	**-1.4**
DST	**Dursunbey**	**2.26**	**68**	*e*PN	**Pn**	**09 42 00.1**	**+1.4**
DST	**Dursunbey**	**2.26**	**68**	*e*Pn	**Pn**	**09 42 00.1**	**+1.4**
KCTX	**Karacabey (Bur**	**2.40**	**51**	*e*PN	**Pn**	**09 42 02.3**	**+1.6**
KCTX	**Karacabey (Bur**	**2.40**	**51**	*e*Pn	**Pn**	**09 42 02.3**	**+1.6**
LTK	**Loutraki**	**2.44**	**253**	*e*PN	**Pn**	**09 42 01.6**	**+0.5**
PLG	**Polygyros**	**2.49**	**311**	*e*PN	**Pn**	**09 42 00.7**	**-1.1**
ORLT	**Orhaneli**	**2.63**	**60**	*e*PN	**Pn**	**09 42 05.7**	**+1.9**
ORLT	**Orhaneli**	**2.63**	**60**	*e*Pn	**Pn**	**09 42 05.7**	**+1.9**
CRLT	**Corlu**	**2.73**	**30**	*e*PN	**Pn**	**09 42 07.4**	**+2.2**
CRLT	**Corlu**	**2.73**	**30**	*e*Pn	**Pn**	**09 42 07.4**	**+2.2**
MDNY	**Mudanya-Bursa**	**2.79**	**54**	*e*PN	**Pn**	**09 42 08.0**	**+2.1**
MDNY	**Mudanya-Bursa**	**2.79**	**54**	*e*Pn	**Pn**	**09 42 08.0**	**+2.1**
HORT	**Hortiatis**	**2.83**	**311**	*e*PN	**Pn**	**09 42 07.8**	**+1.2**
HORT	**Hortiatis**	**2.83**	**311**	*e*Pn	**Pn**	**09 42 07.8**	**+1.2**
TVSB	**Tavsanli**	**2.84**	**75**	*e*PN	**Pn**	**09 42 08.8**	**+2.1**
TVSB	**Tavsanli**	**2.84**	**75**	*e*Pn	**Pn**	**09 42 08.8**	**+2.1**
ARMT	**Armutlu**	**2.89**	**51**	*e*PN	**Pn**	**09 42 09.7**	**+2.4**
ARMT	**Armutlu**	**2.89**	**51**	*e*Pn	**Pn**	**09 42 09.7**	**+2.4**
KDZ	**Kurdzhali**	**2.90**	**353**	⇑*i*P	**Pn**	**09 42 07.7**	**+0.3**
KDZ	**Kurdzhali**	**2.90**	**353**	S	**Sn**	**09 42 40.3**	**-1.5**
KDZ	**Kurdzhali**	**2.90**	**353**	*e*P	**Pb**	**09 42 15.3**	**+2.0**
NVR	**Nevrokopi**	**3.02**	**329**	*e*PN	**Pn**	**09 42 10.7**	**+1.6**
NVR	**Nevrokopi**	**3.02**	**329**	*e*Pn	**Pn**	**09 42 10.7**	**+1.6**
SLVT	**Silivri**	**3.02**	**35**	*e*PN	**Pn**	**09 42 11.3**	**+2.2**
SLVT	**Silivri**	**3.02**	**35**	*e*Pn	**Pn**	**09 42 11.3**	**+2.2**
GEMT	**Gemlik**	**3.02**	**56**	*e*PN	**Pn**	**09 42 11.7**	**+2.6**
GEMT	**Gemlik**	**3.02**	**56**	*e*Pn	**Pn**	**09 42 11.7**	**+2.6**
KLV	**Kalavryta, Ach**	**3.05**	**257**	*e*PN	**Pn**	**09 42 10.0**	**+0.5**
KLV	**Kalavryta, Ach**	**3.05**	**257**	*e*Pn	**Pn**	**09 42 10.0**	**+0.5**
RZN	**Rozhen**	**3.05**	**343**	*e*P	**Pn**	**09 42 10.5**	**+0.8**
EDRB	**Edirne**	**3.13**	**11**	*e*PN	**Pn**	**09 42 13.3**	**+2.6**
EDRB	**Edirne**	**3.13**	**11**	*e*Pn	**Pn**	**09 42 13.3**	**+2.6**
EFP	**Efpalio**	**3.16**	**265**	*e*PN	**Pn**	**09 42 12.5**	**+1.5**
EFP	**Efpalio**	**3.16**	**265**	*e*Pn	**Pn**	**09 42 12.5**	**+1.5**
CTYL	**Yal??k??y-??at**	**3.25**	**33**	*e*PN	**Pn**	**09 42 14.8**	**+2.5**
CTYL	**Yal??k??y-??at**	**3.25**	**33**	*e*Pn	**Pn**	**09 42 14.8**	**+2.5**
BGKT	**Bogazkoy**	**3.25**	**42**	*e*PN	**Pn**	**09 42 14.7**	**+2.4**
BGKT	**Bogazkoy**	**3.25**	**42**	*e*Pn	**Pn**	**09 42 14.7**	**+2.4**
MMB	**Musomiste**	**3.27**	**330**	⇑*i*P	**Pb**	**09 42 19.6**	**-0.1**
MMB	**Musomiste**	**3.27**	**330**	S	**Sg**	**09 43 05.4**	**-1.8**
MMB	**Musomiste**	**3.27**	**330**	*e*P	**Pb**	**09 42 19.6**	**-0.1**
ISK	**Istanbul-Kandi**	**3.33**	**46**	*e*PN	**Pn**	**09 42 15.8**	**+2.5**
ISK	**Istanbul-Kandi**	**3.33**	**46**	*e*Pn	**Pn**	**09 42 15.8**	**+2.5**
KARP	**Karpathos**	**3.37**	**162**	*e*PN	**Pn**	**09 42 14.2**	**+0.2**
KARP	**Karpathos**	**3.37**	**162**	*e*Pn	**Pn**	**09 42 14.2**	**+0.2**
KYTH	**Kithira**	**3.38**	**223**	*e*PN	**Pn**	**09 42 14.4**	**+0.3**
KYTH	**Kithira**	**3.38**	**223**	*e*Pn	**Pn**	**09 42 14.4**	**+0.3**
ITM	**Ithomi**	**3.53**	**244**	*e*PN	**Pn**	**09 42 17.1**	**+0.9**
ITM	**Ithomi**	**3.53**	**244**	*e*Pn	**Pn**	**09 42 17.1**	**+0.9**
ANKY	**Antikythira Is**	**3.57**	**216**	*e*PN	**Pn**	**09 42 16.4**	**+0.3**
ANKY	**Antikythira Is**	**3.57**	**216**	*e*Pn	**Pn**	**09 42 16.4**	**+0.3**
KKB	**Krupnik**	**3.77**	**326**	*e*P	**Pn**	**09 42 22.0**	**+2.6**
KKB	**Krupnik**	**3.77**	**326**	*e*P	**Pn**	**09 42 22.0**	**+2.6**
VTS	**Vitosha**	**4.33**	**332**	⇓*i*P	**Pn**	**09 42 29.0**	**+1.7**
VTS	**Vitosha**	**4.33**	**332**	S	**Sg**	**09 43 40.8**	**-0.4**
PRD	**Provadia**	**4.56**	**14**	*e*P	**Pn**	**09 42 30.0**	**-0.2**
MPEP	**Malo Peshtene**	**4.86**	**341**	*e*P	**Pn**	**09 42 35.9**	**+1.5**
MPEP	**Malo Peshtene**	**4.86**	**341**	*e*P	**Pn**	**09 42 35.9**	**+1.5**
GZR	**Gura Zlata**	**7.01**	**342**	⇓*i*P	**Pn**	**09 43 03.5**	**-0.5**

*CSEM **12** 09:59:44.3, 11.˚94N×43.˚70E, h10km, ML4.0*
DHMR 12 09:59:44.3±2.3,**11.˚94N**×**43.˚70E**,**h10**km±14km,**ML4.0,1C, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.35**	**17**	⇑*i*P	Pb	10 00 10.2	+0.1
TRBA				*i* S	Sg	10 00 28.1	-0.3
TRBA	comp=E,3μm,0.6s			AML	AML	10 00 28.4	
DHBB	**Dhamar BB**	**2.71**	**14**	*i* P	Pb	10 00 30.8	-2.5
DHBB				*i* S	Sb	10 01 08.1	+1.3
BDHA	**Al Bayda'**	**2.73**	**42**	*i* P	Pn	10 00 29.9	+1.4
BDHA				*i* S	Sb	10 01 08.1	+0.9
BDHA	comp=E,727nm,0.7s			AML	AML	10 01 20.6	
BDHA	**Al Bayda'**	**2.73**	**42**	*i* P	Pn	10 00 29.9	+1.4
BDHA				*i* S	Sb	10 01 08.1	+0.9
HAJJ	**Hajjah**	**3.74**	**359**	*i* P	Pn	10 00 45.4	+3.0
HAJJ				*i* S	Sn	10 01 31.3	+4.5
HAJJ	comp=Z,740nm,0.8s			AML	AML	10 01 50.5	
HAJJ	**Hajjah**	**3.74**	**359**	*i* P	Pn	10 00 45.4	+3.0
HAJJ				*i* S	Sn	10 01 31.3	+4.5

*ATH **12** 10:01:44.7,38.˚79N×25.˚91E, h23km±1km, MD3.4/16*

*CSEM **12** 10:01:44.8±0.1,38.˚77N×25.˚89E, h5km, ML3.5, Error ellipse: s-maj=2.9km s-min=2.6km az=68.0*
*DDA **12** 10:01:44.1,38.˚79N×25.˚97E, h5km, MD3.5*
*ISCJB **12** 10:01:44.3±0.5,38.˚79N±0.˚01×25.˚88E±0.˚02, h3km±3km, Error ellipse: s-maj=3.0km s-min=2.2km az=158.5*
*THE **12** 10:01:45.0,38.˚78N×25.˚92E, h3km±1km, ML3.2/9, Error ellipse: s-maj=1.9km s-min=0.7km az=76.0*
*ISK **12** 10:01:45.6,38.˚78N×26.˚00E, h14km, ML3.5*
ISC 12 10:01:45.4±1.0,**38.79N**±0.˚01×**25.94E**±0.˚02,**h10**km±8km, **n186,σ0♀79**/231,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.41**	**167**	*e*PG	**Pg**	**10 01 53.9**	**+0.4**
CHOS				*e*SG	**Sb**	**10 02 00.4**	**-0.8**
CHOS	**Chios island**	**0.41**	**167**	P	**Pg**	**10 01 53.6**	**+0.1**
CHOS				S	**Sg**	**10 01 59.1**	**+0.2**
CHOS	**Chios island**	**0.41**	**167**	*e*PB	**Pg**	**10 01 53.7**	**+0.2**
CHOS				*e*SB	**Sg**	**10 01 59.3**	**+0.4**
CHOS	**Chios island**	**0.41**	**167**	P	**Pg**	**10 01 53.6**	**+0.1**
CHOS	**Chios island**	**0.41**	**167**	*e*Pg	**Pg**	**10 01 53.9**	**+0.4**
CHOS				S	**Sg**	**10 01 59.1**	**+0.2**
CHOS				*e*Sg	**Sb**	**10 02 00.4**	**-0.8**
SIGR	**SIGRI**	**0.43**	**351**	*e*PG	**Pb**	**10 01 54.9**	**-0.2**
SIGR	**SIGRI**	**0.43**	**351**	P	**Pg**	**10 01 53.9**	**+0.1**
SIGR				S	**Sg**	**10 01 59.6**	**+0.1**
SIGR	**SIGRI**	**0.43**	**351**	*e*PB	**Pg**	**10 01 53.9**	**+0.1**
SIGR				*e*SB	**Sg**	**10 01 59.8**	**+0.3**
SIGR	**SIGRI**	**0.43**	**351**	P	**Pg**	**10 01 53.9**	**+0.1**
SIGR	**SIGRI**	**0.43**	**351**	*e*Pg	**Pb**	**10 01 54.9**	**-0.2**
SIGR				S	**Sg**	**10 01 59.6**	**+0.1**
PRK	**Paraskevi**	**0.53**	**29**	P	**Pg**	**10 01 55.5**	**-0.1**
PRK				S	**Sg**	**10 02 03.5**	**+0.9**
PRK	**Paraskevi**	**0.53**	**29**	*e*PN	**Pg**	**10 01 55.5**	**-0.1**
PRK				*e*SN	**Sb**	**10 02 03.8**	**-0.7**
PRK	**Paraskevi**	**0.53**	**29**	P	**Pg**	**10 01 55.5**	**-0.1**
PRK				S	**Sg**	**10 02 03.5**	**+0.9**
**URL

DEMI				*i* S	**Sg**	**10 02 54.3**	**-1.2**
NAIG	**Nisos Aigina**	**2.19**	**243**	*e*PB	**Pn**	**10 02 22.0**	**+0.2**
NAIG	**Nisos Aigina**	**2.19**	**243**	*e*Pb	**Pn**	**10 02 22.0**	**+0.2**
MRMT	**Marmara Adasi**	**2.22**	**35**	*e*PN	**Pn**	**10 02 22.8**	**+0.4**
MRMT	**Marmara Adasi**	**2.22**	**35**	*e*Pn	**Pn**	**10 02 22.8**	**+0.4**
KCTX	**Karacabey (Bur**	**2.38**	**51**	*e*PN	**Pn**	**10 02 24.9**	**+0.3**
KCTX	**Karacabey (Bur**	**2.38**	**51**	*e*Pn	**Pn**	**10 02 24.9**	**+0.3**
THR5	**Thira Island,**	**2.41**	**191**	*e*PN	**Pn**	**10 02 25.8**	**+0.8**
THR5	**Thira Island,**	**2.41**	**191**	*e*Pn	**Pn**	**10 02 25.8**	**+0.8**
LTK	**Loutraki**	**2.46**	**253**	*e*PB	**Pn**	**10 02 25.9**	**+0.3**
LTK	**Loutraki**	**2.46**	**253**	*e*Pb	**Pn**	**10 02 25.9**	**+0.3**
YER	**Yerkesik**	**2.48**	**131**	*e*PN	**Pn**	**10 02 26.3**	**+0.3**
YER	**Yerkesik**	**2.48**	**131**	*e*Pn	**Pn**	**10 02 26.3**	**+0.3**
DID	**Didima**	**2.48**	**240**	*e*PN	**Pn**	**10 02 25.0**	**-1.0**
DID	**Didima**	**2.48**	**240**	*e*Pn	**Pn**	**10 02 25.0**	**-1.0**
ORLT	**Orhaneli**	**2.61**	**60**	*e*PN	**Pn**	**10 02 28.2**	**+0.4**
ORLT	**Orhaneli**	**2.61**	**60**	*e*Pn	**Pn**	**10 02 28.2**	**+0.4**
DSF	**Desfina**	**2.70**	**263**	*e*PN	**Pn**	**10 02 29.3**	**+0.3**
DSF	**Desfina**	**2.70**	**263**	*e*Pn	**Pn**	**10 02 29.3**	**+0.3**
CRLT	**Corlu**	**2.72**	**30**	*e*PN	**Pn**	**10 02 29.9**	**+0.7**
CRLT	**Corlu**	**2.72**	**30**	*e*Pn	**Pn**	**10 02 29.9**	**+0.7**
MDNY	**Mudanya-Bursa**	**2.77**	**54**	*e*PN	**Pn**	**10 02 30.6**	**+0.7**
MDNY	**Mudanya-Bursa**	**2.77**	**54**	*e*Pn	**Pn**	**10 02 30.6**	**+0.7**
GDZ	**Gediz**	**2.78**	**83**	*i* P	**Pn**	**10 02 29.9**	**-0.2**
GDZ	**Gediz**	**2.78**	**83**	*i* P	**Pn**	**10 02 29.9**	**-0.2**
GDZ				*i* S	**Sg**	**10 03 13.7**	**-1.0**
TVSB	**Tavsanli**	**2.82**	**75**	*e*PN	**Pn**	**10 02 31.1**	**+0.4**
TVSB	**Tavsanli**	**2.82**	**75**	*e*Pn	**Pn**	**10 02 31.1**	**+0.4**
ULDT	**Uludag**	**2.82**	**60**	*i* P	**Pb**	**10 02 35.5**	**-0.5**
ULDT	**Uludag**	**2.82**	**60**	*i* P	**Pb**	**10 02 35.5**	**-0.5**
ULDT				*i* S	**Sg**	**10 03 14.2**	**-1.8**
HORT	**Hortiatis**	**2.84**	**310**	*e*PN	**Pn**	**10 02 32.0**	**+1.0**
HORT	**Hortiatis**	**2.84**	**310**	*e*Pn	**Pn**	**10 02 32.0**	**+1.0**
TURN	**Turunc**	**2.85**	**131**	*i* P	**Pb**	**10 02 34.6**	**-1.7**
TURN	**Turunc**	**2.85**	**131**	*i* P	**Pb**	**10 02 34.6**	**-1.7**
TURN				*i* S	**Sg**	**10 03 16.1**	**-0.7**
KHL	**Karahalli**	**2.85**	**98**	*e*PN	**Pn**	**10 02 31.3**	**+0.3**
KHL	**Karahalli**	**2.85**	**98**	*e*Pn	**Pn**	**10 02 31.3**	**+0.3**
ARMT	**Armutlu**	**2.87**	**51**	*e*PN	**Pn**	**10 02 32.2**	**+0.9**
ARMT	**Armutlu**	**2.87**	**51**	*e*Pn	**Pn**	**10 02 32.2**	**+0.9**
KDZ	**Kurdzhali**	**2.89**	**352**	*e*P	**Pn**	**10 02 30.7**	**-0.8**
KDZ	**Kurdzhali**	**2.89**	**352**	*e*P	**Pn**	**10 02 30.7**	**-0.8**
DALY	**Dalyan (Mu¨la**	**2.91**	**132**	*e*PN	**Pn**	**10 02 32.3**	**+0.5**
DALY	**Dalyan (Mu¨la**	**2.91**	**132**	*e*Pn	**Pn**	**10 02 32.3**	**+0.5**
GUR	**Goura**	**2.95**	**254**	*e*PN	**Pn**	**10 02 32.6**	**+0.1**
GUR	**Goura**	**2.95**	**254**	*e*Pn	**Pn**	**10 02 32.6**	**+0.1**
SLVT	**Silivri**	**3.00**	**35**	*e*PN	**Pn**	**10 02 34.5**	**+1.5**
SLVT	**Silivri**	**3.00**	**35**	*e*Pn	**Pn**	**10 02 34.5**	**+1.5**
NVR	**Nevrokopi**	**3.02**	**329**	*e*PN	**Pn**	**10 02 32.6**	**-0.7**
RZN	**Rozhen**	**3.04**	**342**	*e*P	**Pn**	**10 02 32.9**	**-0.9**
RZN	**Rozhen**	**3.04**	**342**	*e*P	**Pn**	**10 02 32.9**	**-0.9**
PHSR	**Pinarhisar**	**3.09**	**23**	*e*PN	**Pn**	**10 02 36.0**	**+1.7**
PHSR	**Pinarhisar**	**3.09**	**23**	*e*Pn	**Pn**	**10 02 36.0**	**+1.7**
EDRB	**Edirne**	**3.12**	**11**	*e*PN	**Pn**	**10 02 36.1**	**+1.4**
EDRB	**Edirne**	**3.12**	**11**	*e*Pn	**Pn**	**10 02 36.1**	**+1.4**
CTKS	**Kestanelik-??a**	**3.14**	**38**	*e*PN	**Pn**	**10 02 35.9**	**+0.9**
CTKS	**Kestanelik-??a**	**3.14**	**38**	*e*Pn	**Pn**	**10 02 35.9**	**+0.9**
EFP	**Efpalio**	**3.18**	**265**	*e*PN	**Pn**	**10 02 36.5**	**+1.0**
EFP	**Efpalio**	**3.18**	**265**	*e*Pn	**Pn**	**10 02 36.5**	**+1.0**
BUY	**Buyukada**	**3.20**	**49**	*i* P	**Pg**	**10 02 45.2**	**-1.5**
BUY				*i* S	**Sg**	**10 03 28.3**	**+0.1**
CTYL	**Yal??k??y-??at**	**3.23**	**33**	*e*PN	**Pn**	**10 02 37.7**	**+1.5**
CTYL	**Yal??k??y-??at**	**3.23**	**33**	*e*Pn	**Pn**	**10 02 37.7**	**+1.5**
BGKT	**Bogazkoy**	**3.23**	**41**	*e*PN	**Pn**	**10 02 37.2**	**+1.0**
BGKT	**Bogazkoy**	**3.23**	**41**	*e*Pn	**Pn**	**10 02 37.2**	**+1.0**
MMB	**Musomiste**	**3.27**	**330**	*e*P	Pb	10 02 40.2	-3.4
MMB	**Musomiste**	**3.27**	**330**	*e*P	Pb	10 02 40.2	-3.4
DIM	**Dimitrovgrad**	**3.27**	**355**	*e*P	**Pn**	**10 02 36.6**	**-0.2**
ISK	**Istanbul-Kandi**	**3.31**	**46**	*e*PN	**Pn**	**10 02 38.3**	**+1.0**
ISK	**Istanbul-Kandi**	**3.31**	**46**	*e*Pn	**Pn**	**10 02 38.3**	**+1.0**
KYTH	**Kithira**	**3.40**	**224**	*e*PN	**Pn**	**10 02 37.8**	**-0.8**
KYTH	**Kithira**	**3.40**	**224**	*e*Pn	**Pn**	**10 02 37.8**	**-0.8**
KLYT	**Kilyos**	**3.43**	**43**	*e*PN	**Pn**	**10 02 40.0**	**+1.1**
KLYT	**Kilyos**	**3.43**	**43**	*e*Pn	**Pn**	**10 02 40.0**	**+1.1**
SILT	**Sile**	**3.70**	**49**	*e*PN	**Pn**	**10 02 43.8**	**+1.2**
SILT	**Sile**	**3.70**	**49**	*e*Pn	**Pn**	**10 02 43.8**	**+1.2**
KKB	**Krupnik**	**3.77**	**326**	*e*P	**Pn**	**10 02 45.3**	**+1.6**
KKB	**Krupnik**	**3.77**	**326**	*e*P	**Pn**	**10 02 45.3**	**+1.6**
AKAS	**Kas**	**3.87**	**130**	*i* P	**Pn**	**10 02 46.1**	**+0.9**
AKAS	**Kas**	**3.87**	**130**	*i* P	**Pn**	**10 02 46.1**	**+0.9**
GULT	**Gulveren**	**3.90**	**64**	*e*PN	**Pn**	**10 02 46.6**	**+1.1**
GULT	**Gulveren**	**3.90**	**64**	*e*Pn	**Pn**	**10 02 46.6**	**+1.1**
PRD	**Provadia**	**4.54**	**14**	*e*P	**Pn**	**10 02 53.0**	**-1.3**
PRD	**Provadia**	**4.54**	**14**	*e*P	**Pn**	**10 02 53.0**	**-1.3**
MPEP	**Malo Peshtene**	**4.86**	**341**	*e*P	**Pn**	**10 02 59.2**	**+0.6**
MPEP	**Malo Peshtene**	**4.86**	**341**	*e*P	**Pn**	**10 02 59.2**	**+0.6**
BARS	**Barje**	**5.10**	**323**	*e*Pn	**Pn**	**10 03 02.6**	**+0.7**

JMA 12 10:05:37.9±0.4, 33°58.N×142°22.E, h12km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.49**	**316**	P	Pb	10 06 04.7	0.0
BSO1				*e*S	Sg	10 06 25.5	+0.9
BSO2	**Boso 2**	**1.69**	**314**	*e*S	Sb	10 06 29.9	+0.5
BSO3	**Boso 3**	**1.87**	**311**	P	Pn	10 06 10.5	+1.1
BSO3				S	Sb	10 06 34.0	-0.7
JHJ2	**Mitsune**	**2.06**	**258**	P	Pn	10 06 13.8	+1.4
JHJ2				*e*S	Sn	10 06 38.2	+0.1
BSO4	**Boso 4**	**2.10**	**313**	P	Pb	10 06 14.6	-1.2
BSO4				S	Sb	10 06 41.4	-0.3
JIM2	**Oshima 3**	**2.58**	**297**	P	Pn	10 06 20.1	+0.6
JIM2				S	Sn	10 06 50.2	-0.6
MAT	**Matsushiro**	**4.42**	**313**	P	Pn	10 06 46.2	+1.3
MAT				S	Sn	10 07 36.5	+0.2

IDC 12 10:07:10.0±5.0, 19°62.S×175°93.W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/23, mbtmp3.6/3, Error ellipse: s-maj=174.2km s-min=99.1km az=158.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.92**	**244**	P	P	10 14 45.8	-0.3
	0.5nm,0.5s,baz=77,slow=10,SNR=4.0						
ASAR	**Alice Springs**	**46.62**	**256**	P	P	10 15 40.5	+0.1
	0.3nm,0.4s,baz=98,slow=8.0,SNR=14						
ASAR				PcP	PcP	10 17 14.1	-0.4
	0.2nm,0.9s,baz=111,slow=3.7,SNR=4.3						
WRA	**Warramunga Arr**	**46.66**	**261**	P	P	10 15 40.5	-0.2
	0.2nm,0.3s,baz=96,slow=7.5,SNR=9.9						

CSEM 12 10:28:34.6, 43°.35N×13°.29E, h4km, MD1.8/5
ROM 12 10:28:34.6±0.5, 43°.35N×13°.29E, h4km±2km, Md1.8/5, Ml0.9/2, Error ellipse: s-maj=6.3km s-min=1.9km az=68.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CING	**Cingoli**	**0.08**	**292**	Pg	Pg	10 28 36.9	+0.5
CING				Sg	Sg	10 28 37.9	+0.3
CING	**Cingoli**	**0.08**	**292**	Pg	Pg	10 28 36.9	+0.5
CING				Sg	Sg	10 28 37.9	+0.3
ARVD	**Arcevia**	**0.30**	**301**	Pg	Pg	10 28 41.1	+0.7
ARVD				Sg	Sb	10 28 46.4	-1.4
	10.0nm,0.1s						
ARVD	**Arcevia**	**0.30**	**301**	Pg	Pg	10 28 41.1	+0.7
ARVD				Sg	Sb	10 28 46.4	-1.4
	10.0nm,0.1s						
FDMO	**Fiordimonte**	**0.34**	**206**	Pg	Pg	10 28 42.1	+0.8
FDMO				Sg	Sb	10 28 47.8	-1.4
	12nm,0.2s						
FDMO	**Fiordimonte**	**0.34**	**206**	Pg	Pg	10 28 42.1	+0.8
FDMO				Sg	Sb	10 28 47.8	-1.4
	12nm,0.2s						
NRCA	**Norcia**	**0.53**	**194**	Pg	Pb	10 28 45.9	-0.6
NRCA				Sg	Sb	10 28 55.3	+0.7
NRCA	**Norcia**	**0.53**	**194**	Pg	Pb	10 28 45.9	-0.6
NRCA				Sg	Sb	10 28 55.3	+0.7
PIEI	**Pieia**	**0.58**	**289**	Pg	Pg	10 28 46.4	+0.5
PIEI				Sg	Sb	10 28 55.6	-0.5
PIEI	**Pieia**	**0.58**	**289**	Pg	Pg	10 28 46.4	+0.5
PIEI				Sg	Sb	10 28 55.6	-0.5

BUG 12 10:30:54.5, 51°.62N×7°.69E, h1km, ML1.8
CSEM 12 10:30:55.7, 51°.60N×7°.72E, h1km, ML2.1
BNS 12 10:30:55.2±0.5, 51°.67N×7°.62E, h1km, ML2.1

BGR 12 10:30:55.7±0.3, 51°.60N×7°.72E, h1km, ML2.1/5, Error ellipse: s-maj=3.3km s-min=3.3km az=126.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAHL	**Ahlen**	**0.15**	**26**	Pg	Pg	10 30 58.7	+0.1
BAHL				Sg	Sg	10 31 01.6	+1.1
BAHL	**Ahlen**	**0.15**	**26**	Pg	Pg	10 30 58.7	+0.1
BAHL				Sg	Sg	10 31 01.6	+1.1
BUG	**Bochum--Univer**	**0.33**	**240**	*e*Pg	Pg	10 31 01.6	-0.3
BUG				Sg	Sg	10 31 06.7	+0.6
LAUG	**Laupendahl**	**0.55**	**243**	*e*Pg	Pg	10 31 05.2	-1.0
LAUG	**Laupendahl**	**0.55**	**243**	Pg	Pg	10 31 05.2	-1.0
HOBG	**Hohbusch**	**0.67**	**201**	*e*Pg	Pg	10 31 08.5	-0.1
HOBG	**Hohbusch**	**0.67**	**201**	Pg	Pg	10 31 08.5	0.0
WTSB	**Winterswijk**	**0.68**	**303**	*e*Pg	Pg	10 31 08.2	-0.5
WTSB				*e*Sg	Sg	10 31 17.6	+0.1
WTSB	**Winterswijk**	**0.68**	**303**	*e*Pg	Pg	10 31 08.0	-0.7
	11nm,0.2s						
WTSB	**Winterswijk**	**0.68**	**303**	Pg	Pg	10 31 08.2	-0.5
WTSB				Sg	Sg	10 31 17.6	+0.1
IBBN	**Ibbenburen**	**0.70**	**2**	*e*Pg	Pg	10 31 09.4	+0.1
IBBN				*e*Sg	Sg	10 31 18.5	+0.1
IBBN	**Ibbenburen**	**0.70**	**2**	Pg	Pg	10 31 09.4	+0.1
IBBN				Sg	Sg	10 31 18.5	+0.1
STB	**Steinbach**	**1.15**	**209**	*e*Pg	Pg	10 31 17.3	-0.6
STB				*e*Sg	Sg	10 31 33.3	+0.5
	25nm,0.2s						
STB	**Steinbach**	**1.15**	**209**	Pg	Pg	10 31 17.3	-0.5
STB				Sg	Sg	10 31 33.3	+0.5
	25nm,0.2s						
KOE	**Koeppel**	**1.18**	**180**	*e*Pg	Pg	10 31 17.8	-0.6
KOE	**Koeppel**	**1.18**	**180**	Pg	Pg	10 31 17.8	-0.6
KLL	**Kalltalsperre**	**1.31**	**223**	*e*Pg	Pg	10 31 18.9	-1.9
KLL	**Kalltalsperre**	**1.31**	**223**	Pg	Pg	10 31 18.9	-1.9
DREG	**Dreilaegerbach**	**1.33**	**225**	*e*Pg	Pg	10 31 19.6	-1.6
DREG	**Dreilaegerbach**	**1.33**	**225**	Pg	Pg	10 31 19.6	-1.6
HGN	**Heimansgroeve**	**1.40**	**234**	*e*Pg	Pn	10 31 20.9	-1.5
HGN				*e*Sg	Sg	10 31 39.7	-1.1
HGN	**Heimansgroeve**	**1.40**	**234**	*e*Pg	Pn	10 31 20.7	-1.8
	7.2nm,0.2s						
HGN				*e*Sg	Sg	10 31 39.7	-1.1
HGN	**Heimansgroeve**	**1.40**	**234**	Pg	Pn	10 31 20.9	-1.5
HGN				Sg	Sg	10 31 39.7	-1.1
BGG	**Burgeitz**	**1.42**	**190**	*e*Pg	Pn	10 31 21.7	-1.0
BGG	**Burgeitz**	**1.42**	**190**	Pg	Pn	10 31 21.7	-1.0
TNS	**Taunus Mts**	**1.46**	**161**	*e*Pn	Pn	10 31 22.2	-1.1
TNS				*e*Pg	Pb	10 31 23.0	-0.7
TNS				*e*Sg	Sg	10 31 41.4	-1.4
TNS	**Taunus Mts**	**1.46**	**161**	Pn	Pn	10 31 22.2	-1.1
MEM	**Membach**	**1.47**	**228**	P	Pn	10 31 22.2	-1.2
MEM	**Membach**	**1.47**	**228**	*e*Pg	Pn	10 31 22.2	-1.2
MEM				*e*Sg	Sg	10 31 42.2	-0.8
MEM	**Membach**	**1.47**	**228**	Pg	Pn	10 31 22.2	-1.1
MEM				Sg	Sg	10 31 42.2	-0.7
CLZ	**Clausthal**	**1.67**	**81**	*e*Pg	Pb	10 31 27.0	-0.4
CLZ				*e*Sg	Sb	10 31 48.8	0.0
CLZ	**Clausthal**	**1.67**	**81**	Pg	Pb	10 31 27.0	-0.3
CLZ				Sg	Sb	10 31 48.8	-0.1

IDC 12 10:48:47.9±3.1, 5°.31S×154°.09E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/33, mbtmp3.5/3, Error ellipse: s-maj=91.5km s-min=45.7km az=111.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.10**	**231**	P	P	10 54 05.6	+0.1
	0.4nm,0.7s,baz=54,slow=9.8,SNR=4.5						
ASAR	**Alice Springs**	**26.67**	**225**	PcP	PcP	10 57 54.1	+1.2
	0.2nm,0.8s,baz=59,slow=2.5,SNR=4.1						
CMAR	**Chiang Mai Arr**	**59.26**	**295**	P	P	10 58 52.4	+0.7
	0.7nm,0.3s,baz=116,slow=6.1,SNR=4.0						
MKAR	**Makanchi Array**	**81.55**	**319**	P	P	11 01 07.6	-0.1
	0.3nm,0.6s,baz=102,slow=5.3,SNR=3.3						
TORD	**Torodi Ar. Bea**	**151.69**	**288**	PKPbc	PKPbc	11 08 44.8	-0.8
	0.5nm,0.5s,baz=72,slow=2.4,SNR=8.7						

ISCJB 12 11:01:56.6±0.6, 37°.08N±0°.04×71°.68E±0°.08, h106km, mb3.5/2, Error ellipse: s-maj=9.2km s-min=4.5km az=160.3
IDC 12 11:01:59.6±5.0, 37°.34N×71°.66E, h106km±31km, mb3.2/2, mb1 3.3/9, mb1mx3.1/31, mbtmp3.7/9, MS2.8/2, Ms1 2.8/2, ms1mx2.1/26, Error ellipse: s-maj=58.6km s-min=24.0km az=146.0
NNC 12 11:02:04.2±3.5, 37°.89N×71°.34E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=29.1km s-min=19.9km az=170.0
ISC 12 11:01:57.9±0.7, 37°.17N±0°.06×71°.60E±0°.06, h106km, n37, σ1s98/44, 6C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.20**	**27**	⇑P	**Pn**	**11 02 49.7**	**+3.0**
	15nm,0.3s						
SFK				⇓S	**Sn**	**11 03 24.7**	**+0.4**
	49nm,0.2s						
AML	**Almayashu**	**5.21**	**17**	P	**Pn**	**11 03 15.4**	**+1.6**
	SNR=146						
UCH	**Uchtor**	**5.53**	**23**	P	**Pn**	**11 03 19.6**	**+1.5**
	SNR=15						
KZA	**Kyzart**	**5.65**	**29**	P	**Pn**	**11 03 21.3**	**+1.5**
	SNR=14						
EKS2	**Erkin-Say**	**5.73**	**16**	P	**Pn**	**11 03 22.4**	**+1.8**
	SNR=8.5						
DLH	**Dalhousie**	**5.85**	**141**	*e*P	**Pn**	**11 03 25.0**	**+2.6**
DLH				*e*S	**Sn**	**11 04 29.0**	**+0.8**
AAK	**Ala-Archa**	**5.89**	**21**	P	**Pn**	**11 03 24.9**	**+2.1**
	SNR=11						
AAK	**Ala-Archa**	**5.89**	**21**	⇑P	**Pn**	**11 03 24.6**	**+1.8**
	6.0nm,0.5s						
AAK				⇑S	**Sn**	**11 04 27.1**	**-1.9**
	31nm,0.8s						
AAK	**Ala-Archa**	**5.89**	**21**	P	**Pn**	**11 03 24.3**	**+1.5**
	4.9nm,0.3s,baz=186,slow=5.4,SNR=37						
AAK				S	**Sn**	**11 04 26.4**	**-2.6**
	2.8nm,0.3s,baz=326,slow=21,SNR=15						
KK31	**Karatay Array**	**5.98**	**352**	⇑P	**Pn**	**11 03 25.9**	**+1.9**
	36nm,0.3s,baz=176,slow=12,SNR=427						
KK31				S	**Sn**	**11 04 28.4**	**-2.6**
	12nm,0.5s,baz=168,slow=20,SNR=11						
ULHL	**Ulahol**	**6.20**	**34**	P	**Pn**	**11 03 29.0**	**+1.9**
	SNR=7.7						
CHMS	**Chumysh**	**6.30**	**22**	P	**Pn**	**11 03 30.6**	**+2.4**
	SNR=5.2						
USP	**Ospenovka**	**6.48**	**19**	P	**Pn**	**11 03 31.8**	**+1.1**
	SNR=8.2						
TKM2	**Tokmak 2**	**6.51**	**27**	⇓P	**Pn**	**11 03 32.9**	**+1.7**
	4.1nm,0.6s						
TKM2				⇓S	**Sn**	**11 04 41.3**	**-2.7**
	6.1nm,0.5s						
GEYT	**Alibeck**	**10.73**	**278**	P	**Pn**	**11 04 29.7**	**+1.2**
	0.2nm,0.3s,baz=93,slow=16,SNR=3.0						
GEYT				S	**Sn**	**11 06 22.5**	**-4.0**
	1.7nm,0.3s,baz=100,slow=17,SNR=4.9						
GEYT				LR	LR	11 10 25.6	
	comp=Z,28nm,20.8s,baz=85,slow=47						
MK31	**Makanchi Array**	**12.46**	**36**	⇑P	**P**	**11 04 58.9**	**0.0**
	1.1nm,0.7s,baz=224,slow=12,SNR=5.4						
MKAR	**Makanchi Array**	**12.46**	**36**	P	**Pn**	**11 04 50.9**	**-0.5**
	0.1nm,0.3s,baz=224,slow=13,SNR=3.9						
KOLN	**Koldanda**	**13.79**	**129**	*e*P	**Pn**	**11 05 07.0**	**-2.1**
	16nm,0.4s						
GKN	**Gorkha**	**14.28**	**126**	*e*P	**Pn**	**11 05 13.5**	**-1.9**
	36nm,0.4s						
KURBB	**Kurchatov Arra**	**14.33**	**18**	P	**Pn**	**11 05 15.3**	**-0.3**
	0.0nm,0.3s,baz=206,slow=10,SNR=2.4						
KURBB				S	**Sn**	**11 07 51.8**	**-1.7**
	0.1nm,0.3s,baz=196,slow=16,SNR=4.5						
AB31	**Akbulak array**	**14.74**	**329**	P	**Pn**	**11 05 21.3**	**+0.4**
	2.1nm,0.3s,baz=119,slow=14,SNR=75						
AB31				⇓S	Sn	11 07 55.2	-8.3
	0.8nm,0.5s,baz=140,slow=21,SNR=5.1						
KKN	**Kakani**	**14.85**	**125**	*e*P	**Pn**	**11 05 20.0**	**-2.6**
DMN	**Daman**	**14.86**	**126**	*e*P	**Pn**	**11 05 20.5**	**-2.2**
	16nm,0.3s						
PKIN	**Phulchoki**	**15.06**	**125**	*e*P	**Pn**	**11 05 23.4**	**-2.0**
	21nm,0.5s						
PKI	**Pulchoki**	**15.08**	**125**	*e*P	**Pn**	**11 05 23.6**	**-2.0**
	17nm,0.4s						
GUN	**Gumba**	**15.16**	**123**	*e*P	**Pn**	**11 05 24.1**	**-2.6**
	13nm,0.3s						
JIRN	**Jiri**	**15.53**	**123**	*e*P	**Pn**	**11 05 29.3**	**-2.1**
	32nm,0.4s						
BVAR	**Borovoye Array**	**15.88**	**357**	P	**Pn**	**11 05 34.2**	**-0.9**
	0.1nm,0.3s,baz=193,slow=5.8,SNR=2.4						
RAMN	**Ramite**	**16.28**	**124**	*e*P	**Pn**	**11 05 38.0**	**-2.5**
	22nm,0.5s						
AKTO	**Aktyubinsk**	**16.45**	**328**	⇑P	**P**	**11 05 44.8**	**+1.7**
	2.5nm,0.6s						
AKTO	**Aktyubinsk**	**16.45**	**328**	P	**Pn**	**11 05 41.5**	**-0.7**
	0.8nm,0.3s,baz=130,slow=17,SNR=7.8						
TAPN	**Taplejung**	**16.76**	**121**	*e*P	**Pn**	**11 05 44.4**	**-2.1**
	9.7nm,0.5s						
ODAN	**Odare**	**16.86**	**123**	*e*P	**Pn**	**11 05 45.8**	**-1.9**
ZALV	**Zalesovo Beam**	**19.11**	**24**	P	**P**	**11 06 11.7**	**-0.4**
	0.9nm,0.3s,baz=224,slow=11,SNR=4.7						
ARCES	**ARCESS Array B**	**40.71**	**337**	P	**P**	**11 09 29.4**	**+1.8**
	0.3nm,0.4s,baz=108,slow=8.6,SNR=3.3						
YAK	**Yakutsk**	**43.14**	**36**	LR	LR	11 28 45.5	
	comp=Z,24nm,21.3s,baz=212,slow=37						
YKA	**Yellowknife Ar**	**80.55**	**3**	P	**P**	**11 13 58.4**	**+0.5**
	0.3nm,0.4s,baz=351,slow=5.6,SNR=10.0						

NIED 12 11:07:00.23°.40N×123°.70E, h8km, Mw4.2 Best double couple: M0 2.21000×10^15 NP1:φs=123.00000°, δ67.00000°, λ-1.00000°. NP2:φs=213.00000°, δ89.00000°, λ-157.00000°.
IDC 12 11:07:18.1±0.8, 23°.44N×123°.63E, h0km, mb3.8/17, mb1 3.9/19, mb1mx3.8/31, mbtmp3.8/19, ML3.0/3, MS3.2/10, Ms1 3.2/10, ms1mx3.0/40, Error ellipse: s-maj=21.3km s-min=18.2km az=72.0
NEIC 12 11:07:18.8±1.8, 23°.38N×123°.66E, h6km±10km, mb4.3/1, Error ellipse: s-maj=10.1km s-min=6.2km az=156.0
ISCJB 12 11:07:20.3±0.4, 23°.37N±0°.04×123°.65E±0°.03, h30km, mb3.8/18, MS3.1/7, Error ellipse: s-maj=5.5km s-min=2.8km az=153.7
JMA 12 11:07:21.0±0.2, 23°.37N×123°.70E, h52km±3km, M4.1
ISC 12 11:07:22.0±0.7, 23°.38N±0°.05×123°.69E±0°.03, h30km, n54, σ1s48/69, mb3.8/18, MS3.2/7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.68**	**9**	P	**Pb**	**11 07 34.7**	**-0.7**
HATJ				S	**Sn**	**11 07 44.6**	**-0.6**
JKRS	**Kuro-shima**	**0.90**	**19**	P	**Pn**	**11 07 37.8**	**-0.8**
JKRS				S	**Sb**	**11 07 50.2**	**-0.6**
IRIF	**Iriomote-Funau**	**0.95**	**2**	P	**Pn**	**11 07 38.7**	**-0.6**
IRIF				S	**Sb**	**11 07 51.3**	**-0.9**
JIJ	**Ishigaki jima**	**1.06**	**23**	P	**Pn**	**11 07 39.8**	**-1.0**
JIJ				S	**Sn**	**11 07 52.7**	**-1.9**
YOJ	**Yonaguni jima**	**1.24**	**330**	P	**Pn**	**11 07 42.7**	**-0.6**
YOJ				S	**Sn**	**11 07 58.4**	**-0.6**
YOJ	**Yonaguni jima**	**1.24**	**330**	*e*P	**Pn**	**11 07 42.5**	**-0.8**
JYNG	**Yonagunijimaku**	**1.27**	**328**	P	**Pn**	**11 07 43.1**	**-0.5**
JYNG				S	**Sn**	**11 07 58.6**	**-1.0**
JISG	**Ishigakijimahi**	**1.33**	**25**	P	**Pn**	**11 07 43.4**	**-1.1**
JISG				S	**Sn**	**11 08 00.0**	**-1.2**
JTJ	**Tarama**	**1.56**	**36**	P	**Pn**	**11 07 47.3**	**-0.4**
JTJ				S	**Sn**	**11 08 06.5**	**-0.4**
JIRB	**Irabujima**	**1.98**	**43**	P	**Pn**	**11 07 52.7**	**-0.7**
JIRB				S	**Sn**	**11 08 16.6**	**-0.6**
JMJ	**Miyako

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.89**	**168**	P	**Pn**	**11 16 10.1**	**-0.7**
	278nm,0.3s,baz=87,slow=22,SNR=4.7						
RAO				S	S	11 16 31.0	-13
	580nm,0.3s,baz=78,slow=9.6,SNR=16						
MWZ	**Matawai**	**11.43**	**196**	*e*PN	**P**	**11 18 10.5**	**+0.9**
MWZ				*e*SN	**S**	**11 20 11.7**	**-1.8**
URZ	**Urewera**	**11.47**	**198**	P	**P**	**11 18 11.4**	**+1.4**
	16nm,0.3s,baz=274,slow=3.0,SNR=66						
URZ				S	**S**	**11 20 14.2**	**-0.2**
	7.0nm,0.3s,baz=323,slow=23,SNR=14						
URZ	**Urewera**	**11.47**	**198**	*e*PN	**P**	**11 18 11.2**	**+1.3**
URZ				*e*SN	**S**	**11 20 13.6**	**-0.8**
RIGZ	**Rimuhau**	**11.73**	**195**	*e*PN	**P**	**11 18 15.1**	**+2.2**
KNZ	**Kokohu**	**12.05**	**195**	*e*PN	**P**	**11 18 19.2**	**+2.9**
KNZ				SN	**S**	**11 20 23.9**	**-3.8**
RAHZ	**Arahi**	**12.10**	**197**	*e*PN	P	11 18 20.7	+3.7
WHHZ	**Waihua**	**12.21**	**196**	*e*PN	**P**	**11 18 20.9**	**+2.7**
WHHZ				SN	**S**	**11 20 30.1**	**-1.3**
ARHZ	**Aropaoanui**	**12.44**	**197**	*e*PN	**P**	**11 18 23.6**	**+2.8**
ARHZ				SN	**S**	**11 20 34.6**	**-2.2**
BHHZ	**Black Hill Sta**	**12.91**	**200**	*e*PN	**P**	**11 18 28.5**	**+2.4**
KRHZ	**Kereru**	**12.97**	**198**	*e*PN	**P**	**11 18 28.8**	**+2.2**
PNHZ	**Pukenui**	**13.27**	**198**	*e*PN	**P**	**11 18 31.0**	**+1.0**
BFZ	**Birch Farm**	**13.97**	**197**	*e*PN	**P**	**11 18 40.7**	**+3.0**
MRZ	**Mangatainoka R**	**14.14**	**199**	*e*PN	**P**	**11 18 40.5**	**+0.9**
MRZ				*e*SN	S	11 21 06.7	-8.9
OGWZ	**Otaki Gorge**	**14.40**	**200**	*e*PN	**P**	**11 18 43.6**	**+1.1**
CAW	**Cannon Point**	**14.70**	**200**	*e*PN	**Pn**	**11 18 47.1**	**+1.3**
CTA	**Charters Tower**	**33.10**	**275**	P	P	11 21 43.5	+1.3
	4.2nm,0.5s,baz=106,slow=11,SNR=10						
ASAR	**Alice Springs**	**43.02**	**264**	P	**P**	**11 23 05.0**	**+0.2**
	1.0nm,0.7s,baz=92,slow=7.4,SNR=24						
ASAR				pP	pP	11 23 41.5	-15
	0.3nm,0.5s,baz=93,slow=6.6,SNR=4.2						
WRA	**Warramunga Arr**	**43.73**	**269**	P	**P**	**11 23 10.4**	**0.0**
	4.5nm,0.6s,baz=107,slow=7.7,SNR=64						
WRA				pP	pP	11 23 48.4	-14
	0.5nm,0.4s,baz=108,slow=6.6,SNR=5.4						
VNDA	**Vanda**	**51.04**	**185**	P	P	11 24 09.2	+3.5
	0.5nm,0.6s,baz=347,slow=7.7,SNR=3.8						
SIJI	**Sorong**	**54.97**	**290**	P	**P**	**11 24 35.1**	**-0.1**
	10nm,0.7s,baz=18,slow=16,SNR=4.4						
MJAR	**Matsushiro Arr**	**75.60**	**325**	P	**P**	**11 26 47.3**	**+0.5**
	1.3nm,0.6s,baz=294,slow=1.5,SNR=3.7						
KSRS	**Korea Array**	**81.86**	**320**	P	**P**	**11 27 21.0**	**+0.3**
	0.2nm,0.3s,baz=122,slow=6.1,SNR=4.3						
PETK	**Petropavlovsk-**	**82.83**	**346**	P	**P**	**11 27 25.0**	**-0.4**
	0.8nm,0.6s,baz=122,slow=8.3,SNR=5.6						
FINES	**FINESS Array B**	**142.22**	**341**	PKhKP	PKPpre	11 34 26.7	
	0.3nm,0.4s,baz=90,slow=3.8,SNR=4.9						
NB2	**NORSAR Subarra**	**145.75**	**352**	PKP	**PKPab**	**11 34 38.3**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**145.75**	**352**	PKPbc	**PKPab**	**11 34 38.9**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=8.5,slow=5.4,SNR=3.5						
AKASG	**Malin Array Be**	**148.69**	**325**	PKPbc	**PKPbc**	**11 34 45.8**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=42,slow=3.6,SNR=9.6						
BRTR	**Keskin Array B**	**150.78**	**303**	PKPbc	**PKPbc**	**11 34 52.2**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=144,slow=6.4,SNR=3.6						
BRTR				PKPab	**PKPab**	**11 34 59.6**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=83,slow=3.0,SNR=4.4						

IDC 12 11:24:03.4±1.3, 22.08N×145.50E, 0km, mb3.2/4, mb1 3.4/4, mb1mx3.3/35, mbtmp3.2/4, Error ellipse: s-maj=55.0km s-min=26.3km az=95.0, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.16**	**195**	P	P	11 32 06.2	+0.2
	0.1nm,0.3s,baz=15,slow=8.6,SNR=4.6						
ASAR	**Alice Springs**	**46.85**	**195**	P	P	11 32 34.9	-0.4
	0.1nm,0.5s,baz=9.9,slow=7.5,SNR=3.5						
MKAR	**Makanchi Array**	**56.03**	**312**	P	P	11 33 44.0	0.0
	0.1nm,0.3s,baz=92,slow=6.0,SNR=3.0						
YKA	**Yellowknife Ar**	**75.11**	**28**	P	P	11 35 47.0	0.0
	0.2nm,0.4s,baz=292,slow=6.0,SNR=5.9						

IDC 12 11:29:24.4±1.8, 15.30S×166.64E, 0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/23, mbtmp3.6/4, Error ellipse: s-maj=124.9km s-min=29.5km az=150.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**28.16**	**230**	P	P	11 35 18.5	-0.1
	1.2nm,0.8s,baz=56,slow=7.3,SNR=3.5						
WRA	**Warramunga Arr**	**31.10**	**257**	P	P	11 35 44.8	0.0
	0.2nm,0.5s,baz=84,slow=10,SNR=7.0						
ASAR	**Alice Springs**	**31.90**	**250**	P	P	11 35 51.9	0.0
	0.4nm,0.4s,baz=76,slow=9.1,SNR=13						
NVAR	**Mina Array Bea**	**88.10**	**49**	P	P	11 42 17.4	0.0
	0.2nm,0.4s,baz=220,slow=4.1,SNR=3.5						

*IDC **12** 11:47:55.1±1.0, 0.61S×136.71E, 0km, mb4.2/6, mb1 4.4/9, mb1mx4.1/23, mbtmp4.2/9, ML4.1/3, MS3.4/12, Ms1 3.4/12, ms1mx3.1/32, Error ellipse: s-maj=29.1km s-min=18.0km az=84.0*

*ISCJB **12** 11:47:58.3±0.4, 0.81S±0.04×136.60E±0.06, h25km, mb4.3/8, MS3.3/11, Error ellipse: s-maj=8.3km s-min=5.6km az=161.0*

*NEIC **12** 11:48:00.2±0.7, 0.69S×136.72E, h33km±5km, mb4.7/7, Error ellipse: s-maj=11.9km s-min=11.4km az=126.0*

*BJI **12** 11:48:02.2, 0.62S×136.34E, h37km, mb4.8/11, mB4.8/9, Ms4.4/8, Ms7 4.3/7*

*DJA **12** 11:48:06.0±1.3, 1.3S±11.6E±, h18km±11km, M4.7/7, mb5.0/2, mB4.7/1, MLv4.6/7, Mw(mB)3.9/1*

ISC 12 11:48:00.5±0.4, 0.85S±0.05×136.69E±0.05, h25km, n61, σ1=95/74, mb4.6/8, MS3.3/11, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**1.11**	**204**	P	**Pn**	**11 48 20.2**	**-0.3**
SRPI				S	Pn	11 48 23.6	+3.1
SMPI	**Sarmi**	**2.32**	**119**	P	**Pn**	**11 48 36.8**	**-0.3**
SMPI				S	**Pn**	**11 48 39.6**	**+2.5**
RKPI	**Ransiki, Papua**	**2.60**	**255**	P	**Pn**	**11 48 38.4**	**-2.5**
GENI	**Genyem**	**3.88**	**117**	P	**Pb**	**11 49 08.4**	**+0.1**
JAY	**Jayapura**	**4.34**	**112**	Pn	**Pn**	**11 49 02.8**	**-2.2**
	1.7nm,0.3s,baz=235,slow=13,SNR=9.4						
JAY				Sn	**Sn**	**11 49 52.5**	**-2.4**
	3.3nm,0.3s,baz=141,slow=22,SNR=4.5						
FAKI	**Fak Fak**	**4.89**	**245**	P	**Pn**	**11 49 10.2**	**-2.3**
FAKI	**Fak Fak**	**4.89**	**245**	P	**Pn**	**11 49 10.7**	**-1.8**
	baz=4.0,SNR=107						
FAKI	**Fak Fak**	**4.89**	**245**	*e*Pn	**Pn**	**11 49 10.8**	**-1.7**
SIJI	**Sorong**	**5.42**	**270**	Pn	**Pn**	**11 49 17.3**	**-2.5**
	7.2nm,0.3s,baz=253,slow=23,SNR=52						
MSAI	**Masohi**	**8.14**	**252**	P	**Pn**	**11 49 55.8**	**-1.4**
	41nm,0.7s,464nm0.2nm						
KDU	**Kakadu**	**12.48**	**199**	P	**Pn**	**11 50 55.8**	**-0.9**
	baz=12,SNR=8.8						
KDU				S	Sn	11 53 01.1	-14
	baz=12,SNR=7.1						
SOEI	**Soe**	**15.20**	**234**	*e*Pn	**P**	**11 51 36.8**	**-1.8**
	46nm,0.8s						
KNRA	**Kununurra**	**16.68**	**208**	P	**Pn**	**11 51 52.4**	**-0.3**
	baz=16,SNR=12						
WSI	**Wainigapu**	**18.51**	**241**	S	**S**	**11 55 50.1**	**+5.0**
	baz=18,SNR=6.7						
WRAB	**Tennant Creek**	**19.11**	**187**	*e*P	**Pn**	**11 52 22.3**	**-0.2**
	16nm,0.8s						
WRA	**Warramunga Arr**	**19.11**	**187**	P	**Pn**	**11 52 22.6**	**-0.1**
	1.1nm,0.3s,baz=3.8,slow=12,SNR=60						
WRA				S	**Sn**	**11 55 54.4**	**-2.0**
	0.3nm,0.3s,baz=1.5,slow=23,SNR=6.1						
WRA				LR	LR	12 00 35.8	
	comp=Z,249nm,22.0s,baz=0.0,slow=39						
QIS	**Mount Isa**	**19.80**	**172**	P	**Pn**	**11 52 30.7**	**-0.1**
	baz=19,SNR=6.8						
FITZ	**Fitzroy Crossi**	**20.29**	**212**	P	**P**	**11 52 34.3**	**-0.3**
	baz=20,SNR=14						
FITZ	**Fitzroy Crossi**	**20.29**	**212**	*e*P	**P**	**11 52 34.0**	**-0.6**
	8.9nm,0.9s						
CTA	**Charters Tower**	**21.29**	**155**	P	**P**	**11 52 46.6**	**+1.3**
	3.8nm,0.6s,baz=336,slow=8.1,SNR=8.1						
AS01	**Alice Springs**	**22.84**	**186**	*e*P	**P**	**11 53 02.1**	**+0.2**
ASAR	**Alice Springs**	**22.84**	**187**	P	**P**	**11 53 02.9**	**+0.8**
	24nm,0.5s,baz=10,slow=11,SNR=480						
ASAR				S	**S**	**11 57 16.1**	**+5.9**
	0.4nm,0.8s,baz=16,slow=28,SNR=3.0						
ASAR				LR	LR	12 03 01.0	
	comp=Z,152nm,18.8s,baz=17,slow=39						
SBUM	**Sibu**	**24.68**	**278**	*e*P	**P**	**11 53 18.1**	**-1.7**
	16nm,1.0s						
WRKA	**Warakurna**	**25.38**	**198**	P	**P**	**11 53 26.1**	**+0.2**
	baz=25,SNR=15						
QLP	**Quilpie**	**26.59**	**165**	P	**P**	**11 53 38.3**	**+1.4**
	baz=26,SNR=24						
RMQ	**Roma**	**28.01**	**156**	P	P	11 53 56.2	+6.6
	baz=28,SNR=3.9						
JCJ	**Chichijima**	**28.28**	**10**	LR	LR	12 02 30.7	
	comp=Z,263nm,22.0s,baz=5.5,slow=31						
NACB	**Ninganchiao**	**28.87**	**330**	*e*sP	sP	11 54 08.7	+0.9
LEM	**Lembang**	**29.59**	**258**	LR	LR	12 06 56.7	
	comp=Z,36nm,19.9s,baz=29,slow=38						
FORT	**Forrest**	**30.87**	**195**	P	**P**	**11 54 15.4**	**+0.5**
	baz=30,SNR=11						
FORT	**Forrest**	**30.87**	**195**	*e*P	**P**	**11 54 14.2**	**-0.7**
	24nm,0.7s						
STKA	**Stephens Creek**	**31.21**	**172**	P	**P**	**11 54 17.8**	**-0.1**
	5.9nm,0.5s,baz=342,slow=8.6,SNR=31						
STKA				LR	LR	12 08 51.2	
	comp=Z,69nm,19.2s,baz=22,slow=40						
STKA	**Stephens Creek**	**31.21**	**172**	P	**P**	**11 54 18.2**	**+0.3**
	baz=31,SNR=20						
STKA	**Stephens Creek**	**31.21**	**172**	*e*P	**P**	**11 54 17.8**	**-0.1**
	33nm,3.0s						
BBOO	**Buckleboo**	**31.80**	**181**	P	**P**	**11 54 23.1**	**0.0**
	baz=31,SNR=8.9						
HTT	**Hallett**	**32.48**	**177**	P	**P**	**11 54 29.9**	**+0.7**
	baz=32,SNR=3.9						
KMBL	**Kambalda**	**33.43**	**203**	P	**P**	**11 54 37.4**	**0.0**
	baz=33,SNR=5.8						
MORW	**Morawa**	**34.29**	**213**	P	**P**	**11 54 44.7**	**-0.2**
	baz=34,SNR=4.4						
BLDU	**Ballidu**	**35.16**	**211**	P	**P**	**11 54 52.1**	**-0.3**
	baz=34,SNR=4.9						
KLBR	**Kellerberrin**	**35.44**	**209**	P	**P**	**11 54 54.4**	**-0.4**
	baz=35,SNR=6.7						
NJ2	**Nanjing**	**36.82**	**334**	*e*P	**P**	**11 55 05.8**	**-0.8**
NJ2				PMZ			
	40nm,0.5s						
MJAR	**Matsushiro Arr**	**37.23**	**2**	LR	LR	12 07 52.5	
	comp=Z,40nm,19.7s,baz=190,slow=32						
KSRS	**Korea Array**	**38.97**	**349**	LR	LR	12 08 22.4	
	comp=Z,24nm,20.3s,baz=165,slow=32						
GYA	**Guiyang**	**39.69**	**315**	*e*P	**P**	**11 55 30.0**	**-1.0**
GYA				pP	**pP**	**11 55 40.2**	**+1.6**
GYA				PP	**PnPn**	**11 57 05.4**	**-0.3**
GYA				ScP	**ScP**	**12 01 22.0**	**-3.1**
GYA				S	**S**	**12 01 30.6**	**-2.8**
GYA				sS	**sS**	**12 01 48.7**	**+2.9**
GYA				PMZ			
	10.0nm,0.8s						
CD2	**Chengdu**	**44.46**	**318**	*e*P	**P**	**11 56 08.6**	**-1.2**
USRK	**Ussuriysk Ar.**	**45.05**	**355**	LR	LR	12 13 09.8	
	comp=Z,40nm,19.2s,baz=117,slow=34						
ASAJ	**Asahikawa**	**45.08**	**6**	LR	LR	12 13 20.8	
	comp=Z,38nm,19.7s,baz=220,slow=34						
HHC	**Hu-ho-hao-te**	**47.38**	**334**	*e*P	**P**	**11 56 34.0**	**+1.2**
HHC				PP	**PP**	**11 58 24.6**	**+0.3**
HHC				S	**S**	**12 03 24.9**	**-0.6**
HHC				sS	**sS**	**12 03 41.4**	**+3.3**
HHC				ScS	**ScS**	**12 06 22.5**	**-2.9**
HHC				PMZ			
	18nm,1.3s						
HHC				PMZ			
	49nm,5.7s						
HHC				LN			
	180nm,16.3s						
HHC				LE			
	190nm,16.3s						
HHC				LZ			
	150nm,15.9s						
LZH	**Lanzhou**	**47.79**	**324**	*e*P	**P**	**11 56 36.9**	**+0.7**
LZH				pP	**pP**	**11 56 48.0**	**+4.1**
LZH				sP	sP	11 56 54.1	+7.2
LZH				PMZ			
	14nm,1.2s						
PETK	**Petropavlovsk-**	**56.56**	**15**	LR	LR	12 20 53.4	
	comp=Z,9.6nm,19.8s,baz=104,slow=35						
WMQ	**Urumqi**	**62.31**	**322**	*e*P	**P**	**11 58 21.5**	**+0.7**
WMQ				pP	**pP**	**11 58 31.7**	**+3.0**
WMQ				sP	**sP**	**11 58 35.6**	**+3.9**
WMQ				PcP	**PcP**	**11 59 01.1**	**+0.7**
WMQ				PP	**PP**	**12 00 40.6**	**+2.4**
WMQ				PcS	**PcS**	**12 03 02.8**	**-0.8**
WMQ				S	**S**	**12 06 43.2**	**-2.6**
WMQ				sS	**sS**	**12 07 00.0**	**+1.2**
WMQ				PMZ			
	14nm,0.6s						
WMQ				PMZ			
	89nm,4.4s						
WMQ				LN			
	53nm,21.6s						
WMQ				LE			
	29nm,19.0s						
WMQ				LZ			
	25nm,21.2s						
MKAR	**Makanchi Array**	**67.09**	**323**	P	**P**	**11 58 49.7**	**-2.2**
	0.4nm,0.6s,baz=124,slow=4.4,SNR=3.4						
KSH	**Kashi**	**68.35**	**313**	*e*P	**P**	**11 59 00.2**	**+0.1**
KSH				*e*pP	**pP**	**11 59 10.6**	**+2.5**
KSH				S	**S**	**12 07 56.7**	**-3.4**
KSH				PMZ			
	56nm,4.3s						
KSH				LN			
	200nm,12.1s						
KSH				LE			
	98nm,7.1s						
KSH				LZ			
	130nm,5.2s						
VNDA	**Vanda**	**77.81**	**175**	P	**P**	**11 59 54.8**	**-0.4**
	1.5nm,0.6s,baz=332,slow=6.4,SNR=16						
VNDA	**Vanda**	**77.81**	**175**	*e*P	**P**	**11 59 55.2**	**0.0**
	36nm,2.5s						
ILAR	**Eielson Array**	**84.99**	**25**	P	**P**	**12 00 30.3**	**-3.2**
	0.4nm,0.8s,baz=270,slow=4.5,SNR=3.1						
ILAR				LR	LR	12 37 22.2	
	comp=Z,7.4nm,18.4s,baz=216,slow=35						
HOPS	**Hopland Field**	**98.50**	**51**	*e*P	**P**	**12 01 36.5**	**-0.6**
KMBO	**Kilima Mbogo**	**99.42**	**269**	LR	LR	12 48 22.4	
	comp=Z,48nm,18.7s,baz=92,slow=36						
VYHS	**Vyhne**	**108.77**	**322**	PDIF	**Pdif**	**12 02 24.8**	**+2.1**
CPUP	**Villa Florida**	**149.78**	**154**	PKPbc	**PKPbc**	**12 07 48.6**	**-0.5**
	0.2nm,0.5s,baz=162,slow=3.2,SNR=3.7						
LPAZ	**La Paz**	**150.17**	**126**	PKPbc	**PKPbc**	**12 07 50.4**	**-0.7**
	1.4nm,1.0s,baz=247,slow=7.7,SNR=3.9						

*CSEM **12** 13:13:34.8±0.6, 41.19N×36.41E, h5km, MD2.8, Error ellipse: s-maj=9.0km s-min=8.5km az=85.0*

DDA 12 13:13:39.6, 41.30N×36.01E, h7km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KVT	**Kavak**	**0.23**	**172**	*e*PG	Pg	13 13 41.0	-3.2
KVT				*e*SG	Sg	13 13 44.3	-3.0
KVT	**Kavak**	**0.23**	**172**	*e*Pg	Pg	13 13 41.0	-3.2
KVT				*e*Sg	Sg	13 13 44.3	-3.0
HAVZ	**Havza**	**0.32**	**224**	*i* P	Pg	13 13 45.0	-0.9
HAVZ				*i* S	Sb	13 13 52.2	-0.9
HAVZ	**Havza**	**0.32**	**224**	*i* P	Pg	13 13 45.0	-1.0
HAVZ				*i* S	Sb	13 13 52.2	-0.9
BOYT	**Boyabat**	**0.84**	**278**	*i* P	Pb	13 13 56.9	+0.3
BOYT				*i* S	Sn	13 14 13.0	+2.4
BOYT	**Boyabat**	**0.84**	**278**	*i* P	Pb	13 13 56.9	+0.2
BOYT				*i* S	Sn	13 14 13.0	+2.4
CTKT	**Corum**	**1.15**	**234**	*i* P	Pg	13 14 00.6	-1.3
CTKT				*i* S	Sb	13 14 17.8	+0.5
CTKT	**Corum**	**1.15**	**234**	*i* P	Pg	13 14 00.6	-1.3
CTKT				*i* S	Sb	13 14 17.8	+0.5

DJA 12 13:18:29.3±0.6, 9.5S±31.1×11.6E±, h214km±11km, M3.9/10, mb4.1/5, mb4.2/6, mB4.9/1, MLv3.6/10, Mw(mB)4.2/1, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBI	**Singaraja**	**0.67**	**326**	P	Pn	13 18 58.7	0.0
GMJI	**Gumukmas**	**2.15**	**280**	P	Pn	13 19 10.3	-0.1
PCJI	**Pacitan**	**4.39**	**275**	P	Pn	13 19 36.6	+0.2
UGM	**Wanagama**	**5.07**	**278**	P	Pn	13 19 45.3	+0.3
	135nm,1.8s,0.7nm						
BASI	**Baing, Sumba**	**5.17**	**108**	P	Pn	13 19 45.3	-0.9
	71nm,1.2s,0.3nm						
CMJI	**Cimerak**	**7.12**	**276**	P	Pn	13 20 09.8	-1.4
	61nm,1.5s,0.3nm						
CISI	**Cisompet, Garu**	**7.77**	**277**	P	Pn	13 20 18.4	-1.4
	32nm,1.6s,2μm0.4nm						
CNJI	**Cibinong**	**8.48**	**278**	P	Pn	13 20 27.9	-0.9
	44nm,1.4s						
SOEI	**Soe**	**8.64**	**98**	P	Pn	13 20 30.1	-0.9
	20nm,1.4s						

*IDC **12** 13:18:36.3±1.1, 14.65N×93.42W, h0km, mb4.3/19, mb1 4.4/21, mb1mx4.3/31, mbtmp4.2/21, ML3.8/2, MS3.6/15, Ms1 3.6/15, ms1mx3.4/37, Error ellipse: s-maj=47.2km s-min=13.4km az=47.0*

*NEIC **12** 13:18:38.7±3.9, 14.47N×93.73W, h19km±24km, mb4.4/28, MD4.4(MEX), Error ellipse: s-maj=15.9km s-min=7.9km az=214.0*

*MEX **12** 13:18:43.7±0.5, 14.88N×94.04W, h14km±14km, MD4.4*

ISC 12 13:18:43.1±1.3, 14.71N±0.08×94.00W±0.04, h42km±11km, n283, σ1=86/268, mb4.5/46, MS3.7/13, 100C-104D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.25**	**37**	*i* P	Pn	13 19 01.1	-3.0
PCIG				*i* S	**Sn**	**13 19 15.6**	**-4.1**
PCIG		**1.25**	**37**	*i* P	Pn	13 19 01.1	-3.0
PCIG				*i* S	**Sn**	**13 19 15.6**	**-4.1**
HUIG	**Huatulco**	**2.29**	**298**	*e*P	**Pn**	**13 19 16.4**	**-2.0**
HUIG				*i* S	**Sn**	**13 19 41.7**	**-3.7**
HUIG	**Huatulco**	**2.29**	**298**	*e*P	**Pn**	**13 19 16.4**	**-2.0**
HUIG				*i* S	**Sn**	**13 19 41.7**	**-3.7**
CCIG	**Comitan**	**2.38**	**49**	*i* P	**Pn**	**13 19 18.9**	**-1.0**
CCIG				*i* S	**Sn**	**13 19 45.7**	**-2.3**
CCIG	**Comitan**	**2.38**	**49**	*i* P	**Pn**	**13 19 18.9**	**-1.0**
CCIG				*i* S	**Sn**	**13 19 45.7**	**-2.3**
CMIG	**Matias Romero**	**2.52**	**340**	*e*P	Pn	13 19 16.9	-4.6
CMIG				*i* S	**Sn**	**13 19 46.5**	**-4.5**
CMIG	**Matias Romero**	**2.52**	**340**	Pn	**Pn**	**13 19 21.8**	**+0.3**
	16nm,0.3s,baz=149,slow=10,SNR=136						
CMIG				Sn	**Sn**	**13 19 53.0**	**+2.0**
	37nm,0.3s,baz=134,slow=12,SNR=5.2						
CMIG	**Matias Romero**	**2.52**	**340**	Pn	**Pn**	**13 19 21.8**	**+0.3**
CMIG				*i* S	**Sn**	**13 19 46.5**	**-4.5**
CMIG				Sn	Sn	13 19 53.0	+2.0
VHO	**Vista Hermosa**	**3.53**	**312**	*e*P	**Pn**	**13 19 33.6**	**-2.0**
VHO				*i* S	**Sn**	**13 20 12.8**	**-3.4**
VHO	**Vista Hermosa**	**3.53**	**312**	*e*P	**Pn**	**13 19 33.6**	**-2.0**
VHO				*i* S	**Sn**	**13 20 12.8**	**-3.4**
PNIG	**Pinotepa**	**4.31**	**293**	*e*P	**Pn**	**13 19 45.5**	**-0.8**
PNIG				*i* S	**Sn**	**13 20 32.7**	**-2.6**
PNIG	**Pinotepa**	**4.31**	**293**	*e*P	**Pn**	**13 19 45.5**	**-0.8**
PNIG				*i* S	**Sn**	**13 20 32.7**	**-2.6**
TEIG	**Tepich**	**7.74**	**44**	Pn	Pn	13 20 29.5	-3.8
	11nm,0.3s,baz=237,slow=2.8,SNR=22						
TEIG				Sn	Sn	13 21 51.0	-8.7
	3.4nm,0.3s,baz=133,slow=12,SNR=1.8						
TEIG				LR	LR	13 23 51.6	
	comp=Z,1μm,20.7s,baz=239,slow=43						
TEIG	**Tepich**	**7.74**	**44**	*e*P	Pn	13 20 29.4	-3.9
	58nm,0.6s						
TEIG				Sn	Sn	13 21 51.0	-8.7
JTS	**JuntasAbangare**	**9.87**	**115**	Pn	Pn	13 20 55.9	-6.6
	baz=307,slow=20,SNR=1.7						
JTS				Sn	**Sn**	**13 22 54.9**	**+2.9**
	baz=311,slow=20,SNR=1.6						
JTS	**JuntasAbangare**	**9.87**	**115**	*e*Pn	Pn	13 20 57.4	-5.0
JTS				Sn	**Sn**	**13 22 54.9**	**+2.9**
035A	**Encino**	**12.76**	**343**	⇓P	Pn	13 21 45.9	+4.0
	baz=13						
835A	**Beeville**	**13.97**	**346**	⇑P	Pn	13 22 01.5	+3.0
	baz=14						
833A	**Chaparral WMA,**	**14.45**	**341**	⇓P	**Pn**	**13 22 07.8**	**+2.9**
	baz=15						
832A	**Faith Ranch, C**	**14.60**	**339**	⇑P	**Pn**	**13 22 10.2**	**+3.1**
	baz=15						
733A	**Divot King Ran**	**14.78**	**341**	⇓P	**P**	**13 22 13.1**	**-1.6**
	baz=15,SNR=6.1						
732A	**Laxson Ranch,**	**15.01**	**339**	⇑P	**P**	**13 22 16.8**	**-0.4**
	baz=15						
632A	**Uvalde**	**15.67**	**341**	⇓P	**P**	**13 22 24.0**	**-0.5**
	baz=16						
534A	**Blanco**	**15.80**	**346**	⇑P	**P**	**13 22 25.0**	**-0.9**
	baz=16						
631A	**Perdido Creek**	**15.85**	**339**	⇑P	**Pn**	**13 22 25.0**	**+1.7**
	baz=16						
532A	**Rocksprings**	**16.28**	**341**	⇑P	**P**	**13 22 32.3**	**+0.9**
	baz=17						
434A	**Burnet**	**16.50**	**347**	⇑P	**P**	**13 22 34.1**	**+0.3**
	baz=17						
531A	**Rocksprings**	**16.52**	**340**	⇑P	**P**	**13 22 33.7**	**-0.3**
	baz=17,SNR=6.2						
JCT	**Junction City**	**16.58**	**342**	*e*P	**P**	**13 22 35.8**	**+1.2**
	7.8nm,0.8s						
JCT	**Junction City**	**16.58**	**342**	⇑P	**P**	**13 22 35.1**	**+0.5**
	baz=17						
340A	**Bronson**	**16.63**	**0**	⇓P	**Pn**	**13 22 34.0**	**+0.8**
	baz=17						
433A	**Art**	**16.64**	**345**	⇑P	**P**	**13 22 35.1**	**-0.2**
	baz=17						
530A	**J-C Ranch, Com**	**16.79**	**337**	⇓P	**P**	**13 22 37.6**	**+0.7**
	baz=17						
432A	**Menard**	**16.95**	**343**	⇓P	**P**	**13 22 39.7**	**+1.0**
	baz=17

baz=20,SNR=12
Y31A **Rekieta Farm,** 19.99 345 ⇓P Pn 13 23 13.7 -0.4
baz=20,SNR=6.3
Z28A **Tucker Farm, M** 20.00 339 ⇓P Pn 13 23 14.9 +0.6
baz=20,SNR=5.7
Y30A **Stafford Cattl** 20.08 343 ⇑P Pn 13 23 15.7 +0.5
baz=20
X32A **Elmer** 20.20 347 ⇓P Pn 13 23 16.1 -0.4
baz=21
W37A **Quinton** 20.39 357 ⇑P P 13 23 16.0 -0.3
baz=21
W35A **Tecumseh** 20.52 353 ⇑P P 13 23 18.3 +0.5
baz=21,SNR=5.8
Y28A **McKinney Farm,** 20.52 340 ⇓P Pn 13 23 19.7 -0.7
baz=21,SNR=9.7
X31A **McDonald Ranch** 20.56 346 ⇓P P 13 23 19.7 +1.4
baz=21
X30A **Coker Ranch, T** 20.61 344 ⇓P Pn 13 23 20.7 -0.8
baz=21
W33A **Caddo, Fort Co** 20.75 350 ⇑P P 13 23 21.2 +0.8
baz=21
MSTX **Muleshoe** 20.76 339 *e*P P 13 23 21.0 +0.5
27nm,1.0s
MSTX **Muleshoe** 20.76 339 ⇑P Pn 13 23 22.8 -0.4
baz=21,SNR=8.1
X29A **Tulia** 20.85 342 ⇑P Pn 13 23 23.7 -0.6
baz=21
W32A **Sentinel** 20.87 348 ⇓P P 13 23 22.9 +1.3
baz=21
W31A **Holland Ranch,** 21.08 346 ⇑P P 13 23 25.3 +1.3
baz=22
V35A **Meyer Ranch, C** 21.12 354 ⇑P P 13 23 24.8 +0.5
baz=22
AMTX **Amarillo** 21.25 342 *e*P P 13 23 27.1 +1.3
15nm,0.6s
AMTX **Amarillo** 21.25 342 ⇑P P 13 23 27.5 +1.7
baz=22
V33A **Lossen Ranch,** 21.37 350 ⇓P P 13 23 28.0 +1.0
baz=22
V32A **Arapaho** 21.41 349 ⇓P P 13 23 28.5 +1.1
baz=22
W29A **Amarillo** 21.46 343 ⇓P P 13 23 29.9 +1.9
baz=22
121A **Cookes Peak, D** 21.74 327 *e*P P 13 23 35.3 +4.1
30nm,0.9s
121A **Cookes Peak, D** 21.74 327 ⇓P P 13 23 35.5 +4.3
baz=22,SNR=14
U33A **Lingo Farm, Me** 21.95 351 ⇓P P 13 23 34.3 +1.1
baz=22
V28A **Channing** 22.22 342 ⇓P P 13 23 37.9 +1.7
baz=23
T36A **Boggs Farm, Ca** 22.33 356 ⇓P P 13 23 36.7 -0.5
baz=23
U30A **WK&E Inc. Balk** 22.53 346 ⇑P P 13 23 40.7 +1.2
baz=23
LPM **Los Pinos Moun** 22.61 332 *e*P P 13 23 43.3 +2.8
2.0nm,0.8s
LAZ **Ladron** 22.92 331 P P 13 23 46.5 +2.8
S36A **Lake Cedric, C** 22.97 357 ⇓P P 13 23 43.7 -0.3
baz=23,SNR=7.2
S35A **Otter Creek Ra** 22.98 355 ⇓P P 13 23 44.3 +0.2
baz=23,SNR=7.8
U27A **Thompson Grove** 23.02 342 ⇓P P 13 23 46.2 +1.6
baz=23
ANMO **Albuquerque** 23.06 333 P P 13 23 46.7 +1.5
1.3nm,0.6s,baz=158,slow=9.7,SNR=4.4
TUC **Tucson** 23.26 322 *e*P P 13 23 50.4 +3.4
9.4nm,1.0s
S32A **Newby Ranch, P** 23.32 350 ⇑P P 13 23 48.3 +0.8
baz=24
S31A **Mullinville** 23.33 349 ⇑P P 13 23 48.2 +0.5
baz=24
T28A **Walsh** 23.46 344 ⇑P P 13 23 50.0 +1.0
baz=24
R37A **Teagarden Farm** 23.52 358 ⇑P P 13 23 49.2 -0.2
baz=24
R36A **Gordon, Harris** 23.56 357 ⇓P P 13 23 49.8 0.0
baz=24
T27A **Campo** 23.58 342 ⇑P P 13 23 51.4 +1.3
baz=24
SDV **Santo Domingo** 23.59 102 *e*P P 13 23 47.2 -3.3
7.2nm,0.8s
S29A **Ulysses** 23.68 346 ⇑P P 13 23 52.6 +1.6
baz=24
T26A **Comanche Natio** 23.95 341 ⇓P P 13 23 55.4 +1.8
baz=24,SNR=6.2
R32A **Long Quarter,** 23.99 351 ⇑P P 13 23 54.8 +1.0
baz=24
R31A **Burdett** 23.99 349 ⇑P P 13 23 54.3 +0.5
baz=24
R30A **Dighton** 24.13 348 ⇓P P 13 23 56.7 +1.6
baz=24,SNR=8.8
T25A **Trinidad** 24.19 339 ⇑P P 13 23 59.0 +3.1
baz=25,SNR=9.2
S27A **Las Animas** 24.21 343 ⇓P P 13 23 57.8 +1.8
baz=25
214A **Organ Pipe Nat** 24.29 318 ⇓P P 13 24 00.2 +3.6
baz=25
S26A **Kim** 24.32 342 ⇑P P 13 23 59.0 +2.0
baz=25,SNR=5.2
X18A **Snowflake** 24.43 327 ⇑P P 13 24 01.9 +3.8
baz=25,SNR=6.1
R29A **Marienthal** 24.45 346 ⇓P P 13 23 59.4 +1.3
baz=25
OLIL **Olney** 24.49 11 *e*P P 13 23 56.1 -2.2
16nm,0.8s
Q32A **Meitler Ranch,** 24.52 351 ⇓P P 13 23 59.4 +0.7
baz=25
R28A **Tribune** 24.54 345 ⇓P P 13 24 00.1 +1.2
baz=25
R27A **Eads** 24.74 343 ⇓P P 13 24 02.8 +2.0
baz=25,SNR=6.4
Q30A **Quinter** 24.79 348 ⇑P P 13 24 02.6 +1.5
baz=25
Q29A **Oakley** 24.86 347 ⇑P P 13 24 03.8 +2.0
baz=25,SNR=7.9
R26A **Arlington** 24.94 342 ⇓P P 13 24 05.0 +2.4
baz=25
SDCO **Great Sand Dun** 25.11 338 *e*P P 13 24 06.8 +2.4
2.0nm,0.3s
SDCO **Great Sand Dun** 25.11 338 ⇓P P 13 24 06.2 +1.8
baz=26
P32A **Huiting Farm,** 25.15 352 ⇑P P 13 24 04.9 +0.6
baz=26
X16A **Lo Mia Camp, P** 25.16 324 ⇓P P 13 24 08.4 +3.7
baz=26
P31A **Stockton** 25.17 350 ⇑P P 13 24 05.3 +0.8
baz=26
P30A **Selden** 25.34 349 ⇓P P 13 24 07.4 +1.2
baz=26,SNR=6.0
113A **Mohawk Valley,** 25.43 318 ⇓P P 13 24 11.1 +4.2
baz=26
P29A **Atwood** 25.54 348 ⇑P P 13 24 09.1 +1.2
baz=26
Q26A **Hugo** 25.54 343 ⇓P P 13 24 09.9 +1.8
baz=26
S22A **4UR Ranch, Cre** 25.61 336 ⇑P P 13 24 10.7 +1.8
baz=26
R23A **Moffat** 25.63 338 ⇓P P 13 24 11.0 +2.0
baz=26,SNR=7.9
O31A **Woolen Ranch,** 25.77 351 ⇓P P 13 24 10.9 +0.9
baz=26
MVCO **Mesa Verde** 25.86 333 *e*P P 13 24 13.5 +2.4
MVCO **Mesa Verde** 25.86 333 ⇑P P 13 24 13.3 +2.2
baz=26
WUAZ **Wupatki** 25.93 326 *e*P P 13 24 14.7 +3.0
6.0nm,0.9s
WUAZ **Wupatki** 25.93 326 ⇑P P 13 24 14.7 +3.0
baz=26
Q24A **Divide** 26.08 340 ⇓P P 13 24 14.9 +1.7
baz=26
PV01 **Paradox Valley** 26.66 334 *e*P P 13 24 21.5 +3.2
298nm,0.8s
PDMCI **Parker Dam,Lak** 26.67 321 ⇑P P 13 24 21.6 +3.5
baz=27
P23A **Jefferson** 26.68 339 ⇓P P 13 24 20.5 +1.9
baz=27,SNR=6.9
SMCO **Snowmass** 26.92 337 *e*P P 13 24 23.3 +2.5
6.6nm,1.3s
ISCO **Idaho Springs** 26.99 340 *e*P P 13 24 23.3 +1.9
6.1nm,0.9s
ISCO **Idaho Springs** 26.99 340 ⇓P P 13 24 23.8 +2.4
baz=27,SNR=10.0
W13A **Hualapai Mount** 27.06 322 ⇑P P 13 24 24.9 +3.0
baz=28
BC3 **Big Chuckawall** 27.08 318 ⇓P P 13 24 25.3 +3.3
baz=28
U15A **North Rim** 27.11 326 ⇑P P 13 24 25.8 +3.4
baz=28,SNR=5.5
P22A **Eagle** 27.21 338 ⇓P P 13 24 25.1 +1.9
baz=28
O22A **Kremmling** 27.63 339 ⇓P P 13 24 28.5 +1.4
baz=28
N23A **Red Feather La** 28.09 341 ⇓P P 13 24 33.2 +2.1
baz=28
N22A **Wattenberg Ran** 28.17 340 ⇓P P 13 24 34.2 +2.3
baz=29,SNR=5.1
O20A **White River Ci** 28.23 337 ⇓P P 13 24 34.9 +2.6
baz=29
M22A **Cedar Creek Ra** 28.76 340 ⇓P P 13 24 39.6 +2.5
baz=29
N20A **Spence Gulch,** 28.84 337 ⇑P P 13 24 40.1 +2.3
baz=29
BFSC **Mount Baldy Ra** 28.89 317 ⇓P P 13 24 41.4 +3.3
baz=29
GSC **Goldstone, Bar** 28.98 319 ⇑P P 13 24 42.5 +3.6
baz=29
ECSD **EROS Data Cent** 29.02 356 *e*P P 13 24 38.3 -0.7
6.6nm,0.7s
ECSD **EROS Data Cent** 29.02 356 ⇑P P 13 24 38.9 -0.2
baz=29,SNR=9.1
L23A **Garrett** 29.12 342 ⇓P P 13 24 41.7 +1.4
baz=30
L22A **Ellis Ranch, M** 29.27 341 ⇑P P 13 24 44.0 +2.4
baz=30
K22A **Casper** 29.86 341 ⇓P P 13 24 48.5 +1.8
baz=30
MPMC **Manual Prospec** 29.89 320 ⇑P P 13 24 50.2 +3.0
baz=30
ISA **Isabella, Lake** 30.27 318 ⇓P P 13 24 54.0 +3.7
baz=31
R11A **Troy Canyon, C** 30.30 325 ⇓P P 13 24 54.1 +3.4
baz=31
I25A **Rochford** 30.37 346 ⇓P P 13 24 52.7 +1.5
baz=31
GRAC **Grapevine Rang** 30.42 321 ⇑P P 13 24 55.0 +3.4
baz=31
H28A **Mission Ridge** 30.46 350 ⇓P P 13 24 53.5 +1.7
baz=31
J22A **Midwest** 30.54 342 ⇓P P 13 24 55.0 +2.2
baz=31
H27A **Howes** 30.61 349 ⇓P P 13 24 54.2 +1.0
baz=31
G30A **Faulkton** 30.64 353 ⇑P P 13 24 53.3 0.0
baz=31,SNR=6.5
J21A **Lysite** 30.78 341 ⇓P P 13 24 57.4 +2.5
baz=31,SNR=5.4
H25A **Fruitdale** 30.91 347 ⇓P P 13 24 57.3 +1.4
baz=31
I22A **9 Mile Ranch,** 30.98 342 ⇑P P 13 24 58.7 +2.1
baz=31
J20A **Shoshoni** 31.00 340 ⇑P P 13 24 58.9 +2.2
baz=31
PDAR **Pinedale Array** 31.00 337 P P 13 24 58.1 +1.3
1.4nm,0.9s,baz=129,slow=8.6,SNR=10
PDAR LR LR 13 37 33.8
comp=Z,18nm,19.7s,baz=160,slow=36
I21A **Big Trails, Te** 31.15 341 ⇑P P 13 24 60.0 +1.9
baz=32
J19A **Crowheart** 31.25 339 ⇑P P 13 25 00.0 +1.0
baz=32
H24A **Dirks Ranch, A** 31.25 345 ⇓P P 13 25 00.3 +1.4
baz=32
G26A **Maurine** 31.34 348 ⇑P P 13 25 00.3 +0.6
baz=32
F29A **Eureka** 31.41 352 ⇓P P 13 25 00.0 -0.2
baz=32
I20A **Worland** 31.54 340 ⇑P P 13 25 03.7 +2.2
baz=32,SNR=6.1
H22A **Meeanont** 31.59 343 ⇑P P 13 25 03.6 +1.7
baz=32
H21A **Big Horn, Sher** 31.82 342 ⇑P P 13 25 05.3 +1.4
baz=32
ELK **Elko** 31.86 329 P P 13 25 08.2 +3.7
1.4nm,0.7s,baz=152,slow=3.1,SNR=12
G23A **Biddle** 31.89 345 ⇑P P 13 25 06.1 +1.7
baz=32
I19A **Meeteetse** 31.91 339 ⇑P P 13 25 07.5 +2.7
baz=32,SNR=7.3
NVAR **Mina Arroy Bea** 31.92 322 P P 13 25 08.5 +3.5
3.7nm,0.8s,baz=138,slow=8.7,SNR=21
NVAR PcP PcP 13 27 54.7 -0.1
0.8nm,0.8s,baz=164,slow=3.6,SNR=3.5
H20A **Greybull** 31.98 341 ⇑P P 13 25 07.4 +2.1
baz=32
SNOW **Snow King Moun** 32.05 337 *e*P P 13 25 08.2 +2.1
14nm,1.1s
LOHW **Long Hollow** 32.12 337 *e*P P 13 25 08.8 +2.1
11nm,1.4s
F25A **Bowman** 32.12 348 ⇓P P 13 25 07.9 +1.4
baz=32
G22A **Birney** 32.14 344 ⇓P P 13 25 08.1 +1.3
baz=32
E28A **Huff** 32.26 351 ⇑P P 13 25 08.5 +0.8
baz=33
F24A **Ekalaka** 32.26 346 ⇓P P 13 25 09.3 +1.6
baz=33
MOOW **Moose Ponds** 32.29 337 *e*P P 13 25 09.8 +1.6
3.6nm,1.1s
I17A **Pilgrim Ck.** 32.37 337 ⇓P P 13 25 11.7 +2.8
baz=33
F23A **Volborg** 32.38 345 ⇓P P 13 25 10.2 +1.4
baz=33
G21A **Lodge Grass** 32.41 342 ⇓P P 13 25 10.0 +0.9
baz=33
E26A **Carlson Angus** 32.45 349 ⇑P P 13 25 10.7 +1.4
baz=33,SNR=6.9
H19A **Powell** 32.47 340 ⇑P P 13 25 12.1 +2.5
baz=33
SADO **Sadowa** 32.51 20 LR LR 13 40 11.3
comp=Z,187nm,18.9s,baz=218,slow=40
D30A **Buchanan** 32.55 354 ⇑P P 13 25 10.4 +0.3
baz=33
E25A **Miller Ranch,** 32.66 348 ⇑P P 13 25 12.1 +0.9
baz=33
H18A **Shoshone NF, C** 32.70 339 ⇓P P 13 25 13.9 +2.1
baz=33,SNR=36
G20A **Bridger** 32.71 341 ⇑P P 13 25 13.3 +1.6
baz=33
H17A **Grant Village** 32.78 338 ⇑P P 13 25 15.7 +3.1
baz=33
D28A **Regan** 32.85 352 ⇓P P 13 25 13.5 +0.7
baz=33
E24A **Baker** 32.91 347 ⇓P P 13 25 14.6 +1.2
baz=33
D26A **Manning** 32.99 349 ⇑P P 13 25 15.1 +1.1
baz=33
E23A **Ismay** 33.08 346 ⇑P P 13 25 16.6 +1.8
baz=34
C30A **Mose, Pekin** 33.11 354 ⇑P P 13 25 14.8 -0.3
baz=34
E22A **Miles City** 33.18 345 ⇑P P 13 25 16.6 +0.8
baz=34
F20A **Billings** 33.21 342 ⇓P P 13 25 17.1 +1.1
baz=34
D25A **Fairfield** 33.27 348 ⇑P P 13 25 17.9 +1.4
baz=34
MDND **Maddock** 33.37 353 *e*P P 13 25 16.9 -0.4
31nm,0.8s
MDND **Maddock** 33.37 353 ⇓P P 13 25 17.3 0.0
baz=34,SNR=6.6
F19A **Roth Farm, Mol** 33.50 341 ⇑P P 13 25 19.0 +0.4
baz=34
AGMN **Agassiz Nation** 33.53 358 *e*P P 13 25 16.8 -1.9
4.3nm,0.8s
AGMN **Agassiz Nation** 33.53 358 ⇓P P 13 25 17.6 -1.0
baz=34
HLID **Hailey** 33.64 333 ⇓P P 13 25 22.2 +2.2
baz=34,SNR=5.4
D23A **Lindsay** 33.69 346 ⇑P P 13 25 21.8 +1.6
baz=34
C26A **Wahner Farm, P** 33.70 350 ⇓P P 13 25 21.0 +0.8
baz=34
B30A **Myrvik Farm, E** 33.84 355 ⇓P P 13 25 21.3 0.0
baz=34
E20A **Meyer Farm, Mu** 33.84 342 ⇓P P 13 25 23.3 +1.8
baz=34
D22A **Cohagen** 33.90 345 ⇓P P 13 25 24.0 +2.0
baz=34,SNR=12
B29A **Wagenman Farm,** 33.95 354 ⇑P P 13 25 22.7 +0.3
baz=34,SNR=7.0
E19A **Rath Farm, Rou** 34.00 342 ⇓P P 13 25 24.1 +1.2
baz=34,SNR=5.6
MCMT **McKenzie Canyo** 34.01 336 *e*P P 13 25 26.7 +3.5
3.5nm,0.9s
B28A **Dugan Ranch, T** 34.05 352 ⇓P P 13 25 23.5 +0.2
baz=34
BOZ **Bozeman (W)** 34.24 338 *e*P P 13 25 25.6 +0.5
2.1nm,0.8s
C23A **Lambert** 34.28 347 ⇓P P 13 25 26.7 +1.5
baz=35
B25A **Knox Farm, Ray** 34.31 349 ⇓P P 13 25 26.8 +1.3
baz=35
A30A **Hoffart Farm,** 34.32 355 ⇑P P 13 25 25.4 -0.2
baz=35,SNR=14
DLMT **Dillon** 34.36 337 *e*P P 13 25 28.9 +2.8
13nm,1.3s
A29A **Manning Farm,** 34.39 354 ⇓P P 13 25 26.2 +0.1
baz=35,SNR=6.6
A28A **Rude Farm, Bot** 34.49 353 ⇑P P 13 25 27.5 +0.4
baz=35
D19A **Cripps Ranch,** 34.66 342 ⇓P P 13 25 29.9 +1.3
baz=35,SNR=6.4
LRM **Limekiln Ridge** 34.69 337 *e*P P 13 25 31.2 +2.1
97nm,1.7s
A26A **Wade Farm, Ken** 34.73 351 ⇑P P 13 25 30.1 +1.0
baz=35,SNR=9.3
C21A **Desert Coulee** 34.76 344 ⇓P P 13 25 30.9 +1.4
baz=35,SNR=5.7
WVOR **Wild Horse Val** 34.84 327 P P 13 25 32.7 +2.5
19nm,1.9s
B23A **Brockton** 34.86 347 ⇓P P 13 25 32.0 +1.8
baz=35
C20A **Veseth Ranch,** 34.90 343 ⇓P P 13 25 32.7 +2.0
baz=35
B22A **Reddig Ranch S** 34.93 346 ⇑P P 13 25 32.3 +1.4
baz=35
A25A **Svangstu Ranch** 34.95 349 ⇑P P 13 25 32.1 +1.1
baz=35
A24A **Westby** 35.10 349 ⇓P P 13 25 33.5 +1.2
baz=36
C19A **Slack Wire Ran** 35.22 342 ⇓P P 13 25 35.1 +1.7
baz=36
HRY **Holter Researc** 35.22 339 *e*P P 13 25 35.8 +2.3
4.3nm,0.7s
ULM **Lac du Bonnet** 35.48 358 P P 13 25 33.5 -2.0
1.6nm,0.6s,baz=184,slow=8.8,SNR=6.1
ULM PcP PcP 13 28 03.0 -1.2
0.9nm,0.4s,baz=211,slow=5.9,SNR=2.9
ULM LR LR 13 42 55.5
comp=Z,66nm,18.8s,baz=10.0,slow=41
B20A **Solberg Farm,** 35.57 344 ⇑P P 13 25 37.7 +1.3
baz=36
EGMT **Eagleton** 35.69 342 ⇑P P 13 25 39.0 +1.5
baz=36
A21A **Bergtoll Ranch** 35.80 345 ⇑P P 13 25 40.2 +1.8
baz=36
B19A **Brinkman Farms** 35.84 343 ⇑P P 13 25 40.8 +2.1
baz=36
A20A **Cobblestone Ra** 35.95 344 ⇑P P 13 25 41.0 +1.4
baz=36
MSO **Missoula** 36.10 337 ⇓P P 13 25 42.8 +1.8
baz=36
A19A **Klindworth Far** 36.22 343 ⇑P P 13 25 43.9 +1.9
baz=37,SNR=6.3
SWMT **Swartz Lake** 36.69 337 *e*P P 13 25 47.5 +1.5
2.4nm,0.8s
PTGA **Pitinga** 37.00 112 P P 13 25 43.9 -5.0
7.1nm,0.8s,baz=300,slow=11,SNR=12
NEW **Newport** 38.52 335 P P 13 26 02.4 +0.9
1.6nm,0.6s,baz=119,slow=13,SNR=4.2
NEW LR LR 13 44 43.4
comp=Z,111nm,18.5s,baz=160,slow=40
FCC **Fort Churchill** 43.98 360 *e*P P 13 26 44.7 -1.2
4.4nm,0.8s
SIV **San Ignacio** 44.60 132 P P 13 26 46.8 -4.7
1.1nm,0.7s,baz=340,slow=10,SNR=3.8
SCHQ **Schefferville** 45.26 22 LR LR 13 47 16.9
comp=Z,162nm,19.5s,baz=280,slow=38
BBB **Bella Bella** 46.21 331 LR LR 13 47 17.5
comp=Z,64nm,19.3s,baz=132,slow=37
YKA **Yellowknife Ar** 49.91 348 P P 13 27 32.8 +0.5
6.9nm,0.7s,baz=154,slow=7.3,SNR=95
YKA PcP PcP 13 28 51.7 -0.4
0.5nm,0.8s,baz=145,slow=4.2,SNR=4.6
DLBC **Dease Lake** 51.23 337 P P 13 27 44.1 +1.7
4.8nm,0.9s,baz=226,slow=3.4,SNR=6.2
DLBC LR LR 13 52 05.6
comp=Z,71nm,18.8s,baz=109,slow=39
BDFB **Brasilia** 54.54 122 P P 13 28 02.8 -4.6
3.3nm,0.6s,baz=279,slow=14,SNR=4.1
INK **Inuvik** 59.22 344 P P 13 28 39.6 -0.1
3.3nm,0.7s,baz=124,slow=7.7,SNR=10
RES **Resolute Bay** 59.98 360 P P 13 28 44.2 -0.6
3.9nm,0.8s,baz=187,slow=9.6,SNR=10
ILAR **Eielson Array** 61.43 337 P P 13 28 55.6 +0.7
3.1nm,0.8s,baz=147,slow=4.7,SNR=36
SUMG **Summit** 66.08 16 *i* P P 13 29 25.4 -0.5
5.6nm,0.8s
DAG **Danmarks Havn** 72.43 14 *i* P P 13 30 03.4 -1.2
7.6nm,0.7s
NB2 **NORSAR Subarra** 84.45 28 P P 13 31 11.1 -0.1
comp=Z,2.4nm,0.8s,baz=291,slow=5.1
NOA **NORSAR Array B** 84.45 28 P P 13 31 10.9 -0.3
comp=Z,4.5nm,0.8s,baz=292,slow=4.8,SNR=11
NOA LR LR 14 08 57.5
comp=Z,26nm,18.0s,baz=280,slow=36
ARCES **ARCESS Array B** 86.07 18 P P 13 31 17.7 -1.4
comp=Z,3.9nm,1.0s,baz=305,slow=4.3,SNR=6.4
ARCES LR LR 14 09 48.6
comp=Z,47nm,20.8s,baz=319,slow=36
DBIC **Dimbokro** 87.51 84 P P 13 31 24.9 -2.3
comp=Z,3.9nm,0.9s,baz=276,slow=1.5,SNR=4.7
GERES **GERESS Array B** 90.29 39 LR LR 14 08 43.5
comp=Z,42nm,20.0s,baz=284,slow=33
FINES **FINESS Array B** 90.67 25 P P 13 31 40.1 -1.0
comp=Z,1.1nm,0.7s,baz=274,slow=3.8,SNR=3.1
FINES LR LR 14 13 48.6
comp=Z,34nm,18.1s,baz=322,slow=37
RAO **Raoul Island** 91.89 240 LR LR 14 04 06.5
comp=Z,76nm,18.8s,baz=102,slow=30
TORD **Torodi Ar. Bea** 92.09 76 P P 13 31 44.9 -3.8
comp=Z,0.3nm,0.8s,baz=289,slow=4.4,SNR=2.5
TORD LR LR 14 10 57.2
comp=Z,14nm,21.4s,baz=270,slow=34
WRA **Warramunga Arr** 133.68 256 PKP PKPdf 13 37 55.1 -1.0
comp=Z,0.4nm,0.7s,baz=84,slow=2.3,SNR=4.6
CMAR **Chiang Mai Arr** 144.66 338 PKP PKPab 13 38 14.6 -0.2
comp=Z,3.0nm,0.8s,baz=346,slow=3.7,SNR=17

IDC **12** *13:25:35.9±4.0, 27.14N×65.69E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.4/50, mbtmp3.8/6, ML3.5/1, MS2.8/6, Ms1 2.9/6, ms1mx2.6/39, Error ellipse: s-maj=109.3km s-min=25.3km az=142.0*

ISC 12 13:25:37.7±3.5, 27.3N±0.5×65.7E±0.3, h10km, n12, σ1°09/7, mb3.9/5, MS2.8/5, Pakistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
THW	**Thamme Wali**	7.60	42	P		Pn	13 27 28.6	0.0
NDI	**New Delhi**	10.27	79	*e*P		Pn	13 27 58.0	-7.1
AAK	**Ala-Archa**	16.93	23	P		P	13 29 35.5	-1.3
	0.2nm,0.3s,baz=162,slow=9.6,SNR=2.1							
AAK				LR		LR	13 37 19.6	
	comp=Z,25nm,21.2s,baz=206,slow=41							
MKAR	**Makanchi Array**	23.48	29	P		P	13 30 48.1	+0.6
	2.3nm,0.7s,baz=216,slow=9.3,SNR=19							
AKTO	**Aktyubinsk**	23.89	348	LR		LR	13 40 36.4	
	comp=Z,24nm,19.3s,baz=232,slow=38							
KURBB	**Kurchatov Arra**	25.30	19	P		P	13 31 05.8	+1.5
	1.0nm,0.6s,baz=210,slow=8.8,SNR=6.8							
MMAI	**Mount Meron Ar**	26.78	290	LR		LR	13 44 25.2	
	comp=Z,28nm,19.0s,baz=45,slow=42							
ZALV	**Zalesovo Beam**	30.16	23	P		P	13 31 48.1	+0.4
	0.8nm,0.4s,baz=228,slow=10,SNR=4.8							
ZALV				LR		LR	13 45 20.8	
	comp=Z,25nm,19.2s,baz=220,slow=39							
CMAR	**Chiang Mai Arr**	31.77	99	LR		LR	13 45 46.0	
	comp=Z,7.4nm,18.1s,baz=270,slow=38							
FINES	**FINESS Array B**	43.21	333	P		P	13 33 39.0	+0.3
	0.3nm,0.4s,baz=126,slow=8.9,SNR=4.0							
YAK	**Yakutsk**	54.13	32	LR		LR	14 01 01.9	
	comp=Z,18nm,18.2s,baz=234,slow=39							
TORD	**Torodi Ar. Bea**	61.13	270	P		P	13 35 52.3	-0.3
	1.4nm,0.7s,baz=62,slow=6.9,SNR=12							

IDC 12 13:26:45.9±2.0, 4.76S×127.82E, h0km, mb3.5/1, mb1 3.8/3, mb1mx3.5/22, mbtmp3.6/3, ML3.6/2, Error ellipse: s-maj=128.3km s-min=30.1km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC

WRA	**Warramunga Arr**	**16.37**	**158**	Pn	Pn	13 30 38.2	+0.9
	0.2nm,0.3s,baz=336,slow=12,SNR=8.6						
ASAR	**Alice Springs**	**19.69**	**163**	P	P	13 31 16.6	-0.4
	0.2nm,0.3s,baz=343,slow=11,SNR=22						
MKAR	**Makanchi Array**	**65.18**	**327**	P	P	13 37 29.1	0.0
	0.1nm,0.3s,baz=112,slow=7.0,SNR=3.8						

*ISCJB **12** 13:33:22.6±0.4, 32°.77N±0°.02×115°.88W±0°.03, h12km±3km, Error ellipse: s-maj=4.1km s-min=3.5km az=25.4*
*NEIC **12** 13:33:23.9, 32°.72N×115°.89W, h3km, ML3.6(PAS), ML3.8(ECX), After PAS.*
*ECX **12** 13:33:24.2±0.5, 32°.71N×115°.88W, h2km, MD3.6, ML3.8*
ISC 12 13:33:23.5±0.9, 32°.69N±0°.02×115°.88W±0°.02, h13km±6km, n34, σ0°.96/48, 8C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.06**	**217**	⇑*i*P		**Pg**	**13 33 25.7**	**-0.3**
SGL	**Mount Signal**	**0.14**	**108**	⇓*i*P		**Pg**	**13 33 26.8**	**-0.2**
WESC	**Westside Schoo**	**0.14**	**62**	⇑*i*P		**Pg**	**13 33 26.7**	**-0.3**
RMX	**La Rumorosa**	**0.19**	**242**	*e*P		**Pg**	**13 33 27.9**	**+0.1**
RMX				*e*S		**Sg**	**13 33 31.2**	**+0.4**
ERPC	**Ernies Place**	**0.19**	**74**	⇑*i*P		**Pg**	**13 33 28.0**	**+0.2**
COK	**Cook Ranch**	**0.20**	**40**	⇑*i*P		**Pg**	**13 33 27.7**	**-0.3**
CBKC	**Canebrake**	**0.37**	**304**	*e*P2		**Pg**	**13 33 31.1**	**+0.1**
CPBX	**Cerro Prieto**	**0.56**	**119**	*e*P9		**Pg**	**13 33 35.0**	**+0.6**
CPBX				*e*S		**Sb**	**13 33 43.0**	**-0.1**
CPBX				⇑*e*			13 33 47.0	
CPBX				IAML			13 33 47.0	
	comp=E,17μm,0.3s							
BAR	**Barrett**	**0.67**	**269**	*e*Pg		**Pg**	**13 33 36.3**	**-0.1**
BAR				*e*Sg		**Sg**	**13 33 44.8**	**-0.4**
BAR	**Barrett**	**0.67**	**269**	*e*P		**Pg**	**13 33 36.3**	**-0.1**
CBX	**Cerro Bola**	**0.76**	**240**	⇑*e*P		**Pg**	**13 33 38.4**	**+0.1**
CBX				*e*S		**Sb**	**13 33 49.1**	**0.0**
CBX				IAML			13 33 49.8	
	comp=N,5μm,0.4s							
CBX				*e*			13 33 50.1	
CBX				IAML			13 33 50.1	
	comp=E,5μm,0.2s							
RDX	**Rancho Dawling**	**0.76**	**184**	⇓*e*P		**Pg**	**13 33 38.1**	**-0.2**
RDX				*e*S4		**Sg**	**13 33 48.2**	**-0.2**
RDX				⇓*e*			13 33 49.5	
	comp=N,2μm,0.3s							
PFO	**Pinyon Flats O**	**1.03**	**333**	*e*Pg		**Pb**	**13 33 41.7**	**-1.7**
PFO				*e*Sg		**Sb**	**13 33 55.0**	**-2.0**
PBX	**Punta Banda**	**1.19**	**217**	*e*P		**Pn**	**13 33 45.5**	**-0.4**
PBX				*e*S		**Sg**	**13 34 01.5**	**-0.3**
ECNX	**Esteban Cantu**	**1.20**	**211**	*e*P		**Pn**	**13 33 45.8**	**-0.3**
ECNX				*e*S		**Sb**	**13 34 01.6**	**+0.1**
ZAX	**El Zacaton**	**1.22**	**196**	*e*P		**Pb**	**13 33 46.4**	**-0.1**
ZAX				*e*S		**Sg**	**13 34 02.8**	**-0.1**
ECBX	**El Chinero**	**1.41**	**150**	*e*P9		**Pn**	**13 33 47.9**	**-1.0**
ECBX				*e*S		**Sn**	**13 34 07.0**	**-0.3**
ECBX				*e*			13 34 10.4	
ECBX				IAML			13 34 10.4	
	comp=E,1μm,0.5s							
SPX	**San Pedro Mart**	**1.68**	**168**	*e*P		**Pn**	**13 33 53.6**	**+0.7**
SPX				*e*S		**Sb**	**13 34 16.7**	**+0.9**
SPX				⇑*e*			13 34 22.6	
	comp=N,572nm,0.8s							
MWC	**Mount Wilson**	**2.38**	**311**	*e*Pn		**Pn**	**13 34 03.0**	**+0.7**
PASC	**Pasadena Art C**	**2.42**	**308**	Pn		**Pn**	**13 34 04.0**	**+1.1**
LDFC	**Landfair**	**2.47**	**15**	*e*Pg		**Pg**	**13 34 11.6**	**+0.8**
214A	**Organ Pipe Nat**	**2.70**	**105**	*e*Pn		**Pn**	**13 34 04.8**	**-2.0**
GSC	**Goldstone, Bar**	**2.71**	**344**	*e*Pg		**Pb**	**13 34 13.2**	**+1.2**
OSI	**Osito Audit: C**	**3.05**	**310**	*e*Pg		**Pb**	**13 34 18.0**	**+0.3**
ISA	**Isabella, Lake**	**3.66**	**325**	*e*Pn		**Pn**	**13 34 19.0**	**-0.9**
ISA				*e*Pg		**Pb**	**13 34 30.0**	**+1.9**
DAC	**Darwin (Calif)**	**3.84**	**339**	*e*Pn		**Pn**	**13 34 21.7**	**-0.9**
DAC				*e*Pg		**Pb**	**13 34 33.1**	**+1.8**
SHPR	**Sheep Range**	**3.85**	**9**	*e*Pn		**Pn**	**13 34 22.2**	**-0.4**
SHPR				*e*Pg		**Pg**	**13 34 35.2**	**-2.1**
TUC	**Tucson**	**4.33**	**94**	*e*Pn		**Pn**	**13 34 28.0**	**-1.1**
WUAZ	**Wupatki**	**4.68**	**52**	*e*Pn		**Pn**	**13 34 35.0**	**+0.8**
TPH	**Tonopah**	**5.48**	**349**	Pg		Pb	13 35 03.3	+4.1
	comp=N,7.0nm,0.8s							
R11A	**Troy Canyon, C**	**5.65**	**2**	*e*Pn		**Pn**	**13 34 49.5**	**+2.1**
	comp=N,2.5nm,0.7s							
R11A				*e*Pg		**Pg**	**13 35 11.4**	**-0.3**
W18A	**Petrified Fore**	**5.66**	**63**	*e*Pn		**Pn**	**13 34 48.6**	**+1.1**
121A	**Cookes Peak, D**	**6.83**	**89**	*e*Pn		**Pn**	**13 35 03.4**	**-0.3**
	comp=N,12nm,0.6s							
LAZ	**Ladron**	**7.50**	**74**	Pn		**Pn**	**13 35 13.9**	**+1.1**

IDC 12 13:43:39.0±12.0, 19°.71S×177°.64W, h332km±137km, mb3.3/9, mb1 3.6/10, mb1mx3.3/37, mbtmp4.0/10, Error ellipse: s-maj=62.9km s-min=19.5km az=180.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.04**	**193**	P		P	13 47 37.6	-0.3
	0.7nm,0.3s,baz=48,slow=14,SNR=3.4							
CTA	**Charters Tower**	**33.91**	**263**	P		P	13 49 52.6	+0.7
	6.9nm,0.6s,baz=98,slow=11,SNR=12							
STKA	**Stephens Creek**	**38.44**	**243**	P		P	13 50 29.8	-0.1
	2.0nm,0.7s,baz=96,slow=10,SNR=4.2							
ASAR	**Alice Springs**	**45.03**	**256**	P		P	13 51 22.8	-0.3
	3.3nm,0.7s,baz=99,slow=8.4,SNR=33							
WRA	**Warramunga Arr**	**45.05**	**261**	P		P	13 51 22.6	-0.5
	2.0nm,0.5s,baz=98,slow=5.8,SNR=48							
PETK	**Petropavlovsk-**	**75.59**	**345**	P		P	13 54 47.4	-0.2
	0.8nm,0.6s,baz=132,slow=6.4,SNR=5.5							
NVAR	**Mina Array Bea**	**80.22**	**43**	P		P	13 55 14.3	+0.8
	0.5nm,0.7s,baz=225,slow=11,SNR=4.1							
TXAR	**Lajitas Array**	**86.35**	**57**	P		P	13 55 45.2	+0.5
	0.4nm,0.9s,baz=216,slow=6.2,SNR=4.4							
ILAR	**Eielson Array**	**87.47**	**13**	P		P	13 55 47.0	-2.0
	0.2nm,0.5s,baz=228,slow=5.8,SNR=5.5							
PDAR	**Pinedale Array**	**88.16**	**43**	P		P	13 55 53.5	+0.4
	0.2nm,0.4s,baz=140,slow=2.1,SNR=3.1							

MAN 12 13:48:32, 13°.37N×120°.69E, h78km, mb4.6, ML3.5, MS3.5, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.29**	**64**	⇑*e*P		Pn	13 48 47.0	+2.9
LUBP	**Lubang**	**0.56**	**310**	*e*P		Pn	13 48 48.5	+2.4
SJMP	**San Jose**	**1.00**	**155**	*e*P		Pn	13 48 54.0	+3.1
SJMP				*e*S		Sn	13 49 13.0	+7.9
BUSP	**Coron**	**1.44**	**199**	*e*P		Pn	13 48 59.2	+2.6
BUSP				*e*S		Sn	13 49 16.8	+1.8
OTRP	**Odiongan**	**1.65**	**128**	*e*P		Pn	13 49 00.0	+0.9
ENPP	**El Nido**	**2.48**	**210**	*e*P		Pn	13 49 12.7	+2.4
CUYO	**Cuyo Island**	**2.53**	**173**	*e*P		Pn	13 49 12.9	+1.9

*IDC **12** 13:55:43.7±0.8, 34°.54S×71°.82W, h0km, mb3.9/7, mb1 4.1/9, mb1mx4.0/19, mbtmp3.9/9, ML4.0/2, Error ellipse: s-maj=37.3km s-min=17.6km az=91.0*
*GUC **12** 13:55:44.0±0.6, 34°.56S×71°.89W, h14km±4km, ML4.0*
ISC 12 13:55:44.3±1.8, 34°.57S±0°.03×71°.86W±0°.09, h5km±11km, n28, σ0°.73/29, mb4.0/6, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.68**	**130**	⇓*i*P		**Pb**	**13 55 58.3**	**-0.3**
NICH				*i* S		**Sb**	**13 56 08.2**	**0.0**
LNV	**Longovilo**	**0.72**	**32**	*e*P		**Pb**	**13 55 58.8**	**-0.4**
LNV				*i* S		**Sb**	**13 56 09.1**	**-0.2**
TALC	**Talca**	**0.85**	**167**	⇑*i*P		**Pg**	**13 56 00.4**	**-0.2**
TALC				*i* S		**Sg**	**13 56 11.9**	**+0.2**
CHCH	**Chadas Angostu**	**1.19**	**58**	⇑*i*P		**Pg**	**13 56 06.9**	**-0.1**
TACH	**Talagante**	**1.19**	**40**	⇓*i*P		**Pg**	**13 56 06.6**	**-0.5**
LNCH	**Linares**	**1.29**	**171**	⇓*i*P		**Pn**	**13 56 08.4**	**-0.6**
FSR	**Penalolen**	**1.55**	**46**	*e*P		**Pg**	**13 56 13.9**	**-0.1**
FSR				*e*S		**Sg**	**13 56 35.6**	**+1.5**
SJCH	**San Jose de Ma**	**1.56**	**54**	*e*P		**Pn**	**13 56 12.5**	**-0.1**
SJCH				AML	AML		13 56 37.1	
	comp=N,3μm,0.4s							
CLCH	**Cerro Calan**	**1.61**	**44**	*e*P		**Pn**	**13 56 13.7**	**+0.3**
CLCH				*i* S		**Sg**	**13 56 36.3**	**+0.4**
CLCH				AML	AML		13 56 41.2	
	comp=N,4μm,0.6s							
PEL	**Peldehue**	**1.73**	**35**	*e*P		**Pn**	**13 56 15.2**	**+0.3**
PEL				*i* S		**Sg**	**13 56 39.3**	**-0.5**
PEL				AML	AML		13 56 43.1	
	comp=N,3μm,0.5s							
CFAA	**Coronel Fontan**	**4.24**	**47**	Pn		**Pn**	**13 56 50.1**	**+0.5**
	comp=N,0.1nm,0.3s,baz=228,slow=16,SNR=4.2							
CFAA				Lg		Lg	13 57 49.4	
	comp=N,0.3nm,0.3s,baz=127,slow=20,SNR=4.0							
PLCA	**Paso Flores**	**6.24**	**171**	Pn		**Pn**	**13 57 18.9**	**+1.9**
	comp=N,1.1nm,0.3s,baz=340,slow=10.0,SNR=21							
PLCA				Lg		Lg	13 58 55.2	
	comp=N,0.5nm,0.3s,baz=274,slow=19,SNR=2.1							
LPAZ	**La Paz**	**18.51**	**11**	P		**Pn**	**14 00 02.9**	**+0.7**
	comp=N,0.2nm,0.3s,baz=178,slow=4.9,SNR=6.3							
SIV	**San Ignacio**	**20.88**	**30**	P		**P**	**14 00 26.1**	**-1.3**
	comp=N,3.0nm,0.9s,baz=231,slow=13,SNR=4.3							
PTGA	**Pitinga**	**35.45**	**21**	P		**P**	**14 02 41.0**	**-0.6**
	comp=N,1.5nm,0.6s,baz=254,slow=6.9,SNR=4.2							
SNAA	**Sanae**	**51.01**	**158**	P		**P**	**14 04 46.8**	**+0.1**
	comp=N,2.1nm,1.2s,baz=262,slow=14,SNR=2.8							
QSPA	**South Pole Qui**	**55.67**	**180**	P		**P**	**14 05 21.8**	**+0.6**
	comp=N,1.4nm,0.9s,baz=150,slow=2.2,SNR=6.0							
TXAR	**Lajitas Array**	**70.30**	**331**	P		**P**	**14 06 59.5**	**+0.8**
	comp=N,0.6nm,0.5s,baz=156,slow=8.5,SNR=7.7							
PDAR	**Pinedale Array**	**84.33**	**333**	P		**P**	**14 08 17.6**	**+0.3**
	comp=N,0.3nm,0.4s,baz=148,slow=6.0,SNR=2.9							
NVAR	**Mina Array Bea**	**84.43**	**325**	P		**P**	**14 08 18.1**	**+0.2**
	comp=N,0.6nm,0.8s,baz=174,slow=6.0,SNR=3.9							
WRA	**Warramunga Arr**	**120.34**	**209**	PKP		**PKPdf**	**14 14 36.0**	**-1.2**
	comp=N,0.2nm,0.6s,baz=152,slow=1.7,SNR=4.2							
H11S2	**WAKE ISLAND Hy**	**25.91**	**269**	T		T	16 33 08.5	
	baz=117							
H11S1	**WAKE ISLAND Hy**	**25.92**	**269**	T		T	16 33 07.1	
	baz=117							
H11S3	**WAKE ISLAND Hy**	**25.92**	**269**	T		T	16 33 10.2	
	baz=117							
H11N3	**WAKE ISLAND Hy**	**26.33**	**270**	T		T	16 33 38.9	
	baz=120							
H11N1	**WAKE ISLAND Hy**	**26.35**	**270**	T		T	16 33 39.8	
	baz=120							
H11N2	**WAKE ISLAND Hy**	**26.35**	**270**	T		T	16 33 40.3	
	baz=120							
ZALV	**Zalesovo Beam**	**154.62**	**33**	PKP		**PKPdf**	**14 15 36.5**	**-0.7**
	comp=N,0.4nm,0.3s,baz=287,slow=5.4,SNR=2.8							
ZALV				PKPbc		**PKiKP**	**14 15 46.0**	**+0.4**
	comp=N,0.8nm,0.6s,baz=270,slow=4.3,SNR=3.5							

*IDC **12** 13:55:48.9±0.8, 11°.38N×82°.84W, h0km, mb3.8/12, mb1 4.1/14, mb1mx4.0/27, mbtmp3.9/14, ML4.1/2, MS3.2/9, Ms1 3.2/9, ms1mx2.9/36, Error ellipse: s-maj=21.6km s-min=16.7km az=65.0*
*NEIC **12** 13:55:51.2±0.3, 11°.44N×82°.87W, h10km, mb4.0/2, Error ellipse: s-maj=7.1km s-min=5.4km az=115.0*
*ISCJB **12** 13:55:52.8±0.3, 11°.48N±0°.03×82°.86W±0°.02, h33km, mb3.7/14, MS3.2/8, Error ellipse: s-maj=4.3km s-min=3.5km az=5.3*
*CASC **12** 13:55:53.9±2.1, 11°.41N×82°.89W, h27km±16km, MD4.5*
ISC 12 13:55:54.4±0.5, 11°.48N±0°.05×82°.91W±0°.04, h35km, n63, σ1°.34/68, mb3.7/14, MS3.2/8, 6C-9D, North of Panama

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
URSC	**Urasca**	**1.84**	**208**	⇓*i*P		**Pn**	**13 56 22.8**	**-0.9**
URSC	**Urasca**	**1.84**	**208**	⇓*i*P		**Pn**	**13 56 22.8**	**-0.9**
SJS	**Escuela Geolog**	**1.90**	**216**	⇑*i*P		**Pn**	**13 56 24.5**	**+0.1**
SJS	**Escuela Geolog**	**1.90**	**216**	⇑*i*P		**Pn**	**13 56 24.0**	**-0.4**
FORC	**Fortuna**	**2.00**	**240**	*i* P		**Pn**	**13 56 24.8**	**-0.9**
CASO	**Castillo**	**2.07**	**240**	*i* P		**Pn**	**13 56 25.2**	**-1.6**
CNI	**Changuinola**	**2.08**	**169**	⇓*e*P		**Pn**	**13 56 26.2**	**-0.6**
BUS	**Buena Vista**	**2.09**	**204**	⇓*i*P		**Pn**	**13 56 26.6**	**-0.7**
BUS	**Buena Vista**	**2.09**	**204**	⇓*i*P		**Pn**	**13 56 26.6**	**-0.7**
BUS				*i* S		**Sn**	**13 56 52.2**	**-0.1**
CGA2	**Cerro Gallo 2**	**2.11**	**227**	*e*P		**Pn**	**13 56 26.8**	**-0.6**
CGA2	**Cerro Gallo 2**	**2.11**	**227**	*e*P		**Pn**	**13 56 27.0**	**-0.4**
JTS	**JuntasAbangare**	**2.33**	**240**	*e*P		**Pn**	**13 56 28.2**	**-2.0**
JTS	**JuntasAbangare**	**2.33**	**240**	Pn		**Pn**	**13 56 28.7**	**-1.5**
	62nm,0.3s,baz=332,slow=21,SNR=107							
JTS						**Sn**	**13 56 58.8**	**+1.1**
	87nm,0.3s,baz=54,slow=19,SNR=6.9							
JTS				LR		LR	13 57 17.5	
	comp=Z,209nm,20.1s,baz=200,slow=38							
CUI	**Cuipilapa**	**2.36**	**250**	*i* P		**Pn**	**13 56 31.4**	**+0.7**
CUI				*i* S		**Sn**	**13 57 00.7**	**+2.2**
MESS	**Mesas**	**2.36**	**252**	*i* P		**Pn**	**13 56 31.2**	**+0.4**
QCR	**Quepos**	**2.39**	**211**	⇓*i*P		**Pn**	**13 56 31.3**	**+0.3**
COLC	**Colonia**	**2.39**	**250**	*i* P		**Pn**	**13 56 31.4**	**+0.2**
COLC				*i* S		**Sn**	**13 57 01.6**	**+2.3**
LIM1	**Limonal**	**2.43**	**252**	*i* P		**Pn**	**13 56 30.8**	**-0.8**
CTCR	**Cotoan**	**2.57**	**177**	⇑*e*P		**Pn**	**13 56 33.0**	**-0.7**
LAPC	**Finca la Perla**	**2.58**	**254**	*i* P		**Pn**	**13 56 33.7**	**+0.1**
GBS3	**Finca Las Im¯¡**	**2.59**	**255**	*i* P		**Pn**	**13 56 32.8**	**-1.1**
BRU	**Baru**	**2.68**	**173**	*e*P		**Pn**	**13 56 35.1**	**-0.3**
TBS2		**2.68**	**175**	*e*P		**Pn**	**13 56 36.4**	**+1.2**
JCR	**Jicaral**	**2.71**	**233**	⇓*e*P		**Pn**	**13 56 34.8**	**-0.6**
JCR				*e*S		**Sn**	**13 57 05.9**	**-1.1**
JCR	**Jicaral**	**2.71**	**233**	⇓*e*P		**Pn**	**13 56 34.8**	**-0.6**
CAO	**Cobano**	**2.79**	**231**	⇑*e*P		**Pn**	**13 56 36.1**	**-0.4**
CAO	**Cobano**	**2.79**	**231**	⇑*e*P		**Pn**	**13 56 36.1**	**-0.4**
ACR	**Cerro Adams**	**2.82**	**185**	⇓*e*P		**Pn**	**13 56 37.2**	**+0.2**
ACR				*e*P		**Pn**	**13 56 37.2**	**+0.2**
ACR	**Cerro Adams**	**2.82**	**185**	⇓*e*P		**Pn**	**13 56 37.3**	**+0.2**
VCR	**Vista de Mar**	**2.99**	**244**	*e*P		**Pn**	**13 56 39.9**	**+0.5**
VCR	**Vista de Mar**	**2.99**	**244**	*e*P		**Pn**	**13 56 39.9**	**+0.5**
BCIP	**Isla Barro Col**	**3.80**	**127**	*e*P		**Pn**	**13 56 50.6**	**+0.2**
BCIP				*e*S		**Sn**	**13 57 34.2**	**+0.3**
ZANG	**Zanguenga, Cho**	**3.91**	**130**	*e*P		**Pn**	**13 56 52.0**	**+0.1**
ZANG				*e*S		**Sn**	**13 57 34.5**	**-2.0**
UPA	**Univ. de Panam**	**4.15**	**126**	*e*P		**Pn**	**13 56 55.5**	**+0.3**
UPA				*e*S		**Sn**	**13 57 42.0**	**-0.5**
UPA	**Univ. de Panam**	**4.15**	**126**	*e*P		**Pn**	**13 56 55.5**	**+0.3**
UPA				*e*S		**Sn**	**13 57 41.8**	**-0.7**
AZU	**Azuero**	**4.49**	**144**	*e*S		**Sn**	**13 57 52.5**	**+1.4**
MTDJ	**Mount Denham**	**8.48**	**37**	P		**Pn**	**13 57 56.6**	**+1.7**
TEIG	**Tepich**	**10.11**	**330**	Pn		**Pn**	**13 58 17.4**	**+0.2**
	1.2nm,0.3s,baz=176,slow=19,SNR=4.1							
TEIG						**Sn**	**14 00 04.1**	**-5.3**
	0.8nm,0.3s,baz=270,slow=20,SNR=1.8							
TEIG	**Tepich**	**10.11**	**330**	*e*Pn		**Pn**	**13 58 18.0**	**+0.8**
TEIG						**Sn**	**14 00 04.1**	**-5.3**
SDV	**Santo Domingo**	**12.35**	**101**	*e*Pn		**Pn**	**13 58 46.6**	**-1.4**
	9.8nm,0.6s							
NNA	**Nana**	**24.08**	**165**	P		**P**	**14 01 04.5**	**-2.2**
	5.8nm,0.3s,baz=270,slow=5.1,SNR=3.1							
TKL	**Tuckaleechee C**	**24.08**	**358**	P		**P**	**14 01 06.3**	**-0.3**
	5.3nm,1.2s,baz=133,slow=5.2,SNR=3.8							
TKL						LR	14 10 45.5	
	comp=Z,43nm,20.3s,baz=342,slow=37							
MIAR	**Mount Ida**	**24.93**	**339**	P		**P**	**14 01 15.3**	**+0.9**
	6.0nm,1.0s							
PTGA	**Pitinga**	**25.82**	**117**	LR		LR	14 12 08.5	
	comp=Z,59nm,19.1s,baz=312,slow=38							
TXAR	**Lajitas Array**	**26.27**	**316**	P		**P**	**14 01 27.2**	**+0.6**
	0.5nm,0.8s,baz=138,slow=9.6,SNR=4.6							
WMOK	**Wichita Mounta**	**27.29**	**331**	*e*P		**P**	**14 01 38.3**	**+2.5**
	1.0nm,0.5s							
LPAZ	**La Paz**	**31.22**	**152**	LR		LR	14 16 20.8	
	comp=Z,28nm,18.7s,baz=296,slow=40							
SIV	**San Ignacio**	**34.81**	**141**	P		**P**	**14 02 41.7**	**-0.5**
	3.3nm,0.8s,baz=318,slow=10.0,SNR=6.9							
PDAR	**Pinedale Array**	**38.84**	**328**	P		**P**	**14 03 16.5**	**+0.1**
	0.6nm,0.8s,baz=126,slow=7.5,SNR=5.2							
NVAR	**Mina Array Bea**	**41.41**	**317**	P		**P**	**14 03 39.0**	**+1.2**
	0.8nm,0.7s,baz=134,slow=7.3,SNR=6.6							
BDFB	**Brasilia**	**43.81**	**127**	LR		LR	14 24 32.3	
	comp=Z,44nm,21.1s,baz=77,slow=39							
SCHQ	**Schefferville**	**45.07**	**13**	P		**P**	**14 04 07.6**	**+0.8**
	2.3nm,0.6s,baz=277,slow=18,SNR=3.6							
SCHQ						LR	14 22 52.2	
	comp=Z,50nm,20.6s,baz=300,slow=36							
YBH	**Yreka Blue Hor**	**45.99**	**318**	LR		LR	14 25 41.2	
	comp=Z,36nm,19.4s,baz=141,slow=39							
YKA	**Yellowknife Ar**	**55.78**	**343**	P		**P**	**14 05 28.6**	**+1.0**
	0.4nm,0.8s,baz=136,slow=7.7,SNR=6.2							
ILAR	**Eielson Array**	**68.72**	**336**	P		**P**	**14 06 54.7**	**+0.5**
	0.3nm,0.9s,baz=99,slow=5.8,SNR=3.3							
ESDC	**Sonseca Array**	**74.29**	**52**	P		**P**	**14 07 28.2**	**-0.2**
	0.2nm,0.3s,baz=288,slow=6.5,SNR=3.0							
NOA	**NORSAR Array B**	**82.04**	**29**	LR		LR	14 41 20.1	
	comp=Z,6.6nm,21.4s,baz=310,slow=33							
TORD	**Torodi Ar. Bea**	**82.27**	**78**	P		**P**	**14 08 12.7**	**-0.2**
	0.4nm,0.7s,baz=278,slow=4.3,SNR=2.4							
ARCES	**ARCESS Array B**	**85.63**	**20**	P		**P**	**14 08 29.0**	**0.0**
	1.0nm,0.8s,baz=343,slow=3.8,SNR=4.3							
FINES	**FINESS Array B**	**88.84**	**27**	LR		LR	14 42 43.3	
	comp=Z,14nm,21.0s,baz=212,slow=32							

ASAR	**Alice Springs**	**142.99**	**246**	PKhKP		PKPpre	14 15 17.3
	0.3nm,0.9s,baz=106,slow=3.9,SNR=3.3						
WRA	**Warramunga Arr**	**143.24**	**252**	PKP		**PKPdf**	**14 15 25.7**	**-0.1**
	0.3nm,0.9s,baz=92,slow=3.5,SNR=7.7						
CMAR	**Chiang Mai Arr**	**150.20**	**356**	PKPbc		**PKPbc**	**14 15 43.1**	**+0.5**
	0.3nm,0.5s,baz=345,slow=3.2,SNR=2.9						

IDC 12 14:06:49.1±6.2, 20°.87S×169°.43E, h86km±56km, mb3.1/2, mb1 3.5/3, mb1mx3.3/17, mbtmp3.5/3, ML3.9/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/7, Error ellipse: s-maj=212.7km s-min=46.8km az=158.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**2.69**	**241**	*e*P		Pn	14 07 30.2	-0.3
BAYA				*e*S		Sn	14 08 02.9	+0.7
DZM	**Mont Dzumac**	**3.03**	**246**	P		Pn	14 07 35.8	+0.7
	15nm,0.3s,baz=101,slow=19,SNR=139							
DZM				S		Sn	14 08 10.5	0.0
	6.4nm,0.3s,baz=90,slow=20,SNR=8.4							
DZM	**Mont Dzumac**	**3.03**	**246**	*e*P		Pn	14 07 35.5	+0.4
DZM				*e*S		Sn	14 08 11.9	+1.4
WRA	**Warramunga Arr**	**32.86**	**265**	P		P	14 13 15.0	-0.1
	0.3nm,0.6s,baz=96,slow=8.4,SNR=3.2							
ASAR	**Alice Springs**	**32.94**	**258**	P		P	14 13 16.4	+0.6
	0.3nm,0.6s,baz=86,slow=8.5,SNR=4.9							
ASAR				LR		LR	14 26 39.5	
	comp=Z,62nm,19.2s,baz=95,slow=36							
CMAR	**Chiang Mai Arr**	**79.33**	**294**	pP		pP	14 19 09.2	+0.7
	1.1nm,0.7s,baz=143,slow=3.6,SNR=5.8							
ARCES	**ARCESS Array B**	**126.68**	**345**	PKP		PKPdf	14 25 41.1	-0.8
	1.4nm,0.7s,baz=43,slow=1.4,SNR=8.2							
GERES	**GERESS Array B**	**146.00**	**331**	PKPbc		PKPdf	14 26 18.3	+0.1
	baz=21,slow=3.4							

*CSEM **12** 14:33:04.5, 34°.58N×7°.13E, h0km, ML3.7*
CRAAG 12 14:33:04.5, 34°.57N×7°.13E, Ml3.7, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CTEI	**Djebel Teioual**	**1.60**	**339**	P		Pn	14 33 30.8	-3.5
CTEI	**Djebel Teioual**	**1.60**	**339**	P		Pn	14 33 30.8	-3.5
ABSA	**Djebel Ababsia**	**1.72**	**9**	P		Pn	14 33 32.2	-3.7
ABSA	**Djebel Ababsia**	**1.72**	**9**	P		Pn	14 33 32.2	-3.7
CASM	**Ain Smara**	**1.77**	**343**	P		Pn	14 33 35.1	-1.3
CASM	**Ain Smara**	**1.77**	**343**	P		Pn	14 33 35.1	-1.3
CKFL	**Kef-Lekhel**	**1.86**	**350**	P		Pn	14 33 33.7	-4.1
CKFL	**Kef-Lekhel**	**1.86**	**350**	P		Pn	14 33 33.7	-4.1
CMAH	**Djebel Manchou**	**2.06**	**6**	P		Pb	14 33 43.5	+0.5
CMAH

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.28**	**331**	P	**Pn**	**15 29 17.2**	**+1.0**
	17nm,0.3s,baz=141,slow=3.4,SNR=361						
LPAZ				S	**S**	**15 29 52.5**	**-1.0**
	1.0nm,0.3s,baz=27,slow=20,SNR=3.5						
LVC	**Limon Verde**	**4.65**	**202**	P	**Pn**	**15 29 42.8**	**+1.3**
	54nm,0.3s,baz=11,slow=8.3,SNR=23						
LVC				S	**S**	**15 30 37.8**	**-1.6**
	141nm,0.3s,baz=150,slow=18,SNR=20						
SIV	**San Ignacio**	**6.11**	**69**	P	**Pn**	**15 29 59.7**	**+0.6**
	0.3nm,0.3s,baz=260,slow=11,SNR=4.7						
TXAR	**Lajitas Array**	**59.12**	**323**	P	**P**	**15 38 02.2**	**-0.1**
	0.2nm,0.7s,baz=152,slow=10.0,SNR=3.2						
PDAR	**Pinedale Array**	**72.30**	**328**	P	**P**	**15 39 26.4**	**+0.2**
	0.3nm,0.4s,baz=119,slow=8.4,SNR=5.2						
TORD	**Torodi Ar. Bea**	**74.59**	**70**	P	**P**	**15 39 38.4**	**-1.4**
	0.3nm,0.5s,baz=250,slow=5.7,SNR=5.8						
YKA	**Yellowknife Ar**	**88.80**	**340**	P	**P**	**15 40 53.0**	**+0.5**
	0.4nm,0.5s,baz=130,slow=4.6,SNR=6.7						

IDC ***12*** *15:47:52.5±1.4,9.°12S×117.°23E,h0km,mb3.5/3, mb1 3.7/5,mb1mx3.5/22,mbtmp3.5/5,ML3.6/2,MS2.6/1, Ms1 2.6/1,ms1mx2.3/19,Error ellipse: s-maj=49.7km s-min=23.9km az=57.0*

ISCJB ***12*** *15:47:55.0±0.4,9.°15S±0.°05×117.°53E±0.°03,h10km, mb3.5/3,Error ellipse: s-maj=7.4km s-min=3.7km az=5.0*

DJA ***12*** *15:47:57.6±0.3,9.°5S×11.°7E±,h10km,M4.4/20,mb4.7/2, mB4.8/2,MLv4.3/20,Mw(mB)4.0/2*

ISC 12 15:47:56.3±0.8,9.°05S±0.°07×117.°52E±0.°04,h10km,n26, σ1ᵍ53/29,mb3.4/3,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.94**	**108**	P	Pn	15 48 27.7	-1.7
DNP	**Denpasar**	**2.31**	**279**	P	**Pn**	**15 48 34.8**	**+0.3**
DNP				S	**Sn**	**15 49 04.7**	**+1.7**
IGBI	**Denpasar**	**2.35**	**275**	P	**Pn**	**15 48 34.2**	**-0.9**
IGBI				S	**Sn**	**15 49 04.4**	**+0.3**
SRBI	**Singaraja**	**2.47**	**293**	P	**Pn**	**15 48 36.1**	**-0.6**
SRBI				S	**Sn**	**15 49 08.3**	**+1.3**
WSI	**Waingapu**	**2.81**	**103**	P	**Pn**	**15 48 43.2**	**+1.8**
WSI	**Waingapu**	**2.81**	**103**	P	**Pn**	**15 48 43.8**	**+2.4**
	baz=2.9,SNR=7.7						
ABJI	**Asem Bagus**	**3.48**	**291**	P	**Pn**	**15 48 51.8**	**+1.2**
BLJI	**Banyuglugur**	**4.09**	**288**	P	**Pn**	**15 48 59.8**	**+0.8**
GMJI	**Gumukmas**	**4.10**	**281**	P	**Pn**	**15 48 59.3**	**+0.2**
GMJI				S	**Sn**	**15 49 47.8**	**+0.6**
BSSI	**Bau Bau, Buton**	**4.12**	**46**	P	**Pn**	**15 49 00.2**	**+0.7**
BSSI				S	**Sn**	**15 49 50.3**	**+2.5**
EDFI	**Ende, Flores**	**4.13**	**86**	P	**Pn**	**15 49 01.3**	**+1.6**
BKSI	**Bulukumba**	**4.51**	**35**	P	**Pn**	**15 49 05.2**	**+0.4**
KAPI	**Kappang**	**4.58**	**25**	Pn	**Pn**	**15 49 05.9**	**+0.2**
	8.2nm,0.3s,baz=210,slow=14,SNR=14						
KAPI				Sn	**Sn**	**15 49 57.6**	**-1.5**
	14nm,0.3s,baz=227,slow=16,SNR=13						
KAPI				LR	LR	15 51 04.0	
	comp=Z,64nm,20.7s,baz=165,slow=40						
MMRI	**Maumere**	**4.68**	**85**	P	**Pn**	**15 49 09.3**	**+2.2**
BNSI	**Bone**	**5.29**	**29**	P	**Pn**	**15 49 17.4**	**+2.0**
	39nm,0.5s,612nm0.2nm						
GRJI	**Gresik**	**5.42**	**293**	P	**Pn**	**15 49 18.6**	**+1.3**
UGM	**Wanagama**	**7.01**	**279**	P	**Pn**	**15 49 40.9**	**+1.7**
	baz=7.0,SNR=4.7						
UGM				S	**Sn**	**15 51 01.9**	**+2.9**
	baz=7.0,SNR=3.2						
GIRL	**Giralia**	**13.88**	**193**	P	Pn	15 51 08.9	-4.3
	baz=14,SNR=4.0						
GIRL				S	Sn	15 53 34.4	-13
	baz=14,SNR=3.4						
KKM	**Kota Kinabalu**	**15.05**	**355**	P	Pn	15 51 23.6	-5.7
	baz=15,SNR=3.8						
MEEK	**Meekatharra**	**17.53**	**177**	P	**Pn**	**15 52 00.6**	**-0.4**
	baz=18,SNR=7.1						
MEEK				S	Sn	15 54 58.7	-18
	baz=18,SNR=6.6						
WRKA	**Warakurna**	**18.93**	**148**	P	**P**	**15 52 17.5**	**-0.1**
	baz=19,SNR=6.4						
WRA	**Warramunga Arr**	**19.54**	**126**	P	**P**	**15 52 23.9**	**-0.4**
	0.1nm,0.3s,baz=301,slow=12,SNR=5.5						
ASAR	**Alice Springs**	**21.38**	**135**	P	**P**	**15 52 43.6**	**-0.6**
	0.9nm,0.5s,baz=309,slow=9.0,SNR=21						
STKA	**Stephens Creek**	**31.86**	**139**	P	**P**	**15 54 20.6**	**-1.2**
	1.8nm,1.0s,baz=322,slow=12,SNR=3.2						
MKAR	**Makanchi Array**	**63.84**	**334**	P	P	15 58 26.5	-2.5
	0.1nm,0.4s,baz=126,slow=7.3,SNR=2.8						
TORD	**Torodi Ar. Bea**	**117.03**	**280**	PKP	**PKPdf**	**16 06 39.7**	**-2.9**
	0.7nm,1.1s,baz=90,slow=2.9,SNR=2.6						

GUC 12 16:24:06.3±0.7,34.°17S×72.°18W,h17km±2km,ML3.5, 4C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.14**	**137**	*e*P	Pn	16 24 27.1	-0.5
NICH				*e*S	Sb	16 24 41.9	-0.2
TACH	**Talagante**	**1.16**	**64**	⇑*i*P	Pn	16 24 26.5	-1.2
TACH				*i* S	Sb	16 24 42.7	0.0
TALC	**Talca**	**1.30**	**160**	⇑*i*P	Pn	16 24 29.1	-0.7
TALC				*i* S	Sn	16 24 46.0	-0.8
RCDM	**Rinconada Maip**	**1.33**	**60**	⇑*i*P	Pn	16 24 29.4	-0.8
RCDM				AML	AML	16 24 51.1	
	comp=E,912nm,0.3s						
SAN	**Santiago**	**1.45**	**61**	*e*P	Pn	16 24 31.8	-0.1
SAN				*i* S	Sb	16 24 51.5	+0.2
CLCH	**Cerro Calan**	**1.57**	**61**	⇓*i*P	Pn	16 24 33.5	-0.1
CLCH				*e*P	Pb	16 24 34.2	-0.9
CLCH				*i* S	Sb	16 24 54.7	-0.1
CLCH				*i* S	Sn	16 24 55.0	+1.3
CLCH				AML	AML	16 25 00.5	
	comp=E,884nm,0.5s						
PEL	**Peldehue**	**1.61**	**51**	*e*P	Pn	16 24 34.8	+0.7
PEL				*i* S	Sb	16 24 56.0	0.0
PEL				AML	AML	16 25 03.8	
	comp=E,1μm,0.4s						
LNCH	**Linares**	**1.74**	**164**	⇑*i*P	Pn	16 24 36.5	+0.8
LNCH				*i* S	Sb	16 24 59.4	+0.1
FCH	**Farellones**	**1.79**	**62**	⇓*i*P	Pg	16 24 42.4	+1.3
FCH				*i* S	Sg	16 25 06.2	+1.6
FCH				AML	AML	16 25 13.8	
	comp=E,1μm,0.3s						

IGQ 12 16:25:43±0.5,1.°87S×78.°88W,h4km±78km,Mb4.1,6C-5D, Error ellipse: s-maj=3.2km s-min=2.2km az=121.9, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIOE	**Riobamba**	**0.27**	**64**	P	Pn	16 26 02.7	+8.4
RIOE	**Riobamba**	**0.27**	**64**	S	Sb	16 26 14.0	+18
IGUA	**Igualata**	**0.45**	**32**	P	Pn	16 26 02.0	+5.0
BMAS	**Trigal station**	**0.54**	**47**	⇓P	Pn	16 26 03.9	+5.8
BMAS	**Trigal station**	**0.54**	**47**	⇓S	Sn	16 26 15.4	+7.4
ARRY	**Arrayan**	**0.56**	**49**	P	Pn	16 26 02.9	+4.6
PAT1	**Patacocha**	**0.57**	**50**	⇑P	Pn	16 26 02.5	+3.9
BBIL	**Ulba Tungurahu**	**0.57**	**43**	⇓P	Pn	16 26 03.2	+4.7
BPAT	**Tungurahua Vol**	**0.57**	**50**	P	Pn	16 26 04.0	+5.3
JUI6	**Juive**	**0.60**	**42**	P	Pn	16 26 02.5	+3.6
ULBA	**Ulba**	**0.63**	**48**	P	Pn	16 26 03.7	+4.5
BULB	**Ulba Tungurahu**	**0.64**	**47**	P	Pn	16 26 03.8	+4.4
RUN5	**Runtun**	**0.64**	**45**	P	Pn	16 26 03.6	+4.2
BRUN	**Tungurahua Vol**	**0.65**	**46**	P	Pn	16 26 03.7	+4.2
MACE	**Macas**	**0.78**	**119**	⇑P	Pn	16 26 04.1	+3.1
PISA	**Pisayambo**	**0.95**	**31**	⇑P	Pn	16 26 06.0	+2.2
PAST	**Pastocalle**	**1.20**	**11**	P	Pn	16 26 09.1	+1.9
BMOR	**Cotopaxi Volca**	**1.21**	**20**	P	Pn	16 26 09.4	+1.9
MOV1	**Cotopaxi Vol s**	**1.23**	**21**	P	Pn	16 26 09.8	+1.9
BREF	**Cotopaxi Volca**	**1.27**	**20**	P	Pn	16 26 11.7	+3.3
TAMB	**Tambo**	**1.28**	**23**	⇑P	Pn	16 26 10.6	+2.1
BTAM	**Cotopaxi Volca**	**1.28**	**22**	P	Pn	16 26 10.3	+1.8
BVC2	**Cotopaxi Volca**	**1.29**	**21**	P	Pb	16 26 10.5	+1.8
VC1	**Cotopaxi 1**	**1.31**	**21**	P	Pb	16 26 10.4	+1.8
COV1	**Cotopaxi Volc**	**1.32**	**24**	⇑P	Pb	16 26 10.4	+1.2
PITA	**Cotopaxi Volc**	**1.38**	**19**	⇑P	Pg	16 26 12.0	+1.9
ANTI	**Antisana**	**1.58**	**27**	⇓P	Pn	16 26 13.0	+0.3
PECV	**Mancha de Ca P**	**1.60**	**313**	P	Pg	16 26 16.9	+3.2
JUA2	**San Juan 2**	**1.67**	**9**	P	Pn	16 26 14.4	+0.6
TERV	**Terraza Guagua**	**1.71**	**9**	P	Pn	16 26 15.1	+0.7
GGP	**Refugio Guagua**	**1.71**	**9**	P	Pb	16 26 15.7	-0.2
PINO	**Pino**	**1.73**	**9**	P	Pn	16 26 15.0	+0.4
YANA	**Yana**	**1.77**	**10**	P	Pn	16 26 15.2	+0.1
MAG1	**Magdalena**	**2.00**	**333**	P	Pn	16 26 18.5	+0.8
CHIS	**Cerro-Chispas-**	**2.02**	**294**	P	Pn	16 26 17.3	-0.7
CAYR	**Refugio Cayamb**	**2.07**	**25**	P	Pn	16 26 19.5	+0.1
JAMA	**Jama**	**2.08**	**320**	P	Pn	16 26 17.9	-1.0
GOLV	**Golondrinas**	**2.08**	**353**	P	Pn	16 26 18.8	-0.1
CAYA	**Cayambe**	**2.13**	**25**	P	Pn	16 26 20.9	+0.8
OTAV	**Otavalo**	**2.14**	**11**	⇓P	Pn	16 26 21.6	+1.4
CHAR	**Charly**	**2.15**	**34**	P	Pn	16 26 20.5	+0.3
LAV4	**Lava4-Reventad**	**2.16**	**35**	P	Pn	16 26 19.5	-0.8
CONE	**Cono NE Rev Vo**	**2.17**	**35**	P	Pn	16 26 20.0	-0.5
COTA	**Cotacachi**	**2.26**	**14**	P	Pn	16 26 21.5	-0.4
URCU	**Urcuqui**	**2.38**	**15**	P	Pn	16 26 24.7	+1.3
LITE	**Lita**	**2.71**	**11**	P	Pn	16 26 28.1	+0.5

IDC ***12*** *16:32:42.7±1.2,3.°66S×100.°60E,h0km,mb3.9/12, mb1 4.0/13,mb1mx3.9/26,mbtmp4.0/13,ML4.0/1,MS3.5/2, Ms1 3.5/2,ms1mx2.6/38,Error ellipse: s-maj=42.5km s-min=15.0km az=52.0*

ISCJB ***12*** *16:32:45.4±0.7,3.°5S±0.°1×100.°75E±0.°08,h29km, mb4.1/14,MS3.5/2,Error ellipse: s-maj=18.2km s-min=5.5km az=35.8*

NEIC ***12*** *16:32:48.0±0.8,3.°59S×100.°71E,h35km,mb4.7/2,Error ellipse: s-maj=31.2km s-min=7.4km az=46.0*

DJA ***12*** *16:32:54.2±1.2,4.°S±7.°×10.°1E±,h24km±10km,M3.7/8, MLv3.7/8*

ISC 12 16:32:47.3±0.8,3.°66S±0.°10×100.°72E±0.°09,h29km,n36, σ1ᵍ31/33,mb4.0/14,1C,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**1.60**	**71**	P	**Pb**	**16 33 16.1**	**-0.1**
MNAI	**Manna**	**2.33**	**107**	P	**Pn**	**16 33 25.0**	**+1.3**
MNAI				S	**Sn**	**16 33 50.0**	**-1.5**
MNAI	**Manna**	**2.33**	**107**	*e*P	**Pn**	**16 33 25.2**	**+1.4**
SDSI	**Sungai Dareh**	**2.80**	**15**	P	**Pb**	**16 33 38.6**	**+2.0**
LHSI	**Lahat**	**2.80**	**94**	P	**Pn**	**16 33 32.8**	**+2.7**
LHSI				S	**Sn**	**16 34 01.0**	**-2.0**
MDSI	**Maura Dua**	**3.54**	**104**	P	**Pn**	**16 33 40.7**	**+0.3**
LWLI	**Liwa**	**3.59**	**112**	P	**Pn**	**16 33 42.4**	**+1.3**
GSI	**Gunungsitoli**	**5.85**	**327**	*e*P	**Pn**	**16 34 09.7**	**-2.3**
LEM	**Lembang**	**7.55**	**115**	Pn	**Pn**	**16 34 35.6**	**-0.1**
	2.3nm,0.3s,baz=299,slow=19,SNR=2.0						
CISI	**Cisompet, Garu**	**8.05**	**119**	*e*P	**Pn**	**16 34 41.8**	**-0.6**
CMAR	**Chiang Mai Arr**	**22.05**	**355**	P	**P**	**16 37 37.8**	**-2.0**
	1.5nm,0.6s,baz=186,slow=8.3,SNR=14						
H01W3	**Cape Leeuwin H**	**33.47**	**160**	T	T	17 14 45.6	
	baz=336,slow=76,SNR=7.3						
H01W2	**Cape Leeuwin H**	**33.48**	**160**	T	T	17 14 45.4	
	baz=336,slow=76,SNR=7.6						
H01W1	**Cape Leeuwin H**	**33.49**	**160**	T	T	17 14 45.3	
	baz=336,slow=76,SNR=5.5						
WRA	**Warramunga Arr**	**36.55**	**119**	P	**P**	**16 39 50.3**	**-0.5**
	0.8nm,0.4s,baz=308,slow=9.3,SNR=17						
AS31	**Alice Springs**	**37.71**	**125**	P	**P**	**16 40 02.6**	**+2.0**
ASAR	**Alice Springs**	**37.71**	**125**	P	**P**	**16 40 01.2**	**+0.5**
	0.7nm,0.3s,baz=299,slow=7.7,SNR=34						
STKA	**Stephens Creek**	**47.52**	**131**	P	**P**	**16 41 21.3**	**+1.2**
	1.3nm,1.0s,baz=309,slow=6.5,SNR=3.1						
KSAR	**Wonju Array Be**	**48.06**	**29**	P	**P**	**16 41 23.8**	**-0.4**
KSRS	**Korea Array**	**48.09**	**29**	P	**P**	**16 41 23.8**	**-0.6**
	1.7nm,0.6s,baz=216,slow=7.2,SNR=5.7						
SONM	**Songino Array**	**51.52**	**5**	P	**P**	**16 41 51.7**	**+1.2**
	0.6nm,0.3s,baz=182,slow=14,SNR=4.8						
MK31	**Makanchi Array**	**52.81**	**344**	*e*P	**P**	**16 42 00.1**	**+0.1**
MKAR	**Makanchi Array**	**52.81**	**344**	P	**P**	**16 42 00.2**	**+0.2**
	1.9nm,0.8s,baz=178,slow=7.3,SNR=22						
MJAR	**Matsushiro Arr**	**53.12**	**38**	LR	LR	17 03 55.4	
	comp=Z,15nm,20.6s,baz=130,slow=35						
USRK	**Ussuriysk Ar.**	**55.28**	**27**	P	**P**	**16 42 18.4**	**+0.4**
	2.5nm,0.7s,baz=226,slow=4.0,SNR=5.9						
KURBB	**Kurchatov Arra**	**57.33**	**343**	P	**P**	**16 42 32.3**	**-0.3**
	1.1nm,0.8s,baz=162,slow=6.7						
KURK	**Kurchatov**	**57.39**	**344**	P	**P**	**16 42 32.3**	**-0.7**
ZAA0	**Zalesovo Array**	**58.92**	**349**	*e*P	**P**	**16 42 43.0**	**-0.6**
ZALV	**Zalesovo Beam**	**58.92**	**349**	P	**P**	**16 42 43.2**	**-0.4**
	1.2nm,0.4s,baz=188,slow=5.0,SNR=9.8						
BVAR	**Borovoye Array**	**61.98**	**340**	P	**P**	**16 43 03.0**	**-1.6**
	1.0nm,0.6s,baz=134,slow=10,SNR=4.8						
ABKAR	**Akbulak array**	**63.43**	**331**	*e*P	**P**	**16 43 13.6**	**-0.7**
	1.8nm,0.7s						
GNI	**Garni**	**67.22**	**316**	LR	LR	17 14 19.4	
	comp=Z,111nm,22.0s,baz=76,slow=37						
BRTR	**Keskin Array B**	**74.97**	**313**	P	**P**	**16 44 25.4**	**-0.8**
	0.4nm,0.7s,baz=93,slow=7.4,SNR=2.8						
SYO	**Syowa Base**	**76.54**	**199**	⇑*e*PcP	**PcP**	**16 44 47.5**	**+1.6**
MSVF	**Nonsavu**	**76.83**	**107**	*e*P	**P**	**16 44 35.6**	**-1.6**
	10nm,0.5s						
TXAR	**Lajitas Array**	**145.54**	**40**	PKPbc	**PKPab**	**16 52 25.2**	**+1.2**
	1.8nm,0.5s,baz=321,slow=1.3,SNR=7.6						

IDC 12 16:36:29.0±3.5,3.°98S×100.°21E,h0km,mb3.5/6, mb1 3.6/6,mb1mx3.5/24,mbtmp3.5/6,MS2.5/2,Ms1 2.5/2, ms1mx2.3/35,Error ellipse: s-maj=153.3km s-min=20.9km az=54.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**22.33**	**357**	P	P	16 41 28.5	0.0
	0.5nm,0.6s,baz=190,slow=8.6,SNR=3.8						
TGY	**Tagaytay City**	**27.30**	**48**	LR	LR	16 54 42.7	
	comp=Z,5.8nm,18.0s,baz=224,slow=40						
WRA	**Warramunga Arr**	**36.84**	**118**	P	P	16 43 39.0	-0.3
	0.4nm,0.6s,baz=303,slow=9.1,SNR=5.7						
ASAR	**Alice Springs**	**37.95**	**124**	P	P	16 43 48.4	-0.3
	0.2nm,0.3s,baz=294,slow=8.3,SNR=6.2						
GUMO	**Guam**	**47.63**	**68**	LR	LR	17 06 20.0	
	comp=Z,8.3nm,18.6s,baz=132,slow=38						
MKAR	**Makanchi Array**	**52.98**	**345**	P	P	16 45 47.6	+0.2
	0.7nm,0.9s,baz=173,slow=7.2,SNR=6.2						
KURBB	**Kurchatov Arra**	**57.49**	**344**	P	P	16 46 19.4	-0.5
	0.2nm,0.5s,baz=170,slow=6.2,SNR=3.6						
ZALV	**Zalesovo Beam**	**59.14**	**349**	P	P	16 46 30.5	-0.8
	0.4nm,0.4s,baz=188,slow=4.4,SNR=4.0						
TXAR	**Lajitas Array**	**146.11**	**39**	PKPbc	PKPab	16 56 12.5	0.0
	0.6nm,0.4s,baz=275,slow=1.8,SNR=4.3						

ISCJB ***12*** *16:41:31.3±0.5,30.°86S±0.°06×179.°3W±0.°1,h200km, mb3.8/6,Error ellipse: s-maj=18.0km s-min=5.1km az=22.2*

IDC ***12*** *16:41:34.4±0.8,30.°46S×179.°14W,h221km±8km,mb3.7/6, mb1 3.9/6,mb1mx3.6/18,mbtmp4.3/6,Error ellipse: s-maj=20.0km s-min=15.8km az=148.0*

ISC 12 16:41:31.7±0.6,30.°89S±0.°09×179.°1W±0.°2,h200km,n37, σ1ᵍ61/41,mb4.1/6,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.95**	**33**	P	**Pn**	**16 42 10.0**	**+0.3**
	103nm,0.3s,baz=270,slow=20,SNR=2.6						
RAO				S	**Sn**	**16 42 39.6**	**+0.4**
	188nm,0.3s,baz=106,slow=22,SNR=5.9						
WMGZ	**Waiomatatini S**	**7.20**	**196**	*e*PN	**Pn**	**16 43 16.9**	**+2.6**
HAZ	**Te Kaha**	**7.30**	**200**	P	**Pn**	**16 43 18.6**	**+2.9**
HAZ				*e*SN	**Sn**	**16 44 39.0**	**+0.5**
MWZ	**Matawai**	**7.92**	**199**	*e*PN	**Pn**	**16 43 24.6**	**+0.8**
MWZ				*e*SN	**Sn**	**16 44 53.2**	**+0.1**
TKGZ	**Te Karaka**	**7.92**	**197**	*e*PN	**Pn**	**16 43 23.7**	**-0.1**
URZ	**Urewera**	**7.97**	**202**	P	**Pn**	**16 43 25.0**	**+0.6**
	1.5nm,0.3s,baz=45,slow=2.9,SNR=7.2						
URZ				S	**Sn**	**16 44 55.8**	**+1.5**
	14nm,0.3s,baz=153,slow=15,SNR=15						
URZ	**Urewera**	**7.97**	**202**	*e*PN	**Pn**	**16 43 25.3**	**+0.9**
URZ				*e*SN	**Sn**	**16 44 54.7**	**+0.4**
KNZ	**Kokohu**	**8.52**	**197**	PN	**Pn**	**16 43 31.5**	**-0.1**
BKZ	**Black Stump Fm**	**9.00**	**202**	*e*PN	**Pn**	**16 43 37.5**	**-0.3**
TSZ	**Takapari Road**	**9.98**	**202**	*e*SN	**Sn**	**16 45 39.6**	**-2.4**
WAZ	**Wanganui**	**10.06**	**207**	*e*PN	**Pn**	**16 43 53.5**	**+2.0**
BFZ	**Birch Farm**	**10.46**	**200**	*e*SN	**Sn**	**16 45 48.6**	**-4.8**
CAW	**Cannon Point**	**11.22**	**203**	*e*PN	**Pn**	**16 44 04.9**	**-1.6**
TCW	**Tory Channel**	**11.59**	**206**	*e*PN	**Pn**	**16 44 11.3**	**+0.1**
THZ	**Tophouse**	**12.59**	**208**	*e*PN	**Pn**	**16 44 23.7**	**-0.3**
THZ				*e*SN	Sn	16 46 39.3	-5.1
OXZ	**Oxford**	**14.25**	**207**	*e*PN	Pn	16 44 41.6	-3.0
OXZ				*e*SN	S	16 47 13.4	-10
MQZ	**McQueen's Vall**	**14.35**	**205**	*e*PN	**Pn**	**16 44 44.3**	**-1.5**
MQZ				SN	S	16 47 15.8	-9.4
RPZ	**Rata Peaks**	**14.97**	**209**	P	**Pn**	**16 44 53.6**	**+0.1**
	0.7nm,0.3s,baz=80,slow=17,SNR=4.5						
RPZ				S	S	16 47 30.7	-9.0
	1.5nm,0.3s,baz=309,slow=21,SNR=9.6						
ODZ	**Otahua Downs**	**16.24**	**207**	*e*PN	**P**	**16 45 08.8**	**+0.7**
STKA	**Stephens Creek**	**33.41**	**258**	P	**P**	**16 47 54.0**	**+2.6**
	2.9nm,0.4s,baz=96,slow=11,SNR=16						
ASAR	**Alice Springs**	**42.10**	**268**	P	**P**	**16 49 04.7**	**+0.3**
	0.8nm,0.4s,baz=106,slow=7.3,SNR=46						
ASAR				ScP	**ScP**	**16 54 24.0**	**-2.5**
	0.2nm,0.6s,baz=121,slow=4.0,SNR=4.3						
WRA	**Warramunga Arr**	**43.14**	**273**	P	**P**	**16 49 12.8**	**+0.2**
	2.4nm,0.3s,baz=111,slow=8.1,SNR=63						
WRA				ScP	**ScP**	**16 54 28.4**	**-2.3**
	0.3nm,0.7s,baz=97,slow=4.1,SNR=5.7						
QSPA	**South Pole Qui**	**59.22**	**180**	P	P	16 51 15.3	+3.7
	3.4nm,0.6s,baz=324,slow=1.7,SNR=28						
PETK	**Petropavlovsk-**	**86.05**	**346**	P	**P**	**16 53 48.8**	**-0.4**
	2.1nm,0.8s,baz=132,slow=7.5,SNR=7.4						
NVAR	**Mina Array Bea**	**89.27**	**43**	P	**P**	**16 54 05.6**	**+0.4**
	0.3nm,0.7s,baz=230,slow=9.3,SNR=2.5						
MKAR	**Makanchi Array**	**117.34**	**310**	PKP	**PKPdf**	**16 59 51.8**	**-1.2**
	0.2nm,0.7s,baz=108,slow=4.7,SNR=3.1						
KURBB	**Kurchatov Arra**	**120.72**	**314**	PKP	**PKPdf**	**16 59 57.8**	**-1.5**
	0.6nm,0.7s,baz=104,slow=2.3,SNR=6.3						
ARCES	**ARCESS Array B**	**138.86**	**347**	PKPbcKP	PKPpre	17 00 23.7	
	1.8nm,0.9s,baz=0.0,slow=2.9,SNR=4.3						
KBZ	**Khabaz**	**144.56**	**303**	PKP	PKPbc	17 00 42.5	-0.8
	1.0nm,0.4s,baz=56,slow=24,SNR=4.7						
FINES	**FINESS Array B**	**145.26**	**339**	PKP	**PKPdf**	**17 00 43.3**	**-1.4**
	6.7nm,0.6s,baz=74,slow=3.4,SNR=48						
NB2	**NORSAR Subarra**	**149.08**	**350**	PKP	**PKPbc**	**17 00 55.0**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**149.08**	**350**	PKPbc	**PKPdf**	**17 00 54.0**	**+2.9**
	comp=Z,1.8nm,0.6s,baz=16,slow=4.2,SNR=6.8						
ASF	**Jabal al Asfar**	**149.34**	**282**	PKPbc	**PKPbc**	**17 00 57.7**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=45,slow=1.4,SNR=3.4						
MMAI	**Mount Meron Ar**	**150.69**	**283**	PKPbc	**PKPbc**	**17 01 00.8**	**+0.6**
	comp=Z,3.0nm,0.4s,baz=70,slow=5.6,SNR=10						
AKASG	**Malin Array Be**	**151.08**	**321**	PKPbc	**PKPbc**	**17 00 59.2**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=48,slow=3.2,SNR=11						
AKASG				PKPab	**PKPab**	**17 01 07.2**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=46,slow=4.1,SNR=5.2						
BRTR	**Keskin Array B**	**151.96**	**297**	PKPbc	**PKPbc**	**17 01 02.5**	**-0.7**
	comp=Z,1.5nm,0.6s,baz=117,slow=4.3,SNR=9.9						
TORD	**Torodi Ar. Bea**	**162.32**	**183**	PKPab	**PKPab**	**17 01 59.5**	**+1.4**
	comp=Z,0.9nm,0.6s,baz=167,slow=5.0,SNR=7.9						

IDC ***12*** *16:44:59.4±4.8,36.°23N×70.°85E,h185km±44km,mb3.3/7, mb1 3.2/11,mb1mx3.0/30,mbtmp3.7/11,Error ellipse: s-maj=35.8km s-min=21.5km az=35.0*

ISCJB ***12*** *16:45:01.7±0.6,36.°56N±0.°04×70.°81E±0.°08,h188km, mb3.5/6,Error ellipse: s-maj=9.9km s-min=5.0km az=158.5*

NNC ***12*** *16:45:08.2±1.9,36.°95N×70.°81E,h207km±17km,mb2.5, mpv3.6,Error ellipse: s-maj=20.2km s-min=9.0km az=160.0*

ISC 12 16:45:03.4±0.9,36.°62N±0.°08×70.°92E±0.°08,h188km,n28, σ1ᵍ16/31,mb3.4/6,7C-5D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.74**	**323**	⇑P	**Pn**	**16 45 51.9**	**+2.4**
	22nm,0.2s		

SNET					AML	AML	17 23 26.4		
	comp=Z,23µm,0.4s								
LBRS	**Las Brisas**	**0.88**	**4**	⇓	*i*P	**Pn**	**17 23 14.1**	**+0.4**	
BOQS	**Boqueron**	**0.89**	**349**	⇑	*i*P	**Pn**	**17 23 14.4**	**+0.3**	
BOQS					*e*S	**Sn**	**17 23 26.5**	**+0.2**	
VSM	**San Miguel**	**0.99**	**55**	⇓	*i*P	**Pn**	**17 23 15.7**	**+0.3**	
SBLS	**San Blas**	**1.10**	**333**	⇓	*i*P	**Pn**	**17 23 17.3**	**+0.3**	
SNJE	**San Jose**	**1.12**	**334**		*e*P	**Pn**	**17 23 17.4**	**+0.2**	
RTR	**El Retiro**	**1.16**	**333**		*e*P	**Pn**	**17 23 18.2**	**+0.5**	
CAHU	**Cacacuatique**	**1.25**	**44**		*e*P	**Pb**	**17 23 19.9**	**-0.1**	
CAHU					*e*S	**Sb**	**17 23 36.9**	**+1.2**	
CNCH	**Conchagua**	**1.30**	**71**	⇑	*e*P	**Pn**	**17 23 19.9**	**+0.3**	
CNCH					*e*S	**Sb**	**17 23 37.3**	**+0.3**	
RBDL	**Robledal**	**1.37**	**336**	⇓	*i*P	**Pn**	**17 23 21.4**	**+0.8**	
IXG	**Ixpaco**	**1.86**	**315**	⇓	*e*P	**Pn**	**17 23 27.5**	**+0.2**	
NBG	**Las Nubes**	**2.10**	**325**		*e*P	**Pb**	**17 23 33.0**	**-1.4**	
NBG					*e*S	**Sb**	**17 24 01.5**	**+1.3**	
MRL	**Marmol**	**2.27**	**345**		*e*P	**Pn**	**17 23 34.1**	**+1.1**	
FUG	**Fuego 3**	**2.32**	**313**		*e*P	**Pn**	**17 23 34.8**	**+1.2**	
JAT	**Jato**	**2.86**	**301**		*e*P	**Pn**	**17 23 42.7**	**+1.7**	
VCR	**Vista de Mar**	**4.35**	**128**		*e*P	**Pn**	**17 24 01.1**	**-0.5**	
JTS	**JuntasAbangare**	**4.80**	**122**		Pn	**Pn**	**17 24 09.7**	**+2.1**	
	comp=Z,3.2nm,0.3s,baz=126,slow=23,SNR=15								
JTS					Pg	**Pb**	**17 24 18.7**	**-1.6**	
	comp=Z,10nm,0.3s,baz=308,slow=19,SNR=19								
JTS					Sn	**Sn**	**17 24 59.2**	**-3.3**	
	comp=Z,3.0nm,0.3s,baz=274,slow=16,SNR=1.5								
JTS					Lg	Lg	17 25 22.3		
	comp=Z,7.9nm,0.3s,baz=128,slow=19,SNR=12								
JTS					LR	LR	17 26 10.7		
	comp=Z,56nm,21.2s,baz=319,slow=42								
JCR	**Jicaral**	**4.92**	**127**		*e*P	**Pn**	**17 24 11.0**	**+1.6**	
CGA2	**Cerro Gallo 2**	**5.35**	**121**		*e*P	Pn	17 24 18.7	+3.4	
CGA2					*e*S	**Sn**	**17 25 18.6**	**+2.2**	
QCR	**Quepos**	**5.92**	**125**		*e*P	**Pn**	**17 24 24.6**	**+1.5**	
BUS	**Buena Vista**	**6.18**	**122**		*e*P	**Pn**	**17 24 30.1**	**+3.0**	
BUS					*e*S	**Sn**	**17 25 39.5**	**+2.2**	
CMIG	**Matias Romero**	**7.00**	**308**		Pn	**Pn**	**17 24 39.4**	**+1.6**	
	comp=Z,0.4nm,0.3s,baz=146,slow=12,SNR=4.0								
CMIG					Sn	**Sn**	**17 25 57.6**	**+0.9**	
	comp=Z,1.2nm,0.3s,baz=87,slow=18,SNR=3.1								
TEIG	**Tepich**	**7.37**	**6**		Pn	**Pn**	**17 24 44.3**	**+1.3**	
	comp=Z,1.7nm,0.3s,baz=219,slow=1.5,SNR=5.8								
TXAR	**Lajitas Array**	**21.26**	**323**		P	**P**	**17 27 40.9**	**-0.6**	
	comp=Z,0.8nm,0.5s,baz=142,slow=10,SNR=13								
MIAR	**Mount Ida**	**21.97**	**350**		*e*P	**P**	**17 27 48.4**	**-0.6**	
	comp=Z,4.2nm,0.7s								
TKL	**Tuckaleechee C**	**23.21**	**11**		LR	LR	17 36 09.9		
	comp=Z,25nm,20.6s,baz=104,slow=35								
PDAR	**Pinedale Array**	**34.67**	**333**		P	**P**	**17 29 43.6**	**-1.1**	
	comp=Z,0.3nm,0.7s,baz=129,slow=8.5,SNR=3.1								
NVAR	**Mina Array Bea**	**36.34**	**320**		P	**P**	**17 29 59.1**	**-0.1**	
	comp=Z,0.3nm,0.6s,baz=138,slow=8.4,SNR=3.0								
ULM	**Lac du Bonnet**	**37.70**	**353**		P	P	17 30 05.9	-4.4	
	comp=Z,1.7nm,0.6s,baz=242,slow=3.3,SNR=3.3								
YKA	**Yellowknife Ar**	**52.81**	**345**		P	P	17 32 06.4	-3.5	
	comp=Z,1.0nm,0.6s,baz=142,slow=7.7,SNR=18								
FRB	**Frobisher Bay**	**52.83**	**11**		P	P	17 32 05.2	-4.9	
	comp=Z,2.0nm,0.5s,baz=195,slow=9.8,SNR=2.9								
RES	**Resolute Bay**	**61.90**	**358**		P	P	17 33 09.8	-4.1	
	comp=Z,1.2nm,0.5s,baz=176,slow=9.7,SNR=8.0								
CMAR	**Chiang Mai Arr**	**147.89**	**346**		PKPbc	**PKPdf**	**17 42 37.7**	**-0.2**	
	comp=Z,0.6nm,0.8s,baz=3.8,slow=2.7,SNR=3.6								

IDC ***12*** *17:29:05.8±0.9, 27.°07N×54.°93E, h0km, mb3.9/22, mb1 4.0/26, mb1mx3.9/35, mbtmp3.9/26, ML3.1/3, MS3.3/10, Ms1 3.3/10, ms1mx3.0/37, Error ellipse: s-maj=20.2km s-min=14.0km az=174.0*

OMAN ***12*** *17:29:07.8±99.0, 27.°71N×55.°12E, h44km, Error ellipse: s-maj=541.8km s-min=41.0km az=332.0*

ISCJB ***12*** *17:29:08.0±0.2, 27.°22N±0.°02×54.°77E±0.°03, h17km, mb4.0/33, MS3.2/10, Error ellipse: s-maj=3.7km s-min=3.6km az=18.3*

DSN ***12*** *17:29:08.9±0.6, 27.°30N×54.°81E, h15km, mb3.6/9, ML4.4/8, Ms3.8/1, Error ellipse: s-maj=7.8km s-min=5.7km az=68.0*

THR ***12*** *17:29:09.6±0.3, 27.°07N×54.°87E, h32km±3km, ML4.0*

MOS ***12*** *17:29:09.1±1.1, 27.°10N×54.°80E, h35km, mb4.2/21, Error ellipse: s-maj=10.2km s-min=7.2km az=102.9*

TEH ***12*** *17:29:10.5, 27.°28N×54.°98E, h21km, ML4.1*

CSEM ***12*** *17:29:11.7±0.2, 27.°16N×54.°89E, h30km, mb4.1/15, Ms3.8, Error ellipse: s-maj=5.8km s-min=5.0km az=70.0*

NEIC ***12*** *17:29:11.3, 27.°12N×54.°98E, h36km, mb4.2/10, ML4.1(THR), After THR.*

ISC 12 17:29:09.0±0.4, 27.°13N±0.°03×54.°88E±0.°03, h17km, n182, σ1s67/190, mb4.0/33, MS3.0/10, 3C-4D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
BNDS	**Bandar-Abbas**	**1.18**	**76**	*e*Pg	**Pg**	**17**	**29**	**31.9**	**+0.1**
BNDS	**Bandar-Abbas**	**1.18**	**76**	*e*Pg	**Pg**	**17**	**29**	**31.9**	**+0.1**
IBND	**Bandar-abas**	**1.51**	**77**	*e*Pn	**Pb**	**17**	**29**	**37.2**	**+0.7**
IBND				*e*Sg	**Sg**	**17**	**29**	**57.8**	**+0.1**
IBND				*e*		17	30	06.8	
	comp=Z,63µm,0.3s								
IBND	**Bandar-abas**	**1.51**	**77**	*e*Pn	**Pb**	**17**	**29**	**37.2**	**+0.7**
BANOM	**Banah**	**1.75**	**133**	P	**Pb**	**17**	**29**	**40.3**	**-0.4**
	SNR=80								
BANOM				S	**Sg**	**17**	**30**	**06.2**	**+0.8**
BANOM	**Banah**	**1.75**	**133**	P	**Pb**	**17**	**29**	**40.3**	**-0.4**
	SNR=80								
BANOM	**Banah**	**1.75**	**133**	*e*P	**Pb**	**17**	**29**	**40.2**	**-0.5**
	SNR=116								
BANOM				⇓S	**Sg**	**17**	**30**	**06.2**	**+0.8**
GHIR	**Ghir-Karzin**	**2.04**	**305**	*e*Pg	**Pb**	**17**	**29**	**46.4**	**+0.7**
GHIR				AML	AML	17	30	26.4	
	comp=E,1µm,0.6s								
GHIR				AML	AML	17	30	31.6	
	comp=N,934nm,0.8s								
GHIR	**Ghir-Karzin**	**2.04**	**305**	*e*Pg	**Pb**	**17**	**29**	**46.4**	**+0.7**
	comp=N,934nm,0.8s								
NAZ	**Nazwa, Dubai**	**2.24**	**162**	P	**Pb**	**17**	**29**	**48.4**	**-0.7**
	SNR=17								
NAZ	**Nazwa, Dubai**	**2.24**	**162**	⇑ *e*P	**Pb**	**17**	**29**	**48.4**	**-0.7**
	SNR=17								
FAQ	**Al Faqa, Dubai**	**2.46**	**165**	P	**Pb**	**17**	**29**	**51.0**	**-1.7**
	SNR=9.1								
FAQ	**Al Faqa, Dubai**	**2.46**	**165**	⇓ *e*P	**Pb**	**17**	**29**	**51.0**	**-1.7**
	SNR=9.1								
ASUD	**Al Ashush, Dub**	**2.52**	**171**	P	**Pb**	**17**	**29**	**52.5**	**-1.4**
	SNR=24								
ASUD	**Al Ashush, Dub**	**2.52**	**171**	⇓ *e*P	**Pb**	**17**	**29**	**52.5**	**-1.4**
	SNR=24								
HATD	**Hatta, Dubai**	**2.55**	**154**	P	**Pn**	**17**	**29**	**51.9**	**+2.2**
	SNR=26								
HATD	**Hatta, Dubai**	**2.55**	**154**	⇓ *e*P	**Pn**	**17**	**29**	**51.9**	**+2.2**
	SNR=26								
ASHO	**Ashiyiah**	**2.66**	**156**	P	**Pn**	**17**	**29**	**53.5**	**+2.4**
	SNR=84								
ASHO	**Ashiyiah**	**2.66**	**156**	*e*P	**Pn**	**17**	**29**	**53.5**	**+2.4**
	SNR=84								
ISRV	**Sarvestan**	**2.73**	**326**	*e*Pn	**Pb**	**17**	**29**	**55.9**	**-1.7**
ISRV				*e*Sg	**Sg**	**17**	**30**	**39.7**	**+2.7**
ISRV				*e*		17	31	18.6	
	comp=Z,8µm,0.4s								
ISRV	**Sarvestan**	**2.73**	**326**	*e*Pn	**Pb**	**17**	**29**	**55.9**	**-1.7**
NGRK	**Negar Kerman**	**2.99**	**33**	*e*Pn	**Pn**	**17**	**29**	**58.0**	**+2.0**
NGRK	**Negar Kerman**	**2.99**	**33**	*e*Pn	**Pn**	**17**	**29**	**58.0**	**+2.0**
IPAR	**Pars**	**3.15**	**330**	*e*Pn	**Pn**	**17**	**30**	**00.5**	**+2.4**
IPAR				*e*		17	31	14.1	
	comp=Z,5µm,0.5s								
IPAR	**Pars**	**3.15**	**330**	*e*Pn	**Pn**	**17**	**30**	**00.5**	**+2.4**
KRBR	**Kerman**	**3.29**	**30**	*e*Pn	**Pn**	**17**	**30**	**02.2**	**+2.2**
KRBR				AML	AML	17	31	05.2	
	comp=N,285nm,0.6s								
KRBR				AML	AML	17	31	09.6	
	comp=E,290nm,0.5s								
KRBR	**Kerman**	**3.29**	**30**	*e*Pn	**Pn**	**17**	**30**	**02.2**	**+2.2**
	comp=E,290nm,0.5s								
KHGB	**Koh Gabri**	**3.52**	**23**	*e*Pn	**Pn**	**17**	**30**	**05.3**	**+2.1**
CHMN	**Cheshme madani**	**3.59**	**40**	*e*Pn	**Pn**	**17**	**30**	**07.1**	**+2.9**
CHMN	**Cheshme madani**	**3.59**	**40**	*e*Pn	**Pn**	**17**	**30**	**07.1**	**+2.9**
IKAZ	**Kazeroun**	**3.76**	**315**	*e*Pn	Pn	17	30	09.9	+3.3
IKAZ				*e*		17	31	26.7	
	comp=Z,4µm,0.5s								
IKAZ	**Kazeroun**	**3.76**	**315**	*e*Pn	Pn	17	30	09.9	+3.3
IMEH	**Mehriz**	**4.25**	**357**	*e*Pn	**Pn**	**17**	**30**	**15.7**	**+2.4**
IMEH				*e*		17	31	29.4	
	comp=Z,1µm,0.3s								
IMEH	**Mehriz**	**4.25**	**357**	*e*Pn	**Pn**	**17**	**30**	**15.7**	**+2.4**
SLWS		**4.47**	**240**	P	**Pn**	**17**	**30**	**17.0**	**+1.1**
SLWS				S	**Sn**	**17**	**31**	**09.0**	**+1.5**
SLWS		**4.47**	**240**	P	**Pn**	**17**	**30**	**17.3**	**+1.4**
IBAF	**Bafgh**	**4.49**	**7**	*e*Pn	**Pn**	**17**	**30**	**17.6**	**+1.2**
IBAF				*e*		17	31	37.7	
	comp=Z,752nm,0.3s								
IBAF	**Bafgh**	**4.49**	**7**	*e*Pn	**Pn**	**17**	**30**	**17.6**	**+1.2**
BTHS		**4.76**	**231**	P	**Pn**	**17**	**30**	**21.0**	**+0.9**
BTHS				S	**Sn**	**17**	**31**	**17.0**	**+2.1**
BTHS		**4.76**	**231**	S	**Sn**	**17**	**31**	**16.8**	**+1.8**
BTHS		**4.76**	**231**	P	**Pn**	**17**	**30**	**20.9**	**+0.8**
BSY	**Bisya**	**4.84**	**154**	P	**Pn**	**17**	**30**	**24.2**	**+3.0**
	SNR=12								
BSYO	**Bisya**	**4.87**	**153**	P	**Pn**	**17**	**30**	**24.2**	**+2.6**
	SNR=12								
ISAD	**Sadrabad**	**4.88**	**348**	*e*Pn	**Pn**	**17**	**30**	**25.0**	**+3.1**
ISAD				*e*		17	31	30.1	
	comp=Z,1µm,0.2s								
ISAD	**Sadrabad**	**4.88**	**348**	*e*Pn	**Pn**	**17**	**30**	**25.0**	**+3.1**
SMDO	**Samad**	**4.97**	**144**	P	**Pn**	**17**	**30**	**25.2**	**+2.3**
	SNR=37								
SMDO	**Samad**	**4.97**	**144**	P	**Pn**	**17**	**30**	**25.2**	**+2.3**
	SNR=37								
SMDO				P	**Pn**	**17**	**30**	**25.6**	**+2.7**
	SNR=15								
BOQSS		**5.09**	**257**	P	**Pn**	**17**	**30**	**26.0**	**+1.4**
BOQSS		**5.09**	**257**	P	**Pn**	**17**	**30**	**26.4**	**+1.8**
ICHK	**Chekchek**	**5.12**	**355**	*e*Pn	**Pn**	**17**	**30**	**27.0**	**+1.9**
ICHK				*e*		17	31	18.1	
	comp=Z,1µm,0.4s								
ICHK	**Chekchek**	**5.12**	**355**	*e*Pn	**Pn**	**17**	**30**	**27.0**	**+1.9**
CHBR	**Chabahar**	**5.25**	**106**	*e*Pn	**Pn**	**17**	**30**	**28.2**	**+1.4**
CHBR	**Chabahar**	**5.25**	**106**	*e*Pn	**Pn**	**17**	**30**	**28.2**	**+1.4**
ZHSF	**Zahedan**	**5.75**	**63**	*e*PN5	**Pn**	**17**	**30**	**35.7**	**+2.0**
WBK	**Wadi Bani Khal**	**5.83**	**140**	P	**Pn**	**17**	**30**	**36.6**	**+1.8**
	SNR=13								
WBK	**Wadi Bani Khal**	**5.83**	**140**	P	**Pn**	**17**	**30**	**35.9**	**+1.2**
	SNR=18								
WBK				P	**Pn**	**17**	**30**	**36.6**	**+1.8**
	SNR=13								
KFJS		**6.25**	**281**	P	**Pn**	**17**	**30**	**42.0**	**+1.6**
KFJS		**6.25**	**281**	P	**Pn**	**17**	**30**	**41.7**	**+1.3**
IKOO	**Kooshah**	**6.38**	**33**	*e*Pn	**Pn**	**17**	**30**	**43.4**	**+0.9**
IKOO				*e*		17	32	43.6	
	comp=Z,329nm,0.3s								
IKOO	**Kooshah**	**6.38**	**33**	*e*Pn	**Pn**	**17**	**30**	**43.4**	**+0.9**
SHRT	**Shahrakht**	**8.00**	**34**	*e*Pn	**Pn**	**17**	**31**	**06.8**	**+2.2**
SHRT	**Shahrakht**	**8.00**	**34**	*e*Pn	**Pn**	**17**	**31**	**06.8**	**+2.2**
SHAO	**Shalim**	**9.09**	**176**	P	**Pn**	**17**	**31**	**19.9**	**+0.4**
	SNR=15								
SHAO	**Shalim**	**9.09**	**176**	P	**Pn**	**17**	**31**	**19.9**	**+0.4**
	SNR=15								
RAYN	**Ar Rayn**	**9.21**	**249**	*e*P	**Pn**	**17**	**31**	**20.3**	**-0.9**
	comp=Z,18nm,0.9s								
GEYT	**Alibeck**	**11.11**	**13**	Pn	**Pn**	**17**	**31**	**48.4**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=208,slow=18,SNR=4.6								
GEYT				LR	LR	17	36	58.2	
	comp=Z,233nm,18.9s,baz=160,slow=42								
GNI	**Garni**	**15.47**	**330**	Pn	**P**	**17**	**32**	**52.0**	**+1.0**
	comp=Z,1.4nm,0.3s,baz=347,slow=2.0,SNR=8.4								
GNI	**Garni**	**15.47**	**330**	P	**P**	**17**	**32**	**52.0**	**+1.0**
GNI				pmax	pmax				
	comp=Z,1.0nm,0.3s								
ASF	**Jabal al Asfar**	**16.42**	**292**	Pn	**Pn**	**17**	**32**	**59.0**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=60,slow=14,SNR=2.4								
ASF	**Jabal al Asfar**	**16.42**	**292**	P	**Pn**	**17**	**32**	**59.0**	**+0.2**
EIL	**Elat**	**17.72**	**283**	P	**P**	**17**	**33**	**18.4**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=96,slow=18,SNR=2.2								
MMAI	**Mount Meron Ar**	**17.84**	**294**	P	**Pn**	**17**	**33**	**14.9**	**-1.7**
	baz=111,slow=14,SNR=2.3								
MMAI				LR	LR	17	41	50.0	
	comp=Z,78nm,18.2s,baz=80,slow=43								
NEY	**Neytrino**	**18.87**	**332**	*i*P	**Pn**	**17**	**33**	**33.4**	**+4.2**
NEY				pmax	pmax				
	comp=Z,5.0nm,2.1s								
KBZ	**Khabaz**	**19.19**	**333**	P	**Pn**	**17**	**33**	**33.3**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=236,slow=24,SNR=9.5								
KIV	**Kislovodsk**	**19.47**	**333**	*e*P	**Pn**	**17**	**33**	**36.5**	**+0.3**
KIV				*e*S	**Sn**	**17**	**37**	**07.3**	**-7.0**
KIV				pmax	pmax				
	comp=Z,14nm,1.1s								
KIV				MLR	MLR				
	comp=Z,19nm,14.0s								
KIV	**Kislovodsk**	**19.47**	**333**	*e*P	**Pn**	**17**	**33**	**36.5**	**+0.3**
	comp=Z,9.1nm,0.7s								
KIV	**Kislovodsk**	**19.47**	**333**	*e*P	**Pn**	**17**	**33**	**36.5**	**+0.3**
	comp=Z,9.1nm,0.7s								
KKAR	**Karatay Array**	**20.38**	**35**	*e*P	**P**	**17**	**33**	**44.7**	**-0.2**
KKAR				pmax	pmax				
	comp=Z,2.0nm,0.5s								
KKAR	**Karatay Array**	**20.38**	**35**	*e*P	**P**	**17**	**33**	**44.7**	**-0.2**
	comp=Z,1.9nm,0.5s								
KKAR	**Karatay Array**	**20.38**	**35**	*e*P	**P**	**17**	**33**	**44.7**	**-0.2**
	comp=Z,1.9nm,0.5s								
AML	**Almayashu**	**21.46**	**41**	P	**P**	**17**	**33**	**56.8**	**-0.2**
	SNR=9.7								
BR131	**Keskin Array S**	**21.67**	**311**	*e*P	**P**	**17**	**34**	**00.1**	**+1.2**
	comp=Z,2.5nm,0.6s								
BR131	**Keskin Array S**	**21.67**	**311**	*e*P	**P**	**17**	**34**	**00.1**	**+1.2**
	comp=Z,2.5nm,0.6s								
BRTR	**Keskin Array B**	**21.67**	**311**	P	**P**	**17**	**33**	**59.3**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=136,slow=13,SNR=13								
BRTR	**Keskin Array B**	**21.67**	**311**	*e*P	**P**	**17**	**33**	**59.9**	**+1.0**
BRTR				pmax	pmax				
	comp=Z,3.0nm,0.9s								
BRTR	**Keskin Array B**	**21.67**	**311**	*e*P	**P**	**17**	**33**	**59.9**	**+1.0**
	comp=Z,3.0nm,0.9s								
EKS2	**Erkin-Say**	**21.84**	**40**	*e*P	**P**	**17**	**34**	**01.4**	**+0.6**
EKS2				pmax	pmax				
	comp=Z,19nm,1.1s								
EKS2	**Erkin-Say**	**21.84**	**40**	*e*P	**P**	**17**	**34**	**01.4**	**+0.6**
	comp=Z,19nm,1.1s								
EKS2	**Erkin-Say**	**21.84**	**40**	*e*P	**P**	**17**	**34**	**01.4**	**+0.6**
	comp=Z,19nm,1.1s								
AAK	**Ala-Archa**	**22.24**	**41**	P	**P**	**17**	**34**	**04.6**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=210,slow=6.6,SNR=7.5								
AAK				LR	LR	17	43	10.1	
	comp=Z,62nm,18.1s,baz=225,slow=38								
AAK	**Ala-Archa**	**22.24**	**41**	⇑ *i*P	**P**	**17**	**34**	**06.1**	**+1.0**
AAK				pmax	pmax				
	comp=Z,12nm,1.4s								
AAK				MLR	MLR				
	comp=Z,53nm,14.0s								
AAK	**Ala-Archa**	**22.24**	**41**	*e*P	**P**	**17**	**34**	**05.4**	**+0.3**
	comp=Z,3.7nm,0.3s								
AAK	**Ala-Archa**	**22.24**	**41**	*e*P	**P**	**17**	**34**	**05.4**	**+0.3**
	comp=Z,3.7nm,0.3s								
ABKAR	**Akbulak array**	**22.44**	**9**	*e*P	**P**	**17**	**34**	**06.7**	**-0.2**
	comp=Z,6.8nm,0.8s								
ABKAR	**Akbulak array**	**22.44**	**9**	*e*P	**P**	**17**	**34**	**06.7**	**-0.2**
	comp=Z,6.8nm,0.8s								
ANN	**Anapa**	**22.51**	**326**	*e*P	**P**	**17**	**34**	**08.6**	**+0.9**
ANN				*e**PP	pP	17	34	26.3	+14
ANN				*e*S	**S**	**17**	**38**	**07.7**	**-6.2**
ANN				pmax	pmax				
	comp=Z,6.0nm,0.6s								
ANN	**Anapa**	**22.51**	**326**	*e*P	**P**	**17**	**34**	**08.6**	**+0.9**
	comp=Z,6.0nm,0.6s								
TKM2	**Tokmak 2**	**23.06**	**42**	*e*P	**P**	**17**	**34**	**13.4**	**-0.4**
TKM2				pmax	pmax				
	comp=Z,3.0nm,0.8s								
TKM2	**Tokmak 2**	**23.06**	**42**	*e*P	**P**	**17**	**34**	**13.4**	**-0.4**
	comp=Z,3.0nm,0.8s								
TKM2	**Tokmak 2**	**23.06**	**42**	*e*P	**P**	**17**	**34**	**13.3**	**-0.4**
	comp=Z,3.0nm,0.8s								
AKTK	**Aktyubinsk**	**23.40**	**5**	P	**P**	**17**	**34**	**17.4**	**+0.5**
	comp=Z,51nm,19.2s								
AKTO	**Aktyubinsk**	**23.40**	**5**	P	**P**	**17**	**34**	**17.4**	**+0.5**
	comp=Z,3.3nm,0.6s,baz=181,slow=12,SNR=20								
AKTO				LR	LR	17	45	15.3	
	comp=Z,51nm,19.2s,baz=177,slow=41								
AKTO	**Aktyubinsk**	**23.40**	**5**	P	**P**	**17**	**34**	**17.4**	**+0.5**
AKTO				pmax	pmax				
	comp=Z,3.0nm,0.6s								
AKTO				MLR	MLR				
	comp=Z,51nm,19.2s								
IDI	**Anoyia**	**26.84**	**295**	P	**P**	**17**	**34**	**49.5**	**+0.8**
	comp=Z,1.6nm,0.5s,baz=110,slow=9.2,SNR=5.7								
BRVK	**Borovoye**	**28.33**	**20**	⇑ *i*P	**P**	**17**	**35**	**01.8**	**0.0**
BRVK				pmax	pmax				
	comp=Z,4.0nm,1.1s								
BRVK				MLR	MLR				
	comp=Z,65nm,19.0s								
BVAR	**Borovoye Array**	**28.33**	**20**	P	**P**	**17**	**35**	**01.8**	**0.0**
	comp=Z,2.1nm,0.4s,baz=208,slow=8.4,SNR=22								
BVAR	**Borovoye Array**	**28.33**	**20**	P	**P**	**17**	**35**	**01.8**	**0.0**
BVAR				pmax	pmax				
	comp=Z,2.0nm,0.4s								
MK31	**Makanchi Array**	**29.17**	**40**	*e*P	**P**	**17**	**35**	**09.3**	**-0.1**
MK31	**Makanchi Array**	**29.17**	**40**	*e*P	**P**	**17**	**35**	**09.3**	**-0.1**
MKAR	**Makanchi Array**	**29.17**	**40**	P	**P**	**17**	**35**	**08.9**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=233,slow=14,SNR=9.2								
MKAR				LR	LR	17	47	00.7	
	comp=Z,25nm,19.5s,baz=208,slow=37								
MKAR	**Makanchi Array**	**29.17**	**40**	*e*P	**P**	**17**	**35**	**09.4**	**0.0**
KURBB	**Kurchatov Arra**	**29.58**	**31**	P	**P**	**17**	**35**	**13.1**	**+0.2**
	comp=Z,1.2nm,0.9s,baz=230,slow=9.0,SNR=10								
KURK	**Kurchatov**	**29.69**	**31**	P	**P**	**17**	**35**	**13.1**	**-0.8**
KURK				pmax	pmax				
	comp=Z,1.0nm,0.9s								
KURK	**Kurchatov**	**29.69**	**31**	P	**P**	**17**	**35**	**13.1**	**-0.8**
AK01	**Malin Array Si**	**30.58**	**327**	*e*P	**P**	**17**	**35**	**20.7**	**-1.1**
AKASG	**Malin Array Be**	**30.58**	**327**	P	**P**	**17**	**35**	**20.4**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=140,slow=7.8,SNR=7.6								
AKASG	**Malin Array Be**	**30.58**	**327**	*i*P	**P**	**17**	**35**	**21.0**	**-0.8**
OBN	**Obninsk**	**30.98**	**339**	*i*P	**P**	**17**	**35**	**24.9**	**-0.3**
OBN				pmax	pmax				
	comp=Z,10.0nm,0.5s								
OBN				MLR	MLR				
	comp=Z,30nm,19.0s								
KOLS	**Kolonicke sedl**	**33.28**	**320**	*e*P	**P**	**17**	**35**	**46.5**	**+1.0**
KOLS	**Kolonicke sedl**	**33.28**	**320**	*e*P	**P**	**17**	**35**	**46.5**	**+1.0**
KOLS	**Kolonicke sedl**	**33.28**	**320**	*e*P	**P**	**17**	**35**	**46.5**	**+1.0**
ZAA0	**Zalesovo Array**	**34.68**	**31**	*e*P	**P**	**17**	**35**	**57.2**	**-0.3**
ZALV	**Zalesovo Beam**	**34.68**	**31**	P	**P**	**17**	**35**	**57.1**	**-0.4**
	comp=Z,3.8nm,0.5s,baz=240,slow=9.7,SNR=28								
ZALV	**Zalesovo Beam**	**34.68**	**31**	*e*P	**P**	**17**	**35**	**57.3**	**-0.3**
ZALV				pmax	pmax				
	comp=Z,4.0nm,0.5s								
KHC	**Kasperske Hory**	**38.58**	**316**	*e*P	**P**	**17**	**36**	**30.2**	**-0.8**
KHC	**Kasperske Hory**	**38.58**	**316**	*e*P	**P**	**17**	**36**	**30.2**	**-0.8**
GTA	**Gaotai**	**39.14**	**60**	*e*P	**P**	**17**	**36**	**36.9**	**+1.0**
GTA				pP	**pP**	**17**	**36**	**42.2**	**+1.0**
GTA				sP	**sP**	**17**	**36**	**45.2**	**+1.9**
GTA				pmax	pmax				
	comp=Z,3.0nm,0.8s								
FIA1	**FINESS Array S**	**39.37**	**339**	*e*P	**P**	**17**	**36**	**36.1**	**-1.2**
FINES	**FINESS Array B**	**39.37**	**339**	P	**P**	**17**	**36**	**37.0**	**-0.4**
	comp=Z,1.8nm,0.5s,baz=147,slow=11,SNR=30								
FINES				LR	LR	17	53	52.7	
	comp=Z,23nm

JTH	**Tanohata**	**0.44**	**197**	⇑P		**Pn**	**17 31 42.5**	**-0.1**
JTH				S		**Sn**	**17 31 50.2**	**-0.2**
JKZ	**Kuzumaki**	**0.66**	**235**	⇓P		**Pn**	**17 31 45.7**	**+0.5**
JKZ				S		**Sn**	**17 31 55.3**	**+0.4**
JTM	**Tenmabayashi**	**0.85**	**301**	⇓P		**Pn**	**17 31 47.7**	**+0.1**
JTM				S		**Sn**	**17 31 59.1**	**-0.1**
JOM	**Ohasama**	**1.05**	**213**	P		**Pn**	**17 31 51.0**	**+0.7**
JOM				S		**Sn**	**17 32 04.3**	**+0.3**
JAH	**Hinai**	**1.08**	**261**	⇓P		**Pn**	**17 31 51.4**	**+0.7**
JAH				S		**Sn**	**17 32 05.6**	**+0.9**
JOT	**Ohata**	**1.27**	**324**	P		**Pn**	**17 31 53.1**	**-0.1**
JOT				*e*S		**Sn**	**17 32 08.5**	**-0.6**
JRG	**Rokugo**	**1.44**	**229**	P		**Pn**	**17 31 56.7**	**+1.1**
ASAJ	**Asahikawa**	**3.78**	**6**	P		**Pn**	**17 32 28.4**	**+0.9**
	2.4nm,0.3s,baz=218,slow=8.9,SNR=22							
ASAJ				S		**Sn**	**17 33 12.2**	**+1.5**
	baz=72,slow=19							
MJAR	**Matsushiro Arr**	**4.85**	**219**	P		Pn	17 32 45.6	+3.3
	0.4nm,0.3s,baz=29,slow=12,SNR=5.7							
USRK	**Ussuriysk Ar.**	**8.37**	**301**	P		Pn	17 33 34.0	+3.5
	0.2nm,0.3s,baz=104,slow=15,SNR=5.3							
USRK				LR		LR	17 36 07.8	
	comp=Z,18nm,20.7s,baz=189,slow=32							
H11N2	**WAKE ISLAND Hy**	**29.59**	**127**	T		T	18 08 28.1	
	baz=318,slow=75,SNR=14							
H11N1	**WAKE ISLAND Hy**	**29.60**	**127**	T		T	18 08 28.1	
	baz=318,slow=75,SNR=15							
H11N3	**WAKE ISLAND Hy**	**29.61**	**127**	T		T	18 08 26.0	
	baz=318,slow=75,SNR=12							
H11S1	**WAKE ISLAND Hy**	**30.41**	**129**	T		T	18 10 17.0	
	baz=317							
H11S3	**WAKE ISLAND Hy**	**30.41**	**129**	T		T	18 10 15.2	
	baz=317							
H11S2	**WAKE ISLAND Hy**	**30.42**	**129**	T		T	18 10 15.2	
	baz=317							
ZALV	**Zalesovo Beam**	**40.10**	**310**	P		**P**	**17 39 01.9**	**-0.1**
	0.7nm,0.5s,baz=88,slow=8.8,SNR=3.1							
MKAR	**Makanchi Array**	**42.84**	**299**	P		**P**	**17 39 24.6**	**0.0**
	0.3nm,0.4s,baz=82,slow=8.7,SNR=5.0							
KURBB	**Kurchatov Arra**	**44.40**	**305**	P		**P**	**17 39 36.0**	**-0.9**
	0.6nm,0.5s,baz=81,slow=8.7,SNR=7.2							
WRA	**Warramunga Arr**	**60.42**	**188**	P		**P**	**17 41 34.9**	**-0.8**
	0.3nm,0.7s,baz=5.1,slow=7.0,SNR=3.0							
ASAR	**Alice Springs**	**64.14**	**188**	P		**P**	**17 42 00.4**	**-0.3**
	0.5nm,1.1s,baz=1.4,slow=7.4,SNR=2.9							

IDC ***12*** *17:55:59.4±1.0, 13.˚06N×145.˚71E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.5/27, mbtmp3.5/7, Error ellipse: s-maj=26.8km s-min=19.2km az=55.0*

ISCJB ***12*** *17:56:03.5±0.9, 13.˚0N±0.˚1×145.˚7E±0.˚1, h43km, mb3.5/7, Error ellipse: s-maj=21.3km s-min=11.6km az=135.8*

ISC 12 17:56:05.5±1.0, 13.˚0N±0.˚1×145.˚6E±0.˚1, h43km, n9, σ0.˚674/10, mb3.5/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.93**	**307**	Pn	**Pn**	**17 56 20.9**	**-1.3**
	124nm,0.3s,baz=88,slow=4.9,SNR=72						
GUMO				Sn	**Sn**	**17 56 35.7**	**+1.2**
	184nm,0.3s,baz=11,slow=19,SNR=16						
WRA	**Warramunga Arr**	**34.60**	**199**	P	**P**	**18 02 50.9**	**+0.3**
	0.5nm,0.8s,baz=22,slow=9.7,SNR=4.2						
ASAR	**Alice Springs**	**38.23**	**198**	P	**P**	**18 03 21.4**	**-0.2**
	0.5nm,0.9s,baz=33,slow=6.7,SNR=4.9						
CMAR	**Chiang Mai Arr**	**45.17**	**283**	P	**P**	**18 04 18.9**	**+0.4**
	0.3nm,0.5s,baz=82,slow=6.9,SNR=3.5						
MKAR	**Makanchi Array**	**62.41**	**316**	P	**P**	**18 06 24.2**	**0.0**
	0.2nm,0.4s,baz=92,slow=9.1,SNR=8.2						
KURBB	**Kurchatov Arra**	**65.53**	**320**	P	**P**	**18 06 44.3**	**-0.3**
	0.9nm,0.6s,baz=101,slow=7.0,SNR=12						
ILAR	**Eielson Array**	**68.75**	**25**	P	**P**	**18 07 04.7**	**0.0**
	0.3nm,0.6s,baz=233,slow=5.5,SNR=3.5						
YKA	**Yellowknife Ar**	**83.01**	**27**	P	**P**	**18 08 26.5**	**+0.5**
	0.2nm,0.5s,baz=284,slow=4.9,SNR=3.6						
DBIC	**Dimbokro**	**144.75**	**302**	PKP	**PKPdf**	**18 15 38.7**	**-0.1**
	1.7nm,0.5s,baz=30,slow=5.7,SNR=3.8						

ISCJB ***12*** *17:57:17.0±0.6, 32.˚06N±0.˚03×115.˚00W±0.˚03, h7km±5km, mb3.3/1, MS3.4/3, Error ellipse: s-maj=4.4km s-min=3.9km az=158.0*

IDC ***12*** *17:57:17.9±3.3, 31.˚29N×115.˚18W, h0km, mb3.4/1, mb1 3.7/3, mb1mx3.4/24, mbtmp3.3/3, ML3.6/2, MS3.5/7, Ms1 3.5/7, ms1mx3.2/21, Error ellipse: s-maj=69.4km s-min=19.7km az=28.0*

NEIC ***12*** *17:57:19.6, 32.˚07N×115.˚05W, h9km, ML3.9(PAS), ML3.9(ECX), After ECX.*

ECX ***12*** *17:57:19.6±0.5, 32.˚07N×115.˚06W, h9km, MD3.7, ML3.9*

ISC 12 17:57:18.5±1.2, 32.˚01N±0.˚03×115.˚12W±0.˚03, h7km±11km, n41, σ1.˚911/38, MS3.4/3, 4C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.43**	**339**	*e*P 9	**Pg**	**17 57 27.2**	**+0.3**
CPBX				*e*S	**Sg**	**17 57 32.9**	**+0.3**
CPBX				*e*		17 57 36.1	
	comp=N,39μm,0.3s						
ECBX	**El Chinero**	**0.54**	**174**	⇓*e*P	**Pg**	**17 57 28.7**	**-0.3**
ECBX				*e*S	**Sb**	**17 57 37.1**	**-1.2**
ECBX				⇑*e*		17 57 39.8	
	comp=E,4μm,0.3s						
RDX	**Rancho Dawling**	**0.70**	**263**	⇑*e*P	**Pb**	**17 57 33.3**	**+0.1**
RDX	**Rancho Dawling**	**0.70**	**263**	⇑*e*P	**Pb**	**17 57 33.3**	**+0.1**
RDX				*e*S	**Sb**	**17 57 43.7**	**+0.5**
RDX				⇑*e*		17 57 53.2	
	comp=N,3μm,0.5s						
YMD	**Yuma Desert**	**0.73**	**42**	⇓*i*P	**Pg**	**17 57 30.9**	**-1.6**
EMSC	**East Mesa**	**0.73**	**9**	⇓*i*P	**Pg**	**17 57 31.6**	**-1.1**
SGL	**Mount Signal**	**0.82**	**321**	⇓*i*P	**Pg**	**17 57 34.0**	**-0.2**
COA	**Coachella**	**0.85**	**360**	⇓*i*P	**Pg**	**17 57 33.1**	**-1.7**
YUH	**Yuha Desert**	**0.93**	**313**	⇓*e*P	**Pg**	**17 57 35.4**	**-1.0**
RMX	**La Rumorosa**	**1.00**	**306**	*e*P	**Pg**	**17 57 37.0**	**-0.8**
RMX				*e*S	**Sg**	**17 57 51.0**	**+0.2**
SPX	**San Pedro Mart**	**1.01**	**197**	*e*P	**Pb**	**17 57 38.3**	**-0.1**
SPX				*e*S	**Sn**	**17 57 53.5**	**-0.5**
SPX				*e*		17 57 55.9	
	comp=N,2μm,0.2s						
ZAX	**El Zacaton**	**1.10**	**243**	*e*P	**Pg**	**17 57 39.7**	**0.0**
ECNX	**Esteban Cantu**	**1.31**	**255**	*e*P	**Pb**	**17 57 43.3**	**-0.1**
ECNX				*e*S	**Sn**	**17 58 01.8**	**+0.8**
CBX	**Cerro Bola**	**1.34**	**283**	*e*P	**Pn**	**17 57 43.5**	**-0.3**
CBX				*e*S	**Sg**	**17 58 02.6**	**+0.9**
PBX	**Punta Banda**	**1.39**	**259**	*e*P	**Pn**	**17 57 44.1**	**-0.3**
BAR	**Barrett**	**1.47**	**297**	*e*Pg	**Pn**	**17 57 43.7**	**-1.8**
BAR				*e*Sg	**Sn**	**17 58 04.9**	**-0.2**
PFO	**Pinyon Flats O**	**1.95**	**325**	*e*Pg	**Pn**	**17 57 50.3**	**-1.8**
214A	**Organ Pipe Nat**	**1.96**	**91**	*e*Pn	Pn	17 57 48.2	-4.0
LDFC	**Landfair**	**3.06**	**0**	*e*Pg	**Pg**	**17 58 16.0**	**-1.1**
MWC	**Mount Wilson**	**3.31**	**313**	*e*Pg	**Pb**	**17 58 19.6**	**+2.0**
GSC	**Goldstone, Bar**	**3.57**	**337**	*e*Pn	**Pn**	**17 58 14.5**	**+0.1**
TUC	**Tucson**	**3.69**	**84**	*e*Pn	Pn	17 58 12.9	-3.1
OSI	**Osito Audit: C**	**3.98**	**312**	P	**Pn**	**17 58 19.9**	**-0.1**
SHPR	**Sheep Range**	**4.48**	**360**	*e*Pn	**Pn**	**17 58 26.1**	**-0.9**
ISA	**Isabella, Lake**	**4.59**	**323**	*e*Pg	Pn	17 58 32.4	+4.1
WUAZ	**Wupatki**	**4.68**	**41**	*e*Pn	**Pn**	**17 58 29.1**	**-0.6**
W18A	**Petrified Fore**	**5.46**	**54**	*e*Pn	**Pn**	**17 58 40.1**	**-0.3**
	comp=N,16nm,0.4s						
121A	**Cookes Peak, D**	**6.23**	**83**	*e*Pn	**Pn**	**17 58 48.5**	**-2.5**
	comp=N,14nm,0.4s						
NVAR	**Mina Array Bea**	**6.91**	**339**	Pg	Pg	17 59 38.6	+7.8
	comp=N,0.3nm,0.3s,baz=155,slow=15,SNR=16						
NVAR				Lg	Lg	18 01 19.6	
	comp=N,0.1nm,0.3s,baz=190,slow=24,SNR=3.2						
MSU	**Marysvale**	**6.92**	**20**	P	**Pn**	**17 59 01.8**	**+1.4**
	comp=N,14nm,0.7s						
ANMO	**Albuquerque**	**7.80**	**66**	Pn	Pn	17 59 18.4	+5.8
	comp=N,0.2nm,0.3s,baz=252,slow=3.2,SNR=2.6						
ANMO				Pg	**Pg**	**17 59 50.7**	**+2.8**
	comp=N,0.2nm,0.3s,baz=252,slow=13,SNR=6.5						
ANMO				Lg	Lg	18 01 25.4	
	comp=N,0.1nm,0.3s,baz=24,slow=20,SNR=2.4						
ANMO				LR	LR	18 02 19.6	
	comp=N,369nm,18.6s,baz=250,slow=37						
TMUT	**Trail Mountain**	**7.93**	**23**	*e*Pn	**Pn**	**17 59 15.2**	**+0.7**
	comp=N,8.0nm,0.5s						
MNTX	**Cornudas Mount**	**8.29**	**90**	*e*Pn	**Pn**	**17 59 18.5**	**-0.7**
	comp=N,1.7nm,0.6s						
ELK	**Elko**	**8.72**	**359**	Pg	Pg	18 00 09.1	+3.7
	comp=N,0.2nm,0.3s,baz=175,slow=15,SNR=3.5						
ELK				Lg	Lg	18 02 00.5	
	comp=N,0.1nm,0.3s,baz=359,slow=5.4,SNR=4.5						

TXAR	**Lajitas Array**	**10.21**	**102**	Pn		**Pn**	**17 59 46.2**	**+0.6**
	comp=N,0.3nm,0.3s,baz=279,slow=14,SNR=4.2							
TXAR				Lg		Lg	18 02 38.5	
	comp=N,0.1nm,0.3s,baz=281,slow=31,SNR=4.7							
TXAR				LR		LR	18 03 45.4	
	comp=N,201nm,20.2s,baz=0.0,slow=38							
YBH	**Yreka Blue Hor**	**11.44**	**330**	LR		LR	18 04 54.1	
	comp=N,169nm,18.7s,baz=227,slow=38							
PDAR	**Pinedale Array**	**11.61**	**21**	Pg		Pn	18 01 00.8	+56
	comp=N,0.0nm,0.3s,baz=188,slow=12,SNR=4.2							
PDAR				Lg		Lg	18 03 48.3	
	comp=N,0.0nm,0.3s,baz=205,slow=27,SNR=3.8							
NEW	**Newport**	**16.30**	**355**	LR		LR	18 07 39.8	
	comp=N,128nm,21.3s,baz=162,slow=36							
BBB	**Bella Bella**	**22.28**	**339**	LR		LR	18 11 37.2	
	comp=N,154nm,18.6s,baz=168,slow=38							
TKL	**Tuckaleechee C**	**26.23**	**73**	LR		LR	18 14 06.0	
	comp=N,108nm,21.5s,baz=276,slow=38							
ILAR	**Eielson Array**	**38.17**	**339**	P		P	18 04 44.3	+6.1
	comp=N,0.4nm,0.7s,baz=147,slow=7.0,SNR=3.8							
ILAR				LR		LR	18 20 44.4	
	comp=N,60nm,18.4s,baz=182,slow=36							

IDC 12 18:39:14.8±1.8, 1.˚09N×123.˚90E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/28, mbtmp3.3/3, MS3.9/1, Ms1 3.9/1, ms1mx2.9/12, Error ellipse: s-maj=231.2km s-min=24.8km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.27**	**154**	P	P	18 44 24.0	-0.2
	0.5nm,0.6s,baz=333,slow=10,SNR=11						
ASAR	**Alice Springs**	**26.46**	**159**	P	P	18 44 53.9	+0.1
	0.4nm,1.0s,baz=334,slow=8.6,SNR=3.9						
MJAR	**Matsushiro Arr**	**37.69**	**19**	LR	LR	19 00 16.5	
	comp=Z,169nm,20.9s,baz=145,slow=34						
MKAR	**Makanchi Array**	**58.18**	**328**	P	P	18 49 10.7	0.0
	0.2nm,0.4s,baz=128,slow=7.9,SNR=6.9						

CSEM ***12*** *18:49:12.9±0.2, 39.˚63N×26.˚04E, h10km, MD2.7, Error ellipse: s-maj=7.1km s-min=4.3km az=110.0*

ISK ***12*** *18:49:12.8, 39.˚58N×26.˚15E, h13km, MD2.7*

ISCJB ***12*** *18:49:13.4±0.6, 39.˚59N±0.˚03×26.˚1E±0.˚1, h14km±7km, Error ellipse: s-maj=13.5km s-min=4.7km az=13.7*

DDA ***12*** *18:49:13.3, 39.˚59N×26.˚19E, h7km, MD2.8*

ISC 12 18:49:13.4±1.0, 39.˚60N±0.˚03×26.˚10E±0.˚06, h17km±9km, n22, σ0.˚956/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOZC	**Bozcaada**	**0.25**	**352**	*i* Pg	**Pg**	**18 49 18.9**	**0.0**
BOZC				*i* Sg	**Sg**	**18 49 22.7**	**0.0**
SIGR	**SIGRI**	**0.43**	**206**	*e*PG	**Pg**	**18 49 21.9**	**-0.2**
SIGR				*e*SG	**Sb**	**18 49 28.5**	**-0.2**
SIGR	**SIGRI**	**0.43**	**206**	*e*Pg	**Pg**	**18 49 21.9**	**-0.2**
SIGR				*e*Sg	**Sb**	**18 49 28.5**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.85**	**20**	*e*PG	**Pb**	**18 49 30.0**	**+0.3**
GELI	**Tayfur-Gelibol**	**0.85**	**20**	*e*Pg	**Pb**	**18 49 30.0**	**+0.3**
ERIK	**Erikli-Kesan**	**1.12**	**16**	*e*PN	**Pn**	**18 49 34.6**	**+0.4**
ERIK	**Erikli-Kesan**	**1.12**	**16**	*e*Pn	**Pn**	**18 49 34.7**	**+0.4**
BALY	**Balya**	**1.18**	**83**	*e*P	**Pn**	**18 49 36.5**	**+1.3**
BALY				*e*S	**Sn**	**18 49 50.6**	**-0.4**
BALY	**Balya**	**1.18**	**83**	*e*P	**Pn**	**18 49 36.5**	**+1.3**
BALY				*e*S	**Sn**	**18 49 50.6**	**-0.4**
CHOS	**Chios island**	**1.21**	**182**	*e*PN	**Pb**	**18 49 36.0**	**+0.1**
CHOS	**Chios island**	**1.21**	**182**	*e*Pn	**Pb**	**18 49 36.0**	**+0.1**
KRBG	**Karabiga-Canak**	**1.22**	**49**	*e*PN	**Pb**	**18 49 35.4**	**-0.5**
KRBG	**Karabiga-Canak**	**1.22**	**49**	*e*Pn	**Pb**	**18 49 35.4**	**-0.5**
ALN	**Alexandroupoli**	**1.30**	**358**	*e*PN	**Pn**	**18 49 37.2**	**+0.5**
ALN	**Alexandroupoli**	**1.30**	**358**	*e*Pn	**Pn**	**18 49 37.2**	**+0.5**
RKY	**Sarkoy-Tekirda**	**1.37**	**37**	*e*PN	**Pn**	**18 49 38.1**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.37**	**37**	*e*Pn	**Pn**	**18 49 38.1**	**+0.3**
SART	**Tekirdag**	**1.37**	**37**	*e*P	**Pb**	**18 49 38.4**	**-0.2**
SART				*e*S	**Sg**	**18 49 57.8**	**+0.2**
SART	**Tekirdag**	**1.37**	**37**	*e*P	**Pb**	**18 49 38.4**	**-0.2**
SART				*e*S	**Sg**	**18 49 57.8**	**+0.2**
ZEY	**˙zmir**	**1.39**	**167**	*e*P	**Pb**	**18 49 39.1**	**+0.1**
ZEY				*e*S	**Sb**	**18 49 55.1**	**-1.4**
MRMT	**Marmara Adasi**	**1.52**	**48**	*e*PN	**Pn**	**18 49 40.5**	**+0.5**
MRMT	**Marmara Adasi**	**1.52**	**48**	*e*Pn	**Pn**	**18 49 40.5**	**+0.5**

IPEC ***12*** *18:51:19.0±0.3, 50.˚38N×18.˚92E, h0km±2km, ML1.5/3, Error ellipse: s-maj=2.7km s-min=1.1km az=171.0*

CSEM ***12*** *18:51:19.1±0.3, 50.˚38N×18.˚82E, h2km, ML2.6/9, Error ellipse: s-maj=6.1km s-min=2.5km az=4.0*

PRU 12 18:51:20.0, 50.˚35N×18.˚83E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.12**	**120**	*e*Pg	Pg	18 51 21.3	-1.0
CHZP				*e*E		18 51 21.6	
CHZP				*e*Sg	Sg	18 51 23.5	-0.4
OJC	**Ojcow**	**0.64**	**102**	*e*Pg	Pg	18 51 30.5	-1.7
OJC				*e*Sg	Sg	18 51 39.5	-1.0
OJC	**Ojcow**	**0.64**	**102**	*e*Pg	Pg	18 51 30.5	-1.7
OJC				*e*Sg	Sg	18 51 39.5	-1.0
OKC	**Ostrava-Krasne**	**0.68**	**221**	*e*PG	Pg	18 51 31.9	-1.1
OKC				*e*SG	Sg	18 51 41.3	-0.4
	comp=Z,10nm,0.3s						
OKC	**Ostrava-Krasne**	**0.68**	**221**	Pg	Pg	18 51 31.9	-1.1
OKC				Sg	Sg	18 51 41.3	-0.4
	10nm,0.3s						
MORC	**Moravsky Berou**	**1.01**	**236**	*e*Pg	Pg	18 51 39.3	-0.1
	baz=55						
MORC				*e*Sg	Sg	18 51 52.5	-0.1
	11nm,0.2s,baz=55						
LANS	**Liptovska Anna**	**1.27**	**161**	*e*Sg	Sg	18 52 00.4	-0.6
LANS	**Liptovska Anna**	**1.27**	**161**	*e*Pg	Pg	18 51 44.3	-0.1
NIE	**Niedzica**	**1.34**	**134**	*e*Pg	Pg	18 51 44.7	-1.0
NIE				*e*Sg	Sg	18 52 02.5	-0.6
NIE	**Niedzica**	**1.34**	**134**	*e*Pg	Pg	18 51 44.7	-1.0
KRLC	**Kraliky**	**1.34**	**259**	*e*PG	Pg	18 51 44.4	-1.5
KRLC				*e*SG	Sg	18 52 02.8	-0.6
KRLC	**Kraliky**	**1.34**	**259**	Pg	Pg	18 51 44.4	-1.5
KRLC				Sg	Sg	18 52 02.8	-0.6
DPC	**Dobruska-Polom**	**1.61**	**271**	*e*PG	Pn	18 51 49.0	-0.7
DPC				*e*SG	Sb	18 52 11.4	-0.1
	comp=Z,16nm,0.3s						
DPC	**Dobruska-Polom**	**1.61**	**271**	Pg	Pn	18 51 49.0	-0.7
DPC				Sg	Sb	18 52 11.4	-0.1
	16nm,0.3s						
VRAC	**Vranov**	**1.79**	**235**	*e*Pn	Pn	18 51 51.8	-0.3
	baz=54						
VRAC				*e*Sg	Sg	18 52 17.0	-0.4
	4.3nm,0.3s,baz=54						
STHS	**Stebnicka Huta**	**1.82**	**120**	*e*Pn	Pn	18 51 53.2	+0.6
STHS				*e*Sn	Sn	18 52 15.3	-1.1
STHS	**Stebnicka Huta**	**1.82**	**120**	*e*PN	Pn	18 51 53.2	+0.6
STHS				*e*SN	Sn	18 52 15.3	-1.1
VYHS	**Vyhne**	**1.86**	**180**	*e*Pn	Pn	18 51 52.8	-0.3
VYHS				*e*Sn	Sn	18 52 15.8	-1.5
VYHS	**Vyhne**	**1.86**	**180**	*e*PN	Pn	18 51 52.8	-0.3
VYHS				*e*SN	Sn	18 52 15.8	-1.5
KRUC	**Moravsky**	**2.04**	**232**	*e*Pn	Pn	18 51 55.3	-0.3
	baz=50						
KRUC				*e*Sg	Sb	18 52 24.6	+0.7
	1.9nm,0.2s,baz=50						
GOPC	**GO Pecny, Ondr**	**2.64**	**262**	*e*SG	Sg	18 52 43.6	-1.3
	comp=Z,3.4nm,0.5s						
GOPC	**GO Pecny, Ondr**	**2.64**	**262**	Sg	Sg	18 52 43.6	-1.3
	3.4nm,0.5s						
PVCC	**Panska Ves**	**2.73**	**275**	*e*SG	Sg	18 52 47.0	-0.7
	comp=Z,6.4nm,0.3s						
PVCC	**Panska Ves**	**2.73**	**275**	Sg	Sg	18 52 47.0	-0.7
	6.4nm,0.3s						
PRU	**Pruhonice**	**2.78**	**264**	*e*SG	Sg	18 52 47.5	-1.9
	comp=Z,2.0nm,0.5s						
PRU	**Pruhonice**	**2.78**	**264**	Sg	Sg	18 52 47.5	-1.9
	2.0nm,0.5s						
BRG	**Berggiesshubel**	**3.16**	**281**	SG	Sg	18 53 03.0	+1.6
	2.9nm,0.9s						
KHC	**Kasperske Hory**	**3.62**	**252**	*e*PG	Pb	18 52 26.0	+1.1
KHC				*e*SG	Sg	18 53 14.3	-2.1
	comp=Z,3.3nm,0.6s						

DHMR 12 18:54:00.2±2.7, 11.˚91N×43.˚75E, h6km±34km, ML3.5, 1C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC

TRBA	**At Turbah**	**1.36**	**15**	⇑*i*P		Pg	18 54 26.9	+0.3
TRBA				*i* S		Sb	18 54 44.3	0.0
TRBA				AML		AML	18 54 49.9	
	comp=E,707nm,0.6s							
BDHA	**Al Bayda'**	**2.71**	**41**	*i* P		Pn	18 54 46.0	+1.2
BDHA				*i* S		Sb	18 55 24.6	+1.3
BDHA				AML		AML	18 55 34.1	
	comp=E,327nm,0.4s							
DHBB	**Dhamar BB**	**2.71**	**13**	*i* P		Pn	18 54 47.2	+2.3
DHBB				*i* S		Sb	18 55 24.4	+0.8

NIED ***12*** *18:55:00, 32.˚80N×141.˚20E, h50km, Mw4.8 Best double couple: M0 1.50000×10^16 NP1:φ=70.00000°, δ=27.00000°, λ=142.00000°. NP2:φ=195.00000°, δ=74.00000°, λ=68.00000°.*

BJI ***12*** *18:55:24.6, 32.˚52N×141.˚73E, h40km, mb4.8/59, mB4.8/38, Ms4.2/51, Ms7 4.0/48*

MOS ***12*** *18:55:27.4±1.0, 32.˚66N×141.˚04E, h17km, mb5.2/78, Error ellipse: s-maj=8.0km s-min=3.9km az=114.6*

ISCJB ***12*** *18:55:30.8±0.5, 32.˚62N±0.˚02×141.˚00E±0.˚03, h40km±4km, mb4.9/143, MS3.8/33, Error ellipse: s-maj=4.4km s-min=3.9km az=15.9*

JMA ***12*** *18:55:31.9±0.2, 32.˚79N×141.˚21E, h46km, M4.8*

NEIC ***12*** *18:55:33.2±0.1, 32.˚64N×141.˚01E, mb4.9/66, MW4.7(NIED), Error ellipse: s-maj=3.7km s-min=3.2km az=156.0*

IDC ***12*** *18:55:33.1±0.6, 32.˚64N×141.˚00E, h47km±4km, mb4.5/29, mb1 4.7/35, mb1mx4.6/39, mbtmp4.8/35, MS3.7/32, Ms1 3.7/32, ms1mx3.7/43, Error ellipse: s-maj=11.4km s-min=8.0km az=80.0*

ISC 12 18:55:32.7±0.3, 32.˚68N±0.˚03×141.˚07E±0.˚04, h45km±2km, h45km:pP-P, n490, σ1.˚923/556, mb4.9/145, MS3.9/33, 34C-30D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.14**	**293**	⇓P	**Pn**	**18 55 53.1**	**+0.9**
JHJ2				S	**Sn**	**18 56 07.5**	**+0.9**
JHJ2	**Mitsune**	**1.14**	**293**	*e*Pn	**Pn**	**18 55 52.9**	**+0.7**
JHCJ	**Hachijojimakas**	**1.14**	**291**	⇓P	**Pn**	**18 55 52.9**	**+0.7**
BSO1	**Boso 1**	**1.97**	**358**	P	**Pn**	**18 56 02.3**	**-0.8**
BSO1				S	**Sn**	**18 56 25.3**	**-1.1**
BSO3	**Boso 3**	**2.17**	**348**	P	**Pn**	**18 56 05.1**	**-1.0**
JKO	**Kozu shima**	**2.21**	**314**	⇓P	**Pn**	**18 56 07.7**	**+0.8**
JKO				S	**Sn**	**18 56 33.9**	**+1.0**
JNIO	**Niijimaoohara**	**2.25**	**319**	P	**Pn**	**18 56 08.0**	**+0.6**
JIM2	**Oshima 3**	**2.45**	**327**	⇓P	**Pn**	**18 56 09.9**	**-0.3**
JIM2				S	**Sn**	**18 56 39.3**	**+0.4**
I30JP	**ISUMI INFRASON**	**2.70**	**347**	S	**Sn**	**18 56 45.6**	**+0.6**
	baz=138,slow=478						
JIZS	**Izushimoda**	**2.73**	**319**	⇓P	**Pn**	**18 56 14.8**	**+0.7**
JIZS				S	**Sn**	**18 56 46.4**	**+0.5**
TK02	**Tokai 2**	**3.05**	**295**	P	**Pn**	**18 56 20.5**	**+2.3**
JOD2	**Odawara 2**	**3.06**	**328**	⇓P	**Pn**	**18 56 18.3**	**-0.3**
TK04	**Tokai 4**	**3.16**	**303**	⇑P	**Pn**	**18 56 22.4**	**+2.5**
SHZ3	**Shizuoka 3**	**3.36**	**316**	⇓P	**Pn**	**18 56 24.7**	**+1.9**
JYN	**Shimob**	**3.50**	**324**	⇓P	**Pn**	**18 56 25.8**	**+1.0**
TTO1	**TONANKAI O.B.S**	**3.71**	**286**	P	**Pn**	**18 56 29.9**	**+2.6**
JRY	**Ryogami san**	**3.78**	**332**	⇓P	**Pn**	**18 56 28.5**	**0.0**
JAG	**Ashikaga**	**3.97**	**341**	P	**Pn**	**18 56 30.4**	**-0.6**
JAG				S	**Sn**	**18 57 16.0**	**-0.3**
JIE	**Ise**	**4.02**	**296**	⇓P	**Pn**	**18 56 33.4**	**+1.6**
MJAR	**Matsushiro Arr**	**4.52**	**329**	P	**Pn**	**18 56 38.5**	**-0.1**
	20nm,0.3s,baz=146,slow=11,SNR

SSE PMZ
comp=Z,83nm,5.7s
SSE LN
comp=Z,100nm,25.4s
SSE LE
comp=Z,230nm,25.4s
SSE LZ
comp=Z,270nm,25.2s
YOJ Yonaguni jima 17.83 247 *e*P **P 18 59 39.0 +1.2**
YOJ pmax pmax
comp=Z,139nm,1.1s
YOJ Yonaguni jima 17.83 247 *e*Pn **P 18 59 39.0 +1.2**
comp=Z,139nm,1.1s
KLR Kul'dur 17.95 340 *e*P Pn 18 59 28.8 -10
KLR MLR MLR
comp=E,500nm,13.5s
KLR MLR MLR
comp=Z,800nm,13.5s
TATO Taipei 18.77 251 *e*P **Pn 18 59 49.1 +0.1**
YHNB Yeheng 19.01 250 *e*P **P 18 59 50.8 -0.1**
comp=Z,41nm,0.8s
GUMO Guam 19.32 169 P **P 18 59 53.8 -0.3**
comp=Z,6.0nm,0.3s,baz=356,slow=16,SNR=8.7
GUMO LR LR 19 05 15.2
comp=Z,116nm,19.4s,baz=10.0,slow=30
GUMO Guam 19.32 169 P **P 18 59 53.8 -0.3**
GUMO pmax pmax
comp=Z,6.0nm,0.3s
GUMO MLR MLR
comp=Z,116nm,19.4s
YULB Yu-li 19.73 247 *e*P **P 18 59 59.4 +0.8**
comp=Z,21nm,0.8s
SSLB Suanglung 19.79 249 *e*P **P 18 59 59.8 +0.5**
comp=Z,32nm,0.9s
TWG Pinlang 20.21 246 *e*P **P 19 00 04.6 +0.8**
comp=Z,340nm,1.5s
TPUB Ta-pu 20.29 248 *e*P **P 19 00 05.5 +0.7**
comp=Z,28nm,0.8s
BJI Beijing 21.31 297 P **P 19 00 15.9 +0.4**
BJI S **S 19 04 10.3 +0.6**
BJI PMZ
comp=Z,36nm,0.6s
BJI LN
comp=Z,140nm,16.4s
BJI LE
comp=Z,380nm,21.4s
BJI LZ
comp=Z,370nm,25.5s
WHN Wuhan 22.83 272 ⇑P **P 19 00 31.8 -0.1**
WHN S **S 19 04 41.0 +2.9**
WHN LN
comp=Z,360nm,10.9s
WHN LE
comp=Z,340nm,12.1s
WHN LZ
comp=Z,400nm,13.9s
HIA Hailar 22.98 322 *e*P **P 19 00 32.2 -1.1**
HIA pmax pmax
comp=Z,28nm,0.8s
HIA Hailar 22.98 322 *e*P **P 19 00 32.2 -1.1**
comp=Z,28nm,0.8s
PETK Petropavlovsk- 23.67 25 P **P 19 00 40.9 +1.0**
comp=Z,2.5nm,1.0s,baz=205,slow=6.4,SNR=2.8
PETK LR LR 19 11 14.9
comp=Z,88nm,19.8s,baz=203,slow=40
PETK Petropavlovsk- 23.67 25 P **P 19 00 40.9 +1.0**
PETK pmax pmax
comp=Z,3.0nm,1.0s
PETK MLR MLR
comp=Z,88nm,19.8s
HHC Hu-ho-hao-te 24.91 298 *e*P **P 19 00 52.1 +0.5**
HHC PP **PnPn 19 01 30.4 +4.5**
HHC S **S 19 05 09.6 -2.3**
HHC sS **sS 19 05 28.9 -3.0**
HHC PMZ
comp=Z,24nm,1.3s
HHC PMZ
comp=Z,65nm,5.2s
HHC LN
comp=Z,240nm,12.6s
HHC LE
comp=Z,380nm,19.0s
HHC LZ
comp=Z,440nm,20.6s
BTO Baotou 26.04 297 *e*P **P 19 01 01.1 -0.7**
H11N2 WAKE ISLAND Hy 26.44 113 T T 19 29 25.5
baz=303,SNR=46
H11N1 WAKE ISLAND Hy 26.45 113 T T 19 29 30.3
baz=303
H11N3 WAKE ISLAND Hy 26.46 113 T T 19 29 30.3
baz=303
CLNS Chul'man 26.61 340 *e*P **P 19 01 07.2 +0.5**
CLNS pmax pmax
comp=Z,27nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,0.9s
CLNS pmax pmax
comp=N,23nm,1.2s
ENH Enshi 26.99 273 *e*P **P 19 01 09.3 -1.1**
comp=N,11nm,0.9s
H11S3 WAKE ISLAND Hy 26.99 115 T T 19 30 28.9
baz=306,slow=75,SNR=8.7
H11S1 WAKE ISLAND Hy 26.99 115 T T 19 30 28.9
baz=306,slow=75,SNR=8.2
H11S2 WAKE ISLAND Hy 27.01 115 T T 19 30 28.9
baz=306,slow=75,SNR=6.0
CIT Chita 27.79 322 *e*P **P 19 01 17.4 +0.1**
CIT *e* 19 01 28.8
CIT pmax pmax
comp=Z,115nm,1.8s
ULN Ulaanbaatar 29.77 311 *d i*P **P 19 01 36.1 +1.0**
ULN pmax pmax
comp=Z,45nm,1.0s
ULN Ulaanbaatar 29.77 311 P **P 19 01 36.4 +1.3**
SNR=29
ULN Ulaanbaatar 29.77 311 *e*P **P 19 01 36.1 +1.0**
comp=Z,41nm,1.0s
SONA1 Songino Array 30.18 310 *e*P **P 19 01 39.6 +0.9**
SONM Songino Array 30.19 310 P **P 19 01 39.1 +0.4**
comp=Z,16nm,0.7s,baz=113,slow=8.4,SNR=100
SONM ScP **ScP 19 08 17.4 -0.1**
comp=Z,0.6nm,0.7s,baz=130,slow=4.5,SNR=5.1
SONM LR LR 19 14 17.6
comp=Z,381nm,18.8s,baz=98,slow=37
SONM Songino Array 30.19 310 P **P 19 01 39.1 +0.4**
SONM 19 08 17.4
SONM pmax pmax
comp=Z,16nm,0.7s
SONM pmax pmax
comp=N,1.0nm,0.7s
SONM MLR MLR
comp=Z,381nm,18.8s
YAK Yakutsk 30.27 349 P P 19 01 31.5 -7.6
comp=Z,1.3nm,0.2s,baz=139,slow=2.6,SNR=1.3
YAK LR LR 19 13 46.7
comp=Z,208nm,21.5s,baz=178,slow=36
YAK Yakutsk 30.27 349 *e*P **P 19 01 37.9 -1.2**
YAK *e*PP **pP 19 01 48.3 -2.8**
YAK *e*S **S 19 06 34.6 -0.9**
YAK *e* 19 08 21.0
YAK pmax pmax
comp=Z,14nm,0.8s
YAK pmax pmax
comp=N,10.0nm,1.5s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=Z,34nm,1.3s
YAK pmax pmax
comp=N,37nm,1.5s
YAK pmax pmax
comp=E,14nm,1.4s
YAK smax smax
comp=E,67nm,4.3s
YAK smax smax
comp=N,161nm,4.8s
YAK MLR MLR
comp=Z,225nm,24.0s
YAK MLR MLR
comp=N,158nm,22.0s
YAK MLR MLR
comp=E,70nm,19.0s
YAK Yakutsk 30.27 349 *e*P **P 19 01 38.8 -0.3**
QIZ Qiongzhong 31.08 252 P **P 19 01 47.3 +0.5**
QIZ S **S 19 06 49.7 +0.6**
QIZ LZ
comp=E,190nm,25.1s

SEY Seymchan 31.11 10 P **P 19 01 47.7 +1.2**
comp=E,3.8nm,0.7s,baz=187,slow=10,SNR=12
SEY Seymchan 31.11 10 *e*P **P 19 01 48.1 +1.5**
BOD Bodaibo 31.15 332 *e*P **P 19 01 46.6 -0.3**
BOD pmax pmax
comp=Z,46nm,1.3s
CD2 Chengdu 31.66 277 P **P 19 01 50.3 -1.5**
CD2 pP **pP 19 02 03.1 -0.8**
CD2 sP **sP 19 02 07.8 -1.5**
CD2 PP **PnPn 19 02 54.8 -1.9**
CD2 S **S 19 06 52.4 -5.7**
CD2 PMZ
comp=Z,30nm,0.8s
CD2 PMZ
comp=Z,90nm,4.8s
CD2 LN
comp=Z,300nm,15.6s
CD2 LZ
comp=Z,370nm,14.3s
ZAK Zakamensk 32.91 314 ⇑*i*P **P 19 02 02.3 -0.4**
ZAK pmax pmax
comp=Z,22nm,1.1s
IRK Irkutsk 32.96 317 *e*P **P 19 02 02.6 -0.4**
IRK pmax pmax
comp=Z,33nm,2.3s
TLY Talaya 33.12 316 P **P 19 02 04.8 +0.4**
comp=Z,18nm,0.7s,baz=133,slow=7.8,SNR=50
TLY Talaya 33.12 316 *e*P **P 19 02 05.2 +0.8**
TLY *e*SSS SSS 19 09 23.4
TLY pmax pmax
comp=Z,41nm,1.0s
TLY MLR MLR
comp=Z,158nm,15.0s
TLY Talaya 33.12 316 P **P 19 02 05.8 +1.5**
SNR=24
GTA Gaotai 33.80 293 *e*P **P 19 02 09.8 -0.8**
GTA pP **pP 19 02 22.5 -0.2**
GTA sP **sP 19 02 27.4 -0.7**
GTA S **S 19 07 29.9 -1.5**
GTA sS **sS 19 07 50.1 -1.6**
GTA ScP **ScP 19 08 29.2 -0.7**
GTA PMZ
comp=Z,10.0nm,0.9s
GTA PMZ
comp=Z,71nm,6.6s
GTA LN
comp=Z,210nm,13.8s
GTA LE
comp=Z,250nm,17.6s
GTA LZ
comp=Z,170nm,14.3s
KMI Kunming 34.25 267 P **P 19 02 14.5 -0.2**
KMI pP **pP 19 02 27.6 +0.8**
KMI S S 19 07 45.2 +6.5
KMI PMZ
comp=Z,10.0nm,0.6s
KMI PMZ
comp=Z,65nm,7.1s
KMI LN
comp=Z,140nm,16.4s
KMI LE
comp=Z,110nm,22.1s
KMI LZ
comp=Z,160nm,21.8s
SIJI Sorong 34.63 197 P **P 19 02 16.9 -0.8**
comp=Z,8.9nm,0.6s,baz=11,slow=12,SNR=7.4
MOY Mondy 34.68 315 *e*P **P 19 02 18.6 +0.6**
MOY pmax pmax
comp=Z,22nm,1.6s
CRAI Chiangrai 38.26 261 P P 19 02 44.6 -4.2
comp=Z,158nm,1.0s,comp=Z,7µm
LOEI Loei 38.84 257 P P 19 02 50.0 -3.6
comp=Z,14nm,0.8s,comp=Z,9µm
CHAI Chaiyaphum 39.08 254 P **P 19 02 55.0 -0.6**
comp=Z,6.1nm,0.8s,comp=Z,56nm
UTTA Uttaradit 39.30 258 P **P 19 02 57.2 -0.2**
comp=Z,5.7nm,0.8s
PBKT Sadao Pong 39.56 256 P **P 19 02 59.4 -0.2**
comp=Z,16nm,0.9s
TIXI Tiksi 39.58 354 ⇓*i*P **P 19 02 58.6 -0.5**
TIXI pmax pmax
comp=Z,17nm,2.5s
TIXI Tiksi 39.58 354 *e*P **P 19 02 58.2 -0.9**
comp=Z,5.2nm,0.7s
CMMT Chiang Mai 40.11 260 P **P 19 03 03.5 -0.7**
comp=Z,18nm,0.9s
CHTO Chiang Mai 40.11 260 P **P 19 03 03.5 -0.7**
comp=Z,62nm,0.9s
CHTO Chiang Mai 40.11 260 *e*P **P 19 03 03.5 -0.7**
CHTO pmax pmax
comp=Z,12nm,0.9s
CHTO Chiang Mai 40.11 260 *e*P **P 19 03 03.5 -0.7**
comp=Z,12nm,0.9s
CM31 Chiang Mai Arr 40.28 260 *e*P **P 19 03 05.0 -0.6**
comp=Z,2.5nm,0.4s
CMAR Chiang Mai Arr 40.28 260 P **P 19 03 05.1 -0.6**
comp=Z,3.6nm,0.7s,baz=49,slow=7.1,SNR=18
CMAR pP **pP 19 03 18.6 +0.6**
comp=Z,2.9nm,0.7s,baz=53,slow=6.9,SNR=7.6
CMAR PcP **PcP 19 05 09.6 +0.9**
comp=Z,0.8nm,0.8s,baz=28,slow=4.1,SNR=3.3
CMAR LR LR 19 20 18.6
comp=Z,76nm,20.3s,baz=62,slow=37
CMAR Chiang Mai Arr 40.28 260 P **P 19 03 05.1 -0.6**
CMAR 19 05 09.6
CMAR pmax pmax
comp=Z,4.0nm,0.7s
CMAR pmax pmax
comp=Z,3.0nm,0.7s
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CMAR MLR MLR
comp=Z,76nm,20.3s
KRAR Krasnoyarsk 40.51 320 ⇑*i*P **P 19 03 07.3 +0.3**
KRAR pmax pmax
comp=Z,23nm,1.1s
CHBT CHBT 40.56 250 P P 19 03 12.5 +4.6
PMG Port Moresby 42.25 171 ⇑*e*P **P 19 03 22.7 +1.0**
PMG pmax pmax
comp=Z,150nm,1.4s
LSA Lhasa 42.49 280 P **P 19 03 23.9 -0.3**
LSA Lhasa 42.49 280 *e*P **P 19 03 23.8 -0.4**
LSA pmax pmax
comp=Z,5.0nm,0.6s
LSA Lhasa 42.49 280 *e*P **P 19 03 23.8 -0.4**
comp=Z,5.3nm,0.6s
KAPI Kappang 42.60 212 P **P 19 03 23.6 -0.9**
comp=Z,4.4nm,0.8s,baz=96,slow=9.2,SNR=3.4
KAPI PcP **PcP 19 05 16.5 +0.3**
comp=Z,7.4nm,0.8s,baz=18,slow=3.2,SNR=4.7
WMQ Urumqi 42.70 301 P **P 19 03 25.9 +0.7**
WMQ pP **pP 19 03 38.2 +0.6**
WMQ sP **sP 19 03 43.6 +0.7**
WMQ PcP **PcP 19 05 17.6 +1.3**
WMQ PcS **PcS 19 09 08.6 +0.1**
WMQ S **S 19 09 46.3 +0.8**
WMQ sS **sS 19 10 07.2 +1.0**
WMQ SS **SS 19 12 53.3 -3.6**
WMQ PMZ
comp=Z,40nm,1.0s
WMQ PMZ
comp=Z,170nm,3.6s
WMQ LN
comp=Z,92nm,21.0s
WMQ LE
comp=Z,110nm,22.4s
WMQ LZ
comp=Z,120nm,21.8s
ZAA0 Zalesovo Array 44.73 316 *e*P **P 19 03 40.4 -0.9**
ZALV Zalesovo Beam 44.73 316 P **P 19 03 41.0 -0.3**
comp=Z,15nm,0.8s,baz=100,slow=6.3,SNR=59
ZALV PcP **PcP 19 05 23.0 0.0**
comp=Z,3.9nm,0.5s,baz=96,slow=2.7,SNR=7.2
ZALV pPcP 19 05 38.3
comp=Z,12nm,0.7s,baz=102,slow=2.7,SNR=8.4
ZALV ScP **ScP 19 09 10.6 -0.9**
comp=Z,0.7nm,0.6s,baz=90,slow=4.3,SNR=3.7
ZALV LR LR 19 23 02.9
comp=Z,131nm,20.0s,baz=70,slow=37
ZALV Zalesovo Beam 44.73 316 P **P 19 03 41.0 -0.3**
ZALV 19 05 23.0
ZALV pmax pmax
comp=Z,15nm,0.8s
ZALV pmax pmax
comp=Z,4.0nm,0.5s
ZALV pmax pmax
comp=Z,12nm,0.7s
ZALV pmax pmax
comp=N,1.0nm,0.6s
ZALV MLR MLR
comp=Z,131nm,20.0s
NVS Novosibirsk 45.73 317 ⇓*i*P **P 19 03 48.0 -1.2**
NVS *e* 19 05 22.4
NVS *e*S **S 19 10 26.4 -2.7**
NVS pmax pmax
comp=Z,42nm,0.9s
NVS pmax pmax
comp=N,9.0nm,0.9s
NVS pmax pmax
comp=E,38nm,1.1s
NVS smax smax
comp=E,11nm,1.6s
TAPN Taplejung 46.11 278 *e*P **P 19 03 52.3 -0.7**
comp=E,22nm,0.8s
MK31 Makanchi Array 46.30 306 *i* P **P 19 03 53.9 0.0**
MK31 pmax pmax
comp=Z,36nm,0.8s
MK31 Makanchi Array 46.30 306 *e*P **P 19 03 54.0 +0.1**
MKAR Makanchi Array 46.30 306 P **P 19 03 54.0 0.0**
comp=Z,23nm,0.7s,baz=90,slow=6.1,SNR=131
MKAR pP **pP 19 04 07.3 +0.9**
comp=Z,5.7nm,0.6s,baz=60,slow=7.2,SNR=5.4
MKAR PcP **PcP 19 05 28.6 0.0**
comp=Z,1.4nm,0.7s,baz=67,slow=3.7,SNR=3.3
MKAR ScP **ScP 19 09 17.4 -0.8**
comp=Z,1.0nm,0.7s,baz=63,slow=3.0,SNR=4.4
MKAR LR LR 19 24 00.3
comp=Z,186nm,20.6s,baz=72,slow=37
MKAR Makanchi Array 46.30 306 P **P 19 03 54.0 0.0**
MKAR 19 05 28.6
MKAR pmax pmax
comp=Z,23nm,0.7s
MKAR pmax pmax
comp=Z,6.0nm,0.6s
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR pmax pmax
comp=N,1.0nm,0.7s
MKAR MLR MLR
comp=Z,186nm,20.6s
ODAN Odare 46.55 277 *e*P **P 19 03 55.3 -1.0**
comp=Z,33nm,0.7s
RAMN Ramite 47.18 278 *e*P **P 19 04 00.6 -0.7**
comp=Z,113nm,0.9s
JIRN Jiri 47.27 279 *e*P **P 19 04 01.6 -0.5**
comp=Z,100nm,0.7s
GUN Gumba 47.44 279 *e*P **P 19 04 02.8 -0.7**
comp=Z,59nm,0.7s
PKI Pulchoki 47.95 279 *e*P **P 19 04 06.3 -1.1**
comp=Z,38nm,0.9s
PKIN Phulchoki 47.96 279 *e*P **P 19 04 06.2 -1.2**
comp=Z,29nm,0.9s
KKN Kakani 47.98 280 *e*P **P 19 04 06.7 -0.8**
comp=Z,58nm,0.8s
DMN Daman 48.19 279 *e*P **P 19 04 08.3 -0.8**
comp=Z,37nm,0.9s
GKN Gorkha 48.45 280 *e*P **P 19 04 10.1 -0.9**
comp=Z,60nm,0.9s
KURK Kurchatov 48.49 311 P **P 19 04 11.2 +0.5**
KURK pmax pmax
comp=Z,9.0nm,0.6s
KURK Kurchatov 48.49 311 P **P 19 04 10.8 0.0**
SNR=12
KURK Kurchatov 48.49 311 *e*P **P 19 04 10.4 -0.4**
comp=Z,28nm,0.8s
KURK ScP **ScP 19 09 25.9 -1.3**
KURBB Kurchatov Arra 48.55 311 P **P 19 04 11.2 -0.1**
comp=Z,9.2nm,0.6s,baz=88,slow=7.5,SNR=66
KURBB ScP **ScP 19 09 25.9 -1.6**
baz=89,slow=3.9
PDGK Podgornoye 48.68 301 P **P 19 04 12.1 -0.2**
PDGK pmax pmax
comp=Z,59nm,0.7s
KOLN Koldanda 49.39 280 *e*P **P 19 04 17.9 -0.4**
comp=Z,30nm,0.8s
PSI Prapat 49.41 242 LR LR 19 22 31.3
comp=Z,60nm,19.0s,slow=33
LEM Lembang 50.56 225 LR LR 19 24 47.4
comp=Z,38nm,20.8s,baz=344,slow=35
KDAK Kodiak Island 50.58 39 *i* P **P 19 04 27.4 +0.8**
LHSI Lahat 50.83 232 P **P 19 04 31.0 +2.0**
comp=Z,29nm,0.9s
MDSI Maura Dua 50.90 230 P **P 19 04 28.8 -0.7**
comp=Z,27nm,1.0s
GSI Gunungsitoli 51.40 242 *e*P **P 19 04 31.7 -1.6**
comp=Z,31nm,0.9s
TKM2 Tokmak 2 51.55 301 P **P 19 04 34.8 +0.4**
SNR=17
TKM2 Tokmak 2 51.55 301 *e*P **P 19 04 35.0 +0.6**
TKM2 pmax pmax
comp=Z,67nm,1.5s
TKM2 Tokmak 2 51.55 301 *e*P **P 19 04 35.0 +0.6**
comp=Z,68nm,1.5s
KZA Kyzart 51.98 300 P **P 19 04 39.3 +1.5**
SNR=11
KZA Kyzart 51.98 300 *i* P **P 19 04 39.3 +1.5**
KSH Kashi 52.03 297 P P 19 04 41.4 +3.5
KSH pP pP 19 04 53.8 +3.2
KSH PP PP 19 06 42.0 +5.8
KSH PcS **PcS 19 09 49.0 +1.0**
KSH S **S 19 12 02.6 +4.2**
KSH PMZ
comp=Z,20nm,0.8s
KSH PMZ
comp=Z,71nm,3.2s
KSH LN
comp=Z,110nm,6.3s
KSH LE
comp=Z,66nm,5.1s
KSH LZ
comp=Z,150nm,7.4s
KBK Karagaybulak 52.07 301 P **P 19 04 38.6 +0.4**
SNR=28
CHMS Chumysh 52.14 302 P **P 19 04 39.0 +0.4**
SNR=6.0
CHMS Chumysh 52.14 302 *i* P **P 19 04 39.0 +0.4**
USP Ospenovka 52.27 302 P **P 19 04 39.8 +0.2**
SNR=7.1
USP Ospenovka 52.27 302 *i* P **P 19 04 39.7 +0.2**
FRU Bishkek 52.27 302 *e*P **P 19 04 39.0 -0.6**
FRU pmax pmax
comp=Z,43nm,1.6s
AAK Ala-Archa 52.41 301 P **P 19 04 41.1 +0.4**
SNR=11
AAK Ala-Archa 52.41 301 *ce*P **P 19 04 41.0 +0.3**
AAK pmax pmax
comp=Z,25nm,0.7s
AAK Ala-Archa 52.41 301 P **P 19 04 40.9 +0.3**
SNR=6.5
AAK Ala-Archa 52.41 301 *e*P **P 19 04 40.9 +0.2**
comp=Z,10.0nm,0.8s
UCH Uchtor 52.48 301 P **P 19 04 42.8 +1.1**
SNR=11
UCH Uchtor 52.48 301 *i* P **P 19 04 42.7 +1.1**
CTA Charters Tower 52.70 174 P **P 19 04 42.6 -0.2**
comp=Z,4.2nm,0.5s,baz=349,slow=10,SNR=7.5
CTA Charters Tower 52.70 174 P **P 19 04 42.6 -0.2**
CTA pmax pmax
comp=Z,4.0nm,0.5s
CTAO Charters Tower 52.70 174 *e*P **P 19 04 42.1 -0.7**
CTAO Charters Tower 52.70 174 *e*P **P 19 04 42.1 -0.7**
WRAB Tennant Creek 52.71 188 *c i*P **P 19 04 42.5 -0.3**
WRAB pmax pmax
comp=Z,75nm,0.8s
WRAB Tennant Creek 52.71 188 *e*P **P 19 04 42.2 -0.6**
comp=Z,30nm,0.8s
WRA Warramunga Arr 52.72 188 P **P 19 04 42.3 -0.6**
comp=Z,32nm,0.6s,baz=5.3,slow=7.6,SNR=231
WRA pP **pP 19 04 56.8 +1.1**
comp=Z,6.9nm,0.5s,baz=5.7,slow=7.7,SNR=4.9
WRA PcP **PcP 19 05 52.9 +0.7**
comp=Z,5.7nm,0.8s,baz=358,slow=3.7,SNR=6.3
WRA Warramunga Arr 52.72 188 P **P 19 04 42.3 -0.6**
WRA 19 05 52.9
WRA pmax pmax
comp=Z,32nm,0.6s
WRA pmax pmax
comp=Z,7.0nm,0.5s
WRA pmax pmax
comp=Z,6.0nm,0.8s
CHLP Challavanipeta 52.75 269 *e*P **P 19 04 42.5 -0.9**
OTUK Ortayu 52.83 309 P **P 19 04 42.7 -0.9**
OTUK pmax pmax

EKS2 Erkin-Say 52.91 301 P **P 19 04 44.6 +0.2**
SNR=7.6
EKS2 Erkin-Say 52.91 301 *i* P **P 19 04 44.6 +0.2**
EKS2 Erkin-Say 52.91 301 *eP* **P 19 04 44.6 +0.2**
comp=Z,5.5nm,0.9s
COLA College 52.94 30⇑ *eP* **P 19 04 45.3 +1.3**
COLA pmax pmax
comp=Z,20nm,0.9s
AML Almayashu 53.09 301 P **P 19 04 46.9 +0.8**
SNR=28
AML Almayashu 53.09 301 *i* P **P 19 04 46.9 +0.8**
ILAR Eielson Array 53.35 31 P **P 19 04 47.2 +0.1**
comp=Z,4.0nm,0.8s,baz=268,slow=6.3,SNR=31
ILAR PcP **PcP 19 05 55.1 +1.1**
comp=Z,0.5nm,0.7s,baz=264,slow=2.7,SNR=2.3
ILAR LR LR 19 30 11.4
comp=Z,29nm,19.8s,baz=236,slow=39
ILAR Eielson Array 53.35 31 P **P 19 04 47.2 +0.1**
ILAR 19 05 55.1
ILAR pmax pmax
comp=Z,4.0nm,0.8s
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ILAR MLR MLR
comp=Z,29nm,19.8s
BVA0 Borovoye Array 53.36 315 *i* P **P 19 04 46.5 -0.9**
BVA0 pmax pmax
comp=Z,6.0nm,0.6s
BVAR Borovoye Array 53.36 315 P **P 19 04 47.2 -0.1**
comp=Z,5.0nm,0.6s,baz=93,slow=7.4,SNR=27
BVAR PcP **PcP 19 05 54.3 0.0**
comp=Z,2.8nm,0.6s,baz=96,slow=4.5,SNR=2.4
BVAR pPcP 19 06 09.4
comp=Z,6.0nm,0.8s,baz=94,slow=5.9,SNR=4.1
BVAR Borovoye Array 53.36 315 P **P 19 04 47.2 -0.1**
BVAR 19 05 54.3
BVAR pmax pmax
comp=Z,5.0nm,0.6s
BVAR pmax pmax
comp=Z,3.0nm,0.6s
BVAR pmax pmax
comp=Z,6.0nm,0.9s
BRVK Borovoye 53.42 315 *d i* P **P 19 04 47.8 0.0**
BRVK pmax pmax
comp=Z,19nm,1.0s
BRVK MLR MLR
comp=Z,133nm,19.0s
BRVK Borovoye 53.42 315 P **P 19 04 48.0 +0.3**
SNR=15
BRVK Borovoye 53.42 315 *eP* **P 19 04 47.6 -0.2**
comp=Z,13nm,0.9s
SFK Sufi-Kurgan 53.75 298 P **P 19 04 50.5 -0.2**
SFK pmax pmax
comp=Z,23nm,1.0s
NDI New Delhi 54.33 284 *eP* **P 19 04 54.0 -0.8**
KK31 Karatay Array 55.15 303 P **P 19 05 00.7 +0.1**
KK31 pmax pmax
comp=Z,3.0nm,0.4s
KKAR Karatay Array 55.15 303 *eP* **P 19 05 00.6 0.0**
KKAR pmax pmax
comp=Z,17nm,0.6s
KKAR Karatay Array 55.15 303 *eP* **P 19 05 00.6 0.0**
comp=Z,17nm,0.6s
EGAK Eagle 55.80 30 *eP* **P 19 05 04.8 -0.1**
comp=Z,11nm,1.3s
AS31 Alice Springs 56.44 188 *eP* **P 19 05 09.6 -0.4**
ASAR Alice Springs 56.45 188 P **P 19 05 09.5 -0.5**
comp=Z,9.5nm,0.8s,baz=3.0,slow=7.2,SNR=124
ASAR PcP **PcP 19 06 07.2 +0.8**
comp=Z,4.0nm,0.7s,baz=12,slow=4.4,SNR=5.8
ASAR LR LR 19 29 13.3
comp=Z,72nm,21.4s,baz=24,slow=36
ASAR Alice Springs 56.45 188 P **P 19 05 09.5 -0.5**
ASAR 19 06 07.2
ASAR pmax pmax
comp=Z,10.0nm,0.8s
ASAR pmax pmax
comp=Z,4.0nm,0.7s
ASAR MLR MLR
comp=Z,72nm,21.4s
RPR Rampur 56.61 272 *eP* **P 19 05 11.0 -0.3**
MBWA Marble Bar 57.29 204 *eP* **P 19 05 15.5 -0.4**
DZET Dzherino 57.56 298 P **P 19 05 18.5 +0.5**
DZET pmax pmax
comp=Z,39nm,0.5s
NJS Nagarjunasagar 57.66 270 *eP* **P 19 05 18.2 -0.6**
HYB Hyderabad 57.89 271 *i* P **P 19 05 19.0 -1.4**
HYB *ep*P **pP 19 05 33.0 -0.3**
HYBB Hyderabad (bro 57.89 271 *eP* **P 19 05 20.2 -0.2**
HYBB *ep*P **pP 19 05 33.4 +0.1**
SVE Sverdlovsk 58.27 320⇑ *eP* **P 19 05 22.4 0.0**
SVE pmax pmax
comp=Z,21nm,0.9s
SVE MLR MLR
comp=Z,138nm,18.0s
INK Inuvik 58.41 26 P **P 19 05 24.0 +0.8**
comp=Z,6.0nm,0.6s,baz=298,slow=6.6,SNR=25
INK Inuvik 58.41 26 P **P 19 05 24.0 +0.8**
INK pmax pmax
comp=Z,6.0nm,0.6s
SKHT Srikalahasti 58.69 267 *eP* **P 19 05 24.6 -1.4**
KBL Kabul 58.79 293 *eP* **P 19 05 26.3 -0.4**
KBL pmax pmax
comp=Z,19nm,0.9s
KBL Kabul 58.79 293 *eP* **P 19 05 26.3 -0.4**
comp=Z,19nm,0.9s
ARU Arti 59.47 320 *d i* P **P 19 05 30.5 -0.3**
ARU S **S 19 13 39.5 +2.8**
ARU pmax pmax
comp=Z,33nm,1.2s
ARU Arti 59.47 320 *eP* **P 19 05 30.3 -0.5**
comp=Z,14nm,0.6s
SOKR Solikamsk 59.64 324 *eP* **P 19 05 30.2 -1.6**
SOKR pmax pmax
comp=Z,10.0nm,1.0s
URV Uravakonda 60.16 269 *eP* **P 19 05 36.1 -0.1**
AB31 Akbulak array 60.58 312 P **P 19 05 37.9 -0.6**
AB31 pmax pmax
comp=Z,7.0nm,0.5s
ABKAR Akbulak array 60.58 312 *eP* **P 19 05 38.0 -0.5**
POO Poona 61.34 275⇑ *iP* **P 19 05 42.0 -2.2**
comp=Z,30nm,1.0s
AKTO Aktyubinsk 61.42 314 P **P 19 05 44.0 -0.2**
AKTO pmax pmax
comp=Z,9.0nm,0.6s
DLBC Dease Lake 62.26 36 P **P 19 05 50.8 +1.0**
comp=Z,2.9nm,0.6s,baz=278,slow=7.1,SNR=3.9
STKA Stephens Creek 64.21 180 P **P 19 06 02.9 +0.1**
comp=Z,12nm,0.8s,baz=334,slow=8.0,SNR=16
STKA LR LR 19 34 37.7
comp=Z,89nm,20.1s,baz=25,slow=36
STKA Stephens Creek 64.21 180 P **P 19 06 02.9 +0.1**
STKA pmax pmax
comp=Z,12nm,0.8s
STKA MLR MLR
comp=Z,89nm,20.2s
PRGR Permogore 64.28 328 *eP* **P 19 06 03.4 +0.4**
PRGR pmax pmax
comp=Z,19nm,0.8s
FORT Forrest 64.30 192 *eP* **P 19 06 03.9 +0.4**
comp=Z,75nm,0.6s
SPITS Spitsbergen Ar 64.73 349 LR LR 19 35 49.2
comp=Z,71nm,21.1s,baz=330,slow=37
IMYA Miami 64.91 298 *eP* **P 19 06 09.8 +2.0**
ISRO Mashad 65.39 298 *eP* **P 19 06 11.8 +0.9**
IMOG Moghan 65.57 298 *eP* **P 19 06 12.7 +0.5**
IPAY Payeh 65.69 299 *eP* **P 19 06 13.2 +0.3**
GEYT Alibeck 65.75 301 P **P 19 06 13.4 +0.4**
comp=Z,6.1nm,0.8s,baz=23,slow=4.7,SNR=15
GEYT LR LR 19 37 05.7
comp=Z,97nm,19.5s,baz=160,slow=38
IKRD Kardeh 65.91 299 *eP* **P 19 06 11.7 -2.7**
RES Resolute Bay 66.88 14 P **P 19 06 20.0 +0.4**
comp=Z,9.3nm,0.7s,baz=326,slow=6.5,SNR=19
RES Resolute Bay 66.88 14 P **P 19 06 20.0 +0.4**
RES pmax pmax
comp=Z,9.0nm,0.7s
KLMR Klimovskoe 67.30 329 *eP* **P 19 06 22.8 +0.4**
KLMR pmax pmax
comp=Z,18nm,0.9s
YKA Yellowknife Ar 67.73 29 P **P 19 06 25.1 0.0**
comp=Z,4.8nm,0.8s,baz=295,slow=6.1,SNR=43
YKA Yellowknife Ar 67.73 29 P **P 19 06 25.1 0.0**
YKA pmax pmax
comp=Z,5.0nm,0.8s

ARCES ARCESS Array B 67.97 340 P **P 19 06 27.2 +0.6**
comp=Z,4.1nm,0.8s,baz=45,slow=7.4,SNR=8.3
ARCES pP **pP 19 06 40.1 +0.5**
comp=Z,5.2nm,0.8s,baz=61,slow=8.5,SNR=5.5
ARCES LR LR 19 39 15.3
comp=Z,83nm,21.4s,baz=30,slow=39
ARCES ARCESS Array B 67.97 340 P **P 19 06 27.2 +0.6**
ARCES pmax pmax
comp=Z,4.0nm,0.8s
ARCES pmax pmax
comp=Z,5.0nm,0.8s
ARCES MLR MLR
comp=Z,83nm,21.4s
ARE0 ARCESS Array S 67.97 340 *eP* **P 19 06 25.9 -0.7**
ARE0 *e* 19 06 39.9
IANJ Anjilo 69.84 300 *eP* **P 19 06 39.2 +0.2**
DAG Danmarks Havn 70.08 355 *i* P **P 19 06 40.0 +0.5**
comp=Z,6.2nm,0.8s
DAG *i* 19 06 53.9
DAG Danmarks Havn 70.08 355 *i* P **P 19 06 40.0 +0.5**
DAG pmax pmax
comp=Z,5.0nm,0.8s
ILAS Lasjerd 70.58 300 *eP* **P 19 06 43.2 -0.4**
MOS Moscow 70.59 324 *eP* **P 19 06 44.2 +1.2**
MOS *e* 19 06 51.2
MOS *e* 19 09 26.0
PIER Pier 30 Seattl 70.73 45 *eP* **P 19 06 42.4 -1.5**
PIER *ep*P pP 19 06 46.5 -11
IMEH Mehriz 71.15 296 *eP* **P 19 06 46.0 -1.2**
TDL Tradedollar La 71.38 47 P **P 19 06 49.9 +1.8**
OBN Obninsk 71.43 324 LR LR 19 40 46.0
comp=Z,137nm,18.8s,baz=89,slow=38
OBN Obninsk 71.43 324 *i* P **P 19 06 48.1 +0.1**
OBN *i* 19 07 01.9
OBN *i* 19 09 26.9
OBN pmax pmax
comp=Z,32nm,1.7s
OBN MLR MLR
comp=Z,124nm,18.0s
LPSR Galich'ya Gora 71.48 321 *eP* **P 19 06 47.6 -0.8**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
LPSR pmax pmax
comp=N,3.0nm,0.7s
LPSR pmax pmax
comp=E,10.0nm,1.3s
VOR Voronezh 71.76 320 P **P 19 06 50.0 -0.1**
VOR pmax pmax
comp=Z,250nm,1.0s
WBK Wadi Bani Khal 71.79 286 P **P 19 06 52.1 +1.3**
SNR=6.8
VSR Storozhevoye 72.04 320 *eP* **P 19 06 51.7 -0.1**
VSR pmax pmax
comp=Z,20nm,1.5s
VSR pmax pmax
comp=N,10.0nm,1.2s
VSR pmax pmax
comp=E,10.0nm,1.0s
VORD Divnogorie 72.09 319 *eP* **P 19 06 49.3 -2.8**
VORD pmax pmax
comp=N,30nm,0.6s
VORD pmax pmax
comp=E,40nm,0.6s
VORD pmax pmax
comp=Z,10.0nm,0.6s
BROR Big Rock Looko 72.22 49 P **P 19 06 54.7 +1.7**
VFP Flag Point 72.33 47 P **P 19 06 55.5 +1.6**
BANOM Banah 72.37 290⇑ P **P 19 06 55.5 +1.2**
FIA1 FINESS Array S 72.54 333 *eP* **P 19 06 55.3 +0.7**
FINES FINESS Array B 72.54 333 P **P 19 06 54.4 -0.2**
comp=Z,7.7nm,0.9s,baz=86,slow=5.4,SNR=32
FINES LR LR 19 40 43.7
comp=Z,46nm,21.1s,baz=86,slow=37
FINES FINESS Array B 72.54 333 P **P 19 06 54.4 -0.2**
FINES pmax pmax
comp=Z,8.0nm,0.9s
FINES MLR MLR
comp=Z,46nm,21.1s
HOQ Hoqain 72.67 287 P **P 19 06 56.3 +0.2**
SNR=11
GOF Gofitskoye 72.80 313 *eP* **P 19 06 57.7 +1.2**
GOF pmax pmax
comp=Z,20nm,0.8s
HATD Hatta, Dubai 73.02 289⇑ *iP* **P 19 06 59.4 +1.2**
SNR=8.2
ASHO Ashiyiah 73.15 289 P **P 19 06 59.4 +0.5**
SNR=5.6
ASHO Ashiyiah 73.15 289 *i* P **P 19 06 59.6 +0.6**
SNR=6.5
BSY Bisya 73.16 286 P **P 19 07 00.1 +1.1**
SNR=8.5
NCK Nalchik 73.22 311⇑ *iP* **P 19 06 59.6 +0.6**
YBH Yreka Blue Hor 73.27 51 *eP* **P 19 07 00.6 +1.2**
YBH pmax pmax
comp=Z,5.0nm,0.8s
YBH Yreka Blue Hor 73.27 51 *eP* **P 19 07 00.6 +1.2**
comp=Z,5.3nm,0.8s
ARQ Araqi 73.42 287 P **P 19 07 01.8 +1.3**
SNR=6.9
NEW Newport 73.47 43 *eP* **P 19 07 01.3 +0.8**
NEW pmax pmax
comp=Z,16nm,1.0s
NEW Newport 73.47 43 *eP* **P 19 07 01.3 +0.8**
comp=Z,16nm,1.0s
KBZ Khabaz 73.54 312 P **P 19 07 01.4 +0.5**
comp=Z,17nm,0.8s,baz=53,slow=20,SNR=48
KBZ LR LR 19 41 56.1
comp=Z,81nm,21.1s,baz=142,slow=38
KBZ Khabaz 73.54 312 P **P 19 07 01.4 +0.5**
KBZ pmax pmax
comp=Z,17nm,0.8s
KBZ MLR MLR
comp=Z,81nm,21.1s
KIV Kislovodsk 73.57 312 *eP* **P 19 07 01.7 +0.6**
KIV pmax pmax
comp=Z,25nm,1.1s
KIV MLR MLR
comp=Z,65nm,18.0s
KIV Kislovodsk 73.57 312 P **P 19 07 02.1 +0.9**
SNR=12
KIV Kislovodsk 73.57 312⇑ *iP* **P 19 07 02.0 +0.9**
SNR=6.8
KIV Kislovodsk 73.57 312 *eP* **P 19 07 02.0 +0.9**
comp=Z,17nm,0.8s
ASUD Al Ashush, Dub 73.76 289 *i* P **P 19 07 03.4 +0.9**
SNR=6.7
NEY Neytrino 73.89 311 *eP* **P 19 07 04.8 +1.6**
NEY pmax pmax
comp=Z,9.0nm,2.3s
VSU Vasula 74.07 330⇑ *eP* **P 19 07 04.7 +1.1**
VSU pmax pmax
comp=Z,77nm,1.4s
GNI Garni 74.10 308⇑ *iP* **P 19 07 06.0 +1.6**
GNI pmax pmax
comp=Z,15nm,1.2s
GNI Garni 74.10 308 *eP* **P 19 07 05.9 +1.4**
comp=Z,14nm,0.8s
WALA Waterton Lakes 74.87 41 *eP* **P 19 07 09.4 +0.7**
comp=Z,13nm,0.8s
SUMG Summit 75.03 360 *i* P **P 19 07 11.2 +1.7**
comp=Z,11nm,0.9s
SUMG *i* 19 07 25.5
SUMG Summit 75.03 360 *i* P **P 19 07 11.2 +1.7**
SUMG *i* 19 07 25.5
SUMG pmax pmax
comp=Z,11nm,0.9s
SUMG Summit 75.03 360 *eP* **P 19 07 10.6 +1.1**
comp=Z,28nm,1.0s
BMO Blue Mountains 75.12 46 *eP* **P 19 07 11.1 +0.9**
comp=Z,21nm,1.6s
JTMT Jette 75.37 42 *eP* **P 19 07 12.5 +0.9**
comp=Z,7.9nm,0.8s
YBMT Yellow Bay 75.46 42 *eP* **P 19 07 13.0 +0.9**
comp=Z,5.7nm,0.9s
SWMT Swartz Lake 75.66 43 *eP* **P 19 07 13.7 +0.5**
comp=Z,3.2nm,0.9s
SLMT Seeley Lake 76.09 43 *eP* **P 19 07 16.0 +0.2**
comp=Z,5.3nm,0.8s
NACGM Naroch 76.21 327 *e* **P 19 07 13.0 -3.0**
ANN Anapa 76.36 315 *eP* **P 19 07 17.5 +0.4**
ANN *e* 19 07 31.5
ANN pmax pmax
comp=Z,38nm,1.3s
CMB Columbia Colle 76.66 53 *eP* **P 19 07 20.0 +1.0**
CMB pmax pmax
comp=Z,20nm,1.1s

CMB Columbia Colle 76.66 53 *eP* **P 19 07 20.0 +1.0**
comp=Z,20nm,1.1s
MFID Camas Ranch 76.78 47 *eP* **P 19 07 20.8 +1.1**
comp=Z,4.0nm,0.8s
LRM Limekiln Ridge 77.48 43 *eP* **P 19 07 24.3 +0.6**
comp=Z,147nm,1.0s
BMN Battle Mountai 77.50 50 *eP* **P 19 07 25.0 +1.2**
BMN pmax pmax
comp=Z,10.0nm,1.0s
BMN Battle Mountai 77.50 50 *eP* **P 19 07 25.0 +1.2**
comp=Z,9.6nm,1.0s
FFC Flin Flon 77.53 32 *eP* **P 19 07 23.7 +0.2**
FFC pmax pmax
comp=Z,10.0nm,0.9s
FFC Flin Flon 77.53 32 *eP* **P 19 07 23.7 +0.2**
comp=Z,10.0nm,0.9s
AKASG Malin Array Be 77.57 323 P **P 19 07 23.7 -0.1**
comp=Z,5.7nm,0.6s,baz=49,slow=5.8,SNR=24
AKASG pP **pP 19 07 36.6 -0.5**
comp=Z,2.7nm,0.5s,baz=46,slow=6.1,SNR=5.1
AKASG PP **PP 19 10 17.7 -0.9**
comp=Z,0.2nm,0.2s,baz=49,slow=8.7,SNR=4.2
AKASG LR LR 19 44 39.4
comp=Z,144nm,18.1s,baz=50,slow=38
AKASG Malin Array Be 77.57 323 P **P 19 07 23.7 -0.1**
AKASG *PP **pP 19 07 36.6 -0.5**
AKASG 19 10 17.7
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG MLR MLR
comp=Z,144nm,18.2s
AKBB Malin Array Si 77.57 323 *eP* **P 19 07 23.5 -0.3**
AKBB Malin Array Si 77.57 323 *eP* **P 19 07 23.5 -0.3**
AK01 Malin Array Si 77.58 323 *eP* **P 19 07 24.0 +0.1**
KIEV Kiev 77.59 323 *eP* **P 19 07 23.6 -0.3**
KIEV pmax pmax
comp=Z,14nm,0.8s
KIEV Kiev 77.59 323 *eP* **P 19 07 23.6 -0.3**
comp=Z,14nm,0.8s
AK02 Malin Array Si 77.61 323 *eP* **P 19 07 23.7 -0.3**
DLMT Dillon 77.65 44 *eP* **P 19 07 26.4 +1.8**
comp=Z,3.9nm,0.5s
EGMT Eagleton 77.74 40 *eP* **P 19 07 25.5 +0.5**
comp=Z,12nm,1.3s
NVAR Mina Array Bea 77.85 52 P **P 19 07 26.7 +0.8**
comp=Z,6.4nm,0.7s,baz=288,slow=5.7,SNR=32
HFS Hagfors 77.94 336 LR LR 19 44 27.2
comp=Z,58nm,18.9s,baz=35,slow=38
FCC Fort Churchill 78.03 26 *eP* **P 19 07 25.4 -0.7**
FCC pmax pmax
comp=Z,5.0nm,0.8s
FCC Fort Churchill 78.03 26 *eP* **P 19 07 25.4 -0.7**
comp=Z,5.3nm,0.8s
NB2 NORSAR Subarra 78.09 338 P **P 19 07 27.8 +1.2**
comp=Z,12nm,0.9s,baz=43,slow=5.6
NOA NORSAR Array B 78.09 338 P **P 19 07 27.6 +1.1**
comp=Z,8.1nm,1.0s,baz=43,slow=5.5,SNR=11
NOA LR LR 19 45 04.7
comp=Z,45nm,19.9s,baz=40,slow=38
NOA NORSAR Array B 78.09 338 P **P 19 07 27.6 +1.1**
NOA pmax pmax
comp=Z,8.0nm,1.0s
NOA MLR MLR
comp=Z,45nm,19.9s
SIM Simferopol' 78.24 316 *eP* **P 19 07 30.7 +3.0**
SIM S **S 19 17 25.0 +5.8**
SIM pmax pmax
comp=Z,10.0nm,0.8s
ELK Elko 78.60 49 *eP* **P 19 07 31.3 +1.3**
ELK pmax pmax
comp=Z,4.0nm,1.0s
ELK Elko 78.60 49 *eP* **P 19 07 31.3 +1.3**
comp=Z,3.9nm,1.0s
TPH Tonopah 78.76 52 *eP* **P 19 07 31.7 +0.8**
TPH Tonopah 78.76 52 *eP* **P 19 07 31.7 +0.8**
ABTO Aybut 79.01 284 P **P 19 07 33.3 +0.9**
SNR=5.7
MALT Malatya 79.25 309⇓ *iP* **P 19 07 35.0 +1.6**
IMW Indian Meadow 79.46 44 *eP* **P 19 07 36.2 +1.5**
comp=Z,6.2nm,0.9s
HVU Hansel Valley 79.56 47 *eP* **P 19 07 36.3 +1.1**
HVU pmax pmax
comp=Z,6.0nm,0.9s
HVU Hansel Valley 79.56 47 *eP* **P 19 07 36.3 +1.1**
comp=Z,5.8nm,0.9s
MOOW Moose Ponds 79.66 44 *eP* **P 19 07 35.1 -0.6**
comp=Z,5.6nm,1.3s
TPAW Teton Pass 79.69 45 *eP* **P 19 07 37.6 +1.6**
comp=Z,2.7nm,0.7s
R11A Troy Canyon, C 79.69 51 *eP* **P 19 07 36.8 +0.8**
HWUT Hardware Ranch 80.41 47 *eP* **P 19 07 41.0 +1.2**
comp=Z,7.9nm,0.9s
DUG Dugway, Tooele 80.44 48 *eP* **P 19 07 40.8 +0.9**
DUG pmax pmax
comp=Z,13nm,1.2s
DUG Dugway, Tooele 80.44 48 *eP* **P 19 07 40.8 +0.9**
comp=Z,13nm,1.2s
LEOM Leova 80.66 320⇑ *iP* **P 19 07 41.3 +0.6**
LVV L'vov 80.73 324 *eP* **P 19 07 40.7 -0.4**
PDAR Pinedale Array 80.94 45 P **P 19 07 43.0 +0.3**
comp=Z,1.9nm,0.9s,baz=324,slow=4.6,SNR=7.3
SHPR Sheep Range 81.00 52 *eP* **P 19 07 43.6 +0.6**
TLCR 81.14 319⇑ *iP* **P 19 07 46.3 +3.0**
PRAR RASCA 81.19 321⇑ *iP* **P 19 07 43.8 +0.2**
TESR Tescani 81.50 321⇓ *iP* **P 19 07 46.5 +1.2**
KWP Kalwaria Pacla 81.50 325⇑ *iP* **P 19 07 46.4 +1.2**
CFR Carcaliu 81.52 319⇑ *iP* **P 19 07 47.2 +1.9**
BR131 Keskin Array S 81.53 312 *eP* **P 19 07 45.8 +0.1**
comp=Z,10nm,0.8s
BRTR Keskin Array B 81.53 312 P **P 19 07 46.0 +0.3**
comp=Z,17nm,0.9s,baz=101,slow=3.9,SNR=58
BRTR PP **PP 19 10 49.8 -2.2**
comp=Z,0.7nm,0.8s,baz=66,slow=4.9,SNR=3.5
BRTR LR LR 19 47 32.5
comp=Z,29nm,20.0s,baz=70,slow=38
BRTR Keskin Array B 81.53 312 P **P 19 07 46.0 +0.3**
BRTR 19 10 49.8
BRTR pmax pmax
comp=Z,17nm,0.9s
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR MLR MLR
comp=Z,29nm,20.0s
BUR08 Bucovina Ar. S 81.54 322 *eP* **P 19 07 46.1 +0.5**
BURAR Bucovina Array 81.55 322⇑ *iP* **P 19 07 47.1 +1.5**
MSU Marysvale 81.81 49 *eP* **P 19 07 48.6 +1.2**
MSU Marysvale 81.81 49 *eP* **P 19 07 48.6 +1.2**
TIRR Tirgusor 81.81 318⇓ *iP* **P 19 07 48.9 +2.0**
VRI Vrincioaia 81.86 320⇓ *iP* **P 19 07 49.4 +2.2**
PLOR Plostina 81.91 320⇓ *iP* **P 19 07 49.2 +1.7**
TLB Topalu 81.94 318⇓ *iP* **P 19 07 48.5 +0.9**
RAYN Ar Rayn 82.06 293 *eP* **P 19 07 48.8 +0.1**
comp=Z,11nm,0.6s
KOLS Kolonicke sedl 82.18 324 *eP* **P 19 07 49.7 +0.9**
KOLS pmax pmax
comp=Z,6.0nm,1.1s
KOLS Kolonicke sedl 82.18 324 *eP* **P 19 07 49.7 +0.9**
STHS Stebnicka Huta 82.36 325 *eP* **P 19 07 51.7 +2.0**
STHS pmax pmax
comp=Z,7.0nm,0.9s
STHS Stebnicka Huta 82.36 325 *eP* **P 19 07 51.7 +2.0**
MSAB Monastry St. A 82.37 318⇑ *iP* **P 19 07 51.2 +1.4**
UZH Uzhgorod 82.37 324 *eP* **P 19 07 50.5 +0.7**
UZH *i* 19 07 55.9
UZH *eS* **S 19 18 01.9 -0.4**
UZH *i* PS PnS 19 19 17.5 +22
OJC Ojcow 82.49 326 *eP* **P 19 07 51.5 +1.1**
OJC Ojcow 82.49 326 *eP* **P 19 07 51.6 +1.1**
SRU San Rafael Swe 82.51 48 *eP* **P 19 07 52.0 +1.0**
SRU San Rafael Swe 82.51 48 *eP* **P 19 07 52.0 +1.0**
DOPR Dopca 82.52 321⇑ *iP* **P 19 07 52.3 +1.7**
MLR Muntele Rosu 82.53 320 LR LR 19 46 29.8
comp=Z,9.2nm,19.4s,baz=59,slow=37
MLR Muntele Rosu 82.53 320⇑ *iP* **P 19 07 52.6 +1.8**
PMOR Pomariorio Ree 82.73 113 *eT* T 20 38 43.8
comp=Z,2.9nm,0.2s
NIE Niedzica 82.80 326 *eP* **P 19 07 53.6 +1.5**
NIE Niedzica 82.80 326 *eP* **P 19 07 53.6 +1.5**
PPT Papeete 82.97 116 LR LR 19 43 59.7
comp=Z,46nm,18.7s,baz=340,slow=35
PPT2 Papeete2 82.98 116 *eLR* LR 19 33 49.2
comp=Z,223nm,27.8s
VOIR 83.04 320⇑ *iP* **P 19 07 55.3 +1.9**

ARR	**Arges**	**83.31 321**	⇓*iP*	**P**	**19 07 56.8 +2.0**
OKC	**Ostrava-Krasne**	**83.53 327**	*eP*	**P**	**19 07 55.7 0.0**
OKC			*ePCP*	**PcP**	**19 07 59.1 -0.9**
OKC			*epP*	**pP**	**19 08 10.4 +1.2**
OKC			*esP*	**sP**	**19 08 16.2 +2.0**
OKC	**Ostrava-Krasne**	**83.53 327**	*eP*	**P**	**19 07 55.7 0.0**
OKC			*e*		19 07 59.1
LOT	**Lotru**	**83.72 321**	⇑*iP*	**P**	**19 07 58.4 +1.4**
MORC	**Moravsky Berou**	**83.85 327**	*eP*	**P**	**19 07 58.3 +0.9**
MORC			*pmax*	pmax	
	comp=Z,4.0nm,0.8s				
MORC	**Moravsky Berou**	**83.85 327**	⇓*iP*	**P**	**19 07 58.4 +0.9**
MORC	**Moravsky Berou**	**83.85 327**	*eP*	**P**	**19 07 58.3 +0.9**
	comp=Z,4.0nm,0.8s				
KRLC	**Kraliky**	**83.98 328**	*eP*	**P**	**19 07 59.2 +1.1**
KRLC			*ePCP*	**PcP**	**19 08 03.1 +1.1**
KRLC			*epP*	**pP**	**19 08 13.1 +1.5**
KRLC			*esP*	**sP**	**19 08 18.8 +2.1**
KRLC			*ePP*	**PP**	**19 11 12.9 +1.4**
KRLC	**Kraliky**	**83.98 328**	*eP*	**P**	**19 07 59.2 +1.1**
KRLC			*e*		19 08 03.1
KRLC			*e*		19 11 12.9
DPC	**Dobruska-Polom**	**83.99 328**	*eP*	**P**	**19 07 58.9 +0.7**
DPC			*ePCP*	**PcP**	**19 08 03.4 +1.3**
DPC			*epP*	**pP**	**19 08 13.3 +1.7**
DPC			*ePP*	**PP**	**19 11 10.3 -1.3**
DPC	**Dobruska-Polom**	**83.99 328**	*eP*	**P**	**19 07 58.9 +0.7**
DPC			*e*		19 08 03.4
DPC			*e*		19 11 10.3
PSZ	**Piszkesteto**	**84.03 325**	*eP*	**P**	**19 07 59.5 +1.0**
PSZ			*pmax*	pmax	
	comp=Z,31nm,1.3s				
PSZ	**Piszkesteto**	**84.03 325**	⇑*iP*	**P**	**19 08 00.3 +1.8**
PSZ	**Piszkesteto**	**84.03 325**	*eP*	**P**	**19 07 59.5 +1.0**
	comp=Z,31nm,1.3s				
PSZ	**Piszkesteto**	**84.03 325**	⇓*eP*	**P**	**19 08 01.3 +2.8**
VYHS	**Vyhne**	**84.14 326**	*eP*	**P**	**19 08 00.0 +1.1**
VYHS			*pmax*	pmax	
	comp=Z,9.0nm,1.3s				
VYHS	**Vyhne**	**84.14 326**	*eP*	**P**	**19 08 00.0 +1.1**
MMAI	**Mount Meron Ar**	**84.25 306**	LR	LR	19 48 49.3
	comp=Z,41nm,19.9s,baz=45,slow=38				
GZR	**Gura Zlata**	**84.28 321**	⇓*iP*	**P**	**19 08 01.0 +1.2**
PV01	**Paradox Valley**	**84.32 48**	*eP*	**P**	**19 07 60.0 -0.4**
	comp=Z,1μm,1.2s				
CSS	**Prodhromos**	**84.52 308**	*eP*	**P**	**19 08 01.7 +0.6**
	comp=Z,5.0nm,0.8s				
VRAC	**Vranov**	**84.61 327**	LR	LR	19 48 46.8
	comp=Z,76nm,19.2s,baz=360,slow=38				
VRAC	**Vranov**	**84.61 327**	⇑*iP*	**P**	**19 08 03.1 +1.8**
PVCC	**Panska Ves**	**84.63 329**	*eP*	**P**	**19 08 02.8 +1.4**
PVCC			*ePCP*	**PcP**	**19 08 06.9 +2.1**
PVCC			*epP*	**pP**	**19 08 16.5 +1.7**
PVCC	**Panska Ves**	**84.63 329**	*eP*	**P**	**19 08 02.8 +1.4**
PVCC			*e*		19 08 06.9
BRG	**Berggiesshubel**	**84.65 330**	*eP*	**P**	**19 08 02.2 +0.8**
	comp=Z,5.2nm,1.0s				
BRG			*i*		19 08 07.0
	comp=Z,7.3nm,0.8s				
BRG			*i*		19 08 16.2
	comp=Z,11nm,0.9s				
BRG	**Berggiesshubel**	**84.65 330**	*eP*	**P**	**19 08 02.2 +0.8**
BRG			*i*		19 08 07.0
BRG			*pmax*	pmax	
	comp=Z,5.0nm,1.0s				
BRG			*pmax*	pmax	
	comp=Z,7.0nm,0.8s				
BRG			*pmax*	pmax	
	comp=Z,11nm,0.9s				
SMCO	**Snowmass**	**84.67 46**	*eP*	**P**	**19 08 02.8 +0.5**
	comp=Z,8.7nm,1.2s				
CLL	**Collm**	**84.72 330**	*eP*	**P**	**19 08 02.0 +0.2**
	comp=Z,6.0nm,0.8s				
CLL			*i* PcP	**PcP**	**19 08 05.1 -0.1**
CLL			*i*		19 08 07.0
CLL			*i* pP	**pP**	**19 08 16.1 +0.9**
	comp=Z,21nm,0.9s				
CLL	**Collm**	**84.72 330**	*eP*	**P**	**19 08 02.0 +0.2**
CLL			*pmax*	pmax	
	comp=Z,6.0nm,0.8s				
BZS	**Buzias**	**84.73 322**	⇑*iP*	P	19 07 57.0 -5.0
GOPC	**GO Pecny, Ondr**	**84.99 328**	*eP*	**P**	**19 08 03.4 +0.2**
GOPC			*ePCP*	**PcP**	**19 08 07.7 +1.3**
GOPC			*ex*	x	19 08 08.9
GOPC			*epP*	**pP**	**19 08 18.2 +1.6**
PRU	**Pruhonice**	**85.04 329**	*eP*	**P**	**19 08 04.3 +0.9**
PRU			*ex*	x	19 08 09.7
PRU			*epP*	**pP**	**19 08 18.2 +1.3**
PRU			*ePP*	**PP**	**19 11 21.0 +0.9**
PRU			AMS	AMS	19 50 00.0
	comp=Z,100nm,17.4s				
PRU	**Pruhonice**	**85.04 329**	*eP*	**P**	**19 08 04.3 +0.9**
PRU			*e*		19 08 09.7
PRU			*e*		19 11 21.0
PRU			MLR	MLR	
	comp=Z,100nm,17.4s				
TREC	**Trest**	**85.13 328**	*eP*	**P**	**19 08 04.7 +0.8**
TREC			*epP*	**pP**	**19 08 18.9 +1.5**
TREC	**Trest**	**85.13 328**	*eP*	**P**	**19 08 04.7 +0.8**
KDZ	**Kurdzhali**	**85.29 317**	⇓*iP*	**P**	**19 08 06.6 +1.8**
NKC	**Novy Kostel**	**85.76 330**	*eP*	**P**	**19 08 07.9 +0.8**
NKC			*epP*	**pP**	**19 08 21.8 +1.3**
NKC	**Novy Kostel**	**85.76 330**	*eP*	**P**	**19 08 07.9 +0.8**
PKSM	**Moragy**	**85.83 324**	⇓*iP*	**P**	**19 08 07.4 0.0**
CSNA	**Conrad Observa**	**85.95 327**	⇑*iP*cP	**P**	**19 08 08.9 +0.8**
	comp=Z,12nm,1.1s				
KHC	**Kasperske Hory**	**86.10 329**	*eP*	**P**	**19 08 09.4 +0.6**
KHC			*ePCP*	**PcP**	**19 08 12.5 +1.1**
KHC			*ex*	x	19 08 15.5
KHC			*epP*	**pP**	**19 08 23.3 +1.1**
KHC			*ePP*	**PP**	**19 11 27.6 -1.1**
KHC			AMS	AMS	19 53 10.0
	comp=Z,100nm,13.7s				
KHC	**Kasperske Hory**	**86.10 329**	*eP*	**P**	**19 08 09.4 +0.6**
KHC			*e*		19 08 12.5
KHC			*e*		19 08 15.5
KHC			*e*		19 11 27.6
KHC			MLR	MLR	
	comp=Z,100nm,13.7s				
MMB	**Musomiste**	**86.28 318**	⇑*iP*	**P**	**19 08 10.6 +0.8**
DIVS	**Divibare**	**86.62 322**	⇓*iP*	**P**	**19 08 10.9 -0.6**
SOKA	**Soboth**	**87.24 326**	⇑*iP*cP	**P**	**19 08 14.8 +0.3**
	comp=Z,9.1nm,1.1s				
ECSD	**EROS Data Cent**	**87.52 38**	*eP*	**P**	**19 08 15.1 -0.6**
	comp=Z,6.9nm,0.9s				
APE	**Apeiranthos**	**88.18 314**	⇓*iP*	P	19 08 09.2 -10
CDF	**Champ du Feu**	**89.32 331**	*eP*	**P**	**19 08 23.7 -0.6**
CDF	**Champ du Feu**	**89.32 331**	*eP*	**P**	**19 08 23.7 -0.6**
CDF	**Champ du Feu**	**89.32 331**	*eP*	**P**	**19 08 23.7 -0.6**
HINF	**Hinteralfeld**	**89.97 331**	*eP*	**P**	**19 08 26.6 -0.6**
HINF	**Hinteralfeld**	**89.97 331**	*eP*	**P**	**19 08 26.6 -0.6**
HINF	**Hinteralfeld**	**89.97 331**	*eP*	**P**	**19 08 26.6 -0.6**
GVD	**Gavdhos**	**90.52 313**	*eP*	**P**	**19 08 29.4 -0.6**
	comp=Z,20nm,0.7s				
LOR	**Lormes**	**91.60 332**	*eP*	**P**	**19 08 34.4 -0.4**
	comp=Z,13nm,1.0s				
LOR			*eR*		
	comp=Z,65nm,20.8s				
LOR	**Lormes**	**91.60 332**	*eP*	**P**	**19 08 34.4 -0.4**
LOR			*pmax*	pmax	
	comp=Z,13nm,1.0s				
LOR	**Lormes**	**91.60 332**	*eP*	**P**	**19 08 34.4 -0.4**
	comp=Z,13nm,1.0s				
LPL	**La Plagne**	**91.85 330**	*eP*	**P**	**19 08 36.0 -0.3**
	comp=Z,21nm,1.2s				
LPL	**La Plagne**	**91.85 330**	*eP*	**P**	**19 08 36.0 -0.3**
LPL			*pmax*	pmax	
	comp=Z,21nm,1.2s				
LPL	**La Plagne**	**91.85 330**	*eP*	**P**	**19 08 36.0 -0.3**
	comp=Z,21nm,1.2s				
LPG	**La Plagne**	**91.86 330**	*eP*	**P**	**19 08 36.1 -0.3**
	comp=Z,24nm,1.3s				
LPG	**La Plagne**	**91.86 330**	*eP*	**P**	**19 08 36.1 -0.3**
LPG			*pmax*	pmax	
	comp=Z,24nm,1.3s				
LPG	**La Plagne**	**91.86 330**	*eP*	**P**	**19 08 36.1 -0.3**
	comp=Z,24nm,1.3s				
SSF	**Saint Saulge**	**91.91 333**	*eP*	**P**	**19 08 35.7 -0.5**
SSF	**Saint Saulge**	**91.91 333**	*eP*	**P**	**19 08 35.7 -0.5**
SSF	**Saint Saulge**	**91.91 333**	*eP*	**P**	**19 08 35.7 -0.5**
FLN	**La Foliniere**	**91.95 336**	*eP*	**P**	**19 08 35.9 -0.5**
FLN			*eR*		
	comp=Z,73nm,22.8s				
FLN	**La Foliniere**	**91.95 336**	*eP*	**P**	**19 08 35.9 -0.5**
FLN	**La Foliniere**	**91.95 336**	*eP*	**P**	**19 08 35.9 -0.5**
LDF	**La Druitiere**	**91.97 335**	*eP*	**P**	**19 08 35.8 -0.7**
LDF	**La Druitiere**	**91.97 335**	*eP*	**P**	**19 08 35.8 -0.7**
LDF	**La Druitiere**	**91.97 335**	*eP*	**P**	**19 08 35.8 -0.7**
SMF	**Signal de Mont**	**92.12 332**	*eP*	**P**	**19 08 36.7 -0.5**
	comp=Z,11nm,0.9s				
SMF	**Signal de Mont**	**92.12 332**	*eP*	**P**	**19 08 36.7 -0.5**
SMF			*pmax*	pmax	
	comp=Z,11nm,0.9s				
SMF	**Signal de Mont**	**92.12 332**	*eP*	**P**	**19 08 36.7 -0.5**
	comp=Z,11nm,0.9s				
AVF	**Avril sur Loir**	**92.19 332**	*eP*	**P**	**19 08 37.1 -0.4**
	comp=Z,17nm,0.9s				
AVF	**Avril sur Loir**	**92.19 332**	*eP*	**P**	**19 08 37.1 -0.4**
AVF			*pmax*	pmax	
	comp=Z,17nm,0.9s				
AVF	**Avril sur Loir**	**92.19 332**	*eP*	**P**	**19 08 37.1 -0.4**
	comp=Z,17nm,0.9s				
GRR	**Gorron**	**92.41 336**	*eP*	**P**	**19 08 38.0 -0.5**
GRR	**Gorron**	**92.41 336**	*eP*	**P**	**19 08 38.0 -0.5**
GRR	**Gorron**	**92.41 336**	*eP*	**P**	**19 08 38.0 -0.5**
MBDF	**Montbardon**	**92.46 329**	*eP*	**P**	**19 08 37.9 -1.1**
	comp=Z,9.2nm,0.8s				
MBDF	**Montbardon**	**92.46 329**	*eP*	**P**	**19 08 37.9 -1.1**
MBDF			*pmax*	pmax	
	comp=Z,9.0nm,0.8s				
MBDF	**Montbardon**	**92.46 329**	*eP*	**P**	**19 08 37.9 -1.1**
	comp=Z,9.2nm,0.8s				
ORIF	**Oris-en-Rattie**	**92.69 330**	*eP*	**P**	**19 08 39.5 -0.5**
	comp=Z,5.9nm,0.8s				
ORIF			*eR*		
	comp=Z,83nm,18.8s				
ORIF	**Oris-en-Rattie**	**92.69 330**	*eP*	**P**	**19 08 39.5 -0.5**
ORIF			*pmax*	pmax	
	comp=Z,6.0nm,0.8s				
ORIF	**Oris-en-Rattie**	**92.69 330**	*eP*	**P**	**19 08 39.5 -0.5**
	comp=Z,5.9nm,0.8s				
TXAR	**Lajitas Array**	**93.00 52**	P	**P**	**19 08 42.6 +0.9**
	comp=Z,4.2nm,0.7s,baz=306,slow=3.1,SNR=19				
TXAR			LR	LR	19 45 56.5
	comp=Z,24nm,21.0s,baz=0.0,slow=32				
TXAR	**Lajitas Array**	**93.00 52**	P	**P**	**19 08 42.6 +0.9**
TXAR			*pmax*	pmax	
	comp=Z,4.0nm,0.7s				
TXAR			MLR	MLR	
	comp=Z,24nm,21.0s				
TCF	**Toulx Ste Croi**	**93.05 333**	*eP*	**P**	**19 08 41.1 -0.5**
	comp=Z,14nm,1.0s				
TCF	**Toulx Ste Croi**	**93.05 333**	*eP*	**P**	**19 08 41.1 -0.5**
TCF			*pmax*	pmax	
	comp=Z,14nm,1.0s				
TCF	**Toulx Ste Croi**	**93.05 333**	*eP*	**P**	**19 08 41.1 -0.5**
	comp=Z,14nm,1.0s				
VIVF	**Saint-Julien-l**	**93.25 331**	*eP*	**P**	**19 08 42.0 -0.5**
	comp=Z,11nm,0.8s				
VIVF	**Saint-Julien-l**	**93.25 331**	*eP*	**P**	**19 08 42.0 -0.5**
VIVF			*pmax*	pmax	
	comp=Z,11nm,0.8s				
VIVF	**Saint-Julien-l**	**93.25 331**	*eP*	**P**	**19 08 42.0 -0.5**
	comp=Z,11nm,0.8s				
RJF	**Les Rejaudoux**	**94.14 333**	*eP*	**P**	**19 08 45.7 -0.9**
RJF			*eR*		
	comp=Z,63nm,22.5s				
RJF	**Les Rejaudoux**	**94.14 333**	*eP*	**P**	**19 08 45.7 -0.9**
RJF	**Les Rejaudoux**	**94.14 333**	*eP*	**P**	**19 08 45.7 -0.9**
CAF	**Calviac**	**94.24 332**	*eP*	**P**	**19 08 46.1 -1.0**
	comp=Z,15nm,1.0s				
CAF	**Calviac**	**94.24 332**	*eP*	**P**	**19 08 46.1 -1.0**
CAF			*pmax*	pmax	
	comp=Z,15nm,1.0s				
CAF	**Calviac**	**94.24 332**	*eP*	**P**	**19 08 46.1 -1.0**
	comp=Z,15nm,1.0s				
KEST	**Kesra**	**98.29 322**	LR	LR	19 58 23.0
	comp=Z,22nm,18.1s,baz=290,slow=38				
VNDA	**Vanda**	**110.67 175**	PKIKP	**PKiKP**	**19 13 57.4 -1.8**
VNDA	**Vanda**	**110.67 175**	PKiKP	**PKiKP**	**19 13 57.4 -1.8**
TORD	**Torodi Ar. Bea**	**120.14 313**	PKP	**PKPdf**	**19 14 18.6 -0.7**
	comp=Z,0.9nm,0.6s,baz=10,slow=1.7,SNR=13				
TORD			*p*PKP	**pPKPdf**	**19 14 33.4 +0.2**
	comp=Z,1.8nm,0.6s,baz=34,slow=1.1,SNR=7.0				
TORD			PP	**PP**	**19 15 41.8 -2.0**
	comp=Z,0.4nm,0.6s,baz=35,slow=5.3,SNR=3.6				
QSPA	**South Pole Qui**	**122.43 180**	*e*PKPdf	**PKPdf**	**19 14 20.9 -1.2**
SAML	**Samuel**	**147.43 49**	*e*PKPbc	**PKPdf**	**19 15 10.2 +0.5**
LPAZ	**La Paz**	**148.96 65**	PKP	**PKPdf**	**19 15 14.3 +1.3**
	comp=Z,14nm,0.6s,baz=356,slow=4.7,SNR=24				
LPAZ			PKPbc	**PKPbc**	**19 15 17.4 +0.4**
	comp=Z,19nm,0.7s,baz=323,slow=2.7,SNR=8.1				
LPAZ	**La Paz**	**148.96 65**	PKIKP	**PKPdf**	**19 15 14.3 +1.3**
LPAZ					19 15 17.4
LPAZ			*pmax*	pmax	
	comp=Z,14nm,0.6s				
LPAZ			*pmax*	pmax	
	comp=Z,19nm,0.7s				
LVC	**Limon Verde**	**151.70 77**	*e*PKPbc	**PKPbc**	**19 15 22.6 -0.3**
LCO	**Las Campanas**	**152.54 91**	*e*PKPbc	**PKPbc**	**19 15 25.1 +0.4**
PLCA	**Paso Flores**	**153.51 117**	PKPbc	**PKPbc**	**19 15 26.3 +0.1**
	comp=Z,2.2nm,0.7s,baz=248,slow=4.0,SNR=6.8				
PLCA	**Paso Flores**	**153.51 117**	PKIKP	**PKPbc**	**19 15 26.3 +0.1**
PLCA			*pmax*	pmax	
	comp=Z,2.0nm,0.7s				
CPUP	**Villa Florida**	**162.79 73**	PKPab	**PKPab**	**19 16 19.1 0.0**
	comp=Z,1.0nm,0.9s,baz=269,slow=2.9,SNR=4.9				
CPUP	**Villa Florida**	**162.79 73**	PKP2	**PKPab**	**19 16 19.2 0.0**
CPUP			*pmax*	pmax	
	comp=Z,1.0nm,0.9s				

*NEIC **12** 19:00:41.7,32°.14N×114°.98W,h8km,ML4.1(ECX),After ECX.*

ECX 12 19:00:41.7±0.5,32°.14N×114°.98W,h8km,MD3.9,ML4.1, 1D,Western Arizona-Sonora border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.39**	**316**	*e*P9		19 00 50.0	
CPBX				*e*S	Sg	19 00 55.7	+1.1
ECBX	**El Chinero**	**0.67**	**185**	*e*P9		19 00 51.7	
ECBX				*e*S	Sg	19 01 01.1	-2.1
RDX	**Rancho Dawling**	**0.84**	**256**	*e*P	Pg	19 00 56.3	-1.9
RDX				*e*S	Sg	19 01 07.9	-1.4
RDX				⇓*e*		19 01 10.9	
	comp=N,4μm,0.3s						
GLA	**Glamis**	**0.92**	**8**	*e*Pg	Pg	19 00 59.6	+0.1
RMX	**La Rumorosa**	**1.04**	**297**	*e*P	Pg	19 01 00.3	-1.6
SPX	**San Pedro Mart**	**1.16**	**201**	*e*P	Pg	19 01 02.2	-2.3
SPX				*e*S	Sg	19 01 18.0	-1.9
SPX				*e*		19 01 20.0	
	comp=E,3μm,0.2s						
ZAX	**El Zacaton**	**1.26**	**241**	*e*P	Pn	19 01 03.2	-2.5
CBX	**Cerro Bola**	**1.44**	**278**	*e*P2		19 01 06.7	
CBX				*e*S	Sn	19 01 25.9	-1.5
ECNX	**Esteban Cantu**	**1.46**	**251**	*e*P	Pn	19 01 06.9	-1.6
ECNX				*e*S	Sn	19 01 26.4	-1.5
BAR	**Barrett**	**1.53**	**291**	*e*Pn	Pn	19 01 08.4	-0.9
PBX	**Punta Banda**	**1.53**	**256**	*e*P	Pn	19 01 08.3	-1.1
PBX				*e*S	Sn	19 01 28.5	-1.0
214A	**Organ Pipe Nat**	**1.85**	**95**	*e*Pn	Pn	19 01 13.2	-0.7
PFO	**Pinyon Flats O**	**1.92**	**320**	*e*Pn	Pn	19 01 13.5	-1.4
LDFC	**Landfair**	**2.94**	**358**	Pg	Pg	19 01 38.0	-0.2
MWC	**Mount Wilson**	**3.31**	**310**	*e*Pg	Pb	19 01 42.9	+1.8
PASC	**Pasadena Art C**	**3.37**	**308**	*e*Pg	Pg	19 01 45.9	-0.4
TUC	**Tucson**	**3.56**	**86**	*e*Pn	Pn	19 01 37.4	0.0
TUC				*e*Pg	Pg	19 01 49.3	-0.8
TUC				Sg	Sg	19 02 36.4	0.0
SHPR	**Sheep Range**	**4.36**	**358**	*e*Pn	Pn	19 01 50.9	+2.3
WUAZ	**Wupatki**	**4.51**	**41**	*e*Pn	Pn	19 01 53.2	+2.6
W18A	**Petrified Fore**	**5.29**	**54**	*e*Pn	Pn	19 02 04.0	+2.6
121A	**Cookes Peak, D**	**6.10**	**84**	*e*Pn	Pn	19 02 13.1	+0.6
	comp=E,17nm,0.4s						
R11A	**Troy Canyon, C**	**6.22**	**356**	Pg	Pg	19 02 40.6	-0.5
	comp=E,7.5nm,0.7s						

IDC 12 19:08:20.4±1.6,3°.61N×126°.42E,h0km,mb3.5/3, mb1 3.7/4,mb1mx3.4/25,mbtmpg3.6/4,ML4.0/1,1D,Error ellipse: s-maj=90.9km s-min=24.5km az=60.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.20**	**329**	⇓*iP*	Pb	19 09 34.4	-0.8
SIJI	**Sorong**	**6.57**	**132**	Pn	Pn	19 09 59.7	+1.3
	2.9nm,0.3s,baz=304,slow=18,SNR=17						
SIJI				Sn	Sn	19 11 11.4	-2.7
	0.3nm,0.3s,baz=270,slow=20,SNR=3.7						
WRA	**Warramunga Arr**	**24.66**	**162**	P	P	19 13 42.7	-0.4
	1.2nm,0.8s,baz=343,slow=11,SNR=12						
ASAR	**Alice Springs**	**28.07**	**165**	P	P	19 14 13.9	0.0
	0.2nm,0.5s,baz=344,slow=9.8,SNR=4.1						
MKAR	**Makanchi Array**	**57.48**	**325**	P	P	19 18 11.4	-0.1
	0.3nm,0.4s,baz=120,slow=7.1,SNR=6.4						

*NEIC **12** 19:12:27.8,32°.32N×115°.32W,h6km,ML3.2(PAS), ML3.5(ECX),After ECX.*

ECX 12 19:12:27.8±0.5,32°.31N×115°.34W,h6km,MD3.2,ML3.4, 8C-2D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.11**	**14**	⇑*eP*	Pg	19 12 29.6	-0.6
CPBX				*eS*	Sg	19 12 31.3	-0.5
CPBX				*e*		19 12 33.3	
CPBX				IAML		19 12 33.3	
	comp=E,56μm,0.3s						
SGL	**Mount Signal**	**0.47**	**316**	⇓*eP*	Pg	19 12 36.1	-0.8
EMSC	**East Mesa**	**0.52**	**35**	⇑*iP*	Pg	19 12 37.4	-0.4
COA	**Coachella**	**0.58**	**18**	⇑*eP*	Pg	19 12 38.2	-0.7
YUH	**Yuha Desert**	**0.60**	**304**	*e*P2		19 12 37.9	
COK	**Cook Ranch**	**0.63**	**328**	⇑*eP*	Pg	19 12 39.1	-0.7
RDX	**Rancho Dawling**	**0.64**	**233**	⇑*eP*	Pg	19 12 39.2	-1.3
RDX				*eS*	Sg	19 12 47.9	-1.1
RDX				⇑*e*		19 12 50.0	
RDX				IAML		19 12 50.0	
	comp=N,1μm,0.4s						
RMX	**La Rumorosa**	**0.69**	**295**	*eP*	Pg	19 12 39.8	-1.5
RMX				*eS*	Sg	19 12 49.6	-0.9
RMX				⇑*e*		19 12 51.4	
RMX				IAML		19 12 51.4	
	comp=N,940nm,0.2s						
YMD	**Yuma Desert**	**0.71**	**70**	⇑*eP*	Pg	19 12 40.0	-1.4
GLA	**Glamis**	**0.85**	**30**	*e*Pg	Pg	19 12 41.8	-2.5
ECBX	**El Chinero**	**0.87**	**164**	*e*P9		19 12 41.2	
ECBX				*e*S	Sg	19 12 53.2	-2.7
CBX	**Cerro Bola**	**1.12**	**270**	*e*P	Pg	19 12 47.6	-2.0
CBX				*e*S	Sg	19 13 02.5	-1.8
CBX				⇓*e*		19 13 08.2	
CBX				IAML		19 13 08.2	
	comp=E,1μm,0.6s						
ZAX	**El Zacaton**	**1.13**	**225**	*eP*	Pg	19 12 47.5	-2.1
ZAX				*eS*	Sg	19 13 02.9	-1.5
BAR	**Barrett**	**1.19**	**288**	*eP*	Pg	19 12 48.6	-2.0
ECNX	**Esteban Cantu**	**1.26**	**239**	*eP*	Pn	19 12 49.8	-2.3
ECNX				*eS*	Sg	19 13 06.7	-1.8
SPX	**San Pedro Mart**	**1.27**	**185**	*eP*	Pn	19 12 49.5	-3.0
SPX				*eS*	Sg	19 13 07.1	-2.3
PBX	**Punta Banda**	**1.31**	**245**	*eP*	Pn	19 12 50.6	-2.1
PBX				*eS*	Sb	19 13 08.3	-1.7
PFO	**Pinyon Flats O**	**1.60**	**324**	*e*Pn	Pn	19 12 52.9	-3.9
214A	**Organ Pipe Nat**	**2.17**	**99**	*e*Pn	Pn	19 13 00.4	-4.1
LDFC	**Landfair**	**2.76**	**4**	*e*Pg	Pg	19 13 20.5	-0.5
MWC	**Mount Wilson**	**2.97**	**311**	*e*Pn	Pn	19 13 16.6	+0.9
GSC	**Goldstone, Bar**	**3.22**	**338**	*e*Pg	Pg	19 13 28.7	-1.0
TUC	**Tucson**	**3.85**	**89**	*e*Pg	Pb	19 13 37.0	+0.6
WUAZ	**Wupatki**	**4.59**	**45**	*e*Pn	Pn	19 13 36.7	-1.3

*NEIC **12** 19:13:32.5,32°.32N×115°.32W,h7km,ML3.2(PAS), ML3.6(ECX),After ECX.*

ECX 12 19:13:32.5±0.7,32°.31N×115°.33W,h7km,MD3.2,ML3.4, 3C-5D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.11**	**13**	*e*P9		19 13 34.3	
CPBX				*e*S	Sg	19 13 36.5	-0.1
CPBX				⇑*e*		19 13 37.9	
CPBX				IAML		19 13 37.9	
	comp=E,53μm,0.2s						
MBIG	**Mexicali**	**0.15**	**51**	*eP*	Pg	19 13 35.4	-0.2
SGL	**Mount Signal**	**0.47**	**315**	⇓*iP*	Pg	19 13 40.8	-0.8
SGL	**Mount Signal**	**0.47**	**315**	⇓*iP*	Pg	19 13 40.8	-0.8
WESC	**Westside Schoo**	**0.56**	**323**	*eP*	Pg	19 13 42.8	-0.5
COA	**Coachella**	**0.58**	**18**	⇑*iP*	Pg	19 13 42.9	-0.7
YUH	**Yuha Desert**	**0.60**	**304**	⇓*iP*	Pg	19 13 42.9	-1.2
RDX	**Rancho Dawling**	**0.64**	**234**	⇑*eP*	Pg	19 13 43.8	-1.4
RDX				*eS*	Sg	19 13 52.7	-1.1
RDX				IAML		19 13 54.5	
	comp=N,1μm,0.3s						
RDX				⇓*e*		19 13 54.5	
RMX	**La Rumorosa**	**0.69**	**295**	*eP*	Pg	19 13 44.6	-1.5
RMX				*eS*	Sg	19 13 54.0	-1.3
GLA	**Glamis**	**0.85**	**30**	*eP*	Pg	19 13 46.9	-2.1
ECBX	**El Chinero**	**0.87**	**164**	*e*P9		19 13 45.7	
ECBX				*e*S	Sg	19 13 56.6	-4.0
CBX	**Cerro Bola**	**1.13**	**270**	*eP*	Pg	19 13 52.4	-1.9
CBX				*eS*	Sg	19 14 07.4	-1.7
CBX				IAML		19 14 12.9	
	comp=E,970nm,0.9s						
CBX				⇓*e*		19 14 12.9	
ZAX	**El Zacaton**	**1.13**	**225**	*eP*	Pg	19 13 52.0	-2.4
ZAX				*eS*	Sg	19 14 07.7	-1.5
ECNX	**Esteban Cantu**	**1.26**	**239**	*eP*	Pn	19 13 54.7	-2.0
ECNX				*eS*	Sb	19 14 11.3	-1.9
SPX	**San Pedro Mart**	**1.27**	**185**	*eP*	Pn	19 13 54.2	-2.9
SPX				*eS*	Sb	19 14 12.2	-1.8
PBX	**Punta Banda

JCJ	**Chichijima**	**6.30**	**142**	S	S	19 35 24.3	-8.1
	36nm,0.3s,baz=281,slow=23,SNR=19						
KSRS	**Korea Array**	**9.72**	**306**	P	**P**	19 34 55.0	**+0.6**
	0.4nm,0.3s,baz=118,slow=10,SNR=4.8						
ASAJ	**Asahikawa**	**12.50**	**16**	P	**Pn**	19 35 26.4	**-0.1**
	1.2nm,0.3s,baz=217,slow=10.0,SNR=12						
SONM	**Songino Array**	**28.48**	**312**	P	**P**	19 38 01.2	**-0.1**
	0.3nm,0.5s,baz=107,slow=7.7,SNR=3.8						
CMAR	**Chiang Mai Arr**	**37.52**	**258**	P	**P**	19 39 18.7	**-0.2**
	0.2nm,0.3s,baz=48,slow=8.6,SNR=2.8						
TAPN	**Taplejung**	**43.48**	**277**	*e*P	**P**	19 40 07.4	**0.0**
	5.6nm,0.4s						
ODAN	**Odare**	**43.91**	**277**	*e*P	**P**	19 40 10.5	**-0.2**
	13nm,0.4s						
MKAR	**Makanchi Array**	**44.40**	**306**	P	**P**	19 40 14.0	**0.0**
	0.7nm,0.6s,baz=88,slow=6.2,SNR=8.2						
RAMN	**Ramite**	**44.55**	**277**	*e*P	**P**	19 40 15.5	**-0.2**
	18nm,0.6s						
JIRN	**Jiri**	**44.66**	**278**	*e*P	**P**	19 40 17.0	**+0.3**
	28nm,0.5s						
GUN	**Gumba**	**44.84**	**279**	*e*P	**P**	19 40 18.3	**+0.2**
	20nm,0.6s						
PKI	**Pulchoki**	**45.34**	**278**	*e*P	**P**	19 40 21.6	**-0.4**
	7.1nm,0.6s						
PKIN	**Phulchoki**	**45.35**	**278**	*e*P	**P**	19 40 21.4	**-0.6**
	6.2nm,0.6s						
KKN	**Kakani**	**45.38**	**279**	*e*P	**P**	19 40 21.8	**-0.3**
	16nm,0.9s						
DMN	**Daman**	**45.59**	**279**	*e*P	**P**	19 40 23.4	**-0.4**
	5.7nm,0.5s						
GKN	**Gorkha**	**45.85**	**279**	*e*P	**P**	19 40 25.4	**-0.3**
	16nm,0.8s						
KOLN	**Koldanda**	**46.80**	**279**	*e*P	**P**	19 40 32.8	**-0.2**
KURBB	**Kurchatov Arra**	**46.84**	**311**	P	**P**	19 40 32.3	**-0.4**
	0.5nm,0.4s,baz=90,slow=9.7,SNR=7.5						
BVAR	**Borovoye Array**	**51.79**	**315**	P	**P**	19 41 09.7	**+0.1**
	0.4nm,0.3s,baz=97,slow=8.5,SNR=5.0						
BVAR				PcP	**PcP**	19 42 15.5	**-1.3**
	0.2nm,0.4s,baz=95,slow=3.5,SNR=4.0						
WRA	**Warramunga Arr**	**51.92**	**184**	P	**P**	19 41 10.2	**-0.8**
	0.4nm,0.4s,baz=0.4,slow=7.7,SNR=19						
ASAR	**Alice Springs**	**55.65**	**184**	P	**P**	19 41 37.2	**-0.5**
	0.3nm,0.9s,baz=12,slow=10,SNR=5.1						
ARCES	**ARCESS Array B**	**67.51**	**339**	P	**P**	19 42 55.8	**+0.5**
	2.1nm,1.0s,baz=60,slow=7.7,SNR=2.6						
FINES	**FINESS Array B**	**71.73**	**332**	P	**P**	19 43 21.0	**+0.1**
	0.6nm,0.5s,baz=64,slow=4.4,SNR=9.9						
BRTR	**Keskin Array B**	**79.82**	**311**	P	**P**	19 44 07.0	**0.0**
	0.5nm,0.8s,baz=60,slow=5.9,SNR=3.8						

MAN 12 19:42:22,15.71N×120.10E,h0km,mb4.4,ML3.3,MS3.1, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.19**	**290**	*e*P	Pg	19 42 27.1	+1.4
BOLP	**Bolinao**	**0.69**	**345**	*e*P	Pg	19 42 35.5	+0.2
BCPH	**Baguio City Da**	**0.81**	**35**	⇑*i*P	Pn	19 42 40.3	-0.7
BCPH				*i* S	Sn	19 42 55.3	+1.3
BALP	**Baler**	**1.43**	**89**	*e*P	Pn	19 42 48.4	-0.8
BALP				*e*S	Sg	19 43 07.1	-0.8
CAUP	**Cauayan**	**2.06**	**53**	*e*P	Pb	19 42 59.3	-1.0

IDC 12 19:44:13.0±601.0,61.45N×63.72E,h0km,Error ellipse: s-maj=205.1km s-min=178.7km az=19.0,Northwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**11.51**	**199**	*i*		20 57 00.0	
	baz=14,slow=325,SNR=11						
I46RU	**ZALESOVO INFRA**	**13.50**	**114**	*i*		21 08 50.0	
	baz=312,slow=336,SNR=1.6						
I43RU	**DUBNA INFRASON**	**14.36**	**263**	*i*		21 14 05.0	
	baz=60,slow=327,SNR=4.5						

*ISCJB **12** 19:51:15.1±0.2,43.59N±0.02×105.29W±0.02,h0km, mb3.9/1,Error ellipse: s-maj=2.2km s-min=2.1km az=23.2*
*NEIC **12** 19:51:15.1±0.6,43.58N×105.09W,h0km,ML2.9,Error ellipse: s-maj=8.6km s-min=8.2km az=187.0,Suspected Mining explosion.*
NEIC 75 km [50 miles] WSW of Newcastle.
*IDC **12** 19:51:16.1±1.6,44.18N×105.94W,h0km,mb3.6/1, mb1 3.7/3,mb1mx3.3/43,mbtmp3.5/3,ML3.2/2,MS3.1/1, Ms1 3.1/1,ms1mx2.3/36,Error ellipse: s-maj=65.9km s-min=8.4km az=145.0*

ISC 12 19:51:14.6±0.6,43.65N±0.02×105.32W±0.02,h0km,n94, σ1§14/96,27C-39D,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J23A	**Dilts Ranch, B**	**0.29**	**214**	P	**Pg**	19 51 21.1	**+0.9**
	baz=0.4,SNR=482						
I23A	**Meade Ranch, G**	**0.33**	**342**	P	**Pb**	19 51 23.6	**+0.1**
	baz=0.5,SNR=56						
I24A	**Kuemmerle Ranc**	**0.55**	**67**	P	**Pg**	19 51 25.9	**+0.7**
	baz=0.4,SNR=656						
I24A				⇑S	**Sb**	19 51 34.2	**-1.4**
	baz=0.4						
J24A	**Dixon Ranch, L**	**0.58**	**123**	P	**Pg**	19 51 25.5	**-0.1**
	baz=0.4,SNR=152						
J24A				⇑S	**Sg**	19 51 33.2	**0.0**
	baz=0.4						
J22A	**Midwest**	**0.87**	**255**	P	**Pb**	19 51 31.9	**-0.8**
	baz=1.0,SNR=170						
I22A	**9 Mile Ranch,**	**0.88**	**287**	P	**Pn**	19 51 32.8	**-1.5**
	baz=1.1,SNR=147						
H23A	**Clabaugh Cattl**	**0.92**	**357**	⇓P	**Pn**	19 51 33.5	**-1.4**
	baz=1.0,SNR=9.7						
K24A	**Anderson Ranch**	**1.00**	**158**	⇑P	**Pg**	19 51 32.8	**-0.9**
	baz=0.9,SNR=21						
K24A				⇑S	**Sg**	19 51 46.4	**-0.2**
	baz=0.9						
RSSD	**Black Hills**	**1.04**	**63**	*e*Pg	**Pg**	19 51 34.4	**-0.3**
J25A	**Sunshine Ranch**	**1.14**	**103**	⇓P	**Pg**	19 51 35.5	**-0.8**
	baz=1.0,SNR=77						
J25A				⇓S	**Sg**	19 51 51.8	**+0.7**
	baz=1.0						
H22A	**Clearmont**	**1.20**	**322**	⇓P	**Pn**	19 51 39.4	**+0.6**
	baz=1.4,SNR=116						
I25A	**Rochford**	**1.21**	**72**	⇓P	**Pg**	19 51 37.4	**-0.4**
	baz=1.1						
H24A	**Dirks Ranch, A**	**1.23**	**27**	⇓P	**Pn**	19 51 38.4	**-0.8**
	baz=1.2						
K22A	**Casper**	**1.33**	**222**	*e*Pn	**Pg**	19 51 39.1	**-1.0**
K22A	**Casper**	**1.33**	**222**	⇑P	**Pg**	19 51 39.3	**-0.7**
	baz=1.4,SNR=107						
I21A	**Big Trails, Te**	**1.44**	**277**	P	**Pb**	19 51 42.2	**-0.2**
	baz=1.6,SNR=235						
I21A				⇓S	**Sn**	19 52 02.6	**+0.9**
	baz=1.6						
K25A	**Mack Ranch, Ha**	**1.48**	**134**	P	**Pn**	19 51 42.5	**-0.1**
	baz=1.3,SNR=151						
G23A	**Biddle**	**1.55**	**358**	P	**Pg**	19 51 44.8	**+0.4**
	baz=1.6,SNR=105						
L23A	**Garrett**	**1.56**	**190**	P	**Pn**	19 51 42.6	**-1.2**
	baz=1.5,SNR=243						
J21A	**Lysite**	**1.57**	**260**	⇓P	**Pb**	19 51 44.1	**-0.6**
	baz=1.7,SNR=50						
H21A	**Big Horn, Sher**	**1.58**	**309**	⇑P	**Pg**	19 51 45.5	**+0.7**
	baz=1.8,SNR=78						
H25A	**Fruitdale**	**1.58**	**51**	⇓P	**Pg**	19 51 44.6	**-0.3**
	baz=1.5,SNR=20						
H25A				⇓S	**Sg**	19 52 07.2	**+1.9**
	baz=1.5						
J26A	**Sides Ranch, S**	**1.67**	**101**	⇑P	**Pn**	19 51 45.5	**+0.3**
	baz=1.5,SNR=9.8						
G22A	**Birney**	**1.72**	**337**	P	**Pg**	19 51 47.8	**+0.3**
	baz=1.9,SNR=92						
K21A	**Alcova**	**1.74**	**235**	⇓P	**Pn**	19 51 46.6	**+0.4**
	baz=1.8,SNR=73						
L25A	**Engebretsen Ra**	**1.79**	**146**	⇓P	**Pn**	19 51 47.5	**+0.5**
	baz=1.6,SNR=100						
L25A				⇓Sb	**Sn**	19 52 11.7	**+1.2**
	baz=1.6						
G24A	**Alzada**	**1.80**	**21**	⇑P	**Pg**	19 51 48.7	**-0.5**
	baz=1.8,SNR=37						
G24A				⇓Sb	**Sg**	19 52 15.3	**+2.8**
	baz=1.8						
L22A	**Ellis Ranch, M**	**1.81**	**207**	P	**Pn**	19 51 47.5	**+0.3**
	baz=1.8,SNR=110						
L22A				⇑Sb	**Sb**	19 52 12.4	**+0.4**
	baz=1.8						

I26A	**New Underwood**	**1.82**	**77**	⇓P	**Pb**	19 51 48.7	**-0.2**
	baz=1.7						
K26A	**Motz Farm, Whi**	**1.83**	**120**	⇓P	**Pn**	19 51 47.9	**+0.5**
	baz=1.6,SNR=43						
J20A	**Shoshoni**	**2.03**	**263**	⇓Pb	**Pg**	19 51 52.9	**-0.6**
	baz=2.2						
I20A	**Worland**	**2.05**	**279**	⇓P	**Pb**	19 51 52.4	**-0.4**
	baz=2.2,SNR=56						
I20A				⇓Sb	**Sg**	19 52 20.9	**+0.3**
	baz=2.2						
G25A	**Newell**	**2.06**	**41**	⇓P	**Pb**	19 51 52.3	**-0.6**
	baz=2.0,SNR=24						
F23A	**Volborg**	**2.07**	**358**	P	**Pb**	19 51 52.2	**-1.0**
	baz=2.2,SNR=53						
G21A	**Lodge Grass**	**2.08**	**320**	⇑P	**Pg**	19 51 52.5	**-1.9**
	baz=2.2,SNR=36						
G21A				⇑Sb	**Sg**	19 52 23.3	**+2.0**
	baz=2.2						
H26A	**Fairpoint**	**2.08**	**61**	⇓P	**Pb**	19 51 52.6	**-0.5**
	baz=2.0						
H26A				⇓Sb	**Sg**	19 52 22.2	**+0.9**
	baz=2.0						
H20A	**Greybull**	**2.10**	**294**	⇑P	**Pb**	19 51 52.6	**-1.0**
	baz=2.3,SNR=10						
H20A				⇓Sb	**Sg**	19 52 23.1	**+0.9**
	baz=2.3						
M23A	**Laramie**	**2.20**	**188**	⇑P	**Pn**	19 51 53.0	**+0.4**
	baz=2.2,SNR=24						
F22A	**Rosebud**	**2.23**	**343**	⇓P	**Pb**	19 51 53.9	**-1.9**
	baz=2.4,SNR=64						
F24A	**Ekalaka**	**2.29**	**16**	⇓P	**Pb**	19 51 55.6	**-1.2**
	baz=2.3,SNR=18						
L26A	**Underwood Farm**	**2.31**	**134**	⇓Pb	**Pb**	19 51 56.6	**-0.5**
	baz=2.1						
PHWY	**Pilot Hill**	**2.35**	**182**	*e*Pn	**Pn**	19 51 54.8	**+0.1**
M22A	**Cedar Creek Ra**	**2.43**	**203**	⇑Sb	**Sb**	19 52 30.4	**+0.4**
	baz=2.4						
H27A	**Howes**	**2.54**	**66**	⇑Pb	**Pb**	19 52 02.0	**+0.9**
	baz=2.4						
G26A	**Maurine**	**2.55**	**49**	⇓P	**Pb**	19 51 59.1	**-2.2**
	baz=2.5,SNR=46						
G20A	**Bridger**	**2.60**	**308**	⇑P	**Pb**	19 51 59.3	**-2.9**
	baz=2.8,SNR=66						
F25A	**Bowman**	**2.64**	**30**	⇓P	**Pb**	19 52 00.3	**-2.5**
	baz=2.6,SNR=10						
L27A	**T5 Ranch, Ells**	**2.71**	**124**	⇑Pb	**Pb**	19 52 03.9	**-0.1**
	baz=2.5						
M26A	**McRoberts Ranc**	**2.71**	**143**	⇓Pb	**Pb**	19 52 03.7	**-0.4**
	baz=2.5						
J19A	**Crowheart**	**2.74**	**263**	⇑Pb	**Pb**	19 52 04.8	**+0.2**
	baz=2.9						
E22A	**Miles City**	**2.83**	**351**	⇓P	**Pn**	19 52 02.0	**+0.9**
	baz=2.9						
F26A	**Lodgepole**	**2.90**	**40**	⇓P	**Pn**	19 52 03.5	**+1.3**
	baz=2.9						
F20A	**Billings**	**2.95**	**318**	P	**Pn**	19 52 04.0	**+1.2**
	baz=3.1,SNR=19						
N22A	**Wattenberg Ran**	**2.96**	**197**	⇑Pb	**Pb**	19 52 07.4	**-1.1**
	baz=3.0						
G27A	**Dupree**	**2.98**	**53**	⇓Pb	**Pb**	19 52 09.5	**+0.9**
	baz=2.9						
I28A	**Midland**	**3.03**	**82**	⇑Pb	**Pb**	19 52 10.1	**+0.7**
	baz=2.9						
LAO	**LASA Array**	**3.11**	**349**	*e*Pn	Pb	19 52 06.9	-3.9
E21A	**Keefer Ranch,**	**3.15**	**337**	⇓P	**Pn**	19 52 06.4	**+0.9**
	baz=3.3						
E25A	**Miller Ranch,**	**3.16**	**25**	⇓P	**Pn**	19 52 07.7	**+2.1**
	baz=3.2						
BW06	**Boulder Array**	**3.22**	**256**	*e*Pn	**Pn**	19 52 07.6	**+1.0**
PDAR	**Pinedale Array**	**3.22**	**256**	Pn	**Pn**	19 52 08.3	**+1.7**
	2.2nm,0.3s,baz=70,slow=16,SNR=49						
PDAR				Pg	**Pb**	19 52 13.5	**+0.7**
	5.7nm,0.3s,baz=69,slow=18,SNR=60						
PDAR				Lg	Lg	19 52 49.4	
	1.5nm,0.3s,baz=91,slow=33,SNR=4.7						
N26A	**Koester Ranch,**	**3.22**	**150**	⇑P	**Pn**	19 52 06.6	**0.0**
	baz=3.1						
F19A	**Roth Farm, Mol**	**3.39**	**312**	⇑P	**Pn**	19 52 10.7	**+1.8**
	baz=3.6,SNR=23						
N27A	**Anderson Farm,**	**3.51**	**143**	⇓P	**Pn**	19 52 10.9	**+0.3**
	baz=3.4,SNR=6.6						
D23A	**Lindsay**	**3.53**	**1**	⇑P	**Pn**	19 52 12.6	**+1.9**
	baz=3.6,SNR=22						
D22A	**Cohagen**	**3.55**	**351**	⇑P	**Pn**	19 52 12.8	**+1.7**
	baz=3.7,SNR=13						
OGNE	**Ogallala**	**3.64**	**137**	*e*Pn	**Pn**	19 52 12.9	**+0.6**
OGNE	**Ogallala**	**3.64**	**137**	P	**Pn**	19 52 12.8	**+0.6**
	baz=3.5,SNR=17						
GCMT	**Greycliff**	**3.77**	**306**	*e*Pn	**Pn**	19 52 16.2	**+2.1**
LKWY	**Lake**	**3.77**	**286**	*e*Pn	Pb	19 52 18.8	-3.4
LOHW	**Long Hollow**	**3.83**	**271**	*e*Pn	Pb	19 52 19.6	-3.6
ISCO	**Idaho Springs**	**3.85**	**183**	*e*Pn	**Pn**	19 52 15.9	**+0.5**
H17A	**Grant Village**	**3.86**	**283**	*e*Pn	Pb	19 52 19.9	-3.9
MOOW	**Moose Ponds**	**3.93**	**273**	*e*Pn	Pn	19 52 19.3	+2.9
D26A	**Manning**	**3.95**	**30**	P	**Pn**	19 52 18.2	**+1.7**
	baz=3.6,SNR=14						
REDW	**Red Top Meadow**	**4.03**	**268**	*e*Pn	Pb	19 52 22.0	-4.6
IMW	**Indian Meadow**	**4.07**	**275**	*e*Pn	Pn	19 52 21.2	+2.8
TPAW	**Teton Pass**	**4.09**	**270**	*e*Pn	**Pn**	19 52 20.5	**+1.8**
C23A	**Lambert**	**4.16**	**1**	⇑P	Pn	19 52 22.0	+2.6
	baz=4.2,SNR=28						
P26A	**Davis Ranch, A**	**4.34**	**159**	⇓P	**Pn**	19 52 22.3	**+0.2**
	baz=4.2,SNR=45						
P27A	**Ficken Ranch,**	**4.58**	**152**	⇑P	**Pn**	19 52 25.1	**-0.1**
	baz=4.4,SNR=10						
SMCO	**Snowmass**	**4.63**	**196**	*e*Pn	**Pn**	19 52 27.3	**+1.1**
Q26A	**Hugo**	**4.91**	**163**	⇓P	**Pn**	19 52 29.8	**-0.1**
	baz=4.8,SNR=9.9						
BOZ	**Bozeman (W)**	**4.92**	**296**	*e*Pn	Pn	19 52 33.5	+3.5
	2.8nm,0.5s						
HWUT	**Hardware Ranch**	**5.04**	**248**	*e*Pn	**Pn**	19 52 33.3	**+1.7**
	4.9nm,0.5s						
KSCO	**Kaye Shedlock'**	**5.06**	**155**	*e*Pn	Pn	19 52 27.6	-4.2
EGMT	**Eagleton**	**5.36**	**326**	*e*Pn	**Pn**	19 52 37.7	**+1.8**
	6.5nm,0.7s						
R26A	**Arlington**	**5.53**	**164**	⇑P	**Pn**	19 52 38.0	**-0.2**
	baz=5.4,SNR=22						
R27A	**Eads**	**5.69**	**160**	⇓P	**Pn**	19 52 40.5	**+0.1**
	baz=5.6,SNR=6.9						
S26A	**Kim**	**6.18**	**166**	⇓P	**Pn**	19 52 47.0	**-0.3**
	baz=6.1,SNR=13						
I10CA	**LAC DU BONNET**	**9.13**	**41**	*i*		20 42 50.0	
	baz=233,slow=325,SNR=1.2						
ULM	**Lac du Bonnet**	**9.23**	**41**	Pn	**Pn**	19 53 27.1	**-1.9**
	0.8nm,0.3s,baz=235,slow=13,SNR=5.9						
ULM				Lg	Lg	19 55 58.9	
	0.3nm,0.3s,baz=288,slow=20,SNR=2.7						
LPIG	**La Paz**	**19.92**	**193**	LR	LR	20 03 48.8	
	comp=Z,49nm,18.9s,baz=58,slow=37						
ARCES	**ARCESS Array B**	**61.52**	**18**	P	**P**	20 01 31.6	**-1.1**
	0.6nm,0.7s,baz=338,slow=6.8,SNR=3.9						

*ISCJB **12** 20:08:52.4±1.0,32.97N±0.06×142.2E±0.1,h40km, mb3.5/5,Error ellipse: s-maj=16.8km s-min=6.3km az=157.3*
*JMA **12** 20:08:53.8±0.3,33.02N×142.10E,h94km,M3.3*
*IDC **12** 20:08:55.4±1.1,32.31N×140.33E,h0km,mb3.5/5, mb1 3.7/7,mb1mx3.4/27,mbtmp3.6/7,ML3.8/2,Error ellipse: s-maj=33.9km s-min=18.3km az=72.0*

ISC 12 20:08:53.7±1.3,32.93N±0.06×142.3E±0.1,h40km,n19, σ1§25/26,mb3.5/5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.02**	**329**	P	**Pn**	**20 09 25.1**	**+0.4**
BSO1				*e*S	**Sn**	**20 09 49.2**	**+0.8**
JHJ2	**Mitsune**	**2.05**	**276**	P	**Pn**	**20 09 25.6**	**-0.1**
JHCJ	**Hachijojimakas**	**2.06**	**275**	P	**Pn**	**20 09 25.8**	**-0.1**
BSO3	**Boso 3**	**2.36**	**323**	P	**Pn**	**20 09 29.3**	**-0.4**
JOD2	**Odawara 2**	**3.50**	**312**	P	**Pn**	**20 09 45.0**	**-0.7**
JOD2				S	**Sn**	**20 10 24.3**	**-1.6**
JYN	**Shimob**	**4.00**	**311**	P	**Pn**	**20 09 52.2**	**-0.3**
JRY	**Ryogami san**	**4.14**	**319**	P	**Pn**	**20 09 54.4**	**+0.1**
JRY				S	**Sn**	**20 10 40.6**	**-0.9**
JAG	**Ashikaga**	**4.18**	**327**	P	**Pn**	**20 09 55.0**	**+0.1**
JAG				S	**Sn**	**20 10 40.7**	**-1.7**
JFT	**Otama**	**4.83**	**342**	P	**Pn**	**20 10 04.3**	**+0.4**
MJAR	**Matsushiro Arr**	**4.90**	**318**	Pn	**Pn**	**20 10 05.7**	**+0.8**
	2.1nm,0.3s,baz=156,slow=14,SNR=21						
MJAR				Sn	**Sn**	**20 11 02.5**	**+2.1**
	0.8nm,0.3s,baz=159,slow=38,SNR=5.4						
MAT	**Matsushiro**	**4.90**	**318**	P	**Pn**	**20 10 05.5**	**+0.6**
MAT				*e*S	**Sn**	**20 10 57.8**	**-2.6**
MAT	**Matsushiro**	**4.90**	**318**	P	**Pn**	**20 10 06.1**	**+1.2**
MAT				S	**Sn**	**20 10 59.2**	**-1.2**

JWZ	**Kozaga**	**5.51**	**278**	P	**Pn**	**20 10 15.0**	**+1.8**
JCJ	**Chichijima**	**5.82**	**181**	Pn	**Pn**	**20 10 17.6**	**+0.1**
	7.2nm,0.3s,baz=252,slow=20,SNR=9.7						
JCJ				Sn	**Sn**	**20 11 20.9**	**-2.0**
	5.2nm,0.3s,baz=270,slow=20,SNR=2.6						
SONM	**Songino Array**	**30.79**	**310**	P	**P**	**20 15 04.9**	**-0.7**
	0.2nm,0.5s,baz=107,slow=9.7,SNR=2.1						
MKAR	**Makanchi Array**	**46.97**	**306**	P	**P**	**20 17 19.6**	**-1.0**
	0.5nm,0.8s,baz=86,slow=9.1,SNR=2.8						
KURBB	**Kurchatov Arra**	**49.13**	**311**	P	**P**	**20 17 38.6**	**+1.4**
	0.8nm,0.7s,baz=84,slow=6.9,SNR=11						
ILAR	**Eielson Array**	**52.62**	**31**	P	P	20 18 20.5	+17
	0.3nm,0.8s,baz=255,slow=6.5,SNR=3.1						
WRA	**Warramunga Arr**	**53.12**	**189**	P	**P**	**20 18 09.0**	**+1.6**
	0.6nm,0.6s,baz=7.4,slow=7.6,SNR=8.4						

*CSEM **12** 20:12:30.7±0.5,50.13N×19.04E,h1km,Error ellipse: s-maj=11.0km s-min=4.5km az=19.0*

PRU 12 20:12:31.5,50.13N×19.04E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.65**	**243**	*e*PG	Pg	20 12 43.2	-0.7
OKC				*e*SG	Sg	20 12 52.4	+0.1
	comp=Z,3.5nm,0.3s						
OKC	**Ostrava-Krasne**	**0.65**	**243**	Pg	Pg	20 12 43.2	-0.7
OKC				Sg	Sg	20 12 52.4	+0.1
	3.5nm,0.3s						
LANS	**Liptovska Anna**	**1.02**	**164**	*e*Pg	Pg	20 12 51.0	-0.1
LANS				*e*Sg	Sg	20 13 03.5	-0.9
MORC	**Moravsky Berou**	**1.03**	**250**	*e*Pg	Pb	20 12 52.1	-0.2
MORC				*e*Sg	Sb	20 13 05.6	-0.8
KRLC	**Kraliky**	**1.46**	**269**	*e*PG	Pn	20 12 58.0	-1.1
KRLC				*e*SG	Sg	20 13 18.0	-0.4
KRLC	**Kraliky**	**1.46**	**269**	Pg	Pn	20 12 58.0	-1.1
KRLC				Sg	Sg	20 13 18.0	-0.4
STHS	**Stebnicka Huta**	**1.60**	**116**	*e*Pn	Pn	20 13 01.0	0.0
STHS				*e*Sn	Sn	20 13 22.1	-0.3
STHS	**Stebnicka Huta**	**1.60**	**116**	*e*PN	Pn	20 13 01.0	0.0
STHS				*e*SN	Sn	20 13 22.1	-0.3
VYHS	**Vyhne**	**1.64**	**185**	*e*Pn	Pn	20 13 00.4	-1.3
VYHS				*e*Sn	Sn	20 13 21.2	-2.3
VYHS	**Vyhne**	**1.64**	**185**	*e*PN	Pn	20 13 00.4	-1.3
VYHS				*e*SN	Sn	20 13 21.2	-2.3
DPC	**Dobruska-Polom**	**1.76**	**278**	*e*PG	Pn	20 13 03.4	+0.1
DPC				*e*SG	Sg	20 13 28.0	-0.2
DPC	**Dobruska-Polom**	**1.76**	**278**	Pg	Pn	20 13 03.4	+0.1
DPC				Sg	Sg	20 13 28.0	-0.2
PRU	**Pruhonice**	**2.90**	**269**	*e*SG	Sg	20 14 03.8	-1.0
PRU	**Pruhonice**	**2.90**	**269**	Sg	Sg	20 14 03.8	-1.0
KHC	**Kasperske Hory**	**3.69**	**256**	*e*SG	Sg	20 14 28.5	-1.6
KHC	**Kasperske Hory**	**3.69**	**256**	Sg	Sg	20 14 28.5	-1.6

NNC 12 20:17:29.7±6.2,37.55N×71.82E,h0km,mb3.7,mpv3.3, 4C-3D,Error ellipse: s-maj=56.8km s-min=17.9km az=162.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.67**	**299**	⇓Pn	Pn	20 18 13.9	-0.3
	12nm,0.4s						
DZET				⇑Sn	Sn	20 18 49.3	+1.9
	68nm,0.7s						
SFK	**Sufi-Kurgan**	**2.79**	**28**	⇑Pn	Pn	20 18 15.8	-0.2
	6.5nm,0.4s						
SFK				⇑Sn	Sb	20 18 53.7	-2.1
	38nm,0.5s						
AAK	**Ala-Archa**	**5.48**	**21**	⇓Pn	Pn	20 18 50.3	-2.5
AAK				⇑Sn	Sn	20 19 54.9	-1.8
	4.4nm,0.6s						
KK31	**Karatay Array**	**5.64**	**350**	Pn	Pn	20 18 52.0	-2.8
	0.7nm,0.5s,baz=168,slow=11,SNR=5.4						
KK31				⇓Sn	Sn	20 19 57.0	-3.3
	1.0nm,0.3s,baz=173,slow=23,SNR=14						

*CSEM **12** 20:28:46.1,45.48N×26.36E,h143km,MD3.0/3*

BUC 12 20:28:46.7±0.5,45.47N×26.38E,h137km±4km,MD2.7/2, 11C-3D,Error ellipse: s-maj=5.0km s-min=2.4km az=12.0,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	**0.31**	**275**	⇓*i*P	Pn	20 29 05.8	-0.1
MLR	**Muntele Rosu**	**0.31**	**275**	⇓*i*P	Pn	20 29 05.8	-0.1
MLR				*i* S	Sn	20 29 19.5	-0.9
MLR	**Muntele Rosu**	**0.31**	**275**	⇓*i*P	Pn	20 29 05.8	-0.1
MLR				*i* S

H11S3	**WAKE ISLAND Hy**	**27.46**	**114**	T	T	21 04 13.1	
	baz=307						
H11S1	**WAKE ISLAND Hy**	**27.46**	**114**	T	T	21 04 18.8	
	baz=307						
H11S2	**WAKE ISLAND Hy**	**27.48**	**114**	T	T	21 04 02.8	
	baz=307						
SONM	**Songino Array**	**29.80**	**311**	P	**P**	**20 34 42.9**	**-0.1**
	0.3nm,0.6s,baz=128,slow=9.3,SNR=2.8						
CMAR	**Chiang Mai Arr**	**39.76**	**260**	P	**P**	**20 36 08.0**	**-0.7**
	0.4nm,0.4s,baz=46,slow=7.8,SNR=3.9						
MKAR	**Makanchi Array**	**45.89**	**306**	P	**P**	**20 36 57.7**	**-0.1**
	0.3nm,0.6s,baz=78,slow=9.3,SNR=4.1						
WRA	**Warramunga Arr**	**52.62**	**187**	P	**P**	**20 37 49.0**	**-0.1**
	2.6nm,0.3s,baz=3.2,slow=7.5,SNR=57						
WRA				PcP	**PcP**	**20 38 59.0**	**+1.4**
	1.1nm,0.5s,baz=0.2,slow=4.2,SNR=7.5						
CTA	**Charters Tower**	**52.73**	**173**	P	**P**	**20 37 49.8**	**-0.2**
	2.5nm,0.7s,baz=315,slow=5.7						
ASAR	**Alice Springs**	**56.35**	**187**	P	**P**	**20 38 15.6**	**-0.4**
	2.1nm,0.5s,baz=0.8,slow=6.1,SNR=47						
ASAR				PcP	**PcP**	**20 39 12.5**	**+0.6**
	0.3nm,0.5s,baz=8.6,slow=4.1,SNR=2.9						
STKA	**Stephens Creek**	**64.19**	**179**	P	**P**	**20 39 09.8**	**+0.6**
	1.5nm,0.5s,baz=356,slow=7.0,SNR=8.5						
ARCES	**ARCESS Array B**	**67.82**	**340**	P	**P**	**20 39 31.9**	**-0.2**
	3.4nm,1.1s,baz=72,slow=5.9,SNR=2.3						
NWAO	**Narrogin (SRO)**	**68.80**	**201**	P	**P**	**20 39 38.8**	**+0.2**
	10nm,0.7s,baz=331,slow=4.2,SNR=9.5						
FINES	**FINESS Array B**	**72.32**	**333**	P	**P**	**20 39 59.7**	**0.0**
	0.7nm,0.4s,baz=69,slow=5.1,SNR=12						
KBZ	**Khabaz**	**73.17**	**311**	P	**P**	**20 40 05.7**	**+0.7**
	0.9nm,0.7s,baz=236,slow=24,SNR=4.1						
BRTR	**Keskin Array B**	**81.16**	**312**	P	**P**	**20 40 50.9**	**+1.0**
	0.3nm,0.4s,baz=64,slow=6.6,SNR=4.2						
LPAZ	**La Paz**	**149.45**	**65**	PKPbc	**PKPbc**	**20 48 25.0**	**+1.2**
	1.7nm,1.0s,baz=0.0,slow=3.0,SNR=3.7						

ISCJB ***12*** *20:35:57.4±1.2,50.°1S±0.°1×114.°2E±0.°5,h15km, mb3.6/5, MS3.4/2, Error ellipse: s-maj=50.7km s-min=17.5km az=8.2*

IDC ***12*** *20:35:57.5±1.3,50.°12S×114.°15E,h0km, mb3.7/5, mb1 3.9/5, mb1mx3.8/14, mbtmp3.7/5, MS3.4/2, Ms1 3.4/2, ms1mx2.9/17, Error ellipse: s-maj=60.3km s-min=21.2km az=97.0*

ISC 12 20:35:59.7±1.2,50.°1S±0.°1×114.°2E±0.°4,h15km,n11, σ1❩30/7,mb3.5/5,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.23**	**360**	T		T	T	20 55 34.6	
	baz=183,slow=74,SNR=33								
H01W1	**Cape Leeuwin H**	**15.23**	**360**	T		T	T	20 55 26.0	
	baz=183,slow=74,SNR=31								
H01W3	**Cape Leeuwin H**	**15.24**	**360**	T		T	T	20 55 27.1	
	baz=183,slow=74,SNR=31								
ASAR	**Alice Springs**	**30.58**	**37**	P		**P**	**20 42 11.8**	**-1.1**	
	0.1nm,0.3s,baz=194,slow=12,SNR=6.0								
VNDA	**Vanda**	**32.72**	**163**	P		**P**	**20 42 31.8**	**+0.7**	
	2.0nm,0.7s,baz=300,slow=8.0,SNR=11								
VNDA				LR		LR	20 55 01.1		
	comp=Z,66nm,18.8s,baz=235,slow=35								
WRA	**Warramunga Arr**	**34.13**	**35**	P		**P**	**20 42 43.6**	**-0.3**	
	0.4nm,0.8s,baz=199,slow=4.3,SNR=2.8								
QSPA	**South Pole Qui**	**39.99**	**180**	P		**P**	**20 43 32.2**	**-1.3**	
	0.7nm,0.6s,baz=338,slow=5.2,SNR=5.9								
GUMO	**Guam**	**68.94**	**32**	LR		LR	21 15 12.2		
	comp=Z,22nm,18.2s,baz=94,slow=34								
CMAR	**Chiang Mai Arr**	**69.60**	**345**	P		**P**	**20 47 08.1**	**0.0**	
	0.4nm,0.4s,baz=185,slow=5.0,SNR=3.9								
PDAR	**Pinedale Array**	**149.35**	**87**	PKPbc		**PKPbc**	**20 55 49.1**	**+1.5**	
	0.4nm,0.7s,baz=207,slow=1.8,SNR=4.0								
YKA	**Yellowknife Ar**	**151.03**	**46**	PKPbc		**PKPbc**	**20 55 51.6**	**+1.0**	
	0.5nm,0.7s,baz=279,slow=1.9,SNR=8.0								

JMA 12 21:07:12.7±0.2,32.°81N×137.°20E,h442km,M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TTO1	**TONANKAI O.B.S**	**0.88**	**337**	P		P	P	21 08 07.8	+0.5
TTO2	**TONANKAI O.B.S**	**0.93**	**351**	P		P	P	21 08 08.2	+0.8
TK02	**Tokai 2**	**1.23**	**22**	P		P	P	21 08 09.2	+0.7
TTO4	**TONANKAI O.B.S**	**1.23**	**13**	P		P	P	21 08 09.2	+0.8
JKN2	**Miekihoku**	**1.62**	**332**	P		P	P	21 08 10.6	+0.2
JHMK	**Hamakita**	**2.05**	**13**	P		P	P	21 08 13.3	+0.8
JAI	**Aioi**	**2.50**	**294**	P		P	P	21 08 16.1	+0.6
JOD2	**Odawara 2**	**2.91**	**32**	S		S	S	21 09 10.9	-0.8
JKG	**Kaga**	**3.53**	**349**	P		P	P	21 08 23.2	+0.1
JHO	**Hitachi**	**4.70**	**35**	P		P	P	21 08 33.9	+0.3
JHO				S		S	S	21 09 34.6	-5.1

IDC ***12*** *21:11:16.4±2.3,5.°42S×129.°20E,h230km±23km, mb3.1/3, mb1 3.6/6, mb1mx3.2/22, mbtmp4.1/6, Error ellipse: s-maj=43.6km s-min=11.4km az=77.0*

ISCJB ***12*** *21:11:17.8±0.4,5.°34S±0.°04×129.°22E±0.°07, h250km, mb3.3/3, Error ellipse: s-maj=9.3km s-min=5.0km az=1.1*

DJA ***12*** *21:11:20.4±0.8,5.°5S±7.°×129.°9E±°, h242km±12km, M3.9/8, mb3.9/1, MLv3.9/8*

ISC 12 21:11:18.5±0.8,5.°30S±0.°06×129.°18E±0.°08,h250km,n22, σ1❩60/24,mb3.2/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.05**	**43**	P		**P**	**Pn**	**21 11 56.3**	**+2.4**
MSAI	**Masohi**	**1.95**	**352**	P		**P**	**Pn**	**21 12 01.5**	**+0.9**
MSAI				S		**S**	**S**	**21 12 33.5**	**-0.4**
NLAI	**Namlea**	**2.92**	**314**	P		**P**	**Pn**	**21 12 13.2**	**+3.1**
SAUI	**Saumlaki**	**3.40**	**142**	P		**P**	**Pn**	**21 12 17.0**	**+1.6**
FAKI	**Fak Fak**	**3.86**	**52**	P		**P**	**Pn**	**21 12 22.3**	**+1.5**
FAKI	**Fak Fak**	**3.86**	**52**	P		**P**	**Pn**	**21 12 22.5**	**+1.8**
	baz=4.0,SNR=28								
FAKI				S		**S**		**21 13 07.8**	**-2.4**
	baz=4.0,SNR=10								
SANI	**Sanana**	**4.54**	**315**	P		**P**	**Pn**	**21 12 29.0**	**+0.3**
SIJI	**Sorong**	**4.86**	**25**	P		**P**	**Pn**	**21 12 33.2**	**+0.5**
	11nm,0.3s,baz=41,slow=23,SNR=48								
SIJI				S		**S**		**21 13 29.8**	**-2.1**
	22nm,0.3s,baz=243,slow=23,SNR=38								
SOEI	**Soe**	**6.59**	**227**	P		**P**	**Pn**	**21 12 54.2**	**0.0**
SOEI	**Soe**	**6.59**	**227**	P		**P**	**Pn**	**21 12 54.5**	**+0.3**
	baz=6.5,SNR=5.3								
KDU	**Kakadu**	**8.03**	**156**	P		P	Pn	21 13 11.2	-1.0
	baz=7.6,SNR=102								
KNRA	**Kununurra**	**10.32**	**182**	P		P	Pn	21 13 39.2	-2.0
	baz=10.0,SNR=14								
FITZ	**Fitzroy Crossi**	**13.19**	**195**	P		**P**	**Pn**	**21 14 15.7**	**-1.2**
	baz=13,SNR=8.9								
WRA	**Warramunga Arr**	**15.40**	**161**	P		**P**	**P**	**21 14 42.4**	**-0.4**
	2.3nm,0.3s,baz=338,slow=13,SNR=136								
WRA				S		S	S	21 17 26.9	-5.8
	0.6nm,0.3s,baz=345,slow=22,SNR=7.6								
COEN	**Coen**	**16.25**	**123**	P		**P**	**P**	**21 14 54.1**	**+1.9**
	baz=16,SNR=9.6								
QIS	**Mount Isa**	**18.24**	**147**	P		**P**	**Pn**	**21 15 18.8**	**+1.7**
	baz=18,SNR=7.6								
ASAR	**Alice Springs**	**18.82**	**166**	P		**P**	**P**	**21 15 19.7**	**-0.4**
	2.0nm,0.3s,baz=348,slow=12,SNR=114								
ASAR				S		**S**		**21 18 37.9**	**-2.9**
	0.6nm,0.3s,baz=348,slow=22,SNR=23								
ASAR				ScP		**ScP**	**P**	**21 22 46.1**	**-1.3**
	0.1nm,0.3s,baz=358,slow=2.0,SNR=4.9								
WRKA	**Warakurna**	**19.65**	**182**	P		**P**	**P**	**21 15 28.7**	**-0.2**
	baz=19,SNR=23								
STKA	**Stephens Creek**	**28.89**	**158**	P		**P**	**P**	**21 16 54.2**	**-0.2**
	1.9nm,0.8s,baz=344,slow=12,SNR=3.0								
MKAR	**Makanchi Array**	**66.36**	**327**	P		**P**	**P**	**21 21 41.0**	**+0.3**
	0.1nm,0.3s,baz=124,slow=8.8,SNR=4.8								
KURBB	**Kurchatov Arra**	**70.64**	**329**	P		**P**	**P**	**21 22 07.0**	**+0.1**
	0.3nm,0.6s,baz=120,slow=4.7,SNR=2.7								
MAW	**Mawson**	**76.23**	**201**	P		P	P	21 22 43.1	+4.0
	baz=76,SNR=19								

DHMR 12 21:11:19.2±0.3,12.°12N×43.°79E,h15km±1km,ML3.7,1D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.15**	**16**	⇓*i*P		Pn	P	21 11 40.5	-0.6
TRBA				*i* S		Sg	P	21 11 56.9	0.0
TRBA					AML	AML	P	21 12 03.5	
	comp=N,1μm,0.3s								
BDHA	**Al Bayda'**	**2.53**	**43**	*i* P		Pb		21 12 02.6	-2.1
BDHA				*i* S		Sb		21 12 36.5	+0.6
BDHA					AML	AML		21 12 42.2	
	comp=E,480nm,0.3s								
HAJJ	**Hajjah**	**3.56**	**357**	*i* S		Sb		21 13 01.7	-3.8
HAJJ					AML	AML		21 13 21.1	
	comp=Z,346nm,0.6s								

ISCJB ***12*** *21:11:29.9±0.3,37.°49N±0.°03×55.°75E±0.°03,h10km, mb3.4/11, Error ellipse: s-maj=4.3km s-min=2.9km az=7.0*

IDC ***12*** *21:11:29.1±1.0,37.°18N×55.°81E,h0km, mb3.4/11, mb1 3.6/17,mb1mx3.6/33,mbtmp3.5/17,ML3.4/5, Error ellipse: s-maj=19.1km s-min=9.8km az=174.0*

CSEM ***12*** *21:11:30.7±0.2,37.°38N×55.°89E,h10km,ML3.6, Error ellipse: s-maj=6.0km s-min=4.6km az=12.0*

THR ***12*** *21:11:30.4±1.4,37.°18N×56.°00E,h15km,ML3.6*

TEH ***12*** *21:11:31.0,37.°27N×55.°90E,h3km,ML3.9*

NNC ***12*** *21:11:31.8±6.6,37.°57N×55.°46E,h16km±107km, mb3.7, Error ellipse: s-maj=118.5km s-min=18.6km az=43.0*

AZER ***12*** *21:11:35.3±1.6,37.°43N×55.°37E,h3km, Error ellipse: s-maj=26.2km s-min=11.7km az=23.0*

ISC 12 21:11:30.5±0.6,37.°37N±0.°05×55.°84E±0.°04,h10km,n96, σ1❩63/123,mb3.5/11,15C-14D,Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRVT	**Maraveh tapeh**	**0.35**	**34**	*e*Pg		**Pb**		**21 11 39.5**	**+0.5**
MRVT					AML	AML		21 11 49.0	
	comp=E,3μm,0.2s								
MRVT	**Maraveh tapeh**	**0.35**	**34**	*e*Pg		**Pb**		**21 11 39.5**	**+0.5**
	comp=E,3μm,0.2s								
BJRD	**Bojnurd**	**1.29**	**75**	*e*Pg		**Pn**		**21 11 53.9**	**-0.8**
BJRD	**Bojnurd**	**1.29**	**75**	*e*Pg		**Pn**		**21 11 53.9**	**-0.8**
SHRO	**Shahrood**	**1.38**	**174**	*e*Pg		Pn		21 11 51.2	-4.8
ISHV	**Shirvan**	**1.49**	**83**	*e*Pn		**Pn**		**21 11 57.5**	**-0.1**
ISFR	**Sfrayin**	**1.75**	**100**	*e*Pn		**Pn**		**21 12 00.9**	**-0.3**
ISFR	**Sfrayin**	**1.75**	**100**	*e*Pn		**Pn**		**21 12 00.9**	**-0.3**
IGLO	**Ghaloghah**	**1.83**	**242**	*e*Pn		**Pn**		**21 12 02.2**	**0.0**
IGLO				*e*Sg		**Sb**		**21 12 27.9**	**+0.7**
IGLO				*e*				21 12 33.9	
	comp=Z,25μm,0.4s								
GEYT	**Alibeck**	**1.89**	**72**	Pn		**Pn**		**21 12 04.5**	**+1.5**
	comp=Z,69nm,0.3s,baz=240,slow=18,SNR=312								
GEYT					Lg	Lg		21 12 30.3	
	comp=Z,72nm,0.3s,baz=237,slow=34,SNR=14								
ASHT	**Ashkhabad**	**2.10**	**73**	Pn		**Pb**		**21 12 09.0**	**+0.3**
ASHT				Sn		**Sg**		**21 12 39.4**	**+1.5**
IKRD	**Kardeh**	**2.22**	**105**	*e*Pn		Pg		21 12 19.8	+6.7
IKRD				*e*				21 13 11.3	
	comp=Z,2μm,0.3s								
IANJ	**Anjilo**	**2.45**	**220**	*e*Pn		**Pn**		**21 12 11.1**	**+0.3**
IANJ				*e*				21 12 56.8	
	comp=Z,5μm,0.2s								
IANJ	**Anjilo**	**2.45**	**220**	*e*Pn		**Pn**		**21 12 11.1**	**+0.3**
ISHM	**Shahmirzad**	**2.58**	**234**	*e*Pn		**Pn**		**21 12 14.0**	**+1.4**
ISHM				*e*				21 12 20.3	
	comp=Z,10μm,0.2s								
IPAY	**Payeh**	**2.69**	**109**	*e*Pn		**Pn**		**21 12 14.4**	**+0.3**
IPAY				*e*				21 12 24.1	
	comp=Z,3μm,0.1s								
IPAY	**Payeh**	**2.69**	**109**	*e*Pn		**Pn**		**21 12 14.4**	**+0.3**
IALA	**Alasht**	**2.75**	**243**	*e*Pn		**Pn**		**21 12 16.2**	**+1.1**
IALA				*e*				21 13 02.4	
	comp=Z,8μm,0.2s								
IALA	**Alasht**	**2.75**	**243**	*e*Pn		**Pn**		**21 12 16.2**	**+1.1**
IFIR	**Firoozkooh**	**3.03**	**236**	*e*Pn		**Pn**		**21 12 19.9**	**+1.1**
IFIR				*e*				21 12 24.6	
	comp=Z,3μm,0.1s								
IFIR	**Firoozkooh**	**3.03**	**236**	*e*Pn		**Pn**		**21 12 19.9**	**+1.1**
IPRN	**Peran**	**3.03**	**249**	*e*Pn		**Pn**		**21 12 19.2**	**+0.5**
IPRN				*e*				21 13 15.8	
	comp=Z,5μm,0.3s								
ILAS	**Lasjerd**	**3.06**	**230**	*e*Pn		**Pn**		**21 12 20.4**	**+1.2**
ILAS				*e*Sn		**Sn**		**21 12 55.1**	**-0.8**
ILAS				*e*				21 13 24.0	
	comp=Z,2μm,0.3s								
ILAS	**Lasjerd**	**3.06**	**230**	*e*Pn		**Pn**		**21 12 20.4**	**+1.2**
ILAS				*e*Sn		**Sn**		**21 12 55.1**	**-0.8**
IMOG	**Moghan**	**3.08**	**113**	*e*Pn		**Pn**		**21 12 19.3**	**-0.2**
IMOG				*e*				21 12 27.7	
	comp=Z,2μm,0.3s								
IMOG	**Moghan**	**3.08**	**113**	*e*Pn		**Pn**		**21 12 19.3**	**-0.2**
IDMV	**Damavand**	**3.55**	**241**	*e*Pn		**Pn**		**21 12 29.1**	**+3.1**
IDMV				*e*				21 12 36.4	
	comp=Z,1μm,0.2s								
IDMV	**Damavand**	**3.55**	**241**	*e*Pn		**Pn**		**21 12 29.1**	**+3.1**
IMYA	**Miami**	**3.57**	**105**	*e*Pn		**Pn**		**21 12 26.6**	**+0.5**
IMYA				*e*				21 12 39.3	
	comp=Z,2μm,0.3s								
IMYA	**Miami**	**3.57**	**105**	*e*Pn		**Pn**		**21 12 26.6**	**+0.5**
DAMV	**Damavand**	**3.57**	**242**	*e*Pn		**Pn**		**21 12 28.5**	**+2.3**
DAMV					AML	AML		21 13 35.1	
	comp=E,130nm,0.5s								
DAMV	**Damavand**	**3.57**	**242**	*e*Pn		**Pn**		**21 12 28.5**	**+2.3**
	comp=E,130nm,0.5s								
TABS	**Tabas**	**3.85**	**164**	*e*Pn		**Pn**		**21 12 28.9**	**-1.1**
TABS	**Tabas**	**3.85**	**164**	*e*Pn		**Pn**		**21 12 28.9**	**-1.1**
CHTH	**Charan**	**4.06**	**250**	*e*Pn		**Pn**		**21 12 35.6**	**+2.6**
CHTH	**Charan**	**4.06**	**250**	*e*Pn		**Pn**		**21 12 35.6**	**+2.6**
IVRN	**Varamin**	**4.08**	**236**	*e*Pn		**Pn**		**21 12 33.4**	**+0.3**
IVRN				*e*				21 12 47.5	
	comp=Z,1μm,0.2s								
IVRN	**Varamin**	**4.08**	**236**	*e*Pn		**Pn**		**21 12 33.4**	**+0.3**
IGZV	**Ghazvin**	**4.61**	**259**	*e*Pn		**Pn**		**21 12 41.9**	**+1.3**
IGZV				*e*				21 13 04.5	
	comp=Z,569nm,0.2s								
IGZV	**Ghazvin**	**4.61**	**259**	*e*Pn		**Pn**		**21 12 41.9**	**+1.3**
GHVR	**GHOM**	**4.68**	**233**	*e*Pn		**Pn**		**21 12 43.1**	**+1.7**
GHVR					AML	AML		21 14 06.7	
	comp=N,48nm,0.8s								
GHVR					AML	AML		21 14 08.9	
	comp=E,50nm,0.7s								
GHVR	**GHOM**	**4.68**	**233**	*e*Pn		**Pn**		**21 12 43.1**	**+1.7**
	comp=E,50nm,0.7s								
SHRT	**Shahrakht**	**5.19**	**134**	*e*Pn		**Pn**		**21 12 46.5**	**-1.9**
SHRT	**Shahrakht**	**5.19**	**134**	*e*Pn		**Pn**		**21 12 46.5**	**-1.9**
ASAO	**Ashtian**	**5.49**	**241**	*e*Pn		**Pn**		**21 12 53.8**	**+1.1**
ASAO	**Ashtian**	**5.49**	**241**	*e*Pn		**Pn**		**21 12 53.8**	**+1.1**
LKRN	**Lenkeran, Azer**	**5.73**	**286**	⇓P		**Pn**		**21 12 55.4**	**-0.3**
	SNR=4.2								
LKRN				⇑S		**Sn**		**21 13 58.7**	**-2.8**
LKRN	**Lenkeran, Azer**	**5.73**	**286**	P		**Pn**		**21 12 55.4**	**-0.3**
	SNR=4.2								
LKRN				S		**Sn**		**21 13 58.7**	**-2.8**
IBAF	**Bafgh**	**5.77**	**182**	*e*Pn		**Pn**		**21 12 54.9**	**-1.5**
IBAF				*e*				21 14 40.2	
	comp=Z,369nm,0.3s								
IBAF	**Bafgh**	**5.77**	**182**	*e*Pn		**Pn**		**21 12 54.9**	**-1.5**
ALIB	**Äli-Bayra**	**5.94**	**298**	⇑P		**Pn**		**21 12 59.6**	**+1.1**
	SNR=4.0								
ALIB				⇑S		**Sn**		**21 14 06.5**	**-0.1**
ALIB	**Äli-Bayra**	**5.94**	**298**	P		**Pn**		**21 12 59.6**	**+1.1**
	SNR=4.0								
ALIB				S		**Sn**		**21 14 06.5**	**-0.1**
LRK	**Lerik**	**6.06**	**284**	⇓P		**Pn**		**21 12 59.6**	**-0.8**
	SNR=13								
LRK				⇓S		**Sn**		**21 14 08.8**	**-1.0**
LRK	**Lerik**	**6.06**	**284**	P		**Pn**		**21 12 59.6**	**-0.8**
	SNR=13								
LRK				S		**Sn**		**21 14 08.8**	**-1.0**
GLBA	**Clilabad**	**6.15**	**290**	⇓P		**Pn**		**21 13 01.1**	**-0.3**
	SNR=17								
GLBA				⇓S		**Sn**		**21 14 10.4**	**-1.4**
GLBA	**Clilabad**	**6.15**	**290**	P		**Pn**		**21 13 01.1**	**-0.3**
	SNR=17								
GLBA				S		**Sn**		**21 14 10.4**	**-1.4**
ATGJ	**Altiaghaj**	**6.40**	**305**	⇓S		**Sn**		**21 14 17.2**	**-0.9**
ATGJ	**Altiaghaj**	**6.40**	**305**	S		**Sn**		**21 14 17.2**	**-0.9**
PQL	**Pirkuli**	**6.59**	**303**	⇓P		**Pn**		**21 13 09.5**	**+1.8**
PQL				⇑S		**Sn**		**21 14 22.9**	**0.0**
PQL	**Pirkuli**	**6.59**	**303**	P		**Pn**		**21 13 09.5**	**+1.8**
PQL				S		**Sn**		**21 14 22.9**	**0.0**
IML	**Ismayilli**	**6.87**	**302**	⇑P		**Pn**		**21 13 12.7**	**+1.3**
IML				⇑S		**Sn**		**21 14 28.5**	**-1.1**
IML	**Ismayilli**	**6.87**	**302**	P		**Pn**		**21 13 12.7**	**+1.3**
IML				S		**Sn**		**21 14 28.5**	**-1.1**
QUBA	**Quba, Azerbaij**	**6.95**	**307**	⇓P		**Pn**		**21 13 13.8**	**+1.4**
QUBA				⇑S		**Sn**		**21 14 30.1**	**-1.4**
QUBA	**Quba, Azerbaij**	**6.95**	**307**	P		**Pn**		**21 13 13.8**	**+1.4**
QUBA				S		**Sn**		**21 14 30.1**	**-1.4**
BRDA	**Brd**	**7.35**	**296**	⇑S		**Sn**		**21 14 40.1**	**-1.3**
BRDA	**Brd**	**7.35**	**296**	S		**Sn**		**21 14 40.1**	**-1.3**
SEKA	**Sheki**	**7.72**	**302**	⇑P		**Pn**		**21 13 24.3**	**+1.2**
	SNR=3.2								
SEKA				⇓S		**Sn**		**21 14 50.2**	**-0.4**
SEKA	**Sheki**	**7.72**	**302**	P		**Pn**		**21 13 24.3**	**+1.2**
	SNR=3.2								
SEKA				S		**Sn**		**21 14 50.2**	**-0.4**
GANJ	**Ganja**	**8.10**	**297**	⇑P		**Pn**		**21 13 28.1**	**-0.2**
	SNR=5.9								
GANJ				⇓S		**Sn**		**21 14 57.1**	**-2.8**
GANJ	**Ganja**	**8.10**	**297**	P		**Pn**		**21 13 28.1**	**-0.2**
	SNR=5.9								
GANJ				S		**Sn**		**21 14 57.1**	**-2.8**
ZKTA	**Zakatala**	**8.30**	**304**	⇓S		**Sn**		**21 15 01.9**	**-2.9**
QZX	**Qazax, Azerbai**	**8.92**	**298**	⇑P		**Pn**		**21 13 39.9**	**+0.4**
	SNR=5.6								
QZX				⇑S		**Sn**		**21 15 16.4**	**-3.6**
QZX	**Qazax, Azerbai**	**8.92**	**298**	P		**Pn**		**21 13 39.9**	**+0.4**
	SNR=5.6								
GNI	**Garni**	**9.11**	**291**	Pn		**Pn**		**21 13 42.6**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=34,slow=3.6,SNR=2.6								
KBZ	**Khabaz**	**11.71**	**307**	Pn		**Pn**		**21 14 18.1**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=236,slow=24,SNR=6.9								
KBZ				Sn		**Sn**		**21 16 28.2**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=53,slow=20,SNR=1.9								
AB31	**Akbulak array**	**12.25**	**13**	⇓Pn		**Pn**		**21 14 23.9**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=198,slow=12,SNR=26								
AB31				⇓Sn		**Sn**		**21 16 36.9**	**-4.6**
	comp=Z,1.9nm,0.6s,baz=194,slow=22,SNR=3.8								
AB31	**Akbulak array**	**12.25**	**13**	Pn		**Pn**		**21 14 24.0**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=198,SNR=26								
AB31				Sn		**Sn**		**21 16 36.9**	**-4.6**
	comp=Z,1.9nm,0.6s,SNR=3.8								
AKTO	**Aktyubinsk**	**13.15**	**6**	⇑Pn		**Pn**		**21 14 37.6**	**+0.2**
	comp=Z,3.1nm,0.8s								
AKTO				⇑Sn		**Sn**		**21 16 59.8**	**-3.9**
	comp=Z,2.4nm,0.5s								
AKTO	**Aktyubinsk**	**13.15**	**6**	Pn		**Pn**		**21 14 37.3**	**0.0**
	comp=Z,0.6nm,0.3s,baz=182,slow=12,SNR=10								
AKTO				Sn		**Sn**		**21 16 59.6**	**-4.0**
	comp=Z,0.2nm,0.3s,baz=73,slow=19,SNR=5.8								
AKTO	**Aktyubinsk**	**13.15**	**6**	Pn		**Pn**		**21 14 37.6**	**+0.2**
	comp=Z,3.1nm,0.8s								
AKTO				Sn		**Sn**		**21 16 59.8**	**-3.9**
	comp=Z,2.4nm,0.5s								
AAK	**Ala-Archa**	**15.22**	**64**	Pn		**Pn**		**21 15 04.1**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=209,slow=13,SNR=3.0								
BRTR	**Keskin Array B**	**17.52**	**285**	P		**Pn**		**21 15 34.5**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=96,slow=11,SNR=2.8								
BVA0	**Borovoye Array**	**18.65**	**28**	⇑P		**Pn**		**21 15 51.3**	**+2.6**
	comp=Z,4.0nm,0.8s,baz=214,slow=9.8,SNR=6.0								
BVAR	**Borovoye Array**	**18.65**	**28**	P		**P**		**21 15 48.5**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=206,slow=9.6,SNR=6.1								
KURBB	**Kurchatov Arra**	**20.92**	**43**	P		**P**		**21 16 14.4**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=246,slow=11,SNR=6.2								
MK31	**Makanchi Array**	**21.69**	**56**	⇓P		**P**		**21 16 22.5**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=253,slow=15,SNR=7.3								
MKAR	**Makanchi Array**	**21.69**	**56**	P		**P**		**21 16 22.7**	**+1.3**
	comp=Z,1.

WMGZ **Waiomatatini S** 17.85 190 *e*PN P 22 02 40.2 +1.3
HAZ **Te Kaha** 17.90 191 *e*PN P 22 02 39.8 +0.4
HAZ *e*SN S 22 05 40.0 -4.2
KNTN **Kanton** 18.33 20 *e*P P 22 02 43.3 -1.0
120nm,0.8s
TOZ **Tahuroa Road** 18.40 197 *e*PN P 22 02 46.9 +2.2
MWZ **Matawai** 18.51 192 *e*PN P 22 02 45.6 -0.3
MWZ *e*SN S 22 05 56.1 +0.8
URZ **Urewera** 18.52 193 P P 22 02 46.6 +0.6
5.3nm,0.3s,baz=282,slow=4.7,SNR=20
URZ S S 22 05 55.0 -0.4
3.0nm,0.3s,baz=100,slow=19,SNR=9.5
URZ **Urewera** 18.52 193 *e*PN P 22 02 46.4 +0.4
URZ *e*SN S 22 05 53.7 -1.7
URZ **Urewera** 18.52 193 *e*P P 22 02 46.6 +0.6
14nm,0.7s
URZ *e*S S 22 05 55.0 -0.4
RIGZ **Rimuhau** 18.82 191 *e*PN P 22 02 49.9 +0.6
BKZ **Black Stump Fm** 19.52 193 *e*P P 22 02 53.9 -2.2
472nm,2.9s
BFZ **Birch Farm** 21.03 193 *e*P P 22 03 08.2 -1.6
173nm,1.6s
SNZO **South Karori** 21.97 195 *e*P P 22 03 18.7 +0.4
142nm,1.1s
KHZ **Kahutara** 23.31 196 *e*P P 22 03 29.0 -1.4
758nm,2.6s
RPZ **Rata Peaks** 25.22 199 P P 22 03 48.8 +1.3
17nm,0.5s,baz=349,slow=1.3,SNR=15
RPZ **Rata Peaks** 25.22 199 *e*P P 22 03 48.8 +1.3
123nm,2.8s
ODZ **Otahua Downs** 26.54 198 *e*P P 22 04 00.0 +0.8
407nm,2.6s
PPT **Papeete** 26.86 89 *e*P P 22 04 02.2 -0.3
PPT **Papeete** 26.86 89 *e*P P 22 04 02.2 -0.3
DCZ **Deep Cove** 28.08 203 *e*P P 22 04 12.8 0.0
441nm,2.7s
WHZ **Wether Hill Ro** 28.16 201 *e*P P 22 04 14.5 +0.9
34nm,0.7s
EIDS **Eidsvold** 29.07 254 P P 22 04 23.2 +1.5
baz=29,SNR=14
EIDS **Eidsvold** 29.07 254 *e*P P 22 04 23.3 +1.5
14nm,0.6s
ARMA **Armidale** 29.33 244 P P 22 04 26.4 +2.2
baz=30,SNR=25
ARMA **Armidale** 29.33 244 *e*P P 22 04 26.2 +2.1
23nm,0.6s
MGCD **Mangrove Creek** 30.48 238 P P 22 04 36.6 +2.6
baz=31,SNR=6.8
RMQ **Roma** 31.23 252 P P 22 04 43.0 +2.3
baz=31,SNR=7.6
CNB **Canberra Magne** 32.51 235 P P 22 04 53.5 +1.9
baz=33,SNR=14
CTA **Charters Tower** 33.66 264 P P 22 05 03.1 +1.4
15nm,0.4s,baz=91,slow=10,SNR=35
CTAO **Charters Tower** 33.66 264 *e*P P 22 05 02.9 +1.3
CTAO pmax pmax
comp=Z,34nm,1.2s
CTAO **Charters Tower** 33.66 264 *e*P P 22 05 02.9 +1.3
comp=Z,34nm,1.2s
CMSA **Cobar Meteorol** 34.55 243 P P 22 05 10.2 +1.3
baz=35,SNR=90
QLP **Quilpie** 35.28 252 P P 22 05 16.4 +1.1
baz=36,SNR=9.5
TOO **Toolangi** 36.19 233 P P 22 05 24.0 +1.2
baz=36,SNR=9.8
TAU **Tasmania Unive** 36.94 224 *e*P P 22 05 29.2 +0.4
TAU pmax pmax
comp=Z,122nm,1.6s
TAU **Tasmania Unive** 36.94 224 *e*P P 22 05 29.2 +0.4
comp=Z,122nm,1.6s
COEN **Coen** 37.71 273 P P 22 05 37.0 +1.3
baz=38,SNR=4.3
COEN **Coen** 37.71 273 *e*P P 22 05 34.0 -1.6
comp=Z,11nm,1.7s
STKA **Stephens Creek** 38.05 244 P P 22 05 39.5 +1.3
comp=Z,22nm,0.5s,baz=92,slow=9.5,SNR=70
STKA **Stephens Creek** 38.05 244 P P 22 05 39.5 +1.3
STKA pmax pmax
comp=Z,22nm,0.5s
STKA **Stephens Creek** 38.05 244 P P 22 05 39.6 +1.3
baz=38,SNR=40
STKA **Stephens Creek** 38.05 244 *e*P P 22 05 39.6 +1.3
comp=Z,4.4nm,0.6s
ARPS **Mount Arapiles** 38.77 236 P P 22 05 45.5 +1.5
baz=39,SNR=5.0
QIS **Mount Isa** 39.80 262 P P 22 05 55.6 +2.8
baz=40,SNR=3.1
HTT **Hallett** 40.49 242 P P 22 05 59.1 +0.9
baz=41,SNR=14
WAKE **Wake Island** 42.08 338 *e*P P 22 06 12.3 +1.4
comp=Z,88nm,0.8s
H11N3 **WAKE ISLAND Hy** 42.39 338 P P 22 06 14.5 +1.3
baz=174,slow=12,SNR=10
H11N1 **WAKE ISLAND Hy** 42.40 338 P P 22 06 14.5 +1.3
baz=174,slow=12,SNR=5.6
H11N2 **WAKE ISLAND Hy** 42.41 338 P P 22 06 13.2 -0.1
baz=174,slow=12,SNR=2.8
BBOO **Buckleboo** 42.81 243 P P 22 06 17.2 +0.6
baz=43,SNR=47
BBOO **Buckleboo** 42.81 243 *e*P P 22 06 17.3 +0.6
comp=Z,33nm,0.8s
JAY **Jayapura** 44.09 288 P P 22 06 28.0 +0.9
comp=Z,12nm,0.5s,baz=165,slow=2.5,SNR=11
JAY **Jayapura** 44.09 288 *e*P P 22 06 28.0 +0.9
AS01 **Alice Springs** 44.68 256 *e*P P 22 06 32.0 +0.4
AS12 **Alice Springs** 44.73 256 *e*P P 22 06 32.5 +0.6
AS12 *e*ScP ScP 22 11 17.2 -2.6
AS12 *e*S S 22 12 36.0 -2.4
ASAR **Alice Springs** 44.73 256 P P 22 06 32.5 +0.6
comp=Z,29nm,0.6s,baz=88,slow=8.1,SNR=235
ASAR ScP ScP 22 11 17.2 -2.6
comp=Z,1.4nm,0.8s,baz=95,slow=4.3,SNR=6.4
ASAR S S 22 12 36.0 -2.4
comp=Z,3.5nm,0.9s,baz=95,slow=14,SNR=12
ASAR **Alice Springs** 44.73 256 P P 22 06 32.6 +0.6
ASAR S S 22 12 36.0 -2.4
ASAR pmax pmax
comp=Z,29nm,0.6s
ASAR pmax pmax
comp=N,1.0nm,0.8s
ASAR smax smax
comp=N,4.0nm,0.9s
WRAB **Tennant Creek** 44.78 262*c*eP P 22 06 32.2 -0.1
WRAB pmax pmax
comp=Z,16nm,0.7s
WRAB **Tennant Creek** 44.78 262 *e*P P 22 06 32.5 +0.2
comp=Z,8.7nm,0.5s
WRA **Warramunga Arr** 44.78 262 P P 22 06 32.2 -0.2
comp=Z,5.5nm,0.4s,baz=96,slow=7.4,SNR=143
WRA ScP ScP 22 11 17.5 -2.6
comp=Z,1.2nm,0.9s,baz=92,slow=5.0,SNR=5.2
WRA S S 22 12 35.9 -3.3
comp=Z,0.3nm,0.3s,baz=98,slow=13,SNR=6.7
HLK **Haleakala** 45.87 29 *e*P P 22 06 40.0 -1.0
KDU **Kakadu** 48.09 271 P P 22 06 58.1 +0.4
baz=48,SNR=11
FORT **Forrest** 49.54 246 P P 22 07 08.6 +0.1
baz=50,SNR=19
FORT **Forrest** 49.54 246 *e*P P 22 07 08.7 +0.3
comp=Z,54nm,0.7s
WRKA **Warakurna** 49.69 254 P P 22 07 10.2 +0.5
baz=50,SNR=110
WRKA S S 22 13 16.9 -31
baz=50,SNR=9.0
GUMO **Guam** 49.73 309 P P 22 07 10.7 +0.8
comp=Z,85nm,0.7s,baz=185,slow=21,SNR=6.6
GUMO **Guam** 49.73 309 *e*P P 22 07 10.7 +0.8
GUMO pmax pmax
comp=Z,171nm,1.2s
GUMO **Guam** 49.73 309 *e*P P 22 07 10.7 +0.8
comp=Z,171nm,1.2s
KNRA **Kununurra** 50.82 266 P P 22 07 18.8 +0.7
baz=51,SNR=6.9
FAKI **Fak Fak** 51.57 283 *e*P P 22 07 22.4 -1.3
comp=Z,38nm,1.4s
FITZ **Fitzroy Crossi** 53.21 262 P P 22 07 36.2 +0.8
baz=53,SNR=14
FITZ **Fitzroy Crossi** 53.21 262 *e*P P 22 07 35.1 -0.4
comp=Z,35nm,1.8s
SIJI **Sorong** 53.30 285 P P 22 07 36.9 +0.7
comp=Z,23nm,0.8s,baz=81,slow=7.0,SNR=15
SOEI **Soe** 56.64 271 *e*P P 22 07 59.3 -0.6
comp=Z,60nm,1.3s
MBWA **Marble Bar** 58.06 257 *e*P P 22 08 09.7 +0.2
comp=Z,16nm,0.6s
MEEK **Meekatharra** 58.15 251 P P 22 08 09.8 -0.3
baz=58,SNR=17

SBA **Scott Base** 58.17 184 *e*P P 22 08 12.8 +3.5
SBA pmax pmax
comp=Z,50nm,1.0s
SBA **Scott Base** 58.17 184 *e*P P 22 08 12.8 +3.5
comp=Z,50nm,1.0s
VNDA **Vanda** 58.22 185 P P 22 08 11.8 +2.2
comp=Z,9.3nm,0.6s,baz=358,slow=7.7,SNR=41
VNDA ScP ScP 22 12 16.3 -0.6
comp=Z,3.0nm,0.7s,baz=4.9,slow=4.7,SNR=6.8
VNDA **Vanda** 58.22 185 P P 22 08 11.8 +2.2
VNDA pmax pmax
comp=Z,9.0nm,0.6s
VNDA pmax pmax
comp=N,3.0nm,0.7s
VNDA **Vanda** 58.22 185 *e*P P 22 08 12.1 +2.5
comp=N,50nm,1.6s
VNDA *e*ScP ScP 22 12 18.2 +1.3
KLBR **Kellerberrin** 58.31 245 P P 22 08 11.2 +0.1
baz=58,SNR=7.7
NWAO **Narrogin (SRO)** 58.63 243 P P 22 08 13.6 +0.4
comp=N,15nm,0.9s,baz=145,slow=4.2,SNR=3.8
NWAO **Narrogin (SRO)** 58.63 243 *e*P P 22 08 13.6 +0.4
NWAO pmax pmax
comp=Z,44nm,1.5s
NWAO **Narrogin (SRO)** 58.63 243 *e*P P 22 08 13.6 +0.4
comp=Z,44nm,1.5s
BLDU **Ballidu** 59.30 246 P P 22 08 17.8 0.0
baz=59,SNR=15
MORW **Morawa** 60.07 247 P P 22 08 23.0 0.0
baz=60,SNR=3.4
CBI **Chichi jima** 60.91 319 *e*P P 22 08 28.5 0.0
JCJ **Chichijima** 60.91 319 P P 22 08 28.5 0.0
comp=Z,32nm,0.5s,baz=292,slow=19,SNR=2.2
GIRL **Giralia** 62.77 254 P P 22 08 42.4 +1.5
baz=63,SNR=3.9
CASY **Casey** 64.29 205 *e*P P 22 08 50.9 +1.0
comp=Z,94nm,2.0s
KKM **Kota Kinabalu** 69.82 285 *e*P P 22 09 25.9 +0.4
comp=Z,41nm,1.2s
QSPA **South Pole Qui** 69.86 180 P P 22 09 26.5 +1.8
comp=Z,64nm,0.7s,baz=306,slow=0.4,SNR=550
MJAR **Matsushiro Arr** 70.06 324 P P 22 09 26.2 0.0
comp=Z,10nm,0.7s,baz=158,slow=6.2,SNR=34
MJAR **Matsushiro Arr** 70.06 324 P P 22 09 26.2 0.0
MJAR pmax pmax
comp=Z,10.0nm,0.7s
MAJO **Matsushiro** 70.06 324*de*P P 22 09 26.0 -0.2
MAJO pmax pmax
comp=Z,403nm,2.7s
MAJO **Matsushiro** 70.06 324 *e*P P 22 09 24.5 -1.8
comp=Z,15nm,0.6s
MAT **Matsushiro** 70.06 324 P P 22 09 26.0 -0.2
JOW **Kunigami** 70.09 310 P P 22 09 27.0 +0.4
comp=Z,0.7nm,0.7s,baz=73,slow=11,SNR=3.0
JOW **Kunigami** 70.09 310 *e*P P 22 09 27.0 +0.4
comp=Z,34nm,1.3s
ADK **Adak** 71.78 1 *e*P P 22 09 35.2 -0.9
ADK pmax pmax
comp=Z,46nm,0.6s
ADK **Adak** 71.78 1 *e*P P 22 09 35.1 -0.9
comp=Z,46nm,0.6s
JNU **Nakatsue** 72.16 317 P P 22 09 38.8 0.0
comp=Z,5.3nm,0.7s,baz=46,slow=2.8,SNR=5.0
JNU **Nakatsue** 72.16 317 *e*P P 22 09 38.3 -0.5
comp=Z,196nm,2.8s
NIKH **Nikolski High** 73.29 6 *e*P P 22 09 43.4 -1.4
comp=Z,65nm,0.7s
KSM **Kuching** 73.52 278 *e*P P 22 09 45.8 -1.2
comp=Z,6.1nm,0.7s
ASAJ **Asahikawa** 73.54 331 P P 22 09 47.9 +1.5
comp=Z,3.6nm,0.4s,baz=283,slow=2.2,SNR=6.7
ASAJ **Asahikawa** 73.54 331 P P 22 09 47.9 +1.5
ASAJ pmax pmax
comp=Z,4.0nm,0.4s
ASAJ **Asahikawa** 73.54 331 *e*P P 22 09 47.0 +0.5
comp=Z,26nm,1.0s
SSLB **Suanglung** 73.93 303 *e*P P 22 09 47.7 -1.5
comp=Z,115nm,2.2s
PEA2 **Petropavlovsk-** 76.02 345 *e*P P 22 10 00.8 +0.5
PEA0 **Petropavlovsk-** 76.02 345 *e*P P 22 10 00.1 -0.3
PETK **Petropavlovsk-** 76.02 345 P P 22 10 00.8 +0.5
comp=Z,24nm,0.8s,baz=139,slow=9.7,SNR=25
PETK **Petropavlovsk-** 76.02 345 P P 22 10 00.8 +0.5
PETK pmax pmax
comp=Z,24nm,0.8s
KSRS **Korea Array** 76.76 318 P P 22 10 05.1 +0.3
comp=Z,2.0nm,0.6s,baz=134,slow=5.8,SNR=8.6
KSRS **Korea Array** 76.76 318 P P 22 10 05.1 +0.3
KSRS pmax pmax
comp=Z,2.0nm,0.6s
KS15 **Wonju Array Si** 76.78 318 *e*P P 22 10 05.1 +0.2
KS01 **Wonju Array Si** 76.80 318 *e*P P 22 10 05.6 +0.6
BAKC **Calstate** 78.42 46 *e*P P 22 10 14.1 +0.2
ARVC **Arvin** 78.48 46 ⇑P P 22 10 14.6 +0.3
baz=79
DPP **Dos Picos Cty** 78.60 49 *e*P P 22 10 18.1 +3.1
BFSC **Mount Baldy Ra** 78.78 47 ⇓P P 22 10 15.9 -0.2
baz=79
USRK **Usuriysk Ar.** 78.80 326 P P 22 10 17.2 +1.4
comp=Z,7.3nm,0.8s,baz=139,slow=3.7,SNR=18
PLM **Palomar** 78.85 48 *e*P P 22 10 18.3 +1.8
PLM **Palomar** 78.85 48 *e*P P 22 10 18.3 +1.8
MONP **Monument Peak,** 78.91 49 ⇑P P 22 10 17.1 +0.2
baz=79
EDW2 **Edwards Air Fo** 78.91 46 ⇑P P 22 10 17.1 +0.4
baz=79
IBP **Imperial Bould** 79.02 49 ⇑P P 22 10 17.8 +0.5
baz=79
ISA **Isabella, Lake** 79.03 46 ⇓P P 22 10 18.1 +0.8
baz=79
SNDA **J Saunders Pla** 79.13 48 *e*PKiKP PKiKP 22 15 47.9 0.0
CMB **Columbia Colle** 79.15 43 *e*P P 22 10 18.6 +0.7
CMB pmax pmax
comp=Z,6.0nm,0.8s
CMB **Columbia Colle** 79.15 43 *e*P P 22 10 18.6 +0.7
comp=Z,5.6nm,0.8s
SWSC **Sam W. Stewart** 79.38 49 ⇑P P 22 10 19.6 +0.4
baz=80
LRMC **Laurel Mtn Rad** 79.45 46 ⇓P P 22 10 20.5 +0.8
baz=80
N02D **Trinity Center** 79.50 39 ⇓P P 22 10 21.4 +1.7
baz=80
M02C **Callahan** 79.67 39 ⇓P P 22 10 21.6 +1.0
baz=80
BELC **Belle Mtn. Jos** 79.80 48 ⇑P P 22 10 22.4 +0.8
baz=80
NJ2 **Nanjing** 79.80 310 *e*P P 22 10 21.6 +0.2
NJ2 PMZ
comp=Z,30nm,0.9s
OHAK **Old Harbor** 79.83 13 *e*P P 22 10 21.3 +0.4
MPMC **Manual Prospec** 79.91 46 ⇑P P 22 10 22.8 +0.6
baz=80
GSC **Goldstone, Bar** 79.95 47 ⇑P P 22 10 22.8 +0.5
baz=80
YBH **Yreka Blue Hor** 79.97 39 *e*P P 22 10 23.4 +1.2
YBH pmax pmax
comp=Z,7.0nm,0.8s
YBH **Yreka Blue Hor** 79.97 39 *e*P P 22 10 23.4 +1.2
comp=Z,6.9nm,0.8s
BC3 **Big Chuckawall** 80.00 49 ⇑P P 22 10 23.5 +0.9
baz=80
HEC **Hector,Ludlow** 80.02 47 ⇑P P 22 10 23.5 +0.9
baz=80
WAKR **Walker** 80.03 43 *e*P P 22 10 23.8 +1.1
HUMO **Hull Mountain** 80.37 38 *e*P P 22 10 25.5 +1.3
comp=Z,13nm,1.3s
GMRC **Granite Mounta** 80.46 48 ⇑P P 22 10 25.5 +0.5
baz=81
IRM **Iron Mountain** 80.48 48 ⇓P P 22 10 25.9 +0.9
baz=81
KDAK **Kodiak Island** 80.50 13 *i* P P 22 10 25.1 +0.7
M04C **Macdoel** 80.51 39 ⇑P P 22 10 26.1 +0.9
baz=81
Y12C **Blythe** 80.71 49 ⇓P P 22 10 26.7 +0.5
baz=81
NV01 **Mina Array Sit** 80.71 43 *e*P P 22 10 26.6 +0.2
NVAR **Mina Array Bea** 80.71 43 P P 22 10 26.9 +0.6
comp=Z,4.3nm,0.8s,baz=224,slow=8.0,SNR=19
113A **Mohawk Valley,** 80.74 50 ⇓P P 22 10 27.2 +0.9
baz=81
I03D **Drain, OR** 80.84 37 ⇑P P 22 10 27.8 +1.2
baz=81
LDFC **Landfair** 81.00 48 *e*P P 22 10 29.2 +1.4
comp=Z,23nm,1.0s
214A **Organ Pipe Nat** 81.02 51 ⇑P P 22 10 28.9 +1.1
baz=81
TPH **Tonopah** 81.21 44 *e*P P 22 10 30.3 +1.3

TPH pmax pmax
comp=Z,5.0nm,0.7s
TPH **Tonopah** 81.21 44 *e*P P 22 10 30.3 +1.3
comp=Z,5.0nm,0.7s
TPNV **Topopah Spring** 81.23 45 *e*P P 22 10 30.5 +1.4
TPNV pmax pmax
comp=Z,6.0nm,1.2s
TPNV **Topopah Spring** 81.23 45 *e*P P 22 10 30.5 +1.4
comp=Z,6.0nm,1.2s
TPNV **Topopah Spring** 81.23 45 ⇑P P 22 10 29.9 +0.9
baz=81
J04D **Umpqua Nationa** 81.25 38 ⇑P P 22 10 29.7 +0.6
baz=81,SNR=5.9
PDMCI **Parker Dam,Lak** 81.27 49 ⇓P P 22 10 29.7 +0.7
baz=81
I04A **Tendick Farm,** 81.43 37 ⇓P P 22 10 30.4 +0.7
baz=82
Z14A **Wintersburg** 81.63 50 ⇓P P 22 10 31.2 +0.2
baz=82
K05A **Summer Lake** 81.64 39 *e*P P 22 10 32.0 +1.0
comp=Z,23nm,0.9s
J05D **Fort Rock, OR** 81.79 38 ⇑P P 22 10 32.4 +0.7
baz=82,SNR=20
W13A **Hualapai Mount** 81.86 48 ⇓P P 22 10 32.5 +0.1
baz=82
MAW **Mawson** 81.89 200 P P 22 10 32.2 +0.5
comp=Z,5.7nm,0.8s,baz=158,slow=2.2,SNR=4.9
MAW **Mawson** 81.89 200 *e*P P 22 10 32.2 +0.5
MAW pmax pmax
comp=Z,38nm,2.6s
MAW **Mawson** 81.89 200 *e*P P 22 10 32.2 +0.5
comp=Z,38nm,2.6s
H04A **Detroit Lake** 82.11 36 *e*P P 22 10 33.5 +0.4
comp=Z,7.1nm,0.6s
CN2 **Changchun** 82.16 322 *e*P P 22 10 37.7 +4.3
CN2 PMZ
comp=Z,20nm,1.0s
I05D **Terrebonne, OR** 82.37 37 ⇑P P 22 10 35.6 +1.0
baz=83
R11A **Troy Canyon, C** 82.44 45 *e*P P 22 10 35.7 +0.5
comp=Z,4.0nm,1.0s
R11A **Troy Canyon, C** 82.44 45 ⇑P P 22 10 35.9 +0.7
baz=83
E03A **Lebam** 82.53 34 *e*P P 22 10 36.5 +1.3
comp=Z,24nm,0.9s
BMN **Battle Mountai** 82.54 42 *e*P P 22 10 36.5 +0.8
BMN pmax pmax
comp=Z,11nm,1.1s
BMN **Battle Mountai** 82.54 42 *e*P P 22 10 36.5 +0.8
comp=Z,11nm,1.1s
TUC **Tucson** 82.68 52 *e*P P 22 10 38.1 +1.6
TUC pmax pmax
comp=Z,11nm,1.0s
TUC **Tucson** 82.68 52 *e*P P 22 10 38.1 +1.6
comp=Z,11nm,1.0s
WVOR **Wild Horse Val** 82.81 40 *e*P P 22 10 37.8 +0.8
WVOR pmax pmax
comp=Z,8.0nm,0.8s
WVOR **Wild Horse Val** 82.81 40 *e*P P 22 10 37.8 +0.8
comp=Z,7.7nm,0.8s
LVP **Lakeview Peak** 82.85 35 *e*P P 22 10 37.6 +0.5
NLWA **Neilton Lookou** 82.91 34 *e*P P 22 10 38.2 +0.9
comp=Z,10nm,0.9s
OOW **Octopus West** 82.97 33 *e*P P 22 10 39.6 +2.1
X16A **Lo Mia Camp, P** 83.25 50 ⇓P P 22 10 40.6 +1.2
baz=83
I07A **Izee** 83.27 38 *e*P P 22 10 40.2 +1.0
comp=Z,12nm,0.9s
G06A **Carlson Farm,** 83.31 37 *e*P P 22 10 39.5 +0.2
comp=Z,58nm,2.3s
319A **Douglas** 83.36 53 ⇓P P 22 10 40.4 +0.4
baz=84
U15A **North Rim** 83.66 48 ⇓P P 22 10 42.0 +0.5
baz=84
PIER **Pier 30 Seattl** 83.83 34 *e*PKiKP PKiKP 22 15 53.4 -1.1
WUAZ **Wupatki** 83.84 49 ⇑P P 22 10 43.2 +0.8
baz=84
ELK **Elko** 83.97 43 *e*P P 22 10 43.5 +0.5
ELK pmax pmax
comp=Z,5.0nm,1.1s
ELK **Elko** 83.97 43 *e*P P 22 10 43.5 +0.5
comp=Z,5.0nm,1.1s
X18A **Snowflake** 84.37 50 ⇓P P 22 10 45.3 +0.2
baz=84
LTY **Liberty** 84.53 35 *e*P P 22 10 46.1 +0.8
comp=Z,4.9nm,1.0s
ETW **Emtiaz** 84.92 35 *e*P P 22 10 47.6 +0.3
BMO **Blue Mountains** 85.00 38 *e*P P 22 10 48.1 +0.3
comp=Z,3.6nm,0.8s
121A **Cookes Peak, D** 85.02 53 ⇑P P 22 10 49.0 +0.7
baz=85
DUG **Dugway, Tooele** 85.24 44 ⇑P P 22 10 49.5 +0.4
baz=85
F10A **Beach Ranch, E** 85.68 38 *e*P P 22 10 51.7 +0.6
comp=Z,15nm,0.8s
CAST **Castle Rocks** 85.76 11 *e*P P 22 10 49.6 -1.4
comp=Z,13nm,1.0s
B08A **Colville Reser** 85.91 35 *e*P P 22 10 52.0 -0.1
comp=Z,4.4nm,0.6s
HLID **Hailey** 86.01 41 *e*P P 22 10 53.6 +0.8
comp=Z,2.8nm,0.8s
HLID **Hailey** 86.01 41 ⇓P P 22 10 53.3 +0.4
baz=86,SNR=7.2
KTH **Kantishna Hill** 86.10 12 *e*P P 22 10 51.5 -1.1
comp=Z,11nm,1.0s
SEY **Seymchan** 86.12 347 P P 22 10 52.4 -0.3
comp=Z,15nm,0.8s,baz=147,slow=5.8,SNR=34
SEY **Seymchan** 86.12 347 *i* P P 22 10 52.6 -0.1
TRF **Thorofare Moun** 86.13 12 *e*P P 22 10 52.1 -0.8
comp=Z,20nm,0.8s
SRU **San Rafael Swe** 86.22 46 *e*P P 22 10 54.6 +0.6
SRU pmax pmax
comp=Z,19nm,1.7s
SRU **San Rafael Swe** 86.22 46 *e*P P 22 10 54.6 +0.6
comp=Z,19nm,1.7s
RND **Reindeer** 86.38 13 *e*P P 22 10 53.8 -0.2
RND pmax pmax
comp=Z,34nm,0.9s
RND **Reindeer** 86.38 13 *e*P P 22 10 53.8 -0.2
comp=Z,34nm,0.9s
MNTX **Cornudas Mount** 86.46 55 *e*P P 22 10 56.3 +1.2
comp=Z,8.4nm,0.9s
MNTX **Cornudas Mount** 86.46 55 ⇓P P 22 10 55.6 +0.5
baz=87
BNM **Barren Site** 86.62 52 *e*P P 22 10 57.0 +0.9
GYA **Guiyang** 86.63 300 *e*P P 22 10 55.9 -0.2
GYA pP pP 22 12 35.4 +7.6
GYA sP sP 22 13 20.2 +11
GYA PP PP 22 14 27.6 +2.4
GYA SKS SKSac 22 20 39.0 -5.3
GYA S SKKSac 22 20 55.2 +1.3
GYA PMZ
comp=Z,10.0nm,1.0s
MCK **McKinley** 86.66 12 *e*P P 22 10 55.3 +0.1
MCK pmax pmax
comp=Z,28nm,1.1s
MCK **McKinley** 86.66 12 *e*P P 22 10 55.3 +0.1
comp=Z,28nm,1.1s
TX31 **Lajitas Ar. Si** 86.78 57 *e*P P 22 10 57.7 +0.9
LTX **Lajitas** 86.78 57 *e*P P 22 10 57.4 +0.6
LTX **Lajitas** 86.78 57 *e*P P 22 10 57.4 +0.6
TXAR **Lajitas Array** 86.78 57 P P 22 10 57.4 +0.6
comp=Z,3.0nm,0.8s,baz=215,slow=5.7,SNR=16
TXAR **Lajitas Array** 86.78 57 P P 22 10 57.4 +0.6
TXAR pmax pmax
comp=Z,3.0nm,0.8s
SYO **Syowa Base** 87.04 193⇑*e*P P 22 10 55.0 -2.1
NEW **Newport** 87.05 36 ⇑P P 22 10 58.0 +0.5
baz=87
ANMO **Albuquerque** 87.11 51⇑*i*P P 22 10 58.9 +0.6
ANMO pmax pmax
comp=Z,12nm,0.9s
ANMO **Albuquerque** 87.11 51 *e*P P 22 10 59.0 +0.7
comp=Z,3.5nm,0.9s
DDM **Donnelly Dome** 87.35 14 *e*P P 22 10 59.3 +0.7
comp=Z,392nm,3.0s
MLY **Manley** 87.48 11 *e*P P 22 10 58.2 -1.0
comp=Z,5.5nm,0.6s
WRH **Wood River Hil** 87.48 12 *e*P P 22 10 58.7 -0.4
comp=Z,19nm,0.9s
MCMT **McKenzie Canyo** 87.64 40 *e*P P 22 11 01.4 +0.8
CCB **Clear Creek Bu** 87.70 12 *e*P P 22 10 59.0 -1.1
comp=Z,36nm,1.2s
IM04 **Indian Mountai** 87.83 10 *e*P P 22 11 00.2 -0.5
COLA **College** 87.89 12*c i*P P 22 11 00.4 -0.6
COLA pmax pmax
comp=Z,108nm,1.0s

COLA	College	87.89	12	*e*P		P	22 11 00.2	-0.8		
	comp=Z,25nm,0.6s									
MDM	Murphy Dome	87.89	12	*e*P		P	22 11 00.1	-0.9		
	comp=Z,20nm,1.0s									
IL1	Eielson Array	88.00	13	*e*P		P	22 10 59.4	-2.1		
ILAR	Eielson Array	88.00	13	P		P	22 11 00.8	-0.7		
	comp=Z,6.0nm,0.8s,baz=228,slow=5.6,SNR=48									
ILAR	Eielson Array	88.00	13	P		P	22 11 00.8	-0.7		
ILAR				pmax	pmax					
	comp=Z,6.0nm,0.8s									
ILB	Eielson Array	88.00	13	*e*P		P	22 11 00.8	-0.7		
MSO	Missoula	88.05	38	⇑P		P	22 11 03.3	+1.0		
	baz=88									
XAN	Xi'an	88.07	307	P		P	22 11 03.2	+0.5		
XAN				PMZ						
	comp=Z,3.0nm,0.8s									
S22A	4UR Ranch, Cre	88.11	49	*e*P		P	22 11 04.0	+0.8		
	comp=Z,3.6nm,0.8s									
S22A	4UR Ranch, Cre	88.11	49	⇑P		P	22 11 03.3	+0.2		
	baz=88									
SNOW	Snow King Moun	88.23	42	*e*P		P	22 11 05.3	+1.8		
	comp=Z,6.3nm,0.6s									
529A	Stev Forest Ra	88.25	57	⇓P		P	22 11 04.0	+0.3		
	baz=88									
SNAA	Sanae	88.30	178	P		P	22 11 03.2	0.0		
SNAA	Sanae	88.30	178	*ce*P		P	22 11 03.2	0.0		
SNAA				pmax	pmax					
	comp=Z,3.0nm,0.5s									
IMW	Indian Meadow	88.33	42	*e*P		P	22 11 04.9	+0.9		
	comp=Z,4.6nm,0.9s									
MOOW	Moose Ponds	88.38	42	*e*P		P	22 11 05.2	+1.1		
	comp=Z,11nm,1.8s									
LRM	Limekiln Ridge	88.39	39	*e*P		P	22 11 05.1	+0.9		
VNA3	Neumayer Olymp	88.42	176	P		P	22 11 03.9	+0.3		
CHMT	Chamberlain Mo	88.50	38	*e*P		P	22 11 04.6	0.0		
N20A	Spence Gulch,	88.57	45	⇑P		P	22 11 05.2	+0.1		
	baz=89									
FLWY	Flagg Ranch	88.58	42	*e*P		P	22 11 01.0	-4.0		
	comp=Z,22nm,1.6s									
BW06	Boulder Array	88.65	43	*e*P		P	22 11 05.5	0.0		
PD31	Pinedale Array	88.65	43	*e*P		P	22 11 05.4	0.0		
PDAR	Pinedale Array	88.65	43	P		P	22 11 05.4	0.0		
	comp=Z,2.7nm,0.7s,baz=213,slow=1.1,SNR=19									
429A	Davenport Ranc	88.71	57	⇓P		P	22 11 06.0	+0.3		
	baz=89									
H17A	Grant Village	88.81	41	*e*P		P	22 11 08.1	+1.9		
	comp=Z,5.3nm,1.0s									
H17A	Grant Village	88.81	41	⇓P		P	22 11 06.6	+0.5		
	baz=89									
VNA2	Neumayer--Watz	88.87	177	P		P	22 11 06.2	+0.5		
	baz=192,slow=3.7									
530A	J-C Ranch, Com	88.96	57	⇓P		P	22 11 07.1	+0.2		
	baz=89									
329A	Wagon Wheel Ra	89.00	56	⇓P		P	22 11 07.3	+0.2		
	baz=89									
NVL	N'lazarevskaya	89.02	183	⇓*i*P		P	22 10 58.7	-7.7		
NVL				pmax	pmax					
	comp=Z,11nm,0.7s									
SDCO	Great Sand Dun	89.05	49	*e*P		P	22 11 08.2	+0.7		
	comp=Z,3.6nm,1.2s									
SDCO	Great Sand Dun	89.05	49	⇑P		P	22 11 07.3	-0.2		
	baz=89									
128A	Castleberry Fa	89.08	55	⇑P		P	22 11 07.9	+0.5		
	baz=89									
VNA1	Neumayer--Stat	89.09	177	P		P	22 11 07.2	+0.5		
DAWY	Dawson	89.14	16	*e*P		P	22 11 07.1	+0.1		
J19A	Crowheart	89.22	43	⇓P		P	22 11 07.8	-0.2		
	baz=89,SNR=6.6									
HHC	Hu-ho-hao-te	89.25	314	*e*P		P	22 11 08.5	+0.4		
HHC				PP		PP	22 14 49.0	+3.3		
HHC				SKS		SKSac	22 20 54.7	-4.5		
HHC				S		S	22 21 18.2	-4.6		
HHC				sS		sS	22 24 17.5	+10		
HHC				SS		SS	22 27 29.1	+0.3		
HHC				PMZ						
	comp=Z,26nm,1.1s									
HHC				PMZ						
	comp=Z,77nm,5.4s									
WALA	Waterton Lakes	89.26	36	*e*P		P	22 11 08.7	+0.7		
	comp=Z,30nm,2.1s									
631A	Perdido Creek	89.27	58	⇑P		P	22 11 08.4	+0.1		
	baz=89									
EGAK	Eagle	89.28	15	*e*P		P	22 11 07.9	+0.3		
	comp=Z,16nm,0.9s									
832A	Faith Ranch, C	89.30	60	⇓P		P	22 11 08.5	0.0		
	baz=89									
KMI	Kunming	89.34	297	P		P	22 11 10.5	+1.5		
KMI				PMZ						
	comp=Z,7.0nm,0.8s									
O22A	Kremmling	89.42	47	⇑P		P	22 11 09.7	+0.6		
	baz=90									
H18A	Shoshone NF, C	89.52	41	⇓P		P	22 11 09.7	+0.3		
	baz=90									
COLD	Coldfoot	89.56	10	*e*P		P	22 11 09.0	+0.2		
	comp=Z,11nm,0.8s									
531A	Rocksprings	89.59	58	⇓P		P	22 11 09.7	-0.2		
	baz=90									
N22A	Wattenberg Ran	89.77	46	⇓P		P	22 11 10.9	+0.2		
	baz=90									
J20A	Shoshoni	89.88	43	⇓P		P	22 11 11.3	+0.3		
	baz=90,SNR=8.3									
632A	Uvalde	89.94	59	⇓P		P	22 11 11.4	0.0		
	baz=90									
H19A	Powell	89.94	42	⇑P		P	22 11 11.7	+0.5		
	baz=90									
Z29A	Hungry Hill Ra	89.94	54	⇓P		P	22 11 11.6	+0.2		
	baz=90									
M22A	Cedar Creek Ra	89.95	45	⇓P		P	22 11 11.9	+0.4		
	baz=90									
RLMT	Red Lodge	89.98	41	*e*P		P	22 11 12.4	+0.9		
	comp=Z,3.6nm,0.8s									
532A	Rocksprings	90.08	58	⇑P		P	22 11 12.5	+0.3		
	baz=90									
CM01	Chiang Mai Arr	90.12	289	*e*P		P	22 11 12.6	+0.1		
I20A	Worland	90.13	43	⇓P		P	22 11 12.4	+0.3		
	baz=90									
CM31	Chiang Mai Arr	90.15	290	*e*P		P	22 11 14.1	+1.4		
CMAR	Chiang Mai Arr	90.15	290	P		P	22 11 14.1	+1.4		
	comp=Z,2.4nm,0.8s,baz=118,slow=3.0,SNR=19									
CMAR	Chiang Mai Arr	90.15	290	P		P	22 11 14.1	+1.4		
CMAR				pmax	pmax					
	comp=Z,2.0nm,0.8s									
N23A	Red Feather La	90.16	46	*e*P		P	22 11 13.8	+1.3		
	comp=Z,4.9nm,1.1s									
N23A	Red Feather La	90.16	46	⇑P		P	22 11 12.6	+0.1		
	baz=90									
CHTO	Chiang Mai	90.28	290	*e*P		P	22 11 14.4	+1.2		
CHTO				pmax	pmax					
	comp=Z,5.0nm,0.7s									
CHTO	Chiang Mai	90.28	290	*e*P		P	22 11 14.4	+1.2		
	comp=Z,4.8nm,0.7s									
J21A	Lysite	90.29	43	⇓P		P	22 11 13.1	+0.2		
	baz=90,SNR=8.1									
035A	Encino	90.31	61	⇓P		P	22 11 13.3	+0.1		
	baz=90									
L22A	Ellis Ranch, M	90.34	45	⇑P		P	22 11 13.7	+0.4		
	baz=90									
Z30A	Sanderson Ranc	90.39	55	⇑P		P	22 11 14.1	+0.6		
	baz=90									
633A	Sauthoff Ranch	90.41	59	⇑P		P	22 11 13.6	0.0		
	baz=90									
X29A	Tulia	90.43	53	⇑P		P	22 11 13.6	-0.1		
	baz=91									
S26A	Kim	90.45	50	⇑P		P	22 11 13.7	-0.1		
	baz=91									
432A	Menard	90.47	57	⇓P		P	22 11 13.7	-0.2		
	baz=91									
231A	Bronte	90.48	56	⇑P		P	22 11 13.7	-0.2		
	baz=91									
F19A	Roth Farm, Mol	90.53	41	⇓P		P	22 11 13.8	-0.1		
	baz=91									
M23A	Laramie	90.56	46	⇓P		P	22 11 14.4	+0.1		
	baz=91									
I21A	Big Trails, Te	90.60	43	⇓P		P	22 11 14.2	-0.2		
	baz=91,SNR=7.8									
G20A	Bridger	90.68	42	⇑P		P	22 11 14.9	+0.2		
	baz=91									
332A	Millersview	90.71	57	⇑P		P	22 11 14.8	-0.2		
	baz=91									
131A	Roby	90.71	55	⇓P		P	22 11 15.3	+0.3		
	baz=91									
W29A	Amarillo	90.74	53	⇑P		P	22 11 15.3	+0.1		
	baz=91									
CD2	Chengdu	90.75	303	*e*P		P	22 11 15.1	-0.1		
R26A	Arlington	90.75	49	⇓P		P	22 11 14.7	-0.5		
	baz=91									
L23A	Garrett	90.87	45	⇓P		P	22 11 15.2	-0.5		
	baz=91,SNR=7.3									
E19A	Rath Farm, Rou	90.92	40	⇑P		P	22 11 16.0	+0.3		
	baz=91									
J22A	Midwest	90.94	44	⇓P		P	22 11 15.5	-0.5		
	baz=91,SNR=6.0									
Q26A	Hugo	90.97	49	⇓P		P	22 11 16.2	0.0		
	baz=91									
433A	Art	90.98	58	⇓P		P	22 11 15.7	-0.6		
	baz=91									
I22A	9 Mile Ranch,	91.16	43	⇓P		P	22 11 17.0	+0.1		
	baz=91									
Z31A	Sharp Cattle R	91.16	55	⇓P		P	22 11 17.1	+0.1		
	baz=91									
534A	Blanco	91.19	58	⇓P		P	22 11 17.3	+0.1		
	baz=91									
ABTX	Abilene, Hawle	91.27	56	⇓P		P	22 11 17.6	0.0		
	baz=92									
C19A	Slack Wire Ran	91.38	39	⇓P		P	22 11 18.1	+0.4		
	baz=92									
434A	Burnet	91.65	58	⇑P		P	22 11 19.3	0.0		
	baz=92									
Z32A	Haskell	91.67	55	⇑P		P	22 11 19.6	+0.2		
	baz=92									
B19A	Brinkman Farms	91.78	38	⇓P		P	22 11 20.1	+0.5		
	baz=92									
334A	Lometa	91.87	57	⇑P		P	22 11 20.3	-0.1		
	baz=92									
R28A	Tribune	91.94	50	⇑P		P	22 11 20.8	+0.2		
	baz=92									
C20A	Veseth Ranch,	91.99	39	⇑P		P	22 11 20.9	+0.4		
	baz=92									
J24A	Dixon Ranch, L	92.09	44	⇓P		P	22 11 21.4	+0.2		
	baz=92									
A19A	Klindworth Far	92.13	38	⇑P		P	22 11 21.8	+0.6		
	baz=92									
D21A	La Casta Ranch	92.29	40	⇓P		P	22 11 22.8	+0.9		
	baz=92									
K25A	Mack Ranch, Ha	92.30	45	⇓P		P	22 11 23.1	+0.9		
	baz=92									
134A	White-Moore Ra	92.47	56	⇓P		P	22 11 23.4	+0.4		
	baz=93									
A20A	Cobblestone Ra	92.58	38	⇓P		P	22 11 23.7	+0.5		
	baz=93									
F23A	Volborg	92.67	42	⇑P		P	22 11 24.3	+0.6		
	baz=93									
Q29A	Oakley	92.76	50	⇑P		P	22 11 23.8	-0.5		
	baz=93									
H24A	Dirks Ranch, A	92.78	43	⇑P		P	22 11 24.2	-0.1		
	baz=93									
K26A	Motz Farm, Whi	92.81	45	⇓P		P	22 11 25.1	+0.6		
	baz=93									
D22A	Cohagen	92.83	40	⇑P		P	22 11 24.8	+0.4		
	baz=93									
RSSD	Black Hills	92.84	44	*e*P		P	22 11 24.8	0.0		
RSSD				pmax	pmax					
	comp=Z,7.0nm,1.1s									
RSSD	Black Hills	92.84	44	*e*P		P	22 11 24.8	0.0		
	comp=Z,6.7nm,1.1s									
I25A	Rochford	93.00	44	⇓P		P	22 11 25.6	+0.2		
	baz=93									
A21A	Bergtoll Ranch	93.22	39	⇑P		P	22 11 26.5	+0.4		
	baz=93									
Q30A	Quinter	93.34	50	⇓P		P	22 11 27.1	+0.1		
	baz=94									
H25A	Fruitdale	93.34	44	⇓P		P	22 11 27.3	+0.5		
	baz=94									
P30A	Selden	93.54	49	⇓P		P	22 11 28.5	+0.6		
	baz=94									
J27A	Elkhorn Farm,	93.81	45	⇓P		P	22 11 29.4	+0.3		
	baz=94									
INK	Inuvik	93.95	15	*e*P		P	22 11 28.4	-0.6		
INK				pmax	pmax					
	comp=Z,11nm,1.3s									
INK	Inuvik	93.95	15	*e*P		P	22 11 28.4	-0.6		
	comp=Z,11nm,1.3s									
C24A	Savage	94.06	41	⇓P		P	22 11 31.0	+0.9		
	baz=94									
B23A	Brockton	94.13	40	⇓P		P	22 11 30.9	+0.6		
	baz=94									
H29A	Onida	95.55	44	⇓P		P	22 11 37.2	+0.3		
	baz=96									
YKA	Yellowknife Ar	96.19	25	P		P	22 11 38.9	-0.4		
	comp=Z,0.4nm,0.6s,baz=245,slow=4.5,SNR=8.1									
YKB5	Yellowknife Ar	96.19	25	*e*P		P	22 11 38.9	-0.4		
TIXI	Tiksi	98.50	345	P		Pdif	22 11 49.0	-0.4		
TIXI				pmax	pmax					
	comp=Z,1.0nm,0.6s									
LPAZ	La Paz	102.04	112	P		Pdif	22 12 05.9	-1.4		
	baz=102,SNR=3.1									
ZAA1	Zalesovo Array	110.35	321	*e*PKiKP		PKiKP	22 16 39.8	-1.3		
ZALV	Zalesovo Beam	110.35	321	PKiKP		PKiKP	22 16 39.8	-1.3		
	comp=Z,0.5nm,0.4s,baz=108,slow=0.7,SNR=3.8									
ZALV	Zalesovo Beam	110.35	321	*i* PKiKP		PKiKP	22 16 39.8	-1.3		
ZALV				pmax	pmax					
	comp=Z,1.0nm,0.4s									
MK32	Makanchi Array	111.10	313	*e*PKiKP		PKiKP	22 16 41.6	-1.2		
MKAR	Makanchi Array	111.10	313	PKiKP		PKiKP	22 16 41.6	-1.2		
	comp=Z,0.7nm,0.7s,baz=260,slow=4.9,SNR=6.0									
MKAR	Makanchi Array	111.10	313	*i* PKiKP		PKiKP	22 16 41.6	-1.2		
MKAR				pmax	pmax					
	comp=Z,1.0nm,0.7s									
KSH	Kashi	114.84	305	*e*PKP		PKPdf	22 16 51.5	+1.2		
KSH				PP		PP	22 18 01.1	+5.2		
KSH				*es*PKP			22 19 12.8			
KSH				PKS		PKSdf	22 20 27.3	+0.2		
KSH				PPMZ						
	comp=Z,63nm,4.2s									
ARU	Arti	125.04	326	*i* PKiKP		PKPdf	22 17 08.1	-1.1		
ARA0	ARCESS Array S	128.66	350	*e*PKPdf		PKPdf	22 17 15.4	-0.4		
ARCES	ARCESS Array B	128.66	350	PKP		PKPdf	22 17 15.4	-0.4		
	comp=Z,1.5nm,0.5s,baz=26,slow=1.1,SNR=19									
ARCES	ARCESS Array B	128.66	350	PKiKP		PKPdf	22 17 15.4	-0.4		
ARCES				pmax	pmax					
	comp=Z,2.0nm,0.5s									
FIA0	FINESS Array S	135.53	344	*e*PKHKP		PKPpre	22 17 16.0			
FIA0				*e*			22 17 29.7			
FIA0				*e*			22 20 20.7			
FIA0	FINESS Array S	135.53	344	*e*PKPpre		PKPpre	22 17 15.9			
FIA0				*e*PKPdf		PKiKP	22 17 29.7	-0.9		
FIA0				*e*SKPbc		SKPbc	22 20 20.7	-1.2		
FINES	FINESS Array B	135.53	344	PKhKP		PKPpre	22 17 15.9			
	comp=Z,0.5nm,0.6s,baz=50,slow=3.0,SNR=4.6									
FINES				PKP		PKiKP	22 17 29.7	-0.9		
	comp=Z,1.0nm,0.4s,baz=188,slow=0.2,SNR=13									
FINES				SKPbc		SKPbc	22 20 20.7	-1.2		
	comp=Z,1.5nm,0.8s,baz=46,slow=6.0,SNR=6.0									
FINES	FINESS Array B	135.53	344	PKHKP		PKPpre	22 17 16.0			
FINES							22 17 29.7			
FINES							22 20 20.7			
FINES				pmax	pmax					
	comp=Z,1.0nm,0.6s									
FINES				pmax	pmax					
	comp=Z,1.0nm,0.4s									
FINES				pmax	pmax					
	comp=N,2.0nm,0.9s									
NB200	NORSAR Array S	138.71	353	*e*PKPpre		PKPpre	22 17 25.1			
NB200				*e*PKPdf		PKiKP	22 17 36.0	-1.1		
NOA	NORSAR Array B	138.71	353	PKhKP		PKPpre	22 17 25.1			
	comp=N,0.8nm,0.6s,baz=16,slow=5.0,SNR=5.6									
NOA				PKP		PKiKP	22 17 36.0	-1.1		
	comp=N,1.2nm,0.7s,baz=14,slow=4.0,SNR=3.8									
NOA	NORSAR Array B	138.71	353	PKHKP		PKPpre	22 17 25.1			
NOA							22 17 36.0			
NOA				pmax	pmax					
	comp=Z,1.0nm,0.6s									
NOA				pmax	pmax					
	comp=Z,1.0nm,0.7s									
KMBO	Kilima Mbogo	139.60	243	*i* PKHKP		PKPpre	22 17 34.0			
KMBO				pmax	pmax					
	comp=Z,1.0nm,0.3s									
AKASG	Malin Array Be	142.83	331	PKhKP		PKPpre	22 17 38.3			
	comp=Z,3.1nm,0.4s,baz=42,slow=4.2,SNR=19									
AKASG				SKPbc		SKPbc	22 20 40.5	-1.6		
	comp=Z,0.3nm,0.3s,baz=40,slow=2.0,SNR=4.7									
AKBB	Malin Array Si	142.83	331	*e*PKHKP		PKPpre	22 17 38.3			
AKBB	Malin Array Si	142.83	331	*e*PKPpre		PKPpre	22 17 38.3			
AKBB				*e*SKPbc		SKPbc	22 20 40.5	-1.6		
KIEV	Kiev	142.84	331	*i* PKiKP		PKPdf	22 17 42.0	-0.5		
SHEL	Horse Pasture	143.23	167	*i* PKiKP		PKPdf	22 17 44.8	+0.5		
BSD	Bornholm Skovb	143.83	348	*i* P		PKPab	22 17 42.2	-0.4		
	comp=Z,6.3nm,0.4s									
BSD	Bornholm Skovb	143.83	348	*i* PKHKP		PKPdf	22 17 42.2	-1.9		
BSD				pmax	pmax					
	comp=Z,6.0nm,0.4s									
LLD	Lille Linde	144.11	350	*i* P		PKPab	22 17 43.6	0.0		
LLD	Lille Linde	144.11	350	*i* PKHKP		PKPab	22 17 43.6	0.0		
ESK	Eskdalemuir	144.71	5	*i* PKiKP		PKPdf	22 17 45.6	0.0		
GKP	Gorka Klasztor	145.00	344	*e*PKP		PKPab	22 17 46.7	-0.3		
GKP	Gorka Klasztor	145.00	344	*e*PKiKP		PKPab	22 17 46.8	-0.3		
LEOM	Leova	146.21	327	⇓PKiKP		PKPbc	22 17 50.0	-0.3		
LEOM	Leova	146.21	327	⇓*i*P		PKPbc	22 17 50.0	-0.3		
KWP	Kalwaria Pacla	146.37	336	*e*PKP		PKPbc	22 17 50.4	-0.3		
KWP	Kalwaria Pacla	146.37	336	*e*PKiKP		PKPbc	22 17 50.3	-0.4		
KWP	Kalwaria Pacla	146.37	336	⇓*i*P		PKPbc	22 17 50.4	-0.4		
KWP	Kalwaria Pacla	146.37	336	*e*PKPdf		PKPbc	22 17 50.3	-0.4		
PRAR	RASCA	146.59	330	⇑*i*P		PKPbc	22 17 51.7	+0.3		
BR101	Keskin Array S	146.75	313	*e*PKPdf		PKPbc	22 17 51.5	-0.7		
BRTR	Keskin Array B	146.75	313	PKPbc		PKPbc	22 17 51.5	-0.7		
	comp=Z,2.8nm,0.7s,baz=144,slow=5.8,SNR=21									
BRTR	Keskin Array B	146.75	313	PKiKP		PKPbc	22 17 51.6	-0.7		
BRTR				pmax	pmax					
	comp=Z,3.0nm,0.7s									
TLCR		146.75	325	⇓PKiKP		PKPbc	22 17 52.0	+0.2		
TLCR		146.75	325	⇓*i*P		PKPbc	22 17 52.0	+0.2		
BUR04	Bucovina Ar. S	146.88	331	*e*PKPdf		PKPbc	22 17 51.5	-0.8		
BURAR	Bucovina Array	146.88	331	⇓PKiKP		PKPbc	22 17 53.0	+0.7		
BURAR	Bucovina Array	146.88	331	⇓*i*P		PKPbc	22 17 53.0	+0.7		
OJC	Ojcow	146.94	339	*e*PKP		PKPbc	22 17 51.8	-0.4		
OJC	Ojcow	146.94	339	*e*PKiKP		PKPbc	22 17 51.9	-0.4		
OJC	Ojcow	146.94	339	*e*PKPdf		PKPbc	22 17 51.9	-0.4		
TESR	Tescani	146.99	328	⇑*i*P		PKPbc	22 17 52.0	-0.5		
STHS	Stebnicka Huta	147.10	337	*e*PKiKP		PKPbc	22 17 52.9	+0.2		
STHS	Stebnicka Huta	147.10	337	*e*PKP		PKPbc	22 17 52.9	+0.2		
KOLS	Kolonicke sedl	147.10	335	*e*PKiKP		PKPbc	22 17 53.0	+0.3		
KOLS	Kolonicke sedl	147.10	335	*e*PKP		PKPbc	22 17 53.0	+0.3		
CFR	Carcaliu	147.13	325	⇓PKiKP		PKPbc	22 17 52.4	-0.5		
CFR	Carcaliu	147.13	325	⇓*i*P		PKPbc	22 17 52.4	-0.5		
BR231	Keskin MP Arra	147.29	313	*e*PKPdf		PKPdf	22 17 51.0	+0.4		
UZH	Uzhgorod	147.34	335	⇓PKiKP		PKPbc	22 17 53.1	-0.2		
UZH				*e*			22 17 55.1			
VRI	Vrincioaia	147.40	327	⇑PKiKP		PKPbc	22 17 53.5	-0.1		
VRI	Vrincioaia	147.40	327	⇑*i*P		PKPbc	22 17 53.5	-0.1		
NIE	Niedzica	147.44	338	*e*PKP		PKPbc	22 17 53.8	+0.2		
NIE	Niedzica	147.44	338	*e*PKiKP		PKPbc	22 17 53.8	+0.2		
KSP	Ksiaz	147.45	343	*e*PKP		PKPbc	22 17 53.6	0.0		
KSP	Ksiaz	147.45	343	*e*PKiKP		PKPbc	22 17 53.7	+0.1		
HARR	Harsova	147.55	325	⇓PKiKP		PKPbc	22 17 52.4	-1.6		
HARR	Harsova	147.55	325	⇓*i*P		PKPbc	22 17 52.4	-1.6		
MANR	Mangalia	147.74	323	⇑*i*P		PKPbc	22 17 54.8	+0.3		
OKC	Ostrava-Krasne	147.81	340	*e*PKP		PKPbc	22 17 54.4	-0.1		
OKC				*e*PKPAB		PKPab	22 17 59.2	+1.0		
OKC	Ostrava-Krasne	147.81	340	*e*PKiKP		PKPbc	22 17 54.2	-0.1		
OKC				*e*			22 17 59.2			
CLL	Collm	147.81	347	*e*PKPdf		PKPdf	22 17 51.0	0.0		
CLL				⇓*i*PKPbc		PKPbc	22 17 54.2	-0.3		
	comp=Z,26nm,0.7s									
CLL				*i* PKPab		PKPab	22 17 57.6	-0.6		
	comp=Z,9.0nm,0.5s									
CLL				*e*			22 19 39.0			
CLL	Collm	147.81	347	⇓*e*PKHKP		PKPdf	22 17 51.0	0.0		
CLL				*i*			22 17 54.2			
CLL				*i*			22 17 57.6			
CLL				pmax	pmax					
	comp=Z,26nm,0.7s									
CLL				pmax	pmax					
	comp=Z,9.0nm,0.5s									
DPC	Dobruska-Polom	147.89	343	⇑*e*PKP		PKPbc	22 17 55.0	+0.2		
DPC				*e*PKPAB		PKPab	22 17 59.2	+0.6		
DPC				*ex*		x	22 19 38.2			
DPC	Dobruska-Polom	147.89	343	*e*PKiKP		PKPbc	22 17 55.0	+0.2		
DPC				*e*			22 17 59.2			
DOPR	Dopca	147.99	329	⇓*i*P		PKPbc	22 17 55.5	+0.3		
BRG	Berggiesshubel	148.01	346	*i* PKP		PKPbc	22 17 55.0	0.0		
	comp=Z,13nm,0.7s									
BRG				*i*			22 17 58.8			
	comp=Z,6.6nm,0.7s								

ABTA	**Abfaltersbach**	**152.20 345**	⇓*i*PKPbc	**PKPbc**	**22 18 04.1**	**-1.1**
	comp=Z,7.6nm,0.5s,SNR=6.3							
DAVA	**Damuels**	**152.26 349**	⇑*i*PKPbc	**PKPbc**	**22 18 05.5**	**+0.1**
	comp=Z,6.0nm,0.7s							
BOJS	**Bojanci**	**152.55 340**	*i* PKPbc	**PKPbc**	**22 18 05.5**	**-0.3**
JAVS	**Javornik**	**152.57 342**	*i* PKPbc	**PKPbc**	**22 18 05.3**	**-0.7**
LOMF	**Lomont**	**152.66 353**	PKP	**PKPbc**	**22 18 06.2**	**0.0**
FUORN	**Ofenpass-Fuorn**	**152.83 348**	*e*PKPbc	**PKPbc**	**22 18 06.8**	**-0.1**
FUORN			*e*PKPab	**PKPab**	**22 18 20.6**	**+1.0**
BNI	**Bardonecchia**	**154.94 352**	*e*PKP2	**PKPab**	**22 18 29.1**	**+0.6**
BNI	**Bardonecchia**	**154.94 352**	*e*PKPab	**PKPab**	**22 18 29.1**	**+0.6**
ES19	**SONSECA Array**	**159.88 14**	*e*PKPab	**PKPab**	**22 18 50.1**	**+0.3**
ESDC	**Sonseca Array**	**159.90 14**	PKPab	**PKPab**	**22 18 50.7**	**+0.8**
	comp=Z,9.0nm,0.6s,baz=338,slow=6.6,SNR=7.0							
KEST	**Kesra**	**163.29 339**	PKPab	**PKPab**	**22 19 05.1**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=111,slow=4.7,SNR=4.4							
TOA0	**Torodi Ar. Sit**	**172.97 176**	*e*PKPdf	**PKPdf**	**22 18 17.4**	**-1.5**
TOA0			*e*PKPdf	PKPdf	22 18 17.8	-1.1
TOA0			*e*PKPab	**PKPab**	**22 19 48.4**	**+0.4**
TOA0			*e*PKPab	PKPab	22 19 48.6	+0.6
TORD	**Torodi Ar. Bea**	**172.97 176**	PKP	**PKPdf**	**22 18 17.4**	**-1.5**
	comp=Z,1.3nm,0.9s,baz=312,slow=2.0,SNR=6.4							
TORD			PKPab	**PKPab**	**22 19 48.6**	**+0.6**
	comp=Z,2.4nm,0.7s,baz=187,slow=4.0,SNR=19							
TORD			PP	**PP**	**22 23 38.7**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=183,slow=5.1,SNR=7.4							

IDC 12 22:05:39.6±58.0, 12°.34S×168°.58E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/19, mbtmp4.0/3, Error ellipse: s-maj=997.0km s-min=121.5km az=63.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**31.52**	**228**	P	P	22 12 04.2	+0.6
	1.4nm,0.5s,baz=61,slow=10,SNR=4.6						
WRA	**Warramunga Arr**	**33.70**	**253**	P	P	22 12 22.8	-0.1
	0.7nm,0.5s,baz=85,slow=8.5,SNR=6.9						
ASAR	**Alice Springs**	**34.76**	**246**	P	P	22 12 31.5	-0.6
	1.5nm,0.6s,baz=76,slow=9.2,SNR=13						

IDC 12 22:16:30.2±4.2, 3°.98N×128°.00E, h46km±52km, mb3.5/3, mb1 3.7/4, mb1mx3.3/33, mbtmp3.6/4, ML3.0/1, Error ellipse: s-maj=89.3km s-min=26.3km az=58.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.82**	**146**	P	Pn	22 17 54.5	+0.5
	0.4nm,0.3s,baz=0.0,slow=14,SNR=7.1						
SIJI				S	Sn	22 18 59.5	+0.1
	1.3nm,0.3s,baz=222,slow=12,SNR=3.7						
WRA	**Warramunga Arr**	**24.57**	**166**	P	P	22 21 46.2	+0.2
	0.2nm,0.3s,baz=345,slow=10,SNR=3.8						
CMAR	**Chiang Mai Arr**	**31.85**	**299**	P	P	22 22 51.1	0.0
	0.7nm,0.4s,baz=115,slow=7.5,SNR=7.6						
MKAR	**Makanchi Array**	**58.08**	**325**	P	P	22 26 18.6	-0.2
	0.7nm,0.4s,baz=116,slow=5.3,SNR=16						

*ISCJB **12** 22:29:13.8±1.1, 30°.6N±0°.1×137°.9E±0°.1, h477km, mb3.2/4, Error ellipse: s-maj=20.3km s-min=10.7km az=42.7*
*IDC **12** 22:29:14.6±2.1, 30°.69N×137°.79E, h472km±25km, mb2.8/4, mb1 2.9/7, mb1mx2.7/28, mbtmp3.7/7, Error ellipse: s-maj=52.8km s-min=18.8km az=77.0*
*JMA **12** 22:29:18.2±0.6, 30°.60N×137°.87E, h436km, M3.5*
ISC 12 22:29:14.9±1.3, 30°.7N±0°.1×137°.9E±0°.2, h477km, n14, σ1§11/14, mb3.2/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWZ	**Kozaga**	**3.40**	**327**	P	**P**	**22 30 28.3**	**+1.4**
JKN2	**Miekihoku**	**3.80**	**339**	P	**P**	**22 30 31.8**	**+1.7**
JIE	**Ise**	**3.83**	**345**	P	**P**	**22 30 32.4**	**+2.1**
BSO3	**Boso 3**	**4.64**	**27**	S	**S**	**22 31 44.5**	**+0.5**
BSO1	**Boso 1**	**4.72**	**32**	S	**S**	**22 31 45.2**	**+0.5**
BSO4	**Boso 4**	**4.74**	**25**	S	**S**	**22 31 46.4**	**+0.4**
JTO	**Tosashimizu**	**4.87**	**298**	P	**P**	**22 30 40.2**	**+0.8**
MJAR	**Matsushiro Arr**	**5.84**	**2**	P	**P**	**22 30 47.6**	**-1.0**
	0.4nm,0.3s,baz=200,slow=6.9,SNR=4.3						
KSRS	**Korea Array**	**10.69**	**312**	P	**P**	**22 31 38.4**	**-0.9**
	0.2nm,0.3s,baz=131,slow=11,SNR=3.6						
USRK	**Ussuriysk Ar.**	**14.28**	**342**	P	**P**	**22 32 17.9**	**+0.2**
	0.7nm,0.3s,baz=156,slow=12,SNR=12						
MKAR	**Makanchi Array**	**45.33**	**307**	P	**P**	**22 36 48.2**	**-0.9**
	0.2nm,0.4s,baz=84,slow=11,SNR=6.0						
WRA	**Warramunga Arr**	**50.46**	**184**	P	**P**	**22 37 27.8**	**-0.1**
	0.3nm,0.4s,baz=3.6,slow=7.9,SNR=5.0						
ARCES	**ARCESS Array B**	**68.91**	**340**	P	**P**	**22 39 30.8**	**+0.1**
	0.6nm,0.4s,baz=60,slow=8.1,SNR=7.0						
FINES	**FINESS Array B**	**73.06**	**332**	P	**P**	**22 39 54.9**	**-0.4**
	0.7nm,0.7s,baz=77,slow=6.0,SNR=7.4						

*ISCJB **12** 22:37:49.7±0.3, 43°.42N±0°.04×142°.65E±0°.05, h166km±2km, mb3.7/13, Error ellipse: s-maj=6.5km s-min=5.5km az=-35.1*
*MOS **12** 22:37:50.3±1.0, 43°.53N×142°.43E, h168km, mb4.0/8, Error ellipse: s-maj=28.8km s-min=12.8km az=-89.1*
*IDC **12** 22:37:51.5±1.2, 43°.54N×142°.43E, h160km±3km, mb3.5/12, mb1 3.6/13, mb1mx3.2/50, mbtmp3.9/13, MS4.3/1, Ms1 4.3/1, ms1mx2.4/33, Error ellipse: s-maj=29.6km s-min=17.3km az=153.0*
*JMA **12** 22:37:51.4±0.1, 43°.41N×142°.62E, h159km±1km, M2.9*
ISC 12 22:37:50.9±0.7, 43°.41N±0°.04×142°.65E±0°.04, h164km±5km, n45, σ0§82/63, mb4.0/13, 1C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFR	**Furan**	**0.25**	**190**	P	**Pn**	**22 38 13.3**	**+0.3**
JFR				*e*S	**Sn**	**22 38 29.4**	**-0.5**
JAB	**Ashibetsu**	**0.33**	**287**	P	**Pn**	**22 38 13.1**	**-0.1**
JAB				*e*S	**Sn**	**22 38 29.8**	**-0.4**
JKK2	**Kamakawa 2**	**0.47**	**8**	P	**Pn**	**22 38 13.8**	**+0.1**
JKK2				*e*S	**Sn**	**22 38 30.6**	**-0.7**
JBT2	**Biratori 2**	**0.66**	**199**	P	**Pn**	**22 38 14.8**	**+0.1**
JBT2				*e*S	**Sn**	**22 38 32.1**	**-0.8**
ASAJ	**Asahikawa**	**0.71**	**357**	P	**Pn**	**22 38 14.9**	**0.0**
	18nm,0.3s,baz=205,slow=6.0,SNR=92						
ASAJ				S	**Sn**	**22 38 33.2**	**-0.3**
	11nm,0.3s,baz=129,slow=18,SNR=19						
ASAJ	**Asahikawa**	**0.71**	**357**	PN	**Pn**	**22 38 14.9**	**0.0**
ASAJ				S	**Sn**	**22 38 33.2**	**-0.3**
ASAJ				*p*max	*p*max		
	comp=Z,18nm,0.3s						
ASAJ				*s*max	*s*max		
	comp=N,11nm,0.3s						
JHR	**Hokuryu**	**0.75**	**297**	P	**Pn**	**22 38 15.4**	**+0.2**
JHR				*e*S	**Sn**	**22 38 33.6**	**-0.3**
JAR	**Ashorobuto**	**0.82**	**97**	P	**Pn**	**22 38 16.0**	**+0.3**
JAR				*e*S	**Sn**	**22 38 34.6**	**0.0**
JCH	**Churui**	**0.95**	**146**	P	**Pn**	**22 38 16.0**	**-0.6**
JCH				*e*S	**Sn**	**22 38 34.5**	**-1.8**
JEW	**Eniwo**	**1.05**	**238**	P	**Pn**	**22 38 17.6**	**+0.2**
JEW				*e*S	**Sn**	**22 38 37.1**	**-0.6**
JTKR	**Abashiri--Toko**	**1.07**	**58**	P	**Pn**	**22 38 17.9**	**+0.4**
JTKR				*e*S	**Sn**	**22 38 37.7**	**-0.3**
JNBK	**Urakawa-nobuka**	**1.13**	**176**	P	**Pn**	**22 38 18.2**	**+0.1**
JNBK				*e*S	**Sn**	**22 38 40.1**	**+1.2**
JYG	**Yagishiri**	**1.35**	**319**	P	**Pn**	**22 38 19.7**	**-0.3**
JYG				*e*S	**Sn**	**22 38 41.3**	**-1.2**
JAK	**Akkeshi**	**1.55**	**105**	P	**Pn**	**22 38 21.7**	**-0.3**
JAK				*e*S	**Sn**	**22 38 44.7**	**-1.2**
JSE	**Soyaes**	**1.55**	**358**	P	**Pn**	**22 38 21.7**	**-0.3**
JSK	**Shakotan**	**1.59**	**269**	P	**Pn**	**22 38 22.2**	**-0.2**
JRA	**Rausu**	**1.87**	**73**	P	**Pn**	**22 38 26.0**	**+0.7**
JKB	**Kayabe**	**1.93**	**219**	P	**Pn**	**22 38 26.0**	**-0.1**
JKB				*e*S	**Sn**	**22 38 51.5**	**-1.7**
JWK2	**Keihoku**	**1.98**	**344**	P	**Pn**	**22 38 26.7**	**+0.1**
NEM2	**Nemuro 2**	**2.25**	**90**	P	**Pn**	**22 38 28.8**	**-0.9**
NEM2				*e*S	**Sn**	**22 38 57.3**	**-2.4**
JOT	**Ohata**	**2.35**	**211**	P	**Pn**	**22 38 30.5**	**-0.4**
JOT				*e*S	**Sn**	**22 38 59.8**	**-2.0**
YSS	**Yuzh-Sakhalins**	**3.55**	**1**	⇑*i*PN	**Pn**	**22 38 45.0**	**-0.6**
YSS				*e*S	**Sn**	**22 39 26.5**	**-1.8**
YSS				*p*max	*p*max		
	comp=N,50nm,0.6s						
YSS				*p*max	*p*max		
	comp=Z,50nm,0.6s						
YSS				*s*max	*s*max		
	comp=N,50nm,1.0s						
YSS				*s*max	*s*max		
	comp=E,40nm,1.0s						
MJAR	**Matsushiro Arr**	**7.66**	**208**	P	**Pn**	**22 39 40.5**	**+0.8**
	comp=E,1.3nm,0.3s,baz=26,slow=14,SNR=6.2						
MJAR	**Matsushiro Arr**	**7.66**	**208**	PN	**Pn**	**22 39 40.5**	**+0.8**
MJAR				*p*max	*p*max		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**38.59**	**307**	P	**P**	**22 44 56.8**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=79,slow=7.9,SNR=5.6						
ZALV	**Zalesovo Beam**	**38.59**	**307**	P	**P**	**22 44 56.8**	**-0.7**
ZALV				*p*max	*p*max		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**41.83**	**296**	P	**P**	**22 45 23.8**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=77,slow=10.0,SNR=8.8						
KURK	**Kurchatov**	**42.99**	**303**	P	**P**	**22 45 33.9**	**+0.3**
KURK				*p*max	*p*max		
	comp=Z,3.0nm,0.5s						
KURBB	**Kurchatov Arra**	**43.08**	**303**	P	**P**	**22 45 33.9**	**-0.4**
	comp=Z,2.9nm,0.5s,baz=72,slow=8.9,SNR=10						
ILAR	**Eielson Array**	**43.69**	**36**	P	**P**	**22 45 40.1**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=280,slow=11,SNR=2.9						
INK	**Inuvik**	**48.33**	**30**	P	**P**	**22 46 15.7**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=270,slow=7.9,SNR=3.9						
INK				LR	LR	23 10 42.1	
	comp=Z,339nm,18.8s,baz=128,slow=41						
INK	**Inuvik**	**48.33**	**30**	P	**P**	**22 46 15.7**	**+0.5**
INK				*p*max	*p*max		
	comp=Z,1.0nm,0.3s						
INK				MLR	MLR		
	comp=Z,339nm,18.8s						
RES	**Resolute Bay**	**56.21**	**16**	P	**P**	**22 47 13.2**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=312,slow=7.4,SNR=4.5						
RES	**Resolute Bay**	**56.21**	**16**	P	**P**	**22 47 13.3**	**+0.2**
RES				*p*max	*p*max		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**57.87**	**32**	P	**P**	**22 47 25.8**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=308,slow=7.1,SNR=4.5						
ARCES	**ARCESS Array B**	**58.40**	**338**	P	**P**	**22 47 27.9**	**-0.6**
	comp=Z,2.0nm,0.9s,baz=64,slow=8.2,SNR=9.6						
ARCES	**ARCESS Array B**	**58.40**	**338**	P	**P**	**22 47 27.9**	**-0.6**
ARCES				*p*max	*p*max		
	comp=Z,2.0nm,0.9s						
FINES	**FINESS Array B**	**63.65**	**331**	P	**P**	**22 48 03.4**	**-0.6**
	comp=Z,1.5nm,0.5s,baz=55,slow=7.2,SNR=23						
FINES	**FINESS Array B**	**63.65**	**331**	P	**P**	**22 48 03.4**	**-0.6**
FINES				*p*max	*p*max		
	comp=Z,2.0nm,0.5s						
HFS	**Hagfors**	**68.69**	**335**	P	**P**	**22 48 35.5**	**-0.6**
	comp=Z,1.7nm,0.4s,baz=54,slow=7.3,SNR=16						
HFS	**Hagfors**	**68.69**	**335**	P	**P**	**22 48 35.5**	**-0.6**
HFS				*p*max	*p*max		
	comp=Z,2.0nm,0.4s						
NB2	**NORSAR Subarra**	**68.69**	**337**	P	**P**	**22 48 36.5**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=34,slow=6.5						
NOA	**NORSAR Array B**	**68.69**	**337**	P	**P**	**22 48 35.4**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=26,slow=6.9,SNR=5.4						
NOA	**NORSAR Array B**	**68.69**	**337**	P	**P**	**22 48 35.4**	**-0.8**
NOA				*p*max	*p*max		
	comp=Z,1.0nm,0.7s						
EKA	**Eskdalemuir Ar**	**77.44**	**341**	P	**P**	**22 49 28.9**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=23,slow=3.8,SNR=3.4						

*NEIC **12** 22:45:06.6, 17°.03N×99°.95W, h11km, MD4.2(MEX), After MEX.*
NEIC Felt at Acapulco.
MEX 12 22:45:06.6±1.5, 17°.03N×99°.95W, h11km±7km, MD4.2, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.18**	**151**	*i* P	Pg	22 45 10.6	0.0
ACX				*e*S	Sg	22 45 13.1	-0.2
ACX	**Acapulco**	**0.18**	**151**	*i* P	Pg	22 45 10.6	0.0
ACX				*e*S	Sg	22 45 13.1	-0.2
CAIG	**El Cayaco**	**0.30**	**274**	*e*P	Pg	22 45 11.9	-0.9
CAIG				*i* S	Sg	22 45 17.2	+0.3
CAIG	**El Cayaco**	**0.30**	**274**	*e*P	Pg	22 45 11.9	-0.9
CAIG				*i* S	Sg	22 45 17.2	+0.3
ARIG	**Puente Sto Nin**	**1.30**	**343**	*e*P	Pn	22 45 26.8	-4.0
ARIG				*e*S	Sb	22 45 43.6	-4.3
PLIG	**Platanillo**	**1.42**	**17**	*e*P	Pn	22 45 28.9	-3.7
PLIG				*e*S	Sn	22 45 46.4	-5.1
PLIG	**Platanillo**	**1.42**	**17**	*e*P	Pn	22 45 28.9	-3.7
PLIG				*e*S	Sn	22 45 46.4	-5.1
TLIG	**Tlapa**	**1.42**	**68**	*e*P	Pn	22 45 28.8	-3.9
TLIG				*e*S	Sn	22 45 46.5	-5.0
ZIIG	**Zihuatanejo**	**1.56**	**292**	*e*P	Pn	22 45 29.9	-4.4
ZIIG				*e*S	Sn	22 45 49.8	-4.7
ZIIG	**Zihuatanejo**	**1.56**	**292**	*e*P	Pn	22 45 29.9	-4.4
ZIIG				*e*S	Sn	22 45 49.8	-4.7
PNIG	**Pinotepa**	**1.86**	**110**	*e*P	Pn	22 45 33.8	-4.7
PNIG				*e*S	Sn	22 45 57.8	-4.2
PNIG	**Pinotepa**	**1.86**	**110**	*e*P	Pn	22 45 33.8	-4.7
PNIG				*e*S	Sn	22 45 57.8	-4.2

*ISCJB **12** 22:45:44.2±1.6, 19°.7S±0°.3×169°.3E±0°.3, h90km, mb3.8/3, Error ellipse: s-maj=59.7km s-min=14.0km az=45.0*
*IDC **12** 22:45:48.0±3.6, 20°.90S×169°.80E, h136km±36km, mb3.4/3, mb1 3.8/4, mb1mx3.4/24, mbtmp3.8/4, Error ellipse: s-maj=183.2km s-min=31.0km az=161.0*
ISC 12 22:45:44.9±1.6, 19°.8S±0°.4×169°.4E±0°.4, h90km, n6, σ0§90/6, mb3.8/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.59**	**231**	P	**Pn**	**22 46 39.4**	**+0.9**
	8.5nm,0.3s,baz=90,slow=20,SNR=20						
DZM				S	**Sn**	**22 47 19.0**	**-1.0**
	8.3nm,0.3s,baz=90,slow=23,SNR=4.8						
WRA	**Warramunga Arr**	**32.98**	**264**	P	**P**	**22 52 11.8**	**+0.3**
	0.5nm,0.5s,baz=97,slow=8.2,SNR=3.1						
ASAR	**Alice Springs**	**33.18**	**257**	P	**P**	**22 52 13.1**	**-0.2**
	0.6nm,0.4s,baz=90,slow=8.2,SNR=8.0						
NVAR	**Mina Array Bea**	**89.03**	**48**	P	**P**	**22 58 30.3**	**0.0**
	0.9nm,0.7s,baz=223,slow=8.6,SNR=6.1						
ARCES	**ARCESS Array B**	**125.67**	**345**	PKP	**PKPdf**	**23 04 34.5**	**-0.8**
	2.0nm,0.9s,baz=48,slow=1.3,SNR=3.5						
EKA	**Eskdalemuir Ar**	**144.10**	**353**	PKPbc	PKPbc	23 05 07.8	-0.3
	0.8nm,0.5s,baz=4.1,slow=2.9,SNR=8.7						

*IDC **12** 22:52:46.0±1.0, 12°.96N×59°.14W, h0km, mb3.6/7, mb1 3.9/9, mb1mx3.7/26, mbtmp3.8/9, ML4.3/2, MS3.2/2, Ms1 3.1/2, ms1mx2.6/23, Error ellipse: s-maj=35.6km s-min=20.4km az=112.0*
*TRN **12** 22:52:50.8, 13°.05N×59°.41W, h48km, MD4.2, M4.0(FDF)*
*ISCJB **12** 22:52:51.3±0.6, 13°.07N±0°.03×59°.40W±0°.05, h56km±7km, mb3.5/7, MS3.1/2, Error ellipse: s-maj=7.9km s-min=4.1km az=10.0*
*FUNV **12** 22:52:58.8, 12°.45N×59°.29W, h73km, MW3.8*
ISC 12 22:52:51.5±1.4, 13°.04N±0°.04×59°.35W±0°.08, h41km±13km, n57, σ1§24/64, mb3.7/7, 6C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBGH	**Gun Hill**	**0.22**	**296**	⇑*i*P	**Pn**	**22 52 59.7**	**+0.7**
MCLT	**Moule a Chique**	**1.68**	**293**	⇑*e*	**Pn**	**22 53 18.9**	**+0.5**
MCLT	**Moule a Chique**	**1.68**	**293**	*e*P	**Pn**	**22 53 19.9**	**+1.5**
MCLT				*e*S	**Sn**	**22 53 38.9**	**+0.1**
SSV	**Crater Summit**	**1.81**	**279**	*e*P	**Pn**	**22 53 20.6**	**+0.3**
SVV	**Soufriere Volc**	**1.83**	**279**	*e*P	**Pn**	**22 53 21.5**	**+1.0**
SVV				*e*S	**Sn**	**22 53 42.5**	**0.0**
FCV	**Fort Charlotte**	**1.85**	**274**	*e*P	**Pn**	**22 53 21.2**	**+0.6**
FCV				*e*S	**Sn**	**22 53 42.1**	**-0.7**
SVB	**Belmont**	**1.86**	**277**	*e*P	**Pn**	**22 53 20.9**	**0.0**
SVB				*e*S	**Sn**	**22 53 43.1**	**-0.1**
H05S1	**Guadeloupe/Mar**	**1.99**	**314**	Pn	**Pn**	**22 53 22.7**	**0.0**
H05S1				Sn	**Sn**	**22 53 45.8**	**-0.6**
	SNR=579						
TOSP	**Speyside**	**2.08**	**214**	*e*P	**Pn**	**22 53 24.8**	**+0.9**
TOSP				*e*S	**Sn**	**22 53 48.5**	**-0.1**
BOT	**Bacolet**	**2.29**	**216**	*e*P	**Pn**	**22 53 27.0**	**+0.1**
GRSS	**Sisters**	**2.33**	**252**	*e*P	**Pn**	**22 53 27.9**	**+0.6**
GRSS				*e*S	**Sn**	**22 53 53.4**	**-1.3**
GRHS	**Sauteurs**	**2.38**	**250**	*e*P	**Pn**	**22 53 28.5**	**+0.5**
GRHS				*e*S	**Sn**	**22 53 55.6**	**-0.3**
GRW	**Mount Saint Ca**	**2.42**	**249**	*e*P	**Pn**	**22 53 29.7**	**+1.0**
GRW				*e*S	**Sn**	**22 53 55.8**	**-1.2**
FDF	**Fort de France**	**2.42**	**314**	⇑*i*P	**Pn**	**22 53 28.6**	**-0.1**
FDF				*e*S	**Sn**	**22 53 56.4**	**-0.7**
GRGR	**Grenville**	**2.42**	**248**	*e*P	**Pn**	**22 53 28.8**	**+0.2**
GRGR				*e*S	**Sn**	**22 53 57.0**	**0.0**
DLPL	**La Plaine**	**2.92**	**321**	*e*P	**Pn**	**22 53 36.8**	**+1.3**
DLPL				*e*S	**Sn**	**22 54 09.4**	**-0.1**
DBCT	**Belle View Cho**	**2.94**	**319**	*e*P	**Pn**	**22 53 36.3**	**+0.5**
MDN	**Morne-Daniel**	**3.00**	**319**	*e*P	**Pn**	**22 53 37.6**	**+1.0**
TRN	**Trinidad (W)**	**3.12**	**220**	*e*P	**Pn**	**22 53 39.0**	**+0.8**
TRN				*e*S	**Sn**	**22 54 13.9**	**-0.2**
BBL	**Barber's Block**	**3.21**	**320**	*e*P	**Pn**	**22 53 39.7**	**+0.3**
MGG	**Marie-Galante**	**3.43**	**327**	⇑*i*P	**Pn**	**22 53 42.0**	**-0.5**
TBG	**Guadaloupe-3**	**3.57**	**322**	*e*P	**Pn**	**22 53 44.5**	**+0.2**
H05N1	**Guadeloupe/Mar**	**3.65**	**333**	Pn	**Pn**	**22 53 44.6**	**-0.9**
	SNR=48						
H05N1				Sn	**Sn**	**22 54 25.7**	**-1.6**
GUIV	**Guiria**	**3.68**	**230**	*e*P	**Pn**	**22 53 48.0**	**+2.1**
GUIV				*e*S	**Sn**	**22 54 24.5**	**-3.7**
PHG	**Guadaloupe-2**	**3.69**	**323**	*e*P	**Pn**	**22 53 46.5**	**+0.3**
HMG	**Houelmont**	**3.70**	**322**	⇑*i*P	**Pn**	**22 53 46.6**	**+0.4**
ECG	**Echelle**	**3.72**	**323**	*e*P	**Pn**	**22 53 46.6**	**0.0**
SCG	**Saint Claude**	**3.73**	**323**	⇑*i*P	**Pn**	**22 53 46.8**	**+0.2**
FNG	**Fond-Bernard**	**3.75**	**323**	*e*P	**Pn**	**22 53 47.0**	**0.0**
LZG	**Guadaloupe-1**	**3.87**	**323**	*e*P	**Pn**	**22 53 49.1**	**+0.6**
SEG	**Port Louis**	**3.94**	**328**	*e*P	**Pn**	**22 53 49.7**	**+0.3**
CRUV	**Carupano**	**4.47**	**239**	*e*P	**Pn**	**22 53 58.7**	**+1.9**
CRUV				*e*S	**Sn**	**22 54 45.0**	**-2.6**
GUNV	**Guanoco**	**4.54**	**231**	*e*P	**Pn**	**22 54 00.3**	**+2.6**
GUNV				*e*S	**Sn**	**22 54 45.2**	**-4.0**
MBWH		**4.59**	**324**	*e*P	**Pn**	**22 53 59.3**	**+0.9**
ORIV	**Oritupano**	**5.61**	**226**	*e*P	**Pn**	**22 54 14.1**	**+1.7**
PCRV	**Puerto La Cruz**	**5.91**	**242**	Pn	**Pn**	**22 54 18.0**	**+1.4**
	2.7nm,0.3s,baz=42,slow=15,SNR=7.2						
PCRV				Sn	**Sn**	**22 55 20.5**	**-2.6**
	0.9nm,0.3s,baz=221,slow=20,SNR=3.5						
PCRV	**Puerto La Cruz**	**5.91**	**242**	*e*P	**Pn**	**22 54 18.2**	**+1.6**
PRGV	**PARIAGUAN**	**6.72**	**231**	*e*P	**Pn**	**22 54 29.1**	**+1.4**
BIRV	**Birongo**	**7.24**	**250**	*e*P	Pn	22 54 39.1	+4.3
LUEV	**Luepa**	**7.45**	**196**	*e*P	Pn	22 54 35.4	-2.4
BAUV	**El Baul**	**9.45**	**245**	*e*P	**Pn**	**22 55 06.5**	**+1.3**
PTGA	**Pitinga**	**13.70**	**183**	Pn	Pn	22 55 58.6	-4.6
	3.9nm,0.3s,baz=352,slow=18,SNR=15						
LPAZ	**La Paz**	**30.41**	**197**	P	**P**	**22 59 00.5**	**-0.3**
	1.3nm,0.9s,baz=22,slow=9.5,SNR=3.3						
BDFB	**Brasilia**	**30.63**	**158**	LR	LR	23 11 54.5	
	comp=Z,41nm,19.2s,baz=244,slow=38						
CPUP	**Villa Florida**	**39.19**	**177**	P	**P**	**23 00 15.0**	**-0.7**
	0.5nm,0.7s,baz=348,slow=9.3,SNR=5.8						
CFAA	**Coronel Fontan**	**45.20**	**191**	P	**P**	**23 01 04.7**	**0.0**
	0.1nm,0.4s,baz=61,slow=2.2,SNR=3.5						
ULM	**Lac du Bonnet**	**47.57**	**329**	LR	LR	23 23 38.1	
	comp=Z,22nm,19.5s,baz=260,slow=39						
H10N3	**ASCENSION HYDR**	**49.15**	**113**	T	T	23 54 30.8	
	baz=297						
H10N2	**ASCENSION HYDR**	**49.16**	**112**	T	T	23 54 33.7	
	baz=297						
H10N1	**ASCENSION HYDR**	**49.17**	**113**	T	T	23 54 34.8	
	baz=297						
H10S3	**ASCENSION HYDR**	**49.47**	**114**	T	T	23 55 00.3	
	baz=296						
H10S1	**ASCENSION HYDR**	**49.48**	**114**	T	T	23 55 04.0	
	baz=296						
H10S2	**ASCENSION HYDR**	**49.49**	**114**	T	T	23 55 05.2	
	baz=296						
TORD	**Torodi Ar. Bea**	**59.32**	**82**	P	**P**	**23 02 49.4**	**-0.4**
	0.7nm,0.9s,baz=284,slow=6.3,SNR=4.4						
YKA	**Yellowknife Ar**	**62.84**	**335**	P	**P**	**23 03 13.8**	**+1.0**
	0.3nm,0.8s,baz=106,slow=7.8,SNR=3.0						
FINES	**FINESS Array B**	**76.47**	**30**	P	**P**	**23 04 37.6**	**+0.7**
	1.9nm,1.0s,baz=254,slow=9.7,SNR=3.5						
BRTR	**Keskin Array B**	**84.06**	**51**	P	**P**	**23 05 18.4**	**0.0**
	0.6nm,1.0s,baz=262,slow=4.1,

KAPI **Kappang** 3.67 186 *e*Pn **Pn** 23 08 51.1 -1.5
KAPI *e*Sn **Sn** 23 09 29.7 -4.9
BKSI Bulukumba 3.96 180 P **Pn** 23 08 53.7 -2.8
BKSI S **Sn** 23 09 42.6 +1.0
KMSI Cibinong 4.27 64 P **Pn** 23 09 00.1 -0.7
KMSI S **Sn** 23 09 48.9 -0.5
KBKI Kotabaru 4.43 244 P Pn 23 08 58.5 -4.5
KBKI S **Sn** 23 09 48.3 -5.1
BSSI Bau Bau, Buton 4.78 176 P **Pn** 23 09 05.6 -2.2
BSSI S **Sn** 23 10 04.0 +2.0
MTKI Muara Teweh, K 5.27 274 P Pn 23 09 11.0 -3.5
BBKI Banjar Baru 5.71 248 P **Pn** 23 09 17.4 -3.2
SANI Sanana 5.87 97 P Pn 23 09 19.2 -3.6
SANI S **Sn** 23 10 25.3 -3.5
TSM Tawau 6.04 338 ⇑P **Pn** 23 09 22.6 -2.5
NLAI Namlea 7.19 105 P **Pn** 23 09 39.5 -1.3
NLAI S **Sn** 23 11 00.2 -1.0
LBMI Labuha 7.38 85 P **Pn** 23 09 40.5 -2.9
LBMI S **Sn** 23 11 02.9 -2.9
TNTI Ternate 7.51 74 P **Pn** 23 09 44.6 -0.6
TNTI Ternate 7.51 74 *e*Pn **Pn** 23 09 45.3 +0.1
EDFI Ende, Flores 7.52 168 P **Pn** 23 09 43.1 -2.3
MMRI Maumere 7.54 164 P **Pn** 23 09 45.2 -0.4
MMRI Maumere 7.54 164 *e*Pn **Pn** 23 09 45.0 -0.6
WSI Waingapu 8.28 179 P **Pn** 23 09 55.3 -0.4
348nm,0.4s,16μm25μm
WSI Waingapu 8.28 179 P **Pn** 23 09 57.2 +1.5
baz=8.4,SNR=5.9
WBSI Waikabubak, Su 8.28 185 P **Pn** 23 09 55.9 +0.1
287nm,1.1s,6μm
SRBI Singaraja 8.31 216 P **Pn** 23 09 54.4 -1.8
KKM Kota Kinabalu 8.32 332 P **Pn** 23 09 57.5 +1.1
baz=8.3,SNR=7.4
KKM S **Sn** 23 11 34.3 +5.2
baz=8.3,SNR=3.7
KKM Kota Kinabalu 8.32 332 ⇑P **Pn** 23 09 57.6 +1.1
KKM Kota Kinabalu 8.32 332 *e*Pn **Pn** 23 09 54.2 -2.2
BTM Bintulu 8.38 303 ⇓P **Pn** 23 09 57.0 -0.2
PBKI Pangkalan Bun 8.59 261 P Pn 23 09 55.9 -4.1
SBUM Sibu 8.78 295 ⇓P **Pn** 23 10 02.5 -0.2
SBUM Sibu 8.78 295 *e*Pn **Pn** 23 09 59.8 -2.8
STKI Sintang 8.79 279 P **Pn** 23 09 59.8 -2.9
170nm,0.8s,13μm
MSAI Masohi 8.99 103 P **Pn** 23 10 05.3 -0.2
SOEI Soe 9.31 154 P **Pn** 23 10 10.9 +1.0
SOEI Soe 9.31 154 P Pn 23 10 13.7 +3.8
baz=9.4,SNR=14
SOEI Soe 9.31 154 *e*Pn **Pn** 23 10 12.3 +2.4
CTBH Cotabato--PC H 9.43 26 ⇓*i*P **Pn** 23 10 10.5 -1.0
GRJI Gresik 9.45 234 P **Pn** 23 10 12.7 +1.0
GMJI Gumukmas 9.60 224 P **Pn** 23 10 10.9 -2.9
DAV Davao City (W) 9.95 33 Pn Pn 23 10 24.8 +6.1
SNR=6.6
DAV Davao City (W) 9.95 33 *e*Pn **Pn** 23 10 16.5 -2.2
DAV *e*Sn **Sn** 23 12 06.5 -2.6
KSM Kuching 10.23 286 P Pn 23 10 19.2 -3.4
baz=10,SNR=15
KSM Kuching 10.23 286 ⇓P Pn 23 10 19.3 -3.3
KSM Kuching 10.23 286 *e*Pn Pn 23 10 19.1 -3.4
PWJI Pagerwojo 10.64 231 P Pn 23 10 31.4 +3.3
SWI Sorong 11.11 88 P **Pn** 23 10 33.0 -1.5
64nm,1.3s,2μm
SWI Sorong 11.11 88 P **Pn** 23 10 35.8 +1.2
baz=11,SNR=3.2
SIJI Sorong 11.12 88 Pn **Pn** 23 10 32.6 -2.0
2.4nm,0.3s,baz=272,slow=6.3,SNR=22
SIJI Sn **Sn** 23 12 35.6 -2.0
0.8nm,0.3s,baz=315,slow=20,SNR=3.6
SIJI LR LR 23 15 08.9
comp=Z,1μm,21.7s,baz=296,slow=39
SMRI Semarang 11.22 239 *e*Pn Pn 23 10 32.2 -3.8
PCJI Pacitan 11.24 232 P **Pn** 23 10 36.0 -0.3
UGM Wanagama 11.61 235 P **Pn** 23 10 38.6 -2.7
UGM Wanagama 11.61 235 P **Pn** 23 10 43.9 +2.6
baz=12,SNR=3.6
FAKI Fak Fak 12.19 98 P **Pn** 23 10 47.6 -1.6
FAKI Fak Fak 12.19 98 P **Pn** 23 10 46.7 -2.5
baz=12,SNR=13
FAKI S **Sn** 23 13 00.5 -3.1
baz=12,SNR=3.6
FAKI Fak Fak 12.19 98 *e*Pn **Pn** 23 10 46.2 -3.0
TPI Tanjungpandan 12.57 263 P **Pn** 23 10 51.7 -2.8
23nm,1.6s
SAUI Saumlaki 12.92 121 *e*Pn **Pn** 23 10 58.5 -0.6
LEM Lembang 13.64 246 P **Pn** 23 11 08.4 -0.8
LEM Lembang 13.64 246 Pn **Pn** 23 11 07.2 -1.9
2.4nm,0.3s,baz=76,slow=8.3,SNR=2.7
LEM LR LR 23 16 39.9
comp=Z,989nm,18.1s,baz=103,slow=39
CISI Cisompet, Garu 13.76 243 P **Pn** 23 11 11.4 +0.7
CISI Cisompet, Garu 13.76 243 *e*Pn **Pn** 23 11 12.8 +2.1
RKPI Ransiki, Papua 14.02 91 P P 23 11 26.6 +6.1
PPBI Pangkal Pinang 14.04 266 P **Pn** 23 11 11.3 -3.1
CBJI Citeko 14.20 249 P **P** 23 11 24.1 +1.7
CNJI Cibinong 14.27 245 P **Pn** 23 11 17.7 +0.2
CGJI Cibinong 15.34 250 P **Pn** 23 11 31.4 -0.1
PMBI Palembang 15.45 264 P P 23 11 41.7 +5.3
KASI Kota Agung 16.17 255 P **P** 23 11 43.5 -0.9
MDSI Maura Dua 16.26 259 P **Pn** 23 11 43.6 +0.5
LWLI Liwa 16.48 257 P P 23 11 59.6 +12
JMBI JAMBI 16.51 269 P P 23 11 54.7 +6.6
KNRA Kunumurra 16.59 150 P **Pn** 23 11 46.2 -1.0
baz=17,SNR=5.7
MYKOM **Kota Tinggi** 16.60 281 ⇑P **Pn** 23 11 46.0 -1.4
MYKOM **Kota Tinggi** 16.60 281 *e*Pn **Pn** 23 11 43.7 -3.7
65nm,1.1s
KDU Kakadu 16.62 133 P **Pn** 23 11 45.5 -2.1
baz=17,SNR=4.5
LHSI Lahat 16.80 261 P **Pn** 23 11 50.6 +0.7
SMPI Sarmi 18.56 92 P **Pn** 23 12 11.5 0.0
105nm,1.3s,9μm
BKNI Bangkinang 19.18 275 P **Pn** 23 12 22.3 +3.3
MBWA Marble Bar 19.70 181 *e*P **P** 23 12 22.1 -1.1
324nm,2.8s
IPM Ipoh 19.97 287 *e*P **P** 23 12 23.3 -2.9
53nm,1.0s
GENI Genyem 20.04 94 P Pn 23 12 29.8 +0.7
KULM Kulim 20.57 289 *e*P **P** 23 12 30.7 -2.0
52nm,1.2s
JAY Jayapura 20.57 94 P Pn 23 12 39.5 +4.0
JAY Jayapura 20.57 94 P **P** 23 12 33.0 +0.2
5.7nm,0.7s,baz=317,slow=18,SNR=2.8
JAY LR LR 23 22 34.9
comp=Z,516nm,21.4s,baz=176,slow=43
MNSI Mandailing Nat 20.68 276 P **P** 23 12 33.7 -0.2
66nm,1.3s,900nm
SKLT Songkhla 21.25 294 P **P** 23 12 40.2 +0.2
60nm,1.2s,908nm
PSI Prapat 21.62 281 P **P** 23 12 43.4 -0.7
28nm,0.8s,baz=96,slow=5.9,SNR=11
PSI LR LR 23 22 55.3
comp=Z,687nm,19.4s,baz=114,slow=42
PSI Prapat 21.62 281 *e*P **P** 23 12 43.4 -0.7
PSI pmax pmax
comp=Z,105nm,1.2s
PSI Prapat 21.62 281 *e*P **P** 23 12 43.4 -0.7
comp=Z,105nm,1.2s
CHBT CHBT 22.56 309 P **P** 23 12 53.2 -0.9
comp=Z,71nm,1.1s
QIZ Qiongzhong 22.64 334 P **P** 23 12 53.2 -1.6
QIZ pP **pP** 23 13 05.2 -2.1
QIZ sP **sP** 23 13 10.8 -3.3
QIZ S **S** 23 16 59.5 +0.4
QIZ sS **sS** 23 17 19.8 -1.1
QIZ PMZ
comp=Z,17nm,1.4s
QIZ PMZ
comp=Z,210nm,3.9s
QIZ LN
comp=Z,360nm,16.2s
QIZ LZ
comp=Z,490nm,20.9s
QIZ Qiongzhong 22.64 334 *e*P **P** 23 12 55.8 +0.9
comp=Z,50nm,1.2s
GSI Gunungsitoli 22.73 277 P **P** 23 12 54.4 -1.5
comp=Z,72nm,1.1s
GSI Gunungsitoli 22.73 277 *e*P **P** 23 12 52.3 -3.6
comp=Z,66nm,1.0s
KRAB Krabi 22.95 295 P **P** 23 12 57.9 -0.3
comp=Z,66nm,0.9s,comp=Z,696nm
WRAB Tennant Creek 23.11 144 P **P** 23 13 00.0 +0.2
comp=Z,584nm,1.1s,SNR=26
WRAB Tennant Creek 23.11 144 *e*P **P** 23 12 58.7 -1.1
WRAB pmax pmax
comp=Z,487nm,1.7s
WRAB Tennant Creek 23.11 144 *e*P P 23 12 52.3 -7.4
comp=Z,94nm,0.9s
WRA Warramunga Arr 23.12 144 P **P** 23 12 59.1 -0.7
comp=Z,37nm,0.9s,baz=321,slow=10,SNR=72
WRA PcP **PcP** 23 16 48.9 +1.7
comp=Z,3.9nm,1.1s,baz=334,slow=2.3,SNR=4.7
WRA S **S** 23 17 13.0 +5.9
comp=Z,0.4nm,0.3s,baz=310,slow=18,SNR=5.0
WRA LR LR 23 22 22.2
comp=Z,642nm,21.0s,baz=315,slow=38
SURT Suratani 23.61 296 P **P** 23 13 04.6 +0.1
comp=Z,17nm,1.2s
LHMI Lhok Sumawe 24.08 286 *e*P **P** 23 13 04.9 -3.9
comp=Z,111nm,1.0s
SKNT Sakolnakorn 24.20 319 P **P** 23 13 09.1 -0.8
comp=Z,96nm,0.8s,comp=Z,3μm
KHON Khomkaen 24.52 316 P **P** 23 13 17.1 +4.3
comp=Z,13nm,1.0s
YULB Yu-li 24.61 3 *e*P **P** 23 13 16.0 +2.4
comp=Z,277nm,2.0s
CHAI Chaiyaphum 24.81 314 P **P** 23 13 15.4 -0.1
comp=Z,19nm,1.1s,comp=Z,396nm
WRKA Warakurna 24.84 162 P **P** 23 13 14.8 -0.8
baz=25,SNR=22
GZH Guangzhou 25.17 345 P **P** 23 13 24.0 +5.4
GZH S **S** 23 17 46.3 +6.3
GZH LN
comp=Z,820nm,13.5s
GZH LE
comp=Z,530nm,13.8s
MEEK Meekatharra 25.20 183 P **P** 23 13 18.7 -0.2
baz=25,SNR=8.2
NONG Nongkai 25.54 320 P **P** 23 13 22.1 +0.1
comp=Z,52nm,1.0s,comp=Z,2μm
YHNB Yeheng 25.88 3 *e*P **P** 23 13 27.8 +2.6
comp=Z,54nm,0.8s
AS12 Alice Springs 25.89 150 *e*P **P** 23 13 24.9 -0.4
AS12 *e*PcP **PcP** 23 16 54.7 +1.4
AS12 *e*ScS ScS 23 24 27.0 +8.9
ASAR Alice Springs 25.89 150 P **P** 23 13 24.9 -0.4
comp=Z,15nm,1.0s,baz=322,slow=7.7,SNR=34
ASAR PcP **PcP** 23 16 54.7 +1.4
comp=Z,3.3nm,0.6s,baz=337,slow=2.0,SNR=12
ASAR LR LR 23 24 27.0
comp=Z,1μm,21.4s,baz=322,slow=38
AS01 Alice Springs 25.91 150 *e*P **P** 23 13 26.2 +0.8
AS01 *e*PcP **PcP** 23 16 55.9 +2.6
PBKT Sadao Pong 25.98 314 P **P** 23 13 26.1 0.0
comp=Z,21nm,0.8s
COEN Coen 25.99 120 P **P** 23 13 28.9 +2.7
baz=26,SNR=4.0
COEN Coen 25.99 120 *e*P **P** 23 13 24.3 -1.9
comp=Z,36nm,2.3s
SRDT SRDT 26.02 308 P **P** 23 13 28.8 +2.4
comp=Z,81nm,1.5s
QZH Quanzhou 26.17 357 P **P** 23 13 30.1 +2.5
QZH S **S** 23 17 57.0 +1.2
QZH PMZ
comp=Z,540nm,3.1s
QZH LZ
comp=Z,870nm,22.1s
LOEI Loei 26.41 316 P **P** 23 13 27.8 -2.1
comp=Z,39nm,0.9s,comp=Z,2μm
UTHA Uthaitani 26.48 310 P **P** 23 13 35.2 +4.6
comp=Z,5.9nm,1.4s,comp=Z,51nm
KHLT Khaolaem Dam 26.70 308 P **P** 23 13 36.6 +4.1
comp=Z,10nm,1.5s
QIS Mount Isa 26.94 136 P **P** 23 13 36.4 +1.7
baz=27,SNR=4.5
UTTA Uttaradit 27.06 315 P **P** 23 13 36.3 +0.5
comp=Z,3.6nm,1.1s,comp=Z,66nm
PMG Port Moresby 28.03 108 P **P** 23 13 47.0 +2.5
PMG pmax pmax
comp=Z,176nm,1.2s
CM01 Chiang Mai Arr 28.64 314 *e*P **P** 23 13 49.3 -0.6
GUMO Guam 28.64 58 P **P** 23 13 51.3 +1.4
comp=Z,43nm,0.4s,baz=209,slow=10,SNR=3.4
GUMO LR LR 23 25 21.7
comp=Z,105nm,18.1s,baz=236,slow=37
CM31 Chiang Mai Arr 28.68 314 *e*P **P** 23 13 50.5 +0.3
CM31 *e* 23 28 14.7
CMAR Chiang Mai Arr 28.68 314 P **P** 23 13 50.5 +0.3
comp=Z,2.5nm,0.6s,baz=138,slow=6.6,SNR=16
CMAR LR LR 23 28 14.7
comp=Z,478nm,18.4s,baz=151,slow=43
CRAI Chiangrai 28.90 319 P **P** 23 13 49.7 -2.5
comp=Z,64nm,0.7s
CMMT Chiang Mai 28.91 315 P **P** 23 13 52.6 +0.3
comp=Z,12nm,1.2s
CHTO Chiang Mai 28.91 315 P **P** 23 13 52.6 +0.3
comp=Z,43nm,1.3s
CHTO Chiang Mai 28.91 315 *e*P **P** 23 13 52.6 +0.3
CHTO pmax pmax
comp=Z,11nm,1.1s
CHTO Chiang Mai 28.91 315 *e*P **P** 23 13 52.6 +0.3
comp=Z,11nm,1.1s
CMAI Chiangmai2 29.59 317 P **P** 23 13 59.5 +1.0
comp=Z,7.5nm,1.5s
GYA Guiyang 30.55 336 P **P** 23 14 07.0 +0.1
GYA pP **pP** 23 14 21.2 +0.5
GYA sP **sP** 23 14 27.8 +0.6
GYA PP **PnPn** 23 15 09.6 +1.7
GYA PcP **PcP** 23 17 03.2 -1.6
GYA S **S** 23 19 05.0 0.0
GYA sS **sS** 23 19 28.5 0.0
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,5.0s
GYA LN
comp=Z,580nm,18.0s
GYA LE
comp=Z,510nm,17.6s
GYA LZ
comp=Z,550nm,18.2s
KMI Kunming 31.25 328 P **P** 23 14 14.3 +1.1
KMI pP **pP** 23 14 27.0 -0.1
KMI S **S** 23 19 15.8 -0.4
KMI sS **sS** 23 19 39.5 -0.2
KMI PMZ
comp=Z,13nm,1.2s
KMI PMZ
comp=Z,110nm,3.7s
KMI LN
comp=Z,180nm,20.1s
KMI LE
comp=Z,330nm,22.3s
KMI LZ
comp=Z,270nm,19.0s
CTA Charters Tower 31.60 128 LR LR 23 27 35.4
comp=Z,313nm,20.4s,baz=282,slow=37
WHN Wuhan 32.19 351 ⇑P **P** 23 14 22.9 +1.9
WHN LN
comp=Z,250nm,7.9s
WHN LE
comp=Z,650nm,11.9s
WHN LZ
comp=Z,880nm,20.6s
SSE Sheshan 32.27 2 P **P** 23 14 22.9 +1.1
SSE S **S** 23 19 34.8 +3.3
SSE PMZ
comp=Z,36nm,0.8s
SSE PMZ
comp=Z,110nm,4.8s
SSE LN
comp=Z,350nm,31.3s
SSE LE
comp=Z,160nm,31.8s
SSE LZ
comp=Z,430nm,29.6s
ENH Enshi 33.04 343 *e*P P 23 14 33.1 +4.5
comp=Z,12nm,1.0s
NJ2 Nanjing 33.23 358 *e*P P 23 14 26.0 -4.2
NJ2 S **S** 23 19 46.0 -0.4
NJ2 pmax pmax
comp=Z,70nm,1.0s
NJ2 LR LR
comp=N,270nm,12.3s
NJ2 LR LR
comp=E,1μm,22.4s
NJ2 LR LR
comp=Z,1μm,23.6s
BBOO Buckleboo 34.70 156 *e*P **P** 23 14 43.0 +0.1
comp=Z,23nm,0.9s
CBI Chichi jima 35.35 35 *e*P **P** 23 14 48.0 -0.6
CBIJ Chichi jima 35.35 35 *e*P **P** 23 14 47.8 -0.8
comp=Z,290nm,1.1s
JCJ Chichijima 35.35 35 P **P** 23 14 48.0 -0.6
comp=Z,156nm,0.7s,baz=207,slow=2.3
CD2 Chengdu 35.66 335 ⇑*i*P **P** 23 14 51.2 -0.1
CD2 pP **pP** 23 15 05.1 -0.3
CD2 PP **PnPn** 23 16 10.9 -1.5
CD2 PcP **PcP** 23 17 20.5 +1.6
CD2 S **S** 23 20 24.8 +0.7
CD2 sS **sS** 23 20 50.9 +3.0
CD2 PMZ
comp=Z,30nm,0.8s
CD2 PMZ
comp=Z,120nm,4.2s
CD2 LN
comp=Z,320nm,16.6s
CD2 LE
comp=Z,480nm,15.5s
CD2 LZ
comp=Z,270nm,19.0s
HTT Hallett 36.46 153 P **P** 23 14 58.6 +0.5
baz=37,SNR=13
STKA Stephens Creek 36.50 148 P **P** 23 14 57.6 -0.7
comp=Z,23nm,0.7s,baz=318,slow=9.4,SNR=22
STKA LR LR 23 32 10.6
comp=Z,830nm,18.5s,baz=324,slow=40
STKA Stephens Creek 36.50 148 *e*P **P** 23 14 58.5 +0.1
STKA pmax pmax
comp=Z,7.0nm,0.9s
STKA Stephens Creek 36.50 148 P **P** 23 14 57.9 -0.5
baz=37,SNR=32
STKA Stephens Creek 36.50 148 *e*P **P** 23 14 58.5 +0.1
comp=Z,7.0nm,0.9s
XAN Xi'an 36.74 344 P **P** 23 15 00.4 -0.1
XAN pP **pP** 23 15 13.4 -1.2
XAN PP **PnPn** 23 16 28.4 +2.9
XAN S **S** 23 20 42.6 +2.1
XAN sS **sS** 23 21 04.0 -0.3
XAN SS **SnSn** 23 23 14.8 -1.2
XAN PMZ
comp=Z,15nm,4.4s
XAN LN
comp=Z,190nm,20.3s
XAN LE
comp=Z,160nm,18.1s
XAN LZ
comp=Z,130nm,21.3s
TIA Tai'an 37.47 356 ⇓P **P** 23 15 08.9 +2.4
TIA PMZ
comp=Z,20nm,0.7s
EIDS Eidsvold 38.21 131 *e*P **P** 23 15 12.3 -0.7
comp=Z,24nm,1.4s
CMSA Cobar Meteorol 38.53 144 P P 23 15 18.9 +3.3
baz=39,SNR=8.8
KS15 Wonju Array Si 39.25 10 *e*P **P** 23 15 20.8 -0.6
KSRS Korea Array 39.27 10 P **P** 23 15 20.8 -0.8
comp=Z,4.9nm,0.7s,baz=182,slow=9.9,SNR=20
KSRS LR LR 23 31 13.3
comp=Z,288nm,21.0s,baz=192,slow=36
KS01 Wonju Array Si 39.28 10 *e*P **P** 23 15 22.9 +1.1
LZH Lanzhou 40.22 339 *e*P **P** 23 15 31.4 +1.6
LZH pP **pP** 23 15 45.3 +1.3
LZH sP **sP** 23 15 50.3 -0.1
LZH PP **PnPn** 23 17 08.5 +1.2
LZH *e*S **S** 23 21 37.0 +3.8
LZH sS **sS** 23 22 01.0 +3.8
LZH SS **SS** 23 24 32.5 -0.7
LZH PMZ
comp=Z,26nm,1.1s
LZH PMZ
comp=Z,91nm,4.0s
LZH LN
comp=Z,330nm,15.8s
LZH LE
comp=Z,250nm,14.8s
LZH LZ
comp=Z,390nm,16.5s
ARPS Mount Arapiles 40.55 153 P **P** 23 15 33.7 +1.3
baz=41,SNR=6.2
CHLP Challavanipeta 40.60 301 *e*P **P** 23 15 33.6 +0.6
MAJO Matsushiro 41.26 22 *e*P **P** 23 15 36.3 -1.9
MAJO pmax pmax
comp=Z,260nm,2.4s
MAJO Matsushiro 41.26 22 *e*P **P** 23 15 36.3 -1.9
comp=Z,260nm,2.4s
MJAR Matsushiro Arr 41.26 22 P **P** 23 15 36.3 -1.9
comp=Z,8.2nm,0.9s,baz=194,slow=9.6,SNR=10.0
MJAR LR LR 23 31 06.9
comp=Z,558nm,21.5s,baz=210,slow=34
BJT Baijiatuao 41.32 355 *e*P **P** 23 15 41.5 +2.9
BJT pmax pmax
comp=Z,32nm,0.5s
BJT Baijiatuao 41.32 355 *e*P **P** 23 15 41.5 +2.9
comp=Z,32nm,0.5s
BJI Beijing 41.34 355 P **P** 23 15 41.2 +2.5
BJI S **S** 23 21 53.9 +4.6
BJI sS **sS** 23 22 12.1 -1.3
BJI PMZ
comp=Z,36nm,0.6s
BJI PMZ
comp=Z,160nm,5.7s
BJI LN
comp=Z,250nm,22.3s
BJI LE
comp=Z,330nm,21.8s
BJI LZ
comp=Z,190nm,24.3s
LSA Lhasa 41.47 320 P **P** 23 15 40.8 +0.2
LSA Lhasa 41.47 320 *e*P **P** 23 15 41.5 +0.9
LSA pmax pmax
comp=Z,11nm,0.8s
LSA Lhasa 41.47 320 *e*P **P** 23 15 41.5 +0.9
comp=Z,11nm,0.8s
ARMA Armidale 41.56 137 P P 23 15 44.5 +3.6
baz=42,SNR=3.7
ARMA Armidale 41.56 137 *e*P P 23 15 45.1 +4.2
comp=Z,136nm,1.9s
ODAN Odare 42.22 314 *e*P **P** 23 15 46.6 +0.1
comp=Z,84nm,1.2s
TAPN Taplejung 42.28 315 *e*P **P** 23 15 47.2 +0.2
comp=Z,67nm,1.2s
HHC Hu-ho-hao-te 42.71 350 *e*P **P** 23 15 49.3 -0.8
HHC PP **PP** 23 17 32.2 +2.1
HHC S **S** 23 22 09.3 -0.6
HHC sS **sS** 23 22 35.7 +1.7
HHC ScS **ScS** 23 25 42.0 -4.5
HHC PMZ
comp=Z,11nm,1.2s
HHC PMZ
comp=Z,96nm,5.8s
HHC LN
comp=Z,310nm,17.3s
HHC LE
comp=Z,360nm,17.8s
HHC LZ
comp=Z,190nm,17.1s
SKHT Srikalahasti 42.79 292 *e*P **P** 23 15 50.5 -0.5
RAMN Ramite 42.84 313 *e*P **P** 23 15 51.7 +0.2
comp=Z,141nm,1.4s
JIRN Jiri 43.55 314 *e*P **P** 23 15 57.3 -0.1
comp=Z,32nm,0.8s
GUN Gumba 43.92 314 *e*P **P** 23 16 00.3 0.0
comp=Z,74nm,0.8s
NJS Nagarjunasagar 44.05 296 *e*P **P** 23 16 00.7 -0.4
PKI Pulchoki 44.07 313 *e*P **P** 23 16 01.1 -0.4
comp=Z,32nm,1.0s
PKIN Phulchoki 44.08 313 *e*P **P** 23 16 01.1 -0.4
comp=Z,16nm,0.6s
KKN Kakani 44.29 313 *e*P **P** 23 16 03.0 -0.1
comp=Z,16nm,0.7s
DMN Daman 44.31 313 *e*P **P** 23 16 03.0 -0.3
comp=Z,34nm,0.9s
GTA Gaotai 44.64 337 *e*P **P** 23 16 06.9 +1.3
GTA pP **pP** 23 16 19.3 -0.7
GTA sP **sP** 23 16 24.4 -2.0
GTA S **S** 23 22 41.7 +3.6
GTA sS **sS** 23 23 03.1 +0.7
GTA SS **ScS** 23 25 55.8 -2.9
GTA PMZ
comp=Z,14nm,1.6s
GTA PMZ
comp=Z,99nm,4.8s
GTA LN
comp=Z,210nm,17.8s
GTA LE
comp=Z,410nm,15.9s
GTA LZ

comp=Z,230nm,19.0s
GKN Gorkha 44.87 313 *e*P **P** **23 16 07.0 -0.7**
comp=Z,72nm,1.1s
RPR Rampur 44.88 299 *e*P **P** **23 16 07.5 -0.2**
HYB Hyderabad 45.02 296 *i* P **P** **23 16 08.0 -0.9**
HYB *es*P sP 23 16 23.0 -6.7
HYB *e*S **S** **23 22 44.0 -0.1**
HYBB Hyderabad (bro 45.02 296 *e*P **P** **23 16 08.0 -0.9**
HYBB *e*S **S** **23 22 42.9 -1.2**
CN2 Changchun 45.19 5 *e*P **P** **23 16 07.5 -2.2**
CN2 *e*S **S** **23 22 43.8 -1.8**
CN2 PMZ
comp=Z,10.0nm,0.7s
CN2 PMZ
comp=Z,200nm,5.0s
CN2 LN
comp=Z,300nm,14.0s
CN2 LE
comp=Z,300nm,14.0s
CN2 LZ
comp=Z,300nm,16.0s
URV Uravakonda 45.41 293 *e*P **P** **23 16 11.5 -0.5**
KOLN Koldanda 45.51 312 *e*P **P** **23 16 12.5 -0.3**
comp=Z,42nm,0.9s
MDJ Mudanjiang 46.52 9 P **P** **23 16 20.0 -0.2**
MDJ pP **pP** **23 16 32.9 -1.8**
MDJ sP **sP** **23 16 40.1 -1.0**
MDJ S **S** **23 23 06.1 +1.4**
MDJ sS **sS** **23 23 29.1 0.0**
MDJ ScS **ScS** **23 26 09.6 -0.7**
MDJ PMZ
comp=Z,29nm,0.8s
MDJ PMZ
comp=Z,52nm,4.0s
MDJ LN
comp=Z,250nm,13.3s
MDJ LZ
comp=Z,350nm,15.3s
MDJ Mudanjiang 46.52 9 *e*P **P** **23 16 21.7 +1.5**
comp=Z,94nm,1.6s
USRK Ussuriysk Ar. 46.56 12 P **P** **23 16 18.4 -2.0**
comp=Z,3.9nm,0.5s,baz=196,slow=8.3,SNR=14
USRK LR LR 23 35 14.0
comp=Z,259nm,21.6s,baz=191,slow=35
ERM Erimo 47.91 23 P **P** **23 16 32.0 +0.9**
ASAJ Asahikawa 49.50 21 *e*P **P** **23 16 44.4 +1.1**
comp=Z,28nm,0.9s
ULN Ulaanbaatar 50.32 349⇓ *e*P **P** **23 16 50.9 +1.3**
ULN pmax pmax
comp=Z,25nm,1.7s
ULN Ulaanbaatar 50.32 349 P **P** **23 16 51.0 +1.3**
SNR=13
ULN Ulaanbaatar 50.32 349 *e*P **P** **23 16 49.5 -0.1**
comp=Z,47nm,1.8s
SONA0 Songino Array 50.43 348 *e*P **P** **23 16 50.3 0.0**
SONM Songino Array 50.43 348 P **P** **23 16 50.3 0.0**
comp=Z,4.2nm,0.7s,baz=170,slow=8.5,SNR=6.8
SONA1 Songino Array 50.44 348 *e*P **P** **23 16 49.9 -0.6**
YUK Yuzh-Kuril'sk 50.68 24*c i*P P 23 16 47.2 -5.0
YUK *i* 23 18 07.0
YUK *i* 23 18 46.5
YUK *i* PPP PPP 23 19 50.7
YUK *i* S **S** **23 23 57.4 -5.9**
YUK *i* 23 26 37.6
YUK *i* SS **SS** **23 27 36.3 -2.2**
YUK *i* SSS SSS 23 29 15.0
HABR Khabarovsk 51.27 13 *e*P **P** **23 16 54.4 -2.1**
HABR *e*SP 23 17 08.6
HABR *e* 23 18 10.2
HABR *e* 23 19 50.6
HABR *e*S **S** **23 24 10.2 -1.2**
HABR *e* 23 26 41.9
HABR *e*SS **SS** **23 27 47.7 0.0**
HABR pmax pmax
comp=Z,18nm,1.9s
HABR MLR MLR
comp=Z,119nm,19.0s
ZAK Zakamensk 53.51 347 *e*P **P** **23 17 12.8 -0.5**
ZAK pmax pmax
comp=Z,4.0nm,1.5s
WMQ Urumqi 53.52 331 P **P** **23 17 13.9 +0.5**
WMQ pP **pP** **23 17 29.7 +1.5**
WMQ sP **sP** **23 17 36.7 +2.3**
WMQ PcP **PcP** **23 18 19.7 0.0**
WMQ PP **PP** **23 19 14.3 -0.2**
WMQ PcS **PcS** **23 22 17.1 -1.6**
WMQ S **S** **23 24 41.1 -1.3**
WMQ sS **sS** **23 25 08.2 +0.9**
WMQ ScS **ScS** **23 26 54.2 -4.0**
WMQ PMZ
comp=Z,21nm,1.0s
WMQ PMZ
comp=Z,180nm,3.8s
WMQ LN
comp=Z,210nm,16.4s
WMQ LE
comp=Z,250nm,16.6s
WMQ LZ
comp=Z,160nm,23.2s
TLY Talaya 54.65 347 *e*P **P** **23 17 22.7 +1.3**
TLY *e*SS SKiKP 23 28 41.8 +16
TLY *e*SSS SSS 23 30 36.3
TLY pmax pmax
comp=Z,6.0nm,0.9s
TLY MLR MLR
comp=Z,144nm,16.0s
MOY Mondy 55.25 346 *e*P **P** **23 17 26.6 +0.7**
KSH Kashi 57.33 320 P **P** **23 17 41.5 +0.6**
KSH pP **pP** **23 17 57.4 +1.6**
KSH sP **sP** **23 18 04.5 +2.4**
KSH PcS **PcS** **23 22 33.8 -2.0**
KSH S **S** **23 25 32.9 -0.6**
KSH sS **sS** **23 26 00.6 +2.0**
KSH ScS **ScS** **23 27 21.9 -4.0**
KSH PMZ
comp=Z,12nm,0.8s
KSH PMZ
comp=Z,110nm,4.4s
KSH LN
comp=Z,700nm,13.7s
KSH LE
comp=Z,280nm,10.1s
KSH LZ
comp=Z,95nm,7.1s
MK01 Makanchi Array 58.28 330 *e*P **P** **23 17 47.2 -0.2**
MK31 Makanchi Array 58.30 330 *i* P **P** **23 17 47.6 +0.1**
MK31 pmax pmax
comp=Z,24nm,0.9s
MK31 Makanchi Array 58.30 330 P **P** **23 17 48.4 +0.8**
baz=58,SNR=6.4
MK32 Makanchi Array 58.30 330 *e*P **P** **23 17 48.1 +0.6**
MKAR Makanchi Array 58.30 330 P **P** **23 17 48.1 +0.6**
comp=Z,9.1nm,0.7s,baz=165,slow=5.0,SNR=46
MKAR LR LR 23 44 23.9
comp=Z,132nm,21.9s,baz=130,slow=38
MKAR Makanchi Array 58.30 330 *i* P **P** **23 17 48.0 +0.5**
MKAR pmax pmax
comp=Z,9.0nm,0.7s
MKAR Makanchi Array 58.30 330 *e*P **P** **23 17 48.3 +0.8**
BOD Bodaibo 59.18 356 *e*P **P** **23 17 52.1 -1.2**
BOD pmax pmax
comp=Z,13nm,1.3s
KZA Kyzart 59.23 322 P **P** **23 17 55.5 +0.9**
SNR=13
KZA Kyzart 59.23 322 *i* P **P** **23 17 55.4 +0.9**
TKM2 Tokmak 2 59.50 323 P **P** **23 17 57.1 +0.9**
SNR=18
TKM2 Tokmak 2 59.50 323 *i* P **P** **23 17 57.1 +0.9**
TKM2 Tokmak 2 59.50 323 *e*P **P** **23 17 57.1 +0.9**
comp=Z,19nm,0.9s
KBL Kabul 59.67 312 *e*P **P** **23 17 57.0 -0.4**
KBL pmax pmax
comp=Z,23nm,0.9s
KBL Kabul 59.67 312 P **P** **23 17 57.0 -0.4**
baz=60,SNR=7.0
KBL Kabul 59.67 312 *e*P **P** **23 17 57.0 -0.4**
comp=Z,23nm,0.9s
KBK Karagaybulak 59.74 323 P **P** **23 17 58.9 +1.2**
SNR=15
AAK Ala-Archa 60.00 322 P **P** **23 18 00.2 +0.7**
comp=Z,70nm,0.9s,SNR=5.9
AAK Ala-Archa 60.00 322*c i*P **P** **23 18 00.6 +1.1**
AAK pmax pmax
comp=Z,38nm,1.2s
AAK Ala-Archa 60.00 322 P **P** **23 18 00.8 +1.3**
SNR=6.9
AAK Ala-Archa 60.00 322 *e*P **P** **23 18 00.3 +0.7**
comp=Z,10nm,0.9s
CHMS Chumysh 60.05 323 P **P** **23 18 00.1 +0.4**
SNR=5.9
CHMS Chumysh 60.05 323 *i* P **P** **23 18 00.1 +0.4**
AML Almayashu 60.22 322 P **P** **23 18 02.4 +1.1**
SNR=13
AML Almayashu 60.22 322 *i* P **P** **23 18 02.4 +1.1**
USP Ospenovka 60.36 323 P **P** **23 18 02.5 +0.6**
SNR=12
USP Ospenovka 60.36 323 *i* P **P** **23 18 02.4 +0.6**
EKS2 Erkin-Say 60.46 322 P **P** **23 18 03.5 +0.9**
SNR=5.9
EKS2 Erkin-Say 60.46 322 *e*P **P** **23 18 03.7 +1.1**
EKS2 pmax pmax
comp=Z,16nm,1.1s
EKS2 Erkin-Say 60.46 322 *e*P **P** **23 18 03.6 +1.1**
comp=Z,16nm,1.1s
ZAA0 Zalesovo Array 62.40 337 P **P** **23 18 14.5 -0.8**
baz=62,SNR=3.7
ZAA0 Zalesovo Array 62.40 337 *e*P **P** **23 18 13.8 -1.5**
ZALV Zalesovo Beam 62.40 337 P **P** **23 18 14.3 -0.9**
comp=Z,9.1nm,0.9s,baz=137,slow=5.2,SNR=29
ZALV LR LR 23 47 58.2
comp=Z,105nm,21.2s,baz=238,slow=39
ZAA1 Zalesovo Array 62.40 337 *e*P **P** **23 18 14.3 -0.9**
PEA0 Petropavlovsk- 62.65 24 *e*P **P** **23 18 18.1 +1.1**
PETK Petropavlovsk- 62.65 24 P **P** **23 18 17.5 +0.5**
comp=Z,12nm,0.9s,baz=199,slow=4.1,SNR=13
PETK LR LR 23 43 37.8
comp=Z,210nm,21.8s,baz=223,slow=34
PEA2 Petropavlovsk- 62.66 24 *e*P **P** **23 18 17.5 +0.5**
KKAR Karatay Array 62.72 321 *e*P **P** **23 18 17.7 0.0**
KKAR Karatay Array 62.72 321 *e*P **P** **23 18 17.7 0.0**
KURK Kurchatov 62.75 332 P **P** **23 18 17.3 -0.4**
comp=Z,180nm,0.9s,SNR=28
KURK Kurchatov 62.75 332 *e*P **P** **23 18 17.6 -0.1**
KURK pmax pmax
comp=Z,55nm,0.9s
KURK Kurchatov 62.75 332 P **P** **23 18 17.8 0.0**
SNR=29
KURK Kurchatov 62.75 332 *e*P **P** **23 18 17.6 -0.1**
comp=Z,55nm,0.9s
YAK Yakutsk 63.62 5 *e*P **P** **23 18 23.4 +0.2**
YAK *e**PP pP 23 18 32.7 -5.6
YAK *e* 23 18 57.4
YAK *e* 23 20 44.5
YAK *e*PPP PPP 23 22 20.0
YAK *e*S **S** **23 26 58.4 +5.5**
YAK *e**SS **sS** **23 27 13.4 -4.9**
YAK pmax pmax
comp=Z,36nm,0.9s
YAK pmax pmax
comp=N,11nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK pmax pmax
comp=Z,27nm,1.8s
YAK pmax pmax
comp=N,26nm,2.7s
YAK smax smax
comp=E,33nm,2.5s
YAK smax smax
comp=N,29nm,2.5s
YAK MLR MLR
comp=Z,119nm,17.0s
YAK MLR MLR
comp=E,57nm,17.0s
YAK MLR MLR
comp=N,139nm,19.0s
NVS Novosibirsk 63.68 337 *e*P **P** **23 18 21.2 -2.6**
NVS pmax pmax
comp=Z,24nm,1.8s
NVS pmax pmax
comp=N,12nm,1.6s
NVS pmax pmax
comp=E,18nm,1.8s
OTUK Ortayu 64.44 327 *i* P **P** **23 18 28.3 -0.7**
OTUK pmax pmax
comp=Z,21nm,1.0s
BRVK Borovoye 68.26 330 P **P** **23 18 53.0 -0.2**
comp=Z,122nm,1.0s,SNR=16
BRVK Borovoye 68.26 330 *e*P **P** **23 18 52.7 -0.5**
BRVK pmax pmax
comp=Z,19nm,0.9s
BRVK Borovoye 68.26 330 P **P** **23 18 53.1 -0.2**
SNR=14
BRVK Borovoye 68.26 330 *e*P **P** **23 18 52.7 -0.5**
comp=Z,19nm,0.9s
ABTO Aybut 68.39 289 P **P** **23 18 53.7 -1.1**
SNR=7.8
AFI Afiamalu 68.40 104 *e*P P 23 19 00.4 +5.4
AFI pmax pmax
comp=Z,80nm,1.4s
AFI Afiamalu 68.40 104 *e*P P 23 19 00.4 +5.4
comp=Z,80nm,1.4s
SEY Seymchan 68.52 15 *e*P **P** **23 18 56.7 +2.1**
GEYT Alibeck 69.12 312 P **P** **23 18 59.0 0.0**
comp=Z,20nm,1.1s,baz=129,slow=2.1,SNR=17
GEYT LR LR 23 54 48.1
comp=Z,128nm,19.7s,baz=95,slow=41
IKAZ Kazeroun 71.96 302 *e*P **P** **23 19 15.0 -1.8**
ABKAR Akbulak array 72.07 323 *e*P **P** **23 19 16.1 -0.6**
TIXI Tiksi 73.08 3⇓ *i*P **P** **23 19 21.5 -0.7**
TIXI pmax pmax
comp=Z,14nm,1.0s
TIXI Tiksi 73.08 3 *e*P **P** **23 19 21.7 -0.5**
comp=Z,11nm,0.9s
IPIR Pirpir 73.38 305 *e*P **P** **23 19 23.1 -2.1**
IMHD Mahdasht 74.23 308 *e*P **P** **23 19 29.1 -0.8**
SVE Sverdlovsk 74.97 331⇓ *e*P **P** **23 19 32.3 -1.2**
SVE pmax pmax
comp=Z,19nm,1.1s
ARU Arti 75.82 330 P **P** **23 19 37.8 -0.6**
comp=Z,66nm,1.0s,SNR=5.2
ARU Arti 75.82 330*c i*P **P** **23 19 37.3 -1.1**
ARU S **S** **23 29 17.4 +1.1**
ARU pmax pmax
comp=Z,12nm,1.0s
ARU Arti 75.82 330 *e*P **P** **23 19 37.2 -1.1**
comp=Z,12nm,1.0s
RAYN Ar Rayn 76.49 294 P **P** **23 19 41.0 -2.0**
comp=Z,53nm,1.2s,SNR=11
RAYN Ar Rayn 76.49 294 *e*P **P** **23 19 41.2 -1.8**
comp=Z,9.0nm,1.3s
MAW Mawson 76.79 199 P **P** **23 19 45.2 +1.6**
comp=Z,5.3nm,0.8s,baz=56,slow=7.9,SNR=5.4
MAW LR LR 23 51 10.6
comp=Z,173nm,18.4s,baz=56,slow=34
MAW Mawson 76.79 199 *e*P P 23 19 46.9 +3.2
MAW pmax pmax
comp=Z,26nm,2.2s
MAW Mawson 76.79 199 *e*P P 23 19 46.9 +3.2
comp=Z,26nm,2.2s
VNDA Vanda 79.34 172 P **P** **23 19 58.1 +0.4**
comp=Z,1.9nm,0.6s,baz=326,slow=4.7,SNR=10
VNDA LR LR 23 56 09.0
comp=Z,221nm,18.7s,baz=328,slow=36
VNDA Vanda 79.34 172 *e*P **P** **23 19 59.4 +1.7**
VNDA pmax pmax
comp=Z,8.0nm,1.1s
VNDA Vanda 79.34 172 *e*P **P** **23 19 59.4 +1.7**
comp=Z,7.5nm,1.1s
GNI Garni 79.74 311 P **P** **23 20 01.0 +0.2**
GNI pmax pmax
comp=Z,8.0nm,1.2s
GNI Garni 79.74 311 *e*P **P** **23 20 03.0 +2.2**
comp=Z,9.0nm,1.1s
NCK Nalchik 81.19 314 P **P** **23 20 09.0 +0.7**
KBZ Khabaz 81.73 314 P **P** **23 20 11.7 +0.6**
comp=Z,3.2nm,0.9s,baz=56,slow=24,SNR=10
KBZ PKKPbc **PKKPbc** **23 38 45.9 +1.6**
comp=Z,0.9nm,0.5s,baz=56,slow=24,SNR=4.0
KBZ LR LR 00 03 37.9
comp=Z,82nm,19.4s,baz=148,slow=41
KIV Kislovodsk 81.92 315 *e*P **P** **23 20 14.4 +2.1**
KIV *e*S **S** **23 30 25.0 +2.9**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KMBO Kilima Mbogo 82.88 269 *i* P P 23 20 21.3 +3.2
KMBO pmax pmax
comp=Z,1.0nm,0.4s
PRGR Permogore 83.86 332 *e*P **P** **23 20 23.2 +1.5**
PRGR pmax pmax
comp=Z,5.0nm,0.7s
VORD Divnogorie 85.27 321 *e*P **P** **23 20 30.0 +0.9**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,30nm,1.2s
VSR Storozhevoye 85.39 321 *e*P **P** **23 20 30.6 +0.9**
VSR pmax pmax
comp=Z,20nm,1.0s
VSR pmax pmax
comp=N,7.0nm,1.2s
VSR pmax pmax
comp=E,20nm,1.2s
LPSR Galich'ya Gora 85.72 323 *e*P **P** **23 20 32.3 +1.0**
LPSR pmax pmax
comp=Z,20nm,0.9s
LPSR pmax pmax
comp=N,9.0nm,1.4s
LPSR pmax pmax
comp=E,8.0nm,1.1s
ANN Anapa 85.76 315 *e*P P 23 20 37.1 +5.4
ANN pmax pmax
comp=Z,25nm,0.9s
EIL Elat 86.48 300 P P 23 20 40.2 +4.6
baz=86,SNR=3.4
KLMR Klimovskoe 86.60 331 *e*P **P** **23 20 35.3 -0.1**
KLMR pmax pmax
comp=Z,16nm,1.0s
OBN Obninsk 87.41 325 *i* P **P** **23 20 38.0 -1.5**
OBN *i* 23 24 06.9
OBN *i* S **SKSac** **23 30 56.7 -5.8**
OBN *i* SS **SS** **23 36 55.8 -5.9**
OBN pmax pmax
comp=Z,8.0nm,1.0s
OBN MLR MLR
comp=Z,124nm,27.0s
BR101 Keskin Array S 88.16 310 *e*P **P** **23 20 42.6 -1.1**
BRTR Keskin Array B 88.16 310 P **P** **23 20 42.6 -1.1**
comp=Z,3.8nm,1.0s,baz=131,slow=5.3,SNR=13
BRTR LR LR 00 07 39.9
comp=Z,71nm,19.8s,baz=103,slow=41
BRTR Keskin Array B 88.16 310 *i* P **P** **23 20 43.7 0.0**
BRTR pmax pmax
comp=Z,4.0nm,1.0s
BR231 Keskin MP Arra 88.83 310 *e*P P 23 20 42.9 -3.9
MBAR Mbarara 89.40 269 *e*P **P** **23 20 48.5 -1.6**
MBAR pmax pmax
comp=Z,12nm,1.1s
MBAR Mbarara 89.40 269 *e*P **P** **23 20 48.5 -1.6**
comp=Z,12nm,1.1s
PPT Papeete 89.86 107 LR LR 00 01 53.5
comp=Z,42nm,18.6s,baz=264,slow=36
AKASG Malin Array Be 91.62 320 P **P** **23 20 58.3 -1.1**
comp=Z,0.1nm,0.3s,baz=80,slow=4.4,SNR=5.9
AKASG LR LR 00 08 36.1
comp=Z,45nm,19.1s,baz=90,slow=40
AKASG Malin Array Be 91.62 320 *i* P **P** **23 21 02.0 +2.6**
AKBB Malin Array Si 91.62 320 *e*P **P** **23 20 58.3 -1.1**
AKBB Malin Array Si 91.62 320 *e*P **P** **23 20 58.3 -1.1**
KIEV Kiev 91.63 320⇓ *e*P **P** **23 20 59.3 -0.1**
ILAR Eielson Array 92.47 25 P **P** **23 21 01.6 -1.4**
comp=Z,0.8nm,1.1s,baz=235,slow=3.2,SNR=3.1
ILAR LR LR 00 01 54.7
comp=Z,58nm,21.4s,baz=250,slow=35
ILB Eielson Array 92.47 25 *e*P **P** **23 21 01.6 -1.4**
ARA0 ARCESS Array S 92.88 339 *e*P **P** **23 21 03.5 -1.4**
ARCES ARCESS Array B 92.88 339 P **P** **23 21 03.5 -1.4**
comp=Z,2.9nm,0.9s,baz=338,slow=9.2,SNR=4.2
FIA0 FINESS Array S 93.13 331 *e*P **P** **23 21 04.7 -1.4**
FIA0 FINESS Array S 93.13 331 *e*P **P** **23 21 04.7 -1.4**
FINES FINESS Array B 93.13 331 P **P** **23 21 04.6 -1.4**
comp=Z,1.7nm,0.9s,baz=88,slow=4.4,SNR=3.1
BUR04 Bucovina Ar. S 94.32 317 *e*P **P** **23 21 13.0 +0.9**
VYHS Vyhne 98.50 319 *e*P Pdif 23 21 34.9 +4.0
VYHS Vyhne 98.50 319 PDIF Pdif 23 21 34.9 +4.0
CLL Collm 101.72 322 *e*SS SS 23 40 18.0 -7.4
CLL *e*SSS SSS 23 44 12.0
CLL *e* 23 47 54.0
CLL LmV 00 18 00.0
comp=Z,100nm,21.2s
ISA Isabella, Lake 115.93 51 *e*PKIKP **PKPdf** **23 26 35.3 -0.3**
ISA Isabella, Lake 115.93 51 *e*PKPdf **PKPdf** **23 26 35.2 -0.3**
TOA0 Torodi Ar. Sit 117.99 284 *e*PKPdf **PKPdf** **23 26 39.0 -1.0**
TORD Torodi Ar. Bea 117.99 284 PKP **PKPdf** **23 26 39.0 -1.0**
comp=Z,0.8nm,0.9s,baz=105,slow=1.8,SNR=4.7
PD31 Pinedale Array 119.46 40 *e*PKPdf **PKPdf** **23 26 43.8 +1.4**
PD31 *e*PKKPbc **PKKPbc** **23 36 54.5 -0.9**
PDAR Pinedale Array 119.46 40 PKP **PKPdf** **23 26 43.8 +1.4**
comp=Z,0.5nm,1.0s,baz=165,slow=4.7,SNR=2.3
PDAR PKKPbc **PKKPbc** **23 36 54.5 -0.9**
comp=Z,1.7nm,0.9s,baz=104,slow=6.3,SNR=9.8
LTX Lajitas 129.88 52 *e*PKIKP **PKPdf** **23 27 04.9 +2.4**
LTX Lajitas 129.88 52 *e*PKPdf **PKPdf** **23 27 04.8 +2.4**
TXAR Lajitas Array 129.88 52 PKP **PKPdf** **23 27 04.8 +2.3**
comp=Z,0.2nm,0.6s,baz=278,slow=2.6,SNR=2.2
BLO Bloomington 135.15 30 *e*PKIKP **PKPdf** **23 27 08.8 -3.2**
BLO Bloomington 135.15 30 *e*PKPdf **PKPdf** **23 27 08.8 -3.2**
PLCA Paso Flores 137.00 168 PKP **PKPdf** **23 27 19.1 +3.6**
comp=Z,4.4nm,1.1s,baz=162,slow=20,SNR=3.4
LCO Las Campanas 148.08 162 *e*PKPbc **PKPbc** **23 27 39.4 +0.5**
CPUP Villa Florida 152.38 185 PKPbc **PKPbc** **23 27 50.4 +1.4**
comp=Z,1.5nm,1.0s,baz=155,slow=3.5,SNR=4.0
BDFB Brasilia 159.47 214 PKPab **PKPab** **23 28 30.3 +0.5**
comp=Z,4.7nm,0.7s,baz=118,slow=0.5,SNR=6.9
LPAZ La Paz 160.67 155 PKP **PKPdf** **23 27 56.5 +2.6**
comp=Z,2.2nm,1.0s,baz=233,slow=2.3,SNR=6.9
LPAZ PKPab **PKPab** **23 28 37.3 +1.7**
comp=Z,5.6nm,0.8s,baz=140,slow=2.7,SNR=14
SAML Samuel 169.25 162 *e*PKPab **PKPab** **23 29 12.9 +0.3**

IDC 12 23:16:48.6±4.7, 20°66S×175°87W, h0km, mb4.4/3, mb1 4.4/3, mb1mx3.9/20, mbtmp4.4/3, Error ellipse: s-maj=182.6km s-min=63.2km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.46**	**264**	P	P		23 23 47.1	+0.2
	3.3nm,0.4s,baz=88,slow=11,SNR=6.8							
STKA	**Stephens Creek**	**39.52**	**245**	P	P		23 24 22.1	+0.9
	1.1nm,0.5s,baz=88,slow=12,SNR=2.9							
ASAR	**Alice Springs**	**46.42**	**257**	P	P		23 25 16.4	-0.9
	4.8nm,0.6s,baz=96,slow=8.2,SNR=37							
BRTR	**Keskin Array B**	**148.41**	**314**	PKPbc	PKPbc		23 36 36.9	-0.6
	0.2nm,0.4s,baz=61,slow=2.2,SNR=2.6							

IDC ***12*** *23:17:13.4±2.1, 31°13S×178°89W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.9/18, mbtmp4.0/4, ML3.6/1, Error ellipse: s-maj=47.6km s-min=43.5km az=50.0*

ISC 12 23:17:18.5±2.2, 31°2S±0°2×178°9W±0°3, h35km, n6, σ0s94/6, mb3.9/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.75**	**204**	Pn	**Pn**		**23 19 08.6**	**-0.2**
	0.9nm,0.3s,baz=54,slow=17,SNR=3.6							
STKA	**Stephens Creek**	**33.56**	**258**	P	P		**23 23 56.1**	**+0.9**
	1.4nm,0.7s,baz=101,slow=10,SNR=2.9							
ASAR	**Alice Springs**	**42.31**	**268**	P	P		**23 25 09.3**	**+0.2**
	1.1nm,0.7s,baz=106,slow=7.9,SNR=9.5							
WRA	**Warramunga Arr**	**43.38**	**274**	P	P		**23 25 16.5**	**-1.3**
	1.8nm,0.8s,baz=114,slow=7.7,SNR=6.6							
FINES	**FINESS Array B**	**145.65**	**339**	PKPbc	**PKPdf**		**23 36 52.5**	**+0.1**
	1.4nm,0.8s,baz=35,slow=5.1,SNR=3.9							
TORD	**Torodi Ar. Bea**	**162.00**	**182**	PKPab	**PKPab**		**23 38 02.9**	**+0.1**
	0.8nm,0.8s,baz=184,slow=3.9,SNR=4.3							

DJA 12 23:18:04.4±0.3, 1°S±3°×12°0E±°, h18km±5km, M3.5/11, MLv3.5/11, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.27**	**340**	P	P	Pb	23 18 12.1	+1.4
PCI				S	S	Sb	23 18 15.7	+0.8
MPSI	**Mapaga**	**1.49**	**359**	P	P	Pb	23 18 31.6	+0.1
TTSI	**Tana Toraja**	**1.88**	**183**	P	P	Pn	23 18 35.2	-0.4
TTSI				S	S	Sn	23 18 58.3	-0.5
MRSI	**Marisa**	**2.59**	**51**	P	P	Pn	23 18 45.4	0.0
MRSI				S	S	Sn	23 19 18.3	+1.9
SPSI	**Sidrap Palu**	**2.79**	**183**	P	P	Pn	23 18 49.1	+0.9
SPSI				S	S	Sn	23 19 23.7	+2.3
LUWI	**Luwuk**	**2.84**	**88**	P	P	Pb	23 18 52.5	-2.2

LUWI				S	Sn	23 19 24.0	+1.3	
BNSI	**Bone**	**3.22**	**177**	P	Pn	23 18 55.4	+1.2	
BNSI				S	Sn	23 19 34.1	+2.0	
GTOI	**Gorontalo**	**3.56**	**60**	P	Pn	23 18 56.8	-2.0	

*DDA **12** 23:18:18.8, 39°.53N×25°.84E, h7km, MD2.8*
*ATH **12** 23:18:19.8, 39°.57N×25°.98E, h5km±2km, MD3.1/5*
*ISK **12** 23:18:19.3, 39°.60N×25°.90E, h5km, MD3.0*
*CSEM **12** 23:18:20.5±0.2, 39°.56N×25°.91E, h5km, ML1.9, Error ellipse: s-maj=4.3km s-min=3.1km az=78.0*
*THE **12** 23:18:20.3, 39°.55N×25°.92E, h7km±2km, ML1.9/6, Error ellipse: s-maj=3.0km s-min=0.6km az=231.0*

ISC 12 23:18:20.3±1.0, 39°.56N±0°.02×25°.91E±0°.02, h9km±10km, n66, σ0°.81/94, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.30**	**21**	*i* P	**Pg**	**23 18 26.3**	**0.0**
BOZC				*i* S	**Sg**	**23 18 31.2**	**+0.8**
SIGR	**SIGRI**	**0.35**	**187**	*e*PG	**Pb**	**23 18 28.4**	**-0.3**
SIGR	**SIGRI**	**0.35**	**187**	P	**Pg**	**23 18 27.4**	**+0.2**
SIGR				S	**Sg**	**23 18 31.4**	**-0.5**
SIGR	**SIGRI**	**0.35**	**187**	*e*PB	**Pg**	**23 18 27.4**	**+0.2**
SIGR				*e*SB	**Sg**	**23 18 32.5**	**+0.6**
SIGR	**SIGRI**	**0.35**	**187**	P	**Pg**	**23 18 27.4**	**+0.2**
SIGR	**SIGRI**	**0.35**	**187**	*e*Pg	**Pb**	**23 18 28.4**	**-0.3**
SIGR				S	**Sg**	**23 18 31.4**	**-0.5**
SIGR				*e*Sb	**Sg**	**23 18 32.5**	**+0.6**
EZN	**Ezine**	**0.42**	**50**	*e*PG	**Pg**	**23 18 28.2**	**-0.2**
EZN	**Ezine**	**0.42**	**50**	*e*Pg	**Pg**	**23 18 28.2**	**-0.2**
PRK	**Paraskevi**	**0.42**	**138**	P	**Pg**	**23 18 28.6**	**0.0**
PRK				S	**Sg**	**23 18 33.8**	**-0.3**
PRK	**Paraskevi**	**0.42**	**138**	*e*PB	**Pg**	**23 18 28.5**	**0.0**
PRK				*e*SB	**Sg**	**23 18 33.8**	**-0.3**
PRK	**Paraskevi**	**0.42**	**138**	P	**Pg**	**23 18 28.5**	**0.0**
PRK				S	**Sg**	**23 18 33.8**	**-0.3**
GADA	**Gvkgeada**	**0.63**	**359**	*e*PG	**Pg**	**23 18 32.3**	**-0.2**
LIA	**Limnos Island**	**0.65**	**301**	P	**Pb**	**23 18 33.6**	**-0.3**
LIA				S	**Sb**	**23 18 42.9**	**-0.2**
LIA	**Limnos Island**	**0.65**	**301**	*e*PB	**Pb**	**23 18 33.6**	**-0.3**
LIA				*e*SB	**Sb**	**23 18 43.5**	**+0.4**
LIA	**Limnos Island**	**0.65**	**301**	P	**Pb**	**23 18 33.6**	**-0.3**
LIA				S	**Sb**	**23 18 42.9**	**-0.2**
LIA				*e*Sb	**Sb**	**23 18 43.5**	**+0.4**
AYVA	**Ayvalik**	**0.66**	**112**	*i* P	**Pg**	**23 18 32.0**	**-0.9**
AYVA				*i* S	**Sb**	**23 18 43.1**	**0.0**
AYVA	**Ayvalik**	**0.66**	**112**	*i* P	**Pg**	**23 18 32.0**	**-0.9**
AYVA				*i* S	**Sb**	**23 18 43.1**	**0.0**
GELI	**Tayfur-Gelibol**	**0.94**	**27**	*e*PG	**Pg**	**23 18 37.9**	**-0.5**
GELI				*e*SG	**Sb**	**23 18 51.5**	**+0.1**
SMTH	**Samothraki Isl**	**0.95**	**342**	P	**Pg**	**23 18 38.6**	**-0.1**
SMTH				S	**Sb**	**23 18 52.0**	**+0.2**
SMTH	**Samothraki Isl**	**0.95**	**342**	*e*PB	**Pg**	**23 18 38.5**	**-0.1**
SMTH				*e*SB	**Sb**	**23 18 51.6**	**-0.2**
SMTH	**Samothraki Isl**	**0.95**	**342**	P	**Pg**	**23 18 38.6**	**-0.1**
SMTH				*e*Sb	**Sb**	**23 18 51.6**	**-0.2**
SMTH				S	**Sb**	**23 18 52.0**	**+0.2**
LPK	**Lapseki**	**1.04**	**39**	*e*PG	**Pg**	**23 18 39.1**	**-1.3**
CHOS	**Chios island**	**1.18**	**174**	*e*PN	**Pn**	**23 18 43.8**	**+0.7**
CHOS	**Chios island**	**1.18**	**174**	P	**Pg**	**23 18 41.6**	**-1.3**
CHOS				S	**Sb**	**23 18 58.6**	**+0.3**
CHOS	**Chios island**	**1.18**	**174**	*e*PN	**Pg**	**23 18 41.7**	**-1.2**
CHOS				*e*SB	**Sb**	**23 18 58.7**	**+0.4**
CHOS	**Chios island**	**1.18**	**174**	P	**Pg**	**23 18 41.6**	**-1.3**
CHOS				S	**Sb**	**23 18 58.6**	**+0.3**
ENEZ	**Enez**	**1.19**	**9**	*e*PN	**Pg**	**23 18 42.6**	**-0.5**
ERIK	**Erikli-Kesan**	**1.20**	**22**	*e*PN	**Pg**	**23 18 42.4**	**-1.0**
ERIK	**Erikli-Kesan**	**1.20**	**22**	*e*Pn	**Pg**	**23 18 42.4**	**-1.0**
ALN	**Alexandroupoli**	**1.34**	**4**	*e*PN	**Pn**	**23 18 45.3**	**+0.1**
ALN	**Alexandroupoli**	**1.34**	**4**	P	**Pn**	**23 18 44.8**	**-0.4**
ALN				S	**Sg**	**23 19 03.0**	**-0.4**
ALN	**Alexandroupoli**	**1.34**	**4**	*e*PB	**Pn**	**23 18 44.8**	**-0.4**
ALN				*e*SB	**Sb**	**23 19 02.8**	**0.0**
ALN	**Alexandroupoli**	**1.34**	**4**	P	**Pn**	**23 18 44.8**	**-0.4**
ALN	**Alexandroupoli**	**1.34**	**4**	*e*Pn	**Pn**	**23 18 45.3**	**+0.1**
ALN				S	**Sg**	**23 19 03.0**	**-0.4**
ZEY	**¨zmir**	**1.40**	**160**	*i* P	**Pn**	**23 18 45.5**	**-0.5**
ZEY				*i* P	**Sg**	**23 19 05.7**	**+0.5**
BLCB	**Balcova**	**1.47**	**143**	*e*PN	**Pg**	**23 18 48.6**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.49**	**40**	*e*PN	**Pn**	**23 18 46.9**	**-0.4**
RKY	**Sarkoy-Tekirda**	**1.49**	**40**	*e*Pn	**Pn**	**23 18 46.9**	**-0.4**
BALB	**Balikesir**	**1.52**	**86**	*e*PN	**Pb**	**23 18 48.6**	**-0.2**
BALB	**Balikesir**	**1.52**	**86**	*e*Pn	**Pb**	**23 18 48.6**	**-0.2**
MRMT	**Marmara Adasi**	**1.66**	**51**	*e*PN	**Pb**	**23 18 50.5**	**-0.6**
MRMT	**Marmara Adasi**	**1.66**	**51**	*e*Pn	**Pb**	**23 18 50.5**	**-0.6**
OUR	**Ouranopolis**	**1.67**	**298**	*e*PN	**Pn**	**23 18 50.3**	**+0.6**
OUR	**Ouranopolis**	**1.67**	**298**	*e*Pn	**Pn**	**23 18 50.3**	**+0.6**
EDK	**Edincik**	**1.69**	**62**	*e*PN	**Pb**	**23 18 51.3**	**-0.4**
TKR	**Tekirdag**	**1.89**	**41**	*e*PN	**Pn**	**23 18 53.6**	**+0.8**
SMG	**Samos**	**1.99**	**158**	*e*PN	**Pg**	**23 18 58.0**	**-0.4**
SMG				*e*SN	**Sg**	**23 19 24.2**	**0.0**
SMG	**Samos**	**1.99**	**158**	*e*Pn	**Pg**	**23 18 58.0**	**-0.4**
SMG				*e*Sn	**Sg**	**23 19 24.2**	**0.0**
KCTX	**Karacabey (Bur**	**2.01**	**69**	*e*PN	**Pn**	**23 18 55.0**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**2.24**	**136**	*e*PN	**Pb**	**23 18 59.4**	**-1.5**
EDRB	**Edirne**	**2.37**	**15**	*e*PN	**Pn**	**23 19 00.8**	**+1.4**
EDRB	**Edirne**	**2.37**	**15**	*e*Pn	**Pn**	**23 19 00.8**	**+1.4**
SLVT	**Silivri**	**2.42**	**46**	*e*PN	**Pn**	**23 19 01.4**	**+1.4**
SLVT	**Silivri**	**2.42**	**46**	*e*Pn	**Pn**	**23 19 01.5**	**+1.4**
MDNY	**Mudanya-Bursa**	**2.42**	**70**	*e*PN	**Pn**	**23 19 01.8**	**+1.7**
ARMT	**Armutlu**	**2.48**	**65**	*e*PN	**Pn**	**23 19 02.5**	**+1.6**
CTKS	**Kestanelik-??a**	**2.59**	**49**	*e*PN	**Pn**	**23 19 03.8**	**+1.4**
CTKS	**Kestanelik-??a**	**2.59**	**49**	*e*Pn	**Pn**	**23 19 03.8**	**+1.4**
BGKT	**Bogazkoy**	**2.72**	**53**	*e*PN	**Pn**	**23 19 05.9**	**+1.7**
BGKT	**Bogazkoy**	**2.72**	**53**	*e*Pn	**Pn**	**23 19 05.9**	**+1.7**
TVSB	**Tavsanli**	**2.75**	**91**	*e*PN	**Pn**	**23 19 06.5**	**+1.8**
ISK	**Istanbul-Kandi**	**2.84**	**57**	*e*PN	**Pn**	**23 19 07.6**	**+1.8**
ISK	**Istanbul-Kandi**	**2.84**	**57**	*e*Pn	**Pn**	**23 19 07.6**	**+1.8**
IZI	**Iznik**	**2.85**	**73**	*e*PN	**Pn**	**23 19 07.6**	**+1.6**
KLYT	**Kilyos**	**2.93**	**54**	*e*PN	**Pn**	**23 19 08.2**	**+1.2**
KLYT	**Kilyos**	**2.93**	**54**	*e*Pn	**Pn**	**23 19 08.2**	**+1.2**

IDC 12 23:27:15.3±5.7, 13°.38S×74°.67W, h106km±51km, mb3.6/2, mb1 3.8/3, mb1mx3.3/19, mbtmp4.0/3, Error ellipse: s-maj=102.4km s-min=38.9km az=28.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.95**	**115**	P	Pn	23 28 55.7	+0.3
	1.8nm,0.3s,baz=293,slow=12,SNR=29						
LPAZ				S	Sn	23 30 13.1	-0.5
	baz=0.0,slow=20,SNR=2.7						
TORD	**Torodi Ar. Bea**	**80.12**	**74**	P	P	23 39 14.4	+0.2
	1.3nm,0.7s,baz=246,slow=4.1,SNR=13						
YKA	**Yellowknife Ar**	**81.79**	**342**	P	P	23 39 21.8	-0.1
	0.7nm,0.8s,baz=137,slow=5.6,SNR=11						
WRA	**Warramunga Arr**	**136.28**	**221**	PKP	PKPdf	23 46 24.7	-0.6
	0.5nm,0.4s,baz=134,slow=2.0,SNR=3.1						

IDC 12 23:41:20.8±1.2, 13°.43N×145°.58E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/26, mbtmp3.6/4, Error ellipse: s-maj=52.9km s-min=28.2km az=108.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**20.90**	**73**	T	T	00 07 49.9	
	baz=262,slow=75,SNR=9.9						
H11S1	**WAKE ISLAND Hy**	**20.92**	**73**	T	T	00 07 50.9	
	baz=262,slow=75,SNR=5.1						
H11S2	**WAKE ISLAND Hy**	**20.92**	**73**	T	T	00 07 47.2	
	baz=262,slow=75,SNR=3.7						
H11N1	**WAKE ISLAND Hy**	**21.35**	**70**	T	T	00 09 14.5	
	baz=257,slow=75,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**21.36**	**70**	T	T	00 09 17.3	
	baz=257,slow=75,SNR=4.1						
H11N3	**WAKE ISLAND Hy**	**21.37**	**70**	T	T	00 09 16.7	
	baz=257,slow=75,SNR=5.1						
WRA	**Warramunga Arr**	**34.96**	**199**	P	P	23 48 14.8	-0.1
	0.6nm,0.3s,baz=21,slow=9.8,SNR=3.4						
MKAR	**Makanchi Array**	**62.09**	**316**	P	P	23 51 43.6	0.0
	0.3nm,0.4s,baz=92,slow=8.5,SNR=9.4						
ILAR	**Eielson Array**	**68.42**	**25**	P	P	23 52 23.9	-0.4
	0.3nm,0.6s,baz=246,slow=5.9,SNR=4.6						
YKA	**Yellowknife Ar**	**82.68**	**27**	P	P	23 53 46.7	+0.6
	0.3nm,0.5s,baz=284,slow=4.9,SNR=5.9						
TORD	**Torodi Ar. Bea**	**135.52**	**305**	PKP	PKPdf	00 00 44.9	+0.9
	0.2nm,0.5s,baz=63,slow=1.7,SNR=5.2						
DBIC	**Dimbokro**	**144.49**	**302**	PKP	PKPab	00 00 58.0	-0.6
	1.6nm,0.5s,baz=50,slow=6.3,SNR=4.2						

*UPP **12** 23:49:57.0, 67°.83N×20°.20E, h3km, ML1.5, Mining explosion.*
*HEL **12** 23:49:57.5±0.1, 67°.84N×20°.20E, h0km, ML1.9, ML1.5(UPP), Explosion*

CSEM 12 23:49:56.7±0.3, 67°.81N×20°.29E, h2km, ML1.5, Error ellipse: s-maj=6.5km s-min=6.0km az=2.0, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.15**	**7**	*i* P	Pg	23 49 59.7	+0.1
KUA				*i* S	Sg	23 50 01.6	+0.1
KUA	**Kurravaara**	**0.15**	**7**	P	Pg	23 49 59.6	0.0
KUA				S	Sg	23 50 01.6	+0.1
NIKU	**Nikkaluokta**	**0.48**	**277**	*i* P	Pg	23 50 05.3	-0.6
NIKU	**Nikkaluokta**	**0.48**	**277**	P	Pg	23 50 05.3	-0.6
LANU	**Lannavaara**	**0.69**	**69**	*e*P	Pg	23 50 10.3	+0.5
LANU	**Lannavaara**	**0.69**	**69**	P	Pg	23 50 10.2	+0.3
DUNU	**Dundret**	**0.70**	**171**	*i* P	Pg	23 50 10.4	+0.3
DUNU	**Dundret**	**0.70**	**171**	P	Pg	23 50 10.4	+0.2
MASU	**Masugnsbyn**	**0.74**	**118**	*i* P	Pg	23 50 11.6	+0.6
MASU	**Masugnsbyn**	**0.74**	**118**	P	Pg	23 50 11.6	+0.6
SALU	**Saltoluokta**	**0.81**	**239**	*i* P	Pg	23 50 11.8	-0.5
SALU	**Saltoluokta**	**0.81**	**239**	P	Pg	23 50 11.8	-0.4
PAJU	**Pajala**	**1.35**	**125**	*e*P	Pn	23 50 22.3	-0.2
PAJU	**Pajala**	**1.35**	**125**	P	Pn	23 50 22.3	-0.2
HEF	**Hetta**	**1.40**	**63**	*e*P	Pn	23 50 22.7	-0.5
	baz=248						
HEF				MSG		23 50 39.9	
	comp=Z,7.8nm,0.2s						
HEF	**Hetta**	**1.40**	**63**	P	Pn	23 50 22.7	-0.5
ERTU	**Ertsjaerv**	**1.46**	**149**	*e*P	Pn	23 50 24.2	+0.2
ERTU				*e*SN	Sn	23 50 45.2	+1.4
ERTU	**Ertsjaerv**	**1.46**	**149**	P	Pn	23 50 24.2	+0.1
ERTU				Sn	Sn	23 50 45.2	+1.4
HARU	**Harads**	**1.68**	**170**	*e*P	Pb	23 50 27.9	-0.3
HARU	**Harads**	**1.68**	**170**	P	Pb	23 50 27.9	-0.3
KALU	**Kalix**	**2.30**	**147**	*e*P	Pb	23 50 37.6	-1.2
KALU				*e*SG	Sg	23 51 09.7	-0.9
KALU	**Kalix**	**2.30**	**147**	P	Pb	23 50 37.6	-1.3
KALU				Sg	Sg	23 51 09.7	-0.9
SGF	**Sodankyl**	**2.42**	**96**	*e*PB	Pb	23 50 39.8	-1.1
	baz=285						
SGF	**Sodankyl**	**2.42**	**96**	Pb	Pb	23 50 39.7	-1.1
RNF	**Rovaniemi**	**2.53**	**116**	*e*PB	Pb	23 50 41.7	-1.1
RNF				*e*SG	Sg	23 51 17.1	-0.9
RNF	**Rovaniemi**	**2.53**	**116**	Pb	Pb	23 50 41.7	-1.1
RNF				Sg	Sg	23 51 17.1	-0.9
KEV	**Kevo**	**3.13**	**48**	*e*P	Pn	23 50 48.4	+1.5
KEV				MSG		23 51 29.7	
	comp=Z,3.9nm,0.2s						
KEV				*e*SG	Sg	23 51 36.6	-0.4
KEV	**Kevo**	**3.13**	**48**	P	Pn	23 50 48.4	+1.5
KEV				Sg	Sg	23 51 36.6	-0.4
OUL	**Oulu**	**3.54**	**138**	*e*PG	Pg	23 51 02.6	-1.8
OUL				*e*SG	Sg	23 51 51.2	+0.9
OUL	**Oulu**	**3.54**	**138**	Pg	Pg	23 51 02.6	-1.9
OUL				Sg	Sg	23 51 51.2	+0.9
MSF	**Maaselka**	**3.94**	**115**	*e*PB	Pb	23 51 05.9	-1.0
UMAU	**Umeaa**	**3.95**	**178**	*e*PB	Pb	23 51 06.1	-0.8

*UPP **12** 23:50:02.4, 67°.84N×20°.20E, h0km, ML1.6, Mining explosion.*

CSEM 12 23:50:02.2±0.2, 67°.84N×20°.23E, h1km, ML1.6, Error ellipse: s-maj=5.7km s-min=4.8km az=163.0, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**20**	P	Pg	23 50 07.1	+0.6
KUA				S	Sg	23 50 07.0	+0.9
KUA	**Kurravaara**	**0.12**	**20**	P	Pg	23 50 05.1	+0.6
KUA				S	Sg	23 50 07.0	+0.9
NIKU	**Nikkaluokta**	**0.45**	**274**	P	Pg	23 50 10.9	0.0
NIKU	**Nikkaluokta**	**0.45**	**274**	P	Pg	23 50 10.9	0.0
LANU	**Lannavaara**	**0.69**	**72**	P	Pg	23 50 15.6	0.0
LANU	**Lannavaara**	**0.69**	**72**	P	Pg	23 50 15.7	+0.1
LANU	**Lannavaara**	**0.69**	**72**	*e*S	Pg	23 50 15.8	+0.3
LANU	**Lannavaara**	**0.69**	**72**	S	Pg	23 50 15.8	+0.2
DUNU	**Dundret**	**0.74**	**170**	P	Pg	23 50 16.1	-0.3
DUNU	**Dundret**	**0.74**	**170**	P	Pg	23 50 16.1	-0.2
MASU	**Masugnsbyn**	**0.78**	**119**	P	Pg	23 50 17.3	+0.1
MASU	**Masugnsbyn**	**0.78**	**119**	P	Pg	23 50 17.3	+0.1
SALU	**Saltoluokta**	**0.81**	**236**	P	Pg	23 50 17.2	-0.5
SALU	**Saltoluokta**	**0.81**	**236**	P	Pg	23 50 17.2	-0.5
PAJU	**Pajala**	**1.38**	**125**	P	Pn	23 50 27.8	-0.9
PAJU	**Pajala**	**1.38**	**125**	P	Pn	23 50 27.8	-0.9
HEF	**Hetta**	**1.41**	**65**	Sn	Sg	23 50 46.2	-1.2
HEF	**Hetta**	**1.41**	**65**	*e*SN	Sg	23 50 46.3	-1.1
ERTU	**Ertsjaerv**	**1.50**	**149**	P	Pn	23 50 30.2	-0.1
ERTU	**Ertsjaerv**	**1.50**	**149**	P	Pn	23 50 30.2	-0.1
HARU	**Harads**	**1.71**	**170**	P	Pn	23 50 33.3	+0.2
HARU	**Harads**	**1.71**	**170**	P	Pn	23 50 33.4	+0.2
SJUU	**Sjulsmark**	**2.41**	**166**	P	Pn	23 50 43.9	+1.2
SJUU	**Sjulsmark**	**2.41**	**166**	P	Pn	23 50 43.9	+1.2

*BKK **13** 00:19:21.4±4.8, 14°.1N×15°.9E×3°.9, h10km, M4.5/10, mb4.5/10*
*ISCJB **13** 00:19:27.3±0.3, 14°.34N±0°.03×93°.05E±0°.04, h33km, mb3.9/18, MS3.1/3, Error ellipse: s-maj=5.2km s-min=4.2km az=144.9*
*IDC **13** 00:19:29.1±0.8, 14°.26N×93°.18E, h34km±5km, mb3.7/13, mb1 3.8/14, mb1mx3.7/27, mbtmp3.9/14, ML3.9/1, MS3.1/5, Ms1 3.2/5, ms1mx2.9/36, Error ellipse: s-maj=25.8km s-min=14.4km az=54.0*
*NEIC **13** 00:19:29.1±0.6, 14°.29N×93°.13E, h34km±4km, mb4.2/5, Error ellipse: s-maj=8.3km s-min=7.3km az=63.0*
*DJA **13** 00:19:37.7±1.0, 15°.N±5°.×9°.4E±°, h109km±12km, M4.5/8, mb4.5/8, mB5.3/5, MLv4.4/4, Mw(mB)4.8/5*

ISC 13 00:19:29.5±0.5, 14°.33N±0°.05×93°.11E±0°.05, h35km, n67, σ1°.46/64, mb4.2/17, MS3.1/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**1.16**	**189**	*e*P	**Pn**	**00 19 50.7**	**+1.5**
DGPR				*e*S	**Sn**	**00 20 00.8**	**-3.0**
DGPR				AML	AML	00 20 11.3	
	comp=E,8μm,0.4s						
DGPR				AML	AML	00 20 12.3	
	comp=N,6μm,0.5s						
PBA	**Port Blair**	**2.68**	**188**	*e*P	Pn	00 20 10.3	+0.1
PBA				*ex*	Sn	00 20 30.7	-11
KHLT	**Khaolaem Dam**	**5.33**	**84**	P	**Pn**	**00 20 49.1**	**+2.5**
	comp=N,34nm,0.7s						
SRDT	**SRDT**	**5.83**	**89**	P	**Pn**	**00 20 55.8**	**+2.3**
	comp=N,168nm,0.7s						
UTHA	**Uthaitani**	**6.25**	**78**	P	**Pn**	**00 21 01.4**	**+2.2**
	comp=N,13nm,0.6s						
CM31	**Chiang Mai Arr**	**6.94**	**53**	*e*Pn	**Pn**	**00 21 07.7**	**-1.1**
	comp=N,16nm,0.5s						
CMAR	**Chiang Mai Arr**	**6.94**	**53**	Pn	**Pn**	**00 21 08.6**	**-0.3**
	comp=N,0.6nm,0.3s,baz=244,slow=15,SNR=26						
CMAR				Sn	**Sn**	**00 22 25.1**	**-1.5**
	comp=N,0.9nm,0.3s,baz=246,slow=29,SNR=5.8						
CMAR				LR	LR	00 24 29.0	
	comp=N,140nm,18.7s,baz=250,slow=43						
CHTO	**Chiang Mai**	**7.15**	**51**	P	**Pn**	**00 21 12.4**	**+0.7**
	comp=N,80nm,0.8s						
CHTO	**Chiang Mai**	**7.15**	**51**	*e*Pn	**Pn**	**00 21 11.4**	**-0.3**
	comp=N,13nm,0.6s						
CHTO				*e*Sn	**Sn**	**00 22 29.2**	**-2.7**
CMMT	**Chiang Mai**	**7.16**	**51**	P	**Pn**	**00 21 12.3**	**+0.5**
	comp=N,23nm,0.7s						
CMBY	**CAMPBELL BAY**	**7.32**	**174**	*e*P	**Pn**	**00 21 15.2**	**+1.3**
CMBY				*e*S	**Sn**	**00 22 34.2**	**-1.6**
CMBY				AML	AML	00 22 40.7	
	comp=N,277nm,0.5s						
CMBY				AML	AML	00 22 42.9	
	comp=E,211nm,0.4s						
LAMP	**Lampang**	**7.52**	**55**	P	Pn	00 21 25.1	+8.3
PBKT	**Sadao Pong**	**7.90**	**73**	P	**Pn**	**00 21 23.7**	**+1.7**
	comp=E,21nm,0.8s						
UTTA	**Uttaradit**	**7.92**	**64**	P	Pn	00 21 29.9	+7.6
	comp=E,6.4nm,0.7s						
CMAI	**Chiengmai2**	**7.95**	**45**	P	Pn	00 21 26.6	+3.8
	comp=E,14nm,0.8s						
LOEI	**Loei**	**8.46**	**67**	P	Pn	00 21 36.5	+6.8
CHLP	**Challavanipeta**	**9.63**	**297**	*e*Pn	**Pn**	**00 21 44.5**	**-1.2**
CHLP				Sn	Sn	00 23 22.9	-10
VIS	**Vishakhapatnam**	**9.99**	**291**	*e*P	Pn	00 21 45.1	-5.5
VIS				*i* x	x	00 23 27.8	
VIS				*ex*	x	00 23 33.4	
	comp=N,78nm,0.4s						
VIS				*ex*	x	00 23 35.0	
	comp=E,53nm,0.6s						
PSI	**Prapat**	**12.81**	**153**	Pn	**Pn**	**00 22 32.2**	**+2.8**
	comp=E,0.4nm,0.3s,baz=328,slow=12,SNR=6.1						
PSI				LR	LR	00 28 36.2	
	comp=E,117nm,18.3s,baz=306,slow=43						
SKHT	**Srikalahasti**	**13.02**	**269**	Sn	Sn	00 24 40.9	-15
NJS	**Nagarjunasagar**	**13.49**	**281**	*e*Pn	**Pn**	**00 22 39.4**	**+0.8**
NJS				Sn	Sn	00 24 53.0	-14
ODAN	**Odare**	**13.57**	**338**	*e*P	**Pn**	**00 22 38.5**	**-1.3**
	comp=E,56nm,0.5s						
TAPN	**Taplejung**	**13.90**	**340**	*e*P	**Pn**	**00 22 43.1**	**-1.3**
RAMN	**Ramite**	**13.95**	**335**	*e*P	**Pn**	**00 22 43.5**	**-1.6**
	comp=E,27nm,0.5s						
RPR	**Rampur**	**13.99**	**291**	*e*P	**P**	**00 22 54.3**	**+1.5**
PALK	**Pallekele**	**14.05**	**241**	*e*Pn	**Pn**	**00 22 45.0**	**-1.3**
HYB	**Hyderabad**	**14.34**	**284**	*i* P	**P**	**00 22 58.0**	**+1.3**
HYB				*e*S	**Sn**	**00 25 32.0**	**+4.0**
HYBB	**Hyderabad (bro**	**14.34**	**284**	*e*P	**P**	**00 22 56.7**	**-0.1**
HYBB				*e*S	**Sn**	**00 25 27.4**	**-0.7**
JIRN	**Jiri**	**14.75**	**335**	*e*P	**Pn**	**00 22 53.8**	**-2.2**
	comp=E,74nm,0.8s						
PKI	**Pulchoki**	**15.00**	**333**	*e*P	**Pn**	**00 22 57.7**	**-1.7**
	comp=E,46nm,0.6s						
PKIN	**Phulchoki**	**15.02**	**333**	*e*P	**Pn**	**00 22 58.0**	**-1.5**
	comp=E,52nm,0.5s						
GUN	**Gumba**	**15.10**	**335**	*e*P	**Pn**	**00 22 58.1**	**-2.5**
	comp=E,40nm,0.6s						
DMN	**Daman**	**15.17**	**332**	*e*P	**Pn**	**00 22 59.3**	**-2.2**
	comp=E,59nm,0.9s						
URV	**Uravakonda**	**15.35**	**274**	Sn	Sn	00 25 38.3	-15
LSA	**Lhasa**	**15.41**	**354**	*e*P	**Pn**	**00 23 06.0**	**+1.3**
	comp=E,8.2nm,0.6s						
GKN	**Gorkha**	**15.72**	**331**	*e*P	**Pn**	**00 23 06.9**	**-1.7**
	comp=E,40nm,0.5s						
KOLN	**Koldanda**	**16.04**	**328**	*e*P	**Pn**	**00 23 11.1**	**-1.6**
	comp=E,61nm,0.6s						
PDSI	**Padang**	**16.80**	**154**	P	**Pn**	**00 23 21.6**	**-0.6**
PPBI	**Pangkal Pinang**	**20.86**	**141**	P	**P**	**00 24 09.7**	**+1.1**
	comp=E,27nm,0.8s						
SMLA	**Simla**	**22.22**	**321**	*e*P	**P**	**00 24 24.4**	**+1.3**
DHRM	**DHARAMSHALA**	**23.54**	**322**	*e*P	**P**	**00 24 37.6**	**+0.7**
BBKI	**Banjar Baru**	**27.87**	**128**	P	**P**	**00 25 16.9**	**+0.7**
MKAR	**Makanchi Array**	**33.61**	**347**	P	**P**	**00 26 07.1**	**+0.5**
	comp=E,0.4nm,0.6s,baz=148,slow=8.4,SNR=3.7						
MKAR				pP	**pP**	**00 26 17.5**	**+0.8**
	comp=E,1.5nm,0.5s,baz=182,slow=6.9,SNR=12						
MKAR				LR	LR	00 44 00.6	
	comp=E,28nm,20.3s,baz=170,slow=44						
KKAR	**Karatay Array**	**34.63**	**330**	*e*P	**P**	**00 26 15.1**	**-0.4**
	comp=E,2.5nm,0.8s						
KURBB	**Kurchatov Arra**	**38.09**	**345**	P	**P**	**00 26 45.7**	**+0.9**
	comp=E,0.9nm,0.7s,baz=162,slow=8.0,SNR=4.6						
KURK	**Kurchatov**	**38.15**	**345**	*e*P	**P**	**00 26 44.5**	**-0.8**
	comp=E,3.8nm,0.8s						
KSRS	**Korea Array**	**38.54**	**47**	LR	LR	00 45 07.7	
	comp=E,26nm,18.4s,baz=266,slow=40						
GEYT	**Alibeck**	**38.88**	**314**	pP	pP	00 27 01.7	-0.3
	comp=E,2.1nm,0.7s,baz=124,slow=7.9,

BBOO	**Buckleboo** 132nm,2.0s	**48.42**	**240**	*e*P		**P**	00 34 45.0	-0.4
WRA	**Warramunga Arr** 0.7nm,0.5s,baz=94,slow=6.7,SNR=4.9	**49.63**	**257**	P		**P**	00 34 54.5	-0.3
AS01	**Alice Springs**	**49.80**	**252**	*e*P		**P**	00 34 56.3	+0.1
AS12	**Alice Springs**	**49.84**	**252**	*e*P		**P**	00 34 56.8	+0.3
ASAR	**Alice Springs** 5.5nm,0.5s,baz=89,slow=8.3,SNR=69	**49.84**	**252**	P		**P**	00 34 56.8	+0.3
NV01	**Mina Array Sit**	**74.87**	**42**	*e*P		**P**	00 37 43.6	-0.2
NVAR	**Mina Array Bea** 2.1nm,1.0s,baz=230,slow=10,SNR=7.2	**74.87**	**42**	P		**P**	00 37 42.3	-1.5
TPH	**Tonopah** 5.0nm,1.0s	**75.37**	**43**	*e*P		**P**	00 37 46.5	-0.1
K05A	**Summer Lake**	**75.85**	**37**	*e*P		**P**	00 37 49.8	+0.5
G08A	**Pilot Rock** 6.0nm,1.1s	**78.52**	**36**	*e*P		**P**	00 38 04.1	0.0
MSU	**Marysvale**	**78.95**	**45**	*e*P		**P**	00 38 07.4	+0.7
BMO	**Blue Mountains** 30nm,2.6s	**79.20**	**37**	*e*P		**P**	00 38 07.5	-0.4
HLID	**Hailey** 2.9nm,1.0s	**80.19**	**39**	*e*P		**P**	00 38 13.4	+0.1
LTX	**Lajitas**	**81.04**	**56**	*e*P		**P**	00 38 16.7	-1.4
TXAR	**Lajitas Array** 0.4nm,0.7s,baz=228,slow=4.9,SNR=5.7	**81.04**	**56**	P		**P**	00 38 16.7	-1.4
TXAR	0.7nm,1.0s,baz=218,slow=5.9,SNR=3.9			pP		**pP**	00 38 30.3	-1.4
MCK	**McKinley** 72nm,2.0s	**81.80**	**11**	*e*P		**P**	00 38 21.4	+0.2
TPAW	**Teton Pass** 7.0nm,1.4s	**82.29**	**41**	*e*P		**P**	00 38 24.4	-0.2
IMW	**Indian Meadow** 6.0nm,1.4s	**82.50**	**40**	*e*P		**P**	00 38 25.7	0.0
WRH	**Wood River Hil** 10nm,1.0s	**82.63**	**11**	*e*P		**P**	00 38 25.1	-0.4
BW06	**Boulder Array**	**82.81**	**42**	*e*P		**P**	00 38 26.4	-0.8
PD31	**Pinedale Array**	**82.81**	**42**	*e*P		**P**	00 38 26.4	-0.8
PDAR	**Pinedale Array** 2.1nm,0.8s,baz=227,slow=1.6,SNR=17	**82.81**	**42**	P		**P**	00 38 26.4	-0.8
SMCO	**Snowmass** 3.8nm,0.9s	**82.83**	**46**	*e*P		**P**	00 38 27.4	-0.3
CCB	**Clear Creek Bu** 6.6nm,0.7s	**82.84**	**11**	*e*P		**P**	00 38 26.7	+0.1
SCRK	**Sand Creek** 83nm,2.6s	**82.98**	**13**	*e*P		**P**	00 38 28.0	+0.5
BOZ	**Bozeman (W)** 2.4nm,0.8s	**82.98**	**39**	*e*P		**P**	00 38 27.7	-0.3
MDM	**Murphy Dome** 16nm,1.4s	**83.05**	**11**	*e*P		**P**	00 38 27.6	-0.1
ILAR	**Eielson Array** 2.0nm,0.7s,baz=231,slow=6.5,SNR=31	**83.12**	**11**	P		**P**	00 38 27.8	-0.3
ILAR	0.7nm,0.6s,baz=228,slow=5.9,SNR=3.4			pP		**pP**	00 38 41.9	+0.2
ILB	**Eielson Array**	**83.12**	**11**	*e*P		**P**	00 38 27.8	-0.3
DAWY	**Dawson** 9.4nm,1.1s	**84.09**	**14**	*e*P		**P**	00 38 33.9	+0.8
RLMT	**Red Lodge** 3.0nm,0.9s	**84.15**	**40**	*e*P		**P**	00 38 34.6	+0.5
YKA	**Yellowknife Ar** 1.1nm,0.9s,baz=234,slow=4.4,SNR=8.5	**90.74**	**23**	P		**P**	00 39 04.8	-0.4
YKB5	**Yellowknife Ar**	**90.74**	**23**	*e*P		**P**	00 39 04.8	-0.4
LVC	**Limon Verde** 51nm,1.0s,baz=244,slow=14,SNR=4.6	**96.78**	**116**	P		**P**	00 39 35.4	+1.1
ARCES	**ARCESS Array B** 1.3nm,0.7s,baz=333,slow=1.4,SNR=7.3	**125.27**	**352**	PKP		**PKPdf**	00 45 02.2	-0.4
ARCES	0.6nm,0.6s,baz=299,slow=1.2,SNR=1.4			pPKP		**pPKPdf**	00 45 17.1	+0.3
FINES	**FINESS Array B** 1.6nm,0.9s,baz=78,slow=2.7,SNR=5.6	**132.59**	**347**	PKP		**PKPdf**	00 45 16.3	-0.4
KWP	**Kalwaria Pacla**	**144.05**	**342**	⇓*i*P		**PKPdf**	00 45 37.0	-1.1
MALT	**Malatya**	**144.29**	**315**	⇑*i*P		**PKPdf**	00 45 40.5	+1.5
CLL	**Collm** comp=Z,3.0nm,0.7s	**144.48**	**353**	*i* PKPdf		**PKPdf**	00 45 38.2	-0.5
DPC	**Dobruska-Polom**	**144.91**	**349**	*e*PKP		**PKPdf**	00 45 39.8	+0.2
DPC				*ep*PKP		**pPKPdf**	00 45 53.9	+0.1
BURAR	**Bucovina Array**	**144.97**	**338**	⇓*i*P		**PKPdf**	00 45 40.9	+1.0
PVCC	**Panska Ves**	**145.03**	**351**	*e*PKP		**PKPdf**	00 45 41.5	+1.8
OKC	**Ostrava-Krasne**	**145.03**	**347**	*e*PKP		**PKPdf**	00 45 40.0	+0.2
OKC				*ex*		x	00 45 55.0	
MORC	**Moravsky Berou**	**145.22**	**347**	⇓*i*P		**PKPdf**	00 45 41.0	+0.8
TESR	**Tescani**	**145.34**	**335**	⇓*i*P		**PKPab**	00 45 41.4	+1.0
TLCR		**145.46**	**332**	⇑*i*P		**PKPab**	00 45 42.2	+1.3
PRA	**Prague**	**145.50**	**351**	*e*PKP		**PKPab**	00 45 41.8	+0.9
PRU	**Pruhonice**	**145.56**	**351**	*e*PKP		**PKPab**	00 45 41.2	+0.1
PRU				*ep*PKP		**pPKPdf**	00 45 55.5	+0.6
GOPC	**GO Pecny, Ondr**	**145.59**	**351**	*e*PKP		**PKPab**	00 45 41.6	+0.3
CFR	**Carcaliu**	**145.77**	**332**	⇑*i*P		**PKPab**	00 45 42.6	+0.6
VRI	**Vrincioaia**	**145.83**	**335**	⇑*i*P		**PKPab**	00 45 43.5	+1.2
PLOR	**Plostina**	**145.87**	**335**	⇑*i*P		**PKPdf**	00 45 41.1	-0.3
TLB	**Topalu**	**146.27**	**332**	⇑*i*P		**PKPab**	00 45 44.2	+0.2
DOPR	**Dopca**	**146.28**	**336**	⇑*i*P		**PKPab**	00 45 45.0	+1.0
PSZ	**Piszkesteto**	**146.39**	**344**	⇓*i*P		**PKPab**	00 45 46.3	+1.9
MLR	**Muntele Rosu**	**146.45**	**335**	⇑*i*P		**PKPab**	00 45 45.6	+0.8
KHC	**Kasperske Hory**	**146.54**	**352**	*e*PKP		**PKPab**	00 45 44.4	-0.5
KHC				*ep*PKP		**pPKPdf**	00 45 58.7	+2.1
BRTR	**Keskin Array B** comp=Z,3.4nm,0.7s,baz=115,slow=2.3,SNR=32	**146.64**	**320**	PKPbc		**PKPab**	00 45 45.8	0.0
BRTR	comp=Z,5.0nm,0.8s,baz=114,slow=2.5,SNR=18			pPKPbc	pPKPbc		00 45 59.9	+1.1
VOIR		**146.86**	**336**	⇑*i*P		**PKPab**	00 45 47.2	+0.9
ARR	**Arges**	**147.08**	**336**	⇑*i*P		**PKPab**	00 45 47.6	+0.4
CONA	**Conrad Observa** comp=Z,6.4nm,0.7s	**147.32**	**348**	⇑*i* PKPab		**PKPbc**	00 45 46.6	+0.4
LOT	**Lotru**	**147.34**	**337**	⇑*i*P		**PKPbc**	00 45 45.7	-0.7
SIRR	**Siria**	**147.36**	**340**	⇑*i*P		**PKPab**	00 45 47.6	-0.6
MOA	**Molln** comp=Z,2.8nm,0.6s	**147.68**	**350**	⇑*i* PKPab		**PKPbc**	00 45 47.8	+0.6
GZR	**Gura Zlata**	**147.74**	**338**	⇑*i*P		**PKPab**	00 45 48.8	-1.0
BZS	**Buzias**	**147.95**	**340**	⇓*i*P		**PKPbc**	00 45 48.6	+0.7
PKSM	**Moragy**	**148.30**	**344**	⇑*i*P		**PKPbc**	00 45 49.4	+0.6
WTTA	**Wattenberg** comp=Z,7.5nm,0.6s	**148.62**	**353**	⇑*i* PKiKP		**PKPbc**	00 45 49.7	-0.1
SOKA	**Soboth** comp=Z,3.9nm,0.8s	**148.68**	**349**	⇑*i* PKiKP		**PKPbc**	00 45 50.1	+0.2
DAVA	**Damuels** comp=Z,11nm,1.4s	**148.76**	**356**	⇑*i* PKiKP		**PKiKP**	00 45 51.4	-0.2
ABTA	**Abfaltersbach** comp=Z,6.1nm,0.6s	**149.02**	**352**	⇑*i* PKiKP		**PKPbc**	00 45 50.8	+0.1
KDZ	**Kurdzhali**	**149.76**	**331**	⇑*i*P		**PKPbc**	00 45 52.0	-0.7
DIVS	**Divibare**	**149.83**	**341**	⇓*i*P		**PKPbc**	00 45 54.3	+1.5
MMB	**Musomiste**	**150.57**	**333**	⇑*i*P		**PKPbc**	00 45 55.9	+1.3

IDC **13** *00:28:46.9±2.1,* **61°01S×155°19E, h0km, mb3.8/1, mb1 4.2/1, mb1mx3.8/10, mbtmp3.8/1, Error ellipse: s-maj=134.5km s-min=51.7km az=75.0, Balleny Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H** baz=147,slow=75,SNR=82	**36.93**	**296**	T	T	01 14 55.4	
H01W2	**Cape Leeuwin H** baz=147,slow=75,SNR=80	**36.93**	**296**	T	T	01 14 55.8	
H01W3	**Cape Leeuwin H** baz=147,slow=75,SNR=80	**36.95**	**296**	T	T	01 14 56.7	
WRA	**Warramunga Arr** 1.8nm,1.1s,baz=154,slow=5.5,SNR=4.2	**43.59**	**331**	P	P	00 36 52.4	-0.1
TORD	**Torodi Ar. Bea** 1.3nm,1.1s,baz=286,slow=2.3,SNR=4.3	**128.46**	**214**	PKP	PKPdf	00 47 54.2	-1.2
ILAR	**Eielson Array** 1.4nm,1.1s,baz=251,slow=2.8,SNR=4.1	**132.7**	**30**	PKP	PKPdf	00 48 02.0	+0.2
KEST	**Kesra** 2.1nm,1.0s,baz=53,slow=2.3,SNR=3.0	**146.69**	**236**	PKPbc	PKPbc	00 48 30.4	+0.5
AKASG	**Malin Array Be** 0.1nm,0.3s,baz=98,slow=1.8,SNR=9.1	**148.86**	**276**	PKPbc	PKPbc	00 48 34.0	-1.1

ISCJB **13** *00:29:17.6±0.6, 40°69N×29°24E, h9km, MD2.4*
CSEM **13** *00:29:17.5, 40°69N×29°24E, h9km, MD2.4*
DDA **13** *00:29:18.4, 40°70N×29°24E, h7km, MD2.5*
ISC 13 00:29:17.4±1.1, 40°68N±0°03×29°24E±0°03, h18km±5km, n29, σ0°20/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUY	**Buyukada**	**0.19**	**332**	*i* Pg	**Pg**	**00 29 22.6**	**+0.4**
BUY				*i* Sg	**Sb**	**00 29 25.2**	**-0.2**
GEMT	**Gemlik**	**0.25**	**189**	*e*PG	**Pb**	**00 29 23.6**	**+0.2**
GEMT	**Gemlik**	**0.25**	**189**	*e*Pg	**Pb**	**00 29 23.6**	**+0.2**
ARMT	**Armutlu**	**0.31**	**248**	*e*PG	**Pg**	**00 29 24.0**	**-0.1**
ARMT				*e*SG	**Sg**	**00 29 28.6**	**-0.1**
ARMT	**Armutlu**	**0.31**	**248**	*e*Pg	**Pg**	**00 29 24.0**	**-0.1**
ARMT				*e*Sg	**Sg**	**00 29 28.6**	**-0.1**
IZI	**Iznik**	**0.39**	**152**	*e*PG	**Pg**	**00 29 25.5**	**0.0**
IZI	**Iznik**	**0.39**	**152**	*e*Pg	**Pg**	**00 29 25.5**	**0.0**
ISK	**Istanbul-Kandi**	**0.41**	**341**	*e*PG	**Pb**	**00 29 26.3**	**+0.2**
ISK	**Istanbul-Kandi**	**0.41**	**341**	*e*Pg	**Pb**	**00 29 26.3**	**+0.2**
MDNY	**Mudanya-Bursa**	**0.41**	**221**	*e*PG	**Pb**	**00 29 26.1**	**-0.1**
MDNY	**Mudanya-Bursa**	**0.41**	**221**	*e*Pg	**Pb**	**00 29 26.2**	**-0.1**
SILT	**Sile**	**0.56**	**33**	*e*PG	**Pb**	**00 29 28.6**	**-0.1**
SILT	**Sile**	**0.56**	**33**	*e*Pg	**Pb**	**00 29 28.6**	**-0.1**
KLYT	**Kilyos**	**0.59**	**345**	*e*PG	**Pb**	**00 29 29.2**	**0.0**
KLYT	**Kilyos**	**0.59**	**345**	*e*Pg	**Pb**	**00 29 29.2**	**0.0**
CTKS	**Kestanelik-??a**	**0.78**	**315**	*e*PG	**Pg**	**00 29 32.9**	**+0.1**
CTKS	**Kestanelik-??a**	**0.78**	**315**	*e*Pg	**Pg**	**00 29 32.9**	**+0.1**
KCTX	**Karacabey (Bur**	**0.79**	**238**	*e*PG	**Pg**	**00 29 33.3**	**+0.4**
KCTX	**Karacabey (Bur**	**0.79**	**238**	*e*Pg	**Pg**	**00 29 33.3**	**+0.4**
SLVT	**Silivri**	**0.95**	**305**	*e*PG	**Pg**	**00 29 36.1**	**+0.2**
SLVT	**Silivri**	**0.95**	**305**	*e*Pg	**Pg**	**00 29 36.1**	**+0.2**
GULT	**Gulveren**	**1.00**	**104**	*e*PG	**Pg**	**00 29 37.1**	**+0.2**
GULT	**Gulveren**	**1.00**	**104**	*e*Pg	**Pg**	**00 29 37.2**	**+0.2**
EDC	**Edincik**	**1.10**	**253**	*e*PN	**Pg**	**00 29 38.7**	**0.0**
EDC	**Edincik**	**1.10**	**253**	*e*Pn	**Pg**	**00 29 38.7**	**0.0**
TVSB	**Tavsanli**	**1.24**	**172**	*e*PN	**Pg**	**00 29 41.7**	**+0.2**
TVSB	**Tavsanli**	**1.24**	**172**	*e*Pn	**Pg**	**00 29 41.7**	**+0.2**
MRMT	**Marmara Adasi**	**1.25**	**267**	*e*PN	**Pg**	**00 29 41.9**	**+0.2**
MRMT	**Marmara Adasi**	**1.25**	**267**	*e*Pn	**Pg**	**00 29 41.9**	**+0.2**

IDC **13** *00:30:43.9±0.7, 61°.19S×154°.79E, h0km, mb4.4/8, mb1 4.5/8, mb1mx4.4/13, mbtmp4.4/8, MS4.2/7, Ms1 4.2/7, ms1mx4.0/11, Error ellipse: s-maj=39.2km s-min=18.0km az=78.0*
ISCJB **13** *00:30:44.3±0.5, 61°.23S±0°.07×154°.6E±0°.3, h10km, mb4.7/11, MS4.1/7, Error ellipse: s-maj=18.2km s-min=10.0km az=174.7*
NEIC **13** *00:30:45.2±0.4, 61°.25S×154°.91E, h10km, mb4.9/7, Error ellipse: s-maj=16.7km s-min=8.9km az=83.0*
ISC 13 00:30:45.4±0.5, 61°26S±0°09×154°9E±0°2, h10km, n53, σ1s09/41, mb4.3/11, MS4.1/7, 1C-3D, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda** 0.2nm,0.3s,baz=349,slow=11,SNR=6.5	**16.49**	**175**	Pn	**Pn**	**00 34 33.6**	**-2.7**
VNDA	**Vanda** 14nm,1.1s	**16.49**	**175**	*e*Pn	**Pn**	**00 34 34.1**	**-2.2**
SBA	**Scott Base** 18nm,1.1s	**17.10**	**171**	*e*Pn	**Pn**	**00 34 44.5**	**+0.5**
CASY	**Casey** 82nm,1.7s	**19.88**	**236**	*e*P	**P**	**00 35 16.6**	**+0.3**
RPZ	**Rata Peaks** comp=Z,1µm,20.1s,baz=179,slow=33	**20.04**	**36**	LR	LR	00 41 45.5	
SNZO	**South Karori** 199nm,1.5s	**23.33**	**40**	*e*P	**P**	**00 35 53.0**	**-0.3**
URZ	**Urewera** comp=Z,566nm,19.1s,baz=206,slow=35	**26.86**	**41**	LR	LR	00 46 19.9	
QSPA	**South Pole Qui** 3.0nm,1.0s,baz=345,slow=0.9,SNR=3.9	**28.83**	**180**	P	**P**	**00 36 45.1**	**+1.6**
QSPA	5.3nm,1.0s,baz=272,slow=1.1,SNR=5.4			PcP	**PcP**	**00 39 53.7**	**+1.2**
QSPA	comp=Z,247nm,21.8s,baz=18,slow=35			LR	LR	00 47 25.8	
STKA	**Stephens Creek** 4.5nm,0.9s,baz=184,slow=14,SNR=4.5	**30.66**	**337**	P	**P**	**00 37 00.5**	**+0.8**
STKA	comp=Z,241nm,18.6s,baz=198,slow=35			LR	LR	00 48 36.5	
MAW	**Mawson** 11nm,1.2s,baz=130,slow=9.1,SNR=4.5	**36.67**	**220**	P	**P**	**00 37 51.6**	**0.0**
MAW	comp=Z,1µm,18.5s,baz=72,slow=36			LR	LR	00 52 55.2	
MAW	**Mawson** 52nm,2.9s	**36.67**	**220**	*e*P	**P**	**00 37 51.6**	**0.0**
H01W1	**Cape Leeuwin H** baz=147,slow=75,SNR=186	**36.92**	**297**	T	T	01 16 55.3	
H01W2	**Cape Leeuwin H** baz=147,slow=75,SNR=155	**36.92**	**297**	T	T	01 16 55.5	
H01W3	**Cape Leeuwin H** baz=147,slow=75,SNR=193	**36.93**	**297**	T	T	01 16 56.5	
AS01	**Alice Springs**	**40.25**	**330**	*e*P	**P**	**00 38 21.1**	**-1.1**
AS01				*e*PcP	**PcP**	**00 40 26.3**	**+0.4**
AS12	**Alice Springs**	**40.26**	**329**	*e*P	**P**	**00 38 21.8**	**-0.5**
AS12				*e*PcP	**PcP**	**00 40 24.9**	**-1.1**
ASAR	**Alice Springs** 2.4nm,0.9s,baz=161,slow=8.8,SNR=9.2	**40.26**	**329**	P	**P**	**00 38 21.8**	**-0.5**
ASAR	2.0nm,1.0s,baz=153,slow=3.6,SNR=5.5			PcP	**PcP**	**00 40 24.9**	**-1.1**
CTA	**Charters Tower** 3.9nm,0.9s,baz=157,slow=8.4,SNR=3.1	**41.59**	**348**	P	**P**	**00 38 33.0**	**-0.2**
WRA	**Warramunga Arr** 5.6nm,1.2s,baz=167,slow=6.4,SNR=8.3	**43.74**	**331**	P	**P**	**00 38 49.3**	**-1.4**
WRA	0.7nm,0.4s,baz=164,slow=2.7,SNR=4.0			PcP	**PcP**	**00 40 35.7**	**-1.7**
TBI	**Tubuai** 651nm,28.2s,baz=220	**53.44**	**71**	*e*LR	LR	00 55 32.2	
TBI	**Tubuai** 73nm,0.3s	**53.44**	**71**	*e*T	T	01 37 49.2	
PAE	**Paea** 1.2nm,0.2s	**58.34**	**67**	*e*T	T	01 44 01.5	
TVO	**Taravao** 1.6nm,0.3s	**58.38**	**68**	*e*T	T	01 44 05.8	
PPT2	**Papeete2** 107nm,28.2s	**58.41**	**67**	*e*S	S	00 48 53.2	+9.3
PPT2	501nm,22.5s,baz=206			*e*LR	LR	00 58 00.5	
PPT2	**Papeete2** 2.9nm,0.3s	**58.41**	**67**	*e*T	T	01 44 02.5	
PPT	**Papeete** comp=Z,290nm,20.5s,baz=164,slow=30	**58.43**	**67**	LR	LR	00 59 27.6	
MEH	**Mehetia** 16nm,0.2s	**58.84**	**69**	*e*T	T	01 44 36.7	
USHA	**Ushuaia** comp=Z,53nm,21.0s,baz=256,slow=29	**59.29**	**152**	LR	LR	00 59 38.3	
RKT	**Rikitea** 576nm,29.2s,baz=210	**60.46**	**84**	*e*LR	LR	00 58 41.7	
RKT	**Rikitea** 30nm,0.2s	**60.46**	**84**	*e*T	T	01 46 36.3	
VAH	**Vaihoa** 38nm,0.2s	**61.35**	**68**	*e*T	T	01 47 45.2	
KULM	**Kulim** 38nm,1.3s	**78.41**	**304**	*e*P	**P**	**00 42 45.5**	**-0.4**
TWG	**Pinlang** 119nm,1.0s	**88.12**	**329**	*e*P	**P**	**00 43 36.6**	**+0.8**
LVC	**Limon Verde** 7.9nm,0.7s,baz=265,slow=11,SNR=3.8	**89.29**	**140**	P	**P**	**00 43 42.0**	**0.0**
LVC	**Limon Verde** 68nm,2.3s	**89.29**	**140**	*e*P	**P**	**00 43 41.9**	**0.0**
CM01	**Chiang Mai Arr**	**91.03**	**308**	*e*P	**P**	**00 43 51.0**	**+1.5**
LPAZ	**La Paz** 0.6nm,0.6s,baz=153,slow=2.3,SNR=3.3	**95.47**	**139**	P	**P**	**00 44 11.9**	**+1.0**
NVAR	**Mina Array Bea** 1.1nm,0.9s,baz=249,slow=6.4,SNR=4.7	**121.38**	**67**	PKP	**PKPdf**	**00 49 36.5**	**-1.7**
MKAR	**Makanchi Array** 1.0nm,0.8s,baz=259,slow=1.5,SNR=4.0	**122.47**	**309**	PKP	**PKPdf**	**00 49 39.3**	**-0.4**
GEYT	**Alibeck** 1.7nm,1.0s,baz=227,slow=1.7,SNR=6.7	**125.52**	**285**	PKP	**PKPdf**	**00 49 46.8**	**+0.9**
TORD	**Torodi Ar. Bea** 0.7nm,1.0s,baz=222,slow=2.0,SNR=5.5	**128.18**	**214**	PKP	**PKPdf**	**00 49 50.8**	**-0.8**
PDAR	**Pinedale Array** 0.8nm,0.9s,baz=276,slow=4.0,SNR=6.8	**128.81**	**70**	PKP	**PKPdf**	**00 49 52.7**	**+0.4**
ILAR	**Eielson Array** 0.5nm,0.9s,baz=130,slow=6.7,SNR=3.8	**132.99**	**30**	PKP	**PKPdf**	**00 50 00.1**	**+1.0**
BRTR	**Keskin Array B** 4.4nm,1.0s,baz=152,slow=3.7,SNR=6.1	**138.65**	**266**	PKP	**PKPdf**	**00 50 09.6**	**-1.2**
YKA	**Yellowknife Ar** 0.3nm,0.7s,baz=218,slow=2.8,SNR=4.2	**141.02**	**48**	PKhKP	PKPpre	00 50 08.7	
TIRR	**Tirgusor**	**144.77**	**266**	⇓*i*P	**PKPab**	**00 50 19.6**	**-0.6**
KEST	**Kesra** 4.4nm,1.0s,baz=152,slow=3.7,SNR=6.1	**146.43**	**236**	PKPbc	**PKPab**	**00 50 27.6**	**+0.8**
BURAR	**Bucovina Array**	**148.59**	**268**	⇑*i*P	**PKPab**	**00 50 33.8**	**-1.3**
AKASG	**Malin Array Be** 0.5nm,0.4s,baz=104,slow=0.4,SNR=11	**148.75**	**275**	PKPbc	**PKPdf**	**00 50 29.4**	**+1.6**
PKSM	**Moragy**	**150.74**	**259**	⇓*i*P	**PKPbc**	**00 50 35.4**	**-1.2**
KWP	**Kalwaria Pacla**	**151.18**	**268**	⇓*i*P	**PKPbc**	**00 50 38.1**	**+0.5**
ESDC	**Sonseca Array** 0.7nm,0.7s,baz=132,slow=1.9,SNR=5.5	**154.77**	**221**	PKPbc	**PKPbc**	**00 50 46.0**	**+0.1**
ESDC	1.1nm,0.9s,baz=172,slow=4.5,SNR=4.8			PKPab	**PKPab**	**00 51 00.0**	**-1.0**
CLL	**Collm** comp=Z,9.0nm,1.2s	**156.96**	**262**	*e*PKPab	**PKPab**	**00 51 10.0**	**0.0**

ISCJB **13** *00:33:21.7±1.7, 33°.89S±0°.04×72°.58W±0°.05, h7km±11km, mb4.2/7, Error ellipse: s-maj=6.9km s-min=6.4km az=3.9*
IDC **13** *00:33:22.4±1.0, 33°.90S×72°.34W, h0km, mb3.9/7, mb1 4.0/10, mb1mx3.9/26, mbtmp3.9/10, ML3.9/2, MS1.8/1, Ms1 1.8/1, ms1mx1.8/22, Error ellipse: s-maj=27.8km s-min=16.3km az=113.0*
GUC **13** *00:33:23.7±0.6, 33°.92S×72°.44W, h23km±4km, ML4.1*
NEIC **13** *00:33:26.1±2.9, 33°.91S×72°.24W, h23km±20km, mb4.3/2, Error ellipse: s-maj=16.6km s-min=8.1km az=85.0*
ISC 13 00:33:23.5±2.2, 33°88S±0°05×72°41W±0°08, h8km±13km, n34, σ1s01/43, mb4.3/7, 7C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.84**	**95**	*e*P	**Pb**	**00 33 40.7**	**+0.4**
IHA	**Instituto Hidr**	**1.07**	**37**	⇑*i*P	**Pn**	**00 33 44.6**	**-0.2**
IHA				*i* S	**Sn**	**00 33 59.8**	**0.0**
TACH	**Talagante**	**1.25**	**80**	⇓*i*P	**Pg**	**00 33 46.9**	**-0.6**
RCDM	**Rinconada Maip**	**1.39**	**74**	⇓*i*P	**Pn**	**00 33 49.2**	**-0.1**
RCDM				*i* S	**Sn**	**00 34 09.3**	**+1.4**
CHCH	**Chadas Angostu**	**1.46**	**93**	⇓*i*P	**Pn**	**00 33 50.7**	**+0.4**
NICH	**Los Niches**	**1.49**	**139**	⇑*i*P	**Pn**	**00 33 50.5**	**0.0**
NICH				*i* S	**Sb**	**00 34 10.4**	**0.0**
SAN	**Santiago**	**1.52**	**74**	⇑*i*P	**Pn**	**00 33 51.5**	**+0.5**
SAN				*i* S	**Sg**	**00 34 12.8**	**+0.4**
CACH	**El Canelo**	**1.52**	**99**	⇑*i*P	**Pb**	**00 33 52.1**	**0.0**
PCH	**Pirque**	**1.60**	**81**	⇑*i*P	**Pn**	**00 33 52.6**	**+0.4**
PCH				*i* S	**Sg**	**00 34 15.3**	**+0.2**
PEL	**Peldehue**	**1.62**	**63**	⇓*i*P	**Pb**	**00 33 53.4**	**-0.3**
PEL				*i* S	**Sg**	**00 34 15.9**	**+0.3**
PEL	comp=N,5µm,0.4s			AML	AML	00 34 22.9	
CLCH	**Cerro Calan**	**1.64**	**73**	⇑*i*P	**Pn**	**00 33 53.3**	**+0.6**
CLCH				*i* S	**Sg**	**00 34 16.4**	**+0.2**
CLCH	comp=N,2µm,0.6s			AML	AML	00 34 27.8	
TALC	**Talca**	**1.64**	**157**	⇑*i*P	**Pn**	**00 33 52.8**	**+0.1**
TALC				*i* S	**Sb**	**00 34 14.5**	**-0.5**
CFAA	**Coronel Fontan** comp=N,0.2nm,0.3s,baz=219,slow=9.2,SNR=28	**4.19**	**58**	Pn	**Pn**	**00 34 28.9**	**+1.1**
CFAA	comp=N,2.7nm,0.3s,baz=328,slow=18,SNR=6.8			Lg	Lg	00 35 35.6	
CFAA	comp=N,12nm,20.3s,baz=238,slow=32			LR	LR	00 35 36.1	
LCO	**Las Campanas**	**5.07**	**17**	*e*Pn	**Pn**	**00 34 39.2**	**-0.9**
LCO				*e*Sn	**Sn**	**00 35 35.0**	**-4.0**
PLCA	**Paso Flores** comp=N,0.4nm,0.3s,baz=349,slow=8.7,SNR=7.0	**7.00**	**168**	Pn	**Pn**	**00 35 06.8**	**+0.4**
TRQA	**Tornquist**	**9.43**	**119**	*e*Pn	**Pn**	**00 35 37.2**	**-2.4**
LVC	**Limon Verde** comp=N,8.5nm,0.3s,baz=163,slow=14,SNR=2.5	**11.64**	**16**	Pn	**Pn**	**00 36 11.2**	**+1.0**
LVC	comp=N,22nm,0.3s,baz=310,slow=8.2,SNR=7.0			Lg	Lg	00 39 24.2	
LPAZ	**La Paz** comp=N,0.2nm,0.3s,baz=190,slow=6.4,SNR=10	**17.94**	**13**	P	**P**	**00 37 35.1**	**+0.4**
LPAZ	**La Paz** comp=N,32nm,2.1s	**17.94**	**13**	*e*Pn	**P**	**00 37 35.9**	**+1.3**
SIV	**San Ignacio** comp=N,3.0nm,0.8s,baz=235,slow=9.4,SNR=7.7	**20.54**	**33**	P	**P**	**00 38 01.9**	**-0.6**
BDFB	**Brasilia** comp=N,2.1nm,0.6s,baz=229,slow=9.3,SNR=2.9	**28.52**	**56**	P	**P**	**00 39 18.8**	**-1.0**
SNAA	**Sanae** comp=N,0.7nm,0.6s,baz=264,slow=8.8,SNR=7.8	**51.81**	**158**	P	**P**	**00 42 31.4**	**-0.2**
SNAA	**Sanae** comp=N,32nm,0.8s	**51.81**	**158**	*e*P	**P**	**00 42 31.4**	**-0.2**
QSPA	**South Pole Qui** comp=N,0.9nm,0.9s,baz=339,slow=5.7,SNR=4.0	**56.35**	**180**	P	**P**	**00 43 05.3**	**+0.4**
LTX	**Lajitas**	**69.48**	**331**	*e*P	**P**	**00 44 33.4**	**+0.9**
TXAR	**Lajitas Array** comp=N,0.3nm,0.5s,baz=157,slow=7.9,SNR=6.1	**69.48**	**331**	P	**P**	**00 44 33.4**	**+0.9**
WVT	**Waverly** comp=N,4.1nm,0.8s	**71.12**	**347**	*e*P	**P**	**00 44 42.9**	**+0.5**
DBIC	**Dimbokro** comp=N,3.2nm,1.0s,baz=235,slow=5.5,SNR=3.6	**75.44**	**72**	P	**P**	**00 45 08.1**	**-0.2**
DBIC	**Dimbokro** comp=N,45nm,1.8s	**75.44**	**72**	*e*P

TOSP	**Speyside**	**2.08**	**209**	*e*P	Pn	00 48 41.4	+1.7
FDF	**Fort de France**	**2.24**	**315**	*e*P	Pn	00 48 43.8	+1.9
FDF				*e*S	Sn	00 49 12.3	+2.7
GRW	**Mount Saint Ca**	**2.30**	**245**	*e*P	Pn	00 48 43.4	+0.7
GRGR	**Grenville**	**2.31**	**245**	*e*P	Pn	00 48 43.5	+0.8

CASC 13 01:15:50.2±2.0, 10°.15N×84°.04W, h2km±4km, MD3.9, 7C-3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJS	**Escuela Geolog**	**0.21**	**183**⇑	*e*P	Pg	01 15 55.5	+1.0
SJS				*e*S	Sg	01 15 58.9	+1.4
URSC	**Urasca**	**0.41**	**141**⇑	*i*P	Pg	01 15 58.6	+0.3
CGA2	**Cerro Gallo 2**	**0.44**	**252**⇑	*i*P	Pg	01 15 59.5	+0.7
CGA2				*e*S	Sb	01 16 06.5	-1.5
BUS	**Buena Vista**	**0.66**	**155**⇑	*i*P	Pg	01 16 03.0	-0.4
BUS				*e*S	Sg	01 16 11.8	-0.5
QCR	**Quepos**	**0.73**	**190**⇑	*e*P	Pg	01 16 04.6	+0.3
QCR				*e*S	Sg	01 16 12.3	-1.6
JTS	**JuntasAbangare**	**0.91**	**279**⇑	*e*P	Pg	01 16 07.5	-0.1
JTS				*e*S	Sg	01 16 19.7	+0.2
JCR	**Jicaral**	**1.10**	**254**⇑	*e*P	Pg	01 16 10.7	-0.7
CAO	**Cobano**	**1.14**	**247**⇓	*e*P	Pg	01 16 11.6	-0.5
VCR	**Vista de Mar**	**1.57**	**269**	*e*P	Pn	01 16 18.6	-0.6
VCR				*e*S	Sg	01 16 41.4	+0.5
ACR	**Cerro Adams**	**1.72**	**150**⇓	*e*P	Pn	01 16 20.1	-1.1
ACR				*e*S	Sn	01 16 42.9	-1.0
CTCR	**Cotoan**	**1.78**	**135**⇓	*e*P	Pn	01 16 21.9	-0.3
CTCR				*e*S	Sb	01 16 46.4	-0.3
BRU2	**Volcan**	**1.90**	**135**	*e*P	Pn	01 16 23.9	+0.1
BRU2				*e*S	Sb	01 16 50.0	-0.1
TBS2		**1.92**	**135**	*e*P	Pb	01 16 25.3	-0.9
TBS2				*e*S	Sg	01 16 51.6	-0.8

*ISCJB **13** 01:49:13.5±1.0, 61°.3S±0°.1×153°.8E±0°.4, h10km, mb3.8/4, MS3.8/6, Error ellipse: s-maj=27.5km s-min=18.2km az=162.6*
*IDC **13** 01:49:13.5±0.9, 61°.20S×154°.27E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.9/28, mbtmp3.9/4, MS3.8/7, Ms1 3.8/7, ms1mx3.6/21, Error ellipse: s-maj=68.7km s-min=20.8km az=77.0*
ISC 13 01:49:15.1±0.6, 61°.4S±0°.1×153°.7E±0°.1, h10km, n49, σ1§44/37, mb3.8/4, MS3.9/6, 7C-8D, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**16.43**	**174**	Pn	**Pn**	**01 53 02.0**	**-3.4**
	0.5nm,0.3s,baz=346,slow=11,SNR=6.9						
VNDA				LR	LR	01 58 16.7	
	comp=Z,161nm,19.7s,baz=332,slow=33						
RPZ	**Rata Peaks**	**20.50**	**38**	LR	LR	01 59 53.6	
	comp=Z,607nm,22.0s,baz=192,slow=32						
URZ	**Urewera**	**27.36**	**43**	LR	LR	02 04 07.6	
	comp=Z,350nm,20.1s,baz=204,slow=33						
QSPA	**South Pole Qui**	**28.71**	**180**	P	**P**	**01 55 13.3**	**+1.1**
	2.3nm,1.0s,baz=310,slow=2.7,SNR=3.4						
QSPA				PcP	**PcP**	**01 58 22.0**	**0.0**
	4.2nm,1.0s,baz=357,slow=1.4,SNR=8.5						
QSPA				LR	LR	02 05 29.3	
	comp=Z,56nm,20.7s,baz=356,slow=34						
STKA	**Stephens Creek**	**30.55**	**340**	P	**P**	**01 55 28.1**	**-0.4**
	1.4nm,0.6s,baz=162,slow=7.7,SNR=4.5						
STKA				LR	LR	02 05 57.9	
	comp=Z,40nm,20.1s,baz=201,slow=33						
MAW	**Mawson**	**36.19**	**220**	LR	LR	02 11 25.2	
	comp=Z,565nm,18.5s,baz=66,slow=36						
H01W1	**Cape Leeuwin H**	**36.44**	**298**	H	H	02 35 21.8	
	baz=147,slow=75,SNR=49						
H01W2	**Cape Leeuwin H**	**36.44**	**298**	H	H	02 35 22.1	
	baz=147,slow=75,SNR=56						
H01W3	**Cape Leeuwin H**	**36.45**	**298**	H	H	02 35 23.0	
	baz=147,slow=75,SNR=45						
ASAR	**Alice Springs**	**40.07**	**331**	P	**P**	**01 56 50.5**	**+0.1**
	1.1nm,0.8s,baz=161,slow=7.7,SNR=8.5						
ASAR				PcP	**PcP**	**01 58 53.8**	**-1.2**
	0.9nm,0.7s,baz=158,slow=4.0,SNR=6.2						
WRA	**Warramunga Arr**	**43.56**	**333**	P	**P**	**01 57 17.6**	**-1.4**
	1.3nm,0.8s,baz=158,slow=7.9,SNR=4.0						
WRA				PcP	**PcP**	**01 59 06.2**	**-0.4**
	1.2nm,0.5s,baz=172,slow=3.2,SNR=7.6						
TBI	**Tubuai**	**54.05**	**72**	*e*LR	LR	02 13 57.1	
	387nm,29.2s						
TBI	**Tubuai**	**54.05**	**72**	*e*T	T	02 56 20.0	
	58nm,0.3s						
PAE	**Paea**	**58.95**	**69**	*e*T	T	03 02 30.8	
	1.3nm,0.3s						
TVO	**Taravao**	**58.99**	**69**	*e*T	T	03 02 33.7	
	1.2nm,0.3s						
PPT2	**Papeete2**	**59.01**	**69**	*e*S	**S**	**02 07 19.3**	**-2.2**
	68nm,27.0s						
PPT2				*e*LR	LR	02 16 18.6	
	286nm,23.5s						
PPT2	**Papeete2**	**59.01**	**69**	*e*T	T	03 02 32.7	
	2.5nm,0.3s						
PPT	**Papeete**	**59.03**	**69**	LR	LR	02 20 21.4	
	comp=Z,118nm,18.3s,baz=182,slow=32						
MEH	**Mehetia**	**59.44**	**70**	*e*T	T	03 03 06.3	
	11nm,0.2s						
RKT	**Rikitea**	**61.07**	**85**	*e*S	**S**	**02 07 50.9**	**+3.2**
	121nm,38.8s						
RKT				*e*LR	LR	02 17 12.4	
	324nm,26.2s						
RKT	**Rikitea**	**61.07**	**85**	*e*T	T	03 04 58.7	
	12nm,0.3s						
VAH	**Vaihoa**	**61.95**	**69**	*e*T	T	03 06 15.3	
	28nm,0.3s						
NVAR	**Mina Array Bea**	**121.98**	**68**	PKP	**PKPdf**	**02 08 08.8**	**-0.3**
	0.5nm,0.6s,baz=195,slow=4.3,SNR=5.8						
MKAR	**Makanchi Array**	**122.08**	**310**	PKP	**PKPdf**	**02 08 08.7**	**0.0**
	0.9nm,0.9s,baz=253,slow=12,SNR=4.2						
TORD	**Torodi Ar. Bea**	**127.73**	**215**	PKP	**PKPdf**	**02 08 20.0**	**-0.5**
	0.8nm,0.7s,baz=191,slow=1.4,SNR=6.1						
ILAR	**Eielson Array**	**133.40**	**31**	PKP	**PKPdf**	**02 08 29.1**	**-0.6**
	0.7nm,0.8s,baz=253,slow=2.8,SNR=5.3						
YKA	**Yellowknife Ar**	**141.54**	**48**	PKhKP	PKPpre	02 08 36.5	
	0.4nm,0.8s,baz=247,slow=2.8,SNR=3.8						
YKA				PKP	**PKPdf**	**02 08 44.7**	**-0.1**
	0.4nm,0.7s,baz=231,slow=2.1,SNR=5.8						
KDZ	**Kurdzhali**	**143.47**	**262**	*e*P	PKPab	02 08 45.5	+0.3
TIRR	**Tirgusor**	**144.16**	**267**⇓	*i*P	**PKPdf**	**02 08 49.5**	**-0.5**
MMB	**Musomiste**	**144.23**	**260**⇑	*i*P	**PKPdf**	**02 08 49.5**	**-0.7**
MMB	**Musomiste**	**144.23**	**260**	*e*P	**PKPdf**	**02 08 49.6**	**-0.7**
TLB	**Topalu**	**144.44**	**267**⇓	*i*P	**PKPdf**	**02 08 50.7**	**+0.3**
KKB	**Krupnik**	**144.75**	**259**	*e*P	**PKPab**	**02 08 50.0**	**0.0**
CFR	**Carcaliu**	**144.83**	**268**⇓	*i*P	**PKPdf**	**02 08 52.0**	**+0.9**
VTS	**Vitosha**	**145.25**	**260**⇑	*i*P	**PKPdf**	**02 08 53.5**	**+1.3**
VTS	**Vitosha**	**145.25**	**260**	*e*P	**PKPbc**	**02 08 49.8**	**-2.1**
KEST	**Kesra**	**145.86**	**238**	PKPbc	**PKPab**	**02 08 56.6**	**+2.2**
	2.1nm,0.8s,baz=320,slow=4.4,SNR=5.7						
VRI	**Vrincioaia**	**146.01**	**268**⇑	*i*P	**PKPab**	**02 08 56.6**	**+2.0**
PLOR	**Plostina**	**146.03**	**268**⇑	*i*P	**PKPab**	**02 08 55.4**	**+0.7**
MLR	**Muntele Rosu**	**146.11**	**266**⇑	*i*P	**PKPab**	**02 08 55.5**	**+0.4**
TESR	**Tescani**	**146.51**	**268**⇑	*i*P	**PKPab**	**02 08 56.3**	**-0.2**
DOPR	**Dopca**	**146.72**	**266**⇓	*i*P	**PKPab**	**02 08 57.3**	**-0.1**
LOT	**Lotru**	**147.12**	**264**⇓	*i*P	**PKPab**	**02 08 58.5**	**-0.6**
BURAR	**Bucovina Array**	**147.98**	**268**⇑	*i*P	**PKPab**	**02 09 06.3**	**+3.9**
AKASG	**Malin Array Be**	**148.16**	**276**	PKPbc	**PKPbc**	**02 09 00.1**	**+0.3**
	0.8nm,0.5s,baz=96,slow=2.2,SNR=6.9						
BZS	**Buzias**	**148.27**	**262**⇓	*i*P	**PKPbc**	**02 09 00.9**	**+0.6**
PKSM	**Moragy**	**150.13**	**260**⇑	*i*P	**PKPbc**	**02 09 05.9**	**+1.0**
KWP	**Kalwaria Pacla**	**150.58**	**269**⇓	*i*P	**PKPbc**	**02 09 07.4**	**+1.5**
ESDC	**Sonseca Array**	**154.28**	**223**	PKPbc	**PKPbc**	**02 09 15.3**	**+0.7**
	0.3nm,0.5s,baz=148,slow=1.6,SNR=6.0						
ESDC				PKPab	**PKPab**	**02 09 29.3**	**+0.6**
	0.6nm,0.7s,baz=159,slow=1.9,SNR=4.3						

*JMA **13** 01:55:40.7±0.1, 23°.00N×121°.39E, h40km±4km, M3.6*
*ISCJB **13** 01:55:41.2±0.3, 22°.98N±0°.02×121°.50E±0°.02, h27km±2km, Error ellipse: s-maj=2.8km s-min=2.3km az=44.9*
*TAP **13** 01:55:41.1, 22°.98N×121°.44E, h40km±1km, ML3.9, C*
ISC 13 01:55:41.8±0.9, 22°.98N±0°.02×121°.46E±0°.02, h30km±7km, n70, σ0§95/123, 5C-5D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.15**	**324**⇑	*i*P	**Pn**	**01 55 48.8**	**+0.8**
	baz=333						
CHKT				*i*S	**Sb**	**01 55 53.5**	**+2.1**
	baz=333						
TTN	**Taitung**	**0.36**	**232**	P	**Pn**	**01 55 51.1**	**+0.1**
	baz=228						
TTN				S	**Sn**	**01 55 58.1**	**+0.9**
	baz=228						
TWG	**Pinlang**	**0.39**	**246**⇑	*i*P	**Pb**	**01 55 50.3**	**-0.3**
	baz=243						
TWG				*e*S	**Sb**	**01 55 56.0**	**-0.5**
	baz=243						
TWF1	**Yuli**	**0.40**	**338**⇓	*i*P	**Pb**	**01 55 50.7**	**-0.1**
	baz=341						
TWF1				S	**Sb**	**01 55 56.5**	**-0.3**
	baz=341						
ELDTW	**Lidau**	**0.46**	**297**⇑	*i*P	**Pb**	**01 55 51.0**	**-0.6**
	baz=298						
ELDTW				S	**Sb**	**01 55 56.9**	**-1.5**
	baz=298						
EHY	**Hungye**	**0.54**	**347**⇓	*i*P	**Pb**	**01 55 52.3**	**-0.6**
	baz=349						
EHY				*i*S	**Sb**	**01 55 59.5**	**-1.0**
	baz=349						
ECL	**Taimali**	**0.60**	**231**	P	**Pb**	**01 55 52.7**	**-1.2**
	baz=228						
ECL				*i*S	**Sb**	**01 56 00.3**	**-1.9**
	baz=228						
STYT	**Tauyuan**	**0.67**	**286**⇑	*i*P	**Pb**	**01 55 54.5**	**-0.6**
	baz=286						
STYT				S	**Sb**	**01 56 03.5**	**-0.6**
	baz=286						
YUS	**Yu-Shan**	**0.69**	**318**⇓	*i*P	**Pb**	**01 55 55.5**	**-0.2**
	baz=318						
YUS				S	**Sb**	**01 56 04.4**	**-0.7**
	baz=318						
SSD	**Sandimen**	**0.80**	**253**	P	**Pn**	**01 55 56.2**	**-0.8**
	baz=252						
SSD				S	**Sb**	**01 56 05.4**	**-2.2**
	baz=252						
ALS	**Alishan**	**0.80**	**311**	P	**Pn**	**01 55 57.5**	**+0.2**
	baz=312						
ALS				*e*S	**Sb**	**01 56 08.1**	**+0.1**
	baz=312						
TAW	**Tawu**	**0.81**	**220**	*e*P	**Pn**	**01 55 56.0**	**-1.1**
	baz=218						
SGST	**Jiashian**	**0.81**	**277**	P	**Pb**	**01 55 57.5**	**0.0**
	baz=277						
SGST				*e*S	**Sn**	**01 56 08.5**	**+0.2**
	baz=277						
EAST	**Anshuo**	**0.82**	**224**	*e*P	**Pn**	**01 55 56.1**	**-1.2**
	baz=221						
EAST				*e*S	**Sb**	**01 56 06.3**	**-2.0**
	baz=221						
WTP	**Ta-pu**	**0.82**	**289**⇑	*i*P	**Pb**	**01 55 57.6**	**0.0**
	baz=289						
WTP				S	**Sn**	**01 56 08.9**	**+0.3**
	baz=289						
WDT	**Danda**	**0.83**	**339**⇓	*i*P	**Pn**	**01 55 57.0**	**-0.7**
	baz=340						
WDT				*e*S	**Sb**	**01 56 07.6**	**-1.2**
	baz=340						
ESL	**Shilin**	**0.83**	**358**	*e*P	**Pn**	**01 55 56.1**	**-1.4**
ESL				*e*S	**Sb**	**01 56 05.9**	**-2.8**
CHN4	**Tsaushan**	**0.88**	**295**	P	**Pb**	**01 55 58.5**	**0.0**
	baz=295						
CHN4				S	**Sb**	**01 56 10.6**	**+0.6**
	baz=295						
CHN1	**Nanshi**	**0.88**	**284**	*e*P	**Pb**	**01 55 58.8**	**+0.2**
	baz=283						
CHN1				*e*S	**Sb**	**01 56 10.7**	**+0.7**
	baz=283						
SGLT	**Jiouru**	**0.93**	**254**	*e*P	**Pb**	**01 56 00.5**	**+1.1**
	baz=253						
TWK	**Hsinying**	**0.94**	**288**	*e*P	**Pn**	**01 55 59.2**	**+0.3**
	baz=288						
TWK				*e*S	**Sb**	**01 56 12.3**	**+0.7**
	baz=288						
LAY	**Lan-yu**	**0.94**	**175**	P	**Pn**	**01 55 58.5**	**-0.5**
	baz=173						
LAY				*e*S	**Sn**	**01 56 11.5**	**0.0**
	baz=173						
CHN5	**Tsauling**	**0.94**	**311**	*e*P	**Pb**	**01 55 60.0**	**+0.3**
	baz=311						
CHN5				*e*S	**Sb**	**01 56 12.8**	**+0.9**
	baz=311						
TWM1	**Shoushan**	**0.97**	**261**	*e*P	**Pb**	**01 56 01.4**	**+1.4**
	baz=260						
SCZT	**Fangliau**	**0.98**	**232**	*e*P	**Pn**	**01 55 59.8**	**+0.2**
	baz=230						
SCZT				*e*S	**Sn**	**01 56 12.3**	**-0.1**
	baz=230						
HWA	**Hwalien**	**1.00**	**8**	*e*P	**Pn**	**01 56 00.0**	**+0.2**
	baz=9.0						
HWA				*e*S	**Sn**	**01 56 12.3**	**-0.6**
	baz=9.0						
CHN3	**Shinhua**	**1.01**	**276**	*e*P	**Pb**	**01 56 01.8**	**+1.0**
	baz=275						
CHN3				*e*S	**Sb**	**01 56 16.7**	**+3.0**
	baz=275						
SMLT	**Sun Moon Lake**	**1.03**	**330**⇓	*i*P	**Pn**	**01 56 00.8**	**+0.4**
	baz=331						
SMLT				S	**Sn**	**01 56 13.7**	**-0.2**
	baz=331						
CHN2	**Minshiung**	**1.06**	**301**	*e*S	**Sb**	**01 56 16.3**	**+1.2**
	baz=301						
TYC	**Yuchr**	**1.07**	**329**	P	**Pb**	**01 56 01.5**	**-0.3**
	baz=330						
TYC				*e*S	**Sb**	**01 56 16.0**	**+0.6**
	baz=330						
CHY	**Chiayi**	**1.08**	**299**	*e*P	**Pb**	**01 56 02.3**	**+0.3**
	baz=299						
CHY				*e*S	**Sn**	**01 56 15.0**	**+0.1**
	baz=299						
WGK	**Gukeng**	**1.08**	**311**	*e*S	**Sb**	**01 56 16.7**	**+0.9**
	baz=311						
TAI1	**Yung-k'ang**	**1.14**	**273**	*e*S	**Sb**	**01 56 17.2**	**0.0**
	baz=272						
KAU	**Kaohsiung**	**1.14**	**249**	*e*S	**Sb**	**01 56 19.1**	**+1.8**
	baz=248						
WNT	**Mingjian**	**1.14**	**322**	*e*P	**Pb**	**01 56 02.8**	**-0.2**
	baz=322						
WNT				*e*S	**Sb**	**01 56 17.6**	**+0.2**
	baz=322						
WHF	**Hehuan Shan**	**1.17**	**351**	P	**Pn**	**01 56 01.8**	**-0.8**
	baz=352						
WHF				*e*S	**Sn**	**01 56 15.9**	**-1.8**
	baz=352						
HEN	**Hengchun**	**1.18**	**215**	*e*P	**Pb**	**01 56 04.7**	**+1.2**
	baz=213						
SCLT	**Jiali**	**1.18**	**280**	*e*S	**Sb**	**01 56 18.7**	**+0.2**
	baz=279						
TSEB	**Hengchuen, Pin**	**1.19**	**206**	*e*P	**Pn**	**01 56 02.4**	**-0.1**
	baz=206						
TSEB				*e*S	**Sn**	**01 56 17.6**	**0.0**
	baz=206						
TWP	**Hsiaoliuchiu**	**1.19**	**238**	*e*P	**Pb**	**01 56 05.4**	**+1.5**
	baz=237						
TWK1	**Hengchun**	**1.20**	**210**	*e*P	**Pn**	**01 56 02.1**	**-0.4**
	baz=209						
TWK1				S	**Sn**	**01 56 16.9**	**-0.8**
	baz=209						
CHN8	**Yiju**	**1.20**	**288**	*e*S	**Sb**	**01 56 19.1**	**-0.1**
	baz=288						
TWT	**Tachien**	**1.29**	**349**	*e*P	**Pn**	**01 56 04.2**	**+0.2**
	baz=348						
TWT				*e*S	**Sn**	**01 56 19.4**	**-1.0**
	baz=348						
WSF	**Szhu**	**1.31**	**300**	*e*S	**Sn**	**01 56 20.8**	**+0.2**
	baz=300						
WTCT	**Ta-ch'eng**	**1.39**	**309**	*e*S	**Sn**	**01 56 23.0**	**+0.4**
	baz=309						
NNS	**Nan Shan**	**1.46**	**357**	*e*P	**Pn**	**01 56 05.8**	**-0.3**
	baz=358						
ENA	**Nanau**	**1.46**	**10**	*e*P	**Pn**	**01 56 05.5**	**-0.6**
	baz=11						
ENA				*e*S	**Sn**	**01 56 24.8**	**+0.5**
	baz=11						
TWQ1	**Liyutan**	**1.50**	**335**	*e*P	**Pb**	**01 56 08.2**	**-0.9**
	baz=336						
TWQ1				*e*S	**Sb**	**01 56 27.6**	**-0.1**
	baz=336						
NSY	**Sanyi**	**1.56**	**336**	*e*P	**Pn**	**01 56 08.8**	**+1.2**
	baz=336						
NSY				*e*S	**Sb**	**01 56 29.7**	**+0.1**
	baz=336						
ENTT	**Nioudou**	**1.66**	**3**	*e*P	**Pn**	**01 56 08.9**	**+0.1**
	baz=4.0						
TWC	**Suao**	**1.66**	**12**	*e*P	**Pn**	**01 56 09.1**	**+0.2**
	baz=13						
TWC				*e*S	**Sn**	**01 56 29.5**	**+0.3**
	baz=13						
WDGT	**Dungji**	**1.68**	**280**	*e*P	**Pn**	**01 56 08.5**	**-0.6**
	baz=279						
WDGT				*e*S	**Sn**	**01 56 27.1**	**-2.5**
	baz=279						
NSK	**Sanguang**	**1.69**	**357**	*e*P	**Pn**	**01 56 09.7**	**+0.3**
	baz=357						
NSK				*e*S	**Sn**	**01 56 29.4**	**-0.6**
	baz=357						
NSTT	**Nanjuang**	**1.70**	**346**	*e*P	**Pn**	**01 56 10.1**	**+0.7**
	baz=346						
NSTT				*e*S	**Sn**	**01 56 31.4**	**+1.4**
	baz=346						
TWE	**Neicheng**	**1.74**	**6**	*e*P	**Pn**	**01 56 10.2**	**+0.2**
	baz=7.0						
PNG	**Penghu**	**1.84**	**289**	*e*P	**Pn**	**01 56 10.8**	**-0.6**
	baz=288						
PNG				*e*S	**Sn**	**01 56 31.9**	**-1.8**
	baz=288						
EGS		**1.91**	**13**	*e*P	**Pn**	**01 56 13.5**	**+1.3**
	baz=14						
TWA	**Mucha**	**1.99**	**3**	*e*P	**Pn**	**01 56 14.2**	**+0.7**
	baz=4.0						
TWA				*e*S	**Sn**	**01 56 36.7**	**-0.8**
	baz=4.0						
JYNG	**Yonagunijimaku**	**2.00**	**43**	P	**Pn**	**01 56 14.4**	**+0.9**
JYNG				S	**Sn**	**01 56 38.0**	**+0.4**
YOJ	**Yonaguni jima**	**2.05**	**44**	P	**Pn**	**01 56 15.5**	**+1.3**
YOJ				S	**Sn**	**01 56 39.4**	**+0.6**
TWB1	**Santiao Chiao**	**2.08**	**13**	*e*P	**Pn**	**01 56 16.5**	**+1.9**
	baz=14						
TWB1				*e*S	**Sb**	**01 56 42.5**	**-1.7**
	baz=14						
NWF	**Wu-fen Shan**	**2.10**	**8**	*e*P	**Pn**	**01 56 15.7**	**+0.6**
	baz=8.0						
NWF				*e*S	**Sn**	**01 56 40.0**	**-0.2**
	baz=8.0						
HATJ	**Hateruma jima**	**2.41**	**63**	P	**Pn**	**01 56 19.7**	**+0.6**
HATJ				S	**Sn**	**01 56 47.6**	**0.0**
IRIF	**Iriomote-Funau**	**2.48**	**57**	P	**Pn**	**01 56 21.3**	**+1.1**
IRIF				S	**Sn**	**01 56 50.5**	**+1.1**
JKRS	**Kuro-shima**	**2.65**	**61**	P	**Pn**	**01 56 23.5**	**+1.0**
JKRS				S	**Sn**	**01 56 53.9**	**+0.2**
JIJ	**Ishigaki jima**	**2.82**	**60**	P	**Pn**	**01 56 25.2**	**+0.4**
JIJ				S	**Sn**	**01 56 57.2**	**-0.6**
JISG	**Ishigakijimahi**	**3.06**	**58**	P	**Pn**	**01 56 28.5**	**+0.3**
JISG				S	**Sn**	**01 57 02.7**	**-1.1**
KNM	**Kinmen**	**3.12**	**298**	*e*P	**Pn**	**01 56 29.4**	**+0.5**
	baz=296						
KNM				*e*S	**Sn**	**01 57 05.3**	**+0.1**
	baz=296						
JTJ	**Tarama**	**3.40**	**60**	P	**Pn**	**01 56 33.3**	**+0.5**
JTJ				S	**Sn**	**01 57 12.2**	**+0.1**
JIRB	**Irabujima**	**3.87**	**61**	P	**Pn**	**01 56 39.6**	**+0.4**
JIRB				*e*S	**Sn**	**01 57 23.5**	**-0.1**

*IDC **13** 02:06:54.8±1.0, 12°.20N×104°.45W, h0km, mb3.9/13, mb1 4.1/14, mb1mx4.0/27, mbtmp3.9/14, ML3.4/1, MS3.9/12, Ms1 3.9/12, ms1mx3.7/27, Error ellipse: s-maj=39.0km s-min=14.6km az=61.0*
*NEIC **13** 02:06:56.6±0.6, 11°.95N×104°.89W, h10km, mb4.5/26, Error ellipse: s-maj=16.9km s-min=7.0km az=62.0*
*BJI **13** 02:06:57.5, 12°.00N×104°.80W, h10km, mB5.4/3, Ms5.0/3, Ms7 4.8/2*
*ISCJB **13** 02:06:58.4±0.5, 11°.97N±0°.05×104°.75W±0°.06, h33km, mb4.2/33, MS3.9/8, Error ellipse: s-maj=8.7km s-min=7.1km az=141.2*
ISC 13 02:07:00.3±0.7, 12°.02N±0°.10×104°.9W±0°.1, h35km, n219, σ0§98/208, mb4.4/33, MS3.8/8, 85C-71D, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06S1	**SOCORRO T**	**8.85**	**320**	T	T	02 18 01.3	
	SNR=9.3						
H06E1	**SOCORRO T-PHAS**	**8.87**	**320**	T	T	02 18 01.0	
	SNR=31						
CMIG	**Matias Romero**	**10.95**	**61**	LR	LR	02 12 44.4	
	comp=Z,233nm,20.7s,baz=230,slow=33						
SLBS	**Sierra La Lagu**	**12.54**	**338**	*e*Pn	Pn	02 10 00.4	+4.0
LPIG	**La Paz**	**13.06**	**338**	LR	LR	02 13 54.1	
	comp=Z,888nm,20.3s,baz=146,slow=32						
034A	**Hebbronville**	**16.07**	**20**⇑	P	**P**	**02 10 44.8**	**-1.9**
	baz=16						
933A	**Laredo**	**16.39**	**18**⇓	P	**P**	**02 10 48.9**	**-1.3**
	baz=16						
832A	**Faith Ranch, C**	**16.83**	**15**⇑	P	**P**	**02 10 54.6**	**-0.5**
	baz=17,SNR=10						
833A	**Chaparral WMA,**	**17.02**	**17**⇓	P	**P**	**02 10 56.8**	**-0.4**
	baz=17,SNR=12						
834A	**Tilden**	**17.10**	**19**⇓	P	**P**	**02 10 57.5**	**-0.5**
	baz=17						
TXAR	**Lajitas Array**	**17.27**	**4**	P	**Pn**	**02 10 54.8**	**-4.1**
	0.0nm,0.3s,baz=157,slow=4.9,SNR=2.3						
TXAR				LR	LR	02 17 20.4	
	comp=Z,826nm,18.7s,baz=0.0,slow=37						
733A	**Divot King Ran**	**17.43**	**17**⇑	P	**P**	**02 11 01.6**	**0.0**
	baz=18						
631A	**Perdido Creek**	**17.77**	**13**⇓	P	**P**	**02 11 05.7**	**+0.2**
	baz=18,SNR=10						
633A	**Saathoff Ranch**	**18.16**	**16**⇓	P	**P**	**02 11 10.1**	**+0.3**
	baz=18,SNR=6.3						
529A	**Stev Forest Ra**	**18.19**	**8**⇑	P	**P**	**02 11 11.2**	**+1.0**
	baz=18						
530A	**J-C Ranch, Com**	**18.34**	**10**⇑	P	**Pn**	**02 11 12.6**	**+0.6**
	baz=18						
635A	**Leesville**	**18.52**	**20**⇑	P	**Pn**	**02 11 14.8**	**+0.7**
	baz=19						
532A	**Rocksprings**	**18.61**	**14**⇓	P	**Pn**	**02 11 15.6**	**+0.3**
	baz=19						
429A	**Davenport Ranc**	**18.73**	**8**⇑	P	**Pn**	**02 11 17.4**	**+0.7**
	baz=19						
533A	**Kerrville**	**18.78**	**16**⇓	P	**Pn**	**02 11 17.4**	**+0.1**
	baz=19						
636A	**Smothers Creek**	**18.85**	**22**⇓	P	**Pn**	**02 11 17.6**	**-0.6**
	baz=19						
534A	**Blanco**	**18.89**	**18**⇑	P	**Pn**	**02 11 18.7**	**+0.1**
	baz=19						
JCT	**Junction City**	**18.97**	**14**	*e*Pn	**Pn**	**02 11

231A	**Bronte** baz=20	20.27	11	⇓P		P	02 11 33.6	+0.7
539A	**Cross D Ranch,** baz=20	20.34	26	⇓P		P	02 11 33.4	-0.1
232A	**Coleman** baz=20,SNR=12	20.36	13	⇑P		P	02 11 34.2	+0.3
335A	**Moody** baz=20	20.38	19	⇓P		Pn	02 11 34.8	-1.6
121A	**Cookes Peak, D** baz=21,SNR=14	20.58	353	⇓P		P	02 11 37.3	+0.9
128A	**Castleberry Fa** baz=21	20.63	6	⇓P		P	02 11 37.0	+0.2
233A	**Rising Star** baz=21	20.66	15	⇑P		P	02 11 37.3	+0.1
129A	**Stewart Farms,** baz=21	20.70	7	⇓P		P	02 11 37.7	0.0
130A	**Snyder** baz=21	20.80	9	⇑P		P	02 11 38.4	-0.2
234A	**Clairette** baz=21	20.85	16	⇑P		P	02 11 39.0	-0.1
TUC	**Tucson** 19nm,1.1s	20.90	346	*e*P		P	02 11 40.7	+0.9
439A	**Center Grove,** baz=21	20.91	25	⇑P		P	02 11 39.2	-0.6
337A	**Centerville** baz=21	20.94	22	⇑P		P	02 11 40.0	-0.1
131A	**Roby** baz=21	20.97	11	⇑P		P	02 11 40.1	-0.4
WHTX	**Lake Whitney,** baz=21	21.03	18	⇑P		P	02 11 40.7	-0.4
ABTX	**Abilene, Hawle** 24nm,1.3s	21.07	12	*e*P		P	02 11 41.5	-0.1
ABTX	**Abilene, Hawle** baz=21,SNR=7.4	21.07	12	⇑P		P	02 11 41.3	-0.3
214A	**Organ Pipe Nat** 19nm,1.3s	21.13	341	*e*P		P	02 11 43.5	+1.3
214A	**Organ Pipe Nat** baz=21,SNR=7.0	21.13	341	⇓P		P	02 11 42.7	+0.5
338A	**Crockett** baz=21	21.19	23	⇑P		P	02 11 42.3	-0.5
133A	**Hamilton Ranch** baz=21	21.22	14	⇓P		P	02 11 42.9	-0.3
Z28A	**Tucker Farm, M** baz=22	21.30	6	⇑P		P	02 11 43.6	-0.4
236A	**Katherine and** baz=22	21.33	20	⇑P		P	02 11 44.5	+0.2
Z29A	**Hungry Hill Ra** baz=22	21.34	7	⇓P		P	02 11 43.9	-0.7
134A	**White-Moore Ra** baz=22	21.40	16	⇓P		P	02 11 44.9	-0.2
Z30A	**Sanderson Ranc** baz=22	21.45	9	⇑P		P	02 11 44.7	-0.9
339A	**Huntington** baz=22	21.47	25	⇓P		P	02 11 44.5	-1.3
135A	**Vickery Place,** baz=22	21.57	17	⇑P		P	02 11 46.0	-1.0
237A	**Washetta, Mont** baz=22	21.59	21	⇓P		P	02 11 46.3	-0.7
Z31A	**Sharp Cattle R** baz=22	21.65	11	⇑P		P	02 11 46.9	-0.8
Z32A	**Haskell** baz=22,SNR=6.6	21.77	12	⇓P		P	02 11 48.8	-0.2
340A	**Bronson** baz=22	21.83	26	⇓P		P	02 11 48.0	-1.6
Z33A	**Whitaker Ranch** baz=22	21.91	14	⇓P		P	02 11 49.6	-0.9
MSTX	**Muleshoe** 38nm,1.4s	21.94	5	*e*P		P	02 11 51.7	+0.8
MSTX	**Muleshoe** baz=22	21.94	5	⇑P		P	02 11 50.6	-0.3
Y29A	**Porterfield Fa** baz=22	21.94	7	⇓P		P	02 11 50.1	-0.8
Z34A	**Collier Ranch,** baz=22	22.20	16	⇑P		P	02 11 53.3	-0.3
Y31A	**Rekieta Farm,** baz=22	22.25	10	⇓P		P	02 11 53.5	-0.7
LAZ	**Ladron**	22.37	355	*e*P		P	02 11 56.9	+1.2
Z14A	**Wintersburg** baz=23	22.48	342	⇓P		P	02 11 56.5	-0.1
X29A	**Tulia** baz=23	22.52	7	⇓P		P	02 11 56.7	-0.5
X28A	**Dimmitt** baz=23	22.53	6	⇑P		P	02 11 56.9	-0.5
X30A	**Coker Ranch, T** baz=23	22.63	9	⇑P		P	02 11 58.0	-0.2
Y33A	**Hilltop Ranch,** baz=23	22.63	14	⇓P		P	02 11 58.0	-0.3
Y34A	**Reagan Ranch,** baz=23,SNR=9.3	22.80	16	⇓P		P	02 11 59.3	-0.7
ANMO	**Albuquerque** 1.3nm,0.8s,baz=163,slow=6.6,SNR=7.6	22.86	357	P		P	02 11 59.8	-1.1
ANMO	comp=Z,296nm,19.3s,baz=170,slow=36			LR		LR	02 20 22.3	
ANMO	**Albuquerque** 10nm,1.5s	22.86	357	*e*P		P	02 12 00.9	0.0
X18A	**Snowflake** baz=23	22.87	349	⇑P		P	02 12 01.0	+0.1
AMTX	**Amarillo** 24nm,1.3s	22.95	7	*e*P		P	02 12 01.4	-0.2
AMTX	**Amarillo** baz=23	22.95	7	⇑P		P	02 12 01.3	-0.4
X31A	**McDonald Ranch** baz=23	22.95	11	⇓P		P	02 12 01.5	-0.2
X16A	**Lo Mia Camp, P** baz=23	23.07	346	⇓P		P	02 12 03.3	+0.3
X33A	**Lawton** baz=23	23.17	14	⇑P		P	02 12 04.0	+0.3
W29A	**Amarillo** baz=23	23.19	7	⇓P		P	02 12 04.9	+0.8
W28A	**Vega** baz=23	23.27	6	⇓P		P	02 12 05.5	+0.6
X34A	**Smith Ranch, M** baz=24	23.39	15	⇑P		P	02 12 06.7	+0.7
W18A	**Petrified Fore**	23.41	350	*e*P		P	02 12 06.8	+0.5
W18A	**Petrified Fore** baz=24	23.41	350	⇑P		P	02 12 06.8	+0.5
X35A	**Drake** baz=24	23.43	17	⇑P		P	02 12 06.9	+0.6
W31A	**Holland Ranch,** baz=24	23.50	10	⇑P		P	02 12 06.8	-0.3
W32A	**Sentinel** baz=24	23.57	12	⇑P		P	02 12 07.4	-0.3
109C	**Camp Elliot, M** baz=24	23.58	334	⇑P		P	02 12 08.2	+0.4
BC3	**Big Chuckawall** baz=24	23.59	338	⇑P		P	02 12 08.4	+0.4
V27A	**Dan Oppiter Fa** baz=24	23.71	4	⇑P		P	02 12 09.1	-0.1
PDMCI	**Parker Dam,Lak** baz=24	23.71	341	⇓P		P	02 12 08.8	-0.2
W33A	**Caddo, Fort Co** baz=24	23.76	13	⇑P		P	02 12 09.1	-0.4
X36A	**Centrahoma** baz=24	23.77	18	⇓P		P	02 12 08.9	-0.6
IRM	**Iron Mountain** baz=24	23.93	339	⇑P		P	02 12 11.5	+0.3
PFO	**Pinyon Flats O** baz=24	23.93	336	⇑P		P	02 12 11.1	-0.2
V29A	**Stinnett** baz=24	23.95	7	⇑P		P	02 12 11.3	0.0
BELC	**Belle Mtn. Jos** baz=24	24.10	337	⇑P		P	02 12 13.2	+0.3
WUAZ	**Wupatki** 13nm,1.0s	24.11	347	*e*P		P	02 12 13.4	+0.5
WUAZ	**Wupatki** baz=24	24.11	347	⇓P		P	02 12 13.5	+0.6
W35A	**Tecumseh** baz=24	24.16	16	⇑P		P	02 12 13.6	+0.3
W36A	**Wetumka** baz=24	24.33	18	⇑P		P	02 12 14.7	-0.1
U27A	**Thompson Grove** baz=24	24.37	4	⇑P		P	02 12 15.5	+0.2
W13A	**Hualapai Mount** baz=24	24.37	342	⇑P		P	02 12 15.6	+0.1
V33A	**Lossen Ranch,** baz=25	24.45	13	⇓P		P	02 12 15.9	0.0
W37A	**Quinton** baz=25,SNR=8.9	24.58	19	⇓P		P	02 12 17.1	0.0
GMRC	**Granite Mounta** baz=25	24.67	338	⇑P		P	02 12 18.9	+0.9
MIAR	**Mount Ida** 24nm,1.5s	24.69	23	*e*P		P	02 12 19.0	+1.0
U30A	**WK&E Inc. Balk** baz=25	24.71	8	⇑P		P	02 12 18.2	0.0
V35A	**Meyer Ranch, C** baz=25	24.74	16	⇓P		P	02 12 18.7	+0.1
LDFC	**Landfair** 32nm,1.4s	24.75	340	*e*P		P	02 12 20.9	+2.2
W38A	**Poteau** baz=25	24.82	21	⇑P		P	02 12 19.1	-0.1
T25A	**Trinidad** baz=25	25.02	1	⇓P		P	02 12 21.2	-0.1
T26A	**Comanche Natio** baz=25	25.07	3	⇑P		P	02 12 22.7	+0.9
T28A	**Walsh** baz=25	25.12	5	⇓P		P	02 12 22.9	+0.9
TUL1	**Leonard**	25.18	18	*e*P		P	02 12 23.1	+0.6
TUL1	**Leonard** baz=25	25.18	18	⇑P		P	02 12 22.7	+0.2
U15A	**North Rim** baz=25,SNR=10	25.19	346	⇓P		P	02 12 23.8	+0.9
MVCO	**Mesa Verde** 9.6nm,1.1s	25.29	353	*e*P		P	02 12 24.1	+0.4
MVCO	**Mesa Verde** baz=26	25.29	353	⇓P		P	02 12 24.0	+0.3
S26A	**Kim** baz=26	25.53	3	⇓P		P	02 12 27.4	+1.6
SDCO	**Great Sand Dun** 6.8nm,1.3s	25.62	359	*e*P		P	02 12 28.8	+2.0
SDCO	**Great Sand Dun** baz=26,SNR=7.3	25.62	359	⇑P		P	02 12 28.1	+1.3
EDW2	**Edwards Air Fo** baz=26	25.67	335	⇑P		P	02 12 29.1	+2.1
S22A	**4UR Ranch, Cre** baz=26,SNR=5.7	25.67	357	⇑P		P	02 12 29.3	+2.0
T34A	**McClaskey Farm** baz=26	25.85	14	⇓P		P	02 12 30.4	+1.8
R23A	**Moffat** baz=26	26.07	358	⇓P		P	02 12 31.4	+0.5
R26A	**Arlington** baz=26	26.20	3	⇓P		P	02 12 32.3	+0.4
R27A	**Eads** baz=26	26.23	4	⇑P		P	02 12 32.7	+0.7
TPNV	**Topopah Spring** baz=27	26.83	340	⇑P		P	02 12 38.6	+1.0
MVU	**Marysvale** 5.6nm,1.2s	27.16	347	*e*P		P	02 12 41.6	+0.9
P23A	**Jefferson** baz=27	27.25	358	⇑P		P	02 12 42.0	+0.4
ISCO	**Idaho Springs** baz=28	27.68	359	⇑P		P	02 12 46.4	+1.0
R11A	**Troy Canyon, C** baz=28,SNR=7.1	27.89	342	⇓P		P	02 12 48.2	+1.0
O22A	**Kremmling** baz=28	28.07	357	⇑P		P	02 12 49.9	+1.1
O20A	**White River Ci** baz=28	28.16	355	⇑P		P	02 12 50.3	+0.8
N22A	**Wattenberg Ran** baz=29	28.70	358	⇑P		P	02 12 55.2	+0.7
N27A	**Anderson Farm,** baz=29	28.75	4	⇑P		P	02 12 56.0	+1.3
N23A	**Red Feather La** baz=29	28.78	358	⇑P		P	02 12 56.6	+1.5
NVAR	**Mina Array Bea** 0.2nm,0.3s,baz=146,slow=8.5,SNR=3.0	28.88	338	P		P	02 12 56.4	+0.5
DUG	**Dugway, Tooele** 5.9nm,1.2s	28.91	347	*e*P		P	02 12 58.2	+2.0
DUG	**Dugway, Tooele** baz=29	28.91	347	⇑P		P	02 12 57.5	+1.3
OGNE	**Ogallala** baz=29	28.92	5	⇑P		P	02 12 57.2	+1.0
PHWY	**Round Hill**	29.17	359	*e*P		P	02 12 59.7	+1.1
M23A	**Laramie** baz=30	29.34	359	⇑P		P	02 13 01.6	+1.5
ELK	**Elko** 0.4nm,0.5s,baz=86,slow=19,SNR=3.3	30.02	344	P		P	02 13 05.5	-0.6
TKL	**Tuckaleechee C** 2.3nm,0.8s,baz=198,slow=16,SNR=2.2	30.33	36	P		P	02 13 04.2	-4.4
BW06	**Boulder Array** 2.7nm,1.1s	30.90	353	*e*P		P	02 13 13.6	-0.2
PDAR	**Pinedale Array** 1.7nm,0.9s,baz=157,slow=8.0,SNR=7.4	30.90	353	P		P	02 13 13.4	-0.4
PDAR	0.7nm,0.8s,baz=132,slow=2.2,SNR=5.4			PcP		PcP	02 16 08.2	-1.8
PDAR	comp=Z,168nm,20.5s,baz=162,slow=35			LR		LR	02 24 42.7	
J24A	**Dixon Ranch, L** baz=31	31.20	0	⇓P		P	02 13 17.5	+1.1
J19A	**Crowheart** baz=32	31.34	354	⇓P		P	02 13 18.7	+1.1
KMSC	**Kings Mountain** baz=32	31.42	39	⇑P		P	02 13 18.2	0.0
I21A	**Big Trails, Te** baz=32	31.74	357	⇓P		P	02 13 22.2	+1.0
HLID	**Hailey** 3.9nm,1.2s	32.48	347	*e*P		P	02 13 28.7	+1.1
HLID	**Hailey** baz=33	32.48	347	⇑P		P	02 13 28.5	+0.8
G20A	**Bridger** baz=33	33.20	356	⇑P		P	02 13 34.6	+0.7
G26A	**Maurine** baz=33	33.22	3	⇑P		P	02 13 34.7	+0.8
SDV	**Santo Domingo** 12nm,1.1s	33.85	92	*e*P		P	02 13 40.4	+0.4
J05D	**Fort Rock, OR** baz=34	34.20	339	⇑P		P	02 13 43.5	+0.9
BMO	**Blue Mountains** 22nm,2.5s	34.40	344	*e*P		P	02 13 44.4	+0.2
E20A	**Meyer Farm, Mu** baz=35	34.48	356	⇓P		P	02 13 45.7	+0.9
E19A	**Rath Farm, Rou** baz=35	34.48	355	⇑P		P	02 13 46.0	+1.1
D19A	**Cripps Ranch,** baz=35	35.19	355	⇑P		P	02 13 52.0	+1.0
D28A	**Regan** baz=35	35.25	5	⇑P		P	02 13 52.5	+1.0
D30A	**Buchanan** baz=36	35.36	7	⇓P		P	02 13 53.5	+1.1
MSO	**Missoula** baz=36	35.52	349	⇓P		P	02 13 55.0	+1.1
C20A	**Veseth Ranch,** baz=36	35.67	356	⇑P		P	02 13 56.5	+1.4
C19A	**Slack Wire Ran** baz=36	35.77	355	⇑P		P	02 13 57.2	+1.2
G05D	**Wamic, OR** baz=36	35.95	340	⇓P		P	02 13 58.7	+1.2
EGMT	**Eagleton** baz=36	36.12	354	⇓P		P	02 13 59.8	+0.8
B30A	**Myrvik Farm, E** baz=37	36.73	7	⇓P		P	02 14 04.9	+0.8
AGMN	**Agassiz Nation** 7.1nm,1.0s	36.95	10	*e*P		P	02 14 07.2	+1.2
AGMN	**Agassiz Nation** baz=37	36.95	10	⇓P		P	02 14 06.6	+0.6
A30A	**Hoffart Farm,** baz=37	37.22	7	⇓P		P	02 14 09.3	+1.0
NEW	**Newport** 4.9nm,0.8s	37.54	347	*e*P		P	02 14 11.1	+0.1
NEW	**Newport** baz=38	37.54	347	⇓P		P	02 14 12.1	+1.0
ULM	**Lac du Bonnet** 0.7nm,0.5s,baz=176,slow=15,SNR=2.2	38.84	9	P		P	02 14 17.9	-4.0
ULM	comp=Z,178nm,18.3s,baz=203,slow=37			LR		LR	02 30 49.0	
LPAZ	**La Paz** 9.2nm,1.0s,baz=316,slow=7.6,SNR=20	45.99	127	P		P	02 15 19.4	-1.8
LPAZ	comp=Z,41nm,20.7s,baz=316,slow=34			LR		LR	02 32 50.6	
LPAZ	**La Paz** 17nm,1.2s	45.99	127	*e*P		P	02 15 21.6	+0.4
SAML	**Samuel** 15nm,1.2s	46.43	115	*e*P		P	02 15 22.8	-1.2
LVC	**Limon Verde** 9.2nm,1.3s	49.30	134	*e*P		P	02 15 47.9	+1.5
YKA	**Yellowknife Ar** 0.5nm,0.6s,baz=167,slow=7.0,SNR=6.4	50.87	354	P		P	02 15 55.9	-1.5
YKA	0.6nm,0.8s,baz=157,slow=3.2,SNR=6.9			PcP		PcP	02 17 12.7	-0.9
SIV	**San Ignacio** 5.0nm,1.1s,baz=302,slow=8.5,SNR=6.8	51.55	122	P		P	02 15 59.2	-4.0
SCHQ	**Schefferville** comp=Z,65nm,20.2s,baz=146,slow=36	52.10	27	LR		LR	02 38 11.8	
CPUP	**Villa Florida** 1.6nm,1.0s,baz=326,slow=7.3,SNR=3.5	59.95	130	P		P	02 17 02.7	-0.6
ILAR	**Eielson Array** 2.8nm,0.9s,baz=156,slow=5.4,SNR=21	60.08	341	P		P	02 17 03.3	-0.3
PLCA	**Paso Flores** comp=Z,101nm,19.1s,baz=320,slow=30	61.37	151	LR		LR	02 37 41.1	
BDFB	**Brasilia** 1.8nm,0.5s,baz=62,slow=15,SNR=3.5	62.67	115	P		P	02 17 20.1	-2.0
URZ	**Urewera** comp=Z,122nm,21.0s,baz=312,slow=30	88.11	230	LR		LR	02 51 24.1	
TIXI	**Tiksi** 6.6nm,1.0s	89.24	345	P		P	02 19 52.2	-0.1
ESDC	**Sonseca Array** 0.1nm,0.4s,baz=306,slow=11,SNR=3.0	90.69	49	P		P	02 19 58.5	-1.3
DZM	**Mont Dzumac** comp=Z,290nm,20.2s,baz=1.0,slow=31	93.19	248	LR		LR	02 55 30.9	
VYHS	**Vyhne**	101.96	34	PDIF		Pdif	02 20 51.5	+0.8
STHS	**Stebnicka Huta**	102.73	33	PDIF		Pdif	02 20 55.5	+1.4
HHC	**Hu-ho-hao-te**	117.51	329	*e*PKP		PKPdf	02 25 44.8	+1.9
HHC				PP		PP	02 27 00.3	+6.2
HHC				SKS		SKSdf	02 32 54.7	+2.0
HHC				SS		SS	02 43 14.0	+11
HHC	61nm,7.5s			PPMZ				
HHC	140nm,17.4s			LN				
HHC	130nm,17.4s			LE				
HHC	62nm,16.2s			LZ				
ABKAR	**Akbulak array**	117.55	11	*e*Pdif		Pdif	02 22 00.6	+0.6
WRA	**Warramunga Arr** 1.2nm,0.9s,baz=85,slow=1.9,SNR=4.4	122.72	254	PKP		PKPdf	02 25 53.9	+0.6
WMQ	**Urumqi**	123.25	349	*e*PKP		PKPdf	02 25 50.8	-3.0
WMQ	41nm,20.0s			LN				
WMQ	36nm,20.6s			LE				
GEYT	**Alibeck** 1.1nm,0.6s,baz=328,slow=5.1,SNR=3.6	127.83	17	PKP		PKPdf	02 26 02.3	-0.4
KSH	**Kashi**	128.72	359	*e*PKP		PKPdf	02 26 06.3	+1.8
KSH				PP		PP	02 28 16.1	+6.8
KSH				PKS		PKSdf	02 29 41.5	+0.3
KSH				SKS		SKSdf	02 33 16.5	+2.6
KSH	99nm,4.2s			PPMZ				
KSH	61nm,4.7s			LN				
KSH	51nm,4.3s			LE				
KSH	110nm,4.9s			LZ				

IDC ***13*** *02:11:04.9±0.4,9°.30N×125°.55E,h0km,mb4.3/27, mb1 4.5/30,mb1mx4.4/38,mbtmp4.4/30,ML4.5/2,MS4.0/29, Ms1 4.0/29,ms1mx3.9/41,Error ellipse: s-maj=19.2km s-min=10.2km az=74.0*

MAN ***13*** *02:11:07,9°.23N×125°.56E,h9km,mb5.5,ML4.5,MS4.8*

MAN INTENSITY IV - BUTUAN & SURIGAO CITY; INTENSITY II - MALASAG & CORALES CAGAYAN DE ORO.

MOS ***13*** *02:11:09.0±1.6,9°.28N×125°.58E,h37km,mb5.0/25, MS4.2/7,Error ellipse: s-maj=12.3km s-min=6.2km az=119.8*

ISCJB ***13*** *02:11:10.3±0.4,9°.21N±0°.02×125°.61E±0°.03,h44km±3km, mb4.5/64,MS4.1/32,Error ellipse: s-maj=5.4km s-min=3.0km az=161.0*

BJI ***13*** *02:11:11.2,9°.01N×125°.63E,h61km,mb4.7/38,mB4.9/28, Ms4.6/41,Ms7 4.3/37*

NEIC ***13*** *02:11:14.0±0.9,9°.18N×125°.58E,h68km±8km,mb4.7/25, Error ellipse: s-maj=9.0km s-min=5.3km az=72.0*

NEIC Felt [IV PIVS] at Butuan and Cabadbaran; [II PIVS] at Carrascal, Malasag and Santiago. Also felt at Cagayan, Gingoog and Iligan.

GCMT ***13*** *02:11:14.0±0.2,9°.25N×125°.64E,h20km±1km,MW5.0/85, Moment Tensor Solution. s31,c37; s85,c136; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.54±.14; Mθθ0.75±.10; Mϕϕ-1.30±.13; Mrθ-1.47±.24; Mrϕ-3.65±.10; Mθϕ-1.01±.24; Best double couple: M○4.12900×10^16 NP1:ϕ82.00000°,δ85.00000°,λ-159.00000°. NP2: ϕ351.00000°,δ69.00000°,λ-5.00000°. Principal axes: T 3.6340, Plg12.0000°, Azm215.0000°; N 0.9870, Plg68.0000°, Azm94.0000°; P -4.6240, Plg18.0000°, Azm308.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

DJA ***13*** *02:11:23.1±2.5,8°.N±11°.×12°.6E±°,h40km±23km,M5.1/8, mb5.1/8,mB5.3/6,MLv5.3/2,Mw(mB)4.7/6*

ISC 13 02:11:10.1±0.8,9°.21N±0°.03×125°.57E±0°.04,h30km±5km, n235,σ1§64/242,mb4.6/64,MS4.0/32,11C-5D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	0.24	168	*e*P	Pb	02 11 13.9	-2.9
SCPH	**Surigao**	0.58	352	⇑*i*P	Pb	02 11 19.6	-2.2
SCPH				*i* S	Sn	02 11 31.1	+0.3
CGP	**Cagayan de Oro**	1.14	229	*e*P	Pn	02 11 29.1	-0.9
CGP				*i* S	Sb	02 11 45.7	0.0
MSLP	**Maasin**	1.16	323	*e*P	Pn	02 11 28.4	-1.9
MSLP				*e*S	Sb	02 11 46.4	+0.3
BIPH	**Bislig**	1.28	142	⇑*i*P	Pb	02 11 32.7	-0.9
BIPH				*i* S	Sb	02 11 48.9	-0.8
BUKP	**Musuan**	1.41	201	*e*P	Pb	02 11 34.5	-1.3
BUKP				*e*S	Sb	02 11 52.9	-0.5
PLP	**Palo**	2.03	343	⇓*e*P	Pn	02 11 41.6	-0.7
PLP				*e*S	Sb	02 12 10.9	-0.4
OCLP	**Ormoc**	2.06	333	*e*P	Pn	02 11 42.1	-0.6
DAV	**Davao City (W)**	2.12	180	*e*Pn	Pb	02 11 45.4	-2.5
DAV				*e*S	Sn	02 12 07.8	-1.2
DCPH	**Dipolog City**	2.28	254	⇑*i*P	Pn	02 11 45.8	+0.1
DCPH				*i* S	Sb	02 12 18.4	+0.2
SNPH	**Sibulan**	2.31	274	⇑*i*P	Pn	02 11 42.6	-3.5
SNPH				*i* S	Sb	02 12 23.7	+4.5
MATI	**Mati**	2.35	163	*e*P	Pn	02 11 48.0	+1.4
CTBH	**Cotabato--PC H**	2.37	214	⇑*i*P	Pn	02 11 47.1	+0.1
PAGZ	**Pagadian**	2.55	238	*e*P	Pn	02 11 50.7	+1.3
GUIM	**Jordan**	3.26	296	*e*P	Pn	02 11 59.0	-0.2
PVCP	**Virac**	4.58	342	*e*P	Pn	02 12 20.9	+3.5
SGSI	**Sangihe**	5.48	180	P	Pn	02 12 31.7	+1.9
TGY	**Tagaytay City** 44nm,0.3s,baz=20,slow=15,SNR=2.1	6.65	317	Pn	Pn	02 12 51.8	+5.9
TGY	108nm,0.3s,baz=311,slow=19,SNR=2.8			Sn	Sb	02 14 20.1	-4.1
TGY	comp=Z,4.1nm,18.8s,baz=192,slow=37			LR	LR	02 15 06.1	
TNTI	**Ternate**	8.57	168	P	Pn	02 13 14.0	+1.8
TNTI	**Ternate**	8.57	168	*e*Pn	Pn	02 13 13.6	+1.5
TNTI				*e*S	Sn	02 14 55.1	+7.2
KMSI	**Cibinong**	8.72	191	P	Pn	02 13 16.5	+2.2
MRSI	**Marisa**	9.39	203	P	Pn	02 13 26.8	+3.3
LBMI	**Labuha**	9.97	169	P	Pn	02 13 32.9	+1.5
LUWI	**Luwuk**	10.55	195	P	Pn	02 13 42.2	+2.8
LUWI	**Luwuk** baz=10,SNR=4.0	10.55	195	P	Pn	02 13 43.8	+4.4
LUWI	**Luwuk**	10.55	195	*e*Pn	Pn	02 13 42.5	+3.1
SANI	**Sanana**	11.19	178	P	Pn	02 13 44.8	-3.3
SWI	**Sorong**	11.50	150	P	Pn	02 13 54.2	+1.9
SWI	**Sorong** baz=12,SNR=6.8	11.50	150	P	Pn	02 13 54.9	+2.6
SIJI	**Sorong** 4.6nm,0.3s,baz=334,slow=11,SNR=27	11.51	150	Pn	Pn	02 13 52.2	-0.2
SIJI	0.9nm,0.3s,baz=180,slow=20,SNR=3.0			Sn	Sn	02 15 55.7	-4.4
NLAI	**Namlea** 106nm,0.7s,998nm	12.46	173	P	Pn	02 14 03.2	-2.3
MSAI	**Masohi**	12.91	165	P	P	02 14 21.7	-0.3
TTSI	**Tana Toraja** 95nm,1.1s,671nm	13.45	205	P	Pn	02 14 21.9	+2.8
RKPI	**Ransiki, Papua** 210nm,1.0s	13.67	141	P	Pn	02 14 24.2	+2.1
FAKI	**Fak Fak**	13.76	151	P	Pn	02 14 25.4	+2.1
FAKI	**Fak Fak** baz=14,SNR=3.7	13.76	151	P	Pn	02 14 24.9	+1.5
FAKI	**Fak Fak**	13.76	151	*e*Pn	Pn	02 14 23.6	+0.3
SPSI	**Sidrap Palu**	14.30	204	P	P	02 14 33.9	-3.6
BNSI	**Bone**	14.57	202	P	P	02 14 37.7	-2.8
YULB	**Yu-li**	14.69	344	*e*Pn	P	02 14 40.4	-1.4
SBUM	**Sibu**	14.87	244	*e*Pn	Pn	02 14 40.8	+2.3
KAPI	**Kappang** 1.6nm,0.3s,baz=28,slow=7.7,SNR=10	15.27	203	Pn	Pn	02 14 44.5	+0.8
KAPI	**Kappang** 15nm,1.2s	15.27	203	*e*Pn	Pn	02 14 45.2	+1.5
BKSI	**Bulukumba**	15.42	201	P	P	02 14 48.2	-1.7
YHNB	**Yeheng**	15.89	346	*e*Pn	P	02 14 56.2	+1.0
QZH	**Quanzhou**	17.00	338	P	P	02 15 08.0	+0.6
QZH				S	Sn	02 18 18.0	+4.0
QZH	2μm,19.0s			LN			
QZH	760nm,15.7s			LE			
QZH	3μm,18.2s			LZ			
KSM	**Kuching** 125nm,2.1s	17.02	244	*e*Pn	P	02 15 09.0	+1.4

SMPI **Sarmi** 17.18 130 P **P** 02 15 10.9 +1.4
JOW **Kunigami** 17.72 8 *e*Pn **P** 02 15 16.8 +1.4
29nm,1.3s
QIZ **Qiongzhong** 18.09 304 P **P** 02 15 21.4 +1.8
QIZ pP pP 02 15 33.9 +6.4
QIZ sP sP 02 15 41.7 +10
QIZ S **S** 02 18 44.1 -1.5
QIZ PMZ
15nm,1.6s
QIZ LN
780nm,15.3s
QIZ LZ
960nm,16.1s
GZH **Guangzhou** 18.10 321 P **P** 02 15 22.5 +2.9
GZH LN
3µm,18.7s
GZH LE
2µm,17.9s
SOEI **Soe** 18.88 184 *e*Pn **P** 02 15 28.1 -0.3
JAY **Jayapura** 19.05 127 P **Pn** 02 15 32.8 +1.7
0.7nm,0.3s,baz=340,slow=5.3,SNR=7.4
JAY LR LR 02 23 30.3
comp=Z,325nm,18.6s,baz=338,slow=39
BATI **Baumata** 19.38 186 P **P** 02 15 33.9 +0.2
baz=332,slow=1.0
BATI LR LR 02 23 55.4
comp=Z,662nm,20.7s,baz=11,slow=40
JAGI **Jajag, Banyuwa** 20.92 213 *e*P Pn 02 15 55.4 +2.3
51nm,1.0s
SKNT **Sakolnakorn** 22.38 292 P **P** 02 16 06.3 +0.1
34nm,0.8s
KDU **Kakadu** 22.81 162 P **P** 02 16 10.4 -0.2
baz=23,SNR=10.0
NJ2 **Nanjing** 23.57 346 *e*P **P** 02 16 19.1 +0.9
NJ2 pP pP 02 16 33.4 +6.8
NJ2 sP sP 02 16 41.0 +11
NJ2 S **S** 02 20 31.5 +0.9
NJ2 sS Sn 02 20 54.0 +2.0
NJ2 PMZ
60nm,0.6s
NJ2 PMZ
210nm,6.4s
NJ2 LN
720nm,20.6s
NJ2 LE
830nm,24.4s
NJ2 LZ
880nm,18.1s
WHN **Wuhan** 23.67 335 ⇓P **P** 02 16 18.0 -1.2
WHN S **S** 02 20 34.9 +2.7
WHN LN
1µm,12.9s
WHN LE
850nm,14.1s
WHN LZ
2µm,15.8s
JCJ **Chichijima** 23.74 39 LR LR 02 27 10.0
comp=Z,161nm,18.2s,baz=232,slow=41
LEM **Lembang** 23.95 229 P **P** 02 16 24.2 +2.1
35nm,0.6s,baz=190,slow=6.6,SNR=6.5
CISI **Cisompet, Garu** 24.29 227 *e*P **P** 02 16 24.8 -0.4
68nm,0.8s
JNU **Nakatsue** 24.30 11 LR LR 02 24 53.3
comp=Z,270nm,20.0s,baz=195,slow=34
GYA **Guiyang** 24.80 316 *e*P **P** 02 16 32.0 +2.1
GYA PMZ
10.0nm,0.8s
IPM **Ipoh** 24.81 261 *e*P **P** 02 16 31.2 +1.3
12nm,0.7s
KNRA **Kununurra** 24.92 173 P **P** 02 16 30.4 -0.3
baz=25,SNR=7.9
PBKT **Sadao Pong** 25.05 289 P **P** 02 16 33.0 +1.0
20nm,1.4s,1µm
NANT **Nan** 25.91 294 P **P** 02 16 41.7 +1.8
29nm,0.9s,1µm
UTHA **Uthaitani** 26.27 286 P P 02 16 50.5 +7.4
2.6nm,1.1s
CRAI **Chiangrai** 26.68 297 P **P** 02 16 43.6 -3.2
8.8nm,1.2s
LAMP **Lampang** 26.80 293 P P 02 16 56.8 +9.0
PSI **Prapat** 27.24 258 P **P** 02 16 50.9 -1.1
13nm,0.9s,baz=82,slow=4.9,SNR=3.9
PSI LR LR 02 29 59.8
comp=Z,132nm,19.5s,baz=81,slow=42
CMAR **Chiang Mai Arr** 27.41 292 P **P** 02 16 53.8 +0.4
5.4nm,0.9s,baz=94,slow=7.3,SNR=22
CMAR LR LR 02 27 39.5
comp=Z,324nm,21.6s,baz=111,slow=36
CMMT **Chiang Mai** 27.50 293 P **P** 02 16 55.4 +1.2
12nm,1.7s
CHTO **Chiang Mai** 27.50 293 P **P** 02 16 55.5 +1.3
39nm,1.8s
CHTO **Chiang Mai** 27.50 293 *e*P **P** 02 16 54.9 +0.7
CHTO pmax pmax
comp=Z,4.0nm,0.3s
CHTO **Chiang Mai** 27.50 293 *e*P **P** 02 16 54.9 +0.7
comp=Z,3.9nm,0.3s
CMAI **Chiengmai2** 27.75 296 P **P** 02 16 57.7 +1.1
comp=Z,14nm,1.1s,comp=Z,1µm
KSAR **Wonju Array Be** 28.19 4 P **P** 02 16 58.5 -1.6
KSAR **Wonju Array Be** 28.19 4 P **P** 02 16 58.5 -1.6
KSRS **Korea Array** 28.20 4 P **P** 02 16 58.5 -1.7
comp=Z,1.9nm,0.8s,baz=176,slow=9.3,SNR=8.4
KSRS LR LR 02 28 06.6
comp=Z,368nm,21.6s,baz=196,slow=36
KSRS **Korea Array** 28.20 4 P **P** 02 16 58.5 -1.7
KSRS pmax pmax
comp=Z,2.0nm,0.8s
KSRS MLR MLR
comp=Z,368nm,21.6s
COEN **Coen** 28.89 143 P **P** 02 17 05.9 -0.7
baz=29,SNR=12
COEN **Coen** 28.89 143 *e*P **P** 02 17 09.1 +2.5
comp=Z,34nm,0.8s
XAN **Xi'an** 29.07 331 P **P** 02 17 06.5 -1.5
XAN PMZ
comp=Z,2.0nm,1.0s
XAN LN
comp=Z,500nm,20.5s
XAN LE
comp=Z,270nm,23.4s
XAN LZ
comp=Z,130nm,20.6s
MJAR **Matsushiro Arr** 29.54 21 P **P** 02 17 09.8 -2.3
comp=Z,2.5nm,0.7s,baz=189,slow=8.9,SNR=4.7
MJAR LR LR 02 27 24.2
comp=Z,372nm,20.8s,baz=210,slow=33
CD2 **Chengdu** 29.65 320 *e*P **P** 02 17 14.0 +0.8
CD2 pP pP 02 17 33.3 +11
CD2 S **S** 02 22 05.6 -1.5
CD2 SS **SnSn** 02 23 38.9 +1.6
CD2 PMZ
comp=Z,10.0nm,0.6s
CD2 PMZ
comp=Z,110nm,4.8s
CD2 LN
comp=Z,1µm,19.0s
CD2 LE
comp=Z,1µm,16.6s
CD2 LZ
comp=Z,890nm,19.0s
WRAB **Tennant Creek** 30.22 163 *e*P **P** 02 17 17.8 -0.5
WRAB pmax pmax
comp=Z,7.0nm,0.6s
WRAB **Tennant Creek** 30.22 163 *e*P **P** 02 17 17.8 -0.5
comp=Z,6.9nm,0.6s
WRA **Warramunga Arr** 30.23 163 P **P** 02 17 17.3 -1.0
comp=Z,3.1nm,0.7s,baz=342,slow=9.7,SNR=9.7
WRA LR LR 02 31 47.5
comp=Z,247nm,20.4s,baz=355,slow=41
BJI **Beijing** 31.83 346 P P 02 17 35.6 +3.4
BJI S **S** 02 22 41.5 +0.7
BJI PMZ
comp=Z,11nm,0.8s
BJI LN
comp=Z,220nm,17.5s
BJI LE
comp=Z,420nm,18.4s
BJI LZ
comp=Z,260nm,20.8s
SNY **Shenyang** 32.54 357 ⇑P P 02 17 43.6 +5.2
SNY PMZ
comp=Z,11nm,0.5s
SNY PMZ
comp=Z,130nm,5.6s
SNY LN
comp=Z,190nm,19.0s
SNY LE
comp=Z,350nm,18.7s
SNY LZ
comp=Z,280nm,21.6s
QIS **Mount Isa** 32.64 155 P **P** 02 17 39.6 0.0
baz=33,SNR=10
LZH **Lanzhou** 33.27 327 *e*P **P** 02 17 46.6 +1.4
LZH pP pP 02 18 04.5 +11
LZH sP sP 02 18 12.4 +15
LZH *e*S **S** 02 23 03.0 -0.8
LZH sS sS 02 23 31.0 +13
LZH SS **SnSn** 02 25 07.1 +1.8
LZH PMZ
comp=Z,20nm,1.0s
LZH PMZ
comp=Z,72nm,4.7s
LZH LN
comp=Z,480nm,12.6s
LZH LE
comp=Z,550nm,14.5s
LZH LZ
comp=Z,1µm,15.6s
AS31 **Alice Springs** 33.67 166 *e*P **P** 02 17 48.7 +0.1
ASAR **Alice Springs** 33.67 166 P **P** 02 17 48.1 -0.4
comp=Z,4.5nm,0.5s,baz=342,slow=7.0,SNR=51
ASAR ScP **ScP** 02 24 13.6 +2.5
comp=Z,0.9nm,0.8s,baz=338,slow=2.2,SNR=4.7
ASAR LR LR 02 32 19.4
comp=Z,110nm,19.2s,baz=342,slow=38
HHC **Hu-ho-hao-te** 33.88 341 *e*P **P** 02 17 52.9 +2.6
HHC S **S** 02 23 15.2 +2.2
HHC sS sS 02 23 37.6 +10
HHC SS **SnSn** 02 25 23.3 +3.4
HHC PMZ
comp=Z,15nm,1.5s
HHC PMZ
comp=Z,77nm,8.7s
HHC LN
comp=Z,350nm,17.3s
HHC LE
comp=Z,450nm,19.9s
HHC LZ
comp=Z,390nm,18.7s
WRKA **Warakurna** 34.14 176 P **P** 02 17 52.3 -0.4
baz=34,SNR=18
CN2 **Changchun** 34.46 360 *e*P P 02 17 59.1 +3.9
CN2 *e*S **S** 02 23 23.0 +1.3
CN2 PMZ
comp=Z,10.0nm,0.5s
CN2 PMZ
comp=Z,300nm,5.0s
CN2 LN
comp=Z,300nm,16.0s
CN2 LE
comp=Z,300nm,16.0s
CN2 LZ
comp=Z,400nm,13.0s
USRK **Ussuriysk Ar.** 35.31 8 P **P** 02 18 02.5 0.0
comp=Z,5.9nm,0.6s,baz=184,slow=7.9,SNR=14
USRK LR LR 02 30 56.2
comp=Z,247nm,20.7s,baz=185,slow=34
MDJ **Mudanjiang** 35.45 5 P P 02 18 07.2 +3.5
MDJ pP pP 02 18 22.2 +10
MDJ sP sP 02 18 29.5 +13
MDJ PP **PP** 02 19 26.2 +1.7
MDJ S **S** 02 23 39.4 +2.5
MDJ PMZ
comp=Z,6.0nm,0.6s
MDJ PMZ
comp=Z,57nm,4.2s
MDJ LN
comp=Z,190nm,15.9s
MDJ LE
comp=Z,140nm,15.9s
MDJ LZ
comp=Z,270nm,18.0s
CTA **Charters Tower** 35.52 145 P **P** 02 18 04.5 -0.2
comp=Z,4.3nm,0.2s,baz=252,slow=16,SNR=8.3
CTAO **Charters Tower** 35.52 145 *e*P **P** 02 18 04.4 -0.2
CTAO pmax pmax
comp=Z,17nm,0.8s
CTAO **Charters Tower** 35.52 145 *e*P **P** 02 18 04.4 -0.2
comp=Z,17nm,0.8s
MEEK **Meekatharra** 36.26 191 P **P** 02 18 09.7 -1.2
baz=36,SNR=6.8
LSA **Lhasa** 38.10 307 P **P** 02 18 27.8 +0.7
LSA **Lhasa** 38.10 307 *e*P **P** 02 18 26.6 -0.5
LSA pmax pmax
comp=Z,4.0nm,0.4s
LSA **Lhasa** 38.10 307 *e*P **P** 02 18 26.6 -0.5
comp=Z,4.0nm,0.4s
MORW **Morawa** 39.15 193 P **P** 02 18 35.8 +0.6
baz=39,SNR=7.4
FORT **Forrest** 39.83 177 P **P** 02 18 40.9 0.0
baz=40,SNR=8.9
QLP **Quilpie** 39.93 153 P **P** 02 18 44.3 +2.5
baz=40,SNR=4.2
QLP S S 02 25 02.8 +18
baz=40,SNR=3.7
TAPN **Taplejung** 40.01 302 *e*P **P** 02 18 43.7 +0.8
comp=Z,68nm,1.1s
ODAN **Odare** 40.12 301 *e*P **P** 02 18 45.9 +2.2
comp=Z,42nm,0.8s
BLDU **Ballidu** 40.50 192 P **P** 02 18 47.0 +0.6
baz=41,SNR=6.6
KMBL **Kambalda** 40.50 185 P **P** 02 18 46.8 +0.4
baz=41,SNR=6.9
RAMN **Ramite** 40.81 301 *e*P **P** 02 18 50.4 +0.9
comp=Z,32nm,0.8s
H11S3 **WAKE ISLAND Hy** 40.89 72 T T 03 01 55.1
baz=262,slow=75,SNR=403
H11S1 **WAKE ISLAND Hy** 40.91 72 T T 03 01 55.3
baz=262,slow=75,SNR=194
H11S2 **WAKE ISLAND Hy** 40.91 72 T T 03 01 56.1
baz=262,slow=75,SNR=129
H11N1 **WAKE ISLAND Hy** 41.25 71 T T 03 02 29.0
baz=265,slow=74,SNR=122
H11N2 **WAKE ISLAND Hy** 41.26 71 T T 03 02 27.0
baz=265,slow=74,SNR=74
CHLP **Challavanipeta** 41.26 288 *e*P **P** 02 18 54.6 +1.6
H11N3 **WAKE ISLAND Hy** 41.27 71 T T 03 02 27.9
baz=265,slow=74,SNR=146
JIRN **Jiri** 41.38 302 *e*P **P** 02 18 56.1 +1.8
comp=Z,34nm,0.7s
GUN **Gumba** 41.73 302 *e*P **P** 02 18 58.3 +1.2
comp=Z,45nm,0.8s
SONM **Songino Array** 41.78 341 P **P** 02 18 55.6 -1.3
comp=Z,0.6nm,0.6s,baz=157,slow=9.4,SNR=2.5
SONM LR LR 02 38 54.7
comp=Z,338nm,18.9s,baz=119,slow=40
PKI **Pulchoki** 42.01 301 *e*P **P** 02 18 59.7 +0.3
PKIN **Phulchoki** 42.03 301 *e*P **P** 02 19 00.6 +1.1
comp=Z,16nm,0.8s
KKN **Kakani** 42.19 301 *e*P **P** 02 19 02.3 +1.5
comp=Z,24nm,0.9s
DMN **Daman** 42.28 301 *e*P **P** 02 19 02.5 +1.0
comp=Z,33nm,1.0s
NWAO **Narrogin (SRO)** 42.64 190 P **P** 02 19 04.1 +0.1
comp=Z,17nm,0.7s,baz=329,slow=3.3,SNR=8.1
GKN **Gorkha** 42.80 301 *e*P **P** 02 19 05.8 +0.2
BBOO **Buckleboo** 42.96 167 P **P** 02 19 06.6 +0.1
baz=43,SNR=37
BBOO **Buckleboo** 42.96 167 *e*P **P** 02 19 06.9 +0.3
comp=Z,28nm,0.6s
KOLN **Koldanda** 43.60 301 *e*P **P** 02 19 13.1 +0.9
comp=Z,27nm,0.7s
STKA **Stephens Creek** 43.63 160 P **P** 02 19 12.1 +0.1
comp=Z,6.7nm,0.7s,baz=328,slow=6.9,SNR=12
STKA LR LR 02 40 18.0
comp=Z,70nm,18.4s,baz=355,slow=40
STKA **Stephens Creek** 43.63 160 P **P** 02 19 12.1 +0.1
STKA pmax pmax
comp=Z,7.0nm,0.7s
STKA MLR MLR
comp=Z,70nm,18.5s
STKA **Stephens Creek** 43.63 160 P **P** 02 19 12.7 +0.7
baz=44,SNR=6.5
STKA **Stephens Creek** 43.63 160 *e*P **P** 02 19 13.1 +1.1
comp=Z,3.2nm,1.0s
HTT **Hallett** 44.26 164 P **P** 02 19 18.4 +1.3
baz=44,SNR=4.3
NJS **Nagarjunasagar** 45.60 284 *e*P **P** 02 19 29.1 +1.1
RPR **Rampur** 45.79 287 *e*P **P** 02 19 30.7 +1.2
TLY **Talaya** 46.00 341 *e*P P 02 19 39.7 +9.0
TLY *e* 02 21 08.4
TLY *e*S **S** 02 26 16.0 +2.1
TLY pmax pmax
comp=Z,2.0nm,0.9s
TLY MLR MLR
comp=Z,194nm,18.0s
HYB **Hyderabad** 46.38 285 *i* P **P** 02 19 32.5 -1.7
HYB *e*pP pP 02 19 50.5 +7.4
HYBB **Hyderabad (bro** 46.38 285 *e*P **P** 02 19 34.1 -0.1
HYBB *e*S **S** 02 26 17.9 -2.3
ARMA **Armidale** 46.68 149 P **P** 02 19 39.6 +3.2
baz=47,SNR=4.1
WMQ **Urumqi** 47.64 323 *e*P **P** 02 19 45.5 +1.8
WMQ pP pP 02 20 01.0 +8.3
WMQ sP sP 02 20 08.1 +12
WMQ PcP **PcP** 02 21 14.0 +1.0
WMQ PP **PP** 02 21 36.9 +1.4
WMQ ScP **ScP** 02 25 01.6 -3.8
WMQ S **S** 02 26 36.0 -1.7
WMQ sS sS 02 27 03.4 +11
WMQ SS **SS** 02 30 00.7 -5.4
WMQ PMZ
comp=Z,15nm,0.4s
WMQ PMZ
comp=Z,96nm,4.6s
WMQ LN
comp=Z,700nm,18.4s
WMQ LE
comp=Z,570nm,14.6s
WMQ LZ
comp=Z,520nm,20.6s
BOD **Bodaibo** 49.32 352 *e*P P 02 19 49.5 -6.8
BOD pmax pmax
comp=Z,3.0nm,1.3s
PETK **Petropavlovsk-** 50.89 24 P **P** 02 20 07.5 -0.8
comp=Z,2.6nm,0.7s,baz=199,slow=6.7,SNR=4.7
PETK LR LR 02 40 36.7
comp=Z,168nm,20.4s,baz=226,slow=35
MK31 **Makanchi Array** 52.46 324 *e*P **P** 02 20 20.0 -0.2
MK31 **Makanchi Array** 52.46 324 P **P** 02 20 20.8 +0.6
baz=53,SNR=4.3
MK31 **Makanchi Array** 52.46 324 *e*P **P** 02 20 20.0 -0.2
MKAR **Makanchi Array** 52.46 324 P **P** 02 20 19.4 -0.8
comp=Z,4.0nm,0.7s,baz=148,slow=5.7,SNR=28
YAK **Yakutsk** 52.81 2 *e*P P 02 20 27.9 +5.5
YAK *e* 02 21 32.9
YAK *e*S **S** 02 27 53.3 +4.4
YAK *e* 02 30 11.8
YAK pmax pmax
comp=Z,13nm,1.0s
YAK pmax pmax
comp=N,10.0nm,1.3s
YAK smax smax
comp=N,21nm,1.6s
YAK smax smax
comp=E,15nm,1.7s
KSH **Kashi** 53.44 313 P **P** 02 20 29.7 +2.1
KSH pP pP 02 20 45.6 +8.9
KSH PP **PP** 02 22 32.5 +4.2
KSH PcS **PcS** 02 25 33.7 0.0
KSH S **S** 02 27 55.6 -2.8
KSH PMZ
comp=E,17nm,1.6s
KSH PMZ
comp=E,68nm,3.9s
KSH LN
comp=E,69nm,6.1s
KSH LE
comp=E,120nm,6.1s
KSH LZ
comp=E,330nm,17.4s
KZA **Kyzart** 54.87 316 P **P** 02 20 39.5 +1.0
SNR=7.1
KZA **Kyzart** 54.87 316 *i* P **P** 02 20 39.4 +1.0
TKM2 **Tokmak 2** 54.95 317 P **P** 02 20 39.2 +0.4
SNR=5.8
TKM2 **Tokmak 2** 54.95 317 *e*P **P** 02 20 38.9 +0.2
TKM2 pmax pmax
comp=Z,6.0nm,0.8s
TKM2 **Tokmak 2** 54.95 317 *e*P **P** 02 20 38.9 +0.2
comp=Z,6.2nm,0.8s
ZALV **Zalesovo Beam** 55.23 332 P **P** 02 20 37.9 -2.3
comp=Z,1.3nm,0.7s,baz=116,slow=6.8,SNR=6.3
ZALV LR LR 02 46 20.0
comp=Z,277nm,18.8s,baz=239,slow=38
KBK **Karagaybulak** 55.29 316 P **P** 02 20 42.1 +0.9
SNR=5.7
UCH **Uchtor** 55.44 315 P **P** 02 20 43.7 +1.2
SNR=15
UCH **Uchtor** 55.44 315 *i* P **P** 02 20 43.7 +1.2
AAK **Ala-Archa** 55.59 316 P **P** 02 20 42.1 -1.3
comp=Z,0.9nm,0.4s,baz=123,slow=7.4,SNR=5.1
AAK LR LR 02 46 47.1
comp=Z,570nm,20.6s,baz=87,slow=39
AAK **Ala-Archa** 55.59 316 *ce*P **P** 02 20 42.4 -0.9
AAK pmax pmax
comp=Z,20nm,1.7s
AAK **Ala-Archa** 55.59 316 *e*P **P** 02 20 42.5 -0.9
comp=Z,9.1nm,1.3s
USP **Ospenovka** 55.83 317 P **P** 02 20 45.1 +0.3
SNR=5.9
USP **Ospenovka** 55.83 317 *i* P **P** 02 20 45.1 +0.3
AML **Almayashu** 55.97 315 P **P** 02 20 47.1 +0.8
SNR=7.2
AML **Almayashu** 55.97 315 *i* P **P** 02 20 47.1 +0.8
EKS2 **Erkin-Say** 56.10 316 P **P** 02 20 47.2 +0.3
SNR=7.0
EKS2 **Erkin-Say** 56.10 316 *e*P **P** 02 20 47.0 +0.1
EKS2 pmax pmax
comp=Z,8.0nm,0.8s
EKS2 **Erkin-Say** 56.10 316 *e*P **P** 02 20 47.0 +0.1
comp=Z,7.9nm,0.8s
NVS **Novosibirsk** 56.51 332 *e*P **P** 02 20 46.9 -2.5
NVS pmax pmax
comp=Z,12nm,1.4s
KURK **Kurchatov** 56.55 326 *e*P **P** 02 20 49.2 -0.6
KURK pmax pmax
comp=Z,17nm,0.9s
KURK **Kurchatov** 56.55 326 *e*P **P** 02 20 49.2 -0.6
comp=Z,18nm,0.9s
SEY **Seymchan** 57.02 14 *e*P **P** 02 20 56.0 +3.1
KBL **Kabul** 57.37 305 P **P** 02 20 56.6 +0.4
KBL pmax pmax
comp=Z,4.0nm,0.4s
KBL **Kabul** 57.37 305 P **P** 02 20 56.6 +0.4
comp=Z,3.8nm,0.4s
MSVF **Nonsavu** 58.34 117 *e*P **P** 02 21 04.2 +1.2
MSVF pmax pmax
comp=Z,16nm,1.0s
MSVF **Nonsavu** 58.34 117 *e*P **P** 02 21 04.2 +1.2
comp=Z,16nm,1.0s
KKAR **Karatay Array** 58.51 315 *e*P **P** 02 21 03.5 -0.3
KKAR pmax pmax
comp=Z,4.0nm,0.7s
KKAR **Karatay Array** 58.51 315 *e*P **P** 02 21 03.5 -0.3
comp=Z,3.9nm,0.7s
BRVK **Borovoye** 62.22 326 ⇓*i*P **P** 02 21 28.1 -0.8
BRVK pmax pmax
comp=Z,9.0nm,1.0s
TIXI **Tiksi** 62.42 1 *i* P **P** 02 21 33.1 +3.2
TIXI pmax pmax
comp=Z,15nm,1.0s
TIXI **Tiksi** 62.42 1 *e*P **P** 02 21 29.3 -0.6
comp=Z,12nm,0.9s
GEYT **Alibeck** 66.63 307 P **P** 02 21 57.5 -0.7
comp=Z,4.2nm,0.8s,baz=151,slow=3.4,SNR=11
GEYT LR LR 02 54 48.4
comp=Z,260nm,20.8s,baz=220,slow=39
BANOM **Banah** 67.43 294 ⇑P **P** 02 22 04.1 +0.6
HATD **Hatta, Dubai** 67.58 293 ⇓P **P** 02 22 04.8 +0.4
ASHO **Ashiyiah** 67.64 293 ⇑P **P** 02 22 04.4 -0.4
ASUD **Al Ashush, Dub** 68.31 293 ⇑P **P** 02 22 09.4 +0.5
AKTO **Aktyubinsk** 68.70 321 LR LR 02 54 30.7
comp=Z,401nm,21.1s,baz=104,slow=38
SVE **Sverdlovsk** 68.73 328 *i* P **P** 02 22 10.7 -0.3
SVE pmax pmax
comp=Z,13nm,0.9s
ARU **Arti** 69.73 327 *d i*P **P** 02 22 15.3 -1.9
ARU S **S** 02 31 21.1 -3.0
ARU pmax pmax
comp=Z,3.0nm,0.7s
ARU MLR MLR
comp=Z,245nm,23.0s
ARU **Arti** 69.73 327 *e*P P 02 22 13.1 -4.0
comp=Z,6.7nm,0.7s
PRGR **Permogore** 77.17 331 *e*P **P** 02 23 03.6 +2.8
PRGR pmax pmax
comp=Z,6.0nm,0.9s
KBZ **Khabaz** 78.42 313 P **P** 02 23 06.7 -1.4

comp=Z,0.6nm,0.6s,baz=56,slow=24,SNR=3.7
KBZ LR LR 03 03 10.0
comp=Z,236nm,18.7s,baz=127,slow=40
KIV Kislovodsk 78.56 313 *e*P **P 02 23 09.1 0.0**
KIV pmax pmax
comp=Z,7.0nm,0.8s
KIV MLR MLR
comp=Z,193nm,18.0s
COLD Coldfoot 79.34 23 *e*P **P 02 23 13.2 +0.5**
comp=Z,4.9nm,0.8s
MCK McKinley 79.81 27 *e*P **P 02 23 14.7 -0.8**
MCK pmax pmax
comp=Z,10.0nm,0.7s
MCK McKinley 79.81 27 *e*P **P 02 23 14.7 -0.8**
comp=Z,9.8nm,0.7s
KLMR Klimovskoe 80.10 330 *e*P **P 02 23 14.6 -2.4**
KLMR pmax pmax
comp=Z,17nm,1.4s
KLMR MLR MLR
comp=Z,186nm,15.0s
ILAR Eielson Array 80.69 26 P **P 02 23 18.4 -1.7**
comp=Z,3.0nm,0.9s,baz=245,slow=4.7,SNR=16
ILAR PP **PP 02 26 22.3 -1.7**
comp=Z,0.2nm,0.4s,baz=234,slow=8.7,SNR=4.2
ILAR LR LR 02 57 53.6
comp=Z,69nm,21.9s,baz=272,slow=35
OBN Obninsk 81.95 325 *e*P **P 02 23 29.3 +2.4**
OBN pmax pmax
comp=Z,4.0nm,1.1s
ANN Anapa 82.27 314 *e*P P 02 23 25.3 -3.6
ANN *e* 02 26 33.1
ANN *e*S **S 02 33 37.4 -5.2**
ANN pmax pmax
comp=Z,15nm,0.9s
APA Apatity 82.39 337 *e*P P 02 23 41.0 +12
APA MLR MLR
comp=Z,200nm,21.0s
EGAK Eagle 83.14 26 *e*P **P 02 23 33.0 +0.1**
comp=Z,6.9nm,1.0s
DAWY Dawson 84.00 26 *e*P **P 02 23 37.7 +0.2**
SPITS Spitsbergen Ar 84.92 349 P **P 02 23 41.4 -0.4**
comp=Z,3.4nm,0.8s,baz=108,slow=12,SNR=1.8
ARCES ARCESS Array B 84.94 340 P **P 02 23 41.8 -0.3**
comp=Z,1.6nm,0.8s,baz=86,slow=8.6,SNR=6.0
ARCES LR LR 03 05 57.5
comp=Z,97nm,19.6s,baz=63,slow=39
INK Inuvik 85.52 21 LR LR 03 03 40.3
comp=Z,57nm,19.3s,baz=225,slow=37
BR131 Keskin Array S 85.67 309 *e*P **P 02 23 45.3 -1.2**
comp=Z,1.6nm,0.8s
BRTR Keskin Array B 85.67 309 P **P 02 23 45.1 -1.4**
comp=Z,0.7nm,0.7s,baz=101,slow=3.9,SNR=7.2
BRTR LR LR 03 08 01.0
comp=Z,60nm,19.2s,baz=73,slow=40
BRTR Keskin Array B 85.67 309*c**e*P **P 02 23 46.2 -0.3**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 86.49 332 P **P 02 23 48.7 -1.2**
comp=Z,4.3nm,1.1s,baz=104,slow=8.0,SNR=6.6
AKASG Malin Array Be 86.95 321 P **P 02 23 50.5 -1.8**
comp=Z,0.3nm,0.2s,baz=64,slow=4.6,SNR=4.3
AKASG LR LR 03 06 39.3
comp=Z,74nm,19.6s,baz=90,slow=38
KIEV Kiev 86.96 321 *i* P **P 02 23 53.9 +1.5**
PPT Papeete 87.89 108 LR LR 02 55 15.5
comp=Z,37nm,19.6s,baz=344,slow=30
KMBO Kilima Mbogo 88.52 269 LR LR 03 02 00.9
comp=Z,52nm,18.8s,baz=96,slow=34
VNDA Vanda 88.97 173 P **P 02 24 01.5 +0.1**
comp=Z,1.6nm,0.7s,baz=304,slow=5.1,SNR=6.5
VNDA LR LR 03 04 29.4
comp=Z,61nm,20.1s,baz=336,slow=36
VNDA Vanda 88.97 173 P **P 02 24 01.5 +0.1**
VNDA pmax pmax
comp=Z,2.0nm,0.7s
VNDA MLR MLR
comp=Z,61nm,20.1s
VNDA Vanda 88.97 173 *e*P **P 02 24 01.2 -0.2**
comp=Z,3.4nm,0.8s
HFS Hagfors 92.67 332 P **P 02 24 17.7 -1.3**
comp=Z,2.7nm,0.9s,baz=96,slow=13,SNR=2.5
NOA NORSAR Array B 93.40 334 P **P 02 24 20.4 -2.1**
comp=Z,0.8nm,0.9s,baz=27,slow=8.0,SNR=2.9
NOA LR LR 03 10 46.2
comp=Z,116nm,18.9s,baz=55,slow=38
VYHS Vyhne 94.04 320 *e*P **P 02 24 24.3 -1.3**
VYHS Vyhne 94.04 320 *e*P **P 02 24 24.3 -1.3**
YKA Yellowknife Ar 95.00 24 P **P 02 24 28.5 -1.2**
comp=Z,1.2nm,0.8s,baz=299,slow=4.4,SNR=8.0
GERES GERESS Array B 97.10 322 LR LR 03 10 36.1
comp=Z,173nm,21.5s,slow=37
TXAR Lajitas Array 119.04 49 PKP **PKPdf 02 29 56.8 0.0**
comp=Z,1.4nm,1.1s,baz=243,slow=0.2,SNR=5.9
TORD Torodi Ar. Bea 120.01 291 PKP **PKPdf 02 29 57.5 -1.4**
comp=Z,0.7nm,0.7s,baz=92,slow=2.1,SNR=12
WVT Waverly 125.03 33 *e*PKIKP **PKPdf 02 30 09.0 +1.0**
WVT Waverly 125.03 33 *e*PKPdf **PKPdf 02 30 09.0 +1.0**
PLCA Paso Flores 145.50 158 PKPbc **PKPdf 02 30 45.6 -0.2**
comp=Z,11nm,0.9s,baz=221,slow=5.4,SNR=14
LPAZ La Paz 164.90 119 PKP **PKPdf 02 31 14.7 +1.6**
comp=Z,1.5nm,0.9s,baz=84,slow=5.4,SNR=4.3
LPAZ PKPab **PKPab 02 32 09.5 +0.2**
comp=Z,1.4nm,0.9s,baz=232,slow=12,SNR=2.7

KRSC 13 02:29:01.8±1.3, 50°.69N×157°.04E, h121km±14km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.59**	**270**	*e*P	Pn	02 29 20.8	+0.5
SKR				*e*S	Sn	02 29 34.9	+0.6
PAU	**Pauzhetka**	**0.79**	**350**	*e*P	Pn	02 29 23.4	+1.5
PAU				*e*S	Sn	02 29 39.5	+2.3
MIPR	**Malaya Ipel'ka**	**1.60**	**354**	*e*P	Pn	02 29 30.8	+0.4
MIPR				*e*S	Sn	02 29 52.0	-0.3
ASAK	**Asacha**	**1.78**	**17**	*e*P	Pn	02 29 34.6	+1.9
ASAK				*e*S	Sn	02 29 58.2	+1.9
MTVR	**Mutnovka**	**1.93**	**21**	*e*P	Pn	02 29 36.7	+2.1
MTVR				*e*S	Sn	02 30 01.8	+2.1
RUS	**Russkaya**	**1.98**	**27**	*e*P	Pn	02 29 36.5	+1.6
RUS				*e*S	Sn	02 30 01.6	+1.4
UGLR	**Uglovaya**	**2.76**	**23**	*e*P	Pn	02 29 47.3	+2.3
UGLR				*e*S	Sn	02 30 20.1	+1.8
AVH	**Avacha**	**2.79**	**21**	*e*P	Pn	02 29 47.8	+2.4
KOK	**Koryaka**	**2.79**	**20**	*e*P	Pn	02 29 47.9	+2.5
KOK				*e*S	Sn	02 30 21.4	+2.4
SMAR	**Somma**	**2.80**	**22**	*e*P	Pn	02 29 47.7	+2.0
KRER	**Koryakskii**	**2.83**	**21**	*e*P	Pn	02 29 48.1	+2.1
SDLR	**Sedlovina**	**2.83**	**23**	*e*P	Pn	02 29 47.8	+1.8
SDLR				*e*S	Sn	02 30 21.2	+1.1
KRX	**Arik**	**2.85**	**20**	*e*P	Pn	02 29 48.1	+1.8
NLC	**Nalytchevo**	**2.87**	**29**	*e*S	Sn	02 30 20.2	-0.4
SPN	**Mys Shipunski**	**3.04**	**36**	*e*P	Pn	02 29 50.1	+1.6
SPN				*e*S	Sn	02 30 25.1	+0.5
GNL	**Ganaly**	**3.06**	**10**	*e*P	Pn	02 29 49.8	+0.8
MKZ	**Mys Kozlova**	**4.81**	**35**	*e*P	Pn	02 30 12.8	+0.7
KZV	**Kizimen**	**4.85**	**23**	*e*P	Pn	02 30 15.5	+2.7
TUMR	**Tumrok**	**4.97**	**21**	*e*P	Pn	02 30 16.9	+2.5
KBTR	**Krutoberegovo**	**6.52**	**30**	*e*P	Pn	02 30 36.3	+1.3

*ISCJB **13** 02:45:53.0±0.4, 36°.53N±0°.04×67°.14E±0°.05, h10km, mb3.7/10, MS3.5/2, Error ellipse: s-maj=5.7km s-min=5.1km az=42.3*
*NNC **13** 02:45:53.0±3.3, 36°.28N×67°.35E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=32.6km s-min=23.7km az=118.0*
*IDC **13** 02:45:53.7±0.9, 36°.48N×67°.21E, h0km, mb3.7/10, mb1 3.9/15, mb1mx3.7/29, mbtmp3.8/15, ML3.4/6, MS3.5/2, Ms1 3.5/2, ms1mx2.8/37, Error ellipse: s-maj=18.3km s-min=14.3km az=168.0*
ISC 13 02:45:54.9±0.6, 36°.50N±0°.06×67°.14E±0°.05, h10km, n51, σ1°56/56, mb3.7/10, 12C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.66**	**30**	⇑Pn	**Pn**	**02 46 38.7**	**+0.8**
DZET				⇓Sn	**Sb**	**02 47 15.0**	**-0.5**
312nm,0.7s							
CEP	**Cherat**	**4.73**	**123**	P	Pb	02 47 14.8	-3.3
THW	**Thamme Wali**	**5.30**	**133**	P	**Pb**	**02 47 27.0**	**-0.6**
CHCP	**Chirah Chowk**	**5.77**	**118**	P	**Pn**	**02 47 22.4**	**+1.8**
SFK	**Sufi-Kurgan**	**6.11**	**53**	⇑Pn	**Pn**	**02 47 26.6**	**+1.1**
6.3nm,0.6s							
SFK				⇑Sn	**Sn**	**02 48 35.7**	**+0.1**
29nm,0.6s							
KK31	**Karatay Array**	**7.09**	**20**	⇑Pn	**Pn**	**02 47 39.3**	**+0.7**
2.1nm,0.4s,baz=197,slow=11,SNR=40							
KK31				⇑Sn	**Sn**	**02 49 02.0**	**+2.7**
5.3nm,0.5s,baz=200,slow=26,SNR=4.0							
GEYT	**Alibeck**	**7.34**	**284**	Pn	**Pn**	**02 47 42.3**	**+0.2**
2.0nm,0.3s,baz=114,slow=15,SNR=10							
GEYT				Sn	**Sn**	**02 49 04.0**	**-1.5**
0.6nm,0.3s,baz=72,slow=14,SNR=2.3							
GEYT				Lg	Lg	02 50 08.3	
baz=139,slow=25,SNR=6.2							
AML	**Almayashu**	**7.58**	**40**	P	**Pn**	**02 47 46.2**	**+0.5**
SNR=8.0							
UCH	**Uchtor**	**8.08**	**43**	P	**Pn**	**02 47 53.1**	**+0.4**
SNR=14							
AAK	**Ala-Archa**	**8.35**	**41**	P	**Pn**	**02 47 56.6**	**+0.5**
SNR=15							
AAK	**Ala-Archa**	**8.35**	**41**	⇑Pn	**Pn**	**02 47 56.5**	**+0.4**
6.8nm,0.5s							
AAK				⇑Sn	**Sn**	**02 49 36.2**	**+5.6**
20nm,0.8s							
AAK	**Ala-Archa**	**8.35**	**41**	Pn	**Pn**	**02 47 56.1**	**0.0**
3.3nm,0.3s,baz=202,slow=9.8,SNR=22							
AAK				Sn	**Sn**	**02 49 26.4**	**-4.1**
baz=258,slow=20,SNR=2.0							
KZA	**Kyzart**	**8.40**	**46**	P	**Pn**	**02 47 57.7**	**+0.7**
SNR=14							
KBK	**Karagaybulak**	**8.61**	**42**	P	**Pn**	**02 48 00.8**	**+1.1**
SNR=18							
CHMS	**Chumysh**	**8.74**	**40**	P	**Pn**	**02 48 01.8**	**+0.4**
SNR=6.9							
TKM2	**Tokmak 2**	**9.14**	**43**	P	**Pn**	**02 48 07.2**	**+0.2**
SNR=5.9							
TKM2	**Tokmak 2**	**9.14**	**43**	⇑Pn	**Pn**	**02 48 06.4**	**-0.5**
7.6nm,0.7s							
TKM2				⇓Sn	**Sn**	**02 49 48.7**	**-1.2**
7.0nm,0.8s							
OTUK	**Ortayu**	**12.34**	**16**	⇓P	**Pn**	**02 48 49.6**	**-1.0**
4.5nm,0.6s							
AB31	**Akbulak array**	**13.79**	**340**	⇓P	**P**	**02 49 18.4**	**-0.4**
0.9nm,0.5s,baz=131,slow=12,SNR=8.4							
MK31	**Makanchi Array**	**15.27**	**43**	⇑P	**P**	**02 49 35.7**	**+0.3**
1.0nm,0.7s,baz=240,slow=15,SNR=6.2							
MKAR	**Makanchi Array**	**15.27**	**43**	Pn	**Pn**	**02 49 27.4**	**-3.1**
0.1nm,0.3s,baz=243,slow=16,SNR=3.5							
MKAR				Sn	Sn	02 52 10.1	-10
0.0nm,0.3s,baz=326,slow=9.2,SNR=2.6							
MKAR				Lg	Lg	02 53 53.5	
0.0nm,0.3s,baz=233,slow=22,SNR=2.3							
AKTO	**Aktyubinsk**	**15.40**	**338**	⇓P	**Pn**	**02 49 31.6**	**-0.6**
3.6nm,0.9s							
AKTO	**Aktyubinsk**	**15.40**	**338**	Pn	**Pn**	**02 49 30.4**	**-1.7**
0.2nm,0.3s,baz=169,slow=14,SNR=7.9							
AKTO				Sn	Sn	02 52 07.8	-15
0.0nm,0.3s,baz=106,slow=15,SNR=1.9							
KURBB	**Kurchatov Arra**	**16.32**	**27**	⇑P	**Pn**	**02 49 46.3**	**+2.3**
3.3nm,0.6s							
KURBB	**Kurchatov Arra**	**16.32**	**27**	Pn	**Pn**	**02 49 40.7**	**-3.3**
0.0nm,0.3s,baz=216,slow=12,SNR=3.9							
KURBB				Sn	Sn	02 52 30.9	-14
baz=203,slow=24,SNR=2.2							
KOLN	**Koldanda**	**16.42**	**117**	*e*P	**Pn**	**02 49 43.9**	**-1.8**
10nm,0.5s							
KURK	**Kurchatov**	**16.43**	**27**	⇓P	**Pn**	**02 49 47.2**	**+1.8**
1.7nm,0.7s							
BVA0	**Borovoye Array**	**16.68**	**7**	⇑P	**Pn**	**02 49 47.9**	**-0.7**
1.8nm,0.5s,baz=263,slow=40,SNR=11							
BVAR	**Borovoye Array**	**16.68**	**7**	Pn	**Pn**	**02 49 47.5**	**-1.1**
0.8nm,0.3s,baz=174,slow=14,SNR=9.4							
BRVK	**Borovoye**	**16.70**	**7**	⇑P	**Pn**	**02 49 46.3**	**-2.5**
4.5nm,0.5s							
GKN	**Gorkha**	**17.04**	**115**	*e*P	**Pn**	**02 49 52.9**	**-0.5**
32nm,0.5s							
KKN	**Kakani**	**17.63**	**114**	*e*P	**Pn**	**02 50 00.6**	**-0.3**
23nm,0.6s							
PKIN	**Phulchoki**	**17.83**	**115**	*e*P	**Pn**	**02 50 03.3**	**-0.1**
19nm,0.5s							
PKI	**Pulchoki**	**17.85**	**115**	*e*P	**Pn**	**02 50 02.5**	**-1.2**
21nm,0.5s							
GUN	**Gumba**	**18.00**	**113**	*e*P	**Pn**	**02 50 06.3**	**+0.7**
52nm,0.8s							
JIRN	**Jiri**	**18.37**	**113**	*e*P	**Pn**	**02 50 09.5**	**-0.7**
41nm,0.6s							
RAMN	**Ramite**	**19.07**	**114**	*e*P	**P**	**02 50 17.7**	**-0.1**
22nm,0.6s							
TAPN	**Taplejung**	**19.67**	**112**	*e*P	**P**	**02 50 24.6**	**+0.2**
23nm,0.8s							
ODAN	**Odare**	**19.70**	**113**	*e*P	**P**	**02 50 24.2**	**-0.5**
22nm,0.7s							
KBZ	**Khabaz**	**19.85**	**299**	P	**P**	**02 50 27.4**	**+1.5**
0.1nm,0.3s,baz=56,slow=23,SNR=3.7							
ZALV	**Zalesovo Beam**	**21.33**	**30**	P	**P**	**02 50 41.2**	**-0.6**
5.9nm,0.6s,baz=225,slow=11,SNR=19							
BRTR	**Keskin Array B**	**26.46**	**287**	P	**P**	**02 51 34.6**	**+2.4**
0.9nm,0.8s,baz=97,slow=8.8,SNR=7.7							
CMAR	**Chiang Mai Arr**	**33.24**	**114**	P	**P**	**02 52 32.8**	**+0.4**
2.7nm,7.3s,baz=291,slow=7.9,SNR=13							
FINES	**FINESS Array B**	**35.77**	**327**	P	**P**	**02 52 52.9**	**-0.9**
2.8nm,1.1s,baz=139,slow=11,SNR=2.9							
ARCES	**ARCESS Array B**	**39.98**	**339**	P	**P**	**02 53 29.1**	**-0.1**
1.0nm,0.9s,baz=313,slow=15,SNR=3.6							
NOA	**NORSAR Array B**	**42.51**	**323**	P	**P**	**02 53 50.4**	**+0.2**
0.6nm,0.8s,baz=103,slow=8.2,SNR=3.3							
MJAR	**Matsushiro Arr**	**55.83**	**67**	LR	LR	03 23 07.0	
comp=Z,16nm,19.0s,baz=70,slow=40							
TORD	**Torodi Ar. Bea**	**62.61**	**266**	P	**P**	**02 56 20.0**	**+0.4**
0.7nm,0.7s,baz=50,slow=6.8,SNR=9.7							
TORD				LR	LR	03 27 54.5	
comp=Z,79nm,18.7s,baz=75,slow=40							
YKA	**Yellowknife Ar**	**81.34**	**1**	P	**P**	**02 58 12.7**	**+1.5**
0.2nm,0.6s,baz=354,slow=5.0,SNR=3.4							
WRA	**Warramunga Arr**	**84.67**	**119**	P	**P**	**02 58 28.9**	**-0.2**
0.5nm,0.9s,baz=321,slow=5.1,SNR=5.4							
ASAR	**Alice Springs**	**86.84**	**122**	P	**P**	**02 58 39.8**	**-0.1**
0.4nm,0.7s,baz=299,slow=4.1,SNR=2.8							

*ISCJB **13** 02:46:46.0±0.4, 22°.31S±0°.08×179°.22W±0°.07, h600km, mb4.0/20, Error ellipse: s-maj=11.2km s-min=7.7km az=146.0*
*IDC **13** 02:46:46.1±1.9, 22°.03S×179°.27W, h578km±20km, mb3.6/18, mb1 3.8/18, mb1mx3.7/22, mbtmp4.5/18, Error ellipse: s-maj=14.5km s-min=12.1km az=126.0*
ISC 13 02:46:46.9±0.5, 22°.33S±0°.1×179°.13W±0°.09, h600km, n86, σ1°26/92, mb4.2/20, 20C-14D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**9.20**	**71**	P	P	02 48 52.1	-5.8
baz=8.9,SNR=4.8							
NIUE				S	**S**	**02 50 43.5**	**-1.8**
baz=8.9,SNR=6.4							
URZ	**Urewera**	**16.20**	**191**	P	**P**	**02 50 03.8**	**-2.0**
2.5nm,0.3s,baz=28,slow=3.8,SNR=13							
URZ				S	**S**	**02 52 43.9**	**-4.0**
0.5nm,0.3s,baz=336,slow=20,SNR=2.9							
RMQ	**Roma**	**29.49**	**255**	P	**P**	**02 52 05.7**	**+1.4**
baz=30,SNR=5.8							
CTA	**Charters Tower**	**32.31**	**267**	P	**P**	**02 52 27.7**	**-0.8**
12nm,0.7s,baz=99,slow=9.9,SNR=13							
QLP	**Quilpie**	**33.54**	**255**	P	**P**	**02 52 38.8**	**0.0**
baz=34,SNR=4.6							
STKA	**Stephens Creek**	**36.07**	**246**	P	**P**	**02 52 59.9**	**+0.3**
4.1nm,0.5s,baz=97,slow=11,SNR=15							
STKA	**Stephens Creek**	**36.07**	**246**	P	**P**	**02 53 00.5**	**+0.9**
baz=36,SNR=13							
BBOO	**Buckleboo**	**40.81**	**245**	P	**P**	**02 53 38.0**	**+0.2**
baz=41,SNR=7.7							
ASAR	**Alice Springs**	**43.10**	**259**	P	**P**	**02 53 55.8**	**-0.2**
13nm,0.8s,baz=92,slow=8.1,SNR=86							
ASAR				PcP	**PcP**	**02 55 33.2**	**+1.3**
1.4nm,0.6s,baz=109,slow=3.9,SNR=6.6							
ASAR				S	**S**	**02 59 41.0**	**+0.9**
0.9nm,0.8s,baz=96,slow=15,SNR=4.2							
WRA	**Warramunga Arr**	**43.34**	**264**	P	**P**	**02 53 56.8**	**-1.0**
5.5nm,0.6s,baz=97,slow=8.0,SNR=34							
JAY	**Jayapura**	**43.67**	**291**	P	**P**	**02 53 59.6**	**-0.9**
14nm,0.6s,baz=142,slow=3.0,SNR=8.5							
KDU	**Kakadu**	**46.97**	**273**	P	**P**	**02 54 24.8**	**-0.7**
baz=47,SNR=3.9							
WRKA	**Warakurna**	**47.98**	**256**	P	**P**	**02 54 33.1**	**+0.1**
baz=48,SNR=31							
SOEI	**Soe**	**55.53**	**273**	P	P	02 55 32.8	+5.5
baz=56,SNR=4.5							
VNDA	**Vanda**	**56.00**	**185**	P	P	02 55 32.9	+3.6
2.5nm,0.6s,baz=5.0,slow=9.4,SNR=16							
JCJ	**Chichijima**	**61.77**	**321**	P	**P**	**02 56 07.3**	**-1.3**
62nm,0.7s,baz=252,slow=13,SNR=3.1							
JOW	**Kunigami**	**70.56**	**311**	P	**P**	**02 57 02.2**	**-0.8**
0.6nm,0.4s,baz=125,slow=18							
MJAR	**Matsushiro Arr**	**71.08**	**325**	P	**P**	**02 57 05.1**	**-0.7**
3.7nm,0.6s,baz=162,slow=6.7,SNR=11							
ASAJ	**Asahikawa**	**74.85**	**332**	P	**P**	**02 57 28.1**	**+1.1**
5.2nm,0.6s,baz=126,slow=14,SNR=2.9							
KSRS	**Korea Array**	**77.58**	**319**	P	**P**	**02 57 41.8**	**-0.4**
0.6nm,0.4s,baz=135,slow=6.2,SNR=4.9							
PETK	**Petropavlovsk-**	**77.78**	**346**	P	**P**	**02 57 42.4**	**-0.5**
6.4nm,0.6s,baz=134,slow=8.5,SNR=15							
MAW	**Mawson**	**79.49**	**200**	P	**P**	**02 57 53.4**	**+1.6**
1.9nm,0.6s,baz=148,slow=7.7,SNR=4.8							
USRK	**Ussuriysk Ar.**	**79.90**	**327**	P	**P**	**02 57 53.8**	**-0.5**
4.1nm,0.9s,baz=128,slow=3.1,SNR=7.4							
NVAR	**Mina Array Bea**	**83.07**	**44**	P	**P**	**02 58 10.0**	**-1.0**
0.8nm,0.7s,baz=216,slow=9.0,SNR=5.7							
TXAR	**Lajitas Array**	**88.92**	**58**	P	**P**	**02 58 41.1**	**+2.1**
0.5nm,0.9s,baz=216,slow=4.0,SNR=4.7							
TXAR				PP	**PP**	**03 02 20.2**	**0.0**
0.2nm,0.8s,baz=216,slow=5.5,SNR=2.4							
CMAR	**Chiang Mai Arr**	**89.74**	**290**	P	**P**	**02 58 44.2**	**+1.3**
7.3nm,0.9s,baz=140,slow=3.2,SNR=23							
ILAR	**Eielson Array**	**90.33**	**13**	P	**P**	**02 58 43.8**	**-0.7**
1.4nm,0.7s,baz=221,slow=5.0,SNR=20							
PDAR	**Pinedale Array**	**91.01**	**44**	P	**P**	**02 58 49.1**	**+0.7**
0.4nm,0.4s,baz=232,slow=1.7,SNR=5.7							
INK	**Inuvik**	**96.31**	**16**	P	**P**	**02 59 11.8**	**+0.2**
5.1nm,1.4s,baz=202,slow=4.3,SNR=2.3							
BVAR	**Borovoye Array**	**119.79**	**319**	PKP	**PKPdf**	**03 04 30.1**	**+0.5**
1.1nm,0.3s,baz=107,slow=1.5,SNR=5.1							
GEYT	**Alibeck**	**128.86**	**301**	PKP	**PKPdf**	**03 04 46.9**	**-0.6**
1.1nm,0.3s,baz=34,slow=5.7,SNR=3.6							
ARCES	**ARCESS Array B**	**130.52**	**349**	PKP	**PKPdf**	**03 04 49.7**	**+0.1**
1.7nm,0.6s,baz=48,slow=1.3,SNR=11							
FINES	**FINESS Array B**	**137.22**	**342**	PKhKP	PKPpre	03 04 50.8	
2.4nm,1.0s,baz=95,slow=1.2,SNR=5.9							
FINES				PKP	**PKiKP**	**03 05 03.1**	**-1.3**
1.7nm,0.7s,baz=116,slow=3.2,SNR=9.7							
FINES				SKPab	**SKiKP**	**03 07 45.5**	**+1.3**
2.6nm,0.9s,baz=93,slow=3.8,SNR=5.3							
NB2	**NORSAR Subarra**	**140.66**	**352**	PKP	PKPpre	03 05 02.9	
comp=Z,1.6nm,1.0s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**140.66**	**352**	PKhKP	PKPpre	03 05 02.3	
comp=Z,1.9nm,0.9s,baz=16,slow=4.5,SNR=7.3							
NOA				SKPbc	**SKiKP**	**03 07 51.4**	**0.0**
comp=Z,1.6nm,0.8s,baz=16,slow=4.3,SNR=5.3							
AKASG	**Malin Array Be**	**144.07**	**329**	PKP	**PKPdf**	**03 05 14.5**	**-0.4**
comp=Z,6.0nm,0.5s,baz=41,slow=4.0,SNR=40							
AKASG				SKPbc	**SKiKP**	**03 07 59.8**	**+1.1**
comp=Z,3.5nm,0.8s,baz=45,slow=2.9,SNR=8.4							
MALT	**Malatya**	**144.16**	**305**	⇑*i*P	**PKPab**	**03 05 16.0**	**+0.1**
BSD	**Bornholm Skovb**	**145.62**	**346**	⇑*i*P	**PKPab**	**03 05 20.8**	**0.0**
comp=Z,24nm,0.8s							
BRTR	**Keskin Array B**	**147.24**	**310**	PKPbc	**PKPbc**	**03 05 24.9**	**+0.6**
comp=Z,3.7nm,0.7s,baz=137,slow=4.8,SNR=30							
TLCR		**147.73**	**322**	⇑*i*P	**PKPbc**	**03 05 26.5**	**+1.4**
KWP	**Kalwaria Pacla**	**147.77**	**333**	⇓*i*P	**PKPbc**	**03 05 26.2**	**+1.1**
BURAR	**Bucovina Array**	**148.10**	**328**	⇑*i*P	**PKPab**	**03 05 28.9**	**-2.4**
TESR	**Tescani**	**148.11**	**325**	⇓*i*P	**PKPbc**	**03 05 27.1**	**+1.1**
CFR	**Carcaliu**	**148.13**	**322**	⇑*i*P	**PKPbc**	**03 05 27.2**	**+1.1**
TIRR	**Tirgusor**	**148.39**	**321**	⇑*i*P	**PKPbc**	**03 05 28.0**	**+1.3**
VRI	**Vrincioaia**	**148.48**	**324**	⇓*i*P	**PKPbc**	**03 05 27.7**	**+0.7**
KOLS	**Kolonicke sedl**	**148.49**	**333**	*e*	**PKPbc**	**03 05 28.8**	**+1.9**
TLB	**Topalu**	**148.53**	**321**	⇑*i*P	**PKPbc**	**03 05 28.6**	**+1.5**
PLOR	**Plostina**	**148.53**	**324**	⇑*i*P	**PKPbc**	**03 05 28.1**	**+0.9**
STHS	**Stebnicka Huta**	**148.54**	**334**	*e*	**PKPbc**	**03 05 28.7**	**+1.7**
MANR	**Mangalia**	**148.65**	**320**	⇑*i*P	**PKPbc**	**03 05 29.3**	**+1.9**
MSAB	**Monastry St. A**	**148.95**	**321**	⇑*i*P	**PKPbc**	**03 05 29.6**	**+1.5**
DOPR	**Dopca**	**149.13**	**326**	⇑*i*P	**PKPbc**	**03 05 30.4**	**+1.8**
MLR	**Muntele Rosu**	**149.15**	**324**	⇑*i*P	**PKPbc**	**03 05 29.6**	**+0.8**
OKC	**Ostrava-Krasne**	**149.36**	**338**	*e*PKPdf	**PKPbc**	**03 05 30.3**	**+1.4**
SECR		**149.37**	**324**	⇓*i*P	**PKPbc**	**03 05 30.7**	**+1.5**
DPC	**Dobruska-Polom**	**149.53**	**340**	*e*PKPdf	**PKPbc**	**03 05 31.0**	**+1.6**
DPC				*ex*	x	03 05 38.3	
DPC	**Dobruska-Polom**	**149.53**	**340**	AMS	AMS	03 09 50.0	
CLL	**Collm**	**149.58**	**345**	⇓*i*PKPbc	**PKPbc**	**03 05 30.4**	**+1.0**
comp=Z,16nm,0.9s							
CLL				⇑*i*PKPab	**PKPab**	**03 05 37.2**	**+0.1**
comp=Z,8.0nm,0.8s							
MORC	**Moravsky Berou**	**149.62**	**338**	⇑*i*P	**PKPbc**	**03 05 31.2**	**+1.6**
VOIR		**149.66**	**325**	⇑*i*P	**PKPbc**	**03 05 30.8**	**+0.9**
BRG	**Berggiesshubel**	**149.74**	**343**	⇓*i*P	**PKPbc**	**03 05 31.2**	**+1.3**
comp=Z,14nm,0.8s							
BRG				*e*		03 05 38.3	
comp=Z,6.0nm,0.8s							
PVCC	**Panska Ves**	**149.88**	**342**	*e*PKPdf	**PKPbc**	**03 05 31.6**	**+1.4**
DRGR		**149.89**	**329**	⇑*i*P	**PKPbc

TALC *i* S **Sb** **03 56 39.7 +0.1**
LNCH Linares 1.25 126⇑ *i*P **Pn** **03 56 28.1 -0.4**
LNCH *i* S **Sb** **03 56 45.7 -0.3**
NICH Los Niches 1.33 86⇑ *i*P **Pn** **03 56 29.6 0.0**
NICH *i* S **Sb** **03 56 48.5 +0.4**
NICH AML AML 03 56 57.2
comp=E,58µm,0.6s
LNV Longovilo 1.65 46⇑ *i*P **Pn** **03 56 32.9 -1.1**
LNV *i* S **Sn** **03 56 55.0 +0.8**
CCSP San Pedro de C 1.74 187 *e*P **Pn** **03 56 33.1 -2.2**
CCSP *e*S **Sn** **03 56 54.9 -1.5**
CACH El Canelo 2.10 62⇑ *i*P **Pn** **03 56 40.5 +0.1**
RCDM Rinconada Maip 2.34 47 *e*P **Pn** **03 56 42.5 -1.0**
RCDM *i* S **Sn** **03 57 11.4 +0.2**
CLCH Cerro Calan 2.57 49 AML AML 03 57 36.2
comp=N,11µm,0.6s
PEL Peldehue 2.66 43 *e*P **Pn** **03 56 47.3 -0.6**
PEL *i* S **Sn** **03 57 19.6 +0.4**
PEL AML AML 03 57 34.4
comp=E,9µm,0.6s
CFAA Coronel Fontan 5.21 49 Pn **Pn** **03 57 23.4 +0.5**
comp=E,0.6nm,0.3s,baz=226,slow=15,SNR=64
CFAA Sn **Sb** **03 58 39.5 0.0**
comp=E,1.9nm,0.3s,baz=174,slow=21,SNR=5.3
PLCA Paso Flores 5.90 163 Pn **Pn** **03 57 32.0 -0.5**
comp=E,4.6nm,0.3s,baz=339,slow=14,SNR=173
PLCA Sn **Sb** **03 58 59.6 +0.3**
comp=E,2.1nm,0.3s,baz=264,slow=18,SNR=1.6
PLCA Paso Flores 5.90 163 *e*Pn **Pn** **03 57 31.9 -0.5**
PLCA *e*S **Sb** **03 59 03.4 +4.0**
LCO Las Campanas 6.35 17 *e*Pn **Pn** **03 57 36.6 -2.2**
LCO *e*S **Sn** **03 58 45.9 -4.6**
TRQA Tornquist 9.22 112 *e*Pn **Pn** **03 58 18.8 +0.8**
LVC Limon Verde 12.92 16 Pn **Pn** **03 59 08.8 -0.1**
comp=E,14nm,0.3s,baz=199,slow=11,SNR=5.7
LVC Sn Sn 04 01 46.7 +15
comp=E,9.9nm,0.3s,baz=294,slow=20,SNR=1.9
LVC LR LR 04 04 45.4
comp=E,5µm,19.4s,baz=212,slow=40
CPUP Villa Florida 15.94 61 Pn **Pn** **03 59 49.0 -0.2**
comp=E,0.0nm,0.3s,baz=229,slow=16,SNR=4.2
CPUP Lg Lg 04 04 24.0
comp=E,0.1nm,0.3s,baz=311,slow=20,SNR=2.8
CPUP LR LR 04 06 33.1
comp=E,7µm,21.1s,baz=236,slow=40
CPUP Villa Florida 15.94 61 Pn **Pn** **03 59 45.5 -3.6**
CPUP Lg Lg 04 04 24.0
LPAZ La Paz 19.21 14 P **Pn** **04 00 31.2 +0.8**
comp=E,0.5nm,0.3s,baz=198,slow=12,SNR=33
LPAZ La Paz 19.21 14 *e*P **Pn** **04 00 30.9 +0.5**
comp=E,19nm,0.8s
EFI East Falkland 19.67 152 *e*P **P** **04 00 32.5 -0.9**
USHA Ushuaia 19.96 173 P **P** **04 00 37.1 +0.6**
comp=E,0.5nm,0.3s,baz=336,slow=9.9,SNR=5.0
USHA LR LR 04 08 39.9
comp=E,631nm,18.6s,baz=348,slow=38
SIV San Ignacio 21.77 32 P **P** **04 00 56.0 -0.4**
comp=E,13nm,0.7s,baz=220,slow=10,SNR=43
SIV LR LR 04 10 59.7
comp=E,663nm,19.1s,baz=232,slow=41
NNA Nana 23.30 350 P **P** **04 01 13.7 +1.2**
comp=E,16nm,0.8s,baz=188,slow=12,SNR=5.4
NNA LR LR 04 08 28.4
comp=E,364nm,19.3s,baz=176,slow=32
SAML Samuel 27.50 21 *e*P **P** **04 01 50.6 -0.3**
comp=E,7.3nm,1.3s
ATAH Atahualpa 28.31 348 LR LR 04 11 20.6
comp=E,284nm,18.6s,baz=182,slow=32
BDFB Brasilia 29.51 55 P **P** **04 02 07.6 -1.3**
comp=E,3.2nm,0.7s,baz=196,slow=7.4,SNR=4.5
BDFB LR LR 04 13 37.9
comp=E,365nm,18.8s,baz=224,slow=36
PMSA Palmer Station 30.17 173 *e*P **P** **04 02 14.7 +0.6**
comp=E,137nm,1.7s
OTAV Otavalo 35.55 350 *e*P **P** **04 03 04.1 +2.0**
comp=E,20nm,1.3s
PTGA Pitinga 36.25 22 P **P** **04 03 07.4 -0.3**
comp=E,5.4nm,0.5s,baz=194,slow=7.7,SNR=14
PTGA Pitinga 36.25 22 *e*P **P** **04 03 07.3 -0.3**
comp=E,15nm,1.0s
ROSC El Rosal 39.78 358 P **P** **04 03 38.6 +0.8**
comp=E,6.7nm,0.6s,baz=181,slow=5.3,SNR=7.0
ROSC LR LR 04 19 49.8
comp=E,194nm,19.9s,baz=222,slow=36
SDV Santo Domingo 43.81 3 *e*P **P** **04 04 09.0 -1.5**
comp=E,9.8nm,0.9s
RCBR Riachuelo 44.80 58 P **P** **04 04 18.4 +0.1**
comp=E,6.9nm,0.7s,baz=217,slow=11,SNR=6.9
RCBR Riachuelo 44.80 58 *e*P **P** **04 04 17.9 -0.4**
PCRV Puerto La Cruz 45.71 11 P **P** **04 04 26.3 +0.9**
comp=E,16nm,1.0s,baz=10,slow=3.6,SNR=3.9
VNA3 Neumayer Olymp 48.59 157 P **P** **04 04 47.6 +0.3**
VNA1 Neumayer--Stat 48.92 156 P **P** **04 04 50.7 +0.9**
VNA2 Neumayer--Watz 49.25 157 P **P** **04 04 53.8 +1.5**
baz=285,slow=8.9
SNAA Sanae 50.81 157 P **P** **04 05 02.5 -1.8**
SNAA Sanae 50.81 157 P **P** **04 05 04.1 -0.2**
comp=E,11nm,1.1s,baz=251,slow=8.3,SNR=16
SNAA Sanae 50.81 157 *e*P **P** **04 05 02.6 -1.7**
comp=E,62nm,1.0s
RKT Rikitea 54.80 265 *e*T T 05 04 32.9
comp=E,1.1nm,0.3s
QSPA South Pole Qui 55.13 180 P **P** **04 05 35.9 -0.4**
comp=E,5.9nm,0.8s,baz=144,slow=5.1,SNR=14
QSPA South Pole Qui 55.13 180 *e*P **P** **04 05 37.7 +1.4**
comp=E,18nm,1.0s
TEIG Tepich 56.95 343 *e*P **P** **04 05 49.5 0.0**
comp=E,25nm,0.8s
VNDA Vanda 62.88 192 LR LR 04 31 45.0
comp=E,91nm,18.0s,baz=146,slow=34
SYO Syowa Base 65.08 158⇓ *e*P **P** **04 06 41.6 -2.6**
933A Laredo 67.20 335 ⇓P **P** **04 06 59.4 +1.1**
baz=68
834A Tilden 67.42 335 ⇑P **P** **04 07 00.6 +1.0**
baz=68
736A Circle Diamond 67.70 337 ⇓P **P** **04 07 02.5 +1.2**
baz=68
735A Kenedy 67.84 336 ⇑P **P** **04 07 03.3 +1.1**
baz=68
833A Chaparral WMA, 67.89 335 ⇓P **P** **04 07 03.1 +0.5**
baz=68,SNR=6.4
MEH Mehetia 68.04 263 *e*T T 05 21 05.1
comp=E,19nm,0.2s
832A Faith Ranch, C 68.06 334 ⇑P **P** **04 07 04.2 +0.5**
baz=68,SNR=6.5
636A Smothers Creek 68.18 337 ⇓P **P** **04 07 05.0 +0.6**
baz=68
733A Divot King Ran 68.22 335 ⇑P **P** **04 07 05.3 +0.7**
baz=69
635A Leesville 68.33 337 ⇑P **P** **04 07 06.0 +0.7**
baz=69
732A Laxson Ranch, 68.47 335 ⇑P **P** **04 07 06.6 +0.4**
baz=69,SNR=14
537A Green Hill Far 68.51 338 ⇓P **P** **04 07 07.3 +0.8**
baz=69
439A Center Grove, 68.73 340 ⇓P **P** **04 07 08.5 +0.7**
baz=69
536A Bastrop 68.74 338 ⇓P **P** **04 07 08.7 +0.8**
baz=69
535A Dale 68.86 337 ⇑P **P** **04 07 08.9 +0.3**
baz=69
633A Saathoff Ranch 68.86 335 ⇓P **P** **04 07 09.3 +0.6**
baz=69
TVO Taravao 69.06 263 *e*T T 05 22 21.0
comp=E,1.0nm,0.4s
632A Uvalde 69.11 335 ⇑P **P** **04 07 10.9 +0.6**
baz=70,SNR=7.9
TIAR Tiarei 69.25 263 *e*T T 05 22 35.3
comp=E,2.4nm,0.2s
631A Perdido Creek 69.30 334 ⇑P **P** **04 07 11.5 +0.1**
baz=70
533A Kerrville 69.37 336 ⇑P **P** **04 07 12.2 +0.4**
baz=70
PPT2 Papeete2 69.42 263 *e*LR LR 04 28 12.7
comp=E,241nm,24.8s
PPT Papeete 69.43 263 LR LR 04 30 01.7
comp=E,129nm,18.1s,baz=166,slow=29
435B Jarrell 69.56 337 ⇓P **P** **04 07 13.4 +0.4**
baz=70
532A Rocksprings 69.72 335 ⇓P **P** **04 07 14.5 +0.5**
baz=70,SNR=13
239A Gary 69.80 341 ⇑P **P** **04 07 15.0 +0.6**
baz=70
434A Burnet 69.81 337 ⇓P **P** **04 07 14.9 +0.4**
baz=70,SNR=8.3
336A Riesel 69.89 338 ⇓P **P** **04 07 15.7 +0.7**
baz=70
335A Moody 69.97 338 ⇓P **P** **04 07 16.1 +0.6**
baz=70
531A Rocksprings 69.98 335 ⇓P **P** **04 07 16.2 +0.6**
baz=70,SNR=7.3
JCT Junction City 70.01 335 *e*P **P** **04 07 15.2 -0.6**
comp=E,12nm,0.8s
JCT Junction City 70.01 335 ⇑P **P** **04 07 16.1 +0.4**
baz=70
433A Art 70.02 336 ⇑P **P** **04 07 15.8 0.0**
baz=70
237A Washetta, Mont 70.16 339 ⇑P **P** **04 07 17.2 +0.6**
baz=70
530A J-C Ranch, Com 70.24 334 ⇑P **P** **04 07 17.9 +0.7**
baz=71,SNR=8.4
334A Lometa 70.28 337 ⇓P **P** **04 07 17.8 +0.4**
baz=71,SNR=5.5
KMSC Kings Mountain 70.34 353 ⇑P **P** **04 07 17.4 -0.2**
baz=71
432A Menard 70.37 336 ⇑P **P** **04 07 17.7 -0.3**
baz=71
TXAR Lajitas Array 70.38 332 P **P** **04 07 18.7 +0.5**
comp=E,3.2nm,0.7s,baz=151,slow=8.5,SNR=42
TXAR LR LR 04 33 36.1
comp=E,190nm,18.3s,baz=0.0,slow=32
431A Sonora 70.47 335 ⇑P **P** **04 07 19.0 +0.3**
baz=71
333A Richland Sprin 70.51 336 ⇑P **P** **04 07 18.7 -0.1**
baz=71,SNR=7.4
529A Stev Forest Ra 70.54 333 ⇓P **P** **04 07 19.4 +0.3**
baz=71,SNR=11
430A Baggett Ranch, 70.79 334 ⇓P **P** **04 07 21.0 +0.4**
baz=71,SNR=8.5
332A Millersview 70.81 336 ⇑P **P** **04 07 20.7 0.0**
baz=71,SNR=6.6
234A Clairette 70.86 337 ⇑P **P** **04 07 20.9 -0.1**
baz=72
429A Davenport Ranc 70.88 334 ⇓P **P** **04 07 21.3 +0.2**
baz=71,SNR=5.2
331A San Angelo 70.98 335 ⇓P **P** **04 07 21.8 +0.1**
baz=71,SNR=6.3
233A Rising Star 71.12 337 ⇓P **P** **04 07 22.3 -0.2**
baz=72
232A Coleman 71.25 336 ⇑P **P** **04 07 23.2 -0.1**
baz=72
330A Mertzon 71.33 335 ⇑P **P** **04 07 23.8 0.0**
baz=72,SNR=5.5
231A Bronte 71.51 336 ⇑P **P** **04 07 24.5 -0.4**
baz=72,SNR=7.0
133A Hamilton Ranch 71.67 337 ⇓P **P** **04 07 25.7 -0.1**
baz=72,SNR=7.5
329A Wagon Wheel Ra 71.69 334 ⇓P **P** **04 07 26.1 +0.1**
baz=72,SNR=6.3
Z35A Perchaven, San 71.83 339 ⇑P **P** **04 07 27.0 +0.4**
baz=72
ABTX Abilene, Hawle 71.92 336 *e*P **P** **04 07 27.7 +0.3**
comp=E,15nm,0.8s
ABTX Abilene, Hawle 71.92 336 ⇑P **P** **04 07 27.4 0.0**
baz=72
MIAR Mount Ida 71.96 342 *e*P **P** **04 07 27.6 +0.2**
comp=E,17nm,1.4s
229A Bryant Ranch, 72.06 334 ⇓P **P** **04 07 28.2 0.0**
baz=72
Z34A Collier Ranch, 72.06 338 ⇓P **P** **04 07 28.3 +0.2**
baz=72
131A Roby 72.21 336 ⇓P **P** **04 07 29.2 +0.1**
baz=73
WVT Waverly 72.24 347 *e*P **P** **04 07 28.3 -0.8**
Z33A Whitaker Ranch 72.25 337 ⇓P **P** **04 07 29.3 +0.1**
baz=73,SNR=8.5
MAW Mawson 72.31 164 P **P** **04 07 28.8 -0.4**
comp=E,5.9nm,0.8s,baz=235,slow=4.3,SNR=5.8
MAW LR LR 04 39 09.0
comp=E,192nm,19.1s,baz=236,slow=36
MAW Mawson 72.31 164 *e*P **P** **04 07 29.0 -0.2**
130A Snyder 72.34 335 ⇑P **P** **04 07 29.6 -0.3**
baz=73
X37A Clayton 72.47 341 ⇑P **P** **04 07 30.6 +0.1**
baz=73
228A UT Block 9, Go 72.48 334 ⇓P **P** **04 07 30.8 0.0**
baz=73,SNR=5.6
Z32A Haskell 72.49 337 ⇑P **P** **04 07 30.8 +0.1**
baz=73,SNR=7.4
Y34A Reagan Ranch, 72.56 338 ⇓P **P** **04 07 31.3 +0.2**
baz=73
W38A Poteau 72.70 342 ⇑P **P** **04 07 32.0 +0.2**
baz=73
X36A Centrahoma 72.72 340 ⇑P **P** **04 07 31.8 -0.2**
baz=73
Z31A Sharp Cattle R 72.72 336 ⇑P **P** **04 07 32.0 -0.1**
baz=73
X35A Drake 72.74 339 ⇓P **P** **04 07 31.8 -0.4**
baz=73
Y33A Hilltop Ranch, 72.87 338 ⇑P **P** **04 07 32.9 0.0**
baz=73,SNR=5.9
128A Castleberry Fa 72.89 334 ⇑P **P** **04 07 33.1 -0.1**
baz=73,SNR=6.5
W37A Quinton 73.00 341 ⇓P **P** **04 07 33.7 0.0**
baz=73
Z30A Sanderson Ranc 73.02 335 ⇓P **P** **04 07 33.8 -0.1**
baz=73
Y32A R-V Farms, Ver 73.12 337 ⇓P **P** **04 07 34.4 -0.1**
baz=74
MNTX Cornudas Mount 73.16 331 *e*P **P** **04 07 34.0 -0.7**
comp=E,5.7nm,0.8s
MNTX Cornudas Mount 73.16 331 ⇓P **P** **04 07 34.2 -0.5**
baz=74
X34A Smith Ranch, M 73.18 339 ⇓P **P** **04 07 34.6 -0.2**
baz=74
Z29A Hungry Hill Ra 73.20 335 ⇓P **P** **04 07 34.7 -0.3**
baz=74,SNR=8.9
W36A Wetumka 73.22 340 ⇓P **P** **04 07 34.6 -0.4**
baz=74
X33A Lawton 73.33 338 ⇑P **P** **04 07 35.1 -0.5**
baz=74
Y31A Rekieta Farm, 73.35 336 ⇑P **P** **04 07 35.7 -0.1**
baz=74,SNR=5.5
X32A Elmer 73.46 337 ⇓P **P** **04 07 36.1 -0.3**
baz=74
Z28A Tucker Farm, M 73.46 334 ⇓P **P** **04 07 36.2 -0.3**
baz=74
Y30A Stafford Cattl 73.48 336 ⇑P **P** **04 07 36.1 -0.5**
baz=74
Y29A Porterfield Fa 73.73 335 ⇑P **P** **04 07 38.2 +0.1**
baz=74,SNR=7.2
TUL1 Leonard 73.83 341 *e*P **P** **04 07 38.4 -0.1**
comp=E,21nm,1.2s
TUL1 Leonard 73.83 341 ⇑P **P** **04 07 38.0 -0.5**
baz=74
X31A McDonald Ranch 73.87 337 ⇓P **P** **04 07 38.4 -0.4**
baz=74
W33A Caddo, Fort Co 73.88 338 ⇑P **P** **04 07 39.6 +0.7**
baz=74,SNR=9.3
Y28A McKinney Farm, 73.97 335 ⇑P **P** **04 07 39.1 -0.4**
baz=74
V35A Meyer Ranch, C 73.98 340 ⇑P **P** **04 07 38.9 -0.5**
baz=74
X30A Coker Ranch, T 74.00 336 ⇑P **P** **04 07 39.1 -0.5**
baz=74
W32A Sentinel 74.10 338 ⇑P **P** **04 07 40.2 +0.1**
baz=74,SNR=10
MSTX Muleshoe 74.21 334 *e*P **P** **04 07 41.4 +0.4**
comp=E,13nm,0.9s
MSTX Muleshoe 74.21 334 ⇑P **P** **04 07 40.9 -0.1**
baz=75,SNR=6.0
V34A Guthrie 74.24 339 P **P** **04 07 39.8 -1.1**
comp=E,18nm,1.3s
V34A Guthrie 74.24 339 ⇓P **P** **04 07 40.7 -0.3**
baz=75
X29A Tulia 74.27 336 ⇑P **P** **04 07 41.3 +0.1**
baz=75
W31A Holland Ranch, 74.37 337 ⇑P **P** **04 07 41.6 -0.2**
baz=75
V33A Lossen Ranch, 74.45 339 ⇓P **P** **04 07 42.1 0.0**
baz=75
319A Douglas 74.48 328 ⇓P **P** **04 07 43.1 +0.5**
baz=75
V32A Arapaho 74.58 338 ⇓P **P** **04 07 43.2 +0.2**
baz=75
AMTX Amarillo 74.67 336 *e*P **P** **04 07 44.3 +0.7**
comp=E,19nm,1.1s
AMTX Amarillo 74.67 336 ⇓P **P** **04 07 43.9 +0.3**
baz=75
U34A Anderson Ranch 74.80 340 ⇑P **P** **04 07 44.3 +0.1**
baz=75
121A Cookes Peak, D 74.85 330 *e*P **P** **04 07 46.1 +1.3**
comp=E,6.0nm,0.8s
121A Cookes Peak, D 74.85 330 ⇓P **P** **04 07 45.4 +0.6**
baz=75
W29A Amarillo 74.87 336 ⇑P **P** **04 07 45.1 +0.3**
baz=75
T36A Boggs Farm, Ca 74.93 341 ⇑P **P** **04 07 45.2 +0.3**
baz=75
T35A Sooner Cattle 74.97 341 ⇑P **P** **04 07 45.1 0.0**
baz=75
U33A Lingo Farm, Me 74.97 339 ⇓P **P** **04 07 45.4 +0.2**
baz=75
U32A Winter Ranch, 75.18 338 ⇑P **P** **04 07 46.7 +0.3**
baz=76
T34A McClaskey Farm 75.25 340 ⇑P **P** **04 07 47.0 +0.2**
baz=76
U31A Nine Bar Ranch 75.43 338 ⇑P **P** **04 07 47.9 0.0**
baz=76
S36A Lake Cedric, C 75.48 342 ⇑P **P** **04 07 47.7 -0.4**
baz=76
ACSO Alum Creek Sta 75.55 352 *e*P **P** **04 07 48.2 -0.2**
comp=E,17nm,0.7s
T33A Patterson Ranc 75.61 339 ⇑P **P** **04 07 49.2 +0.4**
baz=76
S35A Otter Creek Ra 75.63 341 ⇑P **P** **04 07 49.0 0.0**
baz=76
LIC Lamto 75.76 72 *e*P **P** **04 07 50.2 0.0**
comp=E,70nm,1.4s
U30A WK&E Inc. Balk 75.83 337 ⇓P **P** **04 07 50.1 -0.1**
baz=76
R37A Teagarden Farm 75.84 342 ⇑P **P** **04 07 50.0 -0.1**
baz=76
TUC Tucson 75.94 328 *e*P **P** **04 07 51.1 +0.2**
comp=E,5.0nm,1.1s
TIC Toumodi 76.02 71 *e*P **P** **04 07 51.7 -0.1**
comp=E,11nm,0.8s
KIC Kosan Boka 76.06 72 *e*P **P** **04 07 52.0 0.0**
comp=E,77nm,1.4s
DBIC Dimbokro 76.17 72 P **P** **04 07 53.1 +0.6**
comp=E,6.6nm,0.7s,baz=217,slow=5.5,SNR=8.9
DBIC LR LR 04 40 42.6
comp=E,103nm,18.0s,baz=197,slow=35
ANMO Albuquerque 76.44 332 *e*P **P** **04 07 54.7 +0.8**
comp=E,7.3nm,1.1s
U27A Thompson Grove 76.45 336 ⇑P **P** **04 07 53.4 -0.3**
baz=77,SNR=5.1
214A Organ Pipe Nat 76.55 326 ⇓P **P** **04 07 54.6 +0.2**
baz=77
R33A Olander Ranch, 76.68 340 ⇓P **P** **04 07 54.5 -0.4**
baz=77
S30A Montezuma 76.79 338 ⇑P **P** **04 07 54.9 -0.7**
baz=77
T28A Walsh 76.84 336 ⇓P **P** **04 07 55.9 -0.1**
baz=77,SNR=11
R32A Long Quarter, 76.99 339 ⇓P **P** **04 07 56.9 +0.2**
baz=77
T27A Campo 76.99 336 ⇓P **P** **04 07 57.0 +0.1**
baz=77,SNR=6.7
R31A Burdett 77.11 339 ⇑P **P** **04 07 57.6 +0.3**
baz=78
S28A Manter 77.20 337 ⇑P **P** **04 07 58.2 +0.2**
baz=78,SNR=8.2
R30A Dighton 77.33 338 ⇑P **P** **04 07 58.4 -0.2**
baz=78
T26A Comanche Natio 77.39 335 ⇑P **P** **04 07 59.8 +0.7**
baz=78,SNR=5.7
Q32A Meitler Ranch, 77.47 340 ⇓P **P** **04 07 59.0 -0.4**
baz=78
X18A Snowflake 77.48 329 ⇓P **P** **04 07 59.8 +0.1**
baz=78
T25A Trinidad 77.64 335 ⇓P **P** **04 08 01.6 +1.0**
baz=78,SNR=13
Q31A Ellis 77.73 339 ⇑P **P** **04 08 01.4 +0.6**
baz=78
S26A Kim 77.75 336 ⇑P **P** **04 08 02.0 +0.9**
baz=78,SNR=15
R28A Tribune 77.86 337 ⇑P **P** **04 08 02.1 +0.5**
baz=78,SNR=7.2
W18A Petrified Fore 77.90 330 ⇑P **P** **04 08 02.7 +0.7**
baz=78
P32A Huiting Farm, 78.08 340 ⇓P **P** **04 08 03.1 +0.5**
baz=78
Q29A Oakley 78.10 338 ⇑P **P** **04 08 03.0 +0.1**
baz=78
R27A Eads 78.13 336 ⇓P **P** **04 08 03.4 +0.3**
baz=78,SNR=8.4
P31A Stockton 78.20 339 ⇓P **P** **04 08 03.7 +0.3**
baz=79
R26A Arlington 78.36 336 ⇓P **P** **04 08 05.1 +0.6**
baz=79,SNR=7.7
P30A Selden 78.48 339 ⇑P **P** **04 08 05.6 +0.6**
baz=79
Q28A Sharon Springs 78.52 337 ⇓P **P** **04 08 05.6 +0.3**
baz=79
SDCO Great Sand Dun 78.57 334 *e*P **P** **04 08 06.4 +0.6**
comp=E,3.8nm,0.8s
SDCO Great Sand Dun 78.57 334 ⇓P **P** **04 08 06.4 +0.6**
baz=79,SNR=8.0
KSCO Kaye Shedlock' 78.73 337 ⇑P **P** **04 08 07.2 +0.8**
baz=79
P29A Atwood 78.74 338 ⇓P **P** **04 08 07.4 +1.0**
baz=79
Y12C Blythe 78.84 326 ⇑P **P** **04 08 08.1 +1.1**
baz=79
WUAZ Wupatki 78.93 329 *e*P **P** **04 08 08.7 +1.1**
comp=E,7.2nm,0.9s
WUAZ Wupatki 78.93 329 ⇓P **P** **04 08 08.8 +1.1**
baz=79
Q26A Hugo 78.94 336 ⇑P **P** **04 08 08.5 +0.9**
baz=79
O30A MW Ranch, Wils 79.01 339 ⇓P **P** **04 08 08.6 +0.8**
baz=79
N32A Stulken Farm, 79.05 341 ⇓P **P** **04 08 09.5 +1.4**
baz=79
S22A 4UR Ranch, Cre 79.05 333 ⇓P **P** **04 08 09.5 +1.0**
baz=79
R23A Moffat 79.08 334 ⇑P **P** **04 08 09.2 +0.5**
baz=80
BC3 Big Chuckawall 79.19 325 ⇓P **P** **04 08 09.7 +0.6**
baz=80
P27A Ficken Ranch, 79.21 337 ⇓P **P** **04 08 10.0 +0.9**
baz=80
MVCO Mesa Verde 79.22 332 *e*P **P** **04 08 10.4 +1.1**
comp=E,14nm,1.2s
MVCO Mesa Verde 79.22 332 ⇓P **P** **04 08 09.9 +0.5**
baz=80
P26A Davis Ranch, A 79.46 336 ⇑P **P** **04 08 11.3 +0.9**
baz=80
IRM Iron Mountain 79.47 325 ⇑P **P** **04 08 11.0 +0.5**
baz=80
O28A Krutsinger Ran 79.48 338 ⇑P **P** **04 08 10.9 +0.5**
baz=80
Q24A Divide 79.53 335 ⇑P **P** **04 08 11.7 +0.6**
baz=80,SNR=6.0
W13A Hualapai Mount 79.67 327 ⇑P **P** **04 08 12.5 +0.7**
baz=80
O27A Beecher Island 79.75 337 ⇓P **P** **04 08 12.6 +0.5**
baz=80
PV01 Paradox Valley 80.05 332 *e*P **P** **04 08 14.6 +0.8**
comp=E,385nm,1.0s
O26A Horse Wrangler 80.07 337 ⇑P **P** **04 08 15.4 +1.6**
baz=80
U15A North Rim 80.09 329 ⇑P **P** **04 08 15.7 +1.5**
baz=80
P23A Jefferson 80.14 335 ⇓P **P** **04 08 16.0 +1.6**
baz=80
GMRC Granite Mounta 80.22 325 ⇑P **P** **04 08 16.2 +1.5**
baz=81
O25A Wiggins 80.22 336 ⇓P **P** **04 08 16.0 +1.5**
baz=81
N27A Anderson Farm, 80.33 338 ⇑P **P** **04 08 16.4 +1.3**
baz=81
SMCO Snowmass 80.37 334 *e*P **P** **04 08 16.7 +1.0**
comp=E,15nm,1.1s
ISCO Idaho Springs 80.44 335 *e*P **P** **04 08 16.3 +0.3**
comp=E,19nm,1.8s
ISCO Idaho Springs 80.44 335 ⇓P **P** **04 08 16.7 +0.7**
baz=81,SNR=5.3
L31A Butterfield Fa 80.52 341 ⇓P **P** **04 08 17.1 +1.2**
baz=81
HEC Hector,Ludlow 80.57 325 ⇑P **P** **04 08 18.1 +1.6**
baz=81
P22A Eagle 80.66 334 ⇓P **P** **04 08 17.9 +0.8**
baz=81
L29A Maesberg Ranch 80.87 340 ⇑P **P** **04 08 19.1 +1.2**
baz=81
TUQ Turquoise Moun 80.88 326 ⇓P **P** **04 08 19.4 +1.1**
baz=81
O23A Lake Granby, G 80.91 335 ⇓P **P** **04 08 19.4 +0.9**
baz=81,SNR=7.7
O22A Kremmling 81.09 335 ⇑P **P** **04 08 19.9 +0.5**
baz=82,SNR=7.4

K30A	**Basset**	81.19	340	⇑P		P	04 08 20.6	+1.0
	baz=82							
ECSD	**EROS Data Cent**	81.40	343	*e*P		P	04 08 20.3	-0.4
	comp=E,13nm,0.8s							
ECSD	**EROS Data Cent**	81.40	343	⇓P		P	04 08 20.6	0.0
	baz=82							
SHPR	**Sheep Range**	81.41	327	*e*P		P	04 08 21.9	+0.9
K29A	**Lazy Trails An**	81.47	340	⇑P		P	04 08 21.4	+0.4
	baz=82							
N23A	**Red Feather La**	81.53	335	⇑P		P	04 08 22.4	+0.7
	baz=82,SNR=5.3							
N22A	**Wattenberg Ran**	81.62	335	⇑P		P	04 08 23.0	+0.8
	baz=82							
SRU	**San Rafael Swe**	81.66	331	*e*P		P	04 08 23.3	+1.0
	comp=E,5.8nm,0.9s							
LRMC	**Laurel Mtn Rad**	81.74	324	⇓P		P	04 08 23.6	+0.9
	baz=82							
J30A	**Dallas**	81.76	341	⇑P		P	04 08 23.7	+1.2
	baz=82							
MSU	**Marysvale**	81.81	330	*e*P		P	04 08 24.3	+1.1
	comp=E,4.7nm,0.9s							
MVU	**Marysvale**	81.82	330	*e*P		P	04 08 24.5	+1.2
	comp=E,13nm,1.5s							
M23A	**Laramie**	81.97	336	⇓P		P	04 08 24.5	+0.6
	baz=82							
J29A	**Okreek**	82.06	340	⇓P		P	04 08 24.8	+0.6
	baz=82							
M22A	**Cedar Creek Ra**	82.21	335	⇑P		P	04 08 26.5	+1.3
	baz=83							
ISA	**Isabella, Lake**	82.27	324	⇓P		P	04 08 26.9	+1.4
	baz=83							
TPNV	**Topopah Spring**	82.27	326	⇓P		P	04 08 26.7	+1.1
	baz=83							
N20A	**Spence Gulch,**	82.30	334	⇓P		P	04 08 26.2	+0.5
	baz=83							
J28A	**Allard Ranch,**	82.34	340	⇓P		P	04 08 26.6	+1.0
	baz=83							
DAC	**Darwin (Calif)**	82.34	325	*e*P		P	04 08 27.6	+1.6
	comp=E,4.6nm,0.9s							
K25A	**Mack Ranch, Ha**	82.39	337	⇑P		P	04 08 26.9	+0.8
	baz=83							
J27A	**Elkhorn Farm,**	82.41	339	⇑P		P	04 08 27.1	+1.1
	baz=83							
LBTB	**Lobatse**	82.44	115	*e*P		P	04 08 26.8	-0.1
	comp=E,208nm,2.5s							
L23A	**Garrett**	82.54	336	⇓P		P	04 08 27.1	+0.2
	baz=83							
VES	**Vestal, Richgr**	82.71	324	⇑P		P	04 08 28.7	+1.0
	baz=83							
J26A	**Sides Ranch, S**	82.78	338	⇑P		P	04 08 29.0	+1.0
	baz=83							
I28A	**Midland**	82.85	340	⇑P		P	04 08 28.7	+0.5
	baz=83							
K23A	**Bowen Ranch, D**	83.08	336	⇑P		P	04 08 30.4	+0.8
	baz=84							
R11A	**Troy Canyon, C**	83.13	327	*e*P		P	04 08 31.3	+1.3
	comp=E,7.8nm,1.3s							
R11A	**Troy Canyon, C**	83.13	327	⇑P		P	04 08 30.7	+0.7
	baz=84							
RCTC	**Rector, Farmer**	83.16	324	⇓P		P	04 08 30.2	+0.3
	baz=84							
H29A	**Onida**	83.16	341	⇑P		P	04 08 30.1	+0.3
	baz=84							
I27A	**Quinn**	83.17	339	⇓P		P	04 08 30.5	+0.6
	baz=84							
J24A	**Dixon Ranch, L**	83.29	337	⇑P		P	04 08 31.5	+0.8
	baz=84							
K22A	**Casper**	83.29	336	*e*P		P	04 08 31.3	+0.6
	comp=E,15nm,1.3s							
K22A	**Casper**	83.29	336	⇑P		P	04 08 31.6	+0.9
	baz=84							
JLU	**Jordanelle**	83.30	331	*e*P		P	04 08 32.1	+1.1
	comp=E,6.1nm,0.9s							
G30A	**Faulkton**	83.35	342	⇓P		P	04 08 31.2	+0.4
	baz=84							
DUG	**Dugway, Tooele**	83.50	330	⇑P		P	04 08 32.4	+0.6
	baz=84							
K21A	**Alcova**	83.52	335	⇓P		P	04 08 32.4	+0.5
	baz=84							
G29A	**Hoven**	83.61	341	⇑P		P	04 08 32.6	+0.5
	baz=84							
I25A	**Rochford**	83.62	338	⇓P		P	04 08 32.7	+0.3
	baz=84							
TPH	**Tonopah**	83.64	326	*e*P		P	04 08 33.6	+0.9
	comp=E,7.2nm,1.3s							
H27A	**Howes**	83.69	339	⇓P		P	04 08 32.7	+0.1
	baz=84							
I24A	**Kuemmerle Ranc**	83.75	337	⇓P		P	04 08 33.1	+0.1
	baz=84							
G28A	**Parade**	83.77	340	⇓P		P	04 08 33.1	+0.1
	baz=84							
J22A	**Midwest**	83.95	336	⇑P		P	04 08 33.5	-0.6
	baz=84							
H25A	**Fruitdale**	84.13	338	⇓P		P	04 08 34.6	-0.2
	baz=84							
F29A	**Eureka**	84.18	341	⇑P		P	04 08 34.8	-0.2
	baz=85							
HWUT	**Hardware Ranch**	84.21	332	*e*P		P	04 08 35.9	+0.4
	comp=E,18nm,1.3s							
J21A	**Lysite**	84.22	335	⇑P		P	04 08 35.0	-0.5
	baz=85							
G27A	**Dupree**	84.33	340	⇑P		P	04 08 35.3	-0.5
	baz=85							
I22A	**9 Mile Ranch,**	84.38	336	⇓P		P	04 08 36.0	-0.2
	baz=85							
NVAR	**Mina Array Bea**	84.42	326	P		P	04 08 37.2	+0.5
	comp=E,1.6nm,0.8s,baz=150,slow=6.1,SNR=9.1							
G26A	**Maurine**	84.44	339	⇑P		P	04 08 36.1	-0.3
	baz=85							
J20A	**Shoshoni**	84.45	335	⇓P		P	04 08 37.2	+0.6
	baz=85,SNR=6.3							
F28A	**McLaughlin**	84.45	341	⇑P		P	04 08 36.6	+0.2
	baz=85							
BW06	**Boulder Array**	84.46	334	*e*P		P	04 08 37.3	+0.5
	comp=E,10nm,1.8s							
PDAR	**Pinedale Array**	84.46	334	P		P	04 08 36.2	-0.6
	comp=E,1.2nm,1.0s,baz=124,slow=5.6,SNR=8.1							
PDAR				LR		LR	04 42 15.9	
	comp=E,130nm,18.9s,baz=160,slow=33							
H24A	**Dirks Ranch, A**	84.53	338	⇓P		P	04 08 36.5	-0.4
	baz=85							
I21A	**Big Trails, Te**	84.58	336	⇓P		P	04 08 36.8	-0.5
	baz=85							
G25A	**Newell**	84.59	339	⇑P		P	04 08 36.7	-0.5
	baz=85							
J19A	**Crowheart**	84.71	334	⇑P		P	04 08 37.8	-0.2
	baz=85,SNR=5.7							
F27A	**Lemmon**	84.81	340	⇑P		P	04 08 38.4	+0.2
	baz=85							
HVU	**Hansel Valley**	84.83	331	*e*P		P	04 08 39.1	+0.6
H22A	**Clearmont**	84.96	337	⇓P		P	04 08 39.1	-0.1
	baz=85							
F26A	**Lodgepole**	84.97	340	⇓P		P	04 08 38.7	-0.3
	baz=85							
I20A	**Worland**	84.99	335	⇓P		P	04 08 39.8	+0.5
	baz=85,SNR=7.2							
G24A	**Alzada**	85.01	338	⇓P		P	04 08 39.1	-0.3
	baz=85							
E28A	**Huff**	85.09	341	⇓P		P	04 08 39.2	-0.4
	baz=86							
D30A	**Buchanan**	85.09	343	⇓P		P	04 08 39.3	-0.2
	baz=86							
E27A	**Carson**	85.19	341	⇓P		P	04 08 39.7	-0.4
	baz=86							
G23A	**Biddle**	85.20	338	⇑P		P	04 08 39.7	-0.5
	baz=86							
TOA0	**Torodi Ar. Sit**	85.21	70	*e*P		P	04 08 40.8	-0.2
TORD	**Torodi Ar. Bea**	85.21	70	P		P	04 08 40.5	-0.4
	comp=E,3.2nm,0.8s,baz=215,slow=5.4,SNR=17							
TORD				LR		LR	04 45 25.5	
	comp=E,106nm,18.6s,baz=240,slow=35							
D29A	**Pettibone, Tap**	85.26	342	⇓P		P	04 08 40.0	-0.4
	baz=86							
F25A	**Bowman**	85.27	339	⇓P		P	04 08 40.2	-0.3
	baz=86							
I19A	**Meeteetse**	85.36	335	⇑P		P	04 08 40.8	-0.5
	baz=86							
H20A	**Greybull**	85.41	336	⇓P		P	04 08 41.3	-0.1
	baz=86,SNR=9.1							
REDW	**Red Top Meadow**	85.44	333	*e*P		P	04 08 42.5	+0.8
	comp=E,4.2nm,0.9s							
E26A	**Carlson Angus**	85.48	340	⇓P		P	04 08 41.3	-0.3
	baz=86							
F24A	**Ekalaka**	85.49	338	⇑P		P	04 08 41.2	-0.5
	baz=86							
G22A	**Birney**	85.50	337	⇓P		P	04 08 41.1	-0.7
	baz=86							
AGMN	**Agassiz Nation**	85.55	345	*e*P		P	04 08 41.6	-0.2
	comp=E,4.2nm,1.0s							
AGMN	**Agassiz Nation**	85.55	345	⇓P		P	04 08 41.2	-0.6
	baz=86							
C30A	**Mose, Pekin**	85.58	343	⇓P		P	04 08 41.7	-0.2
	baz=86							
F23A	**Volborg**	85.67	338	⇑P		P	04 08 42.2	-0.4
	baz=86							
E25A	**Miller Ranch,**	85.77	339	⇓P		P	04 08 42.7	-0.3
	baz=86							
G21A	**Lodge Grass**	85.80	336	⇑P		P	04 08 42.7	-0.6
	baz=86							
D27A	**Center**	85.81	341	⇑P		P	04 08 43.0	-0.2
	baz=86							
I17A	**Pilgrim Ck.**	85.83	334	⇑P		P	04 08 43.8	+0.2
	baz=86							
H19A	**Powell**	85.91	335	⇓P		P	04 08 43.5	-0.4
	baz=86							
IMW	**Indian Meadow**	85.94	333	*e*P		P	04 08 45.4	+1.2
	comp=E,7.6nm,1.3s							
D26A	**Manning**	85.98	340	⇓P		P	04 08 44.0	-0.1
	baz=86							
F22A	**Rosebud**	85.99	337	⇓P		P	04 08 43.8	-0.4
	baz=86							
FLWY	**Flagg Ranch**	86.01	334	*e*P		P	04 08 45.0	+0.6
	comp=E,18nm,1.4s							
E24A	**Baker**	86.09	339	⇑P		P	04 08 44.4	-0.2
	baz=86							
G20A	**Bridger**	86.13	336	⇓P		P	04 08 44.6	-0.4
	baz=86,SNR=7.6							
H18A	**Shoshone NF, C**	86.16	335	⇑P		P	04 08 45.1	-0.1
	baz=86,SNR=10							
B30A	**Myrvik Farm, E**	86.25	343	⇑P		P	04 08 45.5	+0.2
	baz=87							
E23A	**Ismay**	86.34	338	⇑P		P	04 08 45.6	-0.2
	baz=87							
D25A	**Fairfield**	86.34	340	⇓P		P	04 08 46.4	+0.5
	baz=87							
RLMT	**Red Lodge**	86.41	335	*e*P		P	04 08 46.3	-0.1
	comp=E,4.0nm,1.0s							
B29A	**Wagenman Farm,**	86.50	343	⇑P		P	04 08 46.9	+0.4
	baz=87							
D24A	**Glendive**	86.60	339	⇓P		P	04 08 47.2	+0.1
	baz=87							
C26A	**Wahner Farm, P**	86.62	341	⇓P		P	04 08 47.4	+0.3
	baz=87							
A30A	**Hoffart Farm,**	86.70	344	⇑P		P	04 08 47.3	-0.1
	baz=87							
B28A	**Dugan Ranch, T**	86.74	342	⇑P		P	04 08 48.3	+0.6
	baz=87							
C25A	**Freed Ranch, W**	86.83	340	⇓P		P	04 08 48.2	0.0
	baz=87							
A29A	**Manning Farm,**	86.90	343	⇑P		P	04 08 48.8	+0.3
	baz=87							
D23A	**Lindsay**	86.91	339	⇑P		P	04 08 49.0	+0.4
	baz=87,SNR=6.0							
E21A	**Keefer Ranch,**	86.93	337	⇑P		P	04 08 48.7	0.0
	baz=87							
F19A	**Roth Farm, Mol**	86.93	336	⇓P		P	04 08 48.8	0.0
	baz=87							
HLID	**Hailey**	86.98	331	*e*P		P	04 08 50.3	+1.1
	comp=E,6.1nm,1.2s							
HLID	**Hailey**	86.98	331	⇓P		P	04 08 49.7	+0.5
	baz=87							
C24A	**Savage**	87.00	339	⇑P		P	04 08 49.3	+0.3
	baz=87,SNR=10							
A28A	**Rude Farm, Bot**	87.14	342	⇓P		P	04 08 49.7	0.0
	baz=88							
D22A	**Cohagen**	87.19	338	⇑P		P	04 08 49.9	0.0
	baz=88							
E20A	**Meyer Farm, Mu**	87.23	336	⇑P		P	04 08 50.2	-0.1
	baz=88							
B25A	**Knox Farm, Ray**	87.32	340	⇓P		P	04 08 50.8	+0.3
	baz=88							
D21A	**La Casta Ranch**	87.37	337	⇑P		P	04 08 51.0	+0.2
	baz=88							
ULM	**Lac du Bonnet**	87.40	345	P		P	04 08 50.0	-0.7
	comp=E,4.3nm,0.9s,baz=169,slow=5.7,SNR=11							
ULM	**Lac du Bonnet**	87.40	345	*e*P		P	04 08 50.1	-0.7
	comp=E,7.2nm,1.0s							
E19A	**Rath Farm, Rou**	87.41	336	⇓P		P	04 08 50.9	-0.2
	baz=88							
MFID	**Camas Ranch**	87.42	330	*e*P		P	04 08 52.6	+1.3
	comp=E,13nm,1.6s							
A27A	**Ledoux Ranch,**	87.43	342	⇑P		P	04 08 51.0	-0.1
	baz=88							
MCMT	**McKenzie Canyo**	87.44	333	*e*P		P	04 08 52.5	+1.0
C23A	**Lambert**	87.47	339	⇑P		P	04 08 51.3	0.0
	baz=88,SNR=7.5							
DGMT	**Dagmar**	87.79	340	*e*P		P	04 08 53.1	+0.3
DGMT	**Dagmar**	87.79	340	⇑P		P	04 08 53.3	+0.5
	baz=88							
DLMT	**Dillon**	87.80	333	P		P	04 08 53.7	+0.6
	comp=E,9.1nm,1.3s							
A25A	**Svangstu Ranch**	87.91	341	⇓P		P	04 08 53.4	0.0
	baz=88							
B23A	**Brockton**	88.01	339	⇓P		P	04 08 53.7	-0.1
	baz=88							
D19A	**Cripps Ranch,**	88.06	336	⇓P		P	04 08 52.9	-1.2
	baz=88							
C21A	**Desert Coulee**	88.07	338	⇑P		P	04 08 53.9	-0.3
	baz=88							
B22A	**Reddig Ranch S**	88.16	339	⇑P		P	04 08 54.7	+0.1
	baz=88							
A22A	**Carney Farms,**	88.76	339	⇑P		P	04 08 57.2	-0.2
	baz=89							
K05A	**Summer Lake**	89.04	327	*e*P		P	04 09 00.8	+1.8
	comp=E,15nm,1.1s							
A20A	**Cobblestone Ra**	89.27	338	⇑P		P	04 08 59.6	-0.2
	baz=90							
WRA	**Waramunga Arr**	119.47	210	PKP		PKPdf	04 14 53.7	-0.4
	comp=E,0.4nm,0.6s,baz=167,slow=1.2,SNR=5.1							
BRTR	**Keskin Array B**	122.95	62	PKP		PKPdf	04 15 00.6	+0.2
	comp=E,1.1nm,0.8s,baz=192,slow=3.0,SNR=8.3							
AKASG	**Malin Array Be**	123.43	48	PKP		PKPdf	04 14 59.9	-0.7
	comp=E,0.1nm,0.3s,baz=265,slow=2.5,SNR=4.2							
H11S2	**WAKE ISLAND Hyl**	25.08	269	T		T	06 32 51.5	
	baz=118							
H11S1	**WAKE ISLAND Hyl**	25.10	269	T		T	06 32 43.9	
	baz=118							
H11S3	**WAKE ISLAND Hyl**	25.10	269	T		T	06 32 50.2	
	baz=118							
H11N3	**WAKE ISLAND Hyl**	25.52	270	T		T	06 33 09.2	
	baz=122							
H11N1	**WAKE ISLAND Hyl**	25.54	270	T		T	06 33 12.2	
	baz=122,slow=74							
H11N2	**WAKE ISLAND Hyl**	25.54	270	T		T	06 33 11.6	
	baz=122,slow=74							
PETK	**Petropavlovsk-**	140.44	313	PKP		PKPdf	04 15 33.7	+1.1
	comp=E,1.6nm,0.7s,baz=96,slow=4.3,SNR=3.7							
ABKAR	**Akbulak array**	142.89	53	*e*PKPdf		PKPdf	04 15 33.4	-3.7
BRVK	**Borovoye**	148.47	44	*e*PKPbc		PKPab	04 15 52.6	-1.0
KKAR	**Karatay Array**	150.65	63	*e*PKPbc		PKPbc	04 15 55.0	-0.8
EKS2	**Erkin-Say**	153.08	64	*e*PKPbc		PKPbc	04 16 02.9	+1.3
AAK	**Ala-Archa**	153.61	64	*e*PKPbc		PKPbc	04 16 03.9	+1.1
KSH	**Kashi**	154.88	71	*e*PKPbc		PKPbc	04 16 03.8	-1.7
KSH				pPKP		PKPab	04 16 14.8	-6.2
KSH				sPKP			04 16 17.9	
KSH				SKS		SKSdf	04 23 03.6	+2.3
KSH				PPMZ				
	comp=E,83nm,4.6s							
KSH				LN				
	comp=E,53nm,5.0s							
KSH				LE				
	comp=E,54nm,4.3s							
KSH				LZ				
	comp=E,130nm,5.1s							
ZALV	**Zalesovo Beam**	155.52	33	PKP		PKPdf	04 15 57.5	+0.5
	comp=E,0.5nm,0.3s,baz=316,slow=4.0,SNR=2.3							
MKAR	**Makanchi Array**	157.99	50	PKP		PKPdf	04 16 01.7	+1.2
	comp=E,1.0nm,1.1s,baz=339,slow=3.7,SNR=3.3							
WMQ	**Urumqi**	162.67	54	*e*PKP		PKPdf	04 16 06.0	+0.2
WMQ				LN				
	comp=E,49nm,23.6s							
WMQ				LE				
	comp=E,23nm,21.8s							
WMQ				LZ				
	comp=E,41nm,23.8s							
SONM	**Songino Array**	167.27	2	PKPab		PKPab	04 17 14.8	+0.3
	comp=E,0.9nm,0.8s,baz=333,slow=1.6,SNR=3.5							
HHC	**Hu-ho-hao-te**	173.30	330	*e*PKP		PKPdf	04 16 13.3	0.0
HHC				PKS		PKSdf	04 19 47.9	+2.4
HHC				PP		PP	04 21 37.4	+4.5
HHC				SKS		SKSdf	04 23 10.6	-3.7
HHC				SKKS		SKKSac	04 28 15.3	-2.2
HHC				SS		SS	04 42 47.9	+2.1
HHC				PPMZ				
	comp=E,39nm,11.2s							
HHC				LN				
	comp=E,140nm,17.4s							
HHC				LE				
	comp=E,130nm,19.9s							
HHC				LZ				
	comp=E,110nm,16.2s							
CD2	**Chengdu**	174.93	145	*e*PKP		PKPdf	04 16 14.5	+0.4
LZH	**Lanzhou**	177.13	69	*e*PKP		PKPdf	04 16 13.5	-1.1
LZH				pPKP		pPKPdf	04 16 24.0	-0.7
LZH				sPKP			04 16 27.8	

IDC ***13*** *04:00:19.5±1.0,35.13S×72.81W,h0km,mb3.9/7, mb1 4.0/10,mb1mx3.9/30,mbtmp3.9/10,ML4.1/2,MS3.5/1, Ms1 3.5/1,ms1mx2.8/23,Error ellipse: s-maj=34.4km s-min=14.5km az=93.0*

GUC ***13*** *04:00:21.5±0.5,35.11S×73.01W,h15km±5km,ML4.6*

ISCJB ***13*** *04:00:22.0±0.7,35.11S±0.05×73.01W±0.07,h33km, mb3.9/7,MS3.4/1,Error ellipse: s-maj=8.5km s-min=6.5km az=21.5*

ISC 13 04:00:24.1±0.8,35.16S±0.06×72.96W±0.09,h35km,n24, σ0992/20,mb3.9/7,3C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	0.98	172	⇑*i*P	Pn	04 00 39.6	-1.8
COCH				*i*S	Sn	04 00 53.1	-1.0
TALC	**Talca**	1.11	103	⇑*i*P	Pn	04 00 42.7	-0.3
TALC				*i*S	Sn	04 00 57.2	+0.1
TALC				AML	AML	04 00 58.3	
	comp=E,33μm,0.4s						
NICH	**Los Niches**	1.42	84	⇑*i*P	Pn	04 00 46.7	-0.7
NICH				*e*S	Sn	04 01 05.8	+0.8
NICH				AML	AML	04 01 12.0	
	comp=E,12μm,0.4s						
CCSP	**San Pedro de C**	1.69	184	*e*P	Pn	04 00 50.9	-0.1
CFAA	**Coronel Fontan**	5.30	49	Pn	Pn	04 01 40.5	-0.3
	comp=E,0.3nm,0.3s,baz=236,slow=15,SNR=13						
CFAA				Sn	Sn	04 02 40.5	-0.3
	comp=E,0.6nm,0.3s,baz=216,slow=19,SNR=2.5						
PLCA	**Paso Flores**	5.88	162	Pn	Pn	04 01 49.0	+0.2
	comp=E,1.5nm,0.3s,baz=340,slow=13,SNR=12						
PLCA				Lg	Lg	04 03 23.4	
	comp=E,2.4nm,0.3s,baz=72,slow=20,SNR=2.8						
LPAZ	**La Paz**	19.28	14	P	Pn	04 04 47.7	0.0
	comp=E,0.2nm,0.3s,baz=197,slow=11,SNR=4.9						
LPAZ	**La Paz**	19.28	14	*e*PcP	Pn	04 04 48.0	+0.4
SIV	**San Ignacio**	21.85	32	P	P	04 05 12.2	-1.5
	comp=E,2.2nm,0.6s,baz=198,slow=9.6,SNR=5.8						
RPN	**Rapa Nui**	32.01	274	LR	LR	04 16 35.8	
	comp=E,74nm,19.7s,baz=80,slow=30						
PTGA	**Pitinga**	36.33	22	P	P	04 07 23.2	-1.4
	comp=E,1.3nm,0.3s,baz=356,slow=22,SNR=2.8						
VNA3	**Neumayer Olymp**	48.58	157	S	P	04 08 59.1	-4.5
SNAA	**Sanae**	50.81	157	P	P	04 09 21.2	+0.6
	comp=E,2.2nm,1.0s,baz=296,slow=6.3,SNR=8.8						
SNAA	**Sanae**	50.81	157	S	P	04 09 19.9	-0.7
QSPA	**South Pole Qui**	55.08	180	P	P	04 09 53.7	+1.4
	comp=E,0.9nm,0.8s,baz=153,slow=6.1,SNR=5.1						
TXAR	**Lajitas Array**	70.38	332	P	P	04 11 35.5	+1.0
	comp=E,0.5nm,0.6s,baz=150,slow=8.9,SNR=7.4						
MAW	**Mawson**	72.29	164	P	P	04 11 45.9	+0.5
	comp=E,1.8nm,0.6s,baz=276,slow=10,SNR=3.0						
TORD	**Torodi Ar. Bea**	85.31	70	P	P	04 12 58.2	+0.4
	comp=E,0.6nm,0.7s,baz=248,slow=4.4,SNR=4.9						
H11S2	**WAKE ISLAND Hyl**	24.99	269	T	T	06 37 06.0	
	baz=118						
H11S1	**WAKE ISLAND Hyl**	25.01	269	T	T	06 37 06.8	
	baz=118						
H11S3	**WAKE ISLAND Hyl**	25.01	269	T	T	06 37 04.7	
	baz=118						
H11N3	**WAKE ISLAND Hyl**	25.44	270	T	T	06 37 26.8	
	baz=123						
H11N1	**WAKE ISLAND Hyl**	25.45	270	T	T	06 37 25.8	
	baz=123						
H11N2	**WAKE ISLAND Hyl**	25.45	270	T	T	06 37 32.6	
	baz=123						

ATH ***13*** *04:01:43.4,38.43N×21.82E,h8km±1km,MD3.3/35,ML3.2*

ISCJB ***13*** *04:01:43.2±0.3,38.42N±0.01×21.83E±0.02,h1km±3km, mb3.6/5,MS2.2/1,Error ellipse: s-maj=2.8km s-min=2.3km az=172.8*

CSEM ***13*** *04:01:43.5±0.1,38.42N×21.82E,h2km,ML2.8,Error ellipse: s-maj=2.9km s-min=2.5km az=87.0*

THE ***13*** *04:01:43.8,38.44N×21.81E,h0km±1km,ML3.5/11,Error ellipse: s-maj=1.6km s-min=0.5km az=87.0*

IASPEI ***13*** *04:01:44.3±0.8,38.43N±0.01×21.83E±0.02,h6km±5km, mb3.7/5,Error ellipse: s-maj=2.4km s-min=2.1km az=85.5*

IDC ***13*** *04:01:50.8±2.5,38.33N×21.73E,h51km±29km,mb3.4/5, mb1 3.3/9,mb1mx3.2/35,mbtmp3.4/9,ML3.5/3,MS2.6/3, Ms1 2.6/3,ms1mx2.2/32,Error ellipse: s-maj=20.4km s-min=15.9km az=77.0*

ISC 13 04:01:44.3±0.8,38.42N±0.01×21.83E±0.01,h5km±5km, n202,σ1923/232,mb3.7/5,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	0.06	87	P	Pg	04 01 45.4	-0.4
EFP				S	Sg	04 01 47.1	+0.2
EFP	**Efpalio**	0.06	87	*e*PG	Pg	04 01 45.5	-0.4
EFP				*e*SG	Sg	04 01 47.3	+0.4
EFP	**Efpalio**	0.06	87	P	Pg	04 01 45.4	-0.4
EFP				S	Sg	04 01 46.7	-0.2
EFP				*e*Sg	Sg	04 01 47.3	+0.4
UPR	**University Cam**	0.14	193	P	Pg	04 01 47.0	-0.2
UPR				S	Sg	04 01 49.5	+0.4
UPR	**University Cam**	0.14	193	P	Pg	04 01 53.0	+5.8
UPR	**University Cam**	0.14	193	P	Pg	04 01 46.1	-1.1
UPR				S	Sg	04 01 49.2	+0.1
KALE	**Kalithea**	0.25	97	P	Pg	04 01 48.4	-0.8
KALE				S	Sg	04 01 53.1	+0.6
KALE	**Kalithea**	0.25	97	*e*PG	Pg	04 01 48.

GUR	**Goura**	0.63	140	P	**Pn**	04 02 01.9	+1.9
GUR	**Goura**	0.63	140	*e*Pb	**Pg**	04 01 55.0	-1.5
GUR	**Goura**	0.63	140	P	**Pg**	04 01 55.3	-1.2
GUR				S	**Sg**	04 02 05.7	+0.9
MAKR	**Makrakomi, Fth**	0.64	22	P	**Pg**	04 01 55.5	-1.0
MAKR				S	**Sg**	04 02 05.4	+0.6
MAKR	**Makrakomi, Fth**	0.64	22	*e*PB	**Pg**	04 01 55.6	-1.0
MAKR	**Makrakomi, Fth**	0.64	22	P	**Pg**	04 01 55.5	-1.0
MAKR				S	**Sg**	04 02 05.4	+0.6
VTN	**Vitineika**	0.71	225	P	**Pg**	04 01 58.1	+0.1
VTN	**Vitineika**	0.71	225	P	**Pg**	04 01 58.1	+0.1
AGG	**Agios Georgios**	0.72	33	*e*PG	**Pb**	04 01 59.0	-0.3
AGG				*e*SG	**Sn**	04 02 11.2	-1.3
AGG	**Agios Georgios**	0.72	33	P	**Pg**	04 01 56.8	-1.3
AGG				S	**Sg**	04 02 07.9	+0.5
AGG	**Agios Georgios**	0.72	33	*e*PB	**Pg**	04 01 56.6	-1.5
AGG	**Agios Georgios**	0.72	33	*e*Sg	**Sn**	04 02 11.2	-1.3
AGG	**Agios Georgios**	0.72	33	P	**Pg**	04 01 56.8	-1.3
AGG	**Agios Georgios**	0.72	33	*e*Pg	**Pb**	04 01 59.0	-0.3
AGG				S	**Sg**	04 02 07.9	+0.5
AXAR	**Agios Charalam**	0.74	62	P	**Pg**	04 01 57.4	-1.0
AXAR	**Agios Charalam**	0.74	62	*e*PB	**Pg**	04 01 57.5	-1.0
AXAR	**Agios Charalam**	0.74	62	P	**Pg**	04 01 57.4	-1.0
KFL	**Anninata**	0.88	249	P	**Pg**	04 02 00.3	-0.8
KFL	**Anninata**	0.88	249	P	**Pg**	04 02 00.3	-0.8
AMT	**Artemida-Makis**	0.90	186	P	**Pg**	04 02 00.9	-0.6
AMT	**Artemida-Makis**	0.90	186	*e*PB	**Pg**	04 02 01.2	-0.3
AMT	**Artemida-Makis**	0.90	186	P	**Pg**	04 02 00.7	-0.8
AMT	**Artemida-Makis**	0.90	186	*e*Pb	**Pg**	04 02 01.2	-0.3
DSL	**Palaion Diasel**	0.91	321	P	**Pg**	04 02 00.6	-1.2
DSL	**Palaion Diasel**	0.91	321	*e*PG	**Pg**	04 02 00.0	-1.8
DSL	**Palaion Diasel**	0.91	321	*e*Pg	**Pg**	04 02 00.0	-1.8
DSL	**Palaion Diasel**	0.91	321	P	**Pg**	04 02 00.6	-1.2
LKR	**Lokris**	0.95	76	P	**Pg**	04 02 02.1	-0.4
LKR	**Lokris**	0.95	76	*e*PN	**Pg**	04 02 02.4	-0.1
LKR	**Lokris**	0.95	76	P	**Pg**	04 02 02.1	-0.4
LKR	**Lokris**	0.95	76	*e*Pn	**Pg**	04 02 02.4	-0.1
LTK	**Loutraki**	0.98	114	P	**Pg**	04 02 02.7	-0.5
LTK	**Loutraki**	0.98	114	*e*PN	**Pg**	04 02 02.6	-0.6
LTK	**Loutraki**	0.98	114	P	**Pg**	04 02 02.7	-0.5
LKD2	**Lefkada island**	0.99	292	P	**Pg**	04 02 02.1	-1.2
LKD2	**Lefkada island**	0.99	292	*e*PB	**Pg**	04 02 02.0	-1.2
LKD2	**Lefkada island**	0.99	292	P	**Pg**	04 02 02.1	-1.2
VLS	**Valsamata**	1.00	256	P	**Pg**	04 02 01.7	-1.9
VLS	**Valsamata**	1.00	256	*e*PG	**Pg**	04 02 01.7	-1.9
VLS	**Valsamata**	1.00	256	P	**Pg**	04 02 01.7	-1.9
VLX	**Vlachokerasia**	1.14	157	P	**Pg**	04 02 04.5	-1.7
VLX				S	**Sb**	04 02 22.2	+0.6
VLX	**Vlachokerasia**	1.14	157	*e*PG	**Pg**	04 02 04.2	-2.0
VLX	**Vlachokerasia**	1.14	157	*e*Pg	**Pg**	04 02 04.2	-2.0
VLX	**Vlachokerasia**	1.14	157	P	**Pg**	04 02 04.5	-1.7
VLX				S	**Sb**	04 02 22.2	+0.6
THL	**Klokotos Trika**	1.15	7	P	**Pg**	04 02 04.9	-1.5
THL				S	**Sb**	04 02 22.2	+0.4
THL	**Klokotos Trika**	1.15	7	*e*PG	**Pg**	04 02 04.5	-1.9
THL	**Klokotos Trika**	1.15	7	*e*Pg	**Pg**	04 02 04.5	-1.9
THL	**Klokotos Trika**	1.15	7	P	**Pg**	04 02 04.9	-1.5
THL				S	**Sb**	04 02 22.2	+0.4
SMIA	**Simia**	1.17	67	P	**Pg**	04 02 06.1	-0.7
SMIA	**Simia**	1.17	67	*e*PB	**Pg**	04 02 05.6	-1.2
SMIA	**Simia**	1.17	67	*e*Pb	**Pg**	04 02 05.6	-1.2
SMIA	**Simia**	1.17	67	P	**Pg**	04 02 06.1	-0.7
ITM	**Ithomi**	1.24	176	P	**Pn**	04 02 08.4	+0.1
ITM	**Ithomi**	1.24	176	*e*PB	**Pg**	04 02 07.1	-1.1
ITM	**Ithomi**	1.24	176	*e*Pb	**Pg**	04 02 07.1	-1.1
ITM	**Ithomi**	1.24	176	P	**Pn**	04 02 08.4	+0.1
NEO	**Neokhori**	1.40	51	*e*PG	**Pn**	04 02 09.1	-1.4
NEO	**Neokhori**	1.40	51	*e*Pg	**Pn**	04 02 09.1	-1.4
MRKA	**Markates**	1.41	78	P	**Pn**	04 02 09.9	-0.7
MRKA	**Markates**	1.41	78	*e*PG	**Pn**	04 02 09.4	-1.2
MRKA	**Markates**	1.41	78	*e*Pg	**Pn**	04 02 09.4	-1.2
MRKA	**Markates**	1.41	78	P	**Pn**	04 02 09.9	-0.7
XOR	**Xorichti**	1.42	48	P	**Pn**	04 02 10.7	-0.1
XOR	**Xorichti**	1.42	48	*e*PG	**Pn**	04 02 09.9	-0.9
XOR	**Xorichti**	1.42	48	*e*Pg	**Pn**	04 02 09.9	-0.9
XOR	**Xorichti**	1.42	48	P	**Pn**	04 02 10.7	-0.1
DID	**Didima**	1.44	129	*e*PG	**Pn**	04 02 10.5	-0.6
DID	**Didima**	1.44	129	*e*Pg	**Pn**	04 02 10.5	-0.6
NAIG	**Nisos Aigina**	1.47	116	*e*PG	**Pn**	04 02 10.5	-0.9
NAIG	**Nisos Aigina**	1.47	116	*e*Pg	**Pn**	04 02 10.5	-0.9
PYL	**PYLOS**	1.53	183	*e*PB	**Pn**	04 02 12.1	-0.1
PYL	**PYLOS**	1.53	183	*e*Pb	**Pn**	04 02 12.1	-0.1
ATH	**Athens Observa**	1.56	106	*e*PB	**Pn**	04 02 13.0	+0.4
ATH	**Athens Observa**	1.56	106	*e*Pb	**Pn**	04 02 13.0	+0.4
IGT	**Igoumenitsa**	1.61	314	*e*PB	**Pb**	04 02 14.1	-0.4
IGT	**Igoumenitsa**	1.61	314	*e*Pb	**Pb**	04 02 14.1	-0.4
LIT	**Litokhoron**	1.75	17	*e*PG	**Pn**	04 02 16.0	+0.6
LIT	**Litokhoron**	1.75	17	*e*Pg	**Pn**	04 02 16.0	+0.6
AOS	**Alonnisos**	1.77	64	*e*PN	**Pn**	04 02 15.5	-0.1
AOS	**Alonnisos**	1.77	64	P	**Pn**	04 02 14.6	-1.0
AOS	**Alonnisos**	1.77	64	*e*PN	**Pb**	04 02 17.0	-0.2
AOS	**Alonnisos**	1.77	64	*e*Pn	**Pn**	04 02 15.5	-0.1
AOS	**Alonnisos**	1.77	64	P	**Pn**	04 02 14.6	-1.0
AOS	**Alonnisos**	1.77	64	*e*Pn	**Pb**	04 02 17.0	-0.2
VLI	**Veliai**	1.92	152	P	**Pn**	04 02 18.0	+0.4
VLI	**Veliai**	1.92	152	*e*PN	**Pb**	04 02 19.0	-0.7
VLI	**Veliai**	1.92	152	P	**Pn**	04 02 18.0	+0.4
VLI	**Veliai**	1.92	152	*e*Pn	**Pb**	04 02 19.0	-0.7
SRN	**Sarande**	2.03	316	*e*PN	**Pb**	04 02 21.1	-0.7
SRN				*e*Sn	**Sg**	04 02 48.7	-0.9
SRN	**Sarande**	2.03	316	*e*Pn	**Pb**	04 02 21.0	-0.7
SRN				*i* Sn	**Sg**	04 02 48.7	-0.9
NEST	**Nestorio**	2.08	343	*e*PG	**Pb**	04 02 21.9	-0.6
NEST	**Nestorio**	2.08	343	*e*Pg	**Pb**	04 02 21.9	-0.6
KBN	**Korca**	2.34	340	*e*PN	**Pg**	04 02 31.7	+2.5
KBN				*e*SN	**Sg**	04 03 01.7	+2.2
KBN	**Korca**	2.34	340	*e*Pn	**Pg**	04 02 31.7	+2.5
KYTH	**Kithira**	2.35	155	*e*PN	**Pb**	04 02 25.8	-1.3
KYTH	**Kithira**	2.35	155	*e*Pn	**Pb**	04 02 25.8	-1.3
FNA	**Florina**	2.38	352	*e*PN	**Pb**	04 02 26.0	-1.7
FNA	**Florina**	2.38	352	*e*PN	**Pn**	04 02 24.8	+0.7
FNA	**Florina**	2.38	352	*e*Pn	**Pb**	04 02 26.0	-1.7
FNA	**Florina**	2.38	352	*e*Pn	**Pn**	04 02 24.8	+0.7
HORT	**Hortiatis**	2.38	24	*e*PN	**Pn**	04 02 25.2	+1.1
HORT	**Hortiatis**	2.38	24	*e*PG	**Pb**	04 02 27.0	-0.8
HORT	**Hortiatis**	2.38	24	*e*Pn	**Pn**	04 02 25.2	+1.1
HORT	**Hortiatis**	2.38	24	*e*Pg	**Pb**	04 02 27.0	-0.8
OUR	**Ouranopolis**	2.54	41	*e*PN	**Pn**	04 02 27.1	+1.0
OUR	**Ouranopolis**	2.54	41	*e*Pn	**Pn**	04 02 27.1	+1.0
GRG	**Griva**	2.57	10	*e*PN	**Pn**	04 02 28.3	+2.1
GRG	**Griva**	2.57	10	*e*PN	**Pn**	04 02 28.3	+1.7
GRG	**Griva**	2.57	10	*e*Pn	**Pn**	04 02 28.7	+2.1
GRG	**Griva**	2.57	10	*e*Pn	**Pn**	04 02 28.3	+1.7
SOH	**Sokhos**	2.67	26	*e*PB	**Pn**	04 02 27.8	-0.2
SOH	**Sokhos**	2.67	26	*e*Pb	**Pn**	04 02 27.8	-0.2
OHR	**Ohrid**	2.80	344	*e*PN	**Pb**	04 02 34.2	-0.7
OHR				*e*Sg	**Sg**	04 03 18.7	+4.5
OHR	**Ohrid**	2.80	344	*e*Pn	**Pb**	04 02 34.1	-0.7
ANKY	**Antikythira Is**	2.81	155	*e*PB	**Pn**	04 02 30.9	+1.0
ANKY	**Antikythira Is**	2.81	155	*e*Pb	**Pn**	04 02 30.9	+1.0
KNT	**Kendrikon**	2.86	16	*e*PN	**Pn**	04 02 32.9	+2.4
KNT	**Kendrikon**	2.86	16	*e*PB	**Pn**	04 02 30.4	-0.1
KNT	**Kendrikon**	2.86	16	*e*Pn	**Pn**	04 02 32.9	+2.4
KNT	**Kendrikon**	2.86	16	*e*Pb	**Pn**	04 02 30.4	-0.1
VAY	**Valandovo**	2.95	11	*e*Pn	**Pn**	04 02 33.8	+1.9
VAY	**Valandovo**	2.95	11	*e*Pn	**Pn**	04 02 33.7	+1.9
APE	**Apeiranthos**	3.23	114	*e*PN	**Pn**	04 02 34.0	-1.6
APE	**Apeiranthos**	3.23	114	*e*Pn	**Pn**	04 02 34.1	-1.6
SIGR	**SIGRI**	3.24	75	*e*PN	**Pn**	04 02 35.6	-0.2
SIGR	**SIGRI**	3.24	75	*e*PB	**Pn**	04 02 37.8	+2.0
SIGR	**SIGRI**	3.24	75	*e*Pb	**Pn**	04 02 37.8	+2.0
SIGR	**SIGRI**	3.24	75	*e*Pn	**Pn**	04 02 35.6	-0.2
CHOS	**Chios island**	3.32	89	*e*PN	**Pn**	04 02 35.8	-1.1
CHOS	**Chios island**	3.32	89	*e*PN	**Pn**	04 02 37.4	+0.4
CHOS	**Chios island**	3.32	89	*e*Pn	**Pn**	04 02 37.4	+0.4
GADA	**Gvkgeada**	3.62	60	*e*PN	**Pn**	04 02 41.4	+0.5
GADA	**Gvkgeada**	3.62	60	*e*Pn	**Pn**	04 02 41.4	+0.5
IDI	**Anoyia**	3.98	141	P	Pn	04 02 49.4	+3.4
	0.4nm,0.3s,baz=320,slow=17,SNR=5.1						
IDI				S	**Sn**	04 03 35.0	+2.0
	2.2nm,0.3s,baz=90,slow=20,SNR=3.8						
ALN	**Alexandroupoli**	4.09	51	*e*PN	**Pn**	04 02 48.5	+1.1
ALN	**Alexandroupoli**	4.09	51	*e*Pn	**Pn**	04 02 48.5	+1.1
GELI	**Tayfur-Gelibol**	4.10	60	*e*PN	**Pn**	04 02 48.5	+0.9
GELI	**Tayfur-Gelibol**	4.10	60	*e*Pn	**Pn**	04 02 48.5	+0.9
BARS	**Barje**	4.39	360	*e*Pn	Pn	04 02 55.3	+3.7
BODT	**Bodrum**	4.55	106	*e*PN	**Pn**	04 02 52.8	-1.1
BODT	**Bodrum**	4.55	106	*e*Pn	**Pn**	04 02 52.8	-1.1
RKY	**Sarkoy-Tekirda**	4.71	60	*e*PN	**Pn**	04 02 57.0	+0.9
RKY	**Sarkoy-Tekirda**	4.71	60	*e*Pn	**Pn**	04 02 57.0	+0.9
AYDB	**Zeytinkoy-Aydi**	4.80	94	*e*PN	**Pn**	04 02 57.0	-0.4
AYDB	**Zeytinkoy-Aydi**	4.80	94	*e*Pn	**Pn**	04 02 57.0	-0.4
DAT	**Datca**	4.87	109	*e*PN	**Pn**	04 02 57.4	-0.9
DAT	**Datca**	4.87	109	*e*Pn	**Pn**	04 02 57.4	-0.9
IVAS	**Ivanjica**	5.30	347	*e*Pn	Pn	04 03 09.9	+5.7
STON	**Ston**	5.44	326	*e*Pn	**Pn**	04 03 02.8	-3.2
STON				Sn	**Sn**	04 04 04.7	-4.2
STON	**Ston**	5.44	326	*e*Pn	**Pn**	04 03 02.8	-3.2
GRUS	**Gruza**	5.52	352	*e*Pn	**Pn**	04 03 08.9	+1.7
MLR	**Muntele Rosu**	7.70	22	P	Pn	04 03 40.5	+3.3
	baz=243,slow=16						
NVLJ	**Novalja**	8.05	322	*e*Pn	**Pn**	04 03 41.8	0.0
NVLJ				Sn	**Sn**	04 05 09.1	-4.1
NVLJ	**Novalja**	8.05	322	*e*Pn	**Pn**	04 03 41.8	0.0
BRTR	**Keskin Array B**	9.28	78	P	Pn	04 04 03.4	+4.5
	0.1nm,0.3s,baz=259,slow=12,SNR=5.5						
VRAC	**Vranov**	11.51	343	LR	LR	04 09 58.8	
	comp=Z,32nm,21.1s,baz=171,slow=42						
OBN	**Obninsk**	19.44	26	LR	LR	04 14 01.6	
	comp=Z,28nm,18.9s,baz=273,slow=37						
ESDC	**Sonseca Array**	20.05	282	P	Pn	04 06 20.5	+0.4
	0.1nm,0.3s,baz=74,slow=9.5,SNR=5.4						
HFS	**Hagfors**	22.33	349	P	**P**	04 06 45.4	+2.7
	1.6nm,1.0s,baz=160,slow=9.0,SNR=3.6						
NB2	**NORSAR Subarra**	23.59	347	P	**P**	04 06 57.0	+1.2
	comp=Z,1.9nm,0.9s,baz=159,slow=11						
NB2	**NORSAR Subarra**	23.59	347	P	**P**	04 06 57.0	+1.2
	comp=Z,1.9nm,0.9s,SNR=5.4						
NOA	**NORSAR Array B**	23.59	347	P	**P**	04 06 57.0	+1.2
	comp=Z,0.5nm,0.7s,baz=156,slow=7.1,SNR=5.6						
NOA				LR	LR	04 18 42.6	
	comp=Z,7.7nm,18.1s,baz=350,slow=43						
TORD	**Torodi Ar. Bea**	30.88	221	P	**P**	04 08 00.7	-1.0
	comp=Z,0.6nm,0.6s,baz=30,slow=9.4,SNR=8.8						
MKAR	**Makanchi Array**	44.30	59	P	**P**	04 09 55.9	+1.0
	comp=Z,0.8nm,0.7s,baz=285,slow=6.1,SNR=5.5						
ZALV	**Zalesovo Beam**	44.76	48	P	**P**	04 10 00.4	+1.9
	comp=Z,0.8nm,0.3s,baz=269,slow=7.2,SNR=2.9						

IDC 13 04:12:03.8±4.3, 20.92S×178.75W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/25, mbtmp3.9/4, Error ellipse: s-maj=181.1km s-min=37.0km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	36.97	245	P	P	04 19 14.1	-1.0
	1.4nm,0.6s,baz=98,slow=11,SNR=5.7						
ASAR	**Alice Springs**	43.74	257	P	P	04 20 11.2	-0.1
	1.7nm,0.7s,baz=94,slow=7.8,SNR=13						
WRA	**Warramunga Arr**	43.85	263	P	P	04 20 12.6	+0.5
	0.5nm,0.3s,baz=95,slow=8.2,SNR=13						
ILAR	**Eielson Array**	88.88	13	P	P	04 24 59.4	0.0
	0.3nm,0.8s,baz=210,slow=4.7,SNR=4.4						

JMA 13 04:19:38.7, 37.24N×138.26E, h20km±1km, M1.0, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJN	**Nakama**	0.16	210	P	Pb	04 19 42.8	-0.5
JJN				S	Sb	04 19 46.1	-0.3
JHK	**Hiroka**	0.60	89	P	Pb	04 19 50.1	-0.5
JHK				S	Sb	04 19 58.7	0.0
MAT	**Matsushiro**	0.70	184	P	Pb	04 19 51.6	-0.6
MAT				S	Sb	04 20 00.7	-0.7
MAT	**Matsushiro**	0.70	184	P	Pb	04 19 51.7	-0.5
MAT				*e*S	Sb	04 20 01.1	-0.3
JSD	**Sado**	0.80	0	P	Pb	04 19 53.5	-0.4
JSD				*e*S	Sb	04 20 04.6	+0.4

MEX 13 04:24:20.4±0.6, 16.05N×98.22W, h7km±6km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	0.35	14	*i* P	Pg	04 24 26.6	-0.8
PNIG				*i* S	Sg	04 24 32.2	+0.1
VHO	**Vista Hermosa**	1.75	54	*e*P	Pn	04 24 48.3	-3.1
VHO				*i* S	Sn	04 25 09.5	-4.7
HUIG	**Huatulco**	2.05	98	*i* P	Pn	04 24 52.3	-3.0
HUIG				*i* S	Sn	04 25 15.8	-5.3
CMIG	**Matias Romero**	3.36	72	*e*P	Pn	04 25 10.5	-2.9
CMIG				*i* S	Sn	04 25 50.5	-3.0

*ISCJB **13** 04:36:18.4±0.2, 38.30N±0.02×74.01E±0.03, h127km±2km, mb4.4/75, Error ellipse: s-maj=3.4km s-min=2.5km az=159.3*
*MOS **13** 04:36:19.4±0.9, 38.35N×74.00E, h135km, mb4.5/44, Error ellipse: s-maj=6.5km s-min=3.6km az=106.9*
*NEIC **13** 04:36:20.0±0.6, 38.33N×74.02E, h125km±5km, mb4.6/29, Error ellipse: s-maj=5.9km s-min=4.2km az=185.0*
*BJI **13** 04:36:20.3, 38.43N×74.24E, h116km, mb4.7/34, mB4.6/23*
*IDC **13** 04:36:21.9±0.5, 38.29N×74.05E, h143km±3km, mb4.0/29, mb1 4.2/32, mb1mx4.0/50, mbtmp4.5/32, MS3.1/6, Ms1 3.2/6, ms1mx2.8/37, Error ellipse: s-maj=10.7km s-min=7.4km az=9.0*
*NNC **13** 04:36:22.3±1.6, 38.59N×73.73E, h155km±9km, mb4.5, mpv5.1, Error ellipse: s-maj=18.0km s-min=8.5km az=146.0*
*SZGRF **13** 04:36:39.5, 37.22N×73.38E, h33km, mb4.8, MS3.7, Tajikistan*

ISC 13 04:36:21.3±0.3, 38.36N±0.03×74.04E±0.03, h141km±2km, h140km:pP-P, n391, σ1°69/533, mb4.5/75, 12C-31D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	1.71	346	⇓P	**Pn**	**04 36 52.0**	**-0.7**
	1μm,0.3s						
SFK				⇑S	**Sn**	**04 37 14.5**	**-2.4**
	16μm,0.3s						
SFK	**Sufi-Kurgan**	1.71	346	PN	**Pn**	**04 36 52.0**	**-0.7**
SFK				S	**Sn**	**04 37 14.4**	**-2.4**
SFK				pmax	pmax		
	comp=Z,2μm,0.4s						
SFK				smax	smax		
	comp=N,16μm,0.3s						
KSH	**Kashi**	1.90	52	⇓*i*P	Pn	04 36 49.9	-4.9
KSH				S	Sn	04 37 10.6	-10
KSH				SMN			
	comp=N,36μm,0.5s						
KSH				SME			
	comp=N,46μm,0.6s						
AML	**Almayashu**	3.78	356	P	**Pn**	**04 37 18.0**	**-0.8**
	SNR=896						
AML	**Almayashu**	3.78	356	*i* PN	**Pn**	**04 37 18.0**	**-0.8**
KZA	**Kyzart**	3.83	14	P	**Pn**	**04 37 19.0**	**-0.4**
	SNR=885						
KZA	**Kyzart**	3.83	14	*i* PN	**Pn**	**04 37 19.0**	**-0.4**
UCH	**Uchtor**	3.88	5	P	**Pn**	**04 37 19.9**	**-0.3**
	SNR=522						
UCH	**Uchtor**	3.88	5	*i* PN	**Pn**	**04 37 19.9**	**-0.3**
DZET	**Dzherino**	4.11	278	⇓P	**Pn**	**04 37 19.9**	**-3.0**
	comp=N,112nm,0.4s						
DZET				⇓S	**Sn**	**04 38 06.5**	**-4.2**
	comp=N,988nm,0.3s						
DZET	**Dzherino**	4.11	278	PN	**Pn**	**04 37 19.8**	**-3.0**
DZET				pmax	pmax		
	comp=Z,132nm,0.4s						
DZET				pmax	pmax		
	comp=N,2μm,0.5s						
ULHL	**Ulahol**	4.24	23	P	**Pn**	**04 37 24.2**	**-0.4**
	SNR=99						
ULHL	**Ulahol**	4.24	23	*i* PN	**Pn**	**04 37 24.1**	**-0.4**
AAK	**Ala-Archa**	4.29	4	P	**Pn**	**04 37 25.2**	**0.0**
	SNR=99						
AAK	**Ala-Archa**	4.29	4	⇓P	**Pn**	**04 37 24.6**	**-0.6**
AAK				⇑S	**Sn**	**04 38 14.7**	**-0.3**
	comp=N,513nm,0.6s						
AAK	**Ala-Archa**	4.29	4	P	**Pn**	**04 37 25.2**	**0.0**
	comp=N,39nm,0.3s,baz=183,slow=17,SNR=264						
AAK				S	**Sn**	**04 38 15.7**	**+0.8**
	comp=N,96nm,0.3s,baz=120,slow=20,SNR=11						
AAK				LR	LR	04 39 13.3	
	comp=N,293nm,18.6s,baz=111,slow=39						
AAK	**Ala-Archa**	4.29	4	PN	**Pn**	**04 37 25.2**	**0.0**
AAK				S	**Sn**	**04 38 15.7**	**+0.8**
AAK				pmax	pmax		
	comp=Z,39nm,0.3s						
AAK				smax	smax		
	comp=N,96nm,0.3s						
AAK				MLR	MLR		
	comp=Z,293nm,18.6s						
AAK	**Ala-Archa**	4.29	4	*e*Pn	**Pn**	**04 37 25.2**	**0.0**
AAK				*e*S	**Sn**	**04 38 13.4**	**-1.5**
EKS2	**Erkin-Say**	4.31	357	P	**Pn**	**04 37 25.4**	**-0.1**
	SNR=274						
EKS2	**Erkin-Say**	4.31	357	*e*PN	**Pn**	**04 37 25.2**	**-0.2**
EKS2				*e*S	**Sn**	**04 38 13.4**	**-1.9**
EKS2	**Erkin-Say**	4.31	357	*e*Pn	**Pn**	**04 37 25.2**	**-0.2**
EKS2				*e*S	**Sn**	**04 38 13.4**	**-1.9**
KBK	**Karagaybulak**	4.35	9	P	**Pn**	**04 37 26.3**	**+0.2**
	SNR=280						
FRU	**Bishkek**	4.50	5	⇓*i*PN	**Pn**	**04 37 28.0**	**+0.2**
FRU				pmax	pmax		
	comp=Z,660nm,1.8s						
CHMS	**Chumysh**	4.67	6	P	**Pn**	**04 37 30.2**	**0.0**
	SNR=57						
CHMS	**Chumysh**	4.67	6	*i* PN	**Pn**	**04 37 30.1**	**0.0**
TKM2	**Tokmak 2**	4.71	14	P	**Pn**	**04 37 30.9**	**0.0**
	SNR=118						
TKM2	**Tokmak 2**	4.71	14	⇓P	**Pn**	**04 37 30.9**	**0.0**
	comp=Z,113nm,0.5s						
TKM2				⇓S	**Sn**	**04 38 23.1**	**-1.9**
	comp=Z,432nm,0.6s						
TKM2	**Tokmak 2**	4.71	14	PN	**Pn**	**04 37 30.8**	**0.0**
TKM2				pmax	pmax		
	comp=Z,217nm,0.8s						
TKM2				pmax	pmax		
	comp=N,541nm,0.7s						
TKM2	**Tokmak 2**	4.71	14	*e*Pn	**Pn**	**04 37 30.8**	**0.0**
TKM2				*e*S	**Sn**	**04 38 20.3**	**-4.7**
CHCP	**Chirah Chowk**	4.73	188	⇓P	**Pn**	**04 37 31.7**	**+0.7**
CEP	**Cherat**	4.84	202	⇓P	**Pn**	**04 37 32.3**	**-0.3**
CEP				S	**Sn**	**04 38 27.0**	**-1.1**
USP	**Ospenovka**	4.92	4	P	**Pn**	**04 37 32.9**	**-0.6**
	SNR=67						
USP	**Ospenovka**	4.92	4	*i* PN	**Pn**	**04 37 32.9**	**-0.6**
KNDC	**Almaty**	5.34	24	⇑P	**Pn**	**04 37 39.2**	**+0.1**
KNDC				⇑S	**Sn**	**04 38 36.3**	**-3.5**
AAA	**Alma-Ata**	5.38	23	*e*PN	Pn	04 37 51.8	+12
AAA				pmax	pmax		
	comp=Z,299nm,0.1s						
KK31	**Karatay Array**	5.45	332	⇓P	**Pn**	**04 37 39.3**	**-1.3**
	comp=Z,91nm,0.3s,baz=142,slow=13,SNR=1604						
KK31				⇓S	**Sn**	**04 38 36.8**	**-5.5**

comp=Z,101nm,0.4s
JIRN Jiri 14.74 133 *e*P Pn 04 39 40.0 -3.2
comp=Z,179nm,0.4s
AB31 Akbulak array 14.88 322 ⇓P **Pn 04 39 41.3 -3.2**
comp=Z,9.9nm,0.3s,baz=117,slow=12,SNR=390
AB31 ⇓S Sn 04 42 16.0 -13
comp=Z,56nm,0.7s,baz=126,slow=23,SNR=15
AB31 Akbulak array 14.88 322 *i*P **Pn 04 39 41.4 -3.2**
AB31 *e* 04 42 15.9
AB31 pmax pmax
comp=Z,18nm,0.3s
AB31 smax smax
comp=N,20nm,0.4s
ABKAR Akbulak array 14.88 322 *e*Pn Pn 04 39 41.1 -3.4
ABKAR *e*S Sn 04 42 13.4 -16
BVA0 Borovoye Array 14.89 351 ⇓P **Pn 04 39 42.2 -2.4**
comp=N,137nm,0.7s,baz=164,slow=12,SNR=545
BVA0 ⇓S **Sn 04 42 24.6 -4.9**
comp=N,11nm,0.6s,baz=169,slow=26,SNR=4.0
BVA0 Borovoye Array 14.89 351 *i*P **Pn 04 39 42.1 -2.5**
BVA0 pmax pmax
comp=Z,96nm,0.4s
BVAR Borovoye Array 14.89 351 P **Pn 04 39 42.3 -2.3**
comp=Z,2.5nm,0.3s,baz=162,slow=13,SNR=103
BVAR S **Sn 04 42 24.1 -5.4**
comp=Z,1.5nm,0.3s,baz=170,slow=18,SNR=4.4
BVAR Borovoye Array 14.89 351 P **Pn 04 39 42.3 -2.3**
BVAR S **Sn 04 42 24.1 -5.4**
BVAR pmax pmax
comp=Z,3.0nm,0.3s
BVAR smax smax
comp=N,2.0nm,0.3s
BRVK Borovoye 14.93 351 ⇓P **Pn 04 39 43.0 -2.1**
comp=N,296nm,0.8s
BRVK Borovoye 14.93 351*d i*P **Pn 04 39 43.0 -2.1**
BRVK pmax pmax
comp=Z,21nm,0.6s
BRVK Borovoye 14.93 351 *e*Pn **Pn 04 39 42.8 -2.3**
BHPL Bhopal 15.34 168 *e*P **Pn 04 39 48.4 -2.1**
BHPL AMB AMB 04 39 53.0
comp=Z,21nm,0.0s
BHPL *ex* x 04 42 23.4
RAMN Ramite 15.51 133 *e*P **Pn 04 39 49.0 -3.8**
comp=Z,173nm,0.5s
TAPN Taplejung 15.87 130 *e*P **Pn 04 39 54.1 -3.1**
comp=Z,99nm,0.8s
ODAN Odare 16.04 132 *e*P **Pn 04 39 56.9 -2.3**
comp=Z,116nm,0.5s
LSA Lhasa 16.58 116 P **Pn 04 40 06.3 +0.2**
AKTO Aktyubinsk 16.60 322 P **Pn 04 40 04.1 -1.5**
comp=Z,7.4nm,0.3s,baz=131,slow=13,SNR=76
AKTO S Sn 04 42 58.9 -12
comp=Z,1.1nm,0.3s,baz=319,slow=19,SNR=7.5
AKTO LR LR 04 47 28.6
comp=Z,50nm,21.3s,baz=136,slow=40
AKTO Aktyubinsk 16.60 322 P **Pn 04 40 04.1 -1.5**
AKTO S Sn 04 42 58.9 -12
AKTO pmax pmax
comp=Z,7.0nm,0.3s
AKTO smax smax
comp=N,1.0nm,0.3s
AKTO MLR MLR
comp=Z,50nm,21.3s
ZAA0 Zalesovo Array 17.26 22 *e*Pn **P 04 40 12.2 -0.6**
ZALV Zalesovo Beam 17.26 22 P **P 04 40 12.3 -0.5**
comp=Z,14nm,0.3s,baz=214,slow=11,SNR=264
ZALV S **S 04 43 23.7 -1.6**
baz=204,slow=21,SNR=5.1
ZALV LR LR 04 47 09.4
comp=Z,41nm,19.3s,baz=222,slow=37
ZALV Zalesovo Beam 17.26 22 P **P 04 40 12.4 -0.5**
ZALV S **S 04 43 23.7 -1.6**
ZALV pmax pmax
comp=Z,14nm,0.3s
ZALV MLR MLR
comp=Z,41nm,19.3s
NVS Novosibirsk 17.63 18 *e*P **P 04 40 15.4 -1.5**
NVS *e* 04 43 28.0
BOK Bokaro 17.68 142 *ex* **P 04 40 16.9 -0.9**
BOK AMB AMB 04 40 18.7
comp=Z,38nm,1.0s
BOK *ex* S 04 43 18.4 -16
NGP Nagpur 17.68 164 *e*P **P 04 40 18.0 +0.2**
NGP AMB AMB 04 40 22.8
comp=Z,23nm,1.4s
NGP *ex* x 04 43 20.1
SHL Shillong 19.75 125 *i* x **P 04 40 40.0 -0.4**
SHL *i* x S 04 44 06.0 -9.5
POO Poona 19.75 181 *ex* x 04 40 35.0
comp=Z,30nm,1.0s
POO *e*P **P 04 40 41.5 +1.1**
POO AMB AMB 04 40 44.5
comp=Z,20nm,0.9s
RPR Rampur 19.96 165 *e*P **P 04 40 43.5 +1.0**
RPR *e*S **S 04 44 23.9 +4.5**
GTA Gaotai 20.07 79 *e*P Pn 04 40 45.8 -1.3
GTA pP pP 04 41 07.8 -1.0
GTA sP sP 04 41 24.9 -1.6
GTA PMZ
comp=Z,29nm,1.0s
UOSS Wadi Hilu 20.18 234 *e*P **P 04 40 43.1 -1.8**
comp=Z,24nm,1.3s
SVE Sverdlovsk 20.50 339 ⇓*i*P **P 04 40 48.7 +0.7**
SVE *e*S **S 04 44 24.4 -5.2**
SVE pmax pmax
comp=Z,72nm,1.2s
ARU Arti 20.81 335*d i*P **P 04 40 51.3 0.0**
ARU 04 41 20.0
ARU PPP PPP 04 41 30.4
ARU S **S 04 44 34.0 -1.5**
ARU SS Sn 04 45 06.4 +15
ARU pmax pmax
comp=Z,62nm,1.0s
ARU Arti 20.81 335 *e*P **P 04 40 51.4 +0.1**
comp=Z,55nm,0.9s
ARU *e*S **S 04 44 33.5 -2.1**
HYBB Hyderabad (bro 21.23 168 *e*P **P 04 40 56.4 +0.2**
HYBB *e*S **S 04 44 45.3 +1.2**
HYB Hyderabad 21.23 168 *i*P **P 04 40 55.5 -0.7**
HYB *es*P **sP 04 41 36.0 -3.0**
HYB *e*S **S 04 44 40.0 -4.1**
HYB Hyderabad 21.23 168 *e*P **P 04 40 55.7 -0.5**
HYB AMB AMB 04 40 59.3
comp=Z,29nm,0.7s
CHLP Challavanipeta 21.62 153 *e*P **P 04 41 01.1 +0.8**
IMP Imphal 21.63 123 *ex* **P 04 41 01.0 +0.6**
IMP *ex* **S 04 44 53.0 +1.8**
VIS Vishakhapatnam 22.11 156 *e*P **P 04 41 06.7 +1.3**
VIS AMB AMB 04 41 07.8
comp=Z,70nm,0.4s
VIS ⇑*i*S S 04 45 09.9 +11
DGRG David-gareji 22.17 287 *i*P **P 04 41 07.2 +1.3**
NJS Nagarjunasagar 22.21 167 *e*P **P 04 41 06.4 0.0**
NJS *e*S **S 04 45 04.8 +3.9**
GNI Garni 22.72 284 P **P 04 41 12.9 +1.6**
comp=Z,2.5nm,0.3s,baz=74,slow=7.4,SNR=2.2
GNI Garni 22.72 284 *e*P **P 04 41 13.7 +2.3**
GNI pmax pmax
comp=Z,4.0nm,0.6s
GNI Garni 22.72 284 *e*P **P 04 41 13.7 +2.3**
comp=Z,3.7nm,0.6s
URV Uravakonda 23.49 172 *e*P **P 04 41 19.1 +0.6**
ONI Oni 23.58 290 P **P 04 41 14.5 -4.7**
LZH Lanzhou 23.80 86 *e*P **P 04 41 23.3 +2.0**
LZH pP **pP 04 41 48.5 -0.7**
LZH sP **sP 04 42 04.8 -1.8**
LZH PMZ
comp=Z,31nm,1.0s
LZH PMZ
comp=Z,160nm,5.0s
SOKR Solikamsk 23.94 338 *e*P **P 04 41 22.1 0.0**
SOKR pmax pmax
comp=Z,20nm,0.7s
ZAK Zakamensk 23.95 50 *e*P **P 04 41 22.2 -0.2**
ZAK pmax pmax
comp=Z,9.0nm,1.1s
KBZ Khabaz 24.01 293 P **P 04 41 24.7 +1.8**
comp=Z,3.6nm,0.9s,baz=233,slow=20,SNR=9.2
KBZ Khabaz 24.01 293 P **P 04 41 24.7 +1.8**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
NEY Neytrino 24.13 292 *e*P **P 04 41 26.7 +2.5**
NEY pmax pmax
comp=Z,1.0nm,0.6s
KIV Kislovodsk 24.17 293 *e*P **P 04 41 26.9 +2.4**
KIV *e**PP **pP 04 41 56.8 +3.7
KIV *e*SP **sP 04 42 15.3 +5.0
KIV *e*S **S 04 45 33.3 +0.9**
KIV pmax pmax
comp=Z,7.0nm,0.8s
KIV MLR MLR
comp=Z,24nm,14.0s
TLY Talaya 24.61 48 P **P 04 41 30.9 +2.6**
comp=Z,1.5nm,0.4s,baz=246,slow=6.1,SNR=3.9
TLY Talaya 24.61 48 *e*P **P 04 41 31.3 +3.0**
TLY *e*S **S 04 45 34.3 -4.7**
TLY pmax pmax
comp=Z,2.0nm,0.6s
SKHT Srikalahasti 25.03 167 *e*P **P 04 41 33.5 +1.1**
SONM Songino Array 25.29 58 P **P 04 41 36.7 +2.0**
comp=Z,10nm,0.8s,baz=257,slow=10,SNR=46
SONM pP **pP 04 42 06.8 +2.5**
comp=Z,6.8nm,0.8s,baz=258,slow=9.0,SNR=4.7
SONM sP **sP 04 42 22.2 +1.6**
comp=Z,10nm,0.9s,baz=256,slow=9.8,SNR=5.5
SONM Songino Array 25.29 58 P **P 04 41 36.7 +2.0**
SONM *PP **pP 04 42 06.8 +2.5**
SONM *SP **sP 04 42 22.2 +1.6**
SONM pmax pmax
comp=Z,10.0nm,0.8s
SONM pmax pmax
comp=Z,7.0nm,0.8s
SONM pmax pmax
comp=Z,10.0nm,0.9s
CD2 Chengdu 25.48 98 *e*P **P 04 41 37.4 +1.0**
CD2 pP **pP 04 42 03.3 -2.8**
CD2 PP **PnPn 04 42 21.6 +0.5**
CD2 S **S 04 45 50.5 -2.8**
CD2 SS **SnSn 04 47 05.5 +2.1**
CD2 PMZ
comp=Z,20nm,1.3s
CD2 PMZ
comp=Z,70nm,4.0s
ULN Ulaanbaatar 25.74 58*c i*P **P 04 41 40.4 +1.7**
ULN pmax pmax
comp=Z,11nm,1.0s
ULN Ulaanbaatar 25.74 58 *e*P **P 04 41 40.4 +1.7**
comp=Z,12nm,0.8s
VORD Divnogorie 27.47 309 *e*P **P 04 41 54.3 +0.3**
VORD *e**PP **pP 04 42 25.8 +2.0**
VORD *eS **S 04 46 22.6 -1.6**
VORD *e**SS **sS 04 47 13.6 -3.0**
VORD pmax pmax
comp=N,5.0nm,0.5s
VORD pmax pmax
comp=E,5.0nm,0.5s
VORD pmax pmax
comp=Z,4.0nm,0.5s
VORD smax smax
comp=E,20nm,0.9s
VORD smax smax
comp=Z,4.0nm,0.3s
VORD smax smax
comp=N,20nm,1.0s
VSR Storozhevoye 27.61 309 *e*P **P 04 41 55.4 +0.1**
VSR *e**PP **pP 04 42 26.9 +1.9**
VSR *eS **S 04 46 24.5 -1.8**
VSR *e**SS **sS 04 47 15.3 -3.5**
VSR pmax pmax
comp=Z,7.0nm,0.9s
VSR pmax pmax
comp=N,6.0nm,1.0s
VSR pmax pmax
comp=E,7.0nm,0.9s
VSR smax smax
comp=N,20nm,1.0s
VSR smax smax
comp=Z,5.0nm,0.6s
VSR smax smax
comp=E,10.0nm,1.0s
LPSR Galich'ya Gora 28.12 312 *e*P **P 04 42 00.4 +0.7**
LPSR *e**PP **pP 04 42 31.8 +2.2**
LPSR *eS **S 04 46 37.4 +3.1**
LPSR pmax pmax
comp=N,4.0nm,0.7s
LPSR pmax pmax
comp=Z,10.0nm,0.7s
LPSR pmax pmax
comp=E,2.0nm,0.6s
LPSR smax smax
comp=E,40nm,2.0s
LPSR smax smax
comp=Z,10.0nm,1.8s
LPSR smax smax
comp=N,40nm,2.0s
XAN Xi'an 28.37 88 P **P 04 42 03.3 +1.0**
XAN PMZ
comp=N,3.0nm,0.7s
XAN PMZ
comp=N,6.0nm,4.5s
HHC Hu-ho-hao-te 28.88 73 *e*P **P 04 42 08.6 +1.8**
HHC pP **pP 04 42 31.8 -4.9**
HHC sP **sP 04 42 50.4 -2.5**
HHC S **S 04 46 49.1 +2.4**
HHC sS sS 04 47 32.6 -6.7
HHC SS **SnSn 04 48 28.6 +3.1**
HHC PMZ
comp=N,25nm,1.1s
HHC PMZ
comp=N,50nm,6.2s
HHC LN
comp=N,190nm,14.9s
HHC LE
comp=N,110nm,13.7s
HHC LZ
comp=N,160nm,18.7s
PRGR Permogore 29.17 332 *e*P **P 04 42 09.5 +0.6**
PRGR *e**PP **pP 04 42 40.4 +1.5**
PRGR pmax pmax
comp=Z,15nm,0.6s
GYA Guiyang 29.84 104 *e*P **P 04 42 16.9 +1.5**
GYA pP **pP 04 42 44.3 -1.1**
GYA sP **sP 04 43 00.8 -0.8**
GYA PP **PnPn 04 43 17.0 -1.1**
GYA S **S 04 47 02.5 +0.5**
GYA PMZ
comp=Z,10.0nm,0.7s
OBN Obninsk 30.20 316*d i*P **P 04 42 18.5 +0.4**
OBN *e**PP **pP 04 42 48.7 +0.6**
OBN *e* 04 43 23.7
OBN pmax pmax
comp=Z,26nm,1.0s
KLMR Klimovskoe 31.14 328 *e*P **P 04 42 26.5 +0.2**
KLMR pmax pmax
comp=Z,10.0nm,0.6s
BR131 Keskin Array S 31.23 285 *e*P **P 04 42 27.8 +0.3**
BRTR Keskin Array B 31.23 285 P **P 04 42 28.1 +0.5**
comp=Z,0.9nm,0.8s,baz=92,slow=8.1,SNR=6.0
BRTR pP **pP 04 43 00.2 +2.6**
comp=Z,2.1nm,0.8s,baz=89,slow=7.8,SNR=4.4
BRTR sP **sP 04 43 13.8 0.0**
comp=Z,2.2nm,0.7s,baz=86,slow=7.9,SNR=4.3
BRTR Keskin Array B 31.23 285 P **P 04 42 28.1 +0.5**
BRTR *PP **pP 04 43 00.2 +2.6**
BRTR *SP **sP 04 43 13.8 0.0**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BOD Bodaibo 32.38 40 *e*P **P 04 42 37.8 +0.6**
BOD *e* 04 43 27.0
BOD pmax pmax
comp=Z,2.0nm,1.2s
BJI Beijing 32.48 74 P **P 04 42 40.0 +1.7**
BJI PMZ
comp=Z,14nm,0.7s
AKASG Malin Array Be 33.74 306 P **P 04 42 48.9 -0.2**
comp=Z,1.4nm,0.4s,baz=77,slow=7.8,SNR=15
AKASG pP **pP 04 43 20.3 +0.9**
comp=Z,7.2nm,0.9s,baz=78,slow=7.4,SNR=5.0
AKASG Malin Array Be 33.74 306 P **P 04 42 48.9 -0.2**
AKASG *PP **pP 04 43 20.3 +0.9**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG pmax pmax
comp=Z,7.0nm,0.9s
AK01 Malin Array Si 33.75 306 *e*P **P 04 42 49.3 +0.1**
AK02 Malin Array Si 33.75 306 *e*P **P 04 42 49.3 +0.1**
KIEV Kiev 33.75 306 *i*P **P 04 42 49.4 +0.2**
KIEV *i* *PP **pP 04 43 21.5 +2.0**
KIEV Kiev 33.75 306 *e*P **P 04 42 49.1 -0.1**
KIEV *e* 04 43 21.0
WHN Wuhan 33.93 91 ⇓P **P 04 42 52.5 +1.5**
MLR Muntele Rosu 36.04 297 P **P 04 43 11.2 +2.1**
comp=Z,1.2nm,0.7s,baz=208,slow=1.4,SNR=9.2
MLR pP **pP 04 43 43.1 +3.4**
comp=Z,2.0nm,0.7s,baz=77,slow=3.0,SNR=6.6
MLR Muntele Rosu 36.04 297 P **P 04 43 11.2 +2.1**
MLR *PP **pP 04 43 43.1 +3.4**
MLR pmax pmax
comp=Z,1.0nm,0.7s
MLR pmax pmax
comp=Z,2.0nm,0.7s
BUR08 Bucovina Ar. S 36.38 301 *e*P **P 04 43 12.8 +0.9**
LVZ Lovozero 36.68 336⇓*e*P **P 04 43 14.5 +0.4**
LVZ pmax pmax
comp=Z,36nm,1.0s
LVZ Lovozero 36.68 336 *e*P **P 04 43 14.1 0.0**
comp=Z,18nm,0.7s
NJ2 Nanjing 36.87 86 *e*P **P 04 43 17.5 +1.4**
NJ2 PMZ
comp=Z,40nm,0.7s
FIA1 FINESS Array S 37.35 324 *e*P **P 04 43 20.4 +0.5**
FINES FINESS Array B 37.35 324 P **P 04 43 20.4 +0.7**
comp=Z,8.2nm,0.4s,baz=120,slow=10,SNR=148
FINES pP **pP 04 43 51.9 +1.4**
comp=Z,9.6nm,0.7s,baz=115,slow=9.3,SNR=5.5
FINES FINESS Array B 37.35 324 P **P 04 43 20.5 +0.7**
FINES *PP **pP 04 43 51.9 +1.4**
FINES pmax pmax
comp=Z,8.0nm,0.4s
FINES pmax pmax
comp=Z,10.0nm,0.7s
KOLS Kolonicke sedl 38.24 303 *e*P **P 04 43 29.5 +2.0**
KOLS pmax pmax
comp=Z,3.0nm,1.0s
KOLS Kolonicke sedl 38.24 303 *e*P **P 04 43 29.5 +2.0**
KOLS *e* 04 44 00.9
CN2 Changchun 38.62 65 *e*P **P 04 43 32.1 +1.4**
STHS Stebnicka Huta 38.88 304 *e*P **P 04 43 33.1 +0.3**
STHS pmax pmax
comp=Z,2.0nm,0.5s
STHS Stebnicka Huta 38.88 304 *e*P **P 04 43 33.1 +0.3**
STHS *e* 04 44 06.1
NIE Niedzica 39.49 304 *e*P **P 04 43 39.5 +1.7**
NIE Niedzica 39.49 304 *e*P **P 04 43 39.6 +1.7**
OJC Ojcow 39.76 305 *e*P **P 04 43 40.4 +0.3**
OJC *e**PP **pP 04 44 13.5 +2.4**
OJC Ojcow 39.76 305 *e*P **P 04 43 40.4 +0.3**
OJC *e*pP **pP 04 44 13.5 +2.4**
KEV Kevo 40.02 337 *e*P **P 04 43 42.7 +0.8**
KEV pmax pmax
comp=Z,9.0nm,0.6s
KEV Kevo 40.02 337 *e*P **P 04 43 42.7 +0.8**
comp=Z,9.3nm,0.6s
ARCES ARCESS Array B 40.40 336 P **P 04 43 46.1 +1.1**
comp=Z,18nm,0.5s,baz=112,slow=9.1,SNR=322
ARCES pP **pP 04 44 16.4 +0.3**
comp=Z,8.8nm,0.7s,baz=104,slow=7.5,SNR=3.8
ARCES ARCESS Array B 40.40 336 P **P 04 43 46.2 +1.1**
ARCES *PP **pP 04 44 16.4 +0.3**
ARCES pmax pmax
comp=Z,18nm,0.5s
ARCES pmax pmax
comp=Z,9.0nm,0.7s
ARE0 ARCESS Array S 40.40 336 *e*P **P 04 43 45.7 +0.6**
VYHS Vyhne 40.55 303 *e*P **P 04 43 45.1 -1.5**
VYHS Vyhne 40.55 303 *e*P **P 04 43 45.1 -1.5**
VYHS *e* 04 44 20.6
IPM Ipoh 41.72 137 *e*P **P 04 43 56.8 +0.3**
comp=Z,12nm,0.7s
VRAC Vranov 41.92 304 P **P 04 43 58.2 +0.4**
comp=Z,2.9nm,0.5s,baz=80,slow=12,SNR=3.1
VRAC pP **pP 04 44 30.5 +1.5**
comp=Z,14nm,1.1s,baz=85,slow=9.5,SNR=5.4
VRAC Vranov 41.92 304 P **P 04 43 58.2 +0.4**
VRAC *PP **pP 04 44 30.5 +1.5**
VRAC pmax pmax
comp=Z,3.0nm,0.5s
VRAC pmax pmax
comp=Z,14nm,1.1s
DPC Dobruska-Polom 41.97 306 *e*pP **pP 04 44 32.5 +3.0**
DPC *ex* x 04 44 48.1
KSAR Wonju Array Be 41.99 74 P **P 04 43 59.1 +0.6**
KSAR 04 45 51.2
KSAR Wonju Array Be 41.99 74 P **P 04 43 59.0 +0.6**
KSAR PcP **PcP 04 45 51.1 +0.2**
KSRS Korea Array 42.01 74 P **P 04 43 59.0 +0.4**
comp=Z,2.0nm,0.5s,baz=284,slow=7.2,SNR=17
KSRS PcP **PcP 04 45 51.1 +0.1**
comp=Z,2.0nm,0.7s,baz=271,slow=2.3,SNR=5.4
KSRS Korea Array 42.01 74 P **P 04 43 59.1 +0.4**
KSRS 04 45 51.2
KSRS pmax pmax
comp=Z,2.0nm,0.5s
KSRS pmax pmax
comp=Z,2.0nm,0.7s
PSI Prapat 42.06 141 P **P 04 43 58.5 -0.9**
comp=Z,3.3nm,0.5s,baz=300,slow=14,SNR=4.2
PSI Prapat 42.06 141 P **P 04 43 58.5 -0.9**
PSI pmax pmax
comp=Z,3.0nm,0.5s
BSD Bornholm Skovb 42.48 313 *i*P **P 04 44 01.9 -0.2**
comp=Z,2.2nm,0.4s
BSD Bornholm Skovb 42.48 313 *i*P **P 04 44 01.9 -0.2**
BSD pmax pmax
comp=Z,2.0nm,0.4s
CONA Conrad Observa 42.60 302⇑*i*pP pP 04 44 37.5 +2.8
comp=Z,20nm,1.1s,SNR=9.3
TREC Trest 42.64 304 *e*pP pP 04 44 38.0 +3.0
GOPC GO Pecny, Ondr 43.00 305 *e*pP pP 04 44 40.7 +2.8
HFS Hagfors 43.14 320 P **P 04 44 07.8 +0.3**
comp=Z,19nm,0.5s,baz=98,slow=11,SNR=144
HFS pP **pP 04 44 40.6 +1.7**
comp=Z,18nm,0.6s,baz=82,slow=10,SNR=7.9
HFS Hagfors 43.14 320 P **P 04 44 07.8 +0.3**
HFS *PP **pP 04 44 40.6 +1.7**
HFS pmax pmax
comp=Z,19nm,0.5s
HFS pmax pmax
comp=Z,18nm,0.6s
TIXI Tiksi 43.15 22*de*P **P 04 44 08.1 +0.7**
TIXI pmax pmax
comp=Z,9.0nm,0.6s
TIXI Tiksi 43.15 22 *e*P **P 04 44 08.1 +0.7**
comp=Z,12nm,0.7s
PRU Pruhonice 43.15 306 *e*pP **pP 04 44 41.8 +2.7**
PRU *ex* x 04 44 55.7
USRK Ussuriysk Ar. 43.16 63 P **P 04 44 07.8 0.0**
comp=Z,2.2nm,0.5s,baz=269,slow=6.5,SNR=6.6
SOKA Soboth 43.37 301 *i*pP pP 04 44 44.4 +3.4
comp=Z,18nm,1.3s,SNR=7.1
BRG Berggiesshubel 43.41 307⇓*i*P **P 04 44 11.0 +1.2**
comp=Z,6.6nm,0.6s
BRG pP **pP 04 44 43.8 +2.6**
comp=Z,14nm,0.9s
BRG Berggiesshubel 43.41 307 *e*P **pP 04 44 43.8 +2.6**
comp=Z,14nm,0.9s
BRG *e*L L 05 01 01.3
comp=Z,82nm,19.6s
BRG Berggiesshubel 43.41 307⇓*i*P **P 04 44 11.0 +1.2**
BRG *PP **pP 04 44 43.8 +2.6**
BRG pmax pmax
comp=Z,7.0nm,0.6s
BRG pmax pmax
comp=Z,14nm,0.9s
GEC2 GERESS Array S 43.87 304 *e*P **pP 04 44 47.5 +2.4**
comp=Z,13nm,1.1s
GEC2 *e*L L 04 58 38.3
comp=Z,58nm,20.3s
GERES GERESS Array B 43.87 304 P **P 04 44 14.4 +0.8**
comp=Z,1.1nm,0.6s,baz=73,slow=7.3,SNR=11
GERES GERESS Array B 43.87 304 P **P 04 44 14.4 +0.8**
GERES pmax pmax
comp=Z,1.0nm,0.6s
KHC Kasperske Hory 43.90 304 *e*pP **pP 04 44 48.0 +2.7**
KHC *ex* x 04 45 02.5
CLL Collm 43.94 308 *e*P **pP 04 44 47.7 +2.2**
comp=Z,11nm,0.9s
CLL *e*L L 05 02 31.2
comp=Z,97nm,20.6s
CLL Collm 43.94 308⇓*i*P **P 04 44 14.5 +0.5**
comp=Z,5.0nm,0.5s

CLL				*i*	pP		**pP**	04 44 47.4	+1.9
	comp=Z,11nm,0.9s								
CLL				*i*				04 46 53.6	
CLL					Lm		MLR	05 02 00.0	
	comp=Z,100nm,20.6s								
CLL	**Collm**	**43.94**	**308**	*eP*			**P**	**04 44 14.9**	**+0.9**
CLL				*e*PP*			**pP**	**04 44 47.2**	**+1.7**
CLL					pmax		pmax		
	comp=Z,12nm,0.9s								
CLL	**Collm**	**43.94**	**308**	*eP*			**P**	**04 44 14.9**	**+0.9**
	comp=Z,12nm,0.9s								
CLL				*ep*P			**pP**	**04 44 47.2**	**+1.7**
WET	**Wettzell**	**44.35**	**305**	*eP*			**pP**	**04 44 51.6**	**+2.7**
	comp=Z,10.0nm,1.0s								
WET				*eL*			L	05 02 49.8	
	comp=Z,58nm,20.7s								
NB2	**NORSAR Subarra**	**44.39**	**322**	P			**P**	**04 44 17.5**	**0.0**
	comp=Z,5.8nm,0.5s,baz=92,slow=7.9								
NOA	**NORSAR Array B**	**44.39**	**322**	P			**P**	**04 44 17.5**	**0.0**
	comp=Z,6.6nm,0.6s,baz=92,slow=7.8,SNR=44								
NOA					pP		**pP**	**04 44 50.1**	**+1.1**
	comp=Z,11nm,0.8s,baz=92,slow=8.0,SNR=8.9								
NOA					sP		**sP**	**04 45 03.9**	**-1.0**
	comp=Z,4.7nm,0.7s,baz=92,slow=7.9,SNR=3.4								
NOA					LR		LR	05 05 26.0	
	comp=Z,56nm,18.4s,baz=225,slow=39								
NOA	**NORSAR Array B**	**44.39**	**322**	P			**P**	**04 44 17.5**	**0.0**
NOA				*PP			**pP**	**04 44 50.1**	**+1.1**
NOA				*SP			**sP**	**04 45 03.9**	**-1.0**
NOA					pmax		pmax		
	comp=Z,7.0nm,0.6s								
NOA					pmax		pmax		
	comp=Z,11nm,0.8s								
NOA					pmax		pmax		
	comp=Z,5.0nm,0.7s								
NOA					MLR		MLR		
	comp=Z,56nm,18.4s								
TANN	**Tannenbergstha**	**44.41**	**306**	*eP*			pP	04 44 52.0	+2.6
	comp=Z,5.0nm,1.0s								
NAO01	**NORSAR Array S**	**44.55**	**321**	*eP*			**P**	**04 44 18.8**	**+0.1**
NAO01				*e*				04 44 52.0	
ROTZ	**Rotzenmuhle**	**44.68**	**306**	*eP*			pP	04 44 54.6	+3.1
	comp=Z,12nm,1.2s								
KONO	**Kongsberg**	**45.20**	**320**	*eP*			**P**	**04 44 24.1**	**+0.2**
KONO					pmax		pmax		
	comp=Z,7.0nm,0.7s								
KONO	**Kongsberg**	**45.20**	**320**	*eP*			**P**	**04 44 24.1**	**+0.2**
	comp=Z,7.0nm,0.7s								
BSEG	**Bad Segeberg**	**45.24**	**312**	*eP*			pP	04 44 58.6	+2.7
	comp=Z,16nm,0.9s								
WTTA	**Wattenberg**	**45.53**	**302**	⇑ *iP*			**P**	**04 44 27.2**	**+0.4**
	comp=Z,3.8nm,0.7s								
NRDL	**Niedersach Rie**	**45.55**	**310**	*eP*			pP	04 45 01.1	+2.7
FUR	**Furstenfeldbru**	**45.58**	**304**	*eL*			L	05 01 39.2	
	comp=Z,105nm,19.0s								
JNU	**Nakatsue**	**45.81**	**78**	P			**P**	**04 44 29.9**	**+0.8**
	comp=Z,7.3nm,0.3s,baz=13,slow=5.9,SNR=4.4								
JNU	**Nakatsue**	**45.81**	**78**	*eP*			**P**	**04 44 30.8**	**+1.7**
	comp=Z,6.9nm,1.0s								
JOW	**Kunigami**	**46.52**	**88**	*eP*			**P**	**04 44 35.6**	**+0.9**
	comp=Z,5.8nm,0.5s								
DAVA	**Damuels**	**46.69**	**303**	⇑ *iP*			**P**	**04 44 36.6**	**+0.7**
	comp=Z,9.3nm,0.6s								
DAVOX	**Davos/Dischmat**	**46.81**	**302**	P			**P**	**04 44 37.1**	**+0.2**
	comp=Z,5.5nm,0.4s,baz=128,slow=5.2,SNR=17								
DAVOX					pP		**pP**	**04 45 09.8**	**+1.0**
	comp=Z,3.9nm,0.6s,baz=149,slow=12,SNR=3.1								
DAVOX	**Davos/Dischmat**	**46.81**	**302**	P			**P**	**04 44 37.1**	**+0.2**
DAVOX				*PP			**pP**	**04 45 09.8**	**+1.0**
DAVOX					pmax		pmax		
	comp=Z,6.0nm,0.4s								
DAVOX					pmax		pmax		
	comp=Z,4.0nm,0.6s								
TNS	**Taunus Mts**	**46.98**	**307**	*eL*			L	05 02 07.3	
	comp=Z,118nm,18.8s								
KBS	**Kingsbay**	**47.36**	**347**	*eP*			**P**	**04 44 41.9**	**+1.4**
KBS					pmax		pmax		
	comp=Z,1.0nm,0.6s								
KBS	**Kingsbay**	**47.36**	**347**	*eP*			**P**	**04 44 41.9**	**+1.4**
	comp=Z,1.5nm,0.6s								
BFO	**Black Forest**	**47.47**	**304**	*eP*			**pP**	**04 45 15.5**	**+1.8**
	comp=Z,12nm,1.2s								
BFO					*eL*		L	04 58 40.5	
	comp=Z,65nm,21.9s								
CDF	**Champ du Feu**	**48.13**	**305**	*eP*			**P**	**04 44 46.9**	**0.0**
CDF					*epP*		**pP**	**04 45 20.9**	**+2.0**
CDF	**Champ du Feu**	**48.13**	**305**	*eP*			**P**	**04 44 46.9**	**0.0**
CDF				*e*PP*			**pP**	**04 45 20.9**	**+2.0**
CDF	**Champ du Feu**	**48.13**	**305**	*eP*			**P**	**04 44 46.9**	**0.0**
CDF					*epP*		**pP**	**04 45 20.9**	**+2.0**
HINF	**Hinteralfeld**	**48.55**	**304**	*eP*			**P**	**04 44 50.1**	**0.0**
	comp=Z,2.5nm,0.4s								
HINF					*epP*		**pP**	**04 45 24.1**	**+1.9**
HINF	**Hinteralfeld**	**48.55**	**304**	*eP*			**P**	**04 44 50.1**	**0.0**
HINF				*e*PP*			**pP**	**04 45 24.1**	**+1.9**
HINF					pmax		pmax		
	comp=Z,3.0nm,0.4s								
HINF	**Hinteralfeld**	**48.55**	**304**	*eP*			**P**	**04 44 50.1**	**0.0**
	comp=Z,2.5nm,0.4s								
HINF					*epP*		**pP**	**04 45 24.1**	**+1.9**
SENIN	**Lac Senin/Sane**	**48.64**	**302**	*eP*			**P**	**04 44 51.9**	**+0.9**
SENIN					*epP*		**pP**	**04 44 25.3**	**+2.2**
HAU	**Haudompre**	**48.83**	**304**	*eP*			**P**	**04 44 52.3**	**+0.1**
	comp=Z,5.1nm,0.5s								
HAU					*epP*		**pP**	**04 45 26.4**	**+2.1**
HAU	**Haudompre**	**48.83**	**304**	*eP*			**P**	**04 44 52.3**	**+0.1**
HAU				*e*PP*			**pP**	**04 45 26.4**	**+2.1**
HAU					pmax		pmax		
	comp=Z,5.0nm,0.5s								
HAU	**Haudompre**	**48.83**	**304**	*eP*			**P**	**04 44 52.3**	**+0.1**
	comp=Z,5.1nm,0.5s								
HAU					*epP*		**pP**	**04 45 26.4**	**+2.1**
PAGF	**Fort de Pagny**	**49.09**	**305**	*eP*			**P**	**04 44 55.0**	**+0.8**
PAGF					*epP*		**pP**	**04 45 29.0**	**+2.7**
PAGF	**Fort de Pagny**	**49.09**	**305**	*eP*			**P**	**04 44 55.0**	**+0.8**
PAGF					*epP*		**pP**	**04 45 29.0**	**+2.7**
LPG	**La Plagne**	**49.25**	**301**	*eP*			**P**	**04 44 56.4**	**+0.6**
	comp=Z,7.8nm,0.7s								
LPG	**La Plagne**	**49.25**	**301**	*eP*			**P**	**04 44 56.4**	**+0.6**
LPG					pmax		pmax		
	comp=Z,8.0nm,0.7s								
LPG	**La Plagne**	**49.25**	**301**	*eP*			**P**	**04 44 56.4**	**+0.6**
	comp=Z,7.8nm,0.7s								
LPL	**La Plagne**	**49.26**	**301**	*eP*			**P**	**04 44 56.5**	**+0.8**
	comp=Z,18nm,0.9s								
LPL					*epP*		**pP**	**04 45 30.4**	**+2.5**
LPL	**La Plagne**	**49.26**	**301**	*eP*			**P**	**04 44 56.5**	**+0.8**
LPL				*e*PP*			**pP**	**04 45 30.4**	**+2.5**
LPL					pmax		pmax		
	comp=Z,18nm,0.9s								
LPL	**La Plagne**	**49.26**	**301**	*eP*			**P**	**04 44 56.5**	**+0.8**
	comp=Z,18nm,0.9s								
LPL					*epP*		**pP**	**04 45 30.4**	**+2.5**
SBF	**Sospel**	**49.27**	**299**	*eP*			**P**	**04 44 56.3**	**+0.6**
	comp=Z,18nm,0.9s								
SBF	**Sospel**	**49.27**	**299**	*eP*			**P**	**04 44 56.3**	**+0.6**
SBF					pmax		pmax		
	comp=Z,18nm,0.9s								
SBF	**Sospel**	**49.27**	**299**	*eP*			**P**	**04 44 56.3**	**+0.6**
	comp=Z,18nm,0.9s								
GIVF	**Givet**	**49.28**	**307**	*eP*			**P**	**04 44 55.0**	**-0.5**
GIVF	**Givet**	**49.28**	**307**	*eP*			**P**	**04 44 55.0**	**-0.5**
GIVF	**Givet**	**49.28**	**307**	*eP*			**P**	**04 44 55.0**	**-0.5**
CABF	**La Chapelle**	**49.38**	**303**	*eP*			**P**	**04 44 56.9**	**+0.4**
	comp=Z,5.0nm,0.6s								
CABF	**La Chapelle**	**49.38**	**303**	*eP*			**P**	**04 44 56.9**	**+0.4**
CABF					pmax		pmax		
	comp=Z,5.0nm,0.6s								
CABF	**La Chapelle**	**49.38**	**303**	*eP*			**P**	**04 44 56.9**	**+0.4**
	comp=Z,5.0nm,0.6s								
BNI	**Bardonecchia**	**49.43**	**301**	*eP*			**P**	**04 44 57.6**	**+0.6**
BNI				*e*				04 45 26.1	
BNI					pmax		pmax		
	comp=Z,3.0nm,1.0s								
BNI	**Bardonecchia**	**49.43**	**301**	*eP*			**P**	**04 44 57.6**	**+0.6**
	comp=Z,3.4nm,1.0s								
BNI				*e*				04 45 26.1	
MBDF	**Montbardon**	**49.46**	**300**	*eP*			**P**	**04 44 57.1**	**-0.1**
MBDF	**Montbardon**	**49.46**	**300**	*eP*			**P**	**04 44 57.1**	**-0.1**
MBDF	**Montbardon**	**49.46**	**300**	*eP*			**P**	**04 44 57.1**	**-0.1**
MEZF	**Maizieres J'vi**	**49.54**	**305**	*eP*			**P**	**04 44 58.2**	**+0.7**
MEZF					*epP*		**pP**	**04 45 32.2**	**+2.5**
MEZF	**Maizieres J'vi**	**49.54**	**305**	*eP*			**P**	**04 44 58.2**	**+0.7**
MEZF					*epP*		**pP**	**04 45 32.2**	**+2.5**
SFTF	**Sexfontaines**	**49.62**	**305**	*eP*			**P**	**04 44 58.6**	**+0.4**
SFTF					*epP*		**pP**	**04 45 32.5**	**+2.1**
SFTF	**Sexfontaines**	**49.62**	**305**	*eP*			**P**	**04 44 58.6**	**+0.4**
SFTF					*epP*		**pP**	**04 45 32.5**	**+2.1**
BAIF	**Baives**	**49.67**	**307**	*eP*			**P**	**04 44 58.4**	**-0.1**
BAIF					*epP*		**pP**	**04 45 33.4**	**+2.7**
BAIF	**Baives**	**49.67**	**307**	*eP*			**P**	**04 44 58.4**	**-0.1**
BAIF				*e*PP*			**pP**	**04 45 33.4**	**+2.7**
BAIF	**Baives**	**49.67**	**307**	*eP*			**P**	**04 44 58.4**	**-0.1**
BAIF					*epP*		**pP**	**04 45 33.4**	**+2.7**
KKM	**Kota Kinabalu**	**49.90**	**119**	*eP*			**P**	**04 45 02.5**	**+1.7**
FRF	**La Foret Royal**	**49.91**	**299**	*eP*			**P**	**04 45 00.9**	**+0.5**
	comp=Z,8.4nm,0.7s								
FRF					*epP*		**pP**	**04 45 34.8**	**+2.2**
FRF	**La Foret Royal**	**49.91**	**299**	*eP*			**P**	**04 45 00.9**	**+0.5**
FRF				*e*PP*			**pP**	**04 45 34.8**	**+2.2**
FRF					pmax		pmax		
	comp=Z,8.0nm,0.7s								
FRF	**La Foret Royal**	**49.91**	**299**	*eP*			**P**	**04 45 00.9**	**+0.5**
	comp=Z,8.4nm,0.7s								
FRF					*epP*		**pP**	**04 45 34.8**	**+2.2**
MAJO	**Matsushiro**	**50.04**	**71**	*eP*			**P**	**04 45 01.2**	**-0.3**
MAJO					pmax		pmax		
	comp=Z,26nm,1.1s								
MAJO	**Matsushiro**	**50.04**	**71**	*eP*			**P**	**04 45 01.2**	**-0.3**
	comp=Z,26nm,1.1s								
MAT	**Matsushiro**	**50.04**	**71**	P			**P**	**04 45 01.5**	**0.0**
MJAR	**Matsushiro Arr**	**50.04**	**71**	P			**P**	**04 45 02.2**	**+0.7**
	comp=Z,8.3nm,0.8s,baz=287,slow=9.6,SNR=18								
MJAR	**Matsushiro Arr**	**50.04**	**71**	P			**P**	**04 45 02.2**	**+0.7**
MJAR					pmax		pmax		
	comp=Z,8.0nm,0.8s								
SMRF	**Simiane la Rot**	**50.51**	**300**	*eP*			**P**	**04 45 04.8**	**-0.2**
SMRF	**Simiane la Rot**	**50.51**	**300**	*eP*			**P**	**04 45 04.8**	**-0.2**
LOR	**Lormes**	**50.65**	**304**	*eP*			**P**	**04 45 05.6**	**-0.4**
LOR					*epP*		**pP**	**04 45 39.7**	**+1.4**
LOR	**Lormes**	**50.65**	**304**	*eP*			**P**	**04 45 05.6**	**-0.4**
LOR				*e*PP*			**pP**	**04 45 39.7**	**+1.4**
LOR	**Lormes**	**50.65**	**304**	*eP*			**P**	**04 45 05.6**	**-0.4**
LOR					*epP*		**pP**	**04 45 39.7**	**+1.4**
VIVF	**Saint-Julien-l**	**50.84**	**301**	*eP*			**P**	**04 45 07.2**	**-0.3**
VIVF	**Saint-Julien-l**	**50.84**	**301**	*eP*			**P**	**04 45 07.2**	**-0.3**
VIVF	**Saint-Julien-l**	**50.84**	**301**	*eP*			**P**	**04 45 07.2**	**-0.3**
SMF	**Signal de Mont**	**50.85**	**303**	*eP*			**P**	**04 45 07.5**	**0.0**
	comp=Z,3.9nm,0.5s								
SMF					*epP*		**pP**	**04 45 41.6**	**+1.8**
SMF	**Signal de Mont**	**50.85**	**303**	*eP*			**P**	**04 45 07.5**	**0.0**
SMF				*e*PP*			**pP**	**04 45 41.6**	**+1.8**
SMF					pmax		pmax		
	comp=Z,4.0nm,0.4s								
SMF	**Signal de Mont**	**50.85**	**303**	*eP*			**P**	**04 45 07.5**	**0.0**
	comp=Z,3.9nm,0.4s								
SMF					*epP*		**pP**	**04 45 41.6**	**+1.8**
SSF	**Saint Saulge**	**50.94**	**304**	*eP*			**P**	**04 45 08.2**	**0.0**
SSF	**Saint Saulge**	**50.94**	**304**	*eP*			**P**	**04 45 08.2**	**0.0**
SSF	**Saint Saulge**	**50.94**	**304**	*eP*			**P**	**04 45 08.2**	**0.0**
AVF	**Avril sur Loir**	**51.12**	**304**	*eP*			**P**	**04 45 09.7**	**+0.2**
AVF					*epP*		**pP**	**04 45 43.7**	**+1.9**
AVF	**Avril sur Loir**	**51.12**	**304**	*eP*			**P**	**04 45 09.7**	**+0.2**
AVF				*e*PP*			**pP**	**04 45 43.7**	**+1.9**
AVF	**Avril sur Loir**	**51.12**	**304**	*eP*			**P**	**04 45 09.7**	**+0.2**
AVF					*epP*		**pP**	**04 45 43.7**	**+1.9**
LASF	**Ste Croix**	**51.65**	**300**	*eP*			**P**	**04 45 14.5**	**+1.0**
LASF					*epP*		**pP**	**04 45 48.6**	**+2.7**
LASF	**Ste Croix**	**51.65**	**300**	*eP*			**P**	**04 45 14.5**	**+1.0**
LASF					*epP*		**pP**	**04 45 48.6**	**+2.7**
TCF	**Toulx Ste Croi**	**52.03**	**303**	*eP*			**P**	**04 45 16.0**	**-0.3**
	comp=Z,6.2nm,0.9s								
TCF					*epP*		**pP**	**04 45 51.1**	**+2.4**
TCF	**Toulx Ste Croi**	**52.03**	**303**	*eP*			**P**	**04 45 16.0**	**-0.3**
TCF				*e*PP*			**pP**	**04 45 51.1**	**+2.4**
TCF					pmax		pmax		
	comp=Z,6.0nm,0.9s								
TCF	**Toulx Ste Croi**	**52.03**	**303**	*eP*			**P**	**04 45 16.0**	**-0.3**
	comp=Z,6.2nm,0.9s								
TCF					*epP*		**pP**	**04 45 51.1**	**+2.4**
CAF	**Calviac**	**52.58**	**302**	*eP*			**P**	**04 45 21.2**	**+0.9**
CAF					*epP*		**pP**	**04 45 55.3**	**+2.5**
CAF	**Calviac**	**52.58**	**302**	*eP*			**P**	**04 45 21.2**	**+0.9**
CAF				*e*PP*			**pP**	**04 45 55.3**	**+2.5**
CAF	**Calviac**	**52.58**	**302**	*eP*			**P**	**04 45 21.2**	**+0.9**
CAF					*epP*		**pP**	**04 45 55.3**	**+2.5**
EKA	**Eskdalemuir Ar**	**52.65**	**316**	P			**P**	**04 45 20.9**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=88,slow=8.7,SNR=11								
EKA					pP		**pP**	**04 45 53.5**	**+0.3**
	comp=Z,4.0nm,0.9s,baz=86,slow=7.8,SNR=4.0								
EKA	**Eskdalemuir Ar**	**52.65**	**316**	P			**P**	**04 45 20.9**	**+0.3**
EKA					*PP		**pP**	**04 45 53.5**	**+0.3**
EKA					pmax		pmax		
	comp=Z,1.0nm,0.4s								
EKA					pmax		pmax		
	comp=Z,4.0nm,0.9s								
LDF	**La Druitiere**	**52.80**	**307**	*eP*			**P**	**04 45 22.0**	**+0.1**
LDF					*epP*		**pP**	**04 45 56.1**	**+1.7**
LDF	**La Druitiere**	**52.80**	**307**	*eP*			**P**	**04 45 22.0**	**+0.1**
LDF				*e*PP*			**pP**	**04 45 56.1**	**+1.7**
LDF	**La Druitiere**	**52.80**	**307**	*eP*			**P**	**04 45 22.0**	**+0.1**
LDF					*epP*		**pP**	**04 45 56.1**	**+1.7**
RJF	**Les Rejaudoux**	**52.81**	**302**	*eP*			**P**	**04 45 23.2**	**+1.2**
RJF					*epP*		**pP**	**04 45 57.2**	**+2.6**
RJF	**Les Rejaudoux**	**52.81**	**302**	*eP*			**P**	**04 45 23.2**	**+1.2**
RJF				*e*PP*			**pP**	**04 45 57.2**	**+2.6**
RJF	**Les Rejaudoux**	**52.81**	**302**	*eP*			**P**	**04 45 23.2**	**+1.2**
RJF					*epP*		**pP**	**04 45 57.2**	**+2.6**
FLN	**La Foliniere**	**52.98**	**307**	*eP*			**P**	**04 45 23.2**	**+0.1**
FLN	**La Foliniere**	**52.98**	**307**	*eP*			**P**	**04 45 23.2**	**+0.1**
FLN	**La Foliniere**	**52.98**	**307**	*eP*			**P**	**04 45 23.2**	**+0.1**
MTLF	**Montolieu**	**53.02**	**300**	*eP*			**P**	**04 45 24.4**	**+0.8**
MTLF	**Montolieu**	**53.02**	**300**	*eP*			**P**	**04 45 24.4**	**+0.8**
MTLF	**Montolieu**	**53.02**	**300**	*eP*			**P**	**04 45 24.4**	**+0.8**
GRR	**Gorron**	**53.33**	**307**	*eP*			**P**	**04 45 25.8**	**0.0**
GRR					*epP*		**pP**	**04 45 59.9**	**+1.5**
GRR	**Gorron**	**53.33**	**307**	*eP*			**P**	**04 45 25.8**	**0.0**
GRR				*e*PP*			**pP**	**04 45 59.9**	**+1.5**
GRR	**Gorron**	**53.33**	**307**	*eP*			**P**	**04 45 25.8**	**0.0**
GRR					*epP*		**pP**	**04 45 59.9**	**+1.5**
LFF	**La Frestale**	**53.45**	**302**	*eP*			**P**	**04 45 27.7**	**+1.0**
LFF					*epP*		**pP**	**04 46 01.7**	**+2.4**
LFF	**La Frestale**	**53.45**	**302**	*eP*			**P**	**04 45 27.7**	**+1.0**
LFF				*e*PP*			**pP**	**04 46 01.7**	**+2.4**
LFF	**La Frestale**	**53.45**	**302**	*eP*			**P**	**04 45 27.7**	**+1.0**
LFF					*epP*		**pP**	**04 46 01.7**	**+2.4**
MFF	**Saint Martin d**	**53.47**	**304**	*eP*			**P**	**04 45 26.9**	**+0.1**
MFF					*epP*		**pP**	**04 46 00.9**	**+1.5**
MFF	**Saint Martin d**	**53.47**	**304**	*eP*			**P**	**04 45 26.9**	**+0.1**
MFF				*e*PP*			**pP**	**04 46 00.9**	**+1.5**
MFF	**Saint Martin d**	**53.47**	**304**	*eP*			**P**	**04 45 26.9**	**+0.1**
MFF					*epP*		**pP**	**04 46 00.9**	**+1.5**
EPF	**Esparros**	**54.41**	**300**	*eP*			**P**	**04 45 33.4**	**-0.4**
EPF	**Esparros**	**54.41**	**300**	*eP*			**P**	**04 45 33.4**	**-0.4**
EPF	**Esparros**	**54.41**	**300**	*eP*			**P**	**04 45 33.4**	**-0.4**
SGMF	**Saint Gilles**	**54.45**	**307**	*eP*			**P**	**04 45 34.3**	**+0.5**
SGMF	**Saint Gilles**	**54.45**	**307**	*eP*			**P**	**04 45 34.3**	**+0.5**
SGMF	**Saint Gilles**	**54.45**	**307**	*eP*			**P**	**04 45 34.3**	**+0.5**
ROSF	**Rostrenen**	**54.87**	**307**	*eP*			**P**	**04 45 37.9**	**+1.0**
	comp=Z,18nm,1.0s								
ROSF	**Rostrenen**	**54.87**	**307**	*eP*			**P**	**04 45 37.9**	**+1.0**
ROSF					pmax		pmax		
	comp=Z,18nm,1.0s								
ROSF	**Rostrenen**	**54.87**	**307**	*eP*			**P**	**04 45 37.9**	**+1.0**
	comp=Z,18nm,1.0s								
QUIF	**Quistinic**	**54.95**	**307**	*eP*			**P**	**04 45 37.1**	**-0.3**
QUIF	**Quistinic**	**54.95**	**307**	*eP*			**P**	**04 45 37.1**	**-0.3**
QUIF	**Quistinic**	**54.95**	**307**	*eP*			**P**	**04 45 37.1**	**-0.3**
ETSF	**Etsaut**	**55.07**	**300**	*eP*			**P**	**04 45 38.3**	**-0.3**
ETSF	**Etsaut**	**55.07**	**300**	*eP*			**P**	**04 45 38.3**	**-0.3**
ETSF	**Etsaut**	**55.07**	**300**	*eP*			**P**	**04 45 38.3**	**-0.3**
SJPF	**Ste Jean**	**55.44**	**301**	*eP*			**P**	**04 45 41.4**	**+0.3**
SJPF	**Ste Jean**	**55.44**	**301**	*eP*			**P**	**04 45 41.4**	**+0.3**
SJPF	**Ste Jean**	**55.44**	**301**	*eP*			**P**	**04 45 41.4**	**+0.3**
ESDC	**Sonseca Array**	**58.73**	**298**	P			**P**	**04 46 04.8**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=55,slow=7.7,SNR=5.4								
ESDC					pP		**pP**	**04 46 39.1**	**+1.6**
	comp=Z,1.0nm,0.6s,baz=54,slow=6.8,SNR=2.6								
ESDC					sP		**sP**	**04 46 53.8**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=76,slow=7.4,SNR=2.3								
SUMG	**Summit**	**60.09**	**341**	*i* P			**P**	**04 46 15.0**	**+1.4**
	comp=Z,7.7nm,0.8s								
SUMG	**Summit**	**60.09**	**341**	*i* P			**P**	**04 46 15.0**	**+1.4**
SUMG					pmax		pmax		
	comp=Z,8.0nm,0.8s								
SUMG	**Summit**	**60.09**	**341**	*eP*			**P**	**04 46 14.8**	**+1.3**
	comp=Z,7.5nm,0.8s								
SIJI	**Sorong**	**65.40**	**112**		LR		LR	05 18 08.4	
	comp=Z,18nm,19.5s,slow=38								
TOA0	**Torodi Ar. Sit**	**68.17**	**270**	*eP*			**P**	**04 47 06.1**	**-0.5**
TORD	**Torodi Ar. Bea**	**68.17**	**270**	P			**P**	**04 47 06.0**	**-0.6**
	comp=Z,7.7nm,0.5s,baz=48,slow=5.6,SNR=241								
COLD	**Coldfoot**	**69.52**	**17**	*eP*			**P**	**04 47 15.1**	**+0.9**
	comp=Z,1.9nm,0.7s								
INK	**Inuvik**	**71.67**	**10**	P			**P**	**04 47 28.2**	**+1.2**
	comp=Z,1.8nm,0.4s,baz=339,slow=4.5,SNR=18								
INK					pP		**pP**	**04 48 03.2**	**+1.7**
	comp=Z,3.5nm,0.7s,baz=343,slow=5.4,SNR=4.6								
INK	**Inuvik**	**71.67**	**10**	P			**P**	**04 47 28.3**	**+1.2**
INK				*PP			**pP**	**04 48 03.2**	**+1.7**
INK					pmax		pmax		
	comp=Z,2.0nm,0.4s								
INK					pmax		pmax		
	comp=Z,4.0nm,0.7s								
ILAR	**Eielson Array**	**72.32**	**17**	P			**P**	**04 47 31.7**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=316,slow=4.8,SNR=15								
ILAR					pP		**pP**	**04 48 07.3**	**+1.8**
	comp=Z,2.1nm,0.8s,baz=323,slow=5.1,SNR=6.5								
ILAR					sP		**sP**	**04 48 19.9**	**-0.7**
	comp=Z,1.8nm,0.9s,baz=328,slow=4.7,SNR=3.8								
ILAR	**Eielson Array**	**72.32**	**17**	P			**P**	**04 47 31.7**	**+0.6**
ILAR				*PP			**pP**	**04 48 07.4**	**+1.8**
ILAR				*SP			**sP**	**04 48 20.0**	**-0.7**
ILAR					pmax		pmax		
	comp=Z,1.0nm,0.8s								
ILAR					pmax		pmax		
	comp=Z,2.0nm,0.8s								
ILAR					pmax		pmax		
	comp=Z,2.0nm,0.9s								
DBIC	**Dimbokro**	**77.19**	**268**	P			**P**	**04 47 59.8**	**-0.1**
	comp=Z,4.1nm,0.8s,baz=56,slow=7.6,SNR=4.4								
DBIC	**Dimbokro**	**77.19**	**268**	P			**P**	**04 47 59.8**	**-0.1**
DBIC					pmax		pmax		
	comp=Z,4.0nm,0.8s								
KIC	**Kosan Boka**	**77.29**	**268**	*eP*			**P**	**04 48 00.6**	**+0.1**
	comp=Z,7.7nm,1.7s								
TIC	**Toumodi**	**77.34**	**268**	*eP*			**P**	**04 48 00.6**	**-0.2**
	comp=Z,4.6nm,0.2s								
LIC	**Lamto**	**77.60**	**268**	*eP*			**P**	**04 48 01.3**	**-0.9**
	comp=Z,15nm,0.9s								
LIC	**Lamto**	**77.60**	**268**	*eP*			**P**	**04 48 02.1**	**-0.1**
	comp=Z,32nm,1.2s								
LIC	**Lamto**	**77.60**	**268**	*eP*			**P**	**04 48 01.3**	**-0.9**
	comp=Z,15nm,0.9s								
YKA	**Yellowknife Ar**	**79.25**	**4**	P			**P**	**04 48 11.2**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=348,slow=5.4,SNR=26								
YKA					pP		**pP**	**04 48 46.6**	**+1.1**
	comp=Z,1.9nm,0.6s,baz=347,slow=5.6,SNR=5.4								
YKA	**Yellowknife Ar**	**79.25**	**4**	P			**P**

PEL	**Peldehue**	**2.77**	**45**	*e*P	Pn	04 45 17.2	+0.9
PEL				*e*S	Sn	04 45 51.4	+1.8
PEL				AML	AML	04 46 02.7	
	comp=E,611nm,0.6s						

BJI **13** *04:49:54.4,2.°96N×63.°17E, h10km, mb4.5/12, mB4.9/10, Ms4.4/10, Ms7 4.1/10*

IDC **13** *04:49:59.4±0.9, 3.°75N×63.°40E, h0km, mb4.1/17, mb1 4.3/17, mb1mx4.1/27, mbtmp4.1/17, MS3.7/12, Ms1 3.7/12, ms1mx3.4/27, Error ellipse: s-maj=26.4km s-min=16.7km az=33.0*

NEIC **13** *04:50:00.3±0.6, 3.°64N×63.°29E, h10km, mb4.7/12, Error ellipse: s-maj=15.6km s-min=9.1km az=10.0*

ISC 13 04:50:01.8±1.0, 3.°6N±0.°1×63.°35E±0.°08, h18km±3km, h17km:pP-P, n111, σ1§34/114, mb4.5/45, MS3.6/12, 2C-3D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKHT	**Srikalahasti**	**19.05**	**57**	*e*P	**Pn**	**04 54 24.6**	**+0.5**
HYB	**Hyderabad**	**20.28**	**46**	*i* P	**P**	**04 54 35.5**	**-1.3**
HYBB	**Hyderabad (bro**	**20.28**	**46**	*e*P	**P**	**04 54 36.8**	**0.0**
NJS	**Nagarjunasagar**	**20.30**	**49**	*e*P	**P**	**04 54 36.6**	**-0.3**
RPR	**Rampur**	**21.76**	**45**	*e*P	**P**	**04 54 54.1**	**+1.4**
RAYN	**Ar Rayn**	**26.27**	**321**	*e*P	**P**	**04 55 38.9**	**+2.5**
	17nm,2.1s						
KMBO	**Kilima Mbogo**	**26.50**	**260**	P	P	04 55 45.5	+6.6
	1.8nm,0.3s,baz=64,slow=16,SNR=3.7						
KMBO				LR	LR	05 04 22.6	
	comp=Z,200nm,21.1s,baz=90,slow=32						
OPO	**Ambohidratompo**	**27.17**	**215**	LR	LR	05 04 00.0	
	comp=Z,329nm,21.9s,baz=6.0,slow=31						
KBL	**Kabul**	**31.25**	**9**	*e*P	**P**	**04 56 21.4**	**+0.5**
	2.6nm,0.3s						
GEYT	**Alibeck**	**34.51**	**353**	LR	LR	05 11 12.0	
	comp=Z,80nm,19.1s,baz=305,slow=37						
UTHA	**Uthaitani**	**37.46**	**69**	P	P	04 57 18.3	+3.7
	2.5nm,1.1s						
KSH	**Kashi**	**37.56**	**16**	P	P	04 57 11.3	-4.0
KSH				sP	sP	04 57 18.1	-4.8
KSH				PP	**PP**	**04 58 38.3**	**-2.9**
KSH				S	S	05 02 56.8	-7.2
KSH				PMZ			
	9.0nm,1.0s						
KSH				LN			
	140nm,7.4s						
KSH				LE			
	130nm,11.7s						
KSH				LZ			
	170nm,15.4s						
CMAR	**Chiang Mai Arr**	**37.83**	**64**	P	**P**	**04 57 18.7**	**+0.9**
	0.7nm,0.4s,baz=258,slow=8.5,SNR=13						
CMAR				LR	LR	05 12 14.0	
	comp=Z,68nm,18.5s,baz=222,slow=35						
CHTO	**Chiang Mai**	**37.94**	**64**	P	**P**	**04 57 20.2**	**+1.5**
	30nm,1.3s						
CHTO	**Chiang Mai**	**37.94**	**64**	*e*P	**P**	**04 57 18.8**	**+0.1**
	11nm,1.3s						
CMMT	**Chiang Mai**	**37.95**	**64**	P	**P**	**04 57 20.1**	**+1.3**
	8.8nm,1.3s						
PBKT	**Sadao Pong**	**39.13**	**68**	P	**P**	**04 57 30.3**	**+1.6**
	8.1nm,1.5s						
LOEI	**Loei**	**39.65**	**67**	P	P	04 57 36.9	+3.8
	4.7nm,1.4s						
KKAR	**Karatay Array**	**39.86**	**8**	*e*P	**P**	**04 57 34.5**	**0.0**
	0.2nm,0.3s						
CHAI	**Chaiyaphum**	**39.91**	**69**	P	**P**	**04 57 37.9**	**+2.6**
	2.9nm,1.0s						
GNI	**Garni**	**40.10**	**338**	*e*P	**P**	**04 57 38.2**	**+1.5**
	24nm,1.1s						
AAK	**Ala-Archa**	**40.13**	**13**	P	**P**	**04 57 37.3**	**+0.4**
	3.5nm,0.8s,baz=174,slow=10.0,SNR=6.5						
AAK	**Ala-Archa**	**40.13**	**13**	*e*P	**P**	**04 57 37.5**	**+0.6**
	4.1nm,0.8s						
KBZ	**Khabaz**	**43.88**	**339**	P	**P**	**04 58 08.0**	**+0.7**
	2.1nm,1.0s,baz=236,slow=23,SNR=5.0						
BR131	**Keskin Array S**	**44.92**	**327**	*e*P	**P**	**04 58 15.7**	**-0.2**
	0.3nm,0.2s						
BRTR	**Keskin Array B**	**44.92**	**327**	P	**P**	**04 58 16.1**	**+0.2**
	1.5nm,0.8s,baz=125,slow=7.6,SNR=8.4						
BRTR				LR	LR	05 16 20.9	
	comp=Z,53nm,19.3s,baz=134,slow=35						
WMQ	**Urumqi**	**45.49**	**25**	*e*P	**P**	**04 58 21.9**	**+1.6**
WMQ				pP	**pP**	**04 58 26.4**	**+0.6**
WMQ				sP	**sP**	**04 58 28.9**	**+1.0**
WMQ				PcP	**PcP**	**05 00 00.3**	**+1.3**
WMQ				PP	**PP**	**05 00 09.4**	**+2.5**
WMQ				PcS	**PcS**	**05 03 53.3**	**+0.3**
WMQ				S	**S**	**05 05 03.8**	**+2.5**
WMQ				PMZ			
	13nm,0.6s						
WMQ				PMZ			
	140nm,4.6s						
WMQ				LN			
	130nm,22.4s						
WMQ				LE			
	240nm,21.2s						
WMQ				LZ			
	150nm,22.8s						
ABKAR	**Akbulak array**	**45.59**	**357**	*e*P	**P**	**04 58 20.8**	**-0.1**
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**46.07**	**18**	P	**P**	**04 58 23.1**	**-1.7**
	0.9nm,0.7s,baz=211,slow=7.7,SNR=6.9						
MKAR				PcP	**PcP**	**05 00 00.4**	**-0.5**
	0.4nm,0.8s,baz=291,slow=4.0,SNR=3.6						
AKTO	**Aktyubinsk**	**46.90**	**355**	P	**P**	**04 58 30.4**	**-0.8**
	2.7nm,0.6s,baz=174,slow=9.9,SNR=9.2						
QIZ	**Qiongzhong**	**47.92**	**68**	P	**P**	**04 58 38.1**	**-1.6**
QIZ				S	**S**	**05 05 33.8**	**-3.0**
QIZ				LE			
	84nm,16.0s						
QIZ				LZ			
	130nm,15.5s						
XAN	**Xi'an**	**52.07**	**49**	P	**P**	**04 59 10.3**	**-0.7**
XAN				PMZ			
	2.0nm,0.9s						
XAN				PMZ			
	15nm,5.3s						
VTS	**Vitosha**	**52.75**	**323**	↓*i* P	**P**	**04 59 16.8**	**+0.8**
VRI	**Vrincioaia**	**52.83**	**328**	↓*i* P	**P**	**04 59 17.9**	**+1.5**
MLR	**Muntele Rosu**	**52.99**	**328**	↓*i* P	**P**	**04 59 18.6**	**+0.9**
ZAA0	**Zalesovo Array**	**53.19**	**16**	*e*P	**P**	**04 59 16.9**	**-2.0**
ZALV	**Zalesovo Beam**	**53.19**	**16**	P	**P**	**04 59 16.8**	**-2.1**
	4.3nm,0.7s,baz=220,slow=7.1,SNR=16						
ZALV				LR	LR	05 22 33.4	
	comp=Z,69nm,20.6s,baz=230,slow=37						
VOIR		**53.44**	**327**	↑*i* P	**P**	**04 59 21.6**	**+0.6**
AKASG	**Malin Array Be**	**55.01**	**334**	P	**P**	**04 59 30.8**	**-1.4**
	0.7nm,0.7s,baz=128,slow=6.7,SNR=9.3						
HHC	**Hu-ho-hao-te**	**56.98**	**42**	*e*P	P	04 59 50.3	+3.7
HHC				PP	**PP**	**05 01 57.3**	**+3.9**
HHC				S	**S**	**05 07 40.1**	**-0.3**
HHC				SS	**SS**	**05 11 28.3**	**-0.8**
HHC				PMZ			
	28nm,0.8s						
HHC				PMZ			
	95nm,7.4s						
HHC				LN			
	140nm,17.3s						
HHC				LE			
	170nm,16.0s						
HHC				LZ			
	110nm,18.5s						
KOLS	**Kolonicke sedl**	**57.12**	**329**	*e*P	**P**	**04 59 48.0**	**+0.6**
SONM	**Songino Array**	**57.50**	**33**	P	**P**	**04 59 49.4**	**-0.8**
	2.1nm,0.9s,baz=226,slow=8.1,SNR=7.3						
SONM				LR	LR	05 24 43.6	
	comp=Z,162nm,21.8s,baz=292,slow=36						
PKSM	**Moragy**	**57.50**	**325**	↓*i* P	**P**	**04 59 50.2**	**+0.2**
STHS	**Stebnicka Huta**	**57.95**	**329**	*e*P	**P**	**04 59 54.5**	**+1.3**
VYHS	**Vyhne**	**58.68**	**327**	*e*P	**P**	**04 59 58.2**	**-0.1**
BJI	**Beijing**	**59.82**	**45**	P	**P**	**05 00 05.9**	**-0.4**
BJI				PMZ			
	11nm,0.7s						
MORC	**Moravsky Berou**	**60.11**	**328**	*e*P	**P**	**05 00 07.2**	**-1.0**
	17nm,1.7s						
DPC	**Dobruska-Polom**	**61.08**	**328**	*e*P	**P**	**05 00 14.3**	**-0.5**
DPC				*e*pP	**pP**	**05 00 20.1**	**-0.4**
H01W3	**Cape Leeuwin H**	**61.10**	**133**	T	T	06 06 31.3	
	baz=297						
H01W2	**Cape Leeuwin H**	**61.10**	**133**	T	T	06 06 29.2	
	baz=297						
H01W1	**Cape Leeuwin H**	**61.11**	**133**	T	T	06 06 26.2	
	baz=297						

TORD	**Torodi Ar. Bea**	**61.59**	**283**	P	**P**	**05 00 20.6**	**+1.7**
	1.7nm,1.2s,baz=111,slow=6.1,SNR=4.2						
TORD				LR	LR	05 27 47.2	
	comp=Z,43nm,18.5s,baz=325,slow=37						
PGF	**Pioggiola**	**61.85**	**317**	*e*P	**P**	**05 00 19.0**	**-1.3**
	40nm,1.3s						
PGF	**Pioggiola**	**61.85**	**317**	*e*P	**P**	**05 00 19.0**	**-1.3**
	40nm,1.3s						
KHC	**Kasperske Hory**	**61.95**	**325**	*e*P	**P**	**05 00 19.6**	**-1.1**
KHC				*e*pP	**pP**	**05 00 26.3**	**-0.1**
BRG	**Berggiesshubel**	**62.64**	**327**	*e*P	**P**	**05 00 24.9**	**-0.3**
	5.5nm,1.3s						
BRG				*e*		05 00 32.2	
	9.2nm,1.6s						
CLL	**Collm**	**63.37**	**327**	*i* P	**P**	**05 00 29.1**	**-1.0**
	comp=Z,7.0nm,1.2s						
CLL				*i* (sP)	**sP**	**05 00 36.3**	**-1.6**
	comp=Z,9.0nm,1.4s						
CLL	**Collm**	**63.37**	**327**	*e*P	**P**	**05 00 30.1**	**0.0**
	comp=Z,16nm,1.6s						
FRF	**La Foret Royal**	**63.83**	**317**	*e*P	**P**	**05 00 31.8**	**-1.5**
	comp=Z,25nm,1.2s						
FRF	**La Foret Royal**	**63.83**	**317**	*e*P	**P**	**05 00 31.8**	**-1.5**
	comp=Z,25nm,1.2s						
LMR	**La Mourre**	**63.84**	**317**	*e*P	**P**	**05 00 32.3**	**-1.1**
LMR	**La Mourre**	**63.84**	**317**	*e*P	**P**	**05 00 32.3**	**-1.1**
MBDF	**Montbardon**	**64.18**	**319**	*e*P	**P**	**05 00 34.4**	**-1.4**
MBDF	**Montbardon**	**64.18**	**319**	*e*P	**P**	**05 00 34.4**	**-1.4**
SENIN	**Lac Senin/Sane**	**64.48**	**320**	*e*P	**P**	**05 00 36.9**	**-0.9**
LPG	**La Plagne**	**64.49**	**319**	*e*P	**P**	**05 00 36.2**	**-1.8**
LPG	**La Plagne**	**64.49**	**319**	*e*P	**P**	**05 00 36.2**	**-1.8**
LPL	**La Plagne**	**64.51**	**319**	*e*P	**P**	**05 00 36.4**	**-1.6**
	comp=Z,44nm,1.6s						
LPL	**La Plagne**	**64.51**	**319**	*e*P	**P**	**05 00 36.4**	**-1.6**
	comp=Z,44nm,1.6s						
BFO	**Black Forest**	**64.65**	**323**	*e*P	**P**	**05 00 38.5**	**-0.1**
	comp=Z,22nm,1.4s						
ORIF	**Oris-en-Rattie**	**64.84**	**319**	*e*P	**P**	**05 00 38.8**	**-1.2**
	comp=Z,8.0nm,1.0s						
ORIF				*e*R			
	comp=Z,37nm,20.8s						
ORIF	**Oris-en-Rattie**	**64.84**	**319**	*e*P	**P**	**05 00 38.8**	**-1.2**
	comp=Z,8.0nm,1.0s						
CDF	**Champ du Feu**	**65.32**	**323**	*e*P	**P**	**05 00 41.9**	**-1.2**
	comp=Z,21nm,1.3s						
CDF	**Champ du Feu**	**65.32**	**323**	*e*P	**P**	**05 00 41.9**	**-1.2**
	comp=Z,21nm,1.3s						
HINF	**Hinteralfeld**	**65.34**	**322**	*e*P	**P**	**05 00 41.7**	**-1.4**
HINF	**Hinteralfeld**	**65.34**	**322**	*e*P	**P**	**05 00 41.7**	**-1.4**
CABF	**La Chapelle**	**65.35**	**320**	*e*P	**P**	**05 00 42.6**	**-0.7**
	comp=Z,54nm,1.3s						
CABF	**La Chapelle**	**65.35**	**320**	*e*P	**P**	**05 00 42.6**	**-0.7**
	comp=Z,54nm,1.3s						
LASF	**Ste Croix**	**65.90**	**317**	*e*P	**P**	**05 00 46.4**	**-0.4**
	comp=Z,54nm,1.5s						
LASF	**Ste Croix**	**65.90**	**317**	*e*P	**P**	**05 00 46.4**	**-0.4**
	comp=Z,54nm,1.5s						
SFTF	**Sexfontaines**	**66.61**	**322**	*e*P	**P**	**05 00 50.1**	**-1.2**
	comp=Z,42nm,1.4s						
SFTF	**Sexfontaines**	**66.61**	**322**	*e*P	**P**	**05 00 50.1**	**-1.2**
	comp=Z,42nm,1.4s						
MEZF	**Maizieres J'vi**	**66.72**	**322**	*e*P	**P**	**05 00 50.9**	**-1.0**
MEZF	**Maizieres J'vi**	**66.72**	**322**	*e*P	**P**	**05 00 50.9**	**-1.0**
SMF	**Signal de Mont**	**66.80**	**320**	*e*P	**P**	**05 00 50.9**	**-1.6**
SMF	**Signal de Mont**	**66.80**	**320**	*e*P	**P**	**05 00 50.9**	**-1.6**
LOR	**Lormes**	**67.01**	**320**	*e*P	**P**	**05 00 52.6**	**-1.2**
	comp=Z,20nm,1.3s						
LOR				*e*R			
	comp=Z,42nm,17.5s						
LOR	**Lormes**	**67.01**	**320**	*e*P	**P**	**05 00 52.6**	**-1.2**
	comp=Z,20nm,1.3s						
SSF	**Saint Saulge**	**67.16**	**320**	*e*P	**P**	**05 00 53.4**	**-1.4**
	comp=Z,12nm,1.0s						
SSF	**Saint Saulge**	**67.16**	**320**	*e*P	**P**	**05 00 53.4**	**-1.4**
	comp=Z,12nm,1.0s						
AVF	**Avril sur Loir**	**67.16**	**320**	*e*P	**P**	**05 00 53.2**	**-1.6**
	comp=Z,12nm,1.2s						
AVF	**Avril sur Loir**	**67.16**	**320**	*e*P	**P**	**05 00 53.2**	**-1.6**
	comp=Z,12nm,1.2s						
GIVF	**Givet**	**67.47**	**324**	*e*P	**P**	**05 00 55.7**	**-1.0**
GIVF	**Givet**	**67.47**	**324**	*e*P	**P**	**05 00 55.7**	**-1.0**
KSAR	**Wonju Array Be**	**67.72**	**51**	P	**P**	**05 00 57.0**	**-1.5**
KSRS	**Korea Array**	**67.75**	**51**	P	**P**	**05 00 57.0**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=248,slow=7.7,SNR=3.9						
KSRS				LR	LR	05 31 43.4	
	comp=Z,45nm,20.6s,baz=302,slow=37						
BAIF	**Baives**	**67.82**	**323**	*e*P	**P**	**05 00 58.0**	**-0.9**
	comp=Z,50nm,1.5s						
BAIF	**Baives**	**67.82**	**323**	*e*P	**P**	**05 00 58.0**	**-0.9**
	comp=Z,50nm,1.5s						
DBIC	**Dimbokro**	**67.96**	**276**	LR	LR	05 31 05.3	
	comp=Z,41nm,19.8s,baz=97,slow=36						
NB2	**NORSAR Subarra**	**69.36**	**336**	P	**P**	**05 01 06.4**	**-2.0**
	comp=Z,5.6nm,1.2s,baz=122,slow=6.5						
NOA	**NORSAR Array B**	**69.36**	**336**	P	**P**	**05 01 07.0**	**-1.3**
	comp=Z,1.8nm,0.9s,baz=116,slow=6.9,SNR=5.5						
ESDC	**Sonseca Array**	**70.33**	**311**	P	**P**	**05 01 14.8**	**+0.1**
	comp=Z,3.0nm,0.7s,baz=88,slow=5.4,SNR=19						
ARCES	**ARCESS Array B**	**70.41**	**347**	P	**P**	**05 01 12.9**	**-1.7**
	comp=Z,2.0nm,0.7s,baz=138,slow=5.9,SNR=13						
ARCES				LR	LR	05 33 17.1	
	comp=Z,38nm,20.8s,baz=154,slow=37						
MAW	**Mawson**	**71.03**	**180**	LR	LR	05 25 20.1	
	comp=Z,89nm,19.4s,baz=269,slow=30						
ROSF	**Rostrenen**	**71.91**	**320**	*e*P	**P**	**05 01 22.3**	**-1.8**
ROSF	**Rostrenen**	**71.91**	**320**	*e*P	**P**	**05 01 22.3**	**-1.8**
WRA	**Warramunga Arr**	**73.46**	**112**	P	**P**	**05 01 34.3**	**+0.4**
	comp=Z,3.0nm,0.7s,baz=288,slow=5.3,SNR=14						
ASAR	**Alice Springs**	**73.75**	**116**	P	**P**	**05 01 36.0**	**+0.4**
	comp=Z,3.0nm,0.9s,baz=282,slow=5.8,SNR=17						
SEY	**Seymchan**	**86.39**	**27**	P	**P**	**05 02 42.8**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=322,slow=6.4						
NVAR	**Mina Array Bea**	**138.17**	**2**	PKP	**PKPdf**	**05 09 28.0**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=29,slow=2.1,SNR=4.0						
TXAR	**Lajitas Array**	**144.98**	**340**	PKP	**PKPab**	**05 09 38.0**	**-0.2**
	comp=Z,1.9nm,1.0s,baz=48,slow=1.9,SNR=8.0						

IDC 13 05:00:53.8±4.1, 40.°96S×85.°04W, h0km, mb3.8/3, mb1 4.0/5, mb1mx3.8/24, mbtmp3.7/5, ML3.5/2, MS3.9/4, Ms1 3.9/4, ms1mx3.6/16, Error ellipse: s-maj=101.3km s-min=36.3km az=8.0, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**10.98**	**94**	Pn	Pn	05 03 33.3	+1.0
	0.1nm,0.3s,baz=268,slow=13,SNR=5.4						
CFAA	**Coronel Fontan**	**16.43**	**61**	Pn	Pn	05 04 45.2	-0.6
	0.1nm,0.3s,baz=224,slow=13,SNR=7.0						
CPUP	**Villa Florida**	**27.16**	**66**	LR	LR	05 17 10.6	
	comp=Z,1µm,18.1s,baz=243,slow=36						
LPAZ	**La Paz**	**28.61**	**36**	P	P	05 06 52.3	-0.4
	1.1nm,0.8s,baz=207,slow=11,SNR=5.1						
LPAZ				LR	LR	05 16 05.1	
	comp=Z,95nm,18.2s,baz=188,slow=32						
BDFB	**Brasilia**	**40.76**	**63**	LR	LR	05 25 02.6	
	comp=Z,104nm,20.2s,baz=248,slow=36						
ROSC	**El Rosal**	**46.64**	**15**	LR	LR	05 27 33.2	
	comp=Z,92nm,18.9s,baz=192,slow=34						
TXAR	**Lajitas Array**	**72.04**	**343**	P	P	05 12 20.9	+1.3
	0.6nm,0.7s,baz=156,slow=6.8,SNR=3.4						
PDAR	**Pinedale Array**	**86.24**	**342**	P	P	05 13 35.4	-1.7
	0.6nm,0.8s,baz=148,slow=5.4,SNR=4.8						

IDC **13** *05:02:39.2±1.2, 6.°05S×147.°52E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/25, mbtmp3.8/4, ML4.0/1, Error ellipse: s-maj=70.3km s-min=26.5km az=114.0*

ISCJB **13** *05:02:46.8±1.5, 6.°1S±0.°3×147.°3E±0.°5, h78km, mb3.6/3, Error ellipse: s-maj=77.8km s-min=23.3km az=30.0*

ISC 13 05:02:49.5±1.2, 6.°1S±0.°3×147.°3E±0.°4, h78km, n7, σ1§82/7, mb3.7/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.64**	**221**	P	**P**	**05 07 00.1**	**-1.0**
	0.5nm,0.3s,baz=50,slow=11,SNR=7.7						
ASAR	**Alice Springs**	**21.69**	**215**	P	**P**	**05 07 34.4**	**+0.3**
	1.0nm,0.3s,baz=54,slow=8.6,SNR=26						
STKA	**Stephens Creek**	**26.18**	**191**	P	**P**	**05 08 15.7**	**-1.1**
	1.7nm,0.3s,baz=17,slow=7.0,SNR=13						
ILAR	**Eielson Array**	**85.47**	**23**	P	**P**	**05 15 16.7**	**-1.6**
	0.3nm,0.8s,baz=260,slow=4.5,SNR=4.2						
PLCA	**Paso Flores**	**121.87**	**147**	PKP	**PKPdf**	**05 21 37.7**	**+2.5**
	0.9nm,0.8s,baz=268,slow=10,SNR=3.3						
TORD	**Torodi Ar. Bea**	**145.40**	**284**	PKPbc	**PKPab**	**05 22 20.3**	**+0.5**
	1.6nm,0.6s,baz=71,slow=3.7,SNR=18						
DBIC	**Dimbokro**	**152.31**	**273**	PKPbc	**PKPbc**	**05 22 39.0**	**+1.4**
	3.6nm,0.8s,baz=84,slow=3.5,SNR=3.1						

NNC 13 05:06:22.4±11.0, 38.°37N×73.°56E, h0km, mb3.7, mpv3.5, 4C-2D, Error ellipse: s-maj=96.9km s-min=38.2km az=134.0, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**1.64**	**358**	↓P	Pn	05 06 53.1	+0.3
	40nm,0.3s						
SFK				↑S	Sg	05 07 16.3	+0.6
	46nm,0.3s						
DZET	**Dzherino**	**3.73**	**278**	↑Sn	Sn	05 08 08.2	+2.0
	3.8nm,0.2s						
AAK	**Ala-Archa**	**4.32**	**9**	↑Sn	Sn	05 08 17.1	-3.6
	1.3nm,0.4s						
KK31	**Karatay Array**	**5.26**	**335**	↓Pn	Pn	05 07 40.3	-2.0
	0.5nm,0.2s,baz=152,slow=13,SNR=36						
KK31				↑Sn	Sn	05 08 38.3	-5.5
	1.5nm,0.4s,baz=153,slow=23,SNR=10						

ISCJB **13** *05:26:20.9±1.1, 19.°35S±0.°07×70.°0W±0.°2, h62km, mb3.7/4, Error ellipse: s-maj=22.2km s-min=9.4km az=1.6*

IDC **13** *05:26:26.2±2.3, 19.°53S×69.°81W, h98km±21km, mb3.6/5, mb1 3.6/8, mb1mx3.4/33, mbtmp3.9/8, MS2.7/2, Ms1 2.7/2, ms1mx2.6/18, Error ellipse: s-maj=35.5km s-min=13.7km az=99.0*

ISC 13 05:26:22.5±1.4, 19.°37S±0.°09×70.°1W±0.°2, h62km, n14, σ0§98/8, mb3.8/5, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**3.40**	**162**	P	**Pn**	**05 27 14.2**	**+0.8**
	149nm,0.3s,baz=0.0,slow=10,SNR=25						
LVC				S	**Sn**	**05 27 52.3**	**-0.3**
	889nm,0.3s,baz=97,slow=18,SNR=23						
LPAZ	**La Paz**	**3.58**	**31**	P	Pn	05 27 21.8	+5.6
	0.4nm,0.3s,baz=195,slow=12,SNR=23						
LPAZ				LR	LR	05 29 00.7	
	comp=Z,93nm,21.6s,baz=241,slow=43						
SIV	**San Ignacio**	**9.21**	**70**	P	**Pn**	**05 28 33.8**	**+1.0**
	1.1nm,0.3s,baz=266,slow=12,SNR=15						
SIV				LR	LR	05 33 07.5	
	comp=Z,50nm,19.1s,baz=78,slow=44						
PTGA	**Pitinga**	**21.00**	**29**	P	**P**	**05 31 00.9**	**-0.1**
	4.3nm,0.3s,baz=329,slow=22,SNR=6.2						
PLCA	**Paso Flores**	**21.30**	**181**	P	**P**	**05 31 03.6**	**-0.4**
	2.3nm,0.8s,baz=5.1,slow=12,SNR=5.7						
BDFB	**Brasilia**	**21.36**	**83**	P	**P**	**05 31 03.6**	**-1.3**
	1.7nm,0.5s,baz=241,slow=13,SNR=3.0						
TORD	**Torodi Ar. Bea**	**77.69**	**71**	P	**P**	**05 38 12.1**	**-0.9**
	0.9nm,0.8s,baz=259,slow=5.1,SNR=4.6						
YKA	**Yellowknife Ar**	**88.83**	**341**	P	**P**	**05 39 09.7**	**+0.5**
	0.5nm,0.7s,baz=135,slow=4.7,SNR=12						
H11S2	**WAKE ISLAND Hyd**	**26.50**	**279**	T	T	08 04 34.9	
	baz=101,slow=74,SNR=53						
H11S1	**WAKE ISLAND Hyd**	**26.51**	**279**	T	T	08 04 34.2	
	baz=101,slow=74,SNR=47						
H11S3	**WAKE ISLAND Hyd**	**26.52**	**279**	T	T	08 04 33.6	
	baz=101,slow=74,SNR=42						
H11N3	**WAKE ISLAND Hyd**	**26.53**	**281**	T	T	08 04 38.6	
	baz=100,slow=75,SNR=36						
H11N2	**WAKE ISLAND Hyd**	**26.54**	**281**	T	T	08 04 37.8	
	baz=100,slow=75,SNR=45						
H11N1	**WAKE ISLAND Hyd**	**26.55**	**281**	T	T	08 04 37.4	
	baz=100,slow=75,SNR=28						

DJA 13 05:26:59.0±0.3, 1.°S±2.°×120.°0E±.°, h10km, M3.6/4, MLv3.6/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCI	**Palu**	**0.39**	**340**	P	Pg	05 27 06.5	-0.2
PCI				S	Sg	05 27 12.7	+0.9
MPSI	**Mapaga**	**1.60**	**357**	P	Pn	05 27 27.2	-0.1
TTSI	**Tana Toraja**	**1.77**	**185**	P	Pn	05 27 27.3	-2.4
TTSI				S	Sn	05 27 52.9	+0.6
MRSI	**Marisa**	**2.63**	**49**	P	Pn	05 27 41.5	0.0
MRSI				S	Sn	05 28 14.0	+0.6
SPSI	**Sidrap Palu**	**2.68**	**184**	P	Pn	05 27 42.3	0.0
BNSI	**Bone**	**3.11**	**177**	P	Pn	05 27 48.3	+0.1

BJI **13** *05:35:07.2, 42.°20N×126.°50W, h10km, mb5.0/22, mB5.2/23, Ms5.1/23, Ms7 4.7/22*

IDC **13** *05:35:10.0±0.6, 42.°30N×126.°43W, h0km, mb4.2/18, mb1 4.4/24, mb1mx4.3/43, mbtmp4.3/24, ML4.0/5, MS4.5/36, Ms1 4.5/36, ms1mx4.5/40, Error ellipse: s-maj=16.6km s-min=8.4km az=25.0*

ISCJB **13** *05:35:11.2±0.2, 42.°31N±0.°01×126.°33W±0.°02, h12km, mb4.8/102, MS4.6/39, Error ellipse: s-maj=2.4km s-min=1.6km az=148.1*

NEIC **13** *05:35:12.2±0.3, 42.°26N×126.°50W, h10km, mb5.1/92, Error ellipse: s-maj=4.1km s-min=2.6km az=46.0*

NEIC Felt at Brookings, Eugene, Gold Beach, Medford and Myrtle Point.

MOS **13** *05:35:12.4±1.1, 42.°29N×126.°40W, h22km, mb5.1/33, MS4.7/11, Error ellipse: s-maj=6.0km s-min=5.0km az=39.9*

GCMT **13** *

KIPM Iron Peak 3.32 137 ePn Pn 05 36 02.0 -2.2
J04D Umpqua Nationa 3.32 72 P Pn 05 36 04.7 +0.4
baz=3.4,SNR=828
J04D ⇑S Sn 05 36 44.1 +0.2
baz=3.4
KCPM Cahto Peak 3.36 139 ePn Pn 05 36 02.0 -2.8
WDC Whiskeytown Da 3.37 119 eP Pn 05 36 03.7 -1.1
WDC Whiskeytown Da 3.37 119 ePn Pn 05 36 03.7 -1.1
HBO Huckleberry Mo 3.40 61 ⇑P Pn 05 36 05.2 -0.1
M04C Macdoel 3.45 97 ⇑P Pn 05 36 05.8 -0.3
baz=3.5,SNR=104
M04C ⇓S Sn 05 36 46.6 -0.3
baz=3.5
K04D Chiloquin, OR 3.48 83 ⇑P Pn 05 36 05.7 -0.7
baz=3.5,SNR=34
HOG Hogback Mounta 3.50 89 ⇑P Pn 05 36 06.3 -0.5
G03D McMinnville, O 3.73 37 ⇑P Pn 05 36 08.5 -1.2
baz=3.8,SNR=65
G03D ⇓S Sn 05 36 52.3 -1.2
baz=3.8
WIFE Three Sisters- 3.81 61 ePn Pn 05 36 11.1 0.0
H04A Detroit Lake 3.92 51 ePn Pn 05 36 12.2 -0.1
J05D Fort Rock, OR 3.95 73 P Pn 05 36 12.6 -0.3
baz=4.0,SNR=163
G04A Mulino 4.10 43 ePn Pn 05 36 15.2 +0.4
K05A Summer Lake 4.12 82 ePn Pn 05 36 14.5 -0.7
HOPS Hopland Field 4.15 141 ePn Pn 05 36 14.4 -1.1
F03A Seaside 4.20 28 ePn Pn 05 36 15.6 -0.6
I05D Terrebonne, OR 4.25 59 P Pn 05 36 16.6 -0.3
baz=4.3,SNR=74
F04D Rainier, OR 4.53 32 ⇓P Pn 05 36 20.5 -0.2
baz=4.6,SNR=10.0
F04D ⇓S Sn 05 37 12.2 -1.1
baz=4.6
F04A Amboy 4.66 37 ePn Pn 05 36 22.8 +0.3
E03A Lebam 4.74 25 ePn Pn 05 36 22.7 -0.8
G05D Wamic, OR 4.75 50 P Pn 05 36 24.0 +0.3
baz=4.8,SNR=109
G05D ⇓S Sn 05 37 18.1 -0.6
baz=4.8
MCCM Marconi Confer 4.93 145 ePn Pn 05 36 24.9 -1.3
G06A Carlson Farm, 5.13 53 ePn Pn 05 36 29.2 +0.1
ASR Mount Adams--S 5.21 40 ePn Pn 05 36 28.8 -1.3
I07A Izee 5.38 68 ePn Pn 05 36 32.9 +0.5
NLWA Neilton Lookou 5.43 19 ePn Pn 05 36 32.5 -0.7
LON Longmire 5.56 35 eP Pn 05 36 35.9 +0.9
LON Longmire 5.56 35 ePn Pn 05 36 35.9 +0.9
WVOR Wild Horse Val 5.77 86 eP Pn 05 36 36.3 -1.6
WVOR Wild Horse Val 5.77 86 ePn Pn 05 36 36.3 -1.6
D05A Enumclaw 5.84 31 ePn Pn 05 36 39.7 +1.0
PIER Pier 30 Seattl 6.05 27 ePn Pn 05 36 45.6 +4.1
PIER eLg Lg 05 38 27.0
OCP Olym-Cheeka Pk 6.16 11 ePn Pn 05 36 44.0 +0.9
CMB Columbia Colle 6.27 130 eP Pn 05 36 43.9 -0.8
CMB Columbia Colle 6.27 130 ePn Pn 05 36 43.9 -0.8
E07A Sunnyside 6.36 45 ePn Pn 05 36 46.4 +0.5
C05A Tolt Reservoir 6.38 30 ePn Pn 05 36 46.9 +0.7
RSW Rattlesnake Hi 6.40 48 ePn Pn 05 36 47.1 +0.6
HAWA Hanford 6.43 48 ePn Pn 05 36 47.2 +0.4
LTY Liberty 6.45 37 ePn Pn 05 36 47.8 +0.6
WAKR Walker 6.53 125 ePn Pn 05 36 48.8 +0.4
PGC Sidney 6.71 17 ePn Pn 05 36 50.9 +0.3
JCW Jim Creek 6.72 27 ePn Pn 05 36 51.0 +0.3
ETW Entiat 6.86 37 ePn Pn 05 36 53.7 +0.8
BMO Blue Mountains 7.11 66 eP Pn 05 36 56.4 +0.2
BMO Blue Mountains 7.11 66 ePn Pn 05 36 56.4 +0.2
B06A Marblemount 7.15 27 ePn Pn 05 36 56.6 0.0
BMN Battle Mountai 7.17 102 eP Pn 05 36 56.8 -0.2
BMN Battle Mountai 7.17 102 ePn Pn 05 36 56.8 -0.2
D08A Wollman Farm, 7.18 46 ePn Pn 05 36 57.2 +0.1
E09A Wood Farm, Sta 7.29 52 ePn Pn 05 36 58.1 -0.5
NV01 Mina Array Sit 7.29 119 ePn Pn 05 36 59.1 +0.2
NVAR Mina Array Bea 7.29 119 Pn Pn 05 36 59.0 +0.1
2.0nm,0.3s,baz=297,slow=14,SNR=82
NVAR Sn Sn 05 38 27.4 +5.8
baz=294,slow=22,SNR=2.0
A05A Maple Falls 7.38 23 ePn Pn 05 36 59.6 -0.2
F10A Beach Ranch, E 7.58 58 ePn Pn 05 37 03.4 +0.7
MFID Camas Ranch 7.87 78 ePn Pn 05 37 06.0 -0.8
B08A Colville Reser 7.87 37 ePn Pn 05 37 07.3 +0.6
C09A Chrisman Ranch 7.99 43 ePn Pn 05 37 08.4 +0.1
TIN Tinemaha, Big 8.19 127 ⇓S Sn 05 38 42.5 -1.1
baz=8.2
TPH Tonopah 8.20 118 eP Pn 05 37 10.5 -0.7
TPH Tonopah 8.20 118 ePn Pn 05 37 10.5 -0.7
ELK Elko 8.53 97 Pn Pn 05 37 18.4 +2.5
0.6nm,0.3s,baz=1.6,slow=3.6,SNR=35
ELK LR LR 05 40 56.1
comp=Z,13μm,18.6s,baz=0.5,slow=40
ELK Elko 8.53 97 eP Pn 05 37 17.8 +1.9
ELK Elko 8.53 97 ePn Pn 05 37 17.8 +1.9
SMMC Simmler 8.57 142 ⇓S Sn 05 38 53.3 +0.4
baz=8.6
VES Vestal, Richgr 8.59 136 ⇑P Pn 05 37 15.7 -0.7
baz=8.6
CWC Cottonwood Cre 8.70 129 ⇓P Pn 05 37 16.7 -1.4
baz=8.7
GRAC Grapevine Rang 8.74 124 ⇑P Pn 05 37 17.4 -1.3
baz=8.8
GRAC ⇑S Sn 05 38 59.5 +2.4
baz=8.8
NEW Newport 8.88 44 Pn Pn 05 37 21.4 +1.0
0.9nm,0.3s,baz=222,slow=11,SNR=12
NEW LR LR 05 39 50.8
comp=Z,737nm,22.0s,baz=230,slow=32
NEW Newport 8.88 44 ⇑P Pn 05 37 20.3 -0.1
baz=8.9
NEW ⇓S Sn 05 39 07.1 +6.7
baz=8.9
HLID Hailey 8.91 78 ePn Pn 05 37 20.9 -0.1
HLID Hailey 8.91 78 ⇓P Pn 05 37 20.2 -0.8
baz=8.9
HLID ⇓S Sn 05 39 04.5 +3.1
baz=8.9
BAKC Calstate 8.97 138 eSn Sn 05 38 53.4 -9.2
ISA Isabella, Lake 9.04 134 eP Pn 05 37 24.7 +1.9
ISA Isabella, Lake 9.04 134 ePn Pn 05 37 24.7 +1.9
ISA Isabella, Lake 9.04 134 ⇑P Pn 05 37 20.7 -2.1
baz=9.1
ISA ⇓S Sn 05 39 08.7 +4.1
baz=9.1
DAC Darwin (Calif) 9.09 128 eP Pn 05 37 26.3 +2.8
DAC Darwin (Calif) 9.09 128 ePn Pn 05 37 26.3 +2.8
R11A Troy Canyon, C 9.16 112 ePn Pn 05 37 26.1 +1.6
R11A Troy Canyon, C 9.16 112 ⇓P Pn 05 37 23.2 -1.3
baz=9.2
ARVC Arvin 9.28 138 ⇑P Pn 05 37 25.3 -0.6
baz=9.3
ARVC ⇑S Sn 05 39 11.8 +1.7
baz=9.3
MPMC Manual Prospec 9.30 129 ⇑P Pn 05 37 25.5 -0.9
baz=9.3
MPMC ⇓S Sn 05 39 12.9 +1.8
baz=9.3
FURC Furnace Creek, 9.40 125 ⇓P Pn 05 37 27.2 -0.4
baz=9.4
FURC ⇑S Sn 05 39 14.3 +1.2
baz=9.4
TPNV Topopah Spring 9.48 121 eP Pn 05 37 31.9 +3.1
TPNV Topopah Spring 9.48 121 ePn Pn 05 37 31.9 +3.1
TPNV Topopah Spring 9.48 121 ⇑P Pn 05 37 27.5 -1.3
baz=9.5
LRMC Laurel Mtn Rad 9.61 132 ⇑S Sn 05 39 19.2 +0.7
baz=9.6
OSI Osito Audit: C 9.74 139 ePn Pn 05 37 36.4 +4.2
OSI Osito Audit: C 9.74 139 ⇑P Pn 05 37 31.1 -1.1
baz=9.8
OSI ⇑S Sn 05 39 22.1 +0.5
baz=9.8
EDW2 Edwards Air Fo 9.90 135 ⇑P Pn 05 37 34.2 -0.3
baz=9.9
EDW2 ⇑S Sn 05 39 24.2 -1.3
baz=9.9
BSMT Bassoo Peak 9.94 52 ePn Pn 05 37 36.0 +0.8
BBB Bella Bella 9.98 354 Pn Pn 05 37 39.1 +3.6
1.3nm,0.3s,baz=195,slow=14,SNR=11
BBB LR LR 05 40 39.1
comp=Z,4μm,19.3s,baz=175,slow=33
BLG Laguna Peak, P 9.99 142 ⇓P Pn 05 37 35.2 -0.6
baz=10.0
BLG ⇑S Sn 05 39 26.0 -1.8
baz=10.0
MSO Missoula 10.01 59 ePn Pn 05 37 37.2 +1.2
MSO Missoula 10.01 59 ⇓P Pn 05 37 35.9 0.0
baz=10.0
MSO ⇑S Sn 05 39 25.9 -2.2
baz=10.0
BGU Big Grassy Mou 10.13 93 ePn Pn 05 37 39.5 +1.9
SHOC Shoshone, Teco 10.13 126 ⇑P Pn 05 37 37.1 -0.5
baz=10
SHOC ⇓S Sn 05 39 30.2 -0.9
baz=10
HVU Hansel Valley 10.17 88 eP Pn 05 37 40.0 +1.7
HVU Hansel Valley 10.17 88 ePn Pn 05 37 40.0 +1.7
MCMT McKenzie Canyo 10.18 71 ePn Pn 05 37 40.3 +1.8
JTMT Jette 10.19 53 ePn Pn 05 37 39.3 +0.8
DECC Green Verdugo 10.22 139 ⇑S Sn 05 39 35.5 +2.0
baz=10
GSC Goldstone, Bar 10.23 130 eP Pn 05 37 41.4 +2.4
GSC Goldstone, Bar 10.23 130 ePn Pn 05 37 41.4 +2.4
GSC Goldstone, Bar 10.23 130 ⇑S Sn 05 39 37.5 +3.7
baz=10
SWMT Swartz Lake 10.25 55 ePn Pn 05 37 39.6 +0.3
BLMT Blacktail Moun 10.27 52 ePn Pn 05 37 40.4 +0.8
PASC Pasadena Art C 10.36 139 ePn Pn 05 37 38.9 -1.8
MWC Mount Wilson 10.38 138 eP Pn 05 37 39.8 -1.4
MWC Mount Wilson 10.38 138 ePn Pn 05 37 39.8 -1.4
YBMT Yellow Bay 10.40 53 ePn Pn 05 37 42.2 +0.8
MTUT Morton Thiokol 10.42 88 ePn Pn 05 37 43.9 +2.3
RRX Edison Barstow 10.43 132 ⇓P Pn 05 37 41.4 -0.3
baz=10
RRX ⇓S Sn 05 39 45.1 +6.7
baz=10
SHPR Sheep Range 10.44 120 ePn Pn 05 37 44.5 +2.5
SLMT Seeley Lake 10.45 57 ePn Pn 05 37 42.8 +0.7
DLMT Dillon 10.46 68 ePn Pn 05 37 43.1 +0.9
DUG Dugway, Tooele 10.46 97 eP Pn 05 37 43.9 +1.6
DUG Dugway, Tooele 10.46 97 ePn Pn 05 37 43.9 +1.6
DUG Dugway, Tooele 10.46 97 ⇓P Pn 05 37 41.3 -0.9
baz=10
CHMT Chamberlain Mo 10.48 59 ePn Pn 05 37 43.3 +0.9
BFSC Mount Baldy Ra 10.57 136 ⇓P Pn 05 37 43.2 -0.5
baz=11
BFSC ⇓S Sn 05 39 45.1 +3.1
baz=11
LTU Little Mountai 10.59 89 ePn Pn 05 37 46.1 +2.1
TUQ Turquoise Moun 10.65 126 ⇓P Pn 05 37 44.9 0.0
baz=11
LRM Limekiln Ridge 10.67 66 ePn Pn 05 37 46.6 +1.5
FMP Fort Macarthur 10.68 140 ⇑S Sn 05 39 47.7 +3.1
baz=11
HEC Hector,Ludlow 10.84 130 ⇑P Pn 05 37 46.8 -0.6
baz=11
CIS Catalina Islan 10.88 142 ⇑S Sn 05 39 48.5 -1.1
baz=11
BBRC Big Bear Solar 10.94 134 ePn Pn 05 37 40.4 -8.4
BBRC eSn Sn 05 39 40.0 -11
BBRC eLg Lg 05 41 10.6
FPU Francis Peak 10.99 92 ePn Pn 05 37 51.2 +1.5
WALA Waterton Lakes 11.07 48 ePn Pn 05 37 52.1 +1.6
NLU North Lily Min 11.07 97 ePn Pn 05 37 52.1 +1.4
HWUT Hardware Ranch 11.09 88 ePn Pn 05 37 52.7 +1.8
MCU Monte Cristo P 11.16 89 ePn Pn 05 37 54.0 +2.0
QLMT Earthquake Lak 11.18 72 ePn Pn 05 37 53.2 +2.3
BOZ Bozeman (W) 11.19 67 eP Pn 05 37 53.3 +1.2
BOZ Bozeman (W) 11.19 67 ePn Pn 05 37 53.3 +1.2
GMRC Granite Mounta 11.26 128 ⇓P Pn 05 37 53.3 +0.1
baz=11
TCUT Toone Canyon 11.29 91 ePn Pn 05 37 55.6 +1.9
174nm,1.4s
AHID Auburn Hatcher 11.32 82 ePn Pn 05 37 53.4 -0.7
JLU Jordanelle 11.37 93 ePn Pn 05 37 56.3 +1.6
FXWY Fox Creek 11.37 78 ePn Pn 05 37 56.6 +1.9
MPU Maple Canyon 11.38 96 ePn Pn 05 37 55.0 +0.1
LDFC Landfair 11.39 125 ePn Pn 05 37 57.8 +3.0
KLJ Keetly 11.39 93 ePn Pn 05 37 56.9 +1.8
HLJ Hailstone 11.40 93 ePn Pn 05 37 57.0 +1.8
TPAW Teton Pass 11.42 73 ePn Pn 05 37 57.6 +2.1
IMW Indian Meadow 11.44 77 ePn Pn 05 37 58.0 +2.2
MVU Marysvale 11.47 104 ePn Pn 05 37 58.6 +2.4
YMR Madison River 11.49 73 ePn Pn 05 37 57.6 +1.3
REDW Red Top Meadow 11.49 79 ePn Pn 05 37 58.5 +2.1
MSU Marysvale 11.49 104 eP Pn 05 37 58.8 +2.4
MSU Marysvale 11.49 104 ePn Pn 05 37 58.8 +2.4
HTU Hoyt Peak 11.52 93 ePn Pn 05 37 58.6 +1.8
DAU Daniels Canyon 11.56 94 eP Pn 05 37 59.3 +1.9
DAU Daniels Canyon 11.56 94 ePn Pn 05 37 59.3 +1.9
YFT Old Faithful 11.56 74 ePn Pn 05 38 00.4 +3.1
YFT eSn Sn 05 40 03.0 -3.4
SNOW Snow King Moun 11.56 79 ePn Pn 05 37 59.8 +2.3
MOOW Moose Ponds 11.58 77 ePn Pn 05 37 59.5 +1.9
YHH Holmes Hill 11.59 72 ePn Pn 05 37 59.0 +1.3
FLWY Flagg Ranch 11.63 76 ePn Pn 05 38 00.6 +2.4
SGU Sterling 11.63 100 ePn Pn 05 38 02.9 +4.6
BELC Belle Mtn. Jos 11.63 132 ⇓P Pn 05 37 58.2 -0.1
baz=12
BELC ⇓S Sn 05 40 10.6 +2.4
baz=12
LOHW Long Hollow 11.68 78 ePn Pn 05 38 00.4 +1.5
PFO Pinyon Flats O 11.68 134 eP Pn 05 37 58.3 -0.7
PFO Pinyon Flats O 11.68 134 ePn Pn 05 37 58.2 -0.7
PFO eLg Lg 05 41 36.4
PFO Pinyon Flats O 11.68 134 ⇑P Pn 05 37 58.5 -0.4
baz=12
PFO ⇓S Sn 05 40 11.0 +1.6
baz=12
YNR Norris Junctio 11.70 73 ePn Pn 05 38 01.1 +1.9
I17A Pilgrim Ck. 11.71 77 ⇓P Pn 05 38 00.1 +0.8
baz=12
KNB Kanab 11.72 112 eP Pn 05 38 02.2 +2.7
KNB Kanab 11.72 112 ePn Pn 05 38 02.2 +2.7
H17A Grant Village 11.74 74 ePn Pn 05 38 02.6 +2.8
H17A Grant Village 11.74 74 ⇓P Pn 05 38 00.5 +0.7
baz=12
LKWY Lake 11.88 73 eP Pn 05 38 04.2 +2.5
LKWY Lake 11.88 73 ePn Pn 05 38 04.2 +2.5
NEE2 Needles Airpor 11.89 125 ⇓P Pn 05 38 01.3 -0.4
baz=12
TMUT Trail Mountain 11.91 99 ePn Pn 05 38 04.5 +2.3
TMUT eSn Sn 05 40 12.3 -3.0
109C Camp Elliot, M 11.92 139 ⇑S Sn 05 40 19.3 +4.3
baz=12
OWUT Old Woman Plat 11.94 102 ePn Pn 05 38 08.2 +5.6
DBD Des Bee Dove 11.99 99 ePn Pn 05 38 07.1 +3.9
DBD eSn Sn 05 40 24.7 +7.6
IRM Iron Mountain 12.00 129 ⇑P Pn 05 38 01.5 -1.7
baz=12
EML El Monte Cty P 12.05 138 ePn Pn 05 37 54.9 -9.0
EML eSn Sn 05 40 25.1 +7.0
W13A Hualapai Mount 12.13 122 ⇓P Pn 05 38 04.4 -0.8
baz=12
BC3 Big Chuckawall 12.19 131 ⇑P Pn 05 38 05.0 -0.9
baz=12
ARGU Argyle Ridge 12.24 96 ePn Pn 05 38 09.3 +2.6
MMU Miners Mountai 12.26 104 ePn Pn 05 38 09.8 +2.9
MONP Monument Peak, 12.27 137 ⇑P Pn 05 38 05.0 -2.0
baz=12
MONP ⇓S Sn 05 40 27.8 +4.1
baz=12
U15A North Rim 12.39 113 ⇓P Pn 05 38 07.5 -1.3
baz=12
H18A Shoshone NF, C 12.41 73 ⇑P Pn 05 38 07.7 -1.3
baz=12
BW06 Boulder Array 12.46 82 ePn Pn 05 38 10.8 +1.2
PDAR Pinedale Array 12.46 82 Pn Pn 05 38 11.4 +1.8
0.1nm,0.3s,baz=280,slow=8.9,SNR=56
PDAR LR LR 05 43 16.4
comp=Z,4μm,19.4s,baz=272,slow=39
SRU San Rafael Swe 12.48 99 eP Pn 05 38 12.1 +2.3
SRU San Rafael Swe 12.48 99 ePn Pn 05 38 12.1 +2.3
PDMCI Parker Dam,Lak 12.50 126 ⇑P Pn 05 38 09.4 -0.5
baz=12
GCMT Greycliff 12.56 68 ePn Pn 05 38 12.1 +1.1
Y12C Blythe 12.65 128 ⇓P Pn 05 38 11.2 -1.0
baz=13
YUH Yuha Desert 12.71 136 ePn Pn 05 38 09.2 -3.7
YUH eScP ScP 05 47 24.0 +1.6
RLMT Red Lodge 12.74 71 ePn Pn 05 38 13.8 +0.3
J19A Crowheart 12.81 80 ⇓P Pn 05 38 12.1 -2.2
baz=13
I19A Meeteetse 12.85 76 ⇓P Pn 05 38 12.6 -2.3
baz=13
H19A Powell 12.89 73 ⇓P Pn 05 38 14.2 -1.2
baz=13
F19A Roth Farm, Mol 13.07 68 ⇑P Pn 05 38 16.2 -1.6
baz=13
EGMT Eagleton 13.09 58 ePn Pn 05 38 18.1 +0.1
EGMT Eagleton 13.09 58 ⇑P Pn 05 38 17.3 -0.8
baz=13
E19A Rath Farm, Rou 13.29 66 ⇓P Pn 05 38 20.6 -0.3
baz=13
D19A Cripps Ranch, 13.39 63 ⇓P Pn 05 38 21.5 -0.7
baz=13
C19A Slack Wire Ran 13.45 60 ⇓P Pn 05 38 22.4 -0.6
baz=14
I20A Worland 13.48 77 ⇓P Pn 05 38 22.7 -0.7
baz=14
G20A Bridger 13.49 71 ⇑P Pn 05 38 23.2 -0.5
baz=14
J20A Shoshoni 13.51 79 ⇑P Pn 05 38 23.1 -0.8
baz=14
WUAZ Wupatki 13.52 115 ePn Pn 05 38 27.1 +3.1
WUAZ Wupatki 13.52 115 ⇓P Pn 05 38 23.1 -0.9
baz=14
H20A Greybull 13.59 74 ⇓P Pn 05 38 24.1 -0.7
baz=14
F20A Billings 13.61 69 ⇑P Pn 05 38 22.8 -2.4
baz=14
N20A Spence Gulch, 13.68 90 ⇓P Pn 05 38 24.7 -1.7
baz=14
PV09 Paradox Valley 13.71 100 ePn Pn 05 38 28.5 +1.7
B19A Brinkman Farms 13.74 57 ⇑P Pn 05 38 26.3 -0.7
baz=14
E20A Meyer Farm, Mu 13.75 66 ⇓P Pn 05 38 25.7 -1.3
baz=14
113A Mohawk Valley, 13.80 129 ⇑P Pn 05 38 27.0 -0.8
baz=14
PV10 Paradox Valley 13.82 101 ePn Pn 05 38 30.4 +2.2
O20A White River Ci 13.86 93 ePn Pn 05 38 29.3 +0.6
O20A White River Ci 13.86 93 ⇑P Pn 05 38 27.2 -1.5
baz=14
Z14A Wintersburg 13.86 125 ⇓P Pn 05 38 27.6 -1.0
baz=14
PV05 Paradox Valley 13.89 102 ePn Pn 05 38 31.5 +2.3
J21A Lysite 13.98 79 ⇓P Pn 05 38 28.4 -1.9
baz=14
EDM Edmonton 14.02 34 eP Pn 05 38 29.5 -1.2
EDM Edmonton 14.02 34 ePn Pn 05 38 29.5 -1.2
A19A Klindworth Far 14.04 56 ⇓P Pn 05 38 30.8 -0.2
baz=14
I21A Big Trails, Te 14.08 77 ⇑P Pn 05 38 30.4 -1.2
baz=14
C20A Veseth Ranch, 14.12 61 ⇑P Pn 05 38 32.3 +0.3
baz=14
X16A Lo Mia Camp, P 14.12 119 ⇑P Pn 05 38 32.9 +0.6
baz=14
K21A Alcova 14.16 82 ⇑P Pn 05 38 31.7 -1.2
baz=14
G21A Lodge Grass 14.20 71 ⇑P Pn 05 38 32.3 -1.0
baz=14
PV01 Paradox Valley 14.26 101 ePn Pn 05 38 35.3 +1.1
H21A Big Horn, Sher 14.28 74 ⇓P Pn 05 38 33.3 -1.1
baz=14
B20A Solberg Farm, 14.32 58 ⇓P Pn 05 38 34.3 -0.6
baz=14
F21A Absaloka Mine, 14.33 69 ⇓P Pn 05 38 32.8 -2.2
baz=14
E21A Keefer Ranch, 14.47 66 ⇓P Pn 05 38 34.9 -2.0
baz=14
A20A Cobblestone Ra 14.53 57 ⇓P Pn 05 38 36.4 -1.3
baz=14
D21A La Casta Ranch 14.62 64 ⇑P Pn 05 38 38.1 -1.0
baz=15
I22A 9 Mile Ranch, 14.66 77 ⇑P Pn 05 38 38.5 -1.1
baz=15
J22A Midwest 14.68 79 ⇓P Pn 05 38 38.2 -1.7
baz=15
MVCO Mesa Verde 14.68 104 ePn Pn 05 38 41.0 +1.0
MVCO Mesa Verde 14.68 104 ⇓P Pn 05 38 38.9 -1.1
baz=15
K22A Casper 14.70 82 ePn Pn 05 38 39.0 -1.2
K22A Casper 14.70 82 ⇓P Pn 05 38 38.5 -1.6
baz=15
C21A Desert Coulee 14.73 61 ⇑P Pn 05 38 39.3 -1.3
baz=15
H22A Clearmont 14.77 74 ⇑P Pn 05 38 40.1 -1.0
baz=15
M22A Cedar Creek Ra 14.81 87 ⇑P Pn 05 38 39.5 -2.2
baz=15
L22A Ellis Ranch, M 14.83 84 ⇑P Pn 05 38 40.8 -1.3
baz=15
G22A Birney 14.85 72 ⇑P Pn 05 38 40.8 -1.3
baz=15
W18A Petrified Fore 14.85 113 ePn P 05 38 45.9 -2.2
W18A Petrified Fore 14.85 113 ⇓P Pn 05 38 41.2 -1.0
baz=15
F22A Rosebud 14.92 70 ⇑P Pn 05 38 42.5 -0.6
baz=15
214A Organ Pipe Nat 14.95 129 ePn Pn 05 38 45.2 +1.8
82nm,1.3s
214A Organ Pipe Nat 14.95 129 ⇑P Pn 05 38 42.2 -1.2
baz=15
B21A Ellsworth Farm 14.95 59 ⇑P Pn 05 38 43.6 +0.2
baz=15
N22A Wattenberg Ran 15.03 89 ⇑P Pn 05 38 43.5 -1.2
baz=15
X18A Snowflake 15.04 116 ⇓P Pn 05 38 45.1 +0.3
baz=15
SMCO Snowmass 15.07 95 ePn Pn 05 38 45.1 -0.3
51nm,1.4s
LAO LASA Array 15.07 66 ePn Pn 05 38 44.1 -0.9
74nm,1.0s
P22A Eagle 15.10 94 ⇓P Pn 05 38 44.4 -1.3
baz=15
O22A Kremmling 15.11 91 ⇑P Pn 05 38 44.4 -1.4
baz=15
A21A Bergtoll Ranch 15.19 57 ⇓P Pn 05 38 45.6 -1.0
baz=15
E22A Miles City 15.22 67 ⇓P Pn 05 38 45.6 -1.4
baz=15
K23A Bowen Ranch, D 15.35 81 ⇓P Pn 05 38 47.6 -1.2
baz=15
J23A Dilts Ranch, B 15.36 79 ⇑P Pn 05 38 47.7 -1.2
baz=15
L23A Garrett 15.36 84 ⇓P Pn 05 38 47.2 -1.9
baz=15
N23A Red Feather La 15.39 88 ePn Pn 05 38 48.6 -0.9
154nm,1.4s
N23A Red Feather La 15.39 88 ⇓P Pn 05 38 48.0 -1.5
baz=15
M23A Laramie 15.45 86 ⇓P Pn 05 38 48.5 -1.7
baz=16
H23A Clabaugh Cattl 15.45 74 ⇑P Pn 05 38 48.6 -1.5
baz=16
G23A Biddle 15.48 72 ⇑P Pn 05 38 49.7 -0.8
baz=16
F23A Volborg 15.51 70 ⇑P Pn 05 38 49.4 -1.5
baz=16
O23A Lake Granby, G 15.56 91 ⇓P Pn 05 38 50.2 -1.6
baz=16
B22A Reddig Ranch S 15.57 60 ⇑P Pn 05 38 50.7 -0.9
baz=16
E23A Ismay 15.67 67 ⇑P Pn 05 38 51.5 -1.4
baz=16
PHWY Pilot Hill 15.67 86 ePn Pn 05 38 51.4 -1.8
51nm,1.1s
S22A 4UR Ranch, Cre 15.67 100 ePn Pn 05 38 53.8 +0.5
138nm,1.8s
S22A 4UR Ranch, Cre 15.67 100 ⇑P Pn 05 38 52.6 -0.7
baz=16
A22A Carney Farms, 15.82 58 ⇑P Pn 05 38 53.8 -1.0
baz=16
D23A Lindsay 15.84 65 ⇓P Pn 05 38 53.9 -1.2
baz=16
P23A Jefferson 15.85 94 ⇓P Pn 05 38 54.7 -0.9
baz=16
ISCO Idaho Springs 15.90 92 eP P 05 39 00.6 +0.8
ISCO Idaho Springs 15.90 92 eP P 05 39 00.6 +0.8
ISCO Idaho Springs 15.90 92 ⇑P Pn 05 38 55.1 -1.1
baz=16
TUC Tucson 15.91 124 eP P 05 38 58.4 -1.4
TUC pmax pmax
comp=Z,89nm,1.3s
TUC Tucson 15.91 124 ePn P 05 38 58.4 -1.4
comp=Z,89nm,1.3s
K24A Anderson Ranch 15.95 81 ⇓P Pn 05 38 53.8 -2.8
baz=16
C23A Lambert 15.98 63 ⇓P Pn 05 38 56.0 -0.9
baz=16
Q23A Hartsel 16.00 95 ⇑P Pn 05 38 56.1 -1.3
baz=16
I24A Kuemmerle Ranc 16.01 77 ⇓P Pn 05 38 54.9 -2.5
baz=16
J24A Dixon Ranch, L 16.01 79 ⇓P Pn 05 38 55.3 -2.0
baz=16
H24A Dirks Ranch, A 16.06 74 ⇑P Pn 05 38 56.0 -1.9
baz=16

G24A Alzada 16.17 72 ⇓P Pn 05 38 56.7 -2.8
baz=16
F24A Ekalaka 16.19 70 ⇓P Pn 05 38 58.7 -1.0
baz=16
N24A Carr 16.19 88 ⇓P Pn 05 38 58.3 -1.5
baz=16
O24A Longmont 16.21 90 ⇑P Pn 05 38 59.4 -0.6
baz=16
R23A Moffat 16.24 98 ⇑P Pn 05 38 59.9 -0.7
baz=16
B23A Brockton 16.26 60 ⇓P Pn 05 39 00.5 0.0
baz=16
S23A Nye Farm, Mont 16.30 99 ⇑P Pn 05 39 01.1 -0.1
baz=16
DLBC Dease Lake 16.34 353 Pn P 05 39 03.2 -1.2
comp=Z,0.1nm,0.3s,baz=151,slow=11,SNR=8.2
DLBC LR LR 05 44 18.9
comp=Z,1µm,21.9s,baz=170,slow=34
DLBC Dease Lake 16.34 353 ePn Pn 05 39 02.1 +0.6
E24A Baker 16.36 67 ⇓P Pn 05 39 00.9 -0.9
baz=16
D24A Glendive 16.43 65 ⇓P Pn 05 39 01.9 -0.7
baz=16
RSSD Black Hills 16.43 76 eP Pn 05 38 59.7 -3.1
RSSD pmax pmax
comp=Z,51nm,1.4s
RSSD Black Hills 16.43 76 ePn Pn 05 38 59.7 -3.1
comp=Z,51nm,1.4s
C24A Savage 16.43 64 ⇑P Pn 05 39 01.4 -1.3
baz=16
A23A Redstone 16.46 59 ⇑P Pn 05 39 02.1 -0.9
baz=16
Q24A Divide 16.48 94 ⇑P Pn 05 39 02.1 -1.5
baz=16
J25A Sunshine Ranch 16.63 78 ⇑P Pn 05 39 02.7 -2.6
baz=17
L25A Engebretsen Ra 16.64 83 ⇓P Pn 05 39 04.0 -1.4
baz=17
SDCO Great Sand Dun 16.65 99 ePn Pn 05 39 06.7 +1.0
comp=Z,520nm,1.9s
SDCO Great Sand Dun 16.65 99 ⇓P Pn 05 39 06.1 +0.3
baz=17
I25A Rochford 16.65 76 ⇓P Pn 05 39 04.2 -1.4
baz=17
K25A Mack Ranch, Ha 16.65 81 ⇑P Pn 05 39 02.9 -2.7
baz=17
M25A Palm-Egli Farm 16.69 85 ⇓P Pn 05 39 04.3 -1.7
baz=17
H25A Fruitdale 16.73 74 ⇓P Pn 05 39 04.6 -2.0
baz=17
DGMT Dagmar 16.78 61 ePn P 05 39 09.4 +0.1
comp=Z,117nm,1.1s
DGMT Dagmar 16.78 61 ⇑P Pn 05 39 06.9 -0.1
baz=17
N25A Grover 16.78 87 ⇓P Pn 05 39 06.3 -1.0
baz=17
G25A Newell 16.87 72 ⇓P Pn 05 39 06.8 -1.5
baz=17
F25A Bowman 16.88 70 ⇓P Pn 05 39 07.0 -1.4
baz=17
O25A Wiggins 16.92 90 ⇑P Pn 05 39 07.9 -1.1
baz=17
E25A Miller Ranch, 16.97 68 ⇑P Pn 05 39 08.2 -1.4
baz=17
A24A Westby 17.01 59 ⇑P Pn 05 39 09.0 -1.0
baz=17
LAZ Ladron 17.03 111 ePn P 05 39 12.5 +0.2
D25A Fairfield 17.11 66 ⇑P Pn 05 39 09.8 -1.5
baz=17
K26A Motz Farm, Whi 17.15 81 ⇑P Pn 05 39 10.1 -1.7
baz=17
J26A Sides Ranch, S 17.16 79 ⇑P Pn 05 39 10.3 -1.7
baz=17
ANMO Albuquerque 17.21 109 P P 05 39 13.8 -0.5
comp=Z,0.9nm,0.3s,baz=309,slow=12,SNR=51
ANMO LR LR 05 46 19.3
comp=Z,6µm,20.4s,baz=327,slow=39
ANMO Albuquerque 17.21 109 ci P P 05 39 13.8 -0.5
ANMO pmax pmax
comp=Z,317nm,1.7s
ANMO MLR MLR
comp=Z,25µm,16.0s
ANMO Albuquerque 17.21 109 eP P 05 39 13.8 -0.5
comp=Z,93nm,1.4s
C25A Freed Ranch, W 17.24 64 ⇑P Pn 05 39 11.6 -1.3
baz=17
LENM Lemitar 17.27 112 eP P 05 39 16.2 +1.2
I26A New Underwood 17.28 76 ⇓P Pn 05 39 11.4 -2.0
baz=17
L26A Underwood Farm 17.31 83 ⇑P Pn 05 39 11.8 -2.0
baz=17
H26A Fairpoint 17.32 74 ⇓P Pn 05 39 12.2 -1.8
baz=17
M26A McRoberts Ranc 17.36 85 ⇓P Pn 05 39 12.3 -2.2
baz=17
Y22D IRIS PASSCAL I 17.36 112 ⇑P Pn 05 39 15.0 +0.5
baz=17
B25A Knox Farm, Ray 17.41 62 ⇓P Pn 05 39 14.7 -0.3
baz=17
N26A Koester Ranch, 17.42 87 ⇓P Pn 05 39 14.5 -0.8
baz=17
LPM Los Pinos Moun 17.43 111 eP P 05 39 17.3 +0.6
F26A Lodgepole 17.43 70 ⇓P Pn 05 39 13.9 -1.3
baz=17
G26A Maurine 17.45 72 ⇑P Pn 05 39 14.6 -1.0
baz=18
319A Douglas 17.48 123 ⇑P P 05 39 17.3 +0.1
baz=18
O26A Horse Wrangler 17.49 89 ⇑P Pn 05 39 15.2 -1.0
baz=18
BNM Barren Site 17.52 111 ePn P 05 39 18.8 +1.1
A25A Svangstu Ranch 17.58 60 ⇓P Pn 05 39 16.7 -0.5
baz=18
E26A Carlson Angus 17.62 68 ⇓P Pn 05 39 17.8 +0.2
baz=18
P26A Davis Ranch, A 17.64 91 ⇑P Pn 05 39 16.6 -1.5
baz=18
T25A Trinidad 17.68 100 eP P 05 39 19.8 +0.2
comp=Z,206nm,1.3s
T25A Trinidad 17.68 100 ⇓P Pn 05 39 18.4 -0.2
baz=18
121A Cookes Peak, D 17.68 117 ePn P 05 39 21.3 +1.8
comp=Z,640nm,1.9s
121A Cookes Peak, D 17.68 117 ⇑P Pn 05 39 18.9 +0.3
baz=18
D26A Manning 17.69 66 ⇓P Pn 05 39 17.3 -1.2
baz=18
Q26A Hugo 17.70 93 ⇓P Pn 05 39 18.2 -0.6
baz=18
H27A Howes 17.82 74 ⇑P Pn 05 39 17.5 -2.6
baz=18
K27A Flueckinger Fa 17.84 80 ⇑P Pn 05 39 18.1 -2.2
baz=18
I27A Quinn 17.86 76 ⇓P Pn 05 39 18.8 -1.8
baz=18
L27A T5 Ranch, Ells 17.86 82 ⇑P Pn 05 39 18.9 -1.8
baz=18
F27A Lemmon 17.88 70 ⇑P Pn 05 39 19.6 -1.3
baz=18
M27A Reverse DX Ran 17.90 84 ⇓P Pn 05 39 19.9 -1.3
baz=18
G27A Dupree 17.93 72 ⇓P Pn 05 39 21.2 -0.2
baz=18
N27A Anderson Farm, 17.93 87 ⇑P Pn 05 39 20.4 -1.2
baz=18
J27A Elkhorn Farm, 17.95 79 ⇓P Pn 05 39 20.4 -1.3
baz=18
R26A Arlington 17.96 95 ⇓P Pn 05 39 21.9 -0.1
baz=18
C26A Wahner Farm, P 18.03 64 ⇑P Pn 05 39 21.9 -0.8
baz=18
B26A Jensen Ranch, 18.03 62 ⇑P Pn 05 39 21.4 -1.3
baz=18
O27A Beecher Island 18.12 89 ⇑P Pn 05 39 22.8 -1.1
baz=18
S26A Kim 18.19 97 ⇑P Pn 05 39 24.4 -0.3
baz=18
P27A Ficken Ranch, 18.21 91 ⇑P Pn 05 39 23.9 -1.2
baz=18
E27A Carson 18.23 68 ⇓P Pn 05 39 24.0 -1.1
baz=18
A26A Wade Farm, Ken 18.27 60 ⇑P Pn 05 39 24.9 -0.6
baz=18
T26A Comanche Natio 18.27 99 ⇓P Pn 05 39 24.8 -1.0
baz=18
OGNE Ogallala 18.28 86 ePn Pn 05 39 24.6 -1.2
comp=Z,153nm,1.2s
OGNE Ogallala 18.28 86 ⇓P Pn 05 39 24.3 -1.5
baz=18
D27A Center 18.32 66 ⇑P Pn 05 39 25.8 -0.5
baz=18
KSCO Kaye Shedlock' 18.34 92 eP Pn 05 39 26.6 0.0
comp=Z,165nm,1.3s
KSCO Kaye Shedlock' 18.34 92 ⇓P Pn 05 39 26.4 -0.2
baz=18
C27A Sayler Ranch, 18.41 64 ⇓P P 05 39 26.1 -1.1
baz=18
R27A Eads 18.45 95 ⇓P P 05 39 27.3 -0.5
baz=18
L28A Connealy Angus 18.46 82 ⇑P P 05 39 26.3 -1.7
baz=18
K28A Ten Mile Ranch 18.47 80 ⇑P P 05 39 26.1 -2.0
baz=18
J28A Allard Ranch, 18.49 78 ⇑P P 05 39 27.7 -0.5
baz=18
I28A Midland 18.50 76 ⇑P P 05 39 27.3 -1.0
baz=18
H28A Mission Ridge 18.57 74 ⇑P P 05 39 28.2 -0.9
baz=19
S27A Las Animas 18.59 96 ⇑P P 05 39 27.9 -1.5
baz=19
G28A Parade 18.64 73 ⇓P P 05 39 28.4 -1.5
baz=19
O28A Krutsinger Ran 18.66 88 ⇓P P 05 39 28.6 -1.5
baz=19
M28A Bar X Bar Ranc 18.68 84 ⇓P P 05 39 28.7 -1.7
baz=19
B27A Peters Farms, 18.68 62 ⇓P P 05 39 29.7 -0.5
baz=19
N28A Pribbeno Ranch 18.70 86 ⇓P P 05 39 29.0 -1.5
baz=19
F28A McLaughlin 18.73 70 ⇑P P 05 39 29.6 -1.2
baz=19
A27A Ledoux Ranch, 18.79 61 ⇑P P 05 39 30.9 -0.5
baz=19
P28A Saint Francis 18.82 90 ⇓P P 05 39 30.6 -1.3
baz=19
E28A Huff 18.84 68 ⇑P P 05 39 31.1 -0.9
baz=19
Q28A Sharon Springs 18.91 92 ⇑P P 05 39 32.1 -0.8
baz=19
T27A Campo 18.95 98 ⇓P P 05 39 32.9 -0.5
baz=19
D28A Regan 18.98 66 ⇓P P 05 39 32.8 -0.8
baz=19
I29A Vivian Onida 19.12 76 ⇑P Pn 05 39 35.9 0.0
baz=19
U27A Thompson Grove 19.14 100 ⇓P Pn 05 39 36.6 +0.3
baz=19
H29A Onida 19.15 74 ⇓P P 05 39 34.6 -0.9
baz=19
J29A Okreek 19.15 78 ⇑P P 05 39 35.0 -0.4
baz=19
C28A Hausauer Farms 19.16 65 ⇑P P 05 39 34.9 -0.6
baz=19
R28A Tribune 19.16 94 ⇑P P 05 39 36.0 +0.4
baz=19
M29A Burnside Ranch 19.17 84 ⇓P P 05 39 35.0 -0.8
baz=19
L29A Maesberg Ranch 19.22 82 ⇑P P 05 39 36.0 -0.3
baz=19
K29A Lazy Trails An 19.23 80 ⇓P P 05 39 35.5 -0.8
baz=19
B28A Dugan Ranch, T 19.28 62 ⇓P P 05 39 36.1 -0.7
baz=19
G29A Hoven 19.34 72 ⇓P P 05 39 35.6 -2.0
baz=19
N29A Votaw Ranch, W 19.35 86 ⇓P P 05 39 36.6 -1.0
baz=19
S28A Manter 19.36 96 ⇓P P 05 39 37.7 -0.1
baz=19
T28A Walsh 19.38 97 ⇓P P 05 39 37.7 -0.3
baz=19
O29A 4D Ranch, Culb 19.38 88 ⇓P P 05 39 36.7 -1.4
baz=19
F29A Eureka 19.41 70 ⇓P P 05 39 36.8 -1.4
baz=19
A28A Rude Farm, Bot 19.41 61 ⇑P P 05 39 38.2 -0.1
baz=19
V27A Dan Oppiter Fa 19.42 102 ⇓P Pn 05 39 39.9 +0.3
baz=19
P29A Atwood 19.42 89 ⇓P P 05 39 37.1 -1.4
baz=19
E29A Napoleon 19.57 68 ⇓P P 05 39 39.7 -0.3
baz=20
U28A Mallet 19.59 99 ⇓P P 05 39 39.6 -0.8
baz=20
Q29A Oakley 19.60 91 ⇑P P 05 39 39.4 -1.0
baz=20
R29A Marienthal 19.63 93 ⇑P P 05 39 40.8 +0.1
baz=20
D29A Pettibone, Tap 19.63 67 ⇓P P 05 39 40.9 +0.2
baz=20
MDND Maddock 19.70 64 eP Pn 05 39 43.2 +0.3
comp=Z,502nm,1.5s
MDND Maddock 19.70 64 ⇑P P 05 39 42.0 +0.6
baz=20
N30A Hustle Ranch, 19.74 85 ⇑P P 05 39 41.5 -0.4
baz=20
M30A Dale-Ortello V 19.75 83 ⇓P P 05 39 42.0 -0.1
baz=20
I30A Oacoma 19.76 76 ⇑P P 05 39 41.7 -0.4
baz=20
K30A Basset 19.76 80 ⇑P P 05 39 41.5 -0.6
baz=20
HYT Haines Junctio 19.76 344 eP P 05 39 42.6 +0.5
J30A Dallas 19.77 78 ⇓P P 05 39 41.6 -0.6
baz=20
L30A Spencer Herefo 19.79 82 ⇓P P 05 39 41.8 -0.7
baz=20
MNTX Cornudas Mount 19.80 115 eP Pn 05 39 45.1 +1.0
comp=Z,155nm,1.4s
MNTX Cornudas Mount 19.80 115 ⇓P Pn 05 39 44.9 +0.7
baz=20
V28A Channing 19.87 101 ⇑P Pn 05 39 44.9 -0.1
baz=20
G30A Faulkton 19.89 72 ⇓P P 05 39 42.8 -0.7
baz=20
O30A MW Ranch, Wils 19.92 87 ⇓P P 05 39 42.6 -1.3
baz=20
S29A Ulysses 19.92 95 ⇑P P 05 39 44.0 +0.1
baz=20
B29A Wagenman Farm, 19.94 63 ⇑P P 05 39 44.1 +0.1
baz=20
P30A Selden 19.95 89 ⇑P P 05 39 43.8 -0.4
baz=20
T29A Hugoton 19.97 96 ⇑P P 05 39 44.5 +0.1
baz=20
F30A Leola 19.97 70 ⇓P P 05 39 43.7 -0.7
baz=20
BRSD Miller 20.06 74 eP P 05 39 45.2 -0.1
comp=Z,87nm,1.1s
BRSD Miller 20.06 74 ⇑P P 05 39 43.9 -1.4
baz=20
E30A Jud 20.07 68 ⇑P P 05 39 45.2 -0.2
baz=20
A29A Manning Farm, 20.09 61 ⇑P P 05 39 46.3 +0.7
baz=20
W28A Vega 20.10 102 ⇓P P 05 39 45.8 -0.2
baz=20
Q30A Quinter 20.13 91 ⇑P P 05 39 46.4 +0.2
baz=20
D30A Buchanan 20.20 67 ⇑P P 05 39 46.4 -0.5
baz=20
U29A Oasis Ranch, S 20.26 98 ⇓P P 05 39 48.0 +0.3
baz=20
FFC Flin Flon 20.31 44 P Pn 05 39 49.0 -1.0
comp=Z,623nm,1.3s,SNR=32
FFC Flin Flon 20.31 44 eP Pn 05 39 49.1 -0.9
FFC pmax pmax
comp=Z,160nm,1.2s
FFC Flin Flon 20.31 44 eP Pn 05 39 49.1 -0.9
comp=Z,160nm,1.2s
R30A Dighton 20.31 93 ⇑P P 05 39 47.7 -0.5
baz=20
MSTX Muleshoe 20.32 106 eP Pn 05 39 49.5 -0.9
comp=Z,315nm,1.8s
MSTX Muleshoe 20.32 106 ⇓P P 05 39 49.2 +0.8
baz=20
V29A Stinnett 20.32 100 ⇑P P 05 39 47.9 -0.4
baz=20
S30A Montezuma 20.40 94 ⇑P P 05 39 49.6 +0.4
baz=20
L31A Butterfield Fa 20.40 81 ⇓P P 05 39 49.1 0.0
baz=20
C30A Mose, Pekin 20.44 65 ⇓P P 05 39 49.2 -0.3
baz=20
M31A Lambtecht Ranc 20.45 83 ⇓P P 05 39 49.3 -0.4
baz=20
X28A Dimmitt 20.46 104 ⇓P P 05 39 49.6 -0.3
baz=20
O31A Woolen Ranch, 20.47 87 ⇑P P 05 39 49.8 0.0
baz=20
CLNB Carlsbad 20.48 112 eP Pn 05 39 52.6 +0.3
comp=Z,49nm,0.9s
T30A Plains 20.57 96 ⇓P P 05 39 51.3 +0.3
baz=21
N31A Bailey Ranch, 20.58 85 ⇑P P 05 39 50.4 -0.6
baz=21
P31A Stockton 20.60 89 ⇓P P 05 39 51.5 +0.2
baz=21
B30A Myrvik Farm, E 20.62 63 ⇓P P 05 39 52.4 +1.0
baz=21
AMTX Amarillo 20.66 103 eP Pn 05 39 54.1 -0.3
comp=Z,408nm,1.3s
AMTX Amarillo 20.66 103 ⇓P Pn 05 39 53.2 -1.1
baz=21
U30A WK&E Inc. Balk 20.69 98 ⇓P P 05 39 53.1 +0.8
baz=21
A30A Hoffart Farm, 20.70 62 ⇓P P 05 39 53.2 +0.9
baz=21
Y28A McKinney Farm, 20.73 106 ⇑P P 05 39 53.3 +0.5
baz=21
Q31A Ellis 20.74 90 ⇓P P 05 39 52.7 0.0
baz=21
X29A Tulia 20.86 104 ⇓P P 05 39 55.2 +1.1
baz=21
R31A Burdett 20.87 92 ⇑P P 05 39 55.0 +0.8
baz=21
Z28A Tucker Farm, M 20.95 107 ⇓P P 05 39 56.0 +0.7
baz=21
V30A Spur Ranch, Mi 20.98 100 ⇑P P 05 39 55.3 -0.2
baz=21
BGNE Belgrade 21.05 83 eP P 05 39 57.3 +1.2
comp=Z,288nm,1.1s
BGNE Belgrade 21.05 83 ⇓P P 05 39 57.1 +1.0
baz=21
N32A Stulken Farm, 21.08 85 ⇓P P 05 39 56.6 +0.1
baz=21
S31A Mullinville 21.13 94 ⇑P P 05 39 58.0 +1.0
baz=21
P32A Huiting Farm, 21.15 88 ⇓P P 05 39 57.8 +0.6
baz=21
Y29A Porterfield Fa 21.17 105 ⇓P P 05 39 57.9 +0.4
baz=21
O32A Brockman Farm, 21.22 86 ⇓P P 05 39 58.4 +0.5
baz=21
128A Castleberry Fa 21.25 109 ⇓P P 05 39 59.3 +0.9
baz=21
W30A Crocket Farms 21.32 101 ⇑P P 05 39 59.9 +0.7
baz=21
U31A Nine Bar Ranch 21.34 97 ⇓P P 05 40 00.2 +0.8
baz=21
Q32A Meitler Ranch, 21.36 89 ⇓P P 05 39 59.6 +0.1
baz=21
R32A Long Quarter, 21.43 91 ⇓P P 05 40 01.2 +1.0
baz=21
YKA Yellowknife Ar 21.43 15 P P 05 39 59.9 -0.1
comp=Z,38nm,0.9s,baz=204,slow=10,SNR=116
YKB5 Yellowknife Ar 21.43 15 eP P 05 39 59.7 -0.3
X30A Coker Ranch, T 21.45 103 ⇑P P 05 40 01.1 +0.6
baz=22
Z29A Hungry Hill Ra 21.45 107 ⇑P P 05 40 01.3 +0.8
baz=22
228A UT Block 9, Go 21.46 110 ⇑P P 05 40 01.7 +1.1
baz=22
S32A Newby Ranch, P 21.51 93 ⇓P P 05 40 02.2 +1.1
baz=22
V31A Spring Creek L 21.60 99 ⇓P P 05 40 03.0 +1.0
baz=22
129A Stewart Farms, 21.68 108 ⇑P P 05 40 03.8 +0.8
baz=22
T32A Huddler Ranch, 21.71 94 ⇓P P 05 40 03.7 +0.5
baz=22
Y30A Stafford Cattl 21.71 104 ⇑P P 05 40 04.0 +0.6
baz=22
W31A Holland Ranch, 21.78 100 ⇓P P 05 40 04.4 +0.4
baz=22
ECSD EROS Data Cent 21.80 76 eP P 05 40 04.4 +0.3
comp=Z,193nm,1.4s
ECSD EROS Data Cent 21.80 76 ⇓P P 05 40 04.0 -0.2
baz=22
Z30A Sanderson Ranc 21.85 106 ⇓P P 05 40 05.2 +0.4
baz=22
P33A Williams Farm, 21.87 88 ⇓P P 05 40 05.8 +0.9
baz=22
Q33A Connelly Farm, 21.90 89 ⇑P P 05 40 05.9 +0.6
baz=22
U32A Winter Ranch, 21.96 96 ⇓P P 05 40 06.7 +0.7
baz=22
R33A Olander Ranch, 22.01 91 ⇓P P 05 40 07.1 +0.7
baz=22
X31A McDonald Ranch 22.01 102 ⇑P P 05 40 06.9 +0.4
baz=22
229A Bryant Ranch, 22.09 110 ⇓P P 05 40 08.2 +0.8
baz=22
Y31A Rekieta Farm, 22.13 103 ⇑P P 05 40 08.0 +0.3
baz=22
V32A Arapaho 22.21 98 ⇑P P 05 40 08.6 0.0
baz=22
AGMN Agassiz Nation 22.24 64 eP P 05 40 10.1 +1.3
comp=Z,56nm,0.8s
AGMN Agassiz Nation 22.24 64 ⇑P P 05 40 09.3 +0.5
baz=22
S33A Kaszmaul Farm, 22.24 93 ⇑P P 05 40 09.1 +0.2
baz=22
329A Wagon Wheel Ra 22.25 111 ⇑P P 05 40 09.4 +0.3
baz=22
T33A Patterson Ranc 22.25 94 ⇑P P 05 40 09.4 +0.4
baz=22
W32A Sentinel 22.32 100 ⇓P P 05 40 10.5 +0.7
baz=22
130A Snyder 22.33 107 ⇓P P 05 40 10.7 +0.7
baz=22
TX31 Lajitas Ar. Si 22.44 118 eP P 05 40 12.7 +1.5
TXAR Lajitas Array 22.44 118 P P 05 40 13.2 +2.0
comp=Z,14nm,0.9s,baz=306,slow=8.6,SNR=75
TXAR LR LR 05 50 08.2
comp=Z,2µm,18.1s,baz=0.0,slow=40
ULM Lac du Bonnet 22.46 59 P P 05 40 11.3 +0.2
comp=Z,24nm,0.9s,baz=271,slow=10,SNR=40
ULM LR LR 05 49 45.4
comp=Z,1µm,18.4s,baz=260,slow=39
ULM Lac du Bonnet 22.46 59 eP P 05 40 11.1 0.0
ULM pmax pmax
comp=Z,36nm,0.8s
ULM Lac du Bonnet 22.46 59 eP P 05 40 11.1 0.0
comp=Z,36nm,0.8s
LPIG La Paz 22.52 139 LR LR 05 47 58.5
comp=Z,1µm,21.0s,baz=332,slow=34
KLU Klutina 22.53 335 eP P 05 40 12.4 +0.5
comp=Z,61nm,1.6s
Z31A Sharp Cattle R 22.54 105 ⇓P P 05 40 11.3 -0.9
baz=22
U33A Lingo Farm, Me 22.60 96 ⇓P P 05 40 12.7 0.0
baz=23
X32A Elmer 22.62 101 ⇑P P 05 40 12.6 -0.4
baz=23
230A Sterling City 22.62 109 ⇑P P 05 40 13.1 0.0
baz=23
131A Roby 22.70 106 ⇑P P 05 40 14.3 +0.4
baz=23
Y32A R-V Farms, Ver 22.70 102 ⇓P P 05 40 13.6 -0.2
baz=23
OHAK Old Harbor 22.70 320 eP P 05 40 14.1 +0.4
comp=Z,108nm,1.4s
V33A Lossen Ranch, 22.72 97 ⇓P P 05 40 14.4 +0.3
baz=23
KSU1 Kansas State U 22.78 88 eP P 05 40 15.3 +0.8
comp=Z,142nm,1.3s
KSU1 Kansas State U 22.78 88 ⇑P P 05 40 14.3 -0.3
baz=23
429A Davenport Ranc 22.82 113 ⇑P P 05 40 14.8 -0.4
baz=23
WMOK Wichita Mounta 22.84 100 eP P 05 40 15.6 +0.3
WMOK pmax pmax
comp=Z,137nm,1.6s
WMOK Wichita Mounta 22.84 100 eP P 05 40 15.6 +0.3
comp=Z,137nm,1.6s
330A Mertzon 22.85 110 ⇓P P 05 40 15.6 +0.1
baz=23
S34A Willow Spring 22.86 92 ⇓P P 05 40 14.9 -0.6
baz=23
W33A Caddo, Fort Co 22.88 99 ⇑P P 05 40 15.7 0.0
baz=20

baz=23
529A **Stev Forest Ra** 22.90 114 ⇑P P 05 40 16.4 +0.4
baz=23
U34A **Anderson Ranch** 23.02 95 *e*P P 05 40 17.4 +0.2
comp=Z,680nm,2.1s
U34A **Anderson Ranch** 23.02 95 ⇑P P 05 40 17.6 +0.4
baz=23
Z32A **Haskell** 23.02 104 ⇑P P 05 40 17.1 -0.2
baz=23
SLBS **Sierra La Lagu** 23.05 138 *e*P P 05 40 16.7 -0.9
comp=Z,162nm,2.1s
T34A **McClaskey Farm** 23.05 93 ⇓P P 05 40 17.0 -0.5
baz=23
DAWY **Dawson** 23.08 345 *e*P P 05 40 18.7 +1.1
X33A **Lawton** 23.13 100 ⇑P P 05 40 18.3 0.0
baz=23
231A **Bronte** 23.16 108 ⇓P P 05 40 18.5 -0.1
baz=23
430A **Baggett Ranch,** 23.17 111 ⇑P P 05 40 19.6 +0.8
baz=23
ABTX **Abilene, Hawle** 23.26 106 *e*P P 05 40 20.2 +0.5
comp=Z,60nm,1.1s
ABTX **Abilene, Hawle** 23.26 106 ⇓P P 05 40 19.5 -0.2
baz=23
V34A **Guthrie** 23.28 96 *e*P P 05 40 19.7 -0.1
comp=Z,263nm,1.4s
V34A **Guthrie** 23.28 96 ⇓P P 05 40 19.7 -0.1
baz=23
Y33A **Hilltop Ranch,** 23.29 102 ⇑P P 05 40 19.8 -0.2
baz=23
W34A **Bridge Creek,** 23.35 98 *e*P P 05 40 20.8 +0.3
comp=Z,126nm,1.1s
W34A **Bridge Creek,** 23.35 98 ⇑P P 05 40 20.5 -0.1
baz=23
331A **San Angelo** 23.43 109 ⇑P P 05 40 21.7 +0.3
baz=23
S35A **Otter Creek Ra** 23.46 91 ⇓P P 05 40 21.3 -0.3
baz=23
530A **J-C Ranch, Com** 23.49 113 ⇓P P 05 40 22.6 +0.6
baz=24
Z33A **Whitaker Ranch** 23.55 103 ⇓P P 05 40 22.3 -0.2
baz=24
X34A **Smith Ranch, M** 23.59 99 ⇑P P 05 40 23.3 +0.3
baz=24
T35A **Sooner Cattle** 23.59 93 ⇑P P 05 40 23.1 +0.1
baz=24
232A **Coleman** 23.66 107 ⇓P P 05 40 24.0 +0.4
baz=24
431A **Sonora** 23.67 111 ⇑P P 05 40 24.1 +0.3
baz=24
133A **Hamilton Ranch** 23.79 105 ⇓P P 05 40 25.0 +0.1
baz=24
V35A **Meyer Ranch, C** 23.81 96 ⇓P P 05 40 25.2 +0.1
baz=24
R36A **Gordon, Harris** 23.84 89 ⇑P P 05 40 25.0 -0.3
baz=24
332A **Millersview** 23.87 108 ⇑P P 05 40 25.2 -0.5
baz=24
Y34A **Reagan Ranch,** 23.95 101 ⇓P P 05 40 26.1 -0.3
baz=24
S36A **Lake Cedric, C** 23.98 91 ⇓P P 05 40 26.8 +0.1
baz=24
SCRK **Sand Creek** 24.00 341 *e*P P 05 40 28.5 +1.8
comp=Z,68nm,2.2s
T36A **Boggs Farm, Ca** 24.01 92 ⇑P P 05 40 27.5 +0.6
baz=24
531A **Rocksprings** 24.02 112 ⇓P P 05 40 28.4 +1.2
baz=24
W35A **Tecumseh** 24.05 97 ⇑P P 05 40 28.1 +0.8
baz=24
EGAK **Eagle** 24.06 344 *e*P P 05 40 28.8 +1.6
comp=Z,56nm,2.1s
233A **Rising Star** 24.12 106 ⇑P P 05 40 28.4 +0.4
baz=24
Z34A **Collier Ranch,** 24.12 102 ⇓P P 05 40 28.3 +0.3
baz=24
432A **Menard** 24.12 109 ⇓P P 05 40 28.5 +0.4
baz=24
X35A **Drake** 24.32 99 ⇓P P 05 40 29.8 0.0
baz=24
DDM **Donnelly Dome** 24.32 339 *e*P P 05 40 31.0 +1.4
comp=Z,189nm,2.2s
R37A **Teagarden Farm** 24.35 89 ⇓P P 05 40 30.3 +0.3
baz=24
JCT **Junction City** 24.35 110 *e*P P 05 40 32.1 +2.0
JCT pmax pmax
comp=Z,226nm,2.0s
JCT **Junction City** 24.35 110 *e*P P 05 40 32.1 +2.0
comp=Z,226nm,2.0s
JCT **Junction City** 24.35 110 ⇓P P 05 40 30.7 +0.6
baz=24
SPMN **Marine on St.** 24.37 72 *e*P P 05 40 31.9 +1.8
comp=Z,38nm,1.1s
SPMN **Marine on St.** 24.37 72 ⇑P P 05 40 30.4 +0.3
baz=24
134A **White-Moore Ra** 24.41 104 ⇓P P 05 40 30.8 +0.2
baz=24
333A **Richland Sprin** 24.44 108 ⇑P P 05 40 31.5 +0.5
baz=24
Q37A **Longview Farm,** 24.45 87 ⇑P P 05 40 31.4 +0.5
baz=24
631A **Perdido Creek** 24.46 113 ⇑P P 05 40 32.2 +1.0
baz=24
532A **Rocksprings** 24.49 111 ⇑P P 05 40 32.1 +0.7
baz=24
TUL1 **Leonard** 24.52 95 *e*P P 05 40 32.4 +0.7
comp=Z,123nm,1.5s
TUL1 **Leonard** 24.52 95 ⇓P P 05 40 31.8 +0.1
baz=24
W36A **Wetumka** 24.53 97 ⇓P P 05 40 32.0 +0.2
baz=24
SCIA **State Center** 24.57 80 *e*P P 05 40 32.6 +0.6
comp=Z,309nm,1.5s
Z35A **Perchaven, San** 24.62 102 ⇓P P 05 40 32.6 0.0
baz=25
234A **Clairette** 24.67 105 ⇑P P 05 40 33.4 +0.4
baz=25
433A **Art** 24.69 109 ⇓P P 05 40 33.4 +0.2
baz=25
X36A **Centrahoma** 24.69 98 ⇓P P 05 40 33.7 +0.5
baz=25
RND **Reindeer** 24.88 336 *e*P P 05 40 35.3 +0.7
RND pmax pmax
comp=Z,80nm,2.1s
RND **Reindeer** 24.88 336 *e*P P 05 40 35.3 +0.7
comp=Z,80nm,2.1s
135A **Vickery Place,** 24.90 103 ⇓P P 05 40 35.8 +0.7
baz=25
632A **Uvalde** 24.95 112 ⇑P P 05 40 36.7 +1.1
baz=25
334A **Lometa** 24.96 107 ⇓P P 05 40 36.4 +0.7
baz=25
W37A **Quinton** 25.12 96 ⇑P P 05 40 37.8 +0.8
baz=25
533A **Kerrville** 25.12 110 ⇑P P 05 40 38.1 +1.0
baz=25
MCK **McKinley** 25.14 336 *e*P P 05 40 38.5 +1.5
MCK *e* 05 51 41.3
MCK pmax pmax
comp=Z,31nm,1.3s
MCK **McKinley** 25.14 336 *e*P P 05 40 38.5 +1.5
comp=Z,31nm,1.3s
MCK *e*ScS ScS 05 51 41.2 +3.7
EYMN **Ely** 25.15 65 *e*P P 05 40 40.0 +2.8
comp=Z,98nm,1.4s
WHTX **Lake Whitney,** 25.16 105 *e*P P 05 40 38.4 +1.0
comp=Z,161nm,1.6s
WHTX **Lake Whitney,** 25.16 105 ⇓P P 05 40 38.2 +0.7
baz=25
434A **Burnet** 25.23 108 ⇓P P 05 40 38.6 +0.5
baz=25
732A **Laxson Ranch,** 25.30 114 ⇑P P 05 40 39.6 +0.9
baz=25
TRF **Thorofare Moun** 25.35 335 *e*P P 05 40 41.8 +2.8
comp=Z,19nm,0.8s
IL1 **Eielson Array** 25.38 340 *e*P P 05 40 38.9 -0.2
ILAR **Eielson Array** 25.38 340 P P 05 40 39.2 +0.1
comp=Z,4.3nm,0.9s,baz=157,slow=8.2,SNR=20
ILAR PcP PcP 05 44 10.9 -0.2
comp=Z,0.2nm,0.8s,baz=160,slow=1.2,SNR=4.7
ILAR LR LR 05 48 37.8
comp=Z,827nm,21.1s,baz=158,slow=32
633A **Saathoff Ranch** 25.39 111 ⇑P P 05 40 40.2 +0.7
baz=25
X37A **Clayton** 25.41 97 ⇑P P 05 40 40.4 +0.8
baz=25
WRH **Wood River Hil** 25.46 338 *e*P P 05 40 41.3 +1.4
comp=Z,33nm,1.3s

CCB **Clear Creek Bu** 25.52 339 *e*P P 05 40 39.9 -0.5
comp=Z,12nm,1.1s
534A **Blanco** 25.54 109 ⇓P P 05 40 40.9 0.0
baz=26
335A **Moody** 25.57 106 ⇓P P 05 40 40.5 -0.6
baz=26
832A **Faith Ranch, C** 25.58 115 ⇑P P 05 40 41.5 +0.2
baz=26
PPLA **Purkeypile** 25.59 333 *e*P P 05 40 42.2 +1.0
comp=Z,99nm,1.6s
BWN **Browne** 25.63 337 *e*P P 05 40 44.1 +2.7
comp=Z,87nm,1.1s
COLA **College** 25.71 339 *e*P P 05 40 43.7 +1.6
COLA pmax pmax
comp=Z,30nm,1.1s
COLA MLR MLR
comp=Z,1μm,15.0s
435B **Jarrell** 25.73 107 ⇓P P 05 40 43.4 +0.7
baz=26
733A **Divot King Ran** 25.77 113 ⇓P P 05 40 43.9 +1.0
baz=26
W38A **Poteau** 25.82 96 ⇓P P 05 40 44.7 +1.3
baz=26
236A **Katherine and** 25.82 104 ⇓P P 05 40 44.8 +1.3
baz=26
Z37A **Pogue Cattle C** 25.88 100 ⇓P P 05 40 44.9 +1.1
baz=26
MDM **Murphy Dome** 25.88 339 *e*P P 05 40 45.1 +1.5
comp=Z,14nm,1.3s
336A **Riesel** 25.93 105 ⇓P P 05 40 45.5 +1.1
baz=26
833A **Chaparral WMA,** 25.95 114 ⇑P P 05 40 46.1 +1.5
baz=26
FCC **Fort Churchill** 26.00 39 *e*P P 05 40 46.9 +2.1
FCC pmax pmax
comp=Z,2μm,1.2s
FCC **Fort Churchill** 26.00 39 *e*P P 05 40 46.9 +2.1
comp=Z,2μm,1.2s
634A **China Grove, S** 26.01 111 ⇑P P 05 40 46.5 +1.3
baz=26
137A **Heron Place, G** 26.08 102 ⇑P P 05 40 46.9 +1.2
baz=26
535A **Dale** 26.18 108 ⇓P P 05 40 47.7 +1.0
baz=26
734A **La Parita Cree** 26.20 112 ⇑P P 05 40 48.4 +1.6
baz=26
436A **Wall Ranch, Ga** 26.30 106 ⇑P P 05 40 48.6 +0.9
baz=26
Z38A **Mt. Pleasant** 26.32 100 ⇑P P 05 40 49.1 +1.2
baz=26
237A **Washetta, Mont** 26.35 103 ⇓P P 05 40 49.0 +0.8
baz=26
INK **Inuvik** 26.37 354 P P 05 40 48.4 +0.4
comp=Z,5.0nm,1.1s,baz=163,slow=8.4,SNR=7.9
INK LR LR 05 50 21.9
comp=Z,1μm,19.3s,baz=166,slow=35
635A **Leesville** 26.41 110 ⇓P P 05 40 51.3 +2.5
baz=26
933A **Laredo** 26.49 115 ⇑P P 05 40 50.7 +1.2
baz=26
536A **Bastrop** 26.51 108 ⇓P P 05 40 50.6 +1.0
baz=26
JFWS **Jewell Farm** 26.52 76 *e*P P 05 40 51.3 +1.6
JFWS pmax pmax
comp=Z,653nm,2.6s
JFWS **Jewell Farm** 26.52 76 *e*P P 05 40 51.2 +1.6
comp=Z,653nm,2.6s
138A **Matatall Enter** 26.53 101 ⇑P P 05 40 51.0 +1.2
baz=26
MLY **Manley** 26.63 337 *e*P P 05 40 51.3 +0.8
comp=Z,28nm,1.3s
834A **Tilden** 26.65 113 ⇓P P 05 40 52.9 +2.0
baz=27
337A **Centerville** 26.66 104 ⇑P P 05 40 51.9 +1.0
baz=27
MIAR **Mount Ida** 26.75 96 *e*P P 05 40 51.6 -0.2
MIAR pmax pmax
comp=Z,61nm,1.2s
MIAR **Mount Ida** 26.75 96 *e*P P 05 40 51.6 -0.2
comp=Z,61nm,1.2s
COWI **Conover** 26.85 69 *e*P P 05 40 53.1 +0.5
comp=Z,44nm,1.4s
Z39A **Irene McRaven,** 26.91 99 ⇑P P 05 40 53.9 +0.7
baz=27
139A **Bunkhouse Ranc** 27.03 100 ⇓P P 05 40 55.4 +1.1
baz=27
338A **Crockett** 27.05 104 ⇑P P 05 40 55.6 +1.1
baz=27
239A **Gary** 27.31 101 ⇓P P 05 40 57.3 +0.4
baz=27
339A **Huntington** 27.61 103 ⇓P P 05 41 00.6 +1.1
baz=28
SLM **Saint Louis** 27.64 85 *e*P P 05 41 05.7 +5.9
SLM pmax pmax
comp=Z,58nm,1.1s
SLM **Saint Louis** 27.64 85 *e*P P 05 41 05.7 +5.9
comp=Z,58nm,1.1s
HDIL **Hopedale** 27.76 81 *e*P P 05 41 02.7 +1.9
comp=Z,21nm,0.8s
COLD **Coldfoot** 28.15 341 *e*P P 05 41 04.6 +0.6
comp=Z,12nm,1.5s
PBMO **Poplar Bluff** 28.16 89 *e*P P 05 41 05.1 +0.7
comp=Z,54nm,1.6s
IM04 **Indian Mountai** 28.20 337 *e*P P 05 41 04.8 +0.3
HBAR **Harrisburg** 28.48 92 *e*P P 05 41 06.5 -0.7
UNV **Unalaska Valle** 28.79 308 *e*P P 05 41 09.4 -0.5
comp=Z,52nm,1.0s
OLIL **Olney** 29.19 84 *e*P P 05 41 13.8 +0.2
comp=Z,138nm,2.0s
SFIN **Lafayette** 29.42 80 *e*P P 05 41 16.7 +1.1
comp=Z,42nm,1.2s
SFIN **Lafayette** 29.42 80 ⇓P P 05 41 16.2 +0.6
baz=29
USIN **University of** 29.77 85 *e*P P 05 41 19.0 +0.3
comp=Z,249nm,2.1s
OXF **Oxford** 29.85 93 *e*P P 05 41 20.6 +1.2
OXF pmax pmax
comp=Z,54nm,0.9s
OXF **Oxford** 29.85 93 *e*P P 05 41 20.6 +1.2
comp=Z,54nm,0.9s
BLO **Bloomington** 30.21 82 *e*P P 05 41 23.2 +0.6
BLO pmax pmax
comp=Z,31nm,0.9s
BLO **Bloomington** 30.21 82 *e*P P 05 41 23.2 +0.6
comp=Z,31nm,0.9s
WVT **Waverly** 30.34 89 *e*P P 05 41 24.2 +0.4
WVT pmax pmax
comp=Z,64nm,1.9s
WVT **Waverly** 30.34 89 *e*P P 05 41 24.2 +0.4
comp=Z,64nm,1.9s
WCI **Wyandotte Cave** 30.70 84 *e*P P 05 41 27.4 +0.5
WCI pmax pmax
comp=Z,189nm,2.1s
WCI **Wyandotte Cave** 30.70 84 *e*P P 05 41 27.4 +0.5
comp=Z,189nm,2.1s
LRAL **Lakeview Retre** 32.31 93 *e*P P 05 41 42.2 +1.1
comp=Z,18nm,1.2s
ACSO **Alum Creek Sta** 32.47 79 *e*P P 05 41 42.9 +0.5
comp=Z,149nm,2.5s
CPCT **Cooper Cave** 33.07 88 *e*P P 05 41 47.7 -0.1
ALLY **Alegheny Colle** 34.09 75 *e*P P 05 41 57.4 +0.7
comp=Z,40nm,1.0s
GOGA **Godfrey** 34.75 90 *e*P P 05 42 03.0 +0.6
GOGA pmax pmax
comp=Z,76nm,1.8s
GOGA **Godfrey** 34.75 90 *e*P P 05 42 03.0 +0.6
comp=Z,76nm,1.8s
BLA **Blacksburg** 35.40 83 *e*P P 05 42 08.9 +0.9
BLA pmax pmax
comp=Z,55nm,1.3s
BLA **Blacksburg** 35.40 83 *e*P P 05 42 08.9 +0.9
comp=Z,55nm,1.3s
RES **Resolute Bay** 35.49 14 *e*P P 05 42 08.9 +0.6
RES pmax pmax
comp=Z,14nm,1.2s
RES **Resolute Bay** 35.49 14 *e*P P 05 42 08.9 +0.6
comp=Z,14nm,1.2s
KMSC **Kings Mountain** 35.57 86 *e*P P 05 42 09.8 +0.4
comp=Z,49nm,1.3s
KMSC **Kings Mountain** 35.57 86 ⇑P P 05 42 11.0 +1.6
baz=36
VWCC **Virginia Weste** 35.71 82 *e*P P 05 42 11.5 +0.9
JSRW **J. Sargeant Re** 37.08 80 *e*P P 05 42 25.8 +3.5
URVA **University of** 37.38 80 *e*P P 05 42 30.4 +5.6
LUPA **Lehigh Univers** 37.84 75 *e*P P 05 42 29.7 +0.9
comp=Z,3.9nm,0.9s
CNNC **Cliffs of the** 38.07 84 P P 05 42 34.5 +3.8

comp=Z,137nm,1.6s
SCHQ **Schefferville** 40.19 51 LR LR 05 59 16.3
comp=Z,682nm,20.0s,baz=284,slow=36
JTS **JuntasAbangare** 48.22 119 LR LR 06 07 09.5
comp=Z,337nm,18.4s,baz=318,slow=40
PET **Petropavlovsk** 49.41 310 *e*P P 05 44 04.1 +2.5
PET *e*S S 05 51 11.3 +3.2
SEY **Seymchan** 49.62 324 P P 05 44 02.0 -1.1
comp=Z,2.2nm,0.5s,baz=74,slow=8.8,SNR=6.8
SUMG **Summit** 49.69 23 *i*P P 05 44 04.4 +0.4
comp=Z,234nm,0.8s
SUMG **Summit** 49.69 23 *e*P P 05 44 04.9 +0.9
SUMG pmax pmax
comp=Z,37nm,0.9s
SUMG **Summit** 49.69 23 *e*P P 05 44 04.9 +0.9
comp=Z,38nm,0.9s
PEA0 **Petropavlovsk-** 49.92 310 *e*P P 05 44 04.9 -0.7
PETK **Petropavlovsk-** 49.92 310 P P 05 44 04.6 -1.0
comp=Z,7.7nm,0.9s,baz=74,slow=12,SNR=9.7
PETK LR LR 06 02 28.3
comp=Z,335nm,20.5s,baz=76,slow=33
SDDR **Presa de Saban** 51.82 99 *e*P P 05 44 19.9 -0.5
comp=Z,38nm,1.1s
TAOE **Nuku Hiva Isla** 52.41 197 *e*T T 06 40 34.4
comp=Z,241nm,0.3s
DAG **Danmarks Havn** 53.13 16 *i*P P 05 44 29.4 +0.1
comp=Z,19nm,1.1s
DAG **Danmarks Havn** 53.13 16 *i*P P 05 44 29.4 +0.1
DAG pmax pmax
comp=Z,24nm,1.1s
TIXI **Tiksi** 54.83 338 ⇓*i*P P 05 44 40.9 -0.8
TIXI pmax pmax
comp=Z,8.0nm,1.7s
TIXI MLR MLR
comp=Z,533nm,20.0s
TIXI **Tiksi** 54.83 338 *e*P P 05 44 41.0 -0.7
comp=Z,7.4nm,0.5s
LRS **Lares** 55.52 96 *e*P P 05 44 46.9 -0.6
SJG **San Juan** 56.15 96 *e*P P 05 44 53.3 +1.4
SJG pmax pmax
comp=Z,57nm,1.3s
SJG **San Juan** 56.15 96 *e*P P 05 44 53.3 +1.4
comp=Z,57nm,1.3s
HUMP **Col San Antoni** 56.35 96 *e*P P 05 44 53.1 -0.3
comp=Z,30nm,0.9s
SDV **Santo Domingo** 58.99 108 *e*P P 05 45 13.3 +1.1
comp=Z,12nm,1.0s
ROSC **El Rosal** 59.29 114 P P 05 45 15.7 +1.2
comp=Z,1.4nm,0.4s,baz=46,slow=5.4,SNR=7.3
ROSC LR LR 06 13 27.3
comp=Z,130nm,21.7s,baz=354,slow=39
YAK **Yakutsk** 59.54 328 *e*P P 05 45 14.4 -0.7
YAK pmax pmax
comp=Z,7.0nm,0.8s
H11N3 **WAKE ISLAND Hy** 59.88 270 T T 06 49 50.7
baz=47,slow=74,SNR=427
H11N2 **WAKE ISLAND Hy** 59.89 270 T T 06 49 56.1
baz=47,slow=74,SNR=417
H11N1 **WAKE ISLAND Hy** 59.90 270 T T 06 49 57.0
baz=47
OTAV **Otavalo** 60.02 121 *e*P P 05 45 20.6 +0.9
comp=Z,44nm,1.6s
PMOR **Pomariorio Ree** 60.33 204 *e*T T 06 50 26.0
comp=Z,9.8nm,0.2s
VAH **Vaihoa** 60.47 204 *e*T T 06 50 37.1
comp=Z,7.1nm,0.3s
H11S1 **WAKE ISLAND Hy** 60.79 269 T T 06 51 05.4
baz=50,slow=75,SNR=342
H11S2 **WAKE ISLAND Hy** 60.79 269 T T 06 51 04.6
baz=50,slow=75,SNR=221
H11S3 **WAKE ISLAND Hy** 60.80 269 T T 06 51 00.7
baz=50,slow=75,SNR=227
TIAR **Tiarei** 63.18 205 *e*T T 06 53 59.9
comp=Z,13nm,0.2s
PPT **Papeete** 63.26 205 LR LR 06 07 28.0
comp=Z,505nm,18.4s,baz=348,slow=31
PPT2 **Papeete2** 63.28 205 *e*S S 05 54 09.4 -3.4
comp=Z,969nm,26.5s
PPT2 *e*LQ LQ 06 01 37.3
comp=Z,214nm,25.5s
PPT2 *e*LR LR 06 04 19.0
comp=Z,2μm,26.0s,baz=18
PPT2 **Papeete2** 63.28 205 *e*T T 06 54 07.3
comp=Z,1.5nm,0.3s
PAE **Paea** 63.35 205 *e*T T 06 54 10.0
comp=Z,0.9nm,0.3s
TVO **Taravao** 63.36 204 *e*T T 06 54 13.6
comp=Z,0.8nm,0.3s
RKT **Rikitea** 65.54 189 *e*LR LR 06 05 24.0
comp=Z,1μm,26.2s,baz=6.9
RKT **Rikitea** 65.54 189 *e*T T 06 57 00.4
comp=Z,5.8nm,0.3s
KLR **Kul'dur** 66.02 315 *e*P P 05 45 56.9 -1.7
KLR MLR MLR
comp=Z,1μm,13.0s
ARCES **ARCESS Array B** 66.61 10 LR LR 06 15 21.4
comp=Z,480nm,20.8s,baz=346,slow=36
BOD **Bodaibo** 68.28 330 *e*P P 05 46 07.0 -5.7
BOD pmax pmax
comp=Z,4.0nm,1.1s
TBI **Tubuai** 68.67 203 *e*S S 05 55 16.9 -1.3
comp=Z,774nm,29.0s
TBI **Tubuai** 68.67 203 *e*LR LR 06 06 54.2
comp=Z,1μm,29.8s,baz=13
TBI **Tubuai** 68.67 203 *e*T T 07 00 51.9
comp=Z,4.2nm,0.3s
USRK **Ussuriysk Ar.** 69.00 311 P P 05 46 16.2 -1.2
comp=Z,3.9nm,0.9s,baz=60,slow=4.8,SNR=5.8
USRK LR LR 06 14 43.9
comp=Z,213nm,19.7s,baz=41,slow=34
MJAR **Matsushiro Arr** 70.04 301 P P 05 46 23.3 -0.8
comp=Z,0.5nm,0.3s,baz=50,slow=5.2,SNR=2.8
MJAR LR LR 06 11 13.7
comp=Z,252nm,21.3s,baz=70,slow=31
MDJ **Mudanjiang** 70.06 313 P P 05 46 24.5 +0.5
MDJ PP PP 05 48 58.1 -0.5
MDJ S S 05 55 30.8 -3.6
MDJ ScS SKKSac 05 56 25.1 +0.1
MDJ SS SS 06 00 05.1 +2.0
MDJ PMZ
comp=Z,3.0nm,0.5s
MDJ PMZ
comp=Z,83nm,5.6s
MDJ LN
comp=Z,140nm,20.7s
MDJ LE
comp=Z,270nm,22.3s
MDJ LZ
comp=Z,330nm,20.7s
NB2 **NORSAR Subarra** 71.43 20 P P 05 46 31.9 -0.2
comp=Z,6.0nm,1.1s,baz=330,slow=6.2
NOA **NORSAR Array B** 71.43 20 P P 05 46 32.0 -0.1
comp=Z,1.4nm,0.8s,baz=331,slow=5.7,SNR=5.8
NOA LR LR 06 16 50.0
comp=Z,148nm,21.9s,baz=330,slow=35
PTGA **Pitinga** 73.27 107 *e*P P 05 46 44.1 +0.4
comp=Z,23nm,1.1s
FINES **FINESS Array B** 74.25 13 P P 05 46 48.1 -0.7
comp=Z,2.7nm,0.9s,baz=349,slow=8.7,SNR=5.9
FINES LR LR 06 19 28.3
comp=Z,464nm,19.8s,baz=274,slow=36
KSRS **Korea Array** 75.73 308 P P 05 46 57.3 -0.4
comp=Z,1.2nm,0.7s,baz=48,slow=6.8,SNR=5.9
KSRS LR LR 06 15 32.7
comp=Z,151nm,21.2s,baz=54,slow=32
KSAR **Wonju Array Be** 75.76 308 P P 05 46 57.3 -0.6
KSAR **Wonju Array Be** 75.76 308 P P 05 46 57.3 -0.6
PRGR **Permogore** 76.25 4 *e*P P 05 47 10.4 +10
PRGR pmax pmax
comp=Z,10.0nm,0.6s
KLMR **Klimovskoe** 76.59 7 *e*P P 05 47 02.6 +0.4
KLMR pmax pmax
comp=Z,21nm,1.4s
KLMR MLR MLR
comp=Z,299nm,18.0s
TLY **Talaya** 76.83 331 LR LR 06 22 36.5
comp=Z,317nm,18.3s,baz=38,slow=37
TLY **Talaya** 76.83 331 *e*P P 05 47 04.1 +0.3
TLY *e*S S 05 56 39.5 -11
TLY *e* 05 57 24.3
TLY pmax pmax
comp=Z,6.0nm,1.1s
TLY MLR MLR
comp=Z,221nm,15.0s
TLY **Talaya** 76.83 331 *e*P P 05 47 02.5 -1.3
comp=Z,4.4nm,0.9s
SAML **Samuel** 76.90 115 *e*P P 05 47 03.3 -1.4

comp=Z,19nm,1.4s
ZAK Zakamensk 78.02 330 *e*P P 05 47 04.7 -5.9
ZAK pmax pmax
comp=Z,3.0nm,1.4s
BAIF Baives 78.41 30 *e*P **P 05 47 11.0 -1.6**
comp=Z,19nm,1.2s
BAIF Baives 78.41 30 *e*P **P 05 47 11.0 -1.6**
BAIF pmax pmax
comp=Z,19nm,1.2s
BAIF Baives 78.41 30 *e*P **P 05 47 11.0 -1.6**
comp=Z,19nm,1.2s
ULN Ulaanbaatar 78.58 326 *e*P **P 05 47 14.0 +0.2**
ULN pmax pmax
comp=Z,2.0nm,1.2s
ULN MLR MLR
comp=Z,409nm,18.0s
SONA1 Songino Array 78.86 327 *e*P **P 05 47 14.7 -0.6**
SONM Songino Array 78.87 327 P **P 05 47 15.2 -0.2**
comp=Z,1.1nm,0.8s,baz=51,slow=4.7,SNR=5.8
SONM LR LR 06 21 55.9
comp=Z,816nm,19.4s,baz=39,slow=36
LPAZ La Paz 79.17 124 P **P 05 47 17.2 -0.7**
comp=Z,2.4nm,0.9s,baz=351,slow=9.9,SNR=7.9
LPAZ La Paz 79.17 124 *e*P **P 05 47 17.4 -0.5**
LPAZ pmax pmax
comp=Z,6.0nm,1.0s
LPAZ La Paz 79.17 124 *e*P **P 05 47 17.4 -0.5**
comp=Z,6.0nm,1.0s
NVS Novosibirsk 80.00 343 *e*P **P 05 47 19.1 -2.1**
NVS pmax pmax
comp=Z,23nm,1.2s
NVS pmax pmax
comp=N,7.0nm,1.3s
NVS pmax pmax
comp=E,13nm,1.5s
CLL Collm 80.34 24 *e*P **P 05 47 25.0 +1.9**
comp=Z,4.0nm,1.0s
CLL *e* 05 47 37.0
CLL *e* 05 47 43.0
CLL *e*S **S 05 57 33.0 +4.6**
CLL *e*PS **PnS 05 58 12.0 -1.0**
CLL *e*SS **SS 06 02 42.0 +3.7**
CLL *e* 06 06 48.0
CLL LmV 06 23 00.0
comp=Z,500nm,21.7s
CLL Collm 80.34 24 *e*P **P 05 47 25.0 +1.9**
CLL *e*S **S 05 57 33.0 +4.6**
CLL pmax pmax
comp=Z,4.0nm,1.0s
CLL MLR MLR
comp=Z,500nm,21.7s
BJI Beijing 80.37 316 P **P 05 47 23.5 0.0**
BJI S **S 05 57 29.3 +0.2**
BJI SS **SS 06 02 44.3 +4.8**
BJI PMZ
comp=Z,13nm,0.7s
BJI LN
comp=Z,170nm,13.7s
BJI LE
comp=Z,410nm,22.8s
ZAA0 Zalesovo Array 80.48 342 *e*P **P 05 47 22.8 -1.0**
ZALV Zalesovo Beam 80.48 342 P **P 05 47 22.6 -1.2**
comp=Z,0.6nm,0.4s,baz=36,slow=8.1,SNR=4.1
ZALV LR LR 06 26 07.1
comp=Z,279nm,18.7s,baz=66,slow=38
ZALV Zalesovo Beam 80.48 342 *i* P **P 05 47 26.2 +2.4**
ZALV pmax pmax
comp=Z,2.0nm,0.7s
SSF Saint Saulge 80.60 32 *e*P **P 05 47 25.8 +1.2**
SSF Saint Saulge 80.60 32 *e*P **P 05 47 25.8 +1.2**
SSF Saint Saulge 80.60 32 *e*P **P 05 47 25.8 +1.2**
CDF Champ du Feu 80.90 29 *e*P **P 05 47 26.5 +0.2**
comp=Z,12nm,1.1s
CDF Champ du Feu 80.90 29 *e*P **P 05 47 26.5 +0.2**
CDF pmax pmax
comp=Z,12nm,1.1s
CDF Champ du Feu 80.90 29 *e*P **P 05 47 26.5 +0.2**
comp=Z,12nm,1.1s
BRG Berggiesshubel 81.01 24 *e*P P 05 47 31.4 +4.7
comp=Z,3.8nm,0.9s
BRG *e* 05 47 40.4
comp=Z,8.2nm,1.2s
BRG *e* 05 47 58.6
comp=Z,26nm,2.2s
BRG S S 05 57 43.0 +7.6
comp=Z,625nm,22.8s
comp=N,572nm,24.1s
comp=E,335nm,24.1s
BRG Berggiesshubel 81.01 24 *e*P P 05 47 31.4 +4.7
BRG *e* 05 47 40.4
BRG S S 05 57 43.0 +7.6
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG pmax pmax
comp=Z,8.0nm,1.2s
BRG pmax pmax
comp=Z,26nm,2.2s
BRG MLR MLR
comp=Z,625nm,22.8s
BRG MLR MLR
comp=N,572nm,24.1s
BRG MLR MLR
comp=E,335nm,24.1s
HINF Hinteralfeld 81.25 30 *e*P **P 05 47 28.9 +0.8**
HINF Hinteralfeld 81.25 30 *e*P **P 05 47 28.9 +0.8**
HINF Hinteralfeld 81.25 30 *e*P **P 05 47 28.9 +0.8**
ARU Arti 81.58 357 *d i*P **P 05 47 28.8 -0.8**
ARU 05 50 35.6
ARU S **S 05 57 39.6 -1.5**
ARU SS **SS 06 02 54.3 -2.1**
ARU pmax pmax
comp=Z,7.0nm,1.7s
OBN Obninsk 81.91 10 *e*P **P 05 47 31.4 +0.1**
OBN *e* 05 50 34.1
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,185nm,17.0s
HHC Hu-ho-hao-te 82.06 319 *e*P **P 05 47 30.1 -2.5**
HHC sP **sP 05 47 37.8 -0.2**
HHC S **S 05 57 42.8 -4.1**
HHC sS **SKSac 05 57 50.3 -2.6**
HHC SS **SS 06 03 03.0 -1.8**
HHC PMZ
comp=Z,22nm,1.4s
HHC PMZ
comp=Z,59nm,6.2s
HHC LN
comp=Z,220nm,18.7s
HHC LE
comp=Z,240nm,19.0s
HHC LZ
comp=Z,250nm,22.4s
ESDC Sonseca Array 83.18 41 P **P 05 47 38.5 +0.1**
comp=Z,0.1nm,0.3s,baz=328,slow=3.6,SNR=2.8
ESDC LR LR 06 22 38.5
comp=Z,177nm,18.2s,baz=300,slow=34
MBDF Montbardon 83.81 32 *e*P **P 05 47 42.5 +0.8**
comp=Z,11nm,0.9s
MBDF Montbardon 83.81 32 *e*P **P 05 47 42.5 +0.8**
MBDF pmax pmax
comp=Z,11nm,0.9s
MBDF Montbardon 83.81 32 *e*P **P 05 47 42.5 +0.8**
comp=Z,11nm,0.9s
BRVK Borovoye 83.96 350 P **P 05 47 41.7 -0.4**
BRVK pmax pmax
comp=Z,8.0nm,1.2s
BRVK MLR MLR
comp=Z,382nm,24.0s
BRVK Borovoye 83.96 350 *e*P **P 05 47 42.1 +0.1**
comp=Z,7.0nm,0.8s
BVAR Borovoye Array 83.98 350 LR LR 06 26 50.8
comp=Z,251nm,21.4s,baz=15,slow=37
STHS Stebnicka Huta 84.38 21 *e*P **P 05 47 45.7 +1.4**
STHS Stebnicka Huta 84.38 21 *e*P **P 05 47 45.6 +1.3**
KWP Kalwaria Pacla 84.56 20 *e*P **P 05 47 44.9 -0.3**
KWP pmax pmax
comp=Z,51nm,0.4s
KWP Kalwaria Pacla 84.56 20 *e*P **P 05 47 44.9 -0.3**
comp=Z,51nm,0.4s
VYHS Vyhne 84.57 22 *e*P P 05 47 49.4 +4.1
VYHS Vyhne 84.57 22 *e*PCP **P 05 47 49.4 +4.1**
VYHS *e* 06 02 25.0
NJ2 Nanjing 84.82 309 *e*P **P 05 47 48.0 +1.2**
NJ2 PP **PP 05 51 03.8 +1.3**
NJ2 PMZ
comp=Z,40nm,0.8s
NJ2 PMZ
comp=Z,200nm,6.8s
NJ2 LN
comp=Z,480nm,22.0s
NJ2 LE
comp=Z,520nm,28.3s
NJ2 LZ
comp=Z,560nm,25.3s
AKASG Malin Array Be 85.00 15 P **P 05 47 46.4 -0.9**
comp=Z,1.1nm,0.6s,baz=341,slow=4.4,SNR=12
AKASG LR LR 06 26 11.7
comp=Z,317nm,21.9s,baz=350,slow=36
AKASG Malin Array Be 85.00 15 *c*e P **P 05 47 48.2 +0.9**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
KIEV Kiev 85.00 15 *i* P **P 05 47 45.7 -1.6**
AK11 Malin Array Si 85.01 15 *e*P **P 05 47 45.9 -1.4**
UZH Uzhgorod 85.37 20 *e*P P 05 47 39.0 -10
UZH *e* 05 47 46.6
UZH *e* 05 47 51.8
BUR04 Bucovina Ar. S 87.04 19 *e*P **P 05 47 56.6 -1.0**
MKAR Makanchi Array 87.72 341 P **P 05 48 00.1 -0.8**
comp=Z,0.4nm,0.8s,baz=337,slow=1.9,SNR=2.6
MKAR LR LR 06 29 31.2
comp=Z,436nm,19.7s,baz=17,slow=37
WHN Wuhan 88.50 311 ⇓P **P 05 48 05.9 +1.1**
ABKAR Akbulak array 88.68 356 *e*P **P 05 48 05.3 0.0**
XAN Xi'an 88.69 317 P **P 05 48 04.6 -1.1**
XAN S **S 05 58 47.6 -4.8**
XAN SS **SS 06 04 41.0 -1.3**
XAN PMZ
comp=Z,1.0nm,0.8s
XAN PMZ
comp=Z,15nm,6.3s
XAN LN
comp=Z,120nm,24.6s
XAN LE
comp=Z,150nm,24.6s
XAN LZ
comp=Z,78nm,22.9s
WMQ Urumqi 88.99 336 *e*P **P 05 48 07.8 +0.8**
WMQ pP **pP 05 48 12.6 +1.6**
WMQ sP **sP 05 48 14.8 +2.4**
WMQ PP **PP 05 51 40.3 +4.6**
WMQ SKS **SKSac 05 58 34.6 -1.9**
WMQ S **S 05 58 55.3 +0.4**
WMQ sS **sS 05 59 03.0 +1.4**
WMQ SS **SS 06 04 50.6 +4.5**
WMQ PMZ
comp=Z,13nm,0.5s
WMQ PMZ
comp=Z,82nm,5.2s
WMQ LN
comp=Z,220nm,19.0s
WMQ LE
comp=Z,350nm,20.0s
WMQ LZ
comp=Z,190nm,20.6s
LZH Lanzhou 89.50 321 *e*P **P 05 48 08.3 -1.3**
LZH pP **PcP 05 48 11.9 +0.9**
LZH sP **sP 05 48 13.1 -2.0**
LZH PMZ
comp=Z,21nm,1.0s
LZH PMZ
comp=Z,100nm,4.0s
LZH LN
comp=Z,760nm,18.8s
LZH LE
comp=Z,470nm,15.4s
LZH LZ
comp=Z,700nm,17.1s
BDFB Brasilia 92.06 109 LR LR 06 33 54.0
comp=Z,405nm,19.3s,baz=310,slow=38
KEST Kesra 92.47 35 LR LR 06 30 33.4
comp=Z,154nm,19.0s,baz=312,slow=36
CPUP Villa Florida 93.32 123 LR LR 06 32 13.1
comp=Z,663nm,20.5s,baz=344,slow=37
AAK Ala-Archa 93.40 345 *e*P **P 05 48 25.9 -1.7**
AAK pmax pmax
comp=Z,4.0nm,1.2s
AAK MLR MLR
comp=Z,666nm,18.0s
CD2 Chengdu 93.78 319 *e*P **P 05 48 28.3 -1.1**
CD2 pP **pP 05 48 33.1 -0.3**
CD2 PP **PP 05 52 15.9 +2.0**
CD2 SKS **SKSac 05 59 01.6 -2.5**
CD2 S **S 05 59 33.8 -5.0**
CD2 sS **ScS 05 59 41.4 +1.1**
CD2 SS **SS 06 05 51.3 -4.5**
CD2 PMZ
comp=Z,10.0nm,0.7s
CD2 PMZ
comp=Z,50nm,6.0s
CD2 LN
comp=Z,230nm,15.5s
CD2 LE
comp=Z,290nm,13.1s
CD2 LZ
comp=Z,250nm,16.6s
JAY Jayapura 93.80 270 LR LR 06 23 29.5
comp=Z,381nm,19.9s,baz=11,slow=31
KBZ Khabaz 93.85 8 LR LR 06 33 07.2
comp=Z,217nm,20.1s,baz=155,slow=37
MAK Makhachkala 94.98 4 *e*P P 05 48 30.1 -4.5
GYA Guiyang 95.89 314 P **P 05 48 38.0 -1.2**
GYA PP **PP 05 52 32.8 +2.2**
GYA SKS **SKSac 05 59 13.8 -1.9**
GYA S **S 05 59 52.0 -5.5**
GYA SS **SS 06 06 25.9 -0.3**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,130nm,5.2s
GYA LN
comp=Z,540nm,20.3s
GYA LE
comp=Z,510nm,21.6s
GYA LZ
comp=Z,500nm,20.2s
KSH Kashi 96.09 343 *e*P P 05 48 36.3 -3.6
KSH *e*pP **PcP 05 48 41.0 +0.9**
KSH SKS **SKSac 05 59 09.5 -6.9**
KSH S **SKKSac 05 59 47.6 +6.6**
KSH PMZ
comp=Z,82nm,4.2s
KSH LN
comp=Z,550nm,10.4s
KSH LE
comp=Z,280nm,8.8s
KSH LZ
comp=Z,230nm,21.3s
BRTR Keskin Array B 96.40 15 LR LR 06 34 21.1
comp=Z,176nm,20.6s,baz=343,slow=37
QIZ Qiongzhong 99.94 307 P **Pdif 05 48 58.0 +0.6**
QIZ S **S 06 00 31.4 -0.6**
QIZ LE
comp=Z,100nm,21.0s
QIZ LZ
comp=Z,240nm,24.5s
VNDA Vanda 127.12 195 PKP **PKPdf 05 54 15.8 +0.8**
comp=Z,1.2nm,0.9s,baz=306,slow=1.5,SNR=4.0
QSPA South Pole Qui 132.08 180 PKP **PKPdf 05 54 24.4 -0.4**
comp=Z,3.9nm,1.1s,baz=87,slow=1.0,SNR=7.8
LSZ Lusaka 145.35 47 *e*PKIKP **PKPdf 05 54 53.3 +2.7**
LSZ Lusaka 145.35 47 *e*PKPbc **PKPdf 05 54 53.3 +2.7**
SYO Syowa Base 152.21 169 ‖ *e*P **PKPab 05 55 19.0 +2.6**

IDC 13 05:45:48.0±4.4, 22°.22S×148°.19E, h0km, mb1 3.4/4, mb1mx3.3/30, mbtmp3.3/4, ML3.3/4, Error ellipse: s-maj=41.1km s-min=21.8km az=78.0, Queensland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**2.79**	**319**	Pn	Pn	05 46 35.0	+1.0
	2.9nm,0.3s,baz=137,slow=16,SNR=20						
CTA				Lg	Lg	05 47 16.7	
	42nm,0.3s,baz=60,slow=21,SNR=21						
STKA	**Stephens Creek**	**11.27**	**210**	Pn	Pn	05 48 29.8	-0.6
	0.2nm,0.3s,baz=26,slow=13,SNR=3.0						
STKA				Sn	Sn	05 50 38.8	+1.7
	0.3nm,0.3s,baz=114,slow=20,SNR=3.1						
WRA	**Warramunga Arr**	**13.13**	**277**	Pn	Pn	05 48 53.7	-2.1
	0.1nm,0.3s,baz=96,slow=12,SNR=4.3						
WRA				Sn	Sn	05 51 25.9	+3.2
	0.1nm,0.3s,baz=101,slow=25,SNR=2.5						
WRA				Lg	Lg	05 52 43.4	
	0.2nm,0.3s,baz=102,slow=31,SNR=8.0						
ASAR	**Alice Springs**	**13.24**	**261**	Pn	Pn	05 48 57.6	+0.1
	0.1nm,0.3s,baz=86,slow=13,SNR=2.5						
ASAR				Sn	Sn	05 51 28.2	+2.6
	0.1nm,0.3s,baz=91,slow=23,SNR=3.4						
ASAR				Lg	Lg	05 52 49.1	
	0.2nm,0.3s,baz=81,slow=27,SNR=5.5						

IDC ***13*** *05:59:49.9±0.9, 38°.46N×21°.82E, h0km, mb3.7/13, mb1 3.8/16, mb1mx3.7/43, mbtmp3.7/16, ML3.3/3, Error ellipse: s-maj=17.7km s-min=15.1km az=14.0*
ISCJB ***13*** *05:59:50.9±0.3, 38°.43N±0°.01×21°.84E±0°.02, h11km±2km, mb3.6/12, Error ellipse: s-maj=2.3km s-min=2.1km az=159.6*
ATH ***13*** *05:59:50.9, 38°.43N×21°.85E, h18km±1km, MD3.2/23, ML3.5*
IASPEI ***13*** *05:59:51.0±0.8, 38°.43N±0°.01×21°.83E±0°.01, h10km±4km, mb3.7/12, Error ellipse: s-maj=2.1km s-min=2.0km az=127.3*
THE ***13*** *05:59:51.2, 38°.42N×21°.83E, h0km±1km, ML3.6/12, Error ellipse: s-maj=1.3km s-min=0.4km az=112.0*
CSEM ***13*** *05:59:51.2±0.1, 38°.42N×21°.84E, h8km, MD3.2, Error ellipse: s-maj=2.5km s-min=2.2km az=82.0*

ISC 13 05:59:51.3±0.7, 38°.43N±0°.01×21°.83E±0°.01, h9km±4km, n170, σ0°91/234, mb3.7/12, 2C-7D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.06**	**91**	P	**Pg**	**05 59 52.9**	**-0.2**
EFP				S	**Sg**	**05 59 54.0**	**-0.6**
EFP	**Efpalio**	**0.06**	**91**	*e*PB	**Pg**	**05 59 53.0**	**-0.2**
EFP				*e*SB	**Sg**	**05 59 55.2**	**+0.6**
EFP	**Efpalio**	**0.06**	**91**	P	**Pg**	**05 59 53.0**	**-0.2**
EFP				S	**Sg**	**05 59 54.0**	**-0.6**
EFP				*e*Sb	**Sg**	**05 59 55.2**	**+0.6**
UPR	**University Cam**	**0.15**	**193**	P	**Pg**	**05 59 54.5**	**0.0**
UPR				S	**Sg**	**05 59 56.9**	**+0.2**
UPR	**University Cam**	**0.15**	**193**	P	**Pg**	**05 59 54.5**	**0.0**
UPR				S	**Sg**	**05 59 56.9**	**+0.2**
KALE	**Kalithea**	**0.25**	**98**	P	**Pg**	**05 59 56.1**	**-0.2**
KALE				S	**Sg**	**05 59 59.6**	**0.0**
KALE	**Kalithea**	**0.25**	**98**	*e*PB	**Pg**	**05 59 56.2**	**-0.1**
KALE				*e*SB	**Sg**	**06 00 00.4**	**+0.8**
KALE	**Kalithea**	**0.25**	**98**	P	**Pg**	**05 59 56.1**	**-0.2**
KALE				S	**Sg**	**05 59 59.8**	**+0.2**
PVO	**Paravola**	**0.30**	**309**	P	**Pg**	**05 59 57.3**	**0.0**
PVO				S	**Sg**	**06 00 02.0**	**+0.6**
PVO	**Paravola**	**0.30**	**309**	P	**Pg**	**05 59 57.1**	**-0.2**
PVO				S	**Sg**	**06 00 01.9**	**+0.6**
KLV	**Kalavryta, Ach**	**0.46**	**146**	P	**Pg**	**05 59 59.7**	**-0.5**
KLV				S	**Sg**	**06 00 06.7**	**+0.4**
KLV	**Kalavryta, Ach**	**0.46**	**146**	*e*PB	**Pg**	**05 59 59.7**	**-0.5**
KLV				*e*SB	**Sg**	**06 00 07.0**	**+0.7**
KLV	**Kalavryta, Ach**	**0.46**	**146**	P	**Pg**	**05 59 59.8**	**-0.5**
KLV				S	**Sg**	**06 00 06.7**	**+0.4**
RLS	**Riolos of Patr**	**0.47**	**218**	P	**Pg**	**06 00 00.4**	**+0.1**
RLS				S	**Sg**	**06 00 07.6**	**+1.1**
RLS	**Riolos of Patr**	**0.47**	**218**	*e*PB	**Pg**	**06 00 00.4**	**+0.1**
RLS				*e*SB	**Sb**	**06 00 08.3**	**-0.3**
RLS	**Riolos of Patr**	**0.47**	**218**	P	**Pg**	**06 00 00.4**	**+0.1**
RLS				S	**Sg**	**06 00 07.3**	**+0.8**
RLS				*e*Sb	**Sb**	**06 00 08.3**	**-0.3**
DRO	**Drossia**	**0.48**	**191**	P	**Pg**	**06 00 00.2**	**-0.4**
DRO	**Drossia**	**0.48**	**191**	*e*PB	**Pg**	**06 00 00.3**	**-0.4**
DRO				*e*SB	**Sg**	**06 00 08.2**	**+1.2**
DRO	**Drossia**	**0.48**	**191**	P	**Pg**	**06 00 00.3**	**-0.4**
DRO				S	**Sg**	**06 00 07.6**	**+0.6**
DRO				*e*Sb	**Sg**	**06 00 08.2**	**+1.2**
EVR	**Evrytania**	**0.49**	**358**	P	**Pg**	**06 00 00.3**	**-0.5**
EVR				S	**Sg**	**06 00 08.2**	**+0.9**
EVR	**Evrytania**	**0.49**	**358**	*e*PB	**Pg**	**06 00 00.3**	**-0.5**
EVR				*e*SB	**Sg**	**06 00 07.6**	**+0.3**
EVR	**Evrytania**	**0.49**	**358**	P	**Pg**	**06 00 00.3**	**-0.5**
EVR				*e*Sb	**Sg**	**06 00 07.6**	**+0.3**
EVR				S	**Sb**	**06 00 08.1**	**-1.3**
PDO	**Prodromos**	**0.53**	**289**	P	**Pg**	**06 00 01.0**	**-0.6**
PDO				S	**Sg**	**06 00 08.9**	**+0.2**
PDO	**Prodromos**	**0.53**	**289**	*e*PN	**Pg**	**06 00 01.1**	**-0.6**
PDO				*e*SN	**Sg**	**06 00 09.9**	**+1.2**
PDO	**Prodromos**	**0.53**	**289**	*e*Pn	**Pg**	**06 00 01.1**	**-0.6**
PDO				S	**Sg**	**06 00 08.9**	**+0.2**
PDO				*e*Sn	**Sg**	**06 00 09.9**	**+1.2**
DSF	**Desfina**	**0.55**	**91**	P	**Pg**	**06 00 01.1**	**-0.8**
DSF				S	**Sg**	**06 00 09.7**	**+0.6**
DSF	**Desfina**	**0.55**	**91**	*e*PN	**Pg**	**06 00 01.0**	**-0.8**
DSF				*e*SN	**Sg**	**06 00 09.7**	**+0.6**
DSF	**Desfina**	**0.55**	**91**	P	**Pg**	**06 00 01.1**	**-0.8**
DSF				S	**Sg**	**06 00 09.6**	**+0.5**
MAKR	**Makrakomi, Fth**	**0.63**	**22**	P	**Pg**	**06 00 03.2**	**-0.2**
MAKR				S	**Sb**	**06 00 13.1**	**-0.4**
MAKR	**Makrakomi, Fth**	**0.63**	**22**	*e*PN	**Pg**	**06 00 03.3**	**-0.2**
MAKR				*e*SN	**Sg**	**06 00 12.5**	**+0.7**
MAKR	**Makrakomi, Fth**	**0.63**	**22**	P	**Pg**	**06 00 03.2**	**-0.2**
MAKR				*e*Sn	**Sg**	**06 00 12.5**	**+0.7**
GUR	**Goura**	**0.64**	**140**	P	**Pg**	**06 00 02.6**	**-1.0**
GUR				S	**Sg**	**06 00 12.2**	**+0.3**
GUR	**Goura**	**0.64**	**140**	*e*PB	**Pg**	**06 00 02.7**	**-0.9**
GUR				*e*SN	**Sg**	**06 00 12.5**	**+0.6**
GUR	**Goura**	**0.64**	**140**	P	**Pg**	**06 00 02.7**	**-0.9**
GUR				S	**Sg**	**06 00 11.8**	**-0.1**
GUR				*e*Sn	**Sg**	**06 00 12.5**	**+0.6**
AGG	**Agios Georgios**	**0.71**	**33**	P	**Pg**	**06 00 04.1**	**-0.9**
AGG				S	**Sb**	**06 00 15.8**	**0.0**
AGG	**Agios Georgios**	**0.71**	**33**	*e*PB	**Pg**	**06 00 03.8**	**-1.2**
AGG				*e*SN	**Sg**	**06 00 15.1**	**+0.8**
AGG	**Agios Georgios**	**0.71**	**33**	*e*Pb	**Pg**	**06 00 03.8**	**-1.2**
AGG	**Agios Georgios**	**0.71**	**33**	P	**Pg**	**06 00 04.1**	**-0.9**
AGG				*e*Sn	**Sg**	**06 00 15.1**	**+0.8**
VTN	**Vitineika**	**0.72**	**225**	P	**Pg**	**06 00 04.2**	**-0.9**
VTN	**Vitineika**	**0.72**	**225**	P	**Pg**	**06 00 04.2**	**-0.9**
AXAR	**Agios Charalam**	**0.73**	**62**	P	**Pg**	**06 00 04.7**	**-0.7**
AXAR				S	**Sb**	**06 00 16.3**	**-0.1**
AXAR	**Agios Charalam**	**0.73**	**62**	*e*PN	**Pg**	**06 00 04.9**	**-0.5**
AXAR				*e*SN	**Sg**	**06 00 15.6**	**+0.6**
AXAR	**Agios Charalam**	**0.73**	**62**	P	**Pg**	**06 00 04.8**	**-0.7**
AXAR				*e*Sn	**Sg**	**06 00 15.6**	**+0.6**
KFL	**Anninata**	**0.88**	**249**	P	**Pg**	**06 00 08.1**	**-0.1**
KFL				S	**Sb**	**06 00 21.6**	**+1.1**
KFL	**Anninata**	**0.88**	**249**	P	**Pg**	**06 00 08.1**	**-0.1**
KFL				S	**Sb**	**06 00 21.6**	**+1.1**
AMT	**Artemida-Makis**	**0.90**	**186**	P	**Pg**	**06 00 08.2**	**-0.3**
AMT				S	**Sb**	**06 00 21.9**	**+0.8**
AMT	**Artemida-Makis**	**0.90**	**186**	*e*PN	**Pg**	**06 00 08.7**	**+0.2**
AMT	**Artemida-Makis**	**0.90**	**186**	P	**Pg**	**06 00 08.2**	**-0.3**
AMT	**Artemida-Makis**	**0.90**	**186**	*e*Pn	**Pg**	**06 00 08.7**	**+0.2**
AMT				S	**Sb**	**06 00 21.9**	**+0.8**
DSL	**Palaion Diasel**	**0.91**	**321**	P	**Pg**	**06 00 08.0**	**-0.7**
DSL	**Palaion Diasel**	**0.91**	**321**	*e*PN	**Pg**	**06 00 08.0**	**-0.7**
DSL	**Palaion Diasel**	**0.91**	**321**	P	**Pg**	**06 00 08.0**	**-0.7**
LKR	**Lokris**	**0.94**	**76**	P	**Pg**	**06 00 08.9**	**-0.5**
LKR	**Lokris**	**0.94**	**76**	*e*PN	**Pg**	**06 00 08.8**	**-0.6**
LKR				*e*SN	**Sb**	**06 00 22.3**	**-0.1**
LKR	**Lokris**	**0.94**	**76**	P	**Pg**	**06 00 08.9**	**-0.5**
LKR				*e*Sn	**Sb**	**06 00 22.3**	**-0.1**
LTK	**Loutraki**	**0.98**	**114**	P	**Pg**	**06 00 09.3**	**-0.9**
LTK	**Loutraki**	**0.98**	**114**	*e*PN	**Pg**	**06 00 10.0**	**-0.2**
LTK				*e*SN	**Sb**	**06 00 23.8**	**+0.2**
LTK	**Loutraki**	**0.98**	**114**	P	**Pg**	**06 00 09.3**	**-0.9**
LTK	**Loutraki**	**0.98**	**114**	*e*Pn	**Pg**	**06 00 10.0**	**-0.2**
LTK				*e*Sn	**Sb**	**06 00 23.8**	**+0.2**
LKD2	**Lefkada island**	**0.99**	**292**	P	**Pg**	**06 00 09.6**	**-0.6**
LKD2				S	**Sn**	**06 00 24.9**	**-0.5**
LKD2	**Lefkada island**	**0.99**	**292**	P	**Pg**	**06 00 09.6**	**-0.6**
LKD2				S	**Sn**	**06 00 24.9**	**-0.5**
VLS	**Valsamata**	**1.01**	**256**	P	**Pg**	**06 00 09.3**	**-1.3**
VLS	**Valsamata**	**1.01**	**256**	*e*PB	**Pg**	**06 00 09.4**	**-1.2**
VLS				*e*SN	**Sn**	**06 00 25.4**	**-0.5**
VLS	**Valsamata**	**1.01**	**256**	P	**Pg**	**06 00 09.3**	**-1.3**
VLS				*e*Sn	**Sn**	**06 00 25.4**	**-0.5**
VLX	**Vlachokerasia**	**1.14**	**157**	P	**Pb**	**06 00 11.8**	**-1.4**
VLX	**Vlachokerasia**	**1.14**	**157**	*e*PN	**Pb**	**06 00 11.9**	**-1.3**
VLX	**Vlachokerasia**	**1.14**	**157**	P	**Pb**	**06 00 11.8**	**-1.4**
THL	**Klokotos Trika**	**1.15**	**7**	P	**Pb**	**06 00 12.7**	**-0.5**
THL				S	**Sb**	**06 00 28.8**	**+0.6**
THL	**Klokotos Trika**	**1.15**	**7**	*e*PN	**Pb**	**06 00 12.4**	**-0.8**
THL				*e*SN	**Sb**	**06 00 28.7**	**+0.6**

THL	**Klokotos Trika**	**1.15**	**7**	*e*Pn		**Pb**	**06 00 12.4**	**-0.8**
THL	**Klokotos Trika**	**1.15**	**7**	P		**Pb**	**06 00 12.7**	**-0.5**
THL				S		**Sb**	**06 00 28.8**	**+0.6**
SMIA	**Simia**	**1.17**	**67**	P		**Pb**	**06 00 13.5**	**-0.2**
SMIA	**Simia**	**1.17**	**67**	*e*PN		**Pb**	**06 00 13.7**	**0.0**
SMIA	**Simia**	**1.17**	**67**	*e*Pn		**Pb**	**06 00 13.7**	**0.0**
ITM	**Ithomi**	**1.25**	**176**	P		**Pn**	**06 00 13.7**	**-1.2**
ITM	**Ithomi**	**1.25**	**176**	*e*PN		**Pn**	**06 00 14.6**	**-0.3**
ITM	**Ithomi**	**1.25**	**176**	P		**Pn**	**06 00 13.7**	**-1.2**
ITM	**Ithomi**	**1.25**	**176**	*e*Pn		**Pn**	**06 00 14.6**	**-0.3**
NEO	**Neokhori**	**1.40**	**51**	P		**Pn**	**06 00 17.2**	**+0.2**
NEO	**Neokhori**	**1.40**	**51**	*e*PN		**Pn**	**06 00 17.3**	**+0.2**
NEO				*e*SN		**Sb**	**06 00 35.5**	**0.0**
NEO	**Neokhori**	**1.40**	**51**	P		**Pn**	**06 00 17.2**	**+0.2**
NEO				*e*Sn		**Sb**	**06 00 35.5**	**0.0**
MRKA	**Markates**	**1.41**	**78**	P		**Pn**	**06 00 17.2**	**+0.1**
MRKA	**Markates**	**1.41**	**78**	*e*PN		**Pn**	**06 00 17.2**	**+0.1**
MRKA	**Markates**	**1.41**	**78**	P		**Pn**	**06 00 17.2**	**+0.1**
XOR	**Xorichti**	**1.42**	**48**	P		**Pn**	**06 00 17.4**	**+0.2**
XOR	**Xorichti**	**1.42**	**48**	*e*PN		**Pn**	**06 00 17.5**	**+0.2**
XOR				*e*SN		**Sn**	**06 00 35.9**	**-0.2**
XOR	**Xorichti**	**1.42**	**48**	P		**Pn**	**06 00 17.4**	**+0.2**
XOR				*e*Sn		**Sn**	**06 00 35.9**	**-0.2**
DID	**Didima**	**1.44**	**129**	*e*PN		**Pn**	**06 00 18.0**	**+0.4**
DID				*e*SN		**Sg**	**06 00 37.9**	**+0.2**
DID	**Didima**	**1.44**	**129**	*e*Pn		**Pn**	**06 00 18.0**	**+0.4**
DID				*e*Sn		**Sg**	**06 00 37.9**	**+0.2**
JAN	**Janina**	**1.44**	**328**	P		**Pb**	**06 00 18.3**	**-0.1**
JAN	**Janina**	**1.44**	**328**	P		**Pb**	**06 00 18.3**	**-0.1**
NAIG	**Nisos Aigina**	**1.47**	**117**	*e*PN		**Pn**	**06 00 18.2**	**+0.3**
NAIG	**Nisos Aigina**	**1.47**	**117**	*e*Pn		**Pn**	**06 00 18.2**	**+0.3**
PYL	**PYLOS**	**1.53**	**183**	P		**Pn**	**06 00 18.9**	**+0.1**
PYL	**PYLOS**	**1.53**	**183**	*e*PN		**Pn**	**06 00 19.5**	**-0.3**
PYL	**PYLOS**	**1.53**	**183**	P		**Pn**	**06 00 18.9**	**+0.1**
PYL	**PYLOS**	**1.53**	**183**	*e*Pn		**Pb**	**06 00 19.5**	**-0.3**
ATH	**Athens Observa**	**1.56**	**106**	*e*PN		**Pn**	**06 00 19.4**	**+0.3**
ATH				*e*SN		**Sb**	**06 00 40.0**	**0.0**
ATH	**Athens Observa**	**1.56**	**106**	*e*Pn		**Pn**	**06 00 19.4**	**+0.3**
ATH				*e*Sn		**Sb**	**06 00 40.0**	**0.0**
PTL	**Penteli**	**1.65**	**103**	*e*PN		**Pb**	**06 00 21.6**	**-0.2**
PTL	**Penteli**	**1.65**	**103**	*e*Pn		**Pb**	**06 00 21.6**	**-0.2**
LIT	**Litokhoron**	**1.75**	**17**	P		**Pn**	**06 00 22.0**	**+0.2**
LIT	**Litokhoron**	**1.75**	**17**	*e*PN		**Pn**	**06 00 21.8**	**0.0**
LIT	**Litokhoron**	**1.75**	**17**	P		**Pn**	**06 00 22.0**	**+0.2**
AOS	**Alonnisos**	**1.77**	**65**	P		**Pn**	**06 00 22.7**	**+0.7**
AOS	**Alonnisos**	**1.77**	**65**	*e*PN		**Pn**	**06 00 21.7**	**-0.3**
AOS	**Alonnisos**	**1.77**	**65**	*e*Pn		**Pn**	**06 00 21.7**	**-0.3**
AOS	**Alonnisos**	**1.77**	**65**	P		**Pn**	**06 00 22.7**	**+0.7**
KZN	**Kozani**	**1.88**	**359**	P		**Pn**	**06 00 24.3**	**+0.7**
KZN	**Kozani**	**1.88**	**359**	P		**Pn**	**06 00 24.3**	**+0.7**
VLI	**Veliai**	**1.92**	**152**	P		**Pn**	**06 00 24.6**	**+0.5**
VLI	**Veliai**	**1.92**	**152**	*e*PB		**Pn**	**06 00 24.4**	**+0.3**
VLI	**Veliai**	**1.92**	**152**	P		**Pn**	**06 00 24.6**	**+0.5**
KEK	**Kerkira**	**2.04**	**310**	*e*PN		**Pb**	**06 00 27.6**	**-0.8**
KEK	**Kerkira**	**2.04**	**310**	*e*Pn		**Pb**	**06 00 27.6**	**-0.8**
GRG	**Griva**	**2.56**	**10**	P		**Pn**	**06 00 33.6**	**+0.6**
GRG	**Griva**	**2.56**	**10**	P		**Pn**	**06 00 33.6**	**+0.6**
OHR	**Ohrid**	**2.80**	**344**	*e*Pn		**Pn**	**06 00 38.7**	**+2.5**
OHR	**Ohrid**	**2.80**	**344**	*e*Pn		**Pn**	**06 00 38.7**	**+2.5**
KNT	**Kendrikon**	**2.85**	**16**	P		**Pn**	**06 00 37.3**	**+0.3**
KNT	**Kendrikon**	**2.85**	**16**	P		**Pn**	**06 00 37.3**	**+0.3**
VAY	**Valandovo**	**2.95**	**11**	*e*Pn		**Pn**	**06 00 35.2**	**-3.1**
VAY	**Valandovo**	**2.95**	**11**	*e*Pn		**Pn**	**06 00 35.1**	**-3.1**
APE	**Apeiranthos**	**3.23**	**114**	P		**Pn**	**06 00 42.9**	**+0.7**
APE	**Apeiranthos**	**3.23**	**114**	P		**Pn**	**06 00 42.9**	**+0.7**
IDI	**Anoyia**	**3.98**	**141**	Pn		**Pn**	**06 00 53.0**	**+0.5**
	1.4nm,0.3s,baz=316,slow=15,SNR=14							
IDI						**Sn**	**06 01 40.4**	**+1.1**
	2.5nm,0.3s,baz=60,slow=20,SNR=4.5							
KDZ	**Kurdzhali**	**4.24**	**39**	*i*P		**Sn**	**06 01 46.3**	**+0.7**
VTS	**Vitosha**	**4.29**	**14**	*i*P		**Sn**	**06 01 45.1**	**-2.0**
BARS	**Barje**	**4.38**	**360**	*e*Pn		Pn	06 01 01.4	+3.4
IVAS	**Ivanjica**	**5.30**	**347**	*e*Pn		**Pn**	**06 01 12.9**	**+2.3**
STON	**Ston**	**5.44**	**326**	*e*Pn		**Pn**	**06 01 12.7**	**+0.2**
STON				Sn		**Sn**	**06 02 11.8**	**-3.3**
STON	**Ston**	**5.44**	**326**	*e*Pn		**Pn**	**06 01 12.6**	**+0.2**
GRUS	**Gruza**	**5.52**	**352**	*e*Pn		**Pn**	**06 01 14.9**	**+1.3**
DIVS	**Divibare**	**5.83**	**347**	*i*P		**Pn**	**06 01 19.3**	**+1.3**
DIVS	**Divibare**	**5.83**	**347**	*e*Pn		**Pn**	**06 01 17.7**	**-0.3**
TEKS	**Tekeris**	**6.36**	**345**	*e*Pn		**Pn**	**06 01 22.9**	**-2.2**
VOIR		**7.49**	**18**	*i*P		Pn	06 01 50.1	-10
MLR	**Muntele Rosu**	**7.69**	**22**	*i*P		Pn	06 01 46.8	+3.2
	0.1nm,0.3s,baz=247,slow=15,SNR=4.4							
MLR						**Sn**	**06 03 16.5**	**+5.6**
	0.0nm,0.3s,baz=108,slow=19,SNR=1.7							
MLR	**Muntele Rosu**	**7.69**	**22**	*i*P		Pn	06 01 48.6	+5.0
TIRR	**Tirgusor**	**7.79**	**37**	*i*P		Pn	06 01 50.7	+5.9
PKSM	**Moragy**	**8.13**	**344**	*i*P		**Pn**	**06 01 52.1**	**+2.7**
PLOR	**Plostina**	**8.24**	**24**	*i*P		Pn	06 01 57.8	+6.9
VRI	**Vrincioaia**	**8.27**	**24**	*i*P		Pn	06 01 56.8	+5.4
BRTR	**Keskin Array B**	**9.28**	**78**	Pn		**Pn**	**06 02 06.8**	**+1.5**
	0.3nm,0.3s,baz=264,slow=12,SNR=8.1							
GERES	**GERESS Array B**	**11.95**	**333**	Pn		**Pn**	**06 02 43.7**	**+1.8**
	0.1nm,0.3s,baz=143,slow=15,SNR=3.9							
LPG	**La Plagne**	**13.25**	**307**	*e*P		**Pn**	**06 03 00.3**	**+0.6**
	10nm,1.1s							
LPG	**La Plagne**	**13.25**	**307**	*e*P		**Pn**	**06 03 00.3**	**+0.6**
	10.0nm,1.1s							
LPL	**La Plagne**	**13.27**	**307**	*e*P		**Pn**	**06 03 00.1**	**+0.2**
LPL	**La Plagne**	**13.27**	**307**	*e*P		**Pn**	**06 03 00.1**	**+0.2**
SMF	**Signal de Mont**	**15.57**	**308**	*e*P		**P**	**06 03 36.5**	**+1.3**
	21nm,1.2s							
SMF	**Signal de Mont**	**15.57**	**308**	*e*P		**P**	**06 03 36.5**	**+1.3**
	20nm,1.2s							
AVF	**Avril sur Loir**	**15.94**	**308**	*e*P		**P**	**06 03 40.6**	**+1.3**
	9.3nm,0.9s							
AVF	**Avril sur Loir**	**15.94**	**308**	*e*P		**P**	**06 03 40.6**	**+1.3**
	9.0nm,0.9s							
SSF	**Saint Saulge**	**15.96**	**309**	*e*P		**P**	**06 03 39.1**	**-0.4**
	18nm,1.1s							
SSF	**Saint Saulge**	**15.96**	**309**	*e*P		**P**	**06 03 39.1**	**-0.4**
	18nm,1.1s							
ESDC	**Sonseca Array**	**20.05**	**282**	P		**P**	**06 04 25.0**	**+0.3**
	1.9nm,0.6s,baz=78,slow=11,SNR=10							
MDT	**Midelt**	**22.18**	**263**	P		**P**	**06 04 47.0**	**-0.7**
	2.8nm,0.9s,baz=73,slow=15,SNR=4.4							
HFS	**Hagfors**	**22.33**	**349**	P		**P**	**06 04 47.8**	**-1.2**
	1.2nm,0.6s,baz=152,slow=9.9,SNR=8.7							
FINES	**FINESS Array B**	**23.19**	**5**	P		**P**	**06 04 57.6**	**-0.4**
	0.8nm,0.6s,baz=169,slow=11,SNR=4.0							
NB2	**NORSAR Subarra**	**23.59**	**347**	P		**P**	**06 05 01.1**	**-1.0**
	comp=Z,2.4nm,0.7s,baz=153,slow=10							
NB2	**NORSAR Subarra**	**23.59**	**347**	P		**P**	**06 05 01.1**	**-1.0**
	comp=Z,2.4nm,0.7s							
NOA	**NORSAR Array B**	**23.59**	**347**	P		**P**	**06 05 01.0**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=157,slow=8.3,SNR=7.3							
EKA	**Eskdalemuir Ar**	**23.83**	**323**	P		**P**	**06 05 03.9**	**-0.6**
	comp=Z,2.7nm,0.7s,baz=126,slow=9.4,SNR=7.7							
TORD	**Torodi Ar. Bea**	**30.88**	**221**	P		**P**	**06 06 08.4**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=32,slow=9.4,SNR=6.1							
ARCES	**ARCESS Array B**	**31.23**	**2**	P		**P**	**06 06 10.3**	**-0.4**
	comp=Z,1.5nm,0.9s,baz=174,slow=8.9,SNR=3.1							
BVAR	**Borovoye Array**	**36.17**	**50**	P		**P**	**06 06 54.9**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=255,slow=11,SNR=2.7							
KURBB	**Kurchatov Arra**	**41.25**	**54**	P		**P**	**06 07 35.6**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=283,slow=8.5,SNR=2.4							
MKAR	**Makanchi Array**	**44.29**	**59**	P		**P**	**06 08 01.3**	**0.0**
	comp=Z,1.7nm,0.5s,baz=272,slow=12,SNR=16							
ZALV	**Zalesovo Beam**	**44.76**	**48**	P		**P**	**06 08 04.7**	**-0.1**
	comp=Z,2.0nm,0.5s,baz=275,slow=9.0,SNR=7.7							
YKA	**Yellowknife Ar**	**73.50**	**341**	P		**P**	**06 11 23.9**	**0.0**
	comp=Z,0.2nm,0.5s,baz=42,slow=5.0,SNR=4.1							

*ISCJB **13** 06:00:03.6±0.5, 11°.06S±0°.06×73°.20W±0°.05, h33km, mb3.8/8, Error ellipse: s-maj=8.9km s-min=6.0km az=20.3*
*IDC **13** 06:00:05.2±5.1, 10°.96S×73°.29W, h33km±43km, mb3.7/8, mb1 4.0/13, mb1mx3.8/31, mbtmp4.0/13, ML4.1/5, Error ellipse: s-maj=28.9km s-min=17.5km az=23.0*
*NEIC **13** 06:00:07.0±0.8, 11°.08S×73°.24W, h54km±9km, mb4.2/2, Error ellipse: s-maj=11.4km s-min=7.9km az=220.0*
ISC 13 06:00:05.7±0.6, 11°.10S±0°.07×73°.23W±0°.06, h35km, n25, σ1§62/28, mb3.8/8, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.65**	**256**	Pn		**Pn**		**06 00 59.7**	**-0.1**
	31nm,0.3s,baz=104,slow=7.0,SNR=40								
NNA						Sn	**Sn**	**06 01 40.3**	**-1.4**
	133nm,0.3s,baz=50,slow=18,SNR=9.0								
NNA	**Nana**	**3.65**	**256**	*e*Pn		**Pn**		**06 00 59.8**	**0.0**
NNA						Sn	**Sn**	**06 01 40.3**	**-1.4**
NNA						*e*Sn	**Sn**	06 01 41.7	-0.1
ATAH	**Atahualpa**	**6.44**	**307**	Pn		**Pn**		**06 01 40.2**	**+1.8**
	15nm,0.3s,baz=98,slow=2.6,SNR=54								
ATAH						Sn	**Sn**	**06 02 53.5**	**+2.4**
	0.9nm,0.3s,baz=107,slow=14,SNR=1.4								
LPAZ	**La Paz**	**7.15**	**137**	Pn		**Pn**		**06 01 50.8**	**+2.3**
	0.4nm,0.3s,baz=311,slow=8.6,SNR=13								
LPAZ						Lg	Lg	06 03 45.5	
	4.5nm,0.3s,baz=179,slow=24,SNR=3.7								
LPAZ	**La Paz**	**7.15**	**137**	*e*Pn		**Pn**		**06 01 50.7**	**+2.3**
	11nm,0.6s								
LPAZ						Lg	Lg	06 03 45.5	
SAML	**Samuel**	**10.12**	**79**	*e*Pn		**Pn**		**06 02 29.7**	**+1.1**
	0.1nm,0.4s								
SAML						*e*Sn	**Sn**	**06 04 19.0**	**-1.9**
LVC	**Limon Verde**	**12.17**	**161**	Pn		**Pn**		**06 02 59.5**	**+2.5**
	7.0nm,0.3s,baz=303,slow=17,SNR=3.0								
OTAV	**Otavalo**	**12.40**	**335**	*e*Pn		**Pn**		**06 03 02.8**	**+2.6**
	4.1nm,0.5s								
SIV	**San Ignacio**	**12.78**	**114**	Pn		**Pn**		**06 03 04.4**	**-0.6**
	0.6nm,0.3s,baz=314,slow=13,SNR=5.5								
SIV						Sn	Sn	06 05 36.5	+10
	1.1nm,0.3s,baz=41,slow=20,SNR=2.8								
SIV						Lg	Lg	06 06 45.1	
	4.8nm,0.3s,baz=222,slow=23,SNR=6.9								
PTGA	**Pitinga**	**16.72**	**53**	Pn		**Pn**		**06 03 55.8**	**-1.6**
	1.7nm,0.3s,baz=228,slow=13,SNR=9.1								
PTGA	**Pitinga**	**16.72**	**53**	*e*Pn		**Pn**		**06 03 56.2**	**-1.2**
	13nm,0.6s								
PTGA						*e*Sn	Sn	06 06 55.1	-7.0
SDV	**Santo Domingo**	**20.02**	**8**	*e*P		**P**		**06 04 36.6**	**+0.8**
	3.6nm,0.4s								
CFAA	**Coronel Fontan**	**20.93**	**168**	P		**P**		**06 04 45.8**	**+0.3**
	0.2nm,0.9s,baz=351,slow=12,SNR=2.3								
BDFB	**Brasilia**	**24.93**	**103**	P		**P**		**06 05 27.7**	**+1.7**
	1.2nm,0.4s,baz=178,slow=10,SNR=4.6								
TXAR	**Lajitas Array**	**49.78**	**325**	P		**P**		**06 08 53.5**	**-1.7**
	0.7nm,0.6s,baz=150,slow=8.2,SNR=8.7								
PDAR	**Pinedale Array**	**63.07**	**331**	P		**P**		**06 10 28.4**	**-1.4**
	0.2nm,0.5s,baz=119,slow=7.3,SNR=3.0								
ULM	**Lac du Bonnet**	**64.22**	**344**	P		**P**		**06 10 35.5**	**-1.4**
	1.3nm,0.7s,baz=150,slow=1.5,SNR=3.8								
NVAR	**Mina Array Bea**	**64.78**	**322**	P		**P**		**06 10 41.5**	**+0.3**
	0.4nm,0.7s,baz=129,slow=6.6,SNR=4.2								
TORD	**Torodi Ar. Bea**	**78.14**	**74**	P		**P**		**06 12 01.7**	**-0.3**
	0.6nm,0.7s,baz=256,slow=5.8,SNR=6.5								
YKA	**Yellowknife Ar**	**80.06**	**342**	P		**P**		**06 12 10.5**	**-0.9**
	0.4nm,0.4s,baz=141,slow=6.1,SNR=11								
INK	**Inuvik**	**89.81**	**341**	P		**P**		**06 12 59.2**	**-1.0**
	1.4nm,0.8s,baz=81,slow=3.7,SNR=6.6								
WRA	**Warramunga Arr**	**138.92**	**221**	PKP		**PKPdf**		**06 19 28.2**	**-1.2**
	0.2nm,0.4s,baz=125,slow=1.9,SNR=8.0								
SONM	**Songino Array**	**143.38**	**0**	PKP		PKPab		06 19 34.0	+1.2
	0.4nm,0.6s,baz=329,slow=1.7,SNR=2.4								
KSRS	**Korea Array**	**147.59**	**328**	PKPbc		**PKPdf**		**06 19 45.8**	**+1.7**
	0.7nm,0.4s,baz=350,slow=2.0,SNR=7.5								
KSAR	**Wonju Array Be**	**147.62**	**328**	PKPbc		**PKPdf**		**06 19 45.8**	**+1.6**

*ISCJB **13** 06:05:56.8±1.4, 28°.3N×0°.2×84°.4E±0°.1, h33km, mb3.6/3, Error ellipse: s-maj=26.9km s-min=12.7km az=20.1*
*IDC **13** 06:05:56.9±2.0, 28°.61N×85°.61E, h0km, mb3.7/3, mb1 3.7/5, mb1mx3.3/39, mbtmp3.6/5, ML3.6/2, Error ellipse: s-maj=101.9km s-min=25.7km az=60.0*
ISC 13 06:05:59.3±1.5, 28°.3N±0°.2×84°.5E±0°.1, h35km, n6, σ1§18/7, mb3.7/3, Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SMLA	**Simla**	**6.97**	**296**	*i* P		**Pn**		**06 07 39.9**	**+1.1**
SMLA				*i* S		**Sn**		**06 08 55.7**	**-1.2**
SMLA				*i* S		**Sn**		**06 08 55.9**	**-1.0**
SMLA				AML		AML		06 08 59.6	
	comp=E,1μm,0.3s								
SMLA				AML		AML		06 09 00.0	
	comp=N,1μm,0.2s								
AAK	**Ala-Archa**	**16.44**	**333**	Pn		**P**		**06 09 50.6**	**+0.8**
	comp=N,0.2nm,0.3s,baz=160,slow=12,SNR=2.9								
MKAR	**Makanchi Array**	**18.54**	**355**	P		**P**		**06 10 11.7**	**-1.1**
	comp=N,0.2nm,0.3s,baz=176,slow=11,SNR=5.1								
ZALV	**Zalesovo Beam**	**25.62**	**0**	P		**P**		**06 11 25.5**	**+0.3**
	comp=N,1.0nm,0.5s,baz=189,slow=8.6,SNR=3.6								
FINES	**FINESS Array B**	**50.54**	**328**	P		P		06 14 58.7	+4.8
	comp=N,0.8nm,0.8s,baz=106,slow=7.3,SNR=3.9								
WRA	**Warramunga Arr**	**67.97**	**129**	P		**P**		**06 16 54.5**	**-0.5**
	comp=N,0.3nm,0.6s,baz=320,slow=6.6,SNR=7.3								

IDC 13 06:15:00.5±3.4, 30°.32S×138°.37E, h0km, mb1 3.0/3, mb1mx3.0/27, mbtmp2.7/3, ML2.3/3, Error ellipse: s-maj=82.0km s-min=15.2km az=44.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.17**	**120**	Pn		Pn		06 15 51.4	-0.4
	0.2nm,0.3s,baz=301,slow=15,SNR=7.3								
STKA				Pg		Pb		06 15 59.5	+1.7
	0.9nm,0.3s,baz=296,slow=16,SNR=15								
STKA				Sn		Sn		06 16 30.9	+0.6
	0.9nm,0.3s,baz=159,slow=23,SNR=4.7								
STKA				Lg		Lg		06 16 40.6	
	1.8nm,0.3s,baz=345,slow=7.5,SNR=5.9								
ASAR	**Alice Springs**	**7.73**	**328**	Pn		Pn		06 16 54.8	+0.4
	0.1nm,0.3s,baz=150,slow=13,SNR=3.7								
ASAR				Sn		Sn		06 18 24.6	+1.9
	0.1nm,0.3s,baz=153,slow=21,SNR=4.3								
WRA	**Warramunga Arr**	**10.95**	**340**	Pn		Pn		06 17 37.8	-0.7
	0.0nm,0.3s,baz=156,slow=13,SNR=2.6								
WRA				Sn		Sn		06 19 42.3	+0.4
	0.1nm,0.3s,baz=162,slow=23,SNR=5.8								

*ISCJB **13** 06:15:43.7±0.5, 52°.31S±0°.08×13°.7E±0°.2, h10km, mb4.4/14, MS3.8/6, Error ellipse: s-maj=16.5km s-min=11.1km az=168.7*
*IDC **13** 06:15:43.8±0.6, 52°.26S×13°.82E, h0km, mb4.4/14, mb1 4.5/14, mb1mx4.4/26, mbtmp4.4/14, MS3.9/6, Ms1 3.9/6, ms1mx3.6/21, Error ellipse: s-maj=24.2km s-min=15.7km az=68.0*
*NEIC **13** 06:15:45.5±0.3, 52°.28S×13°.75E, h10km, mb4.7/4, Error ellipse: s-maj=12.3km s-min=8.4km az=70.0*
*AWI **13** 06:16:04.2, 54°.34S×14°.74E*
ISC 13 06:15:45.4±0.6, 52°.30S±0°.10×13°.8E±0°.1, h10km, n43, σ0§71/36, mb4.4/14, MS3.9/6, 2C, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.56**	**17**	P		Pn		06 20 31.8	+5.3
	34nm,0.9s,baz=191,slow=11,SNR=8.1								
SUR				LR		LR		06 26 28.9	
	comp=Z,560nm,18.2s,baz=236,slow=32								
SYO	**Syowa Base**	**20.70**	**154**	*i*P		**P**		**06 20 23.0**	**-2.3**
SYO	**Syowa Base**	**20.70**	**154**	*e*P		**P**		**06 20 25.2**	**-0.1**
SNAA	**Sanae**	**20.79**	**195**	P		**P**		**06 20 25.1**	**-1.3**
SNAA	**Sanae**	**20.79**	**195**	P		**P**		**06 20 26.8**	**+0.5**
	37nm,0.8s,baz=28,slow=9.3,SNR=120								
SNAA				LR		LR		06 26 33.2	
	comp=Z,144nm,20.3s,baz=54,slow=31								
SNAA	**Sanae**	**20.79**	**195**	P		**P**		**06 20 26.8**	**+0.5**
	4.7nm,0.9s								
VNA1	**Neumayer--Stat**	**20.96**	**200**	P		**P**		**06 20 28.3**	**+0.3**
VNA2	**Neumayer--Watz**	**20.99**	**199**	P		**P**		**06 20 28.7**	**+0.2**
	baz=26,slow=11								
VNA3	**Neumayer Olymp**	**21.71**	**200**	P		**P**		**06 20 36.0**	**-0.1**
MAW	**Mawson**	**27.98**	**142**	P		**P**		**06 21 35.4**	**-0.3**
	3.4nm,0.8s,baz=284,slow=12,SNR=4.3								
MAW				LR		LR		06 30 38.5	
	comp=Z,236nm,21.0s,baz=251,slow=32								
LBTB	**Lobatse**	**28.69**	**23**	LR		LR		06 31 18.0	
	comp=Z,288nm,20.1s,baz=223,slow=33								
QSPA	**South Pole Qui**	**37.93**	**180**	P		**P**		**06 23 02.7**	**+0.1**
	0.1nm,1.1s,baz=238,slow=2.0,SNR=21								
VNDA	**Vanda**	**48.93**	**171**	P		**P**		**06 24 31.1**	**+0.1**
	4.5nm,0.7s,baz=230,slow=7.4,SNR=25								
VNDA				LR		LR		06 44 01.7	
	comp=Z,280nm,20.8s,baz=137,slow=35								
VNDA	**Vanda**	**48.93**	**171**	*e*P		**P**		**06 24 31.0**	**+0.1**
	5.0nm,0.8s								
SBA	**Scott Base**	**49.04**	**173**	*e*P		**P**		**06 24 32.9**	**+1.1**
	4.4nm,0.9s								
PLCA	**Paso Flores**	**56.01**	**246**	P		**P**		**06 25 23.5**	**-0.5**
	2.0nm,1.1s,baz=93,slow=4.8,SNR=2.8								
CPUP	**Villa Florida**	**58.23**	**267**	P		**P**		**06 25 39.4**	**-0.3**
	1.8nm,0.9s,baz=135,slow=6.2,SNR=7.8								
BDFB	**Brasilia**	**60.59**	**283**	P		**P**		**06 25 56.5**	**+0.2**
	7.9nm,1.1s,baz=151,slow=9.0,SNR=6.0								
DBIC	**Dimbokro**	**60.87**	**339**	P		**P**		**06 25 57.6**	**-0.3**
	4.5nm,0.9s,baz=166,slow=8.3,SNR=3.0								
TORD	**Torodi Ar. Bea**	**66.02**	**347**	P		**P**		**06 26 30.6**	**-1.3**
	2.6nm,1.0s,baz=182,slow=5.1,SNR=9.5								
H01W2	**Cape Leeuwin H**	**68.97**	**120**	T		T		07 42 55.4	
	baz=221								
H01W3	**Cape Leeuwin H**	**68.98**	**120**	T		T		07 43 02.3	
	baz=221								
H01W1	**Cape Leeuwin H**	**68.99**	**120**	T		T		07 42 43.3	
	baz=221								
LPAZ	**La Paz**	**72.37**	**266**	P		**P**		**06 27 13.1**	**+0.9**
	5.3nm,0.8s,baz=140,slow=5.0,SNR=18								
LPAZ	**La Paz**	**72.37**	**266**	*e*P		**P**		**06 27 12.2**	**-0.1**
	6.7nm,0.9s								
ASAR	**Alice Springs**	**88.14**	**127**	P		**P**		**06 28 36.9**	**+0.5**
	4.7nm,0.7s,baz=205,slow=5.1,SNR=24								
AS31	**Alice Springs**	**88.14**	**127**	*e*P		**P**		**06 28 36.6**	**+0.2**
WRA	**Warramunga Arr**	**91.49**	**126**	P		**P**		**06 28 52.1**	**0.0**
	1.1nm,0.7s,baz=214,slow=4.3,SNR=7.8								
ESDC	**Sonseca Array**	**92.90**	**346**	P		**P**		**06 28 58.3**	**+0.3**
	0.2nm,0.2s,baz=165,slow=4.6,SNR=5.9								
ESDC				LR		LR		07 08 38.0	
	comp=Z,39nm,18.8s,baz=85,slow=34								
BRTR	**Keskin Array B**	**93.27**	**15**	P		**P**		**06 28 59.6**	**-0.1**
	0.4nm,0.7s,baz=180,slow=7.4,SNR=4.1								
TXAR	**Lajitas Array**	**129.19**	**269**	PKP		**PKPdf**		**06 34 53.3**	**-0.2**
	0.6nm,0.9s,baz=177,slow=3.3,SNR=4.7								
PDAR	**Pinedale Array**	**141.49**	**279**	PKhKP		PKPpre		06 35 09.4	
	0.8nm,0.9s,baz=108,slow=4.8,SNR=5.5								
PDAR				PKP		**PKPdf**		**06 35 15.7**	**-0.5**
	0.9nm,1.0s,baz=119,slow=1.9,SNR=4.4								
NVAR	**Mina Array Bea**	**144.27**	**267**	PKP		**PKPdf**		**06 35 20.4**	**-0.8**
	0.3nm,0.3s,baz=113,slow=3.3,SNR=7.2								
EGMT	**Eagleton**	**144.37**	**286**	*e*PKPdf		PKPbc		06 35 19.9	+0.5
**DLM

CFAA	**Coronel Fontan**	**7.14**	**41**	Pn	**Pn**	**07 14 45.9**	**-1.1**
	0.2nm,0.3s,baz=210,slow=12,SNR=18							
CFAA				Sn	**Sn**	**07 16 05.9**	**-1.0**
	0.2nm,0.3s,baz=240,slow=20,SNR=2.1							
CFAA				Lg	Lg	07 16 32.1		
	0.3nm,0.3s,baz=185,slow=17,SNR=5.0							
CFAA				LR	LR	07 18 00.7		
	comp=Z,95nm,21.4s,baz=225,slow=42							
TRQA	**Tornquist**	**9.37**	**99**	*e*Pn	**Pn**	**07 15 19.1**	**+1.5**
	29nm,1.0s							
TRQA				*e*Sn	**Sn**	**07 17 02.4**	**+0.8**
LVC	**Limon Verde**	**15.06**	**17**	Pn	**Pn**	**07 16 33.9**	**-1.5**
	4.8nm,0.3s,baz=210,slow=11,SNR=2.9							
LVC	**Limon Verde**	**15.06**	**17**	*e*Pn	**Pn**	**07 16 34.2**	**-1.3**
LVC				*e*Sn	**Sn**	**07 19 23.1**	**+1.9**
CPUP	**Villa Florida**	**17.59**	**57**	P	**Pn**	**07 17 06.5**	**-0.9**
	0.0nm,0.3s,baz=251,slow=7.3,SNR=4.2							
CPUP				LR	LR	07 24 36.3		
	comp=Z,3μm,21.3s,baz=233,slow=40							
USHA	**Ushuaia**	**18.07**	**170**	P	**Pn**	**07 17 12.8**	**-0.3**
	0.2nm,0.3s,baz=325,slow=16,SNR=2.3							
LPAZ	**La Paz**	**21.35**	**15**	P	**P**	**07 17 51.1**	**+1.2**
	16nm,1.1s,baz=178,slow=9.2,SNR=17							
LPAZ	**La Paz**	**21.35**	**15**	*e*P	**P**	**07 17 51.4**	**+1.5**
SIV	**San Ignacio**	**23.86**	**31**	P	**P**	**07 18 15.0**	**-0.3**
	7.1nm,0.9s,baz=221,slow=13,SNR=17							
BDFB	**Brasilia**	**31.26**	**54**	P	**P**	**07 19 21.6**	**-0.2**
	4.1nm,0.8s,baz=234,slow=10.0,SNR=5.1							
BDFB				LR	LR	07 33 23.8		
	comp=Z,457nm,19.6s,baz=222,slow=39							
VNA3	**Neumayer Olymp**	**47.01**	**157**	P	**P**	**07 21 32.9**	**+0.5**
VNA2	**Neumayer--Watz**	**47.69**	**156**	P	**P**	**07 21 38.2**	**+0.5**
	baz=278,slow=7.2							
SNAA	**Sanae**	**49.23**	**157**	P	**P**	**07 21 47.9**	**-1.8**
SNAA	**Sanae**	**49.23**	**157**	P	**P**	**07 21 49.4**	**-0.2**
	3.1nm,0.9s,baz=264,slow=8.5,SNR=8.6							
QSPA	**South Pole Qui**	**53.11**	**180**	P	**P**	**07 22 18.9**	**0.0**
	4.5nm,1.0s,baz=148,slow=4.8,SNR=8.6							
QSPA	**South Pole Qui**	**53.11**	**180**	*e*P	**P**	**07 22 19.3**	**+0.4**
VNDA	**Vanda**	**60.76**	**192**	LR	LR	07 45 43.7		
	comp=Z,113nm,20.4s,baz=234,slow=32							
PPT	**Papeete**	**68.49**	**264**	LR	LR	07 46 48.1		
	comp=Z,99nm,18.5s,baz=156,slow=30							
MAW	**Mawson**	**70.57**	**164**	P	**P**	**07 24 16.4**	**+0.4**
	2.7nm,0.8s,baz=210,slow=14,SNR=2.4							
LRAL	**Lakeview Retre**	**70.90**	**348**	*e*P	**P**	**07 24 19.3**	**+0.9**
	3.0nm,0.9s							
TXAR	**Lajitas Array**	**71.84**	**333**	P	**P**	**07 24 24.7**	**+0.4**
	1.0nm,0.9s,baz=146,slow=7.9,SNR=6.1							
TXAR				LR	LR	07 51 05.1		
	comp=Z,60nm,18.9s,baz=0.0,slow=32							
SWET	**Sewanee**	**72.87**	**350**	*e*P	**P**	**07 24 30.9**	**+0.6**
	9.0nm,0.9s							
LIC	**Lamto**	**77.06**	**72**	*e*P	**P**	**07 24 55.4**	**+0.5**
	75nm,1.8s							
TIC	**Toumodi**	**77.33**	**72**	*e*P	**P**	**07 24 57.0**	**+0.5**
	8.1nm,0.2s							
KIC	**Kosan Boka**	**77.36**	**72**	*e*P	**P**	**07 24 57.0**	**+0.4**
	20nm,0.8s							
DBIC	**Dimbokro**	**77.47**	**72**	P	**P**	**07 24 57.4**	**+0.2**
	7.8nm,0.9s,baz=194,slow=5.9,SNR=5.7							
DBIC				LR	LR	07 57 36.0		
	comp=Z,47nm,18.2s,baz=144,slow=34							
TSUM	**Tsumeb**	**79.67**	**106**	*e*P	**P**	**07 25 08.6**	**-1.0**
	3.0nm,1.0s							
SMCO	**Snowmass**	**81.88**	**334**	*e*P	**P**	**07 25 20.8**	**-0.2**
	7.5nm,1.3s							
ECSD	**EROS Data Cent**	**83.13**	**344**	*e*P	**P**	**07 25 27.7**	**+0.8**
	4.2nm,0.7s							
NVAR	**Mina Array Bea**	**85.70**	**326**	P	**P**	**07 25 40.2**	**-0.2**
	0.1nm,0.3s,baz=168,slow=4.6,SNR=2.3							
PDAR	**Pinedale Array**	**85.96**	**334**	P	**P**	**07 25 40.6**	**-1.0**
	0.3nm,0.4s,baz=165,slow=3.7,SNR=3.5							
TORD	**Torodi Ar. Bea**	**86.15**	**71**	P	**P**	**07 25 44.7**	**-0.1**
	1.8nm,0.9s,baz=213,slow=5.6,SNR=8.8							
MDND	**Maddock**	**87.70**	**343**	*e*P	**P**	**07 25 48.2**	**-1.4**
	6.9nm,0.7s							
HLID	**Hailey**	**88.41**	**332**	*e*P	**P**	**07 25 53.2**	**-0.2**
	1.0nm,0.3s							
WRA	**Warramunga Arr**	**117.36**	**210**	PKP	**PKPdf**	**07 31 46.5**	**-0.9**
	0.5nm,0.9s,baz=156,slow=1.6,SNR=3.9							
BRTR	**Keskin Array B**	**124.51**	**63**	PKP	**PKPdf**	**07 32 01.0**	**+0.4**
	0.3nm,0.5s,baz=264,slow=1.4,SNR=2.1							
ABKAR	**Akbulak array**	**144.65**	**55**	*e*PKPdf	PKPbc	07 32 36.4	+0.1
AAK	**Ala-Archa**	**155.09**	**67**	*e*PKPdf	**PKPdf**	**07 32 53.9**	**-0.4**
AAK				*e*PKPbc	PKPbc	07 33 04.2		
AAK				*e*PKPab	**PKPab**	**07 33 19.5**	**+0.5**
MKAR	**Makanchi Array**	**159.79**	**54**	PKPab	**PKPab**	**07 33 38.9**	**-0.1**
	0.7nm,0.7s,baz=316,slow=5.1,SNR=4.5							

IDC 13 07:23:23.8±1.9, 11°.67S×166°.97E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.8/27, mbtmp3.8/5, Error ellipse: s-maj=107.7km s-min=23.8km az=136.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.83**	**225**	P	P	07 29 41.6	0.0
	0.5nm,0.4s,baz=53,slow=12,SNR=2.3						
WRA	**Warramunga Arr**	**32.40**	**251**	P	P	07 29 55.9	+0.3
	0.6nm,0.7s,baz=81,slow=8.7,SNR=8.1						
ASAR	**Alice Springs**	**33.59**	**245**	P	P	07 30 05.6	-0.5
	0.8nm,0.7s,baz=72,slow=9.8,SNR=9.3						
ILAR	**Eielson Array**	**83.73**	**18**	P	P	07 35 54.9	+0.6
	0.8nm,0.6s,baz=242,slow=5.0,SNR=17						
YKA	**Yellowknife Ar**	**94.98**	**27**	P	P	07 36 47.0	-0.9
	0.1nm,0.6s,baz=254,slow=4.6,SNR=3.2						

IDC 13 07:54:17.2±4.0, 53°.82N×90°.80E, h0km, mb1 3.4/2, mb1mx3.1/29, mbtmp3.4/2, ML2.8/2, Error ellipse: s-maj=35.1km s-min=24.2km az=64.0
NNC 13 07:54:19.5±3.4, 53°.69N×90°.62E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=29.2km s-min=24.6km az=170.0
ISC 13 07:54:18.8±4.2, 53°.8N±0°.1×90°.8E±0°.2, h10km, n6, σ1§18/10, 4C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.53**	**275**	*i*		08 16 20.0	
	baz=90,slow=319,SNR=3.5						
ZALV	**Zalesovo Beam**	**3.53**	**275**	Pn	**Pn**	**07 55 15.0**	**+1.3**
	0.8nm,0.3s,baz=90,slow=10,SNR=6.3						
ZALV				Pg	**Pb**	**07 55 20.0**	**-1.4**
	2.6nm,0.3s,baz=92,slow=13,SNR=31						
ZALV				Lg	Lg	07 56 10.2	
	3.7nm,0.3s,baz=88,slow=26,SNR=6.1						
KURK	**Kurchatov**	**8.07**	**253**	⇓Pn	**Pn**	**07 56 16.5**	**+0.5**
	4.7nm,1.0s						
KURK				⇑Sn	**Sn**	**07 57 48.9**	**+1.7**
	8.2nm,0.7s						
KURK				⇑Lg	Lg	07 58 34.3	
	30nm,0.9s						
KURBB	**Kurchatov Arra**	**8.16**	**252**	⇓Pn	**Pn**	**07 56 18.0**	**+0.7**
	10nm,0.9s						
KURBB				⇓Sn	**Sn**	**07 57 48.2**	**-1.3**
	79nm,0.8s						
KURBB				⇓Lg	Lg	07 58 40.7	
	103nm,0.8s						
MK31	**Makanchi Array**	**8.86**	**221**	⇑Pn	**Pn**	**07 56 26.6**	**-0.2**
	2.0nm,0.6s,baz=30,slow=11,SNR=4.7						
MK31				⇓Sn	**Sn**	**07 58 07.2**	**+0.6**
	2.4nm,0.7s,baz=42,slow=21,SNR=3.8						
MK31				⇑Lg	Lg	07 58 56.6	
	17nm,0.8s,baz=32,slow=31,SNR=5.4						
MKAR	**Makanchi Array**	**8.86**	**221**	Pn	**Pn**	**07 56 27.4**	**+0.6**
	0.5nm,0.3s,baz=31,slow=12,SNR=22						
MKAR				Sn	**Sn**	**07 58 07.0**	**+0.4**
	0.2nm,0.3s,baz=14,slow=18,SNR=3.0						
MKAR				Lg	Lg	07 58 58.8	
	0.2nm,0.3s,baz=35,slow=30,SNR=3.7						

ISCJB 13 07:57:58.7±0.7, 43°.37N±0°.04×126°.72W±0°.07, h10km, mb3.1/3, Error ellipse: s-maj=7.9km s-min=4.2km az=154.3
IDC 13 07:57:59.5±1.9, 43°.46N×126°.47W, h0km, mb3.1/4, mb1 3.6/9, mb1mx3.4/45, mbtmp3.4/9, ML3.6/5, MS2.8/3, Ms1 2.8/3, ms1mx2.6/9, Error ellipse: s-maj=30.5km s-min=13.8km az=61.0
NEIC 13 07:57:59.8±0.9, 43°.32N×126°.75W, h10km, mb3.6/1, Error ellipse: s-maj=11.6km s-min=5.3km az=65.0
ISC 13 07:58:01.0±1.3, 43°.41N±0°.06×126°.54W±0°.08, h10km, n68, σ1§50/78, mb3.2/3, 10C-6D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**1.70**	**108**	*e*Pn	**Pn**	**07 58 29.5**	**-1.3**
KEBM				*e*Sn	**Sn**	**07 58 51.0**	**-1.6**
KBO	**Bosley Butte**	**2.08**	**124**	*e*Pn	**Pn**	**07 58 34.4**	**-1.6**
KBO				*e*Sn	**Sn**	**07 59 01.8**	**-0.2**
RNO	**Roman Nose**	**2.09**	**75**	P	**Pn**	**07 58 36.5**	**+0.4**
I03D	**Drain, OR**	**2.33**	**82**	P	**Pn**	**07 58 39.6**	**+0.2**
	baz=2.5,SNR=22						
I03D				⇑S	**Sb**	**07 59 11.4**	**-0.6**
	baz=2.5						
MPOR	**Mary's Peak**	**2.42**	**62**	P	**Pn**	**07 58 40.9**	**+0.3**
DBO	**Dodson Butte**	**2.42**	**96**	P	**Pn**	**07 58 40.7**	**0.0**
L02D	**Cave Junction,**	**2.50**	**119**	⇑P	**Pn**	**07 58 40.8**	**-0.9**
	baz=2.6						
L02D				⇓S	**Sn**	**07 59 13.8**	**+1.6**
	baz=2.6						
COR	**Corvallis**	**2.61**	**62**	*e*Pn	**Pn**	**07 58 44.2**	**+1.0**
COR				*e*Sn	**Sn**	**07 59 13.1**	**-1.8**
HEBO	**Mount Hebo**	**2.69**	**47**	P	**Pn**	**07 58 44.6**	**+0.2**
HUMO	**Hull Mountain**	**2.75**	**106**	*e*Pn	**Pn**	**07 58 45.0**	**-0.1**
HUMO				*e*Sn	**Sn**	**07 59 17.0**	**-1.3**
G03D	**McMinnville, O**	**2.96**	**51**	P	**Pn**	**07 58 48.7**	**+0.7**
	baz=3.1,SNR=90						
G03D				⇑S	**Sb**	**07 59 27.4**	**-2.6**
	baz=3.1						
I04A	**Tendick Farm,**	**3.02**	**81**	⇑P	**Pn**	**07 58 49.9**	**+1.1**
	baz=3.2,SNR=138						
I04A				⇓S	**Sb**	**07 59 29.4**	**-2.4**
	baz=3.2						
J04D	**Umpqua Nationa**	**3.23**	**92**	⇑P	**Pn**	**07 58 53.6**	**+1.7**
	baz=3.4,SNR=21						
SSOR	**Sweet Springs**	**3.27**	**62**	P	**Pn**	**07 58 54.5**	**+2.1**
YBH	**Yreka Blue Hor**	**3.29**	**119**	Pn	**Pn**	**07 58 52.9**	**+0.3**
	1.5nm,0.3s,baz=302,slow=13,SNR=50						
YBH				Sn	**Sn**	**07 59 35.1**	**+3.4**
	0.9nm,0.3s,baz=294,slow=20,SNR=3.4						
YBH	**Yreka Blue Hor**	**3.29**	**119**	*e*Pn	**Pn**	**07 58 53.6**	**+1.0**
YBH				*e*Sn	**Sn**	**07 59 31.4**	**-0.4**
H04A	**Detroit Lake**	**3.38**	**66**	P	**Pn**	**07 58 55.5**	**+1.7**
M02C	**Callahan**	**3.39**	**125**	⇑P	**Pn**	**07 58 53.8**	**-0.3**
	baz=3.5						
G04A	**Mulino**	**3.42**	**57**	P	**Pn**	**07 58 56.1**	**+1.8**
K04D	**Chiloquin, OR**	**3.59**	**101**	⇑P	**Pn**	**07 58 57.9**	**+1.1**
	baz=3.7						
F04D	**Rainier, OR**	**3.67**	**42**	⇑P	**Pn**	**07 58 58.8**	**+1.1**
	baz=3.8						
N02D	**Trinity Center**	**3.75**	**129**	⇑P	**Pn**	**07 58 59.5**	**+0.6**
	baz=3.8						
E03A	**Lebam**	**3.78**	**33**	*e*Pn	**Pn**	**07 58 59.5**	**+0.3**
M04C	**Macdoel**	**3.83**	**114**	⇑P	**Pn**	**07 59 01.2**	**+1.1**
	baz=3.9						
RVW	**Rose Valley**	**3.84**	**43**	P	**Pn**	**07 59 01.6**	**+1.4**
J05D	**Fort Rock, OR**	**3.87**	**90**	⇓P	**Pn**	**07 59 01.4**	**+0.8**
	baz=4.0,SNR=17						
F04A	**Amboy**	**3.87**	**48**	P	**Pn**	**07 59 02.1**	**+1.6**
I05D	**Terrebonne, OR**	**3.87**	**74**	⇓P	**Pn**	**07 59 01.9**	**+1.3**
	baz=4.0						
TDH	**Tom, Dick, Har**	**3.89**	**59**	P	**Pn**	**07 59 03.0**	**+2.2**
LVP	**Lakeview Peak**	**3.96**	**46**	P	**Pn**	**07 59 03.5**	**+1.6**
MTMW	**Mount Mitchell**	**4.04**	**48**	P	**Pn**	**07 59 04.4**	**+1.5**
G05D	**Wamic, OR**	**4.17**	**62**	⇓P	**Pn**	**07 59 06.1**	**+1.4**
	baz=4.3,SNR=24						
K05A	**Summer Lake**	**4.19**	**97**	*e*Pn	**Pn**	**07 59 06.3**	**+1.2**
TDL	**Tradedollar La**	**4.25**	**45**	P	**Pn**	**07 59 07.5**	**+1.7**
NLWA	**Neilton Lookou**	**4.40**	**24**	*e*Pn	**Pn**	**07 59 07.8**	**-0.1**
GLK	**Glacier Lake**	**4.71**	**46**	P	**Pn**	**07 59 14.2**	**+2.1**
LON	**Longmire**	**4.73**	**43**	*e*Pn	**Pn**	**07 59 14.3**	**+2.0**
LON				*e*Sn	**Sn**	**08 00 04.2**	**-3.0**
WPW	**White Pass**	**4.83**	**45**	P	**Pn**	**07 59 15.6**	**+1.9**
D05A	**Enumclaw**	**4.96**	**39**	*e*Pn	**Pn**	**07 59 17.5**	**+2.1**
I07A	**Izee**	**5.14**	**80**	*e*Pn	**Pn**	**07 59 19.9**	**+1.8**
PGC	**Sidney**	**5.66**	**21**	*e*Pn	**Pn**	**07 59 25.2**	**+0.1**
	9.7nm,0.4s						
PGC				*e*Sn	**Sn**	**08 00 29.9**	**-0.2**
HAWA	**Hanford**	**5.80**	**57**	*e*Pn	**Pn**	**07 59 29.1**	**+2.1**
	7.1nm,0.5s						
WVOR	**Wild Horse Val**	**5.88**	**97**	*e*Pn	**Pn**	**07 59 28.6**	**+0.3**
WVOR				*e*Sn	**Sn**	**08 00 33.4**	**-2.4**
B06A	**Marblemount**	**6.20**	**33**	*e*Pn	**Pn**	**07 59 33.8**	**+1.3**
D08A	**Wollman Farm,**	**6.50**	**53**	*e*Pn	**Pn**	**07 59 38.8**	**+2.2**
BMO	**Blue Mountains**	**6.80**	**75**	*e*Pn	**Pn**	**07 59 42.0**	**+1.2**
BMO				*e*Sn	**Sn**	**08 00 58.5**	**+0.3**
B08A	**Colville Reser**	**7.05**	**43**	*e*Pn	**Pn**	**07 59 45.8**	**+1.6**
NVAR	**Mina Array Bea**	**7.97**	**126**	Pn	**Pn**	**07 59 58.5**	**+1.5**
	0.1nm,0.3s,baz=293,slow=14,SNR=4.2						
NEW	**Newport**	**8.17**	**50**	Pn	**Pn**	**08 00 00.7**	**+1.2**
	0.6nm,0.3s,baz=241,slow=12,SNR=9.3						
NEW				LR	LR	08 03 07.7	
	comp=Z,94nm,19.8s,baz=262,slow=38						
NEW	**Newport**	**8.17**	**50**	⇓P	**Pn**	**08 00 00.7**	**+1.2**
	baz=8.3						
BBB	**Bella Bella**	**8.84**	**354**	Pn	**Pn**	**08 00 09.5**	**+0.8**
	0.4nm,0.3s,baz=231,slow=6.7,SNR=4.3						
BBB				LR	LR	08 02 53.9	
	comp=Z,58nm,18.3s,baz=322,slow=33						
MCMT	**McKenzie Canyo**	**9.95**	**77**	*e*Pn	**Pn**	**08 00 23.6**	**-0.5**
	1.1nm,0.7s						
MCMT				Sn	**Sn**	**08 02 17.7**	**+1.8**
CHMT	**Chamberlain Mo**	**10.02**	**65**	*e*Pn	**Pn**	**08 00 26.7**	**+1.7**
	1.9nm,0.8s						
DLMT	**Dillon**	**10.17**	**74**	*e*Pn	**Pn**	**08 00 27.9**	**+0.8**
	1.8nm,0.8s						
WALA	**Waterton Lakes**	**10.40**	**53**	*e*Pn	**Pn**	**08 00 31.7**	**+1.5**
WALA				*e*Sn	**Sn**	**08 02 30.3**	**+3.4**
PDAR	**Pinedale Array**	**12.43**	**87**	Pn	**Pn**	**08 00 59.8**	**+1.6**
	0.0nm,0.3s,baz=284,slow=11,SNR=6.7						
PDAR				LR	LR	08 05 15.1	
	comp=Z,23nm,18.5s,baz=284,slow=35						
SDCO	**Great Sand Dun**	**16.94**	**102**	*e*P	**P**	**08 02 00.4**	**+0.2**
	0.8nm,0.6s						
FFC	**Flin Flon**	**19.56**	**46**	*e*P	**P**	**08 02 28.9**	**+0.2**
	2.5nm,0.8s						
YKA	**Yellowknife Ar**	**20.36**	**16**	P	**P**	**08 02 37.1**	**-0.2**
	0.4nm,0.7s,baz=207,slow=10.0,SNR=4.1						
ULM	**Lac du Bonnet**	**21.96**	**61**	P	**P**	**08 02 55.0**	**+0.4**
	2.6nm,0.8s,baz=274,slow=9.5,SNR=5.6						
TXAR	**Lajitas Array**	**23.07**	**120**	P	**P**	**08 03 08.3**	**+1.6**
	0.3nm,0.8s,baz=295,slow=8.5,SNR=3.2						
ILAR	**Eielson Array**	**24.28**	**339**	P	**P**	**08 03 16.2**	**-1.9**
	0.5nm,0.8s,baz=152,slow=8.7,SNR=8.0						
H11N3	**WAKE ISLAND Hy**	**59.81**	**269**	T	T	09 12 30.4	
	baz=50,slow=75,SNR=58						
H11N2	**WAKE ISLAND Hy**	**59.81**	**269**	T	T	09 12 28.0	
	baz=50,slow=75,SNR=44						
H11N1	**WAKE ISLAND Hy**	**59.83**	**269**	T	T	09 12 28.0	
	baz=50,slow=75,SNR=57						
H11S1	**WAKE ISLAND Hy**	**60.73**	**268**	T	T	09 13 27.8	
	baz=50,slow=75,SNR=166						
H11S2	**WAKE ISLAND Hy**	**60.74**	**268**	T	T	09 13 27.8	
	baz=50,slow=75,SNR=112						
H11S3	**WAKE ISLAND Hy**	**60.75**	**268**	T	T	09 13 27.8	
	baz=50,slow=75,SNR=106						

ISCJB 13 08:10:54.0±0.5, 21°.34S±0°.09×178°.14W±0°.09, h412km, mb3.7/14, Error ellipse: s-maj=13.6km s-min=9.0km az=136.2
IDC 13 08:10:56.7±3.6, 21°.52S×178°.09W, h431km±39km, mb3.5/14, mb1 3.7/15, mb1mx3.6/22, mbtmp4.2/15, Error ellipse: s-maj=19.4km s-min=16.9km az=163.0
ISC 13 08:10:54.7±0.5, 21°.5S±0°.1×178°.0W±0°.1, h412km, n31, σ0§71/33, mb3.8/14, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**7.95**	**74**	P	**P**	**08 12 49.4**	**-0.2**
	baz=7.5,SNR=6.6						
NIUE				S	S	08 14 14.5	-8.7
	baz=7.5,SNR=8.0						
URZ	**Urewera**	**17.26**	**193**	P	**P**	**08 14 30.9**	**+0.1**
	1.8nm,0.3s,baz=282,slow=5.2,SNR=9.4						
URZ				S	**S**	**08 17 30.1**	**+0.6**
	0.4nm,0.3s,baz=90,slow=19,SNR=4.8						
CTA	**Charters Tower**	**33.40**	**266**	P	**P**	**08 16 57.3**	**+0.2**
	9.2nm,0.6s,baz=99,slow=13,SNR=3.9						
TOO	**Toolangi**	**35.33**	**235**	P	**P**	**08 17 14.5**	**+1.3**
	baz=36,SNR=5.6						
STKA	**Stephens Creek**	**37.37**	**245**	P	**P**	**08 17 30.6**	**+0.3**
	4.4nm,0.6s,baz=92,slow=9.7,SNR=16						
STKA	**Stephens Creek**	**37.37**	**245**	P	**P**	**08 17 30.7**	**+0.4**
	baz=38,SNR=13						
HTT	**Hallett**	**39.77**	**243**	P	**P**	**08 17 50.2**	**+0.1**
	baz=40,SNR=6.2						
BBOO	**Buckleboo**	**42.12**	**244**	P	**P**	**08 18 08.7**	**-0.1**
	baz=43,SNR=13						
ASAR	**Alice Springs**	**44.29**	**258**	P	**P**	**08 18 26.0**	**-0.2**
	1.5nm,0.6s,baz=91,slow=8.0,SNR=20						
ASAR				PcP	**PcP**	**08 20 01.7**	**-0.5**
	1.0nm,0.7s,baz=105,slow=4.2,SNR=5.2						
WRA	**Warramunga Arr**	**44.46**	**263**	P	**P**	**08 18 26.6**	**-0.9**
	0.8nm,0.3s,baz=95,slow=7.9,SNR=72						
FORT	**Forrest**	**48.91**	**247**	P	**P**	**08 19 00.8**	**-0.5**
	baz=49,SNR=22						
WRKA	**Warakurna**	**49.20**	**255**	P	**P**	**08 19 03.0**	**-0.7**
	baz=50,SNR=34						
KNRA	**Kununurra**	**50.59**	**267**	P	**P**	**08 19 14.1**	**+0.1**
	baz=51,SNR=4.8						
SIJI	**Sorong**	**53.48**	**286**	P	**P**	**08 19 35.3**	**+0.3**
	6.9nm,0.6s,baz=120,slow=6.0,SNR=2.8						
MEEK	**Meekatharra**	**57.60**	**251**	P	**P**	**08 20 03.1**	**-0.7**
	baz=58,SNR=7.3						
MJAR	**Matsushiro Arr**	**70.98**	**324**	P	**P**	**08 21 29.3**	**+0.1**
	1.0nm,0.5s,baz=155,slow=6.2,SNR=6.7						
PETK	**Petropavlovsk-**	**77.20**	**345**	P	**P**	**08 22 05.2**	**+1.0**
	2.6nm,0.5s,baz=140,slow=11,SNR=4.2						
NVAR	**Mina Array Bea**	**81.73**	**43**	P	**P**	**08 22 30.1**	**+1.1**
	2.0nm,0.7s,baz=224,slow=8.3,SNR=16						
SNAA	**Sanae**	**87.05**	**178**	P	**P**	**08 22 54.1**	**-0.5**
	0.5nm,0.8s,baz=169,slow=16,SNR=2.3						
TXAR	**Lajitas Array**	**87.58**	**57**	P	**P**	**08 22 59.4**	**+1.5**
	0.7nm,0.7s,baz=222,slow=6.9,SNR=9.8						
ILAR	**Eielson Array**	**89.25**	**13**	P	**P**	**08 23 03.9**	**-0.9**
	0.7nm,0.5s,baz=216,slow=5.4,SNR=13						
PDAR	**Pinedale Array**	**89.67**	**43**	P	**P**	**08 23 07.9**	**+0.4**
	1.7nm,0.9s,baz=214,slow=1.1,SNR=11						
CMAR	**Chiang Mai Arr**	**90.43**	**290**	P	**P**	**08 23 12.2**	**+0.9**
	0.8nm,0.3s,baz=117,slow=3.4,SNR=8.2						
YKA	**Yellowknife Ar**	**97.39**	**25**	P	**P**	**08 23 41.4**	**-0.6**
	0.1nm,0.5s,baz=242,slow=4.2,SNR=2.8						
ARCES	**ARCESS Array B**	**129.86**	**349**	PKP	**PKPdf**	**08 29 14.6**	**-0.7**
	2.2nm,0.6s,baz=105,slow=1.3,SNR=18						
NOA	**NORSAR Array B**	**139.93**	**353**	PKhKP	PKPpre	08 29 29.0	
	0.3nm,0.7s,baz=44,slow=1.4,SNR=2.5						
NOA				PKP	**PKiKP**	**08 29 36.0**	**-0.9**
	0.5nm,0.5s,baz=15,slow=3.9,SNR=3.0						
AKASG	**Malin Array Be**	**143.85**	**330**	PKP	PKPab	08 29 39.0	-1.1
	5.4nm,0.5s,baz=42,slow=4.2,SNR=24						
BRTR	**Keskin Array B**	**147.47**	**311**	PKPbc	**PKPbc**	**08 29 50.6**	**-0.8**
	1.3nm,0.5s,baz=148,slow=5.6,SNR=6.2						
CLL	**Collm**	**149.00**	**347**	⇓*i*PKP	**PKPbc**	**08 29 54.5**	**-0.2**
	comp=Z,5.0nm,1.0s						
CLL				*i*		08 29 56.3	
CLL				*i*		08 29 59.7	
BRG	**Berggiesshubel**	**149.19**	**345**	*i* (P)	**PKPbc**	**08 29 55.0**	**-0.2**
	comp=Z,5.0nm,1.1s						
TORD	**Torodi Ar. Bea**	**171.72**	**178**	PKP	**PKPdf**	**08 30 14.3**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=74,slow=1.4,SNR=3.1						
TORD				PKPab	**PKPab**	**08 31 39.9**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=184,slow=3.0,SNR=5.8						

ISCJB 13 08:12:01.9±0.8, 29°.73S±0°.04×71°.89W±0°.07, h35km, mb3.9/2, Error ellipse: s-maj=9.3km s-min=5.3km az=2.5
IDC 13 08:12:05.1±3.7, 29°.79S×71°.77W, h61km±30km, mb3.6/2, mb1 3.5/7, mb1mx3.4/20, mbtmp3.6/7, ML3.6/5, MS3.7/1, Ms1 3.7/1, ms1mx2.7/21, Error ellipse: s-maj=34.3km s-min=21.9km az=76.0
GUC 13 08:12:05.3±0.4, 29°.77S×71°.45W, h66km±2km, ML4.3
ISC 13 08:12:02.8±1.0, 29°.73S±0°.05×71°.89W±0°.1, h35km, n21, σ1§27/24, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.59**	**108**	⇓*i*P	**Pn**	**08 12 15.8**	**+1.1**
LSCH				*i*

SPX				*e*S	Sg	08 20 59.2	-1.9	
PBX	**Punta Banda**	**1.27**	**244**	*e*P2		08 20 41.6		
PBX				*e*S	Sg	08 20 58.6	-1.8	
214A	**Organ Pipe Nat**	**2.22**	**99**	*e*Pn	Pn	08 20 52.9	-4.1	
214A				*e*Sn	Sn	08 21 24.5	-0.3	
LDFC	**Landfair**	**2.77**	**5**	*e*Pn	Pn	08 21 04.5	-0.2	
LDFC				*e*Sn	Sn	08 21 38.4	-0.2	
PASC	**Pasadena Art C**	**2.99**	**309**	*e*Pn	Pn	08 21 07.7	+0.1	
TUC	**Tucson**	**3.90**	**89**	*e*Pn	Pn	08 21 18.1	-2.1	
TUC				*e*Sn	Sn	08 22 08.7	+2.2	
DAC	**Darwin (Calif)**	**4.35**	**336**	*e*Pn	Pn	08 21 24.6	-2.0	
DAC				*e*Sn	Sn	08 22 15.7	-2.2	
WUAZ	**Wupatki**	**4.62**	**45**	*e*Pn	Pn	08 21 30.5	+0.2	
WUAZ				*e*Sn	Sn	08 22 20.7	-3.7	

DJA 13 08:22:07.7±1.1,1°S±7″×9°8E±°,h10km,M3.6/4,MLv3.6/4,
Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.99**	**90**	P	Pn	08 22 41.4	-0.1
PDSI				S	Sn	08 23 07.3	+0.8
MNSI	**Mandailing Nat**	**2.02**	**33**	P	Pn	08 22 41.8	-0.1
MNSI				S	Sn	08 23 08.2	+0.9
GSI	**Gunungsitoli**	**2.37**	**338**	P	Pn	08 22 46.6	-0.1
GSI				S	Sn	08 23 04.9	-11

*CASC **13** 08:23:30.7±0.9,20°.17N×98°.94W,h15km±999km,MD5.0, ML5.0*
*NEIC **13** 08:24:42.7±0.6,16°.57N×94°.76W,h88km±5km,mb4.4/48, MD4.2(MEX),Error ellipse: s-maj=10.3km s-min=6.5km az=214.0*
*IDC **13** 08:24:43.2±0.7,16°.98N×94°.42W,h74km±11km,mb3.7/16, mb1 3.9/18,mb1mx3.8/29,mbtmp4.0/18,MS3.6/1, Ms1 3.6/1,ms1mx2.5/29,Error ellipse: s-maj=34.2km s-min=12.2km az=53.0*
*MEX **13** 08:24:44.2±1.4, 16°.52N×94°.90W,h79km±16km,MD4.1*
ISC 13 08:24:43.4±0.6,16°.61N±0°.04×94°.86W±0°.03,h92km±5km,
n414,σ1§21/440,mb4.2/52,148C-135D,Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.48**	**357**	*i* P	**Pn**	**08 24 57.1**	**-1.1**
CMIG				*i* S	**Sn**	**08 25 07.5**	**-1.8**
CMIG	**Matias Romero**	**0.48**	**357**	P	**Pn**	**08 24 56.9**	**-1.4**
	670nm,0.3s,baz=179,slow=7.9						
CMIG				S	**Sn**	**08 25 07.7**	**-1.6**
	2µm,0.3s,baz=12,slow=18,SNR=158						
CMIG				LR	LR	08 25 15.8	
	comp=Z,821nm,20.1s,baz=346,slow=71						
CMIG	**Matias Romero**	**0.48**	**357**	*i* P	**Pn**	**08 24 57.1**	**-1.1**
CMIG				*i* S	**Sn**	**08 25 07.5**	**-1.8**
HUIG	**Huatulco**	**1.46**	**235**	*e*P	**Pn**	**08 25 06.5**	**-2.4**
HUIG				*e*S	**Sn**	**08 25 23.5**	**-4.5**
HUIG	**Huatulco**	**1.46**	**235**	*e*P	**Pn**	**08 25 06.5**	**-2.4**
HUIG				*e*S	**Sn**	**08 25 23.5**	**-4.5**
TUIG	**Tuzandepetl**	**1.48**	**16**	*i* P	**Pn**	**08 25 08.0**	**-1.0**
TUIG				*i* S	**Sn**	**08 25 26.2**	**-2.1**
TUIG	**Tuzandepetl**	**1.48**	**16**	*i* P	**Pn**	**08 25 08.0**	**-1.0**
TUIG				*i* S	**Sn**	**08 25 26.2**	**-2.1**
PCIG		**1.82**	**120**	*i* P	**Pn**	**08 25 12.8**	**-0.5**
PCIG				*i* S	**Sn**	**08 25 34.3**	**-1.8**
PCIG		**1.82**	**120**	*i* P	**Pn**	**08 25 12.8**	**-0.5**
PCIG				*i* S	**Sn**	**08 25 34.3**	**-1.8**
VHO	**Vista Hermosa**	**1.85**	**285**	*i* P	**Pn**	**08 25 14.3**	**+0.4**
VHO				*i* S	**Sn**	**08 25 36.7**	**-0.5**
VHO	**Vista Hermosa**	**1.85**	**285**	*i* P	**Pn**	**08 25 14.3**	**+0.4**
VHO				*i* S	**Sn**	**08 25 36.7**	**-0.5**
CCIG	**Comitan**	**2.63**	**97**	*e*P	**Pn**	**08 25 23.5**	**-0.8**
CCIG				*i* S	**Sn**	**08 25 55.0**	**-0.6**
CCIG	**Comitan**	**2.63**	**97**	*e*P	**Pn**	**08 25 23.5**	**-0.8**
CCIG				*i* S	**Sn**	**08 25 55.0**	**-0.6**
PNIG	**Pinotepa**	**3.14**	**266**	*i* P	**Pn**	**08 25 29.3**	**-1.6**
PNIG				*i* S	**Sn**	**08 26 04.7**	**-2.9**
PNIG	**Pinotepa**	**3.14**	**266**	*i* P	**Pn**	**08 25 29.3**	**-1.6**
PNIG				*i* S	**Sn**	**08 26 04.7**	**-2.9**
JAT	**Jato**	**3.85**	**126**	*e*P	**Pn**	**08 25 42.1**	**+1.5**
FUG	**Fuego 3**	**4.43**	**119**	*e*P	**Pn**	**08 25 49.4**	**+0.9**
FUG				*e*S	**Sn**	**08 26 40.6**	**+1.5**
MRL	**Marmol**	**5.21**	**106**	*e*P	**Pn**	**08 25 57.6**	**-1.4**
MRL				*e*S	**Sn**	**08 26 54.6**	**-3.3**
RBDL	**Robledal**	**5.58**	**116**	*e*P	**Pn**	**08 26 04.1**	**+0.1**
MTO2	**Montecristo 2**	**5.74**	**112**	*e*P	**Pn**	**08 26 05.7**	**-0.6**
SBLS	**San Blas**	**5.76**	**118**	*e*P	**Pn**	**08 26 08.5**	**+1.9**
SNJE	**San Jose**	**5.76**	**118**	*e*P	**Pn**	**08 26 08.7**	**+2.0**
BOQS	**Boqueron**	**6.10**	**117**	*e*P	**Pn**	**08 26 13.2**	**+2.0**
SNET	**Serv Nac Est T**	**6.16**	**117**	AML	AML	08 26 33.8	
	comp=Z,352nm,0.2s						
LBRS	**Las Brisas**	**6.30**	**116**	*e*P	**Pn**	**08 26 15.0**	**+1.1**
LFRS	**El Faro**	**6.34**	**117**	*e*P	**Pn**	**08 26 15.1**	**+0.7**
LFRS				*e*S	Sn	08 27 16.0	-9.5
TEIG	**Tepich**	**7.21**	**59**	P	Pn	08 26 22.7	-3.5
	comp=Z,71nm,0.3s,baz=294,slow=1.6,SNR=178						
TEIG				S	Sn	08 27 39.0	-7.5
	comp=Z,41nm,0.3s,baz=180,slow=20,SNR=15						
TEIG	**Tepich**	**7.21**	**59**	*e*Pn	**Pn**	**08 26 23.1**	**-3.0**
TEIG				*e*Sn	**Sn**	**08 27 40.7**	**-5.8**
035Z	**Hargill**	**10.25**	**344**	⇑P	**Pn**	**08 27 08.4**	**+0.9**
	baz=10						
035A	**Encino**	**10.71**	**344**	⇑P	**Pn**	**08 27 14.9**	**+1.2**
	baz=11						
034A	**Hebbronville**	**10.99**	**342**	⇑P	**Pn**	**08 27 18.4**	**+0.7**
	baz=11,SNR=5.3						
934A	**Benavides**	**11.45**	**343**	⇑P	**Pn**	**08 27 24.9**	**+1.0**
	baz=12,SNR=6.7						
JTS	**JuntasAbangare**	**11.50**	**122**	P	**Pn**	**08 27 23.8**	**-0.8**
	comp=Z,2.9nm,0.3s,baz=328,slow=15,SNR=18						
JTS	**JuntasAbangare**	**11.50**	**122**	*e*Pn	**Pn**	**08 27 23.9**	**-0.8**
JTS				*e*Sn	**Sn**	**08 29 32.4**	**+1.1**
933A	**Laredo**	**11.69**	**340**	⇑P	**Pn**	**08 27 28.4**	**+1.4**
	baz=12,SNR=16						
835A	**Beeville**	**11.94**	**347**	⇓P	**Pn**	**08 27 31.2**	**+0.8**
	baz=12,SNR=12						
834A	**Tilden**	**11.96**	**344**	⇑P	**Pn**	**08 27 31.1**	**+0.5**
	baz=12,SNR=30						
833A	**Chaparral WMA,**	**12.38**	**341**	⇑P	**Pn**	**08 27 37.1**	**+0.7**
	baz=12,SNR=212						
736A	**Circle Diamond**	**12.45**	**351**	⇑P	**Pn**	**08 27 37.3**	**0.0**
	baz=13						
735A	**Kenedy**	**12.48**	**348**	⇓P	**Pn**	**08 27 37.7**	**0.0**
	baz=13,SNR=18						
832A	**Faith Ranch, C**	**12.54**	**339**	P	**Pn**	**08 27 38.9**	**+0.4**
	baz=13,SNR=38						
734A	**La Parita Cree**	**12.64**	**345**	⇑P	**Pn**	**08 27 39.7**	**-0.1**
	baz=13,SNR=23						
733A	**Divot King Ran**	**12.72**	**342**	⇑P	**Pn**	**08 27 41.2**	**+0.2**
	baz=13,SNR=80						
732A	**Laxson Ranch,**	**12.95**	**340**	⇓P	**Pn**	**08 27 43.9**	**+0.1**
	baz=13,SNR=49						
636A	**Smothers Creek**	**12.97**	**351**	⇓P	**Pn**	**08 27 43.6**	**-0.5**
	baz=13						
635A	**Leesville**	**12.99**	**349**	⇓P	**Pn**	**08 27 44.2**	**-0.3**
	baz=13,SNR=9.0						
634A	**China Grove, S**	**13.11**	**346**	⇑P	**Pn**	**08 27 45.9**	**-0.1**
	baz=13,SNR=14						
633A	**Saathoff Ranch**	**13.39**	**344**	⇓P	**Pn**	**08 27 49.6**	**-0.1**
	baz=14,SNR=90						
537A	**Green Hill Far**	**13.47**	**355**	⇓P	**Pn**	**08 27 49.8**	**-0.9**
	baz=14						
536A	**Bastrop**	**13.55**	**352**	⇑P	**Pn**	**08 27 51.0**	**-0.8**
	baz=14						
538A	**Harpers Horsep**	**13.56**	**358**	⇑P	**Pn**	**08 27 50.7**	**-1.2**
	baz=14						
535A	**Dale**	**13.59**	**350**	⇓P	**Pn**	**08 27 51.5**	**-0.7**
	baz=14,SNR=13						
632A	**Uvalde**	**13.61**	**341**	P	**Pn**	**08 27 52.8**	**+0.2**
	baz=14,SNR=87						
534A	**Blanco**	**13.76**	**347**	P	**Pn**	**08 27 54.6**	**+0.1**
	baz=14,SNR=272						
631A	**Perdido Creek**	**13.78**	**339**	⇑P	**Pn**	**08 27 54.4**	**-0.4**
	baz=14						
533A	**Kerrville**	**13.93**	**345**	⇓P	**Pn**	**08 27 57.1**	**+0.2**
	baz=14,SNR=60						
436A	**Wall Ranch, Ga**	**14.21**	**353**	⇑P	**Pn**	**08 27 59.9**	**-0.4**
	baz=14						
532A	**Rocksprings**	**14.22**	**342**	P	**Pn**	**08 28 01.8**	**+1.2**
	baz=14,SNR=98						
435B	**Jarrell**	**14.32**	**350**	⇑P	**Pn**	**08 28 01.8**	**0.0**
	baz=14,SNR=64						
531A	**Rocksprings**	**14.46**	**340**	⇓P	**Pn**	**08 28 03.6**	**0.0**
	baz=15,SNR=81						
434A	**Burnet**	**14.48**	**348**	⇓P	**Pn**	**08 28 03.3**	**-0.6**
	baz=15,SNR=69						
JCT	**Junction City**	**14.53**	**343**	*e*Pn	**Pn**	**08 28 05.2**	**+0.7**
JCT				*e*Sn	**Sn**	**08 30 50.4**	**+5.9**
JCT	**Junction City**	**14.53**	**343**	⇑P	**Pn**	**08 28 04.6**	**+0.1**
	baz=15,SNR=15						
433A	**Art**	**14.60**	**345**	P	**Pn**	**08 28 05.5**	**+0.1**
	baz=15,SNR=145						
339A	**Huntington**	**14.66**	**1**	⇑P	**Pn**	**08 28 04.9**	**-1.2**
	baz=15						
337A	**Centerville**	**14.67**	**357**	⇑P	**Pn**	**08 28 05.4**	**-0.9**
	baz=15						
338A	**Crockett**	**14.69**	**358**	⇓P	**Pn**	**08 28 05.6**	**-0.9**
	baz=15,SNR=11						
530A	**J-C Ranch, Com**	**14.72**	**337**	⇓P	**Pn**	**08 28 07.1**	**+0.1**
	baz=15,SNR=7.8						
340A	**Bronson**	**14.77**	**3**	⇑P	**Pn**	**08 28 06.4**	**-1.0**
	baz=15						
335A	**Moody**	**14.79**	**351**	⇑P	**Pn**	**08 28 07.7**	**-0.2**
	baz=15,SNR=30						
336A	**Riesel**	**14.82**	**353**	⇑P	**Pn**	**08 28 06.9**	**-1.2**
	baz=15						
432A	**Menard**	**14.90**	**343**	⇓P	**Pn**	**08 28 09.0**	**-0.3**
	baz=15,SNR=26						
431A	**Sonora**	**14.96**	**340**	⇑P	**Pn**	**08 28 10.7**	**+0.7**
	baz=15,SNR=55						
334A	**Lometa**	**14.97**	**349**	⇓P	**Pn**	**08 28 09.4**	**-0.8**
	baz=15,SNR=166						
TXAR	**Lajitas Array**	**15.03**	**329**	P	**Pn**	**08 28 11.9**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=147,slow=12,SNR=30						
529A	**Stev Forest Ra**	**15.04**	**335**	⇑P	**Pn**	**08 28 11.3**	**+0.2**
	baz=15,SNR=12						
333A	**Richland Sprin**	**15.12**	**346**	⇑P	**Pn**	**08 28 12.3**	**+0.2**
	baz=15,SNR=52						
430A	**Baggett Ranch,**	**15.26**	**339**	⇑P	**Pn**	**08 28 14.3**	**+0.4**
	baz=15,SNR=50						
239A	**Gary**	**15.34**	**1**	⇑P	**Pn**	**08 28 14.2**	**-0.6**
	baz=16						
429A	**Davenport Ranc**	**15.36**	**337**	⇑P	**Pn**	**08 28 15.7**	**+0.5**
	baz=16,SNR=89						
332A	**Millersview**	**15.36**	**344**	⇑P	**Pn**	**08 28 15.0**	**-0.1**
	baz=16,SNR=41						
236A	**Katherine and**	**15.39**	**355**	⇓P	**Pn**	**08 28 14.7**	**-0.8**
	baz=16						
331A	**San Angelo**	**15.48**	**342**	⇑P	**Pn**	**08 28 16.7**	**+0.1**
	baz=16,SNR=34						
WHTX	**Lake Whitney,**	**15.49**	**352**	*e*Pn	**P**	**08 28 20.0**	**+0.9**
WHTX				*e*Sn	**Sn**	**08 31 10.9**	**+3.1**
WHTX	**Lake Whitney,**	**15.49**	**352**	⇑P	**Pn**	**08 28 16.3**	**-0.4**
	baz=16,SNR=18						
234A	**Clairette**	**15.61**	**350**	⇓P	**Pn**	**08 28 17.6**	**-0.7**
	baz=16,SNR=42						
233A	**Rising Star**	**15.77**	**347**	⇓P	**Pn**	**08 28 19.7**	**-0.6**
	baz=16,SNR=24						
330A	**Mertzon**	**15.81**	**340**	⇓P	**Pn**	**08 28 21.1**	**+0.3**
	baz=16,SNR=28						
232A	**Coleman**	**15.82**	**345**	⇑P	**Pn**	**08 28 20.8**	**-0.1**
	baz=16,SNR=50						
137A	**Heron Place, G**	**15.94**	**357**	⇓P	**Pn**	**08 28 20.5**	**-1.8**
	baz=16						
138A	**Matatall Enter**	**15.98**	**359**	⇓P	**Pn**	**08 28 21.6**	**-1.2**
	baz=16						
139A	**Bunkhouse Ranc**	**16.00**	**1**	⇓P	**Pn**	**08 28 22.1**	**-0.9**
	baz=16						
231A	**Bronte**	**16.04**	**343**	⇓P	**Pn**	**08 28 23.7**	**+0.1**
	baz=16,SNR=15						
135A	**Vickery Place,**	**16.04**	**352**	⇓P	**Pn**	**08 28 23.0**	**-0.6**
	baz=16,SNR=9.1						
134A	**White-Moore Ra**	**16.16**	**350**	⇓P	**Pn**	**08 28 24.3**	**-0.7**
	baz=16,SNR=17						
329A	**Wagon Wheel Ra**	**16.16**	**338**	⇑P	**Pn**	**08 28 25.4**	**+0.2**
	baz=16,SNR=49						
230A	**Sterling City**	**16.23**	**341**	⇑P	**Pn**	**08 28 25.8**	**-0.2**
	baz=16,SNR=17						
133A	**Hamilton Ranch**	**16.34**	**348**	⇑P	**Pn**	**08 28 26.8**	**-0.6**
	baz=16,SNR=18						
ABTX	**Abilene, Hawle**	**16.52**	**346**	*e*Pn	**Pn**	**08 28 28.4**	**-1.1**
	comp=Z,149nm,0.8s						
ABTX	**Abilene, Hawle**	**16.52**	**346**	⇓P	**Pn**	**08 28 29.1**	**-0.5**
	baz=17,SNR=30						
Z37A	**Pogue Cattle C**	**16.53**	**358**	⇓P	**Pn**	**08 28 29.2**	**-0.4**
	baz=17						
229A	**Bryant Ranch,**	**16.54**	**339**	⇑P	**Pn**	**08 28 29.8**	**0.0**
	baz=17,SNR=10						
Z38A	**Mt. Pleasant**	**16.57**	**360**	⇑P	**Pn**	**08 28 28.7**	**-1.4**
	baz=17						
Z39A	**Irene McRaven,**	**16.57**	**2**	⇓P	**Pn**	**08 28 29.4**	**-0.7**
	baz=17						
131A	**Roby**	**16.76**	**344**	⇑P	**Pn**	**08 28 32.5**	**0.0**
	baz=17,SNR=18						
Z35A	**Perchaven, San**	**16.79**	**353**	⇓P	**Pn**	**08 28 31.7**	**-1.1**
	baz=17,SNR=5.6						
130A	**Snyder**	**16.85**	**342**	⇑P	**Pn**	**08 28 33.2**	**-0.5**
	baz=17						
Z34A	**Collier Ranch,**	**16.91**	**351**	⇓P	**Pn**	**08 28 34.3**	**-0.1**
	baz=17,SNR=9.8						
228A	**UT Block 9, Go**	**16.96**	**337**	⇓P	**Pn**	**08 28 34.7**	**-0.3**
	baz=17,SNR=9.7						
Z33A	**Whitaker Ranch**	**16.97**	**349**	⇓P	**Pn**	**08 28 34.7**	**-0.4**
	baz=17,SNR=44						
Z32A	**Haskell**	**17.14**	**347**	⇓P	**Pn**	**08 28 36.6**	**-0.5**
	baz=17,SNR=26						
129A	**Stewart Farms,**	**17.16**	**340**	⇑P	**Pn**	**08 28 37.2**	**-0.4**
	baz=17,SNR=21						
Z31A	**Sharp Cattle R**	**17.30**	**345**	⇓P	**Pn**	**08 28 38.8**	**-0.4**
	baz=17,SNR=20						
128A	**Castleberry Fa**	**17.37**	**338**	⇑P	**P**	**08 28 39.6**	**-0.4**
	baz=18,SNR=14						
Y34A	**Reagan Ranch,**	**17.47**	**352**	⇓P	**P**	**08 28 39.9**	**-1.1**
	baz=18,SNR=13						
Z30A	**Sarson Ranc**	**17.54**	**342**	⇑P	**P**	**08 28 41.3**	**-0.6**
	baz=18,SNR=20						
CLNB	**Carlsbad**	**17.60**	**334**	*e*P	**Pn**	**08 28 45.1**	**+2.3**
	comp=Z,2.2nm,0.6s						
Y33A	**Hilltop Ranch,**	**17.65**	**350**	⇓P	**P**	**08 28 42.4**	**-0.6**
	baz=18,SNR=13						
Z29A	**Hungry Hill Ra**	**17.69**	**341**	⇓P	**P**	**08 28 43.1**	**-0.5**
	baz=18,SNR=7.5						
Y32A	**R-V Farms, Ver**	**17.80**	**347**	⇑P	**P**	**08 28 44.2**	**-0.5**
	baz=18						
MNTX	**Cornudas Mount**	**17.81**	**329**	*e*P	**Pn**	**08 28 45.2**	**0.0**
	comp=Z,5.5nm,0.9s						
MNTX	**Cornudas Mount**	**17.81**	**329**	⇑P	**Pn**	**08 28 45.4**	**+0.1**
	baz=18						
X35A	**Drake**	**17.82**	**354**	⇓P	**P**	**08 28 44.5**	**-0.3**
	baz=18,SNR=15						
LRAL	**Lakeview Retre**	**17.83**	**22**	*e*P	**Pn**	**08 28 46.7**	**+1.2**
	comp=Z,7.8nm,0.8s						
MIAR	**Mount Ida**	**17.90**	**3**	*e*P	**P**	**08 28 45.2**	**-0.5**
	comp=Z,24nm,0.9s						
X37A	**Clayton**	**17.91**	**359**	⇓P	**P**	**08 28 45.5**	**-0.3**
	baz=18,SNR=14						
X36A	**Centrahoma**	**17.93**	**356**	⇑P	**P**	**08 28 45.7**	**-0.4**
	baz=18,SNR=9.3						
Z28A	**Tucker Farm, M**	**17.94**	**339**	⇓P	**Pn**	**08 28 46.7**	**-0.2**
	baz=18,SNR=25						
Y31A	**Rekieta Farm,**	**17.95**	**345**	⇓P	**P**	**08 28 46.5**	**+0.2**
	baz=18,SNR=8.1						
TIGA	**Tifton**	**17.98**	**33**	⇓P	**P**	**08 28 43.5**	**-3.0**
	baz=18						
Y30A	**Stafford Cattl**	**18.03**	**344**	⇓P	**P**	**08 28 47.4**	**+0.1**
	baz=18,SNR=6.3						
X34A	**Smith Ranch, M**	**18.11**	**352**	⇑P	**P**	**08 28 48.3**	**+0.2**
	baz=18,SNR=15						
X33A	**Lawton**	**18.15**	**350**	⇓P	**P**	**08 28 48.4**	**-0.1**
	baz=18,SNR=13						
X32A	**Elmer**	**18.18**	**348**	⇑P	**Pn**	**08 28 49.2**	**-0.5**
	baz=18						
UALR	**University of**	**18.23**	**7**	*e*P	**P**	**08 28 49.6**	**+0.2**
	comp=Z,14nm,0.8s						
Y29A	**Porterfield Fa**	**18.24**	**342**	⇓P	**Pn**	**08 28 50.0**	**-0.5**
	baz=18,SNR=14						
W38A	**Poteau**	**18.39**	**1**	⇑P	**P**	**08 28 50.4**	**-0.7**
	baz=18,SNR=31						
WMOK	**Wichita Mounta**	**18.39**	**350**	*e*P	**P**	**08 28 48.7**	**-2.4**
	comp=Z,36nm,0.8s						
WMOK				*e*S	**S**	**08 32 09.7**	**-6.5**
W37A	**Quinton**	**18.46**	**359**	⇑P	**P**	**08 28 50.8**	**-1.0**
	baz=19						
Y28A	**McKinney Farm,**	**18.46**	**340**	⇑P	**P**	**08 28 51.9**	**-0.1**
	baz=19,SNR=19						
W36A	**Wetumka**	**18.49**	**356**	⇓P	**P**	**08 28 51.4**	**-0.8**
	baz=19,SNR=5.9						
X31A	**McDonald Ranch**	**18.52**	**347**	⇓P	**P**	**08 28 52.5**	**-0.1**
	baz=19						
W35A	**Tecumseh**	**18.55**	**355**	⇑P	**P**	**08 28 52.2**	**-0.7**
	baz=19,SNR=9.9						
X30A	**Coker Ranch, T**	**18.56**	**344**	⇓P	**P**	**08 28 53.6**	**+0.5**
	baz=19,SNR=20						
MSTX	**Muleshoe**	**18.69**	**339**	*e*P	**Pn**	**08 28 55.9**	**-0.1**
	comp=Z,48nm,0.9s						
MSTX	**Muleshoe**	**18.69**	**339**	⇓P	**Pn**	**08 28 55.8**	**-0.1**
	baz=19,SNR=26						
W34A	**Bridge Creek,**	**18.73**	**353**	⇓P	**P**	**08 28 54.3**	**-0.5**
	baz=19						
W33A	**Caddo, Fort Co**	**18.74**	**351**	⇓P	**P**	**08 28 54.9**	**-0.1**
	baz=19						
X29A	**Tulia**	**18.79**	**342**	⇑P	**Pn**	**08 28 56.8**	**-0.3**
	baz=19,SNR=12						
W32A	**Sentinel**	**18.85**	**349**	⇓P	**P**	**08 28 56.5**	**+0.3**
	baz=19,SNR=5.2						
X28A	**Dimmitt**	**19.01**	**341**	⇑P	**Pn**	**08 28 59.4**	**-0.3**
	baz=19,SNR=12						
W31A	**Holland Ranch,**	**19.05**	**347**	⇓P	**P**	**08 28 58.4**	**+0.1**
	baz=19						
V35A	**Meyer Ranch, C**	**19.16**	**355**	⇓P	**P**	**08 28 58.5**	**-1.0**
	baz=19,SNR=9.0						
AMTX	**Amarillo**	**19.19**	**343**	*e*P	**P**	**08 29 00.1**	**+0.1**
	comp=Z,97nm,1.4s						
AMTX				*e*S	**S**	**08 32 31.9**	**-0.8**
AMTX	**Amarillo**	**19.19**	**343**	⇑P	**P**	**08 29 00.1**	**+0.1**
	baz=19						
TUL1	**Leonard**	**19.24**	**358**	⇑P	**P**	**08 28 59.3**	**-1.1**
	baz=19,SNR=5.6						
V34A	**Guthrie**	**19.29**	**353**	⇓P	**P**	**08 29 00.4**	**-0.6**
	baz=19						
V33A	**Lossen Ranch,**	**19.37**	**352**	⇑P	**P**	**08 29 00.8**	**-1.1**
	baz=20,SNR=9.6						
V32A	**Arapaho**	**19.39**	**350**	⇑P	**P**	**08 29 02.0**	**-0.1**
	baz=20						
V31A	**Spring Creek L**	**19.59**	**348**	⇑P	**P**	**08 29 04.5**	**+0.2**
	baz=20						
121A	**Cookes Peak, D**	**19.70**	**326**	*e*P	**Pn**	**08 29 07.7**	**-0.2**
	comp=Z,13nm,0.8s						
121A	**Cookes Peak, D**	**19.70**	**326**	⇓P	**Pn**	**08 29 07.4**	**-0.5**
	baz=20,SNR=16						
319A	**Douglas**	**19.71**	**321**	⇓P	**Pn**	**08 29 06.8**	**-1.1**
	baz=20						
V30A	**Spur Ranch, Mi**	**19.77**	**346**	⇑P	**P**	**08 29 06.1**	**-0.2**
	baz=20,SNR=6.2						
U34A	**Anderson Ranch**	**19.89**	**354**	*e*P	**P**	**08 29 07.1**	**-0.4**
	comp=Z,14nm,0.6s						
U34A				*e*S	**S**	**08 32 49.6**	**+3.3**
U34A	**Anderson Ranch**	**19.89**	**354**	⇑P	**P**	**08 29 07.1**	**-0.4**
	baz=20						
U33A	**Lingo Farm, Me**	**19.95**	**352**	⇓P	**P**	**08 29 07.4**	**-0.8**
	baz=20,SNR=5.3						
U32A	**Winter Ranch,**	**20.03**	**350**	⇓P	**P**	**08 29 08.8**	**-0.3**
	baz=20						
V29A	**Stinnett**	**20.08**	**344**	⇑P	**P**	**08 29 09.4**	**-0.2**
	baz=20,SNR=7.7						
V28A	**Channing**	**20.16**	**342**	⇓P	**P**	**08 29 10.4**	**-0.1**
	baz=20,SNR=10						
V27A	**Dan Oppiter Fa**	**20.35**	**341**	⇑P	**P**	**08 29 12.6**	**+0.1**
	baz=20						
T36A	**Boggs Farm, Ca**	**20.39**	**358**	⇑P	**P**	**08 29 11.9**	**-0.9**
	baz=20						
T34A	**McClaskey Farm**	**20.43**	**355**	⇓P	**P**	**08 29 12.5**	**-0.8**
	baz=21						
U30A	**WK&E Inc. Balk**	**20.50**	**347**	⇑P	**P**	**08 29 14.2**	**+0.1**
	baz=21						
U28A	**Mallet**	**20.75**	**343**	⇑P	**P**	**08 29 16.8**	**0.0**
	baz=21						
T32A	**Huddler Ranch,**	**20.80**	**351**	⇓P	**P**	**08 29 17.0**	**-0.4**
	baz=21						
LAZ	**Ladron**	**20.86**	**330**	*e*P	Pn	08 29 20.0	-1.5
	comp=Z,4.1nm,0.8s						
U27A	**Thompson Grove**	**20.96**	**342**	⇓P	**P**	**08 29 19.1**	**0.0**
	baz=21,SNR=9.5						
T30A	**Plains**	**20.97**	**347**	⇑P	**P**	**08 29 19.2**	**0.0**
	baz=21						
ANMO	**Albuquerque**	**21.00**	**333**	P	**P**	**08 29 20.3**	**+0.7**
	comp=Z,9.5nm,0.6s,baz=138,slow=13,SNR=35						
ANMO	**Albuquerque**	**21.00**	**333**	*e*P	**P**	**08 29 20.8**	**+1.1**
	comp=Z,10.0nm,0.7s						
S35A	**Otter Creek Ra**	**21.03**	**357**	⇓P	**P**	**08 29 18.9**	**-0.8**
	baz=21						
S36A	**Lake Cedric, C**	**21.04**	**358**	⇓P	**P**	**08 29 19.7**	**-0.2**
	baz=21						
T29A	**Hugoton**	**21.24**	**346**	⇑P	**P**	**08 29 22.2**	**+0.1**
	baz=21						
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Q26A	Hugo	23.49	343	⇓P		P	08 29 46.2	+1.1
	baz=24							
P29A	Atwood	23.51	348	⇑P		P	08 29 45.2	0.0
	baz=24							
S22A	4UR Ranch, Cre	23.55	336	⇓P		P	08 29 46.4	+0.6
	baz=24,SNR=8.2							
R23A	Moffat	23.56	338	⇑P		P	08 29 47.0	+1.0
	baz=24,SNR=19							
P28A	Saint Francis	23.66	347	⇓P		P	08 29 46.7	+0.1
	baz=24							
O32A	Brockman Farm,	23.75	353	⇓P		P	08 29 46.9	-0.5
	baz=24							
O31A	Woolen Ranch,	23.77	351	⇑P		P	08 29 47.5	0.0
	baz=24							
MVCO	Mesa Verde	23.80	332	*e*P		P	08 29 49.1	+1.1
	comp=Z,7.3nm,0.7s							
MVCO	Mesa Verde	23.80	332	⇓P		P	08 29 49.4	+1.4
	baz=24							
P27A	Ficken Ranch,	23.83	345	⇑P		P	08 29 48.8	+0.7
	baz=24							
WUAZ	Wupatki	23.90	325	*e*P		P	08 29 51.0	+2.1
	comp=Z,9.7nm,0.8s							
WUAZ	Wupatki	23.90	325	⇓P		P	08 29 50.2	+1.3
	baz=24,SNR=12							
O30A	MW Ranch, Wils	23.91	350	⇓P		P	08 29 49.1	+0.4
	baz=24							
O29A	4D Ranch, Culb	23.99	349	⇑P		P	08 29 50.3	+0.8
	baz=24							
Q24A	Divide	24.02	340	⇑P		P	08 29 51.4	+1.3
	baz=24							
P26A	Davis Ranch, A	24.03	344	⇑P		P	08 29 50.8	+0.8
	baz=24							
O28A	Krutsinger Ran	24.19	347	⇓P		P	08 29 52.5	+1.1
	baz=24							
Q23A	Hartsel	24.20	339	⇓P		P	08 29 53.1	+1.4
	baz=24							
N31A	Bailey Ranch,	24.39	352	⇓P		P	08 29 53.5	+0.4
	baz=24							
N30A	Hueftle Ranch,	24.52	350	⇑P		P	08 29 55.1	+0.8
	baz=25							
PV01	Paradox Valley	24.60	333	*e*P		P	08 29 56.7	+1.5
	comp=Z,296nm,0.6s							
P23A	Jefferson	24.62	339	⇑P		P	08 29 56.9	+1.3
	baz=25,SNR=7.3							
N29A	Votaw Ranch, W	24.63	349	⇑P		P	08 29 56.2	+0.9
	baz=25							
O26A	Horse Wrangler	24.66	344	⇑P		P	08 29 56.8	+1.1
	baz=25							
SMCO	Snowmass	24.85	337	*e*P		P	08 29 59.0	+1.2
	comp=Z,9.3nm,1.0s							
M31A	Lambtecht Ranc	24.90	353	⇓P		P	08 29 58.3	+0.6
	baz=25							
ISCO	Idaho Springs	24.93	340	*e*P		P	08 29 59.1	+0.8
	comp=Z,4.1nm,0.9s							
ISCO	Idaho Springs	24.93	340	⇑P		P	08 29 59.2	+0.8
	baz=25							
N27A	Anderson Farm,	25.01	346	⇑P		P	08 29 59.6	+0.8
	baz=25							
OGNE	Ogallala	25.03	347	⇑P		P	08 29 59.6	+0.7
	baz=25							
O24A	Longmont	25.05	341	⇓P		P	08 30 00.6	+1.3
	baz=25							
U15A	North Rim	25.08	325	⇓P		P	08 30 01.0	+1.3
	baz=25							
P22A	Eagle	25.14	338	⇑P		P	08 30 00.9	+0.8
	baz=25							
IRM	Iron Mountain	25.24	318	⇑P		P	08 30 03.4	+2.4
	baz=25							
M28A	Bar X Bar Ranc	25.33	348	⇓P		P	08 30 03.0	+1.3
	baz=26							
O23A	Lake Granby, G	25.40	340	⇓P		P	08 30 04.3	+1.7
	baz=26,SNR=5.8							
O22A	Kremmling	25.57	339	⇓P		P	08 30 05.6	+1.4
	baz=26							
M27A	Reverse DX Ran	25.66	347	⇓P		P	08 30 05.5	+0.7
	baz=26							
L31A	Butterfield Fa	25.71	353	⇓P		P	08 30 05.0	-0.1
	baz=26,SNR=5.1							
GMRC	Granite Mounta	25.96	318	⇓P		P	08 30 09.6	+2.1
	baz=26							
M25A	Palm-Egli Farm	25.98	344	⇓P		P	08 30 08.6	+1.0
	baz=26							
N23A	Red Feather La	26.03	341	⇑P		P	08 30 09.2	+1.0
	baz=26							
N22A	Wattenberg Ran	26.11	340	⇑P		P	08 30 10.3	+1.4
	baz=26							
K30A	Basset	26.29	352	⇑P		P	08 30 10.7	+0.4
	baz=26							
K29A	Lazy Trails An	26.48	351	⇑P		P	08 30 12.9	+0.9
	baz=27							
TUQ	Turquoise Moun	26.54	319	⇑P		P	08 30 15.0	+2.2
	baz=27							
K28A	Ten Mile Ranch	26.60	349	⇓P		P	08 30 14.0	+0.8
	baz=27							
M22A	Cedar Creek Ra	26.70	340	⇓P		P	08 30 15.4	+1.1
	baz=27							
L23A	Garrett	27.07	342	⇑P		P	08 30 18.2	+0.7
	baz=27							
ECSD	EROS Data Cent	27.08	357	*e*P		P	08 30 16.0	-1.3
	comp=Z,11nm,0.8s							
ECSD	EROS Data Cent	27.08	357	⇑P		P	08 30 16.3	-1.0
	baz=27							
J29A	Okreek	27.11	351	⇓P		P	08 30 17.5	-0.2
	baz=27							
J28A	Allard Ranch,	27.27	350	⇑P		P	08 30 20.0	+0.9
	baz=27							
J26A	Sides Ranch, S	27.52	347	⇑P		P	08 30 22.0	+0.6
	baz=28							
I29A	Vivian Onida	27.71	352	⇓P		P	08 30 22.7	-0.3
	baz=28							
K22A	Casper	27.80	341	*e*P		P	08 30 26.9	+2.9
	comp=Z,4.7nm,1.2s							
I28A	Midland	27.82	350	⇓P		P	08 30 23.8	-0.2
	baz=28							
BRSD	Miller	27.96	354	*e*P		P	08 30 24.3	-0.9
I27A	Quinn	28.04	349	⇓P		P	08 30 26.3	+0.3
	baz=28							
SPMN	Marine on St.	28.58	3	*e*P		P	08 30 29.2	-1.4
	comp=Z,5.2nm,0.4s							
SPMN	Marine on St.	28.58	3	⇑P		P	08 30 29.3	-1.3
	baz=29							
G30A	Faulkton	28.66	354	⇑P		P	08 30 30.5	-0.9
	baz=29							
J20A	Shoshoni	28.93	340	⇑P		P	08 30 34.6	+0.6
	baz=29							
PDAR	Pinedale Array	28.93	337	P		P	08 30 34.4	+0.3
	comp=Z,0.2nm,0.5s,baz=126,slow=9.1,SNR=2.7							
H24A	Dirks Ranch, A	29.21	346	⇑P		P	08 30 36.8	+0.4
	baz=29							
G27A	Dupree	29.29	350	⇑P		P	08 30 36.5	-0.6
	baz=29							
G26A	Maurine	29.32	349	⇑P		P	08 30 37.0	-0.3
	baz=30							
G25A	Newell	29.39	348	⇑P		P	08 30 38.1	+0.2
	baz=30							
I20A	Worland	29.48	340	⇑P		P	08 30 39.6	+0.8
	baz=30							
H22A	Clearmont	29.53	343	⇑P		P	08 30 39.7	+0.5
	baz=30							
G24A	Alzada	29.73	346	⇓P		P	08 30 41.3	+0.3
	baz=30							
H21A	Big Horn, Sher	29.76	342	⇓P		P	08 30 41.1	-0.2
	baz=30							
F27A	Lemmon	29.78	350	⇑P		P	08 30 41.1	-0.2
	baz=30							
ELK	Elko	29.82	328	P		P	08 30 43.5	+1.5
	comp=Z,1.1nm,0.8s,baz=107,slow=11,SNR=6.6							
G23A	Biddle	29.84	345	⇓P		P	08 30 42.0	0.0
	baz=30							
NVAR	Mina Array Bea	29.92	321	P		P	08 30 44.9	+2.0
	comp=Z,1.3nm,0.7s,baz=136,slow=9.4,SNR=11							
REDW	Red Top Meadow	29.93	336	*e*P		P	08 30 43.3	+0.4
	comp=Z,2.0nm,0.6s							
REDW				*e*pP		pP	08 31 04.1	+0.2
SNOW	Snow King Moun	29.98	336	*e*P		P	08 30 44.4	+1.0
	comp=Z,9.4nm,0.9s							
G22A	Birney	30.09	344	⇓P		P	08 30 44.1	-0.1
	baz=30							
MOOW	Moose Ponds	30.22	337	*e*P		P	08 30 46.1	+0.6
	comp=Z,20nm,2.3s							
MOOW				*e*pP		pP	08 31 06.8	+0.3
E27A	Carson	30.25	351	⇓P		P	08 30 45.7	+0.2
	baz=30							
E28A	Huff	30.27	352	⇑P		P	08 30 44.9	-0.7
	baz=30							
I17A	Pilgrim Ck.	30.30	337	⇑P		P	08 30 46.7	+0.5
	baz=30							
F23A	Volborg	30.34	345	⇓P		P	08 30 46.5	+0.2
	baz=30							
H19A	Powell	30.40	340	⇑P		P	08 30 47.3	+0.3
	baz=30							
E26A	Carlson Angus	30.44	350	⇑P		P	08 30 47.3	+0.1
	baz=31							
D30A	Buchanan	30.58	355	⇑P		P	08 30 47.4	-1.0
	baz=31							
H18A	Shoshone NF, C	30.64	339	⇑P		P	08 30 49.6	+0.4
	baz=31							
E25A	Miller Ranch,	30.64	348	⇑P		P	08 30 49.1	+0.1
	baz=31							
G20A	Bridger	30.65	341	⇓P		P	08 30 49.5	+0.4
	baz=31							
D28A	Regan	30.86	352	⇑P		P	08 30 50.3	-0.5
	baz=31							
D27A	Center	30.91	351	⇑P		P	08 30 50.0	-1.2
	baz=31							
D26A	Manning	30.98	350	⇑P		P	08 30 51.4	-0.5
	baz=31,SNR=9.5							
E23A	Ismay	31.04	346	⇑P		P	08 30 52.0	-0.5
	baz=31							
E22A	Miles City	31.14	345	⇑P		P	08 30 53.3	-0.1
	baz=31							
C30A	Mose, Pekin	31.15	355	⇑P		P	08 30 52.3	-1.0
	baz=31							
F20A	Billings	31.15	342	⇓P		P	08 30 53.9	+0.4
	baz=31							
D25A	Fairfield	31.25	349	⇑P		P	08 30 54.9	+0.6
	baz=31							
MDND	Maddock	31.39	354	*e*P		P	08 30 54.7	-0.8
	comp=Z,58nm,0.7s							
MDND	Maddock	31.39	354	⇑P		P	08 30 55.0	-0.5
	baz=32							
D24A	Glendive	31.41	348	⇓P		P	08 30 56.1	+0.4
	baz=32							
C27A	Sayler Ranch,	31.50	351	⇑P		P	08 30 56.0	-0.4
	baz=32							
HLID	Hailey	31.58	332	⇓P		P	08 30 58.4	+0.9
	baz=32							
AGMN	Agassiz Nation	31.61	359	*e*P		P	08 30 55.8	-1.6
	comp=Z,9.8nm,0.7s							
AGMN	Agassiz Nation	31.61	359	⇑P		P	08 30 56.1	-1.3
	baz=32							
C26A	Wahner Farm, P	31.69	351	⇑P		P	08 30 58.0	-0.2
	baz=32							
E20A	Meyer Farm, Mu	31.78	342	⇑P		P	08 30 58.8	-0.2
	baz=32							
C24A	Savage	31.83	348	⇑P		P	08 30 59.3	-0.1
	baz=32							
D22A	Cohagen	31.86	345	⇓P		P	08 31 00.0	+0.3
	baz=32,SNR=7.5							
B30A	Myrvik Farm, E	31.88	356	⇑P		P	08 30 58.8	-0.9
	baz=32							
E19A	Rath Farm, Rou	31.94	342	⇓P		P	08 31 00.5	+0.1
	baz=32							
MCMT	McKenzie Canyo	31.95	335	*e*P		P	08 31 02.9	+2.2
	comp=Z,1.5nm,1.0s							
B29A	Wagenman Farm,	31.98	354	⇑P		P	08 30 59.8	-0.9
	baz=32							
D21A	La Casta Ranch	31.99	344	⇑P		P	08 31 01.3	+0.5
	baz=32							
B28A	Dugan Ranch, T	32.07	353	⇓P		P	08 31 00.8	-0.7
	baz=32,SNR=5.9							
B27A	Peters Farms,	32.14	352	⇓P		P	08 31 01.9	-0.2
	baz=32							
C23A	Lambert	32.25	347	⇓P		P	08 31 02.5	-0.5
	baz=32,SNR=5.2							
B26A	Jensen Ranch,	32.25	351	⇑P		P	08 31 01.8	-1.3
	baz=32							
DLMT	Dillon	32.29	336	*e*P		P	08 31 04.8	+1.2
	comp=Z,1.2nm,0.8s							
DLMT				*e*pP		pP	08 31 25.9	+1.2
B25A	Knox Farm, Ray	32.30	350	⇑P		P	08 31 03.0	-0.5
	baz=32							
A30A	Hoffart Farm,	32.37	356	⇑P		P	08 31 02.1	-1.9
	baz=32,SNR=7.5							
A29A	Manning Farm,	32.42	355	⇓P		P	08 31 03.0	-1.6
	baz=33,SNR=8.7							
A28A	Rude Farm, Bot	32.51	353	⇓P		P	08 31 04.1	-1.3
	baz=33,SNR=7.1							
LRM	Limekiln Ridge	32.62	337	*e*P		P	08 31 07.2	+0.6
	comp=Z,28nm,0.8s							
LRM				*e*pP		pP	08 31 28.3	+0.6
C21A	Desert Coulee	32.72	345	⇓P		P	08 31 07.5	+0.3
	baz=33							
A26A	Wade Farm, Ken	32.73	351	⇑P		P	08 31 06.7	-0.5
	baz=33,SNR=10							
B23A	Brockton	32.83	348	⇑P		P	08 31 08.3	+0.2
	baz=33							
C20A	Veseth Ranch,	32.85	344	⇓P		P	08 31 08.7	+0.3
	baz=33							
B22A	Reddig Ranch S	32.90	346	⇓P		P	08 31 08.6	-0.2
	baz=33							
A25A	Svangstu Ranch	32.94	350	⇑P		P	08 31 09.2	+0.2
	baz=33							
A24A	Westby	33.08	349	⇓P		P	08 31 10.5	+0.2
	baz=33							
A23A	Redstone	33.28	348	⇑P		P	08 31 12.6	+0.6
	baz=33							
A22A	Carney Farms,	33.53	347	⇑P		P	08 31 14.8	+0.6
	baz=34							
ULM	Lac du Bonnet	33.56	359	P		P	08 31 11.9	-2.5
	comp=Z,1.4nm,0.5s,baz=190,slow=10,SNR=5.0							
EGMT	Eagleton	33.63	342	⇓P		P	08 31 15.6	+0.4
	baz=34							
A21A	Bergtoll Ranch	33.76	346	⇓P		P	08 31 16.7	+0.5
	baz=34							
A19A	Klindworth Far	34.16	344	⇑P		P	08 31 20.4	+0.6
	baz=34							
NEW	Newport	36.46	335	⇓P		P	08 31 39.9	+0.5
	baz=37							
LPAZ	La Paz	41.99	140	P		P	08 32 28.6	+2.2
	comp=Z,3.0nm,0.7s,baz=325,slow=8.0,SNR=14							
LPAZ	La Paz	41.99	140	*e*P		P	08 32 29.0	+2.5
	comp=Z,3.7nm,0.9s							
YKA	Yellowknife Ar	47.88	348	P		P	08 33 10.8	-1.0
	comp=Z,1.6nm,0.7s,baz=153,slow=7.4,SNR=25							
CPUP	Villa Florida	56.15	139	P		P	08 34 15.2	+1.5
	comp=Z,0.9nm,0.9s,baz=277,slow=20,SNR=3.5							
BDFB	Brasilia	56.24	122	P		P	08 34 14.5	-0.2
	comp=Z,2.5nm,0.4s,baz=286,slow=10,SNR=4.8							
ILAR	Eielson Array	59.37	337	P		P	08 34 35.5	-0.2
	comp=Z,0.4nm,0.8s,baz=160,slow=4.5,SNR=8.2							
PLCA	Paso Flores	61.36	159	P		P	08 34 49.5	-0.2
	comp=Z,2.3nm,1.0s,baz=350,slow=6.1,SNR=4.3							
QUIF	Quistinic	78.98	43	*e*P		P	08 36 35.7	-1.4
	comp=Z,8.6nm,0.8s							
QUIF	Quistinic	78.98	43	*e*P		P	08 36 35.7	-1.4
	comp=Z,8.6nm,0.8s							
ESDC	Sonseca Array	80.27	52	P		P	08 36 43.3	-1.1
	comp=Z,0.3nm,0.3s,baz=297,slow=6.2,SNR=6.0							
GRR	Gorron	80.38	42	*e*P		P	08 36 43.5	-1.2
	comp=Z,9.5nm,0.5s							
GRR	Gorron	80.38	42	*e*P		P	08 36 43.5	-1.2
	comp=Z,9.5nm,0.5s							
FLN	La Foliniere	80.53	42	*e*P		P	08 36 44.5	-1.0
	comp=Z,9.6nm,0.6s							
FLN	La Foliniere	80.53	42	*e*P		P	08 36 44.5	-1.0
	comp=Z,9.6nm,0.6s							
LDF	La Druitiere	80.80	42	*e*P		P	08 36 45.8	-1.2
	comp=Z,7.2nm,0.7s							
LDF	La Druitiere	80.80	42	*e*P		P	08 36 45.8	-1.2
	comp=Z,7.2nm,0.7s							
MFF	Saint Martin d	81.29	44	*e*P		P	08 36 48.2	-1.4
	comp=Z,5.7nm,0.7s							
MFF	Saint Martin d	81.29	44	*e*P		P	08 36 48.2	-1.4
	comp=Z,5.7nm,0.6s							
RJF	Les Rejaudoux	82.75	45	*e*P		P	08 36 55.9	-1.4
	comp=Z,7.7nm,0.7s							
RJF	Les Rejaudoux	82.75	45	*e*P		P	08 36 55.9	-1.4
	comp=Z,7.7nm,0.7s							
TCF	Toulx Ste Croi	82.94	44	*e*P		P	08 36 56.7	-1.6
	comp=Z,3.2nm,0.5s							
TCF	Toulx Ste Croi	82.94	44	*e*P		P	08 36 56.7	-1.6
	comp=Z,3.2nm,0.5s							
BAIF	Baives	83.12	40	*e*P		P	08 36 58.2	-0.9
BAIF	Baives	83.12	40	*e*P		P	08 36 58.2	-0.9
NOA	NORSAR Array B	83.17	28	P		P	08 36 58.9	-0.3
	comp=Z,0.5nm,0.6s,baz=300,slow=5.2,SNR=4.0							
AVF	Avril sur Loir	83.55	43	*e*P		P	08 36 59.7	-1.7
	comp=Z,8.4nm,0.9s							
AVF	Avril sur Loir	83.55	43	*e*P		P	08 36 59.7	-1.7
	comp=Z,8.4nm,0.9s							
SSF	Saint Saulge	83.57	43	*e*P		P	08 37 00.0	-1.5
	comp=Z,11nm,0.9s							
SSF	Saint Saulge	83.57	43	*e*P		P	08 37 00.0	-1.5
	comp=Z,11nm,0.9s							
LOR	Lormes	83.74	43	*e*P		P	08 37 01.1	-1.3
MEZF	Maizieres J'vi	84.12	41	*e*P		P	08 37 03.4	-0.8
	comp=Z,11nm,0.7s							
MEZF	Maizieres J'vi	84.12	41	*e*P		P	08 37 03.4	-0.8
	comp=Z,11nm,0.7s							
SFTF	Sexfontaines	84.21	41	*e*P		P	08 37 03.6	-1.1
SFTF	Sexfontaines	84.21	41	*e*P		P	08 37 03.6	-1.1
ARCES	ARCESS Array B	84.52	18	P		P	08 37 04.9	-1.0
	comp=Z,1.2nm,0.7s,baz=303,slow=7.1,SNR=5.6							
PAGF	Fort de Pagny	84.53	41	*e*P		P	08 37 05.6	-0.7
	comp=Z,2.3nm,0.7s							
PAGF	Fort de Pagny	84.53	41	*e*P		P	08 37 05.6	-0.7
	comp=Z,2.3nm,0.7s							
HAU	Haudompre	85.10	41	*e*P		P	08 37 08.3	-0.9
	comp=Z,9.0nm,0.6s							
HAU	Haudompre	85.10	41	*e*P		P	08 37 08.3	-0.9
	comp=Z,9.0nm,0.6s							
HINF	Hinteralfeld	85.49	41	*e*P		P	08 37 10.1	-1.1
HINF	Hinteralfeld	85.49	41	*e*P		P	08 37 10.1	-1.1
CDF	Champ du Feu	85.55	41	*e*P		P	08 37 10.5	-1.0
	comp=Z,8.4nm,0.9s							
CDF	Champ du Feu	85.55	41	*e*P		P	08 37 10.5	-1.0
	comp=Z,8.4nm,0.9s							
DBIC	Dimbokro	88.12	84	P		P	08 37 23.8	-0.7
	comp=Z,2.1nm,0.6s,baz=246,slow=4.6,SNR=4.0							
DBIC				LR		LR	09 16 56.9	
	comp=Z,27nm,18.6s,baz=124,slow=36							
TORD	Torodi Ar. Bea	92.43	76	P		P	08 37 43.8	-0.8
	comp=Z,0.5nm,0.6s,baz=296,slow=6.2,SNR=7.4							
CSS	Prodhromos	108.95	43	*e*PKPdf		PKiKP	08 43 04.7	+2.1
HHC	Hu-ho-hao-te	117.79	338	*e*PKP		PKPdf	08 43 19.4	-0.1
HHC				PP		PP	08 44 36.8	+4.0
HHC				SKS		SKSdf	08 50 21.3	-2.3
HHC				SKKS		SKKSac	08 51 13.4	-13
HHC	Hu-ho-hao-te	117.79	338	SS		SS	09 00 36.8	-1.2
HHC				AMB		AMB		
	comp=Z,29nm,7.5s							
HHC				LR		LR		
	comp=N,26nm,17.4s							
HHC				LR		LR		
	comp=E,55nm,18.7s							
HHC				LR		LR		
	comp=Z,43nm,14.9s							

ISCJB ***13*** *08:32:44.8±0.9,36°.87N±0°.05×6°.95W±0°.03,h10km,Error ellipse: s-maj=7.7km s-min=3.8km az=0.8*
MDD ***13*** *08:32:46.8±0.8,36°.71N×7°.01W,h47km±25km,mb3.7/4, Error ellipse: s-maj=9.8km s-min=5.0km az=6.0,PRXIMO*
CSEM ***13*** *08:32:46.6±0.2,36°.75N×7°.00W,h40km,ML2.8/5,Error ellipse: s-maj=4.4km s-min=2.3km az=178.0*
IGIL ***13*** *08:32:47.1,36°.73N×7°.06W,h20km,ML1.7*
INMG ***13*** *08:32:47.0±0.8,36°.73N×7°.05W,h20km±2km,ML1.6,Error ellipse: s-maj=4.0km s-min=3.4km az=179.0*

ISC 13 08:32:43.9±1.2,36.73N±0°.06×6.99W±0°.03,h10km,n50,
σ1§46/80,2C-6D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PVAQ	Vaqueiros	0.89	319	*i* P		Pg		08 33 02.6	+1.5
PVAQ				*e*S		Sg		08 33 14.1	+1.3
PVAQ				A		A		08 33 14.8	
	8.1nm,0.1s								
PVAQ	Vaqueiros	0.89	319	⇓Pg		Pg		08 33 02.6	+1.5
PVAQ				Lg		Lg		08 33 14.1	
	8.1nm,0.1s								
PVAQ	Vaqueiros	0.89	319	Pg		Pg		08 33 02.6	+1.5
PVAQ				*e*S		Sg		08 33 14.1	+1.3
	8.1nm,0.1s								
EGRO	El Granado	0.90	334	⇓Pg		Pg		08 33 02.8	+1.6
	12nm,0.0s,SNR=18								
EGRO				Lg		Lg		08 33 14.0	
	7.2nm,0.1s,SNR=6.4								
EGRO	El Granado	0.90	334	Pg		Pg		08 33 02.8	+1.6
	12nm,0.0s,SNR=18								
EGRO				Lg		Lg		08 33 14.0	
	7.2nm,0.1s,SNR=6.4								
PBDV	Barranco-do-Ve	0.92	305	*i* P		Pg		08 33 02.8	+1.3
PBDV				*e*S		Sg		08 33 14.4	+0.9
PBDV				A		A		08 33 14.7	
	8.8nm,0.3s								
PBDV	Barranco-do-Ve	0.92	305	⇓Pg		Pg		08 33 02.8	+1.3
PBDV				Lg		Lg		08 33 14.4	
	8.8nm,0.3s								
PBDV	Barranco-do-Ve	0.92	305	Pg		Pg		08 33 02.8	+1.3
PBDV				*e*S		Sg		08 33 14.4	+0.9
	8.8nm,0.3s								
ESPR	Espera	0.92	81	⇑Pg		Pb		08 33 03.1	+1.2
	17nm,0.1s,SNR=18								
ESPR				Lg		Lg		08 33 15.2	
	44nm,0.2s,SNR=9.0								
ESPR	Espera	0.92	81	Pg		Pb		08 33 03.1	+1.2
	17nm,0.1s,SNR=18								
ESPR				Lg		Lg		08 33 15.2	
	44nm,0.2s,SNR=9.0								
EMIN	Mina Concepcio	1.07	13	⇓Pg		Pb		08 33 05.0	+0.5
	0.4nm,0.0s,SNR=18								
EMIN				Lg		Lg		08 33 17.9	
	5.1nm,0.1s,SNR=22								
EMIN	Mina Concepcio	1.07	13	Pg		Pb		08 33 05.0	+0.5
	0.4nm,0.0s,SNR=18								
EMIN				Lg		Lg		08 33 17.9	
	5.1nm,0.1s,SNR=22								
PCVE	Castro Verde	1.23	317	*i* P		Pn		08 33 07.2	0.0
PCVE				*e*S		Sb		08 33 22.2	-1.1
PCVE				*e*Sn		Sb		08 33 22.4	-0.9
PCVE				A		A		08 33 39.7	
	0.2nm,0.7s								
PCVE	Castro Verde	1.23	317	⇓Pg		Pn		08 33 07.2	0.0
PCVE				Lg		Lg		08 33 22.2	
PCVE	Castro Verde	1.23	317	Pg		Pn		08 33 07.2	0.0
PCVE				*e*Sn		Sb		08 33 22.4	-0.9
	0.2nm,0.7s								
PBAR	Barrancos	1.45	358	*e*P		Pn		08 33 10.5	+0.4
PBAR				*e*S		Sn		08 33 28.1	-1.1
PBAR				A		A		08 33 29.5	
	7.9nm,0.1s								
PBAR

PTEO					A	A	08 33 32.2	
	comp=N,3.7nm,0.3s							
PTEO	**Sao Teotonio**	**1.61**	**301**	⇑Pg	**Pn**	**Pn**	**08 33 12.5**	**+0.1**
PTEO				Lg	Lg		08 33 31.1	
	comp=N,1.9nm,0.3s							
PTEO	**Sao Teotonio**	**1.61**	**301**	Pg	**Pn**	**Pn**	**08 33 12.5**	**+0.1**
PTEO				*eS*	**Sn**	**Sn**	**08 33 31.1**	**-2.1**
	comp=N,3.7nm,0.3s							
ECAB	**El Cabril**	**1.84**	**42**	⇓Pn	**Pn**	**Pn**	**08 33 15.3**	**-0.3**
	comp=N,0.3nm,0.1s,SNR=18							
ECAB				Sn	**Sn**	**Sn**	**08 33 36.4**	**-2.5**
	comp=N,1.0nm,0.1s,SNR=6.1							
ECAB				Lg	Lg		08 33 42.0	
	comp=N,0.9nm,0.1s,SNR=5.8							
ECAB	**El Cabril**	**1.84**	**42**	Pn	**Pn**	**Pn**	**08 33 15.3**	**-0.3**
	comp=N,0.3nm,0.1s,SNR=18							
ECAB				Sn	**Sn**	**Sn**	**08 33 36.4**	**-2.5**
	comp=N,1.0nm,0.1s,SNR=6.1							
ECAB				Lg	Lg		08 33 42.0	
	comp=N,0.9nm,0.1s,SNR=5.8							
PNCL	**Nicolau / Gran**	**1.85**	**319**	*eP*	**Pn**	**Pn**	**08 33 15.7**	**0.0**
PNCL				*eS*	**Sn**	**Sn**	**08 33 37.0**	**-2.1**
PNCL				A	A		08 33 38.0	
	comp=N,3.7nm,0.1s							
PNCL	**Nicolau / Gran**	**1.85**	**319**	*eP*	**Pn**	**Pn**	**08 33 15.7**	**0.0**
PNCL				*eS*	**Sn**	**Sn**	**08 33 37.0**	**-2.1**
	comp=N,3.7nm,0.1s							
EBAD	**Badajoz**	**2.03**	**359**	Pn	**Pn**	**Pn**	**08 33 17.9**	**-0.2**
	comp=N,1.4nm,0.1s,SNR=7.9							
EBAD				Sn	**Sn**	**Sn**	**08 33 40.9**	**-2.6**
	comp=N,3.3nm,0.1s,SNR=7.9							
EBAD				Lg	Lg		08 33 49.0	
	comp=N,1.2nm,0.0s,SNR=7.9							
EBAD	**Badajoz**	**2.03**	**359**	Pn	**Pn**	**Pn**	**08 33 17.9**	**-0.2**
	comp=N,1.4nm,0.1s,SNR=7.9							
EBAD				Sn	**Sn**	**Sn**	**08 33 40.9**	**-2.6**
	comp=N,3.3nm,0.1s,SNR=7.9							
EBAD				Lg	Lg		08 33 49.0	
	comp=N,1.2nm,0.0s,SNR=7.9							
PESTR	**Estremoz**	**2.19**	**348**	*eP*	**Pn**	**Pn**	**08 33 20.4**	**0.0**
PESTR				A	A		08 34 02.8	
	comp=N,3.3nm,0.6s							
PESTR	**Estremoz**	**2.19**	**348**	*eP*	**Pn**	**Pn**	**08 33 20.4**	**0.0**
	comp=N,3.3nm,0.6s							
EADA	**Adamuz**	**2.40**	**52**	Pn	**Pn**	**Pn**	**08 33 23.5**	**+0.2**
	comp=N,0.4nm,0.0s,SNR=7.9							
EADA				Sn	**Sn**	**Sn**	**08 33 49.7**	**-3.0**
	comp=N,1.3nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**2.40**	**52**	Pn	**Pn**	**Pn**	**08 33 23.5**	**+0.2**
	comp=N,0.4nm,0.0s,SNR=7.9							
EADA				Sn	**Sn**	**Sn**	**08 33 49.7**	**-3.0**
	comp=N,1.3nm,0.1s,SNR=7.9							
PMTG	**Montargil**	**2.54**	**338**	*eP*	**Pn**	**Pn**	**08 33 25.2**	**+0.1**
PMTG				*eSn*	**Sn**	**Sn**	**08 33 54.6**	**-1.5**
PMTG				A	A		08 34 17.7	
	comp=N,2.2nm,0.6s							
PMTG	**Montargil**	**2.54**	**338**	*eP*	**Pn**	**Pn**	**08 33 25.2**	**+0.1**
PMTG				*eSn*	**Sn**	**Sn**	**08 33 54.6**	**-1.5**
	comp=N,2.2nm,0.6s							
PMRV	**Marv??o**	**2.72**	**353**	*eP*	**Pn**	**Pn**	**08 33 27.8**	**+0.2**
PMRV				*eS*	**Sn**	**Sn**	**08 33 58.6**	**-2.0**
PMRV				A	A		08 33 59.4	
	comp=N,2.1nm,0.1s							
PMRV	**Marv??o**	**2.72**	**353**	Pn	**Pn**	**Pn**	**08 33 27.8**	**+0.2**
PMRV				Sn	**Sn**	**Sn**	**08 33 58.6**	**-2.0**
	comp=N,2.1nm,0.1s							
PMRV	**Marv??o**	**2.72**	**353**	*eP*	**Pn**	**Pn**	**08 33 27.8**	**+0.2**
PMRV				*eS*	**Sn**	**Sn**	**08 33 58.6**	**-2.0**
	comp=N,2.1nm,0.1s							
EPLA	**Plasencia**	**3.41**	**12**	Pn	**Pn**	**Pn**	**08 33 38.0**	**+0.9**
	comp=N,1.0nm,0.1s,SNR=6.0							
EPLA				Sn	**Sn**	**Sn**	**08 34 14.2**	**-3.4**
	comp=N,1.5nm,0.1s,SNR=5.0							
EPLA	**Plasencia**	**3.41**	**12**	Pn	**Pn**	**Pn**	**08 33 38.0**	**+0.9**
	comp=N,1.0nm,0.1s,SNR=6.0							
EPLA				Sn	**Sn**	**Sn**	**08 34 14.2**	**-3.4**
	comp=N,1.5nm,0.1s,SNR=5.0							
PAB	**San Pablo**	**3.50**	**36**	Sn	Sn		08 34 15.0	-5.0
	comp=N,0.4nm,0.1s,SNR=7.9							
PAB	**San Pablo**	**3.50**	**36**	Sn	Sn		08 34 15.0	-5.0
	comp=N,0.4nm,0.1s,SNR=7.9							

WEL 13 08:40:39.4±0.3, 41°36S×172°95E, h126km±2km, ML3.5/11, 3C-5D, Error ellipse: s-maj=2.0km s-min=1.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**0.41**	**185**	PN	Pn	08 40 57.6	0.0
THZ				SN	Sn	08 41 10.7	-0.7
QRZ	**Quartz Range**	**0.61**	**329**	PN	Pn	08 40 59.2	+0.5
QRZ				SN	Sn	08 41 12.4	-1.0
TUWZ	**Tuamarina**	**0.75**	**96**	PN	Pn	08 40 59.8	+0.1
TUWZ				AML	AML	08 41 15.2	
TUWZ				AML	AML	08 41 15.4	
BSWZ	**Blackbirch Sta**	**0.78**	**118**	PN	Pn	08 41 00.0	0.0
BSWZ				AML	AML	08 41 15.9	
BSWZ				AML	AML	08 41 17.3	
DUWZ	**D'Urville Isla**	**0.92**	**53**	⇓PN	Pn	08 41 02.0	+0.8
DSZ	**Denniston Nort**	**0.94**	**245**	⇑PN	Pn	08 41 01.2	-0.2
TCW	**Tory Channel**	**1.01**	**82**	PN	Pn	08 41 02.4	+0.4
TCW				AML	AML	08 41 20.3	
TCW				AML	AML	08 41 20.4	
KHZ	**Kahutara**	**1.15**	**158**	⇑PN	Pn	08 41 03.2	-0.1
KHZ				AML	AML	08 41 20.6	
WEL	**Wellington**	**1.37**	**88**	PN	Pn	08 41 05.6	-0.1
WEL				AML	AML	08 41 25.2	
WEL				AML	AML	08 41 26.8	
BHW	**Baring Head**	**1.45**	**93**	PN	Pn	08 41 06.0	-0.5
BHW				AML	AML	08 41 25.9	
BHW				AML	AML	08 41 26.9	
LTZ	**Lake Taylor**	**1.51**	**199**	⇑PN	Pn	08 41 07.1	-0.3
KIW	**Kapiti Island**	**1.56**	**72**	PN	Pn	08 41 08.0	+0.1
KIW				AML	AML	08 41 30.3	
KIW				AML	AML	08 41 30.5	
CAW	**Cannon Point**	**1.62**	**82**	PN	Pn	08 41 08.2	-0.3
CAW				AML	AML	08 41 30.8	
CAW				AML	AML	08 41 31.5	
PLWZ	**Palliser**	**1.75**	**98**	PN	Pn	08 41 09.3	-0.8
OGWZ	**Otaki Gorge**	**1.76**	**73**	PN	Pn	08 41 10.0	-0.2
MTW	**Mount Morrison**	**1.94**	**85**	PN	Pn	08 41 11.6	-0.7
MTW				AML	AML	08 41 37.5	
MTW				AML	AML	08 41 37.9	
HOWZ	**Holdsworth Sta**	**1.99**	**78**	PN	Pn	08 41 12.3	-0.7
NMEZ	**Namu Road**	**2.06**	**20**	PN	Pn	08 41 15.5	+1.6
OXZ	**Oxford**	**2.08**	**199**	PN	Pn	08 41 13.0	-1.1
MRZ	**Mangatainoka R**	**2.11**	**72**	⇓PN	Pn	08 41 13.6	-0.8
MRZ				AML	AML	08 41 41.6	
MRZ				AML	AML	08 41 41.7	
LREZ	**Lake Rotokare**	**2.19**	**31**	PN	Pn	08 41 17.4	+1.8
PREZ	**Palmer Road**	**2.21**	**25**	PN	Pn	08 41 17.4	+1.5
KHEZ	**Kahui Hut**	**2.21**	**22**	PN	Pn	08 41 17.5	+1.6
WAZ	**Wanganui**	**2.23**	**45**	⇓PN	Pn	08 41 17.3	+1.3
CRLZ	**Canterbury Las**	**2.23**	**186**	PN	Pn	08 41 15.1	-0.9
NEZ	**North Egmont**	**2.26**	**23**	PN	Pn	08 41 17.8	+1.4
TIWZ	**Tintock**	**2.29**	**76**	PN	Pn	08 41 16.0	-0.8
TIWZ				AML	AML	08 41 45.4	
TIWZ				AML	AML	08 41 46.1	
PKE	**Pukeiti**	**2.30**	**21**	PN	Pn	08 41 18.3	+1.4
MQZ	**McQueen's Vall**	**2.36**	**185**	PN	Pn	08 41 16.2	-1.3
DREZ	**Durham Road**	**2.37**	**24**	PN	Pn	08 41 19.0	+1.3
WVZ	**Waitaha Valley**	**2.38**	**223**	PN	Pn	08 41 17.0	-0.8
MHEZ	**Mangahewa**	**2.51**	**25**	PN	Pn	08 41 21.1	+1.6
BFZ	**Birch Farm**	**2.58**	**76**	PN	Pn	08 41 19.4	-1.1
VRZ	**Vera Road**	**2.62**	**32**	⇓PN	Pn	08 41 22.3	+1.4
TSZ	**Takapari Road**	**2.63**	**62**	PN	Pn	08 41 20.4	-0.7
RPZ	**Rata Peaks**	**2.74**	**210**	PN	Pn	08 41 21.4	-1.2
MTVZ	**Mangateitei**	**2.75**	**45**	PN	Pn	08 41 23.8	+1.1
WNVZ	**Wahianoa**	**2.86**	**46**	PN	Pn	08 41 24.2	-0.1
FWVZ	**Far West T-bar**	**2.89**	**44**	PN	Pn	08 41 24.9	+0.1
TWVZ	**Taurewa**	**2.97**	**41**	PN	Pn	08 41 25.9	+0.3
BHHZ	**Black Hill Sta**	**3.02**	**53**	PN	Pn	08 41 25.6	-0.6
KRVZ	**Karewarewa**	**3.06**	**43**	PN	Pn	08 41 27.6	+0.8
KATZ	**Kakaramea**	**3.17**	**42**	PN	Pn	08 41 29.2	+0.9
HIZ	**Hauiti**	**3.19**	**28**	PN	Pn	08 41 29.1	+0.7
FOZ	**Fox Glacier**	**3.27**	**226**	PN	Pn	08 41 27.0	-2.3
KAHZ	**Kahuranaki**	**3.37**	**64**	PN	Pn	08 41 29.6	-1.2
BKZ	**Black Stump Fm**	**3.48**	**52**	PN	Pn	08 41 31.2	-1.0
LBZ	**Lake Benmore**	**3.65**	**213**	PN	Pn	08 41 32.2	-2.2
ODZ	**Otahua Downs**	**4.05**	**204**	⇓PN	Pn	08 41 38.5	-1.2
KNZ	**Kokohu**	**4.30**	**59**	PN	Pn	08 41 40.8	-2.3
WKZ	**Wanaka**	**4.51**	**218**	PN	Pn	08 41 43.5	-2.3
RIGZ	**Rimuhau**	**4.54**	**56**	*e*PN	Pn	08 41 45.6	-0.8
MKAZ	**Moumakai**	**4.57**	**23**	PN	Pn	08 41 47.7	+1.0
MWZ	**Matawai**	**4.64**	**51**	PN	Pn	08 41 46.8	-0.8
TUZ	**Tuapeka**	**5.19**	**206**	PN	Pn	08 41 53.3	-1.5
WHZ	**Wether Hill Ro**	**5.81**	**217**	PN	Pn	08 42 01.2	-2.0

IDC ***13*** *08:45:13.3±1.3, 35°.85S×73°.66W, h0km, mb3.7/4, mb1 3.8/7, mb1mx3.7/19, mbtmp3.6/7, ML3.7/3, MS3.7/5, Ms1 3.6/5, ms1mx3.2/20, Error ellipse: s-maj=37.5km s-min=20.7km az=105.0*
GUC ***13*** *08:45:14.0±0.6, 35°.91S×73°.58W, h36km±6km, ML4.6*
ISCJB ***13*** *08:45:15.8±0.8, 35°.92S±0°.05×73°.59W±0°.08, h33km, mb3.7/3, MS3.5/3, Error ellipse: s-maj=9.4km s-min=6.3km az=10.8*

ISC 13 08:45:17.6±1.1, 35°98S±0°06×73°54W±0°10, h35km, n15, σ1§40/18, mb3.6/3, MS3.5/3, 1C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.63**	**105**	⇓*i*P	**Pn**	**08 45 28.0**	**-2.0**
COCH				*i* S	**Sn**	**08 45 37.6**	**-1.2**
CCSP	**San Pedro de C**	**0.93**	**158**	*e*P	**Pn**	**08 45 32.7**	**-1.5**
CCSP				*i* S	**Sn**	**08 45 46.8**	**+0.4**
LNCH	**Linares**	**1.58**	**86**	⇓*i*P	**Pn**	**08 45 42.0**	**-1.0**
TALC	**Talca**	**1.65**	**70**	⇓*i*P	**Pn**	**08 45 44.5**	**+0.5**
TALC				*e*S	**Sn**	**08 46 06.8**	**+2.7**
NICH	**Los Niches**	**2.12**	**63**	*e*P	**Pn**	**08 45 50.2**	**-0.3**
NICH				*i* S	**Sn**	**08 46 16.9**	**+1.3**
CLCH	**Cerro Calan**	**3.57**	**45**	*e*P	**Pn**	**08 46 09.2**	**-1.3**
CLCH				AML	AML	08 47 22.9	
	comp=N,747nm,0.9s						
PEL	**Peldehue**	**3.68**	**41**	⇑*i*P	**Pn**	**08 46 10.7**	**-1.3**
PEL				AML	AML	08 47 25.4	
	comp=E,693nm,0.6s						
PLCA	**Paso Flores**	**5.30**	**155**	Pn	**Pn**	**08 46 35.6**	**+1.3**
	comp=E,0.8nm,0.3s,baz=324,slow=10.0,SNR=16						
PLCA				LR	LR	08 48 42.6	
	comp=E,396nm,18.6s,baz=340,slow=38						
CFAA	**Coronel Fontan**	**6.20**	**47**	Pn	**Pn**	**08 46 45.4**	**-1.3**
	comp=E,0.8nm,0.3s,baz=218,slow=7.0,SNR=98						
CFAA				Sn	**Sn**	**08 47 56.4**	**0.0**
	comp=E,0.3nm,0.3s,baz=233,slow=18,SNR=3.7						
CPUP	**Villa Florida**	**16.86**	**60**	Pn	**P**	**08 49 12.0**	**-0.6**
	comp=E,0.0nm,0.3s,baz=220,slow=16,SNR=3.2						
CPUP				LR	LR	08 55 42.7	
	comp=E,655nm,20.4s,baz=234,slow=37						
LPAZ	**La Paz**	**20.19**	**15**	P	Pn	08 49 51.0	-1.2
	comp=E,1.4nm,0.8s,baz=204,slow=10.0,SNR=6.9						
SIV	**San Ignacio**	**22.80**	**32**	P	**P**	**08 50 16.8**	**-0.6**
	comp=E,1.9nm,0.8s,baz=219,slow=9.2,SNR=4.4						
SIV				LR	LR	09 00 38.8	
	comp=E,163nm,18.8s,baz=193,slow=41						
BDFB	**Brasilia**	**30.47**	**55**	LR	LR	09 05 32.8	
	comp=E,113nm,18.0s,baz=249,slow=40						
QSPA	**South Pole Qui**	**54.27**	**180**	P	**P**	**08 54 41.9**	**+2.0**
	comp=E,3.1nm,1.0s,baz=145,slow=3.1,SNR=7.0						
TXAR	**Lajitas Array**	**70.88**	**332**	P	**P**	**08 56 30.6**	**-0.4**
	comp=E,0.4nm,0.7s,baz=153,slow=10,SNR=4.1						
TXAR				LR	LR	09 22 59.4	
	comp=E,24nm,18.2s,baz=0.0,slow=32						

CSEM ***13*** *08:56:24.5, 12°.00N×44°.15E, h12km, ML3.7*

DHMR 13 08:56:24.5±1.5, 12°00N×44°15E, h12km±11km, ML3.7, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.23**	**358**	*i* P	Pn	08 56 46.8	-1.0
TRBA				*i* S	Sn	08 57 04.5	-0.2
TRBA				AML	AML	08 57 10.6	
	comp=E,2μm,0.6s						
BDHA	**Al Bayda'**	**2.40**	**35**	*i* P	Pb	08 57 06.4	-1.6
BDHA				*i* S	Sb	08 57 37.9	0.0
BDHA				AML	AML	08 57 56.5	
	comp=N,454nm,0.7s						
BDHA	**Al Bayda'**	**2.40**	**35**	*i* P	Pb	08 57 06.4	-1.6
BDHA				*i* S	Sb	08 57 37.9	0.0
	comp=N,227nm,0.7s						
DHBB	**Dhamar BB**	**2.57**	**5**	*i* P	Pb	08 57 09.2	-1.8
DHBB				*i* S	Sb	08 57 44.5	+1.6
HAJJ	**Hajjah**	**3.72**	**352**	*i* P	Pn	08 57 24.1	+2.0
HAJJ				*i* S	Sn	08 58 10.9	+4.8
HAJJ	**Hajjah**	**3.72**	**352**	*i* P	Pn	08 57 24.1	+2.0
HAJJ				*i* S	Sn	08 58 10.9	+4.8

CSEM ***13*** *09:07:19.0±0.2, 39°.42N×20°.43E, h2km, ML2.3, Error ellipse: s-maj=4.5km s-min=3.3km az=48.0*
ATH ***13*** *09:07:19.3, 39°.43N×20°.45E, h4km, MD3.1/13*

THE 13 09:07:19.2, 39°.43N×20°.45E, h0km±2km, ML2.3/8, Error ellipse: s-maj=2.5km s-min=0.6km az=212.0, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.14**	**320**	P	Pg	09 07 21.3	-0.6
IGT				S	Sg	09 07 23.8	0.0
IGT	**Igoumenitsa**	**0.14**	**320**	*e*PG	Pg	09 07 21.4	-0.5
IGT				*e*SG	Sg	09 07 23.9	+0.1
IGT	**Igoumenitsa**	**0.14**	**320**	*e*Pg	Pg	09 07 21.4	-0.5
IGT				*e*Sg	Sg	09 07 23.9	+0.1
JAN	**Janina**	**0.39**	**53**	P	Pg	09 07 25.9	-0.8
JAN				S	Sg	09 07 32.2	+0.4
JAN	**Janina**	**0.39**	**53**	*e*PG	Pg	09 07 26.0	-0.7
JAN				*e*SG	Sg	09 07 32.7	+0.9
JAN	**Janina**	**0.39**	**53**	*e*Pb	Pg	09 07 26.0	-0.7
JAN				S	Sg	09 07 32.2	+0.4
SRN	**Sarande**	**0.57**	**323**	P	Pg	09 07 29.8	-0.3
SRN				S	Sg	09 07 38.7	+1.2
SRN	**Sarande**	**0.57**	**323**	P	Pg	09 07 29.8	-0.3
SRN				S	Sg	09 07 38.7	+1.2
KEK	**Kerkira**	**0.58**	**300**	P	Pg	09 07 30.1	-0.2
KEK				S	Sg	09 07 39.1	+1.3
KEK	**Kerkira**	**0.58**	**300**	*e*PG	Pg	09 07 30.8	+0.5
KEK	**Kerkira**	**0.58**	**300**	P	Pg	09 07 30.1	-0.2
KEK	**Kerkira**	**0.58**	**300**	*e*Pb	Pg	09 07 30.8	+0.5
KEK				S	Sg	09 07 39.1	+1.3
DSL	**Palaion Diasel**	**0.58**	**120**	P	Pg	09 07 29.8	-0.6
DSL				S	Sg	09 07 39.0	+1.0
DSL	**Palaion Diasel**	**0.58**	**120**	*e*PG	Pg	09 07 29.7	-0.7
DSL	**Palaion Diasel**	**0.58**	**120**	P	Pg	09 07 29.8	-0.6
DSL				S	Sg	09 07 39.0	+1.0
LKD2	**Lefkada island**	**0.66**	**166**	P	Pg	09 07 31.7	-0.2
LKD2				S	Sg	09 07 41.8	+1.4
LKD2	**Lefkada island**	**0.66**	**166**	P	Pg	09 07 31.7	-0.2
LKD2				S	Sg	09 07 41.8	+1.4
KNS	**Konitsa**	**0.68**	**21**	P	Pg	09 07 32.0	-0.4
KNS				S	Sg	09 07 42.4	+1.1
KNS	**Konitsa**	**0.68**	**21**	P	Pg	09 07 32.0	-0.4
KNS				S	Sg	09 07 42.4	+1.1
PDO	**Prodromos**	**1.01**	**145**	P	Pg	09 07 38.2	-0.3
PDO	**Prodromos**	**1.01**	**145**	*e*PB	Pg	09 07 38.2	-0.3
PDO	**Prodromos**	**1.01**	**145**	P	Pg	09 07 38.2	-0.3
NEST	**Nestorio**	**1.09**	**25**	P	Pg	09 07 39.2	-1.1
NEST				S	Sb	09 07 56.3	+0.3
NEST	**Nestorio**	**1.09**	**25**	*e*PB	Pg	09 07 39.2	-1.1
NEST	**Nestorio**	**1.09**	**25**	P	Pg	09 07 39.2	-1.1
NEST				S	Sb	09 07 56.3	+0.3
THL	**Klokotos Trika**	**1.22**	**83**	P	Pg	09 07 41.9	-0.7
THL				S	Sn	09 08 00.6	-0.1
THL	**Klokotos Trika**	**1.22**	**83**	*e*PG	Pg	09 07 42.0	-0.6
THL				*e*SB	Sb	09 07 59.9	+0.4
THL	**Klokotos Trika**	**1.22**	**83**	*e*Pg	Pg	09 07 42.0	-0.6
THL				*e*Sb	Sb	09 07 59.9	+0.4
VLS	**Valsamata**	**1.25**	**175**	P	Pg	09 07 42.6	-0.7
VLS	**Valsamata**	**1.25**	**175**	P	Pg	09 07 42.6	-0.7
KZN	**Kozani**	**1.35**	**49**	*e*PN	Pg	09 07 45.2	+0.1
KZN	**Kozani**	**1.35**	**49**	*e*Pb	Pg	09 07 45.2	+0.1
MAKR	**Makrakomi, Fth**	**1.37**	**107**	*e*PN	Pb	09 07 46.2	+0.4
MAKR	**Makrakomi, Fth**	**1.37**	**107**	*e*Pb	Pb	09 07 46.2	+0.4
AGG	**Agios Georgios**	**1.52**	**105**	*e*PB	Pg	09 07 49.0	+0.6
AGG				*e*SB	Sn	09 08 09.7	+1.5
FNA	**Florina**	**1.53**	**27**	P	Pb	09 07 48.3	-0.3
FNA				S	Sg	09 08 09.1	+0.5
FNA	**Florina**	**1.53**	**27**	*e*PB	Pn	09 07 48.0	+0.1
FNA				*e*SB	Sg	09 08 08.9	+0.3
FNA	**Florina**	**1.53**	**27**	*e*Pb	Pn	09 07 48.0	+0.1
FNA	**Florina**	**1.53**	**27**	P	Pb	09 07 48.3	-0.3
FNA				*e*Sb	Sg	09 08 08.9	+0.3
LIT	**Litokhoron**	**1.71**	**66**	*e*PN	Pn	09 07 50.4	+0.1
GRG	**Griva**	**2.14**	**44**	*e*PB	Pn	09 07 57.1	+0.9
GRG	**Griva**	**2.14**	**44**	*e*Pn	Pn	09 07 57.1	+0.9
KNT	**Kendrikon**	**2.55**	**46**	*e*PB	Pn	09 08 03.2	+1.3
KNT	**Kendrikon**	**2.55**	**46**	*e*Pn	Pn	09 08 03.2	+1.3
STON	**Ston**	**4.02**	**330**	*e*Pn	Pn	09 08 19.3	-2.6
STON				Sn	Sn	09 09 06.7	-3.0
STON	**Ston**	**4.02**	**330**	*e*Pn	Pn	09 08 19.3	-2.7
STON				Sn	Sn	09 09 06.6	-3.1

DDA ***13*** *09:08:57.4, 39°.48N×28°.06E, h7km, MD2.6*
CSEM ***13*** *09:08:57.4±0.2, 39°.47N×28°.10E, h19km, MD2.6, Error ellipse: s-maj=5.6km s-min=4.3km az=19.0*

ISK 13 09:08:56.0, 39°48N×28°06E, h12km, MD2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALY	**Balya**	**0.43**	**307**	*i* P	Pb	09 09 06.6	+1.0
BALY				*i* S	Sb	09 09 15.2	+3.0
BALY	**Balya**	**0.43**	**307**	*i* P	Pb	09 09 06.6	+0.9
BALY				*i* S	Sb	09 09 15.2	+3.0
DST	**Dursunbey**	**0.45**	**74**	*e*PG	Pg	09 09 04.8	-0.1
DST				*e*SG	Sb	09 09 12.3	-0.3
DST	**Dursunbey**	**0.45**	**74**	*e*Pg	Pg	09 09 04.8	-0.1
DST				*e*Sg	Sb	09 09 12.3	-0.4
AKS	**Akhisar**	**0.63**	**198**	*e*PG	Pb	09 09 08.7	-0.3
MANT	**Manisa**	**1.06**	**158**	*i* P	Pn	09 09 17.9	+0.9
MANT	**Manisa**	**1.06**	**158**	*i* P	Pn	09 09 17.9	+0.9
MANT				*i* S	Sn	09 09 34.7	+2.9
ULDT	**Uludag**	**1.06**	**51**	*i* P	Pn	09 09 17.7	+0.8
ULDT	**Uludag**	**1.06**	**51**	*i* P	Pn	09 09 17.7	+0.7
ULDT				*i* S	Sn	09 09 34.2	+2.3
KULA	**Kula-Manisa**	**1.07**	**154**	*e*PG	Pn	09 09 17.5	+0.5
KULA	**Kula-Manisa**	**1.07**	**154**	*e*Pg	Pn	09 09 17.5	+0.6
TVSB	**Tavsanli**	**1.08**	**91**	*e*PN	Pn	09 09 17.4	+0.3
TVSB				*e*SN	Sn	09 09 32.6	+0.4
TVSB	**Tavsanli**	**1.08**	**91**	*e*Pn	Pn	09 09 17.4	+0.2
TVSB				*e*Sn	Sn	09 09 32.6	+0.4
GDZ	**Gediz**	**1.17**	**109**	*i* P	Pn	09 09 18.4	0.0
GDZ	**Gediz**	**1.17**	**109**	*i* P	Pn	09 09 18.4	+0.1
GDZ				*i* S	Sn	09 09 37.2	+2.9
MRMT	**Marmara Adasi**	**1.18**	**342**	*e*PN	Pg	09 09 19.2	+0.4
MRMT	**Marmara Adasi**	**1.18**	**342**	*e*Pn	Pg	09 09 19.2	+0.4
ARMT	**Armutlu**	**1.25**	**29**	*e*PN	Pb	09 09 19.8	+0.3
ARMT	**Armutlu**	**1.25**	**29**	*e*Pn	Pg	09 09 19.8	-0.2
IZM	**Izmir**	**1.25**	**210**	*e*PN	Pg	09 09 19.9	-0.2
IZM	**Izmir**	**1.25**	**210**	*e*Pn	Pg	09 09 19.9	-0.2
LPK	**Lapseki**	**1.34**	**312**	*e*PN	Pb	09 09 21.0	-0.1
LPK	**Lapseki**	**1.34**	**312**	*e*Pn	Pb	09 09 21.0	-0.1
IZI	**Iznik**	**1.38**	**51**	*e*PN	Pn	09 09 21.3	+0.1
IZI	**Iznik**	**1.38**	**51**	*e*Pn	Pn	09 09 21.3	+0.1
RKY	**Sarkoy-Tekirda**	**1.39**	**331**	*e*PN	Pg	09 09 22.4	-0.3
RKY	**Sarkoy-Tekirda**	**1.39**	**331**	*e*Pn	Pg	09 09 22.4	-0.3
GELI	**Tayfur-Gelibol**	**1.53**	**307**	*e*PN	Pb	09 09 23.9	-0.4
GELI	**Tayfur-Gelibol**	**1.53**	**307**	*e*Pn	Pb	09 09 23.9	-0.4
AYDB	**Zeytinkoy-Aydi**	**1.54**	**185**	*e*PN	Pn	09 09 23.3	-0.1
AYDB	**Zeytinkoy-Aydi**	**1.54**	**185**	*e*Pn	Pn	09 09 23.3	-0.1

KRSC 13 09:09:02.2±0.5, 55°.11N×162°.43E, h59km±15km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.69**	**216**	*e*P	Pn	09 09 17.3	+1.1
MKZ				*e*S	Sn	09 09 28.2	+1.8
KBTR	**Kr

	baz=8.5,SNR=8.7							
SIJI	**Sorong**	**10.16**	**133**	P		**P**	**09 20 14.8**	**-0.6**
	1.9nm,0.3s,baz=332,slow=16,SNR=6.0							
FAKI	**Fak Fak**	**12.31**	**137**	P		**P**	**09 20 36.3**	**-0.6**
	baz=12,SNR=15							
KSM	**Kuching**	**14.35**	**251**	P		P	09 21 08.6	+11
	baz=15,SNR=3.4							
KDU	**Kakadu**	**20.61**	**156**	P		**P**	**09 21 53.3**	**-0.9**
	baz=20,SNR=4.5							
KDU				S		S	09 24 41.5	-26
	baz=20,SNR=3.2							
KNRA	**Kununurra**	**22.26**	**168**	P		**P**	**09 22 08.7**	**-0.3**
	baz=22,SNR=4.5							
FITZ	**Fitzroy Crossi**	**24.21**	**176**	P		**P**	**09 22 25.6**	**-0.6**
	baz=24,SNR=4.5							
CMAR	**Chiang Mai Arr**	**27.21**	**299**	P		**P**	**09 22 52.8**	**0.0**
	1.6nm,0.4s,baz=120,slow=7.2,SNR=8.1							
WRA	**Warramunga Arr**	**27.93**	**159**	P		**P**	**09 22 58.4**	**-0.6**
	6.9nm,0.3s,baz=341,slow=9.3,SNR=135							
QIS	**Mount Isa**	**30.74**	**150**	P		**P**	**09 23 23.5**	**+0.4**
	baz=30,SNR=4.0							
ASAR	**Alice Springs**	**31.25**	**162**	P		**P**	**09 23 27.4**	**0.0**
	4.2nm,0.3s,baz=338,slow=7.3,SNR=170							
WRKA	**Warakurna**	**31.34**	**172**	P		**P**	**09 23 28.3**	**+0.1**
	baz=31,SNR=15							
QLP	**Quilpie**	**38.08**	**150**	P		**P**	**09 24 24.9**	**+0.8**
	baz=38,SNR=3.3							
BBOO	**Buckleboo**	**40.48**	**164**	P		**P**	**09 24 43.7**	**+0.5**
	baz=40,SNR=23							
STKA	**Stephens Creek**	**41.45**	**157**	P		**P**	**09 24 51.5**	**+0.6**
	4.8nm,0.4s,baz=344,slow=7.6,SNR=29							
STKA	**Stephens Creek**	**41.45**	**157**	P		**P**	**09 24 51.9**	**+1.0**
	baz=41,SNR=24							
HTT	**Hallett**	**41.91**	**161**	P		**P**	**09 24 55.6**	**+1.1**
	baz=42,SNR=12							
CMSA	**Cobar Meteorol**	**42.91**	**152**	P		**P**	**09 25 03.9**	**+1.7**
	baz=42,SNR=6.9							
SONM	**Songino Array**	**44.10**	**343**	P		**P**	**09 25 12.2**	**+0.8**
	1.2nm,0.8s,baz=154,slow=8.2,SNR=5.8							
SONM				PcP		**PcP**	**09 26 43.0**	**0.0**
	0.3nm,0.6s,baz=132,slow=2.1,SNR=2.6							
MKAR	**Makanchi Array**	**53.94**	**326**	P		**P**	**09 26 23.8**	**+0.2**
	2.2nm,0.5s,baz=135,slow=5.4,SNR=40							
MKAR				PcP		**PcP**	**09 27 19.0**	**-0.2**
	0.7nm,0.5s,baz=108,slow=3.8,SNR=6.0							
KURBB	**Kurchatov Arra**	**58.16**	**328**	P		**P**	**09 26 53.0**	**+0.5**
	4.6nm,0.9s,baz=124,slow=7.1,SNR=21							
BVAR	**Borovoye Array**	**63.73**	**327**	P		**P**	**09 27 29.1**	**+0.2**
	0.5nm,0.4s,baz=140,slow=7.6,SNR=4.2							
BRTR	**Keskin Array B**	**86.29**	**309**	P		**P**	**09 29 33.8**	**-0.9**
	0.7nm,0.7s,baz=101,slow=5.0,SNR=4.9							
ARCES	**ARCESS Array B**	**87.17**	**340**	P		**P**	**09 29 37.4**	**-0.6**
	1.6nm,0.9s,baz=81,slow=5.6,SNR=4.9							
FINES	**FINESS Array B**	**88.34**	**332**	P		**P**	**09 29 43.1**	**-0.5**
	0.5nm,0.5s,baz=58,slow=4.7,SNR=4.4							
TORD	**Torodi Ar. Bea**	**119.47**	**289**	PKP		**PKPdf**	**09 35 38.3**	**0.0**
	0.2nm,0.3s,baz=76,slow=1.7,SNR=4.9							

IDC 13 09:23:07.5±2.2, 13°.59N×93°.49E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.2/39, mbtmp3.3/4, ML4.0/1, Error ellipse: s-maj=65.3km s-min=28.5km az=67.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.13**	**47**	Pn		Pn	09 24 52.3	-0.9
	0.7nm,0.3s,baz=236,slow=15,SNR=4.4							
CMAR				Sn		Sn	09 26 10.2	-4.9
	0.3nm,0.3s,baz=242,slow=27,SNR=4.5							
MKAR	**Makanchi Array**	**34.41**	**346**	P		P	09 29 56.5	-0.1
	0.4nm,0.6s,baz=161,slow=9.2,SNR=3.6							
WRA	**Warramunga Arr**	**52.21**	**129**	P		P	09 32 20.5	-0.1
	0.2nm,0.7s,baz=300,slow=9.4,SNR=3.5							
ASAR	**Alice Springs**	**54.16**	**133**	P		P	09 32 35.0	+0.1
	0.4nm,0.8s,baz=307,slow=6.8,SNR=6.3							

DJA 13 09:54:56.9±0.3, 2°.S±2°.×12°.0E±°, h10km, M3.5/6, MLv3.5/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TTSI	**Tana Toraja**	**0.96**	**219**	P		Pg	09 55 12.7	-2.7
TTSI				S		Sg	09 55 26.8	-1.1
PCI	**Palu**	**1.51**	**337**	P		Pn	09 55 21.6	-2.4
PCI				S		Sb	09 55 44.0	-0.2
SPSI	**Sidrap Palu**	**1.78**	**202**	P		Pn	09 55 27.8	0.0
SPSI				S		Sb	09 55 52.6	+0.5
BNSI	**Bone**	**2.11**	**189**	P		Pn	09 55 32.4	+0.1
BNSI				S		Sg	09 56 04.8	0.0
LUWI	**Luwuk**	**2.65**	**62**	P		Pn	09 55 40.1	+0.3
LUWI				S		Sn	09 56 12.7	+0.7
MPSI	**Mapaga**	**2.67**	**349**	P		Pn	09 55 39.4	-0.6
MPSI				S		Sn	09 56 12.0	-0.5
BKSI	**Bulukumba**	**3.02**	**186**	P		Pn	09 55 44.8	0.0
BKSI				S		Sn	09 56 22.1	+1.1
MRSI	**Marisa**	**3.15**	**29**	P		Pn	09 55 46.6	+0.1

*IDC **13** 09:58:07.8±1.1, 9°.94N×82°.66W, h0km, mb3.9/7, mb1 4.2/9, mb1mx3.9/35, mbtmp4.0/9, ML4.1/2, MS3.2/7, Ms1 3.2/7, ms1mx3.0/25, Error ellipse: s-maj=33.2km s-min=19.6km az=26.0*
*NEIC **13** 09:58:07.4, 9°.29N×82°.72W, h8km, mb4.1/4, After CASC.*
NEIC Felt [III] at Changuinola, Panama. Also felt at Almirante, Bagala, Boquete and Horconcitos. Felt [III] at Rio Claro, San Vito and Sixaola, Costa Rica.
*CASC **13** 09:58:07.3±2.7, 9°.30N×82°.69W, h13km±10km, MD4.2*

ISC 13 09:58:07.9±0.9, 9°.29N±0°.04×82°.71W±0°.03, h24km±7km, n54, σ1°.9/19/58, mb4.0/10, MS3.3/6, 6C-8D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CNI	**Changuinola**	**0.23**	**57**	*eP*		**Pb**	**09 58 13.6**	**-0.2**
CNI	**Changuinola**	**0.23**	**57**	*ieP*		**Pb**	**09 58 13.5**	**-0.2**
CTCR	**Cotoan**	**0.40**	**187**	*ieP*		**Pb**	**09 58 16.2**	**-0.3**
BRU2	**Volcan**	**0.50**	**177**	*ieP*		**Pb**	**09 58 17.7**	**-0.4**
BRU2				*eS*		**Sb**	**09 58 25.1**	**+0.1**
BRU2	**Volcan**	**0.50**	**177**	*ieP*		**Pb**	**09 58 17.7**	**-0.4**
BRU2				*eS*		**Sb**	**09 58 25.8**	**+0.8**
TBSC		**0.50**	**174**	*eP*		**Pb**	**09 58 17.0**	**-1.2**
BRU	**Baru**	**0.51**	**163**	*iP*		**Pb**	**09 58 17.8**	**-0.6**
BRU	**Baru**	**0.51**	**163**	*iP*		**Pb**	**09 58 17.7**	**-0.7**
ACR	**Cerro Adams**	**0.78**	**215**	*iP*		**Pb**	**09 58 22.3**	**-0.5**
ACR	**Cerro Adams**	**0.78**	**215**	*iP*		**Pb**	**09 58 22.3**	**-0.5**
BUS	**Buena Vista**	**1.06**	**284**	*eP*		**Pn**	**09 58 26.6**	**-1.0**
BUS				*eS*		**Sb**	**09 58 40.9**	**-0.7**
BUS	**Buena Vista**	**1.06**	**284**	*eP*		**Pn**	**09 58 26.8**	**-0.8**
BUS				*eS*		**Sn**	**09 58 42.1**	**+0.2**
URSC	**Urasca**	**1.18**	**297**	*iP*		**Pn**	**09 58 28.4**	**-0.6**
URSC	**Urasca**	**1.18**	**297**	*iP*		**Pn**	**09 58 28.4**	**-0.6**
QCR	**Quepos**	**1.44**	**275**	*iP*		**Pn**	**09 58 32.4**	**-0.1**
QCR				*eS*		**Sb**	**09 58 56.7**	**+4.8**
SJS	**Escuela Geolog**	**1.47**	**296**	*eP*		**Pn**	**09 58 33.3**	**+0.3**
SJS				*eS*		**Sn**	**09 58 50.4**	**-1.2**
SJS	**Escuela Geolog**	**1.47**	**296**	*eP*		**Pn**	**09 58 33.6**	**+0.6**
CGA2	**Cerro Gallo 2**	**1.87**	**293**	*ieP*		**Pn**	**09 58 39.8**	**+1.2**
CGA2				*eS*		**Sb**	**09 59 04.7**	**+0.2**
CGA2	**Cerro Gallo 2**	**1.87**	**293**	*eP*		**Pn**	**09 58 39.7**	**+1.2**
FORC	**Fortuna**	**2.25**	**301**	*iP*		**Pn**	**09 58 45.5**	**+1.9**
FORC				*iS*		**Sb**	**09 59 16.8**	**+1.4**
CAO	**Cobano**	**2.39**	**280**	*eP*		**Pn**	**09 58 45.9**	**+0.3**
CAO	**Cobano**	**2.39**	**280**	*ieP*		**Pn**	**09 58 45.9**	**+0.3**
JTS	**JuntasAbangare**	**2.42**	**294**	*eP*		**Pn**	**09 58 47.4**	**+1.5**
JTS				*eS*		**Sb**	**09 59 18.9**	**-1.2**
JTS	**JuntasAbangare**	**2.42**	**294**	Pn		**Pn**	**09 58 47.0**	**+1.0**
	67nm,0.3s,baz=88,slow=5.4,SNR=232							
JTS				Sn		**Sb**	**09 59 18.4**	**-1.8**
	75nm,0.3s,baz=294,slow=19,SNR=28							
JTS				LR		LR	09 59 50.9	
	comp=Z,877nm,18.1s,baz=144,slow=45							
JCR	**Jicaral**	**2.43**	**283**	*ieP*		**Pn**	**09 58 47.2**	**+1.0**
JCR				*eS*		**Sb**	**09 59 20.0**	**-0.5**
JCR	**Jicaral**	**2.43**	**283**	*eP*		**Pn**	**09 58 47.1**	**+1.0**
CUI	**Cuipilapa**	**2.77**	**300**	*iP*		**Pn**	**09 58 50.9**	**+0.1**
ZANG	**Zanguenga, Cho**	**2.83**	**97**	*eP*		**Pn**	**09 58 51.8**	**+0.2**
BCIP	**Isla Barro Col**	**2.84**	**92**	*eP*		**Pn**	**09 58 51.8**	**0.0**
BCIP	**Isla Barro Col**	**2.84**	**92**	*ePn*		**Pn**	**09 58 51.2**	**-0.5**
GPS2	**Hotel Rinc˜‡n**	**2.98**	**299**	*iP*		**Pn**	**09 58 52.5**	**-1.2**
VCR	**Vista de Mar**	**2.99**	**286**	*eP*		**Pn**	**09 58 53.7**	**-0.2**
VCR				*eS*		**Sb**	**09 59 39.2**	**+2.4**
UPA	**Univ. de Panam**	**3.15**	**95**	*eP*		**Pn**	**09 58 55.9**	**-0.1**
UPA				*eS*		**Sn**	**09 59 33.0**	**0.0**
SDV	**Santo Domingo**	**11.94**	**91**	*ePn*		**Pn**	**10 00 57.3**	**+0.5**
TEIG	**Tepich**	**12.13**	**334**	LR		LR	10 05 34.5	
	comp=Z,82nm,20.4s,baz=24,slow=39							
CMIG	**Matias Romero**	**14.15**	**304**	Pn		**Pn**	**10 01 25.5**	**-1.5**
	0.6nm,0.3s,baz=120,slow=9.3,SNR=16							
SAML	**Samuel**	**26.58**	**132**	P		**P**	**10 03 45.9**	**+1.5**
	2.4nm,0.9s							
TXAR	**Lajitas Array**	**27.99**	**318**	LR		LR	10 16 18.4	
	comp=Z,33nm,18.5s,baz=0.0,slow=40							
LPAZ	**La Paz**	**29.23**	**150**	P		P	10 04 16.5	+7.8
	1.1nm,0.8s,baz=334,slow=10.0,SNR=3.8							
LPAZ	**La Paz**	**29.23**	**150**	*eP*		P	10 04 14.3	+5.6
	1.4nm,0.9s							
PDAR	**Pinedale Array**	**40.80**	**329**	LR		LR	10 24 52.0	
	comp=Z,36nm,18.3s,baz=150,slow=40							
ULM	**Lac du Bonnet**	**42.27**	**347**	P		**P**	**10 05 57.7**	**-1.6**
	3.8nm,0.9s,baz=166,slow=9.7,SNR=6.1							
BDFB	**Brasilia**	**42.37**	**126**	LR		LR	10 24 08.1	
	comp=Z,41nm,20.0s,baz=254,slow=36							
NVAR	**Mina Array Bea**	**43.14**	**318**	P		**P**	**10 06 06.5**	**-0.3**
	0.4nm,0.6s,baz=122,slow=8.6,SNR=3.9							
WVOR	**Wild Horse Val**	**45.61**	**323**	*eP*		**P**	**10 06 26.0**	**-0.4**
	2.4nm,0.8s							
SCHQ	**Schefferville**	**47.15**	**12**	LR		LR	10 27 24.2	
	comp=Z,53nm,18.6s,baz=118,slow=38							
YKA	**Yellowknife Ar**	**57.91**	**343**	P		**P**	**10 07 57.4**	**-0.4**
	2.7nm,0.7s,baz=138,slow=7.0,SNR=48							
INK	**Inuvik**	**67.62**	**342**	*eP*		**P**	**10 09 02.5**	**+0.2**
	7.5nm,1.1s							
ILAR	**Eielson Array**	**70.78**	**336**	P		**P**	**10 09 22.2**	**+0.3**
	1.5nm,0.7s,baz=112,slow=4.1,SNR=23							
ESDC	**Sonseca Array**	**75.48**	**51**	P		**P**	**10 09 51.2**	**+0.8**
	0.2nm,0.2s,baz=275,slow=4.6,SNR=3.9							
TORD	**Torodi Ar. Bea**	**82.53**	**78**	P		P	10 10 34.0	+4.6
	0.5nm,0.8s,baz=275,slow=4.2,SNR=4.3							
NOA	**NORSAR Array B**	**83.84**	**29**	LR		LR	10 46 47.8	
	comp=Z,4.7nm,18.1s,baz=305,slow=35							
HHC	**Hu-ho-hao-te**	**128.40**	**346**	*ePKP*		**PKPdf**	**10 17 12.3**	**-0.8**
HHC				PP		**PP**	**10 19 19.5**	**+3.1**
HHC				SKS		SKSdf	10 24 18.8	-4.8
HHC				SKKS		SKKSac	10 26 08.0	-5.8
HHC	**Hu-ho-hao-te**	**128.40**	**346**	SS		SS	10 36 27.6	-2.5
HHC				AMB		AMB		
	comp=Z,19nm,6.2s							
HHC				LR		LR		
	comp=N,120nm,18.5s							
HHC				LR		LR		
	comp=E,280nm,18.5s							
HHC				LR		LR		
	comp=Z,55nm,17.3s							

*IDC **13** 10:03:40.5±1.6, 34°.94S×73°.87W, h0km, mb3.5/3, mb1 3.7/6, mb1mx3.6/21, mbtmp3.5/6, ML3.6/3, Error ellipse: s-maj=33.7km s-min=30.1km az=93.0*
*ISCJB **13** 10:03:43.1±1.2, 35°.0S±0°.1×73°.8W±0°.2, h33km, mb3.5/3, Error ellipse: s-maj=19.5km s-min=12.8km az=31.8*

ISC 13 10:03:45.3±1.3, 35°.0S±0°.1×73°.9W±0°.2, h35km, n6, σ0°.97/7, mb3.5/3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CFAA	**Coronel Fontan**	**5.79**	**56**	Pn		**Pn**	**10 05 07.5**	**-1.1**
	0.4nm,0.3s,baz=230,slow=12,SNR=19							
CFAA				Sn		**Sn**	**10 06 15.2**	**+1.3**
	0.7nm,0.3s,baz=322,slow=23,SNR=14							
PLCA	**Paso Flores**	**6.30**	**156**	Pn		**Pn**	**10 05 15.8**	**0.0**
	0.7nm,0.3s,baz=329,slow=12,SNR=25							
LPAZ	**La Paz**	**19.32**	**17**	P		**P**	**10 08 08.0**	**-0.1**
	0.1nm,0.3s,baz=185,slow=8.2,SNR=4.4							
SIV	**San Ignacio**	**22.12**	**34**	P		**P**	**10 08 37.1**	**-0.6**
	0.8nm,0.4s,baz=250,slow=12,SNR=3.6							
TXAR	**Lajitas Array**	**69.89**	**332**	P		**P**	**10 14 53.0**	**+0.3**
	0.4nm,0.5s,baz=156,slow=8.9,SNR=9.2							
TORD	**Torodi Ar. Bea**	**85.95**	**71**	P		**P**	**10 16 22.7**	**+0.6**
	0.2nm,0.8s,baz=256,slow=5.5,SNR=2.5							

MEX 13 10:19:08.9±0.7, 17°.86N×99°.98W, h53km±8km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MEIG	**Mezcala**	**0.35**	**80**	*i* P		Pn	10 19 17.1	-1.8
MEIG				*i* S		Sn	10 19 24.4	-1.6
ARIG	**Puente Sto Nin**	**0.54**	**320**	*i* P		Pn	10 19 19.7	-1.2
ARIG				*eS*		Sn	10 19 27.8	-1.8
PLIG	**Platanillo**	**0.69**	**41**	*i* P		Pn	10 19 21.3	-1.5
PLIG				*i* S		Sn	10 19 31.4	-1.6
CAIG	**El Cayaco**	**0.86**	**199**	*i* P		Pn	10 19 23.0	-1.8
CAIG				*i* S		Sn	10 19 34.1	-2.3
YAIG	**Yautepec**	**1.32**	**41**	*eP*		Pn	10 19 29.0	-2.2
YAIG				*i* S		Sn	10 19 45.5	-2.4
TLIG	**Tlapa**	**1.38**	**102**	*eP*		Pn	10 19 30.7	-1.3
TLIG				*i* S		Sn	10 19 46.9	-2.5
PNIG	**Pinotepa**	**2.30**	**129**	*eP*		Pn	10 19 43.7	-0.7
PNIG				*i* S		Sn	10 20 09.8	-1.8

*IDC **13** 10:37:40.4±1.2, 18°.10S×167°.50E, h0km, mb4.1/7, mb1 4.3/8, mb1mx4.0/30, mbtmp4.1/8, ML3.3/1, MS3.3/3, Ms1 3.3/3, ms1mx2.8/25, Error ellipse: s-maj=43.6km s-min=22.0km az=142.0*
*ISCJB **13** 10:37:42.2±0.7, 18°.17S±0°.08×167°.46E±0°.09, h23km, mb4.1/6, MS3.2/3, Error ellipse: s-maj=13.6km s-min=10.0km az=28.6*
*NEIC **13** 10:37:46.7±1.8, 18°.26S×167°.51E, h46km±21km, mb4.1/1, Error ellipse: s-maj=29.0km s-min=8.7km az=158.0*

ISC 13 10:37:44.2±0.8, 18°.2S±0°.1×167°.4E±0°.1, h23km, n14, σ0°.62/11, mb4.2/6, MS3.2/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.00**	**193**	Pn		**Pn**	**10 38 44.3**	**+0.1**
	1.9nm,0.3s,baz=270,slow=20,SNR=21							
DZM				Sn		**Sn**	**10 39 30.1**	**-0.4**
	2.4nm,0.3s,baz=91,slow=23,SNR=6.6							
MSVF	**Nonsavu**	**10.11**	**89**	*ePn*		**Pn**	**10 40 08.5**	**+0.4**
	11nm,0.9s							
CTA	**Charters Tower**	**20.11**	**261**	P		Pn	10 42 17.8	-0.6
	4.5nm,0.7s,baz=84,slow=10,SNR=2.9							
CTAO	**Charters Tower**	**20.11**	**261**	*eP*		Pn	10 42 17.5	-0.9
	11nm,1.0s							
RPZ	**Rata Peaks**	**25.66**	**174**	LR		LR	10 52 49.6	
	comp=Z,36nm,18.3s,baz=2.0,slow=35							
STKA	**Stephens Creek**	**27.02**	**235**	P		**P**	**10 43 25.6**	**+0.9**
	6.4nm,0.9s,baz=49,slow=5.3,SNR=10.0							
JAY	**Jayapura**	**30.47**	**298**	LR		LR	10 56 35.5	
	comp=Z,45nm,18.2s,baz=336,slow=37							
WRAB	**Tennant Creek**	**31.30**	**261**	*eP*		**P**	**10 44 02.8**	**-0.1**
WRA	**Warramunga Arr**	**31.31**	**261**	P		**P**	**10 44 02.7**	**-0.2**
	1.1nm,1.0s,baz=91,slow=8.2,SNR=3.4							
ASAR	**Alice Springs**	**31.75**	**254**	P		**P**	**10 44 06.3**	**-0.5**
	2.6nm,0.8s,baz=79,slow=8.9,SNR=19							
ASAR				LR		LR	10 55 57.2	
	comp=Z,86nm,18.7s,baz=82,slow=34							
CMAR	**Chiang Mai Arr**	**76.50**	**295**	P		**P**	**10 49 33.6**	**+0.8**
	0.8nm,0.4s,baz=114,slow=4.4,SNR=6.4							
NVAR	**Mina Array Bea**	**89.38**	**49**	P		**P**	**10 50 39.1**	**-0.3**
	1.2nm,0.9s,baz=233,slow=7.9,SNR=6.9							
ILAR	**Eielson Array**	**89.72**	**18**	P		**P**	**10 50 39.6**	**-0.5**
	0.9nm,0.7s,baz=238,slow=4.9,SNR=14							
AKASG	**Malin Array Be**	**133.62**	**324**	PKP		**PKPdf**	**10 56 57.9**	**-0.8**
	0.8nm,0.4s,baz=71,slow=1.8,SNR=6.0							

GUC 13 10:39:14.0±0.6, 36°.37S×71°.16W, h16km±6km, ML3.9, 4C, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LNCH	**Linares**	**0.63**	**325**	*iP*		Pg	10 39 25.4	-1.1
LNCH				*i* S		Sb	10 39 35.7	+0.4
TALC	**Talca**	**1.04**	**338**	*iP*		Pb	10 39 33.3	-0.4
TALC				*i* S		Sn	10 39 48.1	-0.1
COCH	**Cobquecura**	**1.34**	**280**	*iP*		Pb	10 39 38.5	-0.3
COCH				*i* S		Sg	10 39 56.9	-0.4
NICH	**Los Niches**	**1.36**	**357**	*iP*		Pb	10 39 38.9	-0.2
NICH				*i* S		Sg	10 39 57.5	-0.5
CACH	**El Canelo**	**2.29**	**12**	*eP*		Pb	10 39 54.0	-1.1
CLCH	**Cerro Calan**	**3.01**	**10**	*eP*		Pn	10 40 04.2	+3.1
CLCH				AML		AML	10 41 22.6	
	comp=N,205nm,0.3s							
PEL	**Peldehue**	**3.24**	**7**	*eP*		Pn	10 40 06.9	+2.6
PEL				*eS*		Sb	10 40 47.0	-3.5
PEL				AML		AML	10 41 23.6	
	comp=E,426nm,0.4s							

*NIED **13** 11:01:00,33°.40N×131°.70E, h86km, Mw4.7 Best double couple: M0 1.47000×10^16 NP1:φs 14.00000°, δ49.00000°, λ46.00000°. NP2:φs 250.00000°, δ57.00000°, λ129.00000°.*
*BJI **13** 11:01:08.9, 33°.12N×132°.04E, h93km, mb5.0/62, mB4.8/36*
*MOS **13** 11:01:11.0±1.0, 33°.29N×131°.50E, h85km, mb4.8/57, Error ellipse: s-maj=7.7km s-min=4.7km az=110.6*
*ISCJB **13** 11:01:13.0±0.2, 33°.35N±0°.02×131°.59E±0°.02, h97km±1km, mb4.7/127, Error ellipse: s-maj=3.0km s-min=2.4km az=6.5*
*IDC **13** 11:01:13.8±0.4, 33°.39N×131°.49E, h95km±2km, mb4.2/30, mb1 4.4/35, mb1mx4.3/47, mbtmp4.6/35, MS3.4/17, Ms1 3.4/17, ms1mx3.2/43, Error ellipse: s-maj=9.0km s-min=7.1km az=97.0*
*JMA **13** 11:01:14.2, 33°.41N×131°.66E, h90km±1km, M4.7 Broadband fault plane solution: P waves. NP1: φs 261.00000°, δ70.00000°, λ124.00000°. NP2: φs 17.00000°, δ39.00000°, λ32.00000°. Principal axes: T Plg52.0000°, Azm211.0000°; N Plg32.0000°, Azm68.0000°; P Plg18.0000°, Azm326.0000°;*
JMA Felt III J1.
*NEIC **13** 11:01:14.7±0.3, 33°.37N×131°.50E, h104km±3km, mb4.8/67, MW4.7(NIED) Error ellipse: s-maj=3.7km s-min=3.3km az=127.0*
NEIC Felt at Oita. Also felt at Iwakuni, Honshu. Recorded [3 JMA] in Oita; [2 JMA] in Fukuoka, Kumamoto and Miyazaki; [1 JMA] in Saga, Kyushu. Also recorded [3 JMA] in Ehime and Kochi; [1 JMA] in Kagawa and Tokushima, Shikoku. Recorded [2 JMA] in Hiroshima, Okayama and Yamaguchi; [1 JMA] in Shimane and Tottori, Honshu.
*GCMT **13** 11:01:14.7±0.3, 33°.44N×131°.63E, h11km±4km, MW4.8/73, Moment Tensor Solution. s23,c24; s73,c96; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr 1.39±.08; Mθθ-0.29±.10; Mφφ-1.09±.10; Mrθ-0.97±.06; Mθφ-0.99±.09; Mφr 0.56±.06; Best double couple: M0 1.93700×10^16 NP1:φs 243.00000°, δ55.00000°, λ131.00000°. NP2: φs 6.00000°, δ52.00000°, λ47.00000°. Principal axes: T 2.1130, Plg57.0000°, Azm212.0000°; N -0.3460, Plg33.0000°, Azm36.0000°; P -1.7620, Plg2.0000°, Azm305.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*KMA **13** 11:01:25.3±0.9, 34°.29N×130°.89E, h0km Error ellipse: s-maj=16.6km s-min=6.6km az=31.0*

ISC 13 11:01:13.7±0.3, 33°.38N±0°.03×131°.63E±0°.03, h93km±2km, h92km:pP-P, n553, σ1°.12/686, mb4.7/127, 86C-79D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JBEP	**Beppuamama**	**0.19**	**257**	P		**Pn**	**11 01 27.5**	**+0.5**
JBEP				S		**Sn**	**11 01 37.1**	**+0.2**
JKI	**Kunimi**	**0.26**	**349**	*i*P		**Pn**	**11 01 27.5**	**+0.2**
JKI				S		**Sn**	**11 01 37.3**	**0.0**
JUS	**Usuki**	**0.33**	**162**	*i*P		**Pn**	**11 01 28.2**	**+0.6**
JUS				S		**Sn**	**11 01 38.0**	**+0.1**
JNU	**Nakatsue**	**0.68**	**248**	P		**Pn**	**11 01 30.9**	**+0.6**
	227nm,0.3s,baz=34,slow=4.7,SNR=1873							
JNU				S		**Sn**	**11 01 43.3**	**+0.7**
	756nm,0.3s,baz=306,slow=19,SNR=130							
JNU				LR		LR	11 01 50.8	
	comp=Z,884nm,19.1s,baz=209,slow=64							
JNA	**Nagahama**	**0.73**	**76**	*i*P		**Pn**	**11 01 30.9**	**+0.1**
JNA				S		**Sn**	**11 01 43.3**	**-0.3**
UWA2	**Uwa jima 2**	**0.85**	**101**	*i*P		**Pn**	**11 01 31.8**	**-0.2**
UWA2				S		**Sn**	**11 01 45.2**	**-0.5**
JHM	**Kurahashi**	**1.07**	**44**	*i*P		**Pn**	**11 01 34.2**	**-0.1**
JHM				S		**Sn**	**11 01 49.5**	**-0.4**
JIU2	**Izumi 2**	**1.08**	**220**	*i*P		**Pn**	**11 01 35.3**	**+0.8**
JIU2				S		**Sn**	**11 01 51.0**	**+0.9**
JTO	**Tosashimizu**	**1.11**	**117**	*i*P		**Pn**	**11 01 34.6**	**-0.3**
JTO				S		**Sn**	**11 01 49.9**	**-0.9**
JKU	**Kubokawa**	**1.20**	**93**	*i*P		**Pn**	**11 01 35.7**	**-0.3**
JKU				S		**Sn**	**11 01 52.1**	**-0.7**
JET	**Tanbara**	**1.25**	**71**	*i*P		**Pn**	**11 01 36.4**	**-0.2**
JET				S		**Sn**	**11 01 52.8**	**-1.0**
JHT	**Toy

comp=Z,193nm,19.9s,baz=145,slow=43
KSRS Korea Array 5.07 324 P **Pn** **11 02 28.2 +1.0**
KSRS S **Sn** **11 03 24.3 -0.1**
KSRS pmax pmax
comp=Z,8.0nm,0.3s
KSRS MLR MLR
comp=Z,193nm,19.9s
KSAR Wonju Array Be 5.08 324 P **Pn** **11 02 28.2 +0.9**
KSAR S **Sn** **11 03 24.3 -0.4**
KSAR Wonju Array Be 5.08 324 P **Pn** **11 02 28.2 +0.9**
KSAR S **Sn** **11 03 24.3 -0.4**
KSICN Icheon 5.20 320 P **Pn** **11 02 30.2 +1.2**
SNR=12
KSHUK Heuksando 5.29 286 P **Pn** **11 02 31.6 +1.3**
SNR=13
KSCHC Chuncheon 5.38 326 P **Pn** **11 02 32.5 +1.0**
SNR=22
KSIJA INJE 5.42 329 P **Pn** **11 02 33.4 +1.4**
SNR=64
KSSWO Suwon 5.44 317 P **Pn** **11 02 33.3 +1.1**
SNR=13
KSSES Seosan 5.44 310 P **Pn** **11 02 33.3 +1.1**
SNR=9.6
KSSKC Sokcho 5.51 334 P **Pn** **11 02 34.1 +0.9**
SNR=80
SEHB SEOHWA 5.60 332 P **Pn** **11 02 36.1 +1.7**
SNR=253
KSSEO Seoul 5.62 318 P **Pn** **11 02 36.1 +1.4**
SNR=24
KSCWO Cheorwon 5.76 326 P **Pn** **11 02 38.2 +1.5**
SNR=26
INCN Inchon 5.78 317 *e*Pn **Pn** **11 02 38.1 +1.2**
KSDDC Dongducheon 5.85 322 P **Pn** **11 02 39.1 +1.3**
SNR=12
KSMUS Musan 6.00 320 P **Pn** **11 02 41.0 +1.1**
SNR=39
YNCB YEONCHEON 6.02 322 P **Pn** **11 02 41.5 +1.3**
SNR=22
KSGAH Ganghwa 6.04 317 P **Pn** **11 02 41.5 +1.1**
SNR=21
MAJO Matsushiro 6.26 58 *c i*P **Pn** **11 02 44.8 +1.3**
MAJO pmax pmax
comp=Z,284nm,0.7s
MAJO Matsushiro 6.26 58 *e*Pn **Pn** **11 02 44.7 +1.3**
MAT Matsushiro 6.26 58 P **Pn** **11 02 44.2 +0.8**
MAT S **Sn** **11 03 53.3 -0.2**
MJAR Matsushiro Arr 6.26 58 P **Pn** **11 02 45.4 +1.9**
comp=Z,42nm,0.3s,baz=244,slow=14,SNR=431
MJAR S **Sn** **11 03 55.9 +2.4**
comp=Z,7.4nm,0.3s,baz=230,slow=24,SNR=5.8
MJAR Matsushiro Arr 6.26 58 P **Pn** **11 02 45.4 +1.9**
MJAR S **Sn** **11 03 55.9 +2.4**
MJAR pmax pmax
comp=Z,42nm,0.3s
MJAR smax smax
comp=N,7.0nm,0.3s
JHJ2 Mitsune 6.87 90 *e*Pn **Pn** **11 02 52.1 +0.4**
JOW Kunigami 7.14 205 P **Pn** **11 02 56.0 +0.5**
baz=63,slow=4.5
JOW S **Sn** **11 04 12.3 -2.8**
comp=N,0.6nm,0.3s,baz=90,slow=20,SNR=8.1
KSBAR Backryungdo 7.26 311 P **Pn** **11 02 58.3 +1.3**
SNR=10
DL2 Dalian 9.79 307 ⇓ *i*P Pn 11 03 34.8 +3.4
DL2 *es*P 11 03 57.9
DL2 S Sn 11 05 25.6 +6.2
DL2 PMZ
comp=N,200nm,0.8s
DL2 LE
comp=N,400nm,6.1s
DL2 LZ
comp=N,400nm,8.3s
SNY Shenyang 10.57 325 ⇓P Pn 11 03 45.6 +3.5
SNY S **Sn** **11 05 41.6 +3.1**
SNY PMZ
comp=N,54nm,1.3s
SNY PMZ
comp=N,390nm,5.5s
SNY LN
comp=N,740nm,4.4s
SNY LE
comp=N,1μm,4.7s
SNY LZ
comp=N,720nm,9.3s
USRK Ussuriysk Ar. 10.81 1 P **Pn** **11 03 46.6 +1.2**
comp=N,0.3nm,0.3s,baz=186,slow=13,SNR=12
USRK LR LR 11 07 43.6
comp=N,124nm,19.7s,baz=173,slow=36
NJ2 Nanjing 10.84 266 *e*P **Pn** **11 03 44.1 -1.8**
NJ2 S **Sn** **11 05 46.0 +0.8**
NJ2 PMZ
comp=N,30nm,1.1s
NJ2 PMZ
comp=N,210nm,6.1s
NJ2 LN
comp=N,190nm,13.1s
NJ2 LE
comp=N,370nm,15.0s
NJ2 LZ
comp=N,370nm,15.9s
CBIJ Chichi jima 11.07 122 *e*Pn **Pn** **11 03 51.7 +2.8**
JCJ Chichijima 11.07 122 P **Pn** **11 03 51.5 +2.5**
comp=N,7.4nm,0.3s,baz=323,slow=1.2,SNR=8.0
MDJ Mudanjiang 11.33 353 P **Pn** **11 03 54.8 +2.4**
MDJ S **Sn** **11 05 58.8 +1.8**
MDJ PcP **PcP** **11 09 38.6 +0.1**
MDJ PcS PcS 11 13 04.6 -7.7
MDJ ScS **ScS** **11 16 39.3 +1.2**
MDJ PMZ
comp=N,31nm,1.4s
MDJ LN
comp=N,150nm,15.5s
MDJ LE
comp=N,150nm,14.3s
MDJ LZ
comp=N,180nm,13.4s
MDJ Mudanjiang 11.33 353 *e*Pn **Pn** **11 03 54.3 +1.8**
CN2 Changchun 11.47 337 *e*P Pn 11 03 57.9 +3.6
CN2 *e*S **Sn** **11 06 01.8 +1.4**
CN2 PMZ
comp=N,20nm,1.0s
CN2 PMZ
comp=N,300nm,5.0s
CN2 LN
comp=N,400nm,10.0s
CN2 LE
comp=N,300nm,10.0s
CN2 LZ
comp=N,40nm,10.0s
TIA Tai'an 12.25 287 ⇑P Pn 11 04 08.3 +3.4
TIA PMZ
comp=N,20nm,0.5s
ASAJ Asahikawa 13.71 35 P **Pn** **11 04 25.6 +1.7**
comp=N,0.3nm,0.3s,baz=212,slow=15,SNR=2.3
BJT Baijiatuau 14.05 303 *e*P **Pn** **11 04 28.7 +0.2**
BJT Baijiatuau 14.05 303 *e*Pn **Pn** **11 04 28.7 +0.2**
BJI Beijing 14.06 303 P **Pn** **11 04 29.8 +1.3**
BJI S Sn 11 07 09.9 +6.7
BJI PMZ
comp=N,36nm,0.7s
BJI PMZ
comp=N,130nm,5.2s
BJI LN
comp=N,180nm,9.7s
BJI LE
comp=N,250nm,20.0s
BJI LZ
comp=N,190nm,33.2s
QZH Quanzhou 14.14 237 ⇑ *i*P **Pn** **11 04 30.8 +1.0**
QZH S Sn 11 07 12.0 +6.5
QZH PMZ
comp=N,440nm,9.7s
WHN Wuhan 14.94 264 ⇑P **P** **11 04 45.3 +2.1**
WHN pP pP 11 04 59.8
WHN PMZ
comp=N,600nm,1.9s
HABR Khabarovsk 15.30 9 *e*P **Pn** **11 04 44.7 +0.4**
HABR *es*S **Sn** **11 07 35.9 +2.9**
HABR pmax pmax
comp=Z,48nm,1.5s
HABR MLR MLR
comp=Z,62nm,14.0s
KLR Kul'dur 15.84 0 *e*P **Pn** **11 04 49.0 -2.1**
KLR *es*S **Sn** **11 07 49.0 +2.9**
KLR pmax pmax
comp=N,57nm,1.6s
KLR pmax pmax
comp=E,50nm,1.6s
KLR pmax pmax
comp=Z,120nm,1.6s
KLR MLR MLR
comp=Z,800nm,13.0s
YSS Yuzh-Sakhalins 15.98 29 ⇓ *e*P **Pn** **11 04 53.0 +0.1**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS Yuzh-Sakhalins 15.98 29 *e*Pn **P** **11 04 54.1 -0.6**
comp=Z,63nm,1.3s
HHC Hu-ho-hao-te 17.63 301 *e*P **Pn** **11 05 15.0 +1.6**
HHC pP **pP** **11 05 30.8 +0.1**
HHC sP **sP** **11 05 39.0 -3.5**
HHC S **Sn** **11 08 25.0 -4.7**
HHC PMZ
comp=Z,22nm,1.4s
HHC LN
comp=Z,110nm,10.4s
HHC LE
comp=Z,280nm,9.3s
HHC LZ
comp=Z,210nm,12.4s
HIA Hailar 18.17 334 *e*P **Pn** **11 05 21.2 +1.4**
HIA pmax pmax
comp=Z,34nm,1.1s
HIA Hailar 18.17 334 *e*Pn **Pn** **11 05 21.2 +1.4**
comp=Z,34nm,1.1s
XAN Xi'an 18.90 278 P **Pn** **11 05 28.1 -0.5**
XAN pP **pP** **11 05 46.5 +1.8**
XAN sP **sP** **11 05 58.3 +1.9**
XAN S **Sn** **11 09 00.3 +0.1**
XAN sS **sS** **11 09 27.3 +1.2**
ENH Enshi 19.06 267 *e*Pn **Pn** **11 05 30.1 -0.5**
GYA Guiyang 22.68 259 *e*P **P** **11 06 05.8 -1.8**
GYA pP **pP** **11 06 25.4 -0.7**
GYA sP **sP** **11 06 37.3 -0.3**
GYA PcP **PcP** **11 09 58.0 +1.1**
GYA S S 11 10 01.8 -7.3
GYA sS Sn 11 10 35.6 +4.8
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,4.6s
GYA LN
comp=Z,570nm,16.3s
GYA LE
comp=Z,530nm,17.0s
GYA LZ
comp=Z,540nm,16.8s
LZH Lanzhou 22.96 285 ⇑P **P** **11 06 10.8 +0.3**
LZH pP **pP** **11 06 28.3 -0.8**
LZH sP **sP** **11 06 40.6 0.0**
LZH PP **PnPn** **11 06 43.4 +3.4**
LZH *es* **S** **11 10 13.0 -0.6**
LZH sS **sS** **11 10 44.3 -3.2**
LZH PMZ
comp=Z,85nm,1.0s
LZH PMZ
comp=Z,210nm,4.1s
ULN Ulaanbaatar 23.47 315 *c i*P **P** **11 06 15.5 +0.3**
ULN pmax pmax
comp=Z,32nm,1.7s
ULN Ulaanbaatar 23.47 315 *e*P **P** **11 06 15.4 +0.3**
comp=Z,38nm,1.0s
CD2 Chengdu 23.70 272 ⇑P **P** **11 06 16.4 -0.8**
CD2 pP **pP** **11 06 38.3 +1.4**
CD2 sP **sP** **11 06 47.3 -1.1**
CD2 S **S** **11 10 21.5 -3.9**
CD2 PMZ
comp=Z,110nm,1.3s
CD2 PMZ
comp=Z,170nm,4.2s
CD2 LN
comp=Z,230nm,17.9s
CD2 LE
comp=Z,240nm,14.3s
SONM Songino Array 23.85 315 P **P** **11 06 18.5 +0.1**
comp=Z,7.0nm,0.8s,baz=133,slow=9.9,SNR=36
SONM LR LR 11 16 22.7
comp=Z,118nm,18.0s,baz=102,slow=38
SONM Songino Array 23.85 315 P **P** **11 06 18.5 +0.1**
SONM pmax pmax
comp=Z,7.0nm,0.8s
SONM MLR MLR
comp=Z,118nm,18.0s
QIZ Qiongzhong 24.14 239 P **P** **11 06 20.9 -0.3**
QIZ S **S** **11 10 32.3 -0.3**
QIZ PMZ
comp=Z,110nm,5.1s
QIZ LZ
comp=Z,98nm,25.9s
GTA Gaotai 26.22 292 *e*P **P** **11 06 39.5 -0.5**
GTA pP **pP** **11 07 00.6 -0.2**
GTA sP **sP** **11 07 13.1 +1.5**
GTA S **S** **11 11 01.8 -3.7**
GTA PMZ
comp=Z,7.0nm,1.3s
GTA PMZ
comp=Z,49nm,5.5s
KMI Kunming 26.45 259 P **P** **11 06 43.5 +1.2**
KMI pP **pP** **11 07 05.1 +2.0**
KMI PMZ
comp=Z,23nm,1.0s
ZAK Zakamensk 26.86 318 *e*P **P** **11 06 45.0 -0.6**
ZAK *e* 11 07 06.8
ZAK pmax pmax
comp=Z,3.0nm,1.4s
ZAK pmax pmax
comp=Z,9.0nm,1.0s
PETK Petropavlovsk- 27.12 36 LR LR 11 17 58.8
comp=Z,14nm,21.5s,baz=248,slow=37
BOD Bodaibo 27.21 339 *e*P **P** **11 06 47.6 -0.9**
TLY Talaya 27.31 320 *e*P P 11 07 01.3 +12
TLY *es* **S** **11 11 25.7 +3.5**
TLY pmax pmax
comp=Z,7.0nm,1.7s
TLY MLR MLR
comp=Z,123nm,15.0s
PET Petropavlovsk 27.55 36 *i*P **P** **11 06 53.8 +2.3**
PET pmax pmax
comp=Z,14nm,1.3s
YAK Yakutsk 28.70 358 *e*P **pP** **11 07 20.3 -2.3**
YAK *e**PP pwP 11 07 40.8 +18
YAK *es*S SS 11 13 41.2 -7.4
YAK pmax pmax
comp=Z,18nm,1.0s
YAK pmax pmax
comp=N,9.0nm,1.0s
CRAI Chiangrai 30.69 253 P **P** **11 07 17.4 -2.4**
comp=N,4.6nm,1.2s
CMAI Chiengmai2 31.91 253 P **P** **11 07 33.5 +2.8**
comp=N,5.8nm,1.2s,comp=N,1μm
UTTA Uttaradit 31.91 249 P **P** **11 07 31.2 +0.7**
comp=N,2.6nm,0.7s
PBKT Sadao Pong 32.28 246 P **P** **11 07 34.5 +0.8**
comp=N,24nm,1.1s
SEY Seymchan 32.34 18 P **P** **11 07 34.5 +0.7**
comp=N,0.4nm,0.3s,baz=219,slow=4.7,SNR=4.0
CMMT Chiang Mai 32.58 252 P **P** **11 07 37.6 +1.2**
comp=N,8.6nm,1.0s
CHTO Chiang Mai 32.58 252 P **P** **11 07 37.7 +1.3**
comp=N,30nm,1.0s
CHTO Chiang Mai 32.58 252 *e*P **P** **11 07 36.2 -0.2**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
CHTO Chiang Mai 32.58 252 *e*P **P** **11 07 36.2 -0.2**
comp=Z,4.8nm,0.9s
TNTI Ternate 32.68 188 P **P** **11 07 37.5 +0.3**
comp=Z,112nm,1.1s
TNTI Ternate 32.68 188 *e*P **P** **11 07 37.1 -0.1**
comp=Z,191nm,1.3s
CMAR Chiang Mai Arr 32.78 251 P **P** **11 07 37.5 -0.6**
comp=Z,2.8nm,0.6s,baz=51,slow=7.5,SNR=17
CMAR PcP **PcP** **11 10 21.7 +0.3**
comp=Z,1.1nm,0.4s,baz=79,slow=0.8,SNR=7.4
CMAR Chiang Mai Arr 32.78 251 P **P** **11 07 37.5 -0.6**
CMAR 11 10 21.7
CMAR pmax pmax
comp=Z,3.0nm,0.6s
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CHBT CHBT 33.69 239 P **P** **11 07 47.1 +1.1**
comp=Z,22nm,0.7s,comp=Z,3μm
UTHA Uthaitani 34.05 246 P **P** **11 07 50.7 +1.5**
comp=Z,5.2nm,0.8s,comp=Z,96nm
SIJI Sorong 34.07 181 P **P** **11 07 49.0 -0.3**
comp=Z,27nm,0.8s,baz=358,slow=11,SNR=15
SIJI LR LR 11 18 59.9
comp=Z,40nm,20.9s,slow=31
WMQ Urumqi 35.51 300 P **P** **11 08 02.3 +0.7**
SANI Sanana 35.64 190 P **P** **11 08 00.3 -2.5**
SBUM Sibu 35.73 215 *e*P **P** **11 08 02.9 -0.8**
comp=Z,5.4nm,0.5s
FAKI Fak Fak 36.11 179 P **P** **11 08 06.9 +0.1**
comp=Z,238nm,0.8s,comp=Z,2μm
FAKI Fak Fak 36.11 179 *e*P **P** **11 08 06.8 +0.1**
comp=Z,164nm,0.7s
JAY Jayapura 36.72 165 LR LR 11 21 14.3
comp=Z,62nm,20.8s,baz=14,slow=33
KSM Kuching 37.51 217 *e*P **P** **11 08 18.2 -0.5**
comp=Z,17nm,1.1s
ZALV Zalesovo Beam 38.72 316 P **P** **11 08 27.7 -0.8**
comp=Z,1.4nm,0.5s,baz=99,slow=7.9,SNR=5.8
ZALV pP **pP** **11 08 50.0 0.0**
comp=Z,3.0nm,0.7s,baz=103,slow=7.8,SNR=4.4
ZALV PcP **PcP** **11 10 36.9 -1.4**
comp=Z,1.1nm,0.4s,baz=108,slow=4.7,SNR=4.8
ZALV pPcP 11 11 01.3
comp=Z,6.4nm,0.9s,baz=116,slow=3.4,SNR=3.6
ZALV ScP **ScP** **11 14 14.7 -3.4**
comp=Z,0.5nm,0.3s,baz=100,slow=3.7,SNR=2.7
ZALV LR LR 11 25 24.2
comp=Z,76nm,18.7s,baz=100,slow=38
ZALV Zalesovo Beam 38.72 316 P **P** **11 08 27.7 -0.8**
ZALV *PP **pP** **11 08 50.1 0.0**
ZALV 11 10 36.9
ZALV 11 14 14.7
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV pmax pmax
comp=Z,3.0nm,0.7s
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV pmax pmax
comp=Z,6.0nm,0.9s
ZALV pmax pmax
comp=N,1.0nm,0.3s
ZALV MLR MLR
comp=Z,76nm,18.7s
SURT Suratani 38.80 239 P **P** **11 08 30.5 +0.9**
comp=Z,10nm,0.8s
KRAB Krabi 39.02 237 P **P** **11 08 32.2 +0.7**
comp=Z,50nm,0.7s,comp=Z,488nm
MKAR Makanchi Array 39.42 305 P **P** **11 08 33.3 -1.2**
comp=Z,1.8nm,0.8s,baz=93,slow=6.2,SNR=10
MKAR PcP **PcP** **11 10 39.6 -1.2**
comp=Z,1.4nm,0.8s,baz=129,slow=2.0,SNR=4.0
MKAR pPcP 11 11 04.9
comp=Z,1.9nm,0.8s,baz=169,slow=1.5,SNR=4.5
MKAR ScP **ScP** **11 14 17.6 -3.4**
comp=Z,1.6nm,0.9s,baz=107,slow=1.3,SNR=5.4
MKAR LR LR 11 26 06.1
comp=Z,52nm,18.7s,baz=120,slow=38
MKAR Makanchi Array 39.42 305 P **P** **11 08 33.3 -1.2**
MKAR 11 10 39.6
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR pmax pmax
comp=N,2.0nm,0.9s
MKAR MLR MLR
comp=Z,52nm,18.7s
BILL Bilibino 39.98 19 *i*P **P** **11 08 40.3 +1.5**
BILL *e**PP **pP** **11 08 59.5 -0.9**
BILL *e* 11 10 10.5
BILL *e* 11 10 42.2
BILL pmax pmax
comp=Z,3.0nm,1.0s
BILL Bilibino 39.98 19 *e*P **P** **11 08 40.6 +1.8**
comp=Z,15nm,1.1s
KULM Kulim 40.13 233 *e*P **P** **11 08 40.7 0.0**
comp=Z,26nm,1.2s
IPM Ipoh 40.49 231 *e*P **P** **11 08 42.8 -0.9**
comp=Z,36nm,0.8s
KURK Kurchatov 42.03 311 P **P** **11 08 55.5 -0.3**
KURK *PP **pP** **11 09 18.1 +0.5**
KURK 11 10 47.3
KURK 11 11 11.7
KURK pmax pmax
comp=Z,4.0nm,0.6s
KURK pmax pmax
comp=Z,6.0nm,0.8s
KURK pmax pmax
comp=Z,1.0nm,0.2s
KURK pmax pmax
comp=Z,1.0nm,0.3s
KURK Kurchatov 42.03 311 *e*P **P** **11 08 55.0 -0.8**
KURK pP **pP** **11 09 18.1 +0.5**
KURK PcP **PcP** **11 10 47.3 -1.9**
KURK pPcP 11 11 11.7
KURBB Kurchatov Arra 42.08 311 P **P** **11 08 55.5 -0.7**
comp=Z,3.5nm,0.6s,baz=97,slow=9.0,SNR=12
KURBB pP **pP** **11 09 18.1 0.0**
comp=Z,5.8nm,0.8s,baz=96,slow=9.2,SNR=5.2
KURBB PcP **PcP** **11 10 47.3 -2.0**
comp=Z,0.9nm,0.2s,baz=84,slow=3.6,SNR=4.4
KURBB pPcP 11 11 11.7
comp=Z,1.0nm,0.3s,baz=100,slow=3.6,SNR=3.7
PSI Prapat 43.13 232 P **P** **11 09 04.3 -0.9**
comp=Z,10nm,0.6s,baz=16,slow=7.6,SNR=7.8
PSI Prapat 43.13 232 P **P** **11 09 04.3 -0.9**
PSI pmax pmax
comp=Z,11nm,0.6s
TKM2 Tokmak 2 44.36 299 P **P** **11 09 15.5 +0.5**
SNR=20
TKM2 Tokmak 2 44.36 299 *i*P **P** **11 09 15.5 +0.5**
KSH Kashi 44.59 295 P P 11 09 20.3 +3.6
KSH pP pP 11 09 43.1 +4.4
KSH PP **PP** **11 11 07.3 +5.0**
KSH PcS **PcS** **11 14 53.3 +1.5**
KSH S **S** **11 15 49.3 +3.5**
KSH sS sS 11 16 29.4 +5.9
KSH PMZ
comp=Z,18nm,0.7s
KSH LN
comp=Z,210nm,8.9s
KSH LE
comp=Z,130nm,12.2s
KSH LZ
comp=Z,150nm,5.3s
KZA Kyzart 44.72 298 P **P** **11 09 19.1 +1.0**
SNR=8.6
KZA Kyzart 44.72 298 *i*P **P** **11 09 19.1 +1.0**
KBK Karagaybulak 44.86 299 P **P** **11 09 19.4 +0.4**
SNR=5.9
GSI Gunungsitoli 45.13 232 P **P** **11 09 20.3 -0.8**
comp=Z,64nm,1.1s
GSI Gunungsitoli 45.13 232 *e*P **P** **11 09 20.1 -1.0**
comp=Z,112nm,1.4s
AAK Ala-Archa 45.20 299 P **P** **11 09 21.7 +0.1**
SNR=7.0
AAK Ala-Archa 45.20 299 P **P** **11 09 21.4 -0.2**
comp=Z,5.7nm,0.5s,baz=126,slow=5.5,SNR=11
AAK Ala-Archa 45.20 299 P **P** **11 09 21.4 -0.2**
AAK pmax pmax
comp=Z,6.0nm,0.5s
AAK Ala-Archa 45.20 299 *e*P **P** **11 09 21.5 -0.1**
UCH Uchtor 45.24 299 P **P** **11 09 23.1 +0.8**
SNR=17
UCH Uchtor 45.24 299 *i*P **P** **11 09 23.1 +0.8**
AML Almayashu 45.86 299 P **P** **11 09 27.7 +0.6**
SNR=15
AML Almayashu 45.86 299 *i*P **P** **11 09 27.7 +0.6**
LEM Lembang 46.02 214 P **P** **11 09 27.8 -0.5**
comp=Z,44nm,0.6s,baz=346,slow=10,SNR=10
LEM Lembang 46.02 214 P **P** **11 09 27.8 -0.5**
LEM pmax pmax
comp=Z,44nm,0.6s
BVAR Borovoye Array 47.19 314 P **P** **11 09 36.3 -0.5**
comp=Z,4.7nm,0.6s,baz=105,slow=9.5,SNR=24
BVAR pP **pP** **11 09 59.0 0.0**
comp=Z,4.9nm,0.6s,baz=104,slow=9.4,SNR=6.3
BVAR PcP **PcP** **11 11 05.7 -1.2**
comp=Z,3.0nm,0.7s,baz=93,slow=3.1,SNR=5.0
BVAR pPcP 11 11 29.4
comp=Z,4.8nm,0.8s,baz=111,slow=2.5,SNR=6.1
BVAR Borovoye Array 47.19 314 P **P** **11 09 36.3 -0.5**
BVAR *PP **pP** **11 09 59.0 0.0**

BVAR 11 11 05.7
BVAR 11 11 29.4
BVAR pmax pmax
comp=Z,5.0nm,0.6s
BVAR pmax pmax
comp=Z,5.0nm,0.6s
BVAR pmax pmax
comp=Z,3.0nm,0.7s
BVAR pmax pmax
comp=Z,5.0nm,0.8s
BRVK Borovoye 47.25 314*c iP* **P 11 09 36.8 -0.5**
BRVK pmax pmax
comp=Z,17nm,1.7s
KK31 Karatay Array 48.02 300 *i P* **P 11 09 42.9 -0.5**
KK31 pmax pmax
comp=Z,5.0nm,0.5s
RPR Rampur 48.69 266 *eP* **P 11 09 48.7 -0.1**
NJS Nagarjunasagar 49.79 264 *eP* **P 11 09 56.5 -0.8**
HYB Hyderabad 49.99 265 *i P* **P 11 09 58.0 -0.8**
HYB epP **pP 11 10 23.0 +1.8**
HYBB Hyderabad (bro 49.99 265 *eP* **P 11 09 58.3 -0.6**
KBL Kabul 51.16 290 *eP* **P 11 10 07.7 0.0**
KBL pmax pmax
comp=Z,19nm,0.8s
KBL Kabul 51.16 290 *eP* **P 11 10 07.7 0.0**
comp=Z,19nm,0.8s
FITZ Fitzroy Crossi 51.51 187 *eP* **P 11 10 09.8 -0.2**
comp=Z,37nm,0.8s
WRAB Tennant Creek 53.08 177*c iP* **P 11 10 21.3 -0.3**
WRAB pmax pmax
comp=Z,100nm,1.0s
WRAB Tennant Creek 53.08 177 *eP* **P 11 10 21.1 -0.4**
comp=Z,37nm,0.8s
WRA Warramunga Arr 53.09 177 P **P 11 10 21.1 -0.5**
comp=Z,32nm,0.8s,baz=354,slow=8.2,SNR=119
WRA PcP **PcP 11 11 28.3 -0.6**
comp=Z,2.5nm,0.8s,baz=351,slow=4.9,SNR=3.2
WRA Warramunga Arr 53.09 177 P **P 11 10 21.1 -0.5**
WRA 11 11 28.3
WRA pmax pmax
comp=Z,32nm,0.8s
WRA pmax pmax
comp=Z,3.0nm,0.8s
SVW2 Sparrevohn 53.21 35 *epP* pP 11 10 46.2 +1.4
ARU Arti 53.79 319*c iP* **P 11 10 25.7 -0.7**
ARU *e*PP* **pP 11 10 48.5 -0.6**
ARU **SP* **sP 11 10 58.1 -1.4**
ARU 11 11 29.1
ARU 11 12 27.0
ARU S **S 11 17 54.7 +0.9**
ARU SS **SKiKP 11 21 27.7 -2.9**
ARU pmax pmax
comp=Z,18nm,1.2s
ARU Arti 53.79 319 *eP* **P 11 10 25.2 -1.2**
comp=Z,29nm,0.7s
ARU epP **pP 11 10 48.5 -0.6**
IM04 Indian Mountai 53.80 29 P **P 11 10 26.9 +0.5**
ABKAR Akbulak array 54.13 310 *eP* **P 11 10 28.3 -0.7**
PPLA Purkeypile 54.67 33 *eP* **P 11 10 32.4 -0.5**
CAST Castle Rocks 54.67 32 *epP* pP 11 10 57.1 +1.6
CTA Charters Tower 54.97 163 P **P 11 10 35.7 +0.3**
comp=Z,16nm,1.0s,baz=357,slow=7.5,SNR=7.4
CTA Charters Tower 54.97 163 P **P 11 10 35.7 +0.3**
CTA pmax pmax
comp=Z,16nm,1.0s
KTH Kantishna Hill 55.18 32 *eP* **P 11 10 37.2 +0.7**
KTH epP **pP 11 11 00.6 +1.4**
MBWA Marble Bar 55.41 194 *eP* **P 11 10 37.9 -0.5**
comp=Z,22nm,0.9s
MCK McKinley 56.04 32 P **P 11 10 44.4 +1.8**
MCK *e*PP* **pP 11 11 05.8 +0.4**
MCK McKinley 56.04 32 P **P 11 10 44.4 +1.8**
MCK epP **pP 11 11 05.8 +0.4**
AS31 Alice Springs 56.77 178 *eP* **P 11 10 47.8 -0.4**
ASAR Alice Springs 56.77 178 P **P 11 10 48.0 -0.2**
comp=Z,18nm,0.6s,baz=8.3,slow=8.7,SNR=194
ASAR Alice Springs 56.77 178 P **P 11 10 48.0 -0.2**
ASAR pmax pmax
comp=Z,18nm,0.6s
ILAR Eielson Array 56.78 30 P **P 11 10 47.8 0.0**
comp=Z,0.6nm,0.6s,baz=266,slow=6.0,SNR=12
ILAR pP **pP 11 11 10.6 -0.1**
comp=Z,5.2nm,0.7s,baz=284,slow=5.8,SNR=26
ILAR LR LR 11 36 46.0
comp=Z,17nm,18.8s,baz=242,slow=38
ILAR Eielson Array 56.78 30 P **P 11 10 47.8 0.0**
ILAR **PP* **pP 11 11 10.6 -0.1**
ILAR pmax pmax
comp=Z,1.0nm,0.6s
ILAR pmax pmax
comp=Z,5.0nm,0.7s
ILAR MLR MLR
comp=Z,17nm,18.8s
GEYT Alibeck 58.47 297 P **P 11 10 59.1 -1.0**
comp=Z,3.3nm,0.7s,baz=74,slow=5.1,SNR=5.2
GEYT LR LR 11 37 08.6
comp=Z,48nm,19.5s,baz=225,slow=37
EGAK Eagle 59.19 30 *eP* **P 11 11 03.3 -1.3**
PRGR Permogore 59.40 326 *eP* **P 11 11 05.7 -0.4**
PRGR pmax pmax
comp=Z,8.0nm,0.6s
DAWY Dawson 60.11 30 *eP* **P 11 11 11.9 +0.9**
DAWY epP **pP 11 11 34.5 +0.4**
INK Inuvik 61.18 25 P **P 11 11 18.6 +0.5**
comp=Z,1.1nm,0.8s,baz=301,slow=9.6,SNR=8.4
INK Inuvik 61.18 25 P **P 11 11 18.6 +0.5**
INK pmax pmax
comp=Z,1.0nm,0.8s
INK Inuvik 61.18 25 *eP* **P 11 11 16.7 -1.4**
comp=Z,20nm,1.0s
KLMR Klimovskoe 62.46 327 *eP* **P 11 11 25.6 -1.2**
KLMR *e*PP* **pP 11 11 49.7 -0.3**
KLMR pmax pmax
comp=Z,25nm,1.4s
APA Apatity 62.63 335 *eP* **P 11 11 27.0 -0.8**
APA MLR MLR
comp=Z,900nm,11.0s
FORT Forrest 63.90 183 *eP* **P 11 11 35.6 -0.9**
comp=Z,73nm,0.8s
KEV Kevo 63.91 338 *eP* **P 11 11 36.2 0.0**
KEV pmax pmax
comp=Z,16nm,0.7s
KEV Kevo 63.91 338 *eP* **P 11 11 36.2 0.0**
comp=Z,16nm,0.7s
DZM Mont Dzumac 64.36 144 LR LR 11 36 22.1
comp=Z,245nm,20.2s,baz=359,slow=33
ARCES ARCESS Array B 64.48 338 P **P 11 11 39.2 -0.8**
comp=Z,7.4nm,0.7s,baz=62,slow=8.2,SNR=50
ARCES LR LR 11 43 46.6
comp=Z,23nm,20.4s,baz=57,slow=40
ARCES ARCESS Array B 64.48 338 P **P 11 11 39.2 -0.8**
ARCES pmax pmax
comp=Z,7.0nm,0.7s
ARCES MLR MLR
comp=Z,23nm,20.4s
BANOM Banah 64.60 285⇓*i P* **P 11 11 41.6 0.0**
SNR=11
ASHO Ashiyiah 65.35 284⇓*i P* **P 11 11 46.0 -0.4**
SNR=8.4
STKA Stephens Creek 65.58 171 P **P 11 11 47.6 +0.1**
comp=Z,9.6nm,0.5s,baz=344,slow=6.2,SNR=21
STKA Stephens Creek 65.58 171 P **P 11 11 47.6 +0.1**
STKA pmax pmax
comp=Z,10.0nm,0.5s
BBOO Buckleboo 65.97 176 *eP* **P 11 11 50.0 0.0**
comp=Z,20nm,0.8s
OBN Obninsk 66.06 321*ceP* **P 11 11 49.1 -1.3**
OBN *i *PP* **pP 11 12 13.7 -0.1**
OBN *e* 11 12 18.3
OBN pmax pmax
comp=Z,9.0nm,1.0s
ZEI Tsey 66.73 307 *eP* **P 11 11 52.9 -2.3**
ZEI pmax pmax
comp=Z,19nm,1.0s
KBZ Khabaz 67.01 308 P **P 11 11 56.5 -0.1**
comp=Z,20nm,0.8s,baz=53,slow=20,SNR=55
KBZ Khabaz 67.01 308 P **P 11 11 56.5 -0.1**
KBZ pmax pmax
comp=Z,20nm,0.8s
KIV Kislovodsk 67.05 308 *eP* **P 11 11 56.6 -0.5**
KIV pmax pmax
comp=Z,29nm,0.9s
KIV MLR MLR
comp=Z,41nm,17.0s
KIV Kislovodsk 67.05 308 *eP* **P 11 11 56.5 -0.5**

comp=Z,28nm,0.9s
GNI Garni 67.26 304*d iP* **P 11 11 59.1 +0.5**
GNI pmax pmax
comp=Z,18nm,1.2s
NEY Neytrino 67.32 308 *i P* **P 11 11 59.4 +0.5**
MSVF Nonsavu 67.42 132 *eP* **P 11 11 59.7 +0.1**
MSVF pmax pmax
comp=Z,28nm,1.1s
MSVF Nonsavu 67.42 132 *eP* **P 11 11 59.7 +0.1**
comp=Z,28nm,1.1s
RES Resolute Bay 67.98 12 *eP* **P 11 12 01.0 -1.3**
RES pmax pmax
comp=Z,20nm,1.2s
RES Resolute Bay 67.98 12 *eP* **P 11 12 01.0 -1.3**
comp=Z,20nm,1.2s
FINES FINESS Array B 68.13 330 P **P 11 12 02.3 -1.1**
comp=Z,8.8nm,0.8s,baz=80,slow=6.0,SNR=32
FINES pP **pP 11 12 25.8 -1.2**
comp=Z,44nm,1.1s,baz=84,slow=7.9,SNR=17
FINES FINESS Array B 68.13 330 P **P 11 12 02.3 -1.1**
FINES **PP* **pP 11 12 25.8 -1.2**
FINES pmax pmax
comp=Z,9.0nm,0.8s
FINES pmax pmax
comp=Z,44nm,1.1s
SOC Sochi 69.15 309 *eP* **P 11 12 07.7 -2.4**
SOC *eS* **S 11 21 09.5 +1.1**
SOC pmax pmax
comp=Z,11nm,0.5s
YKA Yellowknife Ar 70.83 27 P **P 11 12 20.5 +0.5**
comp=Z,2.0nm,0.7s,baz=305,slow=6.1,SNR=33
YKA pP **pP 11 12 43.8 +0.1**
comp=Z,4.0nm,0.8s,baz=304,slow=6.1,SNR=18
YKA Yellowknife Ar 70.83 27 P **P 11 12 20.5 +0.5**
YKA **PP* **pP 11 12 43.8 +0.1**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA pmax pmax
comp=Z,4.0nm,0.8s
AKASG Malin Array Be 72.04 319 P **P 11 12 25.3 -2.2**
comp=Z,3.0nm,0.6s,baz=55,slow=6.4,SNR=16
AKASG pP **pP 11 12 49.9 -1.4**
comp=Z,2.9nm,0.5s,baz=49,slow=6.6,SNR=7.4
AKASG Malin Array Be 72.04 319 P **P 11 12 25.3 -2.2**
AKASG **PP* **pP 11 12 49.9 -1.4**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG pmax pmax
comp=Z,3.0nm,0.5s
KIEV Kiev 72.05 319 *eP* **P 11 12 25.8 -1.8**
KIEV Kiev 72.05 319 *eP* **P 11 12 25.8 -1.8**
AK02 Malin Array Si 72.07 319 *eP* **P 11 12 26.3 -1.4**
HFS Hagfors 73.86 333 LR LR 11 48 01.8
comp=Z,36nm,18.1s,slow=38
SUMG Summit 74.11 357 *eP* **P 11 12 40.0 +0.2**
SUMG pmax pmax
comp=Z,19nm,1.0s
SUMG Summit 74.11 357 *eP* **P 11 12 40.0 +0.2**
comp=Z,19nm,1.0s
NB2 NORSAR Subarra 74.20 334 P **P 11 12 38.7 -1.4**
comp=Z,5.9nm,0.8s,baz=47,slow=5.9
NOA NORSAR Array B 74.20 334 P **P 11 12 38.7 -1.4**
comp=Z,5.4nm,0.8s,baz=50,slow=5.7,SNR=25
NOA pP **pP 11 13 03.0 -1.0**
comp=Z,11nm,0.9s,baz=48,slow=5.9,SNR=14
NOA LR LR 11 50 53.0
comp=Z,16nm,18.2s,baz=65,slow=40
NOA NORSAR Array B 74.20 334 P **P 11 12 38.7 -1.4**
NOA **PP* **pP 11 13 03.0 -1.0**
NOA pmax pmax
comp=Z,5.0nm,0.8s
NOA pmax pmax
comp=Z,11nm,0.9s
NOA MLR MLR
comp=Z,16nm,18.2s
RAYN Ar Rayn 74.38 288 *eP* **P 11 12 41.0 -0.9**
comp=Z,4.9nm,0.9s
RAYN epP **pP 11 13 05.5 -0.2**
BR131 Keskin Array S 75.00 308 *eP* **P 11 12 44.2 -1.1**
comp=Z,6.6nm,0.8s
BRTR Keskin Array B 75.00 308 P **P 11 12 44.4 -0.9**
comp=Z,8.9nm,0.8s,baz=96,slow=5.2,SNR=48
BRTR Keskin Array B 75.00 308*ceP* **P 11 12 44.5 -0.7**
BRTR pmax pmax
comp=Z,9.0nm,0.8s
B06A Marblemount 75.68 41 *epP* pP 11 13 14.7 +2.0
BUR08 Bucovina Ar. S 75.91 318 *eP* **P 11 12 49.3 -1.0**
KWP Kalwaria Pacla 76.14 321 *eP* **P 11 12 51.2 -0.1**
KWP *e* 11 13 15.7
KWP Kalwaria Pacla 76.14 321 *eP* **P 11 12 51.3 -0.1**
KWP pmax pmax
comp=Z,8.0nm,0.8s
KWP Kalwaria Pacla 76.14 321 *eP* **P 11 12 51.2 -0.1**
comp=Z,8.0nm,0.8s
G03D McMinnville, O 76.52 45⇑ P **P 11 12 54.9 +1.3**
baz=76
KOLS Kolonicke sedl 76.77 320 *eP* **P 11 12 53.9 -1.1**
KOLS pmax pmax
comp=Z,3.0nm,1.0s
KOLS Kolonicke sedl 76.77 320 *eP* **P 11 12 53.9 -1.1**
KOLS epP **pP 11 13 18.9 -0.1**
COR Corvallis 76.84 45 *epP* pP 11 13 20.9 +1.4
UZH Uzhgorod 76.94 320 *eP* **P 11 12 55.4 -0.5**
UZH *i* 11 13 21.0
B08A Colville Reser 76.94 40 *eP* **P 11 12 57.2 +1.2**
comp=Z,22nm,1.1s
B08A epP **pP 11 13 21.6 +1.6**
EDM Edmonton 77.01 34 *eP* P 11 13 02.7 +6.4
EDM Edmonton 77.01 34 *eP* P 11 13 02.7 +6.4
STHS Stebnicka Huta 77.03 321 *eP* **P 11 12 56.6 +0.1**
STHS pmax pmax
comp=Z,4.0nm,1.2s
STHS Stebnicka Huta 77.03 321 *eP* **P 11 12 56.6 +0.1**
STHS epP **pP 11 13 21.3 +0.8**
OJC Ojcow 77.30 322 *eP* **P 11 12 57.3 -0.6**
OJC *e* 11 13 21.9
OJC Ojcow 77.30 322 *eP* **P 11 12 57.7 -0.2**
OJC *e*PP* **pP 11 13 22.3 +0.3**
OJC pmax pmax
comp=Z,17nm,0.8s
OJC Ojcow 77.30 322 *eP* **P 11 12 57.7 -0.2**
comp=Z,16nm,0.8s
OJC epP **pP 11 13 22.3 +0.3**
I03D Drain, OR 77.31 46⇓ P **P 11 12 59.2 +1.2**
baz=77
NIE Niedzica 77.52 321 *eP* **P 11 12 59.7 +0.5**
NIE *e* 11 13 23.8
NIE Niedzica 77.52 321 *eP* **P 11 12 59.7 +0.5**
NIE *e* 11 13 23.8
G05D Wamic, OR 77.63 44⇑ P **P 11 13 01.0 +1.1**
baz=78
I04A Tendick Farm, 77.82 45⇓ P **P 11 13 02.0 +1.1**
baz=78
L02D Cave Junction, 78.02 47⇑ P **P 11 13 03.2 +1.1**
baz=78
I05D Terrebonne, OR 78.14 45⇑ P **P 11 13 03.6 +0.8**
baz=78
NEW Newport 78.18 40 *epP* pP 11 13 28.6 +1.6
NEW Newport 78.18 40⇓ P **P 11 13 03.8 +0.9**
baz=78
J04D Umpqua Nationa 78.31 46⇓ P **P 11 13 04.5 +0.6**
baz=78
OKC Ostrava-Krasne 78.38 323 *eP* **P 11 13 03.8 -0.1**
OKC Ostrava-Krasne 78.38 323 *eP* **P 11 13 03.8 -0.1**
MORC Moravsky Berou 78.72 323 *eP* **P 11 13 05.8 -0.1**
MORC *e*PP* **pP 11 13 29.4 -0.6**
MORC pmax pmax
comp=Z,12nm,1.1s
MORC Moravsky Berou 78.72 323 *eP* **P 11 13 05.8 -0.1**
comp=Z,12nm,1.1s
MORC epP **pP 11 13 29.4 -0.6**
J05D Fort Rock, OR 78.81 45⇓ P **P 11 13 07.8 +1.1**
baz=79,SNR=5.7
VYHS Vyhne 78.86 321 *eP* **P 11 13 06.6 0.0**
VYHS pmax pmax
comp=Z,4.0nm,1.2s
VYHS Vyhne 78.86 321 *eP* **P 11 13 06.6 0.0**
VYHS epP **pP 11 13 30.9 +0.2**
VYHS *e* 11 40 13.4
M02C Callahan 78.92 48⇑ P **P 11 13 08.5 +1.4**
baz=79
DPC Dobruska-Polom 78.97 324 *eP* **P 11 13 06.8 -0.4**
DPC Dobruska-Polom 78.97 324 *eP* **P 11 13 06.8 -0.4**
N02D Trinity Center 79.25 48⇑ P **P 11 13 10.3 +1.4**
baz=79

M04C Macdoel 79.31 47⇑ P **P 11 13 10.7 +1.3**
baz=79,SNR=5.5
K05A Summer Lake 79.34 46 *eP* **P 11 13 11.4 +1.8**
comp=Z,13nm,1.0s
K05A epP **pP 11 13 35.7 +2.0**
I07A Izee 79.36 44 *epP* pP 11 13 34.0 +0.3
WALA Waterton Lakes 79.37 38 *eP* **P 11 13 09.5 0.0**
WALA epP **pP 11 13 35.3 +1.7**
BSMT Bassoo Peak 79.67 39 *eP* **P 11 13 11.7 +0.4**
BRG Berggiesshubel 79.78 325 *i P* **P 11 13 11.3 -0.2**
comp=Z,8.5nm,1.4s
BRG *e* 11 13 35.5
comp=Z,23nm,1.8s
BRG Berggiesshubel 79.78 325 *i P* **P 11 13 11.3 -0.2**
BRG *e* 11 13 35.5
BRG pmax pmax
comp=Z,9.0nm,1.4s
BRG pmax pmax
comp=Z,23nm,1.8s
CLL Collm 79.94 326⇑ *iP* **P 11 13 11.5 -0.8**
comp=Z,16nm,0.9s
CLL *i* pP **pP 11 13 35.9 -0.6**
CLL LmV 11 50 00.0
comp=Z,100nm,19.9s
CLL Collm 79.94 326 *eP* **P 11 13 11.6 -0.8**
CLL *e*PP* **pP 11 13 36.1 -0.4**
CLL pmax pmax
comp=Z,17nm,0.9s
CLL Collm 79.94 326 *eP* **P 11 13 11.6 -0.8**
comp=Z,17nm,0.9s
CLL epP **pP 11 13 36.1 -0.4**
JTMT Jette 80.00 39 *eP* **P 11 13 13.5 +0.5**
comp=Z,1.7nm,1.0s
JTMT epP **pP 11 13 39.0 +1.9**
GOPC GO Pecny, Ondr 80.00 324 *eP* **P 11 13 12.7 -0.1**
GOPC epP **pP 11 13 37.2 +0.2**
GOPC AMS AMS 11 52 20.0
comp=Z,100nm,12.3s
TREC Trest 80.06 323 AMS AMS 11 52 30.0
comp=Z,100nm,15.7s
PRU Pruhonice 80.08 324 *eP* **P 11 13 13.0 -0.1**
PRU epP **pP 11 13 37.7 +0.4**
PRU AMS AMS 11 52 20.0
comp=Z,100nm,15.0s
PRU Pruhonice 80.08 324 *eP* **P 11 13 13.0 -0.1**
PRU *e* 11 13 37.7
PRU MLR MLR
comp=Z,100nm,15.0s
BMO Blue Mountains 80.16 42 *eP* **P 11 13 14.9 +1.1**
BMO epP **pP 11 13 38.7 +0.7**
SWMT Swartz Lake 80.30 39 *eP* **P 11 13 14.6 0.0**
comp=Z,2.7nm,1.1s
SLMT Seeley Lake 80.74 39 *eP* **P 11 13 17.0 +0.1**
comp=Z,30nm,1.1s
SLMT epP **pP 11 13 41.4 +0.2**
CONA Conrad Observa 80.76 322⇑ *iP* **P 11 13 17.1 +0.1**
comp=Z,12nm,1.2s,SNR=5.7
MSO Missoula 80.77 39 *epP* pP 11 13 42.4 +1.1
MSO Missoula 80.77 39⇑ P **P 11 13 17.9 +0.9**
baz=81
WVOR Wild Horse Val 80.85 45 *eP* **P 11 13 19.0 +1.4**
WVOR *e*PP* **pP 11 13 42.8 +1.0**
WVOR pmax pmax
comp=Z,26nm,1.7s
WVOR Wild Horse Val 80.85 45 *eP* **P 11 13 19.0 +1.4**
comp=Z,26nm,1.7s
WVOR epP **pP 11 13 42.8 +1.0**
FFC Flin Flon 80.91 28 *epP* pP 11 13 42.5 +0.8
NKC Novy Kostel 80.92 325 *eP* **P 11 13 17.7 0.0**
NKC *epP* **pP 11 13 42.3 +0.4**
NKC Novy Kostel 80.92 325 *eP* **P 11 13 17.7 0.0**
NKC *e* 11 13 42.3
CHMT Chamberlain Mo 81.07 39 *eP* **P 11 13 17.9 -0.9**
comp=Z,8.2nm,1.5s
KHC Kasperske Hory 81.11 324 *eP* **P 11 13 18.0 -0.8**
KHC epP **pP 11 13 43.3 +0.3**
KHC AMS AMS 11 53 00.0
comp=Z,100nm,14.4s
KHC Kasperske Hory 81.11 324 *eP* **P 11 13 18.0 -0.8**
KHC *e* 11 13 43.3
KHC MLR MLR
comp=Z,100nm,14.4s
GERES GERESS Array B 81.24 324 P **P 11 13 18.6 -0.9**
comp=Z,2.9nm,0.8s,baz=46,slow=5.8,SNR=20
GERES GERESS Array B 81.24 324 P **P 11 13 18.6 -0.9**
GERES pmax pmax
comp=Z,3.0nm,0.8s
ARSA Arzberg 81.37 322⇑ *iP* **P 11 13 19.7 -0.5**
comp=Z,7.1nm,1.1s
MFID Camas Ranch 81.88 43 *eP* **P 11 13 24.3 +1.3**
comp=Z,27nm,1.4s
MFID epP **pP 11 13 48.3 +1.0**
HRY Holter Researc 81.95 38 *eP* **P 11 13 23.7 +0.4**
SOKA Soboth 82.00 322 *i P* **P 11 13 23.1 -0.4**
comp=Z,10nm,0.6s,SNR=13
A19A Klindworth Far 82.02 35⇓ P **P 11 13 24.1 +0.5**
baz=82,SNR=6.0
EGMT Eagleton 82.14 37 *eP* **P 11 13 25.1 +0.8**
comp=Z,24nm,1.1s
EGMT epP **pP 11 13 48.8 +0.3**
EGMT Eagleton 82.14 37⇑ P **P 11 13 24.9 +0.7**
baz=82,SNR=8.3
LRM Limekiln Ridge 82.20 39 *eP* **P 11 13 23.6 -1.3**
B19A Brinkman Farms 82.25 36⇓ P **P 11 13 25.5 +0.8**
baz=82,SNR=8.6
DLMT Dillon 82.42 40 *eP* **P 11 13 26.7 +0.9**
comp=Z,15nm,0.8s
A20A Cobblestone Ra 82.45 35⇑ P **P 11 13 25.7 -0.1**
baz=82
HLID Hailey 82.59 42 *eP* **P 11 13 28.0 +1.2**
comp=Z,13nm,1.4s
HLID epP **pP 11 13 51.8 +0.7**
HLID Hailey 82.59 42⇓ P **P 11 13 27.5 +0.8**
baz=82
KBA Koelnbreinsper 82.60 323⇑ *iP* **P 11 13 26.0 -0.7**
comp=Z,4.6nm,0.8s
C19A Slack Wire Ran 82.68 36⇓ P **P 11 13 28.1 +1.1**
baz=82,SNR=8.6
B20A Solberg Farm, 82.71 35⇑ P **P 11 13 27.5 +0.4**
baz=82
BOZ Bozeman (W) 82.75 39 *eP* **P 11 13 28.7 +1.1**
BOZ *e*PP* **pP 11 13 52.6 +0.7**
BOZ pmax pmax
comp=Z,32nm,1.7s
BOZ Bozeman (W) 82.75 39 *eP* **P 11 13 28.7 +1.1**
comp=Z,32nm,1.7s
BOZ epP **pP 11 13 52.6 +0.7**
BMN Battle Mountai 82.92 46 *eP* P 11 13 24.8 -3.7
BMN pmax pmax
comp=Z,24nm,1.5s
BMN Battle Mountai 82.92 46 *eP* P 11 13 24.8 -3.7
comp=Z,24nm,1.5s
D19A Cripps Ranch, 83.15 37⇓ P **P 11 13 30.3 +0.8**
baz=83,SNR=7.3
B21A Ellsworth Farm 83.20 35⇑ P **P 11 13 30.0 +0.4**
baz=83
C20A Veseth Ranch, 83.21 36⇓ P **P 11 13 30.5 +0.7**
baz=83,SNR=8.7
TRI Trieste 83.30 321 *eP* **P 11 13 28.4 -1.7**
TRI *e*PP* pP 11 13 47.6 -6.9
TRI Trieste 83.30 321 *eP* **P 11 13 28.4 -1.7**
TRI epP pP 11 13 47.6 -6.9
A22A Carney Farms, 83.32 34⇓ P **P 11 13 30.3 0.0**
baz=83
QLMT Earthquake Lak 83.40 40 *eP* **P 11 13 31.6 +0.7**
comp=Z,0.5nm,0.7s
NVAR Mina Array Bea 83.49 48 P **P 11 13 32.7 +1.1**
comp=Z,2.4nm,0.7s,baz=303,slow=5.5,SNR=22
NVAR pP **pP 11 13 56.9 +1.0**
comp=Z,3.2nm,0.6s,baz=280,slow=5.8,SNR=12
C21A Desert Coulee 83.58 35⇓ P **P 11 13 31.7 +0.1**
baz=83
MEM Membach 83.59 329 P **P 11 13 31.0 -0.5**
comp=Z,5.1nm,1.0s
MEM Membach 83.59 329 *eP* **P 11 13 31.2 -0.4**
MEM pmax pmax
comp=Z,12nm,1.0s
MEM Membach 83.59 329 *eP* **P 11 13 31.2 -0.4**
comp=Z,12nm,1.0s
RETA Reutte 83.61 324⇓ *iP* **P 11 13 31.5 -0.4**
comp=Z,6.1nm,0.8s
E19A Rath Farm, Rou 83.68 37⇑ P **P 11 13 33.0 +0.8**
baz=84,SNR=8.3
ELK Elko 83.90 45 *eP* **P 11 13 34.1 +0.4**
ELK pmax pmax
comp=Z,3.0nm,0.9s

ELK	Elko	83.90	45	eP	P	11 13 34.1	+0.4
	comp=Z,3.2nm,0.9s						
E20A	Meyer Farm, Mu	83.98	37	⇓P	P	11 13 34.4	+0.7
	baz=84,SNR=8.3						
F19A	Roth Farm, Mol	84.01	38	⇑P	P	11 13 34.1	+0.2
	baz=84						
B23A	Brockton	84.13	34	⇓P	P	11 13 34.6	+0.2
	baz=84						
H17A	Grant Village	84.14	40	eP	P	11 13 35.7	+0.9
	comp=Z,14nm,1.0s						
H17A				epP	pP	11 14 01.9	+2.7
H17A	Grant Village	84.14	40	⇓P	P	11 13 36.7	+1.8
	baz=84,SNR=6.2						
D21A	La Casta Ranch	84.16	36	⇑P	P	11 13 35.4	+0.8
	baz=84						
DAVA	Damuels	84.18	324	⇑iP	P	11 13 33.9	-0.9
	comp=Z,18nm,1.0s,SNR=5.6						
BFO	Black Forest	84.19	326	eP	P	11 13 33.4	-1.3
BFO				e*PP	pP	11 13 58.5	-0.6
BFO				pmax	pmax		
	comp=Z,13nm,0.9s						
BFO	Black Forest	84.19	326	eP	P	11 13 33.4	-1.3
	comp=Z,13nm,0.9s						
BFO				epP	pP	11 13 58.5	-0.6
WLF	Walferdange	84.22	328	P	P	11 13 34.5	-0.2
	comp=Z,8.9nm,1.1s						
WLF	Walferdange	84.22	328	eP	P	11 13 34.2	-0.6
WLF				pmax	pmax		
	comp=Z,13nm,0.9s						
WLF	Walferdange	84.22	328	eP	P	11 13 34.2	-0.6
	comp=Z,13nm,0.9s						
A24A	Westby	84.26	33	⇓P	P	11 13 35.4	+0.3
	baz=84						
IMW	Indian Meadow	84.28	40	eP	P	11 13 37.4	+1.8
	comp=Z,14nm,1.4s						
IMW				epP	pP	11 14 00.8	+0.9
TPH	Tonopah	84.38	48	eP	P	11 13 36.6	+0.5
TPH				e*PP	pP	11 14 01.0	+0.5
TPH				pmax	pmax		
	comp=Z,31nm,1.1s						
TPH	Tonopah	84.38	48	eP	P	11 13 36.6	+0.5
	comp=Z,31nm,1.1s						
TPH				epP	pP	11 14 01.0	+0.5
FXWY	Fox Creek	84.41	40	epP	pP	11 14 02.4	+1.8
SNF	Seneffe	84.41	329	P	P	11 13 34.6	-1.1
H18A	Shoshone NF, C	84.44	39	⇑P	P	11 13 36.3	0.0
	baz=84						
F20A	Billings	84.45	37	⇑P	P	11 13 36.6	+0.4
	baz=84						
FUORN	Ofenpass-Fuorn	84.46	324	eP	P	11 13 36.1	-0.3
	comp=Z,15nm,0.8s						
FUORN				epP	pP	11 14 00.6	-0.2
I17A	Pilgrim Ck.	84.46	40	⇓P	P	11 13 38.2	+1.8
	baz=84,SNR=5.9						
GIVF	Givet	84.48	329	eP	P	11 13 34.7	-1.4
GIVF	Givet	84.48	329	eP	P	11 13 34.7	-1.4
GIVF	Givet	84.48	329	eP	P	11 13 34.7	-1.4
MOOW	Moose Ponds	84.48	40	eP	P	11 13 35.7	-0.8
MOOW				epP	pP	11 14 02.8	+1.9
D22A	Cohagen	84.50	35	⇓P	P	11 13 36.5	+0.2
	baz=84						
DGMT	Dagmar	84.50	34	⇓P	P	11 13 36.7	+0.5
	baz=84						
C23A	Lambert	84.51	35	⇑P	P	11 13 36.7	+0.3
	baz=84						
VES	Vestal, Richgr	84.57	50	⇑P	P	11 13 37.6	+0.8
	baz=84						
CDF	Champ du Feu	84.62	326	eP	P	11 13 35.8	-1.1
	comp=Z,25nm,1.1s						
CDF				epP	pP	11 14 00.7	-0.6
CDF	Champ du Feu	84.62	326	eP	P	11 13 35.8	-1.1
CDF				e*PP	pP	11 14 00.7	-0.6
CDF				pmax	pmax		
	comp=Z,25nm,1.1s						
CDF	Champ du Feu	84.62	326	eP	P	11 13 35.8	-1.1
	comp=Z,25nm,1.1s						
CDF				epP	pP	11 14 00.7	-0.6
A25A	Svangstu Ranch	84.65	33	⇓P	P	11 13 37.5	+0.5
	baz=84						
HVU	Hansel Valley	84.66	43	epP	pP	11 14 03.5	+1.7
BAIF	Baives	84.78	329	eP	P	11 13 36.1	-1.5
	comp=Z,8.0nm,1.0s						
BAIF	Baives	84.78	329	eP	P	11 13 36.1	-1.5
BAIF				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BAIF	Baives	84.78	329	eP	P	11 13 36.1	-1.5
	comp=Z,8.0nm,1.0s						
ECH	Echery	84.81	326	eP	P	11 13 36.2	-1.6
ECH				pmax	pmax		
	comp=Z,10.0nm,1.3s						
ECH	Echery	84.81	326	eP	P	11 13 36.2	-1.6
	comp=Z,9.8nm,1.3s						
G20A	Bridger	84.82	38	⇓P	P	11 13 38.6	+0.5
	baz=85						
TUE	Stuetta	85.01	324	eP	P	11 13 38.5	-0.6
	comp=Z,443nm,0.5s						
C24A	Savage	85.06	34	⇑P	P	11 13 39.5	+0.3
	baz=85						
ISA	Isabella, Lake	85.07	50	⇑P	P	11 13 39.6	+0.2
	baz=85						
R11A	Troy Canyon, C	85.21	47	eP	P	11 13 41.2	+1.1
	comp=Z,14nm,1.3s						
R11A				epP	pP	11 13 59.5	-5.1
R11A	Troy Canyon, C	85.21	47	⇑P	P	11 13 41.3	+1.1
	baz=85,SNR=7.8						
PAGF	Fort de Pagny	85.22	327	eP	P	11 13 38.9	-1.0
	comp=Z,8.1nm,0.9s						
PAGF				epP	pP	11 14 03.7	-0.6
PAGF	Fort de Pagny	85.22	327	eP	P	11 13 38.9	-1.0
	comp=Z,8.1nm,0.9s						
PAGF				epP	pP	11 14 03.7	-0.6
HINF	Hinteralfeld	85.25	326	eP	P	11 13 38.4	-1.6
	comp=Z,12nm,1.1s						
HINF	Hinteralfeld	85.25	326	eP	P	11 13 38.4	-1.6
HINF				pmax	pmax		
	comp=Z,12nm,1.1s						
HINF	Hinteralfeld	85.25	326	eP	P	11 13 38.4	-1.6
	comp=Z,12nm,1.1s						
DAC	Darwin (Calif)	85.25	49	epP	pP	11 14 00.0	-4.9
HAU	Haudompre	85.34	327	eP	P	11 13 38.9	-1.6
HAU				eR			
	comp=Z,38nm,20.2s						
HAU	Haudompre	85.34	327	eP	P	11 13 38.9	-1.6
HAU	Haudompre	85.34	327	eP	P	11 13 38.9	-1.6
D24A	Glendive	85.41	35	⇓P	P	11 13 41.6	+0.7
	baz=85						
H20A	Greybull	85.44	38	⇓P	P	11 13 41.7	+0.5
	baz=85						
HWUT	Hardware Ranch	85.45	42	eP	P	11 13 41.0	-0.4
MPMC	Manual Prospec	85.45	49	⇑P	P	11 13 42.4	+0.9
	baz=85,SNR=6.0						
MEZF	Maizieres J'vi	85.57	328	eP	P	11 13 40.6	-0.9
MEZF	Maizieres J'vi	85.57	328	eP	P	11 13 40.6	-0.9
DUG	Dugway, Tooele	85.67	44	eP	P	11 13 42.0	-0.4
DUG				e*PP	pP	11 14 08.2	+1.3
DUG	Dugway, Tooele	85.67	44	eP	P	11 13 42.0	-0.4
DUG				epP	pP	11 14 08.2	+1.3
DUG	Dugway, Tooele	85.67	44	⇑P	P	11 13 43.2	+0.8
	baz=86						
TPNV	Topopah Spring	85.68	48	⇑P	P	11 13 43.4	+0.8
	baz=86,SNR=5.9						
J19A	Crowheart	85.72	40	⇑P	P	11 13 43.6	+0.9
	baz=86,SNR=5.2						
I20A	Worland	85.74	39	⇑P	P	11 13 43.3	+0.6
	baz=86						
PDAR	Pinedale Array	85.78	40	P	P	11 13 43.2	+0.2
	comp=Z,1.5nm,0.8s,baz=356,slow=2.5,SNR=15						
PDAR				LR	LR	11 52 43.5	
	comp=Z,19nm,19.4s,baz=160,slow=36						
SFTF	Sexfontaines	85.79	327	eP	P	11 13 41.4	-1.3
	comp=Z,25nm,1.1s						
SFTF				epP	pP	11 14 06.2	-0.9
SFTF	Sexfontaines	85.79	327	eP	P	11 13 41.4	-1.3
	comp=Z,25nm,1.1s						
SFTF				epP	pP	11 14 06.2	-0.9
H21A	Big Horn, Sher	85.83	38	⇑P	P	11 13 43.3	+0.2
	baz=86						
EDW2	Edwards Air Fo	85.86	51	⇑P	P	11 13 43.8	+0.4
	baz=86						
F23A	Volborg	85.88	36	⇑P	P	11 13 43.3	0.0
	baz=86						
C26A	Wahner Farm, P	85.93	33	⇓P	P	11 13 43.9	+0.4
	baz=86						
A28A	Rude Farm, Bot	85.94	31	⇑P	P	11 13 43.6	+0.2
	baz=86						
J20A	Shoshoni	86.17	39	⇑P	P	11 13 45.1	+0.2
	baz=86						
B28A	Dugan Ranch, T	86.24	32	⇓P	P	11 13 45.2	+0.3
	baz=86						
F24A	Ekalaka	86.27	36	⇑P	P	11 13 45.4	+0.2
	baz=86						
I21A	Big Trails, Te	86.27	38	⇓P	P	11 13 45.4	+0.1
	baz=86						
D26A	Manning	86.36	34	⇓P	P	11 13 45.9	+0.3
	baz=86						
GSC	Goldstone, Bar	86.36	50	⇓P	P	11 13 46.1	+0.3
	baz=86						
BFSC	Mount Baldy Ra	86.47	51	⇓P	P	11 13 47.1	+0.6
	baz=86						
CABF	La Chapelle	86.48	326	eP	P	11 13 44.8	-1.4
CABF	La Chapelle	86.48	326	eP	P	11 13 44.8	-1.4
CABF	La Chapelle	86.48	326	eP	P	11 13 44.8	-1.4
SHPR	Sheep Range	86.64	48	eP	P	11 13 46.8	-0.5
SHPR				epP	pP	11 14 13.0	+1.2
F25A	Bowman	86.68	35	⇓P	P	11 13 46.4	-0.9
	baz=86						
D27A	Center	86.72	33	⇑P	P	11 13 47.0	-0.3
	baz=86						
ULM	Lac du Bonnet	86.73	28	P	P	11 13 47.5	+0.2
	comp=Z,4.1nm,0.9s,baz=329,slow=8.0,SNR=5.2						
ULM	Lac du Bonnet	86.73	28	P	P	11 13 47.5	+0.2
ULM				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ULM	Lac du Bonnet	86.73	28	eP	P	11 13 47.0	-0.3
ULM				epP	pP	11 14 11.2	-0.6
E26A	Carlson Angus	86.76	34	⇓P	P	11 13 47.7	+0.1
	baz=86						
TUQ	Turquoise Moun	86.84	49	⇓P	P	11 13 48.8	+0.6
	baz=87						
BBRC	Big Bear Solar	86.94	51	⇑P	P	11 13 49.6	+0.7
	baz=87						
HEC	Hector,Ludlow	86.96	50	⇓P	P	11 13 48.5	-0.2
	baz=87						
LPL	La Plagne	86.97	325	eP	P	11 13 47.2	-1.6
	comp=Z,7.1nm,0.8s						
LPL	La Plagne	86.97	325	eP	P	11 13 47.2	-1.6
LPL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
LPL	La Plagne	86.97	325	eP	P	11 13 47.2	-1.6
	comp=Z,7.1nm,0.8s						
J22A	Midwest	86.97	38	⇓P	P	11 13 48.7	-0.1
	baz=87						
LPG	La Plagne	86.98	325	eP	P	11 13 47.4	-1.5
	comp=Z,6.9nm,0.8s						
LPG				epP	pP	11 14 12.3	-1.1
LPG	La Plagne	86.98	325	eP	P	11 13 47.4	-1.5
LPG				e*PP	pP	11 14 12.3	-1.1
LPG				pmax	pmax		
	comp=Z,7.0nm,0.8s						
LPG	La Plagne	86.98	325	eP	P	11 13 47.4	-1.5
	comp=Z,6.9nm,0.8s						
LPG				epP	pP	11 14 12.3	-1.1
H24A	Dirks Ranch, A	87.00	36	⇑P	P	11 13 48.7	-0.1
	baz=87						
LOR	Lormes	87.02	327	eP	P	11 13 47.1	-1.6
LOR				eR			
	comp=Z,51nm,17.5s						
LOR	Lormes	87.02	327	eP	P	11 13 47.1	-1.6
LOR	Lormes	87.02	327	eP	P	11 13 47.1	-1.6
D28A	Regan	87.09	33	⇑P	P	11 13 49.4	+0.3
	baz=87						
K21A	Alcova	87.11	39	⇑P	P	11 13 49.6	+0.1
	baz=87,SNR=5.3						
F26A	Lodgepole	87.11	35	⇓P	P	11 13 49.6	+0.3
	baz=87						
B30A	Myrvik Farm, E	87.12	31	⇓P	P	11 13 49.4	+0.2
	baz=87						
MVU	Marysvale	87.13	45	eP	P	11 13 50.7	+1.0
	comp=Z,14nm,1.9s						
MSU	Marysvale	87.14	45	eP	P	11 13 49.3	-0.5
MSU				pmax	pmax		
	comp=Z,13nm,1.7s						
MSU	Marysvale	87.14	45	eP	P	11 13 49.3	-0.5
	comp=Z,13nm,1.7s						
K22A	Casper	87.48	39	⇓P	P	11 13 51.3	0.0
	baz=87						
SMF	Signal de Mont	87.50	327	eP	P	11 13 49.4	-1.6
SMF	Signal de Mont	87.50	327	eP	P	11 13 49.4	-1.6
SMF	Signal de Mont	87.50	327	eP	P	11 13 49.4	-1.6
E28A	Huff	87.50	33	⇑P	P	11 13 51.4	+0.3
	baz=87						
G26A	Maurine	87.56	35	⇑P	P	11 13 51.3	-0.1
	baz=87						
AVF	Avril sur Loir	87.61	327	eP	P	11 13 49.8	-1.7
AVF	Avril sur Loir	87.61	327	eP	P	11 13 49.8	-1.7
AVF	Avril sur Loir	87.61	327	eP	P	11 13 49.8	-1.7
BELC	Belle Mtn. Jos	87.70	50	⇓P	P	11 13 52.8	+0.4
	baz=88						
RSSD	Black Hills	87.71	37	eP	P	11 13 52.1	-0.3
RSSD				e*PP	pP	11 14 18.0	+1.1
RSSD	Black Hills	87.71	37	eP	P	11 13 52.1	-0.3
RSSD				epP	pP	11 14 18.0	+1.1
SRU	San Rafael Swe	87.71	44	eP	P	11 13 53.6	+1.1
SRU				e*PP	pP	11 14 17.8	+0.8
SRU				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SRU	San Rafael Swe	87.71	44	eP	P	11 13 53.6	+1.1
	comp=Z,4.5nm,0.8s						
SRU				epP	pP	11 14 17.8	+0.8
N20A	Spence Gulch,	87.81	41	⇓P	P	11 13 53.5	+0.6
	baz=88						
I25A	Rochford	87.93	36	⇓P	P	11 13 53.6	+0.2
	baz=88						
J24A	Dixon Ranch, L	87.96	37	⇓P	P	11 13 53.8	+0.3
	baz=88						
L22A	Ellis Ranch, M	87.97	39	⇓P	P	11 13 53.6	0.0
	baz=88						
H26A	Fairpoint	87.97	36	⇓P	P	11 13 53.4	0.0
	baz=88						
IRM	Iron Mountain	88.14	50	⇑P	P	11 13 54.7	+0.3
	baz=88						
BC3	Big Chuckawall	88.27	50	⇑P	P	11 13 55.2	+0.1
	baz=88						
AGMN	Agassiz Nation	88.28	30	⇑P	P	11 13 54.5	-0.2
	baz=88						
L23A	Garrett	88.29	39	⇓P	P	11 13 55.6	+0.4
	baz=88						
H27A	Howes	88.29	35	⇓P	P	11 13 55.5	+0.6
	baz=88						
O20A	White River Ci	88.31	42	⇑P	P	11 13 54.4	-0.9
	baz=88						
M22A	Cedar Creek Ra	88.32	40	⇑P	P	11 13 56.9	+1.5
	baz=88						
W13A	Hualapai Mount	88.33	48	⇓P	P	11 13 56.3	+0.8
	baz=88						
E30A	Jud	88.36	32	⇓P	P	11 13 55.7	+0.5
	baz=88						
TCF	Toulx Ste Croi	88.50	328	eP	P	11 13 54.3	-1.5
	comp=Z,3.7nm,0.8s						
TCF				epP	pP	11 14 19.1	-1.3
TCF	Toulx Ste Croi	88.50	328	eP	P	11 13 54.3	-1.5
TCF				e*PP	pP	11 14 19.1	-1.3
TCF				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TCF	Toulx Ste Croi	88.50	328	eP	P	11 13 54.3	-1.5
	comp=Z,3.7nm,0.8s						
TCF				epP	pP	11 14 19.1	-1.3
I27A	Quinn	88.72	36	⇓P	P	11 13 57.4	+0.5
	baz=88						
J26A	Sides Ranch, S	88.77	37	⇑P	P	11 13 58.1	+0.8
	baz=89						
N22A	Wattenberg Ran	88.82	40	⇑P	P	11 13 58.4	+0.6
	baz=89						
N23A	Red Feather La	89.03	40	⇓P	P	11 13 58.9	+0.1
	baz=89						
K26A	Motz Farm, Whi	89.17	37	⇓P	P	11 13 59.6	+0.4
	baz=89						
I28A	Midland	89.20	35	⇑P	P	11 13 58.7	-0.5
	baz=89						
O22A	Kremmling	89.22	41	⇑P	P	11 13 59.5	-0.2
	baz=89						
G30A	Faulkton	89.30	33	⇓P	P	11 13 59.5	-0.1
	baz=89						
J27A	Elkhorn Farm,	89.35	36	⇓P	P	11 14 00.6	+0.7
	baz=89						
P22A	Eagle	89.50	41	⇑P	P	11 14 01.6	+0.7
	baz=89						
O23A	Lake Granby, G	89.53	40	⇑P	P	11 14 01.4	+0.3
	baz=89						
RJF	Les Rejaudoux	89.57	327	eP	P	11 13 59.6	-1.2
	comp=Z,5.6nm,0.8s						
RJF				epP	pP	11 14 24.4	-1.0
RJF				eR			
	comp=Z,53nm,19.8s						
RJF	Les Rejaudoux	89.57	327	eP	P	11 13 59.6	-1.2
RJF				e*PP	pP	11 14 24.4	-1.0
RJF				pmax	pmax		
	comp=Z,6.0nm,0.8s						
RJF	Les Rejaudoux	89.57	327	eP	P	11 13 59.6	-1.2
	comp=Z,5.6nm,0.8s						
RJF				epP	pP	11 14 24.4	-1.0
J28A	Allard Ranch,	89.60	36	⇑P	P	11 14 01.7	+0.6
	baz=89						
WUAZ	Wupatki	89.61	47	⇑P	P	11 14 01.6	+0.2
	baz=90						
CAF	Calviac	89.61	327	eP	P	11 14 00.0	-1.1
	comp=Z,19nm,1.3s						
CAF	Calviac	89.61	327	eP	P	11 14 00.0	-1.1
CAF				pmax	pmax		
	comp=Z,19nm,1.3s						
CAF	Calviac	89.61	327	eP	P	11 14 00.0	-1.1
	comp=Z,19nm,1.3s						
SMCO	Snowmass	89.67	42	eP	P	11 14 03.4	+1.5
	comp=Z,6.0nm,1.0s						
SMCO				epP	pP	11 14 27.5	+0.9
ISCO	Idaho Springs	89.98	40	⇑P	P	11 14 03.3	+0.1
	baz=90						
J29A	Okreek	90.05	35	⇓P	P	11 14 03.8	+0.6
	baz=90						
MVCO	Mesa Verde	90.17	44	⇓P	P	11 14 04.5	+0.4
	baz=90						
LFF	La Frestale	90.20	328	eP	P	11 14 02.5	-1.2
LFF	La Frestale	90.20	328	eP	P	11 14 02.5	-1.2
LFF	La Frestale	90.20	328	eP	P	11 14 02.5	-1.2
Q23A	Hartsel	90.50	41	⇑P	P	11 14 06.0	+0.3
	baz=90						
J30A	Dallas	90.51	35	⇓P	P	11 14 05.9	+0.6
	baz=90						
PPT	Papeete	90.53	111	LR	LR	11 45 56.7	
	comp=Z,20nm,20.5s,baz=180,slow=30						
K29A	Lazy Trails An	90.54	35	⇑P	P	11 14 05.5	+0.1
	baz=90						
O25A	Wiggins	90.56	39	⇓P	P	11 14 06.0	+0.3
	baz=90						
SCHQ	Schefferville	90.72	11	LR	LR	11 57 56.5	
	comp=Z,22nm,18.2s,baz=310,slow=38						
S22A	4UR Ranch, Cre	90.76	43	⇓P	P	11 14 07.7	+0.8
	baz=91						
R23A	Moffat	91.00	42	⇓P	P	11 14 08.6	+0.6
	baz=91						
SDCO	Great Sand Dun	91.50	42	⇑P	P	11 14 11.2	+0.8
	baz=91						
ECSD	EROS Data Cent	91.53	33	⇓P	P	11 14 10.6	+0.6
	baz=91						
R26A	Arlington	92.23	40	⇑P	P	11 14 14.3	+0.9
	baz=92						
R27A	Eads	92.59	40	⇑P	P	11 14 15.5	+0.4
	baz=92						
ANMO	Albuquerque	92.93	44	eP	P	11 14 18.0	+1.1
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.3s						
R28A	Tribune	93.08	39	⇓P	P	11 14 17.5	+0.1
	baz=93						
S28A	Manter	93.58	40	⇑P	P	11 14 19.4	-0.3
	baz=93						
S30A	Montezuma	94.31	39	⇓P	P	11 14 23.2	+0.2
	baz=94						
TXAR	Lajitas Array	98.58	47	P	P	11 14 42.1	-0.4
	comp=Z,0.3nm,0.5s,baz=293,slow=3.6,SNR=4.6						
TXAR				pP	pP	11 15 08.0	+0.8
	comp=Z,0.4nm,0.7s,baz=276,slow=3.6,SNR=3.2						
SAML	Samuel	152.11	33	ePKPdf	PKPdf	11 20 51.5	-0.8
PLCA	Paso Flores	160.87	119	PKPab	PKPab	11 21 46.9	+1.0
	comp=Z,1.0nm,0.6s,baz=203,slow=2.1,SNR=3.6						
PLCA	Paso Flores	160.87	119	PKP2	PKPab	11 21 46.9	+1.0
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.6s						

WEL 13 11:03:04.1±0.5, 38°.19S×175°.81E, h183km±4km, ML3.8/13, 12C-4D, Error ellipse: s-maj=3.3km s-min=2.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWVZ	Taurewa	0.93	198		PN	Pn	11 03 31.9	+0.1
URZ	Urewera	1.02	94	⇓	PN	Pn	11 03 32.1	-0.1
URZ					SN	Sn	11 03 53.3	-0.7
URZ					AML	AML	11 03 54.9	
WPVZ	Whakapapa	1.04	192	⇑	PN	Pn	11 03 32.7	+0.2
FWVZ	Far West T-bar	1.09	191		PN	Pn	11 03 32.8	-0.2
WHVZ	Whangaehu Hut	1.11	189		PN	Pn	11 03 33.3	+0.1
BKZ	Black Stump Fm	1.11	152	⇑	PN	Pn	11 03 32.9	-0.1
BKZ					SN	Sn	11 03 54.3	-1.2
BKZ					AML	AML	11 03 56.7	
WNVZ	Wahianoa	1.15	188		PN	Pn	11 03 33.4	-0.1
NMHZ	Naumai	1.20	140		PN	Pn	11 03 34.5	+0.8
MOVZ	Moawhango	1.22	182		PN	Pn	11 03 33.4	-0.5
MTVZ	Mangateitei	1.23	193		PN	Pn	11 03 33.9	-0.1
RAHZ	Arahi	1.23	127		PN	Pn	11 03 34.4	+0.5
VRZ	Vera Road	1.25	221		PN	Pn	11 03 34.3	+0.3
BHHZ	Black Hill Sta	1.31	172		PN	Pn	11 03 34.2	-0.5
SNGZ	Shannon Statio	1.34	117		PN	Pn	11 03 35.1	+0.3
SNGZ					SN	Sn	11 03 58.2	-0.4
MWZ	Matawai	1.36	97		PN	Pn	11 03 34.9	-0.1
MWZ					SN	Sn	11 03 58.1	-0.9
MWZ					AML	AML	11 03 60.0	
ARHZ	Aropaoanui	1.42	140		PN	Pn	11 03 35.9	+0.4
WHHZ	Waihua	1.42	129		PN	Pn	11 03 35.9	+0.3
MCHZ	McNeill Hill	1.43	151		PN	Pn	11 03 36.1	+0.5
KRHZ	Kereru	1.52	164	⇑	PN	Pn	11 03 36.1	-0.3
HAZ	Te Kaha	1.61	75		PN	Pn	11 03 36.7	-0.7
RIGZ	Rimuhau	1.61	109		PN	Pn	11 03 37.5	0.0
TKGZ	Te Karaka	1.62	100		PN	Pn	11 03 37.6	+0.2
KNZ	Kokohu	1.68	120	⇓	PN	Pn	11 03 37.8	-0.1
WAZ	Wanganui	1.69	202		PN	Pn	11 03 37.6	-0.6
TWGZ	Tauwhareparae	1.71	90		PN	Pn	11 03 38.7	+0.3
PNHZ	Pukenui	1.75	170	⇑	PN	Pn	11 03 37.9	-0.8
CKHZ	Cape Kidnapper	1.77	147		PN	Pn	11 03 38.9	0.0
PRGZ	Paritu Road	1.78	115		PN	Pn	11 03 39.1	0.0
KAHZ	Kahuranaki	1.81	153		PN	Pn	11 03 39.2	-0.2
TSZ	Takapari Road	1.87	177		PN	Pn	11 03 39.0	-1.0
TSZ					AML	AML	11 03 39.3	
TSZ					AML	AML	11 03 39.5	
CNGZ	Carnagh Statio	1.91	100		PN	Pn	11 03 40.7	+0.4
PUZ	Puketiti	1.93	87		PN	Pn	11 03 40.1	-0.6
WPHZ	Waipukurau	1.94	166	⇑	PN	Pn	11 03 39.8	-0.9
PXZ	Pawanui	2.01	156		PN	Pn	11 03 40.8	-0.7
PXZ					AML	AML	11 04 10.8	
PXZ					AML	AML	11 04 10.9	
PXZ					AML	AML	11 04 14.6	
WMGZ	Waiomatatini S	2.09	81		PN	Pn	11 03 41.9	-0.4
DVHZ	Dannevirke	2.13	173	⇑	PN	Pn	11 03 41.2	-1.6
PRHZ	Porangahau	2.17	163		PN	Pn	11 03 41.9	-

BHW	**Baring Head**	**3.30**	**192**	⇑PN	Pn	11 03 53.1	-3.3
PLWZ	**Palliser**	**3.41**	**187**	PN	Pn	11 03 54.2	-3.7
TUWZ	**Tuamarina**	**3.54**	**203**	PN	Pn	11 03 56.1	-3.4
TUWZ				AML	AML	11 03 57.2	
QRZ	**Quartz Range**	**3.66**	**223**	PN	Pn	11 03 57.1	-3.8
BSWZ	**Blackbirch Sta**	**3.82**	**202**	PN	Pn	11 03 59.6	-3.4
THZ	**Tophouse**	**4.21**	**211**	PN	Pn	11 04 04.3	-3.7
KHZ	**Kahutara**	**4.57**	**202**	⇑PN	Pn	11 04 08.7	-3.7
DSZ	**Denniston Nort**	**4.70**	**220**	PN	Pn	11 04 09.6	-4.7
LTZ	**Lake Taylor**	**5.33**	**209**	PN	Pn	11 04 17.4	-4.9
OXZ	**Oxford**	**5.88**	**208**	PN	Pn	11 04 23.8	-5.7
MQZ	**McQueen's Vall**	**6.01**	**202**	⇓PN	Pn	11 04 25.5	-5.7
RPZ	**Rata Peaks**	**6.59**	**212**	PN	Pn	11 04 33.5	-5.3
LBZ	**Lake Benmore**	**7.50**	**213**	PN	Pn	11 04 45.0	-5.8
ODZ	**Otahua Downs**	**7.87**	**208**	PN	Pn	11 04 50.4	-5.2

IDC 13 11:27:13.1±64.0, 20°38.8S×178°38.9W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/27, mbtmp4.1/3, Error ellipse: s-maj=1161.0km s-min=160.9km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.88**	**244**	P	P	11 34 23.6	0.0
	1.2nm,0.4s,baz=94,slow=11,SNR=4.2						
ASAR	**Alice Springs**	**43.62**	**257**	P	P	11 35 19.3	-0.4
	2.0nm,0.6s,baz=97,slow=7.4,SNR=30						
WRA	**Warramunga Arr**	**43.73**	**263**	P	P	11 35 20.5	0.0
	1.5nm,0.5s,baz=97,slow=8.5,SNR=59						

*IDC **13** 11:37:42.2±0.8, 38°36N×21°81E, h0km, mb3.7/14, mb1 3.7/18, mb1mx3.6/48, mbtmp3.6/18, ML3.2/3, MS3.0/1, Ms1 3.1/1, ms1mx2.2/44, Error ellipse: s-maj=16.5km s-min=14.7km az=134.0*

*ISCJB **13** 11:37:43.2±0.3, 38°45N±0°01×21°83E±0°02, h11km±2km, mb3.6/13, MS3.0/1, Error ellipse: s-maj=2.6km s-min=2.1km az=164.6*

*IASPEI **13** 11:37:43.4±0.8, 38°43N±0°02×21°82E±0°02, h10km±5km, mb3.8/13, Error ellipse: s-maj=2.4km s-min=2.2km az=99.1*

*THE **13** 11:37:43.7, 38°44N×21°83E, h5km±1km, ML3.8/10, Error ellipse: s-maj=1.4km s-min=0.4km az=127.0*

*ATH **13** 11:37:43.5, 38°43N×21°84E, h19km±1km, MD3.3/19, ML3.5*

*CSEM **13** 11:37:43.3±0.1, 38°43N×21°85E, h2km, ML3.9, Error ellipse: s-maj=3.6km s-min=3.0km az=81.0*

ISC 13 11:37:43.7±0.7, 38°42N±0°01×21°83E±0°01, h10km±4km, n137, σ0§94/193, mb3.8/13, 5C-3D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.06**	**86**	P	Pg	11 37 45.5	-0.3
EFP				S	Sg	11 37 46.8	-0.5
EFP	**Efpalio**	**0.06**	**86**	P	Pg	11 37 45.5	-0.3
EFP				S	Sg	11 37 46.8	-0.5
UPR	**University Cam**	**0.14**	**194**	P	Pg	11 37 47.0	+0.1
UPR				S	Sg	11 37 49.4	+0.5
UPR	**University Cam**	**0.14**	**194**	P	Pg	11 37 46.9	+0.1
UPR				S	Sg	11 37 49.6	+0.5
KALE	**Kalithea**	**0.25**	**97**	P	Pg	11 37 48.6	-0.2
KALE				S	Sg	11 37 52.0	-0.2
KALE	**Kalithea**	**0.25**	**97**	*e*PB	Pg	11 37 48.7	-0.1
KALE	**Kalithea**	**0.25**	**97**	P	Pg	11 37 48.6	-0.2
KALE				S	Sg	11 37 52.0	-0.2
PVO	**Paravola**	**0.31**	**309**	P	Pg	11 37 49.5	-0.4
PVO				S	Sg	11 37 54.1	+0.1
PVO	**Paravola**	**0.31**	**309**	P	Pg	11 37 49.5	-0.4
PVO				S	Sg	11 37 54.1	+0.1
KLV	**Kalavryta, Ach**	**0.46**	**146**	P	Pg	11 37 52.3	-0.3
KLV				S	Sb	11 37 59.6	-1.2
KLV	**Kalavryta, Ach**	**0.46**	**146**	*e*PB	Pg	11 37 52.3	-0.3
KLV				*e*SB	Sb	11 38 00.0	-0.8
KLV	**Kalavryta, Ach**	**0.46**	**146**	P	Pg	11 37 52.3	-0.3
KLV				S	Sb	11 37 59.6	-1.2
KLV				*e*Sb	Sb	11 38 00.0	-0.8
RLS	**Riolos of Patr**	**0.46**	**218**	P	Pg	11 37 52.7	0.0
RLS	**Riolos of Patr**	**0.46**	**218**	*e*PB	Pg	11 37 52.8	0.0
RLS				*e*SB	Sb	11 38 00.3	-0.6
RLS	**Riolos of Patr**	**0.46**	**218**	P	Pg	11 37 52.7	0.0
RLS				*e*Sb	Sb	11 38 00.3	-0.6
DRO	**Drossia**	**0.48**	**191**	P	Pg	11 37 52.6	-0.4
DRO	**Drossia**	**0.48**	**191**	P	Pg	11 37 52.7	-0.3
DRO				S	Sb	11 38 00.5	-0.9
EVR	**Evrytania**	**0.49**	**358**	P	Pg	11 37 52.7	-0.7
EVR				S	Sg	11 37 59.4	-0.5
EVR	**Evrytania**	**0.49**	**358**	*e*PB	Pg	11 37 52.7	-0.7
EVR				*e*SB	Sg	11 38 01.0	+1.1
EVR	**Evrytania**	**0.49**	**358**	P	Pg	11 37 52.7	-0.7
EVR				S	Sg	11 37 59.4	-0.5
EVR				*e*Sb	Sg	11 38 01.0	+1.1
PDO	**Prodromos**	**0.54**	**289**	P	Pg	11 37 53.5	-0.6
PDO				S	Sg	11 38 01.4	+0.2
PDO	**Prodromos**	**0.54**	**289**	P	Pg	11 37 53.5	-0.6
PDO				S	Sg	11 38 01.4	+0.2
DSF	**Desfina**	**0.55**	**91**	P	Pg	11 37 53.6	-0.8
DSF				S	Sg	11 38 01.9	+0.3
DSF	**Desfina**	**0.55**	**91**	P	Pg	11 37 53.6	-0.8
DSF				S	Sg	11 38 01.7	+0.1
GUR	**Goura**	**0.63**	**140**	P	Pg	11 37 55.1	-0.9
GUR				S	Sb	11 38 05.0	-0.9
GUR	**Goura**	**0.63**	**140**	P	Pg	11 37 55.2	-0.8
GUR				S	Sg	11 38 04.3	0.0
MAKR	**Makrakomi, Fth**	**0.64**	**22**	P	Pg	11 37 55.6	-0.5
MAKR				S	Sg	11 38 04.4	0.0
MAKR	**Makrakomi, Fth**	**0.64**	**22**	*e*PN	Pg	11 37 55.7	-0.4
MAKR				*e*SN	Sg	11 38 04.6	+0.2
MAKR	**Makrakomi, Fth**	**0.64**	**22**	P	Pg	11 37 55.6	-0.5
MAKR				S	Sg	11 38 04.4	0.0
AGG	**Agios Georgios**	**0.72**	**33**	P	Pg	11 37 56.6	-1.0
AGG				S	Sg	11 37 58.2	+0.3
AGG	**Agios Georgios**	**0.72**	**33**	*e*PB	Pg	11 37 56.3	-1.3
AGG				*e*SN	Sb	11 38 07.8	-0.5
AGG	**Agios Georgios**	**0.72**	**33**	*e*Pb	Pg	11 37 56.3	-1.3
AGG	**Agios Georgios**	**0.72**	**33**	P	Pg	11 37 56.6	-1.0
AGG				S	Sg	11 38 07.2	+0.3
AXAR	**Agios Charalam**	**0.74**	**62**	P	Pg	11 37 56.9	-1.0
AXAR				S	Sg	11 38 07.8	+0.3
AXAR	**Agios Charalam**	**0.74**	**62**	*e*PN	Pg	11 37 57.6	-0.3
AXAR				*e*SN	Sg	11 38 07.9	+0.4
AXAR	**Agios Charalam**	**0.74**	**62**	P	Pg	11 37 56.9	-1.0
AXAR	**Agios Charalam**	**0.74**	**62**	*e*Pn	Pg	11 37 57.6	-0.3
AXAR				S	Sg	11 38 07.8	+0.3
KFL	**Anninata**	**0.88**	**249**	P	Pg	11 38 00.1	-0.5
KFL	**Anninata**	**0.88**	**249**	P	Pg	11 38 00.1	-0.5
AMT	**Artemida-Makis**	**0.89**	**186**	P	Pg	11 38 00.8	-0.1
AMT				S	Sb	11 38 14.3	+0.9
AMT	**Artemida-Makis**	**0.89**	**186**	P	Pg	11 38 00.8	-0.1
AMT				S	Sb	11 38 14.3	+0.9
DSL	**Palaion Diasel**	**0.91**	**321**	P	Pg	11 38 00.3	-1.0
DSL	**Palaion Diasel**	**0.91**	**321**	P	Pg	11 38 00.3	-1.0
LKR	**Lokris**	**0.95**	**76**	*e*PN	Pg	11 38 01.0	-0.9
LKR				*e*SN	Sb	11 38 15.0	+0.1
LKR	**Lokris**	**0.95**	**76**	*e*Pn	Pg	11 38 01.0	-0.9
LKR				*e*Sn	Sb	11 38 15.0	+0.1
LTK	**Loutraki**	**0.98**	**114**	P	Pg	11 38 02.5	-0.1
LTK	**Loutraki**	**0.98**	**114**	P	Pg	11 38 02.5	-0.1
VLS	**Valsamata**	**1.00**	**256**	*e*PB	Pg	11 38 01.8	-1.2
VLS				*e*SN	Sn	11 38 17.9	-0.3
VLS	**Valsamata**	**1.00**	**256**	*e*Pb	Pg	11 38 01.8	-1.2
VLX	**Vlachokerasia**	**1.14**	**157**	P	Pg	11 38 04.2	-1.4
VLX	**Vlachokerasia**	**1.14**	**157**	P	Pg	11 38 04.2	-1.4
THL	**Klokotos Trika**	**1.15**	**7**	*e*PN	Pg	11 38 04.8	-1.0
THL	**Klokotos Trika**	**1.15**	**7**	*e*Pn	Pg	11 38 04.8	-1.0
SMIA	**Simia**	**1.17**	**67**	P	Pg	11 38 06.0	-0.2
SMIA	**Simia**	**1.17**	**67**	*e*PN	Pg	11 38 06.1	-0.2
SMIA				*e*SN	Sn	11 38 22.5	+0.1
SMIA	**Simia**	**1.17**	**67**	P	Pg	11 38 06.0	-0.2
SMIA				*e*Sn	Sn	11 38 22.5	+0.1
ITM	**Ithomi**	**1.24**	**176**	*e*PN	Pb	11 38 06.8	-0.5
ITM				*e*SN	Sn	11 38 24.7	+0.6
ITM	**Ithomi**	**1.24**	**176**	*e*Pn	Pb	11 38 06.8	-0.5
ITM				*e*Sn	Sn	11 38 24.7	+0.6
MRKA	**Markates**	**1.41**	**78**	*e*PN	Pn	11 38 09.7	+0.2
MRKA	**Markates**	**1.41**	**78**	*e*Pn	Pn	11 38 09.7	+0.2
XOR	**Xorichti**	**1.42**	**48**	P	Pn	11 38 09.6	-0.1
XOR	**Xorichti**	**1.42**	**48**	*e*PN	Pn	11 38 09.7	0.0
XOR				*e*SN	Sg	11 38 29.5	0.0
XOR	**Xorichti**	**1.42**	**48**	P	Pn	11 38 09.6	-0.1
XOR				*e*Sn	Sg	11 38 29.5	0.0
NAIG	**Nisos Aigina**	**1.47**	**116**	*e*PN	Pn	11 38 10.8	+0.5
NAIG	**Nisos Aigina**	**1.47**	**116**	*e*Pn	Pn	11 38 10.8	+0.5
PYL	**PYLOS**	**1.53**	**183**	P	Pn	11 38 11.4	+0.3
PYL	**PYLOS**	**1.53**	**183**	P	Pn	11 38 11.4	+0.3
ATH	**Athens Observa**	**1.55**	**106**	*e*PN	Pb	11 38 12.2	-0.4
ATH				*e*SN	Sb	11 38 32.3	0.0
ATH	**Athens Observa**	**1.55**	**106**	*e*Pn	Pb	11 38 12.2	-0.4
ATH				*e*Sn	Sb	11 38 32.3	0.0
PTL	**Penteli**	**1.65**	**102**	*e*PN	Pn	11 38 13.6	+0.8
PTL				*e*SN	Sb	11 38 34.9	-0.1
PTL	**Penteli**	**1.65**	**102**	*e*Pn	Pn	11 38 13.6	+0.8
PTL				*e*Sn	Sb	11 38 34.9	-0.1
LIT	**Litokhoron**	**1.75**	**17**	P	Pn	11 38 14.0	-0.3
LIT	**Litokhoron**	**1.75**	**17**	*e*PB	Pn	11 38 14.2	-0.1
LIT	**Litokhoron**	**1.75**	**17**	P	Pn	11 38 14.0	-0.3
AOS	**Alonnisos**	**1.77**	**64**	*e*PB	Pn	11 38 14.2	-0.2
AOS	**Alonnisos**	**1.77**	**64**	*e*Pb	Pn	11 38 14.2	-0.2
KZN	**Kozani**	**1.88**	**359**	*e*PN	Pb	11 38 17.7	-0.6
KZN	**Kozani**	**1.88**	**359**	*e*Pn	Pb	11 38 17.7	-0.6
VLI	**Veliai**	**1.92**	**152**	*e*PB	Pn	11 38 16.8	+0.3
VLI	**Veliai**	**1.92**	**152**	*e*Pb	Pn	11 38 16.8	+0.3
KEK	**Kerkira**	**2.04**	**310**	*e*PN	Pb	11 38 20.0	-0.9
KEK	**Kerkira**	**2.04**	**310**	*e*Pn	Pb	11 38 20.0	-0.9
KYTH	**Kithira**	**2.34**	**155**	*e*PB	Pb	11 38 24.7	-1.4
KYTH	**Kithira**	**2.34**	**155**	*e*Pn	Pb	11 38 24.7	-1.4
FNA	**Florina**	**2.38**	**352**	*e*PB	Pn	11 38 24.7	+1.7
FNA	**Florina**	**2.38**	**352**	*e*Pb	Pn	11 38 24.7	+1.7
GRG	**Griva**	**2.57**	**10**	*e*PN	Pn	11 38 25.9	+0.4
GRG	**Griva**	**2.57**	**10**	*e*Pn	Pn	11 38 25.9	+0.4
OHR	**Ohrid**	**2.80**	**344**	*i* Pn	Pn	11 38 31.2	+2.5
OHR				*i*Sg	Sg	11 39 15.8	+2.1
OHR	**Ohrid**	**2.80**	**344**	*i* Pn	Pn	11 38 31.2	+2.5
OHR				*e*Sg	Sg	11 39 15.8	+2.1
ANKY	**Antikythira Is**	**2.81**	**155**	*e*PN	Pn	11 38 30.3	+1.6
ANKY	**Antikythira Is**	**2.81**	**155**	*e*Pn	Pn	11 38 30.3	+1.6
VAY	**Valandovo**	**2.95**	**11**	*e*Pn	Pn	11 38 33.0	+2.2
VAY	**Valandovo**	**2.95**	**11**	*e*Pn	Pn	11 38 32.9	+2.2
APE	**Apeiranthos**	**3.23**	**114**	⇑*i*P	Pn	11 38 35.5	+0.9
APE	**Apeiranthos**	**3.23**	**114**	S	Sn	11 39 13.6	+0.4
MMB	**Musomiste**	**3.48**	**24**	⇓*i*P	Pn	11 38 38.6	+0.5
MMB	**Musomiste**	**3.48**	**24**	S	Sn	11 39 18.9	-0.5
IDI	**Anoyia**	**3.98**	**141**	Pn	Pn	11 38 45.0	+0.1
	1.1nm,0.3s,baz=324,slow=14,SNR=7.7						
IDI				Sn	Sn	11 39 32.9	+1.3
	3.3nm,0.3s,baz=205,slow=19,SNR=3.3						
KDZ	**Kurdzhali**	**4.24**	**39**	⇓*i*P	Pn	11 38 48.5	+0.1
KDZ	**Kurdzhali**	**4.24**	**39**	S	Sn	11 39 38.6	+0.6
VTS	**Vitosha**	**4.30**	**14**	⇑*i*P	Pn	11 38 50.3	+1.0
VTS	**Vitosha**	**4.30**	**14**	S	Sn	11 39 40.3	+0.7
BARS	**Barje**	**4.39**	**360**	*e*Pn	Pn	11 38 51.7	+1.2
CDT	**Castel del Mon**	**5.04**	**304**	*e*Pn	Pn	11 39 00.2	+0.8
CDT				Sn	Sn	11 39 56.5	-1.2
BOLS	**Boljevac**	**5.40**	**1**	*e*Pn	Pn	11 39 03.9	-0.5
STON	**Ston**	**5.44**	**326**	*e*Pn	Pn	11 39 02.0	-2.9
STON				Sn	Sn	11 40 04.8	-2.7
BBLS	**Lazići**	**5.74**	**342**	*e*Pn	Pn	11 39 11.8	+2.7
DIVS	**Divibare**	**5.84**	**347**	⇓*i*P	Pn	11 39 11.3	+0.9
DIVS	**Divibare**	**5.84**	**347**	S	Sn	11 40 18.1	+0.6
DIVS	**Divibare**	**5.84**	**347**	*e*Pn	Pn	11 39 10.9	+0.5
GZR	**Gura Zlata**	**7.00**	**5**	S	Sn	11 40 49.0	+2.9
LOT	**Lotru**	**7.17**	**11**	⇑*i*P	Pn	11 39 30.0	+1.3
LOT	**Lotru**	**7.17**	**11**	S	Sn	11 40 50.0	-0.3
VOIR		**7.41**	**18**	⇑*i*P	Pn	11 39 33.2	+1.2
MLR	**Muntele Rosu**	**7.70**	**22**	Pn	Pn	11 39 38.5	+2.5
	0.1nm,0.3s,baz=183,slow=13,SNR=3.6						
MLR	**Muntele Rosu**	**7.70**	**22**	⇑*i*P	Pn	11 39 36.3	+0.3
BRTR	**Keskin Array B**	**9.28**	**78**	Pn	Pn	11 40 00.5	+2.8
	0.3nm,0.3s,baz=259,slow=12,SNR=8.4						
DAVOX	**Davos/Dischmat**	**12.12**	**317**	Pn	Pn	11 40 39.3	+2.6
	0.2nm,0.3s,baz=127,slow=20,SNR=2.6						
AKASG	**Malin Array Be**	**13.35**	**21**	Pn	Pn	11 40 54.0	+0.8
	baz=201,slow=14,SNR=2.3						
ESDC	**Sonseca Array**	**20.05**	**282**	P	P	11 42 17.9	+0.8
	1.5nm,0.6s,baz=75,slow=11,SNR=7.3						
MDT	**Midelt**	**22.17**	**263**	P	P	11 42 40.7	+0.6
	2.3nm,0.9s,baz=56,slow=8.0,SNR=4.6						
HFS	**Hagfors**	**22.34**	**349**	P	P	11 42 42.0	+0.5
	0.9nm,0.5s,baz=156,slow=11,SNR=6.4						
FINES	**FINESS Array B**	**23.20**	**5**	P	P	11 42 51.0	+0.5
	2.6nm,0.9s,baz=183,slow=9.3,SNR=6.4						
NB2	**NORSAR Subarra**	**23.60**	**347**	P	P	11 42 53.3	-1.2
	comp=Z,2.9nm,0.7s,baz=154,slow=9.3						
NB2	**NORSAR Subarra**	**23.60**	**347**	P	P	11 42 53.3	-1.2
	comp=Z,2.9nm,0.7s,SNR=6.6						
NOA	**NORSAR Array B**	**23.60**	**347**	P	P	11 42 54.4	-0.1
	comp=Z,1.5nm,0.7s,baz=156,slow=8.0,SNR=11						
EKA	**Eskdalemuir Ar**	**23.84**	**323**	P	P	11 42 57.0	+0.2
	comp=Z,1.9nm,0.7s,baz=122,slow=11,SNR=4.5						
TORD	**Torodi Ar. Bea**	**30.88**	**221**	P	P	11 43 59.7	-0.7
	comp=Z,1.1nm,0.6s,baz=33,slow=9.6,SNR=11						
ARCES	**ARCESS Array B**	**31.24**	**2**	P	P	11 44 02.8	-0.3
	comp=Z,1.1nm,0.8s,baz=189,slow=12,SNR=3.9						
ARCES				LR	LR	11 56 52.2	
	comp=Z,26nm,18.0s,baz=44,slow=37						
KURBB	**Kurchatov Arra**	**41.26**	**54**	P	P	11 45 29.1	+0.3
	comp=Z,0.5nm,0.5s,baz=284,slow=8.6,SNR=5.5						
KURBB				PcP	PcP	11 47 28.0	+0.5
	comp=Z,0.3nm,0.5s,baz=283,slow=4.3,SNR=2.9						
MKAR	**Makanchi Array**	**44.30**	**59**	P	P	11 45 54.2	+0.5
	comp=Z,1.4nm,0.5s,baz=272,slow=6.7,SNR=11						
MKAR				PcP	PcP	11 47 37.9	+0.1
	comp=Z,0.6nm,0.7s,baz=229,slow=1.5,SNR=3.5						
ZALV	**Zalesovo Beam**	**44.76**	**48**	P	P	11 45 57.1	-0.1
	comp=Z,1.6nm,0.5s,baz=293,slow=7.7,SNR=3.9						
SONM	**Songino Array**	**59.51**	**51**	P	P	11 47 46.5	-0.7
	comp=Z,0.4nm,0.5s,baz=305,slow=8.6,SNR=3.8						
YKA	**Yellowknife Ar**	**73.51**	**341**	P	P	11 49 16.8	+0.5
	comp=Z,0.2nm,0.8s,baz=31,slow=5.1,SNR=3.5						
PDAR	**Pinedale Array**	**87.92**	**326**	P	P	11 50 33.5	-0.5
	comp=Z,0.2nm,0.6s,baz=51,slow=7.1,SNR=2.6						
ASAR	**Alice Springs**	**121.18**	**97**	PKP	PKPdf	11 56 36.4	-0.8
	comp=Z,0.2nm,0.6s,baz=296,slow=1.4,SNR=3.0						

ROM 13 11:38:33.6±0.2, 42°40N×13°42E, h5km, Md1.6/3, Error ellipse: s-maj=2.2km s-min=1.7km az=32.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.05**	**196**	Pg	Pg	11 38 35.0	+0.1
AQU				Sg	Sg	11 38 35.9	0.0
T0104	**Madonna delle**	**0.07**	**237**	Pg	Pg	11 38 35.6	+0.3
T0104				Sg	Sg	11 38 36.8	+0.3
T0106	**Roio Piano**	**0.10**	**196**	Pg	Pg	11 38 36.1	+0.3
T0106				Sg	Sg	11 38 37.8	+0.5

*IDC **13** 11:38:47.0±4.1, 4.°12S×100.°58E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/32, mbtmp3.6/5, Error ellipse: s-maj=156.6km s-min=21.5km az=58.0*

*ISCJB **13** 11:38:49.8±1.4, 4.°1S±0.°2×100.°8E±0.°1, h27km, mb3.6/5, Error ellipse: s-maj=25.8km s-min=12.8km az=37.0*

*DJA **13** 11:38:51.2±2.1, 4.°S±10.°×10.°1E±.°, h28km±21km, M3.8/6, MLv3.8/6*

ISC 13 11:38:51.5±1.5, 4.°1S±0.°2×100.°9E±0.°2, h27km, n16, σ1§14/10, mb3.6/5, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASI	**Maura Aman, Be**	**1.65**	**56**	P	Pn	11 39 19.0	+0.2
MNAI	**Manna**	**2.10**	**98**	P	Pn	11 39 23.7	-1.2
LHSI	**Lahat**	**2.66**	**85**	P	Pn	11 39 32.4	-0.2
MDSI	**Maura Dua**	**3.32**	**97**	P	Pn	11 39 40.8	-1.0
CMAR	**Chiang Mai Arr**	**22.47**	**355**	P	P	11 43 48.9	0.0
	0.7nm,0.6s,baz=185,slow=9.0,SNR=4.2						
H08S2	**Diego Garcia H**	**28.45**	**262**	T	T	12 14 24.9	
	baz=84,slow=75,SNR=263						
H08S3	**Diego Garcia H**	**28.45**	**262**	T	T	12 14 26.1	
	baz=84,slow=75,SNR=252						
H08S1	**Diego Garcia H**	**28.46**	**262**	T	T	12 14 27.0	
	baz=84,slow=75,SNR=80						
H01W3	**Cape Leeuwin H**	**33.03**	**160**	T	T	12 20 00.4	
	baz=336,slow=76,SNR=5.0						
H01W2	**Cape Leeuwin H**	**33.04**	**160**	T	T	12 20 01.4	
	baz=336,slow=76,SNR=6.4						
H01W1	**Cape Leeuwin H**	**33.04**	**160**	T	T	12 20 01.6	
	baz=336,slow=76,SNR=5.1						
WRA	**Warramunga Arr**	**36.22**	**119**	P	P	11 45 53.0	+0.5
	0.7nm,0.8s,baz=302,slow=9.2,SNR=4.4						
ASAR	**Alice Springs**	**37.35**	**125**	P	P	11 46 04.5	+2.4
	0.6nm,0.6s,baz=299,slow=8.1,SNR=8.3						
SONM	**Songino Array**	**51.92**	**5**	P	P	11 47 58.0	-0.1
	1.0nm,0.8s,baz=186,slow=8.7,SNR=5.5						
MKAR	**Makanchi Array**	**53.25**	**344**	P	P	11 48 07.1	-0.7
	0.8nm,0.7s,baz=148,slow=7.1,SNR=4.2						
TXAR	**Lajitas Array**	**145.77**	**40**	PKPbc	PKPdf	11 58 28.0	-0.5
	0.4nm,0.9s,baz=305,slow=3.2,SNR=3.8						

KRSC 13 11:58:33.0±1.8, 49°42N×158°64E, h40km±15km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.06**	**309**	P	Pn	11 59 05.4	+0.4
SKR				S	Sn	11 59 29.9	+0.4
PAU	**Pauzhetka**	**2.36**	**331**	S	Sn	11 59 40.6	+3.7
ASAK	**Asacha**	**3.01**	**351**	P	Pn	11 59 22.4	+4.2
ASAK				S	Sn	11 59 57.2	+4.1
RUS	**Russkaya**	**3.02**	**359**	P	Pn	11 59 22.0	+3.8
RUS				S	Sn	11 59 56.8	+3.6
MTVR	**Mutnovka**	**3.09**	**355**	P	Pn	11 59 23.5	+4.2
MTVR				S	Sn	11 59 59.1	+4.0
PET	**Petropavlovsk**	**3.61**	**0**	P	Pn	11 59 30.7	+4.4
PET				S	Sn	12 00 11.8	+4.1
APC	**Apacha**	**3.64**	**346**	P	Pn	11 59 29.8	+3.1
SPN	**Mys Shipunski**	**3.79**	**13**	P	Pn	11 59 32.8	+4.0
SPN				S	Sn	12 00 16.8	+4.7
UGLR	**Uglovaya**	**3.80**	**2**	P	Pn	11 59 33.7	+4.6
SMAR	**Somma**	**3.85**	**1**	P	Pn	11 59 35.3	+5.3
AVH	**Avacha**	**3.86**	**1**	P	Pn	11 59 34.3	+4.5
AVH				S	Sn	12 00 18.6	+4.7
SDLR	**Sedlovina**	**3.87**	**2**	P	Pn	11 59 34.0	+3.9
SDLR				S	Sn	12 00 17.9	+3.5
KOK	**Koryaka**	**3.88**	**360**	P	Pn	11 59 35.1	+4.9
KOK				S	Sn	12 00 19.8	+5.2
KRER	**Koryakskii**	**3.90**	**1**	P	Pn	11 59 35.1	+4.6
KRER				S	Sn	12 00 19.5	+4.3
KRX	**Arik**	**3.95**	**0**	P	Pn	11 59 35.4	+4.2
GNL	**Ganaly**	**4.31**	**354**	P	Pn	11 59 40.4	+4.3
MKZ	**Mys Kozlova**	**5.49**	**19**	P	Pn	11 59 55.3	+3.2
KZV	**Kizimen**	**5.80**	**9**	P	Pn	12 00 01.8	+5.3
TUMR	**Tumrok**	**5.95**	**8**	P	Pn	12 00 04.7	+6.1
KBTR	**Krutoberegovo**	**7.26**	**19**	P	Pn	12 00 20.7	+4.3

*KRSC **13** 12:03:02.8±0.7, 53.°88N×160.°83E, h61km±15km, ML4.5*

*ISCJB **13** 12:03:04.6±0.3, 53.°91N±0.°02×160.°73E±0.°06, h69km±3km, mb3.7/21, Error ellipse: s-maj=6.7km s-min=2.4km az=30.0*

*MOS **13** 12:03:04.2±1.4, 53.°97N×160.°59E, h70km, mb4.0/12, Error ellipse: s-maj=15.6km s-min=7.1km az=71.8*

*IDC **13** 12:03:08.4±1.5, 54.°12N×160.°26E, h86km±16km, mb3.5/19, mb1 3.7/20, mb1mx3.6/33, mbtmp3.8/20, MS3.1/6, Ms1 3.1/6, ms1mx2.7/33, Error ellipse: s-maj=18.2km s-min=12.8km az=159.0*

ISC 13 12:03:04.3±0.9, 53°89N±0°03×160°79E±0°03, h55km±8km, n104, σ1§42/130, mb3.9/21, MS3.1/4, 1C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.81**	**281**	*e*P	Pn	12 03 20.0	+0.4
KII				*e*S	Sn	12 03 31.3	+0.4
MKZ	**Mys Kozlova**	**0.86**	**39**	*i* P	Pn	12 03 20.9	+0.6
MKZ				*e*S	Sn	12 03

BKI	**Bering**	**3.29**	**64**	*e*P		**Pn**	**12 03 54.2**	**+1.0**	
BKI				*e*S		**Sn**	**12 04 29.5**	**-1.5**	
BKI	**Bering**	**3.29**	**64**	PN		**Pn**	**12 03 54.2**	**+1.0**	
BKI				S		**Sn**	**12 04 29.5**	**-1.5**	
PAU	**Pauzhetka**	**3.43**	**227**	*e*P		**Pn**	**12 03 57.3**	**+2.1**	
PAU	**Pauzhetka**	**3.43**	**227**	PN		**Pn**	**12 03 57.3**	**+2.1**	
SKR	**Severo-Kuril's**	**4.31**	**224**	*e*P		**Pn**	**12 04 09.1**	**+1.9**	
SKR				*e*S		**Sn**	**12 04 56.7**	**+0.6**	
SKR	**Severo-Kuril's**	**4.31**	**224**	*e*PN		Pn	12 03 55.2	-12	
SKR				pmax	pmax				
	comp=E,40nm,0.5s								
SKR				pmax	pmax				
	comp=Z,80nm,0.5s								
OSSR	**Ossora**	**5.51**	**12**	*e*P		Pn	12 04 27.5	+3.9	
BILL	**Bilibino**	**14.43**	**8**	*e*P		**P**	**12 06 30.2**	**-0.4**	
BILL				pmax	pmax				
	comp=Z,8.0nm,2.0s								
ASAJ	**Asahikawa**	**15.39**	**238**	P		**P**	**12 06 40.2**	**-1.1**	
	comp=Z,0.9nm,0.3s,baz=58,slow=13,SNR=6.7								
ASAJ				LR		LR	12 11 54.2		
	comp=Z,44nm,20.7s,baz=30,slow=34								
ASAJ	**Asahikawa**	**15.39**	**238**	P		**P**	**12 06 40.3**	**-1.1**	
ASAJ				pmax	pmax				
	comp=Z,1.0nm,0.3s								
ASAJ				MLR		MLR			
	comp=Z,44nm,20.7s								
ERM	**Erimo**	**16.70**	**232**	*e*P		**Pn**	**12 06 51.6**	**-2.7**	
YAK	**Yakutsk**	**18.24**	**309**	LR		LR	12 14 37.4		
	comp=Z,41nm,20.6s,baz=86,slow=39								
VLA	**Vladivostok**	**21.82**	**252**	*e*P		**P**	**12 07 48.8**	**-2.8**	
MJAR	**Matsushiro Arr**	**23.37**	**231**	P		**P**	**12 08 08.4**	**+0.5**	
	comp=Z,5.0nm,0.8s,baz=20,slow=10,SNR=9.9								
MJAR	**Matsushiro Arr**	**23.37**	**231**	P		**P**	**12 08 08.4**	**+0.5**	
MJAR				pmax	pmax				
	comp=Z,5.0nm,0.8s								
BOD	**Bodaibo**	**26.13**	**298**	*e*P		P	12 08 40.9	+8.1	
ILAR	**Eielson Array**	**27.96**	**46**	P		**P**	**12 08 50.0**	**+0.9**	
	comp=Z,0.6nm,0.8s,baz=262,slow=8.4,SNR=8.0								
ILAR	**Eielson Array**	**27.96**	**46**	P		**P**	**12 08 50.0**	**+0.9**	
ILAR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
SONM	**Songino Array**	**34.13**	**282**	P		**P**	**12 09 42.9**	**-0.8**	
	comp=Z,0.4nm,0.5s,baz=64,slow=8.3,SNR=4.1								
SONM				LR		LR	12 25 00.3		
	comp=Z,29nm,18.0s,baz=98,slow=39								
SONM	**Songino Array**	**34.13**	**282**	*e*P		**P**	**12 09 43.2**	**-0.5**	
H11N2	**WAKE ISLAND Hy**	**34.42**	**170**	T		T	12 47 10.0		
	baz=36,slow=74,SNR=488								
H11N3	**WAKE ISLAND Hy**	**34.44**	**170**	T		T	12 46 34.7		
	SNR=486								
H11N1	**WAKE ISLAND Hy**	**34.44**	**170**	T		T	12 47 06.3		
	baz=358,slow=74,SNR=701								
H11S1	**WAKE ISLAND Hy**	**35.61**	**170**	T		T	12 48 03.8		
	baz=352,slow=76,SNR=11								
H11S3	**WAKE ISLAND Hy**	**35.62**	**170**	T		T	12 47 38.5		
	baz=352,slow=76,SNR=16								
H11S2	**WAKE ISLAND Hy**	**35.63**	**170**	T		T	12 48 01.8		
	baz=352,slow=76,SNR=8.9								
YKA	**Yellowknife Ar**	**42.29**	**43**	P		**P**	**12 10 53.2**	**+1.3**	
	comp=Z,0.4nm,0.5s,baz=298,slow=7.7,SNR=8.6								
ZALV	**Zalesovo Beam**	**42.70**	**302**	LR		LR	12 29 03.1		
	comp=Z,24nm,20.7s,baz=241,slow=37								
SPITS	**Spitsbergen Ar**	**46.41**	**350**	P		**P**	**12 11 23.8**	**-0.8**	
	comp=Z,0.6nm,0.4s,baz=43,slow=6.5,SNR=7.4								
SPITS	**Spitsbergen Ar**	**46.41**	**350**	P		**P**	**12 11 23.8**	**-0.8**	
SPITS				pmax	pmax				
	comp=Z,1.0nm,0.4s								
KURK	**Kurchatov**	**47.67**	**302**	P		**P**	**12 11 32.9**	**-1.8**	
KURK				pmax	pmax				
	comp=Z,1.0nm,0.4s								
KURBB	**Kurchatov Arra**	**47.77**	**302**	P		**P**	**12 11 32.9**	**-2.6**	
	comp=Z,0.7nm,0.4s,baz=57,slow=7.5,SNR=8.7								
MKAR	**Makanchi Array**	**48.19**	**295**	P		**P**	**12 11 36.1**	**-2.7**	
	comp=Z,0.6nm,0.6s,baz=38,slow=3.7,SNR=6.6								
MKAR	**Makanchi Array**	**48.19**	**295**	*e*P		**P**	**12 11 36.9**	**-1.9**	
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.5s								
BVAR	**Borovoye Array**	**50.22**	**308**	P		**P**	**12 11 51.5**	**-2.7**	
	comp=Z,0.5nm,0.4s,baz=62,slow=6.6,SNR=4.2								
BVAR	**Borovoye Array**	**50.22**	**308**	P		**P**	**12 11 51.5**	**-2.7**	
BVAR				pmax	pmax				
	comp=Z,1.0nm,0.4s								
NVAR	**Mina Array Bea**	**55.08**	**71**	P		**P**	**12 12 33.2**	**+2.6**	
	comp=Z,1.3nm,0.6s,baz=300,slow=7.5,SNR=13								
ELK	**Elko**	**55.16**	**67**	P		**P**	**12 12 33.9**	**+2.8**	
	comp=Z,1.3nm,0.7s,baz=349,slow=6.4,SNR=5.7								
ELK	**Elko**	**55.16**	**67**	P		**P**	**12 12 33.9**	**+2.8**	
ELK				pmax	pmax				
	comp=Z,1.0nm,0.7s								
PDAR	**Pinedale Array**	**56.77**	**62**	P		**P**	**12 12 45.1**	**+2.5**	
	comp=Z,0.9nm,0.7s,baz=336,slow=4.2,SNR=2.8								
SFJD	**Kangerlussuaq**	**57.14**	**14**	LR		LR	12 39 22.9		
	comp=Z,27nm,19.1s,baz=342,slow=38								
AKTO	**Aktyubinsk**	**57.59**	**312**	LR		LR	12 38 57.3		
	comp=Z,15nm,19.3s,baz=27,slow=38								
FINES	**FINESS Array B**	**59.55**	**337**	P		**P**	**12 12 59.9**	**-1.5**	
	comp=Z,0.6nm,0.5s,baz=27,slow=3.4,SNR=5.4								
FINES	**FINESS Array B**	**59.55**	**337**	P		**P**	**12 12 59.9**	**-1.5**	
FINES				pmax	pmax				
	comp=Z,1.0nm,0.5s								
OBN	**Obninsk**	**62.06**	**327**	P		**P**	**12 13 17.7**	**-0.9**	
OBN				*e*			12 14 01.6		
OBN				pmax	pmax				
	comp=Z,3.0nm,0.7s								
NOA	**NORSAR Array B**	**62.89**	**344**	P		**P**	**12 13 23.3**	**-0.8**	
	comp=Z,0.3nm,0.3s,baz=24,slow=6.8,SNR=3.6								
HFS	**Hagfors**	**63.31**	**342**	P		**P**	**12 13 25.2**	**-1.6**	
	comp=Z,0.6nm,0.5s,baz=40,slow=7.5,SNR=5.6								
HFS	**Hagfors**	**63.31**	**342**	P		**P**	**12 13 25.2**	**-1.6**	
HFS				pmax	pmax				
	comp=Z,1.0nm,0.5s								
TXAR	**Lajitas Array**	**69.94**	**68**	P		**P**	**12 14 11.7**	**+2.0**	
	comp=Z,0.9nm,0.5s,baz=296,slow=4.9,SNR=15								
TXAR	**Lajitas Array**	**69.94**	**68**	P		**P**	**12 14 11.7**	**+2.0**	
TXAR				pmax	pmax				
	comp=Z,1.0nm,0.5s								
WRA	**Warramunga Arr**	**76.98**	**205**	P		**P**	**12 14 51.2**	**+0.4**	
	comp=Z,0.5nm,0.7s,baz=18,slow=6.0,SNR=5.6								
WRA	**Warramunga Arr**	**76.98**	**205**	P		**P**	**12 14 51.2**	**+0.4**	
WRA				pmax	pmax				
	comp=Z,1.0nm,0.7s								
ASAR	**Alice Springs**	**80.66**	**205**	P		**P**	**12 15 11.9**	**+1.0**	
	comp=Z,0.2nm,0.4s,baz=17,slow=4.4,SNR=5.3								
ASAR	**Alice Springs**	**80.66**	**205**	P		**P**	**12 15 12.0**	**+1.0**	
ESDC	**Sonseca Array**	**85.88**	**348**	P		**P**	**12 15 37.9**	**0.0**	
	comp=Z,0.2nm,0.3s,baz=19,slow=4.7,SNR=4.0								
KEST	**Kesra**	**87.38**	**337**	P		**P**	**12 15 44.6**	**-0.7**	
	comp=Z,1.0nm,0.9s,baz=353,slow=8.1,SNR=4.6								

*KLM **13** 12:45:47.6, 3.°12N×94.°76E, h258km, mb4.2, ML4.4, MS5.3*
*ISCJB **13** 12:46:04.3±0.5, 3.°88N±0.°04×95.°94E±0.°06, h50km, mb4.0/12, MS3.0/4, Error ellipse: s-maj=8.9km s-min=5.0km az=151.5*
*DJA **13** 12:46:05.2±0.5, 4.°N±2.°×9.°6E±.°, h88km±12km, M4.2/12, mb4.1/3, mB4.8/2, MLv4.2/12, Mw(mB)4.1/2*
*IDC **13** 12:46:06.9±4.1, 3.°96N×95.°90E, h53km±33km, mb3.7/12, mb1 3.8/14, mb1mx3.6/29, mbtmp3.9/14, ML3.5/2, MS3.0/7, Ms1 3.0/7, ms1mx2.8/30, Error ellipse: s-maj=42.8km s-min=13.6km az=54.0*

ISC 13 12:46:06.4±0.6, 3.°93N±0.°04×95.°92E±0.°06, h50km, n37, σ1=46/35, mb4.0/12, MS2.9/4, 4C-2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
SNSI	**Sinabang, Aceh**	**1.56**	**165**	P	**Pn**	**12**	**46**	**30.9**	**-0.9**
SNSI				S	**Sn**	**12**	**46**	**55.5**	**+4.5**
LHMI	**Lhok Sumawe**	**1.65**	**38**	P	**Pn**	**12**	**46**	**33.3**	**+0.3**
LHMI				S	**Sn**	**12**	**46**	**52.0**	**-1.1**
BSI	**Banda Aceh**	**1.68**	**338**	P	**Pn**	**12**	**46**	**33.5**	**+0.1**
BSI				S	**Sn**	**12**	**46**	**54.7**	**+1.0**
KCSI	**Kotacane, Aceh**	**1.90**	**102**	P	**Pn**	**12**	**46**	**37.7**	**+1.3**
TSI	**Tuntungan**	**2.68**	**99**	P	**Pn**	**12**	**46**	**44.8**	**-2.2**
GSI	**Gunungsitoli**	**3.09**	**148**	P	**Pn**	**12**	**46**	**50.6**	**-2.1**
GSI				S	**Sn**	**12**	**47**	**27.6**	**-0.9**
PSI	**Prapat**	**3.20**	**110**	P	**Pn**	**12**	**46**	**57.4**	**+3.0**
	3.9nm,0.3s,baz=303,slow=14,SNR=10								
PSI				S	**Sn**	**12**	**47**	**33.8**	**+2.3**
	8.0nm,0.3s,baz=147,slow=21,SNR=4.4								
PSI				LR	LR	12 48 26.9			
	comp=Z,116nm,20.0s,baz=277,slow=43								
MNSI	**Mandailing Nat**	**4.80**	**130**	P	Pn	12 47 11.7			-4.6
KULM	**Kulim**	**4.91**	**74**	⇓P	**Pn**	**12**	**47**	**17.6**	**-0.2**
IPM	**Ipoh**	**5.12**	**84**	⇑P	**Pn**	**12**	**47**	**19.6**	**-1.1**
FRIM	**Kepong**	**5.74**	**97**	⇓P	**Pn**	**12**	**47**	**26.2**	**-2.9**
PDSI	**Padang**	**6.61**	**137**	P	**Pn**	**12**	**47**	**40.2**	**-1.0**
KTGM	**Kuala Trenggan**	**7.33**	**79**	⇑P	**Pn**	**12**	**47**	**51.5**	**+0.6**
KGM	**Kluang**	**7.63**	**104**	⇑P	Pn	12 47 50.4			-4.7
MYKOM	**Kota Tinggi**	**8.20**	**105**	⇑P	Pn	12 47 56.1			-6.8
CMAR	**Chiang Mai Arr**	**14.74**	**11**	P	**Pn**	**12**	**49**	**33.0**	**+1.0**
	0.1nm,0.3s,baz=200,slow=12,SNR=3.0								
CMAR				LR	LR	12 55 32.0			
	comp=Z,84nm,18.1s,baz=196,slow=38								
LEM	**Lembang**	**15.83**	**132**	LR	LR	12 55 43.8			
	comp=Z,54nm,19.6s,baz=46,slow=36								
KAPI	**Kappang**	**25.41**	**110**	LR	LR	13 03 16.7			
	comp=Z,35nm,18.1s,baz=318,slow=40								
H08S2	**Diego Garcia H**	**26.05**	**244**	T	T	13 17 60.0			
	baz=65,slow=76,SNR=38								
H08S3	**Diego Garcia H**	**26.05**	**244**	T	T	13 17 59.3			
	baz=65,slow=76,SNR=36								
H08S1	**Diego Garcia H**	**26.06**	**244**	T	T	13 18 05.4			
	baz=65,slow=76,SNR=15								
MKAR	**Makanchi Array**	**44.30**	**347**	P	**P**	**12**	**54**	**10.9**	**-0.5**
	1.1nm,0.5s,baz=174,slow=7.9,SNR=17								
KSRS	**Korea Array**	**44.40**	**37**	P	**P**	**12**	**54**	**12.1**	**-0.1**
	0.7nm,0.5s,baz=227,slow=8.9,SNR=5.6								
KSRS				LR	LR	13 13 00.2			
	comp=Z,12nm,19.0s,baz=222,slow=36								
WRA	**Warramunga Arr**	**44.58**	**124**	P	**P**	**12**	**54**	**13.6**	**-0.4**
	1.3nm,0.5s,baz=302,slow=9.3,SNR=21								
SONM	**Songino Array**	**44.66**	**10**	P	**P**	**12**	**54**	**14.1**	**-0.3**
	2.9nm,0.6s,baz=190,slow=9.1,SNR=26								
SONM				PcP	**PcP**	**12**	**55**	**56.4**	**+0.1**
	0.8nm,0.6s,baz=181,slow=3.8,SNR=5.0								
ASAR	**Alice Springs**	**46.07**	**128**	P	**P**	**12**	**54**	**25.6**	**-0.2**
	0.5nm,0.5s,baz=300,slow=7.8,SNR=20								
ASAR				PcP	**PcP**	**12**	**56**	**01.8**	**+0.2**
	0.4nm,0.7s,baz=305,slow=3.3,SNR=3.5								
KURBB	**Kurchatov Arra**	**48.78**	**345**	P	**P**	**12**	**54**	**46.2**	**-0.2**
	1.0nm,0.5s,baz=163,slow=7.0,SNR=7.5								
MJAR	**Matsushiro Arr**	**50.60**	**15**	LR	LR	13 19 26.3			
	comp=Z,8.6nm,19.7s,baz=285,slow=40								
ZALV	**Zalesovo Beam**	**50.68**	**352**	P	**P**	**12**	**55**	**00.2**	**-0.5**
	4.1nm,0.5s,baz=173,slow=7.3,SNR=21								
BVAR	**Borovoye Array**	**53.27**	**341**	P	**P**	**12**	**55**	**19.8**	**-0.2**
	0.6nm,0.4s,baz=147,slow=8.3,SNR=5.6								
AKTO	**Aktyubinsk**	**56.24**	**332**	P	**P**	**12**	**55**	**40.9**	**-0.6**
	1.0nm,0.4s,baz=121,slow=6.4,SNR=4.2								
BRTR	**Keskin Array B**	**66.34**	**312**	P	**P**	**12**	**56**	**50.6**	**+0.3**
	0.9nm,0.6s,baz=119,slow=8.0,SNR=2.8								
BRTR				LR	LR	13 30 13.3			
	comp=Z,16nm,18.1s,baz=246,slow=40								
FINES	**FINESS Array B**	**77.00**	**332**	P	**P**	**12**	**57**	**53.4**	**-0.4**
	1.1nm,0.7s,baz=122,slow=2.5,SNR=3.6								
ARCES	**ARCESS Array B**	**79.55**	**340**	P	**P**	**12**	**58**	**07.6**	**-0.1**
	0.5nm,0.5s,baz=96,slow=6.3,SNR=7.8								
NVAR	**Mina Array Bea**	**127.29**	**34**	PKP	**PKPdf**	**13**	**05**	**07.8**	**+1.5**
	0.4nm,0.6s,baz=273,slow=2.8,SNR=3.7								
PDAR	**Pinedale Array**	**128.11**	**24**	PKP	**PKPdf**	**13**	**05**	**08.3**	**+0.6**
	0.2nm,0.5s,baz=349,slow=1.8,SNR=2.5								
TXAR	**Lajitas Array**	**141.96**	**28**	PKP	**PKPdf**	**13**	**05**	**32.1**	**-1.6**
	0.2nm,0.6s,baz=31,slow=2.1,SNR=3.2								

*ATH **13** 12:46:53.1, 41.°62N×19.°22E, h46km, MD3.4/3*
*BEO **13** 12:46:54.7±1.0, 41.°25N×19.°38E, h12km±3km, ML3.1/6*
*ROM **13** 12:46:54.7±0.1, 41.°26N×19.°44E, h10km, Md3.0/18, Ml3.1/25, Error ellipse: s-maj=2.6km s-min=1.7km az=154.0*
*TIR **13** 12:46:55.6, 41.°36N×19.°60E, h7km, ML3.4*
*CSEM **13** 12:46:55.3±0.1, 41.°32N×19.°40E, h10km, ML3.4, Error ellipse: s-maj=2.2km s-min=2.1km az=157.0*
*PDG **13** 12:46:55.2±0.5, 41.°32N×19.°43E, h17km, MD3.4/4, ML3.4/12, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*
*THE **13** 12:46:56.6, 41.°39N×19.°50E, h9km±1km, ML3.1/2, Error ellipse: s-maj=2.0km s-min=1.2km az=72.0*

ISC 13 12:46:55.3±1.0, 41.°33N±0.°02×19.°42E±0.°02, h10km±8km, n172, σ0=991/249, 12C-18D, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
TIR	**Tirane**	**0.34**	**86**	*i* PG	**Pg**	**12**	**47**	**02.1**	**+0.1**
TIR				*i* SG	**Sb**	**12**	**47**	**09.2**	**+0.4**
TIR	**Tirane**	**0.34**	**86**	P	**Pg**	**12**	**47**	**02.0**	**-0.1**
TIR				S	**Sg**	**12**	**47**	**06.5**	**-0.1**
TIR	**Tirane**	**0.34**	**86**	*e*Pg	**Pg**	**12**	**47**	**01.9**	**-0.1**
TIR	**Tirane**	**0.34**	**86**	Pn	**Pg**	**12**	**47**	**02.0**	**-0.1**
TIR				Sn	**Sg**	**12**	**47**	**06.4**	**-0.1**
	1μm,0.6s								
TIR	**Tirane**	**0.34**	**86**	*i* Pg	**Pg**	**12**	**47**	**02.1**	**+0.1**
TIR				Sn	**Sg**	**12**	**47**	**06.4**	**-0.1**
	1μm,0.6s								
TIR				*i* Sg	**Sb**	**12**	**47**	**09.2**	**+0.4**
ULC	**Ulcinj**	**0.65**	**349**	⇓*i* Pg	**Pg**	**12**	**47**	**07.8**	**-0.1**
ULC				*e*Sg	**Sb**	**12**	**47**	**18.9**	**+1.0**
ULC	**Ulcinj**	**0.65**	**349**	⇓*i* Pg	**Pg**	**12**	**47**	**07.8**	**-0.1**
ULC				*e*Sg	**Sb**	**12**	**47**	**18.9**	**+1.0**
PUK	**Puka**	**0.80**	**26**	*i* PG	**Pg**	**12**	**47**	**09.7**	**-1.1**
PUK				*i* SG	**Sb**	**12**	**47**	**22.5**	**+0.3**
PUK	**Puka**	**0.80**	**26**	*i* Pg	**Pg**	**12**	**47**	**09.7**	**-1.1**
PUK				*i* Sg	**Sb**	**12**	**47**	**22.5**	**+0.3**
PHP	**Peshkopia**	**0.85**	**65**	*i* PG	**Pg**	**12**	**47**	**10.0**	**-1.6**
PHP				*i* SG	**Sg**	**12**	**47**	**21.7**	**-1.0**
PHP	**Peshkopia**	**0.85**	**65**	P	**Pg**	**12**	**47**	**10.2**	**-1.4**
PHP				S	**Sg**	**12**	**47**	**22.7**	**0.0**
PHP	**Peshkopia**	**0.85**	**65**	P	**Pg**	**12**	**47**	**10.2**	**-1.4**
PHP				*i* Sg	**Sg**	**12**	**47**	**21.7**	**-1.0**
PHP				S	**Sg**	**12**	**47**	**22.7**	**0.0**
VLO	**Vlora**	**0.86**	**176**	*i* PG	**Pn**	**12**	**47**	**14.2**	**+0.9**
VLO				*i* SG	**Sn**	**12**	**47**	**27.0**	**+1.1**
VLO	**Vlora**	**0.86**	**176**	P	**Pn**	**12**	**47**	**14.3**	**+0.9**
VLO				S	**Sn**	**12**	**47**	**27.0**	**+1.1**
VLO	**Vlora**	**0.86**	**176**	*i* Pg	**Pn**	**12**	**47**	**14.2**	**+0.9**
VLO				S	**Sn**	**12**	**47**	**27.0**	**+1.1**
DRME	**Dracevica, Mon**	**0.88**	**349**	⇑*i* Pg	**Pg**	**12**	**47**	**12.3**	**+0.1**
DRME				*e*Sg	**Sn**	**12**	**47**	**26.7**	**+0.2**
DRME	**Dracevica, Mon**	**0.88**	**349**	⇑*i* Pg	**Pg**	**12**	**47**	**12.3**	**+0.1**
DRME				*e*Sg	**Sn**	**12**	**47**	**26.7**	**+0.2**
BUM	**Brajici-Budva**	**1.05**	**338**	⇑*i* Pg	**Pg**	**12**	**47**	**15.3**	**-0.2**
BUM				*e*Sg	**Sn**	**12**	**47**	**31.5**	**+0.7**
BUM	**Brajici-Budva**	**1.05**	**338**	⇑*i* Pg	**Pg**	**12**	**47**	**15.3**	**-0.2**
BUM				*e*Sg	**Sn**	**12**	**47**	**31.5**	**+0.7**
OHR	**Ohrid**	**1.06**	**101**	*i* Pg	**Pg**	**12**	**47**	**14.9**	**-0.8**
OHR				*i* Sg	**Sn**	**12**	**47**	**30.7**	**-0.5**
OHR	**Ohrid**	**1.06**	**101**	*i* Pg	**Pg**	**12**	**47**	**14.9**	**-0.8**
OHR				*i* Sg	**Sn**	**12**	**47**	**30.6**	**-0.5**
PDG	**Podgorica**	**1.11**	**354**	P	**Pb**	**12**	**47**	**16.5**	**0.0**
PDG				S	**Sn**	**12**	**47**	**32.7**	**+0.5**
PDG	**Podgorica**	**1.11**	**354**	*e*Pg	**Pb**	**12**	**47**	**16.2**	**-0.3**
PDG				*e*Sg	**Sn**	**12**	**47**	**33.4**	**+1.2**
PDG	**Podgorica**	**1.11**	**354**	Pn	**Pb**	**12**	**47**	**16.5**	**0.0**
PDG				Sn	**Sn**	**12**	**47**	**33.2**	**+1.0**
	671nm,0.4s								
PDG	**Podgorica**	**1.11**	**354**	*e*Pg	**Pb**	**12**	**47**	**16.2**	**-0.3**
PDG	**Podgorica**	**1.11**	**354**	P	**Pb**	**12**	**47**	**16.5**	**0.0**
PDG				S	**Sn**	**12**	**47**	**32.7**	**+0.5**
PDG				Sn	**Sn**	**12**	**47**	**33.2**	**+1.0**
	671nm,0.4s								
PDG				*e*Sg	**Sn**	**12**	**47**	**33.4**	**+1.2**
TTG	**Podgorica**	**1.11**	**354**	⇑*i* Pg	**Pb**	**12**	**47**	**16.1**	**-0.4**
TTG				*e*Sg	**Sn**	**12**	**47**	**33.9**	**+1.7**
BCI	**Bajram Curri**	**1.15**	**25**	*i* PG	**Pb**	**12**	**47**	**15.7**	**-1.6**
BCI				*i* SG	**Sn**	**12**	**47**	**34.5**	**+1.3**
BCI	**Bajram Curri**	**1.15**	**25**	*i* Pg	**Pb**	**12**	**47**	**15.6**	**-1.6**
BCI				*i* Sg	**Sn**	**12**	**47**	**34.5**	**+1.3**
HCY	**Herceg Novi**	**1.32**	**329**	⇓*i* Pg	**Pn**	**12**	**47**	**19.7**	**0.0**
HCY				*e*Sg	**Sg**	**12**	**47**	**39.2**	**+1.6**
HCY	**Herceg Novi**	**1.32**	**329**	⇓*i* Pg	**Pn**	**12**	**47**	**19.7**	**0.0**
HCY				*e*Sg	**Sg**	**12**	**47**	**39.2**	**+1.6**
PVY	**Plav**	**1.33**	**17**	⇓*i* Pg	**Pb**	**12**	**47**	**20.4**	**0.0**
PVY				*e*Sg	**Sg**	**12**	**47**	**39.9**	**+1.8**
PVY	**Plav**	**1.33**	**17**	⇓*i* Pg	**Pb**	**12**	**47**	**20.4**	**0.0**
PVY				*e*Sg	**Sg**	**12**	**47**	**39.9**	**+1.8**
MESG	**Mesagne**	**1.40**	**239**	Pn	**Pn**	**12**	**47**	**20.3**	**-0.4**
	279nm,0.3s								
MESG	**Mesagne**	**1.40**	**239**	Pn	**Pn**	**12**	**47**	**20.3**	**-0.4**
	279nm,0.3s								
SCTE	**Santa Cesarea**	**1.45**	**210**	Pn	**Pn**	**12**	**47**	**20.5**	**-0.9**
SCTE	**Santa Cesarea**	**1.45**	**210**	Pn	**Pn**	**12**	**47**	**20.5**	**-0.9**
NKME	**Niksic**	**1.48**	**347**	⇓*i* Pg	**Pb**	**12**	**47**	**22.8**	**-0.1**
NKME				*e*Sg	**Sg**	**12**	**47**	**43.4**	**+0.5**
NKME	**Niksic**	**1.48**	**347**	⇓*i* Pg	**Pb**	**12**	**47**	**22.8**	**-0.1**
NKME				*e*Sg	**Sg**	**12**	**47**	**43.4**	**+0.5**
SRN	**Sarande**	**1.51**	**163**	*i* PG	**Pg**	**12**	**47**	**24.9**	**+0.7**
SRN				*i* SG	**Sn**	**12**	**47**	**41.8**	**-0.2**
SRN	**Sarande**	**1.51**	**163**	*i* Pg	**Pg**	**12**	**47**	**24.9**	**+0.7**
SRN				*i* Sg	**Sn**	**12**	**47**	**41.8**	**-0.2**
NKY	**Niksic**	**1.52**	**348**	⇑*i* Pg	**Pn**	**12**	**47**	**22.7**	**+0.1**
NKY				*e*Sg	**Sg**	**12**	**47**	**44.9**	**+0.7**
NKY	**Niksic**	**1.52**	**348**	⇑*i* Pg	**Pn**	**12**	**47**	**22.7**	**+0.1**
NKY				*e*Sg	**Sg**	**12**	**47**	**44.9**	**+0.7**
NEST	**Nestorio**	**1.54**	**126**	P	**Pb**	**12**	**47**	**23.3**	**-0.5**
NEST	**Nestorio**	**1.54**	**126**	*e*P	**Pb**	**12**	**47**	**24.2**	**+0.4**
NEST	**Nestorio**	**1.54**	**126**	P	**Pb**	**12**	**47**	**23.3**	**-0.5**
FNA	**Florina**	**1.58**	**109**	P	**Pb**	**12**	**47**	**23.9**	**-0.6**
FNA				S	**Sb**	**12**	**47**	**44.7**	**+0.2**
FNA	**Florina**	**1.58**	**109**	*e*P	**Pb**	**12**	**47**	**23.8**	**-0.7**
FNA				*e*S	**Sb**	**12**	**47**	**45.0**	**+0.5**
FNA	**Florina**	**1.58**	**109**	*e*P	**Pb**	**12**	**47**	**23.8**	**-0.7**
FNA				S	**Sb**	**12**	**47**	**44.7**	**+0.2**
BEY	**Berane**	**1.58**	**13**	⇓*i* Pn	**Pn**	**12**	**47**	**23.9**	**+0.4**
BEY				*e*Sn	**Sg**	**12**	**47**	**46.4**	**+0.1**
IVA	**Berane**	**1.58**	**13**	⇓*i* Pn	**Pn**	**12**	**47**	**23.9**	**+0.4**
IVA				*e*Sn	**Sg**	**12**	**47**	**46.4**	**+0.1**
TREB	**Trebinje**	**1.60**	**331**	*e*Pn	**Pn**	**12**	**47**	**23.1**	**-0.5**
TREB				*e*Sg	**Sg**	**12**	**47**	**46.4**	**-0.4**
TREB	**Trebinje**	**1.60**	**331**	*e*Pn	**Pn**	**12**	**47**	**23.1**	**-0.5**
TREB				*e*Sg	**Sg**	**12**	**47**	**46.4**	**-0.4**
KNS	**Konitsa**	**1.62**	**141**	P	**Pb**	**12**	**47**	**24.8**	**-0.6**
KNS	**Konitsa**	**1.62**	**141**	P	**Pb**	**12**	**47**	**24.8**	**-0.6**
KEK	**Kerkira**	**1.64**	**170**	P	**Pn**	**12**	**47**	**24.3**	**+0.2**
KEK				S	**Sb**	**12**	**47**	**46.7**	**+0.5**
KEK	**Kerkira**	**1.64**	**170**	*e*P	**Pn**	**12**	**47**	**24.4**	**+0.3**
KEK				*e*S	**Sg**	**12**	**47**	**48.9**	**+1.0**
KEK	**Kerkira**	**1.64**	**170**	Pn	**Pn**	**12**	**47**	**24.4**	**+0.3**
	114nm,0.4s								
KEK	**Kerkira**	**1.64**	**170**	P	**Pn**	**12**	**47**	**24.3**	**+0.

	25nm,0.4s								
BULG	**Bulgheria - Ca**	**3.31**	**249**		Pn		**Pn**	**12 47 47.3**	**+0.1**
	41nm,0.8s								
BULG	**Bulgheria - Ca**	**3.31**	**249**		Pn		**Pn**	**12 47 47.3**	**+0.1**
	41nm,0.8s								
MIDA	**Miranda**	**3.89**	**276**		Pn		**Pn**	**12 47 55.4**	**+0.2**
	24nm,0.4s								
MIDA	**Miranda**	**3.89**	**276**		Pn		**Pn**	**12 47 55.4**	**+0.2**
	24nm,0.4s								
VAGA	**Valle Agricola**	**3.90**	**273**		Pn		**Pn**	**12 47 56.6**	**+1.3**
VAGA	**Valle Agricola**	**3.90**	**273**		Pn		**Pn**	**12 47 56.6**	**+1.3**
LPEL	**Lama dei Pelig**	**3.98**	**282**		Pn		**Pn**	**12 47 57.0**	**+0.6**
	25nm,0.3s								
LPEL	**Lama dei Pelig**	**3.98**	**282**		Pn		**Pn**	**12 47 57.0**	**+0.6**
	25nm,0.3s								
CERA	**Filignano**	**4.07**	**276**		Pn		**Pn**	**12 47 59.0**	**+1.5**
	37nm,0.5s								
CERA	**Filignano**	**4.07**	**276**		Pn		**Pn**	**12 47 59.0**	**+1.5**
	37nm,0.5s								
UDBI	**Udbina**	**4.18**	**321**	*e*Pn			**Pn**	**12 47 59.9**	**+0.9**
UDBI				Sn			**Sn**	**12 48 47.1**	**-0.8**
UDBI	**Udbina**	**4.18**	**321**	*e*Pn			**Pn**	**12 47 59.9**	**+0.9**
UDBI				Sn			**Sn**	**12 48 47.0**	**-0.8**
POFI	**Posta Fibreno**	**4.30**	**277**		Pn		**Pn**	**12 48 02.0**	**+1.2**
	14nm,0.8s								
POFI	**Posta Fibreno**	**4.30**	**277**		Pn		**Pn**	**12 48 02.0**	**+1.2**
	14nm,0.8s								
VVLD	**Villa Vallelon**	**4.38**	**279**		Pn		**Pn**	**12 48 02.6**	**+0.7**
	14nm,0.5s								
VVLD	**Villa Vallelon**	**4.38**	**279**		Pn		**Pn**	**12 48 02.6**	**+0.7**
	14nm,0.5s								
TERO	**Teramo**	**4.52**	**289**		Pn		**Pn**	**12 48 03.6**	**-0.2**
	25nm,0.6s								
TERO	**Teramo**	**4.52**	**289**		Pn		**Pn**	**12 48 03.6**	**-0.2**
	25nm,0.6s								
T0106	**Roio Piano**	**4.62**	**284**		Pn		**Pn**	**12 48 05.8**	**+0.7**
	44µm,38.0s								
NVLJ	**Novalja**	**4.65**	**316**	*e*Pn			**Pn**	**12 48 05.1**	**-0.3**
NVLJ				Sn			**Sn**	**12 48 56.7**	**-2.7**
NVLJ	**Novalja**	**4.65**	**316**	*e*Pn			**Pn**	**12 48 05.1**	**-0.3**
NVLJ				Sn			**Sn**	**12 48 56.7**	**-2.7**
GZR	**Gura Zlata**	**4.75**	**30**	⇓*i*P			**Pn**	**12 48 09.0**	**+2.1**
GZR	**Gura Zlata**	**4.75**	**30**	S			**Sn**	**12 49 03.2**	**+1.3**
BOJS	**Bojanci**	**5.16**	**325**	*e*Pn			**Pn**	**12 48 12.5**	**0.0**
BOJS				*e*Sn			**Sn**	**12 49 09.1**	**-3.0**
BOJS	**Bojanci**	**5.16**	**325**	*e*Pn			**Pn**	**12 48 12.5**	**0.0**
BOJS				*e*Sn			**Sn**	**12 49 09.1**	**-3.0**
LOT	**Lotru**	**5.20**	**36**	⇑*i*P			**Pn**	**12 48 15.3**	**+2.2**
GBRS	**Gornja Briga**	**5.38**	**323**	*e*Pn			**Pn**	**12 48 16.0**	**+0.5**
GBRS				*e*Sn			**Sn**	**12 49 16.0**	**-1.5**
VISS	**Visnje**	**5.58**	**325**	*e*Pn			Pn	12 48 21.4	+3.2
VISS				*e*Sn			**Sn**	**12 49 21.4**	**-0.9**
VOIR		**5.81**	**43**	⇓*i*P			**Pn**	**12 48 24.2**	**+2.7**
MLR	**Muntele Rosu**	**6.32**	**47**	⇓*i*P			Pn	12 48 31.9	+3.4
VRI	**Vrincioaia**	**6.98**	**47**	⇓*i*P			**Pn**	**12 48 40.2**	**+2.7**
VYHS	**Vyhne**	**7.18**	**357**	*e*			**Sn**	**12 49 58.5**	**-3.3**

CSEM ***13*** *12:54:36.5±1.6, 37°.15N×38°.91E, h5km, MD2.6, Error ellipse: s-maj=34.2km s-min=12.3km az=136.0*
ISCJB ***13*** *12:54:39.4±2.1, 37°.32N±0°.09×39°.1E±0°.1, h7km±10km, Error ellipse: s-maj=21.3km s-min=7.9km az=38.8*
DDA ***13*** *12:54:40.3, 37°.35N×38°.84E, h6km, MD2.6*
ISC 13 12:54:42.2±1.7, 37°.46N±0°.09×38°.88E±0°.09, h7km±9km, n10, σ0°57/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.05**	**255**	PG	**Pg**	**12 54 43.9**	**0.0**
URFA	**Urfa**	**0.05**	**255**	*i* Pg	**Pg**	**12 54 43.9**	**0.0**
SVRC	**Sivrice-ELAZID**	**0.98**	**20**	*e*PG	**Pg**	**12 55 01.0**	**0.0**
SVRC				*e*SG	**Sb**	**12 55 15.2**	**+0.4**
SVRC	**Sivrice-ELAZID**	**0.98**	**20**	*e*Pg	**Pg**	**12 55 01.0**	**0.0**
SVRC				*e*Sg	**Sb**	**12 55 15.2**	**+0.4**
ELZG	**Elazig**	**1.04**	**4**	*i* P	**Pg**	**12 55 01.8**	**-0.4**
ELZG				*i* S	**Sb**	**12 55 17.5**	**+0.9**
ELZG	**Elazig**	**1.04**	**4**	*i* P	**Pg**	**12 55 01.8**	**-0.4**
ELZG				*i* S	**Sb**	**12 55 17.5**	**+0.9**
GZT	**Gaziantep**	**1.05**	**265**	*i* P	**Pg**	**12 55 02.7**	**+0.3**
GZT				*i* S	**Sn**	**12 55 19.0**	**+0.5**
AKCD	**Akcadag**	**1.13**	**318**	*i* P	**Pg**	**12 55 03.5**	**-0.4**
AKCD				*i* S	**Sn**	**12 55 21.0**	**+0.6**
AKCD	**Akcadag**	**1.13**	**318**	*i* P	**Pg**	**12 55 03.5**	**-0.4**
AKCD				*i* S	**Sn**	**12 55 21.0**	**+0.6**
HCB	**Kahramanmara˜**	**1.58**	**267**	*i* P	**Pn**	**12 55 09.6**	**-0.9**
HCB				*i* S	**Sn**	**12 55 31.2**	**0.0**

SZGRF ***13*** *12:54:21.0, 34°.62N×72°.47E, h10km, mb5.1, Pakistan*
ISCJB ***13*** *12:54:52.2±0.3, 36°.69N±0°.02×71°.46E±0°.02, h174km±2km, mb4.5/121, Error ellipse: s-maj=3.3km s-min=2.5km az=149.2*
MOS ***13*** *12:54:52.5±0.8, 36°.66N×71°.49E, h183km, mb4.7/72, Error ellipse: s-maj=6.1km s-min=3.9km az=106.9*
IDC ***13*** *12:54:53.9±0.6, 36°.57N×71°.43E, h184km±4km, mb4.1/27, mb1 4.2/32, mb1mx4.2/34, mbtmp4.6/32, MS3.2/2, Ms1 3.2/2, ms1mx2.5/37, Error ellipse: s-maj=11.6km s-min=7.9km az=9.0*
NEIC ***13*** *12:54:53.5±0.6, 36°.66N×71°.45E, h176km±5km, mb4.7/60, Error ellipse: s-maj=5.4km s-min=3.8km az=183.0*
BJI ***13*** *12:54:54.4, 36°.97N×71°.46E, h185km, mb4.6/28, mB4.5/17*
NNC ***13*** *12:54:55.9±1.8, 36°.96N×71°.33E, h187km±12km, mb3.9, mpv5.2, Error ellipse: s-maj=17.5km s-min=7.4km az=164.0*
ISC 13 12:54:54.8±0.3, 36°.69N±0°.03×71°.41E±0°.03, h187km±2km, h186km:pP-P, n450, σ1934/500, mb4.5/125, 77C-26D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.88**	**223**	*e*PN	**Pn**	**12 55 40.5**	**-2.1**
KBL	**Kabul**	**2.88**	**223**	*e*Pn	**Pn**	**12 55 40.5**	**-2.1**
CEP	**Cherat**	**2.89**	**172**	⇑P	**Pn**	**12 55 40.9**	**-1.7**
CEP				S	**Sn**	**12 56 16.0**	**-3.9**
DZET	**Dzherino**	**2.94**	**317**	⇓P	**Pn**	**12 55 40.0**	**-3.1**
	963nm,0.4s						
DZET				⇓S	**Sn**	**12 56 17.6**	**-3.3**
	5µm,0.4s						
CHCP	**Chirah Chowk**	**3.39**	**153**	P	**Pn**	**12 55 47.9**	**-0.6**
SFK	**Sufi-Kurgan**	**3.70**	**26**	⇓P	**Pn**	**12 55 51.6**	**-0.9**
	546nm,0.4s						
SFK				⇑S	**Sn**	**12 56 34.3**	**-3.6**
	584nm,0.3s						
THW	**Thamme Wali**	**3.90**	**176**	P	**Pn**	**12 55 53.2**	**-1.7**
KSH	**Kashi**	**4.57**	**51**	⇓*i*P	Pn	12 55 57.6	-5.8
KSH				S	Sn	12 56 41.8	-16
KSH				SMN			
	2µm,0.4s						
KSH				SME			
	2µm,0.5s						
SARP	**Sargodha**	**4.87**	**167**	P	**Pn**	**12 56 05.2**	**-2.0**
JMU	**Jammu**	**4.90**	**143**	*e*S	Sn	12 56 55.5	-9.2
DLH	**Dalhousie**	**5.59**	**136**	*e*P	**Pn**	**12 56 14.0**	**-2.7**
DLH				*e*S	Sn	12 57 15.0	-6.3
AML	**Almayashu**	**5.71**	**17**	P	**Pn**	**12 56 16.6**	**-1.8**
	SNR=420						
AML	**Almayashu**	**5.71**	**17**	*i* PN	**Pn**	**12 56 16.6**	**-1.8**
DHRM	**DHARAMSHALA**	**5.99**	**136**	*e*P	**Pn**	**12 56 20.3**	**-1.7**
DHRM				*e*S	Sn	12 57 22.2	-8.6
UCH	**Uchtor**	**6.03**	**23**	P	**Pn**	**12 56 20.8**	**-1.7**
	SNR=443						
UCH	**Uchtor**	**6.03**	**23**	*i* PN	**Pn**	**12 56 20.8**	**-1.7**
KZA	**Kyzart**	**6.15**	**28**	P	**Pn**	**12 56 21.8**	**-2.2**
	SNR=70						
KZA	**Kyzart**	**6.15**	**28**	*i* PN	**Pn**	**12 56 21.8**	**-2.2**
EKS2	**Erkin-Say**	**6.24**	**16**	P	**Pn**	**12 56 23.5**	**-1.4**
	SNR=57						
EKS2	**Erkin-Say**	**6.24**	**16**	*e*PN	**Pn**	**12 56 23.6**	**-1.4**
EKS2				pmax	pmax		
	comp=Z,61nm,0.5s						
EKS2	**Erkin-Say**	**6.24**	**16**	*e*Pn	**Pn**	**12 56 23.6**	**-1.4**
	comp=Z,61nm,0.5s						
EKS2				*e*Sn	**Sn**	**12 57 31.9**	**-4.3**
AAK	**Ala-Archa**	**6.39**	**21**	P	**Pn**	**12 56 25.7**	**-1.4**
	SNR=248						
AAK	**Ala-Archa**	**6.39**	**21**	⇓P	**Pn**	**12 56 25.7**	**-1.4**
	comp=Z,95nm,0.4s						
AAK				⇓S	**Sn**	**12 57 37.9**	**-2.1**
	comp=Z,166nm,0.9s						
AAK	**Ala-Archa**	**6.39**	**21**	P	**Pn**	**12 56 25.7**	**-1.4**
	comp=Z,61nm,0.3s,baz=178,slow=6.0,SNR=188						
AAK				S	**Sn**	**12 57 35.7**	**-4.3**
	comp=Z,12nm,0.3s,baz=322,slow=19,SNR=4.4						
KK31	**Karatay Array**	**6.44**	**354**	⇑P	**Pn**	**12 56 26.3**	**-1.2**
	comp=Z,31nm,0.3s,baz=173,slow=12						
KK31				⇑S	**Sn**	**12 57 35.4**	**-5.5**
	comp=Z,119nm,0.5s,baz=177,slow=25						
KKAR	**Karatay Array**	**6.44**	**354**	*e*PN	**Pn**	**12 56 26.1**	**-1.4**
KKAR	**Karatay Array**	**6.44**	**354**	*e*Pn	**Pn**	**12 56 26.1**	**-1.4**
KBK	**Karagaybulak**	**6.55**	**24**	P	**Pn**	**12 56 27.9**	**-1.3**
	SNR=58						
FRU	**Bishkek**	**6.61**	**21**	*e*PN	**Pn**	**12 56 28.5**	**-1.3**
FRU				*i* S	**Sn**	**12 57 41.5**	**-3.5**
FRU				pmax	pmax		
	comp=Z,70nm,1.6s						
FRU				smax	smax		
	comp=E,510nm,1.6s						
ULHL	**Ulahol**	**6.69**	**32**	P	**Pn**	**12 56 29.1**	**-1.8**
	SNR=31						
ULHL	**Ulahol**	**6.69**	**32**	*i* PN	**Pn**	**12 56 29.1**	**-1.8**
BHK	**Bhakra**	**6.70**	**140**	*e*P	Pn	12 56 26.8	-4.3
BHK				*ex*	**Sn**	**12 57 45.2**	**-2.0**
CHMS	**Chumysh**	**6.80**	**21**	P	**Pn**	**12 56 30.7**	**-1.6**
	SNR=82						
CHMS	**Chumysh**	**6.80**	**21**	*i* PN	**Pn**	**12 56 30.6**	**-1.6**
SDNR	**Sundarnagar**	**6.93**	**137**	*e*P	**Pn**	**12 56 31.0**	**-3.1**
SDNR				*e*S	Sn	12 57 44.0	-8.7
USP	**Ospenovka**	**6.98**	**19**	P	**Pn**	**12 56 32.5**	**-2.1**
	SNR=17						
USP	**Ospenovka**	**6.98**	**19**	*i* PN	**Pn**	**12 56 32.5**	**-2.1**
TKM2	**Tokmak 2**	**7.01**	**26**	P	**Pn**	**12 56 33.5**	**-1.6**
	SNR=70						
TKM2	**Tokmak 2**	**7.01**	**26**	⇑P	**Pn**	**12 56 33.1**	**-2.0**
	comp=E,35nm,0.5s						
TKM2				⇑S	**Sn**	**12 57 51.3**	**-3.2**
	comp=E,44nm,0.6s						
TKM2	**Tokmak 2**	**7.01**	**26**	*e*PN	**Pn**	**12 56 33.5**	**-1.6**
TKM2				pmax	pmax		
	comp=Z,60nm,0.6s						
TKM2	**Tokmak 2**	**7.01**	**26**	*e*Pn	**Pn**	**12 56 33.5**	**-1.6**
	comp=Z,60nm,0.6s						
SMLA	**Simla**	**7.33**	**138**	*i* P	**Pn**	**12 56 37.3**	**-1.9**
SMLA				*e*S	Sn	12 57 53.9	-8.0
SMLA				AML	AML	12 58 00.1	
	comp=N,767nm,0.1s						
SMLA				AML	AML	12 58 01.0	
	comp=E,1µm,0.6s						
PDGK	**Podgornoye**	**9.07**	**41**	⇑P	**Pn**	**12 56 59.3**	**-2.6**
	comp=E,104nm,0.7s						
PDGK				⇑S	**Sn**	**12 58 38.5**	**-4.7**
	comp=E,56nm,0.9s						
NDI	**New Delhi**	**9.36**	**147**	*e*P	Pn	12 57 02.5	-3.4
NDI				*ex*	Sn	12 58 39.5	-11
LGTI	**Lohaghat**	**10.35**	**132**	*e*P	Pn	12 57 15.1	-3.6
LGTI				*ex*	Sn	12 59 04.4	-9.5
AJM	**Ajmer**	**10.55**	**164**	*ex*	**Pn**	**12 57 19.0**	**-2.4**
AJM				*ex*	x	12 59 11.0	
GEYT	**Alibeck**	**10.66**	**281**	P	Pn	12 57 18.3	-4.5
	comp=E,5.8nm,0.3s,baz=105,slow=11,SNR=100						
GEYT				S	Sn	12 59 15.4	-6.0
	comp=E,7.2nm,0.3s,baz=125,slow=22,SNR=5.2						
OTUK	**Ortayu**	**11.57**	**3**	⇑P	**Pn**	**12 57 31.7**	**-2.6**
	comp=E,5.1nm,0.6s						
MK31	**Makanchi Array**	**12.94**	**35**	⇓P	**Pn**	**12 57 50.3**	**-1.6**
	comp=E,8.0nm,0.6s,baz=232,slow=11,SNR=68						
MK31	**Makanchi Array**	**12.94**	**35**	*e*P	**Pn**	**12 57 50.8**	**-1.0**
MK31	**Makanchi Array**	**12.94**	**35**	*e*Pn	**Pn**	**12 57 50.8**	**-1.0**
MKAR	**Makanchi Array**	**12.94**	**35**	P	**Pn**	**12 57 50.6**	**-1.3**
	comp=E,1.2nm,0.3s,baz=216,slow=12,SNR=56						
MKAR				S	**S**	**13 00 23.5**	**+4.7**
	baz=213,slow=21,SNR=3.2						
KOLN	**Koldanda**	**13.61**	**127**	*e*P	**Pn**	**12 57 57.9**	**-2.7**
	comp=E,57nm,0.3s						
GKN	**Gorkha**	**14.13**	**124**	*e*P	**Pn**	**12 58 04.0**	**-3.0**
	comp=E,173nm,0.3s						
WMQ	**Urumqi**	**14.32**	**55**	P	**Pn**	**12 58 07.9**	**-1.2**
WMQ				sP		12 58 56.8	
WMQ				S	Sn	13 00 41.3	-7.5
WMQ				PcP	**PcP**	**13 03 13.1**	**+1.4**
WMQ				PcS	**PcS**	**13 06 46.8**	**+0.2**
WMQ				PMZ			
	comp=E,33nm,0.8s						
WMQ				PMZ			
	comp=E,130nm,4.2s						
WMQ				LN			
	comp=E,120nm,4.8s						
WMQ				LE			
	comp=E,140nm,5.6s						
WMQ				LZ			
	comp=E,28nm,20.2s						
BHPL	**Bhopal**	**14.38**	**157**	*e*P	**P**	**12 58 11.2**	**-0.4**
BHPL				*ex*	Sn	13 00 38.0	-12
KKN	**Kakani**	**14.70**	**123**	*e*P	**Pn**	**12 58 12.0**	**-2.1**
	comp=E,153nm,0.4s						
DMN	**Daman**	**14.70**	**124**	*e*P	**Pn**	**12 58 12.0**	**-2.2**
	comp=E,212nm,0.5s						
KURBB	**Kurchatov Arra**	**14.84**	**18**	⇑P	**Pn**	**12 58 14.3**	**-1.0**
	comp=E,13nm,0.6s						
KURBB	**Kurchatov Arra**	**14.84**	**18**	P	Pn	12 58 12.1	-3.2
	comp=E,0.2nm,0.3s,baz=206,slow=11,SNR=13						
KURBB				S	**S**	**13 01 02.6**	**+1.1**
	baz=208,slow=20,SNR=6.0						
PKIN	**Phulchoki**	**14.92**	**124**	*e*P	**Pn**	**12 58 15.2**	**-1.6**
	comp=E,269nm,0.5s						
PKI	**Pulchoki**	**14.93**	**124**	*e*P	**Pn**	**12 58 15.7**	**-1.3**
	comp=E,302nm,0.6s						
KURK	**Kurchatov**	**14.95**	**18**	⇓P	Pn	12 58 13.1	-3.5
	comp=E,7.1nm,0.8s						
KURK	**Kurchatov**	**14.95**	**18**	P	Pn	12 58 12.1	-4.5
KURK				S	**Sn**	**13 01 02.6**	**-0.9**
KURK	**Kurchatov**	**14.95**	**18**	*e*Pn	**Pn**	**12 58 13.8**	**-2.8**
KURK				S	**Sn**	**13 01 02.6**	**-0.9**
GUN	**Gumba**	**15.03**	**121**	*e*P	**Pn**	**12 58 15.5**	**-2.8**
	comp=E,187nm,0.4s						
AB31	**Akbulak array**	**15.08**	**330**	⇑P	**Pn**	**12 58 17.8**	**-0.5**
	comp=E,3.4nm,0.3s,baz=138,slow=10,SNR=120						
AB31				⇓S	Sn	13 00 55.6	-11
	comp=E,5.7nm,0.4s,baz=355,slow=40,SNR=4.0						
ABKAR	**Akbulak array**	**15.08**	**330**	*e*Pn	**Pn**	**12 58 17.7**	**-0.6**
	comp=E,8.1nm,0.4s						
JIRN	**Jiri**	**15.40**	**122**	*e*P	**Pn**	**12 58 20.7**	**-2.1**
	comp=E,664nm,0.5s						
RAMN	**Ramite**	**16.14**	**123**	*e*P	**P**	**12 58 29.3**	**-2.0**
	comp=E,151nm,0.4s						
BVA0	**Borovoye Array**	**16.35**	**358**	⇓P	**P**	**12 58 33.0**	**-0.1**
	comp=E,13nm,0.7s,baz=167,slow=7.9,SNR=67						
BVA0				⇓S	**S**	**13 01 30.5**	**-3.6**
	comp=E,4.9nm,0.7s,baz=165,slow=23,SNR=6.2						
BVAR	**Borovoye Array**	**16.35**	**358**	P	**P**	**12 58 32.9**	**-0.2**
	comp=E,2.7nm,0.3s,baz=167,slow=11,SNR=68						
BVAR				S	**S**	**13 01 32.4**	**-1.7**
	comp=E,0.5nm,0.3s,baz=161,slow=23,SNR=4.3						
BVAR	**Borovoye Array**	**16.35**	**358**	P	**P**	**12 58 32.9**	**-0.2**
BVAR				S	**S**	**13 01 32.4**	**-1.7**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
BVAR				smax	smax		
	comp=N,1.0nm,0.3s						
BRVK	**Borovoye**	**16.39**	**358**	⇓P	**P**	**12 58 33.2**	**-0.3**
	comp=N,17nm,0.7s						
BRVK				⇓S	**S**	**13 01 31.8**	**-3.1**
	comp=N,22nm,1.3s						
BRVK	**Borovoye**	**16.39**	**358**	*e*P	**P**	**12 58 33.4**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,16nm,0.9s						
BRVK	**Borovoye**	**16.39**	**358**	*e*P	**P**	**12 58 33.4**	**-0.1**
	comp=Z,16nm,0.9s						
TAPN	**Taplejung**	**16.65**	**119**	*e*P	**P**	**12 58 36.3**	**-0.7**
	comp=Z,137nm,0.3s						
ODAN	**Odare**	**16.73**	**121**	*e*P	**P**	**12 58 37.5**	**-0.4**
	comp=Z,113nm,0.5s						
BANOM	**Banah**	**16.77**	**234**	⇓*i*P	**P**	**12 58 37.9**	**-0.1**
	SNR=18						
AKTO	**Aktyubinsk**	**16.78**	**329**	P	**P**	**12 58 38.3**	**+0.4**
	comp=Z,5.0nm,0.3s,baz=140,slow=9.6,SNR=57						
AKTO				S	**S**	**13 01 40.8**	**-2.4**
	comp=Z,1.6nm,0.3s,baz=270,slow=20,SNR=6.2						
AKTO				LR	LR	13 05 34.3	
	comp=Z,35nm,18.9s,baz=113,slow=38						
AKTO	**Aktyubinsk**	**16.78**	**329**	P	**P**	**12 58 38.3**	**+0.4**
AKTO				S	**S**	**13 01 40.8**	**-2.4**
AKTO				pmax	pmax		
	comp=Z,5.0nm,0.3s						
AKTO				smax	smax		
	comp=N,2.0nm,0.3s						
AKTO				MLR	MLR		
	comp=Z,35nm,18.9s						
ASHO	**Ashiyiah**	**17.79**	**232**	⇓*i*P	**P**	**12 58 49.2**	**-0.1**
	SNR=25						
LSA	**Lhasa**	**17.92**	**107**	P	**Pn**	**12 58 53.8**	**+0.8**
LSA	**Lhasa**	**17.92**	**107**	*e*P	**Pn**	**12 58 54.3**	**+1.3**
LSA				pmax	pmax		
	comp=Z,46nm,0.7s						
LSA	**Lhasa**	**17.92**	**107**	*e*Pn	**Pn**	**12 58 54.3**	**+1.3**
	comp=Z,46nm,0.7s						
FAQ	**Al Faqa, Dubai**	**18.05**	**233**	⇓P	**Pn**	**12 58 53.4**	**-0.6**
ASUD	**Al Ashush, Dub**	**18.30**	**233**	⇓P	**P**	**12 58 54.8**	**+0.1**
RPR	**Rampur**	**19.07**	**157**	*e*Pn	**P**	**12 59 03.7**	**+0.6**
RPR				*e*		13 02 19.3	
ZAA0	**Zalesovo Array**	**19.61**	**24**	*e*P	**P**	**12 59 08.4**	**-0.1**
ZALV	**Zalesovo Beam**	**19.61**	**24**	P	**P**	**12 59 08.3**	**-0.2**
	comp=Z,5.7nm,0.3s,baz=224,slow=11,SNR=54						
ZALV	**Zalesovo Beam**	**19.61**	**24**	P	**P**	**12 59 08.3**	**-0.2**
ZALV				pmax	pmax		
	comp=Z,6.0nm,0.3s						
NVS	**Novosibirsk**	**19.89**	**20**	⇑*i*P	**P**	**12 59 10.0**	**-1.5**
NVS				*i* S	**S**	**13 02 42.2**	**-2.6**
NVS				pmax	pmax		
	comp=N,30nm,1.3s						
NVS				pmax	pmax		
	comp=Z,39nm,1.3s						
NVS				pmax	pmax		
	comp=E,5.0nm,0.8s						
NVS				smax	smax		
	comp=N,9.0nm,1.2s						
NVS				smax	smax		
	comp=E,18nm,1.2s						
HYBB	**Hyderabad (bro**	**20.21**	**160**	*e*P	**P**	**12 59 15.4**	**0.0**
HYBB				*e*S	**S**	**13 02 51.2**	**-0.7**
HYB	**Hyderabad**	**20.21**	**160**	*i* P	**P**	**12 59 15.0**	**-0.4**
HYB				*e*S	**S**	**13 02 48.5**	**-3.5**
DGRG	**David-gareji**	**20.73**	**291**	P	**P**	**12 59 23.0**	**+2.3**
GNI	**Garni**	**21.15**	**288**	P	**P**	**12 59 25.9**	**+0.6**
	comp=E,5.9nm,0.5s,baz=137,slow=5.8,SNR=5.5						
GNI	**Garni**	**21.15**	**288**	*c i*P	**P**	**12 59 26.4**	**+1.1**
GNI				pmax	pmax		
	comp=Z,35nm,1.3s						
GNI	**Garni**	**21.15**	**288**	*e*P	**P**	**12 59 28.3**	**+3.0**
TBLG	**Delisi**	**21.23**	**292**	P	**P**	**12 59 28.1**	**+2.1**
NJS	**Nagarjunasagar**	**21.25**	**159**	*e*P	**P**	**12 59 25.7**	**-0.6**
NJS				*e*S	**S**	**13 03 11.3**	**+0.2**
SVE	**Sverdlovsk**	**21.40**	**344**	*e*P	**P**	**12 59 27.7**	**+0.1**
SVE				pmax	pmax		
	comp=Z,23nm,1.3s						
ARU	**Arti**	**21.56**	**340**	*c i*P	**P**	**12 59 28.9**	**-0.4**
ARU						13 00 00.5	
ARU				S	**S**	**13 03 17.0**	**+1.3**
ARU				pmax	pmax		
	comp=Z,31nm,1.2s						
ARU	**Arti**	**21.56**	**340**	*e*P	**P**	**12 59 29.2**	**-0.1**
	comp=Z,43nm,1.4s						
ZEI	**Tsey**	**21.96**	**295**	*e*P	**P**	**12 59 34.4**	**+0.7**
ZEI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ONI	**Oni**	**22.26**	**294**	P	**P**	**12 59 38.4**	**+1.9**
URV	**Uravakonda**	**22.27**	**165**	*e*P	**P**	**12 59 36.6**	**-0.1**
URV				*e*		13 03 13.5	
GTA	**Gaotai**	**22.50**	**74**	*e*P	**P**	**12 59 40.5**	**+1.8**
GTA				pP	**pP**	**13 00 15.9**	**+4.0**
GTA				sP	**sP**	**13 00 39.6**	**+4.3**
GTA				PMZ			
	comp=Z,5.0nm,0.9s						
KBZ	**Khabaz**	**22.81**	**297**	P	**P**	**12 59 42.1**	**+0.8**
	comp=Z,3.4nm,0.8s,baz=236,slow=24,SNR=12						
KBZ	**Khabaz**	**22.81**	**297**	P	**P**	**12 59 42.1**	**+0.8**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NEY	**Neytrino**	**22.87**	**296**	*e*P	**P**	**12 59 42.4**	**+0.3**
NEY				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KIV	**Kislovodsk**	**22.99**	**297**	*e*P	P	12 59 50.5	+7.4
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,34nm,15.0s						
KIV	**Kislovodsk**	**22.99**	**297**	P	**P**	**12 59 43.8**	**+0.7**
SKHT	**Srikalahasti**	**24.03**	**160**	*e*P	**P**	**12 59 53.0**	**+0.4**
SOKR	**Solikamsk**	**24.80**	**342**	*e*P	**P**	**13 00 00.6**	**+1.5**
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.5s						
RAYN	**Ar Rayn**	**25.88**	**247**	*e*P	**P**	**13 00 09.9**	**+0.5**
	comp=Z,2.8nm,0.9s						
VORD	**Divnogorie**	**26.95**	**312**	*e*P	**P**	**13 00 18.3**	**-0.3**
VORD				pmax	pmax		
	comp=N,10.0nm,0.7s						
VORD				pmax	pmax		
	comp=E,20nm,0.7s						
VORD				pmax	pmax		
	comp=Z,6.0nm,0.7s						
VSR	**Storozhevoye**	**27.11**	**313**	*e*P	**P**	**13

comp=Z,290nm,13.4s
HHC LE
comp=Z,340nm,11.8s
KLMR Klimovskoe 31.48 330 *e*P **P 13 00 58.5 +0.1**
KLMR pmax pmax
comp=Z,14nm,1.0s
GYA Guiyang 31.57 99 *e*P **P 13 01 01.8 +2.0**
GYA pP **pP 13 01 40.5 +2.1**
GYA sP **sP 13 02 02.4 +2.5**
GYA PP **PnPn 13 02 13.0 +1.4**
GYA S **S 13 05 53.3 -1.4**
GYA sS **sS 13 07 03.0 -0.1**
GYA PMZ
comp=Z,10.0nm,0.8s
UTTA Uttaradit 31.87 118 P **P 13 01 03.4 +1.0**
comp=Z,6.8nm,0.7s
KHLT Khaolaem Dam 32.58 125 P **P 13 01 10.3 +1.7**
comp=Z,11nm,0.9s
UTHA Uthaitani 32.61 123 P **P 13 01 10.2 +1.4**
comp=Z,8.4nm,0.8s,comp=Z,91nm
PBKT Sadao Pong 32.95 120 P **P 13 01 12.8 +1.0**
comp=Z,27nm,0.6s
AKASG Malin Array Be 33.08 309 P **P 13 01 12.5 0.0**
comp=Z,3.7nm,0.3s,baz=80,slow=7.1,SNR=23
AKASG Malin Array Be 33.08 309 *i*P **P 13 01 12.6 0.0**
AKASG pmax pmax
comp=Z,4.0nm,0.3s
AK02 Malin Array Si 33.09 308 *e*P **P 13 01 12.3 -0.3**
AK01 Malin Array Si 33.09 309 *e*P **P 13 01 12.9 +0.3**
KIEV Kiev 33.09 309c *i*P **P 13 01 12.5 -0.1**
SRDT SRDT 33.26 125 P **P 13 01 15.9 +1.4**
comp=Z,102nm,1.0s,comp=Z,14µm
CFR Carcaliu 33.44 298⇓ *i*P **P 13 01 16.8 +1.1**
CHAI Chaiyaphum 34.12 119 P **P 13 01 22.9 +1.0**
comp=Z,10nm,1.0s,comp=Z,112nm
KHON Khomkaen 34.42 118 P **P 13 01 25.3 +0.8**
comp=Z,28nm,0.7s
TESR Tescani 34.47 301⇑ *i*P **P 13 01 25.8 +1.2**
PLOR Plostina 34.47 300⇑ *i*P **P 13 01 26.4 +1.7**
NAYO Nakonayok 34.76 122 P **P 13 01 28.4 +1.0**
comp=Z,17nm,0.9s
SKNT Sakolnakorn 34.83 116 P **P 13 01 28.2 +0.2**
comp=Z,60nm,1.1s
MLR Muntele Rosu 34.98 299⇓ *i*P **P 13 01 31.7 +2.6**
BJI Beijing 34.98 71 P **P 13 01 30.6 +1.6**
BJI PMZ
comp=Z,8.0nm,0.7s
BOD Bodaibo 34.99 39 *e*P **P 13 01 28.3 -0.6**
BOD pmax pmax
comp=Z,3.0nm,1.4s
DOPR Dopca 35.35 300⇓ *i*P **P 13 01 34.0 +1.8**
BURAR Bucovina Array 35.46 303⇓ *i*P **P 13 01 34.5 +1.3**
BUR08 Bucovina Ar. S 35.47 303 *e*P **P 13 01 34.0 +0.7**
VOIR 35.61 299⇓ *i*P **P 13 01 35.6 +1.2**
ARR Arges 35.90 299⇑ *i*P **P 13 01 38.8 +1.8**
VSU Vasula 36.24 321 *e*P **P 13 01 39.7 +0.2**
VSU pmax pmax
comp=Z,38nm,1.0s
LVV L'vov 36.31 306 *e*P **P 13 01 40.5 +0.2**
LOT Lotru 36.51 299⇑ *i*P **P 13 01 43.8 +1.7**
KWP Kalwaria Pacla 37.16 306 *e*P **P 13 01 48.8 +1.3**
KWP Kalwaria Pacla 37.16 306 *e*P **P 13 01 49.2 +1.7**
KWP pmax pmax
comp=Z,11nm,0.4s
KWP Kalwaria Pacla 37.16 306⇑ *i*P **P 13 01 49.4 +1.9**
KWP Kalwaria Pacla 37.16 306 *e*P **P 13 01 49.2 +1.7**
comp=Z,11nm,0.4s
DRGR 37.18 301⇑ *i*P **P 13 01 49.7 +2.0**
GZR Gura Zlata 37.21 299⇓ *i*P **P 13 01 49.1 +1.1**
LVZ Lovozero 37.40 338 *e*P **P 13 01 49.8 +0.5**
LVZ pmax pmax
comp=Z,30nm,1.4s
LVZ Lovozero 37.40 338 *e*P **P 13 01 49.8 +0.5**
comp=Z,30nm,1.4s
KOLS Kolonicke sedl 37.44 305 *e*P **P 13 01 50.7 +0.9**
KOLS pmax pmax
comp=Z,8.0nm,1.3s
KOLS Kolonicke sedl 37.44 305 *e*P **P 13 01 50.7 +0.9**
FIA1 FINESS Array S 37.51 326 *e*P **P 13 01 50.2 +0.1**
FINES FINESS Array B 37.51 326 P **P 13 01 50.7 +0.5**
comp=Z,7.7nm,0.4s,baz=126,slow=9.8,SNR=72
FINES FINESS Array B 37.51 326 P **P 13 01 50.7 +0.5**
FINES pmax pmax
comp=Z,8.0nm,0.4s
STHS Stebnicka Huta 38.11 306 *e*P **P 13 01 55.7 +0.2**
STHS pmax pmax
comp=Z,6.0nm,0.7s
STHS Stebnicka Huta 38.11 306 *e*P **P 13 01 55.7 +0.2**
NIE Niedzica 38.72 306 *e*P **P 13 02 02.2 +1.7**
NIE Niedzica 38.72 306 *e*P **P 13 02 02.2 +1.7**
PSZ Piszkesteto 39.04 303⇓ *i*P **P 13 02 04.8 +1.5**
OJC Ojcow 39.05 307 *e*P **P 13 02 03.8 +0.6**
OJC Ojcow 39.05 307 *e*P **P 13 02 04.0 +0.8**
OJC pmax pmax
comp=Z,10.0nm,0.8s
OJC Ojcow 39.05 307 *e*P **P 13 02 04.0 +0.8**
comp=Z,10nm,0.8s
NJ2 Nanjing 39.12 82 *e*P **P 13 02 06.0 +2.0**
NJ2 PMZ
comp=Z,50nm,0.9s
VYHS Vyhne 39.72 304 *e*P **P 13 02 09.8 +1.0**
VYHS pmax pmax
comp=Z,3.0nm,1.4s
VYHS Vyhne 39.72 304 *e*P **P 13 02 09.8 +1.0**
MORC Moravsky Berou 40.52 306 *e*P **P 13 02 15.8 +0.5**
MORC pmax pmax
comp=Z,8.0nm,0.7s
MORC Moravsky Berou 40.52 306⇑ *i*P **P 13 02 16.3 +1.0**
MORC Moravsky Berou 40.52 306 *e*P **P 13 02 15.8 +0.5**
comp=Z,8.3nm,0.7s
ARCES ARCESS Array B 41.09 337 P **P 13 02 20.5 +0.7**
comp=Z,13nm,0.6s,baz=112,slow=8.4,SNR=148
ARCES LR LR 13 20 53.5
comp=Z,63nm,18.8s,baz=196,slow=38
ARCES ARCESS Array B 41.09 337 P **P 13 02 20.5 +0.7**
ARCES pmax pmax
comp=Z,13nm,0.6s
ARCES MLR MLR
comp=Z,63nm,18.8s
ARE0 ARCESS Array S 41.09 337 *e*P **P 13 02 20.1 +0.4**
ARE0 IAmb IAmb 13 02 21.1
comp=Z,14nm,0.8s
VRAC Vranov 41.16 306⇓ *i*P **P 13 02 22.3 +1.8**
DPC Dobruska-Polom 41.28 307 *e*P **P 13 02 22.8 +1.2**
DPC Dobruska-Polom 41.28 307 *e*P **P 13 02 22.8 +1.2**
UPC Upice 41.47 307 *e*P P 13 02 26.7 +3.6
UPC Upice 41.47 307 *e*P P 13 02 26.7 +3.6
KTK1 Kautokeino 41.58 336 *e*P **P 13 02 24.3 +0.6**
CONA Conrad Observa 41.75 304⇑ *i*P **P 13 02 26.6 +1.1**
comp=Z,16nm,1.0s,SNR=7.5
TREC Trest 41.88 306 *e*P **P 13 02 27.7 +1.3**
TREC Trest 41.88 306 *e*P **P 13 02 27.7 +1.3**
PERS Pernice 42.40 302 *i*P **P 13 02 31.7 +1.0**
PRU Pruhonice 42.44 307 *e*P **P 13 02 32.2 +1.3**
PRU Pruhonice 42.44 307 *e*P **P 13 02 32.2 +1.3**
SOKA Soboth 42.45 302 *i*P **P 13 02 32.4 +1.2**
comp=Z,8.9nm,0.5s,SNR=10.0
GSI Gunungsitoli 42.72 139 *e*P **P 13 02 34.3 +0.8**
comp=Z,26nm,0.6s
BRG Berggiesshubel 42.76 308⇑ *i*P **P 13 02 34.6 +1.1**
comp=Z,13nm,0.9s
BRG Berggiesshubel 42.76 308 *e*P **P 13 02 34.4 +0.9**
comp=Z,13nm,0.9s
BRG Berggiesshubel 42.76 308⇑ *i*P **P 13 02 34.6 +1.1**
BRG pmax pmax
comp=Z,13nm,0.9s
MOA Molln 42.82 304⇑ *i*P **P 13 02 34.8 +0.7**
comp=Z,9.6nm,0.9s,SNR=6.8
LJU Ljubljana 42.88 301 *i*P **P 13 02 35.8 +1.3**
KHC Kasperske Hory 43.14 306 *e*P **P 13 02 37.9 +1.3**
KHC Kasperske Hory 43.14 306 *e*P **P 13 02 37.9 +1.3**
TRO Tromso 43.23 336 *e*P **P 13 02 36.5 -0.4**
CLL Collm 43.33 309 *e*P **P 13 02 38.5 +0.5**
comp=Z,7.0nm,0.8s
CLL Collm 43.33 309 *i*P **P 13 02 38.3 +0.3**
comp=Z,7.0nm,0.8s
CLL Lm MLR 13 16 00.0
comp=Z,100nm,21.4s
CLL Collm 43.33 309 *e*P **P 13 02 38.5 +0.5**
CLL pmax pmax
comp=Z,8.0nm,0.8s
CLL Collm 43.33 309 *e*P **P 13 02 38.5 +0.5**
comp=Z,7.6nm,0.8s
KBA Koelnbreinsper 43.54 303⇑ *i*P **P 13 02 40.5 +0.5**
comp=Z,3.7nm,0.5s

ROBS Robic 43.55 301 *i*P **P 13 02 40.3 +0.5**
YAK Yakutsk 43.62 36 P **P 13 02 39.6 -0.5**
comp=Z,13nm,0.5s,baz=321,slow=0.6,SNR=9.1
YAK Yakutsk 43.62 36 *i*P **P 13 02 39.7 -0.5**
YAK pmax pmax
comp=Z,16nm,0.7s
YAK Yakutsk 43.62 36 *e*P **P 13 02 40.0 -0.2**
TANN Tannenbergstha 43.74 308 *e*P **P 13 02 42.2 +0.8**
comp=Z,6.0nm,1.1s
MOR8 Moi Rana 43.81 331 *e*P **P 13 02 41.5 -0.2**
MOR8 IAmb IAmb 13 02 41.9
comp=Z,46nm,0.7s
STEI Steigen 43.95 333 *e*P **P 13 02 43.5 +0.8**
ROTZ Rotzenmuhle 43.97 307 *e*P **P 13 02 44.5 +1.4**
comp=Z,6.0nm,1.0s
MNSI Mandailing Nat 44.22 137 P **P 13 02 47.4 +1.9**
NC602 NORSAR Array S 44.24 322 *e*P **P 13 02 45.1 0.0**
FLOS Flostrand 44.27 331 *e*P **P 13 02 48.0 +2.7**
KONS Konsvik 44.41 331 *e*P **P 13 02 46.3 0.0**
STOK Stokkvaagen 44.41 331 *e*P **P 13 02 46.8 +0.4**
NB2 NORSAR Subarra 44.43 323 P **P 13 02 46.5 -0.2**
comp=Z,15nm,0.5s,baz=96,slow=7.9
NB2 NORSAR Subarra 44.43 323 P **P 13 02 46.5 -0.2**
baz=96,slow=7.9
NOA NORSAR Array B 44.43 323 P **P 13 02 46.4 -0.3**
comp=Z,15nm,0.5s,baz=96,slow=7.8,SNR=111
NOA pP **pP 13 03 25.8 -1.5**
comp=Z,2.2nm,0.7s,baz=96,slow=8.1,SNR=2.2
NOA NORSAR Array B 44.43 323 P **P 13 02 46.4 -0.3**
NOA *PP **pP 13 03 25.8 -1.5**
NOA pmax pmax
comp=Z,15nm,0.5s
NOA pmax pmax
comp=Z,2.0nm,0.7s
KSAR Wonju Array Be 44.48 71 P **P 13 02 47.7 +0.3**
KSAR Wonju Array Be 44.48 71 P **P 13 02 47.7 +0.3**
KSRS Korea Array 44.51 71 P **P 13 02 47.7 +0.1**
comp=Z,2.0nm,0.6s,baz=277,slow=7.0,SNR=11
KSRS Korea Array 44.51 71 P **P 13 02 47.7 +0.1**
KSRS pmax pmax
comp=Z,2.0nm,0.6s
NAO01 NORSAR Array S 44.57 323 *e*P **P 13 02 47.3 -0.4**
comp=Z,8.6nm,0.7s
LOF Lofoten 44.62 333 *e*P **P 13 02 48.1 +0.1**
BSEG Bad Segeberg 44.80 313 *e*P **P 13 02 50.8 +1.1**
comp=Z,12nm,0.7s
CLZ Clausthal 44.92 310 *e*P **P 13 02 51.6 +0.9**
comp=Z,434nm,5.1s
MOTA Moosalm 45.01 303⇑ *i*P **P 13 02 51.3 -0.4**
comp=Z,5.3nm,0.6s
NRDL Niedersach Rie 45.03 311 *e*P **P 13 02 52.3 +0.9**
KONO Kongsberg 45.15 321 *e*P **P 13 02 52.3 -0.1**
KONO IAmb IAmb 13 02 52.9
comp=Z,11nm,0.5s
KONO Kongsberg 45.15 321 *e*P **P 13 02 52.2 -0.1**
KONO pmax pmax
comp=Z,11nm,0.9s
KONO Kongsberg 45.15 321 *e*P **P 13 02 52.2 -0.1**
comp=Z,11nm,0.9s
FETA Feichten 45.32 303⇓ *i*P **P 13 02 53.9 -0.2**
comp=Z,3.2nm,0.5s
TIXI Tiksi 45.47 22c *i*P **P 13 02 54.6 -0.1**
TIXI pmax pmax
comp=Z,11nm,1.0s
TIXI Tiksi 45.47 22 *e*P **P 13 02 54.5 -0.1**
comp=Z,11nm,0.8s
HOMB Homborsund 45.69 319 *e*P **P 13 02 56.9 +0.3**
FUORN Ofenpass-Fuorn 45.70 302 *e*P **P 13 02 57.8 +0.6**
comp=Z,4.8nm,0.7s
DAVA Damuels 45.84 303⇑ *i*P **P 13 02 58.3 +0.1**
comp=Z,18nm,0.5s,SNR=9.9
IBBN Ibbenburen 46.48 311 *e*P **P 13 03 03.3 +0.5**
comp=Z,14nm,0.7s
ODD1 Odda 46.65 321 *e*P **P 13 03 05.0 +0.9**
BLS5 Blasjo 46.74 321 *e*P **P 13 03 05.9 +1.1**
BLS5 IAmb IAmb 13 03 06.2
comp=Z,10nm,1.1s
HYA Hoyanger 46.87 323 *e*P **P 13 03 06.9 +1.2**
BUG Bochum--Univer 46.89 310 *e*P **P 13 03 06.8 +0.8**
RUND Rundenannen 47.28 322 *e*P **P 13 03 08.6 -0.4**
CDF Champ du Feu 47.37 305 *e*P **P 13 03 10.3 +0.4**
comp=Z,9.1nm,0.8s
CDF Champ du Feu 47.37 305 *e*P **P 13 03 10.3 +0.4**
CDF pmax pmax
comp=Z,9.0nm,0.8s
CDF Champ du Feu 47.37 305 *e*P **P 13 03 10.3 +0.4**
comp=Z,9.1nm,0.8s
SPA0 Spitsbergen Ar 47.38 347 *e*P **P 13 03 10.8 +1.3**
SPA0 IAmb IAmb 13 03 11.4
comp=Z,12nm,0.7s
SPITS Spitsbergen Ar 47.38 347 P **P 13 03 10.8 +1.3**
comp=Z,9.5nm,0.6s,baz=108,slow=9.7,SNR=37
SPITS Spitsbergen Ar 47.38 347 P **P 13 03 10.8 +1.3**
SPITS pmax pmax
comp=Z,10.0nm,0.6s
PGF Pioggiola 47.48 297 *e*P **P 13 03 10.4 -0.4**
comp=Z,12nm,0.6s
PGF Pioggiola 47.48 297 *e*P **P 13 03 10.4 -0.4**
PGF pmax pmax
comp=Z,12nm,0.6s
PGF Pioggiola 47.48 297 *e*P **P 13 03 10.4 -0.4**
comp=Z,12nm,0.6s
ECH Echery 47.48 305 *e*P **P 13 03 10.5 -0.2**
ECH Echery 47.48 305 *e*P **P 13 03 10.5 -0.2**
HINF Hinteralfeld 47.76 305 *e*P **P 13 03 12.8 -0.1**
comp=Z,15nm,0.7s
HINF Hinteralfeld 47.76 305 *e*P **P 13 03 12.8 -0.1**
HINF pmax pmax
comp=Z,15nm,0.7s
HINF Hinteralfeld 47.76 305 *e*P **P 13 03 12.8 -0.1**
comp=Z,15nm,0.7s
SENIN Lac Senin/Sane 47.76 303 *e*P **P 13 03 13.2 +0.1**
MEM Membach 47.80 309 P **P 13 03 14.1 +1.0**
comp=Z,4.4nm,0.9s
MEM Membach 47.80 309 *e*P **P 13 03 14.1 +1.0**
MEM pmax pmax
comp=Z,8.0nm,0.8s
MEM Membach 47.80 309 *e*P **P 13 03 14.1 +1.0**
comp=Z,7.7nm,0.8s
WLF Walferdange 47.87 307 P **P 13 03 15.1 +1.5**
comp=Z,10nm,1.2s
WLF Walferdange 47.87 307 *e*P **P 13 03 14.9 +1.3**
comp=Z,15nm,0.8s
WLF Walferdange 47.87 307 *e*P **P 13 03 15.1 +1.5**
WLF pmax pmax
comp=Z,13nm,0.7s
WLF Walferdange 47.87 307 *e*P **P 13 03 15.1 +1.5**
comp=Z,13nm,0.7s
HAU Haudompre 48.05 305⇑ *i*P **P 13 03 15.2 +0.1**
comp=Z,14nm,0.6s
HAU Haudompre 48.05 305⇑ *i*P **P 13 03 15.2 +0.1**
HAU pmax pmax
comp=Z,14nm,0.6s
HAU Haudompre 48.05 305⇑ *i*P **P 13 03 15.2 +0.1**
comp=Z,14nm,0.6s
SBF Sospel 48.25 299 *e*P **P 13 03 17.1 +0.4**
SBF Sospel 48.25 299 *e*P **P 13 03 17.1 +0.4**
SBF Sospel 48.25 299 *e*P **P 13 03 17.1 +0.4**
LPG La Plagne 48.33 302 *e*P **P 13 03 17.9 +0.3**
comp=Z,11nm,0.6s
LPG La Plagne 48.33 302 *e*P **P 13 03 17.9 +0.3**
LPG pmax pmax
comp=Z,11nm,0.6s
LPG La Plagne 48.33 302 *e*P **P 13 03 17.9 +0.3**
comp=Z,11nm,0.6s
LPL La Plagne 48.34 302 *e*P **P 13 03 17.9 +0.4**
comp=Z,9.1nm,0.5s
LPL La Plagne 48.34 302 *e*P **P 13 03 17.9 +0.4**
LPL pmax pmax
comp=Z,9.0nm,0.5s
LPL La Plagne 48.34 302 *e*P **P 13 03 17.9 +0.4**
comp=Z,9.1nm,0.5s
PAGF Fort de Pagny 48.35 306⇑ *i*P **P 13 03 18.2 +0.8**
comp=Z,10nm,0.8s
PAGF Fort de Pagny 48.35 306⇑ *i*P **P 13 03 18.2 +0.8**
comp=Z,10nm,0.8s
MBDF Montbardon 48.50 301 *e*P **P 13 03 18.4 -0.3**
comp=Z,15nm,0.5s
MBDF Montbardon 48.50 301 *e*P **P 13 03 18.4 -0.3**
MBDF pmax pmax
comp=Z,15nm,0.5s
MBDF Montbardon 48.50 301 *e*P **P 13 03 18.4 -0.3**
comp=Z,15nm,0.5s
KBS Kingsbay 48.50 347 *e*P **P 13 03 19.2 +1.2**
KBS IAmb IAmb 13 03 19.8
comp=Z,15nm,0.7s

CABF La Chapelle 48.52 303 *e*P **P 13 03 19.5 +0.7**
comp=Z,11nm,0.5s
CABF La Chapelle 48.52 303 *e*P **P 13 03 19.5 +0.7**
CABF pmax pmax
comp=Z,11nm,0.5s
CABF La Chapelle 48.52 303 *e*P **P 13 03 19.5 +0.7**
comp=Z,11nm,0.5s
DOU Dourbes 48.78 308 P **P 13 03 21.8 +1.2**
comp=Z,5.0nm,1.4s
MEZF Maizieres J'vi 48.80 306⇑ *i*P **P 13 03 21.4 +0.6**
comp=Z,11nm,0.5s
MEZF Maizieres J'vi 48.80 306⇑ *i*P **P 13 03 21.4 +0.6**
comp=Z,11nm,0.5s
SFTF Sexfontaines 48.87 306 *e*P **P 13 03 21.6 +0.3**
SFTF Sexfontaines 48.87 306 *e*P **P 13 03 21.6 +0.3**
FRF La Foret Royal 48.88 299 *e*P **P 13 03 21.5 +0.1**
FRF La Foret Royal 48.88 299 *e*P **P 13 03 21.5 +0.1**
FRF La Foret Royal 48.88 299 *e*P **P 13 03 21.5 +0.1**
SNF Seneffe 48.90 309 P **P 13 03 22.3 +0.9**
BAIF Baives 49.03 308⇑ *i*P **P 13 03 23.4 +0.9**
comp=Z,26nm,0.9s
BAIF Baives 49.03 308⇑ *i*P **P 13 03 23.4 +0.9**
BAIF pmax pmax
comp=Z,26nm,0.9s
BAIF Baives 49.03 308⇑ *i*P **P 13 03 23.4 +0.9**
comp=Z,26nm,0.9s
LMR La Mourre 49.03 299 *e*P **P 13 03 23.1 +0.5**
LMR La Mourre 49.03 299 *e*P **P 13 03 23.1 +0.5**
LMR La Mourre 49.03 299 *e*P **P 13 03 23.1 +0.5**
ORIF Oris-en-Rattie 49.06 301 *e*P **P 13 03 22.7 -0.2**
ORIF Oris-en-Rattie 49.06 301 *e*P **P 13 03 22.7 -0.2**
ORIF Oris-en-Rattie 49.06 301 *e*P **P 13 03 22.7 -0.2**
KEST Kesra 49.29 289 P **P 13 03 25.4 +0.7**
comp=Z,1.8nm,0.6s,baz=0.0,slow=5.1,SNR=9.1
SMRF Simiane la Rot 49.52 300 *e*P **P 13 03 26.6 +0.3**
SMRF Simiane la Rot 49.52 300 *e*P **P 13 03 26.6 +0.3**
LOR Lormes 49.86 305 *e*P **P 13 03 28.4 -0.4**
comp=Z,6.7nm,0.7s
LOR Lormes 49.86 305 *e*P **P 13 03 28.4 -0.4**
LOR pmax pmax
comp=Z,7.0nm,0.7s
LOR Lormes 49.86 305 *e*P **P 13 03 28.4 -0.4**
comp=Z,6.7nm,0.7s
VIVF Saint-Julien-l 49.91 301⇑ *i*P **P 13 03 29.5 +0.2**
comp=Z,18nm,0.6s
VIVF Saint-Julien-l 49.91 301⇑ *i*P **P 13 03 29.5 +0.2**
VIVF pmax pmax
comp=Z,18nm,0.6s
VIVF Saint-Julien-l 49.91 301⇑ *i*P **P 13 03 29.5 +0.2**
comp=Z,18nm,0.6s
SMF Signal de Mont 50.02 304⇑ *i*P **P 13 03 30.0 0.0**
comp=Z,24nm,0.6s
SMF Signal de Mont 50.02 304⇑ *i*P **P 13 03 30.0 0.0**
SMF pmax pmax
comp=Z,24nm,0.6s
SMF Signal de Mont 50.02 304⇑ *i*P **P 13 03 30.0 0.0**
comp=Z,24nm,0.6s
SSF Saint Saulge 50.14 304 *e*P **P 13 03 30.7 -0.2**
SSF Saint Saulge 50.14 304 *e*P **P 13 03 30.7 -0.2**
SSF Saint Saulge 50.14 304 *e*P **P 13 03 30.7 -0.2**
AVF Avril sur Loir 50.31 304⇑ *i*P **P 13 03 32.2 0.0**
comp=Z,22nm,0.6s
AVF Avril sur Loir 50.31 304⇑ *i*P **P 13 03 32.2 0.0**
AVF pmax pmax
comp=Z,23nm,0.6s
AVF Avril sur Loir 50.31 304⇑ *i*P **P 13 03 32.2 0.0**
comp=Z,22nm,0.6s
HYF Humbligny 50.66 305 *e*P **P 13 03 35.3 +0.5**
HYF Humbligny 50.66 305 *e*P **P 13 03 35.3 +0.5**
LASF Ste Croix 50.68 301 *e*P **P 13 03 35.6 +0.5**
comp=Z,4.0nm,0.4s
LASF Ste Croix 50.68 301 *e*P **P 13 03 35.6 +0.5**
comp=Z,4.0nm,0.4s
TCF Toulx Ste Croi 51.20 304⇑ *i*P **P 13 03 39.3 +0.4**
comp=Z,14nm,0.6s
TCF Toulx Ste Croi 51.20 304⇑ *i*P **P 13 03 39.3 +0.4**
TCF pmax pmax
comp=Z,14nm,0.6s
TCF Toulx Ste Croi 51.20 304⇑ *i*P **P 13 03 39.3 +0.4**
comp=Z,14nm,0.6s
CAF Calviac 51.67 302⇑ *i*P **P 13 03 42.9 +0.5**
comp=Z,6.2nm,0.6s
CAF Calviac 51.67 302⇑ *i*P **P 13 03 42.9 +0.5**
CAF pmax pmax
comp=Z,6.0nm,0.6s
CAF Calviac 51.67 302⇑ *i*P **P 13 03 42.9 +0.5**
comp=Z,6.2nm,0.6s
RJF Les Rejaudoux 51.94 303 *e*P **P 13 03 44.9 +0.6**
comp=Z,5.1nm,0.6s
RJF Les Rejaudoux 51.94 303 *e*P **P 13 03 44.9 +0.6**
RJF pmax pmax
comp=Z,5.0nm,0.6s
RJF Les Rejaudoux 51.94 303 *e*P **P 13 03 44.9 +0.6**
comp=Z,5.1nm,0.6s
MTLF Montolieu 52.03 300⇑ *i*P **P 13 03 45.3 +0.2**
comp=Z,4.5nm,0.4s
MTLF Montolieu 52.03 300⇑ *i*P **P 13 03 45.3 +0.2**
MTLF pmax pmax
comp=Z,5.0nm,0.4s
MTLF Montolieu 52.03 300⇑ *i*P **P 13 03 45.3 +0.2**
comp=Z,4.5nm,0.4s
LDF La Druitiere 52.12 307 *e*P **P 13 03 45.3 -0.3**
comp=Z,12nm,0.6s
LDF La Druitiere 52.12 307 *e*P **P 13 03 45.3 -0.3**
LDF pmax pmax
comp=Z,12nm,0.6s
LDF La Druitiere 52.12 307 *e*P **P 13 03 45.3 -0.3**
comp=Z,12nm,0.6s
FLN La Foliniere 52.31 307⇑ *i*P **P 13 03 46.7 -0.3**
comp=Z,18nm,0.7s
FLN La Foliniere 52.31 307⇑ *i*P **P 13 03 46.7 -0.3**
FLN pmax pmax
comp=Z,18nm,0.7s
FLN La Foliniere 52.31 307⇑ *i*P **P 13 03 46.7 -0.3**
comp=Z,18nm,0.7s
LFF La Frestale 52.57 302 *e*P **P 13 03 49.4 +0.4**
comp=Z,12nm,0.5s
LFF La Frestale 52.57 302 *e*P **P 13 03 49.4 +0.4**
LFF pmax pmax
comp=Z,12nm,0.5s
LFF La Frestale 52.57 302 *e*P **P 13 03 49.4 +0.4**
comp=Z,12nm,0.5s
MJAR Matsushiro Arr 52.58 69 P **P 13 03 48.1 -1.1**
comp=Z,1.6nm,0.7s,baz=289,slow=8.4,SNR=6.5
MJAR Matsushiro Arr 52.58 69 P **P 13 03 48.1 -1.1**
MJAR pmax pmax
comp=Z,2.0nm,0.7s
GRR Gorron 52.65 307 *e*P **P 13 03 49.2 -0.3**
comp=Z,18nm,0.7s
GRR Gorron 52.65 307 *e*P **P 13 03 49.2 -0.3**
GRR pmax pmax
comp=Z,18nm,0.7s
GRR Gorron 52.65 307 *e*P **P 13 03 49.2 -0.3**
comp=Z,18nm,0.7s
MFF Saint Martin d 52.68 305 *e*P **P 13 03 49.4 -0.4**
comp=Z,6.8nm,0.7s
MFF Saint Martin d 52.68 305 *e*P **P 13 03 49.4 -0.4**
MFF pmax pmax
comp=Z,7.0nm,0.7s
MFF Saint Martin d 52.68 305 *e*P **P 13 03 49.4 -0.4**
comp=Z,6.8nm,0.7s
EPF Esparros 53.44 300 *e*P **P 13 03 54.7 -0.7**
EPF Esparros 53.44 300 *e*P **P 13 03 54.7 -0.7**
EPF Esparros 53.44 300 *e*P **P 13 03 54.7 -0.7**
SGMF Saint Gilles 53.78 307⇑ *i*P **P 13 03 57.7 0.0**
comp=Z,17nm,0.7s
SGMF Saint Gilles 53.78 307⇑ *i*P **P 13 03 57.7 0.0**
SGMF pmax pmax
comp=Z,17nm,0.7s
SGMF Saint Gilles 53.78 307⇑ *i*P **P 13 03 57.7 0.0**
comp=Z,17nm,0.7s
SEY Seymchan 54.08 34 *i*P **P 13 03 59.9 +0.3**
ETSF Etsaut 54.10 300⇑ *i*P **P 13 04 00.6 +0.3**
comp=Z,18nm,0.5s
ETSF Etsaut 54.10 300⇑ *i*P **P 13 04 00.6 +0.3**
ETSF pmax pmax
comp=Z,18nm,0.5s
ETSF Etsaut 54.10 300⇑ *i*P **P 13 04 00.6 +0.3**
comp=Z,18nm,0.5s
ROSF Rostrenen 54.21 308⇑ *i*P **P 13 04 00.7 -0.2**
comp=Z,20nm,0.7s
ROSF Rostrenen 54.21 308⇑ *i*P **P 13 04 00.7 -0.2**
ROSF pmax pmax
comp=Z,20nm,0.7s
ROSF Rostrenen 54.21 308⇑ *i*P **P 13 04 00.7 -0.2**
comp=Z,20nm,0.7s

QUIF	**Quistinic**	**54.27**	**307**	⇑	*iP*		**P**	**13 04 00.9**	**-0.3**
	comp=Z,16nm,0.7s								
QUIF	**Quistinic**	**54.27**	**307**	⇑	*iP*		**P**	**13 04 00.9**	**-0.3**
QUIF					pmax	pmax			
	comp=Z,17nm,0.7s								
QUIF	**Quistinic**	**54.27**	**307**	⇑	*iP*		**P**	**13 04 00.9**	**-0.3**
	comp=Z,16nm,0.7s								
SJPF	**Ste Jean**	**54.49**	**301**		*eP*		**P**	**13 04 03.7**	**+0.7**
SJPF	**Ste Jean**	**54.49**	**301**		*eP*		**P**	**13 04 03.7**	**+0.7**
SJPF	**Ste Jean**	**54.49**	**301**		*eP*		**P**	**13 04 03.7**	**+0.7**
DAG	**Danmarks Havn**	**54.64**	**344**	⇑	*iP*		**P**	**13 04 04.1**	**+0.6**
	comp=Z,18nm,0.8s								
DAG					*i*			13 04 46.2	
DAG	**Danmarks Havn**	**54.64**	**344**	⇑	*iP*		**P**	**13 04 04.1**	**+0.6**
DAG					*i*			13 04 46.2	
DAG					pmax	pmax			
	comp=Z,13nm,0.8s								
ESDC	**Sonseca Array**	**57.66**	**298**		P		**P**	**13 04 25.6**	**0.0**
	comp=Z,2.6nm,0.5s,baz=60,slow=7.2,SNR=22								
ESDC					pP		**pP**	**13 05 08.0**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=66,slow=7.0,SNR=2.2								
ESLA	**Sonseca Array**	**57.66**	**298**		*eP*		**P**	**13 04 25.6**	**0.0**
BILL	**Bilibino**	**58.29**	**26**		*iP*		**P**	**13 04 29.7**	**+0.3**
BILL					*e**PP		**pP**	**13 05 10.9**	**-1.3**
BILL					*e*			13 06 40.7	
BILL					pmax	pmax			
	comp=Z,8.0nm,1.1s								
PETK	**Petropavlovsk-**	**59.60**	**44**		P		**P**	**13 04 37.9**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=255,slow=3.5,SNR=8.1								
PETK	**Petropavlovsk-**	**59.60**	**44**		P		**P**	**13 04 37.9**	**-0.8**
PETK					pmax	pmax			
	comp=Z,1.0nm,0.5s								
SUMG	**Summit**	**60.99**	**341**	⇑	*iP*		**P**	**13 04 49.3**	**+1.0**
	comp=Z,23nm,0.6s								
SUMG	**Summit**	**60.99**	**341**		*eP*		**P**	**13 04 49.2**	**+1.0**
SUMG					*e**PP		**pP**	**13 05 32.5**	**+1.2**
SUMG					pmax	pmax			
	comp=Z,23nm,0.7s								
SUMG	**Summit**	**60.99**	**341**		*eP*		**P**	**13 04 49.2**	**+1.0**
	comp=Z,23nm,0.7s								
SUMG					*e*pP		**pP**	**13 05 32.5**	**+1.2**
TOA0	**Torodi Ar. Sit**	**66.05**	**269**		*eP*		**P**	**13 05 19.4**	**-2.4**
TORD	**Torodi Ar. Bea**	**66.05**	**269**		P		**P**	**13 05 19.6**	**-2.2**
	comp=Z,10nm,0.7s,baz=48,slow=5.8,SNR=69								
TORD					pP		**pP**	**13 06 03.1**	**-2.5**
	comp=Z,1.7nm,0.7s,baz=51,slow=6.1,SNR=1.9								
SFJD	**Kangerlussuaq**	**67.70**	**339**		*iP*		**P**	**13 05 31.6**	**+0.3**
	comp=Z,6.4nm,0.4s								
SFJD	**Kangerlussuaq**	**67.70**	**339**		*iP*		**P**	**13 05 31.6**	**+0.3**
SFJD					pmax	pmax			
	comp=Z,6.0nm,0.4s								
COLD	**Coldfoot**	**71.70**	**16**		*eP*		**P**	**13 05 56.4**	**+0.7**
	comp=Z,7.6nm,1.0s								
COLD					*e*pP		**pP**	**13 06 41.3**	**+1.0**
IM04	**Indian Mountai**	**71.89**	**18**		*eP*		**P**	**13 05 56.5**	**-0.4**
INK	**Inuvik**	**73.66**	**9**		P		**P**	**13 06 07.8**	**+0.5**
	comp=Z,7.4nm,0.6s,baz=352,slow=6.3,SNR=60								
INK					pP		**pP**	**13 06 51.2**	**-0.8**
	comp=Z,5.9nm,1.1s,baz=341,slow=6.7,SNR=3.6								
INK	**Inuvik**	**73.66**	**9**		P		**P**	**13 06 07.8**	**+0.5**
INK					*PP		**pP**	**13 06 51.2**	**-0.8**
INK					pmax	pmax			
	comp=Z,7.0nm,0.6s								
INK					pmax	pmax			
	comp=Z,6.0nm,1.1s								
COLA	**College**	**74.20**	**16**		*eP*		**P**	**13 06 11.0**	**+0.5**
COLA					*e**PP		**pP**	**13 06 55.8**	**+0.5**
COLA					pmax	pmax			
	comp=Z,12nm,0.8s								
COLA	**College**	**74.20**	**16**		*eP*		**P**	**13 06 11.0**	**+0.5**
	comp=Z,12nm,0.8s								
COLA					*e*pP		**pP**	**13 06 55.8**	**+0.5**
CAST	**Castle Rocks**	**74.40**	**19**		*eP*		P	13 06 05.7	-6.0
	comp=Z,17nm,1.0s								
CAST					*e*pP		pP	13 06 57.4	+0.9
ILAR	**Eielson Array**	**74.50**	**16**		P		**P**	**13 06 11.5**	**-0.8**
	comp=Z,3.7nm,0.9s,baz=319,slow=4.5,SNR=39								
ILAR					pP		**pP**	**13 06 56.5**	**-0.5**
	comp=Z,2.6nm,1.0s,baz=327,slow=4.4,SNR=6.3								
ILAR					PP		**PP**	**13 09 03.1**	**+2.5**
	comp=Z,0.3nm,0.6s,baz=322,slow=7.5,SNR=4.2								
ILAR	**Eielson Array**	**74.50**	**16**		P		**P**	**13 06 11.5**	**-0.8**
ILAR					*PP		**pP**	**13 06 56.6**	**-0.5**
ILAR								13 09 03.1	
ILAR					pmax	pmax			
	comp=Z,4.0nm,1.0s								
ILAR					pmax	pmax			
	comp=Z,3.0nm,1.0s								
KTH	**Kantishna Hill**	**74.58**	**18**		*eP*		**P**	**13 06 12.8**	**0.0**
	comp=Z,12nm,0.7s								
KTH					*e*pP		**pP**	**13 06 58.3**	**+0.7**
MCK	**McKinley**	**74.92**	**17**		*eP*		**P**	**13 06 14.9**	**+0.2**
MCK					pmax	pmax			
	comp=Z,44nm,2.0s								
MCK	**McKinley**	**74.92**	**17**		*eP*		**P**	**13 06 14.8**	**+0.2**
	comp=Z,44nm,2.0s								
DBIC	**Dimbokro**	**75.04**	**267**		P		**P**	**13 06 14.3**	**-1.7**
	comp=Z,2.9nm,0.5s,baz=60,slow=6.9,SNR=5.9								
DBIC	**Dimbokro**	**75.04**	**267**		P		**P**	**13 06 14.4**	**-1.7**
DBIC					pmax	pmax			
	comp=Z,3.0nm,0.5s								
EGAK	**Eagle**	**75.68**	**14**		*eP*		**P**	**13 06 18.5**	**-0.5**
DAWY	**Dawson**	**76.66**	**13**		*eP*		**P**	**13 06 24.7**	**+0.1**
DAWY					*e*pP		**pP**	**13 07 10.1**	**+0.5**
KDAK	**Kodiak Island**	**78.90**	**22**		*iP*		**P**	**13 06 37.0**	**+0.1**
HYT	**Haines Junctio**	**79.99**	**14**		*eP*		**P**	**13 06 43.9**	**+1.0**
YKA	**Yellowknife Ar**	**81.04**	**3**		P		**P**	**13 06 48.4**	**+0.1**
	comp=Z,7.2nm,0.6s,baz=349,slow=5.4,SNR=124								
YKA					pP		**pP**	**13 07 33.3**	**-0.5**
	comp=Z,2.1nm,0.7s,baz=350,slow=5.5,SNR=4.5								
YKA	**Yellowknife Ar**	**81.04**	**3**		P		**P**	**13 06 48.4**	**+0.1**
YKA					*PP		**pP**	**13 07 33.3**	**-0.5**
YKA					pmax	pmax			
	comp=Z,7.0nm,0.6s								
YKA					pmax	pmax			
	comp=Z,2.0nm,0.7s								
WRA	**Warramunga Arr**	**81.81**	**122**		P		**P**	**13 06 51.5**	**-1.5**
	comp=Z,8.7nm,0.7s,baz=323,slow=4.9,SNR=122								
WRA					pP		**pP**	**13 07 38.4**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=326,slow=4.9,SNR=2.1								
WRAB	**Tennant Creek**	**81.81**	**122**		*iP*		**P**	**13 06 51.8**	**-1.3**
WRAB					pmax	pmax			
	comp=Z,19nm,0.8s								
WRAB	**Tennant Creek**	**81.81**	**122**		*eP*		**P**	**13 06 51.7**	**-1.3**
	comp=Z,11nm,0.8s								
SCHQ	**Schefferville**	**82.05**	**337**		P		**P**	**13 06 55.7**	**+1.9**
	comp=Z,1.8nm,0.4s,baz=62,slow=13,SNR=6.6								
AS31	**Alice Springs**	**84.09**	**125**		*eP*		**P**	**13 07 02.9**	**-1.8**
ASAR	**Alice Springs**	**84.09**	**125**		P		**P**	**13 07 03.3**	**-1.4**
	comp=Z,7.8nm,0.6s,baz=310,slow=5.1,SNR=72								
ASAR	**Alice Springs**	**84.09**	**125**		P		**P**	**13 07 03.3**	**-1.4**
ASAR					pmax	pmax			
	comp=Z,8.0nm,0.6s								
FFC	**Flin Flon**	**88.77**	**356**		*eP*		**P**	**13 07 27.2**	**+0.2**
FFC					pmax	pmax			
	comp=Z,8.0nm,0.9s								
FFC	**Flin Flon**	**88.77**	**356**		*eP*		**P**	**13 07 27.2**	**+0.2**
	comp=Z,7.5nm,0.9s								
EDM	**Edmonton**	**90.36**	**3**		*eP*		**P**	**13 07 35.3**	**+0.8**
EDM	**Edmonton**	**90.36**	**3**		*eP*		**P**	**13 07 35.3**	**+0.8**
ULM	**Lac du Bonnet**	**92.71**	**352**		P		**P**	**13 07 44.2**	**-1.1**
	comp=Z,5.5nm,0.9s,baz=10,slow=5.7,SNR=7.9								
ULM	**Lac du Bonnet**	**92.71**	**352**		P		**P**	**13 07 44.2**	**-1.1**
ULM					pmax	pmax			
	comp=Z,6.0nm,0.9s								
ULM	**Lac du Bonnet**	**92.71**	**352**		*eP*		**P**	**13 07 44.7**	**-0.6**
STKA	**Stephens Creek**	**94.64**	**127**		P		**P**	**13 07 53.5**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=293,slow=9.4,SNR=4.5								
STKA	**Stephens Creek**	**94.64**	**127**		P		**P**	**13 07 53.6**	**-0.8**
STKA					pmax	pmax			
	comp=Z,1.0nm,0.5s								
LAO	**LASA Array**	**96.97**	**358**		*eP*		**P**	**13 08 06.5**	**+1.6**
	comp=Z,5.1nm,0.8s								
CFAA	**Coronel Fontan**	**146.40**	**267**		PKPbc		**PKPdf**	**13 14 12.3**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=71,slow=2.9,SNR=3.7								
PLCA	**Paso Flores**	**150.20**	**250**		PKPbc		**PKPbc**	**13 14 22.6**	**-0.8**
	comp=Z,4.5nm,0.9s,baz=58,slow=0.9,SNR=4.6								
PLCA	**Paso Flores**	**150.20**	**250**		PKIKP		**PKPbc**	**13 14 22.6**	**-0.8**
PLCA					pmax	pmax			
	comp=Z,5.0nm,0.9s								

GUC 13 13:08:52.9±0.7, 35.57S×72.77W, h15km±4km, ML3.8, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.56**	**182**	*i*	*iP*	13 09 03.8	-0.3
COCH				*i*	S	13 09 11.4	-0.2
TALC	**Talca**	**0.94**	**80**	⇑	*iP*	13 09 09.2	-1.6
TALC				*i*	S	13 09 22.1	-1.0
LNCH	**Linares**	**0.99**	**107**	⇑	*iP*	13 09 10.7	-1.0
LNCH				*i*	S	13 09 23.7	-1.0
CCSP	**San Pedro de C**	**1.31**	**192**	*e*	S	13 09 32.4	-1.3
CCSP					AML	13 09 36.1	
	comp=N,2µm,0.5s						
NICH	**Los Niches**	**1.38**	**66**	⇓	*iP*	13 09 16.9	-0.7
NICH				*i*	S	13 09 34.9	-0.6
LNV	**Longovilo**	**1.96**	**35**	*e*	P	13 09 25.9	+0.3
CLCH	**Cerro Calan**	**2.84**	**41**	*e*	P	13 09 39.1	+1.2
CLCH					AML	13 10 30.1	
	comp=N,610nm,0.8s						

*SKHL **13** 13:11:39.5±0.4, 44.12N×148.07E, h45km±5km, mb4.2/2*
*JMA **13** 13:11:39.1±0.3, 43.96N×147.92E, h74km, M3.4*
ISC 13 13:11:38.6±3.8, 43.87N±0.09×148.0E±0.2, h85km±16km, n14, σ1s17/24, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.82**	**270**	*e*	P	**13 11 56.0**	**+0.1**
SHO				*e*	S	**13 12 08.0**	**-0.7**
SHO					A	13 12 10.4	
	530nm,0.3s						
KUR	**Kuril'sk**	**1.36**	**357**	*i*	P	13 11 58.1	-4.2
KUR					AMB	13 11 58.3	
	30nm,0.1s						
KUR				*i*	S	13 12 12.3	-7.9
KUR					A	13 12 13.1	
	690nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.52**	**277**	*i*	P	**13 12 04.2**	**-0.2**
YUK					AMB	13 12 04.8	
	80nm,0.4s						
YUK				*i*	S	**13 12 22.8**	**-1.1**
YUK					A	13 12 24.8	
	90nm,0.1s						
YUK					A	13 12 24.8	
	140nm,0.1s						
NEM2	**Nemuro 2**	**1.69**	**253**		P	**13 12 07.2**	**+0.7**
NEM2				*e*	S	**13 12 28.3**	**+0.6**
JRA	**Rausu**	**2.05**	**273**		P	**13 12 11.8**	**+0.5**
JRA				*e*	S	**13 12 36.6**	**+0.4**
JNK	**Nakash**	**2.37**	**264**		P	**13 12 16.0**	**+0.5**
JNK				*e*	S	**13 12 44.0**	**+0.2**
JAK	**Akkeshi**	**2.53**	**251**		P	**13 12 18.4**	**+0.7**
JAK				*e*	S	**13 12 48.2**	**+0.5**
JAR	**Ashorobuto**	**3.10**	**261**		P	**13 12 26.8**	**+1.4**
JAR				*e*	S	**13 13 02.4**	**+1.0**
JCH	**Churui**	**3.59**	**251**		P	**13 12 32.7**	**+0.7**
JCH				*e*	S	**13 13 13.8**	**+0.6**
JNBK	**Urakawa-nobuka**	**4.13**	**249**		P	**13 12 39.8**	**+0.4**
JNBK				*e*	S	**13 13 26.6**	**+0.1**
YSS	**Yuzh-Sakhalins**	**4.79**	**312**	*e*	P	**13 12 49.0**	**+0.8**
YSS				*e*	S	**13 13 41.0**	**-1.4**
JKB	**Kayabe**	**5.46**	**251**		P	**13 12 58.1**	**+0.6**
JKB				*e*	S	**13 13 56.8**	**-2.1**
JOT	**Ohata**	**5.67**	**246**	*e*	S	**13 14 01.5**	**-2.6**
JANG	**Nango**	**5.93**	**236**	*e*	S	**13 14 08.1**	**-2.3**

*CSEM **13** 13:21:50.1, 11.98N×43.79E, h2km, ML3.6*
DHMR 13 13:21:50.1±1.6, 11.98N×43.79E, h3km±8km, ML3.6, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**1.28**	**14**	*i*	P	13 22 15.0	-0.1
TRBA				*i*	S	13 22 32.3	-0.1
TRBA					AML	13 22 38.0	
	comp=E,1µm,0.5s						
BDHA	**Al Bayda'**	**2.63**	**41**	*i*	P	13 22 35.7	+1.8
BDHA				*i*	S	13 23 12.3	+1.0
BDHA					AML	13 23 22.6	
	comp=N,382nm,0.5s						
BDHA	**Al Bayda'**	**2.63**	**41**	*i*	P	13 22 35.7	+1.8
BDHA				*i*	S	13 23 12.3	+1.0
	comp=N,191nm,0.5s						
DHBB	**Dhamar BB**	**2.64**	**13**	*i*	P	13 22 36.6	-1.9
DHBB				*i*	S	13 23 12.3	+0.5
HAJJ	**Hajjah**	**3.71**	**357**	*i*	P	13 22 50.2	+1.6
HAJJ				*i*	S	13 23 38.8	-3.2
HAJJ	**Hajjah**	**3.71**	**357**	*i*	P	13 22 50.2	+1.6
HAJJ				*i*	S	13 23 38.8	-3.3

*IDC **13** 13:28:27.8±3.0, 38.79N×21.38E, h0km, mb3.7/3, mb1 3.7/3, mb1mx3.2/35, mbtmp3.7/3, Error ellipse: s-maj=353.7km s-min=26.6km az=136.0*
*ISCJB **13** 13:28:29.1±0.3, 38.45N±0.01×21.84E±0.02, h10km±2km, mb3.5/3, Error ellipse: s-maj=2.3km s-min=2.3km az=1.0*
*IASPEI **13** 13:28:29.0±0.8, 38.44N±0.01×21.82E±0.02, h12km±4km, mb3.7/3, Error ellipse: s-maj=2.3km s-min=2.0km az=120.1*
*THE **13** 13:28:29.5, 38.44N×21.83E, h4km±1km, ML3.4/9, Error ellipse: s-maj=1.4km s-min=0.5km az=11.0*
*ATH **13** 13:28:29.2, 38.43N×21.84E, h15km±1km, MD3.0/20, ML3.0*
*CSEM **13** 13:28:29.1±0.1, 38.45N×21.81E, h10km, MD3.0, Error ellipse: s-maj=2.7km s-min=2.5km az=89.0*
ISC 13 13:28:29.2±0.7, 38.44N±0.01×21.81E±0.01, h11km±4km, n107, σ0s68/177, mb3.7/3, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.07**	**102**		P	**13 28 31.4**	**-0.2**
EFP					S	**13 28 32.9**	**-0.5**
EFP	**Efpalio**	**0.07**	**102**	*e*	PB	**13 28 31.4**	**-0.2**
EFP				*e*	SB	**13 28 33.1**	**-0.3**
EFP	**Efpalio**	**0.07**	**102**		P	**13 28 31.4**	**-0.2**
EFP				*e*	Sb	**13 28 33.1**	**-0.3**
UPR	**University Cam**	**0.16**	**188**		P	**13 28 32.8**	**0.0**
UPR					S	**13 28 35.8**	**+0.5**
UPR	**University Cam**	**0.16**	**188**		P	**13 28 32.8**	**0.0**
UPR					S	**13 28 35.8**	**+0.5**
KALE	**Kalithea**	**0.26**	**101**		P	**13 28 34.4**	**-0.2**
KALE					S	**13 28 38.4**	**+0.2**
KALE	**Kalithea**	**0.26**	**101**	*e*	PB	**13 28 34.4**	**-0.2**
KALE				*e*	SB	**13 28 38.5**	**+0.2**
KALE	**Kalithea**	**0.26**	**101**	*e*	Pb	**13 28 34.4**	**-0.2**
KALE					S	**13 28 38.4**	**+0.2**
PVO	**Paravola**	**0.28**	**308**		P	**13 28 35.4**	**+0.4**
PVO					S	**13 28 40.4**	**-0.7**
PVO	**Paravola**	**0.28**	**308**		P	**13 28 35.3**	**+0.3**
PVO					S	**13 28 40.0**	**+1.1**
RLS	**Riolos of Patr**	**0.47**	**216**		P	**13 28 38.4**	**0.0**
RLS					S	**13 28 46.2**	**-0.3**
RLS	**Riolos of Patr**	**0.47**	**216**	*e*	PB	**13 28 38.6**	**+0.2**
RLS				*e*	SB	**13 28 46.2**	**-0.3**
RLS	**Riolos of Patr**	**0.47**	**216**		P	**13 28 38.4**	**0.0**
RLS					S	**13 28 45.5**	**+0.8**
RLS				*e*	Sb	**13 28 46.2**	**-0.3**
EVR	**Evrytania**	**0.47**	**359**		P	**13 28 38.3**	**-0.2**
EVR					S	**13 28 46.7**	**0.0**
EVR	**Evrytania**	**0.47**	**359**	*e*	PB	**13 28 38.4**	**-0.1**
EVR				*e*	SB	**13 28 46.7**	**0.0**
EVR	**Evrytania**	**0.47**	**359**		P	**13 28 38.3**	**-0.2**
EVR					S	**13 28 46.0**	**-0.7**
KLV	**Kalavryta, Ach**	**0.48**	**146**		P	**13 28 38.0**	**-0.5**
KLV					S	**13 28 45.7**	**+0.8**
KLV	**Kalavryta, Ach**	**0.48**	**146**	*e*	PB	**13 28 38.1**	**-0.5**
KLV				*e*	SB	**13 28 45.2**	**+0.3**
KLV	**Kalavryta, Ach**	**0.48**	**146**	*e*	Pb	**13 28 38.1**	**-0.5**
KLV					S	**13 28 44.8**	**-0.1**
KLV				*e*	Sb	**13 28 45.2**	**+0.3**
DRO	**Drossia**	**0.50**	**190**		P	**13 28 38.4**	**-0.4**
DRO					S	**13 28 46.1**	**+0.6**
DRO	**Drossia**	**0.50**	**190**	*e*	PB	**13 28 38.5**	**-0.4**
DRO				*e*	SB	**13 28 46.5**	**+1.0**
DRO	**Drossia**	**0.50**	**190**		P	**13 28 38.5**	**-0.4**
DRO					S	**13 28 46.0**	**+0.6**
PDO	**Prodromos**	**0.52**	**288**		P	**13 28 38.8**	**-0.5**
PDO					S	**13 28 48.1**	**+0.2**
PDO	**Prodromos**	**0.52**	**288**	*e*	PN	**13 28 39.2**	**-0.1**
PDO				*e*	SN	**13 28 48.2**	**+0.3**
PDO	**Prodromos**	**0.52**	**288**		P	**13 28 39.2**	**-0.1**
PDO					S	**13 28 48.1**	**+0.2**
DSF	**Desfina**	**0.56**	**93**		P	**13 28 39.0**	**-1.2**
DSF					S	**13 28 47.7**	**+0.2**
DSF	**Desfina**	**0.56**	**93**	*e*	PN	**13 28 39.2**	**-1.0**
DSF				*e*	SN	**13 28 47.8**	**+0.2**
DSF	**Desfina**	**0.56**	**93**	*e*	Pn	**13 28 39.2**	**-1.0**
DSF					S	**13 28 47.7**	**+0.2**
MAKR	**Makrakomi, Fth**	**0.62**	**23**		P	**13 28 41.2**	**-0.1**
MAKR	**Makrakomi, Fth**	**0.62**	**23**	*e*	PN	**13 28 41.4**	**+0.1**
MAKR				*e*	SN	**13 28 51.2**	**+0.3**
MAKR	**Makrakomi, Fth**	**0.62**	**23**	*e*	Pn	**13 28 41.4**	**+0.1**
MAKR				*e*	Sn	**13 28 51.2**	**+0.3**
GUR	**Goura**	**0.66**	**140**		P	**13 28 40.8**	**-1.1**
GUR					S	**13 28 50.6**	**0.0**
GUR	**Goura**	**0.66**	**140**	*e*	PB	**13 28 41.0**	**-0.9**
GUR				*e*	SN	**13 28 50.7**	**+0.1**
GUR	**Goura**	**0.66**	**140**	*e*	Pb	**13 28 41.0**	**-0.9**
GUR				*e*	Sn	**13 28 50.7**	**+0.1**
AGG	**Agios Georgios**	**0.71**	**35**		P	**13 28 42.1**	**-0.8**
AGG					S	**13 28 52.5**	**-0.8**
AGG	**Agios Georgios**	**0.71**	**35**	*e*	PB	**13 28 42.1**	**-0.8**
AGG				*e*	SN	**13 28 53.6**	**+0.3**
AGG	**Agios Georgios**	**0.71**	**35**		P	**13 28 42.2**	**-0.7**
AGG					S	**13 28 52.5**	**-0.8**
AGG				*e*	Sn	**13 28 53.6**	**+0.3**
AXAR	**Agios Charalam**	**0.74**	**64**		P	**13 28 42.5**	**-0.9**
AXAR					S	**13 28 54.7**	**+0.5**
AXAR	**Agios Charalam**	**0.74**	**64**	*e*	PB	**13 28 42.6**	**-0.9**
AXAR				*e*	SN	**13 28 54.3**	**+0.1**
AXAR	**Agios Charalam**	**0.74**	**64**		P	**13 28 42.7**	**-0.8**
AXAR				*e*	Sn	**13 28 54.3**	**+0.1**
KFL	**Anninata**	**0.87**	**248**		P	**13 28 45.7**	**-0.4**
KFL					S	**13 28 58.4**	**+0.3**
KFL	**Anninata**	**0.87**	**248**		P	**13 28 45.7**	**-0.4**
KFL					S	**13 28 58.4**	**+0.3**
DSL	**Palaion Diasel**	**0.89**	**321**		P	**13 28 45.4**	**-1.0**
DSL					S	**13 28 59.9**	**-0.7**
DSL	**Palaion Diasel**	**0.89**	**321**	*e*	PB	**13 28 45.8**	**-0.6**
DSL	**Palaion Diasel**	**0.89**	**321**		P	**13 28 45.4**	**-1.0**
DSL	**Palaion Diasel**	**0.89**	**321**	*e*	Pb	**13 28 45.8**	**-0.6**
DSL					S	**13 28 59.9**	**-0.7**
AMT	**Artemida-Makis**	**0.91**	**185**		P	**13 28 46.6**	**-0.2**
AMT					S	**13 29 00.7**	**-0.4**
AMT	**Artemida-Makis**	**0.91**	**185**	*e*	PN	**13 28 46.8**	**0.0**
AMT	**Artemida-Makis**	**0.91**	**185**		P	**13 28 46.8**	**0.0**
AMT					S	**13 28 59.7**	**+0.5**
LKR	**Lokris**	**0.95**	**77**		P	**13 28 46.0**	**-1.6**
LKR					S	**13 29 00.7**	**+0.4**
LKR	**Lokris**	**0.95**	**77**	*e*	PN	**13 28 47.1**	**-0.5**
LKR				*e*	SN	**13 29 00.6**	**+0.3**
LKR	**Lokris**	**0.95**	**77**		P	**13 28 46.0**	**-1.6**
LKR	**Lokris**	**0.95**	**77**	*e*	Pn	**13 28 47.1**	**-0.5**
LKR					S	**13 29 00.7**	**+0.4**
LKD2	**Lefkada island**	**0.97**	**291**		P	**13 28 47.7**	**-0.2**
LKD2					S	**13 29 02.0**	**+1.1**
LKD2	**Lefkada island**	**0.97**	**291**		P	**13 28 47.7**	**-0.2**
LKD2					S	**13 29 02.0**	**+1.1**
VLS	**Valsamata**	**1.00**	**255**		P	**13 28 47.2**	**-1.2**
VLS					S	**13 29 03.5**	**+0.2**
VLS	**Valsamata**	**1.00**	**255**	*e*	PB	**13 28 47.3**	**-1.2**
VLS				*e*	SN	**13 29 03.9**	**+0.6**
VLS	**Valsamata**	**1.00**	**255**	*e*	Pb	**13 28 47.3**	**-1.2**
VLS					S	**13 29 03.5**	**+0.2**
LTK	**Loutraki**	**1.00**	**114**		P	**13 28 48.0**	**-0.5**
LTK					S	**13 29 02.4**	**+0.7**
LTK	**Loutraki**	**1.00**	**114**	*e*	PN	**13 28 48.0**	**-0.5**
LTK	**Loutraki**	**1.00**	**114**		P	**13 28 48.0**	**-0.5**
LTK					S	**13 29 02.4**	**+0.7**
THL	**Klokotos Trika**	**1.13**	**8**		P	**13 28 49.9**	**-0.9**
THL	**Klokotos Trika**	**1.13**	**8**	*e*	PN	**13 28 50.7**	**-0.1**
THL				*e*	SN	**13 29 07.3**	**+0.8**
THL	**Klokotos Trika**	**1.13**	**8**		P	**13 28 49.9**	**-0.9**
THL	**Klokotos Trika**	**1.13**	**8**	*e*	Pn	**13 28 50.7**	**-0.1**
THL				*e*	Sn	**13 29 07.3**	**+0.8**
VLX	**Vlachokerasia**	**1.16**	**157**		P	**13 28 49.7**	**-1.6**
VLX	**Vlachokerasia**	**1.16**	**157**	*e*	PN	**13 28 50.2**	**-1.1**
VLX	**Vlachokerasia**	**1.16**	**157**		P	**13 28 49.7**	**-1.6**
VLX	**Vlachokerasia**	**1.16**	**157**	*e*	Pn	**13 28 50.2**	**-1.1**
SMIA	**Simia**	**1.18**	**68**		P	**13 28 52.0**	**+0.4**
SMIA	**Simia**	**1.18**	**68**		P	**13 28 52.0**	**+0.4**
ITM	**Ithomi**	**1.26**	**176**		P	**13 28 52.7**	**-0.1**
ITM					S	**13 29 10.8**	**+1.0**
ITM	**Ithomi**	**1.26**	**176**	*e*	PN	**13 28 52.2**	**-0.6**
ITM	**Ithomi**	**1.26**	**176**	*e*	Pn	**13 28 52.2**	**-0.6**
ITM	**Ithomi**	**1.26**	**176**		P	**13 28 52.7**	**-0.1**
ITM					S	**13 29 10.8**	**+1.0**
NEO	**Neokhori**	**1.40**	**51**	*e*	PN	**13 28 55.2**	**-0.2**
NEO	**Neokhori**	**1.40**	**51**	*e*	Pn	**13 28 55.2**	**-0.2**
MRKA	**Markates**	**1.42**	**79**	*e*	PN	**13 28 55.

KSRS	**Korea Array**	**5.64**	**333**	P	**Pn**	**13 30 26.1**	**+1.1**
	0.2nm,0.3s,baz=151,slow=15,SNR=14							
JOW	**Kunigami**	**6.12**	**205**	P	**Pn**	**13 30 31.1**	**-0.5**
	baz=144,slow=19							
MJAR	**Matsushiro Arr**	**7.14**	**53**	P	**Pn**	**13 30 48.0**	**+2.9**
	1.2nm,0.3s,baz=240,slow=14,SNR=14							
SONM	**Songino Array**	**24.21**	**317**	P	**P**	**13 34 07.2**	**+0.8**
	0.9nm,0.8s,baz=122,slow=9.5,SNR=7.1							
MKAR	**Makanchi Array**	**39.61**	**306**	P	**P**	**13 36 19.9**	**-0.5**
	0.3nm,0.5s,baz=103,slow=6.4,SNR=2.8							
FINES	**FINESS Array B**	**68.72**	**330**	P	**P**	**13 39 50.5**	**-0.2**
	0.3nm,0.4s,baz=48,slow=5.7,SNR=5.0							

IDC 13 13:34:10.8±6.9, 5.74N×126.14E, h69km±79km, mb3.2/3, mb1 3.5/4, mb1mx3.1/25, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=160.1km s-min=26.0km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**8.32**	**142**	P	Pn	13 36 08.8	0.0
	0.6nm,0.3s,baz=42,slow=12,SNR=6.7						
SIJI				S	Sn	13 37 32.9	-8.4
	0.5nm,0.3s,baz=221,slow=20,SNR=3.5						
WRA	**Warramunga Arr**	**26.76**	**163**	P	P	13 39 44.0	-0.3
	0.4nm,0.6s,baz=342,slow=10,SNR=9.3						
ASAR	**Alice Springs**	**30.19**	**166**	P	P	13 40 15.2	+0.4
	0.1nm,0.3s,baz=346,slow=7.9,SNR=4.1						
MKAR	**Makanchi Array**	**55.59**	**325**	P	P	13 43 39.3	-0.1
	0.8nm,0.5s,baz=117,slow=7.3,SNR=8.8						

KRSC ***13*** *13:56:50.7±1.6, 55.45N×154.80E, h44km±33km, ML5.1*
IDC ***13*** *13:56:51.0±0.4, 55.60N×154.86E, h0km, mb4.6/29, mb1 4.8/33, mb1mx4.7/35, mbtmp4.6/33, ML3.9/4, MS3.8/27, Ms1 3.8/27, ms1mx3.7/37, Error ellipse: s-maj=12.0km s-min=10.0km az=134.0*
BJI ***13*** *13:56:51.5, 55.69N×155.05E, h25km, mb4.8/54, mB4.9/41, Ms4.6/48, Ms7 4.3/47*
ISCJB ***13*** *13:56:53.7±0.1, 55.53N±0.02×155.01E±0.02, h33km, mb4.8/226, MS3.9/33, Error ellipse: s-maj=3.0km s-min=1.8km az=173.8*
MOS ***13*** *13:56:53.7±0.8, 55.50N×154.91E, h34km, mb5.2/99, Error ellipse: s-maj=6.7km s-min=4.3km az=97.9*
NEIC ***13*** *13:56:55.7±0.1, 55.55N×154.86E, h35km, mb4.9/129, Error ellipse: s-maj=3.8km s-min=2.6km az=170.0*
SZGRF ***13*** *13:57:08.1, 57.35N×152.50E, h33km, mb5.0, MS3.8, Sea of Okhotsk*

ISC 13 13:56:55.6±0.3, 55.59N±0.04×154.95E±0.03, h32km±2km, n813, σ0.93/855, mb5.0/226, MS3.9/37, 151C-134D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESO	**Esso**	**2.14**	**80**	*e*P	**Pn**	**13 57 28.0**	**-1.1**
ESO				*e*S	**Sn**	**13 57 54.6**	**+0.1**
ESO	**Esso**	**2.14**	**80**	PN	**Pn**	**13 57 28.0**	**-1.1**
ESO				S	**Sn**	**13 57 54.6**	**+0.1**
GNL	**Ganaly**	**2.58**	**136**	*e*P	**Pn**	**13 57 32.8**	**-2.3**
SRDR	**Sredinnyy**	**2.77**	**73**	*e*P	**Pn**	**13 57 37.4**	**-0.4**
PEA0B	**Petropavlovsk-**	**2.96**	**146**	*e*Pn	**Pn**	**13 57 38.0**	**-2.3**
PEA0B				*e*Sn	**Sn**	**13 58 14.5**	**-0.3**
PETK	**Petropavlovsk-**	**2.96**	**146**	Pn	**Pn**	**13 57 37.7**	**-2.6**
	22nm,0.3s,baz=340,slow=8.7,SNR=575						
PETK				LR	LR	13 58 23.4	
	comp=Z,167nm,18.9s,baz=253,slow=31						
PETK				Sn	**Sb**	**13 58 25.3**	**+1.9**
	161nm,0.3s,baz=357,slow=20,SNR=8.5						
APC	**Apacha**	**2.97**	**153**	*e*P	Pn	13 57 36.5	-3.9
TUMR	**Tumrok**	**2.98**	**94**	*e*P	**Pn**	**13 57 39.5**	**-1.1**
KRX	**Arik**	**3.11**	**135**	*e*P	**Pn**	**13 57 40.7**	**-1.7**
KRER	**Koryakskii**	**3.19**	**134**	*e*P	**Pn**	**13 57 42.0**	**-1.6**
SMAR	**Somma**	**3.24**	**135**	*e*P	**Pn**	**13 57 43.3**	**-1.0**
SDLR	**Sedlovina**	**3.26**	**134**	*e*P	**Pn**	**13 57 43.0**	**-1.6**
KLY	**Klyuchi**	**3.29**	**75**	*e*P	Pb	13 57 48.5	-4.6
KLY	**Klyuchi**	**3.29**	**75**	PN	Pb	13 57 48.5	-4.6
UGLR	**Uglovaya**	**3.29**	**135**	*e*P	**Pn**	**13 57 43.7**	**-1.2**
PET	**Petropavlovsk**	**3.37**	**138**	*e*P	**Pn**	**13 57 43.5**	**-2.3**
PET	**Petropavlovsk**	**3.37**	**138**	*e*PN	**Pn**	**13 57 42.8**	**-3.0**
PET				pmax	pmax		
	comp=Z,230nm,1.0s						
PET				MLR	MLR		
	comp=Z,5μm,9.0s						
PET				MLR	MLR		
	comp=Z,4μm,9.0s						
PET	**Petropavlovsk**	**3.37**	**138**	*e*Pn	**Pn**	**13 57 43.2**	**-2.6**
ASAK	**Asacha**	**3.66**	**150**	*e*P	**Pn**	**13 57 47.6**	**-2.3**
RUS	**Russkaya**	**3.80**	**145**	*e*P	**Pn**	**13 57 49.2**	**-2.6**
RUS	**Russkaya**	**3.80**	**145**	PN	**Pn**	**13 57 49.2**	**-2.6**
SPN	**Mys Shipunski**	**3.88**	**128**	*e*P	**Pn**	**13 57 51.1**	**-1.8**
SPN	**Mys Shipunski**	**3.88**	**128**	PN	**Pn**	**13 57 51.1**	**-1.8**
MKZ	**Mys Kozlova**	**4.03**	**102**	*e*P	**Pn**	**13 57 53.6**	**-1.4**
MKZ	**Mys Kozlova**	**4.03**	**102**	PN	**Pn**	**13 57 53.6**	**-1.4**
PALN	**Palana**	**4.43**	**36**	*e*P	**Pn**	**13 58 00.5**	**+0.1**
KBTR	**Krutoberegovo**	**4.47**	**79**	*e*P	Pn	13 58 04.6	+3.6
KBTR	**Krutoberegovo**	**4.47**	**79**	PN	Pn	13 58 04.6	+3.6
SKR	**Severo-Kuril's**	**4.97**	**171**	*e*P	**Pn**	**13 58 04.7**	**-3.1**
SKR	**Severo-Kuril's**	**4.97**	**171**	*e*PN	Pn	13 57 49.8	-18
SKR				*i* S	Sn	13 59 10.5	+6.4
SKR				pmax	pmax		
	comp=Z,120nm,1.0s						
SKR				smax	smax		
	comp=N,540nm,0.9s						
SKR				smax	smax		
	comp=E,660nm,0.9s						
SKR				smax	smax		
	comp=N,3μm,6.0s						
SKR				MLR	MLR		
	comp=N,2μm,10.0s						
SKR				MLR	MLR		
	comp=E,3μm,10.0s						
SKR				MLR	MLR		
	comp=Z,2μm,10.0s						
OKH	**Okha**	**7.28**	**259**	*e*PN	**Pn**	**13 58 38.8**	**-0.8**
SEY	**Seymchan**	**7.48**	**351**	Pn	**Pn**	**13 58 40.4**	**-1.9**
	comp=Z,5.9nm,0.3s,baz=164,slow=9.4,SNR=135						
SEY				Sn	**Sn**	**14 00 02.7**	**-3.0**
	comp=Z,2.6nm,0.3s,baz=52,slow=12,SNR=3.1						
SEY				Lg	Lg	14 01 02.3	
	comp=Z,3.8nm,0.3s,baz=239,slow=19,SNR=6.2						
UGL	**Uglegorsk**	**10.22**	**236**	*e*PN	**Pn**	**13 59 19.5**	**-0.4**
UGL				*e*SS	Sn	14 01 27.5	+14
YSS	**Yuzh-Sakhalins**	**11.52**	**226**	PN	**Pn**	**13 59 37.2**	**-0.5**
YSS				MLR	MLR		
	comp=N,1μm,14.0s						
YSS				MLR	MLR		
	comp=Z,1μm,14.0s						
BILL	**Bilibino**	**13.55**	**18**	*i* P	**Pn**	**14 00 05.2**	**0.0**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.2s						
BILL				MLR	MLR		
	comp=Z,403nm,17.0s						
BILL	**Bilibino**	**13.55**	**18**	*e*Pn	**Pn**	**14 00 05.7**	**+0.6**
ASAJ	**Asahikawa**	**13.95**	**220**	Pn	**Pn**	**14 00 09.6**	**-1.2**
	comp=Z,1.3nm,0.3s,baz=30,slow=20,SNR=11						
ASAJ				LR	LR	14 05 35.8	
	comp=Z,544nm,18.3s,baz=44,slow=38						
ASAJ	**Asahikawa**	**13.95**	**220**	P	**Pn**	**14 00 09.6**	**-1.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,544nm,18.3s						
HABR	**Khabarovsk**	**14.14**	**248**	*ce*P	**Pn**	**14 00 13.0**	**-0.4**
HABR				S	**Sn**	**14 02 50.7**	**+1.8**
HABR				pmax	pmax		
	comp=Z,57nm,1.9s						
HABR				pmax	pmax		
	comp=E,42nm,1.9s						
HABR				pmax	pmax		
	comp=N,28nm,1.8s						
HABR				MLR	MLR		
	comp=N,419nm,17.0s						
HABR				MLR	MLR		
	comp=Z,1μm,17.0s						
HABR				MLR	MLR		
	comp=E,810nm,17.0s						
YAK	**Yakutsk**	**14.52**	**307**	Pn	**Pn**	**14 00 15.8**	**-2.7**
	comp=E,0.0nm,0.3s,baz=80,slow=1.5,SNR=5.6						
YAK				LR	LR	14 06 09.5	
	comp=E,433nm,19.3s,baz=108,slow=39						
YAK	**Yakutsk**	**14.52**	**307**	*e*P	**Pn**	**14 00 17.4**	**-1.1**
YAK				*e*S	**Sn**	**14 02 59.2**	**+1.1**
YAK				pmax	pmax		
	comp=Z,15nm,1.0s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,30nm,0.9s						
YAK				pmax	pmax		
	comp=N,23nm,1.3s						
YAK				smax	smax		
	comp=N,12nm,1.3s						
YAK				smax	smax		
	comp=E,22nm,1.8s						
YAK				MLR	MLR		
	comp=Z,410nm,13.0s						
YAK				MLR	MLR		
	comp=E,279nm,12.0s						
YAK				MLR	MLR		
	comp=N,248nm,13.0s						
YAK	**Yakutsk**	**14.52**	**307**	*e*Pn	**Pn**	**14 00 16.2**	**-2.3**
KLR	**Kul'dur**	**15.48**	**255**	*e*P	**Pn**	**14 00 30.2**	**-1.1**
KLR				pmax	pmax		
	comp=E,100nm,2.6s						
KLR				pmax	pmax		
	comp=Z,150nm,2.6s						
KLR				MLR	MLR		
	comp=E,700nm,12.5s						
KLR				MLR	MLR		
	comp=Z,4μm,12.5s						
USRK	**Ussuriysk Ar.**	**18.58**	**242**	P	**Pn**	**14 01 10.4**	**+0.3**
	comp=Z,1.5nm,0.3s,baz=49,slow=10,SNR=32						
USRK				LR	LR	14 08 35.8	
	comp=Z,463nm,19.9s,baz=39,slow=38						
VLA	**Vladivostok**	**19.42**	**240**	*e*P	**P**	**14 01 17.9**	**-0.9**
VLA				pmax	pmax		
	comp=Z,52nm,1.2s						
MDJ	**Mudanjiang**	**19.51**	**246**	P	**Pn**	**14 01 20.8**	**-0.5**
MDJ				pP	**pP**	**14 01 27.4**	**-1.0**
MDJ				sP	**sP**	**14 01 31.5**	**-1.0**
MDJ				S	**S**	**14 04 56.9**	**-1.4**
MDJ				sS	**sS**	**14 05 11.1**	**-0.9**
MDJ				ScP	**ScP**	**14 09 13.6**	**+1.1**
MDJ				ScS	**ScS**	**14 12 55.6**	**+1.2**
MDJ				PMZ			
	comp=Z,9.0nm,1.0s						
MDJ				PMZ			
	comp=Z,120nm,4.7s						
MDJ				LN			
	comp=Z,350nm,16.6s						
MDJ				LE			
	comp=Z,280nm,17.2s						
MDJ				LZ			
	comp=Z,630nm,16.1s						
MDJ	**Mudanjiang**	**19.51**	**246**	*e*P	**P**	**14 01 18.6**	**-1.3**
	comp=Z,22nm,0.9s						
TIXI	**Tiksi**	**19.55**	**335**	*i* P	**P**	**14 01 20.7**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,85nm,1.7s						
TIXI	**Tiksi**	**19.55**	**335**	*e*Pn	**P**	**14 01 20.5**	**+0.5**
	comp=Z,35nm,0.8s						
TNA	**Tin City**	**20.46**	**46**	P	**P**	**14 01 29.3**	**-0.7**
	comp=Z,166nm,1.4s						
UNV	**Unalaska Valle**	**22.14**	**78**	*e*P	**P**	**14 01 48.0**	**-0.2**
	comp=Z,35nm,1.0s						
HIA	**Hailar**	**22.20**	**268**	P	**P**	**14 01 46.0**	**-3.0**
HIA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HIA	**Hailar**	**22.20**	**268**	P	**P**	**14 01 46.0**	**-3.0**
	comp=Z,8.1nm,0.6s						
MAJO	**Matsushiro**	**22.21**	**218**	*e*P	**P**	**14 01 47.9**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,90nm,0.9s						
MAJO	**Matsushiro**	**22.21**	**218**	*e*P	**P**	**14 01 47.2**	**-1.9**
	comp=Z,30nm,1.0s						
MAT	**Matsushiro**	**22.21**	**218**	P	**P**	**14 01 47.8**	**-1.3**
MAT				S	**S**	**14 05 52.8**	**+1.2**
MJAR	**Matsushiro Arr**	**22.21**	**218**	P	**P**	**14 01 48.1**	**-1.0**
	comp=Z,20nm,0.9s,baz=14,slow=9.8,SNR=15						
MJAR				LR	LR	14 10 52.3	
	comp=Z,198nm,18.5s,baz=35,slow=38						
MJAR	**Matsushiro Arr**	**22.21**	**218**	P	**P**	**14 01 48.1**	**-1.0**
MJAR				pmax	pmax		
	comp=Z,20nm,1.0s						
MJAR				MLR	MLR		
	comp=Z,198nm,18.5s						
CN2	**Changchun**	**22.25**	**250**	*e*P	**P**	**14 01 48.8**	**-0.6**
CN2				*e*S	**S**	**14 05 54.4**	**+2.2**
CN2				PMZ			
	comp=Z,10.0nm,0.4s						
CN2				PMZ			
	comp=Z,100nm,4.0s						
CN2				LN			
	comp=Z,200nm,11.0s						
CN2				LE			
	comp=Z,300nm,11.0s						
CN2				LZ			
	comp=Z,300nm,13.0s						
BOD	**Bodaibo**	**22.35**	**293**	*i* P	**P**	**14 01 48.9**	**-1.5**
BOD				pmax	pmax		
	comp=Z,25nm,1.7s						
AKUT	**Akutan**	**22.45**	**77**	*e*P	**P**	**14 01 51.5**	**+0.1**
	comp=Z,431nm,2.1s						
FALS	**False Pass**	**23.51**	**74**	*e*P	**P**	**14 02 01.9**	**-0.3**
	comp=Z,18nm,1.0s						
KSRS	**Korea Array**	**25.72**	**236**	P	**P**	**14 02 23.1**	**+0.5**
	comp=Z,7.6nm,1.0s,baz=37,slow=11,SNR=33						
KSRS				PcP	**PcP**	**14 05 52.4**	**+0.3**
	comp=Z,2.2nm,0.9s,baz=46,slow=1.6,SNR=9.5						
KSRS				LR	LR	14 11 59.7	
	comp=Z,202nm,19.8s,baz=30,slow=35						
KSRS	**Korea Array**	**25.72**	**236**	P	**P**	**14 02 23.2**	**+0.5**
KSRS						14 05 52.4	
KSRS				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KSRS				MLR	MLR		
	comp=Z,202nm,19.8s						
KSAR	**Wonju Array Be**	**25.75**	**236**	P	**P**	**14 02 23.2**	**+0.2**
KSAR						14 05 52.4	
KSAR	**Wonju Array Be**	**25.75**	**236**	P	**P**	**14 02 23.1**	**+0.2**
KSAR				PcP	**PcP**	**14 05 52.4**	**+0.2**
SVW2	**Sparrevohn**	**26.00**	**57**	*e*P	**P**	**14 02 24.9**	**-0.2**
	comp=Z,8.9nm,0.9s						
IM04	**Indian Mountai**	**26.29**	**46**	*e*P	**P**	**14 02 26.9**	**-0.8**
CAST	**Castle Rocks**	**27.24**	**52**	*e*P	**P**	**14 02 37.1**	**+0.8**
	comp=Z,4.9nm,0.8s						
PPLA	**Purkeypile**	**27.27**	**53**	*e*P	**P**	**14 02 37.1**	**+0.4**
	comp=Z,44nm,1.5s						
COLD	**Coldfoot**	**27.68**	**43**	*e*P	**P**	**14 02 39.7**	**-0.4**
	comp=Z,12nm,0.9s						
KTH	**Kantishna Hill**	**27.74**	**51**	*e*P	**P**	**14 02 41.1**	**+0.4**
	comp=Z,31nm,1.7s						
JNU	**Nakatsue**	**28.04**	**227**	P	**P**	**14 02 42.7**	**-0.9**
	comp=Z,3.2nm,0.7s,baz=328,slow=9.5,SNR=3.1						
JNU				LR	LR	14 14 16.3	
	comp=Z,348nm,18.1s,baz=36,slow=37						
TRF	**Thorofare Moun**	**28.04**	**51**	*e*P	**P**	**14 02 42.3**	**-1.3**
	comp=Z,15nm,1.0s						
MCK	**McKinley**	**28.58**	**51**	*e*P	**P**	**14 02 47.9**	**-0.3**
MCK				pmax	pmax		
	comp=Z,15nm,1.2s						
MCK	**McKinley**	**28.58**	**51**	*e*P	**P**	**14 02 47.9**	**-0.3**
	comp=Z,15nm,1.2s						
COLA	**College**	**28.86**	**48**	*i* P	**P**	**14 02 51.1**	**+0.5**
COLA				pmax	pmax		
	comp=Z,23nm,1.0s						
COLA	**College**	**28.86**	**48**	*e*P	**P**	**14 02 49.8**	**-0.8**
	comp=Z,7.9nm,0.8s						
ILAR	**Eielson Array**	**29.29**	**48**	P	**P**	**14 02 54.4**	**-0.1**
	comp=Z,4.7nm,0.7s,baz=263,slow=7.5,SNR=64						
ILAR				PcP	**PcP**	**14 05 59.4**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=292,slow=3.3,SNR=7.8						
ILAR				LR	LR	14 16 00.1	
	comp=Z,165nm,18.7s,baz=284,slow=39						
ILAR	**Eielson Array**	**29.29**	**48**	P	**P**	**14 02 54.4**	**-0.1**
ILAR						14 05 59.4	
ILAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ILAR				MLR	MLR		
	comp=Z,165nm,18.7s						
BJI	**Beijing**	**29.86**	**255**	P	**P**	**14 02 59.5**	**-0.2**
BJI				S	**S**	**14 08 00.0**	**+5.7**
BJI				PMZ			
	comp=Z,21nm,0.8s						
BJI				PMZ			
	comp=Z,140nm,4.4s						
BJI				LN			
	comp=Z,520nm,17.5s						
BJI				LE			
	comp=Z,500nm,16.9s						
BJI				LZ			
	comp=Z,360nm,17.5s						
TLY	**Talaya**	**30.10**	**284**	*e*P	P	14 03 05.4	+3.6
TLY				*e*S	**S**	**14 08 01.8**	**+3.8**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TLY				MLR	MLR		
	comp=Z,495nm,18.0s						
ULN	**Ulaanbaatar**	**30.13**	**275**	*i* P	**P**	**14 03 02.3**	**+0.1**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONM	**Songino Array**	**30.52**	**276**	P	**P**	**14 03 05.6**	**0.0**
	comp=Z,1.8nm,0.7s,baz=55,slow=8.8,SNR=12						
SONM				PcP	**PcP**	**14 06 04.0**	**+0.1**
	comp=Z,3.3nm,0.6s,baz=81,slow=1.7,SNR=15						
SONM				LR	LR	14 15 48.2	
	comp=Z,292nm,21.1s,baz=56,slow=37						
SONM	**Songino Array**	**30.52**	**276**	P	**P**	**14 03 05.6**	**0.0**
SONM						14 06 04.0	
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,292nm,21.1s						
DOT	**Dot Lake**	**30.73**	**50**	*e*P	**P**	**14 03 06.5**	**-0.7**
	comp=Z,7.9nm,0.6s						
ZAK	**Zakamensk**	**30.93**	**282**	*e*P	**P**	**14 03 08.7**	**-0.5**
ZAK				*e*		14 06 04.3	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
EGAK	**Eagle**	**31.69**	**47**	*e*P	**P**	**14 03 15.2**	**-0.4**
	comp=Z,8.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**31.86**	**261**	*e*P	**P**	**14 03 18.9**	**+1.4**
HHC				S	**S**	**14 08 26.5**	**+0.6**
HHC				sS	**sS**	**14 08 41.4**	**0.0**
HHC				ScS	**ScS**	**14 13 47.3**	**+0.7**
HHC				PMZ			
	comp=Z,17nm,1.0s						
HHC				PMZ			
	comp=Z,81nm,6.2s						
HHC				LN			
	comp=Z,390nm,15.0s						
HHC				LE			
	comp=Z,460nm,14.9s						
HHC				LZ			
	comp=Z,440nm,12.4s						
DAWY	**Dawson**	**32.62**	**48**	*e*P	**P**	**14 03 23.7**	**-0.1**
INK	**Inuvik**	**33.78**	**39**	P	**P**	**14 03 34.8**	**+0.9**
	comp=Z,8.5nm,0.7s,baz=302,slow=8.0,SNR=32						
INK				PcP	**PcP**	**14 06 13.1**	**+0.8**
	comp=Z,5.0nm,0.7s,baz=299,slow=3.4,SNR=7.9						
INK	**Inuvik**	**33.78**	**39**	P	**P**	**14 03 34.8**	**+0.9**
INK						14 06 13.1	
INK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KRAR	**Krasnoyarsk**	**33.85**	**297**	*i* P	**P**	**14 03 34.7**	**+0.1**
KRAR				pmax	pmax		
	comp=Z,19nm,1.1s						
NJ2	**Nanjing**	**34.49**	**242**	*e*P	**P**	**14 03 40.3**	**0.0**
NJ2				pP	**pP**	**14 03 53.5**	**+3.8**
NJ2				S	**S**	**14 09 08.5**	**+2.0**
NJ2				sS	**sS**	**14 09 22.0**	**-0.1**
NJ2				PMZ			
	comp=Z,30nm,0.6s						
NJ2				PMZ			
	comp=Z,180nm,5.1s						
NJ2				LN			
	comp=Z,340nm,17.0s						
NJ2				LE			
	comp=Z,690nm,22.4s						
NJ2				LZ			
	comp=Z,710nm,19.3s						
JOW	**Kunigami**	**34.63**	**225**	*e*P	**P**	**14 03 40.8**	**-0.9**
	comp=Z,10nm,0.8s						
SKAG	**Skagway**	**36.07**	**54**	*e*P	**P**	**14 03 54.6**	**+0.9**
	comp=Z,31nm,1.1s						
WHN	**Wuhan**	**37.99**	**246**	⇑P	**P**	**14 04 10.3**	**0.0**
WHN				pP	**pP**	**14 04 20.3**	**+0.6**
XAN	**Xi'an**	**38.19**	**255**	P	**P**	**14 04 10.5**	**-1.5**
XAN				pP	**pP**	**14 04 20.5**	**-1.0**
XAN				sP	**sP**	**14 04 24.5**	**-0.9**
XAN				PP	**PnPn**	**14 05 46.5**	**+5.3**
XAN				S	**ScP**	**14 10 10.3**	**-0.7**
XAN				LN			
	comp=Z,220nm,13.4s						
XAN				LE			
	comp=Z,100nm,13.9s						
XAN				LZ			
	comp=Z,150nm,13.4s						
ZAA0	**Zalesovo Array**	**38.92**	**298**	*e*P	**P**	**14 04 16.3**	**-1.5**
ZALV	**Zalesovo Beam**	**38.92**	**298**	P	**P**	**14 04 17.4**	**-0.4**
	comp=Z,3.1nm,0.7s,baz=53,slow=6.6,SNR=12						
ZALV				PP	**PP**	**14 05 45.7**	**-1.4**
	comp=Z,1.3nm,0.8s,baz=76,slow=9.1,SNR=2.6						
ZALV				PcP	**PcP**	**14 06 27.6**	**-0.3**
	comp=Z,6.9nm,0.8s,baz=46,slow=4.3,SNR=9.2						
ZALV				LR	LR	14 21 19.7	
	comp=Z,249nm,21.2s,baz=70,slow=38						
ZALV	**Zalesovo Beam**	**38.92**	**298**	P	**P**	**14 04 17.4**	**-0.4**
ZALV						14 05 45.7	
ZALV						14 06 27.6	
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZALV				MLR	MLR		
	comp=Z,249nm,21.2s						
DLBC	**Dease Lake**	**38.98**	**54**	*e*P	**P**	**14 04 18.4**	**0.0**
NVS	**Novosibirsk**	**39.23**	**300**	⇑*i*P	**P**	**14 04 19.6**	**-0.8**
NVS				pmax	pmax		
	comp=Z,72nm,1.3s						
NVS				pmax	pmax		
	comp=N,20nm,1.2s						
NVS				pmax	pmax		
	comp=E,31nm,1.2s						
GTA	**Gaotai**	**39.47**	**269**	*e*P	**P**	**14 04 23.6**	**+0.8**
GTA				pP	**pP**	**14 04 32.8**	**+0.5**
GTA				sP	**sP**	**14 04 37.6**	**+1.4**
GTA				S	**S**	**14 10 21.1**	**-1.5**
GTA				sS	**sS**	**14 10 36.6**	**-1.7**
GTA				SS	SS	14 13 07.3	-10
GTA				PMZ			
	comp=E,10.0nm,0.8s						
GTA				PMZ			
	comp=E,62nm,5.2s						
GTA				LN			
	comp=E,390nm,14.3s						
GTA				LE			
	comp=E,400nm,15.2s						
GTA				LZ			
	comp=E,580nm,14.0s						
LZH	**Lanzhou**	**39.51**	**262**	*e*P	P	14 04 19.1	-4.1
LZH				pP	pP	14 04 26.9	-5.8
LZH				sP	sP	14 04 29.6	-7.0
LZH				PMZ			
	comp=E,14nm,1.0s						
LZH				PMZ			
	comp=E,75nm,5.0s						
LZH				LN			
	comp=E,780nm,13.5s						
LZH				LE			
	comp=E,790nm,13.6s						
LZH				LZ			
	comp=E,970nm,13.2s						
ENH	**Enshi**	**40.77**	**251**	*e*P	**P**	**14 04 32.2**	**-1.3**
	comp=E,10nm,0.8s						
YKA	**Yellowknife Ar**	**43.35**	**43**	P	**P**	**14 04 54.6**	**+0.5**
	comp=E,2.3nm,0.6s,baz=306,slow=7.6,SNR=23						
YKA				PcP	**PcP**	**14 06 42.8**	**+0.7**
	comp=E,1.7nm,0.6s,baz=316,slow=3.5,SNR=15						
YKA	**Yellowknife Ar**	**43.35**	**43**	P	**P**	**14 04 54.6**	**+0.5**
YKA						14 06 42.8	
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WMQ	**Urum

WMQ PMZ
comp=Z,57nm,1.0s
WMQ PMZ
comp=Z,110nm,5.0s
WMQ LN
comp=Z,820nm,15.6s
WMQ LE
comp=Z,310nm,12.0s
WMQ LZ
comp=Z,320nm,18.6s
CD2 Chengdu 43.40 257 P **P** **14 04 55.3 +0.3**
CD2 sP **sP** **14 05 09.3 +0.9**
CD2 S **S** **14 11 18.3 -2.5**
CD2 PMZ
comp=Z,30nm,1.1s
CD2 PMZ
comp=Z,90nm,6.0s
CD2 LN
comp=Z,390nm,14.3s
CD2 LE
comp=Z,320nm,15.5s
CD2 LZ
comp=Z,350nm,16.7s
KURK Kurchatov 43.88 297 P **P** **14 04 58.5 0.0**
KURK pmax pmax
comp=Z,21nm,0.9s
KURK Kurchatov 43.88 297 ⇓P **P** **14 04 58.2 -0.4**
SNR=24
KURK Kurchatov 43.88 297 *e*P **P** **14 04 58.1 -0.5**
comp=Z,43nm,0.9s
KBS Kingsbay 43.94 350 *e*P P 14 04 54.6 -4.1
KBS Kingsbay 43.94 350 *e*P P 14 04 54.6 -4.1
MK31 Makanchi Array 44.41 290 P **P** **14 05 02.6 -0.2**
MK31 pmax pmax
comp=Z,8.0nm,0.9s
MK31 Makanchi Array 44.41 290 *e*P P 14 04 57.7 -5.1
MKAR Makanchi Array 44.41 290 P **P** **14 05 02.7 -0.1**
comp=Z,2.4nm,0.8s,baz=17,slow=2.9,SNR=13
MKAR PcP **PcP** **14 06 45.4 -0.7**
comp=Z,2.1nm,0.7s,baz=47,slow=5.8,SNR=6.6
MKAR LR LR 14 24 22.4
comp=Z,106nm,20.2s,baz=44,slow=37
MKAR Makanchi Array 44.41 290 P **P** **14 05 02.7 -0.1**
MKAR 14 06 45.4
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR MLR MLR
comp=Z,106nm,20.2s
GYA Guiyang 45.30 250 *e*P **P** **14 05 10.3 0.0**
GYA pP **pP** **14 05 20.8 +0.9**
GYA sP **sP** **14 05 26.4 +2.6**
GYA PP **PP** **14 06 56.6 +0.2**
GYA ScP **ScP** **14 10 39.0 -0.5**
GYA S **S** **14 11 47.3 -1.3**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,5.0s
GYA LN
comp=Z,470nm,18.3s
GYA LE
comp=Z,380nm,19.0s
GYA LZ
comp=Z,460nm,18.8s
BVA0 Borovoye Array 46.48 304 P **P** **14 05 19.2 0.0**
BVA0 pmax pmax
comp=Z,20nm,0.8s
BVAR Borovoye Array 46.48 304 LR LR 14 25 22.7
comp=Z,119nm,19.6s,baz=66,slow=37
BRVK Borovoye 46.51 304*c i*P **P** **14 05 19.5 +0.1**
BRVK pmax pmax
comp=Z,40nm,1.0s
BRVK Borovoye 46.51 304 ⇑P **P** **14 05 19.5 +0.1**
SNR=16
BRVK Borovoye 46.51 304 *e*P **P** **14 05 19.3 -0.1**
comp=Z,28nm,0.7s
DAG Danmarks Havn 47.84 358 *i* P **P** **14 05 29.0 -0.4**
comp=Z,9.6nm,0.9s
DAG Danmarks Havn 47.84 358 *i* P **P** **14 05 29.0 -0.4**
DAG pmax pmax
comp=Z,8.0nm,0.9s
SOKR Solikamsk 48.10 317 *e*P **P** **14 05 32.4 +0.8**
SOKR pmax pmax
comp=Z,10.0nm,0.6s
SOKR MLR MLR
comp=Z,240nm,23.0s
PDGK Podgornoye 48.18 289 P **P** **14 05 33.0 +0.6**
PDGK pmax pmax
comp=Z,25nm,0.9s
KULLO Kullorsuaq 48.34 11⇑*i*P **P** **14 05 32.8 -0.5**
comp=Z,29nm,1.2s
SVE Sverdlovsk 48.38 313 *e*P **P** **14 05 34.8 +1.0**
SVE pmax pmax
comp=Z,28nm,0.8s
KMI Kunming 48.48 253 P **P** **14 05 35.5 +0.2**
KMI pP **pP** **14 05 43.1 -1.9**
KMI PMZ
comp=Z,13nm,0.8s
KMI LN
comp=Z,460nm,14.6s
KMI LE
comp=Z,290nm,15.7s
KMI LZ
comp=Z,580nm,14.6s
LVZ Lovozero 49.18 334 *e*P **P** **14 05 39.6 -0.3**
LVZ pmax pmax
comp=Z,11nm,1.0s
ARU Arti 49.50 313*c i*P **P** **14 05 42.5 +0.1**
ARU 14 07 03.5
ARU 14 07 33.0
ARU S **S** **14 12 49.1 +1.7**
ARU SS **SS** **14 16 15.9 -3.0**
ARU pmax pmax
comp=Z,45nm,1.0s
ARU MLR MLR
comp=Z,242nm,20.0s
ARU Arti 49.50 313 *e*P **P** **14 05 42.0 -0.4**
comp=Z,34nm,0.7s
EDM Edmonton 49.63 52 *e*P **P** **14 05 43.3 -0.2**
EDM Edmonton 49.63 52 *e*P **P** **14 05 43.3 -0.2**
QIZ Qiongzhong 49.77 241 P **P** **14 05 44.9 0.0**
QIZ sP **sP** **14 05 57.8 -0.7**
QIZ S **S** **14 12 51.9 -0.1**
QIZ LN
comp=Z,220nm,15.5s
QIZ LZ
comp=Z,270nm,15.5s
ARCES ARCESS Array B 49.92 339 P **P** **14 05 45.2 -0.2**
comp=Z,2.1nm,0.6s,baz=41,slow=9.1,SNR=13
ARCES PcP **PcP** **14 07 04.8 -0.5**
comp=Z,2.2nm,0.6s,baz=45,slow=4.3,SNR=6.7
ARCES LR LR 14 34 09.2
comp=Z,40nm,18.4s,baz=22,slow=45
B08A Colville Reser 50.08 60 *e*P **P** **14 05 48.0 +0.9**
comp=Z,10nm,1.3s
TKM2 Tokmak 2 50.53 291 P **P** **14 05 51.6 +0.9**
SNR=6.7
TKM2 Tokmak 2 50.53 291 *e*P **P** **14 05 49.6 -1.1**
TKM2 pmax pmax
comp=Z,5.0nm,0.6s
TKM2 Tokmak 2 50.53 291 *e*P **P** **14 05 49.6 -1.1**
comp=Z,5.0nm,0.6s
USP Ospenovka 50.87 292 P **P** **14 05 54.0 +0.8**
SNR=16
USP Ospenovka 50.87 292 *i* P **P** **14 05 53.9 +0.8**
KBK Karagaybulak 51.06 291 P **P** **14 05 55.4 +0.8**
SNR=12
TMCR Tamitsa 51.14 330 *e*P **P** **14 05 55.3 +0.6**
TMCR pmax pmax
comp=Z,20nm,0.5s
NEW Newport 51.23 59 ⇑P **P** **14 05 54.7 -1.0**
baz=51
I03D Drain, OR 51.23 67 ⇓P **P** **14 05 56.1 +0.5**
baz=51
KZA Kyzart 51.30 290 P **P** **14 05 58.2 +1.4**
SNR=11
KZA Kyzart 51.30 290 *i* P **P** **14 05 58.1 +1.4**
AAK Ala-Archa 51.32 291 P **P** **14 05 57.3 +0.8**
SNR=20
AAK Ala-Archa 51.32 291 *i* P **P** **14 05 57.3 +0.8**
AAK pmax pmax
comp=Z,36nm,0.8s
AAK Ala-Archa 51.32 291 ⇓P **P** **14 05 56.8 +0.2**
SNR=14
AAK Ala-Archa 51.32 291 *e*P **P** **14 05 56.6 +0.1**
comp=Z,22nm,0.7s

LSA Lhasa 51.40 267 P **P** **14 05 58.3 +0.6**
LSA Lhasa 51.40 267 P **P** **14 05 57.1 -0.6**
LSA pmax pmax
comp=Z,23nm,0.8s
LSA Lhasa 51.40 267 P **P** **14 05 57.1 -0.6**
comp=Z,23nm,0.8s
UCH Uchtor 51.59 291 P **P** **14 05 59.7 +0.7**
SNR=8.9
UCH Uchtor 51.59 291 *i* P **P** **14 05 59.7 +0.7**
I04A Tendick Farm, 51.65 66 ⇑P **P** **14 05 59.1 +0.2**
baz=52
EKS2 Erkin-Say 51.68 292 P **P** **14 06 00.2 +1.0**
SNR=20
EKS2 Erkin-Say 51.68 292 *e*P **P** **14 05 58.4 -0.8**
EKS2 pmax pmax
comp=Z,19nm,0.7s
EKS2 Erkin-Say 51.68 292 *e*P **P** **14 05 58.4 -0.8**
comp=Z,19nm,0.7s
SUMG Summit 51.78 5⇑*i*P **P** **14 06 00.2 +0.3**
comp=Z,22nm,1.0s
SUMG Summit 51.78 5 *e*P **P** **14 05 59.5 -0.4**
SUMG pmax pmax
comp=Z,19nm,0.8s
SUMG Summit 51.78 5 *e*P **P** **14 05 59.5 -0.4**
comp=Z,19nm,0.8s
AML Almayashu 52.09 291 P **P** **14 06 03.5 +0.9**
SNR=11
AML Almayashu 52.09 291 *i* P **P** **14 06 03.5 +0.9**
J04D Umpqua Nationa 52.20 67 ⇑P **P** **14 06 03.4 +0.3**
baz=52
WALA Waterton Lakes 52.22 56 *e*P **P** **14 06 03.4 +0.3**
J05D Fort Rock, OR 52.62 66 ⇑P **P** **14 06 06.4 +0.2**
baz=52
BSMT Bassoo Peak 52.64 58 *e*P **P** **14 06 06.5 +0.1**
comp=Z,7.5nm,0.8s
KSH Kashi 52.72 287 P P 14 06 11.3 +4.3
KSH sP sP 14 06 25.3 +4.7
KSH PP PP 14 08 12.4 +6.3
KSH S **S** **14 13 37.1 +4.5**
KSH PMZ
comp=Z,17nm,1.1s
KSH LN
comp=Z,310nm,12.7s
KSH LE
comp=Z,220nm,10.6s
KSH LZ
comp=Z,200nm,19.2s
YBH Yreka Blue Hor 52.94 68 *e*P **P** **14 06 10.3 +1.7**
YBH pmax pmax
comp=Z,5.0nm,0.8s
YBH Yreka Blue Hor 52.94 68 *e*P **P** **14 06 10.2 +1.7**
comp=Z,4.9nm,0.8s
JTMT Jette 52.96 58 *e*P **P** **14 06 08.4 -0.3**
YBMT Yellow Bay 53.01 57 *e*P **P** **14 06 09.5 +0.5**
comp=Z,2.5nm,0.6s
KK31 Karatay Array 53.07 294 P **P** **14 06 09.6 +0.2**
KK31 pmax pmax
comp=Z,22nm,0.7s
KKAR Karatay Array 53.07 294 *e*P **P** **14 06 09.5 +0.1**
KKAR Karatay Array 53.07 294 *e*P **P** **14 06 09.5 +0.1**
M02C Callahan 53.11 69 ⇑P **P** **14 06 10.1 +0.4**
baz=53
K05A Summer Lake 53.19 66 *e*P **P** **14 06 12.7 +2.1**
comp=Z,109nm,2.6s
KLMR Klimovskoe 53.23 327 *e*P **P** **14 06 10.9 +0.6**
KLMR pmax pmax
comp=Z,52nm,1.5s
SWMT Swartz Lake 53.26 58 P **P** **14 06 08.2 -2.7**
comp=Z,1.9nm,0.4s
FCC Fort Churchill 53.36 37 *e*P **P** **14 06 11.0 -0.2**
FCC pmax pmax
comp=Z,91nm,1.9s
FCC Fort Churchill 53.36 37 *e*P **P** **14 06 11.0 -0.2**
comp=Z,91nm,1.9s
M04C Macdoel 53.37 68 ⇓P **P** **14 06 11.8 0.0**
baz=53
N02D Trinity Center 53.48 69 ⇓P **P** **14 06 12.8 +0.3**
baz=53
BMO Blue Mountains 53.52 62 *e*P **P** **14 06 13.4 +0.6**
comp=Z,7.2nm,1.1s
SLMT Seeley Lake 53.69 58 *e*P **P** **14 06 14.8 +0.7**
comp=Z,6.6nm,0.8s
MSO Missoula 53.77 58 *e*P **P** **14 06 15.2 +0.6**
comp=Z,9.9nm,1.3s
MSO Missoula 53.77 58 ⇑P **P** **14 06 14.5 -0.1**
baz=54
AB31 Akbulak array 53.88 306 *i* P **P** **14 06 15.1 -0.1**
AB31 pmax pmax
comp=Z,12nm,0.6s
ABKAR Akbulak array 53.88 306 *e*P **P** **14 06 14.1 -1.1**
comp=Z,8.6nm,0.6s
AKTO Aktyubinsk 53.91 308 P **P** **14 06 15.6 +0.2**
comp=Z,9.9nm,0.6s,baz=75,slow=9.3,SNR=18
AKTO LR LR 14 31 16.1
comp=Z,94nm,19.3s,slow=38
AKTO Aktyubinsk 53.91 308 P **P** **14 06 15.6 +0.2**
AKTO pmax pmax
comp=Z,10.0nm,0.6s
AKTO MLR MLR
comp=Z,94nm,19.3s
SKNT Sakolnakorn 54.48 246 P P 14 06 23.2 +3.2
comp=Z,16nm,1.5s
WVOR Wild Horse Val 54.56 65 *e*P **P** **14 06 21.2 +0.7**
WVOR pmax pmax
comp=Z,7.0nm,0.9s
WVOR Wild Horse Val 54.56 65 *e*P **P** **14 06 21.2 +0.7**
comp=Z,6.8nm,0.9s
CMAI Chiengmai2 54.66 253 P **P** **14 06 23.1 +1.6**
comp=Z,9.4nm,1.2s
A19A Klindworth Far 54.71 53 ⇓P **P** **14 06 20.9 -0.4**
baz=54
EGMT Eagleton 54.90 55 *e*P **P** **14 06 22.3 -0.4**
comp=Z,7.5nm,0.8s
EGMT Eagleton 54.90 55 ⇑P **P** **14 06 22.2 -0.5**
baz=55
B19A Brinkman Farms 54.96 54 ⇑P **P** **14 06 23.1 0.0**
baz=55
A20A Cobblestone Ra 55.11 53 ⇑P **P** **14 06 24.0 -0.3**
baz=55,SNR=12
TAPN Taplejung 55.14 268 *e*P **P** **14 06 24.2 -0.8**
comp=Z,61nm,0.9s
MFID Camas Ranch 55.29 62 *e*P **P** **14 06 26.2 +0.5**
comp=Z,6.0nm,0.9s
B20A Solberg Farm, 55.39 53 ⇓P **P** **14 06 25.6 -0.6**
baz=55
C19A Slack Wire Ran 55.43 55 ⇑P **P** **14 06 26.3 -0.3**
baz=55,SNR=13
DLMT Dillon 55.48 59 *e*P **P** **14 06 27.7 +0.7**
comp=Z,6.4nm,1.0s
LAMP Lampang 55.50 251 P **P** **14 06 28.6 +1.3**
comp=Z,8.1nm,0.8s,comp=Z,61nm
CMMT Chiang Mai 55.63 252 P **P** **14 06 28.5 +0.2**
comp=Z,23nm,0.9s
CHTO Chiang Mai 55.63 252 P **P** **14 06 28.5 +0.2**
comp=Z,78nm,1.0s
CHTO Chiang Mai 55.63 252 *e*P **P** **14 06 27.8 -0.5**
CHTO pmax pmax
comp=Z,11nm,0.7s
CHTO Chiang Mai 55.63 252 ⇑P **P** **14 06 28.9 +0.6**
SNR=5.0
CHTO Chiang Mai 55.63 252 *e*P **P** **14 06 27.8 -0.5**
comp=Z,11nm,0.7s
UTTA Uttaradit 55.65 250 P **P** **14 06 29.9 +1.6**
comp=Z,4.9nm,0.8s
ODAN Odare 55.70 268 *e*P **P** **14 06 29.1 +0.1**
comp=Z,25nm,0.6s
BOZ Bozeman (W) 55.74 58 *e*P **P** **14 06 30.0 +1.1**
BOZ pmax pmax
comp=Z,35nm,2.5s
BOZ Bozeman (W) 55.74 58 *e*P **P** **14 06 30.0 +1.1**
comp=Z,35nm,2.5s
MCMT McKenzie Canyo 55.74 59 *e*P **P** **14 06 29.2 +0.2**
GUN Gumba 55.75 270 *e*P **P** **14 06 29.4 -0.1**
comp=Z,26nm,0.8s
JIRN Jiri 55.77 270 *e*P **P** **14 06 29.7 +0.1**
comp=Z,38nm,0.9s
B21A Ellsworth Farm 55.86 53 ⇑P **P** **14 06 29.3 -0.2**
baz=56
HLID Hailey 55.89 61 *e*P **P** **14 06 31.2 +1.1**
comp=Z,27nm,2.3s
HLID Hailey 55.89 61 ⇑P **P** **14 06 29.9 -0.2**
baz=56
CMAR Chiang Mai Arr 55.92 252 P **P** **14 06 31.3 +0.9**
comp=Z,4.1nm,0.8s,baz=20,slow=6.4,SNR=23
CMAR LR LR 14 32 10.4
comp=Z,101nm,19.9s,baz=25,slow=38
CMAR Chiang Mai Arr 55.92 252 P **P** **14 06 31.3 +0.9**

CMAR pmax pmax
comp=Z,4.0nm,0.8s
CMAR MLR MLR
comp=Z,101nm,20.0s
D19A Cripps Ranch, 55.93 55 ⇑P **P** **14 06 30.3 +0.1**
baz=56,SNR=7.4
C20A Veseth Ranch, 55.93 54 ⇓P **P** **14 06 30.3 +0.1**
baz=56,SNR=15
RAMN Ramite 56.08 269 *e*P **P** **14 06 31.4 -0.3**
comp=Z,66nm,0.7s
KKN Kakani 56.19 271 *e*P **P** **14 06 32.7 +0.3**
comp=Z,22nm,0.6s
SFJD Kangerlussuaq 56.23 12 *i* P **P** **14 06 30.2 -1.7**
comp=Z,5.5nm,0.7s
SFJD Kangerlussuaq 56.23 12 *e*P **P** **14 06 30.2 -1.7**
SFJD pmax pmax
comp=Z,6.0nm,0.7s
C21A Desert Coulee 56.26 53 ⇑P **P** **14 06 32.6 +0.1**
baz=56
PKI Pulchoki 56.28 270 *e*P **P** **14 06 33.1 -0.1**
comp=Z,64nm,1.2s
PKIN Phulchoki 56.28 270 *e*P **P** **14 06 33.1 -0.1**
comp=Z,23nm,0.9s
GKN Gorkha 56.39 271 *e*P **P** **14 06 34.0 +0.2**
comp=Z,60nm,0.8s
PBKT Sadao Pong 56.40 249 P **P** **14 06 36.5 +2.8**
comp=Z,9.7nm,1.1s
B22A Reddig Ranch S 56.41 52 ⇑P **P** **14 06 33.4 -0.2**
baz=56
CHAI Chaiyaphum 56.42 247 P **P** **14 06 36.6 +2.7**
comp=Z,4.4nm,0.9s
DMN Daman 56.42 271 *e*P **P** **14 06 34.6 +0.5**
comp=Z,66nm,1.0s
E19A Rath Farm, Rou 56.49 56 ⇓P **P** **14 06 34.2 0.0**
baz=56
GCMT Greycliff 56.57 57 *e*P **P** **14 06 36.0 +1.2**
FINES FINESS Array B 56.58 333 P **P** **14 06 34.5 0.0**
comp=Z,7.7nm,0.7s,baz=41,slow=8.0,SNR=24
FINES LR LR 14 32 38.1
comp=Z,44nm,21.9s,baz=274,slow=38
FINES FINESS Array B 56.58 333 P **P** **14 06 34.5 0.0**
FINES pmax pmax
comp=Z,8.0nm,0.7s
FINES MLR MLR
comp=Z,44nm,21.9s
MHMT Maesarieng 56.70 253 P P 14 06 39.4 +3.5
comp=Z,8.7nm,1.2s
BMN Battle Mountai 56.75 66 *e*P **P** **14 06 36.9 +0.7**
BMN pmax pmax
comp=Z,11nm,1.0s
BMN Battle Mountai 56.75 66 *e*P **P** **14 06 36.9 +0.7**
comp=Z,11nm,1.0s
E20A Meyer Farm, Mu 56.76 55 ⇓P **P** **14 06 36.4 +0.2**
baz=57,SNR=7.5
A24A Westby 56.83 51 ⇑P **P** **14 06 36.5 0.0**
baz=57
CMB Columbia Colle 56.85 70 *e*P **P** **14 06 38.1 +1.3**
CMB pmax pmax
comp=Z,26nm,1.6s
CMB Columbia Colle 56.85 70 *e*P **P** **14 06 38.1 +1.3**
comp=Z,26nm,1.6s
F19A Roth Farm, Mol 56.86 56 ⇓P **P** **14 06 36.7 -0.2**
baz=57
D21A La Casta Ranch 56.87 54 ⇓P **P** **14 06 36.5 -0.4**
baz=57
WAKR Walker 57.01 69 *e*P **P** **14 06 39.8 +1.6**
DGMT Dagmar 57.09 51 ⇓P **P** **14 06 38.3 0.0**
baz=57
C23A Lambert 57.15 52 ⇓P **P** **14 06 39.1 +0.4**
baz=57,SNR=7.1
KOLN Koldanda 57.15 272 *e*P **P** **14 06 39.5 +0.2**
comp=Z,44nm,0.8s
H17A Grant Village 57.16 58 *e*P **P** **14 06 40.2 +1.0**
H17A Grant Village 57.16 58 ⇓P **P** **14 06 39.0 -0.2**
baz=57,SNR=6.3
D22A Cohagen 57.18 53 ⇑P **P** **14 06 38.5 -0.5**
baz=57
A25A Svangstu Ranch 57.21 50 ⇑P **P** **14 06 38.8 -0.4**
baz=57
E21A Keefer Ranch, 57.23 54 ⇓P **P** **14 06 39.2 -0.1**
baz=57
RLMT Red Lodge 57.25 57 *e*P **P** **14 06 39.8 0.0**
comp=Z,9.4nm,1.0s
F20A Billings 57.28 56 ⇓P **P** **14 06 39.5 -0.3**
baz=57
IMW Indian Meadow 57.35 59 *e*P **P** **14 06 41.3 +0.7**
comp=Z,5.4nm,1.0s
H18A Shoshone NF, C 57.39 57 ⇓P **P** **14 06 40.1 -0.7**
baz=57
FXWY Fox Creek 57.50 59 *e*P **P** **14 06 42.8 +1.2**
comp=Z,4.2nm,1.0s
LAO LASA Array 57.51 54 *e*P **P** **14 06 42.5 +1.1**
comp=Z,9.5nm,0.9s
ELK Elko 57.54 64 *e*P **P** **14 06 42.6 +0.7**
ELK pmax pmax
comp=Z,9.0nm,1.0s
ELK Elko 57.54 64 *e*P **P** **14 06 42.6 +0.7**
comp=Z,8.5nm,1.0s
MOOW Moose Ponds 57.56 59 *e*P **P** **14 06 42.8 +0.9**
comp=Z,43nm,2.6s
TPAW Teton Pass 57.65 59 P **P** **14 06 41.0 -1.7**
comp=Z,7.4nm,1.2s
NVAR Mina Array Bea 57.66 68 P **P** **14 06 44.7 +1.9**
comp=Z,5.5nm,0.8s,baz=302,slow=7.2,SNR=41
G20A Bridger 57.68 56 ⇑P **P** **14 06 42.8 +0.2**
baz=58,SNR=7.2
C24A Savage 57.69 52 ⇑P **P** **14 06 42.3 -0.3**
baz=58
B25A Knox Farm, Ray 57.69 51 ⇓P **P** **14 06 42.4 -0.2**
baz=58
H19A Powell 57.72 57 ⇓P **P** **14 06 42.7 -0.3**
baz=58
REDW Red Top Meadow 57.79 59 *e*P **P** **14 06 43.4 -0.3**
comp=Z,6.4nm,1.2s
E22A Miles City 57.82 54 ⇓P **P** **14 06 43.7 +0.1**
baz=58
MOS Moscow 57.89 324 *e*P **P** **14 06 44.2 +0.4**
MOS *e* 14 07 34.6
MOS *e* 14 08 51.4
UTHA Uthaitani 58.04 249 P P 14 06 49.3 +3.9
comp=Z,3.3nm,0.9s
D24A Glendive 58.05 52 ⇓P **P** **14 06 45.5 +0.3**
baz=58,SNR=5.1
NAYO Nakonayok 58.09 247 P P 14 06 51.3 +5.6
comp=Z,8.4nm,0.8s,comp=Z,1µm
B27A Peters Farms, 58.42 49 ⇑P **P** **14 06 47.0 -0.7**
baz=58
A28A Rude Farm, Bot 58.46 48 ⇓P **P** **14 06 47.4 -0.6**
baz=58
E24A Baker 58.47 53 ⇓P **P** **14 06 47.3 -0.8**
baz=58
BGU Big Grassy Mou 58.53 63 *e*P **P** **14 06 48.2 -0.5**
comp=Z,6.8nm,1.1s
G22A Birney 58.58 55 ⇑P **P** **14 06 48.6 -0.3**
baz=58
F23A Volborg 58.61 54 ⇓P **P** **14 06 48.8 -0.3**
baz=58
I20A Worland 58.67 57 ⇓P **P** **14 06 49.7 +0.1**
baz=58
H21A Big Horn, Sher 58.67 56 ⇑P **P** **14 06 49.1 -0.6**
baz=58
J19A Crowheart 58.74 58 ⇑P **P** **14 06 49.8 -0.3**
baz=59
OBN Obninsk 58.75 324 P **P** **14 06 49.7 -0.1**
comp=Z,15nm,0.4s,baz=38,slow=6.8,SNR=7.7
OBN Obninsk 58.75 324 *i* P **P** **14 06 50.0 +0.2**
OBN *e* 14 07 38.4
OBN pmax pmax
comp=Z,54nm,1.7s
OBN MLR MLR
comp=Z,94nm,18.0s
HWUT Hardware Ranch 58.75 61 *e*P **P** **14 06 48.6 -1.7**
comp=Z,13nm,0.9s
B28A Dugan Ranch, T 58.77 49 ⇑P **P** **14 06 50.1 0.0**
baz=59
BW06 Boulder Array 58.87 59 *e*P **P** **14 06 51.4 +0.2**
comp=Z,20nm,1.3s
PDAR Pinedale Array 58.87 59 P **P** **14 06 52.4 +1.3**
comp=Z,7.9nm,0.9s,baz=347,slow=4.6,SNR=37
PDAR LR LR 14 34 16.1
comp=Z,101nm,18.2s,baz=346,slow=38
CHBT CHBT 58.88 245 P P 14 06 55.6 +4.4
comp=Z,12nm,1.0s
A29A Manning Farm, 58.88 48 ⇑P **P** **14 06 50.8 -0.1**
baz=59
VSU Vasula 58.95 331*c i*P **P** **14 06 51.5 +0.4**
VSU pmax pmax
comp=Z,67nm,1.0s

D26A	**Manning**	**58.95**	**51**	⇑P		**P**	**14 06 50.9**	**-0.5**
	baz=59								
F24A	**Ekalaka**	**58.95**	**53**	⇓P		**P**	**14 06 50.9**	**-0.6**
	baz=59								
H22A	**Clearmont**	**59.02**	**55**	⇓P		**P**	**14 06 52.0**	**-0.1**
	baz=59								
J20A	**Shoshoni**	**59.14**	**58**	⇓P		**P**	**14 06 52.6**	**-0.3**
	baz=59,SNR=8.9								
R11A	**Troy Canyon, C**	**59.14**	**66**	*e*P		**P**	**14 06 53.5**	**+0.5**
	comp=Z,5.4nm,1.1s								
R11A	**Troy Canyon, C**	**59.14**	**66**	⇓P		**P**	**14 06 53.4**	**+0.3**
	baz=59,SNR=8.7								
I21A	**Big Trails, Te**	**59.17**	**57**	⇑P		**P**	**14 06 52.8**	**-0.3**
	baz=59								
VES	**Vestal, Richgr**	**59.18**	**71**	⇓P		**P**	**14 06 53.5**	**+0.4**
	baz=59								
DUG	**Dugway, Tooele**	**59.18**	**63**	*e*P		**P**	**14 06 52.8**	**-0.4**
DUG				pmax	pmax				
	comp=Z,13nm,0.9s								
DUG	**Dugway, Tooele**	**59.18**	**63**	*e*P		**P**	**14 06 52.8**	**-0.4**
	comp=Z,13nm,0.9s								
DUG	**Dugway, Tooele**	**59.18**	**63**	⇓P		**P**	**14 06 53.6**	**+0.3**
	baz=59,SNR=8.9								
B29A	**Wagenman Farm,**	**59.19**	**48**	⇑P		**P**	**14 06 52.4**	**-0.5**
	baz=59								
ULM	**Lac du Bonnet**	**59.23**	**45**	P		**P**	**14 06 53.7**	**+0.5**
	comp=Z,6.0nm,0.9s,baz=335,slow=7.2,SNR=9.7								
ULM				PcP		**PcP**	**14 07 41.8**	**+0.5**
	comp=Z,3.0nm,0.8s,baz=343,slow=1.6,SNR=3.6								
ULM				LR		LR	14 33 10.6		
	comp=Z,103nm,19.3s,baz=109,slow=37								
ULM	**Lac du Bonnet**	**59.23**	**45**	P		**P**	**14 06 53.7**	**+0.5**
ULM							14 07 41.8		
ULM				pmax	pmax				
	comp=Z,6.0nm,0.9s								
ULM				MLR	MLR				
	comp=Z,103nm,19.3s								
ULM	**Lac du Bonnet**	**59.23**	**45**	P		**P**	**14 06 53.7**	**+0.5**
	comp=Z,2.1nm,0.9s								
ULM				PcP		**PcP**	**14 07 41.8**	**+0.5**
A30A	**Hoffart Farm,**	**59.26**	**47**	⇑P		**P**	**14 06 53.4**	**-0.1**
	baz=59								
CWC	**Cottonwood Cre**	**59.26**	**70**	⇑P		**P**	**14 06 53.6**	**-0.3**
	baz=59								
D27A	**Center**	**59.30**	**51**	⇓P		**P**	**14 06 53.1**	**-0.7**
	baz=59								
F25A	**Bowman**	**59.34**	**53**	⇑P		**P**	**14 06 53.5**	**-0.7**
	baz=59								
G24A	**Alzada**	**59.36**	**54**	⇑P		**P**	**14 06 54.4**	**+0.1**
	baz=59,SNR=7.1								
J21A	**Lysite**	**59.45**	**57**	⇑P		**P**	**14 06 55.7**	**+0.6**
	baz=59,SNR=10								
I22A	**9 Mile Ranch,**	**59.49**	**56**	⇑P		**P**	**14 06 54.7**	**-0.6**
	baz=59								
MDND	**Maddock**	**59.56**	**49**	⇓P		**P**	**14 06 55.0**	**-0.5**
	baz=59								
JLU	**Jordanelle**	**59.56**	**62**	*e*P		**P**	**14 06 58.1**	**+2.1**
	comp=Z,39nm,1.9s								
B30A	**Myrvik Farm, E**	**59.63**	**48**	⇓P		**P**	**14 06 55.4**	**-0.7**
	baz=59								
ISA	**Isabella, Lake**	**59.64**	**70**	*e*P		**P**	**14 06 57.3**	**+0.9**
ISA				pmax	pmax				
	comp=Z,12nm,1.3s								
ISA	**Isabella, Lake**	**59.64**	**70**	*e*P		**P**	**14 06 57.3**	**+0.9**
	comp=Z,12nm,1.3s								
ISA	**Isabella, Lake**	**59.64**	**70**	⇑P		**P**	**14 06 56.2**	**-0.2**
	baz=60								
DAC	**Darwin (Calif)**	**59.64**	**69**	*e*P		**P**	**14 06 56.4**	**-0.2**
DAC				pmax	pmax				
	comp=Z,22nm,1.9s								
DAC	**Darwin (Calif)**	**59.64**	**69**	*e*P		**P**	**14 06 56.4**	**-0.2**
	comp=Z,22nm,1.9s								
D28A	**Regan**	**59.65**	**50**	⇓P		**P**	**14 06 55.3**	**-0.9**
	baz=60								
NLU	**North Lily Min**	**59.74**	**63**	*e*P		**P**	**14 06 57.8**	**+0.7**
	comp=Z,8.7nm,0.9s								
H24A	**Dirks Ranch, A**	**59.74**	**54**	⇓P		**P**	**14 06 57.2**	**+0.2**
	baz=60,SNR=7.3								
F26A	**Lodgepole**	**59.75**	**52**	⇓P		**P**	**14 06 56.3**	**-0.7**
	baz=60								
TPNV	**Topopah Spring**	**59.85**	**68**	⇓P		**P**	**14 06 58.4**	**+0.5**
	baz=60,SNR=9.4								
J22A	**Midwest**	**59.86**	**56**	⇑P		**P**	**14 06 57.9**	**0.0**
	baz=60,SNR=6.1								
MPMC	**Manual Prospec**	**59.86**	**69**	⇑P		**P**	**14 06 58.6**	**+0.5**
	baz=60,SNR=6.7								
FURC	**Furnace Creek,**	**59.89**	**69**	⇑P		**P**	**14 06 58.8**	**+0.9**
	baz=60,SNR=5.9								
SBC	**Santa Barbara**	**59.89**	**72**	⇑P		**P**	**14 06 57.9**	**-0.1**
	baz=60								
MPU	**Maple Canyon**	**59.91**	**62**	*e*P		**P**	**14 06 58.1**	**-0.2**
	comp=Z,17nm,1.2s								
LPSR	**Galich'ya Gora**	**59.97**	**321**	*e*P		**P**	**14 06 58.0**	**-0.2**
LPSR				pmax	pmax				
	comp=N,4.0nm,0.9s								
LPSR				pmax	pmax				
	comp=E,2.0nm,0.9s								
LPSR				pmax	pmax				
	comp=Z,20nm,0.9s								
K21A	**Alcova**	**60.08**	**58**	⇓P		**P**	**14 06 59.4**	**-0.1**
	baz=60,SNR=8.1								
KBL	**Kabul**	**60.13**	**288**	*e*P		**P**	**14 06 58.7**	**-1.2**
KBL				pmax	pmax				
	comp=Z,14nm,0.8s								
KBL	**Kabul**	**60.13**	**288**	*e*P		**P**	**14 06 58.7**	**-1.2**
	comp=Z,14nm,0.8s								
C30A	**Mose, Pekin**	**60.15**	**48**	⇑P		**P**	**14 06 59.7**	**+0.1**
	baz=60								
LRMC	**Laurel Mtn Rad**	**60.20**	**70**	⇓P		**P**	**14 07 00.6**	**+0.4**
	baz=60								
G26A	**Maurine**	**60.21**	**53**	⇑P		**P**	**14 06 59.7**	**-0.4**
	baz=60								
NB2	**NORSAR Subarra**	**60.24**	**341**	P		**P**	**14 06 59.9**	**-0.1**
	comp=Z,17nm,0.8s,baz=24,slow=6.9								
NB2	**NORSAR Subarra**	**60.24**	**341**	P		**P**	**14 06 59.9**	**-0.1**
	baz=24,slow=6.9								
NOA	**NORSAR Array B**	**60.24**	**341**	P		**P**	**14 07 00.2**	**+0.2**
	comp=Z,15nm,0.8s,baz=23,slow=6.8,SNR=66								
NOA				LR		LR	14 35 50.9		
	comp=Z,29nm,19.1s,baz=65,slow=39								
K22A	**Casper**	**60.42**	**57**	*e*P		**P**	**14 07 02.5**	**+0.8**
	comp=Z,13nm,1.0s								
K22A	**Casper**	**60.42**	**57**	⇓P		**P**	**14 07 01.5**	**-0.2**
	baz=60								
G27A	**Dupree**	**60.45**	**52**	⇓P		**P**	**14 07 00.8**	**-0.9**
	baz=60								
RSSD	**Black Hills**	**60.46**	**54**	*e*P		**P**	**14 07 01.4**	**-0.6**
RSSD				pmax	pmax				
	comp=Z,11nm,0.9s								
RSSD	**Black Hills**	**60.46**	**54**	*e*P		**P**	**14 07 01.4**	**-0.6**
	comp=Z,11nm,0.9s								
NAO01	**NORSAR Array S**	**60.48**	**341**	*e*P		**P**	**14 07 01.1**	**-0.6**
	comp=Z,31nm,1.2s								
EDW2	**Edwards Air Fo**	**60.49**	**71**	⇑P		**P**	**14 07 02.5**	**+0.3**
	baz=60,SNR=7.4								
D30A	**Buchanan**	**60.49**	**49**	⇑P		**P**	**14 07 01.6**	**-0.4**
	baz=60								
I25A	**Rochford**	**60.67**	**54**	⇑P		**P**	**14 07 03.3**	**-0.2**
	baz=60,SNR=5.6								
SHPR	**Sheep Range**	**60.76**	**67**	*e*P		**P**	**14 07 03.8**	**-0.3**
MSU	**Marysvale**	**60.77**	**64**	*e*P		**P**	**14 07 06.2**	**+1.9**
MSU				pmax	pmax				
	comp=Z,21nm,1.5s								
MSU	**Marysvale**	**60.77**	**64**	*e*P		**P**	**14 07 06.2**	**+1.9**
	comp=Z,21nm,1.5s								
GSC	**Goldstone, Bar**	**60.80**	**69**	*e*P		**P**	**14 07 05.7**	**+1.4**
GSC				pmax	pmax				
	comp=Z,13nm,1.1s								
GSC	**Goldstone, Bar**	**60.80**	**69**	*e*P		**P**	**14 07 05.7**	**+1.4**
	comp=Z,12nm,1.1s								
GSC	**Goldstone, Bar**	**60.80**	**69**	⇑P		**P**	**14 07 04.6**	**+0.3**
	baz=61,SNR=5.5								
E30A	**Jud**	**60.90**	**49**	⇓P		**P**	**14 07 04.2**	**-0.5**
	baz=61								
L22A	**Ellis Ranch, M**	**60.93**	**57**	⇓P		**P**	**14 07 05.8**	**+0.5**
	baz=61,SNR=11								
N20A	**Spence Gulch,**	**60.96**	**60**	⇑P		**P**	**14 07 06.7**	**+1.1**
	baz=61,SNR=14								
VSR	**Storozhevoye**	**61.00**	**320**	*e*P		**P**	**14 07 05.3**	**0.0**
VSR				pmax	pmax				
	comp=N,10.0nm,0.9s								
VSR				pmax	pmax				
	comp=Z,20nm,0.9s								
VSR				pmax	pmax				
	comp=E,10.0nm,0.8s								
F29A	**Eureka**	**61.02**	**50**	⇓P		**P**	**14 07 05.1**	**-0.5**
	baz=61								
J25A	**Sunshine Ranch**	**61.13**	**55**	⇑P		**P**	**14 07 06.9**	**+0.5**
	baz=61,SNR=7.0								
SRU	**San Rafael Swe**	**61.16**	**62**	*e*P		**P**	**14 07 07.1**	**+0.3**
SRU				pmax	pmax				
	comp=Z,12nm,0.9s								
SRU	**San Rafael Swe**	**61.16**	**62**	*e*P		**P**	**14 07 07.1**	**+0.3**
	comp=Z,12nm,0.9s								
VORD	**Divnogorie**	**61.16**	**319**	*e*P		**P**	**14 07 06.5**	**+0.1**
VORD				pmax	pmax				
	comp=N,20nm,1.0s								
VORD				pmax	pmax				
	comp=E,10.0nm,1.0s								
VORD				pmax	pmax				
	comp=Z,10.0nm,1.0s								
TUQ	**Turquoise Moun**	**61.16**	**69**	⇓P		**P**	**14 07 07.5**	**+0.6**
	baz=61,SNR=5.3								
L23A	**Garrett**	**61.22**	**57**	⇑P		**P**	**14 07 07.8**	**+0.6**
	baz=61,SNR=11								
M22A	**Cedar Creek Ra**	**61.34**	**58**	⇓P		**P**	**14 07 08.4**	**+0.3**
	baz=61,SNR=6.9								
I27A	**Quinn**	**61.41**	**53**	⇑P		**P**	**14 07 07.6**	**-0.6**
	baz=61								
HEC	**Hector,Ludlow**	**61.41**	**69**	⇑P		**P**	**14 07 08.0**	**-0.4**
	baz=61								
O20A	**White River Ci**	**61.51**	**60**	*e*P		**P**	**14 07 08.5**	**-0.7**
	comp=Z,22nm,0.8s								
O20A	**White River Ci**	**61.51**	**60**	⇓P		**P**	**14 07 09.9**	**+0.7**
	baz=61,SNR=7.7								
J26A	**Sides Ranch, S**	**61.52**	**54**	⇑P		**P**	**14 07 08.8**	**-0.3**
	baz=61								
M23A	**Laramie**	**61.71**	**57**	⇓P		**P**	**14 07 09.9**	**-0.6**
	baz=62								
GMRC	**Granite Mounta**	**61.80**	**69**	⇓P		**P**	**14 07 12.0**	**+0.8**
	baz=62,SNR=7.5								
KONO	**Kongsberg**	**61.83**	**341**	*e*P		**P**	**14 07 10.2**	**-0.6**
KONO				pmax	pmax				
	comp=Z,36nm,1.2s								
KONO	**Kongsberg**	**61.83**	**341**	*e*P		**P**	**14 07 10.2**	**-0.6**
	comp=Z,36nm,1.2s								
N22A	**Wattenberg Ran**	**61.87**	**58**	⇓P		**P**	**14 07 12.0**	**+0.3**
	baz=62,SNR=13								
G30A	**Faulkton**	**61.88**	**51**	⇑P		**P**	**14 07 10.6**	**-0.7**
	baz=62								
MURC	**Murrieta**	**61.88**	**71**	⇓P		**P**	**14 07 11.4**	**-0.2**
	baz=62								
N23A	**Red Feather La**	**62.04**	**58**	⇑P		**P**	**14 07 13.8**	**+0.9**
	baz=62,SNR=10								
BELC	**Belle Mtn. Jos**	**62.22**	**70**	⇓P		**P**	**14 07 14.1**	**+0.1**
	baz=62								
PFO	**Pinyon Flats O**	**62.28**	**70**	⇑P		**P**	**14 07 13.8**	**-0.6**
	baz=62								
J28A	**Allard Ranch,**	**62.28**	**53**	⇓P		**P**	**14 07 13.9**	**-0.3**
	baz=62								
U15A	**North Rim**	**62.31**	**65**	⇓P		**P**	**14 07 14.8**	**+0.1**
	baz=62,SNR=12								
O22A	**Kremmling**	**62.32**	**59**	⇓P		**P**	**14 07 13.8**	**-0.9**
	baz=62								
W13A	**Hualapai Mount**	**62.50**	**68**	⇓P		**P**	**14 07 15.7**	**-0.3**
	baz=62								
M25A	**Palm-Egli Farm**	**62.52**	**56**	⇓P		**P**	**14 07 15.1**	**-0.8**
	baz=62								
O23A	**Lake Granby, G**	**62.58**	**58**	⇑P		**P**	**14 07 16.7**	**+0.2**
	baz=62,SNR=13								
N24A	**Carr**	**62.60**	**57**	⇑P		**P**	**14 07 16.1**	**-0.4**
	baz=62								
P22A	**Eagle**	**62.65**	**59**	⇑P		**P**	**14 07 17.7**	**+0.8**
	baz=62,SNR=5.4								
J29A	**Okreek**	**62.70**	**52**	⇓P		**P**	**14 07 16.4**	**-0.6**
	baz=62								
I30A	**Oacoma**	**62.71**	**52**	⇑P		**P**	**14 07 16.8**	**-0.1**
	baz=62								
BC3	**Big Chuckawall**	**62.77**	**70**	⇓P		**P**	**14 07 17.3**	**-0.3**
	baz=63								
MONP	**Monument Peak,**	**62.85**	**71**	⇑P		**P**	**14 07 18.0**	**-0.3**
	baz=63								
SMCO	**Snowmass**	**62.87**	**60**	*e*P		**P**	**14 07 18.6**	**0.0**
	comp=Z,12nm,0.8s								
PV01	**Paradox Valley**	**62.88**	**62**	*e*P		**P**	**14 07 19.7**	**+1.2**
	comp=Z,1μm,1.3s								
ISCO	**Idaho Springs**	**63.05**	**58**	*e*P		**P**	**14 07 20.4**	**+0.8**
ISCO				pmax	pmax				
	comp=Z,13nm,1.1s								
ISCO	**Idaho Springs**	**63.05**	**58**	*e*P		**P**	**14 07 20.4**	**+0.8**
	comp=Z,13nm,1.1s								
ISCO	**Idaho Springs**	**63.05**	**58**	⇑P		**P**	**14 07 20.6**	**+0.9**
	baz=63,SNR=11								
SBUM	**Sibu**	**63.16**	**229**	*e*P		**P**	**14 07 20.0**	**-0.2**
	comp=Z,46nm,1.3s								
GEYT	**Alibeck**	**63.22**	**298**	P		**P**	**14 07 21.1**	**+0.6**
	comp=Z,20nm,0.8s,baz=8.1,slow=3.1,SNR=31								
GEYT				LR		LR	14 36 59.6		
	comp=Z,240nm,19.5s,baz=90,slow=38								
P23A	**Jefferson**	**63.27**	**59**	⇓P		**P**	**14 07 20.8**	**-0.4**
	baz=63								
IMYA	**Miami**	**63.45**	**296**	*e*P		**P**	**14 07 22.9**	**+0.7**
WUAZ	**Wupatki**	**63.48**	**65**	*e*P		**P**	**14 07 22.8**	**+0.4**
	comp=Z,23nm,1.2s								
WUAZ	**Wupatki**	**63.48**	**65**	⇑P		**P**	**14 07 23.8**	**+1.4**
	baz=63,SNR=12								
MVCO	**Mesa Verde**	**63.64**	**62**	*e*P		**P**	**14 07 23.4**	**-0.1**
	comp=Z,7.4nm,0.9s								
MVCO	**Mesa Verde**	**63.64**	**62**	⇑P		**P**	**14 07 23.1**	**-0.4**
	baz=64								
Q23A	**Hartsel**	**63.64**	**59**	⇓P		**P**	**14 07 24.3**	**+0.7**
	baz=64,SNR=7.1								
O26A	**Horse Wrangler**	**63.81**	**57**	⇑P		**P**	**14 07 23.9**	**-0.5**
	baz=64								
M28A	**Bar X Bar Ranc**	**63.81**	**55**	⇓P		**P**	**14 07 23.8**	**-0.6**
	baz=64								
Q24A	**Divide**	**63.93**	**59**	⇑P		**P**	**14 07 25.3**	**-0.2**
	baz=64								
IMOG	**Mogĥan**	**64.02**	**296**	*e*P		**P**	**14 07 27.4**	**+1.3**
S22A	**4UR Ranch, Cre**	**64.05**	**61**	⇓P		**P**	**14 07 27.2**	**+0.9**
	baz=64,SNR=13								
ECSD	**EROS Data Cent**	**64.08**	**50**	*e*P		**P**	**14 07 25.1**	**-0.9**
	comp=Z,141nm,2.8s								
ECSD	**EROS Data Cent**	**64.08**	**50**	⇓P		**P**	**14 07 25.5**	**-0.6**
	baz=64								
R23A	**Moffat**	**64.20**	**60**	⇓P		**P**	**14 07 26.9**	**-0.4**
	baz=64								
O27A	**Beecher Island**	**64.24**	**56**	⇓P		**P**	**14 07 26.2**	**-1.1**
	baz=64								
MAK	**Makhachkala**	**64.27**	**309**	*e*P		**P**	**14 07 27.0**	**-0.2**
MAK				*e*S		**S**	**14 16 01.5**	**-1.0**
MAK				pmax	pmax				
	comp=Z,42nm,1.2s								
N28A	**Pribbeno Ranch**	**64.29**	**55**	⇓P		**P**	**14 07 27.1**	**-0.5**
	baz=64								
P26A	**Davis Ranch, A**	**64.33**	**57**	⇑P		**P**	**14 07 27.1**	**-0.8**
	baz=64								
Z14A	**Wintersburg**	**64.33**	**68**	⇑P		**P**	**14 07 27.1**	**-0.7**
	baz=64								
L31A	**Butterfield Fa**	**64.35**	**52**	⇑P		**P**	**14 07 27.4**	**-0.5**
	baz=64								
GOF	**Gofitskoye**	**64.49**	**313**	*e*P		**P**	**14 07 29.1**	**+0.4**
O28A	**Krutsinger Ran**	**64.62**	**56**	⇑P		**P**	**14 07 29.6**	**-0.1**
	baz=64								
W18A	**Petrified Fore**	**64.63**	**65**	⇑P		**P**	**14 07 30.1**	**+0.1**
	baz=64								
SDCO	**Great Sand Dun**	**64.71**	**60**	*e*P		**P**	**14 07 31.2**	**+0.6**
	comp=Z,10nm,1.1s								
SDCO	**Great Sand Dun**	**64.71**	**60**	⇓P		**P**	**14 07 31.2**	**+0.6**
	baz=64,SNR=12								
Q26A	**Hugo**	**64.74**	**58**	⇑P		**P**	**14 07 29.7**	**-0.9**
	baz=65								
SCHQ	**Schefferville**	**64.75**	**25**	LR		LR	14 38 51.9		
	comp=Z,95nm,19.5s,baz=318,slow=39								
KSM	**Kuching**	**64.86**	**231**	*e*P		**P**	**14 07 31.5**	**0.0**
	comp=Z,25nm,1.4s								
AKASG	**Malin Array Be**	**64.88**	**325**	P		**P**	**14 07 30.8**	**-0.3**
	comp=Z,7.3nm,0.7s,baz=32,slow=6.6,SNR=20								
AKASG				LR		LR	14 38 28.1		
	comp=Z,48nm,18.7s,baz=90,slow=38								
AKASG	**Malin Array Be**	**64.88**	**325**	P		**P**	**14 07 30.8**	**-0.3**
AKASG				pmax	pmax				
	comp=Z,7.0nm,0.7s								
AKASG				MLR	MLR				
	comp=Z,48nm,18.7s								
KIEV	**Kiev**	**64.89**	**325**	*e*P		**P**	**14 07 30.7**	**-0.4**
KIEV				pmax	pmax				
	comp=Z,8.0nm,0.8s								
KIEV	**Kiev**	**64.89**	**325**	*e*P		**P**	**14 07 30.7**	**-0.4**
	comp=Z,8.3nm,0.8s								
AK01	**Malin Array Si**	**64.89**	**325**	*e*P		**P**	**14 07 31.0**	**-0.1**
AK02	**Malin Array Si**	**64.92**	**325**	*e*P		**P**	**14 07 30.8**	**-0.6**
BSD	**Bornholm Skovb**	**64.92**	**336**	*i* P		**P**	**14 07 30.2**	**-1.1**
	comp=Z,14nm,0.8s								
BSD	**Bornholm Skovb**	**64.92**	**336**	*e*P		**P**	**14 07 30.2**	**-1.1**
BSD				pmax	pmax				
	comp=Z,14nm,0.8s								
X18A	**Snowflake**	**64.98**	**65**	⇑P		**P**	**14 07 33.4**	**+1.1**
	baz=65,SNR=9.5								
O29A	**4D Ranch, Culb**	**65.08**	**55**	⇓P		**P**	**14 07 32.9**	**+0.2**
	baz=65								
R26A	**Arlington**	**65.27**	**58**	⇓P		**P**	**14 07 34.2**	**+0.2**
	baz=65								
O30A	**MW Ranch, Wils**	**65.38**	**54**	⇓P		**P**	**14 07 34.8**	**+0.2**
	baz=65								
214A	**Organ Pipe Nat**	**65.49**	**69**	*e*P		**P**	**14 07 36.2**	**+0.8**
	comp=Z,9.8nm,1.0s								
214A	**Organ Pipe Nat**	**65.49**	**69**	⇑P		**P**	**14 07 35.6**	**+0.2**
	baz=65								
NCK	**Nalchik**	**65.53**	**312**	*e*P		**P**	**14 07 36.4**	**+0.9**
KIV	**Kislovodsk**	**65.54**	**313**	*e*P		**P**	**14 07 36.2**	**+0.6**
KIV				pmax	pmax				
	comp=Z,24nm,1.1s								
KIV				MLR	MLR				
	comp=Z,102nm,17.0s								
KIV	**Kislovodsk**	**65.54**	**313**	*e*P		**P**	**14 07 36.0**	**+0.4**
	comp=Z,19nm,0.9s								
R27A	**Eads**	**65.59**	**58**	⇓P		**P**	**14 07 35.9**	**-0.2**
	baz=65								
KBZ	**Khabaz**	**65.63**	**312**	P		**P**	**14 07 37.3**	**+1.2**
	comp=Z,12nm,1.0s,baz=53,slow=20,SNR=22								
KBZ				LR		LR	14 39 47.8		
	comp=Z,113nm,20.1s,baz=152,slow=39								
KBZ	**Khabaz**	**65.63**	**312**	P		**P**	**14 07 37.3**	**+1.2**
KBZ				pmax	pmax				
	comp=Z,12nm,1.0s								
KBZ				MLR	MLR				
	comp=Z,113nm,20.1s								
T25A	**Trinidad**	**65.72**	**59**	⇓P		**P**	**14 07 36.6**	**-0.4**
	baz=66								
S26A	**Kim**	**65.80**	**59**	⇑P		**P**	**14 07 37.3**	**-0.1**
	baz=66								
P30A	**Selden**	**65.80**	**55**	⇑P		**P**	**14 07 37.3**	**-0.1**
	baz=66								
ZEI	**Tsey**	**65.98**	**311**	*e*P		**P**	**14 07 37.8**	**-0.8**
ZEI				pmax	pmax				
	comp=Z,15nm,1.1s								
Q29A	**Oakley**	**65.98**	**56**	⇑P		**P**	**14 07 38.2**	**-0.3**
	baz=66								
R28A	**Tribune**	**66.02**	**57**	⇑P		**P**	**14 07 38.3**	**-0.6**
	baz=66								
S27A	**Las Animas**	**66.02**	**58**	⇑P		**P**	**14 07 38.6**	**-0.3**
	baz=66								
T26A	**Comanche Natio**	**66.09**	**59**	⇓P		**P**	**14 07 38.9**	**-0.5**
	baz=66								
NEY	**Neytrino**	**66.10**	**312**	*i* P		**P**	**14 07 40.4**	**+1.1**
P31A	**Stockton**	**66.22**	**54**	⇑P		**P**	**14 07 39.8**	**-0.2**
	baz=66								
Q30A	**Quinter**	**66.26**	**55**	⇑P		**P**	**14 07 40.3**	**0.0**
	baz=66								
R29A	**Marienthal**	**66.27**	**56**	⇑P		**P**	**14 07 40.7**	**+0.3**
	baz=66								
TUC	**Tucson**	**66.28**	**67**	*e*P		**P**	**14 07 41.1**	**+0.5**
TUC				pmax	pmax				
	comp=Z,14nm,1.5s								
TUC	**Tucson**	**66.28**	**67**	*e*P		**P**	**14 07 41.1**	**+0.5**
	comp=Z,14nm,1.5s								
BNSI	**Bone**	**66.31**	**218**	P		P	14 07 44.8	+4.1
	comp=Z,17nm,1.2s								
ANMO	**Albuquerque**	**66.44**	**62**	*c i* P		**P**	**14 07 41.8**	**+0.2**
ANMO				pmax	pmax				
	comp=Z,39nm,1.7s								
ANMO	**Albuquerque**	**66.44**	**62**	*e*P		**P**	**14 07 41.1**	**-0.5**
	comp=Z,5.2nm,0.9s								
IGLO	**Ghaloghah**	**66.46**	**300**	*e*P		**P**	**14 07 41.7**	**-0.1**
P32A	**Huiting Farm,**	**66.50**	**54**	⇓P		**P**	**14 07 41.4**	**-0.4**
	baz=66								
LAZ	**Ladron**	**66.52**	**63**	*e*P		**P**	**14 07 43.7**	**+1.5**
	comp=Z,4.4nm,0.9s								
S28A	**Manter**	**66.58**	**57**	⇑P		**P**	**14 07 42.0**	**-0.4**
	baz=66								
T27A	**Campo**	**66.60**	**58**	⇑P		**P**	**14 07 41.8**	**-0.8**
	baz=66								
Q31A	**Ellis**	**66.63**	**55**	⇑P		**P**	**14 07 42.2**	**-0.4**
	baz=66								
R30A	**Dighton**	**66.79**	**56**	⇑P		**P**	**14 07 43.3**	**-0.4**
	baz=67								
T28A	**Walsh**	**66.85**	**58**	⇑P		**P**	**14 07 44.1**	**0.0**
	baz=67								
S29A	**Ulysses**	**66.93**	**57**	⇓P		**P**	**14 07 44.3**	**-0.3**
	baz=67								
Q32A	**Meitler Ranch,**	**67.02**	**54**	⇓P		**P**	**14 07 44.6**	**-0.5**
	baz=67								
BSEG	**Bad Segeberg**	**67.03**	**338**	*e*P		**P**	**14 07 45.9**	**+1.1**
	comp=Z,16nm,1.1s								
U27A	**Thompson Grove**	**67.06**	**59**	⇓P		**P**	**14 07 45.4**	**-0.2**
	baz=67				

comp=Z,34nm,1.5s
V31A Spring Creek L 69.02 57 ⇓P P 14 07 56.9 -0.8
baz=69
MSTX Muleshoe 69.05 60 *e*P P 14 07 58.8 +0.8
comp=Z,28nm,1.4s
MSTX Muleshoe 69.05 60 ⇑P P 14 07 57.4 -0.6
baz=69
BRG Berggiesshubel 69.06 335 *e*P P 14 07 58.4 +0.8
comp=Z,8.5nm,1.0s
BRG Berggiesshubel 69.06 335 *e*P P 14 07 57.9 +0.2
comp=Z,8.0nm,1.0s
BRG *e*L L 14 44 22.2
comp=Z,50nm,18.6s
BRG Berggiesshubel 69.06 335 *e*P P 14 07 58.4 +0.8
BRG pmax pmax
comp=Z,9.0nm,1.0s
IBBN Ibbenburen 69.09 339 *e*P P 14 07 58.6 +0.8
comp=Z,16nm,0.9s
S35A Otter Creek Ra 69.11 54 ⇓P P 14 07 57.6 -0.6
baz=69
MORC Moravsky Berou 69.15 332 *e*P P 14 07 58.8 +0.5
MORC pmax pmax
comp=Z,9.0nm,0.9s
MORC Moravsky Berou 69.15 332 ⇓*i*P P 14 07 59.1 +0.8
MORC Moravsky Berou 69.15 332 *e*P P 14 07 58.8 +0.5
comp=Z,8.5nm,0.9s
X29A Tulia 69.19 59 ⇓P P 14 07 58.5 -0.3
baz=69
T34A McClaskey Farm 69.25 55 ⇑P P 14 07 58.4 -0.7
baz=69
R37A Teagarden Farm 69.27 52 ⇑P P 14 07 58.9 -0.3
baz=69
U33A Lingo Farm, Me 69.30 56 ⇓P P 14 07 58.8 -0.6
baz=69
TESR Tescani 69.37 325 ⇓*i*P P 14 07 59.9 +0.3
S36A Lake Cedric, C 69.41 53 ⇑P P 14 07 59.8 -0.2
baz=69
V32A Arapaho 69.44 57 ⇓P P 14 08 00.2 -0.1
baz=69
W31A Holland Ranch, 69.44 58 ⇓P P 14 08 00.2 -0.2
baz=69
IBAF Bafgh 69.50 296 *e*P P 14 08 00.9 0.0
MNTX Cornudas Mount 69.56 64 *e*P P 14 08 02.2 +1.1
comp=Z,12nm,0.8s
MNTX Cornudas Mount 69.56 64 ⇓P P 14 08 01.8 +0.7
baz=69
U34A Anderson Ranch 69.57 55 ⇑P P 14 08 00.6 -0.4
baz=69
X30A Coker Ranch, T 69.59 59 ⇓P P 14 08 01.4 +0.1
baz=69
T35A Sooner Cattle 69.65 54 ⇑P P 14 08 01.3 -0.2
baz=70
PRU Pruhonice 69.73 334 *e*P P 14 08 02.6 +0.8
PRU AMS AMS 14 42 50.0
comp=Z,100nm,17.7s
PRU Pruhonice 69.73 334 *e*P P 14 08 02.6 +0.8
PRU MLR MLR
comp=Z,100nm,17.7s
GOPC GO Pecny, Ondr 69.74 334 *e*P P 14 08 02.7 +0.8
GOPC *ex* x 14 08 05.4
GOPC AMS AMS 14 43 20.0
comp=Z,100nm,16.6s
W32A Sentinel 69.83 57 ⇑P P 14 08 02.9 +0.2
baz=70
VRAC Vranov 69.83 332 ⇑*i*P P 14 08 03.2 +0.7
TANN Tannenbergstha 69.84 335 *e*P P 14 08 02.9 +0.3
comp=Z,10.0nm,1.7s
X31A McDonald Ranch 69.88 58 ⇓P P 14 08 02.9 -0.2
baz=70
VRI Vrincioaia 69.91 324 ⇑*i*P P 14 08 04.5 +1.5
VYHS Vyhne 69.97 331 *e*P P 14 08 04.0 +0.7
VYHS pmax pmax
comp=Z,6.0nm,1.5s
VYHS Vyhne 69.97 331 *e*P P 14 08 04.0 +0.7
BUG Bochum--Univer 70.01 339 *e*P P 14 08 04.1 +0.6
comp=Z,38nm,1.7s
UBBA Unterbreizbach 70.02 337 *e*P P 14 08 03.9 +0.4
comp=Z,8.0nm,1.2s
Y30A Stafford Cattl 70.04 59 ⇑P P 14 08 03.9 -0.2
baz=70
V34A Guthrie 70.07 56 ⇑P P 14 08 04.5 +0.3
baz=70
IKLH Kolahrood 70.11 300 *e*P P 14 08 05.9 +1.1
TREC Trest 70.13 333 *e*P P 14 08 05.0 +0.7
TREC AMS AMS 14 45 30.0
comp=Z,100nm,14.7s
TREC Trest 70.13 333 *e*P P 14 08 05.0 +0.7
TREC MLR MLR
comp=Z,100nm,14.7s
Z29A Hungry Hill Ra 70.14 60 ⇑P P 14 08 04.2 -0.5
baz=70
IMEH Mehriz 70.15 297 *e*P P 14 08 04.6 -0.4
W33A Caddo, Fort Co 70.17 57 ⇑P P 14 08 04.3 -0.5
baz=70
128A Castleberry Fa 70.28 61 ⇓P P 14 08 05.7 +0.1
baz=70
Y31A Rekieta Farm, 70.28 59 ⇓P P 14 08 05.1 -0.4
baz=70
WMOK Wichita Mounta 70.36 57 *e*P P 14 08 06.0 0.0
WMOK pmax pmax
comp=Z,16nm,1.0s
WMOK Wichita Mounta 70.36 57 *e*P P 14 08 06.0 0.0
comp=Z,16nm,1.0s
X32A Elmer 70.38 58 ⇑P P 14 08 04.7 -1.4
baz=70
Z30A Sanderson Ranc 70.41 60 ⇑P P 14 08 05.9 -0.4
baz=70
W34A Bridge Creek, 70.44 56 ⇑P P 14 08 06.1 -0.3
baz=70
V35A Meyer Ranch, C 70.44 55 ⇑P P 14 08 06.4 -0.1
baz=70
MLR Muntele Rosu 70.50 325 ⇓*i*P P 14 08 08.3 +1.5
ROTZ Rotzenmuhle 70.50 335 *e*P P 14 08 07.3 +0.7
comp=Z,8.0nm,1.2s
228A UT Block 9, Go 70.63 61 ⇓P P 14 08 07.6 -0.1
baz=70
Y32A R-V Farms, Ver 70.64 58 ⇑P P 14 08 07.5 -0.3
baz=70
X33A Lawton 70.66 57 ⇓P P 14 08 08.2 +0.5
baz=70
KHC Kasperske Hory 70.76 334 *e*P P 14 08 09.1 +0.9
KHC *ex* x 14 08 11.4
KHC AMS AMS 14 43 40.0
comp=Z,200nm,14.0s
KHC Kasperske Hory 70.76 334 *e*P P 14 08 09.1 +0.9
KHC MLR MLR
comp=Z,200nm,14.0s
TUL1 Leonard 70.81 54 *e*P P 14 08 08.8 +0.2
comp=Z,23nm,0.9s
TUL1 Leonard 70.81 54 ⇓P P 14 08 08.4 -0.2
baz=71
VOIR 70.84 325 ⇑*i*P P 14 08 09.4 +0.6
Z31A Sharp Cattle R 70.86 59 ⇓P P 14 08 08.3 -0.8
baz=71
TNS Taunus Mts 70.92 338 *e*P P 14 08 09.6 +0.4
comp=Z,5.0nm,0.9s
TNS *e*L L 14 41 52.3
comp=Z,59nm,18.5s
WET Wettzell 70.92 335 *e*P P 14 08 10.0 +0.8
comp=Z,4.0nm,0.9s
W35A Tecumseh 70.92 55 ⇑P P 14 08 09.5 +0.1
baz=71
X34A Smith Ranch, M 70.92 56 ⇓P P 14 08 09.4 0.0
baz=71
GEC2 GERESS Array S 71.00 334 *e*P P 14 08 10.1 +0.4
comp=Z,3.0nm,0.9s
Y33A Hilltop Ranch, 71.03 57 ⇓P P 14 08 09.7 -0.4
baz=71
ARR Arges 71.03 325 ⇑*i*P P 14 08 12.1 +2.1
MEM Membach 71.05 340 P P 14 08 10.7 +0.9
comp=Z,13nm,1.3s
MEM Membach 71.05 340 *e*P P 14 08 10.8 +0.9
MEM pmax pmax
comp=Z,23nm,1.1s
MEM Membach 71.05 340 *e*P P 14 08 10.8 +0.9
comp=Z,23nm,1.1s
SIRR Siria 71.16 328 ⇑*i*P P 14 08 11.3 +0.7
Z32A Haskell 71.19 58 ⇑P P 14 08 11.3 +0.3
baz=71
W36A Wetumka 71.24 55 ⇑P P 14 08 11.1 -0.2
baz=71
131A Roby 71.27 59 ⇑P P 14 08 11.7 +0.1
baz=71
BCLA Clavier 71.37 340 P P 14 08 12.1 +0.3
comp=Z,8.4nm,1.8s
329A Wagon Wheel Ra 71.44 61 ⇑P P 14 08 12.8 +0.1
baz=71

SNF Seneffe 71.48 341 P P 14 08 13.5 +1.0
Y34A Reagan Ranch, 71.49 57 ⇑P P 14 08 13.0 +0.2
baz=71
X35A Drake 71.50 56 ⇑P P 14 08 13.1 +0.2
baz=71
230A Sterling City 71.55 61 ⇑P P 14 08 13.4 +0.1
baz=71
GZR Gura Zlata 71.60 327 ⇓*i*P P 14 08 13.7 +0.3
W37A Quinton 71.61 54 ⇑P P 14 08 13.8 +0.3
baz=71
X36A Centrahoma 71.65 55 ⇓P P 14 08 14.0 +0.2
baz=72
ABTX Abilene, Hawle 71.67 59 ⇓P P 14 08 14.2 +0.3
baz=72
BZS Buzias 71.76 327 ⇓*i*P P 14 08 14.5 +0.3
GIVF Givet 71.77 340 *e*P P 14 08 13.9 -0.3
comp=Z,43nm,1.3s
GIVF Givet 71.77 340 *e*P P 14 08 13.9 -0.3
GIVF pmax pmax
comp=Z,43nm,1.3s
GIVF Givet 71.77 340 *e*P P 14 08 13.9 -0.3
comp=Z,43nm,1.3s
DOU Dourbes 71.82 340 P P 14 08 17.7 +3.2
Z34A Collier Ranch, 71.89 57 ⇑P P 14 08 15.7 +0.5
baz=72
330A Mertzon 71.91 61 ⇓P P 14 08 15.5 0.0
baz=72
BAIF Baives 71.92 341 *e*P P 14 08 15.4 +0.3
comp=Z,20nm,1.0s
BAIF Baives 71.92 341 *e*P P 14 08 15.4 +0.3
BAIF pmax pmax
comp=Z,20nm,1.0s
BAIF Baives 71.92 341 *e*P P 14 08 15.4 +0.3
comp=Z,20nm,1.0s
MALT Malatya 72.01 312 ⇓*i*P P 14 08 17.7 +1.7
133A Hamilton Ranch 72.03 58 ⇓P P 14 08 16.4 +0.3
baz=72
W38A Poteau 72.08 54 ⇓P P 14 08 16.2 -0.2
baz=72
X37A Clayton 72.09 55 ⇓P P 14 08 16.7 +0.3
baz=72
PKSM Moragy 72.10 330 ⇓*i*P P 14 08 15.9 -0.3
IPAR Pars 72.19 297 *e*P P 14 08 18.1 +0.6
232A Coleman 72.27 59 ⇑P P 14 08 17.6 0.0
baz=72
TXAR Lajitas Array 72.33 64 P P 14 08 19.4 +1.4
comp=Z,5.6nm,0.8s,baz=300,slow=4.7,SNR=48
TXAR LR LR 14 39 13.4
comp=Z,31nm,19.7s,baz=0.0,slow=35
331A San Angelo 72.36 60 ⇑P P 14 08 18.0 -0.1
baz=72
430A Baggett Ranch, 72.38 61 ⇑P P 14 08 18.2 -0.1
baz=72
529A Stev Forest Ra 72.43 62 ⇓P P 14 08 19.1 +0.6
baz=72
134A White-Moore Ra 72.47 58 ⇑P P 14 08 18.6 -0.1
baz=72
233A Rising Star 72.53 59 ⇑P P 14 08 19.2 +0.1
baz=72
ISRV Sarvestan 72.53 296 *e*P P 14 08 18.9 -0.6
332A Millersview 72.63 60 ⇑P P 14 08 19.7 -0.1
baz=72
BFO Black Forest 72.73 337 *e*L L 14 39 26.9
comp=Z,41nm,20.3s
BR131 Keskin Array S 72.75 316 *e*P P 14 08 20.8 +0.3
comp=Z,3.7nm,0.7s
BRTR Keskin Array B 72.75 316 P P 14 08 20.8 +0.3
comp=Z,6.3nm,0.9s,baz=34,slow=3.3,SNR=17
BRTR LR LR 14 45 53.8
comp=Z,22nm,18.6s,baz=18,slow=40
431A Sonora 72.78 61 ⇓P P 14 08 20.8 +0.2
baz=73
PWJI Pagerwojo 72.78 225 P P 14 08 20.7 +0.1
530A J-C Ranch, Com 72.85 62 ⇑P P 14 08 21.4 +0.3
baz=73
IKAZ Kazeroun 72.85 298 *e*P P 14 08 21.0 -0.4
CDF Champ du Feu 72.88 338 *e*P P 14 08 20.9 -0.1
comp=Z,18nm,1.1s
CDF Champ du Feu 72.88 338 *e*P P 14 08 20.9 -0.1
CDF pmax pmax
comp=Z,18nm,1.1s
CDF Champ du Feu 72.88 338 *e*P P 14 08 20.9 -0.1
comp=Z,18nm,1.1s
234A Clairette 72.91 58 ⇑P P 14 08 21.6 +0.3
baz=73
MDSI Maura Dua 72.91 234 P P 14 08 23.5 +2.1
comp=Z,20nm,1.0s
MIAR Mount Ida 72.95 53 *e*P P 14 08 22.1 +0.6
MIAR pmax pmax
comp=Z,11nm,0.9s
MIAR Mount Ida 72.95 53 *e*P P 14 08 22.1 +0.6
comp=Z,11nm,0.9s
432A Menard 73.02 60 ⇓P P 14 08 22.4 +0.3
baz=73
333A Richland Sprin 73.05 59 ⇑P P 14 08 21.6 -0.6
baz=73
PAGF Fort de Pagny 73.07 339 *e*P P 14 08 22.4 +0.4
PAGF Fort de Pagny 73.07 339 *e*P P 14 08 22.4 +0.4
531A Rocksprings 73.23 61 ⇓P P 14 08 22.4 -0.9
baz=73
WHTX Lake Whitney, 73.25 58 ⇑P P 14 08 23.3 +0.1
baz=73
MEZF Maizieres J'vi 73.25 340 *e*P P 14 08 23.4 +0.3
MEZF Maizieres J'vi 73.25 340 *e*P P 14 08 23.4 +0.3
JCT Junction City 73.34 60 *e*P P 14 08 24.6 +0.6
JCT pmax pmax
comp=Z,32nm,1.4s
JCT Junction City 73.34 60 *e*P P 14 08 24.6 +0.6
comp=Z,32nm,1.4s
JCT Junction City 73.34 60 ⇓P P 14 08 22.9 -1.1
baz=73
334A Lometa 73.41 59 ⇑P P 14 08 23.2 -1.1
baz=73
HAU Haudompre 73.46 339 *e*P P 14 08 24.2 -0.2
HAU *e*R
comp=Z,50nm,18.0s
HAU Haudompre 73.46 339 *e*P P 14 08 24.2 -0.2
HAU Haudompre 73.46 339 *e*P P 14 08 24.2 -0.2
433A Art 73.47 60 ⇑P P 14 08 24.6 -0.1
baz=73
HINF Hinteralfeld 73.54 338 *e*P P 14 08 24.4 -0.4
HINF Hinteralfeld 73.54 338 *e*P P 14 08 24.4 -0.4
HINF Hinteralfeld 73.54 338 *e*P P 14 08 24.4 -0.4
SFTF Sexfontaines 73.54 340 *e*P P 14 08 24.8 0.0
comp=Z,16nm,0.9s
SFTF Sexfontaines 73.54 340 *e*P P 14 08 24.8 0.0
comp=Z,16nm,0.9s
532A Rocksprings 73.58 61 ⇓P P 14 08 25.0 -0.3
baz=73
DIVS Divibare 73.62 328 ⇓*i*P P 14 08 25.4 -0.1
434A Buret 73.82 59 ⇓P P 14 08 26.4 -0.3
baz=74
631A Perdido Creek 73.83 62 ⇓P P 14 08 26.7 -0.1
baz=74
VTS Vitosha 73.98 325 ⇓*i*P P 14 08 27.9 +0.3
FLN La Foliniere 74.00 343 *e*P P 14 08 27.1 -0.3
comp=Z,30nm,1.0s
FLN *e*R
comp=Z,49nm,18.0s
FLN La Foliniere 74.00 343 *e*P P 14 08 27.1 -0.3
FLN pmax pmax
comp=Z,30nm,1.0s
FLN La Foliniere 74.00 343 *e*P P 14 08 27.1 -0.3
comp=Z,30nm,1.0s
237A Washetta, Mont 74.02 57 ⇑P P 14 08 26.8 -1.1
baz=74
533A Kerrville 74.05 60 ⇓P P 14 08 27.8 -0.3
baz=74
LDF La Druitiere 74.10 343 *e*P P 14 08 27.7 -0.4
LDF La Druitiere 74.10 343 *e*P P 14 08 27.7 -0.4
LDF La Druitiere 74.10 343 *e*P P 14 08 27.7 -0.4
632A Uvalde 74.15 61 ⇓P P 14 08 28.5 -0.1
baz=74
WVT Waverly 74.15 48 *e*P P 14 08 29.1 +0.5
WVT pmax pmax
comp=Z,6.0nm,0.8s
WVT Waverly 74.15 48 *e*P P 14 08 29.1 +0.5
comp=Z,5.6nm,0.8s
534A Blanco 74.36 60 ⇓P P 14 08 29.6 -0.3
baz=74
GRR Gorron 74.42 344 *e*P P 14 08 29.6 -0.3
comp=Z,38nm,1.2s
GRR Gorron 74.42 344 *e*P P 14 08 29.6 -0.3
GRR pmax pmax
comp=Z,39nm,1.2s
GRR Gorron 74.42 344 *e*P P 14 08 29.6 -0.3
comp=Z,38nm,1.2s

LOR Lormes 74.67 340 *e*P P 14 08 31.2 -0.2
comp=Z,59nm,1.5s
LOR *e*R
comp=Z,70nm,18.2s
LOR Lormes 74.67 340 *e*P P 14 08 31.2 -0.2
LOR pmax pmax
comp=Z,59nm,1.5s
LOR Lormes 74.67 340 *e*P P 14 08 31.2 -0.2
comp=Z,59nm,1.5s
SGMF Saint Gilles 74.82 345 *e*P P 14 08 32.1 -0.1
comp=Z,28nm,1.2s
SGMF Saint Gilles 74.82 345 *e*P P 14 08 32.1 -0.1
SGMF pmax pmax
comp=Z,28nm,1.2s
SGMF Saint Gilles 74.82 345 *e*P P 14 08 32.1 -0.1
comp=Z,28nm,1.2s
ROSF Rostrenen 74.84 345 *e*P P 14 08 32.2 -0.2
ROSF Rostrenen 74.84 345 *e*P P 14 08 32.2 -0.2
ROSF Rostrenen 74.84 345 *e*P P 14 08 32.2 -0.2
CABF La Chapelle 74.84 338 *e*P P 14 08 32.7 +0.2
CABF La Chapelle 74.84 338 *e*P P 14 08 32.7 +0.2
CABF La Chapelle 74.84 338 *e*P P 14 08 32.7 +0.2
SSF Saint Saulge 74.93 340 *e*P P 14 08 32.8 -0.1
SSF Saint Saulge 74.93 340 *e*P P 14 08 32.8 -0.1
SSF Saint Saulge 74.93 340 *e*P P 14 08 32.8 -0.1
AVF Avril sur Loir 75.22 340 *e*P P 14 08 34.6 0.0
comp=Z,32nm,1.4s
AVF Avril sur Loir 75.22 340 *e*P P 14 08 34.6 0.0
AVF pmax pmax
comp=Z,32nm,1.4s
AVF Avril sur Loir 75.22 340 *e*P P 14 08 34.6 0.0
comp=Z,32nm,1.4s
QUIF Quistinic 75.24 345 *e*P P 14 08 34.3 -0.3
comp=Z,22nm,1.1s
QUIF Quistinic 75.24 345 *e*P P 14 08 34.3 -0.3
QUIF pmax pmax
comp=Z,23nm,1.1s
QUIF Quistinic 75.24 345 *e*P P 14 08 34.3 -0.3
comp=Z,22nm,1.1s
SMF Signal de Mont 75.27 340 *e*P P 14 08 34.6 -0.3
comp=Z,36nm,1.5s
SMF Signal de Mont 75.27 340 *e*P P 14 08 34.6 -0.3
SMF pmax pmax
comp=Z,36nm,1.5s
SMF Signal de Mont 75.27 340 *e*P P 14 08 34.6 -0.3
comp=Z,36nm,1.5s
JMDO Jabal Madar 75.59 288 ⇓P P 14 08 37.0 0.0
SNR=7.5
CTA Charters Tower 75.74 188 P P 14 08 37.8 +0.1
comp=Z,7.6nm,0.7s,baz=333,slow=9.8,SNR=7.9
CTA Charters Tower 75.74 188 P P 14 08 37.8 +0.1
CTA pmax pmax
comp=Z,8.0nm,0.7s
LPL La Plagne 75.75 338 *e*P P 14 08 38.5 +0.6
comp=Z,34nm,1.2s
LPL La Plagne 75.75 338 *e*P P 14 08 38.5 +0.6
LPL pmax pmax
comp=Z,34nm,1.2s
LPL La Plagne 75.75 338 *e*P P 14 08 38.5 +0.6
comp=Z,34nm,1.2s
LPG La Plagne 75.76 338 *e*P P 14 08 38.7 +0.6
comp=Z,32nm,1.1s
LPG La Plagne 75.76 338 *e*P P 14 08 38.7 +0.6
LPG pmax pmax
comp=Z,32nm,1.1s
LPG La Plagne 75.76 338 *e*P P 14 08 38.7 +0.6
comp=Z,32nm,1.1s
BSY Bisya 75.77 289 ⇓P P 14 08 37.9 -0.2
SNR=5.8
TCF Toulx Ste Croi 75.92 341 *e*P P 14 08 38.6 0.0
comp=Z,36nm,1.5s
TCF Toulx Ste Croi 75.92 341 *e*P P 14 08 38.6 0.0
TCF pmax pmax
comp=Z,36nm,1.5s
TCF Toulx Ste Croi 75.92 341 *e*P P 14 08 38.6 0.0
comp=Z,36nm,1.5s
MFF Saint Martin d 76.04 343 *e*P P 14 08 39.3 +0.1
comp=Z,14nm,0.8s
MFF Saint Martin d 76.04 343 *e*P P 14 08 39.3 +0.1
MFF pmax pmax
comp=Z,14nm,0.8s
MFF Saint Martin d 76.04 343 *e*P P 14 08 39.3 +0.1
comp=Z,14nm,0.8s
MBDF Montbardon 76.49 337 *e*P P 14 08 42.2 +0.1
MBDF Montbardon 76.49 337 *e*P P 14 08 42.2 +0.1
MBDF Montbardon 76.49 337 *e*P P 14 08 42.2 +0.1
ORIF Oris-en-Rattie 76.50 338 *e*P P 14 08 41.3 -0.7
comp=Z,18nm,1.0s
ORIF *e*R
comp=Z,71nm,18.0s
ORIF Oris-en-Rattie 76.50 338 *e*P P 14 08 41.3 -0.7
ORIF pmax pmax
comp=Z,19nm,1.0s
ORIF Oris-en-Rattie 76.50 338 *e*P P 14 08 41.3 -0.7
comp=Z,18nm,1.0s
VIVF Saint-Julien-l 76.81 339 *e*P P 14 08 43.8 +0.1
VIVF Saint-Julien-l 76.81 339 *e*P P 14 08 43.8 +0.1
VIVF Saint-Julien-l 76.81 339 *e*P P 14 08 43.8 +0.1
RJF Les Rejaudoux 77.00 341 *e*P P 14 08 45.1 +0.4
RJF *e*R
comp=Z,75nm,19.5s
RJF Les Rejaudoux 77.00 341 *e*P P 14 08 45.1 +0.4
RJF Les Rejaudoux 77.00 341 *e*P P 14 08 45.1 +0.4
WRAB Tennant Creek 77.24 200 *i* P P 14 08 45.7 -0.5
WRAB pmax pmax
comp=Z,36nm,1.7s
WRAB Tennant Creek 77.24 200 *e*P P 14 08 46.2 +0.1
comp=Z,7.4nm,0.9s
WRA Warramunga Arr 77.25 200 P P 14 08 45.8 -0.5
comp=Z,4.9nm,0.7s,baz=15,slow=5.9,SNR=24
WRA Warramunga Arr 77.25 200 P P 14 08 45.8 -0.5
WRA pmax pmax
comp=Z,5.0nm,0.7s
CAF Calviac 77.26 341 *e*P P 14 08 47.0 +0.8
comp=Z,23nm,1.3s
CAF Calviac 77.26 341 *e*P P 14 08 47.0 +0.8
CAF pmax pmax
comp=Z,23nm,1.3s
CAF Calviac 77.26 341 *e*P P 14 08 47.0 +0.8
comp=Z,23nm,1.3s
LFF La Frestale 77.49 342 *e*P P 14 08 48.2 +0.7
comp=Z,33nm,1.2s
LFF La Frestale 77.49 342 *e*P P 14 08 48.2 +0.7
LFF pmax pmax
comp=Z,33nm,1.2s
LFF La Frestale 77.49 342 *e*P P 14 08 48.2 +0.7
comp=Z,33nm,1.2s
FRF La Foret Royal 77.63 337 *e*P P 14 08 48.2 -0.1
FRF La Foret Royal 77.63 337 *e*P P 14 08 48.2 -0.1
FRF La Foret Royal 77.63 337 *e*P P 14 08 48.2 -0.1
KMSC Kings Mountain 77.67 44 ⇓P P 14 08 48.2 -0.4
baz=78
LASF Ste Croix 77.73 339 *e*P P 14 08 48.5 -0.4
comp=Z,29nm,1.4s
LASF Ste Croix 77.73 339 *e*P P 14 08 48.5 -0.4
comp=Z,29nm,1.4s
EPF Esparros 79.41 341 *e*P P 14 08 58.1 -0.1
comp=Z,21nm,1.2s
EPF Esparros 79.41 341 *e*P P 14 08 58.1 -0.1
EPF pmax pmax
comp=Z,21nm,1.2s
EPF Esparros 79.41 341 *e*P P 14 08 58.1 -0.1
comp=Z,21nm,1.2s
ETSF Etsaut 79.70 342 *e*P P 14 08 59.4 -0.4
comp=Z,33nm,1.4s
ETSF Etsaut 79.70 342 *e*P P 14 08 59.4 -0.4
ETSF pmax pmax
comp=Z,33nm,1.4s
ETSF Etsaut 79.70 342 *e*P P 14 08 59.4 -0.4
comp=Z,33nm,1.4s
AS31 Alice Springs 80.96 199 *e*P P 14 09 06.0 -0.5
ASAR Alice Springs 80.96 199 P P 14 09 06.6 +0.1
comp=Z,7.9nm,0.8s,baz=11,slow=5.5,SNR=59
ASAR Alice Springs 80.96 199 P P 14 09 06.6 +0.1
ASAR pmax pmax
comp=Z,8.0nm,0.8s
RAYN Ar Rayn 81.19 299 *e*P P 14 09 07.7 -0.3
comp=Z,2.5nm,0.9s
PBRG Braganca 81.73 346 *e*P P 14 09 12.3 +1.7
comp=Z,24nm,1.7s
PGAV Gavieira, Arco 81.77 347 *e*P P 14 09 10.6 -0.3
comp=Z,26nm,1.4s
POLO Lamas de Olo 82.29 347 *e*P P 14 09 14.9 +1.3
comp=Z,12nm,1.3s
PVRL Vila Real 82.38 347 *e*P P 14 09 14.8 +0.8
comp=Z,36nm,1.3s

MVO	**Moncorvo**	**82.40**	**346**	*e*P		**P**	**14 09 15.2**	**+1.0**
	comp=Z,28nm,1.4s							
PVIS	**Viseu**	**82.95**	**347**	*e*P		**P**	**14 09 18.0**	**+1.0**
	comp=Z,34nm,1.4s							
MTE	**Manteigas**	**83.22**	**347**	*e*P		**P**	**14 09 20.2**	**+1.8**
	comp=Z,42nm,1.9s							
ESDC	**Sonseca Array**	**83.41**	**344**	P		**P**	**14 09 19.9**	**+0.5**
	comp=Z,10nm,0.9s,baz=5.6,slow=5.1,SNR=34							
ESLA	**Sonseca Array**	**83.41**	**344**	*e*P		**P**	**14 09 19.4**	**0.0**
	comp=Z,4.8nm,1.0s							
PAB	**San Pablo**	**83.60**	**344**	*e*P		**P**	**14 09 20.0**	**-0.4**
PAB				pmax		pmax		
	comp=Z,18nm,1.2s							
PAB	**San Pablo**	**83.60**	**344**	*e*P		**P**	**14 09 20.0**	**-0.4**
	comp=Z,18nm,1.2s							
PCAS	**Casmilo, Conde**	**83.68**	**347**	*e*P		**P**	**14 09 21.8**	**+1.1**
	comp=Z,35nm,1.7s							
PCBR	**Castelo Branco**	**83.76**	**346**	*e*P		**P**	**14 09 22.2**	**+1.1**
	comp=Z,30nm,1.6s							
KEST	**Kesra**	**84.40**	**332**	P		**P**	**14 09 24.7**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=238,slow=3.8,SNR=4.5							
KEST	**Kesra**	**84.40**	**332**	*e*P		**P**	**14 09 23.3**	**-1.2**
PMTG	**Montargil**	**84.62**	**347**	*e*P		**P**	**14 09 25.9**	**+0.4**
	comp=Z,25nm,1.7s							
PESTR	**Estremoz**	**84.73**	**346**	*e*P		**P**	**14 09 26.9**	**+0.8**
	comp=Z,21nm,1.6s							
EVO	**Evora**	**85.12**	**347**	*e*P		**P**	**14 09 27.7**	**-0.3**
	comp=Z,31nm,1.1s							
EVO				*e*R				
	comp=Z,62nm,17.0s							
EVOP	**Sao Brissos**	**85.14**	**347**	*e*P		**P**	**14 09 27.7**	**-0.4**
EVOP				pmax		pmax		
	comp=Z,31nm,1.1s							
EVOP	**Sao Brissos**	**85.14**	**347**	*e*P		**P**	**14 09 27.7**	**-0.4**
	comp=Z,31nm,1.1s							
PBAR	**Barrancos**	**85.34**	**346**	*e*P		**P**	**14 09 29.4**	**+0.3**
	comp=Z,47nm,1.3s							
PCVE	**Castro Verde**	**86.01**	**347**	*e*P		**P**	**14 09 33.1**	**+0.6**
	comp=Z,8.0nm,1.8s							
PVAQ	**Vaqueiros**	**86.19**	**346**	*e*P		**P**	**14 09 34.3**	**+0.9**
	comp=Z,18nm,1.5s							
PBDV	**Barranco-do-Ve**	**86.38**	**346**	*e*P		**P**	**14 09 35.4**	**+1.1**
	comp=Z,29nm,1.6s							
PPT	**Papeete**	**86.56**	**128**	LR		LR	14 39 41.3	
	comp=Z,38nm,21.3s,baz=328,slow=30							
STKA	**Stephens Creek**	**87.87**	**191**	P		**P**	**14 09 41.0**	**-0.2**
	comp=Z,1.9nm,0.9s,baz=8.0,slow=6.9,SNR=2.9							
STKA				LR		LR	14 55 06.5	
	comp=Z,19nm,18.2s,baz=23,slow=40							
STKA	**Stephens Creek**	**87.87**	**191**	P		**P**	**14 09 41.0**	**-0.2**
STKA				pmax		pmax		
	comp=Z,2.0nm,0.9s							
STKA	**Stephens Creek**	**87.87**	**191**	P		**P**	**14 09 41.0**	**-0.2**
TORD	**Torodi Ar. Bea**	**107.92**	**333**	PP		PP	14 15 35.4	-5.5
	comp=Z,1.1nm,0.9s,baz=9.0,slow=6.7,SNR=5.8							
QSPA	**South Pole Qui**	**145.34**	**180**	*e*P		**PKPbc**	**14 16 27.2**	**-1.2**
PLCA	**Paso Flores**	**146.87**	**83**	PKPbc		**PKPbc**	**14 16 34.2**	**+0.3**
	comp=Z,7.5nm,0.8s,baz=312,slow=3.5,SNR=13							
PLCA	**Paso Flores**	**146.87**	**83**	PKP2		**PKPbc**	**14 16 34.2**	**+0.3**
PLCA				pmax		pmax		
	comp=Z,8.0nm,0.8s							
TRQA	**Tornquist**	**149.72**	**70**	*e*PKPbc		**PKPbc**	**14 16 41.5**	**+0.2**

*ISCJB **13** 14:15:52.0±0.3, 42.°79N±0.°02×13.°12E±0.°03, h13km±2km, Error ellipse: s-maj=3.8km s-min=2.4km az=157.0*
*ROM **13** 14:15:52.0±0.1, 42.°79N×13.°15E, h10km, Md2.9/34, Ml2.8/30, Error ellipse: s-maj=1.1km s-min=0.7km az=69.0*
*CSEM **13** 14:15:52.3±0.1, 42.°78N×13.°12E, h8km, ML3.5/11, Error ellipse: s-maj=2.5km s-min=1.8km az=66.0*

ISC 13 14:15:52.5±0.8, 42.°79N±0.°02×13.°14E±0.°02, h10km±5km, n84, σ0s70/116, 11C, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.05**	**342**	Pg	**Pg**	**14 15 54.4**	**-0.3**
NRCA				Sg	**Sg**	**14 15 55.6**	**-0.7**
	14μm,0.2s						
NRCA	**Norcia**	**0.05**	**342**	Pg	**Pg**	**14 15 54.4**	**-0.3**
NRCA				Sg	**Sg**	**14 15 55.6**	**-0.7**
	14μm,0.2s						
LNSS	**Leonessa**	**0.20**	**201**	⇑*i* Pg	**Pg**	**14 15 57.0**	**+0.3**
LNSS				Sg	**Sg**	**14 16 00.7**	**+1.2**
	11μm,0.2s						
LNSS	**Leonessa**	**0.20**	**201**	⇑*i* Pg	**Pg**	**14 15 57.0**	**+0.3**
LNSS				Sg	**Sg**	**14 16 00.7**	**+1.2**
	11μm,0.2s						
SMA1	**SAN MARTINO**	**0.21**	**136**	Pg	**Pg**	**14 15 57.2**	**+0.2**
SMA1				Sg	**Sg**	**14 16 00.9**	**+0.8**
	5μm,0.4s						
FDMO	**Fiordimonte**	**0.25**	**352**	⇑*i* Pg	**Pg**	**14 15 57.6**	**-0.1**
FDMO				Sg	**Sg**	**14 16 01.7**	**+0.5**
	2μm,0.2s						
FDMO	**Fiordimonte**	**0.25**	**352**	⇑*i* Pg	**Pg**	**14 15 57.6**	**-0.1**
FDMO				Sg	**Sg**	**14 16 01.7**	**+0.5**
	2μm,0.2s						
CESI	**CESI - Serrava**	**0.28**	**322**	Pg	**Pg**	**14 15 58.2**	**0.0**
CESI				Sg	**Sg**	**14 16 02.7**	**+0.7**
	1μm,0.4s						
CESI	**CESI - Serrava**	**0.28**	**322**	Pg	**Pg**	**14 15 58.2**	**0.0**
CESI				Sg	**Sg**	**14 16 02.7**	**+0.7**
	1μm,0.4s						
CAMP	**Campotosto**	**0.32**	**141**	Pg	**Pg**	**14 15 58.9**	**0.0**
CAMP				Sg	**Sg**	**14 16 04.1**	**+0.9**
	779nm,0.4s						
CAMP	**Campotosto**	**0.32**	**141**	Pg	**Pg**	**14 15 58.9**	**0.0**
CAMP				Sg	**Sg**	**14 16 04.1**	**+0.9**
	779nm,0.4s						
T0107	**San Pelino (Ca**	**0.32**	**165**	Pg	**Pg**	**14 15 59.1**	**+0.1**
T0107				Sg	**Sg**	**14 16 04.7**	**+1.4**
TERO	**Teramo**	**0.38**	**115**	Pg	**Pg**	**14 15 59.8**	**-0.2**
TERO				Sg	**Sg**	**14 16 05.7**	**+0.6**
	916nm,0.4s						
TERO	**Teramo**	**0.38**	**115**	Pg	**Pg**	**14 15 59.8**	**-0.2**
TERO				Sg	**Sg**	**14 16 05.7**	**+0.6**
	916nm,0.4s						
OFFI	**Offida**	**0.43**	**69**	Pg	**Pb**	**14 16 01.6**	**-0.6**
	2μm,0.5s						
OFFI	**Offida**	**0.43**	**69**	Pg	**Pb**	**14 16 01.6**	**-0.6**
	2μm,0.5s						
CESX	**Cesi**	**0.45**	**247**	Pg	**Pg**	**14 16 01.0**	**-0.2**
CESX				Sg	**Sb**	**14 16 08.4**	**-0.7**
	788nm,0.5s						
CESX	**Cesi**	**0.45**	**247**	Pg	**Pg**	**14 16 01.0**	**-0.2**
CESX				Sg	**Sb**	**14 16 08.4**	**-0.7**
	788nm,0.5s						
T0104	**Madonna delle**	**0.45**	**160**	Pg	**Pg**	**14 16 01.1**	**-0.2**
T0104				Sg	**Sb**	**14 16 08.6**	**-0.7**
AQU	**L'Aquila**	**0.47**	**155**	Pg	**Pg**	**14 16 01.5**	**-0.2**
	725nm,0.6s						
AQU	**L'Aquila**	**0.47**	**155**	Pg	**Pg**	**14 16 01.5**	**-0.2**
	725nm,0.6s						
T0106	**Roio Piano**	**0.51**	**159**	Pg	**Pg**	**14 16 02.2**	**-0.3**
	433nm,0.6s						
FIAM	**Fiamignano**	**0.52**	**182**	⇑*i* Pg	**Pg**	**14 16 02.3**	**-0.3**
FIAM				Sg	**Sg**	**14 16 10.0**	**+0.6**
	406nm,0.4s						
FIAM	**Fiamignano**	**0.52**	**182**	⇑*i* Pg	**Pg**	**14 16 02.3**	**-0.3**
FIAM				Sg	**Sg**	**14 16 10.0**	**+0.6**
	406nm,0.4s						
MNS	**Montasola**	**0.52**	**220**	⇑*i* Pg	**Pg**	**14 16 02.5**	**-0.1**
MNS				Sg	**Sb**	**14 16 10.7**	**-0.6**
	475nm,0.3s						
MNS	**Montasola**	**0.52**	**220**	⇑*i* Pg	**Pg**	**14 16 02.5**	**-0.1**
MNS				Sg	**Sb**	**14 16 10.7**	**-0.6**
	475nm,0.3s						
TRTR	**Tortoreto Alta**	**0.57**	**87**	Pg	**Pb**	**14 16 04.5**	**-0.1**
TRTR	**Tortoreto Alta**	**0.57**	**87**	Pg	**Pb**	**14 16 04.5**	**-0.1**
CING	**Cingoli**	**0.59**	**4**	Pg	**Pg**	**14 16 03.5**	**-0.5**
CING				Sg	**Sb**	**14 16 12.8**	**-0.6**
	673nm,0.2s						
CING	**Cingoli**	**0.59**	**4**	Pg	**Pg**	**14 16 03.5**	**-0.5**
CING				Sg	**Sb**	**14 16 12.8**	**-0.6**
	673nm,0.2s						
FAGN	**Fagnano**	**0.61**	**147**	Pg	**Pg**	**14 16 03.9**	**-0.5**
	744nm,0.3s						
FAGN	**Fagnano**	**0.61**	**147**	Pg	**Pg**	**14 16 03.9**	**-0.5**
	744nm,0.3s						
GUMA	**Gualdo di Mace**	**0.65**	**64**	⇑*i* Pg	Pg	14 15 58.9	-6.2
GUMA				Sg	Sg	14 16 04.1	-10
	4μm,0.4s						
VCEL	**Villa Celiera**	**0.65**	**127**	Pg	**Pg**	**14 16 05.0**	**-0.1**
VCEL	**Villa Celiera**	**0.65**	**127**	Pg	**Pg**	**14 16 05.0**	**-0.1**
MURB	**Monte Urbino**	**0.66**	**317**	Pg	**Pg**	**14 16 05.0**	**-0.2**
	692nm,0.3s						
MURB	**Monte Urbino**	**0.66**	**317**	Pg	**Pg**	**14 16 05.0**	**-0.2**
	692nm,0.3s						
ATFO	**Monte Foce - G**	**0.71**	**325**	Pg	**Pg**	**14 16 06.1**	**-0.2**
	332nm,0.3s						
ATFO	**Monte Foce - G**	**0.71**	**325**	Pg	**Pg**	**14 16 06.1**	**-0.2**
	332nm,0.3s						
ARVD	**Arcevia**	**0.73**	**349**	Pg	**Pg**	**14 16 05.9**	**-0.6**
ARVD				Sg	**Sb**	**14 16 17.1**	**-0.2**
	310nm,0.2s						
ARVD	**Arcevia**	**0.73**	**349**	Pg	**Pg**	**14 16 05.9**	**-0.6**
ARVD				Sg	**Sb**	**14 16 17.1**	**-0.2**
	310nm,0.2s						
T0110	**Collepietro**	**0.73**	**139**	Pg	**Pg**	**14 16 05.9**	**-0.8**
MGAB	**Montegabbione**	**0.76**	**280**	Pg	**Pg**	**14 16 07.2**	**0.0**
	332nm,0.4s						
MGAB	**Montegabbione**	**0.76**	**280**	Pg	**Pg**	**14 16 07.2**	**0.0**
	332nm,0.4s						
ATVO	**AVT- Monte Val**	**0.80**	**318**	Pg	**Pg**	**14 16 07.2**	**-0.7**
	187nm,0.7s						
ATVO	**AVT- Monte Val**	**0.80**	**318**	Pg	**Pg**	**14 16 07.2**	**-0.7**
	187nm,0.7s						
AOI	**Ancona**	**0.84**	**24**	Pg	**Pg**	**14 16 08.2**	**-0.4**
	244nm,0.3s						
AOI	**Ancona**	**0.84**	**24**	Pg	**Pg**	**14 16 08.2**	**-0.4**
	244nm,0.3s						
CERT	**Cerreto**	**0.84**	**188**	Pg	**Pg**	**14 16 07.8**	**-0.9**
	549nm,0.8s						
CERT	**Cerreto**	**0.84**	**188**	Pg	**Pg**	**14 16 07.8**	**-0.9**
	549nm,0.8s						
ATPC	**Poggio Castell**	**0.85**	**325**	Pg	**Pg**	**14 16 08.6**	**-0.4**
	267nm,0.3s						
ATPC	**Poggio Castell**	**0.85**	**325**	Pg	**Pg**	**14 16 08.6**	**-0.4**
	267nm,0.3s						
ATPI	**Pietralunga -**	**0.85**	**321**	Pg	**Pg**	**14 16 08.4**	**-0.6**
	188nm,0.5s						
ATPI	**Pietralunga -**	**0.85**	**321**	Pg	**Pg**	**14 16 08.4**	**-0.6**
	188nm,0.5s						
PIEI	**Pieia**	**0.87**	**330**	Pg	**Pg**	**14 16 08.4**	**-0.9**
	177nm,0.3s						
PIEI	**Pieia**	**0.87**	**330**	Pg	**Pg**	**14 16 08.4**	**-0.9**
	177nm,0.3s						
FSSB	**Fossombrone**	**0.94**	**344**	Pg	**Pg**	**14 16 10.0**	**-0.7**
	116nm,0.2s						
FSSB	**Fossombrone**	**0.94**	**344**	Pg	**Pg**	**14 16 10.0**	**-0.7**
	116nm,0.2s						
INTR	**Introdacqua**	**0.96**	**143**	Pg	**Pg**	**14 16 09.5**	**-1.5**
	191nm,0.5s						
INTR	**Introdacqua**	**0.96**	**143**	Pg	**Pg**	**14 16 09.5**	**-1.5**
	191nm,0.5s						
BADI	**Badiali**	**0.97**	**318**	Pg	**Pg**	**14 16 11.0**	**-0.2**
	183nm,0.6s						
BADI	**Badiali**	**0.97**	**318**	Pg	**Pg**	**14 16 11.0**	**-0.2**
	183nm,0.6s						
CAFI	**Castiglion Fio**	**1.01**	**303**	Pg	**Pg**	**14 16 11.7**	**-0.3**
CAFI	**Castiglion Fio**	**1.01**	**303**	Pg	**Pg**	**14 16 11.7**	**-0.3**
PARC	**Parchiule**	**1.08**	**323**	Pg	**Pb**	**14 16 13.1**	**-0.2**
	122nm,0.7s						
PARC	**Parchiule**	**1.08**	**323**	Pg	**Pb**	**14 16 13.1**	**-0.2**
	122nm,0.7s						
TOLF	**Tolfa**	**1.11**	**230**	Pg	**Pb**	**14 16 12.8**	**-0.9**
	96nm,0.5s						
TOLF	**Tolfa**	**1.11**	**230**	Pg	**Pb**	**14 16 12.8**	**-0.9**
	96nm,0.5s						
CRE	**Caprese Michel**	**1.20**	**314**	Pg	**Pn**	**14 16 15.3**	**-0.1**
	27nm,0.5s						
CRE	**Caprese Michel**	**1.20**	**314**	Pg	**Pn**	**14 16 15.3**	**-0.1**
	27nm,0.5s						
NVLJ	**Novalja**	**2.18**	**35**	*e*Pn	**Pn**	**14 16 28.0**	**-0.7**
NVLJ				Sn	**Sn**	**14 16 56.0**	**+0.3**
NVLJ	**Novalja**	**2.18**	**35**	*e*Pn	**Pn**	**14 16 28.0**	**-0.7**
UDBI	**Udbina**	**2.58**	**47**	*e*Pn	**Pn**	**14 16 35.6**	**+1.2**
UDBI				Sn	**Sn**	**14 17 07.8**	**+1.9**
UDBI	**Udbina**	**2.58**	**47**	*e*Pn	**Pn**	**14 16 35.5**	**+1.2**
UDBI				Sn	**Sn**	**14 17 07.7**	**+1.9**
SKDS	**Skadanscina**	**2.83**	**13**	*e*Pn	**Pn**	**14 16 38.7**	**+0.9**
SKDS				*e*Sn	**Sn**	**14 17 11.8**	**-0.1**
SKDS	**Skadanscina**	**2.83**	**13**	*e*Pn	**Pn**	**14 16 38.7**	**+0.9**
SKDS				*e*Sn	**Sn**	**14 17 11.8**	**-0.1**
JAVS	**Javornik**	**3.18**	**12**	*e*Pn	**Pn**	**14 16 44.3**	**+1.7**
JAVS				*e*Sn	**Sn**	**14 17 20.7**	**+0.2**
JAVS	**Javornik**	**3.18**	**12**	*e*Pn	**Pn**	**14 16 44.3**	**+1.7**
STON	**Ston**	**3.36**	**87**	*e*Pn	**Pn**	**14 16 44.3**	**-0.6**
STON				Sn	**Sn**	**14 17 24.7**	**-0.1**
STON	**Ston**	**3.36**	**87**	*e*Pn	**Pn**	**14 16 44.3**	**-0.6**
STON				Sn	**Sn**	**14 17 24.7**	**-0.1**
ABTA	**Abfaltersbach**	**3.99**	**354**	⇑*i* Pn	**Pn**	**14 16 55.2**	**+1.5**
ABTA	**Abfaltersbach**	**3.99**	**354**	Pn	**Pn**	**14 16 55.2**	**+1.5**
KBA	**Koelnbreinsper**	**4.30**	**2**	⇑*i* Pn	**Pn**	**14 16 58.4**	**+0.4**
KBA	**Koelnbreinsper**	**4.30**	**2**	Pn	**Pn**	**14 16 58.4**	**+0.4**

*ISCJB **13** 14:29:04.2±1.2, 31.°54S±0.°04×71.°3W±0.°3, h86km±11km, mb4.0/1, Error ellipse: s-maj=40.6km s-min=6.1km az=176.0*
*NEIC **13** 14:29:05.0, 31.°56S×71.°40W, h49km, mb4.0/1, After GUC.*
NEIC Felt [II] at Canela Baja, Illapel and Salamanca.
*GUC **13** 14:29:05.0±0.4, 31.°57S×71.°40W, h49km±5km, ML3.3*

ISC 13 14:29:04.7±1.6, 31.°55S±0.°05×71.°4W±0.°3, h70km±18km, n11, σ0s83/16, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**1.46**	**166**	*e*P	**Pn**	**14 29 29.1**	**-0.3**
ROCH				*e*S	**Sn**	**14 29 47.7**	**-0.2**
ROCH				AML	AML	14 29 50.3	
	comp=N,474nm,0.3s						
TLL	**Tololo Astrono**	**1.48**	**21**	*e*P	**Pn**	**14 29 30.3**	**+0.6**
TLL				*i* S	**Sn**	**14 29 49.6**	**+1.3**
TLL				AML	AML	14 29 54.6	
	comp=E,760nm,0.3s						
LSCH	**La Serena**	**1.64**	**5**	*e*S	**Sn**	**14 29 52.6**	**+0.8**
PEL	**Peldehue**	**1.71**	**159**	⇑*i* P	**Pn**	**14 29 32.9**	**+0.4**
PEL				*i* S	**Sn**	**14 29 53.6**	**0.0**
PEL				AML	AML	14 29 57.5	
	comp=E,787nm,0.3s						
CLCH	**Cerro Calan**	**1.99**	**158**	*e*P	**Pn**	**14 29 36.4**	**+0.1**
CLCH				*i* S	**Sn**	**14 30 00.7**	**+0.4**
CLCH				AML	AML	14 30 14.6	
	comp=N,274nm,0.5s						
RCDM	**Rinconada Maip**	**2.00**	**165**	*e*P	**Pn**	**14 29 36.6**	**+0.1**
RCDM				*i* S	**Sn**	**14 30 00.8**	**+0.1**
LCO	**Las Campanas**	**2.60**	**14**	*e*Pn	**Pn**	**14 29 43.8**	**-1.0**
LVC	**Limon Verde**	**9.18**	**15**	*e*Pn	**Pn**	**14 31 12.9**	**-1.7**
TRQA	**Tornquist**	**10.12**	**132**	*e*Pn	**Pn**	**14 31 27.2**	**0.0**
LPAZ	**La Paz**	**15.49**	**12**	Pn	**Pn**	**14 32 38.9**	**-0.7**
QSPA	**South Pole Qui**	**58.68**	**180**	*e*P	**P**	**14 38 55.6**	**+0.8**
	comp=N,1.9nm,1.3s						

MEX 13 14:36:05.7±0.4, 32.°11N×115.°13W, h20km±3km, MD3.7, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.30**	**349**	*e*P	Pb	14 36 11.4	-0.9
MBIG				*e*S	Sb	14 36 15.7	-1.3
SPIG	**San Pedro Mart**	**1.10**	**195**	*i* P	Pn	14 36 23.4	-3.1
SPIG				*e*S	Sb	14 36 36.0	-4.8
CBX	**Cerro Bola**	**1.32**	**279**	*i* P	Pn	14 36 26.0	-3.1
CBX				*e*S	Sn	14 36 41.4	-4.8

*IDC **13** 14:37:06.7±6.0, 7.°72S×128.°98E, h0km, mb4.0/1, mb1 4.2/3, mb1mx3.5/31, mbtmp4.1/3, ML4.0/2, Error ellipse: s-maj=110.7km s-min=70.3km az=78.0*
*ISCJB **13** 14:37:13.1±0.7, 7.°62S±0.°05×129.°24E±0.°06, h79km, mb3.6/1, Error ellipse: s-maj=9.1km s-min=6.8km az=0.9*

ISC 13 14:37:13.8±0.9, 7.°52S±0.°06×129.°28E±0.°08, h79km, n13, σ0s42/19, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.96**	**344**	P	**Pn**	**14 38 14.2**	**+2.0**
	baz=3.9,SNR=3.6						
SOEI	**Soe**	**5.43**	**245**	P	**Pn**	**14 38 35.3**	**+3.0**
	baz=5.2,SNR=11						
SOEI				S	**Sn**	**14 39 32.6**	**-0.9**
	baz=5.2,SNR=3.7						
FAKI	**Fak Fak**	**5.45**	**33**	P	**Pn**	**14 38 33.5**	**+1.0**
	baz=5.6,SNR=6.3						
FAKI				S	**Sn**	**14 39 30.0**	**-3.8**
	baz=5.6,SNR=11						
KDU	**Kakadu**	**6.02**	**149**	P	Pn	14 38 45.5	+5.1
	baz=6.2,SNR=68						
KDU				S	**Sn**	**14 39 52.5**	**+4.6**
	baz=6.2,SNR=6.5						
KNRA	**Kununurra**	**8.12**	**183**	P	Pn	**14 39 12.0**	**+3.0**
	baz=8.2,SNR=40						
KNRA				S	**Sn**	**14 40 38.6**	**-0.7**
	baz=8.2,SNR=6.3						
FITZ	**Fitzroy Crossi**	**11.10**	**198**	P	**Pn**	**14 39 49.8**	**+0.1**
	baz=11,SNR=11						
FITZ				S	**Sn**	**14 41 49.6**	**-2.4**
	baz=11,SNR=3.5						
WRA	**Warramunga Arr**	**13.29**	**159**	Pn	**Pn**	**14 40 17.9**	**-1.4**
	0.8nm,0.3s,baz=340,slow=12,SNR=22						
WRA				Sn	**Sn**	**14 42 43.0**	**-2.4**
	1.4nm,0.3s,baz=334,slow=22,SNR=9.9						
QIS	**Mount Isa**	**16.37**	**143**	P	**Pn**	**14 41 00.2**	**+1.3**
	baz=17,SNR=3.3						
ASAR	**Alice Springs**	**16.66**	**165**	Pn	**Pn**	**14 41 02.4**	**-0.1**
	0.9nm,0.3s,baz=341,slow=10,SNR=81						
ASAR				Sn	**Sn**	**14 44 03.1**	**-4.0**
	0.2nm,0.3s,baz=344,slow=25,SNR=4.0						
WRKA	**Warakurna**	**17.45**	**183**	P	**Pn**	**14 41 11.2**	**-0.9**
	baz=18,SNR=14						
QLP	**Quilpie**	**23.70**	**145**	P	**P**	**14 42 17.6**	**-1.0**
	baz=24,SNR=7.9						
STKA	**Stephens Creek**	**26.82**	**156**	P	**P**	**14 42 47.4**	**+0.7**
	0.8nm,0.4s,baz=332,slow=9.9,SNR=6.2						
STKA	**Stephens Creek**	**26.82**	**156**	P	**P**	**14 42 47.5**	**+0.8**
	baz=27,SNR=4.9						

SKHL 13 14:48:37.4±0.6, 44.°88N×148.°62E, h30km±2km, mb3.9/2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.64**	**304**	*i* P	Pb	14 48 49.3	-0.8
KUR				AMB	AMB	14 48 50.3	
	10.0nm,0.1s						
KUR				AMB	AMB	14 48 50.3	
	20nm,0.1s						
KUR				*i* S	Sb	14 48 58.7	-0.1
KUR				A	A	14 48 59.0	
	140nm,0.2s						
KUR				A	A	14 48 59.0	
	450nm,0.2s						
SHO	**Shikotan**	**1.63**	**232**	*e*P	Pn	14 49 04.0	-0.1
SHO				AMB	AMB	14 49 08.4	
	120nm,0.9s						
SHO				*e*S	Sn	14 49 23.5	-0.5
SHO				A	A	14 49 26.8	
	180nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**2.15**	**248**	*e*P	Pn	14 49 10.9	-0.2
YUK				*e*S	Sn	14 49 36.9	+0.1
YUK				A	A	14 49 37.7	
	20nm,0.2s						
YUK				A	A	14 49 37.7	
	50nm,0.2s						
YSS	**Yuzh-Sakhalins**	**4.59**	**299**	*e*P	Pn	14 49 46.0	+1.3
YSS				*e*S	Sn	14 50 36.6	-0.3

*IDC **13** 14:54:01.2±4.2, 22.°21N×94.°69E, h92km±38km, mb3.3/6, mb1 3.4/7, mb1mx3.1/28, mbtmp3.5/7, Error ellipse: s-maj=86.1km s-min=14.9km az=57.0*

ISC 13 14:54:01.7±1.2, 22.°0N±0.°2×94.°3E±0.°2, h97km, n19, σ2s31/20, mb3.7/6, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**4.14**	**329**	*e*P	Pn	14 55 06.5	+3.5
SHL				*e*S	**Sn**	**14 55 49.0**	**-1.5**
CMAR	**Chiang Mai Arr**	**5.65**	**128**	P	Pn	14 55 20.2	-3.1
	0.1nm,0.3s,baz=309,slow=14,SNR=2.4						
ODAN	**Odare**	**7.89**	**309**	*e*Pn	Pn	14 55 58.0	+4.0
ODAN				*e*Sn	**Sn**	**14 57 20.0**	**-1.8**
	52nm,0.3s						
TAPN	**Taplejung**	**7.97**	**313**	*e*Pn	**Pn**	**14 55 58.1**	**+3.0**
TAPN				*e*Sn	**Sn**	**14 57 22.2**	**-1.6**
RAMN	**Ramite**	**8.52**	**307**	*e*Pn	Pn	14 56 06.6	+4.0
RAMN				*e*Sn	**Sn**	**14 57 35.7**	**-1.5**
	22nm,0.3s						
JIRN	**Jiri**	**9.23**	**309**	*e*Pn	**Pn**	**14 56 14.9**	**+2.7**
JIRN				*e*Sn	**Sn**	**14 57 52.3**	**-2.2**
	42nm,0.3s						
GUN	**Gumba**	**9.60**	**309**	*e*Pn	Pn	14 56 20.5	+3.3
PKI	**Pulchoki**	**9.75**	**306**	*e*Pn	Pn	14 56 22.7	+3.4
PKIN	**Phulchoki**	**9.76**	**306**	*e*Pn	Pn	14 56 22.9	+3.5
PKIN				*e*Sn	**Sn**	**14 58 04.9**	**-2.5**
	36nm,0.5s						
KKN	**Kakani**	**9.96**	**307**	*e*Pn	**Pn**	**14 56 25.2**	**+3.0**
DMN	**Daman**	**10.00**	**306**	*e*Pn	**Pn**	**14 56 25.8**	**+3.2**
GKN	**Gorkha**	**10.56**	**306**	*e*Pn	**Pn**	**14 56 33.3**	**+3.1**
GKN				*e*Sn	**Sn**	**14 58 24.0**	**-2.6**
	20nm,0.2s						
KOLN	**Koldanda**	**11.23**	**303**	*e*Pn	**Pn**	**14 56 41.6**	**+2.2**
KOLN				*e*Sn	**Sn**	**14 58 40.2**	**-2.9**
	27nm,0.4s						
MKAR	**Makanchi Array**	**26.55**	**341**	P	**P**	**14 59 30.4**	**0.0**
	0.4nm,0.5s,baz=167,slow=8.3,SNR=4.1						
ZALV	**Zalesovo Beam**	**32.67**	**

CLCH				*i* S		**Sb**	14 56 16.2	**-1.8**
CLCH				AML	AML	14 56 25.6		
	comp=E,1μm,0.4s							
PEL	**Peldehue**	**2.32**	**37**	⇓*i* P		**Pn**	14 55 50.2	**+1.3**
PEL				*e*S		**Sb**	14 56 20.7	**-0.7**
PEL				AML	AML	14 56 22.7		
	comp=E,1μm,0.4s							
ARCO	**CERRO ARCO**	**3.57**	**53**	*i* P		Pb	14 56 10.3	-3.5
ARCO				*i* S		**Sg**	14 57 04.6	**-0.4**
ARCO				AML	AML	14 57 05.6		
	comp=Z,35nm,0.7s							
AUSP	**Uspallata**	**3.72**	**42**	*i* P		**Pn**	14 56 10.1	**+1.7**
AUSP				*i* S		**Sb**	14 57 06.2	**+4.3**
ASAL	**Salagasta**	**3.79**	**51**	*i* P		**Pn**	14 56 11.7	**+2.5**
ASAL				*i* S		**Sg**	14 57 10.6	**-1.6**
RTLS	**Leoncito**	**4.10**	**39**	*i* P		**Pn**	14 56 15.2	**+1.6**
RTLS				*i* P		**Pn**	14 56 15.2	**+1.6**
AMOG	**MOGNA**	**5.20**	**39**	*i* P		**Pn**	14 56 27.8	**-0.6**

IDC 13 14:57:38.6±52.0, 18.89S×179.97W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/36, mbtmp3.7/3, Error ellipse: s-maj=947.3km s-min=144.1km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.86**	**242**	P		P	15 04 49.0	+0.2
	1.7nm,0.9s,baz=100,slow=11,SNR=3.2							
WRA	**Warramunga Arr**	**43.00**	**261**	P		P	15 05 40.1	-0.1
	0.4nm,0.4s,baz=98,slow=7.9,SNR=9.6							
ASAR	**Alice Springs**	**43.10**	**255**	P		P	15 05 40.5	-0.5
	0.5nm,0.4s,baz=86,slow=8.2,SNR=16							

*ISCJB **13** 15:08:01.1±0.4,36.04N±0.03×70.92E±0.05,h102km, mb3.6/8, Error ellipse: s-maj=6.3km s-min=3.4km az=146.8*
*IDC **13** 15:08:01.2±3.2,35.92N×70.91E,h85km±27km,mb3.5/9, mb1 3.5/15,mb1mx3.3/49,mbtmp3.8/15, Error ellipse: s-maj=24.0km s-min=18.2km az=175.0*
*NNC **13** 15:08:08.8±2.1,36.60N×70.68E,h141km±19km,mb3.4, mpv4.2, Error ellipse: s-maj=19.0km s-min=9.3km az=170.0*

ISC 13 15:08:02.4±0.6, 36.08N±0.06×70.92E±0.06, h102km, n48, σ1§95/56, mb3.6/8, 7C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DZET	**Dzherino**	**3.19**	**329**	⇓P		**Pn**	15 08 51.1	**+0.3**
	15nm,0.2s							
DZET				⇑S		**Sn**	15 09 25.0	**-3.0**
	90nm,0.3s							
SFK	**Sufi-Kurgan**	**4.42**	**27**	⇑P		**Pn**	15 09 09.8	**+2.3**
	63nm,0.4s							
SFK				⇓S		**Sn**	15 09 58.5	**+0.5**
	16nm,0.2s							
DLH	**Dalhousie**	**5.47**	**129**	*e*P		**Pn**	15 09 24.0	**+2.3**
DLH				*e*S		**Sn**	15 10 25.0	**+1.5**
DHRM	**DHARAMSHALA**	**5.88**	**129**	*e*P		Pn	15 09 31.5	+4.3
DHRM				*e*S		**Sn**	15 10 34.9	**+1.6**
DHRM				AML	AML	15 10 37.9		
	comp=N,254nm,0.3s							
DHRM				AML	AML	15 10 38.5		
	comp=E,215nm,0.3s							
AML	**Almayashu**	**6.41**	**19**	P		**Pn**	15 09 35.0	**+0.3**
	SNR=23							
UCH	**Uchtor**	**6.74**	**23**	P		**Pn**	15 09 39.4	**+0.3**
	SNR=11							
SDNR	**Sundarnagar**	**6.80**	**131**	*e*S		**Sn**	15 10 50.0	**-5.6**
KZA	**Kyzart**	**6.87**	**28**	P		**Pn**	15 09 41.5	**+0.6**
	SNR=6.1							
EKS2	**Erkin-Say**	**6.93**	**18**	P		**Pn**	15 09 41.9	**+0.4**
	SNR=12							
KK31	**Karatay Array**	**7.02**	**358**	⇓P		**Pn**	15 09 42.2	**-0.3**
	comp=E,7.6nm,0.3s,baz=189,slow=14,SNR=131							
KK31				⇑S		**Sn**	15 10 55.6	**-5.1**
	comp=E,6.1nm,0.4s,baz=184,slow=24,SNR=5.7							
AAK	**Ala-Archa**	**7.10**	**22**	P		**Pn**	15 09 44.3	**+0.6**
	SNR=11							
AAK	**Ala-Archa**	**7.10**	**22**	⇓P		**Pn**	15 09 44.4	**+0.6**
	comp=E,5.0nm,0.5s							
AAK				⇓S		**Sn**	15 10 59.5	**-3.5**
	comp=E,13nm,0.6s							
AAK	**Ala-Archa**	**7.10**	**22**	P		**Pn**	15 09 44.5	**+0.7**
	comp=E,2.2nm,0.3s,baz=196,slow=8.7,SNR=20							
AAK				S		**Sn**	15 10 59.8	**-3.2**
	comp=E,2.5nm,0.3s,baz=319,slow=24,SNR=15							
SMLA	**Simla**	**7.18**	**132**	*e*P		**Pn**	15 09 46.5	**+1.8**
SMLA				*e*S		**Sn**	15 11 04.2	**-0.6**
SMLA				AML	AML	15 11 15.1		
	comp=N,42nm,0.3s							
SMLA				AML	AML	15 11 15.6		
	comp=E,59nm,0.3s							
CHMS	**Chumysh**	**7.51**	**22**	P		**Pn**	15 09 49.4	**+0.1**
	SNR=7.9							
USP	**Ospenovka**	**7.69**	**20**	P		**Pn**	15 09 52.0	**+0.4**
	SNR=6.2							
TKM2	**Tokmak 2**	**7.72**	**26**	P		Pn	15 09 57.1	+4.9
	SNR=7.2							
TKM2	**Tokmak 2**	**7.72**	**26**	⇓P		**Pn**	15 09 52.7	**+0.4**
	comp=E,8.2nm,0.6s							
TKM2				⇓S		**Sn**	15 11 16.9	**-1.3**
	comp=E,12nm,0.7s							
KHET	**Khetri**	**9.00**	**151**	*e*P		**Pn**	15 10 11.5	**+2.0**
KHET				*e*S		**Sn**	15 11 46.0	**-3.1**
KHET				AML	AML	15 11 49.7		
	comp=N,119nm,0.2s							
KHET				AML	AML	15 11 50.4		
	comp=E,87nm,0.1s							
AYAN	**Aya Nagar**	**9.22**	**144**	*e*S		**Sn**	15 11 52.9	**-1.5**
GEYT	**Alibeck**	**10.40**	**284**	P		**Pn**	15 10 27.7	**-0.9**
	comp=E,0.8nm,0.3s,baz=83,slow=5.7,SNR=5.6							
GEYT				S		**Sn**	15 12 23.1	**-0.1**
	comp=E,1.1nm,0.3s,baz=138,slow=15,SNR=5.2							
KOLN	**Koldanda**	**13.58**	**124**	*e*P		**Pn**	15 11 09.4	**-1.6**
	comp=E,6.2nm,0.3s							
MKAR	**Makanchi Array**	**13.67**	**35**	P		**Pn**	15 11 13.6	**+1.8**
	comp=E,0.1nm,0.3s,baz=230,slow=13,SNR=2.7							
GKN	**Gorkha**	**14.14**	**121**	*e*P		**Pn**	15 11 17.4	**-0.8**
	comp=E,5.7nm,0.3s							
DMN	**Daman**	**14.71**	**121**	*e*P		**Pn**	15 11 23.5	**-2.1**
	comp=E,3.6nm,0.2s							
KKN	**Kakani**	**14.72**	**120**	*e*P		**Pn**	15 11 24.3	**-1.4**
	comp=E,6.4nm,0.4s							
PKIN	**Phulchoki**	**14.93**	**121**	*e*P		**Pn**	15 11 26.2	**-2.3**
	comp=E,3.5nm,0.2s							
PKI	**Pulchoki**	**14.95**	**121**	*e*P		**Pn**	15 11 27.1	**-1.6**
	comp=E,4.8nm,0.3s							
GUN	**Gumba**	**15.07**	**119**	*e*P		**Pn**	15 11 29.8	**-0.5**
	comp=E,5.4nm,0.3s							
AB31	**Akbulak array**	**15.42**	**332**	⇑P		**Pn**	15 11 33.3	**-0.8**
	comp=E,3.0nm,0.3s,baz=143,slow=9.2,SNR=145							
AB31				⇑S		Sn	15 14 13.1	-11
	comp=E,2.5nm,0.5s,baz=268,slow=55,SNR=5.6							
JIRN	**Jiri**	**15.44**	**119**	*e*P		**Pn**	15 11 34.1	**-0.9**
	comp=E,14nm,0.3s							
KURBB	**Kurchatov Arra**	**15.54**	**18**	P		**P**	15 11 38.0	**+0.2**
	comp=E,0.1nm,0.3s,baz=208,slow=10,SNR=12							
RAMN	**Ramite**	**16.16**	**120**	*e*P		**Pn**	15 11 41.1	**-2.7**
TAPN	**Taplejung**	**16.71**	**117**	*e*P		**Pn**	15 11 47.1	**-3.6**
	comp=E,3.8nm,0.3s							
ODAN	**Odare**	**16.77**	**119**	*e*P		**Pn**	15 11 48.2	**-3.2**
	comp=E,6.9nm,0.5s							
BVAR	**Borovoye Array**	**16.94**	**359**	P		**P**	15 11 55.2	**+1.9**
	comp=E,0.3nm,0.3s,baz=186,slow=13,SNR=7.9							
AKTO	**Aktyubinsk**	**17.11**	**331**	⇑P		**P**	15 11 56.6	**+1.4**
	comp=E,7.0nm,0.8s							
AKTO				⇑S		Sn	15 14 56.4	-8.7
	comp=E,1.5nm,0.6s							
AKTO	**Aktyubinsk**	**17.11**	**331**	P		**P**	15 11 57.2	**+2.1**
	comp=E,0.9nm,0.3s,baz=137,slow=13,SNR=17							
ZALV	**Zalesovo Beam**	**20.32**	**24**	P		**P**	15 12 30.6	**+0.5**
	comp=E,2.1nm,0.3s,baz=214,slow=9.8,SNR=12							
FINES	**FINESS Array B**	**37.79**	**326**	P		**P**	15 15 09.6	**+1.3**
	comp=E,2.0nm,0.9s,baz=145,slow=11,SNR=4.0							
ARCES	**ARCESS Array B**	**41.50**	**338**	P		**P**	15 15 41.0	**+1.9**
	comp=E,0.8nm,0.6s,baz=116,slow=8.2,SNR=7.6							
NB2	**NORSAR Subarra**	**44.67**	**323**	P		**P**	15 16 06.0	**+1.3**
	comp=Z,0.4nm,0.5s,baz=94,slow=7.9							
NOA	**NORSAR Array B**	**44.67**	**323**	P		**P**	15 16 05.7	**+0.9**
	comp=Z,0.7nm,0.7s,baz=97,slow=7.9,SNR=4.3							
SPITS	**Spitsbergen Ar**	**47.88**	**347**	P		P	15 16 33.0	+3.4
	comp=Z,1.9nm,0.8s,baz=119,slow=8.3,SNR=4.2							
TORD	**Torodi Ar. Bea**	**65.64**	**269**	P		**P**	15 18 36.5	**+0.5**
	comp=Z,1.3nm,0.6s,baz=49,slow=6.2,SNR=16							

YKA	**Yellowknife Ar**	**81.66**	**3**	P		**P**	15 20 09.3	**+0.4**
	comp=Z,0.2nm,0.3s,baz=353,slow=5.1,SNR=2.5							
WRA	**Warramunga Arr**	**81.83**	**122**	P		**P**	15 20 11.6	**+1.2**
	comp=Z,0.2nm,0.6s,baz=324,slow=4.8,SNR=4.9							
ASAR	**Alice Springs**	**84.07**	**125**	P		**P**	15 20 22.0	**+0.1**
	comp=Z,0.4nm,0.8s,baz=301,slow=4.6,SNR=5.2							

*IDC **13** 15:11:47.3±0.5,53.97N×163.44W,h0km, mb4.7/36, mb1 4.8/38,mb1mx4.7/46,mbtmp4.7/38,ML4.1/2,MS4.1/31, Ms1 4.1/31,ms1mx4.0/40,Error ellipse: s-maj=15.1km s-min=8.7km az=178.0*
*MOS **13** 15:11:48.3±0.8,54.06N×163.41W,h15km,mb5.3/109, MS4.2/12,Error ellipse: s-maj=7.4km s-min=4.1km az=93.0*
*BJI **13** 15:11:50.8,54.00N×163.40W,h54km,mb5.1/61, mB5.0/40,Ms4.7/45,Ms7 4.4/43*
*ISCJB **13** 15:11:52.5±0.3,53.98N±0.02×163.33W±0.02,h47km±2km, mb4.9/267,MS4.1/40,Error ellipse: s-maj=3.6km s-min=1.9km az=4.4*
*GCMT **13** 15:11:54.2±0.4,53.76N×163.12W,h31km±1km,MW4.9/64, Moment Tensor Solution. s29,c39; s64,c92; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.21±.16; Mθθ-1.43±.13; Mϕϕ-0.77±.11; Mrθ1.15±.15; Mϕθ-1.33±.06; Mϕr1.49±.13; Best double couple: M₀3.00800×10¹⁶ NP1:ϕs43.00000°,δ65.00000°,λ81.00000°. NP2: ϕs243.00000°,δ27.00000°,λ108.00000°. Principal axes: T 2.9090, Plg69.0000°, Azm295.0000°; N 0.2000, Plg8.0000°, Azm46.0000°; P -3.1070, Plg19.0000°, Azm139.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **13** 15:11:54.1±0.3,54.03N×163.39W,h47km±2km,mb4.9/120, ML4.7(AEIC) Error ellipse: s-maj=4.2km s-min=2.2km az=172.0*
NEIC Felt at Cold Bay.
*SZGRF **13** 15:12:14.5,55.63N×164.85W,h30km,mb5.1,MS4.0, Unimak Island, Alaska, United States, region*

ISC 13 15:11:54.2±0.4, 54.00N±0.06×163.42W±0.03, h50km±2km, h50km:pP-P,n981,σ1§12/997, mb5.0/267, MS4.2/46, 262C-142D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.83**	**305**	P		**Pn**	15 12 09.6	**-0.1**
FALS	**False Pass**	**0.85**	**0**	P		**Pn**	15 12 09.2	**-0.7**
FALS				S		**Sn**	15 12 23.4	**+1.9**
ISNN	**Isanotski Nort**	**0.86**	**346**	P		**Pn**	15 12 10.4	**+0.4**
SSLW	**Shishaldin Wes**	**0.87**	**332**	P		**Pn**	15 12 10.3	**+0.1**
SSLN	**Shishaldin Nor**	**0.88**	**338**	P		**Pn**	15 12 10.8	**+0.5**
WESP	**Westdahl Peak**	**0.91**	**303**	P		**Pn**	15 12 10.8	**+0.1**
WEBT	**Westdahl Beart**	**0.98**	**308**	P		**Pn**	15 12 12.2	**+0.6**
DT1	**Dutton Round H**	**1.29**	**31**	P		**Pn**	15 12 14.0	**-1.8**
DTNA	**Dutton South F**	**1.33**	**30**	P		**Pn**	15 12 14.8	**-1.5**
AKSA	**Akutan Strait**	**1.35**	**277**	P		**Pn**	15 12 16.3	**-0.2**
AKUT	**Akutan**	**1.39**	**276**	P		**Pn**	15 12 16.9	**-0.2**
AKUT				S		**Sn**	15 12 37.2	**+2.8**
ZRO	**Akutan Zero**	**1.51**	**274**	P		**Pn**	15 12 18.5	**-0.3**
AKGG	**Akutan Green G**	**1.53**	**278**	P		**Pn**	15 12 19.2	**+0.1**
AKRB	**Akutan Reef Bi**	**1.57**	**276**	P		**Pn**	15 12 19.5	**-0.1**
UNV	**Unalaska Valle**	**1.83**	**266**	P		**Pn**	15 12 22.1	**-1.0**
UNV				S		**Sn**	15 12 47.1	**+2.0**
MREP	**Makushin Rep't**	**1.98**	**266**	P		**Pn**	15 12 25.3	**0.0**
MSW	**Makushin Switc**	**1.99**	**269**	P		**Pn**	15 12 24.9	**-0.5**
MCIR	**Makushin Cirqu**	**2.05**	**270**	P		**Pn**	15 12 26.4	**+0.2**
MSOM	**Makushin Julie**	**2.10**	**266**	P		**Pn**	15 12 26.8	**0.0**
MSOM	**Makushin Julie**	**2.10**	**266**	P		**Pn**	15 12 26.8	**0.0**
SDPT	**Sand Point**	**2.18**	**51**	P		**Pn**	15 12 26.4	**-1.4**
SDPT				S		**Sn**	15 12 54.1	**+0.5**
OKFG	**Magazine Ridge**	**2.73**	**259**	P		**Pn**	15 12 35.4	**-0.1**
OKFG				S		**Sn**	15 13 10.4	**+3.1**
NIKH	**Nikolski High**	**3.41**	**255**	P		**Pn**	15 12 44.0	**-0.7**
CHGN	**Chignik**	**3.68**	**49**	P		**Pn**	15 12 47.4	**-1.0**
SPIA	**Saint Paul Isl**	**5.01**	**312**	P		**Pn**	15 13 08.4	**+1.8**
PLK4	**Peulik 4**	**5.39**	**45**	P		**Pn**	15 13 11.5	**-0.5**
PLK3	**Peulik 3**	**5.46**	**45**	P		**Pn**	15 13 12.4	**-0.5**
KCE	**Katmai Mt Cerb**	**6.26**	**44**	P		**Pn**	15 13 23.6	**-0.4**
KABR	**Katmai Barrier**	**6.28**	**45**	P		**Pn**	15 13 22.8	**-1.4**
KVTA	**Katmai Vly 10**	**6.31**	**43**	P		**Pn**	15 13 23.8	**-0.7**
OHAK	**Old Harbor**	**6.58**	**57**	P		**Pn**	15 13 25.0	**-3.2**
KOFP	**Korovin Flat P**	**6.65**	**259**	P		**Pn**	15 13 31.5	**+2.2**
ATKA	**Atka Island**	**6.74**	**259**	P		**Pn**	15 13 30.4	**0.0**
KDAK	**Kodiak Island**	**7.17**	**54**	P		**Pn**	15 13 34.1	**-2.2**
KDAK	**Kodiak Island**	**7.17**	**54**	P		**Pn**	15 13 34.1	**-2.2**
MCNL	**McNeil River**	**7.21**	**40**	P		**Pn**	15 13 38.1	**+1.2**
GSTR	**Great Sitkin T**	**7.86**	**261**	P		**Pn**	15 13 46.7	**+1.0**
GSMY	**Great Sitkin M**	**7.87**	**261**	P		**Pn**	15 13 47.5	**+1.6**
GSCK	**Great Sitkin C**	**7.94**	**261**	P		**Pn**	15 13 47.8	**+0.9**
ETKA	**Kagalaska Isla**	**8.13**	**260**	P		**Pn**	15 13 51.5	**+2.0**
SVW2	**Sparrevohn**	**8.26**	**27**	P		**Pn**	15 13 52.9	**+1.7**
KIKV	**Kanaga Island**	**8.57**	**261**	P		**Pn**	15 13 58.0	**+2.5**
RSO	**Redoubt South**	**8.67**	**37**	*e*Pn		**Pn**	15 13 58.5	**+1.4**
NCT	**North Crescent**	**8.68**	**37**	P		**Pn**	15 13 58.9	**+1.8**
BRLK	**Bradley Lake**	**8.96**	**45**	*e*Pn		**Pn**	15 14 02.8	**+2.0**
CKL	**Chakachamna La**	**9.34**	**35**	P		**Pn**	15 14 06.8	**+0.8**
SPBG	**Spurr Blockage**	**9.37**	**35**	P		**Pn**	15 14 07.8	**+1.4**
CKN	**Chakachatna No**	**9.41**	**35**	P		**Pn**	15 14 08.4	**+1.5**
SPU	**Mount Spurr**	**9.42**	**36**	*e*Pn		**Pn**	15 14 07.7	**+0.6**
STLK	**Strandline Lak**	**9.72**	**35**	P		**Pn**	15 14 12.1	**+0.8**
TT01	**Tatalina**	**9.72**	**20**	P		**Pn**	15 14 11.1	**-0.1**
SEW	**Seward**	**9.75**	**46**	P		**Pn**	15 14 09.4	**-2.1**
RC01	**Rabbit Creek A**	**10.21**	**40**	*e*Pn		**Pn**	15 14 15.1	**-2.7**
PPLA	**Purkeypile**	**10.66**	**29**	*e*Pn		**Pn**	15 14 26.1	**+1.9**
CAST	**Castle Rocks**	**11.11**	**27**	*e*Pn		**Pn**	15 14 30.3	**+0.2**
KTH	**Kantishna Hill**	**11.54**	**29**	*e*Pn		**Pn**	15 14 37.8	**+1.8**
SCM	**Sheep Creek Mo**	**11.58**	**41**	*e*P		**Pn**	15 14 34.5	**-2.1**
SCM	**Sheep Creek Mo**	**11.58**	**41**	*e*Pn		**Pn**	15 14 34.5	**-2.1**
TRF	**Thorofare Moun**	**11.64**	**30**	*e*Pn		**Pn**	15 14 40.3	**+2.8**
TNA	**Tin City**	**11.81**	**351**	*e*Pn		**Pn**	15 14 42.6	**+3.0**
DIV	**Divide**	**11.83**	**46**	*e*Pn		**Pn**	15 14 37.6	**-2.5**
KLU	**Klutina**	**11.95**	**44**	*e*Pn		**Pn**	15 14 38.6	**-3.1**
RAGM	**Ragged Mountai**	**11.98**	**50**	*e*Pn		**Pn**	15 14 39.2	**-2.8**
RND	**Reindeer**	**12.06**	**33**	*e*P		**Pn**	15 14 43.0	**-0.1**
RND	**Reindeer**	**12.06**	**33**	*e*Pn		**Pn**	15 14 43.0	**-0.1**
BMRM	**Bremner River**	**12.26**	**48**	*e*Pn		**Pn**	15 14 43.8	**-2.1**
BMRM				*e*Sn		**Sn**	15 17 01.1	**+0.2**
MCK	**McKinley**	**12.26**	**32**	*e*P		**Pn**	15 14 47.8	**+1.9**
MCK	**McKinley**	**12.26**	**32**	*e*Pn		**Pn**	15 14 47.8	**+1.9**
MLY	**Manley**	**12.76**	**25**	*e*Pn		**Pn**	15 14 53.2	**+0.5**
IM04	**Indian Mountai**	**12.92**	**18**	*e*Pn		**Pn**	15 14 56.8	**+2.1**
PAX	**Paxson**	**12.95**	**39**	*e*P		**Pn**	15 14 55.3	**0.0**
PAX	**Paxson**	**12.95**	**39**	*e*Pn		**Pn**	15 14 55.2	**0.0**
WRH	**Wood River Hil**	**13.05**	**30**	*e*Pn		**Pn**	15 14 55.0	**-1.6**
CCB	**Clear Creek Bu**	**13.27**	**30**	*e*Pn		**Pn**	15 14 56.8	**-2.7**
DDM	**Donnelly Dome**	**13.31**	**36**	*e*Pn		**Pn**	15 14 59.6	**-0.5**
MDM	**Murphy Dome**	**13.37**	**29**	*e*Pn		**Pn**	15 15 00.2	**-0.8**
COLA	**College**	**13.42**	**30**	*e*P		**Pn**	15 14 59.2	**-2.4**
COLA	**College**	**13.42**	**30**	*e*Pn		**Pn**	15 15 00.2	**-1.4**
IL1	**Eielson Array**	**13.63**	**31**	*e*Pn		**Pn**	15 15 02.0	**-2.5**
ILAR	**Eielson Array**	**13.63**	**31**	Pn		Pn	15 15 00.8	-3.8
	0.5nm,0.3s,baz=221,slow=13,SNR=22							
ILAR				LR		LR	15 20 41.2	
	comp=Z,1μm,19.9s,baz=235,slow=39							
DOT	**Dot Lake**	**13.86**	**38**	*e*Pn		**Pn**	15 15 07.8	**+0.2**
SCRK	**Sand Creek**	**14.08**	**37**	*e*Pn		Pn	15 15 07.4	-3.3
COLD	**Coldfoot**	**14.71**	**21**	*e*Pn		**Pn**	15 15 19.1	**+0.2**
HYT	**Haines Junctio**	**15.46**	**53**	*e*Pn		**P**	15 15 30.9	**-1.5**
EGAK	**Eagle**	**15.55**	**37**	*e*Pn		**Pn**	15 15 27.0	**-2.8**
	29nm,0.8s							
DAWY	**Dawson**	**15.84**	**41**	*e*Pn		**Pn**	15 15 30.9	**-2.7**
BESE	**Bessie Mountai**	**16.43**	**62**	*e*Pn		**P**	15 15 47.2	**+4.1**
	16nm,0.9s							
WRAK	**Wrangell Islan**	**17.82**	**70**	*e*Pn		**P**	15 16 02.9	**+4.6**
	257nm,2.5s							
DLBC	**Dease Lake**	**18.96**	**63**	P		**P**	15 16 10.7	**-0.3**
	0.2nm,0.3s,baz=238,slow=11,SNR=14							
DLBC	**Dease Lake**	**18.96**	**63**	*e*P		**Pn**	15 16 12.8	**+0.7**
BILL	**Bilibino**	**20.02**	**326**	*e*/*i* P		**P**	15 16 21.6	**-0.7**
BILL				pmax		pmax		
	comp=Z,25nm,1.2s							
BILL				MLR		MLR		
	comp=Z,1μm,17.0s							
BILL	**Bilibino**	**20.02**	**326**	*e*P		**P**	15 16 23.5	**+1.2**
	comp=Z,211nm,2.0s							
INK	**Inuvik**	**20.02**	**33**	P		**P**	15 16 19.4	**-2.9**
	comp=Z,8.1nm,0.6s,baz=230,slow=12,SNR=19							
INK				LR		LR	15 24 51.6	
	comp=Z,1μm,20.0s,baz=232,slow=39							
BBB	**Bella Bella**	**21.15**	**80**	P		**P**	15 16 34.5	**-0.1**
	comp=Z,3.5nm,0.7s,baz=326,slow=23,SNR=5.1							
BBB				LR		LR	15 23 32.5	
	comp=Z,482nm,18.1s,baz=276,slow=33							
PET	**Petropavlovsk**	**22.40**	**283**	*e*P		**P**	15 16 46.1	**-2.0**
PET				*e*S		**S**	15 20 45.1	**-5.5**
PET				pmax		pmax		
	comp=E,26nm,1.1s							
PET				pmax		pmax		
	comp=Z,200nm,20.4s							
PET				MLR		MLR		
	comp=Z,600nm,20.0s							
PET				MLR		MLR		
	comp=Z,700nm,21.0s							
PET	**Petropavlovsk**	**22.40**	**283**	*e*P		**P**	15 16 46.0	**-2.0**
	comp=Z,20nm,0.9s							
PEA0	**Petropavlovsk-**	**22.92**	**284**	*e*P		**P**	15 16 53.8	**+0.2**
PEA0B	**Petropavlovsk-**	**22.92**	**284**	*e*P		**P**	15 16 53.5	**-0.1**
PETK	**Petropavlovsk-**	**22.92**	**284**	P		**P**	15 16 53.5	**-0.1**
	comp=Z,20nm,0.8s,baz=87,slow=14,SNR=82							
PETK				LR		LR	15 26 09.6	
	comp=Z,482nm,20.0s,baz=84,slow=38							
SEY	**Seymchan**	**24.30**	**309**	P		**P**	15 17 06.0	**-0.5**
	comp=Z,8.0nm,0.9s,baz=101,slow=8.6,SNR=24							
SEY				LR		LR	15 27 18.8	
	comp=Z,439nm,21.9s,baz=78,slow=38							
SEY	**Seymchan**	**24.30**	**309**	*i* P		**P**	15 17 05.7	**-0.8**
NLWA	**Neilton Lookou**	**25.64**	**89**	*e*P		**P**	15 17 19.5	**+0.6**
	comp=Z,17nm,1.0s							
A05A	**Maple Falls**	**25.93**	**84**	*e*P		**P**	15 17 21.3	**-0.1**
E03A	**Lebam**	**26.25**	**90**	*e*P		**P**	15 17 24.9	**+0.6**
	comp=Z,22nm,0.8s							
YKA	**Yellowknife Ar**	**26.44**	**52**	P		**P**	15 17 25.4	**-0.4**
	comp=Z,6.1nm,0.7s,baz=272,slow=9.2,SNR=60							
YKB5	**Yellowknife Ar**	**26.44**	**52**	*e*P		**P**	15 17 25.4	**-0.5**
D05A	**Enumclaw**	**26.85**	**88**	*e*P		**P**	15 17 29.1	**-0.6**
	comp=Z,48nm,1.3s							
G03D	**McMinnville, O**	**27.14**	**92**	⇓P		**P**	15 17 33.8	**+1.4**
	baz=27							
LON	**Longmire**	**27.18**	**88**	*e*P		**P**	15 17 32.5	**-0.3**
LON				pmax		pmax		
	comp=Z,6.0nm,0.9s							
LON	**Longmire**	**27.18**	**88**	*e*P		**P**	15 17 32.5	**-0.3**
	comp=Z,6.3nm,0.9s							
LTY	**Liberty**	**27.60**	**86**	*e*P		**P**	15 17 36.3	**-0.1**
	comp=Z,17nm,1.4s							
B08A	**Colville Reser**	**27.84**	**83**	*e*P		**P**	15 17 37.4	**-1.3**
	comp=Z,65nm,2.5s							
I03D	**Drain, OR**	**27.95**	**95**	⇑P		**P**	15 17 40.5	**+0.9**
	baz=28							
H04A	**Detroit Lake**	**28.07**	**92**	*e*P		**P**	15 17 41.1	**+0.4**
	comp=Z,19nm,1.0s							
G05D	**Wamic, OR**	**28.28**	**91**	⇑P		**P**	15 17 43.5	**+1.0**
	baz=28							
I04A	**Tendick Farm,**	**28.45**	**94**	⇑P		**P**	15 17 44.8	**+0.7**
	baz=28							
HAWA	**Hanford**	**28.71**	**87**	*e*P		**P**	15 17 47.4	**+1.0**
	comp=Z,11nm,0.8s							
L02D	**Cave Junction,**	**28.73**	**98**	⇓P		**P**	15 17 47.4	**+0.8**
	baz=29							
**I05D

YAK				*e*S	**S**	15 24 04.8	-1.5		
YAK				*e*SS	**SnSn**	15 26 16.4	-7.1		
YAK				*e*		15 28 55.6			
YAK				pmax	pmax				
	comp=Z,16nm,0.8s								
YAK				pmax	pmax				
	comp=E,6.0nm,1.1s								
YAK				pmax	pmax				
	comp=Z,46nm,3.5s								
YAK				pmax	pmax				
	comp=N,45nm,3.8s								
YAK				pmax	pmax				
	comp=E,36nm,4.3s								
YAK				smax	smax				
	comp=E,52nm,3.3s								
YAK				smax	smax				
	comp=N,40nm,3.7s								
YAK				MLR	MLR				
	comp=Z,437nm,17.0s								
YAK				MLR	MLR				
	comp=N,181nm,18.0s								
YAK				MLR	MLR				
	comp=E,288nm,15.0s								
YAK	**Yakutsk**	34.81	311	*e*P	**P**	15 18 38.3	-1.3		
	comp=E,21nm,0.7s								
YNR	**Norris Junctio**	34.84	83	*e*P	**P**	15 18 40.9	+0.6		
	comp=E,7.5nm,0.9s								
B21A	**Ellsworth Farm**	34.95	76	⇓P	**P**	15 18 41.1	0.0		
	baz=35								
E19A	**Rath Farm, Rou**	34.97	80	⇑P	**P**	15 18 42.0	+0.7		
	baz=35								
H17A	**Grant Village**	35.08	84	*e*P	**P**	15 18 43.6	+1.2		
	comp=E,4.0nm,0.8s								
H17A	**Grant Village**	35.08	84	⇓P	**P**	15 18 43.0	+0.5		
	baz=35								
TPH	**Tonopah**	35.10	98	*e*P	**P**	15 18 42.7	+0.1		
TPH				pmax	pmax				
	comp=Z,18nm,1.1s								
TPH	**Tonopah**	35.10	98	*e*P	**P**	15 18 42.7	+0.1		
	comp=Z,18nm,1.1s								
RCTC	**Rector, Farmer**	35.13	102	⇑P	**P**	15 18 43.0	+0.3		
	baz=35								
IMW	**Indian Meadow**	35.15	85	*e*P	**P**	15 18 43.9	+0.8		
	comp=Z,47nm,2.5s								
FLWY	**Flagg Ranch**	35.19	84	*e*P	**P**	15 18 44.1	+0.8		
	comp=Z,13nm,1.3s								
F19A	**Roth Farm, Mol**	35.21	81	⇑P	**P**	15 18 44.2	+0.8		
	baz=35								
A22A	**Carney Farms,**	35.29	74	⇑P	**P**	15 18 44.7	+0.7		
	baz=35								
E20A	**Meyer Farm, Mu**	35.33	79	⇑P	**P**	15 18 45.2	+0.9		
	baz=35								
HVU	**Hansel Valley**	35.34	89	*e*P	**P**	15 18 45.5	+0.9		
HVU				pmax	pmax				
	comp=Z,5.0nm,0.9s								
HVU	**Hansel Valley**	35.34	89	*e*P	**P**	15 18 45.5	+0.9		
	comp=Z,5.0nm,0.9s								
RLMT	**Red Lodge**	35.43	82	*e*P	**P**	15 18 45.9	+0.5		
	comp=Z,14nm,1.3s								
H18A	**Shoshone NF, C**	35.45	83	⇑P	**P**	15 18 46.5	+0.9		
	baz=35								
VES	**Vestal, Richgr**	35.55	102	⇓P	**P**	15 18 46.4	+0.2		
	baz=36								
B22A	**Reddig Ranch S**	35.60	75	⇑P	**P**	15 18 47.6	+0.9		
	baz=35								
D21A	**La Casta Ranch**	35.68	78	⇓P	**P**	15 18 48.2	+0.8		
	baz=36								
CWC	**Cottonwood Cre**	35.71	101	⇑P	**P**	15 18 48.0	+0.1		
	baz=36								
BGU	**Big Grassy Mou**	35.72	90	*e*P	**P**	15 18 49.6	+1.8		
	comp=Z,14nm,0.9s								
H19A	**Powell**	35.85	82	⇓P	**P**	15 18 49.8	+0.9		
	baz=36								
R11A	**Troy Canyon, C**	35.87	96	*e*P	**P**	15 18 49.1	-0.1		
	comp=Z,15nm,0.9s								
R11A	**Troy Canyon, C**	35.87	96	⇑P	**P**	15 18 49.3	0.0		
	baz=36,SNR=24								
ASAJ	**Asahikawa**	35.91	277	P	**P**	15 18 49.5	+0.3		
	comp=Z,17nm,0.9s,baz=52,slow=12,SNR=7.3								
ASAJ	**Asahikawa**	35.91	277	P	**P**	15 18 49.5	+0.3		
ASAJ				pmax	pmax				
	comp=Z,17nm,0.9s								
ASAJ	**Asahikawa**	35.91	277	*e*P	**P**	15 18 48.5	-0.7		
	comp=Z,73nm,1.4s								
E21A	**Keefer Ranch,**	35.92	78	⇑P	**P**	15 18 50.6	+1.2		
	baz=36								
G20A	**Bridger**	35.99	81	⇓P	**P**	15 18 50.2	+0.1		
	baz=36								
ISA	**Isabella, Lake**	36.03	102	*e*P	**P**	15 18 50.7	+0.3		
ISA				pmax	pmax				
	comp=Z,27nm,1.7s								
ISA	**Isabella, Lake**	36.03	102	*e*P	**P**	15 18 50.7	+0.3		
	comp=Z,27nm,1.7s								
ISA	**Isabella, Lake**	36.03	102	⇑P	**P**	15 18 50.3	-0.1		
	baz=36								
B23A	**Brockton**	36.09	74	⇓P	**P**	15 18 50.8	0.0		
	baz=36								
D22A	**Cohagen**	36.10	77	⇑P	**P**	15 18 51.1	+0.2		
	baz=36,SNR=8.0								
DAC	**Darwin (Calif)**	36.11	100	*e*P	**P**	15 18 51.5	+0.2		
DAC				pmax	pmax				
	comp=Z,17nm,0.9s								
DAC	**Darwin (Calif)**	36.11	100	*e*P	**P**	15 18 51.5	+0.2		
	comp=Z,17nm,0.9s								
I19A	**Meeteetse**	36.22	83	⇑P	**P**	15 18 52.1	0.0		
	baz=36								
DUG	**Dugway, Tooele**	36.31	91	*e*P	**P**	15 18 52.9	+0.1		
DUG				pmax	pmax				
	comp=Z,26nm,1.4s								
DUG	**Dugway, Tooele**	36.31	91	*e*P	**P**	15 18 52.9	+0.1		
	comp=Z,26nm,1.4s								
DUG	**Dugway, Tooele**	36.31	91	⇓P	**P**	15 18 52.6	-0.3		
	baz=36,SNR=7.2								
MPMC	**Manual Prospec**	36.32	101	⇑P	**P**	15 18 52.8	-0.3		
	baz=36								
C23A	**Lambert**	36.33	75	⇓P	**P**	15 18 53.1	+0.3		
	baz=36,SNR=6.6								
LAO	**LASA Array**	36.33	78	*e*P	**P**	15 18 53.2	+0.3		
	comp=Z,133nm,2.5s								
FURC	**Furnace Creek,**	36.40	100	⇑P	**P**	15 18 53.7	+0.3		
	baz=36								
TPNV	**Topopah Spring**	36.43	98	*e*P	**P**	15 18 54.2	+0.2		
TPNV				pmax	pmax				
	comp=Z,29nm,1.0s								
TPNV	**Topopah Spring**	36.43	98	*e*P	**P**	15 18 54.2	+0.2		
	comp=Z,29nm,1.0s								
TPNV	**Topopah Spring**	36.43	98	⇑P	**P**	15 18 54.1	+0.2		
	baz=36,SNR=13								
BSC	**Santa Cruz Isl**	36.56	105	⇓P	**P**	15 18 54.5	-0.4		
	baz=36								
G21A	**Lodge Grass**	36.58	80	⇓P	**P**	15 18 54.9	-0.2		
	baz=36								
LRMC	**Laurel Mtn Rad**	36.61	101	⇓P	**P**	15 18 55.6	+0.1		
	baz=36								
J19A	**Crowheart**	36.63	84	⇓P	**P**	15 18 56.1	+0.5		
	baz=36								
BW06	**Boulder Array**	36.63	85	*e*P	**P**	15 18 55.2	-0.6		
PDAR	**Pinedale Array**	36.63	85	P	**P**	15 18 55.9	+0.2		
	comp=Z,1.2nm,0.7s,baz=327,slow=5.0,SNR=9.0								
PDAR				LR	LR	15 33 24.0			
	comp=Z,180nm,18.1s,baz=324,slow=35								
D23A	**Lindsay**	36.65	76	⇑P	**P**	15 18 54.9	-0.7		
	baz=36								
I20A	**Worland**	36.77	83	⇑P	**P**	15 18 57.6	+0.8		
	baz=37								
F22A	**Rosebud**	36.81	79	⇓P	**P**	15 18 57.5	+0.5		
	baz=37								
NLU	**North Lily Min**	36.90	91	*e*P	**P**	15 18 58.0	0.0		
	comp=Z,4.7nm,0.8s								
C24A	**Savage**	36.91	75	⇓P	**P**	15 18 58.3	+0.6		
	baz=37								
E23A	**Ismay**	36.96	77	⇑P	**P**	15 18 59.1	+0.9		
	baz=37								
H21A	**Big Horn, Sher**	37.01	81	⇓P	**P**	15 18 59.2	+0.4		
	baz=37								
FCC	**Fort Churchill**	37.11	54	*e*P	**P**	15 18 58.4	-0.8		
FCC				pmax	pmax				
	comp=Z,966nm,0.9s								
FCC	**Fort Churchill**	37.11	54	*e*P	**P**	15 18 58.4	-0.8		
	comp=Z,966nm,0.9s								
G22A	**Birney**	37.11	80	⇓P	**P**	15 19 00.3	+0.7		
	baz=37								
SHOC	**Shoshone, Teco**	37.13	100	⇓P	**P**	15 19 00.2	+0.4		
	baz=37								
J20A	**Shoshoni**	37.15	83	⇑P	**P**	15 19 00.7	+0.7		
	baz=37								
D24A	**Glendive**	37.19	76	⇑P	**P**	15 19 00.4	+0.2		
	baz=37,SNR=8.8								
B25A	**Knox Farm, Ray**	37.23	74	⇓P	**P**	15 19 01.1	+0.7		
	baz=37								
GSC	**Goldstone, Bar**	37.25	101	*e*P	**P**	15 19 01.1	+0.3		
GSC				pmax	pmax				
	comp=Z,19nm,0.9s								
GSC	**Goldstone, Bar**	37.25	101	*e*P	**P**	15 19 01.1	+0.3		
	comp=Z,19nm,0.9s								
GSC	**Goldstone, Bar**	37.25	101	⇓P	**P**	15 19 00.8	0.0		
	baz=37								
F23A	**Volborg**	37.34	78	⇓P	**P**	15 19 01.8	+0.3		
	baz=37								
I21A	**Big Trails, Te**	37.34	82	⇑P	**P**	15 19 01.7	+0.1		
	baz=37								
SHPR	**Sheep Range**	37.37	98	*e*P	**P**	15 19 01.5	-0.5		
H22A	**Clearmont**	37.43	81	⇓P	**P**	15 19 02.9	+0.5		
	baz=37								
C25A	**Freed Ranch, W**	37.47	74	⇓P	**P**	15 19 02.9	+0.3		
	baz=37								
E24A	**Baker**	37.50	77	⇑P	**P**	15 19 03.5	+0.7		
	baz=37								
BFSC	**Mount Baldy Ra**	37.51	103	⇑P	**P**	15 19 02.8	-0.4		
	baz=37								
J21A	**Lysite**	37.53	83	⇑P	**P**	15 19 03.4	+0.2		
	baz=37								
G23A	**Biddle**	37.64	79	⇓P	**P**	15 19 04.4	+0.3		
	baz=38								
TUQ	**Turquoise Moun**	37.66	100	⇓P	**P**	15 19 04.5	+0.1		
	baz=38								
MVU	**Marysvale**	37.76	93	*e*P	**P**	15 19 05.9	+0.6		
	comp=Z,10nm,1.3s								
I22A	**9 Mile Ranch,**	37.77	82	⇓P	**P**	15 19 05.8	+0.6		
	baz=38								
MSU	**Marysvale**	37.77	93	*e*P	**P**	15 19 05.9	+0.5		
MSU	**Marysvale**	37.77	93	*e*P	**P**	15 19 05.9	+0.5		
F24A	**Ekalaka**	37.82	78	⇓P	**P**	15 19 06.2	+0.6		
	baz=38								
TMUT	**Trail Mountain**	37.83	91	*e*P	**P**	15 19 06.4	+0.4		
	comp=Z,15nm,0.9s								
HABR	**Khabarovsk**	37.84	288	*de*P	**P**	15 19 04.5	-1.0		
HABR				*e**PP	**pP**	15 19 14.1	-4.6		
HABR				*e*		15 20 31.2			
HABR				*e*		15 21 20.1			
HABR				*e*S	**S**	15 24 54.2	+1.4		
HABR				*e*		15 25 05.1			
HABR				*e*SS	**SnSn**	15 27 37.8	+0.9		
HABR				*e*		15 29 14.2			
HABR				pmax	pmax				
	comp=Z,54nm,1.0s								
HABR				pmax	pmax				
	comp=N,19nm,1.5s								
HABR				pmax	pmax				
	comp=E,36nm,1.0s								
HABR				MLR	MLR				
	comp=Z,445nm,18.0s								
HEC	**Hector,Ludlow**	37.86	101	⇑P	**P**	15 19 05.9	0.0		
	baz=38								
J22A	**Midwest**	38.05	82	⇓P	**P**	15 19 07.7	0.0		
	baz=38,SNR=5.4								
C26A	**Wahner Farm, P**	38.07	73	⇑P	**P**	15 19 07.1	-0.5		
	baz=38								
K21A	**Alcova**	38.07	84	⇑P	**P**	15 19 07.2	-0.6		
	baz=38,SNR=5.3								
G24A	**Alzada**	38.13	78	⇑P	**P**	15 19 08.3	+0.1		
	baz=38								
GMRC	**Granite Mounta**	38.28	100	⇓P	**P**	15 19 09.2	-0.4		
	baz=38								
D26A	**Manning**	38.31	75	⇑P	**P**	15 19 09.5	-0.1		
	baz=38								
F25A	**Bowman**	38.35	77	⇑P	**P**	15 19 09.0	-1.0		
	baz=38								
SRU	**San Rafael Swe**	38.35	91	*e*P	**P**	15 19 10.2	-0.1		
SRU				pmax	pmax				
	comp=Z,11nm,0.7s								
SRU	**San Rafael Swe**	38.35	91	*e*P	**P**	15 19 10.2	-0.1		
	comp=Z,11nm,0.7s								
H24A	**Dirks Ranch, A**	38.39	79	⇓P	**P**	15 19 10.0	-0.4		
	baz=38								
KNB	**Kanab**	38.39	95	*e*P	**P**	15 19 11.1	+0.5		
KNB				pmax	pmax				
	comp=Z,24nm,1.4s								
KNB	**Kanab**	38.39	95	*e*P	**P**	15 19 11.1	+0.5		
	comp=Z,24nm,1.4s								
K22A	**Casper**	38.49	83	⇑P	**P**	15 19 10.5	-0.8		
	baz=38								
A28A	**Rude Farm, Bot**	38.51	71	⇓P	**P**	15 19 11.4	+0.1		
	baz=38								
N20A	**Spence Gulch,**	38.59	87	⇑P	**P**	15 19 12.4	+0.1		
	baz=38								
PLM	**Palomar**	38.61	103	*e*P	**P**	15 19 13.1	+0.7		
PLM	**Palomar**	38.61	103	*e*P	**P**	15 19 13.1	+0.7		
E26A	**Carlson Angus**	38.61	76	⇑P	**P**	15 19 12.6	+0.5		
	baz=38								
BELC	**Belle Mtn. Jos**	38.64	102	⇓P	**P**	15 19 12.6	0.0		
	baz=38								
PFO	**Pinyon Flats O**	38.66	102	P	**P**	15 19 11.0	-1.7		
	comp=Z,2.1nm,0.6s,baz=307,slow=10,SNR=2.8								
PFO				LR	LR	15 32 43.1			
	comp=Z,618nm,19.5s,baz=5.5,slow=32								
PFO	**Pinyon Flats O**	38.66	102	*e*P	**P**	15 19 12.3	-0.5		
PFO				pmax	pmax				
	comp=Z,7.0nm,0.8s								
PFO	**Pinyon Flats O**	38.66	102	*e*P	**P**	15 19 12.3	-0.5		
	comp=Z,7.3nm,0.8s								
PFO	**Pinyon Flats O**	38.66	102	⇓P	**P**	15 19 12.7	-0.1		
	baz=39								
B28A	**Dugan Ranch, T**	38.71	72	⇑P	**P**	15 19 13.3	+0.4		
	baz=38								
L22A	**Ellis Ranch, M**	38.92	84	⇓P	**P**	15 19 15.3	+0.3		
	baz=39								
H25A	**Fruitdale**	39.02	79	⇑P	**P**	15 19 15.7	+0.1		
	baz=39								
O20A	**White River Ci**	39.04	88	*e*P	**P**	15 19 14.8	-1.2		
	comp=Z,17nm,0.8s								
O20A	**White River Ci**	39.04	88	⇓P	**P**	15 19 15.7	-0.4		
	baz=39								
RSSD	**Black Hills**	39.06	80	*e*P	**P**	15 19 15.7	-0.5		
RSSD				pmax	pmax				
	comp=Z,6.0nm,0.8s								
RSSD	**Black Hills**	39.06	80	*e*P	**P**	15 19 15.7	-0.5		
	comp=Z,6.3nm,0.8s								
A29A	**Manning Farm,**	39.08	70	⇓P	**P**	15 19 15.5	-0.5		
	baz=39,SNR=5.4								
W13A	**Hualapai Mount**	39.09	98	⇑P	**P**	15 19 16.9	+0.5		
	baz=39,SNR=12								
U15A	**North Rim**	39.10	95	⇑P	**P**	15 19 17.0	+0.4		
	baz=39,SNR=11								
E27A	**Carson**	39.15	75	⇓P	**P**	15 19 16.7	0.0		
	baz=39								
MONP	**Monument Peak,**	39.20	103	⇓P	**P**	15 19 17.2	-0.2		
	baz=39								
BC3	**Big Chuckawall**	39.20	101	⇑P	**P**	15 19 16.8	-0.5		
	baz=39								
F27A	**Lemmon**	39.20	76	⇑P	**P**	15 19 16.8	-0.3		
	baz=39,SNR=7.8								
G26A	**Maurine**	39.20	77	⇓P	**P**	15 19 16.9	-0.2		
	baz=39								
BAR	**Barrett**	39.21	104	*e*P	**P**	15 19 18.6	+1.3		
	comp=Z,2.3nm,0.8s								
M22A	**Cedar Creek Ra**	39.21	85	⇓P	**P**	15 19 17.6	+0.1		
	baz=39								
B29A	**Wagenman Farm,**	39.26	71	⇓P	**P**	15 19 17.4	-0.1		
	baz=39								
KLR	**Kul'dur**	39.27	290	*e*P	P	15 19 12.8	-4.8		
KLR				pmax	pmax				
	comp=Z,34nm,1.2s								
D28A	**Regan**	39.28	73	⇓P	**P**	15 19 17.8	0.0		
	baz=39								
I25A	**Rochford**	39.30	80	⇓P	**P**	15 19 17.0	-1.1		
	baz=39								
L23A	**Garrett**	39.30	83	⇑P	**P**	15 19 18.0	-0.1		
	baz=39								
MDND	**Maddock**	39.46	72	*e*P	**P**	15 19 19.1	-0.1		
	comp=Z,219nm,0.8s								
MDND	**Maddock**	39.46	72	⇑P	**P**	15 19 19.3	+0.1		
	baz=39								
PDMCI	**Parker Dam,Lak**	39.50	99	⇑P	**P**	15 19 19.9	+0.2		
	baz=39								
G27A	**Dupree**	39.54	77	⇓P	**P**	15 19 20.1	+0.2		
	baz=39								
E28A	**Huff**	39.56	74	⇓P	**P**	15 19 20.6	+0.5		
	baz=39								
A30A	**Hoffart Farm,**	39.59	70	⇑P	**P**	15 19 19.5	-0.8		
	baz=39								
J25A	**Sunshine Ranch**	39.63	80	⇑P	**P**	15 19 20.5	-0.3		
	baz=40								
YUH	**Yuha Desert**	39.66	103	*e*P	P	15 19 24.2	+3.2		
N22A	**Wattenberg Ran**	39.67	85	⇓P	**P**	15 19 21.1	-0.2		
	baz=40								
Y12C	**Blythe**	39.67	100	⇑P	**P**	15 19 20.6	-0.5		
	baz=40								
PV10	**Paradox Valley**	39.71	90	*e*P	**P**	15 19 24.2	+2.5		
B30A	**Myrvik Farm, E**	39.84	70	⇓P	**P**	15 19 22.5	+0.2		
	baz=40								
PV05	**Paradox Valley**	39.88	91	*e*P	**P**	15 19 24.4	+1.4		
F28A	**McLaughlin**	39.91	75	⇓P	**P**	15 19 23.1	+0.1		
	baz=40								
N23A	**Red Feather La**	39.91	85	*e*P	**P**	15 19 25.7	+2.4		
	comp=Z,12nm,1.3s								
N23A	**Red Feather La**	39.91	85	⇓P	**P**	15 19 23.6	+0.3		
	baz=40								
O22A	**Kremmling**	40.02	86	⇓P	**P**	15 19 24.4	+0.1		
	baz=40								
J26A	**Sides Ranch, S**	40.10	80	⇓P	**P**	15 19 24.9	+0.2		
	baz=40								
PV01	**Paradox Valley**	40.15	90	*e*P	**P**	15 19 24.8	-0.5		
C30A	**Mose, Pekin**	40.17	72	⇓P	**P**	15 19 25.2	+0.1		
	baz=40								
ULM	**Lac du Bonnet**	40.22	67	P	**P**	15 19 24.9	-0.5		
	comp=Z,4.8nm,0.7s,baz=294,slow=9.4,SNR=8.5								
ULM				LR	LR	15 36 44.7			
	comp=Z,359nm,18.3s,baz=260,slow=37								
ULM	**Lac du Bonnet**	40.22	67	P	**P**	15 19 24.9	-0.5		
ULM				pmax	pmax				
	comp=Z,5.0nm,0.7s								
ULM				MLR	MLR				
	comp=Z,359nm,18.3s								
ULM	**Lac du Bonnet**	40.22	67	*e*P	**P**	15 19 24.6	-0.8		
	comp=Z,17nm,0.8s								
I27A	**Quinn**	40.24	78	⇓P	**P**	15 19 25.7	0.0		
	baz=40								
WUAZ	**Wupatki**	40.27	96	*e*P	**P**	15 19 26.8	+0.5		
	comp=Z,22nm,1.0s								
WUAZ	**Wupatki**	40.27	96	⇑P	**P**	15 19 27.0	+0.8		
	baz=40,SNR=11								
D30A	**Buchanan**	40.35	72	⇑P	**P**	15 19 26.5	-0.1		
	baz=40								
O23A	**Lake Granby, G**	40.36	86	⇓P	**P**	15 19 26.8	-0.3		
	baz=40								
SMCO	**Snowmass**	40.41	88	*e*P	**P**	15 19 26.5	-1.1		
	comp=Z,4.1nm,1.2s								
I28A	**Midland**	40.79	78	⇑P	**P**	15 19 30.4	+0.1		
	baz=41								
ISCO	**Idaho Springs**	40.81	86	⇑P	**P**	15 19 30.4	-0.3		
	baz=41								
MVCO	**Mesa Verde**	40.81	91	*e*P	**P**	15 19 31.4	+0.7		
	comp=Z,8.0nm,0.8s								
MVCO	**Mesa Verde**	40.81	91	⇓P	**P**	15 19 30.8	0.0		
	baz=41								
113A	**Mohawk Valley,**	40.82	101	⇓P	**P**	15 19 30.0	-0.6		
	baz=41								
Z14A	**Wintersburg**	40.87	99	⇑P	**P**	15 19 30.7	-0.3		
	baz=41								
P23A	**Jefferson**	40.95	87	⇓P	**P**	15 19 31.8	-0.2		
	baz=41								
H29A	**Onida**	40.97	76	⇓P	**P**	15 19 32.2	+0.5		
	baz=41								
X16A	**Lo Mia Camp, P**	41.00	97	⇑P	**P**	15 19 32.6	+0.3		
	baz=41								
H11N2	**WAKE ISLAND Hy**	41.06	225	T	T	16 03 32.2			
	baz=26,slow=76,SNR=1226								
H11N3	**WAKE ISLAND Hy**	41.07	225	T	T	16 03 33.6			
	baz=26,slow=76,SNR=1518								
H11N1	**WAKE ISLAND Hy**	41.08	225	T	T	16 03 33.4			
	baz=26,slow=76,SNR=616								
J28A	**Allard Ranch,**	41.10	79	⇑P	**P**	15 19 33.3	+0.4		
	baz=41								
Q23A	**Hartsel**	41.26	87	⇑P	**P**	15 19 34.6	+0.1		
	baz=41								
I29A	**Vivian Onida**	41.28	77	⇓P	**P**	15 19 34.1	-0.2		
	baz=41								
G30A	**Faulkton**	41.28	75	⇑P	**P**	15 19 34.1	-0.2		
	baz=41								
AGMN	**Agassiz Nation**	41.29	69	*e*P	**P**	15 19 33.8	-0.5		
	comp=Z,20nm,0.9s								
AGMN	**Agassiz Nation**	41.29	69	⇑P	**P**	15 19 33.6	-0.7		
	baz=41								
S22A	**4UR Ranch, Cre**	41.44	89	⇓P	**P**	15 19 36.0	+0.1		
	baz=41								
W18A	**Petrified Fore**	41.51	95	*e*P	**P**	15 19 37.3	+0.8		
Q24A	**Divide**	41.62	87	⇓P	**P**	15 19 37.1	-0.4		
	baz=42								
J29A	**Okreek**	41.64	78	⇓P	**P**	15 19 37.3	0.0		
	baz=42,SNR=5.8								
X18A	**Snowflake**	41.79	95	⇑P	**P**	15 19 38.7	-0.1		
	baz=42,SNR=5.6								
BRSD	**Miller**	41.80	76	⇓P	**P**	15 19 38.0	-0.5		
	baz=42								
214A	**Organ Pipe Nat**	41.96	101	*e*P	**P**	15 19 38.5	-1.5		
	comp=Z,20nm,1.0s								
214A	**Organ Pipe Nat**	41.96	101	⇑P	**P**	15 19 39.6	-0.4		
	baz=42,SNR=6.1								
N27A	**Anderson Farm,**	41.97	83	⇓P	**P**	15 19 40.1	+0.1		
	baz=42								
USRK	**Uss

baz=43
P29A Atwood 43.69 83 ⇓P P 15 19 53.2 -0.7
baz=44
BOD Bodaibo 43.72 310 *e*P P 15 19 52.7 -1.2
BOD *e*S S 15 26 21.2 +1.1
BOD pmax pmax
comp=Z,10.0nm,1.8s
T26A Comanche Natio 43.73 87 ⇑P P 15 19 54.1 -0.3
baz=44
EYMN Ely 43.89 67 *e*P P 15 19 57.6 +2.2
comp=Z,20nm,1.0s
BNM Barren Site 44.02 93 *e*P P 15 19 57.8 +0.9
N31A Bailey Ranch, 44.05 80 ⇓P P 15 19 56.5 -0.2
baz=44
P30A Selden 44.12 82 ⇓P P 15 19 57.5 +0.1
baz=44
Q29A Oakley 44.12 84 ⇓P P 15 19 57.5 +0.1
baz=44
BGNE Belgrade 44.14 79 ⇑P P 15 19 57.5 0.0
baz=44
O31A Woolen Ranch, 44.27 81 ⇑P P 15 19 58.5 0.0
baz=44
R29A Marienthal 44.34 84 ⇑P P 15 19 59.1 0.0
baz=44
S28A Manter 44.45 86 ⇓P P 15 19 60.0 -0.1
baz=44
121A Cookes Peak, D 44.48 96 *e*P P 15 19 59.3 -1.2
comp=Z,15nm,0.9s
121A Cookes Peak, D 44.48 96 ⇑P P 15 20 00.9 +0.4
baz=44,SNR=6.6
Q30A Quinter 44.51 83 ⇓P P 15 20 00.5 0.0
baz=44
T28A Walsh 44.64 86 ⇑P P 15 20 01.7 +0.1
baz=44
R30A Dighton 44.94 84 ⇑P P 15 20 03.0 -0.9
baz=45
P32A Hutting Farm, 45.03 81 ⇓P P 15 20 04.7 +0.1
baz=45
S30A Montezuma 45.26 85 ⇓P P 15 20 06.1 -0.3
baz=45
R31A Burdett 45.37 83 ⇑P P 15 20 06.9 -0.4
baz=45
Q32A Meitler Ranch, 45.47 82 ⇓P P 15 20 07.9 -0.2
baz=45
S31A Mullinville 45.85 84 ⇓P P 15 20 10.8 -0.4
baz=46
Q33A Connelly Farm, 45.89 81 ⇓P P 15 20 10.7 -0.7
baz=46
U30A WK&E Inc. Balk 45.90 86 ⇓P P 15 20 10.8 -0.8
baz=46
CN2 Changchun 45.98 288 *e*P P 15 20 11.8 -0.2
CN2 *e*S S 15 26 46.0 -7.0
CN2 PMZ
comp=Z,50nm,0.6s
CN2 PMZ
comp=Z,200nm,4.0s
CN2 LN
comp=Z,200nm,17.0s
CN2 LE
comp=Z,300nm,17.0s
CN2 LZ
comp=Z,300nm,23.0s
R33A Olander Ranch, 46.26 82 ⇓P P 15 20 13.7 -0.6
baz=46
COWI Conover 46.29 68 P P 15 20 16.0 +1.6
comp=Z,5.8nm,0.6s
MNTX Cornudas Mount 46.49 94 *e*P P 15 20 17.3 +1.1
comp=Z,13nm,0.9s
MNTX Cornudas Mount 46.49 94 ⇓P P 15 20 16.9 +0.7
baz=46,SNR=9.9
V31A Spring Creek L 46.89 86 ⇓P P 15 20 19.0 -0.3
baz=47
KBS Kingsbay 47.30 1 *e*P P 15 20 22.8 +0.9
KBS pmax pmax
comp=Z,7.0nm,0.9s
KBS Kingsbay 47.30 1 *e*P P 15 20 22.8 +0.9
comp=Z,6.8nm,0.9s
128A Castleberry Fa 47.54 91 ⇓P P 15 20 24.2 -0.3
baz=47,SNR=7.1
Z29A Hungry Hill Ra 47.55 90 ⇓P P 15 20 24.2 -0.3
baz=47
DAG Danmarks Havn 47.59 10 ⇑*i*P P 15 20 23.9 -0.2
comp=Z,42nm,0.7s
DAG Danmarks Havn 47.59 10 ⇑*i*P P 15 20 23.9 -0.2
DAG pmax pmax
comp=Z,29nm,0.7s
T34A McClaskey Farm 47.60 83 ⇓P P 15 20 24.2 -0.5
baz=47
X31A McDonald Ranch 47.60 87 ⇑P P 15 20 24.2 -0.7
baz=47
S35A Otter Creek Ra 47.66 81 ⇓P P 15 20 24.4 -0.8
baz=48
JFWS Jewell Farm 47.69 72 P P 15 20 23.2 -2.2
JFWS Jewell Farm 47.69 72 P P 15 20 23.2 -2.2
W32A Sentinel 47.69 86 ⇓P P 15 20 24.7 -0.8
baz=48
R36A Gordon, Harris 47.70 80 ⇓P P 15 20 24.7 -0.8
baz=48
JCJ Chichijima 47.77 258 LR LR 15 44 26.1
comp=Z,76nm,18.0s,baz=23,slow=41
V33A Lossen Ranch, 47.77 85 ⇑P P 15 20 25.1 -1.1
baz=48
U34A Anderson Ranch 47.79 84 ⇑P P 15 20 25.9 -0.3
baz=48
Z30A Sanderson Ranc 47.87 89 ⇓P P 15 20 26.2 -0.8
baz=48
129A Stewart Farms, 47.90 91 ⇓P P 15 20 26.1 -1.2
baz=48
Y31A Rekieta Farm, 47.90 88 ⇑P P 15 20 26.0 -1.2
baz=48
S36A Lake Cedric, C 48.05 81 ⇑P P 15 20 27.1 -1.2
baz=48
T35A Sooner Cattle 48.06 82 ⇓P P 15 20 27.3 -1.1
baz=48
SPITS Spitsbergen Ar 48.08 0 P P 15 20 27.2 -0.7
comp=Z,8.1nm,0.8s,baz=27,slow=5.8,SNR=29
SUMG Summit 48.11 19 ⇑*i*P P 15 20 29.2 +0.5
comp=Z,58nm,1.1s
SUMG Summit 48.11 19 ⇑*i*P P 15 20 29.2 +0.5
SUMG pmax pmax
comp=Z,58nm,1.1s
SUMG Summit 48.11 19 *e*P P 15 20 29.1 +0.4
comp=Z,59nm,1.1s
W33A Caddo, Fort Co 48.13 86 ⇓P P 15 20 27.8 -1.1
baz=48
X32A Elmer 48.16 87 ⇑P P 15 20 28.5 -0.6
baz=48
WMOK Wichita Mounta 48.23 86 *e*P P 15 20 29.1 -0.6
WMOK pmax pmax
comp=Z,7.0nm,0.8s
WMOK Wichita Mounta 48.23 86 *e*P P 15 20 29.1 -0.6
comp=Z,6.9nm,0.8s
T36A Boggs Farm, Ca 48.34 82 ⇑P P 15 20 29.4 -1.1
baz=48
Y32A R-V Farms, Ver 48.36 87 ⇑P P 15 20 30.1 -0.6
baz=48
329A Wagon Wheel Ra 48.65 92 ⇓P P 15 20 32.7 -0.3
baz=48
V35A Meyer Ranch, C 48.66 84 ⇑P P 15 20 31.9 -1.1
baz=48
KSRS Korea Array 48.72 279 P P 15 20 34.3 +1.0
comp=Z,18nm,0.9s,baz=53,slow=7.4,SNR=72
KSRS LR LR 15 40 58.3
comp=Z,119nm,20.0s,baz=58,slow=36
KSRS Korea Array 48.72 279 P P 15 20 34.3 +1.0
KSRS pmax pmax
comp=Z,18nm,0.9s
KSRS MLR MLR
comp=Z,119nm,20.0s
KS01 Wonju Array Si 48.72 280 *e*P P 15 20 33.3 -0.1
131A Roby 48.74 89 ⇑P P 15 20 32.7 -0.9
baz=49
KSAR Wonju Array Be 48.75 279 P P 15 20 34.3 +0.7
KSAR Wonju Array Be 48.75 279 P P 15 20 34.3 +0.7
Z32A Haskell 48.83 88 ⇑P P 15 20 33.8 -0.5
baz=49
Y33A Hilltop Ranch, 48.84 87 ⇑P P 15 20 34.1 -0.3
baz=49
230A Sterling City 48.88 91 ⇑P P 15 20 34.2 -0.5
baz=49
W35A Tecumseh 49.07 84 ⇑P P 15 20 36.1 +0.1
baz=49
TUL1 Leonard 49.18 83 ⇑P P 15 20 36.3 -0.6
baz=49
330A Mertzon 49.19 91 ⇓P P 15 20 36.1 -1.0
baz=49
ABTX Abilene, Hawle 49.22 89 ⇑P P 15 20 36.9 -0.4
baz=49

TX31 Lajitas Ar. Si 49.23 95 *e*P P 15 20 37.2 -0.3
TXAR Lajitas Array 49.23 95 P P 15 20 37.5 +0.1
comp=Z,6.6nm,0.7s,baz=302,slow=5.5,SNR=66
TXAR LR LR 15 40 36.0
comp=Z,200nm,18.8s,baz=0.0,slow=35
SFJD Kangerlussuaq 49.28 29 ⇑*i*P P 15 20 37.6 +0.3
comp=Z,32nm,0.8s
SFJD Kangerlussuaq 49.28 29 ⇑*i*P P 15 20 37.6 +0.3
SFJD pmax pmax
comp=Z,32nm,0.8s
SFJD Kangerlussuaq 49.28 29 *e*P P 15 20 38.0 +0.8
comp=Z,37nm,0.8s
429A Davenport Ranc 49.33 92 ⇓P P 15 20 38.1 -0.1
baz=49
INCN Inchon 49.45 280 *e*P P 15 20 39.9 +0.9
comp=Z,45nm,1.2s
W36A Wetumka 49.46 84 ⇑P P 15 20 38.4 -0.6
baz=49
529A Stev Forest Ra 49.50 93 ⇓P P 15 20 39.6 +0.1
baz=49,SNR=5.9
X35A Drake 49.53 85 ⇓P P 15 20 38.6 -1.0
baz=49
430A Baggett Ranch, 49.60 92 ⇑P P 15 20 39.7 -0.5
baz=50
133A Hamilton Ranch 49.66 88 ⇑P P 15 20 40.2 -0.4
baz=50
Z34A Collier Ranch, 49.70 87 ⇑P P 15 20 40.2 -0.8
baz=50
232A Coleman 49.74 89 ⇑P P 15 20 40.7 -0.6
baz=50
HDIL Hopedale 49.77 74 *e*P P 15 20 39.5 -1.9
comp=Z,53nm,0.8s
TJN Taejon 49.78 279 *i*P P 15 20 42.2 +0.7
W37A Quinton 49.93 83 ⇓P P 15 20 42.1 -0.5
baz=50
JNU Nakatsue 50.00 273 P P 15 20 43.7 +0.5
comp=Z,12nm,1.0s,baz=48,slow=8.4,SNR=4.8
JNU Nakatsue 50.00 273 *e*P P 15 20 44.3 +1.1
comp=Z,22nm,1.1s
530A J-C Ranch, Com 50.00 92 ⇓P P 15 20 42.8 -0.5
baz=50,SNR=5.5
431A Sonora 50.04 91 ⇑P P 15 20 42.5 -1.1
baz=50,SNR=5.8
332A Millersview 50.05 90 ⇓P P 15 20 42.9 -0.7
baz=50
233A Rising Star 50.09 89 ⇑P P 15 20 43.5 -0.5
baz=50
X37A Clayton 50.34 84 ⇑P P 15 20 44.8 -0.9
baz=50
432A Menard 50.38 91 ⇑P P 15 20 45.4 -0.8
baz=50
531A Rocksprings 50.46 92 ⇑P P 15 20 46.1 -0.7
baz=50,SNR=5.5
W38A Poteau 50.51 83 ⇓P P 15 20 46.1 -0.9
baz=50
333A Richland Sprin 50.54 89 ⇑P P 15 20 46.1 -1.2
baz=50
234A Clairette 50.55 88 ⇑P P 15 20 46.9 -0.5
baz=50
135A Vickery Place, 50.58 87 ⇓P P 15 20 46.5 -1.1
baz=50
JCT Junction City 50.67 91 *e*P P 15 20 47.4 -0.9
JCT pmax pmax
comp=Z,16nm,0.9s
JCT Junction City 50.67 91 *e*P P 15 20 47.4 -0.9
comp=Z,16nm,0.9s
JCT Junction City 50.67 91 ⇓P P 15 20 46.8 -1.5
baz=50
532A Rocksprings 50.86 91 ⇓P P 15 20 48.8 -1.1
baz=51
433A Art 50.89 90 ⇓P P 15 20 48.6 -1.4
baz=51
WHTX Lake Whitney, 50.96 88 ⇑P P 15 20 49.4 -1.1
baz=51
334A Lometa 50.97 89 ⇓P P 15 20 49.6 -1.0
baz=51
631A Perdido Creek 50.99 92 ⇓P P 15 20 49.7 -1.0
baz=51
434A Burnet 51.33 89 ⇑P P 15 20 52.7 -0.5
baz=51
632A Uvalde 51.39 92 ⇓P P 15 20 52.9 -0.8
baz=51
MIAR Mount Ida 51.43 82 *e*P P 15 20 52.7 -1.2
MIAR pmax pmax
comp=Z,11nm,1.0s
MIAR Mount Ida 51.43 82 *e*P P 15 20 52.7 -1.2
comp=Z,11nm,1.0s
236A Katherine and 51.50 87 ⇓P P 15 20 54.1 -0.3
baz=51
IRK Irkutsk 51.54 308 *e*P P 15 20 53.2 -1.4
IRK pmax pmax
comp=Z,34nm,1.7s
SCHQ Schefferville 51.74 47 P P 15 20 55.6 -0.4
comp=Z,17nm,0.9s,baz=326,slow=7.8,SNR=7.6
SCHQ LR LR 15 45 49.1
comp=Z,225nm,19.1s,baz=294,slow=39
SCHQ Schefferville 51.74 47 *e*P P 15 20 55.8 -0.3
comp=Z,114nm,1.8s
336A Riesel 51.76 88 ⇑P P 15 20 55.5 -0.9
baz=52
534A Blanco 51.78 90 ⇑P P 15 20 55.7 -0.9
baz=52
732A Laxson Ranch, 51.85 93 ⇑P P 15 20 56.0 -1.2
baz=52
832A Faith Ranch, C 52.18 93 ⇑P P 15 20 59.0 -0.6
baz=52
TLY Talaya 52.21 308 P P 15 21 00.5 +0.9
comp=Z,8.2nm,0.6s,baz=32,slow=6.9,SNR=32
TLY Talaya 52.21 308 *e*P P 15 20 59.9 +0.4
TLY *e*S S 15 28 32.2 +12
TLY pmax pmax
comp=Z,30nm,1.3s
TLY MLR MLR
comp=Z,158nm,14.0s
TLY Talaya 52.21 308 P P 15 21 00.4 +0.9
SNR=15
TLY Talaya 52.21 308 *e*P P 15 21 00.2 +0.7
comp=Z,18nm,0.9s
733A Divot King Ran 52.26 92 ⇓P P 15 20 59.7 -0.4
baz=52
833A Chaparral WMA, 52.49 92 ⇑P P 15 21 01.1 -0.8
baz=52
933A Laredo 53.09 93 ⇓P P 15 21 06.0 -0.4
baz=53
ULN Ulaanbaatar 53.13 303 *e*P P 15 21 06.7 +0.2
ULN pmax pmax
comp=Z,17nm,0.9s
ULN Ulaanbaatar 53.13 303 P P 15 21 07.1 +0.6
SNR=9.8
ULN Ulaanbaatar 53.13 303 *e*P P 15 21 06.7 +0.2
comp=Z,17nm,0.9s
ZAK Zakamensk 53.25 307 *e*P P 15 21 06.3 -1.0
ZAK *e* 15 22 13.5
ZAK pmax pmax
comp=Z,6.0nm,1.4s
MOY Mondy 53.44 309 *e*P P 15 21 09.7 +1.0
MOY pmax pmax
comp=Z,22nm,1.4s
SONA1 Songino Array 53.46 303 *e*P P 15 21 09.4 +0.4
SONM Songino Array 53.47 303 P P 15 21 09.6 +0.6
comp=Z,12nm,0.9s,baz=45,slow=7.9,SNR=80
SONM LR LR 15 46 58.9
comp=Z,394nm,18.2s,baz=44,slow=40
BJI Beijing 53.65 290 P P 15 21 08.8 -1.4
BJI pP **pP** 15 21 24.0 0.0
BJI PMZ
comp=Z,30nm,0.9s
BJI LN
comp=Z,310nm,21.6s
BJI LE
comp=Z,310nm,18.5s
BJI LZ
comp=Z,270nm,21.0s
WVT Waverly 53.65 77 *e*P P 15 21 09.1 -1.2
WVT pmax pmax
comp=Z,47nm,1.5s
WVT Waverly 53.65 77 *e*P P 15 21 09.1 -1.2
comp=Z,47nm,1.5s
BJT Baijiatuau 53.66 290 P P 15 21 08.5 -1.9
BJT Baijiatuau 53.66 290 P P 15 21 08.5 -1.9
034A Hebbronville 53.85 93 ⇓P P 15 21 10.4 -1.5
baz=54
KRAR Krasnoyarsk 53.89 318 *e*P P 15 21 12.1 +0.3
KRAR pmax pmax
comp=Z,21nm,1.3s
HHC Hu-ho-hao-te 55.61 294 *e*P P 15 21 25.1 +0.5
HHC ScP **ScP** 15 26 18.8 +0.7

HHC S **S** 15 29 05.5 -1.2
HHC sS **sS** 15 29 30.1 +0.3
HHC SS **SS** 15 32 48.0 -3.7
HHC PMZ
comp=Z,26nm,1.0s
HHC PMZ
comp=Z,90nm,6.2s
HHC LN
comp=Z,220nm,21.1s
HHC LE
comp=Z,280nm,18.7s
HHC LZ
comp=Z,290nm,21.1s
JOW Kunigami 56.12 270 LR LR 15 43 41.5
comp=Z,125nm,21.6s,slow=34
KEV Kevo 56.31 356 *e*P P 15 21 28.6 -0.5
KEV pmax pmax
comp=Z,24nm,0.7s
KEV Kevo 56.31 356 *e*P P 15 21 28.6 -0.5
comp=Z,24nm,0.7s
ARA0 ARCESS Array S 56.60 356 *e*P P 15 21 30.2 -0.9
ARCES ARCESS Array B 56.60 356 P P 15 21 30.4 -0.7
comp=Z,11nm,0.7s,baz=18,slow=7.5,SNR=38
ARCES LR LR 15 48 03.7
comp=Z,144nm,18.9s,baz=358,slow=38
ARE0 ARCESS Array S 56.60 356 *e*P P 15 21 30.0 -1.1
LVZ Lovozero 57.67 352 *e*P P 15 21 38.3 -0.4
LVZ pmax pmax
comp=Z,35nm,0.9s
LVZ Lovozero 57.67 352 *e*P P 15 21 38.3 -0.4
comp=Z,35nm,0.9s
NJ2 Nanjing 57.80 281 *e*P P 15 21 39.8 -0.3
NJ2 pP **pP** 15 21 50.4 -3.6
NJ2 sP **sP** 15 22 01.3 +1.6
NJ2 S **S** 15 29 38.0 +2.5
NJ2 PMZ
comp=Z,70nm,0.8s
NJ2 PMZ
comp=Z,170nm,7.6s
NJ2 LN
comp=Z,340nm,35.2s
NJ2 LE
comp=Z,550nm,28.7s
NJ2 LZ
comp=Z,530nm,28.9s
KMSC Kings Mountain 58.05 73 ⇑P P 15 21 40.3 -1.5
baz=58
NVS Novosibirsk 58.46 321 *i*P P 15 21 43.2 -1.2
NVS pmax pmax
comp=Z,11nm,1.2s
NVS pmax pmax
comp=N,6.0nm,1.4s
NVS pmax pmax
comp=E,8.0nm,1.2s
ZAA0 Zalesovo Array 58.55 320 *e*P P 15 21 45.0 -0.1
ZALV Zalesovo Beam 58.55 320 P P 15 21 45.5 +0.5
comp=E,3.7nm,0.5s,baz=37,slow=6.8,SNR=18
ZALV LR LR 15 49 03.6
comp=E,342nm,20.4s,baz=70,slow=38
WHN Wuhan 61.51 283 ⇓P P 15 22 06.0 +0.4
XAN Xi'an 61.98 290 P P 15 22 08.8 0.0
XAN pP **pP** 15 22 22.0 -0.8
XAN sP **sP** 15 22 27.1 -1.5
XAN PP **PP** 15 24 26.8 +1.5
XAN S **S** 15 30 26.3 -3.0
XAN sS sS 15 30 46.3 -6.5
XAN SS **SS** 15 34 27.3 -4.5
XAN PMZ
comp=E,6.0nm,1.2s
XAN PMZ
comp=E,14nm,4.5s
XAN LN
comp=E,120nm,14.5s
XAN LE
comp=E,69nm,17.2s
XAN LZ
comp=E,96nm,18.5s
SOKR Solikamsk 62.25 338 ⇓*i*P P 15 22 10.5 +0.4
SOKR pmax pmax
comp=Z,30nm,0.9s
SOKR MLR MLR
comp=Z,370nm,22.0s
SSLB Suanglung 62.74 273 *e*P P 15 22 14.5 +0.4
comp=Z,254nm,2.3s
GTA Gaotai 62.84 300 *e*P P 15 22 14.4 -0.2
GTA pP **pP** 15 22 31.0 +2.4
GTA sP **sP** 15 22 38.3 +4.0
GTA S **S** 15 30 37.8 -2.3
GTA sS **sS** 15 31 04.6 +1.0
GTA SS **SS** 15 34 42.9 -2.1
GTA PMZ
comp=Z,19nm,1.5s
GTA PMZ
comp=Z,85nm,6.2s
GTA LN
comp=Z,200nm,16.6s
GTA LE
comp=Z,270nm,18.3s
GTA LZ
comp=Z,300nm,19.7s
LZH Lanzhou 63.22 295 ⇑P P 15 22 18.3 +1.1
LZH pP **pP** 15 22 32.9 +1.6
LZH sP **sP** 15 22 37.3 +0.3
LZH *e*S S 15 30 42.1 -3.0
LZH sS **sS** 15 31 05.1 -3.5
LZH SS **SS** 15 34 49.4 -1.9
LZH PMZ
comp=Z,45nm,1.1s
LZH PMZ
comp=Z,140nm,4.0s
LZH LN
comp=Z,310nm,15.9s
LZH LE
comp=Z,280nm,15.1s
LZH LZ
comp=Z,410nm,17.8s
KURK Kurchatov 63.44 321 *e*P P 15 22 17.8 -0.4
KURK pmax pmax
comp=Z,44nm,1.1s
KURK Kurchatov 63.44 321 P P 15 22 19.1 +0.9
SNR=14
KURK Kurchatov 63.44 321 *e*P P 15 22 17.8 -0.4
comp=Z,44nm,1.1s
SVE Sverdlovsk 63.83 335 *i*P P 15 22 21.6 +0.9
SVE pmax pmax
comp=Z,36nm,0.9s
KLMR Klimovskoe 64.04 348 *e*P P 15 22 21.7 -0.3
KLMR pmax pmax
comp=Z,22nm,1.0s
BVA0 Borovoye Array 64.36 327 *i*P P 15 22 25.0 +0.8
BVA0 pmax pmax
comp=Z,37nm,0.9s
BVAR Borovoye Array 64.36 327 LR LR 15 54 05.4
comp=Z,264nm,18.8s,baz=64,slow=39
BRVK Borovoye 64.36 327 *e*P P 15 22 25.0 +0.7
BRVK pmax pmax
comp=Z,33nm,0.9s
BRVK Borovoye 64.36 327 P P 15 22 25.4 +1.2
SNR=15
BRVK Borovoye 64.36 327 *e*P P 15 22 25.0 +0.7
comp=Z,33nm,0.9s
ENH Enshi 64.48 287 *e*P P 15 22 26.1 +0.7
comp=Z,20nm,1.1s
FIA1 FINESS Array S 64.65 355 *e*P P 15 22 24.9 -1.0
FINES FINESS Array B 64.65 355 P P 15 22 25.8 -0.2
comp=Z,16nm,0.7s,baz=21,slow=6.8,SNR=74
FINES LR LR 15 54 12.0
comp=Z,93nm,18.1s,baz=83,slow=39
ARU Arti 64.70 336 *e*P P 15 22 26.1 -0.3
ARU pmax pmax
comp=Z,24nm,0.9s
ARU Arti 64.70 336 *e*P P 15 22 26.1 -0.3
comp=Z,24nm,0.9s
MK31 Makanchi Array 65.19 316 *i*P P 15 22 29.4 -0.4
MK31 pmax pmax
comp=Z,17nm,1.0s
MK31 Makanchi Array 65.19 316 *e*P P 15 22 29.1 -0.7
MKAR Makanchi Array 65.19 316 P P 15 22 29.9 +0.1
comp=Z,7.2nm,0.8s,baz=11,slow=3.9,SNR=46
MKAR LR LR 15 53 39.1
comp=Z,203nm,18.8s,baz=28,slow=38
MKAR Makanchi Array 65.19 316 P P 15 22 29.9 +0.1
MKAR pmax pmax
comp=Z,7.0nm,0.8s
MKAR MLR MLR
comp=Z,203nm,18.8s

MKAR **Makanchi Array** 65.19 316 *e*P P 15 22 29.4 -0.4
MK01 **Makanchi Array** 65.20 316 *e*P P 15 22 29.3 -0.6
NBO02 **NORSAR Array S** 65.20 3 *e*P P 15 22 29.3 -0.3
NB2 **NORSAR Subarra** 65.22 3 P P 15 22 29.6 -0.2
comp=Z,19nm,0.9s,baz=358,slow=6.5
NB2 **NORSAR Subarra** 65.22 3 P P 15 22 29.6 -0.2
baz=358,slow=6.5
NOA **NORSAR Array B** 65.22 3 P P 15 22 30.0 +0.2
comp=Z,12nm,0.8s,baz=357,slow=6.5,SNR=48
NOA LR LR 15 52 09.2
comp=Z,50nm,19.7s,baz=350,slow=37
NOA **NORSAR Array B** 65.22 3 P P 15 22 30.0 +0.2
WMQ **Urumqi** 65.25 311 P P 15 22 31.1 +0.8
WMQ pP **pP** 15 22 44.1 -0.3
WMQ sP **sP** 15 22 49.3 -0.8
WMQ PcP **PcP** 15 23 02.9 +0.6
WMQ PP **PP** 15 24 57.1 +3.4
WMQ ScP 15 27 00.8
WMQ PcS 15 27 05.8
WMQ S **S** 15 31 09.3 -0.5
WMQ ScS **SKSac** 15 32 18.8 -2.1
WMQ PMZ
comp=Z,24nm,0.6s
WMQ PMZ
comp=Z,120nm,4.2s
WMQ LN
comp=Z,210nm,21.4s
WMQ LE
comp=Z,200nm,23.2s
WMQ LZ
comp=Z,150nm,22.0s
TAOE **Nuku Hiva Isla** 65.64 155 *e*T T 16 33 45.6
comp=Z,262nm,0.3s
KONO **Kongsberg** 66.56 4 *e*P P 15 22 39.1 +0.8
KONO pmax pmax
comp=Z,25nm,1.0s
KONO **Kongsberg** 66.56 4 *e*P P 15 22 39.1 +0.8
comp=Z,25nm,1.0s
CD2 **Chengdu** 67.19 291 *e*P P 15 22 43.4 +0.5
CD2 PP **PP** 15 25 12.5 +1.5
CD2 S **S** 15 31 28.3 -5.3
CD2 sS **sS** 15 31 52.3 -5.1
CD2 SS **SS** 15 35 50.3 -2.7
CD2 PMZ
comp=Z,40nm,1.2s
CD2 PMZ
comp=Z,120nm,4.8s
CD2 LN
comp=Z,230nm,16.9s
CD2 LZ
comp=Z,210nm,20.3s
VSU **Vasula** 67.59 354 *c i*P P 15 22 44.9 +0.1
VSU pmax pmax
comp=Z,66nm,1.0s
GYA **Guiyang** 68.99 286 P P 15 22 55.9 +1.6
GYA pP **pP** 15 23 10.8 +2.3
GYA sP **sP** 15 23 16.0 +1.8
GYA PP **PP** 15 25 29.5 +2.7
GYA ScP 15 27 18.8
GYA S **S** 15 31 54.3 -1.0
GYA sS **sS** 15 32 19.0 -0.2
GYA SKS **SKSac** 15 32 45.8 -4.0
GYA SS **SS** 15 36 22.0 +0.9
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,110nm,5.3s
GYA LN
comp=Z,440nm,20.3s
GYA LE
comp=Z,360nm,21.0s
GYA LZ
comp=Z,420nm,19.8s
PDGK **Podgornoye** 69.17 316 P P 15 22 55.7 +0.8
PDGK pmax pmax
comp=Z,54nm,1.0s
ESK **Eskdalemuir** 69.83 12 *i* P P 15 23 00.0 +1.1
PMOR **Pomariorio Ree** 70.00 164 *e*T T 16 39 13.7
comp=Z,76nm,0.2s
OBN **Obninsk** 70.00 348 *c i*P P 15 22 59.5 -0.4
OBN *e* 15 23 21.3
OBN pmax pmax
comp=Z,32nm,1.7s
OBN MLR MLR
comp=Z,155nm,21.0s
AB31 **Akbulak array** 70.82 332 *i* P P 15 23 05.4 +0.4
AB31 pmax pmax
comp=Z,10.0nm,0.4s
ABKAR **Akbulak array** 70.82 332 *e*P P 15 23 05.5 +0.5
comp=Z,28nm,0.7s
TKM2 **Tokmak 2** 71.07 318 P P 15 23 08.0 +1.1
SNR=23
TKM2 **Tokmak 2** 71.07 318 *e*P P 15 23 08.0 +1.1
TKM2 pmax pmax
comp=Z,39nm,1.3s
TKM2 **Tokmak 2** 71.07 318 *e*P P 15 23 08.0 +1.1
comp=Z,39nm,1.3s
USP **Ospenovka** 71.20 319 P P 15 23 08.7 +1.2
SNR=28
USP **Ospenovka** 71.20 319 *i* P P 15 23 08.7 +1.2
CHMS **Chumysh** 71.33 319 P P 15 23 09.3 +1.0
SNR=29
CHMS **Chumysh** 71.33 319 *i* P P 15 23 09.3 +1.0
FRU **Bishkek** 71.52 319 ⇑*i*P P 15 23 10.5 +1.1
FRU *e* 15 23 25.0
FRU pmax pmax
comp=Z,120nm,1.8s
KBK **Karagaybulak** 71.54 319 P P 15 23 11.5 +1.7
SNR=12
AAK **Ala-Archa** 71.74 319 P P 15 23 12.2 +1.2
SNR=30
AAK **Ala-Archa** 71.74 319 *e*P P 15 23 12.1 +1.2
AAK pmax pmax
comp=Z,41nm,0.9s
AAK **Ala-Archa** 71.74 319 P P 15 23 12.2 +1.2
SNR=25
AAK **Ala-Archa** 71.74 319 *e*P P 15 23 12.1 +1.2
comp=Z,41nm,0.9s
KZA **Kyzart** 71.92 318 P P 15 23 13.6 +1.2
SNR=15
KZA **Kyzart** 71.92 318 *i* P P 15 23 13.5 +1.2
EKS2 **Erkin-Say** 71.99 319 P P 15 23 13.8 +1.3
SNR=24
EKS2 **Erkin-Say** 71.99 319 *e*P P 15 23 13.7 +1.3
EKS2 pmax pmax
comp=Z,38nm,0.9s
EKS2 **Erkin-Say** 71.99 319 *e*P P 15 23 13.7 +1.3
comp=Z,38nm,0.9s
UCH **Uchtor** 72.08 319 P P 15 23 14.3 +1.0
SNR=15
UCH **Uchtor** 72.08 319 *i* P P 15 23 14.3 +1.0
LPSR **Galich'ya Gora** 72.14 346 *e*P P 15 23 12.6 -0.3
LPSR pmax pmax
comp=N,4.0nm,1.0s
LPSR pmax pmax
comp=Z,20nm,1.0s
LPSR pmax pmax
comp=E,7.0nm,0.9s
SUW **Suwalki** 72.21 356 *e*P P 15 23 13.4 +0.1
SUW **Suwalki** 72.21 356 *e*P P 15 23 13.4 +0.1
PPT **Papeete** 72.27 166 LR LR 15 46 58.4
comp=E,176nm,21.1s,baz=354,slow=29
PPT2 **Papeete2** 72.29 166 *e*LR LR 15 45 14.3
comp=E,265nm,22.0s
PPT2 **Papeete2** 72.29 166 *e*T T 16 42 06.9
comp=E,1.6nm,0.3s
TIAR **Tiarei** 72.29 166 *e*T T 16 42 06.9
comp=E,9.4nm,0.2s
BSEG **Bad Segeberg** 72.30 4 *e*P P 15 23 14.8 +1.0
comp=Z,27nm,1.1s
AML **Almayashu** 72.48 319 P P 15 23 17.2 +1.5
SNR=27
TVO **Taravao** 72.52 166 *e*T T 16 42 24.5
comp=Z,1.5nm,0.3s
KK31 **Karatay Array** 72.84 322 *i* P P 15 23 17.8 +0.5
KK31 pmax pmax
comp=Z,24nm,0.8s
KKAR **Karatay Array** 72.84 322 *e*P P 15 23 18.0 +0.7
KKAR **Karatay Array** 72.84 322 *e*P P 15 23 18.0 +0.7
VSR **Storozhevoye** 73.46 345 *e*P P 15 23 20.3 -0.4
VSR pmax pmax
comp=N,6.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=E,3.0nm,0.7s

VORD **Divnogorie** 73.68 345 *e*P P 15 23 21.3 -0.7
VORD pmax pmax
comp=N,90nm,0.7s
VORD pmax pmax
comp=E,80nm,0.7s
VORD pmax pmax
comp=Z,10.0nm,0.7s
NRDL **Niedersach Rie** 73.73 4 *e*P P 15 23 22.8 +0.6
comp=Z,20nm,1.0s
KSH **Kashi** 73.80 316 P P 15 23 26.9 +3.8
KSH sP sP 15 23 50.5 +7.4
KSH PP PP 15 26 15.3 +7.8
KSH S **S** 15 32 54.6 +4.1
KSH SKS **SKSac** 15 33 24.1 -1.6
KSH ScS **ScS** 15 33 28.8 +0.3
KSH PMZ
comp=Z,38nm,1.0s
KSH LN
comp=Z,96nm,6.5s
KSH LE
comp=Z,110nm,5.2s
KSH LZ
comp=Z,260nm,23.9s
IBBN **Ibbenburen** 73.80 6 *e*P P 15 23 23.7 +1.0
comp=Z,41nm,1.2s
WTSB **Winterswijk** 74.08 6 *e*P P 15 23 24.7 +0.3
comp=Z,31nm,1.2s
SFK **Sufi-Kurgan** 74.36 318 P P 15 23 27.3 +0.7
SFK pmax pmax
comp=Z,63nm,1.2s
CLZ **Clausthal** 74.40 4 *e*P P 15 23 27.3 +1.0
comp=Z,23nm,1.0s
LSA **Lhasa** 74.86 300 P P 15 23 30.9 +1.1
LSA **Lhasa** 74.86 300 *e*P P 15 23 31.3 +1.5
LSA pmax pmax
comp=Z,16nm,0.9s
LSA **Lhasa** 74.86 300 *e*P P 15 23 31.3 +1.5
comp=Z,16nm,0.9s
CLL **Collm** 75.02 2 *e*P P 15 23 30.0 +0.1
comp=Z,17nm,1.0s
CLL *e*L L 16 04 19.2
comp=Z,112nm,20.3s
CLL **Collm** 75.02 2⇑*i*P P 15 23 29.9 +0.1
comp=Z,17nm,1.0s
CLL *i* 15 23 39.5
CLL *i* (sP) **sP** 15 23 48.4 -1.4
CLL Lm MLR 16 03 00.0
comp=Z,100nm,20.3s
CLL **Collm** 75.02 2 *e*P P 15 23 29.9 +0.1
CLL pmax pmax
comp=Z,16nm,0.9s
CLL **Collm** 75.02 2 *e*P P 15 23 29.9 +0.1
comp=Z,16nm,0.9s
AKASG **Malin Array Be** 75.13 352 P P 15 23 30.0 -0.4
comp=Z,9.5nm,0.6s,baz=8.7,slow=5.7,SNR=59
AKASG LR LR 15 58 24.5
comp=Z,115nm,19.2s,baz=65,slow=37
AKASG **Malin Array Be** 75.13 352 P P 15 23 30.0 -0.4
AKBB **Malin Array Si** 75.13 352 *e*P P 15 23 29.8 -0.6
AKBB **Malin Array Si** 75.13 352 *e*P P 15 23 29.8 -0.6
KIEV **Kiev** 75.14 352 *e*P P 15 23 29.8 -0.7
KIEV pmax pmax
comp=Z,18nm,0.8s
KIEV **Kiev** 75.14 352 *e*P P 15 23 29.8 -0.7
comp=Z,18nm,0.8s
AK01 **Malin Array Si** 75.14 352 *e*P P 15 23 29.8 -0.7
AK11 **Malin Array Si** 75.16 352 *e*P P 15 23 30.1 -0.5
AK02 **Malin Array Si** 75.17 352 *e*P P 15 23 29.7 -1.0
HGN **Heimansgroeve** 75.22 7 *e*P P 15 23 31.4 +0.4
comp=Z,22nm,1.0s
HGN *e*pP pP 15 23 54.2 +8.9
SNF **Seneffe** 75.35 8 P P 15 23 32.6 +0.9
MEM **Membach** 75.38 7 P P 15 23 32.5 +0.6
comp=Z,17nm,1.6s
MEM **Membach** 75.38 7 *e*P P 15 23 32.9 +1.0
MEM pmax pmax
comp=Z,25nm,1.1s
MEM **Membach** 75.38 7 *e*P P 15 23 32.9 +1.0
comp=Z,25nm,1.1s
BRG **Berggiesshubel** 75.47 2 *e*P P 15 23 32.8 +0.4
comp=Z,14nm,1.2s
BRG **Berggiesshubel** 75.47 2 *e*P P 15 23 32.9 +0.5
comp=Z,14nm,1.2s
BRG **Berggiesshubel** 75.47 2 *e*P P 15 23 32.8 +0.4
BRG pmax pmax
comp=Z,14nm,1.2s
BCLA **Clavier** 75.52 7 P P 15 23 33.0 +0.3
comp=Z,9.6nm,1.3s
DOU **Dourbes** 75.78 8 P P 15 23 34.5 +0.3
comp=Z,5.1nm,1.2s
BAIF **Baives** 75.79 8⇑*i*P P 15 23 34.9 +0.7
comp=Z,20nm,0.8s
BAIF **Baives** 75.79 8⇑*i*P P 15 23 34.9 +0.7
BAIF pmax pmax
comp=Z,20nm,0.8s
BAIF **Baives** 75.79 8⇑*i*P P 15 23 34.9 +0.7
comp=Z,20nm,0.8s
GIVF **Givet** 75.80 8⇑*i*P P 15 23 34.7 +0.4
GIVF **Givet** 75.80 8⇑*i*P P 15 23 34.7 +0.4
GIVF **Givet** 75.80 8⇑*i*P P 15 23 34.7 +0.4
PVCC **Panska Ves** 75.83 1 *e*P P 15 23 35.5 +1.0
PVCC **Panska Ves** 75.83 1 *e*P P 15 23 35.5 +1.0
TANN **Tannenbergstha** 75.89 3 *e*P P 15 23 35.7 +0.8
comp=Z,28nm,1.8s
TNS **Taunus Mts** 75.92 5 *e*P P 15 23 35.8 +0.7
comp=Z,14nm,1.1s
TNS *e*L L 16 06 08.4
comp=Z,94nm,19.4s
DPC **Dobruska-Polom** 76.02 0 *e*P P 15 23 36.4 +0.8
DPC **Dobruska-Polom** 76.02 0 *e*P P 15 23 36.4 +0.8
NKC **Novy Kostel** 76.08 3 *e*P P 15 23 36.7 +0.8
NKC **Novy Kostel** 76.08 3 *e*P P 15 23 36.7 +0.8
OJC **Ojcow** 76.11 358 *e*P P 15 23 37.0 +0.9
OJC **Ojcow** 76.11 358 *e*P P 15 23 37.0 +0.9
PRA **Prague** 76.28 1 *e*P P 15 23 37.9 +0.8
PRA **Prague** 76.28 1 *e*P P 15 23 37.9 +0.8
WLF **Walferdange** 76.33 7 P P 15 23 38.6 +1.3
comp=Z,18nm,1.4s
WLF **Walferdange** 76.33 7 *e*P P 15 23 38.6 +1.3
comp=Z,31nm,1.2s
WLF **Walferdange** 76.33 7 *e*P P 15 23 38.4 +1.1
WLF pmax pmax
comp=Z,25nm,1.1s
WLF **Walferdange** 76.33 7 *e*P P 15 23 38.4 +1.1
comp=Z,25nm,1.1s
LVV **L'vov** 76.36 355 *e*P P 15 23 36.7 -0.8
PRU **Pruhonice** 76.37 1 *e*P P 15 23 38.0 +0.5
PRU AMS AMS 16 03 40.0
comp=Z,100nm,15.2s
PRU **Pruhonice** 76.37 1 *e*P P 15 23 38.0 +0.5
PRU MLR MLR
comp=Z,100nm,15.2s
GOPC **GO Pecny, Ondr** 76.44 1 *e*P P 15 23 38.7 +0.7
GOPC AMS AMS 16 03 50.0
comp=Z,100nm,21.2s
SIJI **Sorong** 76.45 249 P P 15 23 38.9 +0.4
comp=Z,30nm,0.9s,baz=40,slow=6.5,SNR=11
OKC **Ostrava-Krasne** 76.52 359 *e*P P 15 23 39.3 +0.9
OKC **Ostrava-Krasne** 76.52 359 *e*P P 15 23 39.3 +0.9
ROTZ **Rotzenmuhle** 76.54 3 *e*P P 15 23 39.6 +1.1
comp=Z,17nm,1.3s
MORC **Moravsky Berou** 76.59 359 *e*P P 15 23 39.0 +0.1
MORC pmax pmax
comp=Z,7.0nm,1.0s
MORC **Moravsky Berou** 76.59 359 ⇓*i*P P 15 23 39.7 +0.8
MORC **Moravsky Berou** 76.59 359 *e*P P 15 23 39.0 +0.1
comp=Z,7.0nm,1.0s
FLN **La Foliniere** 76.60 12⇑*i*P P 15 23 38.9 0.0
comp=Z,15nm,0.7s
FLN *e*R
comp=Z,232nm,19.2s
FLN **La Foliniere** 76.60 12⇑*i*P P 15 23 38.9 0.0
FLN pmax pmax
comp=Z,15nm,0.7s
FLN **La Foliniere** 76.60 12⇑*i*P P 15 23 38.9 0.0
comp=Z,15nm,0.7s
ROSF **Rostrenen** 76.66 13⇑*i*P P 15 23 39.7 +0.5
ROSF **Rostrenen** 76.66 13⇑*i*P P 15 23 39.7 +0.5
ROSF **Rostrenen** 76.66 13⇑*i*P P 15 23 39.7 +0.5
LDF **La Druitiere** 76.81 11⇑*i*P P 15 23 40.1 +0.1
comp=Z,32nm,1.0s
LDF **La Druitiere** 76.81 11⇑*i*P P 15 23 40.1 +0.1
LDF pmax pmax
comp=Z,32nm,1.0s
LDF **La Druitiere** 76.81 11⇑*i*P P 15 23 40.1 +0.1
comp=Z,32nm,1.0s
SGMF **Saint Gilles** 76.84 13⇑*i*P P 15 23 40.6 +0.4
comp=Z,15nm,0.6s
SGMF **Saint Gilles** 76.84 13⇑*i*P P 15 23 40.6 +0.4
SGMF pmax pmax
comp=Z,15nm,0.6s
SGMF **Saint Gilles** 76.84 13⇑*i*P P 15 23 40.6 +0.4
comp=Z,15nm,0.6s
STHS **Stebnicka Huta** 76.88 357 *e*P P 15 23 41.8 +1.3
STHS pmax pmax
comp=Z,11nm,0.7s
STHS **Stebnicka Huta** 76.88 357 *e*P P 15 23 41.8 +1.3
NIE **Niedzica** 76.90 357 *e*P P 15 23 42.1 +1.5
NIE **Niedzica** 76.90 357 *e*P P 15 23 42.1 +1.5
GRR **Gorron** 76.92 12⇑*i*P P 15 23 41.0 +0.3
comp=Z,20nm,0.7s
GRR **Gorron** 76.92 12⇑*i*P P 15 23 41.0 +0.3
GRR pmax pmax
comp=Z,20nm,0.7s
GRR **Gorron** 76.92 12⇑*i*P P 15 23 41.0 +0.3
comp=Z,20nm,0.7s
VRAC **Vranov** 77.06 360 ⇑P P 15 23 42.1 +0.6
VRAC **Vranov** 77.06 360⇑*i*P P 15 23 42.1 +0.6
QUIF **Quistinic** 77.08 13 *e*P P 15 23 41.9 +0.3
comp=Z,52nm,1.4s
QUIF **Quistinic** 77.08 13 *e*P P 15 23 41.9 +0.3
QUIF pmax pmax
comp=Z,52nm,1.4s
QUIF **Quistinic** 77.08 13 *e*P P 15 23 41.9 +0.3
comp=Z,52nm,1.4s
LANF **Langenberg** 77.12 6⇑*e*P P 15 23 42.6 +0.8
WET **Wettzell** 77.18 2 *e*P P 15 23 43.1 +0.9
comp=Z,13nm,1.2s
WET *e*L L 16 05 00.7
comp=Z,95nm,21.4s
KHC **Kasperske Hory** 77.21 2 *e*P P 15 23 43.3 +0.9
KHC *ex* x 15 23 48.0
KHC AMS AMS 16 03 50.0
comp=Z,100nm,17.2s
KHC **Kasperske Hory** 77.21 2 *e*P P 15 23 43.3 +0.9
KHC *e* 15 23 48.0
KHC MLR MLR
comp=Z,100nm,17.2s
KOLS **Kolonicke sedl** 77.32 356 *e*P P 15 23 43.8 +0.8
KOLS pmax pmax
comp=Z,15nm,1.5s
KOLS **Kolonicke sedl** 77.32 356 *e*P P 15 23 43.8 +0.8
MEZF **Maizieres J'vi** 77.40 8⇑*i*P P 15 23 44.0 +0.6
comp=Z,42nm,1.2s
MEZF **Maizieres J'vi** 77.40 8⇑*i*P P 15 23 44.0 +0.6
comp=Z,42nm,1.2s
PAGF **Fort de Pagny** 77.40 7⇑*i*P P 15 23 44.3 +0.9
comp=Z,11nm,0.7s
PAGF **Fort de Pagny** 77.40 7⇑*i*P P 15 23 44.3 +0.9
comp=Z,11nm,0.7s
CRAI **Chiangrai** 77.44 287 P P 15 23 40.5 -3.5
GEC2 **GERESS Array S** 77.50 2 *e*P P 15 23 44.6 +0.6
comp=Z,8.0nm,1.0s
GEC2 *e*L L 16 04 24.8
comp=Z,116nm,20.9s
FAKI **Fak Fak** 77.61 247 *e*P P 15 23 45.3 +0.3
comp=Z,24nm,1.0s
UZH **Uzhgorod** 77.62 356 *e*P P 15 23 45.0 +0.4
UZH *e* 15 23 51.8
UZH *e* 15 23 59.0
CDF **Champ du Feu** 77.65 6⇑*i*P P 15 23 45.4 +0.5
comp=Z,11nm,0.7s
CDF **Champ du Feu** 77.65 6⇑*i*P P 15 23 45.4 +0.5
CDF pmax pmax
comp=Z,11nm,0.7s
CDF **Champ du Feu** 77.65 6⇑*i*P P 15 23 45.4 +0.5
comp=Z,11nm,0.7s
SFTF **Sexfontaines** 77.70 8⇑*i*P P 15 23 45.6 +0.5
comp=Z,39nm,1.0s
SFTF **Sexfontaines** 77.70 8⇑*i*P P 15 23 45.6 +0.5
comp=Z,39nm,1.0s
THEF **They Montfort** 77.75 7⇑*e*P P 15 23 46.2 +0.8
BFO **Black Forest** 77.80 6 *e*P P 15 23 46.2 +0.5
BFO *e*L L 15 57 46.2
comp=Z,58nm,21.4s
BFO **Black Forest** 77.80 6 *e*P P 15 23 45.8 +0.1
BFO pmax pmax
comp=Z,27nm,1.6s
BFO **Black Forest** 77.80 6 *e*P P 15 23 45.8 +0.1
comp=Z,27nm,1.6s
ECH **Echery** 77.84 6⇑*e*P P 15 23 46.5 +0.6
ECH **Echery** 77.84 6 *e*P P 15 23 46.2 +0.3
ECH pmax pmax
comp=Z,21nm,1.3s
ECH **Echery** 77.84 6 *e*P P 15 23 46.2 +0.3
comp=Z,22nm,1.3s
VYHS **Vyhne** 77.86 358 *e*P P 15 23 46.8 +0.8
VYHS pmax pmax
comp=Z,8.0nm,1.2s
VYHS **Vyhne** 77.86 358 *e*P P 15 23 46.8 +0.8
SKNT **Sakolnakorn** 77.96 282 P P 15 23 47.7 +0.7
comp=Z,24nm,1.7s
TBI **Tubuai** 77.97 167 *e*T T 16 49 13.2
comp=Z,3.4nm,0.3s
HAU **Haudompre** 78.00 7⇑*i*P P 15 23 47.2 +0.4
comp=Z,21nm,0.8s
HAU *e*R
comp=Z,94nm,19.8s
HAU **Haudompre** 78.00 7⇑*i*P P 15 23 47.2 +0.4
HAU pmax pmax
comp=Z,21nm,0.8s
HAU **Haudompre** 78.00 7⇑*i*P P 15 23 47.2 +0.4
comp=Z,21nm,0.8s
FUR **Furstenfeldbru** 78.11 4 *e*P P 15 23 48.2 +0.8
comp=Z,27nm,1.1s
FUR *e*L L 16 08 41.6
comp=Z,63nm,19.0s
MOF **Molkenrain** 78.20 6⇑*e*P P 15 23 48.5 +0.5
HINF **Hinteralfeld** 78.22 7⇑*i*P P 15 23 48.3 +0.3
comp=Z,19nm,0.9s
HINF **Hinteralfeld** 78.22 7⇑*i*P P 15 23 48.3 +0.3
HINF pmax pmax
comp=Z,19nm,0.9s
HINF **Hinteralfeld** 78.22 7⇑*i*P P 15 23 48.3 +0.3
comp=Z,19nm,0.9s
PSZ **Piszkesteto** 78.41 358 *e*P P 15 23 50.8 +1.6
PSZ pmax pmax
comp=Z,17nm,1.2s
PSZ **Piszkesteto** 78.41 358⇑*i*P P 15 23 50.7 +1.6
PSZ **Piszkesteto** 78.41 358 *e*P P 15 23 50.8 +1.6
comp=Z,17nm,1.2s
PSZ **Piszkesteto** 78.41 358⇑*e*P P 15 23 50.3 +1.2
CMAI **Chiengmai2** 78.42 288 P P 15 23 50.2 +0.5
comp=Z,14nm,1.2s
CONA **Conrad Observa** 78.44 0 *i* P P 15 23 50.5 +1.2
comp=Z,21nm,1.5s,SNR=13
BUR08 **Bucovina Ar. S** 78.46 354 *e*P P 15 23 49.3 -0.2
BUR04 **Bucovina Ar. S** 78.49 354 *e*P P 15 23 49.9 +0.3
BURAR **Bucovina Array** 78.49 354 ⇑P P 15 23 49.9 +0.3
BURAR **Bucovina Array** 78.49 354⇑*i*P P 15 23 49.9 +0.3
MOA **Molln** 78.50 2⇑*i*P P 15 23 50.3 +0.7
comp=Z,9.1nm,1.3s
TAPN **Taplejung** 78.52 301 *e*P P 15 23 50.9 +0.6
comp=Z,49nm,1.1s
LOR **Lormes** 78.53 9⇑*i*P P 15 23 50.1 +0.4
comp=Z,25nm,0.9s
LOR *e*R
comp=Z,134nm,20.2s
LOR **Lormes** 78.53 9⇑*i*P P 15 23 50.1 +0.4
LOR pmax pmax
comp=Z,25nm,0.9s
LOR **Lormes** 78.53 9⇑*i*P P 15 23 50.1 +0.4
comp=Z,25nm,0.9s
RJOB **Jochberg** 78.58 3 *e*P P 15 23 50.9 +0.9
comp=Z,10.0nm,0.9s
LOMF **Lomont** 78.68 7⇑*e*P P 15 23 51.4 +0.8
SSF **Saint Saulge** 78.70 9⇑*i*P P 15 23 51.1 +0.5
comp=Z,25nm,0.7s
SSF **Saint Saulge** 78.70 9⇑*i*P P 15 23 51.1 +0.5
SSF pmax pmax
comp=Z,25nm,0.6s
SSF **Saint Saulge** 78.70 9⇑*i*P P 15 23 51.1 +0.5
comp=Z,25nm,0.6s
GOF **Gofitskoye** 78.76 341 *e*P P 15 23 51.4 +0.4
RETA **Reutte** 78.76 4 *i* P P 15 23 51.9 +0.8
comp=Z,18nm,1.8s,SNR=7.1
MFF **Saint Martin d** 78.77 12⇑*i*P P 15 23 51.6 +0.6
comp=Z,38nm,0.8s
MFF **Saint Martin d** 78.77 12⇑*i*P P 15 23 51.6 +0.6
MFF pmax pmax
comp=Z,38nm,0.8s

MFF	**Saint Martin d**	**78.77**	**12**⇑	*i*	P		P	15 23 51.6	+0.6
	comp=Z,38nm,0.8s								
MOTA	**Moosalm**	**78.92**	**4**⇑	*i*	P		P	15 23 52.7	+0.7
	comp=Z,32nm,1.3s,SNR=9.2								
DAVA	**Damuels**	**78.92**	**5**⇑	*i*	P		P	15 23 52.8	+0.7
	comp=Z,8.1nm,1.0s								
WATA	**Walderalm**	**78.95**	**3**⇓	*i*	P		P	15 23 53.0	+0.9
	comp=Z,5.3nm,0.5s,SNR=6.8								
AVF	**Avril sur Loir**	**78.95**	**9**⇑	*i*	P		P	15 23 52.3	+0.3
	comp=Z,25nm,0.8s								
AVF	**Avril sur Loir**	**78.95**	**9**⇑	*i*	P		P	15 23 52.3	+0.3
AVF					pmax	pmax			
	comp=Z,25nm,0.8s								
AVF	**Avril sur Loir**	**78.95**	**9**⇑	*i*	P		P	15 23 52.3	+0.3
	comp=Z,25nm,0.8s								
GUN	**Gumba**	**78.98**	**302**	*e*	P		P	15 23 53.6	+0.7
	comp=Z,78nm,0.8s								
WTTA	**Wattenberg**	**79.02**	**3**	*i*	P		P	15 23 53.8	+1.2
	comp=Z,21nm,1.1s,SNR=8.4								
JIRN	**Jiri**	**79.03**	**302**	*e*	P		P	15 23 54.1	+0.9
	comp=Z,74nm,0.4s								
ODAN	**Odare**	**79.08**	**301**	*e*	P		P	15 23 53.9	+0.6
	comp=Z,42nm,1.1s								
ARSA	**Arzberg**	**79.12**	**1**⇑	*i*	P		P	15 23 54.2	+1.2
	comp=Z,13nm,1.3s,SNR=8.5								
KHON	**Khomkaen**	**79.13**	**283**		P		P	15 23 56.0	+2.6
	comp=Z,8.4nm,0.9s								
SMF	**Signal de Mont**	**79.14**	**9**⇑	*i*	P		P	15 23 53.4	+0.3
	comp=Z,27nm,0.9s								
SMF	**Signal de Mont**	**79.14**	**9**⇑	*i*	P		P	15 23 53.4	+0.3
SMF					pmax	pmax			
	comp=Z,27nm,0.9s								
SMF	**Signal de Mont**	**79.14**	**9**⇑	*i*	P		P	15 23 53.4	+0.3
	comp=Z,27nm,0.9s								
FETA	**Feichten**	**79.23**	**4**⇑	*i*	P		P	15 23 53.7	0.0
	comp=Z,23nm,1.2s,SNR=11								
KBA	**Koelnbreinsper**	**79.25**	**2**	*i*	P		P	15 23 55.4	+1.5
	comp=Z,46nm,1.3s,SNR=24								
UTTA	**Uttaradit**	**79.31**	**285**		P		P	15 23 54.8	+0.4
	comp=Z,6.5nm,0.9s								
TCF	**Toulx Ste Croi**	**79.34**	**10**⇑	*i*	P		P	15 23 54.4	+0.2
	comp=Z,14nm,0.9s								
TCF	**Toulx Ste Croi**	**79.34**	**10**⇑	*i*	P		P	15 23 54.4	+0.2
TCF					pmax	pmax			
	comp=Z,14nm,0.9s								
TCF	**Toulx Ste Croi**	**79.34**	**10**⇑	*i*	P		P	15 23 54.4	+0.2
	comp=Z,14nm,0.9s								
CABF	**La Chapelle**	**79.36**	**7**⇑	*i*	P		P	15 23 55.2	+0.8
	comp=Z,29nm,0.9s								
CABF	**La Chapelle**	**79.36**	**7**⇑	*i*	P		P	15 23 55.2	+0.8
CABF					pmax	pmax			
	comp=Z,29nm,0.9s								
CABF	**La Chapelle**	**79.36**	**7**⇑	*i*	P		P	15 23 55.2	+0.8
	comp=Z,29nm,0.9s								
CHTO	**Chiang Mai**	**79.37**	**287**	*e*	P		P	15 23 54.7	0.0
CHTO					pmax	pmax			
	comp=Z,13nm,1.4s								
CHTO	**Chiang Mai**	**79.37**	**287**	*e*	P		P	15 23 54.7	0.0
	comp=Z,13nm,1.4s								
KKN	**Kakani**	**79.38**	**303**	*e*	P		P	15 23 55.6	+0.7
	comp=Z,62nm,1.2s								
RAMN	**Ramite**	**79.41**	**301**	*e*	P		P	15 23 55.6	+0.5
	comp=Z,69nm,0.7s								
DRGR		**79.44**	**356**	⇓	P		P	15 23 55.7	+0.9
DRGR		**79.44**	**356**	⇓	*i* P		P	15 23 55.7	+0.9
PKI	**Pulchoki**	**79.49**	**303**	*e*	P		P	15 23 56.2	+0.5
	comp=Z,60nm,1.1s								
PKIN	**Phulchoki**	**79.49**	**303**	*e*	P		P	15 23 55.8	+0.2
	comp=Z,36nm,1.0s								
TESR	**Tescani**	**79.49**	**353**	⇓	*i* P		P	15 23 55.2	+0.2
GKN	**Gorkha**	**79.52**	**303**	*e*	P		P	15 23 56.1	+0.5
	comp=Z,130nm,1.2s								
ABTA	**Abfaltersbach**	**79.56**	**3**⇑	*i*	P		P	15 23 56.2	+0.8
	comp=Z,19nm,1.1s,SNR=9.7								
FUORN	**Ofenpass-Fuorn**	**79.61**	**4**	*e*	P		P	15 23 57.2	+1.3
	comp=Z,79nm,1.9s								
DMN	**Daman**	**79.61**	**303**	*e*	P		P	15 23 57.0	+0.8
	comp=Z,38nm,0.8s								
CM31	**Chiang Mai Arr**	**79.66**	**287**	*e*	P		P	15 23 56.2	-0.1
	comp=Z,18nm,1.0s								
CMAR	**Chiang Mai Arr**	**79.66**	**287**		P		P	15 23 56.8	+0.5
	comp=Z,16nm,1.1s,baz=15,slow=5.3,SNR=66								
CMAR					LR		LR	16 01 14.9	
	comp=Z,91nm,20.0s,baz=24,slow=37								
CM01	**Chiang Mai Arr**	**79.68**	**287**	*e*	P		P	15 23 55.9	-0.5
SOKA	**Soboth**	**79.68**	**1**⇑	*i*	P		P	15 23 57.0	+0.9
	comp=Z,33nm,1.4s,SNR=19								
MYKA	**Terra Mystica**	**79.71**	**2**⇑	*i*	P		P	15 23 57.6	+1.4
	comp=Z,9.7nm,1.0s								
TUE	**Stuetta**	**79.71**	**5**	*e*	P		P	15 23 57.9	+1.5
	comp=Z,389nm,0.4s								
PERS	**Pernice**	**79.73**	**1**	*i*	P		P	15 23 57.3	+1.0
MAK	**Makhachkala**	**79.84**	**337**	*e*	P		P	15 23 57.4	+0.5
MAK				*e*				15 24 04.5	
MAK					pmax	pmax			
	comp=Z,77nm,1.1s								
OBKA	**Obir**	**79.85**	**1**	*i*	P		P	15 23 58.0	+1.0
	comp=Z,23nm,0.8s,SNR=12								
KIV	**Kislovodsk**	**79.89**	**341**	*e*	P		P	15 23 58.4	+1.1
KIV					pmax	pmax			
	comp=Z,17nm,1.0s								
KIV	**Kislovodsk**	**79.89**	**341**		P		P	15 23 58.8	+1.5
	SNR=5.7								
PBKT	**Sadao Pong**	**80.01**	**284**		P		P	15 23 58.5	+0.3
	comp=Z,12nm,1.2s								
KBZ	**Khabaz**	**80.07**	**341**		P		P	15 23 59.2	+1.2
	comp=Z,8.7nm,0.9s,baz=27,slow=5.2,SNR=20								
KBZ					LR		LR	16 03 20.0	
	comp=Z,112nm,19.7s,baz=142,slow=39								
CADS	**Cadrg**	**80.11**	**2**	*i*	P		P	15 23 58.4	0.0
PKSM	**Moragy**	**80.14**	**359**	⇓	P		P	15 23 59.4	+0.9
PKSM	**Moragy**	**80.14**	**359**	⇓	*i* P		P	15 23 59.4	+0.9
PLOR	**Plostina**	**80.15**	**353**	⇑	P		P	15 24 01.5	+2.9
PLOR	**Plostina**	**80.15**	**353**	⇑	*i* P		P	15 24 01.5	+2.9
NCK	**Nalchik**	**80.16**	**340**	*e*	P		P	15 24 00.0	+1.3
KOLN	**Koldanda**	**80.22**	**304**	*e*	P		P	15 23 59.9	+0.4
	comp=Z,31nm,0.8s								
RJF	**Les Rejaudoux**	**80.24**	**11**⇑	*i*	P		P	15 23 59.2	+0.2
	comp=Z,10nm,0.8s								
RJF				*e*	R				
	comp=Z,220nm,21.2s								
RJF	**Les Rejaudoux**	**80.24**	**11**⇑	*i*	P		P	15 23 59.2	+0.2
RJF					pmax	pmax			
	comp=Z,10.0nm,0.8s								
RJF	**Les Rejaudoux**	**80.24**	**11**⇑	*i*	P		P	15 23 59.2	+0.2
	comp=Z,10nm,0.8s								
SANI	**Sanana**	**80.37**	**253**		P		P	15 24 00.4	+0.3
MHMT	**Maesarieng**	**80.45**	**288**		P		P	15 24 01.4	+0.9
	comp=Z,9.2nm,1.0s								
LPL	**La Plagne**	**80.50**	**7**⇑	*i*	P		P	15 24 02.1	+1.4
	comp=Z,9.0nm,0.8s								
LPL	**La Plagne**	**80.50**	**7**⇑	*i*	P		P	15 24 02.1	+1.4
LPL					pmax	pmax			
	comp=Z,9.0nm,0.8s								
LPL	**La Plagne**	**80.50**	**7**⇑	*i*	P		P	15 24 02.1	+1.4
	comp=Z,9.0nm,0.8s								
LFF	**La Frestale**	**80.51**	**11**⇑	*i*	P		P	15 24 01.0	+0.6
	comp=Z,21nm,0.7s								
LFF	**La Frestale**	**80.51**	**11**⇑	*i*	P		P	15 24 01.0	+0.6
LFF					pmax	pmax			
	comp=Z,21nm,0.7s								
LFF	**La Frestale**	**80.51**	**11**⇑	*i*	P		P	15 24 01.0	+0.6
	comp=Z,21nm,0.7s								
LPG	**La Plagne**	**80.52**	**7**⇑	*i*	P		P	15 24 02.4	+1.5
	comp=Z,28nm,1.2s								
LPG	**La Plagne**	**80.52**	**7**⇑	*i*	P		P	15 24 02.4	+1.5
LPG					pmax	pmax			
	comp=Z,28nm,1.2s								
LPG	**La Plagne**	**80.52**	**7**⇑	*i*	P		P	15 24 02.4	+1.5
	comp=Z,28nm,1.2s								
SSB	**Saint Sauveur**	**80.56**	**9**	*e*	P		P	15 23 59.8	-1.0
SSB					pmax	pmax			
	comp=Z,14nm,1.4s								
SSB	**Saint Sauveur**	**80.56**	**9**	*e*	P		P	15 23 59.8	-1.0
	comp=Z,14nm,1.4s								
NEY	**Neytrino**	**80.57**	**341**	*e*	P		P	15 24 01.6	+0.5
NEY					pmax	pmax			
	comp=Z,2.0nm,1.7s								
RKT	**Rikitea**	**80.64**	**154**	*e*	LR		LR	15 49 06.8	
	comp=Z,320nm,32.8s								
BZS	**Buzias**	**80.66**	**356**	⇑	P		P	15 24 01.8	+0.5
BZS	**Buzias**	**80.66**	**356**	⇑	*i* P		P	15 24 01.8	+0.5
CAF	**Calviac**	**80.67**	**10**⇑	*i*	P		P	15 24 01.8	+0.4
	comp=Z,16nm,0.9s								
CAF	**Calviac**	**80.67**	**10**⇑	*i*	P		P	15 24 01.8	+0.4
CAF					pmax	pmax			
	comp=Z,16nm,0.9s								
CAF	**Calviac**	**80.67**	**10**⇓	*i*	P		P	15 24 01.8	+0.4
	comp=Z,16nm,0.9s								
VOIR		**80.67**	**354**	⇓	P		P	15 24 01.8	+0.4
VOIR		**80.67**	**354**	⇓	*i* P		P	15 24 01.8	+0.4
CFR	**Carcaliu**	**80.70**	**352**	⇑	P		P	15 24 00.5	-1.0
CFR	**Carcaliu**	**80.70**	**352**	⇑	*i* P		P	15 24 00.5	-1.0
ZEI	**Tsey**	**80.78**	**340**	*e*	P		P	15 24 01.2	-1.0
ZEI					pmax	pmax			
	comp=Z,27nm,1.5s								
GZR	**Gura Zlata**	**80.84**	**356**	⇓	P		P	15 24 03.3	+1.0
GZR	**Gura Zlata**	**80.84**	**356**	⇓	*i* P		P	15 24 03.3	+1.0
BOJS	**Bojanci**	**80.86**	**1**	*i*	P		P	15 24 02.9	+0.6
KBL	**Kabul**	**80.87**	**318**	*e*	P		P	15 24 02.7	-0.2
KBL					pmax	pmax			
	comp=Z,14nm,1.0s								
KBL	**Kabul**	**80.87**	**318**	*e*	P		P	15 24 02.7	-0.2
	comp=Z,14nm,1.0s								
VIVF	**Saint-Julien-l**	**80.99**	**9**⇑	*i*	P		P	15 24 03.8	+0.7
	comp=Z,25nm,1.0s								
VIVF	**Saint-Julien-l**	**80.99**	**9**⇑	*i*	P		P	15 24 03.8	+0.7
VIVF					pmax	pmax			
	comp=Z,25nm,1.0s								
VIVF	**Saint-Julien-l**	**80.99**	**9**⇑	*i*	P		P	15 24 03.8	+0.7
	comp=Z,25nm,1.0s								
ORIF	**Oris-en-Rattie**	**81.03**	**8**⇑	*i*	P		P	15 24 04.4	+1.0
	comp=Z,19nm,0.8s								
ORIF				*e*	R				
	comp=Z,164nm,21.2s								
ORIF	**Oris-en-Rattie**	**81.03**	**8**⇑	*i*	P		P	15 24 04.4	+1.0
ORIF					pmax	pmax			
	comp=Z,19nm,0.8s								
ORIF	**Oris-en-Rattie**	**81.03**	**8**⇑	*i*	P		P	15 24 04.4	+1.0
	comp=Z,19nm,0.8s								
MBDF	**Montbardon**	**81.29**	**7**⇑	*i*	P		P	15 24 06.4	+1.6
	comp=Z,29nm,0.7s								
MBDF	**Montbardon**	**81.29**	**7**⇑	*i*	P		P	15 24 06.4	+1.6
MBDF					pmax	pmax			
	comp=Z,29nm,0.7s								
MBDF	**Montbardon**	**81.29**	**7**⇑	*i*	P		P	15 24 06.4	+1.6
	comp=Z,29nm,0.7s								
SMRT	**St. Maarten**	**81.50**	**71**	*e*	P		P	15 24 05.7	-0.5
	comp=Z,84nm,0.9s								
NAYO	**Nakonayok**	**81.61**	**283**		P		P	15 24 07.8	+1.1
	comp=Z,14nm,1.0s								
GEYT	**Alibeck**	**81.68**	**328**		P		P	15 24 08.4	+1.5
	comp=Z,18nm,0.9s,baz=328,slow=5.3,SNR=33								
GEYT					LR		LR	16 05 49.7	
	comp=Z,214nm,18.5s,baz=45,slow=40								
UTHA	**Uthaitani**	**81.69**	**285**		P		P	15 24 08.0	+0.8
	comp=Z,4.3nm,1.0s								
SMRF	**Simiane la Rot**	**81.94**	**8**⇑	*i*	P		P	15 24 09.5	+1.4
	comp=Z,25nm,1.0s								
SMRF	**Simiane la Rot**	**81.94**	**8**⇑	*i*	P		P	15 24 09.5	+1.4
	comp=Z,25nm,1.0s								
TOUF	**Mont Tournerai**	**82.03**	**7**⇑	*e*	P		P	15 24 09.8	+1.0
PGAV	**Gavieira, Arco**	**82.05**	**18**	*e*	LR		LR	15 54 31.9	
	comp=Z,100nm,20.0s								
SJPF	**Ste Jean**	**82.06**	**13**⇑	*i*	P		P	15 24 09.8	+1.0
	comp=Z,16nm,1.0s								
SJPF	**Ste Jean**	**82.06**	**13**⇑	*i*	P		P	15 24 09.8	+1.0
SJPF					pmax	pmax			
	comp=Z,16nm,1.0s								
SJPF	**Ste Jean**	**82.06**	**13**⇑	*i*	P		P	15 24 09.8	+1.0
	comp=Z,16nm,1.0s								
AUTN	**L'Aution**	**82.06**	**7**	*e*	P		P	15 24 05.5	-3.5
SAOF	**Saorge**	**82.08**	**7**⇑	*e*	P		P	15 24 09.8	+0.9
MVIF	**Mont Vial**	**82.14**	**7**⇑	*e*	P		P	15 24 10.6	+1.3
SBF	**Sospel**	**82.19**	**7**⇑	*i*	P		P	15 24 10.1	+0.6
	comp=Z,51nm,0.9s								
SBF	**Sospel**	**82.19**	**7**⇑	*i*	P		P	15 24 10.1	+0.6
SBF					pmax	pmax			
	comp=Z,51nm,0.9s								
SBF	**Sospel**	**82.19**	**7**⇑	*i*	P		P	15 24 10.1	+0.6
	comp=Z,51nm,0.9s								
DIVS	**Divibare**	**82.23**	**358**	⇓	*i* P		P	15 24 10.7	+1.0
MTLF	**Montolieu**	**82.25**	**11**⇑	*i*	P		P	15 24 10.4	+0.7
	comp=Z,28nm,1.0s								
MTLF	**Montolieu**	**82.25**	**11**⇑	*i*	P		P	15 24 10.4	+0.7
MTLF					pmax	pmax			
	comp=Z,28nm,1.0s								
MTLF	**Montolieu**	**82.25**	**11**⇑	*i*	P		P	15 24 10.4	+0.7
	comp=Z,28nm,1.0s								
CALN	**Calern**	**82.27**	**7**	*e*	P		P	15 24 08.3	-1.7
CHBT	**CHBT**	**82.28**	**281**		P		P	15 24 11.6	+1.4
	comp=Z,15nm,1.2s								
REVF	**Revere**	**82.31**	**7**⇑	*e*	P		P	15 24 10.8	+0.7
EPF	**Esparros**	**82.34**	**12**⇑	*i*	P		P	15 24 10.2	-0.1
	comp=Z,14nm,0.9s								
EPF	**Esparros**	**82.34**	**12**⇑	*i*	P		P	15 24 10.2	-0.1
EPF					pmax	pmax			
	comp=Z,14nm,0.9s								
EPF	**Esparros**	**82.34**	**12**⇑	*i*	P		P	15 24 10.2	-0.1
	comp=Z,14nm,0.9s								
ETSF	**Etsaut**	**82.36**	**13**⇑	*i*	P		P	15 24 11.4	+1.0
	comp=Z,11nm,0.7s								
ETSF	**Etsaut**	**82.36**	**13**⇑	*i*	P		P	15 24 11.4	+1.0
ETSF					pmax	pmax			
	comp=Z,11nm,0.7s								
ETSF	**Etsaut**	**82.36**	**13**⇑	*i*	P		P	15 24 11.4	+1.0
	comp=Z,11nm,0.7s								
FRF	**La Foret Royal**	**82.44**	**7**	*e*	P		P	15 24 11.4	+0.7
	comp=Z,15nm,0.7s								
FRF	**La Foret Royal**	**82.44**	**7**	*e*	P		P	15 24 11.4	+0.7
FRF					pmax	pmax			
	comp=Z,15nm,0.7s								
FRF	**La Foret Royal**	**82.44**	**7**	*e*	P		P	15 24 11.4	+0.7
	comp=Z,15nm,0.7s								
PBRG	**Braganca**	**82.49**	**17**	*e*	P		P	15 24 12.7	+1.7
	comp=Z,16nm,1.5s								
PBRG	**Braganca**	**82.49**	**17**	*e*	LR		LR	15 54 48.9	
	comp=Z,118nm,20.0s								
LMR	**La Mourre**	**82.65**	**7**	*e*	P		P	15 24 12.8	+1.0
	comp=Z,38nm,1.1s								
LMR	**La Mourre**	**82.65**	**7**	*e*	P		P	15 24 12.8	+1.0
LMR					pmax	pmax			
	comp=Z,39nm,1.1s								
LMR	**La Mourre**	**82.65**	**7**	*e*	P		P	15 24 12.8	+1.0
	comp=Z,38nm,1.1s								
POLO	**Lamas de Olo**	**82.71**	**18**	*e*	P		P	15 24 13.5	+1.2
	comp=Z,11nm,1.3s								
POLO	**Lamas de Olo**	**82.71**	**18**	*e*	LR		LR	15 53 42.7	
	comp=Z,52nm,18.0s								
PVRL	**Vila Real**	**82.82**	**18**	*e*	P		P	15 24 14.5	+1.7
	comp=Z,29nm,1.3s								
SRDT	**SRDT**	**82.85**	**284**		P		P	15 24 14.0	+0.8
	comp=Z,36nm,1.2s								
MVO	**Moncorvo**	**83.06**	**18**	*e*	P		P	15 24 15.3	+1.3
	comp=Z,30nm,1.4s								
MVO	**Moncorvo**	**83.06**	**18**	*e*	LR		LR	15 54 32.7	
	comp=Z,138nm,18.0s								
GNI	**Garni**	**83.14**	**339**	*c*	P		P	15 24 16.7	+2.1
GNI					pmax	pmax			
	comp=Z,24nm,1.2s								
GNI	**Garni**	**83.14**	**339**		P		P	15 24 17.6	+3.0
	SNR=5.5								
GNI	**Garni**	**83.14**	**339**	*e*	P		P	15 24 16.8	+2.2
	comp=Z,30nm,1.2s								
PVIS	**Viseu**	**83.33**	**18**	*e*	P		P	15 24 16.9	+1.5
	comp=Z,56nm,1.4s								
PGF	**Pioggiola**	**83.60**	**6**⇑	*i*	P		P	15 24 17.7	+0.8
	comp=Z,44nm,0.8s								
PGF	**Pioggiola**	**83.60**	**6**⇑	*i*	P		P	15 24 17.7	+0.8
PGF					pmax	pmax			
	comp=Z,44nm,0.8s								
PGF	**Pioggiola**	**83.60**	**6**⇑	*i*	P		P	15 24 17.7	+0.8
	comp=Z,44nm,0.8s								
VTS	**Vitosha**	**83.61**	**355**	⇑	P		P	15 24 16.9	-0.1
VTS	**Vitosha**	**83.61**	**355**	⇑	*i* P		P	15 24 16.9	-0.1
MTE	**Manteigas**	**83.70**	**18**	*e*	P		P	15 24 18.8	+1.4
	comp=Z,27nm,1.1s								
MTE	**Manteigas**	**83.70**	**18**	*e*	LR		LR	15 54 54.1	
	comp=Z,93nm,18.0s								
PCAS	**Casmilo, Conde**	**83.86**	**19**	*e*	P		P	15 24 19.7	+1.6
	comp=Z,49nm,1.5s								
PCAS	**Casmilo, Conde**	**83.86**	**19**	*e*	LR		LR	15 55 24.1	
	comp=Z,90nm,20.0s								
PMRV	**Marv??o**	**84.67**	**18**	*e*	P		P	15 24 22.9	+0.6
	comp=Z,21nm,1.3s								
PMRV	**Marv??o**	**84.67**	**18**	*e*	LR		LR	15 56 00.9	
	comp=Z,77nm,18.0s								
SBUM	**Sibu**	**84.71**	**267**	*e*	P		P	15 24 24.0	+1.3
	comp=Z,8.2nm,0.8s								
PMAFR	**Mafra**	**84.76**	**20**	*e*	LR		LR	15 55 30.9	
	comp=Z,128nm,18.0s								
PMTG	**Montargil**	**84.86**	**19**	*e*	P		P	15 24 25.4	+2.2
	comp=Z,19nm,1.5s								
PMTG	**Montargil**	**84.86**	**19**	*e*	LR		LR	15 55 04.1	
	comp=Z,110nm,18.0s								
ES19	**SONSECA Array**	**85.01**	**16**	*e*	P		P	15 24 24.7	+0.7
ESDC	**Sonseca Array**	**85.03**	**16**		P		P	15 24 25.1	+1.0
	comp=Z,6.7nm,0.7s,baz=343,slow=4.5,SNR=30								
PESTR	**Estremoz**	**85.18**	**19**	*e*	LR		LR	15 55 17.5	
	comp=Z,131nm,18.0s								
ANTO	**Ankara**	**85.46**	**348**	*e*	P		P	15 24 27.8	+1.5
ANTO					pmax	pmax			
	comp=Z,29nm,1.2s								
ANTO	**Ankara**	**85.46**	**348**		P		P	15 24 28.3	+2.0
	SNR=6.7								
ANTO	**Ankara**	**85.46**	**348**	*e*	P		P	15 24 27.8	+1.5
	comp=Z,29nm,1.2s								
BR231	**Keskin MP Arra**	**85.49**	**348**	*e*	P		P	15 24 27.5	+1.1
BR131	**Keskin Array S**	**85.49**	**347**	*e*	P		P	15 24 26.9	+0.4
	comp=Z,13nm,0.9s								
BRTR	**Keskin Array B**	**85.49**	**347**		P		P	15 24 27.4	+0.8
	comp=Z,10nm,0.9s,baz=50,slow=2.1,SNR=54								
BRTR					LR		LR	16 05 38.9	
	comp=Z,74nm,20.4s,baz=7.5,slow=38								
ROSC	**El Rosal**	**85.57**	**88**		LR		LR	16 03 15.3	
	comp=Z,27nm,21.7s,baz=358,slow=36								
PNCL	**Nicolau / Gran**	**85.73**	**20**	*e*	LR		LR	15 55 47.6	
	comp=Z,146nm,18.0s								
PBAR	**Barrancos**	**85.95**	**18**	*e*	P		P	15 24 29.3	+0.7
	comp=Z,32nm,1.3s								
PCVE	**Castro Verde**	**86.29**	**19**	*e*	LR		LR	15 55 44.2	
	comp=Z,423nm,20.0s								
PVAQ	**Vaqueiros**	**86.57**	**19**	*e*	P		P	15 24 32.2	+0.5
	comp=Z,17nm,1.6s								
PVAQ	**Vaqueiros**	**86.57**	**19**	*e*	LR		LR	15 56 07.6	
	comp=Z,105nm,18.0s								
KSM	**Kuching**	**86.62**	**268**	*e*	P		P	15 24 33.0	+0.8
	comp=Z,11nm,1.1s								
KRAB	**Krabi**	**87.73**	**281**		P		P	15 24 38.9	+1.3
	comp=Z,22nm,1.0s								
TRTT	**Trang**	**87.75**	**280**		P		P	15 24 38.9	+1.2
PMOZ	**Porto Moniz, M**	**88.72**	**28**	*e*	LR		LR	15 59 04.8	
	comp=Z,206nm,20.0s								
KEST	**Kesra**	**90.41**	**6**		P		P	15 24 50.5	+0.4
	comp=Z,2.6nm,0.9s,baz=300,slow=5.3,SNR=5.4								
KEST	**Kesra**	**90.41**	**6**	*e*	P		P	15 24 50.9	+0.9
WRAB	**Tennant Creek**	**90.85**	**236**	*e*	P		P	15 24 52.9	+0.9
WRAB					pmax	pmax			
	comp=Z,13nm,1.4s								
WRA	**Warramunga Arr**	**90.86**	**236**		P		P	15 24 50.5	-1.6
	comp=Z,1.5nm,0.8s,baz=33,slow=6.0,SNR=9.9								
WRA	**Warramunga Arr**	**90.86**	**236**	*i*	P		P	15 24 51.2	-0.8
WRA					pmax	pmax			
	comp=Z,2.0nm,0.8s								
HYB	**Hyderabad**	**91.41**	**303**	*i*	P		P	15 24 54.0	-0.9
HYB				*es*	P		sP	15 25 14.0	-1.1
AS01	**Alice Springs**	**94.20**	**235**	*e*	P		P	15 25 06.8	-0.6
ASAR	**Alice Springs**	**94.23**	**235**		P		P	15 25 07.1	-0.4
	comp=Z,1.6nm,0.8s,baz=31,slow=4.5,SNR=16								
ASAR					LR		LR	16 03 23.7	
	comp=Z,64nm,19.7s,baz=31,slow=33								
STKA	**Stephens Creek**	**97.82**	**225**		LR		LR	16 05 28.7	
	comp=Z,83nm,20.0s,baz=26,slow=33								
RAYN	**Ar Rayn**	**98.85**	**333**	*e*	P		P	15 25 27.3	-1.4
	comp=Z,3.9nm,0.8s								
QSPA	**South Pole Qui**	**143.78**	**180**	*e*	PKPpre		PKPpre	15 31 18.8	
TSUM	**Tsumeb**	**145.25**	**358**	*e*	PKPdf		**PKPbc**	15 31 24.2	-1.7
LBTB	**Lobatse**	**150.27**	**343**	*e*	PKIKP		**PKPbc**	15 31 40.0	+0.5
LBTB	**Lobatse**	**150.27**	**343**	*e*	PKPbc		**PKPbc**	15 31 40.0	+0.5
MAW	**Mawson**	**154.41**	**220**		PKPbc		**PKPbc**	15 31 47.6	+0.4
	comp=Z,3.0nm,0.3s,baz=141,slow=6.5,SNR=17								
MAW	**Mawson**	**154.41**	**220**	*e*	PKIKP		**PKPbc**	15 31 47.3	0.0
MAW	**Mawson**	**154.41**	**220**	*e*	PKPbc		**PKPbc**	15 31 47.3	0.0

IDC ***13*** *15:20:46.4±12.0, 6°.53S×154°.68E, h75km±103km, mb3.4/6, mb1 3.6/7, mb1mx3.4/31, mbtmp3.7/7, MS3.2/1, Ms1 3.1/1, ms1mx2.6/17, Error ellipse: s-maj=87.9km s

s-maj=145.2km s-min=19.9km az=66.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.99**	**157**	P	P	15 39 26.3	+0.2
	0.1nm,0.3s,baz=335,slow=10,SNR=5.8						
ASAR	**Alice Springs**	**28.25**	**161**	P	P	15 39 55.1	-0.3
	0.4nm,1.0s,baz=348,slow=8.5,SNR=3.0						
SONM	**Songino Array**	**47.13**	**344**	P	P	15 42 34.8	+0.2
	0.1nm,0.4s,baz=146,slow=8.5,SNR=5.1						
MKAR	**Makanchi Array**	**56.62**	**327**	P	P	15 43 45.9	+0.6
	1.1nm,0.3s,baz=133,slow=5.5,SNR=31						
BVAR	**Borovoye Array**	**66.45**	**328**	P	P	15 44 50.4	-1.2
	0.6nm,0.6s,baz=139,slow=11,SNR=5.0						

IDC 13 15:37:56.6±1.9, 1°.37N×126°.63E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/30, mbtmp3.4/3, ML6.0/1, Error ellipse: s-maj=170.3km s-min=23.7km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**13.84**	**336**	Pn	Pn	15 41 14.1	-0.3
	77nm,0.3s,baz=156,slow=6.3,SNR=4.6						
WRA	**Warramunga Arr**	**22.49**	**161**	P	P	15 42 58.4	+0.5
	0.5nm,0.3s,baz=340,slow=11,SNR=11						
ASAR	**Alice Springs**	**25.88**	**165**	P	P	15 43 29.7	-0.6
	0.3nm,0.6s,baz=340,slow=9.5,SNR=4.1						
MKAR	**Makanchi Array**	**59.43**	**326**	P	P	15 48 01.2	+0.1
	0.5nm,0.7s,baz=117,slow=8.9,SNR=4.6						

*ISCJB **13** 15:54:10.7±1.9, 13°.4S±0°.3×66°.5E±0°.3, h10km, mb3.6/6, MS3.4/5, Error ellipse: s-maj=56.9km s-min=24.3km az=138.9*
*IDC **13** 15:54:11.6±1.1, 13°.32S×66°.53E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/30, mbtmp3.5/6, MS3.3/5, Ms1 3.4/5, ms1mx3.0/24, Error ellipse: s-maj=41.6km s-min=25.0km az=47.0*
ISC 13 15:54:13.1±1.3, 13°.3S±0°.3×66°.5E±0°.3, h10km, n17, σ0$74/12, mb3.7/6, MS3.3/5, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**44.95**	**46**	P	**P**	**16 02 28.9**	**+0.2**
	0.4nm,0.7s,baz=232,slow=9.8,SNR=4.3						
CMAR				LR	LR	16 19 49.8	
	comp=Z,36nm,18.2s,baz=246,slow=34						
TSUM	**Tsumeb**	**47.21**	**256**	LR	LR	16 21 06.0	
	comp=Z,55nm,18.6s,baz=52,slow=34						
H01W3	**Cape Leeuwin H**	**47.95**	**125**	T	T	16 54 08.7	
	baz=285,slow=75,SNR=5.7						
H01W2	**Cape Leeuwin H**	**47.95**	**125**	T	T	16 54 05.9	
	baz=285,slow=75,SNR=5.1						
H01W1	**Cape Leeuwin H**	**47.96**	**125**	T	T	16 54 10.6	
	baz=285,slow=75,SNR=5.8						
BRTR	**Keskin Array B**	**61.01**	**331**	P	**P**	**16 04 27.3**	**+0.2**
	0.4nm,0.7s,baz=147,slow=8.2,SNR=3.4						
MKAR	**Makanchi Array**	**61.50**	**12**	P	**P**	**16 04 30.8**	**+0.7**
	0.2nm,0.5s,baz=207,slow=9.3,SNR=3.2						
ASAR	**Alice Springs**	**64.24**	**110**	P	**P**	**16 04 48.6**	**-0.4**
	0.5nm,0.8s,baz=268,slow=5.7,SNR=6.3						
WRA	**Warramunga Arr**	**64.96**	**106**	P	**P**	**16 04 53.9**	**+0.3**
	0.3nm,0.5s,baz=275,slow=5.7,SNR=9.9						
ZALV	**Zalesovo Beam**	**68.81**	**11**	P	**P**	**16 05 15.8**	**-1.6**
	0.7nm,0.7s,baz=191,slow=3.0,SNR=4.0						
SONM	**Songino Array**	**70.49**	**27**	LR	LR	16 35 52.0	
	comp=Z,36nm,20.4s,baz=234,slow=36						
KSRS	**Korea Array**	**76.59**	**46**	LR	LR	16 40 54.4	
	comp=Z,11nm,18.3s,baz=287,slow=37						
MJAR	**Matsushiro Arr**	**83.66**	**50**	LR	LR	16 43 28.2	
	comp=Z,8.4nm,19.1s,baz=255,slow=35						
LPAZ	**La Paz**	**126.37**	**238**	PKP	**PKPdf**	**16 13 18.0**	**0.0**
	1.2nm,0.4s,baz=120,slow=4.4,SNR=13						
YKA	**Yellowknife Ar**	**130.90**	**1**	PKP	**PKPdf**	**16 13 24.7**	**+0.2**
	0.2nm,0.5s,baz=351,slow=2.4,SNR=3.7						
PDAR	**Pinedale Array**	**150.47**	**354**	PKPbc	**PKPbc**	**16 14 05.4**	**-0.2**
	1.1nm,0.9s,baz=60,slow=4.1,SNR=7.8						
PDAR				PKPab	**PKPab**	**16 14 11.9**	**-0.1**
	1.2nm,0.8s,baz=48,slow=4.1,SNR=8.1						
NVAR	**Mina Array Bea**	**154.64**	**9**	PKPbc	**PKPbc**	**16 14 16.1**	**+1.0**
	0.2nm,0.5s,baz=356,slow=2.3,SNR=3.7						
NVAR				PKPab	**PKPab**	**16 14 29.0**	**-0.6**
	0.1nm,0.3s,baz=346,slow=4.6,SNR=2.5						

IDC 13 16:11:14.1±69.0, 15°.84S×175°.56W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/19, mbtmp4.1/3, Error ellipse: s-maj=1299.0km s-min=183.4km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.02**	**240**	P	P	16 19 07.6	+0.1
	2.0nm,1.0s,baz=68,slow=1.1,SNR=4.8						
WRA	**Warramunga Arr**	**47.72**	**257**	P	P	16 19 53.1	-0.1
	0.8nm,0.5s,baz=90,slow=8.0,SNR=29						
ASAR	**Alice Springs**	**48.00**	**252**	P	P	16 19 55.0	-0.4
	4.8nm,0.5s,baz=88,slow=8.4,SNR=155						

*DHMR **13** 16:14:03.9±2.3, 12°.06N×43°.79E, h14km±12km, ML4.2*
*CSEM **13** 16:14:03.9, 12°.06N×43°.79E, h13km, ML4.2*
ISC 13 16:14:04.8±1.4, 12°.00N±0°.09×43°.9E±0°.1, h4km, n7, σ1$12/14, 1C, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.23**	**9**	⇑*iP*	**Pg**	**16 14 26.7**	**-1.8**
TRBA				*i* S	**Sg**	**16 14 43.3**	**-1.2**
TRBA				AML	AML	16 14 44.4	
	comp=E,7μm,0.2s						
BDHA	**Al Bayda'**	**2.53**	**39**	*i* P	**Pn**	**16 14 46.6**	**-0.3**
BDHA				*i* S	**Sb**	**16 15 23.5**	**+0.9**
BDHA				AML	AML	16 15 33.7	
	comp=N,1μm,0.9s						
BDHA	**Al Bayda'**	**2.53**	**39**	*i* P	**Pn**	**16 14 46.6**	**-0.3**
BDHA				*i* S	**Sb**	**16 15 23.5**	**+0.9**
	comp=N,708nm,0.9s						
DHBB	**Dhamar BB**	**2.59**	**10**	*i* P	**Pn**	**16 14 48.5**	**+0.7**
DHBB				*i* S	**Sn**	**16 15 21.5**	**+1.6**
HAJJ	**Hajjah**	**3.69**	**355**	*i* P	**Pn**	**16 15 02.6**	**-0.2**
HAJJ				*i* S	**Sn**	**16 15 48.1**	**+1.3**
HAJJ				AML	AML	16 16 07.5	
	comp=Z,1μm,0.7s						
HAJJ	**Hajjah**	**3.69**	**355**	*i* P	**Pn**	**16 15 02.6**	**-0.2**
HAJJ				*i* S	**Sn**	**16 15 48.1**	**+1.3**
	comp=Z,529nm,0.7s						
FURI	**Furi**	**6.01**	**240**	P	**Pb**	**16 15 50.9**	**+0.5**
FURI				S	**Sg**	**16 17 17.3**	**-0.7**

MAN 13 16:15:10, 8°.45N×122°.58E, h0km, mb4.5, ML3.3, MS3.2, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**0.66**	**180**	*e*P	Pg	16 15 23.2	+0.6
PAGZ	**Pagadian**	**1.00**	**127**	*e*P	Pg	16 15 29.0	-0.1
PAGZ				*e*S	Sn	16 15 46.6	+0.6
GUIM	**Jordan**	**2.16**	**0**	*e*P	Pn	16 15 48.1	+0.8

*IDC **13** 16:17:45.3±1.4, 54°.23N×163°.31W, h0km, mb3.6/10, mb1 3.8/10, mb1mx3.6/36, mbtmp3.6/10, Error ellipse: s-maj=40.9km s-min=19.0km az=6.0*
*NEIC **13** 16:17:47.0, 53°.84N×163°.19W, h6km, ML3.4(AEIC), After AEIC.*
*ISCJB **13** 16:17:49.0±0.8, 53°.87N±0°.07×163°.18W±0°.07, h53km±7km, mb3.6/10, Error ellipse: s-maj=13.5km s-min=5.2km az=156.1*
ISC 13 16:17:51.2±1.4, 53°.95N±0°.09×163°.26W±0°.05, h50km±13km, n39, σ1$26/41, mb3.6/10, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**0.91**	**355**	P	**Pn**	**16 18 06.1**	**-1.6**
FALS				S	**Sn**	**16 18 19.9**	**0.0**
ISNN	**Isanotski Nort**	**0.94**	**341**	P	**Pn**	**16 18 07.6**	**-0.5**
WESE	**West Dahl East**	**0.94**	**305**	P	**Pn**	**16 18 06.7**	**-1.4**
SSLN	**Shishaldin Nor**	**0.96**	**334**	P	**Pn**	**16 18 08.0**	**-0.6**
SSLW	**Shishaldin Wes**	**0.96**	**329**	P	**Pn**	**16 18 07.3**	**-1.2**
WESP	**Westdahl Peak**	**1.01**	**303**	P	**Pn**	**16 18 08.3**	**-0.9**
WESP				S	**Sn**	**16 18 25.1**	**+2.6**
WEBT	**Westdahl Beart**	**1.08**	**307**	P	**Pn**	**16 18 09.3**	**-0.7**
DRIA	**Deer Island**	**1.18**	**29**	P	**Pn**	**16 18 09.4**	**-1.9**
DT1	**Dutton Round H**	**1.29**	**26**	P	**Pn**	**16 18 11.7**	**-1.2**
AKSA	**Akutan Strait**	**1.45**	**278**	P	**Pn**	**16 18 13.5**	**-1.4**
AKSA				S	**Sn**	**16 18 33.6**	**+0.8**
AKUT	**Akutan**	**1.49**	**278**	P	**Pn**	**16 18 14.1**	**-1.4**
AKUT				S	**Sn**	**16 18 35.3**	**+1.5**
ZRO	**Akutan Zero**	**1.61**	**276**	P	**Pn**	**16 18 15.7**	**-1.5**
AKGG	**Akutan Green G**	**1.63**	**280**	P	**Pn**	**16 18 16.3**	**-1.1**
AKGG				S	**Sn**	**16 18 39.2**	**+2.0**
AKRB	**Akutan Reef Bi**	**1.66**	**277**	P	**Pn**	**16 18 17.8**	**-0.2**
UNV	**Unalaska Valle**	**1.92**	**268**	*e*Pn	**Pn**	**16 18 19.1**	**-2.3**
UNV				*e*Sn	**Sn**	**16 18 44.8**	**+0.5**
UNV				S	**Sn**	**16 18 46.3**	**+2.0**
MREP	**Makushin Rep't**	**2.07**	**268**	P	**Pn**	**16 18 22.7**	**-0.8**
MSW	**Makushin Switc**	**2.08**	**270**	P	**Pn**	**16 18 22.2**	**-1.4**
SDPT	**Sand Point**	**2.14**	**48**	P	**Pn**	**16 18 24.0**	**-0.5**
SDPT				S	**Sn**	**16 18 51.3**	**+1.5**
MCIR	**Makushin Cirqu**	**2.14**	**272**	P	**Pn**	**16 18 23.7**	**-0.8**
OKFG	**Magazine Ridge**	**2.82**	**261**	P	**Pn**	**16 18 33.0**	**-0.7**
NIKH	**Nikolski High**	**3.48**	**256**	P	**Pn**	**16 18 41.6**	**-1.2**
CHGN	**Chignik**	**3.65**	**48**	*e*Pn	**Pn**	**16 18 45.0**	**-0.1**
SPIA	**Saint Paul Isl**	**5.11**	**312**	P	**Pn**	**16 19 05.9**	**+0.7**
PETK	**Petropavlovsk-**	**23.02**	**284**	P	**P**	**16 22 50.8**	**-0.9**
	1.7nm,0.7s,baz=86,slow=14,SNR=19						
YKA	**Yellowknife Ar**	**26.41**	**52**	P	**P**	**16 23 22.0**	**-0.5**
	0.2nm,0.4s,baz=272,slow=9.3,SNR=4.3						
NVAR	**Mina Array Bea**	**34.13**	**98**	P	**P**	**16 24 33.0**	**+1.7**
	0.3nm,0.7s,baz=281,slow=9.1,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**41.09**	**225**	T	T	17 09 25.1	
	baz=26,slow=76,SNR=63						
H11N3	**WAKE ISLAND Hy**	**41.10**	**225**	T	T	17 09 26.6	
	baz=26,slow=76,SNR=99						
H11N1	**WAKE ISLAND Hy**	**41.11**	**225**	T	T	17 09 26.6	
	baz=26,slow=76,SNR=64						
H11S1	**WAKE ISLAND Hy**	**42.26**	**225**	T	T	17 10 52.2	
	baz=26,slow=76,SNR=6.9						
H11S2	**WAKE ISLAND Hy**	**42.28**	**225**	T	T	17 10 53.8	
	baz=26,slow=76,SNR=6.9						
H11S3	**WAKE ISLAND Hy**	**42.28**	**225**	T	T	17 10 54.1	
	baz=26,slow=76,SNR=9.8						
KSRS	**Korea Array**	**48.82**	**280**	P	**P**	**16 26 31.8**	**+0.6**
	0.7nm,0.5s,baz=51,slow=8.3,SNR=4.1						
TXAR	**Lajitas Array**	**49.13**	**95**	P	**P**	**16 26 34.3**	**+0.5**
	0.2nm,0.6s,baz=299,slow=6.4,SNR=3.7						
SONM	**Songino Array**	**53.58**	**303**	P	**P**	**16 27 06.7**	**-0.2**
	0.4nm,0.1s,baz=47,slow=8.5,SNR=4.1						
ARCES	**ARCESS Array B**	**56.66**	**356**	P	**P**	**16 27 27.5**	**-1.1**
	0.6nm,0.7s,baz=1.6,slow=8.5,SNR=4.1						
FINES	**FINESS Array B**	**64.71**	**355**	P	**P**	**16 28 22.5**	**-1.0**
	1.8nm,0.8s,baz=12,slow=9.8,SNR=8.9						
NOA	**NORSAR Array B**	**65.27**	**3**	P	**P**	**16 28 26.7**	**-0.5**
	0.4nm,0.8s,baz=357,slow=6.9,SNR=3.4						
MKAR	**Makanchi Array**	**65.29**	**316**	P	**P**	**16 28 26.9**	**-0.6**
	0.4nm,0.7s,baz=20,slow=4.0,SNR=3.8						

*IDC **13** 16:18:26.0±0.9, 61°.16S×154°.51E, h0km, mb4.1/4, mb1 4.3/4, mb1mx4.1/10, mbtmp4.1/4, MS3.5/3, Ms1 3.5/3, ms1mx3.2/11, Error ellipse: s-maj=64.6km s-min=25.2km az=72.0*
*NEIC **13** 16:18:27.3±0.6, 61°.59S×153°.83E, h10km, mb4.5/6, Error ellipse: s-maj=40.2km s-min=11.7km az=73.0*
ISC 13 16:18:27.1±0.7, 61°.3S±0°.1×154°.5E±0°.3, h10km, n34, σ1$50/24, mb4.3/8, MS3.9/3, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**16.48**	**174**	Pn	Pn	16 22 13.6	-4.4
	0.1nm,0.3s,baz=338,slow=13,SNR=3.9						
VNDA				S	**Sn**	**16 25 22.8**	**+2.1**
	0.0nm,0.3s,baz=43,slow=7.4,SNR=2.1						
VNDA	**Vanda**	**16.48**	**174**	*e*Pn	Pn	16 22 13.4	-4.6
	7.3nm,1.2s						
VNDA				Sn	**Sn**	**16 25 22.8**	**+2.1**
SBA	**Scott Base**	**17.11**	**171**	*e*Pn	**Pn**	**16 22 22.1**	**-3.8**
	8.5nm,1.1s						
QSPA	**South Pole Qui**	**28.80**	**180**	P	**P**	**16 24 26.2**	**+1.2**
	1.3nm,1.0s,baz=303,slow=1.9,SNR=3.5						
MAW	**Mawson**	**36.52**	**220**	LR	LR	16 40 26.9	
	comp=Z,190nm,19.1s,baz=60,slow=36						
H01W1	**Cape Leeuwin H**	**36.74**	**297**	T	T	17 04 32.8	
	baz=147,slow=75,SNR=36						
H01W2	**Cape Leeuwin H**	**36.75**	**297**	T	T	17 04 33.4	
	baz=147,slow=75,SNR=27						
H01W3	**Cape Leeuwin H**	**36.76**	**297**	T	T	17 04 34.1	
	baz=147,slow=75,SNR=44						
ASAR	**Alice Springs**	**40.18**	**330**	P	**P**	**16 26 03.1**	**-0.2**
	2.0nm,0.9s,baz=166,slow=8.6,SNR=10						
ASAR				PcP	**PcP**	**16 28 06.5**	**-0.9**
	1.6nm,0.9s,baz=157,slow=3.2,SNR=5.5						
WRA	**Warramunga Arr**	**43.66**	**332**	P	**P**	**16 26 30.7**	**-1.1**
	2.8nm,1.0s,baz=167,slow=7.0,SNR=9.4						
WRA				PcP	**PcP**	**16 28 18.1**	**-0.8**
	2.1nm,0.9s,baz=177,slow=2.8,SNR=9.9						
WRAB	**Tennant Creek**	**43.67**	**332**	P	**P**	**16 26 34.3**	**+2.5**
SNAA	**Sanae**	**46.39**	**190**	P	**P**	**16 26 51.4**	**-1.7**
	10nm,1.4s						
TBI	**Tubuai**	**53.64**	**71**	*e*T	T	17 25 29.3	
	12nm,0.3s						
PPT2	**Papeete2**	**58.61**	**68**	*e*LR	LR	16 45 39.4	
	85nm,25.8s						
MEH	**Mehetia**	**59.04**	**69**	*e*T	T	17 32 17.5	
	11nm,0.3s						
RKT	**Rikitea**	**60.67**	**85**	*e*T	T	17 34 18.5	
	11nm,0.2s						
VAH	**Vaihoa**	**61.55**	**68**	*e*T	T	17 35 26.1	
	20nm,0.3s						
KSM	**Kuching**	**71.10**	**313**	*e*P	**P**	**16 29 45.2**	**-0.2**
	7.5nm,1.0s						
KULM	**Kulim**	**78.25**	**305**	P	**P**	**16 30 26.5**	**-0.4**
	18nm,1.2s						
H08S2	**Diego Garcia H**	**79.48**	**273**	T	T	17 58 00.5	
	baz=152,slow=76						
H08S1	**Diego Garcia H**	**79.49**	**273**	T	T	17 58 03.5	
	baz=152						
H08S3	**Diego Garcia H**	**79.50**	**273**	T	T	17 58 04.3	
	baz=152,slow=76						
LVC	**Limon Verde**	**89.40**	**141**	*e*P	**P**	**16 31 25.3**	**+1.1**
	3.5nm,0.9s						
CMAR	**Chiang Mai Arr**	**90.93**	**308**	P	**P**	**16 31 32.4**	**+1.5**
	0.3nm,0.3s,baz=199,slow=4.8,SNR=3.7						
CMAR				LR	LR	17 10 49.4	
	comp=Z,3.6nm,18.2s,baz=185,slow=35						
LPAZ	**La Paz**	**95.58**	**139**	LR	LR	17 06 44.8	
	comp=Z,40nm,21.5s,baz=308,slow=30						
NVAR	**Mina Array Bea**	**121.58**	**67**	PKP	**PKPdf**	**16 37 21.4**	**+1.1**
	0.8nm,0.8s,baz=201,slow=3.9,SNR=4.8						
MKAR	**Makanchi Array**	**122.33**	**309**	PKP	**PKPdf**	**16 37 20.2**	**-1.0**
	1.4nm,1.1s,baz=188,slow=8.7,SNR=4.2						
TORD	**Torodi Ar. Bea**	**128.04**	**214**	PKP	**PKPdf**	**16 37 32.2**	**-0.9**
	1.4nm,1.0s,baz=199,slow=1.9,SNR=3.9						
PDAR	**Pinedale Array**	**129.01**	**70**	PKP	**PKPdf**	**16 37 35.2**	**+0.8**
	0.6nm,1.0s,baz=270,slow=3.6,SNR=3.2						
ILAR	**Eielson Array**	**133.12**	**30**	PKP	**PKPdf**	**16 37 41.7**	**+0.6**
	0.9nm,1.0s,baz=256,slow=3.9,SNR=4.5						
YKA	**Yellowknife Ar**	**141.19**	**48**	PKP	**PKPdf**	**16 37 54.6**	**-1.5**
	0.3nm,0.8s,baz=272,slow=1.9,SNR=4.3						
KEST	**Kesra**	**146.25**	**237**	PKPbc	**PKPab**	**16 38 08.7**	**+0.8**
	2.7nm,0.9s,baz=51,slow=6.5,SNR=5.6						
KEST	**Kesra**	**146.25**	**237**	*e*PKPdf	**PKPbc**	**16 38 07.5**	**+0.4**
KEST				PKPbc	**PKPab**	**16 38 08.7**	**+0.8**
AKASG	**Malin Array Be**	**148.54**	**276**	PKPbc	**PKPbc**	**16 38 12.9**	**0.0**
	1.0nm,0.6s,baz=82,slow=3.5,SNR=5.7						

*ISCJB **13** 16:26:11.5±0.8, 38°.73N±0°.05×28°.49E±0°.06, h9km, Error ellipse: s-maj=7.5km s-min=6.8km az=37.6*
*ISK **13** 16:26:11.0, 38°.71N×28°.48E, h5km, MD2.5*
*CSEM **13** 16:26:12.1±0.2, 38°.72N×28°.48E, h0km±7km, MD2.5, Error ellipse: s-maj=5.9km s-min=4.3km az=167.0*
*DDA **13** 16:26:14.6, 38°.60N×28°.52E, h7km, MD2.5*
ISC 13 16:26:12.2±0.9, 38°.69N±0°.04×28°.46E±0°.03, h9km, n15, σ0$80/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANT	**Manisa**	**0.21**	**159**	*i* P	**Pg**	**16 26 17.4**	**+0.7**
MANT				*i* S	**Sg**	**16 26 19.2**	**-0.5**
MANT	**Manisa**	**0.21**	**159**	*i* P	**Pg**	**16 26 17.4**	**+0.7**
MANT				*i* S	**Sg**	**16 26 19.2**	**-0.5**
KULA	**Kula-Manisa**	**0.23**	**138**	*e*PG	**Pg**	**16 26 16.6**	**-0.4**
KULA	**Kula-Manisa**	**0.23**	**138**	*e*Pg	**Pg**	**16 26 16.6**	**-0.4**
DEMI	**Demirci**	**0.41**	**29**	*i* P	**Pn**	**16 26 24.4**	**+0.1**
DEMI				*i* S	**Sb**	**16 26 30.6**	**+2.7**
AKS	**Akhisar**	**0.54**	**291**	*e*PG	**Pg**	**16 26 22.4**	**-0.4**
AKS	**Akhisar**	**0.54**	**291**	*e*Pg	**Pg**	**16 26 22.4**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**0.87**	**211**	*e*PG	**Pb**	**16 26 29.4**	**-0.1**
AYDB				*e*SG	**Sn**	**16 26 42.9**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**0.87**	**211**	*e*Pg	**Pb**	**16 26 29.4**	**-0.1**
AYDB				*e*Sg	**Sn**	**16 26 42.9**	**-0.7**
KHL	**Karahalli**	**0.91**	**113**	*e*PG	**Pb**	**16 26 29.8**	**-0.4**
KHL	**Karahalli**	**0.91**	**113**	*e*Pg	**Pb**	**16 26 29.8**	**-0.4**
IZM	**Izmir**	**0.98**	**253**	*e*PG	**Pb**	**16 26 31.5**	**0.0**
IZM	**Izmir**	**0.98**	**253**	*e*Pg	**Pb**	**16 26 31.5**	**0.0**
TVSB	**Tavsanli**	**1.09**	**45**	*e*PG	**Pg**	**16 26 32.6**	**-0.5**
TVSB	**Tavsanli**	**1.09**	**45**	*e*Pg	**Pg**	**16 26 32.6**	**-0.5**

*SJA **13** 16:32:35.6±1.4, 34°.69S×73°.73W, h40km, ML3.8*
*ISCJB **13** 16:32:48.5±1.1, 35°.10S±0°.04×72°.1W±0°.1, h54km±8km, mb3.7/6, MS3.5/2, Error ellipse: s-maj=19.3km s-min=5.5km az=11.4*
*NEIC **13** 16:32:48.0, 34°.99S×72°.07W, h24km, mb4.3/1, ML4.1(GUC), After GUC.*
NEIC Felt [III] at Constitucion, Curico and Iloca; [II] at Pencahue and Talca.
*GUC **13** 16:32:48.6±0.4, 34°.99S×72°.07W, h24km±2km, ML4.1*
*IDC **13** 16:32:54.2±4.2, 35°.28S×70°.17W, h34km±35km, mb3.6/6, mb1 3.9/9, mb1mx3.8/18, mbtmp3.8/9, ML4.0/3, MS3.1/1, Ms1 3.1/1, ms1mx2.7/19, Error ellipse: s-maj=39.6km s-min=17.1km az=94.0*
ISC 13 16:32:48.9±1.4, 35°.06S±0°.04×72°.09W±0°.09, h34km±3km, n34, σ1$34/34, mb3.9/4, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.51**	**132**	⇓*iP*	**Pb**	**16 32 59.2**	**-0.4**
TALC				*i* S	**Sn**	**16 33 07.1**	**-0.1**
NICH	**Los Niches**	**0.71**	**86**	⇓*iP*	**Pn**	**16 33 01.7**	**-0.8**
NICH				*i* S	**Sn**	**16 33 11.3**	**-1.0**
NICH				AML	AML	16 33 12.6	
	comp=E,19μm,0.3s						
LNCH	**Linares**	**0.88**	**153**	⇓*iP*	**Pb**	**16 33 05.2**	**-0.6**
LNCH				*i* S	**Sb**	**16 33 18.0**	**+0.7**
LNCH				AML	AML	16 33 21.3	
	comp=N,11μm,0.4s						
LNV	**Longovilo**	**1.24**	**27**	*e*P	**Pn**	**16 33 09.0**	**-0.8**
CACH	**El Canelo**	**1.55**	**53**	*i* P	**Pn**	**16 33 14.3**	**+0.1**
CACH				*i* S	**Sn**	**16 33 34.2**	**+1.0**
CHCH	**Chadas Angostu**	**1.64**	**47**	*i* P	**Pn**	**16 33 15.4**	**+0.1**
CHCH				*i* S	**Sn**	**16 33 36.1**	**+0.9**
TACH	**Talagante**	**1.70**	**35**	⇑*iP*	**Pn**	**16 33 16.2**	**+0.1**
SAN	**Santiago**	**2.00**	**37**	AML	AML	16 33 50.3	
	comp=N,2μm,0.6s						
CLCH	**Cerro Calan**	**2.10**	**38**	⇑*iP*	**Pn**	**16 33 22.8**	**+1.0**
CLCH				*i* S	**Sn**	**16 33 48.6**	**+1.9**
CLCH				AML	AML	16 33 58.5	
	comp=E,2μm,0.8s						
CANA	**Caviahue**	**2.94**	**164**	*i* P9	**Pn**	**16 33 34.5**	**+1.1**
CANA				*e*S	**Sb**	**16 34 18.8**	**+2.5**
AAGR	**Agrelo**	**3.35**	**55**	*i* P	**Pn**	**16 33 41.8**	**+2.8**
AAGR				*i* P	**Pn**	**16 33 41.8**	**+2.8**
ARCO	**CERRO ARCO**	**3.44**	**51**	*i* P	**Pn**	**16 33 43.0**	**+2.8**
ARCO				*i* S	**Sb**	**16 34 32.7**	**+2.2**
ARCO				AML	AML	16 34 38.1	
	comp=Z,95nm,0.5s						
AUSP	**Uspallata**	**3.62**	**39**	*i* P	**Pn**	**16 33 44.6**	**+1.8**
ASAL	**Salagasta**	**3.66**	**49**	*i* P	**Pn**	**16 33 45.8**	**+2.5**
RTLS	**Leoncito**	**4.01**	**36**	*i* P	**Pn**	**16 33 48.9**	**+0.8**
RTCV	**Cerro Valdivia**	**4.36**	**44**	*i* P	**Pn**	**16 33 53.2**	**+0.4**
CFAA	**Coronel Fontan**	**4.72**	**44**	Pn	**Pn**	**16 33 55.4**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=197,slow=6.5,SNR=11						
CFAA				Lg	Lg	16 34 59.0	
	comp=Z,0.6nm,0.3s,baz=297,slow=15,SNR=2.5						
CFAA				LR	LR	16 35 31.1	
	comp=Z,8.1nm,19.8s,baz=268,slow=39						
RTLL	**Cerro Villicun**	**4.80**	**40**	*i* P	**Pn**	**16 33 57.2**	**-1.7**
PLCA	**Paso Flores**	**5.79**	**168**	Pn	**Pn**	**16 34 13.4**	**+1.0**
	comp=Z,1.6nm,0.3s,baz=90,slow=24,SNR=36						
PLCA				Lg	Lg	16 35 48.3	
	comp=Z,0.6nm,0.3s,baz=89,slow=24,SNR=3.2						
LCO	**Las Campanas**	**6.15**	**11**	*e*Pn	**Pn**	**16 34 15.4**	**-2.1**
TRQA	**Tornquist**	**8.67**	**113**	*e*Pn	**Pn**	**16 34 52.0**	**+0.1**
LPAZ	**La Paz**	**19.03**	**12**	P	**Pn**	**16 37 12.4**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=188,slow=4.5,SNR=4.3						
LPAZ	**La Paz**	**19.03**	**12**	P	**Pn**	**16 37 09.3

TX31	**Lajitas Ar. Si**	21.08	359	*eP*	**P**		**16 44 11.3**	**-0.1**
TXAR	**Lajitas Array**	21.08	359	P	**P**		**16 44 12.0**	**+0.6**
TXAR	**Lajitas Array**	21.08	359	P	**P**		**16 44 12.0**	**+0.6**
	1.4nm,0.6s,baz=158,slow=9.0,SNR=14							
JCT	**Junction City**	22.46	8	*eP*	**P**		**16 44 26.5**	**+0.4**
	9.6nm,1.0s							
HKT	**Hockley**	22.79	17	*eP*	**P**		**16 44 30.4**	**+0.9**
	28nm,1.5s							
BCIP	**Isla Barro Col**	23.21	86	*eP*	**P**		**16 44 36.2**	**+2.1**
	211nm,1.8s							
MNTX	**Cornudas Mount**	23.51	356	*eP*	**P**		**16 44 36.4**	**-0.4**
	7.6nm,1.4s							
WHTX	**Lake Whitney,**	24.34	12	*eP*	**P**		**16 44 45.2**	**+0.7**
	9.1nm,0.7s							
ABTX	**Abilene, Hawle**	24.59	7	*eP*	**P**		**16 44 46.3**	**-0.6**
	12nm,1.1s							
TUC	**Tucson**	25.03	345	*eP*	**P**		**16 44 51.8**	**+0.8**
	15nm,1.5s							
MSTX	**Muleshoe**	25.70	1	*eP*	**P**		**16 44 56.6**	**-0.4**
	13nm,1.5s							
BNM	**Barren Site**	26.06	354	*eP*	**P**		**16 44 58.4**	**-2.0**
BAR	**Barrett**	27.38	335	*eP*	**P**		**16 45 12.8**	**+0.7**
MIAR	**Mount Ida**	27.75	17	*eP*	**P**		**16 45 15.6**	**+0.2**
	12nm,1.2s							
PFO	**Pinyon Flats O**	28.10	336	LR	LR		16 54 49.6	
	comp=Z,241nm,18.0s,baz=144,slow=33							
T25A	**Trinidad**	28.88	358	*eP*	**P**		**16 45 26.2**	**+0.6**
	27nm,2.0s							
ROSC	**El Rosal**	28.96	95	LR	LR		16 55 19.4	
	comp=Z,70nm,19.2s,baz=208,slow=33							
SHPR	**Sheep Range**	30.23	341	*eP*	**P**		**16 45 38.8**	**+1.3**
CLC	**China Lake**	30.48	337	*eP*	**P**		**16 45 42.0**	**+2.3**
SDV	**Santo Domingo**	32.31	86	*eP*	**P**		**16 45 58.2**	**+2.0**
	4.5nm,0.9s							
TKL	**Tuckaleechee C**	32.69	30	*eP*	**P**		**16 45 57.4**	**-1.7**
NV01	**Mina Array Sit**	33.05	338	*eP*	**P**		**16 46 04.2**	**+1.7**
NVAR	**Mina Array Bea**	33.05	338	P	**P**		**16 46 04.0**	**+1.6**
	0.9nm,0.7s,baz=170,slow=8.4,SNR=5.6							
RWWY	**Rawlins**	33.58	355	*eP*	**P**		**16 46 05.9**	**-1.2**
	5.9nm,1.0s							
WCI	**Wyandotte Cave**	33.65	25	*eP*	**P**		**16 46 09.5**	**+2.0**
	20nm,0.4s							
HWUT	**Hardware Ranch**	34.12	349	P	**P**		**16 46 11.5**	**-0.2**
BW06	**Boulder Array**	34.92	352	*eP*	**P**		**16 46 18.1**	**-0.5**
PDAR	**Pinedale Array**	34.92	352	P	**P**		**16 46 19.3**	**+0.7**
	1.8nm,1.0s,baz=150,slow=6.8,SNR=9.9							
WVOR	**Wild Horse Val**	36.73	341	*eP*	**P**		**16 46 32.4**	**-1.6**
	7.9nm,1.3s							
YBH	**Yreka Blue Hor**	37.60	336	LR	LR		16 59 43.0	
	comp=Z,160nm,20.8s,baz=164,slow=32							
TAOE	**Nuku Hiva Isla**	40.41	246	*eT*	T		17 30 05.2	
	219nm,0.3s							
ULM	**Lac du Bonnet**	42.42	7	LR	LR		17 04 43.7	
	comp=Z,145nm,18.1s,baz=313,slow=36							
LPAZ	**La Paz**	42.44	125	P	**P**		**16 47 24.8**	**+2.3**
	1.5nm,1.0s,baz=270,slow=6.1,SNR=3.5							
LPAZ	**La Paz**	42.44	125	*eP*	**P**		**16 47 19.5**	**-3.0**
	7.4nm,1.2s							
PIER	**Pier 30 Seattl**	42.51	341	*eP*	P		16 47 25.3	+3.5
SAML	**Samuel**	43.42	112	*eP*	**P**		**16 47 28.5**	**-1.3**
	8.9nm,1.3s							
RKT	**Rikitea**	43.89	224	*e*LR	LR		16 59 51.6	
	534nm,28.2s							
RKT	**Rikitea**	43.89	224	*eT*	T		17 34 17.5	
	11nm,0.2s							
LVC	**Limon Verde**	45.48	133	P	**P**		**16 47 46.2**	**-0.2**
	3.7nm,0.8s							
BBB	**Bella Bella**	48.38	340	LR	LR		17 06 49.1	
	comp=Z,89nm,19.3s,baz=140,slow=34							
PMOR	**Pomariorio Ree**	49.83	243	*eT*	T		17 41 51.6	
	2.4nm,0.2s							
PPT	**Papeete**	52.37	241	LR	LR		17 05 43.1	
	comp=Z,148nm,18.4s,baz=92,slow=30							
PPT2	**Papeete2**	52.38	240	*e*S	S		16 56 11.7	+8.6
	54nm,24.8s							
PPT2				*e*LR	LR		17 03 36.1	
	338nm,25.2s,baz=55							
DLBC	**Dease Lake**	54.21	343	P	P		16 48 47.8	-4.2
SCHQ	**Schefferville**	54.86	25	LR	LR		17 14 04.2	
	comp=Z,171nm,19.0s,baz=283,slow=38							
YKA	**Yellowknife Ar**	54.87	354	P	**P**		**16 48 55.2**	**-1.4**
	0.1nm,0.3s,baz=161,slow=7.3,SNR=6.3							
TBI	**Tubuai**	54.92	234	*e*LR	LR		17 04 59.8	
	292nm,26.5s							
BDFB	**Brasilia**	59.64	113	LR	LR		17 14 00.2	
	comp=Z,62nm,18.6s,baz=271,slow=35							
ILAR	**Eielson Array**	64.24	341	P	**P**		**16 50 00.3**	**-0.9**
	1.3nm,1.0s,baz=155,slow=4.6,SNR=5.7							
PETK	**Petropavlovsk-**	88.91	323	LR	LR		17 25 48.2	
	comp=Z,21nm,19.6s,baz=81,slow=31							
ESDC	**Sonseca Array**	91.97	50	LR	LR		17 30 26.0	
	comp=Z,39nm,19.2s,baz=5.0,slow=33							
NOA	**NORSAR Array B**	94.41	26	LR	LR		17 33 26.6	
	comp=Z,60nm,21.5s,baz=270,slow=34							
ARCES	**ARCESS Array B**	94.95	16	LR	LR		17 35 16.6	
	comp=Z,102nm,21.9s,baz=354,slow=35							
DBIC	**Dimbokro**	97.36	82	LR	LR		17 36 48.6	
	comp=Z,27nm,18.0s,baz=184,slow=35							
VNDA	**Vanda**	98.95	193	LR	LR		17 29 04.5	
	comp=Z,52nm,19.9s,baz=146,slow=30							
HHC	**Hu-ho-hao-te**	121.63	329	*e*PKP	**PKPdf**		**16 58 16.3**	**-4.3**
HHC				sPKP			16 58 26.3	
HHC				PP	**PP**		**16 59 53.9**	**+1.6**
HHC				PPMZ				
	44nm,8.6s							
HHC				LN				
	210nm,16.0s							
HHC				LE				
	220nm,16.0s							
HHC				LZ				
	170nm,17.3s							
WRA	**Warramunga Arr**	123.11	252	PKP	**PKPdf**		**16 58 25.1**	**+1.3**
	0.7nm,0.9s,baz=77,slow=2.5,SNR=3.7							
WMQ	**Urumqi**	127.32	350	*e*PKP	**PKPdf**		**16 58 30.4**	**-0.9**
WMQ				LN				
	78nm,22.4s							
WMQ				LE				
	88nm,24.8s							
WMQ				LZ				
	61nm,20.8s							
LZH	**Lanzhou**	129.13	332	*e*PKP	**PKPdf**		**16 58 31.9**	**-3.2**
LZH				sPKP			16 58 42.9	
KSH	**Kashi**	132.57	1	*e*PKP	**PKPdf**		**16 58 43.8**	**+2.3**
KSH				PP	PP		17 01 12.9	+8.9
KSH				PKS	**PKSdf**		**17 02 18.6**	**+0.5**
KSH				PPMZ				
	90nm,4.6s							
KSH				LN				
	68nm,4.8s							
KSH				LE				
	63nm,5.2s							
KSH				LZ				
	150nm,4.9s							
CMAR	**Chiang Mai Arr**	145.64	320	PKPbc	**PKPab**		**16 59 07.5**	**+1.3**
	1.6nm,0.9s,baz=8.6,slow=1.6,SNR=9.6							

*IDC **13** 17:02:42.5±1.2,38°.37N×21°.85E,h0km,mb3.5/5, mb1 3.4/8,mb1mx3.3/30,mbtmp3.3/8,ML2.9/3,Error ellipse: s-maj=23.8km s-min=20.4km az=93.0*
*ISCJB **13** 17:02:42.9±0.3,38°.43N±0°.01×21°.85E±0°.02,h6km±2km, mb3.4/5,Error ellipse: s-maj=2.2km s-min=1.9km az=9.7*
*IASPEI **13** 17:02:43.6±0.8,38°.43N±0°.01×21°.84E±0°.01,h9km±4km, mb3.7/5,Error ellipse: s-maj=2.0km s-min=2.0km az=114.2*
*THE **13** 17:02:43.4,38°.44N×21°.83E,h4km±1km,ML3.4/14,Error ellipse: s-maj=1.3km s-min=0.6km az=279.0*
*ATH **13** 17:02:43.1,38°.44N×21°.84E,h13km±1km,MD3.1/38, ML3.3*
*CSEM **13** 17:02:43.0±0.1,38°.44N×21°.86E,h2km,ML3.4,Error ellipse: s-maj=2.3km s-min=2.0km az=94.0*

ISC 13 17:02:43.7±0.7,38°43N±0°.01×21°84E±0°.01,h8km±4km, n183,σ0s85/261,mb3.7/5,1C-2D,Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time h m s	Res ISC
				Op	ISC		
EFP	**Efpalio**	**0.05**	**99**	P	**Pg**	**17 02 45.1**	**-0.3**
EFP				S	**Sg**	**17 02 46.7**	**0.0**
EFP	**Efpalio**	**0.05**	**99**	*e*PG	**Pg**	**17 02 45.2**	**-0.2**
EFP	**Efpalio**	**0.05**	**99**	P	**Pg**	**17 02 45.1**	**-0.3**
EFP				S	**Sg**	**17 02 46.6**	**-0.1**
UPR	**University Cam**	**0.16**	**197**	P	**Pg**	**17 02 46.7**	**-0.3**
UPR				S	**Sg**	**17 02 48.0**	**-1.3**
UPR	**University Cam**	**0.16**	**197**	P	**Pg**	**17 02 46.4**	**-0.6**
UPR				S	**Sg**	**17 02 49.2**	**-0.1**
KALE	**Kalithea**	**0.24**	**100**	P	**Pg**	**17 02 48.2**	**-0.2**
KALE				S	**Sg**	**17 02 52.1**	**+0.4**
KALE	**Kalithea**	**0.24**	**100**	*e*PG	**Pg**	**17 02 48.3**	**-0.2**
KALE				*e*SG	**Sg**	**17 02 51.7**	**0.0**
KALE	**Kalithea**	**0.24**	**100**	P	**Pg**	**17 02 48.2**	**-0.2**
KALE				S	**Sg**	**17 02 51.7**	**0.0**
PVO	**Paravola**	**0.31**	**306**	P	**Pg**	**17 02 49.1**	**-0.8**
PVO				S	**Sg**	**17 02 54.7**	**+0.8**
PVO	**Paravola**	**0.31**	**306**	P	**Pg**	**17 02 49.0**	**-0.8**
PVO				S	**Sg**	**17 02 54.7**	**+0.8**
KLV	**Kalavryta, Ach**	**0.46**	**148**	P	**Pg**	**17 02 51.9**	**-0.7**
KLV				S	**Sg**	**17 02 59.2**	**+0.6**
KLV	**Kalavryta, Ach**	**0.46**	**148**	*e*PG	**Pg**	**17 02 51.9**	**-0.7**
KLV	**Kalavryta, Ach**	**0.46**	**148**	P	**Pg**	**17 02 51.9**	**-0.7**
KLV				S	**Sg**	**17 02 58.7**	**+0.1**
RLS	**Riolos of Patr**	**0.48**	**218**	P	**Pg**	**17 02 52.1**	**-0.9**
RLS				S	**Sg**	**17 02 59.7**	**+0.4**
RLS	**Riolos of Patr**	**0.48**	**218**	*e*PG	**Pg**	**17 02 52.2**	**-0.8**
RLS				*e*SB	**Sg**	**17 03 00.0**	**+0.7**
RLS	**Riolos of Patr**	**0.48**	**218**	P	**Pg**	**17 02 52.1**	**-0.9**
RLS				S	**Sg**	**17 02 59.3**	**0.0**
RLS				*e*Sb	**Sg**	**17 03 00.0**	**+0.7**
EVR	**Evrytania**	**0.48**	**357**	P	**Pg**	**17 02 52.2**	**-0.9**
EVR				S	**Sg**	**17 03 00.6**	**+1.1**
EVR	**Evrytania**	**0.48**	**357**	*e*PB	**Pg**	**17 02 52.5**	**-0.6**
EVR	**Evrytania**	**0.48**	**357**	P	**Pg**	**17 02 52.3**	**-0.9**
EVR				S	**Sg**	**17 03 00.0**	**+0.5**
DRO	**Drossia**	**0.49**	**192**	P	**Pg**	**17 02 52.1**	**-1.2**
DRO				S	**Sg**	**17 02 59.8**	**+0.1**
DRO	**Drossia**	**0.49**	**192**	*e*PB	**Pg**	**17 02 52.3**	**-1.0**
DRO				*e*SB	**Sg**	**17 03 00.3**	**+0.3**
DRO	**Drossia**	**0.49**	**192**	*e*Pb	**Pg**	**17 02 52.3**	**-1.0**
DRO				S	**Sg**	**17 02 59.2**	**-0.5**
DRO				*e*Sb	**Sg**	**17 03 00.0**	**+0.3**
DSF	**Desfina**	**0.54**	**92**	P	**Pg**	**17 02 53.0**	**-1.1**
DSF				S	**Sg**	**17 03 02.2**	**+1.0**
DSF	**Desfina**	**0.54**	**92**	*e*PG	**Pg**	**17 02 53.3**	**-0.8**
DSF	**Desfina**	**0.54**	**92**	*e*Pg	**Pg**	**17 02 53.3**	**-0.8**
DSF				S	**Sg**	**17 03 01.4**	**+0.2**
PDO	**Prodromos**	**0.54**	**288**	P	**Pg**	**17 02 52.5**	**-1.7**
PDO				S	**Sg**	**17 03 01.9**	**+0.6**
PDO	**Prodromos**	**0.54**	**288**	*e*PB	**Pg**	**17 02 53.1**	**-1.1**
PDO				*e*SB	**Sg**	**17 03 02.0**	**+0.6**
PDO	**Prodromos**	**0.54**	**288**	P	**Pg**	**17 02 53.2**	**-1.0**
PDO				S	**Sg**	**17 03 01.9**	**+0.6**
MAKR	**Makrakomi, Fth**	**0.62**	**21**	P	**Pg**	**17 02 55.2**	**-0.5**
MAKR				S	**Sb**	**17 03 05.8**	**+0.1**
MAKR	**Makrakomi, Fth**	**0.62**	**21**	*e*PB	**Pg**	**17 02 55.5**	**-0.2**
MAKR	**Makrakomi, Fth**	**0.62**	**21**	P	**Pg**	**17 02 55.2**	**-0.5**
MAKR	**Makrakomi, Fth**	**0.62**	**21**	*e*Pb	**Pg**	**17 02 55.5**	**-0.2**
MAKR				S	**Sg**	**17 03 03.8**	**0.0**
GUR	**Goura**	**0.63**	**142**	P	**Pg**	**17 02 54.6**	**-1.3**
GUR				S	**Sg**	**17 03 03.7**	**-0.5**
GUR	**Goura**	**0.63**	**142**	*e*PG	**Pg**	**17 02 55.0**	**-0.9**
GUR				*e*SB	**Sg**	**17 03 04.1**	**-0.1**
GUR	**Goura**	**0.63**	**142**	*e*Pg	**Pg**	**17 02 55.0**	**-0.9**
GUR				S	**Sg**	**17 03 03.7**	**-0.5**
GUR				*e*Sb	**Sg**	**17 03 04.1**	**-0.1**
AGG	**Agios Georgios**	**0.70**	**33**	*e*PG	**Pg**	**17 02 56.9**	**-0.3**
AGG				*e*SG	**Sb**	**17 03 07.5**	**-0.5**
AGG	**Agios Georgios**	**0.70**	**33**	P	**Pg**	**17 02 55.8**	**-1.4**
AGG				S	**Sg**	**17 03 07.0**	**+0.7**
AGG	**Agios Georgios**	**0.70**	**33**	*e*PG	**Pg**	**17 02 56.1**	**-1.1**
AGG	**Agios Georgios**	**0.70**	**33**	P	**Pg**	**17 02 55.8**	**-1.4**
AGG	**Agios Georgios**	**0.70**	**33**	*e*Pg	**Pg**	**17 02 56.1**	**-1.1**
AGG				S	**Sg**	**17 03 07.0**	**+0.7**
AXAR	**Agios Charalam**	**0.72**	**62**	P	**Pg**	**17 02 56.5**	**-1.4**
AXAR				S	**Sb**	**17 03 08.1**	**-0.4**
AXAR	**Agios Charalam**	**0.72**	**62**	*e*PB	**Pg**	**17 02 57.0**	**-0.6**
AXAR	**Agios Charalam**	**0.72**	**62**	P	**Pg**	**17 02 56.5**	**-1.1**
AXAR	**Agios Charalam**	**0.72**	**62**	*e*Pb	**Pg**	**17 02 57.0**	**-0.6**
AXAR				S	**Sb**	**17 03 08.1**	**-0.4**
KFL	**Anninata**	**0.89**	**249**	P	**Pg**	**17 02 59.4**	**-1.5**
KFL				S	**Sb**	**17 03 14.2**	**+0.7**
KFL	**Anninata**	**0.89**	**249**	P	**Pg**	**17 02 59.4**	**-1.5**
KFL				S	**Sb**	**17 03 14.2**	**+0.7**
AMT	**Artemida-Makis**	**0.91**	**187**	P	**Pg**	**17 03 00.2**	**-0.9**
AMT				S	**Sb**	**17 03 14.5**	**+0.6**
AMT	**Artemida-Makis**	**0.91**	**187**	*e*PB	**Pg**	**17 03 00.4**	**-0.7**
AMT	**Artemida-Makis**	**0.91**	**187**	P	**Pg**	**17 03 00.2**	**-0.9**
AMT				S	**Sb**	**17 03 14.5**	**+0.6**
DSL	**Palaion Diasel**	**0.91**	**320**	P	**Pg**	**17 03 00.2**	**-1.0**
DSL				S	**Sg**	**17 03 12.3**	**-0.8**
DSL	**Palaion Diasel**	**0.91**	**320**	*e*PB	**Pg**	**17 02 59.4**	**-1.8**
DSL	**Palaion Diasel**	**0.91**	**320**	*e*Pb	**Pg**	**17 02 59.4**	**-1.8**
DSL	**Palaion Diasel**	**0.91**	**320**	P	**Pg**	**17 03 00.2**	**-1.0**
DSL				S	**Sg**	**17 03 12.3**	**-0.8**
LKR	**Lokris**	**0.93**	**76**	P	**Pg**	**17 03 00.7**	**-0.9**
LKR				S	**Sb**	**17 03 14.8**	**+0.2**
LKR	**Lokris**	**0.93**	**76**	*e*PB	**Pg**	**17 03 00.8**	**-0.9**
LKR				*e*SB	**Sb**	**17 03 14.8**	**+0.2**
LKR	**Lokris**	**0.93**	**76**	P	**Pg**	**17 03 00.7**	**-0.9**
LKR				S	**Sb**	**17 03 14.8**	**+0.2**
LTK	**Loutraki**	**0.97**	**115**	P	**Pg**	**17 03 02.0**	**-0.4**
LTK				S	**Sb**	**17 03 16.1**	**+0.2**
LTK	**Loutraki**	**0.97**	**115**	*e*PN	**Pg**	**17 03 02.2**	**-0.2**
LTK				*e*SB	**Sb**	**17 03 16.0**	**+0.2**
LTK	**Loutraki**	**0.97**	**115**	P	**Pg**	**17 03 02.0**	**-0.4**
LTK				*e*Sb	**Sb**	**17 03 16.0**	**+0.2**
LKD2	**Lefkada island**	**0.99**	**291**	P	**Pg**	**17 03 01.6**	**-1.2**
LKD2				S	**Sg**	**17 03 15.8**	**+0.1**
LKD2	**Lefkada island**	**0.99**	**291**	*e*PB	**Pg**	**17 03 01.8**	**-1.0**
LKD2	**Lefkada island**	**0.99**	**291**	P	**Pg**	**17 03 01.6**	**-1.2**
LKD2				S	**Pg**	**17 03 15.8**	**+0.1**
VLS	**Valsamata**	**1.02**	**256**	P	**Pg**	**17 03 01.3**	**-2.0**
VLS				S	**Sb**	**17 03 17.1**	**0.0**
VLS	**Valsamata**	**1.02**	**256**	*e*PB	**Pg**	**17 03 01.5**	**-1.8**
VLS	**Valsamata**	**1.02**	**256**	P	**Pg**	**17 03 01.3**	**-2.0**
VLS				S	**Sb**	**17 03 17.1**	**0.0**
THL	**Klokotos Trika**	**1.14**	**7**	P	**Pg**	**17 03 04.1**	**-1.4**
THL				S	**Sn**	**17 03 21.6**	**0.0**
THL	**Klokotos Trika**	**1.14**	**7**	*e*PB	**Pg**	**17 03 04.9**	**-0.6**
THL				*e*SB	**Sn**	**17 03 21.0**	**-0.6**
THL	**Klokotos Trika**	**1.14**	**7**	P	**Pg**	**17 03 04.1**	**-1.4**
THL	**Klokotos Trika**	**1.14**	**7**	*e*Pb	**Pg**	**17 03 04.9**	**-0.6**
THL				*e*Sb	**Sn**	**17 03 21.0**	**-0.6**
VLX	**Vlachokerasia**	**1.14**	**158**	P	**Pg**	**17 03 04.0**	**-1.6**
VLX	**Vlachokerasia**	**1.14**	**158**	*e*PG	**Pg**	**17 03 04.1**	**-1.6**
VLX				*e*SB	**Sb**	**17 03 21.4**	**+0.6**
VLX	**Vlachokerasia**	**1.14**	**158**	*e*Pg	**Pg**	**17 03 04.1**	**-1.6**
VLX				*e*Sb	**Sb**	**17 03 21.4**	**+0.6**
SMIA	**Simia**	**1.16**	**67**	P	**Pg**	**17 03 04.7**	**-1.2**
SMIA	**Simia**	**1.16**	**67**	*e*PB	**Pg**	**17 03 05.8**	**-0.1**
SMIA				*e*SB	**Sn**	**17 03 22.0**	**-0.2**
SMIA	**Simia**	**1.16**	**67**	P	**Pg**	**17 03 04.7**	**-1.2**
SMIA	**Simia**	**1.16**	**67**	*e*Pb	**Pg**	**17 03 05.8**	**-0.1**
SMIA				*e*Sb	**Sn**	**17 03 22.0**	**-0.2**
ITM	**Ithomi**	**1.25**	**177**	P	**Pn**	**17 03 06.8**	**-0.7**
ITM				S	**Sn**	**17 03 26.3**	**+1.7**
ITM	**Ithomi**	**1.25**	**177**	*e*PG	**Pn**	**17 03 06.4**	**-1.1**
ITM				*e*SB	**Sn**	**17 03 25.3**	**+0.7**
ITM	**Ithomi**	**1.25**	**177**	*e*Pg	**Pn**	**17 03 06.4**	**-1.1**
ITM	**Ithomi**	**1.25**	**177**	P	**Pn**	**17 03 06.8**	**-0.7**
ITM				*e*Sb	**Sn**	**17 03 25.3**	**+0.7**
ITM				S	**Sn**	**17 03 26.3**	**+1.7**
SFD	**Strofades**	**1.35**	**209**	*e*PB	**Pb**	**17 03 09.4**	**+0.2**
SFD	**Strofades**	**1.35**	**209**	*e*Pb	**Pb**	**17 03 09.4**	**+0.2**
NEO	**Neokhori**	**1.39**	**51**	P	**Pn**	**17 03 08.7**	**-0.6**
NEO				S	**Sn**	**17 03 27.9**	**+0.1**
NEO	**Neokhori**	**1.39**	**51**	*e*PB	**Pn**	**17 03 09.3**	**0.0**
NEO				*e*SB	**Sg**	**17 03 28.6**	**+0.3**
NEO	**Neokhori**	**1.39**	**51**	P	**Pn**	**17 03 08.7**	**-0.6**
NEO	**Neokhori**	**1.39**	**51**	*e*Pb	**Pn**	**17 03 09.3**	**0.0**
NEO				S	**Sn**	**17 03 27.9**	**+0.1**
NEO				*e*Sb	**Sg**	**17 03 28.6**	**+0.3**
MRKA	**Markates**	**1.39**	**78**	*e*PB	**Pn**	**17 03 09.3**	**-0.1**
MRKA	**Markates**	**1.39**	**78**	*e*Pb	**Pn**	**17 03 09.3**	**-0.1**
XOR	**Xorichti**	**1.40**	**48**	P	**Pn**	**17 03 09.3**	**-0.3**
XOR				S	**Sb**	**17 03 27.8**	**-0.4**
XOR	**Xorichti**	**1.40**	**48**	*e*PB	**Pn**	**17 03 09.4**	**-0.2**
XOR	**Xorichti**	**1.40**	**48**	P	**Pn**	**17 03 09.3**	**-0.3**
XOR				S	**Sb**	**17 03 27.8**	**-0.4**
DID	**Didima**	**1.44**	**130**	*e*PB	**Pn**	**17 03 10.2**	**+0.1**
DID	**Didima**	**1.44**	**130**	*e*Pb	**Pn**	**17 03 10.2**	**+0.1**
JAN	**Janina**	**1.45**	**328**	*e*PB	**Pn**	**17 03 10.4**	**+0.2**
JAN	**Janina**	**1.45**	**328**	*e*Pb	**Pn**	**17 03 10.4**	**+0.2**
NAIG	**Nisos Aigina**	**1.46**	**117**	*e*PG	**Pn**	**17 03 10.4**	**0.0**
NAIG	**Nisos Aigina**	**1.46**	**117**	*e*Pg	**Pn**	**17 03 10.4**	**0.0**
PYL	**PYLOS**	**1.54**	**183**	P	**Pn**	**17 03 11.5**	**+0.1**
PYL				S	**Sb**	**17 03 32.6**	**+0.6**
PYL	**PYLOS**	**1.54**	**183**	*e*PG	**Pn**	**17 03 11.9**	**+0.5**
PYL				*e*SB	**Sg**	**17 03 33.9**	**+0.8**
PYL	**PYLOS**	**1.54**	**183**	P	**Pn**	**17 03 11.5**	**+0.1**
PYL	**PYLOS**	**1.54**	**183**	*e*Pg	**Pn**	**17 03 11.9**	**+0.5**
PYL				S	**Sb**	**17 03 32.6**	**+0.6**
PYL				*e*Sb	**Sg**	**17 03 33.9**	**+0.8**
ATH	**Athens Observa**	**1.55**	**107**	*e*PG	**Pn**	**17 03 11.4**	**-0.1**
ATH				*e*SB	**Sb**	**17 03 32.3**	**+0.1**
ATH	**Athens Observa**	**1.55**	**107**	*e*Pg	**Pn**	**17 03 11.4**	**-0.1**
ATH				*e*Sb	**Sb**	**17 03 32.3**	**+0.1**
IGT	**Igoumenitsa**	**1.61**	**313**	*e*PN	**Pg**	**17 03 15.0**	**+0.4**
IGT	**Igoumenitsa**	**1.61**	**313**	*e*PB	**Pb**	**17 03 14.0**	**+0.3**
IGT	**Igoumenitsa**	**1.61**	**313**	*e*Pb	**Pb**	**17 03 14.0**	**+0.3**
IGT	**Igoumenitsa**	**1.61**	**313**	*e*Pn	**Pg**	**17 03 15.0**	**+0.4**
PTL	**Penteli**	**1.64**	**103**	*e*PB	**Pn**	**17 03 12.6**	**-0.2**
PTL	**Penteli**	**1.64**	**103**	*e*Pb	**Pn**	**17 03 12.6**	**-0.2**
LIT	**Litokhoron**	**1.74**	**17**	P	**Pn**	**17 03 14.0**	**-0.2**
LIT				S	**Sn**	**17 03 36.9**	**+0.3**
LIT	**Litokhoron**	**1.74**	**17**	*e*PN	**Pn**	**17 03 14.5**	**+0.3**
LIT	**Litokhoron**	**1.74**	**17**	P	**Pn**	**17 03 14.0**	**-0.2**
LIT	**Litokhoron**	**1.74**	**17**	*e*Pn	**Pn**	**17 03 14.5**	**+0.3**
LIT				S	**Sn**	**17 03 36.9**	**+0.3**
AOS	**Alonnisos**	**1.75**	**65**	*e*PN	**Pn**	**17 03 12.8**	**-1.6**
AOS	**Alonnisos**	**1.75**	**65**	*e*PB	**Pn**	**17 03 13.8**	**-0.5**
AOS	**Alonnisos**	**1.75**	**65**	*e*Pn	**Pn**	**17 03 12.8**	**-1.6**
AOS	**Alonnisos**	**1.75**	**65**	*e*Pb	**Pn**	**17 03 13.8**	**-0.5**
KZN	**Kozani**	**1.87**	**358**	*e*PG	**Pb**	**17 03 17.6**	**-0.6**
KZN	**Kozani**	**1.87**	**358**	*e*Pg	**Pb**	**17 03 17.6**	**-0.6**
VLI	**Veliai**	**1.92**	**153**	P	**Pn**	**17 03 17.2**	**+0.5**
VLI				S	**Sb**	**17 03 43.2**	**+0.2**
VLI	**Veliai**	**1.92**	**153**	*e*PN	**Pn**	**17 03 17.5**	**+0.8**
VLI	**Veliai**	**1.92**	**153**	P	**Pn**	**17 03 17.2**	**+0.5**
VLI	**Veliai**	**1.92**	**153**	*e*Pn	**Pn**	**17 03 17.5**	**+0.8**
VLI				S	**Sb**	**17 03 43.2**	**+0.2**
KEK	**Kerkira**	**2.04**	**309**	*e*PN	**Pb**	**17 03 19.7**	**-1.3**
KEK	**Kerkira**	**2.04**	**309**	*e*Pn	**Pb**	**17 03 19.7**	**-1.3**
PAIG	**Paliouri**	**2.06**	**43**	*e*PB	**Pn**	**17 03 18.1**	**-0.5**
PAIG	**Paliouri**	**2.06**	**43**	*e*Pb	**Pn**	**17 03 18.1**	**-0.5**
KYTH	**Kithira**	**2.35**	**156**	*e*PN	**Pb**	**17 03 25.2**	**-1.1**
KYTH	**Kithira**	**2.35**	**156**	*e*Pn	**Pb**	**17 03 25.2**	**-1.1**
HORT	**Hortiatis**	**2.37**	**24**	*e*PN	**Pn**	**17 03 22.9**	**+0.1**
HORT	**Hortiatis**	**2.37**	**24**	*e*PB	**Pn**	**17 03 23.3**	**+0.4**
HORT	**Hortiatis**	**2.37**	**24**	*e*Pn	**Pn**	**17 03 23.0**	**+0.1**
HORT	**Hortiatis**	**2.37**	**24**	*e*Pb	**Pn**	**17 03 23.3**	**+0.4**
FNA	**Florina**	**2.37**	**351**	*e*PN	**Pb**	**17 03 24.9**	**-1.8**
FNA	**Florina**	**2.37**	**351**	*e*PN	**Pn**	**17 03 24.6**	**+1.6**
FNA	**Florina**	**2.37**	**351**	*e*Pn	**Pn**	**17 03 24.6**	**+1.6**
OUR	**Ouranopolis**	**2.52**

ZAX				*e*S		**Sb**	17 24 19.0	**+0.3**	
ECNX	**Esteban Cantu**	**1.18**	**230**	*e*P2			17 24 05.8		
ECNX				*e*S		**Sb**	**17 24 21.4**	**+0.5**	
PBX	**Punta Banda**	**1.21**	**236**	*e*P		Pn	17 24 06.0	-0.1	
PBX				*e*S		**Sb**	**17 24 22.3**	**+0.5**	
SPIG	**San Pedro Mart**	**1.38**	**177**	*e*P		Pn	17 24 08.3	-0.4	
SPIG				*e*S		**Sn**	**17 24 26.1**	**-0.8**	
SPIG	**San Pedro Mart**	**1.38**	**177**	*e*P		Pn	17 24 08.3	-0.4	
SPIG				*e*S		**Sn**	**17 24 26.1**	**-0.8**	
SPX	**San Pedro Mart**	**1.38**	**177**	*e*P		Pn	17 24 08.6	-0.1	
SPX				*i* S		**Sn**	**17 24 26.5**	**-0.5**	
SPX	**San Pedro Mart**	**1.38**	**177**	*e*P		**Pn**	**17 24 08.9**	**+0.2**	
SPX				*e*S		**Sn**	**17 24 28.1**	**+1.1**	
SPX				⇓*e*			17 24 31.6		
	comp=E,364nm,0.9s								
PFO	**Pinyon Flats O**	**1.40**	**327**	*e*Pn		**Pn**	**17 24 07.2**	**-1.7**	
214A	**Organ Pipe Nat**	**2.37**	**101**	*e*Pn		**Pn**	**17 24 20.7**	**-1.3**	
LDFC	**Landfair**	**2.67**	**8**	*e*Pn		**Pb**	**17 24 30.1**	**-1.1**	
MWC	**Mount Wilson**	**2.76**	**311**	*e*Pn		**Pb**	**17 24 32.5**	**-0.3**	
GSC	**Goldstone, Bar**	**3.05**	**340**	*e*Pn		**Pb**	**17 24 35.5**	**-2.2**	
SHPR	**Sheep Range**	**4.08**	**4**	Pn		Pn	17 24 49.7	+3.9	
DAC	**Darwin (Calif)**	**4.20**	**337**	*e*Pg		**Pb**	**17 24 60.0**	**+2.7**	
WUAZ	**Wupatki**	**4.64**	**47**	*e*Pn		**Pn**	**17 24 55.7**	**+2.3**	
R11A	**Troy Canyon, C**	**5.91**	**360**	*e*Pg		**Pg**	**17 25 37.5**	**+0.9**	
	comp=E,1.7nm,0.6s								
MSU	**Marysvale**	**6.67**	**23**	P		Pn	17 25 25.3	+4.0	
	comp=E,2.1nm,0.5s								

KRSC ***13*** *17:29:53.0±2.1,52˚.27N×153˚.62E,h394km±25km,ML4.3*
MOS ***13*** *17:29:53.0±0.8,52˚.27N×153˚.62E,h395km,mb4.4/1,Error ellipse: s-maj=99.9km s-min=28.4km az=142.8*

ISC 13 17:29:47.5±2.6,51˚.9N±0˚.2×153˚.8E±0˚.3,h457km,n26, σ2ş26/31,1C,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**1.86**	**76**	P	**P**	**17 30 47.9**	**0.0**
SKR	**Severo-Kuril's**	**1.87**	**129**	S	**S**	**17 31 35.6**	**-1.4**
APC	**Apacha**	**2.30**	**61**	P	**P**	**17 30 50.3**	**0.0**
ASAK	**Asacha**	**2.57**	**77**	P	**P**	**17 30 53.4**	**+1.3**
MTVR	**Mutnovka**	**2.75**	**75**	P	**P**	**17 30 56.3**	**+2.9**
RUS	**Russkaya**	**2.94**	**77**	P	**P**	**17 30 55.6**	**+1.0**
RUS	**Russkaya**	**2.94**	**77**	PN	**P**	**17 30 55.6**	**+1.0**
GNL	**Ganaly**	**3.10**	**52**	P	**P**	**17 30 56.8**	**+1.0**
PET	**Petropavlovsk**	**3.17**	**67**	P	**P**	**17 30 57.9**	**+1.7**
PET	**Petropavlovsk**	**3.17**	**67**	*i* PN	**P**	**17 30 58.2**	**+2.0**
PET				pmax	pmax		
	comp=Z,22nm,0.9s						
KOK	**Koryaka**	**3.26**	**62**	P	**P**	**17 30 59.1**	**+2.0**
KRX	**Arik**	**3.30**	**61**	P	**P**	**17 30 59.1**	**+1.7**
AVH	**Avacha**	**3.31**	**63**	P	**P**	**17 30 59.4**	**+2.0**
KRER	**Koryakskii**	**3.33**	**62**	P	**P**	**17 30 59.3**	**+1.6**
UGLR	**Uglovaya**	**3.34**	**64**	P	**P**	**17 31 00.1**	**+2.5**
SMAR	**Somma**	**3.34**	**63**	P	**P**	**17 30 59.7**	**+1.9**
SDLR	**Sedlovina**	**3.40**	**63**	P	**P**	**17 31 00.5**	**+2.4**
SPN	**Mys Shipunski**	**3.99**	**70**	P	**P**	**17 31 03.9**	**+1.1**
SPN				S	**S**	**17 32 01.0**	**-3.3**
SPN	**Mys Shipunski**	**3.99**	**70**	PN	**P**	**17 31 03.9**	**+1.1**
SPN				S	**S**	**17 32 01.0**	**-3.3**
TUMR	**Tumrok**	**5.09**	**45**	P	P	17 31 16.6	+3.6
MKZ	**Mys Kozlova**	**5.46**	**57**	P	**P**	**17 31 18.5**	**+2.0**
MKZ				S	**S**	**17 32 26.4**	**-2.9**
MKZ	**Mys Kozlova**	**5.46**	**57**	PN	**P**	**17 31 18.5**	**+2.0**
MKZ				S	**S**	**17 32 26.4**	**-2.9**
KBTR	**Krutoberegovo**	**6.85**	**47**	P	**P**	**17 31 33.2**	**+2.6**
KBTR				S	**S**	**17 32 51.6**	**-3.6**
KBTR	**Krutoberegovo**	**6.85**	**47**	PN	**P**	**17 31 33.2**	**+2.6**
KBTR				S	**S**	**17 32 51.6**	**-3.6**
BKI	**Bering**	**7.97**	**60**	P	P	17 31 48.5	+6.0
BKI				S	**S**	**17 33 18.5**	**+1.6**
BKI	**Bering**	**7.97**	**60**	PN	P	17 31 48.5	+6.0
BKI				S	**S**	**17 33 18.5**	**+1.6**

IDC 13 17:38:06.5±4.8,19˚.43S×177˚.51W,h557km±58km, mb3.0/8,mb1 3.3/9,mb1mx3.1/21,mbtmp3.9/9,Error ellipse: s-maj=37.3km s-min=21.2km az=169.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.34**	**193**	P	P	17 41 55.4	-0.7
	0.8nm,0.3s,baz=338,slow=5.4,SNR=5.0						
CTA	**Charters Tower**	**34.06**	**263**	P	P	17 44 05.4	+0.1
	2.9nm,0.6s,baz=106,slow=12,SNR=4.1						
STKA	**Stephens Creek**	**38.67**	**243**	P	P	17 44 43.6	+0.6
	1.7nm,0.9s,baz=104,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**45.21**	**261**	P	P	17 45 34.1	-0.6
	0.6nm,0.3s,baz=97,slow=7.7,SNR=25						
WRA				PcP	PcP	17 47 02.8	-0.2
	0.3nm,0.5s,baz=97,slow=3.3,SNR=4.7						
ASAR	**Alice Springs**	**45.22**	**256**	P	P	17 45 34.9	+0.2
	1.4nm,0.7s,baz=88,slow=8.0,SNR=27						
ASAR				PcP	PcP	17 47 02.8	-0.2
	0.5nm,0.6s,baz=100,slow=4.3,SNR=7.2						
NVAR	**Mina Array Bea**	**79.93**	**43**	P	P	17 49 18.9	+0.5
	0.4nm,0.6s,baz=232,slow=7.3,SNR=4.5						
TXAR	**Lajitas Array**	**86.09**	**57**	P	P	17 49 50.5	+1.3
	0.5nm,0.6s,baz=199,slow=6.1,SNR=6.1						
ILAR	**Eielson Array**	**87.17**	**13**	P	P	17 49 51.9	-1.5
	0.4nm,0.8s,baz=205,slow=4.0,SNR=4.2						
PDAR	**Pinedale Array**	**87.87**	**43**	P	P	17 49 56.7	-0.8
	0.4nm,0.7s,baz=245,slow=3.1,SNR=3.4						
ARCES	**ARCESS Array B**	**127.95**	**350**	PKP	PKPdf	17 56 08.0	-0.8
	1.3nm,0.8s,baz=0.0,slow=1.8,SNR=8.7						
BRTR	**Keskin Array B**	**146.44**	**314**	PKPbc	PKPbc	17 56 45.2	-0.8
	0.7nm,0.6s,baz=122,slow=4.7,SNR=4.6						

IDC 13 18:25:09.8±30.0,23˚.22S×174˚.51W,h0km,mb4.0/4, mb1 4.1/4,mb1mx3.7/20,mbtmp4.0/4,Error ellipse: s-maj=546.0km s-min=153.6km az=80.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.52**	**267**	P	P	18 32 17.6	+0.3
	2.4nm,0.6s,baz=93,slow=4.3,SNR=3.5						
STKA	**Stephens Creek**	**39.64**	**248**	P	P	18 32 42.1	-1.5
	2.2nm,0.9s,baz=106,slow=15,SNR=3.5						
ASAR	**Alice Springs**	**47.11**	**259**	P	P	18 33 44.0	-0.1
	0.2nm,0.3s,baz=115,slow=8.3,SNR=16						
WRA	**Warramunga Arr**	**47.48**	**264**	P	P	18 33 47.4	+0.4
	0.8nm,0.4s,baz=100,slow=8.1,SNR=19						

ISCJB ***13*** *18:30:52.7±0.2,65˚.52N±0˚.05×166˚.58W±0˚.06,h10km, mb4.2/50,MS3.1/13,Error ellipse: s-maj=7.1km s-min=2.8km az=15.7*
IDC ***13*** *18:30:53.5±0.7,65˚.53N×166˚.84W,h0km,mb4.0/23, mb1 4.1/25,mb1mx4.1/33,mbtmp4.0/25,ML3.7/2,MS3.1/13, Ms1 3.1/13,ms1mx3.0/36,Error ellipse: s-maj=22.3km s-min=11.3km az=14.0*
NEIC ***13*** *18:30:53.5,65˚.66N×166˚.69W,h10km,mb4.4/14, ML4.5(AEIC),After AEIC.*
NEIC Felt [IV] at Teller and [III] at Nome. Also felt at Brevig Mission.
MOS ***13*** *18:30:53.3±1.1,65˚.47N×166˚.65W,h16km,mb4.6/19, Error ellipse: s-maj=15.2km s-min=8.5km az=109.0*

ISC 13 18:30:54.9±0.4,65˚.57N±0˚.07×166˚.71W±0˚.04,h10km, n117,σ1ş01/121,mb4.3/50,MS3.0/13,3C-1D,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNA	**Tin City**	**0.51**	**270**	P	**Pg**	**18 31 03.4**	**-1.3**
TNA				S	**Sg**	**18 31 11.3**	**-0.1**
GCSA	**Galena City Sc**	**4.23**	**97**	P	**Pn**	**18 31 58.7**	**-0.6**
GCSA				S	**Sn**	**18 32 49.3**	**+0.7**
IM04	**Indian Mountai**	**5.34**	**80**	*e*Pn	**Pn**	**18 32 13.1**	**-1.4**
IM3	**Indian Mountai**	**5.35**	**80**	P	**Pn**	**18 32 14.3**	**-0.4**
TTA	**Tatalina**	**5.36**	**115**	P	**Pn**	**18 32 13.8**	**-1.1**
TTA	**Tatalina**	**5.36**	**115**	P	**Pn**	**18 32 13.8**	**-1.1**
TT01	**Tatalina**	**5.37**	**115**	P	**Pn**	**18 32 13.7**	**-1.3**
CHUM	**Lake Minchumin**	**6.39**	**99**	P	**Pn**	**18 32 27.9**	**-1.0**
CHUM				S	**Sn**	**18 33 40.5**	**-1.3**
CAST	**Castle Rocks**	**6.67**	**102**	P	**Pn**	**18 32 31.4**	**-1.4**
MLY	**Manley**	**6.71**	**87**	P	**Pn**	**18 32 32.0**	**-1.4**
SVW2	**Sparrevohn**	**6.72**	**127**	P	**Pn**	**18 32 32.3**	**-1.2**
COLD	**Coldfoot**	**6.83**	**68**	P	**Pn**	**18 32 33.7**	**-1.2**
BPAW	**Bear Paw Mtn.**	**6.86**	**95**	P	**Pn**	**18 32 34.1**	**-1.3**
PPLA	**Purkeypile**	**6.87**	**106**	P	**Pn**	**18 32 34.5**	**-1.2**
KTH	**Kantishna Hill**	**7.09**	**99**	P	**Pn**	**18 32 37.3**	**-1.3**
TRF	**Thorofare Moun**	**7.39**	**99**	P	**Pn**	**18 32 41.7**	**-1.1**
SKT	**Skwentna**	**7.62**	**111**	P	**Pn**	**18 32 45.0**	**-0.8**
STLK	**Strandline Lak**	**7.79**	**115**	P	**Pn**	**18 32 47.5**	**-0.7**
CKL	**Chakachamna La**	**7.79**	**118**	P	**Pn**	**18 32 47.6**	**-0.6**
MCK	**McKinley**	**7.84**	**95**	P	**Pn**	**18 32 48.0**	**-0.9**
MCK	**McKinley**	**7.84**	**95**	P	**Pn**	**18 32 48.0**	**-0.9**
COLA	**College**	**7.95**	**86**	P	**Pn**	**18 32 49.3**	**-0.9**
COLA	**College**	**7.95**	**86**	P	**Pn**	**18 32 49.3**	**-0.9**
WRH	**Wood River Hil**	**7.95**	**89**	P	**Pn**	**18 32 49.1**	**-1.2**
RND	**Reindeer**	**8.00**	**97**	P	**Pn**	**18 32 50.1**	**-1.0**
RND	**Reindeer**	**8.00**	**97**	P	**Pn**	**18 32 50.0**	**-1.0**
RSO	**Reboubt South**	**8.14**	**122**	*e*Pn	**Pn**	**18 32 52.0**	**-1.1**
	67nm,0.6s						
SUA	**Susitna One**	**8.22**	**113**	P	**Pn**	**18 32 54.5**	**+0.3**
IL1	**Eielson Array**	**8.37**	**86**	P	**Pn**	**18 32 55.4**	**-0.8**
ILAR	**Eielson Array**	**8.37**	**86**	Pn	**Pn**	**18 32 54.8**	**-1.3**
	0.7nm,0.3s,baz=280,slow=14,SNR=40						
ILAR				Sn	**Sn**	**18 34 25.9**	**-4.6**
	1.9nm,0.3s,baz=276,slow=14,SNR=1.5						
ILAR				Lg	Lg	18 35 22.7	
	1.4nm,0.3s,baz=290,slow=28,SNR=4.7						
ILB	**Eielson Array**	**8.37**	**86**	P	**Pn**	**18 32 55.0**	**-1.1**
SPIA	**Saint Paul Isl**	**8.59**	**193**	P	**Pn**	**18 33 00.3**	**+1.2**
DHY	**Denali Highway**	**8.75**	**98**	P	**Pn**	**18 33 00.6**	**-0.8**
PMR	**Palmer**	**8.78**	**109**	*e*P	**Pn**	**18 33 01.1**	**-0.5**
PMR				pmax	pmax		
	comp=Z,12nm,0.6s						
PMR	**Palmer**	**8.78**	**109**	*e*Pn	**Pn**	**18 33 01.1**	**-0.5**
	comp=Z,12nm,0.6s						
BM3	**Burnt Mountain**	**9.01**	**68**	P	**Pn**	**18 33 03.0**	**-1.8**
KCE	**Katmai Mt Cerb**	**9.12**	**138**	P	**Pn**	**18 33 05.1**	**-1.4**
KDAK	**Kodiak Island**	**10.27**	**133**	*e*P	**Pn**	**18 33 22.6**	**+0.6**
KDAK				pmax	pmax		
	comp=Z,140nm,1.7s						
KDAK	**Kodiak Island**	**10.27**	**133**	*e*Pn	**Pn**	**18 33 22.6**	**+0.6**
	comp=Z,140nm,1.7s						
EGAK	**Eagle**	**10.74**	**83**	*e*Pn	**Pn**	**18 33 28.3**	**-0.2**
	comp=Z,12nm,1.0s						
INK	**Inuvik**	**13.19**	**63**	Pn	**Pn**	**18 34 03.9**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=272,slow=14,SNR=7.0						
INK				LR	LR	18 39 03.8	
	comp=Z,58nm,21.6s,baz=220,slow=37						
SEY	**Seymchan**	**17.74**	**280**	P	**P**	**18 35 02.9**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=86,slow=13,SNR=3.1						
SEY	**Seymchan**	**17.74**	**280**	*i* P	**P**	**18 35 02.4**	**0.0**
DLBC	**Dease Lake**	**18.40**	**95**	P	**Pn**	**18 35 10.9**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=286,slow=14,SNR=7.5						
PETK	**Petropavlovsk-**	**21.65**	**252**	LR	LR	18 45 21.9	
	comp=Z,42nm,18.0s,baz=39,slow=40						
YKA	**Yellowknife Ar**	**22.47**	**73**	P	**P**	**18 35 54.5**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=300,slow=9.5,SNR=26						
TIXI	**Tiksi**	**23.16**	**313**	*i* P	**P**	**18 36 01.8**	**+0.9**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TIXI	**Tiksi**	**23.16**	**313**	*e*P	**P**	**18 35 59.3**	**-1.6**
	comp=Z,1.0nm,0.5s						
BBB	**Bella Bella**	**23.54**	**106**	LR	LR	18 45 09.1	
	comp=Z,48nm,19.0s,baz=60,slow=36						
RES	**Resolute Bay**	**24.33**	**38**	P	**P**	**18 36 13.5**	**+1.3**
	comp=Z,1.0nm,0.8s,baz=305,slow=9.9,SNR=4.0						
RES				LR	LR	18 46 42.4	
	comp=Z,38nm,21.9s,baz=157,slow=39						
YAK	**Yakutsk**	**27.23**	**293**	P	**P**	**18 36 38.6**	**+0.1**
	comp=Z,4.9nm,0.7s,baz=90,slow=2.2,SNR=4.1						
YAK				LR	LR	18 48 46.5	
	comp=Z,38nm,19.5s,baz=82,slow=40						
YAK	**Yakutsk**	**27.23**	**293**	*e*P	**P**	**18 36 38.0**	**-0.5**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
WALA	**Waterton Lakes**	**31.75**	**95**	*e*P	**P**	**18 37 19.4**	**+0.6**
	comp=Z,6.9nm,1.1s						
JTMT	**Jette**	**32.62**	**97**	*e*P	**P**	**18 37 27.1**	**+0.6**
	comp=Z,1.1nm,0.8s						
YBMT	**Yellow Bay**	**32.64**	**97**	*e*P	**P**	**18 37 27.2**	**+0.5**
	comp=Z,2.8nm,0.8s						
BOD	**Bodaibo**	**35.95**	**296**	*e*P	**P**	**18 37 53.4**	**-1.6**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.2s						
HLID	**Hailey**	**35.96**	**102**	*e*P	**P**	**18 37 56.0**	**+0.5**
	comp=Z,3.8nm,1.1s						
ERM	**Erimo**	**36.38**	**255**	*i* P	P	18 37 54.3	-4.6
ERM				pmax	pmax		
	comp=Z,49nm,1.7s						
TPAW	**Teton Pass**	**37.44**	**98**	*e*P	**P**	**18 38 08.8**	**+0.6**
	comp=Z,6.3nm,1.4s						
ULM	**Lac du Bonnet**	**38.28**	**78**	P	**P**	**18 38 14.9**	**-0.1**
	comp=Z,3.4nm,0.9s,baz=16,slow=7.3,SNR=3.4						
PDAR	**Pinedale Array**	**38.61**	**98**	P	**P**	**18 38 18.7**	**+0.6**
	comp=Z,1.5nm,0.9s,baz=335,slow=6.6,SNR=12						
PDAR				LR	LR	18 55 29.5	
	comp=Z,47nm,19.5s,baz=36,slow=38						
NVAR	**Mina Array Bea**	**38.76**	**110**	P	**P**	**18 38 20.2**	**+0.8**
	comp=Z,3.3nm,0.8s,baz=309,slow=7.9,SNR=22						
HIA	**Hailar**	**40.16**	**283**	*e*P	**P**	**18 38 30.2**	**-0.5**
HIA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
MSU	**Marysvale**	**41.12**	**104**	*e*P	**P**	**18 38 39.9**	**+0.9**
MSU				pmax	pmax		
	comp=Z,14nm,1.3s						
MSU	**Marysvale**	**41.12**	**104**	*e*P	**P**	**18 38 39.9**	**+0.9**
	comp=Z,14nm,1.3s						
PV01	**Paradox Valley**	**42.91**	**100**	*e*P	**P**	**18 38 54.0**	**+0.4**
	comp=Z,680nm,1.2s						
MJAR	**Matsushiro Arr**	**43.04**	**255**	P	**P**	**18 38 53.4**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=28,slow=8.1,SNR=3.7						
WUAZ	**Wupatki**	**44.03**	**105**	*e*P	**P**	**18 39 03.3**	**+0.7**
	comp=Z,16nm,1.2s						
KRAR	**Krasnoyarsk**	**44.75**	**308**	*e*P	**P**	**18 39 08.0**	**+0.2**
KRAR				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ARCES	**ARCESS Array B**	**44.90**	**354**	P	**P**	**18 39 09.9**	**+1.0**
	comp=Z,1.6nm,1.0s,baz=7.6,slow=3.7,SNR=4.0						
ARCES				PcP	**PcP**	**18 40 49.7**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=340,slow=4.9,SNR=6.1						
ARCES				LR	LR	18 58 37.5	
	comp=Z,19nm,18.7s,baz=356,slow=37						
KSRS	**Korea Array**	**46.48**	**266**	P	**P**	**18 39 21.9**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=18,slow=8.9,SNR=4.9						
KSRS				LR	LR	19 02 32.9	
	comp=Z,12nm,19.5s,baz=92,slow=41						
KSRS	**Korea Array**	**46.48**	**266**	P	**P**	**18 39 21.9**	**+0.2**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KSRS				MLR	MLR		
	comp=Z,12nm,19.5s						
KSAR	**Wonju Array Be**	**46.51**	**266**	P	**P**	**18 39 21.9**	**0.0**
KSAR	**Wonju Array Be**	**46.51**	**266**	P	**P**	**18 39 21.9**	**0.0**
ANMO	**Albuquerque**	**46.52**	**101**	P	**P**	**18 39 22.9**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=343,slow=9.5,SNR=3.5						
ANMO	**Albuquerque**	**46.52**	**101**	*i* P	**P**	**18 39 20.0**	**-2.3**
ANMO				pmax	pmax		
	comp=Z,15nm,2.5s						
214A	**Organ Pipe Nat**	**46.58**	**109**	*e*P	**P**	**18 39 23.1**	**+0.4**
	comp=Z,0.8nm,0.5s						
SONM	**Songino Array**	**46.59**	**292**	P	**P**	**18 39 23.8**	**+1.1**
	comp=Z,1.2nm,0.8s,baz=37,slow=6.1,SNR=8.8						
TJN	**Taejon**	**47.63**	**266**	*e*P	**P**	**18 39 28.8**	**-1.9**
AMTX	**Amarillo**	**48.54**	**96**	P	**P**	**18 39 37.1**	**-0.8**
ZALV	**Zalesovo Beam**	**49.03**	**312**	P	**P**	**18 39 40.6**	**-0.8**
	comp=Z,1.7nm,0.7s,baz=29,slow=6.6,SNR=8.8						
ZALV	**Zalesovo Beam**	**49.03**	**312**	*i* P	**P**	**18 39 41.2**	**-0.2**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MNTX	**Cornudas Mount**	**49.78**	**102**	*e*P	**P**	**18 39 47.8**	**+0.4**
	comp=Z,4.9nm,1.1s						
PRGR	**Permogore**	**50.86**	**341**	*e*P	**P**	**18 39 54.5**	**-0.6**
PRGR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KLMR	**Klimovskoe**	**52.39**	**344**	*e*P	**P**	**18 40 07.0**	**+0.5**
KLMR				pmax	pmax		
	comp=Z,17nm,1.5s						
TXAR	**Lajitas Array**	**52.56**	**101**	P	**P**	**18 40 08.4**	**0.0**
	comp=Z,1.8nm,0.8s,baz=315,slow=4.9,SNR=14						
FINES	**FINESS Array B**	**52.94**	**352**	P	**P**	**18 40 11.2**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=35,slow=7.0,SNR=7.1						
FINES				LR	LR	19 03 14.1	
	comp=Z,24nm,19.6s,baz=271,slow=37						
FINES	**FINESS Array B**	**52.94**	**352**	*i* P	**P**	**18 40 11.1**	**+0.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
JCT	**Junction City**	**53.14**	**97**	*e*P	**P**	**18 40 12.2**	**-0.4**
JCT				pmax	pmax		
	comp=Z,5.0nm,0.7s						
JCT	**Junction City**	**53.14**	**97**	*e*P	**P**	**18 40 12.2**	**-0.4**
	comp=Z,5.5nm,0.7s						
ARU	**Arti**	**53.59**	**331**	*d* P	**P**	**18 40 15.0**	**-0.5**
ARU						18 42 15.4	
ARU				S	**S**	**18 47 48.7**	**+0.4**
ARU				SS	**SS**	**18 51 24.9**	**-2.8**
ARU				pmax	pmax		
	comp=Z,10.0nm,2.5s						
NB2	**NORSAR Subarra**	**53.69**	**1**	P	**P**	**18 40 16.6**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=353,slow=7.4						
NOA	**NORSAR Array B**	**53.69**	**1**	P	**P**	**18 40 16.2**	**0.0**
	comp=Z,0.9nm,0.8s,baz=356,slow=7.2,SNR=4.3						
NOA				LR	LR	19 04 47.4	
	comp=Z,5.8nm,18.0s,baz=200,slow=38						
KURK	**Kurchatov**	**53.73**	**314**	*e*P	**P**	**18 40 16.4**	**-0.1**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KURK	**Kurchatov**	**53.73**	**314**	*e*P	**P**	**18 40 16.4**	**-0.1**
	comp=Z,6.0nm,1.1s						
BRVK	**Borovoye**	**53.97**	**321**	*i* P	**P**	**18 40 17.9**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.7s						
MKAR	**Makanchi Array**	**56.06**	**309**	P	**P**	**18 40 32.6**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=24,slow=6.6,SNR=6.3						
OBN	**Obninsk**	**58.34**	**345**	P	**P**	**18 40 48.7**	**-0.8**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,27nm,24.0s						
AKTO	**Aktyubinsk**	**59.33**	**328**	P	**P**	**18 40 56.5**	**+0.1**
	comp=Z,2.7nm,0.7s,baz=42,slow=6.9,SNR=14						
ABKAR	**Akbulak array**	**60.01**	**327**	*e*P	**P**	**18 41 01.3**	**+0.3**
	comp=Z,5.3nm,0.9s						
AAK	**Ala-Archa**	**62.24**	**313**	⇑*i* P	**P**	**18 41 16.2**	**-0.3**
AAK				pmax	pmax		
	comp=Z,18nm,1.7s						
AKASG	**Malin Array Be**	**63.42**	**349**	P	**P**	**18 41 23.8**	**-0.2**
	comp=Z,3.4nm,0.9s,baz=8.1,slow=6.4,SNR=6.9						
AKASG				LR	LR	19 10 42.7	
	comp=Z,17nm,20.5s,baz=345,slow=38						
AKASG	**Malin Array Be**	**63.42**	**349**	*ce*P	**P**	**18 41 24.1**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KIEV	**Kiev**	**63.42**	**349**	*e*P	**P**	**18 41 24.1**	**0.0**
LSA	**Lhasa**	**68.15**	**294**	*e*P	**P**	**18 41 56.3**	**+0.9**
LSA				pmax	pmax		
	comp=Z,9.0nm,1.4s						
LSA	**Lhasa**	**68.15**	**294**	*e*P	**P**	**18 41 56.3**	**+0.9**
	comp=Z,9.1nm,1.4s						
KIV	**Kislovodsk**	**68.45**	**338**	*e*P	**P**	**18 41 57.4**	**+0.7**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KBZ	**Khabaz**	**68.64**	**337**	P	**P**	**18 41 58.6**	**+0.9**
	comp=Z,1.7nm,0.8s,baz=236,slow=24,SNR=6.3						
NCK	**Nalchik**	**68.75**	**337**	*e*P	**P**	**18 41 58.2**	**-0.3**
NEY	**Neytrino**	**69.14**	**337**	*e*P	**P**	**18 42 00.8**	**-0.2**
GEYT	**Alibeck**	**71.13**	**324**	P	**P**	**18 42 14.0**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=322,slow=9.1,SNR=6.0						
GEYT				LR	LR	19 19 46.3	
	comp=Z,18nm,18.9s,baz=340,slow=41						
BRTR	**Keskin Array B**	**73.85**	**344**	P	**P**	**18 42 30.0**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=15,slow=5.1,SNR=4.7						
BRTR				LR	LR	19 21 15.5	
	comp=Z,11nm,18.1s,baz=328,slow=41						
BRTR	**Keskin Array B**	**73.85**	**344**	*ce*P	**P**	**18 42 30.8**	**+1.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ESDC	**Sonseca Array**	**74.23**	**14**	P	**P**	**18 42 32.2**	**+0.6**
	comp=Z,2.0nm,0.9s,baz=352,slow=5.4,SNR=5.5						
CM31	**Chiang Mai Arr**	**75.15**	**282**	*e*P	**P**	**18 42 36.9**	**-0.2**
	comp=Z,6.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**75.15**	**282**	P	**P**	**18 42 36.7**	**-0.4**
	comp=Z,4.4nm,0.9s,baz=8.7,slow=6.5,SNR=31						

4.4nm,0.3s,baz=189,slow=19,SNR=11

BKSI	**Bulukumba**	**3.47**	**198**	P	**Pn**	**19 24 58.8**	**+0.3**
KMSI	**Cibinong**	**3.77**	**47**	P	**Pn**	**19 25 05.8**	**+3.2**
BKB	**Balikpapan**	**4.39**	**280**	P	**Pn**	**19 25 11.9**	**+0.7**
WRA	**Warramunga Arr**	**21.95**	**145**	P	**P**	**19 28 54.8**	**-3.0**
	0.8nm,0.8s,baz=318,slow=10,SNR=3.8						
ASAR	**Alice Springs**	**24.79**	**151**	P	**P**	**19 29 24.0**	**-1.8**
	0.8nm,1.0s,baz=329,slow=8.9,SNR=3.1						
MKAR	**Makanchi Array**	**59.42**	**330**	P	**P**	**19 34 04.0**	**-2.1**
	0.2nm,0.7s,baz=131,slow=5.9,SNR=2.5						

IDC 13 19:36:08.7±28.0, 14°13.5'×166°53.5'E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/20, mbtmp3.8/4, ML3.6/1, Error ellipse: s-maj=484.8km s-min=49.9km az=55.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.90**	**181**	Pn	Pn	19 38 04.4	-0.7
	0.9nm,0.3s,baz=90,slow=24,SNR=4.5						
DZM				Sn	Sn	19 39 22.4	-13
	1.6nm,0.3s,baz=90,slow=24,SNR=4.5						
STKA	**Stephens Creek**	**28.85**	**228**	P	P	19 42 09.3	+0.3
	2.6nm,0.7s,baz=66,slow=8.9,SNR=8.2						
WRA	**Warramunga Arr**	**31.28**	**255**	P	P	19 42 30.8	0.0
	0.3nm,0.5s,baz=85,slow=9.6,SNR=7.9						
ASAR	**Alice Springs**	**32.22**	**248**	P	P	19 42 38.9	-0.2
	0.4nm,0.5s,baz=73,slow=9.4,SNR=11						

ISCJB ***13*** *19:51:04.7±0.9, 14°77.5'S±0.0'×166°07.2'E±0.2, h129km, mb3.8/12, Error ellipse: s-maj=27.3km s-min=9.0km az=1.6*

IDC ***13*** *19:51:08.0±3.6, 14°90.5'S×167°37.7'E, h151km±35km, mb3.6/11, mb1 3.8/12, mb1mx3.7/31, mbtmp4.1/12, Error ellipse: s-maj=27.7km s-min=19.7km az=112.0*

ISC 13 19:51:05.9±0.9, 14°79.5'S±0.0'×167°47.4'E±0.2', h129km, n14, σ1℘15/14, mb3.9/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.30**	**187**	P	**Pn**	**19 52 50.6**	**+0.7**
	3.6nm,0.3s,baz=90,slow=24,SNR=6.1						
DZM				S	**Sn**	**19 54 12.0**	**+0.6**
	1.8nm,0.3s,baz=90,slow=24,SNR=2.7						
STKA	**Stephens Creek**	**29.02**	**230**	P	**P**	**19 56 54.5**	**+0.7**
	2.2nm,0.4s,baz=63,slow=9.6,SNR=21						
WRA	**Warramunga Arr**	**31.89**	**256**	P	**P**	**19 57 17.7**	**-1.5**
	0.7nm,0.8s,baz=83,slow=8.0,SNR=9.5						
ASAR	**Alice Springs**	**32.73**	**249**	P	**P**	**19 57 25.4**	**-1.1**
	2.3nm,0.9s,baz=79,slow=9.1,SNR=27						
MJAR	**Matsushiro Arr**	**57.99**	**332**	P	**P**	**20 00 44.4**	**-0.8**
	1.9nm,0.7s,baz=158,slow=8.3,SNR=6.1						
VNDA	**Vanda**	**62.81**	**181**	P	**P**	**20 01 16.0**	**-1.2**
	0.4nm,0.3s,baz=355,slow=7.3,SNR=4.3						
ASAJ	**Asahikawa**	**62.82**	**340**	P	**P**	**20 01 19.3**	**+1.5**
	7.1nm,0.8s,baz=243,slow=6.8,SNR=4.6						
KSRS	**Korea Array**	**63.83**	**326**	P	P	20 01 29.1	+4.5
	0.4nm,0.5s,baz=134,slow=6.9,SNR=3.0						
PETK	**Petropavlovsk-**	**68.13**	**354**	P	**P**	**20 01 52.1**	**+0.4**
	2.6nm,0.7s,baz=178,slow=6.8,SNR=2.4						
CMAR	**Chiang Mai Arr**	**75.04**	**294**	P	**P**	**20 02 35.0**	**+1.1**
	0.4nm,0.8s,baz=134,slow=4.6,SNR=4.2						
SONM	**Songino Array**	**82.59**	**324**	P	**P**	**20 03 15.6**	**+0.9**
	0.6nm,0.5s,baz=119,slow=5.1,SNR=5.7						
ILAR	**Eielson Array**	**86.56**	**18**	P	**P**	**20 03 33.6**	**-0.5**
	0.4nm,0.8s,baz=228,slow=6.6,SNR=5.0						
MKAR	**Makanchi Array**	**97.30**	**316**	P	**P**	**20 04 24.4**	**0.0**
	0.6nm,0.7s,baz=82,slow=4.5,SNR=5.8						
ARCES	**ARCESS Array B**	**120.33**	**345**	PKP	**PKPdf**	**20 09 39.6**	**-1.7**
	0.3nm,0.3s,baz=74,slow=2.2,SNR=18						

IDC ***13*** *20:13:13.9±4.4, 37°59.5'S×73°66.6'W, h0km, mb3.6/3, mb1 3.6/5, mb1mx3.5/17, mbtmp3.5/5, ML3.1/2, MS1.8/1, Ms1 1.8/1, ms1mx1.8/15, Error ellipse: s-maj=93.7km s-min=20.9km az=72.0*

SJA ***13*** *20:13:16.3±0.9, 36°41.5'S×74°82.8'W, h10km, ML3.9*

ISC 13 20:13:18.5±2.2, 37°5.5'S±0.1'×73°9.9'W±0.3', h35km, n12, σ1℘40/14, mb3.6/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**4.12**	**143**	Pn	**Pn**	**20 14 17.4**	**-1.7**
	0.4nm,0.3s,baz=320,slow=13,SNR=15						
PLCA				Lg	Lg	20 15 19.8	
	3.1nm,0.3s,baz=53,slow=20,SNR=4.0						
ARCO	**CERRO ARCO**	**6.15**	**42**	*i* P	Pn	20 14 49.5	+2.5
ARCO				*i* S	**Sn**	**20 15 57.6**	**+1.5**
ARCO				AML	AML	20 16 08.0	
	comp=Z,43nm,0.2s						
ASAL	**Salagasta**	**6.39**	**41**	*i* P	**Pn**	**20 14 51.8**	**+1.6**
AUSP	**Uspallata**	**6.41**	**36**	*i* P	**Pn**	**20 14 51.4**	**+0.7**
AUSP				*i* S	**Sn**	**20 16 01.2**	**-1.7**
RTLS	**Leoncito**	**6.81**	**35**	*i* P	**Pn**	**20 14 56.9**	**+0.7**
RTLS				*i* P	**Pn**	**20 14 56.9**	**+0.7**
CFAA	**Coronel Fontan**	**7.48**	**40**	Pn	**Pn**	**20 15 03.6**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=209,slow=12,SNR=8.3						
CFAA				Sn	Sn	20 16 15.0	-14
	comp=Z,0.1nm,0.3s,baz=207,slow=15,SNR=3.7						
CFAA				Lg	Lg	20 16 57.5	
	comp=Z,0.1nm,0.3s,baz=284,slow=17,SNR=4.1						
CFAA				LR	LR	20 17 32.9	
	comp=Z,6.2nm,19.6s,baz=224,slow=35						
CFAA	**Coronel Fontan**	**7.48**	**40**	*i* P	**Pn**	**20 15 04.5**	**-0.7**
RTLL	**Cerro Villicun**	**7.59**	**37**	*i* P	**Pn**	**20 15 05.7**	**-1.0**
AMOG	**MOGNA**	**7.90**	**36**	*i* P	**Pn**	**20 15 09.9**	**-1.2**
LPAZ	**La Paz**	**21.72**	**15**	P	**P**	**20 18 09.2**	**+1.8**
	comp=Z,1.9nm,0.8s,baz=185,slow=9.1,SNR=4.2						
SIV	**San Ignacio**	**24.22**	**31**	P	**P**	**20 18 32.7**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=224,slow=11,SNR=3.4						
TORD	**Torodi Ar. Bea**	**86.77**	**71**	P	**P**	**20 25 58.3**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=224,slow=5.2,SNR=3.3						

IDC 13 20:18:04.9±3.7, 5°22.5'×149°76.6'E, h0km, mb3.0/2, mb1 3.4/2, mb1mx3.2/18, mbtmp3.1/2, Error ellipse: s-maj=139.3km s-min=47.8km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.96**	**224**	P	P	20 22 50.1	+0.4
	0.2nm,0.3s,baz=50,slow=10,SNR=5.1						
ASAR	**Alice Springs**	**23.87**	**218**	P	P	20 23 20.0	-0.3
	0.5nm,0.8s,baz=53,slow=9.6,SNR=4.5						
TORD	**Torodi Ar. Bea**	**147.53**	**286**	PKPbc	PKPbc	20 37 51.5	-0.8
	0.6nm,0.5s,baz=84,slow=2.3,SNR=8.0						

IDC ***13*** *20:39:09.2±0.5, 34°15S×72°16W, h0km, mb4.5/11, mb1 4.6/12, mb1mx4.5/17, mbtmp4.5/12, ML4.4/1, MS4.8/13, Ms1 4.7/13, ms1mx4.5/23, Error ellipse: s-maj=23.8km s-min=16.5km az=81.0*

GUC ***13*** *20:39:10.6±0.5, 34°24S×72°36W, h23km±3km, ML5.0*

ISCJB ***13*** *20:39:11.6±0.2, 34°24.5'S±0.0'×72°31.3'W±0.0', h19km, mb4.7/34, MS4.8/10, Error ellipse: s-maj=5.1km s-min=3.6km az=138.9*

GCMT ***13*** *20:39:15.2±0.2, 34°26S×72°51W, h30km±1km, MW5.2/69, Moment Tensor Solution. s34,c50; s69,c88; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.68±.22; $M_{\theta\theta}$3.16±.18; $M_{\phi\phi}$-6.83±.18; $M_{r\theta}$1.17±.26; $M_{\theta\phi}$1.42±.16; $M_{\phi r}$-4.53±.31; Best double couple: $M_0$7.14900×10^{16} NP1:ϕ_s161.00000°, δ67.00000°, λ77.00000°. NP2: ϕ_s11.00000°, δ27.00000°, λ117.00000°. Principal axes: T 5.5310, Plg66.0000°, Azm49.0000°; N 3.2460, Plg12.0000°, Azm167.0000°; P -8.7670, Plg21.0000°, Azm261.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***13*** *20:39:15.2±0.9, 34°21S×72°14W, h39km±7km, mb4.7/23 Error ellipse: s-maj=10.5km s-min=5.2km az=81.0*

NEIC Felt [IV] at Constitucion and Pichilemu; [III] at Cauquenes, Chanco, Curico, Romeral and Talca; [II] at Casablanca, Concepcion, El Quisco, Linares, Melipilla, Navidad, Paredones, Rancagua, San Antonio, San Fernando and Valparaiso.

ISC 13 20:39:12.8±0.3, 34°23S±0.0'×72°16W±0.0', h19km, n318, σ1℘10/317, mb4.7/34, MS4.8/10, 100C-106D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.68**	**67**	⇓*i* P	**Pn**	**20 39 27.5**	**+0.2**
NICH	**Los Niches**	**1.09**	**136**	*e*P	**Pn**	**20 39 33.2**	**+0.1**
NICH				*i* S	**Sg**	**20 39 49.7**	**+1.5**
TACH	**Talagante**	**1.17**	**61**	⇓*i* P	**Pb**	**20 39 34.5**	**+0.2**
TALC	**Talca**	**1.25**	**160**	⇑*i* P	**Pn**	**20 39 34.6**	**-0.6**
TALC				*i* S	**Sn**	**20 39 52.2**	**+0.8**
IHA	**Instituto Hidr**	**1.27**	**20**	⇑*i* P	**Pn**	**20 39 35.1**	**-0.5**
CHCH	**Chadas Angostu**	**1.28**	**77**	⇑*i* P	**Pb**	**20 39 36.9**	**+0.5**
CACH	**El Canelo**	**1.30**	**86**	⇓*i* P	**Pg**	**20 39 37.6**	**-0.3**
SAN	**Santiago**	**1.47**	**59**	⇓*i* P	**Pb**	**20 39 39.4**	**-0.1**
PCH	**Pirque**	**1.50**	**67**	*e*P	**Pb**	**20 39 40.5**	**+0.5**
ROCH	**El Roble**	**1.57**	**38**	AML	AML	20 40 16.7	
	comp=E,22μm,0.5s						
CLCH	**Cerro Calan**	**1.58**	**59**	⇑*i* P	**Pb**	**20 39 41.2**	**-0.2**
CLCH				*i* S	**Sg**	**20 40 05.2**	**+1.2**
CLCH				AML	AML	20 40 25.3	
	comp=N,22μm,0.6s						
PEL	**Peldehue**	**1.64**	**49**	⇓*i* P	**Pb**	**20 39 41.9**	**-0.4**
PEL				*i* S	**Sg**	**20 40 06.0**	**+0.4**
PEL				AML	AML	20 40 17.2	
	comp=N,35μm,0.5s						
LNCH	**Linares**	**1.68**	**164**	⇓*i* P	**Pn**	**20 39 41.2**	**0.0**
CFAA	**Coronel Fontan**	**4.21**	**53**	Pn	**Pn**	**20 40 18.4**	**+2.4**
	comp=N,3.2nm,0.3s,baz=224,slow=17,SNR=83						
CFAA				Lg	Lg	20 41 20.0	
	comp=N,3.4nm,0.3s,baz=77,slow=19,SNR=5.2						
CFAA				LR	LR	20 42 20.5	
	comp=N,1μm,20.1s,baz=222,slow=46						
LCO	**Las Campanas**	**5.35**	**14**	*e*Pn	**Pn**	**20 40 30.5**	**-1.3**
	comp=N,140nm,0.3s						
PLCA	**Paso Flores**	**6.62**	**169**	Pn	**Pn**	**20 40 49.8**	**+0.7**
	comp=N,1.8nm,0.3s,baz=344,slow=13,SNR=44						
PLCA				Lg	Lg	20 42 34.2	
	comp=N,2.9nm,0.3s,baz=270,slow=19,SNR=4.4						
PLCA				LR	LR	20 43 35.5	
	comp=N,5μm,19.8s,baz=352,slow=40						
TRQA	**Tornquist**	**9.07**	**118**	*e*Pn	**Pn**	**20 41 24.8**	**+2.0**
	comp=N,175nm,1.4s						
LVC	**Limon Verde**	**11.92**	**15**	Pn	Pn	20 41 56.6	-5.3
	comp=N,56nm,0.3s,baz=171,slow=9.4,SNR=12						
LVC				Sn	**Sn**	**20 44 20.0**	**+5.5**
	comp=N,26nm,0.3s,baz=308,slow=17,SNR=3.0						
LVC				LR	LR	20 47 02.7	
	comp=N,21μm,19.0s,baz=204,slow=40						
CPUP	**Villa Florida**	**15.02**	**62**	*e*Pn	**Pn**	**20 42 40.8**	**-3.3**
	comp=N,0.3nm,0.8s						
LPAZ	**La Paz**	**18.23**	**12**	P	**P**	**20 43 26.1**	**+0.6**
	comp=N,1.8nm,0.3s,baz=183,slow=8.3,SNR=34						
LPAZ	**La Paz**	**18.23**	**12**	*e*P	**P**	**20 43 25.5**	**0.0**
	comp=N,39nm,1.0s						
EFI	**East Falkland**	**20.20**	**154**	*e*P	**P**	**20 43 45.4**	**-0.8**
SIV	**San Ignacio**	**20.72**	**32**	P	**P**	**20 43 51.7**	**-0.5**
	comp=N,30nm,0.8s,baz=216,slow=11,SNR=26						
SIV				LR	LR	20 53 29.4	
	comp=N,5μm,19.3s,baz=222,slow=42						
USHA	**Ushuaia**	**20.77**	**174**	P	**P**	**20 43 53.4**	**+1.0**
	comp=N,9.7nm,0.9s,baz=345,slow=16,SNR=3.6						
USHA				LR	LR	20 53 16.2	
	comp=N,3μm,18.2s,baz=308,slow=41						
SAML	**Samuel**	**26.48**	**20**	*e*P	**P**	**20 44 49.1**	**+0.2**
	comp=N,13nm,0.7s						
BDFB	**Brasilia**	**28.54**	**56**	P	**P**	**20 45 06.4**	**-1.1**
	comp=N,9.8nm,0.7s,baz=219,slow=8.9,SNR=11						
BDFB				LR	LR	20 57 55.8	
	comp=N,3μm,18.8s,baz=224,slow=40						
PMSA	**Palmer Station**	**30.98**	**173**	LR	LR	20 57 34.0	
	comp=N,2μm,19.8s,baz=340,slow=36						
RPN	**Rapa Nui**	**32.62**	**272**	LR	LR	20 55 21.1	
	comp=N,2μm,18.4s,baz=101,slow=30						
SDV	**Santo Domingo**	**42.90**	**2**	*e*P	**P**	**20 47 10.7**	**+0.2**
	comp=N,16nm,1.0s						
VNA3	**Neumayer Olymp**	**49.19**	**158**	P	**P**	**20 47 59.3**	**+0.1**
VNA1	**Neumayer--Stat**	**49.51**	**157**	P	P	20 48 14.1	+13
VNA2	**Neumayer--Watz**	**49.84**	**157**	P	P	20 48 14.9	+11
	baz=284,slow=7.9						
SNAA	**Sanae**	**51.41**	**158**	P	**P**	**20 48 15.3**	**-0.8**
SNAA	**Sanae**	**51.41**	**158**	P	**P**	**20 48 16.2**	**+0.1**
	comp=N,3.7nm,1.0s,baz=268,slow=8.4,SNR=8.6						
SNAA	**Sanae**	**51.41**	**158**	*e*P	**P**	**20 48 14.6**	**-1.5**
	comp=N,72nm,1.3s						
SNAA				*ep*P	**pP**	**20 48 26.2**	**+4.1**
CELP	**Cerrillos**	**52.28**	**7**	*e*P	**P**	**20 48 21.4**	**-1.6**
CELP				*ep*P	**pP**	**20 48 33.9**	**+4.9**
RKT	**Rikitea**	**55.45**	**264**	eLR	LR	21 04 54.1	
	comp=N,471nm,27.5s						
RKT	**Rikitea**	**55.45**	**264**	*e*T	T	21 48 36.7	
	comp=N,2.1nm,0.3s						
QSPA	**South Pole Qui**	**56.01**	**180**	*e*P	**P**	**20 48 50.3**	**+0.3**
	comp=N,56nm,1.0s						
QSPA				*ep*P	**pP**	**20 49 00.8**	**+4.8**
VNDA	**Vanda**	**63.86**	**191**	LR	LR	21 14 08.1	
	comp=N,143nm,20.2s,baz=129,slow=33						
035A	**Encino**	**65.62**	**335**	⇓*e*P	P	**20 49 56.7**	**+1.2**
	baz=66						
SYO	**Syowa Base**	**65.69**	**158**	⇓*e*P	P	20 50 02.0	+6.5
034A	**Hebbronville**	**65.94**	**334**	⇓P	**P**	**20 49 58.8**	**+1.2**
	baz=66						
834A	**Tilden**	**66.86**	**335**	⇑P	**P**	**20 50 05.1**	**+1.7**
	baz=67						
TBI	**Tubuai**	**67.17**	**257**	*e*S	**S**	**20 59 05.1**	**+5.7**
	comp=N,618nm,29.8s						
TBI	**Tubuai**	**67.17**	**257**	*e*LR	LR	21 10 24.9	
	comp=N,1μm,25.5s,baz=121						
833A	**Chaparral WMA,**	**67.34**	**334**	⇑P	**P**	**20 50 08.1**	**+1.6**
	baz=68						
832A	**Faith Ranch, C**	**67.52**	**334**	⇑P	**P**	**20 50 08.2**	**+0.6**
	baz=68						
636A	**Smothers Creek**	**67.59**	**337**	⇑P	**P**	**20 50 09.5**	**+1.5**
	baz=68						
732A	**Laxson Ranch,**	**67.92**	**334**	⇓P	**P**	**20 50 10.8**	**+0.7**
	baz=68						
632A	**Uvalde**	**68.56**	**334**	⇓P	**P**	**20 50 15.1**	**+0.9**
	baz=69						
MEH	**Mehetia**	**68.72**	**262**	*e*T	T	22 05 10.3	
	comp=N,49nm,0.2s						
533A	**Kerrville**	**68.81**	**335**	⇓P	**P**	**20 50 16.7**	**+0.9**
	baz=69						
337A	**Centerville**	**68.92**	**338**	⇓P	**P**	**20 50 17.3**	**+1.0**
	baz=69						
532A	**Rocksprings**	**69.16**	**334**	⇑P	**P**	**20 50 18.8**	**+0.8**
	baz=70						
434A	**Burnet**	**69.22**	**336**	⇓P	**P**	**20 50 19.1**	**+0.8**
	baz=70						
335A	**Moody**	**69.38**	**337**	⇑P	**P**	**20 50 19.8**	**+0.7**
	baz=70						
531A	**Rocksprings**	**69.43**	**334**	⇑P	**P**	**20 50 20.3**	**+0.7**
	baz=70						
JCT	**Junction City**	**69.45**	**335**	*e*P	**P**	**20 50 20.0**	**+0.3**
	comp=N,15nm,1.1s						
JCT				*ep*P	pP	20 50 33.4	+7.5
JCT	**Junction City**	**69.45**	**335**	⇓P	**P**	**20 50 20.4**	**+0.7**
	baz=70						
433A	**Art**	**69.45**	**335**	⇑P	**P**	**20 50 20.3**	**+0.6**
	baz=70						
KMSC	**Kings Mountain**	**69.54**	**352**	⇑P	**P**	**20 50 19.8**	**-0.3**
	baz=70						
334A	**Lometa**	**69.69**	**336**	⇑P	**P**	**20 50 21.8**	**+0.7**
	baz=70						
530A	**J-C Ranch, Com**	**69.71**	**333**	⇓P	**P**	**20 50 21.5**	**+0.2**
	baz=70,SNR=6.7						
432A	**Menard**	**69.80**	**335**	⇑P	**P**	**20 50 22.6**	**+0.7**
	baz=70						
TXAR	**Lajitas Array**	**69.88**	**331**	P	**P**	**20 50 21.7**	**-0.8**
	comp=N,1.4nm,0.7s,baz=150,slow=8.7,SNR=14						
431A	**Sonora**	**69.92**	**334**	⇓P	**P**	**20 50 23.5**	**+0.9**
	baz=70						
TIAR	**Tiarei**	**69.93**	**262**	*e*T	T	22 06 40.8	
	comp=N,7.2nm,0.2s						
333A	**Richland Sprin**	**69.93**	**336**	⇓P	**P**	**20 50 23.0**	**+0.3**
	baz=70						
529A	**Stev Forest Ra**	**70.02**	**332**	⇓P	**P**	**20 50 24.4**	**+1.2**
	baz=70,SNR=7.1						
WHTX	**Lake Whitney,**	**70.04**	**337**	⇓P	**P**	**20 50 24.1**	**+0.8**
	baz=70						
137A	**Heron Place, G**	**70.08**	**339**	⇑P	**P**	**20 50 24.2**	**+0.7**
	baz=70						
PPT2	**Papeete2**	**70.10**	**262**	*e*S	S	20 59 42.5	+7.9
	comp=N,323nm,23.5s						
PPT2	**Papeete2**	**70.10**	**262**	*e*LR	LR	21 11 49.4	
	comp=N,892nm,27.0s,baz=122						
430A	**Baggett Ranch,**	**70.24**	**334**	⇑P	**P**	**20 50 25.3**	**+0.7**
	baz=70						
332A	**Millersview**	**70.25**	**335**	⇑P	**P**	**20 50 25.0**	**+0.5**
	baz=71						
234A	**Clairette**	**70.27**	**337**	⇓P	**P**	**20 50 25.3**	**+0.6**
	baz=71						
SWET	**Sewanee**	**70.28**	**348**	*e*P	**P**	**20 50 23.5**	**-1.2**
	comp=N,19nm,0.9s						
429A	**Davenport Ranc**	**70.34**	**333**	⇑P	**P**	**20 50 25.7**	**+0.5**
	baz=71,SNR=5.6						
331A	**San Angelo**	**70.42**	**335**	⇑P	**P**	**20 50 26.5**	**+0.8**
	baz=71						
233A	**Rising Star**	**70.54**	**336**	⇓P	**P**	**20 50 26.7**	**+0.3**
	baz=71						
134A	**White-Moore Ra**	**70.78**	**337**	⇓P	**P**	**20 50 28.2**	**+0.4**
	baz=71						
330A	**Mertzon**	**70.78**	**334**	⇑P	**P**	**20 50 28.4**	**+0.5**
	baz=71						
231A	**Bronte**	**70.95**	**335**	⇓P	**P**	**20 50 29.3**	**+0.4**
	baz=71						
329A	**Wagon Wheel Ra**	**71.15**	**333**	⇑P	**P**	**20 50 30.6**	**+0.5**
	baz=72						
230A	**Sterling City**	**71.19**	**334**	⇓P	**P**	**20 50 30.9**	**+0.5**
	baz=72						
Z35A	**Perchaven, San**	**71.22**	**338**	⇓P	**P**	**20 50 30.6**	**+0.2**
	baz=72						
ABTX	**Abilene, Hawle**	**71.34**	**336**	*e*P	**P**	**20 50 31.7**	**+0.5**
	comp=N,5.9nm,0.9s						
ABTX	**Abilene, Hawle**	**71.34**	**336**	⇑P	**P**	**20 50 31.6**	**+0.3**
	baz=72						
Z34A	**Collier Ranch,**	**71.46**	**337**	⇓P	**P**	**20 50 32.2**	**+0.3**
	baz=72						
WVT	**Waverly**	**71.51**	**347**	*e*P	**P**	**20 50 30.9**	**-1.2**
Z33A	**Whitaker Ranch**	**71.66**	**337**	⇑P	**P**	**20 50 33.6**	**+0.5**
	baz=72						
130A	**Snyder**	**71.78**	**335**	⇑P	**P**	**20 50 34.0**	**+0.1**
	baz=72						
Z32A	**Haskell**	**71.91**	**336**	⇓P	**P**	**20 50 35.3**	**+0.6**
	baz=72						
Y34A	**Reagan Ranch,**	**71.95**	**338**	⇓P	**P**	**20 50 35.1**	**+0.3**
	baz=72						
X35A	**Drake**	**72.12**	**339**	⇑P	**P**	**20 50 35.9**	**+0.1**
	baz=72						
Z31A	**Sharp Cattle R**	**72.15**	**336**	⇑P	**P**	**20 50 36.8**	**+0.8**
	baz=72						
Y33A	**Hilltop Ranch,**	**72.28**	**337**	⇓P	**P**	**20 50 36.9**	**+0.2**
	baz=73						
128A	**Castleberry Fa**	**72.35**	**333**	⇓P	**P**	**20 50 37.9**	**+0.5**
	baz=73						
W37A	**Quinton**	**72.36**	**340**	⇑P	**P**	**20 50 37.3**	**+0.1**
	baz=73						
Z30A	**Sanderson Ranc**	**72.46**	**335**	⇓P	**P**	**20 50 38.5**	**+0.5**
	baz=73						
Y32A	**R-V Farms, Ver**	**72.54**	**336**	⇑P	**P**	**20 50 38.4**	**+0.1**
	baz=73						
Z29A	**Hungry Hill Ra**	**72.64**	**334**	⇑P	**P**	**20 50 39.2**	**+0.1**
	baz=73						
MNTX	**Cornudas Mount**	**72.66**	**331**	*e*P	**P**	**20 50 37.7**	**-1.4**
	comp=N,5.3nm,1.1s						
MNTX	**Cornudas Mount**	**72.66**	**331**	⇓P	**P**	**20 50 39.3**	**+0.2**
	baz=73						
Y31A	**Rekieta Farm,**	**72.77**	**336**	⇓P	**P**	**20 50 40.1**	**+0.3**
	baz=73						
W35A	**Tecumseh**	**72.79**	**339**	⇑P	**P**	**20 50 39.7**	**-0.1**
	baz=73						
Y30A	**Stafford Cattl**	**72.92**	**335**	⇑P	**P**	**20 50 41.0**	**+0.3**
	baz=73						
MAW	**Mawson**	**72.99**	**164**	P	**P**	**20 50 41.1**	**+0.4**
	comp=N,3.9nm,0.6s,baz=230,slow=7.9,SNR=8.0						
MAW				LR	LR	21 25 40.7	
	comp=N,960nm,18.0s,baz=233,slow=38						
X31A	**McDonald Ranch**	**73.29**	**336**	⇓P	**P**	**20 50 43.2**	**+0.4**
	baz=74						
MSTX	**Muleshoe**	**73.67**	**334**	*e*P	**P**	**20 50 44.7**	**-0.5**
	comp=N,4.2nm,0.6s						
MSTX	**Muleshoe**	**73.67**	**334**	⇑P	**P**	**20 50 45.5**	**+0.3**
	baz=74						
V33A	**Lossen Ranch,**	**73.84**	**338**	⇓P	**P**	**20 50 46.2**	**+0.2**
	baz=74						
319A	**Douglas**	**74.04**	**328**	⇓P	**P**	**20 50 48.9**	**+1.5**
	baz=74						
121A	**Cookes Peak, D**	**74.38**	**329**	⇓P	**P**	**20 50 50.4**	**+1.0**
	baz=75						
T34A	**McClaskey Farm**	**74.62**	**339**	⇑P	**P**	**20 50 50.7**	**+0.2**
	baz=75						
ACSO	**Alum Creek Sta**	**74.76**	**351**	*e*P	**P**	**20 50 50.9**	**-0.3**
	comp=N,22nm,0.6s						
S36A	**Lake Cedric, C**	**74.83**	**341**	⇓P	**P**	**20 50 51.8**	**+0.1**
	baz=75						
LIC	**Lamto**	**74.94**	**72**	*e*PKIKP	**P**	**20 50 54.4**	**+1.5**
	comp=N,52nm,1.3s						
S35A	**Otter Creek Ra**	**74.99**	**340**	⇓P	**P**	**20 50 52.8**	**+0.1**
	baz=75						
T33A	**Patterson Ranc**	**74.99**	**339**	⇑P	**P**	**20 50 53.2**	**+0.5**
	baz=75						
TIC	**Tounodi**	**75.20**	**71**	*e*PKIKP	**P**	**20 50 54.6**	**+0.1**
	comp=N,30nm,1.2s						
KIC	**Kosan Boka**	**75.25**	**72**	*e*PKIKP	**P**	**20 50 54.9**	**+0.2**
	comp=N,43nm,1.1s						
DBIC	**Dimbokro**	**75.34**	**71**	P	**P**	**20 50 54.5**	**-0.7**
	comp=N

GMRC	Granite Mounta	79.82	325	⇑P		P	20 51 21.2	+1.3
	baz=80							
SMCO	Snowmass	79.84	333	*e*P		P	20 51 20.8	+0.5
	comp=N,7.9nm,1.1s							
L31A	Butterfield Fa	79.88	340	⇓P		P	20 51 19.9	-0.1
	baz=80							
ISCO	Idaho Springs	79.89	334	*e*P		P	20 51 20.8	+0.4
	comp=N,3.6nm,1.2s							
ISCO	Idaho Springs	79.89	334	⇑P		P	20 51 21.0	+0.6
	baz=80							
BFSC	Mount Baldy Ra	80.35	323	⇓P		P	20 51 24.2	+1.4
	baz=81							
O23A	Lake Granby, G	80.36	334	⇓P		P	20 51 24.1	+1.2
	baz=81							
TUQ	Turquoise Moun	80.48	325	⇑P		P	20 51 24.8	+1.3
	baz=81							
O22A	Kremmling	80.54	334	⇑P		P	20 51 24.1	+0.2
	baz=81,SNR=5.6							
ECSD	EROS Data Cent	80.73	342	*e*P		P	20 51 24.1	-0.4
	comp=N,14nm,0.8s							
ECSD	EROS Data Cent	80.73	342	⇑P		P	20 51 24.4	-0.1
	baz=81							
N23A	Red Feather La	80.97	335	⇑P		P	20 51 26.3	+0.2
	baz=81							
EDW2	Edwards Air Fo	81.03	323	⇑P		P	20 51 27.4	+1.1
	baz=81							
N22A	Wattenberg Ran	81.07	334	⇓P		P	20 51 27.7	+1.0
	baz=81							
SPMN	Marine on St.	81.27	345	⇑P		P	20 51 26.9	-0.3
	baz=82							
MSU	Marysvale	81.34	329	*e*P		P	20 51 29.1	+1.0
	comp=N,3.4nm,0.9s							
LRMC	Laurel Mtn Rad	81.36	324	⇑P		P	20 51 29.7	+1.5
	baz=82							
M23A	Laramie	81.40	335	⇑P		P	20 51 28.6	+0.2
	baz=82							
J29A	Okreek	81.43	340	⇓P		P	20 51 28.6	+0.4
	baz=82							
M22A	Cedar Creek Ra	81.65	335	⇑P		P	20 51 30.3	+0.5
	baz=82							
N20A	Spence Gulch,	81.76	333	⇑P		P	20 51 31.3	+1.0
	baz=82							
J27A	Elkhorn Farm,	81.79	338	⇓P		P	20 51 30.8	+0.6
	baz=82							
TPNV	Topopah Spring	81.86	326	⇑P		P	20 51 32.3	+1.5
	baz=82							
ISA	Isabella, Lake	81.89	324	⇓P		P	20 51 32.2	+1.3
	baz=82							
J26A	Sides Ranch, S	82.17	338	⇓P		P	20 51 32.7	+0.5
	baz=82							
I28A	Midland	82.22	339	⇑P		P	20 51 32.7	+0.4
	baz=83							
K23A	Bowen Ranch, D	82.51	336	⇓P		P	20 51 34.6	+0.5
	baz=83							
I27A	Quinn	82.55	339	⇓P		P	20 51 34.7	+0.6
	baz=83							
R11A	Troy Canyon, C	82.69	327	*e*P		P	20 51 35.7	+0.5
	comp=N,3.6nm,0.9s							
R11A				*e*			20 51 44.9	
R11A	Troy Canyon, C	82.69	327	⇑P		P	20 51 36.1	+0.9
	baz=83							
J24A	Dixon Ranch, L	82.70	337	⇓P		P	20 51 35.5	+0.5
	baz=83							
K21A	Alcova	82.97	335	⇓P		P	20 51 36.2	-0.3
	baz=83,SNR=6.2							
DUG	Dugway, Tooele	83.02	330	⇑P		P	20 51 37.5	+0.7
	baz=83							
I25A	Rochford	83.02	338	⇑P		P	20 51 36.8	+0.1
	baz=83							
H27A	Howes	83.07	339	⇑P		P	20 51 37.1	+0.3
	baz=83							
G28A	Parade	83.13	340	⇓P		P	20 51 37.2	+0.1
	baz=84							
I24A	Kuemmerle Ranc	83.16	337	⇓P		P	20 51 37.2	-0.2
	baz=84							
TPH	Tonopah	83.22	326	*e*P		P	20 51 37.2	-0.7
	comp=N,2.2nm,0.3s							
J22A	Midwest	83.38	336	⇓P		P	20 51 38.6	0.0
	baz=84							
H25A	Fruitdale	83.52	338	⇓P		P	20 51 40.1	+0.9
	baz=84							
F29A	Eureka	83.53	341	⇓P		P	20 51 39.0	0.0
	baz=84							
HWUT	Hardware Ranch	83.70	331	*e*P		P	20 51 39.9	-0.4
	comp=N,8.9nm,1.1s							
G27A	Dupree	83.70	339	⇓P		P	20 51 39.9	-0.1
	baz=84							
I22A	9 Mile Ranch,	83.81	336	⇑P		P	20 51 39.7	-1.0
	baz=84							
F28A	McLaughlin	83.81	340	⇑P		P	20 51 40.9	+0.3
	baz=84							
G26A	Maurine	83.82	339	⇑P		P	20 51 40.5	-0.1
	baz=84							
J20A	Shoshoni	83.89	335	⇓P		P	20 51 41.7	+0.5
	baz=84,SNR=6.1							
PDAR	Pinedale Array	83.92	333	P		P	20 51 41.0	-0.5
	comp=N,1.6nm,0.9s,baz=134,slow=2.6,SNR=9.7							
H24A	Dirks Ranch, A	83.93	337	⇓P		P	20 51 40.5	-0.7
	baz=84							
G25A	Newell	83.98	338	⇓P		P	20 51 41.5	0.0
	baz=84							
I21A	Big Trails, Te	84.01	335	⇑P		P	20 51 41.5	-0.3
	baz=84							
NVAR	Mina Array Bea	84.01	325	P		P	20 51 42.5	+0.5
	comp=N,2.0nm,0.8s,baz=142,slow=6.2,SNR=14							
J19A	Crowheart	84.16	334	⇓P		P	20 51 42.9	+0.3
	baz=84,SNR=6.5							
F27A	Lemmon	84.18	340	⇑P		P	20 51 42.3	-0.2
	baz=84							
HVU	Hansel Valley	84.33	331	*e*P		P	20 51 43.2	-0.3
	comp=N,4.1nm,0.8s							
TOA0	Torodi Ar. Sit	84.38	70	*e*P		P	20 51 44.1	-0.1
TORD	Torodi Ar. Bea	84.38	70	P		P	20 51 44.1	0.0
	comp=N,6.1nm,0.9s,baz=258,slow=5.3,SNR=26							
TORD					LR	LR	21 28 38.9	
	comp=N,649nm,18.6s,baz=230,slow=35							
G24A	Alzada	84.41	338	⇓P		P	20 51 43.6	-0.1
	baz=85							
D30A	Buchanan	84.42	342	⇑P		P	20 51 43.6	0.0
	baz=85							
I20A	Worland	84.43	335	⇓P		P	20 51 43.3	-0.6
	baz=85							
ELK	Elko	84.50	329	*e*P		P	20 51 44.5	0.0
	comp=N,4.3nm,1.0s							
ELK				*e*pP		pP	20 51 56.6	+5.8
G23A	Biddle	84.60	337	⇑P		P	20 51 44.2	-0.5
	baz=85							
F25A	Bowman	84.65	339	⇑P		P	20 51 45.1	+0.2
	baz=85							
I19A	Meeteetse	84.81	334	⇑P		P	20 51 46.0	+0.1
	baz=85							
AGMN	Agassiz Nation	84.85	344	⇓P		P	20 51 45.6	-0.1
	baz=85							
E26A	Carlson Angus	84.85	340	⇑P		P	20 51 46.1	+0.3
	baz=85							
H20A	Greybull	84.85	335	⇑P		P	20 51 45.8	-0.1
	baz=85							
F24A	Ekalaka	84.88	338	⇓P		P	20 51 46.3	+0.2
	baz=85							
C30A	Mose, Pekin	84.91	343	⇑P		P	20 51 46.0	0.0
	baz=85							
D28A	Regan	84.98	341	⇑P		P	20 51 46.6	+0.1
	baz=85							
LOHW	Long Hollow	85.04	333	*e*P		P	20 51 46.9	-0.2
F23A	Volborg	85.07	337	⇓P		P	20 51 47.4	+0.4
	baz=85							
E25A	Miller Ranch,	85.15	339	⇓P		P	20 51 47.3	-0.1
	baz=86							
G21A	Lodge Grass	85.22	336	⇓P		P	20 51 47.6	-0.2
	baz=86							
MDND	Maddock	85.33	342	⇓P		P	20 51 47.7	-0.4
	baz=86							
H19A	Powell	85.36	335	⇑P		P	20 51 47.5	-1.1
	baz=86							
F22A	Rosebud	85.40	337	⇑P		P	20 51 48.3	-0.3
	baz=86							
E24A	Baker	85.48	338	⇓P		P	20 51 48.7	-0.3
	baz=86							
G20A	Bridger	85.56	335	⇓P		P	20 51 48.7	-0.8
	baz=86,SNR=9.5							
B30A	Myrvik Farm, E	85.57	343	⇓P		P	20 51 49.3	0.0
	baz=86							
H18A	Shoshone NF, C	85.61	334	⇑P		P	20 51 49.1	-0.8
	baz=86,SNR=13							
D25A	Fairfield	85.72	339	⇓P		P	20 51 50.2	0.0
	baz=86							
B29A	Wagenman Farm,	85.83	342	⇓P		P	20 51 50.4	-0.2
	baz=86							
D24A	Glendive	85.98	339	⇓P		P	20 51 51.8	+0.3
	baz=86							
A30A	Hoffart Farm,	86.02	343	⇑P		P	20 51 50.5	-1.1
	baz=86							
YMR	Madison River	86.08	333	*e*P		P	20 51 51.0	-1.3
B28A	Dugan Ranch, T	86.08	342	⇓P		P	20 51 52.1	+0.2
	baz=86							
A29A	Manning Farm,	86.23	342	⇓P		P	20 51 52.2	-0.3
	baz=87							
E21A	Keefer Ranch,	86.34	337	⇑P		P	20 51 53.3	0.0
	baz=87							
F19A	Roth Farm, Mol	86.37	335	⇓P		P	20 51 53.2	-0.2
	baz=87							
C24A	Savage	86.38	339	⇑P		P	20 51 53.4	-0.1
	baz=87							
HLID	Hailey	86.48	331	*e*P		P	20 51 54.5	+0.3
	comp=N,3.6nm,0.9s							
HLID	Hailey	86.48	331	⇑P		P	20 51 54.3	+0.1
	baz=87							
D22A	Cohagen	86.59	338	⇓P		P	20 51 54.1	-0.3
	baz=87							
E20A	Meyer Farm, Mu	86.66	336	⇓P		P	20 51 54.9	0.0
	baz=87,SNR=9.8							
B25A	Knox Farm, Ray	86.68	340	⇓P		P	20 51 54.8	0.0
	baz=87							
ULM	Lac du Bonnet	86.69	345	P		P	20 51 53.7	-1.1
	comp=N,5.8nm,0.8s,baz=171,slow=5.8,SNR=7.3							
D21A	La Casta Ranch	86.77	337	⇑P		P	20 51 55.5	+0.1
	baz=87							
E19A	Rath Farm, Rou	86.84	336	⇓P		P	20 51 55.8	0.0
	baz=87,SNR=9.4							
C23A	Lambert	86.86	338	⇓P		P	20 51 55.7	-0.1
	baz=87							
MCMT	McKenzie Canyo	86.92	332	*e*P		P	20 51 57.2	+0.8
	comp=N,4.6nm,1.1s							
MCMT				*e*pP		pP	20 52 06.2	+3.5
A25A	Svangstu Ranch	87.27	340	⇑P		P	20 51 57.6	-0.1
	baz=88							
C21A	Desert Coulee	87.48	337	⇑P		P	20 51 58.0	-0.8
	baz=88,SNR=7.9							
D19A	Cripps Ranch,	87.48	336	⇑P		P	20 51 58.4	-0.4
	baz=88							
B21A	Ellsworth Farm	87.98	338	⇓P		P	20 52 01.5	+0.4
	baz=88							
N02D	Trinity Center	88.11	324	⇑P		P	20 52 02.9	+0.9
	baz=88							
A22A	Carney Farms,	88.14	339	⇓P		P	20 52 01.5	-0.4
	baz=88,SNR=5.2							
M04C	Macdoel	88.32	325	⇓P		P	20 52 03.9	+0.9
	baz=89							
M02C	Callahan	88.50	324	⇑P		P	20 52 05.1	+1.3
	baz=89							
EGMT	Eagleton	88.53	336	⇑P		P	20 52 04.0	+0.2
	baz=89							
B19A	Brinkman Farms	88.63	336	⇓P		P	20 52 04.3	0.0
	baz=89							
A20A	Cobblestone Ra	88.67	337	⇑P		P	20 52 03.9	-0.5
	baz=89,SNR=5.1							
J05D	Fort Rock, OR	89.21	327	⇓P		P	20 52 08.1	+0.8
	baz=90							
L02D	Cave Junction,	89.45	324	⇑P		P	20 52 09.2	+1.0
	baz=90							
J04D	Umpqua Nationa	89.58	326	⇓P		P	20 52 09.7	+0.7
	baz=90							
ESDC	Sonseca Array	96.80	46	LR		LR	21 34 47.6	
	comp=N,113nm,20.0s,baz=225,slow=34							
YKA	Yellowknife Ar	102.24	341	P		Pdif	20 53 05.0	-0.8
	comp=N,0.4nm,0.7s,baz=142,slow=4.1,SNR=5.9							
ILAR	Eielson Array	114.35	333	PKP		PKPdf	20 57 49.2	-1.0
	comp=N,0.4nm,0.8s,baz=129,slow=2.4,SNR=3.0							
ASAR	Alice Springs	117.32	207	PKP		PKPdf	20 57 55.1	-2.3
	comp=N,0.5nm,0.7s,baz=145,slow=1.9,SNR=4.7							
WRA	Warramunga Arr	120.52	209	PKP		PKPdf	20 58 01.8	-1.9
	comp=N,1.0nm,0.5s,baz=158,slow=1.7,SNR=24							
BRTR	Keskin Array B	122.03	61	PKP		PKPdf	20 58 05.8	-0.2
	comp=N,1.0nm,0.7s,baz=188,slow=3.2,SNR=7.2							
AKASG	Malin Array Be	122.42	48	PKP		PKPdf	20 58 04.6	-1.6
	comp=N,1.0nm,0.6s,baz=259,slow=2.9,SNR=8.7							
FINES	FINESS Array B	123.23	35	PKP		PKPdf	20 58 06.5	-1.0
	comp=N,0.6nm,0.7s,baz=163,slow=2.0,SNR=6.8							
ARCES	ARCESS Array B	124.26	25	PKP		PKPdf	20 58 08.5	-0.7
	comp=N,0.8nm,0.7s,baz=258,slow=2.4,SNR=8.9							
H11S2	WAKE ISLAND Hyl	125.67	269	T		T	23 16 41.1	
	baz=119,slow=75,SNR=20							
H11S1	WAKE ISLAND Hyl	125.68	269	T		T	23 16 44.0	
	baz=119,slow=75,SNR=16							
H11S3	WAKE ISLAND Hyl	125.69	269	T		T	23 16 42.3	
	baz=119,slow=75,SNR=12							
H11N3	WAKE ISLAND Hyl	126.09	270	T		T	23 17 13.8	
	baz=115,slow=78,SNR=13							
H11N1	WAKE ISLAND Hyl	126.10	270	T		T	23 17 15.7	
	baz=115,slow=78,SNR=15							
H11N2	WAKE ISLAND Hyl	126.10	270	T		T	23 17 15.8	
	baz=115,slow=78,SNR=11							
KBZ	Khabaz	129.79	59	PKP		PKPdf	20 58 20.8	+0.3
	comp=N,1.0nm,0.8s,baz=236,slow=24,SNR=3.9							
BILL	Bilibino	133.00	334	*e*PKPdf		PKPdf	20 58 22.3	-3.6
GEYT	Alibeck	140.02	70	PKP		PKPdf	20 58 40.6	+0.7
	comp=N,1.1nm,0.7s,baz=291,slow=4.5,SNR=2.6							
SEY	Seymchan	140.18	330	PKP		PKPdf	20 58 38.1	-1.1
	comp=N,1.9nm,0.6s,baz=2,slow=0.2,SNR=8.2							
ABKAR	Akulak array	141.90	52	*e*PKPpre		PKPpre	20 58 37.0	
POO	Poona	145.96	109	⇓*i*P		PKPdf	20 58 50.0	-0.9
	comp=N,68nm,1.2s							
URV	Uravakonda	146.41	117	*e*PKPbc		PKPdf	20 58 51.4	-0.3
KSM	Kuching	147.33	185	*e*PKPbc		PKPbc	20 58 55.6	-0.1
SKHT	Srikalahasti	147.37	122	*e*PKPdf		PKPdf	20 58 51.5	-1.8
SKHT				*e*PKPab		PKPbc	20 58 56.1	+0.4
BRVK	Borovoye	147.44	43	*e*PKPbc		PKPdf	20 58 51.7	-0.6
KBL	Kabul	148.11	78	PKPdf		PKPdf	20 58 53.6	-0.7
YAK	Yakutsk	148.91	340	PKPbc		PKPbc	20 58 57.4	-1.0
	comp=N,9.6nm,0.5s,baz=40,slow=0.3,SNR=3.3							
HYB	Hyderabad	148.93	115	*i* PKP		PKPbc	20 58 59.5	-0.4
HYBB	Hyderabad (bro	148.93	115	*e*PKiKP		PKPbc	20 58 59.8	-0.1
NJS	Nagarjunasagar	148.94	117	*e*PKiKP		PKPbc	20 59 00.2	+0.3
ADKI	Addanki	148.97	119	*e*PKiKP		PKPbc	20 58 59.9	0.0
KKAR	Karatay Array	149.74	62	*e*PKPdf		PKPdf	20 58 52.6	-3.9
KKAR				*e*PKPbc		PKPbc	20 59 01.5	+0.3
RPR	Rampur	150.36	114	*e*PKiKP		PKPbc	20 59 02.9	-0.5
EKS2	Erkin-Say	152.17	62	*e*PKPdf		PKPdf	20 58 56.2	-4.2
EKS2				*e*PKPbc		PKiKP	20 59 07.5	+0.2
AAK	Ala-Archa	152.70	62	*e*PKPdf		PKPdf	20 59 00.7	-0.5
AAK				*e*PKPbc		PKiKP	20 59 08.7	+0.2
AAK				*e*PKPab		PKPab	20 59 16.5	-2.5
KURK	Kurchatov	153.11	43	*e*PKPdf		PKPdf	20 59 00.8	-0.4
KURK				*e*PKPbc		PKPbc	20 59 08.1	-0.5
TKM2	Tokmak 2	153.47	61	*e*PKPdf		PKPdf	20 59 01.9	-0.4
TKM2				*e*PKPbc		PKiKP	20 59 10.2	+0.1
ZAA0	Zalesovo Array	154.47	32	*e*PKPdf		PKPdf	20 59 02.8	-0.3
ZAA0				*e*PKPbc		PKPbc	20 59 10.8	-0.7
ZALV	Zalesovo Beam	154.47	32	PKP		PKPdf	20 59 02.5	-0.6
	comp=N,1.7nm,0.8s,baz=318,slow=2.0,SNR=8.4							
ZALV				PKPbc		PKPbc	20 59 11.0	-0.5
	comp=N,7.5nm,0.7s,baz=296,slow=3.2,SNR=19							
ZALV				PKPab		PKPab	20 59 22.7	-3.2
	comp=N,8.4nm,0.7s,baz=288,slow=3.2,SNR=12							
MKAR	Makanchi Array	156.99	49	PKP		PKPdf	20 59 06.8	+0.1
	comp=N,0.8nm,1.0s,baz=290,slow=7.4,SNR=3.6							
MKAR				PKPbc		PKPbc	20 59 17.1	
	comp=N,0.7nm,0.7s,baz=321,slow=0.9,SNR=6.0							
MKAR				PKPab		PKPab	20 59 34.2	-2.8
	comp=N,1.2nm,0.7s,baz=297,slow=2.3,SNR=6.2							
KSRS	Korea Array	163.40	287	PKP		PKPdf	20 59 13.3	-0.8
	comp=N,0.3nm,0.3s,baz=119,slow=1.5,SNR=5.6							
KSRS				PKPab		PKPab	21 00 04.0	-1.2
	comp=N,0.3nm,0.3s,baz=85,slow=5.3,SNR=2.9							
KSAR	Wonju Array Be	163.43	287	PKP		PKPdf	20 59 13.3	-0.9
KSAR				PKPab		PKPab	21 00 04.0	-1.4
LSA	Lhasa	165.13	103	*e*PKPdf		PKPdf	20 59 17.1	+0.6
SONM	Songino Array	166.36	4	PKP		PKPdf	20 59 16.4	-0.2
	comp=N,0.4nm,0.6s,baz=197,slow=1.5,SNR=4.2							
SONM				PKPab		PKPab	21 00 18.6	+0.6
	comp=N,1.4nm,0.8s,baz=337,slow=5.8,SNR=6.8							

SJA ***13*** *20:49:51.1±0.9,33.°91S×73.°72W,h40km,ML3.8*
IDC ***13*** *20:49:56.3±1.3,33.°97S×72.°88W,h0km,mb3.9/3,*
mb1 3.8/5,mb1mx3.7/17,mbtmp3.8/5,ML3.6/2,Error ellipse: s-maj=58.1km s-min=24.0km az=111.0
ISCJB ***13*** *20:50:00.4±1.8,34.°29S±0.°05×72.°5W±0.°1,h20km±12km,*
mb4.1/2,Error ellipse: s-maj=14.9km s-min=7.7km az=22.1
GUC ***13*** *20:50:01.5±0.6,34.°25S×72.°34W,h12km±1km,ML4.0*
ISC 13 20:49:59.0±2.2,34.°28S±0.°06×72.°41W±0.°08,h9km±12km, n24,σ1§64/34,2C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LNV	Longovilo	0.89	69	⇓*i*P		Pn	20 50 17.3	-0.4
LNV				*i* S		Sb	20 50 28.9	+0.3
NICH	Los Niches	1.21	127	*e*P		Pg	20 50 22.7	+0.4
NICH				*i* S		Sn	20 50 38.6	-0.1
CHCH	Chadas Angostu	1.50	77	⇑*i*P		Pn	20 50 26.7	+0.5
CACH	El Canelo	1.51	84	⇓*i*P		Pb	20 50 27.3	+0.1
ROCH	El Roble	1.75	42	⇓*i*P		Pn	20 50 30.4	+0.6
ROCH				*i* S		Sn	20 50 52.5	+0.2
ROCH				AML		AML	20 51 04.1	
	comp=E,2μm,0.5s							
CLCH	Cerro Calan	1.79	61	⇑*i*P		Pn	20 50 31.1	+1.0
CLCH				*i* S		Sn	20 50 53.9	+0.8
CLCH				AML		AML	20 51 01.0	
	comp=N,3μm,0.7s							
SJCH	San Jose de Ma	1.82	70	*e*P		Pn	20 50 31.4	+0.7
SJCH				*i* S		Sn	20 50 53.8	-0.2
PEL	Peldehue	1.83	52	⇓*i*P		Pb	20 50 31.9	-0.8
PEL				*i* S		Sn	20 50 54.7	+0.6
PEL				AML		AML	20 51 08.1	
	comp=N,3μm,0.3s							
AAGR	Agrelo	3.21	69	*i* P		Pb	20 50 55.2	-1.2
ARCO	CERRO ARCO	3.24	65	*i* P		Pb	20 50 55.0	-1.8
ARCO				*i* S		Sg	20 51 41.9	-1.1
ARCO				AML		AML	20 51 46.3	
	comp=Z,108nm,0.4s							
AUSP	Uspallata	3.26	52	*i* P		Pn	20 50 53.1	+2.5
AUSP				*i* S		Sb	20 51 39.6	+2.5
ASAL	Salagasta	3.43	62	*i* P		Pb	20 50 57.7	-2.3
RTLS	Leoncito	3.60	47	*i* P		Pn	20 50 57.7	+2.5
RTLS				*i* P		Pn	20 50 57.7	+2.5
RTCV	Cerro Valdivia	4.04	54	*i* P		Pn	20 51 03.1	+1.9
CFAA	Coronel Fontan	4.40	54	Pn		Pn	20 51 08.1	+2.0
	comp=Z,0.4nm,0.3s,baz=237,slow=15,SNR=21							
CFAA				Lg		Lg	20 52 08.9	
	comp=Z,0.8nm,0.3s,baz=49,slow=11,SNR=3.8							
RTLL	Cerro Villicun	4.43	49	*i* P		Pn	20 51 08.4	+2.0
PLCA	Paso Flores	6.61	168	Pn		Pn	20 51 38.5	+2.1
	comp=Z,0.5nm,0.3s,baz=347,slow=13,SNR=11							
PLCA				Lg		Lg	20 53 18.4	
	baz=277,slow=18,SNR=1.4							
LPAZ	La Paz	18.32	13	P		P	20 54 15.1	+0.8
	comp=Z,0.1nm,0.3s,baz=192,slow=12,SNR=6.4							
SIV	San Ignacio	20.87	32	P		P	20 54 40.2	-1.3
	comp=Z,3.6nm,0.8s,baz=221,slow=12,SNR=5.6							
QSPA	South Pole Qui	55.96	180	P		P	20 59 39.0	+1.6
	comp=Z,2.3nm,0.9s,baz=110,slow=2.0,SNR=5.6							
TORD	Torodi Ar. Bea	84.59	70	P		P	21 02 33.3	+0.1
	comp=Z,1.1nm,0.9s,baz=244,slow=4.8,SNR=4.1							
WRA	Warramunga Arr	120.37	209	PKP		PKPdf	21 08 50.9	-0.5
	comp=Z,0.1nm,0.4s,baz=156,slow=1.6,SNR=4.6							
ZALV	Zalesovo Beam	154.62	32	PKPbc		PKPbc	21 09 59.0	-0.8
	comp=Z,1.4nm,0.7s,baz=298,slow=3.2,SNR=6.3							
ZALV				PKPab		PKPab	21 10 10.6	-3.9
	comp=Z,0.6nm,0.6s,baz=298,slow=3.1,SNR=3.5							
MKAR	Makanchi Array	157.18	49	PKPab		PKPab	21 10 24.0	-1.8
	comp=Z,0.7nm,0.9s,baz=288,slow=5.3,SNR=3.5							

SJA ***13*** *20:54:36.9±1.3,33.°97S×73.°92W,h45km±307km,ML3.7*
IDC ***13*** *20:54:42.5±2.0,34.°05S×72.°83W,h0km,mb3.7/3,*
mb1 3.6/5,mb1mx3.5/17,mbtmp3.5/5,ML3.1/2,MS4.1/1,
Ms1 4.1/1,ms1mx3.0/18,Error ellipse: s-maj=70.5km s-min=26.1km az=114.0
ISCJB ***13*** *20:54:46.4±1.6,34.°30S±0.°04×72.°46W±0.°09,h20km±11km,*
mb3.8/2,MS4.1/1,Error ellipse: s-maj=12.9km s-min=5.3km az=16.1
GUC ***13*** *20:54:46.0±0.7,34.°30S×72.°34W,h32km±5km,ML3.9*
ISC 13 20:54:46.7±2.0,34.°30S±0.°05×72.°32W±0.°08,h15km±11km, n28,σ1§46/38,3C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LNV	Longovilo	0.83	66	⇓*i*P		Pg	20 55 03.1	+0.2
LNV				*i* S		Sn	20 55 14.9	-1.0
NICH	Los Niches	1.14	128	*e*P		Pn	20 55 08.1	-0.2
NICH				*i* S		Sn	20 55 24.0	+0.4
TALC	Talca	1.23	153	⇑*i*P		Pn	20 55 09.8	+0.3
TALC				*i* S		Sn	20 55 26.5	+0.5
TACH	Talagante	1.32	61	⇓*i*P		Pn	20 55 10.2	-0.5
SAN	Santiago	1.62	59	*e*P		Pn	20 55 14.9	+0.1
SAN				*e*S		Sb	20 55 36.1	-0.6
LNCH	Linares	1.66	159	⇓*i*P		Pn	20 55 14.8	-0.5
LNCH				*i* S		Sn	20 55 37.1	+0.7
ROCH	El Roble	1.72	40	⇓*i*P		Pn	20 55 16.3	-0.1
ROCH				*i* S		Sb	20 55 39.7	+0.1

SJA ***13*** *21:11:14.2±0.8, 33.°54S×73.°98W, h20km±999km, ML4.0*
IDC ***13*** *21:11:23.2±1.2, 34.°27S×72.°51W, h0km, mb3.5/3, mb1 3.6/6, mb1mx3.6/17, mbtmp3.4/6, ML3.5/3, Error ellipse: s-maj=42.9km s-min=27.7km az=104.0*
GUC ***13*** *21:11:27.7±0.5, 34.°27S×72.°32W, h13km±1km, ML4.1*

ISC 13 21:11:24.7±1.8,**34.°30S**±0.°04×**72.°42W**±0.°08,**h9**km±11km, **n30**,σ1§**19**/41,**7C-2D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.91**	**68**	*i*P		**Pn**	**21 11 43.2**	**-0.5**
LNV				*i*S		**Sb**	**21 11 54.8**	**-0.1**
NICH	**Los Niches**	**1.21**	**126**	*i*P		**Pn**	**21 11 48.7**	**+0.9**
NICH				*i*S		**Sn**	**21 12 04.1**	**-0.2**
TALC	**Talca**	**1.27**	**149**	*i*P		**Pg**	**21 11 49.8**	**+0.7**
TALC				*i*S		**Sn**	**21 12 06.3**	**+0.4**
TACH	**Talagante**	**1.40**	**63**	*i*P		**Pn**	**21 11 50.5**	**+0.1**
TACH				*i*S		**Sb**	**21 12 07.9**	**-1.0**
CHCH	**Chadas Angostu**	**1.52**	**76**	*i*P		**Pn**	**21 11 52.5**	**+0.4**
CACH	**El Canelo**	**1.52**	**83**	*i*P		**Pb**	**21 11 53.5**	**+0.2**
LNCH	**Linares**	**1.68**	**157**	*i*P		**Pg**	**21 11 56.6**	**-0.3**
LNCH				*i*S		**Sg**	**21 12 18.2**	**-0.5**
SAN	**Santiago**	**1.69**	**60**	*e*P		**Pn**	**21 11 55.3**	**+0.8**
SAN				*i*S		**Sn**	**21 12 16.0**	**-0.4**
PCH	**Pirque**	**1.73**	**67**	*e*P		**Pb**	**21 11 56.0**	**-0.7**
CLCH	**Cerro Calan**	**1.81**	**61**	*i*P		**Pn**	**21 11 57.0**	**+0.8**
CLCH				*i*S		**Sn**	**21 12 19.7**	**+0.3**
CLCH				AML		AML	21 12 26.0	
	comp=E,3μm,0.5s							
PEL	**Peldehue**	**1.85**	**52**	*i*P		**Pb**	**21 11 57.9**	**-1.0**
PEL				*i*S		**Sn**	**21 12 20.7**	**+0.3**
PEL				AML		AML	21 12 31.2	
	comp=E,4μm,0.5s							
AAGR	**Agrelo**	**3.23**	**69**	*i*P		**Pb**	**21 12 22.2**	**-0.2**
AAGR				*i*P		**Pb**	**21 12 22.2**	**-0.2**
ARCO	**CERRO ARCO**	**3.26**	**64**	*i*P		**Pb**	**21 12 21.9**	**-0.9**
ARCO				*i*S		**Sg**	**21 13 11.0**	**+1.6**
ARCO				AML		AML	21 13 12.5	
	comp=Z,166nm,0.6s							
AUSP	**Uspallata**	**3.28**	**52**	*i*P		**Pn**	**21 12 19.4**	**+2.8**
AUSP				*i*S		**Sg**	**21 13 08.5**	**-1.7**
ASAL	**Salagasta**	**3.45**	**61**	*i*P		**Pb**	**21 12 24.4**	**-1.7**
RTLS	**Leoncito**	**3.62**	**47**	*i*P		**Pn**	**21 12 23.8**	**+2.5**
CANA	**Caviahue**	**3.74**	**163**	*e*S		Sg	21 13 36.8	+11
RTCV	**Cerro Valdivia**	**4.07**	**54**	*i*P		**Pn**	**21 12 30.2**	**+3.0**
CFAA	**Coronel Fontan**	**4.43**	**54**	Pn		**Pn**	**21 12 33.0**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=229,slow=13,SNR=23							
CFAA				Lg		Lg	21 13 35.0	
	comp=Z,0.9nm,0.3s,baz=309,slow=13,SNR=6.8							
CFAA	**Coronel Fontan**	**4.43**	**54**	*e*P		**Pn**	**21 12 34.3**	**+2.1**
CFAA				*e*S		**Sb**	**21 13 36.6**	**+0.2**
RTLL	**Cerro Villicun**	**4.46**	**49**	*i*P		**Pn**	**21 12 34.7**	**+2.2**
AMOG	**MOGNA**	**4.72**	**46**	*e*P		**Pn**	**21 12 38.0**	**+1.8**
ACAN	**Cantantal**	**4.83**	**67**	*e*P4			21 12 40.5	
PLCA	**Paso Flores**	**6.59**	**167**	Pn		**Pn**	**21 13 02.7**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=337,slow=13,SNR=6.8							
PLCA				Lg		Lg	21 14 47.5	
	baz=266,slow=19,SNR=1.6							
LPAZ	**La Paz**	**18.35**	**13**	P		**Pn**	**21 15 40.0**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=204,slow=12,SNR=3.0							
SIV	**San Ignacio**	**20.90**	**32**	P		**P**	**21 16 07.2**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=217,slow=10,SNR=6.0							
TXAR	**Lajitas Array**	**69.84**	**331**	P		**P**	**21 22 35.7**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=188,slow=6.2,SNR=2.1							
TORD	**Torodi Ar. Bea**	**84.61**	**70**	P		**P**	**21 23 58.9**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=248,slow=5.1,SNR=3.6							
WRA	**Warramunga Arr**	**120.34**	**209**	PKP		**PKPdf**	**21 30 16.8**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=160,slow=1.6,SNR=4.8							
ZALV	**Zalesovo Beam**	**154.65**	**32**	PKPbc		**PKPbc**	**21 31 25.2**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=293,slow=4.1,SNR=4.5							
ZALV				PKPab		**PKPab**	**21 31 40.1**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=222,slow=2.0,SNR=3.6							

CASC ***13*** *21:18:29.7±2.5, 7.°25N×82.°34W, h0km±9km, MD4.1*
ISCJB ***13*** *21:18:31.2±0.8, 7.°08N±0.°06×82.°45W±0.°05, h33km, mb3.9/6, MS3.1/1, Error ellipse: s-maj=9.3km s-min=6.4km az=19.8*
IDC ***13*** *21:18:36.3±6.0, 8.°43N×81.°91W, h0km, mb3.9/6, mb1 4.3/8, mb1mx3.9/21, mbtmp4.0/8, ML4.4/2, MS3.2/1, Ms1 3.2/1, ms1mx2.7/23, Error ellipse: s-maj=140.2km s-min=41.1km az=9.0*

ISC 13 21:18:33.6±1.2,**7.°1N**±0.°1×**82.°44W**±0.°06,**h35**km,**n25**, σ1§**41**/29,**mb3.9/6**,**5C-2D**,**South of Panama**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TBS2		**1.66**	**352**	*e*P		**Pn**	**21 19 00.1**	**-0.3**
TBS2				*e*S		**Sn**	**21 19 20.4**	**-0.2**
BRU	**Baru**	**1.66**	**356**	*i*P		Pn	21 18 57.3	-3.4
BRU2	**Volcan**	**1.67**	**351**	*e*S		**Sn**	**21 19 21.1**	**+0.3**
ACR	**Cerro Adams**	**1.67**	**334**	*e*P		**Pn**	**21 18 58.1**	**-2.4**
ACR				*e*S		**Sn**	**21 19 17.3**	**-3.4**
CTCR	**Cotoan**	**1.78**	**350**	*i*P		**Pn**	**21 19 00.3**	**-1.8**
CTCR				*e*S		**Sn**	**21 19 25.4**	**+1.9**
AZU	**Azuero**	**2.24**	**73**	*e*P		**Pn**	**21 19 07.1**	**-1.2**
AZU				*e*S		**Sn**	**21 19 33.5**	**-1.2**
CNI	**Changuinola**	**2.27**	**358**	*e*P		**Sn**	**21 19 08.0**	**-0.5**
CNI				*e*S		**Sn**	**21 19 36.0**	**+0.7**
BUS	**Buena Vista**	**2.73**	**332**	*e*P		**Pn**	**21 19 14.7**	**-0.8**
QCR	**Quepos**	**2.84**	**323**	*i*P		**Pn**	**21 19 15.2**	**-1.3**
URSC	**Urasca**	**2.99**	**334**	*e*P		**Pn**	**21 19 18.3**	**-0.4**
ZANG	**Zanguenga, Cho**	**3.12**	**54**	*e*P		**Pn**	**21 19 19.1**	**-1.3**
SJS	**Escuela Geolog**	**3.21**	**330**	*e*P		**Pn**	**21 19 21.8**	**+0.1**
CGA2	**Cerro Gallo 2**	**3.49**	**325**	*e*P		**Pn**	**21 19 24.5**	**-1.1**
CAO	**Cobano**	**3.67**	**314**	*e*P		**Pn**	**21 19 26.5**	**-1.4**
JCR	**Jicaral**	**3.78**	**316**	*e*P		**Pn**	**21 19 29.0**	**-0.4**
JTS	**JuntasAbangare**	**4.00**	**322**	*e*P		**Pn**	**21 19 31.9**	**-0.6**
JTS	**JuntasAbangare**	**4.00**	**322**	Pn		**Pn**	**21 19 31.6**	**-0.9**
	134nm,0.3s,baz=146,slow=4.7,SNR=216							
JTS				Sn		**Sn**	**21 20 17.0**	**-1.1**
	baz=300,slow=20,SNR=1.9							
VCR	**Vista de Mar**	**4.33**	**313**	*e*P		**Pn**	**21 19 36.6**	**-0.6**
CMIG	**Matias Romero**	**15.67**	**310**	Pn		**P**	**21 22 13.9**	**-1.7**
	0.5nm,0.3s,baz=115,slow=5.3,SNR=4.8							
TXAR	**Lajitas Array**	**29.79**	**320**	P		**P**	**21 24 38.7**	**+1.3**
	0.3nm,0.4s,baz=167,slow=4.3,SNR=3.7							
TXAR				LR		LR	21 37 59.1	
	comp=Z,46nm,20.7s,baz=0.0,slow=40							
PDAR	**Pinedale Array**	**42.78**	**330**	P		**P**	**21 26 29.1**	**+0.9**
	0.5nm,0.5s,baz=125,slow=7.8,SNR=4.9							
ULM	**Lac du Bonnet**	**44.42**	**348**	P		**P**	**21 26 39.3**	**-1.6**
	5.1nm,0.8s,baz=168,slow=8.2,SNR=7.3							
NVAR	**Mina Array Bea**	**44.93**	**319**	P		P	21 26 49.0	+3.6
	3.0nm,0.6s,baz=128,slow=6.9,SNR=27							
YKA	**Yellowknife Ar**	**60.04**	**343**	P		**P**	**21 28 37.5**	**+0.8**
	0.9nm,0.7s,baz=139,slow=6.8,SNR=15							
ILAR	**Eielson Array**	**72.84**	**336**	P		**P**	**21 30 00.8**	**+2.2**
	0.5nm,0.6s,baz=97,slow=4.9,SNR=8.1							

ISN ***13*** *21:21:39.5±1.6, 36.°29N×40.°97E, h0km±8km, ML3.7*
ISK ***13*** *21:21:44.4, 36.°20N×40.°80E, h5km, ML3.4*
CSEM ***13*** *21:21:44.9±0.2, 36.°03N×40.°88E, h10km, MD3.4, Error ellipse: s-maj=5.7km s-min=4.6km az=44.0*
DDA ***13*** *21:21:48.9, 36.°39N×41.°01E, h5km, MD3.4*

ISC 13 21:21:42.3±1.3,**36.°08N**±0.°03×**40.°95E**±0.°03,**h1**km±11km, **n72**,σ1§**68**/87,**Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MARD	**Mardin**	**1.24**	**354**	*i*P		**Pg**	**21 22 04.6**	**-1.5**
MARD				*i*S		**Sg**	**21 22 19.9**	**-2.4**
BEST	**Besiri**	**1.83**	**8**	*i*P		**Pn**	**21 22 15.3**	**+0.2**
BEST				*i*S		**Sn**	**21 22 37.2**	**-1.8**
SIRN	**S¯-rnak**	**1.84**	**39**	*i*P		**Pb**	**21 22 16.5**	**-0.4**
SIRN				*i*S		**Sn**	**21 22 39.6**	**+0.3**
SIRN	**S¯-rnak**	**1.84**	**39**	*i*P		**Pb**	**21 22 16.5**	**-0.4**
SIRN				*i*S		**Sn**	**21 22 39.6**	**+0.3**
DIY	**Diyarbakir**	**1.91**	**343**	*e*Pn		**Pb**	**21 22 17.1**	**-0.9**
DIY				*e*Sn		**Sn**	**21 22 41.3**	**+0.5**
DIYA	**Diyarbakir**	**1.96**	**341**	*i*P		**Pn**	**21 22 17.2**	**+0.4**
DIYA	**Diyarbakir**	**1.96**	**341**	*i*P		**Pn**	**21 22 17.2**	**+0.4**
DYBB	**Diyarbakir**	**1.98**	**341**	*e*PN		**Pn**	**21 22 17.1**	**-0.1**
DYBB				*e*SN		**Sn**	**21 22 41.3**	**-1.3**
SVAN	**Silvan-Diyarba**	**2.08**	**5**	*e*PN		**Pn**	**21 22 18.7**	**+0.2**
CUKT	**Cukurca**	**2.44**	**61**	*e*PN		**Pb**	**21 22 26.4**	**-0.7**
CUKT	**Cukurca**	**2.44**	**61**	*e*Pn		**Pb**	**21 22 26.4**	**-0.7**
ATAB	**Bozova**	**2.54**	**304**	*e*P		**Pg**	**21 22 31.7**	**+0.6**
ATAB				*i*S		**Sg**	**21 23 02.7**	**-1.3**
SVRC	**Sivrice-ELAZID**	**2.65**	**331**	*e*PN		**Pn**	**21 22 26.7**	**+0.4**
SVRC	**Sivrice-ELAZID**	**2.65**	**331**	*e*Pn		**Pn**	**21 22 26.7**	**+0.4**
TATV	**Tatvan**	**2.65**	**23**	*i*P		**Pn**	**21 22 28.2**	**+1.8**
TATV				*i*S		**Sb**	**21 23 03.8**	**0.0**
TATV	**Tatvan**	**2.65**	**23**	*i*P		**Pn**	**21 22 28.2**	**+1.8**
TATV				*i*S		**Sb**	**21 23 03.8**	**0.0**
HAKT	**HAKKARI**	**2.66**	**55**	*i*P		**Pb**	**21 22 29.2**	**-1.8**
HAKT				*i*S		**Sb**	**21 23 02.5**	**-1.8**
HAKT	**HAKKARI**	**2.66**	**55**	*i*P		**Pb**	**21 22 29.2**	**-1.8**
HAKT				*i*S		**Sb**	**21 23 02.5**	**-1.8**
BINT	**Bingol**	**2.82**	**353**	*e*Pn		**Pb**	**21 22 31.3**	**-2.3**
IKRK	**Kirkuk**	**2.84**	**103**	*e*PG		x	21 22 43.4	
IKRK				*e*SG		x	21 23 27.9	
BNGL	**BINGOL**	**2.88**	**3**	*e*P		**Pb**	**21 22 33.7**	**-0.9**
BNGL				*i*S		**Sb**	**21 23 12.0**	**+1.6**
ELZG	**Elazig**	**2.88**	**328**	*i*P		**Pb**	**21 22 35.0**	**+0.4**
ELZG				*i*S		**Sb**	**21 23 11.1**	**+0.6**
BNGB	**Bing¯ll**	**2.92**	**356**	*e*PN		**Pn**	**21 22 31.3**	**+1.2**
MALT	**Malatya**	**3.01**	**319**	*e*PN		**Pn**	**21 22 31.4**	**+0.2**
MALT	**Malatya**	**3.01**	**319**	*e*Pn		**Pn**	**21 22 31.4**	**+0.2**
RTB	**Rutbah**	**3.08**	**190**	*e*PN		x	21 22 32.7	
RTB				*e*Sn		x	21 23 10.0	
RTB	**Rutbah**	**3.08**	**190**	*e*Pn		**Pn**	**21 22 32.7**	**+0.5**
	SNR=39							
RTB				*e*Sn		**Sn**	**21 23 10.0**	**+0.2**
	SNR=3.0							
TVAN	**Van**	**3.14**	**38**	*e*P		**Pn**	**21 22 35.3**	**+2.2**
TVAN	**Van**	**3.14**	**38**	*e*P		**Pn**	**21 22 35.3**	**+2.2**
TVAN				*i*S		**Sg**	**21 23 28.6**	**+5.5**
VANB	**Van**	**3.18**	**37**	*e*PN		**Pb**	**21 22 36.8**	**-2.9**
VANB	**Van**	**3.18**	**37**	*e*Pn		**Pb**	**21 22 36.8**	**-2.9**
KUZU	**Kuzuini**	**3.20**	**284**	*e*P		**Pg**	**21 22 43.2**	**-0.4**
KUZU				*i*S		**Sg**	**21 23 24.3**	**-0.8**
AKCD	**Akcadag**	**3.28**	**313**	*i*P		**Pn**	**21 22 36.9**	**+1.9**
AKCD	**Akcadag**	**3.28**	**313**	*i*P		**Pn**	**21 22 36.9**	**+1.9**
AKCD				*i*S		**Sg**	**21 23 25.7**	**-1.9**
EKAR	**Karacoban**	**3.30**	**15**	*i*P		**Pn**	**21 22 37.3**	**+2.0**
EKAR	**Karacoban**	**3.30**	**15**	*i*P		**Pn**	**21 22 37.3**	**+2.0**
HCB	**Kahramanmara¯**	**3.48**	**293**	*i*P		**Pn**	**21 22 38.6**	**+1.0**
HCB				*i*S		**Sg**	**21 23 35.3**	**+1.0**
KMRS	**Kahramanmaras**	**3.55**	**295**	*e*PN		**Pn**	**21 22 39.4**	**+0.8**
KMRS	**Kahramanmaras**	**3.55**	**295**	*e*Pn		**Pn**	**21 22 39.4**	**+0.8**
KAMA	**Osmaniye**	**3.62**	**289**	*i*P		**Pn**	**21 22 42.0**	**+2.4**
KAMA				*i*S		**Sg**	**21 23 38.8**	**+0.3**
TUTA	**Tutak**	**3.64**	**23**	*i*P		**Pn**	**21 22 42.7**	**+2.7**
TUTA	**Tutak**	**3.64**	**23**	*i*P		**Pn**	**21 22 42.7**	**+2.7**
TUTA				*i*S		**Sg**	**21 23 40.1**	**+1.0**
ERZN	**Erzincan**	**3.64**	**345**	*e*PN		**Pn**	**21 22 41.2**	**+1.3**
DARE	**Darende-Malaty**	**3.72**	**313**	*e*PN		**Pn**	**21 22 42.1**	**+1.1**
DARE	**Darende-Malaty**	**3.72**	**313**	*e*Pn		**Pn**	**21 22 42.1**	**+1.1**
AGRB	**Hanur-Agry**	**3.85**	**24**	*e*PN		**Pn**	**21 22 45.5**	**+2.6**
AGRB	**Hanur-Agry**	**3.85**	**24**	*e*Pn		**Pn**	**21 22 45.5**	**+2.6**
ILIC	**ilic-Erzincan**	**3.86**	**332**	*e*PN		**Pn**	**21 22 44.5**	**+1.5**
ILIC	**ilic-Erzincan**	**3.86**	**332**	*e*Pn		**Pn**	**21 22 44.5**	**+1.5**
CLDR	**Caldiran**	**3.87**	**37**	*e*PN		Pn	21 22 46.6	+3.5
CLDR	**Caldiran**	**3.87**	**37**	*e*Pn		Pn	21 22 46.6	+3.5
EZC	**Erzincan**	**3.88**	**342**	*e*Pn		**Pn**	**21 22 41.2**	**-2.1**
YAYL	**Yayladag**	**3.92**	**271**	*i*P		**Pg**	**21 22 59.5**	**+2.1**
YAYL				*i*S		**Sg**	**21 23 49.1**	**+0.8**
BHD	**Baghdad**	**3.98**	**134**	*e*PN		x	21 22 45.3	
BHD				*e*SN		x	21 23 30.5	
BHD	**Baghdad**	**3.98**	**134**	*e*Pn		**Pn**	**21 22 45.3**	**+0.8**
	SNR=39							
BHD				*e*Sn		**Sn**	**21 23 30.5**	**-1.3**
	SNR=39							
ANDN	**Andirin**	**3.98**	**294**	*i*P		**Pn**	**21 22 45.8**	**+1.1**
ANDN	**Andirin**	**3.98**	**294**	*i*P		**Pn**	**21 22 45.8**	**+1.1**
ANDN				*i*S		**Sg**	**21 23 49.5**	**-0.8**
KELT	**Kelkit**	**4.28**	**342**	*i*P		Pn	21 22 52.8	+4.0
KELT	**Kelkit**	**4.28**	**342**	*i*P		Pn	21 22 52.8	+4.0
KOZT	**Kozan**	**4.34**	**290**	*e*PN		**Pn**	**21 22 51.0**	**+1.5**
KOZT	**Kozan**	**4.34**	**290**	*e*Pn		**Pn**	**21 22 51.0**	**+1.5**
BAYT	**Ayd¯-ntepe-Bay**	**4.36**	**352**	*e*PN		**Pn**	**21 22 51.7**	**+1.8**
BAYT	**Ayd¯-ntepe-Bay**	**4.36**	**352**	*e*Pn		**Pn**	**21 22 51.7**	**+1.8**
PINB	**Pinarbasi**	**4.45**	**307**	*i*P		**Pn**	**21 22 53.5**	**+2.3**
PINB	**Pinarbasi**	**4.45**	**307**	*i*P		**Pn**	**21 22 53.5**	**+2.3**
SVSK	**Karacayir**	**4.94**	**322**	*e*PN		**Pn**	**21 22 59.9**	**+2.2**
SVSK	**Karacayir**	**4.94**	**322**	*e*Pn		**Pn**	**21 22 59.9**	**+2.2**
IBDR	**Badra**	**5.06**	**124**	*e*Pn		x	21 23 00.0	
IBDR				*e*SN		x	21 23 55.9	
BCA	**Borcka**	**5.39**	**5**	*e*PN		**Pn**	**21 23 06.3**	**+2.4**
BCA	**Borcka**	**5.39**	**5**	*e*Pn		**Pn**	**21 23 06.3**	**+2.4**
NSR	**Nassriya**	**6.66**	**138**	*e*PN		x	21 23 21.9	
NSR				*e*SN		x	21 24 35.5	
NSR	**Nassriya**	**6.66**	**138**	*e*Pn		**Pn**	**21 23 22.0**	**+0.8**
	SNR=39							
NSR				*e*Sn		**Sn**	**21 24 35.5**	**-2.3**
	SNR=39							

SJA ***13*** *21:31:01.8±1.2, 34.°65S×74.°80W, h40km, ML4.2*
IDC ***13*** *21:31:17.2±1.1, 35.°08S×72.°25W, h0km, mb4.2/7, mb1 4.4/10, mb1mx4.2/24, mbtmp4.2/10, ML4.5/3, MS3.8/1, Ms1 3.8/1, ms1mx3.0/18, Error ellipse: s-maj=30.5km s-min=24.3km az=91.0*
NEIC ***13*** *21:31:20.0, 35.°09S×72.°38W, h25km, mb3.8/1, ML4.3(GUC), After GUC.*
NEIC Felt [IV] at Talca; [III] at Cauquenes, Chanco and San Javier; [II] at Curico and Linares.
GUC ***13*** *21:31:20.9±0.5, 35.°10S×72.°38W, h25km±3km, ML4.3*

ISC 13 21:31:20.2±0.7,**35.°03S**±0.°03×**72.°35W**±0.°06,**h18**km,**n39**, σ1§**52**/44,**mb4.1/7**,**4D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.69**	**122**	*i*P		**Pg**	**21 31 33.7**	**-0.1**
TALC				*i*S		**Sg**	**21 31 43.1**	**+0.1**
NICH	**Los Niches**	**0.92**	**89**	*e*P		**Pn**	**21 31 38.7**	**+0.5**
NICH				*i*S		**Sn**	**21 31 52.6**	**+1.6**
LNCH	**Linares**	**1.02**	**143**	*i*P		**Pb**	**21 31 38.5**	**-0.8**
LNCH				*i*S		**Sb**	**21 31 51.9**	**-0.5**
LNV	**Longovilo**	**1.32**	**36**	*i*P		**Pb**	**21 31 45.1**	**+0.7**
CACH	**El Canelo**	**1.71**	**58**	*i*P		**Pb**	**21 31 51.3**	**+0.2**
CHCH	**Chadas Angostu**	**1.78**	**53**	*e*P		**Pb**	**21 31 51.6**	**-0.6**
PCH	**Pirque**	**2.07**	**48**	*e*P		**Pb**	**21 31 56.4**	**-0.8**
CLCH	**Cerro Calan**	**2.21**	**43**	*e*P		**Pb**	**21 31 58.5**	**-1.2**
CLCH				AML		AML	21 32 35.5	
	comp=N,4μm,0.5s							
PEL	**Peldehue**	**2.33**	**37**	*e*P		**Pb**	**21 32 00.2**	**-1.5**
PEL				*i*S		**Sb**	**21 32 29.7**	**-0.5**
PEL				AML		AML	21 32 36.0	
	comp=N,3μm,0.3s							
ROCH	**El Roble**	**2.33**	**29**	*e*P		**Pb**	**21 32 00.1**	**-1.7**
ROCH				AML		AML	21 32 38.9	
	comp=N,2μm,0.3s							
CANA	**Caviahue**	**3.04**	**160**	*i*P		**Pn**	**21 32 10.0**	**+2.5**
CANA				*i*P		**Pn**	**21 32 10.0**	**+2.5**
AAGR	**Agrelo**	**3.51**	**57**	*i*P		**Pb**	**21 32 19.5**	**-2.3**
ARCO	**CERRO ARCO**	**3.58**	**53**	*i*P		**Pb**	**21 32 20.1**	**-3.0**
ARCO				*i*S		**Sg**	**21 33 18.2**	**+3.0**
ARCO				AML		AML	21 33 24.0	
	comp=Z,144nm,0.7s							
AUSP	**Uspallata**	**3.73**	**42**	*i*P		Pn	21 32 20.8	+3.6
AUSP				*i*S		**Sg**	**21 33 18.5**	**-1.5**
ASAL	**Salagasta**	**3.80**	**51**	*i*P		Pn	21 32 22.4	+4.4
RTLS	**Leoncito**	**4.11**	**39**	*i*P		**Pn**	**21 32 25.0**	**+2.7**
RTCV	**Cerro Valdivia**	**4.48**	**46**	*i*P		**Pn**	**21 32 29.8**	**+2.5**
CFAA	**Coronel Fontan**	**4.85**	**46**	Pn		**Pn**	**21 32 30.6**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=227,slow=14,SNR=62							
CFAA				Lg		Lg	21 33 43.5	
	comp=Z,1.7nm,0.3s,baz=37,slow=16,SNR=6.5							
CFAA	**Coronel Fontan**	**4.85**	**46**	*e*P		**Pn**	**21 32 35.1**	**+2.9**
RTLL	**Cerro Villicun**	**4.92**	**42**	*i*P		**Pn**	**21 32 33.6**	**+0.4**
ACAN	**Cantantal**	**5.11**	**59**	*e*P4		**Pn**	**21 32 38.9**	**+3.1**
AMOG	**MOGNA**	**5.21**	**40**	*e*P4		**Pn**	**21 32 39.4**	**+2.2**
PLCA	**Paso Flores**	**5.87**	**167**	Pn		**Pn**	**21 32 46.0**	**-0.4**
	comp=Z,2.8nm,0.3s,baz=340,slow=10.0,SNR=54							
PLCA				Lg		Lg	21 34 14.3	
	comp=Z,1.4nm,0.3s,baz=61,slow=19,SNR=2.7							
PLCA	**Paso Flores**	**5.87**	**167**	*e*Pn		**Pn**	**21 32 46.9**	**+0.6**
PLCA				Lg		Lg	21 34 14.3	
TRQA	**Tornquist**	**8.87**	**113**	*e*Pn		**Pn**	**21 33 29.0**	**+1.5**
LVC	**Limon Verde**	**12.73**	**15**	Pn		**Pn**	**21 34 21.1**	**+0.6**
	comp=Z,9.5nm,0.3s,baz=221,slow=11,SNR=2.4							
LPAZ	**La Paz**	**19.04**	**13**	P		**Pn**	**21 35 42.8**	**0.0**
	comp=Z,0.3nm,0.3s,baz=186,slow=7.8,SNR=18							
LPAZ	**La Paz**	**19.04**	**13**	*e*P		**Pn**	**21 35 43.5**	**+0.7**
	comp=Z,5.0nm,0.8s							
USHA	**Ushuaia**	**19.99**	**173**	LR		LR	21 44 25.9	
	comp=Z,236nm,18.1s,baz=128,slow=40							
SIV	**San Ignacio**	**21.48**	**31**	P		**P**	**21 36 08.0**	**+0.1**
	comp=Z,12nm,0.6s,baz=223,slow=11,SNR=39							
BDFB	**Brasilia**	**29.13**	**55**	P		**P**	**21 37 20.1**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=182,slow=11,SNR=3.1							
PTGA	**Pitinga**	**36.02**	**21**	P		**P**	**21 38 20.0**	**-0.4**
	comp=Z,4.0nm,0.6s,baz=197,slow=12,SNR=9.3							
TXAR	**Lajitas Array**	**70.51**	**331**	P		**P**	**21 42 34.2**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=152,slow=6.8,SNR=5.0							
DBIC	**Dimbokro**	**75.75**	**71**	P		**P**	**21 43 04.5**	**-0.6**
	comp=Z,4.4nm,0.7s,baz=168,slow=6.9,SNR=6.6							
NVAR	**Mina Array Bea**	**84.58**	**325**	P		**P**	**21 43 52.7**	**+0.3**
	comp=Z,0.3nm,0.2s,baz=174,slow=3.6,SNR=4.9							
TORD	**Torodi Ar. Bea**	**84.80**	**70**	P		**P**	**21 43 53.0**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=282,slow=5.6,SNR=12							
AAK	**Ala-Archa**	**153.20**	**64**	PKPbc		**PKPbc**	**21 51 16.6**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=194,slow=9.8,SNR=3.7							
AAK				PKPab		**PKPab**	**21 51 28.2**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=260,slow=6.1,SNR=3.7							
ZALV	**Zalesovo Beam**	**155.23**	**33**	PKPab		**PKPab**	**21 51 36.7**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=289,slow=4.5,SNR=4.7							
SONM	**Songino Array**	**167.17**	**4**	PKPab		**PKPab**	**21 52 29.1**	**0.0**
	comp=Z,0.6nm,0.9s,baz=338,slow=3.1,SNR=3.3							

IDC ***13*** *21:41:52.8±1.1, 8.°11S×118.°41E, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.6/31, mbtmp3.7/7, ML3.7/2, Error ellipse: s-maj=43.9km s-min=17.8km az=65.0*
DJA ***13*** *21:41:54.8±0.2, 8.°S±2.°×118.°8E±.°, h10km, M4.1/5, MLv4.1/5*
ISCJB ***13*** *21:41:55.5±0.4, 8.°10S±0.°03×118.°25E±0.°03, h33km, mb3.8/5, Error ellipse: s-maj=5.4km s-min=4.2km az=138.8*

ISC 13 21:41:57.6±0.7,**8.°06S**±0.°04×**118.°25E**±0.°04,**h35**km,**n26**, σ1§**34**/35,**mb4.0/5**,**Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WBSI	**

XOR				S	**Sg**	**21 50 13.2**	**0.0**
XOR	**Xorichti**	**0.82**	**337**	*e*PN	**Pg**	**21 50 02.3**	**0.0**
XOR				*e*SN	**Sg**	**21 50 13.2**	**0.0**
XOR	**Xorichti**	**0.82**	**337**	P	**Pg**	**21 50 02.1**	**-0.2**
XOR				S	**Sg**	**21 50 13.2**	**0.0**
NAIG	**Nisos Aigina**	**0.85**	**186**	*e*PN	**Pg**	**21 50 02.6**	**-0.3**
NAIG	**Nisos Aigina**	**0.85**	**186**	*e*Pn	**Pg**	**21 50 02.6**	**-0.3**
DSF	**Desfina**	**0.86**	**257**	P	**Pg**	**21 50 01.4**	**-1.7**
DSF				S	**Sb**	**21 50 15.1**	**+0.4**
DSF	**Desfina**	**0.86**	**257**	P	**Pg**	**21 50 01.4**	**-1.7**
DSF				S	**Sb**	**21 50 15.1**	**+0.4**
AGG	**Agios Georgios**	**1.08**	**293**	P	**Pb**	**21 50 06.3**	**-0.5**
AGG				S	**Sb**	**21 50 20.5**	**-0.3**
AGG	**Agios Georgios**	**1.08**	**293**	*e*PB	**Pb**	**21 50 06.0**	**-0.8**
AGG				*e*SN	**Sn**	**21 50 22.8**	**+0.9**
AGG	**Agios Georgios**	**1.08**	**293**	*e*Pb	**Pb**	**21 50 06.0**	**-0.8**
AGG	**Agios Georgios**	**1.08**	**293**	P	**Pb**	**21 50 06.3**	**-0.5**
AGG				S	**Sb**	**21 50 20.5**	**-0.3**
AGG				*e*Sn	**Sn**	**21 50 22.8**	**+0.9**
DID	**Didima**	**1.14**	**195**	*e*PN	**Pb**	**21 50 07.4**	**-0.4**
DID				*e*SN	**Sn**	**21 50 24.0**	**+0.7**
DID	**Didima**	**1.14**	**195**	*e*Pn	**Pb**	**21 50 07.4**	**-0.4**
DID				*e*Sn	**Sn**	**21 50 24.0**	**+0.7**
GUR	**Goura**	**1.20**	**236**	P	**Pn**	**21 50 08.7**	**-0.1**
GUR				S	**Sn**	**21 50 24.7**	**-0.2**
GUR	**Goura**	**1.20**	**236**	*e*PN	**Pb**	**21 50 09.2**	**+0.3**
GUR				*e*SN	**Sb**	**21 50 24.5**	**+0.2**
GUR	**Goura**	**1.20**	**236**	P	**Pn**	**21 50 08.7**	**-0.1**
GUR	**Goura**	**1.20**	**236**	*e*Pn	**Pb**	**21 50 09.2**	**+0.3**
GUR				*e*Sn	**Sb**	**21 50 24.5**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.22**	**290**	*e*PN	**Pg**	**21 50 10.3**	**+0.5**
MAKR	**Makrakomi, Fth**	**1.22**	**290**	*e*Pn	**Pg**	**21 50 10.3**	**+0.5**
KLV	**Kalavryta, Ach**	**1.27**	**244**	*e*PN	**Pg**	**21 50 11.1**	**+0.2**
KLV	**Kalavryta, Ach**	**1.27**	**244**	*e*Pn	**Pg**	**21 50 11.1**	**+0.2**
PAIG	**Paliouri**	**1.32**	**3**	P	**Pn**	**21 50 09.9**	**-0.5**
PAIG				S	**Sb**	**21 50 27.1**	**-0.7**
PAIG	**Paliouri**	**1.32**	**3**	*e*PN	**Pn**	**21 50 10.3**	**-0.1**
PAIG	**Paliouri**	**1.32**	**3**	P	**Pn**	**21 50 09.9**	**-0.5**
PAIG	**Paliouri**	**1.32**	**3**	*e*Pn	**Pn**	**21 50 10.3**	**-0.1**
PAIG				S	**Sb**	**21 50 27.1**	**-0.7**
THL	**Klokotos Trika**	**1.56**	**308**	P	**Pn**	**21 50 14.0**	**+0.3**
THL	**Klokotos Trika**	**1.56**	**308**	*e*PN	**Pn**	**21 50 14.1**	**+0.3**
THL	**Klokotos Trika**	**1.56**	**308**	P	**Pn**	**21 50 14.0**	**+0.3**
VLX	**Vlachokerasia**	**1.57**	**218**	P	**Pn**	**21 50 14.2**	**+0.3**
VLX				S	**Sn**	**21 50 34.1**	**0.0**
VLX	**Vlachokerasia**	**1.57**	**218**	P	**Pn**	**21 50 14.2**	**+0.3**
VLX				S	**Sn**	**21 50 34.1**	**0.0**
LIT	**Litokhoron**	**1.72**	**330**	P	**Pn**	**21 50 16.1**	**+0.1**
LIT	**Litokhoron**	**1.72**	**330**	*e*PB	**Pn**	**21 50 16.1**	**+0.1**
LIT	**Litokhoron**	**1.72**	**330**	P	**Pn**	**21 50 16.1**	**+0.1**
OUR	**Ouranopolis**	**1.75**	**10**	P	**Pn**	**21 50 16.3**	**0.0**
OUR				S	**Sn**	**21 50 38.0**	**-0.4**
OUR	**Ouranopolis**	**1.75**	**10**	*e*PN	**Pn**	**21 50 16.4**	**+0.1**
OUR	**Ouranopolis**	**1.75**	**10**	P	**Pn**	**21 50 16.3**	**0.0**
OUR				S	**Sn**	**21 50 38.0**	**-0.4**
RLS	**Riolos of Patr**	**1.77**	**253**	*e*PN	**Pb**	**21 50 18.0**	**-0.5**
RLS	**Riolos of Patr**	**1.77**	**253**	*e*Pn	**Pb**	**21 50 18.0**	**-0.5**
PLG	**Polygyros**	**1.77**	**356**	P	**Pn**	**21 50 16.5**	**-0.1**
PLG	**Polygyros**	**1.77**	**356**	*e*PN	**Pn**	**21 50 17.0**	**+0.4**
PLG	**Polygyros**	**1.77**	**356**	P	**Pn**	**21 50 16.5**	**-0.1**
PLG	**Polygyros**	**1.77**	**356**	*e*Pn	**Pn**	**21 50 17.0**	**+0.4**
LIA	**Limnos Island**	**1.78**	**43**	P	**Pn**	**21 50 17.1**	**+0.3**
LIA				S	**Sb**	**21 50 40.4**	**-0.6**
LIA	**Limnos Island**	**1.78**	**43**	*e*PN	**Pn**	**21 50 17.0**	**+0.3**
LIA	**Limnos Island**	**1.78**	**43**	*e*Pn	**Pn**	**21 50 17.0**	**+0.3**
LIA				S	**Sb**	**21 50 40.4**	**-0.6**
CHOS	**Chios island**	**1.94**	**96**	P	**Pn**	**21 50 18.6**	**-0.4**
CHOS				S	**Sn**	**21 50 44.3**	**+1.1**
CHOS	**Chios island**	**1.94**	**96**	*e*PN	**Pn**	**21 50 19.4**	**+0.4**
CHOS	**Chios island**	**1.94**	**96**	P	**Pn**	**21 50 18.6**	**-0.4**
CHOS	**Chios island**	**1.94**	**96**	*e*Pn	**Pn**	**21 50 19.4**	**+0.4**
CHOS				S	**Sn**	**21 50 44.3**	**+1.1**
VLI	**Veliai**	**1.96**	**196**	*e*PB	**Pn**	**21 50 19.7**	**+0.5**
VLI	**Veliai**	**1.96**	**196**	*e*Pb	**Pn**	**21 50 19.7**	**+0.5**
HORT	**Hortiatis**	**2.03**	**349**	*e*PN	**Pn**	**21 50 20.8**	**+0.6**
HORT	**Hortiatis**	**2.03**	**349**	*e*Pn	**Pn**	**21 50 20.8**	**+0.6**
APE	**Apeiranthos**	**2.17**	**135**	*e*PN	**Pn**	**21 50 22.9**	**+0.8**
APE	**Apeiranthos**	**2.17**	**135**	*e*Pn	**Pn**	**21 50 22.9**	**+0.8**
SOH	**Sokhos**	**2.22**	**355**	*e*PN	**Pn**	**21 50 23.5**	**+0.6**
SOH	**Sokhos**	**2.22**	**355**	*e*Pn	**Pn**	**21 50 23.5**	**+0.6**
PYL	**PYLOS**	**2.26**	**221**	*e*PB	**Pb**	**21 50 25.4**	**-1.5**
PYL	**PYLOS**	**2.26**	**221**	*e*Pb	**Pb**	**21 50 25.4**	**-1.5**
KYTH	**Kithira**	**2.37**	**191**	*e*PN	**Pn**	**21 50 25.1**	**+0.3**
KYTH	**Kithira**	**2.37**	**191**	*e*Pn	**Pn**	**21 50 25.1**	**+0.3**
SRS	**Serrai**	**2.51**	**360**	*e*PN	**Pn**	**21 50 27.0**	**+0.2**
SRS	**Serrai**	**2.51**	**360**	*e*Pn	**Pn**	**21 50 27.0**	**+0.2**
KNT	**Kendrikon**	**2.61**	**348**	*e*PB	**Pn**	**21 50 29.5**	**+1.3**
KNT	**Kendrikon**	**2.61**	**348**	*e*Pb	**Pn**	**21 50 29.5**	**+1.3**
SMG	**Samos**	**2.70**	**108**	*e*PN	**Pn**	**21 50 29.8**	**+0.3**
SMG	**Samos**	**2.70**	**108**	*e*Pn	**Pn**	**21 50 29.8**	**+0.3**
NVR	**Nevrokopi**	**2.75**	**4**	*e*PN	**Pn**	**21 50 30.3**	**+0.2**
NVR	**Nevrokopi**	**2.75**	**4**	*e*Pn	**Pn**	**21 50 30.3**	**+0.2**
FNA	**Florina**	**2.77**	**322**	*e*PN	**Pn**	**21 50 31.8**	**+1.4**
FNA	**Florina**	**2.77**	**322**	*e*Pn	**Pn**	**21 50 31.8**	**+1.4**
VAM	**Vamos**	**3.23**	**171**	*e*PN	**Pn**	**21 50 37.5**	**+0.8**
VAM	**Vamos**	**3.23**	**171**	*e*Pn	**Pn**	**21 50 37.5**	**+0.8**

GUC 13 21:56:15.2±0.5, 34°.25S×72°.35W, h10km±1km, ML3.7, 5C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.83**	**70** ⇓	*i* P	Pg	21 56 31.5	+0.2
LNV				*i* S	Sb	21 56 43.2	+0.1
NICH	**Los Niches**	**1.19**	**130** ⇑	*i* P	Pb	21 56 36.9	-1.1
NICH				*i* S	Sb	21 56 53.0	-0.5
TALC	**Talca**	**1.29**	**153** ⇑	*i* P	Pn	21 56 38.1	-1.2
TALC				*i* S	Sb	21 56 55.4	-1.0
TACH	**Talagante**	**1.31**	**64** ⇓	*i* P	Pn	21 56 38.5	-1.2
TACH				*i* S	Sb	21 56 56.4	-0.6
CHCH	**Chadas Angostu**	**1.44**	**78** ⇑	*i* P	Pn	21 56 40.8	-0.7
CHCH				*i* S	Sb	21 57 00.9	0.0
CACH	**El Canelo**	**1.46**	**85** ⇓	*i* P	Pn	21 56 41.6	-0.2
SAN	**Santiago**	**1.61**	**61** ⇑	*i* P	Pn	21 56 43.2	-0.6
SAN				*i* S	Sn	21 57 03.7	-1.1
PCH	**Pirque**	**1.65**	**68**	*e*P	Pn	21 56 44.3	-0.2
ROCH	**El Roble**	**1.69**	**42**	*e*P	Pn	21 56 44.6	-0.6
ROCH				*i* S	Sb	21 57 07.9	-0.5
ROCH				AML	AML	21 57 18.3	
	comp=E,1μm,0.3s						
CLCH	**Cerro Calan**	**1.73**	**61** ⇑	*i* P	Pn	21 56 45.2	-0.3
CLCH				*i* S	Sn	21 57 08.0	+0.1
CLCH				AML	AML	21 57 15.6	
	comp=N,2μm,0.5s						
PEL	**Peldehue**	**1.77**	**52** ⇓	*i* P	Pn	21 56 45.9	-0.2
PEL				*i* S	Sn	21 57 09.1	+0.4
PEL				AML	AML	21 57 22.0	
	comp=N,2μm,0.8s						

DHMR 13 21:56:58.6±2.1, 12°.12N×43°.82E, h4km±15km, ML3.6, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.14**	**15**	*i* P	Pb	21 57 21.1	-0.1
TRBA				*i* S	Sg	21 57 35.8	+0.1
TRBA				AML	AML	21 57 43.4	
	comp=N,1μm,0.5s						
DHBB	**Dhamar BB**	**2.50**	**13**	*i* P	Pn	21 57 42.2	+1.8
DHBB				*i* S	Sb	21 58 16.8	+1.0
BDHA	**Al Bayda'**	**2.51**	**43**	*i* P	Pn	21 57 41.7	+1.1
BDHA				*i* S	Sb	21 58 17.4	+1.3
BDHA				AML	AML	21 58 28.0	
	comp=N,419nm,0.6s						

IDC ***13*** *22:07:09.9±4.2, 1°.18N×128°.08E, h157km±37km, mb3.0/3, mb1 3.1/3, mb1mx2.8/36, mbtmp3.4/3, MS3.7/1, Ms1 3.7/1, ms1mx2.7/13, Error ellipse: s-maj=124.8km s-min=14.5km az=68.0*

DJA ***13*** *22:07:09.9±1.9, 1°.N±.6°×12°.6E±°, h11km±18km, M3.8/5, MLv3.8/5*

ISC 13 22:07:02.0±1.6, 1°.8N±0°.1×128°.3E±0°.2, h69km, n7, σ2ᵖ49/5, mb3.1/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.35**	**221**	P	**Pn**	**22 07 26.0**	**+1.0**
TNTI				S	**Sn**	**22 07 41.4**	**-0.9**
MSAI	**Masohi**	**5.16**	**172**	P	**Pn**	**22 08 17.5**	**+0.8**
WRA	**Warramunga Arr**	**22.42**	**165**	P	P	22 11 50.4	-4.8
	0.4nm,0.6s,baz=344,slow=12,SNR=7.6						
WRA				S	S	22 15 42.1	-15
	0.1nm,0.3s,baz=346,slow=14,SNR=5.4						
ASAR	**Alice Springs**	**25.91**	**168**	P	P	22 12 22.9	-4.9
	0.3nm,0.8s,baz=356,slow=9.3,SNR=2.9						
CTA	**Charters Tower**	**28.02**	**142**	LR	LR	22 27 08.2	
	comp=Z,143nm,18.3s,baz=198,slow=43						
MKAR	**Makanchi Array**	**59.99**	**325**	P	**P**	**22 17 02.6**	**+1.1**
	0.6nm,0.3s,baz=114,slow=7.4,SNR=22						
TORD	**Torodi Ar. Bea**	**124.95**	**287**	PKP	**PKPdf**	**22 25 52.3**	**-3.0**
	0.2nm,0.5s,baz=87,slow=2.2,SNR=3.3						

BJI ***13*** *22:11:46.1, 4°.19S×102°.76E, h195km, mb4.7/38, mB4.7/22*

ISCJB ***13*** *22:11:53.8±0.2, 3°.30S±0°.02×102°.93E±0°.02, h198km±2km, mb4.5/83, Error ellipse: s-maj=4.9km s-min=2.6km az=137.7*

NEIC ***13*** *22:11:54.4±0.4, 3°.28S×102°.93E, h193km±3km, mb4.7/32, Error ellipse: s-maj=7.3km s-min=3.8km az=49.0*

MOS ***13*** *22:11:54.6±1.0, 3°.12S×103°.06E, h204km, mb4.7/38, Error ellipse: s-maj=11.6km s-min=5.3km az=115.1*

IDC ***13*** *22:11:55.1±0.7, 3°.26S×102°.97E, h197km±5km, mb4.3/24, mb1 4.3/27, mb1mx4.3/28, mbtmp4.8/27, Error ellipse: s-maj=13.6km s-min=7.6km az=50.0*

KLM ***13*** *22:11:55.7, 3°.27S×102°.89E, h164km, mb4.7, ML4.4, MS5.4*

DJA ***13*** *22:11:55.7±0.2, 3°.S±2°×10°.3E±°, h180km±2km, M4.5/26, mb4.7/26, mB5.1/11, MLv4.6/13, Mw(mB)4.5/11*

ISC 13 22:11:54.8±0.3, 3°.33S±0°.03×102°.95E±0°.04, h195km±2km, h195km:pP-P, n523, σ1ᵖ26/570, mb4.7/83, 80C-61D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHSI	**Lahat**	**0.75**	**131**	P	**Pn**	**22 12 23.3**	**+0.8**
LHSI	**Lahat**	**0.75**	**131**	P	**Pn**	**22 12 23.4**	**+0.9**
MNAI	**Manna**	**1.02**	**180**	P	**Pn**	**22 12 25.2**	**+1.0**
MNAI				S	**Sn**	**22 12 46.2**	**-1.0**
MNAI	**Manna**	**1.02**	**180**	P	**Pn**	**22 12 24.8**	**+0.6**
MNAI	**Manna**	**1.02**	**180**	P	**Pn**	**22 12 24.7**	**+0.4**
	baz=1.1,SNR=433						
MNAI	**Manna**	**1.02**	**180**	*e*Pn	**Pn**	**22 12 24.5**	**+0.3**
MNAI				*e*Sn	**Sn**	**22 12 47.7**	**+0.6**
MDSI	**Maura Dua**	**1.68**	**133**	P	**Pn**	**22 12 30.2**	**+0.5**
MDSI				S	**Sn**	**22 12 56.4**	**-0.5**
MDSI	**Maura Dua**	**1.68**	**133**	P	**Pn**	**22 12 29.6**	**-0.1**
JMBI	**JAMBI**	**1.82**	**22**	P	**Pn**	**22 12 31.3**	**+0.2**
JMBI				S	**Sn**	**22 12 58.6**	**-0.9**
JMBI	**JAMBI**	**1.82**	**22**	P	**Pn**	**22 12 31.5**	**+0.4**
PMBI	**Palembang**	**1.86**	**78**	P	**Pn**	**22 12 31.1**	**-0.4**
PMBI				S	**Sn**	**22 12 57.8**	**-2.2**
PMBI	**Palembang**	**1.86**	**78**	P	**Pn**	**22 12 30.9**	**-0.6**
PMBI	**Palembang**	**1.86**	**78**	P	**Pn**	**22 12 31.2**	**-0.3**
	baz=1.9,SNR=7.5						
PMBI				S	**Sn**	**22 12 58.2**	**-1.8**
	baz=1.9,SNR=6.7						
PMBI	**Palembang**	**1.86**	**78**	*e*Pn	**Pn**	**22 12 30.0**	**-1.5**
PMBI				*e*Sn	**Sn**	**22 12 56.4**	**-3.6**
LWLI	**Liwa**	**2.01**	**147**	P	**Pn**	**22 12 33.6**	**+0.5**
LWLI	**Liwa**	**2.01**	**147**	P	**Pn**	**22 12 33.0**	**-0.1**
KLSI		**2.23**	**127**	S	**Sn**	**22 13 06.9**	**-0.1**
KLI	**Kotabumi**	**2.43**	**129**	P	**Pn**	**22 12 38.0**	**+0.4**
KLI				S	**Sn**	**22 13 10.6**	**-0.5**
KLI	**Kotabumi**	**2.43**	**129**	P	**Pn**	**22 12 38.0**	**+0.4**
KASI	**Kota Agung**	**2.67**	**145**	P	**Pn**	**22 12 40.2**	**-0.1**
KASI				S	**Sn**	**22 13 15.1**	**-0.8**
KASI	**Kota Agung**	**2.67**	**145**	P	**Pn**	**22 12 39.7**	**-0.6**
SDSI	**Sungai Dareh**	**2.83**	**327**	P	**Pn**	**22 12 42.5**	**+0.3**
SDSI				S	**Sn**	**22 13 17.0**	**-2.2**
SDSI	**Sungai Dareh**	**2.83**	**327**	P	**Pn**	**22 12 42.3**	**+0.1**
BLSI	**Bandar Lampung**	**3.05**	**132**	P	**Pn**	**22 12 45.5**	**+0.7**
BLSI				S	**Sn**	**22 13 23.4**	**-0.6**
BLSI	**Bandar Lampung**	**3.05**	**132**	P	**Pn**	**22 12 45.3**	**+0.5**
DSRI	**Dabo**	**3.27**	**30**	P	**Pn**	**22 12 47.8**	**+0.4**
PPBI	**Pangkal Pinang**	**3.39**	**70**	P	**Pn**	**22 12 49.3**	**+0.5**
PPBI				S	**Sn**	**22 13 29.8**	**-1.3**
PPBI	**Pangkal Pinang**	**3.39**	**70**	P	**Pn**	**22 12 48.8**	**0.0**
BKNI	**Bangkinang**	**4.11**	**332**	P	**Pn**	**22 12 58.3**	**+0.6**
BKNI	**Bangkinang**	**4.11**	**332**	P	**Pn**	**22 12 58.5**	**+0.8**
BKNI	**Bangkinang**	**4.11**	**332**	P	**Pn**	**22 12 58.5**	**+0.8**
	baz=4.1,SNR=4.5						
BKNI	**Bangkinang**	**4.11**	**332**	*e*Pn	**Pn**	**22 12 57.9**	**+0.2**
BKNI				*e*Sn	**Sn**	**22 13 43.5**	**-3.8**
SBJI	**Serang**	**4.21**	**131**	P	**Pn**	**22 12 59.6**	**+0.6**
CGJI	**Cibinong**	**4.25**	**140**	P	**Pn**	**22 12 58.1**	**-1.5**
CGJI				S	**Sn**	**22 13 45.0**	**-5.5**
CGJI	**Cibinong**	**4.25**	**140**	P	**Pn**	**22 12 57.9**	**-1.7**
TPRI	**Tanjung Pinang**	**4.50**	**20**	P	**Pn**	**22 13 03.3**	**+0.5**
TPRI	**Tanjung Pinang**	**4.50**	**20**	P	**Pn**	**22 13 03.0**	**+0.2**
TNG	**Tangerang**	**4.64**	**128**	S	**Sn**	**22 13 58.5**	**-0.8**
TPI	**Tanjungpandan**	**4.73**	**83**	P	**Pn**	**22 13 05.9**	**+0.3**
TPI	**Tanjungpandan**	**4.73**	**83**	P	**Pn**	**22 13 06.3**	**+0.7**
BTDF	**Bukit Timah Da**	**4.73**	**10**	P	**Pn**	**22 13 06.0**	**+0.3**
	baz=4.7,SNR=4.3						
CBJI	**Citeko**	**4.95**	**128**	P	Pn	22 13 12.4	+4.0
SKJI	**Sukabumi**	**5.12**	**136**	P	**Pn**	**22 13 11.6**	**+1.0**
SKJI				S	**Sn**	**22 14 05.1**	**-5.3**
MYKOM	**Kota Tinggi**	**5.17**	**10** ⇓	P	**Pn**	**22 13 11.4**	**+0.2**
MYKOM	**Kota Tinggi**	**5.17**	**10**	*e*Pn	**Pn**	**22 13 10.7**	**-0.5**
MYKOM				*e*Sn	**Sn**	**22 14 10.3**	**-1.2**
MNSI	**Mandailing Nat**	**5.31**	**321**	P	**Pn**	**22 13 12.9**	**-0.1**
MNSI	**Mandailing Nat**	**5.31**	**321**	P	**Pn**	**22 13 12.9**	**-0.1**
KGM	**Kluang**	**5.32**	**4** ⇓	P	**Pn**	**22 13 13.4**	**+0.1**
CNJI	**Cibinong**	**5.74**	**134**	S	Sn	22 14 16.1	-8.7
LEM	**Lembang**	**5.80**	**127**	P	**Pn**	**22 13 21.9**	**+2.3**
LEM	**Lembang**	**5.80**	**127**	P	**Pn**	**22 13 20.3**	**+0.7**
	4.6nm,0.3s,baz=298,slow=18,SNR=4.3						
LEM				S	**Sn**	**22 14 25.1**	**-1.4**
	5.2nm,0.3s,baz=27,slow=22,SNR=3.6						
CISI	**Cisompet, Garu**	**6.41**	**131**	S	Sn	22 14 32.1	-8.5
CISI	**Cisompet, Garu**	**6.41**	**131**	P	**Pn**	**22 13 28.2**	**+0.8**
CISI	**Cisompet, Garu**	**6.41**	**131**	P	**Pn**	**22 13 25.7**	**-1.7**
	baz=6.5,SNR=16						
CISI				S	**Sn**	**22 14 37.9**	**-2.7**
	baz=6.5,SNR=4.3						
CISI	**Cisompet, Garu**	**6.41**	**131**	*e*Pn	**Pn**	**22 13 25.0**	**-2.4**
CISI				*e*Sn	Sn	22 14 34.3	-6.3
FRIM		**6.66**	**349**	⇑P	**Pn**	**22 13 31.4**	**+0.8**
CMJI	**Cimerak**	**7.04**	**129**	S	Sn	22 14 47.7	-7.6
GSI	**Gunungsitoli**	**7.08**	**311**	S	Sn	22 14 49.7	-6.6
GSI	**Gunungsitoli**	**7.08**	**311**	*e*Pn	**Pn**	**22 13 34.7**	**-1.4**
GSI				*e*Sn	**Sn**	**22 14 50.8**	**-5.5**
PSI	**Prapat**	**7.30**	**326**	P	**Pn**	**22 13 37.1**	**-1.9**
	2.2nm,0.3s,baz=147,slow=10,SNR=21						
PSI				S	**Sn**	**22 14 56.4**	**-5.4**
	4.2nm,0.3s,baz=74,slow=16,SNR=3.7						
PSI	**Prapat**	**7.30**	**326**	P	**Pn**	**22 13 37.2**	**-1.9**
PSI				S	**Sn**	**22 14 56.4**	**-5.4**
PSI				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PSI				smax	smax		
	comp=N,4.0nm,0.3s						
PSI	**Prapat**	**7.30**	**326**	*e*Pn	**Pn**	**22 13 36.2**	**-2.9**
PSI				S	**Sn**	**22 14 56.4**	**-5.4**
XMI	**Christmas Isla**	**7.58**	**159**	P	Pn	22 13 38.2	-4.4
	baz=7.7,SNR=3.5						
XMI				S	Sn	22 14 55.7	-12
	baz=7.7,SNR=9.7						
IPM	**Ipoh**	**7.99**	**346**	⇑P	**Pn**	**22 13 49.1**	**+1.0**
IPM	**Ipoh**	**7.99**	**346**	*e*Pn	**Pn**	**22 13 48.3**	**+0.2**
SMRI	**Semarang**	**8.32**	**117**	P	**Pn**	**22 13 54.1**	**+1.8**
	comp=N,147nm,1.0s						
SMRI	**Semarang**	**8.32**	**117**	P	**Pn**	**22 13 55.1**	**+2.8**
SMRI	**Semarang**	**8.32**	**117**	P	**Pn**	**22 13 54.4**	**+2.1**
	baz=8.4,SNR=4.4						
SMRI				S	Sn	22 15 41.9	+16
	baz=8.4,SNR=3.3						
SMRI	**Semarang**	**8.32**	**117**	*e*Pn	**Pn**	**22 13 53.5**	**+1.2**
UWJI	**Ujung Watu**	**8.54**	**111**	P	**Pn**	**22 13 56.4**	**+1.3**
UWJI	**Ujung Watu**	**8.54**	**111**	P	**Pn**	**22 13 57.8**	**+2.7**
SNSI	**Sinabang, Aceh**	**8.74**	**311**	P	**Pn**	**22 13 57.5**	**-0.2**
	comp=N,252nm,0.8s,comp=N,4μm						
SNSI	**Sinabang, Aceh**	**8.74**	**311**	P	**Pn**	**22 13 58.1**	**+0.4**
KSM	**Kuching**	**8.77**	**57**	P	**Pn**	**22 13 59.1**	**+1.0**
	baz=8.8,SNR=3.0						
KSM	**Kuching**	**8.77**	**57**	*e*Pn	**Pn**	**22 13 58.0**	**-0.1**
UGM	**Wanagama**	**8.80**	**121**	P	**Pn**	**22 13 57.6**	**-1.0**
	comp=N,142nm,1.4s						
UGM				S	Sn	22 15 28.7	-8.7
	comp=N,142nm,1.4s						
UGM	**Wanagama**	**8.80**	**121**	P	**Pn**	**22 13 57.9**	**-0.7**
	baz=8.9,SNR=10						
UGM	**Wanagama**	**8.80**	**121**	*e*Pn	**Pn**	**22 13 57.3**	**-1.2**
KULM	**Kulim**	**8.87**	**345**	⇑P	**Pn**	**22 13 59.7**	**+0.3**
KULM	**Kulim**	**8.87**	**345**	*e*Pn	**Pn**	**22 13 58.8**	**-0.7**
STKI	**Sintang**	**9.16**	**69**	P	**Pn**	**22 14 04.7**	**+1.4**
	comp=N,50nm,1.0s,comp=N,7μm						
PCJI	**Pacitan**	**9.50**	**121**	P	**Pn**	**22 14 05.5**	**-2.2**
PCJI				S	Sn	22 15 44.1	-10
TBJI	**Tambak Boyo**	**9.51**	**112**	P	**Pn**	**22 14 08.5**	**+0.7**
PWJI	**Pagerwojo**	**9.96**	**118**	P	**Pn**	**22 14 12.8**	**-0.9**
	comp=N,52nm,1.0s						
PWJI				S	Sn	22 15 52.9	-12
	comp=N,52nm,1.0s						
GRJI	**Gresik**	**10.13**	**111**	P	**Pn**	**22 14 17.3**	**+1.4**
LHMI	**Lhok Sumawe**	**10.41**	**325**	P	**Pn**	**22 14 17.5**	**-1.9**
LHMI				S	Sn	22 16 08.3	-7.2
LHMI	**Lhok Sumawe**	**10.41**	**325**	P	**Pn**	**22 14 17.1**	**-2.3**
	baz=10,SNR=7.5						
LHMI				S	Sn	22 16 08.4	-7.2
	baz=10,SNR=4.7						
LHMI	**Lhok Sumawe**	**10.41**	**325**	*e*Pn	**Pn**	**22 14 16.8**	**-2.6**
LHMI				*e*Sn	**Sn**	**22 16 13.1**	**-2.4**
SKLT	**Songkhla**	**10.69**	**347**	P	**Pn**	**22 14 22.4**	**-0.6**
	comp=N,34nm,0.9s						
SBUM	**Sibu**	**10.90**	**58**	*e*Pn	**Pn**	**22 14 27.5**	**+1.7**
BLJI	**Banyuglugur**	**11.46**	**113**	P	**Pn**	**22 14 34.2**	**+1.2**
	comp=N,54nm,0.5s,comp=N,1μm						
GMJI	**Gumukmas**	**11.53**	**116**	P	**Pn**	**22 14 34.0**	**+0.1**
	comp=N,52nm,0.7s,comp=N,2μm						
TRTT	**Trang**	**11.56**	**344**	P	**Pn**	**22 14 33.5**	**-0.8**
	comp=N,92nm,0.7s,comp=N,898nm						
BBKI	**Banjar Baru**	**11.87**	**91**	P	**Pn**	**22 14 40.6**	**+2.4**
	comp=N,233nm,0.8s						
ABJI	**Asem Bagus**	**12.07**	**112**	P	**Pn**	**22 14 42.7**	**+1.9**
	comp=N,95nm,0.9s						
KRAB	**Krabi**	**12.07**	**342**	P	**Pn**	**22 14 39.0**	**-1.8**
	comp=N,134nm,0.6s,comp=N,2μm						
SURT	**Suratani**	**12.89**	**341**	P	P	22 14 59.2	+4.5
SRBI	**Singaraja**	**13.08**	**112**	P	**P**	**22 14 55.2**	**-1.6**
	comp=N,138nm,0.9s,comp=N,1μm						
BKB	**Balikpapan**	**14.08**	**82**	P	**P**	**22 15 07.9**	**0.0**
CHBT	**CHBT**	**15.99**	**358**	P	**Pn**	**22 15 30.0**	**+0.7**
	comp=N,112nm,0.6s,comp=N,6μm						
SDKM	**Sandakan**	**16.79**	**58** ⇓	P	**Pn**	**22 15 41.3**	**+2.3**
SPSI	**Sidrap Palu**	**16.80**	**93**	P	**Pn**	**22 15 39.3**	**+0.3**
KAPI	**Kappang**	**16.84**	**96**	P	**Pn**	**22 15 39.6**	**+0.1**
	comp=N,8.7nm,0.3s,baz=280,slow=13,SNR=20						
KAPI	**Kappang**	**16.84**	**96**	P	**Pn**	**22 15 41.5**	**+1.9**
	SNR=5.4						
KAPI	**

LSA Lhasa 34.73 342 P P 22 18 26.8 -0.2
LSA Lhasa 34.73 342 *e*P **P 22 18 26.7 -0.2**
LSA pmax pmax
comp=Z,11nm,0.5s
LSA Lhasa 34.73 342 *e*P **P 22 18 26.7 -0.2**
comp=Z,11nm,0.5s
WRA Warramunga Arr 34.78 121 P P 22 18 26.5 -0.6
comp=Z,12nm,0.9s,baz=297,slow=9.7,SNR=36
WRA pP **pP 22 19 06.5 -1.2**
comp=Z,1.8nm,0.8s,baz=299,slow=9.1,SNR=1.5
WRA PcP **PcP 22 20 56.5 +0.4**
comp=Z,1.9nm,0.9s,baz=310,slow=2.6,SNR=3.6
WRA S S 22 23 36.2 -6.9
comp=Z,2.1nm,0.9s,baz=292,slow=16,SNR=6.8
WRA ScP **ScP 22 24 22.7 -0.5**
comp=Z,3.3nm,0.8s,baz=308,slow=2.8,SNR=11
WRAB Tennant Creek 34.79 121 *i*P **P 22 18 27.2 +0.1**
WRAB pmax pmax
comp=Z,39nm,1.0s
JIRN Jiri 34.79 333 *e*P **P 22 18 26.9 -0.5**
comp=Z,59nm,0.7s
PKI Pulchoki 35.07 332 *e*P **P 22 18 29.0 -0.7**
comp=Z,9.6nm,0.3s
PKIN Phulchoki 35.08 332 *e*P **P 22 18 28.8 -1.0**
comp=Z,15nm,0.4s
GUN Gumba 35.15 333 *e*P **P 22 18 30.0 -0.4**
comp=Z,59nm,0.5s
DMN Daman 35.24 332 *e*P **P 22 18 30.5 -0.6**
comp=Z,17nm,0.3s
KKN Kakani 35.32 332 *e*P **P 22 18 31.0 -0.7**
comp=Z,39nm,0.4s
GKN Gorkha 35.80 332 *e*P **P 22 18 35.1 -0.6**
comp=Z,72nm,0.5s
POO Poona 35.96 308⇑ *i*P **P 22 18 39.0 +1.9**
comp=Z,36nm,0.5s
ASAR Alice Springs 36.09 127 P P 22 18 38.4 +0.1
comp=Z,17nm,0.6s,baz=300,slow=7.7,SNR=165
ASAR pP **pP 22 19 18.4 -0.6**
comp=Z,3.0nm,0.8s,baz=311,slow=8.2,SNR=2.4
ASAR PcP **PcP 22 21 00.5 +0.5**
comp=Z,0.7nm,0.5s,baz=316,slow=3.9,SNR=2.9
ASAR S **S 22 23 58.5 -4.7**
comp=Z,2.4nm,0.7s,baz=295,slow=14,SNR=13
ASAR ScP **ScP 22 24 27.7 -0.2**
comp=Z,5.0nm,0.8s,baz=306,slow=3.8,SNR=16
KOLN Koldanda 36.11 330 *e*P **P 22 18 38.1 -0.3**
comp=Z,53nm,0.5s
AS01 Alice Springs 36.13 127 *e*P **P 22 18 38.6 +0.1**
AS01 *e*ScP **ScP 22 24 27.3 -0.7**
XAN Xi'an 37.59 8 P P 22 18 50.3 -0.4
XAN PMZ
comp=Z,5.0nm,0.5s
XAN PMZ
comp=Z,12nm,4.7s
NJ2 Nanjing 38.30 22 *e*P **P 22 18 55.9 -0.6**
NJ2 PMZ
comp=Z,50nm,0.9s
LZH Lanzhou 39.22 1 *e*P **P 22 19 05.1 +0.8**
LZH pP **pP 22 19 45.3 -0.4**
LZH sP **sP 22 20 05.9 -2.0**
LZH PMZ
comp=Z,23nm,1.1s
LZH PMZ
comp=Z,60nm,4.0s
QIS Mount Isa 39.59 119 P P 22 19 07.8 +0.3
baz=40,SNR=6.0
GTA Gaotai 42.63 356 *e*P **P 22 19 32.4 +0.3**
GTA PMZ
comp=Z,18nm,0.9s
BBOO Buckleboo 42.66 137 P P 22 19 33.5 +1.1
baz=43,SNR=16
MANU Manus Island 44.38 90 P P 22 19 39.3 -7.0
baz=44,SNR=4.1
HHC Hu-ho-hao-te 44.67 9 *e*P **P 22 19 49.8 +1.5**
HHC pP **pP 22 20 34.5 +3.9**
HHC sP **sP 22 20 51.9 -0.6**
HHC PP **PP 22 21 37.9 +1.0**
HHC S **S 22 26 12.3 +2.5**
HHC SS **SS 22 29 30.4 -4.7**
HHC PMZ
comp=Z,22nm,1.8s
HHC PMZ
comp=Z,100nm,5.0s
HHC LN
comp=Z,220nm,16.2s
HHC LE
comp=Z,250nm,18.7s
BJI Beijing 44.84 14 P P 22 19 49.4 0.0
BJI PMZ
comp=Z,16nm,0.6s
HTT Hallett 44.98 136 P P 22 19 52.5 +1.6
baz=45,SNR=11
CTA Charters Tower 45.37 115 P P 22 19 55.0 +0.9
comp=Z,5.2nm,0.7s,baz=316,slow=9.8,SNR=5.2
CTA Charters Tower 45.37 115 P P 22 19 55.0 +0.9
TJN Taejon 45.61 28 *e*P **P 22 19 54.2 -1.4**
QLP Quilpie 45.77 124 P P 22 19 58.5 +1.3
baz=46,SNR=5.7
STKA Stephens Creek 46.08 132 P P 22 20 00.3 +0.9
comp=Z,18nm,0.7s,baz=314,slow=7.3,SNR=48
STKA pP **pP 22 20 42.1 +0.2**
comp=Z,7.7nm,0.7s,baz=307,slow=7.4,SNR=3.6
STKA Stephens Creek 46.08 132 *e*P **P 22 20 00.3 +0.9**
STKA *PP **pP 22 20 42.1 +0.2**
STKA pmax pmax
comp=Z,3.0nm,0.7s
STKA Stephens Creek 46.08 132 P P 22 20 00.6 +1.2
baz=46,SNR=54
STKA Stephens Creek 46.08 132 *e*P **P 22 20 00.3 +0.9**
comp=Z,3.1nm,0.7s
STKA pP **pP 22 20 42.1 +0.2**
KSAR Wonju Array Be 46.72 27 P P 22 20 04.4 +0.2
KSAR Wonju Array Be 46.72 27 P P 22 20 04.4 +0.2
KSRS Korea Array 46.74 27 P P 22 20 04.4 0.0
comp=Z,1.6nm,0.5s,baz=214,slow=7.7,SNR=13
KSRS Korea Array 46.74 27 P P 22 20 04.4 0.0
KSRS pmax pmax
comp=Z,2.0nm,0.5s
KS01 Wonju Array Si 46.75 27 *e*P **P 22 20 03.6 -0.8**
WMQ Urumqi 48.90 345 P P 22 20 21.6 +0.6
WMQ pP **pP 22 21 03.8 -0.3**
WMQ sP **sP 22 21 24.9 -0.9**
WMQ PP **PP 22 22 17.3 +0.9**
WMQ PMZ
comp=Z,25nm,0.5s
WMQ PMZ
comp=Z,150nm,4.6s
WMQ LN
comp=Z,30nm,20.2s
WMQ LE
comp=Z,27nm,21.4s
WMQ LZ
comp=Z,23nm,22.2s
CMSA Cobar Meteorol 49.00 130 P P 22 20 23.1 +1.3
baz=49,SNR=16
KSH Kashi 49.34 332 P P 22 20 21.9 -2.5
KSH pP **pP 22 21 04.3 -3.3**
KSH sP **sP 22 21 25.5 -3.8**
KSH PP **PP 22 22 17.6 -2.9**
KSH S S 22 27 09.1 -6.9
KSH PMZ
comp=Z,22nm,0.7s
KSH PMZ
comp=Z,110nm,5.2s
KSH LN
comp=Z,170nm,9.3s
KSH LE
comp=Z,98nm,9.0s
KSH LZ
comp=Z,120nm,6.8s
KBL Kabul 49.35 323 *e*P **P 22 20 23.6 -1.2**
KBL pmax pmax
comp=Z,6.0nm,0.6s
KBL Kabul 49.35 323 P P 22 20 24.1 -0.6
baz=49,SNR=4.5
KBL Kabul 49.35 323 *e*P **P 22 20 23.6 -1.2**
comp=Z,6.0nm,0.6s
SMDO Samad 51.04 303 P P 22 20 39.7 +2.3
SNR=6.0
SONM Songino Array 51.04 3 P P 22 20 37.6 +0.5
comp=Z,35nm,0.7s,baz=182,slow=9.2,SNR=264
SONM PcP **PcP 22 21 49.9 -0.3**
comp=Z,3.1nm,0.5s,baz=189,slow=4.0,SNR=8.9
SONM ScP **ScP 22 25 25.7 -2.3**
comp=Z,0.2nm,0.5s,baz=176,slow=4.7,SNR=4.5
SONA1 Songino Array 51.05 3 *e*P **P 22 20 37.8 +0.6**

ULN Ulaanbaatar 51.11 4 *d i*P **P 22 20 36.9 -0.7**
ULN pmax pmax
comp=Z,16nm,1.0s
ULN Ulaanbaatar 51.11 4 P P 22 20 38.6 +1.0
SNR=9.0
ULN Ulaanbaatar 51.11 4 *e*P **P 22 20 38.3 +0.7**
comp=Z,16nm,0.9s
EIDS Eidsvold 51.14 120 P P 22 20 39.0 +0.9
baz=51,SNR=4.7
EIDS Eidsvold 51.14 120 *e*P **P 22 20 38.4 +0.2**
comp=Z,7.4nm,0.6s
MJAR Matsushiro Arr 51.52 36 P P 22 20 39.6 -1.1
comp=Z,1.8nm,0.6s,baz=207,slow=8.1,SNR=10
KZA Kyzart 51.72 334 P P 22 20 42.7 +0.1
SNR=18
KZA Kyzart 51.72 334 *i*P **P 22 20 42.7 +0.1**
HOQ Hoqain 51.87 304 P P 22 20 45.8 +2.3
SNR=9.0
UCH Uchtor 52.17 333 P P 22 20 45.6 -0.3
SNR=14
UCH Uchtor 52.17 333 *i*P **P 22 20 45.6 -0.3**
TKM2 Tokmak 2 52.25 335 P P 22 20 45.8 -0.5
SNR=42
TKM2 Tokmak 2 52.25 335 *e*P **P 22 20 45.4 -0.8**
TKM2 Tokmak 2 52.25 335 *e*P **P 22 20 45.4 -0.8**
KBK Karagaybulak 52.32 334 P P 22 20 46.8 0.0
SNR=25
ARQ Araqi 52.43 303 P P 22 20 49.6 +1.9
SNR=7.9
AML Almayashu 52.46 333 P P 22 20 47.8 -0.2
SNR=6.3
AML Almayashu 52.46 333 *i*P **P 22 20 47.8 -0.2**
AAK Ala-Archa 52.50 334 P P 22 20 48.2 +0.1
SNR=7.8
AAK Ala-Archa 52.50 334 *i*P **P 22 20 48.1 +0.1**
AAK pmax pmax
comp=Z,12nm,0.8s
AAK Ala-Archa 52.50 334 *e*P **P 22 20 47.5 -0.5**
comp=Z,15nm,0.9s
CHMS Chumysh 52.68 334 P P 22 20 48.6 -0.7
SNR=6.8
CHMS Chumysh 52.68 334 *i*P **P 22 20 48.5 -0.7**
EKS2 Erkin-Say 52.84 333 P P 22 20 50.4 -0.1
SNR=52
EKS2 Erkin-Say 52.84 333 *e*P **P 22 20 50.3 -0.2**
EKS2 Erkin-Say 52.84 333 *e*P **P 22 20 50.3 -0.2**
USP Ospenovka 53.01 334 P P 22 20 50.9 -0.7
SNR=5.7
USP Ospenovka 53.01 334 *i*P **P 22 20 50.8 -0.7**
MK01 Makanchi Array 53.12 342 *e*P **P 22 20 51.5 -0.8**
MK31 Makanchi Array 53.14 342 P P 22 20 52.0 -0.5
baz=53,SNR=35
MKAR Makanchi Array 53.14 342 P P 22 20 51.8 -0.6
comp=Z,8.2nm,0.4s,baz=168,slow=8.1,SNR=229
MKAR pP **pP 22 21 37.7 +1.5**
comp=Z,1.2nm,0.6s,baz=142,slow=7.3,SNR=1.5
MKAR PcP **PcP 22 21 57.4 -0.6**
comp=Z,2.5nm,0.9s,baz=138,slow=6.7,SNR=3.9
MKAR Makanchi Array 53.14 342 P P 22 20 51.8 -0.6
MKAR *PP **pP 22 21 37.7 +1.5**
MKAR 22 21 57.4
MKAR pmax pmax
comp=Z,8.0nm,0.4s
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR pmax pmax
comp=Z,3.0nm,0.9s
HATD Hatta, Dubai 53.37 304⇓ *i*P **P 22 20 56.1 +1.6**
SNR=17
ASHO Ashiyiah 53.37 304⇓ *i*P **P 22 20 56.0 +1.4**
SNR=7.4
ZAK Zakamensk 53.50 0 *e*P **P 22 20 52.2 -2.9**
ZAK pmax pmax
comp=Z,6.0nm,0.9s
BANOM Banah 53.70 306⇓ P **P 22 20 57.6 +0.7**
FAQ Al Faqa, Dubai 53.78 304⇓ *i*P **P 22 20 58.9 +1.4**
SNR=50
NAZ Nazwa, Dubai 53.83 304⇓ *i*P **P 22 20 58.9 +1.1**
SNR=20
ASUD Al Ashush, Dub 53.95 304⇑ *i*P **P 22 21 00.6 +1.9**
SNR=36
USRK Ussuriysk Ar. 54.01 26 P P 22 20 58.9 +0.1
comp=Z,6.1nm,0.6s,baz=216,slow=4.5,SNR=20
IDAH Dahanechah 54.31 315 *e*P **P 22 21 01.7 +0.2**
HIA Hailar 54.38 13 *i*P **P 22 21 00.0 -1.4**
HIA pmax pmax
comp=Z,3.0nm,1.0s
KKAR Karatay Array 54.70 331 *e*P **P 22 21 02.3 -1.5**
KKAR Karatay Array 54.70 331 *e*P **P 22 21 02.3 -1.5**
TLY Talaya 54.81 1 P **P 22 21 04.7 +0.3**
comp=Z,14nm,0.7s,baz=207,slow=5.9,SNR=28
TLY Talaya 54.81 1 *ce*P **P 22 21 05.6 +1.2**
TLY pmax pmax
comp=Z,14nm,0.6s
TLY Talaya 54.81 1 P P 22 21 05.7 +1.2
SNR=8.7
TLY Talaya 54.81 1 *e*P **P 22 21 05.2 +0.8**
comp=Z,18nm,0.8s
MOY Mondy 54.81 359 *e*P **P 22 21 05.3 +0.7**
ITEG Tejag 55.19 314 *e*P **P 22 21 07.5 -0.2**
IPAY Payeh 56.95 318 *e*P **P 22 21 19.7 -0.5**
IAKL Akhelmad 57.20 318 *e*P **P 22 21 20.8 -1.2**
IKRD Kardeh 57.46 318 *e*P P 22 21 18.4 -5.4
IMEH Mehriz 57.48 311 *e*P **P 22 21 23.0 -1.0**
ISRV Sarvestan 57.74 308 *e*P **P 22 21 27.3 +1.3**
KURK Kurchatov 57.74 342 *e*P **P 22 21 24.2 -0.9**
KURK pmax pmax
comp=Z,30nm,0.9s
KURK Kurchatov 57.74 342 P P 22 21 24.8 -0.3
SNR=7.9
KURK Kurchatov 57.74 342 *e*P **P 22 21 24.2 -0.9**
comp=Z,30nm,0.9s
OTUK Ortayu 57.90 336 *i*P **P 22 21 25.2 -1.1**
OTUK pmax pmax
comp=Z,17nm,0.6s
ICHK Chekchek 58.03 312 *e*P **P 22 21 27.2 -0.6**
GEYT Alibeck 58.37 319 P P 22 21 29.2 -0.6
comp=Z,4.5nm,0.5s,baz=145,slow=5.3,SNR=19
GEYT PcP **PcP 22 22 18.4 -0.1**
comp=Z,1.7nm,0.6s,baz=204,slow=3.2,SNR=2.7
ISAD Sadrabad 58.42 311 *e*P **P 22 21 29.9 -0.7**
IKAZ Kazeroun 58.91 308 *e*P **P 22 21 35.0 +1.0**
ZAA0 Zalesovo Array 59.05 348 P P 22 21 33.3 -0.8
baz=59,SNR=27
ZAA0 Zalesovo Array 59.05 348 *e*P **P 22 21 33.1 -1.0**
ZALV Zalesovo Beam 59.05 348 P P 22 21 33.6 -0.6
comp=Z,31nm,0.5s,baz=170,slow=6.0,SNR=182
ZALV PcP **PcP 22 22 21.3 +0.5**
comp=Z,4.3nm,0.7s,baz=165,slow=5.4,SNR=3.6
KRAR Krasnoyarsk 59.72 353 *e*P **P 22 21 37.9 -0.7**
KRAR pmax pmax
comp=Z,19nm,0.8s
IZEF Zefreh 59.89 311 *e*P **P 22 21 40.0 -0.7**
IANJ Anjilo 59.94 315 *e*P **P 22 21 40.1 -0.8**
NVS Novosibirsk 60.23 347⇓ *i*P **P 22 21 39.7 -2.4**
NVS pmax pmax
comp=N,8.0nm,1.2s
NVS pmax pmax
comp=E,6.0nm,1.2s
NVS pmax pmax
comp=Z,17nm,1.2s
ISHM Shahmirzad 60.55 315 *e*P **P 22 21 44.4 -0.7**
ILAS Lasjerd 60.58 314 *e*P **P 22 21 44.8 -0.5**
IKLH Kolahrood 60.64 311 *e*P **P 22 21 45.6 -0.1**
DAMY Dhamar 60.67 289 *e*P **P 22 21 46.8 +0.5**
comp=Z,22nm,1.0s
IFIR Firoozkooh 60.85 314 *e*P **P 22 21 47.0 -0.1**
IPIR Pirpir 60.88 310 *e*P **P 22 21 46.3 -1.1**
QAM Ghamsar 60.94 312 *e*P **P 22 21 47.7 0.0**
IDMV Damavand 61.34 314 *e*P **P 22 21 50.2 -0.2**
BOD Bodaibo 61.60 7 *e*P **P 22 21 50.2 -1.1**
BOD pmax pmax
comp=Z,5.0nm,0.8s
RAYN Ar Rayn 61.96 299 *e*P **P 22 21 54.8 +0.3**
comp=Z,5.2nm,0.8s
BRVK Borovoye 62.53 338 *d i*P **P 22 21 56.3 -1.3**
BRVK pmax pmax
comp=Z,14nm,0.8s
BRVK Borovoye 62.53 338 P P 22 21 56.8 -0.9
SNR=5.7
BRVK Bovoye 62.53 338 *e*P **P 22 21 55.8 -1.8**
comp=Z,20nm,0.6s
IRAZ Razeghan 62.79 313 *e*P **P 22 22 00.4 +0.4**
IBZA Bozab 63.93 311 *e*P **P 22 22 06.7 -0.9**
IKOM Komasi 64.07 311 *e*P **P 22 22 07.4 -0.9**

ABKAR Akbulak array 64.23 330 *e*P **P 22 22 07.5 -1.4**
IDHR Dehrash 65.13 311 *e*P **P 22 22 14.1 -1.2**
ISRB Sarab 65.48 314 *e*P **P 22 22 17.5 0.0**
KMBO Kilima Mbogo 65.68 270 P P 22 22 19.2 0.0
comp=Z,3.0nm,0.7s,baz=54,slow=9.5,SNR=3.9
IHRS Heris 66.14 315 *e*P **P 22 22 20.9 -0.8**
IAZR Azarshahr 66.63 314 *e*P **P 22 22 25.0 +0.2**
IMRD Marand 67.26 314 *e*P **P 22 22 29.3 +0.6**
YAK Yakutsk 68.32 13 *i*P **P 22 22 33.5 -1.0**
YAK pmax pmax
comp=Z,18nm,0.8s
GNI Garni 68.53 316 *i*P **P 22 22 36.2 -0.3**
GNI pmax pmax
comp=Z,7.0nm,1.0s
GNI Garni 68.53 316 *e*P **P 22 22 34.9 -1.6**
comp=Z,9.2nm,0.7s
SVE Sverdlovsk 69.05 337 *e*P **P 22 22 38.8 -0.3**
SVE pmax pmax
comp=Z,27nm,0.9s
ARU Arti 69.61 336 *d i*P **P 22 22 41.6 -1.0**
ARU 22 23 02.9
ARU S **S 22 31 33.7 -1.1**
ARU pmax pmax
comp=Z,20nm,1.0s
ARU Arti 69.61 336 *e*P **P 22 22 41.4 -1.3**
comp=Z,15nm,0.8s
ZEI Tsey 70.19 318 *e*P **P 22 22 46.4 -0.3**
ZEI pmax pmax
comp=Z,14nm,0.8s
NCK Nalchik 70.69 318 *e*P **P 22 22 49.1 -0.4**
NEY Neytrino 71.17 318 *e*P **P 22 22 51.7 -0.9**
NEY pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 71.25 318 P P 22 22 52.6 -0.1
comp=Z,18nm,0.9s,baz=53,slow=20,SNR=47
KIV Kislovodsk 71.48 319 *e*P **P 22 22 54.2 -0.1**
KIV pmax pmax
comp=Z,17nm,1.1s
KIV Kislovodsk 71.48 319 P P 22 22 54.6 +0.3
SNR=6.7
KIV Kislovodsk 71.48 319 *i*P **P 22 22 54.3 0.0**
SNR=7.8
KIV Kislovodsk 71.48 319 *e*P **P 22 22 53.7 -0.6**
comp=Z,26nm,1.3s
MBAR Mbarara 72.21 270 *e*P **P 22 23 01.8 +2.4**
MBAR pmax pmax
comp=Z,6.0nm,0.8s
MBAR Mbarara 72.21 270 *e*P **P 22 23 01.8 +2.4**
comp=Z,5.8nm,0.8s
MALT Malatya 72.41 312⇑ *i*P **P 22 23 01.1 +1.1**
PETK Petropavlovsk- 72.46 31 P P 22 22 59.7 -0.2
comp=Z,2.6nm,0.6s,baz=207,slow=6.1,SNR=4.1
EIL Elat 72.72 302 P P 22 23 03.2 +1.4
baz=73,SNR=17
PET Petropavlovsk 72.91 31 *i*P **P 22 23 01.7 -0.8**
PET pmax pmax
comp=Z,7.0nm,0.8s
SOC Sochi 73.32 317 *e*P **P 22 23 03.7 -1.4**
SOC *e*S **SKiKP 22 32 16.7 +0.4**
SOC pmax pmax
comp=Z,18nm,0.8s
BKZ Black Stump Fm 75.16 130 *e*P **P 22 23 15.5 -0.4**
comp=Z,18nm,0.5s
CSS Prodhromos 75.37 307 *e*P **P 22 23 17.0 -0.2**
comp=Z,6.9nm,0.7s
SEY Seymchan 75.78 21 *i*P **P 22 23 18.4 -0.4**
VORD Divnogorie 76.39 324 *e*P **P 22 23 21.5 -1.0**
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,2.0nm,0.6s
VORD pmax pmax
comp=Z,5.0nm,0.6s
BR131 Keskin Array S 76.39 312 P P 22 23 22.8 -0.3
baz=76,SNR=24
BRTR Keskin Array B 76.39 312 P P 22 23 22.7 -0.3
comp=Z,20nm,0.7s,baz=132,slow=7.2,SNR=140
BRTR Keskin Array B 76.39 312 *ce*P **P 22 23 22.5 -0.5**
BRTR pmax pmax
comp=Z,21nm,0.7s
VSR Storozhevoye 76.56 325 *e*P **P 22 23 22.5 -0.9**
VSR pmax pmax
comp=N,3.0nm,0.6s
VSR pmax pmax
comp=E,4.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
TIXI Tiksi 76.72 8 *e*P **P 22 23 22.4 -1.6**
TIXI pmax pmax
comp=Z,4.0nm,1.3s
TIXI Tiksi 76.72 8 *e*P **P 22 23 22.4 -1.6**
comp=Z,11nm,1.4s
LPSR Galich'ya Gora 77.23 326 *e*P **P 22 23 26.5 -0.7**
LPSR pmax pmax
comp=N,7.0nm,1.0s
LPSR pmax pmax
comp=E,10.0nm,1.0s
LPSR pmax pmax
comp=Z,10.0nm,1.0s
SIM Simferopol' 77.57 317 *i*P **P 22 23 29.5 +0.3**
SIM pmax pmax
comp=Z,24nm,0.8s
PRGR Permogore 78.07 336⇓ *i*P **P 22 23 31.1 -0.5**
PRGR pmax pmax
comp=Z,19nm,0.6s
OBN Obninsk 79.48 328 *i*P **P 22 23 38.2 -1.2**
OBN *e* 22 23 46.6
OBN *e**PP **pP 22 24 26.8 +0.1**
OBN *e* 22 26 37.8
OBN pmax pmax
comp=Z,14nm,1.1s
OBN Obninsk 79.48 328 *e*P **P 22 23 38.8 -0.6**
comp=Z,36nm,1.3s
VNDA Vanda 80.30 169 P P 22 23 45.2 +1.7
comp=Z,0.6nm,0.7s,baz=299,slow=5.3,SNR=2.8
KLMR Klimovskoe 80.31 334 *e*P **P 22 23 43.5 -0.3**
KLMR pmax pmax
comp=Z,25nm,1.0s
PSN Preselentsi 81.34 315⇑ *i*P **P 22 23 50.2 +0.6**
SBA Scott Base 81.39 169 *e*P **P 22 23 48.8 -0.4**
SBA pmax pmax
comp=Z,10.0nm,0.9s
SBA Scott Base 81.39 169 *e*P **P 22 23 48.8 -0.4**
comp=Z,9.8nm,0.9s
LEOM Leova 81.94 318⇑ *i*P **P 22 23 53.3 +0.7**
AKASG Malin Array Be 82.34 322 P P 22 23 54.0 -0.7
comp=Z,2.9nm,0.6s,baz=87,slow=4.6,SNR=16
AKASG Malin Array Be 82.34 322 P P 22 23 54.0 -0.7
KIEV Kiev 82.34 322 *e*P **P 22 23 53.7 -1.0**
KIEV pmax pmax
comp=Z,5.0nm,0.6s
KIEV Kiev 82.34 322 *e*P **P 22 23 53.7 -1.0**
comp=Z,5.2nm,0.6s
VRI Vrincioaia 82.83 317⇑ *i*P **P 22 23 58.7 +1.3**
PLOR Plostina 82.88 317⇑ *i*P **P 22 23 58.1 +0.5**
SULR 82.91 316⇓ *i*P **P 22 23 58.1 +0.4**
KDZ Kurdzhali 82.92 312⇑ *i*P **P 22 23 58.5 +0.6**
TESR Tescani 83.02 317⇑ *i*P **P 22 23 58.8 +0.5**
MLR Muntele Rosu 83.29 316⇑ *i*P **P 22 24 01.0 +1.1**
BILL Bilibino 83.39 20 *e*P **P 22 23 59.9 +0.2**
BILL *e* 22 27 13.9
BILL pmax pmax
comp=Z,2.0nm,1.1s
DOPR Dopca 83.77 317⇑ *i*P **P 22 24 02.0 -0.1**
VOIR 83.90 316⇓ *i*P **P 22 24 03.3 +0.4**
MMB Musomiste 84.15 312⇑ *i*P **P 22 24 04.3 +0.1**
ARR Arges 84.17 316⇑ *i*P **P 22 24 04.6 +0.3**
BURAR Bucovina Array 84.20 318⇓ *i*P **P 22 24 05.6 +1.2**
VTS Vitosha 84.70 313⇓ *i*P **P 22 24 07.4 +0.3**
LOT Lotru 84.78 316⇑ *i*P **P 22 24 07.8 +0.4**
LVZ Lovozero 85.05 339 *i*P **P 22 24 06.9 -1.2**
LVZ pmax pmax
comp=Z,7.0nm,1.0s
CJR Cluj-Napoca 85.12 317⇓ *i*P **P 22 24 11.1 +2.1**
GZR Gura Zlata 85.46 316⇑ *i*P **P 22 24 11.7 +1.0**
VSU Vasula 85.65 329 *e*P **P 22 24 11.1 -0.1**
VSU pmax pmax
comp=Z,17nm,1.0s
KWP Kalwaria Pacla 86.21 320⇑ *i*P **P 22 24 15.0 +0.8**
BZS Buzias 86.31 316⇑ *i*P **P 22 24 15.5 +0.8**
UZH Uzhgorod 86.31 319 *e*P **P 22 24 14.5 -0.2**
KOLS Kolonicke sedl 86.37 319 *e*P **P 22 24 16.4 +1.4**
KOLS pmax pmax
comp=Z,20nm,1.1s
KOLS Kolonicke sedl 86.37 319 *e*P **P 22 24 16.3 +1.3**

FINES	FINESS Array B	86.66	332	P		P	22 24 15.9	-0.1	
	comp=Z,4.2nm,0.5s,baz=118,slow=5.6,SNR=62								
FINES	FINESS Array B	86.66	332	P		P	22 24 16.0	-0.1	
SUW	Suwalki	86.67	324	*e*P		P	22 24 15.7	-0.6	
SUW				pmax	pmax				
	comp=Z,18nm,0.9s								
SUW	Suwalki	86.67	324	*e*P		P	22 24 15.7	-0.6	
	comp=Z,18nm,0.9s								
STHS	Stebnicka Huta	87.12	320	*e*P		P	22 24 19.8	+1.2	
STHS				pmax	pmax				
	comp=Z,7.0nm,1.0s								
STHS	Stebnicka Huta	87.12	320	*e*P		P	22 24 19.8	+1.2	
DIVS	Divibare	87.24	314	⇓*i*P		P	22 24 20.1	+0.7	
PSZ	Piszkesteto	87.80	318	⇑*i*P		P	22 24 22.7	+0.7	
PKSM	Moragy	88.44	316	⇑*i*P		P	22 24 25.8	+0.9	
VYHS	Vyhne	88.57	319	*e*P		P	22 24 25.8	+0.3	
VYHS				pmax	pmax				
	comp=Z,4.0nm,1.3s								
VYHS	Vyhne	88.57	319	*e*P		P	22 24 25.8	+0.3	
ARA0	ARCESS Array S	88.72	340	*e*P		P	22 24 24.9	-0.9	
ARCES	ARCESS Array B	88.72	340	P		P	22 24 25.4	-0.4	
	comp=Z,11nm,0.9s,baz=100,slow=4.9,SNR=31								
STON	Ston	88.76	313	P		P	22 24 26.4	-0.1	
OKC	Ostrava-Krasne	89.17	320	*e*P		P	22 24 29.3	+1.1	
OKC	Ostrava-Krasne	89.17	320	*e*P		P	22 24 29.3	+1.1	
CEL	Celeste	89.73	308	*e*P		P	22 24 32.3	+1.1	
	comp=Z,32nm,1.0s								
KOGS	Kog	90.11	316	*i* P		P	22 24 33.6	+0.9	
DPC	Dobruska-Polom	90.39	320	*e*P		P	22 24 34.4	+0.4	
DPC	Dobruska-Polom	90.39	320	*e*P		P	22 24 34.4	+0.4	
CONA	Conrad Observa	90.49	318	⇑*i*PcP		PcP	22 24 35.1	-0.5	
	comp=Z,4.4nm,1.3s								
GCIS	Gornji Cirnik	90.50	316	*i* P		P	22 24 35.5	+0.9	
SOKA	Soboth	90.97	317	⇑*i*PcP		PcP	22 24 37.9	+0.2	
	comp=Z,6.8nm,1.0s								
LJU	Ljubljana	91.28	316	*i* P		P	22 24 39.2	+1.0	
PRU	Pruhonice	91.50	320	*e*P		P	22 24 39.7	+0.6	
PRU	Pruhonice	91.50	320	*e*P		P	22 24 39.7	+0.6	
AQU	L'Aquila	91.89	312	*e*P		P	22 24 41.4	+0.3	
AQU				pmax	pmax				
	comp=Z,13nm,1.0s								
AQU	L'Aquila	91.89	312	*e*P		P	22 24 41.4	+0.3	
	comp=Z,13nm,1.0s								
BRG	Berggiesshubel	91.93	321	*e*P		P	22 24 41.6	+0.5	
	comp=Z,2.5nm,0.7s								
BRG	Berggiesshubel	91.93	321	*e*P		P	22 24 41.6	+0.5	
BRG				pmax	pmax				
	comp=Z,3.0nm,0.7s								
KHC	Kasperske Hory	92.08	319	*e*P		P	22 24 42.0	+0.1	
KHC	Kasperske Hory	92.08	319	*e*P		P	22 24 42.0	+0.1	
NB2	NORSAR Subarra	93.73	331	P		P	22 24 48.5	-0.7	
	comp=Z,0.9nm,0.6s,baz=92,slow=4.6								
NOA	NORSAR Array B	93.73	331	P		P	22 24 48.8	-0.5	
	comp=Z,1.5nm,0.7s,baz=92,slow=4.7,SNR=9.7								
NOA				PP		PP	22 28 36.8	-0.2	
	comp=Z,1.0nm,0.9s,baz=95,slow=6.0,SNR=4.2								
KEST	Kesra	94.86	305	P		P	22 24 55.4	+0.4	
	comp=Z,2.2nm,1.0s,baz=70,slow=3.6,SNR=5.9								
KIP	Kipapa	99.61	69	*i* P		Pdif	22 25 15.6	-1.0	
KIP				pmax	pmax				
	comp=Z,65nm,1.3s								
TORD	Torodi Ar. Bea	101.71	283	P		Pdif	22 25 25.6	-0.4	
	comp=Z,0.2nm,0.7s,baz=85,slow=4.7,SNR=3.1								
I04A	Tendick Farm,	123.21	38	⇑PKiKP		PKPdf	22 30 28.6	0.0	
	baz=123								
J05D	Fort Rock, OR	124.21	38	⇓PKiKP		PKiKP	22 30 31.2	+0.2	
	baz=124								
M04C	Macdoel	124.62	40	⇑PKiKP		PKiKP	22 30 31.8	-0.1	
	baz=124								
EGMT	Eagleton	127.35	27	⇑PKiKP		PKiKP	22 30 36.7	-0.3	
	baz=127								
B20A	Solberg Farm,	127.81	26	⇑PKiKP		PKiKP	22 30 37.7	-0.2	
	baz=128								
C19A	Slack Wire Ran	127.89	27	⇑PKiKP		PKiKP	22 30 37.8	-0.3	
	baz=128								
NVAR	Mina Array Bea	128.70	42	PKP		PKPdf	22 30 39.4	-0.1	
	comp=Z,0.4nm,0.5s,baz=286,slow=2.4,SNR=4.7								
E19A	Rath Farm, Rou	128.95	28	⇑PKiKP		PKiKP	22 30 40.1	-0.2	
	baz=129								
BSC	Santa Cruz Isl	130.00	47	⇓PKiKP		PKiKP	22 30 42.9	+0.2	
	baz=130								
G20A	Bridger	130.13	29	⇑PKiKP		PKiKP	22 30 42.5	-0.3	
	baz=130								
BLG	Laguna Peak, P	130.36	47	⇑PKiKP		PKiKP	22 30 43.7	+0.3	
	baz=130								
MPMC	Manual Prospec	130.50	44	⇓PKiKP		PKiKP	22 30 43.5	-0.3	
	baz=130								
EDW2	Edwards Air Fo	130.76	45	⇑PKiKP		PKiKP	22 30 43.9	-0.3	
	baz=131								
TPNV	Topopah Spring	130.87	42	⇓PKiKP		PKiKP	22 30 44.2	-0.4	
	baz=131								
G22A	Birney	131.03	27	⇓PKiKP		PKiKP	22 30 44.5	0.0	
	baz=131								
I20A	Worland	131.11	30	⇑PKiKP		PKiKP	22 30 44.7	-0.1	
	baz=131								
PDAR	Pinedale Array	131.22	32	PKP		PKPdf	22 30 44.2	0.0	
	comp=Z,0.5nm,0.6s,baz=3.8,slow=0.5,SNR=4.6								
PDAR				SKPbc		SKPbc	22 33 47.9	-3.0	
	comp=Z,2.0nm,0.8s,baz=28,slow=2.2,SNR=15								
J20A	Shoshoni	131.56	30	⇑PKiKP		PKiKP	22 30 45.4	-0.3	
	baz=131								
I21A	Big Trails, Te	131.62	29	⇓PKiKP		PKiKP	22 30 45.4	-0.4	
	baz=132								
H24A	Dirks Ranch, A	132.18	26	⇑PKiKP		PKPdf	22 30 46.2	+0.5	
	baz=132								
J22A	Midwest	132.31	29	⇑PKiKP		PKPdf	22 30 46.4	+0.3	
	baz=132								
D30A	Buchanan	132.51	20	⇑PKiKP		PKiKP	22 30 46.8	-0.5	
	baz=132								
G26A	Maurine	132.58	24	⇓PKiKP		PKPdf	22 30 47.0	+0.5	
	baz=132								
I25A	Rochford	133.12	26	⇓PKiKP		PKiKP	22 30 48.4	-0.5	
	baz=133								
J25A	Sunshine Ranch	133.58	27	⇓PKiKP		PKiKP	22 30 49.2	-0.5	
	baz=133								
L23A	Garrett	133.66	30	⇑PKiKP		PKPdf	22 30 49.2	+0.3	
	baz=134								
H28A	Mission Ridge	133.73	24	⇓PKiKP		PKiKP	22 30 49.5	-0.4	
	baz=134								
O20A	White River Ci	133.77	33	⇑PKiKP		PKPdf	22 30 49.6	+0.6	
	baz=134								
PLCA	Paso Flores	135.75	187	SKPbc		SKPbc	22 34 05.0	-0.8	
	comp=Z,3.0nm,0.9s,baz=227,slow=3.7,SNR=5.8								
WMOK	Wichita Mounta	142.80	30	*e*PKiKP		PKPpre	22 31 01.0		
WMOK	Wichita Mounta	142.80	30	*e*PKPpre		PKPpre	22 31 00.9		
WMOK				*e*PKPdf		PKPdf	22 31 01.2	-4.3	
W35A	Tecumseh	143.38	28	⇑PKPdf		PKPbc	22 31 03.7	-0.5	
	baz=143								
329A	Wagon Wheel Ra	143.46	37	⇑PKPdf		PKPbc	22 31 04.5	-0.1	
	baz=143								
131A	Roby	143.52	34	⇓PKPdf		PKPbc	22 31 04.8	+0.1	
	baz=143								
Z32A	Haskell	143.55	33	⇓PKPdf		PKPbc	22 31 04.4	-0.3	
	baz=143								
230A	Sterling City	143.69	36	⇑PKPdf		PKPbc	22 31 05.2	0.0	
	baz=144								
W36A	Wetumka	143.69	27	⇑PKPdf		PKPbc	22 31 04.7	-0.3	
	baz=144								
TXAR	Lajitas Array	143.85	42	PKP		PKPbc	22 31 06.0	+0.2	
	comp=Z,1.8nm,0.6s,baz=217,slow=0.9,SNR=34								
TXAR				SKPbc		SKPbc	22 34 27.6	-0.5	
	comp=Z,1.1nm,0.9s,baz=266,slow=1.5,SNR=4.8								
Y34A	Reagan Ranch,	143.93	30	⇑PKPdf		PKPbc	22 31 05.5	-0.2	
	baz=144								
Z33A	Whitaker Ranch	143.94	32	⇑PKPdf		PKPab	22 31 05.5	+0.2	
	baz=144								
X35A	Drake	143.96	29	⇑PKPdf		PKPab	22 31 05.3	+0.1	
	baz=144								
ABTX	Abilene, Hawle	143.98	33	⇓PKPdf		PKPab	22 31 05.4	0.0	
	baz=144								
330A	Mertzon	144.00	36	⇑PKPdf		PKPab	22 31 05.5	-0.1	
	baz=144								
W37A	Quinton	144.05	26	⇓PKPdf		PKPab	22 31 05.6	+0.1	
	baz=144								
X36A	Centrahoma	144.11	28	⇑PKPdf		PKPab	22 31 05.8	0.0	
	baz=144								
231A	Bronte	144.11	35	⇑PKPdf		PKPab	22 31 06.1	+0.2	
	baz=144								
429A	Davenport Ranc	144.11	38	⇑PKPdf		PKPbc	22 31 06.4	-0.2	
	baz=144								
WCI	Wyandotte Cave	144.25	13	*e*PKiKP		PKPab	22 31 05.5	-0.7	
WCI	Wyandotte Cave	144.25	13	*e*PKPdf		PKPab	22 31 05.5	-0.7	
529A	Stev Forest Ra	144.26	39	⇓PKPdf		PKPbc	22 31 07.0	0.0	
	baz=144								
CFAA	Coronel Fontan	144.26	193	PKP		PKPdf	22 31 08.4	+0.2	
	comp=Z,1.8nm,0.6s,baz=174,slow=3.0,SNR=34								
CFAA				SKPbc		SKPbc	22 34 27.9	-1.0	
	comp=Z,0.5nm,0.8s,baz=216,slow=2.3,SNR=6.6								
Z34A	Collier Ranch,	144.31	31	⇓PKPdf		PKPbc	22 31 06.8	-0.1	
	baz=144								
133A	Hamilton Ranch	144.38	33	⇓PKPdf		PKPab	22 31 07.0	+0.1	
	baz=144								
430A	Baggett Ranch,	144.40	37	⇓PKPdf		PKPab	22 31 07.0	-0.1	
	baz=144								
W38A	Poteau	144.50	25	⇓PKPdf		PKPab	22 31 07.2	-0.1	
	baz=144								
PBMO	Poplar Bluff	144.51	19	*e*PKPdf		PKPab	22 31 06.1	-1.1	
331A	San Angelo	144.51	36	⇓PKPdf		PKPab	22 31 07.3	-0.1	
	baz=144								
232A	Coleman	144.53	34	⇓PKPdf		PKPab	22 31 07.3	-0.2	
	baz=144								
X37A	Clayton	144.54	27	⇑PKPdf		PKPab	22 31 07.2	-0.2	
	baz=144								
Z35A	Perchaven, San	144.68	30	⇓PKPdf		PKPab	22 31 07.4	-0.6	
	baz=144								
530A	J-C Ranch, Com	144.79	38	⇓PKPdf		PKPdf	22 31 08.9	-0.2	
	baz=145								
233A	Rising Star	144.84	33	⇓PKPdf		PKPbc	22 31 08.5	-0.2	
	baz=145								
332A	Millersview	144.85	35	⇓PKPdf		PKPdf	22 31 09.0	-0.2	
	baz=145								
431A	Sonora	144.85	37	⇓PKPdf		PKPbc	22 31 08.7	-0.1	
	baz=145								
134A	White-Moore Ra	144.86	32	⇑PKPdf		PKPbc	22 31 08.5	-0.2	
	baz=145								
CPUP	Villa Florida	144.88	212	*e*PKiKP		PKPdf	22 31 10.1	+0.8	
CPUP	Villa Florida	144.88	212	*e*PKPbc		PKPdf	22 31 10.1	+0.8	
432A	Menard	145.19	36	⇑PKPdf		PKPbc	22 31 09.9	+0.1	
	baz=145								
531A	Rocksprings	145.26	37	⇓PKPdf		PKPdf	22 31 09.8	-0.1	
	baz=145								
234A	Clairette	145.27	32	⇑PKPdf		PKPdf	22 31 09.9	0.0	
	baz=145								
333A	Richland Sprin	145.32	34	⇑PKPdf		PKPdf	22 31 10.0	0.0	
	baz=145								
MIAR	Mount Ida	145.35	24	*e*PKiKP		PKPdf	22 31 09.3	-0.6	
MIAR	Mount Ida	145.35	24	*e*PKPdf		PKPdf	22 31 09.3	-0.6	
JCT	Junction City	145.48	36	⇑PKPdf		PKPbc	22 31 10.8	+0.1	
	baz=145								
Z37A	Pogue Cattle C	145.58	28	⇑PKPdf		PKPdf	22 31 10.5	+0.2	
	baz=145								
BDFB	Brasilia	145.64	236	PKPbc		PKPab	22 31 12.2	0.0	
	comp=Z,5.2nm,0.5s,baz=104,slow=1.7,SNR=7.3								
532A	Rocksprings	145.67	37	⇑PKPdf		PKPdf	22 31 10.7	0.0	
	baz=146								
433A	Art	145.69	35	⇑PKPdf		PKPdf	22 31 10.7	+0.1	
	baz=146								
334A	Lometa	145.73	33	⇑PKPdf		PKPbc	22 31 11.1	-0.3	
	baz=146								
631A	Perdido Creek	145.78	38	⇑PKPdf		PKPbc	22 31 11.2	-0.4	
	baz=146								
Z38A	Mt. Pleasant	145.83	27	⇓PKPab		PKPdf	22 31 10.0	-0.7	
	baz=146								
WVT	Waverly	145.88	16	*e*PKP2		PKPdf	22 31 10.4	-0.3	
WVT	Waverly	145.88	16	*e*PKPdf		PKPdf	22 31 10.4	-0.3	
137A	Heron Place, G	146.01	29	⇑PKPab		PKPdf	22 31 10.7	-0.4	
	baz=146								
434A	Burnet	146.11	34	⇓PKPab		PKPbc	22 31 12.1	-0.5	
	baz=146								
632A	Uvalde	146.19	37	⇑PKPab		PKPbc	22 31 12.8	-0.1	
	baz=146								
Z39A	Irene McRaven,	146.20	26	⇓PKPab		PKPbc	22 31 12.4	-0.3	
	baz=146								
335A	Moody	146.21	32	⇑PKPab		PKPbc	22 31 12.8	0.0	
	baz=146								
533A	Kerrville	146.23	36	⇑PKPab		PKPbc	22 31 12.9	-0.1	
	baz=146								
138A	Matatall Enter	146.28	28	⇓PKPab		PKPbc	22 31 13.4	+0.4	
	baz=146								
TZTN	Tazewell	146.41	9	*e*PKPdf		PKPdf	22 31 12.1	+0.4	
336A	Riesel	146.43	32	⇑PKPab		PKPbc	22 31 13.8	+0.3	
	baz=146								
237A	Washetta, Mont	146.47	30	⇓PKPab		PKPdf	22 31 12.6	+0.8	
	baz=146								
139A	Bunkhouse Ranc	146.58	27	⇓PKPab		PKPbc	22 31 13.8	0.0	
	baz=146								
534A	Blanco	146.58	35	⇑PKPab		PKPbc	22 31 13.8	-0.1	
	baz=146								
633A	Saathoff Ranch	146.59	37	⇓PKPab		PKPbc	22 31 13.9	-0.1	
	baz=146								
732A	Laxson Ranch,	146.63	38	⇑PKPab		PKPbc	22 31 14.1	-0.1	
	baz=146								
238A	Jacksonville	146.80	29	⇓PKPab		PKPbc	22 31 14.8	+0.3	
	baz=147								
832A	Faith Ranch, C	146.94	39	⇑PKPab		PKPbc	22 31 15.3	+0.3	
	baz=147								
337A	Centerville	146.99	30	⇓PKPab		PKPbc	22 31 15.5	+0.5	
	baz=147								
535A	Dale	147.09	34	⇑PKPab		PKPbc	22 31 15.9	+0.5	
	baz=147								
239A	Gary	147.10	28	⇑PKPab		PKPbc	22 31 15.8	+0.5	
	baz=147								
SWET	Sewanee	147.22	14	*e*PKPdf		PKPdf	22 31 13.8	+0.6	
833A	Chaparral WMA,	147.28	38	⇓PKPab		PKPbc	22 31 16.6	+0.7	
	baz=147								
635A	Leesville	147.47	35	⇑PKiKP		PKPbc	22 31 17.4	+1.0	
	baz=147								
636A	Smothers Creek	147.80	34	⇑PKiKP		PKiKP	22 31 18.4	-0.7	
	baz=148								
933A	Laredo	147.85	39	⇓PKiKP		PKiKP	22 31 18.6	-0.7	
	baz=148								
340A	Bronson	147.87	28	⇓PKiKP		PKPbc	22 31 18.1	+0.7	
	baz=148								
834A	Tilden	147.94	38	⇑PKiKP		PKiKP	22 31 18.8	-0.6	
	baz=148								
439A	Center Grove,	147.97	30	⇑PKiKP		PKiKP	22 31 18.8	-0.6	
	baz=148								
538A	Harpers Horsep	148.06	31	⇓PKiKP		PKiKP	22 31 19.5	-0.1	
	baz=148								
KMSC	Kings Mountain	148.10	7	⇓PKiKP		PKiKP	22 31 19.7	+0.2	
	baz=148								
736A	Circle Diamond	148.19	35	⇑PKiKP		PKiKP	22 31 19.8	-0.1	
	baz=148								
034A	Hebbronville	148.61	39	⇑PKiKP		PKiKP	22 31 21.0	+0.2	
	baz=148								
035A	Encino	149.06	39	⇓PKiKP		PKiKP	22 31 22.4	+0.6	
	baz=149								
LPAZ	La Paz	158.60	204	PKP		PKPdf	22 31 31.3	+0.5	
	comp=Z,0.7nm,0.8s,baz=162,slow=3.2,SNR=3.8								
LPAZ				PKPab		PKPab	22 32 08.2	+1.5	
	comp=Z,0.7nm,0.7s,baz=79,slow=3.4,SNR=3.7								

MEX 13 22:51:24.9±0.6, 31°.88N×114°.95W, h16^{km}±999^{km}, MD3.6, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
SPIG	San Pedro Mart	0.94	208	*i* P	Pb	22 51 39.9	-3.5	
SPIG				*e*S	Sb	22 51 51.8	-4.1	
CBX	Cerro Bola	1.52	287	*e*P	Pn	22 51 48.0	-3.6	
CBX				*e*S	Sn	22 52 05.8	-5.4	

ISCJB 13 22:56:15.1±0.7, 28°.63N±0°.06×105°.54E±0°.08, h10^{km}, mb3.4/8, Error ellipse: s-maj=11.8km s-min=7.7km az=145.2

IDC 13 22:56:15.4±0.9, 28°.56N×105°.45E, h0^{km}, mb3.4/9, mb1 3.5/10, mb1mx3.4/36, mbtmp3.4/10, ML3.1/1, Error ellipse: s-maj=37.9km s-min=17.3km az=57.0

BJI 13 22:56:19.3, 28°.68N×105°.66E, h15^{km}, ML3.7/12

ISC 13 22:56:17.7±1.0, 28°.65N±0°.06×105°.68E±0°.07, h10^{km}, n13, σ1°56/17, mb3.5/8, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
CD2	Chengdu	2.80	324	Pg	Pb	22 57 09.4	+1.5	
CD2				Sn	Sn	22 57 37.5	+0.9	
CD2				Sg	Sg	22 57 46.3	-1.5	
CD2				SMN				
	440nm,0.8s							
CD2				SME				
	490nm,1.1s							
XAN	Xi'an	6.04	26	Pn	Pn	22 57 49.8	+2.6	
XAN				Pg	Pb	22 58 08.6	+5.5	
XAN				Sn	Sn	22 58 57.3	+0.8	
XAN				Sg	Sg	22 59 28.3	-3.4	
XAN				SMN				
	68nm,0.9s							
XAN				SME				
	30nm,1.0s							
SONM	Songino Array	19.16	1	P	P	23 00 42.1	+0.7	
	0.1nm,0.3s,baz=172,slow=11,SNR=2.2							
KSRS	Korea Array	20.57	59	P	P	23 00 57.9	+1.3	
	1.3nm,0.6s,baz=245,slow=11,SNR=7.3							
MKAR	Makanchi Array	25.73	321	P	P	23 01 47.3	-1.0	
	0.3nm,0.6s,baz=118,slow=15,SNR=3.1							
ZALV	Zalesovo Beam	29.52	335	P	P	23 02 20.7	-1.3	
	0.4nm,0.5s,baz=127,slow=9.6,SNR=2.8							
KURBB	Kurchatov Arra	30.02	324	P	P	23 02 25.4	-1.1	
	0.3nm,0.6s,baz=130,slow=9.9,SNR=3.5							
WRA	Warramunga Arr	55.68	147	P	P	23 05 53.9	-0.5	
	0.4nm,0.6s,baz=335,slow=8.4,SNR=9.7							
ASAR	Alice Springs	58.69	150	P	P	23 06 15.1	-0.6	
	0.3nm,0.6s,baz=338,slow=7.0,SNR=3.6							
FINES	FINESS Array B	60.36	327	P	P	23 06 25.6	-1.0	
	0.5nm,0.7s,baz=101,slow=8.0,SNR=3.9							
NB2	NORSAR Subarra	67.46	328	P	P	23 07 12.7	-0.8	
	comp=Z,0.3nm,0.5s,baz=72,slow=6.5							
NOA	NORSAR Array B	67.46	329	P	P	23 07 12.5	-1.0	
	comp=Z,0.3nm,0.6s,baz=74,slow=6.6,SNR=4.4							
YKA	Yellowknife Ar	83.62	18	P	P	23 08 45.8	-0.2	
	comp=Z,0.1nm,0.6s,baz=325,slow=5.1,SNR=3.2							

IDC 13 22:56:55.7±0.7, 36°.99S×73°.30W, h0^{km}, mb4.2/9, mb1 4.4/12, mb1mx4.3/19, mbtmp4.2/12, ML4.2/3, MS3.6/9, Ms1 3.6/9, ms1mx3.4/20, Error ellipse: s-maj=27.2km s-min=14.4km az=85.0

SJA 13 22:56:55.3±0.5, 36°.99S×73°.73W, h40^{km}, ML4.6

NEIC 13 22:56:59.0, 37°.02S×73°.29W, h29^{km}, mb4.4/6, After GUC.

NEIC Felt [III] at Cauquenes, Concepcion, Linares, Lota and Parral; [II] at Chanco and La Laja.

GUC 13 22:56:59.2±0.5, 37°.02S×73°.29W, h29^{km}±1^{km}, ML5.2

ISC 13 22:56:56.5±3.9, 36°.99S±0°.05×73°.39W±0°.09, h6^{km}±24^{km}, n83, σ1°21/83, mb4.3/12, MS3.8/5, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
CCSP	San Pedro de C	0.27	57	⇑*e*P	Pn	22 57 06.2	-0.8	
CCSP				*i* S	Sb	22 57 10.6	+2.1	
LNCH	Linares	1.84	52	*e*P	Pb	22 57 30.4	-0.1	
LNCH				*i* S	Sb	22 57 54.2	+0.5	
CANA	Caviahue	2.06	116	*i* P	Pn	22 57 33.2	+1.5	
CANA				*i* S	Sb	22 58 00.5	+0.3	
CANA				AML	AML	22 58 03.1		
	comp=Z,4μm,0.6s							
TALC	Talca	2.13	42	*i* P	Pn	22 57 34.6	+2.0	
TALC				*i* S	Sb	22 58 01.9	-0.2	
TALC				AML	AML	22 58 09.2		
	comp=E,23μm,0.5s							
NICH	Los Niches	2.65	42	*e*P	Pn	22 57 42.3	+2.6	
NICH				*i* S	Sb	22 58 15.2	-1.8	
NICH				AML	AML	22 58 27.7		
	comp=E,13μm,0.6s							
PLCA	Paso Flores	4.34	150	Pn	Pn	22 58 04.2	+1.1	
	comp=E,3.0nm,0.3s,baz=328,slow=10,SNR=23							
PLCA				Lg	Lg	22 59 11.7		
	comp=E,18nm,0.3s,baz=233,slow=16,SNR=3.1							
PLCA				LR	LR	22 59 59.2		
	comp=E,348nm,19.1s,baz=330,slow=43							
PLCA	Paso Flores	4.34	150	*e*Pn	Pn	22 58 04.4	+1.3	
PLCA	Paso Flores	4.34	150	*i* P	Pn	22 58 03.6	+0.6	
AAGR	Agrelo	5.40	45	*i* P	Pn	22 58 19.4	+1.7	
AAGR				*i* P	Pn	22 58 19.4	+1.7	
ARCO	CERRO ARCO	5.53	43	*i* P	Pn	22 58 20.7	+1.2	
ASAL	Salagasta	5.77	42	*i* P	Pn	22 58 24.0	+1.3	
AUSP	Aspallata	5.79	36	*i* P	Pn	22 58 24.5	+1.4	
RTLS	Leoncito	6.19	34	*i* P	Pn	22 58 30.0	+1.4	
RTCV	Cerro Valdivia	6.50	39	*i* P	Pn	22 58 33.0	+0.4	
CFAA	Coronel Fontan	6.86	40	Pn	Pn	22 58 37.2	-0.4	
	comp=E,0.9nm,0.3s,baz=220,slow=11,SNR=56							
CFAA				Sn	Sn	22 59 57.7	+1.7	
	comp=E,0.9nm,0.3s,baz=315,slow=16,SNR=2.5							
CFAA				LR	LR	23 01 27.0		
	comp=E,70nm,20.5s,baz=216,slow=40							
LCO	Las Campanas	8.27	17	*e*Pn	Pn	22 58 56.1	-1.2	
TRQA	Tornquist	9.13	100	*e*Pn	Pn	22 59 10.7	+1.9	
LVC	Limon Verde	14.85	16	Pn	Pn	23 00 27.1	-0.1	
	comp=E,8.5nm,0.3s,baz=197,slow=11,SNR=3.4							
LVC				LR

PDAR	**Pinedale Array**	**85.95**	**334**	P	**P**	**23 09 38.1**	**+0.6**
	comp=E,0.8nm,0.8s,baz=152,slow=4.0,SNR=6.5						
J20A	**Shoshoni**	**85.97**	**335**	P	**P**	**23 09 39.0**	**+1.6**
	baz=86						
G26A	**Maurine**	**86.05**	**340**	P	**P**	**23 09 38.2**	**+0.6**
	baz=86						
J19A	**Crowheart**	**86.22**	**335**	P	**P**	**23 09 39.8**	**+1.2**
	baz=87						
TORD	**Torodi Ar. Bea**	**86.25**	**71**	P	**P**	**23 09 38.4**	**-0.9**
	comp=E,0.8nm,1.0s,baz=228,slow=3.9,SNR=4.0						
TORD				LR	LR	23 48 10.8	
	comp=E,57nm,18.1s,baz=180,slow=36						
F27A	**Lemmon**	**86.43**	**340**	P	**P**	**23 09 40.4**	**+0.9**
	baz=87						
F24A	**Ekalaka**	**87.08**	**339**	P	**P**	**23 09 43.4**	**+0.7**
	baz=88						
E26A	**Carlson Angus**	**87.10**	**340**	P	**P**	**23 09 43.1**	**+0.4**
	baz=88						
C30A	**Mose, Pekin**	**87.25**	**343**	P	**P**	**23 09 44.1**	**+0.7**
	baz=88						
D26A	**Manning**	**87.61**	**341**	P	**P**	**23 09 45.9**	**+0.8**
	baz=88						
B30A	**Myrvik Farm, E**	**87.92**	**344**	P	**P**	**23 09 47.3**	**+0.7**
	baz=88						
A30A	**Hoffart Farm,**	**88.38**	**344**	P	**P**	**23 09 49.0**	**+0.3**
	baz=89						
ULM	**Lac du Bonnet**	**89.11**	**346**	P	**P**	**23 09 51.7**	**-0.4**
	comp=E,2.5nm,0.8s,baz=36,slow=3.1,SNR=4.1						
WRA	**Warramunga Arr**	**117.62**	**210**	PKP	**PKPdf**	**23 15 42.5**	**-1.4**
	comp=E,0.3nm,0.6s,baz=174,slow=1.0,SNR=4.2						
H11S2	**WAKE ISLAND Hyl**	**24.59**	**268**	T	T	01 33 03.3	
	baz=114						
H11S1	**WAKE ISLAND Hyl**	**24.60**	**268**	T	T	01 33 02.1	
	baz=114						
H11S3	**WAKE ISLAND Hyl**	**24.61**	**268**	T	T	01 33 04.5	
	baz=114						
AKASG	**Malin Array Be**	**125.00**	**49**	PKP	**PKPdf**	**23 15 56.9**	**0.0**
	comp=E,0.1nm,0.2s,baz=127,slow=0.3,SNR=3.0						
ABKAR	**Akbulak array**	**144.35**	**55**	*e*PKPdf	**PKPab**	**23 16 31.1**	**0.0**
ZALV	**Zalesovo Beam**	**157.32**	**35**	PKPbc	PKPdf	23 17 01.0	+8.3
	comp=E,0.8nm,0.7s,baz=327,slow=2.5,SNR=4.0						
ZALV				PKPab	**PKPab**	**23 17 23.8**	**-0.2**
	comp=E,1.1nm,0.5s,baz=304,slow=6.6,SNR=5.0						
MKAR	**Makanchi Array**	**159.49**	**54**	PKPab	**PKPab**	**23 17 33.5**	**-0.1**
	comp=E,0.8nm,0.8s,baz=321,slow=1.8,SNR=4.1						
SONM	**Songino Array**	**169.16**	**1**	PKPab	**PKPab**	**23 18 16.2**	**+0.1**
	comp=E,0.6nm,0.8s,baz=350,slow=3.4,SNR=5.4						

KRSC 13 23:16:37.9±1.1, 54°82N×164°44E, h45km±24km, ML3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.96**	**66**	*e*P	Pn	23 16 56.3	+1.3
BKI				*e*S	Sn	23 17 07.5	0.0
MKZ	**Mys Kozlova**	**1.59**	**262**	*e*P	Pn	23 17 06.7	+3.1
MKZ				*e*S	Sn	23 17 25.7	+2.8
KBTR	**Krutoberegovo**	**1.67**	**327**	*e*P	Pn	23 17 05.9	+1.2
KBTR				*e*S	Sn	23 17 24.7	-0.2
KZV	**Kizimen**	**2.41**	**279**	*e*P	Pn	23 17 18.6	+3.6
TUMR	**Tumrok**	**2.51**	**282**	*e*P	Pn	23 17 19.3	+2.9
KMNR	**Kamenistaya**	**2.58**	**293**	*e*P	Pn	23 17 21.5	+4.2
KMNR				*e*S	Sn	23 17 52.0	+4.5
KLY	**Klyuchi**	**2.62**	**306**	*e*P	Pn	23 17 20.4	+2.7
KLY				*e*S	Sn	23 17 49.5	+1.3
SRDR	**Sredinnyy**	**3.07**	**301**	*e*P	Pn	23 17 28.0	+4.0
SRDR				*e*S	Sn	23 18 03.0	+3.5
SPN	**Mys Shipunski**	**3.13**	**238**	*e*P	Pn	23 17 27.3	+2.7
SPN				*e*S	Sn	23 18 02.0	+1.3
NLC	**Nalytchevo**	**3.43**	**243**	*e*S	Sn	23 18 10.6	+2.5
ESO	**Esso**	**3.46**	**291**	*e*P	Pn	23 17 33.1	+3.9
SDLR	**Sedlovina**	**3.62**	**247**	*e*P	Pn	23 17 35.2	+3.6
SDLR				*e*S	Sn	23 18 15.7	+2.6
SMAR	**Somma**	**3.67**	**247**	*e*P	Pn	23 17 36.4	+4.0
SMAR				*e*S	Sn	23 18 17.8	+3.2
KRER	**Koryakskii**	**3.68**	**248**	*e*P	Pn	23 17 36.8	+4.3
UGLR	**Uglovaya**	**3.68**	**246**	*e*P	Pn	23 17 36.9	+4.5
UGLR				*e*S	Sn	23 18 18.6	+3.9
AVH	**Avacha**	**3.70**	**248**	*e*P	Pn	23 17 37.3	+4.7
AVH				*e*S	Sn	23 18 18.9	+3.8
KRX	**Arik**	**3.71**	**249**	*e*P	Pn	23 17 37.3	+4.5
KRX				*e*S	Sn	23 18 18.5	+3.1
KOK	**Koryaka**	**3.75**	**248**	*e*P	Pn	23 17 37.7	+4.4
GNL	**Ganaly**	**3.97**	**256**	*e*P	Pn	23 17 41.5	+5.1
GNL				*e*S	Sn	23 18 26.4	+4.6
RUS	**Russkaya**	**4.26**	**238**	*e*P	Pn	23 17 44.1	+4.0
MTVR	**Mutnovka**	**4.39**	**240**	*e*P	Pn	23 17 46.8	+4.6
MTVR				*e*S	Sn	23 18 35.7	+3.5
ASAK	**Asacha**	**4.59**	**241**	*e*P	Pn	23 17 50.1	+5.2

*ISCJB **13** 23:24:35.7±0.7, 17°.30S×0°.05×64°.47W×0°.09, h33km, mb3.9/3, MS3.9/1, Error ellipse: s-maj=12.8km s-min=6.8km az=9.3*
*SJA **13** 23:24:35.6±0.4, 17°.16S×64°.87W, h220km±97km, ML3.6*
*IDC **13** 23:24:38.1±3.4, 16°.93S×64°.57W, h35km±28km, mb3.8/3, mb1 4.1/7, mb1mx3.7/31, mbtmp4.1/7, ML4.2/4, MS3.6/3, Ms1 3.6/3, ms1mx3.0/20, Error ellipse: s-maj=35.0km s-min=23.6km az=155.0*
ISC 13 23:24:38.4±0.8, 17°.36S±0°.07×64°.27W±0°.09, h35km, n17, σ1§52/20, mb3.9/3, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIV	**San Ignacio**	**3.35**	**66**	Pn	**Pn**	**23 25 29.8**	**+1.4**
	14nm,0.3s,baz=277,slow=9.6,SNR=250						
SIV				Sn	Sn	23 26 19.2	+12
	56nm,0.3s,baz=360,slow=22,SNR=5.8						
LPAZ	**La Paz**	**3.85**	**286**	Pn	Pn	23 25 30.6	-5.1
	11nm,0.3s,baz=105,slow=9.2,SNR=222						
LPAZ				Sn	**Sn**	**23 26 20.5**	**+0.3**
	69nm,0.3s,baz=211,slow=24,SNR=7.9						
LPAZ				LR	LR	23 27 09.0	
	comp=Z,420nm,18.3s,baz=105,slow=44						
HJA	**Humahuaca**	**5.91**	**190**	*i* P	**Pn**	**23 26 05.5**	**+1.6**
HJA				*i* P	**Pn**	**23 26 05.5**	**+1.6**
HJA				*i* S	**Sn**	**23 27 11.5**	**+0.8**
ALOL	**LOMAS DE OLMED**	**6.43**	**178**	*i* P	**Pn**	**23 26 11.9**	**+1.3**
ALOL				*i* S	**Sn**	**23 27 24.4**	**+1.6**
ASTB	**Santa Barbara**	**6.56**	**182**	*i* P	**Pn**	**23 26 13.5**	**+0.9**
LVC	**Limon Verde**	**6.81**	**219**	Pn	**Pn**	**23 26 17.1**	**+1.0**
	20nm,0.3s,baz=37,slow=13,SNR=3.9						
LVC				LR	LR	23 29 06.3	
	comp=Z,465nm,20.2s,baz=35,slow=38						
AZAP	**Zapla**	**6.87**	**186**	*i* P	**Pn**	**23 26 17.4**	**+0.5**
AZAP				*i* S	**Sn**	**23 27 32.8**	**-1.2**
SLA	**San Lorenzo**	**7.41**	**189**	*i* P	**Pn**	**23 26 25.0**	**+0.7**
SLA				*i* S	**Sn**	**23 27 43.6**	**-3.7**
SLA				AML	AML	23 27 44.7	
	comp=Z,6.6nm,0.4s						
CFAA	**Coronel Fontan**	**14.63**	**194**	Pn	**P**	**23 28 09.3**	**+0.5**
	comp=Z,0.0nm,0.3s,baz=12,slow=14,SNR=2.9						
PTGA	**Pitinga**	**17.06**	**15**	Pn	Pn	23 28 29.6	-4.8
	comp=Z,0.8nm,0.3s,baz=344,slow=22,SNR=6.8						
TORD	**Torodi Ar. Bea**	**71.82**	**69**	P	**P**	**23 35 58.2**	**+0.1**
	comp=Z,2.1nm,0.9s,baz=250,slow=5.7,SNR=8.5						
TORD				LR	LR	00 05 51.3	
	comp=Z,54nm,18.1s,baz=200,slow=34						
ESDC	**Sonseca Array**	**79.83**	**43**	P	**P**	**23 36 43.5**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=266,slow=6.0,SNR=3.1						
YKA	**Yellowknife Ar**	**88.84**	**339**	P	P	23 37 25.2	-3.2
	comp=Z,0.5nm,0.8s,baz=126,slow=4.5,SNR=9.9						
ASAR	**Alice Springs**	**135.53**	**204**	PKP	**PKPdf**	**23 43 54.9**	**-0.9**
	comp=Z,0.4nm,0.9s,baz=125,slow=1.5,SNR=3.0						
ZALV	**Zalesovo Beam**	**136.35**	**26**	PKP	**PKPdf**	**23 43 53.8**	**-2.4**
	comp=Z,0.5nm,0.6s,baz=315,slow=2.3,SNR=3.3						
WRA	**Warramunga Arr**	**138.67**	**207**	PKP	**PKPdf**	**23 44 02.5**	**+0.9**
	comp=Z,0.5nm,0.9s,baz=153,slow=1.8,SNR=4.5						
SONM	**Songino Array**	**148.66**	**12**	PKPbc	**PKPbc**	**23 44 20.7**	**-1.3**
	comp=Z,1.8nm,1.0s,baz=311,slow=1.0,SNR=6.4						

*IDC **13** 23:34:29.6±4.3, 15°.94N×97°.22W, h0km, mb3.8/6, mb1 4.1/9, mb1mx3.9/30, mbtmp3.8/9, ML3.5/3, MS3.2/3, Ms1 3.3/3, ms1mx2.7/24, Error ellipse: s-maj=81.1km s-min=24.2km az=3.0*
*ISCJB **13** 23:34:31.1±1.0, 16°.02N±0°.06×97°.16W±0°.04, h16km±7km, mb4.0/11, MS3.2/2, Error ellipse: s-maj=9.8km s-min=6.4km az=14.7*
*NEIC **13** 23:34:34.0, 15°.99N×97°.18W, h20km, mb4.0/13, MD4.1(MEX), After MEX.*
NEIC Felt at Oaxaca and Puerto Escondido.

*MEX **13** 23:34:34.0±0.8, 15°.99N×97°.18W, h20km±199km, MD4.1*
ISC 13 23:34:29.9±1.4, 16°.03N±0°.05×97°.14W±0°.03, h0km±10km, n34, σ1§01/39, mb4.2/11, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**1.01**	**291**	*i* P	**Pg**	**23 34 49.4**	**0.0**
PNIG				*e*S	**Sg**	**23 35 01.8**	**-0.8**
PNIG	**Pinotepa**	**1.01**	**291**	*i* P	**Pg**	**23 34 49.4**	**0.0**
PNIG				*e*S	**Sg**	**23 35 01.8**	**-0.8**
HUIG	**Huatulco**	**1.03**	**105**	*i* P	**Pb**	**23 34 50.5**	**-0.1**
HUIG				*e*S	**Sg**	**23 35 03.5**	**+0.6**
HUIG	**Huatulco**	**1.03**	**105**	*i* P	**Pb**	**23 34 50.5**	**-0.1**
HUIG				*e*S	**Sg**	**23 35 03.5**	**+0.6**
VHO	**Vista Hermosa**	**1.11**	**21**	*i* P	**Pb**	**23 34 52.4**	**+0.3**
VHO				*e*S	**Sg**	**23 35 06.2**	**+0.6**
VHO	**Vista Hermosa**	**1.11**	**21**	*i* P	**Pb**	**23 34 52.4**	**+0.3**
VHO				*e*S	**Sg**	**23 35 06.2**	**+0.6**
OXX	**Oaxaca**	**1.12**	**21**	*i* P	**Pg**	**23 34 50.7**	**-0.8**
OXX				*e*S	**Sg**	**23 35 06.0**	**+0.1**
OXX	**Oaxaca**	**1.12**	**21**	*i* P	**Pg**	**23 34 50.7**	**-0.8**
OXX				*e*S	**Sg**	**23 35 06.0**	**+0.1**
CMIG	**Matias Romero**	**2.41**	**64**	Pn	**Pb**	**23 35 12.7**	**-1.5**
	13nm,0.3s,baz=242,slow=11,SNR=33						
CMIG				Sn	**Sb**	**23 35 45.9**	**+1.5**
	114nm,0.3s,baz=339,slow=22,SNR=17						
CMIG				LR	LR	23 36 21.6	
	comp=Z,366nm,20.5s,baz=310,slow=45						
ACX	**Acapulco**	**2.74**	**288**	*i* P	Pn	23 35 08.8	-6.4
ACX	**Acapulco**	**2.74**	**288**	*i* P	Pn	23 35 08.8	-6.4
TEIG	**Tepich**	**9.40**	**62**	Pn	**Pn**	**23 36 46.5**	**-0.2**
	1.6nm,0.3s,baz=239,slow=5.0,SNR=8.0						
TEIG				Sn	**Sn**	**23 38 31.7**	**-1.5**
	2.8nm,0.3s,baz=336,slow=20,SNR=4.5						
TXAR	**Lajitas Array**	**14.54**	**337**	Pn	**Pn**	**23 37 58.0**	**+0.8**
	0.0nm,0.3s,baz=154,slow=12,SNR=5.0						
JCT	**Junction City**	**14.59**	**351**	P	**Pn**	**23 38 00.3**	**+2.6**
ABTX	**Abilene, Hawle**	**16.68**	**353**	*e*P	**Pn**	**23 38 24.8**	**-0.3**
	18nm,1.0s						
MNTX	**Cornudas Mount**	**17.31**	**336**	*e*P	**P**	**23 38 34.2**	**-0.5**
	3.5nm,0.9s						
MSTX	**Muleshoe**	**18.57**	**345**	*e*P	**Pn**	**23 38 48.8**	**+0.1**
	6.5nm,0.8s						
MIAR	**Mount Ida**	**18.71**	**9**	*e*P	**P**	**23 38 48.7**	**-1.4**
	14nm,1.0s						
LAZ	**Ladron**	**20.38**	**336**	*e*P	Pn	23 39 10.3	-0.3
	3.3nm,1.1s						
TUC	**Tucson**	**20.40**	**325**	*e*P	Pn	23 39 11.0	+0.3
	5.1nm,0.9s						
TUC				*e*		23 39 20.1	
ANMO	**Albuquerque**	**20.61**	**338**	P	**P**	**23 39 10.8**	**-0.1**
	1.4nm,0.7s,baz=158,slow=14,SNR=4.6						
ANMO				LR	LR	23 47 58.1	
	comp=Z,60nm,21.4s,baz=182,slow=39						
ANMO	**Albuquerque**	**20.61**	**338**	*e*P	**P**	**23 39 10.6**	**-0.3**
	2.0nm,0.7s						
SDCO	**Great Sand Dun**	**22.86**	**343**	*e*P	**P**	**23 39 35.9**	**+0.7**
	4.1nm,0.9s						
KSU1	**Kansas State U**	**22.99**	**1**	P	**P**	**23 39 35.1**	**-1.1**
	5.4nm,0.6s						
WUAZ	**Wupatki**	**23.20**	**329**	*e*P	**P**	**23 39 40.6**	**+1.9**
	14nm,1.1s						
WUAZ				*e*		23 39 49.9	
MVCO	**Mesa Verde**	**23.37**	**337**	*e*P	P	23 39 51.5	+11
ISCO	**Idaho Springs**	**24.81**	**344**	*e*P	**P**	**23 39 55.6**	**+1.5**
	4.3nm,0.8s						
SRU	**San Rafael Swe**	**25.81**	**336**	*e*P	**P**	**23 40 04.3**	**+1.2**
	4.5nm,0.8s						
O20A	**White River Ci**	**25.89**	**340**	P	**P**	**23 40 04.9**	**+1.1**
	13nm,1.0s						
O20A				*e*		23 40 13.0	
PDAR	**Pinedale Array**	**28.69**	**341**	P	**P**	**23 40 30.8**	**+1.9**
	0.5nm,0.8s,baz=139,slow=9.8,SNR=3.6						
NVAR	**Mina Array Bea**	**29.05**	**324**	P	**P**	**23 40 33.2**	**+1.0**
	1.3nm,0.9s,baz=132,slow=9.6,SNR=6.0						
YKA	**Yellowknife Ar**	**48.01**	**349**	P	**P**	**23 43 09.8**	**-0.6**
	0.9nm,0.7s,baz=156,slow=7.2,SNR=14						
INK	**Inuvik**	**57.14**	**345**	P	**P**	**23 44 17.5**	**-0.5**
	1.7nm,0.7s,baz=132,slow=8.1,SNR=9.5						
ILAR	**Eielson Array**	**59.05**	**338**	P	**P**	**23 44 31.6**	**0.0**
	1.5nm,0.9s,baz=136,slow=4.8,SNR=9.8						
ILAR				LR	LR	00 12 45.4	
	comp=Z,40nm,18.5s,baz=164,slow=39						

GUC 14 00:03:22.7±0.6, 34°.58S×71°.92W, h24km±9km, ML3.5, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.71**	**127**	*e*P	Pn	00 03 40.3	+3.0
NICH				*e*S	Sn	00 03 58.0	+11
SAN	**Santiago**	**1.53**	**43**	*i* S	Sb	00 04 10.3	+0.7
SJCH	**San Jose de Ma**	**1.60**	**55**	*e*P	Pb	00 03 51.2	-0.6
CLCH	**Cerro Calan**	**1.65**	**45**	*i* P	Pb	00 03 51.6	-0.9
CLCH				*i* S	Sb	00 04 13.7	+0.8
COCH	**Cobquecura**	**1.71**	**204**	*i* P	Pb	00 03 52.4	-1.0
PEL	**Peldehue**	**1.76**	**36**	*i* P	Pb	00 03 53.3	-1.1
PEL				*i* S	Sn	00 04 14.7	+1.2
PEL				AML	AML	00 04 23.2	
	comp=N,863nm,0.4s						
ROCH	**El Roble**	**1.77**	**26**	*e*P	Pb	00 03 54.2	-0.6

CASC 14 00:07:01.8±1.5, 12°.84N×89°.00W, h27km±5km, MD3.6, 1C-3D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**0.78**	**355**	*e*P	Pb	00 07 16.9	-0.1
LFRS				*e*S	Sb	00 07 27.4	+0.1
SNVI	**San Vicente**	**0.78**	**11**	*e*P	Pb	00 07 16.8	-0.2
SNVI				*e*S	Sn	00 07 28.2	0.0
VSM	**San Miguel**	**0.91**	**50**	*e*P	Pn	00 07 18.5	-0.7
BOQS	**Boqueron**	**0.93**	**343**	*i* P	Pn	00 07 19.5	+0.1
BOQS				*e*S	Sn	00 07 32.5	+0.4
SBLS	**San Blas**	**1.16**	**328**	*e*P	Pn	00 07 22.6	0.0
SBLS				*e*S	Sb	00 07 38.7	+0.1
CAHU	**Cacacuatique**	**1.20**	**40**	*e*P	Pn	00 07 22.9	-0.2
CAHU				*e*S	Sb	00 07 39.9	+0.4
CNCH	**Conchagua**	**1.21**	**69**	*e*P	Pn	00 07 22.3	-0.9
RBDL	**Robledal**	**1.43**	**332**	*i* P	Pn	00 07 26.8	+0.6
IXG	**Ixpaco**	**1.94**	**313**	*e*P	Pn	00 07 33.2	-0.1
FUG	**Fuego 3**	**2.40**	**312**	*e*P	Pn	00 07 40.9	+1.3
FUG				*e*S	Sn	00 08 07.8	-0.6

*DHMR **14** 00:08:32.6±2.1, 12°.01N×43°.62E, h10km±12km, ML4.2*
*CSEM **14** 00:08:32.6, 12°.01N×43°.62E, h9km, ML4.2*
ISC 14 00:08:35.5±1.1, 12°.20N±0°.06×43°.56E±0°.06, h10km, n9, σ1§64/18, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**1.16**	**28**	*i* P	**Pb**	**00 08 55.9**	**-1.8**
TRBA				*i* S	**Sn**	**00 09 15.6**	**+1.6**
TRBA				AML	AML	00 09 21.7	
	comp=N,7μm,0.5s						
DHBB	**Dhamar BB**	**2.49**	**19**	*i* P	**Pb**	**00 09 19.4**	**-1.1**
DHBB				*i* S	**Sg**	**00 09 54.8**	**-0.7**
DHBB	**Dhamar BB**	**2.49**	**19**	*i* P	**Pb**	**00 09 19.4**	**-1.1**
DHBB				*i* S	**Sg**	**00 09 54.8**	**-0.7**
BDHA	**Al Bayda'**	**2.63**	**48**	*i* P	**Pn**	**00 09 18.8**	**+0.6**
BDHA				*i* S	**Sb**	**00 09 56.8**	**+1.4**
BDHA				AML	AML	00 10 07.3	
	comp=E,2μm,0.6s						
BDHA	**Al Bayda'**	**2.63**	**48**	*i* P	**Pn**	**00 09 18.8**	**+0.6**
BDHA				*i* S	**Sb**	**00 09 56.8**	**+1.4**
	comp=E,820nm,0.6s						
HAJJ	**Hajjah**	**3.48**	**1**	*i* P	**Pn**	**00 09 32.6**	**+2.7**
HAJJ				*i* S	**Sb**	**00 10 17.9**	**-1.8**
HAJJ				AML	AML	00 10 36.0	
	comp=Z,1μm,0.9s						
HAJJ	**Hajjah**	**3.48**	**1**	*i* P	**Pn**	**00 09 32.6**	**+2.7**
HAJJ				*i* S	**Sb**	**00 10 17.9**	**-1.8**
	comp=Z,539nm,0.9s						
MUKL	**Al Mukalla**	**5.79**	**66**	*i* P	**Pn**	**00 10 01.1**	**-0.4**
MUKL				*i* S	**Sn**	**00 11 08.7**	**+0.7**
MUKL				AML	AML	00 11 57.2	
	comp=Z,45nm,0.6s						
FURI	**Furi**	**5.82**	**236**	P	**Pb**	**00 10 17.4**	**+0.1**
FURI				S	**Sg**	**00 11 40.6**	**-1.9**

*CSEM **14** 00:23:31.3, 11°.97N×43°.80E, h12km, ML3.5*

DHMR 14 00:23:31.3±2.0, 11°.97N×43°.80E, h13km±11km, ML3.5, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**1.29**	**14**	*i* P	Pn	00 23 55.5	+0.1
TRBA				*i* S	Sg	00 24 13.2	-0.2
TRBA				AML	AML	00 24 17.1	
	comp=E,964nm,0.4s						
BDHA	**Al Bayda'**	**2.63**	**41**	*i* P	Pn	00 24 15.0	+1.1
BDHA				*i* S	Sb	00 24 52.5	+1.3
BDHA				AML	AML	00 24 59.6	
	comp=N,271nm,0.3s						
BDHA	**Al Bayda'**	**2.63**	**41**	*i* P	Pn	00 24 15.0	+1.1
BDHA				*i* S	Sb	00 24 52.5	+1.3
	comp=N,135nm,0.3s						
DHBB	**Dhamar BB**	**2.65**	**12**	*i* P	Pb	00 24 17.3	-1.7
DHBB				*i* S	Sb	00 24 52.2	+0.5
DHBB	**Dhamar BB**	**2.65**	**12**	*i* P	Pb	00 24 17.3	-1.7
DHBB				*i* S	Sb	00 24 52.2	+0.4
HAJJ	**Hajjah**	**3.71**	**357**	*i* P	Pn	00 24 31.7	+3.0
HAJJ				*i* S	Sn	00 25 17.4	+4.8
HAJJ	**Hajjah**	**3.71**	**357**	*i* P	Pn	00 24 31.7	+3.0
HAJJ				*i* S	Sb	00 25 17.4	-4.8

*DJA **14** 00:29:42.6±0.3, 3°.5S×10°.2E±°, h10km, M4.7/19, mb4.7/1, MLv4.6/19*
*ISCJB **14** 00:29:44.6±0.5, 2°.61S±0°.04×101°.80E±0°.04, h60km±5km, mb4.2/21, MS3.2/6, Error ellipse: s-maj=8.5km s-min=3.8km az=143.4*
*KLM **14** 00:29:44.2, 2°.61S×101°.62E, h10km, mb4.5, ML4.5, MS5.2*
*NEIC **14** 00:29:46.3±1.0, 2°.65S×101°.86E, h62km±8km, mb4.6/4, Error ellipse: s-maj=26.0km s-min=7.5km az=58.0*
*IDC **14** 00:29:47.4±2.9, 2°.64S×101°.88E, h69km±26km, mb3.8/16, mb1 3.9/18, mb1mx3.8/30, mbtmp4.1/18, MS3.2/8, Ms1 3.3/8, ms1mx3.0/37, Error ellipse: s-maj=28.7km s-min=12.7km az=46.0*
ISC 14 00:29:45.9±1.0, 2°.65S±0°.05×101°.83E±0°.06, h55km±10km, n58, σ1§47/63, mb4.3/21, MS3.2/6, 5D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASI	**Maura Aman, Be**	**0.63**	**140**	P	Pn	00 29 54.2	-4.9
MASI				S	**Sn**	**00 30 05.2**	**-3.4**
SDSI	**Sungai Dareh**	**1.76**	**347**	P	Pn	00 30 11.3	-2.6
SDSI				S	**Sn**	**00 30 33.4**	**-1.8**
MNAI	**Manna**	**2.03**	**147**	P	**Pn**	**00 30 17.5**	**-0.3**
MNAI	**Manna**	**2.03**	**147**	*e*Pn	**Pn**	**00 30 16.8**	**-1.0**
MNAI				*e*Sn	**Sn**	**00 30 43.8**	**+1.8**
LHSI	**Lahat**	**2.05**	**125**	P	**Pn**	**00 30 17.8**	**-0.2**
JMBI	**JAMBI**	**2.07**	**61**	P	**Pn**	**00 30 17.4**	**-0.9**
JMBI				S	**Sn**	**00 30 44.3**	**+1.3**
PMBI	**Palembang**	**2.95**	**95**	P	**Pn**	**00 30 30.1**	**-0.2**
PMBI				S	**Sn**	**00 31 04.2**	**-0.3**
MDSI	**Maura Dua**	**2.97**	**128**	P	**Pn**	**00 30 30.4**	**-0.1**
MDSI				S	**Sn**	**00 31 07.5**	**+2.6**
BKNI	**Bangkinang**	**3.06**	**345**	P	**Pn**	**00 30 30.7**	**-1.1**
BKNI				S	**Sn**	**00 31 07.7**	**+0.4**
BKNI	**Bangkinang**	**3.06**	**345**	*e*Pn	**Pn**	**00 30 34.0**	**+2.2**
BKNI				*e*Sn	**Sn**	**00 31 11.4**	**+4.1**
LWLI	**Liwa**	**3.23**	**137**	P	**Pn**	**00 30 35.3**	**+1.0**
KLSI		**3.53**	**125**	P	**Pn**	**00 30 40.6**	**+2.4**
KLSI				S	**Sn**	**00 31 21.5**	**+2.7**
KLI	**Kotabumi**	**3.73**	**126**	P	**Pn**	**00 30 42.2**	**+1.2**
KASI	**Kota Agung**	**3.90**	**137**	P	**Pn**	**00 30 43.8**	**+0.5**
MNSI	**Mandailing Nat**	**4.10**	**327**	P	**Pn**	**00 30 46.0**	**0.0**
PPBI	**Pangkal Pinang**	**4.33**	**84**	P	**Pn**	**00 30 46.7**	**-2.5**
PPBI				S	**Sn**	**00 31 40.9**	**+2.5**
TPRI	**Tanjung Pinang**	**4.46**	**37**	P	**Pn**	**00 30 49.2**	**-1.7**
KGM	**Kluang**	**4.87**	**18**	P	**Pn**	**00 30 56.0**	**-0.6**
GSI	**Gunungsitoli**	**5.79**	**313**	S	**Sn**	**00 32 14.6**	**+0.2**
TPI	**Tanjungpandan**	**5.82**	**91**	P	**Pn**	**00 31 07.5**	**-2.1**
FRIM	**Kepong**	**5.85**	**358**	P	**Pn**	**00 31 11.9**	**+1.7**
PSI	**Prapat**	**6.15**	**332**	P	**Pn**	**00 31 13.8**	**-0.4**
	0.9nm,0.3s,baz=170,slow=11,SNR=2.7						
PSI				LR	LR	00 33 54.1	
	comp=Z,418nm,19.4s,baz=152,slow=41						
LEM	**Lembang**	**7.10**	**126**	P	**Pn**	**00 31 29.6**	**+2.2**
	2.0nm,0.3s,baz=330,slow=20,SNR=3.5						
LEM				LR	LR	00 35 04.7	
	comp=Z,199nm,18.4s,baz=282,slow=45						
IPM	**Ipoh**	**7.13**	**354**	P	**Pn**

*IDC **14** 00:36:08.6±3.8, 27°.35N×54°.89E, h0km, mb3.6/3, mb1 3.6/3, mb1mx3.2/24, mbtmp3.6/3, MS2.5/1, Ms1 2.5/1, ms1mx2.1/35, Error ellipse: s-maj=99.5km s-min=35.2km az=143.0*
*DSN **14** 00:36:08.6±6.8, 27°.57N×55°.13E, h15km, mb3.0/6, ML3.5/2, Error ellipse: s-maj=6.0km s-min=3.5km az=10.0*
*ISCJB **14** 00:36:09.7±0.9, 27°.40N±0°.09×54°.9E±0°.2, h20km, mb3.6/3, Error ellipse: s-maj=21.7km s-min=9.3km az=150.5*

ISC 14 00:36:11.4±1.0, 27°.4N±0°.1×55°.0E±0°.1, h20km, n9, σ0§64/9, mb3.5/3, 6D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BANOM	**Banah** SNR=50	**1.82**	**141**	⇓*eP*	**Pn**		**00 36 41.5**	**-0.1**
BANOM				⇓S	**Sb**		**00 37 06.2**	**-0.3**
NAZ	**Nazwa, Dubai**	**2.42**	**166**	⇓P	**Pn**		**00 36 50.7**	**+0.7**
HATD	**Hatta, Dubai**	**2.71**	**158**	⇓P	**Pn**		**00 36 53.9**	**0.0**
ASUD	**Al Ashush, Dub** SNR=11	**2.73**	**174**	⇓*eP*	**Pn**		**00 36 54.9**	**+0.8**
ASHO	**Ashiyiah** SNR=14	**2.81**	**161**	⇓*iP*	**Pn**		**00 36 55.2**	**-0.1**
GEYT	**Alibeck** comp=Z,26nm,20.4s,baz=235,slow=35	**10.86**	**13**	LR	LR		00 42 34.5	
ZALV	**Zalesovo Beam** 0.6nm,0.4s,baz=240,slow=8.0,SNR=5.1	**34.41**	**31**	P	**P**		**00 42 58.0**	**+0.8**
FINES	**FINESS Array B** 0.7nm,0.8s,baz=165,slow=12,SNR=4.7	**39.21**	**338**	P	**P**		**00 43 37.8**	**-0.2**
TORD	**Torodi Ar. Bea** 0.3nm,0.5s,baz=65,slow=7.4,SNR=5.7	**51.64**	**265**	P	**P**		**00 45 16.3**	**-0.8**

IDC 14 00:39:25.3±2.0, 1°.88N×126°.66E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/31, mbtmp3.6/3, Error ellipse: s-maj=165.8km s-min=25.1km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 1.2nm,0.7s,baz=340,slow=11,SNR=8.4	**22.96**	**161**	P	P		00 44 30.2	-1.2
ASAR	**Alice Springs** 0.6nm,0.4s,baz=350,slow=14,SNR=6.5	**26.35**	**165**	P	P		00 45 04.3	+1.0
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=134,slow=6.2,SNR=7.1	**59.03**	**326**	P	P		00 49 27.0	-0.1

MEX 14 00:44:45.0±0.7, 18°.57N×102°.34W, h16km±999km, MD3.9, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.99**	**254**	*i* P		Pb	00 45 00.6	-3.1
MMIG				*i* S		Sb	00 45 12.5	-4.1
ZIIG	**Zihuatanejo**	**1.27**	**139**	*i* P		Pn	00 45 04.4	-3.6
ZIIG				*i* S		Sb	00 45 19.3	-5.3
EZ5V		**1.50**	**308**	*i* P		Pn	00 45 08.3	-3.3
EZ5V				*i* S		Sn	00 45 25.2	-5.9
R15V		**1.67**	**291**	*e*P		Pn	00 45 10.7	-2.9
R15V				*i* S		Sn	00 45 29.1	-5.6

*ISCJB **14** 01:01:16.3±0.5, 42°.32N±0°.03×126°.32W±0°.05, h10km, mb3.9/15, MS3.5/5, Error ellipse: s-maj=5.8km s-min=4.2km az=147.5*
*IDC **14** 01:01:16.9±1.2, 42°.45N×126°.15W, h0km, mb3.7/9, mb1 3.8/15, mb1mx3.7/42, mbtmp3.7/15, ML3.3/5, MS3.2/11, Ms1 3.2/11, ms1mx3.0/31, Error ellipse: s-maj=28.7km s-min=8.6km az=33.0*
*NEIC **14** 01:01:18.1±0.7, 42°.32N×126°.32W, h10km, mb4.0/14, Error ellipse: s-maj=10.2km s-min=5.6km az=50.0*

ISC 14 01:01:18.3±0.8, 42°.31N±0°.07×126°.29W±0°.07, h10km, n100, σ1§57/93, mb4.0/15, MS3.5/5, 9C-3D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**1.54**	**93**	*e*Pn		**Pn**	**01 01 43.4**	**-2.4**
KEBM	**Edson Butte**	**1.55**	**68**	*e*Pn		**Pn**	**01 01 44.1**	**-1.9**
KSXB	**Camp Six Broad**	**1.86**	**104**	P		**Pn**	**01 01 48.2**	**-2.1**
L02D	**Cave Junction,** baz=2.0,SNR=34	**2.00**	**93**	P		**Pn**	**01 01 50.7**	**-1.5**
L02D				⇑S		**Sn**	**01 02 17.7**	**+0.4**
KTRM	**Thompson Ridge** baz=2.0	**2.21**	**100**	P		**Pn**	**01 01 53.1**	**-2.0**
DBO	**Dodson Butte**	**2.39**	**69**	P		**Pn**	**01 01 56.7**	**-0.9**
KHMM	**Horse Mountain**	**2.40**	**126**	*e*Pn		**Pn**	**01 01 54.7**	**-3.1**
RNO	**Roman Nose**	**2.46**	**49**	P		**Pn**	**01 01 57.3**	**-1.2**
HUMO	**Hull Mountain**	**2.48**	**82**	*e*Pn		**Pn**	**01 01 57.7**	**-1.1**
I03D	**Drain, OR** baz=2.6,SNR=142	**2.56**	**56**	P		**Pn**	**01 01 58.5**	**-1.3**
I03D				⇑S		**Sn**	**01 02 30.1**	**-1.0**
M02C	**Callahan** baz=2.7,SNR=21	**2.73**	**109**	⇑P		**Pn**	**01 02 01.0**	**-1.2**
BBOR	**Butler Butte**	**2.73**	**77**	P		**Pn**	**01 02 02.1**	**-0.2**
YBH	**Yreka Blue Hor** 10.0nm,0.3s,baz=309,slow=12,SNR=76	**2.73**	**101**	Pn		**Pn**	**01 02 01.7**	**-0.5**
YBH				LR		LR	01 02 30.3	
YBH	comp=Z,107nm,21.5s,baz=318,slow=28 baz=311,slow=20,SNR=2.0			Sn		**Sn**	**01 02 34.6**	**-0.8**
YBH	5.3nm,0.3s,baz=207,slow=19,SNR=3.6			Lg		Lg	01 02 39.9	
N02D	**Trinity Center** baz=3.0,SNR=9.2	**3.00**	**115**	⇑P		**Pn**	**01 02 04.2**	**-1.8**
COR	**Corvallis**	**3.15**	**43**	*e*Pn		**Pn**	**01 02 06.5**	**-1.4**
COR				*e*Sn		**Sn**	**01 02 43.6**	**-1.8**
I04A	**Tendick Farm,** baz=3.2,SNR=29	**3.21**	**61**	P		**Pn**	**01 02 08.6**	**-0.2**
I04A				⇑S		**Sn**	**01 02 48.8**	**+1.8**
J04D	**Umpqua Nationa** baz=3.2,SNR=98	**3.22**	**72**	⇓P		**Pn**	**01 02 09.4**	**+0.4**
WDC	**Whiskeytown Da**	**3.31**	**120**	*e*Pn		**Pn**	**01 02 09.3**	**-0.8**
M04C	**Macdoel** baz=3.4,SNR=19	**3.36**	**98**	⇓P		**Pn**	**01 02 10.5**	**-0.4**
G03D	**McMinnville, O** baz=3.6,SNR=14	**3.64**	**36**	⇑P		**Pn**	**01 02 14.0**	**-0.6**
G03D				⇑S		**Sn**	**01 02 58.0**	**+0.4**
H04A	**Detroit Lake**	**3.81**	**50**	*e*Pn		**Pn**	**01 02 16.8**	**-0.3**
J05D	**Fort Rock, OR** baz=3.9,SNR=19	**3.85**	**74**	⇑P		**Pn**	**01 02 17.4**	**-0.3**
K05A	**Summer Lake**	**4.01**	**82**	*e*Pn		**Pn**	**01 02 19.7**	**-0.2**
F04D	**Rainier, OR** baz=4.4	**4.45**	**31**	⇓P		**Pn**	**01 02 25.7**	**-0.1**
F04A	**Amboy**	**4.57**	**36**	*e*Pn		**Pn**	**01 02 27.5**	**0.0**
G05D	**Wamic, OR** baz=4.6,SNR=5.6	**4.64**	**49**	⇑P		**Pn**	**01 02 28.3**	**-0.2**
E03A	**Lebam**	**4.66**	**24**	*e*Pn		**Pn**	**01 02 27.6**	**-1.0**
G06A	**Carlson Farm,**	**5.03**	**53**	*e*Pn		**Pn**	**01 02 33.8**	**0.0**
I07A	**Izee**	**5.27**	**68**	*e*Pn		**Pn**	**01 02 38.1**	**+0.9**
LON	**Longmire**	**5.47**	**34**	*e*Pn		**Pn**	**01 02 40.3**	**+0.4**
LON				*e*Sn		**Sn**	**01 03 41.0**	**-2.0**
WVOR	**Wild Horse Val**	**5.67**	**86**	*e*Pn		**Pn**	**01 02 40.7**	**-2.0**
D05A	**Enumclaw**	**5.76**	**31**	*e*Pn		**Pn**	**01 02 44.8**	**+1.0**
G08A	**Pilot Rock**	**6.08**	**58**	*e*Pn		**Pn**	**01 02 49.4**	**+1.0**
B06A	**Marblemount**	**7.07**	**27**	*e*Pn		**Pn**	**01 03 02.5**	**+0.8**
NVAR	**Mina Array Bea** 0.3nm,0.3s,baz=294,slow=14,SNR=13	**7.22**	**120**	Pn		**Pn**	**01 03 04.5**	**+0.4**
MFID	**Camas Ranch**	**7.77**	**78**	*e*Pn		**Pn**	**01 03 13.1**	**+1.6**
B08A	**Colville Reser**	**7.78**	**37**	*e*Pn		**Pn**	**01 03 12.1**	**+0.5**
ELK	**Elko** 0.1nm,0.3s,baz=345,slow=4.7,SNR=6.6	**8.44**	**97**	Pn		**Pn**	**01 03 22.0**	**+1.2**
ELK				LR		LR	01 07 00.3	
NEW	**Newport** comp=Z,190nm,18.7s,baz=239,slow=40	**8.78**	**44**	LR		LR	01 06 56.9	
HLID	**Hailey**	**8.80**	**78**	*e*Pn		**Pn**	**01 03 28.2**	**+2.4**
R11A	**Troy Canyon, C**	**9.08**	**112**	*e*Pn		**Pn**	**01 03 30.5**	**+0.9**
BBB	**Bella Bella** comp=Z,96nm,18.0s,baz=238,slow=34	**9.96**	**354**	LR		LR	01 06 53.3	
BGU	**Big Grassy Mou**	**10.03**	**93**	*e*Pn		**Pn**	**01 03 43.3**	**+0.8**
HVU	**Hansel Valley**	**10.07**	**88**	*e*Pn		**Pn**	**01 03 43.6**	**+0.5**
MCMT	**McKenzie Canyo** 1.9nm,0.9s	**10.08**	**71**	*e*Pn		**Pn**	**01 03 41.9**	**-1.3**
DLMT	**Dillon**	**10.35**	**68**	*e*Pn		**Pn**	**01 03 45.9**	**-1.1**
DUG	**Dugway, Tooele**	**10.37**	**97**	*e*Pn		Pn	01 03 43.1	-4.0
SHPR	**Sheep Range**	**10.38**	**120**	*e*Pn		**Pn**	**01 03 48.1**	**+0.8**
LRM	**Limekiln Ridge**	**10.56**	**66**	*e*Pn		**Pn**	**01 03 51.1**	**+1.3**
HWUT	**Hardware Ranch**	**10.99**	**89**	*e*Pn		Pn	01 03 51.0	-4.8
BOZ	**Bozeman (W)** 3.7nm,0.7s	**11.08**	**68**	*e*Pn		**Pn**	**01 03 57.8**	**+1.0**
LDFC	**Landfair** 13nm,0.9s	**11.33**	**126**	*e*Pn		**Pn**	**01 03 60.0**	**-0.3**
IMW	**Indian Meadow**	**11.34**	**77**	*e*Pn		**Pn**	**01 04 00.1**	**-0.5**
MVU	**Marysvale**	**11.39**	**105**	*e*Pn		Pn	01 04 04.5	+3.3
MSU	**Marysvale** 22nm,1.6s	**11.41**	**105**	*e*Pn		**Pn**	**01 04 03.3**	**+1.9**
LOHW	**Long Hollow**	**11.57**	**78**	*e*Pn		**Pn**	**01 04 03.9**	**+0.3**
PFO	**Pinyon Flats O** comp=Z,49nm,19.1s,baz=166,slow=38	**11.64**	**135**	LR		LR	01 08 34.0	
BW06	**Boulder Array** 4.8nm,1.2s	**12.36**	**82**	*e*Pn		**Pn**	**01 04 13.7**	**-0.7**
PDAR	**Pinedale Array** 0.0nm,0.3s,baz=284,slow=7.3,SNR=8.4	**12.36**	**82**	Pn		**Pn**	**01 04 15.8**	**+1.4**
PDAR				LR		LR	01 09 20.4	
GCMT	**Greycliff** 4.4nm,0.9s	**12.46**	**68**	*e*Pn		**Pn**	**01 04 16.5**	**+0.8**
PV01	**Paradox Valley** 476nm,0.9s	**14.16**	**101**	*e*Pn		**Pn**	**01 04 40.0**	**+0.8**
MVCO	**Mesa Verde**	**14.60**	**105**	*e*Pn		**Pn**	**01 04 47.9**	**+2.9**
ISCO	**Idaho Springs** 3.3nm,1.0s	**15.80**	**92**	*e*Pn		**Pn**	**01 05 00.6**	**-0.5**
DLBC	**Dease Lake** 0.1nm,0.3s,baz=183,slow=19,SNR=2.0	**16.32**	**353**	Pn		**Pn**	**01 05 06.3**	**-1.1**
SDCO	**Great Sand Dun** 36nm,1.8s	**16.55**	**99**	*e*Pn		**P**	**01 05 12.3**	**-1.0**
LAZ	**Ladron Peak** 12nm,1.8s	**16.95**	**111**	*e*Pn		**P**	**01 05 19.6**	**+1.9**
ANMO	**Albuquerque** 0.1nm,0.3s,baz=326,slow=7.9,SNR=5.9	**17.13**	**109**	P		**Pn**	**01 05 18.4**	**+0.5**
ANMO	comp=Z,219nm,18.1s,baz=304,slow=40			LR		LR	01 12 33.1	
ANMO	**Albuquerque** 13nm,1.7s	**17.13**	**109**	*e*Pn		**P**	**01 05 20.9**	**+1.3**
T25A	**Trinidad** 15nm,1.4s	**17.59**	**100**	*e*Pn		**P**	**01 05 26.6**	**+1.8**
121A	**Cookes Peak, D** 3.9nm,0.8s	**17.61**	**118**	*e*Pn		**Pn**	**01 05 21.9**	**-2.0**
FFC	**Flin Flon** 12nm,1.2s	**20.21**	**44**	*e*P		**P**	**01 05 53.2**	**+0.1**
AMTX	**Amarillo** 13nm,1.1s	**20.57**	**103**	*e*P		Pn	01 05 58.9	-0.7
YKA	**Yellowknife Ar** 4.5nm,0.8s,baz=204,slow=11,SNR=32	**21.37**	**15**	P		**P**	**01 06 04.3**	**-1.2**
ECSD	**EROS Data Cent** 10nm,1.0s	**21.70**	**76**	*e*P		**P**	**01 06 10.5**	**+1.3**
AGMN	**Agassiz Nation** 8.4nm,0.9s	**22.13**	**64**	*e*P		**P**	**01 06 15.5**	**+1.6**
ULM	**Lac du Bonnet** 2.9nm,0.8s,baz=284,slow=12,SNR=4.0	**22.35**	**59**	P		**P**	**01 06 15.6**	**-0.6**
ULM	**Lac du Bonnet** 9.0nm,1.1s	**22.35**	**59**	*e*P		**P**	**01 06 18.5**	**+2.3**
TXAR	**Lajitas Array** 0.7nm,0.7s,baz=295,slow=8.8,SNR=3.6	**22.37**	**118**	P		**P**	**01 06 16.6**	**-0.1**
TXAR	comp=Z,66nm,21.2s,baz=0.0,slow=39			LR		LR	01 15 51.7	
SML	**Sawmill** 3.2nm,0.5s	**23.55**	**334**	*e*P		**P**	**01 06 33.0**	**+4.5**
MCK	**McKinley** 8.1nm,1.2s	**25.15**	**336**	*e*P		**P**	**01 06 43.6**	**+0.3**
ILAR	**Eielson Array** 0.4nm,0.8s,baz=152,slow=7.9,SNR=3.7	**25.37**	**339**	P		**P**	**01 06 44.2**	**-1.1**
FCC	**Fort Churchill**	**25.91**	**39**	*e*P		**P**	**01 06 52.0**	**+1.8**
INK	**Inuvik** 2.4nm,1.1s	**26.34**	**354**	*e*P		**P**	**01 06 54.3**	**+0.4**
PETK	**Petropavlovsk-** 1.0nm,0.4s,baz=53,slow=15,SNR=3.1	**49.97**	**310**	P		**P**	**01 10 12.5**	**+0.3**
H11N3	**WAKE ISLAND Hy** baz=51,slow=75,SNR=164	**59.98**	**270**	T		T	02 16 17.9	
H11N2	**WAKE ISLAND Hy** baz=51,slow=75,SNR=122	**59.99**	**270**	T		T	02 16 00.0	
H11N1	**WAKE ISLAND Hy** baz=51,slow=75,SNR=137	**60.00**	**270**	T		T	02 16 01.1	
H11S1	**WAKE ISLAND Hy** baz=51,slow=75,SNR=79	**60.89**	**269**	T		T	02 17 08.5	
H11S2	**WAKE ISLAND Hy** baz=51,slow=75,SNR=52	**60.89**	**269**	T		T	02 17 10.2	
H11S3	**WAKE ISLAND Hy** baz=51,slow=75,SNR=46	**60.90**	**269**	T		T	02 17 11.9	
PPT	**Papeete** comp=Z,29nm,19.4s,baz=355,slow=30	**63.34**	**205**	LR		LR	01 33 24.4	
ARCES	**ARCESS Array B** 1.8nm,0.9s,baz=342,slow=14,SNR=3.0	**66.55**	**10**	P		**P**	**01 12 07.8**	**-0.1**
ARCES	comp=Z,18nm,19.9s,baz=350,slow=36			LR		LR	01 41 05.1	
NOA	**NORSAR Array B** 0.5nm,0.9s,baz=339,slow=8.1,SNR=2.3	**71.36**	**20**	P		**P**	**01 12 37.3**	**-0.7**
HFS	**Hagfors** 1.1nm,0.9s,baz=241,slow=18,SNR=2.8	**72.77**	**20**	P		**P**	**01 12 45.1**	**-1.3**
FINES	**FINESS Array B** 0.9nm,0.9s,baz=319,slow=18,SNR=3.0	**74.19**	**13**	P		**P**	**01 12 53.2**	**-1.5**
FINES	comp=Z,22nm,18.2s,baz=91,slow=35			LR		LR	01 43 55.8	
HHC	**Hu-ho-hao-te**	**82.09**	**320**	*e*P		**P**	**01 13 38.8**	**-0.2**
HHC				PP		**PP**	**01 16 48.1**	**+1.8**
HHC	**Hu-ho-hao-te**	**82.09**	**320**	S		**S**	**01 23 50.1**	**-3.6**
HHC	**Hu-ho-hao-te**	**82.09**	**320**	SKS		**SKSac**	**01 23 53.9**	**-5.8**
HHC	**Hu-ho-hao-te**	**82.09**	**320**	sS		**S**	**01 23 58.1**	**+4.4**
HHC	**Hu-ho-hao-te**	**82.09**	**320**	SS		SS	01 29 11.3	-0.5
HHC	comp=Z,13nm,1.3s			pmax		pmax		
HHC	comp=Z,85nm,5.6s			pmax		pmax		
HHC	comp=N,80nm,15.3s			LR		LR		
HHC	comp=E,89nm,15.9s			LR		LR		
HHC	comp=Z,34nm,14.7s			LR		LR		

*IDC **14** 01:16:37.6±0.7, 12°.59N×143°.29E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.7/39, mbtmp3.8/9, MS2.6/1, Ms1 2.6/1, ms1mx2.2/30, Error ellipse: s-maj=25.5km s-min=16.3km az=111.0*
*ISCJB **14** 01:16:39.9±0.6, 12°.6N±0°.1×143°.2E±0°.1, h27km, mb3.8/9, Error ellipse: s-maj=18.6km s-min=9.3km az=139.0*

ISC 14 01:16:41.7±0.8, 12°.6N±0°.1×143°.4E±0°.1, h27km, n14, σ0§61/11, mb4.0/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam** 17nm,0.3s,baz=159,slow=16,SNR=6.9	**1.77**	**55**	Pn		**Pn**	**01 17 10.7**	**0.0**
GUMO				Sn		**Sb**	**01 17 35.0**	**-0.5**
GUMO	25nm,0.3s,baz=214,slow=23,SNR=5.4			LR		LR	01 17 44.0	
SIJI	**Sorong** comp=Z,22nm,21.3s,baz=120,slow=30	**17.96**	**223**	LR		LR	01 25 32.4	
H11N1	**WAKE ISLAND Hy** baz=256,slow=75,SNR=6.0	**23.66**	**69**	T		T	01 46 29.8	
H11N2	**WAKE ISLAND Hy** baz=256,slow=75,SNR=4.0	**23.67**	**69**	T		T	01 46 30.7	
H11N3	**WAKE ISLAND Hy** baz=256,slow=75,SNR=4.9	**23.68**	**69**	T		T	01 46 31.2	
WRA	**Warramunga Arr** 2.4nm,0.7s,baz=19,slow=9.7,SNR=19	**33.50**	**196**	P		**P**	**01 23 18.8**	**-0.3**
ASAR	**Alice Springs** 0.8nm,0.5s,baz=22,slow=12,SNR=15	**37.18**	**194**	P		**P**	**01 23 50.9**	**+0.2**
STKA	**Stephens Creek** 1.5nm,0.7s,baz=318,slow=12,SNR=3.4	**44.21**	**182**	P		**P**	**01 24 48.3**	**-0.4**
ZALV	**Zalesovo Beam** 0.5nm,0.4s,baz=116,slow=11,SNR=3.4	**61.62**	**325**	P		**P**	**01 26 55.8**	**-1.1**
KURBB	**Kurchatov Arra** 0.7nm,0.5s,baz=106,slow=6.6,SNR=6.2	**64.48**	**320**	P		**P**	**01 27 16.1**	**+0.1**
BVAR	**Borovoye Array** 0.7nm,0.5s,baz=110,slow=8.6,SNR=7.4	**69.84**	**322**	P		**P**	**01 27 50.0**	**+0.1**
ILAR	**Eielson Array** 0.3nm,0.6s,baz=248,slow=5.8,SNR=3.7	**70.11**	**25**	P		**P**	**01 27 51.3**	**-0.1**
YKA	**Yellowknife Ar** 0.1nm,0.5s,baz=290,slow=5.1,SNR=3.1	**84.44**	**27**	P		**P**	**01 29 11.9**	**+0.2**
NVAR	**Mina Array Bea** 0.5nm,0.7s,baz=265,slow=4.5,SNR=4.7	**88.69**	**51**	P		**P**	**01 29 34.5**	**+1.1**

*ISCJB **14** 01:21:56.6±0.8, 4°.9N±0°.1×125°.6E±0°.2, h200km, mb3.1/4, Error ellipse: s-maj=23.1km s-min=11.5km az=155.5*
*IDC **14** 01:22:02.8±4.9, 4°.76N×125°.31E, h255km±51km, mb2.8/4, mb1 3.2/6, mb1mx2.9/31, mbtmp3.8/6, Error ellipse: s-maj=45.3km s-min=18.1km az=58.0*

ISC 14 01:21:57.9±0.9, 5°.0N±0°.1×125°.6E±0°.2, h200km, n8, σ1§25/8, mb3.2/4, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.26**	**332**	⇑*iP*		**Pn**	**01 22 29.7**	**0.0**
GSPH				*i* S		**Sn**	**01 22 53.8**	**-0.8**
KAPI	**Kappang** 0.5nm,0.3s,baz=180,slow=6.1,SNR=4.4	**11.48**	**210**	P		**Pn**	**01 24 36.6**	**+0.4**
JAY	**Jayapura** 1.1nm,0.3s,baz=196,slow=9.2,SNR=5.8	**16.87**	**116**	P		**Pn**	**01 25 43.5**	**+0.7**
WRA	**Warramunga Arr** 0.5nm,0.9s,baz=329,slow=11,SNR=9.8	**26.22**	**161**	P		**P**	**01 27 13.1**	**-1.4**
ASAR	**Alice Springs** 0.3nm,0.4s,baz=342,slow=7.5,SNR=4.5	**29.60**	**164**	P		**P**	**01 27 44.3**	**-0.2**
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=130,slow=6.4,SNR=8.0	**55.88**	**325**	P		**P**	**01 31 16.1**	**+1.3**
KURBB	**Kurchatov Arra** 0.4nm,0.7s,baz=128,slow=6.9,SNR=2.7	**60.07**	**327**	P		P	01 31 41.5	-2.3
TORD	**Torodi Ar. Bea** 0.2nm,0.6s,baz=96,slow=1.9,SNR=4.5	**121.41**	**289**	PKP		**PKPdf**	**01 40 26.7**	**-1.7**

IDC 14 01:30:17.3±1.1, 6°.20S×154°.99E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.7/21, mbtmp3.6/7, MS2.8/2, Ms1 2.8/2, ms1mx2.6/19, Error ellipse: s-maj=43.1km s-min=24.0km az=120.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 1.7nm,1.0s,baz=63,slow=9.2,SNR=5.1	**24.27**	**234**	P	P		01 35 35.0	-1.5
WRA				PcP	PcP		01 39 16.8	-0.1
ASAR	**Alice Springs** 0.4nm,0.5s,baz=56,slow=9.1,SNR=6.2	**26.70**	**227**	P	P		01 35 58.6	+0.2
ASAR				PcP	PcP		01 39 23.7	+1.4
H11S3	**WAKE ISLAND Hy** baz=208,slow=76,SNR=5.2	**27.11**	**25**	T	T		02 04 42.5	
H11S2	**WAKE ISLAND Hy** baz=208,slow=76,SNR=7.3	**27.12**	**25**	T	T		02 04 33.0	
H11S1	**WAKE ISLAND Hy** baz=208,slow=76,SNR=6.6	**27.13**	**25**	T	T		02 04 35.6	
MJAR	**Matsushiro Ar** comp=Z,10nm,18.0s,baz=75,slow=37	**45.33**	**341**	LR	LR		01 57 56.8	
KSRS	**Korea Array** 0.5nm,0.3s,baz=141,slow=7.9,SNR=3.7	**50.23**	**332**	P	P		01 39 15.6	+0.4
PETK	**Petropavlovsk-** comp=Z,9.8nm,21.2s,baz=170,slow=32	**59.12**	**2**	LR	LR		02 01 51.5	
SONM	**Songino Array** 0.7nm,0.7s,baz=172,slow=4.1,SNR=2.4	**68.67**	**327**	P	P		01 41 23.1	+0.4
ILAR	**Eielson Array** 0.3nm,0.9s,baz=198,slow=8.5,SNR=2.9	**82.64**	**22**	P	P		01 42 41.2	-1.0
MKAR	**Makanchi Array** 0.6nm,1.0s,baz=121,slow=17,SNR=3.0	**82.81**	**319**	P	P		01 42 43.2	-0.4
NVAR	**Mina Array Bea** 0.3nm,0.9s,baz=259,slow=17,SNR=2.4	**91.23**	**52**	P	P		01 43 25.1	0.0
TORD	**Torodi Ar. Bea** 0.5nm,0.5s,baz=72,slow=2.0,SNR=12	**152.80**	**287**	PKPbc	PKPbc		01 50 17.2	-0.2

*ISCJB **14** 01:57:48.8±0.7, 32°.24N±0°.03×115°.22W±0°.05, h21km±6km, Error ellipse: s-maj=7.5km s-min=5.5km az=158.7*
*MEX **14** 01:57:50.8±0.3, 32°.29N×115°.16W, h20km±11km, MD3.5*
*ECX **14** 01:57:50.0±0.5, 32°.22N×115°.26W, h8km, MD2.6, ML2.8*

ISC 14 01:57:48.9±1.0, 32°.22N±0°.04×115°.25W±0°.05, h18km±7km, n17, σ0§47/27, 5C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.20**	**14**	*e*P		**Pg**	**01 57 54.4**	**+0.7**
MBIG				*e*S		**Sg**	**01 57 56.5**	**-0.5**
CPBX	**Cerro Prieto**	**0.20**	**348**	*e*P9		**Pb**	**01 57 54.0**	**0.0**
CPBX				*e*S		**Sg**	**01 57 57.0**	**-0.3**
CPBX	comp=N,5μm,0.2s			IAML			01 58 00.1	
CPBX				⇑*e*			01 58 00.1	
EMSC	**East Mesa**	**0.57**	**23**	*e*P2		**Pb**	**01 58 00.5**	**+0.2**
SGL	**Mount Signal**	**0.59**	**317**	⇓*iP*		**Pb**	**01 58 00.3**	**-0.3**
ERPC	**Ernies Place**	**0.63**	**327**	⇑*iP*		**Pg**	**01 58 01.5**	**+0.2**
RDX	**Rancho Dawling**	**0.65**	**244**	⇑*eP*		**Pb**	**01 58 01.8**	**0.0**
RDX				*e*S		**Sb**	**01 58 10.4**	**-0.2**
COA	**Coachella**	**0.65**	**10**	*e*P2		**Pb**	**01 58 01.6**	**-0.1**
YUH	**Yuha Desert**	**0.71**	**307**	*e*P2		**Pb**	**01 58 02.1**	**-0.6**
ECBX	**El Chinero**	**0.76**	**167**	*e*P		**Pb**	**01 58 03.0**	**-0.6**
ECBX				*e*S		**Sb**	**01 58 13.5**	**-0.2**
ECBX				⇑*e*			01 58 14.3	
ECBX	comp=N,298nm,0.1s			IAML			01 58 14.3	
RMX	**La Rumorosa**	**0.80**	**299**	*e*P		**Pb**	**01 58 03.9**	**-0.4**
RMX				*e*S		**Sb**	**01 58 14.4**	**-0.4**
RMX	comp=N,409nm,0.1s			IAML			01 58 14.9	
RMX				⇑*e*			01 58 14.9	
ZAX	**El Zacaton**	**1.11**	**231**	*e*P		**Pn**	**01 58 09.6**	**-0.1**
ZAX				*e*S		**Sb**	**01 58 24.5**	**+0.6**
SPIG	**San Pedro Mart**	**1.18**	**189**	*e*P		**Pn**	**01 58 10.5**	**-0.4**
SPX	**San Pedro Mart**	**1.18**	**189**	*e*P		**Pn**	**01 58 10.6**	**-0.3**
SPX				*e*S		**Sn**	**01 58 27.1**	**+0.5**
CBX	**Cerro Bola**	**1.20**	**275**	*e*P		**Pn**	**01 58 10.3**	**-0.5**
CBX	**Cerro Bola**	**1.20**	**275**	*e*P		**Pn**	**01 58 10.4**	**-0.5**
CBX				*e*S		**Sb**	**01 58 26.7**	**+0.3**
ECNX	**Esteban Cantu**	**1.27**	**244**	*e*P		**Pn**	**01 58 12.0**	**+0.2**
ECNX				*e*S		**Sb**	**01 58 29.2**	**+0.8**
PBX	**Punta Banda**	**1.34**	**250**	*e*P		**Pn**	**01 58 13.1**	**+0.4**
PBX				*e*S		**Sb**	**01 58 31.1**	**+0.9**

*NNC **14** 02:08:22.3±1.3, 36°.78N×70°.57E, h214km±19km, mb2.4, mpv3.6, Error ellipse: s-maj=16.6km s-min=11.1km az=121.0*

ISC 14 02:08:22.5±3.7, 36°.7N±0°.2×70°.63E±0°.10, h204km, n10, σ0§47/14, 5C-3D, Hindu Kush region

| Code | Station Name | Δ° | A

*BJI **14** 02:27:25.4, 35°.89N × 76°.78E, h7km, mb3.8/1, ML3.9/4, Ms3.6/2, Ms7 3.6/1*
*NNC **14** 02:27:29.5 ± 9.0, 36°.36N × 77°.08E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=72.1km s-min=41.8km az=168.0*
ISC 14 02:27:26.4±0.6, **35°.90N**±0°.05 × **76°.64E**±0°.08, **h10km, n31, σ2ᵖ18/33, mb3.6/6, 9C-5D, Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**3.39**	**190**	*e*PN	**Pg**	**02 28 31.0**	**-0.4**
DLH				*e*SN	**Sg**	**02 29 12.0**	**-3.4**
KSH	**Kashi**	**3.65**	**352**	Pg	**Pn**	**02 28 24.8**	**+1.8**
KSH				Sn	**Sn**	**02 29 00.8**	**-5.4**
KSH	980nm,0.6s			SMN			
KSH	930nm,0.5s			SME			
SFK	**Sufi-Kurgan** 7.4nm,0.4s	**4.79**	**330**	⇑Pn	Pb	02 28 44.7	-5.9
SFK	30nm,0.5s			⇑Sn	**Sb**	**02 29 42.7**	**-5.8**
DZET	**Dzherino**	**6.86**	**297**	Pn	Pn	02 29 12.8	+5.6
DZET				Sn	**Sn**	**02 30 27.1**	**+1.8**
AAK	**Ala-Archa** 4.5nm,1.0s	**6.93**	**347**	⇑Pn	Pn	02 29 16.0	+7.9
AAK	8.8nm,0.7s			⇑Sn	Sn	02 30 34.1	+7.1
AAK	27nm,0.8s			⇓Lg	Lg	02 31 00.0	
AAK	**Ala-Archa** 0.7nm,0.3s,baz=156,slow=11,SNR=6.0	**6.93**	**347**	Pn	Pn	02 29 14.6	+6.6
AAK	0.5nm,0.3s,baz=135,slow=20,SNR=2.2			Sn	**Sn**	**02 30 31.9**	**+4.9**
AAK	1.1nm,0.3s,baz=47,slow=22,SNR=4.4			Lg	Lg	02 31 00.5	
AAK	comp=Z,24nm,18.4s,baz=129,slow=38			LR	LR	02 31 49.6	
TKM2	**Tokmak 2** 4.0nm,0.5s	**7.06**	**354**	⇑Pn	Pn	02 29 15.4	+5.5
TKM2	9.1nm,0.6s			⇑Lg	Lg	02 31 01.1	
PDGK	**Podgornoye** 5.1nm,0.5s	**7.74**	**16**	⇑Pn	**Pn**	**02 29 19.8**	**+0.8**
PDGK	21nm,0.7s			⇓Sn	**Sn**	**02 30 46.1**	**-0.6**
PDGK	19nm,0.6s			⇓Lg	Lg	02 31 22.7	
KK31	**Karatay Array** 0.7nm,0.3s,baz=134,slow=11,SNR=18	**8.61**	**329**	⇓Pn	**Pn**	**02 29 33.2**	**+2.2**
KK31	2.3nm,0.5s,baz=184,slow=26,SNR=5.4			⇑Sn	**Sn**	**02 31 11.5**	**+3.3**
KOLN	**Koldanda** 17nm,0.3s	**10.03**	**142**	*e*P	**Pn**	**02 29 53.5**	**+2.7**
GKN	**Gorkha** 17nm,0.4s	**10.40**	**137**	*e*P	**Pn**	**02 29 56.9**	**+1.2**
PKIN	**Phulchoki** 8.8nm,0.5s	**11.15**	**136**	*e*P	**Pn**	**02 30 07.7**	**+1.6**
PKI	**Pulchoki** 6.4nm,0.3s	**11.16**	**136**	*e*P	**Pn**	**02 30 07.8**	**+1.5**
GUN	**Gumba** 5.2nm,0.3s	**11.18**	**133**	*e*P	**Pn**	**02 30 07.4**	**+0.8**
JIRN	**Jiri** 24nm,0.4s	**11.55**	**133**	*e*P	**Pn**	**02 30 12.5**	**+0.8**
MK31	**Makanchi Array** 0.4nm,0.3s,baz=197,slow=13,SNR=5.8	**11.68**	**20**	⇑Pn	**Pn**	**02 30 12.1**	**-1.0**
MK31	1.2nm,0.6s,baz=209,slow=24,SNR=5.1			⇓Sn	Sn	02 32 17.5	-6.0
MKAR	**Makanchi Array** 0.5nm,0.3s,baz=200,slow=12,SNR=8.5	**11.68**	**20**	Pn	**Pn**	**02 30 12.0**	**-1.1**
MKAR	0.2nm,0.3s,baz=231,slow=20,SNR=4.8			Sn	Sn	02 32 17.2	-6.3
RAMN	**Ramite** 8.1nm,0.5s	**12.32**	**134**	*e*P	**Pn**	**02 30 21.7**	**-0.4**
TAPN	**Taplejung** 7.1nm,0.4s	**12.71**	**129**	*e*P	**Pn**	**02 30 26.3**	**-1.1**
ODAN	**Odare** 8.6nm,0.4s	**12.86**	**131**	*e*P	**Pn**	**02 30 29.7**	**+0.2**
KURBB	**Kurchatov Arra** 0.0nm,0.3s,baz=187,slow=12,SNR=4.7	**14.78**	**5**	Pn	**Pn**	**02 30 55.3**	**-0.1**
KURBB	0.0nm,0.3s,baz=187,slow=32,SNR=5.1			Lg	Lg	02 35 11.9	
BVAR	**Borovoye Array** 0.2nm,0.3s,baz=158,slow=12,SNR=2.9	**17.68**	**348**	Pn	**Pn**	**02 31 32.1**	**-0.5**
ZALV	**Zalesovo Beam** baz=214,slow=14,SNR=2.3	**18.93**	**15**	P	**P**	**02 31 46.9**	**-0.3**
AKTO	**Aktyubinsk** 0.6nm,0.3s,baz=126,slow=11,SNR=9.0	**19.81**	**323**	P	**P**	**02 31 57.2**	**+0.3**
AKTO	comp=Z,24nm,19.2s,baz=151,slow=38			LR	LR	02 39 55.8	
SONM	**Songino Array** 1.2nm,0.7s,baz=248,slow=11,SNR=7.9	**25.01**	**52**	P	**P**	**02 32 51.4**	**+0.9**
SONM	comp=Z,36nm,18.6s,baz=122,slow=40			LR	LR	02 44 12.9	
FINES	**FINESS Array B** 0.7nm,0.4s,baz=122,slow=10,SNR=7.4	**40.55**	**325**	P	**P**	**02 35 06.1**	**+0.6**
ARCES	**ARCESS Array B** 0.6nm,0.6s,baz=110,slow=8.0,SNR=4.9	**43.48**	**337**	P	**P**	**02 35 29.5**	**+0.2**
NB2	**NORSAR Subarra** comp=Z,0.8nm,0.8s,baz=91,slow=7.9	**47.60**	**323**	P	**P**	**02 36 01.7**	**-0.4**
NOA	**NORSAR Array B** comp=Z,0.3nm,0.5s,baz=93,slow=7.7,SNR=4.9	**47.60**	**323**	P	**P**	**02 36 01.8**	**-0.4**
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,1.1s,baz=47,slow=5.8,SNR=6.5	**70.28**	**272**	P	**P**	**02 38 40.1**	**-0.2**
YKA	**Yellowknife Ar** comp=Z,0.4nm,0.7s,baz=347,slow=5.4,SNR=6.7	**81.53**	**5**	P	**P**	**02 39 45.1**	**+1.4**

*KRNET **14** 02:32:35.0 ± 0.1, 41°.36N × 78°.84E, h2km, mb3.3*
*NNC **14** 02:32:38.4 ± 5.2, 41°.49N × 79°.17E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=50.7km s-min=22.7km az=140.0*
ISC 14 02:32:34.6±2.2, **41°.33N**±0°.09 × **78°.90E**±0°.06, **h3km**±14km, **n23, σ1ᵍ34/34, 21C-8D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay** baz=302	**1.51**	**302**	*e*P	**Pn**	**02 33 02.0**	**-0.8**
KDJ	baz=302			*e*S	**Sn**	**02 33 23.0**	**-0.1**
PDGK	**Podgornoye** 26nm,0.5s	**2.04**	**12**	⇓Pn	**Pb**	**02 33 12.1**	**-0.1**
PDGK	44nm,0.5s			⇑Sn	**Sg**	**02 33 40.0**	**-0.2**
NRN	**Naryn** baz=273	**2.18**	**274**	*e*P	**Pg**	**02 33 16.3**	**-0.1**
NRN	baz=273			*e*S	**Sg**	**02 33 47.3**	**+2.6**
ULHL	**Ulahol** SNR=5.0	**2.19**	**296**	P	**Pg**	**02 33 18.8**	**+2.3**
ULHL	**Ulahol** baz=295	**2.19**	**296**	⇑*i*P	**Pb**	**02 33 14.9**	**0.0**
ULHL	baz=295			⇑*i*S	**Sg**	**02 33 45.8**	**+1.0**
KNDC	**Almaty**	**2.37**	**323**	⇓Pn	**Pb**	**02 33 17.7**	**-0.2**
KNDC				⇑Lg	Lg	02 33 50.3	
BOOM	**Boomskoye usch** baz=298	**2.49**	**299**	*e*P	**Pg**	**02 33 22.6**	**+0.2**
BOOM	baz=298			*e*S	**Sg**	**02 33 57.3**	**+2.6**
KZA	**Kyzart** SNR=6.9	**2.83**	**286**	P	**Pb**	**02 33 27.0**	**+1.0**
KZA	**Kyzart** baz=286	**2.83**	**286**	⇑*i*P	**Pb**	**02 33 24.3**	**-1.7**
KZA	baz=286			⇑*i*S	**Sg**	**02 34 04.3**	**-1.3**
TKM2	**Tokmak 2** SNR=8.2	**2.92**	**304**	P	**Pb**	**02 33 27.4**	**-0.1**
TKM2	**Tokmak 2** 7.4nm,0.6s	**2.92**	**304**	⇑Pn	**Pb**	**02 33 27.0**	**-0.4**
TKM2	24nm,0.5s			⇑Lg	Lg	02 34 07.7	
TKM2	**Tokmak 2** baz=304	**2.92**	**304**	⇓*i*P	**Pb**	**02 33 27.1**	**-0.4**
TKM2	baz=304			⇓*i*S	**Sg**	**02 34 08.1**	**-0.4**
KBK	**Karagaybulak** baz=295	**3.23**	**296**	⇑*i*P	**Pb**	**02 33 30.7**	**-1.9**
KBK	baz=295			⇑*i*S	**Sg**	**02 34 18.2**	**-0.1**
UCH	**Uchtor** SNR=9.6	**3.40**	**287**	P	**Pb**	**02 33 37.4**	**+1.7**
UCH	**Uchtor** baz=287	**3.40**	**287**	⇑*i*P	**Pb**	**02 33 37.0**	**+1.3**
UCH	baz=287			⇑*i*S	**Sg**	**02 34 25.0**	**+1.2**
CHMS	**Chumysh** baz=300	**3.50**	**300**	⇑*i*P	**Pb**	**02 33 37.4**	**+0.1**
CHMS	baz=300			⇑*i*S	**Sg**	**02 34 24.5**	**-2.6**
AAK	**Ala-Archa** SNR=5.3	**3.53**	**293**	P	**Pg**	**02 33 40.6**	**-1.7**
AAK	**Ala-Archa** 4.8nm,0.5s	**3.53**	**293**	⇓Pn	**Pb**	**02 33 37.9**	**+0.1**
AAK	9.6nm,0.6s			⇑Lg	Lg	02 34 26.9	
AAK	**Ala-Archa** baz=293	**3.53**	**293**	⇑*i*P	**Pb**	**02 33 38.0**	**+0.2**
AAK	baz=293			⇑*i*S	**Sg**	**02 34 26.6**	**-1.4**
AML	**Almayashu** SNR=5.5	**3.98**	**283**	P	**Pb**	**02 33 47.2**	**+1.7**
SFK	**Sufi-Kurgan** 1.8nm,0.5s	**4.31**	**254**	⇑Pn	**Pg**	**02 33 55.5**	**-1.6**
SFK	14nm,1.2s			⇑Lg	Lg	02 34 58.4	
MK31	**Makanchi Array** 1.7nm,0.8s,baz=211,slow=15,SNR=9.1	**5.98**	**23**	⇑Pn	**Pn**	**02 34 04.6**	**+0.6**
MK31	0.9nm,0.5s			⇑Sn	**Sn**	**02 35 13.5**	**+0.5**
MK31	2.9nm,0.7s			⇓Lg	Lg	02 35 38.9	
KK31	**Karatay Array** 1.6nm,0.8s,baz=100,slow=17,SNR=4.6	**6.47**	**289**	⇓Pg	Pg	02 34 34.7	-3.9
KK31	2.2nm,0.7s,baz=94,slow=24,SNR=5.0			⇓Lg	Lg	02 36 03.9	

*IDC **14** 02:42:16.7 ± 9.6, 23°.09N × 108°.76W, h0km, mb2.8/1, mb1 3.7/5, mb1mx3.5/36, mbtmp3.3/5, ML3.9/4, MS3.0/2, Ms1 3.0/2, ms1mx2.7/7, Error ellipse: s-maj=139.6km s-min=35.8km az=173.0*
*ISCJB **14** 02:42:21.2 ± 2.9, 23°.6N ± 0°.3 × 108°.74W ± 0°.10, h10km, mb2.9/1, MS2.7/1, Error ellipse: s-maj=40.2km s-min=10.3km az=168.0*
*MEX **14** 02:42:40.2 ± 0.6, 23°.88N × 110°.03W, h10km, MD3.6*
ISC 14 02:42:23.8±1.5, **23°.7N**±0°.2 × **108°.87W**±0°.06, **h10km, n11, σ1ᵍ57/10, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLBS	**Sierra La Lagu**	**0.98**	**272**	*i*P	**Pn**	**02 42 44.0**	**+0.2**
LPIG	**La Paz**	**1.39**	**289**	*i*P	**Pn**	**02 42 47.0**	**-2.3**
LPIG				*e*S	Sn	02 42 51.1	-16
LPIG	**La Paz** 186nm,0.3s,baz=111,slow=8.6,SNR=48	**1.39**	**289**	Pn	**Pn**	**02 42 46.9**	**-2.3**
LPIG	119nm,0.3s,baz=328,slow=22,SNR=11			Sn	**Sn**	**02 43 08.0**	**+0.4**
MAIG	**Mazatlaan**	**2.30**	**101**	*e*P	**Sn**	**02 43 29.9**	**-0.1**
TXAR	**Lajitas Array** 0.4nm,0.3s,baz=212,slow=14,SNR=18	**7.33**	**38**	Pn	**Pn**	**02 44 09.9**	**-1.1**
TXAR	1.2nm,0.3s,baz=218,slow=25,SNR=14			Sn	Sn	02 45 27.2	-7.1
TXAR	0.5nm,0.3s,baz=228,slow=28,SNR=3.5			Lg	Lg	02 46 08.9	
CMIG	**Matias Romero** comp=Z,78nm,18.8s,baz=268,slow=35	**14.65**	**114**	LR	LR	02 50 33.7	
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=154,slow=12,SNR=7.9	**16.78**	**334**	Pn	**P**	**02 46 23.0**	**+1.6**
ELK	**Elko** 0.1nm,0.3s,baz=156,slow=12,SNR=2.9	**17.86**	**344**	P	**P**	**02 46 34.8**	**+1.5**
PDAR	**Pinedale Array** 0.2nm,0.3s,baz=168,slow=9.1,SNR=6.6	**19.07**	**358**	P	**Pn**	**02 46 47.9**	**+0.6**
YBH	**Yreka Blue Hor** comp=Z,30nm,20.7s,baz=224,slow=36	**21.41**	**331**	LR	LR	02 55 23.6	
YKA	**Yellowknife Ar** 0.1nm,0.4s,baz=170,slow=7.8,SNR=3.3	**39.01**	**356**	P	**P**	**02 49 50.0**	**-0.2**

*NIED **14** 02:52:00, 35°.50N × 141°.70E, h8km, Mw4.2 Best double couple: M0 2.04000 × 10¹⁵ NP1: φs 258.00000°, δ 44.00000°, λ -107.00000°. NP2: φs 101.00000°, δ 49.00000°, λ -74.00000°.*
*IDC **14** 02:52:54.1 ± 0.6, 35°.39N × 141°.66E, h0km, mb4.1/20, mb1 4.2/24, mb1mx4.1/47, mbtmp4.1/24, ML4.0/3, MS3.1/12, Ms1 3.1/12, ms1mx2.9/40, Error ellipse: s-maj=16.5km s-min=15.5km az=73.0*
*MOS **14** 02:52:56.0 ± 0.8, 35°.44N × 141°.76E, h26km, mb4.6/7, Error ellipse: s-maj=12.7km s-min=8.0km az=118.5*
*ISCJB **14** 02:52:56.5 ± 0.4, 35°.51N ± 0°.05 × 141°.72E ± 0°.04, h25km, mb4.1/30, MS3.2/9, Error ellipse: s-maj=6.7km s-min=4.9km az=163.6*
*JMA **14** 02:52:57.2 ± 0.4, 35°.51N × 141°.68E, h20km ± 3km, M3.6*
*NEIC **14** 02:52:58.5 ± 1.8, 35°.41N × 141°.74E, h29km ± 13km, mb4.4/11, Error ellipse: s-maj=7.7km s-min=6.5km az=99.0*
ISC 14 02:52:57.6±0.4, **35°.40N**±0°.05 × **141°.72E**±0°.05, **h25km, n87, σ1ᵍ42/84, mb4.1/30, MS3.2/9, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.77**	**294**	P	**Pb**	**02 53 10.5**	**-1.7**
CHOJ				S	**Sb**	**02 53 19.0**	**-3.2**
BSO1	**Boso 1**	**0.96**	**220**	P	**Pb**	**02 53 15.4**	**+0.2**
BSO3	**Boso 3**	**1.16**	**239**	P	**Pb**	**02 53 18.4**	**-0.3**
KTR	**Katsuura**	**1.18**	**258**	P	**Pb**	**02 53 19.0**	**-0.2**
BSO4	**Boso 4**	**1.20**	**251**	P	**Pb**	**02 53 19.4**	**-0.2**
JYT	**Yasato**	**1.49**	**304**	P	**Pn**	**02 53 21.3**	**-1.4**
JHO	**Hitachi**	**1.53**	**323**	P	**Pn**	**02 53 21.4**	**-1.9**
JIM2	**Oshima 3**	**2.00**	**251**	P	**Pn**	**02 53 29.6**	**-0.1**
JIM2				S	**Sn**	**02 53 55.6**	**+1.7**
MJAR	**Matsushiro Arr** 5.8nm,0.3s,baz=96,slow=14,SNR=33	**3.07**	**293**	Pn	**Pn**	**02 53 44.7**	**+0.3**
MAJO	**Matsushiro**	**3.07**	**293**	*e*P	**Pn**	**02 53 45.7**	**+1.2**
MAJO	**Matsushiro**	**3.07**	**293**	*e*Pn	**Pn**	**02 53 45.7**	**+1.2**
MAT	**Matsushiro**	**3.07**	**293**	P	**Pn**	**02 53 44.3**	**-0.2**
MAT				*e*S	**Sn**	**02 54 19.2**	**-1.2**
CBIJ	**Chichi jima**	**8.29**	**177**	Pn	**Pn**	**02 54 55.0**	**-1.2**
CBIJ				Sn	**Sn**	**02 56 23.6**	**-5.4**
JCJ	**Chichijima** 8.6nm,0.3s,baz=275,slow=11,SNR=6.1	**8.29**	**177**	Pn	**Pn**	**02 54 55.0**	**-1.2**
JCJ	4.4nm,0.3s,baz=252,slow=20,SNR=2.3			Sn	**Sn**	**02 56 23.6**	**-5.4**
ASAJ	**Asahikawa** 2.0nm,0.3s,baz=207,slow=9.0,SNR=3.6	**8.73**	**4**	Pn	**Pn**	**02 55 01.2**	**-0.9**
ASAJ	1.8nm,0.3s,baz=323,slow=20,SNR=6.2			Sn	**Sn**	**02 56 35.4**	**-4.4**
ASAJ	comp=Z,123nm,21.7s,baz=212,slow=42			LR	LR	02 58 59.7	
ASAJ	**Asahikawa**	**8.73**	**4**	P	**Pn**	**02 55 01.3**	**-0.9**
ASAJ						02 56 35.4	
ASAJ	comp=Z,2.0nm,0.3s			pmax	pmax		
ASAJ	comp=N,2.0nm,0.3s			smax	smax		
ASAJ	comp=Z,123nm,21.7s			MLR	MLR		
JNU	**Nakatsue** comp=Z,0.4nm,0.3s,baz=74,slow=7.4,SNR=2.8	**9.26**	**259**	Pn	**Pn**	**02 55 12.2**	**+2.7**
JNU	comp=Z,42nm,18.9s,baz=77,slow=36			LR	LR	02 58 23.8	
KSRS	**Korea Array** baz=98,slow=14,SNR=3.2	**11.30**	**284**	Pn	**Pn**	**02 55 40.0**	**+2.5**
KSRS	comp=Z,38nm,21.2s,baz=92,slow=37			LR	LR	02 59 47.5	
KSRS	**Korea Array**	**11.30**	**284**	P	**Pn**	**02 55 40.0**	**+2.5**
KSRS	comp=Z,38nm,21.2s			MLR	MLR		
KSAR	**Wonju Array Be**	**11.33**	**284**	P	**Pn**	**02 55 40.0**	**+2.1**
KSAR	**Wonju Array Be**	**11.33**	**284**	Pn	**Pn**	**02 55 40.0**	**+2.1**
USRK	**Ussuriysk Ar.** comp=Z,0.3nm,0.3s,baz=145,slow=10,SNR=5.6	**11.54**	**323**	Pn	**Pn**	**02 55 39.7**	**-0.8**
YSS	**Yuzh-Sakhalins**	**11.57**	**4**	*e*P	**Pn**	**02 55 41.3**	**+0.3**
YSS	**Yuzh-Sakhalins**	**11.57**	**4**	*e*Pn	**Pn**	**02 55 41.3**	**+0.3**
PETK	**Petropavlovsk-** comp=Z,20nm,20.8s,baz=187,slow=36	**21.00**	**28**	LR	LR	03 05 33.9	
H11N2	**WAKE ISLAND Hy** baz=311,slow=75,SNR=125	**27.12**	**118**	T	T	03 27 01.5	
H11N1	**WAKE ISLAND Hy** baz=311,slow=75,SNR=105	**27.13**	**119**	T	T	03 26 58.2	
H11N3	**WAKE ISLAND Hy** baz=311,slow=75,SNR=108	**27.14**	**118**	T	T	03 27 02.9	
YAK	**Yakutsk** comp=Z,38nm,21.0s,baz=170,slow=40	**27.72**	**348**	LR	LR	03 11 16.6	
H11S1	**WAKE ISLAND Hy** baz=312,slow=76,SNR=172	**27.79**	**121**	T	T	03 27 47.3	
H11S3	**WAKE ISLAND Hy** baz=312,slow=76,SNR=177	**27.79**	**121**	T	T	03 27 51.7	
H11S2	**WAKE ISLAND Hy** baz=312,slow=76,SNR=124	**27.80**	**121**	T	T	03 27 53.0	
SEY	**Seymchan** comp=Z,0.7nm,0.4s,baz=212,slow=7.0,SNR=4.3	**28.35**	**10**	P	**P**	**02 58 50.5**	**+1.3**
SONM	**Songino Array** comp=Z,1.6nm,0.6s,baz=104,slow=9.2,SNR=12	**28.93**	**306**	P	**P**	**02 58 55.3**	**+0.5**
BOD	**Bodaibo**	**29.05**	**329**	*e*P	**P**	**02 58 54.5**	**-1.0**
BOD	comp=Z,4.0nm,1.5s			pmax	pmax		
CMAR	**Chiang Mai Arr** comp=Z,36nm,19.8s,baz=298,slow=40	**41.35**	**257**	LR	LR	03 20 15.9	
ZALV	**Zalesovo Beam** comp=Z,2.0nm,0.5s,baz=82,slow=7.3,SNR=8.1	**43.21**	**314**	P	**P**	**03 00 56.6**	**+0.3**
ZALV				PcP	**PcP**	**03 02 45.0**	**-0.3**
MK31	**Makanchi Array**	**45.21**	**304**	*e*P	**P**	**03 01 12.7**	**+0.2**
MK31	**Makanchi Array**	**45.21**	**304**	*e*P	**P**	**03 01 12.7**	**+0.2**
MKAR	**Makanchi Array** comp=Z,1.6nm,0.7s,baz=90,slow=6.9,SNR=12	**45.21**	**304**	P	**P**	**03 01 12.9**	**+0.4**
MKAR	comp=Z,28nm,19.1s,baz=93,slow=38			LR	LR	03 21 47.5	
KURK	**Kurchatov** comp=Z,4.0nm,0.5s	**47.15**	**309**	P	**P**	**03 01 28.1**	**+0.5**
KURK				pmax	pmax		
KURK	**Kurchatov** comp=Z,6.9nm,0.6s	**47.15**	**309**	*e*P	**P**	**03 01 27.4**	**-0.2**
KURBB	**Kurchatov Arra** comp=Z,4.1nm,0.5s,baz=84,slow=8.4,SNR=16	**47.21**	**309**	P	**P**	**03 01 28.1**	**-0.1**
TKM2	**Tokmak 2**	**50.64**	**300**	*e*P	**P**	**03 01 55.3**	**+0.5**
TKM2	comp=Z,2.0nm,0.5s			pmax	pmax		
TKM2	**Tokmak 2** comp=Z,2.0nm,0.5s	**50.64**	**300**	*e*P	**P**	**03 01 55.3**	**+0.5**
ILAR	**Eielson Array** comp=Z,1.2nm,0.7s,baz=267,slow=6.5,SNR=17	**50.75**	**32**	P	**P**	**03 01 55.7**	**+0.7**
EKS2	**Erkin-Say**	**52.00**	**300**	*e*P	**P**	**03 02 05.3**	**+0.4**
EKS2	comp=Z,2.0nm,0.7s			pmax	pmax		
EKS2	**Erkin-Say** comp=Z,1.8nm,0.7s	**52.00**	**300**	*e*P	**P**	**03 02 05.3**	**+0.4**
WRAB	**Tennant Creek**	**55.47**	**188**	*e*P	**P**	**03 02 30.9**	**+0.6**
WRAB	comp=Z,7.0nm,0.8s			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,6.8nm,0.8s	**55.47**	**188**	*e*P	**P**	**03 02 30.9**	**+0.6**
WRA	**Warramunga Arr** comp=Z,3.7nm,0.5s,baz=3.6,slow=7.6,SNR=53	**55.48**	**188**	P	**P**	**03 02 30.6**	**+0.3**
INK	**Inuvik** comp=Z,1.1nm,0.7s,baz=278,slow=6.6,SNR=7.0	**55.73**	**27**	P	**P**	**03 02 32.2**	**+0.7**
ARU	**Arti**	**57.75**	**319**	*e*P	**P**	**03 02 46.3**	**+0.2**
ARU	**Arti**	**57.75**	**319**	*e*P	**P**	**03 02 46.3**	**+0.2**
ABKAR	**Akbulak array** comp=Z,1.3nm,0.5s	**59.19**	**311**	*e*P	**P**	**03 02 55.8**	**-0.5**
ASAR	**Alice Springs** comp=Z,0.9nm,0.7s,baz=13,slow=8.7,SNR=6.1	**59.21**	**188**	P	**P**	**03 02 57.3**	**+0.7**
RES	**Resolute Bay** comp=Z,1.7nm,0.6s,baz=309,slow=7.9,SNR=6.0	**64.12**	**14**	P	**P**	**03 03 28.7**	**-0.4**
RES	**Resolute Bay** comp=Z,2.0nm,0.6s	**64.12**	**14**	*e*P	**P**	**03 03 29.2**	**+0.1**
RES				pmax	pmax		
RES	**Resolute Bay** comp=Z,2.0nm,0.6s	**64.12**	**14**	*e*P	**P**	**03 03 29.2**	**+0.1**
YKA	**Yellowknife Ar** comp=Z,0.6nm,0.8s,baz=301,slow=7.1,SNR=9.8	**65.10**	**30**	P	**P**	**03 03 36.3**	**+0.6**
ARCES	**ARCESS Array B** comp=Z,17nm,20.4s,baz=12,slow=39	**65.61**	**340**	LR	LR	03 35 16.5	
FORT	**Forrest** comp=Z,16nm,0.7s	**67.07**	**193**	*e*P	**P**	**03 03 50.3**	**+1.7**
FINES	**FINESS Array B** comp=Z,2.5nm,0.9s,baz=61,slow=6.5,SNR=9.9	**70.38**	**333**	P	**P**	**03 04 09.0**	**+0.1**
FINES	comp=Z,30nm,18.1s,baz=103,slow=40			LR	LR	03 40 25.6	
KBZ	**Khabaz** comp=Z,0.6nm,0.3s,baz=53,slow=20,SNR=4.0	**72.16**	**311**	P	**P**	**03 04 20.3**	**+0.3**
SLMT	**Seeley Lake**	**73.74**	**43**	*e*P	**P**	**03 04 30.4**	**+0.8**
FCC	**Fort Churchill**	**75.35**	**26**	*e*P	**P**	**03 04 38.6**	**+0.1**
FCC	**Fort Churchill**	**75.35**	**26**	*e*P	**P**	**03 04 38.6**	**+0.1**
AKASG	**Malin Array Be** comp=Z,1.7nm,0.5s,baz=46,slow=6.0,SNR=18	**75.74**	**323**	P	**P**	**03 04 40.9**	**0.0**
AKASG	comp=Z,29nm,20.2s,baz=350,slow=38			LR	LR	03 41 25.0	
AKBB	**Malin Array Si**	**75.74**	**323**	*e*P	**P**	**03 04 41.0**	**+0.1**
AKBB	**Malin Array Si**	**75.74**	**323**	*e*P	**P**	**03 04 41.0**	**+0.1**
KIEV	**Kiev**	**75.75**	**323**	*e*P	**P**	**03 04 40.8**	**-0.1**
KIEV	comp=Z,3.0nm,0.6s			pmax	pmax		
KIEV	**Kiev** comp=Z,2.8nm,0.6s	**75.75**	**323**	*e*P	**P**	**03 04 40.8**	**-0.1**
NVAR	**Mina Array Bea** comp=Z,1.3nm,0.8s,baz=282,slow=6.1,SNR=10	**75.77**	**53**	P	**P**	**03 04 43.6**	**+2.0**
NB2	**NORSAR Subarra** comp=Z,1.2nm,0.6s,baz=40,slow=6.2	**75.79**	**338**	P	**P**	**03 04 40.9**	**-0.1**
NOA	**NORSAR Array B** comp=Z,1.5nm,0.6s,baz=40,slow=5.8,SNR=14	**75.79**	**338**	P	**P**	**03 04 41.2**	**+0.2**
NOA	comp=Z,13nm,18.1s,baz=60,slow=41			LR	LR	03 44 47.2	
NAO01	**NORSAR Array S** comp=Z,1.4nm,0.7s	**76.04**	**338**	*e*P	**P**	**03 04 42.5**	**+0.1**
PDAR	**Pinedale Array** comp=Z,0.7nm,0.7s,baz=306,slow=3.0,SNR=5.2	**78.64**	**45**	P	**P**	**03 04 58.3**	**+0.6**
BR131	**Keskin Array S** comp=Z,1.3nm,0.7s	**80.12**	**312**	*e*P	**P**	**03 05 06.5**	**+0.9**
BRTR	**Keskin Array B** comp=Z,1.2nm,0.7s,baz=85,slow=3.0,SNR=8.8	**80.12**	**312**	P	**P**	**03 05 07.0**	**+1.4**
BRTR	comp=Z,10nm,19.3s,baz=56,slow=40			LR	LR	03 46 42.0	
CLL	**Collm**	**82.64**	**330**	*e*P	**P**	**03 05 19.0**	**+0.5**
CSS	**Prodhromos** comp=Z,2.0nm,0.9s	**83.27**	**308**	*e*P	**P**	**03 05 21.9**	**-0.3**
GERES	**GERESS Array B** comp=Z,0.3nm,0.5s,baz=32,slow=5.8,SNR=4.9	**84.23**	**328**	P	**P**	**03 05 26.3**	**-0.6**
AQU	**L'Aquila**	**89.33**	**324**	*e*P	**P**	**03 05 52.1**	**+0.2**
AQU	**L'Aquila**	**89.33**	**324**	*e*P	**P**	**03 05 52.1**	**+0.2**
TXAR	**Lajitas Array** comp=Z,0.4nm,0.7s,baz=302,slow=5.2,SNR=4.7	**90.92**	**53**	P	**P**	**03 06 01.0**	**+1.4**
TORD	**Torodi Ar. Bea** comp=Z,0.1nm,0.8s,baz=33,slow=3.4,SNR=3.4	**118.66**	**315**	PKP	**PKPdf**	**03 11 42.1**	**-1.8**
LPAZ	**La Paz** comp=Z,2.6nm,0.9s,baz=333,slow=4.5,SNR=7.4	**147.27**	**62**	PKPbc	**PKPab**	**03 12 41.0**	**-0.8**

IDC 14 03:30:22.9±2.3, **23°.01S** × **179°.38W**, **h0km, mb4.0**/6, **mb1 4.4**/6, **mb1mx4.0**/25, **mbtmp4.0**/6, **MS3.6**/3, **Ms1 3.6**/3, **ms1mx3.0**/17, **Error ellipse: s-maj=150.5km s-min=22.9km az=158.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs** 3.7nm,0.8s,baz=97,slow=8.0,SNR=28	**42.75**	**260**	P	P	03 38 22.1	-0.1
WRA	**Warramunga Arr** 3.2nm,0.3s,baz=96,slow=8.5,SNR=247	**43.04**	**265**	P

URZ	**Urewera**	**19.55**	**197**	P	**P**	**03 47 21.5**	**+0.1**
	3.2nm,0.3s,baz=270,slow=4.8,SNR=16						
URZ				S	**S**	**03 50 46.3**	**-3.9**
	0.6nm,0.3s,baz=184,slow=19,SNR=5.5						
CTA	**Charters Tower**	**35.52**	**263**	P	**P**	**03 49 46.2**	**-0.3**
	7.4nm,0.4s,baz=92,slow=11,SNR=16						
CTAO	**Charters Tower**	**35.52**	**263**	*e*P	**P**	**03 49 46.2**	**-0.3**
	9.8nm,0.5s						
QLP	**Quilpie**	**37.18**	**252**	P	**P**	**03 50 00.7**	**+0.3**
	baz=34,SNR=4.3						
STKA	**Stephens Creek**	**39.92**	**244**	P	**P**	**03 50 22.7**	**-0.5**
	2.2nm,0.5s,baz=90,slow=9.1,SNR=3.5						
BBOO	**Buckleboo**	**44.68**	**243**	P	**P**	**03 51 02.2**	**+0.7**
	baz=41,SNR=5.5						
AS31	**Alice Springs**	**46.61**	**256**	*e*P	**P**	**03 51 16.3**	**-0.5**
ASAR	**Alice Springs**	**46.61**	**256**	P	**P**	**03 51 16.1**	**-0.8**
	8.6nm,0.6s,baz=87,slow=8.2,SNR=64						
WRAB	**Tennant Creek**	**46.64**	**261**	*e*P	**P**	**03 51 15.5**	**-1.5**
	3.4nm,0.6s						
WRA	**Warramunga Arr**	**46.65**	**261**	P	**P**	**03 51 15.6**	**-1.6**
	4.5nm,0.5s,baz=97,slow=7.4,SNR=114						
KDU	**Kakadu**	**49.88**	**270**	P	**P**	**03 51 41.0**	**-0.7**
	baz=47,SNR=3.6						
FORT	**Forrest**	**51.43**	**246**	*e*P	**P**	**03 51 51.8**	**-1.4**
	19nm,0.9s						
WRKA	**Warakurna**	**51.58**	**253**	P	**P**	**03 51 53.5**	**-0.9**
	baz=48,SNR=33						
KNRA	**Kununurra**	**52.66**	**265**	P	**P**	**03 52 02.4**	**0.0**
	baz=50,SNR=3.7						
VNDA	**Vanda**	**58.98**	**186**	P	**P**	**03 52 48.5**	**+2.3**
	1.5nm,0.7s,baz=6.4,slow=4.4,SNR=7.9						
QSPA	**South Pole Qui**	**70.47**	**180**	P	**P**	**03 54 02.0**	**+1.2**
	3.4nm,0.8s,baz=266,slow=0.1,SNR=17						
PMBI	**Palembang**	**78.93**	**271**	P	P	03 54 57.1	+7.1
	baz=76,SNR=3.3						
MAW	**Mawson**	**83.06**	**199**	P	**P**	**03 55 11.3**	**+0.6**
	2.7nm,0.7s,baz=140,slow=6.5,SNR=4.4						
TXAR	**Lajitas Array**	**84.94**	**57**	P	**P**	**03 55 20.9**	**-0.2**
	0.4nm,1.0s,baz=254,slow=6.5,SNR=3.4						
EKS2	**Erkin-Say**	**117.79**	**309**	*e*PKPdf	**PKPdf**	**04 01 30.0**	**-0.6**
ARCES	**ARCESS Array B**	**128.37**	**351**	PKP	**PKPdf**	**04 01 48.4**	**-1.6**
	0.4nm,0.4s,baz=356,slow=1.4,SNR=8.9						

ROM 14 03:53:16.2±0.6, 40°.64N×16°.98E, h7km, Md1.4/3, Ml1.1/2, Error ellipse: s-maj=8.1km s-min=1.7km az=143.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTRZ	**Laterza**	**0.13**	**255**	Pg	Pg	03 53 18.8	-0.2
LTRZ				Sg	Sg	03 53 22.1	+1.2
NOCI	**Noci**	**0.16**	**22**	Pg	Pg	03 53 20.2	+0.6
NOCI				Sg	Sg	03 53 22.9	+0.9
	61nm,0.1s						
MATE	**Matera**	**0.21**	**273**	Pg	Pg	03 53 21.6	+1.2
MATE				Sg	Sg	03 53 24.4	+1.1
	20nm,0.3s						

*DDA **14** 04:09:13.0,37°.15N×28°.53E,h7km,MD2.5*
*ISCJB **14** 04:09:32.9±1.0,36°.47N±0°.08×28°.28E±0°.06,h0km, Error ellipse: s-maj=12.6km s-min=5.4km az=18.5*
*CSEM **14** 04:09:33.5±0.3,36°.51N×28°.29E,h2km,MD2.6, Error ellipse: s-maj=7.9km s-min=3.8km az=12.0, Mining explosion.*
*ISK **14** 04:09:33.2,36°.59N×28°.27E,h5km,MD2.6*
ISC 14 04:09:34.0±1.0, 36°.60N±0°.05×28°.31E±0°.03, h0km, n22, σ1°.63/27, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALY	**Dalyan (Mu¨la**	**0.35**	**52**	*e*PG	**Pb**	**04 09 42.1**	**-1.0**
DALY	**Dalyan (Mu¨la**	**0.35**	**52**	*e*Pg	**Pb**	**04 09 42.1**	**-1.0**
TURN	**Turunc**	**0.36**	**41**	*i* P	Pg	04 09 37.2	-3.7
TURN	**Turunc**	**0.36**	**41**	*i* P	Pg	04 09 37.2	-3.7
TURN				*i* S	**Sg**	**04 09 41.7**	**-3.8**
YER	**Yerkesik**	**0.53**	**358**	*e*PG	**Pg**	**04 09 44.8**	**+0.6**
YER	**Yerkesik**	**0.53**	**358**	*e*Pg	**Pb**	**04 09 44.8**	**-1.5**
DAT	**Datca**	**0.60**	**282**	*e*PG	**Pg**	**04 09 45.6**	**0.0**
DAT	**Datca**	**0.60**	**282**	*e*Pg	**Pg**	**04 09 45.6**	**+0.1**
BDRM	**Kayabasi**	**0.83**	**304**	*i* P	**Pg**	**04 09 49.7**	**-0.3**
BDRM				*i* S	**Sb**	**04 10 03.3**	**+0.1**
BDRM	**Kayabasi**	**0.83**	**304**	*i* P	**Pg**	**04 09 49.7**	**-0.3**
BDRM				*i* S	**Sb**	**04 10 03.3**	**+0.1**
NIS1	**Nisyros Isl.**	**0.91**	**270**	*e*PG	**Pg**	**04 09 50.8**	**-0.6**
NIS1	**Nisyros Isl.**	**0.91**	**270**	*e*Pg	**Pg**	**04 09 50.8**	**-0.7**
BODT	**Bodrum**	**0.92**	**300**	*e*PG	**Pb**	**04 09 51.7**	**-1.2**
BODT				*e*SG	**Sb**	**04 10 05.5**	**-0.3**
BODT	**Bodrum**	**0.92**	**300**	*e*Pg	**Pb**	**04 09 51.7**	**-1.2**
BODT				*e*Sg	**Sb**	**04 10 05.5**	**-0.2**
AKAS	**Kas**	**1.11**	**109**	*i* P	**Pg**	**04 09 54.5**	**-0.7**
AKAS	**Kas**	**1.11**	**109**	*i* P	**Pg**	**04 09 54.5**	**-0.7**
AKAS				*i* S	**Sn**	**04 10 18.2**	**+5.3**
AYDN	**Tasoluk**	**1.11**	**342**	*i* P	**Pn**	**04 09 57.0**	**+0.1**
AYDN	**Tasoluk**	**1.11**	**342**	*i* P	**Pn**	**04 09 57.0**	**+0.1**
AYDN				*i* S	**Sn**	**04 10 16.4**	**+3.4**
ELL	**Elmali**	**1.29**	**83**	*e*PN	**Pn**	**04 09 59.7**	**+0.3**
ELL	**Elmali**	**1.29**	**83**	*e*Pn	**Pn**	**04 09 59.7**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.38**	**346**	*e*PN	**Pb**	**04 10 00.9**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.38**	**346**	*e*Pn	**Pb**	**04 10 00.9**	**+0.1**

CASC 14 04:09:55.5±1.9, 8°.30N×82°.82W, h24km±6km, MD3.6, 1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.49**	**316**	*e*P	Pb	04 10 04.2	-1.5
BRU2	**Volcan**	**0.51**	**14**	⇓*i*P	Pb	04 10 05.8	-0.3
BRU2				*e*S	Sb	04 10 13.6	+0.3
TBS2		**0.52**	**18**	*e*P	Pb	04 10 06.7	+0.4
TBS2				*e*S	Sb	04 10 14.2	+0.7
BUS	**Buena Vista**	**1.56**	**323**	*e*P	Pn	04 10 22.8	+0.4
BUS				*e*S	Sn	04 10 42.5	+0.4
URSC	**Urasca**	**1.80**	**328**	*e*P	Pn	04 10 25.8	+0.5
URSC				*e*S	Sb	04 10 49.3	-1.0

OTT 14 04:40:49.3±0.8, 61°.20N×59°.09W, h18km, ML3.8/11, LAlbertaRADOR Sea Seismic Zone. 311km east from Resolution Island, Nu, Davis Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRB	**Frobisher Bay**	**5.08**	**304**	PN	Pn	04 42 05.6	+1.3
FRB				mb		04 42 07.5	
	comp=Z,8.3nm,0.1s						
FRB				SN	Sn	04 43 00.1	-2.2
FRB				Trac		04 43 05.5	
	comp=Z,13nm,0.2s						
CMBN	**Cumberland Cam**	**5.10**	**334**	PN	Pn	04 42 04.5	-0.2
CMBN				SN	Sn	04 42 59.5	-3.5
CMBN				Trac		04 43 02.9	
	comp=Z,6.5nm,0.1s						
KUQ	**Kuujjuuaa**	**5.65**	**241**	PN	Pn	04 42 11.9	-0.3
KUQ				SN	Sn	04 43 10.4	-6.0
KUQ				Trac		04 43 15.4	
	comp=Z,9.7nm,0.2s						
SFJD	**Kangerlussuaq**	**6.89**	**29**	*i* P	Pn	04 42 29.1	-0.2
SFJD	**Kangerlussuaq**	**6.89**	**29**	PN	Pn	04 42 28.6	-0.7
SFJD				mb		04 42 29.7	
	comp=Z,58nm,0.2s						
SCHQ	**Schefferville**	**7.59**	**216**	PN	Pn	04 42 38.5	-0.3
SCHQ				mb		04 42 40.2	
	comp=Z,3.4nm,0.1s						
SCHQ				SN	Sn	04 43 58.9	-5.5
SCHQ				Trac		04 44 01.4	
	comp=Z,19nm,0.4s						
AKVQ	**Akulivik**	**9.28**	**276**	PN	Pn	04 43 01.4	-0.6
AKVQ				SN	Sn	04 44 40.4	-5.3
AKVQ				Trac		04 44 45.7	
	comp=Z,6.6nm,0.3s						
YOSQ	**Ashton Mining**	**10.97**	**226**	PN	Pn	04 43 22.5	-2.6
YOSQ				mb		04 43 24.4	
	comp=Z,2.0nm,0.2s						
YOSQ				SN	Sn	04 45 15.2	-12
YOSQ				Trac		04 45 19.0	
	comp=Z,3.7nm,0.2s						
LG4Q	**La Grande 4**	**11.07**	**233**	PN	Pn	04 43 23.5	-2.9
LG4Q				mb		04 43 28.8	
	comp=Z,0.8nm,0.1s						
LG4Q				SN	Sn	04 45 18.6	-11
LG4Q				Trac		04 45 23.8	
	comp=Z,1.4nm,0.1s						
ILON	**Igloolik, Nuna**	**12.46**	**321**	PN	Pn	04 43 43.8	-1.7
ILON				mb		04 43 45.8	
	comp=Z,1.2nm,0.2s						
ILON				SN	Sn	04 45 54.0	-10
ILON				Trac		04 45 57.7	
	comp=Z,1.7nm,0.2s						
GIFN	**Gifford Fjord,**	**12.73**	**323**	PN	Pn	04 43 47.3	-1.8
GIFN				SN	Sn	04 45 59.3	-11
GIFN				Trac		04 46 04.4	
	comp=Z,2.8nm,0.3s						
LAIN	**Lailor River,**	**12.88**	**318**	PN	Pn	04 43 49.4	-1.8
LAIN				SN	Sn	04 46 02.0	-12
LAIN				Trac		04 46 08.7	
	comp=Z,2.0nm,0.3s						
QILN	**Qililugaq Expl**	**13.10**	**306**	PN	Pn	04 43 51.8	-2.3
QILN				SN	Sn	04 46 07.8	-11
QILN				Trac		04 46 10.9	
	comp=Z,4.6nm,0.5s						
WAGN	**Wager Bay**	**14.22**	**302**	PN	Pn	04 44 06.7	-2.7
WAGN				SN	Sn	04 46 34.5	-12
SEDN	**First Sedna Si**	**15.02**	**292**	PN	Pn	04 44 18.9	-1.4
SEDN				SN	Sn	04 46 49.6	-16
STLN	**Stellar Camp,**	**15.77**	**307**	PN	Pn	04 44 26.8	-3.3
STLN				SN	Sn	04 47 10.2	-14

DJA 14 04:44:20.9±0.3, 1°.5S±2°.1×12°.0E±°, h10km, M3.7/11, MLv3.7/11, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.41**	**332**	P	Pg	04 44 28.6	-0.4
MPSI	**Mapaga**	**1.60**	**355**	P	Pn	04 44 47.9	-1.4
MPSI				S	Sb	04 45 10.5	-0.4
TTSI	**Tana Toraja**	**1.78**	**187**	P	Pn	04 44 49.7	-2.0
TTSI				S	Sn	04 45 14.8	+0.5
MRSI	**Marisa**	**2.58**	**48**	P	Pn	04 45 02.3	-0.5
MRSI				S	Sn	04 45 35.5	+1.3
SPSI	**Sidrap Palu**	**2.69**	**186**	P	Pn	04 45 04.9	+0.6
LUWI	**Luwuk**	**2.75**	**85**	P	Pn	04 45 05.1	0.0
LUWI				S	Sn	04 45 38.8	+0.4
BNSI	**Bone**	**3.11**	**179**	P	Pn	04 45 10.2	+0.1
BKSI	**Bulukumba**	**4.03**	**179**	P	Pn	04 45 23.0	+0.3

GUC 14 05:10:57.1±0.7, 33°.47S×73°.38W, h11km±56km, ML3.6, 3C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.71**	**107**	*i* P	Pb	05 11 27.8	-0.8
ROCH	**El Roble**	**2.04**	**77**	⇑*i*P	Pb	05 11 34.0	-0.6
ROCH				*i* S	Sb	05 12 01.3	+1.0
PEL	**Peldehue**	**2.28**	**83**	⇓*i*P	Pb	05 11 39.4	+1.1
PEL				*i* S	Sn	05 12 02.0	-0.9
PEL				AML	AML	05 12 10.5	
	comp=E,478nm,0.6s						
CHCH	**Chadas Angostu**	**2.32**	**102**	⇑*i*P	Pb	05 11 37.4	-1.6
CLCH	**Cerro Calan**	**2.38**	**89**	⇑*i*P	Pb	05 11 39.5	-0.5
CLCH				*e*S	Sb	05 12 10.6	+1.1
CACH	**El Canelo**	**2.40**	**106**	*e*P	Pb	05 11 39.0	-1.6

*IASPEI **14** 05:11:07.1±0.9,32°.70N±0°.03×115°.88W±0°.02,h13km±5km, Error ellipse: s-maj=4.6km s-min=2.8km az=164.2*
*ISCJB **14** 05:11:07.5±0.3,32°.70N±0°.02×115°.88W±0°.02,h9km±2km, mb5.3/1,MS4.2/1, Error ellipse: s-maj=3.6km s-min=3.0km az=166.2*
*MEX **14** 05:11:07.0±1.5,32°.96N×115°.84W,h16km±36km, MD3.9*
*NEIC **14** 05:11:08.1,32°.70N×115°.88W,h4km,MD3.9(MEX), ML3.9(ECX),ML3.9(PAS),After PAS.*
NEIC Felt at Calexico, Campo, Chula Vista, Coronado, El Centro, Holtville, Jacumba, Jamul, La Jolla, La Quinta, National City and San Diego. Also felt at Mexicali and Tecate, Baja California.
*ECX **14** 05:11:08.2±0.5,32°.71N×115°.88W,h2km, MD3.8,ML4.0*
ISC 14 05:11:07.8±0.8, 32°.69N±0°.02×115°.88W±0°.02, h12km±4km, n59, σ1°.32/86, 13C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.06**	**225**	*i* P	**Pg**	**05 11 09.6**	**-0.6**
YUH	**Yuha Desert**	**0.06**	**225**	⇑*i*P	**Pg**	**05 11 09.6**	**-0.6**
SGL	**Mount Signal**	**0.13**	**106**	*e*P	**Pg**	**05 11 10.5**	**-0.7**
SGL	**Mount Signal**	**0.13**	**106**	⇑*i*P	**Pg**	**05 11 10.5**	**-0.7**
WESC	**Westside Schoo**	**0.14**	**59**	*e*P	**Pg**	**05 11 10.7**	**-0.6**
WESC				*e*S	**Sg**	**05 11 13.1**	**-0.6**
WESC	**Westside Schoo**	**0.14**	**59**	⇑*e*P	**Pg**	**05 11 10.7**	**-0.6**
WESC				*e*S	**Sg**	**05 11 13.1**	**-0.6**
IBP	**Imperial Bould**	**0.18**	**262**	*e*P	**Pg**	**05 11 12.0**	**-0.1**
IBP				*e*S	**Sg**	**05 11 14.8**	**-0.2**
ERPC	**Ernies Place**	**0.19**	**72**	*i* P	**Pg**	**05 11 11.8**	**-0.2**
ERPC	**Ernies Place**	**0.19**	**72**	⇑*i*P	**Pg**	**05 11 11.8**	**-0.2**
RMX	**La Rumorosa**	**0.19**	**244**	*i* P	**Pg**	**05 11 12.0**	**-0.2**
RMX				*e*S	**Sg**	**05 11 15.2**	**0.0**
RMX	**La Rumorosa**	**0.19**	**244**	⇑*i*P	**Pg**	**05 11 12.0**	**-0.2**
RMX				*e*S	**Sg**	**05 11 15.2**	**0.0**
COK	**Cook Ranch**	**0.20**	**38**	*i* P	**Pg**	**05 11 11.9**	**-0.4**
COK	**Cook Ranch**	**0.20**	**38**	⇑*i*P	**Pg**	**05 11 11.9**	**-0.4**
CPBX	**Cerro Prieto**	**0.55**	**119**	*e*P	**Pg**	**05 11 18.5**	**-0.2**
CPBX				*e*S	**Sg**	**05 11 26.8**	**+0.8**
CPBX	**Cerro Prieto**	**0.55**	**119**	⇑*e*P	**Pg**	**05 11 18.5**	**-0.2**
CPBX				*e*S	**Sg**	**05 11 26.8**	**+0.8**
CPBX				⇓*e*		05 11 28.9	
CPBX				IAML		05 11 28.9	
	comp=N,30μm,0.4s						
MBIG	**Mexicali**	**0.64**	**116**	*e*P	**Pg**	**05 11 20.0**	**-0.2**
MBIG				*i* S	**Sb**	**05 11 29.9**	**+0.2**
COA	**Coachella**	**0.66**	**74**	*i* P	**Pg**	**05 11 20.1**	**-0.6**
COA	**Coachella**	**0.66**	**74**	⇑*i*P	**Pg**	**05 11 20.1**	**-0.6**
BAR	**Barrett**	**0.67**	**270**	*e*Pg	**Pg**	**05 11 20.3**	**-0.6**
BAR				*e*Sg	**Sg**	**05 11 29.3**	**-0.5**
BAR	**Barrett**	**0.67**	**270**	⇑*e*P	**Pg**	**05 11 20.5**	**-0.3**
EMSC	**East Mesa**	**0.75**	**86**	*i* P	**Pg**	**05 11 21.7**	**-0.7**
EMSC	**East Mesa**	**0.75**	**86**	⇑*i*P	**Pg**	**05 11 21.7**	**-0.7**
RDX	**Rancho Dawling**	**0.76**	**184**	*e*P	**Pg**	**05 11 21.9**	**-0.7**
RDX	**Rancho Dawling**	**0.76**	**184**	⇑*e*P	**Pg**	**05 11 21.9**	**-0.7**
CBX	**Cerro Bola**	**0.76**	**241**	*i* P	**Pg**	**05 11 22.4**	**-0.2**
CBX				*i* S	**Sg**	**05 11 32.1**	**-0.2**
CBX	**Cerro Bola**	**0.76**	**241**	*i* P	**Pg**	**05 11 22.5**	**-0.2**
CBX				*e*S	**Sg**	**05 11 33.1**	**+0.5**
CBX	**Cerro Bola**	**0.76**	**241**	⇑*i*P	**Pg**	**05 11 22.5**	**-0.2**
CBX				*e*S	**Sg**	**05 11 32.9**	**+0.3**
CBX				⇓*e*		05 11 35.1	
CBX				IAML		05 11 35.1	
	comp=E,7μm,0.5s						
SDRC	**San Diego Road**	**0.90**	**273**	⇑*e*P	**Pg**	**05 11 24.3**	**-0.9**
PFO	**Pinyon Flats O**	**1.04**	**332**	*e*Pn	**Pb**	**05 11 25.9**	**-1.9**
PFO				*e*S	**Sb**	**05 11 39.9**	**-1.6**
PBX	**Punta Banda**	**1.19**	**218**	*e*P	**Pn**	**05 11 29.7**	**-0.5**
PBX				*e*S	**Sb**	**05 11 45.7**	**+0.2**
PBX	**Punta Banda**	**1.19**	**218**	*e*P	**Pn**	**05 11 29.7**	**-0.5**
PBX				*e*S	**Sb**	**05 11 45.7**	**+0.2**
ECNX	**Esteban Cantu**	**1.20**	**211**	*e*P	**Pn**	**05 11 29.8**	**-0.6**
ECNX				*e*S	**Sb**	**05 11 45.9**	**0.0**
ECNX	**Esteban Cantu**	**1.20**	**211**	*e*P	**Pn**	**05 11 29.8**	**-0.6**
ECNX				*e*S	**Sb**	**05 11 45.9**	**0.0**
ZAX	**El Zacaton**	**1.22**	**196**	*i* P	**Pn**	**05 11 30.2**	**-0.5**
ZAX				*e*S	**Sb**	**05 11 46.8**	**+0.3**
ECBX	**El Chinero**	**1.40**	**150**	*e*P9	**Pn**	**05 11 30.0**	**-3.1**
ECBX				*e*S	**Sn**	**05 11 49.4**	**-2.0**
ECBX				IAML		05 11 50.8	
	comp=N,1μm,0.3s						
ECBX				⇓*e*		05 11 50.8	
ECBX				⇑*e*		05 11 50.9	
ECBX				IAML		05 11 50.9	
	comp=E,2μm,0.4s						
SPIG	**San Pedro Mart**	**1.67**	**168**	*e*P	**Pn**	**05 11 36.5**	**-0.7**
SPIG				*i* S	**Sn**	**05 11 59.7**	**+1.0**
SPIG	**San Pedro Mart**	**1.67**	**168**	*e*P	**Pn**	**05 11 36.5**	**-0.7**
SPIG				*i* S	**Sn**	**05 11 59.7**	**+1.0**
SPX	**San Pedro Mart**	**1.67**	**168**	*e*P	**Pn**	**05 11 37.7**	**+0.5**
SPX				*e*S	**Sb**	**05 12 01.1**	**+1.2**
SPX	**San Pedro Mart**	**1.67**	**168**	*e*P2	**Pn**	**05 11 37.7**	**+0.5**
SPX				*e*S	**Sb**	**05 12 01.1**	**+1.2**
MWC	**Mount Wilson**	**2.38**	**311**	*e*Pn	**Pb**	**05 11 49.7**	**-1.1**
MWC				*e*Sn	**Sb**	**05 12 21.1**	**+0.9**
PASC	**Pasadena Art C**	**2.43**	**308**	*e*Pn	**Pb**	**05 11 50.6**	**-0.9**
PASC				*e*Sn	**Sb**	**05 12 21.3**	**-0.2**
LDFC	**Landfair**	**2.47**	**15**	*e*Pg	**Pg**	**05 11 55.4**	**+0.2**
214A	**Organ Pipe Nat**	**2.69**	**105**	*e*Pn	**Pn**	**05 11 48.4**	**-2.6**
OSI	**Osito Audit: C**	**3.06**	**310**	*e*Pn	**Pn**	**05 11 58.7**	**+2.7**
OSI				*e*Pg	**Pg**	**05 12 07.2**	**+0.8**
DAC	**Darwin (Calif)**	**3.85**	**339**	*e*Pn	**Pn**	**05 12 06.2**	**-0.9**
DAC				*e*Pg	**Pb**	**05 12 18.6**	**+2.8**
DAC				*e*Sg	**Sg**	**05 13 09.0**	**-2.6**
TUC	**Tucson**	**4.32**	**94**	*e*Pn	**Pn**	**05 12 11.4**	**-1.9**
R11A	**Troy Canyon, C**	**5.66**	**2**	*e*Pg	**Pg**	**05 12 53.2**	**-2.9**
	comp=E,5.2nm,0.8s						
WAKR	**Walker**	**6.49**	**334**	*e*Pg	Pg	05 13 08.3	-3.8
	comp=E,5.6nm,0.9s						
WAKR				*e*Sg	**Sg**	**05 14 34.4**	**-1.7**
MVU	**Marysvale**	**6.53**	**26**	*e*Pn	Pn	05 12 47.7	+3.9
	comp=E,6.0nm,0.7s						
MSU	**Marysvale**	**6.55**	**26**	*e*Pn	Pn	05 12 47.9	+3.8
	comp=E,5.6nm,0.7s						
MVCO	**Mesa Verde**	**7.55**	**51**	*e*Pn	**Pn**	**05 13 00.3**	**+2.4**
	comp=E,10nm,0.6s						
MVCO				*e*Sg	**Sg**	**05 15 11.7**	**+1.5**
PV01	**Paradox Valley**	**8.07**	**46**	*e*Pn	**Pn**	**05 13 07.2**	**+2.2**
	comp=E,794nm,0.8s						
SMCO	**Snowmass**	**9.69**	**46**	*e*Pn	**Pn**	**05 13 30.3**	**+2.8**
	comp=E,2.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**94.73**	**326**	*e*P	**P**	**05 24 30.4**	**+1.1**
HHC				PP	**PP**	**05 28 20.5**	**+3.7**
HHC	**Hu-ho-hao-te**	**94.73**	**326**	SKS	**SKSac**	**05 35 00.9**	**-3.9**
HHC	**Hu-ho-hao-te**	**94.73**	**326**	S	**S**	**05 35 41.0**	**-1.7**
HHC	**Hu-ho-hao-te**	**94.73**	**326**	SS	SS	05 42 07.0	+2.1
HHC				pmax	pmax		
	comp=Z,16nm,1.2s						
HHC				pmax	pmax		
	comp=Z,88nm,5.2s						
HHC				LR	LR		
	comp=N,69nm,17.8s						
HHC				LR	LR		
	comp=E,61nm,16.3s						
HHC				LR	LR		
	comp=Z,43nm,16.5s						
WMQ	**Urumqi**	**100.87**	**343**	*e*P	**Pdif**	**05 24 58.1**	**+1.3**
LZH	**Lanzhou**	**102.13**	**328**	*e*P	**Pdif**	**05 25 01.3**	**-1.4**
LZH				pP		05 25 05.0	
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						

*ISCJB **14** 05:18:03.7±0.7,32°.21N±0°.03×115°.22W±0°.06,h20km±9km, Error ellipse: s-maj=8.4km s-min=5.2km az=175.5*
*MEX **14** 05:18:05.8±0.6,32°.25N×115°.16W,h14km±303km, MD4.0*
*ECX **14** 05:18:05.2±0.6,32°.20N×115°.27W,h6km, MD2.7, ML2.9*
ISC 14 05:18:03.2±1.1, 32°.17N±0°.03×115°.23W±0°.05, h13km±10km, n18, σ0°.45/25, 3C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.24**	**6**	*e*P	**Pb**	**05 18 09.7**	**+0.2**
MBIG				*e*S	**Sg**	**05 18 11.7**	**-0.1**
CPBX	**Cerro Prieto**	**0.26**	**345**	⇓*e*P	**Pb**	**05 18 09.4**	**-0.4**
CPBX				*e*S	**Sg**	**05 18 12.4**	**0.0**
CPBX				*e*		05 18 15.6	
CPBX				IAML		05 18 15.6	
	comp=N,8μm,0.6s						
EMSC	**East Mesa**	**0.61**	**19**	⇓*i*P	**Pg**	**05 18 15.7**	**+0.6**
RDX	**Rancho Dawling**	**0.65**	**249**	⇑*e*P	**Pb**	**05 18 16.9**	**+0.4**
RDX				*e*S	**Sb**	**05 18 25.4**	**-0.3**
RDX				IAML		05 18 29.2	
	comp=N,457nm,0.4s						
RDX				⇓*e*		05 18 29.2	
ERPC	**Ernies Place**	**0.69**	**327**	*e*P2	**Pb**	**05 18 17.1**	**+0.1**
COA	**Coachella**	**0.70**	**7**	*e*P2	**Pb**	**05 18 16.9**	**-0.4**
ECBX	**El Chinero**	**0.71**	**168**	*e*P9	**Pb**	**05 18 16.2**	**-1.1**
ECBX				*e*S	**Sg**	**05 18 26.4**	**+0.2**
YUH	**Yuha Desert**	**0.76**	**309**	⇑*i*P	**Pg**	**05 18 18.0**	**+0.1**
RMX	**La Rumorosa**	**0.84**	**301**	*e*P	**Pg**	**05 18 19.6**	**0.0**
RMX				*e*S	**Sg**	**05 18 30.0**	**-0.6**
RMX				⇑*e*		05 18 31.2	
RMX				IAML		05 18 31.2	
	comp=N,327nm,0.1s						
ZAX	**El Zacaton**	**1.10**	**234**	*e*P	**Pg**	**05 18 24.5**	**0.0**
ZAX				*e*S	**Sg**	**05 18 39.1**	**+0.3**
SPIG	**San Pedro Mart**	**1.14**	**190**	*e*P	**Pb**	**05 18 24.7**	**-0.2**
SPIG	**San Pedro Mart**	**1.14**	**190**	*e*P	**Pb**	**05 18 24.9**	**+0.1**
SPX	**San Pedro Mart**	**1.14**	**190**	*e*P	**Pb**	**05 18 24.9**	**0.0**
SPX				*e*S	**Sn**	**05 18 41.6**	**+0.9**
CBX	**Cerro Bola**	**1.23**	**277**	*e*P	**Pn**	**05 18 25.7**	**-0.4**
CBX	**Cerro Bola**	**1.23**	**277**	*e*P	**Pn**	**05 18 25.8**	**-0.4**
ECNX	**Esteban Cantu**	**1.27**	**247**	*e*P	**Pn**	**05 18 26.7**	**-0.1**
BAR	**Barrett**	**1.33**	**293**	*e*P	**Pn**	**05 18 26.9**	**-0.5**
PBX	**Punta Banda**	**1.34**	**252**	*e*P	**Pn**	**05 18 27.8**	**+0.1**

*ISK **14** 05:20:02.2,39°.75N×26°.03E,h5km,MD2.7*

az=151.9
IDC ***14*** *05:34:36.6±2.4, 34.°03N × 135.°55E, h54km±23km, mb3.4/4, mb1 3.5/7, mb1mx3.2/29, mbtmp3.5/7, ML3.3/3, MS2.8/2, Ms1 2.8/2, ms1mx2.3/18, Error ellipse: s-maj=23.6km s-min=13.5km az=159.0*
JMA ***14*** *05:34:36.1, 34.°01N × 135.°58E, h50km±1km, M3.7 Broadband fault plane solution: P waves. NP1: φ≈165.00000°, δ77.00000°, λ23.00000°. NP2: φ≈70.00000°, δ68.00000°, λ166.00000°. Principal axes: T Plg25.0000°, Azm29.0000°; N Plg64.0000°, Azm193.0000°; P Plg6.0000°, Azm296.0000°;*
JMA Felt II J1.

ISC 14 05:34:36.1±0.9, 34.°01N±0.°04 × 135.°59E±0.°04, h48km±7km, n24, σ0.°82/29, mb3.5/4, 4C-4D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWY	**Kouya**	**0.20**	**1**	⇓P	**Pn**	**05 34 44.6**	**+0.3**
JWY				S	**Sn**	**05 34 50.3**	**+0.1**
JWM	**Minabe**	**0.25**	**230**	⇑P	**Pn**	**05 34 44.6**	**0.0**
JWM				S	**Sn**	**05 34 50.9**	**+0.3**
JWZ	**Kozaga**	**0.49**	**168**	⇑P	**Pn**	**05 34 47.3**	**+0.2**
JWZ				S	**Sn**	**05 34 55.8**	**+0.8**
JKN2	**Miekihoku**	**0.61**	**68**	P	**Pn**	**05 34 48.6**	**0.0**
JKN2				S	**Sn**	**05 34 57.5**	**-0.1**
JHE	**Heguri**	**0.64**	**7**	⇑P	**Pn**	**05 34 48.8**	**-0.2**
JHE				S	**Sn**	**05 34 58.0**	**-0.4**
JAJ2	**Tsuna**	**0.71**	**305**	⇓P	**Pn**	**05 34 49.9**	**0.0**
JAJ2				S	**Sn**	**05 34 59.9**	**+0.1**
JAI	**Aioi**	**0.97**	**257**	⇓P	**Pn**	**05 34 53.6**	**+0.2**
JAI				S	**Sn**	**05 35 06.1**	**0.0**
TSUJ	**Tsu 2**	**0.98**	**44**	⇑P	**Pn**	**05 34 53.1**	**-0.3**
TSUJ				S	**Sn**	**05 35 05.2**	**-1.0**
JIE	**Ise**	**1.00**	**68**	⇓P	**Pn**	**05 34 53.9**	**+0.1**
JIE				S	**Sn**	**05 35 06.9**	**+0.1**
MAT	**Matsushiro**	**3.31**	**40**	P	**Pn**	**05 35 26.0**	**+0.6**
MAT				*e*S	**Sn**	**05 36 06.2**	**+2.7**
MJAR	**Matsushiro Arr**	**3.31**	**40**	P	**Pn**	**05 35 25.6**	**+0.2**
	2.3nm,0.3s,baz=243,slow=14,SNR=7.4						
MJAR				S	**Sn**	**05 36 05.1**	**+1.5**
	4.5nm,0.3s,baz=218,slow=28,SNR=8.3						
JNU	**Nakatsue**	**4.03**	**259**	P	**Pn**	**05 35 35.8**	**+0.4**
	2.8nm,0.3s,baz=3.7,slow=17,SNR=13						
KSRS	**Korea Array**	**7.12**	**301**	P	**Pn**	**05 36 19.4**	**+1.8**
	0.4nm,0.3s,baz=119,slow=15,SNR=8.6						
KSRS				S	**Sn**	**05 37 36.2**	**-0.9**
	1.0nm,0.3s,baz=118,slow=23,SNR=8.8						
KSRS				LR	LR	05 39 13.5	
	comp=Z,27nm,21.1s,baz=140,slow=39						
JOW	**Kunigami**	**9.54**	**223**	LR	LR	05 40 10.9	
	comp=Z,208nm,21.2s,baz=171,slow=35						
SONM	**Songino Array**	**25.84**	**311**	P	**P**	**05 40 02.8**	**-0.3**
	0.7nm,0.8s,baz=124,slow=10,SNR=4.6						
H11N2	**WAKE ISLAND Hy 31.20**		**109**	T	T	06 13 24.8	
	baz=303,slow=74,SNR=15						
H11N1	**WAKE ISLAND Hy 31.20**		**109**	T	T	06 13 23.1	
	baz=303,slow=74,SNR=13						
H11N3	**WAKE ISLAND Hy 31.21**		**109**	T	T	06 13 25.8	
	baz=303,slow=74,SNR=12						
H11S3	**WAKE ISLAND Hy 31.73**		**111**	T	T	06 14 00.7	
	baz=305,slow=75,SNR=32						
H11S1	**WAKE ISLAND Hy 31.73**		**111**	T	T	06 14 01.5	
	baz=305,slow=75,SNR=24						
H11S2	**WAKE ISLAND Hy 31.75**		**111**	T	T	06 14 02.9	
	baz=305,slow=75,SNR=20						
MKAR	**Makanchi Array**	**41.78**	**304**	P	**P**	**05 42 20.8**	**0.0**
	0.5nm,0.6s,baz=97,slow=6.7,SNR=4.4						
WRA	**Warramunga Arr**	**53.67**	**181**	P	**P**	**05 43 52.5**	**-0.5**
	0.3nm,0.6s,baz=360,slow=7.6,SNR=4.9						
ARCES	**ARCESS Array B**	**65.11**	**339**	P	**P**	**05 45 10.9**	**-0.5**
	1.8nm,1.0s,baz=67,slow=6.9,SNR=3.9						

ISCJB ***14*** *05:40:45.1±0.5, 28.°97S±0.°04 × 69.°41W±0.°07, h106km±7km, mb3.6/4, Error ellipse: s-maj=11.3km s-min=5.8km az=160.3*
IDC ***14*** *05:40:45.5±1.6, 28.°99S × 69.°40W, h95km±13km, mb3.5/4, mb1 3.6/8, mb1mx3.5/20, mbtmp3.8/8, Error ellipse: s-maj=35.6km s-min=10.3km az=81.0*
SJA ***14*** *05:40:45.2±0.8, 29.°03S × 69.°50W, h108km±14km, ML3.6*

ISC 14 05:40:46.0±0.9, 28.°98S±0.°05 × 69.°44W±0.°07, h101km±9km, n19, σ0.°67/26, mb3.7/4, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**1.11**	**268**	*e*P	**Pn**	**05 41 08.1**	**+0.2**
LCO				*e*S	**Sn**	**05 41 24.7**	**+0.2**
AMOG	**MOGNA**	**2.12**	**157**	*e*P	**Pn**	**05 41 20.4**	**+0.2**
AMOG				*e*S	**Sn**	**05 41 46.5**	**+0.1**
RTLL	**Cerro Villicun**	**2.49**	**161**	*e*P	**Pn**	**05 41 25.2**	**+0.2**
RTLL				*e*S	**Sn**	**05 41 55.2**	**+0.3**
RTLS	**Leoncito**	**2.81**	**178**	*e*P	**Pn**	**05 41 30.2**	**+0.7**
RTLS				*e*S	**Sn**	**05 42 02.5**	**-0.5**
CFAA	**Coronel Fontan**	**2.82**	**159**	P	**Pn**	**05 41 29.5**	**+0.1**
	1.1nm,0.3s,baz=336,slow=4.8,SNR=337						
CFAA				S	**Sn**	**05 42 01.9**	**-0.9**
	3.9nm,0.3s,baz=246,slow=20,SNR=21						
RTCV	**Cerro Valdivia**	**2.98**	**165**	*e*P	**Pn**	**05 41 31.9**	**+0.4**
RTCV				*e*S	**Sn**	**05 42 06.1**	**-0.5**
CYA	**Choya**	**3.24**	**81**	*e*P	**Pn**	**05 41 35.8**	**+0.8**
CYA				AML	AML	05 42 16.2	
	comp=Z,104nm,0.9s						
ARCO	**CERRO ARCO**	**3.88**	**174**	AML	AML	05 42 31.9	
	comp=Z,94nm,0.7s						
LVC	**Limon Verde**	**6.36**	**4**	P	**Pn**	**05 42 16.5**	**-1.0**
	comp=Z,118nm,0.3s,baz=139,slow=6.5,SNR=20						
LVC				S	**Sn**	**05 43 27.8**	**-0.9**
	comp=Z,88nm,0.3s,baz=50,slow=17,SNR=3.7						
LPAZ	**La Paz**	**12.69**	**6**	P	**Pn**	**05 43 42.8**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=140,slow=12,SNR=5.2						
SIV	**San Ignacio**	**15.05**	**33**	P	**Pn**	**05 44 13.8**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=219,slow=9.7,SNR=3.1						
SNAA	**Sanae**	**55.44**	**159**	P	**P**	**05 50 09.0**	**-0.7**
	comp=Z,1.2nm,1.0s,baz=333,slow=4.5,SNR=6.1						
TXAR	**Lajitas Array**	**66.57**	**328**	P	**P**	**05 51 26.6**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=155,slow=8.6,SNR=5.8						
PDAR	**Pinedale Array**	**80.37**	**331**	P	**P**	**05 52 47.0**	**+0.7**
	comp=Z,0.7nm,0.9s,baz=130,slow=4.0,SNR=4.8						
TORD	**Torodi Ar. Bea**	**80.38**	**69**	P	**P**	**05 52 46.6**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=272,slow=5.7,SNR=15						
ASAR	**Alice Springs**	**123.04**	**206**	PKP	**PKPdf**	**05 59 30.2**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=144,slow=1.7,SNR=3.5						
WRA	**Warramunga Arr**	**126.22**	**208**	PKP	**PKPdf**	**05 59 36.3**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=158,slow=1.6,SNR=16						
ZALV	**Zalesovo Beam**	**148.79**	**30**	PKPbc	**PKPbc**	**06 00 21.8**	**+0.5**
	comp=Z,5.5nm,0.6s,baz=302,slow=3.0,SNR=18						
MKAR	**Makanchi Array**	**151.69**	**43**	PKPbc	**PKPbc**	**06 00 28.5**	**0.0**
	comp=Z,1.1nm,0.6s,baz=287,slow=6.2,SNR=8.3						
MKAR				PKPab	**PKPab**	**06 00 38.2**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=288,slow=8.3,SNR=4.4						

ISK ***14*** *05:47:38.7, 38.°47N × 38.°67E, h23km, MD2.1*
CSEM ***14*** *05:47:39.6±0.2, 38.°52N × 38.°68E, h10km, MD2.1, Error ellipse: s-maj=6.5km s-min=4.6km az=167.0*
DDA ***14*** *05:47:39.9, 38.°50N × 38.°70E, h7km, MD2.7*

ISC 14 05:47:39.9±1.1, 38.°52N±0.°04 × 38.°67E±0.°03, h11km±13km, n12, σ0.°55/22, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.25**	**94**	*i* P	**Pg**	**05 47 44.8**	**-0.3**
ELZG				*i* S	**Sg**	**05 47 48.5**	**-0.1**
ELZG	**Elazig**	**0.25**	**94**	*i* P	**Pg**	**05 47 44.8**	**-0.3**
ELZG				*i* S	**Sg**	**05 47 48.5**	**-0.1**
MALT	**Malatya**	**0.28**	**223**	*e*PG	**Pg**	**05 47 45.7**	**+0.1**
MALT				*e*SG	**Sg**	**05 47 49.9**	**+0.5**
MALT	**Malatya**	**0.28**	**223**	*e*Pg	**Pg**	**05 47 45.7**	**+0.1**
MALT				*e*Sg	**Sg**	**05 47 49.9**	**+0.5**
SVRC	**Sivrice-ELAZID**	**0.52**	**105**	*e*PG	**Pg**	**05 47 49.9**	**-0.2**
SVRC				*e*SG	**Sg**	**05 47 57.0**	**-0.1**
SVRC	**Sivrice-ELAZID**	**0.52**	**105**	*e*Pg	**Pg**	**05 47 49.9**	**-0.2**
SVRC				*e*Sg	**Sg**	**05 47 57.0**	**-0.1**
AKCD	**Akcadag**	**0.62**	**250**	*i* P	**Pg**	**05 47 52.3**	**+0.2**
AKCD				*i* S	**Sb**	**05 48 01.8**	**0.0**
AKCD	**Akcadag**	**0.62**	**250**	*i* P	**Pg**	**05 47 52.3**	**+0.2**
AKCD				*i* S	**Sb**	**05 48 01.8**	**0.0**
DARE	**Darende-Malaty**	**0.93**	**274**	*e*PG	**Pg**	**05 47 56.5**	**-1.4**
DARE	**Darende-Malaty**	**0.93**	**274**	*e*Pg	**Pg**	**05 47 56.5**	**-1.4**
ILIC	**ilic-Erzincan**	**0.94**	**355**	*e*PG	**Pg**	**05 47 58.1**	**+0.1**
ILIC				*e*SG	**Sb**	**05 48 11.4**	**+0.6**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILIC	**ilic-Erzincan**	**0.94**	**355**	*e*Pg	**Pg**	**05 47 58.1**	**+0.1**
ILIC				*e*Sg	**Sb**	**05 48 11.4**	**+0.6**

ISCJB ***14*** *06:02:09.6±0.5, 13.°64N±0.°07 × 120.°8E±0.°1, h153km±5km, mb3.4/8, Error ellipse: s-maj=17.9km s-min=11.1km az=173.9*
IDC ***14*** *06:02:10.0±0.8, 13.°64N × 120.°95E, h147km±5km, mb3.2/8, mb1 3.4/8, mb1mx3.2/35, mbtmp3.6/8, Error ellipse: s-maj=36.5km s-min=15.7km az=63.0*
MAN ***14*** *06:02:17, 13.°31N × 120.°54E, h48km, mb4.4, ML3.3, MS3.1*

ISC 14 06:02:10.1±0.8, 13.°62N±0.°07 × 120.°8E±0.°1, h146km±7km, n17, σ1.°13/18, mb3.4/8, 1C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.17**	**132**	*i* P	**Pn**	**06 02 30.1**	**+0.2**
TGY	**Tagaytay City**	**0.50**	**13**	P	**Pn**	**06 02 31.9**	**+0.9**
	202nm,0.3s,baz=224,slow=6.8,SNR=7.6						
TGY				S	**Sn**	**06 02 47.9**	**+0.8**
	212nm,0.3s,baz=194,slow=9.4,SNR=5.6						
LUBP	**Lubang**	**0.57**	**282**	*e*P	**Pn**	**06 02 30.7**	**-0.6**
LUBP				*e*S	Sn	06 02 40.3	-7.2
SJMP	**San Jose**	**1.18**	**166**	*e*P	**Pn**	**06 02 37.2**	**+1.1**
GQP	**Guinayangan**	**1.60**	**79**	⇓*e*P	Pn	06 02 43.0	+2.6
OTRP	**Odiongan**	**1.71**	**137**	*e*P	**Pn**	**06 02 43.2**	**+1.6**
OTRP				*e*S	**Sn**	**06 03 03.3**	**-2.5**
BUSP	**Coron**	**1.71**	**201**	*e*P	**Pn**	**06 02 42.1**	**+0.3**
BUSP				*e*S	Sn	06 02 58.1	-7.8
CUYO	**Cuyo Island**	**2.75**	**176**	*e*P	**Pn**	**06 02 55.2**	**+1.0**
ENPP	**El Nido**	**2.76**	**210**	*e*P	**Pn**	**06 02 55.2**	**+1.0**
CMAR	**Chiang Mai Arr**	**21.57**	**286**	P	**P**	**06 06 49.6**	**+1.3**
	1.6nm,0.3s,baz=92,slow=7.7,SNR=9.7						
WRA	**Warramunga Arr**	**35.90**	**158**	P	**P**	**06 08 55.3**	**-1.0**
	0.2nm,0.3s,baz=332,slow=9.9,SNR=6.6						
SONM	**Songino Array**	**36.17**	**343**	P	**P**	**06 08 58.2**	**-0.3**
	0.4nm,0.5s,baz=167,slow=9.3,SNR=3.6						
ASAR	**Alice Springs**	**39.20**	**161**	P	**P**	**06 09 24.1**	**0.0**
	0.2nm,0.3s,baz=339,slow=6.6,SNR=4.7						
MKAR	**Makanchi Array**	**46.17**	**324**	P	**P**	**06 10 20.6**	**+0.4**
	0.3nm,0.5s,baz=170,slow=7.4,SNR=3.5						
ZALV	**Zalesovo Beam**	**49.19**	**333**	P	**P**	**06 10 42.4**	**-0.8**
	0.9nm,0.4s,baz=121,slow=5.6,SNR=4.2						
ARCES	**ARCESS Array B**	**79.21**	**339**	P	**P**	**06 13 58.0**	**-0.6**
	0.9nm,0.7s,baz=64,slow=5.5,SNR=6.4						
YKA	**Yellowknife Ar**	**92.81**	**23**	P	**P**	**06 15 06.2**	**+0.5**
	0.1nm,0.5s,baz=308,slow=5.1,SNR=3.8						

IDC 14 06:14:36.2±16.0, 7.°67N × 104.°96W, h0km, mb3.2/4, mb1 3.7/4, mb1mx3.5/25, mbtmp3.3/4, MS3.5/6, Ms1 3.5/6, ms1mx3.3/12, Error ellipse: s-maj=485.3km s-min=99.8km az=120.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**17.13**	**343**	LR	LR	06 22 20.9	
	comp=Z,79nm,19.1s,baz=162,slow=27						
TXAR	**Lajitas Array**	**21.59**	**3**	P	P	06 19 26.6	-1.2
	0.4nm,0.7s,baz=181,slow=11,SNR=3.3						
TXAR				LR	LR	06 26 09.6	
	comp=Z,160nm,18.4s,baz=0.0,slow=32						
ANMO	**Albuquerque**	**27.18**	**357**	LR	LR	06 29 32.8	
	comp=Z,90nm,18.9s,baz=122,slow=33						
PFO	**Pinyon Flats O**	**27.92**	**339**	LR	LR	06 29 40.5	
	comp=Z,75nm,19.6s,baz=158,slow=32						
PDAR	**Pinedale Array**	**35.19**	**354**	P	P	06 21 34.1	+1.7
	0.4nm,0.7s,baz=169,slow=8.9,SNR=3.5						
ULM	**Lac du Bonnet**	**43.12**	**9**	LR	LR	06 39 02.6	
	comp=Z,52nm,19.3s,baz=16,slow=34						
LPAZ	**La Paz**	**43.53**	**123**	LR	LR	06 37 54.5	
	comp=Z,65nm,20.9s,baz=258,slow=32						
YKA	**Yellowknife Ar**	**55.17**	**355**	P	P	06 24 10.3	-0.1
	0.3nm,0.9s,baz=173,slow=6.4,SNR=4.0						
ILAR	**Eielson Array**	**64.16**	**341**	P	P	06 25 11.9	-0.5
	0.4nm,0.9s,baz=134,slow=6.4,SNR=3.2						

NNC 14 06:27:23.4±13.0, 37.°50N × 71.°35E, h0km, mb3.6, mpv3.2, 3C-2D, Error ellipse: s-maj=113.6km s-min=45.7km az=167.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.38**	**304**	⇓Pn	Pn	06 28 02.5	-1.2
	4.0nm,0.4s						
DZET				⇓Sn	Sb	06 28 37.5	+0.3
	80nm,0.6s						
SFK	**Sufi-Kurgan**	**3.02**	**33**	⇑Pn	Pn	06 28 12.5	-0.3
	5.6nm,0.4s						
SFK				⇑Sn	Sb	06 28 55.6	-0.4
	9.5nm,0.2s						
KK31	**Karatay Array**	**5.63**	**354**	Pn	Pn	06 28 47.1	-1.2
	1.3nm,0.3s,baz=177,slow=12,SNR=51						
KK31				⇑Sn	Sn	06 29 56.7	+2.9
	0.5nm,0.3s,baz=183,slow=24,SNR=4.9						

CSEM ***14*** *06:43:49.9±0.1, 38.°44N × 21.°83E, h5km, MD2.7, Error ellipse: s-maj=3.3km s-min=2.9km az=176.0*
ATH ***14*** *06:43:49.4, 38.°46N × 21.°84E, h12km±1km, MD2.7/4*
THE ***14*** *06:43:49.8, 38.°42N × 21.°82E, h10km, ML1.9/4, Error ellipse: s-maj=0.9km s-min=0.4km az=81.0*

ISC 14 06:43:50.0±1.2, 38.°44N±0.°03 × 21.°83E±0.°03, h10km±6km, n22, σ0.°43/34, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.06**	**104**	P	**Pg**	**06 43 51.9**	**-0.2**
EFP				S	**Sg**	**06 43 53.6**	**0.0**
EFP	**Efpalio**	**0.06**	**104**	*e*PG	**Pg**	**06 43 51.9**	**-0.2**
EFP				*e*SG	**Sg**	**06 43 53.6**	**0.0**
EFP	**Efpalio**	**0.06**	**104**	P	**Pg**	**06 43 51.9**	**-0.2**
EFP				S	**Sg**	**06 43 53.6**	**0.0**
KALE	**Kalithea**	**0.25**	**102**	P	**Pg**	**06 43 54.9**	**-0.2**
KALE				S	**Sg**	**06 43 58.7**	**+0.2**
KALE	**Kalithea**	**0.25**	**102**	*e*PG	**Pg**	**06 43 55.2**	**+0.1**
KALE				*e*SG	**Sg**	**06 43 59.2**	**+0.7**
KALE	**Kalithea**	**0.25**	**102**	P	**Pg**	**06 43 54.9**	**-0.2**
KALE	**Kalithea**	**0.25**	**102**	*e*Pg	**Pg**	**06 43 55.2**	**+0.1**
KALE				S	**Sg**	**06 43 58.7**	**+0.2**
KALE				*e*Sg	Sg	06 43 59.2	+0.6
KLV	**Kalavryta, Ach**	**0.47**	**148**	P	**Pg**	**06 43 58.6**	**-0.6**
KLV	**Kalavryta, Ach**	**0.47**	**148**	*e*PB	**Pg**	**06 43 58.6**	**-0.6**
KLV	**Kalavryta, Ach**	**0.47**	**148**	P	**Pg**	**06 43 58.6**	**-0.6**
EVR	**Evrytania**	**0.47**	**358**	P	**Pg**	**06 43 59.1**	**-0.2**
EVR	**Evrytania**	**0.47**	**358**	P	**Pg**	**06 43 59.1**	**-0.2**
RLS	**Riolos of Patr**	**0.48**	**217**	*e*PB	**Pg**	**06 43 59.4**	**+0.1**
RLS				*e*SB	**Sg**	**06 44 06.2**	**+0.6**
RLS	**Riolos of Patr**	**0.48**	**217**	*e*Pb	**Pg**	**06 43 59.4**	**+0.1**
RLS				*e*Sb	**Sg**	**06 44 06.2**	**+0.6**
PDO	**Prodromos**	**0.53**	**287**	*e*PB	**Pg**	**06 43 59.8**	**-0.5**
PDO	**Prodromos**	**0.53**	**287**	*e*Pb	**Pg**	**06 43 59.8**	**-0.5**
DSF	**Desfina**	**0.55**	**93**	P	**Pg**	**06 44 00.3**	**-0.3**
DSF				S	**Sg**	**06 44 08.6**	**+0.7**
DSF	**Desfina**	**0.55**	**93**	*e*PB	**Pg**	**06 43 59.9**	**-0.7**
DSF	**Desfina**	**0.55**	**93**	*e*Pb	**Pg**	**06 43 59.9**	**-0.7**
DSF	**Desfina**	**0.55**	**93**	P	**Pg**	**06 44 00.3**	**-0.3**
DSF				S	**Sg**	**06 44 08.6**	**+0.7**
MAKR	**Makrakomi, Fth**	**0.62**	**22**	P	**Pg**	**06 44 02.0**	**0.0**
MAKR				S	**Sb**	**06 44 11.5**	**-0.2**
MAKR	**Makrakomi, Fth**	**0.62**	**22**	P	**Pg**	**06 44 02.0**	**0.0**
MAKR				S	**Sb**	**06 44 11.5**	**-0.2**

IDC ***14*** *06:56:02.1±1.6, 7.°10S × 129.°33E, h0km, mb4.0/2, mb1 4.4/5, mb1mx3.8/40, mbtmp4.3/5, ML4.5/3, Error ellipse: s-maj=61.6km s-min=27.7km az=78.0*

ISC 14 06:56:03.0±1.1, 7.°1S±0.°1 × 129.°8E±0.°3, h10km, n11, σ0.°81/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**4.80**	**30**	P	Pn	06 57 14.3	-1.1
	baz=4.4,SNR=68						
FAKI				S	Sn	06 58 01.3	-10
	baz=4.4,SNR=14						
KDU	**Kakadu**	**6.14**	**155**	P	Pn	06 57 38.8	+5.0
	baz=6.0,SNR=140						
KDU				S	**Sn**	**06 58 43.1**	**-0.9**
	baz=6.0,SNR=7.0						
SIJI	**Sorong**	**6.35**	**13**	Pn	**Pn**	**06 57 37.0**	**+0.2**
	12nm,0.3s,baz=201,slow=22,SNR=43						
SIJI					Sn	Sn	06 58 39.2	-10
	14nm,0.3s,baz=122,slow=24,SNR=13						
SWI	**Sorong**	**6.35**	**13**	P	**Pn**	**06 57 37.4**	**+0.6**
	baz=6.2,SNR=5.5						
SWI				S	Sn	06 58 39.7	-10
	baz=6.2,SNR=8.5						
KNRA	**Kununurra**	**8.59**	**187**	P	Pn	06 58 16.3	+8.8
	baz=8.9,SNR=46						
KNRA				S	Sn	06 59 50.5	+6.0
	baz=8.9,SNR=9.3						
WRA	**Warramunga Arr**	**13.50**	**162**	Pn	**Pn**	**06 59 15.4**	**+0.7**
	2.2nm,0.3s,baz=335,slow=14,SNR=78						
WRA					Sn	Sn	07 01 36.6	-8.4
	5.0nm,0.3s,baz=333,slow=23,SNR=9.5						
COEN	**Coen**	**14.78**	**119**	P	Pn	06 59 30.0	-2.3
	baz=14,SNR=6.0						
QIS	**Mount Isa**	**16.39**	**146**	P	**Pn**	**06 59 53.3**	**-0.1**
	baz=16,SNR=7.3						
QIS				S	Sn	07 02 40.5	-15
	baz=16,SNR=4.6						
ASAR	**Alice Springs**	**16.93**	**167**	Pn	**P**	**07 00 02.9**	**+0.6**
	1.7nm,0.3s,baz=340,slow=9.8,SNR=79						
ASAR					Sn	Sn	07 02 58.5	-10
	0.7nm,0.3s,baz=352,slow=27,SNR=5.9						
SONM	**Songino Array**	**58.48**	**342**	P	**P**	**07 05 58.3**	**-1.1**
	0.9nm,0.6s,baz=159,slow=6.9,SNR=4.3						
MKAR	**Makanchi Array**	**68.21**	**327**	P	**P**	**07 07 04.0**	**+0.2**
	1.1nm,0.4s,baz=114,slow=7.2,SNR=7.4						

AUST 14 06:56:11.1±2.8, 33.°44S × 116.°43E, h3km, Error ellipse: s-maj=3.2km s-min=1.0km az=280.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**0.84**	**53**	P	Pg	06 56 27.3	-0.1
	baz=0.8,SNR=15						
RKGY	**Rocky Gully**	**1.25**	**159**	P	Pg	06 56 35.2	+0.1
	baz=1.3,SNR=9.1						
RKGY				S	Sn	06 56 53.0	0.0
	baz=1.3,SNR=7.7						
KLBR	**Kellerberrin**	**2.15**	**32**	P	Pn	06 56 47.4	-0.6
	baz=2.2,SNR=9.1						
KLBR				S	Sb	06 57 16.8	-1.2
	baz=2.2,SNR=4.1						
BLDU	**Ballidu**	**2.83**	**5**	P	Pn	06 56 57.0	-0.3
	baz=2.8,SNR=7.8						
BLDU				S	Sn	06 57 34.4	+2.5
	baz=2.8,SNR=12						

IDC ***14*** *07:02:10.1±0.9, 38.°33N × 71.°50E, h0km, mb3.9/12, mb1 4.1/19, mb1mx3.9/52, mbtmp4.0/19, ML3.8/7, MS3.2/11, Ms1 3.2/11, ms1mx3.0/30, Error ellipse: s-maj=17.0km s-min=12.9km az=163.0*
NNC ***14*** *07:02:13.0±2.9, 38.°42N × 71.°27E, h0km, mb4.7, mpv4.4, Error ellipse: s-maj=28.9km s-min=16.4km az=163.0*
ISCJB ***14*** *07:02:15.1±0.3, 38.°35N±0.°03 × 71.°44E±0.°05, h47km, mb3.9/26, MS3.3/7, Error ellipse: s-maj=5.2km s-min=4.6km az=154.5*
MOS ***14*** *07:02:16.2±0.9, 38.°42N × 71.°41E, h55km, mb4.4/14, Error ellipse: s-maj=11.3km s-min=5.0km az=73.1*
NEIC ***14*** *07:02:17.1±1.1, 38.°48N × 71.°34E, h45km±10km, mb4.3/6, Error ellipse: s-maj=12.8km s-min=9.5km az=146.0*
BJI ***14*** *07:02:18.5, 38.°27N × 72.°14E, h20km, mb4.0/6, mB4.4/4, ML4.3/5, Ms4.0/4, Ms7.3/6/2*

ISC 14 07:02:16.2±0.5, 38.°40N±0.°06 × 71.°31E±0.°05, h47km, n119, σ1.°72/107, mb4.0/26, MS3.2/7, 12C-11D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**1.99**	**283**	⇑Pn	**Pn**	**07 02 48.4**	**+0.9**
	356nm,0.5s						
DZET				⇓Lg	Lg	07 03 18.2	
	564nm,0.7s						
SFK	**Sufi-Kurgan**	**2.35**	**46**	⇓Pn	**Pn**	**07 02 54.5**	**+2.0**
	445nm,0.5s						
SFK				⇑Lg	Lg	07 03 28.8	
	453nm,0.4s						
KSH	**Kashi**	**3.80**	**71**	Pg	**Pn**	**07 03 09.8**	**-2.6**
KSH				Sg	Sn	07 03 49.5	-6.5
KSH				SMN			
	1μm,0.9s						
KSH				SME			
	2μm,0.8s						
AML	**Almayashu**	**4.15**	**25**	P	**Pn**	**07 03 18.5**	**+1.1**
	SNR=81						
AML	**Almayashu**	**4.15**	**25**	*i* PN	**Pn**	**07 03 18.5**	**+1.1**
KBL	**Kabul**	**4.26**	**206**	*e*Pn	**Pn**	**07 03 20.9**	**+2.1**
KBL				*e*		07 04 14.3	
KBL	**Kabul**	**4.26**

TKM2	**Tokmak 2**	**5.57**	**34**	*i* PN		**Pn**	**07 03 39.1**	**+2.4**
TKM2	**Tokmak 2**	**5.57**	**34**	*e*Pn		**Pn**	**07 03 37.8**	**+1.0**
DLH	**Dalhousie**	**6.97**	**146**	*e*P		**Pn**	**07 03 56.0**	**0.0**
DLH				*e*S		**Sn**	**07 05 14.0**	**0.0**
PDGK	**Podgornoye**	**7.91**	**49**	⇑Pn		**Pn**	**07 04 09.4**	**+0.8**
	comp=N,10nm,0.6s							
PDGK				⇓Lg	Lg		07 06 18.4	
	comp=N,90nm,1.4s							
GEYT	**Alibeck**	**10.40**	**271**	Pn		**Pn**	**07 04 41.8**	**-0.9**
	comp=N,1.6nm,0.3s,baz=94,slow=11,SNR=7.6							
GEYT				Sn		**Sn**	**07 06 33.7**	**-4.1**
	comp=N,0.7nm,0.3s,baz=48,slow=22,SNR=3.1							
GEYT				LR	LR		07 09 47.0	
	comp=N,166nm,18.1s,baz=115,slow=43							
MK31	**Makanchi Array**	**11.65**	**40**	Pn		**Pn**	**07 05 00.1**	**+0.3**
	comp=N,32nm,1.1s,baz=234,slow=12,SNR=106							
MK31	**Makanchi Array**	**11.65**	**40**	*i* P		**Pn**	**07 05 00.0**	**+0.3**
MK31				pmax	pmax			
	comp=Z,56nm,1.4s							
MK31	**Makanchi Array**	**11.65**	**40**	*e*Pn		**Pn**	**07 04 59.7**	**0.0**
MKAR	**Makanchi Array**	**11.65**	**40**	Pn		**Pn**	**07 04 57.1**	**-2.6**
	comp=Z,0.8nm,0.3s,baz=241,slow=12,SNR=45							
MKAR				LR	LR		07 08 59.3	
	comp=Z,60nm,18.7s,baz=217,slow=35							
MKAR	**Makanchi Array**	**11.65**	**40**	*e*P		**Pn**	**07 05 00.1**	**+0.4**
MKAR	**Makanchi Array**	**11.65**	**40**	*e*Pn		**Pn**	**07 05 00.1**	**+0.4**
KURBB	**Kurchatov Arra**	**13.25**	**20**	Pn		**Pn**	07 05 17.8	-3.8
	comp=Z,0.1nm,0.3s,baz=213,slow=12,SNR=7.5							
KURK	**Kurchatov**	**13.36**	**20**	P		**Pn**	**07 05 23.6**	**+0.5**
KURK	**Kurchatov**	**13.36**	**20**	Pn		**Pn**	**07 05 23.6**	**+0.5**
AB31	**Akbulak array**	**13.59**	**327**	⇓Pn		**Pn**	07 05 23.5	-2.7
	comp=Z,2.2nm,0.6s							
AB31				⇓Sn		**Sn**	07 07 50.2	-5.4
	comp=Z,1.9nm,0.4s							
AB31	**Akbulak array**	**13.59**	**327**	P		**Pn**	07 05 23.4	-2.7
AB31				S		**Sn**	07 07 50.1	-5.4
AB31				pmax	pmax			
	comp=Z,1.0nm,0.3s							
AB31				smax	smax			
	comp=N,2.0nm,0.3s							
ABKAR	**Akbulak array**	**13.59**	**327**	*e*Pn		**Pn**	07 05 23.5	-2.6
ABKAR				*e*Sn		**Sn**	07 07 50.2	-5.3
PYUN	**Piuthan**	**14.16**	**133**	*e*P		**Pn**	07 05 27.1	-7.2
	comp=N,94nm,0.5s							
BVA0	**Borovoye Array**	**14.64**	**358**	⇓Pn		**Pn**	**07 05 42.2**	**+1.9**
	comp=N,3.9nm,0.6s							
BVAR	**Borovoye Array**	**14.64**	**358**	Pn		**Pn**	**07 05 37.9**	**-2.4**
	comp=N,0.7nm,0.3s,baz=185,slow=14,SNR=11							
BRVK	**Borovoye**	**14.68**	**358**	⇓Pn		**Pn**	**07 05 41.2**	**+0.4**
	comp=N,11nm,0.7s							
BRVK	**Borovoye**	**14.68**	**358**	*e*P		**Pn**	**07 05 40.9**	**+0.1**
BRVK	**Borovoye**	**14.68**	**358**	*e*Pn		**Pn**	**07 05 40.9**	**+0.1**
KOLN	**Koldanda**	**14.77**	**132**	*e*P		Pn	07 05 35.0	-7.3
	comp=N,15nm,0.7s							
GKN	**Gorkha**	**15.21**	**129**	*e*P		Pn	07 05 42.7	-5.4
	comp=N,36nm,0.9s							
AKTO	**Aktyubinsk**	**15.30**	**326**	⇑Pn		**P**	**07 05 53.5**	**+0.5**
	comp=N,11nm,0.8s							
AKTO				⇓Sn		**Sn**	**07 08 32.9**	**-4.2**
	comp=N,3.9nm,0.8s							
AKTO	**Aktyubinsk**	**15.30**	**326**	Pn		**Pn**	**07 05 46.2**	**-2.7**
	comp=N,0.1nm,0.3s,baz=136,slow=15,SNR=2.4							
AKTO				Sn		**Sn**	**07 08 31.7**	**-5.4**
	comp=N,0.1nm,0.3s,baz=144,slow=19,SNR=2.8							
DMN	**Daman**	**15.78**	**129**	*e*P		Pn	07 05 50.4	-5.2
	comp=N,11nm,0.5s							
GUN	**Gumba**	**16.05**	**126**	*e*P		**Pn**	**07 05 55.4**	**-3.7**
	comp=N,68nm,1.0s							
RAMN	**Ramite**	**17.18**	**127**	*e*P		**Pn**	**07 06 09.5**	**-3.6**
	comp=N,66nm,1.1s							
TAPN	**Taplejung**	**17.61**	**124**	*e*P		**Pn**	**07 06 18.1**	**-0.4**
ODAN	**Odare**	**17.74**	**126**	*e*P		**Pn**	**07 06 18.8**	**-1.3**
ZAA0	**Zalesovo Array**	**18.10**	**26**	*e*P		**P**	**07 06 21.8**	**-2.1**
ZALV	**Zalesovo Beam**	**18.10**	**26**	P		**P**	**07 06 21.7**	**-2.1**
	comp=N,1.2nm,0.3s,baz=220,slow=11,SNR=22							
ZALV				LR	LR		07 13 56.7	
	comp=N,59nm,21.0s,baz=250,slow=39							
NVS	**Novosibirsk**	**18.33**	**22**	*e*P		**P**	**07 06 24.5**	**-1.9**
ARU	**Arti**	**19.93**	**339**	*d i*P		**Pn**	**07 06 45.6**	**-0.3**
ARU				S		**S**	**07 10 23.3**	**-2.2**
ARU				pmax	pmax			
	comp=Z,6.0nm,1.0s							
ARU	**Arti**	**19.93**	**339**	*e*P		**Pn**	**07 06 45.5**	**-0.3**
	comp=Z,10.0nm,1.0s							
GNI	**Garni**	**20.62**	**283**	*e*P		**P**	**07 06 53.3**	**+1.6**
GNI				pmax	pmax			
	comp=Z,29nm,1.3s							
GNI	**Garni**	**20.62**	**283**	*e*P		**P**	**07 06 53.3**	**+1.6**
	comp=Z,29nm,1.3s							
ZEI	**Tsey**	**21.23**	**291**	*e*P		**P**	**07 07 00.1**	**+1.8**
ZEI				pmax	pmax			
	comp=Z,4.0nm,0.6s							
KBZ	**Khabaz**	**22.02**	**293**	P		**P**	**07 07 07.8**	**+1.4**
	comp=Z,1.9nm,0.6s,baz=236,slow=24,SNR=5.8							
KBZ				LR	LR		07 17 42.2	
	comp=Z,60nm,21.6s,baz=130,slow=42							
NEY	**Neytrino**	**22.11**	**292**	*e*P		P	07 07 14.9	+7.2
NEY				pmax	pmax			
	comp=Z,3.0nm,0.9s							
GTA	**Gaotai**	**22.17**	**78**	*e*P		**P**	**07 07 10.0**	**+1.6**
GTA				pP		**pP**	**07 07 15.5**	**-4.0**
GTA				sP		sP	07 07 18.9	-6.5
GTA				PMZ				
	comp=Z,5.0nm,1.1s							
KIV	**Kislovodsk**	**22.19**	**294**	⇑*e*P		P	07 07 14.3	+5.9
KIV				*e**PP		pP	07 07 32.8	+13
KIV				pmax	pmax			
	comp=Z,9.0nm,0.6s							
ZAK	**Zakamensk**	**25.59**	**52**	*e*P		**P**	**07 07 40.5**	**-0.4**
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.0s							
TLY	**Talaya**	**26.18**	**49**	*e*P		**P**	**07 07 44.6**	**-1.6**
TLY				pmax	pmax			
	comp=Z,2.0nm,1.2s							
RAYN	**Ar Rayn**	**26.52**	**243**	*e*P		**P**	**07 07 50.2**	**+0.7**
	comp=Z,1.9nm,0.9s							
SONM	**Songino Array**	**27.09**	**58**	P		**P**	**07 07 54.9**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=253,slow=9.8,SNR=2.5							
SONM	**Songino Array**	**27.09**	**58**	*e*P		P	07 08 00.8	+6.3
SONM				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ULN	**Ulaanbaatar**	**27.53**	**58**	*e*P		**P**	**07 08 00.5**	**+2.0**
ULN				pmax	pmax			
	comp=Z,1.0nm,0.8s							
OBN	**Obninsk**	**28.69**	**317**	⇑eP		P	07 08 11.9	+3.4
OBN				*e**PP		pP	07 08 34.1	+13
OBN				*e*			07 09 05.0	
OBN				*e*S		**S**	**07 12 52.7**	**-1.3**
OBN				pmax	pmax			
	comp=Z,5.0nm,1.0s							
BRTR	**Keskin Array B**	**29.14**	**285**	P		**P**	**07 08 16.0**	**+3.0**
	comp=Z,0.3nm,0.5s,baz=126,slow=8.2,SNR=3.6							
BRTR	**Keskin Array B**	**29.14**	**285**	*e*P		P	07 08 18.4	+5.5
KIEV	**Kiev**	**31.99**	**306**	*e*P		**P**	**07 08 40.1**	**+2.4**
FINES	**FINESS Array B**	**36.06**	**325**	P		**P**	**07 09 14.1**	**+1.1**
	comp=Z,1.9nm,0.4s,baz=123,slow=10,SNR=18							
FINES	**FINESS Array B**	**36.06**	**325**	*e*P		**P**	**07 09 14.0**	**+1.1**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.4s							
ARCES	**ARCESS Array B**	**39.49**	**337**	P		**P**	**07 09 43.0**	**+1.3**
	comp=Z,3.1nm,0.5s,baz=109,slow=7.3,SNR=50							
ARCES				LR	LR		07 27 10.5	
	comp=Z,39nm,21.2s,baz=154,slow=38							
ARE0	**ARCESS Array S**	**39.49**	**337**	*e*P		**P**	**07 09 43.0**	**+1.3**
BRG	**Berggiesshubel**	**41.67**	**307**	*e*(P)		P	07 10 06.3	+6.4
	comp=Z,3.0nm,0.8s							
BRG	**Berggiesshubel**	**41.67**	**307**	*e*P		P	07 10 06.3	+6.4
BRG				pmax	pmax			
	comp=Z,3.0nm,0.8s							
CLL	**Collm**	**42.21**	**307**	*e*P		P	07 10 10.0	+5.6
NB2	**NORSAR Subarra**	**43.03**	**322**	P		**P**	**07 10 11.7**	**+0.8**
	comp=Z,2.7nm,0.7s,baz=93,slow=8.6							
NOA	**NORSAR Array B**	**43.03**	**322**	P		**P**	**07 10 11.8**	**+0.9**
	comp=Z,2.4nm,0.7s,baz=94,slow=8.1,SNR=12							
NOA				LR	LR		07 30 20.3	
	comp=Z,26nm,20.5s,baz=95,slow=39							
KONO	**Kongsberg**	**43.78**	**320**	*e*P		**P**	**07 10 19.4**	**+2.5**
KONO				pmax	pmax			
	comp=Z,4.0nm,0.7s							
KONO	**Kongsberg**	**43.78**	**320**	*e*P		**P**	**07 10 19.4**	**+2.5**
	comp=Z,3.8nm,0.7s							
TIXI	**Tiksi**	**43.93**	**23**	*e*P		**P**	**07 10 17.8**	**-0.1**
TIXI				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KSAR	**Wonju Array Be**	**44.03**	**73**	P		**P**	**07 10 18.7**	**-0.6**
KSAR	**Wonju Array Be**	**44.03**	**73**	P		**P**	**07 10 18.7**	**-0.6**
KSRS	**Korea Array**	**44.06**	**73**	P		**P**	**07 10 18.7**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=283,slow=6.8,SNR=4.1							
KSRS				LR	LR		07 30 51.0	
	comp=Z,41nm,20.5s,baz=305,slow=39							
USRK	**Ussuriysk Ar.**	**45.05**	**62**	LR	LR		07 31 22.2	
	comp=Z,31nm,20.2s,baz=229,slow=39							
MJAR	**Matsushiro Arr**	**52.05**	**70**	LR	LR		07 36 24.0	
	comp=Z,38nm,18.4s,baz=110,slow=40							
BILL	**Bilibino**	**56.80**	**27**	⇑*i*P		**P**	**07 11 56.2**	**+1.0**
BILL				*e**PP		pP	07 12 20.5	+12
BILL				*e*			07 12 51.8	
BILL				*e*			07 14 01.7	
BILL				*e*S		S	07 19 38.2	-6.4
BILL				pmax	pmax			
	comp=Z,2.0nm,1.2s							
SUMG	**Summit**	**59.35**	**341**	*e*P		**P**	**07 12 15.1**	**+1.6**
SUMG				pmax	pmax			
	comp=Z,5.0nm,0.7s							
SUMG	**Summit**	**59.35**	**341**	*e*P		**P**	**07 12 15.1**	**+1.6**
	comp=Z,5.2nm,0.7s							
TORD	**Torodi Ar. Bea**	**66.02**	**268**	P		**P**	**07 12 58.7**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=48,slow=5.7,SNR=26							
INK	**Inuvik**	**71.99**	**9**	P		**P**	**07 13 35.7**	**+1.3**
	comp=Z,1.2nm,0.6s,baz=346,slow=6.8,SNR=11							
INK	**Inuvik**	**71.99**	**9**	P		**P**	**07 13 35.7**	**+1.3**
INK				pmax	pmax			
	comp=Z,1.0nm,0.6s							
INK	**Inuvik**	**71.99**	**9**	*e*P		**P**	**07 13 35.6**	**+1.2**
COLA	**College**	**72.59**	**16**	*e*P		**P**	**07 13 38.8**	**+0.8**
COLA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
COLA	**College**	**72.59**	**16**	*e*P		**P**	**07 13 38.8**	**+0.8**
	comp=Z,3.3nm,0.8s							
ILAR	**Eielson Array**	**72.89**	**16**	P		**P**	**07 13 39.2**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=319,slow=4.8,SNR=6.7							
ILAR	**Eielson Array**	**72.89**	**16**	*e*P		**P**	**07 13 38.4**	**-1.5**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
DBIC	**Dimbokro**	**75.05**	**267**	LR	LR		07 50 38.0	
	comp=Z,43nm,18.1s,baz=94,slow=39							
YKA	**Yellowknife Ar**	**79.34**	**3**	P		**P**	**07 14 17.8**	**+1.2**
	comp=Z,1.4nm,0.8s,baz=350,slow=5.9,SNR=16							
WRA	**Warramunga Arr**	**82.79**	**122**	P		**P**	**07 14 36.2**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=333,slow=5.7,SNR=2.5							

IDC 14 07:06:27.1±1.8, 7°29S×128°31E, h0km, mb3.7/1, mb1 3.8/4, mb1mx3.5/28, mbtmpg3.6/4, ML3.7/3, Error ellipse: s-maj=65.6km s-min=29.9km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**7.03**	**25**	Pn		Pn		07 08 11.2	-0.1
	0.9nm,0.3s,baz=197,slow=19,SNR=2.8								
SIJI				Sn		Sn		07 09 18.7	-13
	1.0nm,0.3s,baz=357,slow=19,SNR=4.0								
WRA	**Warramunga Arr**	**13.87**	**156**	Pn		Pn		07 09 43.8	-1.3
	0.4nm,0.3s,baz=331,slow=13,SNR=14								
WRA				Sn		Sn		07 12 05.8	-14
	1.1nm,0.3s,baz=340,slow=21,SNR=9.9								
ASAR	**Alice Springs**	**17.14**	**162**	Pn		P		07 10 29.4	-0.7
	0.3nm,0.3s,baz=344,slow=9.4,SNR=14								
ASAR				Sn		Sn		07 13 27.8	-12
	baz=358,slow=27,SNR=2.4								
MKAR	**Makanchi Array**	**67.56**	**328**	P		P		07 17 25.4	0.0
	0.2nm,0.3s,baz=128,slow=6.8,SNR=5.5								

*ISCJB **14** 07:07:26.8±0.7, 3°20S±0°06×139°45E±0°05, h46km, mb3.6/3, MS2.9/2, Error ellipse: s-maj=8.7km s-min=6.3km az=163.1*
*DJA **14** 07:07:26.0±0.8, 3°S±6°×13°9E±°, h82km±14km, M3.9/4, MLv3.9/4*
*IDC **14** 07:07:29.4±3.1, 3°.14S×139°.60E, h70km±36km, mb3.4/3, mb1 3.7/4, mb1mx3.4/23, mbtmp3.8/4, ML3.8/1, MS3.0/2, Ms1 3.0/2, ms1mx2.5/16, Error ellipse: s-maj=57.6km s-min=19.7km az=114.0*

ISC 14 07:07:27.8±0.9, 3°13S±0°07×139°47E±0°05, h46km, n11, σ1§29/13, mb3.7/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.88**	**52**	P		**Pn**		**07 07 44.4**	**+0.6**
GENI				S		**Sn**		**07 07 58.1**	**+2.6**
WAMI	**Wamena**	**1.06**	**225**	P		**Pn**		**07 07 46.9**	**+0.6**
SMPI	**Sarmi**	**1.36**	**326**	P		**Pn**		**07 07 50.0**	**-0.4**
SMPI				S		**Sn**		**07 08 09.7**	**+2.4**
JAY	**Jayapura**	**1.38**	**64**	P		**Pn**		**07 07 50.3**	**-0.3**
JAY	**Jayapura**	**1.38**	**64**	P		**Pn**		**07 07 50.4**	**-0.2**
	28nm,0.3s,baz=228,slow=12,SNR=96								
JAY				S		**Sn**		**07 08 07.8**	**+0.1**
	91nm,0.3s,baz=71,slow=17,SNR=20								
JAY				LR		LR		07 08 36.9	
	comp=Z,81nm,20.7s,baz=335,slow=53								
SRPI	**Serui, Papua**	**3.46**	**291**	S		**Sn**		**07 08 59.0**	**0.0**
WRA	**Warramunga Arr**	**17.44**	**196**	P		**Pn**		**07 11 28.5**	**+0.6**
	0.4nm,0.3s,baz=18,slow=12,SNR=11								
ASAR	**Alice Springs**	**21.11**	**194**	P		**P**		**07 12 08.7**	**-0.1**
	2.6nm,0.7s,baz=22,slow=10,SNR=14								
ASAR				LR		LR		07 21 26.9	
	comp=Z,93nm,19.5s,baz=101,slow=40								
PETK	**Petropavlovsk-**	**58.10**	**13**	LR		LR		07 43 48.4	
	comp=Z,4.8nm,19.0s,baz=343,slow=38								
MKAR	**Makanchi Array**	**70.58**	**322**	P		**P**		**07 18 38.1**	**-0.2**
	0.6nm,0.5s,baz=110,slow=5.9,SNR=7.4								
ILAR	**Eielson Array**	**85.90**	**24**	P		**P**		**07 20 00.8**	**-1.7**
	0.2nm,0.6s,baz=246,slow=5.8,SNR=3.3								

*NIED **14** 07:33:00, 37°.80N×142°.10E, h38km, Mw3.6 Best double couple: M0 2.94000×10^14 NP1:φs 283.00000°, δ57.00000°, λ6.00000°. NP2:φs 190.00000°, δ85.00000°, λ147.00000°.*
JMA 14 07:33:55.1±0.1, 37°79N×142°13E, h35km±2km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.91**	**317**	P		Pn		07 34 11.7	+0.4
JIO				*e*S		Sn		07 34 23.0	-0.2
JMM	**Marumori**	**1.06**	**275**	P		Pn		07 34 14.0	+0.5
JMM				S		Sn		07 34 27.5	+0.5
JFK	**Kawauchi**	**1.08**	**247**	P		Pn		07 34 14.1	+0.3
JFK				*e*S		Sn		07 34 27.9	+0.2
JOU	**Okura**	**1.29**	**297**	P		Pn		07 34 17.9	+1.2
JOU				*e*S		Sn		07 34 34.3	+1.5
JMK	**Ichinoseki**	**1.36**	**329**	P		Pn		07 34 18.2	+0.6
JFT	**Otama**	**1.45**	**260**	P		Pn		07 34 20.7	+1.5
JFT				*e*S		Sn		07 34 38.7	+2.1
JYK	**Kaneyama**	**1.79**	**310**	P		Pn		07 34 24.8	+1.3
JOM	**Ohasama**	**1.80**	**339**	P		Pn		07 34 24.5	+0.8
JFY	**Yanaizu**	**1.96**	**260**	P		Pn		07 34 27.8	+1.9
JFY				*e*S		Sn		07 34 51.6	+2.2
JRG	**Rokugo**	**1.99**	**324**	P		Pn		07 34 27.6	+1.4
JYA	**Atsumi**	**2.07**	**294**	P		Pn		07 34 28.7	+1.4
MAT	**Matsushiro**	**3.37**	**250**	P		Pn		07 34 47.1	+1.8
MAT				*e*S		Sn		07 35 25.7	+1.6

*ISCJB **14** 07:59:36.9±0.5, 38°.08N±0°.03×73°.45E±0°.09, h100km, mb3.4/2, Error ellipse: s-maj=10.4km s-min=3.9km az=165.0*
*IDC **14** 07:59:41.5±6.0, 38°.40N×73°.38E, h159km±58km, mb3.2/2, mb1 3.1/7, mb1mx2.9/40, mbtmp3.6/7, Error ellipse: s-maj=55.5km s-min=30.3km az=8.0*
*NNC **14** 07:59:46.7±5.0, 38°.74N×72°.56E, h29km±40km, mb4.3, mpv4.1, Error ellipse: s-maj=45.4km s-min=26.3km az=147.0*

ISC 14 07:59:36.8±0.8, 38°15N±0°05×73°42E±0°07, h100km, n42, σ2§17/44, 6C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.86**	**2**	⇑Pn		Pn		08 00 12.3	+4.5
	187nm,0.3s								
SFK				⇑Lg		Lg		08 00 35.4	
	47196μm,0.0s								
KSH	**Kashi**	**2.42**	**55**	Pg		**Pn**		**08 00 15.0**	**+0.1**
KSH				Sg		**Sn**		**08 00 40.0**	**-4.1**
KSH				smax	smax				
	comp=N,2μm,0.4s								
KSH				smax	smax				
	comp=E,2μm,0.8s								

DZET	**Dzherino**	**3.66**	**282**	⇓Pn		**Pn**	**08 00 33.9**	**+2.4**
	comp=E,91nm,0.2s							
DZET				⇑Lg		Lg	08 01 15.1	
	comp=E,274nm,0.2s							
AML	**Almayashu**	**3.98**	**3**	P		**Pn**	**08 00 38.7**	**+2.6**
	SNR=155							
UCH	**Uchtor**	**4.16**	**11**	P		**Pn**	**08 00 41.3**	**+2.8**
	SNR=69							
KZA	**Kyzart**	**4.17**	**19**	P		**Pn**	**08 00 41.1**	**+2.6**
	SNR=17							
EKS2	**Erkin-Say**	**4.52**	**3**	P		**Pn**	**08 00 46.0**	**+2.9**
	SNR=39							
AAK	**Ala-Archa**	**4.56**	**10**	P		**Pn**	**08 00 46.6**	**+3.0**
	SNR=13							
AAK	**Ala-Archa**	**4.56**	**10**	Pn		**Pn**	**08 00 46.6**	**+3.0**
	comp=E,4.5nm,0.3s							
AAK				⇓Sn		**Sn**	**08 01 38.2**	**+2.7**
	comp=E,16nm,0.6s							
AAK	**Ala-Archa**	**4.56**	**10**	P		**Pn**	**08 00 46.6**	**+3.0**
	comp=E,3.8nm,0.3s,baz=169,slow=8.4,SNR=22							
AAK				S		**Sn**	**08 01 37.2**	**+1.7**
	comp=E,2.2nm,0.3s,baz=301,slow=23,SNR=8.5							
ULHL	**Ulahol**	**4.63**	**27**	P		**Pn**	**08 00 47.2**	**+2.6**
	SNR=31							
KBK	**Karagaybulak**	**4.65**	**14**	P		**Pn**	**08 00 47.8**	**+2.9**
	SNR=12							
CHMS	**Chumysh**	**4.95**	**11**	P		**Pn**	**08 00 51.6**	**+2.8**
	SNR=7.4							
TKM2	**Tokmak 2**	**5.05**	**18**	P		**Pn**	**08 00 53.0**	**+2.7**
	SNR=15							
TKM2	**Tokmak 2**	**5.05**	**18**	⇑Pn		**Pn**	**08 00 53.0**	**+2.7**
	comp=E,13nm,0.7s							
KK31	**Karatay Array**	**5.42**	**337**	⇓Pn		**Pn**	**08 00 57.2**	**+2.0**
	comp=E,1.7nm,0.3s,baz=172,slow=13,SNR=30							
KK31				⇑Sn		**Sn**	**08 01 52.8**	**-3.4**
	comp=E,40nm,0.5s,baz=158,slow=22,SNR=28							
DLH	**Dalhousie**	**5.97**	**159**	*e*P		Pn	08 01 11.0	+8.2
DLH				*e*S		Sn	08 02 20.0	+10
PDGK	**Podgornoye**	**6.93**	**40**	Pn		**Pn**	**08 01 18.1**	**+2.5**
	comp=E,15nm,0.9s							
SDNR	**Sundarnagar**	**7.24**	**155**	*e*P		Pn	08 01 38.0	+18
SDNR				*e*S		**Sn**	**08 02 44.0**	**+3.3**
SMLA	**Simla**	**7.65**	**155**	*e*P		**Pn**	**08 01 28.7**	**+3.2**
SMLA				*i* S		**Sn**	**08 02 48.3**	**-2.2**
SMLA				AML	AML		08 02 54.5	
	comp=N,135nm,0.1s							
SMLA				AML	AML		08 02 54.9	
	comp=E,131nm,0.6s							
AYAN	**Aya Nagar**	**10.12**	**161**	*e*S		Sn	08 03 27.1	-24
KHET	**Khetri**	**10.24**	**168**	*e*P		**Pn**	**08 02 01.4**	**+0.7**
KHET				*e*S		Sn	08 03 46.1	-7.6
KHET				AML	AML		08 03 54.1	
	comp=N,74nm,0.1s							
KHET				AML	AML		08 03 55.1	
	comp=E,79nm,0.1s							
MKAR	**Makanchi Array**	**10.84**	**34**	P		**Pn**	**08 02 10.1**	**+1.3**
	comp=E,0.3nm,0.3s,baz=225,slow=16,SNR=12							
WMQ	**Urumqi**	**12.18**	**58**	P		**P**	**08 02 35.6**	**+0.5**
WMQ				sP			08 03 16.3	
WMQ				pmax	pmax			
	comp=Z,8.0nm,0.4s							
WMQ				pmax	pmax			
	comp=Z,64nm,4.2s							
PYUN	**Piuthan**	**12.82**	**139**	*e*P		**Pn**	**08 02 35.3**	**-0.2**
	comp=Z,94nm,0.4s							
KURBB	**Kurchatov Arra**	**12.99**	**15**	P		**Pn**	**08 02 35.1**	**-2.2**
	comp=Z,0.0nm,0.3s,baz=205,slow=10,SNR=3.9							
KOLN	**Koldanda**	**13.41**	**138**	*e*P		**Pn**	**08 02 42.9**	**-0.3**
	comp=Z,8.5nm,0.3s							
GKN	**Gorkha**	**13.80**	**134**	*e*P		Pn	**08 02 48.5**	**+0.3**
KKN	**Kakani**	**14.33**	**133**	*e*P		Pn	**08 02 55.0**	**-0.2**
	comp=Z,24nm,0.6s							
DMN	**Daman**	**14.37**	**134**	*e*P		Pn	**08 02 55.0**	**-0.7**
	comp=Z,5.6nm,0.3s							
PKIN	**Phulchoki**	**14.56**	**133**	*e*P		Pn	**08 02 58.1**	**0.0**
	comp=Z,15nm,0.5s							
PKI	**Pulchoki**	**14.57**	**133**	*e*P		Pn	**08 02 58.1**	**-0.2**
	comp=Z,6.3nm,0.2s							
GUN	**Gumba**	**14.59**	**131**	*e*P		Pn	**08 02 58.6**	**-0.1**
	comp=Z,13nm,0.5s							
AB31	**Akbulak array**	**14.75**	**323**	Pn		Pn	**08 02 59.0**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=121,slow=9.8,SNR=17							
AB31				⇑Sn		Sn	08 05 29.2	-13
	comp=Z,0.7nm,0.4s,baz=276,slow=69,SNR=7.0							
JIRN	**Jiri**	**14.96**	**131**	*e*P		**Pn**	**08 03 03.4**	**0.0**
	comp=Z,26nm

GSC	**Goldstone, Bar**	**3.46**	**338**	*e*Pg	**Pg**	**08 08 58.6**	**-0.3**
TUC	**Tucson**	**3.78**	**85**	*e*Pn	**Pn**	**08 08 49.5**	**-2.2**
TUC				*e*Pg	**Pg**	**08 09 06.5**	**+1.5**
TUC				*e*Sg	**Sg**	**08 09 57.1**	**+3.0**
SHPR	**Sheep Range**	**4.41**	**1**	*e*Pn	**Pn**	**08 08 58.3**	**-2.0**
SHPR				*e*Pg	Pg	08 09 20.8	+3.8
SHPR				*e*Sg	**Sg**	**08 10 15.6**	**+1.5**
ISA	**Isabella, Lake**	**4.47**	**324**	*e*Pg	**Pb**	**08 09 14.2**	**+2.7**
WUAZ	**Wupatki**	**4.70**	**42**	*e*Pn	**Pn**	**08 09 02.8**	**-1.5**

ISCJB **14** *08:25:54.1±0.7,59°.31N±0.03×27°.07E±0°.08, h0km, Error ellipse: s-maj=6.4km s-min=3.6km az=19.2*
HEL **14** *08:25:54.7±0.2,59°.34N×27°.25E, h0km, ML1.8, Explosion*
IDC **14** *08:25:59.4±2.3,59°.51N×27°.00E, h0km, mb1 3.0/3, mb1mx2.8/36, mbtmp2.9/3, ML2.7/3, Error ellipse: s-maj=19.5km s-min=10.1km az=128.0*
ISC 14 08:25:54.5±1.0, 59°.34N±0°.03×27°.08E±0°.05, h0km, n19, σ1s 48/31, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.90**	**192**	*e*P	**Pg**	**08 26 11.1**	**-0.6**
VSU				*e*S	**Sg**	**08 26 22.0**	**-1.2**
VJF	**Virojoki**	**1.23**	**11**	*e*P	**Pg**	**08 26 18.2**	**+0.2**
VJF				*e*SB	**Sn**	**08 26 35.3**	**-0.9**
PVF	**Pernaja**	**1.36**	**334**	*e*PG	**Pb**	**08 26 20.8**	**0.0**
PVF				*e*S	**Sb**	**08 26 38.5**	**-0.2**
PVF				MSG		08 26 39.0	
	comp=Z,2.5nm,0.1s						
SRPE	**Suurupi**	**1.39**	**276**	*e*P	**Pg**	**08 26 20.8**	**-0.2**
SRPE				*e*SB	**Sg**	**08 26 39.7**	**+0.6**
MEF	**Metsahovi**	**1.62**	**304**	*e*PG	**Pn**	**08 26 25.3**	**+1.0**
MEF				*e*S	**Sn**	**08 26 46.3**	**+0.4**
MEF				MSG		08 26 47.0	
	comp=Z,7.4nm,0.1s						
MTSE	**Matsula**	**1.80**	**251**	*e*PN	**Pn**	**08 26 27.8**	**+1.1**
MTSE				*e*S	**Sn**	**08 26 50.8**	**+0.5**
FIA0	**FINESS Array S**	**2.17**	**347**	*e*P	**Pn**	**08 26 33.0**	**+1.1**
FIA0				*e*SB	**Sb**	**08 27 02.0**	**-0.1**
FIA0				*e*SG	**Sg**	**08 27 03.8**	**-0.4**
FIA0				MSG		08 27 04.0	
	comp=Z,1.9nm,0.2s						
FINES	**FINESS Array B**	**2.17**	**347**	Pg	**Pb**	**08 26 33.5**	**-1.1**
	comp=Z,1.5nm,0.3s,baz=165,slow=18,SNR=48						
FINES				Lg	Lg	08 27 03.6	
	comp=Z,2.1nm,0.3s,baz=165,slow=29,SNR=17						
FINES				Rg	Rg	08 27 16.6	
	comp=Z,18nm,1.0s,baz=171,slow=31,SNR=8.1						
KAF	**Kangasniemi**	**2.81**	**353**	*e*P	**Pn**	**08 26 43.1**	**+2.5**
KAF				*e*S	**Sn**	**08 27 17.0**	**+1.7**
KAF				*e*SG	**Sg**	**08 27 23.2**	**-1.5**
KAF				MSG		08 27 24.2	
	comp=Z,3.7nm,0.3s						
KEF	**Keuruu**	**3.04**	**340**	*e*P	**Pn**	**08 26 46.5**	**+2.7**
KEF				*e*SG	**Sg**	**08 27 29.8**	**-2.3**
KEF				MSG		08 27 30.4	
	comp=Z,2.2nm,0.3s						
SLIT	**Slitere, Latvi**	**3.04**	**238**	*e*SB	**Sb**	**08 27 26.6**	**-0.5**
RAF	**Rauma**	**3.15**	**305**	*e*P	**Pn**	**08 26 47.4**	**+2.1**
SUF	**Sumiainen**	**3.42**	**353**	*e*P	**Pn**	**08 26 51.5**	**+2.4**
AAL	**Aland**	**3.68**	**286**	*e*S	**Sn**	**08 27 37.1**	**+0.4**
JOF	**Joensuu**	**4.14**	**28**	*e*P	**Pn**	**08 27 00.1**	**+1.2**
VAF	**Ylistaro**	**4.29**	**332**	*e*SG	**Sg**	**08 28 09.6**	**-2.4**
HFS	**Hagfors**	**6.82**	**282**	Pn	**Pn**	**08 27 37.5**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=88,slow=15,SNR=2.5						
HFS				Sn	**Sn**	**08 28 51.4**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=102,slow=25,SNR=4.3						
HFS				Lg	Lg	08 29 27.7	
	comp=Z,0.6nm,0.3s,baz=91,slow=30,SNR=6.1						
NOA	**NORSAR Array B**	**8.09**	**289**	Pn	**Pn**	**08 27 54.0**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=81,slow=14,SNR=3.9						
NOA				Sn	Sn	08 29 19.5	-5.7
	comp=Z,0.1nm,0.3s,baz=107,slow=15,SNR=2.5						
NOA				Lg	Lg	08 30 07.9	
	comp=Z,0.3nm,0.3s,baz=93,slow=8.8,SNR=4.2						
ARCES	**ARCESS Array B**	**10.26**	**357**	Pn	**Pn**	**08 28 22.1**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=172,slow=12,SNR=4.5						
ARCES				Sn	Sn	08 30 08.9	-10
	comp=Z,0.0nm,0.3s,baz=174,slow=25,SNR=2.6						

ATH **14** *08:49:52.7,41°.40N×20°.61E, h17km±5km, MD3.2/5*
CSEM **14** *08:49:53.9±0.2,41°.29N×20°.65E, h2km, ML2.5, Error ellipse: s-maj=5.4km s-min=3.1km az=50.0*
THE **14** *08:49:53.9,41°.35N×20°.67E, h0km±2km, ML2.5/3, Error ellipse: s-maj=2.9km s-min=0.7km az=41.0*
SKO **14** *08:49:54.3,41°.29N×20°.64E, h15km, M2.0, ML2.3*
BEO **14** *08:49:54.1±0.4,41°.30N×20°.61E, h0km, ML2.2/9*
PDG **14** *08:49:54.5±0.4,41°.32N×20°.58E, h5km, ML2.8/9, Error ellipse: s-maj=0.7km s-min=0.8km az=0.0*
ISC 14 08:49:53.8±1.1, 41°.32N±0°.02×20°.63E±0°.02, h0km±10km, n66, σ0s 90/110, 10C-7D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.25**	**148**	*i* Pg	**Pg**	**08 49 58.4**	**-0.1**
OHR				*i* Sg	**Sg**	**08 50 03.2**	**+1.5**
OHR				*e*Lg	Lg	08 50 03.3	
	comp=E,296nm,0.3s						
OHR				*e*Lg	Lg	08 50 03.4	
	comp=N,1μm,0.4s						
OHR	**Ohrid**	**0.25**	**148**	*i* Pg	**Pg**	**08 49 58.4**	**-0.1**
OHR				*i* Sg	**Sg**	**08 50 03.2**	**+1.5**
OHR				*e*Lg	Lg	08 50 03.3	
	comp=N,1μm,0.4s						
PHP	**Peshkopia**	**0.39**	**339**	P	**Pg**	**08 50 01.0**	**-0.3**
PHP	**Peshkopia**	**0.39**	**339**	P	**Pg**	**08 50 01.0**	**-0.3**
TIR	**Tirane**	**0.57**	**273**	*e*Pg	**Pg**	**08 50 03.6**	**-1.2**
TIR				*e*Sg	**Sg**	**08 50 11.6**	**-0.7**
TIR	**Tirane**	**0.57**	**273**	*e*Pg	**Pg**	**08 50 03.6**	**-1.2**
TIR				*e*Sg	**Sg**	**08 50 11.6**	**-0.7**
FNA	**Florina**	**0.78**	**133**	P	**Pg**	**08 50 09.0**	**+0.2**
FNA				S	**Sb**	**08 50 20.4**	**-1.0**
FNA	**Florina**	**0.78**	**133**	*e*PB	**Pg**	**08 50 08.5**	**-0.3**
FNA				*e*SN	**Sb**	**08 50 20.7**	**-0.7**
FNA	**Florina**	**0.78**	**133**	*e*Pb	**Pg**	**08 50 08.5**	**-0.3**
FNA	**Florina**	**0.78**	**133**	P	**Pg**	**08 50 09.0**	**+0.2**
FNA				S	**Sb**	**08 50 20.4**	**-1.0**
SKO	**Skopje**	**0.89**	**43**	*e*Pg	**Pg**	**08 50 11.0**	**+0.1**
SKO				*e*SG	**Sg**	**08 50 22.4**	**0.0**
SKO	**Skopje**	**0.89**	**43**	*e*Pg	**Pn**	**08 50 13.7**	**+0.2**
SKO				*i* Sg	**Sb**	**08 50 23.6**	**-0.9**
SKO				*e*Lg	Lg	08 50 23.6	
	comp=E,114nm,1.0s						
SKO				*e*Lg	Lg	08 50 23.7	
	comp=N,121nm,0.4s						
SKO	**Skopje**	**0.89**	**43**	*e*Pg	**Pg**	**08 50 11.0**	**+0.1**
SKO				*e*Sg	**Sg**	**08 50 22.4**	**0.0**
SKO				*e*Lg	Lg	08 50 23.6	
	comp=N,121nm,0.4s						
NEST	**Nestorio**	**0.96**	**160**	P	**Pg**	**08 50 12.2**	**0.0**
NEST				S	**Sb**	**08 50 26.4**	**-0.3**
NEST	**Nestorio**	**0.96**	**160**	*e*PN	**Pg**	**08 50 12.2**	**0.0**
NEST				*e*SN	**Sb**	**08 50 27.3**	**+0.6**
NEST	**Nestorio**	**0.96**	**160**	*e*Pn	**Pg**	**08 50 12.2**	**0.0**
NEST				S	**Sb**	**08 50 26.4**	**-0.3**
NEST				*e*Sn	**Sb**	**08 50 27.3**	**+0.6**
ULC	**Ulcinj**	**1.22**	**302**	*e*Pg	**Pg**	**08 50 15.7**	**-1.5**
ULC				*e*Sg	**Sn**	**08 50 35.1**	**-0.2**
ULC	**Ulcinj**	**1.22**	**302**	*e*Pg	**Pg**	**08 50 15.7**	**-1.5**
ULC				*e*Sg	**Sn**	**08 50 35.1**	**-0.2**
DRME	**Dracevica, Mon**	**1.38**	**309**	⇓*i* Pg	**Pn**	**08 50 19.1**	**-1.2**
DRME				*e*Sg	**Sn**	**08 50 40.8**	**+1.5**
DRME	**Dracevica, Mon**	**1.38**	**309**	⇓*i* Pg	**Pn**	**08 50 19.1**	**-1.2**
DRME				*e*Sg	**Sn**	**08 50 40.8**	**+1.5**
GRG	**Griva**	**1.39**	**105**	*e*PN	**Pn**	**08 50 20.2**	**-0.2**
GRG	**Griva**	**1.39**	**105**	*e*Pn	**Pn**	**08 50 20.2**	**-0.2**
VAY	**Valandovo**	**1.46**	**89**	*e*Pg	**Pn**	**08 50 19.8**	**-1.6**
VAY				*e*Sg	**Sg**	**08 50 41.4**	**+0.6**
VAY	**Valandovo**	**1.46**	**89**	*e*Pg	**Pn**	**08 50 19.8**	**-1.6**
VAY				*e*Sg	**Sg**	**08 50 41.4**	**+0.6**
PDG	**Podgorica**	**1.51**	**318**	*e*Pn	**Pb**	**08 50 22.4**	**-0.2**
PDG				*e*Sn	**Sb**	**08 50 42.5**	**+0.2**
PDG	**Podgorica**	**1.51**	**318**	*e*Pn	**Pb**	**08 50 22.4**	**-0.2**
PDG				*e*Sn	**Sb**	**08 50 42.5**	**+0.2**
PDG				*e*Sg	**Sg**	**08 50 45.1**	**+2.8**
TTG	**Podgorica**	**1.51**	**318**	⇑*i* Pg	**Pb**	**08 50 22.6**	**0.0**
TTG				*e*Sg	**Sg**	**08 50 45.1**	**+2.8**
BUM	**Brajici-Budva**	**1.62**	**308**	⇓*i* Pn	**Pn**	**08 50 23.6**	**-0.1**
BUM				*e*Sn	**Sg**	**08 50 47.5**	**+1.5**
BEY	**Berane**	**1.64**	**341**	⇑*i* Pn	**Pb**	**08 50 25.0**	**0.0**
BEY				*e*Sn	**Sg**	**08 50 48.5**	**+1.9**
IVA	**Berane**	**1.64**	**341**	⇑*i* Pn	**Pb**	**08 50 25.0**	**0.0**
IVA				*e*Sn	**Sg**	**08 50 48.5**	**+1.9**
KEK	**Kerkira**	**1.73**	**202**	P	**Pn**	**08 50 25.2**	**+0.1**
KEK				S	**Sg**	**08 50 49.3**	**0.0**
KEK	**Kerkira**	**1.73**	**202**	*e*PN	**Pn**	**08 50 25.2**	**+0.1**
KEK	**Kerkira**	**1.73**	**202**	P	**Pn**	**08 50 25.2**	**+0.1**
KEK				S	**Sg**	**08 50 49.3**	**0.0**
BARS	**Barje**	**1.73**	**30**	*e*Pn	**Pb**	**08 50 26.1**	**-0.4**
BARS				*e*Sg	**Sg**	**08 50 50.2**	**+0.6**
BARS	**Barje**	**1.73**	**30**	*e*Pn	**Pb**	**08 50 26.1**	**-0.4**
BARS				*e*Sg	**Sg**	**08 50 50.2**	**+0.6**
NKME	**Niksic**	**1.91**	**320**	⇓*i* Pn	**Pb**	**08 50 29.0**	**-0.5**
NKME				*e*Sn	**Sg**	**08 50 54.9**	**-0.2**
NKME	**Niksic**	**1.91**	**320**	⇓*i* Pn	**Pb**	**08 50 29.0**	**-0.5**
NKME				*e*Sn	**Sg**	**08 50 54.9**	**-0.2**
SELS	**Selova**	**1.93**	**11**	*e*Pn	**Pb**	**08 50 28.9**	**-1.0**
SELS				*e*Sg	**Sg**	**08 50 55.5**	**-0.3**
HCY	**Herceg Novi**	**1.95**	**306**	⇑*i* Pn	**Pn**	**08 50 29.1**	**+1.0**
HCY				*e*Sn	**Sb**	**08 50 56.0**	**+1.0**
HCY	**Herceg Novi**	**1.95**	**306**	⇑*i* Pn	**Pn**	**08 50 29.1**	**+1.0**
HCY				*e*Sn	**Sb**	**08 50 56.0**	**+1.0**
SJES	**Sjenica**	**2.00**	**346**	*e*Pn	**Pn**	**08 50 28.4**	**-0.5**
SJES				*e*Sg	**Sg**	**08 50 58.2**	**+0.2**
THL	**Klokotos Trika**	**2.05**	**148**	*e*PB	**Pn**	**08 50 29.1**	**-0.4**
THL	**Klokotos Trika**	**2.05**	**148**	*e*Pb	**Pn**	**08 50 29.1**	**-0.4**
TREB	**Trebinje**	**2.20**	**310**	*e*Pn	**Pn**	**08 50 32.5**	**+1.0**
TREB				*e*Sg	**Sg**	**08 51 04.6**	**+0.2**
TREB	**Trebinje**	**2.20**	**310**	*e*Pn	**Pn**	**08 50 32.5**	**+1.0**
TREB				*e*Sg	**Sg**	**08 51 04.6**	**+0.2**
BRY	**Bratogost**	**2.21**	**316**	⇑*i* Pn	**Pn**	**08 50 32.6**	**+0.7**
BRY				*e*Sn	**Sb**	**08 51 02.5**	**-0.3**
BRY	**Bratogost**	**2.21**	**316**	⇑*i* Pn	**Pn**	**08 50 32.6**	**+0.7**
BRY				*e*Sn	**Sb**	**08 51 02.5**	**-0.3**
DSL	**Palaion Diasel**	**2.22**	**171**	*e*PN	**Pn**	**08 50 32.5**	**+0.7**
DSL	**Palaion Diasel**	**2.22**	**171**	*e*Pn	**Pn**	**08 50 32.5**	**+0.7**
UPM	**Unac-Piva**	**2.27**	**326**	⇑*i* Pn	**Pn**	**08 50 34.0**	**+1.3**
UPM				*e*Sn	**Sb**	**08 51 04.0**	**-0.5**
UPM	**Unac-Piva**	**2.27**	**326**	⇑*i* Pn	**Pn**	**08 50 34.0**	**+1.3**
UPM				*e*Sn	**Sb**	**08 51 04.0**	**-0.5**
IVAS	**Ivanjica**	**2.28**	**351**	*e*Pn	**Pn**	**08 50 32.3**	**-0.4**
IVAS	**Ivanjica**	**2.28**	**351**	*e*Pn	**Pn**	**08 50 32.3**	**-0.4**
VTS	**Vitosha**	**2.31**	**56**	⇓*i* P	**Pn**	**08 50 34.2**	**+1.1**
VTS	**Vitosha**	**2.31**	**56**	S	**Sn**	**08 51 02.6**	**+0.3**
GRUS	**Gruza**	**2.56**	**1**	*e*Pn	**Pn**	**08 50 36.7**	**+0.1**
GRUS	**Gruza**	**2.56**	**1**	*e*Pn	**Pn**	**08 50 36.7**	**+0.1**
BBLS	**Lazići**	**2.70**	**341**	*e*Pn	**Pn**	**08 50 39.2**	**+0.7**
BBLS	**Lazići**	**2.70**	**341**	*e*Pn	**Pn**	**08 50 39.2**	**+0.7**
DIVS	**Divibare**	**2.81**	**351**	*e*Pn	**Pn**	**08 50 40.7**	**+0.6**
DIVS	**Divibare**	**2.81**	**351**	⇑*i* P	**Pn**	**08 50 41.6**	**+1.5**
DIVS	**Divibare**	**2.81**	**351**	S	**Sn**	**08 51 12.5**	**-2.2**
DIVS	**Divibare**	**2.81**	**351**	*e*Pn	**Pn**	**08 50 40.7**	**+0.6**
TEKS	**Tekeris**	**3.32**	**346**	*e*Pn	**Pn**	**08 50 47.7**	**+0.7**
TEKS	**Tekeris**	**3.32**	**346**	*e*Pn	**Pn**	**08 50 47.7**	**+0.7**

ISCJB **14** *08:55:58.6±0.6,6°.88N±0°.06×73°.09W±0°.07, h161km, mb3.4/2, Error ellipse: s-maj=12.0km s-min=6.0km az=38.9*
FUNV **14** *08:55:59.1,6°.76N×73°.16W, h166km, MW3.5*
IDC **14** *08:56:00.5±4.1,6°.69N×73°.18W, h168km±27km, mb3.1/2, mb1 3.5/3, mb1mx2.9/36, mbtmp3.6/3, Error ellipse: s-maj=78.4km s-min=27.0km az=86.0*
ISC 14 08:55:59.4±1.0, 6°.85N±0°.07×73°.05W±0°.08, h161km, n20, σ0s 85/25, 8D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.25**	**36**	⇓*i* Pn	**Pn**	**08 56 28.3**	**+0.7**
CAPV				*e*S	**Sn**	**08 56 49.5**	**+0.2**
ROSC	**El Rosal**	**2.35**	**213**	P	**Pn**	**08 56 40.3**	**+0.6**
	18nm,0.3s,baz=102,slow=14,SNR=80						
ROSC				S	**Sn**	**08 57 08.8**	**-2.1**
	12nm,0.3s,baz=96,slow=12,SNR=7.1						
VIGV	**El Vigia**	**2.59**	**40**	⇓*i* P	**Pn**	**08 56 42.8**	**+0.6**
VIGV				*e*S	**Sn**	**08 57 14.7**	**-0.7**
SOCV	**Socops**	**2.60**	**57**	⇓*e*P	**Pn**	**08 56 43.1**	**+0.7**
SOCV				*e*S	**Sn**	**08 57 15.6**	**0.0**
ELOV	**Elorza**	**3.55**	**87**	*e*P	**Pn**	**08 56 54.6**	**+0.5**
VIRV	**Villa del Rosa**	**3.68**	**10**	⇓*e*P	**Pn**	**08 56 55.3**	**-0.6**
VIRV				*e*S	**Sn**	**08 57 38.1**	**-1.9**
QARV	**Quebrada Arrib**	**4.17**	**37**	⇓*e*P	**Pn**	**08 57 02.5**	**+0.6**
SANV	**Sanarito**	**4.37**	**53**	*e*P	**Pn**	**08 57 04.7**	**-0.2**
CURV	**Curarigua**	**4.38**	**44**	*e*P	**Pn**	**08 57 05.1**	**+0.1**
DABV	**Dabajuro**	**4.70**	**30**	*e*P	**Pn**	**08 57 09.3**	**+0.2**
TEPV	**Terepaima**	**4.92**	**51**	⇓*e*P	**Pn**	**08 57 11.9**	**0.0**
SIQV	**Siquisique**	**4.95**	**40**	⇓*i* P	**Pn**	**08 57 12.2**	**-0.3**
BAUV	**El Baul**	**5.38**	**67**	*e*P	**Pn**	**08 57 16.8**	**-1.2**
MAPV	**Macapo**	**5.43**	**57**	⇓*e*P	**Pn**	**08 57 18.2**	**-0.5**
MONV	**Montecano**	**5.91**	**31**	*e*P	**Pn**	**08 57 24.6**	**-0.5**
TURV	**Turiamo**	**6.27**	**55**	*e*P	**Pn**	**08 57 29.3**	**-0.5**
TXAR	**Lajitas Array**	**36.49**	**312**	P	**P**	**09 02 50.5**	**+1.1**
	0.4nm,0.7s,baz=129,slow=9.9,SNR=5.2						
YKA	**Yellowknife Ar**	**63.26**	**340**	P	**P**	**09 06 11.0**	**+0.5**
	0.5nm,0.6s,baz=134,slow=6.6,SNR=20						
ASAR	**Alice Springs**	**149.18**	**234**	PKPbc	**PKPbc**	**09 15 29.1**	**-0.7**
	0.2nm,0.4s,baz=106,slow=3.3,SNR=3.9						
WRA	**Warramunga Arr**	**150.41**	**241**	PKPbc	**PKPbc**	**09 15 32.4**	**-0.4**
	0.2nm,0.4s,baz=107,slow=2.8,SNR=12						

IDC 14 09:01:43.5±2.5, 54°.38N×86°.86E, h0km, mb1 3.7/3, mb1mx3.2/30, mbtmp3.7/3, ML3.1/3, 3C-2D, Error ellipse: s-maj=20.9km s-min=13.0km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.28**	**251**	*i*		09 09 40.0	
	baz=71,slow=325,SNR=2.4						
ZALV	**Zalesovo Beam**	**1.28**	**251**	Pg	**Pg**	09 02 06.3	-1.7
	2.5nm,0.3s,baz=71,slow=17,SNR=23						
ZALV				Lg	Lg	09 02 25.1	
	2.5nm,0.3s,baz=70,slow=25,SNR=14						
KURK	**Kurchatov**	**6.22**	**237**	⇑Pn	Pn	09 03 11.4	-5.1
	4.6nm,0.7s						
KURK				⇑Lg	Lg	09 05 02.5	
	21nm,1.0s						
KURBB	**Kurchatov Arra**	**6.33**	**237**	Pn	Pn	09 03 18.8	+0.8
	0.4nm,0.3s,baz=54,slow=13,SNR=14						
KURBB				Sn	Sn	09 04 31.1	+0.2
	baz=50,slow=24,SNR=4.1						
KURBB				Lg	Lg	09 05 03.1	
	baz=52,slow=28,SNR=4.1						
MK31	**Makanchi Array**	**8.13**	**203**	⇑Pn	Pn	09 03 43.2	+0.4
	2.4nm,0.8s,baz=16,slow=12,SNR=16						
MK31				⇓Sn	Sn	09 05 14.7	-0.8
	5.3nm,0.8s,baz=18,slow=24,SNR=6.3						
MK31				⇓Lg	Lg	09 05 51.2	
	24nm,1.1s,baz=23,slow=28,SNR=8.2						
MKAR	**Makanchi Array**	**8.13**	**203**	Pn	Pn	09 03 43.0	+0.2
	0.2nm,0.3s,baz=14,slow=14,SNR=9.7						
MKAR				Sn	Sn	09 05 16.7	+1.3
	0.1nm,0.3s,baz=18,slow=23,SNR=8.2						
MKAR				Lg	Lg	09 06 00.2	
	0.1nm,0.3s,baz=19,slow=27,SNR=8.3						
BVAR	**Borovoye Array**	**9.86**	**269**	Pn	Pn	09 04 06.9	+0.4
	0.3nm,0.3s,baz=78,slow=14,SNR=3.1						
BVAR				Sn	Sn	09 05 51.7	-6.1
	0.2nm,0.3s,baz=72,slow=25,SNR=5.9						

ISCJB **14** *09:02:03.2±2.2, 35°.86S±0°.05×73°.60W±0°.06, h11km±15km, mb3.8/5, MS3.3/2, Error ellipse: s-maj=9.0km s-min=7.6km az=149.6*
IDC **14** *09:02:03.2±1.1, 35°.87S×73°.58W, h0km, mb3.7/6, mb1 4.0/8, mb1mx3.9/22, mbtmp3.7/8, ML3.6/2, MS3.4/2, Ms1 3.4/2, ms1mx2.9/17, Error ellipse: s-maj=29.3km s-min=19.9km az=74.0*
GUC **14** *09:02:05.4±0.6, 35°.98S×73°.56W, h40km±3km, ML4.4*
ISC 14 09:02:02.8±3.5, 35°.93S±0°.05×73°.51W±0°.08, h0km±22km, n17, σ0s 83/21, mb3.9/5, 2C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.62**	**110**	⇓*i* P	**Pn**	**09 02 17.9**	**-0.8**
COCH				*i* S	**Sn**	**09 02 27.9**	**-1.5**
CCSP	**San Pedro de C**	**0.97**	**161**	*e*P	**Pb**	**09 02 22.5**	**0.0**
CCSP				*e*S	**Sb**	**09 02 35.7**	**-0.2**
LNCH	**Linares**	**1.55**	**88**	⇑*i* P	**Pn**	**09 02 31.7**	**+0.1**
LNCH				*i* S	**Sn**	**09 02 52.4**	**0.0**
TALC	**Talca**	**1.61**	**72**	⇓*i* P	**Pb**	**09 02 33.5**	**+0.1**
TALC				*i* S	**Sb**	**09 02 54.3**	**-0.1**
TALC				AML	AML	09 03 10.8	
	comp=E,8μm,0.5s						
NICH	**Los Niches**	**2.08**	**64**	*e*P	**Pn**	**09 02 39.7**	**+0.9**
NICH				*e*S	**Sn**	**09 03 06.0**	**+0.6**
NICH				AML	AML	09 03 29.2	
	comp=N,3μm,0.6s						
LNV	**Longovilo**	**2.61**	**42**	⇑*i* P	**Pn**	**09 02 45.2**	**-1.0**
CLCH	**Cerro Calan**	**3.52**	**45**	*e*P	**Pn**	**09 02 58.2**	**-0.5**
PLCA	**Paso Flores**	**5.33**	**155**	Pn	**Pn**	**09 03 25.9**	**+2.2**
	comp=N,0.6nm,0.3s,baz=330,slow=13,SNR=14						
PLCA				Lg	Lg	09 04 54.1	
	comp=N,2.9nm,0.3s,baz=259,slow=19,SNR=5.7						
CFAA	**Coronel Fontan**	**6.15**	**47**	Pn	**Pn**	**09 03 34.9**	**0.0**
	comp=N,0.5nm,0.3s,baz=221,slow=12,SNR=62						
CFAA				Sn	**Sn**	**09 04 46.3**	**+0.3**
	comp=N,0.2nm,0.3s,baz=228,slow=5.6,SNR=3.2						
CFAA				Lg	Lg	09 05 13.5	
	comp=N,0.1nm,0.3s,baz=283,slow=16,SNR=4.1						
CFAA				LR	LR	09 05 24.1	
	comp=N,5.6nm,21.2s,baz=235,slow=33						
LPAZ	**La Paz**	**20.14**	**15**	P	Pn	09 06 40.9	-0.2
	comp=N,2.5nm,0.8s,baz=181,slow=4.4,SNR=9.0						
SIV	**San Ignacio**	**22.74**	**32**	P	**P**	**09 07 06.2**	**-0.3**
	comp=N,3.1nm,0.9s,baz=229,slow=14,SNR=12						
SIV				LR	LR	09 16 05.0	
	comp=N,36nm,19.5s,baz=201,slow=37						
TXAR	**Lajitas Array**	**70.85**	**332**	P	**P**	**09 13 21.4**	**-0.1**
	comp=N,0.6nm,0.6s,baz=149,slow=8.4,SNR=8.9						
MAW	**Mawson**	**71.68**	**164**	LR	LR	09 45 14.5	
	comp=N,57nm,19.4s,baz=240,slow=36						
NVAR	**Mina Array Bea**	**84.79**	**326**	P	**P**	**09 14 38.7**	**-0.4**
	comp=N,0.6nm,0.7s,baz=152,slow=6.8,SNR=6.4						
PDAR	**Pinedale Array**	**84.95**	**334**	P	**P**	**09 14 39.4**	**-0.4**
	comp=N,0.8nm,1.1s,baz=129,slow=5.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	**85.99**	**71**	P	**P**	**09 14 45.9**	**+0.6**
	comp=N,0.5nm,0.9s,baz=243,slow=4.5,SNR=2.5						
BVAR	**Borovoye Array**	**149.50**	**45**	PKPbc	**PKPbc**	**09 21 54.0**	**+0.6**
	comp=N,0.4nm,0.4s,baz=253,slow=1.5,SNR=3.5						

ISCJB **14** *09:05:14.7±0.6,37°.20N±0°.04×37°.13E±0°.06, h13km±6km, Error ellipse: s-maj=7.8km s-min=5.7km az=20.9*
CSEM **14** *09:05:14.9±0.6,37°.17N×37°.02E, h5km, MD2.8, Error ellipse: s-maj=17.8km s-min=10.5km az=105.0*
DDA **14** *09:05:15.4,37°.16N×37°.09E, h7km, MD2.8*
ISK **14** *09:05:15.0,37°.84N×36°.87E, h5km, MD2.7*
ISC 14 09:05:15.1±1.1, 37°.17N±0°.03×37°.07E±0°.04, h13km±8km, n17, σ1s 47/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HCB	**Kahramanmara¯**	**0.22**	**322**	*i* P	**Pg**	**09 05 19.5**	**-0.3**
HCB				*i* S	**Sg**	**09 05 23.8**	**+0.8**
KAMA	**Osmaniye**	**0.33**	**272**	*i* P	**Pg**	**09 05 21.6**	**-0.1**
KAMA				*i* S	**Sb**	**09 05 28.4**	**+0.5**
KMRS	**Kahramanmaras**	**0.36**	**337**	*e*PG	**Pg**	**09 05 22.6**	**+0.2**
KMRS	**Kahramanmaras**	**0.36**	**337**	*e*Pg	**Pg**	**09 05 22.6**	**+0.2**
KUZU	**Kuzuini**	**0.40**	**180**	*i* P	**Pg**	**09 05 23.1**	**+0.1**
KUZU				*i* S	**Sb**	**09 05 29.8**	**-0.3**
KUZU

comp=Z,14nm,0.3s,baz=115,slow=30,SNR=20
KJN Kajaani 4.48 220 *e*P **Pn 09 11 01.7 +0.6**
KJN *e*S **Sn 09 11 52.8 -1.1**
KJN *e*SG **Sb 09 12 09.9 +4.0**
KJN MSG 09 12 15.6
comp=Z,4.8nm,0.2s
KJN Kajaani 4.48 220 P **Pn 09 11 01.7 +0.6**
KJN S **Sn 09 11 52.7 -1.1**
JOF Joensuu 4.92 196 *e*SG **Sb 09 12 24.4 +5.7**
JOF MSG 09 12 27.4
comp=Z,4.9nm,0.3s
FIA0 FINESS Array S 7.16 213 Pn **Pn 09 11 37.9 0.0**
baz=34,slow=12
FIA0 Sn Sn 09 12 53.7 -6.1
baz=38,slow=28
FIA0 Lg Lg 09 13 31.5
baz=34,slow=28
FIA0 FINESS Array S 7.16 213 Pn **Pn 09 11 37.9 0.0**
baz=34,slow=12
FIA0 Sn Sn 09 12 53.7 -6.1
baz=38,slow=28
FIA0 Lg Lg 09 13 31.5
baz=34,slow=28
FIA0 FINESS Array S 7.16 213 Pn **Pn 09 11 37.9 0.0**
FINES FINESS Array B 7.16 213 Pn **Pn 09 11 38.7 +0.8**
comp=Z,0.3nm,0.3s,baz=20,slow=12,SNR=8.8
FINES Sn **Sn 09 12 56.5 -3.3**
comp=Z,0.2nm,0.3s,baz=29,slow=21,SNR=3.6
FINES Lg Lg 09 13 32.0
comp=Z,0.8nm,0.3s,baz=26,slow=26,SNR=6.9
SPA0 Spitsbergen Ar 11.69 342 Pn **Pn 09 12 37.8 -2.1**
baz=147,slow=16
SPA0 Spitsbergen Ar 11.69 342 Pn **Pn 09 12 37.8 -2.1**
baz=147,slow=16
SPA0 Spitsbergen Ar 11.69 342 Pn **Pn 09 12 37.8 -2.1**
SNR=5.3
SPITS Spitsbergen Ar 11.69 342 Pn **Pn 09 12 37.6 -2.3**
baz=145,slow=16,SNR=9.2
HFS Hagfors 11.72 240 Lg Lg 09 15 53.0
baz=45,slow=28
HFS Hagfors 11.72 240 Lg Lg 09 15 53.0
baz=45,slow=28
NOA NORSAR Array B 11.91 247 Pn **Pn 09 12 40.8 -2.1**
comp=Z,0.1nm,0.3s,baz=39,slow=11,SNR=2.9
NOA Lg Lg 09 16 07.2
comp=Z,0.2nm,0.3s,baz=94,slow=11,SNR=4.7

*UPP **14** 09:30:01.6, 59.84N 24.91E, h0km, ML2.2, Suspected Mining explosion.*
*IDC **14** 09:30:04.9 2.1, 59.60N 24.47E, h0km, mb1 3.3/4, mb1mx3.0/40, mbtmp3.2/4, ML3.1/4, Error ellipse: s-maj=23.5km s-min=7.3km az=144.0*
*ISCJB **14** 09:30:04.7 0.3, 59.72N 0.02 24.18E 0.05, h0km, Error ellipse: s-maj=3.7km s-min=3.2km az=13.4*
*NAO **14** 09:30:05.4 1.0, 59.73N 24.09E, ML2.5*
*CSEM **14** 09:30:05.7 0.2, 59.71N 24.20E, h2km, ML2.5, Error ellipse: s-maj=4.7km s-min=4.0km az=132.0, Mining explosion.*
*HEL **14** 09:30:06.4 0.1, 59.70N 24.20E, h0km, ML2.5, ML2.2(UPP), Explosion*
*BER **14** 09:30:07.3 3.5, 59.77N 24.13E, h0km, ML2.5(NAO), Suspected explosion*
ISC 14 09:30:04.9 0.6, **59.72N** 0.02 **24.16E** 0.02, **h0km, n64,** σ1**9**17/93, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPE	**Suurupi**	**0.28**	**156**	*e*P	**Pg**	**09 30 10.6**	**+0.4**
SRPE				*e*S	**Sg**	**09 30 14.0**	**+0.1**
SRPE	**Suurupi**	**0.28**	**156**	P	**Pg**	**09 30 10.6**	**+0.4**
SRPE				S	**Sg**	**09 30 13.9**	**+0.1**
MEF	**Metsahovi**	**0.52**	**13**	*e*P	**Pg**	**09 30 15.7**	**+0.9**
MEF				*e*S	**Sg**	**09 30 22.5**	**+1.1**
MEF	**Metsahovi**	**0.52**	**13**	P	**Pg**	**09 30 15.7**	**+0.9**
MEF				S	**Sg**	**09 30 22.5**	**+1.1**
MTSE	**Matsula**	**1.02**	**190**	*e*P	**Pg**	**09 30 24.5**	**0.0**
MTSE				*e*S	**Sg**	**09 30 38.0**	**+0.3**
MTSE	**Matsula**	**1.02**	**190**	P	**Pg**	**09 30 24.4**	**0.0**
MTSE				S	**Sg**	**09 30 38.0**	**+0.3**
PVF	**Pernaja**	**1.19**	**45**	*e*P	**Pg**	**09 30 27.7**	**-0.1**
PVF				*e*S	**Sg**	**09 30 42.9**	**-0.2**
PVF	**Pernaja**	**1.19**	**45**	P	**Pg**	**09 30 27.6**	**-0.1**
PVF				S	**Sg**	**09 30 42.9**	**-0.2**
RAF	**Rauma**	**1.77**	**319**	*e*P	**Pb**	**09 30 38.4**	**+0.3**
RAF				*e*S	**Sg**	**09 31 02.3**	**+0.6**
RAF				MSG		09 31 06.8	
comp=Z,31nm,0.2s							
RAF	**Rauma**	**1.77**	**319**	P	**Pb**	**09 30 38.4**	**+0.3**
RAF				S	**Sg**	**09 31 02.2**	**+0.6**
VSU	**Vasula**	**1.83**	**132**	Pn	**Pb**	**09 30 38.5**	**-0.7**
VSU				Sn	**Sn**	**09 31 02.2**	**+0.7**
VSU				Lg	Lg	09 31 04.9	
VSU	**Vasula**	**1.83**	**132**	Pn	**Pb**	**09 30 38.5**	**-0.7**
VSU				Sn	**Sn**	**09 31 02.2**	**+0.7**
VSU				Lg	Lg	09 31 04.9	
VSU	**Vasula**	**1.83**	**132**	*e*P	**Pb**	**09 30 38.5**	**-0.7**
VSU				*e*S	**Sn**	**09 31 02.0**	**+0.5**
VSU	**Vasula**	**1.83**	**132**	P	**Pb**	**09 30 38.5**	**-0.7**
VSU				S	**Sn**	**09 31 01.9**	**+0.5**
VSU				Sn	**Sn**	**09 31 02.2**	**+0.7**
SNR=50							
VSU				Lg	Lg	09 31 04.9	
SNR=50							
VJF	**Virojoki**	**1.89**	**63**	*e*P	**Pn**	**09 30 39.1**	**+0.7**
VJF				*e*S	**Sb**	**09 31 04.2**	**-0.1**
VJF				MSG		09 31 06.8	
comp=Z,52nm,0.2s							
VJF	**Virojoki**	**1.89**	**63**	P	**Pn**	**09 30 39.1**	**+0.7**
VJF				S	**Sb**	**09 31 04.2**	**-0.1**
FIA0	**FINESS Array S**	**1.97**	**28**	Pn	**Pb**	**09 30 41.4**	**-0.3**
baz=206,slow=18							
FIA0				Lg	Lg	09 31 07.5	
baz=210,slow=37							
FIA0				Rg	Rg	09 31 17.1	
baz=197,slow=37							
FIA0	**FINESS Array S**	**1.97**	**28**	Pn	**Pb**	**09 30 41.4**	**-0.3**
baz=206,slow=18							
FIA0				Lg	Lg	09 31 07.5	
baz=210,slow=37							
FIA0				Rg	Rg	09 31 17.1	
baz=197,slow=37							
FIA0	**FINESS Array S**	**1.97**	**28**	*e*PG	**Pb**	**09 30 42.1**	**+0.4**
FIA0				*e*SG	**Sb**	**09 31 07.2**	**+0.4**
FIA0				MSG		09 31 12.0	
comp=Z,21nm,0.1s							
FIA0	**FINESS Array S**	**1.97**	**28**	Pn	**Pb**	**09 30 41.4**	**-0.3**
SNR=50							
FIA0	**FINESS Array S**	**1.97**	**28**	Pg	**Pb**	**09 30 42.0**	**+0.4**
FIA0				Lg	Lg	09 31 07.6	
FINES	**FINESS Array B**	**1.97**	**28**	Pn	**Pb**	**09 30 41.7**	**0.0**
comp=Z,12nm,0.3s,baz=205,slow=16,SNR=721							
FINES				Lg	Lg	09 31 07.5	
comp=Z,6.6nm,0.3s,baz=202,slow=25,SNR=8.3							
FINES				Rg	Rg	09 31 19.0	
comp=Z,4.8nm,0.2s,baz=199,slow=32,SNR=8.9							
AAL	**Aland**	**2.15**	**284**	*e*PB	**Pb**	**09 30 44.5**	**0.0**
AAL				*e*SB	**Sb**	**09 31 12.4**	**+0.8**
SLIT	**Slitere, Latvi**	**2.31**	**206**	*e*PB	**Pb**	**09 30 46.6**	**-0.7**
SLIT				*e*SG	**Sb**	**09 31 17.4**	**+0.9**
KEF	**Keuruu**	**2.48**	**8**	MSG		09 31 23.9	
comp=Z,30nm,0.2s							
KAF	**Kangasniemi**	**2.62**	**23**	MSG		09 31 27.6	
comp=Z,19nm,0.2s							
NRTU	**Norrtaelje**	**2.80**	**272**	*e*P	**Pn**	**09 30 53.1**	**+2.2**
NRTU				*e*S	**Sb**	**09 31 31.6**	**+1.0**
NRTU	**Norrtaelje**	**2.80**	**272**	P	**Pn**	**09 30 53.0**	**+2.2**
NRTU	**Norrtaelje**	**2.80**	**272**	P	**Pn**	**09 30 53.1**	**+2.2**
NRTU				S	**Sb**	**09 31 31.6**	**+1.0**
GRAU	**Graesoe**	**2.89**	**285**	*e*P	**Pn**	**09 30 52.9**	**+0.8**
GRAU	**Graesoe**	**2.89**	**285**	P	**Pn**	**09 30 52.8**	**+0.8**
GRAU	**Graesoe**	**2.89**	**285**	P	**Pn**	**09 30 52.9**	**+0.8**
FLYU	**Flymyra**	**3.18**	**280**	*e*P	**Pn**	**09 30 57.5**	**+1.3**
FLYU	**Flymyra**	**3.18**	**280**	P	**Pn**	**09 30 57.4**	**+1.3**
FLYU	**Flymyra**	**3.18**	**280**	P	**Pn**	**09 30 57.5**	**+1.3**
NYNU	**Nynaeshamn**	**3.23**	**260**	*e*P	**Pn**	**09 30 58.7**	**+1.9**
NYNU	**Nynaeshamn**	**3.23**	**260**	P	**Pn**	**09 30 58.6**	**+1.9**
NYNU	**Nynaeshamn**	**3.23**	**260**	P	**Pn**	**09 30 58.7**	**+1.9**
BACU	**Backbrunna**	**3.57**	**275**	*e*P	**Pn**	**09 31 02.9**	**+1.5**
BACU	**Backbrunna**	**3.57**	**275**	P	**Pn**	**09 31 02.9**	**+1.5**
BACU	**Backbrunna**	**3.57**	**275**	P	**Pn**	**09 31 02.9**	**+1.5**
OSTU	**Oestervaala**	**3.57**	**281**	*e*P	**Pn**	**09 31 02.5**	**+1.1**
OSTU	**Oestervaala**	**3.57**	**281**	P	**Pn**	**09 31 02.5**	**+1.1**
IGGU	**Iggoen**	**3.60**	**292**	*e*P	**Pn**	**09 31 03.2**	**+1.3**
IGGU	**Iggoen**	**3.60**	**292**	P	**Pn**	**09 31 03.1**	**+1.3**
IGGU	**Iggoen**	**3.60**	**292**	P	**Pn**	**09 31 03.2**	**+1.3**
HFS	**Hagfors**	**5.28**	**279**	Pn	**Pn**	**09 31 23.8**	**-1.1**
baz=105,slow=12							
HFS				Sn	**Sn**	**09 32 24.2**	**-2.2**
baz=87,slow=28							
HFS				Lg	Lg	09 32 46.9	
baz=98,slow=37							
HFS	**Hagfors**	**5.28**	**279**	Pn	**Pn**	**09 31 23.8**	**-1.1**
baz=105,slow=12							
HFS				Sn	**Sn**	**09 32 24.2**	**-2.2**
baz=87,slow=28							
HFS				Lg	Lg	09 32 46.9	
baz=98,slow=37							
HFS	**Hagfors**	**5.28**	**279**	Pn	**Pn**	**09 31 24.8**	**-0.1**
comp=Z,0.3nm,0.3s,baz=94,slow=13,SNR=17							
HFS				Pg	**Pb**	**09 31 39.1**	**+1.1**
comp=Z,0.3nm,0.3s,baz=95,slow=16,SNR=6.6							
HFS				Sn	**Sn**	**09 32 27.2**	**+0.8**
comp=Z,0.6nm,0.3s,baz=84,slow=29,SNR=7.3							
HFS				Lg	Lg	09 32 47.8	
comp=Z,1.6nm,0.3s,baz=107,slow=33,SNR=8.7							
HFS	**Hagfors**	**5.28**	**279**	Pn	**Pn**	**09 31 23.8**	**-1.1**
SNR=50							
HFS				Sn	**Sn**	**09 32 24.2**	**-2.2**
SNR=50							
HFS				Lg	Lg	09 32 46.9	
SNR=7.4							
NB2	**NORSAR Subarra**	**6.55**	**287**	Pn	**Pn**	**09 31 42.6**	**+0.1**
baz=96,slow=14							
NB2				Sn	**Sn**	**09 32 55.8**	**-2.0**
NB2				Lg	Lg	09 33 28.4	
NB2	**NORSAR Subarra**	**6.55**	**287**	Pn	**Pn**	**09 31 42.6**	**+0.1**
baz=96,slow=14							
NB2				Sn	**Sn**	**09 32 55.8**	**-2.0**
NB2				Lg	Lg	09 33 28.4	
NB2	**NORSAR Subarra**	**6.55**	**287**	Pn	**Pn**	**09 31 42.6**	**+0.1**
SNR=50							
NB2				Lg	Lg	09 33 28.4	
NOA	**NORSAR Array B**	**6.55**	**287**	Pn	**Pn**	**09 31 41.8**	**-0.6**
comp=Z,0.4nm,0.3s,baz=91,slow=14,SNR=14							
NOA				Sn	**Sn**	**09 32 58.5**	**+0.7**
comp=Z,0.5nm,0.3s,baz=44,slow=20,SNR=4.3							
NOA				Lg	Lg	09 33 27.9	
comp=Z,0.7nm,0.3s,baz=228,slow=25,SNR=4.1							
APA0	**Apatity Array**	**8.83**	**23**	Pn	**Pn**	**09 32 15.0**	**+1.4**
baz=217,slow=10							
APA0	**Apatity Array**	**8.83**	**23**	Pn	**Pn**	**09 32 15.0**	**+1.4**
baz=217,slow=10							
APA0	**Apatity Array**	**8.83**	**23**	Pn	**Pn**	**09 32 15.0**	**+1.4**
SNR=50							
ARA0	**ARCESS Array S**	**9.88**	**3**	Pn	**Pn**	**09 32 26.2**	**-1.7**
baz=172,slow=16							
ARA0				Sn	Sn	09 34 13.2	-6.1
baz=188,slow=22							
ARA0	**ARCESS Array S**	**9.88**	**3**	Pn	**Pn**	**09 32 26.2**	**-1.7**
baz=172,slow=16							
ARA0				Sn	Sn	09 34 13.2	-6.1
baz=188,slow=22							
ARCES	**ARCESS Array B**	**9.88**	**3**	Pn	**Pn**	**09 32 27.9**	**0.0**
comp=Z,0.4nm,0.3s,baz=180,slow=12,SNR=60							
ARCES				Sn	**Sn**	**09 34 15.0**	**-4.3**
comp=Z,0.3nm,0.3s,baz=182,slow=23,SNR=5.0							
SPA0	**Spitsbergen Ar**	**18.72**	**355**	P	**Pn**	**09 34 25.2**	**+0.3**
baz=158,slow=16							
SPA0	**Spitsbergen Ar**	**18.72**	**355**	P	**Pn**	**09 34 25.2**	**+0.3**
baz=158,slow=16							
SPA0	**Spitsbergen Ar**	**18.72**	**355**	P	**Pn**	**09 34 25.2**	**+0.3**
SNR=47							

*ISCJB **14** 09:33:14.5 0.2, 27.13N 0.02 54.66E 0.02, h17km, mb4.5/88, MS3.6/28, Error ellipse: s-maj=3.3km s-min=2.6km az=24.4*
*BJI **14** 09:33:15.3, 26.80N 55.00E, h33km, mb4.8/33, mB4.9/19, Ms4.5/15, Ms7 4.1/5*
*MOS **14** 09:33:15.3 1.3, 26.94N 54.67E, h33km, mb4.9/45, Error ellipse: s-maj=7.0km s-min=4.2km az=114.8*
*ISN **14** 09:33:16.3 2.2, 26.01N 53.57E, h0km, 606km, ML4.5*
*THR **14** 09:33:16.9 0.9, 27.10N 54.85E, h31km, 7km, ML4.5*
*DSN **14** 09:33:17.9 1.2, 27.25N 54.94E, h21km, mb4.1/12, ML5.0/9, Ms4.3/2, Error ellipse: s-maj=20.8km s-min=8.8km az=104.0*
*OMAN **14** 09:33:17.8 6.1, 27.18N 54.66E, h33km, Error ellipse: s-maj=5.7km s-min=4.0km az=289.0*
*CSEM **14** 09:33:18.5 0.1, 27.17N 54.78E, h30km, mb4.6/40, Ms3.8, Error ellipse: s-maj=4.9km s-min=3.6km az=51.0*
*NEIC **14** 09:33:19.4 0.8, 27.11N 54.73E, h48km, 7km, mb4.7/45, Error ellipse: s-maj=8.4km s-min=5.8km az=177.0*
*IDC **14** 09:33:19.9 2.8, 27.21N 54.84E, h40km, 23km, mb4.1/30, mb1 4.2/34, mb1mx4.2/42, mbtmp4.3/34, ML3.8/4, MS3.5/25, Ms1 3.6/25, ms1mx3.4/43, Error ellipse: s-maj=15.9km s-min=10.9km az=173.0*
*TEH **14** 09:33:19.1, 27.31N 54.92E, h28km, ML4.5*
ISC 14 09:33:16.1 0.3, **27.07N** 0.02 **54.78E** 0.02, **h17km, n438,** σ1**9**62/422, **mb4.6/88, MS3.5**/28, **14C-23D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**1.29**	**75**	*e*Pg	**Pb**	**09 33 39.7**	**-0.2**
BNDS				*e*Sg	**Sb**	**09 33 55.3**	**-0.9**
BNDS				AML	AML	09 34 01.8	
comp=N,16μm,0.6s							
BNDS				AML	AML	09 34 03.6	
comp=E,10μm,0.6s							
BNDS	**Bandar-Abbas**	**1.29**	**75**	*e*Pg	**Pb**	**09 33 39.7**	**-0.2**
BNDS				*e*Sg	**Sb**	**09 33 55.3**	**-0.9**
comp=E,10μm,0.6s							
BNDS	**Bandar-Abbas**	**1.29**	**75**	*e*Pg	**Pb**	**09 33 39.7**	**-0.2**
BNDS				*e*Sg	**Sb**	**09 33 55.3**	**-0.9**
IBND	**Bandar-abas**	**1.62**	**76**	*e*Pn	**Pb**	**09 33 45.8**	**+0.3**
IBND				*e*Sg	**Sg**	**09 34 08.3**	**+0.1**
IBND				*e*		09 34 40.8	
comp=Z,71μm,0.3s							
IBND	**Bandar-abas**	**1.62**	**76**	Pn	**Pb**	**09 33 45.7**	**+0.3**
IBND				*e*Sg	**Sg**	**09 34 08.3**	**+0.1**
IBND	**Bandar-abas**	**1.62**	**76**	Pn	**Pb**	**09 33 45.7**	**+0.3**
IBND				Sg	**Sg**	**09 34 08.3**	**+0.1**
BANOM	**Banah**	**1.78**	**130**	P	**Pb**	**09 33 48.1**	**-0.2**
BANOM	**Banah**	**1.78**	**130**	P	**Pb**	**09 33 47.9**	**-0.4**
SNR=199							
BANOM				⇑P	**Pb**	**09 33 48.1**	**-0.2**
BANOM	**Banah**	**1.78**	**130**	⇓*e*P	**Pb**	**09 33 47.8**	**-0.5**
SNR=142							
GHIR	**Ghir-Karzin**	**2.00**	**308**	*e*Pg	**Pb**	**09 33 53.1**	**+1.0**
GHIR				AML	AML	09 34 35.9	
comp=E,5μm,0.7s							
GHIR				AML	AML	09 34 42.2	
comp=N,5μm,0.5s							
GHIR	**Ghir-Karzin**	**2.00**	**308**	*e*Pg	**Pb**	**09 33 53.1**	**+1.0**
comp=N,5μm,0.5s							
GHIR	**Ghir-Karzin**	**2.00**	**308**	*e*Pn	**Pb**	**09 33 53.1**	**+1.0**
GHIR				*e*Sg	**Sg**	**09 34 24.1**	**+3.6**
NAZ	**Nazwa, Dubai**	**2.22**	**159**	P	**Pb**	**09 33 55.9**	**+0.1**
SNR=56							
NAZ	**Nazwa, Dubai**	**2.22**	**159**	⇓*e*P	**Pb**	**09 33 55.9**	**+0.1**
SNR=56							
FAQ	**Al Faqa, Dubai**	**2.43**	**162**	P	**Pb**	**09 33 58.6**	**-0.7**
SNR=43							
FAQ	**Al Faqa, Dubai**	**2.43**	**162**	⇓*e*P	**Pb**	**09 33 58.6**	**-0.7**
SNR=43							
ASUD	**Al Ashush, Dub**	**2.48**	**168**	P	**Pb**	**09 34 00.2**	**-0.1**
SNR=23							
ASUD	**Al Ashush, Dub**	**2.48**	**168**	⇓*e*P	**Pb**	**09 34 00.2**	**-0.1**
SNR=23							
HATD	**Hatta, Dubai**	**2.54**	**151**	P	**Pb**	**09 33 59.5**	**-1.9**
SNR=125							
HATD	**Hatta, Dubai**	**2.54**	**151**	⇑*e*P	**Pb**	**09 33 59.5**	**-1.9**
SNR=125							
ASHO	**Ashiyiah**	**2.64**	**154**	P	**Pb**	**09 34 01.0**	**-2.0**
SNR=207							
ASHO	**Ashiyiah**	**2.64**	**154**	⇓P	**Pb**	**09 34 01.0**	**-2.0**
ASHO				P	**Pb**	**09 34 01.0**	**-2.0**
SNR=207							
ASHO	**Ashiyiah**	**2.64**	**154**	⇓*e*P	**Pb**	**09 34 01.0**	**-2.0**
SNR=207							
ISRV	**Sarvestan**	**2.73**	**328**	*e*Pn	**Pb**	**09 34 02.8**	**-2.0**
ISRV				*e*Sg	**Sg**	**09 34 46.5**	**+2.5**
ISRV				*e*		09 35 03.7	
comp=Z,20μm,0.2s							
ISRV	**Sarvestan**	**2.73**	**328**	Pn	**Pb**	**09 34 02.7**	**-2.0**
ISRV				*e*Sg	**Sg**	**09 34 46.5**	**+2.5**
ISRV	**Sarvestan**	**2.73**	**328**	Pn	**Pb**	**09 34 02.7**	**-2.0**
ISRV				Sg	**Sg**	**09 34 46.5**	**+2.5**
NGRK	**Negar Kerman**	**3.09**	**33**	*e*Pn	**Pn**	**09 34 04.9**	**+0.4**
NGRK	**Negar Kerman**	**3.09**	**33**	*e*Pn	**Pn**	**09 34 04.9**	**+0.4**
KRBR	**Kerman**	**3.39**	**31**	*e*Pn	**Pn**	**09 34 09.4**	**+0.9**
KRBR				AML	AML	09 35 08.0	
comp=N,612nm,0.6s							
KRBR				AML	AML	09 35 22.0	
comp=E,611nm,0.6s							
KRBR	**Kerman**	**3.39**	**31**	*e*Pn	**Pn**	**09 34 09.4**	**+0.9**
comp=E,611nm,0.6s							
KRBR	**Kerman**	**3.39**	**31**	*e*Pn	**Pn**	**09 34 09.4**	**+0.9**
TVBK	**TV Kerman**	**3.39**	**31**	*e*Pn	**Pn**	**09 34 09.9**	**+1.4**
KHGB	**Koh Gabri**	**3.62**	**24**	*e*Pn	**Pn**	**09 34 12.8**	**+1.2**
CHMN	**Cheshme madani**	**3.70**	**41**	*e*Pn	**Pn**	**09 34 14.5**	**+1.7**
CHMN	**Cheshme madani**	**3.70**	**41**	*e*Pn	**Pn**	**09 34 14.5**	**+1.7**
IKAZ	**Kazeroun**	**3.74**	**317**	*e*Pn	Pn	09 34 17.2	+3.9
IKAZ				*e*		09 35 34.1	
comp=Z,12μm,0.3s							
IKAZ	**Kazeroun**	**3.74**	**317**	*e*Pn	Pn	09 34 17.2	+3.9
ARQ	**Araqi**	**4.04**	**157**	P	**Pn**	**09 34 20.3**	**+3.1**
SNR=52							
ARQ	**Araqi**	**4.04**	**157**	⇓P	**Pn**	**09 34 20.3**	**+3.1**
SNR=52							
ARQ				⇑P	Pb	09 34 21.4	-5.4
HOQ	**Hoqain**	**4.16**	**146**	P	Pn	09 34 22.0	+3.1
SNR=9.1							
HOQ	**Hoqain**	**4.16**	**146**	⇓P	Pn	09 34 22.0	+3.1
SNR=9.1							
IMEH	**Mehriz**	**4.31**	**358**	*e*Pn	**Pn**	**09 34 23.2**	**+2.1**
IMEH				*e*		09 35 37.0	
comp=Z,4μm,0.4s							
IMEH	**Mehriz**	**4.31**	**358**	*e*Pn	**Pn**	**09 34 23.2**	**+2.1**
IMEH	**Mehriz**	**4.31**	**358**	Pn	**Pn**	**09 34 23.2**	**+2.1**
BSY	**Bisya**	**4.83**	**152**	⇓P	Pn	09 34 31.5	+3.3
SNR=9.8							
BSYO	**Bisya**	**4.86**	**152**	P	**Pn**	**09 34 31.5**	**+3.0**
SNR=9.8							
ISAD	**Sadrabad**	**4.92**	**349**	*e*Pn	**Pn**	**09 34 32.2**	**+2.7**
ISAD				*e*		09 35 38.0	
comp=Z,4μm,0.3s							
ISAD	**Sadrabad**	**4.92**	**349**	*e*Pn	**Pn**	**09 34 32.2**	**+2.7**
SMDO	**Samad**	**4.97**	**143**	P	**Pn**	**09 34 32.8**	**+2.7**
SNR=98							
SMDO	**Samad**	**4.97**	**143**	⇓P	**Pn**	**09 34 32.7**	**+2.5**
SMDO				P	**Pn**	**09 34 32.8**	**+2.7**
SNR=98							
ICHK	**Chekchek**	**5.17**	**357**	*e*Pn	**Pn**	**09 34 34.0**	**+1.0**
ICHK				*e*		09 36 09.0	
comp=Z,2μm,0.3s							
ICHK	**Chekchek**	**5.17**	**357**	Pn	**Pn**	**09 34 33.9**	**+1.0**
ICHK	**Chekchek**	**5.17**	**357**	Pn	**Pn**	**09 34 33.9**	**+1.0**
CHBR	**Chabahar**	**5.33**	**105**	*e*Pn	**Pn**	**09 34 35.6**	**+0.7**
CHBR	**Chabahar**	**5.33**	**105**	*e*Pn	**Pn**	**09 34 35.6**	**+0.7**
JMDO	**Jabal Madar**	**5.57**	**146**	P	**Pn**	**09 34 40.7**	**+2.4**
SNR=21							
JMDO	**Jabal Madar**	**5.57**	**146**	P	Pn	**09 34 40.7**	**+2.4**
SNR=21							
WBK	**Wadi Bani Khal**	**5.85**	**138**	P	**Pn**	**09 34 43.5**	**+1.4**
SNR=14							
WBK	**Wadi Bani Khal**	**5.85**	**138**	⇑P	**Pn**	**09 34 43.5**	**+1.4**
SNR=14							
ZHSF	**Zahedan**	**5.86**	**63**	*e*Pn	**Pn**	**09 34 43.1**	**+0.8**
ZHSF	**Zahedan**	**5.86**	**63**	*e*Pn	**Pn**	**09 34 43.2**	**+0.8**
ZHSF	**Zahedan**	**5.86**	**63**	*e*Pn	**Pn**	**09 34 42.9**	**+0.5**
IKLH	**Kolahrood**	**6.82**	**337**	*e*Pn	**Pn**	**09 34 57.4**	**+1.8**
IKLH				*e*		09 36 27.5	
comp=Z,1μm,0.4s							
IKLH	**Kolahrood**	**6.82**	**337**	*e*Pn	**Pn**	**09 34 57.4**	**+1.8**
IKLH	**Kolahrood**	**6.82**	**337**	Pn	**Pn**	**09 34 57.4**	**+1.8**
IDAH	**Dahanechah**	**7.17**	**37**	*e*Pn	**Pn**	**09 35 01.5**	**+1.0**
IDAH				*e*		09 37 39.5	
comp=Z,1μm,0.7s							
IDAH	**Dahanechah**	**7.17**	**37**	*e*Pn	**Pn**	**09 35 01.5**	**+1.0**
SHAO	**Shalim**	**9.04**	**175**	P	**Pn**	**09 35 27.6**	**+1.7**
SNR=35							
SHAO	**Shalim**	**9.04**	**175**	⇑P	**Pn**	**09 35 27.1**	**+1.3**
SNR=13							
RAYN	**Ar Rayn**	**9.10**	**249**	*e*Pn	**Pn**	**09 35 27.3**	**+0.5**
RAYN				*e*Sn	**Sn**	**09 37 07.3**	**-1.7**
RBK	**Rabkut**	**9.53**	**183**	P	**Pn**	**09 35 34.1**	**+1.4**
SNR=50							
IBDR	**Badra**	**9.74**	**310**	*e*Pn	x	09 35 38.0	
IBDR				*e*Sn	x	09 37 29.0	
ABTO	**Aybut**	**9.76**	**188**	P	**Pn**	**09 35 37.7**	**+1.8**
SNR=94							
ABTO	**Aybut**	**9.76**	**188**	P	Pn	**09 35 37.7**	**+1.8**
SNR=94							
BHD	**Baghdad**	**10.91**	**307**	*e*Pn	x	09 35 52.0	
BHD				*e*Sn	x	09 37 53.0	
BHD	**Baghdad**	**10.91**	**307**	*e*Pn	**Pn**	**09 35 52.0**	**+0.6**
SNR=4.0							
BHD				*e*Sn	**Sn**	**09 37 53.0**	**-0.1**
SNR=4.0							
GEYT	**Alibeck**	**11.19**	**14**	Pn	**Pn**	**09 35 55.3**	**0.0**
comp=Z,0.3nm,0.3s,baz=213,slow=11,SNR=12							
GEYT				LR	LR	09 41 06.3	
comp=Z,825nm,18.6s,baz=170,slow=42							
IKRK	**Kirkuk**	**12.19**	**315**	*e*Pn	x	09 36 12.0	
IKRK				*e*Sn	x	09 38 30.0	
IKRK	**Kirkuk**	**12.19**	**315**	*e*Pn	Pn	09 36 12.0	+3.1
SNR=4.0							
RTB	**Rutbah**	**13.86**	**299**	*e*P	x	09 36 30.0	
RTB				*e*S	x	09 39 00.0	
KBL	**Kabul**	**14.34**	**55**	*e*P	**Pn**	**09 36 40.2**	**+1.7**
KBL	**Kabul**	**14.34**	**55**	*e*Pn	**Pn**	**09 36 40.2**	**+1.7**
KBL	**Kabul**

comp=Z,4.8nm,0.7s
GOF Gofitskoye 20.26 335 *e*P Pn 09 37 51.8 -0.9
GOF Gofitskoye 20.26 335 *e*P Pn 09 37 51.8 -0.9
SOC Sochi 20.50 327 *e*P **P** **09 37 53.0 -0.2**
SOC *e**PP **pP** **09 38 01.8 +3.7**
SOC *e*S Sn 09 41 45.2 -0.9
SOC *e*SS SnSn 09 42 16.0 +15
SOC pmax pmax
comp=Z,17nm,0.6s
SOC MLR MLR
comp=Z,146nm,14.0s
SOC Sochi 20.50 327 *e*P **P** **09 37 53.0 -0.2**
comp=Z,17nm,0.6s
AML Almayashu 21.57 41 P **P** **09 38 04.4 -0.8**
SNR=16
AML Almayashu 21.57 41 *i*P **P** **09 38 04.4 -0.8**
AML Almayashu 21.57 41 P **P** **09 38 04.2 -1.0**
SNR=17
KSH Kashi 21.57 50 P P 09 37 58.1 -6.9
KSH PMZ
comp=Z,10.0nm,0.7s
KSH PMZ
comp=Z,95nm,4.8s
KSH LN
comp=Z,2µm,15.8s
KSH LE
comp=Z,870nm,15.4s
BRTR Keskin Array B 21.63 311 P **P** **09 38 06.5 +0.8**
comp=Z,7.0nm,0.7s,baz=133,slow=13,SNR=42
BRTR LR LR 09 49 16.2
comp=Z,120nm,18.2s,baz=104,slow=44
BR131 Keskin Array S 21.63 311 *e*P **P** **09 38 06.7 +1.1**
comp=Z,6.1nm,0.7s
BR131 Keskin Array S 21.63 311 *e*P **P** **09 38 06.7 +1.1**
comp=Z,6.1nm,0.7s
EKS2 Erkin-Say 21.95 40 P **P** **09 38 08.9 -0.2**
SNR=17
EKS2 Erkin-Say 21.95 40 *i*P **P** **09 38 08.8 -0.2**
EKS2 Erkin-Say 21.95 40 *i*P **P** **09 38 08.8 -0.2**
ANTO Ankara 22.27 311 *e*P **P** **09 38 14.7 +2.2**
ANTO pmax pmax
comp=Z,19nm,0.8s
ANTO Ankara 22.27 311 *e*P **P** **09 38 14.7 +2.2**
comp=Z,19nm,0.8s
ANTO Ankara 22.27 311 *e*P **P** **09 38 14.7 +2.2**
comp=Z,19nm,0.8s
AAK Ala-Archa 22.35 41 P **P** **09 38 13.6 +0.3**
SNR=5.7
AAK Ala-Archa 22.35 41 P **P** **09 38 13.5 +0.3**
comp=Z,8.2nm,0.7s,baz=38,slow=22,SNR=15
AAK LR LR 09 47 08.8
comp=Z,193nm,20.8s,baz=230,slow=37
AAK Ala-Archa 22.35 41 *e*P **P** **09 38 13.4 +0.1**
AAK pmax pmax
comp=Z,57nm,1.5s
AAK Ala-Archa 22.35 41 P **P** **09 38 12.6 -0.7**
AAK Ala-Archa 22.35 41 ⇑P **P** **09 38 12.6 -0.7**
AAK Ala-Archa 22.35 41 *e*P **P** **09 38 13.5 +0.1**
comp=Z,24nm,1.2s
KZA Kyzart 22.47 43 P **P** **09 38 15.9 +1.0**
SNR=11
KZA Kyzart 22.47 43 *i*P **P** **09 38 15.9 +1.0**
KZA Kyzart 22.47 43 *i*P **P** **09 38 15.9 +1.0**
ANN Anapa 22.51 326 *e*P **P** **09 38 16.7 +1.9**
ANN *e*S **S** **09 42 25.0 +4.0**
ANN pmax pmax
comp=Z,10.0nm,0.8s
ANN MLR MLR
comp=Z,133nm,13.0s
ANN Anapa 22.51 326 *e*P **P** **09 38 16.7 +1.9**
comp=Z,10.0nm,0.8s
ABKAR Akbulak array 22.51 9 *e*P **P** **09 38 14.1 -0.7**
ABKAR Akbulak array 22.51 9 *e*P **P** **09 38 14.1 -0.7**
FRU Bishkek 22.54 41 *e*P P 09 38 20.0 +4.8
KBK Karagaybulak 22.63 41 P **P** **09 38 16.4 0.0**
SNR=7.1
KBK Karagaybulak 22.63 41 *i*P **P** **09 38 16.3 0.0**
KBK Karagaybulak 22.63 41 *i*P **P** **09 38 16.3 0.0**
ISP Isparta 23.04 304 *e*P **P** **09 38 20.0 -0.6**
ISP pmax pmax
comp=Z,5.0nm,0.3s
ISP Isparta 23.04 304 *e*P **P** **09 38 20.0 -0.6**
comp=Z,4.9nm,0.3s
ISP Isparta 23.04 304 *e*P **P** **09 38 20.0 -0.6**
comp=Z,4.9nm,0.3s
TKM2 Tokmak 2 23.17 42 *e*P **P** **09 38 21.4 -0.6**
TKM2 pmax pmax
comp=Z,9.0nm,0.8s
TKM2 Tokmak 2 23.17 42 *e*P **P** **09 38 21.4 -0.6**
comp=Z,9.4nm,0.8s
TKM2 Tokmak 2 23.17 42 *e*P **P** **09 38 21.4 -0.6**
comp=Z,9.4nm,0.8s
AKTK Aktyubinsk 23.46 5 P **P** **09 38 24.5 -0.1**
AKTO Aktyubinsk 23.46 5 P **P** **09 38 24.5 -0.1**
comp=Z,18nm,0.8s,baz=177,slow=10,SNR=55
AKTO LR LR 09 49 33.5
comp=Z,177nm,18.2s,baz=174,slow=42
HYB Hyderabad 23.98 109 *i*P **P** **09 38 29.0 -0.9**
HYB Hyderabad 23.98 109 *e*P **P** **09 38 29.0 -0.9**
HYB Hyderabad 23.98 109 *e*P **P** **09 38 29.0 -0.9**
HYB Hyderabad 23.98 109 *e*P **P** **09 38 29.0 -0.9**
PYUN Piuthan 25.01 81 *e*P **P** **09 38 41.1 +1.6**
comp=Z,108nm,0.5s
KOLN Koldanda 25.57 82 *e*P **P** **09 38 46.6 +2.0**
comp=Z,35nm,0.9s
GKN Gorkha 26.47 81 *e*P **P** **09 38 53.8 +1.2**
SANT Santorini 26.52 298 *e*P **P** **09 38 52.4 -0.5**
comp=Z,25nm,0.5s
SANT Santorini 26.52 298 *e*P **P** **09 38 52.4 -0.5**
comp=Z,25nm,0.5s
VORD Divnogorie 26.61 338 *e*P **P** **09 38 53.0 -0.5**
VORD pmax pmax
comp=Z,10.0nm,1.5s
VORD pmax pmax
comp=N,50nm,0.8s
VORD pmax pmax
comp=E,30nm,0.8s
VORD Divnogorie 26.61 338 *e*P **P** **09 38 53.0 -0.5**
comp=E,10.0nm,1.5s
IDI Anoyia 26.77 295 P **P** **09 38 56.7 +1.5**
comp=E,8.1nm,0.5s,baz=101,slow=7.7,SNR=13
IDI LR LR 09 51 49.1
comp=E,48nm,20.9s,baz=81,slow=41
VSR Storozhevoye 26.87 338 *e*P **P** **09 38 55.3 -0.5**
VSR pmax pmax
comp=Z,7.0nm,0.5s
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,20nm,1.8s
VSR Storozhevoye 26.87 338 *e*P **P** **09 38 55.3 -0.5**
comp=E,10.0nm,1.0s
DMN Daman 26.92 82 *e*P **P** **09 38 58.6 +1.8**
comp=E,18nm,0.8s
KKN Kakani 27.05 81 *e*P **P** **09 38 58.9 +0.9**
comp=E,20nm,0.8s
PKIN Phulchoki 27.18 82 *e*P **P** **09 39 00.1 +0.9**
comp=E,18nm,0.8s
PKI Pulchoki 27.19 82 *e*P **P** **09 39 00.6 +1.2**
comp=E,24nm,0.9s
GUN Gumba 27.57 81 *e*P **P** **09 39 03.3 +0.5**
JIRN Jiri 27.87 81 *e*P **P** **09 39 05.8 +0.3**
comp=E,18nm,0.7s
LPSR Galich'ya Gora 28.13 339 *e*P **P** **09 39 08.7 +1.7**
LPSR pmax pmax
comp=N,3.0nm,0.9s
LPSR pmax pmax
comp=E,10.0nm,0.9s
LPSR pmax pmax
comp=Z,10.0nm,0.9s
LPSR Galich'ya Gora 28.13 339 *e*P **P** **09 39 08.7 +1.7**
RAMN Ramite 28.32 83 *e*P **P** **09 39 11.8 +2.5**
comp=Z,16nm,0.7s
BRVK Borovoye 28.42 20 *e*P **P** **09 39 09.3 -0.3**
BRVK pmax pmax
comp=Z,7.0nm,0.6s
BRVK Borovoye 28.42 20 *e*P **P** **09 39 09.3 -0.3**
comp=Z,6.6nm,0.6s
BRVK Borovoye 28.42 20 ⇑P **P** **09 39 08.9 -0.8**
BRVK Borovoye 28.42 20 *e*P **P** **09 39 09.3 -0.3**
comp=Z,6.6nm,0.6s
BVAR Borovoye Array 28.42 20 P **P** **09 39 09.3 -0.4**
comp=Z,8.7nm,0.6s,baz=201,slow=7.9,SNR=52
BVAR ScP **ScP** **09 46 00.1 -2.0**
comp=Z,0.6nm,0.5s,baz=242,slow=3.1,SNR=3.7
BVAR LR LR 09 52 11.6
comp=Z,228nm,18.6s,baz=251,slow=40
VRI Vrincioaia 29.11 318 ⇓P P 09 39 21.9 +6.0
VRI Vrincioaia 29.11 318 ⇓*i*P P 09 39 21.9 +6.0
TAPN Taplejung 29.25 82 *e*P **P** **09 39 17.8 +0.1**
MK31 Makanchi Array 29.28 40 *e*P **P** **09 39 16.9 -0.5**
MK31 Makanchi Array 29.28 40 *e*P **P** **09 39 16.9 -0.5**
MK31 Makanchi Array 29.28 40 *e*P **P** **09 39 16.9 -0.5**
MKAR Makanchi Array 29.28 40 P **P** **09 39 17.1 -0.4**
comp=Z,1.1nm,0.6s,baz=236,slow=12,SNR=15
MKAR LR LR 09 53 09.0
comp=Z,80nm,18.0s,baz=241,slow=41
MKAR Makanchi Array 29.28 40 P **P** **09 39 17.1 -0.4**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR MLR MLR
comp=Z,80nm,18.0s
MKAR Makanchi Array 29.28 40 *e*P **P** **09 39 17.2 -0.2**
MKAR Makanchi Array 29.28 40 *e*P **P** **09 39 17.2 -0.2**
MLR Muntele Rosu 29.40 316 P **P** **09 39 18.5 -0.1**
comp=Z,0.5nm,0.9s,baz=94,slow=17,SNR=2.1
MLR LR LR 09 54 42.2
comp=Z,28nm,18.3s,baz=112,slow=44
MLR Muntele Rosu 29.40 316 ⇓*i*P P 09 39 24.5 +5.9
ARU Arti 29.46 4*c i*P **P** **09 39 19.2 +0.3**
ARU 09 40 12.3
ARU S **S** **09 44 13.9 +1.6**
ARU pmax pmax
comp=Z,7.0nm,1.2s
ARU Arti 29.46 4 *e*P **P** **09 39 19.4 +0.5**
comp=Z,1.7nm,0.4s
ARU Arti 29.46 4 *e*P **P** **09 39 19.4 +0.5**
comp=Z,1.7nm,0.4s
KURBB Kurchatov Arra 29.68 31 P **P** **09 39 20.4 -0.5**
comp=Z,4.8nm,0.9s,baz=230,slow=8.7,SNR=26
KURK Kurchatov 29.79 31 P **P** **09 39 20.4 -1.4**
KURK pmax pmax
comp=Z,5.0nm,0.9s
KURK Kurchatov 29.79 31 *e*P **P** **09 39 21.9 +0.1**
KURK Kurchatov 29.79 31 *e*P **P** **09 39 21.9 +0.1**
VOIR 29.93 316 ⇑P **P** **09 39 25.5 +2.2**
VOIR 29.93 316 ⇑*i*P **P** **09 39 25.5 +2.2**
VOIR 29.93 316 P **P** **09 39 25.5 +2.2**
ARR Arges 30.16 315 ⇑*i*P P 09 39 34.6 +9.3
AKASG Malin Array Be 30.58 327 P **P** **09 39 28.4 -0.5**
comp=Z,1.7nm,0.5s,baz=134,slow=8.3,SNR=9.7
AKASG LR LR 09 52 45.7
comp=Z,64nm,20.1s,baz=155,slow=38
KIEV Kiev 30.59 327 *e*P **P** **09 39 28.8 -0.1**
KIEV pmax pmax
comp=Z,12nm,1.2s
KIEV Kiev 30.59 327 *e*P **P** **09 39 28.8 -0.1**
comp=Z,12nm,1.2s
KIEV Kiev 30.59 327 *e*P **P** **09 39 28.8 -0.1**
comp=Z,12nm,1.2s
BURAR Bucovina Array 30.90 319 ⇓P **P** **09 39 33.2 +1.4**
BURAR Bucovina Array 30.90 319 ⇓*i*P **P** **09 39 33.2 +1.4**
OBN Obninsk 31.00 340 P **P** **09 39 33.3 +0.8**
comp=Z,47nm,0.4s,baz=159,slow=18,SNR=6.7
OBN Obninsk 31.00 340*c i*P **P** **09 39 33.0 +0.5**
OBN *e* 09 40 41.3
OBN pmax pmax
comp=Z,24nm,0.5s
OBN MLR MLR
comp=Z,90nm,18.0s
OBN Obninsk 31.00 340 *e*P **P** **09 39 33.0 +0.5**
comp=Z,46nm,0.4s
OBN Obninsk 31.00 340 *e*P **P** **09 39 33.0 +0.5**
comp=Z,46nm,0.4s
WMQ Urumqi 31.34 49 *e*P **P** **09 39 36.0 +0.3**
WMQ PP **PnPn** **09 40 39.6 +1.4**
WMQ S **S** **09 44 38.6 -3.5**
WMQ PcS **PcS** **09 46 12.8 -0.9**
WMQ PMZ
comp=Z,10.0nm,0.4s
WMQ PMZ
comp=Z,110nm,4.4s
WMQ LN
comp=Z,390nm,23.0s
WMQ LE
comp=Z,180nm,22.6s
GZR Gura Zlata 31.35 314 ⇓*i*P **P** **09 39 33.4 -2.4**
KMBO Kilima Mbogo 32.72 214 P P 09 39 51.8 +3.5
comp=Z,1.8nm,0.4s,baz=40,slow=10,SNR=4.7
KMBO LR LR 09 52 56.5
comp=Z,84nm,19.5s,baz=89,slow=36
KMBO Kilima Mbogo 32.72 214 P P 09 39 51.8 +3.5
KMBO pmax pmax
comp=Z,2.0nm,0.4s
KMBO MLR MLR
comp=Z,85nm,19.5s
KMBO Kilima Mbogo 32.72 214 *e*P **P** **09 39 49.3 +1.0**
comp=Z,3.2nm,0.6s
KMBO Kilima Mbogo 32.72 214 *e*P **P** **09 39 49.3 +1.0**
comp=Z,3.2nm,0.6s
KOLS Kolonicke sedl 33.26 320 *e*P **P** **09 39 54.2 +1.8**
KOLS Kolonicke sedl 33.26 320 *e*P **P** **09 39 54.2 +1.8**
KOLS Kolonicke sedl 33.26 320 *e*P **P** **09 39 54.2 +1.8**
TIP Timpagrande 33.82 301 *e*P **P** **09 39 56.9 -0.6**
comp=Z,16nm,1.3s
TIP Timpagrande 33.82 301 *e*P **P** **09 39 56.9 -0.6**
comp=Z,16nm,1.3s
PKSM Moragy 34.33 313 ⇓P **P** **09 40 01.0 -0.7**
PKSM Moragy 34.33 313 ⇓*i*P **P** **09 40 01.0 -0.7**
PKSM Moragy 34.33 313 P **P** **09 40 01.0 -0.7**
NVS Novosibirsk 34.65 29 *e*P **P** **09 40 03.3 -1.0**
NVS Novosibirsk 34.65 29 *e*P **P** **09 40 03.3 -1.0**
CUC Castrocucco 34.67 302 *e*P P 09 40 08.1 +3.2
comp=Z,8.9nm,0.7s
ZALV Zalesovo Beam 34.78 31 P **P** **09 40 04.8 -0.7**
comp=Z,11nm,0.5s,baz=238,slow=9.3,SNR=39
ZALV LR LR 09 56 33.1
comp=Z,96nm,18.6s,baz=248,slow=40
VYHS Vyhne 35.09 317 *e*P P 09 40 12.0 +3.6
VYHS Vyhne 35.09 317 *e*P P 09 40 12.0 +3.6
PRGR Permogore 35.11 352 *e*P **P** **09 40 08.0 -0.2**
PRGR pmax pmax
comp=Z,8.0nm,0.4s
PRGR Permogore 35.11 352 *e*P **P** **09 40 08.0 -0.2**
comp=Z,8.0nm,0.4s
KLMR Klimovskoe 35.33 347 *e*P **P** **09 40 09.8 -0.4**
KLMR pmax pmax
comp=Z,13nm,1.1s
KLMR Klimovskoe 35.33 347 *e*P **P** **09 40 09.8 -0.4**
comp=Z,13nm,1.1s
MORC Moravsky Berou 36.40 319 ⇓P **P** **09 40 19.9 +0.3**
MORC Moravsky Berou 36.40 319 ⇓*i*P **P** **09 40 19.9 +0.3**
MORC Moravsky Berou 36.40 319 *e*P **P** **09 40 19.8 +0.3**
MORC Moravsky Berou 36.40 319 *e*P **P** **09 40 19.8 +0.3**
BRG Berggiesshubel 38.95 319 *e*P P 09 40 46.8 +5.7
comp=Z,3.9nm,0.9s
BRG Berggiesshubel 38.95 319 *e*P P 09 40 46.8 +5.7
BRG pmax pmax
comp=Z,4.0nm,0.9s
GTA Gaotai 39.25 60 *e*P **P** **09 40 43.9 0.0**
GTA PMZ
comp=Z,14nm,0.6s
FINES FINESS Array B 39.40 339 P **P** **09 40 44.7 +0.1**
comp=Z,6.3nm,0.5s,baz=149,slow=11,SNR=69
FINES LR LR 09 59 31.5
comp=Z,55nm,20.9s,baz=168,slow=40
KEST Kesra 39.44 294 P P 09 40 49.7 +4.2
comp=Z,2.4nm,0.8s,baz=332,slow=5.5,SNR=5.0
KEST Kesra 39.44 294 *e*P **P** **09 40 47.4 +1.9**
KEST Kesra 39.44 294 *e*P **P** **09 40 47.4 +1.9**
VSL Villasalto 39.54 300 P P 09 40 40.5 -5.6
CLL Collm 39.67 319 *e*P **P** **09 40 48.0 +1.0**
CLL *i* Pmax 09 40 51.2
comp=Z,8.0nm,1.1s
CLL Collm 39.67 319 *e*P **P** **09 40 48.0 +1.0**
CLL Collm 39.67 319 *e*P **P** **09 40 48.0 +1.0**
FETA Feichten 39.77 312 ⇑*i*P **P** **09 40 48.4 +0.2**
comp=Z,14nm,1.0s
FETA Feichten 39.77 312 P **P** **09 40 48.4 +0.2**
comp=Z,14nm,1.0s
PGF Pioggiola 40.13 305 *e*P **P** **09 40 48.8 -2.4**
comp=Z,36nm,1.1s
PGF Pioggiola 40.13 305 *e*P **P** **09 40 48.8 -2.4**
PGF pmax pmax
comp=Z,36nm,1.1s
PGF Pioggiola 40.13 305 *e*P **P** **09 40 48.8 -2.4**
comp=Z,36nm,1.1s
BSD Bornholm Skovb 40.21 325 *i*P **P** **09 40 50.4 -1.0**
comp=Z,11nm,0.8s
BSD Bornholm Skovb 40.21 325 *e*P **P** **09 40 50.4 -1.0**
BSD pmax pmax
comp=Z,11nm,0.8s
BSD Bornholm Skovb 40.21 325 *e*P **P** **09 40 50.4 -1.0**
comp=Z,11nm,0.8s
DAVOX Davos/Dischmat 40.28 311 P **P** **09 40 53.0 +0.6**
comp=Z,5.3nm,0.4s,baz=92,slow=10,SNR=10
DAVOX Davos/Dischmat 40.28 311 P **P** **09 40 53.0 +0.6**
DAVOX pmax pmax
comp=Z,5.0nm,0.4s
DAVA Damuels 40.40 312 ⇑*i*P **P** **09 40 53.5 +0.1**
comp=Z,28nm,0.5s
DAVA Damuels 40.40 312 P **P** **09 40 53.5 +0.1**
comp=Z,28nm,0.5s
SBF Sospel 41.44 307 *e*P **P** **09 40 59.1 -2.8**
comp=Z,34nm,0.6s
SBF Sospel 41.44 307 *e*P **P** **09 40 59.1 -2.8**
SBF pmax pmax
comp=Z,34nm,0.6s
SBF Sospel 41.44 307 *e*P **P** **09 40 59.1 -2.8**
comp=Z,34nm,0.6s
CMAR Chiang Mai Arr 41.45 92 P **P** **09 41 03.0 +0.8**
comp=Z,1.0nm,0.3s,baz=286,slow=9.4,SNR=9.5
CMAR LR LR 10 01 26.1
comp=Z,33nm,19.1s,baz=295,slow=41
CMAR Chiang Mai Arr 41.45 92 P **P** **09 41 03.0 +0.8**
CMAR Chiang Mai Arr 41.45 92 P **P** **09 41 03.0 +0.8**
BFO Black Forest 41.66 313 *i*P **P** **09 41 03.0 -0.6**
BFO Black Forest 41.66 313 *i*P **P** **09 41 03.0 -0.6**
SENIN Lac Senin/Sane 41.94 310 *e*P **P** **09 41 06.1 0.0**
SENIN Lac Senin/Sane 41.94 310 *e*P **P** **09 41 06.1 0.0**
MBDF Montbardon 42.03 308 *e*P **P** **09 41 04.2 -2.7**
comp=Z,10nm,0.5s
MBDF Montbardon 42.03 308 *e*P **P** **09 41 04.2 -2.7**
MBDF pmax pmax
comp=Z,10.0nm,0.5s
MBDF Montbardon 42.03 308 *e*P **P** **09 41 04.2 -2.7**
comp=Z,10nm,0.5s
LMR La Mourre 42.05 306 *e*P **P** **09 41 03.9 -2.9**
LMR La Mourre 42.05 306 *e*P **P** **09 41 03.9 -2.9**
LMR La Mourre 42.05 306 *e*P **P** **09 41 03.9 -2.9**
LPG La Plagne 42.16 309 *e*P **P** **09 41 05.3 -2.8**
comp=Z,16nm,0.6s
LPG La Plagne 42.16 309 *e*P **P** **09 41 05.3 -2.8**
LPG pmax pmax
comp=Z,16nm,0.6s
LPG La Plagne 42.16 309 *e*P **P** **09 41 05.3 -2.8**
comp=Z,16nm,0.6s
LPL La Plagne 42.18 309 *e*P **P** **09 41 05.9 -2.2**
comp=Z,12nm,0.6s
LPL La Plagne 42.18 309 *e*P **P** **09 41 05.9 -2.2**
LPL pmax pmax
comp=Z,12nm,0.6s
LPL La Plagne 42.18 309 *e*P **P** **09 41 05.9 -2.2**
comp=Z,5.8nm,0.6s
LPL La Plagne 42.18 309 *e*P **P** **09 41 05.9 -2.2**
comp=Z,12nm,0.6s
CDF Champ du Feu 42.36 313 *e*P P 09 41 06.3 -3.1
comp=Z,13nm,1.1s
CDF Champ du Feu 42.36 313 *e*P P 09 41 06.3 -3.1
CDF pmax pmax
comp=Z,13nm,1.1s
CDF Champ du Feu 42.36 313 *e*P P 09 41 06.3 -3.1
comp=Z,13nm,1.1s
LZH Lanzhou 42.38 65 *e*P **P** **09 41 08.0 -1.9**
LZH PMZ
comp=Z,14nm,1.0s
HINF Hinteralfeld 42.51 312 *e*P P 09 41 07.4 -3.2
comp=Z,7.0nm,0.6s
HINF Hinteralfeld 42.51 312 *e*P P 09 41 07.4 -3.2
HINF pmax pmax
comp=Z,7.0nm,0.6s
HINF Hinteralfeld 42.51 312 *e*P P 09 41 07.4 -3.2
comp=Z,7.0nm,0.6s
APA Apatity 42.55 348 ⇓*i*P **P** **09 41 11.2 +0.6**
APA MLR MLR
comp=Z,200nm,16.0s
APA Apatity 42.55 348 *i*P **P** **09 41 11.2 +0.6**
comp=Z,200nm,16.0s
ORIF Oris-en-Rattie 42.69 308 *e*P P 09 41 09.1 -3.0
ORIF *e*R
comp=Z,106nm,19.2s
ORIF Oris-en-Rattie 42.69 308 *e*P P 09 41 09.1 -3.0
ORIF Oris-en-Rattie 42.69 308 *e*P P 09 41 09.1 -3.0
CD2 Chengdu 42.75 73 *e*P **P** **09 41 10.6 -2.1**
CD2 PP **PP** **09 42 54.5 +2.6**
CD2 S **S** **09 47 31.5 -4.5**
CD2 PMZ
comp=Z,10.0nm,0.6s
CD2 PMZ
comp=Z,70nm,7.2s
CD2 LN
comp=Z,270nm,15.6s
CD2 LZ
comp=Z,160nm,12.0s
CABF La Chapelle 42.80 310 *e*P P 09 41 09.9 -3.1
comp=Z,15nm,0.8s
CABF La Chapelle 42.80 310 *e*P P 09 41 09.9 -3.1
CABF pmax pmax
comp=Z,15nm,0.8s
CABF La Chapelle 42.80 310 *e*P P 09 41 09.9 -3.1
comp=Z,15nm,0.8s
HAU Haudompre 42.88 312 *e*P **P** **09 41 11.1 -2.5**
HAU *e*R
comp=Z,56nm,20.5s
HAU Haudompre 42.88 312 *e*P **P** **09 41 11.1 -2.5**
HAU Haudompre 42.88 312 *e*P **P** **09 41 11.1 -2.5**
HFS Hagfors 43.26 331 P **P** **09 41 16.3 -0.1**
comp=Z,3.2nm,0.4s,baz=122,slow=11,SNR=26
PAGF Fort de Pagny 43.40 313 *e*P **P** **09 41 15.4 -2.3**
PAGF Fort de Pagny 43.40 313 *e*P **P** **09 41 15.4 -2.3**
PAGF Fort de Pagny 43.40 313 *e*P **P** **09 41 15.4 -2.3**
ZAK Zakamensk 43.45 44 *e*P P 09 41 22.5 +4.3
ZAK pmax pmax
comp=Z,2.0nm,2.2s
VIVF Saint-Julien-l 43.53 308 *e*P **P** **09 41 16.1 -2.8**
comp=Z,11nm,0.9s
VIVF Saint-Julien-l 43.53 308 *e*P **P** **09 41 16.1 -2.8**
VIVF pmax pmax
comp=Z,11nm,0.9s
VIVF Saint-Julien-l 43.53 308 *e*P **P** **09 41 16.1 -2.8**
comp=Z,11nm,0.9s
SFTF Sexfontaines 43.78 312 *e*P **P** **09 41 18.4 -2.4**
comp=Z,12nm,0.5s
SFTF Sexfontaines 43.78 312 *e*P **P** **09 41 18.4 -2.4**
comp=Z,12nm,0.5s
MEZF Maizieres J'vi 43.83 313 *e*P **P** **09 41 18.8 -2.4**
MEZF Maizieres J'vi 43.83 313 *e*P **P** **09 41 18.8 -2.4**
MEZF Maizieres J'vi 43.83 313 *e*P **P** **09 41 18.8 -2.4**
TLY Talaya 44.00 42 LR LR 10 01 46.7
comp=Z,53nm,19.1s,baz=250,slow=39
LASF Ste Croix 44.03 306 *e*P **P** **09 41 20.5 -2.4**
comp=Z,20nm,1.0s
LASF Ste Croix 44.03 306 *e*P **P** **09 41 20.5 -2.4**
comp=Z,20nm,1.0s
SMF Signal de Mont 44.34 310 *e*P **P** **09 41 22.6 -2.7**
comp=Z,15nm,0.8s
SMF Signal de Mont 44.34 310 *e*P **P** **09 41 22.6 -2.7**
SMF pmax pmax
comp=Z,15nm,0.8s
SMF Signal de Mont 44.34 310 *e*P **P** **09 41 22.6 -2.7**
comp=Z,15nm,0.8s
LOR Lormes 44.41 311 *e*P **P** **09 41 23.1 -2.8**
comp=Z,11nm,0.8s
LOR *e*R
comp=Z,75nm,22.0s
LOR Lormes 44.41 311 *e*P **P** **09 41 23.1 -2.8**
LOR pmax pmax
comp=Z,11nm,0.8s
LOR Lormes 44.41 311 *e*P **P** **09 41 23.1 -2.8**
comp=Z,11nm,0.8s
SSF Saint Saulge 44.62 311 *e*P **P** **09 41 25.1 -2.5**
comp=Z,17nm,1.0s
SSF Saint Saulge 44.62 311 *e*P **P** **09 41 25.1 -2.5**
SSF pmax pmax
comp=Z,17nm,1.0s
SSF Saint Saulge 44.62 311 *e*P **P** **09 41 25.1 -2.5**
comp=Z,17nm,1.0s
BAIF Baives 44.67 315 *e*P **P** **09 41 25.5 -2.4**
comp=Z,18nm,0.7s
BAIF Baives 44.67 315 *e*P **P** **09 41 25.5 -2.4**
BAIF pmax pmax
comp=Z,19nm,0.7s
BAIF Baives 44.67 315 *e*P **P** **09 41 25.5 -2.4**
comp=Z,9.2nm,0.7s
BAIF Baives 44.67 315 *e*P **P** **09 41 25.5 -2.4**
comp=Z,18nm,0.7s
AVF Avril sur Loir 44.69 310 *e*P **P** **09 41 25.9 -2.2**

comp=Z,9.4nm,0.8s
AVF Avril sur Loir 44.69 310 *e*P **P** 09 41 25.9 -2.2
AVF pmax pmax
comp=Z,9.0nm,0.8s
AVF Avril sur Loir 44.69 310 *e*P **P** 09 41 25.9 -2.2
comp=Z,4.7nm,0.8s
AVF Avril sur Loir 44.69 310 *e*P **P** 09 41 25.9 -2.2
comp=Z,9.4nm,0.8s
NB2 NORSAR Subarra 44.77 332 P **P** 09 41 27.6 -1.0
comp=Z,4.1nm,0.6s,baz=118,slow=7.9
NB2 NORSAR Subarra 44.77 332 P **P** 09 41 27.6 -1.0
comp=Z,4.1nm,0.6s,baz=118,slow=7.9,SNR=5.6
NOA NORSAR Array B 44.77 332 P **P** 09 41 28.0 -0.6
comp=Z,3.0nm,0.6s,baz=119,slow=7.9,SNR=29
NAO01 NORSAR Array S 44.82 331 *e*P **P** 09 41 28.3 -0.6
comp=Z,3.6nm,0.8s
NAO01 NORSAR Array S 44.82 331 *e*P **P** 09 41 28.3 -0.6
comp=Z,3.6nm,0.8s
SONM Songino Array 44.97 48 P **P** 09 41 30.1 -0.4
comp=Z,1.4nm,1.0s,baz=252,slow=7.6,SNR=7.7
SONM LR LR 10 02 05.1
comp=Z,68nm,18.3s,baz=264,slow=38
CAF Calviac 45.39 307 *e*P **P** 09 41 31.1 -2.6
comp=Z,16nm,0.8s
CAF Calviac 45.39 307 *e*P **P** 09 41 31.1 -2.6
CAF pmax pmax
comp=Z,16nm,0.8s
CAF Calviac 45.39 307 *e*P **P** 09 41 31.1 -2.6
comp=Z,16nm,0.8s
ULN Ulaanbaatar 45.41 48 *e*P **P** 09 41 33.8 -0.2
ULN pmax pmax
comp=Z,6.0nm,1.7s
ULN Ulaanbaatar 45.41 48 *e*P **P** 09 41 33.8 -0.2
comp=Z,6.0nm,1.7s
TCF Toulx Ste Croi 45.41 309 *e*P **P** 09 41 31.0 -2.9
TCF Toulx Ste Croi 45.41 309 *e*P **P** 09 41 31.0 -2.9
TCF Toulx Ste Croi 45.41 309 *e*P **P** 09 41 31.0 -2.9
KEV Kevo 45.66 347 *e*P **P** 09 41 35.1 -0.3
KEV pmax pmax
comp=Z,9.0nm,0.9s
KEV Kevo 45.66 347 *e*P **P** 09 41 35.1 -0.3
comp=Z,8.6nm,0.9s
KEV Kevo 45.66 347 *e*P **P** 09 41 35.1 -0.3
comp=Z,8.6nm,0.9s
ARCES ARCESS Array B 45.79 346 P **P** 09 41 36.6 +0.1
comp=Z,1.9nm,0.5s,baz=143,slow=8.9,SNR=19
ARCES LR LR 10 02 51.0
comp=Z,81nm,19.0s,baz=169,slow=39
ARE0 ARCESS Array S 45.79 346 *e*P **P** 09 41 35.5 -1.0
ARE0 ARCESS Array S 45.79 346 *e*P **P** 09 41 35.5 -1.0
RJF Les Rejaudoux 45.80 308 *e*P **P** 09 41 34.8 -2.2
comp=Z,23nm,1.0s
RJF *e*R
comp=Z,57nm,22.0s
RJF Les Rejaudoux 45.80 308 *e*P **P** 09 41 34.8 -2.2
RJF pmax pmax
comp=Z,23nm,1.0s
RJF Les Rejaudoux 45.80 308 *e*P **P** 09 41 34.8 -2.2
comp=Z,11nm,1.0s
RJF Les Rejaudoux 45.80 308 *e*P **P** 09 41 34.8 -2.2
comp=Z,23nm,1.0s
GYA Guiyang 46.06 78 *e*P **P** 09 41 37.0 -2.4
GYA PMZ
comp=Z,10.0nm,1.0s
LFF La Frestale 46.33 307 *e*P **P** 09 41 38.5 -2.5
LFF La Frestale 46.33 307 *e*P **P** 09 41 38.5 -2.5
LFF La Frestale 46.33 307 *e*P **P** 09 41 38.5 -2.5
ETSF Etsaut 47.18 305 *e*P **P** 09 41 45.3 -2.6
comp=Z,20nm,0.8s
ETSF Etsaut 47.18 305 *e*P **P** 09 41 45.3 -2.6
ETSF pmax pmax
comp=Z,20nm,0.8s
ETSF Etsaut 47.18 305 *e*P **P** 09 41 45.3 -2.6
comp=Z,20nm,0.8s
LDF La Druitiere 47.24 312 *e*P **P** 09 41 46.0 -2.2
LDF La Druitiere 47.24 312 *e*P **P** 09 41 46.0 -2.2
LDF La Druitiere 47.24 312 *e*P **P** 09 41 46.0 -2.2
LDF La Druitiere 47.24 312 *e*P **P** 09 41 46.0 -2.2
SJPF Ste Jean 47.67 305 *e*P **P** 09 41 49.6 -2.0
SJPF Ste Jean 47.67 305 *e*P **P** 09 41 49.6 -2.0
SJPF Ste Jean 47.67 305 *e*P **P** 09 41 49.6 -2.0
SJPF Ste Jean 47.67 305 *e*P **P** 09 41 49.6 -2.0
HHC Hu-ho-hao-te 48.28 58 *e*P **P** 09 41 56.3 -0.2
HHC PP **PP** 09 43 48.0 -0.9
HHC S **S** 09 48 52.3 -3.5
HHC ScS **ScS** 09 51 43.8 -5.2
HHC PMZ
comp=Z,17nm,1.1s
HHC PMZ
comp=Z,43nm,5.1s
HHC LN
comp=Z,180nm,13.1s
HHC LE
comp=Z,190nm,14.7s
ESDC Sonseca Array 49.84 300 P **P** 09 42 08.8 +0.4
comp=Z,2.1nm,0.5s,baz=67,slow=7.9,SNR=6.4
EKA Eskdalemuir Ar 50.06 321 P **P** 09 42 10.1 +0.3
comp=Z,0.8nm,0.4s,baz=100,slow=7.8,SNR=9.9
BOD Bodaibo 51.21 36 *e*P **P** 09 42 17.3 -1.1
BOD pmax pmax
comp=Z,8.0nm,0.9s
BOD Bodaibo 51.21 36 *e*P **P** 09 42 17.3 -1.1
comp=Z,8.0nm,0.9s
TOA0 Torodi Ar. Sit 51.39 265 *e*P **P** 09 42 21.1 +0.8
TOA0 Torodi Ar. Sit 51.39 265 *e*P **P** 09 42 21.1 +0.8
TORD Torodi Ar. Bea 51.39 265 P **P** 09 42 21.1 +0.8
comp=Z,5.6nm,0.6s,baz=58,slow=6.9,SNR=49
TORD LR LR 10 06 51.0
comp=Z,95nm,18.7s,baz=160,slow=39
WHN Wuhan 51.80 71 *e*P **P** 09 42 24.4 +1.2
BJI Beijing 51.85 59 P P 09 42 19.8 -3.6
BJI PMZ
comp=Z,7.0nm,0.7s
BJI LN
comp=Z,150nm,18.6s
BJI LE
comp=Z,110nm,17.5s
SPITS Spitsbergen Ar 54.06 351 P **P** 09 42 39.0 -0.2
comp=Z,1.0nm,0.5s,baz=131,slow=11,SNR=9.2
NJ2 Nanjing 55.25 68 *e*P P 09 42 45.0 -3.5
NJ2 PMZ
comp=Z,30nm,0.6s
CN2 Changchun 58.27 53 *e*P **P** 09 43 09.1 -0.7
CN2 PMZ
comp=Z,10.0nm,0.5s
TSUM Tsumeb 58.45 222 *e*P **P** 09 43 13.4 +2.0
comp=Z,10nm,1.2s
TSUM Tsumeb 58.45 222 *e*P **P** 09 43 13.4 +2.0
comp=Z,10nm,1.2s
LBTB Lobatse 58.93 211 *e*P **P** 09 43 16.7 +2.0
LBTB pmax pmax
comp=Z,20nm,1.2s
LBTB Lobatse 58.93 211 *e*P **P** 09 43 16.7 +2.0
comp=Z,20nm,1.2s
LBTB Lobatse 58.93 211 *e*P **P** 09 43 16.7 +2.0
comp=Z,20nm,1.2s
YAK Yakutsk 59.43 32 LR LR 10 11 51.6
comp=Z,40nm,19.5s,baz=204,slow=39
TIXI Tiksi 59.55 21 *e*P **P** 09 43 17.2 -1.0
TIXI pmax pmax
comp=Z,12nm,2.5s
TIXI Tiksi 59.55 21 *e*P **P** 09 43 17.2 -1.0
comp=Z,12nm,2.5s
DBIC Dimbokro 60.00 262 P **P** 09 43 23.4 +1.3
comp=Z,4.0nm,0.4s,baz=25,slow=5.3,SNR=9.3
DBIC Dimbokro 60.00 262 *e*P **P** 09 43 23.0 +0.8
DBIC pmax pmax
comp=Z,18nm,1.0s
DBIC Dimbokro 60.00 262 *e*P **P** 09 43 23.0 +0.8
comp=Z,18nm,1.0s
DBIC Dimbokro 60.00 262 *e*P **P** 09 43 22.9 +0.8
comp=Z,18nm,1.0s
KIC Kosan Boka 60.04 261 *e*P **P** 09 43 23.5 +1.0
comp=Z,112nm,1.6s
TIC Toumodi 60.16 262 *e*P **P** 09 43 24.7 +1.4
comp=Z,11nm,0.3s
LIC Lamto 60.35 261 *e*P **P** 09 43 25.4 +0.8
comp=Z,14nm,0.5s
LIC Lamto 60.35 261 *e*P **P** 09 43 25.2 +0.6
comp=Z,128nm,1.7s
LIC Lamto 60.35 261 *e*P **P** 09 43 25.4 +0.8
comp=Z,6.8nm,0.5s
LIC Lamto 60.35 261 *e*P **P** 09 43 25.4 +0.8
comp=Z,14nm,0.5s
KSAR Wonju Array Be 61.30 60 P **P** 09 43 29.9 -0.9
KSAR Wonju Array Be 61.30 60 P **P** 09 43 29.9 -0.9
KSRS Korea Array 61.33 60 P **P** 09 43 29.9 -1.0
comp=Z,0.6nm,0.5s,baz=263,slow=10.0,SNR=5.2
KSRS LR LR 10 14 41.3
comp=Z,34nm,19.9s,baz=302,slow=41
KSRS Korea Array 61.33 60 P **P** 09 43 29.9 -1.0
KSRS pmax pmax
comp=Z,1.0nm,0.5s
KSRS MLR MLR
comp=Z,34nm,19.9s
USRK Ussuriysk Ar. 62.84 52 P **P** 09 43 41.5 +0.5
comp=Z,1.5nm,0.6s,baz=269,slow=5.6,SNR=6.3
JNU Nakatsue 64.79 64 LR LR 10 15 04.4
comp=Z,54nm,18.2s,slow=39
SUMG Summit 65.39 341 *i* P **P** 09 43 58.1 +0.4
comp=Z,7.4nm,0.9s
SUMG Summit 65.39 341 *i* P **P** 09 43 58.1 +0.4
SUMG pmax pmax
comp=Z,7.0nm,0.9s
SUMG Summit 65.39 341 *i* P **P** 09 43 58.1 +0.4
comp=Z,7.4nm,0.9s
YSS Yuzh-Sakhalins 69.43 47 *e*P **P** 09 44 21.6 -1.7
YSS pmax pmax
comp=Z,30nm,1.3s
YSS Yuzh-Sakhalins 69.43 47 *e*P **P** 09 44 21.6 -1.7
comp=Z,30nm,1.3s
SEY Seymchan 69.61 29 LR LR 10 18 22.6
comp=Z,44nm,19.0s,baz=29,slow=39
SEY Seymchan 69.61 29 *e*P **P** 09 44 24.4 +0.4
SEY Seymchan 69.61 29 *e*P **P** 09 44 24.4 +0.4
ASAJ Asahikawa 70.22 50 LR LR 10 16 50.5
comp=Z,464nm,20.0s,slow=37
BILL Bilibino 72.75 21 *e*P **P** 09 44 43.2 +0.2
BILL *e* 09 44 59.6
BILL *e* 09 47 31.1
BILL pmax pmax
comp=Z,9.0nm,2.5s
BILL MLR MLR
comp=Z,74nm,22.0s
BILL Bilibino 72.75 21 *e*P **P** 09 44 43.2 +0.2
comp=Z,9.0nm,2.5s
BILL Bilibino 72.75 21 *e*PcP **PcP** 09 44 59.6 -0.7
PETK Petropavlovsk- 76.06 37 LR LR 10 20 47.9
comp=Z,27nm,20.4s,baz=278,slow=38
SCHQ Schefferville 84.33 330 P **P** 09 45 46.7 -0.4
comp=Z,2.1nm,0.6s,baz=29,slow=3.4,SNR=8.4
INK Inuvik 84.71 3 *e*P **P** 09 45 48.4 -0.3
INK pmax pmax
comp=Z,2.0nm,0.8s
INK Inuvik 84.71 3 *e*P **P** 09 45 48.4 -0.3
comp=Z,1.9nm,0.8s
INK Inuvik 84.71 3 *e*P **P** 09 45 48.4 -0.3
comp=Z,1.9nm,0.8s
COLA College 86.68 9 *e*P **P** 09 45 57.3 -1.3
COLA pmax pmax
comp=Z,2.0nm,0.8s
COLA College 86.68 9 *e*P **P** 09 45 57.3 -1.3
comp=Z,2.4nm,0.8s
COLA College 86.68 9 *e*P **P** 09 45 57.3 -1.3
comp=Z,2.4nm,0.8s
ILAR Eielson Array 86.92 9 P **P** 09 45 59.0 -0.8
comp=Z,1.2nm,0.9s,baz=330,slow=3.8,SNR=13
ILAR LR LR 10 32 13.3
comp=Z,35nm,18.0s,baz=156,slow=41
WRA Warramunga Arr 90.09 112 P **P** 09 46 15.5 0.0
comp=Z,1.7nm,0.7s,baz=309,slow=3.9,SNR=13
WRAB Tennant Creek 90.09 112 *e*P **P** 09 46 15.8 +0.2
WRAB pmax pmax
comp=Z,3.0nm,0.6s
WRAB Tennant Creek 90.09 112 *e*P **P** 09 46 15.8 +0.2
comp=Z,3.2nm,0.6s
WRAB Tennant Creek 90.09 112 *e*P **P** 09 46 15.8 +0.2
comp=Z,3.2nm,0.6s
YKA Yellowknife Ar 90.35 355 P **P** 09 46 16.2 +0.2
comp=Z,2.0nm,0.8s,baz=6.1,slow=5.1,SNR=26
FCC Fort Churchill 90.66 344 *e*P **P** 09 46 15.1 -2.4
FCC Fort Churchill 90.66 344 *e*P **P** 09 46 15.1 -2.4
FCC Fort Churchill 90.66 344 *e*P **P** 09 46 15.1 -2.4
ASAR Alice Springs 91.52 116 P **P** 09 46 21.8 -0.4
comp=Z,1.3nm,0.8s,baz=305,slow=4.5,SNR=10

DDA 14 09:43:56.7,40.92N×32.55E,h7km,MD2.5,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCAM	**Yenicaga**	**0.38**	**255**	*i* P	Pg	09 44 04.6	+0.3
BCAM				*i* S	Sb	09 44 13.4	+1.2
ILGA	**Ilgaz**	**0.90**	**81**	*i* P	Pg	09 44 13.2	-1.1
ILGA				*i* S	Sb	09 44 26.7	-0.6
CTKT	**Corum**	**1.73**	**99**	*i* P	Pn	09 44 26.8	-0.6
CTKT				*i* S	Sg	09 44 54.7	+2.0

ISCJB ***14*** *09:44:41.8±0.4,39.67N±0.02×29.46E±0.04,h0km, Error ellipse: s-maj=4.0km s-min=3.4km az=14.8*
CSEM ***14*** *09:44:41.8±0.2,39.65N×29.48E,h1km, MD2.7, Error ellipse: s-maj=4.1km s-min=3.6km az=94.0, Mining explosion.*
ISK ***14*** *09:44:41.8, 39.67N×29.46E, h12km, MD2.7*
DDA ***14*** *09:44:42.1, 39.63N×29.50E, h7km*

ISC 14 09:44:42.0±0.8,39.67N±0.02×29.47E±0.02,h0km,n50, σ0.68/62,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.22**	**182**	PG	**Pg**	**09 44 46.8**	**+0.6**
TVSB				*e*SG	**Sg**	**09 44 51.1**	**+2.1**
TVSB	**Tavsanli**	**0.22**	**182**	*i* Pg	**Pg**	**09 44 46.8**	**+0.6**
TVSB				*e*Sg	**Sg**	**09 44 51.1**	**+2.1**
ORLT	**Orhaneli**	**0.58**	**311**	*e*PG	**Pg**	**09 44 53.1**	**-0.1**
ORLT	**Orhaneli**	**0.58**	**311**	*e*Pg	**Pg**	**09 44 53.1**	**-0.1**
CAVI	**Cavuskoy**	**0.60**	**28**	*e*PG	**Pg**	**09 44 53.9**	**+0.2**
CAVI	**Cavuskoy**	**0.60**	**28**	*e*Pg	**Pg**	**09 44 53.9**	**+0.2**
DST	**Dursunbey**	**0.66**	**265**	*e*PG	**Pg**	**09 44 55.0**	**+0.3**
DST	**Dursunbey**	**0.66**	**265**	*e*Pg	**Pg**	**09 44 55.0**	**+0.3**
IZI	**Iznik**	**0.67**	**0**	*e*PG	**Pg**	**09 44 55.2**	**+0.4**
IZI	**Iznik**	**0.67**	**0**	*e*Pg	**Pg**	**09 44 55.2**	**+0.4**
DURS	**Dursunbey**	**0.77**	**265**	*i* P	**Pg**	**09 44 56.2**	**-0.6**
DURS	**Dursunbey**	**0.77**	**265**	*i* P	**Pg**	**09 44 56.2**	**-0.6**
BORA	**Eskisehir**	**0.79**	**74**	*i* P	**Pg**	**09 44 57.6**	**+0.5**
BORA				*i* S	**Sb**	**09 45 10.1**	**+0.2**
BORA	**Eskisehir**	**0.79**	**74**	*i* P	**Pg**	**09 44 57.6**	**+0.5**
BORA				*i* S	**Sb**	**09 45 10.1**	**+0.2**
ALT	**Altintas**	**0.79**	**141**	*e*PG	**Pg**	**09 44 57.3**	**+0.2**
ALT	**Altintas**	**0.79**	**141**	*e*Pg	**Pg**	**09 44 57.3**	**+0.2**
ADVT	**Abdulvahap**	**0.79**	**15**	*e*PG	**Pb**	**09 44 58.1**	**-0.6**
ADVT	**Abdulvahap**	**0.79**	**15**	*e*Pg	**Pb**	**09 44 58.1**	**-0.6**
GEMT	**Gemlik**	**0.80**	**344**	*e*PG	**Pg**	**09 44 58.0**	**+0.7**
GEMT				*e*SG	**Sb**	**09 45 10.2**	**+0.1**
GEMT	**Gemlik**	**0.80**	**344**	*e*Pg	**Pg**	**09 44 58.0**	**+0.7**
GEMT				*e*Sg	**Sb**	**09 45 10.2**	**+0.1**
MDNY	**Mudanya-Bursa**	**0.83**	**327**	*e*PG	**Pb**	**09 44 59.3**	**-0.1**
MDNY	**Mudanya-Bursa**	**0.83**	**327**	*e*Pg	**Pb**	**09 44 59.3**	**-0.1**
DEMI	**Demirci**	**0.85**	**223**	*i* P	**Pg**	**09 44 58.6**	**+0.2**
DEMI				*i* S	**Sb**	**09 45 11.9**	**+0.1**
DEMI	**Demirci**	**0.85**	**223**	*i* P	**Pg**	**09 44 58.6**	**+0.2**
DEMI				*i* S	**Sb**	**09 45 11.9**	**+0.1**
ARMT	**Armutlu**	**1.01**	**333**	*e*PG	**Pg**	**09 45 01.2**	**-0.2**
ARMT	**Armutlu**	**1.01**	**333**	*e*Pg	**Pg**	**09 45 01.2**	**-0.2**
KCTX	**Karacabey (Bur**	**1.04**	**305**	*e*PG	**Pg**	**09 45 01.9**	**-0.1**
KCTX	**Karacabey (Bur**	**1.04**	**305**	*e*Pg	**Pg**	**09 45 01.9**	**-0.1**
ESKT	**Eskisehir**	**1.08**	**97**	*e*PN	**Pb**	**09 45 03.5**	**-0.1**
ESKT	**Eskisehir**	**1.08**	**97**	*e*Pn	**Pb**	**09 45 03.5**	**-0.1**
GULT	**Gulveren**	**1.11**	**46**	*e*PN	**Pb**	**09 45 03.9**	**-0.2**
GULT	**Gulveren**	**1.11**	**46**	*e*Pn	**Pb**	**09 45 03.9**	**-0.2**
HRT	**Hereke**	**1.16**	**7**	*e*PN	**Pg**	**09 45 04.3**	**0.0**
HRT	**Hereke**	**1.16**	**7**	*e*Pn	**Pg**	**09 45 04.3**	**0.0**
BUY	**Buyukada**	**1.21**	**347**	*i* P	**Pg**	**09 45 05.5**	**+0.2**
BUY				*i* S	**Sn**	**09 45 24.0**	**+0.6**
BUY	**Buyukada**	**1.21**	**347**	*i* P	**Pg**	**09 45 05.5**	**+0.2**
BUY				*i* S	**Sn**	**09 45 24.0**	**+0.6**
BALB	**Balikesir**	**1.23**	**269**	*e*PN	**Pb**	**09 45 05.8**	**-0.3**
BALB				*e*SN	**Sb**	**09 45 22.6**	**+0.1**
BALB	**Balikesir**	**1.23**	**269**	*e*Pn	**Pb**	**09 45 05.8**	**-0.3**
BALB				*e*Sn	**Sb**	**09 45 22.6**	**+0.1**
KULA	**Kula-Manisa**	**1.31**	**209**	*e*PN	**Pg**	**09 45 06.8**	**-0.4**
KULA	**Kula-Manisa**	**1.31**	**209**	*e*Pn	**Pg**	**09 45 06.8**	**-0.4**
SHUT	**Suhut-Afyon**	**1.40**	**143**	*e*PN	**Pg**	**09 45 07.5**	**-1.3**
SHUT	**Suhut-Afyon**	**1.40**	**143**	*e*Pn	**Pg**	**09 45 07.5**	**-1.3**
ISK	**Istanbul-Kandi**	**1.43**	**347**	*e*PN	**Pn**	**09 45 08.6**	**-0.6**
ISK	**Istanbul-Kandi**	**1.43**	**347**	*e*Pn	**Pn**	**09 45 08.6**	**-0.6**
SILT	**Sile**	**1.49**	**5**	*e*PN	**Pn**	**09 45 08.6**	**-1.5**
SILT	**Sile**	**1.49**	**5**	*e*Pn	**Pn**	**09 45 08.6**	**-1.5**
AKS	**Akhisar**	**1.51**	**239**	*e*PN	**Pn**	**09 45 09.4**	**-0.9**
AKS	**Akhisar**	**1.51**	**239**	*e*Pn	**Pn**	**09 45 09.4**	**-0.9**
SVRH	**Sivrihisar-ESK**	**1.60**	**97**	*e*PN	**Pn**	**09 45 10.6**	**-1.1**
SVRH	**Sivrihisar-ESK**	**1.60**	**97**	*e*Pn	**Pn**	**09 45 10.6**	**-1.1**

WEL 14 10:03:55.4±0.4,37.12S×176.62E,h165km±4km,ML3.6/18, 3C-6D,Error ellipse: s-maj=4.8km s-min=3.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.12**	**125**	PN	Pn	10 04 22.5	0.0
HAZ				SN	Sn	10 04 43.8	+0.3
URZ	**Urewera**	**1.21**	**161**	⇑PN	Pn	10 04 23.5	+0.3
URZ				SN	Sn	10 04 44.9	+0.1
MWZ	**Matawai**	**1.41**	**150**	⇓PN	Pn	10 04 25.3	+0.1
MWZ				SN	Sn	10 04 47.2	-1.2
MXZ	**Matakaoa Point**	**1.42**	**109**	PN	Pn	10 04 25.4	+0.1
MXZ				SN	Sn	10 04 48.3	+0.1
TWGZ	**Tauwhareparae**	**1.51**	**135**	PN	Pn	10 04 26.9	+0.7
TWGZ				SN	Sn	10 04 50.8	+0.7
WMGZ	**Waiomatatini S**	**1.59**	**117**	PN	Pn	10 04 27.0	0.0
WMGZ				SN	Sn	10 04 51.1	-0.3
PUZ	**Puketiti**	**1.61**	**127**	PN	Pn	10 04 26.5	-0.8
PUZ				SN	Sn	10 04 49.7	-2.2
PUZ				SN		10 04 50.3	
TKGZ	**Te Karaka**	**1.64**	**144**	*e*PN	Pn	10 04 27.4	-0.1
SNGZ	**Shannon Statio**	**1.76**	**161**	PN	Pn	10 04 28.4	-0.3
SNGZ				SN	Sn	10 04 53.1	-1.6
RIGZ	**Rimuhau**	**1.82**	**151**	PN	Pn	10 04 29.5	0.0
RIGZ				SN	Sn	10 04 55.5	-0.5
RAHZ	**Arahi**	**1.83**	**169**	PN	Pn	10 04 29.5	-0.1
CNGZ	**Carnagh Statio**	**1.86**	**138**	PN	Pn	10 04 30.0	+0.2
NMHZ	**Naumai**	**1.98**	**176**	PN	Pn	10 04 31.4	+0.1
WHHZ	**Waihua**	**2.02**	**166**	PN	Pn	10 04 31.2	-0.4
BKZ	**Black Stump Fm**	**2.05**	**183**	⇑PN	Pn	10 04 31.1	-0.9
KNZ	**Kokohu**	**2.08**	**157**	PN	Pn	10 04 31.3	-0.9
ARHZ	**Aropaoanui**	**2.16**	**172**	PN	Pn	10 04 32.6	-0.6
MHGZ	**Mahia Peninsul**	**2.27**	**154**	PN	Pn	10 04 33.9	-0.6
FWVZ	**Far West T-bar**	**2.29**	**201**	PN	Pn	10 04 35.3	+0.2
MCHZ	**McNeill Hill**	**2.32**	**179**	PN	Pn	10 04 34.6	-0.5
WNVZ	**Wahianoa**	**2.35**	**200**	PN	Pn	10 04 35.3	-0.3
BHHZ	**Black Hill Sta**	**2.41**	**190**	PN	Pn	10 04 35.1	-1.1
KRHZ	**Kereru**	**2.53**	**184**	PN	Pn	10 04 36.4	-1.2
CKHZ	**Cape Kidnapper**	**2.56**	**172**	PN	Pn	10 04 36.8	-1.1
KAHZ	**Kahuranaki**	**2.68**	**176**	PN	Pn	10 04 38.1	-1.3
PNHZ	**Pukenui**	**2.81**	**187**	PN	Pn	10 04 39.2	-1.9
PXZ	**Pawanui**	**2.92**	**176**	PN	Pn	10 04 40.0	-2.2
WAZ	**Wanganui**	**2.93**	**205**	*e*PN	Pn	10 04 41.7	-0.8
WPHZ	**Waipukurau**	**2.95**	**183**	PN	Pn	10 04 40.6	-2.0
TSZ	**Takapari Road**	**2.98**	**190**	PN	Pn	10 04 41.0	-2.2
PRHZ	**Porangahau**	**3.15**	**180**	⇓PN	Pn	10 04 42.8	-2.3
DVHZ	**Dannevirke**	**3.20**	**186**	⇓PN	Pn	10 04 43.1	-2.7
POWZ	**Post Office Ro**	**3.34**	**191**	PN	Pn	10 04 45.1	-2.4
ANWZ	**Angora Road**	**3.34**	**182**	⇓PN	Pn	10 04 45.1	-2.4
PRWZ	**Pori Road**	**3.47**	**188**	PN	Pn	10 04 46.7	-2.5
BFZ	**Birch Farm**	**3.57**	**185**	PN	Pn	10 04 47.4	-3.1
MRZ	**Mangatainoka R**	**3.63**	**193**	⇑PN	Pn	10 04 48.1	-3.1
TIWZ	**Tintock**	**3.70**	**189**	⇓PN	Pn	10 04 49.0	-3.1
CPWZ	**Castlepoint**	**3.80**	**185**	SN	Sn	10 05 34.9	-3.9
OGWZ	**Otaki Gorge**	**3.86**	**197**	PN	Pn	10 04 51.1	-3.1
HOWZ	**Holdsworth Sta**	**3.87**	**192**	PN	Pn	10 04 50.8	-3.6
KIW	**Kapiti Island**	**3.97**	**199**	PN	Pn	10 04 52.1	-3.5
TMWZ	**Te Maipa**	**4.03**	**188**	PN	Pn	10 04 52.7	-3.6
MTW	**Mount Morrison**	**4.13**	**192**	PN	Pn	10 04 53.5	-4.1
CAW	**Cannon Point**	**4.16**	**196**	PN	Pn	10 04 54.2	-3.8
TRWZ	**Traveller**	**4.34**	**189**	PN	Pn	10 04 56.2	-4.1
MSWZ	**Moikau Station**	**4.42**	**193**	PN	Pn	10 04 57.0	-4.4
TCW	**Tory Channel**	**4.48**	**203**	PN	Pn	10 04 58.3	-3.8
BHW	**Baring Head**	**4.50**	**197**	PN	Pn	10 04 57.9	-4.4
PLWZ	**Palliser**	**4.57**	**193**	PN	Pn	10 04 58.7	-4.7
TUWZ	**Tuamarina**	**4.78**	**205**	PN	Pn	10 05 02.2	-3.9
NNZ	**Nelson**	**4.81**	**211**	*e*PN	Pn	10 05 02.2	-4.2
NNZ				SN	Sn	10 05 56.4	-5.7
THZ	**Tophouse**	**5.46**	**211**	PN	Pn	10 05 11.4	-3.7
KHZ	**Kahutara**	**5.80**	**203**	⇓PN	Pn	10 05 14.9	-4.5
MQZ	**McQueen's Vall**	**7.24**	**203**	PN	Pn	10 06 32.2	-6.4
MQZ				SN	Sn	10 06 47.1	-13

CSEM ***14*** *10:26:07.9±0.2,41.84N×22.70E,h15km,ML1.3, Error ellipse: s-maj=5.9km s-min=3.2km az=96.0*
SKO ***14*** *10:26:07.7,41.79N×22.71E,h15km,M1.2,ML1.7*

BEO 14 10:26:08.1±0.5,41.78N×22.74E,h0km,ML1.3/3, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.48**	**196**	*e*Sg	Sg	10 26 22.8	-0.6
VAY	**Valandovo**	**0.48**	**196**	*i* Pg	Pb	10 26 18.5	-0.8
VAY				*i* Sg	Sg	10 26 25.0	+1.6
VAY				*e*Lg	Lg	10 26 25.3	
	comp=N,64nm,0.7s						
VAY				*e*Lg	Lg	10 26 25.3	
	comp=E,37nm,0.6s						
VAY	**Valandovo**	**0.48**	**196**	*i* Pg	Pb	10 26 18.5	-0.9
VAY				*i* Sg	Sg	10 26 24.9	+1.5
VAY				*e*Lg	Lg	10 26 25.2	
	comp=E,37nm,0.6s						
VTS	**Vitosha**	**0.88**	**23**	*e*Pg	Pg	10 26 24.7	-0.6
VTS				*e*Sg	Sg	10 26 35.7	-1.2
VTS	**Vitosha**	**0.88**	**23**	*e*Pg	Pg	10 26 24.7	-0.6
VTS				*e*Sg	Sg	10 26 35.7	-1.2
BARS	**Barje**	**1.24**	**327**	*e*Pg	Pg	10 26 30.5	-1.5
BARS				*e*Sg	Sg	10 26 47.7	-0.4
BARS	**Barje**	**1.24**	**327**	*e*Pg	Pg	10 26 30.5	-1.5
BARS				*e*Sg	Sg	10 26 47.7	-0.4
ZAPS	**Zavoj**	**1.50**	**357**	*e*Pg	Pn	10 26 35.6	-0.7
ZAPS				*e*Sg	Sg	10 26 55.2	-1.1

IDC 14 10:33:18.9±12.0,19.47S×177.89W,h459km±147km, mb2.7/5,mb1 3.1/5,mb1mx2.9/36,mbtmp3.5/5,Error ellipse: s-maj=134.8km s-min=35.5km az=160.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.86**	**261**	P	P	10 40 51.1	-0.2
	0.1nm,0.4s,baz=96,slow=7.7,SNR=6.9						
ASAR	**Alice Springs**	**44.87**	**256**	P	P	10 40 51.2	-0.1
	0.6nm,0.7s,baz=104,slow=7.8,SNR=6.2						
NVAR	**Mina Array Bea**	**80.20**	**43**	P	P	10 44 40.3	-0.7
	0.3nm,0.6s,baz=231,slow=5.7,SNR=4.6						
TXAR	**Lajitas Array**	**86.41**	**57**	P	P	10 45 12.8	+0.7
	0.2nm,0.6s,baz=214,slow=8.8,SNR=4.6						
ILAR	**Eielson Array**	**87.29**	**13**	P	P	10 45 15.8	+0.5
	0.3nm,0.4s,baz=218,slow=5.9,SNR=7.2						
AKASG	**Malin Array Be**	**142.16**	**332**	PKhKP	PKPpre	10 51 53.6	
	0.5nm,0.4s,baz=40,slow=4.2,SNR=4.7						
BRTR	**Keskin Array B**	**146.22**	**314**	PKPbc	PKPdf	10 52 06.3	+0.9
	0.4nm,0.6s,baz=58,slow=3.1,SNR=3.6						

ISCJB ***14*** *11:01:56.2±0.6,2.03S±0.04×127.71E±0.06,h35km, mb3.7/2,MS3.0/2,Error ellip

SIJI S **Sn** **11 03 35.8 +0.1**
4.1nm,0.3s,baz=345,slow=23,SNR=8.8
FAKI Fak Fak 4.66 101 P **Pn** **11 03 03.7 -0.7**
WRA Warramunga Arr 18.95 160 P **Pn** **11 06 14.3 -1.2**
0.3nm,0.3s,baz=342,slow=12,SNR=22
ASAR Alice Springs 22.33 165 P **P** **11 06 51.2 0.0**
5.3nm,0.6s,baz=340,slow=10,SNR=43
ASAR S **S** **11 10 51.7 -3.1**
0.6nm,0.8s,baz=337,slow=18,SNR=4.1
CTA Charters Tower 25.52 136 LR LR 11 18 16.0
comp=Z,218nm,21.6s,baz=252,slow=39
KSRS Korea Array 39.30 0 LR LR 11 26 46.4
comp=Z,5.0nm,19.0s,baz=240,slow=38
MKAR Makanchi Array 62.83 327 P P 11 12 26.6 +7.9
0.1nm,0.3s,baz=141,slow=5.5,SNR=2.6

*THR **14** 11:21:23.6±0.3,29.6Nx56.75E,h5km±2km,ML4.0*
*ISCJB **14** 11:21:24.5±0.3,29.60N±0.02x56.77E±0.04,h10km, mb3.5/7,MS2.6/1,Error ellipse: s-maj=4.7km s-min=3.4km az=5.9*
*CSEM **14** 11:21:24.8±0.2,29.62Nx56.80E,h2km,ML4.0,Error ellipse: s-maj=5.3km s-min=3.9km az=95.0*
*IDC **14** 11:21:24.2±1.7,29.21Nx56.46E,h0km,mb3.6/7, mb1 3.8/10,mb1mx3.6/46,mbtmp3.7/10,ML3.9/3,MS2.9/3, Ms1 2.9/3,ms1mx2.4/33,Error ellipse: s-maj=42.1km s-min=19.6km az=160.0*
*TEH **14** 11:21:25.7,29.63Nx56.81E,h2km,ML4.0*
*DSN **14** 11:21:28.9±1.4,29.22Nx57.66E,h21km,mb3.9/9,ML4.2/5, Error ellipse: s-maj=60.4km s-min=12.4km az=108.0*
*OMAN **14** 11:21:49.3±99.0,28.02Nx57.03E,h35km±999km,Error ellipse: s-maj=353.2km s-min=21.5km az=356.0*

ISC 14 11:21:24.9±0.7,29.59N±0.03x56.76E±0.03,h10km,n76, σ1§38/83,mb3.6/7,6C-7D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGRK	**Negar Kerman**	**0.07**	**335**	*e*Pg	**Pg**	**11 21 25.4**	**-2.2**
NGRK	**Negar Kerman**	**0.07**	**335**	*e*Pg	**Pg**	**11 21 25.3**	**-2.2**
KRBR	**Kerman**	**0.40**	**360**	*e*Pg	**Pg**	**11 21 31.2**	**-1.6**
KRBR	comp=N,23μm,0.4s			AML	AML	11 21 37.3	
KRBR	comp=E,23μm,0.2s			AML	AML	11 21 37.3	
KRBR	**Kerman**	**0.40**	**360**	*e*Pg	**Pg**	**11 21 31.2**	**-1.6**
TVBK	**TV Kerman**	**0.40**	**360**	*e*Pg	**Pg**	**11 21 31.2**	**-1.7**
CHMN	**Cheshme madani**	**0.73**	**68**	*e*Pg	**Pg**	**11 21 37.4**	**-1.6**
CHMN	**Cheshme madani**	**0.73**	**68**	*e*Pg	**Pg**	**11 21 37.4**	**-1.6**
KHGB	**Koh Gabri**	**0.83**	**343**	*e*Pg	**Pg**	**11 21 38.2**	**-2.7**
IBND	**Bandar-abas**	**2.14**	**185**	*e*Sn	**Sb**	**11 22 29.6**	**-0.7**
IBND				*e*Pn	**Pb**	**11 22 03.8**	**+0.1**
IBND	comp=Z,18μm,0.3s			*e*		11 22 47.6	
IBND	**Bandar-abas**	**2.14**	**185**	*e*Pn	**Pb**	**11 22 03.8**	**+0.1**
IBND				*e*Sn	**Sb**	**11 22 29.6**	**-0.7**
BNDS	**Bandar-Abbas**	**2.24**	**194**	*e*Pn	**Pn**	**11 22 04.0**	**+1.8**
BNDS	comp=E,918nm,0.3s			AML	AML	11 22 36.6	
BNDS	comp=N,607nm,0.7s			AML	AML	11 22 41.3	
BNDS	**Bandar-Abbas**	**2.24**	**194**	*e*Pn	**Pn**	**11 22 04.0**	**+1.8**
IMEH	**Mehriz**	**2.58**	**315**	*e*Sn	**Sn**	**11 22 39.7**	**+1.1**
IMEH				*e*Pn	**Pn**	**11 22 07.7**	**+0.7**
IMEH	comp=Z,7μm,0.3s			*e*		11 22 47.0	
IMEH	**Mehriz**	**2.58**	**315**	*e*Pn	**Pn**	**11 22 07.7**	**+0.7**
IMEH				*e*Sn	**Sn**	**11 22 39.7**	**+1.1**
ISRV	**Sarvestan**	**3.19**	**267**	*e*Pn	**Pn**	**11 22 17.0**	**+1.6**
ISRV	comp=Z,2μm,0.2s			*e*		11 23 13.4	
ISRV	**Sarvestan**	**3.19**	**267**	*e*Pn	**Pn**	**11 22 17.0**	**+1.6**
IPAR	**Pars**	**3.24**	**275**	*e*Pn	**Pn**	**11 22 18.1**	**+2.0**
IPAR	comp=Z,2μm,0.4s			*e*		11 22 29.0	
IPAR	**Pars**	**3.24**	**275**	*e*Pn	**Pn**	**11 22 18.1**	**+2.0**
ICHK	**Chekchek**	**3.33**	**323**	*e*Pn	**Pn**	**11 22 18.1**	**+0.8**
ICHK	comp=Z,4μm,0.3s			*e*		11 23 22.8	
ICHK	**Chekchek**	**3.33**	**323**	*e*Pn	**Pn**	**11 22 18.1**	**+0.8**
IKOO	**Kooshah**	**3.42**	**34**	*e*Pn	**Pn**	**11 22 18.8**	**+0.2**
IKOO				*e*Sn	**Sn**	**11 22 58.8**	**-0.5**
IKOO	comp=Z,5μm,0.2s			*e*		11 23 16.4	
IKOO	**Kooshah**	**3.42**	**34**	*e*Pn	**Pn**	**11 22 18.8**	**+0.2**
IKOO				*e*Sn	**Sn**	**11 22 58.8**	**-0.5**
ZHSF	**Zahedan**	**3.50**	**89**	*e*Pn	**Pn**	**11 22 21.0**	**+1.5**
ZHSF	**Zahedan**	**3.50**	**89**	*e*Pn	**Pn**	**11 22 21.0**	**+1.5**
ISAD	**Sadrabad**	**3.52**	**312**	*e*Pn	**Pn**	**11 22 21.6**	**+1.7**
ISAD	comp=Z,4μm,0.3s			*e*		11 23 24.7	
ISAD	**Sadrabad**	**3.52**	**312**	*e*Pn	**Pn**	**11 22 21.6**	**+1.7**
GHIR	**Ghir-Karzin**	**3.55**	**250**	*e*Pn	**Pn**	**11 22 21.5**	**+1.3**
GHIR	**Ghir-Karzin**	**3.55**	**250**	*e*Pn	**Pn**	**11 22 21.5**	**+1.3**
BANOM	**Banah**	**3.67**	**187**	P	**Pn**	**11 22 23.2**	**+1.5**
BANOM				S	**Sn**	**11 23 04.0**	**-1.1**
BANOM	**Banah**	**3.67**	**187**	⇓P	**Pn**	**11 22 23.2**	**+1.5**
BANOM	SNR=12			P	**Pn**	**11 22 23.2**	**+1.5**
BANOM	**Banah**	**3.67**	**187**	⇑*i*P	**Pn**	**11 22 22.5**	**+0.8**
BANOM	SNR=145			⇑S	**Sn**	**11 23 04.0**	**-1.1**
ITEG	**Tejag**	**3.71**	**27**	*e*Pn	**Pn**	**11 22 23.0**	**+0.5**
ITEG	comp=Z,3μm,0.2s			*e*		11 23 28.6	
ITEG	**Tejag**	**3.71**	**27**	*e*Pn	**Pn**	**11 22 23.0**	**+0.5**
TABS	**Tabas**	**4.06**	**4**	*e*Pn	**Pn**	**11 22 28.1**	**+0.9**
TABS	comp=N,325nm,0.6s			AML	AML	11 23 40.4	
TABS	comp=E,128nm,0.5s			AML	AML	11 23 44.1	
TABS	**Tabas**	**4.06**	**4**	*e*Pn	**Pn**	**11 22 28.1**	**+0.9**
IDAH	**Dahanechah**	**4.12**	**39**	*e*Pn	**Pn**	**11 22 29.4**	**+1.3**
IDAH	comp=Z,1μm,0.3s			*e*		11 22 46.6	
IDAH	**Dahanechah**	**4.12**	**39**	*e*Pn	**Pn**	**11 22 29.4**	**+1.3**
IKAZ	**Kazeroun**	**4.29**	**274**	*e*Pn	**Pn**	**11 22 32.1**	**+1.7**
IKAZ				*e*Sn	**Sn**	**11 23 20.5**	**-0.3**
IKAZ	comp=Z,1μm,0.3s			*e*		11 24 03.5	
IKAZ	**Kazeroun**	**4.29**	**274**	*e*Pn	**Pn**	**11 22 32.2**	**+1.7**
IKAZ				*e*Sn	**Sn**	**11 23 20.5**	**-0.3**
NASN	**Na'in**	**4.66**	**314**	*e*Pn	**Pn**	**11 22 36.7**	**+1.0**
NAZ	**Nazwa, Dubai**	**4.68**	**192**	P	**Pn**	**11 22 38.0**	**+2.4**
NAZ	**Nazwa, Dubai**	**4.68**	**192**	⇓P	**Pn**	**11 22 38.0**	**+2.4**
HATD	**Hatta, Dubai**	**4.77**	**187**	P	**Pn**	**11 22 36.0**	**-0.9**
HATD	**Hatta, Dubai**	**4.77**	**187**	⇑P	**Pn**	**11 22 36.0**	**-0.9**
ASHO	**Ashiyiah**	**4.92**	**187**	P	**Pn**	**11 22 40.6**	**+1.6**
ASHO	**Ashiyiah**	**4.92**	**187**	⇑P	**Pn**	**11 22 40.6**	**+1.6**
ASHO	SNR=18			⇓P	**Pn**	**11 22 41.2**	**+2.2**
ASHO	**Ashiyiah**	**4.92**	**187**	⇓*i*P	**Pn**	**11 22 40.1**	**+1.2**
FAQ	**Al Faqa, Dubai**	**4.93**	**192**	P	**Pn**	**11 22 40.5**	**+1.4**
FAQ	**Al Faqa, Dubai**	**4.93**	**192**	*i* P	**Pn**	**11 22 40.5**	**+1.4**
IZEF	**Zefreh**	**5.03**	**312**	*e*Pn	**Pn**	**11 22 42.2**	**+1.6**
IZEF	comp=Z,519nm,0.3s			*e*		11 24 07.8	
IZEF	**Zefreh**	**5.03**	**312**	*e*Pn	**Pn**	**11 22 42.2**	**+1.6**
SHRT	**Shahrakht**	**5.04**	**36**	*e*Pn	**Pn**	**11 22 41.8**	**+1.1**
SHRT	**Shahrakht**	**5.04**	**36**	*e*Pn	**Pn**	**11 22 41.8**	**+1.1**
ASUD	**Al Ashush, Dub**	**5.10**	**195**	P	**Pn**	**11 22 43.7**	**+2.3**
ASUD	**Al Ashush, Dub**	**5.10**	**195**	⇑*i*P	**Pn**	**11 22 43.7**	**+2.3**
IKLH	**Kolahrood**	**5.79**	**311**	*e*		11 24 56.4	
IPIR	**Pirpir**	**5.91**	**303**	*e*Pn	**Pn**	**11 22 53.9**	**+1.2**
IPIR	comp=Z,227nm,0.5s			*e*		11 24 48.8	
IPIR	**Pirpir**	**5.91**	**303**	*e*Pn	**Pn**	**11 22 53.9**	**+1.2**
HOQ	**Hoqain**	**6.00**	**175**	P	**Pn**	**11 22 53.9**	**+0.2**
HOQ	**Hoqain**	**6.00**	**175**	⇓P	**Pn**	**11 22 53.9**	**+0.2**
ARQ	**Araqi**	**6.23**	**182**	P	**Pn**	**11 22 57.9**	**+1.0**
ARQ	**Araqi**	**6.23**	**182**	⇑P	**Pn**	**11 22 57.9**	**+1.0**
ARQ				P	**Pn**	**11 22 58.0**	**+1.1**

SNR=10
SMDO Samad 6.60 170 P **Pn** **11 23 02.5 +0.4**
SMDO Samad 6.60 170 ⇓P **Pn** **11 23 02.1 0.0**
SNR=9.4
SMDO ⇓P **Pn** **11 23 02.5 +0.4**
GEYT Alibeck 8.40 7 Pn Pn 11 23 31.6 +4.9
comp=Z,0.5nm,0.3s,baz=184,slow=12,SNR=6.7
ASF Jabal al Asfar 17.25 284 Pn **Pn** **11 25 25.3 -0.7**
comp=Z,0.7nm,0.3s,baz=27,slow=11,SNR=4.2
MMAI Mount Meron Ar 18.57 286 P **Pn** **11 25 42.4 +0.1**
comp=Z,0.8nm,0.3s,baz=94,slow=15,SNR=2.5
MMAI LR LR 11 34 23.4
comp=Z,53nm,18.6s,baz=130,slow=42
AAK Ala-Archa 19.31 43 LR LR 11 33 36.8
comp=Z,34nm,18.7s,baz=211,slow=37
AKTO Aktyubinsk 20.85 2 P Pn 11 26 11.3 +2.1
comp=Z,1.1nm,0.5s,baz=176,slow=11,SNR=6.1
AKTO LR LR 11 35 36.2
comp=Z,24nm,19.9s,baz=140,slow=40
BRTR Keskin Array B 21.49 304 P **P** **11 26 14.5 +0.6**
comp=Z,2.4nm,0.9s,baz=104,slow=10,SNR=9.6
BVAR Borovoye Array 25.47 19 P **P** **11 26 53.6 +0.6**
comp=Z,0.3nm,0.3s,baz=205,slow=6.4,SNR=2.3
MKAR Makanchi Array 26.24 42 P P 11 27 05.4 +5.3
comp=Z,0.4nm,0.7s,baz=246,slow=8.6,SNR=3.3
KURBB Kurchatov Arra 26.63 32 P P 11 27 09.7 +6.2
comp=Z,0.2nm,0.5s,baz=233,slow=9.2,SNR=3.3
TORD Torodi Ar. Bea 53.35 264 P **P** **11 30 43.2 -1.6**
comp=Z,1.9nm,0.6s,baz=61,slow=7.4,SNR=19
KSRS Korea Array 58.58 62 P P 11 31 25.4 +3.4
comp=Z,0.6nm,0.6s,baz=265,slow=7.2,SNR=4.3
YKA Yellowknife Ar 87.98 356 P **P** **11 34 16.8 +2.0**
comp=Z,0.7nm,1.0s,baz=359,slow=4.8,SNR=6.6

*ISCJB **14** 11:31:28.1±0.3,14.11N±0.03x92.77E±0.04,h32km, mb4.1/19,MS3.3/11,Error ellipse: s-maj=6.4km s-min=4.0km az=148.3*
*IDC **14** 11:31:30.6±0.6,14.03Nx92.90E,h35km±3km,mb3.9/15, mb1 4.0/17,mb1mx3.9/41,mbtmp4.1/17,ML3.9/2,MS3.3/13, Ms1 3.4/13,ms1mx3.2/39,Error ellipse: s-maj=22.3km s-min=11.6km az=52.0*
*NEIC **14** 11:31:30.1±0.6,14.01Nx92.85E,h33km±3km,mb4.3/5, Error ellipse: s-maj=9.0km s-min=5.5km az=59.0*
*BKK **14** 11:31:46.5±1.6,14.°N±4.°x9.°4E±1.°7,h10km,M4.0/12, mB4.7/5,mb4.1/12,MLv4.0/10,Mw(mB)3.9/5*

ISC 14 11:31:30.3±0.4,14.06N±0.05x92.85E±0.06,h32km, h32km:pP-P,n72,σ1§32/72,mb4.2/19,MS3.4/11, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.88**	**175**	*e*P	**Pb**	**11 31 47.3**	**+0.2**
DGPR				*e*S	**Sb**	**11 31 59.3**	**+0.8**
DGPR	comp=E,6μm,0.7s			AML	AML	11 32 09.7	
DGPR	comp=N,6μm,0.3s			AML	AML	11 32 12.1	
PBA	**Port Blair**	**2.39**	**182**	*ex*	Pn	11 32 03.9	-3.3
PBA				*e*S	Sn	11 32 34.6	-0.8
KHLT	**Khaolaem Dam**	**5.61**	**82**	P	**Pn**	**11 32 54.2**	**+2.7**
SRDT	**SRDT**	**6.09**	**87**	P	**Pn**	**11 32 59.8**	**+1.7**
MHMT	**Maesariang**	**6.37**	**49**	P	Pb	11 33 11.6	-8.9
UTHA	**Uthaitani**	**6.55**	**76**	P	Pb	11 33 14.5	-9.0
CMBY	**CAMPBELL BAY**	**7.08**	**171**	*e*P	**Pn**	**11 33 11.1**	**-0.7**
CMBY				*e*S	**Sn**	**11 34 28.1**	**-3.1**
CMAR	**Chiang Mai Arr**	**7.31**	**52**	Pn	**Pn**	**11 33 15.1**	**+0.3**
CMAR	comp=N,234nm,18.2s,baz=235,slow=45			LR	LR	11 36 56.1	
SUKH	**Sukhothai**	**7.36**	**62**	P	Pn	11 33 24.8	+9.2
CHTO	**Chiang Mai**	**7.52**	**50**	P	Pb	11 33 31.8	-8.2
CHTO	**Chiang Mai**	**7.52**	**50**	*e*Pn	**Pn**	**11 33 18.1**	**+0.3**
CHTO				*e*Sn	**Sn**	**11 34 39.6**	**-2.4**
CMMT	**Chiang Mai**	**7.52**	**50**	P	Pb	11 33 31.8	-8.2
SURT	**Suratani**	**7.72**	**130**	P	Pn	11 33 25.6	+5.1
LAMP	**Lampang**	**7.88**	**55**	P	Pn	11 33 33.3	+11
PBKT	**Sadao Pong**	**8.22**	**71**	P	Pn	11 33 37.6	+10
UTTA	**Uttaradit**	**8.27**	**63**	P	Pb	11 33 45.2	-7.5
CMAI	**Chiengmai2**	**8.32**	**45**	P	Pb	11 33 44.1	-10
CHLP	**Challavanipeta**	**9.53**	**299**	*e*Pn	**Pn**	**11 33 42.3**	**-3.0**
CHLP				*e*		11 33 44.7	
CHLP				*e*Sn	Sn	11 35 21.6	-10
VIS	**Vishakhapatnam**	**9.86**	**293**	*i* P	**Pn**	**11 33 47.7**	**-2.1**
VIS				*i* S	Sn	11 35 28.8	-11
VIS	comp=N,168nm,0.4s			*ex*	x	11 35 33.6	
VIS	comp=E,116nm,0.5s			*ex*	x	11 35 33.9	
SHL	**Shillong**	**11.48**	**356**	*e*P	**Pn**	**11 34 11.3**	**-0.9**
SHL				*e*S	Sn	11 36 10.0	-10
PSI	**Prapat**	**12.69**	**151**	Pn	**Pn**	**11 34 30.0**	**+1.2**
PSI	comp=E,0.3nm,0.3s,baz=331,slow=9.2,SNR=6.6			LR	LR	11 40 06.1	
	comp=E,109nm,18.1s,baz=18,slow=40						
SKHT	**Srikalahasti**	**12.76**	**270**	*e*Sn	Sn	11 36 35.6	-15
NJS	**Nagarjunasagar**	**13.30**	**282**	*e*P	**Pn**	**11 34 37.2**	**+0.3**
NJS				*e*Sn	Sn	11 36 50.2	-14
ODAN	**Odare**	**13.72**	**339**	*e*P	**Pn**	**11 34 40.7**	**-2.2**
RPR	**Rampur**	**13.85**	**292**	*e*Pn	**Pn**	**11 34 44.2**	**-0.3**
RPR				*e*Sn	Sn	11 37 05.8	-11
TAPN	**Taplejung**	**14.07**	**341**	*e*P	Pn	11 34 42.2	-5.5
RAMN	**Ramite**	**14.09**	**336**	*e*P	**Pn**	**11 34 47.0**	**-1.0**
HYB	**Hyderabad**	**14.16**	**286**	*i* P	**P**	**11 34 57.0**	**+1.1**
HYB				*e*S	**Sn**	**11 37 23.0**	**-1.9**
HYB	**Hyderabad**	**14.16**	**286**	*e*P	**P**	**11 34 57.0**	**+1.1**
HYB				*e*S	Sn	11 37 12.0	-13
HYB				*e*		11 37 24.0	
HYBB	**Hyderabad (bro**	**14.16**	**286**	*e*P	**P**	**11 34 56.8**	**+0.9**
HYBB				*e*		11 37 11.3	
HYBB				*e*Sn	**Sn**	**11 37 24.8**	**-0.1**
JIRN	**Jiri**	**14.89**	**336**	*e*P	**Pn**	**11 34 55.9**	**-3.0**
PKI	**Pulchoki**	**15.13**	**334**	*e*P	**Pn**	**11 35 00.2**	**-1.9**
PKIN	**Phulchoki**	**15.14**	**334**	*e*P	**Pn**	**11 35 00.1**	**-2.0**
GUN	**Gumba**	**15.23**	**336**	*e*P	**Pn**	**11 35 00.4**	**-3.1**
DMN	**Daman**	**15.29**	**333**	*e*P	**Pn**	**11 35 02.2**	**-1.9**
GKN	**Gorkha**	**15.84**	**332**	*e*P	**Pn**	**11 35 09.2**	**-2.0**
KOLN	**Koldanda**	**16.14**	**329**	*e*P	**Pn**	**11 35 14.0**	**-1.0**
LEM	**Lembang**	**25.40**	**144**	LR	LR	11 47 42.1	
H08S3	**Diego Garcia H**	**29.54**	**224**	T	T	12 08 31.4	
H08S2	**Diego Garcia H**	**29.55**	**224**	T	T	12 08 19.0	
H08S1	**Diego Carcia H**	**29.56**	**224**	T	T	12 08 32.6	
MK31	**Makanchi Array**	**33.81**	**347**	*e*P	**P**	**11 38 09.9**	**+0.4**
MKAR	**Makanchi Array**	**33.81**	**347**	P	**P**	**11 38 10.0**	**+0.6**
MKAR				pP	**pP**	**11 38 18.6**	**-0.2**
MKAR				LR	LR	11 56 59.8	
SONM	**Songino Array**	**35.51**	**16**	P	**P**	**11 38 24.5**	**+0.3**
SONM				pP	**pP**	**11 38 35.1**	**+1.5**
KURBB	**Kurchatov Arra**	**38.28**	**345**	P	**P**	**11 38 48.2**	**+0.7**
KURBB				pP	**pP**	**11 38 57.6**	**+0.7**
KURK	**Kurchatov**	**38.34**	**345**	*e*P	**P**	**11 38 48.3**	**+0.2**
KURK				pP	**pP**	**11 38 57.6**	**+0.1**
KSAR	**Wonju Array Be**	**38.87**	**47**	pP	pP	11 39 03.1	+0.9
GEYT	**Alibeck**	**38.88**	**314**	P	**P**	**11 38 54.3**	**+1.4**
GEYT	comp=E,3.8nm,0.6s,baz=132,slow=8.6,SNR=6.7			LR	LR	11 56 43.9	
	comp=E,50nm,18.8s,baz=160,slow=39						
KSRS	**Korea Array**	**38.90**	**47**	pP	**pP**	**11 39 03.1**	**+0.6**
	comp=E,1.0nm,0.6s,baz=246,slow=8.3,SNR=3.4						
KSRS				LR	LR	11 57 43.7	
	comp=E,72nm,18.4s,baz=236,slow=40						
ZAA0	**Zalesovo Array**	**40.30**	**353**	*e*P	**P**	**11 39 03.8**	**-0.6**
ZALV	**Zalesovo Beam**	**40.30**	**353**	P	**P**	**11 39 04.7**	**+0.3**
	comp=E,3.0nm,0.7s,baz=176,slow=8.0,SNR=11						
ZALV				pP	**pP**	**11 39 13.5**	**-0.3**
	comp=E,1.7nm,0.6s,baz=173,slow=9.2,SNR=3.9						
ZALV				LR	LR	11 59 31.8	
	comp=E,24nm,18.5s,baz=70,slow=42						
ABKAR	**Akbulak array**	**44.26**	**329**	*e*P	**P**	**11 39 37.5**	**+0.8**
	comp=E,2.1nm,0.8s						
MJAR	**Matsushiro Arr**	**46.19**	**53**	pP	**pP**	**11 40 01.3**	**-0.6**
	comp=E,1.8nm,0.7s,baz=263,slow=10.0,SNR=5.0						
MJAR				LR	LR	12 01 24.2	
	comp=E,31nm,18.3s,baz=240,slow=39						
WRA	**Warramunga Arr**	**52.98**	**129**	P	**P**	**11 40 43.5**	**-0.8**
	comp=E,1.9nm,0.7s,baz=302,slow=9.8,SNR=31						
WRA				pP	**pP**	**11 40 54.5**	**+0.6**
	comp=E,1.6nm,0.8s,baz=310,slow=8.1,SNR=5.7						
WRAB	**Tennant Creek**	**52.99**	**129**	*e*P	**P**	**11 40 43.6**	**-0.7**
	comp=E,2.2nm,0.6s						
AS31	**Alice Springs**	**54.93**	**133**	*e*P	**P**	**11 40 57.8**	**-0.7**
ASAR	**Alice Springs**	**54.93**	**133**	P	**P**	**11 40 57.7**	**-0.7**
	comp=E,2.3nm,0.5s,baz=309,slow=6.9,SNR=73						
ASAR				pP	**pP**	**11 41 07.8**	**-0.4**
	comp=E,0.9nm,0.5s,baz=307,slow=6.7,SNR=5.2						
BR131	**Keskin Array S**	**57.54**	**308**	*e*P	**P**	**11 41 17.0**	**0.0**
	comp=E,4.1nm,0.9s						
BRTR	**Keskin Array B**	**57.54**	**308**	P	**P**	**11 41 16.8**	**-0.3**
	comp=E,3.1nm,0.7s,baz=117,slow=6.9,SNR=16						
BRTR				pP	**pP**	**11 41 28.8**	**+2.0**
	comp=E,2.1nm,0.8s,baz=120,slow=7.3,SNR=6.5						
BRTR				LR	LR	12 09 22.5	
	comp=E,30nm,18.9s,baz=99,slow=39						
TIXI	**Tiksi**	**61.47**	**12**	*e*P	**P**	**11 41 42.8**	**-0.6**
	comp=E,3.5nm,0.8s						
AKASG	**Malin Array Be**	**62.59**	**320**	P	**P**	**11 41 50.3**	**-1.0**
	comp=E,0.2nm,0.3s,baz=84,slow=6.0,SNR=3.7						
AKASG				pP	**pP**	**11 42 02.5**	**+1.4**
	comp=E,0.3nm,0.3s,baz=90,slow=4.9,SNR=4.1						
AKASG				LR	LR	12 13 08.5	
	comp=E,19nm,19.4s,baz=5.0,slow=40						
STKA	**Stephens Creek**	**65.32**	**135**	*e*P	**P**	**11 42 08.0**	**-1.5**
	comp=E,2.2nm,0.4s						
FINES	**FINESS Array B**	**66.70**	**331**	P	**P**	**11 42 17.8**	**-0.1**
	comp=E,2.6nm,0.6s,baz=111,slow=8.4,SNR=13						
FINES				pP	**pP**	**11 42 28.9**	**+1.1**
	comp=E,1.5nm,0.6s,baz=98,slow=7.9,SNR=4.2						
FINES				LR	LR	12 13 44.4	
	comp=E,35nm,19.1s,baz=88,slow=38						
ARCES	**ARCESS Array B**	**69.06**	**340**	P	**P**	**11 42 32.9**	**+0.3**
	comp=E,1.2nm,0.5s,baz=97,slow=6.9,SNR=14						
ARCES				pP	**pP**	**11 42 43.8**	**+1.2**
	comp=E,0.5nm,0.4s,baz=76,slow=5.6,SNR=1.9						
ARCES				LR	LR	12 16 20.4	
	comp=E,33nm,21.5s,baz=128,slow=39						
GERES	**GERESS Array B**	**72.43**	**317**	LR	LR	12 20 30.2	
	comp=E,27nm,18.2s,slow=41						
NB2	**NORSAR Subarra**	**73.77**	**330**	P	**P**	**11 43 00.4**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=89,slow=6.2						
NOA	**NORSAR Array B**	**73.77**	**330**	P	**P**	**11 43 00.6**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=90,slow=5.8,SNR=8.9						
KEST	**Kesra**	**76.72**	**304**	P	**P**	**11 43 18.4**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=90,slow=4.0,SNR=3.5						
TORD	**Torodi Ar. Bea**	**87.97**	**283**	P	**P**	**11 44 18.0**	**+0.2**
	comp=Z,2.2nm,0.9s,baz=89,slow=4.6,SNR=12						
TORD				pP	**pP**	**11 44 30.3**	**+2.2**
	comp=Z,1.1nm,0.9s,baz=110,slow=5.2,SNR=4.6						
ILAR	**Eielson Array**	**89.51**	**22**	P	**P**	**11 44 23.6**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=309,slow=4.2,SNR=4.6						
ILAR				pP	**pP**	**11 44 34.8**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=299,slow=4.5,SNR=4.5						
NVAR	**Mina Array Bea**	**120.19**	**28**	PKP	**PKPdf**	**11 50 18.6**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=303,slow=3.0,SNR=5.2						
NVAR				pPKP	**pPKPdf**	**11 50 29.6**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=246,slow=1.9,SNR=3.8						
TXAR	**Lajitas Array**	**134.01**	**20**	PKP	**PKPdf**	**11 50 46.3**	**+1.1**
	comp=Z,0.2nm,0.7s,baz=205,slow=2.6,SNR=2.8						

MAN 14 11:32:34,16.61N×120.18E,h49km,mb4.6,ML3.5,MS3.4, 2C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.34**	**229**	*e*P	Pn	11 32 45.8	+2.3
BOLP				*e*S	Sn	11 32 55.3	+5.1
BCPH	**Baguio City Da**	**0.45**	**120**	⇑*i*P	Pn	11 32 46.9	+2.1
BCPH				*i* S	Sn	11 32 56.3	+3.8
SCZP	**Santa Cruz**	**0.87**	**197**	*e*P	Pn	11 32 50.8	+0.9
SCZP				*e*S	Sn	11 33 04.2	+2.7
ABRA	**Dolores**	**1.15**	**26**	*e*P	Pn	11 32 54.8	+1.0
BALP	**Baler**	**1.59**	**123**	*e*P	Pn	11 33 02.0	+2.2
APYP	**Conner**	**1.61**	**39**	*e*P	Pn	11 33 01.3	+1.3
PIP	**Pasuquin**	**1.76**	**14**	⇑*i*P	Pn	11 33 03.6	+1.6
PIP				*e*S	Sn	11 33 25.7	+2.4

*IDC **14** 11:34:48.5±2.2,30.28Nx139.72E,h113km±21km,mb3.4/8, mb1 3.7/9,mb1mx3.4/33,mbtmp3.8/9,Error ellipse: s-maj=26.9km s-min=14.8km az=86.0*
*ISCJB **14** 11:34:51.7±0.5,30.22N±0.04x140.7E±0.2,h150km, mb3.5/8,Error ellipse: s-maj=20.7km s-min=3.7km az=166.1*
*JMA **14** 11:34:53.0±0.1,30.29Nx141.16E,h151km,M3.9*

ISC 14 11:34:52.6±0.9,30.27N±0.06x140.8E±0.2,h150km,n25, σ1§81/33,mb3.6/8,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.92**	**343**	P	**Pn**	**11 35 40.9**	**+2.0**
JHCJ				*e*S	**Sn**	**11 36 16.7**	**+1.9**
JHJ2	**Mitsune**	**2.95**	**344**	P	**Pn**	**11 35 41.8**	**+2.5**
CBIJ	**Chichi jima**	**3.39**	**159**	P	**Pn**	**11 35 44.8**	**-0.1**
CBIJ				*e*S	**Sn**	**11 36 24.4**	**-1.0**
JCJ	**Chichijima**	**3.39**	**159**	P	**Pn**	**11 35 45.0**	**+0.1**
JCJ	11nm,0.3s,baz=60,slow=23,SNR=15			S	**Sn**	**11 36 24.0**	**-1.4**
	55nm,0.3s,baz=283,slow=22,SNR=18						
JKO	**Kozu shima**	**4.15**	**340**	P	**Pn**	**11 35 57.2**

*ISCJB **14** 11:35:16.9±0.2,35°.97N±0°.01×117°.33W±0°.02,h10km, Error ellipse: s-maj=2.2km s-min=1.9km az=176.9*
*NEIC **14** 11:35:17.0,35°.96N×117°.33W,h2km,ML3.5(PAS),After PAS.*

ISC 14 11:35:16.8±0.7,35°.97N±0°.02×117°.33W±0°.02,h10km,n51, σ1§42/93,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPMC	**Manual Prospec**	**0.16**	**305**	**P**	**Pg**	**11 35 19.9**	**-0.6**
	baz=0.2						
MPMC				S	**Sg**	**11 35 22.8**	**-0.3**
	baz=0.2						
DAC	**Darwin (Calif)**	**0.38**	**325**	*e*Pg	**Pg**	**11 35 24.1**	**-0.2**
DAC				*e*Sg	**Sg**	**11 35 28.9**	**-0.5**
LRMC	**Laurel Mtn Rad**	**0.57**	**211**	P	**Pg**	**11 35 27.5**	**-0.4**
	baz=0.6						
LRMC				S	**Sg**	**11 35 35.4**	**0.0**
	baz=0.6						
FURC	**Furnace Creek,**	**0.63**	**37**	P	**Pg**	**11 35 29.2**	**+0.3**
	baz=0.6						
FURC				S	**Sg**	**11 35 38.0**	**+0.8**
	baz=0.6						
CWC	**Cottonwood Cre**	**0.77**	**308**	P	**Pg**	**11 35 31.7**	**0.0**
	baz=0.8						
CWC				S	**Sg**	**11 35 42.2**	**+0.3**
	baz=0.8						
GSC	**Goldstone, Bar**	**0.79**	**147**	P	**Pg**	**11 35 31.8**	**-0.2**
	baz=0.8						
GSC				S	**Sg**	**11 35 42.2**	**0.0**
	baz=0.8						
SHOC	**Shoshone, Teco**	**0.85**	**94**	P	**Pg**	**11 35 33.1**	**-0.1**
	baz=0.9						
ISA	**Isabella, Lake**	**0.98**	**252**	P	**Pg**	**11 35 35.3**	**-0.4**
	baz=1.0						
ISA				S	**Sg**	**11 35 48.1**	**-0.3**
	baz=1.0						
GRAC	**Grapevine Rang**	**1.03**	**358**	P	**Pg**	**11 35 36.5**	**-0.2**
	baz=1.0						
RRX	**Edison Barstow**	**1.12**	**166**	P	**Pb**	**11 35 38.1**	**0.0**
	baz=1.1						
EDW2	**Edwards Air Fo**	**1.21**	**207**	P	**Pn**	**11 35 39.0**	**-0.9**
	baz=1.2						
EDW2				S	**Sg**	**11 35 56.2**	**+0.4**
	baz=1.2						
TUQ	**Turquoise Moun**	**1.26**	**114**	Pb	**Pn**	**11 35 40.2**	**-0.4**
	baz=1.3						
TUQ				S	**Sb**	**11 35 57.6**	**+0.7**
	baz=1.3						
TIN	**Tinemaha, Big**	**1.31**	**326**	S	**Sn**	**11 35 59.2**	**+0.4**
	baz=1.3						
TPNV	**Topopah Spring**	**1.31**	**41**	Pb	**Pn**	**11 35 41.4**	**+0.1**
	baz=1.3						
TPNV				S	**Sb**	**11 35 58.7**	**+0.2**
	baz=1.3						
HEC	**Hector,Ludlow**	**1.40**	**144**	P	**Pn**	**11 35 41.9**	**-0.5**
	baz=1.4						
HEC				Sb	**Sg**	**11 36 01.8**	**+0.1**
	baz=1.4						
VES	**Vestal, Richgr**	**1.43**	**266**	Pb	**Pn**	**11 35 43.1**	**+0.2**
	baz=1.4						
VES				Sb	**Sg**	**11 36 02.7**	**-0.3**
	baz=1.4						
ARVC	**Arvin**	**1.49**	**236**	Sb	**Sb**	**11 36 03.9**	**+0.5**
	baz=1.5						
BBRC	**Big Bear Solar**	**1.73**	**169**	Sb	**Sb**	**11 36 11.8**	**+1.1**
	baz=1.7						
BFSC	**Mount Baldy Ra**	**1.75**	**189**	P	**Pn**	**11 35 47.2**	**0.0**
	baz=1.7						
OSI	**Osito Audit: C**	**1.77**	**221**	*e*Pn	**Pb**	**11 35 49.4**	**0.0**
OSI				*e*Sn	**Sb**	**11 36 11.5**	**-0.1**
GMRC	**Granite Mounta**	**1.80**	**131**	P	**Pn**	**11 35 47.1**	**-1.0**
	baz=1.8						
GMRC				Sb	**Sb**	**11 36 13.5**	**+0.8**
	baz=1.8						
SHPR	**Sheep Range**	**1.83**	**72**	*e*Pn	**Pn**	**11 35 48.8**	**+0.3**
SHPR				*e*Sn	**Sb**	**11 36 13.8**	**+0.3**
DECC	**Green Verdugo**	**1.90**	**206**	Pg	**Pg**	**11 35 52.7**	**-0.5**
	baz=1.9						
PASC	**Pasadena Art C**	**1.92**	**202**	*e*Pn	**Pn**	**11 35 50.0**	**+0.4**
PASC				*e*Sn	**Sn**	**11 36 15.0**	**+1.1**
LDFC	**Landfair**	**2.01**	**115**	*e*Pn	**Pn**	**11 35 52.4**	**+1.5**
LDFC				*e*Sn	**Sb**	**11 36 18.1**	**-0.6**
TPH	**Tonopah**	**2.11**	**2**	*e*Pn	**Pn**	**11 35 53.6**	**+1.3**
TPH				*e*Sg	**Sg**	**11 36 26.5**	**+2.0**
BELC	**Belle Mtn. Jos**	**2.24**	**151**	P	**Pn**	**11 35 53.9**	**-0.2**
	baz=2.2						
BELC				Sb	**Sb**	**11 36 26.4**	**+1.0**
	baz=2.2						
MURC	**Murrieta**	**2.36**	**177**	P	**Pn**	**11 35 56.0**	**+0.3**
	baz=2.4						
PFO	**Pinyon Flats O**	**2.46**	**163**	*e*Pn	**Pn**	**11 35 56.6**	**-0.5**
PFO				*e*Pg	**Pg**	**11 36 03.6**	**-0.2**
PFO				*e*Sn	**Sn**	**11 36 27.7**	**+0.5**
PFO				*e*Sg	**Sg**	**11 36 34.8**	**-0.9**
PFO	**Pinyon Flats O**	**2.46**	**163**	P	**Pn**	**11 35 56.9**	**-0.1**
	baz=2.5						
IRM	**Iron Mountain**	**2.54**	**135**	P	**Pn**	**11 35 57.4**	**-0.7**
	baz=2.5						
R11A	**Troy Canyon, C**	**2.75**	**30**	*e*Pn	**Pn**	**11 36 02.9**	**+1.7**
R11A				*e*Sn	**Sn**	**11 36 37.2**	**+2.6**
R11A	**Troy Canyon, C**	**2.75**	**30**	Sb	**Sb**	**11 36 42.9**	**+2.8**
	baz=2.8						
BC3	**Big Chuckawall**	**2.77**	**146**	P	**Pn**	**11 36 00.6**	**-0.7**
	baz=2.8						
W13A	**Hualapai Mount**	**2.94**	**106**	P	**Pn**	**11 36 03.4**	**-0.3**
	baz=2.9						
W13A				Sb	**Sg**	**11 36 50.4**	**-0.7**
	baz=2.9						
WAKR	**Walker**	**3.04**	**327**	*e*Pn	**Pb**	**11 36 08.7**	**-2.5**
WAKR				*e*Sn	**Sn**	**11 36 44.2**	**+2.4**
Y12C	**Blythe**	**3.19**	**133**	P	**Pn**	**11 36 06.5**	**-0.5**
	baz=3.2						
CMB	**Columbia Colle**	**3.21**	**311**	*e*Pn	**Pn**	**11 36 10.1**	**+2.8**
CMB				*e*Sg	**Sg**	**11 36 58.5**	**-1.3**
SAO	**San Andreas Ge**	**3.42**	**285**	*e*Pn	**Pb**	**11 36 14.5**	**-3.0**
SAO				*e*Sn	**Sn**	**11 36 52.5**	**+1.7**
BMN	**Battle Mountai**	**4.46**	**1**	*e*Pn	**Pn**	**11 36 24.4**	**-0.2**
BMN				*e*Pg	**Pg**	**11 36 42.8**	**+0.6**
BMN				*e*Sn	**Sn**	**11 37 18.1**	**+1.4**
MVU	**Marysvale**	**4.80**	**57**	*e*Pn	Pn	11 36 33.5	+4.1
MVU				*e*Pg	**Pg**	**11 36 46.2**	**-2.6**
MVU				*e*Sg	**Sg**	**11 37 50.6**	**-0.4**
MSU	**Marysvale**	**4.83**	**57**	*e*Pn	Pn	11 36 33.0	+3.3
MSU				*e*Sn	**Sn**	**11 37 28.8**	**+2.9**
WUAZ	**Wupatki**	**4.86**	**94**	*e*Pn	**Pn**	**11 36 31.8**	**+1.7**
WUAZ				*e*Pg	Pg	11 36 46.6	-3.3
WUAZ				*e*Sn	**Sn**	**11 37 28.9**	**+2.3**
ELK	**Elko**	**5.04**	**18**	Pn	**Pn**	**11 36 31.5**	**-1.2**
	6.5nm,0.4s						
ELK				*e*Pg	**Pg**	**11 36 50.8**	**-2.6**
ELK				*e*Sn	**Sn**	**11 37 32.0**	**+0.8**
DUG	**Dugway, Tooele**	**5.52**	**39**	*e*Pn	**Pn**	**11 36 38.8**	**-0.4**
	3.9nm,0.6s						
DUG				*e*Pg	**Pg**	**11 36 59.9**	**-2.6**
DUG				*e*Sn	**Sn**	**11 37 46.7**	**+3.9**
DUG				*e*Sg	**Sg**	**11 38 10.3**	**-3.7**
BGU	**Big Grassy Mou**	**5.99**	**33**	*e*Pn	**Pn**	**11 36 46.5**	**+0.8**
	5.8nm,0.9s						
BGU				*e*Pg	**Pg**	**11 37 10.6**	**-0.9**
BGU				*e*Sg	**Sg**	**11 38 27.6**	**-1.4**
W18A	**Petrified Fore**	**6.25**	**96**	*e*Pn	**Pn**	**11 36 52.4**	**+3.2**
W18A				*e*Pg	**Pg**	**11 37 13.9**	**-2.5**
SRU	**San Rafael Swe**	**6.25**	**58**	*e*Pn	**Pn**	**11 36 51.4**	**+2.1**
	4.4nm,0.6s						
SRU				*e*Pg	Pg	11 37 13.5	-2.9
SRU				*e*Sg	**Sg**	**11 38 36.4**	**-1.0**
MVCO	**Mesa Verde**	**7.21**	**77**	*e*Pn	**Pn**	**11 37 00.7**	**-1.7**
	19nm,0.9s						
MVCO				*e*Pg	Pg	11 37 31.8	-3.0
MVCO				*e*Sn	**Sn**	**11 38 25.7**	**+1.2**
PV01	**Paradox Valley**	**7.33**	**70**	*e*Pn	**Pn**	**11 37 06.8**	**+2.8**
	574nm,0.8s						
PV01				*e*Pg	Pg	11 37 32.6	-4.5
HLID	**Hailey**	**7.91**	**16**	*e*Pn	**Pn**	**11 37 12.6**	**+0.6**
	1.8nm,0.6s						
HLID				*e*Pg	**Pg**	**11 37 47.3**	**-0.9**

KRSC 14 11:50:51.8±1.5,51°.78N×159°.44E,h59km±22km,ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.86**	**319**	*e*P	Pn	11 51 08.8	+0.8
RUS				*e*S	Sn	11 51 19.2	-0.8
MTVR	**Mutnovka**	**1.04**	**313**	*e*P	Pn	11 51 11.8	+1.2
MTVR				*e*S	Sn	11 51 24.7	+0.2
ASAK	**Asacha**	**1.12**	**303**	*e*P	Pn	11 51 13.1	+1.6
ASAK				*e*S	Sn	11 51 26.7	+0.5
GRL	**Gorelyy**	**1.14**	**313**	*e*P	Pn	11 51 14.3	+2.5
GRL				*e*S	Sn	11 51 28.3	+1.6
PET	**Petropavlovsk**	**1.33**	**339**	*e*P	Pn	11 51 15.7	+1.5
PET				*e*S	Sn	11 51 32.4	+1.5
SPN	**Mys Shipunski**	**1.36**	**15**	*e*P	Pn	11 51 17.1	+2.5
SPN				*e*S	Sn	11 51 35.0	+3.3
NLC	**Nalytchevo**	**1.39**	**358**	*e*P	Pn	11 51 16.5	+1.5
UGLR	**Uglovaya**	**1.48**	**346**	*e*P	Pn	11 51 18.1	+1.8
UGLR				*e*S	Sn	11 51 36.4	+1.7
SMAR	**Somma**	**1.53**	**346**	*e*P	Pn	11 51 18.7	+1.5
SDLR	**Sedlovina**	**1.54**	**348**	*e*P	Pn	11 51 18.5	+1.4
AVH	**Avacha**	**1.54**	**344**	*e*P	Pn	11 51 19.2	+2.0
AVH				*e*S	Sn	11 51 38.6	+2.3
KRER	**Koryakskii**	**1.58**	**345**	*e*P	Pn	11 51 19.8	+2.0
KRER				*e*S	Sn	11 51 39.3	+1.9
KOK	**Koryaka**	**1.59**	**342**	*e*P	Pn	11 51 19.9	+2.1
KRX	**Arik**	**1.65**	**343**	*e*P	Pn	11 51 20.6	+1.9
KRX				*e*S	Sn	11 51 40.4	+1.4
PAU	**Pauzhetka**	**1.67**	**260**	*e*P	Pn	11 51 21.8	+3.1
APC	**Apacha**	**1.81**	**310**	*e*P	Pn	11 51 23.9	+3.3
APC				*e*S	Sn	11 51 46.2	+3.8
GNL	**Ganaly**	**2.12**	**335**	*e*P	Pn	11 51 27.8	+2.8
GNL				*e*S	Sn	11 51 52.9	+2.6
SKR	**Severo-Kuril's**	**2.36**	**243**	*e*P	Pn	11 51 30.3	+2.2
SKR				*e*S	Sn	11 51 57.4	+1.5
MKZ	**Mys Kozlova**	**3.10**	**26**	*e*P	Pn	11 51 41.6	+3.4
MKZ				*e*S	Sn	11 52 16.9	+2.9
KZV	**Kizimen**	**3.38**	**8**	*e*P	Pn	11 51 47.1	+4.9
TUMR	**Tumrok**	**3.53**	**7**	*e*P	Pn	11 51 49.2	+4.9
KBTR	**Krutoberegovo**	**4.86**	**23**	*e*P	Pn	11 52 06.6	+4.3

*NAO **14** 11:51:11.9±1.2,67°.55N×33°.86E,ML2.6*
*HEL **14** 11:51:12.6±0.3,67°.61N×33°.78E,h0km,ML2.3,Explosion*
*KOLA **14** 11:51:12.2,67°.66N×33°.92E,h0km*
*CSEM **14** 11:51:13.4±1.0,67°.56N×33°.44E,h0km±4km,ML2.6,Error ellipse: s-maj=14.9km s-min=7.9km az=84.0,Mining explosion.*

ISC 14 11:51:09.3±1.7,67°.57N±0°.04×34°.17E±0°.08,h0km,n32, σ1§28/55,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.29**	**271**	P	**Pg**	**11 51 16.1**	**+1.2**
APA				S	**Sg**	**11 51 18.9**	**+0.2**
APA0	**Apatity Array**	**0.45**	**276**	Pg	**Pg**	**11 51 18.4**	**+0.4**
	baz=98,slow=16						
APA0				Lg	Lg	11 51 23.2	
	baz=83,slow=37						
APA0				Rg	Rg	11 51 25.2	
	baz=84,slow=37						
APA0	**Apatity Array**	**0.45**	**276**	Pg	**Pg**	**11 51 18.4**	**+0.4**
	baz=98,slow=16						
APA0				Lg	Lg	11 51 23.2	
	baz=83,slow=37						
APA0				Rg	Rg	11 51 25.2	
	baz=84,slow=37						
APA0	**Apatity Array**	**0.45**	**276**	P	**Pg**	**11 51 18.6**	**+0.6**
APA0				S	**Sg**	**11 51 23.3**	**-0.5**
APA0	**Apatity Array**	**0.45**	**276**	Pg	**Pg**	**11 51 18.4**	**+0.4**
	SNR=354						
APA0				Lg	Lg	11 51 23.2	
VRF	**Varrio**	**1.75**	**278**	PG	**Pn**	**11 51 41.4**	**+0.5**
VRF				MSG		11 52 00.6	
	comp=Z,24nm,0.2s						
VRF				SN	**Sn**	**11 52 02.7**	**-1.2**
VRF	**Varrio**	**1.75**	**278**	Pg	**Pn**	**11 51 41.4**	**+0.5**
VRF				Sn	**Sn**	**11 52 02.7**	**-1.2**
KU6	**Riekki**	**2.30**	**230**	PB	**Pb**	**11 51 51.1**	**-0.4**
KU6				MSG		11 52 18.2	
	comp=Z,16nm,0.2s						
KU6				SG	**Sb**	**11 52 21.0**	**+0.6**
KU6	**Riekki**	**2.30**	**230**	Pb	**Pb**	**11 51 51.1**	**-0.4**
KU6				Sg	**Sb**	**11 52 21.0**	**+0.6**
MSF	**Maaselka**	**2.63**	**233**	PN	**Pb**	**11 51 56.0**	**-1.2**
MSF				SG	**Sb**	**11 52 31.2**	**+1.2**
MSF	**Maaselka**	**2.63**	**233**	Pn	**Pb**	**11 51 56.0**	**-1.2**
MSF				Sg	**Sb**	**11 52 31.2**	**+1.2**
SGF	**Sodankyl**	**2.94**	**271**	PN	**Pn**	**11 51 58.1**	**+0.9**
SGF				SG	**Sb**	**11 52 37.8**	**-1.3**
SGF	**Sodankyl**	**2.94**	**271**	Pn	**Pn**	**11 51 58.1**	**+0.9**
SGF				Sg	**Sb**	**11 52 37.7**	**-1.3**
RNF	**Rovaniemi**	**3.33**	**257**	PN	**Pn**	**11 52 04.0**	**+1.4**
	baz=64						
RNF				SB	**Sn**	**11 52 44.5**	**+1.7**
RNF	**Rovaniemi**	**3.33**	**257**	Pn	**Pn**	**11 52 03.9**	**+1.4**
RNF				Sb	**Sn**	**11 52 44.5**	**+1.7**
KEV	**Kevo**	**3.42**	**313**	PN	**Pn**	**11 52 05.1**	**+1.3**
KEV				SN	**Sn**	**11 52 43.9**	**-1.0**
KEV	**Kevo**	**3.42**	**313**	Pn	**Pn**	**11 52 05.0**	**+1.3**
KEV				Sn	**Sn**	**11 52 43.9**	**-1.0**
ARA0	**ARCESS Array S**	**3.75**	**306**	Pn	**Pn**	**11 52 08.9**	**+0.7**
	baz=122,slow=14						
ARA0				Pg	**Pb**	**11 52 18.1**	**+1.9**
	baz=121,slow=16						
ARA0				Sn	**Sn**	**11 52 51.1**	**-1.9**
	baz=123,slow=28						
ARA0				Lg	Lg	11 53 01.8	
	baz=120,slow=37						
ARA0	**ARCESS Array S**	**3.75**	**306**	Pn	**Pn**	**11 52 08.9**	**+0.7**
	baz=122,slow=14						
ARA0				Pg	**Pb**	**11 52 18.1**	**+1.9**
	baz=121,slow=16						
ARA0				Sn	**Sn**	**11 52 51.1**	**-1.9**
	baz=123,slow=28						
ARA0				Lg	Lg	11 53 01.8	
	baz=120,slow=37						
ARA0	**ARCESS Array S**	**3.75**	**306**	Pn	**Pn**	**11 52 08.9**	**+0.7**
	SNR=361						
ARA0	**ARCESS Array S**	**3.75**	**306**	Pg	**Pb**	**11 52 18.1**	**+1.9**
	SNR=90						
ARA0				Sn	**Sn**	**11 52 51.1**	**-1.9**
	SNR=0.6						
ARA0				Lg	Lg	11 53 01.8	
	SNR=55						
ARE0	**ARCESS Array S**	**3.75**	**306**	PN	**Pn**	**11 52 08.6**	**+0.3**
	baz=121						
ARE0				SN	**Sn**	**11 52 51.5**	**-1.5**
ARE0	**ARCESS Array S**	**3.75**	**306**	Pn	**Pn**	**11 52 08.6**	**+0.3**
ARE0				Sn	**Sn**	**11 52 51.5**	**-1.5**
HEF	**Hetta**	**4.05**	**287**	PN	**Pn**	**11 52 13.3**	**+0.9**
	baz=94						
HEF				SN	**Sn**	**11 52 59.4**	**-1.1**
HEF	**Hetta**	**4.05**	**287**	Pn	**Pn**	**11 52 13.3**	**+0.9**
HEF				Sn	**Sn**	**11 52 59.3**	**-1.1**
OUL	**Oulu**	**4.16**	**237**	PG	**Pg**	**11 52 27.2**	**-1.8**
	baz=44						
OUL	**Oulu**	**4.16**	**237**	Pg	**Pg**	**11 52 27.2**	**-1.8**
FIA0	**FINESS Array S**	**7.06**	**213**	Pn	**Pn**	**11 52 55.4**	**+1.6**
FIA0				Sn	Sn	11 54 08.9	-5.7
	baz=39,slow=18						
FIA0				Lg	Lg	11 54 45.8	
	baz=19,slow=28						
FIA0	**FINESS Array S**	**7.06**	**213**	Pn	**Pn**	**11 52 55.4**	**+1.6**
FIA0				Sn	Sn	11 54 08.9	-5.7
	baz=39,slow=18						
FIA0				Lg	Lg	11 54 45.8	
	baz=19,slow=28						
FIA0	**FINESS Array S**	**7.06**	**213**	Pn	**Pn**	**11 52 55.4**	**+1.6**
SPA0	**Spitsbergen Ar**	**11.78**	**342**	Pn	**Pn**	**11 53 56.6**	**-1.8**
	baz=141,slow=14						
SPA0	**Spitsbergen Ar**	**11.78**	**342**	Pn	**Pn**	**11 53 56.6**	**-1.8**
	baz=141,slow=14						

*ISCJB **14** 11:52:30.0±1.3,16°.8S±0°.5×179°.3W±0°.4,h533km,mb3.3/8, Error ellipse: s-maj=82.1km s-min=16.1km az=148.5*
*IDC **14** 11:52:30.5±6.2,17°.01S×179°.08W,h532km±69km,mb2.9/8, mb1 3.2/8,mb1mx3.0/29,mbtmp3.7/8,Error ellipse: s-maj=73.8km s-min=23.8km az=149.0*

ISC 14 11:52:30.5±1.4,16°.9S±0°.5×179°.2W±0°.4,h533km,n11, σ0§63/12,mb3.2/8,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.49**	**240**	P	**P**	**11 59 06.9**	**-0.2**
	0.4nm,0.5s,baz=98,slow=15,SNR=3.9						
WRA	**Warramunga Arr**	**44.11**	**259**	P	**P**	**11 59 52.1**	**+0.2**
	0.4nm,0.6s,baz=91,slow=7.0,SNR=18						
ASAR	**Alice Springs**	**44.38**	**253**	P	**P**	**11 59 54.5**	**+0.7**
	2.9nm,0.4s,baz=89,slow=8.0,SNR=121						
ASAR				PcP	**PcP**	**12 01 25.1**	**-1.3**
	0.2nm,0.4s,baz=106,slow=3.8,SNR=6.2						
NVAR	**Mina Array Bea**	**79.21**	**44**	P	**P**	**12 03 40.9**	**+0.2**
	0.7nm,0.9s,baz=224,slow=8.3,SNR=3.6						
ILAR	**Eielson Array**	**85.08**	**13**	P	**P**	**12 04 09.2**	**-0.4**
	0.3nm,0.4s,baz=218,slow=5.2,SNR=15						
TXAR	**Lajitas Array**	**86.08**	**58**	P	**P**	**12 04 15.5**	**+0.2**
	0.4nm,0.7s,baz=222,slow=7.1,SNR=5.5						
PDAR	**Pinedale Array**	**87.13**	**44**	P	**P**	**12 04 20.6**	**+0.4**
	0.3nm,0.7s,baz=207,slow=3.0,SNR=2.6						
YKA	**Yellowknife Ar**	**93.73**	**25**	P	**P**	**12 04 49.5**	**-0.3**
	0.1nm,0.5s,baz=254,slow=4.4,SNR=2.7						
ARCES	**ARCESS Array B**	**125.20**	**350**	PKP	**PKPdf**	**12 10 29.6**	**-0.3**
	1.8nm,0.9s,baz=18,slow=1.7,SNR=2.8						
BRTR	**Keskin Array B**	**143.56**	**315**	PKP	**PKPdf**	**12 11 05.7**	**+0.7**
	0.5nm,0.4s,baz=100,slow=4.7,SNR=4.1						
GERES	**GERESS Array B**	**146.46**	**345**	PKPbc	**PKPbc**	**12 11 12.6**	**+0.6**
	0.6nm,0.4s,baz=15,slow=2.6,SNR=6.4						

BEO 14 12:00:36.5±1.5,42°.39N×23°.97E,h0km,ML1.3/3,Mining explosion.,Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTS	**Vitosha**	**0.60**	**290**	*e*Pg	Pg	12 00 47.0	-1.2
VTS				*e*Sg	Sg	12 00 54.7	-1.5
ZAPS	**Zavoj**	**1.32**	**312**	*e*Pg	Pg	12 01 00.0	-1.9
ZAPS				*e*Sg	Sg	12 01 18.7	-0.4
BARS	**Barje**	**1.65**	**286**	*e*Pg	Pn	12 01 06.4	-0.3
BARS				*e*Sg	Sb	12 01 29.3	+0.2

BEO 14 12:01:22.9±1.5,42°.42N×24°.12E,h0km,ML1.4/3,Mining explosion.,Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTS	**Vitosha**	**0.70**	**285**	*e*Pg	Pg	12 01 34.5	-2.0
ZAPS	**Zavoj**	**1.39**	**308**	*e*Pg	Pg	12 01 47.7	-1.9
ZAPS				*e*Sg	Sg	12 02 07.0	-0.6
BARS	**Barje**	**1.75**	**284**	*e*Pg	Pb	12 01 55.2	-0.7
BARS				*e*Sg	Sb	12 02 18.7	+0.3

*CSEM **14** 12:02:42.6,36°.78N×36°.35E,h5km,MD2.5*

DDA 14 12:02:42.6,36°.78N×36°.35E,h5km,MD2.5,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUZU	**Kuzuini**	**0.58**	**90**	*i* P	Pg	12 02 53.3	-0.6
KUZU				*i* S	Sn	12 03 09.4	+1.7
KUZU	**Kuzuini**	**0.58**	**90**	*i* P	Pg	12 02 53.3	-0.6
KUZU				*i* S	Sn	12 03 09.4	+1.7
YAYL	**Yayladag**	**0.77**	**195**	*i* P	Pg	12 02 57.2	-0.3
YAYL				*i* S	Sg	12 03 06.2	-1.4
YAYL	**Yayladag**	**0.77**	**195**	*i* P	Pg	12 02 57.2	-0.3
YAYL				*i* S	Sg	12 03 06.2	-1.3
GZT	**Gaziantep**	**1.13**	**59**	*i* P	Pg	12 03 03.6	-1.0
GZT				*i* S	Sn	12 03 27.3	+5.9
GULE	**Gulek**	**1.36**	**292**	*i* P	Pn	12 03 06.4	-2.1
GULE				*i* S	Sb	12 03 22.3	-4.3
GULE	**Gulek**	**1.36**	**292**	*i* P	Pn	12 03 06.4	-2.1
GULE				*i* S	Sb	12 03 22.3	-4.3
KIZK	**Mersin**	**1.80**	**261**	*i* P	Pb	12 03 16.5	+0.5
KIZK	**Mersin**	**1.80**	**261**	*i* P	Pb	12 03 16.5	+0.4

BEO 14 12:02:49.6±1.5,42°.41N×24°.13E,h0km,ML1.4/3,Mining explosion.,Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTS	**Vitosha**	**0.70**	**285**	*e*Pg	Pg	12 03 01.1	-2.3
VTS				*e*Sg	Sg	12 03 11.9	-0.8
ZAPS	**Zavoj**	**1.40**	**309**	*e*Pg	Pn	12 03 15.5	-1.0
ZAPS				*e*Sg	Sg	12 03 33.6	-1.1
BARS	**Barje**	**1.76**	**284**	*e*Pg	Pn	12 03 21.5	+0.2
BARS				*e*Sg	Sg	12 03 46.0	-0.1

*CSEM **14** 12:05:14.6±0.5,39°.33N×38°.48E,h8km,MD2.6,Error ellipse: s-maj=16.3km s-min=10.0km az=101.0*
*DDA **14** 12:05:17.3,39°.34N×38°.41E,h7km,MD2.6*

ISK 14 12:05:13.3,39°.32N×38°.52E,h5km,MD2.6,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILIC	**ilic-Erzincan**	**0.14**	**16**	*e*PG	Pg	12 05 16.1	-0.3
ILIC				*e*SG	Sg	12 05 19.0	+0.6
ILIC	**ilic-Erzincan**	**0.14**	**16**	*e*Pg	Pg	12 05 16.1	-0.2
ILIC				*e*Sg	Sg	12 05 19.0	+0.6
EZC	**Erzincan**	**0.78**	**56**	*e*Pg	Pn	12 05 32.9	+1.7
PTK	**Pertek**	**0.80**	**122**	*e*PG	Pb	12 05 30.1	+0.1
PTK	**Pertek**	**0.80**	**122**	*e*Pg	Pb	12 05 30.1	+0.1
ELZG	**Elazig**	**0.90**	**156**	*i* P	Pn	12 05 35.0	+2.2
ELZG				*i* S	Sn	12 05 49.6	+3.3
ELZG	**Elazig**	**0.90**	**156**	*i* P	Pn	12 05 35.0	+2.2
ELZG				*i* S	Sn	12 05 49.6	+3.3
SUSE	**Susehri**	**0.92**	**345**	*i* P	Pb	12 05 32.2	+0.2
SUSE				*i* S	Sn	12 05 47.0	0.0
SUSE	**Susehri**	**0.92**	**345**	*i* P	Pb	12 05 32.2	+0.2
SUSE				*i* S	Sn	12 05 47.0	0.0
ERZN	**Erzincan**	**0.97**	**74**	*e*PG	Pb	12 05 32.9	+0.1
KELT	**Kelkit**	**1.00**	**34**	*i* P	Pb	12 05 33.8	+0.3
KELT				*i* S	Sn	12 05 52.3	+3.2
KELT	**Kelkit**	**1.00**

comp=N,892nm,0.3s
PSGC Pisagua 2.26 312 ⇑*i*P Pn 12 08 16.0 -0.7
PSGC *i*S Sn 12 08 43.3 -1.8
MNMC Minimini 2.31 329 ⇑*i*P Pn 12 08 18.4 +0.9
MNMC *i*S Sn 12 08 47.7 +1.2
LPAZ La Paz 4.82 2 P Pn 12 08 53.8 +2.8
comp=N,3.0nm,0.3s,baz=192,slow=14,SNR=46
LPAZ S Sn 12 09 50.4 +4.2
baz=101,slow=16,SNR=1.1
SIV San Ignacio 8.58 55 P Pn 12 09 40.5 -0.7
comp=N,1.9nm,0.3s,baz=247,slow=13,SNR=17
SIV S Sn 12 11 12.1 -4.3
comp=N,0.2nm,0.3s,baz=192,slow=20,SNR=2.5
PLCA Paso Flores 19.63 185 P P 12 11 59.2 +0.5
comp=N,0.1nm,0.3s,baz=0.1,slow=8.1,SNR=6.1
TORD Torodi Ar. Bea 76.73 70 P P 12 19 18.0 -0.1
comp=N,1.2nm,0.5s,baz=253,slow=5.2,SNR=21
YKA Yellowknife Ar 91.02 340 P P 12 20 29.1 -0.5
comp=N,0.4nm,0.5s,baz=132,slow=4.4,SNR=11
WRA Warramunga Arr 133.54 210 PKP PKPdf 12 26 42.9 +0.3
comp=N,0.4nm,0.8s,baz=142,slow=1.8,SNR=3.3
MKAR Makanchi Array 145.03 36 PKP PKPdf 12 27 02.8 +0.3
comp=N,1.1nm,0.7s,baz=308,slow=6.0,SNR=9.4

NIED 14 12:28:00,27.50N×142.60E,h32km,Mw3.5 Best double couple: M₀2.22000×10¹⁴ **NP1:**φ=298.00000°, δ49.00000°, λ=-169.00000°. **NP2:**φ=201.00000°, δ82.00000°, λ=-41.00000°., **Bonin Islands region**

*ISCJB **14** 12:29:02.4±0.3,32.62N±0.02×115.79W±0.03,h12km±3km, Error ellipse: s-maj=3.8km s-min=3.7km az=150.0*
*MEX **14** 12:29:03.7±1.0,32.73N×115.78W,h17km±31km,MD3.6*
*NEIC **14** 12:29:03.4,32.61N×115.78W,h4km,MD3.6(MEX), ML3.3(PAS),ML3.3(ECX),After ECX.*
*ECX **14** 12:29:03.4±0.5,32.62N×115.77W,h4km,MD3.0,ML3.3*
ISC 14 12:29:02.3±0.8,32.58N±0.02×115.78W±0.02,h11km±6km, n32,σ0≈94/50,9C-4D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SGL	**Mount Signal**	**0.08**	**33**	⇑*i*P		**Pg**	**12 29 04.4**	**-0.4**
YUH	**Yuha Desert**	**0.14**	**297**	⇑*i*P		**Pg**	**12 29 05.8**	**+0.2**
WESC	**Westside Schoo**	**0.18**	**12**	⇓*i*P		**Pg**	**12 29 06.2**	**0.0**
WESC				*e*S		**Sg**	**12 29 09.0**	**+0.1**
ERPC	**Ernies Place**	**0.19**	**31**	⇑*i*P		**Pg**	**12 29 06.5**	**+0.2**
RMX	**La Rumorosa**	**0.26**	**274**	⇑*e*P		**Pg**	**12 29 08.2**	**+0.5**
RMX				*e*S		**Sg**	**12 29 12.1**	**+0.8**
RMX				IAML			12 29 12.2	
	comp=N,4μm,0.1s							
RMX				⇑*e*			12 29 12.2	
COK	**Cook Ranch**	**0.27**	**9**	⇓*i*P		**Pg**	**12 29 07.9**	**+0.1**
CRR	**Carrizo Plain**	**0.34**	**332**	⇓*i*P		**Pg**	**12 29 09.2**	**0.0**
CPBX	**Cerro Prieto**	**0.43**	**112**	*e*P		**Pb**	**12 29 12.2**	**+0.3**
CPBX	**Cerro Prieto**	**0.43**	**112**	*e*P9		**Pb**	**12 29 12.7**	**+0.8**
CPBX				*e*S		**Sb**	**12 29 18.8**	**+0.4**
CPBX				⇑*e*			12 29 19.2	
CPBX				IAML			12 29 19.2	
	comp=E,10μm,0.2s							
CBKC	**Canebrake**	**0.51**	**308**	⇑*i*P		**Pg**	**12 29 12.7**	**+0.4**
MBIG	**Mexicali**	**0.52**	**110**	*e*P		**Pb**	**12 29 13.1**	**-0.3**
RDX	**Rancho Dawling**	**0.67**	**192**	⇓*e*P		**Pg**	**12 29 15.5**	**+0.2**
RDX				⇑*e*			12 29 26.1	
RDX				IAML			12 29 26.1	
	comp=N,911nm,0.3s							
BAR	**Barrett**	**0.76**	**278**	*e*Pg		**Pg**	**12 29 17.0**	**0.0**
BAR				*e*Sg		**Sg**	**12 29 27.0**	**0.0**
CBX	**Cerro Bola**	**0.80**	**251**	*e*P		**Pg**	**12 29 17.8**	**+0.1**
CBX				*e*S		**Sg**	**12 29 27.1**	**-1.1**
CBX	**Cerro Bola**	**0.80**	**251**	*e*P		**Pg**	**12 29 17.8**	**+0.1**
CBX				*e*S		**Sg**	**12 29 27.1**	**-1.1**
SDRC	**San Diego Road**	**1.00**	**279**	⇑*e*P		**Pg**	**12 29 21.0**	**-0.4**
ZAX	**El Zacaton**	**1.15**	**202**	*e*P		**Pb**	**12 29 24.3**	**+0.2**
ZAX				*e*S		**Sg**	**12 29 39.8**	**+0.5**
ECNX	**Esteban Cantu**	**1.16**	**217**	*e*P		**Pb**	**12 29 24.3**	**0.0**
ECNX				*e*S		**Sg**	**12 29 40.1**	**+0.5**
PBX	**Punta Banda**	**1.16**	**224**	*e*P		**Pb**	**12 29 24.4**	**0.0**
PBX				*e*S		**Sg**	**12 29 40.1**	**+0.4**
PFO	**Pinyon Flats O**	**1.17**	**331**	*e*Pg		**Pb**	**12 29 22.6**	**-2.1**
PFO				*e*Sg		**Sb**	**12 29 38.9**	**-1.0**
ECBX	**El Chinero**	**1.27**	**151**	*e*P9		**Pn**	**12 29 24.6**	**-1.3**
ECBX				*e*S		**Sb**	**12 29 41.8**	**-0.6**
ECBX				IAML			12 29 43.8	
	comp=N,455nm,0.4s							
ECBX				*e*			12 29 43.8	
SPIG	**San Pedro Mart**	**1.56**	**170**	*e*P		**Pn**	**12 29 30.3**	**+0.1**
SPIG	**San Pedro Mart**	**1.56**	**170**	*e*P		**Pn**	**12 29 30.3**	**+0.1**
SPX	**San Pedro Mart**	**1.56**	**170**	*e*P		**Pn**	**12 29 29.9**	**-0.3**
SPX	**San Pedro Mart**	**1.56**	**170**	*e*P		**Pb**	**12 29 31.0**	**-0.3**
SPX				*e*S		**Sg**	**12 29 52.5**	**+0.1**
MWC	**Mount Wilson**	**2.52**	**311**	*e*Pn		**Pb**	**12 29 47.6**	**+0.1**
MWC				*e*Sn		**Sb**	**12 30 18.1**	**-0.5**
214A	**Organ Pipe Nat**	**2.59**	**103**	*e*Pn		**Pn**	**12 29 44.1**	**0.0**
ISA	**Isabella, Lake**	**3.80**	**325**	*e*Pn		**Pn**	**12 30 02.9**	**+2.1**
ISA				*e*Sn		**Sn**	**12 30 42.2**	**-3.3**
SHPR	**Sheep Range**	**3.95**	**7**	*e*Pn		**Pn**	**12 30 03.8**	**+0.9**
SHPR				*e*Sn		**Sn**	**12 30 51.4**	**+2.1**
DAC	**Darwin (Calif)**	**3.98**	**338**	*e*Pn		**Pn**	**12 30 05.4**	**+2.1**
DAC				*e*Sn		**Sn**	**12 30 50.8**	**+0.6**
TUC	**Tucson**	**4.23**	**92**	*e*Pn		**Pn**	**12 30 07.4**	**+0.7**
TUC				*e*Sg		**Sg**	**12 31 17.0**	**-1.1**
WUAZ	**Wupatki**	**4.68**	**50**	*e*Pn		**Pn**	**12 30 13.6**	**+0.6**
WUAZ				*e*Sg		**Sg**	**12 31 32.0**	**-0.6**

*CRAAG **14** 12:28:44.6,35.99N×4.09E,Ml5.2*
*LDG **14** 12:29:20.4±0.2,35.77N×4.02E,h2km,Ml5.0/22,ms4.8/8*
*INMG **14** 12:29:21.7±2.2,35.67N×4.30E,h31km,Mb5.6,MS4.7, Error ellipse: s-maj=9.7km s-min=5.2km az=114.0*
*IDC **14** 12:29:21.8±0.4,36.21N×4.09E,h0km,mb4.8/40, mb1 4.9/47,mb1mx4.8/53,mbtmp4.8/47,ML4.6/8,MS4.9/45, Ms1 4.9/45,ms1mx4.9/55,Error ellipse: s-maj=12.8km s-min=9.0km az=172.0*
*ISCJB **14** 12:29:22.5±0.3,36.00N±0.01×4.034E±0.009,h15km±2km, mb5.1/243,MS5.0/64,Error ellipse: s-maj=2.3km s-min=1.2km az=1.6*
*GCMT **14** 12:29:22.3±0.1,35.90N×4.14E,h12km,MW5.3/115, Moment Tensor Solution. s88,c151; s115,c218; Duration: 1ŝ1 Moment tensor: Scale 10¹⁷Nm; Mrr0.13±.02; Mθθ0.22±.02; Mφφ-0.35±.02; Mrθ0.28±.04; Mθφ-1.23±.01; Mφr-0.05±.04; Best double couple: Ms1.29700×10¹⁷ NP1:φs83.00000°,δ85.00000°, λ167.00000°. NP2:φs174.00000°,δ77.00000°,λ5.00000°. Principal axes: T 1.2520, Plg13.0000°, Azm38.0000°; N 0.0900, Plg76.0000°, Azm241.0000°; P -1.3430, Plg5.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SFS **14** 12:29:22.0,35.90N×4.03E,h10km,ML5.1*
*IGIL **14** 12:29:22.0,35.90N×4.12E,h2km,MS4.7*
*NEIC **14** 12:29:22.3,35.90N×4.12E,h2km,mb5.2/157, ML5.2(ALG),After CSEM.*
NEIC Two people killed and 43 injured near Beni Yellman. Felt [II] at Algiers. Also felt at Birkhadem, Bordj Bou Arreridj, Bouira, Boumerdas, Bou Saada, Constantine, Mansourah and Tizi Ouzou.
*CSEM **14** 12:29:23.6±0.1,35.99N×4.10E,h10km,mb5.2/99,Ms4.9*
*MOS **14** 12:29:23.3±1.4,36.06N×4.10E,h20km,mb5.3/75, MS5.0/42,Error ellipse: s-maj=5.2km s-min=2.4km az=78.2*
*MDD **14** 12:29:23.0±0.3,35.93N×4.14E,h0km,mb5.8/57,Error ellipse: s-maj=4.8km s-min=3.1km az=11.0,PRX/MO*
*STR **14** 12:29:23.6±0.3,35.93N×4.31E,h10km,Ml5.0,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*BJI **14** 12:29:24.6,36.70N×4.16E,h9km,mb5.2/65,mB5.2/48, Ms5.5/60,Ms7 5.3/56*
*CNRM **14** 12:29:25.0,35.74N×4.40E,h30km,MD5.3*
ISC 14 12:29:24.2±0.3,36.03N±0.03×4.11E±0.02,h15km±1km, h15km:pP-P,n2112,σ1≈49/2360,mb5.2/243,MS5.1/63, 222C-206D,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AKET	**Djebel Ketaf**	**0.18**	**275**	P		**Pg**	**12 29 26.3**	**-2.4**
AKET	**Djebel Ketaf**	**0.18**	**275**	P		**Pg**	**12 29 26.3**	**-2.4**
AKET	**Djebel Ketaf**	**0.18**	**275**	P		**Pg**	**12 29 26.3**	**-2.4**
ATAF	**Djebel Tarf**	**0.21**	**138**	P		Pg	12 29 25.1	-4.0
ATAF	**Djebel Tarf**	**0.21**	**138**	P		Pg	12 29 25.1	-4.0
ATAF	**Djebel Tarf**	**0.21**	**138**	P		Pg	12 29 25.1	-4.0
ATAF	**Djebel Tarf**	**0.21**	**138**	P		Pg	12 29 25.1	-4.0
ADJB	**Djebel Djouab**	**0.56**	**283**	P		**Pg**	**12 29 33.5**	**-1.7**
ADJB	**Djebel Djouab**	**0.56**	**283**	P		**Pg**	**12 29 33.5**	**-1.7**
ADJB	**Djebel Djouab**	**0.56**	**283**	P		**Pg**	**12 29 33.5**	**-1.7**
ADJB	**Djebel Djouab**	**0.56**	**283**	P		**Pg**	**12 29 33.5**	**-1.7**
ABMS	**Boumerdes**	**0.88**	**325**	P		**Pg**	**12 29 41.3**	**0.0**
ABMS	**Boumerdes**	**0.88**	**325**	P		**Pg**	**12 29 41.3**	**0.0**
ABMS	**Boumerdes**	**0.88**	**325**	P		**Pg**	**12 29 41.3**	**0.0**
ABMS	**Boumerdes**	**0.88**	**325**	P		**Pg**	**12 29 41.3**	**0.0**
EMHD	**Djebel Mahouad**	**0.95**	**281**	P		**Pb**	**12 29 41.6**	**-0.8**
EMHD	**Djebel Mahouad**	**0.95**	**281**	P		**Pb**	**12 29 41.6**	**-0.8**
EMHD	**Djebel Mahouad**	**0.95**	**281**	P		**Pb**	**12 29 41.6**	**-0.8**
EMHD	**Djebel Mahouad**	**0.95**	**281**	P		**Pb**	**12 29 41.6**	**-0.8**
SET	**Setif**	**1.06**	**80**	P		**Pb**	**12 29 43.0**	**-1.3**
SET	**Setif**	**1.06**	**80**	P		**Pb**	**12 29 43.0**	**-1.3**
SET	**Setif**	**1.06**	**80**	P		**Pb**	**12 29 43.0**	**-1.3**
SET	**Setif**	**1.06**	**80**	P		**Pb**	**12 29 43.0**	**-1.3**
CKHR	**Kef el Ahmar**	**1.14**	**90**	P		**Pn**	**12 29 43.0**	**-2.7**
CKHR	**Kef el Ahmar**	**1.14**	**90**	P		**Pn**	**12 29 43.0**	**-2.7**
CKHR	**Kef el Ahmar**	**1.14**	**90**	P		**Pn**	**12 29 43.0**	**-2.7**
CKHR	**Kef el Ahmar**	**1.14**	**90**	P		**Pn**	**12 29 43.0**	**-2.7**
ABA	**Alger-Bouzarea**	**1.16**	**312**	P		**Pn**	**12 29 44.8**	**-1.1**
ABA	**Alger-Bouzarea**	**1.16**	**312**	P		**Pn**	**12 29 44.8**	**-1.1**
ABA	**Alger-Bouzarea**	**1.16**	**312**	P		**Pn**	**12 29 44.8**	**-1.1**
ABA	**Alger-Bouzarea**	**1.16**	**312**	P		**Pn**	**12 29 44.8**	**-1.1**
DFRA	**Djebel Bou Aff**	**1.52**	**70**	P		**Pn**	**12 29 49.0**	**-1.9**
DFRA	**Djebel Bou Aff**	**1.52**	**70**	P		**Pn**	**12 29 49.0**	**-1.9**
DFRA	**Djebel Bou Aff**	**1.52**	**70**	P		**Pn**	**12 29 49.0**	**-1.9**
DFRA	**Djebel Bou Aff**	**1.52**	**70**	P		**Pn**	**12 29 49.0**	**-1.9**
CTEI	**Djebel Teioual**	**1.86**	**88**	P		Pn	12 29 48.0	-7.7
CTEI	**Djebel Teioual**	**1.86**	**88**	P		Pn	12 29 48.0	-7.7
CASM	**Ain Smara**	**1.94**	**83**	P		Pn	12 29 50.0	-6.7
CASM	**Ain Smara**	**1.94**	**83**	P		Pn	12 29 50.0	-6.7
EBNR	**Beni Rached**	**2.10**	**278**	P		**Pn**	**12 29 59.2**	**+0.3**
EBNR	**Beni Rached**	**2.10**	**278**	P		**Pn**	**12 29 59.2**	**+0.3**
EBNR	**Beni Rached**	**2.10**	**278**	P		**Pn**	**12 29 59.2**	**+0.3**
CKFL	**Kef-Lekhel**	**2.15**	**79**	P		**Pn**	**12 30 00.0**	**+0.5**
CKFL	**Kef-Lekhel**	**2.15**	**79**	P		**Pn**	**12 30 00.0**	**+0.5**
CKFL	**Kef-Lekhel**	**2.15**	**79**	P		**Pn**	**12 30 00.0**	**+0.5**
CKFL	**Kef-Lekhel**	**2.15**	**79**	P		**Pn**	**12 30 00.0**	**+0.5**
ECHA	**Ech Chlef**	**2.22**	**274**	P		**Pn**	**12 30 00.0**	**-0.5**
ECHA	**Ech Chlef**	**2.22**	**274**	P		**Pn**	**12 30 00.0**	**-0.5**
ECHF	**Ech Chlef**	**2.24**	**274**	P		**Pn**	**12 30 00.0**	**-0.8**
ECHF	**Ech Chlef**	**2.24**	**274**	P		**Pn**	**12 30 00.0**	**-0.8**
	SNR=1.0							
CAEH	**'Ain El Ouahch**	**2.34**	**71**	P		**Pn**	**12 29 59.0**	**-3.1**
CAEH	**'Ain El Ouahch**	**2.34**	**71**	P		**Pn**	**12 29 59.0**	**-3.1**
CAEH	**'Ain El Ouahch**	**2.34**	**71**	P		**Pn**	**12 29 59.0**	**-3.1**
ETRT	**Tiaret**	**2.37**	**255**	P		**Pn**	**12 30 02.6**	**-0.1**
ETRT	**Tiaret**	**2.37**	**255**	P		**Pn**	**12 30 02.6**	**-0.1**
ETRT	**Tiaret**	**2.37**	**255**	P		**Pn**	**12 30 02.6**	**-0.1**
ETRT	**Tiaret**	**2.37**	**255**	P		**Pn**	**12 30 02.6**	**-0.1**
EANR	**'Ain N'Sour**	**2.44**	**269**	P		**Pn**	**12 30 03.8**	**+0.3**
EANR	**'Ain N'Sour**	**2.44**	**269**	P		**Pn**	**12 30 03.8**	**+0.3**
EANR	**'Ain N'Sour**	**2.44**	**269**	P		**Pn**	**12 30 03.8**	**+0.3**
ABSA	**Djebel Ababsia**	**2.74**	**84**	P		Pn	12 30 01.0	-6.7
CABS	**Djebel Ababsia**	**2.74**	**84**	P		Pn	12 30 01.0	-6.7
CMAH	**Djebel Manchou**	**2.74**	**77**	P		Pn	12 30 01.0	-6.7
CMAH	**Djebel Manchou**	**2.74**	**77**	P		Pn	12 30 01.0	-6.7
OJGS	**Djebel Guires**	**2.78**	**260**	P		Sg	12 31 06.0	+12
OKGL	**Djebel Kef Gue**	**2.81**	**271**	P		**Pn**	**12 30 08.3**	**-0.3**
	2μm,0.7s,SNR=7.9							
OKGL					S	**Sn**	**12 30 41.8**	**-0.4**
	1357μm,3.5s,SNR=7.9							
OKGL	**Djebel Kef Gue**	**2.81**	**271**	P		**Pn**	**12 30 08.3**	**-0.3**
	2μm,0.7s,SNR=1.0							
OKGL					S	**Sn**	**12 30 41.8**	**-0.4**
	1357μm,3.5s,SNR=1.0							
ODJA	**Bouhanifia**	**3.54**	**260**	P		**Sg**	**12 31 21.0**	**+3.2**
EIBI	**Ibiza**	**3.71**	**325**	⇓P		**Pn**	**12 30 21.5**	**+0.5**
	3μm,0.8s,SNR=18							
EIBI					S	**Sn**	**12 31 06.0**	**+1.6**
	3μm,1.1s							
EIBI	**Ibiza**	**3.71**	**325**	P		**Pn**	**12 30 21.5**	**+0.5**
	3μm,0.8s,SNR=1.0							
EIBI					S	**Sn**	**12 31 06.0**	**+1.6**
	3μm,1.1s,SNR=1.0							
USTO	**Oran**	**3.79**	**267**	P		**Sb**	**12 31 15.0**	**-1.6**
MAHO	**Mahon**	**3.86**	**2**	S		**Sn**	**12 31 05.5**	**-2.7**
MAHO	**Mahon**	**3.86**	**2**	*e*S		**Sn**	**12 31 05.4**	**-2.7**
ETOS	**Mallorca**	**3.87**	**345**	P		**Pn**	**12 30 24.2**	**+1.1**
	942nm,0.7s,SNR=109							
ETOS					S	**Sn**	**12 31 10.8**	**+2.5**
	4μm,1.5s,SNR=4.6							
ETOS	**Mallorca**	**3.87**	**345**	P		**Pn**	**12 30 24.2**	**+1.1**
	942nm,0.7s,SNR=1.0							
ETOS					S	**Sn**	**12 31 10.8**	**+2.5**
	4μm,1.5s,SNR=1.0							
KEST	**Kesra**	**4.26**	**92**	Pn		**Pn**	**12 30 29.4**	**+0.8**
	18nm,0.3s,baz=269,slow=1.7,SNR=157							
KEST					Sn	**Sn**	**12 31 18.2**	**0.0**
	6.2nm,0.3s,baz=319,slow=19,SNR=5.9							
KEST	**Kesra**	**4.26**	**92**	*e*Pn		**Pn**	**12 30 29.1**	**+0.5**
KEST				*e*Sn		**Sn**	**12 31 16.1**	**-2.1**
KEST	**Kesra**	**4.26**	**92**	*e*Pn		**Pn**	**12 30 29.1**	**+0.5**
KEST				*e*Sn		**Sn**	**12 31 16.1**	**-2.1**
EBEN	**Beniarda**	**4.36**	**309**	P		**Pn**	**12 30 30.9**	**+0.9**
	271nm,1.0s,SNR=27							
EBEN					S	**Sn**	**12 31 20.0**	**-0.5**
	2μm,2.5s							
EBEN	**Beniarda**	**4.36**	**309**	P		**Pn**	**12 30 30.9**	**+0.9**
	271nm,1.0s,SNR=1.0							
EBEN					S	**Sn**	**12 31 20.0**	**-0.5**
	2μm,2.5s,SNR=1.0							
CART	**Cartagena**	**4.38**	**292**	P		**Pn**	**12 30 29.4**	**-0.8**
CART					S	Sn	12 31 13.7	-7.3
CART	**Cartagena**	**4.38**	**292**	*e*P		**Pn**	**12 30 29.4**	**-0.8**
CART				*e*S		Sn	12 31 13.7	-7.3
OLHC	**Oulhaca**	**4.57**	**262**	P		Sn	12 31 19.0	-6.6
EMUR	**La Murta**	**4.65**	**294**	⇑P		**Pn**	**12 30 33.5**	**-0.4**
	424nm,0.3s,SNR=18							
EMUR					S	**Sn**	**12 31 28.8**	**+1.2**
	40μm,10.3s							
EMUR	**La Murta**	**4.65**	**294**	P		**Pn**	**12 30 33.5**	**-0.4**
	424nm,0.3s,SNR=1.0							
EMUR					S	**Sn**	**12 31 28.8**	**+1.2**
	40μm,10.3s,SNR=1.0							
ENIJ	**Nijar**	**5.17**	**282**	P		**Pn**	**12 30 39.5**	**-1.6**
	438nm,0.6s,SNR=7.9							
ENIJ					S	**Sn**	**12 31 40.0**	**-0.5**
	709nm,0.9s,SNR=7.9							
ENIJ	**Nijar**	**5.17**	**282**	P		**Pn**	**12 30 39.5**	**-1.6**
	438nm,0.6s,SNR=1.0							
ENIJ					S	**Sn**	**12 31 40.0**	**-0.5**
	709nm,0.9s,SNR=1.0							
ETOB	**Tobarra**	**5.21**	**302**	⇓P		**Pn**	**12 30 41.6**	**0.0**
	1μm,0.7s,SNR=18							
ETOB					S	**Sn**	**12 31 41.8**	**+0.4**
	13μm,6.4s							
ETOB	**Tobarra**	**5.21**	**302**	P		**Pn**	**12 30 41.6**	**0.0**
	1μm,0.7s,SNR=1.0							
ETOB					S	**Sn**	**12 31 41.8**	**+0.4**
	13μm,6.4s,SNR=1.0							
VSL	**Villasalto**	**5.42**	**49**	*e*Pn		**Pn**	**12 30 43.7**	**-0.8**
VSL				*e*Sn		**Sn**	**12 31 46.9**	**+0.3**
VSL	**Villasalto**	**5.42**	**49**	*e*Pn		**Pn**	**12 30 43.7**	**-0.8**
VSL				*e*Sn		**Sn**	**12 31 46.9**	**+0.3**
EBR	**Ebro Roquetas**	**5.56**	**330**	P		Pn	12 30 49.6	+3.3
	386nm,1.3s,SNR=7.9							
EMOS	**Mosqueruela**	**5.63**	**322**	⇓P		**Pn**	**12 30 47.4**	**-0.1**
	326nm,0.6s,SNR=18							
EMOS					S	**Sn**	**12 31 51.2**	**-0.8**
	32μm,10.7s							
EMOS	**Mosqueruela**	**5.63**	**322**	P		**Pn**	**12 30 47.4**	**-0.1**
	326nm,0.6s,SNR=1.0							
EMOS					S	**Sn**	**12 31 51.2**	**-0.8**
	32μm,10.7s,SNR=1.0							
EHUE	**Huescar**	**5.66**	**290**	⇑P		**Pn**	**12 30 48.4**	**+0.6**
	280nm,0.6s,SNR=18							
EHUE					S	**Sn**	**12 31 52.4**	**-0.1**
	180nm,1.4s,SNR=7.9							
EHUE	**Huescar**	**5.66**	**290**	P		**Pn**	**12 30 48.4**	**+0.6**
	280nm,0.6s,SNR=1.0							
EHUE					S	**Sn**	**12 31 52.4**	**-0.1**
	180nm,1.4s,SNR=1.0							
ZAI	**Zaio**	**5.69**	**261**	P		**Pn**	**12 30 49.0**	**+0.8**
	SNR=1.0							
EBER	**Berja**	**5.71**	**281**	P		**Pn**	**12 30 47.1**	**-1.4**
	226nm,0.4s,SNR=98							
EBER					S	**Sn**	**12 31 52.8**	**-1.0**
	53μm,9.8s,SNR=6.4							
EBER	**Berja**	**5.71**	**281**	P		**Pn**	**12 30 47.1**	**-1.4**
	226nm,0.4s,SNR=1.0							
EBER					S	**Sn**	**12 31 52.8**	**-1.0**
	53μm,9.8s,SNR=1.0							
SESP	**Santiago Espad**	**5.71**	**293**	⇓P		**Pn**	**12 30 49.4**	**+0.8**
	3μm,1.1s,SNR=18							
SESP					S	**Sn**	**12 31 54.0**	**0.0**
	31μm,8.6s,SNR=7.9							
SESP	**Santiago Espad**	**5.71**	**293**	P		**Pn**	**12 30 49.4**	**+0.8**
	3μm,1.1s,SNR=1.0							
SESP					S	**Sn**	**12 31 54.0**	**0.0**
	31μm,8.6s,SNR=1.0							
ERTA	**Horta de San J**	**5.74**	**330**	P		**Pn**	**12 30 49.4**	**+0.5**
	353nm,0.5s,SNR=23							
ERTA					S	**Sn**	**12 31 51.9**	**-2.6**
	25μm,9.3s							
ERTA	**Horta de San J**	**5.74**	**330**	P		**Pn**	**12 30 49.4**	**+0.5**
	353nm,0.5s,SNR=1.0							
MELI	**Melilla**	**5.78**	**265**	P		**Pn**	**12 30 50.1**	**+0.7**
	378nm,0.5s,SNR=7.9							
MELI	**Melilla**	**5.78**	**265**	*i*P		**Pn**	**12 30 50.0**	**+0.6**
MELI				*e*S		Sn	12 31 47.1	-8.3
EMLI	**Melilla**	**5.79**	**265**	P		**Pn**	**12 30 49.7**	**+0.2**
	289nm,0.2s,SNR=1.0							
EMEL	**Melilla**	**5.80**	**265**	P		**Pn**	**12 30 49.7**	**+0.1**
	289nm,0.2s,SNR=8.2							
EPOB	**Poblet**	**5.82**	**337**	P		**Pn**	**12 30 50.7**	**+0.7**
	221nm,0.5s,SNR=44							
EPOB					S	**Sn**	**12 31 53.9**	**-2.6**
	5μm,5.6s							
EPOB	**Poblet**	**5.82**	**337**	P		**Pn**	**12 30 50.7**	**+0.7**
	221nm,0.5s,SNR=44							
CFON	**Fontmartina**	**5.87**	**348**	P		**Pn**	**12 30 51.5**	**+0.8**
	415nm,0.8s,SNR=42							
CFON					S	**Sn**	**12 31 58.3**	**+0.5**
	41μm,11.6s							
CFON	**Fontmartina**	**5.87**	**348**	P		**Pn**	**12 30 51.5**	**+0.8**
	415nm,0.8s,SNR=1.0							
CFON					S	**Sn**	**12 31 58.3**	**+0.5**
	41μm,11.6s,SNR=1.0							
EVIA	**Vianos**	**5.88**	**298**	⇑P		**Pn**	**12 30 50.9**	**+0.1**
	914nm,0.5s,SNR=18							
EVIA					S	**Sn**	**12 31 56.2**	**-1.7**
	435nm,0.9s,SNR=7.9							
EVIA	**Vianos**	**5.88**	**298**	P		**Pn**	**12 30 50.9**	**+0.1**
	914nm,0.5s,SNR=1.0							
EVIA					S	**Sn**	**12 31 56.2**	**-1.7**
	435nm,0.9s,SNR=1.0							
GORA	**Gorafe**	**5.92**	**286**	P		**Pn**	**12 30 51.5**	**+0.1**
	523nm,0.6s,SNR=7.9							
GORA					S	**Sn**	**12 31 56.9**	**-2.0**
	12μm,5.6s,SNR=7.9							
GORA	**Gorafe**	**5.92**	**286**	P		**Pn**	**12 30 51.5**	**+0.1**
	523nm,0.6s,SNR=1.0							
GORA					S	**Sn**	**12 31 56.9**	**-2.0**
	12μm,5.6s,SNR=1.0							
EQES	**Quesada**	**6.02**	**289**	P		**Pn**	**12 30 53.8**	**+1.1**
	364nm,0.5s,SNR=220							
EQES					S	**Sn**	**12 31 58.6**	**-2.9**
	3μm,1.7s							
EQES	**Quesada**	**6.02**	**289**	P		**Pn**	**12 30 53.8**	**+1.1**
	364nm,0.5s,SNR=1.0							
EQUE	**Quentar**	**6.18**	**283**	P		**Pn**	**12 30 54.8**	**-0.2**
	330nm,0.5s,SNR=79							
EQUE					S	**Sn**	**12 32 02.8**	**-2.6**
	372nm,0.8s,SNR=4.2							
EQUE	**Quentar**	**6.18**	**283**	P		**Pn**	**12 30 54.8**	**-0.2**
	330nm,0.5s,SNR=1.0							
EMIR	**Miracle**	**6.21**	**342**	P		**Pn**	**12 30 57.0**	**+1.6**
	581nm,0.6s,SNR=156							
EMIR					S	**Sn**	**12 32 06.1**	**0.0**
	284nm,0.8s							
EMIR	**Miracle**	**6.21**	**342**	P		**Pn**	**12 30 57.0**	**+1.6**
	581nm,0.6s,SNR=1.0				

EMAL	**Malaga-Limoner**	**6.92**	**279**	*e*P	Pn	12 31 01.6	-3.5
EMAL				*e*S	**Sn**	**12 32 19.4**	**-4.2**
LRDF	**Laroque-de-Fa**	**7.00**	**351**	P	**Pn**	**12 31 07.7**	**+1.5**
LRDF	**Laroque-de-Fa**	**7.00**	**351**	P	**Pn**	**12 31 07.7**	**+1.5**
	SNR=1.0						
SALF	**Salau**	**7.09**	**342**	P	**Pn**	**12 31 10.0**	**+2.6**
SALF				S	Sn	12 32 37.2	+9.4
SALF	**Salau**	**7.09**	**342**	P	**Pn**	**12 31 10.0**	**+2.6**
	SNR=1.0						
SALF				S	Sn	12 32 37.2	+9.4
EMIJ	**Mijas**	**7.19**	**277**	P	**Pn**	**12 31 07.2**	**-1.6**
	124nm,0.7s,SNR=19						
EMIJ				S	**Sn**	**12 32 27.4**	**-2.8**
	152nm,1.0s,SNR=4.4						
EMIJ	**Mijas**	**7.19**	**277**	P	**Pn**	**12 31 07.2**	**-1.6**
	124nm,0.7s,SNR=1.0						
EADA	**Adamuz**	**7.26**	**290**	P	**Pn**	**12 31 09.6**	**-0.2**
	132nm,0.9s,SNR=24						
EADA				S	**Sn**	**12 32 30.1**	**-1.8**
	146nm,0.8s,SNR=4.3						
EADA	**Adamuz**	**7.26**	**290**	P	**Pn**	**12 31 09.6**	**-0.2**
	132nm,0.9s,SNR=1.0						
EADA				S	**Sn**	**12 32 30.1**	**-1.8**
	146nm,0.8s,SNR=1.0						
MLS	**Moulis**	**7.30**	**342**	P	**Pn**	**12 31 12.7**	**+2.4**
MLS				S	Sn	12 32 43.5	+11
MLS	**Moulis**	**7.30**	**342**	P	**Pn**	**12 31 12.7**	**+2.4**
	SNR=1.0						
MLS				S	Sn	12 32 43.5	+11
MELF	**Melles**	**7.31**	**340**	P	**Pn**	**12 31 12.5**	**+2.1**
MELF	**Melles**	**7.31**	**340**	P	**Pn**	**12 31 12.5**	**+2.1**
	SNR=1.0						
ESDC	**Sonseca Array**	**7.35**	**302**	P	**Pn**	**12 31 11.1**	**+0.1**
	38nm,0.2s,baz=118,slow=14,SNR=101						
ESDC				S	**Sn**	**12 32 34.1**	**0.0**
	28nm,0.7s,baz=117,slow=24,SNR=3.6						
ESDC	**Sonseca Array**	**7.35**	**302**	Pn	**Pn**	**12 31 09.4**	**-1.6**
	15nm,0.3s,baz=118,slow=14,SNR=139						
ESDC				Sn	**Sn**	**12 32 34.8**	**+0.7**
	baz=137,slow=23,SNR=2.0						
ESDC				LR	LR	12 34 02.4	
	comp=Z,12µm,20.2s,baz=120,slow=39						
ESDC	**Sonseca Array**	**7.35**	**302**	P	**Pn**	**12 31 11.1**	**+0.1**
	38nm,0.2s,SNR=1.0						
ESDC				S	**Sn**	**12 32 34.1**	**0.0**
	28nm,0.7s,SNR=1.0						
ESDC				Sn	**Sn**	**12 32 34.8**	**+0.7**
ESLA	**Sonseca Array**	**7.35**	**302**	*e*Pn	**Pn**	**12 31 11.1**	**+0.1**
	37nm,0.8s						
ESLA				*e*Sn	**Sn**	**12 32 39.1**	**+5.0**
ESLA	**Sonseca Array**	**7.35**	**302**	*e*Pn	**Pn**	**12 31 11.1**	**+0.1**
	37nm,0.8s						
ESLA				*e*Sn	**Sn**	**12 32 39.1**	**+5.0**
MTLF	**Montolieu**	**7.45**	**349**	*e*Pn	**Pn**	**12 31 13.4**	**+1.1**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**12 32 34.0**	**-2.4**
	736nm,1.2s						
MTLF	**Montolieu**	**7.45**	**349**	P	**Pn**	**12 31 13.4**	**+1.1**
MTLF				S	**Sn**	**12 32 34.0**	**-2.4**
	368nm,1.2s						
MTLF	**Montolieu**	**7.45**	**349**	*e*P	**Pn**	**12 31 13.4**	**+1.1**
MTLF				*e*		12 32 34.0	
MTLF	**Montolieu**	**7.45**	**349**	*e*P	**Pn**	**12 31 13.4**	**+1.1**
MTLF				*e*S	**Sn**	**12 32 34.0**	**-2.4**
MTLF	**Montolieu**	**7.45**	**349**	*e*Pn	**Pn**	**12 31 13.4**	**+1.1**
MTLF				*e*Sn	**Sn**	**12 32 34.0**	**-2.4**
CLTB	**Caltabellotta**	**7.47**	**75**	*e*Pn	**Pn**	**12 31 12.5**	**-0.2**
CLTB				*e*Sn	**Sn**	**12 32 38.0**	**+0.9**
CLTB	**Caltabellotta**	**7.47**	**75**	*e*Pn	**Pn**	**12 31 12.5**	**-0.2**
CLTB				*e*Sn	**Sn**	**12 32 38.0**	**+0.9**
LMR	**La Mourre**	**7.53**	**14**	*e*Pn	**Pn**	**12 31 12.4**	**-0.9**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**12 32 35.9**	**-2.4**
	492nm,1.1s,SNR=1.0						
LMR	**La Mourre**	**7.53**	**14**	P	**Pn**	**12 31 12.4**	**-0.9**
LMR				S	**Sn**	**12 32 35.9**	**-2.4**
	246nm,1.1s						
LMR	**La Mourre**	**7.53**	**14**	*e*P	**Pn**	**12 31 12.4**	**-0.9**
LMR				*e*		12 32 35.9	
LMR	**La Mourre**	**7.53**	**14**	*e*P	**Pn**	**12 31 12.4**	**-0.9**
LMR				*e*S	**Sn**	**12 32 35.9**	**-2.4**
LMR	**La Mourre**	**7.53**	**14**	*e*Pn	**Pn**	**12 31 12.4**	**-0.9**
LMR				*e*Sn	**Sn**	**12 32 35.9**	**-2.4**
PGF	**Pioggiola**	**7.53**	**29**	*e*Pn	**Pn**	**12 31 12.8**	**-0.7**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**12 32 35.9**	**-2.8**
	136nm,0.6s						
PGF	**Pioggiola**	**7.53**	**29**	P	**Pn**	**12 31 12.8**	**-0.7**
PGF				S	**Sn**	**12 32 35.9**	**-2.8**
	68nm,0.6s						
PGF	**Pioggiola**	**7.53**	**29**	*e*P	**Pn**	**12 31 12.8**	**-0.7**
PGF				*e*		12 32 35.9	
PGF	**Pioggiola**	**7.53**	**29**	*e*P	**Pn**	**12 31 12.8**	**-0.7**
PGF				*e*S	**Sn**	**12 32 35.9**	**-2.8**
PGF	**Pioggiola**	**7.53**	**29**	*e*Pn	**Pn**	**12 31 12.8**	**-0.7**
PGF				*e*Sn	**Sn**	**12 32 35.9**	**-2.8**
VIEF	**Viey**	**7.54**	**336**	P	**Pn**	**12 31 15.2**	**+1.6**
VIEF	**Viey**	**7.54**	**336**	P	**Pn**	**12 31 15.2**	**+1.6**
	SNR=1.0						
PAB	**San Pablo**	**7.56**	**300**	*e*P	**Pn**	**12 31 13.5**	**-0.4**
PAB				*e*		12 32 41.1	
PAB	**San Pablo**	**7.56**	**300**	*e*P	**Pn**	**12 31 13.5**	**-0.4**
PAB				*e*S	**Sn**	**12 32 41.1**	**+1.8**
PAB	**San Pablo**	**7.56**	**300**	*e*Pn	**Pn**	**12 31 13.5**	**-0.4**
PAB				*e*Sn	**Sn**	**12 32 41.1**	**+1.8**
EPF	**Esparros**	**7.57**	**339**	*e*Pn	**Pn**	**12 31 15.5**	**+1.5**
	SNR=1.0						
EPF				*e*Sn	**Sn**	**12 32 35.6**	**-4.0**
	990nm,1.5s,SNR=1.0						
EPF	**Esparros**	**7.57**	**339**	P	**Pn**	**12 31 15.5**	**+1.5**
EPF				S	**Sn**	**12 32 35.6**	**-4.0**
	495nm,1.5s						
EPF	**Esparros**	**7.57**	**339**	*e*P	**Pn**	**12 31 15.5**	**+1.5**
EPF				*e*		12 32 35.6	
EPF	**Esparros**	**7.57**	**339**	*e*P	**Pn**	**12 31 15.5**	**+1.5**
EPF				*e*S	**Sn**	**12 32 35.6**	**-4.0**
EPF	**Esparros**	**7.57**	**339**	*e*Pn	**Pn**	**12 31 15.5**	**+1.5**
EPF				*e*Sn	**Sn**	**12 32 35.6**	**-4.0**
LEPF	**PUYLOUBIER**	**7.58**	**9**	P	**Pn**	**12 31 14.6**	**+0.5**
LEPF	**PUYLOUBIER**	**7.58**	**9**	P	**Pn**	**12 31 14.6**	**+0.5**
	SNR=1.0						
LABF	**Labassere**	**7.67**	**337**	P	**Pn**	**12 31 17.4**	**+2.0**
LABF				S	Sn	12 32 52.5	+10
LABF	**Labassere**	**7.67**	**337**	P	**Pn**	**12 31 17.4**	**+2.0**
	SNR=1.0						
LABF				S	Sn	12 32 52.5	+10
LIJA	**Lijar**	**7.71**	**279**	P	**Pn**	**12 31 15.9**	**-0.1**
LIJA				S	**Sn**	**12 32 47.0**	**+3.9**
LIJA	**Lijar**	**7.71**	**279**	*e*P	**Pn**	**12 31 15.9**	**-0.1**
LIJA				*e*S	**Sn**	**12 32 47.0**	**+3.9**
DKH	**Dar Kharkhour**	**7.72**	**269**	P	**Pn**	**12 31 19.0**	**+2.9**
DKH				S	**Sn**	**12 32 43.0**	**-0.3**
ETSF	**Etsaut**	**7.75**	**334**	*e*Pn	**Pn**	**12 31 17.3**	**+0.8**
	SNR=1.0						
ETSF				*e*Sn	**Sn**	**12 32 40.6**	**-3.4**
	641nm,1.4s,SNR=1.0						
ETSF	**Etsaut**	**7.75**	**334**	P	**Pn**	**12 31 17.3**	**+0.8**
ETSF				S	**Sn**	**12 32 40.6**	**-3.4**
	320nm,1.4s						
ETSF	**Etsaut**	**7.75**	**334**	*e*P	**Pn**	**12 31 17.3**	**+0.8**
ETSF				*e*		12 32 40.6	
ETSF	**Etsaut**	**7.75**	**334**	*e*P	**Pn**	**12 31 17.3**	**+0.8**
ETSF				*e*S	**Sn**	**12 32 40.6**	**-3.4**
ETSF	**Etsaut**	**7.75**	**334**	*e*Pn	**Pn**	**12 31 17.3**	**+0.8**
ETSF				*e*Sn	**Sn**	**12 32 40.6**	**-3.4**
TGT	**Taghat**	**7.76**	**258**	P	**Pn**	**12 31 18.0**	**+1.3**
TGT				S	**Sn**	**12 32 42.0**	**-2.4**
TGT	**Taghat**	**7.76**	**258**	P	**Pn**	**12 31 18.0**	**+1.3**
	SNR=1.0						
TGT				S	**Sn**	**12 32 42.0**	**-2.4**
	SNR=1.0						
FRF	**La Foret Royal**	**7.77**	**14**	*e*Pn	**Pn**	**12 31 15.7**	**-1.0**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**12 32 42.1**	**-2.3**
	130nm,0.6s						
FRF	**La Foret Royal**	**7.77**	**14**	P	**Pn**	**12 31 15.7**	**-1.0**
FRF				S	**Sn**	**12 32 42.1**	**-2.3**
	65nm,0.6s						
FRF	**La Foret Royal**	**7.77**	**14**	*e*P	**Pn**	**12 31 15.7**	**-1.0**
FRF				*e*		12 32 42.1	
FRF	**La Foret Royal**	**7.77**	**14**	*e*P	**Pn**	**12 31 15.7**	**-1.0**
FRF				*e*S	**Sn**	**12 32 42.1**	**-2.3**
FRF	**La Foret Royal**	**7.77**	**14**	*e*Pn	**Pn**	**12 31 15.7**	**-1.0**
FRF				*e*Sn	**Sn**	**12 32 42.1**	**-2.3**
REYF	**Montagne du Re**	**7.84**	**335**	P	**Pn**	**12 31 19.2**	**+1.4**
REYF	**Montagne du Re**	**7.84**	**335**	P	**Pn**	**12 31 19.2**	**+1.4**
	SNR=1.0						
YNAR	**Nardues-Alduna**	**7.84**	**329**	P	**Pn**	**12 31 18.1**	**+0.4**
	64nm,0.4s,SNR=7.9						
YNAR				S	**Sn**	**12 32 42.9**	**-3.4**
	13nm,0.3s,SNR=7.9						
YNAR	**Nardues-Alduna**	**7.84**	**329**	P	**Pn**	**12 31 18.1**	**+0.4**
	64nm,0.4s,SNR=1.0						
ECAB	**El Cabril**	**7.88**	**288**	P	**Pn**	**12 31 17.9**	**-0.4**
	119nm,0.9s,SNR=47						
ECAB				S	**Sn**	**12 32 45.4**	**-1.9**
	72nm,0.7s,SNR=6.7						
ECAB	**El Cabril**	**7.88**	**288**	P	**Pn**	**12 31 17.9**	**-0.4**
	119nm,0.9s,SNR=1.0						
ECAB				S	**Sn**	**12 32 45.4**	**-1.9**
	72nm,0.7s,SNR=1.0						
MDT	**Midelt**	**7.88**	**249**	Pn	**Pn**	**12 31 18.1**	**-0.3**
	8.3nm,0.3s,baz=72,slow=17,SNR=50						
MDT				Lg	Lg	12 33 27.4	
	8.2nm,0.3s,baz=328,slow=18,SNR=4.2						
MDT				LR	LR	12 34 24.7	
	comp=Z,7µm,20.1s,baz=68,slow=38						
IEPA	**Eparoz**	**7.92**	**330**	P	**Pn**	**12 31 20.5**	**+1.7**
	12nm,0.3s,SNR=7.9						
IEPA				S	**Sn**	**12 32 46.9**	**-1.2**
	39nm,0.5s,SNR=7.9						
IEPA	**Eparoz**	**7.92**	**330**	P	**Pn**	**12 31 20.5**	**+1.7**
	12nm,0.3s,SNR=1.0						
IEPA				S	**Sn**	**12 32 46.9**	**-1.2**
	39nm,0.5s,SNR=1.0						
GUD	**Guadarrama**	**7.96**	**308**	P	**Pn**	**12 31 20.2**	**+0.8**
	150nm,1.0s,SNR=46						
GUD	**Guadarrama**	**7.96**	**308**	P	**Pn**	**12 31 20.2**	**+0.8**
	150nm,1.0s,SNR=1.0						
IELO	**Elcoad**	**7.96**	**330**	P	**Pn**	**12 31 21.5**	**+2.1**
	138nm,1.1s,SNR=7.9						
IELO				S	**Sn**	**12 32 44.8**	**-4.4**
	86nm,0.8s,SNR=7.9						
IELO	**Elcoad**	**7.96**	**330**	P	**Pn**	**12 31 21.5**	**+2.1**
	138nm,1.1s,SNR=1.0						
ATE	**Arette**	**7.96**	**334**	P	**Pn**	**12 31 20.8**	**+1.4**
ATE	**Arette**	**7.96**	**334**	P	**Pn**	**12 31 21.0**	**+1.6**
	67nm,0.6s,SNR=7.9						
ATE				S	Sn	12 32 43.2	-5.9
	96nm,0.9s,SNR=7.9						
ATE	**Arette**	**7.96**	**334**	P	**Pn**	**12 31 20.8**	**+1.4**
	SNR=1.0						
RUSF	**Rustrel**	**7.97**	**7**	*e*P	**Pn**	**12 31 21.0**	**+1.5**
RUSF	**Rustrel**	**7.97**	**7**	*e*P	**Pn**	**12 31 21.0**	**+1.5**
RUSF	**Rustrel**	**7.97**	**7**	*e*P	**Pn**	**12 31 21.0**	**+1.5**
IPRE	**Itoiz**	**7.98**	**330**	P	**Pn**	**12 31 21.0**	**+1.5**
	53nm,0.4s,SNR=7.9						
IPRE				S	**Sn**	**12 32 49.0**	**-0.5**
	207nm,1.0s,SNR=7.9						
IPRE	**Itoiz**	**7.98**	**330**	P	**Pn**	**12 31 21.0**	**+1.5**
	53nm,0.4s,SNR=1.0						
IPRE				S	**Sn**	**12 32 49.0**	**-0.5**
	207nm,1.0s,SNR=1.0						
IUNC	**Unciti**	**8.00**	**329**	P	**Pn**	**12 31 20.8**	**+0.9**
	25nm,0.4s,SNR=7.9						
IUNC				S	**Sn**	**12 32 45.6**	**-4.4**
	26nm,0.5s,SNR=7.9						
IUNC	**Unciti**	**8.00**	**329**	P	**Pn**	**12 31 20.8**	**+0.9**
	25nm,0.4s,SNR=1.0						
CALN	**Calern**	**8.00**	**15**	P	**Pn**	**12 31 20.0**	**0.0**
CALN	**Calern**	**8.00**	**15**	P	**Pn**	**12 31 20.0**	**0.0**
	SNR=1.0						
SMRF	**Simiane la Rot**	**8.02**	**8**	*e*Pn	**Pn**	**12 31 19.6**	**-0.5**
	SNR=1.0						
SMRF				*e*Sn	**Sn**	**12 32 47.4**	**-3.1**
	298nm,1.3s						
SMRF	**Simiane la Rot**	**8.02**	**8**	P	**Pn**	**12 31 19.6**	**-0.5**
SMRF				S	**Sn**	**12 32 47.4**	**-3.1**
	298nm,1.3s						
SMRF	**Simiane la Rot**	**8.02**	**8**	*e*Pn	**Pn**	**12 31 19.6**	**-0.5**
SMRF				*e*Sn	**Sn**	**12 32 47.4**	**-3.1**
SMRF	**Simiane la Rot**	**8.02**	**8**	*e*Pn	**Pn**	**12 31 19.6**	**-0.5**
SMRF				*e*Sn	**Sn**	**12 32 47.4**	**-3.1**
LARF	**Larrau**	**8.03**	**332**	P	**Pn**	**12 31 21.6**	**+1.3**
LARF	**Larrau**	**8.03**	**332**	P	**Pn**	**12 31 21.6**	**+1.3**
	SNR=1.0						
LASF	**Ste Croix**	**8.04**	**359**	*e*Pn	**Pn**	**12 31 20.7**	**+0.3**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**12 32 48.1**	**-2.9**
	365nm,0.9s						
LASF	**Ste Croix**	**8.04**	**359**	P	**Pn**	**12 31 20.7**	**+0.3**
LASF				S	**Sn**	**12 32 48.1**	**-2.9**
	183nm,0.9s						
LASF	**Ste Croix**	**8.04**	**359**	*e*Pn	**Pn**	**12 31 20.7**	**+0.3**
LASF				*e*Sn	**Sn**	**12 32 48.1**	**-2.9**
LASF	**Ste Croix**	**8.04**	**359**	*e*Pn	**Pn**	**12 31 20.7**	**+0.3**
LASF				*e*Sn	**Sn**	**12 32 48.1**	**-2.9**
EARA	**Aranguren**	**8.04**	**329**	P	**Pn**	**12 31 22.7**	**+2.3**
	254nm,0.9s,SNR=18						
EARA				S	**Sn**	**12 32 48.7**	**-2.4**
	381nm,1.6s,SNR=7.9						
EARA	**Aranguren**	**8.04**	**329**	P	**Pn**	**12 31 22.7**	**+2.3**
	254nm,0.9s,SNR=1.0						
IZUN	**Zunzarren**	**8.06**	**329**	P	**Pn**	**12 31 22.5**	**+1.7**
	75nm,0.5s,SNR=7.9						
IZUN				S	**Sn**	**12 32 49.8**	**-1.9**
	75nm,0.8s,SNR=7.9						
IZUN	**Zunzarren**	**8.06**	**329**	P	**Pn**	**12 31 22.5**	**+1.7**
	75nm,0.5s,SNR=1.0						
IZUN				S	**Sn**	**12 32 49.8**	**-1.9**
	75nm,0.8s,SNR=1.0						
ESPR	**Espera**	**8.07**	**279**	P	**Pn**	**12 31 20.9**	**0.0**
	44nm,2.1s,SNR=15						
ESPR				S	**Sn**	**12 32 49.0**	**-2.9**
	51nm,0.6s,SNR=4.4						
ESPR	**Espera**	**8.07**	**279**	P	**Pn**	**12 31 20.9**	**0.0**
	44nm,2.1s,SNR=1.0						
CZD	**Col de Zad**	**8.12**	**251**	P	**Pn**	**12 31 24.0**	**+2.2**
CZD				S	**Sn**	**12 32 50.0**	**-3.4**
CZD	**Col de Zad**	**8.12**	**251**	P	**Pn**	**12 31 24.0**	**+2.2**
	SNR=1.0						
ORDF	**Ordiarp**	**8.16**	**333**	P	**Pn**	**12 31 23.5**	**+1.5**
ORDF	**Ordiarp**	**8.16**	**333**	P	**Pn**	**12 31 23.5**	**+1.5**
	SNR=1.0						
IUSE	**Utxeti**	**8.17**	**329**	P	**Pn**	**12 31 24.0**	**+1.7**
	5.3nm,0.4s,SNR=7.9						
IUSE				S	**Sn**	**12 32 50.6**	**-3.8**
	7.1nm,0.3s,SNR=7.9						
IUSE	**Utxeti**	**8.17**	**329**	P	**Pn**	**12 31 24.0**	**+1.7**
	5.3nm,0.4s,SNR=1.0						
SJPF	**Ste Jean**	**8.18**	**331**	*e*Pn	**Pn**	**12 31 23.6**	**+1.2**
	SNR=1.0						
SJPF	**Ste Jean**	**8.18**	**331**	P	**Pn**	**12 31 23.6**	**+1.2**
SJPF	**Ste Jean**	**8.18**	**331**	*e*P	**Pn**	**12 31 23.6**	**+1.2**
SJPF	**Ste Jean**	**8.18**	**331**	*e*P	**Pn**	**12 31 23.6**	**+1.2**
SJPF	**Ste Jean**	**8.18**	**331**	*e*Pn	**Pn**	**12 31 23.6**	**+1.2**
MVIF	**Mont Vial**	**8.20**	**16**	P	**Pn**	**12 31 23.5**	**+0.8**
MVIF	**Mont Vial**	**8.20**	**16**	P	**Pn**	**12 31 23.5**	**+0.8**
	SNR=1.0						
CNIL	**Conil**	**8.22**	**275**	P	**Pn**	**12 31 23.9**	**+1.0**
CNIL	**Conil**	**8.22**	**275**	*e*P	**Pn**	**12 31 23.9**	**+1.0**
TSY	**Tnine Yamani**	**8.22**	**268**	P	**Pn**	**12 31 26.0**	**+3.1**
TSY				S	**Sn**	**12 32 53.0**	**-2.6**
SBF	**Sospel**	**8.23**	**17**	*e*Pn	**Pn**	**12 31 22.5**	**-0.6**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**12 32 52.5**	**-3.3**
	160nm,0.6s						
SBF	**Sospel**	**8.23**	**17**	P	**Pn**	**12 31 22.5**	**-0.6**
SBF				S	**Sn**	**12 32 52.5**	**-3.3**
	80nm,0.6s						
SBF	**Sospel**	**8.23**	**17**	*e*P	**Pn**	**12 31 22.5**	**-0.6**
SBF				*e*		12 32 52.5	
SBF	**Sospel**	**8.23**	**17**	*e*P	**Pn**	**12 31 22.5**	**-0.6**
SBF				*e*S	**Sn**	**12 32 52.5**	**-3.3**
SBF	**Sospel**	**8.23**	**17**	*e*Pn	**Pn**	**12 31 22.5**	**-0.6**
SBF				*e*Sn	**Sn**	**12 32 52.5**	**-3.3**
OSSF	**Osses**	**8.32**	**332**	P	**Pn**	**12 31 25.4**	**+1.2**
OSSF	**Osses**	**8.32**	**332**	P	**Pn**	**12 31 25.4**	**+1.2**
	SNR=1.0						
TOUF	**Mont Tournerai**	**8.33**	**16**	P	**Pn**	**12 31 25.0**	**+0.5**
TOUF	**Mont Tournerai**	**8.33**	**16**	P	**Pn**	**12 31 25.0**	**+0.5**
	SNR=1.0						
SFS	**San Fernando**	**8.34**	**276**	P	Pn	12 31 21.2	-3.3
SFS				S	Sb	12 33 16.2	-11
SFS	**San Fernando**	**8.34**	**276**	*e*P	Pn	12 31 21.2	-3.3
SFS				*e*S	Sb	12 33 16.2	-11
AUTN	**L'Aution**	**8.35**	**17**	P	**Pn**	**12 31 25.1**	**+0.2**
AUTN	**L'Aution**	**8.35**	**17**	P	**Pn**	**12 31 25.1**	**+0.2**
	SNR=1.0						
SAOF	**Saorge**	**8.38**	**17**	P	**Pn**	**12 31 24.7**	**-0.3**
	SNR=1.0						
EALK	**Alkurruntz**	**8.38**	**331**	P	**Pn**	**12 31 27.3**	**+2.2**
	356nm,0.8s,SNR=35						
EALK				S	**Sn**	**12 32 56.8**	**-2.6**
	82nm,0.4s,SNR=7.9						
EALK	**Alkurruntz**	**8.38**	**331**	P	**Pn**	**12 31 27.3**	**+2.2**
	356nm,0.8s,SNR=1.0						
OG26	**St.-Nazaire-De**	**8.59**	**6**	P	**Pn**	**12 31 28.0**	**0.0**
OG26				S	Sn	12 33 13.5	+8.9
OG26	**St.-Nazaire-De**	**8.59**	**6**	P	**Pn**	**12 31 28.0**	**0.0**
	SNR=1.0						
OG26				S	Sn	12 33 13.5	+8.9
SURF	**Saint Ours**	**8.69**	**13**	P	**Pn**	**12 31 29.9**	**+0.4**
SURF	**Saint Ours**	**8.69**	**13**	P	**Pn**	**12 31 29.9**	**+0.4**
	SNR=1.0						
EMIN	**Mina Concepcio**	**8.81**	**285**	P	**Pn**	**12 31 30.7**	**-0.3**
	60nm,0.9s,SNR=22						
EMIN				S	**Sn**	**12 33 06.5**	**-3.4**
	4.3nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**8.81**	**285**	P	**Pn**	**12 31 30.7**	**-0.3**
	60nm,0.9s,SNR=1.0						
VIVF	**Saint-Julien-l**	**8.83**	**3**	*e*Pn	**Pn**	**12 31 30.7**	**-0.5**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**12 33 07.4**	**-3.0**
	112nm,0.7s						
VIVF	**Saint-Julien-l**	**8.83**	**3**	P	**Pn**	**12 31 30.7**	**-0.5**
VIVF				S	**Sn**	**12 33 07.4**	**-3.0**
	56nm,0.7s						
VIVF	**Saint-Julien-l**	**8.83**	**3**	*e*P	**Pn**	**12 31 30.7**	**-0.5**
VIVF				*e*		12 33 07.4	
VIVF	**Saint-Julien-l**	**8.83**	**3**	*e*P	**Pn**	**12 31 30.7**	**-0.5**
VIVF				*e*S	**Sn**	**12 33 07.4**	**-3.0**
VIVF	**Saint-Julien-l**	**8.83**	**3**	*e*Pn	**Pn**	**12 31 30.7**	**-0.5**
VIVF				*e*Sn	**Sn**	**12 33 07.4**	**-3.0**
MBDF	**Montbardon**	**8.92**	**12**	*e*Pn	**Pn**	**12 31 32.5**	**-0.1**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**12 33 09.8**	**-3.1**
	254nm,1.1s						
MBDF	**Montbardon**	**8.92**	**12**	P	**Pn**	**12 31 32.5**	**-0.1**
MBDF				S	**Sn**	**12 33 09.8**	**-3.1**
	127nm,1.1s						
MBDF	**Montbardon**	**8.92**	**12**	*e*P	**Pn**	**12 31 32.5**	**-0.1**
MBDF				*e*		12 33 09.8	
MBDF	**Montbardon**	**8.92**	**12**	*e*P	**Pn**	**12 31 32.5**	**-0.1**
MBDF				*e*S	**Sn**	**12 33 09.8**	**-3.1**
MBDF	**Montbardon**	**8.92**	**12**	*e*Pn	**Pn**	**12 31 32.5**	**-0.1**
MBDF				*e*Sn	**Sn**	**12 33 09.8**	**-3.1**
ORIF	**Oris-en-Rattie**	**8.98**	**8**	*e*Pn	**Pn**	**12 31 33.7**	**+0.3**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**12 33 10.8**	**-3.5**
	178nm,1.1s,SNR=1.0						
ORIF				*e*R			
	16µm,23.0s						
ORIF	**Oris-en-Rattie**	**8.98**	**8**	P	**Pn**	**12 31 33.7**	**+0.3**
ORIF				S	**Sn**	**12 33 10.8**	**-3.5**
	89nm,1.1s						
ORIF	**Oris-en-Rattie**	**8.98**	**8**	*e*P	**Pn**	**12 31 33.7**	**+0.3**
ORIF				*e*		12 33 10.8	
ORIF	**Oris-en-Rattie**	**8.98**	**8**	*e*P	**Pn**	**12 31 33.7**	**+0.3**
ORIF				*e*S	**Sn**	**12 33 10.8**	**-3.5**
ORIF	**Oris-en-Rattie**	**8.98**	**8**	*e*Pn	**Pn**	**12 31 33.7**	**+0.3**
ORIF				*e*Sn	**Sn**	**12 33 10.8**	**-3.5**
EPLA	**Plasencia**	**8.99**	**300**	P	**Pn**	**12 31 33.9**	**+0.5**
	186nm,1.2s,SNR=33						
EPLA	**Plasencia**	**8.99**	**300**	P	**Pn**	**12 31 33.9**	**+0.5**
	186nm,1.2s,SNR=1.0						
CAF	**Calviac**	**9.02**	**351**	*e*Pn	**Pn**	**12 31 35.9**	**+2.0**
	SNR=1.0						
CAF	**Calviac**	**9.02**	**351**	P	**Pn**	**12 31 35.9**	**+2.0**
CAF	**Calviac**	**9.02**	**351**	*e*P	**Pn**	**12 31 35.9**	**+2.0**
CAF	**Calviac**	**9.02**	**351**	*e*P	**Pn**	**12 31 35.9**	**+2.0**
CAF	**Calviac**	**9.02**	**351**	*e*Pn	**Pn**	**12 31 35.9**	**+2.0**
KIB	**El Ksiba**	**9.07**	**251**	P	**Pn**	**12 31 35.0**	**+0.3**
KIB				S	**Sn**	**12 33 12.0**	**-4.6**
KIB	**El Ksiba**	**9.07**	**251**	P	**Pn**	**12 31 35.0**	**+0.3**
	SNR=1.0						
PBAR	**Barrancos**	**9.16**	**287

LPG La Plagne 9.67 11 *e*P **Pn** 12 31 43.3 +0.3
LPG *e* 12 33 27.7
LPG La Plagne 9.67 11 *e*P **Pn** 12 31 43.3 +0.3
LPG *e*S **Sn** 12 33 27.7 -3.7
LPG La Plagne 9.67 11 *e*Pn **Pn** 12 31 43.3 +0.3
LPG *e*Sn **Sn** 12 33 27.7 -3.7
CEL Celeste 9.67 73 *e*Pn **Pn** 12 31 44.6 +1.8
CEL Celeste 9.67 73 *e*Pn **Pn** 12 31 44.6 +1.8
LPL La Plagne 9.68 11 *e*Pn **Pn** 12 31 43.5 +0.4
SNR=1.0
LPL *e*Sn **Sn** **12 33 27.9 -3.8**
comp=Z,117nm,0.9s
LPL La Plagne 9.68 11 P **Pn** 12 31 43.5 +0.4
LPL S **Sn** **12 33 27.9 -3.8**
comp=Z,59nm,0.9s
LPL La Plagne 9.68 11 *e*P **Pn** 12 31 43.5 +0.4
LPL *e* 12 33 27.9
LPL La Plagne 9.68 11 *e*P **Pn** 12 31 43.5 +0.4
LPL *e*S **Sn** **12 33 27.9 -3.8**
LPL La Plagne 9.68 11 *e*Pn **Pn** 12 31 43.5 +0.4
LPL *e*Sn **Sn** **12 33 27.9 -3.8**
PMRV Marv??o 9.72 294 *e*Pn **Pn** 12 31 43.4 -0.1
PMRV A A 12 31 57.2
comp=Z,462nm,1.6s
PMRV *e*LR LR 12 33 32.4
PMRV *e*Sn **Sn** **12 33 35.4 +3.1**
PMRV *e*LQ LQ 12 35 08.9
PMRV A A 12 35 57.0
comp=Z,7µm,18.0s
PMRV Marv??o 9.72 294 P **Pn** 12 31 43.4 -0.1
PMRV S **Sn** **12 33 35.4 +3.1**
PMRV Marv??o 9.72 294 P **Pn** 12 31 43.4 -0.1
SNR=1.0
PESTR Estremoz 9.72 290 *e*Pn **Pn** 12 31 43.6 +0.1
PESTR A A 12 31 49.2
comp=Z,109nm,0.8s
PESTR *e*LR LR 12 33 40.7
PESTR A A 12 35 48.6
comp=Z,8µm,18.0s
PESTR Estremoz 9.72 290 Pn **Pn** 12 31 43.6 +0.1
comp=Z,8µm,18.0s,SNR=1.0
PYM Petit Puy Mans 9.75 355 P **Pn** 12 31 45.7 +1.8
PYM Petit Puy Mans 9.75 355 P **Pn** 12 31 45.7 +1.8
SNR=1.0
PBDV Barranco-do-Ve 9.75 281 *e*Pn **Pn** 12 31 43.3 -0.6
PBDV A A 12 31 46.4
comp=Z,159nm,1.4s
PBDV *e*Sn **Sn** **12 33 34.9 +1.7**
PBDV *e*LR LR 12 33 37.2
PBDV A A 12 36 04.7
comp=Z,7µm,18.0s
PBDV Barranco-do-Ve 9.75 281 P **Pn** 12 31 43.3 -0.6
PBDV S **Sn** **12 33 34.9 +1.7**
PBDV Barranco-do-Ve 9.75 281 P **Pn** 12 31 43.3 -0.6
SNR=1.0
PBDV S **Sn** **12 33 34.9 +1.7**
SNR=1.0
PCVE Castro Verde 9.87 283 *e*Pn **Pn** 12 31 44.0 -1.5
PCVE A A 12 31 53.6
comp=Z,29nm,1.0s
PCVE *e*Sn **Sn** **12 33 38.0 +2.0**
PCVE *e*LR LR 12 34 00.9
PCVE A A 12 36 00.8
comp=Z,27µm,20.0s
PCVE Castro Verde 9.87 283 P **Pn** 12 31 44.0 -1.5
PCVE S **Sn** **12 33 38.0 +2.0**
PCVE Castro Verde 9.87 283 P **Pn** 12 31 44.0 -1.5
SNR=1.0
PCVE S **Sn** **12 33 38.0 +2.0**
SNR=1.0
PCBR Castelo Branco 9.91 296 *e*Pn **Pn** 12 31 47.1 +1.1
PCBR A A 12 31 57.9
comp=Z,489nm,1.5s
PCBR Castelo Branco 9.91 296 P **Pn** 12 31 47.1 +1.1
PCBR Castelo Branco 9.91 296 P **Pn** 12 31 47.1 +1.1
SNR=1.0
PLDF La Plantade 9.94 358 P **Pn** 12 31 47.5 +1.0
PLDF La Plantade 9.94 358 P **Pn** 12 31 47.5 +1.0
SNR=1.0
EVO Evora 9.98 288 *e*Pn **Pn** 12 31 45.8 -1.2
EVO *e*Sn Sn 12 33 31.0 -7.6
comp=Z,155nm,0.8s
EVO *e*R
comp=Z,12µm,21.5s
EVO Evora 9.98 288 *e*Pn **Pn** 12 31 46.7 -0.3
EVO A A 12 31 56.4
comp=Z,139nm,1.9s
EVO Evora 9.98 288 P **Pn** 12 31 46.7 -0.3
EVO Evora 9.98 288 P **Pn** 12 31 46.7 -0.3
SNR=1.0
MESJ Messejana 10.03 284 *e*P **Pn** 12 31 47.7 -0.1
MESJ AMS AMS 12 35 58.7
comp=N,8µm,18.2s
MESJ Messejana 10.03 284 *e*Pn **Pn** 12 31 46.6 -1.1
MESJ A A 12 31 56.8
comp=N,152nm,1.3s
MESJ Messejana 10.03 284 P **Pn** 12 31 47.7 -0.1
MESJ Messejana 10.03 284 *e*P **Pn** 12 31 47.6 -0.1
MESJ Messejana 10.03 284 Pn **Pn** 12 31 46.6 -1.1
comp=N,152nm,1.3s,SNR=1.0
MESJ Messejana 10.03 284 *e*P **Pn** 12 31 47.6 -0.1
AGO Saint Águolin 10.04 356 P **Pn** 12 31 49.2 +1.4
AGO Saint Águolin 10.04 356 P **Pn** 12 31 49.2 +1.4
SNR=1.0
CUC Castrocucco 10.05 63 *e*Pn **Pn** 12 31 48.3 +0.3
CUC Castrocucco 10.05 63 *e*Pn **Pn** 12 31 48.3 +0.3
EVOP Sao Brissos 10.06 288 *e*P **Pn** 12 31 45.8 -2.3
EVOP Sao Brissos 10.06 288 *e*P **Pn** 12 31 45.8 -2.3
EVOP *e*Sn Sn 12 33 31.0 -10
EVOP Sao Brissos 10.06 288 *e*Pn **Pn** 12 31 45.8 -2.3
EVOP *e*Sn Sn 12 33 31.0 -10
MVO Moncorvo 10.11 304 *e*Pn **Pn** 12 31 49.4 +0.6
MVO A A 12 31 58.5
comp=N,280nm,0.9s
MVO *e*LR LR 12 33 47.8
MVO *e*LQ LQ 12 35 20.5
MVO A A 12 36 12.5
comp=N,12µm,16.0s
MVO Moncorvo 10.11 304 P **Pn** 12 31 50.1 +1.3
comp=N,138nm,1.0s,SNR=25
MVO S Sn 12 33 35.3 -6.7
comp=N,4.6nm,0.3s,SNR=7.9
MVO Moncorvo 10.11 304 Pn **Pn** 12 31 49.4 +0.6
comp=N,12µm,16.0s,SNR=1.0
MVO Moncorvo 10.11 304 P **Pn** 12 31 50.1 +1.3
comp=N,138nm,1.0s,SNR=1.0
EARI Arriondas 10.21 318 P **Pn** 12 31 52.2 +2.0
comp=N,464nm,0.8s,SNR=55
EARI S Sn 12 33 37.6 -6.7
comp=N,5.2nm,0.5s,SNR=7.9
EARI Arriondas 10.21 318 P **Pn** 12 31 52.2 +2.0
comp=N,464nm,0.8s,SNR=1.0
PBRG Braganca 10.23 308 *e*Pn **Pn** 12 31 50.9 +0.5
PBRG A A 12 31 54.2
comp=N,85nm,0.9s
PBRG *e*LR LR 12 34 08.7
PBRG A A 12 36 25.9
comp=N,13µm,18.0s
PBRG Braganca 10.23 308 P **Pn** 12 31 50.9 +0.5
PBRG Braganca 10.23 308 P **Pn** 12 31 50.9 +0.5
PMTG Montargil 10.25 291 *e*Pn **Pn** 12 31 49.6 -1.1
PMTG A A 12 31 56.3
comp=N,92nm,1.6s
PMTG *e*LR LR 12 33 53.7
PMTG A A 12 36 04.9
comp=N,7µm,16.0s
PMTG Montargil 10.25 291 Pn **Pn** 12 31 49.6 -1.1
comp=N,7µm,16.0s,SNR=1.0
ECAL Calabor 10.30 308 P **Pn** 12 31 51.8 +0.4
comp=N,140nm,0.8s,SNR=36
ECAL Calabor 10.30 308 P **Pn** 12 31 51.8 +0.4
comp=N,140nm,0.8s,SNR=36
PNCL Nicolau / Gran 10.31 285 *e*Pn **Pn** 12 31 50.3 -1.2
PNCL A A 12 31 53.5
comp=N,70nm,1.0s
PNCL *e*Sn **Sn** **12 33 48.9 +2.1**
PNCL *e*LR LR 12 33 51.8
PNCL A A 12 36 18.2
comp=N,10µm,20.0s
PNCL Nicolau / Gran 10.31 285 Pn **Pn** 12 31 50.3 -1.2
comp=N,70nm,1.0s,SNR=1.0
PNCL Sn **Sn** **12 33 48.9 +2.1**
comp=N,10µm,20.0s,SNR=1.0
MORF Marmelete 10.33 281 *e*P **Pn** 12 31 51.7 -0.2
MORF AMS AMS 12 35 56.2
comp=N,10µm,17.1s
MORF Marmelete 10.33 281 *e*Pn **Pn** 12 31 50.8 -1.0
MORF A A 12 31 54.1
comp=N,171nm,1.5s
MORF *e*LR LR 12 33 42.8
MORF A A 12 36 31.4
comp=N,7µm,18.0s
MORF Marmelete 10.33 281 P **Pn** 12 31 51.7 -0.2
MORF Marmelete 10.33 281 *e*P **Pn** 12 31 51.6 -0.2
MORF Marmelete 10.33 281 Pn **Pn** 12 31 50.8 -1.0
comp=N,7µm,18.0s,SNR=1.0
MORF Marmelete 10.33 281 *e*P **Pn** 12 31 51.6 -0.2
TCF Toulx Ste Croi 10.35 353 *e*Pn **Pn** 12 31 53.6 +1.6
SNR=1.0
TCF Toulx Ste Croi 10.35 353 P **Pn** 12 31 53.6 +1.6
TCF Toulx Ste Croi 10.35 353 *e*P **Pn** 12 31 53.6 +1.6
TCF Toulx Ste Croi 10.35 353 *e*P **Pn** 12 31 53.6 +1.6
TCF Toulx Ste Croi 10.35 353 *e*Pn **Pn** 12 31 53.6 +1.6
PTEO Sao Teotonio 10.40 282 *e*Pn **Pn** 12 31 52.0 -0.8
PTEO A A 12 31 54.8
comp=N,141nm,1.3s
PTEO Sao Teotonio 10.40 282 P **Pn** 12 31 52.0 -0.8
PTEO Sao Teotonio 10.40 282 P **Pn** 12 31 52.0 -0.8
SNR=1.0
PFVI Vila Bisbo 10.46 280 *e*Pn **Pn** 12 31 52.7 -0.9
PFVI A A 12 32 02.9
comp=N,221nm,1.2s
PFVI *e*LR LR 12 33 40.4
PFVI A A 12 36 36.7
comp=N,8µm,18.0s
PFVI Vila Bisbo 10.46 280 ⇓P **Pn** 12 31 53.0 -0.6
comp=N,98nm,0.9s,SNR=18
PFVI S **Sn** **12 33 46.9 -3.6**
comp=N,7.6nm,0.4s,SNR=7.9
PFVI Vila Bisbo 10.46 280 Pn **Pn** 12 31 52.7 -0.9
comp=N,8µm,18.0s,SNR=1.0
PFVI Vila Bisbo 10.46 280 P **Pn** 12 31 53.0 -0.6
comp=N,98nm,0.9s,SNR=1.0
PVIS Viseu 10.52 300 *e*Pn **Pn** 12 31 54.5 +0.1
PVIS A A 12 32 03.8
comp=N,144nm,0.9s
PVIS Viseu 10.52 300 P **Pn** 12 31 54.5 +0.1
PVIS Viseu 10.52 300 P **Pn** 12 31 54.5 +0.1
SNR=1.0
TIP Timpagrande 10.52 69 *e*Pn **Pn** 12 31 57.0 +2.6
TIP Timpagrande 10.52 69 *e*Pn **Pn** 12 31 57.0 +2.6
PTOM Tomar 10.53 294 *e*Pn **Pn** 12 31 54.5 0.0
PTOM A A 12 32 05.8
comp=N,186nm,1.6s
PTOM Tomar 10.53 294 P **Pn** 12 31 54.5 0.0
PTOM Tomar 10.53 294 P **Pn** 12 31 54.5 0.0
SNR=1.0
SENIN Lac Senin/Sane 10.60 12 *e*Pn **Pn** 12 31 57.1 +1.4
SENIN Lac Senin/Sane 10.60 12 *e*Pn **Pn** 12 31 57.1 +1.4
SMF Signal de Mont 10.61 359 *e*Pn **Pn** 12 31 56.1 +0.5
SNR=1.0
SMF *e*Sn **Sn** **12 33 49.6 -4.5**
comp=N,103nm,0.9s
SMF Signal de Mont 10.61 359 P **Pn** 12 31 56.1 +0.5
SMF S **Sn** **12 33 49.6 -4.5**
comp=N,51nm,0.9s
SMF Signal de Mont 10.61 359 *e*P **Pn** 12 31 56.1 +0.5
SMF *e* 12 33 49.6
SMF Signal de Mont 10.61 359 *e*P **Pn** 12 31 56.1 +0.5
SMF *e*S **Sn** **12 33 49.6 -4.5**
SMF Signal de Mont 10.61 359 *e*Pn **Pn** 12 31 56.1 +0.5
SMF *e*Sn **Sn** **12 33 49.6 -4.5**
PVRL Vila Real 10.62 303 *e*Pn **Pn** 12 31 56.7 +0.9
PVRL A A 12 32 08.9
comp=N,138nm,1.2s
PVRL Vila Real 10.62 303 P **Pn** 12 31 56.7 +0.9
PVRL Vila Real 10.62 303 P **Pn** 12 31 56.7 +0.9
SNR=1.0
PACT Alcochete 10.65 289 *e*Pn **Pn** 12 31 56.7 +0.5
PACT A A 12 32 06.4
comp=N,510nm,1.4s
PACT Alcochete 10.65 289 Pn **Pn** 12 31 56.7 +0.5
comp=N,510nm,1.4s,SNR=1.0
CABF La Chapelle 10.68 7 *e*Pn **Pn** 12 31 56.5 -0.1
SNR=1.0
CABF *e*Sn **Sn** **12 33 51.8 -4.0**
comp=N,226nm,1.2s
CABF La Chapelle 10.68 7 P **Pn** 12 31 56.5 -0.1
CABF S **Sn** **12 33 51.8 -4.0**
comp=N,113nm,1.2s
CABF La Chapelle 10.68 7 *e*P **Pn** 12 31 56.5 -0.1
CABF *e* 12 33 51.8
CABF La Chapelle 10.68 7 *e*P **Pn** 12 31 56.5 -0.1
CABF *e*S **Sn** **12 33 51.8 -4.0**
CABF La Chapelle 10.68 7 *e*Pn **Pn** 12 31 56.5 -0.1
CABF *e*Sn **Sn** **12 33 51.8 -4.0**
POLO Lamas de Olo 10.72 303 *e*Pn **Pn** 12 31 56.8 -0.4
POLO A A 12 32 02.6
comp=N,46nm,0.9s
POLO *e*LR LR 12 33 59.0
POLO A A 12 36 30.0
comp=N,6µm,18.0s
POLO Lamas de Olo 10.72 303 *e*Pn **Pn** 12 31 56.8 -0.4
comp=N,6µm,18.0s
PCAS Casmilo, Conde 10.72 296 *e*Pn **Pn** 12 31 56.2 -1.0
PCAS A A 12 32 01.7
comp=N,166nm,1.4s
PCAS *e*LR LR 12 33 50.1
PCAS A A 12 36 37.2
comp=N,9µm,16.0s
PCAS Casmilo, Conde 10.72 296 Pn **Pn** 12 31 56.2 -1.0
comp=N,9µm,16.0s,SNR=1.0
AVF Avril sur Loir 10.77 357 *e*Pn **Pn** 12 31 58.8 +1.1
SNR=1.0
AVF *e*Sn **Sn** **12 33 53.5 -4.4**
comp=N,90nm,1.0s
AVF Avril sur Loir 10.77 357 P **Pn** 12 31 58.8 +1.1
AVF S **Sn** **12 33 53.5 -4.4**
comp=N,45nm,1.0s
AVF Avril sur Loir 10.77 357 *e*P **Pn** 12 31 58.8 +1.1
AVF *e* 12 33 53.5
AVF Avril sur Loir 10.77 357 *e*P **Pn** 12 31 58.8 +1.1
AVF *e*S **Sn** **12 33 53.5 -4.4**
AVF Avril sur Loir 10.77 357 *e*Pn **Pn** 12 31 58.8 +1.1
AVF *e*Sn **Sn** **12 33 53.5 -4.4**
PMST Lisbon--Monsan 10.91 288 *e*Pn **Pn** 12 31 59.7 -0.1
PMST A A 12 32 02.1
comp=N,201nm,0.9s
PMST Lisbon--Monsan 10.91 288 Pn **Pn** 12 31 59.7 -0.1
comp=N,201nm,0.9s,SNR=1.0
PCAB Cabril 11.03 305 *e*Pn **Pn** 12 32 02.3 +1.0
PCAB A A 12 32 13.2
comp=N,153nm,1.4s
PCAB Cabril 11.03 305 P **Pn** 12 32 02.3 +1.0
PCAB Cabril 11.03 305 P **Pn** 12 32 02.3 +1.0
PMAFR Mafra 11.03 289 *e*Pn **Pn** 12 32 01.4 0.0
PMAFR A A 12 32 08.2
comp=N,199nm,1.0s
PMAFR *e*LR LR 12 34 08.4
PMAFR A A 12 36 29.9
comp=N,6µm,16.0s
PMAFR Mafra 11.03 289 P **Pn** 12 32 02.6 +1.2
comp=N,104nm,0.7s,SNR=5.7
PMAFR Mafra 11.03 289 Pn **Pn** 12 32 01.4 0.0
comp=N,6µm,16.0s,SNR=1.0
PMAFR Mafra 11.03 289 P **Pn** 12 32 02.6 +1.2
comp=N,104nm,0.7s,SNR=1.0
SSF Saint Saulge 11.03 358 *e*Pn **Pn** 12 32 02.3 +0.9
SSF Saint Saulge 11.03 358 P **Pn** 12 32 02.3 +0.9
SSF Saint Saulge 11.03 358 *e*P **Pn** 12 32 02.3 +0.9
SSF Saint Saulge 11.03 358 *e*P **Pn** 12 32 02.3 +0.9
SSF Saint Saulge 11.03 358 *e*Pn **Pn** 12 32 02.3 +0.9
MFF Saint Martin d 11.03 345 *e*Pn **Pn** 12 32 02.9 +1.5
SNR=1.0
MFF Saint Martin d 11.03 345 P **Pn** 12 32 02.9 +1.5
MFF Saint Martin d 11.03 345 *e*P **Pn** 12 32 02.9 +1.5
MFF Saint Martin d 11.03 345 *e*Pn **Pn** 12 32 02.9 +1.5
ELOB Lobios 11.12 305 P **Pn** 12 32 03.6 +0.9
comp=N,26nm,0.7s,SNR=16
ELOB S Sn 12 33 57.9 -8.9
comp=N,4.3nm,0.5s,SNR=7.9
ELOB Lobios 11.12 305 P **Pn** 12 32 03.6 +0.9
comp=N,26nm,0.7s,SNR=16
TUE Stuetta 11.15 19 *e*Pn **Pn** 12 32 04.0 +0.8
TUE Stuetta 11.15 19 *e*Pn **Pn** 12 32 04.0 +0.8
LOR Lormes 11.23 359 *e*Pn **Pn** 12 32 05.3 +1.2
baz=179,SNR=1.0
LOR *e*R
comp=N,7µm,27.2s
LOR Lormes 11.23 359 P **Pn** 12 32 05.3 +1.2
LOR Lormes 11.23 359 *e*P **Pn** 12 32 05.3 +1.2
LOR Lormes 11.23 359 *e*P **Pn** 12 32 05.3 +1.2
LOR Lormes 11.23 359 *e*Pn **Pn** 12 32 05.3 +1.2
HYF Humbligny 11.28 355 *e*Pn **Pn** 12 32 04.3 -0.5
HYF Humbligny 11.28 355 P **Pn** 12 32 04.3 -0.5
HYF Humbligny 11.28 355 *e*Pn **Pn** 12 32 04.3 -0.5
HYF Humbligny 11.28 355 *e*Pn **Pn** 12 32 04.3 -0.5
PGAV Gavieira, Arco 11.30 305 *e*Pn **Pn** 12 32 05.5 +0.3
PGAV A A 12 32 17.2
comp=N,180nm,0.9s
PGAV *e*LR LR 12 34 16.1
PGAV *e*LQ LQ 12 35 42.3
PGAV A A 12 36 58.4
comp=N,12µm,18.0s
PGAV Gavieira, Arco 11.30 305 *e*Pn **Pn** 12 32 05.5 +0.3
comp=N,12µm,18.0s
EPON Pontenova 11.32 313 P **Pn** 12 32 07.3 +1.9
comp=N,56nm,0.8s,SNR=8.1
EPON S **Sn** **12 34 06.1 -5.4**
comp=N,4.8nm,0.5s,SNR=7.9
EPON Pontenova 11.32 313 P **Pn** 12 32 07.3 +1.9
comp=N,56nm,0.8s,SNR=1.0
FUORN Ofenpass-Fuorn 11.54 22 *e*Pn Pn 12 32 12.7 +4.1
FUORN Ofenpass-Fuorn 11.54 22 *e*Pn **Pn** 12 32 12.7 +4.1
DAVOX Davos/Dischmat 11.58 20 Pn **Pn** **12 32 07.8 -1.2**
comp=N,0.9nm,0.3s,baz=196,slow=19,SNR=7.5
DAVOX LR LR 12 36 23.4
comp=N,11µm,19.0s,baz=210,slow=37
DAVOX Davos/Dischmat 11.58 20 P **Pn** **12 32 07.8 -1.2**
DAVOX pmax pmax
comp=Z,1.0nm,0.3s
DAVOX MLR MLR
comp=Z,11µm,19.0s
STS Santiago 11.93 309 P **Pn** 12 32 16.1 +2.4
comp=Z,53nm,0.7s,SNR=7.5
STS Santiago 11.93 309 P **Pn** 12 32 16.1 +2.4
comp=Z,53nm,0.7s,SNR=1.0
DAVA Damuels 12.04 19 *i* P P 12 32 21.9 -6.3
comp=Z,34nm,1.1s,SNR=8.3
FETA Feichten 12.04 22⇓ *i*P Pn 12 32 19.2 +3.8
comp=Z,70nm,1.1s,SNR=12
HAU Haudompre 12.08 7 *e*Pn **Pn** 12 32 15.6 -0.2
SNR=1.0
HAU *e*R
comp=Z,4µm,14.2s
HAU Haudompre 12.08 7 P **Pn** 12 32 15.6 -0.2
HAU Haudompre 12.08 7 *e*P **Pn** 12 32 15.6 -0.2
HAU Haudompre 12.08 7 *e*P **Pn** 12 32 15.6 -0.2
HAU Haudompre 12.08 7 *e*Pn **Pn** 12 32 15.6 -0.2
SKDS Skadanscina 12.10 35 *e*P Pn 12 32 20.6 +4.5
SFTF Sexfontaines 12.19 3 *e*Pn **Pn** **12 32 17.4 +0.2**
baz=164
SFTF Sexfontaines 12.19 3 P **Pn** 12 32 17.4 +0.2
SFTF Sexfontaines 12.19 3 *e*Pn **Pn** 12 32 17.4 +0.2
SFTF Sexfontaines 12.19 3 *e*Pn **Pn** 12 32 17.4 +0.2
EMAZ Mazaricos 12.23 308 P **Pn** 12 32 20.2 +2.3
comp=Z,36nm,0.6s,SNR=6.2
EMAZ S Sn 12 34 23.9 -10
comp=Z,2.0nm,0.2s,SNR=7.9
EMAZ Mazaricos 12.23 308 P **Pn** 12 32 20.2 +2.3
comp=Z,36nm,0.6s,SNR=1.0
ECH Echery 12.38 10 *e*P **Pn** 12 32 19.7 -0.2
ECH *e* 12 34 36.8
ECH pmax pmax
comp=Z,78nm,1.1s
ECH Echery 12.38 10 *e*P **Pn** 12 32 19.7 -0.2
comp=Z,78nm,1.1s
ECH *e*S **Sn** **12 34 36.8 -0.8**
ECH Echery 12.38 10 *e*Pn **Pn** 12 32 19.7 -0.2
comp=Z,78nm,1.1s
ECH *e*Sn **Sn** **12 34 36.8 -0.8**
ABTA Abfaltersbach 12.42 28⇑ *i*P Pn 12 32 25.2 +4.7
comp=Z,75nm,1.0s,SNR=24
MOTA Moosalm 12.45 23⇑ *i*P Pn 12 32 24.1 +3.2
comp=Z,50nm,0.8s,SNR=11
RETA Reutte 12.47 21⇑ *i*P Pn 12 32 24.5 +3.3
comp=Z,121nm,1.6s,SNR=9.3
MEZF Maizieres J'vi 12.48 3 *e*Pn **Pn** **12 32 20.9 -0.3**
baz=181
MEZF Maizieres J'vi 12.48 3 P **Pn** 12 32 20.9 -0.3
MEZF Maizieres J'vi 12.48 3 *e*Pn **Pn** 12 32 20.9 -0.3
MEZF Maizieres J'vi 12.48 3 *e*Pn **Pn** 12 32 20.9 -0.3
WTTA Wattenberg 12.55 24⇑ *i*P Pn 12 32 27.0 +4.7
comp=Z,74nm,0.9s,SNR=16
PAGF Fort de Pagny 12.57 5 *e*Pn **Pn** **12 32 22.5 +0.1**
baz=184
PAGF Fort de Pagny 12.57 5 *e*Pn **Pn** 12 32 22.5 +0.1
PAGF Fort de Pagny 12.57 5 *e*Pn **Pn** 12 32 22.5 +0.1
WATA Walderalm 12.59 24⇓ *i*P Pn 12 32 26.6 +3.7
comp=Z,66nm,1.0s
CDF Champ du Feu 12.59 10 *e*Pn **Pn** 12 32 22.0 -0.8
CDF Champ du Feu 12.59 10 P **Pn** 12 32 22.0 -0.8
CDF Champ du Feu 12.59 10 *e*P **Pn** 12 32 22.0 -0.8
CDF Champ du Feu 12.59 10 *e*P **Pn** 12 32 22.0 -0.8
CDF Champ du Feu 12.59 10 *e*Pn **Pn** 12 32 22.0 -0.8
BOJS Bojanci 12.67 38 *e*P **Pn** 12 32 26.3 +2.5
BOJS *e*S Sn 12 35 15.3 +31
BOJS Bojanci 12.67 38 P **Pn** **12 32 26.3 +2.5**
SNR=1.0
BFO Black Forest 12.68 13 *e*P **Pn** 12 32 24.5 +0.6
BFO Black Forest 12.68 13*c*e*P **Pn** 12 32 26.6 +2.7
BFO Black Forest 12.68 13 *e*Pn **Pn** 12 32 24.7 +0.8
BFO Black Forest 12.68 13 *e*Pn **Pn** 12 32 24.7 +0.8
VISS Visnje 12.68 36 *e*P **Pn** 12 32 26.9 +2.9
VISS Visnje 12.68 36 P **Pn** 12 32 26.9 +2.9
SNR=1.0
MYKA Terra Mystica 12.77 31⇑ *i*Pn **Pn** 12 32 26.4 +1.2
comp=Z,46nm,1.1s
MYKA Terra Mystica 12.77 31 P **Pn** 12 32 26.4 +1.2
comp=Z,46nm,1.1s,SNR=1.0
GRR Gorron 12.88 345 *e*Pn **Pn** 12 32 28.0 +1.4
SNR=1.0
GRR *e*Sn Sn 12 34 43.2 -6.5
comp=Z,174nm,1.4s
GRR Gorron 12.88 345 P **Pn** 12 32 28.0 +1.4
GRR S Sn 12 34 43.2 -6.5
comp=Z,87nm,1.4s
GRR Gorron 12.88 345 *e*P **Pn** 12 32 28.0 +1.4
GRR *e* 12 34 43.2
GRR Gorron 12.88 345 *e*P **Pn** 12 32 28.0 +1.4
GRR *e*S Sn 12 34 43.2 -6.5
GRR Gorron 12.88 345 *e*Pn **Pn** 12 32 28.0 +1.4
GRR *e*Sn Sn 12 34 43.2 -6.5
KEK Kerkira 12.93 69 P **Pn** 12 32 28.3 +0.9
KEK Kerkira 12.93 69 P **Pn** 12 32 28.3 +0.9
SNR=1.0
LDF La Druitiere 12.94 347 *e*Pn **Pn** 12 32 28.8 +1.4
LDF La Druitiere 12.94 347 *e*P **Pn** 12 32 28.8 +1.4
LDF La Druitiere 12.94 347 *e*P **Pn** 12 32 28.8 +1.4
LDF La Druitiere 12.94 347 *e*Pn **Pn** 12 32 28.8 +1.4
KBA Koelnbreinsper 13.02 29 *i* P Pn 12 32 33.0 +4.4
comp=Z,94nm,1.2s,SNR=16
QUIF Quistinic 13.04 338 *e*Pn **Pn** 12 32 29.5 +0.7
SNR=1.0
QUIF Quistinic 13.04 338 P **Pn** 12 32 29.5 +0.7
QUIF Quistinic 13.04 338 *e*P **Pn** 12 32 29.5 +0.7
QUIF Quistinic 13.04 338 *e*P **Pn** 12 32 29.5 +0.7
QUIF Quistinic 13.04 338 *e*Pn **Pn** 12 32 29.5 +0.7
OBKA Obir 13.07 34⇑ *i*P **Pn** 12 32 32.5 +3.1
comp=Z,55nm,1.5s,SNR=10.0
OBKA Obir 13.07 34 P **Pn** 12 32 32.5 +3.1
comp=Z,55nm,1.5s,SNR=10.0
SRN Sarande 13.12 68 P **Pn** 12 32 30.7 +0.8
SRN Sarande 13.12 68 P **Pn** 12 32 30.7 +0.8
SNR=1.0
FLN La Foliniere 13.16 347 *e*Pn **Pn** 12 32 32.3 +1.8
baz=164,SNR=1.0
FLN *e*R
comp=Z,8µm,15.8s
FLN La Foliniere 13.16 347 P **Pn** 12 32 32.3 +1.8
FLN La Foliniere 13.16 347 *e*P **Pn** 12 32 32.3 +1.8
FLN La Foliniere 13.16 347 *e*P **Pn** 12 32 32.3 +1.8
FLN La Foliniere 13.16 347 *e*Pn **Pn** 12 32 32.3 +1.8
SGMF Saint Gilles 13.17 340 *e*Pn **Pn** 12 32 31.9 +1.3
SNR=1.0
SGMF Saint Gilles 13.17 340 P **Pn** 12 32 31.9 +1.3
SGMF Saint Gilles 13.17 340 *e*P **Pn** 12 32 31.9 +1.3
SGMF Saint Gilles 13.17 340 *e*P **Pn** 12 32 31.9 +1.3
SGMF Saint Gilles 13.17 340 *e*Pn **Pn** 12 32 31.9 +1.3
TAM Tamanrasset 13.25 174 *e*P Pn 12 32 28.1 -3.8
TAM *e* 12 35 00.2
TAM Tamanrasset 13.25 174 *e*P Pn 12 32 28.1 -3.8
TAM *e*S **Sn** **12 35 00.2 +1.1**

TAM	**Tamanrasset**	13.25	174	*e*Pn		Pn	12 32 28.1	-3.8	
TAM				*e*Sn		**Sn**	**12 35 00.2**	**+1.1**	
IGT	**Igoumenitsa**	13.30	70	P		**P**	**12 32 41.2**	**-0.9**	
VLS	**Valsamata**	13.33	76	P		**Pn**	**12 32 33.0**	**+0.1**	
VLS	**Valsamata**	13.33	76	P		**Pn**	**12 32 33.0**	**+0.1**	
	SNR=1.0								
RJOB	**Jochberg**	13.36	26	*e*P		Pn	12 32 37.2	+4.0	
RJOB	**Jochberg**	13.36	26	*e*P		Pn	12 32 37.2	+4.0	
PDG	**Podgorica**	13.36	57	P		**Pn**	**12 32 35.7**	**+2.5**	
PDG	**Podgorica**	13.36	57	P		**Pn**	**12 32 35.7**	**+2.5**	
	SNR=1.0								
TIR	**Tirane**	13.40	62	*e*P		**Pn**	**12 32 32.5**	**-1.3**	
TIR				pmax		pmax			
	comp=Z,91nm,0.7s								
TIR	**Tirane**	13.40	62	*e*P		**Pn**	**12 32 32.5**	**-1.3**	
	comp=Z,91nm,0.7s								
TIR	**Tirane**	13.40	62	*e*Pn		**Pn**	**12 32 32.5**	**-1.3**	
	comp=Z,91nm,0.7s								
SOKA	**Soboth**	13.42	34	*i* P		**Pn**	**12 32 37.1**	**+3.0**	
	comp=Z,38nm,1.1s,SNR=17								
SOKA	**Soboth**	13.42	34	P		**Pn**	**12 32 37.1**	**+3.0**	
	comp=Z,38nm,1.1s,SNR=1.0								
PERS	**Pernice**	13.43	35	*e*P		Pn	12 32 36.6	+2.4	
PERS	**Pernice**	13.43	35	P		Pn	12 32 36.6	+2.4	
	SNR=1.0								
ROSF	**Rostrenen**	13.45	338	*e*Pn		**Pn**	**12 32 35.1**	**+0.7**	
	SNR=1.0								
ROSF	**Rostrenen**	13.45	338	P		**Pn**	**12 32 35.1**	**+0.7**	
ROSF	**Rostrenen**	13.45	338	*e*P		**Pn**	**12 32 35.1**	**+0.7**	
ROSF	**Rostrenen**	13.45	338	*e*P		**Pn**	**12 32 35.1**	**+0.7**	
ROSF	**Rostrenen**	13.45	338	*e*Pn		**Pn**	**12 32 35.1**	**+0.7**	
KFL	**Anninata**	13.48	76	P		**Pn**	**12 32 37.5**	**+2.6**	
KFL	**Anninata**	13.48	76	P		**Pn**	**12 32 37.5**	**+2.6**	
	SNR=1.0								
WLF	**Walferdange**	13.71	6	P		**Pn**	**12 32 39.5**	**+1.6**	
	comp=Z,62nm,1.4s								
WLF	**Walferdange**	13.71	6	*e*P		Pn	12 32 39.7	+1.8	
WLF	**Walferdange**	13.71	6	*e*P		Pn	12 32 39.7	+1.8	
WLF	**Walferdange**	13.71	6	*e*Pn		Pn	12 32 39.7	+1.8	
JAN	**Janina**	13.72	70	P		Pn	12 32 40.4	+2.3	
JAN	**Janina**	13.72	70	P		Pn	12 32 40.4	+2.3	
	SNR=1.0								
KNS	**Konitsa**	13.72	68	P		Pn	12 32 39.7	+1.4	
KNS	**Konitsa**	13.72	68	P		Pn	12 32 39.7	+1.4	
	SNR=1.0								
DSL	**Palaion Diasel**	13.83	72	P		Pn	12 32 41.1	+1.5	
DSL	**Palaion Diasel**	13.83	72	P		Pn	12 32 41.1	+1.5	
	SNR=1.0								
PDO	**Prodromos**	13.83	74	P		Pn	12 32 40.5	+0.8	
PDO	**Prodromos**	13.83	74	P		Pn	12 32 40.5	+0.8	
	SNR=1.0								
KBN	**Korca**	13.87	66	P		Pn	12 32 43.6	+3.3	
KBN	**Korca**	13.87	66	P		Pn	12 32 43.6	+3.3	
PHP	**Peshkopia**	13.92	61	P		Pn	12 32 44.7	+3.8	
JSA	**Saint Aubin**	13.93	343	*e*P		Pn	12 32 43.2	+2.3	
JSA					AMS	AMS	12 38 26.7		
	comp=Z,14µm,12.3s								
JSA	**Saint Aubin**	13.93	343	P		Pn	12 32 43.2	+2.3	
	SNR=1.0								
OHR	**Ohrid**	14.01	64	*i* P		Pn	12 32 44.8	+2.6	
OHR	**Ohrid**	14.01	64	P		Pn	12 32 44.7	+2.6	
	SNR=1.0								
MOA	**Molln**	14.01	29⇑	*i* P		Pn	12 32 45.5	+3.5	
	comp=Z,107nm,1.5s								
MOA	**Molln**	14.01	29	P		Pn	12 32 45.5	+3.5	
	comp=Z,107nm,1.5s								
RLS	**Riolos of Patr**	14.02	77	P		Pn	12 32 44.0	+1.8	
RLS	**Riolos of Patr**	14.02	77	P		Pn	12 32 44.0	+1.8	
	SNR=1.0								
NEST	**Nestorio**	14.02	67	P		Pn	12 32 44.1	+1.8	
NEST	**Nestorio**	14.02	67	P		Pn	12 32 44.1	+1.8	
	SNR=1.0								
BAIF	**Baives**	14.02	0	*e*Pn		Pn	12 32 42.7	+0.5	
BAIF	**Baives**	14.02	0	P		Pn	12 32 42.7	+0.5	
BAIF	**Baives**	14.02	0	*e*P		Pn	12 32 42.7	+0.5	
BAIF	**Baives**	14.02	0	*e*P		Pn	12 32 42.7	+0.5	
BAIF	**Baives**	14.02	0	*e*Pn		Pn	12 32 42.7	+0.5	
DOU	**Dourbes**	14.06	1	P		Pn	12 32 43.9	+1.1	
	comp=Z,57nm,1.0s								
DOU	**Dourbes**	14.06	1	P		Pn	12 32 43.9	+1.1	
	comp=Z,57nm,1.0s,SNR=1.0								
ARSA	**Arzberg**	14.07	34	*i* P		Pn	12 32 45.7	+2.8	
	comp=Z,146nm,1.3s,SNR=15								
ARSA	**Arzberg**	14.07	34	P		Pn	12 32 45.7	+2.8	
	comp=Z,146nm,1.3s,SNR=1.0								
GIVF	**Givet**	14.07	2	*e*Pn		Pn	12 32 43.6	+0.7	
GIVF	**Givet**	14.07	2	P		Pn	12 32 43.6	+0.7	
GIVF	**Givet**	14.07	2	*e*P		Pn	12 32 43.6	+0.7	
GIVF	**Givet**	14.07	2	*e*P		Pn	12 32 43.6	+0.7	
GIVF	**Givet**	14.07	2	*e*Pn		Pn	12 32 43.6	+0.7	
BBLS	**Lazići**	14.09	52	P		Pn	12 32 44.0	+0.7	
	SNR=1.0								
BEHE	**Becsehely**	14.11	38‖	*e*pPn		**P**	**12 32 50.9**	**-0.1**	
DRO	**Drossia**	14.20	77	P		Pn	12 32 46.9	+2.1	
PYL	**PYLOS**	14.22	81	P		Pn	12 32 46.4	+1.4	
FNA	**Florina**	14.34	65	P		Pn	12 32 48.7	+2.0	
EVR	**Evrytania**	14.35	73	P		Pn	12 32 48.7	+1.8	
ITM	**Ithomi**	14.36	80	P		Pn	12 32 48.5	+1.5	
BCLA	**Clavier**	14.41	3	P		Pn	12 32 49.6	+2.1	
	comp=Z,56nm,1.6s								
SNF	**Seneffe**	14.47	0	P		Pn	12 32 50.0	+1.7	
TNS	**Taunus Mts**	14.53	11	*e*P		Pn	12 32 51.6	+2.4	
TNS	**Taunus Mts**	14.53	11	*e*P		Pn	12 32 51.6	+2.4	
KZN	**Kozani**	14.53	68	P		Pn	12 32 51.5	+2.1	
KLV	**Kalavryta, Ach**	14.55	77	P		Pn	12 32 49.3	-0.3	
DIVS	**Divibare**	14.57	52	P		**P**	**12 32 53.7**	**-2.6**	
MENF	**Mencas**	14.59	355	P		Pn	12 32 50.4	+0.4	
MENF	**Mencas**	14.59	355	P		Pn	12 32 50.4	+0.4	
THL	**Klokotos Trika**	14.59	71	P		Pn	12 32 50.8	+0.8	
WET	**Wettzell**	14.60	23	*e*P		Pn	12 32 51.6	+1.5	
WET	**Wettzell**	14.60	23	*e*P		Pn	12 32 51.6	+1.5	
MAKR	**Makrakomi, Fth**	14.61	73	P		Pn	12 32 52.2	+1.8	
GEC2	**GERESS Array S**	14.62	26	*e*P		Pn	12 32 51.5	+1.0	
	comp=Z,398nm,2.3s								
GEC2	**GERESS Array S**	14.62	26	*e*P		Pn	12 32 51.5	+1.0	
	comp=Z,398nm,2.3s								
MEM	**Membach**	14.64	5	P		Pn	12 32 51.5	+0.9	
	comp=Z,35nm,1.1s								
MEM	**Membach**	14.64	5	*e*P		Pn	12 32 51.1	+0.4	
MEM	**Membach**	14.64	5	*e*Pn		Pn	12 32 51.0	+0.4	
MEM	**Membach**	14.64	5	*e*Pn		Pn	12 32 51.0	+0.4	
GUR	**Goura**	14.70	77	P		Pn	12 32 52.6	+0.9	
SKO	**Skopje**	14.72	61	P		Pn	12 32 54.1	+2.3	
SKO	**Skopje**	14.72	61	*i* P		Pn	12 32 54.2	+2.4	
SKO	**Skopje**	14.72	61	*i* P		Pn	12 32 54.2	+2.4	
VLX	**Vlachokerasia**	14.72	79	P		Pn	12 32 53.3	+1.3	
CONA	**Conrad Observa**	14.73	33⇑	*i*Pn		Pn	12 32 53.3	+1.2	
	comp=Z,62nm,1.2s,SNR=40								
CONA	**Conrad Observa**	14.73	33	Pn		Pn	12 32 53.3	+1.2	
	comp=Z,62nm,1.2s,SNR=1.0								
UCC	**Uccle**	14.76	1	*e*P		**P**	**12 32 56.1**	**-2.2**	
UCC	**Uccle**	14.76	1	*e*Pn		**P**	**12 32 56.1**	**-2.2**	
UCC	**Uccle**	14.76	1	*e*Pn		**P**	**12 32 56.1**	**-2.2**	
AGG	**Agios Georgios**	14.77	73	P		Pn	12 32 49.6	-2.9	
HGN	**Heimansgroeve**	14.79	5	*e*P		Pn	12 32 53.4	+0.8	
HGN				*e*L		L	12 36 46.1		
	comp=Z,2µm,30.4s								
BEBN	**Eben Emael**	14.80	4	P		Pn	12 32 54.4	+1.6	
	comp=Z,23nm,1.4s								
KHC	**Kasperske Hory**	14.82	25	*e*P		Pn	12 32 54.1	+1.0	
KHC				*e*pP		**P**	**12 33 00.9**	**+1.9**	
KHC				*ex*		x	12 37 40.0		
KHC					AMS	AMS	12 39 10.0		
	comp=Z,12µm,13.9s								
KHC	**Kasperske Hory**	14.82	25	*e*P		Pn	12 32 54.1	+1.0	
KHC					MLR	MLR			
	comp=Z,12µm,13.9s								
KHC	**Kasperske Hory**	14.82	25	*e*P		Pn	12 32 54.1	+1.0	
	comp=Z,12µm,13.9s								
SOP	**Sopron**	14.86	35⇑	*e*Pn		Pn	12 32 55.1	+1.4	
DSF	**Desfina**	14.87	75	P		Pn	12 32 54.7	+0.8	
PKSM	**Moragy**	14.92	43	*e*Pn		Pn	12 32 51.3	-3.2	
ROTZ	**Rotzenmuhle**	14.94	21	*e*P		Pn	12 32 54.2	-0.6	
ROTZ	**Rotzenmuhle**	14.94	21	*e*P		Pn	12 32 54.2	-0.6	
PKS9	**Tamasi**	14.96	41⇓	*e*Pn		Pn	12 32 57.2	+2.1	
AXAR	**Agios Charalam**	15.00	74	P		**P**	**12 32 58.8**	**-2.2**	
LIT	**Litokhoron**	15.04	69	P		Pn	12 32 57.0	+0.9	
GRG	**Griva**	15.14	66	P		Pn	12 32 54.1	-3.4	
VLI	**Veliai**	15.19	82	P		Pn	12 33 00.0	+1.9	
LTK	**Loutraki**	15.20	77	P		Pn	12 32 59.8	+1.5	
LKR	**Lokris**	15.26	74	P		Pn	12 32 59.6	+0.6	
ELSH	**Elham, Standar**	15.26	353	*e*P		**P**	**12 33 03.2**	**-0.6**	
ELSH					AMB	AMB	12 33 09.2		
	comp=Z,260nm,1.6s								
ELSH	**Elham, Standar**	15.26	353	P		**P**	**12 33 03.2**	**-0.6**	
	SNR=1.0								
VAY	**Valandovo**	15.35	64	P		Pn	12 33 01.4	+1.2	
VAY	**Valandovo**	15.35	64	*i* P		**P**	**12 33 04.7**	**-0.2**	
VAY	**Valandovo**	15.35	64	P		**P**	**12 33 04.6**	**-0.2**	
	SNR=1.0								
UBBA	**Unterbreizbach**	15.38	14	*e*P		**P**	**12 33 02.9**	**-2.1**	
UBBA	**Unterbreizbach**	15.38	14	*e*P		**P**	**12 33 02.9**	**-2.1**	
PKS2	**Kecel**	15.41	43	P		**P**	**12 33 03.7**	**-1.8**	
	SNR=1.0								
PKS2	**Kecel**	15.41	43	*e*Pn		**P**	**12 33 03.7**	**-1.8**	
NKC	**Novy Kostel**	15.43	20	*e*P		Pn	**12 33 03.2**	**+2.0**	
NKC					AMS	AMS	12 39 00.0		
	comp=Z,5µm,14.6s								
NKC	**Novy Kostel**	15.43	20	*e*P		Pn	**12 33 03.2**	**+2.0**	
NKC					MLR	MLR			
	comp=Z,5µm,14.6s								
NKC	**Novy Kostel**	15.43	20	*e*P		Pn	**12 33 03.2**	**+2.0**	
	comp=Z,5µm,14.6s								
SMIA	**Simia**	15.44	74	P		**P**	**12 33 05.8**	**-0.1**	
SMIA	**Simia**	15.44	74	P		**P**	**12 33 05.8**	**-0.1**	
	SNR=1.0								
CSKK	**Cs˙tkako**	15.46	39‖	*e*Pn		**P**	**12 33 04.0**	**-2.1**	
XOR	**Xorichti**	15.47	72	P		Pn	12 33 02.7	+0.9	
NEO	**Neokhori**	15.49	72	P		Pn	12 33 01.8	-0.3	
DYA	**Yadsworthy**	15.53	340	*e*P		Pn	12 33 04.3	+1.8	
DYA					AMB	AMB	12 33 10.8		
	comp=Z,78nm,2.5s								
DYA					AMS	AMS	12 39 18.7		
	comp=Z,9µm,15.4s								
DYA	**Yadsworthy**	15.53	340	*e*P		Pn	12 33 04.3	+1.8	
PKSG		15.55	39	P		**P**	**12 33 05.1**	**-1.9**	
	SNR=1.0								
PKSG		15.55	39‖	*e*Pn		**P**	**12 33 05.1**	**-1.9**	
PKSG			⇑	*e*Pn		Pn	12 33 05.7	+3.0	
ANKY	**Antikythira Is**	15.55	85	P		**P**	**12 33 06.9**	**-0.2**	
ANKY	**Antikythira Is**	15.55	85	P		**P**	**12 33 06.9**	**-0.2**	
	SNR=1.0								
KNT	**Kendrikon**	15.55	65	P		Pn	12 33 00.5	-2.4	
BUG	**Bochum--Univer**	15.57	7	*e*P		Pn	12 33 04.0	+1.0	
BUG	**Bochum--Univer**	15.57	7	*e*P		Pn	12 33 04.0	+1.0	
HORT	**Hortiatis**	15.59	67	P		Pn	12 33 04.3	+0.9	
TANN	**Tannenbergstha**	15.60	20	*e*P		**P**	**12 33 05.8**	**-1.8**	
TANN	**Tannenbergstha**	15.60	20	P		**P**	**12 33 05.8**	**-1.8**	
	SNR=1.0								
TREC	**Trest**	15.65	29		AMS	AMS	12 40 50.0		
	comp=Z,4µm,12.0s								
CCA1	**Carnmenellis**	15.69	337	*e*P		**P**	**12 33 06.7**	**-1.8**	
CCA1					AMB	AMB	12 33 13.5		
	comp=Z,148nm,1.6s								
CCA1	**Carnmenellis**	15.69	337	P		**P**	**12 33 06.7**	**-1.8**	
	SNR=1.0								
MRKA	**Markates**	15.72	74	P		Pn	12 33 05.0	0.0	
PLG	**Polygyros**	15.80	68	P		Pn	12 33 06.8	+0.6	
SOH	**Sokhos**	15.82	67	P		Pn	12 33 04.2	-2.2	
KRUC	**Moravsky**	15.83	31	Pn		Pn	12 33 06.6	+0.2	
	SNR=1.0								
ATHU	**Athens Univers**	15.84	77	P		Pn	12 33 07.4	+0.8	
KKB	**Krupnik**	15.86	63	*e*P		Pn	12 33 07.3	+0.4	
SMOL	**Smolenice**	15.87	34	*e*P		**P**	**12 33 14.8**	**+4.2**	
SMOL	**Smolenice**	15.87	34	*e*P		**P**	**12 33 14.8**	**+4.2**	
SMOL	**Smolenice**	15.87	34	*e*P		**P**	**12 33 14.8**	**+4.2**	
PRU	**Pruhonice**	15.88	25	*e*P		Pn	12 33 08.3	+1.3	
PRU				*ex*		x	12 33 16.2		
PRU				*e*S		**Sn**	**12 36 04.6**	**+2.0**	
PRU					AMS	AMS	12 41 00.0		
	comp=Z,6µm,11.9s								
PRU	**Pruhonice**	15.88	25	*e*P		Pn	12 33 08.3	+1.3	
PRU				*e*S		**Sn**	**12 36 04.6**	**+2.0**	
PRU					MLR	MLR			
	comp=Z,6µm,11.9s								
PRU	**Pruhonice**	15.88	25	*e*P		Pn	12 33 08.3	+1.3	
PRU				*e*S		**Sn**	**12 36 04.6**	**+2.0**	
	comp=Z,6µm,11.9s								
GOPC	**GO Pecny, Ondr**	15.90	26	*e*P		**P**	**12 33 09.5**	**-1.5**	
GOPC				*ex*		x	12 33 19.3		
GOPC					AMS	AMS	12 40 10.0		
	comp=Z,10µm,12.5s								
GOPC	**GO Pecny, Ondr**	15.90	26	P		**P**	**12 33 09.5**	**-1.5**	
	SNR=1.0								
PTL	**Penteli**	15.91	77	P		Pn	12 33 08.5	+1.0	
PRA	**Prague**	15.91	25		AMS	AMS	12 41 00.0		
	comp=Z,8µm,12.7s								
PAIG	**Paliouri**	15.91	70	P		Pn	12 33 05.9	-1.6	
BUD	**Budapest**	15.93	39⇑	*e*Pn		Pn	12 33 08.4	+0.7	
ZAPS	**Zavoj**	15.98	57	P		Pn	12 33 10.0	+1.6	
	SNR=1.0								
AOS	**Alonnisos**	15.98	73	P		Pn	12 33 08.0	-0.4	
WTSB	**Winterswijk**	16.05	6	*e*P		**P**	**12 33 12.0**	**-0.5**	
WTSB	**Winterswijk**	16.05	6	P		**P**	**12 33 12.0**	**-0.5**	
	SNR=1.0								
SRS	**Serrai**	16.05	66	P		Pn	12 33 07.3	-2.1	
SKP1	**Kophill**	16.08	349	*e*P		Pn	12 33 11.2	+1.6	
SKP1	**Kophill**	16.08	349	P		Pn	12 33 11.1	+1.6	
	SNR=1.0								
BATH	**Bath**	16.08	345	*e*P		**P**	**12 33 12.1**	**-0.8**	
BATH					AMS	AMS	12 39 55.3		
	comp=Z,8µm,12.6s								
BATH	**Bath**	16.08	345	P		**P**	**12 33 12.1**	**-0.8**	
	SNR=1.0								
KARN	**Karanos**	16.11	86	P		Pn	12 33 10.9	+0.8	
VRAC	**Vranov**	16.11	31	Pn		Pn	12 33 09.2	-0.8	
	comp=Z,0.4nm,0.3s,baz=219,slow=13,SNR=23								
VRAC					LR	LR	12 39 31.0		
	comp=Z,5µm,18.5s,baz=219,slow=38								
VRAC	**Vranov**	16.11	31⇑	*i*P		Pn	12 33 10.3	+0.3	
VTS	**Vitosha**	16.16	60	P		Pn	12 33 11.3	+0.5	
VTS	**Vitosha**	16.16	60⇑	*i*P		Pn	12 33 11.1	+0.3	
VTS	**Vitosha**	16.16	60	*e*P		Pn	12 33 09.9	-0.9	
HTL	**Hartland**	16.19	340	*e*P		**P**	**12 33 13.3**	**-0.7**	
HTL					AMS	AMS	12 39 31.8		
	comp=Z,9µm,15.6s								
HTL	**Hartland**	16.19	340	P		**P**	**12 33 13.3**	**-0.7**	
	SNR=1.0								
OUR	**Ouranopolis**	16.20	69	P		Pn	12 33 12.1	+0.9	
JAVC	**Velka Javorina**	16.23	34	Pn		**P**	**12 33 13.7**	**-1.0**	
	SNR=1.0								
MMB	**Musomiste**	16.26	64	‖	*i*P	Pn	12 33 13.1	+1.1	
MMB	**Musomiste**	16.26	64	*e*P		Pn	12 33 11.2	-0.8	
NVR	**Nevrokopi**	16.30	65	P		Pn	12 33 12.9	+0.3	
GVD	**Gavdhos**	16.33	88	P		**P**	**12 33 16.6**	**+0.8**	
GVD	**Gavdhos**	16.33	88	P		**P**	**12 33 16.6**	**+0.8**	
GVD	**Gavdhos**	16.33	88	*e*P		**P**	**12 33 16.7**	**+0.8**	
	comp=Z,1µm,1.6s								
PVCC	**Panska Ves**	16.35	24	*e*P		**P**	**12 33 15.6**	**-0.2**	
PVCC					AMS	AMS	12 39 30.0		
	comp=Z,7µm,14.5s								
PVCC	**Panska Ves**	16.35	24	*e*P		**P**	**12 33 15.6**	**-0.2**	
PVCC					MLR	MLR			
	comp=Z,7µm,14.5s								
PVCC	**Panska Ves**	16.35	24	*e*P		**P**	**12 33 15.6**	**-0.2**	
	comp=Z,7µm,14.5s								
STRD	**Stroud**	16.37	346	*e*P		**P**	**12 33 15.5**	**-0.6**	
STRD					AMB	AMB	12 33 22.4		
	comp=Z,276nm,1.2s								
STRD					AMS	AMS	12 39 39.7		
	comp=Z,8µm,13.9s								
STRD	**Stroud**	16.37	346	P		**P**	**12 33 15.5**	**-0.6**	
	SNR=1.0								
EFAM	**Famara**	16.37	250	P		Pn	12 33 13.3	-0.1	
	comp=Z,333nm,1.9s,SNR=4.0								
BRG	**Berggiesshubel**	16.44	22	*e*P		**P**	**12 33 16.6**	**-0.3**	
	comp=Z,70nm,1.6s								
BRG				S		Sn	12 36 08.0	-8.3	
	comp=N,4µm,11.6s								
	comp=E,10µm,11.9s								
	comp=Z,9µm,12.1s								
BRG	**Berggiesshubel**	16.44	22	*e*P		**P**	**12 33 16.6**	**-0.3**	
BRG	**Berggiesshubel**	16.44	22	*e*P		**P**	**12 33 16.6**	**-0.3**	
BRG				S		Sn	12 36 08.0	-8.3	
BRG					pmax	pmax			
	comp=Z,70nm,1.6s								
BRG					MLR	MLR			
	comp=N,4µm,11.6s								
BRG					MLR	MLR			
	comp=E,10µm,11.9s								
BRG					MLR	MLR			
	comp=Z,9µm,12.1s								
BRG	**Berggiesshubel**	16.44	22	*e*P		**P**	**12 33 16.6**	**-0.3**	
	comp=Z,70nm,1.6s								
BRG				S		Sn	12 36 08.0	-8.3	
	comp=Z,9µm,12.1s								
IBBN	**Ibbenburen**	16.48	8	*e*P		**P**	**12 33 19.6**	**+2.3**	
IBBN	**Ibbenburen**	16.48	8	P		**P**	**12 33 19.6**	**+2.3**	
	SNR=1.0								
SSW	**Stow on the Wo**	16.49	347	*e*P		**P**	**12 33 16.7**	**-0.7**	
SSW	**Stow on the Wo**	16.49	347	P		**P**	**12 33 16.7**	**-0.7**	
	SNR=1.0								
VYHS	**Vyhne**	16.52	37	*e*P		**P**	**12 33 17.5**	**-0.3**	
VYHS	**Vyhne**	16.52	37	*e*P		**P**	**12 33 17.5**	**-0.3**	
VYHS	**Vyhne**	16.52	37	*e*PN		**P**	**12 33 17.5**	**-0.3**	
CLL	**Collm**	16.55	20	*e*P		**P**	**12 33 18.7**	**+0.6**	
CLL	**Collm**	16.55	20	*e*P		**P**	**12 33 17.0**	**-1.1**	
CLL				*e*(sP)		**sP**	**12 33 20.0**	**-4.4**	
	comp=Z,166nm,2.0s								
CLL				*e*PP		**PnPn**	**12 33 29.0**	**+4.2**	
CLL				*e*			12 33 36.0		
CLL				*e*(S)		**S**	**12 36 31.0**	**+0.4**	
CLL				Lm		MLR	12 39 00.0		
	comp=Z,5µm,18.5s								
CLL				Lmax			12 41 00.0		
CLL	**Collm**	16.55	20	*e*P		**P**	**12 33 17.0**	**-1.1**	
CLL					MLR	MLR			
	comp=Z,5µm,18.5s								
CLL	**Collm**	16.55	20	*e*P		**P**	**12 33 18.7**	**+0.6**	
CLL	**Collm**	16.55	20	*e*Pn		**P**	**12 33 19.0**	**+0.9**	
	comp=Z,171nm,1.5s								
CLL	**Collm**	16.55	20	*e*Pn		**P**	**12 33 19.0**	**+0.9**	
	comp=Z,171nm,1.5s								
MONM	**Monmouth**	16.56	345	*e*P		**P**	**12 33 18.5**	**+0.4**	
MONM					AMB	AMB	12 33 25.8		
	comp=Z,224nm,2.0s								
MONM					AMS	AMS	12 40 11.0		
	comp=Z,8µm,12.5s								
MONM	**Monmouth**	16.56	345	P		**P**	**12 33 18.5**	**+0.4**	
	SNR=1.0								
PSZ	**Piszkesteto**	16.66	40	*e*P		**Pn**	**12 33 18.3**	**+1.2**	
PSZ					pmax	pmax			
	comp=Z,114nm,1.2s								
PSZ	**Piszkesteto**	16.66	40⇑	*i*P		**P**	**12 33 19.1**	**-0.4**	
PSZ	**Piszkesteto**	16.66	40	*e*P		**Pn**	**12 33 18.3**	**+1.2**	
	comp=Z,114nm,1.2s								
PSZ	**Piszkesteto**	16.66	40	*e*P		**Pn**	**12 33 18.3**	**+1.2**	
	comp=Z,114nm,1.2s								
PSZ	**Piszkesteto**	16.66	40⇑	*e*Pn		**Pn**	**12 33 18.0**	**+0.9**	
MCH1	**Michaelchurch**	16.75	345	*e*P		**Pn**	**12 33 19.1**	**+1.0**	
MCH1					AMB	AMB	12 33 27.4		
	comp=Z,226nm,1.7s								
MCH1					AMS	AMS	12 40 17.0		
	comp=Z,9µm,12.7s								
MCH1	**Michaelchurch**	16.75	345	P		**Pn**	**12 33 19.1**	**+1.0**	
	SNR=1.0								
MPEP	**Malo Peshtene**	16.77	58	*e*P		**Pn**	**12 33 18.0**	**-0.4**	
KRLC	**Kraliky**	16.78	29	*e*P		**P**	**12 33 20.1**	**-0.7**	
KRLC	**Kraliky**	16.78	29	*e*P		**P**	**12 33 20.1**	**-0.7**	
KRLC	**Kraliky**	16.78	29	*e*P		**P**	**12 33 20.1**	**-0.7**	
PGB	**Panagyurishte**	16.82	61	*e*P		**Pn**	**12 33 18.8**	**-0.4**	
DPC	**Dobruska-Polom**	16.82	28	*e*P		**P**	**12 33 20.4**	**-0.8**	
DPC				*ex*		x	12 33 29.2		
DPC				*e*S		**Sn**	**12 36 29.4**	**+3.7**	
DPC					AMS	AMS	12 40 50.0		
DPC	**Dobruska-Polom**	16

BOZC **Bozcaada** 17.72 71 *i* P P 12 33 32.2 +1.1
PRK **Paraskevi** 17.84 73 P P 12 33 33.7 +1.3
PRK **Paraskevi** 17.84 73 P P 12 33 33.7 +1.3
SNR=1.0
ALN **Alexandroupoli** 17.84 68 P Pn 12 33 31.8 0.0
NIE **Niedzica** 17.86 36 *e*P P 12 33 34.2 +1.6
NIE *e*S S 12 37 03.3 +6.0
NIE LMZ LR 12 41 18.1
NIE **Niedzica** 17.86 36 *e*P P 12 33 34.3 +1.6
NIE MLR MLR
comp=Z,5μm,17.1s
NIE **Niedzica** 17.86 36 *e*P P 12 33 34.3 +1.6
comp=Z,5μm,17.1s
PMOZ **Porto Moniz, M** 17.86 266 *e*Pn Pn 12 33 30.6 -1.6
PMOZ *e*LR LR 12 37 01.4
PMOZ *e*LQ LQ 12 38 53.3
PMOZ A A 12 41 15.9
comp=Z,3μm,16.0s
PMOZ **Porto Moniz, M** 17.86 266 *e*Pn Pn 12 33 30.6 -1.6
comp=Z,3μm,16.0s
YRE **Yr Eifl** 17.98 343 *e*P P 12 33 35.4 +1.5
YRE **Yr Eifl** 17.98 343 P P 12 33 35.4 +1.5
SNR=1.0
ZEY **˙zmir** 17.99 76 *i* P P 12 33 35.5 +1.4
LHO **Holmfirth** 18.00 348 *e*P P 12 33 38.0 +3.8
LHO **Holmfirth** 18.00 348 *e*P P 12 33 38.0 +3.8
ZKR **Zakros** 18.01 86 P P 12 33 35.5 +1.1
ZKR **Zakros** 18.01 86 P P 12 33 35.5 +1.1
SNR=1.0
CJR **Cluj-Napoca** 18.06 48⇑ *i* P P 12 33 37.4 +2.5
ARR **Arges** 18.10 53⇑ *i* P P 12 33 37.7 +2.3
OJC **Ojcow** 18.17 34 *e*P P 12 33 37.0 +1.0
OJC *e*S S 12 37 03.7 0.0
OJC LMZ LR 12 41 11.5
OJC **Ojcow** 18.17 34 *e*P P 12 33 37.1 +1.0
OJC *e*S S 12 37 03.7 0.0
OJC MLR MLR
comp=Z,9μm,18.2s
OJC **Ojcow** 18.17 34 *e*P P 12 33 37.1 +1.0
comp=Z,9μm,18.2s
OJC *e*S S 12 37 03.7 0.0
TRPA **Tarpa** 18.20 43⇑ *i* P P 12 33 37.6 +1.2
SMG **Samos** 18.26 78 P Pn 12 33 35.9 -1.1
SMG **Samos** 18.26 78 P Pn 12 33 35.9 -1.1
SNR=1.0
SZH **Strazhica** 18.27 60 *e*P Pn 12 33 36.5 -0.5
SZH **Strazhica** 18.27 60 P Pn 12 33 36.5 -0.5
SNR=1.0
STHS **Stebnicka Huta** 18.31 38 *e*P P 12 33 40.7 +3.1
STHS **Stebnicka Huta** 18.31 38 *e*P P 12 33 40.7 +3.1
STHS **Stebnicka Huta** 18.31 38 *e*P P 12 33 40.7 +3.1
WME **Myndd Eilian** 18.34 344 *e*P P 12 33 41.3 +3.5
WME **Myndd Eilian** 18.34 344 *e*P P 12 33 41.3 +3.5
UZH **Uzhgorod** 18.36 41⇑ *i* P Pn 12 33 40.3 +2.2
UZH *i* S Sn 12 37 03.5 +0.6
UZH MLR MLR
comp=N,3μm,12.3s
UZH MLR MLR
comp=E,8μm,12.3s
UZH MLR MLR
comp=Z,5μm,12.3s
UZH **Uzhgorod** 18.36 41 *i* P Pn 12 33 40.3 +2.2
UZH *i* S Sn 12 37 03.5 +0.6
VOIR 18.40 53⇑ *i* P Pn 12 33 39.7 +1.0
BSEG **Bad Segeberg** 18.42 12 *e*P Pn 12 33 41.6 +2.8
BSEG **Bad Segeberg** 18.42 12 P Pn 12 33 41.6 +2.8
SNR=1.0
EDRB **Edirne** 18.52 65 P Pn 12 33 40.9 +0.8
EDRB **Edirne** 18.52 65 P Pn 12 33 40.9 +0.8
SNR=1.0
KOLS **Kolonicke sedl** 18.53 40 *e*P Pn 12 33 41.8 +1.5
KOLS **Kolonicke sedl** 18.53 40 *e*P Pn 12 33 41.8 +1.5
KOLS **Kolonicke sedl** 18.53 40 *e*P Pn 12 33 41.8 +1.5
NIS1 **Nisyros Isl.** 18.60 81 P Pn 12 33 42.7 +1.6
NIS1 **Nisyros Isl.** 18.60 81 P Pn 12 33 42.7 +1.6
BODT **Bodrum** 18.67 80 *e*P P 12 33 39.8 -1.8
KARP **Karpathos** 18.71 85 P P 12 33 40.4 -1.7
KARP **Karpathos** 18.71 85 P P 12 33 40.4 -1.7
SNR=1.0
DOPR **Dopca** 18.83 52⇓ *i* P Pn 12 33 45.2 +1.3
VAL **Valentia** 18.91 332 *e*P Pn 12 33 47.5 +2.8
VAL *e*S S 12 37 26.3 +8.0
DAT **Datca** 18.91 81 *e*P P 12 33 40.8 -3.6
BALY **Balya** 18.91 72 *i* P Pn 12 33 45.3 +0.4
BALY **Balya** 18.91 72 *i* P Pn 12 33 45.3 +0.4
MLR **Muntele Rosu** 19.00 53 P P 12 33 45.2 -0.2
comp=Z,0.3nm,0.3s,baz=270,slow=10,SNR=56
MLR LR LR 12 41 45.7
comp=Z,1μm,18.4s,baz=238,slow=39
MLR **Muntele Rosu** 19.00 53⇓ *i* P Pn 12 33 47.1 +1.0
AKHS **Akhisar** 19.02 74 *i* P Pn 12 33 46.8 +0.5
AKHS **Akhisar** 19.02 74 *i* P Pn 12 33 46.8 +0.5
AKS **Akhisar** 19.02 74 *e*P Pn 12 33 47.5 +1.2
AYDB **Zeytinkoy-Aydi** 19.09 77 *e*P P 12 33 46.7 +0.4
BALB **Balikesir** 19.11 72 *e*P P 12 33 45.8 -0.6
CCAN **Las Canadas** 19.17 252 P P 12 33 47.7 +0.2
comp=Z,51nm,0.9s,SNR=4.8
CCAN **Las Canadas** 19.17 252 P P 12 33 47.7 +0.2
comp=Z,51nm,0.9s,SNR=1.0
KWP **Kalwaria Pacla** 19.19 39 *e*P Pn 12 33 49.7 +1.6
KWP LMZ LR 12 41 50.1
KWP **Kalwaria Pacla** 19.19 39 *e*P Pn 12 33 49.7 +1.6
KWP MLR MLR
comp=Z,6μm,20.1s
KWP **Kalwaria Pacla** 19.19 39 *e*P Pn 12 33 49.7 +1.6
comp=Z,6μm,20.1s
KESW **Keswick, Cumbr** 19.22 347 *e*P Pn 12 33 51.9 +3.4
KESW AMB AMB 12 34 01.3
comp=Z,260nm,1.2s
KESW AMS AMS 12 41 27.6
comp=Z,6μm,13.2s
ISR **Istrita** 19.26 55⇑ *i* P Pn 12 33 51.2 +2.1
PRD **Provadia** 19.29 61 *e*P Pn 12 33 49.0 -0.3
PRD **Provadia** 19.29 61 P Pn 12 33 49.0 -0.3
SNR=1.0
YER **Yerkesik** 19.44 80 *e*P P 12 33 47.5 -2.6
BURAR **Bucovina Array** 19.46 47⇓ *i* P Pn 12 33 53.4 +1.8
BUR08 **Bucovina Ar. S** 19.47 47 *e*P P 12 33 50.0 -0.4
BUR08 **Bucovina Ar. S** 19.47 47 *e*P P 12 33 50.0 -0.4
KCTX **Karacabey (Bur** 19.52 70 *e*P P 12 33 50.5 -0.4
GKP **Gorka Klasztor** 19.55 24 *e*P Pn 12 33 54.2 +1.8
GKP *e*S Sn 12 37 36.3 +4.9
GKP LMZ LR 12 42 02.3
GKP **Gorka Klasztor** 19.55 24 *e*P Pn 12 33 54.2 +1.8
GKP MLR MLR
comp=Z,10μm,14.9s
GKP **Gorka Klasztor** 19.55 24 *e*P Pn 12 33 54.2 +1.8
comp=Z,10μm,14.9s
DURS **Dursunbey** 19.56 72 *i* P Pn 12 33 52.3 -0.5
DURS **Dursunbey** 19.56 72 *i* P Pn 12 33 52.3 -0.5
PLOR **Plostina** 19.59 53⇓ *i* P Pn 12 33 54.1 +1.0
VRI **Vrincioaia** 19.65 53⇑ *i* P Pn 12 33 53.4 -0.4
ELBA **Catalca** 19.66 68 *i* P Pn 12 34 08.8 +15
DST **Dursunbey** 19.67 72 *e*P Pn 12 33 54.9 +0.7
KULA **Kula-Manisa** 19.68 75 *e*P Pn 12 33 54.4 +0.2
KULA **Kula-Manisa** 19.68 75 P Pn 12 33 55.2 +0.9
KULA **Kula-Manisa** 19.68 75 P Pn 12 33 55.2 +0.9
TURN **Turunc** 19.71 80 *i* P P 12 33 49.6 -3.5
DALY **Dalyan (Mu˘la** 19.76 80 *e*P P 12 33 53.8 +0.3
BEL **Belsk** 19.77 32 *e*P Pn 12 33 55.7 +0.6
BEL LMZ LR 12 42 29.0
BEL **Belsk** 19.77 32 *e*P Pn 12 33 55.7 +0.6
BEL MLR MLR
comp=Z,7μm,16.5s
BEL **Belsk** 19.77 32 *e*P Pn 12 33 55.7 +0.6
comp=Z,7μm,16.5s
ECK **Cauldkaine Hil** 19.79 348 *e*P Pn 12 33 55.4 +0.1
ECK **Cauldkaine Hil** 19.79 348 P Pn 12 33 55.4 +0.1
SNR=1.0
GAL1 **Galloway** 19.80 345 *e*P Pn 12 33 55.1 -0.3
GAL1 AMB AMB 12 34 00.9
comp=Z,71nm,1.6s
GAL1 AMS AMS 12 42 09.4
comp=Z,9μm,14.7s
GAL1 **Galloway** 19.80 345 P Pn 12 33 55.1 -0.3
SNR=1.0
MSAB **Monastry St. A** 19.81 59⇓ *i* P Pn 12 33 55.0 -0.6
TESR **Tescani** 19.85 51⇑ *i* P Pn 12 33 59.4 +3.3
ESK **Eskdalemuir** 19.93 348 *e*P Pn 12 33 59.1 +2.1
ESK AMS AMS 12 41 57.9
comp=Z,6μm,13.1s
ESK **Eskdalemuir** 19.93 348 *e*P P 12 33 55.7 +0.4
ESK pmax pmax
comp=Z,24nm,0.9s
ESK **Eskdalemuir** 19.93 348 *e*P P 12 33 55.7 +0.4
comp=Z,24nm,0.9s
ESK **Eskdalemuir** 19.93 348 *e*P P 12 33 55.7 +0.4
comp=Z,24nm,0.9s
EKA **Eskdalemuir Ar** 19.94 348 P P 12 33 54.3 -1.1
baz=164,slow=9.5,SNR=7.5
EKA LR LR 12 41 39.1
comp=Z,3μm,18.1s,baz=190,slow=37
PSN **Preselentsi** 19.96 60⇓ *i* P P 12 33 54.9 -0.7
LVV **L'vov** 19.98 40⇓ *i* P Pn 12 33 57.3 -0.4
LVV *e*S S 12 37 38.9 -1.2
LVV MLR MLR
comp=N,1μm,14.0s
LVV MLR MLR
comp=E,2μm,14.0s
LVV MLR MLR
comp=Z,3μm,14.0s
LVV **L'vov** 19.98 40 *i* P Pn 12 33 57.3 -0.4
LVV *e*S S 12 37 38.9 -1.2
LLD **Lille Linde** 20.09 14 *i* P Pn 12 34 00.4 +1.6
LLD **Lille Linde** 20.09 14 *i* P Pn 12 34 00.4 +1.6
LLD **Lille Linde** 20.09 14 *i* P Pn 12 34 00.4 +1.6
TLB **Topalu** 20.10 58⇑ *i* P P 12 33 58.0 +0.8
FETY **Fethiye** 20.12 81 *e*P P 12 33 58.3 +0.8
BUY **Buyukada** 20.15 69 P P 12 33 58.3 +0.6
SNR=1.0
BUY **Buyukada** 20.15 69 *i* P P 12 33 58.3 +0.6
TIRR **Tirgusor** 20.32 58 *e*P P 12 33 59.3 -0.3
TIRR pmax pmax
comp=Z,79nm,1.0s
TIRR **Tirgusor** 20.32 58⇑ *i* P P 12 34 00.2 +0.6
TIRR **Tirgusor** 20.32 58 *e*P P 12 33 59.3 -0.3
comp=Z,79nm,1.0s
TIRR **Tirgusor** 20.32 58 *e*P P 12 33 59.3 -0.3
comp=Z,79nm,1.0s
TVSB **Tavsanli** 20.32 73 *e*P P 12 33 59.5 -0.2
GDZ **Gediz** 20.33 74 *i* P Pn 12 34 02.6 +0.6
GDZ **Gediz** 20.33 74 *i* P Pn 12 34 02.6 +0.7
EBL **Broad Law** 20.34 348 *e*P Pn 12 34 01.5 -0.4
EBL **Broad Law** 20.34 348 P Pn 12 34 01.5 -0.3
SNR=1.0
CFR **Carcaliu** 20.34 56⇑ *i* P P 12 33 59.5 -0.3
KHL **Karahalli** 20.36 76 *e*P Pn 12 34 01.8 -0.5
ESY **Stoneypath** 20.41 349 *e*P Pn 12 34 03.9 +1.2
ESY **Stoneypath** 20.41 349 *e*P Pn 12 34 03.9 +1.3
GOLH **Golhisar** 20.45 79 P P 12 34 00.0 -1.2
SNR=1.0
GOLH **Golhisar** 20.45 79 *i* P P 12 34 00.0 -1.2
COP **Copenhagen** 20.47 14 *i* P Pn 12 34 04.1 +0.9
comp=Z,39nm,1.0s
COP *i* S S 12 37 49.8 +0.3
comp=Z,2μm,14.0s
COP **Copenhagen** 20.47 14 *i* P Pn 12 34 04.1 +0.9
COP *i* S S 12 37 49.8 +0.3
COP pmax pmax
comp=Z,39nm,1.0s
COP MLR MLR
comp=Z,2μm,14.0s
COP **Copenhagen** 20.47 14 *i* P Pn 12 34 04.1 +0.9
comp=Z,39nm,1.0s
COP *i* S S 12 37 49.8 +0.3
comp=Z,2μm,14.0s
BSD **Bornholm Skovb** 20.48 18 *i* P P 12 34 01.5 +0.2
comp=Z,68nm,0.9s
BSD *i* S S 12 37 48.1 -1.8
comp=Z,4μm,13.0s
BSD **Bornholm Skovb** 20.48 18 *i* P P 12 34 01.5 +0.2
BSD *i* S S 12 37 48.1 -1.8
BSD pmax pmax
comp=Z,68nm,0.9s
BSD MLR MLR
comp=Z,4μm,13.0s
BSD **Bornholm Skovb** 20.48 18 *i* P P 12 34 01.5 +0.2
comp=Z,68nm,0.9s
AKAS **Kas** 20.58 82 *i* P P 12 34 01.9 -0.8
AKAS **Kas** 20.58 82 *i* P P 12 34 01.9 -0.8
PGBU **Glenifferbraes** 20.64 346 AMS AMS 12 42 51.7
comp=Z,6μm,14.0s
CAVI **Cavuskoy** 20.65 71 *e*P P 12 34 03.1 -0.1
MUD **Monsted U'grnd** 20.72 8 *i* P P 12 34 04.1 +0.4
comp=Z,62nm,0.9s
comp=Z,5μm,13.0s
MUD **Monsted U'grnd** 20.72 8 *i* P P 12 34 04.1 +0.4
MUD pmax pmax
comp=Z,62nm,0.9s
MUD MLR MLR
comp=Z,5μm,13.0s
MUD **Monsted U'grnd** 20.72 8 *i* P P 12 34 04.1 +0.4
comp=Z,5μm,13.0s
ELL **Elmali** 20.77 80 *e*P P 12 34 04.9 +0.2
ALT **Altintas** 20.82 74 *e*P P 12 34 04.1 -1.1
ALT **Altintas** 20.82 74 P P 12 34 05.8 +0.6
ALT **Altintas** 20.82 74 P P 12 34 05.8 +0.6
EDU **Dundee** 21.08 349 *e*P P 12 34 09.2 +1.5
EDU **Dundee** 21.08 349 P P 12 34 09.2 +1.5
SNR=1.0
KORT **Korkeli** 21.10 80 *i* P P 12 34 11.8 +3.5
BORA **Eskisehir** 21.10 72 *i* P P 12 34 09.4 +1.2
BORA **Eskisehir** 21.10 72 *i* P P 12 34 09.4 +1.2
ISP **Isparta** 21.17 77 *e*P P 12 34 10.4 +1.4
ISP pmax pmax
comp=Z,203nm,1.4s
ISP **Isparta** 21.17 77 *e*P P 12 34 10.4 +1.4
comp=Z,203nm,1.4s
ISP **Isparta** 21.17 77 *e*P P 12 34 10.4 +1.4
comp=Z,203nm,1.4s
ESKT **Eskisehir** 21.39 73 *e*P P 12 34 11.6 +0.2
SEYT **Eskypehyr** 21.39 73 *i* P P 12 34 12.7 +1.3
SEYT **Eskypehyr** 21.39 73 *i* P P 12 34 12.7 +1.3
KIS **Kishinev** 21.41 52⇑ *i* P P 12 34 10.0 -1.4
comp=Z,400nm,1.5s
KIS *i* S S 12 38 06.0 -2.5
comp=Z,2μm,10.0s
KIS *i* SS SnSn 12 38 42.0 +11
KIS *i* Li 12 40 02.0
KIS *i* LQ LQ 12 41 36.0
KIS LRM MLR 12 43 45.0
comp=Z,4μm,13.0s
KIS **Kishinev** 21.41 52⇑ *i* P P 12 34 10.0 -1.4
KIS *i* 12 34 48.0
KIS *i* S S 12 38 06.0 -2.5
KIS *i* SS SnSn 12 38 42.0 +11
KIS *i* 12 39 00.0
KIS pmax pmax
comp=Z,400nm,1.5s
KIS pmax pmax
comp=Z,500nm,2.4s
KIS smax smax
comp=N,2μm,10.0s
KIS smax smax
comp=E,3μm,12.0s
KIS MLR MLR
comp=Z,7μm,15.0s
KIS MLR MLR
comp=N,4μm,13.0s
KIS MLR MLR
comp=E,5μm,16.0s
KIS MLR MLR
comp=Z,6μm,16.0s
KIS **Kishinev** 21.41 52 *i* P P 12 34 10.0 -1.4
comp=Z,500nm,2.4s
KIS *i* S S 12 38 06.0 -2.5
BOLV **Bolvadin** 21.48 75 *i* P P 12 34 14.5 +2.2
BOLV **Bolvadin** 21.48 75 *i* P P 12 34 14.5 +2.2
BTAS **Taskesti** 21.55 70 *i* P P 12 34 15.1 +2.1
BTAS **Taskesti** 21.55 70 *i* P P 12 34 15.1 +2.1
MME1 **Meikle Cairn** 21.81 350 *e*P P 12 34 17.8 +2.2
MME1 **Meikle Cairn** 21.81 350 P P 12 34 17.8 +2.2
SNR=1.0
SVRH **Sivrihisar-ESK** 21.91 73 *e*P P 12 34 17.4 +0.4
MCD **Coleburn Disti** 22.12 349 *e*P P 12 34 19.3 +0.5
MCD **Coleburn Disti** 22.12 349 P P 12 34 19.3 +0.5
SNR=1.0
MDO **Dochfour** 22.16 348 *e*P P 12 34 20.2 +0.9
MDO **Dochfour** 22.16 348 P P 12 34 20.2 +0.9
SNR=1.0
KIZT **Kizilcal** 22.20 74 *e*P P 12 34 22.1 +2.0
SUW **Suwalki** 22.35 30 *e*P P 12 34 20.4 -0.9
SUW LMZ LR 12 42 42.1
SUW **Suwalki** 22.35 30 *e*P P 12 34 20.7 -0.6
SUW pmax pmax
comp=Z,196nm,1.1s
SUW **Suwalki** 22.35 30 *e*P P 12 34 20.7 -0.6
comp=Z,196nm,1.1s
SUW **Suwalki** 22.35 30 *e*P P 12 34 20.7 -0.6
comp=Z,196nm,1.1s
BCAM **Yenicaga** 22.37 69 *i* P P 12 34 22.4 +0.5
BCAM **Yenicaga** 22.37 69 *i* P P 12 34 22.4 +0.5
KAC **Achnashellach** 22.38 347 *e*P P 12 34 22.0 +0.3
KAC **Achnashellach** 22.38 347 P P 12 34 22.0 +0.3
SNR=1.0
KDHN **Kadinhani** 22.39 75 *i* P P 12 34 22.6 +0.5
KDHN **Kadinhani** 22.39 75 *i* P P 12 34 22.6 +0.5
LADK **Ladik-KONYA** 22.61 76 *e*P P 12 34 24.2 -0.1
KONT **Konya--Tatoy** 22.62 77 *e*P P 12 34 22.9 -1.6
GAZI **Gazipasa** 22.76 81 *i* P P 12 34 25.0 -0.9
GAZI **Gazipasa** 22.76 81 *i* P P 12 34 25.0 -0.9
TOA0 **Torodi Ar. Sit** 22.89 186 *e*P P 12 34 24.8 -2.6
TOA0 **Torodi Ar. Sit** 22.89 186 *e*P P 12 34 24.8 -2.6
TORD **Torodi Ar. Bea** 22.89 186 P P 12 34 25.1 -2.2
comp=Z,71nm,0.8s,baz=0.1,slow=10.0,SNR=141
TORD S S 12 38 32.9 -3.8
comp=Z,5.7nm,1.1s,baz=350,slow=13,SNR=2.3
TORD LR LR 12 44 00.7
comp=Z,4μm,19.8s,baz=345,slow=38
ANTO **Ankara** 22.90 72 *e*P P 12 34 25.8 -1.6
ANTO pmax pmax
comp=Z,175nm,1.6s
ANTO **Ankara** 22.90 72⇓ *i* P P 12 34 27.5 +0.1
ANTO **Ankara** 22.90 72 P P 12 34 31.4 +4.0
SNR=18
ANTO **Ankara** 22.90 72 P P 12 34 31.4 +4.0
SNR=18
ANTO **Ankara** 22.90 72 *e*P P 12 34 25.8 -1.6
comp=Z,175nm,1.6s
AKMC **Akamas** 22.96 84 P P 12 34 28.0 -0.1
ERMK **Ermenek** 23.18 80 *i* P P 12 34 33.2 +2.7
ERMK **Ermenek** 23.18 80 *i* P P 12 34 33.2 +2.7
AK02 **Malin Array Si** 23.23 43 *e*P P 12 34 28.5 -2.1
AK02 **Malin Array Si** 23.23 43 *e*P P 12 34 28.5 -2.1
KIEV **Kiev** 23.25 43 *e*P P 12 34 29.1 -1.7
KIEV **Kiev** 23.25 43 *e*P P 12 34 29.1 -1.7
KIEV **Kiev** 23.25 43 *e*P P 12 34 28.4 -2.5
AK01 **Malin Array Si** 23.25 43 *e*P P 12 34 28.8 -2.0
AK01 **Malin Array Si** 23.25 43 *e*P P 12 34 28.8 -2.0
AKASG **Malin Array Be** 23.27 43 P P 12 34 28.3 -2.6
comp=Z,43nm,0.7s,baz=241,slow=10,SNR=44
AKASG S S 12 38 38.6 -3.9
comp=Z,2.5nm,0.9s,baz=234,slow=16,SNR=4.6
AKASG LR LR 12 44 11.2
comp=Z,4μm,20.0s,baz=235,slow=38
AKBB **Malin Array Si** 23.27 43 *e*P P 12 34 28.5 -2.5
AKBB **Malin Array Si** 23.27 43 *e*P P 12 34 28.5 -2.5
PSMN **Pico do Norte,** 23.43 281 *e*LQ LQ 12 38 48.5
PSMN *e*LR LR 12 40 35.1
comp=Z,593nm,17.8s
SZAC **Souni-Zanaja** 23.46 85 P P 12 34 34.7 +1.6
PSMA **Santa Maria** 23.48 281 *e*LQ LQ 12 38 49.0
BR131 **Keskin Array S** 23.55 72 *e*P P 12 34 34.1 0.0
comp=Z,46nm,1.1s
BR131 **Keskin Array S** 23.55 72 *e*P P 12 34 34.1 0.0
comp=Z,46nm,1.1s
BRTR **Keskin Array B** 23.55 72 P P 12 34 33.8 -0.3
comp=Z,17nm,0.9s,baz=272,slow=8.4,SNR=38
BRTR S S 12 38 52.1 +4.3
comp=Z,1.0nm,1.0s,baz=258,slow=18,SNR=2.4
BRTR LR LR 12 45 47.6
comp=Z,979nm,19.4s,baz=242,slow=42
ILGA **Ilgaz** 23.64 69 *i* P P 12 34 35.2 +0.2
ILGA **Ilgaz** 23.64 69 *i* P P 12 34 35.2 +0.2
MAMC **Mammari** 23.65 83 P P 12 34 37.6 +2.7
CSS **Prodhromos** 23.78 84 P P 12 34 38.5 +2.3
CSS **Prodhromos** 23.78 84 *e*P P 12 34 38.5 +2.3
comp=Z,19nm,1.0s
CSS **Prodhromos** 23.78 84 *e*P P 12 34 38.5 +2.3
comp=Z,19nm,1.0s
PSET **Sete Cidades** 23.87 283 *e*LQ LQ 12 38 56.0
PSET *e*LR LR 12 40 40.0
comp=Z,2μm,17.9s
KONO **Kongsberg** 23.90 7 *e*P P 12 34 36.9 -0.2
KONO pmax pmax
comp=Z,66nm,1.3s
KONO **Kongsberg** 23.90 7 *e*P P 12 34 36.9 -0.2
comp=Z,66nm,1.3s
KONO **Kongsberg** 23.90 7 *e*P P 12 34 36.9 -0.2
comp=Z,66nm,1.3s
CDAG **Cicekdag** 24.12 72 *i* P P 12 34 40.7 +1.2
CDAG **Cicekdag** 24.12 72 *i* P P 12 34 40.7 +1.2
KIZK **Mersin** 24.18 80 *i* P P 12 34 41.4 +1.4
KIZK **Mersin** 24.18 80 *i* P P 12 34 41.4 +1.4
SIM **Simferopol'** 24.39 59 *e*P P 12 34 42.6 +0.8
SIM *e*S S 12 38 56.0 -4.7
SIM *e*S S 12 39 07.0 +6.3
SIM pmax pmax
comp=Z,71nm,1.1s
SIM **Simferopol'** 24.39 59 *e*P P 12 34 42.6 +0.8
comp=Z,71nm,1.1s
SIM *e*S S 12 38 56.0 -4.7
CTKT **Corum** 24.44 70 *i* P P 12 34 42.4 0.0
CTKT **Corum** 24.44 70 *i* P P 12 34 42.4 0.0
NACGM **Naroch** 24.49 32 *e*P P 12 34 38.0 -4.6
BOYT **Boyabat** 24.55 68 *i* P P 12 34 42.5 -0.8
BOYT **Boyabat** 24.55 68 *i* P P 12 34 42.5 -0.8
GULE **Gulek** 24.59 78 *i* P P 12 34 45.0 +1.2
GULE **Gulek** 24.59 78 *i* P P 12 34 45.0 +1.2
HFS **Hagfors** 24.90 11 P P 12 34 44.6 -1.6
comp=Z,13nm,0.8s,baz=195,slow=11,SNR=29
HFS LR LR 12 43 59.6
comp=Z,2μm,21.7s,baz=202,slow=36
HAVZ **Havza** 25.15 69 *i* P P 12 34 49.0 +0.3
HAVZ **Havza** 25.15 69 *i* P P 12 34 49.0 +0.3
NAO01 **NORSAR Array S** 25.21 8 *e*P P 12 34 48.3 -0.7
comp=Z,17nm,0.8s
NAO01 **NORSAR Array S** 25.21 8 *e*P P 12 34 48.3 -0.7
comp=Z,17nm,0.8s
YURE **YUREGIR** 25.32 79 *i* P P 12 34 49.6 -0.7
YURE **YUREGIR** 25.32 79 *i* P P 12 34 49.6 -0.7
NB2 **NORSAR Subarra** 25.44 8 P P 12 34 50.0 -1.1
comp=Z,18nm,0.8s,baz=196,slow=9.3
NB2 **NORSAR Subarra** 25.44 8 P P 12 34 50.0 -1.1
comp=Z,18nm,0.8s,SNR=3.2
NOA **NORSAR Array B** 25.44 8 P P 12 34 50.0 -1.1
comp=Z,4.6nm,0.8s,baz=192,slow=8.8,SNR=21
NOA PcP PcP 12 38 23.7 +0.9
comp=Z,3.5nm,0.8s,baz=179,slow=2.1,SNR=6.8
NOA LR LR 12 45 14.5
comp=Z,3μm,18.1s,baz=190,slow=38
NOA **NORSAR Array B** 25.44 8 P P 12 34 50.0 -1.1
PGRA **Graciosa** 25.55 286 *e*LQ LQ 12 39 13.3
PGRA *e*LR LR 12 40 53.6
comp=Z,2μm,19.8s
ROSA **Rosais** 25.78 286 *e*LR LR 12 41 13.4
comp=Z,1μm,13.5s
YAYL **Yayladag** 25.82 80 *i* P P 12 34 51.8 -3.2
BHL **Bhannes** 25.88 85 *e*P P 12 34 56.8 +1.2
BHL **Bhannes** 25.88 85 *e*P P 12 34 56.8 +1.2
MMAI **Mount Meron Ar** 25.90 87 P P 12 34 55.3 -0.4
comp=Z,18nm,0.7s,baz=285,slow=7.7,SNR=23
HWQ **Hawqa** 26.03 84 *e*P P 12 34 58.6 +1.7
HWQ **Hawqa** 26.03 84 *e*P P 12 34 58.6 +1.7
KAMA **Osmaniye** 26.10 78 *i* P P 12 34 57.3 -0.2
KUZU **Kuzuini** 26.48 79 *i* P P 12 35 04.5 +3.7
EIL **Elat** 26.61 95 P P 12 35 01.2 -0.8
comp=Z,13nm,0.8s,baz=323,slow=7.4,SNR=14
EIL PcP PcP 12 38 27.6 +1.6
comp=Z,4.9nm,0.7s,baz=335,slow=3.5,SNR=3.8
EIL LR LR 12 47 10.9
comp=Z,1μm,18.6s,baz=284,slow=40
ANN **Anapa** 26.69 61 *e*P P 12 35 01.1 -1.5
ANN *e**PP pP 12 35 04.0 -3.2
ANN *e*S S 12 39 37.0 -0.3
ANN pmax pmax
comp=Z,105nm,1.1s
ANN MLR MLR
comp=N,2μm,15.0s
ANN MLR MLR
comp=Z,2μm,15.0s
ANN **Anapa** 26.69 61 *e*P P 12 35 01.1 -1.5
comp=Z,105nm,1.1s
ANN *e*S S 12 39 37.0 -0.3
comp=Z,2μm,15.0s
GZT **Gaziantep** 26.79 77 *i* P P 12 35 04.3 +0.6
VSU **Vasula** 26.94 27 *e*P P 12 35 06.0 +1.3
VSU pmax pmax
comp=Z,60nm,0.8s
VSU MLR MLR
comp=Z,10μm,20.0s
VSU **Vasula** 26.94 27 *e*P P 12 35 06.0 +1.3
comp=Z,10μm,20.0s

ASF Jabal al Asfar 27.35 88 P **P** **12 35 09.2 +0.4**
comp=Z,4.2nm,0.8s,baz=228,slow=4.0,SNR=9.1
MALT Malatya 27.35 75⇑ *i*P **P** **12 35 09.2 +0.4**
ELZG Elazig 27.77 74 *i* P **P** **12 35 15.1 +2.5**
ELZG Elazig 27.77 74 *i* P **P** **12 35 15.1 +2.5**
BBTS Babate 28.18 226 P **P** **12 35 14.0 -2.1**
comp=Z,27nm,0.7s,baz=325,slow=2.5,SNR=2.4
BBTS LR LR 12 46 21.8
comp=Z,6μm,18.9s,baz=24,slow=36
SOC Sochi 28.21 64 *e*P **P** **12 35 16.5 +0.2**
SOC *e* 12 36 03.0
SOC *e*S **S** **12 40 03.5 +2.1**
SOC pmax pmax
comp=Z,24nm,0.6s
SOC MLR MLR
comp=Z,1μm,17.0s
SOC Sochi 28.21 64 *e*P **P** **12 35 16.5 +0.2**
comp=Z,24nm,0.6s
SOC *e*S **S** **12 40 03.5 +2.1**
comp=Z,1μm,17.0s
FINES FINESS Array B 28.98 22 P **P** **12 35 21.9 -1.0**
comp=Z,8.9nm,0.9s,baz=202,slow=8.0,SNR=25
FINES PcP **PcP** **12 38 31.8 +0.7**
comp=Z,5.0nm,0.8s,baz=132,slow=2.8,SNR=4.8
FINES LR LR 12 47 39.4
comp=Z,3μm,18.8s,baz=269,slow=38
FIA1 FINESS Array S 28.98 22 *e*P **P** **12 35 21.2 -1.7**
FIA1 FINESS Array S 28.98 22 *e*P **P** **12 35 21.2 -1.7**
VSR Storozhevoye 29.24 48 *e*P **P** **12 35 23.6 -1.7**
VSR *e*S **S** **12 40 17.4 +0.1**
VSR pmax pmax
comp=Z,30nm,1.1s
VSR pmax pmax
comp=N,10.0nm,0.6s
VSR pmax pmax
comp=E,50nm,1.2s
VSR smax smax
comp=E,480nm,10.0s
VSR smax smax
comp=Z,220nm,7.3s
VSR smax smax
comp=N,130nm,4.5s
VSR MLR MLR
comp=Z,3μm,15.0s
VSR MLR MLR
comp=N,2μm,12.0s
VSR MLR MLR
comp=E,2μm,16.0s
VSR Storozhevoye 29.24 48 *e*P **P** **12 35 23.6 -1.7**
comp=E,10.0nm,0.6s
VSR *e*S **S** **12 40 17.4 +0.1**
comp=E,2μm,12.0s
VORD Divnogorie 29.24 48 *e*P **P** **12 35 23.7 -1.6**
VORD *e*S **S** **12 40 16.6 -0.7**
VORD pmax pmax
comp=Z,10.0nm,0.6s
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,60nm,1.0s
VORD smax smax
comp=E,360nm,5.8s
VORD smax smax
comp=Z,230nm,4.1s
VORD smax smax
comp=N,270nm,4.3s
VORD MLR MLR
comp=N,2μm,14.0s
VORD MLR MLR
comp=Z,1μm,14.0s
VORD MLR MLR
comp=E,1μm,15.0s
VORD Divnogorie 29.24 48 *e*P **P** **12 35 23.7 -1.6**
comp=E,10.0nm,0.9s
VORD *e*S **S** **12 40 16.6 -0.7**
comp=E,270nm,4.3s
OBN Obninsk 29.28 39 P **P** **12 35 24.7 -0.8**
comp=E,15nm,0.4s,baz=267,slow=6.3,SNR=8.9
OBN LR LR 12 48 23.4
comp=E,7μm,18.6s,baz=246,slow=39
OBN Obninsk 29.28 39⇓ *e*P **P** **12 35 24.9 -0.7**
OBN *e* 12 36 20.4
OBN *e*PPP PPP 12 36 32.4
OBN *i* S **S** **12 40 14.5 -3.3**
OBN *i* SS **ScP** **12 42 09.4 -3.7**
OBN pmax pmax
comp=Z,65nm,1.7s
OBN MLR MLR
comp=Z,9μm,19.0s
OBN Obninsk 29.28 39 *e*P **P** **12 35 24.9 -0.7**
comp=Z,65nm,1.7s
LPSR Galich'ya Gora 29.55 45 *e*P **P** **12 35 26.8 -1.2**
LPSR *e*S **S** **12 40 20.8 -1.3**
LPSR *e*SS **SnSn** **12 41 50.7 +0.6**
LPSR pmax pmax
comp=N,10.0nm,0.9s
LPSR pmax pmax
comp=E,10.0nm,0.9s
LPSR pmax pmax
comp=Z,50nm,0.9s
LPSR smax smax
comp=N,60nm,2.2s
LPSR smax smax
comp=E,130nm,2.2s
LPSR smax smax
comp=Z,10.0nm,2.2s
LPSR MLR MLR
comp=N,610nm,16.0s
LPSR MLR MLR
comp=E,4μm,16.0s
LPSR MLR MLR
comp=Z,3μm,16.0s
LPSR Galich'ya Gora 29.55 45 *e*P **P** **12 35 26.8 -1.2**
LPSR *e*S **S** **12 40 20.8 -1.3**
DAGI Agillar 29.83 69 *i* P **P** **12 35 29.9 -0.9**
MOS Moscow 30.10 39 *e*P **P** **12 35 32.0 -0.8**
MOS *e* 12 35 44.6
MOS *e*S **S** **12 40 30.8 +0.1**
MOS pmax pmax
comp=Z,60nm,1.1s
MOS pmax pmax
comp=Z,100nm,1.6s
MOS MLR MLR
comp=N,3μm,17.0s
MOS MLR MLR
comp=E,5μm,17.0s
MOS MLR MLR
comp=Z,7μm,17.0s
MOS Moscow 30.10 39 *e*P **P** **12 35 32.0 -0.8**
comp=Z,100nm,1.6s
MOS *e*S **S** **12 40 30.8 +0.1**
DBIC Dimbokro 30.36 198 P **P** **12 35 33.9 -1.5**
comp=Z,33nm,1.0s,baz=357,slow=10,SNR=13
DBIC LR LR 12 47 59.6
comp=Z,5μm,20.2s,baz=3.0,slow=37
DBIC Dimbokro 30.36 198 P **P** **12 35 33.9 -1.5**
DBIC pmax pmax
comp=Z,33nm,1.0s
DBIC MLR MLR
comp=Z,5μm,20.3s
DBIC Dimbokro 30.36 198 *e*P **P** **12 35 34.2 -1.2**
DBIC Dimbokro 30.36 198 *e*P **P** **12 35 34.2 -1.2**
KIV Kislovodsk 30.38 63⇓ *e*P **P** **12 35 35.4 -0.2**
KIV *e* 12 36 32.0
KIV *e*PPP PPP 12 36 45.6
KIV *e*S **S** **12 40 37.9 +2.3**
KIV pmax pmax
comp=Z,12nm,1.2s
KIV Kislovodsk 30.38 63 *e*P **P** **12 35 35.4 -0.2**
comp=Z,12nm,1.2s
KIV *e*S **S** **12 40 37.9 +2.3**
NEY Neytrino 30.39 64 *e*P **P** **12 35 38.9 +3.1**
NEY pmax pmax
comp=Z,3.0nm,0.7s
NEY Neytrino 30.39 64 *e*P **P** **12 35 38.9 +3.1**
comp=Z,3.0nm,0.7s
TIC Toumodi 30.42 198 *e*P **P** **12 35 35.8 -0.3**
comp=Z,38nm,0.2s
KBZ Khabaz 30.52 63 P **P** **12 35 36.4 -0.3**
comp=Z,6.8nm,0.9s,baz=236,slow=24,SNR=14
KBZ LR LR 12 50 56.9
comp=Z,806nm,18.4s,baz=314,slow=42
KIC Kosan Boka 30.62 197 *e*P **P** **12 35 36.1 -1.8**
comp=Z,276nm,1.4s
GOF Gofitskoye 30.68 61 *e*P **P** **12 35 36.0 -2.2**
GOF Gofitskoye 30.68 61 *e*P **P** **12 35 36.0 -2.2**

LIC Lamto 30.83 198 *e*P **P** **12 35 37.7 -1.9**
comp=Z,152nm,1.2s,baz=8.4
LIC *e*R
comp=Z,7μm,19.0s
LIC Lamto 30.83 198 *e*P **P** **12 35 39.4 -0.2**
comp=Z,166nm,1.2s
LIC Lamto 30.83 198 *e*P **P** **12 35 37.7 -1.9**
comp=Z,152nm,1.2s
LIC Lamto 30.83 198 *e*P **P** **12 35 37.7 -1.9**
comp=Z,152nm,1.2s
NCK Nalchik 31.03 64 *e*P **P** **12 35 43.1 +1.8**
NCK Nalchik 31.03 64 *e*P **P** **12 35 43.1 +1.8**
ZEI Tsey 31.26 65 *e*P **P** **12 35 40.9 -2.6**
ZEI pmax pmax
comp=Z,33nm,1.7s
HAKT HAKKARI 31.59 75 *i* P **P** **12 35 47.5 +0.9**
HAKT HAKKARI 31.59 75 *i* P **P** **12 35 47.5 +0.9**
GNI Garni 32.05 70 P **P** **12 35 49.7 -0.7**
comp=Z,3.0nm,0.4s,baz=183,slow=9.1,SNR=11
GNI LR LR 12 49 24.9
comp=Z,418nm,21.1s,baz=266,slow=38
GNI Garni 32.05 70*d* *i*P **P** **12 35 50.9 +0.4**
GNI pmax pmax
comp=Z,79nm,2.1s
GNI MLR MLR
comp=Z,869nm,22.0s
GNI Garni 32.05 70 *e*P **P** **12 35 50.8 +0.4**
GNI Garni 32.05 70 P **P** **12 35 51.4 +1.0**
SNR=12
GNI Garni 32.05 70⇑ *i*P **P** **12 35 52.0 +1.5**
SNR=6.9
GNI Garni 32.05 70 *e*P **P** **12 35 50.8 +0.4**
IMRD Marand 32.97 73 *e*P **P** **12 35 59.3 +0.8**
IMRD Marand 32.97 73 P **P** **12 35 59.3 +0.8**
SNR=1.0
KLMR Klimovskoe 33.48 31 *e*P P 12 36 11.9 +9.4
KLMR pmax pmax
comp=Z,97nm,1.7s
KLMR MLR MLR
comp=Z,3μm,12.0s
IBST Bostanabad 34.06 74 *e*P **P** **12 36 09.3 +1.2**
IBST Bostanabad 34.06 74 P **P** **12 36 09.3 +1.2**
SNR=1.0
IHRS Heris 34.06 73 *e*P **P** **12 36 08.3 +0.2**
IHRS Heris 34.06 73 P **P** **12 36 08.3 +0.2**
SNR=1.0
IDHR Dehrash 34.31 80 *e*P **P** **12 36 09.6 -0.7**
IDHR Dehrash 34.31 80 P **P** **12 36 09.6 -0.7**
SNR=1.0
TMCR Tamitsa 34.80 25 *e*P **P** **12 36 13.5 -0.4**
TMCR *e* 12 37 30.1
TMCR pmax pmax
comp=Z,24nm,0.5s
TMCR Tamitsa 34.80 25 *e*P **P** **12 36 13.5 -0.4**
comp=Z,24nm,0.5s
IKOM Komasi 35.34 80 *e*P **P** **12 36 20.8 +1.6**
IKOM Komasi 35.34 80 P **P** **12 36 20.8 +1.6**
SNR=1.0
ARCES ARCESS Array B 35.55 13 P **P** **12 36 18.5 -1.8**
comp=Z,2.9nm,0.7s,baz=212,slow=8.2,SNR=16
ARCES PcP **PcP** **12 38 49.6 +0.5**
comp=Z,3.7nm,0.7s,baz=199,slow=2.6,SNR=9.2
ARCES LR LR 12 52 09.8
comp=Z,2μm,18.7s,baz=222,slow=39
ARE0 ARCESS Array S 35.55 13 *e*P **P** **12 36 21.7 +1.4**
ARE0 ARCESS Array S 35.55 13 *e*P **P** **12 36 21.7 +1.4**
APA Apatity 35.70 19⇓ *i*P P 12 36 26.0 +4.4
APA *i* 12 37 45.0
APA *i* S S 12 42 06.0 +8.5
KEV Kevo 36.01 13 *e*P **P** **12 36 22.9 -1.3**
KEV Kevo 36.01 13 *e*P **P** **12 36 22.9 -1.3**
KEV Kevo 36.01 13 *e*P **P** **12 36 22.9 -1.3**
LVZ Lovozero 36.27 19 *e*P **P** **12 36 26.7 +0.2**
LVZ pmax pmax
comp=Z,15nm,1.2s
LVZ MLR MLR
comp=Z,3μm,21.0s
LVZ Lovozero 36.27 19 *e*P **P** **12 36 26.8 +0.2**
LVZ Lovozero 36.27 19 *e*P **P** **12 36 26.8 +0.3**
PRGR Permogore 36.45 32 *e*P **P** **12 36 27.7 -0.4**
PRGR *e**PP **PP** **12 37 47.9 -3.0**
PRGR *e*S **S** **12 42 13.7 +4.6**
PRGR pmax pmax
comp=Z,30nm,0.9s
PRGR Permogore 36.45 32 *e*P **P** **12 36 27.7 -0.4**
comp=Z,30nm,0.9s
RAYN Ar Rayn 37.76 98 *e*P **P** **12 36 39.4 -0.4**
comp=Z,21nm,1.6s
RAYN Ar Rayn 37.76 98 *e*P **P** **12 36 39.4 -0.4**
comp=Z,21nm,1.6s
AKTK Aktyubinsk 40.92 52 P **P** **12 37 04.6 -1.2**
AKTO Aktyubinsk 40.92 52 P **P** **12 37 04.6 -1.2**
comp=Z,12nm,0.8s,baz=261,slow=7.8,SNR=18
AKTO LR LR 12 55 58.1
comp=Z,1μm,19.2s,baz=287,slow=39
ARU Arti 41.52 43 P **P** **12 37 09.2 -1.3**
comp=Z,192nm,0.8s,SNR=7.2
ARU Arti 41.52 43*d* *i*P **P** **12 37 09.3 -1.3**
ARU 12 39 07.9
ARU S **S** **12 43 23.5 -2.0**
ARU SS **SS** **12 46 25.8 -4.1**
ARU pmax pmax
comp=Z,27nm,1.2s
ARU MLR MLR
comp=Z,5μm,16.0s
ARU Arti 41.52 43 *i* P **P** **12 37 09.3 -1.3**
comp=Z,27nm,1.2s
ARU Arti 41.52 43 PcP **PcP** **12 39 07.9 +0.1**
ARU Arti 41.52 43 *e*P **P** **12 37 09.1 -1.5**
DAMY Dhamar 41.83 110 *e*P **P** **12 37 16.7 +2.7**
comp=Z,154nm,1.9s
DAMY Dhamar 41.83 110 *e*P **P** **12 37 16.7 +2.7**
comp=Z,154nm,1.9s
DAG Danmarks Havn 42.10 352 *i* P **P** **12 37 14.4 -0.7**
comp=Z,10nm,1.0s
comp=Z,1μm,14.0s
DAG Danmarks Havn 42.10 352 *i* P **P** **12 37 14.4 -0.7**
DAG pmax pmax
comp=Z,10.0nm,1.0s
DAG MLR MLR
comp=Z,1μm,14.0s
ABKAR Akbulak array 42.21 54 *e*P **P** **12 37 15.0 -1.4**
comp=Z,6.9nm,0.6s
ABKAR Akbulak array 42.21 54 *e*P **P** **12 37 15.0 -1.4**
comp=Z,6.9nm,0.6s
SUMG Summit 42.41 342 *i* P **P** **12 37 19.6 +1.4**
comp=Z,3μm,17.0s
SUMG Summit 42.41 342 *e*P **P** **12 37 18.8 +0.6**
SUMG pmax pmax
comp=Z,11nm,0.5s
SUMG Summit 42.41 342 *e*P **P** **12 37 18.8 +0.6**
comp=Z,11nm,0.5s
SUMG Summit 42.41 342 *e*P **P** **12 37 18.8 +0.6**
comp=Z,11nm,0.5s
SPITS Spitsbergen Ar 42.58 4 P **P** **12 37 16.5 -2.5**
comp=Z,6.6nm,1.0s,baz=188,slow=7.3,SNR=3.0
SPITS PcP **PcP** **12 39 11.1 +0.1**
comp=Z,2.9nm,0.7s,baz=151,slow=3.3,SNR=4.7
GEYT Alibeck 42.68 71 P **P** **12 37 20.1 -0.3**
comp=Z,16nm,1.0s,baz=285,slow=7.3,SNR=18
GEYT LR LR 12 59 42.9
comp=Z,466nm,18.0s,baz=250,slow=43
SVE Sverdlovsk 42.70 43 *e*P **P** **12 37 20.0 -0.2**
SVE *e*S **S** **12 43 39.0 -3.9**
SVE *e* 12 46 50.3
SVE pmax pmax
comp=Z,69nm,1.3s
SVE MLR MLR
comp=Z,5μm,16.0s
SVE MLR MLR
comp=E,4μm,15.0s
SVE Sverdlovsk 42.70 43 *e*P **P** **12 37 20.0 -0.2**
comp=E,69nm,1.3s
SFJD Kangerlussuaq 43.74 332 *i* P **P** **12 37 28.5 0.0**
comp=E,26nm,1.2s
comp=Z,2μm,14.0s
SFJD Kangerlussuaq 43.74 332 P **P** **12 37 27.0 -1.5**
comp=Z,12nm,0.9s,baz=103,slow=9.9,SNR=6.6
SFJD Kangerlussuaq 43.74 332 *i* P **P** **12 37 28.5 0.0**
SFJD pmax pmax
comp=Z,26nm,1.2s
SFJD MLR MLR
comp=Z,2μm,14.0s
SFJD Kangerlussuaq 43.74 332 *i* P **P** **12 37 28.5 0.0**
comp=Z,2μm,14.0s
SFJD Kangerlussuaq 43.74 332 *e*P **P** **12 37 28.4 -0.1**

IPAY Payeh 43.75 73 *e*P **P** **12 37 28.0 -1.3**
IPAY Payeh 43.75 73 P **P** **12 37 28.0 -1.3**
SNR=1.0
MBAR Mbarara 44.07 140 P **P** **12 37 32.0 0.0**
comp=Z,79nm,0.9s,SNR=8.1
ISRO Mashad 44.16 73 *e*P **P** **12 37 33.4 +1.0**
ISRO Mashad 44.16 73 P **P** **12 37 33.4 +1.0**
SNR=1.0
IMYA Miami 44.64 72 *e*P **P** **12 37 36.1 -0.2**
IMYA Miami 44.64 72 P **P** **12 37 36.1 -0.2**
SNR=1.0
NAZ Nazwa, Dubai 45.30 89 P **P** **12 37 42.1 +0.6**
SNR=1.0
NAZ Nazwa, Dubai 45.30 89⇓ *i*P **P** **12 37 42.1 +0.6**
SNR=5.8
BANOM Banah 45.41 88 P **P** **12 37 42.5 +0.1**
SNR=1.0
BANOM Banah 45.41 88⇓ P **P** **12 37 42.5 +0.1**
HATD Hatta, Dubai 45.76 89 P **P** **12 37 45.7 +0.6**
SNR=1.0
HATD Hatta, Dubai 45.76 89⇑ *i*P **P** **12 37 45.7 +0.6**
SNR=6.1
ASHO Ashiyiah 45.76 89 P **P** **12 37 45.7 +0.5**
SNR=1.0
ASHO Ashiyiah 45.76 89⇓ *i*P **P** **12 37 45.7 +0.5**
SNR=5.5
UOSS Wadi Hilu 45.76 89 P **P** **12 37 44.7 -0.5**
comp=Z,121nm,0.8s,SNR=5.1
ARQ Araqi 46.76 91 P **P** **12 37 53.5 +0.4**
SNR=1.0
ARQ Araqi 46.76 91 P **P** **12 37 53.5 +0.4**
SNR=8.6
BSY Bisya 47.59 91 P **P** **12 38 00.0 +0.5**
SNR=7.0
BSYO Bisya 47.62 91 P **P** **12 38 00.0 +0.2**
SNR=1.0
SMDO Samad 48.12 90 P **P** **12 38 03.7 -0.1**
SNR=1.0
SMDO Samad 48.12 90 P **P** **12 38 03.7 -0.1**
SNR=7.9
KMBO Kilima Mbogo 48.16 133 P **P** **12 38 04.8 +0.5**
comp=Z,18nm,0.9s,baz=331,slow=8.7,SNR=21
KMBO LR LR 12 59 56.2
comp=Z,3μm,21.4s,baz=318,slow=38
KMBO Kilima Mbogo 48.16 133 P **P** **12 38 04.8 +0.5**
KMBO pmax pmax
comp=Z,18nm,0.9s
KMBO MLR MLR
comp=Z,3μm,21.4s
KMBO Kilima Mbogo 48.16 133 *e*P **P** **12 38 04.7 +0.5**
comp=Z,37nm,1.1s
KMBO Kilima Mbogo 48.16 133 *e*P **P** **12 38 04.7 +0.5**
comp=Z,37nm,1.1s
BRVK Borovoye 48.35 48 *e*P **P** **12 38 08.1 +3.1**
BRVK pmax pmax
comp=Z,52nm,1.0s
BRVK MLR MLR
comp=Z,3μm,19.0s
BRVK Borovoye 48.35 48 P P 12 38 08.6 +3.6
SNR=6.3
BRVK Borovoye 48.35 48 P P 12 38 08.6 +3.6
SNR=6.3
BVAR Borovoye Array 48.42 48 P **P** **12 38 05.0 -0.6**
comp=Z,18nm,1.0s,baz=257,slow=5.9,SNR=12
BVAR LR LR 12 59 31.4
comp=Z,2μm,20.2s,baz=282,slow=38
JMDO Jabal Madar 48.50 91 P **P** **12 38 06.5 -0.1**
SNR=1.0
JMDO Jabal Madar 48.50 91 P **P** **12 38 06.5 -0.1**
SNR=7.9
KKAR Karatay Array 50.48 60 *e*P **P** **12 38 21.6 +0.1**
KKAR pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 50.48 60 *e*P **P** **12 38 21.6 +0.1**
comp=Z,4.0nm,0.6s
KKAR Karatay Array 50.48 60 *e*P **P** **12 38 21.6 +0.1**
comp=Z,4.1nm,0.6s
SCHQ Schefferville 50.89 315 P **P** **12 38 22.3 -2.1**
comp=Z,13nm,0.8s,baz=82,slow=7.7,SNR=13
SCHQ LR LR 12 56 45.3
comp=Z,2μm,21.1s,baz=96,slow=32
SCHQ Schefferville 50.89 315 *e*P **P** **12 38 23.7 -0.7**
SCHQ Schefferville 50.89 315 *e*P **P** **12 38 23.7 -0.7**
KBL Kabul 52.12 71 *e*P **P** **12 38 35.3 +1.2**
KBL pmax pmax
comp=Z,8.0nm,0.8s
KBL Kabul 52.12 71 *e*P **P** **12 38 35.3 +1.2**
comp=Z,8.0nm,0.8s
KBL Kabul 52.12 71 *e*P **P** **12 38 35.3 +1.2**
comp=Z,8.2nm,0.8s
EKS2 Erkin-Say 52.91 60 *e*P **P** **12 38 40.8 +1.1**
EKS2 pmax pmax
comp=Z,28nm,0.8s
EKS2 Erkin-Say 52.91 60 *e*P **P** **12 38 40.8 +1.1**
comp=Z,28nm,0.8s
EKS2 Erkin-Say 52.91 60 *e*P **P** **12 38 40.8 +1.1**
comp=Z,28nm,0.8s
AAK Ala-Archa 53.42 60 P **P** **12 38 42.4 -1.2**
comp=Z,10.0nm,0.8s,baz=264,slow=9.2,SNR=2.3
AAK LR LR 13 04 56.4
comp=Z,2μm,20.2s,baz=295,slow=40
AAK Ala-Archa 53.42 60 *e*P **P** **12 38 45.4 +1.9**
AAK pmax pmax
comp=Z,63nm,1.7s
AAK MLR MLR
comp=Z,4μm,21.0s
AAK Ala-Archa 53.42 60 *e*P **P** **12 38 45.3 +1.7**
AAK Ala-Archa 53.42 60 *e*P **P** **12 38 45.3 +1.7**
PQI Presque Isle 53.42 305 *e*P **P** **12 38 43.5 +0.2**
comp=Z,27nm,0.9s
PQI Presque Isle 53.42 305 *e*P **P** **12 38 43.5 +0.2**
comp=Z,27nm,0.9s
KURBB Kurchatov Arra 53.84 49 P **P** **12 38 45.4 -0.8**
baz=289,slow=8.2
KURK Kurchatov 53.87 49 P **P** **12 38 46.1 -0.4**
comp=Z,184nm,0.8s,SNR=5.4
KURK Kurchatov 53.87 49 *e*P **P** **12 38 46.0 -0.4**
KURK Kurchatov 53.87 49 *e*P **P** **12 38 46.0 -0.4**
KURK Kurchatov 53.87 49 *e*P **P** **12 38 46.0 -0.5**
TKM2 Tokmak 2 54.10 59 *e*P **P** **12 38 50.8 +2.2**
TKM2 pmax pmax
comp=Z,8.0nm,0.8s
TKM2 Tokmak 2 54.10 59 *e*P **P** **12 38 50.8 +2.2**
comp=Z,8.0nm,0.8s
TKM2 Tokmak 2 54.10 59 *e*P **P** **12 38 50.8 +2.2**
comp=Z,8.4nm,0.8s
PKME Peaks-Kenny Pk 54.68 304 *e*P **P** **12 38 52.5 +0.1**
PKME Peaks-Kenny Pk 54.68 304 *e*P **P** **12 38 52.5 +0.1**
KSH Kashi 55.51 63 P **P** **12 39 00.1 +1.4**
KSH pP **pP** **12 39 04.8 +1.2**
KSH sP **sP** **12 39 07.1 +1.7**
KSH PP **PP** **12 41 05.8 +3.3**
KSH PcS **PcS** **12 43 58.0 -0.9**
KSH S **S** **12 46 43.8 +0.3**
KSH sS **sS** **12 46 51.3 -0.2**
KSH PMZ
comp=Z,38nm,1.1s
KSH PMZ
comp=Z,170nm,3.4s
KSH LN
comp=Z,1μm,12.7s
KSH LE
comp=Z,650nm,10.2s
KSH LZ
comp=Z,500nm,17.2s
NVS Novosibirsk 55.52 44 *e*P **P** **12 38 57.8 -0.6**
NVS *e*S **S** **12 46 41.9 -1.0**
NVS *e* 12 48 43.2
NVS pmax pmax
comp=Z,54nm,1.5s
NVS pmax pmax
comp=E,21nm,1.7s
NVS pmax pmax
comp=Z,35nm,1.7s
NVS pmax pmax
comp=E,9.0nm,1.2s
NVS smax smax
comp=N,27nm,2.5s
NVS smax smax
comp=E,33nm,2.2s
NVS Novosibirsk 55.52 44 *e*P **P** **12 38 57.8 -0.6**
comp=E,27nm,2.5s
NVS *e*S **S** **12 46 41.9 -1.0**
LSZ Lusaka 55.88 152 *e*P **P** **12 39 01.3 -0.2**
LSZ pmax pmax
comp=Z,112nm,1.4s
LSZ Lusaka 55.88 152 *e*P **P** **12 39 01.3 -0.2**

	comp=Z,112nm,1.4s									
LSZ	**Lusaka**	55.88	152	*e*P		P	12 39 01.3	-0.2		
	comp=Z,112nm,1.4s									
TSUM	**Tsumeb**	56.39	165	*e*P		P	12 39 05.6	+0.5		
	comp=Z,104nm,1.4s									
TSUM	**Tsumeb**	56.39	165	*e*P		P	12 39 05.6	+0.5		
	comp=Z,104nm,1.4s									
ZAA0	**Zalesovo Array**	56.65	44	*e*P		P	12 39 05.7	-0.8		
ZAA0	**Zalesovo Array**	56.65	44	*e*P		P	12 39 05.7	-0.8		
ZALV	**Zalesovo Beam**	56.65	44	P		P	12 39 05.6	-0.9		
	comp=Z,5.3nm,0.7s,baz=284,slow=8.0,SNR=12									
ZALV				LR		LR	13 05 23.1			
	comp=Z,2µm,18.8s,baz=250,slow=38									
MK31	**Makanchi Array**	57.35	53	*e*P		P	12 39 10.8	-0.8		
MK31	**Makanchi Array**	57.35	53	*e*P		P	12 39 10.8	-0.8		
MK31	**Makanchi Array**	57.35	53	*e*P		P	12 39 10.8	-0.8		
MKAR	**Makanchi Array**	57.35	53	P		P	12 39 10.7	-0.9		
	comp=Z,42nm,0.7s,baz=280,slow=9.8,SNR=58									
MKAR				LR		LR	13 06 09.0			
	comp=Z,2µm,18.3s,baz=298,slow=39									
MDV	**Middlebury**	57.72	304	*e*P		P	12 39 14.8	+0.6		
MDV	**Middlebury**	57.72	304	*e*P		P	12 39 14.8	+0.6		
ACCN	**Adirondack Com**	58.27	303	*e*P		P	12 39 20.8	+2.7		
	comp=Z,15nm,1.1s									
ACCN	**Adirondack Com**	58.27	303	*e*P		P	12 39 20.8	+2.7		
	comp=Z,15nm,1.1s									
NCB	**Newcomb**	58.43	304	*e*P		P	12 39 19.5	+0.2		
	comp=Z,6.9nm,0.8s									
NCB	**Newcomb**	58.43	304	*e*P		P	12 39 19.5	+0.2		
	comp=Z,6.9nm,0.8s									
LONY	**Lake Ozonia**	58.44	305	*e*P		P	12 39 18.6	-0.7		
	comp=Z,7.2nm,0.8s									
LONY	**Lake Ozonia**	58.44	305	*e*P		P	12 39 18.6	-0.7		
	comp=Z,7.2nm,0.8s									
CPNY	**Central Park**	59.45	300	*e*P		P	12 39 26.7	+0.4		
	comp=Z,38nm,0.8s									
CPNY	**Central Park**	59.45	300	*e*P		P	12 39 26.7	+0.4		
	comp=Z,38nm,0.8s									
WMQ	**Urumqi**	61.99	55	P		P	12 39 44.1	+0.4		
WMQ				pP		**pP**	12 39 48.8	+0.2		
WMQ				sP		**sP**	12 39 51.1	+0.7		
WMQ				PcP		**PcP**	12 40 24.0	-0.2		
WMQ				PP		**PP**	12 42 02.8	+2.9		
WMQ				PcS		**PcS**	12 44 25.8	-1.5		
WMQ				S		**S**	12 48 07.0	-0.6		
WMQ				sS		**sS**	12 48 14.0	-1.6		
WMQ				ScS		**SKKSac**	12 49 32.6	-2.6		
WMQ				PMZ						
	comp=Z,24nm,0.8s									
WMQ				PMZ						
	comp=Z,140nm,3.8s									
WMQ				LN						
	comp=Z,3µm,15.0s									
WMQ				LE						
	comp=Z,2µm,15.6s									
WMQ				LZ						
	comp=Z,1µm,17.6s									
SSPA	**Standing Stone**	62.24	302	*e*P		P	12 39 45.7	+0.4		
	comp=Z,24nm,0.9s									
SSPA	**Standing Stone**	62.24	302	*e*P		P	12 39 45.7	+0.4		
	comp=Z,24nm,0.9s									
ALLY	**Alegheny Colle**	63.35	303	*e*P		P	12 39 55.1	+2.4		
	comp=Z,36nm,0.8s									
ALLY	**Alegheny Colle**	63.35	303	*e*P		P	12 39 55.1	+2.4		
	comp=Z,36nm,0.8s									
JSRW	**J. Sargeant Re**	63.50	299	*e*P		P	12 39 55.2	+1.5		
JSRW	**J. Sargeant Re**	63.50	299	*e*P		P	12 39 55.2	+1.5		
FCC	**Fort Churchill**	63.92	325	*e*P		P	12 39 56.4	+0.3		
FCC				pmax		pmax				
	comp=Z,15nm,0.8s									
FCC	**Fort Churchill**	63.92	325	*e*P		P	12 39 56.4	+0.3		
	comp=Z,15nm,0.8s									
FCC	**Fort Churchill**	63.92	325	*e*P		P	12 39 56.4	+0.3		
	comp=Z,15nm,0.8s									
LBTB	**Lobatse**	64.02	158	*e*P		P	12 39 56.9	-0.4		
LBTB				pmax		pmax				
	comp=Z,64nm,0.9s									
LBTB	**Lobatse**	64.02	158	*e*P		P	12 39 56.9	-0.4		
	comp=Z,64nm,0.9s									
LBTB	**Lobatse**	64.02	158	*e*P		P	12 39 56.9	-0.4		
	comp=Z,64nm,0.9s									
VWCC	**Virginia Weste**	65.19	299	*e*P		P	12 40 05.6	+0.7		
VWCC	**Virginia Weste**	65.19	299	*e*P		P	12 40 05.6	+0.7		
BLA	**Blacksburg**	65.52	299	*e*P		P	12 40 07.6	+0.5		
BLA				pmax		pmax				
	comp=Z,12nm,0.7s									
BLA	**Blacksburg**	65.52	299	*e*P		P	12 40 07.6	+0.5		
	comp=Z,12nm,0.7s									
BLA	**Blacksburg**	65.52	299	*e*P		P	12 40 07.6	+0.5		
	comp=Z,12nm,0.7s									
TIXI	**Tiksi**	65.85	17	*e*P		P	12 40 09.1	+0.6		
TIXI				pmax		pmax				
	comp=Z,7.0nm,1.2s									
TIXI				MLR		MLR				
	comp=Z,948nm,17.0s									
TIXI	**Tiksi**	65.85	17	*e*P		P	12 40 09.3	+0.8		
	comp=Z,49nm,1.8s									
TIXI	**Tiksi**	65.85	17	*e*P		P	12 40 09.3	+0.8		
	comp=Z,49nm,1.8s									
ACSO	**Alum Creek Sta**	65.90	303	*e*P		P	12 40 09.7	+0.3		
	comp=Z,60nm,0.9s									
ACSO	**Alum Creek Sta**	65.90	303	*e*P		P	12 40 09.7	+0.3		
	comp=Z,60nm,0.9s									
KOLN	**Koldanda**	66.27	72	*e*P		P	12 40 11.6	-0.6		
	comp=Z,33nm,0.7s									
MOY	**Mondy**	66.57	42	*e*P		P	12 40 15.2	+1.6		
MOY	**Mondy**	66.57	42	*e*P		P	12 40 15.2	+1.6		
GKN	**Gorkha**	66.95	71	*e*P		P	12 40 15.7	-0.8		
	comp=Z,132nm,1.1s									
COWI	**Conover**	67.13	311	*e*P		P	12 40 17.2	0.0		
	comp=Z,44nm,0.9s									
COWI	**Conover**	67.13	311	*e*P		P	12 40 17.2	0.0		
	comp=Z,44nm,0.9s									
KMSC	**Kings Mountain**	67.15	298	*e*P		P	12 40 18.2	+0.8		
	comp=Z,9.8nm,0.7s									
KMSC	**Kings Mountain**	67.15	298	*e*P		P	12 40 18.2	+0.8		
	comp=Z,9.8nm,0.7s									
KMSC	**Kings Mountain**	67.15	298	⇑P		P	12 40 16.1	-1.3		
	baz=67									
RPR	**Rampur**	67.39	83	*e*P		P	12 40 18.4	-0.8		
SDDR	**Presa de Saban**	67.50	278	*e*P		P	12 40 21.6	+1.7		
	comp=Z,29nm,0.9s									
SDDR	**Presa de Saban**	67.50	278	*e*P		P	12 40 21.6	+1.7		
	comp=Z,29nm,0.9s									
DMN	**Daman**	67.51	72	*e*P		P	12 40 19.5	-0.7		
	comp=Z,298nm,1.4s									
KKN	**Kakani**	67.56	71	*e*P		P	12 40 19.5	-0.9		
	comp=Z,80nm,0.9s									
HYBB	**Hyderabad (bro**	67.56	84	*e*P		P	12 40 21.4	+1.1		
HYB	**Hyderabad**	67.56	84	*i* P		P	12 40 19.0	-1.3		
HYB				*e*			12 40 43.5			
EYMN	**Ely**	67.65	314	*e*P		P	12 40 20.4	0.0		
	comp=Z,31nm,0.8s									
EYMN	**Ely**	67.65	314	*e*P		P	12 40 20.4	0.0		
	comp=Z,31nm,0.8s									
PKIN	**Phulchoki**	67.75	71	*e*P		P	12 40 21.6	-0.1		
	comp=Z,143nm,1.4s									
PKI	**Pulchoki**	67.76	71	*e*P		P	12 40 22.4	+0.5		
URV	**Uravakonda**	67.84	87	*e*P		P	12 40 23.8	+1.7		
GUN	**Gumba**	67.95	71	*e*P		P	12 40 23.2	+0.1		
TLY	**Talaya**	68.00	41	*e*P		P	12 40 23.7	+1.1		
TLY				*e*SSS		SSS	12 56 36.9			
TLY				pmax		pmax				
	comp=Z,36nm,1.8s									
TLY				MLR		MLR				
	comp=Z,2µm,18.0s									
TLY	**Talaya**	68.00	41	P		P	12 40 23.7	+1.1		
	SNR=15									
TLY	**Talaya**	68.00	41	P		P	12 40 23.7	+1.1		
	SNR=15									
TLY	**Talaya**	68.00	41	*e*P		P	12 40 23.5	+0.9		
	comp=Z,27nm,1.3s									
IRK	**Irkutsk**	68.05	41	*e*P		P	12 40 22.5	-0.3		
IRK				pmax		pmax				
	comp=Z,56nm,1.8s									
IRK	**Irkutsk**	68.05	41	*e*P		P	12 40 22.5	-0.3		
	comp=Z,56nm,1.8s									
JIRN	**Jiri**	68.32	71	*e*P		P	12 40 25.6	+0.2		
	comp=Z,80nm,0.8s									
ZAK	**Zakamensk**	68.46	43	*e*P		P	12 40 23.0	-2.6		
ZAK				pmax		pmax				
	comp=Z,6.0nm,1.7s									
SFIN	**Lafayette**	68.60	305	*e*P		P	12 40 25.6	-0.9		
	comp=Z,26nm,1.0s									
SFIN	**Lafayette**	68.60	305	*e*P		P	12 40 25.6	-0.9		
	comp=Z,26nm,1.0s									
SFIN	**Lafayette**	68.60	305	⇓P		P	12 40 25.0	-1.5		
	baz=68									
NJS	**Nagarjunasagar**	68.63	85	*e*P		P	12 40 29.8	+2.8		
TKL	**Tuckaleechee C**	68.64	299	*e*P		P	12 40 26.9	0.0		
TKL	**Tuckaleechee C**	68.64	299	*e*P		P	12 40 26.9	0.0		
TKL	**Tuckaleechee C**	68.64	299	*e*P		P	12 40 26.9	0.0		
ULM	**Lac du Bonnet**	68.97	317	P		P	12 40 27.3	-1.3		
	comp=Z,44nm,0.8s,baz=68,slow=6.1,SNR=30									
ULM	**Lac du Bonnet**	68.97	317	P		P	12 40 27.3	-1.3		
	comp=Z,44nm,0.8s				pmax	pmax				
RAMN	**Ramite**	68.99	71	*e*P		P	12 40 29.6	+0.1		
	comp=Z,173nm,1.4s									
WCI	**Wyandotte Cave**	69.12	303	*e*P		P	12 40 29.8	0.0		
WCI					pmax	pmax				
	comp=Z,26nm,0.8s									
WCI	**Wyandotte Cave**	69.12	303	*e*P		P	12 40 29.8	0.0		
	comp=Z,26nm,0.8s									
WCI	**Wyandotte Cave**	69.12	303	*e*P		P	12 40 29.8	0.0		
	comp=Z,26nm,0.8s									
CPCT	**Cooper Cave**	69.27	299	*e*P		P	12 40 30.7	-0.1		
CPCT	**Cooper Cave**	69.27	299	*e*P		P	12 40 30.7	-0.1		
JFWS	**Jewell Farm**	69.39	308	*e*P		P	12 40 32.4	+1.0		
JFWS					pmax	pmax				
	comp=Z,12nm,0.8s									
JFWS	**Jewell Farm**	69.39	308	*e*P		P	12 40 32.4	+1.0		
	comp=Z,12nm,0.8s									
JFWS	**Jewell Farm**	69.39	308	*e*P		P	12 40 32.4	+1.0		
	comp=Z,12nm,0.8s									
GOGA	**Godfrey**	69.53	297	*e*P		P	12 40 32.5	+0.1		
GOGA					pmax	pmax				
	comp=Z,25nm,0.9s									
GOGA	**Godfrey**	69.53	297	*e*P		P	12 40 32.5	+0.1		
	comp=Z,25nm,0.9s									
GOGA	**Godfrey**	69.53	297	*e*P		P	12 40 32.5	+0.1		
	comp=Z,25nm,0.9s									
TAPN	**Taplejung**	69.64	71	*e*P		P	12 40 33.8	+0.3		
ODAN	**Odare**	69.64	71	*e*P		P	12 40 34.2	+0.7		
BOD	**Bodaibo**	69.69	32	*e*P		P	12 40 31.2	-1.8		
BOD					pmax	pmax				
	comp=Z,23nm,1.4s									
BOD	**Bodaibo**	69.69	32	*e*P		P	12 40 31.2	-1.8		
	comp=Z,23nm,1.4s									
PTGA	**Pitinga**	69.70	254	LR		LR	13 09 50.9			
	comp=Z,617nm,18.5s,baz=113,slow=35									
FFC	**Flin Flon**	69.71	324	P		P	12 40 33.6	+0.5		
	comp=Z,85nm,1.1s,SNR=6.2									
FFC	**Flin Flon**	69.71	324	*e*P		P	12 40 32.7	-0.5		
FFC					pmax	pmax				
	comp=Z,14nm,0.9s									
FFC	**Flin Flon**	69.71	324	*e*P		P	12 40 32.7	-0.5		
	comp=Z,14nm,0.9s									
FFC	**Flin Flon**	69.71	324	*e*P		P	12 40 32.7	-0.5		
	comp=Z,14nm,0.9s									
SPMN	**Marine on St.**	69.79	312	*e*P		P	12 40 33.5	-0.4		
	comp=Z,41nm,0.8s									
SPMN	**Marine on St.**	69.79	312	*e*P		P	12 40 33.5	-0.4		
	comp=Z,41nm,0.8s									
SPMN	**Marine on St.**	69.79	312	⇓P		P	12 40 32.3	-1.5		
	baz=70,SNR=14									
HDIL	**Hopedale**	69.96	306	*e*P		P	12 40 36.8	+1.9		
	comp=Z,28nm,0.8s									
HDIL	**Hopedale**	69.96	306	*e*P		P	12 40 36.8	+1.9		
	comp=Z,28nm,0.8s									
AGMN	**Agassiz Nation**	69.99	316	*e*P		P	12 40 34.4	-0.5		
	comp=Z,29nm,0.8s									
AGMN	**Agassiz Nation**	69.99	316	*e*P		P	12 40 34.4	-0.5		
	comp=Z,29nm,0.8s									
AGMN	**Agassiz Nation**	69.99	316	⇑P		P	12 40 33.6	-1.4		
	baz=70,SNR=18									
OLIL	**Olney**	70.09	304	*e*P		P	12 40 34.9	-0.8		
	comp=Z,55nm,0.8s									
OLIL	**Olney**	70.09	304	*e*P		P	12 40 34.9	-0.8		
	comp=Z,55nm,0.8s									
USIN	**University of**	70.19	303	*e*P		P	12 40 36.4	0.0		
	comp=Z,55nm,0.8s									
USIN	**University of**	70.19	303	*e*P		P	12 40 36.4	0.0		
	comp=Z,55nm,0.8s									
YKA	**Yellowknife Ar**	70.25	334	P		P	12 40 35.5	-0.8		
	comp=Z,4.5nm,0.6s,baz=52,slow=6.0,SNR=83									
YKA				PKPPKP		**P'P'df**	13 08 40.7	-4.4		
	comp=Z,0.9nm,1.1s,baz=226,slow=3.3,SNR=5.3									
SKHT	**Srikalahasti**	70.48	87	*e*P		P	12 40 38.2	-0.3		
A30A	**Hoffart Farm,**	71.01	317	⇑P		P	12 40 40.3	-0.9		
	baz=71,SNR=32									
LSA	**Lhasa**	71.03	67	P		P	12 40 41.8	-0.4		
LSA	**Lhasa**	71.03	67	*e*P		P	12 40 42.0	-0.2		
LSA					pmax	pmax				
	comp=Z,64nm,0.9s									
LSA	**Lhasa**	71.03	67	*e*P		P	12 40 42.0	-0.2		
	comp=Z,64nm,0.9s									
LSA	**Lhasa**	71.03	67	*e*P		P	12 40 42.0	-0.2		
	comp=Z,64nm,0.9s									
BDFB	**Brasilia**	71.18	233	P		P	12 40 44.1	+1.4		
	comp=Z,10nm,0.9s,baz=87,slow=4.8,SNR=7.6									
BDFB				LR		LR	13 11 50.7			
	comp=Z,2µm,18.3s,baz=38,slow=36									
WVT	**Waverly**	71.24	301	*e*P		P	12 40 41.5	-1.3		
WVT					pmax	pmax				
	comp=Z,10.0nm,0.8s									
WVT	**Waverly**	71.24	301	*e*P		P	12 40 41.5	-1.3		
	comp=Z,10.0nm,0.8s									
WVT	**Waverly**	71.24	301	*e*P		P	12 40 41.5	-1.3		
	comp=Z,10nm,0.8s									
INK	**Inuvik**	71.28	345	P		P	12 40 40.0	-2.4		
	comp=Z,8.4nm,1.1s,baz=20,slow=7.7,SNR=21									
INK	**Inuvik**	71.28	345	P		P	12 40 40.0	-2.4		
B30A	**Myrvik Farm, E**	71.29	317	⇑P		P	12 40 41.9	-1.0		
	baz=71,SNR=23									
CHLP	**Challavanipeta**	71.40	80	*e*P		P	12 40 44.7	+0.7		
A29A	**Manning Farm,**	71.53	317	⇑P		P	12 40 43.6	-0.8		
	baz=71									
SONM	**Songino Array**	71.55	44	P		P	12 40 43.8	-0.8		
	comp=Z,3.1nm,0.9s,baz=301,slow=6.6,SNR=16									
SONM				LR		LR	13 14 53.6			
	comp=Z,2µm,18.5s,baz=307,slow=38									
C30A	**Mose, Pekin**	71.79	316	⇑P		P	12 40 44.8	-1.2		
	baz=72,SNR=17									
B29A	**Wagenman Farm,**	71.85	317	⇓P		P	12 40 45.2	-1.1		
	baz=72									
ULN	**Ulaanbaatar**	71.90	44	*e*P		P	12 40 46.4	-0.4		
ULN					pmax	pmax				
	comp=Z,15nm,1.4s									
ULN	**Ulaanbaatar**	71.90	44	*e*P		P	12 40 46.4	-0.4		
	comp=Z,15nm,1.4s									
ULN	**Ulaanbaatar**	71.90	44	*e*P		P	12 40 46.4	-0.4		
	comp=Z,16nm,1.4s									
GTA	**Gaotai**	72.07	54	*e*P		P	12 40 48.3	+0.4		
GTA				pP		**pP**	12 40 52.5	-0.4		
GTA				sP		**sP**	12 40 55.6	+0.9		
GTA				S		**S**	12 50 11.8	+2.4		
GTA				sS		**SKiKP**	12 50 21.0	-3.3		
GTA				SKS		**SKSac**	12 50 48.4	-3.4		
GTA				PMZ						
	comp=Z,10.0nm,1.0s									
GTA				PMZ						
	comp=Z,51nm,6.2s									
GTA				LN						
	comp=Z,720nm,15.4s									
GTA				LE						
	comp=Z,870nm,14.0s									
GTA				LZ						
	comp=Z,960nm,19.0s									
A28A	**Rude Farm, Bot**	72.10	318	⇑P		P	12 40 47.0	-0.8		
	baz=72									
LRAL	**Lakeview Retre**	72.27	298	*e*P		P	12 40 48.4	-0.6		
	comp=Z,20nm,0.8s									
LRAL	**Lakeview Retre**	72.27	298	*e*P		P	12 40 48.4	-0.6		
	comp=Z,20nm,0.8s									
D30A	**Buchanan**	72.28	316	⇓P		P	12 40 48.1	-0.8		
	baz=72									
MDND	**Maddock**	72.33	317	⇓P		P	12 40 48.4	-0.8		
	baz=72									
B28A	**Dugan Ranch, T**	72.41	317	⇑P		P	12 40 48.8	-0.9		
	baz=72									
SDV	**Santo Domingo**	72.50	268	*e*P		P	12 40 53.4	+2.5		
	comp=Z,35nm,1.0s									
SDV	**Santo Domingo**	72.50	268	*e*P		P	12 40 53.4	+2.5		
	comp=Z,35nm,1.0s									
A27A	**Ledoux Ranch,**	72.61	318	⇑P		P	12 40 50.0	-0.8		
	baz=72									
E30A	**Jud**	72.70	315	⇑P		P	12 40 50.3	-1.2		
	baz=73									
D29A	**Pettibone, Tap**	72.78	316	⇑P		P	12 40 50.9	-0.9		
	baz=73									
C28A	**Hausauer Farms**	72.85	317	⇓P		P	12 40 51.2	-1.0		
	baz=73									
YAK	**Yakutsk**	72.89	24	*e*P		P	12 40 51.1	-1.1		
YAK				*e**PP		**pP**	12 40 59.8	+2.6		
YAK				*e*			12 41 08.8			
YAK				*e*PPP		PPP	12 45 21.8			
YAK				*e*S		**S**	12 50 14.7	-3.0		
YAK				*e*			12 50 55.0			
YAK				*e*SS		**SS**	12 54 54.7	-2.2		
YAK				*e*SSS		SSS	12 58 10.6			
YAK				pmax		pmax				
	comp=E,6.0nm,1.1s									
YAK				pmax		pmax				
	comp=Z,22nm,1.1s									
YAK				pmax		pmax				
	comp=N,9.0nm,1.4s									
YAK				pmax		pmax				
	comp=Z,67nm,2.7s									
YAK				pmax		pmax				
	comp=E,82nm,4.5s									
YAK				pmax		pmax				
	comp=N,85nm,3.6s									
YAK				smax		smax				
	comp=E,192nm,6.8s									
YAK				smax		smax				
	comp=N,132nm,4.5s									
YAK				MLR		MLR				
	comp=N,1µm,17.0s									
YAK				MLR		MLR				
	comp=E,1µm,16.0s									
YAK				MLR		MLR				
	comp=Z,2µm,16.0s									
YAK	**Yakutsk**	72.89	24	*e*P		P	12 40 52.2	0.0		
	comp=Z,44nm,1.0s									
YAK	**Yakutsk**	72.89	24	*e*P		P	12 40 52.2	0.0		
	comp=Z,44nm,1.0s									
YAK				*e*PcP		**PcP**	12 41 10.2	+1.0		
ECSD	**EROS Data Cent**	72.89	312	*e*P		P	12 40 52.4	-0.3		
	comp=Z,39nm,0.8s									
ECSD	**EROS Data Cent**	72.89	312	*e*P		P	12 40 52.4	-0.3		
	comp=Z,39nm,0.8s									
ECSD	**EROS Data Cent**	72.89	312	⇓P		P	12 40 51.3	-1.3		
	baz=73,SNR=42									
B27A	**Peters Farms,**	72.93	318	⇓P		P	12 40 51.9	-0.9		
	baz=73									
E29A	**Napoleon**	73.08	316	⇓P		P	12 40 52.9	-0.8		
	baz=73									
F30A	**Leola**	73.14	315	⇑P		P	12 40 52.8	-1.3		
	baz=73									
OXF	**Oxford**	73.19	301	*e*P		P	12 40 53.1	-1.4		
OXF				pmax		pmax				
	comp=Z,117nm,0.9s									
OXF	**Oxford**	73.19	301	*e*P		P	12 40 53.1	-1.4		
	comp=Z,117nm,0.9s									
OXF	**Oxford**	73.19	301	*e*P		P	12 40 53.1	-1.4		
	comp=Z,117nm,0.9s									
C27A	**Sayler Ranch,**	73.46	317	⇑P		P	12 40 55.1	-0.8		
	baz=73									
B26A	**Jensen Ranch,**	73.48	318	⇑P		P	12 40 55.3	-0.7		
	baz=73									
F29A	**Eureka**	73.61	315	⇑P		P	12 40 55.5	-1.3		
	baz=74									
G30A	**Faulkton**	73.61	314	⇓P		P	12 40 55.8	-1.1		
	baz=74,SNR=14									
A25A	**Svangstu Ranch**	73.62	319	⇓P		P	12 40 55.7	-1.2		
	baz=74,SNR=5.4									
E28A	**Huff**	73.67	316	⇑P		P	12 40 56.9	-0.3		
	baz=74,SNR=22									
C26A	**Wahner Farm, P**	73.72	318	⇓P		P	12 40 56.7	-0.8		
	baz=74									
D27A	**Center**	73.83	317	⇑P		P	12 40 57.3	-0.8		
	baz=74									
BRSD	**Miller**	73.89	313	*e*P		P	12 40 58.9	+0.4		
	comp=Z,76nm,0.8s									
BRSD	**Miller**	73.89	313	*e*P		P	12 40 58.9	+0.4		
	comp=Z,76nm,0.8s									
BRSD	**Miller**	73.89	313	⇑P		P	12 40 57.8	-0.7		
	baz=74									
G29A	**Hoven**	74.03	314	⇓P		P	12 40 58.3	-1.0		
	baz=74									
B25A	**Knox Farm, Ray**	74.04	318	⇓P		P	12 40 58.5	-0.8		
	baz=74									
A24A	**Westby**	74.10	319	⇓P		P	12 40 58.6	-1.0		
	baz=74,SNR=11									
F28A	**McLaughlin**	74.15	315	⇓P		P	12 40 59.2	-0.8		
	baz=74,SNR=13									
Q37A	**Longview Farm,**	74.22	307	⇑P		P	12 40 59.4	-1.1		
	baz=74									
E27A	**Carson**	74.25	316	⇑P		P	12 40 59.5	-1.1		
	baz=74									
D26A	**Manning**	74.38	317	⇓P		P	12 41 01.0	-0.3		
	baz=74,SNR=6.3									
DGMT	**Dagmar**	74.47	319	*e*P		P	12 41 02.8	+1.0		
	comp=Z,12nm,0.6s									
DGMT	**Dagmar**	74.47	319	*e*P		P	12 41 02.

baz=75,SNR=9.0
KSU1 Kansas State U 75.49 308 eP P 12 41 07.9 +0.1
comp=Z,36nm,0.8s
KSU1 Kansas State U 75.49 308 eP P 12 41 07.9 +0.1
comp=Z,36nm,0.8s
KSU1 Kansas State U 75.49 308 ⇑P P 12 41 06.2 -1.6
baz=75
G26A Maurine 75.50 316 ⇑P P 12 41 07.1 -0.7
baz=75,SNR=26
B22A Reddig Ranch S 75.53 320 ⇓P P 12 41 08.1 +0.2
baz=75,SNR=5.3
A21A Bergtoll Ranch 75.58 321 ⇓P P 12 41 07.8 -0.4
baz=75,SNR=13
H27A Howes 75.60 315 ⇓P P 12 41 07.6 -0.9
baz=76,SNR=7.8
N32A Stulken Farm, 75.60 310 ⇑P P 12 41 07.0 -1.5
baz=76
F25A Bowman 75.60 317 ⇓P P 12 41 08.1 -0.4
baz=76,SNR=5.4
S36A Lake Cedric, C 75.61 306 ⇓P P 12 41 07.2 -1.4
baz=76,SNR=8.6
K29A Lazy Trails An 75.67 313 ⇓P P 12 41 07.7 -1.2
baz=76
M31A Lambtecht Ranc 75.69 311 ⇓P P 12 41 07.8 -1.1
baz=76,SNR=5.7
E24A Baker 75.69 317 ⇓P P 12 41 07.6 -1.4
baz=76
IMP Imphal 75.74 70 eP P 12 41 12.0 +2.4
L30A Spencer Herefo 75.79 312 ⇓P P 12 41 08.8 -0.8
baz=76
J28A Allard Ranch, 75.83 314 ⇑P P 12 41 09.5 -0.3
baz=76,SNR=16
O32A Brockman Farm, 75.88 310 ⇓P P 12 41 08.6 -1.5
baz=76,SNR=7.1
EGAK Eagle 75.89 345 eP P 12 41 10.1 +0.5
comp=Z,34nm,1.5s
EGAK Eagle 75.89 345 eP P 12 41 10.1 +0.5
comp=Z,34nm,1.5s
I27A Quinn 75.92 314 ⇓P P 12 41 09.4 -0.9
baz=76
EDM Edmonton 75.92 327 eP P 12 41 10.0 -0.1
EDM pmax pmax
comp=Z,47nm,0.9s
EDM Edmonton 75.92 327 eP P 12 41 10.0 -0.1
comp=Z,47nm,0.9s
EDM Edmonton 75.92 327 eP P 12 41 10.0 -0.1
comp=Z,47nm,0.9s
N31A Bailey Ranch, 75.97 310 ⇑P P 12 41 08.9 -1.8
baz=76
B21A Ellsworth Farm 75.98 320 ⇓P P 12 41 08.6 -1.9
baz=76
P33A Williams Farm, 75.99 309 ⇓P P 12 41 09.9 -0.8
baz=76
H26A Fairpoint 76.01 315 ⇓P P 12 41 09.8 -1.0
baz=76
G25A Newell 76.02 316 ⇑P P 12 41 10.4 -0.5
baz=76
MIAR Mount Ida 76.05 303 eP P 12 41 10.3 -0.8
MIAR pmax pmax
comp=Z,26nm,0.8s
MIAR Mount Ida 76.05 303 eP P 12 41 10.3 -0.8
comp=Z,26nm,0.8s
MIAR Mount Ida 76.05 303 eP P 12 41 10.3 -0.8
comp=Z,26nm,0.8s
S35A Otter Creek Ra 76.11 307 ⇑P P 12 41 10.2 -1.2
baz=76
M30A Dale-Ortello V 76.12 311 ⇑P P 12 41 10.6 -0.9
baz=76,SNR=5.2
A20A Cobblestone Ra 76.16 321 ⇑P P 12 41 10.9 -0.7
baz=76,SNR=14
T36A Boggs Farm, Ca 76.17 306 ⇓P P 12 41 10.8 -1.0
baz=76,SNR=20
L29A Maesberg Ranch 76.18 312 ⇑P P 12 41 10.8 -1.0
baz=76
F24A Ekalaka 76.20 317 ⇓P P 12 41 12.2 +0.3
baz=76,SNR=37
E23A Ismay 76.27 318 ⇑P P 12 41 12.4 +0.2
baz=76,SNR=5.3
K28A Ten Mile Ranch 76.33 313 ⇑P P 12 41 12.3 -0.3
baz=76
Q33A Connelly Farm, 76.33 308 ⇑P P 12 41 11.3 -1.4
baz=76
D22A Cohagen 76.34 319 ⇓P P 12 41 12.5 -0.1
baz=76,SNR=20
J27A Elkhorn Farm, 76.38 314 ⇓P P 12 41 12.9 -0.1
baz=76,SNR=6.2
W38A Poteau 76.39 303 ⇓P P 12 41 11.8 -1.2
baz=76
C21A Desert Coulee 76.40 320 ⇓P P 12 41 12.6 -0.3
baz=76,SNR=6.7
I26A New Underwood 76.41 315 ⇑P P 12 41 12.8 -0.3
baz=76,SNR=8.5
P32A Huiting Farm, 76.45 309 ⇓P P 12 41 12.5 -0.9
baz=76,SNR=24
H25A Fruitdale 76.47 316 ⇑P P 12 41 13.5 +0.1
baz=76,SNR=9.7
B20A Solberg Farm, 76.49 321 ⇓P P 12 41 11.1 -2.3
baz=76
G24A Alzada 76.50 317 ⇑P P 12 41 13.3 -0.3
baz=76,SNR=18
A19A Klindworth Far 76.55 321 ⇓P P 12 41 13.6 -0.2
baz=76,SNR=17
LZH Lanzhou 76.56 55 ⇓P P 12 41 16.1 +1.9
LZH pP pP 12 41 20.3 +1.1
LZH sP sP 12 41 22.8 +1.8
LZH S S 12 51 00.5 +0.5
LZH sS sS 12 51 07.1 -1.1
LZH PMZ
comp=Z,40nm,1.0s
LZH PMZ
comp=Z,190nm,4.0s
LZH LN
comp=Z,260nm,17.7s
LZH LE
comp=Z,240nm,16.1s
LZH LZ
comp=Z,330nm,17.5s
O31A Woolen Ranch, 76.60 310 ⇓P P 12 41 13.4 -0.8
baz=76,SNR=7.2
S34A Willow Spring 76.61 307 ⇓P P 12 41 13.5 -0.8
baz=76,SNR=6.3
LAO LASA Array 76.65 318 eP P 12 41 15.0 +0.6
comp=Z,40nm,0.8s
LAO LASA Array 76.65 318 eP P 12 41 15.0 +0.6
comp=Z,40nm,0.8s
E22A Miles City 76.66 318 ⇓P P 12 41 14.3 -0.1
baz=76,SNR=22
T35A Sooner Cattle 76.67 306 ⇑P P 12 41 13.9 -0.8
baz=76,SNR=29
N30A Hueftle Ranch, 76.70 311 ⇑P P 12 41 13.1 -1.7
baz=77
TUL1 Leonard 76.77 305 eP P 12 41 14.7 -0.5
comp=Z,25nm,0.8s
TUL1 Leonard 76.77 305 eP P 12 41 14.7 -0.5
comp=Z,25nm,0.8s
TUL1 Leonard 76.77 305 ⇓P P 12 41 14.2 -1.0
baz=77
Q32A Meitler Ranch, 76.79 309 ⇓P P 12 41 14.0 -1.3
baz=77,SNR=7.0
F23A Volborg 76.81 317 ⇑P P 12 41 15.2 -0.1
baz=77,SNR=14
R33A Olander Ranch, 76.82 308 ⇑P P 12 41 14.7 -0.8
baz=77
L28A Connealy Angus 76.84 313 ⇑P P 12 41 15.1 -0.5
baz=77
K27A Flueckinger Fa 76.84 313 ⇓P P 12 41 15.5 -0.1
baz=77,SNR=7.1
IM04 Indian Mountai 76.89 351 eP P 12 41 17.0 +1.7
IM04 Indian Mountai 76.89 351 eP P 12 41 17.0 +1.7
I25A Rochford 76.92 315 ⇑P P 12 41 15.8 -0.3
baz=77,SNR=79
H24A Dirks Ranch, A 76.93 316 ⇑P P 12 41 15.6 -0.4
baz=77,SNR=7.3
C20A Veseth Ranch, 76.95 320 ⇑P P 12 41 15.3 -0.7
baz=77,SNR=24
B19A Brinkman Farms 76.95 321 ⇓P P 12 41 15.6 -0.4
baz=77,SNR=7.0
W37A Quinton 76.97 304 ⇑P P 12 41 15.3 -1.0
baz=77,SNR=6.2
ILAR Eielson Array 76.98 348 P P 12 41 15.8 0.0
comp=Z,4.1nm,1.0s,baz=9.1,slow=4.0,SNR=20
ILAR PKPPKP P'P'df 13 08 28.9 -4.3
comp=Z,1.7nm,1.2s,baz=236,slow=3.0,SNR=6.3
ILAR LR LR 13 18 43.5
comp=Z,696nm,19.0s,baz=40,slow=39
P31A Stockton 77.00 309 ⇑P P 12 41 15.6 -0.9
baz=77,SNR=23
N29A Votaw Ranch, W 77.00 311 ⇑P P 12 41 15.8 -0.7
baz=77,SNR=9.8
RSSD Black Hills 77.03 315 eP P 12 41 16.8 0.0
RSSD pmax pmax
comp=Z,24nm,0.8s
RSSD Black Hills 77.03 315 eP P 12 41 16.8 0.0
comp=Z,24nm,0.8s
RSSD Black Hills 77.03 315 eP P 12 41 16.8 0.0
comp=Z,24nm,0.8s
O30A MW Ranch, Wils 77.03 310 ⇑P P 12 41 16.1 -0.5
baz=77,SNR=17
COLA College 77.05 348 eP P 12 41 17.2 +1.0
COLA pmax pmax
comp=Z,6.0nm,0.9s
COLA College 77.05 348 eP P 12 41 17.1 +1.0
comp=Z,6.4nm,0.9s
COLA College 77.05 348 eP P 12 41 17.1 +1.0
comp=Z,6.4nm,0.9s
T34A McClaskey Farm 77.05 306 ⇑P P 12 41 16.1 -0.6
baz=77,SNR=12
M28A Bar X Bar Ranc 77.11 312 ⇓P P 12 41 15.7 -1.5
baz=77
G23A Biddle 77.12 317 ⇓P P 12 41 16.4 -0.7
baz=77,SNR=31
Z39A Irene McRaven, 77.20 302 ⇑P P 12 41 16.9 -0.7
baz=77
E21A Keefer Ranch, 77.20 319 ⇑P P 12 41 17.0 -0.5
baz=77
R32A Long Quarter, 77.22 308 ⇑P P 12 41 16.9 -0.8
baz=77,SNR=5.1
F22A Rosebud 77.24 318 ⇓P P 12 41 17.3 -0.4
baz=77,SNR=18
X37A Clayton 77.24 303 ⇑P P 12 41 17.8 0.0
baz=77,SNR=20
S33A Kaszmaul Farm, 77.25 307 ⇓P P 12 41 17.5 -0.4
baz=77,SNR=8.7
L27A T5 Ranch, Ellis 77.27 313 ⇓P P 12 41 17.3 -0.7
baz=77
Q31A Ellis 77.31 309 ⇓P P 12 41 16.9 -1.3
baz=77,SNR=7.5
J25A Sunshine Ranch 77.34 315 ⇑P P 12 41 17.1 -1.3
baz=77
K26A Motz Farm, Whi 77.40 314 ⇑P P 12 41 17.6 -1.1
baz=77
C19A Slack Wire Ran 77.47 321 ⇓P P 12 41 18.9 -0.1
baz=77,SNR=36
DOT Dot Lake 77.48 346 eP P 12 41 19.0 +0.3
comp=Z,13nm,0.9s
DOT Dot Lake 77.48 346 eP P 12 41 19.1 +0.3
comp=Z,13nm,0.9s
W36A Wetumka 77.50 304 ⇑P P 12 41 18.3 -1.0
baz=77
O29A 4D Ranch, Culb 77.52 311 ⇓P P 12 41 18.2 -1.2
baz=77
I24A Kuemmerle Ranc 77.52 315 ⇓P P 12 41 19.0 -0.5
baz=77,SNR=7.6
H23A Clabaugh Cattl 77.52 316 ⇓P P 12 41 18.1 -1.3
baz=77
P30A Selden 77.53 310 ⇓P P 12 41 18.8 -0.7
baz=77,SNR=12
V35A Meyer Ranch, C 77.55 305 ⇑P P 12 41 18.8 -0.8
baz=77
G22A Birney 77.61 317 ⇑P P 12 41 18.5 -1.3
baz=78
U34A Anderson Ranch 77.62 306 eP P 12 41 20.2 +0.2
comp=Z,67nm,0.7s
U34A Anderson Ranch 77.62 306 eP P 12 41 20.2 +0.2
comp=Z,67nm,0.7s
U34A Anderson Ranch 77.62 306 ⇑P P 12 41 19.3 -0.6
baz=78,SNR=13
N28A Pribbeno Ranch 77.64 311 ⇓P P 12 41 19.8 -0.3
baz=78,SNR=6.5
M27A Reverse DX Ran 77.64 313 ⇑P P 12 41 19.4 -0.7
baz=78
EGMT Eagleton 77.65 321 eP P 12 41 20.5 +0.5
comp=Z,34nm,0.9s
EGMT Eagleton 77.65 321 eP P 12 41 20.5 +0.5
comp=Z,34nm,0.9s
EGMT Eagleton 77.65 321 ⇑P P 12 41 20.2 +0.2
baz=78,SNR=33
139A Bunkhouse Ranc 77.66 301 ⇓P P 12 41 19.9 -0.4
baz=78
F21A Absaloka Mine, 77.68 318 ⇑P P 12 41 19.3 -0.9
baz=78
T33A Patterson Ranc 77.70 307 ⇑P P 12 41 20.2 -0.3
baz=78,SNR=15
HIA Hailar 77.72 37 eP P 12 41 21.3 +1.0
HIA pmax pmax
comp=Z,39nm,1.1s
HIA Hailar 77.72 37 eP P 12 41 21.3 +1.0
comp=Z,39nm,1.1s
HIA Hailar 77.72 37 eP P 12 41 21.3 +1.0
comp=Z,39nm,1.1s
L26A Underwood Farm 77.75 313 ⇓P P 12 41 20.2 -0.5
baz=78,SNR=6.3
Z38A Mt. Pleasant 77.75 302 ⇑P P 12 41 20.1 -0.6
baz=78
D19A Cripps Ranch, 77.75 320 ⇓P P 12 41 20.5 -0.1
baz=78,SNR=5.3
OGNE Ogallala 77.78 312 ⇑P P 12 41 18.8 -2.1
baz=78
E20A Meyer Farm, Mu 77.78 319 ⇓P P 12 41 20.4 -0.4
baz=78,SNR=6.6
S32A Newby Ranch, P 77.79 308 ⇓P P 12 41 20.0 -0.9
baz=78,SNR=8.6
ROSC El Rosal 77.81 267 P P 12 41 21.6 -0.2
comp=Z,5.4nm,0.4s,baz=93,slow=4.9,SNR=6.3
ROSC LR LR 13 14 25.0
comp=Z,488nm,19.4s,baz=28,slow=35
R31A Burdett 77.82 309 ⇓P P 12 41 20.4 -0.7
baz=78,SNR=9.0
Q30A Quinter 77.85 309 ⇑P P 12 41 20.7 -0.6
baz=78
BTO Baotou 77.85 48 eP P 12 41 20.5 -0.8
J24A Dixon Ranch, L 77.87 315 ⇓P P 12 41 21.3 -0.1
baz=78,SNR=22
X36A Centrahoma 77.92 304 ⇓P P 12 41 20.9 -0.8
baz=78,SNR=6.7
P29A Atwood 77.92 310 ⇑P P 12 41 20.8 -0.8
baz=78
W35A Teumseh 77.93 305 ⇓P P 12 41 20.7 -1.0
baz=78
I23A Meade Ranch, G 77.93 316 ⇑P P 12 41 20.9 -0.9
baz=78
V34A Guthrie 77.96 306 eP P 12 41 21.9 +0.1
comp=Z,33nm,0.8s
V34A Guthrie 77.96 306 eP P 12 41 21.9 +0.1
comp=Z,33nm,0.8s
V34A Guthrie 77.96 306 ⇑P P 12 41 20.7 -1.1
baz=78
U33A Lingo Farm, Me 78.00 306 ⇓P P 12 41 21.7 -0.4
baz=78,SNR=9.7
340A Bronson 78.03 300 ⇑P P 12 41 21.3 -1.0
baz=78
H22A Clearmont 78.03 317 ⇑P P 12 41 22.2 -0.1
baz=78,SNR=14
MENT Mentasta 78.06 346 eP P 12 41 23.3 +1.4
MENT Mentasta 78.06 346 eP P 12 41 23.3 +1.4
T32A Huddler Ranch, 78.09 307 ⇑P P 12 41 20.3 -2.3
baz=78
239A Gary 78.09 301 ⇑P P 12 41 20.9 -1.7
baz=78
G21A Lodge Grass 78.11 318 ⇑P P 12 41 22.7 +0.1
baz=78,SNR=5.9
O28A Krutsinger Ran 78.12 311 ⇓P P 12 41 21.9 -0.8
baz=78
M26A McRoberts Ranc 78.13 313 ⇓P P 12 41 22.0 -0.9
baz=78,SNR=5.3
SEY Seymchan 78.15 14 eP P 12 41 24.6 +2.2
SEY Seymchan 78.15 14 eP P 12 41 24.6 +2.2
138A Matatall Enter 78.16 302 ⇑P P 12 41 22.1 -0.9
baz=78
E19A Rath Farm, Rou 78.16 319 ⇓P P 12 41 21.7 -1.1
baz=78,SNR=18
N27A Anderson Farm, 78.17 312 ⇑P P 12 41 22.3 -0.7
baz=78
S31A Mullinville 78.19 308 ⇓P P 12 41 22.8 -0.3
baz=78,SNR=19
L25A Engebretsen Ra 78.19 314 ⇓P P 12 41 22.1 -1.1
baz=78
Z37A Pogue Cattle C 78.21 302 ⇓P P 12 41 21.9 -1.4
baz=78
F20A Billings 78.25 319 ⇑P P 12 41 21.7 -1.7
baz=78
MCK McKinley 78.29 348 eP P 12 41 23.7 +0.5
MCK pmax pmax
comp=Z,28nm,1.4s
MCK McKinley 78.29 348 eP P 12 41 23.7 +0.5
comp=Z,28nm,1.4s
MCK McKinley 78.29 348 eP P 12 41 23.7 +0.5
comp=Z,28nm,1.4s
R30A Dighton 78.30 309 ⇓P P 12 41 23.3 -0.4
baz=78,SNR=19
J23A Dilts Ranch, B 78.33 316 ⇑P P 12 41 22.2 -1.8
baz=78
K24A Anderson Ranch 78.34 315 ⇓P P 12 41 23.6 -0.4
baz=78,SNR=6.4
Q29A Oakley 78.37 310 ⇓P P 12 41 22.9 -1.3
baz=78,SNR=18
DLBC Dease Lake 78.39 337 eP P 12 41 25.9 +2.0
comp=Z,38nm,1.5s
DLBC Dease Lake 78.39 337 eP P 12 41 25.9 +2.0
comp=Z,38nm,1.5s
H21A Big Horn, Sher 78.39 317 ⇑P P 12 41 23.4 -0.9
baz=78
X35A Drake 78.43 304 ⇓P P 12 41 22.7 -1.8
baz=78
P28A Saint Francis 78.44 311 ⇑P P 12 41 24.2 -0.4
baz=78,SNR=6.5
V33A Lossen Ranch, 78.47 306 ⇓P P 12 41 23.7 -1.0
baz=78,SNR=12
W34A Bridge Creek, 78.48 305 ⇑P P 12 41 24.0 -0.8
baz=78
HYT Haines Junctio 78.51 342 eP P 12 41 26.7 +2.1
comp=Z,2µm,3.5s
HYT Haines Junctio 78.51 342 eP P 12 41 26.7 +2.1
comp=Z,2µm,3.5s
O27A Beecher Island 78.51 311 ⇓P P 12 41 24.2 -0.7
baz=78
TNA Tin City 78.55 357 eP P 12 41 25.8 +1.3
comp=Z,15nm,0.8s
TNA Tin City 78.55 357 eP P 12 41 25.8 +1.3
comp=Z,15nm,0.8s
I22A 9 Mile Ranch, 78.55 316 ⇓P P 12 41 24.9 -0.2
baz=78,SNR=30
N26A Koester Ranch, 78.57 312 ⇓P P 12 41 24.2 -1.1
baz=78
U32A Winter Ranch, 78.61 307 ⇑P P 12 41 25.3 -0.2
baz=78,SNR=18
HHC Hu-ho-hao-te 78.63 48 eP P 12 41 24.3 -1.3
HHC PP PP 12 44 23.8 +0.8
HHC S S 12 51 18.8 -3.3
HHC sS sS 12 51 26.8 -3.6
HHC SKS SKSac 12 51 33.6 -6.8
HHC ScS SKSac 12 51 41.3 -0.2
HHC SS SS 12 56 25.0 -0.2
HHC PMZ
comp=Z,8.0nm,1.1s
HHC PMZ
comp=Z,91nm,5.1s
HHC LN
comp=Z,1µm,14.7s
HHC LE
comp=Z,1µm,14.5s
HHC LZ
comp=Z,1µm,15.1s
F19A Roth Farm, Mol 78.64 319 ⇑P P 12 41 25.2 -0.3
baz=78,SNR=65
137A Heron Place, G 78.65 302 ⇑P P 12 41 25.3 -0.4
baz=78
G20A Bridger 78.66 318 ⇓P P 12 41 25.1 -0.6
baz=78,SNR=50
M25A Palm-Egli Farm 78.69 313 ⇑P P 12 41 25.3 -0.7
baz=78,SNR=7.4
R29A Marienthal 78.75 309 ⇑P P 12 41 26.4 +0.1
baz=79,SNR=6.8
TRF Thorofare Moun 78.77 349 eP P 12 41 26.0 0.0
comp=Z,18nm,1.0s
TRF Thorofare Moun 78.77 349 eP P 12 41 26.1 0.0
comp=Z,18nm,1.0s
KTH Kantishna Hill 78.78 349 eP P 12 41 27.0 +1.1
comp=Z,26nm,1.0s
KTH Kantishna Hill 78.78 349 eP P 12 41 27.0 +1.1
comp=Z,26nm,1.0s
K23A Bowen Ranch, D 78.78 315 ⇓P P 12 41 25.7 -0.8
baz=79,SNR=22
Q28A Sharon Springs 78.80 310 ⇓P P 12 41 26.1 -0.5
baz=79,SNR=6.2
S30A Montezuma 78.80 308 ⇓P P 12 41 26.1 -0.5
baz=79,SNR=10
X34A Smith Ranch, M 78.89 305 ⇓P P 12 41 26.9 -0.2
baz=79,SNR=7.8
P27A Ficken Ranch, 78.96 311 ⇑P P 12 41 25.8 -1.6
baz=79
O26A Horse Wrangler 78.98 312 ⇑P P 12 41 26.2 -1.4
baz=79
H20A Greybull 79.01 318 ⇑P P 12 41 27.1 -0.6
baz=79,SNR=12
WALA Waterton Lakes 79.01 324 eP P 12 41 26.9 -0.7
comp=Z,11nm,0.8s
WALA Waterton Lakes 79.01 324 eP P 12 41 26.9 -0.7
comp=Z,11nm,0.8s
237A Washetta, Mont 79.03 302 ⇑P P 12 41 26.9 -0.9
baz=79
I21A Big Trails, Te 79.05 317 ⇑P P 12 41 27.3 -0.7
baz=79,SNR=44
GCMT Greycliff 79.06 319 eP P 12 41 28.6 +0.7
comp=Z,16nm,0.8s
GCMT Greycliff 79.06 319 eP P 12 41 28.6 +0.7
comp=Z,16nm,0.8s
R28A Tribune 79.22 310 ⇑P P 12 41 28.2 -0.8
baz=79,SNR=29
S29A Ulysses 79.23 309 ⇑P P 12 41 28.0 -0.9
baz=79,SNR=8.6
Z35A Perchaven, San 79.25 303 ⇑P P 12 41 28.1 -0.9
baz=79,SNR=5.9
RLMT Red Lodge 79.29 319 eP P 12 41 30.0 +0.7
comp=Z,9.6nm,0.9s
RLMT Red Lodge 79.29 319 eP P 12 41 30.0 +0.7
comp=Z,9.6nm,0.9s
KSCO Kaye Shedlock' 79.32 311 eP P 12 41 30.4 +0.9
comp=Z,31nm,0.8s
KSCO Kaye Shedlock' 79.32 311 eP P 12 41 30.4 +0.9
comp=Z,31nm,0.8s
KSCO Kaye Shedlock' 79.32 311 ⇑P P 12 41 28.1 -1.4
baz=79
K22A Casper 79.36 315 eP P 12 41 29.2 -0.5
comp=Z,42nm,0.8s
K22A Casper 79.36 315 eP P 12 41 29.2 -0.5
comp=Z,42nm,0.8s
K22A Casper 79.36 315 ⇓P P 12 41 29.1 -0.5
baz=79,SNR=31
X33A Lawton 79.37 305 ⇑P P 12 41 28.2 -1.4
baz=79
P26A Davis Ranch, A 79.42 311 ⇑P P 12 41 30.0 -0.1
baz=79,SNR=6.2
H19A Powell 79.43 318 ⇓P P 12 41 30.2 +0.2
baz=79,SNR=29
J21A Lysite 79.44 316 ⇑P P 12 41 29.8 -0.3
baz=79,SNR=35
WMOK Wichita Mounta 79.44 305 eP P 12 41 30.1 +0.1
WMOK pmax pmax
comp=Z,16nm,0.9s
WMOK Wichita Mounta 79.44 305 eP P 12 41 30.1 +0.1
comp=Z,16nm,0.9s
WMOK Wichita Mounta 79.44 305 eP P 12 41 30.1 +0.1
comp=Z,16nm,0.9s
CD2 Chengdu 79.48 60 P P 12 41 30.3 -0.1
CD2 sP sP 12 41 37.3 +0.1
CD2 PP PP 12 44 29.9 -0.4
CD2 S S 12 51 30.5 -0.9
CD2 SS SS 12 56 34.3 -4.0
CD2 PMZ
comp=Z,120nm,1.2s
CD2 PMZ
comp=Z,140nm,6.0s
CD2 LN
comp=Z,1µm,15.6s
CD2 LE
comp=Z,750nm,18.0s
CD2 LZ
comp=Z,1µm,18.1s
337A Centerville 79.48 301 ⇑P P 12 41 30.2 -0.1
baz=79
W32A Sentinel 79.52 306 ⇓P P 12 41 30.4 -0.1
baz=79,SNR=9.3
V31A Spring Creek L 79.52 307 ⇓P P 12 41 29.8 -0.7
baz=79
438A Sam Houston St 79.53 300 ⇓P P 12 41 30.3 -0.3
baz=79
236A Katherine and 79.53 302 ⇓P P 12 41 28.9 -1.6
baz=79
O25A Wiggins 79.55 312 ⇓P P 12 41 30.0 -0.7
baz=79
N24A Carr 79.56 313 ⇑P P 12 41 30.7 -0.1
baz=79,SNR=9.0
HRY Holter Researc 79.57 321 eP P 12 41 31.5 +0.8

comp=Z,8.6nm,1.0s
HRY **Holter Researc** 79.57 321 *e*P P 12 41 31.5 +0.8
comp=Z,8.6nm,1.0s
U30A **WK&E Inc. Balk** 79.59 308 ⇑P P 12 41 30.8 -0.1
baz=80,SNR=5.4
PPLA **Purkeypile** 79.59 349 *e*P P 12 41 31.0 +0.5
comp=Z,74nm,1.5s
PPLA **Purkeypile** 79.59 349 *e*P P 12 41 31.0 +0.5
comp=Z,74nm,1.5s
PHWY **Pilot Hill** 79.60 314 *e*P P 12 41 31.5 +0.3
comp=Z,63nm,0.8s
PHWY **Pilot Hill** 79.60 314 *e*P P 12 41 31.4 +0.3
comp=Z,63nm,0.8s
T29A **Hugoton** 79.62 308 ⇓P P 12 41 30.9 -0.1
baz=80,SNR=7.0
Z34A **Collier Ranch,** 79.67 304 ⇑P P 12 41 30.5 -0.8
baz=80
J20A **Shoshoni** 79.79 317 ⇓P P 12 41 31.2 -0.8
baz=80,SNR=57
H18A **Shoshone NF, C** 79.79 318 ⇓P P 12 41 31.4 -0.6
baz=80,SNR=58
135A **Vickery Place,** 79.81 303 ⇑P P 12 41 31.1 -0.9
baz=80
538A **Harpers Horsep** 79.84 300 ⇑P P 12 41 30.6 -1.6
baz=80
I19A **Meeteetse** 79.85 318 ⇓P P 12 41 32.1 -0.2
baz=80,SNR=33
R27A **Eads** 79.87 310 ⇓P P 12 41 32.1 -0.4
baz=80,SNR=11
YBMT **Yellow Bay** 79.88 323 *e*P P 12 41 32.5 +0.2
comp=Z,5.3nm,0.8s
YBMT **Yellow Bay** 79.88 323 *e*P P 12 41 32.5 +0.2
comp=Z,5.3nm,0.8s
Q26A **Hugo** 79.92 311 ⇓P P 12 41 32.4 -0.3
baz=80,SNR=7.4
437A **Phantom Ranch,** 79.94 301 ⇓P P 12 41 31.9 -0.9
baz=80
X32A **Elmer** 79.96 305 ⇑P P 12 41 32.8 0.0
baz=80,SNR=7.5
BMRM **Bremner River** 80.02 345 *e*P P 12 41 34.6 +1.9
BMRM **Bremner River** 80.02 345 *e*P P 12 41 34.6 +1.9
U29A **Oasis Ranch, S** 80.03 308 ⇓P P 12 41 32.4 -0.9
baz=80,SNR=5.4
SLMT **Seeley Lake** 80.05 322 *e*P P 12 41 33.8 +0.5
comp=Z,9.4nm,0.9s
SLMT **Seeley Lake** 80.05 322 *e*P P 12 41 33.8 +0.5
comp=Z,9.4nm,0.9s
V30A **Spur Ranch, Mi** 80.07 307 ⇑P P 12 41 32.3 -1.2
baz=80
JTMT **Jette** 80.09 323 *e*P P 12 41 33.2 -0.3
comp=Z,5.8nm,0.8s
JTMT **Jette** 80.09 323 *e*P P 12 41 33.2 -0.3
comp=Z,5.8nm,0.8s
336A **Riesel** 80.11 302 ⇓P P 12 41 32.3 -1.4
baz=80
O24A **Longmont** 80.11 313 ⇑P P 12 41 33.0 -0.8
baz=80,SNR=6.9
SWMT **Swartz Lake** 80.12 323 *e*P P 12 41 33.8 +0.2
comp=Z,12nm,0.9s
SWMT **Swartz Lake** 80.12 323 *e*P P 12 41 33.8 +0.2
comp=Z,12nm,0.9s
N23A **Red Feather La** 80.14 314 ⇑P P 12 41 33.6 -0.5
baz=80,SNR=31
CHMT **Chamberlain Mo** 80.16 322 *e*P P 12 41 34.0 +0.1
comp=Z,6.9nm,0.9s
CHMT **Chamberlain Mo** 80.16 322 *e*P P 12 41 34.0 +0.1
comp=Z,7.0nm,0.9s
T28A **Walsh** 80.16 309 ⇓P P 12 41 33.5 -0.5
baz=80
WHTX **Lake Whitney,** 80.17 302 ⇓P P 12 41 32.3 -1.8
baz=80
BOZ **Bozeman (W)** 80.19 320 *e*P P 12 41 34.9 +0.9
BOZ pmax pmax
comp=Z,13nm,0.8s
BOZ **Bozeman (W)** 80.19 320 *e*P P 12 41 34.9 +0.9
comp=Z,13nm,0.8s
BOZ **Bozeman (W)** 80.19 320 *e*P P 12 41 34.9 +0.9
comp=Z,13nm,0.8s
M22A **Cedar Creek Ra** 80.20 314 ⇑P P 12 41 33.8 -0.6
baz=80,SNR=26
134A **White-Moore Ra** 80.25 303 ⇓P P 12 41 33.6 -0.9
baz=80
R26A **Arlington** 80.26 310 ⇓P P 12 41 34.3 -0.3
baz=80,SNR=33
BSMT **Bassoo Peak** 80.27 323 *e*P P 12 41 35.0 +0.5
BSMT **Bassoo Peak** 80.27 323 *e*P P 12 41 35.0 +0.5
Z33A **Whitaker Ranch** 80.29 304 ⇑P P 12 41 33.5 -1.2
baz=80
X31A **McDonald Ranch** 80.29 306 ⇑P P 12 41 33.5 -1.2
baz=80
S27A **Las Animas** 80.31 310 ⇑P P 12 41 34.1 -0.7
baz=80,SNR=8.3
Y32A **R-V Farms, Ver** 80.31 305 ⇓P P 12 41 34.2 -0.5
baz=80
W30A **Crocket Farms** 80.35 307 ⇑P P 12 41 34.1 -1.0
baz=80
J19A **Crowheart** 80.38 317 ⇓P P 12 41 34.5 -0.7
baz=80,SNR=18
SIV **San Ignacio** 80.39 242 P P 12 41 36.1 +0.8
comp=Z,8.2nm,0.8s,baz=75,slow=6.3,SNR=18
SIV PP PP 12 44 38.6 0.0
comp=Z,3.1nm,1.0s,baz=77,slow=13,SNR=3.5
SIV LR LR 13 16 59.7
comp=Z,669nm,18.4s,baz=65,slow=36
H17A **Grant Village** 80.47 319 *e*P P 12 41 39.3 +3.6
comp=Z,20nm,0.8s
H17A **Grant Village** 80.47 319 ⇓P P 12 41 36.7 +1.0
baz=80
YMR **Madison River** 80.49 319 *e*P P 12 41 37.9 +2.1
comp=Z,23nm,0.9s
YMR **Madison River** 80.49 319 *e*P P 12 41 37.9 +2.1
comp=Z,23nm,0.9s
LRM **Limekiln Ridge** 80.49 321 *e*P P 12 41 36.9 +1.1
comp=Z,74nm,0.9s
LRM **Limekiln Ridge** 80.49 321 *e*P P 12 41 36.9 +1.1
comp=Z,74nm,0.9s
N22A **Wattenberg Ran** 80.50 314 ⇓P P 12 41 35.6 -0.3
baz=80,SNR=35
537A **Green Hill Far** 80.51 300 ⇑P P 12 41 35.6 -0.3
baz=80
V29A **Stinnett** 80.54 308 ⇓P P 12 41 35.9 -0.1
baz=80,SNR=6.8
MSO **Missoula** 80.56 322 ⇓P P 12 41 35.4 -0.6
baz=80,SNR=6.8
O23A **Lake Granby, G** 80.56 313 ⇑P P 12 41 35.9 -0.5
baz=80,SNR=44
YFT **Old Faithful** 80.57 319 *e*P P 12 41 39.0 +2.7
comp=Z,33nm,1.1s
YFT **Old Faithful** 80.57 319 *e*P P 12 41 39.0 +2.7
comp=Z,33nm,1.1s
T27A **Campo** 80.58 309 ⇓P P 12 41 36.2 -0.1
baz=80,SNR=9.6
234A **Clairette** 80.63 303 ⇑P P 12 41 35.6 -0.9
baz=80
QLMT **Earthquake Lak** 80.63 319 *e*P P 12 41 38.0 +1.5
comp=Z,0.9nm,0.9s
QLMT **Earthquake Lak** 80.63 319 *e*P P 12 41 38.0 +1.5
comp=Z,1.0nm,0.9s
ISCO **Idaho Springs** 80.64 313 *e*P P 12 41 37.1 +0.3
ISCO pmax pmax
comp=Z,22nm,0.9s
ISCO **Idaho Springs** 80.64 313 *e*P P 12 41 37.1 +0.3
comp=Z,22nm,0.9s
ISCO **Idaho Springs** 80.64 313 *e*P P 12 41 37.1 +0.3
comp=Z,22nm,0.9s
ISCO **Idaho Springs** 80.64 313 ⇑P P 12 41 36.2 -0.6
baz=80,SNR=40
U28A **Mallet** 80.68 308 ⇑P P 12 41 36.4 -0.4
baz=80,SNR=6.7
S26A **Kim** 80.70 310 ⇓P P 12 41 36.3 -0.7
baz=81,SNR=21
FLWY **Flagg Ranch** 80.74 318 *e*P P 12 41 38.3 +1.1
comp=Z,16nm,0.8s
FLWY **Flagg Ranch** 80.74 318 *e*P P 12 41 38.3 +1.1
comp=Z,16nm,0.8s
Z32A **Haskell** 80.76 304 ⇑P P 12 41 36.6 -0.6
baz=81,SNR=10
I17A **Pilgrim Ck.** 80.78 318 ⇑P P 12 41 35.9 -1.5
baz=81,SNR=24
133A **Hamilton Ranch** 80.80 304 ⇓P P 12 41 35.9 -1.5
baz=81,SNR=7.1
DLMT **Dillon** 80.88 320 *e*P P 12 41 39.1 +1.3
comp=Z,12nm,1.0s
DLMT **Dillon** 80.88 320 *e*P P 12 41 39.1 +1.3
comp=Z,12nm,1.0s
Y31A **Rekieta Farm,** 80.88 305 ⇓P P 12 41 37.4 -0.4
baz=81,SNR=19
Q24A **Divide** 80.89 312 ⇓P P 12 41 37.3 -0.9
baz=81
O22A **Kremmling** 80.96 313 ⇑P P 12 41 38.0 -0.5
baz=81,SNR=41
435B **Jarrell** 80.97 301 ⇑P P 12 41 38.0 -0.4
baz=81
MOOW **Moose Ponds** 80.99 318 *e*P P 12 41 39.1 +0.6
comp=Z,7.1nm,0.8s
MOOW **Moose Ponds** 80.99 318 *e*P P 12 41 39.1 +0.6
comp=Z,7.1nm,0.8s
BW06 **Boulder Array** 80.99 317 *e*P P 12 41 37.2 -1.3
comp=Z,21nm,0.9s
BW06 **Boulder Array** 80.99 317 *e*P P 12 41 37.2 -1.3
comp=Z,21nm,0.9s
PDAR **Pinedale Array** 80.99 317 P P 12 41 37.3 -1.3
comp=Z,16nm,0.8s,baz=53,slow=6.1,SNR=36
PDAR LR LR 13 14 35.6
comp=Z,1µm,20.7s,baz=50,slow=34
X30A **Coker Ranch, T** 80.99 306 ⇓P P 12 41 38.0 -0.5
baz=81,SNR=16
IMW **Indian Meadow** 80.99 318 *e*P P 12 41 39.3 +0.7
comp=Z,24nm,0.8s
IMW **Indian Meadow** 80.99 318 *e*P P 12 41 39.3 +0.7
comp=Z,24nm,0.8s
LOHW **Long Hollow** 81.00 318 *e*P P 12 41 39.6 +1.0
comp=Z,10nm,0.8s
LOHW **Long Hollow** 81.00 318 *e*P P 12 41 39.6 +1.0
comp=Z,10nm,0.8s
536A **Bastrop** 81.03 301 ⇓P P 12 41 38.6 0.0
baz=81
U27A **Thompson Grove** 81.04 309 ⇓P P 12 41 38.5 -0.3
baz=81,SNR=22
P23A **Jefferson** 81.04 312 ⇑P P 12 41 39.3 +0.3
baz=81,SNR=22
T26A **Comanche Natio** 81.05 310 ⇑P P 12 41 38.8 -0.1
baz=81,SNR=7.8
V28A **Channing** 81.07 308 ⇑P P 12 41 37.4 -1.5
baz=81
NEW **Newport** 81.09 325 *e*P P 12 41 39.0 +0.3
NEW pmax pmax
comp=Z,15nm,0.9s
NEW **Newport** 81.09 325 *e*P P 12 41 39.0 +0.3
comp=Z,15nm,0.9s
NEW **Newport** 81.09 325 *e*P P 12 41 39.0 +0.3
comp=Z,15nm,0.9s
NEW **Newport** 81.09 325 ⇑P P 12 41 38.0 -0.7
baz=81
334A **Lometa** 81.10 302 ⇓P P 12 41 38.2 -0.8
baz=81,SNR=24
XAN **Xi'an** 81.13 54 P P 12 41 39.4 +0.2
XAN pP pP 12 41 44.4 +0.2
XAN PP PP 12 44 47.4 +3.5
XAN S S 12 51 48.3 -0.3
XAN sS sS 12 51 56.1 -0.8
XAN PMZ
comp=Z,6.0nm,0.9s
XAN PMZ
comp=Z,27nm,4.4s
XAN LN
comp=Z,490nm,15.0s
XAN LE
comp=Z,380nm,15.6s
XAN LZ
comp=Z,220nm,16.2s
233A **Rising Star** 81.14 303 ⇑P P 12 41 38.9 -0.3
baz=81,SNR=6.9
SNOW **Snow King Moun** 81.18 318 *e*P P 12 41 41.0 +1.4
comp=Z,17nm,0.9s
SNOW **Snow King Moun** 81.18 318 *e*P P 12 41 41.0 +1.4
comp=Z,17nm,0.9s
Z31A **Sharp Cattle R** 81.19 305 ⇓P P 12 41 39.6 +0.1
baz=81,SNR=18
AMTX **Amarillo** 81.25 307 *e*P P 12 41 40.5 +0.6
comp=Z,8.7nm,0.8s
AMTX **Amarillo** 81.25 307 *e*P P 12 41 40.5 +0.6
comp=Z,8.7nm,0.8s
TPAW **Teton Pass** 81.27 318 *e*P P 12 41 41.2 +1.1
comp=Z,20nm,1.0s
TPAW **Teton Pass** 81.27 318 *e*P P 12 41 41.2 +1.1
comp=Z,20nm,1.0s
ABTX **Abilene, Hawle** 81.28 304 *e*P P 12 41 40.0 0.0
comp=Z,12nm,0.7s
ABTX **Abilene, Hawle** 81.28 304 *e*P P 12 41 40.0 0.0
comp=Z,12nm,0.7s
ABTX **Abilene, Hawle** 81.28 304 ⇑P P 12 41 39.7 -0.3
baz=81
REDW **Red Top Meadow** 81.30 318 *e*P P 12 41 41.2 +1.0
comp=Z,21nm,0.9s
REDW **Red Top Meadow** 81.30 318 *e*P P 12 41 41.2 +1.0
comp=Z,21nm,0.9s
Q23A **Hartsel** 81.34 312 ⇑P P 12 41 39.9 -0.7
baz=81,SNR=30
Y30A **Stafford Cattl** 81.35 306 ⇓P P 12 41 40.1 -0.4
baz=81
W28A **Vega** 81.36 307 ⇑P P 12 41 40.4 0.0
baz=81
MCMT **McKenzie Canyo** 81.37 320 *e*P P 12 41 41.7 +1.2
MCMT **McKenzie Canyo** 81.37 320 *e*P P 12 41 41.7 +1.2
535A **Dale** 81.41 301 ⇑P P 12 41 40.8 +0.1
baz=81
434A **Burnet** 81.43 302 ⇓P P 12 41 40.4 -0.4
baz=81,SNR=6.0
P22A **Eagle** 81.45 313 ⇑P P 12 41 40.5 -0.6
baz=81,SNR=20
V27A **Dan Oppiter Fa** 81.46 308 ⇓P P 12 41 40.8 -0.2
baz=81
N20A **Spence Gulch,** 81.53 315 ⇓P P 12 41 41.0 -0.4
baz=81,SNR=37
X29A **Tulia** 81.53 306 ⇓P P 12 41 40.7 -0.6
baz=81
T25A **Trinidad** 81.59 310 ⇓P P 12 41 41.6 -0.2
baz=81,SNR=7.6
333A **Richland Sprin** 81.61 303 ⇑P P 12 41 41.8 +0.1
baz=82,SNR=7.0
232A **Coleman** 81.72 303 ⇑P P 12 41 42.8 +0.4
baz=82,SNR=8.0
131A **Roby** 81.75 304 ⇓P P 12 41 42.4 -0.1
baz=82,SNR=7.1
R23A **Moffat** 81.79 312 ⇑P P 12 41 42.9 0.0
baz=82
X28A **Dimmitt** 81.81 307 ⇑P P 12 41 42.0 -0.9
baz=82
SMCO **Snowmass** 81.84 313 *e*P P 12 41 43.8 +0.4
comp=Z,13nm,1.0s
SMCO **Snowmass** 81.84 313 *e*P P 12 41 43.8 +0.4
comp=Z,13nm,1.0s
Z30A **Sanderson Ranc** 81.87 305 ⇑P P 12 41 42.9 -0.2
baz=82,SNR=12
BJI **Beijing** 81.87 46 P P 12 41 43.8 +0.9
BJI S S 12 51 54.8 -1.1
BJI PMZ
comp=Z,28nm,1.1s
BJI LN
comp=Z,3µm,15.9s
BJI LE
comp=Z,2µm,15.4s
BJI LZ
comp=Z,2µm,18.5s
Y29A **Porterfield Fa** 81.87 306 ⇓P P 12 41 42.4 -0.8
baz=82
SDCO **Great Sand Dun** 81.87 311 *e*P P 12 41 43.0 -0.4
comp=Z,14nm,0.9s
SDCO **Great Sand Dun** 81.87 311 *e*P P 12 41 43.0 -0.4
comp=Z,14nm,0.9s
SDCO **Great Sand Dun** 81.87 311 ⇑P P 12 41 42.9 -0.5
baz=82,SNR=36
635A **Leesville** 81.94 300 ⇓P P 12 41 43.8 +0.4
baz=82
O20A **White River Ci** 81.97 314 *e*P P 12 41 44.2 +0.5
comp=Z,20nm,0.8s
O20A **White River Ci** 81.97 314 *e*P P 12 41 44.2 +0.5
comp=Z,20nm,0.8s
O20A **White River Ci** 81.97 314 ⇑P P 12 41 43.3 -0.4
baz=82,SNR=13
433A **Art** 82.03 302 ⇓P P 12 41 44.2 +0.2
baz=82,SNR=9.0
534A **Blanco** 82.04 301 ⇑P P 12 41 43.9 -0.2
baz=82
332A **Millersview** 82.09 303 ⇓P P 12 41 44.5 +0.2
baz=82,SNR=7.8
KMI **Kunming** 82.13 65 P P 12 41 47.3 +2.5
KMI pP PcP 12 41 51.3 +1.1
KMI PP PP 12 44 55.0 +2.4
KMI S S 12 51 59.1 -0.4
KMI PMZ
comp=Z,22nm,1.6s
KMI PMZ
comp=Z,220nm,3.9s
KMI LN
comp=Z,330nm,16.0s
KMI LE
comp=Z,220nm,16.7s
KMI LZ
comp=Z,330nm,27.6s
231A **Bronte** 82.15 304 ⇑P P 12 41 44.3 -0.3
baz=82,SNR=16
130A **Snyder** 82.18 305 ⇓P P 12 41 45.0 +0.3
baz=82,SNR=6.6
Y28A **McKinney Farm,** 82.22 306 ⇑P P 12 41 44.7 -0.3
baz=82
Z29A **Hungry Hill Ra** 82.27 306 ⇑P P 12 41 45.2 0.0
baz=82,SNR=7.5
CMAI **Chiengmai2** 82.37 71 P P 12 41 47.8 +1.7
comp=Z,36nm,1.1s
432A **Menard** 82.44 303 ⇓P P 12 41 45.7 -0.5
baz=82
MHMT **Maesarieng** 82.52 73 P P 12 41 47.8 +1.1
comp=Z,44nm,0.9s,comp=Z,484nm
MSTX **Muleshoe** 82.52 307 *e*P P 12 41 48.7 +2.1
comp=Z,18nm,0.9s
MSTX **Muleshoe** 82.52 307 *e*P P 12 41 48.7 +2.1
comp=Z,18nm,0.9s
MSTX **Muleshoe** 82.52 307 ⇑P P 12 41 46.2 -0.4
baz=82,SNR=5.3
SAW **Saint Andrews** 82.56 325 P P 12 41 47.3 +0.9
SAW **Saint Andrews** 82.56 325 P P 12 41 47.3 +0.9
S22A **4UR Ranch, Cre** 82.68 312 ⇑P P 12 41 46.7 -0.9
baz=82,SNR=22
JCT **Junction City** 82.68 302 *e*P P 12 41 48.0 +0.6
JCT pmax pmax
comp=Z,13nm,0.7s
JCT **Junction City** 82.68 302 *e*P P 12 41 48.0 +0.6
comp=Z,13nm,0.7s
JCT **Junction City** 82.68 302 *e*P P 12 41 48.0 +0.6
comp=Z,13nm,0.7s
JCT **Junction City** 82.68 302 ⇓P P 12 41 47.1 -0.3
baz=83
Z28A **Tucker Farm, M** 82.69 306 ⇑P P 12 41 47.0 -0.5
baz=83,SNR=14
230A **Sterling City** 82.71 304 ⇑P P 12 41 46.7 -0.9
baz=83
129A **Stewart Farms,** 82.76 305 ⇓P P 12 41 47.7 -0.1
baz=83
936A **North Padre Is** 82.78 299 ⇑P P 12 41 47.5 -0.4
baz=83
734A **La Parita Cree** 82.81 300 ⇑P P 12 41 48.3 +0.2
baz=83
WTV **Waterville** 82.81 326 P P 12 41 48.1 +0.3
WTV **Waterville** 82.81 326 P P 12 41 48.1 +0.3
633A **Saathoff Ranch** 82.87 301 ⇓P P 12 41 47.9 -0.4
baz=83
HWUT **Hardware Ranch** 82.87 317 *e*P P 12 41 48.8 +0.4
comp=Z,13nm,0.9s
HWUT **Hardware Ranch** 82.87 317 *e*P P 12 41 48.8 +0.4
comp=Z,13nm,0.9s
CHTO **Chiang Mai** 82.94 72 P P 12 41 49.7 +0.8
comp=Z,124nm,1.4s,comp=Z,2µm
CHTO **Chiang Mai** 82.94 72 *e*P P 12 41 49.3 +0.4
CHTO pmax pmax
comp=Z,43nm,1.3s
CHTO **Chiang Mai** 82.94 72 *e*P P 12 41 49.3 +0.4
comp=Z,43nm,1.3s
CHTO **Chiang Mai** 82.94 72 P P 12 41 50.0 +1.2
SNR=18
CHTO **Chiang Mai** 82.94 72 *e*P P 12 41 49.3 +0.4
comp=Z,43nm,1.3s
CMMT **Chiang Mai** 82.94 72 P P 12 41 49.7 +0.8
comp=Z,45nm,1.2s,comp=Z,524nm
532A **Rocksprings** 82.97 302 ⇓P P 12 41 48.6 -0.4
baz=83,SNR=9.5
330A **Mertzon** 83.05 304 ⇓P P 12 41 49.2 -0.1
baz=83,SNR=13
ETW **Entiat** 83.05 326 P P 12 41 49.9 +0.8
ETW **Entiat** 83.05 326 P P 12 41 49.9 +0.8
HLID **Hailey** 83.06 320 *e*P P 12 41 50.7 +1.3
comp=Z,8.0nm,0.8s
HLID **Hailey** 83.06 320 *e*P P 12 41 50.7 +1.3
comp=Z,8.0nm,0.8s
HLID **Hailey** 83.06 320 ⇓P P 12 41 48.8 -0.6
baz=83,SNR=20
431A **Sonora** 83.11 303 ⇓P P 12 41 49.3 -0.4
baz=83
TCUT **Toone Canyon** 83.12 317 *e*P P 12 41 52.2 +2.4
comp=Z,7nm,0.8s
TCUT **Toone Canyon** 83.12 317 *e*P P 12 41 52.2 +2.4
comp=Z,9.7nm,0.8s
229A **Bryant Ranch,** 83.13 305 ⇑P P 12 41 48.5 -1.2
baz=83
CMAR **Chiang Mai Arr** 83.14 72 P P 12 41 49.4 -0.5
comp=Z,15nm,0.8s,baz=304,slow=6.3,SNR=41
CMAR LR LR 13 26 05.3
comp=Z,190nm,18.8s,baz=295,slow=41
128A **Castleberry Fa** 83.17 305 ⇑P P 12 41 49.3 -0.7
baz=83,SNR=7.8
CRAI **Chiangrai** 83.21 70 P P 12 41 47.9 -2.4
comp=Z,674nm,1.5s,comp=Z,11µm
834A **Tilden** 83.24 300 ⇑P P 12 41 49.6 -0.6
baz=83
KLR **Kul'dur** 83.24 32 *e*P P 12 41 48.0 -1.9
KLR *e*S S 12 52 07.0 -2.6
KLR *e*SS SS 12 57 40.0 +7.0
KLR pmax pmax
comp=Z,40nm,1.6s
KLR **Kul'dur** 83.24 32 *e*P P 12 41 48.0 -1.9
comp=Z,40nm,1.6s
632A **Uvalde** 83.26 302 ⇑P P 12 41 49.7 -0.7
baz=83,SNR=14
531A **Rocksprings** 83.39 302 ⇑P P 12 41 50.3 -0.7
baz=83,SNR=8.2
733A **Divot King Ran** 83.40 301 ⇑P P 12 41 49.3 -1.8
baz=83
HVU **Hansel Valley** 83.42 318 *e*P P 12 41 51.8 +0.6
HVU pmax pmax
comp=Z,11nm,0.9s
HVU **Hansel Valley** 83.42 318 *e*P P 12 41 51.8 +0.6
comp=Z,11nm,0.9s
HVU **Hansel Valley** 83.42 318 *e*P P 12 41 51.8 +0.6
comp=Z,11nm,0.9s
PV01 **Paradox Valley** 83.47 313 *e*P P 12 41 52.9 +1.3
comp=Z,542nm,0.7s
PV01 **Paradox Valley** 83.47 313 *e*P P 12 41 52.9 +1.3
comp=Z,542nm,0.7s
JLU **Jordanelle** 83.49 316 *e*P P 12 41 52.6 +0.9
comp=Z,6.8nm,0.7s
JLU **Jordanelle** 83.49 316 *e*P P 12 41 52.6 +0.9
comp=Z,6.8nm,0.7s
934A **Benavides** 83.53 299 ⇓P P 12 41 51.1 -0.6
baz=83
329A **Wagon Wheel Ra** 83.54 304 ⇓P P 12 41 51.4 -0.5
baz=83,SNR=8.7
228A **UT Block 9, Go** 83.56 305 ⇑P P 12 41 51.6 -0.4
baz=83,SNR=6.3
HAWA **Hanford** 83.58 325 *e*P P 12 41 52.5 +0.8
comp=Z,7.9nm,0.8s
HAWA **Hanford** 83.58 325 *e*P P 12 41 52.5 +0.8
comp=Z,7.9nm,0.8s
BMO **Blue Mountains** 83.62 322 *e*P P 12 41 51.5 -0.6
comp=Z,21nm,0.9s
BMO **Blue Mountains** 83.62 322 *e*P P 12 41 51.5 -0.6
comp=Z,21nm,0.9s
LAMP **Lampang** 83.64 72 P P 12 41 53.3 +0.9
comp=Z,25nm,0.8s,comp=Z,158nm
833A **Chaparral WMA,** 83.71 300 ⇑P P 12 41 51.9 -0.8
baz=84
ENH **Enshi** 83.81 57 *e*P P 12 41 53.8 +0.6
comp=Z,25nm,1.1s
ENH **Enshi** 83.81 57 *e*P P 12 41 53.8 +0.6
comp=Z,25nm,1.1s
OTAV **Otavalo** 83.83 266 *e*P P 12 41 57.0 +2.9
comp=Z,60nm,1.5s
631A **Perdido Creek** 83.86 302 ⇓P P 12 41 52.7 -0.8
baz=84,SNR=22
732A **Laxson Ranch,** 83.86 301 ⇓P P 12 41 53.1 -0.4
baz=84
MFID **Camas Ranch** 83.90 321 *e*P P 12 41 54.2 +0.6
comp=Z,14nm,0.8s
MFID **Camas Ranch** 83.90 321 *e*P P 12 41 54.2 +0.6
comp=Z,14nm,0.8s
530A **J-C Ranch, Com** 83.93 303 ⇓P P 12 41 55.0 +1.1
baz=84,SNR=14
SRU **San Rafael Swe** 83.97 315 *e*P P 12 41 53.9 -0.2
SRU pmax pmax
comp=Z,20nm,0.8s
SRU **San Rafael Swe** 83.97 315 *e*P P 12 41 53.9 -0.2
comp=Z,20nm,0.8s
SRU **San Rafael Swe** 83.97 315 *e*P P 12 41 53.9 -0.2
comp=Z,20nm,0.8s

034A	Hebbronville	83.97	299	⇑P		P		12 41 53.5	-0.5
	baz=84									
429A	Davenport Ranc	84.02	304	⇓P		P		12 41 53.8	-0.5
	baz=84,SNR=10.0									
MVCO	Mesa Verde	84.04	312	*eP*		P		12 41 55.4	+0.8
	comp=Z,22nm,0.9s									
MVCO	Mesa Verde	84.04	312	*eP*		P		12 41 55.4	+0.8
	comp=Z,22nm,0.9s									
MVCO	Mesa Verde	84.04	312	⇑P		P		12 41 54.1	-0.5
	baz=84,SNR=18									
933A	Laredo	84.06	300	⇓P		P		12 41 54.6	+0.1
	baz=84									
BGU	Big Grassy Mou	84.14	317	*eP*		P		12 41 55.5	+0.6
	comp=Z,23nm,1.2s									
BGU	Big Grassy Mou	84.14	317	*eP*		P		12 41 55.5	+0.6
	comp=Z,23nm,1.2s									
GYA	Guiyang	84.17	62	⇑*iP*		P		12 41 56.5	+1.3
GYA				PP		PP		12 45 11.0	+1.8
GYA				SKS		S		12 52 15.4	-4.6
GYA				S		SKSac		12 52 18.8	+0.2
GYA				SS		SS		12 57 50.0	+1.5
GYA				PMZ						
	comp=Z,50nm,1.0s									
GYA				PMZ						
	comp=Z,130nm,5.8s									
GYA				LN						
	comp=Z,740nm,20.9s									
GYA				LE						
	comp=Z,560nm,21.2s									
GYA				LZ						
	comp=Z,620nm,19.6s									
TMUT	Trail Mountain	84.23	315	*eP*		P		12 41 55.8	+0.2
	comp=Z,20nm,0.9s									
TMUT	Trail Mountain	84.23	315	*eP*		P		12 41 55.8	+0.2
	comp=Z,20nm,0.9s									
SUKH	Sukhothai	84.24	73	P		P		12 41 57.3	+1.8
	comp=Z,11nm,1.1s,comp=Z,86nm									
ANMO	Albuquerque	84.26	309	*eP*		P		12 41 56.8	+1.1
ANMO				pmax		pmax				
	comp=Z,38nm,1.0s									
ANMO	Albuquerque	84.26	309	*eP*		P		12 41 56.6	+0.9
	comp=Z,9.2nm,0.9s									
ANMO	Albuquerque	84.26	309	*eP*		P		12 41 56.6	+0.9
	comp=Z,9.2nm,0.9s									
NLU	North Lily Min	84.28	316	*eP*		P		12 41 56.1	+0.4
	comp=Z,13nm,1.0s									
NLU	North Lily Min	84.28	316	*eP*		P		12 41 56.1	+0.4
	comp=Z,13nm,1.0s									
CN2	Changchun	84.34	38	*eP*		P		12 41 55.3	-0.3
CN2				*es*P		sP		12 42 02.0	-0.4
CN2				*eS*		SKSac		12 52 18.5	-0.3
CN2				PMZ						
	comp=Z,10.0nm,0.8s									
CN2				PMZ						
	comp=Z,300nm,5.0s									
OSD	Olympics--Snow	84.39	328	P		P		12 41 58.0	+1.9
OSD	Olympics--Snow	84.39	328	P		P		12 41 58.0	+1.9
DUG	Dugway, Tooele	84.53	317	*eP*		P		12 41 57.0	+0.1
DUG				pmax		pmax				
	comp=Z,15nm,0.9s									
DUG	Dugway, Tooele	84.53	317	*eP*		P		12 41 57.0	+0.1
	comp=Z,15nm,0.9s									
DUG	Dugway, Tooele	84.53	317	*eP*		P		12 41 57.0	+0.1
	comp=Z,15nm,0.9s									
DUG	Dugway, Tooele	84.53	317	⇓P		P		12 41 56.5	-0.3
	baz=84									
529A	Stev Forest Ra	84.55	303	⇓P		P		12 41 57.1	+0.1
	baz=84,SNR=18									
SNY	Shenyang	84.78	41	⇓P		P		12 41 58.8	+1.0
SNY				S		S		12 52 29.8	+4.5
SNY				PMZ						
	comp=Z,17nm,1.2s									
SNY				PMZ						
	comp=Z,78nm,4.3s									
SNY				LN						
	comp=Z,1μm,18.9s									
SNY				LE						
	comp=Z,2μm,19.5s									
SNY				LZ						
	comp=Z,2μm,13.5s									
NLWA	Neilton Lookou	84.79	327	*eP*		P		12 41 59.5	+1.6
	comp=Z,12nm,0.8s									
NLWA	Neilton Lookou	84.79	327	*eP*		P		12 41 59.5	+1.6
	comp=Z,12nm,0.8s									
UTTA	Uttaradit	84.80	72	P		P		12 42 00.5	+2.2
	comp=Z,5.4nm,0.8s									
CPUP	Villa Florida	84.87	232	*eP*		P		12 41 59.9	+1.5
CPUP				pmax		pmax				
	comp=Z,2.0nm,1.3s									
CPUP	Villa Florida	84.87	232	*eP*		P		12 41 59.8	+1.5
	comp=Z,2.1nm,1.3s									
CPUP	Villa Florida	84.87	232	*eP*		P		12 41 59.9	+1.5
	comp=Z,2.1nm,1.3s									
TIA	Tai'an	84.94	48	⇓P		P		12 42 00.1	+1.3
TIA				PMZ						
	comp=Z,30nm,1.3s									
TIA				PMZ						
	comp=Z,250nm,4.3s									
TIA				LN						
	comp=Z,930nm,14.2s									
TIA				LE						
	comp=Z,2μm,14.0s									
TIA				LZ						
	comp=Z,2μm,18.3s									
KHLT	Khaolaem Dam	84.99	75	P		P		12 42 01.2	+1.9
	comp=Z,28nm,1.0s,comp=Z,244nm									
LAZ	Ladron	85.04	309	*eP*		P		12 42 00.8	+1.2
	comp=Z,6.2nm,0.9s									
LAZ	Ladron	85.04	309	*eP*		P		12 42 00.8	+1.2
	comp=Z,6.2nm,0.9s									
LENM	Lemitar	85.09	309	*eP*		P		12 42 03.3	+3.4
	comp=Z,23nm,0.9s									
HABR	Khabarovsk	85.20	30	*ce*P		P		12 41 59.2	-0.6
HABR				*es*P				12 42 03.7		
HABR				*e*				12 47 10.5		
HABR				*eS*		SKSac		12 52 22.7	-1.4
HABR				*es*S		SS		12 58 04.1	+2.2
HABR				*es*SS		SSS		13 01 34.7		
HABR				pmax		pmax				
	comp=Z,5.0nm,0.9s									
HABR				MLR		MLR				
	comp=Z,707nm,19.0s									
HABR	Khabarovsk	85.20	30	*eP*		P		12 41 59.2	-0.6
	comp=Z,5.0nm,0.9s									
UTHA	Uthaitani	85.22	74	P		P		12 42 02.1	+1.6
	comp=Z,16nm,0.9s,comp=Z,101nm									
G05D	Wamic, OR	85.27	325	⇑P		P		12 42 00.6	+0.2
	baz=85									
MSU	Marysvale	85.32	315	*eP*		P		12 42 01.2	+0.2
MSU				pmax		pmax				
	comp=Z,17nm,0.9s									
MSU	Marysvale	85.32	315	*eP*		P		12 42 01.2	+0.2
	comp=Z,17nm,0.9s									
MSU	Marysvale	85.32	315	*eP*		P		12 42 01.2	+0.2
	comp=Z,17nm,0.9s									
MVU	Marysvale	85.35	315	*eP*		P		12 42 01.3	+0.2
	comp=Z,14nm,0.8s									
MVU	Marysvale	85.35	315	*eP*		P		12 42 01.3	+0.2
	comp=Z,14nm,0.8s									
ELK	Elko	85.47	318	*eP*		P		12 42 03.2	+1.5
ELK				pmax		pmax				
	comp=Z,12nm,1.1s									
ELK	Elko	85.47	318	*eP*		P		12 42 03.2	+1.5
	comp=Z,12nm,1.1s									
ELK	Elko	85.47	318	*eP*		P		12 42 03.2	+1.5
	comp=Z,12nm,1.1s									
MNTX	Cornudas Mount	85.66	306	*eP*		P		12 42 02.5	0.0
	comp=Z,8.2nm,0.9s									
MNTX	Cornudas Mount	85.66	306	*eP*		P		12 42 02.5	0.0
	comp=Z,8.2nm,0.9s									
MNTX	Cornudas Mount	85.66	306	⇑P		P		12 42 03.3	+0.8
	baz=86,SNR=16									
SRDT	SRDT	85.67	76	P		P		12 42 04.9	+2.2
	comp=Z,130nm,1.1s									
LPAZ	La Paz	85.74	247	P		P		12 42 04.3	+0.6
	comp=Z,0.9nm,0.3s,baz=41,slow=5.9,SNR=7.8									
LPAZ				LR		LR		13 16 11.5		
	comp=Z,309nm,20.4s,baz=54,slow=33									
MDJ	Mudanjiang	85.76	36	P		P		12 42 04.9	+2.1
MDJ				pP		pP		12 42 08.4	+0.6
MDJ				sP		sP		12 42 09.9	+0.3
MDJ				S		SKSac		12 52 28.9	+1.1
MDJ				PMZ						
	comp=Z,10.0nm,0.8s									
MDJ				PMZ						
	comp=Z,69nm,5.1s									
MDJ				LN						
	comp=Z,1μm,14.7s									
MDJ				LE						
	comp=Z,2μm,16.2s									
MDJ				LZ						
	comp=Z,2μm,20.6s									
MDJ	Mudanjiang	85.76	36	*eP*		P		12 42 03.4	+0.6
	comp=Z,9.2nm,0.9s									
MDJ	Mudanjiang	85.76	36	*eP*		P		12 42 03.4	+0.6
	comp=Z,9.2nm,0.9s									
PBKT	Sadao Pong	85.81	73	P		P		12 42 04.4	+1.0
	comp=Z,23nm,1.4s									
I05D	Terrebonne, OR	85.95	324	⇓P		P		12 42 04.0	+0.2
	baz=86									
TXAR	Lajitas Array	86.02	304	P		P		12 42 04.6	+0.1
	comp=Z,7.6nm,0.8s,baz=73,slow=4.3,SNR=39									
TXAR				LR		LR		13 18 31.6		
	comp=Z,1μm,21.5s,baz=0.0,slow=34									
WVOR	Wild Horse Val	86.04	321	*eP*		P		12 42 05.2	+0.9
WVOR				pmax		pmax				
	comp=Z,18nm,1.1s									
WVOR	Wild Horse Val	86.04	321	*eP*		P		12 42 05.2	+0.9
	comp=Z,18nm,1.1s									
WVOR	Wild Horse Val	86.04	321	*eP*		P		12 42 05.2	+0.9
	comp=Z,18nm,1.1s									
121A	Cookes Peak, D	86.67	308	*eP*		P		12 42 08.5	+0.8
	comp=Z,14nm,1.0s									
121A	Cookes Peak, D	86.67	308	⇓P		P		12 42 07.9	+0.2
	baz=86									
J05D	Fort Rock, OR	86.69	323	⇓P		P		12 42 07.3	-0.3
	baz=86									
X18A	Snowflake	86.70	311	⇑P		P		12 42 07.9	+0.1
	baz=86									
U15A	North Rim	86.81	314	⇓P		P		12 42 08.4	0.0
	baz=87									
WUAZ	Wupatki	86.89	312	*eP*		P		12 42 09.7	+1.0
	comp=Z,14nm,1.1s									
WUAZ	Wupatki	86.89	312	*eP*		P		12 42 09.7	+1.0
	comp=Z,14nm,1.1s									
WUAZ	Wupatki	86.89	312	⇑P		P		12 42 08.9	+0.2
	baz=87									
WHN	Wuhan	86.89	54	P		P		12 42 10.8	+2.2
WHN				S		S		12 52 47.5	+1.1
WHN				LN						
	comp=Z,810nm,12.0s									
WHN				LE						
	comp=Z,1μm,12.4s									
WHN				LZ						
	comp=Z,1μm,14.0s									
CHAI	Chaiyaphum	86.99	73	P		P		12 42 10.4	+1.2
	comp=Z,16nm,0.9s,comp=Z,117nm									
USRK	Ussuriysk Ar.	87.20	35	P		P		12 42 09.8	0.0
	comp=Z,1.2nm,0.6s,baz=294,slow=4.9,SNR=3.5									
USRK				LR		LR		13 24 41.0		
	comp=Z,928nm,19.3s,baz=316,slow=38									
R11A	Troy Canyon, C	87.36	317	*eP*		P		12 42 12.9	+2.0
	comp=Z,22nm,1.5s									
R11A	Troy Canyon, C	87.36	317	*eP*		P		12 42 12.9	+2.0
	comp=Z,22nm,1.5s									
R11A	Troy Canyon, C	87.36	317	⇓P		P		12 42 11.3	+0.3
	baz=87									
KHON	Khomkaen	87.38	72	P		P		12 42 15.3	+4.2
	comp=Z,11nm,0.7s									
X16A	Lo Mia Camp, P	87.68	312	⇓P		P		12 42 13.1	+0.6
	baz=88									
M04C	Macdoel	88.12	323	⇓P		P		12 42 15.4	+0.9
	baz=88									
ATAH	Atahualpa	88.12	260	P		P		12 42 16.4	+1.2
	comp=Z,4.4nm,0.7s,baz=55,slow=5.0,SNR=4.8									
ATAH				LR		LR		13 19 03.5		
	comp=Z,557nm,21.6s,baz=61,slow=34									
PETK	Petropavlovsk-	88.31	16	LR		LR		13 27 09.4		
	comp=Z,349nm,18.3s,baz=332,slow=39									
SHPR	Sheep Range	88.42	315	*eP*		P		12 42 17.2	+1.2
	comp=Z,3.9nm,0.8s									
SHPR	Sheep Range	88.42	315	*eP*		P		12 42 17.2	+1.2
	comp=Z,3.9nm,0.8s									
TPH	Tonopah	88.45	318	*eP*		P		12 42 17.8	+1.6
TPH				pmax		pmax				
	comp=Z,9.0nm,1.4s									
TPH	Tonopah	88.45	318	*eP*		P		12 42 17.8	+1.6
	comp=Z,9.0nm,1.4s									
TPH	Tonopah	88.45	318	*eP*		P		12 42 17.8	+1.6
	comp=Z,9.3nm,1.4s									
SURT	Sutani	88.56	80	P		P		12 42 19.1	+2.3
	comp=Z,9.9nm,1.1s									
W13A	Hualapai Mount	88.67	314	⇑P		P		12 42 17.9	+0.6
	baz=88									
TUC	Tucson	88.70	310	*eP*		P		12 42 18.6	+1.3
TUC				pmax		pmax				
	comp=Z,8.0nm,0.8s									
TUC	Tucson	88.70	310	*eP*		P		12 42 18.6	+1.3
	comp=Z,8.0nm,0.8s									
TUC	Tucson	88.70	310	*eP*		P		12 42 18.6	+1.3
	comp=Z,7.6nm,0.8s									
NVAR	Mina Array Bea	88.78	318	P		P		12 42 16.5	-1.3
	comp=Z,1.4nm,0.9s,baz=52,slow=4.7,SNR=2.8									
NJ2	Nanjing	88.79	50	*eP*		P		12 42 17.6	0.0
NJ2				S		S		12 53 06.0	+1.5
NJ2				PMZ						
	comp=Z,20nm,1.2s									
NJ2				LN						
	comp=Z,770nm,19.5s									
NJ2				LE						
	comp=Z,2μm,18.2s									
NJ2				LZ						
	comp=Z,3μm,21.8s									
PKDT	Phuket	88.81	81	P		P		12 42 20.4	+2.4
	comp=Z,45nm,1.3s,comp=Z,2μm									
CHBT	CHBT	89.12	75	P		P		12 42 21.8	+2.4
	comp=Z,26nm,1.4s,comp=Z,1μm									
WAKR	Walker	89.33	319	*eP*		P		12 42 21.7	+1.4
	comp=Z,10nm,1.1s									
WAKR	Walker	89.33	319	*eP*		P		12 42 21.7	+1.4
	comp=Z,10nm,1.1s									
FURC	Furnace Creek,	89.41	316	⇑P		P		12 42 21.3	+0.9
	baz=89									
YSS	Yuzh-Sakhalins	89.44	27	*eP*		P		12 42 21.8	+1.5
YSS				*eS*		S		12 53 10.0	0.0
YSS				*eP*S		PnS		12 54 15.0	-0.3
YSS	Yuzh-Sakhalins	89.44	27	*eP*		P		12 42 21.8	+1.5
TRTT	Trang	89.93	80	P		P		12 42 25.2	+2.0
	comp=Z,29nm,1.4s,comp=Z,606nm									
DAC	Darwin (Calif)	89.95	317	*eP*		P		12 42 24.8	+1.5
DAC				pmax		pmax				
	comp=Z,4.0nm,1.0s									
DAC	Darwin (Calif)	89.95	317	*eP*		P		12 42 24.8	+1.5
	comp=Z,4.0nm,1.0s									
DAC	Darwin (Calif)	89.95	317	*eP*		P		12 42 24.8	+1.5
	comp=Z,3.7nm,1.0s									
KSAR	Wonju Array Be	90.24	41	P		P		12 42 23.8	-0.5
KSAR	Wonju Array Be	90.24	41	P		P		12 42 23.8	-0.5
KSAR	Wonju Array Be	90.24	41	P		P		12 42 23.8	-0.5
KSRS	Korea Array	90.25	41	P		P		12 42 23.8	-0.5
	comp=Z,2.9nm,0.9s,baz=330,slow=4.3,SNR=12									
KSRS				LR		LR		13 27 20.1		
	comp=Z,1μm,18.8s,baz=332,slow=39									
HEC	Hector,Ludlow	90.28	315	⇓P		P		12 42 25.1	+0.4
	baz=90									
LVC	Limon Verde	90.29	242	P		P		12 42 25.1	+0.1
	comp=Z,23nm,0.8s,baz=38,slow=3.1,SNR=6.2									
LVC				LR		LR		13 23 35.2		
	comp=Z,2μm,19.5s,baz=44,slow=36									
LVC	Limon Verde	90.29	242	*eP*		P		12 42 25.6	+0.6
LVC	Limon Verde	90.29	242	*eP*		P		12 42 25.6	+0.6
LRMC	Laurel Mtn Rad	90.58	316	⇓P		P		12 42 25.9	-0.3
	baz=90									
ISA	Isabella, Lake	90.89	317	⇓P		P		12 42 27.8	+0.3
	baz=91									
SSE	Sheshan	90.89	50	P		P		12 42 24.6	-2.8
SSE				S		S		12 53 19.8	-4.2
SSE				PMZ						
	comp=Z,46nm,0.7s									
SSE				PMZ						
	comp=Z,100nm,4.4s									
SSE				LN						
	comp=Z,590nm,16.8s									
SSE				LE						
	comp=Z,430nm,16.8s									
SSE				LZ						
	comp=Z,760nm,15.2s									
QIZ	Qiongzhong	91.04	66	P		P		12 42 27.3	-1.0
QIZ				S		S		12 53 25.1	-0.7
QIZ				PMZ						
	comp=Z,120nm,3.4s									
QIZ				LN						
	comp=Z,280nm,20.3s									
QIZ				LZ						
	comp=Z,400nm,22.9s									
ASAJ	Asahikawa	91.77	29	LR		LR		13 27 52.4		
	comp=Z,1μm,18.2s,baz=341,slow=38									
KULM	Kulim	92.20	82	*eP*		P		12 42 34.4	+0.6
	comp=Z,82nm,1.0s									
KULM	Kulim	92.20	82	*eP*		P		12 42 34.4	+0.6
	comp=Z,82nm,1.0s									
PSI	Prapat	92.27	85	P		P		12 42 34.9	+0.6
	comp=Z,25nm,0.8s,baz=291,slow=5.1									
CFAA	Coronel Fontan	95.49	235	LR		LR		13 28 02.0		
	comp=Z,84nm,18.5s,slow=37									
MJAR	Matsushiro Arr	96.15	36	LR		LR		13 30 52.5		
	comp=Z,821nm,18.1s,baz=330,slow=38									
PAF	Port-aux-Franc	103.20	142	SS		SS		13 02 39.0	+18
PAF				R				13 18 00.0		
QSPA	South Pole Qui	125.90	180	*e*PKIKP		PKPdf		12 48 25.7	+1.2
QSPA	South Pole Qui	125.90	180	*e*PKPdf		PKPdf		12 48 25.7	+1.2
WRA	Warramunga Arr	133.72	84	PKhKP		PKPpre		12 48 28.7		
	comp=Z,0.7nm,0.7s,baz=279,slow=1.9,SNR=7.6									
WRA				PKP		PKPdf		12 48 40.4	-0.4
	comp=Z,3.5nm,0.8s,baz=313,slow=1.4,SNR=8.9									
WRA				SKPbc		SKPbc		12 52 09.5	+0.5
	comp=Z,0.8nm,0.8s,baz=289,slow=2.6,SNR=4.0									
ASAR	Alice Springs	135.19	88	PKhKP		PKPpre		12 48 28.4		
	comp=Z,0.8nm,0.6s,baz=294,slow=1.6,SNR=12									
ASAR				PKP		PKPdf		12 48 43.8	+0.3
	comp=Z,3.6nm,0.8s,baz=326,slow=1.8,SNR=14									
ASAR				SKPbc		SKPbc		12 52 13.9	+0.2
	comp=Z,1.2nm,0.9s,baz=299,slow=0.7,SNR=7.1									
STKA	Stephens Creek	144.70	96	PKP		PKPab		12 48 58.2	-0.9
	comp=Z,49nm,0.7s,baz=302,slow=4.5,SNR=96									
STKA	Stephens Creek	144.70	96	PKIKP		PKPab		12 48 58.2	-0.9
STKA				*e*				12 49 00.1		
STKA	Stephens Creek	144.70	96	*e*PKIKP		PKPdf		12 49 00.1	-0.3
STKA	Stephens Creek	144.70	96	PKP		PKPab		12 48 58.2	-0.9
STKA				*e*PKPdf		PKPdf		12 49 00.1	-0.3
EIDS	Eidsvold	149.81	79	*e*PKPbc		PKPbc		12 49 15.7	+1.8
EIDS	Eidsvold	149.81	79	*e*PKPbc		PKPbc		12 49 15.7	+1.8
PPT2	Papeete2	150.33	301	*e*LR		LR		13 38 56.6		
	comp=Z,667nm,25.8s									
TBI	Tubuai	153.88	292	*e*SS		SS		13 12 43.1	-5.0
	comp=Z,258nm,30.2s									
TBI	Tubuai	153.88	292	*e*LR		LR		13 40 45.4		
	comp=Z,570nm,25.0s									

ISCJB **14** *12:30:28.0±0.5,32°.30N±0°.02×115°.38W±0°.03,h9km±3km, Error ellipse: s-maj=4.1km s-min=3.4km az=33.4*
MEX **14** *12:30:27.1±0.6,32°.54N×115°.06W,h26km±11km,MD3.8*
NEIC **14** *12:30:29.2,32°.30N×115°.35W,h5km,ML3.0(PAS), ML3.1(ECX),After ECX.*
ECX **14** *12:30:29.2±0.6,32°.29N×115°.35W,h5km,MD2.9,ML3.1*

ISC 14 12:30:27.4±1.1,32°.26N±0°.02×115°.36W±0°.03,h3km±10km, n29,σ1≒16/47,1C-3D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.16	17	*eP*		Pg	12 30 31.3	+0.7
CPBX	Cerro Prieto	0.16	17	*eP*g		Pg	12 30 26.6	-4.0
CPBX				*eS*		Sg	12 30 28.3	-4.4
CPBX				*e*			12 30 31.6	
CPBX				IAML			12 30 31.6	
	comp=E,23μm,0.2s							
CPBX				⇓*e*			12 30 32.9	
CPBX				IAML			12 30 32.9	
	comp=N,19μm,0.3s							
MBIG	Mexicali	0.20	43	*eP*		Pg	12 30 32.5	+1.2
MBIG				*eS*		Sg	12 30 35.0	+1.0
SGL	Mount Signal	0.49	321	⇓*iP*		Pg	12 30 37.6	+0.6
WESC	Westside Schoo	0.59	328	*eP*		Pb	12 30 39.6	-0.8
RDX	Rancho Dawling	0.60	236	*eP*		Pg	12 30 40.0	+1.1
RDX				*eS*		Sg	12 30 48.5	+1.8
RDX				⇓*e*			12 30 49.4	
RDX				IAML			12 30 49.4	
	comp=N,559nm,0.2s							
YUH	Yuha Desert	0.61	309	⇑*iP*		Pg	12 30 39.5	+0.3
COA	Coachella	0.63	18	*eP*3		Pg	12 30 40.3	+0.7
RMX	La Rumorosa	0.70	299	*eP*		Pg	12 30 41.1	+0.3
RMX				*eS*		Sg	12 30 50.8	+0.9
ECBX	El Chinero	0.83	162	*eP*9		Pg	12 30 41.6	-1.8
ECBX				*eS*		Sg	12 30 53.1	-1.0
ZAX	El Zacaton	1.08	226	*eP*		Pg	12 30 48.6	+0.5
ZAX				*eS*		Sb	12 31 03.1	-0.2
CBX	Cerro Bola	1.11	273	*eP*		Pg	12 30 48.1	-0.5
CBX	Cerro Bola	1.11	273	*eP*		Pg	12 30 48.1	-0.5
CBX	Cerro Bola	1.11	273	*eP*		Pg	12 30 49.0	+0.3
CBX				*eS*		Sg	12 31 03.4	+0.3
BAR	Barrett	1.19	291	*eP*g		Pg	12 30 49.9	-0.3
BAR				*eS*g		Sg	12 31 05.0	-0.6
ECNX	Esteban Cantu	1.21	241	*eP*		Pg	12 30 51.0	+0.2
ECNX				*eS*		Sb	12 31 07.2	0.0
SPIG	San Pedro Mart	1.22	184	*eP*		Pg	12 30 50.6	-0.1
SPIG	San Pedro Mart	1.22	184	*eP*		Pg	12 30 50.6	-0.1
SPX	San Pedro Mart	1.22	184	*eP*		Pg	12 30 50.6	-0.2
SPX	San Pedro Mart	1.22	184	*eP*		Pg	12 30 50.5	-0.2
SPX				*eS*		Sg	12 31 07.8	+1.3
PBX	Punta Banda	1.27	246	*eP*		Pg	12 30 51.5	-0.3
PBX				*eS*		Sb	12 31 09.1	+0.3
PFO	Pinyon Flats O	1.63	326	*eP*n		Pg	12 30 59.9	+1.2
PFO				*eS*n		Sb	12 31 19.4	+0.2
214A	Organ Pipe Nat	2.18	97	*eP*n		Pn	12 31 05.8	+1.1
214A				*eS*n		Sn	12 31 33.6	+1.4
LDFC	Landfair	2.82	4	*eP*n		Pn	12 31 13.6	+0.1
LDFC				*eS*n		Sn	12 31 49.0	+1.0
MWC	Mount Wilson	2.99	312	*eP*n		Pn	12 31 15.6	-0.4
MWC				*eS*n		Sn	12 31 52.8	+0.4
GSC	Goldstone, Bar	3.26

SULZ	**Cheisacher**	**0.42**	**108**	⇓P*		**Pb**	**12 31 44.4**	**+0.3**
SULZ				S*		**Sb**	**12 31 50.4**	**+0.2**
SULZ				SmS			12 31 51.9	
SULZ	**Cheisacher**	**0.42**	**108**	⇓*i*Pg		**Pb**	**12 31 44.4**	**+0.3**
	289nm,0.1s							
SULZ	**Cheisacher**	**0.42**	**108**	Pb		**Pb**	**12 31 44.4**	**+0.3**
SULZ				Sb		**Sb**	**12 31 50.4**	**+0.2**
HINF	**Hinteralfeld**	**0.48**	**289**	*e*Pg		**Pg**	**12 31 45.0**	**+0.1**
HINF				*e*Sg		**Sg**	**12 31 51.2**	**-0.2**
	93nm,0.2s							
HINF	**Hinteralfeld**	**0.48**	**289**	*e*Pg		**Pg**	**12 31 45.0**	**+0.1**
HINF				*e*Sg		**Sg**	**12 31 51.2**	**-0.2**
	46nm,0.2s							
LIBD	**Limburg**	**0.49**	**6**	P*		**Pb**	**12 31 46.2**	**+0.9**
LIBD				S*		**Sb**	**12 31 53.6**	**+1.4**
LIBD	**Limburg**	**0.49**	**6**	Pb		**Pb**	**12 31 46.2**	**+0.9**
LIBD				Sg		**Sb**	**12 31 53.1**	**+0.9**
LOMF	**Lomont**	**0.56**	**237**	P*		**Pb**	**12 31 47.1**	**+0.5**
LOMF				PmP			12 31 47.2	
LOMF	**Lomont**	**0.56**	**237**	Pg		**Pb**	**12 31 46.8**	**+0.2**
LOMF				Sg		**Sg**	**12 31 54.1**	**0.0**
LOMF	**Lomont**	**0.56**	**237**	Pg		**Pb**	**12 31 46.8**	**+0.2**
LOMF	**Lomont**	**0.56**	**237**	Pb		**Pb**	**12 31 47.1**	**+0.5**
LOMF				Sg		**Sg**	**12 31 54.1**	**0.0**
ECH	**Echery**	**0.61**	**336**	P*		**Pg**	**12 31 48.0**	**+0.7**
ECH				S*		**Sb**	**12 31 56.1**	**+0.7**
ECH	**Echery**	**0.61**	**336**	Pg		**Pg**	**12 31 47.7**	**+0.4**
ECH				Sg		**Sb**	**12 31 55.8**	**+0.3**
ECH	**Echery**	**0.61**	**336**	Pg		**Pg**	**12 31 47.7**	**+0.4**
ECH	**Echery**	**0.61**	**336**	Pb		**Pg**	**12 31 48.0**	**+0.7**
ECH				Sg		**Sb**	**12 31 55.8**	**+0.3**
ECH				Sb		**Sb**	**12 31 56.2**	**+0.7**
SLE	**Schleitheim**	**0.66**	**81**	⇓P		**Pg**	**12 31 48.5**	**+0.2**
SLE				PmP			12 31 48.7	
SLE				S		**Sg**	**12 31 57.5**	**+0.4**
SLE	**Schleitheim**	**0.66**	**81**	⇑*i*Pg		**Pg**	**12 31 48.4**	**+0.2**
	375nm,0.4s							
SLE				*e*Sg		**Sg**	**12 31 57.5**	**+0.4**
	375nm,0.4s							
SLE	**Schleitheim**	**0.66**	**81**	P		**Pg**	**12 31 48.5**	**+0.2**
SLE				S		**Sg**	**12 31 57.5**	**+0.4**
FLACH	**Flaach**	**0.71**	**97**	⇓*i*Pg		**Pg**	**12 31 49.7**	**+0.5**
	145nm,0.2s							
FLACH	**Flaach**	**0.71**	**97**	⇓*i*Pg		**Pg**	**12 31 49.7**	**+0.5**
	145nm,0.2s							
CDF	**Champ du Feu**	**0.77**	**348**	*e*Pg		**Pb**	**12 31 50.1**	**0.0**
CDF				*e*Sg		**Sb**	**12 31 59.9**	**-0.4**
	23nm,0.2s							
CDF	**Champ du Feu**	**0.77**	**348**	*e*Pg		**Pb**	**12 31 50.1**	**0.0**
CDF				*e*Sg		**Sb**	**12 31 59.9**	**-0.4**
	11nm,0.2s							
ZUR	**Degenried**	**0.77**	**112**	⇓*i*Pg		**Pg**	**12 31 50.7**	**+0.4**
	163nm,0.3s							
ZUR	**Degenried**	**0.77**	**112**	⇓*i*Pg		**Pg**	**12 31 50.7**	**+0.4**
	163nm,0.3s							
BFO	**Black Forest**	**0.86**	**39**	⇑P		**Pb**	**12 31 50.9**	**-0.7**
BFO				PmP			12 31 52.2	
BFO				Sg		**Sg**	**12 32 03.7**	**+0.3**
BFO	**Black Forest**	**0.86**	**39**	P		**Pb**	**12 31 50.9**	**-0.7**
BFO				Sg		**Sg**	**12 32 03.7**	**+0.3**
HAU	**Haudompre**	**0.86**	**294**	*e*Pn		**Pb**	**12 31 50.8**	**-0.9**
HAU	**Haudompre**	**0.86**	**294**	*e*Pg		**Pb**	**12 31 51.8**	**+0.1**
HAU				*e*Sg		**Sb**	**12 32 02.7**	**-0.2**
	31nm,0.3s							
HAU	**Haudompre**	**0.86**	**294**	*e*Pn		**Pb**	**12 31 50.8**	**-0.9**
HAU	**Haudompre**	**0.86**	**294**	*e*Pg		**Pb**	**12 31 51.8**	**+0.1**
HAU				*e*Sg		**Sb**	**12 32 02.7**	**-0.2**
	15nm,0.3s							
OPP	**Oppenau**	**0.95**	**28**	⇑P		**Pb**	**12 31 52.0**	**-1.1**
OPP				Sg		**Sg**	**12 32 06.3**	**+0.2**
OPP	**Oppenau**	**0.95**	**28**	P		**Pb**	**12 31 52.0**	**-1.1**
OPP				Sg		**Sg**	**12 32 06.3**	**+0.2**
SPAK	**Spaichingen-Ko**	**0.96**	**62**	Pg		**Pg**	**12 31 54.2**	**+0.4**
SPAK	**Spaichingen-Ko**	**0.96**	**62**	Pg		**Pg**	**12 31 54.2**	**+0.4**
WILA	**Wila**	**0.97**	**104**	Pg		**Pg**	**12 31 54.7**	**+0.7**
WILA				S		**Sb**	**12 32 05.8**	**-0.2**
WILA				Sg		**Sn**	**12 32 07.4**	**+0.1**
WILA	**Wila**	**0.97**	**104**	Pg		**Pg**	**12 31 54.7**	**+0.7**
WILA				S		**Sb**	**12 32 05.8**	**-0.2**
WILA				Sg		**Sn**	**12 32 07.4**	**+0.1**
SISB	**Singen-Schiene**	**0.97**	**88**	Pg		**Pg**	**12 31 54.7**	**+0.6**
SISB				Sg		**Sn**	**12 32 07.5**	**+0.2**
SISB	**Singen-Schiene**	**0.97**	**88**	Pg		**Pg**	**12 31 54.7**	**+0.6**
SISB				Sg		**Sn**	**12 32 07.5**	**+0.2**
GUT	**Gutenstein**	**1.15**	**68**	P		**Pn**	**12 31 55.0**	**-1.4**
GUT				Sg		**Sn**	**12 32 12.2**	**+0.6**
GUT	**Gutenstein**	**1.15**	**68**	P		**Pn**	**12 31 55.0**	**-1.4**
GUT				Sg		**Sn**	**12 32 12.2**	**+0.6**
THEF	**They Montfort**	**1.18**	**299**	Pg		**Pb**	**12 31 57.2**	**+0.2**
THEF				Sg		**Sg**	**12 32 14.5**	**+1.1**
THEF	**They Montfort**	**1.18**	**299**	Pg		**Pb**	**12 31 57.2**	**+0.2**
THEF				Sg		**Sg**	**12 32 14.5**	**+1.1**
BUCH	**Bad Urach**	**1.46**	**57**	P		**Pn**	**12 31 59.1**	**-1.6**
BUCH	**Bad Urach**	**1.46**	**57**	P		**Pn**	**12 31 59.1**	**-1.6**

*ISCJB **14** 12:32:15.5±0.9, 32°.29N±0°.03×115°.31W±0°.05, h14km±8km, Error ellipse: s-maj=6.6km s-min=4.4km az=11.8*
*MEX **14** 12:32:16.0±0.4, 32°.42N×115°.07W, h23km±4km, MD3.5*
*ECX **14** 12:32:16.7±0.6, 32°.28N×115°.33W, h5km, MD2.5, ML2.7*
ISC 14 12:32:15.0±0.9, 32°.27N±0°.03×115°.30W±0°.04, h17km±8km, n16, σ0s29/24, 2C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
CPBX	**Cerro Prieto**	**0.15**	**358**	*e*P		**Pg**	**12 32 19.0**	**-0.1**
CPBX				*e*S		**Sg**	**12 32 21.9**	**+0.1**
CPBX				IAML			12 32 23.6	
	comp=N,9μm,0.3s							
CPBX				⇑*e*			12 32 23.6	
MBIG	**Mexicali**	**0.16**	**32**	*e*P		**Pb**	**12 32 19.7**	**+0.1**
MBIG				*e*S		**Sg**	**12 32 22.1**	**0.0**
SGL	**Mount Signal**	**0.52**	**316**	⇓*i*P		**Pg**	**12 32 25.5**	**0.0**
EMSC	**East Mesa**	**0.54**	**29**	⇑*i*P		**Pb**	**12 32 26.4**	**+0.4**
ERPC	**Ernies Place**	**0.56**	**327**	*e*P2		**Pb**	**12 32 26.6**	**+0.2**
WESC	**Westside Schoo**	**0.61**	**323**	*e*P		**Pb**	**12 32 27.4**	**+0.1**
RDX	**Rancho Dawling**	**0.65**	**238**	*e*P		**Pg**	**12 32 27.9**	**+0.1**
RDX				*e*S		**Sg**	**12 32 36.6**	**+0.1**
RDX				IAML			12 32 38.4	
	comp=N,230nm,0.3s							
RDX				*e*			12 32 38.4	
YUH	**Yuha Desert**	**0.65**	**306**	⇓*i*P		**Pg**	**12 32 27.4**	**-0.4**
RMX	**La Rumorosa**	**0.74**	**297**	*e*P		**Pg**	**12 32 29.1**	**-0.4**
RMX				*e*S		**Sg**	**12 32 38.7**	**-0.6**
ECBX	**El Chinero**	**0.82**	**165**	*e*Pg		**Pg**	**12 32 30.7**	**-0.4**
ECBX				*e*S		**Sg**	**12 32 42.0**	**0.0**
ZAX	**El Zacaton**	**1.12**	**228**	*e*P		**Pn**	**12 32 36.2**	**+0.2**
ZAX				*e*S		**Sn**	**12 32 51.0**	**-0.1**
ZAX				IAML			12 32 53.5	
	comp=E,176nm,0.6s							
ZAX				⇓*e*			12 32 53.5	
CBX	**Cerro Bola**	**1.16**	**272**	*e*P		**Pn**	**12 32 36.6**	**0.0**
CBX	**Cerro Bola**	**1.16**	**272**	*e*P		**Pn**	**12 32 36.5**	**-0.1**
CBX				*e*P		**Sb**	**12 32 51.8**	**+0.3**
CBX				IAML			12 32 56.5	
	comp=N,223nm,0.5s							
SPIG	**San Pedro Mart**	**1.23**	**187**	*e*P		**Pn**	**12 32 37.4**	**-0.4**
BAR	**Barrett**	**1.23**	**290**	*e*P		**Pn**	**12 32 37.7**	**+0.2**
SPX	**San Pedro Mart**	**1.23**	**187**	*e*P		**Pn**	**12 32 37.7**	**-0.1**
SPX				*e*S		**Sg**	**12 32 55.4**	**+0.4**
SPX				*e*			12 32 56.1	
SPX				IAML			12 32 56.1	
	comp=E,95nm,0.6s							

*CSEM **14** 12:43:01.8±1.2, 37°.08N×40°.41E, h5km, MD2.5, Error ellipse: s-maj=27.3km s-min=16.4km az=118.0*
*ISK **14** 12:43:05.1, 37°.38N×40°.30E, h5km, MD2.5*
*ISCJB **14** 12:43:07.8±1.5, 37°.36N±0°.08×40°.30E±0°.07, h22km±6km, Error ellipse: s-maj=14.2km s-min=8.8km az=13.5*
*DDA **14** 12:43:09.4, 37°.60N×40°.23E, h7km, MD2.5*
ISC 14 12:43:08.6±1.2, 37°.51N±0°.08×40°.34E±0°.05, h13km±7km, n16, σ1s69/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
MAZI	**Mazidag**	**0.10**	**122**	*e*PG		Pg	12 43 08.7	-3.0
MAZI				*e*SG		**Sg**	**12 43 15.4**	**+1.5**
MAZI	**Mazidag**	**0.10**	**122**	*e*Pg		Pg	12 43 08.7	-3.0
MAZI				*e*Sg		**Sg**	**12 43 15.4**	**+1.5**
DIY	**Diyarbakir**	**0.40**	**347**	*e*Pg		**Pn**	**12 43 18.7**	**-1.5**
DIY				*e*Sg		**Sn**	**12 43 27.0**	**-0.6**
MARD	**Mardin**	**0.40**	**119**	*i* P		**Pn**	**12 43 20.4**	**+0.1**
MARD				*i* S		Sb	12 43 26.9	+3.1
DYBB	**Diyarbakir**	**0.47**	**340**	*e*PG		**Pg**	**12 43 17.1**	**-0.9**
DYBB				*e*SG		**Sb**	**12 43 27.0**	**+1.2**
DYBB	**Diyarbakir**	**0.47**	**340**	*e*PG		**Pb**	**12 43 18.7**	**-0.2**
SVAN	**Silvan-Diyarba**	**0.93**	**46**	*e*PN		**Pg**	**12 43 24.9**	**-1.8**
SVAN				*e*SN		**Sn**	**12 43 41.4**	**+0.6**
SVAN	**Silvan-Diyarba**	**0.93**	**46**	*e*PG		**Pn**	**12 43 26.6**	**-1.0**
SVAN				*e*SG		**Sn**	**12 43 41.8**	**+1.0**
SVRC	**Sivrice-ELAZID**	**1.19**	**317**	*e*PN		**Pb**	**12 43 29.9**	**-1.4**
SVRC				*e*SN		**Sn**	**12 43 49.7**	**+2.3**
SVRC	**Sivrice-ELAZID**	**1.19**	**317**	*e*PN		**Pb**	**12 43 30.1**	**-1.2**
SVRC				*e*SN		**Sn**	**12 43 49.7**	**+2.3**
SVRC	**Sivrice-ELAZID**	**1.19**	**317**	*e*Pn		**Pb**	**12 43 30.1**	**-1.2**
SVRC				*e*Sn		**Sn**	**12 43 49.7**	**+2.3**
ELZG	**Elazig**	**1.46**	**313**	*i* P		**Pg**	**12 43 34.5**	**-2.1**
ELZG				*i* S		**Sg**	**12 43 58.1**	**+2.5**
ELZG	**Elazig**	**1.46**	**313**	*i* P		**Pg**	**12 43 34.5**	**-2.1**
ELZG				*i* S		**Sg**	**12 43 58.1**	**+2.5**
PTK	**Pertek**	**1.57**	**332**	*e*PN		**Pn**	**12 43 35.6**	**-0.8**
PTK	**Pertek**	**1.57**	**332**	*e*PN		**Pg**	**12 43 37.3**	**-1.5**
PTK	**Pertek**	**1.57**	**332**	*e*Pn		**Pn**	**12 43 35.6**	**-0.8**

*IDC **14** 12:43:36.9±1.0, 18°.67S×68°.79W, h137km±9km, mb3.4/4, mb1 3.5/8, mb1mx3.3/21, mbtmp3.9/8, Error ellipse: s-maj=23.5km s-min=8.1km az=101.0*
*ISCJB **14** 12:43:37.3±0.9, 18°.73S±0°.05×68°.6W±0°.1, h128km, mb3.5/3, Error ellipse: s-maj=14.7km s-min=6.4km az=19.4*
ISC 14 12:43:36.9±0.9, 18°.68S±0°.06×68°.8W±0°.1, h128km, n9, σ1s43/13, mb3.6/3, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
LPAZ	**La Paz**	**2.45**	**14**	P		**Pn**	**12 44 18.3**	**+1.2**
	35nm,0.3s,baz=178,slow=10,SNR=336							
LPAZ				S		**Sn**	**12 44 48.8**	**+1.0**
	1.7nm,0.3s,baz=308,slow=18,SNR=9.0							
LVC	**Limon Verde**	**3.92**	**182**	P		**Pn**	**12 44 37.2**	**+1.4**
	329nm,0.3s,baz=334,slow=12,SNR=107							
LVC				S		**Sn**	**12 45 21.4**	**+0.1**
	418nm,0.3s,baz=107,slow=20,SNR=19							
SIV	**San Ignacio**	**7.81**	**71**	P		**Pn**	**12 45 28.3**	**+0.4**
	2.2nm,0.3s,baz=265,slow=12,SNR=27							
SIV				S		**Sn**	**12 46 54.8**	**-0.1**
	0.2nm,0.3s,baz=317,slow=13,SNR=3.5							
CFAA	**Coronel Fontan**	**12.88**	**178**	P		**Pn**	**12 46 36.3**	**+1.0**
	0.0nm,0.3s,baz=355,slow=14,SNR=3.6							
BDFB	**Brasilia**	**20.05**	**85**	P		**P**	**12 48 00.8**	**+0.5**
	5.2nm,0.4s,baz=251,slow=8.7,SNR=7.0							
PLCA	**Paso Flores**	**22.03**	**184**	P		**P**	**12 48 21.9**	**+0.7**
	1.9nm,0.6s,baz=11,slow=10,SNR=5.7							
TORD	**Torodi Ar. Bea**	**76.29**	**71**	P		**P**	**12 55 10.9**	**-1.2**
	0.8nm,0.5s,baz=251,slow=5.0,SNR=16							
YKA	**Yellowknife Ar**	**88.59**	**341**	P		**P**	**12 56 13.0**	**-1.8**
	0.1nm,0.4s,baz=132,slow=4.6,SNR=4.2							
YKA				pP		**pP**	**12 56 49.6**	**+1.9**
	0.2nm,0.5s,baz=134,slow=4.9,SNR=3.2							
WRA	**Warramunga Arr**	**135.43**	**212**	PKP		**PKPdf**	**13 02 40.2**	**-2.4**
	0.2nm,0.7s,baz=145,slow=1.5,SNR=2.8							

DDA 14 12:46:36.7, 37°.40N×37°.09E, h10km, MD2.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
HCB	**Kahramanmara⁻**	**0.15**	**249**	*i* P		Pg	12 46 36.9	-3.3
HCB				*i* S		Pg	12 46 42.8	+0.3
GZT	**Gaziantep**	**0.38**	**96**	*i* P		Pg	12 46 43.3	-1.1
GZT				*i* S		Sg	12 46 50.6	+0.9

IDC 14 12:57:02.4±2.9, 54°.20N×87°.24E, h0km, mb1 3.3/2, mb1mx3.1/29, mbtmp3.3/2, ML2.7/2, Error ellipse: s-maj=25.2km s-min=16.4km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.45**	**261**	*i*			13 05 50.0	
	baz=80,slow=320,SNR=3.8							
ZALV	**Zalesovo Beam**	**1.45**	**261**	Pg		Pn	12 57 28.2	-1.6
	4.5nm,0.3s,baz=82,slow=15,SNR=30							
ZALV				Lg		Lg	12 57 48.5	
	2.2nm,0.3s,baz=77,slow=26,SNR=7.0							
KURBB	**Kurchatov Arra**	**6.42**	**240**	Pn		Pn	12 58 38.8	+0.7
	0.1nm,0.3s,baz=53,slow=14,SNR=4.1							
KURBB				Lg		Lg	13 00 26.6	
	0.0nm,0.3s,baz=59,slow=32,SNR=3.0							
MKAR	**Makanchi Array**	**8.05**	**205**	Pn		Pn	12 59 02.0	+1.4
	0.1nm,0.3s,baz=36,slow=15,SNR=7.0							
MKAR				Sn		Sn	13 00 31.5	-0.8
	0.2nm,0.3s,baz=23,slow=27,SNR=3.7							
MKAR				Lg		Lg	13 01 18.4	
	0.1nm,0.3s,baz=28,slow=28,SNR=3.0							

*ISCJB **14** 13:08:23.9±1.0, 20°.60S±0°.09×68°.6W±0°.2, h110km, mb3.6/3, Error ellipse: s-maj=31.8km s-min=9.2km az=16.5*
*IDC **14** 13:08:24.9±1.4, 20°.67S×68°.71W, h115km±16km, mb3.4/3, mb1 3.4/5, mb1mx3.2/22, mbtmp3.7/5, Error ellipse: s-maj=41.1km s-min=15.3km az=104.0*
ISC 14 13:08:25.0±1.0, 20°.70S±0°.07×68°.5W±0°.2, h110km, n6, σ1s41/8, mb3.7/3, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
LVC	**Limon Verde**	**1.93**	**190**	P		**Pn**	**13 08 58.1**	**+0.7**
	961nm,0.3s,baz=19,slow=14,SNR=3.8							
LVC				S		**Sn**	**13 09 22.8**	**+0.7**
	2μm,0.3s,baz=78,slow=20,SNR=7.5							
LPAZ	**La Paz**	**4.41**	**5**	P		**Pn**	**13 09 32.1**	**+1.6**
	1.7nm,0.3s,baz=189,slow=4.4,SNR=31							
SIV	**San Ignacio**	**8.50**	**58**	P		**Pn**	**13 10 26.0**	**+0.6**
	1.0nm,0.3s,baz=252,slow=13,SNR=9.6							
PTGA	**Pitinga**	**21.55**	**24**	P		**P**	**13 13 04.0**	**-1.7**
	2.6nm,0.5s,baz=204,slow=19,SNR=7.7							
TORD	**Torodi Ar. Bea**	**76.77**	**70**	P		**P**	**13 20 05.8**	**+0.9**
	0.6nm,0.5s,baz=255,slow=5.7,SNR=8.1							
YKA	**Yellowknife Ar**	**90.55**	**340**	P		**P**	**13 21 12.6**	**-1.5**
	0.1nm,0.5s,baz=124,slow=5.0,SNR=3.5							
YKA				pP		**pP**	**13 21 43.0**	**+0.1**
	0.2nm,0.6s,baz=133,slow=4.5,SNR=4.2							

*JMA **14** 13:11:50.4±0.9, 44°.62N×149°.15E, h30km, MS3.7*
*SKHL **14** 13:11:52.4±0.3, 44°.31N×149°.03E, h45km±4km, mb4.2/2*
ISC 14 13:11:51.9±4.3, 44°.34N±0°.09×149°.1E±0°.3, h42km, n13, σ1s107/18, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
KUR	**Kuril'sk**	**1.27**	**315**	*i* P		**Pn**	**13 12 12.7**	**-0.5**
KUR				AMB		AMB	13 12 14.0	
	160nm,0.4s							
KUR				*e*S		**Sn**	**13 12 28.1**	**-1.0**
KUR				A		A	13 12 31.0	
	620nm,0.4s							
KUR				A		A	13 12 31.0	
	270nm,0.4s							
SHO	**Shikotan**	**1.73**	**255**	*e*P		**Pn**	**13 12 19.2**	**-0.2**
SHO				AMB		AMB	13 12 20.3	
	151nm,1.0s							
SHO				*e*S		**Sn**	**13 12 39.1**	**-1.0**
SHO				A		A	13 12 45.0	
	211nm,0.3s							
NEM2	**Nemuro 2**	**2.64**	**250**	P		**Pn**	**13 12 31.6**	**-0.3**
NEM2				*e*S		**Sn**	**13 13 02.1**	**-0.6**
JRA	**Rausu**	**2.92**	**264**	P		**Pn**	**13 12 36.3**	**+0.6**
JAK	**Akkeshi**	**3.49**	**249**	P		**Pn**	**13 12 43.3**	**-0.3**
JTKR	**Abashiri--Toko**	**3.78**	**266**	P		**Pn**	**13 12 49.4**	**+1.8**
JAR	**Ashorobuto**	**4.02**	**257**	P		**Pn**	**13 12 52.1**	**+1.2**
JAR				*e*S		**Sn**	**13 13 37.5**	**+0.8**
JOB	**Onbets**	**4.11**	**251**	P		**Pn**	**13 12 52.9**	**+0.8**
JCH	**Churui**	**4.54**	**250**	P		**Pn**	**13 12 59.2**	**+1.2**
MYR	**Moyori**	**4.73**	**246**	*e*P		**Pn**	**13 13 01.9**	**+1.2**
MYR				*e*S		**Sn**	**13 13 52.4**	**-1.9**
JNBK	**Urakawa-nobuka**	**5.09**	**248**	P		**Pn**	**13 13 05.8**	**+0.2**
YSS	**Yuzh-Sakhalins**	**5.18**	**303**	*e*P		**Pn**	**13 13 08.0**	**+1.2**
JKB	**Kayabe**	**6.42**	**250**	P		**Pn**	**13 13 24.1**	**+0.4**

*IDC **14** 13:14:51.6±1.9, 9°.39S×121°.31E, h0km, mb3.9/4, mb1 3.9/6, mb1mx3.6/30, mbtmp3.8/6, ML3.6/2, Error ellipse: s-maj=169.4km s-min=20.4km az=57.0*
*ISCJB **14** 13:15:02.3±0.4, 9°.63S±0°.04×121°.32E±0°.04, h114km±5km, mb3.8/4, Error ellipse: s-maj=7.3km s-min=6.0km az=167.0*
*DJA **14** 13:15:05.2±0.4, 10°.5S±3°.×12°.1E±°, h79km±6km, M3.9/10, mb3.9/1, MLv4.0/10*
ISC 14 13:15:03.4±0.7, 9°.62S±0°.05×121°.31E±0°.04, h104km±8km, n20, σ1s21/27, mb3.9/4, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
BASI	**Baing, Sumba**	**0.93**	**230**	P		**Pn**	**13 15 24.2**	**+0.8**
BASI				S		**Sn**	**13 15 38.6**	**+0.2**
EDFI	**Ende, Flores**	**0.94**	**24**	P		**Pn**	**13 15 24.4**	**+0.8**
EDFI				S		**Sn**	**13 15 38.6**	**-0.2**
WSI	**Waingapu**	**0.99**	**267**	P		**Pn**	**13 15 25.4**	**+1.4**
WSI				S		**Sn**	**13 15 39.1**	**-0.5**
WSI	**Waingapu**	**0.99**	**267**	P		**Pn**	**13 15 25.4**	**+1.4**
	baz=1.3,SNR=16							
MMRI	**Maumere**	**1.34**	**43**	P		**Pn**	**13 15 29.1**	**+1.1**
MMRI				S		**Sn**	**13 15 46.5**	**-0.1**
WBSI	**Waikabubak, Su**	**1.89**	**269**	P		**Pn**	**13 15 36.0**	**+1.3**
WBSI				S		**Sn**	**13 15 59.0**	**+0.4**
SOEI	**Soe**	**2.92**	**93**	P		**Pn**	**13 15 49.3**	**+1.0**
SOEI				S		**Sn**	**13 16 23.3**	**+0.4**
SOEI	**Soe**	**2.92**	**93**	P		**Pn**	**13 15 50.1**	**+1.8**
	baz=2.9,SNR=5.9							
BSSI	**Bau Bau, Buton**	**3.55**	**347**	P		**Pn**	**13 15 58.1**	**+1.5**
BSSI				S		**Sn**	**13 16 38.4**	**+0.7**
KNRA	**Kununurra**	**9.44**	**130**	P		**Pn**	**13 17 15.2**	**-1.3**
	baz=9.8,SNR=13							
KNRA				S		Sn	13 18 52.2	-8.7
	baz=9.8,SNR=13							
SMRI	**Semarang**	**11.05**	**283**	P		**Pn**	**13 17 36.4**	**-2.0**
	baz=11,SNR=4.3							
KDU	**Kakadu**	**11.37**	**107**	P		**Pn**	**13 17 41.4**	**-1.4**
	baz=12,SNR=11							
GIRL	**Giralia**	**14.62**	**207**	P		**Pn**	**13 18 25.4**	**+0.2**
	baz=15,SNR=4.0							
WRA	**Warramunga Arr**	**16.24**	**131**	Pn		**Pn**	**13 18 43.2**	**-2.3**
	0.3nm,0.3s,baz=305,slow=13,SNR=19							
WRA				Sn		Sn	13 21 30.5	-15
	0.7nm,0.3s,baz=310,slow=24,SNR=10.0							
MEEK	**Meekatharra**	**17.12**	**188**	P		**P**	**13 18 57.8**	**+1.4**
	baz=18,SNR=7.5							
ASAR	**Alice Springs**	**18.44**	**141**	P		**P**	**13 19 11.2**	**+0.2**
	0.2nm,0.3s,baz=310,slow=10,SNR=6.8							
ASAR				S			13 22 26.1	-10
	0.1nm,0.3s,baz=312,slow=22,SNR=3.4							
STKA	**Stephens Creek**	**29.05**	**143**	P		**P**	**13 20 55.1**	**+1.1**
	3.2nm,0.8s,baz=310,slow=10,SNR=6.3							
SONM	**Songino Array**	**58.71**	**348**	P		**P**	**13 24 49.9**	**-0.4**
	0.2nm,0.3s,baz=161,slow=6.1,SNR=3.9							
MKAR	**Makanchi Array**	**66.06**	**332**	P		**P**	**13 25 39.7**	**+0.6**
	0.5nm,0.5s,baz=172,slow=6.5,SNR=11							
ZALV	**Zalesovo Beam**	**70.44**	**338**	P		**P**	**13 26 05.2**	**-1.1**
	0.8nm,0.3s,baz=148,slow=6.5,SNR=4.7							

GUC 14 13:15:27.9±0.8, 35°.41S×70°.47W, h5km±12km, ML3.9, 4C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
NICH	**Los Niches**	**0.74**	**303**	⇑*i*P		Pg	13 15 42.5	+0.3
NICH				*i* S		Sb	13 15 53.6	-0.2
CACH	**El Canelo**	**1.29**	**355**	⇑*i*P		Pn	13 15 50.8	-2.1
CHCH	**Chadas Angostu**	**1.48**	**354**	⇓*i*P		Pn	13 15 54.3	-1.0
LNV	**Longovilo**	**1.64**	**332**	*i* P		Pn	13 15 56.9	-0.6
CLCH	**Cerro Calan**	**2.01**	**358**	⇑*i*P		Pn	13 16 03.5	+0.8
CLCH				*i* S		Sb	13 16 29.4	-1.0
CLCH				AML		AML	13 16 35.2	
	comp=E,654nm,0.7s							
PEL	**Peldehue**	**2.27**	**355**	*e*P		Pn	13 16 06.8	+0.7
PEL				*i* S		Sb	13 16 37.0	-0.9
PEL				AML		AML	13 16 42.2	
	comp=E,1μm,0.6s			

ϕ_E24.00000°,δ39.00000°,λ-78.00000°. Principal axes: T 3.2740, Plg7.0000°, Azm285.0000°; N 0.0830, Plg8.0000°, Azm194.0000°; P -3.3580, Plg80.0000°, Azm56.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

NEIC **14** 13:25:33.7±0.3,39.52N×29.77W,h24km±2km,mb4.9/83

Error ellipse: s-maj=7.3km s-min=3.0km az=177.0

ISC 14 13:25:31.9±0.3,**39.29N**±0.05×**29.66W**±0.03,**h14**km,
h14km:**pP-P,n548,**σ1**35**/534,**mb4.8**/132,**MS4.2**/42,
22C-1D,Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCED	**Cedros**	**1.00**	**131**	*e*P		**Pb**	**13 25 50.0**	**-0.9**
PCED				*e*S		**Sb**	**13 26 03.1**	**-0.8**
PCED				A		A	13 26 08.9	
	2μm,0.4s							
CALA	**Caldeira**	**1.03**	**133**	*e*P		**Pb**	**13 25 50.9**	**-0.6**
CALA				*e*S		**Sb**	**13 26 04.8**	**-0.1**
HOR	**Horta**	**1.11**	**133**	*e*P		**Pb**	**13 25 51.7**	**-1.1**
HOR				*e*S		**Sb**	**13 26 06.6**	**-0.5**
H07N1	**FLORES T-PHASE**	**1.20**	**290**	*e*P		Pn	13 25 48.4	-5.9
H07N1	**FLORES T-PHASE**	**1.20**	**290**	T		T	13 27 01.0	
	SNR=221							
H07S1	**FLORES T-PHASE**	**1.20**	**275**	*e*P		Pn	13 25 49.4	-4.9
H07S1				*e*S		Sb	13 26 02.5	-7.3
H07S1	**FLORES T-PHASE**	**1.20**	**275**	T		T	13 27 06.5	
	SNR=320							
PCAN	**Candelaria**	**1.23**	**131**	*e*P		**Pn**	**13 25 53.2**	**-1.5**
PCAN				*e*S		**Sb**	**13 26 09.4**	**-1.4**
PCAN				A		A	13 26 12.1	
	2μm,0.3s							
ROSA	**Rosais**	**1.24**	**117**	*e*P		**Pn**	**13 25 52.9**	**-2.0**
ROSA				*e*S		**Sb**	**13 26 08.7**	**-2.4**
ROSA				A		A	13 26 21.0	
	1μm,0.6s							
PICO	**Pico**	**1.25**	**129**	*e*P		**Pn**	**13 25 53.5**	**-1.4**
PICO				*e*S		**Sb**	**13 26 09.7**	**-1.4**
PGRA	**Graciosa**	**1.33**	**101**	*e*P		**Pn**	**13 25 53.3**	**-2.8**
PGRA				*e*S		Sn	13 26 08.0	-5.6
PGRA				A		A	13 26 10.2	
	975nm,0.5s							
PPNO	**Prainha do Nor**	**1.36**	**126**	*e*P		**Pn**	**13 25 54.9**	**-1.7**
PPNO				*e*S		**Sn**	**13 26 12.2**	**-2.2**
PPNO				A		A	13 26 16.5	
	1μm,0.3s							
PMAN	**Manadas**	**1.39**	**118**	*e*P		**Pn**	**13 25 55.0**	**-1.9**
PMAN				*e*S		**Sn**	**13 26 12.1**	**-2.9**
PMAN				A		A	13 26 17.4	
	598nm,0.3s							
ADH	**Angra Heroismo**	**2.00**	**108**	*e*P		**Pn**	**13 26 02.9**	**-2.3**
ADH				*e*S		**Sn**	**13 26 26.5**	**-3.4**
ADH				A		A	13 26 28.5	
	170nm,0.3s							
PSET	**Sete Cidades**	**3.42**	**114**	*e*P		**Pn**	**13 26 22.8**	**-2.0**
PSET				*e*S		**Sn**	**13 27 01.4**	**-3.7**
PSET				A		A	13 27 05.8	
	110nm,0.3s							
PDA	**Ponta Delgada**	**3.49**	**115**	*e*P		**Pn**	**13 26 23.9**	**-1.9**
BART	**Pico Bartolome**	**3.83**	**112**	*e*P		**Pn**	**13 26 28.4**	**-2.1**
BART				*e*S		**Sn**	**13 27 11.3**	**-4.1**
BART				A		A	13 27 20.5	
	162nm,0.7s							
PSMA	**Santa Maria**	**4.24**	**121**	*e*P		**Pn**	**13 26 34.5**	**-1.6**
PSMA				*e*S		**Sn**	**13 27 21.9**	**-3.5**
PSMA				A		A	13 27 25.7	
	79nm,0.3s							
PSMN	**Pico do Norte,**	**4.28**	**121**	*e*P		**Pn**	**13 26 35.2**	**-1.4**
PSMN				*e*S		**Sn**	**13 27 22.3**	**-4.1**
PSMN				A		A	13 27 34.2	
	57nm,0.5s							
PMAFR	**Mafra**	**15.82**	**85**	*e*LR		LR	13 32 49.1	
	2μm,20.0s							
PCAS	**Casmilo, Conde**	**16.32**	**81**	*e*LR		LR	13 32 56.9	
	1μm,20.0s							
PGAV	**Gavieira, Arco**	**16.46**	**74**	*e*LR		LR	13 32 56.9	
	2μm,18.0s							
PFVI	**Vila Bisbo**	**16.52**	**91**	*e*LR		LR	13 33 02.1	
	1μm,20.0s							
PNCL	**Nicolau / Gran**	**16.54**	**87**	*e*P		**P**	**13 29 25.1**	**-0.8**
	59nm,1.1s							
PNCL				*e*LR		LR	13 32 59.5	
	2μm,20.0s							
PNCL	**Nicolau / Gran**	**16.54**	**87**	*e*P		**P**	**13 29 25.1**	**-0.8**
	59nm,1.1s							
MORF	**Marmelete**	**16.61**	**90**	*e*LR		LR	13 33 07.3	
	2μm,20.0s							
PMTG	**Montargil**	**16.62**	**84**	*e*P		**Pn**	**13 29 24.6**	**+0.1**
	90nm,1.5s							
PMTG				*e*LR		LR	13 33 02.1	
	1μm,20.0s							
PVIS	**Viseu**	**16.74**	**78**	*e*P		**P**	**13 29 29.5**	**+1.3**
	89nm,1.7s							
PVIS	**Viseu**	**16.74**	**78**	*e*P		**P**	**13 29 29.5**	**+1.3**
	89nm,1.7s							
EVOP	**Sao Brissos**	**16.78**	**86**	*e*P		**Pn**	**13 29 26.0**	**-0.4**
EVOP				pmax		pmax		
	comp=Z,63nm,1.3s							
EVOP	**Sao Brissos**	**16.78**	**86**	*e*P		**Pn**	**13 29 26.0**	**-0.4**
	comp=Z,63nm,1.3s							
POLO	**Lamas de Olo**	**16.80**	**76**	*e*P		**Pn**	**13 29 27.4**	**+0.6**
	comp=Z,26nm,1.6s							
POLO				*e*LR		LR	13 33 12.5	
	comp=Z,918nm,20.0s							
POLO	**Lamas de Olo**	**16.80**	**76**	*e*P		**Pn**	**13 29 27.4**	**+0.6**
	comp=Z,26nm,1.6s							
EVO	**Evora**	**16.87**	**86**	*e*P		**Pn**	**13 29 26.0**	**-1.5**
	comp=Z,63nm,1.3s							
EVO				*e*R				
	comp=Z,2μm,20.2s							
EVO	**Evora**	**16.87**	**86**	*e*P		**Pn**	**13 29 27.4**	**-0.1**
	comp=Z,42nm,1.5s							
PCVE	**Castro Verde**	**17.02**	**89**	*e*LR		LR	13 33 16.4	
	comp=Z,4μm,20.0s							
PCBR	**Castelo Branco**	**17.11**	**81**	*e*P		**P**	**13 29 33.9**	**+1.6**
	comp=Z,50nm,1.5s							
PCBR	**Castelo Branco**	**17.11**	**81**	*e*P		**P**	**13 29 33.9**	**+1.6**
	comp=Z,50nm,1.5s							
PESTR	**Estremoz**	**17.14**	**84**	*e*LR		LR	13 33 21.6	
	comp=Z,1μm,18.0s							
PBDV	**Barranco-do-Ve**	**17.19**	**90**	*e*LR		LR	13 33 22.9	
	comp=Z,2μm,20.0s							
PMRV	**Marv??o**	**17.22**	**82**	*e*LR		LR	13 33 23.3	
	comp=Z,1μm,18.0s							
PVAQ	**Vaqueiros**	**17.32**	**89**	*e*P		**Pn**	**13 29 33.0**	**-0.1**
	comp=Z,36nm,1.2s							
PVAQ				*e*LR		LR	13 33 38.1	
	comp=Z,1μm,20.0s							
MVO	**Moncorvo**	**17.38**	**77**	*e*LR		LR	13 33 21.6	
	comp=Z,1μm,20.0s							
PBRG	**Braganca**	**17.59**	**74**	*e*LR		LR	13 33 32.0	
	comp=Z,2μm,20.0s							
PBAR	**Barrancos**	**17.68**	**86**	*e*P		**P**	**13 29 39.5**	**+0.9**
	comp=Z,43nm,1.4s							
PBAR				*e*LR		LR	13 33 26.8	
	comp=Z,3μm,20.0s							
PBAR	**Barrancos**	**17.68**	**86**	*e*P		**P**	**13 29 39.5**	**+0.9**
	comp=Z,43nm,1.4s							
PAB	**San Pablo**	**19.55**	**81**	*e*P		**Pn**	**13 30 03.5**	**+3.0**
PAB				pmax		pmax		
	comp=Z,84nm,2.2s							
PAB	**San Pablo**	**19.55**	**81**	*e*P		**Pn**	**13 30 03.5**	**+3.0**
	comp=Z,84nm,2.2s							
PAB	**San Pablo**	**19.55**	**81**	*e*P		**Pn**	**13 30 03.5**	**+3.0**
	comp=Z,84nm,2.2s							
ESDC	**Sonseca Array**	**19.83**	**81**	P		**Pn**	**13 30 03.5**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=284,slow=9.7,SNR=17							
ESDC				LR		LR	13 36 50.4	
	comp=Z,1μm,18.0s,baz=275,slow=34							
ESLA	**Sonseca Array**	**19.83**	**81**	*e*P		**Pn**	**13 30 04.6**	**+0.8**
	comp=Z,4.4nm,1.0s							
ESLA	**Sonseca Array**	**19.83**	**81**	*e*P		**Pn**	**13 30 04.6**	**+0.8**
	comp=Z,4.5nm,1.0s							
ES19	**SONSECA Array**	**19.87**	**81**	*e*P		**Pn**	**13 30 04.1**	**-0.2**
ES19	**SONSECA Array**	**19.87**	**81**	*e*P		**Pn**	**13 30 04.1**	**-0.2**
QUIF	**Quistinic**	**20.96**	**57**	*e*P		Pn	13 30 16.2	-0.7
	comp=Z,199nm,1.6s							
QUIF	**Quistinic**	**20.96**	**57**	*e*P		Pn	13 30 16.2	-0.7
QUIF				pmax		pmax		
	comp=Z,199nm,1.6s							
QUIF	**Quistinic**	**20.96**	**57**	*e*P		Pn	13 30 16.2	-0.7
	comp=Z,100nm,1.6s							
QUIF	**Quistinic**	**20.96**	**57**	*e*P		Pn	13 30 16.2	-0.7
	comp=Z,199nm,1.6s							
MDT	**Midelt**	**21.22**	**100**	P		**P**	**13 30 18.3**	**+0.8**
	comp=Z,4.3nm,0.8s,baz=306,slow=7.4,SNR=2.2							
MDT				LR		LR	13 37 23.7	
	comp=Z,626nm,18.3s,baz=334,slow=34							
SJPF	**Ste Jean**	**21.69**	**71**	*e*P		**P**	**13 30 22.8**	**+0.5**
	comp=Z,36nm,1.2s							
SJPF	**Ste Jean**	**21.69**	**71**	*e*P		**P**	**13 30 22.8**	**+0.5**
SJPF				pmax		pmax		
	comp=Z,36nm,1.2s							
SJPF	**Ste Jean**	**21.69**	**71**	*e*P		**P**	**13 30 22.8**	**+0.5**
	comp=Z,18nm,1.2s							
SJPF	**Ste Jean**	**21.69**	**71**	*e*P		**P**	**13 30 22.8**	**+0.5**
	comp=Z,36nm,1.2s							
ETSF	**Etsaut**	**22.18**	**71**	*e*P		**P**	**13 30 27.8**	**+0.2**
ETSF	**Etsaut**	**22.18**	**71**	*e*P		**P**	**13 30 27.8**	**+0.2**
ETSF	**Etsaut**	**22.18**	**71**	*e*P		**P**	**13 30 27.8**	**+0.2**
ETSF	**Etsaut**	**22.18**	**71**	*e*P		**P**	**13 30 27.8**	**+0.2**
GRR	**Gorron**	**22.57**	**57**	*e*P		**P**	**13 30 31.3**	**-0.3**
	comp=Z,30nm,0.8s							
GRR	**Gorron**	**22.57**	**57**	*e*P		**P**	**13 30 31.3**	**-0.3**
GRR				pmax		pmax		
	comp=Z,30nm,0.8s							
GRR	**Gorron**	**22.57**	**57**	*e*P		**P**	**13 30 31.3**	**-0.3**
	comp=Z,15nm,0.8s							
GRR	**Gorron**	**22.57**	**57**	*e*P		**P**	**13 30 31.3**	**-0.3**
	comp=Z,30nm,0.8s							
MFF	**Saint Martin d**	**22.72**	**62**	*e*P		**P**	**13 30 33.0**	**-0.2**
	comp=Z,61nm,1.3s							
MFF	**Saint Martin d**	**22.72**	**62**	*e*P		**P**	**13 30 33.0**	**-0.2**
MFF				pmax		pmax		
	comp=Z,61nm,1.3s							
MFF	**Saint Martin d**	**22.72**	**62**	*e*P		**P**	**13 30 33.0**	**-0.2**
	comp=Z,30nm,1.3s							
MFF	**Saint Martin d**	**22.72**	**62**	*e*P		**P**	**13 30 33.0**	**-0.2**
	comp=Z,61nm,1.3s							
EPF	**Esparros**	**22.84**	**71**	*e*P		**P**	**13 30 34.7**	**+0.1**
	comp=Z,58nm,1.2s							
EPF	**Esparros**	**22.84**	**71**	*e*P		**P**	**13 30 34.7**	**+0.1**
EPF				pmax		pmax		
	comp=Z,58nm,1.2s							
EPF	**Esparros**	**22.84**	**71**	*e*P		**P**	**13 30 34.7**	**+0.1**
	comp=Z,29nm,1.2s							
EPF	**Esparros**	**22.84**	**71**	*e*P		**P**	**13 30 34.7**	**+0.1**
	comp=Z,58nm,1.2s							
LFF	**La Frestale**	**23.17**	**66**	*e*P		**P**	**13 30 37.7**	**-0.2**
LFF	**La Frestale**	**23.17**	**66**	*e*P		**P**	**13 30 37.7**	**-0.2**
LFF	**La Frestale**	**23.17**	**66**	*e*P		**P**	**13 30 37.7**	**-0.2**
LFF	**La Frestale**	**23.17**	**66**	*e*P		**P**	**13 30 37.7**	**-0.2**
ESK	**Eskdalemuir**	**23.85**	**39**	*i* P		**P**	**13 30 45.3**	**+0.8**
ESK	**Eskdalemuir**	**23.85**	**39**	*i* P		**P**	**13 30 45.3**	**+0.8**
EKA	**Eskdalemuir Ar**	**23.88**	**39**	P		**P**	**13 30 43.6**	**-1.2**
	comp=Z,6.7nm,0.9s,baz=235,slow=7.5,SNR=4.3							
CAF	**Calviac**	**24.11**	**66**	*e*P		**P**	**13 30 47.1**	**0.0**
CAF	**Calviac**	**24.11**	**66**	*e*P		**P**	**13 30 47.1**	**0.0**
CAF	**Calviac**	**24.11**	**66**	*e*P		**P**	**13 30 47.1**	**0.0**
CAF	**Calviac**	**24.11**	**66**	*e*P		**P**	**13 30 47.1**	**0.0**
MTLF	**Montolieu**	**24.20**	**70**	*e*P		**P**	**13 30 48.5**	**+0.5**
MTLF	**Montolieu**	**24.20**	**70**	*e*P		**P**	**13 30 48.5**	**+0.5**
MTLF	**Montolieu**	**24.20**	**70**	*e*P		**P**	**13 30 48.5**	**+0.5**
MTLF	**Montolieu**	**24.20**	**70**	*e*P		**P**	**13 30 48.5**	**+0.5**
TCF	**Toulx Ste Croi**	**24.30**	**63**	*e*P		**P**	**13 30 48.7**	**-0.1**
	comp=Z,66nm,1.3s							
TCF	**Toulx Ste Croi**	**24.30**	**63**	*e*P		**P**	**13 30 48.7**	**-0.1**
TCF				pmax		pmax		
	comp=Z,66nm,1.3s							
TCF	**Toulx Ste Croi**	**24.30**	**63**	*e*P		**P**	**13 30 48.7**	**-0.1**
	comp=Z,33nm,1.3s							
TCF	**Toulx Ste Croi**	**24.30**	**63**	*e*P		**P**	**13 30 48.7**	**-0.1**
	comp=Z,66nm,1.3s							
AVF	**Avril sur Loir**	**25.13**	**62**	*e*P		**P**	**13 30 56.5**	**+0.2**
	comp=Z,94nm,1.8s							
AVF	**Avril sur Loir**	**25.13**	**62**	*e*P		**P**	**13 30 56.5**	**+0.2**
AVF				pmax		pmax		
	comp=Z,94nm,1.8s							
AVF	**Avril sur Loir**	**25.13**	**62**	*e*P		**P**	**13 30 56.5**	**+0.2**
	comp=Z,47nm,1.8s							
AVF	**Avril sur Loir**	**25.13**	**62**	*e*P		**P**	**13 30 56.5**	**+0.2**
	comp=Z,94nm,1.8s							
SSF	**Saint Saulge**	**25.26**	**61**	*e*P		**P**	**13 30 57.8**	**+0.3**
	comp=Z,40nm,1.3s							
SSF	**Saint Saulge**	**25.26**	**61**	*e*P		**P**	**13 30 57.8**	**+0.3**
SSF				pmax		pmax		
	comp=Z,40nm,1.3s							
SSF	**Saint Saulge**	**25.26**	**61**	*e*P		**P**	**13 30 57.8**	**+0.3**
	comp=Z,20nm,1.3s							
SSF	**Saint Saulge**	**25.26**	**61**	*e*P		**P**	**13 30 57.8**	**+0.3**
	comp=Z,40nm,1.3s							
LASF	**Ste Croix**	**25.38**	**68**	*e*P		**P**	**13 30 59.0**	**+0.4**
	comp=Z,104nm,1.8s							
LASF	**Ste Croix**	**25.38**	**68**	*e*P		**P**	**13 30 59.0**	**+0.4**
	comp=Z,52nm,1.8s							
LASF	**Ste Croix**	**25.38**	**68**	*e*P		**P**	**13 30 59.0**	**+0.4**
	comp=Z,104nm,1.8s							
SMF	**Signal de Mont**	**25.45**	**62**	*e*P		**P**	**13 30 59.8**	**+0.5**
	comp=Z,80nm,1.5s							
SMF	**Signal de Mont**	**25.45**	**62**	*e*P		**P**	**13 30 59.8**	**+0.5**
SMF				pmax		pmax		
	comp=Z,80nm,1.5s							
SMF	**Signal de Mont**	**25.45**	**62**	*e*P		**P**	**13 30 59.8**	**+0.5**
	comp=Z,40nm,1.5s							
SMF	**Signal de Mont**	**25.45**	**62**	*e*P		**P**	**13 30 59.8**	**+0.5**
	comp=Z,80nm,1.5s							
LOR	**Lormes**	**25.52**	**61**	*e*P		**P**	**13 31 00.2**	**+0.3**
	comp=Z,35nm,1.2s							
LOR				*e*R				
	comp=Z,744nm,19.5s							
LOR	**Lormes**	**25.52**	**61**	*e*P		**P**	**13 31 00.2**	**+0.3**
LOR				pmax		pmax		
	comp=Z,35nm,1.2s							
LOR	**Lormes**	**25.52**	**61**	*e*P		**P**	**13 31 00.2**	**+0.3**
	comp=Z,17nm,1.2s							
LOR	**Lormes**	**25.52**	**61**	*e*P		**P**	**13 31 00.2**	**+0.3**
	comp=Z,35nm,1.2s							
VIVF	**Saint-Julien-l**	**25.96**	**66**	*e*P		**P**	**13 31 04.9**	**+1.0**
	comp=Z,105nm,1.8s							
VIVF	**Saint-Julien-l**	**25.96**	**66**	*e*P		**P**	**13 31 04.9**	**+1.0**
VIVF				pmax		pmax		
	comp=Z,105nm,1.8s							
VIVF	**Saint-Julien-l**	**25.96**	**66**	*e*P		**P**	**13 31 04.9**	**+1.0**
	comp=Z,53nm,1.8s							
VIVF	**Saint-Julien-l**	**25.96**	**66**	*e*P		**P**	**13 31 04.9**	**+1.0**
	comp=Z,105nm,1.8s							
BORG	**Borgarnes**	**25.96**	**8**	LR		LR	13 38 21.4	
	comp=Z,626nm,21.1s,baz=219,slow=30							
BAIF	**Baives**	**26.17**	**55**	*e*P		**P**	**13 31 03.8**	**-1.9**
	comp=Z,47nm,1.2s							
BAIF	**Baives**	**26.17**	**55**	*e*P		**P**	**13 31 03.8**	**-1.9**
BAIF				pmax		pmax		
	comp=Z,47nm,1.2s							
BAIF	**Baives**	**26.17**	**55**	*e*P		**P**	**13 31 03.8**	**-1.9**
	comp=Z,23nm,1.2s							
BAIF	**Baives**	**26.17**	**55**	*e*P		**P**	**13 31 03.8**	**-1.9**
	comp=Z,47nm,1.2s							
SNF	**Seneffe**	**26.31**	**54**	P		**P**	**13 31 05.9**	**-1.0**
SNF	**Seneffe**	**26.31**	**54**	P		**P**	**13 31 05.9**	**-1.0**
SFTF	**Sexfontaines**	**26.42**	**59**	*e*P		**P**	**13 31 08.3**	**+0.3**
	comp=Z,155nm,1.6s							
SFTF	**Sexfontaines**	**26.42**	**59**	*e*P		**P**	**13 31 08.3**	**+0.3**
	comp=Z,78nm,1.6s							
SFTF	**Sexfontaines**	**26.42**	**59**	*e*P		**P**	**13 31 08.3**	**+0.3**
	comp=Z,155nm,1.6s							
DOU	**Dourbes**	**26.42**	**55**	P		**P**	**13 31 09.2**	**+1.2**
DOU	**Dourbes**	**26.42**	**55**	P		**P**	**13 31 09.2**	**+1.2**
MEZF	**Maizieres J'vi**	**26.46**	**58**	*e*P		**P**	**13 31 08.9**	**+0.5**
	comp=Z,61nm,1.1s							
MEZF	**Maizieres J'vi**	**26.46**	**58**	*e*P		**P**	**13 31 08.9**	**+0.5**
	comp=Z,30nm,1.1s							
MEZF	**Maizieres J'vi**	**26.46**	**58**	*e*P		**P**	**13 31 08.9**	**+0.5**
	comp=Z,61nm,1.1s							
GIVF	**Givet**	**26.57**	**55**	*e*P		**P**	**13 31 09.3**	**0.0**
	comp=Z,38nm,1.0s							
GIVF	**Givet**	**26.57**	**55**	*e*P		**P**	**13 31 09.3**	**0.0**
GIVF				pmax		pmax		
	comp=Z,38nm,1.0s							
GIVF	**Givet**	**26.57**	**55**	*e*P		**P**	**13 31 09.3**	**0.0**
	comp=Z,19nm,1.0s							
GIVF	**Givet**	**26.57**	**55**	*e*P		**P**	**13 31 09.3**	**0.0**
	comp=Z,38nm,1.0s							
PAGF	**Fort de Pagny**	**26.91**	**58**	*e*P		**P**	**13 31 13.0**	**+0.6**
	comp=Z,15nm,1.1s							
PAGF	**Fort de Pagny**	**26.91**	**58**	*e*P		**P**	**13 31 13.0**	**+0.6**
	comp=Z,7.7nm,1.1s							
PAGF	**Fort de Pagny**	**26.91**	**58**	*e*P		**P**	**13 31 13.0**	**+0.6**
	comp=Z,15nm,1.1s							
BCLA	**Clavier**	**26.93**	**54**	P		**P**	**13 31 12.6**	**0.0**
BCLA	**Clavier**	**26.93**	**54**	P		**P**	**13 31 12.5**	**0.0**
CABF	**La Chapelle**	**27.00**	**63**	*e*P		**P**	**13 31 13.7**	**+0.4**
CABF	**La Chapelle**	**27.00**	**63**	*e*P		**P**	**13 31 13.7**	**+0.4**
CABF	**La Chapelle**	**27.00**	**63**	*e*P		**P**	**13 31 13.7**	**+0.4**
BBTS	**Babate**	**27.11**	**151**	LR		LR	13 39 26.7	
	comp=Z,487nm,20.4s,baz=338,slow=31							
BEBN	**Eben Emael**	**27.23**	**53**	P		**P**	**13 31 15.7**	**+0.4**
	comp=Z,7.1nm,1.3s							
BEBN	**Eben Emael**	**27.23**	**53**	P		**P**	**13 31 15.6**	**+0.4**
	comp=Z,7.1nm,1.3s							
HAU	**Haudompre**	**27.27**	**60**	*e*P		**P**	**13 31 15.8**	**+0.1**
HAU				*e*R				
	comp=Z,746nm,21.0s							
HAU	**Haudompre**	**27.27**	**60**	*e*P		**P**	**13 31 15.8**	**+0.1**
HAU	**Haudompre**	**27.27**	**60**	*e*P		**P**	**13 31 15.8**	**+0.1**
HAU	**Haudompre**	**27.27**	**60**	*e*P		**P**	**13 31 15.8**	**+0.1**
MEM	**Membach**	**27.41**	**54**	*e*P		**P**	**13 31 18.1**	**+1.3**
MEM				pmax		pmax		
	comp=Z,50nm,1.8s							
MEM	**Membach**	**27.41**	**54**	*e*P		**P**	**13 31 18.1**	**+1.3**
	comp=Z,50nm,1.8s							
MEM	**Membach**	**27.41**	**54**	*e*P		**P**	**13 31 18.1**	**+1.3**
	comp=Z,50nm,1.8s							
LPL	**La Plagne**	**27.42**	**65**	*e*P		**P**	**13 31 18.3**	**+1.0**
	comp=Z,52nm,1.5s							
LPL	**La Plagne**	**27.42**	**65**	*e*P		**P**	**13 31 18.3**	**+1.0**
LPL				pmax		pmax		
	comp=Z,52nm,1.5s							
LPL	**La Plagne**	**27.42**	**65**	*e*P		**P**	**13 31 18.3**	**+1.0**
	comp=Z,26nm,1.5s							
LPL	**La Plagne**	**27.42**	**65**	*e*P		**P**	**13 31 18.3**	**+1.0**
	comp=Z,52nm,1.5s							
LPG	**La Plagne**	**27.43**	**65**	*e*P		**P**	**13 31 18.0**	**+0.5**
	comp=Z,69nm,1.7s							
LPG	**La Plagne**	**27.43**	**65**	*e*P		**P**	**13 31 18.0**	**+0.5**
LPG				pmax		pmax		
	comp=Z,69nm,1.7s							
LPG	**La Plagne**	**27.43**	**65**	*e*P		**P**	**13 31 18.0**	**+0.5**
	comp=Z,35nm,1.7s							
LPG	**La Plagne**	**27.43**	**65**	*e*P		**P**	**13 31 18.0**	**+0.5**
	comp=Z,69nm,1.7s							
HINF	**Hinteralfeld**	**27.59**	**60**	*e*P		**P**	**13 31 19.3**	**+0.7**
HINF	**Hinteralfeld**	**27.59**	**60**	*e*P		**P**	**13 31 19.3**	**+0.7**
HINF	**Hinteralfeld**	**27.59**	**60**	*e*P		**P**	**13 31 19.3**	**+0.7**
HINF	**Hinteralfeld**	**27.59**	**60**	*e*P		**P**	**13 31 19.3**	**+0.7**
ECH	**Echery**	**27.83**	**59**	*e*P		**P**	**13 31 19.8**	**-0.9**
ECH				pmax		pmax		
	comp=Z,10.0nm,1.1s							
ECH	**Echery**	**27.83**	**59**	*e*P		**P**	**13 31 19.8**	**-0.9**
	comp=Z,10nm,1.1s							
ECH	**Echery**	**27.83**	**59**	*e*P		**P**	**13 31 19.8**	**-0.9**
	comp=Z,10nm,1.1s							
CDF	**Champ du Feu**	**27.92**	**59**	*e*P		**P**	**13 31 22.0**	**+0.4**
	comp=Z,23nm,1.0s							
CDF	**Champ du Feu**	**27.92**	**59**	*e*P		**P**	**13 31 22.0**	**+0.4**
CDF				pmax		pmax		
	comp=Z,23nm,1.0s							
CDF	**Champ du Feu**	**27.92**	**59**	*e*P		**P**	**13 31 22.0**	**+0.4**
	comp=Z,11nm,1.0s							
CDF	**Champ du Feu**	**27.92**	**59**	*e*P		**P**	**13 31 22.0**	**+0.4**
	comp=Z,23nm,1.0s							
BFO	**Black Forest**	**28.62**	**59**	*e*P		**P**	**13 31 27.1**	**-0.6**
BFO				pmax		pmax		
	comp=Z,10.0nm,1.0s							
BFO	**Black Forest**	**28.62**	**59**	*e*P		**P**	**13 31 27.1**	**-0.6**
	comp=Z,10nm,1.0s							
BFO	**Black Forest**	**28.62**	**59**	*e*P		**P**	**13 31 27.1**	**-0.6**
	comp=Z,10nm,1.0s							
SCHQ	**Schefferville**	**29.29**	**314**	LR		LR	13 42 05.2	
	comp=Z,433nm,18.6s,baz=114,slow=34							
DAVOX	**Davos/Dischmat**	**29.61**	**62**	LR		LR	13 41 33.8	
	comp=Z,319nm,19.2s,baz=264,slow=33							
SFJD	**Kangerlussuaq**	**30.15**	**344**	LR		LR	13 41 01.5	
	comp=Z,348nm,19.4s,baz=153,slow=31							
KEST	**Kesra**	**30.98**	**84**	LR		LR	13 43 31.8	
	comp=Z,189nm,19.0s,baz=265,slow=35							
NKC	**Novy Kostel**	**31.44**	**56**	*e*P		**P**	**13 31 52.5**	**-0.2**
NKC				AMS		AMS	13 43 30.0	
	comp=Z,700nm,15.0s							
NKC	**Novy Kostel**	**31.44**	**56**	*e*P		**P**	**13 31 52.5**	**-0.2**
NKC				MLR		MLR		
	comp=Z,700nm,15.0s							
NKC	**Novy Kostel**	**31.44**	**56**	*e*P		**P**	**13 31 52.5**	**-0.2**
	comp=Z,700nm,15.0s							
CLL	**Collm**

DPC **Dobruska-Polom** 33.93 56 *e*P P 13 32 15.0 +0.5
DPC *e* 13 32 21.6
DPC Dobruska-Polom 33.93 56 P **P 13 32 15.0 +0.5**
TAM Tamanrasset 34.08 108 *e*P **P 13 32 17.3 +1.1**
TAM pmax pmax
comp=Z,7.0nm,1.0s
TAM Tamanrasset 34.08 108 *e*P **P 13 32 17.3 +1.1**
comp=Z,6.9nm,1.0s
TAM Tamanrasset 34.08 108 *e*P **P 13 32 17.3 +1.1**
comp=Z,6.9nm,1.0s
KRLC Kraliky 34.22 56 *e*P **P 13 32 16.3 -0.7**
KRLC Kraliky 34.22 56 *e*P **P 13 32 16.3 -0.7**
KRLC Kraliky 34.22 56 P **P 13 32 16.3 -0.7**
MORC Moravsky Berou 34.72 57 P **P 13 32 20.0 -1.3**
MORC pmax pmax
comp=Z,3.0nm,0.9s
MORC Moravsky Berou 34.72 57⇑ *i*P **P 13 32 22.0 +0.7**
MORC Moravsky Berou 34.72 57 *e*P **P 13 32 20.6 -0.7**
MORC Moravsky Berou 34.72 57 P **P 13 32 20.0 -1.3**
comp=Z,3.1nm,0.9s
CUC Castrocucco 34.74 74 *e*P **P 13 32 21.6 0.0**
comp=Z,18nm,1.1s
CUC Castrocucco 34.74 74 *e*P **P 13 32 21.6 0.0**
comp=Z,18nm,1.1s
OKC Ostrava-Krasne 35.11 57 AMS AMS 13 47 30.0
comp=Z,400nm,14.8s
VYHS Vyhne 35.61 59 *e*P **P 13 32 28.9 -0.1**
VYHS pmax pmax
comp=Z,8.0nm,2.1s
VYHS Vyhne 35.61 59 *e*P **P 13 32 28.8 -0.2**
PKSM Moragy 35.68 63⇑P P 13 32 25.8 -3.8
PKSM Moragy 35.68 63⇑ *i*P P 13 32 25.8 -3.8
PKSM Moragy 35.68 63⇑ *e*P **P 13 32 30.1 +0.5**
SMRT St. Maarten 35.85 243 *es*P sP 13 32 46.0 +8.7
OJC Ojcow 36.16 56 *e*P **P 13 32 33.5 -0.2**
OJC Ojcow 36.16 56 *e*P **P 13 32 33.7 0.0**
OJC pmax pmax
comp=Z,18nm,1.0s
OJC Ojcow 36.16 56 *e*P **P 13 32 33.7 0.0**
comp=Z,18nm,1.0s
OJC Ojcow 36.16 56 *e*P **P 13 32 33.7 0.0**
comp=Z,18nm,1.0s
PSZ Piszkesteto 36.36 60 P P 13 32 31.8 -3.7
PSZ pmax pmax
comp=Z,18nm,1.4s
PSZ Piszkesteto 36.36 60‖ *i*P **P 13 32 34.1 -1.4**
PSZ Piszkesteto 36.36 60⇑ *e*P **P 13 32 35.7 +0.2**
PSZ Piszkesteto 36.36 60 P P 13 32 31.8 -3.7
comp=Z,18nm,1.4s
PSZ Piszkesteto 36.36 60⇑ *e*P **P 13 32 35.7 +0.2**
NIE Niedzica 36.53 57 *e*P **P 13 32 38.1 +1.2**
NIE Niedzica 36.53 57 *e*P **P 13 32 38.2 +1.3**
STHS Stebnicka Huta 37.14 57 *e*P **P 13 32 43.4 +1.4**
STHS pmax pmax
comp=Z,14nm,1.9s
STHS Stebnicka Huta 37.14 57 *e*P **P 13 32 43.4 +1.4**
BZS Buzias 37.82 63‖P P 13 32 47.9 +0.1
BZS Buzias 37.82 63‖ *i*P **P 13 32 47.9 +0.1**
BZS Buzias 37.82 63 P **P 13 32 47.9 +0.1**
KOLS Kolonicke sedl 37.85 58 *e*P **P 13 32 48.0 0.0**
KOLS pmax pmax
comp=Z,31nm,2.2s
KOLS Kolonicke sedl 37.85 58 *e*P **P 13 32 48.0 0.0**
UZH Uzhgorod 37.89 58 *e*P **P 13 32 47.9 -0.4**
UZH *e* 13 32 58.7
UZH *e* 13 38 35.0
UZH Uzhgorod 37.89 58 *e*P **P 13 32 47.9 -0.4**
TOA0 Torodi Ar. Sit 37.99 125 *e*P **P 13 32 50.6 +1.1**
TOA0 Torodi Ar. Sit 37.99 125 *e*P **P 13 32 50.6 +1.1**
TORD Torodi Ar. Bea 37.99 125 P **P 13 32 50.9 +1.4**
comp=Z,8.8nm,1.0s,baz=326,slow=7.1,SNR=20
TORD LR LR 13 47 52.0
comp=Z,762nm,18.1s,baz=315,slow=35
GZR Gura Zlata 38.66 63⇑ *i*P **P 13 32 54.5 -0.5**
LVV L'vov 38.91 56 *e*P **P 13 32 57.1 +0.2**
LVV MLR MLR
comp=Z,200nm,14.0s
LVV MLR MLR
comp=N,800nm,15.0s
LVV MLR MLR
comp=E,600nm,15.0s
TIC Toumodi 39.36 139 *e*P **P 13 33 03.6 +2.6**
comp=E,12nm,0.2s
DBIC Dimbokro 39.42 139 P **P 13 33 03.7 +2.2**
comp=E,14nm,0.9s,baz=316,slow=11,SNR=5.7
DBIC LR LR 13 48 02.4
comp=E,449nm,19.4s,baz=302,slow=34
DBIC Dimbokro 39.42 139 *e*P P 13 33 05.7 +4.2
comp=E,24nm,1.1s
DBIC Dimbokro 39.42 139 *e*P P 13 33 05.7 +4.2
comp=E,24nm,1.1s
LIC Lamto 39.71 140 *e*P **P 13 33 04.4 +0.5**
comp=E,76nm,1.6s
KIC Kosan Boka 39.74 139 *e*P **P 13 33 06.0 +1.8**
comp=E,148nm,1.7s
BUR08 Bucovina Ar. S 39.95 59 *e*P **P 13 33 05.6 -0.1**
BUR08 Bucovina Ar. S 39.95 59 *e*P **P 13 33 05.6 -0.1**
ARR Arges 39.95 63‖ *i*P **P 13 33 06.9 +1.1**
BUR04 Bucovina Ar. S 39.96 59 *e*P **P 13 33 05.5 -0.3**
BUR04 Bucovina Ar. S 39.96 59 *e*P **P 13 33 05.5 -0.3**
BURAR Bucovina Array 39.96 59⇑P **P 13 33 06.2 +0.3**
BURAR Bucovina Array 39.96 59⇑ *i*P **P 13 33 06.2 +0.3**
MMB Musomiste 40.16 69‖P **P 13 33 10.0 +2.4**
MMB Musomiste 40.16 69‖ *i*P **P 13 33 09.9 +2.4**
VOIR 40.23 63⇑P **P 13 33 09.2 +1.1**
VOIR 40.23 63⇑ *i*P **P 13 33 09.2 +1.1**
FINES FINESS Array B 40.27 38 P **P 13 33 07.0 -1.1**
comp=E,7.3nm,0.8s,baz=258,slow=7.0,SNR=26
FINES LR LR 13 47 58.5
comp=E,413nm,19.7s,baz=270,slow=34
FINES FINESS Array B 40.27 38 P **P 13 33 07.0 -1.1**
FINES FINESS Array B 40.27 38 P **P 13 33 07.0 -1.1**
FIA1 FINESS Array S 40.27 38 *e*P **P 13 33 07.1 -1.0**
FIA1 FINESS Array S 40.27 38 *e*P **P 13 33 07.1 -1.0**
VSU Vasula 40.34 43 *e*P **P 13 33 07.2 -1.4**
VSU pmax pmax
comp=Z,19nm,0.8s
DOPR Dopca 40.36 62⇑ *i*P **P 13 33 09.6 +0.5**
MLR Muntele Rosu 40.83 63⇑P **P 13 33 14.6 +1.5**
MLR Muntele Rosu 40.83 63⇑ *i*P **P 13 33 14.6 +1.5**
KDZ Kurdzhali 41.37 68⇑P **P 13 33 19.4 +2.0**
KDZ Kurdzhali 41.37 68⇑ *i*P **P 13 33 19.4 +2.0**
ARCES ARCESS Array B 41.73 26 P **P 13 33 18.1 -2.0**
comp=Z,3.0nm,0.7s,baz=243,slow=8.0,SNR=11
ARCES LR LR 13 47 09.4
comp=Z,170nm,21.8s,baz=252,slow=31
KIEV Kiev 42.11 54 *e*P **P 13 33 23.6 +0.2**
KIEV pmax pmax
comp=Z,118nm,2.4s
KIEV Kiev 42.11 54 *e*P **P 13 33 23.5 +0.2**
comp=Z,118nm,2.4s
KIEV Kiev 42.11 54 *e*P **P 13 33 23.6 +0.2**
comp=Z,118nm,2.4s
AKASG Malin Array Be 42.12 54 P **P 13 33 22.0 -1.4**
comp=Z,4.6nm,0.8s,baz=276,slow=8.0,SNR=23
AKASG LR LR 13 50 20.5
comp=Z,513nm,18.1s,baz=270,slow=36
AKASG Malin Array Be 42.12 54 P **P 13 33 22.0 -1.4**
AKASG Malin Array Be 42.12 54 P **P 13 33 22.0 -1.4**
AKBB Malin Array Si 42.12 54 *e*P **P 13 33 22.3 -1.1**
AKBB Malin Array Si 42.12 54 *e*P **P 13 33 22.3 -1.1**
AKBB Malin Array Si 42.12 54 *e*P **P 13 33 22.3 -1.1**
CFR Carcaliu 42.41 63‖P **P 13 33 23.9 -1.9**
CFR Carcaliu 42.41 63‖ *i*P **P 13 33 23.9 -1.9**
TKL Tuckaleechee C 42.57 283 P **P 13 33 27.3 0.0**
comp=Z,3.3nm,0.8s,baz=50,slow=9.2,SNR=3.6
TKL Tuckaleechee C 42.57 283 *e*P **P 13 33 27.5 +0.2**
TKL *e* 13 35 15.1
TKL Tuckaleechee C 42.57 283 *e*P **P 13 33 27.5 +0.2**
TKL Tuckaleechee C 42.57 283 *e*P **P 13 33 27.5 +0.2**
TKL *e*PP **PcP** 13 35 15.1 -4.5
CPCT Cooper Cave 43.21 283 *e*P **P 13 33 31.0 -1.5**
CPCT Cooper Cave 43.21 283 *e*P **P 13 33 31.0 -1.5**
SWET Sewanee 44.37 283 *e*P **P 13 33 43.0 +1.2**
SWET Sewanee 44.37 283 *e*P **P 13 33 43.0 +1.2**
FCC Fort Churchill 44.53 318 *e*P **P 13 33 41.6 -1.1**
FCC pmax pmax
comp=Z,46nm,2.0s
FCC Fort Churchill 44.53 318 *e*P **P 13 33 41.6 -1.1**
comp=Z,46nm,2.0s
FCC Fort Churchill 44.53 318 *e*P **P 13 33 41.6 -1.1**
comp=Z,46nm,2.0s
WVT Waverly 45.45 285 *e*P **P 13 33 49.9 -0.5**
WVT pmax pmax
comp=Z,38nm,2.0s
WVT Waverly 45.45 285 *e*P **P 13 33 49.9 -0.5**
comp=Z,38nm,2.0s
WVT Waverly 45.45 285 *e*P **P 13 33 49.9 -0.5**
comp=Z,38nm,2.0s
TMCR Tamitsa 45.90 34 *e*P **P 13 33 53.6 +0.1**
TMCR pmax pmax
comp=Z,31nm,1.2s
OBN Obninsk 45.90 47*c i*P **P 13 33 54.1 +0.4**
OBN *e* 13 35 31.9
OBN *e* 13 35 39.6
OBN *i*S S 13 40 26.3 -11
OBN pmax pmax
comp=Z,56nm,1.7s
OBN MLR MLR
comp=Z,376nm,18.0s
RES Resolute Bay 46.02 340 P **P 13 33 53.7 -0.6**
comp=Z,2.7nm,0.9s,baz=118,slow=9.3,SNR=3.0
KLMR Klimovskoe 46.77 39 *e*P **P 13 34 00.6 +0.2**
KLMR *e* 13 35 34.3
KLMR pmax pmax
comp=Z,20nm,0.9s
PBMO Poplar Bluff 47.14 287 *e*P **P 13 34 03.6 -0.1**
comp=Z,10nm,0.9s
PBMO Poplar Bluff 47.14 287 *e*P **P 13 34 03.6 -0.1**
comp=Z,10nm,0.9s
BR231 Keskin MP Arra 47.24 68 *e*P P 13 34 08.3 +3.7
OXF Oxford 47.27 284 *e*P P 13 34 01.9 -2.8
OXF pmax pmax
comp=Z,55nm,1.1s
OXF Oxford 47.27 284 *e*P P 13 34 01.9 -2.8
comp=Z,54nm,1.1s
OXF Oxford 47.27 284 *e*P P 13 34 01.9 -2.8
comp=Z,54nm,1.1s
SDV Santo Domingo 47.48 242 *e*P **P 13 34 06.3 -0.5**
comp=Z,7.2nm,1.0s
SDV Santo Domingo 47.48 242 *e*P **P 13 34 06.3 -0.5**
comp=Z,7.2nm,1.0s
LPSR Galich'ya Gora 47.74 50 *e*P **P 13 34 07.0 -1.1**
LPSR pmax pmax
comp=N,8.0nm,1.1s
LPSR pmax pmax
comp=E,10.0nm,1.1s
LPSR pmax pmax
comp=Z,20nm,1.1s
LPSR MLR MLR
comp=Z,440nm,22.0s
LPSR MLR MLR
comp=N,120nm,19.0s
LPSR MLR MLR
comp=E,600nm,22.0s
BR131 Keskin Array S 47.91 68 *e*P **P 13 34 09.6 -0.2**
comp=E,1.6nm,0.6s
BR131 Keskin Array S 47.91 68 *e*P **P 13 34 09.6 -0.2**
comp=E,1.6nm,0.6s
BRTR Keskin Array B 47.91 68 P **P 13 34 09.7 -0.2**
comp=E,2.1nm,0.8s,baz=287,slow=5.0,SNR=9.7
BRTR LR LR 13 54 21.8
comp=E,134nm,19.9s,baz=272,slow=36
VSR Storozhevoye 48.20 52 *e*P **P 13 34 11.2 -0.5**
VSR pmax pmax
comp=Z,20nm,1.3s
VSR pmax pmax
comp=N,10.0nm,1.4s
VSR pmax pmax
comp=E,10.0nm,1.1s
VORD Divnogorie 48.33 52 *e*P **P 13 34 12.6 -0.1**
VORD pmax pmax
comp=Z,20nm,1.3s
VORD pmax pmax
comp=N,6.0nm,0.6s
VORD pmax pmax
comp=E,30nm,1.4s
PTGA Pitinga 48.55 222 *e*P P 13 34 18.1 +3.3
comp=E,16nm,1.0s
PTGA Pitinga 48.55 222 *e*P P 13 34 18.1 +3.3
comp=E,16nm,1.0s
ANN Anapa 48.86 61 *e*P **P 13 34 17.2 +0.3**
ANN *e*S **S 13 41 22.0 +2.2**
ANN pmax pmax
comp=Z,14nm,0.9s
ANN MLR MLR
comp=N,160nm,17.0s
ANN MLR MLR
comp=E,302nm,17.0s
ANN MLR MLR
comp=Z,281nm,17.0s
ECSD EROS Data Cent 49.10 298 *e*P **P 13 34 17.5 -1.3**
comp=Z,12nm,1.2s
ECSD EROS Data Cent 49.10 298 *e*P **P 13 34 17.5 -1.3**
comp=Z,12nm,1.2s
PRGR Permogore 49.59 37 *e*P **P 13 34 21.8 -0.4**
PRGR *e* 13 35 45.4
PRGR pmax pmax
comp=Z,15nm,0.8s
MIAR Mount Ida 50.38 286 *e*P **P 13 34 27.2 -1.4**
MIAR pmax pmax
comp=Z,123nm,2.5s
MIAR Mount Ida 50.38 286 *e*P **P 13 34 27.2 -1.4**
comp=Z,123nm,2.5s
MIAR Mount Ida 50.38 286 *e*P **P 13 34 27.2 -1.4**
comp=Z,123nm,2.5s
SOC Sochi 50.81 61 *e*P **P 13 34 33.3 +1.5**
SOC *e* 13 35 45.9
SOC *e*S **S 13 41 49.5 +2.4**
SOC *e*S S 13 41 54.0 +6.8
SOC pmax pmax
comp=Z,15nm,0.7s
KIV Kislovodsk 52.69 60*c i*P **P 13 34 47.3 +1.4**
KIV *e* 13 35 58.3
KIV *e* 13 36 47.0
KIV *i*S S 13 42 07.2 -6.0
KIV pmax pmax
comp=Z,17nm,2.5s
KIV MLR MLR
comp=Z,108nm,16.0s
V34A Guthrie 52.75 289 *e*P **P 13 34 46.4 +0.1**
comp=Z,45nm,1.6s
V34A Guthrie 52.75 289 *e*P **P 13 34 46.4 +0.1**
comp=Z,45nm,1.6s
KBZ Khabaz 52.91 60 P **P 13 34 47.5 +0.1**
comp=Z,4.6nm,0.9s,baz=53,slow=20,SNR=10
KBZ LR LR 13 57 10.3
comp=Z,95nm,19.8s,baz=158,slow=36
ROSC El Rosal 52.91 241 LR LR 13 54 00.7
comp=Z,341nm,21.9s,baz=32,slow=32
NEY Neytrino 52.98 61 *e*P **P 13 34 50.9 +2.8**
NEY pmax pmax
comp=Z,1.0nm,1.3s
YKA Yellowknife Ar 53.82 325 P **P 13 34 51.1 -2.7**
comp=Z,1.0nm,0.9s,baz=72,slow=7.0,SNR=8.7
YKA PcP **PcP** 13 35 59.2 -0.2
comp=Z,0.9nm,1.0s,baz=72,slow=4.3,SNR=5.9
YKB5 Yellowknife Ar 53.82 325 *e*P **P 13 34 52.8 -1.0**
YKB5 Yellowknife Ar 53.82 325 *e*P **P 13 34 52.8 -1.0**
ZEI Tsey 53.95 61 *e*P **P 13 34 55.1 -0.2**
ZEI pmax pmax
comp=Z,13nm,0.9s
LAO LASA Array 54.44 305 *e*P **P 13 34 58.0 -0.6**
LAO *es*P **sP 13 35 06.9 +2.1**
LAO LASA Array 54.44 305 *e*P **P 13 34 58.0 -0.6**
LAO *es*P **sP 13 35 07.0 +2.1**
GNI Garni 55.60 63*d i*P **P 13 35 08.3 +1.0**
GNI pmax pmax
comp=Z,21nm,1.7s
EGMT Eagleton 56.15 307 *e*P **P 13 35 09.9 -1.1**
comp=Z,11nm,1.1s
EGMT Eagleton 56.15 307 *e*P **P 13 35 09.9 -1.1**
comp=Z,11nm,1.1s
AMTX Amarillo 56.22 290 *e*P **P 13 35 11.0 -0.7**
comp=Z,26nm,1.3s
AMTX Amarillo 56.22 290 *e*P **P 13 35 11.0 -0.7**
comp=Z,26nm,1.3s
N23A Red Feather La 56.58 298 *e*P **P 13 35 12.8 -1.6**
N23A *es*P **sP 13 35 23.2 +2.6**
N23A Red Feather La 56.58 298 *e*P **P 13 35 12.8 -1.6**
N23A *es*P **sP 13 35 23.2 +2.6**
JCT Junction City 56.91 284 *e*P P 13 35 13.1 -3.5
JCT pmax pmax
comp=Z,25nm,1.5s
JCT Junction City 56.91 284 *e*P P 13 35 13.1 -3.5
comp=Z,25nm,1.5s
JCT Junction City 56.91 284 *e*P P 13 35 13.1 -3.5
comp=Z,25nm,1.5s
RLMT Red Lodge 57.01 304 *e*P **P 13 35 15.5 -1.8**
comp=Z,21nm,1.5s
T25A Trinidad 57.16 293 *e*P **P 13 35 17.4 -1.1**
comp=Z,34nm,1.7s
T25A Trinidad 57.16 293 *e*P **P 13 35 17.4 -1.1**
comp=Z,34nm,1.7s
SAML Samuel 57.20 220 *e*P P 13 35 21.6 +3.0
comp=Z,12nm,1.2s
SAML Samuel 57.20 220 *e*P P 13 35 21.6 +3.0
comp=Z,12nm,1.2s
BDFB Brasilia 57.27 201 P **P 13 35 20.3 +1.1**
comp=Z,3.8nm,0.7s,baz=16,slow=7.4,SNR=4.2
BDFB LR LR 13 56 03.4
comp=Z,277nm,20.7s,baz=32,slow=32
MSTX Muleshoe 57.44 289 *e*P **P 13 35 20.4 0.0**
comp=Z,11nm,1.0s
MSTX Muleshoe 57.44 289 *e*P **P 13 35 20.4 0.0**
comp=Z,11nm,1.0s
ARU Arti 57.47 41*d i*P **P 13 35 19.9 -0.2**
ARU 13 36 11.3
ARU 13 37 24.8
ARU S **S 13 43 15.1 -1.6**
ARU pmax pmax
comp=Z,38nm,1.7s
ARU Arti 57.47 41 *e*P **P 13 35 18.1 -2.0**
comp=Z,18nm,0.9s
ARU Arti 57.47 41 *e*P **P 13 35 18.1 -2.0**
comp=Z,18nm,0.9s
BW06 Boulder Array 58.20 301 *e*P P 13 35 22.7 -3.1
comp=Z,12nm,1.4s
BW06 Boulder Array 58.20 301 *e*P P 13 35 22.7 -3.1
comp=Z,12nm,1.4s
PDAR Pinedale Array 58.20 301 P **P 13 35 23.9 -1.9**
comp=Z,2.1nm,1.0s,baz=69,slow=8.1,SNR=11
PDAR LR LR 14 00 39.4
comp=Z,409nm,18.3s,baz=108,slow=36
WALA Waterton Lakes 58.25 310 *e*P **P 13 35 26.0 +0.1**
comp=Z,76nm,2.3s
WALA Waterton Lakes 58.25 310 *e*P **P 13 35 26.0 +0.1**
comp=Z,76nm,2.3s
BOZ Bozeman (W) 58.30 305 P **P 13 35 24.9 -1.4**
BOZ pmax pmax
comp=Z,8.0nm,1.6s
BOZ Bozeman (W) 58.30 305 P **P 13 35 24.9 -1.4**
comp=Z,8.1nm,1.6s
BOZ Bozeman (W) 58.30 305 P **P 13 35 24.9 -1.4**
comp=Z,8.1nm,1.6s
SVE Sverdlovsk 58.36 40 *e*P **P 13 35 24.5 -1.8**
SVE pmax pmax
comp=Z,21nm,1.3s
O20A White River Ci 58.48 298 *es*P sP 13 35 36.3 +2.3
O20A White River Ci 58.48 298 *es*P sP 13 35 36.3 +2.3
MOOW Moose Ponds 58.55 303 *e*P **P 13 35 26.4 -1.8**
comp=Z,14nm,1.7s
MOOW Moose Ponds 58.55 303 *e*P **P 13 35 26.4 -1.8**
comp=Z,14nm,1.7s
IMW Indian Meadow 58.61 303 *e*P **P 13 35 28.3 -0.4**
comp=Z,15nm,1.8s
IMW Indian Meadow 58.61 303 *e*P **P 13 35 28.3 -0.4**
comp=Z,15nm,1.8s
CHMT Chamberlain Mo 58.77 307 P **P 13 35 28.2 -1.4**
comp=Z,11nm,1.6s
CHMT Chamberlain Mo 58.77 307 P **P 13 35 28.2 -1.4**
comp=Z,11nm,1.6s
FXWY Fox Creek 58.78 303 *e*P **P 13 35 29.5 -0.3**
comp=Z,6.9nm,1.4s
FXWY Fox Creek 58.78 303 *e*P **P 13 35 29.6 -0.3**
comp=Z,6.9nm,1.4s
INK Inuvik 58.91 335 *e*P **P 13 35 28.8 -1.2**
INK Inuvik 58.91 335 *e*P **P 13 35 28.8 -1.2**
INK Inuvik 58.91 335 *e*P **P 13 35 28.8 -1.2**
ANMO Albuquerque 59.65 292 *e*P **P 13 35 37.1 +1.2**
ANMO *e*SP **sP 13 35 45.0 +2.9**
ANMO Albuquerque 59.65 292 *e*P **P 13 35 37.1 +1.2**
ANMO *es*P **sP 13 35 45.0 +2.9**
ANMO Albuquerque 59.65 292 *e*P **P 13 35 37.1 +1.2**
ANMO *es*P **sP 13 35 45.0 +2.9**
PV09 Paradox Valley 59.85 297 *e*P **P 13 35 36.6 -0.8**
PV09 Paradox Valley 59.85 297 *e*P **P 13 35 36.6 -0.8**
MVCO Mesa Verde 60.02 295 P **P 13 35 35.8 -2.7**
comp=Z,41nm,1.6s
MVCO Mesa Verde 60.02 295 P **P 13 35 35.8 -2.7**
comp=Z,41nm,1.6s
HWUT Hardware Ranch 60.05 301 *e*P **P 13 35 35.8 -2.8**
comp=Z,9.1nm,1.2s
HWUT Hardware Ranch 60.05 301 *e*P **P 13 35 35.8 -2.8**
comp=Z,9.1nm,1.2s
BNM Barren Site 60.16 291 *es*P sP 13 35 48.6 +2.9
BNM Barren Site 60.16 291 *es*P sP 13 35 48.6 +2.9
TXAR Lajitas Array 60.39 285 P **P 13 35 39.4 -1.6**
comp=Z,4.1nm,0.9s,baz=69,slow=6.9,SNR=22
TXAR LR LR 13 59 55.5
comp=Z,364nm,20.9s,baz=0.0,slow=34
TX31 Lajitas Ar. Si 60.39 285 *e*P **P 13 35 39.8 -1.2**
TX31 Lajitas Ar. Si 60.39 285 *e*P **P 13 35 39.8 -1.2**
MNTX Cornudas Mount 60.47 288 *e*P **P 13 35 38.9 -2.4**
comp=Z,8.2nm,1.4s
MNTX Cornudas Mount 60.47 288 *e*P **P 13 35 38.9 -2.4**
comp=Z,8.2nm,1.4s
NEW Newport 60.52 310 *e*P **P 13 35 40.1 -1.3**
NEW pmax pmax
comp=Z,10.0nm,1.1s
NEW Newport 60.52 310 *e*P **P 13 35 40.1 -1.3**
comp=Z,10.0nm,1.1s
NEW Newport 60.52 310 *e*P **P 13 35 40.1 -1.3**
comp=Z,10.0nm,1.1s
HVU Hansel Valley 60.78 302 *e*P **P 13 35 42.2 -1.3**
HVU *e*SP **sP 13 35 50.5 +0.8**
HVU Hansel Valley 60.78 302 *e*P **P 13 35 42.2 -1.3**
HVU *es*P **sP 13 35 50.5 +0.8**
HVU Hansel Valley 60.78 302 *e*P **P 13 35 42.2 -1.3**
HVU *es*P **sP 13 35 50.5 +0.8**
HLID Hailey 61.01 304 *e*P **P 13 35 43.1 -2.0**
comp=Z,2.9nm,1.1s
HLID Hailey 61.01 304 *e*P **P 13 35 43.1 -2.0**
comp=Z,2.9nm,1.1s
ABKAR Akbulak array 61.32 48 *e*P **P 13 35 45.9 -0.9**
ABKAR Akbulak array 61.32 48 *e*P **P 13 35 45.9 -0.9**
BGU Big Grassy Mou 61.35 301 *e*P **P 13 35 46.3 -1.1**
comp=Z,12nm,1.5s
BGU Big Grassy Mou 61.35 301 *e*P **P 13 35 46.3 -1.1**
comp=Z,12nm,1.5s
DUG Dugway, Tooele 61.55 300 *e*P **P 13 35 47.3 -1.5**
DUG pmax pmax
comp=Z,25nm,1.7s
DUG Dugway, Tooele 61.55 300 *e*P **P 13 35 47.3 -1.5**
comp=Z,25nm,1.7s
DUG Dugway, Tooele 61.55 300 *e*P **P 13 35 47.3 -1.5**
comp=Z,25nm,1.7s
MSU Marysvale 61.94 298 P **P 13 35 49.7 -1.8**
MSU Marysvale 61.94 298 P **P 13 35 49.7 -1.8**
MSU Marysvale 61.94 298 P **P 13 35 49.7 -1.8**
MVU Marysvale 61.97 298 P **P 13 35 50.8 -0.9**
comp=Z,14nm,1.4s
MVU Marysvale 61.97 298 P **P 13 35 50.8 -0.9**
comp=Z,14nm,1.4s
BMO Blue Mountains 62.23 307 *es*P sP 13 36 04.2 +4.8
WUAZ Wupatki 62.87 295 *e*P **P 13 35 56.0 -1.7**
comp=Z,40nm,1.9s
WUAZ Wupatki 62.87 295 *e*P **P 13 35 56.0 -1.7**
comp=Z,40nm,1.9s
KNB Kanab 63.12 297 *e*P **P 13 36 00.2 +0.8**
KNB pmax pmax
comp=Z,10.0nm,1.5s
KNB Kanab 63.12 297 *e*P **P 13 36 00.2 +0.8**
comp=Z,10.0nm,1.5s
KNB Kanab 63.12 297 *e*P **P 13 36 00.2 +0.8**
comp=Z,10.0nm,1.5s
PIER Pier 30 Seattl 63.92 311 *e*P **P 13 36 02.1 -2.1**
PIER Pier 30 Seattl 63.92 311 *e*P **P 13 36 02.1 -2.1**
TUC Tucson 64.09 292 P **P 13 36 06.5 +0.8**
TUC pmax pmax
comp=Z,4.0nm,0.9s
TUC Tucson 64.09 292 P **P 13 36 06.5 +0.8**
comp=Z,4.1nm,0.9s
TUC Tucson 64.09 292 P **P 13 36 06.5 +0.8**
comp=Z,4.1nm,0.9s
WVOR Wild Horse Val 64.26 305 *e*P **P 13 36 04.5 -2.2**
WVOR pmax pmax
comp=Z,26nm,1.6s
WVOR Wild Horse Val 64.26 305 *e*P **P 13 36 04.5 -2.2**
comp=Z,26nm,1.6s
WVOR Wild Horse Val 64.26 305 *e*P **P 13 36 04.5 -2.2**
comp=Z,26nm,1.6s
R11A Troy Canyon, C 64.34 300 *e*P **P 13 36 08.5 +1.1**
comp=Z,12nm,1.8s

R11A	**Troy Canyon, C**	**64.34**	**300**	*e*P		**P**	**13 36 08.5**	**+1.1**
	comp=Z,12nm,1.8s								
RAYN	**Ar Rayn**	**64.36**	**80**	*e*P		**P**	**13 36 07.5**	**-0.1**
	comp=Z,25nm,2.4s								
RAYN	**Ar Rayn**	**64.36**	**80**	*e*P		**P**	**13 36 07.5**	**-0.1**
	comp=Z,25nm,2.4s								
SCRK	**Sand Creek**	**64.85**	**334**	*e*P		**P**	**13 36 08.4**	**-1.8**
	comp=Z,35nm,2.2s								
SCRK	**Sand Creek**	**64.85**	**334**	*e*P		**P**	**13 36 08.4**	**-1.8**
	comp=Z,35nm,2.2s								
BRVK	**Borovoye**	**65.04**	**41**	*e*P		**P**	**13 36 12.7**	**+1.2**
BRVK				pmax	pmax				
	comp=Z,15nm,1.7s								
BRVK	**Borovoye**	**65.04**	**41**	P		**P**	**13 36 10.4**	**-1.1**
	comp=Z,14nm,1.3s								
BRVK	**Borovoye**	**65.04**	**41**	P		**P**	**13 36 10.4**	**-1.1**
	comp=Z,14nm,1.3s								
IL1	**Eielson Array**	**65.31**	**335**	*e*P		**P**	**13 36 12.9**	**-0.1**
IL1	**Eielson Array**	**65.31**	**335**	*e*P		**P**	**13 36 12.9**	**-0.1**
ILAR	**Eielson Array**	**65.31**	**335**	P		**P**	**13 36 12.7**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=41,slow=7.1,SNR=17								
ILAR				LR	LR		14 02 03.1		
	comp=Z,171nm,18.2s,baz=80,slow=34								
TPH	**Tonopah**	**65.58**	**300**	*e*P		P	13 36 12.1	-3.4	
TPH				pmax	pmax				
	comp=Z,17nm,1.4s								
TPH	**Tonopah**	**65.58**	**300**	*e*P		P	13 36 12.1	-3.4	
	comp=Z,17nm,1.4s								
TPH	**Tonopah**	**65.58**	**300**	*e*P		P	13 36 12.1	-3.4	
	comp=Z,17nm,1.4s								
CCB	**Clear Creek Bu**	**65.69**	**335**	*e*P		**P**	**13 36 15.0**	**-0.5**
	comp=Z,9.7nm,1.4s								
CCB	**Clear Creek Bu**	**65.69**	**335**	*e*P		**P**	**13 36 15.0**	**-0.5**
	comp=Z,9.7nm,1.4s								
GEYT	**Alibeck**	**65.81**	**60**	P		**P**	**13 36 16.9**	**+0.2**
	comp=Z,2.3nm,0.5s,baz=270,slow=10,SNR=5.2								
GEYT				LR	LR		14 08 07.3		
	comp=Z,75nm,18.8s,baz=295,slow=39								
WRH	**Wood River Hil**	**65.90**	**335**	*e*P		**P**	**13 36 15.2**	**-1.6**
	comp=Z,33nm,2.0s								
WRH	**Wood River Hil**	**65.90**	**335**	*e*P		**P**	**13 36 15.2**	**-1.6**
	comp=Z,33nm,2.0s								
LPAZ	**La Paz**	**65.94**	**221**	P		**P**	**13 36 20.6**	**+2.2**
	comp=Z,2.9nm,0.9s,baz=30,slow=11,SNR=12								
LPAZ				LR	LR		14 01 35.4		
	comp=Z,150nm,20.3s,baz=33,slow=33								
LPAZ	**La Paz**	**65.94**	**221**	*e*P		**P**	**13 36 19.3**	**+1.0**
LPAZ				pmax	pmax				
	comp=Z,36nm,1.6s								
LPAZ	**La Paz**	**65.94**	**221**	*e*P		**P**	**13 36 19.3**	**+1.0**
	comp=Z,36nm,1.6s								
LPAZ	**La Paz**	**65.94**	**221**	*e*P		**P**	**13 36 19.3**	**+1.0**
	comp=Z,36nm,1.6s								
NV01	**Mina Array Sit**	**66.12**	**301**	*e*P		**P**	**13 36 19.3**	**+0.3**
NV01	**Mina Array Sit**	**66.12**	**301**	*e*P		**P**	**13 36 19.3**	**+0.3**
NVAR	**Mina Array Bea**	**66.12**	**301**	P		**P**	**13 36 18.7**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=47,slow=2.8,SNR=3.5								
MLY	**Manley**	**66.36**	**337**	*e*P		**P**	**13 36 19.5**	**-0.3**
	comp=Z,4.2nm,0.9s								
MLY	**Manley**	**66.36**	**337**	*e*P		**P**	**13 36 19.5**	**-0.3**
	comp=Z,4.2nm,0.9s								
IM04	**Indian Mountai**	**66.60**	**338**	*e*P		**P**	**13 36 20.3**	**-1.0**
IM04	**Indian Mountai**	**66.60**	**338**	*e*P		**P**	**13 36 20.3**	**-1.0**
DAC	**Darwin (Calif)**	**66.79**	**299**	*e*P		**P**	**13 36 21.2**	**-2.0**
DAC				pmax	pmax				
	comp=Z,12nm,1.4s								
DAC	**Darwin (Calif)**	**66.79**	**299**	*e*P		**P**	**13 36 21.2**	**-2.0**
	comp=Z,12nm,1.4s								
DAC	**Darwin (Calif)**	**66.79**	**299**	*e*P		**P**	**13 36 21.2**	**-2.0**
	comp=Z,12nm,1.4s								
ERPC	**Ernies Place**	**67.35**	**294**	*e*P		**P**	**13 36 29.2**	**+2.6**
RAGM	**Ragged Mountai**	**67.39**	**331**	*e*PcP		**PcP**	**13 36 52.4**	**-1.6**
RAGM	**Ragged Mountai**	**67.39**	**331**	*e*PcP		**PcP**	**13 36 52.4**	**-1.6**
YUH	**Yuha Desert**	**67.58**	**294**	*e*P		**P**	**13 36 28.4**	**+0.3**
YUH	**Yuha Desert**	**67.58**	**294**	*e*P		**P**	**13 36 28.4**	**+0.3**
ISA	**Isabella, Lake**	**67.72**	**298**	*es*P		sP	13 36 38.2	+3.0	
ISA	**Isabella, Lake**	**67.72**	**298**	*es*P		sP	13 36 38.2	+3.0	
TIXI	**Tiksi**	**68.32**	**7**	⇑*i*P		**P**	**13 36 32.8**	**+0.8**
TIXI				pmax	pmax				
	comp=Z,3.0nm,1.0s								
TIXI				MLR	MLR				
	comp=Z,73nm,19.0s								
TIXI	**Tiksi**	**68.32**	**7**	*e*P		**P**	**13 36 32.9**	**+0.8**
	comp=Z,5.5nm,1.1s								
TIXI	**Tiksi**	**68.32**	**7**	*e*P		**P**	**13 36 32.9**	**+0.8**
	comp=Z,5.5nm,1.1s								
NVS	**Novosibirsk**	**70.14**	**35**	*e*P		**P**	**13 36 43.1**	**-0.5**
KURK	**Kurchatov**	**70.61**	**40**	*e*P		**P**	**13 36 45.3**	**-1.2**
KURK				pmax	pmax				
	comp=Z,87nm,2.4s								
KURK	**Kurchatov**	**70.61**	**40**	*e*P		**P**	**13 36 45.3**	**-1.2**
	comp=Z,87nm,2.4s								
KURK	**Kurchatov**	**70.61**	**40**	*e*P		**P**	**13 36 45.3**	**-1.2**
	comp=Z,87nm,2.4s								
ZAA0	**Zalesovo Array**	**71.42**	**35**	*e*P		**P**	**13 36 51.1**	**-0.3**
ZAA0	**Zalesovo Array**	**71.42**	**35**	*e*P		**P**	**13 36 51.1**	**-0.3**
ZALV	**Zalesovo Beam**	**71.42**	**35**	P		**P**	**13 36 51.0**	**-0.4**
	comp=Z,3.5nm,0.8s,baz=294,slow=7.6,SNR=9.6								
ZALV				LR	LR		14 06 59.9		
	comp=Z,116nm,21.7s,baz=250,slow=35								
BILL	**Bilibino**	**72.32**	**354**	⇓*e*P		**P**	**13 36 56.2**	**-0.4**
BILL				*e*		S	13 37 14.2		
BILL				*e*S		S	13 46 03.9	-15	
BILL				pmax	pmax				
	comp=Z,13nm,2.5s								
BILL				MLR	MLR				
	comp=Z,220nm,21.0s								
BILL	**Bilibino**	**72.32**	**354**	*e*P		**P**	**13 36 55.9**	**-0.7**
	comp=Z,33nm,2.3s								
BILL	**Bilibino**	**72.32**	**354**	*e*P		**P**	**13 36 55.9**	**-0.7**
	comp=Z,33nm,2.3s								
KMBO	**Kilima Mbogo**	**73.03**	**106**	LR		LR	14 06 44.1		
	comp=Z,108nm,21.3s,baz=286,slow=34								
MK31	**Makanchi Array**	**75.00**	**41**	*e*P		**P**	**13 37 11.1**	**-1.6**
MK31	**Makanchi Array**	**75.00**	**41**	*e*P		**P**	**13 37 11.1**	**-1.6**
MK31	**Makanchi Array**	**75.00**	**41**	*e*P		**P**	**13 37 11.1**	**-1.6**
MKAR	**Makanchi Array**	**75.00**	**41**	P		**P**	**13 37 12.1**	**-0.6**
	comp=Z,3.6nm,0.9s,baz=295,slow=7.8,SNR=21								
MKAR				LR	LR		14 10 07.1		
	comp=Z,326nm,19.6s,baz=314,slow=36								
MKAR	**Makanchi Array**	**75.00**	**41**	P		**P**	**13 37 12.1**	**-0.6**
MKAR				pmax	pmax				
	comp=Z,4.0nm,0.9s								
MKAR				MLR	MLR				
	comp=Z,326nm,19.6s								
MKAR	**Makanchi Array**	**75.00**	**41**	*e*P		**P**	**13 37 13.4**	**+0.7**
MKAR	**Makanchi Array**	**75.00**	**41**	*e*P		**P**	**13 37 13.4**	**+0.7**
MK01	**Makanchi Array**	**75.02**	**41**	*e*P		**P**	**13 37 12.1**	**-0.7**
MK01	**Makanchi Array**	**75.02**	**41**	*e*P		**P**	**13 37 12.1**	**-0.7**
KSH	**Kashi**	**76.24**	**50**	P		**P**	**13 37 22.8**	**+2.7**
KSH				sP		sP	13 37 31.6	+5.2	
KSH				PP		**PP**	**13 40 15.6**	**+4.8**
KSH				S		**S**	**13 47 04.5**	**+0.3**
KSH				sS		**sS**	**13 47 14.8**	**+3.0**
KSH				SKS		**SKSac**	**13 47 27.5**	**-3.5**
KSH				PMZ					
	comp=Z,170nm,3.7s								
KSH				LN					
	comp=Z,430nm,8.5s								
KSH				LE					
	comp=Z,290nm,6.6s								
KSH				LZ					
	comp=Z,250nm,10.5s								
YAK	**Yakutsk**	**77.65**	**10**	*e*P		**P**	**13 37 27.7**	**+0.3**
YAK				pmax	pmax				
	comp=Z,6.0nm,0.7s								
SEY	**Seymchan**	**78.11**	**359**	P		**P**	**13 37 29.2**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=16,slow=15,SNR=5.2								
SEY	**Seymchan**	**78.11**	**359**	*e*P		**P**	**13 37 30.3**	**+0.3**
BOD	**Bodaibo**	**78.57**	**19**	*e*P		**P**	**13 37 31.8**	**-0.8**
BOD				pmax	pmax				
	comp=Z,6.0nm,1.5s								
MOY	**Mondy**	**79.72**	**29**	*e*P		**P**	**13 37 39.8**	**+0.6**
WMQ	**Urumqi**	**79.81**	**41**	P		**P**	**13 37 41.1**	**+1.3**
WMQ				pP		**PcP**	**13 37 47.4**	**0.0**
WMQ				sP		**sP**	**13 37 50.1**	**+4.0**
WMQ				PP		**PP**	**13 40 43.4**	**+3.0**
WMQ				S		**S**	**13 47 40.8**	**-1.5**
WMQ				SKS		**SKSac**	**13 47 51.6**	**-4.8**
WMQ				ScS		**SKKSac**	**13 48 00.5**	**+2.4**
WMQ				PMZ					
	comp=Z,11nm,0.6s								
WMQ				PMZ					
	comp=Z,120nm,4.6s								
WMQ				LN					
	comp=Z,170nm,21.2s								
WMQ				LE					
	comp=Z,160nm,21.8s								
WMQ				LZ					
	comp=Z,130nm,23.2s								
TLY	**Talaya**	**80.67**	**27**	*e*P		**P**	**13 37 45.5**	**+1.3**
TLY				pmax	pmax				
	comp=Z,9.0nm,1.7s								
ZAK	**Zakamensk**	**81.61**	**28**	*e*P		**P**	**13 37 47.0**	**-2.3**
ZAK				pmax	pmax				
	comp=Z,3.0nm,2.0s								
SONA1	**Songino Array**	**84.86**	**28**	*e*P		**P**	**13 38 05.8**	**-0.4**
SONA1	**Songino Array**	**84.86**	**28**	*e*P		**P**	**13 38 05.8**	**-0.4**
SONM	**Songino Array**	**84.86**	**28**	P		**P**	**13 38 05.5**	**-0.7**
	comp=Z,2.3nm,0.9s,baz=322,slow=4.6,SNR=16								
SONM				LR	LR		14 18 04.2		
	comp=Z,90nm,19.6s,baz=294,slow=37								
ULN	**Ulaanbaatar**	**85.08**	**28**	*e*P		**P**	**13 38 07.4**	**+0.1**
ULN				pmax	pmax				
	comp=Z,15nm,1.7s								
ULN	**Ulaanbaatar**	**85.08**	**28**	*e*P		**P**	**13 38 06.2**	**-1.1**
ULN	**Ulaanbaatar**	**85.08**	**28**	*e*P		**P**	**13 38 06.2**	**-1.1**
PETK	**Petropavlovsk-**	**87.76**	**356**	LR		LR	14 16 39.7		
	comp=Z,45nm,19.3s,baz=42,slow=35								
GTA	**Gaotai**	**89.05**	**37**	*e*P		**P**	**13 38 27.4**	**+0.7**
GTA				PMZ					
	comp=Z,6.0nm,1.0s								
HHC	**Hu-ho-hao-te**	**92.76**	**28**	*e*P		**P**	**13 38 43.8**	**-0.1**
HHC				PP		**PP**	**13 42 26.6**	**+1.6**
HHC				SKS		**SKSac**	**13 49 14.1**	**-3.3**
HHC				S		**S**	**13 49 42.8**	**-5.9**
HHC				SS		**SS**	**13 55 56.3**	**-3.5**
HHC				PMZ					
	comp=Z,14nm,1.1s								
HHC				PMZ					
	comp=Z,89nm,5.0s								
HHC				LN					
	comp=Z,72nm,16.3s								
HHC				LE					
	comp=Z,120nm,17.3s								
HHC				LZ					
	comp=Z,66nm,17.1s								
LZH	**Lanzhou**	**93.61**	**36**	*e*P		**P**	**13 38 46.8**	**-1.2**
LZH				pP		**pP**	**13 38 54.5**	**+1.8**
LZH				sP		**sP**	**13 38 57.3**	**+3.0**
LZH				PMZ					
	comp=Z,13nm,1.0s								
LZH				PMZ					
	comp=Z,53nm,4.0s								
LZH				LN					
	comp=Z,250nm,10.8s								
LZH				LE					
	comp=Z,190nm,12.2s								
LZH				LZ					
	comp=Z,150nm,13.6s								
YSS	**Yuzh-Sakhalins**	**93.87**	**5**	*e*P		**P**	**13 38 49.4**	**+0.7**
YSS				pmax	pmax				
	comp=Z,8.0nm,1.3s								
CN2	**Changchun**	**94.29**	**18**	*e*P		**P**	**13 38 51.0**	**+0.3**
BJI	**Beijing**	**95.10**	**26**	P		P	13 38 49.8	-4.7	
BJI				PMZ					
	comp=Z,13nm,0.4s								
CD2	**Chengdu**	**97.82**	**39**	*e*P		**P**	**13 39 05.3**	**-1.8**
CD2				S		S	13 50 20.0	-13	
CD2				PMZ					
	comp=Z,150nm,7.2s								
CD2				LN					
	comp=Z,190nm,16.8s								
CD2				LZ					
	comp=Z,220nm,16.8s								
WHN	**Wuhan**	**102.88**	**31**	P		**Pdif**	**13 39 28.6**	**-1.0**
NJ2	**Nanjing**	**103.23**	**27**	*e*P		**Pdif**	**13 39 30.1**	**-1.0**
NJ2				PMZ					
	comp=Z,20nm,1.0s								
QSPA	**South Pole Qui**	**129.17**	**180**	*e*PKIKP		**PKPdf**	**13 44 39.8**	**+1.2**
QSPA	**South Pole Qui**	**129.17**	**180**	*e*PKPdf		**PKPdf**	**13 44 39.8**	**+1.2**
WRA	**Warramunga Arr**	**156.30**	**40**	PKPab		**PKPab**	**13 45 54.1**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=338,slow=4.2,SNR=10								
ASAR	**Alice Springs**	**159.10**	**47**	PKP		**PKPdf**	**13 45 29.8**	**-0.1**
	comp=Z,1.0nm,1.0s,baz=31,slow=2.2,SNR=4.2								
ASAR				PKPab		**PKPab**	**13 46 06.8**	**+0.2**
	comp=Z,2.6nm,1.1s,baz=323,slow=5.5,SNR=7.2								

IDC 14 13:32:07.9±1.9, 4.88S×152.20E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/31, mbtmp3.6/3, Error ellipse: s-maj=124.7km s-min=25.6km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.95**	**228**	P	P	13 37 13.9	-0.2
	0.6nm,0.3s,baz=54,slow=10,SNR=17						
ASAR	**Alice Springs**	**25.69**	**222**	P	P	13 37 39.6	-0.4
	0.4nm,0.6s,baz=53,slow=9.2,SNR=7.7						
ILAR	**Eielson Array**	**82.46**	**22**	P	P	13 44 31.5	-0.5
	0.8nm,0.7s,baz=245,slow=5.6,SNR=14						
TORD	**Torodi Ar. Bea**	**149.76**	**288**	PKPbc	PKPbc	13 52 01.6	+0.6
	0.1nm,0.4s,baz=82,slow=2.0,SNR=3.7						

*IDC **14** 13:39:04.6±1.8, 5.92N×92.96E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.5/33, mbtmp3.6/6, ML3.8/1, Error ellipse: s-maj=81.7km s-min=21.1km az=60.0*
*ISCJB **14** 13:39:07.1±1.3, 6.0N±0.2×93.1E±0.3, h27km, mb3.7/5, Error ellipse: s-maj=39.9km s-min=17.8km az=158.3*

ISC 14 13:39:09.0±1.5, 6.0N±0.2×93.1E±0.3, h27km, n9, σ0.35/7, mb3.8/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**13.66**	**24**	Pn	**Pn**	**13 42 21.1**	**0.0**
	0.2nm,0.3s,baz=226,slow=16,SNR=3.6						
H08S3	**Diego Garcia H**	**24.58**	**237**	T	T	14 10 10.5	
	baz=56,slow=75,SNR=110						
H08S2	**Diego Garcia H**	**24.58**	**237**	T	T	14 10 10.6	
	baz=56,slow=75,SNR=117						
H08S1	**Diego Garcia H**	**24.60**	**237**	T	T	14 10 11.9	
	baz=56,slow=75,SNR=75						
MKAR	**Makanchi Array**	**41.70**	**349**	P	**P**	**13 46 55.6**	**+0.1**
	0.4nm,0.6s,baz=172,slow=8.7,SNR=5.4						
WRA	**Warramunga Arr**	**48.08**	**123**	P	**P**	**13 47 46.5**	**-0.2**
	0.3nm,0.5s,baz=305,slow=8.7,SNR=6.1						
WRA				PcP	**PcP**	**13 49 14.8**	**+0.5**
	0.5nm,1.0s,baz=309,slow=2.7,SNR=4.1						
ZALV	**Zalesovo Beam**	**48.29**	**353**	P	**P**	**13 47 47.8**	**+0.1**
	0.3nm,0.3s,baz=157,slow=7.7,SNR=2.2						
ASAR	**Alice Springs**	**49.57**	**128**	P	**P**	**13 47 58.0**	**-0.1**
	0.8nm,0.6s,baz=299,slow=8.1,SNR=17						
ARCES	**ARCESS Array B**	**76.67**	**340**	P	**P**	**13 50 56.9**	**-0.3**
	0.9nm,0.8s,baz=93,slow=6.6,SNR=3.9						

MAN 14 13:51:01, 10.80N×125.37E, h59km, mb4.5, ML3.4, MS3.3, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**0.53**	**314**	⇑*i*P	Pn	13 51 15.1	+1.9
PLP				*i* S	Sn	13 51 26.4	+4.3
OCLP	**Ormoc**	**0.78**	**289**	*e*P	Pn	13 51 19.3	+3.1
BESP	**Borongan**	**0.80**	**5**	*e*P	Pn	13 51 18.6	+2.1
BESP				*e*S	Sn	13 51 27.5	-0.2
MSLP	**Maasin**	**0.83**	**217**	*e*P	Pn	13 51 19.0	+2.2
MSLP				*e*S	Sn	13 51 28.6	+0.2
SCPH	**Surigao**	**1.02**	**173**	*i* P	Pn	13 51 21.2	+1.9
SCPH				*e*S	Sn	13 51 35.1	+2.3
CNP	**Catarman**	**1.83**	**338**	*e*P	Pn	13 51 32.2	+2.0
BUTP	**Butuan**	**1.84**	**172**	*e*P	Pn	13 51 31.9	+1.6
TBP	**Tagbilaran**	**1.85**	**233**	*e*P	Pn	13 51 32.7	+2.3
TBP				*e*S	Sn	13 51 55.9	+3.2
GUIM	**Jordan**	**2.73**	**267**	*e*P	Pn	13 51 44.3	+1.8
BUKP	**Musuan**	**2.92**	**186**	*e*P	Pn	13 51 47.1	+2.0
PVCP	**Virac**	**3.02**	**337**	*e*P	Pn	13 51 48.5	+2.1
AUQP	**San Andres**	**3.63**	**314**	*e*P	Pn	13 51 40.5	-14

IDC 14 13:53:27.8±2.8, 6.60S×147.63E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.3/33, mbtmp3.5/4, ML3.3/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/21, Error ellipse: s-maj=73.2km s-min=31.9km az=86.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**8.00**	**300**	LR	LR	13 58 27.6	
	comp=Z,106nm,19.8s,baz=322,slow=37						
WRA	**Warramunga Arr**	**18.50**	**223**	P	P	13 57 44.5	-1.4
	0.1nm,0.3s,baz=47,slow=11,SNR=7.7						
ASAR	**Alice Springs**	**21.49**	**216**	P	P	13 58 18.1	-0.4
	0.6nm,0.6s,baz=38,slow=12,SNR=9.9						
STKA	**Stephens Creek**	**25.77**	**192**	P	P	13 59 00.8	+0.3
	1.3nm,0.9s,baz=3.8,slow=15,SNR=2.6						
CMAR	**Chiang Mai Arr**	**54.08**	**298**	P	P	14 02 55.0	+0.2
	0.5nm,0.6s,baz=129,slow=5.8,SNR=4.0						
TORD	**Torodi Ar. Bea**	**145.84**	**284**	PKPbc	PKPdf	14 13 09.4	-0.3
	0.4nm,0.7s,baz=79,slow=3.6,SNR=4.5						

*KRNET **14** 14:12:39.2±0.1, 42.17N×76.06E, h12km, mb3.5*
*KNET **14** 14:12:39.8±0.1, 42.21N×76.03E, h6km, 3km, ml2.7, Error ellipse: s-maj=1.4km s-min=0.8km az=24.0*
*NNC **14** 14:12:41.4±2.2, 42.27N×76.06E, h0km, mb3.5, mpv3.4, Error ellipse: s-maj=14.6km s-min=9.5km az=167.0*

ISC 14 14:12:40.0±0.9, 42.19N±0.03×76.04E±0.02, h7km±9km, n30, σ0.81/51, 31C-13D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**0.16**	**71**	⇑P	**Pg**	**14 12 43.2**	**-0.2**
	1μm,0.1s,SNR=9406						
ULHL				⇑S	**Sg**	**14 12 45.8**	**+0.1**
	6μm,0.1s						
ULHL	**Ulahol**	**0.16**	**71**	⇑*i*P	**Pg**	**14 12 43.1**	**-0.3**
	baz=60						
ULHL				⇑*i*S	**Sg**	**14 12 45.7**	**-0.1**
	baz=60						
BOOM	**Boomskoye usch**	**0.30**	**346**	*e*P	**Pg**	**14 12 46.0**	**-0.1**
	baz=344						
BOOM				*e*S	**Sg**	**14 12 51.2**	**+1.0**
	baz=344						
KZA	**Kyzart**	**0.60**	**259**	P	**Pg**	**14 12 51.7**	**+0.1**
	71nm,0.2s,SNR=248						
KZA				⇓S	**Sg**	**14 13 00.6**	**+1.0**
	270nm,0.2s						
KZA	**Kyzart**	**0.60**	**259**	⇑*i*P	**Pg**	**14 12 51.5**	**-0.1**
	baz=262						
KZA				⇑*i*S	**Sg**	**14 13 00.3**	**+0.8**
	baz=262						
NRN	**Naryn**	**0.76**	**182**	*i* P	**Pg**	**14 12 53.8**	**-0.9**
	baz=184						
NRN				*e*S	**Sg**	**14 13 04.0**	**-0.6**
	baz=184						
TKM2	**Tokmak 2**	**0.80**	**336**	⇓P	**Pg**	**14 12 55.2**	**-0.2**
	152nm,0.2s,SNR=54						
TKM2				⇓S	**Sb**	**14 13 06.6**	**-0.8**
	1μm,0.1s						
TKM2	**Tokmak 2**	**0.80**	**336**	⇑P	**Pg**	**14 12 55.1**	**-0.2**
	42nm,0.2s						
TKM2				⇑S	**Sb**	**14 13 06.6**	**-0.8**
	197nm,0.2s						
TKM2	**Tokmak 2**	**0.80**	**336**	*e*P	**Pg**	**14 12 55.0**	**-0.4**
	baz=335						
TKM2				*i* S	**Sg**	**14 13 06.3**	**+0.6**
	baz=335						
KBK	**Karagaybulak**	**0.93**	**300**	⇑P	**Pg**	**14 12 57.9**	**0.0**
	27nm,0.1s,SNR=25						
KBK				⇑S	**Sb**	**14 13 11.2**	**0.0**
	199nm,0.3s						
KBK	**Karagaybulak**	**0.93**	**300**	⇑*i*P	**Pg**	**14 12 57.8**	**-0.1**
	baz=301						
KBK				⇑*i*S	**Sb**	**14 13 10.9**	**-0.3**
	baz=301						
UCH	**Uchtor**	**1.13**	**272**	P	**Pg**	**14 13 01.2**	**-0.6**
	18nm,0.3s,SNR=39						
UCH	**Uchtor**	**1.13**	**272**	⇓*i*P	**Pg**	**14 13 01.0**	**-0.8**
	baz=273						
UCH				⇓*i*S	**Sg**	**14 13 15.9**	**-0.6**
	baz=273						
AAK	**Ala-Archa**	**1.23**	**292**	⇑P	**Pg**	**14 13 02.8**	**-0.7**
	16nm,0.2s,SNR=15						
AAK	**Ala-Archa**	**1.23**	**292**	⇑P	**Pg**	**14 13 02.8**	**-0.7**
	13nm,0.6s						
AAK				⇓S	**Sg**	**14 13 19.8**	**+0.3**
	10nm,0.3s						
AAK	**Ala-Archa**	**1.23**	**292**	⇑*i*P	**Pg**	**14 13 02.7**	**-0.8**
	baz=292						
AAK				⇑*i*S	**Sg**	**14 13 19.1**	**-0.3**
	baz=292						
KNDC	**Almaty**	**1.23**	**33**	⇑P	**Pg**	**14 13 02.7**	**-0.9**
	70nm,0.2s						
KNDC				⇓S	**Sb**	**14 13 19.5**	**-0.2**
	30nm,0.3s						
CHMS	**Chumysh**	**1.25**	**311**	⇑P	**Pg**	**14 13 03.3**	**-0.6**
	12nm,0.1s,SNR=6.6						
CHMS	**Chumysh**	**1.25**	**311**	⇑*i*P	**Pg**	**14 13 03.3**	**-0.6**
	baz=311						
CHMS				⇑*i*S	**Sb**	**14 13 20.1**	**0.0**
	baz=311						
ANVS	**Anan'yevo**	**1.34**	**63**	*i* P	**Pn**	**14 13 04.2**	**-1.1**
	baz=62						
ANVS				*e*S	**Sb**	**14 13 22.2**	**-0.8**
	baz=62						
USP	**Ospenovka**	**1.56**	**314**	⇑P	**Pb**	**14 13 08.9**	**-0.4**
	16nm,0.1s,SNR=7.6						
USP	**Ospenovka**	**1.56**	**314**	⇓*i*P	**Pn**	**14 13 08.6**	**+0.4**
	baz=314						
USP				⇓*i*S	**Sg**	**14 13 29.6**	**-0.6**
	baz=314						
EKS	**Erkin-Say**	**1.73**	**287**	*i* P	**Pg**	**14 13 12.9**	**-0.4**
	baz=287						
EKS				*e*S	**Sb**	**14 13 35

IDC ***14*** *14:36:14.8±0.8, 38°.39N×21°.87E, h0km, mb3.9/14, mb1 3.9/20,mb1mx3.8/48,mbtmp3.8/20,ML3.7/6,MS2.9/5, Ms1 2.9/5,ms1mx2.7/37, Error ellipse: s-maj=16.3km s-min=14.7km az=59.0*

ISCJB ***14*** *14:36:15.3±0.3, 38°.44N±0°.01×21°.81E±0°.02, h11km±2km, mb3.9/16,MS3.2/5, Error ellipse: s-maj=2.1km s-min=1.8km az=154.7*

IASPEI ***14*** *14:36:15.9±0.8, 38°.44N±0°.01×21°.82E±0°.01, h9km±4km, mb4.0/16,MS3.2/5, Error ellipse: s-maj=2.1km s-min=2.0km az=78.1*

THE ***14*** *14:36:15.9, 38°.44N×21°.81E, h2km, ML3.8/23, Error ellipse: s-maj=0.7km s-min=0.3km az=237.0*

ATH ***14*** *14:36:15.5, 38°.45N×21°.82E, h15km± 1km, MD3.2/41, ML3.7*

CSEM ***14*** *14:36:15.9±0.1, 38°.42N×21°.84E, h5km, mb4.0/15, Error ellipse: s-maj=2.3km s-min=2.1km az=55.0*

SKO ***14*** *14:36:16.8, 38°.46N×22°.05E, h0km*

MOS ***14*** *14:36:19.5±1.2, 38°.50N×22°.08E, h33km, mb4.1/11, Error ellipse: s-maj=14.0km s-min=7.3km az=85.0*

ISC 14 14:36:16.2±0.7, 38°.44N±0°.01×21°.83E±0°.01, h9km±4km, n304,σ1s00/379, mb4.0/16, MS3.2/5, 12C-10D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	h m s	ISC
				Op				
EFP	**Efpalio**	**0.07**	**101**	P		**Pg**	**14 36 17.9**	**-0.3**
EFP				S		**Sg**	**14 36 18.9**	**-0.8**
EFP	**Efpalio**	**0.07**	**101**	*e*PB		**Pg**	**14 36 18.1**	**-0.1**
EFP				*e*SB		**Sg**	**14 36 20.0**	**+0.3**
EFP	**Efpalio**	**0.07**	**101**	P		**Pg**	**14 36 17.9**	**-0.3**
EFP				S		**Sg**	**14 36 18.9**	**-0.8**
EFP				*e*Sb		**Sg**	**14 36 20.0**	**+0.3**
UPR	**University Cam**	**0.16**	**191**	P		**Pg**	**14 36 19.2**	**-0.4**
UPR				S		**Sg**	**14 36 21.3**	**-0.6**
UPR	**University Cam**	**0.16**	**191**	P		**Pg**	**14 36 19.2**	**-0.4**
UPR				S		**Sg**	**14 36 21.3**	**-0.6**
KALE	**Kalithea**	**0.25**	**101**	P		**Pg**	**14 36 21.0**	**-0.3**
KALE				S		**Sg**	**14 36 25.1**	**+0.4**
KALE	**Kalithea**	**0.25**	**101**	*e*PB		**Pg**	**14 36 21.1**	**-0.3**
KALE				*e*SB		**Sg**	**14 36 25.6**	**+0.9**
KALE	**Kalithea**	**0.25**	**101**	P		**Pg**	**14 36 21.0**	**-0.3**
KALE				S		**Sg**	**14 36 25.1**	**+0.4**
PVO	**Paravola**	**0.29**	**307**	P		**Pg**	**14 36 21.8**	**-0.3**
PVO				S		**Sg**	**14 36 25.8**	**-0.2**
PVO	**Paravola**	**0.29**	**307**	P		**Pg**	**14 36 21.8**	**-0.3**
PVO				S		**Sg**	**14 36 25.8**	**-0.2**
KLV	**Kalavryta, Ach**	**0.47**	**147**	P		**Pg**	**14 36 24.6**	**-0.8**
KLV				S		**Sg**	**14 36 32.3**	**+0.7**
KLV	**Kalavryta, Ach**	**0.47**	**147**	*e*PB		**Pg**	**14 36 24.7**	**-0.7**
KLV				*e*SB		**Sg**	**14 36 32.3**	**+0.7**
KLV	**Kalavryta, Ach**	**0.47**	**147**	P		**Pg**	**14 36 24.6**	**-0.8**
KLV				S		**Sg**	**14 36 32.3**	**+0.7**
RLS	**Riolos of Patr**	**0.47**	**217**	P		**Pg**	**14 36 24.8**	**-0.6**
RLS				S		**Sg**	**14 36 31.7**	**+0.1**
RLS	**Riolos of Patr**	**0.47**	**217**	*e*PB		**Pg**	**14 36 24.9**	**-0.5**
RLS				*e*SB		**Sg**	**14 36 32.4**	**+0.8**
RLS	**Riolos of Patr**	**0.47**	**217**	*e*Pb		**Pg**	**14 36 24.9**	**-0.5**
RLS				S		**Sg**	**14 36 31.7**	**+0.1**
RLS				*e*Sb		**Sg**	**14 36 32.4**	**+0.8**
EVR	**Evrytania**	**0.48**	**358**	P		**Pg**	**14 36 25.0**	**-0.5**
EVR				S		**Sg**	**14 36 31.9**	**+0.1**
EVR	**Evrytania**	**0.48**	**358**	*e*PB		**Pg**	**14 36 25.1**	**-0.5**
EVR				*e*SB		**Sg**	**14 36 32.0**	**+0.1**
EVR	**Evrytania**	**0.48**	**358**	*e*Pb		**Pg**	**14 36 25.1**	**-0.5**
EVR				S		**Sg**	**14 36 31.9**	**+0.1**
DRO	**Drossia**	**0.49**	**191**	P		**Pg**	**14 36 24.9**	**-0.9**
DRO				S		**Sg**	**14 36 32.3**	**0.0**
DRO	**Drossia**	**0.49**	**191**	*e*PN		**Pg**	**14 36 25.1**	**-0.7**
DRO				*e*SN		**Sg**	**14 36 33.0**	**+0.7**
DRO	**Drossia**	**0.49**	**191**	*e*Pn		**Pg**	**14 36 25.1**	**-0.7**
DRO				S		**Sg**	**14 36 32.3**	**0.0**
DRO				*e*Sn		**Sg**	**14 36 33.0**	**+0.7**
PDO	**Prodromos**	**0.53**	**288**	P		**Pg**	**14 36 24.9**	**-1.5**
PDO				S		**Sg**	**14 36 33.3**	**-0.1**
PDO	**Prodromos**	**0.53**	**288**	*e*PN		**Pg**	**14 36 25.6**	**-0.8**
PDO				*e*SN		**Sg**	**14 36 34.1**	**+0.7**
PDO	**Prodromos**	**0.53**	**288**	P		**Pg**	**14 36 24.9**	**-1.5**
PDO	**Prodromos**	**0.53**	**288**	*e*Pn		**Pg**	**14 36 25.6**	**-0.8**
PDO				S		**Sg**	**14 36 33.3**	**-0.1**
PDO				*e*Sn		**Sg**	**14 36 34.1**	**+0.7**
DSF	**Desfina**	**0.55**	**93**	P		**Pg**	**14 36 25.9**	**-1.0**
DSF				S		**Sg**	**14 36 34.7**	**+0.5**
DSF	**Desfina**	**0.55**	**93**	*e*PN		**Pg**	**14 36 26.3**	**-0.6**
DSF	**Desfina**	**0.55**	**93**	P		**Pg**	**14 36 25.9**	**-1.0**
DSF	**Desfina**	**0.55**	**93**	*e*Pn		**Pg**	**14 36 26.3**	**-0.6**
DSF				S		**Sg**	**14 36 34.7**	**+0.5**
MAKR	**Makrakomi, Fth**	**0.62**	**23**	P		**Pg**	**14 36 28.0**	**-0.2**
MAKR				S		**Sg**	**14 36 37.0**	**+0.6**
MAKR	**Makrakomi, Fth**	**0.62**	**23**	*e*PN		**Pg**	**14 36 28.2**	**0.0**
MAKR	**Makrakomi, Fth**	**0.62**	**23**	*e*Pn		**Pg**	**14 36 28.2**	**0.0**
MAKR				S		**Sg**	**14 36 37.3**	**+0.6**
GUR	**Goura**	**0.65**	**141**	P		**Pg**	**14 36 27.6**	**-1.1**
GUR				S		**Sg**	**14 36 37.9**	**+0.7**
GUR	**Goura**	**0.65**	**141**	*e*PB		**Pg**	**14 36 27.7**	**-1.0**
GUR				*e*SN		**Sg**	**14 36 38.1**	**+0.9**
GUR	**Goura**	**0.65**	**141**	*e*Pb		**Pg**	**14 36 27.7**	**-1.0**
GUR				S		**Sg**	**14 36 37.9**	**+0.7**
AGG	**Agios Georgios**	**0.70**	**34**	P		**Pg**	**14 36 28.8**	**-1.0**
AGG				S		**Sb**	**14 36 39.8**	**-0.7**
AGG	**Agios Georgios**	**0.70**	**34**	*e*PN		**Pg**	**14 36 29.0**	**-0.8**
AGG	**Agios Georgios**	**0.70**	**34**	P		**Pg**	**14 36 28.8**	**-1.0**
AGG				S		**Sb**	**14 36 39.8**	**-0.7**
VTN	**Vitineika**	**0.72**	**224**	P		**Pg**	**14 36 30.0**	**-0.2**
VTN	**Vitineika**	**0.72**	**224**	P		**Pg**	**14 36 30.0**	**-0.2**
AXAR	**Agios Charalam**	**0.73**	**63**	P		**Pg**	**14 36 29.2**	**-1.1**
AXAR				S		**Sb**	**14 36 40.6**	**-0.6**
AXAR	**Agios Charalam**	**0.73**	**63**	*e*PN		**Pg**	**14 36 29.4**	**-0.9**
AXAR				*e*SN		**Sg**	**14 36 39.7**	**-0.1**
AXAR	**Agios Charalam**	**0.73**	**63**	P		**Pg**	**14 36 29.2**	**-1.1**
AXAR				*e*Sn		**Sg**	**14 36 39.7**	**-0.1**
AXAR				S		**Sb**	**14 36 40.6**	**-0.6**
KFL	**Anninata**	**0.88**	**248**	P		**Pg**	**14 36 32.1**	**-1.0**
KFL	**Anninata**	**0.88**	**248**	P		**Pg**	**14 36 32.1**	**-1.0**
DSL	**Palaion Diasel**	**0.90**	**321**	P		**Pg**	**14 36 31.8**	**-1.7**
DSL				S		**Sb**	**14 36 45.9**	**-0.1**
DSL	**Palaion Diasel**	**0.90**	**321**	*e*PB		**Pg**	**14 36 31.9**	**-1.6**
DSL				*e*SN		**Sg**	**14 36 43.9**	**-1.3**
DSL	**Palaion Diasel**	**0.90**	**321**	*e*Pb		**Pg**	**14 36 31.9**	**-1.6**
DSL				S		**Sb**	**14 36 45.9**	**-0.1**
AMT	**Artemida-Makis**	**0.91**	**186**	P		**Pg**	**14 36 32.9**	**-0.8**
AMT				S		**Sg**	**14 36 46.0**	**+0.5**
AMT	**Artemida-Makis**	**0.91**	**186**	*e*PN		**Pg**	**14 36 33.4**	**-0.3**
AMT	**Artemida-Makis**	**0.91**	**186**	P		**Pg**	**14 36 32.9**	**-0.8**
AMT	**Artemida-Makis**	**0.91**	**186**	*e*Pn		**Pg**	**14 36 33.4**	**-0.3**
AMT				S		**Sg**	**14 36 46.0**	**+0.5**
LKR	**Lokris**	**0.94**	**77**	P		**Pg**	**14 36 33.0**	**-1.4**
LKR				S		**Sb**	**14 36 48.0**	**+0.6**
LKR	**Lokris**	**0.94**	**77**	*e*PN		**Pg**	**14 36 33.7**	**-0.7**
LKR	**Lokris**	**0.94**	**77**	P		**Pg**	**14 36 33.0**	**-1.4**
LKR	**Lokris**	**0.94**	**77**	*e*Pn		**Pg**	**14 36 33.7**	**-0.7**
LKR				S		**Sb**	**14 36 48.0**	**+0.6**
LTK	**Loutraki**	**0.99**	**114**	P		**Pg**	**14 36 35.0**	**-0.2**
LTK				S		**Sb**	**14 36 49.2**	**+0.5**
LTK	**Loutraki**	**0.99**	**114**	*e*PN		**Pg**	**14 36 35.1**	**-0.2**
LTK	**Loutraki**	**0.99**	**114**	P		**Pg**	**14 36 35.0**	**-0.2**
LTK				S		**Sb**	**14 36 49.2**	**+0.5**
VLS	**Valsamata**	**1.01**	**255**	P		**Pg**	**14 36 33.7**	**-1.8**
VLS				S		**Sb**	**14 36 49.5**	**+0.4**
VLS	**Valsamata**	**1.01**	**255**	*e*PB		**Pg**	**14 36 33.8**	**-1.8**
VLS	**Valsamata**	**1.01**	**255**	*e*Pb		**Pg**	**14 36 33.8**	**-1.8**
VLS				S		**Sb**	**14 36 49.5**	**+0.4**
THL	**Klokotos Trika**	**1.13**	**7**	P		**Pb**	**14 36 36.6**	**-1.4**
THL				S		**Sn**	**14 36 53.3**	**-0.6**
THL	**Klokotos Trika**	**1.13**	**7**	*e*PN		**Pb**	**14 36 37.3**	**-0.7**
THL	**Klokotos Trika**	**1.13**	**7**	P		**Pb**	**14 36 36.6**	**-1.4**
THL	**Klokotos Trika**	**1.13**	**7**	*e*Pn		**Pb**	**14 36 37.3**	**-0.7**
THL				S		**Sn**	**14 36 53.3**	**-0.6**
VLX	**Vlachokerasia**	**1.15**	**157**	P		**Pb**	**14 36 36.8**	**-1.6**
VLX				S		**Sg**	**14 36 53.9**	**+0.5**
VLX	**Vlachokerasia**	**1.15**	**157**	*e*PN		**Pb**	**14 36 37.0**	**-1.4**
VLX	**Vlachokerasia**	**1.15**	**157**	P		**Pb**	**14 36 36.8**	**-1.6**
VLX				S		**Sg**	**14 36 53.9**	**+0.5**
SMIA	**Simia**	**1.17**	**68**	P		**Pb**	**14 36 37.6**	**-1.0**
SMIA				S		**Sn**	**14 36 55.3**	**+0.5**
SMIA	**Simia**	**1.17**	**68**	*e*PN		**Pb**	**14 36 38.5**	**-0.1**
SMIA	**Simia**	**1.17**	**68**	P		**Pb**	**14 36 37.6**	**-1.0**
SMIA	**Simia**	**1.17**	**68**	*e*Pn		**Pb**	**14 36 38.5**	**-0.1**
SMIA				S		**Sn**	**14 36 55.3**	**+0.5**
ITM	**Ithomi**	**1.26**	**176**	P		**Pn**	**14 36 39.2**	**-0.8**
ITM				S		**Sn**	**14 36 58.2**	**+1.1**
ITM	**Ithomi**	**1.26**	**176**	*e*PN		**Pn**	**14 36 39.3**	**-0.8**
ITM	**Ithomi**	**1.26**	**176**	P		**Pn**	**14 36 39.2**	**-0.8**
ITM				S		**Sn**	**14 36 58.2**	**+1.1**
SFD	**Strofades**	**1.35**	**209**	P		**Pn**	**14 36 41.3**	**+0.1**
SFD	**Strofades**	**1.35**	**209**	P		**Pn**	**14 36 41.3**	**+0.1**
NEO	**Neokhori**	**1.39**	**51**	P		**Pn**	**14 36 41.6**	**-0.3**
NEO				S		**Sg**	**14 37 00.9**	**-0.1**
NEO	**Neokhori**	**1.39**	**51**	*e*PN		**Pn**	**14 36 42.0**	**+0.1**
NEO	**Neokhori**	**1.39**	**51**	P		**Pn**	**14 36 41.6**	**-0.3**
NEO	**Neokhori**	**1.39**	**51**	*e*Pn		**Pn**	**14 36 42.0**	**+0.1**
NEO				S		**Sg**	**14 37 00.9**	**-0.1**
MRKA	**Markates**	**1.41**	**79**	P		**Pn**	**14 36 41.7**	**-0.3**
MRKA				S		**Sg**	**14 37 02.0**	**+0.5**
MRKA	**Markates**	**1.41**	**79**	*e*PN		**Pn**	**14 36 41.9**	**-0.1**
MRKA	**Markates**	**1.41**	**79**	P		**Pn**	**14 36 41.7**	**-0.3**
MRKA				S		**Sg**	**14 37 02.0**	**+0.5**
XOR	**Xorichti**	**1.41**	**49**	P		**Pn**	**14 36 41.9**	**-0.2**
XOR				S		**Sg**	**14 37 02.0**	**+0.4**
XOR	**Xorichti**	**1.41**	**49**	*e*PN		**Pn**	**14 36 42.1**	**0.0**
XOR	**Xorichti**	**1.41**	**49**	P		**Pn**	**14 36 41.9**	**-0.2**
XOR				S		**Sg**	**14 37 02.0**	**+0.4**
DID	**Didima**	**1.45**	**129**	*e*PN		**Pn**	**14 36 42.6**	**-0.1**
DID	**Didima**	**1.45**	**129**	*e*Pn		**Pn**	**14 36 42.6**	**-0.1**
NAIG	**Nisos Aigina**	**1.48**	**117**	*e*PN		**Pn**	**14 36 43.0**	**0.0**
NAIG	**Nisos Aigina**	**1.48**	**117**	*e*Pn		**Pn**	**14 36 43.0**	**0.0**
PYL	**PYLOS**	**1.54**	**182**	P		**Pn**	**14 36 43.3**	**-0.6**
PYL				S		**Sg**	**14 37 05.4**	**-0.4**
PYL	**PYLOS**	**1.54**	**182**	*e*PN		**Pn**	**14 36 43.9**	**0.0**
PYL	**PYLOS**	**1.54**	**182**	P		**Pn**	**14 36 43.3**	**-0.6**
PYL	**PYLOS**	**1.54**	**182**	*e*Pn		**Pn**	**14 36 43.9**	**0.0**
PYL				S		**Sg**	**14 37 05.4**	**-0.4**
ATH	**Athens Observa**	**1.56**	**107**	P		**Pn**	**14 36 44.2**	**+0.1**
ATH				S		**Sg**	**14 37 05.6**	**-0.8**
ATH	**Athens Observa**	**1.56**	**107**	*e*PN		**Pn**	**14 36 44.2**	**+0.1**
ATH				*e*SN		**Sg**	**14 37 05.7**	**-0.7**
ATH	**Athens Observa**	**1.56**	**107**	P		**Pn**	**14 36 44.2**	**+0.1**
ATH				*e*Sn		**Sg**	**14 37 05.7**	**-0.7**
IGT	**Igoumenitsa**	**1.59**	**314**	*e*P		**Pg**	**14 36 46.9**	**+0.1**
IGT	**Igoumenitsa**	**1.59**	**314**	*e*PN		**Pb**	**14 36 46.2**	**+0.4**
IGT	**Igoumenitsa**	**1.59**	**314**	*e*Pn		**Pb**	**14 36 46.2**	**+0.4**
IGT	**Igoumenitsa**	**1.59**	**314**	*e*P		**Pg**	**14 36 46.9**	**+0.1**
ATHU	**Athens Univers**	**1.61**	**106**	P		**Pn**	**14 36 44.9**	**0.0**
ATHU				S		**Sb**	**14 37 06.3**	**-0.3**
ATHU	**Athens Univers**	**1.61**	**106**	P		**Pn**	**14 36 44.9**	**0.0**
ATHU				S		**Sb**	**14 37 06.3**	**-0.3**
PTL	**Penteli**	**1.65**	**103**	P		**Pn**	**14 36 44.8**	**-0.6**
PTL	**Penteli**	**1.65**	**103**	*e*PN		**Pn**	**14 36 45.5**	**+0.1**
PTL	**Penteli**	**1.65**	**103**	P		**Pn**	**14 36 44.8**	**-0.6**
PTL	**Penteli**	**1.65**	**103**	*e*Pn		**Pn**	**14 36 45.5**	**+0.1**
LIT	**Litokhoron**	**1.74**	**17**	P		**Pn**	**14 36 46.5**	**-0.1**
LIT				S		**Sb**	**14 37 09.9**	**-0.3**
LIT	**Litokhoron**	**1.74**	**17**	*e*PN		**Pn**	**14 36 46.7**	**+0.1**
LIT	**Litokhoron**	**1.74**	**17**	*e*Pn		**Pn**	**14 36 46.7**	**+0.1**
LIT				S		**Sb**	**14 37 09.9**	**-0.3**
AOS	**Alonnisos**	**1.76**	**65**	*e*P		**Pn**	**14 36 44.6**	**-2.3**
AOS	**Alonnisos**	**1.76**	**65**	P		**Pn**	**14 36 46.5**	**-0.4**
AOS				S		**Sb**	**14 37 10.8**	**-0.1**
AOS	**Alonnisos**	**1.76**	**65**	*e*PB		**Pn**	**14 36 46.4**	**-0.4**
AOS	**Alonnisos**	**1.76**	**65**	P		**Pn**	**14 36 46.5**	**-0.4**
AOS				S		**Sb**	**14 37 10.8**	**-0.1**
KZN	**Kozani**	**1.86**	**359**	*e*PN		**Pb**	**14 36 50.0**	**-0.5**
KZN	**Kozani**	**1.86**	**359**	*e*Pn		**Pb**	**14 36 50.0**	**-0.5**
VLI	**Veliai**	**1.93**	**152**	P		**Pn**	**14 36 49.2**	**0.0**
VLI	**Veliai**	**1.93**	**152**	*e*PN		**Pn**	**14 36 50.0**	**+0.8**
VLI	**Veliai**	**1.93**	**152**	P		**Pn**	**14 36 49.2**	**0.0**
VLI	**Veliai**	**1.93**	**152**	*e*Pn		**Pn**	**14 36 50.0**	**+0.8**
KEK	**Kerkira**	**2.03**	**310**	*e*PN		**Pb**	**14 36 52.1**	**-1.1**
KEK	**Kerkira**	**2.03**	**310**	*e*Pn		**Pb**	**14 36 52.1**	**-1.1**
PAIG	**Paliouri**	**2.07**	**44**	P		**Pn**	**14 36 50.8**	**-0.3**
PAIG	**Paliouri**	**2.07**	**44**	*e*PB		**Pn**	**14 36 50.8**	**-0.3**
PAIG	**Paliouri**	**2.07**	**44**	P		**Pn**	**14 36 50.8**	**-0.3**
FNA	**Florina**	**2.37**	**352**	*e*P		**Pb**	**14 36 57.3**	**-1.8**
FNA	**Florina**	**2.37**	**352**	*e*PN		**Pn**	**14 36 57.1**	**+1.8**
FNA	**Florina**	**2.37**	**352**	*e*Pn		**Pn**	**14 36 57.1**	**+1.8**
HORT	**Hortiatis**	**2.37**	**24**	*e*P		**Pn**	**14 36 54.6**	**-0.7**
HORT	**Hortiatis**	**2.37**	**24**	P		**Pn**	**14 36 54.5**	**-0.8**
HORT	**Hortiatis**	**2.37**	**24**	*e*PB		**Pn**	**14 36 55.8**	**+0.5**
HORT	**Hortiatis**	**2.37**	**24**	P		**Pn**	**14 36 54.5**	**-0.8**
OUR	**Ouranopolis**	**2.52**	**41**	*e*P		**Pn**	**14 36 56.3**	**-1.1**
OUR	**Ouranopolis**	**2.52**	**41**	P		**Pn**	**14 36 57.1**	**-0.3**
OUR	**Ouranopolis**	**2.52**	**41**	*e*PN		**Pn**	**14 36 57.6**	**+0.2**
OUR	**Ouranopolis**	**2.52**	**41**	P		**Pn**	**14 36 57.1**	**-0.3**
OUR	**Ouranopolis**	**2.52**	**41**	*e*Pn		**Pn**	**14 36 57.6**	**+0.2**
GRG	**Griva**	**2.55**	**10**	*e*P		**Pn**	**14 36 58.0**	**+0.2**
GRG	**Griva**	**2.55**	**10**	P		**Pn**	**14 36 58.2**	**+0.4**
GRG	**Griva**	**2.55**	**10**	*e*PB		**Pn**	**14 36 59.0**	**+1.2**
GRG	**Griva**	**2.55**	**10**	P		**Pn**	**14 36 58.2**	**+0.4**
SOH	**Sokhos**	**2.66**	**26**	*e*PN		**Pn**	**14 36 59.6**	**+0.4**
SOH	**Sokhos**	**2.66**	**26**	*e*Pn		**Pn**	**14 36 59.6**	**+0.4**
OHR	**Ohrid**	**2.78**	**344**	*i* Pn		**Pn**	**14 37 03.5**	**+2.5**
OHR	**Ohrid**	**2.78**	**344**	*i* Pn		**Pn**	**14 37 03.5**	**+2.5**
KNT	**Kendrikon**	**2.84**	**17**	*e*P		**Pn**	**14 37 02.5**	**+0.7**
KNT	**Kendrikon**	**2.84**	**17**	P		**Pn**	**14 37 02.0**	**+0.2**
KNT	**Kendrikon**	**2.84**	**17**	*e*PN		**Pn**	**14 37 02.2**	**+0.4**
KNT	**Kendrikon**	**2.84**	**17**	P		**Pn**	**14 37 02.0**	**+0.2**
VAY	**Valandovo**	**2.94**	**11**	*i* Pn		**Pn**	**14 37 05.2**	**+2.1**
VAY	**Valandovo**	**2.94**	**11**	*i* Pn		**Pn**	**14 37 05.1**	**+2.1**
LIA	**Limnos Island**	**2.99**	**60**	P		**Pn**	**14 37 03.8**	**+0.1**
LIA	**Limnos Island**	**2.99**	**60**	P		**Pn**	**14 37 03.8**	**+0.1**
APE	**Apeiranthos**	**3.24**	**114**	*e*P		**Pn**	**14 37 04.9**	**-2.4**
APE	**Apeiranthos**	**3.24**	**114**	P		**Pn**	**14 37 07.6**	**+0.3**
APE	**Apeiranthos**	**3.24**	**114**	*d* *i*P		**Pn**	**14 37 03.0**	**0.0**
APE	**Apeiranthos**	**3.24**	**114**	‖ *i*P		**Pn**	**14 37 07.4**	**+0.1**
APE	**Apeiranthos**	**3.24**	**114**	S		**Sn**	**14 37 45.0**	**-1.0**
APE	**Apeiranthos**	**3.24**	**114**	*i* P		**Pn**	**14 37 03.3**	**0.0**
SIGR	**SIGRI**	**3.24**	**75**	*e*P		**Pn**	**14 37 05.3**	**-1.9**
SIGR	**SIGRI**	**3.24**	**75**	*e*P		**Pn**	**14 37 05.3**	**-1.9**
KAVA	**Kavala**	**3.29**	**38**	P		**Pn**	**14 37 07.7**	**-0.2**
KAVA	**Kavala**	**3.29**	**38**	P		**Pn**	**14 37 07.7**	**-0.2**
NVR	**Nevrokopi**	**3.30**	**28**	P		**Pn**	**14 37 08.5**	**+0.4**
NVR	**Nevrokopi**	**3.30**	**28**	P		**Pn**	**14 37 08.5**	**+0.4**
CHOS	**Chios island**	**3.32**	**90**	*e*P		**Pn**	**14 37 07.0**	**-1.4**
CHOS	**Chios island**	**3.32**	**90**	P		**Pn**	**14 37 08.9**	**+0.5**
CHOS	**Chios island**	**3.32**	**90**	P		**Pn**	**14 37 08.9**	**+0.5**
MMB	**Musomiste**	**3.47**	**24**	‖ *i*P		**Pn**	**14 37 11.1**	**+0.7**
SKO	**Skopje**	**3.54**	**355**	*i* Pn		**Pn**	**14 37 13.2**	**+1.8**
SKO	**Skopje**	**3.54**	**355**	*i* Pn		**Pn**	**14 37 13.1**	**+1.8**
SANT	**Santorini**	**3.56**	**124**	P		**Pn**	**14 37 12.3**	**+0.7**
SANT	**Santorini**	**3.56**	**124**	P		**Pn**	**14 37 12.3**	**+0.7**
GADA	**Gvkgeada**	**3.61**	**60**	*e*P		**Pn**	**14 37 11.1**	**-1.2**
GADA	**Gvkgeada**	**3.61**	**60**	*e*P		**Pn**	**14 37 11.1**	**-1.2**
IDI	**Anoyia**	**3.99**	**141**	Pn		**Pn**	**14 37 17.6**	**0.0**
	1.6nm,0.3s,baz=332,slow=14,SNR=13							
IDI						Sn	**14 38 02.8**	**-1.8**
	3.8nm,0.3s,baz=292,slow=19,SNR=3.1							
TIP	**Timpagrande**	**4.03**	**282**	P		**Pn**	**14 37 18.6**	**+0.5**
TIP	**Timpagrande**	**4.03**	**282**	P		**Pn**	**14 37 18.6**	**+0.5**
ALN	**Alexandroupoli**	**4.08**	**52**	*e*P		**Pn**	**14 37 18.9**	**+0.2**
ALN	**Alexandroupoli**	**4.08**	**52**	*e*P		**Pn**	**14 37 18.9**	**+0.2**
GELI	**Tayfur-Gelibol**	**4.10**	**60**	*e*P		**Pn**	**14 37 18.0**	**-1.0**
GELI	**Tayfur-Gelibol**	**4.10**	**60**	*e*P		**Pn**	**14 37 18.0**	**-1.0**
KDZ	**Kurdzhali**	**4.23**	**40**	‖ *i*P		**Pn**	**14 37 13.2**	**-2.6**
VTS	**Vitosha**	**4.28**	**14**	‖ *i*P		**Pn**	**14 37 22.9**	**+1.3**
VTS	**Vitosha**	**4.28**	**14**	S		**Sn**	**14 38 10.7**	**-1.1**
BARS	**Barje**	**4.37**	**360**	*e*Pn		**Pn**	**14 37 23.8**	**+1.0**
BODT	**Bodrum**	**4.56**	**106**	*e*P		**Pn**	**14 37 24.1**	**-1.2**
BODT	**Bodrum**	**4.56**	**106**	*e*P		**Pn**	**14 37 24.1**	**-1.2**
BAI	**Bari**	**4.65**	**307**	*e*Pn		**Pn**	**14 37 27.2**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**4.80**	**94**	*e*P		**Pn**	**14 37 28.2**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**4.80**	**94**	*e*P		**Pn**	**14 37 28.2**	**-0.6**
DAT	**Datca**	**4.88**	**109**	*e*P		**Pn**	**14 37 28.7**	**-1.1**
DAT	**Datca**	**4.88**	**109**	*e*P		**Pn**	**14 37 28.7**	**-1.1**
SJES	**Sjenica**	**5.02**	**344**	*e*Pn		**Pn**	**14 37 34.8**	**+3.1**
CDT	**Castel del Mon**	**5.03**	**303**	*e*Pn		**Pn**	**14 37 32.5**	**+0.7**
IVAS	**Ivanjica**	**5.29**	**347**	*e*Pn		**Pn**	**14 37 37.4**	**+2.0**
BOLS	**Boljevac**	**5.38**	**1**	*e*Pn		**Pn**	**14 37 39.1**	**+2.4**
STON	**Ston**	**5.42**	**326**	*i* Pn		**Pn**	**14 37 37.0**	**-0.2**
STON				S		**Sn**	**14 38 37.3**	**-2.4**
STON	**Ston**	**5.42**	**326**	*i* Pn		**Pn**	**14 37 37.0**	**-0.2**
MS1	**Monte Sant'Ang**	**5.57**	**308**	*e*Pn		**Pn**	**14 37 39.6**	**+0.4**
ORLT	**Orhaneli**	**5.72**	**72**	*e*P		**Pn**	**14 37 41.0**	**-0.3**
ORLT	**Orhaneli**	**5.72**	**72**	*e*P		**Pn**	**14 37 41.0**	**-0.3**
BBLS	**Lazići**	**5.72**	**342**	*e*Pn		**Pn**	**14 37 42.4**	**+1.0**
DIVS	**Divibare**	**5.82**	**347**	‖ *i*P		**Pn**	**14 37 44.3**	**+1.6**
DIVS	**Divibare**	**5.82**	**347**	*e*Pn		**Pn**	**14 37 43.7**	**+1.0**
TEKS	**Tekeris**	**6.34**	**345**	*e*Pn		**Pn**	**14 37 50.4**	**+0.5**
ALT	**Altintas**	**6.51**	**82**	*e*P		**Pn**	**14 37 51.8**	**-0.4**
ALT	**Altintas**	**6.51**	**82**	*e*P		**Pn**	**14 37 51.8**	**-0.4**
FGSL	**Fruska Gora**	**6.88**	**348**	*e*Pn		**Pn**	**14 37 57.3**	**+0.1**
GZR	**Gura Zlata**	**6.99**	**6**	‖ *i*P		**Pn**	**14 38 01.0**	**+2.3**
BZS	**Buzias**	**7.17**	**359**	‖ *i*P		**Pn**	**14 38 03.3**	**+2.1**
MSAB	**Monastry St. A**	**7.23**	**37**	‖ *i*P		Pn	14 38 06.9	+4.9
VOIR		**7.39**	**18**	‖ *i*P		**Pn**	**14 38 06.2**	**+1.9**
UDBI	**Udbina**	**7.59**	**325**	*i* Pn		**Pn**	**14 38 08.1**	**+1.0**
UDBI						Sn	**14 39 32.1**	**-1.2**
UDBI	**Udbina**	**7.59**	**325**	*i* Pn		**Pn**	**14 38 08.0**	**+1.0**
UDBI						Sn	**14 39 32.0**	**-1.2**
MLR	**Muntele Rosu**	**7.68**	**22**	Pn		**Pn**	**14 38 11.1**	**+2.8**

SONM	**Songino Array**	**59.50**	**51**	*e*P		**P**	**14 46 19.2**	**-0.5**
SONM					pmax	pmax			
	comp=Z,1.0nm,0.7s								
SONM	**Songino Array**	**59.50**	**51**	*e*P		**P**	**14 46 19.2**	**-0.5**
	comp=Z,1.0nm,0.7s								
ULN	**Ulaanbaatar**	**59.89**	**51**	*e*P		**P**	**14 46 22.0**	**-0.4**
ULN					pmax	pmax			
	comp=Z,1.0nm,0.8s								
ULN	**Ulaanbaatar**	**59.89**	**51**	*e*P		**P**	**14 46 22.0**	**-0.4**
	comp=Z,1.0nm,0.8s								
BILL	**Bilibino**	**70.53**	**13**⇑	*e*P		**P**	**14 47 31.8**	**+0.9**
BILL				*e*			14 47 51.8		
BILL				*e*			14 50 10.4		
BILL					pmax	pmax			
	comp=Z,1.0nm,1.2s								
BILL					MLR	MLR			
	comp=Z,113nm,15.0s								
BILL	**Bilibino**	**70.53**	**13**	*e*P		**P**	**14 47 31.8**	**+0.9**
	comp=Z,1.0nm,1.2s								
BILL	**Bilibino**	**70.53**	**13**	*e*PcP		**PcP**	**14 47 51.8**	**-0.3**
YKA	**Yellowknife Ar**	**73.49**	**341**	P		**P**	**14 47 48.8**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=39,slow=4.9,SNR=5.5								
ULM	**Lac du Bonnet**	**76.09**	**324**	P		**P**	**14 48 04.0**	**0.0**
	comp=Z,0.9nm,0.3s,baz=326,slow=3.6,SNR=2.5								
ULM	**Lac du Bonnet**	**76.09**	**324**	P		**P**	**14 48 04.0**	**0.0**
ULM					pmax	pmax			
	comp=Z,1.0nm,0.3s								
ILAR	**Eielson Array**	**76.74**	**355**	P		**P**	**14 48 09.1**	**+1.6**
	comp=Z,0.5nm,1.0s,baz=342,slow=2.1,SNR=3.3								
ILAR	**Eielson Array**	**76.74**	**355**	P		**P**	**14 48 09.1**	**+1.6**
ILAR					pmax	pmax			
	comp=Z,1.0nm,1.0s								
KSRS	**Korea Array**	**78.37**	**51**	P		**P**	**14 48 16.2**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=316,slow=5.0,SNR=5.3								
KSRS	**Korea Array**	**78.37**	**51**	P		**P**	**14 48 16.2**	**-0.8**
KSRS					pmax	pmax			
	comp=Z,1.0nm,0.5s								

IDC ***14*** *14:44:14.7±0.6, 16˚.85S×171˚.98W, h0km, mb4.2/16, mb1 4.4/16, mb1mx4.3/42, mbtmp4.2/16, Error ellipse: s-maj=23.8km s-min=15.9km az=127.0*

ISCJB ***14*** *14:44:16.4±0.5, 16˚.8S±0˚.1×172˚.1W±0˚.1, h20km, mb4.2/16, Error ellipse: s-maj=20.5km s-min=13.7km az=35.0*

ISC 14 14:44:17.9±0.6, 16˚.8S±0˚.1×172˚.0W±0˚.2, h20km, n35, σ0s64/34, mb4.3/16, 2C-1D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPT2	**Papeete2**	**21.45**	**95**	*e*LR	LR	14 53 55.8	
	199nm,25.5s						
URZ	**Urewera**	**23.38**	**202**	P	**P**	**14 49 26.2**	**+0.9**
	6.3nm,0.7s,baz=37,slow=5.1,SNR=4.6						
STKA	**Stephens Creek**	**44.50**	**242**	P	**P**	**14 52 27.6**	**-0.5**
	4.7nm,1.0s,baz=70,slow=11,SNR=6.8						
WRA	**Warramunga Arr**	**50.83**	**258**	P	**P**	**14 53 16.8**	**-0.7**
	3.9nm,0.8s,baz=92,slow=7.0,SNR=25						
ASAR	**Alice Springs**	**50.95**	**253**	P	**P**	**14 53 18.0**	**-0.4**
	8.1nm,0.7s,baz=87,slow=8.2,SNR=83						
VNDA	**Vanda**	**62.09**	**186**	P	**P**	**14 54 36.9**	**0.0**
	0.5nm,0.3s,baz=92,slow=4.6,SNR=7.3						
MJAR	**Matsushiro Arr**	**70.89**	**319**	P	**P**	**14 55 34.3**	**+0.6**
	1.1nm,0.7s,baz=164,slow=4.8,SNR=3.6						
ASAJ	**Asahikawa**	**73.46**	**328**	P	**P**	**14 55 49.7**	**+0.9**
	5.1nm,0.9s,baz=164,slow=7.4,SNR=3.1						
PETK	**Petropavlovsk-**	**74.40**	**342**	P	**P**	**14 55 54.5**	**+0.3**
	4.4nm,0.8s,baz=145,slow=11,SNR=12						
NVAR	**Mina Array Bea**	**74.52**	**41**	P	**P**	**14 55 55.6**	**+0.2**
	2.3nm,0.8s,baz=226,slow=9.8,SNR=17						
KSRS	**Korea Array**	**78.11**	**315**	P	**P**	**14 56 17.6**	**+2.1**
	1.1nm,0.8s,baz=124,slow=6.2,SNR=5.1						
TXAR	**Lajitas Array**	**80.32**	**55**	P	**P**	**14 56 28.1**	**+0.1**
	0.6nm,0.9s,baz=210,slow=7.2,SNR=4.7						
PDAR	**Pinedale Array**	**82.45**	**41**	P	**P**	**14 56 39.3**	**+0.1**
	0.7nm,0.9s,baz=221,slow=3.4,SNR=5.5						
ILAR	**Eielson Array**	**83.60**	**11**	P	**P**	**14 56 43.7**	**-0.6**
	0.6nm,0.6s,baz=220,slow=5.4,SNR=9.9						
PLCA	**Paso Flores**	**87.57**	**132**	P	**P**	**14 57 05.2**	**+0.3**
	1.9nm,0.7s,baz=130,slow=1.3,SNR=3.7						
INK	**Inuvik**	**89.35**	**13**	P	**P**	**14 57 11.8**	**-0.6**
	1.4nm,0.8s,baz=212,slow=5.9,SNR=5.6						
YKA	**Yellowknife Ar**	**90.89**	**23**	P	**P**	**14 57 19.2**	**-0.4**
	0.9nm,0.8s,baz=237,slow=4.3,SNR=14						
MKAR	**Makanchi Array**	**112.78**	**314**	PKiKP	**PKiKP**	**15 02 52.4**	**-0.9**
	0.2nm,0.5s,baz=45,slow=0.2,SNR=3.8						
KURBB	**Kurchatov Arra**	**115.15**	**318**	PKP	**PKPdf**	**15 02 56.9**	**-0.8**
	0.4nm,0.6s,baz=87,slow=2.0,SNR=5.9						
CLL	**Collm**	**145.38**	**354**	*i* P	**PKPbc**	**15 03 53.9**	**-0.2**
	comp=Z,4.0nm,0.9s						
BRG	**Berggiesshubel**	**145.71**	**353**	*e*P	**PKPbc**	**15 03 55.1**	**-0.1**
	comp=Z,6.8nm,1.2s						
DPC	**Dobruska-Polom**	**145.90**	**350**	*e*P	**PKPab**	**15 03 56.5**	**+0.1**
KMBO	**Kilima Mbogo**	**146.06**	**241**	PKPbc	**PKPbc**	**15 03 58.0**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=37,slow=20,SNR=3.2						
OKC	**Ostrava-Krasne**	**146.07**	**348**	*e*P	**PKPbc**	**15 03 56.1**	**-0.3**
KRLC	**Kraliky**	**146.09**	**350**	*e*P	**PKPbc**	**15 03 56.6**	**+0.1**
NKC	**Novy Kostel**	**146.49**	**355**	*e*P	**PKPab**	**15 03 58.9**	**+0.3**
PRU	**Pruhonice**	**146.51**	**352**	*e*P	**PKPab**	**15 03 58.2**	**-0.4**
PRU				*ex*	x	15 04 01.2	
GOPC	**GO Pecny, Ondr**	**146.55**	**352**	*e*P	**PKPab**	**15 03 59.2**	**+0.4**
KHC	**Kasperske Hory**	**147.47**	**353**	*e*P	**PKPbc**	**15 04 00.8**	**+0.3**
KHC				*ex*	x	15 04 05.0	
MLR	**Muntele Rosu**	**147.72**	**336**	PKPbc	**PKPbc**	**15 04 01.3**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=66,slow=7.6,SNR=4.6						
BRTR	**Keskin Array B**	**148.10**	**321**	PKPbc	**PKPbc**	**15 04 02.8**	**+0.1**
	comp=Z,4.0nm,0.8s,baz=124,slow=1.8,SNR=13						
CONA	**Conrad Observa**	**148.32**	**350**⇑	*i*PKPbc	**PKPbc**	**15 04 03.6**	**+0.7**
	comp=Z,7.6nm,1.0s						
FETA	**Feichten**	**149.81**	**356**⇓	*i*PKPbc	**PKPbc**	**15 04 06.2**	**-0.6**
	comp=Z,7.2nm,1.0s						
ABTA	**Abfaltersbach**	**149.94**	**354**⇑	*i*PKPbc	**PKPbc**	**15 04 06.0**	**-1.0**
	comp=Z,12nm,1.1s						
DAVOX	**Davos/Dischmat**	**150.10**	**357**	PKPbc	**PKPbc**	**15 04 07.9**	**+0.3**
	comp=Z,5.8nm,0.7s,baz=23,slow=2.8,SNR=9.8						

LDG ***14*** *14:46:25.7±0.5, 29˚.77N×90˚.28E, h10km, Mb4.8/8, Ms3.7/9, Error ellipse: s-maj=23.9km s-min=8.0km az=144.0*

DMN ***14*** *14:46:25.9±0.7, 30˚.15N×90˚.76E, h10km, ML4.6/6, Error ellipse: s-maj=18.9km s-min=14.5km az=147.0*

BJI ***14*** *14:46:26.2, 29˚.73N×90˚.39E, h8km, mb4.7/40, mB4.8/31, ML4.7/1, Ms4.6/44, Ms7 4.5/35*

IDC ***14*** *14:46:26.2±0.6, 29˚.69N×90˚.41E, h0km, mb4.3/26, mb1 4.4/29, mb1mx4.3/53, mbtmp4.3/29, ML4.0/3, MS3.8/29, Ms1 3.8/29, ms1mx3.6/46, Error ellipse: s-maj=18.5km s-min=11.6km az=38.0*

ISCJB ***14*** *14:46:26.2±0.8, 29˚.79N±0˚.02×90˚.42E±0˚.02, h9km±5km, mb4.5/59, MS3.9/30, Error ellipse: s-maj=4.0km s-min=3.0km az=168.0*

MOS ***14*** *14:46:27.5±0.9, 29˚.60N×90˚.28E, h24km, mb4.9/18, Error ellipse: s-maj=9.1km s-min=5.2km az=113.7*

NEIC ***14*** *14:46:27.3±0.2, 29˚.66N×90˚.36E, h10km, mb4.9/15, Error ellipse: s-maj=6.1km s-min=4.3km az=212.0*

NEIC Felt at Lhasa.

BKK ***14*** *14:46:31.0±0.4, 30˚.N±6˚×9˚.1E±˚, h10km, M4.2/21, mB4.7/4, mb4.3/21, Mw(mB)3.9/4*

ISC 14 14:46:28.0±0.6, 29.71N±0˚.03×90˚.41E±0˚.03, h11km±3km, n224, σ1s57/239, mb4.6/59, MS3.8/30, 9C-4D, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**0.64**	**91**	Pg	**Pg**	**14 46 38.5**	**-2.1**
LSA				Sg	**Sg**	**14 46 46.6**	**-2.5**
LSA	**Lhasa**	**0.64**	**91**	*e*P	**Pg**	**14 46 38.4**	**-2.1**
LSA	**Lhasa**	**0.64**	**91**	*e*P	**Pg**	**14 46 38.4**	**-2.2**
TAPN	**Taplejung**	**3.35**	**226**	*e*Pn	Pb	14 47 24.0	-3.5
TAPN				*e*Sn	**Sb**	**14 48 06.8**	**-1.5**
	2µm,1.4s						
ODAN	**Odare**	**3.90**	**224**	*e*Pn	**Pn**	**14 47 30.9**	**+2.9**
ODAN				*e*Sn	**Sb**	**14 48 20.5**	**-3.6**
	2µm,1.3s						
JIRN	**Jiri**	**4.24**	**242**	*e*Pn	**Pn**	**14 47 35.7**	**+2.9**
SHL	**Shillong**	**4.33**	**162**	*e*P	**Pn**	**14 47 34.0**	**+0.1**
SHL				*e*S	**Sn**	**14 48 22.9**	**-1.6**
RAMN	**Ramite**	**4.34**	**232**	*e*Pn	**Pn**	**14 47 35.9**	**+1.7**
GUN	**Gumba**	**4.36**	**247**	*e*Pn	**Pn**	**14 47 37.3**	**+2.7**
PKI	**Pulchoki**	**4.89**	**245**	*e*Pn	**Pn**	**14 47 44.4**	**+2.7**
PKI				*e*Sn	**Sn**	**14 48 42.3**	**+3.8**
	382nm,1.0s						
PKIN	**Phulchoki**	**4.89**	**245**	*e*Pn	**Pn**	**14 47 44.3**	**+2.5**
KKN	**Kakani**	**4.90**	**248**	*e*Pn	**Pn**	**14 47 44.6**	**+2.8**
KKN				*e*Sn	**Sn**	**14 48 41.9**	**+3.4**
	324nm,1.0s						
DMN	**Daman**	**5.11**	**247**	*e*Pn	**Pn**	**14 47 47.5**	**+2.7**
DMN				*e*Sn	**Sn**	**14 48 46.3**	**+2.4**
	1µm,1.7s						
GKN	**Gorkha**	**5.34**	**253**	*e*Pn	**Pn**	**14 47 49.0**	**+1.1**
GKN				*e*Sn	**Sn**	**14 48 51.1**	**+1.6**
	159nm,0.9s						
IMP	**Imphal**	**5.82**	**147**	*ex*	Pn	14 47 58.0	+3.6
IMP				*ex*	**Pg**	**14 48 20.0**	**+0.4**
IMP				*e*S	**Sn**	**14 49 02.0**	**+0.8**
KOLN	**Koldanda**	**6.29**	**254**	*e*Pn	**Pn**	**14 48 01.7**	**+0.8**
BOK	**Bokaro**	**7.15**	**216**	*e*P	**Pn**	**14 48 10.3**	**-2.2**
SMLA	**Simla**	**11.52**	**280**	*e*P	**Pn**	**14 49 10.2**	**-2.3**
SMLA				*e*S	Sn	14 51 08.0	-13
NDI	**New Delhi**	**11.58**	**268**	*ex*	**Pn**	**14 49 14.0**	**+0.8**
NDI				*ex*	Sn	14 51 15.5	-7.0
CD2	**Chengdu**	**11.60**	**81**	*e*P	**Pn**	**14 49 14.6**	**+1.1**
CD2				PP	**PnPn**	**14 49 25.6**	**+4.4**
CD2				S	**Sn**	**14 51 25.4**	**+2.4**
CD2				sS		14 51 30.3	
CD2				SS	**SnSn**	**14 51 36.8**	**+1.9**
CD2				PMZ			
	20nm,1.0s						
CD2				PMZ			
	120nm,6.0s						
CD2				LN			
	5µm,10.8s						
CD2				LE			
	3µm,7.8s						
CD2				LZ			
	3µm,8.4s						
KMI	**Kunming**	**11.86**	**110**	P	Pn	14 49 20.8	+3.4
KMI				S	**Sn**	**14 51 31.1**	**+1.2**
KMI				LN			
	750nm,12.2s						
KMI				LE			
	690nm,11.8s						
KMI				LZ			
	710nm,10.6s						
DHRM	**DHARAMSHALA**	**12.37**	**285**	*e*P	**Pn**	**14 49 22.5**	**-1.8**
DHRM				*e*S	Sn	14 51 30.4	-12
GTA	**Gaotai**	**12.39**	**36**	*e*P	**Pn**	**14 49 24.9**	**+0.5**
GTA				pP		14 49 32.5	
GTA				sP		14 49 36.0	
GTA				S	**Sn**	**14 51 43.6**	**+1.2**
GTA				SS	**SnSn**	**14 51 56.6**	**+1.9**
GTA				PMZ			
	9.0nm,1.0s						
GTA				PMZ			
	120nm,5.5s						
GTA				LN			
	2µm,9.0s						
GTA				LE			
	2µm,11.2s						
GTA				LZ			
	3µm,10.0s						
CMAI	**Chiengmai2**	**12.49**	**139**	P	Pn	14 49 30.1	+4.2
	50nm,1.3s,2µm						
LZH	**Lanzhou**	**12.95**	**57**	*e*P	**Pn**	**14 49 33.9**	**+1.8**
LZH				pP		14 49 39.0	
LZH				sP		14 49 41.3	
LZH				PMZ			
	16nm,1.0s						
CRAI	**Chiangrai**	**13.06**	**134**	P	**Pn**	**14 49 32.3**	**-1.2**
	15nm,2.0s						
BHPL	**Bhopal**	**13.29**	**244**	*e*P	Pn	14 49 33.2	-3.5
BHPL				AMB	AMB	14 49 36.9	
	comp=Z,26nm,1.1s						
NGP	**Nagpur**	**13.34**	**233**	*e*P	**Pn**	**14 49 35.4**	**-1.9**
NGP				*ex*	x	14 51 51.8	
CHTO	**Chiang Mai**	**13.34**	**142**	P	Pn	14 49 40.5	+3.1
	comp=Z,38nm,1.2s						
CHTO	**Chiang Mai**	**13.34**	**142**	*e*P	**Pn**	**14 49 37.2**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,14nm,1.1s						
CHTO	**Chiang Mai**	**13.34**	**142**	*e*Pn	**Pn**	**14 49 37.2**	**-0.2**
	comp=Z,14nm,1.1s						
CMMT	**Chiang Mai**	**13.35**	**142**	P	Pn	14 49 40.4	+2.9
	comp=Z,15nm,1.1s						
MHMT	**Maesariang**	**13.38**	**147**	P	Pn	14 49 42.2	+4.4
	comp=Z,11nm,0.8s						
CMAR	**Chiang Mai Arr**	**13.64**	**143**	Pn	**Pn**	**14 49 41.4**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=320,slow=13,SNR=22						
CMAR				LR	LR	14 55 00.2	
	comp=Z,285nm,18.5s,baz=320,slow=38						
LAMP	**Lampang**	**13.95**	**141**	P	P	14 49 57.8	+4.0
WMQ	**Urumqi**	**14.25**	**352**	*e*P	**Pn**	**14 49 48.5**	**-1.2**
WMQ				pP	P	14 49 51.9	-5.2
WMQ				sP		14 49 55.3	
WMQ				PP	**PnPn**	**14 50 00.0**	**+2.3**
WMQ				S	**Sn**	**14 52 27.0**	**-0.8**
WMQ				sS		14 52 34.4	
WMQ				SS	**S**	**14 52 46.3**	**-2.2**
WMQ				PcS	**PcS**	**14 58 37.4**	**-4.9**
WMQ				PMZ			
	comp=Z,28nm,0.6s						
WMQ				PMZ			
	comp=Z,190nm,4.6s						
WMQ				LN			
	comp=Z,730nm,9.0s						
WMQ				LE			
	comp=Z,2µm,8.8s						
GYA	**Guiyang**	**14.71**	**99**⇑	*i*P	**Pn**	**14 49 55.0**	**-1.1**
GYA				PMZ			
	comp=Z,20nm,1.0s						
RPR	**Rampur**	**14.80**	**226**	*e*P	**Pn**	**14 49 58.2**	**+0.8**
SUKH	**Sukhothai**	**14.81**	**143**	P	**P**	**14 50 03.1**	**-0.2**
	comp=Z,2.8nm,0.9s						
UTTA	**Uttaradit**	**15.09**	**140**	P	**P**	**14 50 07.4**	**+0.9**
	comp=Z,3.4nm,0.6s						
PBKT	**Sadao Pong**	**16.28**	**141**	P	**P**	**14 50 20.5**	**+0.9**
	comp=Z,17nm,1.2s						
XAN	**Xi'an**	**16.30**	**70**	P	**Pn**	**14 50 15.6**	**-1.3**
XAN				S	**Sn**	**14 53 16.9**	**-0.9**
XAN				PMZ			
	comp=Z,42nm,5.3s						
XAN				LN			
	comp=Z,2µm,13.0s						
XAN				LE			
	comp=Z,350nm,9.4s						
XAN				LZ			
	comp=Z,370nm,10.6s						
HYBB	**Hyderabad (bro**	**16.35**	**224**	*e*P	**Pn**	**14 50 16.8**	**-0.9**
HYB	**Hyderabad**	**16.35**	**224**	*i* P	**Pn**	**14 50 15.5**	**-2.2**
HYB				*es*P	**sP**	**14 50 21.5**	**-3.6**
HYB				*e*S	**Sn**	**14 53 17.5**	**-1.7**
HYB	**Hyderabad**	**16.35**	**224**	*e*P	**Pn**	**14 50 15.5**	**-2.2**
HYB	**Hyderabad**	**16.35**	**224**	*e*P	**Pn**	**14 50 15.5**	**-2.2**
HYB				*e*S	S	14 53 40.0	+8.2
UTHA	**Uthaitani**	**16.36**	**148**	P	**P**	**14 50 22.7**	**+2.2**
	comp=Z,5.4nm,0.9s,comp=Z,61nm						
NJS	**Nagarjunasagar**	**16.59**	**220**	*e*P	**Pn**	**14 50 20.1**	**-0.6**
DGPR	**DIGLIPUR**	**16.62**	**171**	*e*P	**Pn**	**14 50 21.4**	**+0.4**
DGPR				AMB	AMB	14 50 31.4	
	comp=Z,49nm,1.1s						
SKNT	**Sakolnakorn**	**17.75**	**133**	P	**P**	**14 50 37.9**	**+1.9**
	comp=Z,21nm,1.5s						
AAK	**Ala-Archa**	**18.16**	**320**	P	**P**	**14 50 41.8**	**+1.2**
	comp=Z,0.7nm,0.3s,baz=59,slow=19,SNR=3.5						
AAK				LR	LR	14 59 15.6	
	comp=Z,124nm,18.5s,baz=115,slow=42						
MK31	**Makanchi Array**	**18.19**	**342**	*e*P	**Pn**	**14 50 40.0**	**-0.5**
MK31	**Makanchi Array**	**18.19**	**342**	*e*P	**Pn**	**14 50 40.0**	**-0.5**
MKAR	**Makanchi Array**	**18.19**	**342**	P	**Pn**	**14 50 40.6**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=166,slow=11,SNR=35						
MKAR				LR	LR	14 58 32.7	
	comp=Z,254nm,19.5s,baz=157,slow=40						
KBL	**Kabul**	**18.72**	**290**	*e*P	**P**	**14 50 44.7**	**-2.1**
KBL				pmax	pmax		
	comp=Z,15nm,0.8s						
KBL	**Kabul**	**18.72**	**290**	*e*P	**P**	**14 50 44.7**	**-2.1**
	comp=Z,15nm,0.8s						
URV	**Uravakonda**	**19.05**	**222**	*e*P	**Pn**	**14 50 51.6**	**+0.4**
BTO	**Baotou**	**19.33**	**51**	*e*P	**P**	**14 50 53.3**	**0.0**
TIY	**Taiyuan**	**19.95**	**61**	*e*P	**P**	**14 50 58.3**	**-1.8**
TIY				S	**S**	**14 54 43.1**	**-1.4**
TIY				PMZ			
	comp=Z,360nm,5.2s						
TIY				LN			
	comp=Z,680nm,7.8s						
TIY				LE			
	comp=Z,470nm,6.3s						
TIY				LZ			
	comp=Z,970nm,10.1s						
CHBT	**CHBT**	**20.18**	**144**	P	Pn	14 51 13.6	+9.1
HHC	**Hu-ho-hao-te**	**20.48**	**51**	*e*P	**P**	**14 51 07.0**	**+1.1**
HHC				sP	**sP**	**14 51 13.3**	**+2.8**
HHC				PP	**PnPn**	**14 51 27.6**	**+4.4**
HHC				S	**S**	**14 54 50.6**	**-4.5**
HHC				SS	**SnSn**	**14 55 16.9**	**+3.4**
HHC				PMZ			
	comp=Z,28nm,1.1s						
HHC				PMZ			
	comp=Z,240nm,4.9s						
HHC				LN			
	comp=Z,900nm,11.1s						
HHC				LE			
	comp=Z,820nm,12.3s						
HHC				LZ			
	comp=Z,1µm,12.3s						
QIZ	**Qiongzhong**	**20.62**	**117**	P	**P**	**14 51 06.3**	**-1.1**
QIZ				pP	**pP**	**14 51 14.4**	**+3.8**
QIZ				S	**S**	**14 54 56.9**	**-1.0**
QIZ				PMZ			
	comp=Z,240nm,7.8s						
QIZ				LN			
	comp=Z,350nm,14.7s						
QIZ				LZ			
	comp=Z,430nm,15.2s						
SONM	**Songino Array**	**21.89**	**30**	P	**P**	**14 51 22.5**	**+1.5**
	comp=Z,31nm,1.0s,baz=216,slow=12,SNR=153						
SONM				PcP	**PcP**	**14 55 20.8**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=211,slow=1.7,SNR=4.5						
SONM				LR	LR	15 00 46.6	
	comp=Z,261nm,21.2s,baz=221,slow=39						
SURT	**Suratani**	**22.09**	**157**	P	**P**	**14 51 27.0**	**+3.7**
	comp=Z,8.5nm,1.1s,comp=Z,267nm						
ULN	**Ulaanbaatar**	**22.20**	**31***d*	*i*P	**P**	**14 51 24.9**	**+0.4**
ULN				pmax	pmax		
	comp=Z,19nm,1.0s						
ULN	**Ulaanbaatar**	**22.20**	**31**	*e*P	**P**	**14 51 23.7**	**-0.7**
	comp=Z,22nm,1.2s						
KURBB	**Kurchatov Arra**	**22.72**	**340**	P	**P**	**14 51 29.4**	**-0.4**
	comp=Z,2.9nm,0.8s,baz=154,slow=9.3,SNR=21						
KURBB				PcP	**PcP**	**14 55 21.4**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=158,slow=2.1,SNR=5.8						
KURK	**Kurchatov**	**22.77**	**340**	P	**P**	**14 51 29.4**	**-0.9**
KURK						14 55 21.4	
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KURK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KURK	**Kurchatov**	**22.77**	**340**	*e*P	**P**	**14 51 29.0**	**-1.3**
	comp=Z,14nm,1.1s						
KURK				PcP	**PcP**	**14 55 21.4**	**-0.3**
ZAK	**Zakamensk**	**22.81**	**22**	*e*P	**P**	**14 51 30.2**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KRAB	**Krabi**	**22.91**	**157**	P	**P**	**14 51 34.9**	**+2.9**
	comp=Z,21nm,1.1s						
PKDT	**Phuket**	**22.95**	**160**	P	P	14 51 38.6	+6.2
	comp=Z,23nm,1.8s						
TIA	**Tai'an**	**23.29**	**67**	⇑P	**P**	**14 51 37.3**	**+1.5**
TIA				S	**S**	**14 55 43.9**	**-4.2**
TIA				PMZ			
	comp=Z,20nm,1.3s						
TIA				LN			
	comp=Z,1µm,16.6s						
TIA				LE			
	comp=Z,550nm,16.1s						
MOY	**Mondy**	**23.30**	**17**	*e*P	**P**	**14 51 38.0**	**+2.1**
BJI	**Beijing**	**23.44**	**57**	P	**P**	**14 51 38.4**	**+1.2**
BJI				S	**S**	**14 55 51.9**	**+1.5**
BJI				PMZ			
	comp=Z,25nm,1.1s						
BJI				PMZ			
	comp=Z,210nm,3.4s						
BJI				LN			
	comp=Z,1µm,14.4s						
BJI				LE			
	comp=Z,510nm,13.4s						
TRTT	**Trang**	**23.44**	**156**	P	**P**	**14 51 39.6**	**+2.2**
	comp=Z,40nm,1.2s						
TLY	**Talaya**	**24.05**	**20**	LR	LR	15 01 57.4	
	comp=Z,318nm,21.9s,baz=194,slow=39						
NJ2	**Nanjing**	**24.49**	**77**	*e*P	**P**	**14 51 47.6**	**+0.3**
NJ2				S	S	14 55 58.0	-10
NJ2				PMZ			
	comp=Z,20nm,0.7s						
NJ2				LN			
	comp=Z,1µm,19.6s						
NJ2				LE			
	comp=Z,1µm,11.4s						
NJ2				LZ			
	comp=Z,1µm,11.1s						
ZAA0	**Zalesovo Array**	**24.56**	**352**	*e*P	**P**	**14 51 47.3**	**-0.4**
ZALV	**Zalesovo Beam**	**24.56**	**352**	P	**P**	**14 51 47.9**	**+0.3**
	comp=Z,3.0nm,0.8s,baz=172,slow=11,SNR=14						
ZALV				PcP	**PcP**	**14 55 24.1**	**-1.3**
	comp=Z,1.2nm,0.9s,baz=163,slow=5.4,SNR=3.3						
ZALV				LR	LR	15 01 48.7	
	comp=Z,232nm,19.0s,baz=250,slow=38						
IRK	**Irkutsk**	**24.74**	**21**	*e*P	**P**	**14 51 51.2**	**+1.9**
IRK				*e*		14 52 22.2	
IRK				pmax	pmax		
	comp=Z,58nm,1.7s						
NVS	**Novosibirsk**	**25.64**	**350**	*e*P	**P**	**14 51 55.5**	**-1.9**
SSE	**Sheshan**	**26.54**	**79**	P	P	14 52 00.8	-5.0
SSE				pmax	pmax		
	comp=Z,54nm,0.7s						
SSE				pmax	pmax		
	comp=Z,120nm,6.1s						
SSE				LR	LR		
	comp=N,1µm,16.9s						
SSE				LR	LR		
	comp=E,240nm,16.9s						
SSE				LR	LR		
	comp=Z,830nm,12.2s						
BVAR	**Borovoye Array**	**27.54**	**333**	P	**P**	**14 52 15.1**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=123,slow=10,SNR=4.1						
BRVK	**Borovoye**	**27.60**	**333**	*e*P	**P**	**14 52 16.1**	**+1.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GEYT	**Alibeck**	**27.95**	**296**	LR	LR	15 05 35

KLR MLR MLR
comp=E,500nm,12.0s
KLR MLR MLR
comp=Z,2µm,12.0s
GNI Garni 38.49 298 LR LR 15 13 49.2
comp=Z,68nm,19.3s,baz=88,slow=43
KBZ Khabaz 40.04 304 LR LR 15 15 08.9
comp=Z,72nm,19.1s,baz=152,slow=43
MJAR Matsushiro Arr 40.27 67 P **P 14 54 05.1 0.0**
comp=Z,4.2nm,1.1s,baz=281,slow=9.7,SNR=7.7
MJAR LR LR 15 11 26.9
comp=Z,80nm,19.3s,baz=280,slow=37
YAK Yakutsk 41.20 27 LR LR 15 12 57.5
comp=Z,95nm,21.6s,baz=246,slow=39
YAK Yakutsk 41.20 27 *e*P **P 14 54 13.5 +1.2**
YAK *e**PP pP 14 54 23.0 +7.2
YAK *e*S **S 15 00 27.8 +2.3**
YAK *e**SS sS 15 00 39.5 +8.3
YAK pmax pmax
comp=N,3.0nm,1.5s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=Z,4.0nm,1.2s
YAK smax smax
comp=N,11nm,3.7s
YAK MLR MLR
comp=Z,205nm,13.0s
YAK MLR MLR
comp=E,137nm,16.0s
YAK MLR MLR
comp=N,130nm,12.0s
ASAJ Asahikawa 43.42 56 P **P 14 54 31.5 +0.7**
comp=N,11nm,1.1s,baz=253,slow=11,SNR=5.5
ASAJ Asahikawa 43.42 56 P **P 14 54 31.5 +0.7**
ASAJ pmax pmax
comp=Z,11nm,1.1s
ASAJ Asahikawa 43.42 56 *e*P **P 14 54 31.2 +0.5**
comp=Z,7.7nm,1.3s
YSS Yuzh-Sakhalins 43.67 52 *e*P **P 14 54 33.5 +0.8**
YSS pmax pmax
comp=Z,67nm,2.2s
KLMR Klimovskoe 45.68 328 *e*P **P 14 54 49.0 +0.5**
KLMR pmax pmax
comp=Z,24nm,1.3s
OBN Obninsk 45.69 320⇓ *e*P **P 14 54 48.1 -0.6**
OBN *e* 14 56 28.6
OBN *e* 14 56 38.0
OBN *e*S **S 15 01 34.2 +2.8**
OBN pmax pmax
comp=Z,8.0nm,1.4s
OBN MLR MLR
comp=Z,78nm,17.0s
MMAI Mount Meron Ar 46.64 289 LR LR 15 17 55.0
comp=Z,77nm,19.9s,baz=90,slow=40
TIXI Tiksi 46.88 16 *e*P **P 14 54 57.7 -0.1**
TIXI pmax pmax
comp=Z,10.0nm,1.7s
TIXI Tiksi 46.88 16 *e*P **P 14 54 57.9 +0.1**
comp=Z,2.9nm,0.6s
BRTR Keskin Array B 47.03 298 P **P 14 54 58.6 -1.1**
comp=Z,0.4nm,0.6s,baz=100,slow=7.5,SNR=4.0
EIL Elat 47.77 284 LR LR 15 19 21.6
comp=Z,115nm,18.7s,baz=78,slow=41
AKASG Malin Array Be 49.67 313 P **P 14 55 19.0 -0.7**
comp=Z,1.6nm,0.6s,baz=82,slow=6.4,SNR=7.5
AKASG LR LR 15 20 50.0
comp=Z,111nm,20.3s,baz=120,slow=42
AKASG Malin Array Be 49.67 313 P **P 14 55 19.0 -0.7**
LVZ Lovozero 50.08 336 *e*P **P 14 55 19.6 -3.0**
LVZ pmax pmax
comp=Z,14nm,1.7s
SEY Seymchan 51.28 31 *e*P **P 14 55 32.9 +1.3**
VSU Vasula 51.52 323 *e*P **P 14 55 32.9 -0.5**
VSU pmax pmax
comp=Z,15nm,0.7s
PLOR Plostina 51.58 307 ⇑P **P 14 55 34.9 +0.7**
PLOR Plostina 51.58 307 ⇑*i*P **P 14 55 34.9 +0.7**
MLR Muntele Rosu 52.10 306 P **P 14 55 39.0 +0.8**
comp=Z,1.1nm,0.6s,baz=125,slow=2.7,SNR=10
MLR LR LR 15 21 50.7
comp=Z,52nm,21.2s,baz=90,slow=41
MLR Muntele Rosu 52.10 306 P **P 14 55 39.0 +0.8**
MLR Muntele Rosu 52.10 306 ⇑*i*P **P 14 55 39.7 +1.5**
FINES FINESS Array B 52.16 327 P **P 14 55 39.1 +0.9**
comp=Z,2.0nm,0.8s,baz=106,slow=6.2,SNR=6.0
FINES LR LR 15 21 10.3
comp=Z,72nm,19.1s,baz=266,slow=40
ARCES ARCESS Array B 53.74 337 P **P 14 55 50.4 +0.6**
comp=Z,2.2nm,1.0s,baz=88,slow=6.4,SNR=4.0
ARCES LR LR 15 20 02.6
comp=Z,95nm,21.0s,baz=90,slow=38
TRPA Tarpa 54.15 310 ⇑*i*P P 14 55 48.8 -4.3
VTS Vitosha 54.45 303 ⇑P **P 14 55 55.7 +0.1**
VTS Vitosha 54.45 303 ⇑*i*P **P 14 55 55.7 +0.1**
IDI Anoyia 54.66 294 LR LR 15 25 23.6
comp=Z,32nm,18.2s,baz=82,slow=43
OKC Ostrava-Krasne 56.81 313 *e*P **P 14 56 11.8 -0.4**
OKC Ostrava-Krasne 56.81 313 *e*P **P 14 56 11.8 -0.4**
BILL Bilibino 57.53 26⇓ *i*P **P 14 56 18.2 +1.2**
BILL *e* 14 57 09.6
BILL *e* 14 58 27.5
BILL *e*S S 15 04 36.1 +22
BILL pmax pmax
comp=Z,19nm,1.7s
BILL MLR MLR
comp=Z,114nm,15.0s
BILL Bilibino 57.53 26 *e*P **P 14 56 16.6 -0.4**
comp=Z,19nm,1.4s
KRLC Kraliky 57.65 313 *e*P **P 14 56 18.4 +0.2**
KRLC Kraliky 57.65 313 *e*P **P 14 56 18.4 +0.2**
VRAC Vranov 57.89 312 P **P 14 56 20.5 +0.6**
comp=Z,3.1nm,0.6s,baz=73,slow=7.6,SNR=7.5
VRAC LR LR 15 24 48.7
comp=Z,85nm,18.8s,baz=78,slow=40
DPC Dobruska-Polom 57.90 313 *e*P **P 14 56 20.1 +0.1**
DPC Dobruska-Polom 57.90 313 *e*P **P 14 56 20.1 +0.1**
HFS Hagfors 58.20 325 P **P 14 56 21.7 -0.1**
comp=Z,3.9nm,0.7s,baz=90,slow=8.9,SNR=11
HFS LR LR 15 23 02.8
comp=Z,167nm,18.5s,baz=82,slow=38
GOPC GO Pecny, Ondr 58.95 313 *e*P **P 14 56 27.0 -0.3**
PRU Pruhonice 59.09 313 *e*P **P 14 56 28.2 0.0**
PRU Pruhonice 59.09 313 *e*P **P 14 56 28.2 0.0**
KMBO Kilima Mbogo 59.21 249 LR LR 15 20 57.7
comp=Z,88nm,19.0s,baz=96,slow=35
BRG Berggiesshubel 59.30 314 *e*P **P 14 56 29.0 -0.7**
comp=Z,7.0nm,1.4s
BRG Berggiesshubel 59.30 314 *e*P **P 14 56 29.0 -0.7**
BRG pmax pmax
comp=Z,7.0nm,1.4s
NB2 NORSAR Subarra 59.33 326 P **P 14 56 29.3 -0.4**
comp=Z,15nm,1.1s,baz=85,slow=6.9
NOA NORSAR Array B 59.33 326 P **P 14 56 29.4 -0.4**
comp=Z,4.9nm,0.8s,baz=85,slow=7.0,SNR=17
NOA LR LR 15 23 22.6
comp=Z,79nm,18.2s,baz=90,slow=37
CLL Collm 59.81 315 *e*P **P 14 56 33.0 -0.1**
comp=Z,5.0nm,1.3s
CLL LmV 14 23 00.0
comp=Z,100nm,21.4s
CLL Collm 59.81 315 *e*P **P 14 56 33.0 -0.1**
CLL pmax pmax
comp=Z,5.0nm,1.3s
KHC Kasperske Hory 59.87 312 *e*P **P 14 56 33.2 -0.5**
KHC Kasperske Hory 59.87 312 *e*P **P 14 56 33.2 -0.5**
CDF Champ du Feu 64.09 313 *e*P **P 14 57 00.9 -1.2**
comp=Z,17nm,1.2s
CDF Champ du Feu 64.09 313 *e*P **P 14 57 00.9 -1.2**
CDF pmax pmax
comp=Z,17nm,1.2s
CDF Champ du Feu 64.09 313 *e*P **P 14 57 00.9 -1.2**
comp=Z,17nm,1.2s
HINF Hinteralfeld 64.53 312 *e*P **P 14 57 04.4 -0.6**
HINF Hinteralfeld 64.53 312 *e*P **P 14 57 04.4 -0.6**
HINF Hinteralfeld 64.53 312 *e*P **P 14 57 04.4 -0.6**
HAU Haudompre 64.80 312 *e*P **P 14 57 06.3 -0.4**
HAU *e*R
comp=Z,97nm,22.0s
HAU Haudompre 64.80 312 *e*P **P 14 57 06.3 -0.4**
HAU Haudompre 64.80 312 *e*P **P 14 57 06.3 -0.4**
WRA Warramunga Arr 65.02 134 P **P 14 57 08.7 +0.3**
comp=Z,14nm,0.8s,baz=325,slow=6.5,SNR=90
WRAB Tennant Creek 65.02 134 *e*P **P 14 57 08.3 -0.1**
WRAB pmax pmax
comp=Z,27nm,1.1s
WRAB Tennant Creek 65.02 134 *e*P **P 14 57 08.3 -0.1**
comp=Z,27nm,1.1s
LPG La Plagne 65.28 310 *e*P **P 14 57 09.0 -1.2**
comp=Z,12nm,1.0s
LPG La Plagne 65.28 310 *e*P **P 14 57 09.0 -1.2**
LPG pmax pmax
comp=Z,12nm,1.0s
LPG La Plagne 65.28 310 *e*P **P 14 57 09.0 -1.2**
comp=Z,12nm,1.0s
LPL La Plagne 65.29 310 *e*P **P 14 57 08.8 -1.4**
LPL La Plagne 65.29 310 *e*P **P 14 57 08.8 -1.4**
LPL La Plagne 65.29 310 *e*P **P 14 57 08.8 -1.4**
CABF La Chapelle 65.38 311 *e*P **P 14 57 09.8 -0.8**
CABF La Chapelle 65.38 311 *e*P **P 14 57 09.8 -0.8**
CABF La Chapelle 65.38 311 *e*P **P 14 57 09.8 -0.8**
SFTF Sexfontaines 65.58 313 *e*P **P 14 57 11.0 -0.7**
SFTF Sexfontaines 65.58 313 *e*P **P 14 57 11.0 -0.7**
LOR Lormes 66.63 312 *e*P **P 14 57 17.7 -0.8**
LOR *e*R
comp=Z,108nm,22.5s
LOR Lormes 66.63 312 *e*P **P 14 57 17.7 -0.8**
LOR Lormes 66.63 312 *e*P **P 14 57 17.7 -0.8**
SMF Signal de Mont 66.84 312 *e*P **P 14 57 18.5 -1.4**
SMF Signal de Mont 66.84 312 *e*P **P 14 57 18.5 -1.4**
SMF Signal de Mont 66.84 312 *e*P **P 14 57 18.5 -1.4**
SSF Saint Saulge 66.92 312 *e*P **P 14 57 19.9 -0.5**
comp=Z,16nm,1.0s
SSF Saint Saulge 66.92 312 *e*P **P 14 57 19.9 -0.5**
SSF pmax pmax
comp=Z,16nm,1.0s
SSF Saint Saulge 66.92 312 *e*P **P 14 57 19.9 -0.5**
comp=Z,16nm,1.0s
AVF Avril sur Loir 67.11 312 *e*P **P 14 57 20.0 -1.5**
comp=Z,24nm,1.4s
AVF Avril sur Loir 67.11 312 *e*P **P 14 57 20.0 -1.5**
AVF pmax pmax
comp=Z,24nm,1.4s
AVF Avril sur Loir 67.11 312 *e*P **P 14 57 20.0 -1.5**
comp=Z,24nm,1.4s
ASAR Alice Springs 67.55 137 P **P 14 57 25.0 +0.4**
comp=Z,9.6nm,0.7s,baz=322,slow=7.0,SNR=93
LASF Ste Croix 67.70 309 *e*P **P 14 57 24.8 -0.6**
LASF Ste Croix 67.70 309 *e*P **P 14 57 24.8 -0.6**
TCF Toulx Ste Croi 68.02 312 *e*P **P 14 57 27.5 +0.1**
TCF Toulx Ste Croi 68.02 312 *e*P **P 14 57 27.5 +0.1**
TCF Toulx Ste Croi 68.02 312 *e*P **P 14 57 27.5 +0.1**
EKA Eskdalemuir Ar 68.05 322 P **P 14 57 27.3 0.0**
comp=Z,3.8nm,0.9s,baz=70,slow=7.2,SNR=5.2
CAF Calviac 68.60 310 *e*P **P 14 57 30.2 -0.8**
CAF Calviac 68.60 310 *e*P **P 14 57 30.2 -0.8**
CAF Calviac 68.60 310 *e*P **P 14 57 30.2 -0.8**
LDF La Druitiere 68.69 315 *e*P **P 14 57 30.4 -1.1**
LDF La Druitiere 68.69 315 *e*P **P 14 57 30.4 -1.1**
LDF La Druitiere 68.69 315 *e*P **P 14 57 30.4 -1.1**
RJF Les Rejaudoux 68.83 311 *e*P **P 14 57 31.7 -0.7**
RJF *e*R
comp=Z,78nm,22.2s
RJF Les Rejaudoux 68.83 311 *e*P **P 14 57 31.7 -0.7**
RJF Les Rejaudoux 68.83 311 *e*P **P 14 57 31.7 -0.7**
GRR Gorron 69.22 315 *e*P **P 14 57 33.7 -1.1**
GRR Gorron 69.22 315 *e*P **P 14 57 33.7 -1.1**
GRR Gorron 69.22 315 *e*P **P 14 57 33.7 -1.1**
ETSF Etsaut 71.12 309 *e*P **P 14 57 45.4 -1.2**
ETSF Etsaut 71.12 309 *e*P **P 14 57 45.4 -1.2**
ETSF Etsaut 71.12 309 *e*P **P 14 57 45.4 -1.2**
COLD Coldfoot 73.26 21 *e*P **P 14 58 00.2 +1.3**
comp=Z,17nm,1.0s
ESDC Sonseca Array 74.79 307 P **P 14 58 08.2 -0.3**
comp=Z,0.2nm,0.3s,baz=60,slow=7.3,SNR=4.3
PPLA Purkeypile 75.23 25 *e*P **P 14 58 09.9 -0.7**
comp=Z,51nm,1.4s
ILAR Eielson Array 75.87 22 P **P 14 58 14.3 +0.2**
comp=Z,8.1nm,0.9s,baz=297,slow=4.9,SNR=59
INK Inuvik 77.00 15 P **P 14 58 20.8 +0.4**
comp=Z,11nm,1.0s,baz=331,slow=6.6,SNR=27
EGAK Eagle 77.65 20 *e*P **P 14 58 24.4 +0.3**
comp=Z,10.0nm,1.1s
STKA Stephens Creek 78.18 137 P **P 14 58 27.2 -0.2**
comp=Z,6.3nm,1.0s,baz=323,slow=10,SNR=7.6
HYT Haines Junctio 81.71 22 *e*P **P 14 58 46.6 +0.2**
comp=Z,14nm,1.1s
TORD Torodi Ar. Bea 82.51 281 P **P 14 58 50.7 -0.6**
comp=Z,1.5nm,0.7s,baz=43,slow=4.9,SNR=9.5
TORD LR LR 15 37 46.6
comp=Z,56nm,18.5s,baz=130,slow=37
DLBC Dease Lake 85.92 20 P **P 14 59 06.8 -1.1**
comp=Z,4.7nm,1.1s,baz=304,slow=7.8,SNR=6.3
YKA Yellowknife Ar 85.94 11 P **P 14 59 07.7 -0.1**
comp=Z,2.2nm,0.8s,baz=332,slow=5.0,SNR=22
DBIC Dimbokro 91.29 278 LR LR 15 42 59.1
comp=Z,72nm,18.6s,baz=48,slow=37
SCHQ Schefferville 93.55 347 LR LR 15 47 06.9
comp=Z,40nm,18.2s,baz=312,slow=39
TXAR Lajitas Array 119.77 14 PKP **PKPdf 15 05 18.7 -0.1**
comp=Z,0.3nm,0.4s,baz=207,slow=0.6,SNR=4.2
SAML Samuel 147.78 304 *e*PKPbc **PKPbc 15 06 13.2 -0.4**

*CSEM **14** 14:49:15.4±0.1, 47.11N×1.92W, h2km, ML3.4/30, Error ellipse: s-maj=2.4km s-min=1.8km az=60.0*
*LDG **14** 14:49:17.1±0.1, 47.13N×1.98W, h2km, Md3.5/3, Ml3.4/36, Error ellipse: s-maj=1.4km s-min=1.2km az=81.0*
*STR **14** 14:49:18.6±0.5, 47.19N×1.80W, h5km, Ml3.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 14 14:49:15.7±1.1, 47.12N±0.02×1.95W±0.02, h16km, 9km, n112, σ1s50/188, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
					Op	ISC	
QUIF	**Quistinic**	**1.15**	**315**	*e*Pn	**Pn**	**14 49 38.4**	**+1.3**
QUIF				*e*Sg	**Sg**	**14 49 52.2**	**-0.6**
	78nm,0.2s						
QUIF	**Quistinic**	**1.15**	**315**	*e*Pn	**Pn**	**14 49 38.4**	**+1.3**
QUIF				*e*Sg	**Sg**	**14 49 52.2**	**-0.6**
	39nm,0.2s						
SGMF	**Saint Gilles**	**1.21**	**340**	*e*Pn	**Pn**	**14 49 39.2**	**+1.2**
SGMF	**Saint Gilles**	**1.21**	**340**	*e*Pg	**Pn**	**14 49 39.8**	**+1.8**
SGMF				*e*Sg	**Sb**	**14 49 54.9**	**+1.3**
	591nm,0.3s,SNR=1.0						
SGMF	**Saint Gilles**	**1.21**	**340**	*e*Pn	**Pn**	**14 49 39.2**	**+1.2**
SGMF	**Saint Gilles**	**1.21**	**340**	*e*Pg	**Pn**	**14 49 39.8**	**+1.8**
SGMF				*e*Sg	**Sb**	**14 49 54.9**	**+1.3**
	296nm,0.3s,SNR=1.0						
MFF	**Saint Martin d**	**1.34**	**112**	*e*Pn	**Pg**	**14 49 41.8**	**+0.2**
MFF	**Saint Martin d**	**1.34**	**112**	*e*Pg	**Pg**	**14 49 42.8**	**+1.2**
	SNR=1.0						
MFF				*e*Sg	**Sn**	**14 49 59.4**	**+2.0**
	116nm,0.2s,SNR=1.0						
MFF	**Saint Martin d**	**1.34**	**112**	*e*Pn	**Pg**	**14 49 41.8**	**+0.2**
MFF	**Saint Martin d**	**1.34**	**112**	*e*Pg	**Pg**	**14 49 42.8**	**+1.2**
	SNR=1.0						
MFF				*e*Sg	**Sn**	**14 49 59.4**	**+2.0**
	58nm,0.2s,SNR=1.0						
GRR	**Gorron**	**1.47**	**30**	*e*Pn	**Pb**	**14 49 43.1**	**+0.4**
GRR	**Gorron**	**1.47**	**30**	*e*Pg	**Pg**	**14 49 44.5**	**+0.5**
	SNR=1.0						
GRR				*e*Sg	**Sb**	**14 50 02.4**	**+1.3**
	120nm,0.2s,SNR=1.0						
GRR	**Gorron**	**1.47**	**30**	*e*Pn	**Pb**	**14 49 43.1**	**+0.4**
GRR	**Gorron**	**1.47**	**30**	*e*Pg	**Pg**	**14 49 44.5**	**+0.5**
	SNR=1.0						
GRR				*e*Sg	**Sb**	**14 50 02.4**	**+1.3**
	60nm,0.2s,SNR=1.0						
ROSF	**Rostrenen**	**1.51**	**324**	*e*Pn	**Pn**	**14 49 43.4**	**+1.3**
ROSF	**Rostrenen**	**1.51**	**324**	*e*Pg	**Pg**	**14 49 45.3**	**+0.5**
ROSF				*e*Sg	**Sb**	**14 50 03.6**	**+1.3**
	102nm,0.2s						
ROSF	**Rostrenen**	**1.51**	**324**	*e*Pn	**Pn**	**14 49 43.4**	**+1.3**
ROSF	**Rostrenen**	**1.51**	**324**	*e*Pg	**Pg**	**14 49 45.3**	**+0.5**
ROSF				*e*Sg	**Sb**	**14 50 03.6**	**+1.3**
	51nm,0.2s						
FLN	**La Foliniere**	**1.92**	**30**	*e*Pn	**Pn**	**14 49 49.2**	**+1.4**
	baz=212,SNR=1.0						
FLN	**La Foliniere**	**1.92**	**30**	*e*Pg	**Pg**	**14 49 52.3**	**-0.3**
	baz=213						
FLN				*e*Sg	**Sg**	**14 50 16.2**	**-1.3**
	53nm,0.2s						
FLN	**La Foliniere**	**1.92**	**30**	*e*Pn	**Pn**	**14 49 49.2**	**+1.4**
	baz=212,SNR=1.0						
FLN	**La Foliniere**	**1.92**	**30**	*e*Pg	**Pg**	**14 49 52.3**	**-0.3**
	baz=213						
FLN				*e*Sg	**Sg**	**14 50 16.2**	**-1.3**
	26nm,0.2s						
LDF	**La Druitiere**	**1.92**	**39**	*e*Pn	**Pn**	**14 49 49.4**	**+1.6**
LDF	**La Druitiere**	**1.92**	**39**	*e*Pg	**Pg**	**14 49 52.3**	**-0.3**
	SNR=1.0						
LDF				*e*Sg	**Sb**	**14 50 16.1**	**+1.9**
	52nm,0.3s,SNR=1.0						
LDF	**La Druitiere**	**1.92**	**39**	*e*Pn	**Pn**	**14 49 49.4**	**+1.6**
LDF	**La Druitiere**	**1.92**	**39**	*e*Pg	**Pg**	**14 49 52.3**	**-0.3**
	SNR=1.0						
LDF				*e*Sg	**Sb**	**14 50 16.1**	**+1.9**
	26nm,0.3s,SNR=1.0						
LFF	**La Frestale**	**2.88**	**138**	*e*Pn	**Pn**	**14 50 02.7**	**+1.8**
	SNR=1.0						
LFF	**La Frestale**	**2.88**	**138**	*e*Pg	**Pg**	**14 50 10.4**	**-0.4**
LFF				*e*Sg	**Sg**	**14 50 48.0**	**-0.1**
	57nm,0.3s,SNR=1.0						
LFF	**La Frestale**	**2.88**	**138**	*e*Pn	**Pn**	**14 50 02.7**	**+1.8**
	SNR=1.0						
LFF	**La Frestale**	**2.88**	**138**	*e*Pg	**Pg**	**14 50 10.4**	**-0.4**
LFF				*e*Sg	**Sg**	**14 50 48.0**	**-0.1**
	28nm,0.3s,SNR=1.0						
TCF	**Toulx Ste Croi**	**2.98**	**105**	*e*Pn	**Pn**	**14 50 04.0**	**+1.6**
	SNR=1.0						
TCF	**Toulx Ste Croi**	**2.98**	**105**	*e*Pg	**Pg**	**14 50 12.7**	**-0.2**
TCF				*e*Sn	**Sn**	**14 50 38.2**	**+0.3**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**14 50 51.4**	**-0.1**
	28nm,0.3s,SNR=1.0						
TCF	**Toulx Ste Croi**	**2.98**	**105**	*e*Pn	**Pn**	**14 50 04.0**	**+1.6**
	SNR=1.0						
TCF	**Toulx Ste Croi**	**2.98**	**105**	*e*Pg	**Pg**	**14 50 12.7**	**-0.2**
TCF				*e*Sn	**Sn**	**14 50 38.2**	**+0.3**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**14 50 51.4**	**-0.1**
	14nm,0.3s,SNR=1.0						
RJF	**Les Rejaudoux**	**3.02**	**126**	*e*Pn	**Pn**	**14 50 04.5**	**+1.7**
	SNR=1.0						
RJF	**Les Rejaudoux**	**3.02**	**126**	*e*Pg	**Pg**	**14 50 13.0**	**-0.5**
RJF				*e*Sg	**Sg**	**14 50 53.7**	**+1.1**
	34nm,0.2s						
RJF	**Les Rejaudoux**	**3.02**	**126**	*e*Pn	**Pn**	**14 50 04.5**	**+1.7**
	SNR=1.0						
RJF	**Les Rejaudoux**	**3.02**	**126**	*e*Pg	**Pg**	**14 50 13.0**	**-0.5**
RJF				*e*Sg	**Sg**	**14 50 53.7**	**+1.1**
	17nm,0.2s						
HYF	**Humbligny**	**3.13**	**86**	*e*Pn	**Pn**	**14 50 06.6**	**+2.1**
HYF	**Humbligny**	**3.13**	**86**	*e*Pg	**Pg**	**14 50 15.7**	**-0.1**
HYF				*e*Sg	**Sg**	**14 50 55.3**	**-1.1**
HYF	**Humbligny**	**3.13**	**86**	*e*Pn	**Pn**	**14 50 06.6**	**+2.1**
HYF	**Humbligny**	**3.13**	**86**	*e*Pg	**Pg**	**14 50 15.7**	**-0.1**
HYF				*e*Sg	**Sg**	**14 50 55.3**	**-1.1**
CAF	**Calviac**	**3.56**	**127**	*e*Pn	**Pn**	**14 50 12.1**	**+1.8**
	SNR=1.0						
CAF	**Calviac**	**3.56**	**127**	*e*Pg	**Pg**	**14 50 24.0**	**+0.2**
CAF				*e*Sn	**Sn**	**14 50 51.4**	**-0.6**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**14 51 09.3**	**-0.6**
	20nm,0.3s						
CAF	**Calviac**	**3.56**	**127**	*e*Pn	**Pn**	**14 50 12.1**	**+1.8**
	SNR=1.0						
CAF	**Calviac**	**3.56**	**127**	*e*Pg	**Pg**	**14 50 24.0**	**+0.2**
CAF				*e*Sg	**Sg**	**14 51 09.3**	**-0.6**
	9.9nm,0.3s						
AVF	**Avril sur Loir**	**3.65**	**93**	*e*Pn	**Pn**	**14 50 12.7**	**+1.2**
	SNR=1.0						
AVF	**Avril sur Loir**	**3.65**	**93**	*e*Pg	**Pg**	**14 50 24.9**	**-0.7**
AVF				*e*Sg	**Sg**	**14 51 09.9**	**-2.9**
	22nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**3.65**	**93**	*e*Pn	**Pn**	**14 50 12.7**	**+1.2**
	SNR=1.0						
AVF	**Avril sur Loir**	**3.65**	**93**	*e*Pg	**Pg**	**14 50 24.9**	**-0.7**
AVF				*e*Sg	**Sg**	**14 51 09.9**	**-2.9**
	11nm,0.3s,SNR=1.0						
AGO	**Saint Agoulin**	**3.66**	**105**	Pn	**Pn**	**14 50 12.8**	**+1.0**
AGO	**Saint Agoulin**	**3.66**	**105**	Pn	**Pn**	**14 50 12.8**	**+1.0**
PYM	**Petit Puy Mans**	**3.69**	**110**	Pn	**Pn**	**14 50 13.4**	**+1.2**
PYM				Sg	**Sg**	**14 51 16.2**	**+1.9**
PYM	**Petit Puy Mans**	**3.69**	**110**	Pn	**Pn**	**14 50 13.4**	**+1.2**
PYM				Sg	**Sg**	**14 51 16.2**	**+1.9**
SSF	**Saint Saulge**	**3.73**	**89**	*e*Pn	**Pn**	**14 50 14.1**	**+1.5**
	SNR=1.0						
SSF	**Saint Saulge**	**3.73**	**89**	*e*Pg	**Pg**	**14 50 25.8**	**-1.3**
SSF				*e*Sg	**Sg**	**14 51 14.5**	**-0.9**
	25nm,0.3s						
SSF	**Saint Saulge**	**3.73**	**89**	*e*Pn	**Pn**	**14 50 14.1**	**+1.5**
	SNR=1.0						
SSF	**Saint Saulge**	**3.73**	**89**	*e*Pg	**Pg**	**14 50 25.8**	**-1.3**
SSF				*e*Sg	**Sg**	**14 51 14.5**	**-0.9**
	12nm,0.3s						
LOR	**Lormes**	**3.96**	**86**	*e*Pn	**Pn**	**14 50 17.4**	**+1.5**
	baz=261,SNR=1.0						
LOR	**Lormes**	**3.96**	**86**	*e*Pg	**Pg**	**14 50 30.5**	**-1.1**
	baz=262						
LOR				*e*Sn	**Sn**	**14 50 59.9**	**-2.2**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**14 51 20.9**	**-2.1**
	15nm,0.2s,baz=260,SNR=1.0						
LOR	**Lormes**	**3.96**	**86**	*e*Pn	**Pn**	**14 50 17.4**	**+1.5**
	baz=261,SNR=1.0						
LOR	**Lormes**	**3.96**	**86**	*e*Pg	**Pg**	**14 50 30.5**	**-1.1**
	baz=262						
LOR				*e*Sg	**Sg**	**14 51 20.9**	**-2.1**
	7.3nm,0.2s,baz=260,SNR=1.0						
SMF	**Signal de Mont**	**4.00**	**95**	*e*Pn	**Pn**	**14 50 17.8**	**+1.4**
	SNR=1.0						
SMF	**Signal de Mont**	**4.00**	**95**	*e*Pg	**Pg**	**14 50 31.6**	**-0.7**
SMF				*e*Sg	**Sg**	**14 51 21.2**	**-3.0**
	8.3nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**4.00**	**95**	*e*Pn	**Pn**	**14 50 17.8**	**+1.4**
	SNR=1.0						
SMF	**Signal de Mont**	**4.00**	**95**	*e*Pg	**Pg**	**14 50 31.6**	**-0.7**
SMF				*e*Sg	**Sg**	**14 51 21.2**	**-3.0**
	4.2nm,0.2s,SNR=1.0						
PLDF	**La Plantade**	**4.01**	**105**	Pn	**Pn**	**14 50 18.2**	**+1.6**
PLDF				Sg	**Sg**	**14 51 27.4**	**+2.8**
PLDF	**La Plantade**	**4.01**	**105**	Pn	**Pn**	**14 50 18.2**	**+1.6**
PLDF				Sg	**Sg**	**14 51 27.4**	**+2.8**
SJPF	**Ste Jean**	**4.04**	**172**	*e*Pn	**Pn**	**14 50 17.8**	**+0.9**
	SNR=1.0						
SJPF	**Ste Jean**	**4.04**	**172**	*e*Pg	**Pg**	**14 50 32.4**	**-0.6**
SJPF				*e*Sn	**Sn**	**14 51 01.7**	**-2.2**
SJPF				*e*Sg	**Sg**	**14 51 22.8**	**-2.5**
	15nm,0.4s						
SJPF	**Ste Jean**	**4.04**	**172**	*e*Pn	**Pn**	**14 50 17.8**	**+0.9**
	SNR=1.0						
SJPF	**Ste Jean**	**4.04**	**172**	*e*Pg	**Pg**	**14 50 32.4**	**-0.6**
SJPF				*e*Sg	**Sg**	**14 51 22.8**	**-2.5**
	7.4nm,0.4s						
LBL	**Lubilhac**	**4.08**	**116**	Pn	**Pn**	**14 50 19.1**	**+1.6**
LBL				Sg	**Sg**	**14 51 30.0**	**+3.5**
LBL	**Lubilhac**	**4.08**	**116**	Pn	**Pn**	**14 50 19.1**	**+1.6**
LBL				Sg	**Sg**	**14 51 30.0**	**+3.5**
ETSF	**Etsaut**	**4.33**	**166**	*e*Pn	**Pn**	**14 50 21.1**	**+0.1**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**14 51 32.6**	**-2.2**
	9.1nm,0.4s						
ETSF	**Etsaut**	**4.33**	**166**	*e*Pn	**Pn**	**14 50 21.1**	**+0.1**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**14 51 32.6**	**-2.2**
	4.6nm,0.4s						
EPF	**Esparros**	**4.40**	**158**	*e*Pn	**Pn**	**14 50 22.7**	**+0.8**
	SNR=1.0						
EPF				*e*Sn	**Sn**	**14 51 09.6**	**-3.2**
EPF				*e*Sg	**Sg**	**14 51 35.7**	**-1.2**
	17nm,0.3s						
EPF	**Esparros**	**4.40**	**158**	*e*Pn	**Pn**	**14 50 22.7**	**+0.8**
	SNR=1.0						
EPF				*e*Sg	**Sg**	**14 51 35.7**	**-1.2**
	8.6nm,0.3s						
MTLF	**Montolieu**	**4.79**	**141**	*e*Pn	**Pn**	**14 50 28.5**	**+1.3**
MTLF	**Montolieu**	**4.79**	**141**	*e*Pg	**Pg**	**14 50 45.8**	**-1.6**
MTLF				*e*Sg	**Sg**	**14 51 47.9**	**-1.5**
	4.8nm,0.3s						
MTLF	**Montolieu**	**4.79**	**141**	*e*Pn	**Pn**	**14 50 28.5**	**+1.3**
MTLF	**Montolieu**	**4.79**

	7.9nm,0.4s								
BAIF	**Baives**	**5.04**	**52**	*e*Pn		**Pn**	**14 50 31.4**	**+0.8**
	SNR=1.0								
BAIF				*e*Sn		**Sn**	**14 51 26.1**	**-2.3**
	SNR=1.0								
BAIF				*e*Sg		**Sg**	**14 51 55.8**	**-1.5**
	4.3nm,0.3s								
BAIF	**Baives**	**5.04**	**52**	*e*Pn		**Pn**	**14 50 31.4**	**+0.8**
	SNR=1.0								
BAIF				*e*Sg		**Sg**	**14 51 55.8**	**-1.5**
	2.2nm,0.3s								
LASF	**Ste Croix**	**5.09**	**125**	*e*Pn		**Pn**	**14 50 32.8**	**+1.5**
	SNR=1.0								
LASF	**Ste Croix**	**5.09**	**125**	*e*Pg		**Pg**	**14 50 52.2**	**-0.9**
LASF				*e*Sg		**Sg**	**14 51 57.3**	**-1.6**
	12nm,0.5s,SNR=1.0								
LASF	**Ste Croix**	**5.09**	**125**	*e*Pn		**Pn**	**14 50 32.8**	**+1.5**
	SNR=1.0								
LASF	**Ste Croix**	**5.09**	**125**	*e*Pg		**Pg**	**14 50 52.2**	**-0.9**
LASF				*e*Sg		**Sg**	**14 51 57.3**	**-1.6**
	5.8nm,0.5s,SNR=1.0								
VIVF	**Saint-Julien-l**	**5.14**	**114**	*e*Pn		**Pn**	**14 50 33.7**	**+1.6**
	SNR=1.0								
VIVF	**Saint-Julien-l**	**5.14**	**114**	*e*Pg		**Pg**	**14 50 53.0**	**-1.1**
VIVF				*e*Sg		**Sg**	**14 51 59.7**	**-1.0**
	10nm,0.4s,SNR=1.0								
VIVF	**Saint-Julien-l**	**5.14**	**114**	*e*Pn		**Pn**	**14 50 33.7**	**+1.6**
	SNR=1.0								
VIVF	**Saint-Julien-l**	**5.14**	**114**	*e*Pg		**Pg**	**14 50 53.0**	**-1.1**
VIVF				*e*Sg		**Sg**	**14 51 59.7**	**-1.0**
	5.2nm,0.4s,SNR=1.0								
DOU	**Dourbes**	**5.27**	**53**	PN		**Pn**	**14 50 35.5**	**+1.8**
DOU				SN		**Sn**	**14 51 31.8**	**-2.3**
DOU	**Dourbes**	**5.27**	**53**	Pn		**Pn**	**14 50 35.5**	**+1.8**
DOU				Sn		**Sn**	**14 51 31.7**	**-2.3**
PAGF	**Fort de Pagny**	**5.37**	**72**	*e*Sg		**Sg**	**14 52 06.3**	**-1.6**
	5.9nm,0.6s								
PAGF	**Fort de Pagny**	**5.37**	**72**	*e*Sg		**Sg**	**14 52 06.3**	**-1.6**
	3.0nm,0.6s								
GIVF	**Givet**	**5.39**	**54**	*e*Pn		**Pn**	**14 50 36.2**	**+0.7**
	SNR=1.0								
GIVF				*e*Sn		**Sn**	**14 51 34.2**	**-3.1**
GIVF				*e*Sg		**Sg**	**14 52 07.0**	**-1.8**
	12nm,0.5s								
GIVF	**Givet**	**5.39**	**54**	*e*Pn		**Pn**	**14 50 36.2**	**+0.7**
	SNR=1.0								
GIVF				*e*Sg		**Sg**	**14 52 07.0**	**-1.8**
	6.1nm,0.5s								
CABF	**La Chapelle**	**5.54**	**92**	*e*Pn		**Pn**	**14 50 38.9**	**+1.3**
CABF				*e*Sg		**Sg**	**14 52 11.3**	**-2.1**
	12nm,0.7s								
CABF	**La Chapelle**	**5.54**	**92**	*e*Pn		**Pn**	**14 50 38.9**	**+1.3**
CABF				*e*Sg		**Sg**	**14 52 11.3**	**-2.1**
	6.0nm,0.7s								
HAU	**Haudompre**	**5.69**	**78**	*e*Pn		**Pn**	**14 50 40.7**	**+1.1**
HAU				*e*Sg		**Sg**	**14 52 16.6**	**-1.6**
	17nm,0.5s								
HAU	**Haudompre**	**5.69**	**78**	*e*Pn		**Pn**	**14 50 40.7**	**+1.1**
HAU				*e*Sg		**Sg**	**14 52 16.6**	**-1.6**
	8.4nm,0.5s								
HINF	**Hinteralfeld**	**6.01**	**80**	*e*Pn		**Pn**	**14 50 45.0**	**+1.0**
	SNR=1.0								
HINF				*e*Sg		**Sg**	**14 52 26.7**	**-1.9**
	7.6nm,0.4s								
HINF	**Hinteralfeld**	**6.01**	**80**	*e*Pn		**Pn**	**14 50 45.0**	**+1.0**
	SNR=1.0								
HINF				*e*Sg		**Sg**	**14 52 26.7**	**-1.9**
	3.8nm,0.4s								
CDF	**Champ du Feu**	**6.36**	**75**	*e*Pn		**Pn**	**14 50 49.3**	**+0.5**
CDF				*e*Sg		**Sg**	**14 52 37.4**	**-2.2**
	5.2nm,0.4s								
CDF	**Champ du Feu**	**6.36**	**75**	*e*Pn		**Pn**	**14 50 49.3**	**+0.5**
CDF				*e*Sg		**Sg**	**14 52 37.4**	**-2.2**
	2.6nm,0.4s								
EVO	**Evora**	**9.66**	**210**	*e*Pn		**Pn**	**14 51 35.3**	**+1.2**
EVOP	**Sao Brissos**	**9.70**	**210**	*e*Pn		**Pn**	**14 51 35.3**	**+0.7**

IDC 14 14:53:24.0±22.0, 29°57′N×91°45′E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.2/43, mbtmp3.4/3, Error ellipse: s-maj=689.1km s-min=37.8km az=92.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
SONM	**Songino Array**	**21.58**	**28**	P	P	14	58	15.4	0.0
	0.5nm,0.4s,baz=218,slow=12,SNR=4.0								
WRA	**Warramunga Arr**	**64.28**	**135**	P	P	15	04	01.6	+0.2
	0.5nm,0.9s,baz=326,slow=6.3,SNR=4.9								
ASAR	**Alice Springs**	**66.84**	**138**	P	P	15	04	17.7	-0.2
	0.3nm,0.7s,baz=328,slow=7.0,SNR=4.2								

*IDC **14** 14:57:55.4±1.0, 19°.45N×66°.35W, h0km, mb3.7/9, mb1 4.0/9, mb1mx3.7/41, mbtmp3.7/9, MS3.3/1, Ms1 3.3/1, ms1mx2.6/27, Error ellipse: s-maj=29.8km s-min=22.6km az=34.0*

*ISCJB **14** 14:57:58.2±0.7, 19°.05N±0°.06×66°.47W±0°.03, h44km±10km, mb3.7/10, MS3.3/1, Error ellipse: s-maj=9.3km s-min=5.0km az=3.0*

*NEIC **14** 14:57:59.6, 19°.06N×66°.48W, h32km, MD3.2(RSPR), After RSPR.*

*RSPR **14** 14:57:59.6, 19°.06N×66°.48W, h32km±9km, MD3.2/18*

ISC 14 14:57:59.4±1.2, 19°01′N±0°.06×66°47′W±0°.03, h38km±2km, n53, σ0s90/64, mb3.6/10, 7C-13D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
AOPR	**Arecibo Observ**	**0.71**	**202**	*e*P		**Pn**	**14**	**58 12.3**	**-0.6**
AOPR	**Arecibo Observ**	**0.71**	**202**	*e*P		**Pn**	**14**	**58 12.4**	**-0.6**
AOPR				*e*S		**Sn**	**14**	**58 22.5**	**-0.1**
LRS	**Lares**	**0.79**	**206**	*e*Pn		**Pn**	**14**	**58 13.3**	**-0.8**
LRS	**Lares**	**0.79**	**206**	*e*P		**Pn**	**14**	**58 13.3**	**-0.8**
AGPR	**Aguadilla, PR**	**0.81**	**229**	*e*Pn		**Pn**	**14**	**58 13.0**	**-1.2**
AGPR				*e*Sn		**Sn**	**14**	**58 26.2**	**+1.2**
AGPR	**Aguadilla, PR**	**0.81**	**229**	*e*P		**Pn**	**14**	**58 12.9**	**-1.3**
AGPR	**Aguadilla, PR**	**0.81**	**229**	*e*S		**Sn**	**14**	**58 23.8**	**-1.3**
CELP	**Cerrillos**	**0.93**	**186**	*e*Pn		**Pn**	**14**	**58 15.7**	**-0.2**
CELP				*e*Sn		**Sn**	**14**	**58 28.7**	**+0.6**
CELP	**Cerrillos**	**0.93**	**186**	*e*P		**Pn**	**14**	**58 15.8**	**-0.2**
CELP				*e*S		**Sn**	**14**	**58 28.4**	**+0.3**
SJG	**San Juan**	**0.94**	**161**	*e*Pn		**Pn**	**14**	**58 15.8**	**-0.2**
SJG				*e*Sn		**Sn**	**14**	**58 29.4**	**+1.1**
SJG	**San Juan**	**0.94**	**161**	*e*P		**Pn**	**14**	**58 15.8**	**-0.2**
SJG				*e*S		**Sn**	**14**	**58 28.2**	**-0.1**
SJG	**San Juan**	**0.94**	**161**	*e*P		**Pn**	**14**	**58 15.9**	**-0.2**
SJG				*e*S		**Sn**	**14**	**58 27.9**	**-0.4**
OBIP	**Obispado Ponce**	**0.97**	**187**	*e*Pn		**Pn**	**14**	**58 16.1**	**-0.3**
OBIP				*e*Sn		**Sn**	**14**	**58 31.7**	**+2.8**
OBIP	**Obispado Ponce**	**0.97**	**187**	*e*P		**Pn**	**14**	**58 16.2**	**-0.3**
OBIP	**Obispado Ponce**	**0.97**	**187**	*e*S		**Sn**	**14**	**58 28.7**	**-0.2**
LSP	**Las Mesas**	**1.01**	**215**	*e*Pn		**Pn**	**14**	**58 15.5**	**-0.6**
LSP				*e*Sn		**Sn**	**14**	**58 30.9**	**+0.8**
LSP	**Las Mesas**	**1.01**	**215**	*e*P		**Pn**	**14**	**58 16.6**	**-0.5**
LSP	**Las Mesas**	**1.01**	**215**	*e*S		**Sn**	**14**	**58 28.7**	**-1.3**
MPR	**Mayaguez**	**1.01**	**219**	*e*P		**Pn**	**14**	**58 16.5**	**-0.5**
HUMP	**Col San Antoni**	**1.04**	**145**	*e*P		**Pn**	**14**	**58 17.1**	**-0.4**
HUMP	**Col San Antoni**	**1.04**	**145**	*e*S		**Sn**	**14**	**58 31.0**	**+0.1**
GBPR	**Guanica, Bosqu**	**1.09**	**201**	*e*P		**Pn**	**14**	**58 18.1**	**-0.1**
ICM	**Isla Caja Muer**	**1.11**	**182**	*e*P		**Pn**	**14**	**58 18.6**	**+0.3**
ICM	**Isla Caja Muer**	**1.11**	**182**	*e*S		**Sn**	**14**	**58 32.1**	**-0.2**
ICMP	**Isla Caja de M**	**1.11**	**183**	*e*Pn		**Pn**	**14**	**58 18.6**	**+0.2**
ICMP				*e*Sn		**Sn**	**14**	**58 34.4**	**+1.8**
IDE	**Isla Desecheo**	**1.13**	**237**	*e*P		**Pn**	**14**	**58 17.6**	**-1.1**
IDE	**Isla Desecheo**	**1.13**	**237**	*e*S		**Sn**	**14**	**58 33.1**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.16**	**211**	*e*Pn		**Pn**	**14**	**58 18.8**	**-0.3**
CRPR				*e*Sn		**Sn**	**14**	**58 34.5**	**+0.8**
CRPR	**Cabo Rojo, PR**	**1.16**	**211**	*e*P		**Pn**	**14**	**58 18.6**	**-0.5**
CRPR	**Cabo Rojo, PR**	**1.16**	**211**	*e*S		**Sn**	**14**	**58 33.9**	**+0.2**
STVI	**Saint Thomas**	**1.58**	**114**	*e*Pn		**Pn**	**14**	**58 24.3**	**-0.6**
STVI				*e*Sn		**Sn**	**14**	**58 43.6**	**-0.5**
STVI	**Saint Thomas**	**1.58**	**114**	*e*P		**Pn**	**14**	**58 24.1**	**-0.8**
STVI	**Saint Thomas**	**1.58**	**114**	*e*S		**Sn**	**14**	**58 43.4**	**-0.7**
TBVI	**Tortola**	**1.85**	**108**	*e*P		**Pn**	**14**	**58 28.2**	**-0.5**
PCDR	**Punta Cana, DR**	**1.87**	**255**	*e*Pn		**Pn**	**14**	**58 29.6**	**+0.7**
PCDR				*e*Sn		**Sn**	**14**	**58 50.4**	**-0.9**
PCDR	**Punta Cana, DR**	**1.87**	**255**	*e*P		**Pn**	**14**	**58 29.6**	**+0.7**
PCDR	**Punta Cana, DR**	**1.87**	**255**	*e*S		**Sn**	**14**	**58 51.6**	**+0.4**
CDVI	**St. Croix**	**2.05**	**127**	Pn		**Pn**	**14**	**58 31.0**	**-0.3**
ABV	**Anegada**	**2.05**	**97**	*e*P		**Pn**	**14**	**58 32.4**	**+1.2**
SMN1	**Samana, DR**	**2.65**	**274**	*e*Pn		**Pn**	**14**	**58 39.2**	**-0.5**
SMN1	**Samana, DR**	**2.65**	**274**	*e*P		**Pn**	**14**	**58 38.8**	**-0.9**
SDDR	**Presa de Saban**	**4.55**	**270**	*e*Pn		**Pn**	**14**	**59 06.8**	**+0.9**
TKL	**Tuckaleechee C**	**22.55**	**321**	P		**P**	**15**	**02 59.5**	**+3.2**
	2.6nm,0.4s,baz=127,slow=20,SNR=9.1								
LPAZ	**La Paz**	**35.11**	**183**	P		**P**	15	04 55.7	+5.6
	1.3nm,0.7s,baz=12,slow=5.8,SNR=4.9								
TXAR	**Lajitas Array**	**35.32**	**294**	P		**P**	**15**	**04 51.9**	**+0.5**
	0.5nm,0.7s,baz=110,slow=10,SNR=5.1								
BDFB	**Brasilia**	**38.93**	**151**	LR		LR	15	23 41.4	
	comp=Z,42nm,18.2s,baz=171,slow=39								
PDAR	**Pinedale Array**	**43.29**	**313**	P		**P**	**15**	**05 57.0**	**-0.7**
	0.4nm,0.4s,baz=82,slow=11,SNR=4.3								
NVAR	**Mina Array Bea**	**48.73**	**305**	P		**P**	**15**	**06 41.2**	**+0.5**
	0.5nm,0.7s,baz=84,slow=6.7,SNR=4.3								
YKA	**Yellowknife Ar**	**54.56**	**335**	P		**P**	**15**	**07 22.3**	**-1.2**
	0.4nm,0.6s,baz=109,slow=7.3,SNR=6.3								
TORD	**Torodi Ar. Bea**	**65.42**	**84**	P		**P**	**15**	**08 38.6**	**-0.2**
	0.3nm,0.6s,baz=292,slow=7.6,SNR=3.2								
ILAR	**Eielson Array**	**68.90**	**333**	P		**P**	**15**	**08 59.3**	**-0.8**
	0.7nm,0.6s,baz=100,slow=3.9,SNR=15								
ARCES	**ARCESS Array B**	**73.05**	**22**	P		**P**	**15**	**09 25.4**	**+0.2**
	1.6nm,0.7s,baz=276,slow=4.8,SNR=6.9								
FINES	**FINESS Array B**	**74.71**	**30**	P		**P**	**15**	**09 34.7**	**-0.3**
	0.4nm,0.5s,baz=243,slow=5.6,SNR=3.3								

*IDC **14** 15:03:37.1±2.1, 29°.62N×90°.00E, h0km, mb3.9/5, mb1 4.0/7, mb1mx3.5/50, mbtmp3.7/7, ML3.3/2, Error ellipse: s-maj=78.0km s-min=21.1km az=75.0*

*ISCJB **14** 15:03:38.3±0.8, 29°.78N±0°.07×90°.45E±0°.08, h10km, mb3.9/5, Error ellipse: s-maj=12.7km s-min=7.8km az=42.0*

*BJI **14** 15:03:38.5, 29°.72N×90°.39E, h8km, mb3.6/1, ML3.7/3*

ISC 14 15:03:40.1±1.1, 29°.8N±0°.1×90°.5E±0°.1, h10km, n9, σ1s38/10, mb3.8/5, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
LSA	**Lhasa**	**0.57**	**100**	Pg	**Pg**	**15**	**03**	**50.3**	**-1.0**
LSA				Sg	**Sg**	**15**	**03**	**58.8**	**-0.1**
LSA				SME					
	6μm,0.3s								
IMP	**Imphal**	**5.85**	**148**	*e*P	Pn	15	05	10.0	+3.0
IMP				*e*S	**Sn**	**15**	**06**	**16.0**	**+1.7**
CMAR	**Chiang Mai Arr**	**13.66**	**144**	Pn	**Pn**	**15**	**06**	**53.1**	**-0.8**
	0.1nm,0.3s,baz=322,slow=14,SNR=8.9								
MKAR	**Makanchi Array**	**18.13**	**342**	P	**Pn**	**15**	**07**	**50.6**	**-1.4**
	0.0nm,0.3s,baz=188,slow=14,SNR=3.3								
SONM	**Songino Array**	**21.78**	**30**	P	**P**	**15**	**08**	**34.5**	**+2.4**
	3.8nm,0.9s,baz=214,slow=12,SNR=16								
WRA	**Warramunga Arr**	**65.03**	**134**	P	**P**	**15**	**14**	**20.6**	**-0.2**
	1.7nm,0.6s,baz=326,slow=6.6,SNR=24								
ASAR	**Alice Springs**	**67.56**	**137**	P	**P**	**15**	**14**	**36.9**	**-0.1**
	1.2nm,0.7s,baz=323,slow=7.0,SNR=20								
ILAR	**Eielson Array**	**75.76**	**22**	P	**P**	**15**	**15**	**26.6**	**+0.9**
	0.7nm,0.8s,baz=310,slow=5.1,SNR=9.2								
YKA	**Yellowknife Ar**	**85.84**	**11**	P	**P**	**15**	**16**	**19.1**	**-0.5**
	0.4nm,0.8s,baz=338,slow=6.1,SNR=4.4								

IDC 14 15:06:25.4±14.0, 29°.53N×93°.31E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.2/49, mbtmp3.5/3, Error ellipse: s-maj=476.6km s-min=37.4km az=91.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
SONM	**Songino Array**	**20.88**	**25**	P	P	15	11	09.2	0.0
	0.5nm,0.5s,baz=205,slow=9.8,SNR=3.6								
WRA	**Warramunga Arr**	**63.11**	**136**	P	P	15	16	55.5	+0.4
	0.5nm,0.5s,baz=326,slow=6.6,SNR=6.9								
ASAR	**Alice Springs**	**65.73**	**139**	P	P	15	17	11.7	-0.5
	0.4nm,0.7s,baz=327,slow=7.4,SNR=6.9								

*CRAAG **14** 15:13:12.2, 35°.78N×4°.06E, Ml4.6*

*IDC **14** 15:13:13.5±1.1, 35°.97N×4°.17E, h0km, mb3.7/6, mb1 3.8/10, mb1mx3.5/42, mbtmp3.6/10, ML3.6/4, MS3.3/2, Ms1 3.3/2, ms1mx2.6/44, Error ellipse: s-maj=24.1km s-min=19.2km az=154.0*

*MDD **14** 15:13:15.2±0.4, 35°.94N×4°.16E, h0km, mb4.5/23, Error ellipse: s-maj=7.3km s-min=3.5km az=22.0, PRXIMO*

*ISCJB **14** 15:13:15.7±0.7, 36°.15N±0°.03×4°.14E±0°.03, h25km±7km, mb3.6/6, MS3.4/1, Error ellipse: s-maj=5.4km s-min=3.4km az=4.5*

*LDG **14** 15:13:15.4±0.3, 36°.11N×3°.97E, h2km, Ml3.3/5, Error ellipse: s-maj=6.8km s-min=2.3km az=148.0*

*CSEM **14** 15:13:15.5±0.3, 36°.13N×4°.19E, h10km, mb4.5, Error ellipse: s-maj=8.1km s-min=4.9km az=175.0*

ISC 14 15:13:15.7±1.1, 36°08′N±0°.05×4°06′E±0°.03, h13km±7km, n155, σ1s65/179, mb3.8/6, 3C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
AKET	**Djebel Ketaf**	**0.15**	**256**	P	**Pg**	**15**	**13**	**19.2**	**-0.2**
AKET	**Djebel Ketaf**	**0.15**	**256**	P	**Pg**	**15**	**13**	**19.2**	**-0.2**
AKET	**Djebel Ketaf**	**0.15**	**256**	P	**Pg**	**15**	**13**	**19.2**	**-0.2**
ATAF	**Djebel Tarf**	**0.27**	**140**	P	Pg	15	13	17.2	-4.2
ATAF	**Djebel Tarf**	**0.27**	**140**	P	Pg	15	13	17.2	-4.2
ATAF	**Djebel Tarf**	**0.27**	**140**	P	Pg	15	13	17.2	-4.2
EMHD	**Djebel Mahouad**	**0.90**	**278**	P	**Pn**	**15**	**13**	**34.8**	**+0.5**
EMHD	**Djebel Mahouad**	**0.90**	**278**	P	**Pn**	**15**	**13**	**34.8**	**+0.5**
EMHD	**Djebel Mahouad**	**0.90**	**278**	P	**Pn**	**15**	**13**	**34.8**	**+0.5**
SET	**Setif**	**1.09**	**83**	P	**Pb**	**15**	**13**	**36.0**	**-0.5**
SET	**Setif**	**1.09**	**83**	P	**Pb**	**15**	**13**	**36.0**	**-0.5**
SET	**Setif**	**1.09**	**83**	P	**Pb**	**15**	**13**	**36.0**	**-0.5**
ABA	**Alger-Bouzarea**	**1.09**	**311**	P	**Pn**	**15**	**13**	**37.1**	**+0.3**
ABA	**Alger-Bouzarea**	**1.09**	**311**	P	**Pn**	**15**	**13**	**37.1**	**+0.3**
ABA	**Alger-Bouzarea**	**1.09**	**311**	P	**Pn**	**15**	**13**	**37.1**	**+0.3**
DFRA	**Djebel Bou Aff**	**1.54**	**72**	P	**Pn**	**15**	**13**	**42.6**	**-0.4**
DFRA	**Djebel Bou Aff**	**1.54**	**72**	P	**Pn**	**15**	**13**	**42.6**	**-0.4**
DFRA	**Djebel Bou Aff**	**1.54**	**72**	P	**Pn**	**15**	**13**	**42.6**	**-0.4**
CASM	**Ain Smara**	**1.97**	**84**	P	**Pn**	**15**	**13**	**47.8**	**-1.1**
CASM	**Ain Smara**	**1.97**	**84**	P	**Pn**	**15**	**13**	**47.8**	**-1.1**
CASM	**Ain Smara**	**1.97**	**84**	P	**Pn**	**15**	**13**	**47.8**	**-1.1**
CKFL	**Kef-Lekhel**	**2.17**	**81**	P	**Pn**	**15**	**13**	**50.6**	**-1.1**
CKFL	**Kef-Lekhel**	**2.17**	**81**	P	**Pn**	**15**	**13**	**50.6**	**-1.1**
CKFL	**Kef-Lekhel**	**2.17**	**81**	P	**Pn**	**15**	**13**	**50.6**	**-1.1**
ECHA	**Ech Chlef**	**2.18**	**273**	P	**Pn**	**15**	**13**	**52.4**	**+0.7**
ECHA	**Ech Chlef**	**2.18**	**273**	P	**Pn**	**15**	**13**	**52.4**	**+0.7**
ECHF	**Ech Chlef**	**2.20**	**273**	P	**Pn**	**15**	**13**	**52.4**	**+0.4**
ECHF	**Ech Chlef**	**2.20**	**273**	P	**Pn**	**15**	**13**	**52.4**	**+0.4**
ETRT	**Tiaret**	**2.35**	**254**	P	**Pn**	**15**	**13**	**55.0**	**+0.9**
ETRT	**Tiaret**	**2.35**	**254**	P	**Pn**	**15**	**13**	**55.0**	**+0.9**
ETRT	**Tiaret**	**2.35**	**254**	P	**Pn**	**15**	**13**	**55.0**	**+0.9**
CAEH	**'Ain El Ouahch**	**2.35**	**72**	P	**Pn**	**15**	**13**	**52.7**	**-1.4**
CAEH	**'Ain El Ouahch**	**2.35**	**72**	P	**Pn**	**15**	**13**	**52.7**	**-1.4**
CAEH	**'Ain El Ouahch**	**2.35**	**72**	P	**Pn**	**15**	**13**	**52.7**	**-1.4**
EANR	**'Ain N'Sour**	**2.40**	**268**	P	**Pn**	**15**	**13**	**56.2**	**+1.4**
EANR	**'Ain N'Sour**	**2.40**	**268**	P	**Pn**	**15**	**13**	**56.2**	**+1.4**
EANR	**'Ain N'Sour**	**2.40**	**268**	P	**Pn**	**15**	**13**	**56.2**	**+1.4**
CMAH	**Djebel Manchou**	**2.77**	**78**	P	**Pn**	**15**	**13**	**58.7**	**-1.1**
CMAH	**Djebel Manchou**	**2.77**	**78**	P	**Pn**	**15**	**13**	**58.7**	**-1.1**
CMAH	**Djebel Manchou**	**2.77**	**78**	P	**Pn**	**15**	**13**	**58.7**	**-1.1**
OKGL	**Djebel Kef Gue**	**2.77**	**270**	P	**Pn**	**15**	**14**	**00.6**	**+0.8**
	13nm,0.1s,SNR=7.9								
OKGL				S	**Sn**	**15**	**14**	**33.4**	**+0.2**
	SNR=7.9								
OKGL	**Djebel Kef Gue**	**2.77**	**270**	P	**Pn**	**15**	**14**	**00.6**	**+0.8**
	13nm,0.1s,SNR=7.9								
OKGL				S	**Sn**	**15**	**14**	**33.4**	**+0.2**
	SNR=7.9								
ABSA	**Djebel Ababsia**	**2.77**	**85**	P	**Pn**	**15**	**13**	**58.5**	**-1.4**
ABSA	**Djebel Ababsia**	**2.77**	**85**	P	**Pn**	**15**	**13**	**58.5**	**-1.4**
CABS	**Djebel Ababsia**	**2.77**	**85**	P	**Pn**	**15**	**13**	**58.5**	**-1.4**
CABS	**Djebel Ababsia**	**2.77**	**85**	P	**Pn**	**15**	**13**	**58.5**	**-1.4**
EIBI	**Ibiza**	**3.65**	**325**	P	**Pn**	**15**	**14**	**13.6**	**+1.7**
	47nm,0.6s,SNR=8.3								
EIBI				S	**Sn**	**15**	**14**	**56.2**	**+1.4**
	12nm,0.4s								
EIBI	**Ibiza**	**3.65**	**325**	P	**Pn**	**15**	**14**	**13.6**	**+1.7**
	47nm,0.6s,SNR=8.3								
EIBI				S	**Sn**	**15**	**14**	**56.2**	**+1.4**
	12nm,0.4s								
ETOS	**Mallorca**	**3.81**	**345**	P	**Pn**	**15**	**14**	**16.6**	**+2.5**
	14nm,0.7s,SNR=8.5								
ETOS				S	**Sn**	**15**	**14**	**59.4**	**+0.6**
	9.8nm,0.6s								
ETOS	**Mallorca**	**3.81**	**345**	P	**Pn**	**15**	**14**	**16.6**	**+2.5**
	14nm,0.7s,SNR=8.5								
ETOS				S	**Sn**	**15**	**14**	**59.4**	**+0.6**
	9.8nm,0.6s								
EBEN	**Beniarda**	**4.30**	**309**	P	**Pn**	**15**	**14**	**22.2**	**+1.3**
	1.3nm,0.3s,SNR=7.9								
EBEN				S	**Sn**	**15**	**15**	**12.7**	**+1.7**
	1.1nm,0.5s,SNR=7.9								
KEST	**Kesra**	**4.30**	**93**	Pn	**Pn**	**15**	**14**	**20.4**	**-0.5**
	1.7nm,0.3s,baz=248,slow=1.6,SNR=34								
KEST				Sn	**Sn**	**15**	**15**	**10.0**	**-1.1**
	0.8nm,0.3s,baz=254,slow=20,SNR=2.9								
EMUR	**La Murta**	**4.59**	**294**	⇑P	**Pn**	**15**	**14**	**26.5**	**+1.6**
	31nm,0.4s,SNR=18								
EMUR				S	**Sn**	**15**	**15**	**17.4**	**-0.8**
	17nm,0.7s,SNR=7.9								
EMUR	**La Murta**	**4.59**	**294**	P	**Pn**	**15**	**14**	**26.5**	**+1.6**
	31nm,0.4s,SNR=18								
EMUR				S	**Sn**	**15**	**15**	**17.4**	**-0.8**
	17nm,0.7s,SNR=7.9								
ENIJ	**Nijar**	**5.12**	**282**	P	**Pn**	**15**	**14**	**31.5**	**-0.7**
	20nm,0.5s,SNR=7.9								
ENIJ				S	**Sn**	**15**	**15**	**31.7**	**+0.4**
	4.3nm,0.3s,SNR=7.9								
ENIJ	**Nijar**	**5.12**	**282**	P	**Pn**	**15**	**14**	**31.5**	**-0.7**
	20nm,0.5s,SNR=7.9								
ENIJ				S	**Sn**	**15**	**15**	**31.7**	**+0.4**
	4.3nm,0.3s,SNR=7.9								
ETOB	**Tobarra**	**5.15**	**301**	P	**Pn**	**15**	**14**	**34.7**	**+2.2**
	12nm,0.4s,SNR=8.3								
ETOB				S	**Sn**	**15**	**15**	**33.8**	**+1.9**
	4.8nm,0.5s,SNR=7.9								
ETOB	**Tobarra**	**5.15**	**301**	P	**Pn**	**15**	**14**	**34.7**	**+2.2**
	12nm,0.4s,SNR=8.3								
ETOB				S	**Sn**	**15**	**15**	**33.8**	**+1.9**
	4.8nm,0.5s,SNR=7.9								
EMOS	**Mosqueruela**	**5.57**	**322**	P	**Pn**	**15**	**14**	**40.8**	**+2.4**
	4.5nm,0.4s,SNR=5.6								
EMOS				S	**Sn**	**15**	**15**	**41.7**	**-0.7**
	8.7nm,0.9s,SNR=7.9								
EMOS	**Mosqueruela**	**5.57**	**322**	P	**Pn**	**15**	**14**	**40.8**	**+2.4**
	4.5nm,0.4s,SNR=5.6								
EMOS				S	**Sn**	**15**	**15**	**41.7**	**-0.7**
	8.7nm,0.9s,SNR=7.9								
EHUE	**Huescar**	**5.60**	**290**	P	**Pn**	**15**	**14**	**41.5**	**+2.7**
	11nm,0.5s,SNR=7.9								
EHUE	**Huescar**	**5.60**	**290**	P	**Pn**	**15**	**14**	**41.5**	**+2.7**
	11nm,0.5s,SNR=7.9								
EBER	**Berja**	**5.66**	**280**	P	**Pn**	**15**	**14**	**41.3**	**+1.6**
	14nm,0.5s,SNR=5.5								
E

LMR					S	Sn	15 16 23.6	-5.7	
	2.8nm,0.5s								
PGF	**Pioggiola**	**7.50**	**29**	*e*Pn	**Pn**	**15 15 03.9**	**-1.0**		
PGF	**Pioggiola**	**7.50**	**29**	P	**Pn**	**15 15 03.9**	**-1.0**		
PGF	**Pioggiola**	**7.50**	**29**	P	**Pn**	**15 15 03.9**	**-1.0**		
EPF	**Esparros**	**7.51**	**339**	*e*Pn	**Pn**	**15 15 02.7**	**-2.3**		
EPF	**Esparros**	**7.51**	**339**	P	**Pn**	**15 15 02.7**	**-2.3**		
EPF	**Esparros**	**7.51**	**339**	*e*Pn	**Pn**	**15 15 02.7**	**-2.3**		
ETSF	**Etsaut**	**7.69**	**334**	*e*Pn	**Pn**	**15 15 05.1**	**-2.3**		
ETSF					*e*Sn	Sn	15 16 27.3	-7.1	
	3.2nm,0.6s								
ETSF	**Etsaut**	**7.69**	**334**	P	**Pn**	**15 15 05.1**	**-2.3**		
ETSF					S	Sn	15 16 27.3	-7.1	
	1.6nm,0.6s								
ETSF	**Etsaut**	**7.69**	**334**	*e*Pn	**Pn**	**15 15 05.1**	**-2.3**		
ETSF					S	Sn	15 16 27.3	-7.1	
	1.6nm,0.6s								
FRF	**La Foret Royal**	**7.73**	**14**	*e*Pn	**Pn**	**15 15 06.2**	**-1.7**		
FRF					*e*Sn	Sn	15 16 29.1	-6.2	
	12nm,0.7s								
FRF	**La Foret Royal**	**7.73**	**14**	P	**Pn**	**15 15 06.2**	**-1.7**		
FRF					S	Sn	15 16 29.1	-6.2	
	6.1nm,0.7s								
FRF	**La Foret Royal**	**7.73**	**14**	P	**Pn**	**15 15 06.2**	**-1.7**		
FRF					S	Sn	15 16 29.1	-6.2	
	6.1nm,0.7s								
ECAB	**El Cabril**	**7.83**	**288**	P	**Pn**	**15 15 09.3**	**-0.1**		
	1.8nm,0.5s,SNR=7.9								
ECAB	**El Cabril**	**7.83**	**288**	P	**Pn**	**15 15 09.3**	**-0.1**		
	1.8nm,0.5s,SNR=7.9								
MDT	**Midelt**	**7.87**	**248**	Pn	**Pn**	**15 15 09.3**	**-0.7**		
	0.5nm,0.3s,baz=45,slow=2.9,SNR=5.4								
MDT					LR	LR	15 18 29.3		
	comp=Z,138nm,20.8s,baz=88,slow=40								
LASF	**Ste Croix**	**7.99**	**359**	*e*Pn	**Pn**	**15 15 09.8**	**-1.7**		
LASF					*e*Sn	Sn	15 16 34.9	-6.8	
	2.7nm,0.3s								
LASF	**Ste Croix**	**7.99**	**359**	P	**Pn**	**15 15 09.8**	**-1.7**		
LASF					S	Sn	15 16 34.9	-6.8	
	1.4nm,0.3s								
LASF	**Ste Croix**	**7.99**	**359**	*e*Pn	**Pn**	**15 15 09.8**	**-1.7**		
LASF					S	Sn	15 16 34.9	-6.8	
	1.4nm,0.3s								
SBF	**Sospel**	**8.19**	**17**	*e*Pn	**Pn**	**15 15 12.4**	**-1.9**		
SBF	**Sospel**	**8.19**	**17**	P	**Pn**	**15 15 12.4**	**-1.9**		
SBF	**Sospel**	**8.19**	**17**	*e*Pn	**Pn**	**15 15 12.4**	**-1.9**		
VIVF	**Saint-Julien-l**	**8.78**	**3**	*e*Pn	**Pn**	**15 15 20.6**	**-1.7**		
VIVF					*e*Sn	Sn	15 16 54.1	-7.0	
	3.6nm,0.6s								
VIVF	**Saint-Julien-l**	**8.78**	**3**	P	**Pn**	**15 15 20.6**	**-1.7**		
VIVF					S	Sn	15 16 54.1	-7.0	
	1.8nm,0.6s								
VIVF	**Saint-Julien-l**	**8.78**	**3**	P	**Pn**	**15 15 20.6**	**-1.7**		
VIVF					S	Sn	15 16 54.1	-7.0	
	1.8nm,0.6s								
MBDF	**Montbardon**	**8.88**	**13**	*e*Pn	**Pn**	**15 15 22.1**	**-1.7**		
MBDF	**Montbardon**	**8.88**	**13**	P	**Pn**	**15 15 22.1**	**-1.7**		
MBDF	**Montbardon**	**8.88**	**13**	P	**Pn**	**15 15 22.1**	**-1.7**		
ORIF	**Oris-en-Rattie**	**8.93**	**8**	*e*Pn	**Pn**	**15 15 22.7**	**-1.8**		
ORIF	**Oris-en-Rattie**	**8.93**	**8**	P	**Pn**	**15 15 22.7**	**-1.8**		
ORIF	**Oris-en-Rattie**	**8.93**	**8**	P	**Pn**	**15 15 22.7**	**-1.8**		
CAF	**Calviac**	**8.96**	**351**	*e*Pn	**Pn**	**15 15 23.1**	**-1.8**		
CAF	**Calviac**	**8.96**	**351**	P	**Pn**	**15 15 23.1**	**-1.8**		
CAF	**Calviac**	**8.96**	**351**	P	**Pn**	**15 15 23.1**	**-1.8**		
LPG	**La Plagne**	**9.62**	**11**	*e*Pn	**Pn**	**15 15 32.4**	**-1.8**		
LPG	**La Plagne**	**9.62**	**11**	P	**Pn**	**15 15 32.4**	**-1.8**		
LPG	**La Plagne**	**9.62**	**11**	*e*Pn	**Pn**	**15 15 32.4**	**-1.8**		
LPL	**La Plagne**	**9.64**	**11**	*e*Pn	**Pn**	**15 15 32.4**	**-1.9**		
LPL	**La Plagne**	**9.64**	**11**	P	**Pn**	**15 15 32.4**	**-1.9**		
LPL	**La Plagne**	**9.64**	**11**	P	**Pn**	**15 15 32.4**	**-1.9**		
EARI	**Arriondas**	**10.14**	**318**	P	Pn	15 15 44.5	+3.4		
	14nm,0.9s,SNR=6.1								
EARI	**Arriondas**	**10.14**	**318**	P	Pn	15 15 44.5	+3.4		
	14nm,0.9s,SNR=6.1								
ECAL	**Calabor**	**10.23**	**308**	P	**Pn**	**15 15 44.4**	**+2.1**		
	8.0nm,0.5s,SNR=7.9								
ECAL	**Calabor**	**10.23**	**308**	P	**Pn**	**15 15 44.4**	**+2.1**		
	8.0nm,0.5s,SNR=7.9								
BRG	**Berggiesshubel**	**16.41**	**23**	PG	Pn	15 16 59.7	-5.9		
BRG					SG		15 17 20.3		
	3.8nm,0.4s								
IDI	**Anoyia**	**16.94**	**87**	Pn	**P**	**15 17 15.5**	**+1.0**		
	0.3nm,0.3s,baz=300,slow=14,SNR=5.7								
MLR	**Muntele Rosu**	**19.00**	**54**	P	**P**	**15 17 37.1**	**-0.1**		
	0.0nm,0.3s,baz=135,slow=20,SNR=2.6								
TORD	**Torodi Ar. Bea**	**22.94**	**186**	P	**P**	**15 18 17.8**	**-1.9**		
	2.9nm,0.7s,baz=3.7,slow=9.2,SNR=15								
AKASG	**Malin Array Be**	**23.25**	**43**	P	**P**	**15 18 21.0**	**-1.7**		
	1.1nm,0.6s,baz=240,slow=9.9,SNR=7.3								
NOA	**NORSAR Array B**	**25.39**	**8**	P	**P**	**15 18 42.8**	**+0.2**		
	0.4nm,0.6s,baz=196,slow=9.1,SNR=3.3								
OBN	**Obninsk**	**29.26**	**39**	LR	LR	15 32 25.1			
	comp=Z,80nm,18.3s,baz=87,slow=39								
KURBB	**Kurchatov Arra**	**53.83**	**49**	P	**P**	**15 22 38.2**	**+0.1**		
	0.9nm,0.7s,baz=290,slow=7.9,SNR=5.5								
MKAR	**Makanchi Array**	**57.34**	**53**	P	**P**	**15 23 03.5**	**0.0**		
	1.1nm,0.6s,baz=286,slow=8.7,SNR=14								
YKA	**Yellowknife Ar**	**70.19**	**334**	P	**P**	**15 24 28.9**	**+1.1**		
	0.5nm,0.7s,baz=48,slow=6.1,SNR=7.3								

IDC ***14*** *15:22:22.6±9.8, 16°.11N×95°.49W, h0km, mb3.4/2, mb1 3.9/3, mb1mx3.6/22, mbtmp3.4/3, ML4.2/1, Error ellipse: s-maj=184.4km s-min=114.2km az=12.0*
ISCJB ***14*** *15:22:38.0±0.7, 17°.46N±0°.08×95°.66W±0°.04, h54km±13km, mb3.3/2, Error ellipse: s-maj=13.2km s-min=5.9km az=3.7*
MEX ***14*** *15:22:39.5±0.4, 17°.52N×95°.62W, h53km±14km, MD3.8*
ISC 14 15:22:38.9±1.1, 17°.46N±0°.08×95°.67W±0°.04, h40km±19km, n12, σ0s79/18, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.84**	**116**	*i* P		**Pn**		**15 22 53.4**	**-0.8**
CMIG				*i* S		**Sn**		**15 23 04.6**	**-0.8**
OXBJ	**Oaxaca**	**1.08**	**249**	*e*P		**Pn**		**15 22 58.0**	**+0.2**
OXBJ				*i* S		**Sn**		**15 23 11.9**	**+0.3**
VHO	**Vista Hermosa**	**1.09**	**249**	*i* P		**Pn**		**15 22 58.0**	**+0.2**
VHO				*i* S		**Sn**		**15 23 12.5**	**+0.7**
HUIG	**Huatulco**	**1.73**	**194**	*e*P		**Pn**		**15 23 06.3**	**-0.2**
HUIG				*e*S		**Sn**		**15 23 27.2**	**-0.2**
TPIG	**Tehuac#an**	**1.87**	**301**	*e*P		**Pn**		**15 23 07.6**	**-1.0**
PNIG	**Pinotepa**	**2.58**	**246**	*e*P		**Pn**		**15 23 17.0**	**-1.2**
PNIG				*e*S		**Sn**		**15 23 48.7**	**+0.3**
TLIG	**Tlapa**	**2.77**	**273**	*i* P		**Pn**		**15 23 21.5**	**+0.6**
TLIG				*i* S		**Sn**		**15 23 53.9**	**+0.8**
PCIG		**2.93**	**126**	*e*P		**Pn**		**15 23 23.3**	**+0.4**
CCIG	**Comitan**	**3.58**	**109**	*e*P		**Pn**		**15 23 33.6**	**+1.5**
TXAR	**Lajitas Array**	**13.91**	**330**	Pn		**P**		**15 26 01.5**	**+0.5**
	0.3nm,0.3s,baz=156,slow=13,SNR=13								
NVAR	**Mina Array Bea**	**28.77**	**321**	P		**P**		**15 28 32.5**	**-0.7**
	0.4nm,0.6s,baz=137,slow=8.2,SNR=3.7								
YKA	**Yellowknife Ar**	**46.90**	**348**	P		**P**		**15 31 05.1**	**0.0**
	0.2nm,0.4s,baz=153,slow=7.2,SNR=2.9								

IDC 14 15:23:14.7±4.6, 12°.01S×165°.20E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/22, mbtmp3.5/3, Error ellipse: s-maj=195.7km s-min=39.3km az=136.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**31.89**	**244**	P		P		15 29 42.0	-0.1
	0.2nm,0.7s,baz=70,slow=9.7,SNR=6.2								
ILAR	**Eielson Array**	**84.59**	**19**	P		P		15 35 49.6	0.0
	0.3nm,0.5s,baz=235,slow=5.5,SNR=5.0								
MKAR	**Makanchi Array**	**93.86**	**317**	P		P		15 36 34.1	0.0
	0.2nm,0.5s,baz=118,slow=5.0,SNR=1.7								

IDC 14 15:31:17.6±1.3, 19°.37N×144°.63E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.4/31, mbtmp3.7/4, Error ellipse: s-maj=80.5km s-min=28.3km az=105.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.35**	**195**	P		P		15 38 57.4	+0.1
	1.4nm,0.7s,baz=2.8,slow=9.1,SNR=19								
ASAR	**Alice Springs**	**44.04**	**194**	P		P		15 39 26.9	-0.5
	0.2nm,0.7s,baz=14,slow=6.2,SNR=8.1								
NVAR	**Mina Array Bea**	**83.52**	**52**	P		P		15 43 47.2	-0.7
	0.4nm,0.6s,baz=264,slow=6.3,SNR=4.2								
FINES	**FINESS Array B**	**85.85**	**335**	P		P		15 43 59.8	+0.8
	0.7nm,0.9s,baz=62,slow=4.5,SNR=3.9								

NNC ***14*** *15:31:43.5±6.5, 41°.07N×78°.03E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=70.9km s-min=34.5km az=144.0*
ISCJB ***14*** *15:31:44.8±2.9, 41°.3N±0°.2×77°.9E±0°.2, h10km, Error ellipse: s-maj=35.7km s-min=10.5km az=145.2*
ISC 14 15:31:46.4±2.5, 41°.5N±0°.2×77°.8E±0°.1, h10km, n12, σ2s12/10, 10C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**1.38**	**305**	P		**Pn**		**15 32 10.2**	**-1.8**
	SNR=73								
KZA	**Kyzart**	**1.98**	**289**	P		**Pn**		**15 32 18.3**	**-2.0**
	SNR=8.2								
TKM2	**Tokmak 2**	**2.17**	**313**	⇑Pn		**Pn**		**15 32 24.9**	**+2.1**
	16nm,0.8s								
TKM2				⇓Lg		Lg		15 33 04.7	
	26nm,1.1s								
PDGK	**Podgornoye**	**2.27**	**34**	⇓Pn		**Pn**		**15 32 24.2**	**+0.3**
	15nm,0.9s								
PDGK				⇑Lg		Lg		15 33 01.4	
	38nm,0.6s								
KBK	**Karagaybulak**	**2.41**	**301**	P		**Pn**		**15 32 27.9**	**+1.8**
	SNR=8.7								
UCH	**Uchtor**	**2.54**	**289**	P		Pn		15 32 23.4	-4.7
	SNR=6.6								
AAK	**Ala-Archa**	**2.70**	**297**	P		**Pn**		**15 32 32.1**	**+2.0**
	SNR=5.3								
AAK	**Ala-Archa**	**2.70**	**297**	⇑Pn		**Pn**		**15 32 32.0**	**+2.0**
	12nm,0.7s								
AAK				⇑Lg		Lg		15 33 16.3	
	16nm,0.6s								
AML	**Almayashu**	**3.11**	**284**	P		**Pn**		**15 32 38.5**	**+2.5**
	SNR=14								
SFK	**Sufi-Kurgan**	**3.54**	**247**	⇑Pn		Pn		15 32 35.3	-6.4
	2.2nm,0.4s								
SFK				⇑Sn		**Sn**		**15 33 23.8**	**+0.1**
	11nm,0.4s								
MNAS	**Manas**	**4.05**	**286**	⇑Pn		Pn		15 32 54.3	+5.7
	2.8nm,0.8s								
MNAS				⇑Lg		Lg		15 33 54.4	
	10nm,0.9s								
KK31	**Karatay Array**	**5.62**	**289**	⇑Pn		**Pb**		**15 33 23.2**	**-1.4**
	1.9nm,0.8s,baz=104,slow=18,SNR=4.6								
KK31				⇑Lg		Lg		15 34 43.1	
	0.5nm,0.4s,baz=108,slow=28,SNR=3.6								

IDC 14 15:52:31.5±11.0, 21°.07N×143°.05E, h189km±65km, mb3.4/6, mb1 3.3/8, mb1mx3.1/44, mbtmp3.9/8, MS4.0/1, Ms1 4.0/1, ms1mx2.4/25, Error ellipse: s-maj=114.5km s-min=55.9km az=166.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**6.05**	**353**	P		Pn		15 53 59.5	+0.3
	14nm,0.3s,baz=290,slow=24,SNR=24								
JCJ				S		Sn		15 54 57.7	-11
	9.5nm,0.3s,baz=268,slow=23,SNR=9.3								
MJAR	**Matsushiro Arr**	**15.98**	**346**	P		P		15 56 04.0	-1.9
	0.4nm,0.3s,baz=172,slow=9.8,SNR=6.3								
KSRS	**Korea Array**	**20.94**	**324**	P		P		15 56 59.8	+0.2
	1.6nm,0.7s,baz=145,slow=8.9,SNR=12								
ASAJ	**Asahikawa**	**22.98**	**359**	P		P		15 57 19.8	+0.3
	1.8nm,0.6s,baz=194,slow=8.3,SNR=4.7								
KAPI	**Kappang**	**34.56**	**224**	LR		LR		16 14 45.1	
	comp=Z,207nm,18.9s,baz=146,slow=39								
SONM	**Songino Array**	**39.74**	**321**	P		P		15 59 45.2	-0.6
	0.5nm,0.6s,baz=132,slow=8.9,SNR=4.2								
MKAR	**Makanchi Array**	**55.03**	**313**	P		P		16 01 42.6	-0.9
	0.3nm,0.5s,baz=92,slow=9.0,SNR=5.0								
BVAR	**Borovoye Array**	**63.06**	**320**	P		P		16 02 39.7	+1.1
	2.5nm,0.4s,baz=99,slow=8.5,SNR=18								
FINES	**FINESS Array B**	**83.69**	**334**	P		P		16 04 38.0	-0.7
	0.6nm,0.3s,baz=65,slow=5.5,SNR=9.9								

IDC ***14*** *15:53:30.1±1.7, 9°.53S×114°.30E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/36, mbtmp3.9/6, MS3.4/1, Ms1 3.4/1, ms1mx2.4/37, Error ellipse: s-maj=96.9km s-min=26.7km az=51.0*
ISCJB ***14*** *15:53:35.0±1.0, 9°.83S±0°.07×113°.95E±0°.03, h57km±10km, mb3.9/6, MS3.5/1, Error ellipse: s-maj=12.2km s-min=5.5km az=2.2*
DJA ***14*** *15:53:36.0±0.8, 10°.S±3°.×11°.4E±°, h15km±9km, M4.3/22, mb4.5/6, mB4.7/1, MLv4.2/22, Mw(mB)4.0/1*
ISC 14 15:53:35.7±1.9, 9°.9S±0°.1×113°.96E±0°.05, h45km±16km, n23, σ1s34/31, mb3.9/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**1.56**	**49**	P		**Pn**		**15 53 59.8**	**-1.2**
IGBI				S		**Sn**		**15 54 18.9**	**-1.2**
GMJI	**Gumukmas**	**1.65**	**342**	P		**Pn**		**15 54 00.5**	**-1.8**
GMJI				S		**Sn**		**15 54 19.2**	**-3.1**
DNP	**Denpasar**	**1.70**	**47**	P		**Pn**		**15 54 03.3**	**+0.3**
DNP				S		**Sn**		**15 54 25.0**	**+1.5**
ABJI	**Asem Bagus**	**2.06**	**8**	P		**Pn**		**15 54 08.8**	**+0.9**
BLJI	**Banyuglugur**	**2.13**	**350**	P		**Pn**		**15 54 09.3**	**+0.5**
BLJI				S		**Sn**		**15 54 34.8**	**+0.8**
SRBI	**Singaraja**	**2.15**	**35**	P		**Pn**		**15 54 08.8**	**-0.3**
SRBI				S		**Sn**		**15 54 34.8**	**+0.2**
KMMI	**Kalianget**	**2.79**	**0**	P		**Pn**		**15 54 19.1**	**+1.2**
PWJI	**Pagerwojo**	**2.80**	**310**	P		**Pn**		**15 54 18.6**	**+0.5**
PWJI				S		**Sn**		**15 54 50.8**	**+0.2**
PCJI	**Pacitan**	**3.20**	**301**	P		**Pn**		**15 54 25.2**	**+1.6**
PCJI				S		**Sn**		**15 54 58.7**	**-1.9**
GRJI	**Gresik**	**3.27**	**333**	P		**Pn**		**15 54 25.2**	**+0.7**
GRJI				S		**Sn**		**15 55 02.9**	**+0.8**
UGM	**Wanagama**	**3.90**	**299**	P		**Pn**		**15 54 34.4**	**+1.1**
UGM				S		**Sn**		**15 55 16.8**	**-1.1**
BBKI	**Banjar Baru**	**6.41**	**8**	P		**Pn**		**15 55 09.4**	**+1.7**
	29nm,1.1s,0.2nm								
CISI	**Cisompet, Garu**	**6.49**	**290**	P		**Pn**		**15 55 11.7**	**+2.9**
	64nm,1.1s,0.3nm								
BSSI	**Bau Bau, Buton**	**7.45**	**61**	P		**Pn**		**15 55 22.3**	**+0.4**
	31nm,1.5s,0.1nm								
BKSI	**Bulukumba**	**7.59**	**54**	P		**Pn**		**15 55 23.1**	**-0.8**
	11nm,0.9s,503nm0.0nm								
CGJI	**Cibinong**	**8.79**	**291**	P		**Pn**		**15 55 40.8**	**+0.5**
ASAR	**Alice Springs**	**23.48**	**128**	P		**P**		**15 58 41.5**	**-0.2**
	2.1nm,0.7s,baz=309,slow=8.5,SNR=5.7								
CMAR	**Chiang Mai Arr**	**31.80**	**332**	P		**P**		**15 59 57.1**	**+0.9**
	0.5nm,0.6s,baz=168,slow=7.8,SNR=5.9								
SONM	**Songino Array**	**57.82**	**354**	P		**P**		**16 03 21.4**	**-1.4**
	0.8nm,0.4s,baz=174,slow=7.0,SNR=6.8								
RPZ	**Rata Peaks**	**59.65**	**135**	LR		LR		16 29 01.4	
	comp=Z,31nm,18.3s,baz=20,slow=36								
MKAR	**Makanchi Array**	**63.08**	**336**	P		**P**		**16 03 58.1**	**-0.5**
	0.6nm,0.5s,baz=169,slow=5.5,SNR=8.1								
ZALV	**Zalesovo Beam**	**68.18**	**342**	P		**P**		**16 04 30.2**	**-1.1**
	0.5nm,0.5s,baz=114,slow=3.6,SNR=2.4								
BRTR	**Keskin Array B**	**88.88**	**311**	P		**P**		**16 06 26.8**	**+1.0**
	0.5nm,0.6s,baz=95,slow=5.1,SNR=3.3								

ISCJB ***14*** *15:53:34.6±0.6, 4°.14S±0°.06×143°.14E±0°.08, h115km, mb3.8/12, Error ellipse: s-maj=11.9km s-min=7.6km az=159.4*
IDC ***14*** *15:53:37.6±2.5, 4°.15S×143°.01E, h127km±20km, mb3.6/12, mb1 3.7/15, mb1mx3.6/36, mbtmp4.0/15, Error ellipse: s-maj=30.7km s-min=11.5km az=81.0*
ISC 14 15:53:36.5±0.6, 4°.15S±0°.08×143°.07E±0°.10, h115km, n22, σ0s94/24, mb3.8/12, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.86**	**304**	P		**Pn**		**15 54 21.9**	**+1.1**
	8.3nm,0.3s,baz=192,slow=8.3,SNR=40								
JAY				S		**Sn**		**15 54 55.8**	**+0.8**
	5.2nm,0.3s,baz=192,slow=7.1,SNR=4.2								
PMG	**Port Moresby**	**6.62**	**142**	P		**Pn**		**15 55 12.6**	**+1.3**
	baz=6.6,SNR=4.2								
PMG				S		Sn		15 56 04.9	-20
	baz=6.6,SNR=6.7								
KDU	**Kakadu**	**13.48**	**230**	P		**Pn**		**15 56 42.6**	**-0.6**
	baz=13,SNR=11								
CTA	**Charters Tower**	**16.15**	**169**	P		**P**		**15 57 19.1**	**+1.2**
	0.3nm,0.3s,baz=353,slow=16,SNR=3.5								
QIS	**Mount Isa**	**16.66**	**191**	P		**Pn**		**15 57 23.0**	**-0.2**
	baz=17,SNR=4.2								
WRA	**Warramunga Arr**	**17.86**	**208**	P		**P**		**15 57 37.0**	**+0.2**
	1.0nm,0.3s,baz=28,slow=12,SNR=41								
KNRA	**Kununurra**	**18.14**	**230**	P		**P**		**15 57 40.3**	**+0.3**
	baz=18,SNR=22								
SOEI	**Soe**	**19.47**	**252**	P		**Pn**		**15 57 56.2**	**-0.7**
	baz=19,SNR=4.2								
ASAR	**Alice Springs**	**21.33**	**204**	P		**P**		**15 58 14.4**	**0.0**
	2.0nm,0.6s,baz=26,slow=8.3,SNR=38								
STKA	**Stephens Creek**	**27.62**	**183**	P		**P**		**15 59 14.0**	**+0.7**
	0.8nm,0.4s,baz=8.3,slow=9.2,SNR=7.7								
KSRS	**Korea Array**	**43.72**	**342**	P		**P**		**16 01 30.9**	**+0.7**
	1.5nm,0.6s,baz=158,slow=8.7,SNR=12								
CMAR	**Chiang Mai Arr**	**48.93**	**299**	P		**P**		**16 02 11.8**	**+0.4**
	0.8nm,0.6s,baz=121,slow=6.3,SNR=6.8								
USRK	**Ussuriysk Ar.**	**49.15**	**349**	P		**P**		**16 02 13.0**	**+0.5**
	2.4nm,0.6s,baz=179,slow=5.6,SNR=7.1								
PETK	**Petropavlovsk-**	**58.36**	**10**	P		**P**		**16 03 19.8**	**+0.3**
	1.6nm,0.7s,baz=165,slow=12,SNR=4.2								
MKAR	**Makanchi Array**	**73.60**	**321**	P		**P**		**16 04 56.8**	**-0.5**
	0.5nm,0.4s,baz=110,slow=5.5,SNR=9.6								
VNDA	**Vanda**	**74.01**	**176**	P		**P**		**16 04 58.5**	**-0.6**
	0.6nm,0.3s,baz=333,slow=4.3,SNR=5.7								
ZALV	**Zalesovo Beam**	**75.38**	**329**	P		**P**		**16 05 06.5**	**-0.8**
	0.7nm,0.5s,baz=93,slow=7.2,SNR=2.9								
MAW	**Mawson**	**82.45**	**202**	P		**P**		**16 05 44.3**	**-1.4**
	1.7nm,0.8s,baz=63,slow=2.3,SNR=1.3								
BVAR	**Borovoye Array**	**82.98**	**324**	P		**P**		**16 05 48.2**	**-0.5**
	1.5nm,0.6s,baz=123,slow=7.5,SNR=8.3								
ILAR	**Eielson Array**	**85.35**	**24**	P		**P**		**16 05 58.4**	**-2.1**
	0.6nm,0.7s,baz=259,slow=4.5,SNR=5.3								
ILAR				pP		**pP**		**16 06 31.7**	**+1.5**
	0.6nm,0.8s,baz=244,slow=5.3,SNR=4.1								
DBIC	**Dimbokro**	**147.97**	**276**	PKPbc		**PKPbc**		**16 13 08.8**	**-0.7**
	1.9nm,0.6s,baz=130,slow=5.2,SNR=4.2								
SIV	**San Ignacio**	**148.84**	**131**	PKPbc		**PKPbc**		**16 13 11.3**	**-0.4**
	1.9nm,0.5s,baz=263,slow=3.7,SNR=9.6								

ISCJB ***14*** *15:54:03.9±0.9, 4°.5S±0°.1×153°.7E±0°.2, h85km, mb3.8/9, Error ellipse: s-maj=35.4km s-min=16.4km az=14.1*
IDC ***14*** *15:54:11.2±9.9, 4°.54S×153°.64E, h136km±90km, mb3.6/9, mb1 3.8/9, mb1mx3.5/37, mbtmp4.0/9, Error ellipse: s-maj=37.4km s-min=20.4km az=93.0*
ISC 14 15:54:05.7±1.0, 4°.5S±0°.1×153°.7E±0°.3, h85km, n10, σ0s82/10, mb3.9/9, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.30**	**229**	P		**P**		**15 59 15.4**	**0.0**
	7.5nm,0.5s,baz=54,slow=10.0,SNR=19								
STKA	**Stephens Creek**	**29.50**	**201**	P		**P**		**16 00 01.9**	**-0.1**
	3.8nm,0.6s,baz=11,slow=13,SNR=10								
PETK	**Petropavlovsk-**	**57.49**	**3**	P		**P**		**16 03 46.7**	**+0.8**
	1.4nm,0.8s,baz=189,slow=14,SNR=2.4								
CMAR	**Chiang Mai Arr**	**58.54**	**295**	P		**P**		**16 03 54.4**	**+0.5**
	1.3nm,0.8s,baz=115,slow=5.1,SNR=7.4								
SONM	**Songino Array**	**66.54**	**327**	P		**P**		**16 04 46.9**	**+0.1**
	0.3nm,0.5s,baz=145,slow=4.3,SNR=2.8								
SEY	**Seymchan**	**67.25**	**359**	P		**P**		**16 04 51.1**	**+0.3**
	0.3nm,0.2s,baz=159,slow=24,SNR=4.5								
VNDA	**Vanda**	**73.10**	**178**	P		**P**		**16 05 27.1**	**+0.7**
	1.1nm,0.6s,baz=335,slow=4.7,SNR=3.5								
MKAR	**Makanchi Array**	**80.67**	**319**	P		**P**		**16 06 09.0**	**-0.5**
	0.3nm,0.5s,baz=104,slow=5.1,SNR=4.3								
ILAR	**Eielson Array**	**81.55**	**22**	P		**P**		**16 06 12.9**	**-0.8**
	0.4nm,0.6s,baz=256,

TEIG	**Tepich**	**6.61**	**54**	P		Pn	16 17 24.7	-3.8
	5.4nm,0.3s,baz=274,slow=1.6,SNR=14							
JTS	**JuntasAbangare**	**10.68**	**124**	P		**Pn**	**16 18 22.5**	**-0.8**
	4.1nm,0.3s,baz=310,slow=18,SNR=11							
934A	**Benavides**	**11.91**	**340**	⇑P		Pn	16 18 42.3	+2.9
	baz=10							
933A	**Laredo**	**12.18**	**337**	⇓P		**Pn**	**16 18 45.5**	**+2.5**
	baz=11							
835A	**Beeville**	**12.34**	**344**	⇑P		**Pn**	**16 18 47.5**	**+2.4**
	baz=11							
736A	**Circle Diamond**	**12.81**	**348**	⇓P		P	16 18 53.5	-3.4
	baz=11							
833A	**Chaparral WMA,**	**12.87**	**338**	⇓P		**P**	**16 18 54.5**	**-3.1**
	baz=11,SNR=6.9							
832A	**Faith Ranch, C**	**13.05**	**336**	⇑P		**P**	**16 18 57.3**	**-2.4**
	baz=12							
733A	**Divot King Ran**	**13.20**	**339**	⇑P		**P**	**16 18 58.4**	**-2.8**
	baz=12							
635A	**Leesville**	**13.38**	**346**	⇑P		**Pn**	**16 18 59.8**	**+1.3**
	baz=12							
732A	**Laxson Ranch,**	**13.45**	**337**	⇑P		**P**	**16 19 02.2**	**-1.8**
	baz=12							
634A	**China Grove, S**	**13.52**	**343**	⇓P		**P**	**16 19 02.4**	**-2.5**
	baz=12							
633A	**Saathoff Ranch**	**13.84**	**341**	⇑P		**P**	**16 19 06.8**	**-1.6**
	baz=12							
535A	**Dale**	**13.95**	**347**	⇑P		**P**	**16 19 08.3**	**-1.3**
	baz=12							
632A	**Uvalde**	**14.09**	**339**	⇓P		**P**	**16 19 10.1**	**-1.1**
	baz=13,SNR=9.4							
632A				⇓S		Sn	16 21 31.2	-12
	baz=13							
534A	**Blanco**	**14.17**	**344**	⇑P		**P**	**16 19 10.7**	**-1.4**
	baz=13,SNR=30							
534A				⇓S		Sn	16 21 32.6	-13
	baz=13							
631A	**Perdido Creek**	**14.29**	**336**	⇓P		**P**	**16 19 13.0**	**-0.4**
	baz=13							
533A	**Kerrville**	**14.37**	**342**	⇑P		**P**	**16 19 13.4**	**-0.9**
	baz=13,SNR=6.9							
435B	**Jarrell**	**14.68**	**348**	⇑P		**P**	**16 19 17.8**	**+0.1**
	baz=13							
532A	**Rocksprings**	**14.70**	**339**	⇓P		**P**	**16 19 18.6**	**+0.6**
	baz=13,SNR=5.7							
532A				⇓S		Sn	16 21 45.8	-12
	baz=13							
434A	**Burnet**	**14.87**	**345**	⇑P		**P**	**16 19 20.1**	**+0.3**
	baz=13,SNR=8.5							
434A				⇑S		Sn	16 21 48.3	-14
	baz=13							
531A	**Rocksprings**	**14.96**	**337**	⇑P		**P**	**16 19 21.3**	**+0.5**
	baz=14							
433A	**Art**	**15.03**	**343**	⇓P		**P**	**16 19 21.9**	**+0.3**
	baz=14,SNR=11							
433A				⇑S		Sn	16 21 53.3	-13
	baz=14							
335A	**Moody**	**15.13**	**349**	⇑P		**P**	**16 19 23.4**	**+0.6**
	baz=14							
530A	**J-C Ranch, Com**	**15.25**	**335**	⇑P		**P**	**16 19 25.2**	**+1.1**
	baz=14							
432A	**Menard**	**15.35**	**341**	⇑P		**P**	**16 19 25.7**	**+0.5**
	baz=14							
334A	**Lometa**	**15.36**	**346**	⇓P		**P**	**16 19 26.1**	**+0.9**
	baz=14,SNR=19							
431A	**Sonora**	**15.45**	**338**	⇑P		**P**	**16 19 27.8**	**+1.5**
	baz=14,SNR=5.1							
333A	**Richland Sprin**	**15.53**	**344**	⇓P		**P**	**16 19 28.7**	**+1.5**
	baz=14,SNR=7.4							
TXAR	**Lajitas Array**	**15.65**	**327**	P		**P**	**16 19 28.0**	**-0.5**
	0.1nm,0.3s,baz=149,slow=14,SNR=13							
332A	**Millersview**	**15.80**	**342**	⇓S		Sn	16 22 11.9	-13
	baz=14							
WHTX	**Lake Whitney,**	**15.83**	**349**	⇓P		**P**	**16 19 32.6**	**+2.1**
	baz=14							
WHTX				⇓S		Sn	16 22 12.1	-13
	baz=14							
234A	**Clairette**	**15.98**	**347**	⇓P		**P**	**16 19 34.3**	**+2.2**
	baz=14,SNR=7.0							
234A				⇓S		Sn	16 22 15.1	-14
	baz=14							
X37A	**Clayton**	**18.14**	**356**	⇑P		**Pn**	**16 20 00.6**	**+3.2**
	baz=17							
ANMO	**Albuquerque**	**21.58**	**331**	P		**P**	**16 20 34.5**	**+1.3**
	1.1nm,0.7s,baz=142,slow=12,SNR=3.9							
PFO	**Pinyon Flats O**	**26.52**	**314**	LR		LR	16 32 08.3	
	comp=Z,41nm,20.4s,baz=126,slow=37							
NVAR	**Mina Array Bea**	**30.61**	**321**	P		**P**	**16 21 57.5**	**+1.8**
	0.9nm,0.8s,baz=136,slow=8.6,SNR=5.5							
LPAZ	**La Paz**	**41.30**	**141**	P		**P**	**16 23 27.2**	**0.0**
	2.0nm,0.6s,baz=341,slow=4.1,SNR=9.4							
YKA	**Yellowknife Ar**	**48.26**	**347**	P		**P**	**16 24 19.3**	**-1.8**
	0.1nm,0.5s,baz=152,slow=8.1,SNR=3.0							
ARCES	**ARCESS Array B**	**84.45**	**18**	P		**P**	**16 28 09.3**	**-2.0**
	1.1nm,0.6s,baz=316,slow=3.3,SNR=9.5							

MOS ***14*** *16:21:19.3±1.2,5.˚70N×126.˚61E,h38km,mb4.9/18,Error ellipse: s-maj=13.7km s-min=6.8km az=107.0*
MAN ***14*** *16:21:22,5.˚45N×126.˚68E,h96km,mb5.4,ML4.4,MS4.7*
ISCJB ***14*** *16:21:24.5±0.4,5.˚64N±0.˚02×126.˚70E±0.˚04,h88km±3km, mb4.3/61,Error ellipse: s-maj=6.2km s-min=2.9km az=170.0*
BJI ***14*** *16:21:24.3,5.˚16N×126.˚63E,h103km,mb4.4/19,mMb4.7/11*
IDC ***14*** *16:21:24.2±1.6,5.˚65N×126.˚51E,h66km±14km,mb4.1/36, mb1 4.2/37,mb1mx4.1/54,mbtmp4.4/37,MS3.0/13, Ms1 3.1/13,ms1mx2.9/37,Error ellipse: s-maj=15.2km s-min=8.9km az=73.0*
NEIC ***14*** *16:21:25.4±0.8,5.˚63N×126.˚56E,h82km±7km,mb4.5/12, Error ellipse: s-maj=8.4km s-min=5.3km az=78.0*
DJA ***14*** *16:21:28.2±0.5,5.˚N±4.×12.˚7E±.˚,h10km,M4.9/29, mb5.0/29,mB5.3/19,MLv5.3/9,Mw(mB)4.7/19*

ISC 14 16:21:25.9±0.7,5.˚64N±0.˚03×126.˚64E±0.˚05,h83km±6km, n185,σ1§58/196,mb4.5/61,6C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.35**	**344**	*e*P	**Pn**	**16 21 48.1**	**-1.5**
MATI				*e*S	**Sn**	**16 22 09.7**	**+2.4**
GSPH	**General Santos**	**1.74**	**285**	⇓*i*P	Pn	16 21 51.1	-3.5
GSPH				*i* S	**Sn**	**16 22 11.9**	**-4.5**
DAV	**Davao City (W)**	**1.77**	**324**	*e*Pn	**Pn**	**16 21 54.5**	**-0.4**
SGSI	**Sangihe**	**2.23**	**210**	P	**Pn**	**16 22 00.7**	**-0.3**
SGSI				S	**Sn**	**16 22 27.7**	**-0.2**
BIPH	**Bislig**	**2.54**	**354**	⇑*i*P	**Pn**	**16 22 03.6**	**-1.6**
BIPH				*i* S	**Sn**	**16 22 35.3**	**-0.1**
BUKP	**Musuan**	**2.72**	**325**	*e*P	**Pn**	**16 22 07.1**	**-0.6**
BUKP				*e*S	**Sn**	**16 22 41.1**	**+1.4**
CTBH	**Cotabato--PC H**	**2.85**	**304**	⇑*i*P	**Pn**	**16 22 08.6**	**-0.8**
CGP	**Cagayan de Oro**	**3.40**	**325**	*e*P	**Pn**	**16 22 16.3**	**-0.5**
CGP				*i* S	**Sn**	**16 22 58.4**	**+2.3**
BUTP	**Butuan**	**3.46**	**343**	*e*P	**Pn**	**16 22 19.1**	**+1.5**
PAGZ	**Pagadian**	**3.91**	**304**	*e*P	**Pn**	**16 22 23.4**	**-0.3**
SCPH	**Surigao**	**4.27**	**345**	*i* P	**Pn**	**16 22 30.5**	**+1.8**
SCPH				*e*S	**Sn**	**16 23 20.7**	**+3.4**
DCPH	**Dipolog City**	**4.38**	**312**	⇑*e*P	**Pn**	**16 22 33.1**	**+3.0**
IPIL	**Ipil**	**4.57**	**298**	*e*P	**Pn**	**16 22 32.2**	**-0.5**
MSLP	**Maasin**	**4.80**	**339**	*e*P	**Pn**	**16 22 35.6**	**-0.2**
TBP	**Tagbilaran**	**4.88**	**326**	*e*P	**Pn**	**16 22 36.4**	**-0.5**
TNTI	**Ternate**	**4.89**	**171**	P	**Pn**	**16 22 36.9**	**-0.1**
TNTI				S	**Sn**	**16 23 31.2**	**-1.1**
TNTI	**Ternate**	**4.89**	**171**	*e*Pn	**Pn**	**16 22 36.1**	**-0.9**
TNTI				*e*Sn	**Sn**	**16 23 32.5**	**+0.2**
SNPH	**Sibulan**	**5.00**	**318**	*e*P	Pn	16 22 34.0	-4.5
KMSI	**Cibinong**	**5.69**	**208**	P	**Pn**	**16 22 49.8**	**+1.9**
	376nm,0.7s,3μm2.5nm						
OCLP	**Ormoc**	**5.74**	**340**	*e*P	**Pn**	**16 22 49.9**	**+1.2**
LBMI	**Labuha**	**6.29**	**172**	P	**Pn**	**16 22 56.5**	**+0.3**
	255nm,1.0s,2μm2.0nm						
LBMI				S	**Sn**	**16 24 04.4**	**-2.3**
	255nm,1.0s,2μm2.0nm						
GUIM	**Jordan**	**6.38**	**321**	*e*P	**Pn**	**16 22 57.9**	**+0.6**
MRSI	**Marisa**	**6.95**	**223**	P	**Pn**	**16 23 05.9**	**+0.8**
	187nm,0.7s,2μm0.7nm						
RCP	**Roxas**	**7.03**	**327**	⇓*e*P	**Pn**	**16 23 07.3**	**+1.0**
TOLI	**Toli-Toli**	**7.36**	**233**	*e*Pn	**Pn**	**16 23 08.7**	**-2.1**
	113nm,0.6s						
TOLI				*e*Sn	**Sn**	**16 24 30.0**	**-2.8**
SANI	**Sanana**	**7.66**	**185**	P	Pn	16 23 11.6	-3.3
	117nm,0.8s,2μm0.8nm						
LUWI	**Luwuk**	**7.68**	**210**	P	Pn	16 23 18.7	+3.6
	248nm,1.1s,4μm0.8nm						
LUWI				S	**Sn**	**16 24 46.3**	**+5.7**
	248nm,1.1s,4μm0.8nm						
LUWI	**Luwuk**	**7.68**	**210**	P	**Pn**	**16 23 14.7**	**-0.4**
	baz=7.5,SNR=12						
LUWI	**Luwuk**	**7.68**	**210**	*e*Pn	**Pn**	**16 23 12.8**	**-2.3**
	178nm,0.8s						
LUWI				*e*Sn	**Sn**	**16 24 37.9**	**-2.6**
SIJI	**Sorong**	**7.94**	**144**	P	**Pn**	**16 23 18.1**	**-0.6**
	4.3nm,0.3s,baz=346,slow=15,SNR=29						
SIJI				S	**Sn**	**16 24 44.6**	**-2.5**
	1.0nm,0.3s,baz=162,slow=19,SNR=2.7						
MPSI	**Mapaga**	**8.55**	**232**	P	Pn	16 23 30.3	+3.4
	19nm,0.9s,385nm						
NLAI	**Namlea**	**8.83**	**177**	P	**Pn**	**16 23 29.1**	**-1.7**
	138nm,0.8s,3μm						
MSAI	**Masohi**	**9.21**	**166**	P	**Pn**	**16 23 38.1**	**+2.1**
	30nm,1.1s,308nm						
PCI	**Palu**	**9.40**	**226**	P	**Pn**	**16 23 41.2**	**+2.5**
	34nm,1.0s,663nm						
FAKI	**Fak Fak**	**10.18**	**146**	P	**Pn**	**16 23 48.6**	**-0.6**
	46nm,1.2s						
FAKI	**Fak Fak**	**10.18**	**146**	P	**Pn**	**16 23 49.4**	**+0.1**
	baz=10,SNR=6.0						
TTSI	**Tana Toraja**	**10.99**	**218**	P	**Pn**	**16 24 01.6**	**+1.3**
	90nm,1.1s,825nm						
SPSI	**Sidrap Palu**	**11.75**	**216**	P	**Pn**	**16 24 11.1**	**+0.5**
	33nm,0.7s						
BKB	**Balikpapan**	**11.90**	**235**	P	**Pn**	**16 24 14.1**	**+1.4**
	74nm,0.8s						
BNSI	**Bone**	**11.92**	**213**	P	**Pn**	**16 24 13.9**	**+1.0**
	35nm,0.9s						
SRPI	**Serui, Papua**	**12.15**	**128**	P	Pn	16 24 19.6	+3.6
	128nm,0.9s,3μm						
KAPI	**Kappang**	**12.62**	**213**	P	**Pn**	**16 24 22.9**	**+0.5**
	1.0nm,0.3s,baz=22,slow=7.8,SNR=19						
BKSI	**Bulukumba**	**12.68**	**211**	P	**Pn**	**16 24 23.0**	**-0.2**
	21nm,0.8s,432nm						
BSSI	**Bau Bau, Buton**	**13.21**	**208**	P	**Pn**	**16 24 29.0**	**-1.3**
	61nm,1.1s						
MTKI	**Muara Teweh, K**	**13.43**	**241**	P	P	16 24 43.3	+3.8
BBKI	**Banjar Baru**	**14.85**	**233**	P	**P**	**16 24 57.2**	**+1.9**
SOEI	**Soe**	**15.47**	**189**	P	**Pn**	**16 24 59.0**	**-0.6**
	71nm,0.9s						
SOEI	**Soe**	**15.47**	**189**	P	**P**	**16 25 04.1**	**+1.8**
	baz=15,SNR=5.9						
SOEI	**Soe**	**15.47**	**189**	*e*Pn	**Pn**	**16 24 59.4**	**-0.2**
	48nm,0.8s						
STKI	**Sintang**	**16.12**	**250**	P	**P**	**16 25 11.6**	**+2.2**
	30nm,1.5s						
JAY	**Jayapura**	**16.21**	**120**	LR	LR	16 31 11.5	
	comp=Z,48nm,19.4s,baz=328,slow=36						
WBSI	**Waikabubak, Su**	**16.81**	**205**	P	**P**	**16 25 17.5**	**+0.4**
KSM	**Kuching**	**16.81**	**256**	*e*Pn	**Pn**	**16 25 14.8**	**-1.4**
	43nm,0.8s						
DLV	**T Lat**	**19.00**	**290**	*e*P	**P**	**16 25 40.4**	**-0.9**
	29nm,1.1s						
KDU	**Kakadu**	**19.11**	**162**	P	**P**	**16 25 42.5**	**+0.3**
	baz=19,SNR=9.8						
KDU				S	**S**	**16 29 12.8**	**-1.9**
	baz=19,SNR=3.4						
GUMO	**Guam**	**19.62**	**65**	LR	LR	16 31 59.8	
	comp=Z,18nm,21.9s,baz=196,slow=32						
UGM	**Wanagama**	**20.97**	**230**	S	**S**	**16 29 48.0**	**-3.7**
	baz=21,SNR=4.4						
QIZ	**Qiongzhong**	**21.10**	**311**	P	**P**	**16 26 06.5**	**+2.7**
QIZ				S	**S**	**16 29 54.3**	**+0.1**
QIZ				LZ			
	170nm,21.2s						
KNRA	**Kununurra**	**21.28**	**174**	P	**P**	**16 26 06.1**	**+0.4**
	baz=21,SNR=102						
LEM	**Lembang**	**22.67**	**237**	P	**P**	**16 26 20.1**	**-0.7**
	26nm,0.7s,baz=43,slow=11,SNR=7.5						
LEM				LR	LR	16 37 56.7	
	comp=Z,58nm,18.7s,baz=23,slow=44						
COEN	**Coen**	**25.46**	**140**	P	**P**	**16 26 46.6**	**+0.2**
	baz=26,SNR=8.6						
IPM	**Ipoh**	**25.54**	**269**	*e*P	**P**	**16 26 46.4**	**-0.8**
	8.9nm,0.8s						
CBIJ	**Chichi jima**	**25.98**	**33**	P	**P**	**16 26 48.6**	**-2.3**
JCJ	**Chichijima**	**25.98**	**33**	P	**P**	**16 26 48.6**	**-2.3**
	29nm,0.4s,baz=278,slow=16,SNR=10						
JCJ				LR	LR	16 37 43.8	
	comp=Z,22nm,20.3s,baz=299,slow=38						
CHAI	**Chaiyaphum**	**26.25**	**295**	P	**P**	**16 26 57.1**	**+3.6**
	3.0nm,0.7s						
WRAB	**Tennant Creek**	**26.52**	**164**	*e*P	**P**	**16 26 55.7**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,18nm,1.2s						
WRAB	**Tennant Creek**	**26.52**	**164**	*e*P	**P**	**16 26 54.4**	**-1.5**
	comp=Z,12nm,0.6s						
WRA	**Warramunga Arr**	**26.52**	**164**	P	**P**	**16 26 55.4**	**-0.6**
	comp=Z,13nm,0.4s,baz=343,slow=10,SNR=80						
WRA				PcP	**PcP**	**16 30 19.5**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=335,slow=2.4,SNR=4.6						
WRA				ScP	**ScP**	**16 33 54.5**	**+2.8**
	comp=Z,0.9nm,0.6s,baz=343,slow=3.1,SNR=9.6						
PBKT	**Sadao Pong**	**27.39**	**295**	P	**P**	**16 27 07.1**	**+3.3**
	comp=Z,7.1nm,0.9s						
MBWA	**Marble Bar**	**27.48**	**194**	*e*P	**P**	**16 27 04.2**	**-0.3**
JNU	**Nakatsue**	**27.63**	**8**	P	**P**	**16 27 06.0**	**+0.2**
	comp=Z,3.6nm,0.8s,baz=270,slow=6.1,SNR=3.7						
JNU				LR	LR	16 37 39.7	
	comp=Z,34nm,21.9s,baz=190,slow=35						
PSI	**Prapat**	**27.78**	**265**	P	**P**	**16 27 06.5**	**-0.9**
	comp=Z,5.3nm,0.6s,baz=70,slow=10,SNR=4.4						
QIS	**Mount Isa**	**28.98**	**154**	P	**P**	**16 27 18.2**	**+0.3**
	29nm,0.5s,SNR=11						
CMAR	**Chiang Mai Arr**	**29.87**	**298**	P	**P**	**16 27 25.6**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=118,slow=7.5,SNR=10						
CMAR				PcP	**PcP**	**16 30 29.0**	**+1.8**
	comp=Z,0.7nm,0.7s,baz=140,slow=1.0,SNR=5.0						
CMAR				ScP	**ScP**	**16 34 03.5**	**+1.4**
	comp=Z,0.4nm,0.4s,baz=182,slow=2.7,SNR=4.7						
CMAR				LR	LR	16 41 35.6	
	comp=Z,15nm,18.2s,baz=115,slow=41						
AS31	**Alice Springs**	**29.98**	**167**	*e*P	**P**	**16 27 24.1**	**-2.6**
ASAR	**Alice Springs**	**29.98**	**167**	P	**P**	**16 27 26.5**	**-0.2**
	comp=Z,6.4nm,0.7s,baz=344,slow=6.9,SNR=117						
ASAR				PcP	**PcP**	**16 30 27.9**	**+0.5**
	comp=Z,3.6nm,0.5s,baz=351,slow=2.5,SNR=16						
ASAR				ScP	**ScP**	**16 34 04.8**	**+2.6**
	comp=Z,0.7nm,0.7s,baz=339,slow=3.2,SNR=6.0						
WRKA	**Warakurna**	**30.53**	**177**	P	**P**	**16 27 31.8**	**+0.2**
	baz=31,SNR=16						
KSAR	**Wonju Array Be**	**31.68**	**2**	P	**P**	**16 27 41.9**	**+0.5**
KSAR						16 30 32.3	
KSAR	**Wonju Array Be**	**31.68**	**2**	P	**P**	**16 27 41.9**	**+0.5**
KSAR				PcP	**PcP**	**16 30 32.3**	**+0.7**
KSRS	**Korea Array**	**31.69**	**2**	P	**P**	**16 27 41.9**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=180,slow=9.0,SNR=3.2						
KSRS				PcP	**PcP**	**16 30 32.3**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=190,slow=2.9,SNR=4.1						
KSRS				LR	LR	16 40 42.4	
	comp=Z,20nm,21.4s,baz=183,slow=37						
KSRS	**Korea Array**	**31.69**	**2**	P	**P**	**16 27 41.9**	**+0.4**
KSRS						16 30 32.3	
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KSRS				MLR	MLR		
	comp=Z,21nm,21.4s						
CTA	**Charters Tower**	**32.02**	**143**	P	**P**	**16 27 46.0**	**+1.3**
	comp=Z,4.8nm,0.8s,baz=309,slow=8.9,SNR=5.4						
MJAR	**Matsushiro Arr**	**32.54**	**17**	P	**P**	**16 27 48.3**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=190,slow=8.8,SNR=4.2						
MJAR				PcP	**PcP**	**16 30 34.6**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=181,slow=2.7,SNR=4.7						
MJAR				LR	LR	16 39 53.9	
	comp=Z,21nm,20.5s,baz=220,slow=34						
XAN	**Xi'an**	**32.69**	**332**	P	**P**	**16 27 50.3**	**-0.2**
XAN				PMZ			
	comp=Z,4.0nm,0.7s						
XAN				PMZ			
	comp=Z,13nm,5.0s						
MEEK	**Meekatharra**	**33.01**	**193**	P	**P**	**16 27 52.9**	**-0.4**
	baz=33,SNR=17						
FORT	**Forrest**	**36.23**	**178**	P	**P**	**16 28 21.4**	**+0.4**
	baz=36,SNR=10						
QLP	**Quilpie**	**36.28**	**153**	P	**P**	**16 28 21.3**	**-0.2**
	baz=36,SNR=3.8						
KMBL	**Kambalda**	**37.08**	**187**	P	**P**	**16 28 28.6**	**+0.4**
	baz=37,SNR=7.5						
BLDU	**Ballidu**	**37.28**	**194**	P	**P**	**16 28 29.6**	**-0.3**
	baz=37,SNR=17						
HHC	**Hu-ho-hao-te**	**37.57**	**341**	*e*P	P	16 28 37.4	+5.0
HHC				pP	pP	16 29 00.1	+8.0
HHC				sP	sP	16 29 11.6	+10
HHC				S	**S**	**16 34 21.3**	**+5.5**
HHC				SS	**SS**	**16 37 05.0**	**+2.0**
HHC				PMZ			
	comp=Z,20nm,0.9s						
HHC				PMZ			
	comp=Z,120nm,5.7s						
HHC				LN			
	comp=Z,300nm,14.8s						
HHC				LE			
	comp=Z,280nm,14.8s						
HHC				LZ			
	comp=Z,250nm,16.0s						
CN2	**Changchun**	**38.02**	**359**	*e*P	P	16 28 41.1	+5.1
CN2				*es*P	sP	16 29 17.0	+12
CN2				*e*S	**ScP**	**16 34 27.8**	**-2.5**
CN2				PMZ			
	comp=Z,10.0nm,0.7s						
CN2				PMZ			
	comp=Z,300nm,4.0s						
USRK	**Ussuriysk Ar.**	**38.69**	**6**	P	**P**	**16 28 41.4**	**-0.3**
	comp=Z,2.7nm,0.5s,baz=191,slow=7.5,SNR=9.0						
USRK				LR	LR	16 42 29.8	
	comp=Z,32nm,19.7s,baz=166,slow=33						
BBOO	**Buckleboo**	**39.27**	**167**	P	**P**	**16 28 47.0**	**+0.5**
	baz=39,SNR=23						
NWAO	**Narrogin (SRO)**	**39.38**	**193**	P	**P**	**16 28 47.9**	**+0.4**
	baz=39,SNR=18						
STKA	**Stephens Creek**	**39.94**	**160**	P	**P**	**16 28 52.5**	**+0.4**
	comp=Z,6.3nm,0.6s,baz=338,slow=7.9,SNR=28						
STKA				PcP	**PcP**	**16 30 56.6**	**+0.5**
	comp=Z,6.7nm,0.9s,baz=347,slow=3.7,SNR=3.0						
STKA	**Stephens Creek**	**39.94**	**160**	P	**P**	**16 28 52.6**	**+0.4**
	baz=40,SNR=26						
HTT	**Hallett**	**40.56**	**164**	P	**P**	**16 28 58.3**	**+0.9**
	baz=41,SNR=7.4						
ASAJ	**Asahikawa**	**40.81**	**18**	P	**P**	**16 29 00.9**	**+1.8**
	comp=Z,5.5nm,0.6s,baz=212,slow=6.9,SNR=17						
ASAJ	**Asahikawa**	**40.81**	**18**	P	**P**	**16 29 01.0**	**+1.8**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**41.08**	**68**	T	T	17 13 13.5	
	baz=257,slow=75,SNR=6.0						
H11S1	**WAKE ISLAND Hy**	**41.10**	**68**	T	T	17 13 12.0	
	baz=257,slow=75,SNR=5.9						
H11S2	**WAKE ISLAND Hy**	**41.10**	**68**	T	T	17 13 02.0	
	baz=257,slow=75,SNR=7.8						
GTA	**Gaotai**	**41.43**	**328**	*e*P	**P**	**16 29 07.3**	**+2.7**
GTA				PMZ			
	comp=Z,3.0nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**41.55**	**67**	T	T	17 13 44.1	
	baz=255,slow=75,SNR=5.4						
H11N2	**WAKE ISLAND Hy**	**41.56**	**67**	T	T	17 13 42.8	
	baz=255,slow=75,SNR=4.4						
H11N3	**WAKE ISLAND Hy**	**41.57**	**67**	T	T	17 13 42.3	
	baz=255,slow=75,SNR=5.0						
TAPN	**Taplejung**	**42.84**	**305**	*e*P	**P**	**16 29 16.5**	**+0.1**
	comp=Z,7.5nm,0.5s						
ODAN	**Odare**	**42.92**	**304**	*e*P	**P**	**16 29 17.4**	**+0.4**
	comp=Z,19nm,0.7s						
ARMA	**Armidale**	**43.11**	**148**	P	**P**	**16 29 19.3**	**+1.1**
	baz=43,SNR=5.3						
HABR	**Khabarovsk**	**43.28**	**8**	*e*P	**P**	**16 29 16.3**	**-2.9**
HABR						16 30 58.6	
HABR				*e*		16 31 04.9	
HABR				*e**PP	PcP	16 31 33.9	+27
HABR				*e*S	**S**	**16 35 35.8**	**-4.5**
HABR				*e*SS	**SS**	**16 38 52.3**	**-4.4**
HABR				*e*		16 39 06.9	
HABR				*e*SSS	SSS	16 39 33.9	
HABR				pmax	pmax		
	comp=Z,12nm,1.6s						
HABR				MLR	MLR		
	comp=Z,63nm,16.0s						
RAMN	**Ramite**	**43.60**	**304**	*e*P	**P**	**16 29 23.0**	**+0.5**
	comp=Z,12nm,0.6s						
JIRN	**Jiri**	**44.21**	**304**	*e*P	**P**	**16 29 26.6**	**-0.9**
	comp=Z,20nm,0.6s						
ARPS	**Mount Arapiles**	**44.52**	**163**	P	**P**	**16 29 30.4**	**+1.1**
	baz=45,SNR=16						
GUN	**Gumba**	**44.56**	**305**	*e*P	**P**	**16 29 29.4**	**-0.8**
	comp=Z,12nm,0.5s						
PKI	**Pulchoki**	**44.82**	**304**	*e*P	**P**	**16 29 31.4**	**-0.9**
PKIN	**Phulchoki**	**44.83**	**304**	*e*P	**P**	**16 29 31.2**	**-1.1**
	comp=Z,4.5nm,0.5s						
KKN	**Kakani**	**45.01**	**304**	*e*P	**P**	**16 29 32.8**	**-0.8**
ULN	**Ulaanbaatar**	**45.29**	**341**	*e*P	**P**	**16 29 37.9**	**+2.4**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ULN	**Ulaanbaatar**	**45.29**	**341**	*e*P	**P**	**16 29 34.8**	**-0.7**
	comp=Z,6.1nm,0.8s						
SONM	**Songino Array**	**45.48**	**341**	P	**P**	**16 29 37.6**	**+0.6**
	comp=Z,2.8nm,0.8s,baz=152,slow=5.4,SNR=13						
SONM				PcP	**PcP**	**16 31 15.1**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=156,slow=5.0,SNR=3.1						
KOLN	**Koldanda**	**46.39**	**303**	*e*P	**P**	**16 29 43.0**

ARU							16 35 27.0	
ARU				S	S		16 42 09.2	-0.9
ARU				pmax	pmax			
	comp=Z,5.0nm,0.8s							
ARU	**Arti**	**73.29**	**327**	*eP*	**P**		**16 32 47.3**	**-0.9**
	comp=Z,5.5nm,0.8s							
ZEI	**Tsey**	**80.87**	**312**	*eP*	**P**		**16 33 28.6**	**-2.7**
ZEI				pmax	pmax			
	comp=Z,8.0nm,1.0s							
KBZ	**Khabaz**	**81.61**	**313**	P	**P**		**16 33 36.6**	**+1.7**
	comp=Z,1.4nm,0.7s,baz=233,slow=20,SNR=2.4							
BPAW	**Bear Paw Mtn.**	**81.62**	**26**	P	**P**		**16 33 33.8**	**-0.8**
	comp=Z,1.9nm,1.0s							
KIV	**Kislovodsk**	**81.77**	**313**	*ceP*	**P**		**16 33 37.3**	**+1.4**
KIV				*e*			16 36 49.7	
KIV				*eS*	S		16 43 49.9	+7.5
KIV				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KIV				MLR	MLR			
	comp=Z,20nm,17.0s							
COLD	**Coldfoot**	**82.18**	**23**	P	P		16 33 33.3	-4.1
ILAR	**Eielson Array**	**83.43**	**26**	P	**P**		**16 33 43.3**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=241,slow=5.5,SNR=13							
KLMR	**Klimovskoe**	**83.71**	**331**	*eP*	**P**		**16 33 45.8**	**+0.4**
KLMR				pmax	pmax			
	comp=Z,9.0nm,0.6s							
TMCR	**Tamitsa**	**84.36**	**334**	*eP*	**P**		**16 33 48.8**	**+0.2**
TMCR				pmax	pmax			
	comp=Z,8.0nm,0.4s							
VNDA	**Vanda**	**85.32**	**173**	P	**P**		**16 33 53.5**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=319,slow=7.9,SNR=6.4							
OBN	**Obninsk**	**85.46**	**325**‖	*eP*	**P**		**16 33 55.2**	**+0.9**
OBN				*e*			16 37 15.6	
OBN				pmax	pmax			
	comp=Z,14nm,1.1s							
OBN				MLR	MLR			
	comp=Z,20nm,15.0s							
ANN	**Anapa**	**85.51**	**314**	*eP*	**P**		**16 33 56.0**	**+1.2**
ANN				pmax	pmax			
	comp=Z,11nm,0.7s							
LVZ	**Lovozero**	**85.57**	**338**	*eP*	**P**		**16 33 56.5**	**+1.8**
LVZ				pmax	pmax			
	comp=Z,8.0nm,1.2s							
ASF	**Jabal al Asfar**	**86.82**	**302**	P	**P**		**16 34 02.2**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=168,slow=3.7,SNR=4.1							
INK	**Inuvik**	**88.43**	**21**	P	**P**		**16 34 07.8**	**-0.7**
	comp=Z,1.6nm,0.9s,baz=303,slow=8.6,SNR=4.4							
SPITS	**Spitsbergen Ar**	**88.60**	**349**	P	**P**		**16 34 09.2**	**0.0**
	comp=Z,2.3nm,0.7s,baz=98,slow=10,SNR=8.9							
ARCES	**ARCESS Array B**	**88.64**	**340**	P	**P**		**16 34 09.0**	**-0.5**
	comp=Z,2.0nm,0.4s,baz=80,slow=5.8,SNR=16							
BRTR	**Keskin Array B**	**88.74**	**310**	P	**P**		**16 34 09.2**	**-1.7**
	comp=Z,1.2nm,0.7s,baz=127,slow=5.1,SNR=6.6							
FINES	**FINESS Array B**	**90.12**	**332**	P	**P**		**16 34 16.0**	**-0.5**
	comp=Z,1.8nm,0.5s,baz=70,slow=3.9,SNR=20							
FINES	**FINESS Array B**	**90.12**	**332**	P	**P**		**16 34 16.0**	**-0.5**
AKASG	**Malin Array Be**	**90.37**	**321**	P	**P**		**16 34 16.8**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=65,slow=4.7,SNR=5.0							
KIEV	**Kiev**	**90.38**	**321**	*eP*	P		16 34 22.2	+4.2
MLR	**Muntele Rosu**	**93.47**	**316**	P	**P**		**16 34 31.1**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=252,slow=3.2,SNR=2.6							
BBB	**Bella Bella**	**94.83**	**37**	LR	LR		17 19 39.9	
	comp=Z,1nm,18.4s,baz=196,slow=37							
UZH	**Uzhgorod**	**95.20**	**320**	*eP*	P		16 34 43.5	+3.2
UZH				*e*			16 34 55.9	
HFS	**Hagfors**	**96.30**	**332**	P	**P**		**16 34 43.9**	**-1.1**
	comp=Z,1.3nm,0.6s,baz=90,slow=4.4,SNR=7.1							
NB2	**NORSAR Subarra**	**97.05**	**334**	P	**P**		**16 34 47.3**	**-1.2**
	comp=Z,1.2nm,0.6s,baz=65,slow=4.6							
NOA	**NORSAR Array B**	**97.05**	**334**	P	**P**		**16 34 47.3**	**-1.2**
	comp=Z,1.2nm,0.7s,baz=65,slow=4.6,SNR=11							
YKA	**Yellowknife Ar**	**97.81**	**24**	P	**P**		**16 34 51.4**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=292,slow=4.7,SNR=3.8							
VRAC	**Vranov**	**98.60**	**322**	LR	LR		17 22 52.1	
	comp=Z,20nm,18.7s,baz=103,slow=37							
TXAR	**Lajitas Array**	**120.49**	**51**	PKP		**PKPdf**	**16 40 09.7**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=210,slow=2.2,SNR=4.2							
TORD	**Torodi Ar. Bea**	**122.23**	**289**	PKP		**PKPdf**	**16 40 12.3**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=55,slow=1.8,SNR=13							
PLCA	**Paso Flores**	**141.81**	**159**	PKHKP		PKPpre	16 40 44.6	
	comp=Z,1.3nm,0.6s,baz=247,slow=2.8,SNR=3.9							
TRQA	**Tornquist**	**146.79**	**168**	*e*PKPab		**PKPab**	**16 40 59.7**	**-0.5**
CFAA	**Coronel Fontan**	**150.64**	**153**	PKPbc		**PKPbc**	**16 41 09.8**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=210,slow=2.6,SNR=24							

MAN 14 16:32:31.13˝22N×120˝58E,h32km,mb4.5,ML3.4,MS3.3, 1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.46**	**52**	‖*eP*	Pn	16 32 42.3	+0.8
LUBP	**Lubang**	**0.60**	**328**	*eP*	Pn	16 32 43.8	+0.4
LUBP				*eS*	Sn	16 32 53.3	+1.2
SJMP	**San Jose**	**0.92**	**145**	*eP*	Pn	16 32 47.6	-0.1
BUSP	**Coron**	**1.26**	**197**	*eP*	Pn	16 32 52.8	+0.3
CUYO	**Cuyo Island**	**2.39**	**170**	*eP*	Pn	16 33 04.2	-3.8

*IDC **14** 16:42:23.4±1.9, 1˚.34N×126˚.55E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/31, mbtmp3.5/4, Error ellipse: s-maj=174.1km s-min=24.4km az=65.0*
*ISCJB **14** 16:42:36.1±1.2, 1˚.73N±0˚.09×127˚.33E±0˚.09, h134km, mb3.4/4, Error ellipse: s-maj=14.7km s-min=10.4km az=35.7*
*DJA **14** 16:42:38.9±1.1, 2˚N±6˚×12˚7E±˚, h127km±10km, M3.3/5, MLv3.3/5*

ISC 14 16:42:36.6±1.2, 1˚.8N±0˚.1×127˚.5E±0˚.2, h134km, n9, σ1°58/10, mb3.4/4, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.01**	**185**	P	**Pn**	**16 43 01.0**	**+1.1**
TNTI				S	**Sn**	**16 43 18.3**	**+0.6**
LBMI	**Labuha**	**2.40**	**179**	P	**Pn**	**16 43 16.8**	**+1.0**
LBMI				S	**Sn**	**16 43 44.8**	**-1.1**
KMSI	**Cibinong**	**3.68**	**251**	P	**Pn**	**16 43 32.1**	**-0.1**
KMSI				S	Sn	16 44 11.9	-3.5
SANI	**Sanana**	**4.08**	**201**	P	Pn	16 43 35.6	-1.9
WRA	**Warramunga Arr**	**22.62**	**163**	P	**P**	**16 47 25.5**	**-0.8**
	0.7nm,0.5s,baz=339,slow=10,SNR=14						
ASAR	**Alice Springs**	**26.06**	**166**	P	**P**	**16 47 57.1**	**-0.6**
	0.8nm,1.1s,baz=344,slow=8.5,SNR=5.6						
STKA	**Stephens Creek**	**36.06**	**159**	P	**P**	**16 49 25.3**	**0.0**
	2.6nm,1.1s,baz=319,slow=6.6,SNR=6.8						
MKAR	**Makanchi Array**	**59.56**	**326**	P	**P**	**16 52 28.1**	**+1.9**
	0.2nm,0.4s,baz=137,slow=4.3,SNR=5.4						
LZG	**Guadaloupe-1**	**159.99**	**27**‖	*iP*	**PKPab**	**17 02 57.8**	**-3.0**

*IDC **14** 16:48:55.7±4.1, 0˚.97S×13˚.84W, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.6/33, mbtmp4.0/5, ML4.2/1, MS3.2/5, Ms1 3.2/5, ms1mx2.9/37, Error ellipse: s-maj=121.1km s-min=61.2km az=153.0*

ISC 14 16:48:56.5±1.2, 1˚.7S±0˚.2×13˚.1W±0˚.3, h14km, n18, σ2°15/16, mb3.9/3, MS3.2/4, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**6.28**	**192**	Pn	**Pn**	**16 50 27.7**	**-0.9**
H10N2				T	T	16 57 30.0	
	baz=1.6,slow=73,SNR=69						
H10N1	**ASCENSION HYDR**	**6.30**	**192**	Pn	**Pn**	**16 50 27.7**	**-1.2**
H10N1				T	T	16 57 31.3	
	baz=1.6,slow=73,SNR=78						
H10N3	**ASCENSION HYDR**	**6.30**	**192**	Pn	**Pn**	**16 50 27.7**	**-1.1**
H10N3				T	T	16 57 35.2	
	baz=1.6,slow=73,SNR=61						
H10S1	**ASCENSION HYDR**	**7.40**	**192**	Pn	**Pn**	**16 50 43.1**	**-0.9**
H10S1				T	T	16 58 53.9	
	baz=1.0,slow=74,SNR=14						
H10S3	**ASCENSION HYDR**	**7.41**	**192**	Pn	**Pn**	**16 50 43.0**	**-1.1**
H10S3				T	T	16 59 03.1	
	baz=1.0,slow=74,SNR=20						
H10S2	**ASCENSION HYDR**	**7.42**	**192**	Pn	**Pn**	**16 50 43.2**	**-0.9**
H10S2				T	T	16 58 38.9	
	baz=1.0,slow=74,SNR=14						
LIC	**Lamto**	**11.25**	**46**	*eP*	**Pn**	**16 51 40.0**	**+2.9**
	128nm,1.7s						
TIC	**Toumodi**	**11.55**	**44**	*eP*	**Pn**	**16 51 42.6**	**+1.4**
	21nm,0.2s						
KIC	**Kosan Boka**	**11.55**	**46**	*eP*	**Pn**	**16 51 44.3**	**+3.1**
	114nm,1.6s						
DBIC	**Dimbokro**	**11.69**	**45**	Pn	**Pn**	**16 51 45.1**	**+2.1**
	1.4nm,0.3s,baz=230,slow=12,SNR=41						
DBIC				Sn	**Sn**	**16 53 50.5**	**-2.9**
	0.8nm,0.3s,baz=120,slow=20,SNR=3.3						
DBIC				LR	LR	16 55 38.6	
	comp=Z,115nm,19.6s,baz=193,slow=34						
TORD	**Torodi Ar. Bea**	**20.80**	**45**	P	Pn	16 53 38.9	-1.1
	4.7nm,0.6s,baz=235,slow=11,SNR=26						
TORD				S	**S**	**16 57 26.9**	**-2.6**
	1.7nm,0.5s,baz=234,slow=22,SNR=4.8						
TORD				LR	LR	17 01 02.6	
	comp=Z,121nm,19.7s,baz=200,slow=35						
ESDC	**Sonseca Array**	**41.98**	**11**	LR	LR	17 13 44.5	
	comp=Z,26nm,20.3s,baz=230,slow=36						
KEST	**Kesra**	**42.70**	**27**	LR	LR	17 13 56.5	
	comp=Z,21nm,21.3s,baz=284,slow=35						
GERES	**GERESS Array B**	**55.41**	**21**	P	**P**	**16 58 29.4**	**-1.0**
	1.1nm,0.8s,baz=201,slow=7.0,SNR=8.0						
BRTR	**Keskin Array B**	**59.35**	**41**	P	**P**	**16 58 59.5**	**+0.9**
	0.7nm,0.8s,baz=256,slow=5.8,SNR=5.0						
BORG	**Borgarnes**	**66.51**	**356**	LR	LR	17 24 14.3	
	comp=Z,22nm,18.7s,baz=271,slow=32						
FINES	**FINESS Array B**	**69.69**	**19**	P	**P**	**17 00 04.2**	**-1.3**
	1.0nm,0.8s,baz=159,slow=5.7,SNR=3.9						
ASAR	**Alice Springs**	**139.25**	**130**	PKP	**PKPdf**	**17 08 27.4**	**+3.2**
	0.2nm,0.7s,baz=228,slow=1.1,SNR=4.3						

*ISCJB **14** 16:59:14.7±1.0, 14˚.14N±0˚.04×92˚.93E±0˚.04, h22km±8km, mb4.2/27, MS3.3/5, Error ellipse: s-maj=7.2km s-min=5.8km az=158.2*
*IDC **14** 16:59:16.4±0.6, 13˚.92N×92˚.90E, h26km±3km, mb3.9/20, mb1 4.0/21, mb1mx3.9/45, mbtmp4.1/21, ML3.6/1, MS3.3/6, Ms1 3.4/6, ms1mx3.0/32, Error ellipse: s-maj=21.7km s-min=11.2km az=51.0*
*NEIC **14** 16:59:17.8±0.3, 14˚.01N×92˚.96E, h35km, mb4.4/5, Error ellipse: s-maj=8.4km s-min=6.6km az=192.0*

ISC 14 16:59:17.0±0.6, 14˚.07N±0˚.06×92˚.98E±0˚.06, h28km±3km, h28km:pP-P,n75,σ0s94/85,mb4.2/27,MS3.4/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**0.89**	**183**	*eP*	**Pb**	**16 59 34.4**	**+0.5**
DGPR				*eS*	**Sn**	**16 59 45.5**	**-0.1**
DGPR				AML	AML	16 59 49.9	
	comp=N,13μm,0.5s						
DGPR				AML	AML	16 59 52.9	
	comp=E,20μm,0.3s						
PBA	**Port Blair**	**2.41**	**185**	*eP*	Pn	16 59 55.4	+0.8
PBA				*eS*	Sn	17 00 23.0	-0.2
CMBY	**CAMPBELL BAY**	**7.08**	**172**	*eS*	Sn	17 02 11.4	-7.0
CMAR	**Chiang Mai Arr**	**7.20**	**52**	Pn	**Pn**	**17 01 02.2**	**+1.8**
	comp=E,0.3nm,0.3s,baz=240,slow=15,SNR=7.6						
CMAR				LR	LR	17 04 33.5	
	comp=E,247nm,19.3s,baz=230,slow=43						
CHTO	**Chiang Mai**	**7.42**	**50**	Pn	**Pn**	**17 01 03.2**	**-0.3**
	comp=E,4.9nm,0.6s						
BWNR	**Bhubaneshwar**	**9.23**	**313**	*ex*	Pn	17 01 24.0	-4.3
CHLP	**Challavanipeta**	**9.63**	**298**	*e*Pn	**Pn**	**17 01 32.6**	**-1.2**
CHLP				*e*Sn	Sn	17 03 11.8	-9.3
VIS	**Vishakhapatnam**	**9.96**	**293**	*i* P	**Pn**	**17 01 37.3**	**-1.1**
VIS				*i* S	Sn	17 03 18.0	-11
VIS				*ex*	x	17 03 23.6	
	comp=N,120nm,0.6s						
VIS				*ex*	x	17 03 23.6	
	comp=E,76nm,0.4s						
SKHT	**Srikalahasti**	**12.88**	**270**	*e*Pn	**Pn**	**17 02 18.4**	**+0.1**
SKHT				*e*Sn	Sn	17 04 27.5	-13
NJS	**Nagarjunasagar**	**13.41**	**282**	*e*Pn	**Pn**	**17 02 24.4**	**-1.2**
NJS				*e*Sn	Sn	17 04 40.3	-14
ODAN	**Odare**	**13.75**	**339**	*eP*	**Pn**	**17 02 27.5**	**-2.9**
	comp=E,25nm,0.7s						
RPR	**Rampur**	**13.96**	**292**	*e*Pn	**Pn**	**17 02 31.9**	**-1.1**
RPR				*e*Sn	Sn	17 04 55.5	-12
TAPN	**Taplejung**	**14.10**	**340**	*eP*	**Pn**	**17 02 32.8**	**-2.4**
	comp=E,18nm,0.6s						
RAMN	**Ramite**	**14.13**	**336**	*eP*	**Pn**	**17 02 34.6**	**-1.0**
	comp=E,13nm,0.4s						
HYB	**Hyderabad**	**14.28**	**285**	*i* P	**P**	**17 02 45.0**	**+0.7**
HYB				*eS*	**Sn**	**17 05 15.0**	**+0.1**
HYBB	**Hyderabad (bro**	**14.28**	**285**	*e*		17 05 02.8	
HYBB				*eSn*	**Sn**	**17 05 15.9**	**+0.9**
JIRN	**Jiri**	**14.93**	**336**	*eP*	**Pn**	**17 02 44.9**	**-1.6**
PKI	**Pulchoki**	**15.17**	**333**	*eP*	**Pn**	**17 02 47.8**	**-1.9**
	comp=E,6.5nm,0.3s						
PKIN	**Phulchoki**	**15.18**	**333**	*eP*	**Pn**	**17 02 47.9**	**-1.9**
	comp=E,14nm,0.5s						
URV	**Uravakonda**	**15.24**	**275**	*e*Sn	Sn	17 05 22.3	-16
DMN	**Daman**	**15.34**	**333**	*eP*	**Pn**	**17 02 51.0**	**-0.9**
	comp=E,54nm,0.7s						
GKN	**Gorkha**	**15.89**	**332**	*eP*	**Pn**	**17 02 58.2**	**-0.7**
	comp=E,34nm,0.6s						
KOLN	**Koldanda**	**16.19**	**329**	*eP*	**Pn**	**17 03 02.3**	**-0.5**
	comp=E,33nm,0.6s						
SMLA	**Simla**	**22.34**	**322**	*eP*	**P**	**17 04 11.8**	**-0.9**
DHRM	**DHARAMSHALA**	**23.66**	**323**	*eP*	**P**	**17 04 27.3**	**+0.9**
MK31	**Makanchi Array**	**33.83**	**347**	*eP*	**P**	**17 05 57.0**	**+0.2**
MKAR	**Makanchi Array**	**33.83**	**347**	P	**P**	**17 05 57.6**	**+0.8**
	comp=E,2.9nm,0.8s,baz=187,slow=8.1,SNR=25						
MKAR				pP	**pP**	**17 06 05.8**	**+0.6**
	comp=E,6.2nm,0.7s,baz=186,slow=7.9,SNR=32						
MKAR				LR	LR	17 23 43.9	
	comp=E,30nm,18.6s,baz=164,slow=43						
SONM	**Songino Array**	**35.47**	**16**	P	**P**	**17 06 12.2**	**+1.1**
	comp=E,1.8nm,0.9s,baz=195,slow=8.5,SNR=8.8						
SONM				pP	**pP**	**17 06 21.1**	**+1.6**
	comp=E,3.9nm,1.1s,baz=199,slow=9.3,SNR=7.0						
KURBB	**Kurchatov Arra**	**38.30**	**345**	P	**P**	**17 06 36.0**	**+1.0**
	comp=E,4.0nm,0.8s,baz=161,slow=8.1,SNR=30						
KURBB				pP	**pP**	**17 06 43.9**	**+0.5**
	comp=E,8.6nm,0.8s,baz=161,slow=8.1,SNR=22						
KURK	**Kurchatov**	**38.36**	**345**	P	**P**	**17 06 36.0**	**+0.5**
KURK				pP	**pP**	**17 06 43.9**	**-0.1**
KSAR	**Wonju Array Be**	**38.77**	**47**	P	**P**	**17 06 39.5**	**+0.4**
KSRS	**Korea Array**	**38.81**	**47**	P	**P**	**17 06 39.5**	**+0.1**
	comp=E,0.6nm,0.8s,baz=235,slow=8.0,SNR=4.5						
GEYT	**Alibeck**	**38.96**	**314**	P	**P**	**17 06 42.6**	**+1.8**
	comp=E,3.6nm,0.7s,baz=151,slow=6.8,SNR=8.7						
GEYT				pP	**pP**	**17 06 51.3**	**+2.1**
	comp=E,4.7nm,0.7s,baz=153,slow=10.0,SNR=6.9						
ZAA0	**Zalesovo Array**	**40.30**	**353**	*eP*	**P**	**17 06 50.9**	**-0.7**
ZALV	**Zalesovo Beam**	**40.30**	**353**	P	**P**	**17 06 52.1**	**+0.5**
	comp=E,2.4nm,0.7s,baz=170,slow=9.9,SNR=14						
ZALV				pP	**pP**	**17 07 00.7**	**+0.6**
	comp=E,7.9nm,0.8s,baz=178,slow=8.4,SNR=20						
ABKAR	**Akbulak array**	**44.31**	**329**	*eP*	**P**	**17 07 24.4**	**0.0**
	comp=E,4.0nm,0.9s						
MJAR	**Matsushiro Ar**	**46.09**	**53**	LR	LR	17 29 02.9	
	comp=E,38nm,19.9s,baz=245,slow=39						
WRA	**Warramunga Arr**	**52.90**	**129**	P	**P**	**17 08 29.9**	**-0.9**
	comp=E,1.0nm,0.6s,baz=298,slow=9.6,SNR=14						
WRA				PcP	**PcP**	**17 09 39.5**	**-0.3**
	comp=E,1.3nm,0.8s,baz=321,slow=3.4,SNR=6.9						
ASAR	**Alice Springs**	**54.85**	**133**	P	**P**	**17 08 44.4**	**-0.7**
	comp=E,1.3nm,0.5s,baz=309,slow=7.0,SNR=32						
ASAR				pP	**pP**	**17 08 52.4**	**-1.4**
	comp=E,1.3nm,0.6s,baz=310,slow=6.7,SNR=8.3						
ASAR				PcP	**PcP**	**17 09 46.3**	**-0.9**
	comp=E,0.8nm,0.8s,baz=305,slow=4.7,SNR=5.1						
BR131	**Keskin Array S**	**57.62**	**308**	*eP*	**P**	**17 09 04.1**	**-0.8**
	comp=E,2.6nm,0.9s						
BRTR	**Keskin Array B**	**57.62**	**308**	P	**P**	**17 09 04.7**	**-0.2**
	comp=E,2.8nm,0.8s,baz=114,slow=6.7,SNR=16						
BRTR				LR	LR	17 37 20.4	
	comp=E,25nm,18.7s,baz=117,slow=40						
TIXI	**Tiksi**	**61.44**	**12**	*eP*	**P**	**17 09 30.2**	**-0.2**
	comp=E,1.4nm,0.6s						
AKASG	**Malin Array Be**	**62.65**	**320**	P	**P**	**17 09 38.4**	**-0.6**
	comp=E,0.4nm,0.4s,baz=87,slow=4.8,SNR=6.3						
AKASG				pP	**pP**	**17 09 47.4**	**-0.4**
	comp=E,1.1nm,0.6s,baz=90,slow=4.7,SNR=1.9						
STKA	**Stephens Creek**	**65.24**	**135**	P	**P**	**17 09 56.2**	**-0.1**
	comp=E,1.4nm,0.6s,baz=312,slow=9.0,SNR=6.9						
FINES	**FINESS Array B**	**66.74**	**331**	P	**P**	**17 10 05.5**	**0.0**
	comp=E,2.3nm,0.7s,baz=98,slow=7.9,SNR=11						
FINES				pP	**pP**	**17 10 13.3**	**-1.0**
	comp=E,4.2nm,0.7s,baz=108,slow=6.2,SNR=8.4						
ARCES	**ARCESS Array B**	**69.09**	**340**	P	**P**	**17 10 20.7**	**+0.6**
	comp=E,2.0nm,0.9s,baz=84,slow=5.0,SNR=4.9						
ARCES				pP	**pP**	**17 10 28.2**	**-0.8**
	comp=E,1.5nm,0.6s,baz=50,slow=6.5,SNR=2.8						
ARCES				LR	LR	17 44 08.7	
	comp=E,32nm,19.4s,baz=181,slow=39						
BRG	**Berggiesshubel**	**72.31**	**319**	*eP*	**P**	**17 10 40.8**	**+0.8**
	comp=E,5.2nm,1.1s						
BRG				*e*		17 10 50.3	
	comp=E,2.6nm,0.8s						
GERES	**GERESS Array B**	**72.50**	**317**	P	**P**	**17 10 41.7**	**+0.3**
	comp=E,2.3nm,0.8s,baz=78,slow=6.2,SNR=19						
HFS	**Hagfors**	**72.57**	**329**	P	**P**	**17 10 41.4**	**0.0**
	comp=E,1.8nm,0.7s,baz=160,slow=4.7,SNR=6.4						
NB2	**NORSAR Subarra**	**73.81**	**330**	P	**P**	**17 10 47.6**	**-1.2**
	comp=Z,2.2nm,0.8s,baz=89,slow=6.2						
NOA	**NORSAR Array B**	**73.81**	**330**	P	**P**	**17 10 48.4**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=89,slow=6.1,SNR=5.9						
NOA				pP	**pP**	**17 10 56.5**	**-1.3**
	comp=Z,1.4nm,0.7s,baz=90,slow=5.8,SNR=6.8						
NOA				LR	LR	17 48 05.7	
	comp=Z,13nm,18.2s,baz=70,slow=40						
CDF	**Champ du Feu**	**76.78**	**317**	*eP*	**P**	**17 11 06.1**	**-0.1**
CDF	**Champ du Feu**	**76.78**	**317**	*eP*	**P**	**17 11 06.1**	**-0.1**
LPG	**La Plagne**	**77.48**	**314**	*eP*	**P**	**17 11 10.8**	**+0.3**
	comp=Z,11nm,0.7s						
LPG	**La Plagne**	**77.48**	**314**	*eP*	**P**	**17 11 10.8**	**+0.3**
	comp=Z,11nm,0.7s						
LPL	**La Plagne**	**77.50**	**314**	*eP*	**P**	**17 11 10.8**	**+0.4**
	comp=Z,18nm,0.9s						
LPL	**La Plagne**	**77.50**	**314**	*eP*	**P**	**17 11 10.8**	**+0.4**
	comp=Z,18nm,0.9s						
MBDF	**Montbardon**	**77.57**	**313**	*eP*	**P**	**17 11 11.3**	**+0.5**
	comp=Z,11nm,1.0s						
MBDF	**Montbardon**	**77.57**	**313**	*eP*	**P**	**17 11 11.3**	**+0.5**
	comp=Z,11nm,1.0s						
CABF	**La Chapelle**	**77.80**	**315**	*eP*	**P**	**17 11 12.3**	**+0.4**
CABF	**La Chapelle**	**77.80**	**315**	*eP*	**P**	**17 11 12.3**	**+0.4**
ORIF	**Oris-en-Rattie**	**78.17**	**314**	*eP*	**P**	**17 11 13.8**	**-0.3**
ORIF	**Oris-en-Rattie**	**78.17**	**314**	*eP*	**P**	**17 11 13.8**	**-0.3**
SMF	**Signal de Mont**	**79.33**	**315**	*eP*	**P**	**17 11 19.3**	**-1.0**
	comp=Z,5.3nm,0.7s						
SMF	**Signal de Mont**	**79.33**	**315**	*eP*	**P**	**17 11 19.3**	**-1.0**
	comp=Z,5.3nm,0.6s						
AVF	**Avril sur Loir**	**79.63**	**316**	*eP*	**P**	**17 11 21.7**	**-0.2**
AVF	**Avril sur Loir**	**79.63**	**316**	*eP*	**P**	**17 11 21.7**	**-0.2**
TCF	**Toulx Ste Croi**	**80.50**	**315**	*eP*	**P**	**17 11 27.0**	**+0.4**
TCF	**Toulx Ste Croi**	**80.50**	**315**	*eP*	**P**	**17 11 27.0**	**+0.4**
EKA	**Eskdalemuir Ar**	**82.01**	**325**	P	**P**	**17 11 35.2**	**+0.8**
	comp=Z,3.0nm,1.0s,baz=85,slow=9.3,SNR=3.5						
ESDC	**Sonseca Array**	**86.38**	**310**	P	**P**	**17 11 56.0**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=96,slow=4.5,SNR=3.9						
TORD	**Torodi Ar. Bea**	**88.08**	**283**	P	**P**	**17 12 05.9**	**+0.3**
	comp=Z,2.0nm,0.9s,baz=77,slow=4.2,SNR=9.4						
ILAR	**Eielson Array**	**89.46**	**22**	P	**P**	**17 12 10.7**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=295,slow=4.8,SNR=5.5						
PDAR	**Pinedale Array**	**119.77**	**19**	PKP	**PKPdf**	**17 18 04.8**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=116,slow=3.4,SNR=3.6						
NVAR	**Mina Array Bea**	**120.12**	**28**	PKP	**PKPdf**	**17 18 07.1**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=16,slow=2.8,SNR=4.6						

*IDC **14** 17:04:53.9±1.4, 57˚.33N×154˚.59W, h0km, mb3.7/10, mb1 3.8/11, mb1mx3.6/56, mbtmp3.7/11, ML3.3/1, Error ellipse: s-maj=40.6km s-min=18.4km az=21.0*
*ISCJB **14** 17:04:58.9±0.5, 57˚.31N±0˚.04×154˚.12W±0˚.05, h47km, mb3.6/9, Error ellipse: s-maj=5.8km s-min=3.9km az=174.9*
*NEIC **14** 17:05:01.0, 57˚.30N×154˚.24W, h38km, ML3.4(AEIC), After AEIC.*

ISC 14 17:05:00.5±0.8, 57˚.33N±0˚.06×154˚.20W±0˚.04, h47km, n64, σ0s98/70, mb3.6/9, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**0.51**	**102**	P	**Pn**	**17 05 11.0**	**-0.6**
OHAK				S	**Sn**	**17 05 19.4**	**-0.1**
KABR	**Katmai Barrier**	**0.91**	**333**	P	**Pn**	**17 05 16.3**	**-0.6**
KDAK

TWGZ				SN	S	17 15 08.3	-0.3
TKGZ	**Te Karaka**	**1.85**	**133**	PN	Pn	17 14 35.9	0.0
TKGZ				SN	S	17 15 08.3	-1.3
SNGZ	**Shannon Statio**	**1.85**	**149**	PN	Pn	17 14 36.1	0.0
SNGZ				SN	S	17 15 08.4	-1.4
RAHZ	**Arahi**	**1.88**	**156**	SN	S	17 15 09.7	-0.5
PUZ	**Puketiti**	**1.91**	**118**	PN	Pn	17 14 36.2	-0.3
PUZ				SN	S	17 15 08.8	-1.9
WMGZ	**Waiomatatini S**	**1.93**	**109**	PN	Pn	17 14 36.7	0.0
WMGZ				SN	S	17 15 10.0	-0.8
NMHZ	**Naumai**	**1.98**	**164**	PN	Pn	17 14 37.6	+0.5
BKZ	**Black Stump Fm**	**1.99**	**172**	⇑PN	Pn	17 14 36.9	-0.3
RIGZ	**Rimuhau**	**1.99**	**140**	PN	Pn	17 14 37.0	-0.2
RIGZ				SN	S	17 15 11.0	-0.9
ARHZ	**Aropaoanui**	**2.17**	**162**	PN	Pn	17 14 38.6	-0.2
KNZ	**Kokohu**	**2.20**	**147**	PN	Pn	17 14 38.3	-0.7
BHHZ	**Black Hill Sta**	**2.29**	**181**	PN	Pn	17 14 39.3	-0.6
KRHZ	**Kereru**	**2.45**	**175**	PN	Pn	17 14 40.4	-1.1
KAHZ	**Kahuranaki**	**2.66**	**167**	PN	Pn	17 14 42.5	-1.0
WAZ	**Wanganui**	**2.71**	**199**	PN	Pn	17 14 43.5	-0.4
TSZ	**Takapari Road**	**2.86**	**182**	PN	Pn	17 14 44.4	-1.1
BFZ	**Birch Farm**	**3.48**	**178**	PN	Pn	17 14 49.9	-2.2
MRZ	**Mangatainoka R**	**3.49**	**187**	PN	Pn	17 14 49.6	-2.6
TIWZ	**Tintock**	**3.58**	**183**	PN	Pn	17 14 51.6	-1.7
OGWZ	**Otaki Gorge**	**3.69**	**191**	PN	Pn	17 14 52.2	-2.2
KIW	**Kapiti Island**	**3.78**	**194**	⇓PN	Pn	17 14 53.0	-2.4
CAW	**Cannon Point**	**3.99**	**191**	PN	Pn	17 14 55.3	-2.5
TCW	**Tory Channel**	**4.26**	**199**	PN	Pn	17 14 58.4	-2.5
THZ	**Tophouse**	**5.19**	**208**	*e*PN	Pn	17 15 08.3	-3.8
KHZ	**Kahutara**	**5.58**	**200**	PN	Pn	17 15 13.4	-3.2

IDC 14 17:30:26.3±1.1, 22.79N×82.63W, h0km, mb3.7/5, mb1 4.1/9, mb1mx3.7/32, mbtmp3.8/9, ML4.0/4, Error ellipse: s-maj=30.1km s-min=21.5km az=94.0, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TEIG	**Tepich**	**5.84**	**245**	Pn	Pn	17 31 52.6	-1.7
	6.7nm,0.3s,baz=61,slow=3.0,SNR=21						
TEIG				Sn	Sn	17 32 56.0	-6.0
	14nm,0.3s,baz=108,slow=22,SNR=10						
CMIG	**Matias Romero**	**12.84**	**246**	Pn	Pn	17 33 28.9	-1.3
	0.5nm,0.3s,baz=62,slow=9.1,SNR=3.0						
CMIG				Sn	Sn	17 35 39.2	-15
	0.4nm,0.3s,baz=187,slow=17,SNR=4.2						
TKL	**Tuckaleechee C**	**12.87**	**356**	Pn	Pn	17 33 28.2	-2.4
	0.5nm,0.3s,baz=185,slow=16,SNR=4.2						
TXAR	**Lajitas Array**	**19.98**	**293**	P	P	17 35 01.1	+0.5
	0.2nm,0.3s,baz=119,slow=11,SNR=3.6						
NVAR	**Mina Array Bea**	**34.19**	**305**	P	P	17 37 15.0	+1.2
	0.4nm,0.5s,baz=105,slow=9.1,SNR=4.4						
YKA	**Yellowknife Ar**	**45.21**	**340**	P	P	17 38 43.6	-1.2
	0.5nm,0.7s,baz=132,slow=8.4,SNR=8.1						
ILAR	**Eielson Array**	**58.69**	**333**	P	P	17 40 24.4	-1.0
	0.3nm,0.6s,baz=101,slow=4.3,SNR=5.7						
PLCA	**Paso Flores**	**64.18**	**170**	P	P	17 41 02.8	-0.1
	1.5nm,0.9s,baz=355,slow=9.2,SNR=5.8						
ARCES	**ARCESS Array B**	**74.96**	**20**	P	P	17 42 08.8	-0.3
	0.9nm,0.6s,baz=308,slow=6.0,SNR=5.8						
WRA	**Warramunga Arr**	**145.51**	**268**	PKPbc	PKPdf	17 50 07.0	-0.2
	0.6nm,0.6s,baz=76,slow=4.0,SNR=11						
ASAR	**Alice Springs**	**146.47**	**261**	PKPbc	PKPbc	17 50 10.4	+0.2
	0.5nm,0.7s,baz=92,slow=3.7,SNR=10						

*ISCJB **14** 17:48:20.0±1.1, 32.08N±0.05×115.1W±0.1, h10km±12km, Error ellipse: s-maj=20.8km s-min=5.3km az=163.9*
*ECX **14** 17:48:21.8±0.4, 32.09N×115.13W, h8km, MD2.9, ML3.1*
*MEX **14** 17:48:23.0±1.1, 32.18N×115.26W, h16km±324km, MD4.0*
ISC 14 17:48:19.4±1.3, 32.09N±0.04×115.08W±0.07, h11km±13km, n13, σ0.29/17, 1C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.33**	**342**	*e*P	**Pb**	**17 48 27.7**	**+0.4**
MBIG				*i* S	**Sg**	**17 48 30.3**	**-0.1**
CPBX	**Cerro Prieto**	**0.38**	**330**	*e*P	**Pb**	**17 48 28.4**	**+0.3**
CPBX				*e*S	**Sb**	**17 48 33.7**	**-0.2**
CPBX				*e*		17 48 36.2	
CPBX				IAML		17 48 36.2	
	comp=E,6μm,0.3s						
ECBX	**El Chinero**	**0.62**	**178**	*e*P9	**Pg**	**17 48 31.2**	**-0.2**
ECBX				*e*S	**Sg**	**17 48 39.9**	**+0.3**
RDX	**Rancho Dawling**	**0.75**	**258**	*e*P	**Pb**	**17 48 34.9**	**+0.3**
RDX				*e*S	**Sg**	**17 48 44.1**	**+0.3**
RDX				IAML		17 48 46.0	
	comp=N,356nm,0.5s						
RDX				⇑*e*		17 48 46.0	
RMX	**La Rumorosa**	**0.99**	**301**	*e*P	**Pb**	**17 48 38.6**	**0.0**
RMX				*e*S	**Sg**	**17 48 51.4**	**+0.1**
SPIG	**San Pedro Mart**	**1.09**	**198**	*e*P	**Pb**	**17 48 40.5**	**0.0**
SPIG	**San Pedro Mart**	**1.09**	**198**	*e*P	**Pb**	**17 48 40.5**	**0.0**
SPX	**San Pedro Mart**	**1.09**	**197**	*e*P	**Pb**	**17 48 40.5**	**0.0**
ZAX	**El Zacaton**	**1.17**	**241**	IAML		17 48 58.7	
	comp=N,451nm,0.7s						
ZAX				⇓*e*		17 48 59.8	
ZAX				IAML		17 48 59.8	
	comp=E,395nm,0.6s						
CBX	**Cerro Bola**	**1.36**	**280**	*e*P	**Pn**	**17 48 44.1**	**-0.3**
CBX	**Cerro Bola**	**1.36**	**280**	*e*P	**Pn**	**17 48 44.3**	**-0.2**
ECNX	**Esteban Cantu**	**1.36**	**252**	*e*P	**Pn**	**17 48 44.8**	**+0.4**
BAR	**Barrett**	**1.47**	**294**	*e*P	**Pb**	**17 48 46.4**	**-0.3**

*ISCJB **14** 17:53:16.8±0.7, 32.26N±0.04×115.28W±0.06, h19km±7km, Error ellipse: s-maj=8.1km s-min=6.5km az=155.8*
*MEX **14** 17:53:18.7±0.3, 32.35N×115.16W, h20km, MD3.6*
*ECX **14** 17:53:18.5±0.5, 32.25N×115.34W, h5km, MD2.6, ML2.8*
ISC 14 17:53:16.5±1.0, 32.24N±0.03×115.30W±0.04, h14km±10km, n19, σ0.33/25, 2C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.18**	**358**	*e*P	**Pb**	**17 53 21.4**	**-0.2**
CPBX				*e*S	**Sb**	**17 53 24.6**	**-0.3**
CPBX				*e*		17 53 26.0	
CPBX				IAML		17 53 26.0	
	comp=E,7μm,0.3s						
MBIG	**Mexicali**	**0.19**	**26**	*e*P	**Pg**	**17 53 20.8**	**-0.1**
SGL	**Mount Signal**	**0.55**	**318**	⇓*i*P	**Pb**	**17 53 27.7**	**-0.1**
EMSC	**East Mesa**	**0.56**	**28**	*e*P2	**Pb**	**17 53 28.8**	**+0.7**
RDX	**Rancho Dawling**	**0.63**	**241**	⇑*e*P	**Pb**	**17 53 29.5**	**+0.1**
RDX				*e*S	**Sg**	**17 53 37.7**	**+0.4**
RDX				⇓*e*		17 53 40.7	
RDX				IAML		17 53 40.8	
	comp=N,274nm,0.2s						
COA	**Coachella**	**0.64**	**13**	*e*P2	**Pb**	**17 53 29.6**	**+0.3**
YUH	**Yuha Desert**	**0.67**	**308**	⇑*i*P	**Pg**	**17 53 29.6**	**0.0**
COK	**Cook Ranch**	**0.71**	**329**	*e*P2	**Pb**	**17 53 30.7**	**+0.1**
RMX	**La Rumorosa**	**0.76**	**299**	*e*P	**Pg**	**17 53 31.1**	**0.0**
RMX				*e*S	**Sg**	**17 53 40.7**	**-0.4**
RMX				IAML		17 53 42.5	
	comp=N,356nm,0.1s						
RMX				⇓*e*		17 53 42.5	
ECBX	**El Chinero**	**0.79**	**165**	*e*P9	**Pb**	**17 53 31.3**	**-0.7**
ECBX				*e*S	**Sg**	**17 53 42.5**	**+0.2**
ECBX				⇓*e*		17 53 44.1	
ECBX				IAML		17 53 44.1	
	comp=E,323nm,0.3s						
ZAX	**El Zacaton**	**1.10**	**229**	*e*P	**Pb**	**17 53 37.6**	**+0.3**
ZAX				*e*S	**Sb**	**17 53 52.0**	**+0.4**
CBX	**Cerro Bola**	**1.16**	**274**	*e*P	**Pn**	**17 53 38.2**	**-0.2**
CBX	**Cerro Bola**	**1.16**	**274**	*e*P	**Pn**	**17 53 38.2**	**-0.2**
CBX				*e*S	**Sb**	**17 53 52.9**	**-0.5**
SPIG	**San Pedro Mart**	**1.20**	**187**	*e*P	**Pn**	**17 53 39.1**	**0.0**
SPIG	**San Pedro Mart**	**1.20**	**187**	*e*P	**Pn**	**17 53 39.1**	**0.0**
SPX	**San Pedro Mart**	**1.20**	**187**	*e*P	**Pn**	**17 53 39.2**	**+0.1**
SPX				IAML		17 53 58.0	
	comp=E,98nm,0.2s						
SPX				⇓*e*		17 53 58.0	
BAR	**Barrett**	**1.24**	**291**	*e*P	**Pn**	**17 53 39.4**	**0.0**
ECNX	**Esteban Cantu**	**1.25**	**243**	*e*P	**Pb**	**17 53 39.9**	**+0.1**
PBX	**Punta Banda**	**1.31**	**248**	*e*P	**Pn**	**17 53 40.7**	**+0.4**

*IDC **14** 17:57:02.8±3.1, 4.75S×153.46E, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.7/34, mbtmp3.9/5, Error ellipse: s-maj=95.4km s-min=28.4km az=107.0*
*ISCJB **14** 17:57:11.3±0.8, 4.66S±0.10×152.81E±0.08, h55km, mb4.0/9, Error ellipse: s-maj=14.5km s-min=10.9km az=150.8*
*NEIC **14** 17:57:14.4±1.8, 4.69S×152.82E, h70km±16km, mb4.3/4, Error ellipse: s-maj=17.2km s-min=13.3km az=176.0*
ISC 14 17:57:13.0±0.9, 4.6S±0.1×152.8E±0.1, h55km, n14, σ1.02/15, mb4.0/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.36**	**229**	*e*Pn	**Pn**	**17 58 58.9**	**+1.0**
PMG				*e*Sn	**Sn**	**18 00 20.0**	**0.0**
HNR	**Honiara**	**8.55**	**124**	Pn	**Pn**	**17 59 14.6**	**+0.4**
WRAB	**Tennant Creek**	**23.56**	**228**	*e*P	**P**	**18 02 16.8**	**-2.0**
	3.6nm,0.3s						
WRA	**Warramunga Arr**	**23.58**	**228**	P	**P**	**18 02 18.9**	**-0.1**
	2.8nm,0.3s,baz=51,slow=9.9,SNR=54						
AS31	**Alice Springs**	**26.29**	**222**	*e*P	**P**	**18 02 43.9**	**+0.3**
ASAR	**Alice Springs**	**26.30**	**222**	P	**P**	**18 02 43.5**	**-0.1**
	0.9nm,0.4s,baz=55,slow=8.8,SNR=26						
STKA	**Stephens Creek**	**29.09**	**200**	P	**P**	**18 03 08.1**	**-0.4**
	2.9nm,1.4s						
OUZ	**Omahuta**	**36.01**	**150**	P	**P**	**18 04 08.6**	**-0.3**
MBWA	**Marble Bar**	**36.07**	**240**	*e*P	**P**	**18 04 09.3**	**-0.4**
	4.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**57.81**	**295**	P	**P**	**18 07 01.2**	**+2.0**
	1.0nm,0.8s,baz=118,slow=6.2,SNR=7.0						
CHTO	**Chiang Mai**	**57.92**	**295**	P	**P**	**18 06 58.5**	**-1.5**
	3.2nm,1.1s						
MKAR	**Makanchi Array**	**80.19**	**319**	P	**P**	**18 09 18.1**	**+0.5**
	0.2nm,0.3s,baz=96,slow=7.0,SNR=8.9						
ZALV	**Zalesovo Beam**	**81.00**	**326**	P	**P**	**18 09 21.6**	**-0.1**
	0.5nm,0.4s,baz=90,slow=5.8,SNR=3.0						
TORD	**Torodi Ar. Bea**	**150.26**	**288**	PKPbc	**PKPbc**	**18 16 58.6**	**-0.5**
	1.7nm,0.6s,baz=90,slow=2.1,SNR=13						

IDC 14 18:24:21.0±2.5, 6.61S×154.63E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/28, mbtmp3.5/3, MS3.1/1, Ms1 3.0/1, ms1mx2.4/16, Error ellipse: s-maj=95.0km s-min=36.2km az=118.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.74**	**234**	P	P	18 29 35.4	+0.2
	1.2nm,0.8s,baz=59,slow=9.7,SNR=10						
WRA				PcP	PcP	18 33 19.3	-0.2
	0.4nm,0.6s,baz=58,slow=2.5,SNR=4.6						
ASAR	**Alice Springs**	**26.16**	**227**	P	P	18 29 57.0	-0.3
	0.8nm,0.9s,baz=58,slow=9.8,SNR=6.4						
STKA	**Stephens Creek**	**27.93**	**204**	LR	LR	18 40 56.5	
	comp=Z,35nm,19.8s,baz=25,slow=36						
MKAR	**Makanchi Array**	**82.88**	**319**	P	P	18 36 48.1	+0.5
	0.4nm,0.6s,baz=119,slow=1.8,SNR=6.1						
TORD	**Torodi Ar. Bea**	**152.57**	**286**	PKPbc	PKPbc	18 44 19.8	-0.8
	0.6nm,0.7s,baz=75,slow=2.1,SNR=4.0						

IDC 14 18:33:39.0±3.2, 4.18S×153.86E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.4/31, mbtmp3.8/3, Error ellipse: s-maj=102.9km s-min=49.2km az=109.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.65**	**229**	P	P	18 39 02.1	+0.5
	1.8nm,0.5s,baz=54,slow=10.0,SNR=28						
ASAR	**Alice Springs**	**27.32**	**223**	P	P	18 39 25.5	-0.4
	0.2nm,0.4s,baz=56,slow=8.7,SNR=8.3						
STKA	**Stephens Creek**	**29.87**	**201**	P	P	18 39 48.3	-0.1
	1.4nm,0.7s,baz=29,slow=13,SNR=4.7						
TORD	**Torodi Ar. Bea**	**151.11**	**290**	PKPbc	PKPbc	18 53 34.9	-0.4
	0.3nm,0.7s,baz=67,slow=1.8,SNR=4.4						

*ISCJB **14** 18:42:25.3±0.5, 27.53S±0.09×66.1E±0.2, h10km, mb4.0/14, MS3.3/1, Error ellipse: s-maj=26.8km s-min=12.8km az=171.2*
*IDC **14** 18:42:25.5±0.8, 27.54S×66.08E, h0km, mb3.9/11, mb1 4.0/11, mb1mx3.8/43, mbtmp3.9/11, MS3.4/1, Ms1 3.3/1, ms1mx2.8/30, Error ellipse: s-maj=34.4km s-min=17.7km az=86.0*
*NEIC **14** 18:42:27.1±0.5, 27.52S×66.07E, h10km, mb4.2/4, Error ellipse: s-maj=26.0km s-min=11.5km az=86.0*
ISC 14 18:42:27.1±0.7, 27.5S±0.1×66.0E±0.2, h10km, n25, σ0.91/20, mb4.0/14, 1C, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**20.68**	**18**	T	T	19 08 11.4	
	baz=197,slow=76,SNR=15						
H08S2	**Diego Garcia H**	**20.69**	**18**	T	T	19 08 21.2	
	baz=197,slow=76,SNR=32						
H08S3	**Diego Garcia H**	**20.70**	**18**	T	T	19 08 20.1	
	baz=197,slow=76,SNR=15						
MAW	**Mawson**	**40.16**	**182**	P	**P**	**18 50 03.7**	**+0.7**
	1.9nm,0.7s,baz=346,slow=12,SNR=3.6						
MAW				LR	LR	19 02 37.4	
	comp=Z,47nm,20.2s,baz=71,slow=30						
CMAR	**Chiang Mai Arr**	**55.73**	**39**	P	**P**	**18 52 05.8**	**+1.6**
	0.8nm,1.0s,baz=213,slow=6.5,SNR=3.2						
ASAR	**Alice Springs**	**60.67**	**103**	P	**P**	**18 52 37.7**	**-1.1**
	1.4nm,0.8s,baz=248,slow=6.5,SNR=15						
WRA	**Warramunga Arr**	**62.33**	**99**	P	**P**	**18 52 49.1**	**-1.0**
	1.1nm,0.8s,baz=250,slow=6.1,SNR=5.1						
QSPA	**South Pole Qui**	**62.64**	**180**	P	**P**	**18 52 51.9**	**+0.3**
	3.1nm,0.8s,baz=258,slow=1.0,SNR=14						
QSPA	**South Pole Qui**	**62.64**	**180**	*e*P	**P**	**18 52 51.4**	**-0.2**
	4.3nm,0.9s						
VNDA	**Vanda**	**64.61**	**166**	P	**P**	**18 53 03.3**	**-0.9**
	1.2nm,0.8s,baz=281,slow=6.7,SNR=4.5						
SBA	**Scott Base**	**65.55**	**167**	P	**P**	**18 53 11.3**	**+1.0**
	3.9nm,1.3s						
CSS	**Prodhromos**	**69.39**	**332**	*e*P	**P**	**18 53 36.0**	**+0.8**
LFK	**Lefkose**	**69.58**	**332**	*e*P	**P**	**18 53 35.1**	**-1.2**
MKAR	**Makanchi Array**	**75.40**	**11**	P	**P**	**18 54 10.8**	**+0.1**
	0.9nm,0.8s,baz=224,slow=6.8,SNR=7.3						
ABKAR	**Akbulak array**	**76.61**	**356**	*e*P	**P**	**18 54 17.9**	**+0.4**
	0.4nm,0.5s						
JMB	**Yambol**	**78.55**	**331**	P	P	18 54 35.5	+7.0
JMB	**Yambol**	**78.55**	**331**	⇑*i*P	P	18 54 37.0	+8.5
KURBB	**Kurchatov Arra**	**78.57**	**8**	P	**P**	**18 54 29.0**	**+0.5**
	0.6nm,0.6s,baz=205,slow=6.3,SNR=7.2						
KURK	**Kurchatov**	**78.67**	**8**	P	**P**	**18 54 29.0**	**0.0**
BVAR	**Borovoye Array**	**80.28**	**3**	P	**P**	**18 54 37.4**	**-0.3**
	0.8nm,0.6s,baz=162,slow=12,SNR=5.9						
BRVK	**Borovoye**	**80.31**	**3**	P	**P**	**18 54 39.2**	**+1.4**
	1.3nm,0.7s						
ZAA0	**Zalesovo Array**	**82.74**	**11**	*e*P	**P**	**18 54 50.2**	**-0.5**
ZALV	**Zalesovo Beam**	**82.74**	**11**	P	**P**	**18 54 51.1**	**+0.4**
	3.4nm,0.8s,baz=200,slow=4.7,SNR=13						
AKASG	**Makn Array Be**	**84.39**	**338**	P	**P**	**18 54 58.1**	**-1.1**
	0.2nm,0.3s,baz=184,slow=5.6,SNR=5.0						
YKA	**Yellowknife Ar**	**145.01**	**1**	PKPbc	**PKPbc**	**19 02 02.6**	**-0.6**
	0.9nm,0.7s,baz=345,slow=3.4,SNR=17						

MAN 14 18:44:09, 8.93N×126.33E, h44km, mb4.7, ML3.6, MS3.5, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.70**	**273**	*e*P	Pn	18 44 23.9	+1.3
BUTP				*e*S	Sn	18 44 35.9	+3.6
BIPH	**Bislig**	**0.74**	**178**	⇑*i*P	Pn	18 44 24.1	+1.0
BIPH				*i* S	Sn	18 44 35.1	+1.8
SCPH	**Surigao**	**1.18**	**316**	*i* P	Pn	18 44 30.8	+1.7
SCPH				*e*S	Sn	18 44 45.7	+1.6
BUKP	**Musuan**	**1.63**	**230**	*e*P	Pn	18 44 37.4	+2.1
CGP	**Cagayan de Oro**	**1.68**	**254**	‖*e*P	Pn	18 44 36.5	+0.5
CGP				*i* S	Sn	18 44 57.6	+1.2
MATI	**Mati**	**1.97**	**182**	*e*P	Pn	18 44 37.5	-2.4
TBP	**Tagbilaran**	**2.55**	**287**	*e*P	Pn	18 44 48.4	+0.5
TBP				*e*S	Sn	18 45 19.6	+1.8
CTBH	**Cotabato--PC H**	**2.67**	**231**	⇑*i*P	Pn	18 44 51.5	+1.9
PAGZ	**Pagadian**	**3.11**	**250**	*e*P	Pn	18 44 58.1	+2.6

*CSEM **14** 18:46:04.0, 38.44N×21.86E, h12km, ML2.4/2*
THE 14 18:46:04.0, 38.44N×21.86E, h12km±1km, ML2.4/2, Error ellipse: s-maj=1.0km s-min=0.5km az=138.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.04**	**108**	P	Pg	18 46 06.0	-0.2
EFP				S	Sg	18 46 07.9	0.0
EFP	**Efpalio**	**0.04**	**108**	P	Pg	18 46 06.0	-0.2
EFP				S	Sg	18 46 07.9	0.0
UPR	**University Cam**	**0.17**	**199**	P	Pg	18 46 07.3	-0.5
UPR				S	Sg	18 46 10.9	+0.5
UPR	**University Cam**	**0.17**	**199**	P	Pg	18 46 07.3	-0.5
UPR				S	Sg	18 46 10.9	+0.5
KALE	**Kalithea**	**0.23**	**102**	P	Pg	18 46 09.1	+0.1
KALE				S	Sg	18 46 12.6	+0.3
KALE	**Kalithea**	**0.23**	**102**	P	Pg	18 46 09.1	+0.1
KALE				S	Sg	18 46 12.6	+0.3
PVO	**Paravola**	**0.31**	**304**	P	Pg	18 46 10.0	-0.4
PVO				S	Sg	18 46 15.2	+0.5
PVO	**Paravola**	**0.31**	**304**	P	Pg	18 46 10.0	-0.4
PVO				S	Sg	18 46 15.2	+0.5
DRO	**Drossia**	**0.50**	**193**	P	Pg	18 46 13.4	-0.5
DRO	**Drossia**	**0.50**	**193**	P	Pg	18 46 13.4	-0.5
DSF	**Desfina**	**0.53**	**93**	P	Pg	18 46 14.3	-0.2
DSF				S	Sg	18 46 21.5	-0.1
DSF	**Desfina**	**0.53**	**93**	P	Pg	18 46 14.3	-0.2
DSF				S	Sg	18 46 21.5	-0.1
PDO	**Prodromos**	**0.55**	**287**	P	Pg	18 46 14.2	-0.6
PDO	**Prodromos**	**0.55**	**287**	P	Pg	18 46 14.2	-0.6
MAKR	**Makrakomi, Fth**	**0.61**	**21**	P	Pg	18 46 16.1	+0.1
MAKR	**Makrakomi, Fth**	**0.61**	**21**	P	Pg	18 46 16.1	+0.1
GUR	**Goura**	**0.63**	**142**	P	Pg	18 46 15.7	-0.8
GUR				S	Sg	18 46 25.5	+0.6
GUR	**Goura**	**0.63**	**142**	P	Pg	18 46 15.7	-0.8
GUR				S	Sg	18 46 25.5	+0.6
AXAR	**Agios Charalam**	**0.71**	**62**	P	Pg	18 46 17.3	-0.5
AXAR	**Agios Charalam**	**0.71**	**62**	P	Pg	18 46 17.3	-0.5
AMT	**Artemida-Makis**	**0.91**	**187**	P	Pg	18 46 21.5	-0.2
AMT	**Artemida-Makis**	**0.91**	**187**	P	Pg	18 46 21.5	-0.2
LKD2	**Lefkada island**	**1.00**	**291**	P	Pb	18 46 22.8	-0.5
LKD2	**Lefkada island**	**1.00**	**291**	P	Pb	18 46 22.8	-0.5

*THR **14** 18:49:53.6±0.7, 29.38N×51.52E, h7km, ML5.2*
*NEIC **14** 18:49:53.6±0.2, 29.33N×51.48E, h10km, mb5.1/73, MN5.1(TEH), Error ellipse: s-maj=4.6km s-min=3.3km az=3.0*
NEIC Felt at Bushehr, Firuzabad and Shiraz.
*ISCJB **14** 18:49:54.8±0.4, 29.30N±0.02×51.50E±0.01, h29km±3km, mb5.1/217, MS4.4/44, Error ellipse: s-maj=2.7km s-min=1.8km az=23.8*
*CSEM **14** 18:49:54.8±0.1, 29.35N×51.45E, h16km, mb5.2/99, Ms4.5, Error ellipse: s-maj=3.4km s-min=2.5km az=28.0*
*MOS **14** 18:49:55.4±1.1, 29.33N×51.42E, h33km, mb5.4/91, MS4.3/17, Error ellipse: s-maj=5.1km s-min=3.1km az=118.1*
*BJI **14** 18:49:55.0, 29.30N×51.60E, h32km, mb5.3/73, mB5.2/47, Ms4.9/69, Ms7 4.8/65*
*OMAN **14** 18:49:56.1±0.0, 29.33N×51.60E, h14km, Error ellipse: s-maj=1.5km s-min=0.7km az=249.0*
*TEH **14** 18:49:56.0, 29.42N×51.47E, h4km, ML5.1*
*DSN **14** 18:49:57.5±0.5, 29.28N×51.44E, h31km, mb4.5/13, Ms4.9/12, Error ellipse: s-maj=13.4km s-min=4.4km az=64.0*
*IDC **14** 18:49:57.0±1.4, 29.39N×51.53E, h28km±9km, mb4.7/36, mb1 4.7/43, mb1mx4.7/47, mbtmp4.8/43, ML4.4/6, MS4.4/28, Ms1 4.4/28, ms1mx4.2/41, Error ellipse: s-maj=10.0km s-min=8.7km az=21.0*
*SZGRF **14** 18:50:27.1, 31.82N×48.34E, h11km, mb5.3, Western Iran*
ISC 14 18:49:55.1±0.3, 29.33N±0.02×51.48E±0.02, h19km±1km, h18km:pP-P, n1250, σ1.48/1324, mb5.2/230, MS4.4/45, 130C-24D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKAZ	**Kazeroun**	**0.55**	**35**	*e*Sg	**Sg**	**18 50 10.4**	**-3.3**
IKAZ				*e*Pg	**Pg**	**18 50 04.7**	**-1.6**
IKAZ				*e*		18 50 15.9	
	comp=Z,1998μm,0.3s						
IKAZ	**Kazeroun**	**0.55**	**35**	*e*Pg	**Pg**	**18 50 04.7**	**-1.6**
IKAZ				*e*Sg	**Sg**	**18 50 10.4**	**-3.3**
IKAZ	**Kazeroun**	**0.55**	**35**	Pg	**Pg**	**18 50 04.6**	**-1.6**
SHI	**Shiraz**	**0.95**	**71**	*e*Pg	**Pb**	**18 50 12.9**	**-0.2**
SHI				*e*Sg	**Sn**	**18 50 26.3**	**-0.5**
SHI				*e*		18 50 32.5	
	comp=Z,1μm,0.3s						
ISRV	**Sarvestan**	**1.43**	**88**	*e*Pn	**Pg**	**18 50 22.7**	**+0.1**
ISRV				*e*Sn	**Sg**	**18 50 43.4**	**+2.1**
ISRV				*e*		18 51 01.0	
	comp=Z,57μm,0.4s						
ISRV	**Sarvestan**	**1.43**	**88**	*e*Pn	**Pg**	**18 50 22.7**	**+0.1**
ISRV				*e*Sn	**Sg**	**18 50 43.4**	**+2.1**
IPAR	**Pars**	**1.46**	**69**	*e*Pn	**Pb**	**18 50 21.6**	**-0.2**
IPAR				*e*		18 50 45.9	
	comp=Z,35μm,0.4s						
IPAR	**Pars**	**1.46**	**69**	*e*Pn

CHMN	Cheshme madani	5.30	83	ePn		Pn	18 51 15.2	+1.6
ASAO	Ashtian	5.35	347	ePn		Pn	18 51 15.5	+1.4
ASAO					AML	AML	18 52 18.1	
	comp=E,1μm,0.6s							
ASAO					AML	AML	18 52 21.2	
	comp=N,1μm,0.6s							
ASAO	Ashtian	5.35	347	ePn		Pn	18 51 15.5	+1.4
	comp=N,1μm,0.6s							
BANOM	Banah	5.46	127	P		Pn	18 51 16.5	+1.0
	SNR=84							
BANOM	Banah	5.46	127	Pn		Pn	18 51 17.2	+1.7
	SNR=9.2							
BANOM	Banah	5.46	127	P		Pn	18 51 17.3	+1.8
	SNR=36							
BANOM	Banah	5.46	127	⇓iP		Pn	18 51 16.5	+1.0
	SNR=84							
IVRN	Varamin	5.65	2	ePn		Pn	18 51 18.6	+0.4
IVRN				e			18 52 27.3	
	comp=Z,10μm,0.4s							
IVRN	Varamin	5.65	2	ePn		Pn	18 51 18.6	+0.4
NAZ	Nazwa, Dubai	5.71	138	P		Pn	18 51 20.5	+1.6
	SNR=26							
NAZ	Nazwa, Dubai	5.71	138	⇑iP		Pn	18 51 20.5	+1.6
	SNR=26							
ASUD	Al Ashush, Dub	5.81	143	P		Pn	18 51 22.4	+2.1
	SNR=16							
ASUD	Al Ashush, Dub	5.81	143	⇓iP		Pn	18 51 22.4	+2.1
	SNR=16							
FAQ	Al Faqa, Dubai	5.86	140	P		Pn	18 51 22.4	+1.5
	SNR=20							
FAQ	Al Faqa, Dubai	5.86	140	⇑iP		Pn	18 51 22.4	+1.5
	SNR=20							
UOSS	Wadi Hilu	6.06	135	Pn		Pn	18 51 24.5	+0.7
	comp=Z,563nm,0.4s,SNR=54							
HATD	Hatta, Dubai	6.11	136	P		Pn	18 51 25.7	+1.3
	SNR=33							
HATD	Hatta, Dubai	6.11	136	⇑iP		Pn	18 51 25.7	+1.3
	SNR=33							
IR3	Iran Long-Peri	6.14	357	ePn		Pn	18 51 25.3	+0.4
IR3	Iran Long-Peri	6.14	357	ePn		Pn	18 51 25.3	+0.4
ASHO	Ashiyiah	6.17	138	P		Pn	18 51 26.0	+0.7
	SNR=69							
ASHO	Ashiyiah	6.17	138	Pn		Pn	18 51 26.2	+1.0
	SNR=30							
ASHO	Ashiyiah	6.17	138	P		Pn	18 51 26.4	+1.2
	SNR=69							
ASHO	Ashiyiah	6.17	138	⇓iP		Pn	18 51 26.0	+0.7
	SNR=69							
IRAZ	Razeghan	6.20	348	ePn		Pn	18 51 26.2	+0.4
IRAZ				e			18 52 48.3	
	comp=Z,7μm,0.3s							
IRAZ	Razeghan	6.20	348	ePn		Pn	18 51 26.2	+0.4
IDMV	Damavand	6.25	4	ePn		Pn	18 51 27.3	+0.8
IDMV				e			18 51 41.1	
	comp=Z,5μm,0.2s							
IDMV	Damavand	6.25	4	ePn		Pn	18 51 27.3	+0.8
DAMV	Damavand	6.30	4	ePn		Pn	18 51 27.8	+0.6
DAMV					AML	AML	18 52 39.4	
	comp=E,2μm,0.7s							
DAMV					AML	AML	18 52 40.3	
	comp=N,1μm,0.5s							
DAMV	Damavand	6.30	4	ePn		Pn	18 51 27.8	+0.6
	comp=N,1μm,0.5s							
IMHD	Mahdasht	6.37	354	ePn		Pn	18 51 29.2	+1.1
IMHD				e			18 51 54.3	
	comp=Z,3μm,0.2s							
IMHD	Mahdasht	6.37	354	ePn		Pn	18 51 29.2	+1.1
IFIR	Firoozkooh	6.38	9	ePn		Pn	18 51 29.4	+1.0
IFIR				e			18 51 32.1	
	comp=Z,7μm,0.1s							
IFIR	Firoozkooh	6.38	9	ePn		Pn	18 51 29.4	+1.0
IFIR	Firoozkooh	6.38	9	Pn		Pn	18 51 29.4	+1.0
TABS	Tabas	6.46	47	ePn		Pn	18 51 30.5	+1.2
TABS	Tabas	6.46	47	ePn		Pn	18 51 30.5	+1.2
SNGE	Sanandaj	6.73	330	ePn		Pn	18 51 34.8	+1.7
SNGE	Sanandaj	6.73	330	ePn		Pn	18 51 34.8	+1.7
IALA	Alasht	6.83	9	e		Pn	18 51 38.0	+3.5
	comp=Z,12μm,0.2s							
IGZV	Ghazvin	7.12	352	ePn		Pn	18 51 38.9	+0.5
IGZV	Ghazvin	7.12	352	ePn		Pn	18 51 38.9	+0.5
IKOO	Kooshah	7.16	63	ePn		Pn	18 51 42.0	+2.9
IKOO				e			18 54 03.2	
	comp=Z,4μm,0.4s							
IKOO	Kooshah	7.16	63	ePn		Pn	18 51 42.0	+2.9
ITEG	Tejag	7.17	58	ePn		Pn	18 51 39.6	+0.5
ITEG				e			18 54 01.0	
	comp=Z,12μm,0.8s							
ITEG	Tejag	7.17	58	ePn		Pn	18 51 39.6	+0.5
ITEG	Tejag	7.17	58	Pn		Pn	18 51 39.6	+0.5
ARQ	Araqi	7.49	142	P		Pn	18 51 44.2	+0.8
	SNR=46							
ARQ	Araqi	7.49	142	Pn		Pn	18 51 44.5	+1.1
	SNR=22							
ARQ	Araqi	7.49	142	P		Pn	18 51 44.1	+0.8
	SNR=46							
ZNJK	Zanjan	7.69	343	ePn		Pn	18 51 47.9	+1.6
ZNJK	Zanjan	7.69	343	ePn		Pn	18 51 47.9	+1.6
HOQ	Hoqain	7.75	136	P		Pn	18 51 48.1	+1.2
	SNR=24							
HOQ	Hoqain	7.75	136	P		Pn	18 51 48.1	+1.2
	SNR=24							
RAYN	Ar Rayn	7.88	224	Pn		Pn	18 51 50.3	+1.5
	comp=Z,3μm,0.4s							
RAYN	Ar Rayn	7.88	224	ePn		Pn	18 51 49.8	+1.0
RAYN				eSn		Sn	18 53 12.4	-5.2
RAYN	Ar Rayn	7.88	224	ePn		Pn	18 51 49.8	+1.0
RAYN				eSn		Sn	18 53 12.4	-5.2
IDAH	Dahanechah	7.96	63	ePn		Pn	18 51 51.7	+1.6
IDAH				e			18 54 34.6	
	comp=Z,8μm,0.9s							
IDAH	Dahanechah	7.96	63	Pn		Pn	18 51 51.6	+1.6
IDAH	Dahanechah	7.96	63	Pn		Pn	18 51 51.6	+1.6
BSY	Bisya	8.33	141	Pn		Pn	18 51 56.0	+1.0
	SNR=20							
BSY	Bisya	8.33	141	P		Pn	18 51 55.7	+0.7
	SNR=50							
BSYO	Bisya	8.37	140	P		Pn	18 51 56.0	+0.6
	SNR=20							
SMDO	Samad	8.59	135	P		Pn	18 51 59.0	+0.4
	SNR=25							
SMDO	Samad	8.59	135	Pn		Pn	18 51 59.0	+0.4
	SNR=25							
JMDO	Jabal Madar	9.14	138	Pn		Pn	18 52 11.2	+5.1
	SNR=10							
JMDO	Jabal Madar	9.14	138	Pn		Pn	18 52 11.2	+5.1
	SNR=10							
WBK	Wadi Bani Khal	9.49	133	P		Pn	18 52 10.6	-0.3
	SNR=10.0							
WBK	Wadi Bani Khal	9.49	133	Pn		Pn	18 52 10.6	-0.3
	SNR=10.0							
GEYT	Alibeck	10.20	31	Pn		Pn	18 52 21.9	+1.3
	comp=Z,1.3nm,0.3s,baz=213,slow=11,SNR=48							
GEYT					LR	LR	18 56 54.7	
	comp=Z,5μm,19.3s,baz=210,slow=41							
HAKT	HAKKARI	10.46	324	iP		Pn	18 52 23.8	-0.5
SIRN	S¯¯rnak	11.12	319	iP		Pn	18 52 31.9	-1.2
TVAN	Van	11.36	326	iP		Pn	18 52 38.3	+1.8
GEVA	Gevas	11.37	324	iP		Pn	18 52 36.9	+0.3
SHAO	Shalim	11.88	160	P		Pn	18 52 43.1	-0.4
	SNR=28							
MARD	Mardin	11.97	314	iP		Pn	18 52 43.3	-1.6
RBK	Rabkut	12.03	167	P		Pn	18 52 47.3	+1.6
	SNR=14							
RBK	Rabkut	12.03	167	Pn		Pn	18 52 47.3	+1.6
	SNR=14							
ABTO	Aybut	12.04	172	P		Pn	18 52 47.9	+2.2
	SNR=24							
ABTO	Aybut	12.04	172	Pn		Pn	18 52 47.9	+2.2
	SNR=24							
GNI	Garni	12.13	335	Pn		Pn	18 52 49.6	+2.6
	comp=Z,0.5nm,0.3s,baz=332,slow=3.0,SNR=9.2							
GNI					LR	LR	18 58 02.7	
	comp=Z,1μm,19.8s,baz=138,slow=40							
GNI	Garni	12.13	335	eP		Pn	18 52 49.1	+2.1
GNI	Garni	12.13	335	eP		Pn	18 52 49.1	+2.1
GNI	Garni	12.13	335	Pn		Pn	18 52 50.5	+3.5
	SNR=24							
GNI	Garni	12.13	335	⇓iP		Pn	18 52 49.1	+2.1
	SNR=7.4							
GNI	Garni	12.13	335	ePn		Pn	18 52 49.1	+2.1
SVAN	Silvan-Diyarba	12.27	319	eP		Pn	18 52 55.8	+7.0
MAZI	Mazidag	12.27	314	eP		Pn	18 52 49.4	+0.5
TUTA	Tutak	12.33	327	iP		Pn	18 52 50.7	+0.9
AGRB	Hanur-Agry	12.38	328	eP		Pn	18 53 13.2	+23
EKAR	Karacoban	12.59	324	iP		Pn	18 52 55.3	+2.0
DYBB	Diyarbakir	12.77	315	eP		Pn	18 52 56.9	+1.3
BNGL	BINGOL	12.85	321	iP		Pn	18 52 55.8	-1.1
ASF	Jabal al Asfar	12.86	286	Pn		Pn	18 52 57.0	0.0
	comp=Z,7.6nm,0.3s,baz=3.9,slow=3.4,SNR=42							
ASF					Sn	Sn	18 55 08.1	-12
	comp=Z,2.3nm,0.3s,baz=78,slow=9.3,SNR=2.4							
ASF	Jabal al Asfar	12.86	286	P		Pn	18 52 57.0	0.0
DGRG	David-gareji	13.07	339	P		Pn	18 53 02.6	+2.8
BNGB	Bing¶l	13.14	320	eP		P	18 53 07.9	-2.9
TBLG	Delisi	13.53	338	P		Pn	18 53 08.3	+2.3
SVRC	Sivrice-ELAZID	13.55	315	eP		Pn	18 53 06.8	+0.4
AKH	Akhalkalaki	13.69	334	P		P	18 53 21.4	+4.4
ELZG	Elazig	13.82	315	iP		Pn	18 53 08.9	-1.2
MALT	Malatya	14.06	313	eP		Pn	18 53 10.5	-2.9
MALT	Malatya	14.06	313	⇑iP		Pn	18 53 13.4	+0.1
HWQ	Hawqa	14.10	294	eP		Pn	18 53 15.4	+1.5
MMLI	Mount Malkishu	14.13	287	eP		Pn	18 53 13.3	-1.1
BHL	Bhannes	14.23	293	eP		Pn	18 53 15.7	-0.1
MMAI	Mount Meron Ar	14.25	289	Pn		Pn	18 53 16.0	+0.1
	comp=Z,4.4nm,0.3s,baz=99,slow=16,SNR=29							
MMAI					Sn	Sn	18 55 46.0	-7.4
	comp=Z,2.9nm,0.3s,baz=99,slow=18,SNR=4.0							
MMAI					LR	LR	18 59 56.2	
	comp=Z,2μm,21.6s,baz=90,slow=42							
DQRL	Deir Qamar	14.25	292	eP		Pn	18 53 17.5	+1.5
HRFI	Mount Harif	14.31	277	eP		P	18 53 28.6	+4.8
EIL	Elat	14.40	275	Pn		Pn	18 53 17.8	-0.2
	comp=Z,1.2nm,0.3s,baz=60,slow=3.4,SNR=9.9							
EIL					Sn	Sn	18 55 52.5	-4.6
	comp=Z,1.3nm,0.3s,baz=96,slow=16,SNR=3.1							
EIL					Lg	Lg	18 57 43.2	
	comp=Z,0.9nm,0.3s,baz=330,slow=20,SNR=2.3							
EIL					LR	LR	18 59 57.0	
	comp=Z,3μm,18.6s,baz=94,slow=42							
BAYT	Ayd¯¯ntepe-Bay	14.42	323	eP		P	18 53 27.6	+2.5
ILIC	ilic-Erzincan	14.67	317	eP		Pn	18 53 22.4	+0.7
ZEI	Tsey	14.75	338	eP		Pn	18 53 23.4	+0.5
ZEI					pmax	pmax		
	comp=Z,355nm,1.4s							
KZIT	Kziot	14.87	280	eP		P	18 53 29.5	-0.5
MUKL	Al Mukalla	14.96	189	eP		Pn	18 53 23.2	-2.3
MUKL				eP		Pn	18 53 23.3	-2.3
MUKL					AMb	AMB	18 53 24.4	
	comp=Z,154nm,1.2s							
CHVG	Ch'k'valeri	15.36	333	P		P	18 53 36.9	+1.6
KOZT	Kozan	15.38	306	eP		Pn	18 53 22.4	-8.7
HAJJ	Hajjah	15.39	210	⇑eP		Pn	18 53 29.8	-1.7
HAJJ					iS	Sn	18 56 21.6	0.0
NCK	Nalchik	15.48	338	⇓iP		P	18 53 35.0	-1.8
NCK	Nalchik	15.48	338	iP		P	18 53 35.0	-1.8
NEY	Neytrino	15.57	336	iP		P	18 53 37.1	-0.8
NEY					pmax	pmax		
	comp=Z,4.0nm,0.7s							
NEY	Neytrino	15.57	336	iP		P	18 53 37.1	-0.8
	comp=Z,4.0nm,0.7s							
KBL	Kabul	15.78	66	⇑iP		Pn	18 53 38.2	+1.6
KBL					pmax	pmax		
	comp=Z,200nm,1.3s							
KBL	Kabul	15.78	66	iP		Pn	18 53 38.2	+1.6
	comp=Z,200nm,1.3s							
KBL	Kabul	15.78	66	⇑iPn		Pn	18 53 38.1	+1.6
	comp=Z,200nm,1.3s							
EREN	Erenkoy	15.86	297	eP		Pn	18 53 28.8	-8.5
SVSK	Karacayir	15.90	315	eP		Pn	18 53 36.3	-1.5
KBZ	Khabaz	15.93	337	Pn		P	18 53 40.2	-1.4
	comp=Z,0.9nm,0.3s,baz=236,slow=24,SNR=60							
KBZ					LR	LR	19 00 32.3	
	comp=Z,730nm,20.3s,baz=148,slow=40							
MERS	Mersin	16.06	302	eP		Pn	18 53 30.5	-9.5
DAMY	Dhamar	16.08	206	ePn		Pn	18 53 38.7	-1.9
	comp=Z,145nm,0.8s							
DAMY				eSn		Sn	18 56 32.0	-6.6
DAMY	Dhamar	16.08	206	ePn		Pn	18 53 38.7	-1.9
	comp=Z,145nm,0.8s							
DAMY				eSn		Sn	18 56 32.0	-6.6
DHBB	Dhamar BB	16.09	206	⇑iP		Pn	18 53 38.9	-1.7
KIV	Kislovodsk	16.20	337	Pn		P	18 53 43.3	-1.4
	comp=Z,2μm,1.3s,SNR=66							
KIV	Kislovodsk	16.20	337	c iP		P	18 53 43.5	-1.2
KIV				iS		Sn	18 56 47.2	+6.3
KIV					pmax	pmax		
	comp=Z,423nm,1.2s							
KIV					MLR	MLR		
	comp=Z,600nm,18.0s							
KIV	Kislovodsk	16.20	337	ePn		P	18 53 43.3	-1.4
	comp=Z,411nm,1.2s							
KIV	Kislovodsk	16.20	337	P		P	18 53 43.8	-1.0
	SNR=56							
KIV				eSn		Sn	18 56 38.2	-2.7
KIV				iS		Sn	18 56 47.2	+6.3
KIV	Kislovodsk	16.20	337	Pn		P	18 53 44.0	-0.7
	SNR=126							
KIV	Kislovodsk	16.20	337	iP		P	18 53 43.8	-1.0
	SNR=56							
KIV	Kislovodsk	16.20	337	ePn		P	18 53 43.3	-1.4
	comp=Z,411nm,1.2s							
KIV				eSn		Sn	18 56 38.2	-2.7
KIV				eScP		ScP	19 02 08.3	-1.3
BDHA	Al Bayda'	16.23	201	⇑iP		Pn	18 53 40.4	-2.1
BDHA					AMb	AMB	18 53 41.2	
	comp=Z,33nm,0.7s							
BDHA				iS		Sn	18 56 41.8	-0.4
CSS	Prodhromos	16.36	295	P		P	18 53 44.9	-1.6
CSS	Prodhromos	16.36	295	P		Pn	18 53 42.5	-1.2
CSS	Prodhromos	16.36	295	ePn		Pn	18 53 43.5	-0.2
	comp=Z,93nm,1.9s							
CSS	Prodhromos	16.36	295	ePn		Pn	18 53 43.5	-0.2
	comp=Z,93nm,1.9s							
MAMC	Mammari	16.50	295	P		Pn	18 53 45.5	0.0
LEF	Lefka	16.75	295	eP		Pn	18 53 42.1	-6.6
ALFC	Alevga	16.99	295	⇑P		P	18 53 56.0	+2.5
SOC	Sochi	17.06	330	d iP		P	18 53 53.1	-1.1
SOC				eS		Sn	18 57 04.8	+3.2
SOC					pmax	pmax		
	comp=Z,72nm,1.1s							
SOC					MLR	MLR		
	comp=Z,393nm,11.0s							
SOC	Sochi	17.06	330	iP		P	18 53 53.1	-1.1
	comp=Z,72nm,1.1s							
SOC				eS		Sn	18 57 04.8	+3.2
	comp=Z,393nm,11.0s							
PPCY	Paphos	17.12	294	P		P	18 54 00.1	+5.1
AKMC	Akamas	17.17	294	P		P	18 53 58.2	+2.7
KVT	Kavak	17.19	317	eP		P	18 53 54.8	-0.9
SULT	Sultanhani-AKS	17.34	305	eP		Pn	18 53 48.5	-7.7
TRBA	At Turbah	17.42	205	eP		Pn	18 53 55.6	-1.8
TRBA					AMb	AMB	18 53 57.1	
	comp=Z,44nm,1.8s							
TRBA				iS		Sn	18 57 10.6	-0.3
THW	Thamme Wali	17.70	74	⇑P		Pn	18 54 00.1	-0.5
BR131	Keskin Array S	17.96	310	ePn		P	18 54 04.5	+0.1
	comp=Z,15nm,0.6s							
BR131	Keskin Array S	17.96	310	ePn		P	18 54 04.5	+0.1
	comp=Z,15nm,0.6s							
BRTR	Keskin Array B	17.96	310	P		P	18 54 04.7	+0.3
	comp=Z,1.2nm,0.3s,baz=133,slow=11,SNR=41							
BRTR					ScP	ScP	19 02 12.7	-0.6
	comp=Z,0.1nm,0.3s,baz=138,slow=4.4,SNR=5.0							
BRTR					LR	LR	19 03 05.4	
	comp=Z,975nm,18.4s,baz=112,slow=44							
CEP	Cherat	17.97	70	P		P	18 54 04.3	-0.2
DIKM	Dikmen	18.01	317	eP		P	18 54 06.4	+1.7
KONT	Konya--Tatoy	18.07	303	eP		Pn	18 53 58.3	-6.8
LADK	Ladik-KONYA	18.16	304	eP		Pn	18 53 59.5	-6.9
SARP	Sargodha	18.42	77	P		P	18 54 07.5	-1.8
ANTO	Ankara	18.60	309	eP		Pn	18 54 12.7	+1.1
ANTO					pmax	pmax		
	comp=Z,77nm,1.2s							
ANTO	Ankara	18.60	309	⇑iP		Pn	18 54 13.3	+1.7
ANTO	Ankara	18.60	309	eP		Pn	18 54 12.7	+1.1
	comp=Z,77nm,1.2s							
ANTO	Ankara	18.60	309	P		Pn	18 54 13.6	+2.0
	SNR=17							
ANTO	Ankara	18.60	309	ePn		Pn	18 54 12.7	+1.1
	comp=Z,77nm,1.2s							
BZK	Bozkurt	18.94	316	eP		Pn	18 54 17.4	+1.7
ANN	Anapa	19.04	328	eP		Pn	18 54 17.8	+1.1
ANN				eS		S	18 57 51.3	+0.1
ANN					pmax	pmax		
	comp=Z,66nm,1.2s							
ANN					MLR	MLR		
	comp=Z,240nm,11.0s							
ANN					MLR	MLR		
	comp=N,191nm,11.0s							
ANN	Anapa	19.04	328	eP		Pn	18 54 17.8	+1.1
	comp=N,66nm,1.2s							
ANN				eS		S	18 57 51.3	+0.1
	comp=N,191nm,11.0s							
CHCP	Chirah Chowk	19.06	71	⇑P		P	18 54 16.2	-0.2
SVRH	Sivrihisar-ESK	19.28	307	eP		P	18 54 15.1	-3.7
ISP	Isparta	19.38	301	eP		P	18 54 15.2	-4.7
ISP	Isparta	19.38	301	P		Pn	18 54 24.3	+3.2
ISP	Isparta	19.38	301	eP		Pn	18 54 22.8	+1.7
ISP					pmax	pmax		
	comp=Z,50nm,0.8s							
ISP	Isparta	19.38	301	⇑iP		Pn	18 54 23.2	+2.1
ISP	Isparta	19.38	301	eP		Pn	18 54 22.8	+1.7
	comp=Z,50nm,0.8s							
ISP	Isparta	19.38	301	ePn		Pn	18 54 22.8	+1.7
	comp=Z,50nm,0.8s							
ELL	Elmali	19.52	298	eP		P	18 54 17.4	-4.0
SHUT	Suhut-Afyon	19.62	303	eP		P	18 54 18.6	-4.0
MDUB	Mudurnu	19.96	309	eP		P	18 54 25.5	-0.7
ALT	Altintas	20.12	304	P		Pn	18 54 31.3	+1.4
GULT	Gulveren	20.41	308	eP		P	18 54 31.3	+0.2
DALY	Dalyan (Mu¯la	20.51	297	eP		P	18 54 30.7	-1.3
KKAR	Karatay Array	20.54	43	⇑eP		P	18 54 32.0	-0.5
KKAR	Karatay Array	20.54	43	eP		P	18 54 32.0	-0.5
KKAR	Karatay Array	20.54	43	⇑eP		P	18 54 32.0	-0.5
AJM	Ajmer	20.66	92	ex		P	18 54 34.0	+0.1
TVSB	Tavsanli	20.74	305	eP		P	18 54 34.4	-0.3
CAVI	Cavuskoy	20.77	307	eP		P	18 54 35.4	+0.4
SIM	Simferopol'	20.78	323	d iP		Pn	18 54 36.3	-1.1
SIM				eS		S	18 58 22.0	-4.1
SIM					pmax	pmax		
	comp=Z,60μm,1.0s							
SIM					MLR	MLR		
	comp=Z,110nm,15.0s							
SIM	Simferopol'	20.78	323	iP		Pn	18 54 36.3	-1.1
	comp=Z,60μm,1.0s							
SIM				eS		S	18 58 22.0	-4.1
	comp=Z,110nm,15.0s							
YER	Yerkesik	20.87	298	eP		P	18 54 35.9	-0.2
ABKAR	Akbulak array	20.92	16	⇑iP		P	18 54 36.6	+0.1
ABKAR	Akbulak array	20.92	16	⇑iP		P	18 54 36.6	+0.1
ADVT	Abdulvahap	20.94	308	eP		P	18 54 37.1	+0.3
KULA	Kula-Manisa	20.99	302	eP		P	18 54 37.7	+0.2
KULA	Kula-Manisa	20.99	302	P		P	18 54 41.9	+4.5
HRT	Hereke	21.16	309	eP		P	18 54 41.1	+1.9
DLH	Dalhousie	21.23	75	eP		P	18 54 40.0	-0.2
SILT	Sile	21.32	309	eP		P	18 54 43.5	+2.6
DAT	Datca	21.32	296	eP		P	18 54 42.9	+1.9
AYDB	Zeytinkoy-Aydi	21.40	300	eP		P	18 54 42.7	+0.9
ARMT	Armutlu	21.60	307	eP		P	18 54 45.8	+1.9
BHK	Bhakra	21.60	78	eP		P	18 54 46.6	+2.6
NIS1	Nisyros Isl.	21.61	296	eP		P	18 54 46.4	+2.5
NIS1	Nisyros Isl.	21.61	296	P		P	18 54 44.9	+0.9
BODT	Bodrum	21.61	297	eP		P	18 54 45.2	+1.2
AKTK	Aktyubinsk	21.65	11	P		P	18 54 44.7	+0.4
AKTO	Aktyubinsk	21.65	11	P		P	18 54 44.7	+0.4
	comp=Z,28nm,0.5s,baz=201,slow=11,SNR=119							
AKTO					LR	LR	19 05 15.6	
	comp=Z,824nm,18.5s,baz=184,slow=43							
ISK	Istanbul-Kandi	21.68	309	eP		P	18 54 47.5	+2.9
ISK	Istanbul-Kandi	21.68	309	P		P	18 54 47.0	+2.4
AML	Almayashu	22.02	49	P		P	18 54 49.5	+0.7
	SNR=24							
AML	Almayashu	22.02	49	iP		P	18 54 49.5	+0.7
AML	Almayashu	22.02	49	iP		P	18 54 49.5	+0.7
SDNR	Sundarnagar	22.08	78	eP		P	18 54 52.0	+2.9
ZKR	Zakros	22.11	292	P		P	18 54 51.2	+1.8
CTKS	Vostanelik-??a	22.13	309	eP		P	18 54 53.9	+4.4
EDC	Edincik	22.22	306	eP		P	18 54 54.5	+4.0
SMLA	Simla	22.25	79	iP		P	18 54 51.1	+0.1
SMLA				eP		pP	18 54 51.7	-4.5
SMLA					AMB	AMB	18 54 53.6	
	comp=Z,158nm,1.3s							
SMLA				ix		x	18 58 48.4	
SMLA				ix		x	18 58 50.6	
EKS2	Erkin-Say	22.33	47	P		P	18 54 54.2	+2.3
	SNR=17							
EKS2	Erkin-Say	22.33	47	⇑iP		P	18 54 52.3	+0.4
EKS2					pmax	pmax		
	comp=Z,54nm,1.0s							
EKS2	Erkin-Say	22.33	47	⇑iP		P	18 54 52.2	+0.4
	comp=Z,54nm,1.0s							
EKS2	Erkin-Say	22.33	47	⇑iP		P	18 54 52.2	+0.4
	comp=Z,54nm,1.0s							
MRMT	Marmara Adasi	22.50	306	eP		P	18 54 58.5	+4.9
NDI	New Delhi	22.51	85	eP		P	18 54 53.0	-0.7
NDI				eS		S	18 59 03.0	+3.2
KSH	Kashi	22.55	57	P		P	18 54 50.1	-4.1
KSH				sP		sP	18 55 03.3	+1.3
KSH				ePP		PnPn	18 55 16.1	-1.6
KSH				S		S	18 58 45.8	-15
KSH				sS		sS	18 59 00.8	-9.0
KSH					PMZ			
	comp=Z,260nm,1.5s						

IDI LR LR 19 08 09.7
comp=E,324nm,18.8s,baz=80,slow=47
GELI Tayfur-Gelibol 23.22 305 *e*P P 18 55 07.8 +6.7
SIVA Sivas 23.24 291 P **P** **18 55 03.9 +2.6**
SIGR SIGRI 23.29 302 P **P** **18 55 03.5 +1.8**
PSN Preselentsi 23.47 314⇑ *i*P **P** **18 55 07.0 +3.5**
PSN Preselentsi 23.47 314 *i* P **P** **18 55 06.7 +3.2**
VORD Divnogorie 23.47 340 *e*P **P** **18 55 01.8 -1.6**
VORD *e*S **S** **18 59 13.0 -2.9**
VORD pmax pmax
comp=Z,100nm,1.5s
VORD pmax pmax
comp=N,100nm,1.0s
VORD pmax pmax
comp=E,20nm,0.6s
VORD smax smax
comp=N,970nm,1.1s
VORD smax smax
comp=Z,220nm,1.3s
VORD smax smax
comp=E,880nm,1.2s
VORD Divnogorie 23.47 340 *e*P **P** **18 55 01.8 -1.6**
comp=E,100nm,1.0s
VORD *e*S **S** **18 59 13.0 -2.9**
comp=E,220nm,1.3s
EDRB Edirne 23.59 309 P **P** **18 55 04.7 +0.1**
FURI Furi 23.61 213 *e*P **P** **18 55 08.1 +2.7**
comp=E,63nm,0.9s
FURI Furi 23.61 213 *e*P **P** **18 55 08.1 +2.7**
comp=E,63nm,0.9s
TKM2 Tokmak 2 23.63 48 P **P** **18 55 06.6 +1.2**
SNR=8.1
TKM2 Tokmak 2 23.63 48⇑ *e*P **P** **18 55 05.4 +0.1**
TKM2 pmax pmax
comp=Z,38nm,0.8s
TKM2 Tokmak 2 23.63 48 *e*P **P** **18 55 05.4 +0.1**
comp=Z,38nm,0.8s
TKM2 Tokmak 2 23.63 48⇑ *e*P **P** **18 55 05.4 +0.1**
comp=Z,38nm,0.8s
ALN Alexandroupoli 23.71 306 P **P** **18 55 04.7 -1.1**
TIRR Tirgusor 23.73 316 *e*P **P** **18 55 07.0 +1.1**
TIRR pmax pmax
comp=Z,55nm,0.9s
TIRR Tirgusor 23.73 316⇓ *i*P **P** **18 55 05.8 -0.1**
TIRR Tirgusor 23.73 316 *e*P **P** **18 55 07.0 +1.1**
comp=Z,55nm,0.9s
TIRR Tirgusor 23.73 316 *e*P **P** **18 55 07.0 +1.1**
comp=Z,56nm,0.9s
VSR Storozhevoye 23.73 341 *e*P **P** **18 55 04.3 -1.6**
VSR *e*S **S** **18 59 17.5 -2.6**
VSR pmax pmax
comp=Z,100nm,1.5s
VSR pmax pmax
comp=N,50nm,1.1s
VSR pmax pmax
comp=E,40nm,1.1s
VSR smax smax
comp=E,3μm,3.2s
VSR smax smax
comp=Z,460nm,1.9s
VSR smax smax
comp=N,1μm,1.2s
VSR Storozhevoye 23.73 341 *e*P **P** **18 55 04.3 -1.6**
comp=N,100nm,1.5s
VSR *e*S **S** **18 59 17.5 -2.6**
comp=N,1μm,1.2s
PRD Provadia 23.74 312 *i* P **P** **18 55 08.2 +2.2**
GVD Gavdhos 23.81 290 P **P** **18 55 08.1 +1.2**
GVD Gavdhos 23.81 290 *e*P **P** **18 55 07.6 +0.7**
comp=N,486nm,1.3s
GVD Gavdhos 23.81 290 *e*P **P** **18 55 07.6 +0.7**
comp=N,486nm,1.3s
TLCR 23.88 318⇑ *i*P **P** **18 55 09.1 +1.7**
MSAB Monastry St. A 23.90 314⇑ *i*P **P** **18 55 11.9 +4.3**
KARN Karanos 24.01 292 P **P** **18 55 10.7 +1.9**
TLB Topalu 24.02 316⇑ *i*P **P** **18 55 10.0 +1.3**
HARR Harsova 24.14 316⇑ *i*P **P** **18 55 11.3 +1.5**
VOR Voronezh 24.18 341 *e*P **P** **18 55 10.0 -0.1**
VOR *e*S **S** **18 59 24.0 -3.2**
VOR pmax pmax
comp=Z,270nm,1.6s
VOR Voronezh 24.18 341 *e*P **P** **18 55 10.0 -0.1**
comp=Z,270nm,1.6s
VOR *e*S **S** **18 59 24.0 -3.2**
CFR Carcaliu 24.28 317⇓ *i*P **P** **18 55 11.9 +0.8**
KDZ Kurdzhali 24.42 307⇑ *i*P **P** **18 55 14.6 +2.1**
KDZ Kurdzhali 24.42 307 *i* P **P** **18 55 15.6 +3.1**
KIS Kishinev 24.93 321 *e*P **P** **18 55 17.0 0.0**
KIS *e*S **S** **18 59 38.0 -1.4**
KIS LRM MLR 19 08 50.0
comp=Z,300nm,16.0s
KIS Kishinev 24.93 321 *e*P **P** **18 55 17.0 0.0**
KIS *e* 18 55 23.0
KIS *e* 18 56 10.0
KIS *e*S **S** **18 59 38.0 -1.4**
KIS *e* 19 00 30.0
KIS Kishinev 24.93 321 *e*P **P** **18 55 17.0 0.0**
KIS *e*S **S** **18 59 38.0 -1.4**
LEOM Leova 24.94 320⇓ *i*P **P** **18 55 18.1 +1.1**
LPSR Galich'ya Gora 25.03 342 *e*P **P** **18 55 17.3 -0.5**
LPSR *e*S **S** **18 59 43.7 +2.8**
LPSR pmax pmax
comp=N,40nm,1.0s
LPSR pmax pmax
comp=E,70nm,1.0s
LPSR pmax pmax
comp=Z,270nm,1.0s
LPSR smax smax
comp=N,480nm,1.5s
LPSR smax smax
comp=E,550nm,1.5s
LPSR smax smax
comp=Z,70nm,1.5s
LPSR Galich'ya Gora 25.03 342 *e*P **P** **18 55 17.3 -0.5**
LPSR *e*S **S** **18 59 43.7 +2.8**
LGTI Lohaghat 25.04 83 *e*P **P** **18 55 17.1 -1.0**
LTK Loutraki 25.19 298 P **P** **18 55 20.6 +1.2**
XOR Xorichti 25.32 301 P **P** **18 55 20.9 +0.2**
SECR 25.46 315⇑ *i*P P 18 55 27.7 +5.9
VRI Vrincioaia 25.48 317⇓ *i*P **P** **18 55 23.9 +1.9**
PLOR Plostina 25.52 317⇑ *i*P **P** **18 55 24.9 +2.5**
VLX Vlachokerasia 25.52 296 P **P** **18 55 24.2 +1.6**
SRS Serrai 25.53 305 P **P** **18 55 24.0 +1.5**
AXAR Agios Charalam 25.58 299 P **P** **18 55 26.2 +3.2**
MMB Musomiste 25.59 306⇓ *i*P **P** **18 55 26.5 +3.5**
MMB Musomiste 25.59 306 *i* P **P** **18 55 26.1 +3.1**
DSF Desfina 25.61 298 P **P** **18 55 27.6 +4.3**
SOH Sokhos 25.61 304 P **P** **18 55 25.8 +2.5**
PGB Panagyurishte 25.62 308 *i* P **P** **18 55 27.3 +3.9**
GUR Goura 25.66 297 P **P** **18 55 25.4 +1.6**
HORT Hortiatis 25.72 303 P **P** **18 55 26.1 +1.7**
MLR Muntele Rosu 25.76 316 P **P** **18 55 26.6 +1.9**
comp=Z,10nm,0.7s,baz=5.5,slow=4.8,SNR=31
MLR LR LR 19 09 05.6
comp=Z,148nm,18.1s,baz=110,slow=45
MLR Muntele Rosu 25.76 316⇑ *i*P **P** **18 55 27.5 +2.8**
TESR Tescani 25.87 318⇑ *i*P **P** **18 55 26.9 +1.3**
AGG Agios Georgios 25.89 300 P **P** **18 55 27.9 +2.1**
AGG Agios Georgios 25.89 300 *e*P **P** **18 55 27.6 +1.8**
AGG pmax pmax
comp=Z,46nm,1.1s
AGG Agios Georgios 25.89 300 *e*P **P** **18 55 27.6 +1.8**
comp=Z,46nm,1.1s
AGG Agios Georgios 25.89 300 *e*P **P** **18 55 27.6 +1.8**
comp=Z,46nm,1.1s
PYL PYLOS 25.95 295 P **P** **18 55 26.6 +0.2**
LIT Litokhoron 26.03 302 P **P** **18 55 28.8 +1.7**
MAKR Makrakomi, Fth 26.04 300 P **P** **18 55 31.4 +4.2**
KNT Kendrikon 26.04 305 P **P** **18 55 29.1 +2.0**
AMT Artemida-Makis 26.08 296 P **P** **18 55 30.3 +2.7**
KKB Krupnik 26.13 306 *i* P **P** **18 55 31.1 +3.1**
DRO Drossia 26.15 297 P **P** **18 55 30.4 +2.2**
MPEP Malo Peshtene 26.22 310 *i* P **P** **18 55 32.8 +4.0**
VOIR 26.28 315⇓ *i*P **P** **18 55 31.4 +2.0**
VTS Vitosha 26.30 308 P **P** **18 55 32.5 +2.9**
VTS Vitosha 26.30 308⇓ *i*P **P** **18 55 32.1 +2.5**
VTS Vitosha 26.30 308 *i* P **P** **18 55 33.4 +3.8**
VAY Valandovo 26.32 305 P **P** **18 55 33.5 +3.8**
VAY Valandovo 26.32 305 *i* P P 18 55 34.6 +4.9
DOPR Dopca 26.34 316⇑ *i*P **P** **18 55 31.2 +1.4**
GRG Griva 26.34 304 P **P** **18 55 31.1 +1.2**
ARR Arges 26.51 314⇓ *i*P **P** **18 55 34.1 +2.7**
FNA Florina 27.03 303 P **P** **18 55 37.6 +1.4**
LOT Lotru 27.09 314⇓ *i*P **P** **18 55 39.7 +3.0**

AK02 Malin Array Si 27.10 328 *e*P **P** **18 55 35.7 -0.9**
AK02 Malin Array Si 27.10 328 *e*P **P** **18 55 35.7 -0.9**
SRE Strehaia 27.10 312⇑ *i*P **P** **18 55 39.7 +3.0**
LKD2 Lefkada island 27.12 299 P P 18 55 30.3 -6.6
AK01 Malin Array Si 27.12 328 *e*P **P** **18 55 36.3 -0.4**
AK01 Malin Array Si 27.12 328 *e*P **P** **18 55 36.3 -0.4**
AKASG Malin Array Be 27.12 328 P **P** **18 55 36.3 -0.4**
comp=Z,3.8nm,0.3s,baz=136,slow=8.7,SNR=45
AKASG S **S** **19 00 11.2 -2.8**
comp=Z,0.2nm,0.4s,baz=138,slow=16,SNR=4.6
AKASG ScP **ScP** **19 02 34.9 -1.6**
comp=Z,5.5nm,0.9s,baz=104,slow=1.9,SNR=10
AKBB Malin Array Si 27.12 328⇑ *e*P **P** **18 55 36.1 -0.7**
AKBB Malin Array Si 27.12 328 *e*P **P** **18 55 36.1 -0.7**
AKBB Malin Array Si 27.12 328⇑ *e*P **P** **18 55 36.1 -0.7**
KIEV Kiev 27.13 328 *c i*P **P** **18 55 36.0 -0.8**
KIEV Kiev 27.13 328 *i* P **P** **18 55 36.0 -0.8**
KIEV Kiev 27.13 328⇑ *e*P **P** **18 55 36.0 -0.8**
comp=Z,49nm,1.0s
AK11 Malin Array Si 27.13 328 *e*P **P** **18 55 36.8 -0.1**
AK11 Malin Array Si 27.13 328 *e*P **P** **18 55 36.8 -0.1**
NEST Nestorio 27.18 302 P **P** **18 55 40.3 +2.8**
BURAR Bucovina Array 27.29 319⇑ *i*P **P** **18 55 39.8 +1.3**
BUR04 Bucovina Ar. S 27.30 319 *e*P **P** **18 55 39.5 +1.0**
BUR04 Bucovina Ar. S 27.30 319 *e*P **P** **18 55 39.5 +1.0**
KNS Konitsa 27.31 301 P **P** **18 55 37.7 -1.0**
BUR08 Bucovina Ar. S 27.32 319 *e*P **P** **18 55 39.6 +0.9**
BUR08 Bucovina Ar. S 27.32 319 *e*P **P** **18 55 39.6 +0.9**
SKO Skopje 27.33 306 *i* P **P** **18 55 39.4 +0.6**
RPR Rampur 27.38 106 *e*P **P** **18 55 41.0 +1.5**
RPR *e*S **S** **19 00 19.3 +0.6**
KBN Korca 27.43 302 P **P** **18 55 44.3 +4.6**
BRVK Borovoye 27.44 25 P **P** **18 55 40.8 +1.1**
comp=Z,241nm,1.3s,SNR=27
BRVK Borovoye 27.44 25 *c i*P **P** **18 55 40.7 +1.1**
BRVK pmax pmax
comp=Z,83nm,1.7s
BRVK Borovoye 27.44 25⇑ *i*P **P** **18 55 40.0 +0.4**
comp=Z,72nm,1.3s
BRVK Borovoye 27.44 25 P **P** **18 55 41.2 +1.6**
SNR=27
BRVK Borovoye 27.44 25⇑ *i*P **P** **18 55 40.0 +0.4**
comp=Z,72nm,1.3s
BVAR Borovoye Array 27.45 25 P **P** **18 55 40.9 +1.2**
comp=Z,10nm,0.4s,baz=214,slow=6.8,SNR=96
BVAR PcP **PcP** **18 58 58.8 +0.9**
comp=Z,3.2nm,0.5s,baz=190,slow=3.2,SNR=7.9
BVAR ScP **ScP** **19 02 35.9 -1.6**
comp=Z,2.1nm,0.7s,baz=200,slow=3.9,SNR=7.2
BVAR LR LR 19 08 10.4
comp=Z,975nm,19.1s,baz=222,slow=40
HYBB Hyderabad (bro 27.46 110 *e*P **P** **18 55 41.5 +1.4**
HYB Hyderabad 27.46 110 *i* P **P** **18 55 40.5 +0.3**
HYB *e*S **S** **19 00 20.0 -0.1**
OHR Ohrid 27.54 304 *i* P **P** **18 55 41.4 +0.7**
ARU Arti 27.55 9 P **P** **18 55 41.8 +1.3**
comp=Z,145nm,1.4s,SNR=7.2
ARU Arti 27.55 9 *c i*P **P** **18 55 40.8 +0.2**
ARU PPP PPP 18 58 33.1
ARU 18 58 58.5
ARU S **S** **19 00 21.5 +0.9**
ARU SS **SnSn** **19 01 32.0 +0.3**
ARU SSS SSS 19 01 48.7
ARU 19 06 24.0
ARU pmax pmax
comp=Z,28nm,1.7s
ARU MLR MLR
comp=Z,879nm,18.0s
ARU Arti 27.55 9⇑ *i*P **P** **18 55 40.7 +0.2**
comp=Z,80nm,1.5s
ARU Arti 27.55 9 PcP **PcP** **18 58 58.5 +0.5**
ARU Arti 27.55 9⇑ *i*P **P** **18 55 40.7 +0.2**
comp=Z,80nm,1.5s
GZR Gura Zlata 27.69 313⇑ *i*P **P** **18 55 44.8 +2.8**
URV Uravakonda 27.75 115 *e*P **P** **18 55 43.6 +0.8**
CJR Cluj-Napoca 27.78 316⇓ *i*P P 18 55 47.8 +5.0
OBN Obninsk 27.91 342 P **P** **18 55 44.9 +1.2**
comp=Z,268nm,0.8s,SNR=5.1
OBN Obninsk 27.91 342 P **P** **18 55 44.6 +0.9**
comp=Z,18nm,0.4s,baz=104,slow=1.9,SNR=9.2
OBN Obninsk 27.91 342 *d i*P **P** **18 55 44.2 +0.5**
OBN *e* 18 56 33.8
OBN *i* S **S** **19 00 32.6 +6.3**
OBN *e*SS **SnSn** **19 01 43.5 +3.0**
OBN pmax pmax
comp=Z,85nm,1.7s
OBN MLR MLR
comp=Z,361nm,16.0s
OBN Obninsk 27.91 342 *i* P **P** **18 55 44.2 +0.5**
comp=Z,85nm,1.7s
OBN Obninsk 27.91 342 *e*P **P** **18 55 43.4 -0.3**
MOS Moscow 28.19 343 *e*P P 18 55 42.3 -3.9
MOS *e*S S 19 00 22.5 -8.2
MOS *e* 19 01 49.4
MOS pmax pmax
comp=Z,109nm,1.6s
MOS pmax pmax
comp=Z,200nm,1.8s
KOLN Koldanda 28.21 85 *e*P **P** **18 55 47.3 +0.3**
comp=Z,70nm,0.9s
SVE Sverdlovsk 28.23 11⇑ *i*P **P** **18 55 47.9 +1.3**
SVE *e* 18 56 53.8
SVE *e*S **S** **19 00 34.8 +3.4**
SVE *e* 19 06 28.8
SVE pmax pmax
comp=Z,35nm,1.4s
SVE MLR MLR
comp=Z,1μm,14.0s
SVE Sverdlovsk 28.23 11 *i* P **P** **18 55 47.9 +1.3**
comp=Z,35nm,1.4s
TIR Tirane 28.29 304 *e*P **P** **18 55 45.5 -1.8**
TIR Tirane 28.29 304 *e*P **P** **18 55 45.5 -1.8**
TIR Tirane 28.29 304 *e*P **P** **18 55 45.5 -1.8**
BMR Baia Mare 28.32 318⇑ *i*P P 18 55 54.4 +6.9
DRGR 28.36 316⇑ *i*P **P** **18 55 50.0 +2.0**
NJS Nagarjunasagar 28.52 110 *e*P **P** **18 55 50.8 +1.2**
NJS *e*S **S** **19 00 36.2 -0.5**
BZS Buzias 28.52 313⇑ *i*P **P** **18 55 51.1 +1.7**
GKN Gorkha 29.07 84 *e*P **P** **18 55 54.8 +0.2**
comp=Z,146nm,0.9s
LVV L'vov 29.16 322 *e*P P 18 55 58.7 +3.7
LVV *e*S **S** **19 00 46.0 -0.3**
LVV L'vov 29.16 322 *e*P P 18 55 58.7 +3.7
KURBB Kurchatov Arra 29.42 36 P **P** **18 55 58.3 +1.0**
comp=Z,20nm,0.8s,baz=236,slow=9.2,SNR=170
KURBB PcP **PcP** **18 59 03.0 +0.2**
comp=Z,2.5nm,0.6s,baz=235,slow=3.3,SNR=4.9
UZH Uzhgorod 29.50 319⇓ *e*P **P** **18 55 59.3 +1.4**
UZH *i* 18 56 07.3
UZH *e* 18 56 55.7
UZH *i* PPP PPP 18 57 08.9
UZH *e*S **S** **19 00 48.9 -2.5**
UZH Uzhgorod 29.50 319 *e*P **P** **18 55 59.3 +1.4**
KURK Kurchatov 29.52 36 P **P** **18 55 59.7 +1.5**
comp=Z,107nm,0.9s,SNR=26
KURK Kurchatov 29.52 36⇑ *i*P **P** **18 55 59.0 +0.9**
KURK 18 59 03.0
KURK *e* 19 02 41.7
KURK pmax pmax
comp=Z,40nm,1.0s
KURK Kurchatov 29.52 36 *i* P **P** **18 55 59.0 +0.9**
comp=Z,40nm,1.0s
KURK Kurchatov 29.52 36 P **P** **18 55 59.6 +1.5**
SNR=12
KURK Kurchatov 29.52 36⇑ *i*P **P** **18 55 59.0 +0.9**
comp=Z,40nm,1.0s
KURK PcP **PcP** **18 59 03.0 0.0**
KURK *e*ScP **ScP** **19 02 41.7 -2.3**
DMN Daman 29.55 85 *e*P **P** **18 55 59.2 +0.2**
comp=Z,105nm,0.7s
MK01 Makanchi Array 29.61 45 *e*P **P** **18 55 59.4 +0.4**
MK01 Makanchi Array 29.61 45 *e*P **P** **18 55 59.4 +0.4**
MK31 Makanchi Array 29.61 45 *e*P **P** **18 55 59.3 +0.2**
MK31 *e* 18 59 02.8
MK31 *e* 19 02 43.1
MK31 Makanchi Array 29.61 45 *e*P **P** **18 55 59.3 +0.2**
MK31 Makanchi Array 29.61 45 *e*P **P** **18 55 59.3 +0.2**
MK31 *e*PcP **PcP** **18 59 02.8 -0.7**
MK31 *e*ScP **ScP** **19 02 43.1 -1.3**
MKAR Makanchi Array 29.61 45 P **P** **18 55 59.6 +0.5**
comp=Z,11nm,0.9s,baz=245,slow=12,SNR=68
MKAR PcP **PcP** **18 59 03.3 -0.1**
comp=Z,0.6nm,0.3s,baz=254,slow=5.4,SNR=11
MKAR ScP **ScP** **19 02 43.2 -1.3**

comp=Z,5.1nm,1.0s,baz=265,slow=6.1,SNR=10
MKAR LR LR 19 10 09.4
comp=Z,986nm,19.3s,baz=242,slow=41
MKAR Makanchi Array 29.61 45 P **P** **18 55 59.6 +0.5**
MKAR 18 59 03.3
MKAR 19 02 43.2
MKAR pmax pmax
comp=Z,11nm,0.9s
MKAR pmax pmax
comp=Z,1.0nm,0.3s
MKAR pmax pmax
comp=N,5.0nm,1.0s
MKAR MLR MLR
comp=Z,986nm,19.3s
MKAR Makanchi Array 29.61 45 *e*P **P** **18 55 59.7 +0.6**
KOLS Kolonicke sedl 29.66 319 *e*P **P** **18 56 01.1 +1.7**
KOLS Kolonicke sedl 29.66 319 *e*P **P** **18 56 01.1 +1.7**
KOLS Kolonicke sedl 29.66 319 *e*P **P** **18 56 01.1 +1.7**
KKN Kakani 29.67 85 *e*P **P** **18 56 00.3 +0.3**
comp=Z,110nm,0.7s
KWP Kalwaria Pacla 29.78 321 *e*P **P** **18 56 01.4 +1.0**
KWP Kalwaria Pacla 29.78 321 *e*P **P** **18 56 01.5 +1.0**
KWP Kalwaria Pacla 29.78 321⇑ *i*P **P** **18 56 01.6 +1.1**
KWP Kalwaria Pacla 29.78 321 *e*P **P** **18 56 01.5 +1.0**
KWP Kalwaria Pacla 29.78 321 *e*P **P** **18 56 01.5 +1.0**
comp=Z,28nm,0.6s
PKIN Phulchoki 29.81 85 *e*P **P** **18 56 01.3 0.0**
comp=Z,166nm,0.9s
PKI Pulchoki 29.82 85 *e*P **P** **18 56 01.5 0.0**
comp=Z,229nm,0.9s
GUN Gumba 30.17 84 *e*P **P** **18 56 04.9 +0.3**
comp=Z,344nm,1.0s
TIP Timpagrande 30.18 298 *e*P **P** **18 56 06.0 +1.8**
comp=Z,37nm,1.3s
TIP Timpagrande 30.18 298 *e*P **P** **18 56 06.0 +1.8**
comp=Z,37nm,1.3s
SKHT Srikalahasti 30.39 115 *e*P **P** **18 56 07.0 +0.9**
SKHT *e*S **S** **19 01 10.2 +4.2**
PKS2 Kecel 30.41 313⇑ *e*P **P** **18 56 05.3 -0.7**
SOKR Solikamsk 30.48 5 *c i*P **P** **18 56 07.7 +1.3**
SOKR pmax pmax
comp=Z,30nm,1.0s
SOKR MLR MLR
comp=Z,1μm,16.0s
JIRN Jiri 30.49 85 *e*P **P** **18 56 07.6 +0.2**
comp=Z,145nm,0.7s
STHS Stebnicka Huta 30.49 320 *e*P **P** **18 56 08.1 +1.3**
STHS Stebnicka Huta 30.49 320 *e*P **P** **18 56 08.1 +1.3**
STHS Stebnicka Huta 30.49 320 *e*P **P** **18 56 08.1 +1.3**
PSZ Piszkesteto 30.57 316 *e*P **P** **18 56 08.2 +0.6**
PSZ pmax pmax
comp=Z,16nm,0.7s
PSZ Piszkesteto 30.57 316⇑ *i*P **P** **18 56 08.6 +0.9**
PSZ Piszkesteto 30.57 316 *e*P **P** **18 56 08.2 +0.6**
comp=Z,16nm,0.7s
PSZ Piszkesteto 30.57 316 *e*P **P** **18 56 08.2 +0.6**
comp=Z,16nm,0.7s
PSZ Piszkesteto 30.57 316⇑ *e*P **P** **18 56 08.5 +0.9**
PKSM Moragy 30.67 312⇑ *i*P **P** **18 56 09.8 +1.5**
PKSM Moragy 30.67 312⇑ *e*P **P** **18 56 09.1 +0.8**
BUD Budapest 30.92 315⇑ *e*P **P** **18 56 10.7 +0.1**
RAMN Ramite 30.99 86 *e*P **P** **18 56 11.2 -0.5**
comp=Z,102nm,0.7s
NIE Niedzica 31.02 319 *e*P **P** **18 56 12.5 +1.1**
NIE Niedzica 31.02 319 *e*P **P** **18 56 12.6 +1.1**
NIE Niedzica 31.02 319 *e*P **P** **18 56 12.6 +1.1**
CUC Castrocucco 31.02 300 *e*P **P** **18 56 14.2 +2.6**
comp=Z,18nm,0.8s
CUC Castrocucco 31.02 300 *e*P **P** **18 56 14.2 +2.6**
comp=Z,18nm,0.8s
PKS9 Tamasi 31.04 313⇑ *e*P **P** **18 56 13.3 +1.7**
PKSG 31.28 314 *e*P **P** **18 56 15.4 +1.7**
CSKK Cs˙‡kako 31.35 314⇑ *e*P **P** **18 56 16.9 +2.5**
LANS Liptovska Anna 31.38 318 *e*P **P** **18 56 16.4 +1.7**
LANS Liptovska Anna 31.38 318 *e*P **P** **18 56 16.4 +1.7**
PKST T˙s 31.45 314 *e*P **P** **18 56 16.4 +1.1**
VYHS Vyhne 31.46 317 *e*P **P** **18 56 16.4 +1.0**
VYHS Vyhne 31.46 317 *e*P **P** **18 56 16.4 +1.0**
VYHS Vyhne 31.46 317 *e*P **P** **18 56 16.3 +0.9**
ODAN Odare 31.70 86 *e*P **P** **18 56 17.4 -0.6**
comp=Z,76nm,1.0s
OJC Ojcow 31.70 320 *e*P **P** **18 56 18.0 +0.6**
OJC Ojcow 31.70 320 *e*P **P** **18 56 17.8 +0.4**
OJC pmax pmax
comp=Z,35nm,0.8s
OJC Ojcow 31.70 320 *e*P **P** **18 56 17.8 +0.4**
comp=Z,35nm,0.8s
OJC Ojcow 31.70 320 *e*P **P** **18 56 17.8 +0.4**
comp=Z,35nm,0.8s
TAPN Taplejung 31.87 85 *e*P **P** **18 56 19.0 -0.5**
comp=Z,42nm,0.8s
SUW Suwalki 32.09 328 *e*P **P** **18 56 20.5 -0.3**
SUW Suwalki 32.09 328 *e*P **P** **18 56 19.3 -1.5**
SUW pmax pmax
comp=Z,86nm,0.9s
SUW Suwalki 32.09 328 *e*P **P** **18 56 19.3 -1.5**
comp=Z,86nm,0.9s
SUW Suwalki 32.09 328 *e*P **P** **18 56 19.3 -1.5**
comp=Z,86nm,0.9s
WMQ Urumqi 32.20 53 P **P** **18 56 23.0 +1.0**
WMQ pP pP 18 56 32.5 +4.8
WMQ sP sP 18 56 36.5 +6.4
WMQ PP **PnPn** **18 57 30.3 +2.3**
WMQ PcP **PcP** **18 59 11.8 +1.4**
WMQ S **S** **19 01 32.6 -1.5**
WMQ sS sS 19 01 48.6 +5.0
WMQ PcS **PcS** **19 02 55.0 -0.2**
WMQ SS **SnSn** **19 03 27.5 +2.3**
WMQ ScS **ScS** **19 06 48.1 -3.9**
WMQ PMZ
comp=Z,28nm,1.0s
WMQ PMZ
comp=Z,200nm,3.8s
WMQ LN
comp=Z,1μm,14.2s
WMQ LE
comp=Z,2μm,14.2s
WMQ LZ
comp=Z,1μm,18.8s
SMOL Smolenice 32.32 316 *e*P **P** **18 56 25.5 +2.6**
SMOL Smolenice 32.32 316 *e*P **P** **18 56 25.5 +2.6**
SMOL Smolenice 32.32 316 *e*P **P** **18 56 25.5 +2.6**
OKC Ostrava-Krasne 32.46 318 *e*P **P** **18 56 24.7 +0.6**
OKC *e*pP **pP** **18 56 28.6 -1.3**
OKC *e*S S **19 01 39.6 +1.8**
OKC AMS AMS 19 15 30.0
comp=Z,200nm,10.9s
OKC Ostrava-Krasne 32.46 318 *e*P **P** **18 56 24.7 +0.6**
OKC *e*S **S** **19 01 39.6 +1.8**
OKC MLR MLR
comp=Z,200nm,10.9s
OKC Ostrava-Krasne 32.46 318 *e*P **P** **18 56 24.7 +0.6**
KLMR Klimovskoe 32.53 349 *c i*P **P** **18 56 23.9 -0.6**
KLMR *i* S **S** **19 01 34.6 -4.0**
KLMR pmax pmax
comp=Z,92nm,1.0s
KLMR pmax pmax
comp=Z,97nm,0.9s
KLMR MLR MLR
comp=Z,342nm,14.0s
KLMR Klimovskoe 32.53 349 *i* P **P** **18 56 23.9 -0.6**
comp=Z,342nm,14.0s
SOP Sopron 32.54 314⇑ *e*P **P** **18 56 26.2 +1.4**
PRGR Permogore 32.54 355 *e*P **P** **18 56 24.4 -0.2**
PRGR pmax pmax
comp=Z,50nm,0.9s
PRGR Permogore 32.54 355 *e*P **P** **18 56 24.4 -0.2**
comp=Z,50nm,0.9s
BOJS Bojanci 32.67 310 *i* P **P** **18 56 27.6 +1.6**
BOJS *i* 18 56 31.8
MORC Moravsky Berou 32.78 318 *e*P **P** **18 56 27.2 +0.2**
MORC pmax pmax
comp=Z,28nm,0.8s
MORC Moravsky Berou 32.78 318 *e*P **P** **18 56 27.2 +0.2**
comp=Z,26nm,0.8s
MORC Moravsky Berou 32.78 318 *e*P **P** **18 56 27.2 +0.2**
comp=Z,28nm,0.8s
VISS Visnje 33.03 310 *i* P **P** **18 56 30.8 +1.6**
VISS *i* 18 56 34.9
ARSA Arzberg 33.04 313⇑ *i*pP pP 18 56 30.9 -4.2
comp=Z,19nm,1.1s,SNR=6.9
CONA Conrad Observa 33.06 314 *i* pP **P** **18 56 30.5 +1.0**
comp=Z,44nm,1.4s,SNR=22
PERS Pernice 33.10 312 *i* P **P** **18 56 30.4 +0.6**

PERS *i* 18 56 35.2
VRAC Vranov 33.15 317⇓ *i*P P 18 56 36.0 +5.9
KMBO Kilima Mbogo 33.20 207 P **P 18 56 33.7 +2.5**
comp=Z,1.4nm,0.4s,baz=25,slow=17,SNR=3.5
KMBO LR LR 19 11 03.3
comp=Z,3µm,18.2s,baz=33,slow=38
LJU Ljubljana 33.31 310 *e*P **P** 18 56 35.0 +3.4
KRLC Kraliky 33.36 318 *e*P **P 18 56 32.3 +0.3**
KRLC Kraliky 33.36 318 *e*P **P 18 56 32.3 +0.3**
KRLC Kraliky 33.36 318 *e*P **P 18 56 32.3 +0.3**
JAVS Javornik 33.58 310 *i* P **P 18 56 34.6 +0.6**
JAVS *i* 18 56 39.4
DPC Dobruska-Polom 33.74 318 *e*P **P 18 56 35.7 +0.4**
DPC *e*pP **pP 18 56 41.5 +0.4**
DPC AMS AMS 19 14 40.0
DPC Dobruska-Polom 33.74 318 *e*P **P 18 56 35.7 +0.4**
DPC *e* 18 56 41.5
DPC Dobruska-Polom 33.74 318 *e*P **P 18 56 35.7 +0.4**
VSU Vasula 33.76 337 *e*P **P 18 56 33.9 -1.3**
VSU pmax pmax
comp=Z,27nm,1.2s
VSU Vasula 33.76 337 *e*P **P 18 56 33.9 -1.3**
comp=Z,27nm,1.2s
TREC Trest 33.81 316 *e*P **P 18 56 37.1 +1.2**
TREC AMS AMS 19 13 50.0
comp=Z,400nm,16.0s
TREC Trest 33.81 316 *e*P **P 18 56 37.1 +1.2**
TREC MLR MLR
comp=Z,400nm,16.0s
TREC Trest 33.81 316 *e*P **P 18 56 37.1 +1.2**
comp=Z,400nm,16.0s
KSP Ksiaz 33.97 319 *e*P **P 18 56 37.7 +0.5**
KSP Ksiaz 33.97 319 *e*P **P 18 56 37.8 +0.5**
KSP Ksiaz 33.97 319 *e*P **P 18 56 37.8 +0.5**
MOA Molln 34.05 313⇑ *i*P **P 18 56 38.8 +0.8**
comp=Z,50nm,1.0s,SNR=21
MYKA Terra Mystica 34.07 311⇑ *i*pP pP 18 56 40.0 -4.0
comp=Z,15nm,1.1s
NVS Novosibirsk 34.20 33 *e*P **P 18 56 39.6 +0.4**
NVS *e*S **S 19 02 06.4 +1.7**
NVS *e* 19 06 56.8
NVS pmax pmax
comp=N,30nm,1.7s
NVS pmax pmax
comp=Z,52nm,1.7s
NVS pmax pmax
comp=E,15nm,1.6s
NVS smax smax
comp=N,15nm,1.5s
NVS Novosibirsk 34.20 33 *e*P **P 18 56 39.6 +0.4**
KBA Koelnbreinsper 34.40 312 *i* pP **P 18 56 42.2 +1.0**
comp=N,31nm,0.6s,SNR=26
LSA Lhasa 34.41 79 P **P 18 56 42.5 +0.6**
LSA Lhasa 34.41 79⇑ *e*P **P 18 56 42.4 +0.6**
LSA pmax pmax
comp=Z,40nm,0.8s
LSA Lhasa 34.41 79⇑ *e*P **P 18 56 42.4 +0.6**
comp=Z,40nm,0.8s
LSA Lhasa 34.41 79⇑ *e*P **P 18 56 42.4 +0.6**
comp=Z,40nm,0.8s
GOPC GO Pecny, Ondr 34.47 317 *e*P **P 18 56 42.4 +0.8**
GOPC *e*pP **pP 18 56 47.0 -0.4**
GOPC *e*S **S 19 02 07.6 -1.4**
GOPC AMS AMS 19 14 00.0
comp=Z,300nm,17.1s
ZAA0 Zalesovo Array 34.48 35 *e*P **P 18 56 41.5 -0.1**
ZAA0 Zalesovo Array 34.48 35 *e*P **P 18 56 41.5 -0.1**
ZALV Zalesovo Beam 34.48 35 P **P 18 56 42.0 +0.4**
comp=Z,35nm,0.8s,baz=246,slow=9.1,SNR=132
ZALV PcP **PcP 18 59 15.1 -1.4**
comp=Z,2.3nm,0.4s,baz=235,slow=5.1,SNR=3.3
ZALV LR LR 19 12 34.5
comp=Z,1µm,19.8s,baz=250,slow=40
PRU Pruhonice 34.64 317 *e*P **P 18 56 43.2 +0.1**
PRU *e*pP **pP 18 56 48.2 -0.7**
PRU *e*S **S 19 02 11.0 -0.7**
PRU AMS AMS 19 14 40.0
comp=Z,300nm,16.9s
PRU Pruhonice 34.64 317 *e*P **P 18 56 43.2 +0.1**
PRU *e*S **S 19 02 11.0 -0.7**
PRU MLR MLR
comp=Z,300nm,16.9s
PRU Pruhonice 34.64 317 *e*P **P 18 56 43.2 +0.1**
GEC2 GERESS Array S 34.74 315 *e*P **P 18 56 44.9 +0.9**
comp=Z,17nm,1.2s
GEC2 GERESS Array S 34.74 315 *e*P **P 18 56 44.0 -0.1**
GEC2 GERESS Array S 34.74 315 *e*P **P 18 56 44.9 +0.9**
comp=Z,17nm,1.2s
GEC2 GERESS Array S 34.74 315 *e*P **P 18 56 44.0 -0.1**
GERES GERESS Array B 34.74 315 P **P 18 56 43.9 -0.1**
comp=Z,5.2nm,0.7s,baz=108,slow=7.5,SNR=30
GERES PcP **PcP 18 59 18.0 +0.5**
comp=Z,1.1nm,0.4s,baz=152,slow=3.6,SNR=6.9
GERES LR LR 19 15 17.0
comp=Z,221nm,18.1s,baz=107,slow=44
PVCC Panska Ves 34.84 318 *e*P **P 18 56 45.2 +0.4**
PVCC *e*pP **pP 18 56 50.7 +0.1**
PVCC AMS AMS 19 15 10.0
comp=Z,500nm,18.9s
PVCC Panska Ves 34.84 318 *e*P **P 18 56 45.2 +0.4**
PVCC *e* 18 56 50.7
PVCC MLR MLR
comp=Z,500nm,18.9s
PVCC Panska Ves 34.84 318 *e*P **P 18 56 45.2 +0.4**
comp=Z,500nm,18.9s
ABTA Abfaltersbach 34.85 311⇑ *i*pP **P 18 56 45.8 +0.8**
comp=Z,28nm,0.7s,SNR=10
KHC Kasperske Hory 34.91 315 *e*P **P 18 56 46.2 +0.7**
KHC *e*pP **pP 18 56 50.9 -0.4**
KHC *e*S **S 19 02 14.4 -1.5**
KHC AMS AMS 19 12 50.0
comp=Z,200nm,16.5s
KHC Kasperske Hory 34.91 315 *e*P **P 18 56 46.2 +0.7**
KHC *e*S **S 19 02 14.4 -1.5**
KHC MLR MLR
comp=Z,200nm,16.5s
KHC Kasperske Hory 34.91 315 *e*P **P 18 56 46.2 +0.7**
RJOB Jochberg 34.95 313 *e*P **P 18 56 47.0 +1.1**
comp=Z,28nm,0.8s
RJOB Jochberg 34.95 313 *e*P **P 18 56 47.0 +1.1**
comp=Z,28nm,0.8s
BRG Berggiesshubel 35.34 318 *e*P **P 18 56 49.3 +0.2**
comp=Z,4.6nm,0.6s
BRG *e* 18 56 54.4
comp=Z,16nm,1.0s
comp=N,364nm,19.3s
comp=E,152nm,19.1s
comp=Z,339nm,16.7s
BRG Berggiesshubel 35.34 318 *e*P **P 18 56 49.2 +0.2**
comp=Z,19nm,0.8s
BRG Berggiesshubel 35.34 318 *e*P **P 18 56 49.3 +0.2**
BRG *e* 18 56 54.4
BRG pmax pmax
comp=Z,5.0nm,0.6s
BRG pmax pmax
comp=Z,16nm,1.0s
BRG MLR MLR
comp=N,364nm,19.3s
BRG MLR MLR
comp=E,152nm,19.1s
BRG MLR MLR
comp=Z,339nm,16.7s
BRG Berggiesshubel 35.34 318 *e*P **P 18 56 49.2 +0.2**
comp=Z,19nm,0.8s
WET Wettzell 35.35 315 *e*P **P 18 56 49.0 -0.2**
comp=Z,28nm,1.3s
WET Wettzell 35.35 315 *e*P **P 18 56 49.0 -0.2**
comp=Z,28nm,1.3s
WTTA Wattenberg 35.56 311 *i* P **P 18 56 51.7 +0.4**
comp=Z,66nm,0.6s,SNR=32
WATA Walderalm 35.62 311⇓ *i*P **P 18 56 52.0 +0.3**
comp=Z,41nm,0.5s,SNR=17
MBAR Mbarara 35.76 217 *e*P **P 18 56 54.0 +0.8**
MBAR pmax pmax
comp=Z,72nm,1.9s
MBAR Mbarara 35.76 217 *e*P **P 18 56 54.0 +0.8**
comp=Z,72nm,1.9s
MBAR Mbarara 35.76 217 *e*P **P 18 56 54.0 +0.8**
comp=Z,72nm,1.9s
KEST Kesra 35.88 291 P P 18 56 58.4 +4.3
comp=Z,5.0nm,0.8s,baz=207,slow=2.3,SNR=8.5
KEST Kesra 35.88 291 *e*P P 18 56 58.2 +4.1
KEST Kesra 35.88 291 *e*P P 18 56 58.2 +4.1
TMCR Tamitsa 35.88 350 *e*P **P 18 56 53.5 -0.1**
TMCR *e* 18 58 16.1
TMCR pmax pmax
comp=Z,74nm,1.2s
TMCR Tamitsa 35.88 350 *e*P **P 18 56 53.5 -0.1**
comp=Z,74nm,1.2s
VSL Villasalto 35.90 298 *e*P P 18 56 57.7 +3.6
comp=Z,48nm,0.8s
VSL Villasalto 35.90 298 *e*P P 18 56 57.7 +3.6
comp=Z,48nm,0.8s
MOTA Moosalm 35.94 311⇑ *i*P **P 18 56 54.2 -0.3**
comp=Z,43nm,0.6s,SNR=49
ROTZ Rotzenmuhle 35.97 316 *e*P **P 18 56 55.3 +0.8**
comp=Z,57nm,1.2s
ROTZ Rotzenmuhle 35.97 316 *e*P **P 18 56 55.3 +0.8**
comp=Z,57nm,1.2s
NKC Novy Kostel 35.98 317 *e*P **P 18 56 55.2 +0.5**
NKC *e*pP **pP 18 57 00.5 0.0**
NKC *e*S **S 19 02 34.8 +2.4**
NKC AMS AMS 19 15 00.0
comp=Z,200nm,13.4s
NKC Novy Kostel 35.98 317 *e*P **P 18 56 55.2 +0.5**
NKC *e* 18 57 00.5
NKC *e*S **S 19 02 34.8 +2.4**
NKC MLR MLR
comp=Z,200nm,13.4s
NKC Novy Kostel 35.98 317 *e*P **P 18 56 55.2 +0.5**
TANN Tannenbergstha 36.04 317 *e*P **P 18 56 54.9 -0.3**
comp=Z,69nm,2.4s
TANN Tannenbergstha 36.04 317 *e*P **P 18 56 54.9 -0.3**
comp=Z,69nm,2.4s
FUR Furstenfeldbru 36.05 313 *e*P **P 18 56 55.5 +0.2**
comp=Z,120nm,0.7s
FUR Furstenfeldbru 36.05 313 *e*P **P 18 56 55.5 +0.2**
comp=Z,120nm,0.7s
CLL Collm 36.05 318 *e*P **P 18 56 55.5 +0.3**
comp=Z,38nm,0.9s
CLL Collm 36.05 318 *i* P **P 18 56 55.6 +0.3**
comp=Z,20nm,1.3s
CLL *i* pP **pP 18 56 58.3 -2.7**
CLL *i* sP **sP 18 57 00.7 -2.7**
CLL *i* 18 57 03.8
CLL *i* ePPPP 18 58 40.0
CLL *e*S **S 19 02 36.0 +2.7**
CLL *e*SS **SS 19 05 12.0 +1.4**
CLL LmV 19 15 00.0
comp=Z,300nm,19.9s
CLL Collm 36.05 318 *i* P **P 18 56 55.6 +0.3**
CLL *i* 18 57 00.7
CLL *e*S **S 19 02 36.0 +2.7**
CLL pmax pmax
comp=Z,20nm,1.3s
CLL MLR MLR
comp=Z,300nm,19.9s
CLL Collm 36.05 318 *e*P **P 18 56 55.5 +0.3**
comp=Z,38nm,0.9s
CLL Collm 36.05 318 *e*P **P 18 56 55.6 +0.3**
comp=Z,39nm,0.9s
FETA Feichten 36.10 311 *i* P **P 18 56 56.2 +0.3**
comp=Z,34nm,0.6s,SNR=25
RETA Reutte 36.20 311 *i* P **P 18 56 56.1 -0.5**
comp=Z,26nm,0.5s,SNR=29
FIA1 FINESS Array S 36.25 340 *e*P **P 18 56 56.0 -0.8**
FIA1 FINESS Array S 36.25 340 *e*P **P 18 56 56.0 -0.8**
FINES FINESS Array B 36.25 340 P **P 18 56 56.3 -0.5**
comp=Z,8.0nm,0.6s,baz=149,slow=10,SNR=108
FINES PcP **PcP 18 59 21.3 -0.2**
comp=Z,6.9nm,0.8s,baz=127,slow=8.8,SNR=3.0
FUORN Ofenpass-Fuorn 36.31 310 *e*P **P 18 56 59.8 +2.0**
comp=Z,13nm,0.6s
FUORN Ofenpass-Fuorn 36.31 310 *e*P **P 18 56 59.9 +2.0**
comp=Z,13nm,0.6s
PGF Pioggiola 36.46 303 *e*P **P 18 56 57.9 -1.1**
comp=Z,97nm,1.4s
PGF Pioggiola 36.46 303 *e*P **P 18 56 57.9 -1.1**
PGF pmax pmax
comp=Z,97nm,1.4s
PGF Pioggiola 36.46 303 *e*P **P 18 56 57.9 -1.1**
comp=Z,97nm,1.4s
PGF Pioggiola 36.46 303 *e*P **P 18 56 57.9 -1.1**
comp=Z,97nm,1.4s
DAVOX Davos/Dischmat 36.60 310 P **P 18 57 00.3 +0.1**
comp=Z,17nm,0.8s,baz=137,slow=12,SNR=25
DAVOX Davos/Dischmat 36.60 310 P **P 18 57 00.3 +0.1**
DAVOX pmax pmax
comp=Z,17nm,0.8s
BSD Bornholm Skovb 36.70 325 *i* P **P 18 56 59.7 -0.9**
comp=Z,37nm,0.8s
BSD Bornholm Skovb 36.70 325 *i* P **P 18 56 59.7 -0.9**
BSD pmax pmax
comp=Z,37nm,0.8s
BSD Bornholm Skovb 36.70 325 *i* P **P 18 56 59.7 -0.9**
comp=Z,37nm,0.8s
DAVA Davos 36.73 311 *i* P **P 18 57 01.3 +0.1**
comp=Z,124nm,0.5s,SNR=66
TUE Stuetta 36.89 309 *e*P **P 18 57 05.0 +2.3**
comp=Z,384nm,0.4s
TUE Stuetta 36.89 309 *e*P **P 18 57 05.0 +2.3**
comp=Z,384nm,0.4s
UBBA Unterbreizbach 37.65 317 *e*P **P 18 57 09.4 +0.7**
comp=Z,52nm,1.7s
UBBA Unterbreizbach 37.65 317 *e*P **P 18 57 09.4 +0.7**
comp=Z,52nm,1.7s
SAOF Saorge 37.70 305⇑ *e*P P 18 57 16.3 +6.9
SAOF Saorge 37.70 305⇑ *e*P P 18 57 16.3 +6.9
SBF Sospel 37.77 305 *e*P **P 18 57 09.2 -0.8**
comp=Z,102nm,0.8s
SBF Sospel 37.77 305 *e*P **P 18 57 09.2 -0.8**
SBF pmax pmax
comp=Z,102nm,0.8s
SBF Sospel 37.77 305 *e*P **P 18 57 09.2 -0.8**
comp=Z,102nm,0.8s
SBF Sospel 37.77 305 *e*P **P 18 57 09.2 -0.8**
comp=Z,102nm,0.8s
AUTN L'Aution 37.79 305⇑ *e*P P 18 57 15.9 +5.5
AUTN L'Aution 37.79 305⇑ *e*P P 18 57 15.9 +5.5
TOUF Mont Tournerai 37.92 305⇑ *e*P P 18 57 17.1 +5.7
TOUF Mont Tournerai 37.92 305⇑ *e*P P 18 57 17.1 +5.7
MVIF Mont Vial 37.97 305⇑ *e*P P 18 57 17.4 +5.6
MVIF Mont Vial 37.97 305⇑ *e*P P 18 57 17.4 +5.6
BFO Black Forest 37.99 312 *e*P **P 18 57 11.0 -0.8**
BFO pmax pmax
comp=Z,8.0nm,0.6s
BFO Black Forest 37.99 312 *e*P **P 18 57 11.0 -0.8**
comp=Z,8.0nm,0.6s
BFO Black Forest 37.99 312 *e*P **P 18 57 11.0 -0.8**
comp=Z,7.6nm,0.6s
FELD Feldberg im Sc 38.10 311⇑ *e*P P 18 57 17.6 +4.8
CALN Calern 38.15 305⇑ *e*P P 18 57 17.8 +4.5
CALN Calern 38.15 305⇑ *e*P P 18 57 17.8 +4.5
NRDL Niedersach Rie 38.16 319 *e*P **P 18 57 14.3 +1.3**
comp=Z,75nm,1.0s
NRDL Niedersach Rie 38.16 319 *e*P **P 18 57 14.3 +1.3**
comp=Z,75nm,1.0s
COP Copenhagen 38.21 325 *i* P **P 18 57 13.7 +0.2**
comp=Z,15nm,0.6s
COP Copenhagen 38.21 325 *i* P **P 18 57 13.7 +0.2**
COP pmax pmax
comp=Z,15nm,0.6s
COP Copenhagen 38.21 325 *i* P **P 18 57 13.7 +0.2**
comp=Z,15nm,0.6s
SENIN Lac Senin/Sane 38.26 309 *e*P **P 18 57 14.4 +0.1**
SENIN Lac Senin/Sane 38.26 309 *e*P **P 18 57 14.4 +0.1**
FRF La Foret Royal 38.30 304 *e*P **P 18 57 13.3 -1.1**
FRF La Foret Royal 38.30 304 *e*P **P 18 57 13.3 -1.1**
FRF La Foret Royal 38.30 304 *e*P **P 18 57 13.3 -1.1**
FRF La Foret Royal 38.30 304 *e*P **P 18 57 13.3 -1.1**
MBDF Montbardon 38.36 306 *e*P **P 18 57 14.5 -0.6**
comp=Z,52nm,0.6s
MBDF Montbardon 38.36 306 *e*P **P 18 57 14.5 -0.6**
MBDF pmax pmax
comp=Z,52nm,0.6s
MBDF Montbardon 38.36 306 *e*P **P 18 57 14.5 -0.6**
comp=Z,52nm,0.6s
MBDF Montbardon 38.36 306 *e*P **P 18 57 14.5 -0.6**
comp=Z,52nm,0.6s
LMR La Mourre 38.37 304 *e*P **P 18 57 13.8 -1.2**
LMR La Mourre 38.37 304 *e*P **P 18 57 13.8 -1.2**
LMR La Mourre 38.37 304 *e*P **P 18 57 13.8 -1.2**
LMR La Mourre 38.37 304 *e*P **P 18 57 13.8 -1.2**
LPG La Plagne 38.49 307 *e*P **P 18 57 14.8 -1.5**
comp=Z,61nm,0.7s
LPG La Plagne 38.49 307 *e*P **P 18 57 14.8 -1.5**
LPG pmax pmax
comp=Z,61nm,0.7s
LPG La Plagne 38.49 307 *e*P **P 18 57 14.8 -1.5**
comp=Z,61nm,0.7s
LPG La Plagne 38.49 307 *e*P **P 18 57 14.8 -1.5**
comp=Z,61nm,0.7s
LANF Langenberg 38.49 313⇑ *e*P P 18 57 20.1 +4.1
LANF Langenberg 38.49 313⇑ *e*P P 18 57 20.1 +4.1
LPL La Plagne 38.50 307 *e*P **P 18 57 14.9 -1.5**
comp=Z,41nm,0.6s
LPL La Plagne 38.50 307 *e*P **P 18 57 14.9 -1.5**
LPL pmax pmax
comp=Z,41nm,0.6s
LPL La Plagne 38.50 307 *e*P **P 18 57 14.9 -1.5**
comp=Z,41nm,0.6s
LPL La Plagne 38.50 307 *e*P **P 18 57 14.9 -1.5**
comp=Z,41nm,0.6s
BSEG Bad Segeberg 38.58 321 *e*P **P 18 57 17.3 +0.7**
comp=Z,38nm,1.5s
BSEG Bad Segeberg 38.58 321 *e*P **P 18 57 17.3 +0.7**
comp=Z,38nm,1.5s
MOF Molkenrain 38.67 311⇑ *e*P P 18 57 22.2 +4.7
OG01 Vacheresse 38.67 309⇑ *e*P P 18 57 22.4 +4.8
OG01 Vacheresse 38.67 309⇑ *e*P P 18 57 22.4 +4.8
CDF Champ du Feu 38.70 312 *e*P **P 18 57 17.0 -0.8**
comp=Z,16nm,0.8s
CDF Champ du Feu 38.70 312 *e*P **P 18 57 17.0 -0.8**
CDF pmax pmax
comp=Z,16nm,0.8s
CDF Champ du Feu 38.70 312 *e*P **P 18 57 17.0 -0.8**
comp=Z,16nm,0.8s
CDF Champ du Feu 38.70 312 *e*P **P 18 57 17.0 -0.8**
comp=Z,16nm,0.8s
ECH Echery 38.73 312⇑ *e*P P 18 57 22.4 +4.4
ECH Echery 38.73 312 *e*P **P 18 57 16.4 -1.6**
ECH pmax pmax
comp=Z,23nm,0.9s
ECH Echery 38.73 312 *e*P **P 18 57 16.4 -1.6**
comp=Z,23nm,0.9s
ECH Echery 38.73 312 *e*P **P 18 57 16.4 -1.6**
comp=Z,23nm,0.9s
LOMF Lomont 38.77 310⇑ *e*P P 18 57 23.4 +5.0
HINF Hinteralfeld 38.84 311 *e*P **P 18 57 17.2 -1.8**
comp=Z,18nm,0.7s
HINF Hinteralfeld 38.84 311 *e*P **P 18 57 17.2 -1.8**
HINF pmax pmax
comp=Z,18nm,0.7s
HINF Hinteralfeld 38.84 311 *e*P **P 18 57 17.2 -1.8**
comp=Z,18nm,0.7s
HINF Hinteralfeld 38.84 311 *e*P **P 18 57 17.2 -1.8**
comp=Z,18nm,0.7s
ORIF Oris-en-Rattie 39.01 306 *e*P **P 18 57 18.9 -1.6**
comp=Z,19nm,0.7s
ORIF *e*R
comp=Z,296nm,21.5s
ORIF Oris-en-Rattie 39.01 306 *e*P **P 18 57 18.9 -1.6**
ORIF pmax pmax
comp=Z,19nm,0.7s
ORIF Oris-en-Rattie 39.01 306 *e*P **P 18 57 18.9 -1.6**
comp=Z,19nm,0.7s
ORIF Oris-en-Rattie 39.01 306 *e*P **P 18 57 18.9 -1.6**
comp=Z,19nm,0.7s
SMRF Simiane la Rot 39.12 305 *e*P **P 18 57 20.2 -1.1**
SMRF Simiane la Rot 39.12 305 *e*P **P 18 57 20.2 -1.1**
SMRF Simiane la Rot 39.12 305 *e*P **P 18 57 20.2 -1.1**
CABF La Chapelle 39.13 309 *e*P **P 18 57 20.4 -1.0**
comp=Z,81nm,0.8s
CABF La Chapelle 39.13 309 *e*P **P 18 57 20.4 -1.0**
CABF pmax pmax
comp=Z,81nm,0.8s
CABF La Chapelle 39.13 309 *e*P **P 18 57 20.4 -1.0**
comp=Z,81nm,0.8s
CABF La Chapelle 39.13 309 *e*P **P 18 57 20.4 -1.0**
comp=Z,81nm,0.8s
RUP Ruppelstein 39.14 314⇑ *e*P P 18 57 26.0 +4.5
HAU Haudompre 39.21 311 *e*P **P 18 57 20.2 -1.8**
comp=Z,18nm,0.6s
HAU *e*R
comp=Z,207nm,19.8s
HAU Haudompre 39.21 311 *e*P **P 18 57 20.2 -1.8**
HAU pmax pmax
comp=Z,18nm,0.6s
HAU Haudompre 39.21 311 *e*P **P 18 57 20.2 -1.8**
comp=Z,18nm,0.6s
HAU Haudompre 39.21 311 *e*P **P 18 57 20.2 -1.8**
comp=Z,18nm,0.6s
IBBN Ibbenburen 39.45 318 *e*P **P 18 57 25.2 +1.3**
comp=Z,61nm,1.2s
IBBN Ibbenburen 39.45 318 *e*P **P 18 57 25.2 +1.3**
comp=Z,61nm,1.2s
WLF Walferdange 39.70 314 P **P 18 57 28.6 +2.5**
comp=Z,19nm,1.1s
WLF AP **pP 18 57 31.0 -0.9**
WLF XP sP 18 57 40.3 +6.0
WLF Walferdange 39.70 314 *e*P **P 18 57 25.9 -0.2**
WLF pmax pmax
comp=Z,25nm,0.8s
WLF Walferdange 39.70 314 *e*P **P 18 57 25.9 -0.2**
comp=Z,25nm,0.8s
WLF Walferdange 39.70 314 *e*P **P 18 57 25.9 -0.2**
comp=Z,25nm,0.8s
PAGF Fort de Pagny 39.73 312 *e*P **P 18 57 25.0 -1.3**
comp=Z,13nm,0.9s
PAGF Fort de Pagny 39.73 312 *e*P **P 18 57 25.0 -1.3**
comp=Z,13nm,0.9s
PAGF Fort de Pagny 39.73 312 *e*P **P 18 57 25.0 -1.3**
comp=Z,13nm,0.9s
APA Apatity 39.77 349⇓ *i*P **P 18 57 27.0 +0.6**
APA *i* 18 59 00.0
APA *i* 18 59 32.4
APA *i* S **S 19 03 30.0 +0.8**
APA pmax pmax
comp=Z,4.0nm,0.8s
APA MLR MLR
comp=Z,500nm,19.0s
APA Apatity 39.77 349 *i* P **P 18 57 27.0 +0.6**
comp=Z,4.0nm,0.8s
APA Apatity 39.77 349 *i* PcP **PcP 18 59 32.4 +0.1**
VIVF Saint-Julien-l 39.86 306 *e*P **P 18 57 25.9 -1.6**
comp=Z,46nm,1.1s
VIVF Saint-Julien-l 39.86 306 *e*P **P 18 57 25.9 -1.6**
VIVF pmax pmax
comp=Z,46nm,1.1s
VIVF Saint-Julien-l 39.86 306 *e*P **P 18 57 25.9 -1.6**
comp=Z,46nm,1.1s
VIVF Saint-Julien-l 39.86 306 *e*P **P 18 57 25.9 -1.6**
comp=Z,46nm,1.1s
LVZ Lovozero 39.88 350 P **P 18 57 27.7 +0.4**
comp=Z,360nm,1.1s,SNR=6.1
LVZ Lovozero 39.88 350 *e*P **P 18 57 26.1 -1.2**
LVZ pmax pmax
comp=Z,61nm,1.0s
LVZ Lovozero 39.88 350 *e*P **P 18 57 27.1 -0.2**
comp=Z,62nm,1.0s
LVZ Lovozero 39.88 350 *e*P **P 18 57 27.1 -0.2**
comp=Z,62nm,1.0s
HFS Hagfors 39.89 331 S **S 19 03 28.9 -2.3**
comp=Z,2.6nm,0.7s,baz=121,slow=17,SNR=4.0
HFS LR LR 19 16 51.0
comp=Z,272nm,18.2s,baz=125,slow=40
WTSB Winterswijk 39.91 317 *e*P **P 18 57 29.1 +1.3**
HGN Heimansgroeve 40.11 315 *e*P P 18 57 34.9 +5.5
SFTF Sexfontaines 40.11 311 *e*P **P 18 57 28.3 -1.2**
comp=Z,67nm,1.1s
SFTF Sexfontaines 40.11 311 *e*P **P 18 57 28.3 -1.2**
comp=Z,67nm,1.1s
SFTF Sexfontaines 40.11 311 *e*P **P 18 57 28.3 -1.2**
comp=Z,67nm,1.1s
MEZF Maizieres J'vi 40.16 312 *e*P **P 18 57 28.7 -1.2**
comp=Z,70nm,1.0s
MEZF Maizieres J'vi 40.16 312 *e*P **P 18 57 28.7 -1.2**
comp=Z,70nm,1.0s
MEZF Maizieres J'vi 40.16 312 *e*P **P 18 57 28.7 -1.2**
comp=Z,70nm,1.0s
MUD Monsted U'grnd 40.20 325 *i* P P 18 57 35.6 +5.6
comp=Z,24nm,1.0s
MUD Monsted U'grnd 40.20 325 *i* P P 18 57 35.6 +5.6
MUD pmax pmax
comp=Z,24nm,1.0s
LASF Ste Croix 40.36 305 *e*P **P 18 57 30.3 -1.3**
comp=Z,31nm,0.8s
LASF Ste Croix 40.36 305 *e*P **P 18 57 30.3 -1.3**
comp=Z,31nm,0.8s
LASF Ste Croix 40.36 305 *e*P **P 18 57 30.3 -1.3**
comp=Z,31nm,0.8s
BCLA Clavier 40.42 315 P **P 18 57 31.7 -0.3**
GIVF Givet 40.64 314 *e*P **P 18 57 33.1 -0.7**
comp=Z,39nm,0.9s
GIVF Givet 40.64 314 *e*P **P 18 57 33.1 -0.7**
GIVF pmax pmax
comp=Z,39nm,0.9s
GIVF Givet 40.64 314 *e*P **P 18 57 33.1 -0.7**

GIVF **Givet** 40.64 314 *e*P P 18 57 33.1 -0.7
comp=Z,39nm,0.9s
SMF **Signal de Mont** 40.66 309 *e*P P 18 57 32.5 -1.6
comp=Z,87nm,0.7s
SMF **Signal de Mont** 40.66 309 *e*P P 18 57 32.5 -1.6
SMF pmax pmax
comp=Z,87nm,0.7s
SMF **Signal de Mont** 40.66 309 *e*P P 18 57 32.5 -1.6
comp=Z,87nm,0.7s
SMF **Signal de Mont** 40.66 309 *e*P P 18 57 32.5 -1.6
comp=Z,87nm,0.7s
GTA **Gaotai** 40.72 63 ⇑P P 18 57 36.1 +1.3
GTA pP pP 18 57 45.4 +4.7
GTA sP sP 18 57 49.5 +6.5
GTA ScP **ScP** **19 03 24.4 -0.4**
GTA S **S** **19 03 44.0 -0.4**
GTA sS sS 19 03 59.5 +5.4
GTA SS SS 19 06 36.8 -8.3
GTA ScS **ScS** **19 07 39.8 +0.3**
GTA PMZ
comp=Z,100nm,1.2s
GTA PMZ
comp=Z,350nm,4.3s
GTA LN
comp=Z,640nm,17.3s
GTA LE
comp=Z,850nm,17.6s
GTA LZ
comp=Z,1μm,18.3s
PLDF **La Plantade** 40.72 308⇑*e*P P 18 57 37.9 +3.2
PLDF **La Plantade** 40.72 308⇑*e*P P 18 57 37.9 +3.2
LOR **Lormes** 40.74 310 *e*P P 18 57 33.0 -1.7
comp=Z,21nm,0.7s
LOR *e*R
comp=Z,219nm,19.8s
LOR **Lormes** 40.74 310 *e*P P 18 57 33.0 -1.7
LOR pmax pmax
comp=Z,21nm,0.7s
LOR **Lormes** 40.74 310 *e*P P 18 57 33.0 -1.7
comp=Z,21nm,0.7s
LOR **Lormes** 40.74 310 *e*P P 18 57 33.0 -1.7
comp=Z,21nm,0.7s
DOU **Dourbes** 40.78 314 P P 18 57 36.1 +1.1
LBL **Lubilhac** 40.90 306 *e*P P 18 57 39.5 +3.3
LBL **Lubilhac** 40.90 306 *e*P P 18 57 39.5 +3.3
SSF **Saint Saulge** 40.95 309 *e*P P 18 57 35.0 -1.4
comp=Z,26nm,0.6s
SSF **Saint Saulge** 40.95 309 *e*P P 18 57 35.0 -1.4
SSF pmax pmax
comp=Z,26nm,0.6s
SSF **Saint Saulge** 40.95 309 *e*P P 18 57 35.0 -1.4
comp=Z,26nm,0.6s
SSF **Saint Saulge** 40.95 309 *e*P P 18 57 35.0 -1.4
comp=Z,26nm,0.6s
AVF **Avril sur Loir** 41.01 309 *e*P P 18 57 35.2 -1.7
AVF **Avril sur Loir** 41.01 309 *e*P P 18 57 35.2 -1.7
AVF **Avril sur Loir** 41.01 309 *e*P P 18 57 35.2 -1.7
AVF **Avril sur Loir** 41.01 309 *e*P P 18 57 35.2 -1.7
BAIF **Baives** 41.02 314 *e*P P 18 57 36.3 -0.6
comp=Z,36nm,0.9s
BAIF **Baives** 41.02 314 *e*P P 18 57 36.3 -0.6
BAIF pmax pmax
comp=Z,36nm,0.9s
BAIF **Baives** 41.02 314 *e*P P 18 57 36.3 -0.6
comp=Z,36nm,0.9s
BAIF **Baives** 41.02 314 *e*P P 18 57 36.3 -0.6
comp=Z,36nm,0.9s
OSL **Oslo** 41.05 330 *e*P P 18 57 37.1 0.0
OSL *ep*P **pP** **18 57 42.2 -0.7**
OSL IAmb IAmb 18 57 42.9
comp=Z,184nm,1.6s
OSL **Oslo** 41.05 330 *e*P P 18 57 37.1 0.0
SNR=25
OSL *ep*P **pP** **18 57 42.2 -0.7**
SNR=155
SNF **Seneffe** 41.07 315 P P 18 57 38.0 +0.7
NC602 **NORSAR Array S** 41.11 331 *e*P P 18 57 37.0 -0.6
NC602 **NORSAR Array S** 41.11 331 *e*P P 18 57 37.0 -0.6
SNR=25
HOMB **Homborsund** 41.29 327 *e*P P 18 57 39.7 +0.7
HOMB **Homborsund** 41.29 327 *e*P P 18 57 39.7 +0.7
SNR=25
NB2 **NORSAR Subarra** 41.41 332 P P 18 57 38.9 -1.1
comp=Z,4.1nm,0.6s,baz=121,slow=8.6
NB2 **NORSAR Subarra** 41.41 332 P P 18 57 38.9 -1.1
baz=121,slow=8.6
NB2 **NORSAR Subarra** 41.41 332 P P 18 57 38.9 -1.1
comp=Z,4.1nm,0.6s,SNR=17
NOA **NORSAR Array B** 41.41 332 P P 18 57 39.1 -0.9
comp=Z,8.2nm,0.4s,baz=122,slow=8.4,SNR=106
NOA S S 19 03 55.7 +1.8
comp=Z,3.7nm,1.0s,baz=137,slow=13,SNR=3.0
NOA LR LR 19 17 47.6
comp=Z,188nm,19.4s,baz=135,slow=40
KONO **Kongsberg** 41.41 329 *e*P P 18 57 39.4 -0.6
KONO IAmb IAmb 18 57 45.3
comp=Z,24nm,0.3s
KONO **Kongsberg** 41.41 329 *e*P P 18 57 38.9 -1.1
KONO pmax pmax
comp=Z,22nm,1.1s
KONO **Kongsberg** 41.41 329 *e*P P 18 57 39.4 -0.6
SNR=25
KONO **Kongsberg** 41.41 329 *e*P P 18 57 38.9 -1.1
comp=Z,22nm,1.1s
NAO01 **NORSAR Array S** 41.44 331 *e*P P 18 57 39.1 -1.2
comp=Z,7.1nm,0.4s
NAO01 **NORSAR Array S** 41.44 331 *e*P P 18 57 39.1 -1.2
comp=Z,7.1nm,0.4s
MTLF **Montolieu** 41.49 303 *e*P P 18 57 40.1 -0.9
comp=Z,29nm,1.2s
MTLF **Montolieu** 41.49 303 *e*P P 18 57 40.1 -0.9
MTLF pmax pmax
comp=Z,29nm,1.3s
MTLF **Montolieu** 41.49 303 *e*P P 18 57 40.1 -0.9
comp=Z,29nm,1.3s
MTLF **Montolieu** 41.49 303 *e*P P 18 57 40.1 -0.9
comp=Z,29nm,1.3s
HYF **Humbligny** 41.56 309 *e*P P 18 57 40.7 -0.8
HYF **Humbligny** 41.56 309 *e*P P 18 57 40.7 -0.8
HYF **Humbligny** 41.56 309 *e*P P 18 57 40.7 -0.8
TAM **Tamanrasset** 41.59 272 *e*P P 18 57 43.6 +1.4
TAM pmax pmax
comp=Z,27nm,1.0s
TAM **Tamanrasset** 41.59 272 *e*P P 18 57 43.6 +1.4
comp=Z,27nm,1.0s
TAM **Tamanrasset** 41.59 272 *e*P P 18 57 43.6 +1.4
comp=Z,27nm,1.0s
CAF **Calviac** 41.71 306 *e*P P 18 57 41.9 -0.8
CAF **Calviac** 41.71 306 *e*P P 18 57 41.9 -0.8
CAF **Calviac** 41.71 306 *e*P P 18 57 41.9 -0.8
CAF **Calviac** 41.71 306 *e*P P 18 57 41.9 -0.8
TCF **Toulx Ste Croi** 41.73 308 *e*P P 18 57 41.7 -1.2
comp=Z,19nm,0.8s
TCF **Toulx Ste Croi** 41.73 308 *e*P P 18 57 41.7 -1.2
TCF pmax pmax
comp=Z,19nm,0.8s
TCF **Toulx Ste Croi** 41.73 308 *e*P P 18 57 41.7 -1.2
comp=Z,19nm,0.8s
TCF **Toulx Ste Croi** 41.73 308 *e*P P 18 57 41.7 -1.2
comp=Z,19nm,0.8s
RJF **Les Rejaudoux** 42.12 306 *e*P P 18 57 45.4 -0.7
comp=Z,51nm,1.0s
RJF *e*R
comp=Z,315nm,20.2s
RJF **Les Rejaudoux** 42.12 306 *e*P P 18 57 45.4 -0.7
RJF pmax pmax
comp=Z,51nm,1.0s
RJF **Les Rejaudoux** 42.12 306 *e*P P 18 57 45.4 -0.7
comp=Z,51nm,1.0s
RJF **Les Rejaudoux** 42.12 306 *e*P P 18 57 45.4 -0.7
comp=Z,51nm,1.0s
MLS **Moulis** 42.30 303⇑*e*P P 18 57 53.0 +5.4
MLS **Moulis** 42.30 303⇑*e*P P 18 57 53.0 +5.4
LFF **La Frestale** 42.65 306 *e*P P 18 57 49.7 -0.6
comp=Z,48nm,0.8s
LFF **La Frestale** 42.65 306 *e*P P 18 57 49.7 -0.6
LFF pmax pmax
comp=Z,49nm,0.8s
LFF **La Frestale** 42.65 306 *e*P P 18 57 49.7 -0.6
comp=Z,49nm,0.8s
LFF **La Frestale** 42.65 306 *e*P P 18 57 49.7 -0.6
comp=Z,48nm,0.8s
MOY **Mondy** 42.74 44 *e*P P 18 57 52.6 +1.4
MOY pmax pmax
comp=Z,42nm,2.4s

MOY **Mondy** 42.74 44 *e*P P 18 57 52.6 +1.4
comp=Z,42nm,2.4s
BLS5 **Blasjo** 42.75 328 *e*P P 18 57 52.2 +1.2
BLS5 IAmb IAmb 18 58 00.9
comp=Z,13nm,0.9s
BLS5 **Blasjo** 42.75 328 *e*P P 18 57 52.2 +1.2
SNR=25
KEV **Kevo** 42.82 348 *e*P P 18 57 51.5 +0.1
KEV pmax pmax
comp=Z,46nm,0.9s
KEV **Kevo** 42.82 348 *e*P P 18 57 51.5 +0.1
comp=Z,46nm,0.9s
KEV **Kevo** 42.82 348 *e*P P 18 57 51.5 +0.1
comp=Z,46nm,0.9s
EPF **Esparros** 42.85 303 *e*P P 18 57 50.4 -1.7
EPF **Esparros** 42.85 303 *e*P P 18 57 50.4 -1.7
EPF **Esparros** 42.85 303 *e*P P 18 57 50.4 -1.7
EPF **Esparros** 42.85 303 *e*P P 18 57 50.4 -1.7
ODD1 **Odda** 42.87 329 *e*P P 18 57 53.2 +1.2
ODD1 IAmb IAmb 18 57 59.2
comp=Z,41nm,1.1s
ODD1 **Odda** 42.87 329 *e*P P 18 57 53.2 +1.2
SNR=25
ARA0 **ARCESS Array S** 42.92 347 *e*P P 18 57 52.2 0.0
ARA0 **ARCESS Array S** 42.92 347 *e*P P 18 57 52.2 0.0
ARCES **ARCESS Array B** 42.92 347 P P 18 57 52.0 -0.3
comp=Z,9.0nm,0.7s,baz=153,slow=7.4,SNR=89
ARCES PcP **PcP** **18 59 43.1 +0.5**
comp=Z,5.6nm,0.6s,baz=151,slow=5.8,SNR=5.0
ARCES LR LR 19 19 06.9
comp=Z,244nm,19.1s,baz=141,slow=41
ARCES **ARCESS Array B** 42.92 347 P P 18 57 52.0 -0.3
ARE0 **ARCESS Array S** 42.92 347 *e*P P 18 57 52.7 +0.5
ARE0 *ep*P **pP** **18 57 57.2 -0.9**
ARE0 IAmb IAmb 18 57 57.7
comp=Z,26nm,0.9s
ARE0 **ARCESS Array S** 42.92 347 *e*P P 18 57 52.7 +0.5
SNR=25
ARE0 *ep*P **pP** **18 57 57.2 -0.9**
SNR=155
ARE0 **ARCESS Array S** 42.92 347 *e*P P 18 57 52.2 0.0
ARE0 *ep*PP **PP** **18 59 28.8 -3.0**
KTK1 **Kautokeino** 42.97 346 *e*P P 18 57 52.8 +0.2
KTK1 *ep*P **pP** **18 57 57.2 -1.3**
KTK1 **Kautokeino** 42.97 346 *e*P P 18 57 52.8 +0.2
SNR=25
KTK1 *ep*P **pP** **18 57 57.2 -1.3**
SNR=155
NSS **Namsos** 43.05 336 *e*P P 18 57 53.6 +0.3
NSS **Namsos** 43.05 336 *e*P P 18 57 53.6 +0.3
SNR=25
MOR8 **Moi Rana** 43.24 339 *e*P P 18 57 54.3 -0.6
MOR8 *ep*P **pP** **18 57 58.7 -2.0**
MOR8 **Moi Rana** 43.24 339 *e*P P 18 57 54.3 -0.6
SNR=25
MOR8 *ep*P **pP** **18 57 58.7 -2.0**
SNR=155
MFF **Saint Martin d** 43.39 308 *e*P P 18 57 54.9 -1.4
comp=Z,39nm,0.9s
MFF **Saint Martin d** 43.39 308 *e*P P 18 57 54.9 -1.4
MFF pmax pmax
comp=Z,39nm,0.9s
MFF **Saint Martin d** 43.39 308 *e*P P 18 57 54.9 -1.4
comp=Z,39nm,0.9s
MFF **Saint Martin d** 43.39 308 *e*P P 18 57 54.9 -1.4
comp=Z,39nm,0.9s
ETSF **Etsaut** 43.51 303 *e*P P 18 57 57.1 -0.4
comp=Z,46nm,1.0s
ETSF **Etsaut** 43.51 303 *e*P P 18 57 57.1 -0.4
ETSF pmax pmax
comp=Z,46nm,1.0s
ETSF **Etsaut** 43.51 303 *e*P P 18 57 57.1 -0.4
comp=Z,46nm,1.0s
ETSF **Etsaut** 43.51 303 *e*P P 18 57 57.1 -0.4
comp=Z,46nm,1.0s
LDF **La Druitiere** 43.57 311 *e*P P 18 57 56.0 -1.8
comp=Z,31nm,0.6s
LDF **La Druitiere** 43.57 311 *e*P P 18 57 56.0 -1.8
LDF pmax pmax
comp=Z,31nm,0.6s
LDF **La Druitiere** 43.57 311 *e*P P 18 57 56.0 -1.8
comp=Z,31nm,0.6s
LDF **La Druitiere** 43.57 311 *e*P P 18 57 56.0 -1.8
comp=Z,31nm,0.6s
HYA **Hoyanger** 43.61 330 *e*P P 18 57 59.0 +1.1
HYA **Hoyanger** 43.61 330 *e*P P 18 57 59.0 +1.1
SNR=25
ATE **Arette** 43.62 303⇑*e*P P 18 58 04.2 +6.0
ATE **Arette** 43.62 303⇑*e*P P 18 58 04.2 +6.0
RUND **Rundenannen** 43.66 329 *e*P P 18 57 58.6 +0.3
RUND **Rundenannen** 43.66 329 *e*P P 18 57 58.6 +0.3
SNR=25
FLOS **Flostrand** 43.68 339 *e*P P 18 58 06.0 +7.6
MHMT **Maesarieng** 43.69 94 P P 18 58 00.0 +0.9
comp=Z,17nm,1.1s,comp=Z,205nm
ASK **Askoy** 43.76 329 *e*P P 18 58 00.3 +1.3
STOK **Stokkvaagen** 43.79 339 *e*P P 18 57 59.0 -0.2
STOK IAmb IAmb 18 58 04.0
comp=Z,54nm,1.1s
STOK **Stokkvaagen** 43.79 339 *e*P P 18 57 59.0 -0.2
SNR=25
LARF **Larrau** 43.83 303⇑*e*P P 18 58 06.1 +6.1
LARF **Larrau** 43.83 303⇑*e*P P 18 58 06.1 +6.1
FLN **La Foliniere** 43.83 311 *e*P P 18 57 58.1 -1.7
comp=Z,47nm,0.5s
FLN *e*R
comp=Z,185nm,20.5s
FLN **La Foliniere** 43.83 311 *e*P P 18 57 58.1 -1.7
FLN pmax pmax
comp=Z,47nm,0.5s
FLN **La Foliniere** 43.83 311 *e*P P 18 57 58.1 -1.7
comp=Z,47nm,0.5s
FLN **La Foliniere** 43.83 311 *e*P P 18 57 58.1 -1.7
comp=Z,47nm,0.5s
KONS **Konsvik** 43.86 339 *e*P P 18 57 59.7 -0.1
KONS **Konsvik** 43.86 339 *e*P P 18 57 59.7 -0.1
SNR=25
ZAK **Zakamensk** 43.94 46 *e*P P 18 57 56.4 -4.4
ZAK *e* 18 59 41.4
ZAK pmax pmax
comp=Z,8.0nm,0.9s
ZAK **Zakamensk** 43.94 46 *e*P P 18 57 56.4 -4.4
comp=Z,8.0nm,0.9s
CMAI **Chiengmai2** 43.99 91 P P 18 58 01.7 0.0
comp=Z,65nm,0.7s
SJPF **Ste Jean** 44.00 303 *e*P P 18 58 01.1 -0.2
comp=Z,57nm,0.7s
SJPF **Ste Jean** 44.00 303 *e*P P 18 58 01.1 -0.2
SJPF pmax pmax
comp=Z,57nm,0.7s
SJPF **Ste Jean** 44.00 303 *e*P P 18 58 01.1 -0.2
comp=Z,57nm,0.7s
SJPF **Ste Jean** 44.00 303 *e*P P 18 58 01.1 -0.2
comp=Z,57nm,0.7s
GRR **Gorron** 44.03 311 *e*P P 18 58 00.0 -1.5
comp=Z,44nm,0.6s
GRR **Gorron** 44.03 311 *e*P P 18 58 00.0 -1.5
GRR pmax pmax
comp=Z,44nm,0.6s
GRR **Gorron** 44.03 311 *e*P P 18 58 00.0 -1.5
comp=Z,44nm,0.6s
GRR **Gorron** 44.03 311 *e*P P 18 58 00.0 -1.5
comp=Z,44nm,0.6s
LZH **Lanzhou** 44.13 67 ⇑P P 18 58 04.0 +1.3
LZH pP pP 18 58 13.5 +4.9
LZH sP sP 18 58 17.1 +6.2
LZH PMZ
comp=Z,120nm,1.0s
LZH PMZ
comp=Z,190nm,7.4s
LZH LN
comp=Z,690nm,15.4s
LZH LE
comp=Z,740nm,13.3s
LZH LZ
comp=Z,1μm,16.0s
STEI **Steigen** 44.16 341 *e*P P 18 58 02.4 +0.2
STEI *ep*P **pP** **18 58 07.2 -0.9**
STEI **Steigen** 44.16 341 *e*P P 18 58 02.4 +0.2
SNR=25
STEI *ep*P **pP** **18 58 07.2 -0.9**
SNR=155
SUE **Sulen** 44.19 329 *e*P P 18 58 02.7 +0.2
SUE **Sulen** 44.19 329 *e*P P 18 58 02.7 +0.2
SNR=25
FOO **Floro** 44.30 330 *e*P P 18 58 02.8 -0.5

FOO IAmb IAmb 18 58 09.7
comp=Z,23nm,1.4s
FOO **Floro** 44.30 330 *e*P P 18 58 02.8 -0.5
SNR=25
CHTO **Chiang Mai** 44.32 93 P P 18 58 04.2 0.0
comp=Z,99nm,1.0s,comp=Z,2μm
CHTO **Chiang Mai** 44.32 93 *e*P P 18 58 03.9 -0.3
CHTO pmax pmax
comp=Z,18nm,0.9s
CHTO **Chiang Mai** 44.32 93 P P 18 58 04.4 +0.2
SNR=7.9
CHTO **Chiang Mai** 44.32 93 P P 18 58 04.4 +0.2
SNR=7.9
CHTO **Chiang Mai** 44.32 93 *e*P P 18 58 03.9 -0.3
comp=Z,18nm,0.9s
CMMT **Chiang Mai** 44.33 93 P P 18 58 04.2 0.0
comp=Z,28nm,1.0s,comp=Z,501nm
TLY **Talaya** 44.37 45 P P 18 58 04.7 +0.6
comp=Z,2.1nm,0.5s,baz=266,slow=8.7,SNR=5.1
TLY **Talaya** 44.37 45 *e*P P 18 58 06.0 +1.8
TLY *e*SS SS 19 07 51.7 -4.7
TLY pmax pmax
comp=Z,17nm,1.7s
TLY MLR MLR
comp=Z,2μm,15.0s
TLY **Talaya** 44.37 45 P P 18 58 06.0 +1.8
SNR=6.5
TRO **Tromso** 44.42 344 *e*P P 18 58 03.1 -1.1
TRO *ep*P **pP** **18 58 08.1 -2.1**
TRO IAmb IAmb 18 58 09.2
comp=Z,64nm,1.0s
TRO *e*SS SS 19 07 59.3 +2.5
TRO **Tromso** 44.42 344 *e*P P 18 58 03.1 -1.1
SNR=25
TRO *ep*P **pP** **18 58 08.1 -2.1**
SNR=155
TRO *e*SS SS 19 07 59.3 +2.5
SNR=36
CMAR **Chiang Mai Arr** 44.46 93 P P 18 58 05.0 -0.3
comp=Z,4.8nm,0.7s,baz=287,slow=8.2,SNR=45
CMAR PcP **PP** **18 59 49.0 -0.1**
comp=Z,4.7nm,0.7s,baz=293,slow=5.0,SNR=7.8
CMAR ScP **ScP** **19 03 38.6 -1.3**
comp=Z,1.9nm,1.0s,baz=294,slow=5.4,SNR=5.9
CMAR LR LR 19 20 10.5
comp=Z,194nm,20.7s,baz=305,slow=41
WOL **Wolverton** 44.64 315 *e*P P 18 58 06.4 +0.1
WOL AMB AMB 18 58 12.4
comp=Z,133nm,2.1s
WOL **Wolverton** 44.64 315 *e*P P 18 58 06.4 +0.1
LOF **Lofoten** 44.78 341 *e*P P 18 58 06.7 -0.4
LOF **Lofoten** 44.78 341 *e*P P 18 58 06.7 -0.4
SNR=25
IRK **Irkutsk** 44.84 44 *e*P P 18 58 07.8 -0.1
IRK pmax pmax
comp=Z,35nm,2.0s
IRK **Irkutsk** 44.84 44 *e*P P 18 58 07.8 -0.1
comp=Z,35nm,2.0s
CD2 **Chengdu** 44.90 74 P P 18 58 08.4 -0.3
CD2 pP **pP** **18 58 15.3 +0.7**
CD2 PP **PP** **18 59 55.1 +1.4**
CD2 S **S** **19 04 42.8 -3.1**
CD2 PMZ
comp=Z,40nm,0.8s
CD2 PMZ
comp=Z,190nm,6.0s
CD2 LN
comp=Z,510nm,18.0s
CD2 LE
comp=Z,500nm,18.0s
CD2 LZ
comp=Z,740nm,16.9s
JSA **Saint Aubin** 44.98 312 *e*P P 18 58 08.4 -0.6
JSA **Saint Aubin** 44.98 312 *e*P P 18 58 08.4 -0.6
CRAI **Chiangrai** 45.04 90 P P 18 58 06.0 -3.9
comp=Z,32nm,1.5s
SGMF **Saint Gilles** 45.15 310 *e*P P 18 58 09.1 -1.3
comp=Z,61nm,0.6s
SGMF **Saint Gilles** 45.15 310 *e*P P 18 58 09.1 -1.3
SGMF pmax pmax
comp=Z,61nm,0.6s
SGMF **Saint Gilles** 45.15 310 *e*P P 18 58 09.1 -1.3
comp=Z,61nm,0.6s
SGMF **Saint Gilles** 45.15 310 *e*P P 18 58 09.1 -1.3
comp=Z,61nm,0.6s
LHO **Holmfirth** 45.40 318 *e*P P 18 58 12.4 +0.1
LHO **Holmfirth** 45.40 318 *e*P P 18 58 12.4 +0.1
SUKH **Sukhothai** 45.45 94 P P 18 58 13.5 +0.4
comp=Z,7.8nm,0.9s,comp=Z,61nm
KMI **Kunming** 45.48 83 P P 18 58 13.8 +0.2
KMI pP **pP** **18 58 19.8 +0.3**
KMI PP **PP** **19 00 01.8 +1.7**
KMI S **S** **19 04 51.1 -3.7**
KMI PMZ
comp=Z,66nm,0.9s
KMI PMZ
comp=Z,120nm,3.1s
KMI LN
comp=Z,180nm,12.0s
KMI LE
comp=Z,360nm,15.4s
KMI LZ
comp=Z,390nm,18.7s
QUIF **Quistinic** 45.53 310 *e*P P 18 58 11.9 -1.5
comp=Z,62nm,0.6s
QUIF **Quistinic** 45.53 310 *e*P P 18 58 11.9 -1.5
QUIF pmax pmax
comp=Z,62nm,0.6s
QUIF **Quistinic** 45.53 310 *e*P P 18 58 11.9 -1.5
comp=Z,62nm,0.6s
QUIF **Quistinic** 45.53 310 *e*P P 18 58 11.9 -1.5
comp=Z,62nm,0.6s
ROSF **Rostrenen** 45.63 310 *e*P P 18 58 12.9 -1.3
comp=Z,60nm,0.8s
ROSF **Rostrenen** 45.63 310 *e*P P 18 58 12.9 -1.3
ROSF pmax pmax
comp=Z,60nm,0.8s
ROSF **Rostrenen** 45.63 310 *e*P P 18 58 12.9 -1.3
comp=Z,60nm,0.8s
ROSF **Rostrenen** 45.63 310 *e*P P 18 58 12.9 -1.3
comp=Z,60nm,0.8s
KHLT **Khaolaem Dam** 45.69 98 P P 18 58 16.0 +0.9
comp=Z,12nm,0.9s
SONM **Songino Array** 45.71 50 P P 18 58 15.7 +0.7
comp=Z,7.9nm,0.8s,baz=265,slow=9.6,SNR=30
SONM PcP **PcP** **18 59 52.8 0.0**
comp=Z,3.5nm,0.7s,baz=250,slow=3.7,SNR=5.0
SONM LR LR 19 20 14.5
comp=Z,2μm,19.0s,baz=272,slow=40
SONA1 **Songino Array** 45.72 50 *e*P P 18 58 15.6 +0.5
SONA1 **Songino Array** 45.72 50 *e*P P 18 58 15.7 +0.5
MCH1 **Michaelchurch** 45.84 315 *e*P P 18 58 15.1 -0.7
MCH1 AMB AMB 18 58 17.4
comp=Z,29nm,2.2s
MCH1 **Michaelchurch** 45.84 315 *e*P P 18 58 15.1 -0.7
FOEL **Foel Wylfa** 46.09 317 *e*P P 18 58 18.0 +0.2
FOEL AMB AMB 18 58 20.7
comp=Z,24nm,1.5s
FOEL **Foel Wylfa** 46.09 317 *e*P P 18 58 18.0 +0.2
UTHA **Uthaitani** 46.10 97 P P 18 58 18.7 +0.4
comp=Z,10nm,0.8s,comp=Z,81nm
ES19 **SONSECA Array** 46.15 298 *e*P P 18 58 22.5 +4.0
ES19 **SONSECA Array** 46.15 298 *e*P P 18 58 22.5 +4.0
ULN **Ulaanbaatar** 46.15 50*c i*P P 18 58 19.0 +0.4
ULN pmax pmax
comp=Z,41nm,1.7s
ULN **Ulaanbaatar** 46.15 50⇑*i*P P 18 58 18.9 +0.4
comp=Z,27nm,1.1s
ULN **Ulaanbaatar** 46.15 50 P P 18 58 19.4 +0.9
SNR=18
ULN **Ulaanbaatar** 46.15 50⇑*i*P P 18 58 18.9 +0.3
comp=Z,27nm,1.1s
ESDC **Sonseca Array** 46.20 298 P P 18 58 19.6 +0.7
comp=Z,2.3nm,0.5s,baz=78,slow=7.5,SNR=16
ESDC ScP **ScP** **19 03 47.1 +0.2**
comp=Z,0.3nm,0.5s,baz=69,slow=3.5,SNR=4.1
ESLA **Sonseca Array** 46.20 298 *e*P P 18 58 23.9 +5.0
comp=Z,10nm,1.4s
ESLA **Sonseca Array** 46.20 298 *e*P P 18 58 23.9 +5.0
comp=Z,10nm,1.4s
HEX **Exmoor** 46.22 314 *e*P P 18 58 18.8 0.0
HEX **Exmoor** 46.22 314 *e*P P 18 58 18.8 0.0
DYA **Yadsworthy** 46.24 313 *e*P P 18 58 19.0 0.0
DYA AMB AMB 18 58 21.9
comp=Z,50nm,1.8s
DYA **Yadsworthy** 46.24 313 *e*P P 18 58 19.0 0.0

ESY Stoneypath 46.29 321⇑ *i*P P 18 58 19.5 +0.2
ESY Stoneypath 46.29 321⇑ *i*P P 18 58 19.5 +0.2
KESW Keswick, Cumbr 46.31 319 *e*P P 18 58 19.3 -0.1
KESW Keswick, Cumbr 46.31 319 *e*P P 18 58 19.3 -0.1
ECK Cauldkaine Hil 46.43 320⇑ *i*P P 18 58 20.1 -0.3
ECK Cauldkaine Hil 46.43 320⇑ *i*P P 18 58 20.1 -0.3
DRUM Mains of Drumt 46.43 322 *e*P P 18 58 20.2 -0.2
DRUM AMB AMB 18 58 30.7
comp=Z,56nm,1.1s
DRUM Mains of Drumt 46.43 322 *e*P P 18 58 20.2 -0.2
EBL Broad Law 46.49 321⇑ *i*P P 18 58 21.2 +0.3
EBL Broad Law 46.49 321⇑ *i*P P 18 58 21.2 +0.3
ESK Eskdalemuir 46.50 320 P P 18 58 20.6 -0.3
comp=Z,84nm,0.5s,SNR=7.0
ESK Eskdalemuir 46.50 320⇑ *e*P P 18 58 20.6 -0.3
ESK Eskdalemuir 46.50 320 *e*P P 18 58 20.4 -0.5
ESK pmax pmax
comp=Z,9.0nm,1.2s
ESK Eskdalemuir 46.50 320⇑ *e*P P 18 58 20.6 -0.3
ESK Eskdalemuir 46.50 320 *e*P P 18 58 20.4 -0.5
comp=Z,8.6nm,1.2s
PAB San Pablo 46.51 298 *e*P P 18 58 20.1 -1.2
PAB pmax pmax
comp=Z,33nm,1.5s
PAB San Pablo 46.51 298 *e*P P 18 58 20.1 -1.2
comp=Z,33nm,1.5s
PAB San Pablo 46.51 298 *e*P P 18 58 20.1 -1.2
comp=Z,33nm,1.5s
WPM1 Penmaenmawr 46.56 317 *e*P P 18 58 21.7 +0.2
WPM1 Penmaenmawr 46.56 317 *e*P P 18 58 21.7 +0.2
MME1 Meikle Cairn 46.77 323⇑ *e*P P 18 58 23.0 -0.1
MME1 Meikle Cairn 46.77 323⇑ *e*P P 18 58 23.0 -0.1
YRE Yr Eifl 46.83 317 *e*P P 18 58 23.6 0.0
YRE Yr Eifl 46.83 317 *e*P P 18 58 23.6 0.0
WLF1 Llynfaes 46.86 317 *e*P P 18 58 23.8 +0.1
WLF1 Llynfaes 46.86 317 *e*P P 18 58 23.8 +0.1
YRC Rhoscolyn 46.96 317⇑ *e*P P 18 58 24.6 +0.1
YRC Rhoscolyn 46.96 317⇑ *e*P P 18 58 24.6 +0.1
MCD Coleburn Disti 46.99 323⇑ *i*P P 18 58 24.6 -0.1
MCD Coleburn Disti 46.99 323⇑ *i*P P 18 58 24.6 -0.1
PBKT Sadao Pong 46.99 94 P P 18 58 25.4 +0.1
comp=Z,34nm,0.9s
EAB Aberfoyle 47.29 321 *e*P P 18 58 27.1 0.0
EAB Aberfoyle 47.29 321 *e*P P 18 58 27.1 0.0
MVH1 Achvaich 47.55 323 *e*P P 18 58 28.9 -0.2
MVH1 Achvaich 47.55 323 *e*P P 18 58 28.9 -0.2
LIJA Lijar 47.64 295 *e*P P 18 58 35.0 +4.8
OPO Ambohidratompo 47.80 186 P P 18 58 32.4 +0.8
comp=Z,12nm,0.9s,baz=358,slow=8.4,SNR=6.2
DSB Dublin 48.03 317 *e*P P 18 58 32.9 0.0
DSB Dublin 48.03 317 *e*P P 18 58 32.9 0.0
KAC Achnashellach 48.05 323 *e*P P 18 58 32.5 -0.5
KAC Achnashellach 48.05 323 *e*P P 18 58 32.5 -0.5
PBRG Braganca 48.13 301 *e*P P 18 58 38.8 +4.9
comp=Z,52nm,1.6s
ABPO Ambohimpanom 48.24 185 *e*P P 18 58 33.7 -1.3
ABPO Ambohimpanom 48.24 185 *e*P P 18 58 33.7 -1.3
ABPO Ambohimpanom 48.24 185 *e*P P 18 58 33.7 -1.3
MVO Moncorvo 48.40 301 *e*P P 18 58 39.8 +3.8
comp=Z,43nm,0.7s
GYA Guiyang 48.48 79⇑ *i*P P 18 58 36.3 -0.6
GYA PP **PP** 19 00 29.8 +0.2
GYA ScP **ScP** 19 03 54.3 -2.5
GYA S **S** 19 05 34.0 -3.3
GYA SS SS 19 08 58.8 -8.4
GYA PMZ
comp=Z,40nm,1.0s
GYA PMZ
comp=Z,130nm,5.0s
GYA LN
comp=Z,720nm,17.8s
GYA LE
comp=Z,580nm,18.0s
GYA LZ
comp=Z,660nm,17.6s
XAN Xi'an 48.56 69 P P 18 58 37.0 -0.4
XAN pP **pP** 18 58 44.0 +0.7
XAN PP **PP** 19 00 29.0 -1.2
XAN S **S** 19 05 33.8 -4.4
XAN sS sS 19 05 50.3 +2.3
XAN SS SS 19 08 58.3 -10
XAN PMZ
comp=Z,13nm,0.9s
XAN PMZ
comp=Z,18nm,3.4s
XAN LN
comp=Z,320nm,13.9s
XAN LE
comp=Z,220nm,15.0s
XAN LZ
comp=Z,220nm,16.6s
KHON Khomkaen 48.70 94 P P 18 58 39.4 +0.8
comp=Z,6.4nm,0.9s
PBAR Barrancos 48.75 297 *e*P P 18 58 39.7 +1.0
comp=Z,103nm,1.7s
TOA0 Torodi Ar. Sit 48.75 262 *e*P P 18 58 39.8 +0.9
TOA0 Torodi Ar. Sit 48.75 262 *e*P P 18 58 39.8 +0.9
TORD Torodi Ar. Bea 48.75 262 P P 18 58 39.8 +0.8
comp=Z,26nm,0.6s,baz=56,slow=8.6,SNR=231
TORD ScP **ScP** 19 03 58.0 +0.1
comp=Z,2.8nm,0.9s,baz=65,slow=3.2,SNR=5.8
TORD LR LR 19 21 14.6
comp=Z,523nm,19.9s,baz=60,slow=38
PMRV Marv??o 48.86 298 *e*P P 18 58 45.0 +5.5
comp=Z,23nm,1.3s
PCBR Castelo Branco 48.88 299 *e*P P 18 58 42.0 +2.4
comp=Z,53nm,1.7s
PVRL Vila Real 48.91 301 *e*P P 18 58 43.2 +3.3
comp=Z,61nm,1.8s
POLO Lamas de Olo 48.95 301 *e*P P 18 58 46.3 +6.0
comp=Z,36nm,1.5s
PESTR Estremoz 49.09 298 *e*P P 18 58 46.0 +4.7
comp=Z,23nm,1.4s
PVIS Viseu 49.10 300 *e*P P 18 58 46.3 +4.9
comp=Z,52nm,1.6s
PGAV Gavieira, Arco 49.25 302 *e*P P 18 58 44.4 +1.8
comp=Z,72nm,1.8s
PVAQ Vaqueiros 49.40 296 *e*P P 18 58 46.4 +2.8
comp=Z,28nm,1.3s
SKNT Sakolnakorn 49.45 92 P P 18 58 44.0 -0.3
comp=Z,28nm,1.1s
EVO Evora 49.46 297 *e*P P 18 58 43.9 -0.2
comp=Z,18nm,0.6s
EVO *e*R
comp=Z,120nm,19.2s
EVOP Sao Brissos 49.55 297 *e*P P 18 58 43.9 -0.8
EVOP pmax pmax
comp=Z,18nm,0.6s
EVOP Sao Brissos 49.55 297 *e*P P 18 58 43.9 -0.8
comp=Z,18nm,0.6s
EVOP Sao Brissos 49.55 297 *e*P P 18 58 43.9 -0.8
comp=Z,18nm,0.6s
PMTG Montargil 49.55 298 *e*P P 18 58 50.4 +5.6
comp=Z,23nm,1.7s
PCVE Castro Verde 49.61 296 *e*P P 18 58 50.4 +5.1
HHC Hu-ho-hao-te 49.62 60 *e*P P 18 58 45.3 -0.1
HHC PP **PP** 19 00 40.1 +0.4
HHC ScS ScS 19 08 31.4 -5.0
HHC SS SS 19 09 17.6 -7.4
HHC PMZ
comp=Z,15nm,1.1s
HHC PMZ
comp=Z,160nm,5.3s
HHC LN
comp=Z,490nm,15.7s
HHC LE
comp=Z,580nm,16.5s
HHC LZ
comp=Z,740nm,19.0s
PTOM Tomar 49.62 299 *e*P P 18 58 50.4 +5.1
comp=Z,54nm,1.1s
PCAS Casmilo, Conde 49.63 299 *e*P P 18 58 47.3 +1.9
comp=Z,44nm,1.4s
LSZ Lusaka 49.73 210 P P 18 58 48.5 +2.1
comp=Z,8.1nm,1.0s,baz=35,slow=11,SNR=7.6
LSZ Lusaka 49.73 210 *e*P P 18 58 48.3 +1.9
LSZ pmax pmax
comp=Z,22nm,1.3s
LSZ Lusaka 49.73 210 *e*P P 18 58 48.3 +1.9
comp=Z,22nm,1.3s
LSZ Lusaka 49.73 210 *e*P P 18 58 48.2 +1.9
comp=Z,22nm,1.3s
CHBT CHBT 49.85 98 P P 18 58 47.6 +0.3
comp=Z,27nm,0.8s
ENH Enshi 49.86 74 *e*P P 18 58 45.8 -1.5
comp=Z,14nm,0.9s
ENH Enshi 49.86 74 *e*P P 18 58 45.9 -1.5
comp=Z,14nm,0.9s
PNCL Nicolau / Gran 49.92 297 *e*P P 18 58 52.5 +4.9
comp=Z,37nm,1.5s
TRTT Trang 50.02 105 P P 18 58 48.2 -0.4
comp=Z,21nm,0.9s
CIT Chita 50.51 45 *e*P P 18 58 52.2 +0.2
CIT *e* 18 59 10.4
CIT pmax pmax
comp=Z,73nm,1.6s
CIT Chita 50.51 45 *e*P P 18 58 52.2 +0.2
comp=Z,73nm,1.6s
HSPB Hornsund (broa 50.60 350 *e*P P 18 58 54.1 +1.9
HSPB IAmb IAmb 18 58 58.8
comp=Z,29nm,1.0s
HSPB *e*S **S** 19 06 07.5 +2.1
HSPB *e*SS **SS** 19 09 44.6 +5.3
HSPB Hornsund (broa 50.60 350 *e*P P 18 58 54.1 +1.9
SNR=23
HSPB *e*S **S** 19 06 07.5 +2.1
SNR=25
BOD Bodaibo 51.15 38 *e*P P 18 58 56.0 -0.6
BOD pmax pmax
comp=Z,42nm,1.4s
BOD Bodaibo 51.15 38 *e*P P 18 58 56.0 -0.6
comp=Z,42nm,1.4s
SPA0 Spitsbergen Ar 51.38 351 *e*P P 18 58 59.2 +1.1
SPA0 IAmb IAmb 18 59 04.1
comp=Z,41nm,0.8s
SPA0 *e*S **S** 19 06 19.0 +2.7
SPA0 Spitsbergen Ar 51.38 351 *e*P P 18 58 59.2 +1.1
SNR=23
SPA0 *e*S **S** 19 06 19.0 +2.7
SNR=25
SPITS Spitsbergen Ar 51.38 351 P P 18 58 58.4 +0.3
comp=Z,8.1nm,0.4s,baz=132,slow=11,SNR=63
PSI Prapat 52.16 111 P P 18 59 04.7 -0.2
comp=Z,9.0nm,0.6s,baz=294,slow=6.1,SNR=6.2
PSI Prapat 52.16 111 P P 18 59 04.7 -0.2
PSI pmax pmax
comp=Z,9.0nm,0.6s
PSI Prapat 52.16 111 *e*P P 18 59 04.5 -0.4
KBS Kingsbay 52.53 351 *e*P P 18 59 07.1 +0.5
KBS IAmb IAmb 18 59 12.0
comp=Z,15nm,1.0s
KBS *e*S **S** 19 06 35.6 +3.6
KBS Kingsbay 52.53 351 *e*P P 18 59 06.6 0.0
KBS Kingsbay 52.53 351 *e*P P 18 59 07.1 +0.5
SNR=23
KBS *e*S **S** 19 06 35.6 +3.6
SNR=24
KBS Kingsbay 52.53 351 *e*P P 18 59 06.6 0.0
IPM Ipoh 52.94 108 *e*P P 18 59 08.8 -1.7
IPM Ipoh 52.94 108 *e*P P 18 59 08.8 -1.7
BJT Baijiatuau 53.21 60 *e*P P 18 59 12.8 +0.6
BJT pmax pmax
comp=Z,42nm,0.7s
BJT Baijiatuau 53.21 60 *e*P P 18 59 12.8 +0.6
comp=Z,42nm,0.7s
BJT Baijiatuau 53.21 60 *e*P P 18 59 12.8 +0.6
comp=Z,42nm,0.7s
BJI Beijing 53.21 60 P P 18 59 12.9 +0.7
BJI PP **PP** 19 01 12.3 +0.1
BJI S **S** 19 06 37.9 -4.4
BJI SS **SS** 19 10 21.6 -0.2
BJI PMZ
comp=Z,61nm,0.7s
BJI LN
comp=Z,560nm,19.3s
BJI LE
comp=Z,960nm,21.2s
BJI LZ
comp=Z,910nm,22.1s
QIZ Qiongzhong 53.75 87 P P 18 59 15.5 -1.0
QIZ sP sP 18 59 28.4 +3.6
QIZ S **S** 19 06 48.1 -2.1
QIZ PMZ
comp=Z,29nm,1.7s
QIZ LE
comp=Z,110nm,21.1s
QIZ LZ
comp=Z,260nm,22.0s
WHN Wuhan 53.84 72⇓ *i*P P 18 59 17.3 +0.3
WHN pP **pP** 18 59 23.8 +0.8
WHN S **S** 19 06 48.5 -2.7
WHN PMZ
comp=Z,66nm,0.8s
WHN LN
comp=Z,550nm,12.3s
WHN LE
comp=Z,770nm,11.8s
WHN LZ
comp=Z,1μm,18.9s
HIA Hailar 54.54 48 *e*P P 18 59 22.2 +0.3
HIA pmax pmax
comp=Z,48nm,1.4s
HIA Hailar 54.54 48 *e*P P 18 59 22.2 +0.3
comp=Z,48nm,1.4s
HIA Hailar 54.54 48 *e*P P 18 59 22.2 +0.3
comp=Z,48nm,1.4s
BKNI Bangkinang 55.31 112 P P 18 59 27.8 0.0
BKNI Bangkinang 55.31 112 *e*P P 18 59 27.5 -0.3
BKNI Bangkinang 55.31 112 *e*P P 18 59 27.5 -0.3
NJ2 Nanjing 57.13 69 *e*P P 18 59 39.8 -0.8
NJ2 pP pP 18 59 49.6 +2.9
NJ2 sP sP 18 59 53.0 +4.0
NJ2 S **S** 19 07 32.0 -3.1
NJ2 PMZ
comp=Z,120nm,1.0s
NJ2 LN
comp=Z,630nm,18.2s
NJ2 LE
comp=Z,1μm,21.1s
NJ2 LZ
comp=Z,1μm,21.5s
DAG Danmarks Havn 57.14 345⇑ *i*P P 18 59 40.0 0.0
comp=Z,7.9nm,0.5s
DAG Danmarks Havn 57.14 345⇑ *i*P P 18 59 40.0 0.0
DAG pmax pmax
comp=Z,6.0nm,0.5s
DBIC Dimbokro 57.52 259 P P 18 59 44.6 +1.0
comp=Z,30nm,0.7s,baz=33,slow=6.6,SNR=22
DBIC LR LR 19 26 47.2
comp=Z,691nm,18.0s,baz=42,slow=38
DBIC Dimbokro 57.52 259 P P 18 59 44.6 +1.0
DBIC pmax pmax
comp=Z,30nm,0.7s
DBIC MLR MLR
comp=Z,691nm,18.0s
DBIC Dimbokro 57.52 259 *e*P P 18 59 44.7 +1.1
KIC Kosan Boka 57.58 258 *e*P P 18 59 44.9 +0.9
comp=Z,143nm,1.2s
TIC Toumodi 57.67 259 *e*P P 18 59 45.6 +0.9
comp=Z,49nm,0.8s
LIC Lamto 57.89 258 *e*P P 18 59 46.7 +0.5
comp=Z,69nm,0.9s
LIC *e*R
comp=Z,739nm,21.2s
LIC Lamto 57.89 258 *e*P P 18 59 47.1 +0.9
comp=Z,95nm,0.9s
LIC Lamto 57.89 258 *e*P P 18 59 46.7 +0.5
comp=Z,69nm,0.9s
LIC Lamto 57.89 258 *e*P P 18 59 46.7 +0.5
comp=Z,69nm,0.9s
TSUM Tsumeb 58.29 218 *e*P P 18 59 49.7 +0.7
comp=Z,14nm,1.1s
TSUM Tsumeb 58.29 218 *e*P P 18 59 49.7 +0.7
comp=Z,14nm,1.1s
YAK Yakutsk 59.07 33*c* *i*P P 18 59 53.1 -0.6
YAK *e**PP pP 19 00 03.2 +3.4
YAK *e* 19 00 41.2
YAK *e* 19 02 02.6
YAK *e*S **S** **19 07 55.1 -4.4**
YAK *e**SS **sS** **19 08 10.3 +0.9**
YAK *e* 19 09 38.6
YAK pmax pmax
comp=Z,35nm,1.1s
YAK pmax pmax
comp=E,19nm,1.5s
YAK pmax pmax
comp=N,6.0nm,1.5s
YAK pmax pmax
comp=Z,28nm,1.6s
YAK smax smax
comp=N,63nm,2.9s
YAK smax smax
comp=E,70nm,3.5s
YAK MLR MLR
comp=E,739nm,16.0s
YAK MLR MLR
comp=Z,757nm,13.0s
YAK Yakutsk 59.07 33 *i*P P 18 59 53.1 -0.6
comp=Z,6.0nm,1.5s
YAK Yakutsk 59.07 33 *e*P P 18 59 52.3 -1.4
CN2 Changchun 59.29 54⇑ P P 18 59 55.8 +0.3
CN2 *e*sP **sP** 19 00 04.8 +0.9
CN2 *e*S **S** 19 08 00.3 -2.6
CN2 PMZ
comp=Z,30nm,1.0s
CN2 PMZ
comp=Z,70nm,4.0s
CN2 LN
comp=Z,500nm,16.0s
CN2 LE
comp=Z,700nm,16.0s
CN2 LZ
comp=Z,900nm,19.0s
SSE Sheshan 59.32 69 P P 18 59 53.1 -2.8
SSE sP **sP** 19 00 05.4 +1.1
SSE S **S** 19 08 00.6 -3.0
SSE sS **sS** 19 08 14.3 +0.7
SSE PMZ
comp=Z,55nm,0.7s
SSE PMZ
comp=Z,130nm,5.7s
SSE LN
comp=Z,260nm,15.8s
SSE LE
comp=Z,250nm,15.8s
SSE LZ
comp=Z,490nm,15.3s
LBTB Lobatse 59.48 207 *e*P P 18 59 58.5 +1.4
LBTB pmax pmax
comp=Z,12nm,0.8s
LBTB Lobatse 59.48 207 *e*P P 18 59 58.5 +1.4
comp=Z,12nm,0.8s
LBTB Lobatse 59.48 207 *e*P P 18 59 58.5 +1.4
comp=Z,12nm,0.8s
KSBAR Backryungdo 60.15 61 P P 19 00 01.0 -0.6
SNR=15
KSBAR Backryungdo 60.15 61 P P 19 00 01.0 -0.6
SNR=15
MDSI Maura Dua 60.68 115 P P 19 00 04.0 -1.4
comp=Z,32nm,1.1s
LWLI Liwa 60.90 115 P P 19 00 06.4 -0.7
comp=Z,98nm,0.6s
KSGAH Ganghwa 61.55 61 P P 19 00 11.1 +0.1
SNR=9.1
KSGAH Ganghwa 61.55 61 P P 19 00 11.1 +0.1
SNR=9.1
KASI Kota Agung 61.55 115 P P 19 00 10.8 -0.6
comp=Z,62nm,0.9s
KSHUK Heuksando 61.66 64 P P 19 00 11.7 -0.1
SNR=6.9
KSHUK Heuksando 61.66 64 P P 19 00 11.7 -0.1
SNR=6.9
KSMUS Musan 61.73 60 P P 19 00 12.4 0.0
SNR=6.8
KSMUS Musan 61.73 60 P P 19 00 12.4 0.0
SNR=6.8
INCN Inchon 61.75 61 P P 19 00 12.3 -0.2
SNR=5.1
INCN Inchon 61.75 61 P P 19 00 12.3 -0.2
SNR=5.1
INCN Inchon 61.75 61 *e*P P 19 00 12.0 -0.5
KSSES Seosan 61.81 62 P P 19 00 12.5 -0.4
SNR=6.1
KSSES Seosan 61.81 62 P P 19 00 12.5 -0.4
SNR=6.1
YNCB YEONCHEON 61.81 60 P P 19 00 12.8 -0.1
SNR=22
YNCB YEONCHEON 61.81 60 P P 19 00 12.8 -0.1
SNR=22
KSSEO Seoul 61.97 61 P P 19 00 13.8 -0.1
SNR=12
KSSEO Seoul 61.97 61 P P 19 00 13.8 -0.1
SNR=12
MDJ Mudanjiang 61.99 52 P P 19 00 12.8 -1.2
MDJ pP **pP** 19 00 21.8 +1.8
MDJ sP sP 19 00 25.3 +3.0
MDJ PcP **PcP** 19 00 53.6 -0.9
MDJ S **S** 19 08 41.4 +4.0
MDJ ScS **SKKSac** 19 10 01.8 -3.2
MDJ PMZ
comp=Z,7.0nm,1.2s
MDJ PMZ
comp=Z,70nm,6.0s
MDJ LN
comp=Z,130nm,17.7s
MDJ LE
comp=Z,510nm,16.8s
MDJ LZ
comp=Z,580nm,20.5s
MDJ Mudanjiang 61.99 52 *e*P P 19 00 12.8 -1.2
comp=Z,9.2nm,1.1s
MDJ Mudanjiang 61.99 52 *e*P P 19 00 12.8 -1.2
comp=Z,9.2nm,1.1s
KSSWO Suwon 62.07 61 P P 19 00 14.4 -0.2
SNR=6.4
KSSWO Suwon 62.07 61 P P 19 00 14.4 -0.2
SNR=6.4
KSCWO Cheorwon 62.25 60 P P 19 00 16.5 +0.7
SNR=23
KSCWO Cheorwon 62.25 60 P P 19 00 16.4 +0.6
SNR=7.8
SUMG Summit 62.29 340 *i*P P 19 00 16.7 +0.7
comp=Z,19nm,0.8s
SUMG Summit 62.29 340 *i*P P 19 00 16.7 +0.7
SUMG pmax pmax
comp=Z,19nm,0.8s
SUMG Summit 62.29 340 *e*P P 19 00 16.6 +0.6
comp=Z,22nm,0.8s
SUMG Summit 62.29 340 *e*P P 19 00 16.6 +0.6
comp=Z,22nm,0.8s
KLR Kul'dur 62.30 47 *e*P P 19 00 11.0 -5.0
KLR *e*S S 19 08 30.0 -11
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,70nm,1.8s
KLR MLR MLR
comp=E,2μm,13.0s
KLR MLR MLR
comp=Z,4μm,13.0s
KSM Kuching 62.34 105 *e*P P 19 00 15.5 -1.2
comp=Z,7.2nm,0.8s
KSM Kuching 62.34 105 *e*P P 19 00 15.5 -1.2
comp=Z,7.2nm,0.8s
KSJDO Jindo 62.40 64 P P 19 00 16.8 -0.2
SNR=7.3
KSJDO Jindo 62.40 64 P P 19 00 16.8 -0.2
SNR=7.3
KSICN Icheon 62.40 61 P P 19 00 16.8 -0.1
SNR=6.9
KSICN Icheon 62.40 61 P P 19 00 16.8 -0.1
SNR=6.9
KSCHC Chuncheon 62.56 60 P P 19 00 18.1 +0.2
SNR=19
KSJEU Jeongeup 62.57 63 P P 19 00 17.2 -0.7
SNR=7.7
KSJEU Jeongeup 62.57 63 P P 19 00 17.2 -0.7
SNR=7.7
KSAR Wonju Array Be 62.72 61 P P 19 00 18.6 -0.3
KSAR Wonju Array Be 62.72 61 P P 19 00 18.6 -0.3
KSAR Wonju Array Be 62.72 61 P P 19 00 18.6 -0.3
KSKWJ Gwangju 62.72 63 P P 19 00 18.2 -0.8
SNR=6.5
KSIJA INJE 62.73 60 P P 19 00 19.2 +0.2
SNR=17
KSIJA INJE 62.73 60 P P 19 00 19.2 +0.2
SNR=17
KSRS Korea Array 62.74 60 P P 19 00 18.6 -0.5
comp=Z,16nm,0.6s,baz=282,slow=6.8,SNR=106
KSRS LR LR 19 31 46.0
comp=Z,455nm,18.8s,baz=288,slow=40
KSRS Korea Array 62.74 60 P P 19 00 18.6 -0.5
KSRS pmax pmax
comp=Z,16nm,0.6s
KSRS MLR MLR
comp=Z,455nm,18.8s
SEHB SEOHWA 62.75 60 P P 19 00 19.8 +0.6
SNR=7.5

KSBON	**Boeun** SNR=11	62.93	62	P		P	19 00 19.8	-0.6
KSSKC	**Sokcho** SNR=7.3	62.95	59	P		P	19 00 21.0	+0.6
KSCHJ	**Chungju** SNR=12	62.95	61	P		P	19 00 20.3	-0.3
CGJI	**Cibinong** comp=Z,64nm,0.7s	63.16	115	P		P	19 00 20.5	-1.6
KSDGY	**Daegwallycong** SNR=6.9	63.24	60	P		P	19 00 23.4	+0.9
KSTBA	**Taebaek** SNR=10	63.62	61	P		P	19 00 25.2	+0.2
USRK	**Ussuriysk Ar.** comp=Z,5.4nm,0.7s,baz=260,slow=7.0,SNR=16	63.76	52	P		P	19 00 24.6	-1.1
USRK	comp=Z,918nm,18.4s,baz=283,slow=40			LR		LR	19 31 52.2	
HABR	**Khabarovsk**	64.61	47	*e*P		P	19 00 30.8	-0.4
HABR				*e*PP		pP	19 00 41.0	+3.7
HABR				*e*SP			19 00 45.1	
HABR				*e*			19 01 04.2	
HABR				*e*			19 02 53.2	
HABR				*e*			19 04 25.2	
HABR				*e*S		S	19 09 09.4	-0.5
HABR				*e*SS		SPn	19 09 27.0	+1.1
HABR				*e*			19 10 22.3	
HABR				*e*SS		SS	19 13 21.6	+1.4
HABR	comp=Z,101nm,1.7s			pmax	pmax			
HABR	comp=E,59nm,1.7s			pmax	pmax			
HABR	comp=N,9.0nm,1.1s			pmax	pmax			
HABR	comp=Z,1µm,17.0s			MLR	MLR			
HABR	**Khabarovsk** comp=Z,9.0nm,1.1s	64.61	47	*e*P		P	19 00 30.8	-0.4
HABR	**Khabarovsk**	64.61	47	*e*PcP		PcP	19 01 04.2	-0.8
HABR				*e*S		S	19 09 09.4	-0.5
JNU	**Nakatsue**	66.43	64	P		P	19 00 43.1	-0.2
JNU	**Nakatsue** comp=Z,6.8nm,0.8s	66.43	64	*e*P		P	19 00 42.9	-0.5
JNU	**Nakatsue** comp=Z,6.8nm,0.8s	66.43	64	*e*P		P	19 00 42.9	-0.5
SFJD	**Kangerlussuaq**	67.90	335	*i* P		P	19 00 51.9	-0.1
SFJD	**Kangerlussuaq**	67.90	335	*i* P		P	19 00 51.9	-0.1
SFJD	**Kangerlussuaq**	67.90	335	*i* P		P	19 00 51.9	-0.1
JMN	**Monobe**	68.56	63	P		P	19 00 56.4	-0.4
BBKI	**Banjar Baru** comp=Z,40nm,1.1s	68.80	107	P		P	19 00 58.2	-0.3
SEY	**Seymchan**	69.03	29	*e*P		P	19 01 00.5	+1.3
SEY	**Seymchan**	69.03	29	*e*P		P	19 01 00.5	+1.3
JWT	**Wachi**	69.15	61	P		P	19 01 00.3	-0.1
KBKI	**Kotabaru**	69.83	106	P		P	19 01 06.2	+1.4
YSS	**Yuzh-Sakhalins**	70.02	47	*e*P		P	19 01 04.9	-0.6
YSS				*e*			19 01 10.0	
YSS	comp=Z,30nm,0.9s			pmax	pmax			
YSS	comp=Z,700nm,17.0s			MLR	MLR			
YSS	comp=E,800nm,16.0s			MLR	MLR			
YSS	**Yuzh-Sakhalins** comp=E,30nm,0.9s	70.02	47	*e*P		P	19 01 04.9	-0.6
YSS	**Yuzh-Sakhalins** comp=E,23nm,0.8s	70.02	47	*e*P		P	19 01 04.5	-1.0
JEW	**Eniwo**	70.70	51	P		P	19 01 09.4	-0.4
MAJO	**Matsushiro**	70.79	58	*e*P		P	19 01 08.9	-1.6
MAJO	comp=Z,8.0nm,0.9s			pmax	pmax			
MAJO	**Matsushiro** comp=Z,8.0nm,0.9s	70.79	58	*e*P		P	19 01 08.9	-1.6
MAJO	**Matsushiro** comp=Z,7.8nm,0.9s	70.79	58	*e*P		P	19 01 08.9	-1.6
MAT	**Matsushiro**	70.79	58	P		P	19 01 09.0	-1.5
MAT	**Matsushiro**	70.79	58	P		P	19 01 09.9	-0.6
MJAR	**Matsushiro Arr** comp=Z,4.8nm,1.0s,baz=293,slow=11,SNR=20	70.79	58	P		P	19 01 10.2	-0.3
MJAR	comp=Z,218nm,18.7s,baz=285,slow=39			LR		LR	19 35 45.2	
ASAJ	**Asahikawa**	70.98	50	P		P	19 01 10.9	-0.6
JYA	**Atsumi**	71.10	56	P		P	19 01 11.9	-0.4
JMP	**Maruseppu**	71.53	49	P		P	19 01 14.5	-0.4
BILL	**Bilibino**	71.71	21	*c i*P		P	19 01 16.3	+0.9
BILL				*e*			19 01 33.1	
BILL				*e*			19 03 54.2	
BILL				*i* S		S	19 10 22.5	-12
BILL	comp=Z,42nm,1.7s			pmax	pmax			
BILL	comp=Z,568nm,21.0s			MLR	MLR			
BILL	**Bilibino** comp=Z,41nm,1.4s	71.71	21	*e*P		P	19 01 15.6	+0.2
BILL	**Bilibino**	71.71	21	*e*PcP		PcP	19 01 33.1	-1.4
BILL	**Bilibino** comp=Z,41nm,1.4s	71.71	21	*e*P		P	19 01 15.6	+0.2
JOM	**Ohasama**	71.89	55	P		P	19 01 15.9	-1.2
JMM	**Marumori**	72.17	56	P		P	19 01 18.6	-0.1
PETK	**Petropavlovsk-** comp=Z,5.9nm,0.9s,baz=323,slow=2.2,SNR=5.6	76.01	37	P		P	19 01 39.7	-1.2
PET	**Petropavlovsk**	76.55	36	*e*P		P	19 01 57.0	+13
PET				*e*PPP		PPP	19 06 32.6	
PET				*e*S		S	19 11 40.7	+12
TNTI	**Ternate** comp=Z,46nm,0.9s	77.32	96	*e*P		P	19 01 47.4	-1.6
TNTI	**Ternate** comp=Z,46nm,0.9s	77.32	96	*e*P		P	19 01 47.4	-1.6
JCJ	**Chichijima** comp=Z,214nm,21.8s,baz=130,slow=37	77.81	66	LR		LR	19 38 15.6	
SOEI	**Soe** comp=Z,26nm,1.0s	80.06	107	*e*P		P	19 02 02.1	-2.0
SOEI	**Soe** comp=Z,26nm,1.0s	80.06	107	*e*P		P	19 02 02.1	-2.0
SCHQ	**Schefferville** comp=Z,5.9nm,0.4s,baz=52,slow=4.4,SNR=14	80.92	329	P		P	19 02 08.4	+0.4
SCHQ	**Schefferville** comp=Z,7.2nm,0.5s	80.92	329	*e*P		P	19 02 08.2	+0.2
SCHQ	**Schefferville** comp=Z,7.2nm,0.5s	80.92	329	*e*P		P	19 02 08.2	+0.2
COLD	**Coldfoot** comp=Z,16nm,1.3s	82.36	8	*e*P		P	19 02 16.0	+0.7
COLD	**Coldfoot** comp=Z,16nm,1.3s	82.36	8	*e*P		P	19 02 16.0	+0.7
INK	**Inuvik**	82.59	2	*e*P		P	19 02 16.2	-0.3
INK	comp=Z,18nm,1.3s			pmax	pmax			
INK	**Inuvik** comp=Z,18nm,1.3s	82.59	2	*e*P		P	19 02 16.2	-0.3
INK	**Inuvik** comp=Z,18nm,1.3s	82.59	2	*e*P		P	19 02 16.2	-0.3
IM04	**Indian Mountai**	83.03	10	*e*P		P	19 02 18.9	0.0
IM04	**Indian Mountai**	83.03	10	*e*P		P	19 02 18.9	0.0
COLA	**College**	84.90	8	*c i*P		P	19 02 28.5	+0.1
COLA	**College**	84.90	8	*i* P		P	19 02 28.5	+0.1
ILAR	**Eielson Array** comp=Z,5.1nm,0.7s,baz=325,slow=4.1,SNR=48	85.12	8	P		P	19 02 29.2	-0.3
ILAR	comp=Z,0.5nm,0.8s,baz=347,slow=7.4,SNR=3.7			PP		PP	19 05 40.0	-6.0
ILAR	comp=Z,0.5nm,0.7s,baz=207,slow=3.6,SNR=3.1			PKKP		PKKPdf	19 20 31.1	+3.8
BPAW	**Bear Paw Mtn.** comp=Z,21nm,1.4s	85.21	10	*e*P		P	19 02 30.1	0.0
BPAW	**Bear Paw Mtn.** comp=Z,21nm,1.4s	85.21	10	*e*P		P	19 02 30.1	0.0
EGAK	**Eagle** comp=Z,20nm,1.0s	85.69	5	*e*P		P	19 02 32.3	-0.1
EGAK	**Eagle** comp=Z,20nm,1.0s	85.69	5	*e*P		P	19 02 32.3	-0.1
KTH	**Kantishna Hill** comp=Z,11nm,0.8s	85.74	10	*e*P		P	19 02 32.5	-0.3
KTH	**Kantishna Hill** comp=Z,11nm,0.8s	85.74	10	*e*P		P	19 02 32.5	-0.3
MCK	**McKinley**	85.85	9	*e*P		P	19 02 32.6	-0.7
MCK	comp=Z,26nm,0.9s			pmax	pmax			
MCK	**McKinley** comp=Z,26nm,0.9s	85.85	9	*e*P		P	19 02 32.6	-0.7
MCK	**McKinley** comp=Z,26nm,0.9s	85.85	9	*e*P		P	19 02 32.6	-0.7
TRF	**Thorofare Moun** comp=Z,13nm,0.9s	85.93	10	*e*P		P	19 02 33.3	-0.5
TRF	**Thorofare Moun** comp=Z,13nm,0.9s	85.93	10	*e*P		P	19 02 33.3	-0.5
PPLA	**Purkeypile** comp=Z,14nm,0.6s	86.16	11	*e*P		P	19 02 34.7	-0.2
PPLA	**Purkeypile** comp=Z,14nm,0.6s	86.16	11	*e*P		P	19 02 34.7	-0.2
DOT	**Dot Lake** comp=Z,17nm,0.9s	86.52	7	*e*P		P	19 02 37.1	+0.6
DOT	**Dot Lake** comp=Z,17nm,0.9s	86.52	7	*e*P		P	19 02 37.1	+0.6
DAWY	**Dawson** comp=Z,37nm,1.3s	86.53	5	*e*P		P	19 02 36.5	-0.1
DAWY	**Dawson** comp=Z,37nm,1.3s	86.53	5	*e*P		P	19 02 36.5	-0.1
YKA	**Yellowknife Ar** comp=Z,4.0nm,0.7s,baz=9,4,slow=5.0,SNR=36	87.82	354	P		P	19 02 43.2	+0.5
YKA	**Yellowknife Ar**	87.82	354	P		P	19 02 43.2	+0.5
YKA	comp=Z,4.0nm,0.7s			pmax	pmax			
RC01	**Rabbit Creek A**	88.26	10	*e*P		P	19 02 44.7	-0.2
RC01	**Rabbit Creek A**	88.26	10	*e*P		P	19 02 44.7	-0.2
HYT	**Haines Junctio** comp=Z,15nm,0.9s	89.87	4	*e*P		P	19 02 53.5	+0.8
HYT	**Haines Junctio** comp=Z,15nm,0.9s	89.87	4	*e*P		P	19 02 53.5	+0.8
KDAK	**Kodiak Island**	90.89	13	*i* P		P	19 02 58.0	+0.7
KDAK	**Kodiak Island**	90.89	13	*i* P		P	19 02 58.0	+0.7
WRA	**Warramunga Arr** comp=Z,2.3nm,0.7s,baz=315,slow=3.9,SNR=20	93.62	111	P		P	19 03 09.8	-0.8
WRA	comp=Z,0.4nm,0.3s,baz=109,slow=3.1,SNR=7.4			PKKP		PKKPbc	19 20 15.7	+0.4
WRAB	**Tennant Creek**	93.62	111	*e*P		P	19 03 10.3	-0.2
WRAB	**Tennant Creek**	93.62	111	*e*P		P	19 03 10.3	-0.2
ASAR	**Alice Springs** comp=Z,5.2nm,0.8s,baz=304,slow=4.5,SNR=37	95.10	114	P		P	19 03 16.2	-1.1
AS31	**Alice Springs**	95.10	114	*e*P		P	19 03 16.0	-1.3
AS31	**Alice Springs**	95.10	114	*e*P		P	19 03 16.0	-1.3
ULM	**Lac du Bonnet** comp=Z,124nm,18.1s,baz=2.0,slow=37	95.65	340	LR		LR	19 48 23.1	
MAW	**Mawson** comp=Z,2.7nm,0.8s,baz=300,slow=8.1,SNR=4.1	97.01	176	P		P	19 03 26.7	+1.9
MAW	comp=Z,93nm,18.0s,baz=59,slow=34			LR		LR	19 45 02.9	
PDAR	**Pinedale Array** comp=Z,0.6nm,0.8s,baz=207,slow=2.7,SNR=4.4	106.17	346	PKKP		PKKPab	19 19 54.5	-5.1
NVAR	**Mina Array Bea** comp=Z,7.7nm,0.7s,baz=69,slow=3.0,SNR=4.1	111.92	351	PKiKP		PKiKP	19 08 27.6	-1.8
TXAR	**Lajitas Array** comp=Z,0.3nm,0.6s,baz=38,slow=4.6,SNR=3.3	117.02	336	PKP		PKPdf	19 08 38.8	-0.5
LPAZ	**La Paz** comp=Z,1.1nm,0.4s,baz=58,slow=6.3,SNR=5.7	123.38	269	PKP		PKPdf	19 08 51.8	-0.6
PLCA	**Paso Flores** comp=Z,1.7nm,0.9s,baz=45,slow=5.7,SNR=2.9	131.97	240	PKP		PKPdf	19 09 07.3	-0.1
PLCA	comp=Z,7.0nm,1.1s,baz=112,slow=4.6,SNR=5.1			SKPab		SKPbc	19 12 32.8	+0.3

KRSC 14 18:59:20.7±2.7, 49°91N×158°22E, h61km±23km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	1.55	301	*e*P	Pn	18 59 46.3	+0.3
SKR				*e*S	Sn	19 00 04.9	-0.3
PAU	**Pauzhetka**	1.80	331	*e*P	Pn	18 59 51.4	+2.1
PAU				*e*S	Sn	19 00 13.3	+2.2
ASAK	**Asacha**	2.48	355	*e*P	Pn	19 00 01.3	+2.5
RUS	**Russkaya**	2.53	4	*e*P	Pn	19 00 01.9	+2.6
MIPR	**Malaya Ipel'ka**	2.54	339	*e*P	Pn	19 00 02.2	+2.7
MTVR	**Mutnovka**	2.58	360	*e*P	Pn	19 00 02.9	+2.8
MTVR				*e*S	Sn	19 00 33.0	+2.6
APC	**Apacha**	3.09	348	*e*P	Pn	19 00 10.2	+3.3
UGLR	**Uglovaya**	3.32	6	*e*P	Pn	19 00 13.9	+3.6
AVH	**Avacha**	3.37	5	*e*P	Pn	19 00 13.9	+2.9
SMAR	**Somma**	3.38	6	*e*P	Pn	19 00 14.3	+3.1
SPN	**Mys Shipunski**	3.38	19	*e*P	Pn	19 00 13.3	+2.3
KOK	**Koryaka**	3.40	4	*e*P	Pn	19 00 15.6	+4.3
SDLR	**Sedlovina**	3.40	7	*e*P	Pn	19 00 14.6	+3.3
KRER	**Koryakskii**	3.41	5	*e*P	Pn	19 00 15.5	+3.8
KRX	**Arik**	3.46	4	*e*P	Pn	19 00 16.2	+3.9
KRX				*e*S	Sn	19 00 56.2	+4.1
GNL	**Ganaly**	3.79	358	*e*P	Pn	19 00 20.6	+3.9
MKZ	**Mys Kozlova**	5.13	24	*e*P	Pn	19 00 38.0	+3.2
KZV	**Kizimen**	5.36	13	*e*P	Pn	19 00 43.0	+4.8
TUMR	**Tumrok**	5.51	12	*e*P	Pn	19 00 44.7	+4.5
KBTR	**Krutoberegovo**	6.89	22	*e*P	Pn	19 01 03.0	+4.1
BKI	**Bering**	7.10	39	*e*S	Sn	19 02 19.8	-1.1

KRSC 14 19:02:14.2±2.4, 49°91N×158°14E, h51km±24km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	1.51	302	*e*P	Pn	19 02 39.6	+0.8
SKR				*e*S	Sn	19 02 57.8	+0.4
PAU	**Pauzhetka**	1.78	332	*e*P	Pn	19 02 45.0	+2.6
PAU				*e*S	Sn	19 03 07.4	+3.6
ASAK	**Asacha**	2.48	357	*e*P	Pn	19 02 54.6	+2.4
MIPR	**Malaya Ipel'ka**	2.53	340	*e*P	Pn	19 02 55.9	+3.2
RUS	**Russkaya**	2.54	5	*e*P	Pn	19 02 55.1	+2.2
MTVR	**Mutnovka**	2.58	1	*e*P	Pn	19 02 55.8	+2.2
MTVR				*e*S	Sn	19 03 25.7	+1.8
UGLR	**Uglovaya**	3.33	7	*e*P	Pn	19 03 07.7	+3.8
AVH	**Avacha**	3.38	6	*e*P	Pn	19 03 08.6	+4.0
SMAR	**Somma**	3.39	7	*e*P	Pn	19 03 09.2	+4.4
KOK	**Koryaka**	3.40	5	*e*P	Pn	19 03 08.7	+3.8
SPN	**Mys Shipunski**	3.41	19	*e*P	Pn	19 03 09.6	+4.9
SDLR	**Sedlovina**	3.41	8	*e*P	Pn	19 03 07.7	+2.8
KRER	**Koryakskii**	3.42	6	*e*P	Pn	19 03 09.0	+3.7
KRX	**Arik**	3.47	5	*e*P	Pn	19 03 09.3	+3.5
GNL	**Ganaly**	3.80	358	*e*P	Pn	19 03 15.0	+4.7
MKZ	**Mys Kozlova**	5.15	24	*e*P	Pn	19 03 30.9	+2.3
KBTR	**Krutoberegovo**	6.91	22	*e*P	Pn	19 03 56.4	+3.7

IDC 14 19:06:06.3±1.4, 2°85S×130°07E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.5/28, mbtmp3.6/5, ML3.4/2, Error ellipse: s-maj=43.4km s-min=20.2km az=94.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong** 4.0nm,0.3s,baz=254,slow=15,SNR=61	2.30	31	Pn	Pn	19 06 46.0	+0.5
SIJI				Sn	Sn	19 07 14.1	-0.5
WRA	**Warramunga Arr** 6.6nm,0.3s,baz=211,slow=22,SNR=13	17.49	167	P	Pn	19 10 10.1	-1.8
ASAR	**Alice Springs** 0.2nm,0.3s,baz=346,slow=11,SNR=13	21.02	170	P	P	19 10 52.1	+0.3
STKA	**Stephens Creek** 1.8nm,0.5s,baz=348,slow=10,SNR=49	30.85	161	P	P	19 12 24.6	+0.4
MKAR	**Makanchi Array** 0.8nm,0.3s,baz=331,slow=10,SNR=3.0	64.83	326	P	P	19 16 47.1	-0.1
	0.2nm,0.6s,baz=119,slow=5.1,SNR=3.7						

*ISCJB **14** 19:10:24.1±0.5, 42°30N±0°03×126°36W±0°06, h10km, mb4.0/10, MS3.6/9, Error ellipse: s-maj=6.5km s-min=3.8km az=166.2*

*IDC **14** 19:10:25.0±1.4, 42°32N×126°25W, h0km, mb3.6/5, mb1 3.9/11, mb1mx3.7/35, mbtmp3.7/11, ML3.7/6, MS3.5/16, Ms1 3.5/16, ms1mx3.3/37, Error ellipse: s-maj=23.7km s-min=12.5km az=42.0*

*NEIC **14** 19:10:25.4±0.9, 42°24N×126°45W, h10km, mb4.0/12, Error ellipse: s-maj=10.9km s-min=5.3km az=70.0*

ISC 14 19:10:25.5±0.7, 42°21N±0°05×126°31W±0°06, h10km, n125, σ1s70/111, mb4.1/10, MS3.6/9, 8C-5D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBO	**Bosley Butte**	1.55	89	*e*Pn	Pn	19 10 51.5	-1.7
KEBM	**Edson Butte**	1.60	65	*e*Pn	Pn	19 10 52.1	-1.8
KSXB	**Camp Six Broad**	1.85	101	P	Pn	19 10 56.3	-1.1
L02D	**Cave Junction,** baz=2.1,SNR=142	2.01	91	⇑P	Pn	19 10 58.5	-1.0
L02D	baz=2.1			⇑S	Sn	19 11 20.0	-4.8
KHMM	**Horse Mountain**	2.35	124	*e*Pn	Pn	19 11 02.4	-2.0
HUMO	**Hull Mountain**	2.51	80	*e*Pn	Pn	19 11 06.0	-0.5
I03D	**Drain, OR** baz=2.7,SNR=133	2.63	55	P	Pn	19 11 06.7	-1.4
I03D	baz=2.7			⇑S	Sn	19 11 37.0	-3.1
M02C	**Callahan** baz=2.8,SNR=67	2.71	106	⇓P	Pn	19 11 09.0	-0.2
M02C	baz=2.8			⇑S	Sn	19 11 39.6	-2.5
YBH	**Yreka Blue Hor** 14nm,0.3s,baz=291,slow=14,SNR=98	2.73	99	Pn	Pn	19 11 09.5	0.0
YBH	comp=Z,235nm,21.2s,baz=6.5,slow=27			LR	LR	19 11 38.2	
KMRM	**Mail Ridge**	2.79	134	*e*Pn	Pn	19 11 09.4	-0.9
N02D	**Trinity Center** baz=3.1,SNR=24	2.97	113	⇑P	Pn	19 11 12.7	-0.1
KIPM	**Iron Peak**	3.21	137	*e*Pn	Pn	19 11 15.3	-0.9
COR	**Corvallis**	3.23	42	*e*Pn	Pn	19 11 15.8	-0.4
KCPM	**Cahto Peak**	3.26	140	*e*Pn	Pn	19 11 14.9	-1.9
KCPM				*e*Sn	Sn	19 11 52.1	-3.5
J04D	**Umpqua Nationa** baz=3.3,SNR=178	3.26	70	⇓P	Pn	19 11 17.3	+0.4
I04A	**Tendick Farm,** baz=3.3,SNR=53	3.27	60	P	Pn	19 11 16.6	-0.3
WDC	**Whiskeytown Da**	3.27	119	*e*Pn	Pn	19 11 16.9	+0.1
M04C	**Macdoel** baz=3.5,SNR=27	3.36	96	P	Pn	19 11 18.7	+0.5
K04D	**Chiloquin, OR** baz=3.5	3.40	81	⇑P	Pn	19 11 18.7	0.0
G03D	**McMinnville, O** baz=3.8	3.73	35	⇑P	Pn	19 11 23.4	+0.3
G03D	baz=3.8			⇓S	Sn	19 12 05.0	-2.0
H04A	**Detroit Lake**	3.89	49	*e*Pn	Pn	19 11 24.9	-0.5
J05D	**Fort Rock, OR** baz=4.0,SNR=26	3.89	72	⇓P	Pn	19 11 24.7	-0.8
F04D	**Rainier, OR** baz=4.6	4.54	30	⇓S	Sn	19 12 25.7	-1.5
F04A	**Amboy**	4.66	36	*e*Pn	Pn	19 11 36.5	+0.6
G05D	**Wamic, OR** baz=4.8,SNR=15	4.72	48	⇑P	Pn	19 11 36.7	-0.1
E03A	**Lebam**	4.76	23	*e*Pn	Pn	19 11 36.2	-1.1
G06A	**Carlson Farm,**	5.10	52	*e*Pn	Pn	19 11 41.9	-0.2
I07A	**Izee**	5.32	67	*e*Pn	Pn	19 11 45.5	+0.4
NLWA	**Neilton Lookou**	5.46	18	*e*Pn	Pn	19 11 45.0	-2.1
LON	**Longmire**	5.56	34	*e*Pn	Pn	19 11 48.9	+0.4
LON				*e*Sn	Sn	19 12 49.4	-3.0
WVOR	**Wild Horse Val**	5.69	85	*e*Pn	Pn	19 11 49.4	-0.8
G08A	**Pilot Rock**	6.15	57	*e*Pn	Pn	19 11 57.9	+1.3
CMB	**Columbia Colle** 2.8nm,0.6s	6.16	131	*e*Pn	Pn	19 11 57.5	+0.9
HAWA	**Hanford**	6.41	47	*e*Pn	Pn	19 11 60.0	0.0
WAKR	**Walker**	6.42	123	*e*Pn	Pn	19 12 02.8	+2.5
LTY	**Liberty**	6.45	37	*e*Pn	Pn	19 12 01.6	+1.0
PGC	**Sidney**	6.75	16	Pn	Pn	19 12 01.9	-2.7
BMO	**Blue Mountains** 5.4nm,0.4s	7.06	65	*e*Pn	Pn	19 12 09.4	+0.5
BMN	**Battle Mountai**	7.07	102	Pn	Pn	19 12 09.5	+0.4
D08A	**Wollman Farm,**	7.16	45	*e*Pn	Pn	19 12 11.1	+0.9
NVAR	**Mina Array Bea** 1.0nm,0.3s,baz=294,slow=14,SNR=17	7.19	119	Pn	Pn	19 12 13.0	+2.1
F10A	**Beach Ranch, E**	7.54	57	*e*Pn	Pn	19 12 16.8	+1.2
MFID	**Camas Ranch** 4.0nm,0.8s	7.80	78	*e*Pn	Pn	19 12 20.6	+1.5
B08A	**Colville Reser**	7.87	36	*e*Pn	Pn	19 12 19.9	-0.2
C09A	**Chrisman Ranch**	7.98	43	*e*Pn	Pn	19 12 22.8	+1.3
TPH	**Tonopah** 3.7nm,0.8s	8.09	118	*e*Pn	Pn	19 12 25.1	+1.9
ELK	**Elko** 0.2nm,0.3s,baz=20,slow=2.5,SNR=6.2	8.44	96	Pn	Pn	19 12 31.6	+3.6
ELK	comp=Z,944nm,18.7s,baz=360,slow=41			LR	LR	19 16 08.5	
ELK	**Elko** 1.3nm,0.6s	8.44	96	*e*Pn	Pn	19 12 29.4	+1.3
HLID	**Hailey**	8.84	77	*e*Pn	Pn	19 12 33.4	-0.1
NEW	**Newport** 0.4nm,0.3s,baz=238,slow=19,SNR=3.0	8.87	44	Pn	Pn	19 12 35.8	+2.1
NEW	comp=Z,245nm,18.3s,baz=242,slow=39			LR	LR	19 16 06.0	
NEW	**Newport**	8.87	44	Pn	Pn	19 12 32.5	-1.2
ISA	**Isabella, Lake**	8.94	134	*e*Pn	Pn	19 12 37.0	+2.2
R11A	**Troy Canyon, C**	9.06	112	*e*Pn	Pn	19 12 39.0	+2.6
BSMT	**Bassoo Peak**	9.91	51	Pn	Pn	19 12 47.5	-0.6
BGU	**Big Grassy Mou**	10.04	93	*e*Pn	Pn	19 12 52.2	+2.3
BBB	**Bella Bella** 0.5nm,0.3s,baz=190,slow=8.4,SNR=7.1	10.05	354	Pn	Pn	19 12 51.5	+1.6
BBB	comp=Z,329nm,19.5s,baz=190,slow=33			LR	LR	19 15 52.1	
HVU	**Hansel Valley**	10.09	88	*e*Pn	Pn	19 12 53.3	+2.7
MCMT	**McKenzie Canyo** 6.1nm,1.2s	10.12	70	*e*Pn	Pn	19 12 53.0	+1.9
JTMT	**Jette**	10.16	53	*e*Pn	Pn	19 12 51.9	+0.4
SHPR	**Sheep Range** 21nm,1.6s	10.34	120	Pn	Pn	19 12 55.4	+1.4
DUG	**Dugway, Tooele**	10.37	97	*e*Pn	Pn	19 12 56.8	+2.4
YBMT	**Yellow Bay**	10.37	53	*e*Pn	Pn	19 12 56.0	+1.6
SLMT	**Seeley Lake**	10.41	57	*e*Pn	Pn	19 12 54.9	-0.1
CHMT	**Chamberlain Mo**	10.43	59	*e*Pn	Pn	19 12 56.9	+1.5
LRM	**Limekiln Ridge**	10.61	65	*e*Pn	Pn	19 12 58.6	+0.8
HWUT	**Hardware Ranch**	11.01	88	*e*Pn	Pn	19 13 05.7	+2.5
QLMT	**Earthquake Lak**	11.12	71	*e*Pn	Pn	19 13 07.1	+2.4
BOZ	**Bozeman (W)** 3.9nm,0.6s	11.13	67	*e*P	Pn	19 13 05.9	+1.1
JLU	**Jordanelle**	11.28	93	*e*Pn	Pn	19 13 09.9	+2.9
LDFC	**Landfair** 24nm,1.1s	11.28	125	*e*Pn	Pn	19 13 08.4	+1.5
HRY	**Holter Researc** 4.0nm,0.5s	11.28	62	*e*Pn	Pn	19 13 10.0	+3.1
FXWY	**Fox Creek**	11.30	78	*e*Pn	Pn	19 13 10.3	+3.0
MVU	**Marysvale**	11.37	104	*e*Pn	Pn	19 13 10.6	+2.3
IMW	**Indian Meadow**	11.38	76	*e*Pn	Pn	19 13 10.7	+2.4
MSU	**Marysvale** 20nm,1.5s	11.40	104	*e*Pn	Pn	19 13 11.9	+3.3
REDW	**Red Top Meadow**	11.42	79	*e*Pn	Pn	19 13 12.1	+3.2
MOOW	**Moose Ponds**	11.51	77	*e*Pn	Pn	19 13 12.7	+2.6
FLWY	**Flagg Ranch**	11.56	75	*e*Pn	Pn	19 13 13.1	+2.4
PFO	**Pinyon Flats O** comp=Z,33nm,19.8s,baz=318,slow=38	11.58	135	LR	LR	19 17 50.9	
LOHW	**Long Hollow**	11.61	78	*e*Pn	Pn	19 13

ILAR					LR	LR	19 24 57.6	
	comp=Z,54nm,18.1s,baz=162,slow=34							
INK	**Inuvik**	**26.44**	**354**		P	**P**	**19 16 06.3**	**+4.2**
	0.7nm,0.6s,baz=185,slow=0.6,SNR=3.1							
PETK	**Petropavlovsk-**	**50.02**	**310**		P	**P**	**19 19 20.3**	**+0.4**
	2.5nm,1.0s,baz=81,slow=8.9,SNR=2.8							
SPITS	**Spitsbergen Ar**	**57.78**		**8**	LR	LR	19 44 56.7	
	comp=Z,54nm,18.8s,baz=65,slow=36							
JMIC	**Jan Mayen**	**58.75**		**20**	LR	LR	19 46 45.8	
	comp=Z,49nm,19.0s,baz=68,slow=37							
H11N3	**WAKE ISLAND Hy**	**59.97**	**270**		T	T	20 25 18.6	
	baz=51,slow=75,SNR=78							
H11N2	**WAKE ISLAND Hy**	**59.97**	**270**		T	T	20 25 10.2	
	baz=51,slow=75,SNR=68							
H11N1	**WAKE ISLAND Hy**	**59.99**	**270**		T	T	20 25 15.8	
	baz=51,slow=75,SNR=61							
H11S1	**WAKE ISLAND Hy**	**60.87**	**269**		T	T	20 26 18.8	
	baz=51,slow=75,SNR=49							
H11S2	**WAKE ISLAND Hy**	**60.88**	**269**		T	T	20 26 28.1	
	baz=51,slow=75,SNR=46							
H11S3	**WAKE ISLAND Hy**	**60.89**	**269**		T	T	20 26 22.1	
	baz=51,slow=75,SNR=38							
HFS	**Hagfors**	**72.86**		**20**	LR	LR	19 56 07.4	
	comp=Z,27nm,18.6s,baz=1.5,slow=38							
KSRS	**Korea Array**	**75.84**	**308**		LR	LR	19 52 30.3	
	comp=Z,13nm,19.1s,baz=40,slow=33							
HHC	**Hu-ho-hao-te**	**82.16**	**320**		*e*P	P	19 22 43.3	-3.4
HHC					PP	**PP**	**19 25 52.3**	**-1.8**
HHC	**Hu-ho-hao-te**	**82.16**	**320**		S	S	19 32 54.1	-7.6
HHC	**Hu-ho-hao-te**	**82.16**	**320**		SKS	**S**	**19 32 58.3**	**-3.4**
HHC	**Hu-ho-hao-te**	**82.16**	**320**		sS	**S**	**19 33 02.1**	**+0.4**
HHC	**Hu-ho-hao-te**	**82.16**	**320**		SS	SS	19 38 14.9	-5.2
HHC					pmax	pmax		
	comp=Z,19nm,1.3s							
HHC					pmax	pmax		
	comp=Z,200nm,5.8s							
HHC					LR	LR		
	comp=N,59nm,16.3s							
HHC					LR	LR		
	comp=E,81nm,15.9s							
HHC					LR	LR		
	comp=Z,59nm,16.7s							
DAVOX	**Davos/Dischmat**	**83.23**		**29**	LR	LR	19 59 27.2	
	comp=Z,37nm,19.2s,baz=312,slow=35							
WMQ	**Urumqi**	**89.08**	**336**		*e*P	**P**	**19 23 19.9**	**-1.0**
LZH	**Lanzhou**	**89.60**	**322**		*e*P	**P**	**19 23 21.3**	**-2.4**
LZH					pP	**PcP**	**19 23 26.0**	**+1.0**
LZH					sP	**sP**	**19 23 27.9**	**-0.3**
LZH					pmax	pmax		
	comp=Z,13nm,1.0s							

IDC 14 19:12:18.1±1.8, 6°91S×129°24E, h0km, mb3.5/1, mb1 3.9/4, mb1mx3.5/26, mbtmp3.8/4, ML3.9/3, MS3.3/1, Ms1 3.3/1, ms1mx2.5/18, Error ellipse: s-maj=62.2km s-min=28.6km az=80.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.33**	**19**	Pn	Pn	19 13 51.2	-1.6
	8.3nm,0.3s,baz=173,slow=17,SNR=35						
SIJI				Sn	Sn	19 14 51.7	-14
	1.9nm,0.3s,baz=236,slow=23,SNR=7.6						
WRA	**Warramunga Arr**	**13.87**	**160**	Pn	Pn	19 15 34.1	-2.2
	0.4nm,0.3s,baz=336,slow=14,SNR=29						
WRA				Sn	Sn	19 17 58.9	-12
	0.5nm,0.3s,baz=345,slow=24,SNR=9.5						
ASAR	**Alice Springs**	**17.26**	**165**	P	P	19 16 22.1	-0.3
	0.3nm,0.3s,baz=344,slow=9.0,SNR=21						
ASAR				S	Sn	19 19 24.6	-9.1
	0.1nm,0.3s,baz=356,slow=24,SNR=5.0						
LEM	**Lembang**	**21.46**	**269**	LR	LR	19 25 52.3	
	comp=Z,81nm,21.9s,baz=284,slow=38						
MKAR	**Makanchi Array**	**67.73**	**327**	P	P	19 23 18.1	+0.5
	0.2nm,0.4s,baz=117,slow=6.0,SNR=5.9						

*BJI **14** 19:33:01.5, 41.85N×127.40W, h17km, Ms4.4/2, Ms7 4.1/2*
*ISCJB **14** 19:33:02.3±0.5, 42.30N±0.03°×126.33W±0.05, h10km, mb4.0/12, MS3.6/13, Error ellipse: s-maj=5.9km s-min=3.6km az=167.2*
*NEIC **14** 19:33:03.6±0.8, 42.25N×126.39W, h10km, mb4.0/15, Error ellipse: s-maj=9.7km s-min=4.8km az=71.0*
*IDC **14** 19:33:04.9±1.3, 42.36N×126.00W, h0km, mb3.9/8, mb1 4.1/14, mb1mx3.8/55, mbtmp4.0/14, ML3.8/6, MS3.5/19, Ms1 3.5/19, ms1mx3.4/36, Error ellipse: s-maj=30.5km s-min=11.1km az=44.0*

ISC 14 19:33:02.1±0.6, 42°22N±0.05×126°52W±0.07, h10km, n151, σ1s54/132, mb4.1/12, MS3.5/13, 3C-8D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**1.70**	**90**	*e*Pn	**Pn**	**19 33 29.7**	**-2.3**
KEBM	**Edson Butte**	**1.74**	**67**	*e*Pn	**Pn**	**19 33 30.0**	**-2.5**
KSXB	**Camp Six Broad**	**2.01**	**100**	P	**Pn**	**19 33 34.3**	**-1.9**
L02D	**Cave Junction,**	**2.17**	**91**	P	**Pn**	**19 33 36.8**	**-1.5**
	baz=2.1,SNR=62						
KTRM	**Thompson Ridge**	**2.36**	**97**	P	**Pn**	**19 33 39.1**	**-1.9**
KHMM	**Horse Mountain**	**2.49**	**122**	*e*Pn	**Pn**	**19 33 41.1**	**-1.7**
DBO	**Dodson Butte**	**2.58**	**69**	P	**Pn**	**19 33 42.7**	**-1.3**
RNO	**Roman Nose**	**2.65**	**49**	P	**Pn**	**19 33 43.8**	**-1.2**
HUMO	**Hull Mountain**	**2.67**	**80**	*e*Pn	**Pn**	**19 33 43.9**	**-1.3**
I03D	**Drain, OR**	**2.76**	**57**	P	**Pn**	**19 33 44.7**	**-1.6**
	baz=2.7,SNR=40						
I03D				⇑S	**Sn**	**19 34 17.0**	**-2.7**
	baz=2.7						
M02C	**Callahan**	**2.86**	**106**	⇓P	**Pn**	**19 33 46.9**	**-1.0**
	baz=2.8,SNR=50						
YBH	**Yreka Blue Hor**	**2.88**	**98**	Pn	**Pn**	**19 33 47.8**	**-0.4**
	9.8nm,0.3s,baz=280,slow=12,SNR=93						
YBH				LR	LR	19 34 16.3	
	comp=Z,194nm,21.4s,baz=242,slow=28						
KMRM	**Mail Ridge**	**2.91**	**132**	*e*Pn	**Pn**	**19 33 47.8**	**-0.8**
N02D	**Trinity Center**	**3.12**	**112**	⇓P	**Pn**	**19 33 50.5**	**-1.0**
	baz=3.1,SNR=30						
COR	**Corvallis**	**3.33**	**44**	*e*Pn	**Pn**	**19 33 52.7**	**-1.5**
COR				*e*Sn	**Sn**	**19 34 31.6**	**-2.2**
KIPM	**Iron Peak**	**3.33**	**135**	*e*Pn	**Pn**	**19 33 53.0**	**-1.4**
KIPM				*e*Sn	**Sn**	**19 34 30.3**	**-3.8**
KCPM	**Cahto Peak**	**3.37**	**138**	*e*Pn	**Pn**	**19 33 53.2**	**-1.7**
KCPM				*e*Sn	**Sn**	**19 34 32.7**	**-2.3**
I04A	**Tendick Farm,**	**3.40**	**61**	P	**Pn**	**19 33 54.6**	**-0.6**
	baz=3.4,SNR=47						
I04A				⇓S	**Sn**	**19 34 34.9**	**-0.7**
	baz=3.4						
J04D	**Umpqua Nationa**	**3.41**	**71**	P	**Pn**	**19 33 55.8**	**+0.3**
	baz=3.4,SNR=134						
WDC	**Whiskeytown Da**	**3.41**	**117**	*e*Pn	**Pn**	**19 33 54.7**	**-0.7**
M04C	**Macdoel**	**3.52**	**96**	⇓P	**Pn**	**19 33 56.5**	**-0.4**
	baz=3.5,SNR=25						
K04D	**Chiloquin, OR**	**3.55**	**82**	⇓P	**Pn**	**19 33 56.7**	**-0.7**
	baz=3.5						
G03D	**McMinnville, O**	**3.81**	**37**	⇑P	**Pn**	**19 34 00.4**	**-0.4**
	baz=3.8,SNR=12						
G03D				⇓S	**Sn**	**19 34 43.3**	**-2.3**
	baz=3.8						
H04A	**Detroit Lake**	**4.00**	**51**	*e*Pn	**Pn**	**19 34 03.1**	**-0.4**
J05D	**Fort Rock, OR**	**4.03**	**73**	⇑P	**Pn**	**19 34 03.5**	**-0.6**
	baz=4.0,SNR=30						
HOPS	**Hopland Field**	**4.16**	**140**	*e*Pn	Pn	19 34 01.1	-4.5
K05A	**Summer Lake**	**4.19**	**81**	*e*Pn	**Pn**	**19 34 05.7**	**-0.6**
I05D	**Terrebonne, OR**	**4.33**	**59**	⇓P	**Pn**	**19 34 07.6**	**-0.5**
	baz=4.3,SNR=18						
F04D	**Rainier, OR**	**4.61**	**32**	⇓P	**Pn**	**19 34 11.9**	**0.0**
	baz=4.6						
F04A	**Amboy**	**4.74**	**37**	*e*Pn	**Pn**	**19 34 13.7**	**+0.1**
E03A	**Lebam**	**4.81**	**25**	*e*Pn	**Pn**	**19 34 14.5**	**-0.2**
G05D	**Wamic, OR**	**4.83**	**50**	P	**Pn**	**19 34 14.8**	**-0.1**
	baz=4.8,SNR=7.4						
G06A	**Carlson Farm,**	**5.22**	**53**	*e*Pn	**Pn**	**19 34 20.2**	**-0.1**
I07A	**Izee**	**5.46**	**68**	*e*Pn	**Pn**	**19 34 24.1**	**+0.5**
NLWA	**Neilton Lookou**	**5.50**	**19**	*e*Pn	**Pn**	**19 34 24.1**	**-0.1**
GLK	**Glacier Lake**	**5.59**	**37**	P	**Pn**	**19 34 26.2**	**+0.8**
LON	**Longmire**	**5.64**	**35**	*e*Pn	**Pn**	**19 34 26.5**	**+0.4**
LON				*e*Sn	Sn	19 35 23.9	-7.0
WVOR	**Wild Horse Val**	**5.85**	**85**	*e*Pn	**Pn**	**19 34 27.0**	**-1.9**
D05A	**Enumclaw**	**5.92**	**31**	*e*Pn	**Pn**	**19 34 31.2**	**+1.3**
G08A	**Pilot Rock**	**6.28**	**58**	*e*Pn	**Pn**	**19 34 35.2**	**+0.4**
CMB	**Columbia Colle**	**6.29**	**130**	*e*Pn	**Pn**	**19 34 33.4**	**-1.6**
HAWA	**Hanford**	**6.52**	**48**	*e*Pn	**Pn**	**19 34 38.0**	**0.0**
WAKR	**Walker**	**6.56**	**122**	*e*Pn	**Pn**	**19 34 41.3**	**+2.5**
PGC	**Sidney**	**6.78**	**17**	*e*Pn	**Pn**	**19 34 41.9**	**+0.2**
	27nm,1.0s						
BMO	**Blue Mountains**	**7.19**	**65**	*e*Pn	**Pn**	**19 34 47.3**	**-0.1**
	11nm,0.8s						
B06A	**Marblemount**	**7.22**	**28**	*e*Pn	**Pn**	**19 34 48.8**	**+1.1**
D08A	**Wollman Farm,**	**7.26**	**46**	*e*Pn	**Pn**	**19 34 48.2**	**-0.1**
NVAR	**Mina Array Bea**	**7.33**	**118**	Pn	**Pn**	**19 34 50.8**	**+1.4**
	0.8nm,0.3s,baz=299,slow=14,SNR=24						
F10A	**Beach Ranch, E**	**7.67**	**58**	*e*Pn	**Pn**	**19 34 54.6**	**+0.7**
MFID	**Camas Ranch**	**7.95**	**78**	*e*Pn	**Pn**	**19 34 57.8**	**0.0**
B08A	**Colville Reser**	**7.96**	**37**	*e*Pn	**Pn**	**19 34 58.4**	**+0.6**
C09A	**Chrisman Ranch**	**8.07**	**43**	*e*Pn	**Pn**	**19 34 59.8**	**+0.4**
TPH	**Tonopah**	**8.23**	**117**	*e*Pn	**Pn**	**19 34 58.7**	**-3.1**
ELK	**Elko**	**8.60**	**96**	*e*Pn	**Pn**	**19 35 08.1**	**+1.3**
NEW	**Newport**	**8.97**	**44**	LR	LR	19 38 49.2	
	comp=Z,381nm,18.8s,baz=220,slow=40						
HLID	**Hailey**	**8.99**	**77**	*e*Pn	**Pn**	**19 35 12.6**	**+0.5**
	5.3nm,1.0s						
ISA	**Isabella, Lake**	**9.06**	**134**	*e*Pn	**Pn**	**19 35 14.9**	**+1.9**
	4.5nm,0.9s						
R11A	**Troy Canyon, C**	**9.21**	**111**	*e*Pn	**Pn**	**19 35 17.5**	**+2.4**
BBB	**Bella Bella**	**10.03**	**354**	Pn	**Pn**	**19 35 27.4**	**+1.3**
	0.3nm,0.3s,baz=190,slow=12,SNR=5.6						
BBB				LR	LR	19 38 30.1	
	comp=Z,295nm,19.7s,baz=172,slow=33						
BSMT	**Bassoo Peak**	**10.03**		**52**	*e*Pn	**Pn**	**19 35 27.6**	**+1.3**
	5.4nm,0.8s							
MSO	**Missoula**	**10.09**		**59**	*e*Pn	**Pn**	**19 35 27.8**	**+0.7**
BGU	**Big Grassy Mou**	**10.19**		**93**	*e*Pn	**Pn**	**19 35 30.3**	**+1.7**
HVU	**Hansel Valley**	**10.24**		**88**	*e*Pn	**Pn**	**19 35 29.4**	**+0.2**
	14nm,1.1s							
GSC	**Goldstone, Bar**	**10.25**	**129**		Pn	**Pn**	**19 35 31.6**	**+2.2**
MCMT	**McKenzie Canyo**	**10.27**		**71**	*e*Pn	**Pn**	**19 35 30.4**	**+0.7**
	2.7nm,0.8s							
JTMT	**Jette**	**10.28**		**53**	*e*Pn	**Pn**	**19 35 29.6**	**-0.1**
	4.3nm,0.7s							
BLMT	**Blacktail Moun**	**10.36**		**52**	*e*Pn	**Pn**	**19 35 31.5**	**+0.7**
	7.1nm,0.6s							
SHPR	**Sheep Range**	**10.48**	**119**		*e*Pn	Pn	19 35 37.0	+4.4
	22nm,1.5s							
YBMT	**Yellow Bay**	**10.49**		**53**	*e*Pn	**Pn**	**19 35 32.9**	**+0.2**
	5.3nm,0.6s							
DUG	**Dugway, Tooele**	**10.53**		**97**	*e*Pn	**Pn**	**19 35 35.8**	**+2.7**
SLMT	**Seeley Lake**	**10.54**		**57**	*e*Pn	**Pn**	**19 35 33.0**	**-0.2**
	6.8nm,0.8s							
DLMT	**Dillon**	**10.54**		**68**	Pn	**Pn**	**19 35 33.4**	**0.0**
	4.4nm,0.6s							
CHMT	**Chamberlain Mo**	**10.56**		**59**	*e*Pn	**Pn**	**19 35 34.4**	**+0.7**
	4.1nm,0.8s							
LRM	**Limekiln Ridge**	**10.75**		**66**	*e*Pn	**Pn**	**19 35 37.5**	**+1.2**
	57nm,1.0s							
WALA	**Waterton Lakes**	**11.16**		**48**	*e*Pn	**Pn**	**19 35 39.3**	**-2.5**
	12nm,1.0s							
HWUT	**Hardware Ranch**	**11.16**		**88**	*e*Pn	**Pn**	**19 35 43.6**	**+1.7**
	11nm,1.1s							
BOZ	**Bozeman (W)**	**11.27**		**67**	*e*Pn	**Pn**	**19 35 44.0**	**+0.7**
	5.3nm,0.8s							
HRY	**Holter Researc**	**11.41**		**62**	*e*Pn	**Pn**	**19 35 46.8**	**+1.6**
	4.8nm,0.5s							
JLU	**Jordanelle**	**11.44**		**93**	*e*Pn	**Pn**	**19 35 47.2**	**+1.6**
	11nm,1.1s							
FXWY	**Fox Creek**	**11.45**		**78**	*e*Pn	**Pn**	**19 35 46.7**	**+0.8**
TPAW	**Teton Pass**	**11.50**		**78**	*e*Pn	**Pn**	**19 35 45.6**	**-1.0**
	9.9nm,1.1s							
IMW	**Indian Meadow**	**11.52**		**76**	*e*P	**Pn**	**19 35 48.3**	**+1.4**
	2.9nm,0.8s							
MVU	**Marysvale**	**11.53**	**104**		*e*Pn	**Pn**	**19 35 49.1**	**+2.2**
	14nm,1.2s							
MSU	**Marysvale**	**11.55**	**104**		*e*Pn	**Pn**	**19 35 49.8**	**+2.6**
	15nm,1.3s							
REDW	**Red Top Meadow**	**11.57**		**79**	*e*Pn	Pn	19 35 53.0	+5.5
	5.4nm,1.1s							
MOOW	**Moose Ponds**	**11.66**		**77**	*e*Pn	**Pn**	**19 35 47.6**	**-1.1**
	4.7nm,1.1s							
PFO	**Pinyon Flats O**	**11.70**	**134**		LR	LR	19 40 19.8	
	comp=Z,116nm,21.9s,baz=315,slow=38							
FLWY	**Flagg Ranch**	**11.71**		**76**	*e*Pn	**Pn**	**19 35 50.2**	**+0.8**
	5.2nm,1.0s							
LOHW	**Long Hollow**	**11.76**		**78**	*e*Pn	**Pn**	**19 35 51.4**	**+1.3**
	5.4nm,1.2s							
H17A	**Grant Village**	**11.82**		**74**	P	**Pn**	**19 35 52.5**	**+1.6**
	7.4nm,1.3s							
BW06	**Boulder Array**	**12.54**		**82**	*e*Pn	**Pn**	**19 36 02.2**	**+1.5**
	7.6nm,1.3s							
PDAR	**Pinedale Array**	**12.54**		**82**	Pn	**Pn**	**19 36 02.6**	**+1.9**
	0.1nm,0.3s,baz=284,slow=12,SNR=19							
GCMT	**Greycliff**	**12.65**		**68**	*e*Pn	**Pn**	**19 36 03.3**	**+1.2**
	7.2nm,1.1s							
RLMT	**Red Lodge**	**12.82**		**71**	*e*Pn	Pn	19 36 08.7	+4.1
	6.5nm,1.2s							
EGMT	**Eagleton**	**13.17**		**58**	*e*Pn	**Pn**	**19 36 08.8**	**-0.4**
WUAZ	**Wupatki**	**13.56**	**115**		*e*Pn	Pn	19 36 18.3	+3.7
	4.4nm,1.1s							
EDM	**Edmonton**	**14.10**		**34**	*e*Pn	**Pn**	**19 36 20.5**	**-1.4**
PV01	**Paradox Valley**	**14.31**	**101**		*e*Pn	**Pn**	**19 36 26.1**	**+1.1**
	612nm,0.9s							
MVCO	**Mesa Verde**	**14.74**	**104**		*e*Pn	**Pn**	**19 36 32.3**	**+1.4**
	13nm,1.0s							
W18A	**Petrified Fore**	**14.89**	**113**		*e*Pn	**Pn**	**19 36 33.5**	**+0.6**
	32nm,1.1s							
PHWY	**Pilot Hill**	**15.74**		**86**	*e*Pn	**Pn**	**19 36 42.8**	**-1.3**
	5.3nm,1.1s							
TUC	**Tucson**	**15.94**	**123**		*e*Pn	**Pn**	**19 36 46.4**	**-0.1**
	5.9nm,0.9s							
ISCO	**Idaho Springs**	**15.96**		**92**	*e*Pn	**Pn**	**19 36 46.6**	**-0.4**
	5.3nm,0.9s							
DLBC	**Dease Lake**	**16.39**	**353**		Pn	**P**	**19 36 55.5**	**+0.5**
	0.2nm,0.3s,baz=198,slow=9.0,SNR=6.4							
DLBC					LR	LR	19 42 21.8	
	comp=Z,88nm,21.8s,baz=340,slow=34							
DLBC	**Dease Lake**	**16.39**	**353**		*e*Pn	**Pn**	**19 36 51.2**	**-0.9**
Q24A	**Divide**	**16.55**		**94**	*e*Pn	**Pn**	**19 36 55.1**	**+0.5**
	10nm,0.8s							
SDCO	**Great Sand Dun**	**16.71**		**99**	*e*Pn	**P**	**19 36 57.8**	**-1.1**
	22nm,1.4s							
LAZ	**Ladron**	**17.07**	**111**		*e*Pn	**P**	**19 37 06.7**	**+3.9**
	5.9nm,1.1s							
ANMO	**Albuquerque**	**17.26**	**108**		Pn	**P**	**19 37 05.3**	**+0.3**
	0.3nm,0.3s,baz=342,slow=7.1,SNR=4.6							
ANMO					LR	LR	19 44 09.4	
	comp=Z,441nm,20.4s,baz=321,slow=39							
ANMO	**Albuquerque**	**17.26**	**108**		*e*Pn	**P**	**19 37 04.4**	**-0.6**
	3.4nm,0.8s							
121A	**Cookes Peak, D**	**17.72**	**117**		*e*Pn	**P**	**19 37 11.3**	**+1.3**
	5.5nm,0.7s							
MNTX	**Cornudas Mount**	**19.84**	**115**		*e*Pn	**Pn**	**19 37 34.9**	**+0.3**
	10.0nm,1.2s							
FFC	**Flin Flon**	**20.39**		**44**	*e*Pn	Pn	19 37 40.4	-0.7
	20nm,0.9s							
YKA	**Yellowknife Ar**	**21.50**		**15**	P	**P**	**19 37 51.4**	**+0.6**
	9.1nm,1.0s,baz=205,slow=10,SNR=32							
ECSD	**EROS Data Cent**	**21.88**		**76**	*e*P	**P**	**19 37 56.1**	**+1.0**
	14nm,1.0s							
AGMN	**Agassiz Nation**	**22.32**		**64**	*e*P	**P**	**19 38 01.0**	**+1.2**
	21nm,1.3s							
TXAR	**Lajitas Array**	**22.48**	**118**		P	**P**	**19 38 04.0**	**+2.3**
	3.4nm,0.8s,baz=310,slow=8.0,SNR=17							
TXAR					LR	LR	19 47 58.5	
	comp=Z,110nm,20.4s,baz=0.0,slow=40							
LPIG	**La Paz**	**22.53**	**138**		LR	LR	19 45 27.0	
	comp=Z,88nm,19.9s,baz=4.0,slow=33							
ULM	**Lac du Bonnet**	**22.54**		**59**	P	**P**	**19 38 03.1**	**+1.0**
	2.6nm,0.4s,baz=271,slow=9.5,SNR=4.7							
ULM	**Lac du Bonnet**	**22.54**		**59**	*e*P	**P**	**19 38 02.8**	**+0.8**
	9.6nm,1.1s							
KSU1	**Kansas State U**	**22.85**		**88**	*e*P	**P**	**19 38 05.7**	**+0.2**
WMOK	**Wichita Mounta**	**22.90**	**100**		*e*P	**P**	**19 38 05.2**	**-0.8**
	11nm,1.4s							
DAWY	**Dawson**	**23.11**	**346**		P	**P**	**19 38 10.5**	**+2.5**
ILAR	**Eielson Array**	**25.40**	**340**		P	P	19 38 35.1	+5.8
	2.3nm,1.1s,baz=157,slow=8.1,SNR=11							
INK	**Inuvik**	**26.41**	**354**		LR	LR	19 48 03.4	
	comp=Z,116nm,18.4s,baz=348,slow=34							
UNV	**Unalaska Valle**	**28.77**	**308**		P	**P**	**19 38 57.5**	**-2.3**
SFJD	**Kangerlussuaq**	**46.63**		**32**	LR	LR	20 01 29.3	
	comp=Z,139nm,19.1s,baz=278,slow=37							
PETK	**Petropavlovsk-**	**49.90**	**310**		LR	LR	20 00 30.7	
	comp=Z,45nm,20.6s,baz=81,slow=33							
H11N3	**WAKE ISLAND Hy**	**59.81**	**270**		T	T	20 47 54.5	
	baz=51,slow=75,SNR=88							
H11N2	**WAKE ISLAND Hy**	**59.82**	**270**		T	T	20 47 53.8	
	baz=51,slow=75,SNR=62							
H11N1	**WAKE ISLAND Hy**	**59.83**	**270**		T	T	20 47 53.7	
	baz=51,slow=75,SNR=73							
H11S1	**WAKE ISLAND Hy**	**60.72**	**269**		T	T	20 48 57.6	
	baz=69							
H11S2	**WAKE ISLAND Hy**	**60.72**	**269**		T	T	20 49 01.4	
	baz=69							
H11S3	**WAKE ISLAND Hy**	**60.73**	**269**		T	T	20 48 58.8	
	baz=69							
ARCES	**ARCESS Array B**	**66.67**		**10**	LR	LR	20 13 22.4	
	comp=Z,47nm,20.8s,baz=357,slow=36							
MJAR	**Matsushiro Arr**	**70.00**	**301**		LR	LR	20 11 50.0	
	comp=Z,20nm,21.1s,baz=50,slow=33							
NOA	**NORSAR Array B**	**71.50**		**20**	LR	LR	20 14 03.6	
	comp=Z,20nm,21.8s,baz=315,slow=34							
FINES	**FINESS Array B**	**74.32**		**13**	P	P	19 44 42.8	+3.5
	1.2nm,0.9s,baz=6.3,slow=14,SNR=3.7							
LPAZ	**La Paz**	**79.20**	**124**		P	**P**	**19 45 09.6**	**+1.4**
	0.6nm,0.6s,baz=270,slow=4.9,SNR=3.7							
ZALV	**Zalesovo Beam**	**80.50**	**342**		LR	LR	20 24 31.0	
	comp=Z,22nm,18.1s,baz=252,slow=38							
HHC	**Hu-ho-hao-te**	**82.05**	**319**		*e*P	**P**	**19 45 21.8**	**-0.9**
HHC					PP	**PP**	**19 48 31.1**	**+1.3**
HHC					S	**S**	**19 55 33.1**	**-4.0**
HHC					SKS	**SKSac**	**19 55 36.9**	**-6.3**
HHC					SS	**SS**	**20 00 54.3**	**-0.7**
HHC					LN			
	52nm,15.3s							
HHC					LE			
	53nm,16.5s							
HHC					LZ			
	58nm,17.1s							
GERES	**GERESS Array B**	**82.79**		**25**	LR	LR	20 24 17.9	
	comp=Z,82nm,18.7s,baz=324,slow=37							
BVAR	**Borovoye Array**	**84.02**	**350**		P	P	19 45 36.0	+3.5
	1.1nm,0.9s,baz=37,slow=3.6,SNR=6.1							
KURK	**Kurchatov**	**84.88**	**344**		P	P	19 45 41.5	+4.7
KURBB	**Kurchatov Arra**	**84.98**	**344**		P	P	19 45 41.5	+4.1
	0.6nm,0.9s,baz=17,slow=3.9,SNR=5.0							
MKAR	**Makanchi Array**	**87.75**	**341**		LR	LR	20 27 12.3	
	comp=Z,46nm,18.1s,baz=10.0,slow=37							
ABKAR	**Akbulak array**	**88.73**	**356**		*e*P	**P**	**19 45 57.7**	**+2.1**
	2.5nm,1.0s							
WMQ	**Urumqi**	**89.01**	**336**		*e*P	**P**	**19 45 58.4**	**+1.2**
LZH	**Lanzhou**	**89.50**	**321**		*e*P	**P**	**19 45 59.4**	**-0.3**
LZH					pP	**pP**	**19 46 04.1**	**+1.0**
LZH					sP	**sP**	**19 46 05.5**	**+1.2**
KEST	**Kesra**	**92.55**		**35**	LR	LR	20 28 34.5	
	comp=Z,18nm,20.0s,baz=292,slow=36							
BRTR	**Keskin Array B**	**96.47**		**15**	LR	LR	20 32 11.3	
	comp=Z,21nm,18.6s,baz=338,slow=37							

*ISCJB **14** 19:48:57.2±0.8, 32.30N±0.06°×115.36W±0.06, h7km±13km, Error ellipse: s-maj=10.8km s-min=8.1km az=29.3*
*MEX **14** 19:48:58.6±0.3, 32.48N×115.17W, h18km±3km, MD3.5*
*ECX **14** 19:48:59.4±0.4, 32.32N×115.41W, h5km, MD2.5, ML2.7*

ISC 14 19:48:56.1±1.1, 32°30N±0.04°×115°34W±0.05, h7km±11km, n14, σ0s69/17, 2C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.12**	**16**	*e*P9	Pg	19 48 57.0	-1.8
CPBX				*e*S	**Sg**	**19 48 59.2**	**-1.3**
CPBX				IAML		19 49 02.6	
	comp=N,7μm,0.3s						
CPBX				⇑*e*		19 49 02.6	
CPBX				⇓*e*		19 49 05.6	
CPBX				IAML		19 49 05.6	
	comp=E,9μm,0.4s						
SGL	**Mount Signal**	**0.47**	**317**	⇓*i*P	**Pb**	**19 49 06.7**	**-0.1**
EMSC	**East Mesa**	**0.53**	**35**	⇓*i*P	**Pn**	**19 49 09.3**	**-0.8**
WESC	**Westside Schoo**	**0.56**	**324**	⇓*i*P	**Pb**	**19 49 08.8**	**+0.5

baz=221,slow=76,SNR=146
H11N2 WAKE ISLAND Hy 29.36 39 T T 21 34 09.2
baz=221,slow=76,SNR=218
KSM Kuching 37.87 276 P **P** **21 04 44.0 -0.5**
CMAR Chiang Mai Arr 52.75 296 P **P** **21 06 42.5 -0.1**
1.1nm,0.8s,baz=122,slow=5.7,SNR=8.4
CMAR LR LR 21 29 40.3
comp=Z,8.4nm,18.1s,baz=145,slow=37
PETK Petropavlovsk- 56.59 7 P **P** **21 07 09.2 -0.6**
1.8nm,0.6s,baz=166,slow=7.0,SNR=3.4
PETK LR LR 21 27 21.5
comp=Z,41nm,21.7s,baz=192,slow=32
LSA Lhasa 63.27 305 P **P** **21 07 56.8 0.0**
SEY Seymchan 65.93 2 LR LR 21 36 21.2
comp=Z,27nm,19.4s,baz=264,slow=35
YAK Yakutsk 66.42 351 LR LR 21 38 03.3
comp=Z,19nm,19.1s,baz=89,slow=37
MKAR Makanchi Array 75.86 320 P **P** **21 09 15.2 +1.5**
0.3nm,0.8s,baz=90,slow=5.8,SNR=3.4
ILAR Eielson Array 82.46 23 P **P** **21 09 50.0 +0.7**
0.3nm,0.6s,baz=233,slow=5.5,SNR=3.7
YKA Yellowknife Ar 96.18 28 P **P** **21 10 54.1 -0.8**
0.5nm,0.8s,baz=268,slow=4.5,SNR=7.4
TORD Torodi Ar. Bea 145.15 289 PKPbc **PKPbc** **21 17 04.5 -0.8**
1.9nm,1.2s,baz=47,slow=1.7,SNR=5.0

MAN 14 21:16:32,18.43N×120.55E,h23km,mb4.4,ML3.2,MS3.0, 2D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.13**	**148**	⇓*i*P	Pb	21 16 37.0	+0.3
PIP				*e*S	Sb	21 16 42.0	+2.2
SIPP	**Brgy, Tapao**	**0.51**	**190**	⇓*e*P	Pb	21 16 43.1	+0.7
ABRA	**Dolores**	**0.79**	**169**	*e*P	Pn	21 16 47.6	-0.2
ABRA				*e*S	Sn	21 16 59.6	+0.7
APYP	**Conner**	**0.87**	**131**	*e*P	Pn	21 16 48.9	+0.1
APYP				*e*S	Sn	21 17 01.9	+1.0
SGCP	**Mt. Cagua**	**1.44**	**97**	*e*P	Pn	21 16 56.9	+0.2

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*IDC **14** 21:24:19.6±3.3,9.01S×157.13E,h0km,mb3.8/8, mb1 4.0/8,mb1mx3.8/29,mbtmp3.8/8,MS2.9/1,Ms1 2.9/1, ms1mx2.5/17,Error ellipse: s-maj=92.9km s-min=21.9km az=105.0*
*ISCJB **14** 21:24:21.2±2.7,9.0S±0.2×157.1E±0.5,h22km,mb3.8/8, MS2.8/1,Error ellipse: s-maj=76.6km s-min=18.2km az=15.4*
ISC 14 21:24:23.1±3.5,**9.0S**±0.2×**157.1E**±0.7,**h22km,n9,**σ1§**09/8, mb3.9/8,Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.55**	**241**	P	**P**	**21 29 39.9**	**-1.7**
	3.9nm,0.7s,baz=68,slow=9,SNR=20						
GUMO	**Guam**	**25.54**	**331**	LR	LR	21 39 08.4	
	comp=Z,28nm,20.8s,baz=93,slow=35						
ASAR	**Alice Springs**	**26.56**	**234**	P	**P**	**21 30 00.8**	**+1.1**
	1.1nm,0.7s,baz=67,slow=9.8,SNR=9.8						
STKA	**Stephens Creek**	**26.93**	**210**	P	**P**	**21 30 02.9**	**0.0**
	3.0nm,0.8s,baz=31,slow=14,SNR=8.3						
MJAR	**Matsushiro Arr**	**48.68**	**340**	P	**P**	**21 33 05.4**	**-0.3**
	1.1nm,0.7s,baz=172,slow=9.4,SNR=5.2						
KSRS	**Korea Array**	**53.70**	**321**	P	**P**	**21 33 43.0**	**-0.4**
	0.3nm,0.3s,baz=145,slow=8.3,SNR=4.4						
CMAR	**Chiang Mai Arr**	**63.55**	**296**	P	**P**	**21 34 53.2**	**+0.7**
	0.5nm,0.9s,baz=98,slow=6.5,SNR=3.6						
SONM	**Songino Array**	**72.17**	**327**	P	**P**	**21 35 47.0**	**+0.8**
	0.9nm,0.7s,baz=135,slow=5.4,SNR=5.5						
MKAR	**Makanchi Array**	**86.30**	**318**	P	**P**	**21 37 02.7**	**-0.7**
	0.2nm,0.6s,baz=116,slow=3.4,SNR=3.4						

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*DHMR **14** 21:38:57.3±1.4,11.90N×43.87E,h10km±9km,ML4.0*
*CSEM **14** 21:38:57.3,11.90N×43.87E,h10km,ML4.0*
*ISCJB **14** 21:38:58.9±0.8,11.89N±0.06×43.89E±0.06,h4km, mb3.4/5,MS3.1/1,Error ellipse: s-maj=11.8km s-min=4.3km az=42.8*
*IDC **14** 21:38:59.2±2.3,11.52N×44.02E,h0km,mb3.5/5, mb1 3.6/5,mb1mx3.3/25,mbtmp3.5/5,MS3.1/1,Ms1 3.1/1, ms1mx2.3/27,Error ellipse: s-maj=61.9km s-min=30.9km az=172.0*
*ARO **14** 21:39:01.2,12°N±4°×4°E±°,h11km±8km,ML3.8*
ISC 14 21:38:60.0±0.9,**11.94N**±0.06×**43.87E**±0.07,**h4km,n18,** σ1§**42/23,mb3.5/5,2C-1D,Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCAD	**Moucha**	**0.68**	**253**	*e*P	**Pg**	**21 39 13.0**	**0.0**
ATA	**Atar**	**0.81**	**234**	*e*P	**Pg**	**21 39 15.5**	**-0.1**
TDD	**Tadjoura Ara**	**0.96**	**262**	*e*P	**Pg**	**21 39 17.2**	**-1.1**
ATD	**Arta Tunnel**	**1.08**	**248**	*e*P	**Pg**	**21 39 19.7**	**-1.1**
ATD				*e*S	**Sg**	**21 39 34.8**	**-0.1**
TRBA	**At Turbah**	**1.31**	**10**	⇓*i*P	**Pn**	**21 39 22.9**	**-2.4**
TRBA				*i*S	**Sg**	**21 39 40.8**	**-1.3**
TRBA				AML	AML	21 39 46.1	
	comp=Z,3μm,0.5s						
SGH	**Sud-Ghoubbet**	**1.32**	**248**	*e*P	**Pn**	**21 39 23.6**	**-1.6**
GBR	**Grand-Bara**	**1.59**	**241**	*e*P	**Pn**	**21 39 27.4**	**-1.6**
BDHA	**Al Bayda'**	**2.61**	**39**	⇑*e*P	**Pn**	**21 39 42.3**	**-1.0**
BDHA				*i*S	**Sb**	**21 40 18.5**	**-1.6**
BDHA				AML	AML	21 40 33.0	
	comp=N,816nm,0.7s						
BDHA	**Al Bayda'**	**2.61**	**39**	⇑*e*P	**Pn**	**21 39 42.3**	**-1.0**
BDHA				*i*S	**Sb**	**21 40 18.5**	**-1.6**
	comp=N,408nm,0.7s						
DHBB	**Dhamar BB**	**2.67**	**11**	*i*P	**Pn**	**21 39 43.6**	**-0.4**
DHBB				*i*S	**Sb**	**21 40 20.7**	**-1.0**
HAJJ	**Hajjah**	**3.75**	**356**	*i*P	**Pn**	**21 39 58.2**	**-0.7**
HAJJ				*i*S	**Sn**	**21 40 45.6**	**+2.0**
HAJJ				AML	AML	21 40 59.5	
	comp=Z,673nm,0.7s						
HAJJ	**Hajjah**	**3.75**	**356**	*i*P	**Pn**	**21 39 58.2**	**-0.7**
HAJJ				*i*S	**Sn**	**21 40 45.6**	**+2.0**
	comp=Z,336nm,0.7s						
BRTR	**Keskin Array B**	**29.12**	**344**	P	P	21 45 06.2	+4.0
	comp=Z,0.3nm,0.7s,baz=143,slow=9.9,SNR=2.7						
TORD	**Torodi Ar. Bea**	**41.16**	**276**	P	**P**	**21 46 47.1**	**+1.2**
	comp=Z,0.9nm,1.0s,baz=96,slow=7.0,SNR=3.8						
GERES	**GERESS Array B**	**44.51**	**332**	LR	LR	22 06 02.9	
	comp=Z,24nm,19.5s,baz=48,slow=36						
MKAR	**Makanchi Array**	**47.46**	**35**	P	**P**	**21 47 37.6**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=243,slow=9.5,SNR=4.2						
ZALV	**Zalesovo Beam**	**52.94**	**29**	P	**P**	**21 48 19.2**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=231,slow=6.5,SNR=2.7						
CMAR	**Chiang Mai Arr**	**53.38**	**76**	P	**P**	**21 48 20.8**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=276,slow=9.0,SNR=3.7						

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*DHMR **14** 21:52:00.4±1.6,11.87N×43.82E,h7km±10km,ML3.9*
*ISCJB **14** 21:52:03.6±0.7,11.93N±0.06×43.84E±0.06,h4km, mb3.6/6,Error ellipse: s-maj=11.8km s-min=4.3km az=42.8*
*IDC **14** 21:52:04.2±2.0,11.62N×43.89E,h0km,mb3.6/6, mb1 3.7/6,mb1mx3.3/43,mbtmp3.6/6,MS3.1/1,Ms1 3.1/1, ms1mx2.4/25,Error ellipse: s-maj=55.6km s-min=27.5km az=173.0*
*ARO **14** 21:52:05.1,12°N±4°×4°E±°,h12km±8km,ML3.9*
ISC 14 21:52:04.8±0.8,**11.99N**±0.06×**43.81E**±0.07,**h4km,n18,** σ1§**47/21,mb3.7/6,1C,Ethiopia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCAD	**Moucha**	**0.63**	**246**	*e*P	**Pg**	**21 52 17.1**	**+0.1**
ATA	**Atar**	**0.79**	**228**	*e*P	**Pg**	**21 52 19.6**	**-0.3**
TDD	**Tadjoura Ara**	**0.90**	**258**	*e*P	**Pg**	**21 52 21.1**	**-0.9**
ATD	**Arta Tunnel**	**1.04**	**244**	*e*P	**Pg**	**21 52 23.8**	**-1.0**
ATD				*e*S	**Sb**	**21 52 38.8**	**-0.7**
SGH	**Sud-Ghoubbet**	**1.27**	**245**	*e*P	**Pg**	**21 52 27.5**	**-1.7**
TRBA	**At Turbah**	**1.27**	**14**	*e*P	**Pg**	**21 52 26.8**	**-2.5**
TRBA				*i*S	**Sg**	**21 52 45.5**	**-0.3**
TRBA				AML	AML	21 52 51.4	
	comp=E,2μm,0.6s						
GBR	**Grand-Bara**	**1.56**	**238**	*e*P	**Pn**	**21 52 31.7**	**-1.6**
BDHA	**Al Bayda'**	**2.62**	**41**	⇑*e*P	**Pn**	**21 52 46.5**	**-1.7**
BDHA				*i*S	**Sb**	**21 53 23.6**	**-1.5**
BDHA				AML	AML	21 53 38.4	
	comp=N,914nm,0.7s						
DHBB	**Dhamar BB**	**2.63**	**12**	*i*P	**Pn**	**21 52 47.9**	**-0.4**
DHBB				*i*S	**Sb**	**21 53 25.7**	**+0.1**
HAJJ	**Hajjah**	**3.70**	**357**	*i*P	**Pn**	**21 53 02.0**	**-0.9**
HAJJ				*i*S	**Sn**	**21 53 49.8**	**+2.8**
HAJJ				AML	AML	21 54 02.5	
	comp=Z,510nm,0.7s						
FURI	**Furi**	**5.90**	**239**	P	**Pb**	**21 53 46.9**	**-1.7**
FURI				S	Sb	21 55 06.2	+6.4
KMBO	**Kilima Mbogo**	**14.56**	**207**	LR	LR	22 01 00.9	
	comp=Z,65nm,18.7s,baz=94,slow=38						
BRTR	**Keskin Array B**	**29.06**	**344**	P	P	21 58 10.7	+4.2
	comp=Z,0.8nm,0.9s,baz=171,slow=9.9,SNR=4.6						
TORD	**Torodi Ar. Bea**	**41.09**	**276**	P	**P**	**21 59 50.8**	**+0.7**
	comp=Z,1.0nm,0.9s,baz=82,slow=6.6,SNR=5.4						
MKAR	**Makanchi Array**	**47.45**	**35**	P	**P**	**22 00 41.7**	**+1.0**
	comp=Z,0.7nm,0.9s,baz=224,slow=9.1,SNR=5.1						
KURBB	**Kurchatov Arra**	**47.83**	**29**	P	**P**	**22 00 45.5**	**+1.9**
	comp=Z,0.8nm,1.1s,baz=231,slow=5.9,SNR=3.7						
CMAR	**Chiang Mai Arr**	**53.43**	**76**	P	**P**	**22 01 26.9**	**+0.5**
	comp=Z,0.9nm,0.9s,baz=277,slow=9.1,SNR=6.7						
SONM	**Songino Array**	**62.87**	**42**	P	**P**	**22 02 33.8**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=224,slow=6.0,SNR=2.8						

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*IDC **14** 22:02:15.3±1.4,34.84S×72.30W,h0km,mb3.5/4, mb1 3.7/7,mb1mx3.6/28,mbtmp3.4/7,ML3.6/2,MS2.4/2, Ms1 2.5/2,ms1mx2.4/14,Error ellipse: s-maj=34.4km s-min=27.8km az=109.0*
*ISCJB **14** 22:02:16.1±1.0,34.84S±0.10×72.14W±0.2,h18km,mb3.5/4, MS3.0/1,Error ellipse: s-maj=19.8km s-min=11.1km az=29.5*
ISC 14 22:02:18.1±1.1,**34.8S**±0.1×**72.4W**±0.2,**h18km,n8,**σ1§**40/8, mb3.6/4,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.76**	**49**	Pn	**Pn**	**22 03 29.3**	**+0.3**
	0.1nm,0.3s,baz=225,slow=14,SNR=19						
CFAA				Sn	**Sn**	**22 04 25.2**	**+1.4**
	0.2nm,0.3s,baz=241,slow=19,SNR=2.1						
CFAA				LR	LR	22 05 23.6	
	comp=Z,8.4nm,18.7s,baz=252,slow=40						
PLCA	**Paso Flores**	**6.08**	**166**	Pn	**Pn**	**22 03 47.5**	**+0.4**
	0.4nm,0.3s,baz=332,slow=14,SNR=6.5						
PLCA				Lg	Lg	22 05 16.7	
	baz=350,slow=18,SNR=2.2						
LPAZ	**La Paz**	**18.86**	**13**	P	**Pn**	**22 06 37.9**	**-0.6**
	0.1nm,0.3s,baz=214,slow=11,SNR=2.0						
SIV	**San Ignacio**	**21.35**	**31**	P	**P**	**22 07 03.0**	**-1.4**
	1.3nm,0.6s,baz=215,slow=9.5,SNR=3.2						
BDFB	**Brasilia**	**29.07**	**55**	LR	LR	22 21 07.0	
	comp=Z,40nm,19.2s,baz=241,slow=39						
TXAR	**Lajitas Array**	**70.30**	**331**	P	**P**	**22 13 30.3**	**-0.2**
	0.3nm,0.5s,baz=158,slow=8.2,SNR=5.8						
PDAR	**Pinedale Array**	**84.36**	**333**	P	**P**	**22 14 50.9**	**+1.8**
	0.2nm,0.5s,baz=134,slow=5.2,SNR=3.2						
TORD	**Torodi Ar. Bea**	**84.80**	**70**	P	**P**	**22 14 50.2**	**-1.6**
	0.5nm,0.9s,baz=232,slow=2.2,SNR=2.5						

MEX 14 22:59:39.6±0.5,**16.98N×100.52W,h4km**±3km**,MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.25**	**74**	*i*P	Pg	22 59 44.2	-0.3
CAIG				*i*S	Sg	22 59 48.1	+0.2
ACP2	**Acapulco**	**0.62**	**99**	*i*P	Pg	22 59 50.5	-1.0
ACP2				*i*S	Sg	22 59 59.7	+0.2
ACX	**Acapulco**	**0.64**	**99**	*e*P	Pg	22 59 46.3	-5.7
ACX				*e*S	Sg	22 59 55.1	-5.3
ZIIG	**Zihuatanejo**	**1.10**	**305**	*e*P	Pg	22 59 58.0	-2.7
ZIIG				*i*S	Sg	23 00 12.6	-2.4
MEIG	**Mezcala**	**1.28**	**42**	*i*P	Pg	23 00 00.6	-3.7
MEIG				*i*S	Sg	23 00 16.6	-4.3
ARIG	**Puente Sto Nin**	**1.31**	**7**	*i*P	Pn	23 00 00.8	-3.9
ARIG				*i*S	Sg	23 00 17.3	-4.5
PLIG	**Platanillo**	**1.71**	**34**	*e*P	Pn	23 00 07.0	-3.3
PLIG				*i*S	Sn	23 00 28.2	-4.6
TLIG	**Tlapa**	**1.96**	**72**	*e*P	Pn	23 00 10.7	-3.1
TLIG				*i*S	Sn	23 00 33.9	-5.1
YAIG	**Yautepec**	**2.33**	**36**	*e*P	Pn	23 00 15.5	-3.5
YAIG				*i*S	Sn	23 00 43.5	-4.7

IDC 14 23:08:40.3±1.2,**23.96N×141.85E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.5/45,mbtmp3.7/5,Error ellipse: s-maj=46.7km s-min=26.7km az=88.0,Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.25**	**190**	P	P	23 16 51.5	-0.2
	1.0nm,0.4s,baz=8.8,slow=8.1,SNR=23						
MKAR	**Makanchi Array**	**52.27**	**312**	P	P	23 17 53.9	+0.4
	0.2nm,0.5s,baz=81,slow=7.5,SNR=4.4						
KURBB	**Kurchatov Arra**	**55.04**	**316**	P	P	23 18 13.2	-0.5
	0.3nm,0.6s,baz=94,slow=8.3,SNR=3.6						
SPITS	**Spitsbergen Ar**	**73.40**	**350**	P	P	23 20 14.2	+0.4
	4.3nm,1.0s,baz=88,slow=15,SNR=4.1						
YKA	**Yellowknife Ar**	**75.03**	**28**	P	P	23 20 23.3	-0.2
	0.1nm,0.3s,baz=294,slow=5.9,SNR=3.8						

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*IDC **14** 23:15:44.6±1.1,30.81S×177.80W,h0km,mb4.2/5, mb1 4.3/6,mb1mx4.0/28,mbtmp4.2/6,ML3.2/1,Error ellipse: s-maj=32.2km s-min=22.1km az=123.0*
*ISCJB **14** 23:15:48.5±2.4,30.7S±0.1×177.8W±0.4,h46km,mb4.2/5, Error ellipse: s-maj=52.4km s-min=7.7km az=14.0*
ISC 14 23:15:51.1±1.1,**30.64S**±0.09×**177.9W**±0.2,**h46km,n15,** σ1§**67/17,mb4.3/5,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.39**	**358**	Pn	**Pn**	**23 16 13.5**	**-0.5**
	228nm,0.3s,baz=197,slow=22,SNR=13						
RAO				Sn	**Sn**	**23 16 28.3**	**-2.8**
	1μm,0.3s,baz=143,slow=20,SNR=40						
RAO				LR	LR	23 16 37.4	
	comp=Z,60nm,18.1s,baz=137,slow=34						
URZ	**Urewera**	**8.65**	**207**	Pn	**Pn**	**23 17 51.1**	**-2.6**
	0.3nm,0.3s,baz=358,slow=6.1,SNR=4.1						
URZ				Sn	**Sn**	**23 19 30.4**	**+0.6**
	1.0nm,0.3s,baz=72,slow=20,SNR=8.3						
CTA	**Charters Tower**	**33.95**	**279**	P	**P**	**23 22 31.2**	**+1.0**
	2.6nm,0.6s,baz=120,slow=8.1,SNR=3.7						
STKA	**Stephens Creek**	**34.53**	**257**	P	**P**	**23 22 36.2**	**+1.1**
	5.0nm,0.8s,baz=96,slow=12,SNR=9.1						
ASAR	**Alice Springs**	**43.21**	**267**	P	**P**	**23 23 47.0**	**-0.8**
	1.1nm,0.6s,baz=105,slow=7.3,SNR=11						
WRA	**Warramunga Arr**	**44.22**	**272**	P	**P**	**23 23 54.7**	**-1.3**
	2.3nm,0.5s,baz=111,slow=8.0,SNR=28						
PETK	**Petropavlovsk-**	**86.07**	**346**	P	**P**	**23 28 28.8**	**+2.3**
	1.2nm,0.6s,baz=134,slow=8.2,SNR=3.0						
ZALV	**Zalesovo Beam**	**118.29**	**318**	PKP	**PKPdf**	**23 34 33.3**	**+0.5**
	0.2nm,0.3s,baz=252,slow=2.3,SNR=2.8						
KURBB	**Kurchatov Arra**	**121.33**	**314**	PKP	**PKPdf**	**23 34 40.9**	**+2.2**
	0.5nm,0.6s,baz=115,slow=2.3,SNR=5.0						
FINES	**FINESS Array B**	**145.41**	**340**	PKPbc	**PKPdf**	**23 35 21.9**	**-1.3**
	3.1nm,0.4s,baz=48,slow=2.1,SNR=28						
NB2	**NORSAR Subarra1**	**149.01**	**351**	PKP	**PKPbc**	**23 35 33.7**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=12,slow=3.5						
NOA	**NORSAR Array B**	**149.01**	**351**	PKPbc	**PKPbc**	**23 35 33.4**	**0.0**
	comp=Z,0.7nm,0.8s,baz=14,slow=4.2,SNR=3.8						
AKASG	**Malin Array Be**	**151.56**	**323**	PKPbc	**PKPbc**	**23 35 41.6**	**+1.8**
	comp=Z,0.5nm,0.4s,baz=51,slow=2.7,SNR=5.5						
BRTR	**Keskin Array B**	**152.81**	**298**	PKPbc	**PKPbc**	**23 35 44.1**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=140,slow=5.9,SNR=4.0						
TORD	**Torodi Ar. Bea**	**162.58**	**179**	PKPab	**PKPab**	**23 36 34.7**	**-1.9**
	comp=Z,0.7nm,1.1s,baz=193,slow=5.8,SNR=3.5						

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*IDC **14** 23:16:53.4±1.5,49.35N×35.13E,h0km,mb3.1/1, mb1 3.3/7,mb1mx3.1/29,mbtmp3.2/7,ML3.2/6,Error ellipse: s-maj=18.9km s-min=10.9km az=125.0*
ISC 14 23:16:52.5±1.9,**49.75N**±0.07×**35.3E**±0.1,**h10km,n20,** σ3§**03/17,6C-4D,Ukraine-Moldova-Southwestern Russia region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**3.98**	**286**	Pn	**Pn**	**23 17 56.6**	**+3.0**
	2.6nm,0.3s,baz=59,slow=32,SNR=10.0						
AKASG				Sn	**Sn**	**23 18 42.4**	**+2.1**
	9.8nm,0.3s,baz=118,slow=18,SNR=9.0						
AKASG				Lg	Lg	23 19 00.6	
	18nm,0.3s,baz=106,slow=30,SNR=8.6						
OBN	**Obninsk**	**5.44**	**8**	Pn	Pn	23 18 20.9	+7.3
	1.3nm,0.3s,baz=360,slow=24,SNR=5.3						
OBN				Lg	Lg	23 19 55.4	
	8.0nm,0.3s,baz=133,slow=24,SNR=11						
IAS	**Iasi**	**5.71**	**246**	⇓*i*P	Sb	23 19 33.4	-7.3
LEOM	**Leova**	**5.72**	**238**	⇓*i*P	**Sb**	**23 19 44.8**	**+3.9**
TLCR		**6.31**	**226**	⇑*i*P	**Sb**	**23 19 57.6**	**-0.3**
CFR	**Carcaliu**	**6.64**	**229**	⇑*i*P	**Sn**	**23 19 51.3**	**+5.5**
VRI	**Vrincioaia**	**6.93**	**239**	⇓*i*P	**Sb**	**23 20 15.5**	**-0.1**
BURAR	**Bucovina Array**	**6.98**	**256**	⇑*i*P	**Sn**	**23 19 50.5**	**-3.7**
TLB	**Topalu**	**7.12**	**226**	⇑*i*P	**Sn**	**23 20 02.0**	**+4.3**
CVD	**Cernavoda**	**7.33**	**225**	⇓*i*P	**Sn**	**23 20 00.7**	**-2.2**
MLR	**Muntele Rosu**	**7.59**	**239**	Pn	**Pn**	**23 18 42.4**	**-0.9**
	0.0nm,0.3s,baz=160,slow=6.8,SNR=9.0						
MLR				Sn	**Sn**	**23 20 06.3**	**-3.0**
	0.1nm,0.3s,baz=49,slow=20,SNR=2.2						
MLR	**Muntele Rosu**	**7.59**	**239**	⇑*i*P	Sn	23 20 02.0	-7.4
KWP	**Kalwaria Pacla**	**8.14**	**274**	⇑*i*P	**Sn**	**23 20 19.5**	**-3.1**
KOLS	**Kolonicke sedl**	**8.52**	**269**	*e*Pn	Pn	23 19 02.5	+6.7
KOLS				*e*		23 21 18.7	
STHS	**Stebnicka Huta**	**9.11**	**273**	*e*PN	**Pn**	**23 19 04.1**	**+0.1**
STHS				*e*		23 20 45.4	
FINES	**FINESS Array B**	**12.80**	**340**	Pn	**Pn**	**23 19 55.6**	**+1.3**
	0.4nm,0.3s,baz=154,slow=14,SNR=30						
HFS	**Hagfors**	**16.09**	**318**	Pn			
	0.2nm,0.3s,baz=132,slow=14,SNR=7.5						
NOA	**NORSAR Array B**	**17.60**	**319**	Pn	**Pn**	**23 20 55.4**	**-2.3**
	0.2nm,0.3s,baz=124,slow=11,SNR=2.9						
ARCES	**ARCESS Array B**	**20.40**	**350**	P	Pn	23 21 32.9	+1.5
	1.0nm,0.5s,baz=174,slow=11,SNR=30						
TORD	**Torodi Ar. Bea**	**45.68**	**229**	P	**P**	**23 25 11.7**	**-1.8**
	0.3nm,0.8s,baz=165,slow=36,SNR=2.5						

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*CSEM **14** 23:23:10.0±1.5,36.50N×30.93E,h10km,MD3.0,Error ellipse: s-maj=61.9km s-min=28.9km az=20.0*
DDA 14 23:23:15.6,35.61N×33.07E,h7km,MD3.0,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**0.88**	**316**	*i*P	Pb	23 23 33.3	+0.1
GAZI	**Gazipasa**	**0.88**	**316**	*i*P	Pb	23 23 33.3	+0.1
GAZI				*i*S	Sg	23 23 44.3	+0.4
ERMK	**Ermenek**	**1.04**	**353**	*i*P	Pb	23 23 36.6	+0.3
ERMK	**Ermenek**	**1.04**	**353**	*i*P	Pb	23 23 36.6	+0.3
ERMK				*i*S	Sg	23 23 49.5	-0.2

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*ISCJB **14** 23:41:05.6±0.4,32.66N±0.02×115.85W±0.02,h10km±3km, Error ellipse: s-maj=4.0km s-min=3.3km az=15.6*
*MEX **14** 23:41:05.6±1.1,32.92N×115.71W,h16km±34km,MD3.9*
*NEIC **14** 23:41:06.5,32.66N×115.86W,h4km,ML3.5(PAS),After PAS.*
*ECX **14** 23:41:06.7±0.6,32.67N×115.86W,h4km,MD3.4,ML3.6*
ISC 14 23:41:05.9±0.9,**32.64N**±0.02×**115.86W**±0.02,**h11km**±6km, **n38,**σ0§**82/50,9C-7D,California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.06**	**282**	⇑*i*P	**Pg**	**23 41 08.0**	**-0.1**
SGL	**Mount Signal**	**0.11**	**83**	⇑*i*P	**Pg**	**23 41 08.7**	**-0.1**
WESC	**Westside Schoo**	**0.16**	**41**	⇑*i*P	**Pg**	**23 41 09.4**	**-0.1**
RMX	**La Rumorosa**	**0.19**	**260**	⇑*i*P	**Pg**	**23 41 10.4**	**+0.4**
RMX				*e*S	**Sg**	**23 41 13.7**	**+0.7**
COK	**Cook Ranch**	**0.24**	**27**	⇑*i*P	**Pg**	**23 41 12.8**	**0.0**
CRR	**Carrizo Plain**	**0.27**	**340**	⇓*i*P	**Pg**	**23 41 11.1**	**-0.3**
CPBX	**Cerro Prieto**	**0.52**	**115**	*e*P	**Pg**	**23 41 16.5**	**+0.5**
CPBX				*i*S	**Sb**	**23 41 24.2**	**-0.2**
CPBX	**Cerro Prieto**	**0.52**	**115**	*e*P9	**Pg**	**23 41 16.8**	**+0.8**
CPBX				*e*S	**Sb**	**23 41 24.3**	**-0.2**
CPBX				IAML		23 41 27.4	
	comp=N,17μm,0.3s						
CPBX				⇓*e*		23 41 27.4	
MBIG	**Mexicali**	**0.60**	**112**	*e*P	**Pb**	**23 41 18.3**	**-0.2**
COA	**Coachella**	**0.66**	**70**	⇑*i*P	**Pg**	**23 41 18.5**	**-0.2**
BAR	**Barrett**	**0.69**	**274**	*e*Pg	**Pg**	**23 41 19.0**	**-0.2**
BAR				*e*Sg	**Sg**	**23 41 27.7**	**-0.5**
BAR	**Barrett**	**0.69**	**274**	⇑*e*P	**Pg**	**23 41 19.2**	**0.0**
BAR				*e*S	**Sg**	**23 41 28.0**	**-0.2**
RDX	**Rancho Dawling**	**0.71**	**186**	⇓*e*P	**Pg**	**23 41 19.7**	**0.0**
RDX				⇓*e*		23 41 30.4	
RDX				IAML		23 41 30.4	
	comp=N,1μm,0.3s						
EMSC	**East Mesa**	**0.74**	**82**	⇑*i*P	**Pg**	**23 41 20.1**	**-0.2**
CBX	**Cerro Bola**	**0.75**	**245**	*e*P	**Pg**	**23 41 20.5**	**+0.1**
CBX	**Cerro Bola**	**0.75**	**245**	*e*P	**Pg**	**23 41 20.5**	**+0.1**
CBX	**Cerro Bola**	**0.75**	**245**	⇑*e*P	**Pg**	**23 41 20.8**	**+0.3**
CBX				*e*S	**Sg**	**23 41 30.8**	**+0.5**
CBX				IAML		23 41 31.9	
	comp=N,2μm,0.2s						

CASM **Ain Smara** 1.95 85 P Pn 23 43 56.2 -0.8
CASM **Ain Smara** 1.95 85 P Pn 23 43 56.2 -0.8
CKFL **Kef-Lekhel** 2.14 82 P Pn 23 43 58.9 -0.8
CKFL **Kef-Lekhel** 2.14 82 P Pn 23 43 58.9 -0.8
CKFL **Kef-Lekhel** 2.14 82 P Pn 23 43 58.9 -0.8
CAEH **'Ain El Ouahch** 2.32 73 P Pn 23 43 57.9 -4.2
CAEH **'Ain El Ouahch** 2.32 73 P Pn 23 43 57.9 -4.2
CAEH **'Ain El Ouahch** 2.32 73 P Pn 23 43 57.9 -4.2
CMAH **Djebel Manchou** 2.73 79 P Pn 23 44 06.8 -1.0
CMAH **Djebel Manchou** 2.73 79 P Pn 23 44 06.8 -1.0
CMAH **Djebel Manchou** 2.73 79 P Pn 23 44 06.8 -1.0
ABSA **Djebel Ababsia** 2.75 86 P Pn 23 44 07.8 -0.2
ABSA **Djebel Ababsia** 2.75 86 P Pn 23 44 07.8 -0.2
CABS **Djebel Ababsia** 2.75 86 P Pn 23 44 07.8 -0.2
CABS **Djebel Ababsia** 2.75 86 P Pn 23 44 07.8 -0.2
OKGL **Djebel Kef Gue** 2.79 269 P Pn 23 44 08.2 -0.4
107nm,0.3s,SNR=7.9
OKGL S Sn 23 44 40.8 -1.6
90nm,1.7s,SNR=7.9
OKGL **Djebel Kef Gue** 2.79 269 P Pn 23 44 08.2 -0.4
107nm,0.3s,SNR=7.9
OKGL S Sn 23 44 40.8 -1.6
90nm,1.7s,SNR=7.9
EIBI **Ibiza** 3.62 324 P Pn 23 44 21.3 +1.3
51nm,0.4s,SNR=32
EIBI S Sn 23 45 04.9 +2.1
87nm,0.8s,SNR=4.9
EIBI **Ibiza** 3.62 324 P Pn 23 44 21.3 +1.3
51nm,0.4s,SNR=32
EIBI S Sn 23 45 04.9 +2.1
87nm,0.8s,SNR=4.9
ETOS **Mallorca** 3.77 345 P Pn 23 44 25.4 +3.4
38nm,0.6s,SNR=20
ETOS S Sn 23 45 09.4 +2.9
18nm,0.4s,SNR=10
ETOS **Mallorca** 3.77 345 P Pn 23 44 25.4 +3.4
38nm,0.6s,SNR=20
ETOS S Sn 23 45 09.4 +2.9
18nm,0.4s,SNR=10
KEST **Kesra** 4.28 94 Pn Pn 23 44 30.0 +0.8
3.2nm,0.3s,baz=300,slow=18,SNR=41
KEST Sn Sn 23 45 19.6 +0.4
2.3nm,0.3s,baz=149,slow=20,SNR=7.9
EBEN **Beniarda** 4.29 308 P Pn 23 44 30.7 +1.5
8.1nm,0.8s,SNR=7.3
EBEN **Beniarda** 4.29 308 P Pn 23 44 30.7 +1.5
8.1nm,0.8s,SNR=7.3
EMUR **La Murta** 4.60 293 P Pn 23 44 33.5 +0.1
16nm,0.3s,SNR=22
EMUR **La Murta** 4.60 293 P Pn 23 44 33.5 +0.1
16nm,0.3s,SNR=22
ENIJ **Nijar** 5.14 281 P Pn 23 44 39.9 -0.9
15nm,0.8s,SNR=7.9
ENIJ S Sn 23 45 37.9 -2.3
34nm,3.2s,SNR=7.9
ENIJ **Nijar** 5.14 281 P Pn 23 44 39.9 -0.9
15nm,0.8s,SNR=7.9
ENIJ S Sn 23 45 37.9 -2.3
34nm,3.2s,SNR=7.9
ETOB **Tobarra** 5.14 301 P Pn 23 44 41.9 +0.9
12nm,0.4s,SNR=22
ETOB S Sn 23 45 40.3 -0.1
57nm,1.2s
ETOB **Tobarra** 5.14 301 P Pn 23 44 41.9 +0.9
12nm,0.4s,SNR=22
ETOB S Sn 23 45 40.3 -0.1
57nm,1.2s
EMOS **Mosqueruela** 5.55 321 P Pn 23 44 48.9 +2.3
9.7nm,0.5s,SNR=15
EMOS S Sn 23 45 50.5 +0.1
61nm,1.4s
EMOS **Mosqueruela** 5.55 321 P Pn 23 44 48.9 +2.3
9.7nm,0.5s,SNR=15
EMOS S Sn 23 45 50.5 +0.1
61nm,1.4s
EHUE **Huescar** 5.61 289 P Pn 23 44 49.2 +1.9
7.3nm,0.3s,SNR=7.9
EHUE S Sn 23 45 49.9 -1.9
126nm,5.3s,SNR=7.9
EHUE **Huescar** 5.61 289 P Pn 23 44 49.2 +1.9
7.3nm,0.3s,SNR=7.9
EHUE S Sn 23 45 49.9 -1.9
126nm,5.3s,SNR=7.9
ERTA **Horta de San J** 5.65 330 P Pn 23 44 51.6 +3.8
17nm,0.6s,SNR=11
ERTA S Sn 23 45 53.0 +0.3
8.9nm,0.4s,SNR=5.6
ERTA **Horta de San J** 5.65 330 P Pn 23 44 51.6 +3.8
17nm,0.6s,SNR=11
ERTA S Sn 23 45 53.0 +0.3
8.9nm,0.4s,SNR=5.6
SESP **Santiago Espad** 5.66 293 P Pn 23 44 49.8 +1.6
18nm,0.5s,SNR=7.9
SESP S Sn 23 45 50.1 -3.2
596nm,4.5s,SNR=7.9
SESP **Santiago Espad** 5.66 293 P Pn 23 44 49.8 +1.6
18nm,0.5s,SNR=7.9
SESP S Sn 23 45 50.1 -3.2
596nm,4.5s,SNR=7.9
EBER **Berja** 5.67 280 P Pn 23 44 48.2 -0.1
12nm,0.3s,SNR=12
EBER S Sn 23 45 50.7 -2.9
92nm,1.2s,SNR=4.0
EBER **Berja** 5.67 280 P Pn 23 44 48.2 -0.1
12nm,0.3s,SNR=12
EBER S Sn 23 45 50.7 -2.9
92nm,1.2s,SNR=4.0
EPOB **Poblet** 5.72 337 P Pn 23 44 51.0 +2.1
4.5nm,0.4s,SNR=7.4
EPOB S Sn 23 45 55.5 +0.9
6.7nm,0.7s
EPOB **Poblet** 5.72 337 P Pn 23 44 51.0 +2.1
4.5nm,0.4s,SNR=7.4
EPOB S Sn 23 45 55.5 +0.9
6.7nm,0.7s
CFON **Fontmartina** 5.77 348 P Pn 23 44 51.0 +1.5
6.9nm,0.4s,SNR=10
CFON S Sn 23 45 57.3 +1.5
15nm,0.9s
CFON **Fontmartina** 5.77 348 P Pn 23 44 51.0 +1.5
6.9nm,0.4s,SNR=10
CFON S Sn 23 45 57.3 +1.5
15nm,0.9s
EVIA **Vianos** 5.81 297 P Pn 23 44 51.0 +0.8
19nm,0.4s,SNR=6.7
EVIA S Sn 23 45 55.6 -1.4
37nm,0.6s
EVIA **Vianos** 5.81 297 P Pn 23 44 51.0 +0.8
19nm,0.4s,SNR=6.7
EVIA S Sn 23 45 55.6 -1.4
37nm,0.6s
EQES **Quesada** 5.97 288 P Pn 23 44 53.5 +1.1
19nm,0.4s,SNR=35
EQES S Sn 23 45 57.6 -3.2
18nm,0.5s
EQES **Quesada** 5.97 288 P Pn 23 44 53.5 +1.1
19nm,0.4s,SNR=35
EQES S Sn 23 45 57.6 -3.2
18nm,0.5s
EMIR **Miracle** 6.11 342 P Pn 23 44 57.2 +3.0
18nm,0.4s,SNR=25
EMIR S Sn 23 46 04.1 -0.1
31nm,1.1s
EMIR **Miracle** 6.11 342 P Pn 23 44 57.2 +3.0
18nm,0.4s,SNR=25
EMIR S Sn 23 46 04.1 -0.1
31nm,1.1s
EQUE **Quentar** 6.15 282 P Pn 23 44 54.8 +0.1
16nm,0.5s,SNR=34
EQUE S Sn 23 46 01.9 -3.3
12nm,0.8s
EQUE **Quentar** 6.15 282 P Pn 23 44 54.8 +0.1
16nm,0.5s,SNR=34
EQUE S Sn 23 46 01.9 -3.3
12nm,0.8s
EGUA **Guajares** 6.21 279 P Pn 23 44 55.8 +0.3
8.8nm,0.5s,SNR=7.9
EGUA S Sn 23 46 02.8 -3.7
80nm,1.8s,SNR=7.9
EGUA **Guajares** 6.21 279 P Pn 23 44 55.8 +0.3
8.8nm,0.5s,SNR=7.9
EGUA S Sn 23 46 02.8 -3.7
80nm,1.8s,SNR=7.9
SELV **Sierra Elvira** 6.38 282 P Pn 23 44 58.9 +1.0
6.5nm,0.6s,SNR=4.0
SELV **Sierra Elvira** 6.38 282 P Pn 23 44 58.9 +1.0
6.5nm,0.6s,SNR=4.0
EJON **La Jonquera** 6.38 352 P Pn 23 45 01.4 +3.5
17nm,0.8s,SNR=11
EJON S Sn 23 46 12.0 +1.3
64nm,1.4s
EJON **La Jonquera** 6.38 352 P Pn 23 45 01.4 +3.5
17nm,0.8s,SNR=11
EJON S Sn 23 46 12.0 +1.3
64nm,1.4s
SJAF **Saint Jean de** 6.42 352 P Pn 23 45 00.6 +2.3
2.0nm,0.3s,SNR=7.9
SJAF S Sn 23 46 12.5 +0.9
25nm,8.6s,SNR=7.9
SJAF **Saint Jean de** 6.42 352 P Pn 23 45 00.6 +2.3
2.0nm,0.3s,SNR=7.9
SJAF S Sn 23 46 12.5 +0.9
25nm,8.6s,SNR=7.9
VALF **Valcebollere** 6.47 346 P Pn 23 45 03.6 +4.4
FILF **Fillols** 6.53 350 P Pn 23 45 04.5 +4.5
CLLI **Llivia** 6.55 346 P Pn 23 45 03.3 +3.0
2.2nm,0.5s,SNR=7.9
CLLI S Sn 23 46 15.9 +0.8
20nm,4.3s,SNR=7.9
CLLI **Llivia** 6.55 346 P Pn 23 45 03.3 +3.0
2.2nm,0.5s,SNR=7.9
CLLI S Sn 23 46 15.9 +0.8
20nm,4.3s,SNR=7.9
EBAN **Banos Encina** 6.61 290 P Pn 23 45 00.9 -0.1
1.0nm,0.3s,SNR=7.9
EBAN S Sn 23 46 13.4 -3.1
478nm,4.4s,SNR=7.9
EBAN **Banos Encina** 6.61 290 P Pn 23 45 00.9 -0.1
1.0nm,0.3s,SNR=7.9
EBAN S Sn 23 46 13.4 -3.1
478nm,4.4s,SNR=7.9
ESAC **San Caprasio** 6.62 329 P Pn 23 45 03.9 +2.7
5.6nm,0.3s,SNR=7.9
ESAC S Sn 23 46 18.6 +1.9
55nm,1.3s,SNR=7.9
ESAC **San Caprasio** 6.62 329 P Pn 23 45 03.9 +2.7
5.6nm,0.3s,SNR=7.9
ESAC S Sn 23 46 18.6 +1.9
55nm,1.3s,SNR=7.9
CSOR **Sort** 6.64 341 P Pn 23 45 04.5 +2.9
3.5nm,0.4s,SNR=6.0
CSOR S Sn 23 46 18.1 +0.7
4.7nm,6.5s,SNR=7.9
CSOR **Sort** 6.64 341 P Pn 23 45 04.5 +2.9
3.5nm,0.4s,SNR=6.0
CSOR S Sn 23 46 18.1 +0.7
4.7nm,6.5s,SNR=7.9
ETOR **Torete** 6.72 316 P Pn 23 45 05.0 +2.4
10nm,0.5s,SNR=5.8
ETOR S Sn 23 46 24.6 +5.4
12nm,0.6s,SNR=7.9
ETOR **Torete** 6.72 316 P Pn 23 45 05.0 +2.4
10nm,0.5s,SNR=5.8
ETOR S Sn 23 46 24.6 +5.4
12nm,0.6s,SNR=7.9
EMIJ **Mijas** 7.17 276 P Pn 23 45 08.8 +0.1
0.6nm,0.2s,SNR=7.9
EMIJ S Sn 23 46 25.1 -5.0
2.7nm,0.6s,SNR=7.9
EMIJ **Mijas** 7.17 276 P Pn 23 45 08.8 +0.1
0.6nm,0.2s,SNR=7.9
EMIJ S Sn 23 46 25.1 -5.0
2.7nm,0.6s,SNR=7.9
EADA **Adamuz** 7.21 289 P Pn 23 45 10.1 +0.7
0.6nm,0.3s,SNR=7.9
EADA S Sn 23 46 43.0 +12
SNR=7.9
EADA **Adamuz** 7.21 289 P Pn 23 45 10.1 +0.7
0.6nm,0.3s,SNR=7.9
EADA S Sn 23 46 43.0 +12
SNR=7.9
ESDC **Sonseca Array** 7.28 301 P Pn 23 45 11.4 +1.1
2.0nm,0.5s,baz=117,slow=13,SNR=11
ESDC **Sonseca Array** 7.28 301 Pn Pn 23 45 11.3 +1.1
1.2nm,0.3s,baz=117,slow=13,SNR=18
ESDC **Sonseca Array** 7.28 301 P Pn 23 45 11.4 +1.1
2.0nm,0.5s,SNR=11
MTLF **Montolieu** 7.34 349 ePn Pn 23 45 10.0 -1.1
MTLF **Montolieu** 7.34 349 P Pn 23 45 10.0 -1.1
MTLF **Montolieu** 7.34 349 P Pn 23 45 10.0 -1.1
LMR **La Mourre** 7.43 14 ePn Pn 23 45 11.3 -1.0
LMR eSn Sn 23 46 33.6 -3.0
4.5nm,0.5s
LMR **La Mourre** 7.43 14 P Pn 23 45 11.3 -1.0
LMR S Sn 23 46 33.6 -3.0
2.2nm,0.5s
LMR **La Mourre** 7.43 14 ePn Pn 23 45 11.3 -1.0
LMR eSn Sn 23 46 33.6 -3.0
2.2nm,0.5s
PGF **Pioggiola** 7.45 29 ePn Pn 23 45 11.4 -1.3
PGF eSn Sn 23 46 34.1 -3.2
14nm,0.6s
PGF **Pioggiola** 7.45 29 P Pn 23 45 11.4 -1.3
PGF S Sn 23 46 34.1 -3.2
6.9nm,0.6s
PGF **Pioggiola** 7.45 29 P Pn 23 45 11.4 -1.3
PGF S Sn 23 46 34.1 -3.2
6.9nm,0.6s
EPF **Esparros** 7.47 338 ePn Pn 23 45 12.1 -0.8
EPF eSn Sn 23 46 34.4 -3.4
16nm,0.9s
EPF **Esparros** 7.47 338 P Pn 23 45 12.1 -0.8
EPF S Sn 23 46 34.4 -3.4
8.2nm,0.9s
EPF **Esparros** 7.47 338 P Pn 23 45 12.1 -0.8
EPF S Sn 23 46 34.4 -3.4
8.2nm,0.9s
ETSF **Etsaut** 7.65 333 ePn Pn 23 45 14.0 -1.4
ETSF eSn Sn 23 46 38.6 -3.6
45nm,1.3s
ETSF **Etsaut** 7.65 333 P Pn 23 45 14.0 -1.4
ETSF S Sn 23 46 38.6 -3.6
23nm,1.3s
ETSF **Etsaut** 7.65 333 ePn Pn 23 45 14.0 -1.4
ETSF eSn Sn 23 46 38.6 -3.6
23nm,1.3s
FRF **La Foret Royal** 7.68 14 ePn Pn 23 45 14.7 -1.0
FRF eSn Sn 23 46 39.6 -3.1
5.0nm,0.5s
FRF **La Foret Royal** 7.68 14 P Pn 23 45 14.7 -1.0
FRF S Sn 23 46 39.6 -3.1
2.5nm,0.5s
FRF **La Foret Royal** 7.68 14 P Pn 23 45 14.7 -1.0
FRF S Sn 23 46 39.6 -3.1
2.5nm,0.5s
ECAB **El Cabril** 7.84 287 P Pn 23 45 17.5 -0.5
3.1nm,0.5s,SNR=6.8
ECAB S Sn 23 46 52.9 +6.1
1.2nm,0.5s,SNR=7.9
ECAB **El Cabril** 7.84 287 P Pn 23 45 17.5 -0.5
3.1nm,0.5s,SNR=6.8
ECAB S Sn 23 46 52.9 +6.1
1.2nm,0.5s,SNR=7.9
IELO **Elcoad** 7.87 330 P Pn 23 45 20.2 +1.9
1.1nm,0.5s,SNR=7.9
IELO **Elcoad** 7.87 330 P Pn 23 45 20.2 +1.9
1.1nm,0.5s,SNR=7.9
ATE **Arette** 7.87 333 P Pn 23 45 20.2 +1.9
0.8nm,0.3s,SNR=7.9
ATE S Sn 23 46 46.8 -0.6
SNR=7.9
ATE **Arette** 7.87 333 P Pn 23 45 20.2 +1.9
0.8nm,0.3s,SNR=7.9
ATE S Sn 23 46 46.8 -0.6
SNR=7.9
MDT **Midelt** 7.91 248 Pn Pn 23 45 17.3 -1.7
0.7nm,0.3s,baz=69,slow=17,SNR=22
SMRF **Simiane la Rot** 7.92 8 ePn Pn 23 45 17.9 -1.1
SMRF **Simiane la Rot** 7.92 8 ePn Pn 23 45 17.9 -1.1
LASF **Ste Croix** 7.94 359 ePn Pn 23 45 18.4 -0.9
LASF eSn Sn 23 46 45.9 -3.2
53nm,1.4s
LASF **Ste Croix** 7.94 359 ePn Pn 23 45 18.4 -0.9
LASF eSn Sn 23 46 45.9 -3.2
27nm,1.4s
SJPF **Ste Jean** 8.09 331 ePn Pn 23 45 19.9 -1.4
SJPF **Ste Jean** 8.09 331 ePn Pn 23 45 19.9 -1.4
SBF **Sospel** 8.14 17 ePn Pn 23 45 21.0 -1.0
SBF **Sospel** 8.14 17 ePn Pn 23 45 21.0 -1.0
EALK **Alkurruntz** 8.29 330 P Pn 23 45 26.7 +2.7
1.3nm,0.3s,SNR=6.2
EALK S Sn 23 46 57.4 -0.3
13nm,0.6s,SNR=7.9
EALK **Alkurruntz** 8.29 330 P Pn 23 45 26.7 +2.7
1.3nm,0.3s,SNR=6.2
EALK S Sn 23 46 57.4 -0.3
13nm,0.6s,SNR=7.9
VIVF **Saint-Julien-l** 8.73 3 ePn Pn 23 45 29.0 -1.1
VIVF **Saint-Julien-l** 8.73 3 ePn Pn 23 45 29.0 -1.1
EMIN **Mina Concepcio** 8.77 284 P Pn 23 45 30.7 +0.1
0.4nm,0.2s,SNR=7.9
EMIN **Mina Concepcio** 8.77 284 P Pn 23 45 30.7 +0.1
0.4nm,0.2s,SNR=7.9
MBDF **Montbardon** 8.83 13 ePn Pn 23 45 30.6 -1.0
MBDF eSn Sn 23 47 07.2 -4.0
18nm,0.9s
MBDF **Montbardon** 8.83 13 ePn Pn 23 45 30.6 -1.0
MBDF eSn Sn 23 47 07.2 -4.0
9.0nm,0.9s
ORIF **Oris-en-Rattie** 8.88 8 ePn Pn 23 45 31.0 -1.3
ORIF **Oris-en-Rattie** 8.88 8 ePn Pn 23 45 31.0 -1.3
CAF **Calviac** 8.92 351 ePn Pn 23 45 31.7 -1.0
CAF **Calviac** 8.92 351 ePn Pn 23 45 31.7 -1.0
LBL **Lubilhac** 9.12 356 P Pn 23 45 37.4 +2.0
LFF **La Frestale** 9.16 345 ePn Pn 23 45 34.7 -1.3
LFF **La Frestale** 9.16 345 ePn Pn 23 45 34.7 -1.3
EBAD **Badajoz** 9.21 290 P Pn 23 45 37.7 +1.0
5.4nm,1.0s,SNR=4.0
EBAD **Badajoz** 9.21 290 P Pn 23 45 37.7 +1.0
5.4nm,1.0s,SNR=4.0
RJF **Les Rejaudoux** 9.37 349 ePn Pn 23 45 37.6 -1.3
RJF **Les Rejaudoux** 9.37 349 ePn Pn 23 45 37.6 -1.3
LPG **La Plagne** 9.57 11 ePn Pn 23 45 40.7 -1.2
LPG eSn Sn 23 47 25.4 -4.3
14nm,0.9s
LPG **La Plagne** 9.57 11 ePn Pn 23 45 40.7 -1.2
LPG eSn Sn 23 47 25.4 -4.3
6.8nm,0.9s
LPL **La Plagne** 9.59 11 ePn Pn 23 45 41.0 -1.1
LPL eSn Sn 23 47 25.5 -4.4
3.9nm,0.6s
LPL **La Plagne** 9.59 11 ePn Pn 23 45 41.0 -1.1
LPL eSn Sn 23 47 25.5 -4.4
2.0nm,0.6s
PYM **Petit Puy Mans** 9.65 355 P Pn 23 45 45.0 +2.3
PLDF **La Plantade** 9.84 358 P Pn 23 45 46.5 +1.2
PLDF **La Plantade** 9.84 358 P Pn 23 45 46.5 +1.2
EARI **Arriondas** 10.12 318 P Pn 23 45 51.6 +2.4
14nm,0.6s,SNR=7.4
EARI **Arriondas** 10.12 318 P Pn 23 45 51.6 +2.4
14nm,0.6s,SNR=7.4
ECAL **Calabor** 10.22 308 P Pn 23 45 51.9 +1.3
6.8nm,0.4s,SNR=7.9
ECAL **Calabor** 10.22 308 P Pn 23 45 51.9 +1.3
6.8nm,0.4s,SNR=7.9
TCF **Toulx Ste Croi** 10.25 353 ePn Pn 23 45 49.8 -1.1
TCF **Toulx Ste Croi** 10.25 353 ePn Pn 23 45 49.8 -1.1
SMF **Signal de Mont** 10.51 359 ePn Pn 23 45 53.4 -1.1
SMF **Signal de Mont** 10.51 359 ePn Pn 23 45 53.4 -1.1
CABF **La Chapelle** 10.58 8 ePn Pn 23 45 54.4 -1.1
CABF **La Chapelle** 10.58 8 ePn Pn 23 45 54.4 -1.1
AVF **Avril sur Loir** 10.67 357 ePn Pn 23 45 55.5 -1.1
AVF **Avril sur Loir** 10.67 357 ePn Pn 23 45 55.5 -1.1
SSF **Saint Saulge** 10.93 358 ePn Pn 23 45 59.1 -1.1
SSF **Saint Saulge** 10.93 358 ePn Pn 23 45 59.1 -1.1
MFF **Saint Martin d** 10.93 344 ePn Pn 23 45 58.8 -1.5
MFF **Saint Martin d** 10.93 344 ePn Pn 23 45 58.8 -1.5
LOR **Lormes** 11.13 359 ePn Pn 23 46 01.9 -1.1
baz=172
LOR **Lormes** 11.13 359 ePn Pn 23 46 01.9 -1.1
DAVOX **Davos/Dischmat** 11.49 20 Pn Pn 23 46 09.1 +1.1
0.0nm,0.3s,baz=141,slow=5.8,SNR=3.6
DAVOX LR LR 23 50 21.6
comp=Z,86nm,19.2s,baz=240,slow=36
HINF **Hinteralfeld** 11.86 9 ePn Pn 23 46 11.8 -1.1
HINF **Hinteralfeld** 11.86 9 ePn Pn 23 46 11.8 -1.1
HAU **Haudompre** 11.98 7 ePn Pn 23 46 13.6 -1.1
HAU **Haudompre** 11.98 7 ePn Pn 23 46 13.6 -1.1
SFTF **Sexfontaines** 12.09 3 ePn Pn 23 46 14.9 -1.1
SFTF **Sexfontaines** 12.09 3 ePn Pn 23 46 14.9 -1.1
MEZF **Maizieres J'vi** 12.38 3 ePn Pn 23 46 18.8 -1.3
MEZF **Maizieres J'vi** 12.38 3 ePn Pn 23 46 18.8 -1.3
PAGF **Fort de Pagny** 12.48 5 ePn Pn 23 46 19.9 -1.4
PAGF **Fort de Pagny** 12.48 5 ePn Pn 23 46 19.9 -1.4
CDF **Champ du Feu** 12.50 10 ePn Pn 23 46 20.3 -1.4
CDF **Champ du Feu** 12.50 10 ePn Pn 23 46 20.3 -1.4
GRR **Gorron** 12.78 345 ePn Pn 23 46 24.1 -1.4
GRR **Gorron** 12.78 345 ePn Pn 23 46 24.1 -1.4
LDF **La Druitiere** 12.84 347 ePn Pn 23 46 24.9 -1.4
LDF **La Druitiere** 12.84 347 ePn Pn 23 46 24.9 -1.4
QUIF **Quistinic** 12.95 338 ePn Pn 23 46 26.2 -1.5
QUIF **Quistinic** 12.95 338 ePn Pn 23 46 26.2 -1.5
FLN **La Foliniere** 13.06 347 ePn Pn 23 46 27.9 -1.5
FLN **La Foliniere** 13.06 347 ePn Pn 23 46 27.9 -1.5
ROSF **Rostrenen** 13.35 338 ePn Pn 23 46 31.6 -1.7
ROSF **Rostrenen** 13.35 338 ePn Pn 23 46 31.6 -1.7
BAIF **Baives** 13.92 0 ePn Pn 23 46 39.5 -1.6
BAIF **Baives** 13.92 0 ePn Pn 23 46 39.5 -1.6
GERES **GERESS Array B** 14.54 26 Pn Pn 23 46 50.5 +0.9
0.1nm,0.3s,baz=209,slow=11,SNR=6.1
GERES LR LR 23 52 12.7
comp=Z,53nm,21.1s,baz=228,slow=36
KHC **Kasperske Hory** 14.73 25 eP Pn 23 46 53.8 +1.6
KHC AMS AMS 23 53 10.0
comp=Z,100nm,14.7s
PKSM **Moragy** 14.86 43 ⇓↓P P 23 46 59.3 -0.4
GOPC **GO Pecny, Ondr** 15.82 26 AMS AMS 23 54 00.0
comp=Z,100nm,15.4s
VRAC **Vranov** 16.03 31 LR LR 23 53 19.1
comp=Z,41nm,18.5s,baz=236,slow=37
VRAC **Vranov** 16.03 31 ⇑↓P P 23 47 16.1 +3.4
VTS **Vitosha** 16.12 61 ⇓↓P P 23 47 13.1 -0.8
VYHS **Vyhne** 16.44 37 eP P 23 47 24.0 +6.7
PSZ **Piszkesteto** 16.59 40 ⇑↓P P 23 47 21.8 +2.7
SIRR **Siria** 16.62 47 ⇑↓P P 23 47 21.8 +2.5
MORC **Moravsky Berou** 16.79 31 ⇑↓P P 23 47 23.0 +1.9
GZR **Gura Zlata** 16.88 51 ⇓↓P P 23 47 24.5 +2.3
IDI **Anoyia** 16.92 87 Pn P 23 47 21.6 -1.1
0.4nm,0.3s,baz=300,slow=11,SNR=8.5
KDZ **Kurdzhali** 17.48 65 ⇓↓P P 23 47 28.5 -0.3
LOT **Lotru** 17.53 52 ⇓↓P P 23 47 29.4 -0.1
VOIR 18.35 53 ⇑↓P P 23 47 41.2 +2.7
KOLS **Kolonicke sedl** 18.47 41 eP Pn 23 47 42.7 +3.0
DOPR **Dopca** 18.78 52 ⇑↓P Pn 23 47 45.8 +2.2
MLR **Muntele Rosu** 18.95 54 P Pn 23 47 46.3 +0.5
0.0nm,0.3s,baz=218,slow=3.3,SNR=6.1
MLR **Muntele Rosu** 18.95 54 ⇓↓P Pn 23 47 47.9 +2.1
KWP **Kalwaria Pacla** 19.12 39 ⇓↓P Pn 23 47 50.3 +2.7
ISR **Istrita** 19.22 55 ⇑↓P Pn 23 47 51.6 +2.7
BURAR **Bucovina Array** 19.41 47 ⇑↓P Pn 23 47 54.6 +3.4
PLOR **Plostina** 19.55 53 ⇑↓P Pn 23 47 54.8 +2.0
VRI **Vrincioaia** 19.60 53 ⇑↓P Pn 23 47 58.5 +5.0
EKA **Eskdalemuir Ar** 19.84 348 P Pn 23 47 58.0 +1.8
baz=154,slow=12,SNR=2.8
PSN **Preselentsi** 19.92 60 ⇑↓P Pn 23 47 57.0 -0.2
TLB **Topalu** 20.06 58 ⇑↓P Pn 23 47 58.5 -0.4
TIRR **Tirgusor** 20.28 58 ⇑↓P P 23 47 53.9 -5.6
CFR **Carcaliu** 20.30 56 ⇑↓P Pn 23 48 00.3 -1.4
LEOM **Leova** 20.81 53 ⇓↓P Pn 23 48 08.4 +0.8
TORD **Torodi Ar. Bea** 22.98 186 P P 23 48 27.0 -1.7
2.9nm,0.8s,baz=0.8,slow=10,SNR=17
AKASG **Malin Array Be** 23.20 43 P P 23 48 29.4 -1.3
1.0nm,0.4s,baz=238,slow=9.6,SNR=7.0
BRTR **Keskin Array B** 23.53 72 P P 23 48 33.1 -1.2
1.3nm,0.9s,baz=264,slow=11,SNR=6.8
HFS **Hagfors** 24.81 11 P P 23 48 45.9 +0.1
0.6nm,0.6s,baz=205,slow=9.5,SNR=3.6
HFS LR LR 23 57 46.9
comp=Z,33nm,18.6s,baz=205,slow=35
NOA **NORSAR Array B** 25.34 8 P P 23 48 51.2 +0.6
0.2nm,0.5s,baz=175,slow=9.7,SNR=2.7
NOA LR LR 23 59 22.1
comp=Z,18nm,18.2s,baz=195,slow=38
MMAI **Mount Meron Ar** 25.91 88 P P 23 48 56.4 +0.3
0.5nm,0.5s,baz=297,slow=9.5,SNR=3.3
FINES **FINESS Array B** 28.89 22 P P 23 49 22.7 +0.2
0.7nm,0.6s,baz=203,slow=6.0,SNR=3.1
GEYT **Alibeck** 42.66 71 P P 23 51 21.4 +0.8
1.4nm,0.7s,baz=278,slow=10,SNR=3.6
MKAR **Makanchi Array** 57.30 53 P P 23 53 11.2 -0.5
2.8nm,0.6s,baz=280,slow=10,SNR=37
YKA **Yellowknife Ar** 70.16 334 P P 23 54 36.3 +0.1
0.3nm,0.6s,baz=50,slow=6.2,SNR=8.8
BDFB **Brasilia** 71.23 233 P P 23 54 41.7 -1.8
0.8nm,0.4s,baz=64,slow=12,SNR=2.6
SONM **Songino Array** 71.49 44 P P 23 54 43.5 -1.3
0.2nm,0.5s,baz=283,slow=7.2,SNR=1.9
HHC **Hu-ho-hao-te** 78.58 48 eP P 23 55 28.3 +2.5
HHC **Hu-ho-hao-te** 78.58 48 sP sP 23 55 35.4 +5.1

HHC	**Hu-ho-hao-te**	**78.58**	**48**	PP	PP	23 58 27.6	+4.6		
HHC	comp=Z,13nm,0.7s			pmax	pmax				
HHC	comp=Z,49nm,5.2s			pmax	pmax				
HHC	comp=N,140nm,14.6s			LR	LR				
HHC	comp=E,120nm,14.8s			LR	LR				
HHC	comp=Z,43nm,13.6s			LR	LR				
PDAR	**Pinedale Array**	**80.91**	**317**	P	**P**	**23 55 39.5**	**+0.9**		
	comp=Z,0.5nm,0.7s,baz=45,slow=8.6,SNR=4.6								
CMAR	**Chiang Mai Arr**	**83.12**	**72**	P	**P**	**23 55 50.1**	**-0.2**		
	comp=Z,0.3nm,0.3s,baz=318,slow=8.0,SNR=4.9								
MJAR	**Matsushiro Arr**	**96.08**	**36**	LR	LR	00 42 59.7			
	comp=Z,202nm,21.3s,baz=120,slow=37								
WRA	**Warramunga Arr**	**133.72**	**83**	PKP	**PKPdf**	**00 02 42.4**	**+1.1**		
	comp=Z,0.5nm,1.1s,baz=188,slow=23,SNR=3.4								

HEL 14 23:45:08.1±0.4, 67.75N×19.96E, h0km, ML1.5, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LANU	**Lannavaara**	**0.82**	**67**	PG	Pg	23 45 23.1	-0.8
LANU				SG	Sg	23 45 33.5	-1.1
KIF	**Kilpisjarvi**	**1.30**	**13**	SG	Sg	23 45 48.8	-1.0
HEF	**Hetta**	**1.54**	**63**	PG	Pn	23 45 35.8	-1.0
HEF	baz=245			MSG		23 45 54.2	
	comp=Z,3.8nm,0.2s						
KALU	**Kalix**	**2.32**	**143**	SG	Sg	23 46 22.0	-0.6
SGF	**Sodankyl**	**2.53**	**94**	PG	Pb	23 45 53.7	-0.7
SGF				SG	Sb	23 46 27.1	+1.0
RNF	**Rovaniemi**	**2.62**	**113**	PG	Pb	23 45 54.5	-1.4
RNF	baz=303			SG	Sb	23 46 28.0	-0.6

*ISCJB **14** 23:59:07.3±1.0, 17.84S±0.07×69.6W±0.1, h126km, mb3.9/4, Error ellipse: s-maj=20.0km s-min=9.4km az=9.2*
*IDC **14** 23:59:09.7±1.4, 17.89S×69.40W, h138km±10km, mb3.7/5, mb1 3.7/8, mb1mx3.4/29, mbtmp4.1/8, MS2.8/1, Ms1 2.8/1, ms1mx2.3/20, Error ellipse: s-maj=25.8km s-min=10.2km az=101.0*

ISC 14 23:59:09.0±1.1, 17.89S±0.07×69.4W±0.2, h126km, n9, σ1$77/9, mb3.9/4, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.01**	**38**	P	**Pn**	**23 59 45.4**	**+1.9**
LPAZ	2.2nm,0.3s,baz=245,slow=2.5,SNR=72			S	**Sn**	**00 00 11.9**	**+2.1**
	1.3nm,0.3s,baz=313,slow=19,SNR=6.5						
LVC	**Limon Verde**	**4.72**	**174**	P	**Pn**	**00 00 21.1**	**+2.5**
LVC	105nm,0.3s,baz=352,slow=13,SNR=75			S	**Sn**	**00 01 13.5**	**+0.8**
	163nm,0.3s,baz=77,slow=22,SNR=18						
SIV	**San Ignacio**	**8.21**	**78**	P	**Pn**	**00 01 04.2**	**-1.1**
	2.4nm,0.3s,baz=275,slow=15,SNR=25						
PTGA	**Pitinga**	**19.42**	**30**	LR	LR	00 10 40.3	
	comp=Z,29nm,18.2s,baz=58,slow=36						
BDFB	**Brasilia**	**20.62**	**87**	P	Pn	00 03 39.9	-2.2
	2.3nm,0.4s,baz=269,slow=11,SNR=5.8						
DBIC	**Dimbokro**	**68.22**	**75**	P	**P**	**00 09 56.0**	**-0.5**
	4.1nm,1.0s,baz=256,slow=16,SNR=3.3						
ULM	**Lac du Bonnet**	**71.75**	**342**	P	**P**	**00 10 16.1**	**-1.2**
	0.9nm,0.4s,baz=135,slow=5.7,SNR=4.2						
TORD	**Torodi Ar. Bea**	**76.63**	**71**	P	**P**	**00 10 45.3**	**-1.1**
	0.4nm,0.4s,baz=255,slow=5.8,SNR=20						
YKA	**Yellowknife Ar**	**87.64**	**341**	P	**P**	**00 11 42.5**	**-0.1**
	0.6nm,0.5s,baz=133,slow=4.8,SNR=17						

*ISCJB **15** 00:00:42.0±0.9, 35.9N±0.1×4.0E±0.0°05, h9km±6km, Error ellipse: s-maj=17.6km s-min=6.3km az=9.1*
*CRAAG **15** 00:00:41.0, 35.97N×4.10E, Ml4.7*
*CSEM **15** 00:00:42.4±0.4, 35.95N×4.05E, h2km, mb4.0, Error ellipse: s-maj=15.5km s-min=5.5km az=5.0*
*MDD **15** 00:00:43.1±0.6, 35.92N×4.04E, h0km, mb4.0/12, Error ellipse: s-maj=14.7km s-min=3.9km az=17.0, PRXIMO*

ISC 15 00:00:42.4±1.3, 35.97N±0.06×4.08E±0.02, h6km±11km, n56, σ1$01/56, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKET	**Djebel Ketaf**	**0.18**	**296**	P	**Pg**	**00 00 45.9**	**-0.2**
AKET	**Djebel Ketaf**	**0.18**	**296**	P	**Pg**	**00 00 45.9**	**-0.2**
AKET	**Djebel Ketaf**	**0.18**	**296**	P	**Pg**	**00 00 45.9**	**-0.2**
ATAF	**Djebel Tarf**	**0.18**	**121**	P	**Pg**	**00 00 46.0**	**0.0**
ATAF	**Djebel Tarf**	**0.18**	**121**	P	**Pg**	**00 00 46.0**	**0.0**
ATAF	**Djebel Tarf**	**0.18**	**121**	P	**Pg**	**00 00 46.0**	**0.0**
ADJB	**Djebel Djouab**	**0.56**	**290**	P	**Pg**	**00 00 53.3**	**+0.2**
ADJB	**Djebel Djouab**	**0.56**	**290**	P	**Pg**	**00 00 53.3**	**+0.2**
ADJB	**Djebel Djouab**	**0.56**	**290**	P	**Pg**	**00 00 53.3**	**+0.2**
EMHD	**Djebel Mahouad**	**0.95**	**285**	P	**Pn**	**00 01 01.5**	**-0.9**
EMHD	**Djebel Mahouad**	**0.95**	**285**	P	**Pn**	**00 01 01.5**	**-0.9**
EMHD	**Djebel Mahouad**	**0.95**	**285**	P	**Pn**	**00 01 01.5**	**-0.9**
SET	**Setif**	**1.09**	**77**	P	**Pg**	**00 01 04.0**	**+0.7**
SET	**Setif**	**1.09**	**77**	P	**Pg**	**00 01 04.0**	**+0.7**
SET	**Setif**	**1.09**	**77**	P	**Pg**	**00 01 04.0**	**+0.7**
DFRA	**Djebel Bou Aff**	**1.56**	**68**	P	**Pb**	**00 01 12.6**	**+0.9**
DFRA	**Djebel Bou Aff**	**1.56**	**68**	P	**Pb**	**00 01 12.6**	**+0.9**
DFRA	**Djebel Bou Aff**	**1.56**	**68**	P	**Pb**	**00 01 12.6**	**+0.9**
CASM	**Ain Smara**	**1.97**	**81**	P	**Pb**	**00 01 18.4**	**-0.3**
CASM	**Ain Smara**	**1.97**	**81**	P	**Pb**	**00 01 18.4**	**-0.3**
CASM	**Ain Smara**	**1.97**	**81**	P	**Pb**	**00 01 18.4**	**-0.3**
EBNR	**Beni Rached**	**2.09**	**280**	P	Pn	00 01 10.9	-7.2
EBNR	**Beni Rached**	**2.09**	**280**	P	Pn	00 01 10.9	-7.2
ECHA	**Ech Chlef**	**2.21**	**276**	P	Pn	00 01 13.2	-6.4
ECHA	**Ech Chlef**	**2.21**	**276**	P	Pn	00 01 13.2	-6.4
ECHF	**Ech Chlef**	**2.23**	**276**	P	Pn	00 01 13.2	-6.7
ETRT	**Tiaret**	**2.34**	**257**	P	Pn	00 01 15.8	-5.7
ETRT	**Tiaret**	**2.34**	**257**	P	Pn	00 01 15.8	-5.7
ETRT	**Tiaret**	**2.34**	**257**	P	Pn	00 01 15.8	-5.7
EANR	**'Ain N'Sour**	**2.42**	**270**	P	**Pb**	**00 01 26.6**	**+0.2**
EANR	**'Ain N'Sour**	**2.42**	**270**	P	**Pb**	**00 01 26.6**	**+0.2**
EANR	**'Ain N'Sour**	**2.42**	**270**	P	**Pb**	**00 01 26.6**	**+0.2**
OKGL	**Djebel Kef Gue**	**2.79**	**272**	P	**Pn**	**00 01 25.9**	**-1.8**
	65nm,0.8s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**2.79**	**272**	P	**Pn**	**00 01 25.9**	**-1.8**
	65nm,0.8s,SNR=7.9						
EIBI	**Ibiza**	**3.75**	**325**	P	**Pn**	**00 01 41.1**	**+0.3**
	6.6nm,0.5s,SNR=7.9						
EIBI	**Ibiza**	**3.75**	**325**	P	**Pn**	**00 01 41.1**	**+0.3**
	6.6nm,0.5s,SNR=7.9						
ETOS	**Mallorca**	**3.92**	**346**	P	**Pn**	**00 01 42.5**	**-0.7**
	13nm,1.0s,SNR=7.9						
ETOS				S	**Sn**	**00 02 26.7**	**-3.0**
	SNR=7.9						
ETOS	**Mallorca**	**3.92**	**346**	P	**Pn**	**00 01 42.5**	**-0.7**
	13nm,1.0s,SNR=7.9						
ETOS				S	**Sn**	**00 02 26.7**	**-3.0**
	SNR=7.9						
EBEN	**Beniarda**	**4.39**	**310**	P	**Pn**	**00 01 50.7**	**+1.1**
	3.2nm,0.8s,SNR=7.9						
EBEN	**Beniarda**	**4.39**	**310**	P	**Pn**	**00 01 50.7**	**+1.1**
	3.2nm,0.8s,SNR=7.9						
EMUR	**La Murta**	**4.66**	**295**	P	**Pn**	**00 01 53.5**	**+0.1**
	4.9nm,0.3s,SNR=13						
EMUR				S	**Sn**	**00 02 48.3**	**+0.5**
	17nm,0.8s						
EMUR	**La Murta**	**4.66**	**295**	P	**Pn**	**00 01 53.5**	**+0.1**
	4.9nm,0.3s,SNR=13						
EMUR				S	**Sn**	**00 02 48.3**	**+0.5**
	17nm,0.8s						
ENIJ	**Nijar**	**5.17**	**283**	P	**Pn**	**00 01 58.9**	**-1.4**
	9.3nm,0.7s,SNR=7.9						
ENIJ	**Nijar**	**5.17**	**283**	P	**Pn**	**00 01 58.9**	**-1.4**
	9.3nm,0.7s,SNR=7.9						
ETOB	**Tobarra**	**5.22**	**302**	P	**Pn**	**00 02 02.0**	**+0.8**
	3.3nm,0.6s,SNR=5.7						
ETOB				S	**Sn**	**00 03 03.5**	**+1.7**
	79nm,1.7s						
ETOB	**Tobarra**	**5.22**	**302**	P	**Pn**	**00 02 02.0**	**+0.8**
	3.3nm,0.6s,SNR=5.7						
ETOB				S	**Sn**	**00 03 03.5**	**+1.7**
	79nm,1.7s						
EHUE	**Huescar**	**5.66**	**291**	P	**Pn**	**00 02 08.1**	**+0.9**
	1.4nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**5.66**	**291**	P	**Pn**	**00 02 08.1**	**+0.9**
	1.4nm,0.3s,SNR=7.9						
EBER	**Berja**	**5.70**	**281**	P	**Pn**	**00 02 07.4**	**-0.4**
	1.4nm,0.3s,SNR=7.9						
EBER	**Berja**	**5.70**	**281**	P	**Pn**	**00 02 07.4**	**-0.4**
	1.4nm,0.3s,SNR=7.9						
EQES	**Quesada**	**6.02**	**290**	P	**Pn**	**00 02 13.2**	**+1.1**
	2.1nm,0.3s,SNR=12						
EQES				S	**Sn**	**00 03 22.1**	**+0.6**
	4.2nm,0.5s						
EQES	**Quesada**	**6.02**	**290**	P	**Pn**	**00 02 13.2**	**+1.1**
	2.1nm,0.3s,SNR=12						
EQES				S	**Sn**	**00 03 22.0**	**+0.6**
	4.2nm,0.5s						
EQUE	**Quentar**	**6.18**	**284**	P	**Pn**	**00 02 14.8**	**+0.5**
	2.1nm,0.5s,SNR=5.7						
EQUE	**Quentar**	**6.18**	**284**	P	**Pn**	**00 02 14.8**	**+0.5**
	2.1nm,0.5s,SNR=5.7						
EMIR	**Miracle**	**6.26**	**342**	P	**Pn**	**00 02 14.6**	**-0.8**
	4.6nm,0.5s,SNR=7.9						
EMIR	**Miracle**	**6.26**	**342**	P	**Pn**	**00 02 14.6**	**-0.8**
	4.6nm,0.5s,SNR=7.9						

*IDC **15** 00:08:42.3±0.6, 16.56S×177.16E, h0km, mb4.4/18, mb1 4.6/19, mb1mx4.5/25, mbtmp4.4/19, MS4.2/22, Ms1 4.2/22, ms1mx4.2/27, Error ellipse: s-maj=22.0km s-min=14.6km az=128.0*
*NEIC **15** 00:08:43.5±4.5, 16.69S×177.28E, h10km±27km, mb4.9/54, Error ellipse: s-maj=10.1km s-min=6.0km az=160.0*
NEIC Felt at Lautoka and Nandi.
*BJI **15** 00:08:43.2, 16.80S×177.30E, h9km, mb4.8/22, mB5.1/16, Ms4.7/15, Ms7 4.5/15*
*MOS **15** 00:08:45.8±1.2, 16.69S×177.18E, h33km, mb5.0/25, Error ellipse: s-maj=11.3km s-min=9.7km az=50.1*
*ISCJB **15** 00:08:45.7±0.2, 16.77S±0.04×177.30E±0.04, h33km, mb4.7/76, MS4.3/26, Error ellipse: s-maj=6.7km s-min=5.2km az=144.9*
*GCMT **15** 00:08:47.3±0.2, 16.58S×177.26E, h15km±1km, MW5.1/98, Moment Tensor Solution. s52,c68; s98,c150; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.15±.14; Mθθ2.92±.12; Mφφ-1.77±.12; Mrθ1.24±.38; Mφθ4.19±.11; Mφr-2.64±.47; Best double couple: Mo5.68300×10^16 NP1:φs19.00000°,δ71.00000°,λ-155.00000°. NP2: φs280.00000°,δ67.00000°,λ-21.00000°. Principal axes: T 5.3890, Plg3.0000°, Azm149.0000°; N 0.5880, Plg59.0000°, Azm54.0000°; P -5.9770, Plg31.0000°, Azm240.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 15 00:08:47.3±0.4, 16.80S±0.06×177.43E±0.08, h35km, n207, σ1$34/207, mb4.7/76, MS4.3/26, 6C-1D, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**1.10**	**147**	↑*i*P	**Pn**	**00 09 05.4**	**-1.0**
MSVF				*e*		00 09 20.5	
MSVF	**Nonsavu**	**1.10**	**147**	↑*i*Pg	**Pn**	**00 09 05.4**	**-1.0**
MSVF				*e*Sg	**Sn**	**00 09 20.4**	**0.0**
DZM	**Mont Dzumac**	**11.61**	**241**	Pn	**Pn**	**00 11 29.1**	**-1.6**
	baz=90,slow=20						
DZM				LR	LR	00 15 18.5	
	comp=Z,3μm,20.5s,baz=1.0,slow=34						
RAO	**Raoul Island**	**13.11**	**162**	LR	LR	00 16 11.4	
	comp=Z,2μm,18.4s,baz=354,slow=34						
OUZ	**Omahuta**	**18.66**	**190**	*e*P	Pn	00 13 09.0	+6.2
URZ	**Urewera**	**21.38**	**181**	P	**P**	**00 13 33.8**	**+2.0**
	15nm,0.9s,baz=26,slow=6.9,SNR=4.3						
URZ				LR	LR	00 20 05.5	
	comp=Z,746nm,20.0s,baz=5.0,slow=32						
EIDS	**Eidsvold**	**25.98**	**246**	*e*P	**P**	**00 14 17.0**	**+0.1**
	120nm,2.8s						
ARMA	**Armidale**	**27.17**	**235**	*e*P	**P**	**00 14 26.6**	**-1.1**
	53nm,1.5s						
RPZ	**Rata Peaks**	**27.37**	**190**	P	**P**	**00 14 32.0**	**+2.8**
	8.5nm,0.9s,baz=354,slow=4.3,SNR=1.9						
RPZ				LR	LR	00 23 16.1	
	comp=Z,465nm,21.3s,baz=356,slow=32						
RMQ	**Roma**	**28.28**	**245**	P	**P**	**00 14 39.1**	**+1.5**
	baz=28,SNR=5.7						
CTA	**Charters Tower**	**29.73**	**259**	P	**P**	**00 14 48.9**	**-1.6**
	12nm,0.9s,baz=81,slow=9.3,SNR=10						
CTA				LR	LR	00 24 24.6	
	comp=Z,652nm,20.3s,baz=64,slow=32						
CTAO	**Charters Tower**	**29.73**	**259**	*e*P	**P**	**00 14 49.0**	**-1.6**
CTAO				pmax	pmax		
	comp=Z,19nm,1.0s						
CTAO	**Charters Tower**	**29.73**	**259**	*e*P	**P**	**00 14 49.0**	**-1.6**
	comp=Z,19nm,1.0s						
YNG	**Young**	**31.30**	**231**	P	**P**	**00 15 06.7**	**+2.4**
	baz=31,SNR=7.6						
PPT2	**Papeete2**	**31.51**	**96**	*e*LQ	LQ	00 22 08.6	
	comp=Z,2μm,26.2s						
PPT	**Papeete**	**31.52**	**96**	LR	LR	00 25 35.2	
	comp=Z,102nm,19.1s,baz=271,slow=32						
TBI	**Tubuai**	**31.73**	**107**	*e*LQ	LQ	00 22 13.2	
	comp=Z,2μm,28.8s						
TBI				*e*LR	LR	00 23 37.4	
	comp=Z,653nm,29.8s						
QLP	**Quilpie**	**32.26**	**247**	P	**P**	**00 15 12.0**	**-0.8**
	baz=32,SNR=12						
CMSA	**Cobar Meteorol**	**32.31**	**237**	P	**P**	**00 15 13.4**	**+0.2**
	baz=32,SNR=14						
TOO	**Toolangi**	**34.88**	**227**	P	**P**	**00 15 37.1**	**+1.5**
	baz=35,SNR=4.3						
STKA	**Stephens Creek**	**35.74**	**238**	P	**P**	**00 15 43.0**	**0.0**
	comp=Z,13nm,1.0s,baz=64,slow=7.1,SNR=14						
STKA				LR	LR	00 28 52.3	
	comp=Z,675nm,20.4s,baz=56,slow=34						
STKA	**Stephens Creek**	**35.74**	**238**	*e*P	**P**	**00 15 43.1**	**+0.1**
STKA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
STKA	**Stephens Creek**	**35.74**	**238**	P	**P**	**00 15 43.5**	**+0.5**
	baz=36,SNR=11						
STKA	**Stephens Creek**	**35.74**	**238**	*e*P	**P**	**00 15 43.1**	**+0.1**
	comp=Z,3.8nm,1.1s						
JAY	**Jayapura**	**38.78**	**287**	LR	LR	00 31 52.6	
	comp=Z,301nm,18.5s,baz=66,slow=36						
BBOO	**Buckleboo**	**40.51**	**239**	P	**P**	**00 16 23.9**	**+0.8**
	baz=40,SNR=5.1						
BBOO	**Buckleboo**	**40.51**	**239**	*e*P	**P**	**00 16 22.3**	**-0.8**
	comp=Z,212nm,2.5s						
WRAB	**Tennant Creek**	**40.92**	**259**	*e*P	**P**	**00 16 23.9**	**-2.8**
WRAB				pmax	pmax		
	comp=Z,12nm,1.0s						
WRA	**Warramunga Arr**	**40.93**	**259**	P	**P**	**00 16 23.8**	**-3.0**
	comp=Z,4.8nm,1.0s,baz=91,slow=8.9,SNR=17						
WRA				LR	LR	00 31 15.5	
	comp=Z,432nm,21.2s,baz=105,slow=33						
AS01	**Alice Springs**	**41.24**	**253**	*e*P	**P**	**00 16 27.8**	**-1.6**
ASAR	**Alice Springs**	**41.28**	**253**	P	**P**	**00 16 27.4**	**-2.2**
	comp=Z,9.9nm,0.9s,baz=82,slow=8.8,SNR=43						
ASAR				LR	LR	00 31 59.5	
	comp=Z,852nm,21.8s,baz=90,slow=34						
GUMO	**Guam**	**44.11**	**311**	LR	LR	00 32 52.8	
	comp=Z,159nm,21.8s,baz=110,slow=33						
WRKA	**Warakurna**	**46.41**	**251**	P	**P**	**00 17 09.5**	**-1.4**
	baz=46,SNR=4.9						
SIJI	**Sorong**	**48.11**	**284**	LR	LR	00 36 29.4	
	comp=Z,260nm,20.4s,slow=35						
VNDA	**Vanda**	**61.24**	**184**	LR	LR	00 42 36.1	
	comp=Z,85nm,19.0s,baz=25,slow=33						
SBA	**Scott Base**	**61.31**	**183**	*e*P	**P**	**00 19 01.1**	**+2.2**
SBA				pmax	pmax		
	comp=Z,15nm,1.1s						
SBA	**Scott Base**	**61.31**	**183**	*e*P	**P**	**00 19 01.1**	**+2.2**
	comp=Z,15nm,1.1s						
MJAR	**Matsushiro Arr**	**64.70**	**326**	P	**P**	**00 19 20.2**	**-1.8**
	comp=Z,3.4nm,1.0s,baz=161,slow=7.7,SNR=6.5						
MAJO	**Matsushiro**	**64.70**	**326**	*e*P	**P**	**00 19 21.3**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,28nm,1.2s						
YSS	**Yuzh-Sakhalins**	**70.71**	**336**	*e*P	P	00 20 02.5	+2.9
YSS				pmax	pmax		
	comp=Z,9.0nm,1.3s						
KSRS	**Korea Array**	**71.27**	**320**	P	**P**	**00 20 02.7**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=127,slow=6.9,SNR=3.7						
KSRS				LR	LR	00 46 06.7	
	comp=Z,194nm,22.0s,baz=119,slow=32						
KSAR	**Wonju Array Be**	**71.29**	**320**	P	**P**	**00 20 02.7**	**-0.6**
KSAR	**Wonju Array Be**	**71.29**	**320**	P	**P**	**00 20 02.7**	**-0.6**
PEA0	**Petropavlovsk-**	**71.67**	**348**	*e*P	**P**	**00 20 06.0**	**+0.7**
PETK	**Petropavlovsk-**	**71.67**	**348**	P	**P**	**00 20 03.2**	**-2.2**
	comp=Z,6.8nm,1.0s,baz=151,slow=13,SNR=5.7						
PETK				LR	LR	00 46 58.9	
	comp=Z,133nm,20.1s,baz=170,slow=32						
USRK	**Ussuriysk Ar.**	**73.51**	**328**	P	**P**	**00 20 15.3**	**-1.2**
	comp=Z,2.1nm,0.9s,baz=111,slow=6.5,SNR=2.3						
USRK				LR	LR	00 46 35.4	
	comp=Z,237nm,22.0s,baz=136,slow=31						
NJ2	**Nanjing**	**74.19**	**311**	*e*P	**P**	**00 20 22.0**	**+1.3**
NJ2				PMZ			
	comp=Z,30nm,0.6s						
MDJ	**Mudanjiang**	**75.04**	**327**	P	**P**	**00 20 27.4**	**+2.0**
MDJ				PMZ			
	comp=Z,6.0nm,0.5s						
MDJ				PMZ			
	comp=Z,14nm,2.6s						
QIZ	**Qiongzhong**	**75.38**	**295**	P	**P**	**00 20 29.0**	**+1.1**
QIZ				S	S	00 30 11.6	+6.0
QIZ				LE			
	comp=Z,84nm,19.2s						
QIZ				LZ			
	comp=Z,210nm,17.5s						
CN2	**Changchun**	**76.76**	**324**	*e*P	**P**	**00 20 37.4**	**+2.2**
CN2				PMZ			
	comp=Z,10.0nm,1.0s						
CN2				PMZ			
	comp=Z,80nm,3.0s						
WDC	**Whiskeytown Da**	**79.73**	**42**	*e*P	**P**	**00 20 51.8**	**+0.1**
WDC				pmax	pmax		
	comp=Z,12nm,1.4s						
WDC	**Whiskeytown Da**	**79.73**	**42**	*e*P	**P**	**00 20 51.8**	**+0.1**
	comp=Z,12nm,1.4s						
CMB	**Columbia Colle**	**79.83**	**45**	*e*P	**P**	**00 20 52.1**	**-0.3**
CMB				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CMB	**Columbia Colle**	**79.83**	**45**	*e*P	**P**	**00 20 52.1**	**-0.3**
	comp=Z,5.3nm,1.0s						
ISA	**Isabella, Lake**	**79.98**	**48**	*e*P	**P**	**00 20 54.1**	**+0.8**
ISA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ISA	**Isabella, Lake**	**79.98**	**48**	*e*P	**P**	**00 20 54.1**	**+0.8**
	comp=Z,7.4nm,1.0s						
BJI	**Beijing**	**80.23**	**317**	P	**P**	**00 20 55.6**	**+1.2**
BJI				S	S	00 31 06.5	+9.3
BJI				SS	**SS**	**00 36 08.5**	**-0.7**
BJI				PMZ			
	comp=Z,7.0nm,0.5s						
BJI				LN			
	comp=Z,140nm,28.8s						
BJI				LE			
	comp=Z,100nm,30.1s						
YBH	**Yreka Blue Hor**	**80.25**	**41**	*e*P	**P**	**00 20 55.3**	**+0.7**
YBH				pmax	pmax		
	comp=Z,9.0nm,1.1s						
YBH	**Yreka Blue Hor**	**80.25**	**41**	*e*P	**P**	**00 20 55.2**	**+0.7**
	comp=Z,8.5nm,1.1s						
PFO	**Pinyon Flats O**	**80.48**	**51**	*e*P	**P**	**00 20 56.6**	**+0.5**
PFO				pmax	pmax		
	comp=Z,7.0nm,1.1s						
PFO	**Pinyon Flats O**	**80.48**	**51**	*e*P	**P**	**00 20 56.6**	**+0.5**
	comp=Z,7.4nm,1.1s						
HUMO	**Hull Mountain**	**80.57**	**40**	*e*P	**P**	**00 20 57.7**	**+1.4**
	comp=Z,9.5nm,1.1s						
DAC	**Darwin (Calif)**	**80.90**	**48**	*e*P	**P**	**00 20 58.9**	**+0.5**
DAC				pmax	pmax		
	comp=Z,16nm,1.6s						
DAC	**Darwin (Calif)**	**80.90**	**48**	*e*P	**P**	**00 20 58.9**	**+0.5**
	comp=Z,16nm,1.6s						
GYA	**Guiyang**	**81.05**	**301**	*e*P	**P**	**00 21 01.0**	**+1.7**
GYA				PMZ			
	comp=Z,10.0nm,1.0s						
NV01	**Mina Array Sit**	**81.44**	**46**	*e*P	**P**	**00 21 00.4**	**-0.9**
NVAR	**Mina Array Bea**	**81.44**	**46**	P	**P**	**00 21 01.8**	**+0.6**
	comp=Z,3.5nm,1.0s,baz=227,slow=8.8,SNR=18						
SEY	**Seymchan**	**81.86**	**349**	*e*P	**P**	**00 21 01.5**	**-1.1**
K05A	**Summer Lake**	**81.92**	**41**	*e*P	**P**	**00 21 04.5**	**+0.9**
LDFC	**Landfair**	**82.14**	**50**	*e*P	**P**	**00 21 05.0**	**+0.1**
TPNV	**Topopah Spring**	**82.17**	**48**	*e*P	**P**	**00 21 05.5**	**+0.4**
TPNV				pmax	pmax		
	comp=Z,11nm,1.3s						
TPNV	**Topopah Spring**	**82.17**	**48**	*e*P	**P**	**00 21 05.5**	**+0.4**
	comp=Z,11nm,1.3s						
E03A	**Lebam**	**82.39**	**37**	*e*P	**P**	**00 21 06.9**	**+1.2**
	comp=Z,28nm,1.1s						
XAN	**Xi'an**	**82.45**	**309**	P	P	00 21 10.9	+4.5
XAN				PMZ			
	comp=Z,2.0nm,0.9s						
XAN				PMZ			
	comp=Z,16nm,5.3s						
F04A	**Amboy**	**82.71**	**38**	*e*P	**P**	**00 21 08.1**	**+0.7**
	comp=Z,61nm,1.9s						
SHPR	**Sheep Range**	**82.75**	**49**	*e*P	**P**	**00 21 08.8**	**+0.7**
WVOR	**Wild Horse Val**	**83.20**	**42**	*e*P	**P**	**00 21 11.2**	**+1.0**
WVOR				pmax	pmax		
	comp=Z,12nm,1.2s						
WVOR	**Wild Horse Val**	**83.20**	**42**	*e*P	**P**	**00 21 11.2**	**+1.0**
	comp=Z,12nm,1.2s						
HIA	**Hailar**	**83.20**	**326**	*e*P	**P**	**00 21 10.1**	**+0.2**
HIA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
R11A	**Troy Canyon, C**	**83.29**	**47**	*e*P	**P**	**00 21 11.0**	**+0.2**
	comp=Z,4.7nm,1.1s						
I07A	**Izee**	**83.48**	**40**	*e*P	**P**	**00 21 11.7**	**0.0**
	comp=Z,7.5nm,0.9s						
MAW	**Mawson**	**83.52**	**201**	P	**P**	**00 21 12.0**	**+0.7**
	comp=Z,6.5nm,1.1s,baz=63,slow=4.4,SNR=5.1						
MAW				LR	LR	00 55 15.4	
	comp=Z,85nm,20.3s,baz=62,slow=33						
MAW	**Mawson**	**83.52**	**201**	P	**P**	**00 21 12.0**	**+0.7**
MAW				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MAW	**Mawson

	comp=Z,90nm,8.4s							
CD2				LE				
	comp=Z,170nm,20.5s							
CD2				LZ				
	comp=Z,180nm,20.5s							
BMO	**Blue Mountains**	**85.23**	**40**	*e*P	**P**		**00 21 20.9**	**+0.4**
	comp=Z,3.5nm,1.0s							
CCB	**Clear Creek Bu**	**85.44**	**14**	*e*P	**P**		**00 21 22.3**	**+1.5**
	comp=Z,7.1nm,1.1s							
MFID	**Camas Ranch**	**85.48**	**42**	*e*P	**P**		**00 21 22.2**	**+0.4**
	comp=Z,8.7nm,1.1s							
COLA	**College**	**85.62**	**14**	*e*P	**P**		**00 21 23.6**	**+1.9**
MSU	**Marysvale**	**85.76**	**48**	*e*P	**P**		**00 21 23.5**	**+0.1**
MSU	**Marysvale**	**85.76**	**48**	*e*P	**P**		**00 21 23.5**	**+0.1**
IL1	**Eielson Array**	**85.76**	**15**	*e*P	**P**		**00 21 22.2**	**-0.3**
ILAR	**Eielson Array**	**85.76**	**15**	P	**P**		**00 21 21.4**	**-1.2**
	comp=Z,1.1nm,0.9s,baz=231,slow=6.1,SNR=7.9							
ILAR				LR	LR		00 56 16.6	
	comp=Z,78nm,18.4s,baz=254,slow=33							
B08A	**Colville Reser**	**85.78**	**37**	*e*P	**P**		**00 21 22.2**	**-0.8**
	comp=Z,13nm,1.6s							
F10A	**Beach Ranch, E**	**85.83**	**39**	*e*P	**P**		**00 21 23.4**	**0.0**
	comp=Z,8.7nm,1.0s							
DUG	**Dugway, Tooele**	**86.04**	**46**	*e*P	**P**		**00 21 25.4**	**+0.7**
DUG				pmax	pmax			
	comp=Z,6.0nm,1.2s							
DUG	**Dugway, Tooele**	**86.04**	**46**	*e*P	**P**		**00 21 25.4**	**+0.7**
	comp=Z,5.8nm,1.2s							
DLBC	**Dease Lake**	**86.44**	**25**	*e*P	**P**		**00 21 26.9**	**+0.8**
HLID	**Hailey**	**86.46**	**43**	*e*P	**P**		**00 21 27.4**	**+0.7**
	comp=Z,5.8nm,1.0s							
HVU	**Hansel Valley**	**86.75**	**45**	*e*P	**P**		**00 21 29.0**	**+0.9**
HVU	**Hansel Valley**	**86.75**	**45**	*e*P	**P**		**00 21 28.9**	**+0.9**
NEW	**Newport**	**87.01**	**37**	*e*P	**P**		**00 21 29.3**	**+0.2**
NEW				pmax	pmax			
	comp=Z,37nm,2.5s							
NEW	**Newport**	**87.01**	**37**	*e*P	**P**		**00 21 29.3**	**+0.2**
	comp=Z,37nm,2.5s							
LZH	**Lanzhou**	**87.08**	**309**	*e*P	**P**		**00 21 30.6**	**+0.7**
LZH				pP	**PcP**		**00 21 34.0**	**+2.0**
LZH				sP	sP		00 21 35.5	-10
LZH				PMZ				
	comp=Z,16nm,1.0s							
LZH				PMZ				
	comp=Z,83nm,5.0s							
LZH				LN				
	comp=Z,240nm,15.9s							
LZH				LE				
	comp=Z,200nm,16.3s							
LZH				LZ				
	comp=Z,260nm,17.9s							
YAK	**Yakutsk**	**87.11**	**340**	*e*P	**P**		**00 21 27.6**	**-1.5**
YAK				pmax	pmax			
	comp=Z,14nm,0.6s							
SRU	**San Rafael Swe**	**87.18**	**48**	*e*P	**P**		**00 21 30.1**	**-0.2**
SRU				pmax	pmax			
	comp=Z,9.0nm,1.3s							
SRU	**San Rafael Swe**	**87.18**	**48**	*e*P	**P**		**00 21 30.1**	**-0.2**
	comp=Z,8.6nm,1.3s							
HWUT	**Hardware Ranch**	**87.49**	**45**	*e*P	**P**		**00 21 31.3**	**-0.5**
	comp=Z,4.9nm,1.1s							
MCMT	**McKenzie Canyo**	**88.03**	**42**	*e*P	**P**		**00 21 35.0**	**+0.7**
BSMT	**Bassoo Peak**	**88.19**	**39**	*e*P	**P**		**00 21 35.0**	**+0.1**
MSO	**Missoula**	**88.24**	**40**	*e*P	**P**		**00 21 35.1**	**0.0**
	comp=Z,17nm,1.8s							
ANMO	**Albuquerque**	**88.57**	**53**	*e*P	**P**		**00 21 38.2**	**+1.1**
ANMO				pmax	pmax			
	comp=Z,15nm,1.2s							
ANMO	**Albuquerque**	**88.57**	**53**	*e*P	**P**		**00 21 37.2**	**+0.2**
	comp=Z,3.9nm,1.1s							
SLMT	**Seeley Lake**	**88.70**	**40**	*e*P	**P**		**00 21 37.4**	**+0.1**
CHMT	**Chamberlain Mo**	**88.70**	**40**	*e*P	**P**		**00 21 37.3**	**-0.1**
FXWY	**Fox Creek**	**88.71**	**44**	*e*P	**P**		**00 21 36.9**	**-0.7**
	comp=Z,15nm,1.7s							
REDW	**Red Top Meadow**	**88.71**	**44**	*e*P	**P**		**00 21 36.0**	**-1.5**
	comp=Z,17nm,1.3s							
LRM	**Limekiln Ridge**	**88.72**	**41**	*e*P	**P**		**00 21 36.2**	**-1.3**
TX31	**Lajitas Ar. Si**	**88.80**	**59**	*e*P	**P**		**00 21 37.0**	**-1.2**
TXAR	**Lajitas Array**	**88.80**	**59**	P	**P**		**00 21 39.7**	**+1.5**
	comp=Z,1.6nm,1.1s,baz=212,slow=4.4,SNR=9.4							
TXAR				LR	LR		00 55 39.5	
	comp=Z,236nm,18.1s,baz=0.0,slow=32							
IMW	**Indian Meadow**	**88.87**	**43**	*e*P	**P**		**00 21 38.2**	**-0.2**
	comp=Z,12nm,1.4s							
MOOW	**Moose Ponds**	**88.94**	**44**	*e*P	**P**		**00 21 38.4**	**-0.2**
	comp=Z,4.1nm,1.2s							
LOHW	**Long Hollow**	**88.98**	**44**	*e*P	**P**		**00 21 38.2**	**-0.6**
	comp=Z,10nm,1.5s							
FLWY	**Flagg Ranch**	**89.11**	**43**	*e*P	**P**		**00 21 39.4**	**0.0**
	comp=Z,13nm,1.4s							
BOZ	**Bozeman (W)**	**89.16**	**42**	*e*P	**P**		**00 21 39.0**	**-0.5**
BOZ	**Bozeman (W)**	**89.16**	**42**	*e*P	**P**		**00 21 39.0**	**-0.5**
O20A	**White River Ci**	**89.21**	**48**	*e*P	**P**		**00 21 39.7**	**-0.3**
	comp=Z,17nm,1.3s							
H17A	**Grant Village**	**89.32**	**43**	*e*P	**P**		**00 21 40.1**	**-0.3**
	comp=Z,4.7nm,1.1s							
BW06	**Boulder Array**	**89.33**	**45**	*e*P	**P**		**00 21 39.5**	**-1.0**
	comp=Z,16nm,1.8s							
PDAR	**Pinedale Array**	**89.33**	**45**	P	**P**		**00 21 40.6**	**+0.1**
	comp=Z,2.8nm,1.1s,baz=222,slow=2.0,SNR=11							
PDAR				LR	LR		00 53 57.6	
	comp=Z,149nm,21.7s,baz=252,slow=30							
HRY	**Holter Researc**	**89.49**	**41**	*e*P	**P**		**00 21 40.8**	**-0.2**
SMCO	**Snowmass**	**89.75**	**49**	*e*P	**P**		**00 21 43.2**	**+0.5**
	comp=Z,11nm,1.2s							
ULN	**Ulaanbaatar**	**89.75**	**321**	*e*P	**P**		**00 21 41.0**	**-1.3**
ULN				pmax	pmax			
	comp=Z,1.0nm,1.0s							
SONA1	**Songino Array**	**90.14**	**320**	*e*P	**P**		**00 21 42.9**	**-1.2**
SONM	**Songino Array**	**90.14**	**320**	P	**P**		**00 21 43.2**	**-0.8**
	comp=Z,1.0nm,1.0s,baz=94,slow=4.5,SNR=5.4							
SONM				LR	LR		00 57 54.9	
	comp=Z,147nm,21.8s,baz=97,slow=33							
RLMT	**Red Lodge**	**90.46**	**43**	*e*P	**P**		**00 21 46.1**	**+0.4**
	comp=Z,6.2nm,1.2s							
BOD	**Bodaibo**	**90.76**	**331**	*e*P	P		00 21 42.8	-3.7
BOD				pmax	pmax			
	comp=Z,3.0nm,1.1s							
N23A	**Red Feather La**	**91.11**	**48**	*e*P	**P**		**00 21 49.0**	**+0.1**
	comp=Z,11nm,1.3s							
SNAA	**Sanae**	**91.75**	**180**	*e*P	**P**		**00 21 52.3**	**+1.2**
SNAA				pmax	pmax			
	comp=Z,11nm,1.2s							
SNAA	**Sanae**	**91.75**	**180**	*e*P	**P**		**00 21 50.5**	**-0.6**
	comp=Z,13nm,1.2s							
ABTX	**Abilene, Hawle**	**93.13**	**57**	*e*P	**P**		**00 21 56.1**	**-2.0**
	comp=Z,15nm,0.6s							
RSSD	**Black Hills**	**93.57**	**45**	*e*P	**P**		**00 21 58.6**	**-1.5**
RSSD				pmax	pmax			
	comp=Z,6.0nm,1.1s							
RSSD	**Black Hills**	**93.57**	**45**	*e*P	**P**		**00 21 58.5**	**-1.5**
	comp=Z,6.3nm,1.1s							
YKA	**Yellowknife Ar**	**95.03**	**26**	P	**P**		**00 22 06.1**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=246,slow=4.1,SNR=7.6							
YKB5	**Yellowknife Ar**	**95.03**	**26**	*e*P	**P**		**00 22 04.9**	**-1.1**
WMQ	**Urumqi**	**101.24**	**312**	*e*P	**Pdif**		**00 22 35.3**	**+0.7**
WMQ				pP	pP		00 22 40.1	-5.8
WMQ				PP	**PP**		**00 26 47.3**	**+3.2**
WMQ				S	**Sdif**		**00 34 12.4**	**+0.7**
WMQ				SS	**SS**		**00 41 13.5**	**+0.9**
WMQ				PMZ				
	comp=Z,130nm,5.6s							
WMQ				LN				
	comp=Z,61nm,23.8s							
WMQ				LE				
	comp=Z,130nm,24.8s							
WMQ				LZ				
	comp=Z,160nm,24.6s							
KSH	**Kashi**	**109.22**	**307**	*e*Pdif	**Pdif**		**00 23 14.5**	**+4.3**
KSH				PP	PP		00 27 52.5	+9.1
KSH				S	**Sdif**		**00 35 24.9**	**+6.4**
KSH				PPMZ				
	comp=Z,42nm,3.8s							
KSH				LN				
	comp=Z,85nm,5.0s							
KSH				LE				
	comp=Z,86nm,6.0s							
KSH				LZ				
	comp=Z,98nm,6.2s							
OBN	**Obninsk**	**131.45**	**331**	*i* PKIKP	**PKPdf**		**00 27 58.0**	**+2.1**
OBN				pmax	pmax			
	comp=Z,22nm,2.7s							
OBN				MLR	MLR			
	comp=Z,85nm,18.0s							
BRTR	**Keskin Array B**	**141.16**	**313**	PKP	**PKPdf**		**00 28 16.0**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=90,slow=4.3,SNR=2.6							

KOLS	**Kolonicke sedl**	**142.10**	**333**	*e*PKIKP	**PKPdf**		**00 28 19.0**	**+3.2**
KOLS	**Kolonicke sedl**	**142.10**	**333**	*e*PKP	**PKPdf**		**00 28 19.0**	**+3.2**
STHS	**Stebnicka Huta**	**142.17**	**335**	*e*PKIKP	**PKPdf**		**00 28 18.1**	**+2.1**
STHS	**Stebnicka Huta**	**142.17**	**335**	*e*PKP	**PKPdf**		**00 28 18.1**	**+2.1**
DPC	**Dobruska-Polom**	**143.24**	**340**	*e*PKP	**PKPdf**		**00 28 18.0**	**+0.1**
DPC				*ep*PKP	**pPKPdf**		**00 28 25.4**	**-3.9**
DPC	**Dobruska-Polom**	**143.24**	**340**	*e*PKIKP	**PKPdf**		**00 28 18.0**	**+0.1**
DPC				*e*			00 28 25.4	
CLL	**Collm**	**143.40**	**344**	*e*PKPdf	**PKPdf**		**00 28 18.0**	**0.0**
CLL	**Collm**	**143.40**	**344**	*e*PKIKP	**PKPdf**		**00 28 18.0**	**0.0**
VYHS	**Vyhne**	**143.87**	**336**	*e*PKIKP	**PKPdf**		**00 28 20.5**	**+1.5**
VYHS	**Vyhne**	**143.87**	**336**	*e*PKP	**PKPdf**		**00 28 20.5**	**+1.5**
PRA	**Prague**	**144.09**	**341**	AMS	AMS		01 29 40.0	
	comp=Z,200nm,23.7s							
GOPC	**GO Pecny, Ondr**	**144.11**	**341**	*ep*PKP	**PKPdf**		**00 28 24.2**	**+4.8**
GOPC				AMS	AMS		01 27 50.0	
	comp=Z,200nm,22.2s							
PRU	**Pruhonice**	**144.12**	**341**	*e*PKP	**PKPdf**		**00 28 19.4**	**+0.1**
PRU				AMS	AMS		01 27 50.0	
	comp=Z,200nm,26.5s							
PRU	**Pruhonice**	**144.12**	**341**	*e*PKIKP	**PKPdf**		**00 28 19.4**	**+0.1**
PRU				MLR	MLR			
	comp=Z,200nm,26.5s							
TREC	**Trest**	**144.42**	**340**	AMS	AMS		01 33 20.0	
	comp=Z,200nm,16.8s							
NKC	**Novy Kostel**	**144.52**	**343**	*e*PKP	**PKPdf**		**00 28 20.9**	**+0.8**
NKC	**Novy Kostel**	**144.52**	**343**	*e*PKIKP	**PKPdf**		**00 28 20.9**	**+0.8**
KHC	**Kasperske Hory**	**145.18**	**341**	*e*PKP	**PKPdf**		**00 28 22.2**	**+0.9**
KHC				*ex*	x		00 28 40.3	
KHC				AMS	AMS		01 30 30.0	
	comp=Z,100nm,16.8s							
KHC	**Kasperske Hory**	**145.18**	**341**	*e*PKIKP	**PKPdf**		**00 28 22.2**	**+0.9**
KHC				MLR	MLR			
	comp=Z,100nm,16.8s							
MPEP	**Malo Peshtene**	**145.36**	**325**	*e*P	**PKPab**		**00 28 22.5**	**+0.7**
GEC2	**GERESS Array S**	**145.39**	**341**	*e*PKIKP	**PKPbc**		**00 28 20.3**	**-1.3**
GEC2	**GERESS Array S**	**145.39**	**341**	*e*PKPbc	**PKPbc**		**00 28 20.3**	**-1.3**
GERES	**GERESS Array B**	**145.39**	**341**	**PKPbc**	**PKPbc**		**00 28 20.4**	**-1.2**
	comp=Z,3.0nm,1.0s,baz=36,slow=2.5,SNR=10							
CONA	**Conrad Observa**	**145.46**	**338**	*i* PKPab	**PKPdf**		**00 28 20.5**	**-1.3**
	comp=Z,8.3nm,0.9s							
BCLA	**Clavier**	**145.87**	**351**	PKP	**PKPbc**		**00 28 22.4**	**-0.5**
MOA	**Molln**	**146.08**	**340**	*i* PKPab	**PKPbc**		**00 28 23.3**	**-0.4**
	comp=Z,17nm,1.0s							
ARSA	**Arzberg**	**146.15**	**338**	*ip*PKPdf	**PKPab**		**00 28 24.5**	**-0.1**
	comp=Z,9.2nm,1.0s							
VTS	**Vitosha**	**146.16**	**325**	*e*P	**PKPab**		**00 28 24.6**	**-0.4**
WLF	**Walferdange**	**146.46**	**350**	APKP	**PKPab**		**00 28 25.2**	**-0.4**
WLF	**Walferdange**	**146.46**	**350**	*e*PKP2	**PKPbc**		**00 28 24.1**	**-0.7**
WLF	**Walferdange**	**146.46**	**350**	*e*PKPdf	**PKPbc**		**00 28 24.1**	**-0.7**
MMB	**Musomiste**	**146.52**	**323**	*e*P	**PKPdf**		**00 28 23.6**	**-0.2**
SOKA	**Soboth**	**146.82**	**338**	*i* PKPbc	**PKPdf**		**00 28 24.3**	**+0.2**
	comp=Z,11nm,1.0s							
KBA	**Koelnbreinsper**	**147.06**	**340**	*i* PKPdf	**PKPdf**		**00 28 23.2**	**-1.5**
	comp=Z,9.6nm,0.8s							
BFO	**Black Forest**	**147.31**	**346**	*e*PKP2	**PKPdf**		**00 28 25.1**	**+0.2**
BFO	**Black Forest**	**147.31**	**346**	*e*PKPdf	**PKPdf**		**00 28 25.1**	**+0.2**
FUORN	**Ofenpass-Fuorn**	**148.41**	**343**	*e*PKPdf	**PKPdf**		**00 28 26.3**	**-0.8**
SANT	**Santorini**	**148.43**	**314**	*e*PKPdf	**PKPdf**		**00 28 27.4**	**+0.3**
SENIN	**Lac Senin/Sane**	**149.40**	**347**	*e*PKPdf	**PKPdf**		**00 28 28.7**	**+0.1**
BNI	**Bardonecchia**	**150.78**	**346**	*e*PKIKP	**PKPdf**		**00 28 30.0**	**-0.7**
BNI	**Bardonecchia**	**150.78**	**346**	*e*PKPdf	**PKPdf**		**00 28 30.0**	**-0.7**
TORD	**Torodi Ar. Bea**	**174.50**	**229**	PKPab	**PKPab**		**00 30 25.8**	**-1.6**
	comp=Z,1.5nm,1.0s,baz=115,slow=4.5,SNR=5.4							

CSEM ***15*** *00:18:51.4, 36.°04N×4.°04E, h0km, ML3.5*
CRAAG 15 00:18:51.4, 36.°03N×4.°04E, MI3.5, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKET	**Djebel Ketaf**	**0.13**	**278**	P	Pg	00 18 54.7	+0.6
AKET	**Djebel Ketaf**	**0.13**	**278**	P	Pg	00 18 54.7	+0.6
ATAF	**Djebel Tarf**	**0.25**	**129**	P	Pg	00 18 53.1	-3.2
ATAF	**Djebel Tarf**	**0.25**	**129**	P	Pg	00 18 53.1	-3.2
SET	**Setif**	**1.11**	**81**	P	Pg	00 19 12.0	-0.9
SET	**Setif**	**1.11**	**81**	P	Pg	00 19 12.0	-0.9
EBNR	**Beni Rached**	**2.05**	**278**	P	Pn	00 19 14.5	-13
EBNR	**Beni Rached**	**2.05**	**278**	P	Pn	00 19 14.5	-13
ECHA	**Ech Chlef**	**2.17**	**274**	P	Pn	00 19 16.3	-12
ECHA	**Ech Chlef**	**2.17**	**274**	P	Pn	00 19 16.3	-12
ETRT	**Tiaret**	**2.32**	**255**	P	Pn	00 19 17.1	-14
ETRT	**Tiaret**	**2.32**	**255**	P	Pn	00 19 17.1	-14
EANR	**'Ain N'Sour**	**2.39**	**269**	P	Pn	00 19 18.5	-13
EANR	**'Ain N'Sour**	**2.39**	**269**	P	Pn	00 19 18.5	-13

SJA ***15*** *00:34:04.6±0.6, 33.°51S×74.°36W, h28km±67km, MD3.8*
ISCJB ***15*** *00:34:19.8±1.2, 33.°77S±0.°10×72.°8W±0.°1, h6km, mb3.6/2, Error ellipse: s-maj=17.4km s-min=13.0km az=29.6*
IDC ***15*** *00:34:20.6±1.5, 33.°72S×72.°36W, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.6/15, mbtmp3.5/4, ML3.6/2, Error ellipse: s-maj=57.3km s-min=32.6km az=74.0*
ISC 15 00:34:20.9±1.2, 33.°7S±0.°1×73.°0W±0.°1, h6km, n13, σ1§49/15, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AUSP	**Uspallata**	**3.34**	**66**	*i* P	**Pn**	**00 35 13.6**	**-0.5**
AUSP				*i* S	**Sb**	**00 36 04.0**	**+2.1**
AAGR	**Agrelo**	**3.52**	**82**	*i* P	**Pn**	**00 35 17.2**	**+0.9**
RTLS	**Leoncito**	**3.62**	**60**	*i* P	**Pn**	**00 35 16.3**	**-1.5**
RTLS				*i* S	**Sb**	**00 36 10.3**	**+0.6**
ASAL	**Salagasta**	**3.64**	**74**	*i* P	**Pn**	**00 35 17.9**	**0.0**
RTCV	**Cerro Valdivia**	**4.15**	**66**	*i* P	**Pn**	**00 35 23.6**	**-1.3**
RTLL	**Cerro Villicun**	**4.46**	**60**	*i* P	**Pn**	**00 35 27.9**	**-1.2**
CFAA	**Coronel Fontan**	**4.50**	**64**	*i* P	**Pn**	**00 35 28.2**	**-1.5**
PLCA	**Paso Flores**	**7.32**	**165**	Pn	**Pn**	**00 36 08.1**	**-0.3**
	0.3nm,0.3s,baz=346,slow=11,SNR=5.1						
PLCA				Lg	Lg	00 37 54.4	
	0.1nm,0.3s,baz=266,slow=18,SNR=1.7						
LPAZ	**La Paz**	**17.85**	**15**	P	**P**	**00 38 31.9**	**+0.6**
	0.1nm,0.3s,baz=206,slow=7.1,SNR=2.1						
TXAR	**Lajitas Array**	**69.06**	**331**	P	**P**	**00 45 30.3**	**+2.6**
	0.6nm,0.7s,baz=155,slow=8.7,SNR=6.5						
TORD	**Torodi Ar. Bea**	**84.83**	**71**	P	**P**	**00 46 54.7**	**-2.1**
	0.4nm,0.7s,baz=249,slow=6.1,SNR=2.6						
ZALV	**Zalesovo Beam**	**154.35**	**31**	PKPbc	**PKPbc**	**00 54 20.8**	**-0.9**
	0.4nm,0.5s,baz=270,slow=2.9,SNR=2.5						
MKAR	**Makanchi Array**	**157.12**	**48**	PKPab	**PKPab**	**00 54 47.2**	**-0.8**
	0.3nm,0.7s,baz=301,slow=3.0,SNR=2.7						

IDC ***15*** *00:35:10.5±1.6, 2.°80S×139.°11E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/20, mbtmp3.3/3, ML3.6/1, Error ellipse: s-maj=31.3km s-min=14.4km az=164.0*
ISCJB ***15*** *00:35:15.1±0.8, 2.°92S±0.°07×139.°02E±0.°07, h46km, mb3.2/2, Error ellipse: s-maj=9.8km s-min=9.1km az=136.3*
DJA ***15*** *00:35:19.1±0.4, 3.°5S±3.°×13.°9E±.°, h10km, M3.7/4, MLv3.7/4*
ISC 15 00:35:16.2±1.1, 2.°86S±0.°10×139.°07E±0.°08, h46km, n8, σ1§08/8, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.94**	**337**	P	**Pn**	**00 35 32.2**	**-0.8**
SMPI				S	**Sn**	**00 35 45.7**	**+0.4**
WAMI	**Wamena**	**1.08**	**199**	P	Pn	00 35 44.9	+10
WAMI				S	Sn	00 36 04.6	+16
GENI	**Genyem**	**1.13**	**76**	P	**Pn**	**00 35 35.6**	**-0.1**
GENI				S	**Sn**	**00 35 51.1**	**+1.1**
JAY	**Jayapura**	**1.67**	**78**	P	Pn	00 35 46.8	+3.7
JAY	**Jayapura**	**1.67**	**78**	Pg	**Pn**	**00 35 41.3**	**-1.8**
	14nm,0.3s,baz=254,slow=11,SNR=25						
JAY				Lg	Lg	00 36 00.6	
	29nm,0.3s,baz=74,slow=16,SNR=14						
WRA	**Warramunga Arr**	**17.59**	**195**	P	**Pn**	**00 39 17.9**	**-0.4**
	0.2nm,0.3s,baz=17,slow=13,SNR=21						
ASAR	**Alice Springs**	**21.28**	**193**	P	**P**	**00 39 59.5**	**+0.5**
	0.3nm,0.4s,baz=17,slow=9.7,SNR=3.7						
MKAR	**Makanchi Array**	**70.13**	**322**	P	**P**	**00 46 24.6**	**+0.6**
	0.2nm,0.4s,baz=127,slow=6.4,SNR=4.3						

IDC ***15*** *01:23:40.4±1.5, 7.°72S×129.°94E, h0km, mb4.1/2, mb1 3.8/4, mb1mx3.6/20, mbtmp3.7/4, ML3.6/2, Error ellipse: s-maj=61.8km s-min=30.2km az=74.0*
ISC 15 01:23:45.7±1.1, 7.°69S±0.°09×130.°2E±0.°1, h35km, n9, σ2§42/9, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDU	**Kakadu**	**5.46**	**156**	P	Pn	01 25 08.2	+3.6
	baz=3.1,SNR=12						
KNRA	**Kununurra**	**8.06**	**190**	P	Pn	01 25 44.6	+4.2
	baz=6.4,SNR=6.3						
KNRA				S	**Sn**	**01 27 14.2**	**+3.9**
	baz=6.4,SNR=3.7						
WRA	**Warramunga Arr**	**12.83**	**162**	Pn	**Pn**	**01 26 44.9**	**-0.8**
	0.3nm,0.3s,baz=340,slow=13,SNR=23						
WRA				Sn	Sn	01 28 59.0	-8.4
	0.2nm,0.3s,baz=340,slow=22,SNR=3.3						
COEN	**Coen**	**14.20**	**117**	P	**Pn**	**01 27 05.4**	**+0.9**
	baz=12,SNR=7.2						
JAGI	**Jajag, Banyuwa**	**15.89**	**266**	S	**S**	**01 30 34.5**	**-0.8**
	baz=17,SNR=3.2						
ASAR	**Alice Springs**	**16.29**	**168**	Pn	**Pn**	**01 27 30.9**	**-1.0**
	0.2nm,0.3s,baz=344,slow=8.7,SNR=9.8						
ASAR				Sn	**Sn**	**01 30 27.6**	**-4.0**
	0.1nm,0.3s,baz=339,slow=25,SNR=4.2						
WRKA	**Warakurna**	**17.35**	**186**	P	**P**	**01 27 46.0**	**-0.3**
	baz=16,SNR=5.8						
PETK	**Petropavlovsk-**	**64.92**	**18**	P	**P**	**01 34 22.1**	**+0.6**
	1.1nm,0.6s,baz=176,slow=5.8,SNR=4.4						
MKAR	**Makanchi Array**	**68.89**	**327**	P	**P**	**01 34 46.6**	**-0.4**
	0.9nm,0.5s,baz=125,slow=5.5,SNR=22						

ISCJB ***15*** *01:26:25.7±1.6, 33.°68S±0.°04×72.°36W±0.°06, h2km±10km, mb3.6/2, Error ellipse: s-maj=8.8km s-min=5.7km az=33.2*
IDC ***15*** *01:26:26.1±1.4, 33.°70S×72.°04W, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.7/18, mbtmp3.6/4, ML3.7/2, Error ellipse: s-maj=57.1km s-min=32.1km az=75.0*
GUC ***15*** *01:26:28.1±0.6, 33.°73S×72.°23W, h23km±4km, ML3.8*
ISC 15 01:26:27.4±1.9, 33.°75S±0.°04×72.°23W±0.°08, h12km±11km, n19, σ0§73/29, 3C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.71**	**107**	*ip* P	**Pn**	**01 26 42.5**	**-0.7**
IHA	**Instituto Hidr**	**0.87**	**34**	*e*P	**Pn**	**01 26 44.9**	**-0.5**
IHA				*i* S	**Sn**	**01 26 57.2**	**-0.8**
TACH	**Talagante**	**1.08**	**85**	*i* P	**Pn**	**01 26 48.0**	**-0.4**
ROCH	**El Roble**	**1.28**	**53**	*ip* P	**Pg**	**01 26 51.7**	**-0.3**
ROCH				*i* S	**Sg**	**01 27 09.6**	**+1.0**
ROCH				AML	AML	01 27 16.9	
	comp=N,2μm,0.4s						
SAN	**Santiago**	**1.34**	**78**	*e*P	**Pg**	**01 26 52.8**	**-0.4**
SAN				*i* S	**Sg**	**01 27 11.0**	**+0.4**
PEL	**Peldehue**	**1.42**	**65**	*i* P	**Pg**	**01 26 53.9**	**-0.8**
PEL				*i* S	**Sg**	**01 27 13.4**	**+0.2**
PEL				AML	AML	01 27 21.1	
	comp=E,7μm,0.4s						
PCH	**Pirque**	**1.44**	**85**	*e*P	**Pg**	**01 26 54.3**	**-0.7**
FSR	**Penalolen**	**1.45**	**80**	*e*P	**Pg**	**01 26 55.4**	**+0.3**
FSR				*i* S	**Sg**	**01 27 15.8**	**+1.9**
CLCH	**Cerro Calan**	**1.46**	**77**	*e*P	**Pb**	**01 26 54.2**	**-0.2**
CLCH				*i* S	**Sg**	**01 27 14.4**	**+0.2**
CLCH				AML	AML	01 27 24.2	
	comp=E,2μm,0.5s						
NICH	**Los Niches**	**1.50**	**147**	*i* P	**Pb**	**01 26 55.1**	**-0.1**
NICH				*i* S	**Sg**	**01 27 15.9**	**+0.2**
SJCH	**San Jose de Ma**	**1.57**	**87**	*e*P	**Pn**	**01 26 55.3**	**+0.2**
SJCH				*i* S	**Sb**	**01 27 16.5**	**+0.4**
TALC	**Talca**	**1.72**	**164**	*e*P	**Pb**	**01 26 58.9**	**0.0**
TALC				*i* S	**Sg**	**01 27 22.2**	**-0.5**
LNCH	**Linares**	**2.16**	**166**	*ip* P	**Pb**	**01 27 07.0**	**+0.6**
LNCH				*i* S	**Sg**	**01 27 35.5**	**-1.3**
PLCA	**Paso Flores**	**7.10**	**170**	Pn	**Pn**	**01 28 12.3**	**+1.2**
	comp=E,0.3nm,0.3s,baz=330,slow=8.7,SNR=9.4						
PLCA				Lg	Lg	01 30 07.

APE	**Apeiranthos**	**2.30**	**334**	*e*PN	**Pn**	**02 24 35.0**	**+0.3**
APE	**Apeiranthos**	**2.30**	**334**	P	**Pn**	**02 24 34.4**	**-0.4**
APE				S	**Sn**	**02 25 00.8**	**-2.8**
APE	**Apeiranthos**	**2.30**	**334**	*e*PB	**Pn**	**02 24 34.6**	**-0.2**
APE	**Apeiranthos**	**2.30**	**334**	P	**Pn**	**02 24 34.4**	**-0.4**
APE	**Apeiranthos**	**2.30**	**334**	*e*Pn	**Pn**	**02 24 35.0**	**+0.3**
DALY	**Dalyan (Mu˘la**	**2.34**	**39**	*e*Pn	**Pn**	**02 24 36.9**	**+1.6**
DALY				*e*SN	**Sb**	**02 25 06.8**	**-1.3**
DALY	**Dalyan (Mu˘la**	**2.34**	**39**	*e*Pn	**Pn**	**02 24 36.9**	**+1.6**
DALY				*e*Sn	**Sb**	**02 25 06.8**	**-1.3**
KARN	**Karanos**	**2.40**	**280**	P	**Pn**	**02 24 36.9**	**+0.8**
KARN	**Karanos**	**2.40**	**280**	*e*PN	**Pn**	**02 24 37.4**	**+1.3**
KARN	**Karanos**	**2.40**	**280**	P	**Pn**	**02 24 36.9**	**+0.8**
KARN	**Karanos**	**2.40**	**280**	*e*Pn	**Pn**	**02 24 37.4**	**+1.3**
YER	**Yerkesik**	**2.43**	**29**	*e*PN	**Pn**	**02 24 37.9**	**+1.3**
YER	**Yerkesik**	**2.43**	**29**	*e*Pn	**Pn**	**02 24 37.9**	**+1.3**
ANKY	**Antikythira Is**	**2.99**	**288**	*e*PN	**Pn**	**02 24 45.2**	**+1.0**
ANKY	**Antikythira Is**	**2.99**	**288**	*e*Pn	**Pn**	**02 24 45.2**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**3.06**	**16**	*e*PN	**Pn**	**02 24 47.1**	**+1.9**
AYDB	**Zeytinkoy-Aydi**	**3.06**	**16**	*e*Pn	**Pn**	**02 24 47.1**	**+1.9**
ELL	**Elmali**	**3.06**	**55**	*e*PN	**Pn**	**02 24 45.6**	**+0.4**
ELL	**Elmali**	**3.06**	**55**	*e*Pn	**Pn**	**02 24 45.6**	**+0.4**
KYTH	**Kithira**	**3.32**	**293**	P	**Pn**	**02 24 49.0**	**+0.2**
KYTH	**Kithira**	**3.32**	**293**	*e*PN	**Pn**	**02 24 49.7**	**+0.9**
KYTH	**Kithira**	**3.32**	**293**	P	**Pn**	**02 24 49.0**	**+0.2**
KYTH	**Kithira**	**3.32**	**293**	*e*Pn	**Pn**	**02 24 49.7**	**+0.9**
VLI	**Veliai**	**3.58**	**300**	*e*PN	**Pn**	**02 24 52.4**	**+0.1**
VLI	**Veliai**	**3.58**	**300**	*e*Pn	**Pn**	**02 24 52.4**	**+0.1**
KULA	**Kula-Manisa**	**3.80**	**23**	*e*PN	**Pn**	**02 24 57.4**	**+2.0**
KULA	**Kula-Manisa**	**3.80**	**23**	*e*Pn	**Pn**	**02 24 57.4**	**+2.0**
DID	**Didima**	**3.81**	**312**	*e*PN	**Pn**	**02 24 56.7**	**+1.2**
DID	**Didima**	**3.81**	**312**	*e*Pn	**Pn**	**02 24 56.7**	**+1.2**
LTK	**Loutraki**	**4.31**	**315**	*e*PN	**Pn**	**02 25 04.2**	**+1.8**
LTK	**Loutraki**	**4.31**	**315**	*e*Pn	**Pn**	**02 25 04.2**	**+1.8**
GUR	**Goura**	**4.63**	**310**	*e*PN	**Pn**	**02 25 08.7**	**+1.8**
GUR	**Goura**	**4.63**	**310**	*e*Pn	**Pn**	**02 25 08.7**	**+1.8**
DSF	**Desfina**	**4.83**	**316**	*e*PN	**Pn**	**02 25 12.3**	**+2.7**
DSF	**Desfina**	**4.83**	**316**	*e*Pn	**Pn**	**02 25 12.3**	**+2.7**
LEF	**Lefka**	**4.99**	**87**	*e*PN	**Pn**	**02 25 10.9**	**-0.8**
LEF	**Lefka**	**4.99**	**87**	*e*Pn	**Pn**	**02 25 10.9**	**-0.8**
CSS	**Prodhromos**	**5.35**	**89**	*e*PN	**Pn**	**02 25 16.2**	**-0.5**
CSS	**Prodhromos**	**5.35**	**89**	*e*Pn	**Pn**	**02 25 16.2**	**-0.5**
LFK	**Lefkose**	**5.51**	**85**	*e*PN	**Pn**	**02 25 18.8**	**-0.2**
LFK	**Lefkose**	**5.51**	**85**	*e*Pn	**Pn**	**02 25 18.8**	**-0.2**
DSL	**Palaion Diasel**	**6.14**	**314**	*e*PN	**Pn**	**02 25 30.1**	**+2.5**
DSL	**Palaion Diasel**	**6.14**	**314**	*e*Pn	**Pn**	**02 25 30.1**	**+2.5**

SJA ***15*** *02:31:36.7±0.6,34°.24S×73°.18W,h5km,ML3.8*
GUC ***15*** *02:31:44.4±0.5,34°.58S×71°.99W,h14km±2km,ML3.4*

ISC 15 02:31:41.1±1.4**,34°.51S**±0°.04×**72°.24W**±0°.08**,h10km,n14,**
σ1§**24**/21**,2C-2D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.88**	**52**	*e*P	**Pn**	**02 32 00.1**	**+0.5**
LNV				*e*S	**Sb**	**02 32 11.7**	**+1.4**
NICH	**Los Niches**	**0.97**	**121**	⇓*i*P	**Pb**	**02 31 59.6**	**-0.4**
NICH				*i* S	**Sg**	**02 32 10.9**	**-1.5**
TALC	**Talca**	**1.02**	**151**	⇑*i*P	**Pn**	**02 32 01.2**	**-0.3**
CACH	**El Canelo**	**1.41**	**74**	*e*P	**Pg**	**02 32 08.4**	**+0.2**
LNCH	**Linares**	**1.44**	**159**	*e*P	**Pg**	**02 32 08.5**	**-0.2**
COCH	**Cobquecura**	**1.68**	**195**	⇑*i*P	**Pg**	**02 32 14.3**	**+0.9**
CLCH	**Cerro Calan**	**1.80**	**52**	*e*P	**Pb**	**02 32 14.5**	**+0.3**
CLCH				*i* S	**Sb**	**02 32 37.5**	**+0.7**
CLCH				AML	AML	02 32 46.4	
	comp=N,624nm,0.4s						
ROCH	**El Roble**	**1.84**	**34**	⇓*i*P	**Pg**	**02 32 17.1**	**+0.6**
ROCH				AML	AML	02 32 46.1	
	comp=E,459nm,0.5s						
PEL	**Peldehue**	**1.88**	**44**	*e*P	**Pg**	**02 32 16.7**	**-0.5**
PEL				AML	AML	02 32 45.8	
	comp=E,817nm,0.3s						
AAGR	**Agrelo**	**3.17**	**64**	*i* P	**Pb**	**02 32 39.4**	**+1.7**
ARCO	**CERRO ARCO**	**3.22**	**60**	*i* P	**Pb**	**02 32 39.4**	**+0.9**
ARCO				*i* S	**Sg**	**02 33 26.4**	**+1.8**
ARCO				AML	AML	02 33 28.8	
	comp=Z,150nm,0.5s						
AUSP	**Uspallata**	**3.30**	**47**	*i* P	**Pb**	**02 32 39.4**	**-0.6**
AUSP				*i* S	**Sg**	**02 33 25.4**	**-1.8**
ASAL	**Salagasta**	**3.43**	**57**	*i* P	**Pb**	**02 32 41.6**	**-0.3**
ASAL				*i* S	**Sg**	**02 33 29.7**	**-1.4**
RTLS	**Leoncito**	**3.66**	**43**	*i* P	**Pb**	**02 32 43.9**	**-2.1**
RTLS				*i* P	**Pb**	**02 32 43.9**	**-2.1**

ISCJB ***15*** *03:02:57.9±0.3,17°.11S±0°.03×64°.51W±0°.05,h10km, mb4.2/21,MS3.5/3,Error ellipse: s-maj=6.8km s-min=4.1km az=3.1*
IDC ***15*** *03:02:58.0±0.7,17°.14S×64°.74W,h0km,mb4.1/7, mb1 4.3/10,mb1mx4.1/25,mbtmp4.1/10,ML4.0/3,MS3.2/8, Ms1 3.2/8,ms1mx3.0/27,Error ellipse: s-maj=21.9km s-min=20.7km az=158.0*
SJA ***15*** *03:02:59.8±0.4,17°.29S×64°.08W,h26km±552km,ML3.9*
NEIC ***15*** *03:03:04.2±0.6,17°.13S×64°.53W,h44km±6km,mb4.2/15, Error ellipse: s-maj=6.9km s-min=6.6km az=69.0*

ISC 15 03:02:59.0±0.5**,17°.13S**±0°.05×**64°.73W**±0°.06**,h10km,n52,**
σ1§**49**/51**,mb4.3**/21**,MS3.6**/3**,Central Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.37**	**284**	Pn	**Pb**	**03 03 57.2**	**-2.0**
	21nm,0.3s,baz=97,slow=10.0,SNR=502						
LPAZ				Lg	Lg	03 04 47.5	
	190nm,0.3s,baz=3.5,slow=19,SNR=6.0						
LPAZ				LR	LR	03 05 18.7	
	comp=Z,224nm,19.4s,baz=85,slow=42						
LPAZ	**La Paz**	**3.37**	**284**	*e*Pn	**Pb**	**03 03 57.0**	**-2.2**
LPAZ				*e*Sn	**Sb**	**03 04 37.1**	**-3.3**
LPAZ				Lg	Lg	03 04 47.5	
SIV	**San Ignacio**	**3.69**	**73**	Pn	**Pn**	**03 03 56.8**	**+0.6**
	26nm,0.3s,baz=268,slow=9.4,SNR=232						
SIV				Pg	**Pg**	**03 04 07.0**	**-2.7**
	141nm,0.3s,baz=264,slow=17,SNR=68						
SIV				Lg	Lg	03 04 49.0	
	91nm,0.3s,baz=191,slow=20,SNR=6.6						
SIV				LR	LR	03 05 20.7	
	comp=Z,103nm,20.6s,baz=279,slow=39						
YJA	**Yavi**	**5.07**	**188**	*i* P	Pn	03 04 18.4	+2.9
YJA				*i* S	**Sn**	**03 05 17.2**	**+2.7**
YJA				AML	AML	03 05 40.5	
	comp=Z,73nm,0.6s						
HJA	**Humahuaca**	**6.08**	**186**	*i* P	Pn	03 04 32.0	+2.6
HJA				*i* S	**Sn**	**03 05 39.7**	**+0.5**
ARE	**Arequipa**	**6.51**	**275**	*e*P	Pn	03 04 42.0	+6.8
ALOL	**LOMAS DE OLMED**	**6.69**	**174**	*i* P	**Pn**	**03 04 37.7**	**+0.3**
ALOL				*i* S	**Sn**	**03 05 49.1**	**-4.6**
LVC	**Limon Verde**	**6.72**	**215**	Pn	Pn	03 04 42.9	+4.8
	comp=Z,69nm,0.3s,baz=40,slow=9.3,SNR=19						
LVC				LR	LR	03 07 35.3	
	comp=Z,546nm,19.8s,baz=32,slow=41						
ASTB	**Santa Barbara**	**6.79**	**178**	*i* P	**Pn**	**03 04 39.3**	**+0.4**
AZAP	**Zapla**	**7.06**	**182**	*i* P	**Pn**	**03 04 44.1**	**+1.3**
SLZ	**San Lorenzo**	**7.58**	**185**	*i* P	**Pn**	**03 04 51.7**	**+1.8**
SLA				*i* P	**Pn**	**03 04 51.7**	**+1.8**
SAML	**Samuel**	**8.27**	**11**	*e*Pn	**Pn**	**03 05 00.6**	**+1.4**
	comp=Z,22nm,0.6s						
SAML				*e*Sn	**Sn**	**03 06 33.4**	**+0.6**
CPUP	**Villa Florida**	**11.45**	**144**	*e*Pn	**Pn**	**03 05 43.2**	**+0.6**
CFAA	**Coronel Fontan**	**14.76**	**192**	Pn	**Pn**	**03 06 29.0**	**+1.0**
	comp=Z,0.0nm,0.3s,baz=7.5,slow=16,SNR=3.3						
BDFB	**Brasilia**	**16.11**	**87**	Pn	**Pn**	**03 06 46.2**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=261,slow=15,SNR=2.8						
BDFB				LR	LR	03 12 34.3	
	comp=Z,21nm,20.0s,baz=234,slow=36						
PTGA	**Pitinga**	**16.96**	**17**	Pn	**Pn**	**03 06 56.3**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=188,slow=19,SNR=3.6						
PTGA				LR	LR	03 14 12.0	
	comp=Z,95nm,20.6s,baz=208,slow=40						
OTAV	**Otavalo**	**21.92**	**321**	*e*P	**P**	**03 07 56.9**	**+3.6**
	comp=Z,13nm,1.0s						
PLCA	**Paso Flores**	**24.05**	**191**	P	**P**	**03 08 14.6**	**+0.1**
	comp=Z,3.0nm,0.6s,baz=24,slow=14,SNR=14						
PLCA	**Paso Flores**	**24.05**	**191**	*e*P	**P**	**03 08 14.8**	**+0.3**
	comp=Z,3.9nm,0.6s						
RCBR	**Riachuelo**	**30.35**	**72**	LR	LR	03 22 12.9	
	comp=Z,147nm,20.4s,baz=216,slow=38						
JTS	**JuntasAbangare**	**33.80**	**322**	*e*P	P	03 09 43.9	+2.4
	comp=Z,14nm,1.0s						
WVT	**Waverly**	**57.31**	**338**	*e*P	**P**	**03 12 46.2**	**-0.9**
	comp=Z,5.8nm,0.8s						
TXAR	**Lajitas Array**	**59.55**	**320**	P	**P**	**03 13 03.3**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=134,slow=10,SNR=3.3						
SDCO	**Great Sand Dun**	**66.70**	**326**	*e*P	**P**	**03 13 52.0**	**+1.3**
	comp=Z,3.2nm,1.1s						
AGMN	**Agassiz Nation**	**70.82**	**339**	*e*P	**P**	**03 14 15.2**	**-0.5**
	comp=Z,2.6nm,0.8s						
SCHQ	**Schefferville**	**71.70**	**359**	P	P	**03 14 21.9**	**+1.0**
	comp=Z,2.2nm,0.7s,baz=158,slow=4.3,SNR=6.9						
TORD	**Torodi Ar. Bea**	**72.16**	**70**	P	**P**	**03 14 24.2**	**-0.3**
	comp=Z,2.3nm,0.7s,baz=251,slow=4.7,SNR=12						
TORD				LR	LR	03 44 29.1	
	comp=Z,38nm,19.0s,baz=95,slow=34						
BW06	**Boulder Array**	**72.46**	**327**	*e*P	**P**	**03 14 26.5**	**+0.4**
	comp=Z,0.8nm,0.5s						
PDAR	**Pinedale Array**	**72.46**	**327**	P	**P**	**03 14 27.0**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=113,slow=7.4,SNR=9.5						
ULM	**Lac du Bonnet**	**72.49**	**340**	P	**P**	**03 14 25.9**	**+0.2**
	comp=Z,2.3nm,0.6s,baz=97,slow=2.3,SNR=4.1						
ULM	**Lac du Bonnet**	**72.49**	**340**	*e*P	**P**	**03 14 25.2**	**-0.5**
	comp=Z,4.2nm,0.9s						
HWUT	**Hardware Ranch**	**72.73**	**325**	*e*P	**P**	**03 14 28.0**	**+0.3**
	comp=Z,1.1nm,0.5s						
MOOW	**Moose Ponds**	**73.77**	**327**	*e*P	**P**	**03 14 34.1**	**+0.3**
	comp=Z,7.0nm,1.5s						
IMW	**Indian Meadow**	**73.97**	**327**	*e*P	**P**	**03 14 36.3**	**+1.3**
	comp=Z,1.7nm,0.6s						
ELK	**Elko**	**74.24**	**322**	*e*P	**P**	**03 14 37.1**	**+0.5**
	comp=Z,1.6nm,0.9s						
HLID	**Hailey**	**75.60**	**325**	*e*P	**P**	**03 14 46.0**	**+1.6**
	comp=Z,1.7nm,0.9s						
HRY	**Holter Researc**	**76.38**	**329**	*e*P	**P**	**03 14 49.1**	**+0.4**
	comp=Z,0.6nm,0.4s						
FCC	**Fort Churchill**	**79.37**	**345**	*e*P	**P**	**03 15 04.9**	**+0.1**
ESDC	**Sonseca Array**	**79.97**	**43**	P	P	03 15 13.9	+5.3
	comp=Z,0.4nm,0.7s,baz=243,slow=6.1,SNR=4.2						
YKA	**Yellowknife Ar**	**88.46**	**339**	P	**P**	**03 15 51.8**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=123,slow=4.6,SNR=27						
SUMG	**Summit**	**91.20**	**8**	*e*P	**P**	**03 16 04.9**	**+0.6**
	comp=Z,9.2nm,1.1s						
NOA	**NORSAR Array B**	**98.21**	**28**	LR	LR	03 57 06.3	
	comp=Z,6.5nm,20.1s,baz=330,slow=33						
STKA	**Stephens Creek**	**125.12**	**207**	PKP	**PKPdf**	**03 22 00.8**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=22,slow=5.4,SNR=2.9						
KURK	**Kurchatov**	**135.54**	**33**	*e*PKPdf	**PKPdf**	**03 22 19.4**	**0.0**
ASAR	**Alice Springs**	**135.55**	**205**	PKP	**PKPdf**	**03 22 21.2**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=159,slow=2.1,SNR=6.6						
ZALV	**Zalesovo Beam**	**136.34**	**26**	PKP	**PKPdf**	**03 22 21.9**	**+1.0**
	comp=Z,1.1nm,0.5s,baz=256,slow=3.1,SNR=4.1						
WRA	**Warramunga Arr**	**138.67**	**208**	PKhKP	PKPpre	03 22 16.8	
	comp=Z,0.3nm,0.7s,baz=119,slow=2.1,SNR=4.2						
WRA				PKP	**PKiKP**	**03 22 26.4**	**-2.0**
	comp=Z,0.7nm,0.6s,baz=155,slow=1.6,SNR=9.3						
TLY	**Talaya**	**144.31**	**12**	PKP	**PKPdf**	**03 22 35.6**	**+0.2**
	comp=Z,1.2nm,0.4s,baz=258,slow=9.3,SNR=2.9						
PALK	**Pallekele**	**144.88**	**102**	*e*PKPdf	**PKPdf**	**03 22 37.4**	**-0.1**
SONM	**Songino Array**	**148.52**	**11**	PKPbc	**PKPab**	**03 22 47.2**	**-2.5**
	comp=Z,2.0nm,0.7s,baz=302,slow=1.6,SNR=9.0						
USRK	**Ussuriysk Ar.**	**149.55**	**336**	PKPbc	**PKPbc**	**03 22 49.9**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=304,slow=3.3,SNR=4.4						
MJAR	**Matsushiro Arr**	**151.97**	**318**	PKPbc	**PKPbc**	**03 22 55.4**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=84,slow=0.8,SNR=6.1						

ISCJB ***15*** *03:18:59.5±0.3,34°.09N±0°.02×119°.01W±0°.02,h11km, mb3.1/1,Error ellipse: s-maj=2.9km s-min=2.1km az=136.2*
NEIC ***15*** *03:19:01.4,34°.09N×119°.07W,h18km,ML3.9(PAS),After PAS.*
NEIC Felt [III] at Camarillo, Malibu, Newbury Park, Oxnard, Point Mugu NAWC and Port Hueneme. Felt in southern Ventura County and in much of the Los Angeles Basin as far as San Bernardino.
IDC ***15*** *03:19:02.8±2.4,34°.38N×119°.31W,h0km,mb3.1/1, mb1 3.5/4,mb1mx3.3/40,mbtmp3.0/4,ML3.0/2,MS2.6/1, Ms1 2.6/1,ms1mx2.2/12,Error ellipse: s-maj=31.9km s-min=16.1km az=67.0*

ISC 15 03:19:00.1±0.7**,34°.09N**±0°.02×**119°.04W**±0°.02**,h11km,n65,**
σ1§**30**/109**,23C-35D,Southern California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BLG	**Laguna Peak, P**	**0.03**	**319**	⇓P	**Pg**	**03 19 03.5**	**+1.4**
	SNR=1000						
BLG				⇑S	**Sg**	**03 19 06.2**	**+2.6**
BSC	**Santa Cruz Isl**	**0.50**	**259**	⇓P	**Pb**	**03 19 10.2**	**-0.7**
	baz=0.5,SNR=40						
BSC				⇓S	**Sb**	**03 19 17.6**	**-0.6**
	baz=0.5						
OSI	**Osito Audit: C**	**0.59**	**27**	*e*Pg	**Pg**	**03 19 12.0**	**+0.5**
OSI				*e*Sg	**Sg**	**03 19 19.9**	**+0.6**
OSI	**Osito Audit: C**	**0.59**	**27**	⇓P	**Pb**	**03 19 12.2**	**-0.2**
	baz=0.6,SNR=207						
OSI				⇓S	**Sb**	**03 19 20.4**	**-0.4**
	baz=0.6						
DECC	**Green Verdugo**	**0.61**	**75**	⇓P	**Pg**	**03 19 12.4**	**+0.5**
	baz=0.6,SNR=72						
DECC				⇑S	**Sg**	**03 19 21.1**	**+1.1**
	baz=0.6						
SBC	**Santa Barbara**	**0.66**	**302**	⇓P	**Pb**	**03 19 13.4**	**-0.2**
	baz=0.6,SNR=15						
SBC				⇓S	**Sb**	**03 19 23.4**	**+0.6**
	baz=0.6						
PASC	**Pasadena Art C**	**0.72**	**83**	*e*Pg	**Pg**	**03 19 13.5**	**-0.4**
PASC				*e*Sg	**Sg**	**03 19 23.7**	**+0.4**
FMP	**Fort Macarthur**	**0.73**	**121**	⇑P	**Pg**	**03 19 14.6**	**+0.5**
	baz=0.7,SNR=45						
FMP				⇑S	**Sb**	**03 19 24.9**	**+0.2**
	baz=0.7						
MWC	**Mount Wilson**	**0.83**	**80**	*e*Pg	**Pg**	**03 19 15.5**	**-0.5**
MWC				*e*Sg	**Sg**	**03 19 26.9**	**0.0**
CIS	**Catalina Islan**	**0.86**	**142**	⇑P	**Pg**	**03 19 16.4**	**-0.3**
	baz=0.9,SNR=253						
CIS				⇑S	**Sg**	**03 19 28.4**	**+0.4**
	baz=0.9						
ARVC	**Arvin**	**1.05**	**10**	⇓P	**Pb**	**03 19 19.8**	**-0.5**
	baz=1.1,SNR=132						
ARVC				⇑S	**Sg**	**03 19 33.6**	**-0.4**
	baz=1.1						
BFSC	**Mount Baldy Ra**	**1.16**	**82**	⇓P	**Pb**	**03 19 21.2**	**-0.9**
	baz=1.2,SNR=428						
BFSC				⇓S	**Sb**	**03 19 37.3**	**+0.1**
	baz=1.2						
EDW2	**Edwards Air Fo**	**1.17**	**47**	⇓P	**Pb**	**03 19 21.6**	**-0.8**
	baz=1.2,SNR=270						
EDW2				⇓S	**Sb**	**03 19 37.0**	**-0.7**
	baz=1.2						
SCI	**San Clemente I**	**1.18**	**159**	⇑P	**Pb**	**03 19 21.2**	**-1.3**
	baz=1.2,SNR=65						
SCI				⇑S	**Sb**	**03 19 38.1**	**+0.3**
	baz=1.2						
SMMC	**Simmler**	**1.45**	**327**	⇑P	**Pn**	**03 19 25.7**	**-0.6**
	baz=1.4,SNR=36						
SMMC				⇓S	**Sn**	**03 19 45.0**	**-0.3**
	baz=1.4						
MURC	**Murrieta**	**1.61**	**107**	⇓P	**Pn**	**03 19 27.3**	**-1.2**
	baz=1.6,SNR=121						
MURC				⇓S	**Sn**	**03 19 48.3**	**-1.0**
	baz=1.6						
ISA	**Isabella, Lake**	**1.64**	**16**	*e*Pn	**Pn**	**03 19 29.0**	**+0.1**
ISA				*e*Sn	**Sn**	**03 19 49.8**	**-0.2**
ISA	**Isabella, Lake**	**1.64**	**16**	⇑P	**Pn**	**03 19 28.8**	**-0.1**
	baz=1.6,SNR=132						
ISA				⇑S	**Sn**	**03 19 49.8**	**-0.2**
	baz=1.6						
VES	**Vestal, Richgr**	**1.75**	**359**	⇓P	**Pn**	**03 19 30.2**	**-0.2**
	baz=1.8,SNR=53						
VES				⇓S	**Sn**	**03 19 52.4**	**-0.2**
	baz=1.8						
BBRC	**Big Bear Solar**	**1.77**	**84**	⇓P	**Pn**	**03 19 30.7**	**-0.1**
	baz=1.8,SNR=77						
BBRC				⇑S	**Sn**	**03 19 53.6**	**+0.2**
	baz=1.8						
LRMC	**Laurel Mtn Rad**	**1.78**	**38**	⇑P	**Pn**	**03 19 30.4**	**-0.4**
	baz=1.8,SNR=34						
LRMC				⇑S	**Sn**	**03 19 52.7**	**-0.8**
	baz=1.8						
RRX	**Edison Barstow**	**1.86**	**64**	⇓P	**Pn**	**03 19 32.2**	**+0.3**
	baz=1.9,SNR=14						
RRX				⇓Sb	**Sb**	**03 19 58.6**	**+1.2**
	baz=1.9						
109C	**Camp Elliot, M**	**2.01**	**126**	⇓P	**Pn**	**03 19 32.1**	**-1.9**
	baz=2.0,SNR=27						
109C				⇑S	**Sn**	**03 19 55.6**	**-3.5**
	baz=2.0						
GSC	**Goldstone, Bar**	**2.20**	**56**	*e*Pn	**Pn**	**03 19 36.2**	**-0.5**
GSC				*e*Pg	**Pg**	**03 19 42.3**	**0.0**
GSC				*e*Sg	**Sb**	**03 20 08.8**	**+1.4**
	baz=2.2						
GSC	**Goldstone, Bar**	**2.20**	**56**	⇓P	**Pn**	**03 19 36.6**	**-0.1**
	baz=2.2,SNR=81						
GSC				⇓S	**Sn**	**03 20 03.2**	**-0.8**
	baz=2.2						
PFO	**Pinyon Flats O**	**2.21**	**102**	*e*Pn	**Pn**	**03 19 35.8**	**-0.9**
PFO				*e*Pg	**Pg**	**03 19 42.8**	**+0.5**
PFO				*e*Sg	**Sb**	**03 20 08.8**	**+1.4**
PFO	**Pinyon Flats O**	**2.21**	**102**	⇑P	**Pn**	**03 19 35.9**	**-0.9**
	baz=2.2,SNR=33						
RCTC	**Rector, Farmer**	**2.22**	**356**	⇑P	**Pn**	**03 19 36.3**	**-0.5**
	baz=2.2,SNR=21						
RCTC				⇑S	**Sn**	**03 20 04.3**	**0.0**
	baz=2.2						
MPMC	**Manual Prospec**	**2.34**	**32**	⇑P	**Pn**	**03 19 38.3**	**-0.5**
	baz=2.4,SNR=57						
HEC	**Hector,Ludlow**	**2.36**	**71**	⇓P	**Pn**	**03 19 38.4**	**-0.4**
	baz=2.4,SNR=59						
BAR	**Barrett**	**2.43**	**125**	*e*Pn	**Pn**	**03 19 38.3**	**-1.4**
BAR				*e*Pg	**Pb**	**03 19 44.7**	**+0.9**
BAR				*e*Sn	**Sn**	**03 20 06.5**	**-3.0**
BAR				*e*Sg	**Sb**	**03 20 15.6**	**+1.8**
DAC	**Darwin (Calif)**	**2.48**	**28**	*e*Pn	**Pn**	**03 19 40.3**	**-0.3**
DAC				*e*Pg	**Pg**	**03 19 46.8**	**-0.9**
DAC				*e*Sn	**Sn**	**03 20 08.8**	**-2.3**
DAC				*e*Sg	**Sg**	**03 20 20.6**	**+0.6**
MONP	**Monument Peak,**	**2.50**	**118**	⇑P	**Pn**	**03 19 39.9**	**-0.9**
	baz=2.5,SNR=17						
MONP				⇑S	**Sn**	**03 20 09.5**	**-1.9**
	baz=2.5						
BELC	**Belle Mtn. Jos**	**2.53**	**91**	P	**Pn**	**03 19 40.7**	**-0.5**
	baz=2.5,SNR=75						
IBP	**Imperial Bould**	**2.85**	**119**	⇓S	**Sn**	**03 20 19.1**	**-0.8**
	baz=2.9						
GMRC	**Granite Mounta**	**2.88**	**75**	P	**Pn**	**03 19 45.4**	**-0.6**
	baz=2.9,SNR=26						
TUQ	**Turquoise Moun**	**2.90**	**61**	⇓P	**Pn**	**03 19 46.1**	**-0.1**
	baz=2.9,SNR=25						
SHOC	**Shoshone, Teco**	**2.90**	**51**	P	**Pn**	**03 19 46.3**	**+0.1**
	baz=2.9,SNR=21						
BC3	**Big Chuckawall**	**3.02**	**97**	⇓P	**Pn**	**03 19 47.0**	**-0.9**
	baz=3.0,SNR=22						
TIN	**Tinemaha, Big**	**3.03**	**12**	⇓P	**Pn**	**03 19 47.3**	**-0.8**
	baz=3.0,SNR=7.8						
GRAC	**Grapevine Rang**	**3.21**	**25**	⇓P	**Pn**	**03 19 51.8**	**+1.3**
	baz=3.2,SNR=19						
IRM	**Iron Mountain**	**3.23**	**88**	P	**Pn**	**03 19 49.8**	**-1.0**
	baz=3.2,SNR=8.3						
SAO	**San Andreas Ge**	**3.31**	**324**	*e*Pn	**Pn**	**03 19 50.4**	**-1.5**
LDFC	**Landfair**	**3.39**	**72**	*e*Pn	**Pn**	**03 19 51.9**	**-1.1**
LDFC				*e*Sg	**Sg**	**03 20 47.1**	**-1.9**
MLAC	**Mammoth, Mammo**	**3.54**	**3**	⇓Pb	**Pb**	**03 20 02.9**	**+0.1**
	baz=3.5,SNR=15						
TPNV	**Topopah Spring**	**3.65**	**38**	⇓P	**Pn**	**03 19 56.9**	**+0.3**
	baz=3.7,SNR=14						
NEE2	**Needles Airpor**	**3.72**	**78**	⇓P	**Pn**	**03 19 57.0**	**-0.4**
	baz=3.7,SNR=13						
Y12C	**Blythe**	**3.77**	**94**	⇑P	**Pn**	**03 19 57.2**	**-1.0**
	baz=3.8						
SHPR	**Sheep Range**	**3.99**	**52**	*e*Pn	**Pn**	**03 20 01.6**	**+0.4**
PDMCI	**Parker Dam,Lak**	**4.07**	**86**	⇓P	**Pn**	**03 20 02.1**	**-0.1**
	ba

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**1.81**	**30**	P	**Pn**	**03 31 07.6**	**+2.1**
JHHJ				S	**Sn**	**03 31 32.4**	**+1.7**
JCJ	**Chichijima**	**2.22**	**24**	P	**Pn**	**03 31 12.9**	**+2.5**
	374nm,0.3s,baz=129,slow=6.6,SNR=309						
JCJ				S	**Sn**	**03 31 40.3**	**+1.0**
	422nm,0.3s,baz=261,slow=22,SNR=21						
CBIJ	**Chichi jima**	**2.22**	**24**	P	**Pn**	**03 31 12.4**	**+2.1**
CBIJ	**Chichi jima**	**2.22**	**24**	*e*Pn	**Pn**	**03 31 12.5**	**+2.2**
CBIJ				e**S**n	**Sn**	**03 31 39.7**	**+0.3**
JHCJ	**Hachijojimakas**	**8.07**	**352**	P	**Pn**	**03 32 29.2**	**+2.3**
JHJ2	**Mitsune**	**8.10**	**352**	P	**Pn**	**03 32 29.3**	**+1.9**
JHJ2				S	**Sn**	**03 33 56.2**	**-1.4**
BSO1	**Boso 1**	**9.56**	**359**	P	**Pn**	**03 32 46.3**	**0.0**
BSO3	**Boso 3**	**9.72**	**357**	P	**Pn**	**03 32 48.4**	**-0.3**
BSO3				S	**Sn**	**03 34 34.1**	**-2.1**
BSO4	**Boso 4**	**9.92**	**356**	P	**Pn**	**03 32 51.9**	**+0.4**
BSO4				S	**Sn**	**03 34 38.4**	**-2.8**
JOD2	**Odawara 2**	**10.32**	**351**	P	**Pn**	**03 32 57.3**	**+0.4**
JOD2				S	**Sn**	**03 34 47.3**	**-3.8**
JNY	**Yasuok**	**10.64**	**345**	P	**Pn**	**03 33 02.5**	**+1.2**
JHU	**Hanno**	**10.87**	**352**	P	**Pn**	**03 33 03.6**	**-0.6**
JHU				S	**Sn**	**03 34 59.2**	**-5.1**
JRY	**Ryogami san**	**11.09**	**350**	P	**Pn**	**03 33 06.6**	**-0.5**
JRY				S	**Sn**	**03 35 06.9**	**-2.7**
JYT	**Yasato**	**11.16**	**356**	P	**Pn**	**03 33 07.0**	**-0.9**
JYT				S	**Sn**	**03 35 06.3**	**-4.9**
JAG	**Ashikaga**	**11.42**	**353**	P	**Pn**	**03 33 09.4**	**-2.0**
JAG				S	Sn	03 35 11.1	-6.4
JHO	**Hitachi**	**11.52**	**358**	P	**Pn**	**03 33 11.2**	**-1.5**
JHO				S	Sn	03 35 12.9	-7.1
MJAR	**Matsushiro Arr**	**11.71**	**348**	P	**Pn**	**03 33 14.5**	**-0.8**
	1.0nm,0.3s,baz=159,slow=11,SNR=12						
MJAR				S	Sn	03 35 16.1	-8.6
	0.5nm,0.3s,baz=145,slow=13,SNR=3.9						
MJAR	**Matsushiro Arr**	**11.71**	**348**	P	**Pn**	**03 33 14.5**	**-0.8**
MJAR				S	Sn	03 35 16.1	-8.6
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR				smax	smax		
	comp=N,1.0nm,0.3s						
MAJO	**Matsushiro**	**11.72**	**348**	*e*P	**Pn**	**03 33 15.5**	**+0.2**
MAJO	**Matsushiro**	**11.72**	**348**	*e*Pn	**Pn**	**03 33 15.5**	**+0.2**
MAT	**Matsushiro**	**11.72**	**348**	P	**Pn**	**03 33 15.4**	**+0.1**
MAT				S	**Sn**	**03 35 23.9**	**-0.8**
JNU	**Nakatsue**	**12.04**	**314**	P	**P**	**03 33 24.7**	**-1.6**
	comp=N,0.2nm,0.3s,baz=65,slow=6.4,SNR=5.7						
JNU	**Nakatsue**	**12.04**	**314**	*e*Pn	**Pn**	**03 33 19.7**	**+0.1**
JFK	**Kawauchi**	**12.27**	**359**	P	**Pn**	**03 33 20.7**	**-1.8**
JFK				S	Sn	03 35 29.0	-9.0
KSRS	**Korea Array**	**16.72**	**321**	P	**Pn**	**03 34 20.8**	**+2.5**
	comp=N,1.0nm,0.3s,baz=135,slow=11,SNR=41						
KSRS	**Korea Array**	**16.72**	**321**	P	**Pn**	**03 34 20.8**	**+2.5**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**16.99**	**5**	*e*P	**Pn**	**03 34 22.7**	**+1.3**
ASAJ	**Asahikawa**	**19.04**	**3**	P	**Pn**	**03 34 46.1**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=208,slow=16,SNR=10						
ASAJ	**Asahikawa**	**19.04**	**3**	P	**Pn**	**03 34 46.1**	**+0.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**19.04**	**3**	*e*P	**Pn**	**03 34 46.0**	**+0.3**
	comp=Z,4.1nm,0.8s						
USRK	**Ussurisk Ar.**	**20.50**	**341**	P	**P**	**03 34 59.8**	**+0.8**
	comp=Z,1.6nm,0.5s,baz=165,slow=11,SNR=6.4						
MDJ	**Mudanjiang**	**21.65**	**337**	P	**P**	**03 35 11.1**	**-0.2**
MDJ				PMZ			
	comp=Z,3.0nm,0.5s						
MDJ				PMZ			
	comp=Z,80nm,6.0s						
CN2	**Changchun**	**22.67**	**329**	*e*P	**P**	**03 35 20.3**	**-1.2**
HABR	**Khabarovsk**	**23.85**	**350**	*e*P	**P**	**03 35 31.1**	**-1.2**
HABR				*e**PP	**pP**	**03 35 59.1**	**-2.3**
HABR				*e*SP		03 36 16.7	
HABR				*e*		03 39 09.1	
HABR				S	**S**	**03 39 38.3**	**+1.0**
HABR				*e*SS	**SnSn**	**03 40 30.1**	**-5.2**
HABR				*e*		03 46 21.6	
HABR				pmax	pmax		
	comp=Z,36nm,1.1s						
HABR				pmax	pmax		
	comp=N,35nm,1.4s						
HABR				pmax	pmax		
	comp=E,23nm,1.4s						
HABR				MLR	MLR		
	comp=Z,176nm,21.0s						
UGL	**Uglegorsk**	**23.98**	**1**	P	**P**	**03 35 33.1**	**-0.3**
UGL				*e*SP		03 36 18.4	
UGL				*e*		03 39 09.9	
UGL				*e*S	**S**	**03 39 41.1**	**+1.8**
UGL				*e*SS	**SnSn**	**03 40 33.2**	**-5.1**
UGL						03 46 22.6	
HHC	**Hu-ho-hao-te**	**29.22**	**310**	*e*P	**P**	**03 36 22.6**	**+2.0**
HHC				pP	**pP**	**03 36 52.3**	**+0.4**
HHC				sP	**sP**	**03 37 06.3**	**-2.6**
HHC				PP	**PnPn**	**03 37 24.4**	**+3.1**
HHC				S	**S**	**03 41 04.6**	**+2.1**
HHC				SS	**SnSn**	**03 42 47.8**	**+1.8**
HHC				PMZ			
	comp=Z,16nm,0.9s						
HHC				PMZ			
	comp=Z,65nm,5.1s						
PETK	**Petropavlovsk-**	**30.65**	**20**	P	**P**	**03 36 33.0**	**0.0**
	comp=Z,0.8nm,0.4s,baz=213,slow=5.0,SNR=4.9						
PETK	**Petropavlovsk-**	**30.65**	**20**	P	**P**	**03 36 33.0**	**0.0**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
LZH	**Lanzhou**	**33.76**	**298**	*e*P	**P**	**03 37 00.9**	**+0.3**
LZH				pP	**pP**	**03 37 32.1**	**-0.1**
LZH				sP	**sP**	**03 37 48.5**	**-0.6**
LZH				PMZ			
	comp=Z,14nm,1.0s						
PMG	**Port Moresby**	**34.76**	**170**	*e*P	P	03 37 06.3	-2.8
PMG				pmax	pmax		
	comp=Z,29nm,1.0s						
PMG	**Port Moresby**	**34.76**	**170**	*e*P	P	03 37 06.3	-2.8
	comp=Z,29nm,1.0s						
ULN	**Ulaanbaatar**	**35.20**	**319**	*e*P	**P**	**03 37 12.7**	**-0.1**
ULN				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SONM	**Songino Array**	**35.58**	**319**	P	**P**	**03 37 16.5**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=131,slow=7.9,SNR=3.5						
SONM	**Songino Array**	**35.58**	**319**	P	**P**	**03 37 16.5**	**+0.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YAK	**Yakutsk**	**37.76**	**351**	*e*P	**P**	**03 37 32.5**	**-1.5**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SEY	**Seymchan**	**38.59**	**8**	*e*P	**P**	**03 37 42.3**	**+1.3**
COEN	**Coen**	**38.84**	**177**	*e*P	**P**	**03 37 42.7**	**-0.8**
CMAR	**Chiang Mai Arr**	**39.63**	**269**	P	**P**	**03 37 52.0**	**+1.8**
	comp=Z,0.9nm,0.3s,baz=64,slow=9.5,SNR=4.3						
CMAR	**Chiang Mai Arr**	**39.63**	**269**	P	**P**	**03 37 52.1**	**+1.8**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CTAO	**Charters Tower**	**45.16**	**173**	*e*P	**P**	**03 38 33.3**	**-1.5**
CTAO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CTAO	**Charters Tower**	**45.16**	**173**	*e*P	**P**	**03 38 33.3**	**-1.5**
	comp=Z,4.3nm,0.8s						
WRAB	**Tennant Creek**	**45.22**	**189**	*c i*P	**P**	**03 38 34.0**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,48nm,0.9s						
WRAB	**Tennant Creek**	**45.22**	**189**	*e*P	**P**	**03 38 33.6**	**-1.6**
	comp=Z,18nm,0.6s						
WRA	**Warramunga Arr**	**45.23**	**189**	P	**P**	**03 38 34.0**	**-1.3**
	comp=Z,14nm,0.5s,baz=7.8,slow=8.7,SNR=198						
WRA				pP	**pP**	**03 39 08.8**	**+0.4**
	comp=Z,4.7nm,0.8s,baz=9.2,slow=8.5,SNR=3.5						
WRA	**Warramunga Arr**	**45.23**	**189**	P	**P**	**03 38 34.0**	**-1.3**
WRA				*PP	**pP**	**03 39 08.8**	**+0.4**
WRA				pmax	pmax		
	comp=Z,14nm,0.5s						
WRA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
WMQ	**Urumqi**	**47.03**	**307**	*e*P	**P**	**03 38 49.6**	**+0.2**
WMQ				pP	**pP**	**03 39 21.5**	**-1.2**
WMQ				sP	**sP**	**03 39 37.5**	**-1.7**
WMQ				PMZ			
	comp=Z,9.0nm,0.4s						
WMQ				PMZ			
	comp=Z,130nm,4.8s						
WMQ				LN			
	comp=Z,24nm,21.2s						
WMQ				LE			
	comp=Z,26nm,19.0s						
WMQ				LZ			
	comp=Z,16nm,22.8s						
TAPN	**Taplejung**	**47.70**	**285**	*e*P	**P**	**03 38 56.8**	**+1.7**
	comp=Z,8.5nm,0.6s						
ODAN	**Odare**	**48.07**	**284**	*e*P	**P**	**03 38 57.3**	**-0.5**
	comp=Z,13nm,0.4s						
ASAR	**Alice Springs**	**48.95**	**189**	P	**P**	**03 39 02.4**	**-1.8**
	comp=Z,0.9nm,0.6s,baz=16,slow=9.8,SNR=11						
ASAR				PcP	**PcP**	**03 40 25.2**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=8.3,slow=3.3,SNR=4.3						
ASAR	**Alice Springs**	**48.95**	**189**	P	**P**	**03 39 02.4**	**-1.8**
ASAR						03 40 25.2	
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
JIRN	**Jiri**	**48.98**	**286**	*e*P	**P**	**03 39 07.1**	**+2.2**
	comp=Z,35nm,0.5s						
GUN	**Gumba**	**49.20**	**286**	*e*P	**P**	**03 39 08.6**	**+2.0**
	comp=Z,21nm,0.5s						
PKIN	**Phulchoki**	**49.68**	**286**	*e*P	**P**	**03 39 11.5**	**+1.3**
	comp=Z,5.0nm,0.4s						
KKN	**Kakani**	**49.75**	**286**	*e*P	**P**	**03 39 12.9**	**+2.3**
GKN	**Gorkha**	**50.27**	**286**	*e*P	**P**	**03 39 16.8**	**+2.4**
ZALV	**Zalesovo Beam**	**50.43**	**320**	P	**P**	**03 39 14.2**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=115,slow=8.3,SNR=5.7						
ZALV	**Zalesovo Beam**	**50.43**	**320**	P	**P**	**03 39 14.2**	**-0.8**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MK31	**Makanchi Array**	**51.07**	**311**	*e*P	**P**	**03 39 20.5**	**+0.5**
MK31	**Makanchi Array**	**51.07**	**311**	*e*P	**P**	**03 39 20.5**	**+0.5**
MKAR	**Makanchi Array**	**51.07**	**311**	P	**P**	**03 39 20.4**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=92,slow=5.4,SNR=15						
MKAR	**Makanchi Array**	**51.07**	**311**	*e*P	**P**	**03 39 20.7**	**+0.7**
MKAR	**Makanchi Array**	**51.07**	**311**	*e*P	**P**	**03 39 20.6**	**+0.7**
KOLN	**Koldanda**	**51.21**	**286**	*e*P	**P**	**03 39 23.6**	**+2.0**
	comp=Z,18nm,0.6s						
KURK	**Kurchatov**	**53.76**	**316**	*e*P	**P**	**03 39 39.8**	**+0.1**
KURK	**Kurchatov**	**53.76**	**316**	*e*P	**P**	**03 39 39.8**	**+0.1**
TKM2	**Tokmak 2**	**55.84**	**306**	*e*P	**P**	**03 39 55.6**	**+0.5**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TKM2	**Tokmak 2**	**55.84**	**306**	*e*P	**P**	**03 39 55.6**	**+0.5**
	comp=Z,1.9nm,0.6s						
KSH	**Kashi**	**55.84**	**302**	P	P	03 39 59.6	+4.6
KSH				pP	pP	03 40 32.6	+3.3
KSH				PP	PP	03 42 07.3	+6.3
KSH				PcS	**PcS**	**03 44 54.8**	**+2.0**
KSH				S	**S**	**03 47 35.0**	**+4.0**
KSH				PMZ			
	comp=Z,50nm,3.6s						
KSH				LN			
	comp=Z,110nm,5.6s						
KSH				LE			
	comp=Z,130nm,8.2s						
KSH				LZ			
	comp=Z,170nm,5.1s						
KDAK	**Kodiak Island**	**56.54**	**36**	*e*P	**P**	**03 40 00.1**	**+0.6**
STKA	**Stephens Creek**	**56.62**	**180**	P	**P**	**03 39 59.0**	**-1.3**
	comp=Z,5.4nm,0.5s,baz=2.0,slow=7.0,SNR=24						
STKA	**Stephens Creek**	**56.62**	**180**	P	**P**	**03 39 59.0**	**-1.3**
STKA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
STKA	**Stephens Creek**	**56.62**	**180**	*e*P	**P**	**03 39 59.4**	**-0.9**
	comp=Z,11nm,1.9s						
AAK	**Ala-Archa**	**56.67**	**306**	*e*P	**P**	**03 40 00.9**	**0.0**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.7s						
FORT	**Forrest**	**56.93**	**193**	*e*P	**P**	**03 40 01.2**	**-1.2**
	comp=Z,26nm,1.0s						
PPLA	**Purkeypile**	**57.38**	**30**	*e*P	**P**	**03 40 06.8**	**+1.4**
	comp=Z,3.6nm,0.6s						
CAST	**Castle Rocks**	**57.50**	**29**	*e*P	**P**	**03 40 07.9**	**+1.7**
	comp=Z,5.8nm,0.8s						
BPAW	**Bear Paw Mtn.**	**58.09**	**29**	*e*P	**P**	**03 40 11.6**	**+1.3**
	comp=Z,1.9nm,1.0s						
MCK	**McKinley**	**58.94**	**29**	*e*P	**P**	**03 40 16.7**	**+0.5**
MCK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MCK	**McKinley**	**58.94**	**29**	*e*P	**P**	**03 40 16.7**	**+0.5**
	comp=Z,10nm,0.8s						
BRVK	**Borovoye**	**58.98**	**318**	*e*P	**P**	**03 40 16.9**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK	**Borovoye**	**58.98**	**318**	*e*P	**P**	**03 40 14.9**	**-1.7**
	comp=Z,3.5nm,0.9s						
COLA	**College**	**59.53**	**28**	*e*P	**P**	**03 40 22.0**	**+1.9**
COLA				pmax	pmax		
	comp=Z,11nm,0.7s						
COLA	**College**	**59.53**	**28**	*e*P	**P**	**03 40 21.4**	**+1.2**
	comp=Z,4.5nm,0.8s						
KKAR	**Karatay Array**	**59.53**	**307**	*e*P	**P**	**03 40 21.0**	**+0.3**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KKAR	**Karatay Array**	**59.53**	**307**	*e*P	**P**	**03 40 21.0**	**+0.3**
	comp=Z,4.1nm,0.6s						
ILAR	**Eielson Array**	**59.93**	**28**	P	**P**	**03 40 22.8**	**-0.2**
	comp=Z,3.6nm,0.8s,baz=257,slow=5.7,SNR=42						
ILAR				pP	**pP**	**03 41 00.1**	**+2.5**
	comp=Z,0.9nm,0.8s,baz=266,slow=5.9,SNR=3.1						
ILAR	**Eielson Array**	**59.93**	**28**	P	**P**	**03 40 22.8**	**-0.2**
ILAR				*PP	**pP**	**03 41 00.2**	**+2.5**
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PAX	**Paxson**	**60.44**	**30**	*e*P	**P**	**03 40 26.4**	**-0.2**
PAX				pmax	pmax		
	comp=Z,75nm,2.2s						
PAX	**Paxson**	**60.44**	**30**	*e*P	**P**	**03 40 26.4**	**-0.2**
	comp=Z,75nm,2.2s						
DOT	**Dot Lake**	**61.10**	**29**	*e*P	**P**	**03 40 31.1**	**+0.2**
	comp=Z,7.7nm,0.8s						
INK	**Inuvik**	**65.25**	**24**	*e*P	**P**	**03 40 58.4**	**+0.3**
INK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
INK	**Inuvik**	**65.25**	**24**	*e*P	**P**	**03 40 58.4**	**+0.3**
	comp=Z,5.7nm,0.7s						
ABKAR	**Akkulak array**	**65.85**	**315**	*e*P	**P**	**03 41 01.8**	**-0.5**
YKA	**Yellowknife Ar**	**74.36**	**28**	P	**P**	**03 41 54.0**	**+0.1**
	comp=Z,5.7nm,0.5s,baz=294,slow=5.8,SNR=109						
YKA	**Yellowknife Ar**	**74.36**	**28**	P	**P**	**03 41 54.0**	**+0.1**
YKA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ARCES	**ARCESS Array B**	**75.15**	**341**	P	**P**	**03 41 57.8**	**-0.5**
	comp=Z,4.8nm,0.6s,baz=69,slow=8.1,SNR=40						
ARCES	**ARCESS Array B**	**75.15**	**341**	P	**P**	**03 41 57.8**	**-0.5**
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.6s						
OBN	**Obninsk**	**77.66**	**325**	*e*P	**P**	**03 42 13.1**	**+0.4**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
J04D	**Umpqua Nationa**	**77.89**	**48**	⇓P	**P**	**03 42 14.7**	**+0.2**
	baz=78						
YBH	**Yreka Blue Hor**	**78.06**	**50**	P	**P**	**03 42 16.2**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=270,slow=1.0,SNR=2.8						
YBH	**Yreka Blue Hor**	**78.06**	**50**	P	**P**	**03 42 16.2**	**+0.8**
YBH				pmax	pmax		
	comp=Z,1.0nm,0.6s						
K04D	**Chiloquin, OR**	**78.37**	**48**	⇓P	**P**	**03 42 17.2**	**+0.1**
	baz=78						
J05D	**Fort Rock, OR**	**78.46**	**48**	⇓P	**P**	**03 42 18.4**	**+0.8**
	baz=78						
KBZ	**Khabaz**	**78.71**	**313**	P	**P**	**03 42 18.8**	**+0.1**
	comp=Z,3.7nm,0.7s,baz=56,slow=24,SNR=10						
KBZ	**Khabaz**	**78.71**	**313**	P	**P**	**03 42 18.8**	**+0.1**
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NEW	**Newport**	**79.03**	**42**	*e*P	**P**	**03 42 21.9**	**+1.4**
NEW				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NEW	**Newport**	**79.03**	**42**	*e*P	**P**	**03 42 21.9**	**+1.4**
	comp=Z,3.4nm,0.9s						
NEW	**Newport**	**79.03**	**42**	⇑P	**P**	**03 42 20.8**	**+0.3**
	baz=79						
FINES	**FINESS Array B**	**79.35**	**334**	P	**P**	**03 42 20.5**	**-1.4**
	comp=Z,2.2nm,0.4s,baz=88,slow=4.5,SNR=51						
FINES	**FINESS Array B**	**79.35**	**334**	P	**P**	**03 42 20.5**	**-1.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
OHCM	**Honcut**	**79.87**	**51**	*e*P	P	03 42 29.7	+4.6
WALA	**Waterton Lakes**	**80.58**	**40**	*e*P	**P**	**03 42 30.3**	**+1.3**
	comp=Z,8.7nm,0.9s						
JTMT	**Jette**	**80.97**	**41**	*e*P	**P**	**03 42 32.4**	**+1.4**
SWMT	**Swartz Lake**	**81.25**	**42**	*e*P	**P**	**03 42 33.1**	**+0.6**
	comp=Z,3.3nm,0.8s						
MSO	**Missoula**	**81.60**	**42**	⇓P	**P**	**03 42 34.9**	**+0.5**
	baz=82						
SLMT	**Seeley Lake**	**81.67**	**42**	*e*P	**P**	**03 42 35.2**	**+0.4**
	comp=Z,3.2nm,0.7s						
MFID	**Camas Ranch**	**81.97**	**46**	*e*P	**P**	**03 42 37.9**	**+1.6**
	comp=Z,3.0nm,0.8s						
NVAR	**Mina Array Bea**	**82.50**	**51**	P	**P**	**03 42 39.2**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=294,slow=6.0,SNR=7.0						
NVAR				pP	**pP**	**03 43 18.9**	**+2.7**
	comp=Z,0.7nm,0.7s,baz=298,slow=4.9,SNR=3.7						
SUMG	**Summit**	**82.61**	**360**	*i* P	P	03 42 36.6	-2.9
	comp=Z,5.0nm,0.8s						
SUMG	**Summit**	**82.61**	**360**	*e*P	P	03 42 36.6	-2.9
SUMG				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HLID	**Hailey**	**82.82**	**45**	⇓P	**P**	**03 42 41.6**	**+0.8**
	baz=83						
LRM	**Limekiln Ridge**	**82.98**	**43**	*e*P	**P**	**03 42 42.7**	**+1.0**
SBC	**Santa Barbara**	**83.21**	**55**	⇑P	**P**	**03 42 42.8**	**0.0**
	baz=83						
EGMT	**Eagleton**	**83.50**	**40**	*e*P	**P**	**03 42 45.0**	**+0.9**
	comp=Z,6.9nm,0.8s						
EGMT	**Eagleton**	**83.50**	**40**	⇓P	**P**	**03 42 45.0**	**+0.9**
	baz=84,SNR=6.4						
AKASG	**Malin Array Be**	**83.70**	**324**	P	**P**	**03 42 43.4**	**-1.5**
	comp=Z,0.7nm,0.4s,baz=47,slow=5.3,SNR=5.6						
AKASG	**Malin Array Be**	**83.70**	**324**	P	**P**	**03 42 43.4**	**-1.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KIEV	**Kiev**	**83.71**	**324**	*e*P	**P**	**03 42 43.6**	**-1.4**
B19A	**Brinkman Farms**	**83.75**	**39**	⇑P	**P**	**03 42 46.2**	**+0.9**
	baz=84,SNR=11						
FFC	**Flin Flon**	**83.95**	**31**	*e*P	**P**	**03 42 46.0**	**-0.1**
FFC	**Flin Flon**	**83.95**	**31**	*e*P	**P**	**03 42 46.0**	**-0.1**
C19A	**Slack Wire Ran**	**84.06**	**40**	⇓P	**P**	**03 42 47.4**	**+0.4**
	baz=84,SNR=7.8						
QLMT	**Earthquake Lak**	**84.09**	**43**	*e*P	**P**	**03 42 48.4**	**+1.0**
	comp=Z,0.5nm,0.5s						
A20A	**Cobblestone Ra**	**84.11**	**38**	⇓P	**P**	**03 42 47.7**	**+0.5**
	baz=84						
MPMC	**Manual Prospec**	**84.13**	**53**	⇑P	**P**	**03 42 48.4**	**+0.7**
	baz=84						
FURC	**Furnace Creek,**	**84.40**	**52**	⇑P	**P**	**03 42 50.0**	**+1.2**
	baz=84						
R11A	**Troy Canyon, C**	**84.45**	**50**	⇑P	**P**	**03 42 49.9**	**+0.7**
	baz=84						
D19A	**Cripps Ranch,**	**84.45**	**40**	⇓P	**P**	**03 42 49.7**	**+0.8**
	baz=84,SNR=7.8						
A21A	**Bergtoll Ranch**	**84.61**	**38**	⇓P	**P**	**03 42 50.4**	**+0.8**
	baz=85,SNR=13						
TPNV	**Topopah Spring**	**84.62**	**52**	⇑P	**P**	**03 42 50.9**	**+0.8**
	baz=85,SNR=5.1						
C20A	**Veseth Ranch,**	**84.67**	**39**	⇓P	**P**	**03 42 50.9**	**+0.9**
	baz=85,SNR=6.2						
FCC	**Fort Churchill**	**84.83**	**25**	*e*P	**P**	**03 42 49.5**	**-0.9**
FCC	**Fort Churchill**	**84.83**	**25**	*e*P	**P**	**03 42 49.5**	**-0.9**
H17A	**Grant Village**	**84.84**	**43**	*e*P	**P**	**03 42 54.3**	**+3.1**
	comp=Z,5.5nm,0.8s						
B21A	**Ellsworth Farm**	**84.86**	**38**	⇑P	**P**	**03 42 51.5**	**+0.6**
	baz=85						
IMW	**Indian Meadow**	**84.86**	**44**	*e*P	**P**	**03 42 53.1**	**+1.7**
	comp=Z,3.7nm,0.7s						
LKWY	**Lake**	**84.86**	**43**	*e*P	**P**	**03 42 54.1**	**+2.8**
LKWY				pmax	pmax		
	comp=Z,9.0nm,0.9s						
LKWY	**Lake**	**84.86**	**43**	*e*P	**P**	**03 42 54.1**	**+2.8**
	comp=Z,9.5nm,0.9s						
E19A	**Rath Farm, Rou**	**84.87**	**41**	⇑P	**P**	**03 42 52.0**	**+0.9**
	baz=85,SNR=6.2						
FLWY	**Flagg Ranch**	**84.92**	**43**	*e*P	**P**	**03 42 53.2**	**+1.6**
	comp=Z,4.4nm,0.9s						
FXWY	**Fox Creek**	**84.94**	**44**	*e*P	**P**	**03 42 53.6**	**+2.0**
	comp=Z,7.1nm,1.6s						
GSC	**Goldstone, Bar**	**84.97**	**53**	⇑P	**P**	**03 42 52.6**	**+0.7**
	baz=85						
RRX	**Edison Barstow**	**85.02**	**54**	⇓P	**P**	**03 42 52.8**	**+0.8**
	baz=85						
MOOW	**Moose Ponds**	**85.06**	**44**	*e*P	**P**	**03 42 53.7**	**+1.4**
I17A	**Pilgrim Ck.**	**85.08**	**44**	⇓P	**P**	**03 42 52.8**	**+0.5**
	baz=85						
SHOC	**Shoshone, Teco**	**85.08**	**53**	⇑P	**P**	**03 42 53.4**	**+1.1**
	baz=85						
F19A	**Roth Farm, Mol**	**85.09**	**41**	⇑P	**P**	**03 42 53.4**	**+1.1**
	baz=85						
RAYN	**Ar Rayn**	**85.11**	**294**	*e*P	**P**	**03 42 53.5**	**+0.9**
	comp=Z,2.0nm,0.8s						
C21A	**Desert Coulee**	**85.13**	**39**	⇑P	**P**	**03 42 53.3**	**+1.0**
	baz=85						
NB2	**NORSAR Subarra**	**85.14**	**338**	P	**P**	**03 42 49.7**	**-2.4**
	comp=Z,1.1nm,0.6s,baz=49,slow=4.6						
NOA	**NORSAR Array B**	**85.14**	**338**	P	**P**	**03 42 49.9**	**-2.2**
	comp=Z,1.5nm,0.6s,baz=47,slow=4.8,SNR=10.0						
NOA	**NORSAR Array B**	**85.14

F22A	Rosebud	86.72	40	⇑P		P	03 43 00.6	+0.4	
	baz=87								
A25A	Svangstu Ranch	86.72	37	⇓P		P	03 43 00.8	+0.7	
	baz=87								
C24A	Savage	86.80	38	⇓P		P	03 43 01.2	+0.7	
	baz=87								
J20A	Shoshoni	86.92	43	⇑P		P	03 43 01.5	+0.2	
	baz=87								
G22A	Birney	87.01	41	⇑P		P	03 43 02.0	+0.3	
	baz=87								
B25A	Knox Farm, Ray	87.08	37	⇑P		P	03 43 02.6	+0.7	
	baz=87								
D24A	Glendive	87.09	38	⇓P		P	03 43 03.0	+1.0	
	baz=87								
I21A	Big Trails, Te	87.17	42	⇓P		P	03 43 03.2	+0.7	
	baz=87								
W13A	Hualapai Mount	87.18	52	⇓P		P	03 43 03.4	+0.6	
	baz=87								
F23A	Volborg	87.25	40	⇓P		P	03 43 03.4	+0.7	
	baz=87								
H22A	Clearmont	87.31	41	⇑P		P	03 43 03.9	+0.8	
	baz=87								
J21A	Lysite	87.32	43	⇑P		P	03 43 04.2	+0.9	
	baz=87								
A26A	Wade Farm, Ken	87.33	36	⇑P		P	03 43 03.9	+0.9	
	baz=87								
C25A	Freed Ranch, W	87.35	38	⇓P		P	03 43 04.1	+1.0	
	baz=87								
Y12C	Blythe	87.36	54	⇓P		P	03 43 04.6	+1.2	
	baz=87								
B26A	Jensen Ranch,	87.53	37	⇓P		P	03 43 05.8	+1.8	
	baz=88								
BUR08	Bucovina Ar. S	87.59	323	*e*P		P	03 43 02.5	-1.9	
I22A	9 Mile Ranch,	87.61	42	⇑P		P	03 43 05.4	+0.8	
	baz=88								
D25A	Fairfield	87.64	38	⇑P		P	03 43 05.1	+0.6	
	baz=88								
U15A	North Rim	87.67	51	⇓P		P	03 43 04.9	-0.3	
	baz=88								
F24A	Ekalaka	87.74	40	⇑P		P	03 43 05.8	+0.7	
	baz=88								
K21A	Alcova	87.82	43	⇓P		P	03 43 06.1	+0.4	
	baz=88								
C26A	Wahner Farm, P	87.92	37	⇓P		P	03 43 06.2	+0.4	
	baz=88								
E25A	Miller Ranch,	87.97	39	⇑P		P	03 43 06.7	+0.6	
	baz=88								
N20A	Spence Gulch,	88.14	45	⇓P		P	03 43 07.6	+0.3	
	baz=88								
I23A	Meade Ranch, G	88.19	42	⇑P		P	03 43 07.6	+0.2	
	baz=88								
D26A	Manning	88.20	38	⇑P		P	03 43 07.7	+0.5	
	baz=88								
A28A	Rude Farm, Bot	88.26	35	⇓P		P	03 43 08.6	+1.2	
	baz=88								
F25A	Bowman	88.26	39	⇓P		P	03 43 08.5	+0.9	
	baz=88								
K22A	Casper	88.26	43	⇓P		P	03 43 08.4	+0.7	
	baz=88								
H24A	Dirks Ranch, A	88.30	41	⇑P		P	03 43 08.2	+0.4	
	baz=88								
C27A	Sayler Ranch,	88.31	37	⇑P		P	03 43 08.3	+0.6	
	baz=88								
113A	Mohawk Valley,	88.39	54	⇑P		P	03 43 08.9	+0.6	
	baz=88								
B28A	Dugan Ranch, T	88.49	36	⇑P		P	03 43 09.2	+0.7	
	baz=88								
E26A	Carlson Angus	88.51	38	⇑P		P	03 43 09.3	+0.6	
	baz=88								
O20A	White River Ci	88.52	46	⇓P		P	03 43 09.5	+0.4	
	baz=88								
WUAZ	Wupatki	88.77	51	⇑P		P	03 43 10.7	+0.4	
	baz=89								
A29A	Manning Farm,	88.79	35	⇑P		P	03 43 10.7	+0.8	
	baz=89								
M22A	Cedar Creek Ra	88.90	44	⇓P		P	03 43 11.5	+0.6	
	baz=89								
H25A	Fruitdale	88.93	40	⇑P		P	03 43 11.1	+0.4	
	baz=89								
E27A	Carson	89.04	38	⇑P		P	03 43 12.3	+1.2	
	baz=89								
F27A	Lemmon	89.11	39	⇓P		P	03 43 12.0	+0.5	
	baz=89								
G26A	Maurine	89.12	39	⇑P		P	03 43 12.0	+0.4	
	baz=89								
I25A	Rochford	89.19	41	⇑P		P	03 43 12.3	+0.2	
	baz=89								
MDND	Maddock	89.25	36	⇑P		P	03 43 12.8	+0.8	
	baz=89								
X16A	Lo Mia Camp, P	89.27	52	⇓P		P	03 43 13.2	+0.5	
	baz=89								
N22A	Wattenberg Ran	89.31	45	⇓P		P	03 43 13.1	+0.2	
	baz=89								
H26A	Fairpoint	89.41	40	⇓P		P	03 43 13.5	+0.6	
	baz=89								
G27A	Dupree	89.45	39	⇓P		P	03 43 13.9	+0.8	
	baz=89								
214A	Organ Pipe Nat	89.48	55	⇓P		P	03 43 14.4	+0.9	
	baz=90								
B30A	Myrvik Farm, E	89.55	35	⇓P		P	03 43 14.7	+1.2	
	baz=90								
N23A	Red Feather La	89.59	44	⇑P		P	03 43 15.1	+1.0	
	baz=90								
O22A	Kremmling	89.60	45	⇑P		P	03 43 15.1	+0.8	
	baz=90								
I26A	New Underwood	89.70	40	⇓P		P	03 43 15.4	+1.0	
	baz=90								
P22A	Eagle	89.77	46	⇑P		P	03 43 16.0	+1.0	
	baz=90								
H27A	Howes	89.81	40	⇓P		P	03 43 15.3	+0.5	
	baz=90								
F28A	McLaughlin	89.81	38	⇓P		P	03 43 14.8	+0.1	
	baz=90								
MVCO	Mesa Verde	89.89	48	⇓P		P	03 43 15.0	-0.6	
	baz=90								
C30A	Mose, Pekin	89.94	36	⇓P		P	03 43 15.5	+0.2	
	baz=90								
O23A	Lake Granby, G	89.98	45	⇑P		P	03 43 15.8	-0.2	
	baz=90								
L25A	Engebretsen Ra	90.11	42	⇑P		P	03 43 16.8	+0.4	
	baz=90								
W18A	Petrified Fore	90.12	51	⇑P		P	03 43 16.5	-0.1	
	baz=90								
I27A	Quinn	90.15	40	⇓P		P	03 43 16.7	+0.3	
	baz=90								
D30A	Buchanan	90.16	36	⇑P		P	03 43 16.3	0.0	
	baz=90								
G28A	Parade	90.21	39	⇓P		P	03 43 17.3	+0.7	
	baz=90								
X18A	Snowflake	90.27	51	⇓P		P	03 43 18.0	+0.7	
	baz=90								
K26A	Motz Farm, Whi	90.28	42	⇓P		P	03 43 17.1	0.0	
	baz=90								
F29A	Eureka	90.36	38	⇓P		P	03 43 17.6	+0.3	
	baz=90								
ISCO	Idaho Springs	90.40	45	⇓P		P	03 43 18.0	+0.1	
	baz=90								
VYHS	Vyhne	90.45	326	*e*P		P	03 43 16.9	-0.8	
VYHS	Vyhne	90.45	326	*e*P		P	03 43 16.9	-0.8	
E30A	Jud	90.46	37	⇑P		P	03 43 18.3	+0.6	
	baz=90								
P23A	Jefferson	90.49	46	⇓P		P	03 43 18.4	0.0	
	baz=90								
O24A	Longmont	90.57	45	⇓P		P	03 43 19.0	+0.5	
	baz=91								
J27A	Elkhorn Farm,	90.66	41	⇑P		P	03 43 19.4	+0.6	
	baz=91								
I28A	Midland	90.71	40	⇓P		P	03 43 19.8	+0.9	
	baz=91								
AGMN	Agassiz Nation	90.92	34	⇓P		P	03 43 19.7	-0.1	
	baz=91								
J28A	Allard Ranch,	91.01	40	⇓P		P	03 43 20.4	0.0	
	baz=91								
Q24A	Divide	91.16	46	⇑P		P	03 43 21.4	-0.2	
	baz=91								
SDCO	Great Sand Dun	91.61	47	⇓P		P	03 43 23.9	+0.3	
	baz=92								
I30A	Oacoma	91.76	39	⇑P		P	03 43 24.2	+0.4	
	baz=92								
K29A	Lazy Trails An	91.95	40	⇑P		P	03 43 25.0	+0.2	
	baz=92								
J30A	Dallas	92.08	40	⇓P		P	03 43 25.3	-0.1	
	baz=92								
Q26A	Hugo	92.23	45	⇓P		P	03 43 26.1	-0.2	
	baz=92								
ANMO	Albuquerque	92.49	49	*e*P		P	03 43 28.6	+1.0	
ANMO					pmax	pmax			
	comp=Z,20nm,2.5s								
R26A	Arlington	92.64	45	⇑P		P	03 43 28.1	-0.1	
	baz=93								
O28A	Krutsinger Ran	92.64	43	⇑P		P	03 43 27.9	-0.2	
	baz=93								
T25A	Trinidad	92.67	47	⇑P		P	03 43 28.1	-0.3	
	baz=93								
L30A	Spencer Herefo	92.79	41	⇓P		P	03 43 28.9	+0.2	
	baz=93								
N29A	Votaw Ranch, W	92.93	42	⇓P		P	03 43 29.5	+0.2	
	baz=93								
M30A	Dale-Ortello V	92.95	41	⇓P		P	03 43 29.5	+0.1	
	baz=93								
P28A	Saint Francis	92.97	44	⇑P		P	03 43 29.6	0.0	
	baz=93								
ECSD	EROS Data Cent	93.46	38	⇓P		P	03 43 31.5	-0.1	
	baz=93								
S28A	Manter	94.05	45	⇑P		P	03 43 35.0	+0.4	
	baz=94								
Q30A	Quinter	94.28	43	⇓P		P	03 43 35.6	0.0	
	baz=94								
SPMN	Marine on St.	94.53	35	⇑P		P	03 43 36.5	0.0	
	baz=94								
O32A	Brockman Farm,	94.69	41	⇓P		P	03 43 38.0	+0.6	
	baz=95								
TXAR	Lajitas Array	97.56	53	P		Pdif	03 43 51.8	+1.1	
	comp=Z,0.2nm,0.5s,baz=298,slow=1.9,SNR=4.5								
TORD	Torodi Ar. Bea	125.18	309	PKP		PKPdf	03 49 15.4	-1.2	
	comp=Z,0.7nm,1.1s,baz=83,slow=1.5,SNR=4.1								
PLCA	Paso Flores	149.34	128	PKPbc		PKPbc	03 50 03.7	-0.7	
	comp=Z,3.9nm,1.1s,baz=281,slow=5.2,SNR=3.3								
PLCA	Paso Flores	149.34	128	PKP2		PKPbc	03 50 03.7	-0.7	
PLCA					pmax	pmax			
	comp=Z,4.0nm,1.2s								
LPAZ	La Paz	151.29	78	PKPbc		PKPbc	03 50 09.5	-0.9	
	comp=Z,1.6nm,0.6s,baz=282,slow=1.6,SNR=11								
LPAZ	La Paz	151.29	78	PKIKP		PKPbc	03 50 09.5	-0.9	
LPAZ					pmax	pmax			
	comp=Z,2.0nm,0.6s								

IDC 15 03:41:45.8±30.0, 22°.21S×174°.14W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/27, mbtmp4.0/4, Error ellipse: s-maj=544.6km s-min=160.4km az=77.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	36.93	266	P	P	03 48 57.0	+0.3
	1.9nm,0.4s,baz=83,slow=11,SNR=5.5						
STKA	Stephens Creek	40.35	247	P	P	03 49 25.6	+0.2
	1.0nm,0.5s,baz=82,slow=7.1,SNR=3.2						
ASAR	Alice Springs	47.65	258	P	P	03 50 23.8	-0.4
	0.4nm,0.4s,baz=92,slow=7.5,SNR=5.6						
WRA	Warramunga Arr	47.94	263	P	P	03 50 26.1	-0.4
	0.4nm,0.3s,baz=103,slow=8.3,SNR=38						

IDC 15 03:45:35.4±8.6, 25°.37S×176°.61W, h118km±103km, mb3.4/4, mb1 3.6/4, mb1mx3.3/27, mbtmp3.8/4, ML4.9/1, Error ellipse: s-maj=223.4km s-min=64.1km az=104.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	4.04	197	P	Pn	03 46 36.1	+0.7
	79nm,0.3s,baz=66,slow=20,SNR=7.4						
RAO				S	Sn	03 47 22.1	+0.1
	76nm,0.3s,baz=90,slow=20,SNR=2.0						
CTA	Charters Tower	34.58	271	P	P	03 52 14.0	+0.9
	1.8nm,0.7s,baz=79,slow=16,SNR=2.7						
STKA	Stephens Creek	37.09	250	P	P	03 52 35.6	+1.2
	0.5nm,0.3s,baz=83,slow=8.1,SNR=3.6						
ASAR	Alice Springs	44.85	261	P	P	03 53 37.8	-0.4
	0.4nm,0.3s,baz=110,slow=8.0,SNR=5.5						
ASAR				pP	pP	03 54 07.7	+2.3
	0.9nm,0.8s,baz=110,slow=8.0,SNR=2.8						
WRA	Warramunga Arr	45.40	266	P	P	03 53 40.7	-1.7
	0.2nm,0.3s,baz=104,slow=8.0,SNR=12						

ISCJB 15 03:53:15.6±2.5, 27°.36S×70°.09×69°.2W±0°.8, h107km, mb3.5/1, Error ellipse: s-maj=106.5km s-min=10.5km az=176.1
IDC 15 03:53:16.7±2.3, 27°.37S×69°.14W, h97km±19km, mb3.4/1, mb1 3.2/3, mb1mx3.1/27, mbtmp3.6/3, Error ellipse: s-maj=64.4km s-min=17.3km az=87.0

ISC 15 03:53:16.8±1.7, 27°.32S±0°.08×69°.3W±0°.5, h107km, n6, σ1 9°16/7, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	Coronel Fontan	4.36	168	P	Pn	03 54 21.6	+0.6
	0.2nm,0.3s,baz=357,slow=17,SNR=38						
CFAA				S	Sn	03 55 08.9	-1.9
	0.5nm,0.3s,baz=232,slow=19,SNR=10						
LVC	Limon Verde	4.70	4	P	Pn	03 54 25.4	-0.4
	100nm,0.3s,baz=168,slow=8.5,SNR=26						
TORD	Torodi Ar. Bea	79.66	69	P	P	04 05 13.5	+0.6
	0.7nm,0.9s,baz=249,slow=6.7,SNR=5.1						
WRA	Warramunga Arr	127.75	208	PKP	PKPdf	04 12 10.5	+0.1
	0.2nm,0.6s,baz=154,slow=1.7,SNR=4.6						
KURBB	Kurchatov Arra	146.25	38	PKPbc	PKPab	04 12 45.2	-0.4
	0.8nm,0.7s,baz=305,slow=3.4,SNR=7.7						
MKAR	Makanchi Array	150.37	41	PKPbc	PKPbc	04 12 56.4	+0.9
	1.1nm,0.7s,baz=284,slow=6.0,SNR=9.5						

SJA 15 03:53:49.8±0.3, 17°.68S×68°.54W, h382km±57km, ML4.5
ISCJB 15 03:53:53.2±0.4, 17°.93S±0°.04×69°.00W±0°.06, h140km, mb4.2/14, Error ellipse: s-maj=8.2km s-min=4.9km az=162.2
IDC 15 03:53:57.4±0.6, 17°.94S×68°.99W, h165km±4km, mb3.7/10, mb1 4.0/13, mb1mx3.9/26, mbtmp4.3/13, Error ellipse: s-maj=14.6km s-min=12.6km az=82.0

ISC 15 03:53:55.0±0.5, 18°.02S±0°.05×68°.99W±0°.07, h140km, n33, σ2 9°29/44, mb4.2/14, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	La Paz	1.90	26	P	Pn	03 54 33.0	+3.9
	405nm,0.3s,baz=233,slow=6.6						
LPAZ				S	Sn	03 54 59.4	+4.3
	82nm,0.3s,baz=17,slow=17,SNR=8.5						
LVC	Limon Verde	4.57	179	P	Pn	03 55 05.7	+2.8
	328nm,0.3s,baz=339,slow=8.6,SNR=14						
LVC				S	Sn	03 55 55.1	-0.5
	887nm,0.3s,baz=137,slow=20,SNR=15						
HJA	Humahuaca	6.16	148	*i* P	Pn	03 55 26.4	+2.4
HJA				*i* P	Pn	03 55 26.4	+2.4
HJA				*i* S	Sn	03 56 38.6	+4.9
AZAP	Zapla	7.18	150	*i* P	Pn	03 55 38.7	+1.1
AZAP				*i* S	Sn	03 56 58.6	+0.6
ASTB	Santa Barbara	7.25	145	*i* P	Pn	03 55 38.8	+0.3
ASTB				*i* S	Sn	03 56 58.6	-1.0
SLA	San Lorenzo	7.42	155	*i* P	Pn	03 55 41.2	+0.4
SLA				*i* S	Sn	03 57 04.8	+1.1
SLA				AML	AML	03 57 14.1	
	comp=Z,35nm,0.6s						
ALOL	LOMAS DE OLMED	7.43	142	*i* P	Pn	03 55 40.4	-0.4
ALOL				*i* S	Sn	03 57 01.5	-2.4
SIV	San Ignacio	7.83	76	P	Pn	03 55 47.4	+1.1
	comp=Z,17nm,0.3s,baz=273,slow=11,SNR=144						
SIV				S	Sn	03 57 12.2	-1.4
	comp=Z,2.2nm,0.3s,baz=174,slow=22,SNR=8.4						
NNA	Nana	9.67	307	P	Pn	03 56 08.1	-2.9
	comp=Z,12nm,0.3s,baz=125,slow=11,SNR=33						
NNA				S	Sn	03 57 48.0	-10
	comp=Z,2.6nm,0.3s,baz=227,slow=19,SNR=3.5						
CFAA	Coronel Fontan	13.55	177	P	Pn	03 57 03.4	+1.8
	comp=Z,0.1nm,0.3s,baz=326,slow=13,SNR=1.7						
CFAA				S	Sn	03 59 21.6	-10
	comp=Z,0.0nm,0.3s,baz=262,slow=19,SNR=6.8						
PTGA	Pitinga	19.33	28	P	P	03 58 09.1	-0.5
	comp=Z,13nm,0.3s,baz=329,slow=22,SNR=108						
BDFB	Brasilia	20.21	86	P	P	03 58 19.9	+0.6
	comp=Z,20nm,0.4s,baz=250,slow=11,SNR=23						
PLCA	Paso Flores	22.68	183	P	P	03 58 45.0	+0.3
	comp=Z,7.3nm,0.7s,baz=358,slow=11,SNR=21						
TXAR	Lajitas Array	57.76	324	P	P	04 03 29.9	-1.8
	comp=Z,0.4nm,0.6s,baz=155,slow=10,SNR=4.4						
TXAR				pP	pP	04 04 08.5	+3.8
	comp=Z,0.5nm,0.7s,baz=153,slow=8.9,SNR=4.0						
LIC	Lamto	67.53	75	*e*P	P	04 04 35.9	-0.8
	comp=Z,13nm,0.4s						
TIC	Toumodi	67.69	75	*e*P	P	04 04 37.3	-0.5
	comp=Z,5.3nm,0.2s						
KIC	Kosan Boka	67.84	75	*e*P	P	04 04 38.5	-0.2
	comp=Z,61nm,0.7s						
DBIC	Dimbokro	67.86	75	P	P	04 04 38.5	-0.3
	comp=Z,34nm,0.7s,baz=229,slow=6.5,SNR=48						
PDAR	Pinedale Array	71.08	330	P	P	04 04 57.7	-0.5
	comp=Z,0.4nm,0.6s,baz=116,slow=9.4,SNR=3.4						
ULM	Lac du Bonnet	71.99	342	P	P	04 05 01.6	-1.7
	comp=Z,1.9nm,0.6s,baz=135,slow=5.2,SNR=4.1						
SCHQ	Schefferville	72.58	1	P	P	04 05 05.4	-1.2
	comp=Z,2.4nm,0.8s,baz=143,slow=5.1,SNR=3.4						
NVAR	Mina Array Bea	72.73	321	P	P	04 05 08.3	+0.2
	comp=Z,1.1nm,0.9s,baz=140,slow=7.1,SNR=6.6						
NVAR				pP	pP	04 05 47.7	+5.1
	comp=Z,0.9nm,0.8s,baz=176,slow=5.1,SNR=4.2						
TORD	Torodi Ar. Bea	76.28	71	P	P	04 05 28.1	-0.8
	comp=Z,1.6nm,0.6s,baz=253,slow=5.2,SNR=75						
ESDC	Sonseca Array	83.42	45	P	P	04 06 07.3	+0.4
	comp=Z,0.9nm,0.8s,baz=265,slow=5.9,SNR=4.3						
MAW	Mawson	87.67	163	P	P	04 06 28.2	+0.9
	comp=Z,1.4nm,0.6s,baz=194,slow=4.2,SNR=6.5						
YKA	Yellowknife Ar	87.89	341	P	P	04 06 27.6	-0.7
	comp=Z,1.5nm,0.6s,baz=134,slow=4.9,SNR=39						
YKA				pP	pP	04 07 09.6	+5.7
	comp=Z,0.6nm,0.5s,baz=134,slow=4.8,SNR=3.1						
H11S2	WAKE ISLAND Hyl	27.29	280	T	T	06 32 34.5	
	baz=101						
H11S1	WAKE ISLAND Hyl	27.30	280	T	T	06 32 43.3	
	baz=101						
H11S3	WAKE ISLAND Hyl	27.31	280	T	T	06 32 43.9	
	baz=101						
ASAR	Alice Springs	132.93	209	PKP	PKPdf	04 12 53.5	-1.0
	comp=Z,0.5nm,0.6s,baz=140,slow=1.9,SNR=8.0						
ASAR				SKPbc	SKPbc	04 16 06.5	-2.8
	comp=Z,0.6nm,0.8s,baz=126,slow=4.7,SNR=4.1						
WRA	Warramunga Arr	135.87	212	PKP	PKPdf	04 12 59.6	-0.5
	comp=Z,0.4nm,0.4s,baz=148,slow=1.7,SNR=13						
WRA				SKPbc	SKPbc	04 16 15.7	-3.3
	comp=Z,0.5nm,0.7s,baz=157,slow=2.7,SNR=4.9						
MJAR	Matsushiro Arr	149.75	313	PKPbc	PKPbc	04 13 27.5	-1.2
	comp=Z,0.6nm,0.4s,baz=69,slow=0.3,SNR=4.4						
MJAR				pPKPbc	pPKPbc	04 14 10.3	+4.4
	comp=Z,0.5nm,0.3s,baz=280,slow=2.0,SNR=2.3						
SONM	Songino Array	150.02	6	PKPbc	PKPbc	04 13 27.7	-1.5
	comp=Z,1.0nm,0.7s,baz=313,slow=2.3,SNR=4.1						
SONM				pPKPbc	pPKPbc	04 14 12.1	+5.8
	comp=Z,1.6nm,0.8s,baz=327,slow=1.5,SNR=4.2						

IDC 15 03:59:03.5±0.6, 8°.36N×126°.85E, h0km, mb4.1/21, mb1 4.2/21, mb1mx4.1/49, mbtmp4.1/21, MS3.4/9, Ms1 3.5/9, ms1mx3.2/35, Error ellipse: s-maj=25.1km s-min=14.5km az=75.0
ISCJB 15 03:59:07.6±0.3, 8°.49N±0°.03×127°.16E±0°.04, h39km, mb4.3/47, MS3.4/6, Error ellipse: s-maj=5.3km s-min=3.9km az=164.5
MAN 15 03:59:09, 8°.55N×126°.88E, h4km, mb5.0, ML3.9, MS4.0
NEIC 15 03:59:11.9±1.3, 8°.42N×127°.01E, h64km±12km, mb4.5/18, Error ellipse: s-maj=11.5km s-min=6.4km az=64.0
DJA 15 03:59:30.3±1.0, 7°N±8°×127°E±°, h10km, M4.7/9, mb4.5/9, mB5.2/2, MLv4.8/3, Mw(mB)4.6/2

ISC 15 03:59:09.6±0.5, 8°.46N±0°.06×127°.08E±0°.07, h39km, n88, σ1 9°28/74, mb4.3/46, MS3.3/6, 2C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	Bislig	0.76	249	⇓*i* P	Pn	03 59 22.8	-1.0
BIPH				*i* S	Sn	03 59 34.0	-0.1
BUTP	Butuan	1.53	289	*e*P	Pn	03 59 34.8	+0.5
MATI	Mati	1.71	208	*e*P	Pn	03 59 34.9	-2.0
DAV	Davao City (W)	2.03	227	*e*Pn	Pn	03 59 43.2	+2.0
SCPH	Surigao	2.04	310	*e*P	Pn	03 59 42.4	+0.9
SCPH				*e*S	Sn	04 00 05.5	-0.2
BUKP	Musuan	2.08	254	*e*P	Pn	03 59 42.9	+0.9
BUKP				*e*S	Sn	04 00 15.7	+9.1
CGP	Cagayan de Oro	2.36	270	⇓*e*P	Pn	03 59 46.1	+0.3
CGP				*i* S	Sn	04 00 21.7	+8.2
CTBH	Cotabato--PC H	3.06	246	⇑*e*P	Pn	03 59 56.1	+0.6
PLP	Palo	3.39	323	⇓*i* P	Pn	04 00 00.8	+0.8
TBP	Tagbilaran	3.40	291	*e*P	Pn	04 00 01.1	+0.9
TBP				*e*S	Sn	04 00 39.9	+0.6
PAGZ	Pagadian	3.71	261	*e*P	Pn	04 00 06.8	+2.4
SGSI	Sangihe	4.99	198	P	Pn	04 00 24.2	+2.2
RCP	Roxas	5.26	306	⇑*e*P	Pn	04 00 26.8	+1.0
TNTI	Ternate	7.64	178	P	Pn	04 00 59.2	+0.7
	149nm,1.1s,2μm0.5nm						
TNTI	Ternate	7.64	178	*e*Pn	Pn	04 00 59.7	+1.3
	148nm,0.9s						
KMSI	Cibinong	8.42	202	P	Pn	04 01 09.6	+0.5
LBMI	Labuha	9.05	177	P	Pn	04 01 19.4	+1.6
	67nm,1.0s,1μm0.3nm						
MRSI	Marisa	9.44	213	P	Pn	04 01 24.1	+1.0
	28nm,0.9s,0.1nm						
SIJI	Sorong	10.16	156	Pn	Pn	04 01 35.9	+2.8
	1.6nm,0.3s,baz=331,slow=19,SNR=4.4						
SIJI				LR	LR	04 05 53.8	
	comp=Z,167nm,18.7s,baz=214,slow=40						
LUWI	Luwuk	10.37	205	P	Pn	04 01 37.3	+1.4
SANI	Sanana	10.50	186	P	Pn	04 01 34.1	-3.5
SANI				S	Sn	04 03 22.2	-12
APSI	Ampana	10.77	210	P	Pn	04 01 43.0	+1.7
MPSI	Mapaga	10.78	222	P	Pn	04 01 46.2	+4.7
NLAI	Namlea	11.62	180	P	Pn	04 01 52.5	-0.5
PCI	Palu	11.78	218	P	Pn	04 01 58.8	+3.7
	24nm,0.7s						
MSAI	Masohi	11.87	171	P	Pn	04 01 58.1	+1.7
TTSI	Tana Toraja	13.53	213	P	Pn	04 02 21.5	+2.4
	47nm,1.2s						
BNSI	Bone	14.54	209	P	Pn	04 02 33.2	+0.3
	24nm,1.2s						
KBKI	Kotabaru	15.96	223	P	P	04 03 03.

CN2					pmax	pmax			
	comp=Z,10.0nm,0.8s								
USRK	**Ussuriysk Ar.**	**35.86**	**6**	P	**P**		04 06 06.2	**+0.6**	
	comp=Z,4.7nm,0.7s,baz=187,slow=8.6,SNR=10								
FORT	**Forrest**	**39.03**	**179**	*eP*	**P**		04 06 32.0	**-0.6**	
	comp=Z,18nm,0.8s								
GTA	**Gaotai**	**39.31**	**326**	*eP*	P		04 06 43.1	+8.0	
GTA				pP	pP		04 06 47.9	+1.7	
GTA				sP	sP		04 06 50.8	0.0	
GTA				pmax	pmax				
	comp=Z,6.0nm,0.9s								
STKA	**Stephens Creek**	**42.44**	**162**	P	**P**		04 06 60.0	**-0.8**	
	comp=Z,3.0nm,0.7s,baz=334,slow=7.9,SNR=7.3								
STKA				LR	LR		04 28 03.2		
	comp=Z,45nm,20.1s,baz=213,slow=41								
ULN	**Ulaanbaatar**	**42.78**	**340**	*eP*	**P**		04 07 03.4	**-0.1**	
	comp=Z,3.6nm,0.8s								
SONM	**Songino Array**	**42.98**	**340**	P	**P**		04 07 03.9	**-1.3**	
	comp=Z,1.3nm,0.8s,baz=156,slow=11,SNR=5.1								
PETK	**Petropavlovsk-**	**50.96**	**23**	P	**P**		04 08 08.8	**+1.6**	
	comp=Z,3.3nm,0.8s,baz=197,slow=4.6,SNR=7.4								
PETK				LR	LR		04 32 44.1		
	comp=Z,23nm,18.1s,baz=170,slow=40								
MK31	**Makanchi Array**	**53.94**	**323**	*eP*	**P**		04 08 28.6	**-0.8**	
MKAR	**Makanchi Array**	**53.94**	**323**	P	**P**		04 08 28.6	**-0.8**	
	comp=Z,1.3nm,0.6s,baz=145,slow=5.2,SNR=17								
MKAR				PcP	**PcP**		04 09 34.9	**+0.4**	
	comp=Z,1.1nm,0.8s,baz=140,slow=2.9,SNR=3.5								
TKM2	**Tokmak 2**	**56.51**	**316**	*eP*	**P**		04 08 47.5	**-0.8**	
	comp=Z,2.0nm,0.8s								
AAK	**Ala-Archa**	**57.16**	**316**	*eP*	**P**		04 08 52.7	**-0.2**	
	comp=Z,1.6nm,0.6s								
EKS2	**Erkin-Say**	**57.67**	**316**	*eP*	**P**		04 08 55.7	**-0.6**	
	comp=Z,2.1nm,0.8s								
KURK	**Kurchatov**	**58.00**	**326**	*eP*	**P**		04 08 57.2	**-1.2**	
	comp=Z,9.6nm,1.1s								
KURBB	**Kurchatov Arra**	**58.01**	**326**	P	**P**		04 08 56.9	**-1.5**	
	comp=Z,1.3nm,0.6s,baz=128,slow=6.9,SNR=15								
BVAR	**Borovoye Array**	**63.60**	**326**	P	**P**		04 09 35.6	**-0.8**	
	comp=Z,3.7nm,1.0s,baz=120,slow=8.8,SNR=13								
BRVK	**Borovoye**	**63.67**	**326**	*eP*	**P**		04 09 35.6	**-1.3**	
	comp=Z,11nm,1.0s								
URZ	**Urewera**	**65.79**	**139**	LR	LR		04 41 48.4		
	comp=Z,66nm,18.1s,baz=181,slow=39								
GEYT	**Alibeck**	**68.26**	**307**	P	**P**		04 10 06.4	**-0.4**	
	comp=Z,1.2nm,0.4s,baz=56,slow=3.6,SNR=2.2								
ABKAR	**Akbulak array**	**68.76**	**320**	*eP*	**P**		04 10 08.0	**-1.6**	
	comp=Z,1.7nm,0.8s								
ARU	**Arti**	**71.17**	**327**	*eP*	**P**		04 10 24.0	**-0.2**	
	comp=Z,4.2nm,0.6s								
RAYN	**Ar Rayn**	**78.98**	**292**	*eP*	**P**		04 11 08.4	**-1.6**	
	comp=Z,5.1nm,0.8s								
MCK	**McKinley**	**79.81**	**27**	*eP*	**P**		04 11 13.9	**+0.3**	
	comp=Z,7.8nm,0.9s								
ILAR	**Eielson Array**	**80.71**	**26**	P	**P**		04 11 19.8	**+1.3**	
	comp=Z,0.8nm,0.8s,baz=236,slow=4.6,SNR=10								
MMAI	**Mount Meron Ar**	**86.85**	**303**	P	**P**		04 11 50.7	**+0.1**	
	comp=Z,0.6nm,0.5s,baz=49,slow=2.7,SNR=3.4								
BRTR	**Keskin Array B**	**87.29**	**310**	P	**P**		04 11 51.1	**-1.7**	
	comp=Z,0.4nm,0.6s,baz=125,slow=5.2,SNR=3.1								
FINES	**FINESS Array B**	**87.85**	**332**	P	**P**		04 11 52.9	**-1.8**	
	comp=Z,0.6nm,0.5s,baz=77,slow=5.5,SNR=6.3								
VNDA	**Vanda**	**88.05**	**173**	*eP*	**P**		04 11 55.8	**+0.5**	
	comp=Z,13nm,1.7s								
HFS	**Hagfors**	**94.01**	**333**	P	**P**		04 12 22.6	**-0.8**	
	comp=Z,1.6nm,0.8s,baz=232,slow=7.3,SNR=3.9								
NOA	**NORSAR Array B**	**94.72**	**334**	P	**P**		04 12 27.0	**+0.2**	
	comp=Z,0.4nm,0.8s,baz=67,slow=4.6,SNR=2.4								
YKA	**Yellowknife Ar**	**95.07**	**24**	P	**P**		04 12 29.8	**+1.6**	
	comp=Z,0.6nm,0.8s,baz=302,slow=4.9,SNR=9.9								
GERES	**GERESS Array B**	**98.60**	**322**	P	Pdif		04 12 44.8	+0.1	
	comp=Z,0.6nm,1.0s,baz=91,slow=6.7,SNR=3.8								
TORD	**Torodi Ar. Bea**	**121.67**	**291**	PKP	**PKPdf**		04 17 59.1	**-1.2**	
	comp=Z,0.2nm,0.4s,baz=98,slow=1.6,SNR=3.8								

IDC 15 04:01:43.2±3.5, 6°45S×149°44E, h0km, mb3.5/1, mb1 3.9/2, mb1mx3.4/32, mbtmp3.7/2, ML3.8/1, Error ellipse: s-maj=127.3km s-min=45.8km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.88**	**226**	P		P	04 06 15.3	-1.0
	0.3nm,0.3s,baz=52,slow=11,SNR=7.2							
ASAR	**Alice Springs**	**22.73**	**219**	P		P	04 06 47.4	+0.4
	2.1nm,1.0s,baz=54,slow=9.6,SNR=8.6							
TORD	**Torodi Ar. Bea**	**147.56**	**284**	PKPbc		PKPbc	04 21 29.9	-0.6
	0.4nm,0.3s,baz=87,slow=2.7,SNR=16							

MEX 15 04:06:42.7±0.7, 16°97N×100°51W, h9km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CAIG	**El Cayaco**	**0.24**	**72**	*i* P		Pg	04 06 47.0	-0.6
CAIG				*i* S		Sg	04 06 50.9	-0.1
ACP2	**Acapulco**	**0.60**	**99**	*eP*		Pg	04 06 52.5	-1.9
ACX	**Acapulco**	**0.63**	**99**	*eP*		Pn	04 06 58.5	+0.6
ACX				*eS*		Sn	04 07 07.0	-1.2
ARIG	**Puente Sto Nin**	**1.31**	**7**	*eP*		Pn	04 07 03.4	-3.8
ARIG				*eS*		Sb	04 07 19.9	-4.6
TLIG	**Tlapa**	**1.95**	**72**	*eP*		Pn	04 07 13.6	-2.5
TLIG				*eS*		Sn	04 07 38.7	-2.2

*SJA **15** 04:14:05.2±1.5, 34°58S×73°13W, h10km, ML4.0*
*ISCJB **15** 04:14:18.1±0.5, 34°96S±0°03×71°69W±0°10, h64km±4km, mb4.1/17, Error ellipse: s-maj=13.4km s-min=4.1km az=12.6*
*IDC **15** 04:14:18.8±0.7, 34°90S×71°53W, h53km±6km, mb3.9/11, mb1 4.0/15, mb1mx3.8/35, mbtmp4.1/15, MS2.7/2, Ms1 2.7/2, ms1mx2.5/22, Error ellipse: s-maj=25.3km s-min=12.4km az=88.0*
*NEIC **15** 04:14:18.4±0.3, 34°89S×71°64W, mb4.2/9, Error ellipse: s-maj=11.7km s-min=6.5km az=87.0*
NEIC Felt [IV] at Curico, Molina, Paredones, San Fernando and San Javier; [III] at Constitucion, Linares and San Clemente; [II] at Rancagua and Talca.
*GUC **15** 04:14:18.5±0.6, 34°94S×71°71W, h49km±3km, ML4.4*
ISC 15 04:14:18.5±0.6, 34°94S±0°03×71°71W±0°08, h52km±4km, h52km:pP-P,n70,σ1s12/79, mb4.1/17, 9C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NICH	**Los Niches**	**0.40**	**100**	↓*i* P		**Pn**	**04 14 28.7**	**0.0**
NICH				*i* S		**Sn**	**04 14 36.4**	**+0.3**
TALC	**Talca**	**0.47**	**173**	↑*i* P		**Pn**	**04 14 29.8**	**+0.3**
TALC				*i* S		**Sn**	**04 14 37.6**	**+0.2**
LNCH	**Linares**	**0.91**	**175**	↑*i* P		**Pn**	**04 14 35.3**	**+0.2**
LNCH				*i* S		**Sn**	**04 14 47.9**	**+0.6**
LNV	**Longovilo**	**1.01**	**14**	↓*i* P		**Pn**	**04 14 37.1**	**+0.7**
CACH	**El Canelo**	**1.23**	**48**	↓*i* P		**Pn**	**04 14 39.4**	**-0.1**
CHCH	**Chadas Angostu**	**1.32**	**41**	↑*i* P		**Pn**	**04 14 40.8**	**+0.1**
TACH	**Talagante**	**1.43**	**27**	↑*i* P		**Pn**	**04 14 42.4**	**+0.3**
PCH	**Pirque**	**1.64**	**37**	↑*i* P		**Pn**	**04 14 45.4**	**+0.4**
SJCH	**San Jose de Ma**	**1.71**	**41**	↑*i* P		**Pn**	**04 14 45.4**	**-0.6**
SJCH				*eS*		**Sn**	**04 15 06.8**	**+0.1**
SAN	**Santiago**	**1.71**	**31**	↑*i* P		**Pn**	**04 14 46.4**	**+0.4**
SAN				*i* S		**Sn**	**04 15 07.8**	**+1.0**
FSR	**Penalolen**	**1.75**	**34**	*eP*		**Pn**	**04 14 47.1**	**+0.6**
FSR				*i* S		**Sn**	**04 15 08.9**	**+1.2**
LACH	**Col Las Americ**	**1.77**	**34**	*eP*		**Pn**	**04 14 47.3**	**+0.5**
LACH				*i* S		**Sn**	**04 15 09.6**	**+1.4**
CLCH	**Cerro Calan**	**1.81**	**33**	↓*i* P		**Pn**	**04 14 47.9**	**+0.5**
CLCH				*i* S		**Sn**	**04 15 10.5**	**+1.2**
CLCH					AML	AML	04 15 12.6	
	comp=E,4μm,0.3s							
PEL	**Peldehue**	**1.98**	**26**	↑*i* P		**Pn**	**04 14 50.4**	**+0.8**
PEL				*i* S		**Sn**	**04 14 14.5**	**+1.2**
PEL					AML	AML	04 15 24.7	
	comp=N,6μm,0.2s							
ROCH	**El Roble**	**2.04**	**17**	↑*i* P		**Pn**	**04 14 51.5**	**+0.8**
ROCH				*i* S		**Sn**	**04 15 16.8**	**+1.7**
ROCH					AML	AML	04 15 23.8	
	comp=N,4μm,0.5s							
CANA	**Caviahue**	**2.99**	**170**	*eP*		**Pn**	**04 15 06.3**	**+2.7**
AAGR	**Agrelo**	**3.02**	**53**	*i* P		**Pn**	**04 15 06.6**	**+2.7**
ARCO	**CERRO ARCO**	**3.11**	**49**	*i* P		**Pn**	**04 15 08.0**	**+2.8**
ARCO				*i* S		Sn	04 15 55.4	+14
ARCO					AML	AML	04 15 56.6	
	comp=Z,226nm,0.5s							

AUSP	**Uspallata**	**3.33**	**36**	*i* P4		**Pn**	**04 15 10.9**	**+2.7**	
AUSP				*eS*		Sn	04 15 56.7	+10	
ASAL	**Salagasta**	**3.34**	**46**	*i* P		**Pn**	**04 15 10.4**	**+2.1**	
RTLS	**Leoncito**	**3.72**	**33**	*i* P4		**Pn**	**04 15 15.5**	**+1.8**	
RTLS				*i* S4			04 16 07.9		
RTCV	**Cerro Valdivia**	**4.05**	**42**	*i* P		**Pn**	**04 15 20.1**	**+2.1**	
RTCV				*i* P		**Pn**	**04 15 20.1**	**+2.1**	
CFAA	**Coronel Fontan**	**4.41**	**42**	P		**Pn**	**04 15 22.0**	**-0.9**	
	comp=Z,1.1nm,0.3s,baz=217,slow=13,SNR=46								
CFAA				S		Sn	04 16 20.1	+7.0	
	comp=Z,2.3nm,0.3s,baz=307,slow=20,SNR=9.5								
CFAA				LR		LR	04 17 18.3		
	comp=Z,20nm,19.3s,baz=244,slow=42								
CFAA	**Coronel Fontan**	**4.41**	**42**	*eP*		**Pn**	**04 15 24.3**	**+1.4**	
CFAA				*eS*			04 16 22.1		
RTLL	**Cerro Villicun**	**4.50**	**38**	*i* P		**Pn**	**04 15 25.7**	**+1.5**	
RTLL				*i* S		Sn	04 16 25.5	+10	
AMOG	**MOGNA**	**4.81**	**35**	*eP*		**Pn**	**04 15 29.4**	**+0.9**	
PLCA	**Paso Flores**	**5.86**	**171**	P		**Pn**	**04 15 44.9**	**+2.0**	
	comp=Z,2.3nm,0.3s,baz=334,slow=10,SNR=21								
PLCA				S		Sn	04 17 05.5	+17	
	comp=Z,0.6nm,0.3s,baz=306,slow=19,SNR=1.8								
PLCA	**Paso Flores**	**5.86**	**171**	*ePn*		**Pn**	**04 15 44.8**	**+2.0**	
	comp=Z,8.2nm,0.4s								
PLCA				S		Sn	04 17 05.5	+17	
TRQA	**Tornquist**	**8.43**	**115**	*ePn*		**Pn**	**04 16 18.7**	**+0.7**	
LVC	**Limon Verde**	**12.52**	**12**	P		**Pn**	**04 17 15.3**	**+1.2**	
	comp=Z,11nm,0.3s,baz=207,slow=6.8,SNR=3.0								
LVC				S		Sn	04 19 40.6	+8.4	
	comp=Z,8.8nm,0.3s,baz=354,slow=18,SNR=2.1								
LPAZ	**La Paz**	**18.84**	**11**	P		**Pn**	**04 18 36.2**	**+0.4**	
	comp=Z,0.3nm,0.3s,baz=146,slow=4.1,SNR=11								
LPAZ	**La Paz**	**18.84**	**11**	*eP*		**Pn**	**04 18 35.8**	**0.0**	
	comp=Z,4.4nm,0.4s								
SIV	**San Ignacio**	**21.14**	**29**	P		**P**	**04 18 57.7**	**-1.4**	
	comp=Z,4.0nm,0.8s,baz=225,slow=11,SNR=14								
SAML	**Samuel**	**27.02**	**19**	*eP*		**P**	**04 19 54.7**	**-1.1**	
	comp=Z,0.7nm,0.5s								
BDFB	**Brasilia**	**28.65**	**54**	LR		LR	04 32 29.9		
	comp=Z,62nm,20.0s,baz=226,slow=38								
OTAV	**Otavalo**	**35.55**	**348**	*eP*		**P**	**04 21 10.8**	**-0.5**	
	comp=Z,1.4nm,0.7s								
PTGA	**Pitinga**	**35.75**	**20**	P		**P**	**04 21 11.3**	**-1.1**	
	comp=Z,2.2nm,0.6s,baz=162,slow=13,SNR=4.1								
VNA3	**Neumayer Olymp**	**48.39**	**158**	P		**P**	**04 22 54.8**	**0.0**	
VNA1	**Neumayer--Stat**	**48.71**	**157**	P		sP	04 23 16.4	-0.8	
VNA2	**Neumayer--Watz**	**49.05**	**157**	P		**P**	**04 22 59.3**	**-0.5**	
	baz=294,slow=7.5								
SNAA	**Sanae**	**50.62**	**158**	P		P	04 23 06.6	-5.2	
SNAA	**Sanae**	**50.62**	**158**	P		**P**	**04 23 11.9**	**+0.1**	
	comp=Z,0.3nm,0.4s,baz=267,slow=5.4,SNR=7.2								
QSPA	**South Pole Qui**	**55.30**	**180**	P		**P**	**04 23 47.5**	**+1.0**	
	comp=Z,1.9nm,0.8s,baz=196,slow=1.2,SNR=9.2								
QSPA				pP		**pP**	**04 24 01.0**	**+0.3**	
	comp=Z,4.0nm,0.7s,baz=141,slow=1.6,SNR=8.7								
QSPA	**South Pole Qui**	**55.30**	**180**	*eP*		**P**	**04 23 47.1**	**+0.6**	
	comp=Z,3.9nm,0.7s								
QSPA				pP		**pP**	**04 24 01.0**	**+0.3**	
TEIG	**Tepich**	**57.07**	**341**	P		**P**	**04 23 59.8**	**+0.4**	
	comp=Z,15nm,1.1s,baz=225,slow=1.4,SNR=3.6								
VNDA	**Vanda**	**63.24**	**191**	*eP*		**P**	**04 24 41.5**	**+0.6**	
	comp=Z,4.7nm,1.3s								
TXAR	**Lajitas Array**	**70.68**	**331**	P		**P**	**04 25 29.7**	**+0.8**	
	comp=Z,0.3nm,0.5s,baz=156,slow=8.7,SNR=12								
TXAR				pP		**pP**	**04 25 43.9**	**+0.3**	
	comp=Z,0.5nm,0.7s,baz=153,slow=8.7,SNR=5.2								
MAW	**Mawson**	**72.21**	**163**	P		**P**	**04 25 37.8**	**+0.3**	
	comp=Z,1.5nm,0.8s,baz=210,slow=8.1,SNR=3.0								
WVT	**Waverly**	**72.28**	**346**	*eP*		**P**	**04 25 37.9**	**-0.2**	
	comp=Z,5.9nm,0.8s								
WVT				*epP*		**pP**	**04 25 52.1**	**-0.8**	
MNTX	**Cornudas Mount**	**73.46**	**330**	*eP*		**P**	**04 25 45.4**	**+0.1**	
	comp=Z,1.5nm,0.8s								
MNTX				*epP*		**pP**	**04 25 59.2**	**-0.8**	
DBIC	**Dimbokro**	**75.22**	**71**	P		**P**	**04 25 55.2**	**-0.8**	
	comp=Z,3.9nm,0.6s,baz=192,slow=4.7,SNR=5.4								
DBIC	**Dimbokro**	**75.22**	**71**	*eP*		**P**	**04 25 55.2**	**-0.8**	
	comp=Z,4.5nm,0.7s								
LBTB	**Lobatse**	**81.66**	**115**	P		**P**	**04 26 31.2**	**-0.3**	
	comp=Z,8.1nm,1.1s,baz=242,slow=6.0,SNR=4.4								
TOA0	**Torodi Ar. Sit**	**84.27**	**70**	*eP*		**P**	**04 26 44.5**	**-0.5**	
TORD	**Torodi Ar. Bea**	**84.27**	**70**	P		**P**	**04 26 44.5**	**-0.4**	
	comp=Z,3.3nm,0.7s,baz=258,slow=4.9,SNR=48								
HWUT	**Hardware Ranch**	**84.50**	**331**	*eP*		**P**	**04 26 46.4**	**+0.6**	
	comp=Z,1.1nm,0.6s								
PDAR	**Pinedale Array**	**84.72**	**333**	P		**P**	**04 26 47.1**	**+0.2**	
	comp=Z,0.4nm,0.7s,baz=134,slow=4.3,SNR=3.7								
PDAR				pP		**pP**	**04 27 02.2**	**+0.4**	
	comp=Z,0.2nm,0.7s,baz=134,slow=2.6,SNR=1.6								
WRA	**Warramunga Arr**	**120.08**	**209**	PKP		**PKPdf**	**04 33 02.8**	**-1.1**	
	comp=Z,0.2nm,0.6s,baz=156,slow=1.7,SNR=6.3								
BRTR	**Keskin Array B**	**122.04**	**61**	PKP		**PKPdf**	**04 33 06.7**	**-0.5**	
	comp=Z,0.4nm,0.7s,baz=174,slow=4.3,SNR=3.7								
AKASG	**Malin Array Be**	**122.62**	**48**	PKP		**PKPdf**	**04 33 06.6**	**-1.1**	
	comp=Z,0.4nm,0.5s,baz=263,slow=2.9,SNR=3.9								
H11S2	**WAKE ISLAND Hyl**	**126.03**	**268**	T		T	06 51 53.3		
	baz=118								
H11S1	**WAKE ISLAND Hyl**	**126.04**	**268**	T		T	06 51 57.7		
	baz=118								
H11S3	**WAKE ISLAND Hyl**	**126.04**	**268**	T		T	06 51 55.5		
	baz=118								
H11N3	**WAKE ISLAND Hyl**	**126.46**	**270**	T		T	06 52 24.9		
	baz=122								
H11N1	**WAKE ISLAND Hyl**	**126.47**	**270**	T		T	06 52 25.8		
	baz=122								
H11N2	**WAKE ISLAND Hyl**	**126.48**	**270**	T		T	06 52 26.6		
	baz=122								
AAK	**Ala-Archa**	**152.69**	**63**	*e*PKPbc		**PKPbc**	**04 34 09.9**	**+0.5**	
KURK	**Kurchatov**	**153.36**	**45**	*e*PKPbc		**PKPbc**	**04 34 10.4**	**+0.1**	
TKM2	**Tokmak 2**	**153.47**	**63**	*e*PKPbc		**PKPbc**	**04 34 11.0**	**-0.1**	
TKM2				*e*PKPab		**PKPab**	**04 34 23.1**	**-0.6**	
MKAR	**Makanchi Array**	**157.15**	**51**	PKPab		**PKPab**	**04 34 37.2**	**-1.8**	
	comp=Z,0.7nm,0.8s,baz=285,slow=7.8,SNR=4.4								

*AWI **15** 04:21:50.9, 53°30S×23°66W*
*ISCJB **15** 04:22:15.0±0.4, 55°99S±0°07×26°7W±0°2, h35km, mb4.4/20, MS3.4/5, Error ellipse: s-maj=13.8km s-min=7.5km az=146.7*
*NEIC **15** 04:22:17.5±1.5, 56°10S×26°62W, h48km±13km, mb4.6/6, Error ellipse: s-maj=11.9km s-min=6.8km az=55.0*
*IDC **15** 04:22:19.7±4.6, 56°12S×26°72W, h65km±40km, mb4.2/16, mb1 4.1/17, mb1mx4.0/31, mbtmp4.4/17, ML3.4/1, MS3.5/5, Ms1 3.4/5, ms1mx3.2/18, Error ellipse: s-maj=21.1km s-min=12.2km az=56.0*
ISC 15 04:22:16.2±0.4, 56°08S±0°10×26°6W±0°1, h35km, n58, σ0s77/62, mb4.4/20, MS3.4/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**5.97**	**283**	*e*Pn		**Pn**	**04 23 42.2**	**+0.4**
	137nm,1.0s							
VNA1	**Neumayer--Stat**	**16.63**	**159**	P		**P**	**04 26 09.8**	**+1.5**
VNA3	**Neumayer Olymp**	**16.84**	**161**	P		**P**	**04 26 11.7**	**+1.1**
VNA2	**Neumayer--Watz**	**17.03**	**158**	P		**P**	**04 26 13.9**	**+1.2**
	baz=321,slow=14							
SNAA	**Sanae**	**18.57**	**156**	P		**P**	**04 26 28.5**	**-1.2**
SNAA	**Sanae**	**18.57**	**156**	P		**Pn**	**04 26 30.5**	**+0.4**
	0.1nm,0.3s,baz=301,slow=13,SNR=11							
SNAA				PcP		**PcP**	**04 30 57.6**	**+0.1**
	0.1nm,0.3s,baz=225,slow=4.3,SNR=7.0							
SNAA	**Sanae**	**18.57**	**156**	*eP*		**P**	**04 26 28.5**	**-1.2**
SNAA				PcP		**PcP**	**04 30 57.6**	**+0.1**
PMSA	**Palmer Station**	**20.14**	**229**	P		Pn	04 26 48.6	-0.2
	17nm,0.9s,baz=123,slow=7.5,SNR=4.1							
PMSA				LR		LR	04 33 14.3	
	comp=Z,132nm,19.3s,baz=78,slow=33							
USHA	**Ushuaia**	**23.52**	**255**	P		**P**	**04 27 24.0**	**+1.4**
	5.0nm,0.7s,baz=80,slow=11,SNR=3.6							
TRQA	**Tornquist**	**29.66**	**292**	*eP*		**P**	**04 28 18.4**	**+0.1**
	4.4nm,0.6s							
QSPA	**South Pole Qui**	**34.17**	**180**	P		**P**	**04 28 57.7**	**+0.1**
	5.4nm,0.6s,baz=204,slow=1.1,SNR=57							
QSPA				PcP		**PcP**	**04 31 32.9**	**-0.9**
	1.5nm,0.7s,baz=271,slow=1.4,SNR=5.2							
CPUP	**Villa Florida**	**37.10**	**310**	*eP*		**P**	**04 29 22.3**	**-0.7**
	0.3nm,0.9s							
CPUP				*epP*		**pP**	**04 29 34.3**	**+1.1**
CFAA	**Coronel Fontan**	**37.90**	**293**	P		**P**	**04 29 28.0**	**-1.8**
	0.4nm,0.5s,baz=144,slow=8.3,SNR=9.7							
CFAA				PcP		**PcP**	**04 31 44.6**	**-0.7**
	0.5nm,0.5s,baz=69,slow=3.8,SNR=7.7							
MAW	**Mawson**	**39.91**	**143**	P		**P**	**04 29 46.8**	**+0.7**
	0.8nm,0.4s,baz=212,slow=10.0,SNR=5.3							

MAW				LR		LR	04 44 30.4		
	comp=Z,56nm,21.1s,baz=240,slow=33								
BDFB	**Brasilia**	**43.57**	**329**	P		**P**	**04 30 17.8**	**+1.1**	
	1.6nm,0.5s,baz=180,slow=14,SNR=3.0								
BDFB				LR		LR	04 47 07.1		
	comp=Z,50nm,20.7s,baz=170,slow=34								
LVC	**Limon Verde**	**45.62**	**299**	P		**P**	**04 30 33.2**	**-0.1**	
	28nm,0.5s,baz=149,slow=3.9,SNR=19								
LVC				PcP		**PcP**	**04 32 10.5**	**-0.6**	
	15nm,0.8s,baz=266,slow=5.2,SNR=3.3								
LVC	**Limon Verde**	**45.62**	**299**	*eP*		**P**	**04 30 33.0**	**-0.2**	
	7.3nm,0.6s								
LVC				PcP		**PcP**	**04 32 10.5**	**-0.6**	
VNDA	**Vanda**	**46.55**	**183**	P		**P**	**04 30 39.8**	**+0.2**	
	5.1nm,0.7s,baz=182,slow=5.3,SNR=20								
SIV	**San Ignacio**	**47.86**	**313**	P		**P**	**04 30 49.8**	**-0.7**	
	2.5nm,0.7s,baz=173,slow=6.9,SNR=7.3								
SIV				PcP		**PcP**	**04 32 19.0**	**+0.3**	
	2.0nm,0.8s,baz=207,slow=2.3,SNR=3.8								
H10S2	**ASCENSION HYDR**	**47.93**	**16**	T		T	05 22 56.6		
	baz=187,slow=74,SNR=45								
H10S3	**ASCENSION HYDR**	**47.94**	**16**	T		T	05 23 36.0		
	SNR=39								
H10S1	**ASCENSION HYDR**	**47.95**	**16**	T		T	05 23 05.7		
	baz=154,slow=74,SNR=37								
H10N1	**ASCENSION HYDR**	**49.05**	**16**	T		T	05 24 20.8		
	baz=189,slow=75,SNR=15								
H10N3	**ASCENSION HYDR**	**49.05**	**16**	T		T	05 24 21.6		
	baz=189,slow=75,SNR=23								
H10N2	**ASCENSION HYDR**	**49.07**	**16**	T		T	05 24 25.5		
	baz=189,slow=75,SNR=20								
LPAZ	**La Paz**	**50.69**	**305**	P		**P**	**04 31 13.0**	**+0.2**	
	9.7nm,0.5s,baz=121,slow=5.2,SNR=97								
LPAZ				PcP		**PcP**	**04 32 29.9**	**+0.1**	
	1.4nm,0.6s,baz=140,slow=1.5,SNR=2.0								
LPAZ				LR		LR	04 53 17.7		
	comp=Z,16nm,20.0s,baz=199,slow=37								
LPAZ	**La Paz**	**50.69**	**305**	*eP*		**P**	**04 31 12.6**	**-0.2**	
	10nm,0.6s								
LPAZ				PcP		**PcP**	**04 32 29.9**	**+0.1**	
SAML	**Samuel**	**55.08**	**314**	*eP*		**P**	**04 31 43.6**	**-0.8**	
	5.0nm,1.0s								
PTGA	**Pitinga**	**61.42**	**321**	P		**P**	**04 32 28.4**	**-0.3**	
	2.8nm,0.8s,baz=156,slow=20,SNR=3.8								
DBIC	**Dimbokro**	**65.05**	**24**	P		**P**	**04 32 53.6**	**+0.9**	
	3.1nm,0.7s,baz=196,slow=10.0,SNR=4.8								
OTAV	**Otavalo**	**69.97**	**303**	*eP*		**P**	**04 33 25.1**	**+0.7**	
	2.9nm,0.7s								
TOA0	**Torodi Ar. Sit**	**72.91**	**29**	*eP*		**P**	**04 33 42.5**	**+0.9**	
TORD	**Torodi Ar. Bea**	**72.91**	**29**	P		**P**	**04 33 42.8**	**+1.2**	
	1.9nm,0.4s,baz=201,slow=6.4,SNR=106		

Error ellipse: s-maj=0.6km s-min=0.8km az=0.0
ISC 15 04:42:20.2±0.7,38°43'N±0'01×21°85'E±0'01,h8km±4km, n267,σ1°30/332,mb3.9/12,MS2.9/5,20C-10D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.04**	**88**	P	**Pg**	**04 42 21.6**	**-0.3**
EFP				S	**Sg**	**04 42 23.1**	**0.0**
EFP	**Efpalio**	**0.04**	**88**	*e*PB	**Pg**	**04 42 21.6**	**-0.3**
EFP				*e*SB	**Sg**	**04 42 23.2**	**+0.1**
EFP	**Efpalio**	**0.04**	**88**	P	**Pg**	**04 42 21.5**	**-0.3**
EFP				S	**Sg**	**04 42 22.9**	**-0.2**
EFP				*e*Sb	**Sg**	**04 42 23.2**	**+0.1**
UPR	**University Cam**	**0.15**	**199**	P	**Pg**	**04 42 23.1**	**-0.3**
UPR	**University Cam**	**0.15**	**199**	P	**Pg**	**04 42 23.1**	**-0.3**
UPR				S	**Sg**	**04 42 26.0**	**+0.4**
KALE	**Kalithea**	**0.23**	**98**	P	**Pg**	**04 42 24.6**	**-0.3**
KALE				S	**Sg**	**04 42 29.2**	**+1.2**
KALE	**Kalithea**	**0.23**	**98**	*e*PB	**Pg**	**04 42 24.6**	**-0.3**
KALE				*e*SB	**Sg**	**04 42 29.0**	**+1.0**
KALE	**Kalithea**	**0.23**	**98**	P	**Pg**	**04 42 24.6**	**-0.3**
KALE				S	**Sg**	**04 42 28.0**	**0.0**
PVO	**Paravola**	**0.32**	**307**	P	**Pg**	**04 42 25.5**	**-1.0**
PVO	**Paravola**	**0.32**	**307**	P	**Pg**	**04 42 25.5**	**-1.0**
PVO				S	**Sg**	**04 42 30.1**	**-0.6**
KLV	**Kalavryta, Ach**	**0.45**	**148**	P	**Pg**	**04 42 28.5**	**-0.5**
KLV				S	**Sb**	**04 42 36.7**	**-0.6**
KLV	**Kalavryta, Ach**	**0.45**	**148**	*e*PB	**Pg**	**04 42 28.4**	**-0.5**
KLV				*e*SB	**Sg**	**04 42 35.0**	**+0.1**
KLV	**Kalavryta, Ach**	**0.45**	**148**	P	**Pg**	**04 42 28.4**	**-0.5**
KLV				S	**Sg**	**04 42 35.0**	**+0.1**
RLS	**Riolos of Patr**	**0.47**	**220**	P	**Pg**	**04 42 28.7**	**-0.7**
RLS	**Riolos of Patr**	**0.47**	**220**	*e*PB	**Pg**	**04 42 28.6**	**-0.8**
RLS				*e*SB	**Sg**	**04 42 36.4**	**+0.7**
RLS	**Riolos of Patr**	**0.47**	**220**	P	**Pg**	**04 42 28.7**	**-0.7**
RLS				S	**Sg**	**04 42 36.0**	**+0.3**
DRO	**Drossia**	**0.48**	**193**	P	**Pg**	**04 42 28.9**	**-0.7**
DRO				S	**Sg**	**04 42 36.4**	**+0.4**
DRO	**Drossia**	**0.48**	**193**	*e*PB	**Pg**	**04 42 28.8**	**-0.8**
DRO				*e*SB	**Sg**	**04 42 36.8**	**+0.8**
DRO	**Drossia**	**0.48**	**193**	P	**Pg**	**04 42 28.9**	**-0.7**
DRO				S	**Sg**	**04 42 35.2**	**-0.8**
DRO				*e*Sb	**Sg**	**04 42 36.8**	**+0.8**
EVR	**Evrytania**	**0.49**	**356**	P	**Pg**	**04 42 28.8**	**-1.0**
EVR				S	**Sg**	**04 42 36.9**	**+0.6**
EVR	**Evrytania**	**0.49**	**356**	*e*PB	**Pg**	**04 42 28.8**	**-1.0**
EVR				*e*SB	**Sg**	**04 42 36.9**	**+0.6**
EVR	**Evrytania**	**0.49**	**356**	P	**Pg**	**04 42 28.8**	**-1.0**
EVR				S	**Sg**	**04 42 36.9**	**+0.6**
DSF	**Desfina**	**0.53**	**91**	P	**Pg**	**04 42 29.7**	**-0.9**
DSF				S	**Sb**	**04 42 38.8**	**-0.9**
DSF	**Desfina**	**0.53**	**91**	*e*PN	**Pg**	**04 42 29.5**	**-1.1**
DSF				*e*SN	**Sg**	**04 42 37.5**	**-0.1**
DSF	**Desfina**	**0.53**	**91**	P	**Pg**	**04 42 29.7**	**-0.9**
DSF				*e*Sn	**Sg**	**04 42 37.5**	**-0.1**
PDO	**Prodromos**	**0.55**	**289**	P	**Pg**	**04 42 29.2**	**-1.7**
PDO	**Prodromos**	**0.55**	**289**	*e*PN	**Pg**	**04 42 29.9**	**-1.0**
PDO				*e*SN	**Sb**	**04 42 39.4**	**-0.8**
PDO	**Prodromos**	**0.55**	**289**	P	**Pg**	**04 42 29.2**	**-1.7**
PDO	**Prodromos**	**0.55**	**289**	*e*Pn	**Pg**	**04 42 29.9**	**-1.0**
PDO				S	**Sg**	**04 42 38.6**	**+0.5**
PDO				*e*Sn	**Sb**	**04 42 39.4**	**-0.8**
GUR	**Goura**	**0.62**	**141**	P	**Pg**	**04 42 31.3**	**-1.0**
GUR	**Goura**	**0.62**	**141**	*e*PN	**Pg**	**04 42 31.4**	**-0.9**
GUR				*e*SN	**Sg**	**04 42 40.3**	**-0.2**
GUR	**Goura**	**0.62**	**141**	*e*Pn	**Pg**	**04 42 31.4**	**-0.9**
GUR				S	**Sg**	**04 42 39.8**	**-0.7**
GUR				*e*Sn	**Sg**	**04 42 40.3**	**-0.2**
MAKR	**Makrakomi, Fth**	**0.63**	**21**	P	**Pg**	**04 42 31.7**	**-0.6**
MAKR	**Makrakomi, Fth**	**0.63**	**21**	*e*PN	**Pg**	**04 42 31.8**	**-0.6**
MAKR	**Makrakomi, Fth**	**0.63**	**21**	*e*Pn	**Pg**	**04 42 31.8**	**-0.6**
MAKR				S	**Sg**	**04 42 40.2**	**-0.4**
AGG	**Agios Georgios**	**0.70**	**32**	*e*PN	**Pg**	**04 42 33.0**	**-0.8**
AGG				*e*SN	**Sg**	**04 42 40.4**	**+0.3**
AGG	**Agios Georgios**	**0.70**	**32**	P	**Pg**	**04 42 32.5**	**-1.3**
AGG				S	**Sg**	**04 42 43.5**	**+0.5**
AGG	**Agios Georgios**	**0.70**	**32**	*e*PN	**Pg**	**04 42 32.7**	**-1.1**
AGG				*e*SN	**Sg**	**04 42 43.5**	**+0.5**
AGG	**Agios Georgios**	**0.70**	**32**	*e*Pn	**Pg**	**04 42 32.7**	**-1.1**
AGG				S	**Sg**	**04 42 42.9**	**-0.1**
AGG				*e*Sn	**Sg**	**04 42 43.5**	**+0.5**
AXAR	**Agios Charalam**	**0.72**	**62**	P	**Pg**	**04 42 33.4**	**-0.7**
AXAR				S	**Sb**	**04 42 44.8**	**-0.3**
AXAR	**Agios Charalam**	**0.72**	**62**	*e*PN	**Pg**	**04 42 33.5**	**-0.7**
AXAR	**Agios Charalam**	**0.72**	**62**	*e*Pn	**Pg**	**04 42 33.5**	**-0.7**
AXAR				S	**Sg**	**04 42 43.1**	**-0.4**
KFL	**Anninata**	**0.89**	**250**	P	**Pg**	**04 42 36.1**	**-1.3**
KFL				S	**Sb**	**04 42 50.1**	**+0.1**
KFL	**Anninata**	**0.89**	**250**	P	**Pg**	**04 42 36.1**	**-1.3**
KFL				S	**Sb**	**04 42 50.1**	**+0.1**
AMT	**Artemida-Makis**	**0.90**	**187**	P	**Pg**	**04 42 37.7**	**-0.4**
AMT				S	**Sb**	**04 42 51.0**	**+0.8**
AMT	**Artemida-Makis**	**0.90**	**187**	*e*PN	**Pg**	**04 42 36.9**	**-0.6**
AMT	**Artemida-Makis**	**0.90**	**187**	P	**Pg**	**04 42 36.9**	**-0.6**
AMT				S	**Sb**	**04 42 51.0**	**+0.8**
DSL	**Palaion Diasel**	**0.92**	**320**	*e*PN	**Pg**	**04 42 35.9**	**-2.0**
DSL				*e*SN	**Sg**	**04 42 50.5**	**+0.6**
LKR	**Lokris**	**0.93**	**76**	P	**Pg**	**04 42 37.3**	**-0.8**
LKR	**Lokris**	**0.93**	**76**	*e*PN	**Pg**	**04 42 37.0**	**-1.1**
LKR				*e*SN	**Sg**	**04 42 49.5**	**-0.7**
LKR	**Lokris**	**0.93**	**76**	P	**Pg**	**04 42 37.3**	**-0.8**
LTK	**Loutraki**	**0.97**	**114**	P	**Pb**	**04 42 39.1**	**-0.2**
LTK	**Loutraki**	**0.97**	**114**	*e*PN	**Pg**	**04 42 38.8**	**0.0**
LTK	**Loutraki**	**0.97**	**114**	P	**Pg**	**04 42 38.3**	**-0.5**
LTK	**Loutraki**	**0.97**	**114**	*e*Pn	**Pg**	**04 42 38.8**	**0.0**
LKD2	**Lefkada island**	**1.00**	**292**	*e*PB	**Pa**	**04 42 37.8**	**-1.7**
LKD2	**Lefkada island**	**1.00**	**292**	*e*Pb	**Pg**	**04 42 37.8**	**-1.7**
VLS	**Valsamata**	**1.02**	**256**	*e*PB	**Pg**	**04 42 37.7**	**-2.2**
VLX	**Vlachokerasia**	**1.13**	**158**	*e*PN	**Pg**	**04 42 40.7**	**-1.3**
VLX	**Vlachokerasia**	**1.13**	**158**	*e*Pn	**Pg**	**04 42 40.7**	**-1.3**
THL	**Klokotos Trika**	**1.15**	**6**	*e*PN	**Pb**	**04 42 41.2**	**-1.1**
THL	**Klokotos Trika**	**1.15**	**6**	*e*Pn	**Pb**	**04 42 41.2**	**-1.1**
SMIA	**Simia**	**1.16**	**67**	*e*PN	**Pb**	**04 42 41.2**	**-1.3**
SMIA	**Simia**	**1.16**	**67**	*e*Pn	**Pb**	**04 42 41.2**	**-1.3**
ITM	**Ithomi**	**1.25**	**177**	P	**Pn**	**04 42 43.8**	**-0.2**
ITM	**Ithomi**	**1.25**	**177**	*e*PN	**Pn**	**04 42 42.8**	**-1.2**
ITM	**Ithomi**	**1.25**	**177**	*e*Pn	**Pn**	**04 42 42.8**	**-1.2**
ITM	**Ithomi**	**1.25**	**177**	P	**Pn**	**04 42 43.8**	**-0.2**
SFD	**Strofades**	**1.34**	**210**	*e*PN	**Pn**	**04 42 44.8**	**-0.5**
SFD	**Strofades**	**1.34**	**210**	*e*Pn	**Pn**	**04 42 44.8**	**-0.5**
NEO	**Neokhori**	**1.39**	**50**	P	**Pb**	**04 42 46.4**	**0.0**
NEO	**Neokhori**	**1.39**	**50**	*e*PN	**Pn**	**04 42 45.5**	**-0.4**
NEO	**Neokhori**	**1.39**	**50**	*e*Pn	**Pn**	**04 42 45.5**	**-0.4**
NEO	**Neokhori**	**1.39**	**50**	P	**Pb**	**04 42 46.4**	**0.0**
MRKA	**Markates**	**1.39**	**78**	P	**Pb**	**04 42 46.6**	**+0.1**
MRKA	**Markates**	**1.39**	**78**	*e*PN	**Pn**	**04 42 45.3**	**-0.7**
MRKA	**Markates**	**1.39**	**78**	*e*Pn	**Pn**	**04 42 45.3**	**-0.7**
MRKA	**Markates**	**1.39**	**78**	P	**Pb**	**04 42 46.6**	**+0.1**
XOR	**Xorichti**	**1.41**	**48**	*e*PN	**Pn**	**04 42 45.8**	**-0.4**
XOR	**Xorichti**	**1.41**	**48**	*e*Pn	**Pn**	**04 42 45.8**	**-0.4**
DID	**Didima**	**1.43**	**129**	*e*PN	**Pn**	**04 42 46.2**	**-0.3**
DID	**Didima**	**1.43**	**129**	*e*Pn	**Pn**	**04 42 46.2**	**-0.3**
JAN	**Janina**	**1.46**	**328**	*e*PN	**Pb**	**04 42 47.5**	**-0.1**
JAN	**Janina**	**1.46**	**328**	*e*Pn	**Pb**	**04 42 47.5**	**-0.1**
NAIG	**Nisos Aigina**	**1.46**	**117**	*e*PB	**Pn**	**04 42 45.2**	**-1.6**
NAIG	**Nisos Aigina**	**1.46**	**117**	*e*Pb	**Pn**	**04 42 45.2**	**-1.6**
PYL	**PYLOS**	**1.53**	**183**	P	**Pn**	**04 42 47.5**	**-0.3**
PYL	**PYLOS**	**1.53**	**183**	*e*PN	**Pn**	**04 42 48.0**	**+0.2**
PYL	**PYLOS**	**1.53**	**183**	P	**Pn**	**04 42 47.5**	**-0.3**
PYL	**PYLOS**	**1.53**	**183**	*e*Pn	**Pn**	**04 42 48.0**	**+0.2**
ATH	**Athens Observa**	**1.54**	**107**	*e*PN	**Pn**	**04 42 47.7**	**-0.3**
ATH	**Athens Observa**	**1.54**	**107**	*e*Pn	**Pn**	**04 42 47.7**	**-0.3**
IGT	**Igoumenitsa**	**1.62**	**314**	*e*PN	**Pg**	**04 42 53.2**	**+1.9**
IGT	**Igoumenitsa**	**1.62**	**314**	*e*PN	**Pb**	**04 42 49.9**	**-0.5**
IGT	**Igoumenitsa**	**1.62**	**314**	*e*Pn	**Pb**	**04 42 49.9**	**-0.5**
PTL	**Penteli**	**1.63**	**103**	*e*PN	**Pn**	**04 42 49.0**	**-0.3**
PTL	**Penteli**	**1.63**	**103**	*e*Pn	**Pn**	**04 42 49.0**	**-0.3**
LIT	**Litokhoron**	**1.75**	**16**	*e*PN	**Pn**	**04 42 50.6**	**-0.3**
LIT	**Litokhoron**	**1.75**	**16**	*e*Pn	**Pn**	**04 42 50.6**	**-0.3**
AOS	**Alonnisos**	**1.75**	**64**	*e*PN	**Pn**	**04 42 49.2**	**-1.7**
AOS	**Alonnisos**	**1.75**	**64**	*e*PB	**Pn**	**04 42 49.8**	**-1.1**
AOS	**Alonnisos**	**1.75**	**64**	*e*Pn	**Pn**	**04 42 49.2**	**-1.7**
KZN	**Kozani**	**1.88**	**358**	*e*PN	**Pn**	**04 42 53.7**	**+0.9**
KZN	**Kozani**	**1.88**	**358**	*e*Pn	**Pn**	**04 42 53.7**	**+0.9**
VLI	**Veliai**	**1.91**	**153**	*e*PN	**Pn**	**04 42 53.7**	**+0.6**
VLI	**Veliai**	**1.91**	**153**	*e*Pn	**Pn**	**04 42 53.7**	**+0.6**
KEK	**Kerkira**	**2.05**	**309**	*e*PN	**Pn**	**04 42 56.2**	**+1.2**
KEK	**Kerkira**	**2.05**	**309**	*e*Pn	**Pn**	**04 42 56.2**	**+1.2**
PAIG	**Paliouri**	**2.07**	**43**	*e*PB	**Pn**	**04 42 54.5**	**-0.7**
NEST	**Nestorio**	**2.08**	**343**	*e*PN	**Pb**	**04 42 57.9**	**-0.4**
NEST	**Nestorio**	**2.08**	**343**	*e*Pn	**Pb**	**04 42 57.9**	**-0.4**
PLG	**Polygyros**	**2.31**	**32**	*e*PN	**Pn**	**04 42 57.8**	**-0.8**
PLG	**Polygyros**	**2.31**	**32**	*e*Pn	**Pn**	**04 42 57.8**	**-0.8**
KYTH	**Kithira**	**2.34**	**156**	*e*PN	**Pn**	**04 43 00.6**	**+1.6**
KYTH	**Kithira**	**2.34**	**156**	*e*Pn	**Pn**	**04 43 00.6**	**+1.6**
THE	**Thessaloniki**	**2.37**	**21**	*e*PB	**Pn**	**04 42 59.5**	**+0.1**
HORT	**Hortiatis**	**2.38**	**24**	*e*PN	**Pn**	**04 42 59.5**	**0.0**
HORT	**Hortiatis**	**2.38**	**24**	*e*PB	**Pn**	**04 42 58.3**	**-1.3**
HORT	**Hortiatis**	**2.38**	**24**	*e*Pn	**Pn**	**04 42 59.6**	**0.0**
FNA	**Florina**	**2.38**	**351**	*e*PN	**Pn**	**04 43 01.4**	**+1.7**
FNA	**Florina**	**2.38**	**351**	*e*PN	**Pn**	**04 43 00.7**	**+1.0**
FNA	**Florina**	**2.38**	**351**	*e*Pn	**Pn**	**04 43 00.7**	**+1.0**
OUR	**Ouranopolis**	**2.52**	**40**	*e*PN	**Pn**	**04 43 00.7**	**-0.8**
OUR	**Ouranopolis**	**2.52**	**40**	*e*PN	**Pn**	**04 43 01.2**	**-0.3**
OUR	**Ouranopolis**	**2.52**	**40**	*e*Pn	**Pn**	**04 43 01.2**	**-0.3**
GRG	**Griva**	**2.56**	**9**	*e*PN	**Pn**	**04 43 03.5**	**+1.3**
GRG	**Griva**	**2.56**	**9**	*e*PN	**Pn**	**04 43 01.8**	**-0.3**
GRG	**Griva**	**2.56**	**9**	*e*Pn	**Pn**	**04 43 01.8**	**-0.3**
SOH	**Sokhos**	**2.66**	**25**	*e*PN	**Pn**	**04 43 03.2**	**-0.3**
SOH	**Sokhos**	**2.66**	**25**	*e*Pn	**Pn**	**04 43 03.2**	**-0.3**
OHR	**Ohrid**	**2.80**	**344**	*i* Pn	**Pn**	**04 43 07.4**	**+1.9**
OHR	**Ohrid**	**2.80**	**344**	*i* Pn	**Pn**	**04 43 07.3**	**+1.9**
KNT	**Kendrikon**	**2.85**	**16**	*e*PN	**Pn**	**04 43 07.4**	**+1.4**
KNT	**Kendrikon**	**2.85**	**16**	*e*PN	**Pn**	**04 43 06.0**	**0.0**
KNT	**Kendrikon**	**2.85**	**16**	*e*Pn	**Pn**	**04 43 06.0**	**0.0**
VAY	**Valandovo**	**2.94**	**11**	*i* Pn	**Pn**	**04 43 07.5**	**+0.1**
VAY	**Valandovo**	**2.94**	**11**	*i* Pn	**Pn**	**04 43 07.4**	**+0.1**
SRS	**Serrai**	**3.00**	**26**	*e*PN	**Pn**	**04 43 07.6**	**-0.6**
SRS	**Serrai**	**3.00**	**26**	*e*Pn	**Pn**	**04 43 07.6**	**-0.6**
APE	**Apeiranthos**	**3.22**	**114**	*e*PN	**Pn**	**04 43 11.4**	**+0.3**
APE	**Apeiranthos**	**3.22**	**114**	*e*PN	**Pn**	**04 43 11.1**	**0.0**
APE	**Apeiranthos**	**3.22**	**114**	*i*/P	**Pn**	**04 43 11.1**	**0.0**
APE	**Apeiranthos**	**3.22**	**114**	S	**Sn**	**04 43 49.2**	**-0.4**
APE	**Apeiranthos**	**3.22**	**114**	*e*Pn	**Pn**	**04 43 11.1**	**0.0**
CHOS	**Chios island**	**3.30**	**89**	*e*PN	**Pn**	**04 43 11.1**	**-1.3**
CHOS	**Chios island**	**3.30**	**89**	*e*PN	**Pn**	**04 43 12.2**	**-0.1**
CHOS	**Chios island**	**3.30**	**89**	*e*Pn	**Pn**	**04 43 12.2**	**-0.1**
NVR	**Nevrokopi**	**3.31**	**27**	*e*PN	**Pn**	**04 43 12.5**	**+0.2**
NVR	**Nevrokopi**	**3.31**	**27**	*e*Pn	**Pn**	**04 43 12.5**	**+0.2**
KARN	**Karanos**	**3.44**	**151**	*e*PN	**Pn**	**04 43 14.9**	**+0.7**
KARN	**Karanos**	**3.44**	**151**	*e*Pn	**Pn**	**04 43 14.9**	**+0.7**
MMB	**Musomiste**	**3.47**	**24**	⇑*i*P	**Pn**	**04 43 14.0**	**-0.6**
MMB	**Musomiste**	**3.47**	**24**	S	**Sn**	**04 43 52.0**	**-4.0**
SKO	**Skopje**	**3.56**	**355**	*i* Pn	**Pn**	**04 43 16.7**	**+1.0**
SKO	**Skopje**	**3.56**	**355**	*i* Pn	**Pn**	**04 43 16.7**	**+1.0**
GADA	**Gvkgeada**	**3.60**	**59**	*e*P	**Pn**	**04 43 15.1**	**-1.2**
GADA	**Gvkgeada**	**3.60**	**59**	*e*P	**Pn**	**04 43 15.1**	**-1.2**
IDI	**Anoyia**	**3.97**	**141**	Pn	**Pn**	**04 43 20.7**	**-0.8**
	1.9nm,0.3s,baz=249,slow=4.1,SNR=18						
IDI				Sn	**Sn**	**04 44 06.2**	**-2.0**
	2.7nm,0.3s,baz=323,slow=14,SNR=4.2						
ULC	**Ulcinj**	**4.06**	**331**	⇓*i*Pn	**Pn**	**04 43 24.2**	**+1.6**
ULC				*e*Sn	**Sn**	**04 44 12.8**	**+2.4**
ULC	**Ulcinj**	**4.06**	**331**	⇓*i*Pn	**Pn**	**04 43 24.2**	**+1.6**
ULC				*e*Sn	**Sn**	**04 44 12.8**	**+2.4**
ALN	**Alexandroupoli**	**4.07**	**51**	*e*P	**Pn**	**04 43 22.6**	**-0.2**
ALN	**Alexandroupoli**	**4.07**	**51**	*e*P	**Pn**	**04 43 22.6**	**-0.2**
GELI	**Tayfur-Gelibol**	**4.09**	**60**	*e*P	**Pn**	**04 43 22.6**	**-0.4**
GELI	**Tayfur-Gelibol**	**4.09**	**60**	*e*P	**Pn**	**04 43 22.6**	**-0.4**
KDZ	**Kurdzhali**	**4.23**	**39**	⇑*i*P	**Pn**	**04 43 22.8**	**-2.2**
DRME	**Dracevica, Mon**	**4.27**	**332**	*e*Pn	**Pn**	**04 43 26.4**	**+0.8**
DRME				*e*Sn	**Sn**	**04 44 18.4**	**+2.8**
DRME	**Dracevica, Mon**	**4.27**	**332**	*e*Pn	**Pn**	**04 43 26.4**	**+0.8**
DRME				*e*Sn	**Sn**	**04 44 18.4**	**+2.8**
VTS	**Vitosha**	**4.29**	**14**	⇑*i*P	**Pn**	**04 43 27.8**	**+1.9**
VTS	**Vitosha**	**4.29**	**14**	S	**Sn**	**04 44 15.3**	**-0.9**
BARS	**Barje**	**4.39**	**360**	*e*Pn	**Pn**	**04 43 28.2**	**+1.1**
PVY	**Plav**	**4.41**	**342**	*e*Pn	**Pn**	**04 43 29.7**	**+2.2**
PVY				*e*Sn	**Sn**	**04 44 21.6**	**+2.5**
PVY	**Plav**	**4.41**	**342**	*e*Pn	**Pn**	**04 43 29.7**	**+2.2**
PVY				*e*Sn	**Sn**	**04 44 21.6**	**+2.5**
PDG	**Podgorica**	**4.46**	**334**	*e*Pn	**Pn**	**04 43 29.7**	**+1.5**
PDG				*e*Sn	**Sn**	**04 44 23.0**	**+2.7**
TTG	**Podgorica**	**4.46**	**334**	*e*Pn	**Pn**	**04 43 29.7**	**+1.5**
TTG				*e*Sn	**Sn**	**04 44 23.0**	**+2.7**
BUM	**Brajici-Budva**	**4.48**	**331**	⇓*i*Pn	**Pn**	**04 43 30.2**	**+1.7**
BUM				*e*Sn	**Sn**	**04 44 23.3**	**+2.5**
BUM	**Brajici-Budva**	**4.48**	**331**	⇓*i*Pn	**Pn**	**04 43 30.2**	**+1.7**
BUM				*e*Sn	**Sn**	**04 44 23.3**	**+2.5**
BODT	**Bodrum**	**4.54**	**106**	*e*P	**Pn**	**04 43 30.1**	**+0.9**
BODT	**Bodrum**	**4.54**	**106**	*e*P	**Pn**	**04 43 30.1**	**+0.9**
BEY	**Berane**	**4.68**	**342**	*e*Pn	**Pn**	**04 43 32.5**	**+1.2**
BEY				*e*Sn	**Sn**	**04 44 28.3**	**+2.4**
IVA	**Berane**	**4.68**	**342**	*e*Pn	**Pn**	**04 43 32.5**	**+1.2**
IVA				*e*Sn	**Sn**	**04 44 28.3**	**+2.4**
HCY	**Herceg Novi**	**4.76**	**329**	⇑*i*Pn	**Pn**	**04 43 33.3**	**+1.0**
HCY				*e*Sn	**Sn**	**04 44 29.5**	**+1.8**
HCY	**Herceg Novi**	**4.76**	**329**	⇑*i*Pn	**Pn**	**04 43 33.3**	**+1.0**
HCY				*e*Sn	**Sn**	**04 44 29.5**	**+1.8**
AYDB	**Zeytinkoy-Aydi**	**4.78**	**94**	*e*P	**Pn**	**04 43 32.6**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**4.78**	**94**	*e*P	**Pn**	**04 43 32.6**	**-0.1**
DAT	**Datca**	**4.86**	**109**	*e*P	**Pn**	**04 43 34.2**	**+0.5**
DAT	**Datca**	**4.86**	**109**	*e*P	**Pn**	**04 43 34.2**	**+0.5**
NKME	**Niksic**	**4.87**	**334**	⇑*i*Pn	**Pn**	**04 43 35.0**	**+1.2**
NKME				*e*Sn	**Sn**	**04 44 33.3**	**+3.0**
NKME	**Niksic**	**4.87**	**334**	⇑*i*Pn	**Pn**	**04 43 35.0**	**+1.2**
NKME				*e*Sn	**Sn**	**04 44 33.3**	**+3.0**
NKY	**Niksic**	**4.89**	**335**	⇓*i*Pn	**Pn**	**04 43 35.6**	**+1.4**
NKY				*e*Sn	**Sn**	**04 44 33.6**	**+2.6**
NKY	**Niksic**	**4.89**	**335**	⇓*i*Pn	**Pn**	**04 43 35.6**	**+1.4**
NKY				*e*Sn	**Sn**	**04 44 33.6**	**+2.6**
EDRB	**Edirne**	**5.07**	**46**	*e*P	**Pn**	**04 43 36.4**	**-0.2**
EDRB	**Edirne**	**5.07**	**46**	*e*P	**Pn**	**04 43 36.4**	**-0.2**
BRY	**Bratogost**	**5.13**	**332**	⇑*i*Pn	**Pn**	**04 43 39.2**	**+1.7**
BRY				*e*Sn	**Sn**	**04 44 38.8**	**+1.8**
BRY	**Bratogost**	**5.13**	**332**	⇑*i*Pn	**Pn**	**04 43 39.2**	**+1.7**
BRY				*e*Sn	**Sn**	**04 44 38.8**	**+1.8**
KARP	**Karpathos**	**5.13**	**122**	*e*PN	**Pn**	**04 43 39.2**	**+1.8**
KARP	**Karpathos**	**5.13**	**122**	*e*Pn	**Pn**	**04 43 39.2**	**+1.8**
PLE	**Pljevlja**	**5.24**	**340**	⇑*i*Pn	**Pn**	**04 43 40.8**	**+1.8**
PLE				*e*Sn	**Sn**	**04 44 41.6**	**+1.9**
PLE	**Pljevlja**	**5.24**	**340**	⇑*i*Pn	**Pn**	**04 43 40.8**	**+1.8**
PLE				*e*Sn	**Sn**	**04 44 41.6**	**+1.9**
YER	**Yerkesik**	**5.26**	**102**	*e*P	**Pn**	**04 43 39.6**	**+0.4**
YER	**Yerkesik**	**5.26**	**102**	*e*P	**Pn**	**04 43 39.6**	**+0.4**
UPM	**Unac-Piva**	**5.27**	**336**	⇑*i*Pn	**Pn**	**04 43 41.2**	**+1.8**
UPM				*e*Sn	**Sn**	**04 44 42.0**	**+1.6**
UPM	**Unac-Piva**	**5.27**	**336**	⇑*i*Pn	**Pn**	**04 43 41.2**	**+1.8**
UPM				*e*Sn	**Sn**	**04 44 42.0**	**+1.6**
IVAS	**Ivanjica**	**5.30**	**347**	*e*Pn	**Pn**	**04 43 39.9**	**+0.1**
STON	**Ston**	**5.45**	**326**	*e*Pn	**Pn**	**04 43 41.5**	**-0.3**
STON				Sn	**Sn**	**04 44 40.2**	**-4.4**
STON	**Ston**	**5.45**	**326**	*e*Pn	**Pn**	**04 43 41.4**	**-0.3**
GRUS	**Gruza**	**5.53**	**351**	*e*Pn	**Pn**	**04 43 43.6**	**+0.8**
DALY	**Dalyan (Mu¨la**	**5.63**	**104**	*e*P	**Pn**	**04 43 45.0**	**+0.7**
DALY	**Dalyan (Mu¨la**	**5.63**	**104**	*e*P	**Pn**	**04 43 45.0**	**+0.7**
BBLS	**Lazići**	**5.74**	**342**	*e*Pn	**Pn**	**04 43 47.0**	**+1.2**
DIVS	**Divibare**	**5.84**	**347**	⇑*i*P	**Pn**	**04 43 47.4**	**+0.2**
DIVS	**Divibare**	**5.84**	**347**	*e*Pn	**Pn**	**04 43 47.2**	**0.0**
CTKS	**Kestanelik-??a**	**5.84**	**59**	*e*P	**Pn**	**04 43 47.2**	**+0.1**
CTKS	**Kestanelik-??a**	**5.84**	**59**	*e*P	**Pn**	**04 43 47.2**	**+0.1**
TVSB	**Tavsanli**	**6.02**	**78**	*e*P	**Pn**	**04 43 50.4**	**+0.7**
TVSB	**Tavsanli**	**6.02**	**78**	*e*P	**Pn**	**04 43 50.4**	**+0.7**
TEKS	**Tekeris**	**6.36**	**345**	*e*Pn	**Pn**	**04 43 54.3**	**0.0**
GZR	**Gura Zlata**	**7.00**	**5**	*i*/P	**Pn**	**04 44 06.3**	**+3.3**
PSN	**Preselentsi**	**7.10**	**40**	⇓*i*P	**Pn**	**04 44 04.6**	**+0.2**
BZS	**Buzias**	**7.19**	**359**	⇑*i*P	**Pn**	**04 44 02.6**	**-3.0**
VOIR		**7.40**	**18**	⇑*i*P	**Pn**	**04 44 09.8**	**+1.2**
MLR	**Muntele Rosu**	**7.69**	**22**	Pn	**Pn**	**04 44 14.8**	**+2.2**
	0.3nm,0.3s,baz=146,slow=9.6,SNR=9.2						
MLR				LR	LR	04 47 21.3	
	comp=Z,32nm,20.5s,baz=218,slow=39						
MLR	**Muntele Rosu**	**7.69**	**22**	⇑*i*P	**Pn**	**04 44 14.8**	**+2.2**
DOPR	**Dopca**	**7.98**	**18**	⇑*i*P	Pn	04 44 13.2	-3.3
NVLJ	**Novalja**	**8.06**	**322**	*e*Pn	**Pn**	**04 44 17.2**	**-0.3**
NVLJ				Sn	**Sn**	**04 45 43.6**	**-5.3**
NVLJ	**Novalja**	**8.06**	**322**	*e*Pn	**Pn**	**04 44 17.2**	**-0.3**
PKSM	**Moragy**	**8.13**	**344**	⇑*i*P	**Pn**	**04 44 17.8**	**-0.8**
BRTR	**Keskin Array B**	**9.26**	**78**	Pn	**Pn**	**04 44 36.2**	**+2.1**
	0.3nm,0.3s,baz=258,slow=13,SNR=9.8						
PSZ	**Piszkesteto**	**9.60**	**352**	⇑*i*P	**Pn**	**04 44 40.1**	**+1.4**
VYHS	**Vyhne**	**10.30**	**349**	*e*Pn	Pn	04 44 51.6	+3.3
VYHS	**Vyhne**	**10.30**	**349**	*e*Pn	Pn	04 44 51.6	+3.3
VRAC	**Vranov**	**11.52**	**343**	LR	LR	04 51 11.8	
	comp=Z,84nm,18.4s,baz=194,slow=46						
MOTA	**Moosalm**	**11.89**	**322**	⇓*i*Pn	**Pn**	**04 45 09.3**	**-0.8**
MOTA	**Moosalm**

AAK	**Ala-Archa**	**3.26**	**5**	⇓Pg		**Pn**	**04 55 40.3**	**+0.8**
	48nm,0.6s							
AAK				⇑Lg	Lg		04 56 22.3	
	58nm,0.6s							
AAK	**Ala-Archa**	**3.26**	**5**	Pn		**Pn**	**04 55 40.8**	**+1.3**
	22nm,0.3s,baz=170,slow=9.3,SNR=72							
AAK				Sn		**Sb**	**04 56 24.3**	**-1.6**
	9.9nm,0.3s,baz=297,slow=23,SNR=8.4							
AAK				LR	LR		04 57 02.3	
	comp=Z,56nm,21.7s,baz=224,slow=41							
AAK	**Ala-Archa**	**3.26**	**5**	⇑*iP*		**Pn**	**04 55 40.7**	**+1.3**
	baz=3.0							
AAK				⇑*iS*		**Sb**	**04 56 23.8**	**-2.1**
	baz=3.0							
EKS2	**Erkin-Say**	**3.28**	**356**	P		**Pn**	**04 55 40.9**	**+1.2**
	SNR=27							
EKS2	**Erkin-Say**	**3.28**	**356**	⇑*iP*		**Pn**	**04 55 41.7**	**+2.0**
	baz=354							
EKS2				⇑*iS*		**Sn**	**04 56 23.7**	**+4.9**
	baz=354							
ULHL	**Ulahol**	**3.29**	**29**	P		**Pn**	**04 55 41.2**	**+1.2**
	SNR=16							
ULHL	**Ulahol**	**3.29**	**29**	⇑*iP*		**Pn**	**04 55 40.8**	**+0.8**
	baz=27							
ULHL				⇑*iS*		**Sb**	**04 56 24.9**	**-2.0**
	baz=27							
MNAS	**Manas**	**3.32**	**339**	⇑Pg		**Pn**	**04 55 41.3**	**+1.0**
	22nm,0.6s							
MNAS				⇓Lg	Lg		04 56 25.3	
	72nm,0.5s							
KBK	**Karagaybulak**	**3.33**	**11**	P		**Pn**	**04 55 42.3**	**+1.8**
	SNR=19							
KBK	**Karagaybulak**	**3.33**	**11**	⇑*iP*		**Pn**	**04 55 42.4**	**+1.9**
	baz=9.0							
KBK				⇑*iS*		**Sn**	**04 56 25.4**	**+5.2**
	baz=9.0							
FRU	**Bishkek**	**3.46**	**6**	⇓*iP*		**Pn**	**04 55 45.0**	**+2.8**
	baz=5.0							
FRU				⇓*eS*		**Sn**	**04 56 25.0**	**+1.7**
	baz=5.0							
KDJ	**Kajisay**	**3.61**	**40**	*eP*		**Pn**	**04 55 45.4**	**+1.1**
	baz=37							
KDJ				*eS*		**Sn**	**04 56 25.4**	**-1.7**
	baz=37							
CHMS	**Chumysh**	**3.64**	**8**	⇓*iP*		**Pn**	**04 55 47.0**	**+2.4**
	baz=6.0							
CHMS				⇓*iS*		**Sb**	**04 56 34.8**	**-2.1**
	baz=6.0							
TKM2	**Tokmak 2**	**3.71**	**17**	P		**Pn**	**04 55 47.0**	**+1.3**
	SNR=32							
TKM2	**Tokmak 2**	**3.71**	**17**	⇑Pg		**Pn**	**04 55 46.8**	**+1.1**
	12nm,0.6s							
TKM2				⇓Lg	Lg		04 56 33.6	
	43nm,0.6s							
TKM2	**Tokmak 2**	**3.71**	**17**	⇑*iP*		**Pn**	**04 55 46.8**	**+1.1**
	baz=15							
TKM2				⇑*iS*		**Sn**	**04 56 30.4**	**+0.8**
	baz=15							
USP	**Ospenovka**	**3.89**	**4**	P		**Pb**	**04 55 56.0**	**-0.9**
	SNR=8.5							
DZET	**Dzherino**	**4.13**	**264**	Pn		Pn	04 55 58.2	+6.8
DZET				Pg		**Pg**	**04 56 08.0**	**+0.7**
DZET				Sn		**Sb**	**04 56 48.4**	**-2.7**
DZET				Lg		Lg	04 57 06.5	
KNDC	**Almaty**	**4.40**	**29**	⇓Pg		Pn	04 56 01.6	+6.6
	53nm,0.7s							
KNDC				⇓Lg		Lg	04 56 55.3	
	67nm,0.7s							
KK31	**Karatay Array**	**4.59**	**325**	Pn		**Pn**	**04 55 58.8**	**+1.2**
	4.6nm,0.3s,baz=126,slow=12,SNR=57							
KK31				⇑Pg		**Pb**	**04 56 09.7**	**+1.0**
	1.5nm,0.7s,baz=161,slow=15,SNR=4.0							
KK31				⇑Sn		**Sn**	**04 56 48.9**	**-2.0**
	5.2nm,0.4s							
KK31				⇑Lg		Lg	04 57 07.7	
	14nm,0.5s,baz=129,slow=30,SNR=6.3							
MKAR	**Makanchi Array**	**9.52**	**36**	Pn		**Pn**	**04 57 05.3**	**0.0**
	0.1nm,0.3s,baz=220,slow=13,SNR=2.7							
MKAR				Lg		Lg	04 59 40.7	
	0.1nm,0.3s,baz=231,slow=32,SNR=2.6							
KURBB	**Kurchatov Arra**	**11.66**	**14**	Pn		Pn	04 57 32.6	-2.0
	0.0nm,0.3s,baz=198,slow=11,SNR=3.9							
KURBB				Lg		Lg	05 00 43.9	
	0.0nm,0.3s,baz=201,slow=31,SNR=4.4							
BVAR	**Borovoye Array**	**13.87**	**351**	Pn		Pn	04 58 01.8	-3.0
	0.2nm,0.3s,baz=152,slow=13,SNR=4.6							
AB31	**Akbulak array**	**14.11**	**319**	Pn		Pn	04 58 06.3	-1.6
	2.5nm,0.6s,baz=115,slow=9.8,SNR=27							
AKTO	**Aktyubinsk**	**15.82**	**320**	⇑Pn		**Pn**	**04 58 29.8**	**-1.1**
	2.1nm,0.7s							
AKTO	**Aktyubinsk**	**15.82**	**320**	Pn		**Pn**	**04 58 30.7**	**-0.2**
	0.2nm,0.3s,baz=134,slow=16,SNR=6.1							
FINES	**FINESS Array B**	**36.54**	**323**	P		**P**	**05 01 53.8**	**+0.2**
	0.8nm,0.4s,baz=117,slow=10,SNR=15							
ARCES	**ARCESS Array B**	**39.47**	**335**	P		**P**	**05 02 18.1**	**-0.1**
	4.3nm,1.1s,baz=104,slow=8.7,SNR=11							
GERES	**GERESS Array B**	**43.33**	**303**	P		**P**	**05 02 51.6**	**+1.3**
	0.2nm,0.5s,baz=78,slow=10,SNR=3.7							
NB2	**NORSAR Subarra**	**43.60**	**321**	P		**P**	**05 02 51.5**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=90,slow=8.6							
NOA	**NORSAR Array B**	**43.60**	**321**	P		**P**	**05 02 52.1**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=91,slow=8.0,SNR=7.3							
TORD	**Torodi Ar. Bea**	**68.21**	**269**	P		**P**	**05 05 49.7**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=51,slow=5.7,SNR=18							
INK	**Inuvik**	**70.64**	**11**	P		P	05 06 02.1	-1.3
	comp=Z,0.3nm,0.5s,baz=333,slow=5.1,SNR=3.7							
YKA	**Yellowknife Ar**	**78.22**	**4**	P		**P**	**05 06 46.5**	**-1.0**
	comp=Z,0.1nm,0.4s,baz=347,slow=5.7,SNR=6.2							

MAN 15 05:00:44,10°.53N×122°.19E,h50km,mb4.3,ML3.2,MS3.0, 1C,Panay

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.41**	**76**	*eP*	Pn	05 00 55.8	+1.6
GUIM				*eS*	Sn	05 01 05.2	+3.8
RCP	**Roxas**	**1.16**	**28**	⇑*eP*	Pn	05 01 05.0	+1.1
RCP				*i* S	Sn	05 01 20.1	+1.3
CUYO	**Cuyo Island**	**1.20**	**286**	*eP*	Pn	05 01 05.3	+0.9
CUYO				*eS*	Sn	05 01 20.9	+1.4
OTRP	**Odiongan**	**1.83**	**355**	*eP*	Pn	05 01 16.5	+3.4

IDC 15 05:01:29.8±1.5,1°.31S×146°.27E,h0km,mb3.9/4, mb1 4.1/5,mb1mx3.8/19,mbtmp3.9/5,ML3.7/1,Error ellipse: s-maj=49.7km s-min=24.0km az=113.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**5.69**	**258**	Pn	Pn	05 02 55.3	-0.5
	2.3nm,0.3s,baz=61,slow=18,SNR=7.0						
JAY				Sn	Sn	05 03 58.5	-3.3
	2.9nm,0.3s,baz=108,slow=19,SNR=3.9						
WRA	**Warramunga Arr**	**21.89**	**211**	P	P	05 06 24.6	0.0
	3.2nm,0.5s,baz=34,slow=11,SNR=49						
ASAR	**Alice Springs**	**25.25**	**207**	P	P	05 06 58.0	+0.1
	3.2nm,0.8s,baz=38,slow=7.1,SNR=24						
H11S3	**WAKE ISLAND Hy 28.12**	**45**		T	T	05 36 18.3	
	baz=229,slow=75,SNR=39						
H11S2	**WAKE ISLAND Hy 28.13**	**45**		T	T	05 36 18.3	
	baz=229,slow=75,SNR=7.6						
H11S1	**WAKE ISLAND Hy 28.14**	**45**		T	T	05 36 18.3	
	baz=229,slow=75,SNR=7.7						
H11N1	**WAKE ISLAND Hy 29.08**	**43**		T	T	05 37 27.0	
	baz=226,slow=76,SNR=17						
H11N2	**WAKE ISLAND Hy 29.10**	**43**		T	T	05 37 26.1	
	baz=226,slow=76,SNR=19						
H11N3	**WAKE ISLAND Hy 29.10**	**43**		T	T	05 37 28.9	
	baz=226,slow=76,SNR=15						
SONM	**Songino Array**	**59.99**	**330**	P	P	05 11 38.3	0.0
	0.5nm,0.4s,baz=147,slow=8.1,SNR=3.1						
ILAR	**Eielson Array**	**81.49**	**23**	P	P	05 13 48.8	0.0
	0.4nm,0.6s,baz=258,slow=5.7,SNR=6.3						

CSEM 15 05:02:24.1,35°.94N×4°.10E,h0km,ML3.6
CRAAG 15 05:02:24.1,35°.93N×4°.09E,MI3.6,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATAF	**Djebel Tarf**	**0.16**	**110**	P	Pg	05 02 28.7	+1.3
ATAF	**Djebel Tarf**	**0.16**	**110**	P	Pg	05 02 28.7	+1.3
ADJB	**Djebel Djouab**	**0.57**	**293**	P	Pb	05 02 36.8	-0.4
ADJB	**Djebel Djouab**	**0.57**	**293**	P	Pb	05 02 36.8	-0.4
EMHD	**Djebel Mahouad**	**0.96**	**287**	P	Pn	05 02 44.7	-0.3
EMHD	**Djebel Mahouad**	**0.96**	**287**	P	Pn	05 02 44.7	-0.3
SET	**Setif**	**1.09**	**75**	P	Pb	05 02 46.0	-0.1
SET	**Setif**	**1.09**	**75**	P	Pb	05 02 46.0	-0.1
ABA	**Alger-Bouzarea**	**1.22**	**316**	P	Pg	05 02 46.9	-0.6
ABA	**Alger-Bouzarea**	**1.22**	**316**	P	Pg	05 02 46.9	-0.6
EBNR	**Beni Rached**	**2.10**	**281**	P	Pn	05 02 50.0	-11
EBNR	**Beni Rached**	**2.10**	**281**	P	Pn	05 02 50.0	-11
ECHA	**Ech Chlef**	**2.22**	**276**	P	Pn	05 02 54.3	-7.8
ECHA	**Ech Chlef**	**2.22**	**276**	P	Pn	05 02 54.3	-7.8
ETRT	**Tiaret**	**2.33**	**257**	P	Pn	05 02 57.2	-6.7
ETRT	**Tiaret**	**2.33**	**257**	P	Pn	05 02 57.2	-6.7
EANR	**'Ain N'Sour**	**2.43**	**271**	P	Pn	05 02 58.0	-7.1
EANR	**'Ain N'Sour**	**2.43**	**271**	P	Pn	05 02 58.0	-7.1

IDC 15 05:06:44.0±1.3,1°.72S×133°.78E,h0km,mb3.9/5, mb1 4.2/7,mb1mx3.8/40,mbtmp4.0/7,ML4.0/2,MS3.1/5, Ms1 3.1/5,ms1mx2.7/37,Error ellipse: s-maj=38.6km s-min=20.8km az=72.0
ISCJB 15 05:06:45.6±0.6,1°.70S±0°.08×133°.85E±0°.05,h24km, mb3.9/5,MS3.2/3,Error ellipse: s-maj=11.8km s-min=7.7km az=9.9
DJA 15 05:06:45.8±0.9,2°.5S±8°×13°.4E±°,h12km±9km,M4.4/5, MLv4.4/5
ISC 15 05:06:47.1±0.8,1°.69S±0°.10×133°.87E±0°.06,h24km,n14, σ0s90/12,mb4.0/5,MS3.2/3,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**0.35**	**60**	P	**Pb**	**05 06 53.6**	**-1.2**
FAKI	**Fak Fak**	**2.03**	**233**	P	**Pn**	**05 07 19.5**	**-0.3**
SRPI	**Serui, Papua**	**2.37**	**94**	P	**Pn**	**05 07 24.3**	**-0.2**
SIJI	**Sorong**	**2.73**	**287**	Pn	**Pn**	**05 07 28.1**	**-1.3**
	19nm,0.3s,baz=88,slow=16,SNR=81						
SIJI				Sn	**Sn**	**05 08 00.9**	**-0.8**
	47nm,0.3s,baz=107,slow=23,SNR=12						
SIJI				LR	LR	05 08 20.3	
	comp=Z,124nm,21.6s,baz=44,slow=36						
SWI	**Sorong**	**2.74**	**287**	P	**Pn**	**05 07 29.5**	**0.0**
WRA	**Warramunga Arr**	**18.15**	**179**	P	**Pn**	**05 10 57.4**	**-0.3**
	0.5nm,0.3s,baz=358,slow=12,SNR=44						
GUMO	**Guam**	**18.69**	**35**	LR	LR	05 17 29.7	
	comp=Z,37nm,19.6s,baz=108,slow=34						
ASAR	**Alice Springs**	**21.85**	**180**	P	**P**	**05 11 38.1**	**0.0**
	4.6nm,0.7s,baz=6.2,slow=12,SNR=48						
ASAR				LR	LR	05 20 52.1	
	comp=Z,92nm,18.1s,baz=346,slow=39						
STKA	**Stephens Creek**	**30.90**	**167**	LR	LR	05 27 05.5	
	comp=Z,81nm,20.2s,baz=217,slow=40						
KSRS	**Korea Array**	**39.33**	**353**	LR	LR	05 30 03.1	
	comp=Z,19nm,20.2s,baz=190,slow=36						
SONM	**Songino Array**	**54.84**	**338**	P	**P**	**05 16 17.1**	**+1.6**
	0.4nm,0.5s,baz=146,slow=8.0,SNR=2.9						
MKAR	**Makanchi Array**	**66.08**	**324**	P	**P**	**05 17 32.4**	**+0.2**
	1.0nm,0.5s,baz=128,slow=5.1,SNR=12						
KURBB	**Kurchatov Arra**	**70.15**	**326**	P	**P**	**05 17 58.1**	**+0.5**
	1.7nm,0.9s,baz=119,slow=5.6,SNR=7.7						
BVAR	**Borovoye Array**	**75.74**	**326**	P	**P**	**05 18 31.2**	**+0.5**
	0.8nm,0.6s,baz=110,slow=8.3,SNR=2.7						

IDC 15 05:07:05.4±3.1,18°.02N×145°.65E,h166km±31km,mb3.4/9, mb1 3.7/10,mb1mx3.3/45,mbtmp3.9/10,Error ellipse: s-maj=24.5km s-min=15.5km az=111.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.47**	**190**	P	Pn	05 08 12.3	0.0
	6.6nm,0.3s,baz=12,slow=20,SNR=2.3						
GUMO				S	Sn	05 08 59.5	-5.0
	6.2nm,0.3s,baz=35,slow=12,SNR=3.7						
WRA	**Warramunga Arr**	**39.33**	**197**	P	P	05 14 18.3	-0.2
	0.8nm,0.4s,baz=22,slow=8.4,SNR=14						
ASAR	**Alice Springs**	**42.99**	**196**	P	P	05 14 48.3	-0.1
	0.2nm,0.3s,baz=7.8,slow=7.5,SNR=3.3						
CMAR	**Chiang Mai Arr**	**44.27**	**278**	P	P	05 14 58.8	+0.1
	1.3nm,0.3s,baz=64,slow=6.1,SNR=3.7						
STKA	**Stephens Creek**	**49.77**	**185**	P	P	05 15 40.9	-0.2
	1.5nm,0.8s,baz=357,slow=8.3,SNR=2.9						
KURBB	**Kurchatov Arra**	**61.79**	**318**	P	P	05 17 06.2	-0.2
	0.1nm,0.3s,baz=91,slow=7.5,SNR=3.5						
ILAR	**Eielson Array**	**64.27**	**26**	P	P	05 17 22.4	-0.1
	0.5nm,0.5s,baz=255,slow=5.9,SNR=8.7						
INK	**Inuvik**	**70.01**	**23**	P	P	05 17 58.6	+0.1
	1.5nm,0.7s,baz=286,slow=7.6,SNR=13						
YKA	**Yellowknife Ar**	**78.60**	**28**	P	P	05 18 48.5	+0.1
	1.0nm,0.7s,baz=289,slow=5.3,SNR=18						
NVAR	**Mina Array Bea**	**83.59**	**52**	P	P	05 19 15.6	+0.1
	1.0nm,0.6s,baz=265,slow=5.7,SNR=8.2						

IDC 15 05:08:19.1±2.3,39°.52N×75°.52E,h0km,mb3.5/5, mb1 3.7/9,mb1mx3.5/30,mbtmp3.6/9,ML3.5/4,MS3.0/3, Ms1 3.0/3,ms1mx2.5/34,Error ellipse: s-maj=42.2km s-min=27.0km az=129.0
BJI 15 05:08:22.9,40°.12N×75°.57E,h7km,ML3.4/4
KRNET 15 05:08:25.1±0.1,40°.03N×75°.86E,h2km,mb3.9
NNC 15 05:08:27.2±1.1,40°.06N×75°.44E,h0km,mb4.1,mpv3.8, Error ellipse: s-maj=11.5km s-min=4.4km az=149.0
ISC 15 05:08:27.4±1.8,40°.12N±0°.04×75°.49E±0°.04,h10km±12km, n45,σ1s91/59,mb3.5/6,MS3.5/3,24C-10D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**0.70**	**148**	Pg	**Pb**	**05 08 41.5**	**-0.3**
KSH				Sg	**Sn**	**05 08 54.0**	**-0.5**
	3μm,0.4s			SMN			
KSH				SME			
	3μm,0.4s						
NRN	**Naryn**	**1.37**	**16**	*i* P	**Pn**	**05 08 52.2**	**-0.7**
	baz=4.0						
NRN				*eS*	**Sb**	**05 09 11.8**	**+0.7**
	baz=4.0						
SFK	**Sufi-Kurgan**	**1.53**	**267**	⇑P	**Pn**	**05 08 54.9**	**-0.1**
	58nm,0.3s						
SFK				⇓S	**Sn**	**05 09 15.1**	**+0.1**
	161nm,0.3s						
KZA	**Kyzart**	**1.97**	**355**	P	**Pb**	**05 09 03.4**	**-0.2**
	SNR=86						
KZA	**Kyzart**	**1.97**	**355**	⇑*iP*	**Pb**	**05 09 03.1**	**-0.5**
	baz=347						
KZA				⇑*iS*	**Sg**	**05 09 32.2**	**+1.5**
	baz=347						
ULHL	**Ulahol**	**2.20**	**15**	P	**Pb**	**05 09 06.3**	**-1.1**
	SNR=70						
ULHL	**Ulahol**	**2.20**	**15**	⇑*iP*	**Pb**	**05 09 06.5**	**-0.9**
	baz=7.0						
ULHL				⇑*iS*	**Sg**	**05 09 37.4**	**-0.8**
	baz=7.0						
UCH	**Uchtor**	**2.23**	**341**	P	**Pb**	**05 09 07.4**	**-0.7**
	SNR=46						
UCH	**Uchtor**	**2.23**	**341**	⇑*iP*	**Pb**	**05 09 07.5**	**-0.6**
	baz=336						
UCH				⇑*iS*	**Sg**	**05 09 38.9**	**-0.4**
	baz=336						
KDJ	**Kajisay**	**2.38**	**32**	*eP*	**Pn**	**05 09 06.4**	**-0.3**
	baz=25						
KDJ				*eS*	**Sn**	**05 09 35.9**	**-0.2**
	baz=25						
BOOM	**Boomskoye usch**	**2.40**	**8**	*eP*	**Pb**	**05 09 10.4**	**-0.3**
	baz=1.0						
BOOM				*eS*	**Sg**	**05 09 43.9**	**-0.5**
	baz=1.0						
AML	**Almayashu**	**2.43**	**327**	P	**Pb**	**05 09 10.0**	**-1.4**
	SNR=54						
AML	**Almayashu**	**2.43**	**327**	⇓*iP*	**Pb**	**05 09 10.0**	**-1.4**
	baz=323						
AML				⇓*iS*	**Sg**	**05 09 46.2**	**+0.8**
	baz=323						
KBK	**Karagaybulak**	**2.57**	**351**	P	**Pb**	**05 09 12.5**	**-1.2**
	SNR=19						
KBK	**Karagaybulak**	**2.57**	**351**	⇑*iP*	**Pb**	**05 09 12.5**	**-1.2**
	baz=346						
KBK				⇑*iS*	**Sg**	**05 09 51.0**	**+1.0**
	baz=346						
KBK	**Karagaybulak**	**2.57**	**351**	*eP*	Pg	05 09 21.0	+4.3
	baz=37						
KBK				*eS*	Sg	05 10 01.0	+11
	baz=37						
AAK	**Ala-Archa**	**2.62**	**344**	P	**Pb**	**05 09 13.3**	**-1.3**
	SNR=19						
AAK	**Ala-Archa**	**2.62**	**344**	⇑Pn	**Pb**	**05 09 13.3**	**-1.3**
	75nm,0.8s						
AAK				⇓Lg	Lg	05 09 50.0	
	124nm,0.7s						
AAK	**Ala-Archa**	**2.62**	**344**	Pn	**Pb**	**05 09 13.1**	**-1.5**
	14nm,0.3s,baz=154,slow=14,SNR=4.9						
AAK				Sn	**Sb**	**05 09 48.4**	**+1.5**
	6.4nm,0.3s,baz=319,slow=20,SNR=6.0						
AAK				LR	LR	05 10 33.4	
	comp=Z,64nm,20.7s,baz=138,slow=42						
AAK	**Ala-Archa**	**2.62**	**344**	⇓*iP*	**Pb**	**05 09 13.3**	**-1.3**
	baz=339						
AAK				⇓*iS*	**Sb**	**05 09 49.5**	**+2.5**
	baz=339						
FRU	**Bishkek**	**2.79**	**347**	*eP*	Pg	05 09 24.0	+3.1
	baz=342						
FRU				*eS*	Sg	05 10 06.1	+9.0
	baz=342						
TKM2	**Tokmak 2**	**2.80**	**2**	P	**Pb**	**05 09 15.4**	**-2.3**
	SNR=55						
TKM2	**Tokmak 2**	**2.80**	**2**	⇑Pn	**Pb**	**05 09 15.3**	**-2.4**
	53nm,0.7s						
TKM2				⇑Lg	Lg	05 09 57.0	
	114nm,0.6s						
TKM2	**Tokmak 2**	**2.80**	**2**	⇑*iP*	**Pb**	**05 09 15.2**	**-2.5**
	baz=356						
TKM2				⇑*iS*	**Sg**	**05 09 56.7**	**-0.8**
	baz=356						
EKS2	**Erkin-Say**	**2.85**	**334**	P	**Pb**	**05 09 17.1**	**-1.4**
	SNR=6.2						
EKS2	**Erkin-Say**	**2.85**	**334**	⇑*iP*	**Pb**	**05 09 16.3**	**-2.1**
	baz=330						
EKS2				⇑*iS*	**Sb**	**05 09 56.6**	**+3.2**
	baz=330						
EKS	**Erkin-Say**	**2.85**	**334**	*i* P	**Pb**	**05 09 16.7**	**-1.8**
	baz=330						
EKS				*eS*	**Sb**	**05 09 56.0**	**+2.5**
	baz=330						
CHMS	**Chumysh**	**2.93**	**349**	P	**Pb**	**05 09 17.3**	**-2.5**
	SNR=9.5						
MNAS	**Manas**	**3.27**	**317**	⇓Pg	**Pb**	**05 09 27.3**	**+1.8**
	9.7nm,0.4s						
MNAS				⇓Lg	Lg	05 10 11.7	
	17nm,0.6s						
PDGK	**Podgornoye**	**4.39**	**42**	⇑Pn	**Pn**	**05 09 34.9**	**+0.9**
	13nm,0.7s						
PDGK				⇓Lg	Lg	05 10 44.0	
	46nm,0.9s						
KK31	**Karatay Array**	**4.78**	**310**	⇓Pn	**Pn**	**05 09 41.0**	**+1.6**
	1.3nm,0.2s,baz=128,slow=12,SNR=25						
KK31				⇑Pg	Pb	05 09 54.6	+3.4
	4.7nm,0.3s,baz=120,slow=16,SNR=18						
KK31				⇑Lg	Lg	05 11 00.4	
	5.7nm,0.5s,baz=127,slow=29,SNR=6.5						
DZET	**Dzherino**	**5.32**	**258**	⇑Pn	**Pn**	**05 09 46.8**	**-0.2**
	4.9nm,0.3s						
DZET				⇑Sn	**Sn**	**05 10 49.4**	**+1.0**
	24nm,0.5s						
DZET				⇑Lg	Lg	05 11 12.0	
	36nm,0.6s						
MK31	**Makanchi Array**	**8.30**	**34**	⇑Pn	**Pn**	**05 10 28.3**	**+0.4**
	1.5nm,0.5s,baz=219,slow=16,SNR=20						
MK31				⇑Lg	Lg	05 12 52.6	
	1.4nm,0.7s						
MKAR	**Makanchi Array**	**8.30**	**34**	Pn	**Pn**	**05 10 28.6**	**+0.7**
	0.3nm,0.3s,baz=220,slow=17,SNR=26						
MKAR				Lg	Lg	05 12 52.8	
	0.1nm,0.3s,baz=212,slow=30,SNR=3.8						
WMQ	**Urumqi**	**9.81**	**64**	*eP*	**Pn**	**05 10 46.6**	**-2.0**
WMQ				pP		05 10 49.8	
WMQ				sP		05 10 52.6	
BVAR	**Borovoye Array**	**13.38**	**347**	Pn	**Pn**	**05 11 36.4**	**-0.7**
	0.3nm,0.3s,baz=164,slow=12,SNR=2.7						
ZALV	**Zalesovo Beam**	**15.21**	**21**	Pn	**Pn**	**05 12 01.8**	**-0.3**
	0.5nm,0.3s,baz=206,slow=13,SNR=2.7						
HHC	**Hu-ho-hao-te**	**27.33**	**77**	*eP*	**P**	**05 14 15.3**	**+2.8**
HHC				sP	sP	05 14 25.9	+9.1
HHC				PP	**PnPn**	**05 15 02.1**	**+5.9**
HHC				S	**S**	**05 18 50.9**	**-1.3**
HHC				SS	**SnSn**	**05 20 06.9**	**+6.4**
HHC				pmax	pmax		
	comp=Z,22nm,0.9s						
HHC				pmax	pmax		
	comp=Z,83nm,6.5s						
HHC				LR	LR		
	comp=N,110nm,14.8s						
HHC				LR	LR		
	comp=E,200nm,14.8s						
HHC				LR	LR		
	comp=Z,170nm,14.8s						
FINES	**FINESS Array B**	**36.62**	**322**	P	**P**	**05 15 30.8**	**-2.6**
	comp=Z,0.5nm,0.6s,baz=100,slow=7.6,SNR=4.5						
CN2	**Changchun**	**36.88**	**67**	*eP*	**P**	**05 15 36.4**	**+0.5**
ARCES	**ARCESS Array B**	**39.27**	**335**	P	**P**	**05 15 53.0**	**-2.7**
	comp=Z,1.8nm,0.8s,baz=102,slow=10,SNR=3.8						
ARCES				LR	LR	05 32 56.1	
	comp=Z,28nm,19.2s,baz=169,slow=37						
NOA	**NORSAR Array B**	**43.73**	**321**	P	**P**	**05 16 29.8**	**-2.6**
	comp=Z,0.4nm,0.7s,baz=86,slow=7.5,SNR=2.2						
TORD	**Torodi Ar. Bea**	**69.30**	**270**	P	P	05 19 28.9	-6.2
	comp=Z,0.3nm,0.8s,baz=58,slow=5.0,SNR=2.6						
JAY	**Jayapura**	**72.95**	**108**	LR	LR	05 52 33.1	
	comp=Z,27nm,21.6s,baz=322,slow=36						
YKA	**Yellowknife Ar**	**77.42**	**5**	P	P	05 20 18.6	-3.6
	comp=Z,0.3nm,0.7s,baz=347,slow=5.4,SNR=4.9						

ROM 15 05:09:43.4±0.2,46°.12N×7°.70E,h4km±1km,Md3.2/36, Ml3.1/29,Error ellipse: s-maj=1.5km s-min=0.9km az=137.0
*CSEM 15 05:09:43.5±0.1,46°.14N×7°.69E,h2km,ML3.8/48,Ms3.1, Error ellipse: s-maj=

WIMIS *i* Sg **Pg** **05 09 54.1 -0.2**
2µm,0.6s
WIMIS Wimmis 0.52 354⇑*i*Pg **Pg** **05 09 54.1 -0.2**
2µm,0.6s
CIRO Champorcher 0.55 190 Pg **Pg** **05 09 54.3 -0.5**
CIRO Sg **Sg** **05 10 02.7 +0.5**
916nm,0.3s
CIRO Champorcher 0.55 190 P **Pg** **05 09 54.3 -0.5**
CIRO Sg **Sg** **05 10 02.7 +0.5**
916nm,0.3s
AIGLE Aigle 0.56 291 *e*Sg Sg 05 09 55.2 -7.2
1µm,0.6s
EMV Vieux Emosson 0.57 262⇑*i*Pg **Pb** **05 09 56.9 +1.2**
870nm,0.3s
MRGE Morge 0.59 231 Pg **Pg** **05 09 54.9 -0.6**
MRGE Sg **Sg** **05 10 04.1 +0.8**
809nm,0.5s
MRGE Morge 0.59 231 Pg **Pg** **05 09 54.9 -0.6**
MRGE Sg **Sg** **05 10 04.1 +0.8**
809nm,0.5s
TRAV Traversella 0.63 177 Pg **Pg** **05 09 55.9 -0.4**
TRAV Sg **Sg** **05 10 05.3 +0.6**
1µm,0.2s
TRAV Traversella 0.63 177 P **Pg** **05 09 55.9 -0.4**
TRAV Sg **Sg** **05 10 05.3 +0.6**
1µm,0.2s
HASLI Hasliberg/Brie 0.69 26 *i* Sg Sg 05 09 57.4 -9.0
3µm,0.4s
HASLI Hasliberg/Brie 0.69 26⇑*i*Pg Pn 05 10 05.6 +6.4
3µm,0.4s
FUSIO Fusio 0.73 65⇑*i*Pg **Pn** **05 10 00.1 +0.2**
2µm,0.1s
FUSIO Fusio 0.73 65 Pg **Pg** **05 09 57.4 -0.8**
FUSIO Sg **Sb** **05 10 09.6 +1.2**
FUSIO Fusio 0.73 65 Pg **Pg** **05 09 57.4 -0.8**
FUSIO Sg **Sb** **05 10 09.6 +1.2**
VARE Varese 0.79 110 Pg **Pg** **05 09 58.7 -0.6**
VARE Sg **Sb** **05 10 10.5 +0.5**
335nm,0.3s
VARE Varese 0.79 110 Pg **Pg** **05 09 58.7 -0.6**
VARE Sg **Sb** **05 10 10.5 +0.5**
335nm,0.3s
LSD Lago del Serru 0.79 211 Pg **Pg** **05 09 58.6 -0.8**
LSD Sg **Sg** **05 10 10.2 +0.4**
338nm,0.3s
LSD Lago del Serru 0.79 211 P **Pg** **05 09 58.6 -0.8**
LSD Sg **Sg** **05 10 10.2 +0.4**
338nm,0.3s
TORNY Torny/Romont 0.81 321⇑*i*Pg **Pb** **05 10 00.5 +0.7**
3µm,0.5s
TORNY Torny/Romont 0.81 321⇑*i*Pg **Pb** **05 10 00.5 +0.7**
3µm,0.5s
BNALP Bannalp 0.88 34⇑*i*Pg **Pn** **05 10 03.1 +1.2**
2µm,0.4s
BNALP Bannalp 0.88 34 Pg **Pg** **05 10 00.5 -0.5**
BNALP Sg **Sn** **05 10 14.3 -0.3**
614nm,0.4s
BNALP Bannalp 0.88 34 Pg **Pg** **05 10 00.5 -0.5**
BNALP Sg **Sn** **05 10 14.3 -0.3**
614nm,0.4s
LPL La Plagne 0.93 228 *e*Pg **Pb** **05 10 01.2 -0.6**
LPL *e*Sg **Sg** **05 10 13.9 -0.1**
198nm,0.3s
LPL La Plagne 0.93 228 *e*Pg **Pb** **05 10 01.2 -0.6**
LPL *e*Sg **Sg** **05 10 13.9 -0.1**
99nm,0.3s
LPG La Plagne 0.93 226 *e*Pg **Pb** **05 10 01.1 -0.8**
LPG *e*Sg **Sg** **05 10 14.3 +0.1**
339nm,0.4s
LPG La Plagne 0.93 226 *e*Pg **Pb** **05 10 01.1 -0.8**
LPG *e*Sg **Sg** **05 10 14.3 +0.1**
170nm,0.4s
RSP Reno Superiore 1.04 197 Pg **Pb** **05 10 03.0 -0.7**
RSP Sg **Sb** **05 10 17.0 -0.3**
557nm,0.7s
RSP Reno Superiore 1.04 197 Pg **Pb** **05 10 03.0 -0.7**
RSP Reno Superiore 1.04 197 P **Pb** **05 10 03.3 -0.4**
RSP S **Sb** **05 10 17.0 -0.3**
MUO Muotathal 1.04 38⇑*i*Pg **Pb** **05 10 03.7 -0.1**
5µm,0.5s
MUO Muotathal 1.04 38⇑*i*Pg **Pb** **05 10 03.7 -0.1**
5µm,0.5s
GIMEL St. Georges / 1.07 292⇓*i*Pg **Pg** **05 10 05.3 +0.7**
776nm,0.5s
GIMEL St. Georges / 1.07 292 Pg **Pg** **05 10 05.0 +0.4**
GIMEL Sg **Sn** **05 10 19.4 +0.2**
226nm,0.3s
GIMEL St. Georges / 1.07 292 Pg **Pg** **05 10 05.0 +0.4**
GIMEL Sg **Sn** **05 10 19.4 +0.2**
226nm,0.3s
MONC Moncucco Torin 1.08 172 Pg **Pb** **05 10 03.7 -0.6**
MONC Sg **Sg** **05 10 19.0 +0.1**
666nm,0.5s
MONC Moncucco Torin 1.08 172 Pg **Pb** **05 10 03.7 -0.6**
MONC Sg **Sg** **05 10 19.0 +0.1**
666nm,0.5s
TUE Stuetta 1.18 73 Pg **Pn** **05 10 05.9 -0.2**
375nm,0.3s
TUE Stuetta 1.18 73 Pg **Pn** **05 10 05.9 -0.2**
375nm,0.3s
BALST Balsthal 1.19 360 *e*Pg **Pg** **05 10 06.9 0.0**
SNR=121
BALST *e*Sg **Sg** **05 10 22.8 +0.4**
SNR=6.0
BALST Balsthal 1.19 360 *e*Pg **Pg** **05 10 06.9 0.0**
BALST *e*Sg **Sg** **05 10 22.8 +0.4**
BALST Balsthal 1.19 360⇑*i*Pg **Pg** **05 10 06.9 0.0**
4µm,0.5s
BALST Balsthal 1.19 360⇑*i*Pg **Pg** **05 10 06.9 0.0**
4µm,0.5s
BALST *e*Sg **Sg** **05 10 22.8 +0.4**
CABF La Chapelle 1.22 293 *e*P **Pg** **05 10 07.8 +0.5**
CABF *e*Sg **Sn** **05 10 23.1 +0.4**
441nm,0.6s
CABF La Chapelle 1.22 293 *e*P **Pg** **05 10 07.8 +0.5**
CABF *e*Sg **Sn** **05 10 23.1 +0.4**
220nm,0.6s
VDL Val di Lei 1.25 74⇑*i*Pg **Pn** **05 10 07.1 0.0**
924nm,0.2s
BOURR Bourrignon 1.29 345⇓*i*Pn **Pg** **05 10 08.6 -0.2**
2µm,0.7s
BOURR Bourrignon 1.29 345⇓*i*Pn **Pg** **05 10 08.6 -0.2**
2µm,0.7s
BBS Basel-Blauen 1.33 354 Pn **Pb** **05 10 08.9 +0.3**
BBS Basel-Blauen 1.33 354 Pg **Pg** **05 10 09.6 +0.1**
BBS Sg **Sg** **05 10 26.5 -0.3**
BHB Bricherasio 1.34 194 Pg **Pn** **05 10 07.7 -0.4**
BHB Sg **Sn** **05 10 25.9 +0.2**
200nm,0.2s
BHB Bricherasio 1.34 194 P **Pn** **05 10 07.8 -0.4**
BHB S **Sn** **05 10 24.5 -1.2**
BHB Sg **Sn** **05 10 25.9 +0.2**
200nm,0.2s
LOMF Lomont 1.35 334 Pg **Pb** **05 10 09.6 +0.6**
LOMF Sg **Sg** **05 10 27.4 -0.1**
LOMF Lomont 1.35 334 Pg **Pb** **05 10 09.6 +0.6**
LOMF Sg **Sg** **05 10 27.4 -0.1**
ZUR Degenried 1.36 26⇑*i*Pg **Pg** **05 10 10.0 -0.2**
4µm,0.3s
ZUR Degenried 1.36 26⇑*i*Pg **Pg** **05 10 10.0 -0.2**
4µm,0.3s
ROTM Rocchetta Tana 1.37 160 P **Pg** **05 10 10.0 -0.3**
ROTM S **Sg** **05 10 27.9 -0.2**
RRL Rocca Remolon 1.38 208 Pg **Pn** **05 10 09.2 +0.4**
RRL Sg **Sn** **05 10 27.6 +0.6**
176nm,0.4s
RRL Rocca Remolon 1.38 208 P **Pn** **05 10 09.3 +0.4**
RRL S **Sn** **05 10 26.8 -0.2**
RRL Sg **Sn** **05 10 27.6 +0.6**
176nm,0.4s
SULZ Cheisacher 1.41 11 *e*Pn **Pb** **05 10 10.1 +0.1**
SNR=5.7
SULZ *e*Pg **Pg** **05 10 11.6 +0.5**
SNR=103
SULZ *e*Sn **Sb** **05 10 28.6 +0.8**
SNR=1.0
SULZ *e*Sg **Sg** **05 10 30.3 +0.9**
SNR=10
SULZ Cheisacher 1.41 11 *e*Pn **Pb** **05 10 10.1 +0.1**
SULZ *e*Pg **Pg** **05 10 11.6 +0.5**
SULZ *e*Sn **Sb** **05 10 28.6 +0.8**
SULZ *e*Sg **Sg** **05 10 30.3 +0.9**
SULZ Cheisacher 1.41 11⇓*i*Pn **Pb** **05 10 10.1 +0.1**
7µm,0.4s
SULZ Cheisacher 1.41 11⇓*i*Pn **Pb** **05 10 10.1 +0.1**
7µm,0.4s
GDM Grand'Maison 1.46 230 Pn **Pb** **05 10 11.6 +0.8**
GDM Grand'Maison 1.46 230 Pn **Pb** **05 10 11.6 +0.8**
PLONS Plons/SG 1.47 51 *e*Pn **Pb** **05 10 10.8 -0.1**
SNR=2.4
PLONS *e*Sn **Sg** **05 10 30.7 -0.5**
SNR=1.4
PLONS *e*Sg **Sb** **05 10 34.7 +5.2**
SNR=3.5
PLONS Plons/SG 1.47 51 *e*Pn **Pb** **05 10 10.8 -0.1**
PLONS *e*Sn **Sg** **05 10 30.7 -0.5**
PLONS *e*Sg **Sb** **05 10 34.7 +5.2**
PLONS Plons/SG 1.47 51⇑*i*P **Pb** **05 10 10.7 -0.3**
848nm,0.5s
PLONS Plons/SG 1.47 51 Pg **Pb** **05 10 10.9 -0.1**
PLONS Sg **Sg** **05 10 31.3 +0.1**
259nm,0.4s
PLONS Plons/SG 1.47 51⇑*i*P **Pb** **05 10 10.7 -0.3**
848nm,0.5s
PLONS *e*Sn **Sg** **05 10 30.7 -0.5**
PLONS *e*Sg **Sb** **05 10 34.7 +5.2**
WILA Wila 1.52 33 *e*Pn **Pb** **05 10 12.3 +0.5**
SNR=4.8
WILA *e*Pg **Pg** **05 10 13.0 0.0**
SNR=245
WILA *e*Sg **Sg** **05 10 33.0 +0.3**
SNR=13
WILA Wila 1.52 33 *e*Pn **Pb** **05 10 12.3 +0.5**
WILA *e*Pg **Pg** **05 10 13.0 0.0**
WILA *e*Sg **Sg** **05 10 33.0 +0.3**
WILA Wila 1.52 33⇑*i*Pn **Pb** **05 10 12.3 +0.5**
5µm,0.3s
WILA Wila 1.52 33⇑*i*Pn **Pb** **05 10 12.3 +0.5**
5µm,0.3s
MBDF Montbardon 1.56 205 *e*P **Pb** **05 10 12.7 +0.1**
MBDF *e*Sg **Sb** **05 10 33.8 +1.5**
412nm,0.6s
MBDF Montbardon 1.56 205 *e*P **Pb** **05 10 12.7 +0.1**
MBDF *e*Sg **Sb** **05 10 33.8 +1.5**
206nm,0.6s
BERNI Berninapass 1.63 80 Pg **Pb** **05 10 13.8 0.0**
BERNI Sg **Sg** **05 10 35.9 -0.5**
BERNI Berninapass 1.63 80 Pg **Pb** **05 10 13.8 0.0**
BERNI Sg **Sg** **05 10 35.9 -0.5**
DAVOX Davos/Dischmat 1.63 66⇑*i*P **Pb** **05 10 13.8 0.0**
1µm,0.5s
DAVOX Davos/Dischmat 1.63 66 Pg **Pb** **05 10 13.9 +0.1**
DAVOX Sg **Sg** **05 10 36.1 -0.4**
DAVOX Davos/Dischmat 1.63 66⇑*i*P **Pb** **05 10 13.8 0.0**
1µm,0.5s
DAVOX Sg **Sg** **05 10 36.1 -0.4**
WEIN Weingarten 1.64 32 *e*Pn **Pb** **05 10 13.8 -0.1**
1µm,0.4s
WEIN Weingarten 1.64 32 *e*Pn **Pb** **05 10 13.8 -0.1**
1µm,0.4s
GRN Grenoble 1.64 237 Pg **Pg** **05 10 16.8 +1.3**
GRN Grenoble 1.64 237 Pg **Pg** **05 10 16.8 +1.3**
DOI San Damiano 1.67 191 Pg **Pn** **05 10 12.4 -0.3**
DOI Sg **Sb** **05 10 35.9 +0.6**
124nm,0.3s
DOI San Damiano 1.67 191 Pg **Pn** **05 10 12.4 -0.3**
DOI Sg **Sb** **05 10 35.9 +0.6**
124nm,0.3s
LIENZ Kamor/St.Gall 1.68 46⇑*i*Pn **Pn** **05 10 13.9 +0.9**
854nm,0.5s
LIENZ Kamor/St.Gall 1.68 46⇑*i*Pn **Pn** **05 10 13.9 +0.9**
854nm,0.5s
PZZ Stroppo 1.69 194 Pg **Pn** **05 10 12.9 -0.1**
PZZ Sg **Sb** **05 10 36.4 +0.5**
199nm,0.4s
PZZ Stroppo 1.69 194 P **Pn** **05 10 12.9 -0.1**
PZZ S **Sn** **05 10 33.0 -1.5**
PZZ Sg **Sb** **05 10 36.4 +0.5**
199nm,0.4s
PCP Piancastagn 1.71 159 Pg **Pb** **05 10 15.1 +0.1**
PCP Sg **Sb** **05 10 37.4 +1.1**
270nm,0.9s
PCP Piancastagn 1.71 159 P **Pb** **05 10 14.6 -0.4**
PCP Piancastagn 1.71 159 Pg **Pb** **05 10 15.1 +0.1**
PCP S **Sn** **05 10 35.3 +0.5**
PCP Sg **Sb** **05 10 37.4 +1.1**
270nm,0.9s
SLE Schleitheim 1.71 18 *e*Pn **Pn** **05 10 13.8 +0.6**
SNR=13
SLE *e*Pg **Pg** **05 10 16.5 -0.2**
SNR=228
SLE *e*Sn **Sn** **05 10 35.4 +0.6**
SNR=3.2
SLE *e*Sg **Sg** **05 10 38.7 -0.2**
SNR=3.4
SLE Schleitheim 1.71 18 *e*Pn **Pn** **05 10 13.8 +0.6**
SLE *e*Pg **Pg** **05 10 16.5 -0.2**
SLE *e*Sn **Sn** **05 10 35.4 +0.6**
SLE *e*Sg **Sg** **05 10 38.7 -0.2**
SLE Schleitheim 1.71 18 *e*Pn **Pb** **05 10 15.3 +0.3**
5µm,0.4s
SLE Schleitheim 1.71 18 *e*Pn **Pn** **05 10 13.8 +0.6**
FELD Feldberg im Sc 1.75 7 Pn **Pn** **05 10 14.0 +0.2**
FELD Feldberg im Sc 1.75 7 Pg **Pg** **05 10 17.0 -0.4**
FELD Sg **Sg** **05 10 39.5 -0.6**
MOF Molkenrain 1.75 347 Pn **Pn** **05 10 14.8 +0.9**
MOF Molkenrain 1.75 347 Pg **Pg** **05 10 17.7 +0.1**
MOF Sg **Sg** **05 10 40.0 -0.3**
MOF Molkenrain 1.75 347 Pn **Pn** **05 10 14.8 +0.9**
MOF Molkenrain 1.75 347 Pg **Pg** **05 10 17.7 +0.1**
MOF Sg **Sg** **05 10 40.0 -0.3**
HINF Hinteralfeld 1.77 341 *e*P **Pn** **05 10 14.8 +0.7**
HINF *e*Sg **Sg** **05 10 40.0 -1.0**
216nm,0.3s
HINF Hinteralfeld 1.77 341 *e*P **Pn** **05 10 14.8 +0.7**
HINF *e*Sg **Sg** **05 10 40.0 -1.0**
108nm,0.3s
ORIF Oris-en-Rattie 1.77 227 *e*Pg **Pb** **05 10 16.8 +0.6**
ORIF *e*Sg **Sg** **05 10 40.7 -0.3**
135nm,0.4s
ORIF Oris-en-Rattie 1.77 227 *e*Pg **Pb** **05 10 16.8 +0.6**
ORIF *e*Sg **Sg** **05 10 40.7 -0.3**
68nm,0.4s
SURF Saint Ours 1.78 201 Pn **Pb** **05 10 15.9 -0.4**
SURF Saint Ours 1.78 201 Pn **Pb** **05 10 15.9 -0.4**
FUORN Ofenpass-Fuorn 1.83 74⇑*i*P **Pb** **05 10 17.3 0.0**
FUORN Ofenpass-Fuorn 1.83 74 Pg **Pb** **05 10 17.3 0.0**
FUORN Ofenpass-Fuorn 1.83 74⇑*i*P **Pb** **05 10 17.3 0.0**
BOB Bobbio (Coli) 1.84 138 Pg **Pb** **05 10 16.5 -0.8**
181nm,0.7s
BOB Bobbio (Coli) 1.84 138 Pg **Pb** **05 10 16.5 -0.8**
181nm,0.7s
QLNO Quiliano 1.88 166 Pg **Pb** **05 10 17.3 -0.6**
126nm,0.6s
QLNO Quiliano 1.88 166 Pg **Pb** **05 10 17.3 -0.6**
126nm,0.6s
BRMO Bormio 1.88 79 Pg **Pb** **05 10 18.1 +0.1**
52nm,0.4s
BRMO Bormio 1.88 79 Pg **Pb** **05 10 18.1 +0.1**
52nm,0.4s
DAVA Damuels 1.88 52 *e*Pn **Pb** **05 10 18.4 +0.3**
SNR=88
DAVA ⇓*i*Sn **Sn** **05 10 39.3 0.0**
DAVA ⇓*i*Sg **Sb** **05 10 42.6 +1.1**
244nm,0.4s
DAVA Damuels 1.88 52 Pn **Pb** **05 10 18.4 +0.3**
SNR=88
DAVA Sn **Sn** **05 10 39.3 0.0**
DAVA Sg **Sb** **05 10 42.6 +1.1**
244nm,0.4s
STV Sant Anna di V 1.92 188 Pg **Pn** **05 10 16.1 -0.1**
22nm,0.3s
STV Sant Anna di V 1.92 188 P **Pn** **05 10 16.0 -0.1**
STV S **Sn** **05 10 38.4 -1.6**
ENR Entracque 1.93 186 P **Pn** **05 10 16.3 0.0**
ENR S **Sn** **05 10 39.6 -0.7**
MABI Malga Bissina 1.96 92 Pg **Pb** **05 10 19.0 -0.3**
70nm,0.4s
MABI Malga Bissina 1.96 92 Pg **Pb** **05 10 19.0 -0.3**
70nm,0.4s
LIBD Limburg 2.01 358 Pg **Pg** **05 10 22.3 -0.1**
LIBD Sg **Sg** **05 10 47.8 -0.7**
FINB Finale Ligure 2.02 167 Pg **Pn** **05 10 19.0 +1.7**
315nm,0.4s
FINB Finale Ligure 2.02 167 Pg **Pn** **05 10 19.0 +1.7**
315nm,0.4s
MOSI Grossmontoni 2.02 75 Pg **Pn** **05 10 19.2 +1.5**
235nm,0.4s
MOSI Grossmontoni 2.02 75 Pg **Pn** **05 10 19.2 +1.5**
235nm,0.4s
MOSI Grossmontoni 2.02 75⇑*e*Pn **Pb** **05 10 21.1 +0.6**
MOSI *e*Sn **Sb** **05 10 47.5 +1.9**
RORO Rocca Rossa 2.05 173 Pg **Pb** **05 10 19.8 -1.0**
109nm,0.9s
RORO Rocca Rossa 2.05 173 Pg **Pb** **05 10 19.8 -1.0**
109nm,0.9s
RNI Roncone 2.05 93 *e*Pn **Pb** **05 10 21.5 +0.6**
RNI Roncone 2.05 93 *e*Pn **Pb** **05 10 21.5 +0.6**
MAGA Magasa 2.07 99 Pg **Pb** **05 10 20.2 -1.1**
339nm,0.5s
MAGA Magasa 2.07 99 Pg **Pb** **05 10 20.2 -1.1**
339nm,0.5s
HAU Haudompre 2.08 334 *e*P **Pn** **05 10 19.4 +1.1**
HAU *e*Sg **Sg** **05 10 49.4 -1.4**
272nm,0.2s,SNR=1.0
HAU Haudompre 2.08 334 *e*P **Pn** **05 10 19.4 +1.1**
HAU *e*Sg **Sg** **05 10 49.4 -1.4**
136nm,0.2s,SNR=1.0
SPAK Spaichingen-Ko 2.09 20 Pg **Pg** **05 10 23.2 -0.9**
SPAK Sg **Sg** **05 10 50.9 -0.3**
ECH Echery 2.11 350 Pn **Pn** **05 10 18.8 +0.1**
ECH Echery 2.11 350 Pg **Pg** **05 10 23.8 -0.5**
ECH Sg **Sg** **05 10 50.9 -0.7**
ECH Echery 2.11 350 Pn **Pn** **05 10 18.8 +0.1**
ECH Echery 2.11 350 Pg **Pg** **05 10 23.8 -0.5**
ECH Sg **Sg** **05 10 50.9 -0.7**
SC2M Scurtabo 2.17 143 Pg **Pb** **05 10 22.1 -0.7**
150nm,0.4s
SC2M Scurtabo 2.17 143 Pg **Pb** **05 10 22.1 -0.7**
150nm,0.4s
BALD Monte Baldo 2.22 101 *e*Pn **Pb** **05 10 24.4 +0.5**
BALD Monte Baldo 2.22 101 *e*Pn **Pb** **05 10 24.4 +0.5**
BFO Black Forest 2.23 11 *e*Pn **Pn** **05 10 20.5 +0.1**
SNR=12
BFO *e*Pg **Pg** **05 10 26.0 -0.6**
SNR=6.5
BFO *e*Sn **Sn** **05 10 46.4 -1.2**
SNR=2.1
BFO *e*Sg **Sg** **05 10 53.8 -1.7**
SNR=1.5
BFO Black Forest 2.23 11 *e*Pn **Pn** **05 10 20.5 +0.1**
BFO *e*Pg **Pg** **05 10 26.0 -0.6**
BFO *e*Sn **Sn** **05 10 46.4 -1.2**
BFO *e*Sg **Sg** **05 10 53.8 -1.7**
BFO Black Forest 2.23 11 *e*Pn **Pn** **05 10 20.5 +0.1**
MSSA Maissana 2.23 144 Pg **Pb** **05 10 23.3 -0.7**
114nm,0.8s
MSSA Maissana 2.23 144 Pg **Pb** **05 10 23.3 -0.7**
114nm,0.8s
IMI Imperia 2.24 177 Pg **Pn** **05 10 22.5 +2.0**
86nm,0.5s
IMI Imperia 2.24 177 Pg **Pn** **05 10 22.5 +2.0**
86nm,0.5s
FETA Feichten 2.26 66⇓*e*Pn **Pb** **05 10 23.4 -1.1**
SNR=52
FETA Feichten 2.26 66 Pn **Pb** **05 10 23.4 -1.1**
SNR=52
CDF Champ du Feu 2.29 353 *e*Pn **Pn** **05 10 21.7 +0.5**
SNR=1.0
CDF Champ du Feu 2.29 353 *e*P **Pn** **05 10 23.3 +2.1**
CDF Champ du Feu 2.29 353 *e*Pg **Pg** **05 10 27.0 -0.8**
CDF *e*Sg **Sg** **05 10 55.9 -1.6**
224nm,0.6s,SNR=1.0
CDF Champ du Feu 2.29 353 *e*Pn **Pn** **05 10 21.7 +0.5**
SNR=1.0
CDF Champ du Feu 2.29 353 *e*P **Pn** **05 10 23.3 +2.1**
CDF Champ du Feu 2.29 353 *e*Pg **Pg** **05 10 27.0 -0.8**
CDF *e*Sg **Sg** **05 10 55.9 -1.6**
112nm,0.6s,SNR=1.0
SBF Sospel 2.29 185 *e*P **Pn** **05 10 22.3 +1.1**
SBF Sospel 2.29 185 *e*Pg **Pb** **05 10 26.3 +1.4**
SBF *e*Sg **Sg** **05 10 55.8 -1.7**
130nm,0.5s
SBF Sospel 2.29 185 *e*P **Pn** **05 10 22.3 +1.1**
SBF Sospel 2.29 185 *e*Pg **Pb** **05 10 26.3 +1.4**
SBF *e*Sg **Sg** **05 10 55.8 -1.7**
65nm,0.5s
THEF They Montfort 2.39 331 Pn **Pn** **05 10 23.5 +0.9**
THEF They Montfort 2.39 331 Pn **Pn** **05 10 23.5 +0.9**
ROVR Rover˜¤ Verone 2.40 101 Pg **Pn** **05 10 23.4 +0.6**
APPI Appiano 2.46 81 Pg **Pn** **05 10 25.3 +1.7**
RETA Reutte 2.49 56⇓*e*Pn **Pb** **05 10 26.6 -1.8**
SNR=11
RETA ⇓*i*Sn **Sn** **05 10 54.9 +0.7**
RETA Reutte 2.49 56 Pn **Pb** **05 10 26.6 -1.8**
SNR=11
RETA Sn **Sn** **05 10 54.9 +0.7**
VIVF Saint-Julien-l 2.49 240 *e*P **Pn** **05 10 25.9 +1.9**
VIVF Saint-Julien-l 2.49 240 *e*Pg **Pg** **05 10 30.6 -1.1**
VIVF *e*Sg **Sg** **05 11 02.8 -1.2**
60nm,0.4s,SNR=1.0
VIVF Saint-Julien-l 2.49 240 *e*P **Pn** **05 10 25.9 +1.9**
VIVF Saint-Julien-l 2.49 240 *e*Pg **Pg** **05 10 30.6 -1.1**
VIVF *e*Sg **Sg** **05 11 02.8 -1.2**
30nm,0.4s,SNR=1.0
MARN Marana (Italy) 2.50 100 *e*Pn **Pn** **05 10 25.9 +1.8**
MARN Marana (Italy) 2.50 100 *e*Pn **Pn** **05 10 25.9 +1.8**
PANI Panarotta 2.51 91 *e*Pn **Pb** **05 10 27.4 -1.4**
PANI Panarotta 2.51 91 *e*Pn **Pb** **05 10 27.4 -1.4**
KOSI Kohlern 2.56 82 *e*Pn **Pb** **05 10 29.8 +0.1**
ABSI Aberstueckl 2.57 76 Pg **Pn** **05 10 26.5 +1.4**
ABSI Aberstueckl 2.57 76 *e*Pn **Pb** **05 10 30.2 +0.5**
MOTA Moosalm 2.63 62⇑*e*Pn **Pn** **05 10 28.5 +2.6**
SNR=14
MOTA ⇑*i*Sg **Sg** **05 11 08.3 0.0**
57nm,0.5s
MOTA Moosalm 2.63 62 Pn **Pn** **05 10 28.5 +2.6**
SNR=14
MOTA Sg **Sg** **05 11 08.3 0.0**
57nm,0.5s
SMRF Simiane la Rot 2.64 216 *e*P **Pn** **05 10 28.6 +2.6**
SMRF Simiane la Rot 2.64 216 *e*Pg **Pg** **05 10 33.5 -1.0**
SMRF *e*Sg **Sg** **05 11 07.3 -1.5**
49nm,0.6s,SNR=1.0
SMRF Simiane la Rot 2.64 216 *e*P **Pn** **05 10 28.6 +2.6**
SMRF Simiane la Rot 2.64 216 *e*Pg **Pg** **05 10 33.5 -1.0**
SMRF *e*Sg **Sg** **05 11 07.3 -1.5**
25nm,0.6s,SNR=1.0
ROSI Rosskopf 2.67 72 Pg **Pn** **05 10 28.5 +1.9**
ROSI Rosskopf 2.67 72 *e*Pn **Pb** **05 10 31.6 0.0**
FRF La Foret Royal 2.69 197 *e*P **Pn** **05 10 29.5 +2.8**
FRF La Foret Royal 2.69 197 *e*Pg **Pb** **05 10 33.4 +1.6**
FRF *e*Sg **Sg** **05 11 08.3 -2.0**
58nm,0.4s
FRF La Foret Royal 2.69 197 *e*P **Pn** **05 10 29.5 +2.8**
FRF La Foret Royal 2.69 197 *e*Pg **Pb** **05 10 33.4 +1.6**
FRF *e*Sg **Sg** **05 11 08.3 -2.0**
29nm,0.4s
SMF Signal de Mont 2.72 282 *e*P **Pn** **05 10 28.7 +1.6**
SMF *e*Sn **Sn** **05 10 57.7 -2.1**
SMF *e*Sg **Sg** **05 11 10.0 -1.3**
70nm,0.3s,SNR=1.0
SMF Signal de Mont 2.72 282 *e*P **Pn** **05 10 28.7 +1.6**
SMF *e*Sn **Sn** **05 10 57.7 -2.1**
SMF *e*Sg **Sg** **05 11 10.0 -1.3**
35nm,0.3s,SNR=1.0
SFTF Sexfontaines 2.75 320 *e*P **Pn** **05 10 29.2 +1.7**
baz=134
SFTF Sexfontaines 2.75 320 *e*Pg **Pg** **05 10 35.4 -1.2**
baz=136
SFTF *e*Sg **Sg** **05 11 10.7 -1.5**
241nm,0.6s,baz=139
SFTF Sexfontaines 2.75 320 *e*P **Pn** **05 10 29.2 +1.7**
baz=134
SFTF Sexfontaines 2.75 320 *e*Pg **Pg** **05 10 35.4 -1.2**
baz=136
SFTF *e*Sg **Sg** **05 11 10.7 -1.5**
121nm,0.6s,baz=139
PAGF Fort de Pagny 2.76 332 *e*P **Pn** **05 10 29.5 +1.8**
baz=146
PAGF Fort de Pagny 2.76 332 *e*Pg **Pb** **05 10 35.0 +2.0**
baz=154
PAGF *e*Sn **Sn** **05 10 58.3 -2.5**
PAGF *e*Sg **Sg** **05 11 11.0 -1.6**
45nm,0.6s,baz=152
PAGF Fort de Pagny 2.76 332 *e*P **Pn** **05 10 29.5 +1.8**
baz=146
PAGF Fort de Pagny 2.76 332 *e*Pg **Pb** **05 10 35.0 +2.0**
baz=154
PAGF *e*Sn **Sn** **05 10 58.3 -2.5**
PAGF *e*Sg **Sg** **05 11 11.0 -1.6**
22nm,0.6s,baz=152
LANF Langenberg 2.84 1 Pn **Pn** **05 10 28.7 0.0**
LANF Langenberg 2.84 1 Pn **Pn** **05 10 28.7 0.0**
PLDF La Plantade 2.85 268 Pn **Pn** **05 10 30.1 +1.2**

PLDF	**La Plantade**	**2.85**	**268**	Pn		**Pn**	**05 10 30.1**	**+1.2**
LOR	**Lormes**	**2.88**	**294**	*e*Pn		**Pn**	**05 10 28.7**	**-0.5**
	baz=123,SNR=1.0							
LOR	**Lormes**	**2.88**	**294**	*e*P		**Pn**	**05 10 31.2**	**+2.0**
	baz=121							
LOR	**Lormes**	**2.88**	**294**	*e*Pg		**Pg**	**05 10 37.9**	**-1.1**
	baz=118							
LOR				*e*Sg		**Sg**	**05 11 15.1**	**-1.2**
	71nm,0.3s,baz=116,SNR=1.0							
LOR	**Lormes**	**2.88**	**294**	*e*Pn		**Pn**	**05 10 28.7**	**-0.5**
	baz=123,SNR=1.0							
LOR	**Lormes**	**2.88**	**294**	*e*P		**Pn**	**05 10 31.2**	**+2.0**
	baz=121							
LOR	**Lormes**	**2.88**	**294**	*e*Pg		**Pg**	**05 10 37.9**	**-1.1**
	baz=118							
LOR				*e*Sg		**Sg**	**05 11 15.1**	**-1.2**
	36nm,0.3s,baz=116,SNR=1.0							
WATA	**Walderalm**	**2.92**	**64**⇈	*e*Pn		**Pn**	**05 10 32.3**	**+2.4**
	SNR=5.9							
WATA	**Walderalm**	**2.92**	**64**	Pn		**Pn**	**05 10 32.3**	**+2.4**
	SNR=5.9							
WTTA	**Wattenberg**	**2.93**	**66**⇑	*e*Pn		**Pn**	**05 10 32.8**	**+2.7**
	SNR=12							
WTTA				⇓*i*Sg		**Sg**	**05 11 18.8**	**+0.9**
	67nm,0.7s							
WTTA	**Wattenberg**	**2.93**	**66**	Pg		**Pn**	**05 10 31.9**	**+1.8**
WTTA	**Wattenberg**	**2.93**	**66**	Pn		**Pn**	**05 10 32.8**	**+2.7**
	SNR=12							
WTTA				Sg		**Sg**	**05 11 18.8**	**+0.9**
	67nm,0.7s							
LMR	**La Mourre**	**2.94**	**197**	*e*P		**Pn**	**05 10 32.3**	**+2.3**
LMR	**La Mourre**	**2.94**	**197**	*e*Pg		**Pb**	**05 10 38.1**	**+2.2**
LMR				*e*Sg		**Sg**	**05 11 15.8**	**-2.4**
	30nm,0.4s							
LMR	**La Mourre**	**2.94**	**197**	*e*P		**Pn**	**05 10 32.3**	**+2.3**
LMR	**La Mourre**	**2.94**	**197**	*e*Pg		**Pb**	**05 10 38.1**	**+2.2**
LMR				*e*Sg		**Sg**	**05 11 15.8**	**-2.4**
	15nm,0.4s							
MEZF	**Maizieres J'vi**	**2.97**	**324**	*e*P		**Pn**	**05 10 32.6**	**+2.1**
	baz=144							
MEZF				*e*Sn		**Sn**	**05 11 03.4**	**-2.5**
MEZF				*e*Sg		**Sg**	**05 11 17.3**	**-2.0**
	140nm,0.4s,SNR=1.0							
MEZF	**Maizieres J'vi**	**2.97**	**324**	*e*P		**Pn**	**05 10 32.6**	**+2.1**
	baz=144							
MEZF				*e*Sn		**Sn**	**05 11 03.4**	**-2.5**
MEZF				*e*Sg		**Sg**	**05 11 17.3**	**-2.0**
	70nm,0.4s,SNR=1.0							
LEPF	**PUYLOUBIER**	**2.98**	**209**	Pn		**Pn**	**05 10 32.9**	**+2.2**
LEPF	**PUYLOUBIER**	**2.98**	**209**	Pn		**Pn**	**05 10 32.9**	**+2.2**
SSF	**Saint Saulge**	**3.04**	**289**	*e*P		**Pn**	**05 10 33.3**	**+1.9**
SSF	**Saint Saulge**	**3.04**	**289**	*e*Pg		**Pg**	**05 10 41.1**	**-1.0**
SSF				*e*Sg		**Sg**	**05 11 20.1**	**-1.3**
	41nm,0.4s,SNR=1.0							
SSF	**Saint Saulge**	**3.04**	**289**	*e*P		**Pn**	**05 10 33.3**	**+1.9**
SSF	**Saint Saulge**	**3.04**	**289**	*e*Pg		**Pg**	**05 10 41.1**	**-1.0**
SSF				*e*Sg		**Sg**	**05 11 20.1**	**-1.3**
	21nm,0.4s,SNR=1.0							
AVF	**Avril sur Loir**	**3.08**	**284**	*e*P		**Pn**	**05 10 33.6**	**+1.6**
AVF				*e*Sn		**Sn**	**05 11 06.0**	**-2.5**
AVF				*e*Sg		**Sg**	**05 11 21.0**	**-1.7**
	34nm,0.5s							
AVF	**Avril sur Loir**	**3.08**	**284**	*e*P		**Pn**	**05 10 33.6**	**+1.6**
AVF				*e*Sn		**Sn**	**05 11 06.0**	**-2.5**
AVF				*e*Sg		**Sg**	**05 11 21.0**	**-1.7**
	17nm,0.5s							
RISI	**Rein**	**3.12**	**73**⇓	*e*Pn		**Pb**	**05 10 37.6**	**-1.6**
AGO	**Saint Agoulin**	**3.19**	**270**	Pn		**Pn**	**05 10 34.6**	**+1.1**
AGO	**Saint Agoulin**	**3.19**	**270**	Pn		**Pn**	**05 10 34.6**	**+1.1**
KTD	**Kalmit**	**3.19**	**4**	Pn		**Pn**	**05 10 33.2**	**-0.3**
KTD	**Kalmit**	**3.19**	**4**	Pg		**Pg**	**05 10 44.0**	**-1.0**
LBL	**Lubilhac**	**3.26**	**255**	Pn		**Pn**	**05 10 34.9**	**+0.4**
LBL	**Lubilhac**	**3.26**	**255**	Pn		**Pn**	**05 10 34.9**	**+0.4**
PYM	**Petit Puy Mans**	**3.30**	**265**	Pn		**Pn**	**05 10 35.8**	**+0.7**
PYM	**Petit Puy Mans**	**3.30**	**265**	Pn		**Pn**	**05 10 35.8**	**+0.7**
LASF	**Ste Croix**	**3.42**	**234**	*e*P		**Pn**	**05 10 38.7**	**+2.0**
LASF	**Ste Croix**	**3.42**	**234**	*e*Pg		**Pb**	**05 10 46.6**	**+2.4**
LASF				*e*Sn		**Sn**	**05 11 14.3**	**-2.7**
LASF				*e*Sg		**Sg**	**05 11 31.8**	**-1.9**
	37nm,0.5s							
LASF	**Ste Croix**	**3.42**	**234**	*e*P		**Pn**	**05 10 38.7**	**+2.0**
LASF	**Ste Croix**	**3.42**	**234**	*e*Pg		**Pb**	**05 10 46.6**	**+2.4**
LASF				*e*Sn		**Sn**	**05 11 14.3**	**-2.7**
LASF				*e*Sg		**Sg**	**05 11 31.8**	**-1.9**
	18nm,0.5s							
TOD	**Tromm**	**3.54**	**12**	Pn		**Pn**	**05 10 37.9**	**-0.5**
TOD	**Tromm**	**3.54**	**12**	Pg		**Pg**	**05 10 50.2**	**-1.5**
RUP	**Ruppelstein**	**3.59**	**353**	Pn		**Pn**	**05 10 39.3**	**+0.3**
RUP	**Ruppelstein**	**3.59**	**353**	Pg		**Pg**	**05 10 51.6**	**-1.0**
HYF	**Humbligny**	**3.66**	**290**	*e*P		**Pn**	**05 10 42.1**	**+2.1**
HYF				*e*Sg		**Sg**	**05 11 39.5**	**-2.0**
HYF	**Humbligny**	**3.66**	**290**	*e*P		**Pn**	**05 10 42.1**	**+2.1**
HYF				*e*Sg		**Sg**	**05 11 39.5**	**-2.0**
WLF	**Walferdange**	**3.67**	**344**	P		**Pn**	**05 10 42.5**	**+2.3**
WLF	**Walferdange**	**3.67**	**344**	P		**Pn**	**05 10 42.4**	**+2.3**
PGF	**Pioggiola**	**3.71**	**165**	*e*Pn		**Pn**	**05 10 40.0**	**-0.8**
PGF	**Pioggiola**	**3.71**	**165**	*e*P		**Pn**	**05 10 43.4**	**+2.6**
PGF				*e*Sn		**Sn**	**05 11 21.5**	**-2.8**
	5.8nm,0.3s,SNR=1.0							
PGF	**Pioggiola**	**3.71**	**165**	*e*Pn		**Pn**	**05 10 40.0**	**-0.8**
PGF	**Pioggiola**	**3.71**	**165**	*e*P		**Pn**	**05 10 43.4**	**+2.6**
PGF				*e*Sn		**Sn**	**05 11 21.5**	**-2.8**
	2.9nm,0.3s,SNR=1.0							
ABH	**Alteburg**	**3.74**	**358**	Pn		**Pn**	**05 10 41.7**	**+0.6**
ABH	**Alteburg**	**3.74**	**358**	Pg		**Pg**	**05 10 54.4**	**-1.1**
TCF	**Toulx Ste Croi**	**3.82**	**274**	*e*P		**Pn**	**05 10 43.8**	**+1.6**
TCF				*e*Sn		**Sn**	**05 11 24.0**	**-2.8**
	SNR=1.0							
TCF				*e*Sg		**Sg**	**05 11 43.9**	**-2.6**
	39nm,0.7s							
TCF	**Toulx Ste Croi**	**3.82**	**274**	*e*P		**Pn**	**05 10 43.8**	**+1.6**
TCF				*e*Sn		**Sn**	**05 11 24.0**	**-2.8**
	SNR=1.0							
TCF				*e*Sg		**Sg**	**05 11 43.9**	**-2.6**
	19nm,0.7s							
KBA	**Koelnbreinsper**	**4.00**	**74**⇑	*i*Pn		**Pn**	**05 10 47.7**	**+2.9**
KBA	**Koelnbreinsper**	**4.00**	**74**	Pn		**Pn**	**05 10 47.7**	**+2.9**
TNS	**Taunus Mts**	**4.11**	**7**	*e*Pn		**Pn**	**05 10 46.8**	**+0.6**
	SNR=6.5							
TNS				*e*Pg		**Pg**	**05 11 02.1**	**-0.5**
	SNR=1.4							
TNS	**Taunus Mts**	**4.11**	**7**	*e*Pn		**Pn**	**05 10 46.8**	**+0.6**
TNS				*e*Pg		**Pg**	**05 11 02.1**	**-0.5**
TNS	**Taunus Mts**	**4.11**	**7**	*e*Pn		**Pn**	**05 10 46.8**	**+0.6**
CAF	**Calviac**	**4.15**	**255**	*e*Pn		**Pn**	**05 10 48.6**	**+1.9**
	SNR=1.0							
CAF				*e*Sg		**Sg**	**05 11 54.2**	**-2.8**
	25nm,0.4s,SNR=1.0							
CAF	**Calviac**	**4.15**	**255**	*e*Pn		**Pn**	**05 10 48.6**	**+1.9**
	SNR=1.0							
CAF				*e*Sg		**Sg**	**05 11 54.2**	**-2.8**
	13nm,0.4s,SNR=1.0							
GIVF	**Givet**	**4.41**	**335**	*e*P		**Pn**	**05 10 52.4**	**+2.2**
GIVF				*e*Sg		**Sg**	**05 12 02.2**	**-3.1**
	25nm,0.4s							
GIVF	**Givet**	**4.41**	**335**	*e*P		**Pn**	**05 10 52.4**	**+2.2**
GIVF				*e*Sg		**Sg**	**05 12 02.2**	**-3.1**
	12nm,0.4s							
RJF	**Les Rejaudoux**	**4.42**	**261**	*e*Pn		**Pn**	**05 10 50.4**	**0.0**
	SNR=1.0							
RJF				*e*Sg		**Sg**	**05 12 02.5**	**-3.1**
	66nm,0.9s							
RJF	**Les Rejaudoux**	**4.42**	**261**	*e*Pn		**Pn**	**05 10 50.4**	**0.0**
	SNR=1.0							
RJF				*e*Sg		**Sg**	**05 12 02.5**	**-3.1**
	33nm,0.9s							
DOU	**Dourbes**	**4.47**	**333**	P		**Pn**	**05 10 53.2**	**+2.0**
DOU	**Dourbes**	**4.47**	**333**	P		**Pn**	**05 10 53.1**	**+2.0**
BAIF	**Baives**	**4.56**	**330**	*e*P		**Pn**	**05 10 54.3**	**+1.9**
BAIF				*e*Sg		**Sg**	**05 12 07.5**	**-2.9**
	27nm,0.5s,SNR=1.0							
BAIF	**Baives**	**4.56**	**330**	*e*P		**Pn**	**05 10 54.3**	**+1.9**
BAIF				*e*Sg		**Sg**	**05 12 07.5**	**-2.9**
	14nm,0.5s,SNR=1.0							
BCLA	**Clavier**	**4.57**	**340**	P		**Pn**	**05 10 54.1**	**+1.7**
BCLA	**Clavier**	**4.57**	**340**	P		**Pn**	**05 10 54.1**	**+1.7**
WET	**Wettzell**	**4.61**	**47**	*e*Sn		**Sn**	**05 11 44.0**	**-2.3**
	SNR=1.7							
WET	**Wettzell**	**4.61**	**47**	*e*Sn		**Sn**	**05 11 44.0**	**-2.3**
WET	**Wettzell**	**4.61**	**47**	*e*Sn		**Sn**	**05 11 44.0**	**-2.3**
MEM	**Membach**	**4.61**	**346**	P		**Pn**	**05 10 54.6**	**+1.6**
MEM	**Membach**	**4.61**	**346**	P		**Pn**	**05 10 54.6**	**+1.6**
HGN	**Heimansgroeve**	**4.77**	**346**	*e*Pg		**Pn**	**05 10 57.2**	**+1.9**
	7.4nm,0.5s,baz=165							
HGN				*e*Sg		**Sn**	**05 11 47.4**	**-2.8**
MOA	**Molln**	**4.80**	**67**⇓	*i*Pn		**Pn**	**05 10 56.9**	**+1.2**
MOA				⇈*i*Sn		**Sn**	**05 11 52.0**	**+0.9**
MOA	**Molln**	**4.80**	**67**	Pn		**Pn**	**05 10 56.9**	**+1.2**
MOA				Sn		**Sn**	**05 11 52.0**	**+0.9**
MTLF	**Montolieu**	**4.81**	**236**	*e*P		**Pn**	**05 10 58.5**	**+2.7**
MTLF				*e*Sg		**Sg**	**05 12 14.0**	**-4.3**
	18nm,0.7s							
MTLF	**Montolieu**	**4.81**	**236**	*e*P		**Pn**	**05 10 58.5**	**+2.7**
MTLF				*e*Sg		**Sg**	**05 12 14.0**	**-4.3**
	9.0nm,0.7s							
MANZ	**Manzenberg**	**4.85**	**36**	*e*Pg		**Pg**	**05 11 15.7**	**-0.9**
	SNR=5.1							
MANZ	**Manzenberg**	**4.85**	**36**	*e*Pg		**Pg**	**05 11 15.7**	**-0.9**
MANZ	**Manzenberg**	**4.85**	**36**	*e*Pg		**Pg**	**05 11 15.7**	**-0.9**
GEC2	**GERESS Array S**	**4.88**	**54**	*e*Pn		**Pn**	**05 10 58.7**	**+1.9**
	SNR=6.7							
GEC2				*e*Sn		**Sn**	**05 11 51.5**	**-1.6**
	SNR=3.2							
GEC2	**GERESS Array S**	**4.88**	**54**	*e*Pn		**Pn**	**05 10 58.7**	**+1.9**
GEC2				*e*Sn		**Sn**	**05 11 51.5**	**-1.6**
GEC2	**GERESS Array S**	**4.88**	**54**	*e*Pn		**Pn**	**05 10 58.7**	**+1.9**
GEC2				*e*Sn		**Sn**	**05 11 51.5**	**-1.6**
SNF	**Seneffe**	**4.93**	**334**	P		**Pn**	**05 10 57.3**	**0.0**
SNF	**Seneffe**	**4.93**	**334**	P		**Pn**	**05 10 57.3**	**0.0**
KHC	**Kasperske Hory**	**4.97**	**51**	*e*PN		**Pn**	**05 10 59.6**	**+1.6**
KHC				*ex*	x		05 11 09.0	
KHC				*e*PG	Pg		05 11 22.0	+3.0
KHC				*e*SN		**Sn**	**05 11 52.8**	**-2.4**
KHC				*e*SG		**Sg**	**05 12 21.4**	**-1.9**
	comp=Z,28nm,0.4s							
KHC	**Kasperske Hory**	**4.97**	**51**	Pn		**Pn**	**05 10 59.6**	**+1.6**
KHC				Sn		**Sn**	**05 11 52.8**	**-2.4**
KHC				Sg		**Sg**	**05 12 21.4**	**-1.9**
	28nm,0.4s							
SJAF	**Saint Jean de 3.1nm,0.3s,SNR=7.9**	**5.04**	**225**	P		**Pn**	**05 11 01.0**	**+2.1**
SJAF				S		**Sn**	**05 11 56.6**	**-0.2**
	0.4nm,0.2s,SNR=7.9							
LFF	**La Frestale**	**5.04**	**259**	*e*Pn		**Pn**	**05 11 01.3**	**+2.4**
	SNR=1.0							
LFF				*e*Sn		**Sn**	**05 11 52.9**	**-4.0**
LFF				*e*Sg		**Sg**	**05 12 21.9**	**-3.7**
	64nm,0.8s,SNR=1.0							
LFF	**La Frestale**	**5.04**	**259**	*e*Pn		**Pn**	**05 11 01.3**	**+2.4**
	SNR=1.0							
LFF				*e*Sg		**Sg**	**05 12 21.9**	**-3.7**
	32nm,0.8s,SNR=1.0							
EJON	**La Jonquera**	**5.06**	**225**	P		**Pn**	**05 11 00.2**	**+0.9**
	3.7nm,0.3s,SNR=7.9							
EJON				S		**Sn**	**05 11 56.7**	**-0.7**
	0.9nm,0.3s,SNR=7.9							
NKC	**Novy Kostel**	**5.18**	**36**	*e*PG		Pb	05 11 17.7	+3.6
NKC				*e*SN		**Sn**	**05 11 59.3**	**-1.0**
NKC				*e*SG		**Sg**	**05 12 27.7**	**-2.2**
	comp=Z,16nm,0.4s							
NKC	**Novy Kostel**	**5.18**	**36**	Sn		**Sn**	**05 11 59.3**	**-1.0**
NKC				Sg		**Sg**	**05 12 27.7**	**-2.2**
	16nm,0.4s							
WERN	**Wernitzgruen**	**5.19**	**35**	*e*Pg		**Pg**	**05 11 20.7**	**-2.5**
	SNR=6.5							
WERN	**Wernitzgruen**	**5.19**	**35**	*e*Pg		**Pg**	**05 11 20.7**	**-2.5**
GUNZ	**Gunzen**	**5.23**	**35**	*e*Pg		**Pg**	**05 11 21.8**	**-2.2**
	SNR=5.0							
GUNZ	**Gunzen**	**5.23**	**35**	*e*Pg		**Pg**	**05 11 21.8**	**-2.2**
NVLJ	**Novalja**	**5.29**	**105**	*e*Pn		**Pn**	**05 11 04.1**	**+1.7**
NVLJ				Sn		**Sn**	**05 12 02.0**	**-1.1**
NVLJ	**Novalja**	**5.29**	**105**	*e*Pn		**Pn**	**05 11 04.0**	**+1.7**
NVLJ				Sn		**Sn**	**05 12 01.9**	**-1.1**
TANN	**Tannenbergstha**	**5.32**	**35**	*e*Pg		**Pg**	**05 11 23.1**	**-2.7**
	SNR=5.8							
TANN	**Tannenbergstha**	**5.32**	**35**	*e*Pg		**Pg**	**05 11 23.1**	**-2.7**
MFF	**Saint Martin d**	**5.45**	**278**	*e*P		**Pn**	**05 11 06.6**	**+2.0**
MFF				*e*Sn		**Sn**	**05 12 03.2**	**-3.9**
	SNR=1.0							
MFF				*e*Sg		**Sg**	**05 12 34.9**	**-4.0**
	21nm,0.7s							
MFF	**Saint Martin d**	**5.45**	**278**	*e*P		**Pn**	**05 11 06.6**	**+2.0**
CLLI	**Livia**	**5.51**	**230**	S		**Sn**	**05 12 10.8**	**+2.2**
	0.6nm,0.4s,SNR=7.9							
CFON	**Fontmartina**	**5.80**	**223**	P		**Pn**	**05 11 12.5**	**+3.0**
	7.2nm,0.2s,SNR=18							
CFON				S		**Sn**	**05 12 15.5**	**-0.3**
	1.6nm,0.2s,SNR=7.9							
CONA	**Conrad Observa**	**5.85**	**69**⇑	*i*Pn		**Pn**	**05 11 12.2**	**+2.0**
CONA	**Conrad Observa**	**5.85**	**69**	Pn		**Pn**	**05 11 12.2**	**+2.0**
LDF	**La Druitiere**	**5.86**	**298**	*e*Pn		**Pn**	**05 11 11.2**	**+1.1**
	SNR=1.0							
LDF				*e*Sg		**Sg**	**05 12 47.7**	**-4.0**
	24nm,0.6s							
LDF	**La Druitiere**	**5.86**	**298**	*e*Pn		**Pn**	**05 11 11.2**	**+1.1**
	SNR=1.0							
PRU	**Pruhonice**	**5.98**	**48**	*e*PG		Pb	05 11 32.4	+4.6
PRU				*e*SN		**Sn**	**05 12 19.5**	**-0.5**
PRU				*e*SG		**Sg**	**05 12 53.3**	**-2.4**
	comp=Z,17nm,0.6s							
CSOR	**Sort**	**6.04**	**234**	S		**Sn**	**05 12 24.8**	**+3.1**
	0.7nm,0.2s,SNR=7.9							
GOPC	**GO Pecny, Ondr**	**6.06**	**49**	*e*SG		**Sg**	**05 12 54.5**	**-3.9**
	comp=Z,13nm,0.7s							
EPF	**Esparros**	**6.11**	**242**	*e*Pn		**Pn**	**05 11 13.3**	**-0.4**
EPF	**Esparros**	**6.11**	**242**	*e*Pg		Pg	05 11 37.0	-3.9
EPF				*e*Sg		**Sg**	**05 12 56.0**	**-4.0**
	22nm,0.7s							
EPF	**Esparros**	**6.11**	**242**	*e*Pn		**Pn**	**05 11 13.3**	**-0.4**
FLN	**La Foliniere**	**6.14**	**298**	*e*Pn		**Pn**	**05 11 15.4**	**+1.4**
	baz=118,SNR=1.0							
FLN				*e*Sg		**Sg**	**05 12 56.9**	**-3.9**
	23nm,0.6s							
FLN	**La Foliniere**	**6.14**	**298**	*e*Pn		**Pn**	**05 11 15.4**	**+1.4**
	baz=118,SNR=1.0							
EMIR	**Miracle**	**6.14**	**229**	P		**Pn**	**05 11 17.0**	**+2.9**
	1.9nm,0.3s,SNR=7.9							
CLL	**Collm**	**6.24**	**32**	*e*Pg		Pg	05 11 40.0	-3.3
CLL				*e*			05 11 52.0	
CLL				*e*Sg		**Sg**	**05 13 01.0**	**-3.1**
	comp=Z,16nm,0.7s							
GRR	**Gorron**	**6.25**	**294**	*e*Pn		**Pn**	**05 11 16.7**	**+1.2**
	SNR=1.0							
GRR				*e*Sn		**Sn**	**05 12 21.7**	**-4.9**
	SNR=1.0							
GRR				*e*Sg		**Sg**	**05 13 00.2**	**-4.0**
	comp=Z,14nm,0.5s							
GRR	**Gorron**	**6.25**	**294**	*e*Pn		**Pn**	**05 11 16.7**	**+1.2**
	SNR=1.0							
BRG	**Berggiesshubel**	**6.29**	**39**	PG		**Pg**	**05 11 41.4**	**-2.8**
BRG				SN		**Sn**	**05 12 27.0**	**-0.6**
BRG				SG		**Sg**	**05 13 02.0**	**-3.6**
	comp=Z,11nm,0.7s							
PVCC	**Panska Ves**	**6.34**	**44**	*e*SG		**Sg**	**05 13 04.9**	**-2.2**
	comp=Z,18nm,0.4s							
PVCC	**Panska Ves**	**6.34**	**44**	Sg		**Sg**	**05 13 04.9**	**-2.2**
	comp=Z,18nm,0.4s							
KRUC	**Moravsky**	**6.56**	**60**	*e*Pn		**Pn**	**05 11 20.9**	**+1.1**
ETSF	**Etsaut**	**6.74**	**244**	*e*Pn		**Pn**	**05 11 21.4**	**-1.0**
ETSF				*e*Sg		**Sg**	**05 13 16.0**	**-4.1**
	comp=Z,5.0nm,0.6s							
ETSF	**Etsaut**	**6.74**	**244**	*e*Pn		**Pn**	**05 11 21.4**	**-1.0**
IELO	**Elcoad**	**7.20**	**246**	S		**Sn**	**05 12 53.8**	**+3.7**
	comp=Z,1.2nm,0.3s,SNR=7.9							
SGMF	**Saint Gilles**	**7.30**	**291**	*e*Pn		**Pn**	**05 11 30.6**	**+0.6**
	SNR=1.0							
SGMF				*e*Sg		**Sg**	**05 13 33.3**	**-4.8**
	comp=Z,29nm,0.9s							
SGMF	**Saint Gilles**	**7.30**	**291**	*e*Pn		**Pn**	**05 11 30.6**	**+0.6**
	SNR=1.0							
MORC	**Moravsky Berou**	**7.54**	**58**	*e*Pn		**Pn**	**05 11 34.2**	**+1.0**
QUIF	**Quistinic**	**7.64**	**287**	*e*Pn		**Pn**	**05 11 35.1**	**+0.5**
	SNR=1.0							
QUIF				*e*Sg		Sg	05 13 43.4	-5.5
	comp=Z,6.4nm,0.7s							
QUIF	**Quistinic**	**7.64**	**287**	*e*Pn		**Pn**	**05 11 35.1**	**+0.5**
	SNR=1.0							
ROSF	**Rostrenen**	**7.79**	**290**	*e*Pn		**Pn**	**05 11 37.4**	**+0.8**
	SNR=1.0							
ROSF				*e*Sg		Sg	05 13 48.1	-5.6
	comp=Z,7.5nm,0.7s							
ROSF	**Rostrenen**	**7.79**	**290**	*e*Pn		**Pn**	**05 11 37.4**	**+0.8**
	SNR=1.0							

ISCJB ***15*** *05:33:56.9±0.9,5°.16S±0°.07×146°.51E±0°.09,h150km, mb3.7/7,Error ellipse: s-maj=13.4km s-min=10.0km az=162.1*
IDC ***15*** *05:34:00.1±4.4,5°.16S×146°.38E,h165km±37km,mb3.6/7, mb1 3.9/9,mb1mx3.6/30,mbtmp4.2/9,Error ellipse: s-maj=38.8km s-min=14.9km az=80.0*

ISC 15 05:33:58.6±1.0,5°.3S±0°.1×146°.4E±0°.1,h150km,n10, σ1s15/13,mb3.7/7,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**6.32**	**295**	P	**Pn**	**05 35 30.7**	**+1.1**
	6.2nm,0.3s,baz=146,slow=5.6,SNR=26						
JAY				S	**Sn**	**05 36 40.8**	**-0.1**
	2.0nm,0.3s,baz=87,slow=18,SNR=3.3						
WRA	**Warramunga Arr**	**18.74**	**218**	P	**P**	**05 38 07.0**	**+1.0**
	5.6nm,0.3s,baz=38,slow=12,SNR=458						
WRA				S	**S**	**05 41 29.6**	**-2.0**
	0.0nm,0.3s,baz=39,slow=19,SNR=2.7						
ASAR	**Alice Springs**	**21.92**	**212**	P	**P**	**05 38 41.1**	**+1.0**
	3.4nm,0.5s,baz=44,slow=8.5,SNR=42						
ASAR				S	**S**	**05 42 30.2**	**-1.9**
	0.7nm,0.8s,baz=27,slow=23,SNR=3.2						
STKA	**Stephens Creek**	**26.86**	**189**	P	**P**	**05 39 26.2**	**+0.9**
	1.1nm,0.6s,baz=4.8,slow=6.6,SNR=4.5						
CMAR	**Chiang Mai Arr**	**52.40**	**298**	P	**P**	**05 42 55.3**	**-0.5**
	1.1nm,0.3s,baz=116,slow=6.1,SNR=3.4						
VNDA	**Vanda**	**72.68**	**177**	P	**P**	**05 45 10.0**	**+0.5**
	0.6nm,0.5s,baz=322,slow=6.5,SNR=6.7						
MKAR	**Makanchi Array**	**76.56**	**321**	P	**P**	**05 45 32.0**	**-0.4**
	0.6nm,0.7s,baz=96,slow=7.3,SNR=6.8						
ZALV	**Zalesovo Beam**	**78.08**	**328**	P	**P**	**05 45 40.1**	**-0.6**
	0.9nm,0.6s,baz=90,slow=5.8,SNR=3.0						
ILAR	**Eielson Array**	**85.03**	**23**	P	**P**	**05 46 16.4**	**-0.5**
	1.0nm,0.6s,baz=254,slow=5.0,SNR=20						
TORD	**Torodi Ar. Bea**	**144.35**	**285**	PKP	**PKPab**	**05 53 16.1**	**-0.3**
	0.9nm,0.8s,baz=59,slow=2.4,SNR=4.8						

SJA ***15*** *05:34:27.2±0.7,34°.05S×74°.08W,h5km,ML3.8*
GUC ***15*** *05:34:41.3±0.6,34°.78S×72°.30W,h31km±2km,ML3.8*

ISC 15 05:34:39.3±2.1,34°.79S±0°.04×72°.41W±0°.09,h1km±13km, n21,σ1s00/29,6C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.88**	**134**⇈	*i*P	**Pg**	**05 34 57.1**	**+1.0**
TALC				*i*S	**Sg**	**05 35 07.1**	**-0.5**
NICH	**Los Niches**	**0.99**	**103**⇑	*i*P	**Pg**	**05 34 58.7**	**+0.4**
NICH				*i*S	**Sg**	**05 35 11.0**	**-0.1**
LNV	**Longovilo**	**1.17**	**45**⇈	*i*P	**Pg**	**05 35 01.3**	**-0.4**
LNCH	**Linares**	**1.25**	**148**	⇓*i*P	**Pn**	**05 35 03.1**	**-0.7**
COCH	**Cobquecura**	**1.38**	**193**	⇓*i*P	**Pn**	**05 35 05.9**	**+0.3**
COCH				*i*S	**Sb**	**05 35 25.1**	**+1.3**
CHCH	**Chadas Angostu**	**1.68**	**60**⇈	*i*P	**Pn**	**05 35 09.8**	**-0.1**
CHCH				*i*S	**Sn**	**05 35 30.8**	**-1.3**
SAN	**Santiago**	**1.97**	**48**⇈	*i*P	**Pn**	**05 35 14.6**	**+0.8**
SAN				*i*S	**Sn**	**05 35 38.9**	**-0.2**
LACH	**Col Las Americ**	**2.05**	**50**	*e*P	**Pn**	**05 35 14.7**	**-0.2**
LACH				*i*S	**Sn**	**05 35 40.4**	**-0.8**
SJCH	**San Jose de Ma**	**2.05**	**57**	*e*P	**Pn**	**05 35 15.1**	**+0.2**
SJCH				*i*S	**Sn**	**05 35 41.4**	**

ERBM			Sg	**Sg**	**05 48 26.4**	**+0.2**
	577nm,0.4s					
ERBM	**Eremo**	**0.21 343**	Pg	**Pg**	**05 48 22.9**	**+0.2**
ERBM			Sg	**Sg**	**05 48 26.4**	**+0.2**
	577nm,0.4s					
POPM	**Popiglio**	**0.26 133**	S	**Sg**	**05 48 27.0**	**-0.3**
MAIM	**Mastiano**	**0.30 181**	Pg	**Pg**	**05 48 23.7**	**-0.5**
MAIM			Sg	**Sg**	**05 48 28.4**	**-0.3**
	289nm,0.4s					
MAIM	**Mastiano**	**0.30 181**	Pg	**Pg**	**05 48 23.7**	**-0.5**
MAIM			S	**Sg**	**05 48 28.4**	**-0.3**
ZCCA	**Zocca**	**0.37 69**	Pg	**Pb**	**05 48 26.5**	**+0.8**
	464nm,0.5s					
ZCCA	**Zocca**	**0.37 69**	Pg	**Pb**	**05 48 26.5**	**+0.8**
	464nm,0.5s					
CODM	**Codolo**	**0.50 290**	P	**Pg**	**05 48 27.8**	**+0.2**
CODM			S	**Sg**	**05 48 34.6**	**+0.3**
PII	**Pisa**	**0.50 178**	Pg	**Pg**	**05 48 27.3**	**-0.3**
PII	**Pisa**	**0.50 178**	Pg	**Pg**	**05 48 27.3**	**-0.3**
PRMA	**PARMA**	**0.56 346**	Pg	**Pb**	**05 48 30.1**	**+1.2**
PRMA	**PARMA**	**0.56 346**	Pg	**Pb**	**05 48 30.1**	**+1.2**
NOVE	**Novellara**	**0.60 15**	Pg	**Pb**	**05 48 31.6**	**+2.1**
	336nm,0.4s					
NOVE	**Novellara**	**0.60 15**	Pg	**Pb**	**05 48 31.6**	**+2.1**
	336nm,0.4s					
SEI	**Scarperia**	**0.64 105**	Pg	**Pg**	**05 48 30.0**	**-0.2**
SEI			Sg	**Sb**	**05 48 40.3**	**+1.5**
	275nm,0.2s					
SEI	**Scarperia**	**0.64 105**	Pg	**Pg**	**05 48 30.0**	**-0.2**
SEI			Sg	**Sb**	**05 48 40.3**	**+1.5**
	275nm,0.2s					
MSSA	**Maissana**	**0.71 278**	Pg	**Pg**	**05 48 31.7**	**+0.1**
MSSA			Sg	**Sg**	**05 48 41.5**	**+0.5**
	118nm,0.4s					
MSSA	**Maissana**	**0.71 278**	Pg	**Pg**	**05 48 31.7**	**+0.1**
MSSA			Sg	**Sg**	**05 48 41.5**	**+0.5**
	118nm,0.4s					
SC2M	**Scurtabo**	**0.72 285**	Pg	**Pg**	**05 48 31.9**	**+0.3**
SC2M			Sg	**Sg**	**05 48 41.8**	**+0.6**
	433nm,0.3s					
SC2M	**Scurtabo**	**0.72 285**	P	**Pg**	**05 48 31.9**	**+0.3**
SC2M			S	**Sg**	**05 48 41.3**	**+0.1**
SC2M			Sg	**Sg**	**05 48 41.8**	**+0.6**
	433nm,0.3s					
VMG	**Vicchio**	**0.80 108**	Pg	**Pg**	**05 48 33.0**	**-0.1**
	33nm,0.2s					
VMG	**Vicchio**	**0.80 108**	Pg	**Pg**	**05 48 33.0**	**-0.1**
	33nm,0.2s					
BOB	**Bobbio (Coli)**	**0.93 306**	Pg	**Pb**	**05 48 36.4**	**+1.2**
	159nm,0.9s					
BOB	**Bobbio (Coli)**	**0.93 306**	Pg	**Pb**	**05 48 36.4**	**+1.2**
	159nm,0.9s					
CSNT	**Castellina Chi**	**0.94 142**	Pg	**Pg**	**05 48 36.0**	**+0.1**
CSNT			Sg	**Sg**	**05 48 48.1**	**-0.2**
	207nm,0.8s					
CSNT	**Castellina Chi**	**0.94 142**	Pg	**Pg**	**05 48 36.0**	**+0.1**
CSNT			Sg	**Sg**	**05 48 48.1**	**-0.2**
	207nm,0.8s					
SFI	**Santa Sofia**	**1.02 107**	Pg	**Pg**	**05 48 37.5**	**+0.1**
SFI	**Santa Sofia**	**1.02 107**	Pg	**Pg**	**05 48 37.5**	**+0.1**
ASQU	**Asqua**	**1.02 114**	Pg	**Pg**	**05 48 37.3**	**-0.1**
ASQU	**Asqua**	**1.02 114**	Pg	**Pg**	**05 48 37.3**	**-0.1**
GRFL	**Gerfalco**	**1.13 162**	Pg	**Pb**	**05 48 39.4**	**+0.8**
	16nm,0.5s					
GRFL	**Gerfalco**	**1.13 162**	Pg	**Pb**	**05 48 39.4**	**+0.8**
	16nm,0.5s					
CRE	**Caprese Michel**	**1.21 119**	Pg	**Pg**	**05 48 41.3**	**+0.3**
	24nm,0.5s					
CRE	**Caprese Michel**	**1.21 119**	Pg	**Pg**	**05 48 41.3**	**+0.3**
	24nm,0.5s					
PCP	**Piancastagn**	**1.44 284**	P	**Pn**	**05 48 43.7**	**+0.9**
PGF	**Pioggiola**	**2.00 214**	*e*Pn	**Pn**	**05 48 50.5**	**0.0**
PGF			*e*Sn	**Sn**	**05 49 13.8**	**-1.3**
	6.9nm,0.4s					
PGF	**Pioggiola**	**2.00 214**	*e*Pn	**Pn**	**05 48 50.5**	**0.0**
PGF			*e*Sn	**Sn**	**05 49 13.8**	**-1.3**
	3.5nm,0.4s					
SAOF	**Saorge**	**2.13 265**	Pg	**Pn**	**05 48 52.9**	**+0.6**
SAOF			Sg	**Sn**	**05 49 18.4**	**0.0**
SAOF	**Saorge**	**2.13 265**	Pg	**Pn**	**05 48 52.9**	**+0.6**
SAOF			Sg	**Sn**	**05 49 18.4**	**0.0**
AUTN	**L'Aution**	**2.22 265**	Pg	**Pn**	**05 48 54.9**	**+1.1**
AUTN			Sg	**Sn**	**05 49 20.7**	**-0.2**
AUTN	**L'Aution**	**2.22 265**	Pg	**Pn**	**05 48 54.9**	**+1.1**
AUTN			Sg	**Sn**	**05 49 20.7**	**-0.2**
SBF	**Sospel**	**2.24 262**	*e*Pn	**Pn**	**05 48 54.0**	**+0.2**
SBF			*e*Sn	**Sn**	**05 49 19.8**	**-1.2**
	26nm,0.4s					
TOUF	**Mont Tournerai**	**2.35 266**	Pg	**Pn**	**05 48 56.6**	**+1.1**
TOUF			Sg	**Sn**	**05 49 24.7**	**+0.7**
TOUF	**Mont Tournerai**	**2.35 266**	Pg	**Pn**	**05 48 56.6**	**+1.1**
TOUF			Sg	**Sn**	**05 49 24.7**	**+0.7**
MBDF	**Montbardon**	**2.71 282**	*e*Pn	**Pn**	**05 49 00.7**	**+0.2**
MBDF			*e*Sg	**Sg**	**05 49 44.1**	**-0.8**
	13nm,0.6s					
MBDF	**Montbardon**	**2.71 282**	*e*Pn	**Pn**	**05 49 00.7**	**+0.2**
MBDF			*e*Sg	**Sg**	**05 49 44.1**	**-0.8**
	6.5nm,0.6s					
FRF	**La Foret Royal**	**2.86 258**	*e*Pn	**Pn**	**05 49 02.3**	**0.0**
FRF			*e*Sn	**Sn**	**05 49 34.6**	**-1.7**
	6.4nm,0.3s					
LPG	**La Plagne**	**2.96 297**	*e*Pn	**Pn**	**05 49 04.0**	**+0.1**
LPG			*e*Sg	**Sg**	**05 49 51.7**	**-0.8**
	9.5nm,0.8s					
LPG	**La Plagne**	**2.96 297**	*e*Pn	**Pn**	**05 49 04.0**	**+0.1**
LPG			*e*Sg	**Sg**	**05 49 51.7**	**-0.8**
	4.8nm,0.8s					
LPL	**La Plagne**	**2.98 297**	*e*Pn	**Pn**	**05 49 04.1**	**0.0**
LPL			*e*Sg	**Sg**	**05 49 52.4**	**-0.8**
	5.4nm,0.5s					
LPL	**La Plagne**	**2.98 297**	*e*Pn	**Pn**	**05 49 04.1**	**0.0**
LPL			*e*Sg	**Sg**	**05 49 52.4**	**-0.8**
	2.7nm,0.5s					
LMR	**La Mourre**	**3.02 254**	*e*Pn	**Pn**	**05 49 04.4**	**-0.1**
LMR			*e*Sn	**Sn**	**05 49 38.4**	**-1.8**
	5.7nm,0.3s					
LMR	**La Mourre**	**3.02 254**	*e*Pn	**Pn**	**05 49 04.4**	**-0.1**
LMR			*e*Sn	**Sn**	**05 49 38.4**	**-1.8**
	2.8nm,0.3s					
ORIF	**Oris-en-Rattie**	**3.37 284**	*e*Pn	**Pn**	**05 49 09.5**	**+0.1**
ORIF			*e*Sg	**Sg**	**05 50 04.5**	**-1.4**
	7.4nm,0.5s					
ORIF	**Oris-en-Rattie**	**3.37 284**	*e*Pn	**Pn**	**05 49 09.5**	**+0.1**
ORIF			*e*Sg	**Sg**	**05 50 04.5**	**-1.4**
	3.7nm,0.5s					
SMRF	**Simiane la Rot**	**3.56 268**	*e*Pn	**Pn**	**05 49 11.8**	**-0.1**
CABF	**La Chapelle**	**3.92 309**	*e*Pn	**Pn**	**05 49 16.9**	**0.0**
CABF			*e*Sn	**Sn**	**05 50 00.4**	**-2.1**
	0.8nm,0.3s					
VIVF	**Saint-Julien-l**	**4.21 281**	*e*Pn	**Pn**	**05 49 20.7**	**-0.2**
VIVF			*e*Sn	**Sn**	**05 50 07.2**	**-2.5**
	2.0nm,0.5s					
HINF	**Hinteralfeld**	**4.40 326**	*e*Pn	**Pn**	**05 49 23.3**	**-0.2**
HINF			*e*Sn	**Sn**	**05 50 11.9**	**-2.5**
	4.1nm,0.5s					
HINF	**Hinteralfeld**	**4.40 326**	*e*Pn	**Pn**	**05 49 23.3**	**-0.2**
HINF			*e*Sn	**Sn**	**05 50 11.9**	**-2.5**
	2.0nm,0.5s					
CDF	**Champ du Feu**	**4.75 333**	*e*Pn	**Pn**	**05 49 28.4**	**0.0**
CDF			*e*Sn	**Sn**	**05 50 20.4**	**-2.6**
	2.4nm,0.3s					
CDF	**Champ du Feu**	**4.75 333**	*e*Pn	**Pn**	**05 49 28.4**	**0.0**
CDF			*e*Sn	**Sn**	**05 50 20.4**	**-2.6**
	1.2nm,0.3s					
HAU	**Haudompre**	**4.76 324**	*e*Pn	**Pn**	**05 49 28.4**	**0.0**
HAU			*e*Sn	**Sn**	**05 50 20.3**	**-2.9**
	5.6nm,0.3s					
HAU	**Haudompre**	**4.76 324**	*e*Pn	**Pn**	**05 49 28.4**	**0.0**
HAU			*e*Sn	**Sn**	**05 50 20.3**	**-2.9**
	2.8nm,0.3s					

SJA ***15*** *05:48:49.8±1.2,34°.42S×73°.84W,h44km,ML3.7*
GUC ***15*** *05:48:58.1±0.8,34°.80S×72°.07W,h10km±3km,ML3.6*
ISCJB ***15*** *05:48:59.3±0.7,34°.81S±0°.03×72°.13W±0°.08,h10km, mb3.5/4, Error ellipse: s-maj=9.0km s-min=4.6km az=2.2*
IDC ***15*** *05:48:59.4±1.4,34°.70S×72°.28W,h0km,mb3.6/4, mb1 3.9/6,mb1mx3.7/17,mbtmp3.7/6,ML4.3/2,MS3.0/1, Ms1 3.1/1,ms1mx2.7/19,Error ellipse: s-maj=46.0km s-min=22.8km az=99.0*

ISC 15 05:48:59.2±0.9,34.79S±0'.03×72.10W±0'.07,h10km,n30, σ1§63/29,mb3.6/4,5C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.71**	**148**	⇑*i*P	**Pg**	**05 49 12.4**	**-0.6**
NICH	**Los Niches**	**0.74**	**107**	⇑*i*P	**Pg**	**05 49 13.3**	**-0.3**
NICH				*i* S	**Sg**	**05 49 23.7**	**+0.3**
LNV	**Longovilo**	**1.01**	**35**	⇑*i*P	**Pg**	**05 49 17.5**	**-1.1**
LNV				*i* S	**Sb**	**05 49 31.2**	**-0.9**
LNCH	**Linares**	**1.13**	**159**	⇑*i*P	**Pb**	**05 49 19.7**	**-1.2**
LNCH				*i* S	**Sb**	**05 49 35.1**	**-0.4**
CHCH	**Chadas Angostu**	**1.47**	**55**	*e*P	**Pn**	**05 49 25.4**	**-0.4**
IHA	**Instituto Hidr**	**1.80**	**12**	⇑*i*P	**Pb**	**05 49 30.4**	**-1.9**
SJCH	**San Jose de Ma**	**1.85**	**52**	*e*P	**Pn**	**05 49 31.1**	**0.0**
CLCH	**Cerro Calan**	**1.90**	**43**	⇓*i*P	**Pb**	**05 49 32.6**	**-1.5**
CLCH				*i* S	**Sb**	**05 49 57.9**	**0.0**
CLCH				AML	AML	05 50 06.2	
	comp=N,871nm,0.7s						
PEL	**Peldehue**	**2.02**	**36**	*e*P	**Pb**	**05 49 34.3**	**-1.8**
PEL				*e*S	**Sb**	**05 50 01.1**	**-0.2**
PEL				AML	AML	05 50 08.2	
	comp=N,807nm,0.6s						
ROCH	**El Roble**	**2.03**	**27**	*e*P	**Pn**	**05 49 33.5**	**-0.2**
ROCH				*e*S	**Sb**	**05 50 01.7**	**0.0**
ROCH				AML	AML	05 50 09.2	
	comp=E,542nm,0.5s						
CANA	**Caviahue**	**3.20**	**165**	*i* P	**Pb**	**05 49 53.1**	**-3.2**
CANA				*i* S	**Sg**	**05 50 40.5**	**-1.6**
CANA				AML	AML	05 50 46.9	
	comp=Z,102nm,0.6s						
AAGR	**Agrelo**	**3.21**	**59**	*i* P	**Pb**	**05 49 56.8**	**+0.4**
AUSP	**Uspallata**	**3.42**	**42**	*i* P	**Pb**	**05 49 57.3**	**-2.8**
AUSP				*i* S	**Sg**	**05 50 46.0**	**-3.0**
ASAL	**Salagasta**	**3.50**	**52**	*i* P	**Pb**	**05 49 59.3**	**-1.9**
RTLS	**Leoncito**	**3.80**	**39**	*i* P	Pb	05 50 02.2	-4.3
RTCV	**Cerro Valdivia**	**4.17**	**47**	*i* P	Pn	05 50 06.4	+3.4
CFAA	**Coronel Fontan**	**4.54**	**47**	Pn	**Pn**	**05 50 10.2**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=222,slow=13,SNR=14						
CFAA				Lg	Lg	05 51 20.6	
	comp=Z,0.1nm,0.3s,baz=339,slow=17,SNR=2.6						
RTLL	**Cerro Villicun**	**4.60**	**42**	*i* P	**Pn**	**05 50 10.5**	**+1.6**
PLCA	**Paso Flores**	**6.06**	**169**	Pn	**Pn**	**05 50 30.9**	**+2.1**
	comp=Z,1.7nm,0.3s,baz=345,slow=12,SNR=41						
PLCA				Lg	Lg	05 52 01.6	
	comp=Z,0.4nm,0.3s,baz=252,slow=20,SNR=2.7						
LPAZ	**La Paz**	**18.77**	**12**	P	**Pn**	**05 53 19.6**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=196,slow=10,SNR=18						
LPAZ				LR	LR	06 01 03.3	
	comp=Z,44nm,18.8s,baz=132,slow=39						
SIV	**San Ignacio**	**21.18**	**31**	P	**P**	**05 53 46.9**	**+2.1**
	comp=Z,1.0nm,0.6s,baz=224,slow=9.8,SNR=3.7						
QSPA	**South Pole Qui**	**55.45**	**180**	P	P	05 58 36.7	+3.0
	comp=Z,1.7nm,1.1s,baz=202,slow=1.8,SNR=3.2						
TXAR	**Lajitas Array**	**70.40**	**331**	P	**P**	**06 00 14.4**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=155,slow=8.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**84.53**	**70**	P	**P**	**06 01 35.2**	**+2.4**
	comp=Z,0.4nm,1.1s,baz=234,slow=4.8,SNR=2.4						
H11S2	**WAKE ISLAND Hyl**	**25.70**	**269**	T	T	08 26 13.1	
	baz=118,slow=75,SNR=6.8						
H11S1	**WAKE ISLAND Hyl**	**25.72**	**269**	T	T	08 26 13.4	
	baz=118,slow=75,SNR=5.2						
H11S3	**WAKE ISLAND Hyl**	**25.72**	**269**	T	T	08 26 14.2	
	baz=118,slow=75,SNR=5.6						
H11N3	**WAKE ISLAND Hyl**	**26.14**	**270**	T	T	08 26 38.1	
	baz=121,slow=76,SNR=4.7						
H11N1	**WAKE ISLAND Hyl**	**26.15**	**270**	T	T	08 26 38.8	
	baz=121,slow=76,SNR=10						
H11N2	**WAKE ISLAND Hyl**	**26.16**	**270**	T	T	08 26 42.3	
	baz=121,slow=76,SNR=7.0						

IDC 15 05:49:45.7±31.0,15.32S×177.19W,h411km±268km, mb3.0/3,mb1 3.3/3,mb1mx3.0/19,mbtmp3.8/3,Error ellipse: s-maj=327.5km s-min=48.8km az=131.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.31**	**257**	P	P	05 57 32.9	-0.1
	0.4nm,0.7s,baz=91,slow=7.3,SNR=3.6						
ASAR	**Alice Springs**	**46.67**	**252**	P	P	05 57 35.5	-0.2
	1.7nm,0.4s,baz=86,slow=7.9,SNR=23						
ILAR	**Eielson Array**	**83.11**	**13**	P	P	06 01 26.4	0.0
	0.5nm,0.6s,baz=220,slow=5.2,SNR=11						
ARCES	**ARCESS Array B**	**123.97**	**351**	PKP	PKPdf	06 07 54.9	-0.5
	3.0nm,0.9s,baz=343,slow=2.8,SNR=4.6						
BRTR	**Keskin Array B**	**143.72**	**318**	PKP	PKPdf	06 08 32.9	-0.3
	0.6nm,0.8s,baz=51,slow=5.7,SNR=3.7						

SJA ***15*** *05:51:46.2±0.8,34°.39S×74°.20W,h60km,ML3.6*
GUC ***15*** *05:51:55.5±0.6,34°.81S×72°.10W,h20km±4km,ML3.6*
ISCJB ***15*** *05:51:58.4±0.8,34°.90S±0°.04×72°.03W±0°.08,h29km,Error ellipse: s-maj=9.5km s-min=4.9km az=17.5*

ISC 15 05:51:59.2±1.2,34.96S±0'.04×72.00W±0'.09,h29km,n12, σ1§94/16,6C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.54**	**146**	⇑*i*P	**Pb**	**05 52 09.1**	**-1.1**
NICH	**Los Niches**	**0.64**	**95**	⇑*i*P	**Pb**	**05 52 09.9**	**-1.8**
NICH				*i* S	**Sb**	**05 52 20.4**	**0.0**
LNCH	**Linares**	**0.95**	**160**	⇑*i*P	**Pn**	**05 52 16.2**	**-0.4**
LNCH				*i* S	**Sb**	**05 52 31.5**	**+2.2**
LNV	**Longovilo**	**1.11**	**26**	⇑*i*P	Pn	05 52 14.4	-4.4
COCH	**Cobquecura**	**1.34**	**208**	⇑*i*P	**Pn**	**05 52 21.0**	**-0.9**
COCH				*i* S	**Sn**	**05 52 39.9**	**+1.2**
PEL	**Peldehue**	**2.11**	**32**	⇑*i*P	**Pn**	**05 52 30.9**	**-1.7**
PEL				*i* S	**Sn**	**05 52 57.9**	**0.0**
PEL				AML	AML	05 53 04.1	
	comp=N,837nm,0.6s						
ROCH	**El Roble**	**2.14**	**23**	*e*P	**Pn**	**05 52 31.5**	**-1.7**
ROCH				*e*S	**Sn**	**05 52 58.3**	**-0.6**
ROCH				AML	AML	05 53 05.0	
	comp=E,493nm,0.8s						
CANA	**Caviahue**	**3.02**	**166**	*i* P	**Pb**	**05 52 51.6**	**-0.8**
CANA				*i* S	Sb	05 53 40.6	+12
CANA				AML	AML	05 53 42.0	
	comp=Z,64nm,0.6s						
AUSP	**Uspallata**	**3.49**	**39**	*i* P	Pb	05 52 56.6	-3.8
AUSP				*i* S	**Sb**	**05 53 47.5**	**+5.0**
RTLS	**Leoncito**	**3.88**	**36**	*i* P	**Pn**	**05 52 59.3**	**+2.2**
RTLS				*i* S	**Sb**	**05 53 53.8**	**+0.2**
ACAN	**Cantantal**	**4.82**	**58**	*e*P4	**Pn**	**05 53 09.9**	**+0.1**
PLCA	**Paso Flores**	**5.88**	**169**	*e*P4	Pn	05 53 28.8	+4.4

IDC ***15*** *05:54:49.0±1.4,5°.96N×92°.77E,h0km,mb4.0/11, mb1 4.1/12,mb1mx3.8/48,mbtmp4.0/12,Error ellipse: s-maj=44.0km s-min=26.1km az=51.0*
ISCJB ***15*** *05:54:51.5±1.1,6°.0N±0°.2×92°.8E±0°.2,h27km,mb4.0/11, Error ellipse: s-maj=25.8km s-min=21.5km az=147.9*

ISC 15 05:54:53.5±1.4,6.1N±0'.3×92.9E±0'.3,h27km,n15, σ0§46/11,mb3.9/11,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.68**	**25**	Pn	Pn	05 58 07.7	+1.9
	baz=226,slow=12,SNR=3.0						
MKAR	**Makanchi Array**	**41.60**	**349**	P	**P**	**06 02 40.0**	**+0.8**
	1.0nm,0.5s,baz=191,slow=8.5,SNR=15						
SONM	**Songino Array**	**43.21**	**13**	P	**P**	**06 02 52.4**	**+0.1**
	0.6nm,0.6s,baz=193,slow=12,SNR=2.6						
GEYT	**Alibeck**	**44.75**	**320**	P	**P**	**06 03 05.3**	**+0.5**
	2.2nm,0.6s,baz=160,slow=4.6,SNR=3.2						
H01W3	**Cape Leeuwin H**	**45.38**	**155**	T	T	06 50 52.3	
	baz=327						
H01W2	**Cape Leeuwin H**	**45.40**	**155**	T	T	06 50 51.1	
	baz=327						
H01W1	**Cape Leeuwin H**	**45.40**	**155**	T	T	06 50 50.0	
	baz=327						
KURBB	**Kurchatov Arra**	**46.02**	**347**	P	**P**	**06 03 14.4**	**-0.1**
	1.2nm,0.7s,baz=171,slow=7.0,SNR=16						
ZALV	**Zalesovo Beam**	**48.20**	**354**	P	**P**	**06 03 31.0**	**-0.5**
	1.4nm,0.5s,baz=167,slow=7.0,SNR=5.5						
WRA	**Warramunga Arr**	**48.27**	**123**	P	**P**	**06 03 32.8**	**+0.2**
	1.0nm,0.7s,baz=302,slow=8.8,SNR=6.5						
FINES	**FINESS Array B**	**73.73**	**333**	P	**P**	**06 06 24.8**	**0.0**
	1.4nm,0.6s,baz=108,slow=6.2,SNR=7.2						
ARCES	**ARCESS Array B**	**76.55**	**341**	P	**P**	**06 06 41.3**	**+0.3**
	3.6nm,0.9s,baz=102,slow=6.9,SNR=6.0						
GERES	**GERESS Array B**	**78.35**	**319**	P	**P**	**06 06 51.4**	**-0.2**
	0.7nm,0.7s,baz=95,slow=6.7,SNR=4.4						
HFS	**Hagfors**	**79.39**	**330**	P	**P**	**06 06 56.6**	**-0.4**
	0.6nm,0.5s,baz=134,slow=8.4,SNR=6.8						
SPITS	**Spitsbergen Ar**	**81.36**	**348**	P	**P**	**06 07 06.7**	**-0.5**
	4.7nm,1.0s,baz=99,slow=9.2,SNR=3.4						

SJA ***15*** *05:59:15.9±1.1,32°.35S×72°.42W,h31km±77km,ML3.5*
GUC ***15*** *05:59:22.5±0.9,32°.66S×71°.67W,h16km±7km,ML3.1*

ISC 15 05:59:23.5±2.6,32.66S±0'.05×71.66W±0'.08,h16km±14km, n19,σ1§10/29,2C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.37**	**177**	⇓*i*P	**Pb**	**05 59 32.2**	**+0.5**
IHA				*i* S	**Sb**	**05 59 38.3**	**+1.1**
ROCH	**El Roble**	**0.63**	**120**	⇓*i*P	**Pb**	**05 59 36.1**	**-0.2**
ROCH				*i* S	**Sb**	**05 59 46.0**	**+0.9**
ROCH				AML	AML	05 59 51.5	
	comp=N,949nm,0.3s						
PEL	**Peldehue**	**0.95**	**121**	⇑*i*P	**Pb**	**05 59 41.3**	**-0.5**
PEL				*i* S	**Sg**	**05 59 55.2**	**+0.6**
PEL				AML	AML	05 59 56.9	
	comp=E,3μm,0.2s						
STL	**Santa Lucia**	**1.16**	**132**	*e*P	**Pn**	**05 59 42.9**	**-2.3**
STL				*i* S	**Sb**	**06 00 00.7**	**+0.6**
TACH	**Talagante**	**1.16**	**149**	*e*P	**Pn**	**05 59 44.7**	**-0.5**
CLCH	**Cerro Calan**	**1.20**	**128**	⇓*i*P	**Pn**	**05 59 45.1**	**-0.7**
CLCH				*i* S	**Sg**	**06 00 02.5**	**+0.2**
CLCH				AML	AML	06 00 04.2	
	comp=N,855nm,0.5s						
LACH	**Col Las Americ**	**1.24**	**130**	*e*P	**Pn**	**05 59 45.5**	**-0.8**
LACH				*i* S	**Sn**	**06 00 03.1**	**+0.4**
LNV	**Longovilo**	**1.31**	**171**	⇑*i*P	**Pn**	**05 59 46.4**	**-0.9**
SJCH	**San Jose de Ma**	**1.47**	**132**	*e*P	**Pn**	**05 59 48.8**	**-0.7**
SJCH				*i* S	**Sn**	**06 00 09.1**	**+0.5**
SJCH				AML	AML	06 00 11.1	
	comp=N,313nm,0.2s						
CHCH	**Chadas Angostu**	**1.53**	**147**	*e*P	**Pb**	**05 59 50.9**	**-0.7**
AUSP	**Uspallata**	**1.97**	**78**	*i* P	**Pb**	**05 59 58.0**	**-1.3**
RTLS	**Leoncito**	**2.18**	**67**	*i* P	**Pn**	**06 00 00.6**	**+1.1**
ASAL	**Salagasta**	**2.39**	**89**	*i* P	**Pb**	**06 00 04.3**	**-2.0**
AAGR	**Agrelo**	**2.42**	**101**	*i* P	**Pb**	**06 00 06.5**	**-0.4**
AAGR				*i* P	**Pb**	**06 00 06.5**	**-0.4**
RTCV	**Cerro Valdivia**	**2.76**	**74**	*i* P	**Pn**	**06 00 09.5**	**+2.2**
RTLL	**Cerro Villicun**	**3.02**	**65**	*i* P	**Pn**	**06 00 11.4**	**+0.7**
CFAA	**Coronel Fontan**	**3.09**	**71**	*i* P	**Pn**	**06 00 13.9**	**+2.2**
CFAA				*i* S	**Sb**	**06 00 55.6**	**-0.1**
AMOG	**MOGNA**	**3.20**	**58**	*i* P	**Pn**	**06 00 13.0**	**-0.3**
CYA	**Choya**	**6.57**	**52**	*i* P	**Pn**	**06 00 59.0**	**-0.7**
CYA				*i* S	**Sn**	**06 02 13.8**	**-0.6**
CYA				AML	AML	06 02 23.7	
	comp=Z,9.4nm,0.8s						

CRAAG ***15*** *06:19:09.4,35°.97N×4°.02E,Ml3.0*
ISCJB ***15*** *06:19:11.3±0.8,36°.02N±0°.07×4°.15E±0°.07,h8km±8km, Error ellipse: s-maj=13.2km s-min=9.1km az=152.0*
CSEM ***15*** *06:19:11.7±0.5,35°.91N×4°.13E,h2km,mb4.0,Error ellipse: s-maj=12.3km s-min=8.3km az=161.0*
MDD ***15*** *06:19:12.3±0.6,35°.91N×4°.12E,h0km,mb4.0/13,Error ellipse: s-maj=16.1km s-min=4.5km az=25.0,PRXIMO*

ISC 15 06:19:11.8±1.7,36.00N±0'.06×4.16E±0'.04,h0km±13km, n46,σ1§16/54,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAF	**Djebel Tarf**	**0.16**	**142**	P	**Pg**	**06 19 14.6**	**-0.3**
ATAF	**Djebel Tarf**	**0.16**	**142**	P	**Pg**	**06 19 14.6**	**-0.3**
ATAF	**Djebel Tarf**	**0.16**	**142**	P	**Pg**	**06 19 14.6**	**-0.3**
AKET	**Djebel Ketaf**	**0.23**	**281**	P	**Pg**	**06 19 15.9**	**-0.3**
AKET	**Djebel Ketaf**	**0.23**	**281**	P	**Pg**	**06 19 15.9**	**-0.3**
AKET	**Djebel Ketaf**	**0.23**	**281**	P	**Pg**	**06 19 15.9**	**-0.3**
ADJB	**Djebel Djouab**	**0.60**	**285**	P	**Pg**	**06 19 23.3**	**0.0**
ADJB	**Djebel Djouab**	**0.60**	**285**	P	**Pg**	**06 19 23.3**	**0.0**
ADJB	**Djebel Djouab**	**0.60**	**285**	P	**Pg**	**06 19 23.3**	**0.0**
OKGL	**Djebel Ke Gue**	**2.85**	**272**	P	**Pn**	**06 20 00.6**	**+2.1**
	15nm,0.1s,SNR=4.0						
EIBI	**Ibiza**	**3.76**	**324**	P	**Pn**	**06 20 11.3**	**+0.4**
	1.5nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**06 20 53.1**	**-2.7**
	1.8nm,0.2s,SNR=4.0						
EIBI	**Ibiza**	**3.76**	**324**	P	**Pn**	**06 20 11.3**	**+0.4**
	1.5nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**3.91**	**345**	P	**Pn**	**06 20 13

MW3.6,2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.82**	**119**	*i* P	Pn	06 40 06.8	+1.6
AUSP	**Uspallata**	**1.04**	**142**	*i* P	Pn	06 40 09.4	+1.3
SJA	**San Juan**	**1.35**	**96**	*i* P	Pn	06 40 13.4	+1.5
SJA				*i* S	Sn	06 40 31.0	+2.0
SJA				IAML		06 40 32.2	
	comp=Z,304nm,0.3s						
SJA				AML	AML	06 40 32.3	
	comp=Z,349nm,0.4s						
RTLL	**Cerro Villicun**	**1.42**	**88**	*i* P	Pn	06 40 13.9	+1.0
RTCV	**Cerro Valdivia**	**1.44**	**109**	*i* P	Pn	06 40 14.3	+1.3
CFAA	**Coronel Fontan**	**1.63**	**98**	*i* P	Pn	06 40 17.5	+1.8
CFAA				*i* P	Pn	06 40 17.5	+1.8
ARCO	**CERRO ARCO**	**1.76**	**145**	⇓*i* P	Pn	06 40 19.4	+1.8
ARCO				IAML		06 40 37.5	
	comp=Z,178nm,0.3s						
AAGR	**Agrelo**	**2.01**	**147**	⇓*i* P	Pn	06 40 22.6	+1.6

IDC 15 06:45:57.5±10.0, 23.70S×179.59E, h590km±110km, mb3.0/5, mb1 3.3/5, mb1mx3.0/26, mbtmp4.0/5, Error ellipse: s-maj=201.5km s-min=41.0km az=159.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.10**	**270**	P	P	06 51 29.5	+0.2
	3.4nm,0.3s,baz=87,slow=13,SNR=6.8						
ASAR	**Alice Springs**	**41.70**	**260**	P	P	06 52 56.2	0.0
	0.7nm,0.6s,baz=95,slow=7.2,SNR=7.5						
WRA	**Warramunga Arr**	**42.04**	**266**	P	P	06 52 58.5	-0.5
	2.1nm,0.6s,baz=99,slow=8.3,SNR=27						
NVAR	**Mina Array Bea**	**84.87**	**44**	P	P	06 57 31.1	-0.2
	0.2nm,0.5s,baz=212,slow=5.0,SNR=3.2						
TXAR	**Lajitas Array**	**90.65**	**58**	P	P	06 57 58.4	0.0
	0.4nm,0.7s,baz=216,slow=6.2,SNR=5.0						
ARCES	**ARCESS Array B**	**131.61**	**348**	PKP	PKPdf	07 04 03.3	0.0
	2.5nm,0.9s,baz=90,slow=1.8,SNR=4.6						
AKASG	**Malin Array Be**	**144.60**	**327**	PKP	PKPdf	07 04 26.8	-0.6
	0.6nm,0.3s,baz=46,slow=4.0,SNR=5.5						

IDC 15 07:14:38.8±2.9, 53.54N×88.11E, h0km, mb1 3.2/2, mb1mx3.0/30, mbtmp3.2/2, ML2.7/2, Error ellipse: s-maj=25.7km s-min=18.6km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.99**	**283**	Pn	Pn	07 15 14.0	+0.3
	3.3nm,0.3s,baz=103,slow=12,SNR=30						
ZALV				Lg	Lg	07 15 41.5	
	2.8nm,0.3s,baz=104,slow=23,SNR=8.9						
I46RU	**ZALESOVO INFRA**	**2.00**	**283**	*i*		07 27 10.0	
	baz=94,slow=328,SNR=4.5						
KURBB	**Kurchatov Arra**	**6.58**	**248**	Pn	Pn	07 16 17.5	+0.8
	0.1nm,0.3s,baz=62,slow=14,SNR=20						
KURBB				Sn	Sn	07 17 31.9	-0.6
	0.0nm,0.3s,baz=56,slow=20,SNR=2.8						
KURBB				Lg	Lg	07 18 06.6	
	0.0nm,0.3s,baz=61,slow=33,SNR=3.6						
MKAR	**Makanchi Array**	**7.71**	**211**	Pn	Pn	07 16 33.1	+0.8
	0.2nm,0.3s,baz=29,slow=13,SNR=4.2						
MKAR				Lg	Lg	07 18 42.0	
	baz=32,slow=33,SNR=1.9						

IDC 15 07:22:23.1±2.6, 10.52S×123.59E, h0km, mb3.3/1, mb1 3.4/3, mb1mx3.3/19, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=242.8km s-min=34.9km az=53.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.97**	**133**	Pn	Pn	07 25 41.8	-0.8
	0.1nm,0.3s,baz=309,slow=15,SNR=3.6						
WRA				Sn	Sn	07 28 09.6	-9.0
	0.1nm,0.3s,baz=311,slow=26,SNR=6.2						
ASAR	**Alice Springs**	**16.36**	**144**	Pn	Pn	07 26 15.2	+0.7
	0.1nm,0.3s,baz=324,slow=12,SNR=7.7						
ASAR				Sn	Sn	07 29 10.4	-6.5
	0.0nm,0.3s,baz=317,slow=22,SNR=3.2						
MKAR	**Makanchi Array**	**7.92**	**331**	P	P	07 33 23.7	0.0
	0.2nm,0.7s,baz=136,slow=4.4,SNR=3.0						

*CSEM **15** 07:48:27.7±0.1, 43.11N×0.67W, h10km, ML2.3/11, Error ellipse: s-maj=2.8km s-min=1.6km az=179.0*
*STR **15** 07:48:28.0±0.2, 43.03N×0.73W, h5km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **15** 07:48:28.5±0.1, 43.11N×0.72W, h10km, Md2.3/3, Ml2.2/5, Error ellipse: s-maj=1.8km s-min=1.3km az=3.0*
*MDD **15** 07:48:28.9±0.2, 43.11N×0.71W, h11km, mbLg2.0/21, Error ellipse: s-maj=2.9km s-min=1.6km az=3.0, PRXIMO*

ISC 15 07:48:28.4±0.8, 43.12N±0.02×0.71W±0.02, h16km±4km, n92, σ0 93/129, 3C-1D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.03**	**168**	Pg	**Pg**	**07 48 30.7**	**-0.5**
ATE				Sg	**Sg**	**07 48 32.0**	**-1.1**
ATE	**Arette**	**0.03**	**168**	⇓Pg	**Pg**	**07 48 31.1**	**-0.1**
	584nm,0.0s,SNR=18						
ATE				Lg	Lg	07 48 33.0	
	791nm,0.1s,SNR=7.9						
ATE	**Arette**	**0.03**	**168**	Pg	**Pg**	**07 48 31.1**	**-0.1**
	584nm,0.0s,SNR=18						
ATE				Sg	**Sg**	**07 48 32.0**	**-1.1**
ATE				Lg	Lg	07 48 33.0	
	791nm,0.1s,SNR=7.9						
ORDF	**Ordiarp**	**0.19**	**300**	Pg	**Pg**	**07 48 32.8**	**-0.2**
ORDF				Sg	**Sg**	**07 48 36.0**	**0.0**
ORDF	**Ordiarp**	**0.19**	**300**	Pg	**Pg**	**07 48 32.8**	**-0.2**
ORDF				Lg	Lg	07 48 36.0	
ORDF	**Ordiarp**	**0.19**	**300**	Pg	**Pg**	**07 48 32.8**	**-0.2**
ORDF				Sg	**Sg**	**07 48 36.0**	**0.0**
LARF	**Larrau**	**0.22**	**249**	Pg	**Pg**	**07 48 33.0**	**-0.4**
LARF				Sg	**Sg**	**07 48 35.5**	**-1.3**
LARF	**Larrau**	**0.22**	**249**	Pg	**Pg**	**07 48 33.2**	**-0.2**
LARF				Lg	Lg	07 48 36.8	
LARF	**Larrau**	**0.22**	**249**	Pg	**Pg**	**07 48 33.2**	**-0.2**
LARF				Sg	**Sg**	**07 48 35.5**	**-1.3**
LARF				Lg	Lg	07 48 36.8	
REYF	**Montagne du Re**	**0.24**	**101**	Pg	**Pg**	**07 48 33.4**	**-0.3**
REYF				Sg	**Sg**	**07 48 37.2**	**-0.1**
REYF	**Montagne du Re**	**0.24**	**101**	Pg	**Pg**	**07 48 33.5**	**-0.3**
REYF				Lg	Lg	07 48 37.0	
REYF	**Montagne du Re**	**0.24**	**101**	Pg	**Pg**	**07 48 33.4**	**-0.3**
REYF				Lg	Lg	07 48 37.0	
ETSF	**Etsaut**	**0.24**	**153**	*e*Pg	**Pg**	**07 48 33.5**	**-0.3**
ETSF				*e*Sg	**Sg**	**07 48 36.6**	**-0.9**
	146nm,0.2s						
ETSF	**Etsaut**	**0.24**	**153**	Pg	**Pg**	**07 48 33.5**	**-0.3**
ETSF				Lg	Lg	07 48 36.6	
	73nm,0.2s						
ETSF	**Etsaut**	**0.24**	**153**	Pg	**Pg**	**07 48 33.5**	**-0.3**
ETSF				*e*Sg	**Sg**	**07 48 36.6**	**-0.9**
	73nm,0.2s						
FDAF	**Les Forges d'A**	**0.32**	**161**	Pg	**Pg**	**07 48 34.5**	**-0.5**
FDAF				Lg	Lg	07 48 38.1	
FDAF	**Les Forges d'A**	**0.32**	**161**	Pg	**Pg**	**07 48 34.5**	**-0.5**
FDAF				Lg	Lg	07 48 38.1	
SJPF	**Ste Jean**	**0.38**	**270**	*e*Pg	**Pg**	**07 48 35.8**	**-0.3**
SJPF				*e*Sg	**Sg**	**07 48 40.9**	**-0.5**
	42nm,0.2s						
SJPF	**Ste Jean**	**0.38**	**270**	Pg	**Pg**	**07 48 35.8**	**-0.3**
SJPF				Lg	Lg	07 48 40.9	
	21nm,0.2s						
SJPF	**Ste Jean**	**0.38**	**270**	Pg	**Pg**	**07 48 35.8**	**-0.3**
SJPF				*e*Sg	**Sg**	**07 48 40.9**	**-0.5**
	21nm,0.2s						
OSSF	**Osses**	**0.43**	**289**	Pg	**Pg**	**07 48 36.0**	**-1.0**
OSSF				Sg	**Sg**	**07 48 43.0**	**+0.2**
OSSF	**Osses**	**0.43**	**289**	Pg	**Pg**	**07 48 36.0**	**-1.0**
OSSF				Lg	Lg	07 48 40.4	
OSSF	**Osses**	**0.43**	**289**	Pg	**Pg**	**07 48 36.0**	**-1.0**
OSSF				Lg	Lg	07 48 40.4	
OSSF				Sg	**Sg**	**07 48 43.0**	**+0.2**
IELO	**Elcoad**	**0.47**	**235**	Pg	**Pg**	**07 48 37.4**	**-0.4**
	3.7nm,0.1s,SNR=7.9						
IELO				Lg	Lg	07 48 44.1	
	68nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**0.47**	**235**	Pg	**Pg**	**07 48 37.4**	**-0.4**
	3.7nm,0.1s,SNR=7.9						
IELO				Lg	Lg	07 48 44.1	
	68nm,0.2s,SNR=7.9						
IEPA	**Eparoz**	**0.53**	**231**	Pg	**Pg**	**07 48 38.6**	**-0.3**
	SNR=7.9						
IEPA				Lg	Lg	07 48 46.1	
	57nm,0.2s,SNR=7.9						
IEPA	**Eparoz**	**0.53**	**231**	Pg	**Pg**	**07 48 38.6**	**-0.3**
	SNR=7.9						
IEPA				Lg	Lg	07 48 46.1	
	57nm,0.2s,SNR=7.9						
IPRE	**Itoiz**	**0.57**	**237**	Pg	**Pg**	**07 48 39.5**	**-0.1**
	2.8nm,0.1s,SNR=7.9						
IPRE				Lg	Lg	07 48 47.1	
	4.8nm,0.1s,SNR=7.9						
IPRE	**Itoiz**	**0.57**	**237**	Pg	**Pg**	**07 48 39.5**	**-0.1**
	2.8nm,0.1s,SNR=7.9						
IPRE				Lg	Lg	07 48 47.1	
	4.8nm,0.1s,SNR=7.9						
LABF	**Labassere**	**0.58**	**97**	Pg	**Pg**	**07 48 39.3**	**-0.5**
LABF				Sg	**Sg**	**07 48 47.4**	**-0.1**
LABF	**Labassere**	**0.58**	**97**	Pg	**Pg**	**07 48 39.6**	**-0.1**
LABF				Lg	Lg	07 48 47.6	
LABF	**Labassere**	**0.58**	**97**	Pg	**Pg**	**07 48 39.3**	**-0.5**
LABF				Sg	**Sg**	**07 48 47.4**	**-0.1**
VIEF	**Viey**	**0.59**	**113**	Pg	**Pg**	**07 48 39.3**	**-0.6**
VIEF				Sg	**Sg**	**07 48 46.9**	**-0.9**
VIEF	**Viey**	**0.59**	**113**	Pg	**Pg**	**07 48 39.3**	**-0.6**
VIEF				Lg	Lg	07 48 46.7	
VIEF	**Viey**	**0.59**	**113**	Pg	**Pg**	**07 48 39.3**	**-0.6**
VIEF				Lg	Lg	07 48 46.7	
EALK	**Alkurruntz**	**0.59**	**280**	⇑Pg	**Pg**	**07 48 39.2**	**-0.9**
	12nm,0.1s,SNR=18						
EALK				Lg	Lg	07 48 46.9	
	12nm,0.1s,SNR=13						
EALK	**Alkurruntz**	**0.59**	**280**	Pg	**Pg**	**07 48 39.2**	**-0.9**
	12nm,0.1s,SNR=18						
EALK				Lg	Lg	07 48 46.9	
	12nm,0.1s,SNR=13						
IZUN	**Zunzarren**	**0.60**	**245**	Pg	**Pg**	**07 48 40.0**	**-0.3**
	SNR=7.9						
IZUN				Lg	Lg	07 48 48.7	
	9.3nm,0.1s,SNR=7.9						
IZUN	**Zunzarren**	**0.60**	**245**	Pg	**Pg**	**07 48 40.0**	**-0.3**
	SNR=7.9						
IZUN				Lg	Lg	07 48 48.7	
	9.3nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.64**	**255**	Pg	**Pg**	**07 48 40.5**	**-0.4**
	SNR=7.9						
IUSE				Lg	Lg	07 48 49.2	
	15nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.64**	**255**	Pg	**Pg**	**07 48 40.5**	**-0.4**
	SNR=7.9						
IUSE				Lg	Lg	07 48 49.2	
	15nm,0.1s,SNR=7.9						
YNAR	**Nardues-Alduna**	**0.68**	**226**	Pg	**Pg**	**07 48 41.2**	**-0.5**
	SNR=7.9						
YNAR				Lg	Lg	07 48 51.4	
	17nm,0.2s,SNR=7.9						
YNAR	**Nardues-Alduna**	**0.68**	**226**	Pg	**Pg**	**07 48 41.2**	**-0.5**
	SNR=7.9						
YNAR				Lg	Lg	07 48 51.4	
	17nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**0.68**	**238**	Pg	**Pg**	**07 48 42.0**	**+0.2**
	SNR=7.9						
IUNC				Lg	Lg	07 48 51.0	
	27nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**0.68**	**238**	Pg	**Pg**	**07 48 42.0**	**+0.2**
	SNR=7.9						
IUNC				Lg	Lg	07 48 51.0	
	27nm,0.2s,SNR=7.9						
EARA	**Aranguren**	**0.73**	**242**	Pg	**Pg**	**07 48 42.7**	**+0.2**
	SNR=7.9						
EARA				Lg	Lg	07 48 51.8	
	2.4nm,0.1s,SNR=7.9						
EARA	**Aranguren**	**0.73**	**242**	Pg	**Pg**	**07 48 42.7**	**+0.2**
	SNR=7.9						
EARA				Lg	Lg	07 48 51.8	
	2.4nm,0.1s,SNR=7.9						
EPF	**Esparros**	**0.77**	**96**	*e*Pg	**Pg**	**07 48 43.0**	**-0.4**
EPF				*e*Sg	**Sg**	**07 48 53.0**	**-0.7**
	18nm,0.2s						
EPF	**Esparros**	**0.77**	**96**	Pg	**Pg**	**07 48 43.0**	**-0.4**
EPF				Lg	Lg	07 48 53.0	
	9.2nm,0.2s						
EPF	**Esparros**	**0.77**	**96**	Pg	**Pg**	**07 48 43.0**	**-0.4**
EPF				*e*Sg	**Sg**	**07 48 53.0**	**-0.7**
	9.2nm,0.2s						
MELF	**Melles**	**1.10**	**102**	Pg	**Pb**	**07 48 48.6**	**-0.6**
MELF				Sg	**Sg**	**07 49 03.5**	**-0.6**
MELF	**Melles**	**1.10**	**102**	Pg	**Pb**	**07 48 48.8**	**-0.4**
MELF				Lg	Lg	07 49 03.1	
MELF	**Melles**	**1.10**	**102**	Pg	**Pb**	**07 48 48.8**	**-0.4**
MELF				Lg	Lg	07 49 03.1	
ESAC	**San Caprasio**	**1.41**	**173**	⇑Pg	**Pb**	**07 48 55.1**	**+0.8**
	16nm,0.1s,SNR=18						
ESAC				Lg	Lg	07 49 12.5	
	5.9nm,0.1s,SNR=6.4						
ESAC	**San Caprasio**	**1.41**	**173**	Pg	**Pb**	**07 48 55.1**	**+0.8**
	16nm,0.1s,SNR=18						
ESAC				Lg	Lg	07 49 12.5	
	5.9nm,0.1s,SNR=6.4						
SALF	**Salau**	**1.44**	**104**	Pg	**Pb**	**07 48 55.6**	**+0.7**
SALF				Sg	**Sb**	**07 49 14.1**	**+1.1**
SALF	**Salau**	**1.44**	**104**	Pg	**Pn**	**07 48 55.0**	**+1.1**
SALF				Lg	Lg	07 49 12.8	
SALF	**Salau**	**1.44**	**104**	Pg	**Pb**	**07 48 55.6**	**+0.7**
SALF				Lg	Lg	07 49 12.8	
SALF				Sg	**Sb**	**07 49 14.1**	**+1.1**
CSOR	**Sort**	**1.55**	**118**	⇑Pg	**Pb**	**07 48 56.9**	**+0.2**
	2.8nm,0.2s,SNR=18						
CSOR				Sn	**Sn**	**07 49 15.1**	**-0.1**
	0.8nm,0.1s,SNR=4.0						
CSOR				Lg	Lg	07 49 17.8	
	5.1nm,0.2s,SNR=6.6						
CSOR	**Sort**	**1.55**	**118**	Pg	**Pb**	**07 48 56.9**	**+0.2**
	2.8nm,0.2s,SNR=18						
CSOR				Sn	**Sn**	**07 49 15.1**	**-0.1**
	0.8nm,0.1s,SNR=4.0						
CSOR				Lg	Lg	07 49 17.8	
	5.1nm,0.2s,SNR=6.6						
GRBF	**Gourbit**	**1.67**	**99**	Lg	Lg	07 49 20.6	
GRBF	**Gourbit**	**1.67**	**99**	Lg	Lg	07 49 20.6	
EMIR	**Miracle**	**2.04**	**125**	Pg	**Pb**	**07 49 06.4**	**+1.2**
	5.0nm,0.1s,SNR=13						
EMIR				Lg	Lg	07 49 32.5	
	2.9nm,0.1s						
EMIR	**Miracle**	**2.04**	**125**	Pg	**Pb**	**07 49 06.4**	**+1.2**
	5.0nm,0.1s,SNR=13						
EMIR				Lg	Lg	07 49 32.5	
	2.9nm,0.1s						
CLLI	**Llivia**	**2.08**	**107**	Pg	**Pb**	**07 49 07.0**	**+1.3**
	0.6nm,0.1s,SNR=9.6						
CLLI				Lg	Lg	07 49 34.2	
	1.0nm,0.1s,SNR=5.6						
CLLI	**Llivia**	**2.08**	**107**	Pg	**Pb**	**07 49 07.0**	**+1.3**
	0.6nm,0.1s,SNR=9.6						
CLLI				Lg	Lg	07 49 34.2	
	1.0nm,0.1s,SNR=5.6						
LFF	**La Frestale**	**2.10**	**29**	*e*Pn	**Pn**	**07 49 02.7**	**-0.2**
LFF				*e*Sg	**Sb**	**07 49 34.5**	**+2.5**
	5.6nm,0.3s						
LFF	**La Frestale**	**2.10**	**29**	Pn	**Pn**	**07 49 02.7**	**-0.2**
LFF				Lg	Lg	07 49 34.5	
	2.8nm,0.3s						
LFF	**La Frestale**	**2.10**	**29**	Pn	**Pn**	**07 49 02.7**	**-0.2**
LFF				*e*Sg	**Sb**	**07 49 34.5**	**+2.5**
	2.8nm,0.3s						
MTLF	**Montolieu**	**2.15**	**83**	*e*Pn	**Pn**	**07 49 03.6**	**0.0**
MTLF				*e*Sg	**Sb**	**07 49 35.8**	**+2.4**
	3.8nm,0.3s						
MTLF	**Montolieu**	**2.15**	**83**	Pn	**Pn**	**07 49 03.6**	**0.0**
MTLF				Lg	Lg	07 49 35.8	
	1.9nm,0.3s						
MTLF	**Montolieu**	**2.15**	**83**	Pn	**Pn**	**07 49 03.6**	**0.0**
MTLF				*e*Sg	**Sb**	**07 49 35.8**	**+2.4**
	1.9nm,0.3s						
EPOB	**Poblet**	**2.21**	**142**	Pg	**Pb**	**07 49 08.7**	**+0.8**
	1.2nm,0.1s,SNR=8.5						
EPOB				Lg	Lg	07 49 37.6	
	0.6nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**2.21**	**142**	Pg	**Pb**	**07 49 08.7**	**+0.8**
	1.2nm,0.1s,SNR=8.5						
EPOB				Lg	Lg	07 49 37.6	
	0.6nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**2.29**	**160**	Pg	**Pb**	**07 49 09.8**	**+0.4**
	0.4nm,0.1s,SNR=7.9						
ERTA				Lg	Lg	07 49 40.4	
	1.9nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**2.29**	**160**	Pg	**Pb**	**07 49 09.8**	**+0.4**
	0.4nm,0.1s,SNR=7.9						
ERTA				Lg	Lg	07 49 40.4	
	1.9nm,0.1s,SNR=7.9						
ETOR	**Torete**	**2.50**	**204**	Pn	**Pn**	**07 49 09.4**	**+0.8**
	1.1nm,0.1s,SNR=7.9						
ETOR				Sn	**Sn**	**07 49 37.7**	**-1.2**
	2.2nm,0.1s,SNR=7.9						
ETOR				Lg	Lg	07 49 46.6	
	3.6nm,0.1s,SNR=7.9						
ETOR	**Torete**	**2.50**	**204**	Pn	**Pn**	**07 49 09.4**	**+0.8**
	1.1nm,0.1s,SNR=7.9						
ETOR				Sn	**Sn**	**07 49 37.7**	**-1.2**
	2.2nm,0.1s,SNR=7.9						
ETOR				Lg	Lg	07 49 46.6	
	3.6nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	**2.69**	**119**	Pn	**Pn**	**07 49 11.9**	**+0.8**
	1.0nm,0.2s,SNR=8.8						
CFON				Pg	**Pb**	**07 49 17.7**	**+1.5**
	1.6nm,0.1s,SNR=6.6						
CFON				Lg	Lg	07 49 53.2	
	0.8nm,0.1s						
CFON	**Fontmartina**	**2.69**	**119**	Pn	**Pn**	**07 49 11.9**	**+0.8**
	1.0nm,0.2s,SNR=8.8						
CAF	**Calviac**	**2.70**	**47**	*e*Pn	**Pn**	**07 49 10.9**	**-0.3**
CAF				*e*Sn	**Sn**	**07 49 42.2**	**-1.3**
	2.0nm,0.3s						
CAF	**Calviac**	**2.70**	**47**	Pn	**Pn**	**07 49 10.9**	**-0.3**
CAF				Sn	**Sn**	**07 49 42.2**	**-1.3**
	1.0nm,0.3s						
CAF	**Calviac**	**2.70**	**47**	Pn	**Pn**	**07 49 10.9**	**-0.3**
CAF				*e*Sn	**Sn**	**07 49 42.2**	**-1.3**
	1.0nm,0.3s						
RJF	**Les Rejaudoux**	**2.71**	**35**	*e*Pn	**Pn**	**07 49 10.8**	**-0.5**
RJF				*e*Sg	**Sg**	**07 49 53.5**	**-1.9**
	2.2nm,0.3s						
RJF	**Les Rejaudoux**	**2.71**	**35**	Pn	**Pn**	**07 49 10.8**	**-0.5**
RJF				Lg	Lg	07 49 53.5	
	1.1nm,0.3s						
RJF	**Les Rejaudoux**	**2.71**	**35**	Pn	**Pn**	**07 49 10.8**	**-0.5**
RJF				*e*Sg	**Sg**	**07 49 53.5**	**-1.9**
	1.1nm,0.3s						
SJAF	**Saint Jean de**	**2.72**	**102**	Pg	**Pb**	**07 49 18.0**	**+1.4**
	0.2nm,0.2s,SNR=7.9						
SJAF				Sn	**Sn**	**07 49 42.7**	**-1.3**
	0.1nm,0.1s,SNR=7.9						
SJAF				Lg	Lg	07 49 53.4	
	0.3nm,0.2s,SNR=7.9						
SJAF	**Saint Jean de**	**2.72**	**102**	Pg	**Pb**	**07 49 18.0**	**+1.4**
	0.2nm,0.2s,SNR=7.9						
SJAF				Sn	**Sn**	**07 49 42.7**	**-1.3**
	0.1nm,0.1s,SNR=7.9						
SJAF				Lg	Lg	07 49 53.4	
	0.3nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**2.73**	**103**	Pg	**Pb**	**07 49 17.8**	**+1.0**
	0.4nm,0.1s,SNR=4.0						
EJON				Lg	Lg	07 49 53.9	
	0.4nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**2.73**	**103**	Pg	**Pb**	**07 49 17.8**	**+1.0**
	0.4nm,0.1s,SNR=4.0						
EJON				Lg	Lg	07 49 53.9	
	0.4nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.76**	**176**	Pg	**Pg**	**07 49 19.7**	**-1.5**
	0.2nm,0.0s,SNR=7.9						
EMOS				Sn	**Sn**	**07 49 42.5**	**-2.7**
	0.2nm,0.0s,SNR=7.9						
EMOS				Lg	Lg	07 49 51.8	
	0.4nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.76**	**176**	Pg	**Pg**	**07 49 19.7**	**-1.5**
	0.2nm,0.0s,SNR=7.9						
EMOS				Sn	**Sn**	**07 49 42.5**	**-2.7**
	0.2nm,0.0s,SNR=7.9						
EMOS				Lg	Lg	07 49 51.8	
	0.4nm,0.1s,SNR=7.9						

GUC 15 07:59:41.8±0.6, 36.40S×72.45W, h51km±3km, ML4.5, 3C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.38**	**315**	⇓*i* P	Pn	07 59 52.1	+0.2
COCH				*e*S	Sn	07 59 59.6	+0.7
CCSP	**San Pedro de C**	**0.69**	**230**	*e*P	Pn	07 59 55.4	0.0
CCSP				*i* S	Sn	08 00 06.4	+1.1
LNCH	**Linares**	**0.88**	**51**	⇑*i* P	Pn	07 59 58.0	0.0
LNCH				*i* S	Sn	08 00 11.2	+1.3
TALC	**Talca**	**1.20**	**34**	⇓*i* P	Pn	08 00 02.8	+0.6
TALC				*i* S	Sn	08 00 18.3	+0.8
NICH	**Los Niches**	**1.71**	**36**	*e*P	Pn	08 00 10.0	+0.7
NICH				*i* S	Sn	08 00 31.1	+1.1
LNV	**Longovilo**	**2.58**	**20**	⇑*i* P	Pn	08 00 21.7	+0.5
CHCH	**Chadas Angostu**	**2.87**	**31**	*e*P	Pn	08 00 25.7	+0.6
CLCH	**Cerro Calan**	**3.38**	**28**	⇓*i* P	Pn	08 00 33.0	+0.7
CLCH				*e*S	Sn	08 01 11.8	+0.6
CLCH				AML	AML	08 01 33.5	
	comp=N,691nm,0.4s						
PEL	**Peldehue**	**3.56**	**25**	⇓*i* P	Pn	08 00 35.1	+0.5
PEL				AML	AML	08 01 32.8	
	comp=N,646nm,0.6s						
ROCH	**El Roble**	**3.62**	**20**	⇑*i* P	Pn	08 00 35.8	+0.1

*ISCJB **15** 08:02:50.7±0.8, 46.78N±0.07×144.8E±0.2, h364km, mb2.9/4, Error ellipse: s-maj=18.8km s-min=9.3km az=10.8*
*IDC **15** 08:02:52.8±4.4, 46.75N×144.64E, h376km±52km, mb2.7/4, mb1 3.0/5, mb1mx2.7/44, mbtmp3.5/5, Error ellipse: s-maj=32.9km s-min=17.3km az=121.0*
*JMA **15** 08:02:55.7±0.3, 46.27N×144.50E, h389km, M3.3*

ISC 15 08:02:51.6±0.9, 46.67N±0.10×144.6E±0.1, h364km, n16, σ1 98/14, mb2.9/4, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**2.20**	**220**	P

CCSP	San Pedro de C	1.27	11	⇑*iP*		Pn	08 06 56.3	+0.1
CCSP				*i* S		Sn	08 07 12.7	+0.3
CCSP				AML		AML	08 07 18.5	
	comp=E,29μm,0.5s							
VLCH	Valdivia	1.71	176	⇓*iP*		Pn	08 07 02.2	-0.1
VLCH				*i* S		Sn	08 07 23.4	0.0
OSCH	Osorno	2.49	175	*eP*		Pn	08 07 12.8	-0.2
LNCH	Linares	2.67	34	⇑*iP*		Pn	08 07 16.1	+0.6
TALC	Talca	3.05	29	⇑*iP*		Pn	08 07 21.1	+0.5
TALC				*eS*		Sn	08 07 57.7	+1.4
PLCA	Paso Flores	3.44	141	Pn		Pn	08 07 25.7	-0.5
	comp=E,11nm,0.3s,baz=314,slow=13,SNR=283							
PLCA				Pg		Pb	08 07 33.0	-1.5
	comp=E,33nm,0.3s,baz=304,slow=14,SNR=60							
PLCA				LR		LR	08 08 11.4	
	comp=E,255nm,20.8s,baz=304,slow=29							
PLCA				Lg		Lg	08 08 20.4	
	comp=E,38nm,0.3s,baz=228,slow=20,SNR=5.2							
PLCA	Paso Flores	3.44	141	*e*Pn		Pn	08 07 28.4	+2.2
PLCA				Lg		Lg	08 08 20.4	
NICH	Los Niches	3.55	30	⇑*iP*		Pn	08 07 27.9	+0.3
CFAA	Coronel Fontan	7.75	35	Pn		Pn	08 08 23.8	-1.5
	comp=E,0.6nm,0.3s,baz=214,slow=12,SNR=61							
CFAA				Lg		Lg	08 10 36.0	
	comp=E,0.0nm,0.3s,baz=114,slow=20,SNR=4.0							
CFAA				LR		LR	08 12 11.3	
	comp=E,98nm,18.7s,baz=224,slow=44							
TRQA	Tornquist	9.02	93	*e*Pn		Pn	08 08 45.6	+2.9
LCO	Las Campanas	9.34	15	*e*Pn		Pn	08 08 45.2	-2.1
LVC	Limon Verde	15.91	15	Pn		Pn	08 10 15.4	-1.2
	comp=E,10nm,0.3s,baz=203,slow=13,SNR=5.1							
LVC				LR		LR	08 15 52.4	
	comp=E,1μm,21.4s,baz=200,slow=35							
LVC	Limon Verde	15.91	15	*e*Pn		Pn	08 10 15.9	-0.6
	comp=E,15nm,0.9s							
LVC				*e*Sn		Sn	08 13 10.1	-2.1
USHA	Ushuaia	17.08	170	P		Pn	08 10 30.6	-0.3
	comp=E,0.2nm,0.3s,baz=350,slow=12,SNR=3.2							
USHA				LR		LR	08 17 34.2	
	comp=E,453nm,18.8s,baz=3.0,slow=39							
EFI	East Falkland	17.35	146	*e*P		P	08 10 36.6	+1.1
	comp=E,533nm,2.3s							
CPUP	Villa Florida	17.94	54	*e*Pn		P	08 10 42.0	-0.1
LPAZ	La Paz	22.22	14	P		P	08 11 30.2	+0.8
	comp=E,9.1nm,0.7s,baz=187,slow=10.0,SNR=3.6							
LPAZ				LR		LR	08 22 00.6	
	comp=E,150nm,19.2s,baz=148,slow=42							
SIV	San Ignacio	24.56	30	P		P	08 11 51.5	-0.4
	comp=E,12nm,0.8s,baz=226,slow=7.2,SNR=24							
SIV				LR		LR	08 23 15.5	
	comp=E,392nm,18.2s,baz=202,slow=41							
NNA	Nana	26.18	352	LR		LR	08 20 12.7	
	comp=E,128nm,18.0s,baz=180,slow=31							
PMSA	Palmer Station	27.29	171	LR		LR	08 22 16.6	
	comp=E,243nm,20.7s,baz=320,slow=35							
SAML	Samuel	30.45	20	*e*P		P	08 12 44.6	0.0
	comp=E,8.4nm,0.8s							
BDFB	Brasilia	31.65	52	P		P	08 12 54.5	-0.9
	comp=E,2.6nm,0.8s,baz=220,slow=9.7,SNR=4.9							
BDFB				LR		LR	08 27 14.5	
	comp=E,496nm,19.9s,baz=219,slow=39							
BDFB	Brasilia	31.65	52	*e*P		P	08 12 55.2	-0.2
RPN	Rapa Nui	31.99	279	LR		LR	08 22 17.6	
	comp=E,205nm,21.5s,baz=116,slow=30							
OTAV	Otavalo	38.42	352	*e*P		P	08 13 55.8	+1.6
OTAV				*e*pP		pP	08 14 04.3	+2.2
ROSC	El Rosal	42.74	359	P		P	08 14 29.9	+0.2
	comp=E,3.2nm,0.5s,baz=106,slow=20,SNR=2.8							
VNA3	Neumayer Olymp	46.03	156	P		P	08 14 56.3	+1.3
VNA1	Neumayer--Stat	46.39	155	P		P	08 15 00.0	+2.2
VNA2	Neumayer--Watz	46.71	156	P		P	08 15 01.7	+1.3
	baz=279,slow=9.6							
SDV	Santo Domingo	46.81	4	*e*P		P	08 15 02.2	+0.3
	comp=E,6.9nm,0.8s							
SNAA	Sanae	48.25	156	P		P	08 15 11.5	-1.0
SNAA	Sanae	48.25	156	*e*P		P	08 15 11.3	-1.1
	comp=E,15nm,1.0s							
QSPA	South Pole Qui	52.15	180	P		P	08 15 42.4	+0.3
	comp=E,3.0nm,0.7s,baz=155,slow=5.3,SNR=23							
QSPA	South Pole Qui	52.15	180	*e*P		P	08 15 43.8	+1.7
	comp=E,155nm,3.0s							
RKT	Rikitea	54.14	267	*e*LR		LR	08 31 47.3	
	comp=E,301nm,26.2s							
VNDA	Vanda	59.88	192	LR		LR	08 38 03.0	
	comp=E,220nm,20.4s,baz=202,slow=32							
PPT2	Papeete2	68.62	264	*e*S		S	08 26 36.5	-0.1
	comp=E,77nm,22.0s							
PPT2	Papeete2	68.62	264	*e*LR		LR	08 38 33.9	
	comp=E,167nm,25.0s							
MAW	Mawson	69.58	164	P		P	08 17 40.5	+0.3
	comp=E,4.1nm,0.8s,baz=240,slow=8.0,SNR=5.7							
MAW				LR		LR	08 50 32.5	
	comp=E,199nm,18.0s,baz=248,slow=38							
LRAL	Lakeview Retre	71.89	348	*e*P		P	08 17 55.4	+0.7
LRAL				*e*PcP		pP	08 18 03.0	-0.1
JCT	Junction City	72.54	336	*e*P		P	08 17 59.8	+1.1
JCT				*e*pP		pP	08 18 07.3	+0.1
TX31	Lajitas Ar. Si	72.80	333	*e*P		P	08 18 01.4	+1.1
TX31				*e*pP		pP	08 18 09.1	+0.2
TXAR	Lajitas Array	72.80	333	P		P	08 18 00.8	+0.5
	comp=E,1.0nm,0.8s,baz=160,slow=9.3,SNR=5.7							
SWET	Sewanee	73.86	349	*e*P		P	08 18 07.0	+0.6
SWET				*e*pP		pP	08 18 14.3	-0.6
CPCT	Cooper Cave	73.90	351	*e*P		P	08 18 07.1	+0.5
CPCT				*e*pP		pP	08 18 14.3	-0.7
TKL	Tuckaleechee C	74.01	351	P		P	08 18 05.6	-1.6
	comp=E,2.6nm,0.8s,baz=169,slow=5.2,SNR=3.9							
ABTX	Abilene, Hawle	74.48	337	*e*P		P	08 18 11.0	+0.9
ABTX				*e*pP		pP	08 18 18.5	0.0
TZTN	Tazewell	74.86	352	*e*P		P	08 18 12.2	+0.1
	comp=E,18nm,1.4s							
WVT	Waverly	75.05	348	*e*P		P	08 18 13.2	0.0
WVT				*e*pP		pP	08 18 21.0	-0.7
MNTX	Cornudas Mount	75.56	332	*e*P		P	08 18 16.9	+0.6
MNTX				*e*pP		pP	08 18 24.2	-0.6
PBMO	Poplar Bluff	76.14	346	*e*P		P	08 18 19.7	+0.2
PBMO				*e*pP		pP	08 18 27.3	-0.7
WMOK	Wichita Mounta	76.19	339	*e*P		P	08 18 20.8	+0.9
WMOK				*e*pP		pP	08 18 27.9	-0.5
TUL1	Leonard	76.50	341	*e*P		P	08 18 22.0	+0.5
TUL1				*e*pP		pP	08 18 29.5	-0.5
MSTX	Muleshoe	76.71	335	*e*P		P	08 18 24.1	+1.1
MSTX				*e*pP		pP	08 18 31.3	-0.2
USIN	University of	76.82	348	*e*P		P	08 18 23.0	-0.2
USIN				*e*pP		pP	08 18 30.8	-1.0
V34A	Guthrie	76.87	340	*e*P		P	08 18 24.4	+0.7
V34A				*e*pP		pP	08 18 32.2	+0.1
LIC	Lamto	77.13	71	*e*P		P	08 18 26.5	+0.9
	comp=E,65nm,0.9s							
AMTX	Amarillo	77.20	336	*e*P		P	08 18 26.6	+0.9
AMTX				*e*pP		pP	08 18 34.2	+0.1
TIC	Toumodi	77.41	71	*e*P		P	08 18 27.9	+0.7
	comp=E,41nm,0.7s							
KIC	Kosan Boka	77.43	72	*e*P		P	08 18 28.2	+0.9
	comp=E,63nm,0.8s							
U34A	Anderson Ranch	77.44	340	*e*P		P	08 18 28.7	+1.9
U34A				*e*pP		pP	08 18 35.2	-0.2
DBIC	Dimbokro	77.55	71	P		P	08 18 28.2	+0.2
	comp=E,24nm,0.8s,baz=218,slow=6.0,SNR=22							
DBIC				LR		LR	08 51 10.2	
	comp=E,113nm,18.5s,baz=160,slow=35							
DBIC	Dimbokro	77.55	71	*e*P		P	08 18 29.1	+1.1
	comp=E,27nm,0.8s							
SLM	Saint Louis	77.91	347	*e*P		P	08 18 30.1	+0.8
SLM				*e*pP		pP	08 18 37.0	-0.8
TUC	Tucson	78.22	328	*e*P		P	08 18 31.6	+0.2
TUC				*e*PcP		PcP	08 18 40.8	+0.1
ACSO	Alum Creek Sta	78.44	353	*e*P		P	08 18 32.6	+0.3
	comp=E,8.2nm,0.8s							
LAZ	Ladron	78.63	332	*e*P		P	08 18 36.3	+2.5
ANMO	Albuquerque	78.87	333	P		P	08 18 34.7	-0.3
	comp=E,2.1nm,0.9s,baz=177,slow=7.7,SNR=7.9							
ANMO	Albuquerque	78.87	333	*e*P		P	08 18 36.8	+1.8
ANMO				*e*pP		PcP	08 18 43.9	+0.2
T25A	Trinidad	80.15	335	*e*P		P	08 18 44.0	+2.0
T25A				*e*PcP		pP	08 18 51.4	+0.8
YUH	Yuha Desert	80.74	325	*e*P		P	08 18 46.2	+1.3
SDCO	Great Sand Dun	81.06	335	*e*P		P	08 18 48.5	+1.5
	comp=E,3.1nm,1.0s							
PLM	Palomar	81.76	324	*e*P		P	08 18 50.6	0.0
SADO	Sadowa	82.65	356	P		P	08 18 54.9	+0.2
	comp=E,6.0nm,0.7s,baz=187,slow=4.8,SNR=4.4							
SMCO	Snowmass	82.85	334	*e*P		P	08 18 58.4	+1.9
SMCO				*e*pP		pP	08 19 06.3	+1.2
KNB	Kanab	83.13	329	*e*P		P	08 18 59.9	+2.3
	comp=E,7.9nm,1.1s							
SRU	San Rafael Swe	84.06	332	*e*P		P	08 19 03.9	+1.5
	comp=E,3.8nm,1.0s							
ECSD	EROS Data Cent	84.12	343	*e*P		P	08 19 03.0	+0.6
ECSD				*e*pP		pP	08 19 11.2	+0.3
SPMN	Marine on St.	84.76	346	*e*P		P	08 19 05.8	+0.2
SPMN				*e*pP		pP	08 19 13.6	-0.5
R11A	Troy Canyon, C	85.40	328	*e*P		P	08 19 11.5	+2.3
	comp=E,4.1nm,1.1s							
DUG	Dugway, Tooele	85.87	331	*e*P		P	08 19 12.0	+0.6
DUG				*e*pP		pP	08 19 20.6	+0.6
TPH	Tonopah	85.87	327	*e*P		P	08 19 13.7	+2.2
	comp=E,3.7nm,1.0s							
HWUT	Hardware Ranch	86.62	332	*e*P		P	08 19 16.5	+1.3
HWUT				*e*pP		pP	08 19 24.4	+0.6
NVAR	Mina Array Bea	86.63	326	P		P	08 19 16.3	+1.0
	comp=E,0.5nm,0.7s,baz=155,slow=5.0,SNR=3.1							
TOA0	Tonodi Ar. Sit	86.64	71	*e*P		P	08 19 15.9	+0.3
TORD	Tonodi Ar. Bea	86.64	71	P		P	08 19 15.8	+0.2
	comp=E,8.6nm,0.8s,baz=237,slow=4.0,SNR=45							
TORD				LR		LR	08 55 47.4	
	comp=E,47nm,19.9s,baz=290,slow=34							
BW06	Boulder Array	86.93	334	*e*P		P	08 19 17.0	+0.3
BW06				*e*pP		pP	08 19 25.4	+0.1
PDAR	Pinedale Array	86.93	334	P		P	08 19 17.4	+0.7
	comp=E,0.6nm,0.8s,baz=127,slow=5.8,SNR=4.7							
HVU	Hansel Valley	87.22	332	*e*P		P	08 19 19.5	+1.5
HVU				*e*pP		pP	08 19 26.5	-0.2
AGMN	Agassiz Nation	88.30	345	*e*P		P	08 19 23.5	+0.7
AGMN				*e*pP		pP	08 19 31.5	+0.1
MCMT	McKenzie Canyo	89.89	333	*e*P		P	08 19 32.2	+1.5
MCMT				*e*pP		pP	08 19 40.7	+1.4
SCHQ	Schefferville	92.73	4	LR		LR	09 02 26.3	
	comp=E,31nm,19.3s,baz=176,slow=36							
ASAR	Alice Springs	113.42	207	PKiKP		PKiKP	08 25 09.9	-0.2
	comp=E,0.5nm,0.8s,baz=150,slow=3.9,SNR=3.7							
ASAR				PKKPbc		PKKPbc	08 35 50.4	-3.2
	comp=E,0.7nm,0.7s,baz=341,slow=3.3,SNR=6.3							
GERES	GERESS Array B	115.79	47	PKP		PKPdf	08 25 13.9	+0.1
	comp=E,1.3nm,0.7s,baz=222,slow=1.8,SNR=11							
WRA	Warramunga Arr	116.65	209	PKP		PKPdf	08 25 16.2	-0.2
	comp=E,0.8nm,0.9s,baz=162,slow=1.6,SNR=4.3							
NB2	NORSAR Subarra	120.05	34	PKP		PKPdf	08 25 21.5	0.0
	comp=Z,1.3nm,0.9s,baz=248,slow=1.9							
NOA	NORSAR Array B	120.05	34	PKP		PKPdf	08 25 21.6	+0.1
	comp=Z,0.8nm,0.8s,baz=250,slow=2.2,SNR=5.0							
BR231	Keskin MP Arra	124.16	63	*e*PKPdf		PKPdf	08 25 31.2	+1.0
BRTR	Keskin Array B	124.72	64	PKP		PKPdf	08 25 30.9	-0.4
	comp=Z,2.0nm,0.7s,baz=199,slow=3.0,SNR=12							
AK11	Malin Array Si	125.69	50	*e*PKPdf		PKPdf	08 25 32.2	-0.4
AKASG	Malin Array Be	125.73	50	PKP		PKPdf	08 25 32.0	-0.7
	comp=Z,1.3nm,0.7s,baz=263,slow=2.9,SNR=7.5							
FINES	FINESS Array B	126.37	36	PKP		PKPdf	08 25 34.7	+0.1
	comp=Z,2.5nm,0.9s,baz=207,slow=2.1,SNR=6.3							
ARCES	ARCESS Array B	128.18	26	PKP		PKPdf	08 25 37.1	+0.2
	comp=Z,2.9nm,0.8s,baz=272,slow=3.2,SNR=4.7							
GEYT	Alibeck	142.16	75	PKP		PKPdf	08 26 04.3	+0.4
	comp=Z,1.2nm,0.5s,baz=235,slow=5.1,SNR=3.8							
ARU	Arti	143.52	44	*e*PKPdf		PKPbc	08 26 03.6	+0.6
AKTO	Aktyubinsk	143.73	54	PKP		PKPbc	08 26 04.2	+0.3
	comp=Z,3.9nm,0.7s,baz=261,slow=1.8,SNR=16							
URV	Uravakonda	145.33	124	*e*PKiKP		PKPdf	08 26 10.5	+0.4
SKHT	Srikalahasti	145.99	128	*e*PKiKP		PKPab	08 26 13.0	+0.6
NJS	Nagarjunasagar	147.84	124	*e*PKPbc		PKPdf	08 26 14.7	+0.5
NJS				*e*PKPab		PKPbc	08 26 17.1	0.0
HYB	Hyderabad	147.96	122	*i* PKP		PKPbc	08 26 16.0	-1.5
HYBB	Hyderabad (bro	147.96	122	*e*PKPdf		PKPdf	08 26 12.3	-2.2
BRVK	Borovoye	150.89	47	*e*PKPbc		PKPbc	08 26 24.0	+0.4
BVAR	Borovoye Array	150.96	47	PKP		PKPdf	08 26 18.8	+0.7
	comp=Z,1.2nm,0.7s,baz=306,slow=3.4,SNR=5.6							
BVAR				PKPbc		PKiKP	08 26 24.5	0.0
	comp=Z,11nm,0.7s,baz=290,slow=4.3,SNR=38							
KKAR	Karatay Array	152.30	68	*e*PKPbc		PKPbc	08 26 27.9	+0.7
AAK	Ala-Archa	155.22	69	PKP		PKPdf	08 26 26.0	+1.1
	comp=Z,0.5nm,0.3s,baz=263,slow=8.1,SNR=3.0							
AAK				PKPbc		PKPbc	08 26 34.0	
	comp=Z,2.8nm,0.7s,baz=160,slow=3.5,SNR=8.6							
AAK				PKPab		PKPab	08 26 50.4	+0.4
	comp=Z,3.7nm,0.7s,baz=232,slow=4.0,SNR=8.2							
AAK	Ala-Archa	155.22	69	*e*PKPdf		PKPdf	08 26 26.2	+1.4
AAK				*e*PKPbc		PKPbc	08 26 35.4	
AAK				*e*PKPab		PKPab	08 26 50.9	+1.0
KSH	Kashi	156.16	77	*e*PKP		PKPdf	08 26 22.9	-3.3
KSH				PKP		pPKPdf	08 26 33.6	-1.5
KSH				PKS		PKSdf	08 29 55.6	-4.6
KSH				PPMZ				
	comp=Z,41nm,3.7s							
KSH				LN				
	comp=Z,110nm,8.0s							
KSH				LE				
	comp=Z,110nm,5.7s							
KSH				LZ				
	comp=Z,110nm,8.5s							
KURBB	Kurchatov Arra	156.51	49	PKP		PKPdf	08 26 26.3	+0.2
	comp=Z,0.7nm,0.8s,baz=298,slow=2.0,SNR=3.6							
KURBB				PKPbc		PKPbc	08 26 36.8	
	comp=Z,1.0nm,0.7s,baz=299,slow=2.3,SNR=4.1							
KURBB				PKPab		PKPab	08 26 54.9	-0.1
	comp=Z,3.2nm,0.8s,baz=288,slow=4.7,SNR=7.3							
KURK	Kurchatov	156.53	48	PKP		PKPdf	08 26 26.3	+0.2
KURK				PKPbc		PKPbc	08 26 36.8	
KURK				PKPab		PKPab	08 26 54.9	-0.2
ZAA0	Zalesovo Array	158.23	36	*e*PKPdf		PKPdf	08 26 28.1	0.0
ZALV	Zalesovo Beam	158.23	36	PKP		PKPdf	08 26 28.1	0.0
	comp=Z,3.2nm,0.8s,baz=293,slow=1.1,SNR=6.3							
ZALV				PKPab		PKPab	08 27 02.7	+0.5
	comp=Z,2.7nm,0.7s,baz=316,slow=4.0,SNR=4.4							
CMAR	Chiang Mai Arr	159.37	159	PP		PP	08 30 48.5	+0.4
	comp=Z,1.6nm,0.3s,baz=214,slow=6.9,SNR=6.2							
MKAR	Makanchi Array	160.14	56	PKP		PKPdf	08 26 30.8	+0.2
	comp=Z,1.6nm,0.8s,baz=174,slow=2.9,SNR=4.2							
MKAR				PKPab		PKPab	08 27 10.1	-0.8
	comp=Z,1.2nm,0.7s,baz=298,slow=5.0,SNR=3.8							
MKAR				PP		PP	08 30 51.8	-1.7
	comp=Z,0.6nm,0.8s,baz=298,slow=3.1,SNR=3.9							
KMI	Kunming	166.66	165	PKP		PKPdf	08 26 37.3	-0.4
SONM	Songino Array	170.26	1	PKP		PKPdf	08 26 39.2	-0.1
	comp=Z,0.4nm,0.4s,baz=8.1,slow=2.0,SNR=3.4							
SONM				PKPab		PKPab	08 27 55.8	+0.4
	comp=Z,0.6nm,0.4s,baz=349,slow=5.9,SNR=2.2							
CD2	Chengdu	172.46	161	*e*PKP		PKPdf	08 26 41.5	+0.7
HHC	Hu-ho-hao-te	175.26	307	*e*PKP		PKPdf	08 26 40.3	-1.3
HHC				pPKP		pPKPdf	08 26 50.1	-0.4
HHC				PP		PP	08 32 12.3	+1.6
HHC				SKS		SKSdf	08 33 38.3	-4.5
HHC				SKKS		SKKSac	08 38 54.5	-0.6
HHC				SS		SS	08 53 34.1	+0.1
HHC				PPMZ				
	comp=Z,40nm,5.5s							
HHC				LN				
	comp=Z,140nm,19.1s							
HHC				LE				
	comp=Z,200nm,20.6s							
HHC				LZ				
	comp=Z,110nm,19.4s							
LZH	Lanzhou	177.03	132	*e*PKP		PKPdf	08 26 40.0	-2.2
LZH				pPKP		pPKPdf	08 26 48.5	-2.6
LZH				sPKP			08 26 51.3	

ISCJB ***15*** *08:08:05.8₀0.7, 12.6ˢ6S₀0.1×75.11W₀0.08, h96ᵏᵐ, mb3.5/6, Error ellipse: s-maj=16.5km s-min=7.3km az=31.9*
IDC ***15*** *08:08:07.0₀1.4, 12.63S×75.18W, h97ᵏᵐ±12ᵏᵐ, mb3.4/6, mb1 3.6/10, mb1mx3.4/44, mbtmp3.8/10, Error ellipse: s-maj=21.4km s-min=13.4km az=34.0*
ISC 15 08:08:06.9₀0.7, 12.7S₀0.1×75.19W₀0.10, h96ᵏᵐ, n15, σ0°61/18, mb3.6/6, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NNA	Nana	1.75	293	P		P	Pn	08 08 36.1	0.0
	144nm,0.3s,baz=121,slow=12,SNR=248								
NNA				S			Sn	08 08 58.7	+0.3
	39nm,0.3s,baz=122,slow=21,SNR=5.9								
ATAH	Atahualpa	6.33	330	P		P	Pn	08 09 38.1	0.0
	2.6nm,0.3s,baz=246,slow=3.0,SNR=9.1								
ATAH				S			Sn	08 10 50.5	+1.1
	baz=90,slow=19,SNR=2.2								
LPAZ	La Paz	7.73	119	P		P	Pn	08 09 57.6	+0.2
	0.8nm,0.3s,baz=305,slow=8.4,SNR=27								
SIV	San Ignacio	14.08	105	P		P	Pn	08 11 23.4	+1.3
	0.1nm,0.3s,baz=293,slow=12,SNR=2.8								
PTGA	Pitinga	19.20	53	P		P		08 12 22.3	-1.1
	0.5nm,0.3s,baz=230,slow=13,SNR=5.0								
TXAR	Lajitas Array	49.99	327	P		P		08 16 51.2	-0.5
	0.3nm,0.5s,baz=149,slow=7.2,SNR=2.6								
ANMO	Albuquerque	55.87	329	P		P		08 17 35.0	+0.1
	0.4nm,0.6s,baz=136,slow=9.2,SNR=4.2								
PDAR	Pinedale Array	63.52	332	P		P		08 18 27.3	0.0
	0.1nm,0.4s,baz=143,slow=7.6,SNR=2.5								
QSPA	South Pole Qui	77.47	180	P		P		08 19 52.1	+0.4
	1.3nm,0.9s,baz=160,slow=6.8,SNR=3.1								
TORD	Torodi Ar. Bea	80.42	74	P		P		08 20 08.3	-0.3
	1.9nm,0.7s,baz=256,slow=4.9,SNR=2.3								
YKA	Yellowknife Ar	80.96	343	P		P		08 20 09.9	-0.5
	0.5nm,0.8s,baz=138,slow=5.9,SNR=12								
YKA				pP		pP		08 20 36.1	+0.6
	0.5nm,0.8s,baz=138,slow=6.0,SNR=8.7								
ASAR	Alice Springs	134.03	218	PKP		PKPdf		08 27 13.5	-0.5
	0.4nm,0.9s,baz=116,slow=2.2,SNR=4.0								
WRA	Warramunga Arr	136.47	222	PKP		PKPdf		08 27 18.4	-0.2
	0.4nm,0.5s,baz=128,slow=2.0,SNR=6.7								
SONM	Songino Array	144.91	358	PKP		PKPab		08 27 32.4	0.0
	3.0nm,0.6s,baz=326,slow=1.2,SNR=10								
KSRS	Korea Array	147.81	324	PKPbc		PKPbc		08 27 40.9	-0.2
	0.9nm,0.4s,baz=36,slow=2.5,SNR=5.1								

IDC ***15*** *08:21:45.1₀2.5, 53.52N×87.64E, h0ᵏᵐ, mb1 3.5/2, mb1mx3.1/30, mbtmp3.5/2, ML3.2/2, Error ellipse: s-maj=22.4km s-min=14.4km az=62.0*
NNC ***15*** *08:21:49.3₀8.1, 53.30N×87.31E, h0ᵏᵐ, mb3.6, mpv3.2, Error ellipse: s-maj=63.0km s-min=50.0km az=20.0*
ISC 15 08:21:49.2₀3.8, 53.6N₀0.1×87.6E₀0.2, h35ᵏᵐ, n7, σ0°63/11, 5C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZALV	Zalesovo Beam	1.67	283	Pn		Pn		08 22 15.9	-0.1
	8.0nm,0.3s,baz=100,slow=16,SNR=51								
ZALV				Lg		Lg		08 22 39.4	
	7.0nm,0.3s,baz=108,slow=28,SNR=12								
I46RU	ZALESOVO INFRA	1.67	283	*i*				08 33 00.0	
	baz=101,slow=322,SNR=7.2								
KURK	Kurchatov	6.22	246	⇓Pn		Pn		08 23 18.6	+0.2
	1.8nm,0.9s								
KURK				⇓Sn		Sn		08 24 27.6	-0.7
	1.0nm,0.8s								
KURK				⇑Lg		Lg		08 25 01.6	
	5.3nm,0.8s								
KURBB	Kurchatov Arra	6.32	245	⇑Pn		Pn		08 23 20.2	+0.4
	2.4nm,0.3s								
KURBB				⇑Sn		Sn		08 24 29.7	-0.9
	3.8nm,0.5s								
KURBB				⇓Lg		Lg		08 25 02.7	
	22nm,0.8s								
KURBB	Kurchatov Arra	6.32	245	Pn		Pn		08 23 20.4	+0.6
	0.4nm,0.3s,baz=62,slow=14,SNR=15								
KURBB				Sn		Sn		08 24 31.7	+1.0
	baz=56,slow=25,SNR=3.3								
KURBB				Lg		Lg		08 25 04.4	
	0.1nm,0.3s,baz=65,slow=32,SNR=7.2								
MK31	Makanchi Array	7.61	209	⇑Pn		Pn		08 23 37.6	0.0
	0.2nm,0.3s,baz=38,slow=16,SNR=28								
MK31				⇓Sn		Sn		08 25 02.1	-0.4
	1.1nm,0.8s,baz=22,slow=23,SNR=4.9								
MK31				⇑Lg		Lg		08 25 39.8	
	4.1nm,0.8s,baz=38,slow=29,SNR=5.2								
MKAR	Mak

YMD	**Yuma Desert**	**0.72**	**58**	*i* P		**Pg**	**08 39 07.4**	**-0.3**
YMD	**Yuma Desert**	**0.72**	**58**⇑	*i*P		**Pg**	**08 39 07.4**	**-0.3**
ECBX	**El Chinero**	**0.72**	**165**	*e*P9		**Pg**	**08 39 07.6**	**-0.2**
ECBX				*e*S		**Sg**	**08 39 17.8**	**+0.6**
YUH	**Yuha Desert**	**0.73**	**311**	*i* P		**Pg**	**08 39 07.5**	**-0.2**
YUH	**Yuha Desert**	**0.73**	**311**⇑	*i*P		**Pg**	**08 39 07.5**	**-0.2**
RMX	**La Rumorosa**	**0.81**	**302**	*e*P		**Pg**	**08 39 09.5**	**+0.2**
RMX				*e*S		**Sg**	**08 39 17.8**	**-2.0**
RMX	**La Rumorosa**	**0.81**	**302**	*e*P		**Pg**	**08 39 09.5**	**+0.2**
RMX				*e*S		**Sg**	**08 39 19.8**	**0.0**
IBP	**Imperial Bould**	**0.85**	**305**	*e*P		**Pg**	**08 39 10.2**	**0.0**
IBP				*e*S		**Sg**	**08 39 21.3**	**+0.2**
IBP	**Imperial Bould**	**0.85**	**305**	⇑P		**Pg**	**08 39 10.1**	**0.0**
	baz=0.8							
IBP				⇓S		**Sg**	**08 39 21.5**	**+0.4**
	baz=0.8							
ZAX	**El Zacaton**	**1.08**	**233**	*e*P		**Pb**	**08 39 15.0**	**0.0**
ZAX				*e*S		**Sb**	**08 39 29.8**	**+0.3**
SPIG	**San Pedro Mart**	**1.14**	**188**	*e*P		**Pg**	**08 39 15.8**	**+0.1**
SPIG	**San Pedro Mart**	**1.14**	**188**	*e*P		**Pg**	**08 39 15.8**	**+0.1**
SPX	**San Pedro Mart**	**1.14**	**188**	*e*P		**Pg**	**08 39 16.1**	**+0.4**
SPX				*e*S		**Sb**	**08 39 32.2**	**+0.8**
SPX	**San Pedro Mart**	**1.14**	**188**⇓	*e*P		**Pg**	**08 39 16.1**	**+0.4**
SPX				*e*S		**Sb**	**08 39 32.2**	**+0.8**
SPX				IAML			08 39 33.7	
	comp=E,6μm,0.5s							
SPX				⇑*e*			08 39 35.3	
SPX				IAML			08 39 35.3	
	comp=N,6μm,0.3s							
CBX	**Cerro Bola**	**1.19**	**277**	*e*P		**Pg**	**08 39 15.8**	**-0.8**
CBX	**Cerro Bola**	**1.19**	**277**	*e*P		**Pg**	**08 39 16.0**	**-0.6**
CBX				*e*S		**Sg**	**08 39 31.8**	**-0.3**
CBX	**Cerro Bola**	**1.19**	**277**	*e*P		**Pg**	**08 39 16.0**	**-0.6**
CBX				*e*S		**Sg**	**08 39 31.8**	**-0.3**
CBX				⇓*e*			08 39 36.0	
CBX				IAML			08 39 36.0	
	comp=E,12μm,0.4s							
MONP	**Monument Peak,**	**1.21**	**307**	⇑P		**Pg**	**08 39 15.6**	**-1.4**
	baz=1.2							
MONP				⇓S		**Sg**	**08 39 32.1**	**-0.5**
	baz=1.2							
ECNX	**Esteban Cantu**	**1.24**	**246**	*e*P		**Pg**	**08 39 17.3**	**-0.3**
ECNX				*e*S		**Sb**	**08 39 34.6**	**+0.4**
ECNX	**Esteban Cantu**	**1.24**	**246**	*e*P		**Pg**	**08 39 17.3**	**-0.3**
ECNX				*e*S		**Sb**	**08 39 34.6**	**+0.4**
BAR	**Barrett**	**1.29**	**293**	*e*Pn		**Pn**	**08 39 16.9**	**-1.7**
BAR				*e*Sg		**Sg**	**08 39 34.2**	**-1.0**
BAR	**Barrett**	**1.29**	**293**⇑	*e*P		**Pn**	**08 39 17.1**	**-1.5**
PBX	**Punta Banda**	**1.31**	**251**	*e*P		**Pn**	**08 39 18.4**	**-0.4**
PBX				*e*S		**Sg**	**08 39 35.9**	**-0.1**
PBX	**Punta Banda**	**1.31**	**251**	*e*P		**Pn**	**08 39 18.4**	**-0.4**
PBX				*e*S		**Sg**	**08 39 35.9**	**-0.1**
113A	**Mohawk Valley,**	**1.40**	**65**	⇑P		**Pn**	**08 39 17.8**	**-2.3**
	baz=1.4							
113A				⇑S		**Sb**	**08 39 34.5**	**-4.2**
	baz=1.4							
BC3	**Big Chuckawall**	**1.48**	**354**	⇑P		**Pn**	**08 39 18.7**	**-2.7**
	baz=1.4							
BC3				⇑S		**Sn**	**08 39 37.6**	**-3.7**
	baz=1.4							
Y12C	**Blythe**	**1.69**	**22**	⇓P		**Pn**	**08 39 21.7**	**-2.4**
	baz=1.7							
Y12C				⇑S		**Sn**	**08 39 43.7**	**-2.5**
	baz=1.7							
109C	**Camp Elliot, M**	**1.71**	**295**	⇑P		**Pn**	**08 39 22.9**	**-1.4**
	baz=1.7							
109C				⇑S		**Sn**	**08 39 46.2**	**-0.3**
	baz=1.7							
PFO	**Pinyon Flats O**	**1.74**	**325**	Pn		**Pn**	**08 39 22.4**	**-2.5**
	comp=E,47nm,0.3s,baz=144,slow=15,SNR=279							
PFO				Lg	Lg		08 39 48.5	
	comp=E,106nm,0.3s,baz=229,slow=20,SNR=22							
PFO				LR	LR		08 39 49.9	
	comp=E,326nm,19.6s,baz=216,slow=32							
PFO	**Pinyon Flats O**	**1.74**	**325**	⇓P		**Pn**	**08 39 22.6**	**-2.4**
	baz=1.7							
PFO				⇓S		**Sn**	**08 39 46.2**	**-1.5**
	baz=1.7							
BELC	**Belle Mtn. Jos**	**1.92**	**342**	⇑P		**Pn**	**08 39 25.6**	**-1.8**
	baz=1.9							
BELC				⇓S		**Sn**	**08 39 49.5**	**-2.5**
	baz=1.9							
IRM	**Iron Mountain**	**1.98**	**3**	⇓P		**Pn**	**08 39 25.9**	**-2.2**
	baz=1.9							
214A	**Organ Pipe Nat**	**2.10**	**95**	*e*Pn		**Pn**	**08 39 27.4**	**-2.3**
214A				*e*Pg		**Pg**	**08 39 33.8**	**-0.3**
214A	**Organ Pipe Nat**	**2.10**	**95**	⇓P		**Pn**	**08 39 27.7**	**-2.1**
	baz=2.1							
214A				⇑S		**Sn**	**08 39 54.0**	**-2.3**
	baz=2.1							
MURC	**Murrieta**	**2.16**	**312**	⇑P		**Pn**	**08 39 28.8**	**-1.7**
	baz=2.1							
MURC				⇓Sb		**Sb**	**08 40 01.0**	**+0.5**
	baz=2.1							
Z14A	**Wintersburg**	**2.29**	**58**	⇑P		**Pn**	**08 39 30.8**	**-1.6**
	baz=2.3							
PDMCI	**Parker Dam,Lak**	**2.32**	**24**	⇑P		**Pn**	**08 39 31.2**	**-1.6**
	baz=2.3							
PDMCI				⇑Sg		**Sb**	**08 40 06.0**	**+0.8**
	baz=2.3							
BBRC	**Big Bear Solar**	**2.50**	**327**	⇑P		**Pn**	**08 39 34.6**	**-0.8**
	baz=2.5							
BBRC				⇓Sb		**Sb**	**08 40 11.8**	**+1.2**
	baz=2.5							
GMRC	**Granite Mounta**	**2.62**	**353**	⇑P		**Pn**	**08 39 35.0**	**-2.0**
	baz=2.6							
NEE2	**Needles Airpor**	**2.64**	**12**	⇑P		**Pn**	**08 39 35.6**	**-1.6**
	baz=2.6							
BFSC	**Mount Baldy Ra**	**2.87**	**316**	⇓P		**Pn**	**08 39 39.3**	**-1.2**
	baz=2.8							
BFSC				⇓Sb		**Sb**	**08 40 21.7**	**+0.5**
	baz=2.8							
SCI	**San Clemente I**	**2.88**	**287**	⇓P		**Pn**	**08 39 39.0**	**-1.4**
	baz=2.9							
LDFC	**Landfair**	**2.90**	**3**	*e*Pn		**Pn**	**08 39 39.9**	**-0.9**
LDFC				*e*Pg		**Pg**	**08 39 51.2**	**+1.8**
CIS	**Catalina Islan**	**2.91**	**296**	⇑P		**Pn**	**08 39 39.8**	**-1.1**
	baz=2.9							
MWC	**Mount Wilson**	**3.10**	**312**	*e*Pg		**Pb**	**08 39 48.9**	**-0.8**
MWC				*e*Sg		**Sb**	**08 40 29.4**	**+1.5**
W13A	**Hualapai Mount**	**3.14**	**21**	⇓P		**Pn**	**08 39 43.3**	**-0.9**
	baz=3.1							
PASC	**Pasadena Art C**	**3.15**	**310**	*e*Pg		**Pb**	**08 39 49.0**	**-1.4**
PASC				*e*Sg		**Sb**	**08 40 29.9**	**+0.7**
TUQ	**Turquoise Moun**	**3.30**	**351**	⇑P		**Pn**	**08 39 44.7**	**-1.6**
	baz=3.3							
GSC	**Goldstone, Bar**	**3.37**	**338**	*e*Pn		**Pn**	**08 39 47.1**	**-0.2**
GSC				*e*Pg		**Pg**	**08 39 58.4**	**-0.1**
GSC				*e*Sg		**Sg**	**08 40 43.9**	**+1.8**
EDW2	**Edwards Air Fo**	**3.53**	**321**	⇓P		**Pn**	**08 39 48.7**	**-0.7**
	baz=3.5							
BLG	**Laguna Peak, P**	**3.72**	**302**	⇑P		**Pn**	**08 39 51.7**	**-0.4**
	baz=3.7							
TUC	**Tucson**	**3.80**	**87**	*e*Pn		**Pn**	**08 39 50.9**	**-2.3**
TUC				*e*Pg		**Pg**	**08 40 06.9**	**+0.1**
TUC				*e*Sg		**Sg**	**08 40 54.8**	**-1.2**
X16A	**Lo Mia Camp, P**	**3.91**	**54**	⇓P		**Pn**	**08 39 53.9**	**-0.9**
	baz=3.9							
BSC	**Santa Cruz Isl**	**4.09**	**298**	⇓P		**Pn**	**08 39 56.6**	**-0.5**
	baz=4.1							
MPMC	**Manual Prospec**	**4.29**	**335**	⇑P		**Pn**	**08 39 59.4**	**-0.6**
	baz=4.3							
SHPR	**Sheep Range**	**4.32**	**1**	*e*Pn		**Pn**	**08 39 59.8**	**-0.6**
SHPR				*e*Pg		**Pg**	**08 40 15.8**	**-0.8**
ISA	**Isabella, Lake**	**4.38**	**323**	*e*Pn		**Pn**	**08 40 02.2**	**+1.0**
ISA				*e*Pg		**Pg**	**08 40 15.1**	**-2.7**
ISA				*e*Sg		**Sg**	**08 41 12.8**	**-1.8**
DAC	**Darwin (Calif)**	**4.52**	**335**	*e*Pn		Pn	08 39 59.7	-3.5
DAC				*e*Pg		**Pg**	**08 40 22.7**	**+2.2**
WUAZ	**Wupatki**	**4.65**	**43**	*e*Pn		**Pn**	**08 40 05.5**	**+0.5**
W18A	**Petrified Fore**	**5.47**	**56**	*e*Pn		**Pn**	**08 40 16.6**	**+0.4**
	comp=E,42nm,0.5s							
TPH	**Tonopah**	**6.10**	**345**	*e*Pn		**Pn**	**08 40 27.3**	**+2.4**
	comp=E,25nm,0.8s							
R11A	**Troy Canyon, C**	**6.17**	**358**	*e*Pn		**Pn**	**08 40 25.0**	**-0.7**
	comp=E,17nm,0.6s							
R11A				*e*Pg		**Pg**	**08 40 52.0**	**0.0**
121A	**Cookes Peak, D**	**6.34**	**85**	*e*Pn		**Pn**	**08 40 27.1**	**-1.2**
	comp=E,42nm,0.3s							
NVAR	**Mina Array Bea**	**6.71**	**339**	Pn		**Pn**	**08 40 34.2**	**+0.9**
	comp=E,0.1nm,0.3s,baz=161,slow=14,SNR=2.8							
MVU	**Marysvale**	**6.79**	**21**	*e*Pn		Pn	08 40 37.7	+3.3
	comp=E,14nm,0.4s							
MVU				*e*Pg		**Pg**	**08 41 02.9**	**-1.1**
MSU	**Marysvale**	**6.81**	**21**	*e*Pn		**Pn**	**08 40 37.7**	**+3.1**
	comp=E,23nm,0.6s							
LAZ	**Ladron**	**7.16**	**70**	*e*Pn		**Pn**	**08 40 39.5**	**0.0**
	comp=E,5.9nm,0.7s							
LENM	**Lemitar**	**7.23**	**72**	*e*Pn		**Pn**	**08 40 40.3**	**-0.1**
	comp=E,15nm,0.5s							
MVCO	**Mesa Verde**	**7.50**	**46**	*e*Pn		**Pn**	**08 40 46.6**	**+2.4**
	comp=E,22nm,0.5s							
ANMO	**Albuquerque**	**7.86**	**67**	Pn		**Pn**	**08 40 49.6**	**+0.6**
	comp=E,0.3nm,0.3s,baz=243,slow=14,SNR=9.6							
ANMO				Lg	Lg		08 43 09.6	
	comp=E,0.2nm,0.3s,baz=349,slow=19,SNR=3.5							
ANMO				LR	LR		08 43 57.0	
	comp=E,407nm,21.6s,baz=249,slow=38							
ANMO	**Albuquerque**	**7.86**	**67**	*e*Pn		**Pn**	**08 40 49.6**	**+0.6**
	comp=E,7.3nm,0.8s							
ANMO				Lg	Lg		08 43 09.6	
SRU	**San Rafael Swe**	**7.92**	**28**	Pn		**Pn**	**08 40 51.6**	**+1.7**
MNTX	**Cornudas Mount**	**8.42**	**91**	*e*Pn		**Pn**	**08 40 55.8**	**-0.7**
	comp=E,5.1nm,0.6s							
MNTX				*e*Sn		**Sn**	**08 42 34.3**	**+2.2**
LPIG	**La Paz**	**9.16**	**150**	LR		LR	08 44 36.1	
	comp=E,290nm,21.3s,baz=341,slow=38							
SMCO	**Snowmass**	**9.71**	**42**	*e*Pn		**Pn**	**08 41 17.3**	**+2.7**
	comp=E,27nm,1.1s							
SDCO	**Great Sand Dun**	**9.75**	**53**	*e*Pn		**Pn**	**08 41 16.5**	**+1.4**
TXAR	**Lajitas Array**	**10.38**	**103**	Pn		**Pn**	**08 41 25.2**	**+1.7**
	comp=E,1.4nm,0.3s,baz=286,slow=13,SNR=35							
TXAR				Lg	Lg		08 44 28.1	
	comp=E,0.3nm,0.3s,baz=278,slow=29,SNR=11							
MSTX	**Muleshoe**	**10.64**	**77**	*e*Pn		**Pn**	**08 41 29.6**	**+2.5**
	comp=E,5.2nm,0.6s							
YBH	**Yreka Blue Hor**	**11.24**	**330**	Pn		Pn	08 41 39.0	+3.7
	comp=E,0.0nm,0.3s,baz=149,slow=13,SNR=4.0							
YBH				LR	LR		08 45 25.4	
	comp=E,168nm,20.9s,baz=273,slow=35							
RWWY	**Rawlins**	**11.47**	**32**	*e*Pn		**Pn**	**08 41 35.6**	**-3.0**
	comp=E,11nm,1.1s							
PDAR	**Pinedale Array**	**11.50**	**22**	Pn		Pn	08 41 44.9	+6.0
	comp=E,0.0nm,0.3s,baz=191,slow=9.2,SNR=2.7							
LON	**Longmire**	**15.40**	**343**	*e*P		**Pn**	**08 42 32.2**	**+0.4**
	comp=E,15nm,1.5s							
JTMT	**Jette**	**15.57**	**2**	Pn		**Pn**	**08 42 33.4**	**-0.8**
	comp=E,1.9nm,0.8s							
NEW	**Newport**	**16.13**	**356**	Pn		**P**	**08 42 43.4**	**-1.3**
	comp=E,0.1nm,0.3s,baz=181,slow=14,SNR=4.2							
NEW				LR		LR	08 49 09.5	
	comp=E,143nm,19.2s,baz=185,slow=38							
NEW	**Newport**	**16.13**	**356**	*e*P		**P**	**08 42 43.5**	**-1.3**
	comp=E,9.4nm,0.9s							
MIAR	**Mount Ida**	**18.28**	**77**	*e*P		**P**	**08 43 08.9**	**+0.5**
	comp=E,9.6nm,1.2s							
EDM	**Edmonton**	**21.08**	**3**	*e*P		**P**	**08 43 39.5**	**+0.5**
	comp=E,6.8nm,0.8s							
BBB	**Bella Bella**	**22.08**	**339**	LR		LR	08 51 41.1	
	comp=E,130nm,21.0s,baz=146,slow=35							
ULM	**Lac du Bonnet**	**23.10**	**33**	LR		LR	08 53 13.0	
	comp=E,73nm,21.0s,baz=238,slow=37							
CMIG	**Matias Romero**	**23.79**	**124**	LR		LR	08 54 24.0	
	comp=E,198nm,20.6s,baz=266,slow=39							
TKL	**Tuckaleechee C**	**26.31**	**74**	LR		LR	08 55 35.2	
	comp=E,212nm,20.0s,baz=282,slow=38							
DLBC	**Dease Lake**	**28.11**	**343**	LR		LR	08 56 55.7	
	comp=E,139nm,18.9s,baz=160,slow=38							
YKA	**Yellowknife Ar**	**30.34**	**1**	P		**P**	**08 45 07.8**	**+1.6**
	comp=E,0.2nm,0.8s,baz=180,slow=9.0,SNR=4.3							
SADO	**Sadowa**	**30.70**	**55**	LR		LR	08 57 29.8	
	comp=E,167nm,18.1s,baz=295,slow=36							
INK	**Inuvik**	**37.69**	**349**	P		**P**	**08 46 11.7**	**+1.9**
	comp=E,0.9nm,1.0s,baz=148,slow=7.1,SNR=3.1							
ILAR	**Eielson Array**	**37.97**	**339**	P		**P**	**08 46 14.0**	**+1.7**
	comp=E,0.6nm,0.6s,baz=156,slow=7.8,SNR=8.4							
ILAR				LR		LR	09 02 11.1	
	comp=E,75nm,18.9s,baz=161,slow=37							
PTGA	**Pitinga**	**61.58**	**111**	LR		LR	09 17 49.2	
	comp=E,27nm,20.4s,baz=236,slow=38							
WMQ	**Urumqi**	**101.51**	**343**	*e*P		**Pdif**	**08 52 48.1**	**+1.1**
WMQ				pP		pP	08 52 52.9	+4.2
WMQ				pmax		pmax		
	comp=Z,8.0nm,0.4s							
WMQ				pmax		pmax		
	comp=Z,10.0nm,4.4s							
WMQ				LR		LR		
	comp=N,33nm,19.6s							
WMQ				LR		LR		
	comp=E,36nm,22.0s							
WMQ				LR		LR		
	comp=Z,49nm,24.0s							
LZH	**Lanzhou**	**102.84**	**328**	*e*P		**Pdif**	**08 52 52.3**	**-0.9**
LZH				pP			08 52 56.5	
LZH				pmax		pmax		
	comp=Z,14nm,1.0s							

IDC ***15*** *08:45:27.7±1.7,32°.08N×115°.37W,h0km,mb3.1/1, mb1 3.6/7,mb1mx3.4/29,mbtmp3.3/7,ML3.1/5,Error ellipse: s-maj=28.8km s-min=10.1km az=37.0*

ISCJB ***15*** *08:45:28.6±0.6,32°.21N±0°.02×115°.20W±0°.02,h14km±4km, mb2.9/1,Error ellipse: s-maj=3.7km s-min=2.6km az=173.2*

NEIC ***15*** *08:45:30.6,32°.22N×115°.27W,h9km,MD3.9(MEX), ML4.1(ECX),ML4.1(PAS),After ECX.*

ECX ***15*** *08:45:30.4±0.4,32°.22N×115°.26W,h9km,MD4.0,ML4.2*

MEX ***15*** *08:45:31.4±0.3,32°.27N×115°.18W,h13km±242km,MD3.9*

ISC 15 08:45:29.1±0.9,32°18N±0°.02×115°25W±0°.02,h10km±7km, n84,σ1°916/110,7C-4D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.23**	**12**	*e*P		**Pg**	**08 45 34.5**	**+0.6**
MBIG				*e*S		**Sg**	**08 45 36.8**	**-0.3**
CPBX	**Cerro Prieto**	**0.24**	**350**	*e*P		**Pg**	**08 45 34.3**	**+0.3**
CPBX				*e*S		**Sg**	**08 45 37.2**	**-0.2**
CPBX	**Cerro Prieto**	**0.24**	**350**	*e*P9		**Pg**	**08 45 34.3**	**+0.3**
CPBX				*e*S		**Sg**	**08 45 37.2**	**-0.2**
CPBX				IAML			08 45 40.3	
	comp=N,132μm,0.5s							
CPBX				⇑*e*			08 45 40.3	
CPBX				IAML			08 45 43.0	
	comp=E,120μm,0.2s							
CPBX				⇓*e*			08 45 43.0	
EMSC	**East Mesa**	**0.60**	**22**	*e*P		**Pg**	**08 45 41.0**	**+0.2**
EMSC	**East Mesa**	**0.60**	**22**⇑	*e*P		**Pg**	**08 45 40.2**	**-0.6**
SGL	**Mount Signal**	**0.61**	**320**	*e*P		**Pg**	**08 45 40.8**	**-0.3**
SGL	**Mount Signal**	**0.61**	**320**	*e*P2		**Pg**	**08 45 40.3**	**-0.8**
RDX	**Rancho Dawling**	**0.64**	**247**	*e*P		**Pg**	**08 45 42.0**	**+0.5**
RDX				*e*S		**Sg**	**08 45 50.9**	**+1.0**
RDX	**Rancho Dawling**	**0.64**	**247**⇑	*e*P		**Pg**	**08 45 42.0**	**+0.5**
RDX				*e*S		**Sg**	**08 45 50.9**	**+1.0**
RDX				⇑*e*			08 45 52.6	
RDX				IAML			08 45 52.6	
	comp=N,10μm,0.9s							
COA	**Coachella**	**0.69**	**9**	*i* P		**Pg**	**08 45 42.1**	**-0.4**
COA	**Coachella**	**0.69**	**9**⇑	*i*P		**Pg**	**08 45 42.1**	**-0.4**
WESC	**Westside Schoo**	**0.70**	**325**	*e*P		**Pg**	**08 45 42.5**	**-0.2**
WESC	**Westside Schoo**	**0.70**	**325**	*e*P		**Pg**	**08 45 42.5**	**-0.2**
YMD	**Yuma Desert**	**0.71**	**58**	*e*P		**Pb**	**08 45 43.7**	**+0.1**
YMD	**Yuma Desert**	**0.71**	**58**⇑	*e*P		**Pg**	**08 45 42.4**	**-0.3**
ECBX	**El Chinero**	**0.73**	**166**	*e*P9		**Pg**	**08 45 42.3**	**-0.9**
ECBX				*e*S		**Sg**	**08 45 52.7**	**0.0**
COK	**Cook Ranch**	**0.78**	**329**	*e*P		**Pg**	**08 45 43.7**	**-0.4**
COK	**Cook Ranch**	**0.78**	**329**⇓	*e*P		**Pg**	**08 45 43.7**	**-0.4**
RMX	**La Rumorosa**	**0.81**	**301**	*e*P		**Pg**	**08 45 44.3**	**-0.6**
RMX				*e*S		**Sg**	**08 45 55.4**	**-0.1**
RMX	**La Rumorosa**	**0.81**	**301**	*e*P		**Pg**	**08 45 44.3**	**-0.6**
RMX				*e*S		**Sg**	**08 45 55.4**	**-0.1**
RMX				IAML			08 45 56.3	
	comp=N,8μm,0.6s							
RMX				⇑*e*			08 45 56.3	
IBP	**Imperial Bould**	**0.86**	**304**	*e*P		**Pg**	**08 45 45.0**	**-0.6**
IBP				*e*S		**Sg**	**08 45 56.5**	**-0.3**
IBP	**Imperial Bould**	**0.86**	**304**	P		**Pg**	**08 45 45.0**	**-0.6**
	baz=0.8							
IBP				S		**Sg**	**08 45 56.2**	**-0.6**
	baz=0.8							
CRR	**Carrizo Plain**	**0.93**	**320**	*e*P		**Pg**	**08 45 45.9**	**-1.1**
CRR	**Carrizo Plain**	**0.93**	**320**⇓	*e*P		**Pg**	**08 45 45.9**	**-1.1**
ZAX	**El Zacaton**	**1.09**	**233**	*e*P		**Pg**	**08 45 49.8**	**-0.4**
ZAX				*e*S		**Sg**	**08 46 04.6**	**+0.2**
SPX	**San Pedro Mart**	**1.15**	**189**	*e*P		**Pb**	**08 45 50.7**	**-0.5**
SPX				*e*S		**Sn**	**08 46 07.5**	**0.0**
SPX	**San Pedro Mart**	**1.15**	**189**	*e*P		**Pb**	**08 45 50.7**	**-0.5**
SPX				*e*S		**Sn**	**08 46 07.5**	**0.0**
SPX				IAML			08 46 08.3	
	comp=E,3μm,0.7s							
SPX				IAML			08 46 09.4	
	comp=N,3μm,0.5s							
CBX	**Cerro Bola**	**1.20**	**277**	*e*P		**Pb**	**08 45 51.0**	**-1.1**
CBX	**Cerro Bola**	**1.20**	**277**	*e*P		**Pb**	**08 45 51.0**	**-1.1**
CBX				*e*S		**Sb**	**08 46 07.3**	**-0.5**
CBX	**Cerro Bola**	**1.20**	**277**	*e*P		**Pb**	**08 45 51.0**	**-1.1**
CBX				*e*S		**Sb**	**08 46 07.3**	**-0.5**
CBX				IAML			08 46 13.8	
	comp=E,4μm,0.9s							
CBX				⇓*e*			08 46 13.8	
MONP	**Monument Peak,**	**1.21**	**306**	P		**Pb**	**08 45 50.4**	**-1.9**
	baz=1.2							
MONP				S		**Sb**	**08 46 06.5**	**-1.7**
	baz=1.2							
ECNX	**Esteban Cantu**	**1.26**	**246**	*e*P		**Pn**	**08 45 52.3**	**-0.6**
ECNX				*e*S		**Sb**	**08 46 09.3**	**0.0**
ECNX	**Esteban Cantu**	**1.26**	**246**	*e*P		**Pn**	**08 45 52.3**	**-0.6**
ECNX				*e*S		**Sb**	**08 46 09.3**	**0.0**
BAR	**Barrett**	**1.30**	**293**	*e*Pn		**Pn**	**08 45 51.8**	**-1.6**
BAR				*e*Sn		**Sb**	**08 46 09.1**	**-1.3**
PBX	**Punta Banda**	**1.32**	**251**	*e*P		**Pn**	**08 45 53.2**	**-0.6**
PBX				*e*S		**Sb**	**08 46 11.1**	**-0.1**
PBX	**Punta Banda**	**1.32**	**251**	*e*P		**Pn**	**08 45 53.2**	**-0.6**
PBX				*e*S		**Sb**	**08 46 11.1**	**-0.1**
113A	**Mohawk Valley,**	**1.39**	**65**	P		**Pn**	**08 45 52.8**	**-1.8**
	baz=1.4							
113A				S		**Sb**	**08 46 09.7**	**-3.3**
	baz=1.4							
BC3	**Big Chuckawall**	**1.48**	**354**	P		**Pn**	**08 45 53.6**	**-2.4**
	baz=1.4							
Y12C	**Blythe**	**1.68**	**21**	P		**Pn**	**08 45 56.7**	**-2.0**
	baz=1.7							
109C	**Camp Elliot, M**	**1.71**	**295**	P		**Pn**	**08 45 58.0**	**-1.1**
	baz=1.7							
109C				Sb		**Sb**	**08 46 21.9**	**-0.5**
	baz=1.7							
PFO	**Pinyon Flats O**	**1.75**	**325**	Pn		**Pn**	**08 45 57.5**	**-2.2**
	comp=E,6.8nm,0.3s,baz=146,slow=14,SNR=22							
PFO				Lg	Lg		08 46 23.3	
	comp=E,26nm,0.3s,baz=61,slow=21,SNR=15							
PFO	**Pinyon Flats O**	**1.75**	**325**	P		**Pn**	**08 45 57.6**	**-2.1**
	baz=1.7							
IRM	**Iron Mountain**	**1.98**	**3**	P		**Pn**	**08 46 00.8**	**-2.0**
	baz=1.9							
214A	**Organ Pipe Nat**	**2.09**	**96**	P		**Pn**	**08 46 02.4**	**-1.9**
	baz=2.1							
MURC	**Murrieta**	**2.16**	**311**	P		**Pn**	**08 46 03.7**	**-1.6**
	baz=2.1							
MURC				Sb		**Sb**	**08 46 35.3**	**0.0**
	baz=2.1							
Z14A	**Wintersburg**	**2.27**	**58**	P		**Pn**	**08 46 05.6**	**-1.2**
	baz=2.3							
Z14A				S		**Sn**	**08 46 32.3**	**-2.6**
	baz=2.3							
GMRC	**Granite Mounta**	**2.61**	**353**	P		**Pn**	**08 46 09.9**	**-1.7**
	baz=2.6							
LDFC	**Landfair**	**2.89**	**2**	*e*Pn		**Pn**	**08 46 14.9**	**-0.5**
SCI	**San Clemente I**	**2.89**	**287**	P		**Pn**	**08 46 14.0**	**-1.3**
	baz=2.9							
SCI				Sb		**Sb**	**08 46 56.2**	**-0.1**
	baz=2.9							
CIS	**Catalina Islan**	**2.92**	**296**	P		**Pn**	**08 46 14.6**	**-1.1**
	baz=2.9							
CIS				Sb		**Sb**	**08 46 58.2**	**+1.1**
	baz=2.9							
MWC	**Mount Wilson**	**3.11**	**312**	*e*Pg		**Pb**	**08 46 23.9**	**-0.7**
PASC	**Pasadena Art C**	**3.16**	**310**	*e*Pg		**Pb**	**08 46 24.9**	**-0.5**
GSC	**Goldstone, Bar**	**3.37**	**338**	Pn		**Pn**	**08 46 21.3**	**-0.7**
GSC				*e*Pg		**Pg**	**08 46 31.9**	**-1.8**
OSI	**Osito Audit: C**	**3.

MBIG	**Mexicali**	**0.23**	**22**	*e*P		**Pg**	**08 50 34.5**	**+0.5**
SGL	**Mount Signal**	**0.58**	**322**	*e*P		**Pg**	**08 50 40.6**	**+0.1**
SGL	**Mount Signal**	**0.58**	**322**	⇓*i*P		**Pg**	**08 50 40.6**	**+0.1**
EMSC	**East Mesa**	**0.60**	**26**	*e*P		**Pg**	**08 50 41.5**	**+0.5**
EMSC	**East Mesa**	**0.60**	**26**	*e*P2		**Pg**	**08 50 41.0**	**-0.1**
RDX	**Rancho Dawling**	**0.61**	**244**	*e*P		**Pb**	**08 50 42.0**	**0.0**
RDX				*e*S		**Sb**	**08 50 50.8**	**0.0**
RDX	**Rancho Dawling**	**0.61**	**244**	*e*P		**Pb**	**08 50 42.0**	**0.0**
RDX				*e*S		**Sb**	**08 50 50.8**	**0.0**
RDX				IAML			08 50 52.8	
	comp=N,2μm,0.4s							
RDX				⇓*e*			08 50 52.8	
WESC	**Westside Schoo**	**0.67**	**327**	*e*P		**Pg**	**08 50 42.5**	**+0.2**
WESC	**Westside Schoo**	**0.67**	**327**	*e*P		**Pg**	**08 50 42.5**	**+0.2**
COA	**Coachella**	**0.68**	**13**	*e*P		**Pg**	**08 50 42.4**	**-0.1**
COA	**Coachella**	**0.68**	**13**	*e*P2		**Pg**	**08 50 42.2**	**-0.3**
YUH	**Yuha Desert**	**0.69**	**311**	*e*P		**Pg**	**08 50 42.5**	**-0.2**
YUH	**Yuha Desert**	**0.69**	**311**	⇓*i*P		**Pg**	**08 50 42.5**	**-0.2**
YMD	**Yuma Desert**	**0.73**	**61**	*e*P		**Pg**	**08 50 42.9**	**-0.6**
YMD	**Yuma Desert**	**0.73**	**61**⇑	*e*P		**Pg**	**08 50 42.9**	**-0.6**
RMX	**La Rumorosa**	**0.77**	**302**	*e*P		**Pg**	**08 50 44.1**	**-0.2**
RMX				*e*S		**Sg**	**08 50 54.6**	**+0.2**
RMX	**La Rumorosa**	**0.77**	**302**	*e*P		**Pg**	**08 50 44.1**	**-0.2**
RMX				*e*S		**Sg**	**08 50 54.6**	**+0.2**
RMX				⇓*e*			08 50 56.2	
RMX				IAML			08 50 56.2	
	comp=N,2μm,0.3s							
IBP	**Imperial Bould**	**0.81**	**305**	*e*P		**Pg**	**08 50 45.0**	**-0.1**
IBP				*e*S		**Sg**	**08 50 55.8**	**0.0**
CRR	**Carrizo Plain**	**0.89**	**321**	*e*P		**Pg**	**08 50 45.6**	**-0.8**
CRR	**Carrizo Plain**	**0.89**	**321**⇓	*e*P		**Pg**	**08 50 45.6**	**-0.8**
ZAX	**El Zacaton**	**1.07**	**231**	*e*P		**Pg**	**08 50 49.9**	**-0.1**
ZAX				*e*S		**Sn**	**08 51 05.1**	**-0.3**
ZAX				IAML			08 51 11.4	
	comp=E,1μm,0.5s							
ZAX				⇓*e*			08 51 11.4	
SPIG	**San Pedro Mart**	**1.16**	**187**	*e*P		**Pn**	**08 50 52.0**	**+0.2**
SPIG	**San Pedro Mart**	**1.16**	**187**	*e*P		**Pn**	**08 50 52.0**	**+0.2**
SPX	**San Pedro Mart**	**1.16**	**187**	*e*P		**Pb**	**08 50 51.2**	**-0.3**
SPX				*e*S		**Sn**	**08 51 08.2**	**+0.4**
SPX	**San Pedro Mart**	**1.16**	**187**	*e*P		**Pb**	**08 50 51.2**	**-0.3**
SPX				*e*S		**Sn**	**08 51 08.2**	**+0.4**
SPX				⇓*e*			08 51 08.7	
SPX				IAML			08 51 08.7	
	comp=E,598nm,0.5s							
CBX	**Cerro Bola**	**1.16**	**276**	*e*P		**Pb**	**08 50 51.2**	**-0.3**
CBX	**Cerro Bola**	**1.16**	**276**	*e*P		**Pb**	**08 50 51.4**	**-0.1**
CBX				*e*S		**Sb**	**08 51 06.9**	**+0.3**
CBX	**Cerro Bola**	**1.16**	**276**	*e*P		**Pb**	**08 50 51.4**	**-0.1**
CBX				*e*S		**Sb**	**08 51 06.9**	**+0.3**
CBX				IAML			08 51 08.1	
	comp=N,2μm,0.5s							
ECNX	**Esteban Cantu**	**1.23**	**244**	*e*P		**Pn**	**08 50 52.4**	**-0.1**
ECNX				*e*S		**Sn**	**08 51 09.3**	**+0.2**
ECNX	**Esteban Cantu**	**1.23**	**244**	*e*P		**Pn**	**08 50 52.4**	**-0.1**
ECNX				*e*S		**Sn**	**08 51 09.3**	**+0.2**
BAR	**Barrett**	**1.26**	**293**	*e*Pn		**Pn**	**08 50 52.6**	**-0.3**
BAR				*e*Sg		**Sb**	**08 51 08.8**	**-0.5**
PBX	**Punta Banda**	**1.29**	**250**	*e*P		**Pn**	**08 50 53.3**	**-0.1**
PBX				*e*S		**Sg**	**08 51 11.3**	**+0.4**
PBX	**Punta Banda**	**1.29**	**250**	*e*P		**Pn**	**08 50 53.3**	**-0.1**
PBX				*e*S		**Sg**	**08 51 11.3**	**+0.4**
PFO	**Pinyon Flats O**	**1.71**	**326**	*e*Pn		**Pn**	**08 50 57.2**	**-2.1**
214A	**Organ Pipe Nat**	**2.13**	**96**	*e*Pn		**Pn**	**08 51 02.7**	**-2.2**
214A				*e*Sg		**Sg**	**08 51 39.0**	**+1.3**
LDFC	**Landfair**	**2.88**	**3**	*e*Pn		**Pn**	**08 51 15.0**	**-0.3**
LDFC				*e*Pg		**Pg**	**08 51 26.9**	**+2.4**
MWC	**Mount Wilson**	**3.07**	**312**	*e*Pg		**Pb**	**08 51 24.3**	**+0.2**
MWC				*e*Sg		**Sb**	**08 52 04.8**	**+3.1**
PASC	**Pasadena Art C**	**3.12**	**310**	*e*Pg		**Pb**	**08 51 25.2**	**+0.4**
PASC				*e*Sg		**Sb**	**08 52 04.4**	**+1.5**
ISA	**Isabella, Lake**	**4.35**	**324**	*e*Pg		**Pg**	**08 51 50.1**	**-2.5**

*ISCJB **15** 09:02:19.7±0.8,32.˚44N±0.˚05×142.˚0E±0.˚1, h31km, mb3.5/5, Error ellipse: s-maj=13.1km s-min=6.7km az=164.5*
*IDC **15** 09:02:21.0±1.1,32.˚05N×141.˚06E, h0km, mb3.4/5, mb1 3.6/7, mb1mx3.4/48, mbtmp3.5/7, ML3.4/2, Error ellipse: s-maj=40.6km s-min=19.2km az=77.0*
*JMA **15** 09:02:21.2±0.6,32.˚46N×141.˚83E, h105km, M3.1*
ISC 15 09:02:22.1±1.2,32.˚44N±0.˚07×141.˚81E±0.˚10, h31km, n15, σ1ᵎ80/18, mb3.5/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.81**	**292**	P	**Pb**	**09 02 52.4**	**-2.2**
JHJ2				S	**Sb**	**09 03 14.5**	**-2.3**
JHCJ	**Hachijojimakas**	**1.81**	**291**	P	**Pn**	**09 02 51.9**	**+0.8**
BSO1	**Boso 1**	**2.32**	**343**	P	**Pn**	**09 02 58.1**	**+0.5**
BSO1				*e*S	**Sn**	**09 03 28.4**	**+3.6**
BSO3	**Boso 3**	**2.60**	**336**	P	**Pn**	**09 03 02.4**	**+0.7**
JRY	**Ryogami san**	**4.31**	**327**	P	**Pn**	**09 03 27.0**	**+1.5**
JAG	**Ashikaga**	**4.43**	**335**	*e*S	**Sn**	**09 04 18.8**	**+1.1**
MJAR	**Matsushiro Arr**	**5.06**	**325**	Pn	**Pn**	**09 03 37.6**	**+1.7**
	0.4nm,0.3s,baz=146,slow=11,SNR=8.9						
JFT	**Otama**	**5.21**	**347**	P	**Pn**	**09 03 37.7**	**-0.2**
JFT				S	**Sn**	**09 04 36.1**	**-0.9**
JCJ	**Chichijima**	**5.33**	**176**	Pn	**Pn**	**09 03 39.0**	**-0.6**
	5.8nm,0.3s,baz=291,slow=23,SNR=5.8						
JMK	**Ichinoseki**	**6.52**	**356**	P	**Pn**	**09 03 55.5**	**-0.3**
JMK				S	**Sn**	**09 05 05.6**	**-3.5**
SONM	**Songino Array**	**30.82**	**310**	P	**P**	**09 08 36.8**	**+1.6**
	0.6nm,0.7s,baz=108,slow=9.5,SNR=2.6						
MKAR	**Makanchi Array**	**46.95**	**306**	P	**P**	**09 10 51.3**	**+1.3**
	0.3nm,0.4s,baz=90,slow=6.1,SNR=4.1						
WRA	**Warramunga Arr**	**52.57**	**189**	P	**P**	**09 11 32.5**	**-0.3**
	0.9nm,0.7s,baz=5.8,slow=7.7,SNR=10						
ASAR	**Alice Springs**	**56.30**	**189**	P	**P**	**09 11 59.7**	**-0.2**
	0.2nm,0.5s,baz=7.1,slow=6.0,SNR=3.0						
YKA	**Yellowknife Ar**	**67.63**	**29**	P	P	09 13 23.4	+7.8
	0.1nm,0.6s,baz=296,slow=6.3,SNR=3.2						

*ISCJB **15** 09:06:56.9±0.3,31.˚80N±0.˚03×104.˚22E±0.˚05, h14km, mb4.1/18, MS4.7/1, Error ellipse: s-maj=6.5km s-min=4.8km az=160.0*
*IDC **15** 09:06:56.5±0.6,31.˚78N×103.˚97E, h0km, mb4.0/16, mb1 4.1/18, mb1mx3.8/53, mbtmp4.0/18, ML4.0/2, MS4.6/1, Ms1 4.6/1, ms1mx2.7/42, Error ellipse: s-maj=23.8km s-min=13.8km az=52.0*
*NEIC **15** 09:06:58.4±0.3,31.˚76N×103.˚94E, h10km, mb4.4/1, Error ellipse: s-maj=10.8km s-min=6.9km az=54.0*
NEIC Felt at Chengdu.
*BJI **15** 09:07:00.0,31.˚83N×104.˚06E, h24km, mb4.1/2, ML3.8/19, Ms3.6/1, Ms7 3.3/1*
ISC 15 09:06:59.0±0.5,31.˚74N±0.˚04×104.˚05E±0.˚06, h14km, n35, σ1ᵎ39/43, mb4.1/18, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.87**	**197**	Pg	**Pn**	**09 07 17.9**	**+1.0**
CD2				Sg	**Sn**	**09 07 30.9**	**+1.6**
CD2				SMN			
	5μm,1.1s						
CD2				SME			
	5μm,0.6s						
LZH	**Lanzhou**	**4.34**	**358**	Pn	**Pn**	**09 08 05.0**	**+0.3**
LZH				Pg	**Pb**	**09 08 16.9**	**+1.8**
LZH				Sn	**Sn**	**09 08 59.8**	**+4.7**
LZH				Sg	**Sg**	**09 09 14.8**	**-3.5**
LZH				SMN			
	160nm,1.0s						
LZH				SME			
	180nm,0.9s						
LZH				LN			
	310nm,6.1s						
LZH				LE			
	410nm,5.2s						
LZH				LZ			
	280nm,7.6s						
ENH	**Enshi**	**4.89**	**106**	*e*Pn	**Pn**	**09 08 14.7**	**+2.6**
ENH				*e*Sg	**Sg**	**09 09 34.2**	**-1.8**
GYA	**Guiyang**	**5.74**	**156**	Pn	**Pn**	**09 08 24.3**	**+0.4**
GYA				Sn	**Sn**	**09 09 28.9**	**-0.8**
GYA				Sg	**Sg**	**09 10 02.5**	**-0.8**
GYA				SMN			
	70nm,0.7s						
GYA				SME			
	90nm,0.7s						
CMAR	**Chiang Mai Arr**	**14.01**	**200**	Pn	**Pn**	**09 10 18.2**	**+1.0**
	0.5nm,0.3s,baz=9.2,slow=11,SNR=7.5						
CMAR				LR	LR	09 15 20.4	
	comp=Z,14nm,20.4s,baz=176,slow=36						
SONM	**Songino Array**	**16.17**	**6**	Pn	**Pn**	**09 10 46.9**	**+1.0**
	0.2nm,0.3s,baz=186,slow=10,SNR=6.6						
SONM				LR	LR	09 17 37.6	
	comp=Z,99nm,21.0s,baz=96,slow=40						
WMQ	**Urumqi**	**17.64**	**318**	*e*P	**P**	**09 11 05.4**	**+0.1**
WMQ				pP	**pP**	**09 11 10.3**	**+1.0**
WMQ				sP	**sP**	**09 11 13.9**	**+2.8**
KSAR	**Wonju Array Be**	**20.40**	**67**	P	**P**	**09 11 36.2**	**+0.7**
KSRS	**Korea Array**	**20.43**	**67**	P	**P**	**09 11 36.2**	**+0.4**
	3.2nm,0.8s,baz=255,slow=9.9,SNR=9.9						
MK31	**Makanchi Array**	**22.47**	**318**	*e*P	**P**	**09 11 58.1**	**+0.2**
MKAR	**Makanchi Array**	**22.47**	**318**	P	**P**	**09 11 57.0**	**-0.8**
	1.6nm,0.7s,baz=120,slow=8.6,SNR=11						
USRK	**Ussuriysk Ar.**	**25.16**	**52**	P	**P**	**09 12 23.3**	**-0.5**
	1.8nm,0.8s,baz=245,slow=12,SNR=3.3						
ZALV	**Zalesovo Beam**	**26.13**	**334**	P	**P**	**09 12 31.4**	**-1.0**
	1.3nm,0.5s,baz=138,slow=9.1,SNR=5.6						
KURBB	**Kurchatov Arra**	**26.71**	**322**	P	**P**	**09 12 37.5**	**-0.2**
	2.3nm,0.2s,baz=132,slow=8.7,SNR=5.6						
KURK	**Kurchatov**	**26.71**	**323**	P	**P**	**09 12 37.5**	**-0.3**
BRTR	**Keskin Array B**	**56.39**	**299**	P	**P**	**09 16 38.5**	**-1.7**
	0.6nm,0.6s,baz=93,slow=7.4,SNR=5.0						
ARCES	**ARCESS Array B**	**56.66**	**336**	P	**P**	**09 16 39.9**	**-1.5**
	4.3nm,0.9s,baz=61,slow=9.9,SNR=6.0						
FIA1	**FINESS Array S**	**57.01**	**326**	*e*P	**P**	**09 16 44.0**	**0.0**
FINES	**FINESS Array B**	**57.02**	**326**	P	**P**	**09 16 42.7**	**-1.3**
	1.9nm,0.4s,baz=98,slow=7.4,SNR=26						
WRAB	**Tennant Creek**	**59.02**	**146**	*e*P	**P**	**09 16 57.9**	**-0.7**
	1.8nm,0.6s						
WRA	**Warramunga Arr**	**59.03**	**146**	P	**P**	**09 16 58.8**	**+0.2**
	1.6nm,0.7s,baz=339,slow=7.5,SNR=17						
ASAR	**Alice Springs**	**62.06**	**149**	P	**P**	**09 17 19.5**	**+0.2**
	0.7nm,0.5s,baz=337,slow=6.7,SNR=16						
HFS	**Hagfors**	**63.22**	**326**	P	**P**	**09 17 26.0**	**-0.6**
	1.2nm,0.5s,baz=93,slow=8.0,SNR=10						
NB2	**NORSAR Subarra**	**64.10**	**327**	P	**P**	**09 17 31.2**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=73,slow=6.9						
NOA	**NORSAR Array B**	**64.10**	**327**	P	**P**	**09 17 31.5**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=74,slow=6.7,SNR=6.9						
CLL	**Collm**	**66.56**	**317**	*e*P	**P**	**09 17 49.0**	**+0.5**
GERES	**GERESS Array B**	**67.07**	**314**	P	**P**	**09 17 51.6**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=50,slow=9.1,SNR=2.8						
INK	**Inuvik**	**71.57**	**19**	LR	LR	09 55 56.2	
	comp=Z,381nm,18.3s,baz=242,slow=41						
STKA	**Stephens Creek**	**72.57**	**147**	P	**P**	**09 18 25.5**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=312,slow=6.0,SNR=3.4						
LPG	**La Plagne**	**72.78**	**313**	*e*P	**P**	**09 18 27.7**	**+0.4**
	comp=Z,5.0nm,0.5s						
LPG	**La Plagne**	**72.78**	**313**	*e*P	**P**	**09 18 27.7**	**+0.4**
	comp=Z,5.0nm,0.5s						
LPL	**La Plagne**	**72.79**	**313**	*e*P	**P**	**09 18 27.6**	**+0.3**
	comp=Z,6.8nm,0.5s						
LPL	**La Plagne**	**72.79**	**313**	*e*P	**P**	**09 18 27.6**	**+0.3**
	comp=Z,6.8nm,0.5s						
YKA	**Yellowknife Ar**	**81.10**	**17**	P	**P**	**09 19 12.8**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=327,slow=5.1,SNR=11						
TORD	**Torodi Ar. Bea**	**93.40**	**288**	P	**P**	**09 20 13.6**	**-0.8**
	comp=Z,0.9nm,1.2s,baz=54,slow=3.3,SNR=3.5						

*CRAAG **15** 09:12:35.9,35.˚76N×3.˚66E, Ml3.9*
*CSEM **15** 09:12:40.8±0.2,36.˚04N×4.˚03E, h2km, mb4.1, Error ellipse: s-maj=11.4km s-min=4.2km az=4.0*
*ISCJB **15** 09:12:41.0±0.5,36.˚11N±0.˚05×4.˚01E±0.˚04, h10km, Error ellipse: s-maj=7.9km s-min=4.7km az=7.0*
*MDD **15** 09:12:42.0±0.6,36.˚02N×3.˚99E, h0km, mb4.1/11, Error ellipse: s-maj=15.7km s-min=4.8km az=3.0, PRXIMO*
ISC 15 09:12:40.5±0.9,35.˚96N±0.˚05×4.˚07E±0.˚02, h10km, n67, σ1ᵎ14/70, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKET	**Djebel Ketaf**	**0.17**	**302**	P	**Pg**	**09 12 43.2**	**-1.2**
AKET	**Djebel Ketaf**	**0.17**	**302**	P	**Pg**	**09 12 43.2**	**-1.2**
AKET	**Djebel Ketaf**	**0.17**	**302**	P	**Pg**	**09 12 43.2**	**-1.2**
ATAF	**Djebel Tarf**	**0.19**	**115**	P	**Pg**	**09 12 42.1**	**-2.5**
ATAF	**Djebel Tarf**	**0.19**	**115**	P	**Pg**	**09 12 42.1**	**-2.5**
ATAF	**Djebel Tarf**	**0.19**	**115**	P	**Pg**	**09 12 42.1**	**-2.5**
ADJB	**Djebel Djouab**	**0.55**	**292**	P	**Pg**	**09 12 50.5**	**-0.7**
ADJB	**Djebel Djouab**	**0.55**	**292**	P	**Pg**	**09 12 50.5**	**-0.7**
ADJB	**Djebel Djouab**	**0.55**	**292**	P	**Pg**	**09 12 50.5**	**-0.7**
EMHD	**Djebel Mahouad**	**0.94**	**286**	P	**Pb**	**09 12 58.6**	**-0.3**
EMHD	**Djebel Mahouad**	**0.94**	**286**	P	**Pb**	**09 12 58.6**	**-0.3**
EMHD	**Djebel Mahouad**	**0.94**	**286**	P	**Pb**	**09 12 58.6**	**-0.3**
SET	**Setif**	**1.11**	**77**	P	**Pb**	**09 13 01.0**	**-0.8**
SET	**Setif**	**1.11**	**77**	P	**Pb**	**09 13 01.0**	**-0.8**
SET	**Setif**	**1.11**	**77**	P	**Pb**	**09 13 01.0**	**-0.8**
CKHR	**Kef el Ahmar**	**1.17**	**87**	P	**Pg**	**09 13 03.2**	**+0.1**
CKHR	**Kef el Ahmar**	**1.17**	**87**	P	**Pg**	**09 13 03.2**	**+0.1**
CKHR	**Kef el Ahmar**	**1.17**	**87**	P	**Pg**	**09 13 03.2**	**+0.1**
DFRA	**Djebel Bou Aff**	**1.58**	**68**	P	**Pg**	**09 13 10.8**	**0.0**
DFRA	**Djebel Bou Aff**	**1.58**	**68**	P	**Pg**	**09 13 10.8**	**0.0**
DFRA	**Djebel Bou Aff**	**1.58**	**68**	P	**Pg**	**09 13 10.8**	**0.0**
CTEI	**Djebel Teioual**	**1.90**	**86**	P	**Pg**	**09 13 16.6**	**-0.4**
CTEI	**Djebel Teioual**	**1.90**	**86**	P	**Pg**	**09 13 16.6**	**-0.4**
CTEI	**Djebel Teioual**	**1.90**	**86**	P	**Pg**	**09 13 16.6**	**-0.4**
CASM	**Ain Smara**	**1.99**	**80**	P	**Pg**	**09 13 20.2**	**+1.6**
CASM	**Ain Smara**	**1.99**	**80**	P	**Pg**	**09 13 20.2**	**+1.6**
CASM	**Ain Smara**	**1.99**	**80**	P	**Pg**	**09 13 20.2**	**+1.6**
EBNR	**Beni Rached**	**2.08**	**280**	P	Pg	09 13 24.7	+4.3
CKFL	**Kef-Lekhel**	**2.19**	**78**	P	**Pg**	**09 13 22.8**	**+0.2**
CKFL	**Kef-Lekhel**	**2.19**	**78**	P	**Pg**	**09 13 22.8**	**+0.2**
CKFL	**Kef-Lekhel**	**2.19**	**78**	P	**Pg**	**09 13 22.8**	**+0.2**
ECHA	**Ech Chlef**	**2.20**	**276**	P	**Pg**	**09 13 23.0**	**+0.4**
ECHF	**Ech Chlef**	**2.20**	**276**	P	**Pg**	**09 13 23.0**	**0.0**
ETRT	**Tiaret**	**2.32**	**257**	P	**Pn**	**09 13 19.8**	**+0.9**
ETRT	**Tiaret**	**2.32**	**257**	P	**Pn**	**09 13 19.8**	**+0.9**
ETRT	**Tiaret**	**2.32**	**257**	P	**Pn**	**09 13 19.8**	**+0.9**
EANR	**'Ain N'Sour**	**2.41**	**271**	P	**Pn**	**09 13 19.9**	**-0.1**
EANR	**'Ain N'Sour**	**2.41**	**271**	P	**Pn**	**09 13 19.9**	**-0.1**
EANR	**'Ain N'Sour**	**2.41**	**271**	P	**Pn**	**09 13 19.9**	**-0.1**
OKGL	**Djebel Kef Gue**	**2.78**	**273**	P	**Pn**	**09 13 26.7**	**+1.6**
	27nm,0.3s,SNR=4.0						
OKGL	**Djebel Kef Gue**	**2.78**	**273**	P	**Pn**	**09 13 26.7**	**+1.6**
	27nm,0.3s,SNR=4.0						
ABSA	**Djebel Ababsia**	**2.78**	**82**	P	**Pn**	**09 13 27.0**	**+1.8**
ABSA	**Djebel Ababsia**	**2.78**	**82**	P	**Pn**	**09 13 27.0**	**+1.8**
CABS	**Djebel Ababsia**	**2.78**	**82**	P	**Pn**	**09 13 27.0**	**+1.8**
CABS	**Djebel Ababsia**	**2.78**	**82**	P	**Pn**	**09 13 27.0**	**+1.8**
EIBI	**Ibiza**	**3.75**	**326**	P	**Pn**	**09 13 38.6**	**+0.1**
	6.6nm,0.2s,SNR=7.9						
EIBI				S	**Sn**	**09 14 22.6**	**-0.1**
	3.7nm,0.2s,SNR=4.0						
EIBI	**Ibiza**	**3.75**	**326**	P	**Pn**	**09 13 38.6**	**+0.1**
	6.6nm,0.2s,SNR=7.9						
EIBI				S	**Sn**	**09 14 22.6**	**-0.1**
	3.7nm,0.2s,SNR=4.0						
ETOS	**Mallorca**	**3.93**	**346**	P	**Pn**	**09 13 40.0**	**-1.0**
	1.9nm,0.3s,SNR=7.9						
ETOS				S	Sn	09 14 19.8	-7.4
	1.1nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**3.93**	**346**	P	**Pn**	**09 13 40.0**	**-1.0**
	1.9nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**4.65**	**295**	P	**Pn**	**09 13 50.8**	**-0.1**
	2.9nm,0.2s,SNR=6.1						
EMUR	**La Murta**	**4.65**	**295**	P	**Pn**	**09 13 50.8**	**-0.1**
	2.9nm,0.2s,SNR=6.1						
ETOB	**Tobarra**	**5.22**	**303**	P	**Pn**	**09 13 59.6**	**+0.9**
	2.4nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.22**	**303**	P	**Pn**	**09 13 59.6**	**+0.9**
	2.4nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**5.65**	**291**	P	**Pn**	**09 14 06.6**	**+1.9**
	2.5nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**5.65**	**291**	P	**Pn**	**09 14 06.6**	**+1.9**
	2.5nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**5.67**	**322**	P	**Pn**	**09 14 04.6**	**-0.4**
	0.9nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**5.67**	**322**	P	**Pn**	**09 14 04.6**	**-0.4**
	0.9nm,0.3s,SNR=7.9						
EBER	**Berja**	**5.69**	**282**	P	**Pn**	**09 14 04.6**	**-0.6**
	1.4nm,0.2s,SNR=7.9						
EBER	**Berja**	**5.69**	**282**	P	**Pn**	**09 14 04.6**	**-0.6**
	1.4nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**5.71**	**294**	P	**Pn**	**09 14 06.3**	**+0.7**
	2.7nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**5.71**	**294**	P	**Pn**	**09 14 06.3**	**+0.7**
	2.7nm,0.2s,SNR=7.9						
EQES	**Quesada**	**6.01**	**290**	P	**Pn**	**09 14 10.3**	**+0.7**
	2.8nm,0.3s,SNR=7.9						
EQES				S	**Sn**	**09 15 21.9**	**+3.3**
	0.8nm,0.2s,SNR=4.0						
EQES	**Quesada**	**6.01**	**290**	P	**Pn**	**09 14 10.3**	**+0.7**
	2.8nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**6.17**	**284**	P	**Pn**	**09 14 11.9**	**+0.2**
	1.2nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**6.17**	**284**	P	**Pn**	**09 14 11.9**	**+0.2**
	1.2nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**6.27**	**342**	P	**Pn**	**09 14 13.8**	**+0.7**
	1.9nm,0.2s,SNR=7.9						
EMIR				S	**Sn**	**09 15 22.4**	**-2.4**
	2.2nm,0.3s,SNR=4.0						
EMIR	**Miracle**	**6.27**	**342**	P	**Pn**	**09 14 13.8**	**+0.7**
	1.9nm,0.2s,SNR=7.9						

*KRSC **15** 09:20:32.7±1.6,57.˚39N×162.˚56E, h0km±5km, ML4.7*
*IDC **15** 09:20:34.3±0.6,57.˚23N×162.˚33E, h0km, mb4.1/24, mb1 4.2/26, mb1mx4.2/42, mbtmp4.0/26, ML3.2/2, MS3.4/9, Ms1 3.4/9, ms1mx3.1/53, Error ellipse: s-maj=16.3km s-min=11.4km az=150.0*
*MOS **15** 09:20:38.6±1.1,57.˚34N×162.˚25E, h38km, mb4.6/18, Error ellipse: s-maj=10.4km s-min=5.5km az=83.5*
*BJI **15** 09:20:39.0,57.˚50N×162.˚20E, h38km, mb4.6/27, mB4.7/20, Ms4.1/11, Ms7 3.8/10*
*NEIC **15** 09:20:41.6±0.7,57.˚35N×162.˚18E, h47km±8km, mb4.5/24, Error ellipse: s-maj=7.5km s-min=4.2km az=164.0*
ISC 15 09:20:40.4±0.5,57.˚41N±0.˚03×162.˚25E±0.˚04, h34km±1km, h34km:pP-P, n180, σ1ᵎ55/203, mb4.4/57, MS3.3/7, 7C-1D,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMKR	**Semkarok**	**0.93**	**208**	*e*P	Pn	09 20 52.3	-4.8
SMKR				*e*S	**Sn**	**09 21 07.1**	**-2.1**
SRKR	**Sorokina**	**0.96**	**219**	*e*P	Pn	09 20 52.5	-5.0
BDR	**Baidarnaya**	**1.02**	**215**	*e*P	Pn	09 20 53.3	-5.0
KBTR	**Krutoberegovo**	**1.24**	**165**	*e*P	Pn	09 20 57.8	-3.5
KBTR				*e*S	**Sn**	**09 21 16.4**	**-0.4**
KBTR	**Krutoberegovo**	**1.24**	**165**	PN	Pn	09 20 57.8	-3.5
KBTR				S	**Sn**	**09 21 16.4**	**-0.4**
KLY	**Klyuchi**	**1.40**	**219**	*e*P	Pn	09 20 59.2	-4.3
KLY				*e*S	**Sn**	**09 21 18.7**	**-2.1**
KLY	**Klyuchi**	**1.40**	**219**	PN	Pn	09 20 59.2	-4.3
KLY				S	**Sn**	**09 21 18.7**	**-2.1**
KRSR	**Krestovskiy**	**1.51**	**219**	*e*P	**Pn**	**09 21 02.7**	**-2.4**
CIRR	**Tsirk**	**1.54**	**213**	*e*P	**Pn**	**09 21 04.9**	**-0.6**
LGNR	**Loginova**	**1.58**	**214**	*e*P	**Pn**	**09 21 05.7**	**-0.5**
ZLN	**Zelenaya**	**1.60**	**210**	*e*P	**Pn**	**09 21 05.6**	**-0.8**
BZGR	**Bezymyannyi-Gr**	**1.70**	**211**	*e*P	**Pn**	**09 21 06.7**	**-1.0**
BZGR				*e*S	**Sb**	**09 21 33.1**	**+0.9**
BZWR	**Bezymyannyi-We**	**1.74**	**215**	*e*P	**Pn**	**09 21 06.4**	**-1.9**
BZWR				*e*S	**Sb**	**09 21 32.0**	**-1.3**
BZMR	**Bezymyannaya**	**1.77**	**214**	*e*P	**Pn**	**09 21 07.3**	**-1.3**
BZMR				*e*S	**Sb**	**09 21 34.3**	**+0.2**
SRDR	**Sredinnyy**	**1.77**	**233**	*e*P	**Pn**	**09 21 05.6**	**-3.0**
SRDR				*e*S	**Sb**	**09 21 32.4**	**-1.6**
KPT	**Kopyto**	**1.83**	**219**

MDJ S **S** 09 30 03.0 -2.0
MDJ sS **sS** 09 30 19.6 -1.5
MDJ PMZ
comp=Z,9.0nm,0.7s
MDJ PMZ
comp=Z,70nm,4.3s
MDJ LN
comp=Z,110nm,21.9s
MDJ LE
comp=Z,83nm,18.7s
MDJ LZ
comp=Z,150nm,16.3s
MCK McKinley 24.27 55 *e*P **P** 09 25 54.8 +0.8
MCK pmax pmax
comp=Z,35nm,1.6s
MCK McKinley 24.27 55 *e*P **P** 09 25 54.8 +0.8
comp=Z,35nm,1.6s
MDM Murphy Dome 24.43 52 *e*P **P** 09 25 56.4 +0.9
comp=Z,5.0nm,0.9s
WRH Wood River Hil 24.55 53 *e*P **P** 09 25 56.7 +0.2
comp=Z,14nm,1.0s
COLA College 24.60 52⇑*e*P **P** 09 25 56.8 -0.1
COLA pmax pmax
comp=Z,81nm,2.5s
COLA College 24.60 52 *e*P **P** 09 25 57.2 +0.3
comp=Z,11nm,1.0s
CCB Clear Creek Bu 24.65 52 *e*P **P** 09 25 57.3 0.0
comp=Z,11nm,0.9s
IL1 Eielson Array 25.02 52 *e*P **P** 09 26 01.3 +0.5
ILAR Eielson Array 25.02 52 P **P** 09 26 00.1 -0.7
comp=Z,2.0nm,0.7s,baz=263,slow=7.5,SNR=18
BOD Bodaibo 25.42 292 *e*P **P** 09 26 04.0 -0.4
BOD pmax pmax
comp=Z,6.0nm,1.1s
HIA Hailar 26.27 270⇓*e*P **P** 09 26 11.5 -0.7
HIA pmax pmax
comp=Z,3.0nm,0.5s
MJAR Matsushiro Arr 26.29 228 LR LR 09 37 55.1
comp=Z,51nm,18.8s,baz=140,slow=40
CN2 Changchun 26.65 255 *e*P **P** 09 26 14.9 -0.7
EGAK Eagle 27.45 51 *e*P **P** 09 26 21.7 -0.9
comp=Z,18nm,1.6s
INK Inuvik 29.77 42 P **P** 09 26 43.1 0.0
comp=Z,4.8nm,1.2s,baz=300,slow=9.0,SNR=10.0
INK Inuvik 29.77 42 P **P** 09 26 43.1 0.0
INK pmax pmax
comp=Z,5.0nm,1.2s
INK Inuvik 29.77 42 *e*P **P** 09 26 43.7 +0.6
comp=Z,5.2nm,1.1s
KSRS Korea Array 30.13 243 P **P** 09 26 46.9 +0.2
comp=Z,0.5nm,0.3s,baz=46,slow=8.8,SNR=4.8
KSRS Korea Array 30.13 243 P **P** 09 26 46.9 +0.2
KSRS pmax pmax
comp=Z,1.0nm,0.3s
KSAR Wonju Array Be 30.16 243 P **P** 09 26 46.9 0.0
KSAR Wonju Array Be 30.16 243 P **P** 09 26 46.9 0.0
JCJ Chichijima 33.47 214 LR LR 09 39 40.2
comp=Z,24nm,21.8s,baz=93,slow=34
TLY Talaya 33.53 286 *e*P **P** 09 27 16.2 -0.3
TLY *e*S S 09 32 27.8 -8.2
TLY pmax pmax
comp=Z,3.0nm,0.6s
TLY MLR MLR
comp=Z,63nm,18.0s
ULN Ulaanbaatar 33.93 278 *e*P **P** 09 27 20.5 +0.4
ULN pmax pmax
comp=Z,5.0nm,1.0s
ULN Ulaanbaatar 33.93 278 *e*P **P** 09 27 20.5 +0.4
comp=Z,4.6nm,1.0s
BJI Beijing 34.20 260 P **P** 09 27 21.8 -0.5
BJI S **S** 09 32 46.1 -0.3
BJI PMZ
comp=Z,12nm,1.0s
BJI PMZ
comp=Z,83nm,4.6s
BJI LN
comp=Z,190nm,19.2s
BJI LE
comp=Z,150nm,20.2s
SONA1 Songino Array 34.29 278 *e*P **P** 09 27 23.1 -0.2
SONM Songino Array 34.30 278 P **P** 09 27 23.5 +0.1
comp=Z,3.1nm,0.8s,baz=59,slow=8.9,SNR=10
ZAK Zakamensk 34.45 284 *e*P **P** 09 27 23.7 -0.9
ZAK pmax pmax
comp=Z,3.0nm,1.1s
DLBC Dease Lake 34.61 59 *e*P **P** 09 27 27.0 +1.2
HHC Hu-ho-hao-te 36.10 265 *e*P **P** 09 27 40.8 +2.0
HHC pP **pP** 09 27 47.4 -1.3
HHC sP sP 09 27 57.4 +4.6
HHC PP **PnPn** 09 28 59.6 -0.7
HHC S **S** 09 33 16.4 +0.6
HHC sS **sS** 09 33 28.4 -3.7
HHC SS **SnSn** 09 35 36.8 -5.5
HHC PMZ
comp=Z,17nm,1.1s
HHC PMZ
comp=Z,70nm,4.3s
HHC LN
comp=Z,190nm,16.3s
HHC LE
comp=Z,190nm,12.9s
HHC LZ
comp=Z,200nm,16.9s
NJ2 Nanjing 38.92 248 *e*P P 09 28 06.1 +3.5
NJ2 PMZ
comp=Z,30nm,0.8s
YKA Yellowknife Ar 39.22 47 P **P** 09 28 04.8 0.0
comp=Z,1.8nm,0.7s,baz=302,slow=7.9,SNR=25
YKA Yellowknife Ar 39.22 47 P **P** 09 28 04.8 0.0
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKB5 Yellowknife Ar 39.22 47 *e*P **P** 09 28 04.8 0.0
ZALV Zalesovo Beam 41.59 300 P **P** 09 28 22.8 -1.8
comp=Z,0.6nm,0.5s,baz=67,slow=8.2,SNR=3.5
NVS Novosibirsk 41.79 302 *e*P **P** 09 28 25.3 -0.8
SPITS Spitsbergen Ar 43.08 350 LR LR 09 46 19.1
comp=Z,38nm,19.6s,baz=300,slow=36
GTA Gaotai 43.47 273 *e*P **P** 09 28 37.6 -2.5
GTA S S 09 35 00.8 -5.4
GTA PMZ
comp=Z,3.0nm,0.7s
GTA PMZ
comp=Z,48nm,4.5s
GTA LN
comp=Z,56nm,15.2s
GTA LE
comp=Z,67nm,15.2s
GTA LZ
comp=Z,53nm,12.4s
LZH Lanzhou 43.72 267 *e*P **P** 09 28 44.0 +1.9
LZH pP **pP** 09 28 53.6 +1.4
LZH sP **sP** 09 28 58.9 +2.6
LZH PMZ
comp=Z,15nm,1.0s
EDM Edmonton 45.28 57 *e*P **P** 09 28 54.7 +0.4
EDM Edmonton 45.28 57 *e*P **P** 09 28 54.6 +0.4
KURK Kurchatov 46.59 300 *e*P **P** 09 29 04.4 -0.1
KURK pmax pmax
comp=Z,20nm,0.8s
KURK Kurchatov 46.59 300 *e*P **P** 09 29 04.4 -0.1
comp=Z,20nm,0.8s
KURBB Kurchatov Arra 46.69 300 P **P** 09 29 05.3 0.0
comp=Z,10.0nm,0.7s,baz=53,slow=8.0,SNR=48
WMQ Urumqi 46.80 287 *e*P **P** 09 29 08.5 +2.1
WMQ pP **pP** 09 29 18.4 +1.9
WMQ sP **sP** 09 29 22.3 +1.7
WMQ PMZ
comp=Z,8.0nm,0.6s
WMQ PMZ
comp=Z,55nm,5.8s
WMQ LN
comp=Z,65nm,22.8s
WMQ LE
comp=Z,180nm,21.0s
WMQ LZ
comp=Z,39nm,22.4s
MKAR Makanchi Array 47.48 293 P **P** 09 29 09.6 -2.0
comp=Z,0.8nm,0.6s,baz=341,slow=2.6,SNR=10
MKAR Makanchi Array 47.48 293 P **P** 09 29 09.6 -2.0
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 47.48 293 *e*P **P** 09 29 11.2 -0.4
MK01 Makanchi Array 47.49 293 *e*P **P** 09 29 10.8 -0.9
WALA Waterton Lakes 47.81 62 *e*P **P** 09 29 14.4 +0.1
comp=Z,53nm,2.5s
BSMT Bassoo Peak 48.23 64 *e*P **P** 09 29 18.3 +0.7

YBH Yreka Blue Hor 48.53 75 LR LR 09 46 02.6
comp=Z,55nm,20.7s,baz=283,slow=32
BVAR Borovoye Array 48.74 307 P **P** 09 29 21.4 +0.2
comp=Z,2.9nm,0.6s,baz=52,slow=9.6,SNR=14
BRVK Borovoye 48.76 307*ce*P **P** 09 29 21.5 +0.1
BRVK pmax pmax
comp=Z,10.0nm,1.7s
BRVK Borovoye 48.76 307 *e*P **P** 09 29 21.9 +0.5
comp=Z,4.7nm,0.6s
BMO Blue Mountains 49.08 68 *e*P P 09 29 29.2 +5.1
comp=Z,30nm,2.6s
SUMG Summit 49.51 8 *i* P **P** 09 29 28.5 +1.2
comp=Z,12nm,0.9s
SUMG Summit 49.51 8 *i* P **P** 09 29 28.5 +1.2
SUMG pmax pmax
comp=Z,12nm,0.9s
SUMG Summit 49.51 8 *e*P **P** 09 29 28.5 +1.2
comp=Z,11nm,0.9s
SVE Sverdlovsk 50.02 315 *e*P **P** 09 29 28.7 -2.2
ARU Arti 51.10 316*c i*P **P** 09 29 39.0 0.0
ARU *PP **pP** 09 29 50.7 +1.5
ARU S **S** 09 36 53.9 -0.1
ARU pmax pmax
comp=Z,23nm,1.2s
ARU Arti 51.10 316 *e*P **P** 09 29 39.3 +0.3
comp=Z,14nm,0.7s
H17A Grant Village 52.74 64 *e*P **P** 09 29 53.2 +1.4
comp=Z,15nm,1.8s
KMI Kunming 52.84 259 P **P** 09 29 53.0 +0.3
KMI PMZ
comp=Z,15nm,1.2s
RLMT Red Lodge 52.84 63 *e*P **P** 09 29 53.5 +1.0
comp=Z,4.3nm,1.0s
NVAR Mina Array Bea 53.25 75 P **P** 09 29 55.5 -0.1
comp=Z,0.4nm,0.7s,baz=284,slow=12,SNR=3.8
AAK Ala-Archa 54.33 295⇑*e*P **P** 09 30 03.6 +0.2
AAK pmax pmax
comp=Z,17nm,1.1s
AAK Ala-Archa 54.33 295 *e*P **P** 09 30 03.6 +0.2
comp=Z,4.9nm,0.8s
PDAR Pinedale Array 54.45 65 P **P** 09 30 04.1 -0.2
comp=Z,0.8nm,0.8s,baz=357,slow=3.0,SNR=4.8
KKAR Karatay Array 55.91 298 *e*P **P** 09 30 14.4 -0.1
KKAR Karatay Array 55.91 298 *e*P **P** 09 30 14.4 -0.1
KSH Kashi 55.94 291 P P 09 30 21.8 +6.9
KSH pP pP 09 30 31.6 +6.4
KSH PP PP 09 32 27.9 +8.4
KSH PcS **PcS** 09 35 18.0 +4.4
KSH S S 09 38 07.3 +7.0
KSH PMZ
comp=Z,98nm,4.7s
KSH LN
comp=Z,180nm,5.4s
KSH LE
comp=Z,110nm,5.3s
KSH LZ
comp=Z,140nm,4.5s
DBD Des Bee Dove 56.28 69 *e*P **P** 09 30 18.6 +1.0
FINES FINESS Array B 56.65 337 P **P** 09 30 19.8 +0.4
comp=Z,2.3nm,0.9s,baz=59,slow=11,SNR=4.2
SRU San Rafael Swe 56.73 68 *e*P **P** 09 30 21.7 +1.1
SRU pmax pmax
comp=Z,4.0nm,1.2s
SRU San Rafael Swe 56.73 68 *e*P **P** 09 30 21.7 +1.1
comp=Z,3.9nm,1.2s
ISCO Idaho Springs 58.63 64 *e*P **P** 09 30 34.9 +0.7
ISCO pmax pmax
comp=Z,5.0nm,1.4s
ISCO Idaho Springs 58.63 64 *e*P **P** 09 30 34.9 +0.7
comp=Z,4.9nm,1.4s
NB2 NORSAR Subarra 59.73 344 P **P** 09 30 40.9 -0.2
comp=Z,4.6nm,0.9s,baz=18,slow=7.4
NOA NORSAR Array B 59.73 344 P **P** 09 30 41.2 +0.1
comp=Z,2.9nm,0.8s,baz=18,slow=6.9,SNR=12
CMAR Chiang Mai Arr 60.30 257 P **P** 09 30 45.0 -0.5
comp=Z,1.0nm,0.4s,baz=20,slow=7.2,SNR=6.5
VSR Storozhevoye 62.10 323 *e*P **P** 09 30 56.4 -0.9
VSR pmax pmax
comp=Z,9.0nm,1.0s
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,9.0nm,0.9s
VORD Divnogorie 62.27 323 *e*P **P** 09 30 56.3 -2.1
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,10.0nm,0.7s
VORD pmax pmax
comp=Z,7.0nm,0.7s
AKASG Malin Array Be 65.54 329 P **P** 09 31 18.9 -1.0
comp=Z,0.4nm,0.3s,baz=28,slow=6.1,SNR=6.2
KIEV Kiev 65.55 329⇑*e*P **P** 09 31 19.6 -0.3
GEYT Alibeck 65.78 303 P **P** 09 31 22.6 +0.9
comp=Z,2.0nm,0.7s,baz=353,slow=6.0,SNR=4.1
WMOK Wichita Mounta 65.95 63 *e*P **P** 09 31 23.1 +0.2
WMOK pmax pmax
comp=Z,3.0nm,1.0s
WMOK Wichita Mounta 65.95 63 *e*P **P** 09 31 23.1 +0.2
comp=Z,2.8nm,1.0s
KIV Kislovodsk 67.12 317⇑*e*P **P** 09 31 31.1 +0.8
KIV pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 67.24 317 P **P** 09 31 31.3 +0.4
comp=Z,2.8nm,0.8s,baz=236,slow=24,SNR=6.5
ZEI Tsey 67.67 316 *e*P **P** 09 31 33.4 -0.5
ZEI pmax pmax
comp=Z,2.0nm,0.4s
LVV L'vov 67.72 332 *e*P **P** 09 31 36.8 +3.0
TX31 Lajitas Ar. Si 67.90 70 *e*P **P** 09 31 35.7 +0.2
TXAR Lajitas Array 67.90 70 P **P** 09 31 34.2 -1.2
comp=Z,1.4nm,0.9s,baz=327,slow=6.0,SNR=7.0
CLL Collm 68.74 340 *e*P **P** 09 31 42.0 +1.8
DPC Dobruska-Polom 69.00 337 *e*P **P** 09 31 44.1 +2.2
DPC Dobruska-Polom 69.00 337 *e*P **P** 09 31 44.1 +2.2
KRLC Kraliky 69.16 337 *e*P **P** 09 31 43.8 +0.9
KRLC Kraliky 69.16 337 *e*P **P** 09 31 43.8 +0.9
MORC Moravsky Berou 69.28 336 *e*P **P** 09 31 44.4 +0.8
MORC pmax pmax
comp=Z,4.0nm,1.0s
MORC Moravsky Berou 69.28 336 *e*P **P** 09 31 44.4 +0.8
comp=Z,4.3nm,1.0s
KHC Kasperske Hory 70.71 339 *e*P **P** 09 31 53.8 +1.4
KHC Kasperske Hory 70.71 339 *e*P **P** 09 31 53.8 +1.4
GERES GERESS Array B 70.96 339 P **P** 09 31 54.8 +0.7
comp=Z,0.4nm,0.5s,baz=35,slow=4.9,SNR=6.8
FLN La Foliniere 73.23 348 *e*P **P** 09 32 07.5 0.0
comp=Z,35nm,1.2s
LDF La Druitiere 73.36 348 *e*P **P** 09 32 08.6 +0.4
comp=Z,22nm,1.2s
BRTR Keskin Array B 74.05 321 P **P** 09 32 12.7 0.0
comp=Z,1.8nm,0.7s,baz=47,slow=2.6,SNR=10
LPL La Plagne 75.43 342 *e*P **P** 09 32 20.3 -0.3
comp=Z,7.6nm,0.9s
LPG La Plagne 75.44 342 *e*P **P** 09 32 21.3 +0.5
MMAI Mount Meron Ar 79.44 317 LR LR 10 13 09.8
comp=Z,33nm,18.3s,baz=210,slow=40
WRA Warramunga Arr 80.51 207 P **P** 09 32 46.1 -2.6
comp=Z,1.9nm,1.2s,baz=18,slow=5.9,SNR=4.1
ESDC Sonseca Array 82.59 349 P **P** 09 32 59.1 -0.6
comp=Z,1.1nm,0.7s,baz=6.4,slow=4.1,SNR=4.6
ASAR Alice Springs 84.20 206 P **P** 09 33 06.0 -1.8
comp=Z,0.5nm,0.5s,baz=15,slow=4.7,SNR=9.1
LIC Lamto 115.74 346 *e*PKIKP **PKPdf** 09 39 16.3 -2.9
comp=Z,27nm,1.0s

*ISCJB **15** 09:20:49.9±0.9,28°.9S±0°.2×62°.0E±0°.2, h10km, mb4.0/7, Error ellipse: s-maj=28.9km s-min=25.0km az=155.0*
*IDC **15** 09:20:50.2±0.9,28°.87S×61°.95E, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.8/43, mbtmp4.0/7, Error ellipse: s-maj=30.5km s-min=25.5km az=65.0*
ISC 15 09:20:51.8±1.0,28°.9S±0°.2×62°.0E±0°.2, h10km, n14, σ0°59/8, mb4.3/7, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N3	**Diego Garcia H**	**23.97**	**23**	T	T	09 51 08.2	
	baz=198,slow=76,SNR=6.5						
H08N1	**Diego Garcia H**	**23.98**	**23**	T	T	09 51 09.0	
	baz=198,slow=76,SNR=6.0						
H08N2	**Diego Garcia H**	**23.99**	**23**	T	T	09 51 09.9	
	baz=198,slow=76,SNR=6.8						
H01W2	**Cape Leeuwin H**	**44.32**	**112**	T	T	10 16 02.0	
	baz=262,slow=74,SNR=7.0						
H01W3	**Cape Leeuwin H**	**44.32**	**112**	T	T	10 16 02.3	
	baz=262,slow=74,SNR=7.2						
H01W1	**Cape Leeuwin H**	**44.33**	**112**	T	T	10 16 03.3	
	baz=262,slow=74,SNR=7.1						
CMAR	**Chiang Mai Arr**	**59.07**	**42**	P	**P**	**09 30 52.5**	**+0.1**
	0.5nm,0.3s,baz=225,slow=6.2,SNR=4.4						
QSPA	**South Pole Qui**	**61.30**	**180**	P	**P**	**09 31 07.1**	**-0.2**
	1.3nm,0.5s,baz=90,slow=0.8,SNR=20						
ASAR	**Alice Springs**	**63.85**	**104**	P	**P**	**09 31 25.0**	**+0.1**
	2.2nm,0.9s,baz=245,slow=5.7,SNR=14						
WRA	**Warramunga Arr**	**65.64**	**100**	P	**P**	**09 31 36.6**	**0.0**
	2.2nm,1.1s,baz=248,slow=5.8,SNR=6.8						
TORD	**Torodi Ar. Bea**	**71.61**	**297**	P	**P**	**09 32 13.9**	**+0.1**
	0.3nm,0.5s,baz=114,slow=4.7,SNR=5.3						
MKAR	**Makanchi Array**	**77.51**	**14**	P	**P**	**09 32 46.4**	**-1.1**
	0.4nm,0.7s,baz=215,slow=4.0,SNR=4.1						
ZALV	**Zalesovo Beam**	**84.81**	**13**	P	**P**	**09 33 26.8**	**+0.8**
	0.6nm,0.7s,baz=188,slow=6.0,SNR=6.6						
YKA	**Yellowknife Ar**	**146.28**	**357**	PKPbc	**PKPbc**	**09 40 32.0**	**+0.1**
	0.8nm,0.8s,baz=349,slow=3.1,SNR=12						

*DJA **15** 09:29:14.9±0.6,3°.N±6°×12°.6E±°, h10km, M4.4/5, mb4.7/5, mB4.9/3, MLv4.3/5, Mw(mB)4.2/3*
*ISCJB **15** 09:29:16.9±0.5,3°.31N±0°.05×126°.07E±0°.07, h72km, mb3.8/8, Error ellipse: s-maj=9.5km s-min=7.3km az=167.9*
*IDC **15** 09:29:18.1±5.9,3°.26N×125°.99E, h63km±57km, mb3.6/8, mb1 3.8/9, mb1mx3.5/39, mbtmp3.9/9, ML3.8/1, MS3.2/1, Ms1 3.2/1, ms1mx2.5/38, Error ellipse: s-maj=52.1km s-min=15.0km az=82.0*
ISC 15 09:29:18.7±0.7,3°.23N±0°.07×126°.00E±0°.07, h72km, n21, σ1°52/20, mb3.9/8, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.80**	**151**	P	**Pn**	**09 30 01.8**	**+0.5**
KMSI	**Cibinong**	**3.32**	**217**	P	**Pn**	**09 30 10.5**	**+2.2**
LBMI	**Labuha**	**4.12**	**159**	P	**Pn**	**09 30 20.9**	**+1.5**
CTBH	**Cotabato--PC H**	**4.33**	**336**	⇓*i* P	**Pn**	**09 30 19.1**	**-3.1**
MRSI	**Marisa**	**4.89**	**236**	P	**Pn**	**09 30 29.7**	**-0.1**
	56nm,0.4s,1μm						
MRSI				S	**Sn**	**09 31 21.8**	**-3.3**
	56nm,0.4s,1μm						
SANI	**Sanana**	**5.24**	**180**	P	**Pn**	**09 30 33.5**	**-1.1**
	36nm,0.6s,702nm						
LUWI	**Luwuk**	**5.33**	**217**	P	**Pn**	**09 30 38.0**	**+2.2**
APSI	**Ampana**	**5.98**	**227**	P	Pn	09 30 48.7	+4.0
NLAI	**Namlea**	**6.52**	**170**	P	**Pn**	**09 30 51.6**	**-0.5**
	48nm,0.4s,1μm						
SWI	**Sorong**	**6.65**	**128**	P	**Pn**	**09 30 53.1**	**-0.8**
	19nm,0.9s,0.1nm						
SIJI	**Sorong**	**6.66**	**128**	P	**Pn**	**09 30 53.9**	**-0.1**
	1.9nm,0.3s,baz=336,slow=20,SNR=6.3						
MPSI	**Mapaga**	**6.74**	**245**	P	**Pn**	**09 30 56.3**	**+1.2**
KAPI	**Kappang**	**10.29**	**217**	LR	LR	09 36 19.9	
	comp=Z,123nm,18.8s,baz=34,slow=41						
WRA	**Warramunga Arr**	**24.44**	**161**	P	**P**	**09 34 30.6**	**-0.3**
	5.1nm,0.4s,baz=334,slow=11,SNR=37						
ASAR	**Alice Springs**	**27.82**	**164**	P	**P**	**09 35 01.8**	**+0.3**
	1.1nm,0.5s,baz=341,slow=7.1,SNR=27						
MJAR	**Matsushiro Arr**	**35.01**	**17**	P	**P**	**09 36 04.4**	**0.0**
	0.6nm,0.6s,baz=197,slow=11,SNR=3.0						
STKA	**Stephens Creek**	**37.93**	**158**	P	**P**	**09 36 30.6**	**+1.2**
	4.5nm,0.7s,baz=334,slow=10.0,SNR=9.4						
USRK	**Ussuriysk Ar.**	**41.15**	**7**	P	**P**	**09 36 55.0**	**-0.9**
	2.4nm,0.7s,baz=205,slow=8.3,SNR=7.5						
SONM	**Songino Array**	**47.54**	**342**	P	**P**	**09 37 47.8**	**+0.8**
	0.2nm,0.4s,baz=152,slow=6.5,SNR=2.6						
PETK	**Petropavlovsk-**	**56.17**	**22**	P	**P**	**09 38 51.3**	**+0.3**
	1.1nm,0.7s,baz=219,slow=3.8,SNR=4.4						
MKAR	**Makanchi Array**	**57.55**	**326**	P	**P**	**09 39 00.7**	**-0.3**
	0.2nm,0.5s,baz=158,slow=5.5,SNR=3.7						

*BJI **15** 09:38:04.9, 53°.06N×171°.40W, h35km, mb4.9/36, mB5.0/22, Ms4.7/20, Ms7 4.3/19*
*MOS **15** 09:38:04.4±0.9, 52°.33N×170°.99W, h53km, mb5.2/78, Error ellipse: s-maj=7.1km s-min=5.0km az=84.9*
*NEIC **15** 09:38:04.6, 52°.20N×170°.86W, h26km, mb4.8/200, ML4.9(AEIC), After AEIC.*
*ISCJB **15** 09:38:05.4±0.3, 52°.30N±0°.03×170°.96W±0°.02, h62km±2km, mb4.8/251, Error ellipse: s-maj=4.7km s-min=1.8km az=176.5*
*IDC **15** 09:38:05.5±1.4, 52°.32N×171°.03W, h49km±12km, mb4.3/38, mb1 4.4/40, mb1mx4.4/51, mbtmp4.5/40, ML4.1/2, MS3.7/24, Ms1 3.7/24, ms1mx3.6/35, Error ellipse: s-maj=14.2km s-min=8.0km az=175.0*
*SZGRF **15** 09:38:22.6, 54°.76N×173°.48W, h33km, mb5.0, MS3.9, Bering Sea*
ISC 15 09:38:04.5±0.5, 52°.29N±0°.06×170°.95W±0°.03, h40km±3km, h40km:pP-P, n1005, σ1902/1057, mb4.9/251, MS3.8/29, 253C-193D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**1.45**	**61**	*e*Pn	**Pn**	**09 38 28.3**	**+0.2**
NIKH				*e*Sn	**Sn**	**09 38 46.7**	**+0.8**
KOFP	**Korovin Flat P**	**1.93**	**271**	P	**Pn**	**09 38 37.8**	**+2.9**
ATKA	**Atka Island**	**2.00**	**269**	*e*Pn	**Pn**	**09 38 37.2**	**+1.6**
ATKA				*e*Sn	**Sn**	**09 39 02.8**	**+3.4**
OKFG	**Magazine Ridge**	**2.16**	**58**	P	**Pn**	**09 38 39.4**	**+1.6**
OKFG				S	**Sn**	**09 39 06.4**	**+3.1**
MGOD	**Makushin Gods**	**2.88**	**57**	P	**Pn**	**09 38 49.8**	**+1.9**
MCIR	**Makushin Cirqu**	**2.96**	**54**	P	**Pn**	**09 38 51.3**	**+2.4**
MREP	**Makushin Rep't**	**2.96**	**57**	P	**Pn**	**09 38 51.5**	**+2.6**
MSW	**Makushin Switc**	**2.99**	**55**	P	**Pn**	**09 38 51.5**	**+2.1**
MSW				S	**Sn**	**09 39 27.1**	**+3.1**
UNV	**Unalaska Valle**	**3.10**	**58**	P	**Pn**	**09 38 52.7**	**+1.9**
UNV				S	**Sn**	**09 39 29.7**	**+3.1**
GSTR	**Great Sitkin T**	**3.15**	**268**	*e*Pn	**Pn**	**09 38 53.8**	**+2.3**
GSTR				*e*Sn	**Sn**	**09 39 31.1**	**+3.2**
GSMY	**Great Sitkin M**	**3.15**	**267**	P	**Pn**	**09 38 53.7**	**+2.2**
GSTD	**Great Sitkin T**	**3.21**	**268**	P	**Pn**	**09 38 54.8**	**+2.4**
GSTD				S	**Sn**	**09 39 32.7**	**+3.4**
GSCK	**Great Sitkin C**	**3.22**	**267**	P	**Pn**	**09 38 54.8**	**+2.2**
ETKA	**Kagalaska Isla**	**3.39**	**265**	P	**Pn**	**09 38 56.5**	**+1.7**
AKRB	**Akutan Reef Bi**	**3.46**	**56**	P	**Pn**	**09 38 58.1**	**+2.2**
ZRO	**Akutan Zero**	**3.49**	**57**	P	**Pn**	**09 38 58.6**	**+2.4**
AKAG	**Akutan Green G**	**3.54**	**55**	P	**Pn**	**09 38 59.7**	**+2.9**
ADK	**Adak**	**3.56**	**266**	P	**Pn**	**09 38 58.9**	**+1.8**
ADK				S	**Sn**	**09 39 41.4**	**+3.5**
ADK	**Adak**	**3.56**	**266**	P	**Pn**	**09 38 58.9**	**+1.8**
ADK				S	**Sn**	**09 39 41.4**	**+3.5**
AKUT	**Akutan**	**3.62**	**57**	*e*Pn	**Pn**	**09 39 00.8**	**+2.9**
KIRH	**Kanaga Island**	**3.81**	**266**	P	**Pn**	**09 39 03.3**	**+2.8**
KIKV	**Kanaga Island**	**3.86**	**266**	P	**Pn**	**09 39 03.7**	**+2.4**
WECS	**Westdahl Cape**	**4.32**	**56**	P	**Pn**	**09 39 10.3**	**+2.6**
TAFL	**Tanaga Flats**	**4.32**	**266**	P	**Pn**	**09 39 10.0**	**+2.4**
WESP	**Westdahl Peak**	**4.33**	**57**	P	**Pn**	**09 39 10.2**	**+2.4**
WEBT	**Westdahl Beart**	**4.36**	**56**	P	**Pn**	**09 39 11.0**	**+2.9**
WESE	**West Dahl East**	**4.39**	**58**	P	**Pn**	**09 39 11.4**	**+2.8**
TASE	**Tanaga Southea**	**4.40**	**267**	P	**Pn**	**09 39 11.4**	**+2.8**
TANO	**Tanaga North**	**4.44**	**268**	P	**Pn**	**09 39 11.5**	**+2.4**
WESN	**West Dahl Nort**	**4.44**	**57**	P	**Pn**	**09 39 11.6**	**+2.4**
GAEA	**Gareloi East**	**4.84**	**267**	P	**Pn**	**09 39 16.9**	**+2.2**
SPIA	**Saint Paul Isl**	**4.91**	**4**	P	Pn	09 39 20.0	+4.4
FALS	**False Pass**	**5.17**	**57**	*e*Pn	**Pn**	**09 39 21.5**	**+2.2**
DRIA	**Deer Island**	**5.82**	**59**	P	**Pn**	**09 39 29.6**	**+1.5**
CEAP	**Semis' Anvil P**	**5.84**	**271**	P	Pn	09 39 31.9	+3.5
CESW	**Semis' Southwe**	**5.86**	**270**	P	Pn	09 39 32.7	+4.0
DT1	**Dutton Round H**	**5.87**	**58**	P	**Pn**	**09 39 30.3**	**+1.5**
CETU	**Semis' Tuman**	**5.89**	**271**	P	**Pn**	**09 39 32.1**	**+3.0**
AMKA	**Amchitka**	**6.11**	**265**	*e*Pn	**Pn**	**09 39 33.5**	**+1.4**
LSPA	**Little Sitkin**	**6.46**	**271**	P	Pn	09 39 40.7	+3.8
LSNW	**Little Sitkin**	**6.49**	**271**	P	Pn	09 39 40.6	+3.2
LSSA	**Little Sitkin**	**6.50**	**271**	P	Pn	09 39 41.2	+3.7
SDPT	**Sand Point**	**6.92**	**60**	*e*Pn	**Pn**	**09 39 44.4**	**+1.3**
VNHG	**Veniaminof 1**	**7.94**	**56**	P	**Pn**	**09 39 59.9**	**+2.5**
VNSG	**Veniaminof 6**	**7.94**	**56**	P	**Pn**	**09 39 59.9**	**+2.6**
CHGN	**Chignik**	**8.36**	**56**	*e*Pn	Pn	09 40 06.6	+3.7
SMY	**Shemya**	**9.13**	**279**	P	**Pn**	**09 40 15.9**	**+2.4**
SMY	**Shemya**	**9.13**	**279**	P	**Pn**	**09 40 15.9**	**+2.4**
KDAK	**Kodiak Island**	**11.87**	**55**	*i* P	**Pn**	**09 40 49.5**	**-1.4**
SW2	**Sparrevohn**	**12.18**	**38**	*e*Pn	Pn	09 41 00.2	+5.0
RSO	**Redoubt South**	**12.95**	**44**	*e*Pn	Pn	09 41 11.0	+5.2
TNA	**Tin City**	**13.40**	**5**	*e*Pn	Pn	09 41 16.5	+4.8
BRLK	**Bradley Lake**	**13.44**	**48**	*e*Pn	Pn	**09 41 12.7**	**+0.2**
BRLK				*es*Pn	sPn	09 41 20.3	-5.6
RC01	**Rabbit Creek A**	**14.54**	**44**	*e*Pn	**Pn**	**09 41 27.2**	**-0.2**
RC01				*ep*P	P	09 41 38.1	+4.9

PPLA Purkeypile 14.56 36 *e*Pn **P 09 41 34.3 +0.8**
CAST Castle Rocks 14.93 34 *e*Pn **Pn 09 41 34.2 +1.8**
PMR Palmer 15.04 43 *e*P **Pn 09 41 34.8 +0.9**
PMR pmax pmax
comp=Z,48nm,1.2s
PMR Palmer 15.04 43 *e*Pn **Pn 09 41 34.8 +0.9**
comp=Z,48nm,1.2s
KTH Kantishna Hill 15.42 35 *e*Pn **P 09 41 43.6 +0.7**
comp=Z,76nm,1.5s
TRF Thorofare Moun 15.59 36 *e*Pn **P 09 41 46.7 +1.8**
comp=Z,35nm,1.1s
BPAW Bear Paw Mtn. 15.74 34 *e*Pn **P 09 41 47.0 +0.5**
comp=Z,6.8nm,0.8s
SCM Sheep Creek Mo 15.91 44 *e*P **Pn 09 41 45.5 +0.2**
SCM pmax pmax
comp=Z,144nm,1.5s
SCM Sheep Creek Mo 15.91 44 *e*Pn **Pn 09 41 45.5 +0.2**
comp=Z,144nm,1.5s
RND Reindeer 16.09 38 *e*P **P 09 41 50.1 -0.3**
RND pmax pmax
comp=Z,34nm,0.9s
RND Reindeer 16.09 38 *e*Pn **P 09 41 50.1 -0.3**
comp=Z,34nm,0.9s
IM04 Indian Mountai 16.21 26 *e*Pn **P 09 41 52.6 +0.9**
MCK McKinley 16.24 37 *e*P **P 09 41 55.5 +3.5**
MCK pmax pmax
comp=Z,28nm,0.9s
MCK McKinley 16.24 37 *e*Pn **P 09 41 55.5 +3.5**
comp=Z,28nm,0.9s
BWN Browne 16.31 35 *e*Pn **P 09 41 53.4 +0.7**
comp=Z,102nm,1.1s
DIV Divide 16.31 47 *e*Pn **Pn 09 41 51.1 +0.8**
DIV *e*pP **pP 09 42 00.2 -2.5**
KLU Klutina 16.38 46 *e*Pn **Pn 09 41 49.0 -2.2**
comp=Z,55nm,1.2s
MLY Manley 16.43 31 *e*Pn **P 09 41 57.0 +3.0**
comp=Z,27nm,1.0s
BMRM Bremner River 16.79 49 *e*Pn **Pn 09 41 55.9 -0.4**
BMRM *e*pP **P 09 42 00.9 +2.8**
WRH Wood River Hil 16.97 35 *e*Pn **Pn 09 41 59.2 +0.7**
comp=Z,33nm,1.0s
CCB Clear Creek Bu 17.17 35 *e*Pn **Pn 09 42 01.8 +0.8**
comp=Z,64nm,1.6s
CCB *e*PcP **PcP 09 46 42.9 +0.1**
PAX Paxson 17.20 42 *e*P **Pn 09 42 01.7 +0.2**
PAX *e* 09 45 15.8
PAX pmax pmax
comp=Z,25nm,1.0s
PAX Paxson 17.20 42 *e*Pn **Pn 09 42 01.7 +0.2**
comp=Z,26nm,1.0s
PAX *e*Sn **S 09 45 15.8 -3.6**
MDM Murphy Dome 17.21 34 *e*Pn **Pn 09 42 02.6 +1.1**
comp=Z,43nm,1.4s
COLA College 17.29 34⇑*i*P **Pn 09 42 02.6 +0.2**
COLA pmax pmax
comp=Z,57nm,2.5s
COLA College 17.29 34 *e*P **P 09 42 04.7 +1.2**
comp=Z,20nm,1.0s
DDM Donnelly Dome 17.43 39 *e*Pn P 09 42 11.3 +6.1
comp=Z,66nm,1.0s
IL1 Eielson Array 17.57 35 *e*P **P 09 42 07.7 +1.0**
IL1 *e*PcP **PcP 09 46 42.9 -0.6**
ILAR Eielson Array 17.57 35 P **Pn 09 42 06.5 +0.6**
comp=Z,0.3nm,0.3s,baz=232,slow=9.3,SNR=15
ILAR PcP **PcP 09 46 42.6 -0.9**
comp=Z,0.2nm,0.3s,baz=272,slow=3.6,SNR=11
ILAR ScP **ScP 09 50 13.3 -1.8**
comp=Z,0.1nm,0.3s,baz=311,slow=4.0,SNR=7.1
DOT Dot Lake 18.07 41 *e*Pn **Pn 09 42 12.9 +0.8**
COLD Coldfoot 18.10 26 *e*Pn **Pn 09 42 13.4 +0.9**
comp=Z,15nm,0.9s
SCRK Sand Creek 18.25 40 *e*P **Pn 09 42 15.4 +1.0**
comp=Z,70nm,1.8s
PEA0 Petropavlovsk- 18.94 285 *e*P **Pn 09 42 22.9 +0.1**
PEA0B Petropavlovsk- 18.94 285 *e*P **Pn 09 42 23.2 +0.5**
PETK Petropavlovsk- 18.94 285 P **Pn 09 42 22.9 +0.1**
comp=Z,3.1nm,0.3s,baz=91,slow=14,SNR=104
PETK LR LR 09 49 14.9
comp=Z,44nm,19.9s,baz=87,slow=35
PETK ScP **ScP 09 50 17.0 -1.3**
comp=Z,0.1nm,0.3s,baz=121,slow=11,SNR=4.1
FYU Fort Yukon 19.16 32 *e*P **Pn 09 42 29.7 +4.5**
comp=Z,163nm,1.7s
EGAK Eagle 19.71 39 *e*P **P 09 42 30.8 +0.7**
comp=Z,16nm,0.8s
HYT Haines Junctio 20.11 52 *e*P Pn 09 42 37.2 +0.5
DAWY Dawson 20.13 42 *e*P **P 09 42 35.6 +0.9**
comp=Z,18nm,1.1s
SKAG Skagway 21.02 56 *e*P **P 09 42 45.6 +1.3**
comp=Z,62nm,1.0s
SKAG *e*S **S 09 46 37.0 +1.1**
BESE Bessie Mountai 21.22 59 *e*P **P 09 42 47.3 +0.7**
comp=Z,61nm,1.8s
SEY Seymchan 22.01 313 P **P 09 42 55.6 +0.7**
comp=Z,11nm,0.7s,baz=100,slow=9.6,SNR=27
SEY PcP **PcP 09 46 51.5 0.0**
comp=Z,5.0nm,0.6s,baz=154,slow=2.8,SNR=10.0
SEY ScP **ScP 09 50 24.9 -0.5**
comp=Z,0.9nm,0.3s,baz=79,slow=4.0,SNR=6.6
SEY LR LR 09 53 07.5
comp=Z,92nm,18.1s,baz=56,slow=41
SEY Seymchan 22.01 313 *e*P **P 09 42 56.1 +1.2**
DLBC Dease Lake 23.76 59 P **P 09 43 14.4 +1.6**
comp=Z,8.5nm,0.6s,baz=277,slow=7.3,SNR=22
DLBC Dease Lake 23.76 59 *e*P **P 09 43 15.3 +2.5**
INK Inuvik 23.95 34 P **P 09 43 13.9 -0.5**
comp=Z,5.3nm,0.5s,baz=232,slow=7.8,SNR=59
INK PcP **PcP 09 46 55.9 +0.4**
comp=Z,7.9nm,0.8s,baz=269,slow=2.7,SNR=7.9
INK Inuvik 23.95 34 *e*P **P 09 43 14.4 0.0**
INK *e* 09 46 56.2
INK pmax pmax
comp=Z,18nm,1.0s
INK Inuvik 23.95 34 *e*P **P 09 43 14.4 0.0**
comp=Z,18nm,1.0s
INK *e*PcP **PcP 09 46 56.2 +0.7**
BBB Bella Bella 25.95 73 P **P 09 43 33.6 +0.8**
comp=Z,9.4nm,0.9s,baz=291,slow=9.0,SNR=6.9
BBB LR LR 09 52 24.3
comp=Z,177nm,20.3s,baz=270,slow=33
A05A Maple Falls 30.69 76 *e*P **P 09 44 15.8 +0.8**
YKA Yellowknife Ar 31.02 49 P **P 09 44 18.3 +0.5**
comp=Z,1.2nm,0.4s,baz=80,slow=7.8,SNR=68
YKA PcP **PcP 09 47 13.2 +0.6**
comp=Z,3.1nm,0.8s,baz=285,slow=2.6,SNR=11
YKA ScP **ScP 09 50 51.3 -0.7**
comp=Z,0.9nm,0.6s,baz=284,slow=3.4,SNR=12
YKB5 Yellowknife Ar 31.02 49 *e*P **P 09 44 17.1 -0.7**
YKB5 *e*ScP **ScP 09 50 50.6 -1.4**
JMP Maruseppu 31.14 273 P **P 09 44 19.2 +0.1**
ASAJ Asahikawa 31.55 274 P **P 09 44 22.6 -0.1**
ASAJ Asahikawa 31.55 274 P **P 09 44 22.6 -0.1**
comp=Z,8.2nm,0.9s,baz=56,slow=15,SNR=4.0
ASAJ Asahikawa 31.55 274 P **P 09 44 22.6 -0.1**
ASAJ pmax pmax
comp=Z,8.0nm,0.9s
D05A Enumclaw 31.55 79 *e*P **P 09 44 22.9 +0.2**
G03D McMinnville, O 31.74 84⇑P **P 09 44 25.6 +1.3**
baz=32
TDL Tradedollar La 31.81 81 P **P 09 44 27.1 +1.9**
LON Longmire 31.87 80 *e*P **P 09 44 27.2 +1.6**
LON pmax pmax
comp=Z,13nm,1.6s
LON Longmire 31.87 80 *e*P **P 09 44 27.2 +1.6**
comp=Z,13nm,1.6s
LTY Liberty 32.32 79 *e*P **P 09 44 30.6 +1.2**
comp=Z,36nm,2.0s
JEM Erimo 32.35 270 P **P 09 44 30.5 +0.8**
ETW Entiat 32.36 78 P **P 09 44 31.3 +1.3**
NAC Naches 32.47 80 P **P 09 44 32.4 +1.6**
YAK Yakutsk 32.49 311 P **P 09 44 30.3 -0.4**
comp=Z,11nm,0.4s,baz=274,slow=2.7,SNR=5.1
YAK PcP **PcP 09 47 16.6 0.0**
comp=Z,11nm,0.3s,baz=228,slow=1.4,SNR=4.5
YAK Yakutsk 32.49 311 *e*P **P 09 44 29.5 -1.2**
YAK *e**PP **pP 09 44 38.4 -3.4**
YAK *e* 09 45 38.5
YAK *e* 09 47 15.7
YAK *e*S **S 09 49 39.8 -2.7**
YAK *e**SS **sS 09 49 58.1 -2.8**
YAK *e* 09 54 55.4
YAK pmax pmax
comp=Z,16nm,0.8s
YAK pmax pmax
comp=N,2.0nm,1.2s
YAK pmax pmax
comp=E,8.0nm,1.4s
YAK pmax pmax
comp=Z,17nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.3s
YAK pmax pmax
comp=E,23nm,1.4s
YAK smax smax
comp=N,25nm,3.0s
YAK smax smax
comp=E,21nm,2.7s
YAK MLR MLR
comp=Z,117nm,17.0s
YAK MLR MLR
comp=E,81nm,17.0s
YAK MLR MLR
comp=N,68nm,16.0s
WTV Waterville 32.54 77 P **P 09 44 32.7 +1.2**
B08A Colville Reser 32.61 76 *e*P **P 09 44 33.3 +1.3**
comp=N,10nm,0.8s
H04A Detroit Lake 32.66 84 *e*P **P 09 44 34.2 +1.6**
comp=N,7.9nm,0.9s
SAW Saint Andrews 32.87 77 P **P 09 44 35.2 +0.9**
G05D Wamic, OR 32.91 82⇑P **P 09 44 35.0 +0.4**
baz=33
I04A Tendick Farm, 32.99 85⇑P **P 09 44 36.8 +1.4**
baz=33
L02D Cave Junction, 33.16 89⇑P **P 09 44 37.5 +0.6**
baz=33
I05D Terrebonne, OR 33.36 84⇑P **P 09 44 40.2 +1.5**
baz=33
VTHM Trough 33.40 82 P **P 09 44 40.3 +1.4**
HAWA Hanford 33.42 79 *e*P **P 09 44 40.4 +1.4**
comp=N,10nm,0.6s
D08A Wollman Farm, 33.46 78 *e*P **P 09 44 40.2 +0.7**
comp=N,8.4nm,0.6s
J04D Umpqua Nationa 33.48 86⇓P **P 09 44 41.0 +1.1**
baz=33
C09A Chrisman Ranch 33.50 76 *e*P **P 09 44 41.0 +1.2**
YBH Yreka Blue Hor 33.95 89 P **P 09 44 45.2 +1.3**
comp=N,2.4nm,1.0s,baz=322,slow=5.3,SNR=6.3
NEW Newport 33.97 75 P **P 09 44 44.9 +1.0**
comp=N,15nm,0.7s,baz=297,slow=8.4,SNR=46
NEW Newport 33.97 75 *e*P **P 09 44 44.8 +1.0**
NEW pmax pmax
comp=Z,15nm,0.8s
NEW Newport 33.97 75 *e*P **P 09 44 44.8 +1.0**
comp=Z,15nm,0.8s
NEW *e*ScP **ScP 09 51 02.0 -0.5**
NEW Newport 33.97 75⇓P **P 09 44 45.2 +1.4**
baz=34,SNR=31
J05D Fort Rock, OR 33.99 85⇑P **P 09 44 44.5 +0.3**
baz=34
M02C Callahan 34.06 89⇓P **P 09 44 45.5 +0.8**
baz=34
EDM Edmonton 34.06 65 *e*P **P 09 44 45.3 +0.7**
EDM Edmonton 34.06 65 *e*P **P 09 44 45.2 +0.7**
E09A Wood Farm, Sta 34.19 78 *e*P **P 09 44 46.7 +0.9**
comp=Z,9.9nm,1.0s
G08A Pilot Rock 34.32 81 *e*P **P 09 44 47.7 +0.7**
N02D Trinity Center 34.39 90⇓P **P 09 44 48.4 +0.8**
baz=34
M04C Macdoel 34.46 88⇑P **P 09 44 49.0 +0.7**
baz=34
K05A Summer Lake 34.51 86 *e*P **P 09 44 49.1 +0.4**
comp=Z,12nm,1.0s
K05A *e*ScP **ScP 09 51 04.2 -0.5**
I07A Izee 34.62 83 *e*P **P 09 44 51.0 +1.4**
comp=Z,11nm,1.1s
JOM Ohasama 34.99 268 P **P 09 44 52.9 +0.2**
F10A Beach Ranch, E 35.01 78 *e*P **P 09 44 54.0 +1.0**
comp=Z,7.0nm,0.8s
F10A *e*ScP **ScP 09 51 05.7 -0.6**
WALA Waterton Lakes 35.49 72 *e*P **P 09 44 58.0 +0.9**
comp=Z,346nm,1.0s
BMO Blue Mountains 35.54 80 *e*P **P 09 44 58.4 +0.9**
comp=Z,17nm,1.8s
BMO *e*ScP **ScP 09 51 07.2 -1.1**
BSMT Bassoo Peak 35.55 74 *e*P **P 09 44 58.6 +0.9**
KLR Kul'dur 35.56 288 *e*P P 09 44 51.8 -5.7
BLMT Blacktail Moun 35.72 74 *e*P **P 09 45 00.1 +1.0**
JTMT Jette 35.89 74 *e*P **P 09 45 01.5 +0.9**
YBMT Yellow Bay 36.00 74 *e*P **P 09 45 02.5 +1.0**
WVOR Wild Horse Val 36.05 85 *e*P **P 09 45 03.0 +1.1**
WVOR pmax pmax
comp=Z,8.0nm,1.0s
WVOR Wild Horse Val 36.05 85 *e*P **P 09 45 03.0 +1.1**
comp=Z,7.7nm,1.0s
SWMT Swartz Lake 36.18 74 *e*P **P 09 45 03.7 +0.7**
MSO Missoula 36.55 75 *e*P **P 09 45 06.9 +0.8**
comp=Z,6.6nm,0.7s
MSO *e*PcP **PcP 09 47 28.9 +0.1**
MSO Missoula 36.55 75⇑P **P 09 45 07.2 +1.1**
baz=36,SNR=6.6
SLMT Seeley Lake 36.61 74 *e*P **P 09 45 07.0 +0.4**
H11N2 WAKE ISLAND Hy 36.80 216 T T 10 24 20.3
baz=23,slow=76,SNR=726
H11N3 WAKE ISLAND Hy 36.81 216 T T 10 24 23.4
baz=23,slow=76,SNR=409
H11N1 WAKE ISLAND Hy 36.82 216 T T 10 24 21.7
baz=23,slow=76,SNR=634
CHMT Chamberlain Mo 36.91 75 *e*P **P 09 45 09.7 +0.4**
MFID Camas Ranch 37.22 81 *e*P **P 09 45 12.8 +0.9**
comp=Z,5.7nm,0.8s
MFID *e*ScP **ScP 09 51 13.6 -0.9**
JSD Sado 37.74 268 P **P 09 45 16.3 +0.2**
HRY Holter Researc 37.86 74 *e*P **P 09 45 18.1 +0.9**
WAKR Walker 37.89 90 *e*P **P 09 45 19.5 +1.8**
WAKR *e*pP pP 09 45 25.3 -3.6
LRM Limekiln Ridge 37.95 76 *e*P **P 09 45 18.9 +0.7**
USRK Ussuriysk Ar. 37.96 281 P **P 09 45 16.9 -1.1**
comp=Z,1.2nm,0.6s,baz=64,slow=8.8,SNR=5.4
USRK PcP **PcP 09 47 33.1 +0.1**
comp=Z,2.4nm,0.8s,baz=204,slow=1.6,SNR=5.2
USRK LR LR 10 02 03.2
comp=Z,84nm,19.8s,baz=55,slow=38
HLID Hailey 37.99 80 *e*P **P 09 45 19.3 +0.9**
comp=Z,15nm,1.6s
HLID *e*ScP **ScP 09 51 17.2 -0.3**
HLID Hailey 37.99 80⇑P **P 09 45 19.6 +1.1**
baz=38,SNR=13
H11S1 WAKE ISLAND Hy 38.00 216 T T 10 26 33.3
baz=23,slow=76,SNR=337
H11S2 WAKE ISLAND Hy 38.01 216 T T 10 26 34.4
baz=23,slow=76,SNR=360
H11S3 WAKE ISLAND Hy 38.01 216 T T 10 26 34.6
baz=23,slow=76,SNR=348
DLMT Dillon 38.11 77 *e*P **P 09 45 20.4 +0.9**
comp=Z,8.6nm,1.2s
DLMT *e*PcP **PcP 09 47 35.0 +1.4**
DLMT *e*ScP **ScP 09 51 17.5 -0.4**
MCMT McKenzie Canyo 38.24 77 *e*P **P 09 45 21.3 +0.6**
EGMT Eagleton 38.41 71 *e*P **P 09 45 22.6 +0.8**
comp=Z,42nm,1.2s
EGMT Eagleton 38.41 71⇑P **P 09 45 22.8 +0.9**
baz=38,SNR=20
BOZ Bozeman (W) 38.53 76 *e*P **P 09 45 23.7 +0.7**
BOZ pmax pmax
comp=Z,6.0nm,0.6s
BOZ Bozeman (W) 38.53 76 *e*P **P 09 45 23.7 +0.7**
comp=Z,6.4nm,0.6s
A19A Klindworth Far 38.55 69⇑P **P 09 45 23.9 +0.9**
baz=38,SNR=33
NV01 Mina Array Sit 38.63 90 *e*P **P 09 45 24.8 +0.8**
NV01 *e*S **S 09 51 18.9 +1.2**
NVAR Mina Array Bea 38.63 90 P **P 09 45 25.0 +1.0**
comp=Z,5.2nm,0.9s,baz=294,slow=8.6,SNR=34
NVAR PcP **PcP 09 47 36.0 +0.5**
comp=Z,1.4nm,0.7s,baz=317,slow=2.7,SNR=3.9
NVAR ScP **S 09 51 18.9 +1.3**
comp=Z,2.7nm,0.8s,baz=271,slow=3.9,SNR=16
JRY Ryogami san 38.64 265 P **P 09 45 25.4 +1.6**
B19A Brinkman Farms 38.67 70⇓P **P 09 45 24.6 +0.7**
baz=38
MJAR Matsushiro Arr 38.72 267 P **P 09 45 25.1 +0.6**
comp=Z,2.0nm,0.4s,baz=28,slow=5.4,SNR=15
MJAR PcP **PcP 09 47 35.6 +0.1**
comp=Z,2.9nm,0.8s,baz=85,slow=2.7,SNR=6.7
MJAR LR LR 09 59 25.2
comp=Z,221nm,21.9s,baz=55,slow=33
MAJO Matsushiro 38.72 267⇑*i*P **P 09 45 26.0 +1.5**
MAJO pmax pmax
comp=Z,108nm,1.0s
MAJO Matsushiro 38.72 267 *e*P **P 09 45 25.3 +0.8**
comp=Z,20nm,1.0s
MAT Matsushiro 38.72 267 P **P 09 45 25.1 +0.6**
MAT S **S 09 51 21.2 +2.6**
MAT Matsushiro 38.72 267 P **P 09 45 25.2 +0.7**
MLAC Mammoth, Mammo 38.81 91⇓P **P 09 45 26.3 +0.8**
baz=39
C19A Slack Wire Ran 38.97 71⇑P **P 09 45 27.8 +1.3**
baz=39,SNR=33
A20A Cobblestone Ra 39.04 69⇓P **P 09 45 27.4 +0.3**
baz=39,SNR=13
QLMT Earthquake Lak 39.09 77 *e*P **P 09 45 29.0 +1.3**
ELK Elko 39.11 84 *e*P **P 09 45 28.5 +0.6**
ELK pmax pmax
comp=Z,5.0nm,1.0s
ELK Elko 39.11 84 *e*P **P 09 45 28.5 +0.6**
comp=Z,5.5nm,1.0s
MDJ Mudanjiang 39.17 283 P **P 09 45 28.5 +0.4**
MDJ pP **pP 09 45 37.4 -1.9**
MDJ ScP **S 09 51 24.0 -1.1**
MDJ S **ScP 09 51 26.3 +4.6**
MDJ PcS **PcS 09 51 28.0 +1.6**
MDJ PMZ
comp=Z,8.0nm,0.5s
MDJ PMZ
comp=Z,30nm,3.4s
MDJ LN
comp=Z,220nm,30.0s
MDJ LE
comp=Z,140nm,28.9s
MDJ LZ
comp=Z,170nm,25.1s
B20A Solberg Farm, 39.21 70⇓P **P 09 45 29.5 +1.1**
baz=39
D19A Cripps Ranch, 39.36 72⇓P **P 09 45 30.8 +1.0**
baz=39,SNR=18
RCTC Rector, Farmer 39.41 93⇑P **P 09 45 31.9 +1.8**
baz=39
YMR Madison River 39.46 76 *e*P **P 09 45 31.4 +0.6**
comp=Z,10nm,0.9s
TPH Tonopah 39.52 89 *e*P **P 09 45 32.1 +0.7**
TPH *e* 09 51 21.0
TPH pmax pmax
comp=Z,13nm,1.1s
TPH Tonopah 39.52 89 *e*P **P 09 45 32.1 +0.7**
comp=Z,13nm,1.1s
TPH *e*ScP **ScP 09 51 20.9 -2.5**
A21A Bergtoll Ranch 39.56 68⇓P **P 09 45 32.5 +1.1**
baz=39,SNR=9.6
C20A Veseth Ranch, 39.59 71⇓P **P 09 45 32.3 +0.6**
baz=39,SNR=22
FFC Flin Flon 39.59 58 *e*P **P 09 45 32.1 +0.6**
FFC pmax pmax
comp=Z,5.0nm,0.8s
FFC Flin Flon 39.59 58 *e*P **P 09 45 32.1 +0.6**
comp=Z,5.4nm,0.8s
YNR Norris Junctio 39.60 76 *e*P **P 09 45 32.9 +0.9**
comp=Z,12nm,0.9s
E19A Rath Farm, Rou 39.78 73⇑P **P 09 45 34.6 +1.3**
baz=40,SNR=18
B21A Ellsworth Farm 39.79 69⇓P **P 09 45 34.4 +1.1**
baz=40
VES Vestal, Richgr 39.81 93⇑P **P 09 45 34.5 +1.0**
baz=40
H17A Grant Village 39.84 77 *e*P **P 09 45 35.0 +1.0**
comp=Z,7.0nm,0.9s
H17A Grant Village 39.84 77⇑P **P 09 45 35.3 +1.3**
baz=40,SNR=8.4
LKWY Lake 39.85 76 *e*P **P 09 45 32.2 -1.9**
LKWY pmax pmax
comp=Z,9.0nm,0.6s
LKWY Lake 39.85 76 *e*P **P 09 45 32.2 -1.9**
comp=Z,9.5nm,0.6s
JGF Kuroka 39.86 266 P **P 09 45 35.2 +1.2**
IMW Indian Meadow 39.90 77 *e*P **P 09 45 35.9 +1.3**
comp=Z,7.4nm,1.0s
FLWY Flagg Ranch 39.94 77 *e*P **P 09 45 36.7 +1.9**
comp=Z,15nm,1.3s
FXWY Fox Creek 39.99 78 *e*P **P 09 45 36.4 +1.1**
comp=Z,6.7nm,1.3s
HVU Hansel Valley 40.00 81 *e*P **P 09 45 36.5 +1.2**
HVU pmax pmax
comp=Z,5.0nm,0.7s
HVU Hansel Valley 40.00 81 *e*P **P 09 45 36.5 +1.2**
comp=Z,4.8nm,0.7s
HVU *e*ScP **ScP 09 51 24.9 -0.4**
F19A Roth Farm, Mol 40.01 74⇓P **P 09 45 36.3 +1.0**
baz=40,SNR=8.7
C21A Desert Coulee 40.05 70⇓P **P 09 45 36.7 +1.2**
baz=40,SNR=11
MOOW Moose Ponds 40.10 78 *e*P **P 09 45 36.4 +0.2**
comp=Z,25nm,2.4s
I17A Pilgrim Ck. 40.10 77⇑P **P 09 45 36.3 +0.1**
baz=40
GRAC Grapevine Rang 40.11 91⇓P **P 09 45 37.7 +1.6**
baz=40
TPAW Teton Pass 40.12 78 *e*P **P 09 45 37.4 +1.1**
comp=Z,20nm,1.7s
A22A Carney Farms, 40.13 68⇑P **P 09 45 37.1 +0.9**
baz=40
E20A Meyer Farm, Mu 40.14 72⇓P **P 09 45 37.5 +1.2**
baz=40,SNR=10
RLMT Red Lodge 40.22 75 *e*P **P 09 45 38.0 +0.9**
comp=Z,16nm,0.9s
H18A Shoshone NF, C 40.23 76⇑P **P 09 45 38.3 +1.1**
baz=40
REDW Red Top Meadow 40.25 78 *e*P **P 09 45 38.4 +0.9**
comp=Z,9.5nm,1.1s
SNOW Snow King Moun 40.25 78 *e*P **P 09 45 38.1 +0.6**
comp=Z,4.6nm,0.6s
LOHW Long Hollow 40.26 78 *e*P **P 09 45 38.6 +1.1**
comp=Z,3.4nm,0.9s
ISA Isabella, Lake 40.30 93 *e*P **P 09 45 38.0 +0.3**
ISA pmax pmax
comp=Z,7.0nm,1.0s
ISA Isabella, Lake 40.30 93 *e*P **P 09 45 38.0 +0.3**
comp=Z,6.7nm,1.0s
ISA Isabella, Lake 40.30 93⇓P **P 09 45 38.2 +0.5**
baz=40,SNR=6.5
BGU Big Grassy Mou 40.35 83 *e*P **P 09 45 39.2 +1.1**
comp=Z,9.9nm,1.0s
R11A Troy Canyon, C 40.35 88 *e*P **P 09 45 38.9 +0.6**
comp=Z,8.3nm,1.0s
R11A Troy Canyon, C 40.35 88⇑P **P 09 45 39.5 +1.3**
baz=40,SNR=11
ARVC Arvin 40.44 94⇓P **P 09 45 40.2 +1.5**
baz=40
DAC Darwin (Calif) 40.44 92 *e*P **P 09 45 39.8 +0.8**
DAC pmax pmax
comp=Z,7.0nm,1.0s
DAC Darwin (Calif) 40.44 92 *e*P **P 09 45 39.8 +0.8**
comp=Z,6.8nm,1.0s
B22A Reddig Ranch S 40.44 69⇓P **P 09 45 38.7 0.0**
baz=40
D21A La Casta Ranch 40.51 71⇓P **P 09 45 40.5 +1.2**
baz=40
F20A Billings 40.51 73⇑P **P 09 45 40.2 +0.9**
baz=40,SNR=8.0
H19A Powell 40.63 75⇑P **P 09 45 41.9 +1.4**
baz=40,SNR=9.5
MPMC Manual Prospec 40.64 92⇑P **P 09 45 42.0 +1.3**
baz=40
E21A Keefer Ranch, 40.74 72⇑P **P 09 45 42.1 +0.9**
baz=41,SNR=5.7
FURC Furnace Creek, 40.76 91⇓P **P 09 45 42.7 +1.3**
baz=41,SNR=6.8
G20A Bridger 40.79 74⇓P **P 09 45 42.4 +0.7**
baz=41,SNR=18
TPNV Topopah Spring 40.83 90 *e*P **P 09 45 42.9 +0.7**
TPNV pmax pmax
comp=Z,11nm,0.9s
TPNV Topopah Spring 40.83 90 *e*P **P 09 45 42.9 +0.7**
comp=Z,11nm,0.9s
TPNV Topopah Spring 40.83 90⇑P **P 09 45 43.2 +1.0**
baz=41,SNR=18
HWUT Hardware Ranch 40.83 81 *e*P **P 09 45 43.2 +1.0**
comp=Z,3.2nm,0.8s
LRMC Laurel Mtn Rad 40.90 93⇑P **P 09 45 43.2 +0.4**
baz=41
DUG Dugway, Tooele 40.92 83 *e*P **P 09 45 43.6 +0.8**
DUG pmax pmax
comp=Z,14nm,1.2s
DUG Dugway, Tooele 40.92 83 *e*P **P 09 45 43.6 +0.8**
comp=Z,14nm,1.2s
DUG Dugway, Tooele 40.92 83⇑P **P 09 45 44.1 +1.3**
baz=41,SNR=12
B23A Brockton 40.93 68⇓P **P 09 45 43.5 +0.8**
baz=41,SNR=14
D22A Cohagen 40.94 70⇑P **P 09 45 44.1 +1.3**
baz=41,SNR=17

BLG	Laguna Peak, P	40.97	95	⇓P		P	09 45 44.3	+1.1
	baz=41							
I19A	Meeteetse	40.98	76	⇓P		P	09 45 44.1	+0.7
	baz=41							
EDW2	Edwards Air Fo	41.11	94	⇓P		P	09 45 44.0	-0.4
	baz=41							
LAO	LASA Array	41.16	71	*e*P		P	09 45 45.6	+0.9
	comp=Z,61nm,2.0s							
LAO				*e*PcP		PcP	09 47 44.3	+1.1
C23A	Lambert	41.16	69	⇓P		P	09 45 45.9	+1.2
	baz=41,SNR=17							
TCUT	Toone Canyon	41.22	81	*e*P		P	09 45 46.4	+0.9
	comp=Z,10nm,0.7s							
TCUT				*e*PcP		PcP	09 47 44.0	+0.2
A24A	Westby	41.26	67	⇓P		P	09 45 46.2	+0.8
	baz=41,SNR=10.0							
BOD	Bodaibo	41.28	308	*e*P		P	09 45 44.5	-0.9
BOD				pmax		pmax		
	comp=Z,19nm,0.8s							
H20A	Greybull	41.32	75	⇓P		P	09 45 46.2	+0.1
	baz=41,SNR=9.1							
BW06	Boulder Array	41.37	78	*e*P		P	09 45 47.0	+0.4
PDAR	Pinedale Array	41.37	78	P		P	09 45 47.1	+0.5
	comp=Z,9.9nm,0.6s,baz=332,slow=3.5,SNR=64							
PDAR				LR		LR	10 00 44.4	
	comp=Z,179nm,20.9s,baz=304,slow=33							
G21A	Lodge Grass	41.38	73	⇑P		P	09 45 47.1	+0.5
	baz=41,SNR=13							
DGMT	Dagmar	41.38	68	*e*P		P	09 45 46.0	-0.4
	comp=Z,21nm,1.1s							
DGMT	Dagmar	41.38	68	⇑P		P	09 45 46.2	-0.2
	baz=41							
J19A	Crowheart	41.39	77	⇑P		P	09 45 46.9	+0.2
	baz=41							
E22A	Miles City	41.45	71	⇑P		P	09 45 48.2	+1.2
	baz=41,SNR=9.2							
D23A	Lindsay	41.49	70	⇓P		P	09 45 48.1	+0.7
	baz=41,SNR=9.2							
SHOC	Shoshone, Teco	41.49	91	⇑P		P	09 45 48.0	+0.5
	baz=41,SNR=10							
JLU	Jordanelle	41.50	82	*e*P		P	09 45 48.5	+0.7
	comp=Z,4.1nm,0.7s							
MWC	Mount Wilson	41.51	94	*e*P		P	09 45 48.0	+0.2
MWC				pmax		pmax		
	comp=Z,9.0nm,1.0s							
MWC	Mount Wilson	41.51	94	*e*P		P	09 45 48.0	+0.2
	comp=Z,8.9nm,1.0s							
NLU	North Lily Min	41.51	83	*e*P		P	09 45 45.7	-2.1
	comp=Z,6.0nm,0.9s							
I20A	Worland	41.55	76	⇓P		P	09 45 48.3	+0.4
	baz=41,SNR=12							
GSC	Goldstone, Bar	41.56	92	*e*P		P	09 45 49.0	+0.9
GSC				pmax		pmax		
	comp=Z,18nm,0.9s							
GSC	Goldstone, Bar	41.56	92	*e*P		P	09 45 49.0	+0.9
	comp=Z,18nm,0.9s							
GSC	Goldstone, Bar	41.56	92	⇑P		P	09 45 49.3	+1.2
	baz=41,SNR=16							
F22A	Rosebud	41.63	72	⇓P		P	09 45 48.6	0.0
	baz=41,SNR=9.4							
BFSC	Mount Baldy Ra	41.74	94	⇑P		P	09 45 50.7	+1.0
	baz=42,SNR=6.8							
C24A	Savage	41.74	69	⇓P		P	09 45 50.8	+1.4
	baz=42,SNR=12							
MPU	Maple Canyon	41.74	83	*e*P		P	09 45 49.7	0.0
	comp=Z,7.6nm,1.0s							
A25A	Svangstu Ranch	41.75	67	⇑P		P	09 45 50.2	+0.8
	baz=42,SNR=8.8							
SHPR	Sheep Range	41.78	89	*e*P		P	09 45 50.9	+0.9
E23A	Ismay	41.79	71	⇑P		P	09 45 51.1	+1.2
	baz=42							
H21A	Big Horn, Sher	41.81	74	⇑P		P	09 45 50.0	-0.1
	baz=42,SNR=7.0							
J20A	Shoshoni	41.91	76	⇑P		P	09 45 52.1	+1.1
	baz=42,SNR=10							
G22A	Birney	41.92	73	⇓P		P	09 45 51.5	+0.5
	baz=42,SNR=6.9							
TUQ	Turquoise Moun	42.01	91	⇓P		P	09 45 53.0	+1.1
	baz=42							
D24A	Glendive	42.02	69	⇑P		P	09 45 53.0	+1.3
	baz=42,SNR=15							
SCI	San Clemente I	42.06	96	⇑P		P	09 45 53.3	+1.2
	baz=42							
CN2	Changchun	42.09	285	*e*P		P	09 45 51.0	-1.2
I21A	Big Trails, Te	42.12	75	⇑P		P	09 45 53.2	+0.5
	baz=42,SNR=12							
F23A	Volborg	42.16	72	⇑P		P	09 45 53.7	+0.9
	baz=42,SNR=16							
HEC	Hector,Ludlow	42.16	92	⇑P		P	09 45 54.0	+1.0
	baz=42,SNR=5.7							
BBRC	Big Bear Solar	42.18	93	⇑P		P	09 45 54.5	+1.2
	baz=42							
H22A	Clearmont	42.23	74	⇓P		P	09 45 53.8	+0.2
	baz=42							
J21A	Lysite	42.30	76	⇑P		P	09 45 54.6	+0.4
	baz=42,SNR=8.1							
C25A	Freed Ranch, W	42.32	68	⇓P		P	09 45 54.6	+0.6
	baz=42							
MVU	Marysvale	42.32	85	*e*P		P	09 45 55.4	+0.9
	comp=Z,5.9nm,1.0s							
E24A	Baker	42.34	70	⇑P		P	09 45 55.6	+1.3
	baz=42							
MSU	Marysvale	42.34	85	*e*P		P	09 45 55.9	+1.3
MSU	Marysvale	42.34	85	*e*P		P	09 45 55.9	+1.3
A26A	Wade Farm, Ken	42.38	66	⇑P		P	09 45 55.1	+0.6
	baz=42,SNR=6.3							
HIA	Hailar	42.40	295	⇓*e*P		P	09 45 54.6	-0.1
HIA				pmax		pmax		
	comp=Z,12nm,0.8s							
TMUT	Trail Mountain	42.45	83	*e*P		P	09 45 56.4	+0.8
	comp=Z,14nm,0.9s							
MURC	Murrieta	42.46	94	⇓P		P	09 45 56.4	+1.0
	baz=42							
G23A	Biddle	42.46	72	⇓P		P	09 45 55.4	+0.1
	baz=42,SNR=9.3							
B26A	Jensen Ranch,	42.54	67	⇓P		P	09 45 57.1	+1.2
	baz=42							
I22A	9 Mile Ranch,	42.56	75	⇑P		P	09 45 57.3	+1.1
	baz=42,SNR=13							
D25A	Fairfield	42.58	69	⇓P		P	09 45 56.8	+0.5
	baz=42							
GMRC	Granite Mounta	42.61	92	⇑P		P	09 45 57.7	+0.9
	baz=42,SNR=11							
F24A	Ekalaka	42.65	71	⇓P		P	09 45 57.7	+0.8
	baz=42,SNR=12							
LDFC	Landfair	42.75	91	*e*P		P	09 45 58.3	+0.4
	comp=Z,33nm,1.1s							
A27A	Ledoux Ranch,	42.79	66	⇓P		P	09 45 58.2	+0.4
	baz=43							
K21A	Alcova	42.83	77	⇑P		P	09 45 58.6	+0.1
	baz=43,SNR=11							
J22A	Midwest	42.84	75	⇑P		P	09 45 59.3	+0.8
	baz=43,SNR=13							
E25A	Miller Ranch,	42.89	70	⇓P		P	09 45 59.9	+1.2
	baz=43,SNR=12							
KNB	Kanab	42.89	87	*e*P		P	09 46 00.4	+1.4
KNB				pmax		pmax		
	comp=Z,23nm,1.6s							
KNB	Kanab	42.89	87	*e*P		P	09 46 00.4	+1.4
	comp=Z,23nm,1.6s							
KNB				*e*ScP		ScP	09 51 36.8	0.0
PFO	Pinyon Flats O	42.91	94	P		P	09 45 59.0	-0.1
	comp=Z,2.8nm,0.6s,baz=295,slow=8.3,SNR=5.7							
PFO	Pinyon Flats O	42.91	94	*e*P		P	09 45 59.7	+0.6
PFO				pmax		pmax		
	comp=Z,8.0nm,1.1s							
PFO	Pinyon Flats O	42.91	94	*e*P		P	09 45 59.7	+0.6
	comp=Z,8.2nm,1.1s							
PFO	Pinyon Flats O	42.91	94	⇑P		P	09 45 59.4	+0.2
	baz=43							
C26A	Wahner Farm, P	42.91	67	⇑P		P	09 45 59.5	+0.6
	baz=43,SNR=6.7							
BELC	Belle Mtn. Jos	42.92	93	⇑P		P	09 45 60.0	+0.7
	baz=43,SNR=6.4							
G24A	Alzada	42.96	72	⇓P		P	09 45 59.5	+0.1
	baz=43,SNR=12							
SRU	San Rafael Swe	42.98	83	*e*P		P	09 46 00.7	+1.0
SRU				pmax		pmax		
	comp=Z,9.0nm,0.8s							
SRU	San Rafael Swe	42.98	83	*e*P		P	09 46 00.7	+1.0
	comp=Z,9.3nm,0.8s							
109C	Camp Elliot, M	43.00	95	⇓P		P	09 46 00.8	+1.1
	baz=43							
D26A	Manning	43.16	69	⇓P		P	09 46 01.5	+0.6
	baz=43							
F25A	Bowman	43.18	70	⇑P		P	09 46 02.4	+1.3
	baz=43							
H24A	Dirks Ranch, A	43.21	73	⇑P		P	09 46 01.5	+0.1
	baz=43							
K22A	Casper	43.25	76	*e*P		P	09 46 02.0	+0.2
	comp=Z,8.5nm,0.6s							
K22A	Casper	43.25	76	⇑P		P	09 46 02.8	+0.9
	baz=43,SNR=8.8							
N20A	Spence Gulch,	43.29	79	⇓P		P	09 46 03.2	+0.8
	baz=43,SNR=7.5							
IRM	Iron Mountain	43.34	92	⇓P		P	09 46 03.3	+0.8
	baz=43,SNR=8.5							
A28A	Rude Farm, Bot	43.36	65	⇓P		P	09 46 03.2	+0.8
	baz=43,SNR=9.4							
BAR	Barrett	43.41	95	*e*P		P	09 46 04.0	+0.9
	comp=Z,12nm,1.8s							
MONP	Monument Peak,	43.42	94	⇓P		P	09 46 04.4	+1.0
	baz=43,SNR=5.4							
E26A	Carlson Angus	43.45	69	⇓P		P	09 46 03.7	+0.4
	baz=43,SNR=7.6							
W13A	Hualapai Mount	43.49	90	⇓P		P	09 46 04.8	+0.8
	baz=43,SNR=7.0							
BC3	Big Chuckawall	43.49	93	⇑P		P	09 46 04.2	+0.4
	baz=43							
B28A	Dugan Ranch, T	43.55	66	⇓P		P	09 46 04.4	+0.3
	baz=43							
U15A	North Rim	43.60	87	⇑P		P	09 46 06.1	+1.2
	baz=43,SNR=18							
G25A	Newell	43.62	71	⇑P		P	09 46 05.1	+0.4
	baz=43,SNR=8.5							
D27A	Center	43.63	68	⇑P		P	09 46 05.9	+1.2
	baz=43							
I24A	Kuemmerle Ranc	43.67	74	⇑P		P	09 46 05.5	+0.3
	baz=44							
F26A	Lodgepole	43.68	70	⇓P		P	09 46 05.8	+0.7
	baz=44							
K23A	Bowen Ranch, D	43.73	76	⇑P		P	09 46 06.2	+0.5
	baz=44							
O20A	White River Ci	43.73	80	*e*P		P	09 46 06.2	+0.3
	comp=Z,22nm,1.0s							
O20A	White River Ci	43.73	80	⇑P		P	09 46 06.3	+0.5
	baz=44,SNR=11							
IBP	Imperial Bould	43.77	94	⇑P		P	09 46 06.9	+0.8
	baz=44							
H25A	Fruitdale	43.84	72	⇓P		P	09 46 06.7	+0.3
	baz=44,SNR=15							
PDMCI	Parker Dam,Lak	43.86	91	⇓P		P	09 46 07.3	+0.7
	baz=44,SNR=5.8							
RSSD	Black Hills	43.87	73	*e*P		P	09 46 06.7	-0.2
RSSD				pmax		pmax		
	comp=Z,7.0nm,0.6s							
RSSD	Black Hills	43.87	73	*e*P		P	09 46 06.7	-0.2
	comp=Z,6.6nm,0.6s							
YUH	Yuha Desert	43.89	94	*e*P		P	09 46 05.0	-1.9
A29A	Manning Farm,	43.93	65	⇓P		P	09 46 07.2	+0.2
	baz=44,SNR=8.0							
C28A	Hausauer Farms	43.94	67	⇑P		P	09 46 07.9	+0.8
	baz=44							
M22A	Cedar Creek Ra	43.95	78	⇑P		P	09 46 08.0	+0.4
	baz=44,SNR=7.7							
J24A	Dixon Ranch, L	43.96	74	⇑P		P	09 46 08.3	+0.8
	baz=44							
E27A	Carson	43.99	69	⇓P		P	09 46 08.1	+0.5
	baz=44							
Y12C	Blythe	44.00	92	⇑P		P	09 46 08.5	+0.7
	baz=44,SNR=6.1							
G26A	Marine	44.03	71	⇑P		P	09 46 08.6	+0.6
	baz=44,SNR=17							
F27A	Lemmon	44.04	70	⇑P		P	09 46 08.5	+0.4
	baz=44,SNR=12							
I25A	Rochford	44.11	73	⇓P		P	09 46 08.4	-0.3
	baz=44,SNR=7.7							
PV09	Paradox Valley	44.21	83	*e*P		P	09 46 10.0	+0.2
MDND	Maddock	44.31	66	*e*P		P	09 46 11.0	+0.8
	comp=Z,175nm,1.1s							
MDND	Maddock	44.31	66	⇓P		P	09 46 10.9	+0.8
	baz=44							
H26A	Fairpoint	44.32	72	⇑P		P	09 46 10.4	+0.1
	baz=44,SNR=5.8							
PV10	Paradox Valley	44.34	83	*e*P		P	09 46 11.6	+0.8
G27A	Dupree	44.37	70	⇓P		P	09 46 11.4	+0.7
	baz=44,SNR=5.7							
E28A	Huff	44.40	68	⇑P		P	09 46 11.4	+0.5
	baz=44							
N22A	Wattenberg Ran	44.40	78	⇑P		P	09 46 11.9	+0.7
	baz=44,SNR=10							
J25A	Sunine Ranch	44.43	74	⇓P		P	09 46 11.3	+0.1
	baz=44							
KSRS	Korea Array	44.45	276	P		P	09 46 12.1	+0.8
	comp=Z,2.8nm,0.7s,baz=50,slow=8.0,SNR=14							
KSRS				LR		LR	10 05 05.5	
	comp=Z,48nm,18.6s,baz=48,slow=36							
KSRS	Korea Array	44.45	276	P		P	09 46 12.1	+0.8
KSRS				pmax		pmax		
	comp=Z,3.0nm,0.7s							
KSRS				MLR		MLR		
	comp=Z,48nm,18.6s							
KS01	Wonju Array Si	44.45	276	*e*P		P	09 46 11.3	0.0
KSAR	Wonju Array Be	44.48	276	P		P	09 46 12.1	+0.5
KSAR	Wonju Array Be	44.48	276	P		P	09 46 12.1	+0.5
I26A	New Underwood	44.61	72	⇑P		P	09 46 13.1	+0.4
	baz=44,SNR=6.3							
N23A	Red Feather La	44.65	78	*e*P		P	09 46 13.8	+0.6
	comp=Z,10nm,1.1s							
N23A	Red Feather La	44.65	78	⇓P		P	09 46 14.1	+0.8
	baz=44,SNR=7.1							
B30A	Myrvik Farm, E	44.69	65	⇓P		P	09 46 13.7	+0.6
	baz=44							
H27A	Howes	44.72	71	⇑P		P	09 46 13.7	+0.3
	baz=44							
D29A	Pettibone, Tap	44.75	67	⇓P		P	09 46 13.8	+0.2
	baz=45							
F28A	McLaughlin	44.75	69	⇓P		P	09 46 14.4	+0.7
	baz=45							
WUAZ	Wupatki	44.75	88	*e*P		P	09 46 14.4	+0.4
	comp=Z,12nm,0.9s							
WUAZ	Wupatki	44.75	88	⇓P		P	09 46 14.8	+0.8
	baz=45,SNR=12							
PV01	Paradox Valley	44.78	83	*e*P		P	09 46 14.4	+0.2
	comp=Z,764nm,0.8s							
K25A	Mack Ranch, Ha	44.85	75	⇓P		P	09 46 15.2	+0.5
	baz=45							
J26A	Sides Ranch, S	44.91	73	⇓P		P	09 46 15.9	+0.9
	baz=45							
P22A	Eagle	44.96	80	⇑P		P	09 46 16.1	+0.4
	baz=45							
E29A	Napoleon	45.00	68	⇑P		P	09 46 15.5	-0.1
	baz=45							
C30A	Mose, Pekin	45.02	66	⇓P		P	09 46 16.0	+0.3
	baz=45							
ULM	Lac du Bonnet	45.04	61	P		P	09 46 15.9	+0.1
	comp=Z,3.8nm,0.5s,baz=298,slow=7.1,SNR=7.5							
ULM				PcP		PcP	09 47 55.0	-1.1
	comp=Z,4.7nm,0.7s,baz=277,slow=5.2,SNR=3.5							
ULM	Lac du Bonnet	45.04	61	*e*P		P	09 46 16.0	+0.1
ULM							09 47 55.0	
ULM				pmax		pmax		
	comp=Z,16nm,1.4s							
ULM	Lac du Bonnet	45.04	61	*e*P		P	09 46 16.0	+0.1
	comp=Z,16nm,1.4s							
ULM				PcP		PcP	09 47 55.0	-1.1
I27A	Quinn	45.06	72	⇓P		P	09 46 16.6	+0.4
	baz=45,SNR=12							
L25A	Engebretsen Ra	45.07	75	⇑P		P	09 46 16.6	+0.2
	baz=45							
O23A	Lake Granby, G	45.09	79	⇓P		P	09 46 16.6	-0.2
	baz=45							
SMCO	Snowmass	45.09	80	*e*P		P	09 46 17.1	+0.2
	comp=Z,6.7nm,1.2s							
113A	Mohawk Valley,	45.13	92	⇑P		P	09 46 17.5	+0.7
	baz=45							
G28A	Parade	45.13	70	⇓P		P	09 46 17.1	+0.4
	baz=45,SNR=6.1							
D30A	Bunahan	45.20	66	⇓P		P	09 46 17.2	0.0
	baz=45,SNR=14							
K26A	Motz Farm, Whi	45.21	74	⇑P		P	09 46 17.5	+0.1
	baz=45							
Z14A	Wintersburg	45.23	91	⇓P		P	09 46 18.4	+0.8
	baz=45							
F29A	Eureka	45.32	68	⇑P		P	09 46 18.3	+0.1
	baz=45							
N24A	Carr	45.33	77	⇓P		P	09 46 19.0	+0.5
	baz=45							
MVCO	Mesa Verde	45.41	84	*e*P		P	09 46 19.7	+0.4
	comp=Z,9.1nm,1.2s							
MVCO	Mesa Verde	45.41	84	⇑P		P	09 46 19.5	+0.2
	baz=45							
X16A	Lo Mia Camp, P	45.44	89	⇓P		P	09 46 20.8	+1.3
	baz=45,SNR=9.6							
M25A	Palm-Egli Farm	45.45	76	⇑P		P	09 46 20.1	+0.7
	baz=45,SNR=8.9							
TJN	Taejon	45.48	275	*i* P		P	09 46 20.3	+0.8
JNU	Nakatsue	45.49	269	P		P	09 46 20.4	+0.7
JNU	Nakatsue	45.49	269	P		P	09 46 19.5	-0.2
	comp=Z,14nm,1.0s,baz=50,slow=3.5,SNR=7.1							
JNU	Nakatsue	45.49	269	*e*P		P	09 46 20.9	+1.2
	comp=Z,13nm,0.8s							
ISCO	Idaho Springs	45.53	79	*e*P		P	09 46 20.6	+0.4
ISCO				pmax		pmax		
	comp=Z,11nm,1.4s							
ISCO	Idaho Springs	45.53	79	*e*P		P	09 46 20.6	+0.4
	comp=Z,11nm,1.4s							
ISCO	Idaho Springs	45.53	79	⇑P		P	09 46 20.8	+0.5
	baz=45							
J27A	Elkhorn Farm,	45.57	73	⇓P		P	09 46 20.7	+0.4
	baz=45,SNR=8.8							
I28A	Midland	45.62	71	⇓P		P	09 46 21.0	+0.5
	baz=45,SNR=16							
O24A	Longmont	45.65	78	⇑P		P	09 46 20.4	-0.7
	baz=46							
K27A	Flueckinger Fa	45.76	73	⇑P		P	09 46 21.8	-0.1
	baz=46							
H29A	Onida	45.80	70	⇓P		P	09 46 22.4	+0.4
	baz=46,SNR=9.5							
J28A	Allard Ranch,	45.92	72	⇑P		P	09 46 23.5	+0.5
	baz=46,SNR=18							
M26A	McRoberts Ranc	45.98	75	⇑P		P	09 46 23.2	-0.4
	baz=46							
W18A	Petrified Fore	46.02	87	⇓P		P	09 46 24.0	0.0
	baz=46							
S22A	4UR Ranch, Cre	46.09	82	*e*P		P	09 46 25.8	+1.1
	comp=Z,17nm,1.5s							
S22A	4UR Ranch, Cre	46.09	82	⇑P		P	09 46 25.4	+0.7
	baz=46,SNR=8.9							
I29A	Vivian Onida	46.11	71	⇓P		P	09 46 24.6	+0.2
	baz=46,SNR=8.8							
AGMN	Agassiz Nation	46.13	64	*e*P		P	09 46 24.2	-0.4
	comp=Z,10nm,0.8s							
AGMN	Agassiz Nation	46.13	64	⇓P		P	09 46 24.4	-0.1
	baz=46,SNR=10.0							
O25A	Wiggins	46.23	78	⇓P		P	09 46 26.2	+0.6
	baz=46							
K28A	Ten Mile Ranch	46.27	73	⇑P		P	09 46 26.0	+0.2
	baz=46,SNR=10							
214A	Organ Pipe Nat	46.27	92	*e*P		P	09 46 26.0	+0.1
	comp=Z,14nm,1.1s							
214A	Organ Pipe Nat	46.27	92	⇑P		P	09 46 26.4	+0.5
	baz=46,SNR=11							
X18A	Snowflake	46.28	88	⇑P		P	09 46 26.8	+0.7
	baz=46							
Q24A	Divide	46.33	79	*e*P		P	09 46 27.3	+0.7
	comp=Z,3.7nm,0.8s							
Q24A	Divide	46.33	79	⇑P		P	09 46 27.2	+0.6
	baz=46							
M27A	Reverse DX Ran	46.39	75	⇓P		P	09 46 27.6	+0.8
	baz=46							
R23A	Moffat	46.41	81	⇓P		P	09 46 28.1	+0.9
	baz=46							
J29A	Okreek	46.46	72	⇓P		P	09 46 27.6	+0.4
	baz=46,SNR=22							
L28A	Connealy Angus	46.61	74	⇓P		P	09 46 29.0	+0.5
	baz=46							
S23A	Nye Farm, Mont	46.62	81	⇓P		P	09 46 28.7	-0.1
	baz=46							
O26A	Horse Wrangler	46.63	77	⇓P		P	09 46 29.4	+0.7
	baz=46							
BRSD	Miller	46.63	70	*e*P		P	09 46 28.1	-0.5
	comp=Z,33nm,1.0s							
BRSD	Miller	46.63	70	⇓P		P	09 46 28.9	+0.4
	baz=46							
I30A	Oacoma	46.68	70	⇓P		P	09 46 29.4	+0.5
	baz=46,SNR=7.9							
N27A	Anderson Farm,	46.74	76	⇓P		P	09 46 30.3	+0.8
	baz=47,SNR=7.2							
K29A	Lazy Trails An	46.85	72	⇓P		P	09 46 31.1	+0.7
	baz=47,SNR=8.7							
SDCO	Great Sand Dun	46.89	81	*e*P		P	09 46 31.6	+0.6
	comp=Z,9.3nm,1.3s							
SDCO	Great Sand Dun	46.89	81	⇓P		P	09 46 31.4	+0.4
	baz=47,SNR=11							
OGNE	Ogallala	46.96	75	⇑P		P	09 46 32.1	+0.9
	baz=47							
J30A	Dallas	46.99	71	⇓P		P	09 46 31.5	+0.1
	baz=47,SNR=11							
P26A	Davis Ranch, A	47.04	78	⇓P		P	09 46 32.6	+0.7
	baz=47,SNR=19							
M28A	Bar X Bar Ranc	47.07	74	⇑P		P	09 46 32.8	+0.7
	baz=47							
O27A	Beecher Island	47.16	76	⇓P		P	09 46 33.5	+0.7
	baz=47							
TUC	Tucson	47.27	90	*e*P		P	09 46 34.2	+0.5
TUC				pmax		pmax		
	comp=Z,10.0nm,1.0s							
TUC	Tucson	47.27	90	*e*P		P	09 46 34.2	+0.5
	comp=Z,10nm,1.0s							
K30A	Basset	47.32	72	⇓P		P	09 46 34.5	+0.5
	baz=47,SNR=9.2							
Q26A	Hugo	47.34	78	⇑P		P	09 46 35.1	+0.8
	baz=47							
N28A	Pribbeno Ranch	47.41	75	⇓P		P	09 46 35.0	+0.3
	baz=47							
M29A	Burnside Ranch	47.45	74	⇓P		P	09 46 35.5	+0.5
	baz=47,SNR=6.2							
P27A	Ficken Ranch,	47.50	77	⇓P		P	09 46 36.3	+0.8
	baz=47							
O28A	Krutsinger Ran	47.62	76	⇓P		P	09 46 37.1	+0.7
	baz=47							
L30A	Spencer Herefo	47.70	73	⇑P		P	09 46 37.2	+0.2
	baz=48							
R26A	Arlington	47.78	79	⇓P		P	09 46 38.3	+0.6
	baz=48							
KSCO	Kaye Shedlock'	47.82	78	*e*P		P	09 46 38.8	+0.7
	comp=Z,18nm,1.0s							
KSCO	Kaye Shedlock'	47.82	78	⇑P		P	09 46 38.7	+0.7
	baz=48							
M30A	Dale-Ortello V	47.87	73	⇑P		P	09 46 38.3	+0.1
	baz=48							
N29A	Votaw Ranch, W	47.87	74	⇑P		P	09 46 38.9	+0.6
	baz=48,SNR=7.3							
T25A	Trinidad	47.95	81	*e*P		P

IRK pmax pmax
comp=Z,27nm,0.8s
BGNE Belgrade 48.96 72 *e*P P 09 46 46.8 +0.2
comp=Z,48nm,1.1s
BGNE Belgrade 48.96 72 ⇑P P 09 46 46.6 0.0
baz=49,SNR=6.7
121A Cookes Peak, D 48.96 88 *e*P P 09 46 47.6 +0.7
comp=Z,7.5nm,0.9s
121A Cookes Peak, D 48.96 88 ⇑P P 09 46 47.5 +0.6
baz=49,SNR=5.4
T27A Campo 49.02 80 ⇑P P 09 46 47.6 +0.3
baz=49
KBS Kingsbay 49.03 359 *e*P P 09 46 47.6 +1.0
KBS pmax pmax
comp=Z,17nm,0.8s
KBS Kingsbay 49.03 359 *e*P P 09 46 47.6 +1.0
comp=Z,17nm,0.8s
O31A Woolen Ranch, 49.06 74 ⇑P P 09 46 47.6 +0.2
baz=49,SNR=10
R29A Marienthal 49.09 77 ⇓P P 09 46 48.4 +0.7
baz=49,SNR=17
S28A Manter 49.17 79 ⇓P P 09 46 48.9 +0.5
baz=49,SNR=8.0
Q30A Quinter 49.28 76 ⇓P P 09 46 49.7 +0.6
baz=49
T28A Walsh 49.35 79 ⇓P P 09 46 50.2 +0.4
baz=49,SNR=7.6
U27A Thompson Grove 49.38 80 ⇑P P 09 46 50.3 +0.4
baz=49,SNR=5.5
P31A Stockton 49.43 75 ⇑P P 09 46 50.8 +0.6
baz=49,SNR=11
TLY Talaya 49.59 305 *e*P P 09 46 52.4 +1.1
TLY pmax pmax
comp=Z,14nm,0.9s
TLY MLR MLR
comp=Z,31nm,10.0s
TLY Talaya 49.59 305 *e*P P 09 46 51.3 0.0
comp=Z,12nm,0.9s
O32A Brockman Farm, 49.61 74 ⇓P P 09 46 51.9 +0.3
baz=49
S29A Ulysses 49.62 78 ⇓P P 09 46 51.6 -0.1
baz=49
SPMN Marine on St. 49.65 65 *e*P P 09 46 51.6 -0.2
comp=Z,10nm,0.4s
SPMN Marine on St. 49.65 65 ⇓P P 09 46 51.9 +0.1
baz=49,SNR=5.8
R30A Dighton 49.69 77 ⇓P P 09 46 52.6 +0.3
baz=50,SNR=14
SPITS Spitsbergen Ar 49.72 358 P P 09 46 51.9 0.0
comp=Z,10.0nm,0.7s,baz=46,slow=6.0,SNR=21
SPITS PcP PcP 09 48 12.2 -0.1
comp=Z,4.9nm,0.6s,baz=60,slow=3.3,SNR=7.3
Q31A Ellis 49.75 76 ⇓P P 09 46 53.1 +0.4
baz=50
U28A Mallet 49.77 80 ⇓P P 09 46 52.9 -0.1
baz=50,SNR=16
V27A Dan Oppiter Fa 49.81 81 ⇓P P 09 46 53.3 0.0
baz=50
T29A Hugoton 49.82 79 ⇓P P 09 46 53.6 +0.3
baz=50
P32A Huiting Farm, 49.83 74 ⇓P P 09 46 53.4 +0.1
baz=50,SNR=11
BJI Beijing 49.87 286 P P 09 46 57.3 +3.8
BJI PMZ
comp=Z,10.0nm,0.9s
S30A Montezuma 50.00 78 ⇑P P 09 46 55.0 +0.4
baz=50,SNR=9.0
ULN Ulaanbaatar 50.13 300 *e*P P 09 46 55.6 0.0
ULN pmax pmax
comp=Z,8.0nm,0.9s
ULN Ulaanbaatar 50.13 300 *e*P P 09 46 55.6 0.0
comp=Z,8.1nm,0.9s
R31A Burdett 50.14 76 ⇓P P 09 46 55.9 +0.3
baz=50,SNR=15
Q32A Meitler Ranch, 50.26 75 ⇓P P 09 46 56.8 +0.3
baz=50,SNR=23
U29A Oasis Ranch, S 50.30 79 ⇓P P 09 46 57.2 +0.3
baz=50
T30A Plains 50.35 78 ⇓P P 09 46 57.6 +0.4
baz=50
P33A Williams Farm, 50.48 74 ⇓P P 09 46 58.1 -0.1
baz=50
SONA1 Songino Array 50.49 300 *e*P P 09 46 58.0 -0.2
SONM Songino Array 50.50 300 P P 09 46 58.6 +0.3
comp=Z,3.5nm,0.6s,baz=61,slow=7.0,SNR=14
SONM PcP PcP 09 48 16.0 +0.1
comp=Z,6.8nm,0.8s,baz=56,slow=2.4,SNR=9.1
SONM ScP ScP 09 52 06.5 -1.9
comp=Z,1.6nm,0.6s,baz=82,slow=3.4,SNR=4.6
SONM LR LR 10 10 14.7
comp=Z,139nm,20.2s,baz=92,slow=38
W28A Vega 50.53 81 ⇓P P 09 46 58.4 -0.3
baz=50
V29A Stinnett 50.53 80 ⇑P P 09 46 58.5 -0.2
baz=50
R32A Long Quarter, 50.54 76 ⇓P P 09 46 58.2 -0.4
baz=50,SNR=7.3
ZAK Zakamensk 50.56 304 ⇑*i*P P 09 46 58.6 -0.1
ZAK *e* 09 48 15.9
ZAK pmax pmax
comp=Z,6.0nm,1.4s
U30A WK&E Inc. Balk 50.62 79 ⇓P P 09 46 59.4 +0.1
baz=50,SNR=5.4
Q33A Connelly Farm, 50.69 75 ⇓P P 09 46 59.9 +0.2
baz=50,SNR=19
S32A Newby Ranch, P 50.88 77 ⇓P P 09 47 01.0 -0.2
baz=51
MOY Mondy 50.92 307 *e*P P 09 47 01.7 +0.3
MNTX Cornudas Mount 51.01 87 *e*P P 09 47 02.7 +0.5
comp=Z,9.6nm,0.9s
MNTX Cornudas Mount 51.01 87 ⇓P P 09 47 02.7 +0.5
baz=51,SNR=12
X28A Dimmitt 51.03 82 ⇑P P 09 47 03.0 +0.5
baz=51
R33A Olander Ranch, 51.05 75 ⇓P P 09 47 02.7 +0.2
baz=51
MSTX Muleshoe 51.05 83 *e*P P 09 47 02.8 +0.2
comp=Z,17nm,1.0s
MSTX Muleshoe 51.05 83 ⇑P P 09 47 03.2 +0.5
baz=51,SNR=12
AMTX Amarillo 51.10 81 *e*P P 09 47 03.4 +0.4
comp=Z,15nm,1.3s
AMTX Amarillo 51.10 81 ⇑P P 09 47 03.3 +0.4
baz=51
V30A Spur Ranch, Mi 51.11 80 ⇑P P 09 47 03.2 +0.2
baz=51
COWI Conover 51.12 62 *e*P P 09 47 02.1 -0.8
comp=Z,8.6nm,1.1s
SUMG Summit 51.13 17 *i*P P 09 47 03.1 0.0
comp=Z,32nm,1.3s
SUMG Summit 51.13 17 *i*P P 09 47 03.1 0.0
SUMG pmax pmax
comp=Z,32nm,1.3s
SUMG Summit 51.13 17 *e*P P 09 47 02.8 -0.3
comp=Z,26nm,1.2s
U31A Nine Bar Ranch 51.21 78 ⇓P P 09 47 04.2 +0.5
baz=51
T32A Huddler Ranch, 51.23 77 ⇓P P 09 47 03.8 -0.1
baz=51
KSU1 Kansas State U 51.34 74 *e*P P 09 47 03.6 -1.0
comp=Z,17nm,0.9s
KSU1 Kansas State U 51.34 74 ⇑P P 09 47 04.0 -0.6
baz=51
X29A Tulia 51.38 82 ⇑P P 09 47 05.5 +0.4
baz=51
Y28A McKinney Farm, 51.41 82 ⇑P P 09 47 05.2 -0.1
baz=51,SNR=6.8
S33A Kaszmaul Farm, 51.51 76 ⇑P P 09 47 05.5 -0.3
baz=51
V31A Spring Creek L 51.61 79 ⇓P P 09 47 07.2 +0.5
baz=51
T33A Patterson Ranc 51.70 77 ⇓P P 09 47 07.2 -0.2
baz=52
U32A Winter Ranch, 51.71 78 ⇑P P 09 47 07.8 +0.3
baz=52
Z28A Tucker Farm, M 51.75 83 ⇓P P 09 47 07.6 -0.3
baz=52,SNR=6.6
Y29A Porterfield Fa 51.80 82 ⇓P P 09 47 08.6 +0.4
baz=52,SNR=5.7
TIA Tai'an 51.81 282 ⇓P P 09 47 08.1 -0.1
TIA PMZ
comp=Z,10.0nm,0.8s
X30A Coker Ranch, T 51.88 81 ⇑P P 09 47 08.8 0.0
baz=52
W31A Holland Ranch, 51.94 80 ⇑P P 09 47 09.3 +0.1
baz=52
HHC Hu-ho-hao-te 52.04 290 *e*P P 09 47 11.5 +1.6
HHC pP pP 09 47 23.6 +2.1
HHC PP PP 09 49 11.8 +3.8
HHC S S 09 54 33.5 +2.9
HHC PMZ
comp=Z,12nm,0.8s
HHC PMZ
comp=Z,110nm,5.1s
HHC LN
comp=Z,170nm,14.7s
HHC LE
comp=Z,240nm,16.7s
V32A Arapaho 52.13 78 ⇑P P 09 47 11.0 +0.4
baz=52
128A Castleberry Fa 52.15 84 ⇓P P 09 47 11.1 +0.3
baz=52,SNR=9.2
Z29A Hungry Hill Ra 52.18 83 ⇓P P 09 47 11.1 0.0
baz=52,SNR=9.8
U33A Lingo Farm, Me 52.21 77 ⇑P P 09 47 10.8 -0.3
baz=52,SNR=9.9
Y30A Stafford Cattl 52.25 82 ⇑P P 09 47 11.4 -0.2
baz=52,SNR=6.8
X31A McDonald Ranch 52.30 80 ⇑P P 09 47 12.1 +0.2
baz=52
T34A McClaskey Farm 52.37 76 ⇓P P 09 47 12.0 -0.3
baz=52,SNR=18
W32A Sentinel 52.41 79 ⇓P P 09 47 12.9 +0.3
baz=52,SNR=8.0
228A UT Block 9, Go 52.43 84 ⇑P P 09 47 13.4 +0.5
baz=52
S35A Otter Creek Ra 52.45 75 ⇑P P 09 47 12.5 -0.4
baz=52,SNR=13
R36A Gordon, Harris 52.50 74 ⇑P P 09 47 12.9 -0.4
baz=52,SNR=13
V33A Lossen Ranch, 52.52 78 ⇓P P 09 47 13.0 -0.4
baz=52
Z30A Sanderson Ranc 52.52 82 ⇑P P 09 47 13.5 0.0
baz=52,SNR=6.7
129A Stuart Farms, 52.52 83 ⇓P P 09 47 13.5 -0.1
baz=52
JFWS Jewell Farm 52.53 66 *e*P P 09 47 12.1 -1.4
JFWS pmax pmax
comp=Z,21nm,1.4s
JFWS Jewell Farm 52.53 66 *e*P P 09 47 12.1 -1.4
comp=Z,20nm,1.4s
U34A Anderson Ranch 52.55 77 *e*P P 09 47 13.2 -0.5
comp=Z,25nm,0.7s
U34A Anderson Ranch 52.55 77 ⇓P P 09 47 13.5 -0.2
baz=52,SNR=9.4
Y31A Rekieta Farm, 52.58 81 ⇑P P 09 47 13.9 -0.1
baz=52
Q37A Longview Farm, 52.76 72 ⇓P P 09 47 15.4 +0.2
baz=53
T35A Sooner Cattle 52.84 76 ⇑P P 09 47 15.4 -0.4
baz=53,SNR=8.1
S36A Lake Cedric, C 52.85 74 ⇑P P 09 47 15.2 -0.6
baz=53
W33A Caddo, Fort Co 52.86 79 ⇓P P 09 47 16.3 +0.4
baz=53,SNR=6.2
SFJD Kangerlussuaq 52.86 25 LR LR 10 12 40.9
comp=Z,112nm,18.3s,baz=332,slow=39
X32A Elmer 52.86 80 ⇑P P 09 47 15.9 -0.1
baz=53
R37A Teagarden Farm 52.91 73 ⇓P P 09 47 15.3 -0.9
baz=53,SNR=5.6
WMOK Wichita Mounta 52.95 79 *e*P P 09 47 16.5 -0.1
WMOK pmax pmax
comp=Z,10.0nm,1.0s
WMOK Wichita Mounta 52.95 79 *e*P P 09 47 16.5 -0.1
comp=Z,10nm,1.0s
V34A Guthrie 52.97 77 *e*P P 09 47 17.7 +0.9
comp=Z,16nm,0.6s
V34A Guthrie 52.97 77 ⇑P P 09 47 17.0 +0.3
baz=53
229A Bryant Ranch, 53.01 84 ⇓P P 09 47 17.7 +0.5
baz=53
Y32A R-V Farms, Ver 53.05 80 ⇑P P 09 47 17.5 +0.1
baz=53,SNR=6.9
130A Snyder 53.09 83 ⇓P P 09 47 18.0 +0.2
baz=53
Z31A Sharp Cattle R 53.09 81 ⇑P P 09 47 17.8 +0.1
baz=53,SNR=5.7
T36A Boggs Farm, Ca 53.12 75 ⇑P P 09 47 17.5 -0.3
baz=53
W34A Bridge Creek, 53.22 78 *e*P P 09 47 19.0 +0.4
comp=Z,96nm,2.0s
W34A Bridge Creek, 53.22 78 ⇓P P 09 47 18.6 0.0
baz=53
329A Wagon Wheel Ra 53.24 84 ⇑P P 09 47 18.7 -0.2
baz=53
X33A Lawton 53.25 79 ⇓P P 09 47 19.0 +0.1
baz=53
131A Roby 53.39 82 ⇓P P 09 47 20.0 0.0
baz=53
V35A Meyer Ranch, C 53.42 77 ⇑P P 09 47 20.1 0.0
baz=53
230A Sterling City 53.49 83 ⇑P P 09 47 20.5 -0.3
baz=53
Z32A Haskell 53.51 81 ⇑P P 09 47 20.6 -0.2
baz=53,SNR=13
Y33A Hilltop Ranch, 53.54 80 ⇑P P 09 47 20.7 -0.3
baz=53
NJ2 Nanjing 53.59 277 *e*P P 09 47 23.8 +2.4
NJ2 PMZ
comp=Z,40nm,0.7s
X34A Smith Ranch, M 53.61 79 ⇑P P 09 47 21.4 -0.1
baz=53
TX31 Lajitas Ar. Si 53.72 88 *e*P P 09 47 22.4 -0.1
TXAR Lajitas Array 53.72 88 P P 09 47 22.4 0.0
comp=Z,5.2nm,0.6s,baz=296,slow=5.1,SNR=49
TXAR ScP ScP 09 52 20.8 -1.8
comp=Z,0.1nm,0.4s,baz=329,slow=1.5,SNR=3.8
TXAR LR LR 10 08 35.1
comp=Z,114nm,19.3s,baz=0.0,slow=34
330A Mertzon 53.79 84 ⇓P P 09 47 22.7 -0.2
baz=54
W35A Tecumseh 53.81 78 ⇓P P 09 47 22.8 -0.2
baz=54,SNR=10.0
ABTX Abilene, Hawle 53.88 82 *e*P P 09 47 23.6 +0.1
comp=Z,16nm,1.1s
ABTX Abilene, Hawle 53.88 82 ⇑P P 09 47 23.2 -0.2
baz=54,SNR=7.9
429A Davenport Ranc 53.90 85 ⇓P P 09 47 23.3 -0.4
baz=54,SNR=6.9
231A Bronte 53.94 83 ⇓P P 09 47 23.8 -0.2
baz=54
TUL1 Leonard 53.95 76 *e*P P 09 47 23.5 -0.5
comp=Z,11nm,0.8s
TUL1 Leonard 53.95 76 ⇑P P 09 47 23.6 -0.3
baz=54,SNR=6.5
Z33A Whitaker Ranch 53.95 81 ⇓P P 09 47 24.0 0.0
baz=54
529A Stev Forest Ra 54.05 86 ⇑P P 09 47 24.7 -0.1
baz=54,SNR=7.2
Y34A Reagan Ranch, 54.10 79 ⇑P P 09 47 25.4 +0.3
baz=54,SNR=7.9
430A Baggett Ranch, 54.19 85 ⇓P P 09 47 25.6 -0.2
baz=54,SNR=14
W36A Wetumka 54.21 77 ⇑P P 09 47 25.7 -0.2
baz=54,SNR=7.1
X35A Drake 54.27 78 ⇑P P 09 47 26.1 -0.2
baz=54
331A San Angelo 54.31 83 ⇓P P 09 47 26.3 -0.5
baz=54,SNR=8.6
133A Hamilton Ranch 54.33 81 ⇑P P 09 47 26.8 +0.1
baz=54,SNR=5.7
232A Coleman 54.38 82 ⇑P P 09 47 27.0 -0.2
baz=54
Z34A Collier Ranch, 54.41 80 ⇑P P 09 47 27.2 -0.2
baz=54
X36A Centrahoma 54.52 78 ⇓P P 09 47 28.0 -0.1
baz=54
530A J-C Ranch, Com 54.57 85 ⇑P P 09 47 28.5 -0.1
baz=54,SNR=17
HDIL Hopedale 54.62 68 *e*P P 09 47 27.8 -1.0
comp=Z,16nm,0.8s
431A Sonora 54.64 84 ⇓P P 09 47 28.7 -0.5
baz=54,SNR=15
332A Millersview 54.68 83 ⇓P P 09 47 28.7 -0.7
baz=54,SNR=8.9
W37A Quinton 54.69 77 ⇑P P 09 47 29.4 0.0
baz=54,SNR=17
233A Rising Star 54.75 82 ⇓P P 09 47 29.8 -0.1
baz=55,SNR=12
Z35A Perchaven, San 54.84 79 ⇑P P 09 47 30.2 -0.2
baz=55
134A White-Moore Ra 54.86 81 ⇓P P 09 47 30.5 -0.1
baz=55
432A Menard 55.00 83 ⇓P P 09 47 30.6 -1.1
baz=55,SNR=5.4
531A Rocksprings 55.05 85 ⇑P P 09 47 31.4 -0.7
baz=55,SNR=5.9
X37A Clayton 55.10 77 ⇓P P 09 47 32.4 +0.1
baz=55,SNR=16
333A Richland Sprin 55.18 82 ⇑P P 09 47 32.4 -0.6
baz=55,SNR=8.2
234A Clairette 55.22 81 ⇑P P 09 47 33.0 -0.2
baz=55,SNR=7.1
135A Vickery Place, 55.28 80 ⇓P P 09 47 33.7 +0.1
baz=55
JCT Junction City 55.28 84 *e*P P 09 47 33.2 -0.5
JCT pmax pmax
comp=Z,12nm,1.1s
JCT Junction City 55.28 84 *e*P P 09 47 33.1 -0.5
comp=Z,12nm,1.1s
JCT Junction City 55.28 84 ⇑P P 09 47 33.0 -0.7
baz=55
W38A Poteau 55.28 76 ⇓P P 09 47 33.4 -0.2
baz=55,SNR=13
532A Rocksprings 55.46 84 ⇑P P 09 47 34.4 -0.7
baz=55
433A Art 55.52 83 ⇑P P 09 47 34.9 -0.5
baz=55,SNR=5.5
631A Perdido Creek 55.56 85 ⇓P P 09 47 35.0 -0.7
baz=55
334A Lometa 55.63 82 ⇓P P 09 47 36.1 -0.1
baz=55,SNR=13
WHTX Lake Whitney, 55.64 81 *e*P P 09 47 37.0 +0.7
comp=Z,24nm,1.0s
WHTX Lake Whitney, 55.64 81 ⇓P P 09 47 36.5 +0.3
baz=56
632A Uvalde 55.98 85 ⇑P P 09 47 37.9 -0.7
baz=56
434A Burnet 55.98 82 ⇓P P 09 47 38.6 -0.1
baz=56,SNR=5.4
SFIN Lafayette 55.98 66 *e*P P 09 47 38.2 -0.3
comp=Z,10nm,0.7s
SFIN Lafayette 55.98 66 ⇓P P 09 47 37.8 -0.7
baz=56
533A Kerrville 56.03 84 ⇓P P 09 47 38.6 -0.6
baz=56
SCHQ Schefferville 56.15 42 P P 09 47 39.2 -0.3
comp=Z,11nm,0.8s,baz=320,slow=7.4,SNR=15
SCHQ LR LR 10 14 32.3
comp=Z,172nm,19.1s,baz=335,slow=39
SCHQ Schefferville 56.15 42 *e*P P 09 47 39.7 +0.1
comp=Z,13nm,0.8s
MIAR Mount Ida 56.20 76 *e*P P 09 47 39.8 -0.4
MIAR pmax pmax
comp=Z,19nm,0.9s
MIAR Mount Ida 56.20 76 *e*P P 09 47 39.8 -0.4
comp=Z,18nm,0.9s
137A Heron Place, G 56.25 79 ⇓P P 09 47 40.2 -0.3
baz=56
Z38A Mt. Pleasant 56.26 78 ⇑P P 09 47 40.6 0.0
baz=56
633A Saathoff Ranch 56.38 84 ⇓P P 09 47 41.4 -0.1
baz=56
JMIC Jan Mayen 56.38 7 LR LR 10 10 14.8
comp=Z,107nm,21.8s,baz=30,slow=34
534A Blanco 56.41 83 ⇑P P 09 47 41.1 -0.6
baz=56,SNR=5.6
435B Jarrell 56.41 82 ⇓P P 09 47 41.9 +0.1
baz=56
732A Laxson Ranch, 56.42 85 ⇓P P 09 47 41.8 0.0
baz=56
PBMO Poplar Bluff 56.52 72 *e*P P 09 47 41.0 -1.4
comp=Z,32nm,1.6s
OLIL Olney 56.53 68 *e*P P 09 47 42.0 -0.5
comp=Z,22nm,1.0s
237A Washetta, Mont 56.63 80 ⇑P P 09 47 43.4 +0.1
baz=56
832A Faith Ranch, C 56.73 86 ⇑P P 09 47 43.6 -0.5
baz=57,SNR=6.5
ZAA0 Zalesovo Array 56.82 317 *e*P P 09 47 44.6 +0.3
ZAA0 *e*PcP PcP 09 48 39.4 -0.2
ZALV Zalesovo Beam 56.82 317 P P 09 47 43.9 -0.4
comp=Z,1.6nm,0.5s,baz=42,slow=3.2,SNR=8.0
ZALV PcP PcP 09 48 39.7 +0.1
comp=Z,6.3nm,0.7s,baz=30,slow=4.5,SNR=13
ZALV LR LR 10 16 21.3
comp=Z,75nm,18.3s,baz=70,slow=40
NVS Novosibirsk 56.84 318 *e*P P 09 47 42.6 -1.8
PARMO Parma 56.99 71 *e*P P 09 47 45.2 -0.5
H06N1 SOCORRO T-PHAS 57.00 102 T T 10 50 23.1
SNR=7.4
USIN University of 57.30 69 *e*P P 09 47 47.6 -0.4
comp=Z,37nm,0.9s
UTMT University of 57.73 71 *e*P P 09 47 51.6 +0.7
comp=Z,44nm,0.6s
ARCES ARCESS Array B 57.89 353 P P 09 47 50.8 -0.8
comp=Z,3.4nm,0.6s,baz=12,slow=6.5,SNR=21
ARCES PcP PcP 09 48 43.0 -0.6
comp=Z,7.4nm,0.8s,baz=5.7,slow=4.9,SNR=7.0
ARCES LR LR 10 12 38.4
comp=Z,46nm,21.8s,baz=8.5,slow=36
WCI Wyandotte Cave 57.90 68 *e*P P 09 47 51.2 -1.0
WCI pmax pmax
comp=Z,10.0nm,0.9s
WCI Wyandotte Cave 57.90 68 *e*P P 09 47 51.2 -1.0
comp=Z,9.8nm,0.9s
SSLB Suanglung 58.24 268 *e*P P 09 47 52.1 -2.6
comp=Z,21nm,1.0s
WVT Waverly 58.48 71 *e*P P 09 47 55.5 -0.7
WVT pmax pmax
comp=Z,13nm,1.1s
WVT Waverly 58.48 71 *e*P P 09 47 55.5 -0.7
comp=Z,13nm,1.1s
LVZ Lovozero 58.61 349 *d i*P P 09 47 55.9 -0.8
LVZ pmax pmax
comp=Z,24nm,0.8s
LVZ Lovozero 58.61 349 *e*P P 09 47 56.1 -0.6
comp=Z,22nm,0.8s
OXF Oxford 58.69 73 *e*P P 09 47 57.3 -0.4
OXF pmax pmax
comp=Z,61nm,1.0s
OXF Oxford 58.69 73 *e*P P 09 47 57.3 -0.4
comp=Z,61nm,1.0s
ALLY Alegheny Colle 58.94 61 *e*P P 09 47 58.9 -0.5
comp=Z,31nm,0.9s
MMNY Mt. Morris Dam 59.37 59 *e*P P 09 48 02.4 +0.1
comp=Z,70nm,1.5s
PTN Potsdam (NY) 59.58 56 *e*P P 09 48 03.6 -0.2
PTN pmax pmax
comp=Z,165nm,2.1s
PTN Potsdam (NY) 59.58 56 *e*P P 09 48 03.6 -0.2
comp=Z,165nm,2.1s
GTA Gaotai 59.64 296 *e*P P 09 48 03.9 -0.5
GTA pP pP 09 48 10.1 -6.1
GTA PMZ
comp=Z,10.0nm,0.8s
VBMS Vicksburg 59.65 76 *e*P P 09 48 04.5 +0.1
comp=Z,33nm,0.9s
LZH Lanzhou 59.71 291 P P 09 48 05.3 +0.3
LZH pP pP 09 48 15.6 -1.1
LZH sP sP 09 48 19.0 -2.4
LZH PMZ
comp=Z,30nm,1.0s
LZH PMZ
comp=Z,160nm,5.0s
SWET Sewanee 60.22 70 *e*P P 09 48 07.7 -0.6
TZTN Tazewell 60.64 67 *e*P P 09 48 10.9 -0.2
comp=Z,22nm,1.3s
BINY Binghamton 60.75 58 *e*P P 09 48 11.5 -0.3
comp=Z,12nm,0.8s
SSPA Standing Stone 60.86 60 *e*P P 09 48 12.4 -0.1
comp=Z,11nm,0.8s
BORG Borgarnes 60.95 14 LR LR 10 19 13.4
comp=Z,35nm,18.1s,baz=333,slow=40
TKL Tuckaleechee C 61.14 68 *e*P P 09 48 14.3 -0.3
TKL Tuckaleechee C 61.14 68 *e*P P 09 48 14.3 -0.3
LRAL Lakeview Retre 61.15 72 *e*P P 09 48 13.1 -1.5
comp=Z,8.6nm,0.8s
KURK Kurchatov 61.78 317 *e*P P 09 48 18.2 -0.4
KURK pmax pmax
comp=Z,16nm,0.7s
KURK Kurchatov 61.78 317 *e*P P 09 48 18.2 -0.4
comp=Z,16nm,0.7s
BLA Blacksburg 61.92 65 *e*P P 09 48 20.0 +0.2
BLA pmax pmax
comp=Z,20nm,0.8s
BLA Blacksburg 61.92 65 *e*P P 09 48 20.0 +0.2
comp=Z,20nm,0.8s
PRGR Permogore 62.75 341 *e*P P 09 48 23.2 -1.7
PRGR pmax pmax
comp=Z,12nm,0.8s
WMQ Urumqi 62.81 307 P P 09 48 26.1 +0.4

WMQ pP **pP** 09 48 36.3 -1.2
WMQ sP **sP** 09 48 40.3 -1.8
WMQ PcP **PcP** 09 49 04.1 +0.3
WMQ PcS **PcS** 09 53 06.1 -1.2
WMQ S **S** 09 56 46.5 -5.3
WMQ sS sS 09 57 08.3 -3.1
WMQ ScS **SKKSac** 09 58 12.3 -2.5
WMQ PMZ
comp=Z,19nm,0.6s
WMQ PMZ
comp=Z,140nm,4.8s
WMQ LN
comp=Z,120nm,19.0s
WMQ LE
comp=Z,110nm,23.2s
WMQ LZ
comp=Z,73nm,24.2s
KMSC Kings Mountain 62.90 67 *e*P **P** 09 48 26.1 -0.2
comp=Z,22nm,1.0s
KMSC Kings Mountain 62.90 67 ⇑P **P** 09 48 26.3 0.0
baz=63,SNR=7.6
GOGA Godfrey 62.93 70 *e*P **P** 09 48 25.4 -1.2
GOGA pmax pmax
comp=Z,12nm,0.8s
GOGA Godfrey 62.93 70 *e*P **P** 09 48 25.4 -1.2
comp=Z,12nm,0.8s
MK31 Makanchi Array 63.15 312 *e*P **P** 09 48 27.0 -0.9
MK31 Makanchi Array 63.15 312 *e*P **P** 09 48 27.0 -0.9
MKAR Makanchi Array 63.15 312 P **P** 09 48 26.9 -1.0
comp=Z,3.4nm,0.7s,baz=20,slow=4.3,SNR=34
MKAR PcP **PcP** 09 49 04.2 -0.9
comp=Z,1.3nm,0.6s,baz=62,slow=5.6,SNR=4.8
MKAR LR LR 10 19 52.7
comp=Z,74nm,18.1s,baz=38,slow=40
MKAR Makanchi Array 63.15 312 P **P** 09 48 26.9 -1.0
MKAR 09 49 04.2
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR MLR MLR
comp=Z,74nm,18.1s
MK01 Makanchi Array 63.16 312 *e*P **P** 09 48 26.9 -1.1
BRVK Borovoye 63.20 324 *e*P **P** 09 48 27.8 -0.3
BRVK *e* 09 49 05.4
BRVK pmax pmax
comp=Z,13nm,0.8s
BRVK Borovoye 63.20 324 *e*P **P** 09 48 27.8 -0.3
comp=Z,12nm,0.8s
BRVK *e*PcP **PcP** 09 49 05.4 +0.2
URVA University of 63.25 63 *e*P **P** 09 48 28.9 +0.2
SVE Sverdlovsk 63.29 331⇑ *e*P **P** 09 48 28.6 0.0
SVE pmax pmax
comp=Z,17nm,0.9s
CD2 Chengdu 63.47 287 *e*P **P** 09 48 30.5 +0.3
CD2 pP **pP** 09 48 42.1 +0.1
CD2 S **S** 09 56 57.1 -3.3
CD2 SS **SS** 10 01 07.8 +0.6
CD2 PMZ
comp=Z,20nm,1.2s
CD2 PMZ
comp=Z,80nm,7.2s
CD2 LN
comp=Z,200nm,16.8s
CD2 LZ
comp=Z,200nm,18.1s
JSC Jenkinsville 63.56 68 *e*P **P** 09 48 30.0 -0.7
JSC Jenkinsville 63.56 68 *e*P **P** 09 48 30.0 -0.7
ARU Arti 64.24 332 *c i*P **P** 09 48 34.1 -0.7
ARU 09 49 04.9
ARU S **S** 09 57 10.3 +1.2
ARU SS **SS** 10 01 17.5 -0.4
ARU pmax pmax
comp=Z,12nm,0.7s
ARU Arti 64.24 332 *e*P **P** 09 48 34.2 -0.6
comp=Z,12nm,0.8s
KLMR Klimovskoe 64.60 344 *e*P P 09 48 31.7 -5.4
KLMR pmax pmax
comp=Z,13nm,1.5s
GYA Guiyang 65.00 281⇑ *i*P **P** 09 48 40.3 -0.1
GYA pP **pP** 09 48 52.8 +0.6
GYA PP **PP** 09 51 07.0 +3.6
GYA ScP 09 53 14.3
GYA S **S** 09 57 20.5 +1.0
GYA sS **sS** 09 57 38.3 -0.9
GYA SKS **SKSac** 09 58 30.0 -2.0
GYA SS **SS** 10 01 32.3 +0.9
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,110nm,5.4s
GYA LN
comp=Z,440nm,18.3s
GYA LE
comp=Z,360nm,19.0s
GYA LZ
comp=Z,420nm,18.6s
NHSC New Hope 65.04 68 *e*P **P** 09 48 40.5 +0.2
comp=Z,34nm,0.9s
FINES FINESS Array B 65.80 351 P **P** 09 48 43.9 -1.0
comp=Z,3.0nm,0.5s,baz=28,slow=8.1,SNR=19
FINES PcP **PcP** 09 49 15.1 -0.6
comp=Z,3.2nm,0.6s,baz=54,slow=2.1,SNR=6.8
TAOE Nuku Hiva Isla 66.38 146 *e*T T 11 01 05.2
comp=Z,173nm,0.3s
NB2 NORSAR Subarra 67.00 359 P **P** 09 48 52.0 -0.7
comp=Z,27nm,1.4s,baz=2.1,slow=6.5
NB2 NORSAR Subarra 67.00 359 P **P** 09 48 52.0 -0.7
baz=2.1,slow=6.5
NOA NORSAR Array B 67.00 359 P **P** 09 48 52.3 -0.3
comp=Z,2.7nm,0.6s,baz=1.3,slow=6.4,SNR=16
NOA PcP **PcP** 09 49 20.5 -0.3
comp=Z,3.6nm,0.8s,baz=357,slow=3.1,SNR=7.6
KMI Kunming 68.34 283 P **P** 09 49 02.4 +0.5
KMI PMZ
comp=Z,11nm,1.4s
KONO Kongsberg 68.41 360 *e*P **P** 09 49 01.5 +0.1
KONO pmax pmax
comp=Z,50nm,1.8s
KONO Kongsberg 68.41 360 *e*P **P** 09 49 01.5 +0.1
comp=Z,50nm,1.8s
QIZ Qiongzhong 68.62 274 P **P** 09 49 04.6 +1.2
QIZ S **S** 09 58 04.8 +1.7
QIZ LZ
comp=Z,160nm,25.8s
VSU Vasula 68.67 350 *d i*P **P** 09 49 02.5 -0.5
VSU pmax pmax
comp=Z,43nm,0.7s
TKM2 Tokmak 2 69.15 314 P **P** 09 49 06.5 -0.2
SNR=5.7
TKM2 Tokmak 2 69.15 314 *e*P **P** 09 49 06.7 +0.1
TKM2 pmax pmax
comp=Z,10.0nm,1.2s
TKM2 Tokmak 2 69.15 314 *e*P **P** 09 49 06.7 +0.1
comp=Z,10nm,1.2s
USP Ospenovka 69.36 315 P **P** 09 49 08.1 +0.4
SNR=5.9
AKTO Aktyubinsk 69.58 329 LR LR 10 22 25.0
comp=Z,24nm,20.4s,baz=19,slow=38
KBK Karagaybulak 69.65 314 P **P** 09 49 09.8 +0.1
SNR=6.0
AAK Ala-Archa 69.87 314 P **P** 09 49 11.1 0.0
SNR=8.2
AAK Ala-Archa 69.87 314 *ce*P **P** 09 49 11.0 0.0
AAK pmax pmax
comp=Z,38nm,1.7s
AAK Ala-Archa 69.87 314 *e*P **P** 09 49 11.0 0.0
comp=Z,58nm,0.8s
PMOR Pomariorio Ree 69.93 156 *e*T T 11 05 30.7
comp=Z,4.5nm,0.3s
KZA Kyzart 69.98 314 P **P** 09 49 12.1 +0.1
SNR=8.3
EKS2 Erkin-Say 70.16 315 P **P** 09 49 12.8 +0.1
SNR=13
EKS2 Erkin-Say 70.16 315 *e*P **P** 09 49 12.9 +0.1
EKS2 pmax pmax
comp=Z,9.0nm,0.6s
EKS2 Erkin-Say 70.16 315 *e*P **P** 09 49 12.9 +0.1
comp=Z,9.3nm,0.6s
OBN Obninsk 70.55 344⇑ *e*P **P** 09 49 14.7 0.0
OBN pmax pmax
comp=Z,31nm,2.5s
AML Almayashu 70.62 315 P **P** 09 49 16.8 +0.8
SNR=5.3
KKAR Karatay Array 71.19 317 *e*P **P** 09 49 18.4 -0.5
KKAR Karatay Array 71.19 317 *e*P **P** 09 49 18.4 -0.5

LSA Lhasa 71.60 295 *e*P **P** 09 49 23.3 +1.2
LSA pmax pmax
comp=Z,23nm,0.8s
LSA Lhasa 71.60 295 *e*P **P** 09 49 23.3 +1.2
comp=Z,23nm,0.8s
SIJI Sorong 71.61 243 P **P** 09 49 20.4 -1.3
comp=Z,3.4nm,0.4s,baz=200,slow=22,SNR=7.1
KSH Kashi 71.70 311 P P 09 49 25.8 +3.6
KSH pP pP 09 49 36.0 +1.8
KSH sP sP 09 49 40.0 +1.2
KSH PP PP 09 52 07.1 +6.0
KSH S **S** 09 58 42.9 +3.9
KSH sS **SKiKP** 09 58 59.8 +2.9
KSH ScS **ScS** 09 59 25.0 +0.7
KSH PMZ
comp=Z,13nm,0.6s
KSH PMZ
comp=Z,150nm,4.6s
KSH LN
comp=Z,220nm,10.6s
KSH LE
comp=Z,130nm,6.2s
KSH LZ
comp=Z,140nm,4.6s
PPT Papeete 72.01 159 LR LR 10 16 20.5
comp=Z,73nm,21.2s,baz=134,slow=32
PPT2 Papeete2 72.03 159 *e*LR LR 10 11 25.3
comp=Z,88nm,22.2s
PPT2 Papeete2 72.03 159 *e*T T 11 08 08.2
comp=Z,4.5nm,0.3s
TIAR Tiarei 72.05 158 *e*T T 11 08 09.5
comp=Z,3.4nm,0.2s
CRAI Chiangrai 73.47 282 P P 09 49 29.1 -3.7
comp=Z,23nm,0.9s
SKNT Sakolnakorn 73.77 277 P **P** 09 49 34.6 +0.1
comp=Z,22nm,0.9s
VSR Storozhevoye 73.78 341 *e*P **P** 09 49 33.2 -0.9
VSR pmax pmax
comp=N,8.0nm,0.8s
VSR pmax pmax
comp=E,5.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
VORD Divnogorie 73.99 341 *e*P **P** 09 49 33.3 -2.0
VORD pmax pmax
comp=N,7.0nm,0.6s
VORD pmax pmax
comp=E,6.0nm,0.6s
VORD pmax pmax
comp=Z,10.0nm,0.6s
BSEG Bad Segeberg 74.14 359 *e*P **P** 09 49 36.5 +0.4
comp=Z,15nm,1.0s
CMAI Chiengmai2 74.49 282 P **P** 09 49 39.2 +0.3
comp=Z,20nm,1.1s,comp=Z,449nm
LAMP Lampang 75.22 281 P **P** 09 49 44.3 +1.3
comp=Z,5.4nm,0.9s
TAPN Taplejung 75.33 296 *e*P **P** 09 49 43.6 -0.3
comp=Z,37nm,0.7s
CMMT Chiang Mai 75.41 282 P **P** 09 49 44.2 +0.1
comp=Z,16nm,1.0s
CHTO Chiang Mai 75.41 282 P **P** 09 49 44.3 +0.2
comp=Z,55nm,1.3s
CHTO Chiang Mai 75.41 282 *e*P **P** 09 49 44.2 +0.2
CHTO pmax pmax
comp=Z,8.0nm,0.8s
CHTO Chiang Mai 75.41 282 *e*P **P** 09 49 44.2 +0.2
comp=Z,7.8nm,0.8s
NRDL Niedersach Rie 75.58 359 *e*P **P** 09 49 44.2 -0.2
comp=Z,8.0nm,0.9s
CMAR Chiang Mai Arr 75.68 282 P **P** 09 49 46.0 +0.4
comp=Z,17nm,0.8s,baz=27,slow=6.9,SNR=67
CMAR LR LR 10 23 53.2
comp=Z,38nm,20.9s,baz=102,slow=36
CM01 Chiang Mai Arr 75.70 282 *e*P **P** 09 49 46.2 +0.5
IBBN Ibbenburen 75.77 1 *e*P **P** 09 49 46.0 +0.5
comp=Z,29nm,1.1s
GUN Gumba 75.90 297 *e*P **P** 09 49 47.0 -0.2
comp=Z,49nm,0.6s
PBKT Sadao Pong 75.91 279 P **P** 09 49 46.9 0.0
comp=Z,14nm,1.1s
JIRN Jiri 75.93 297 *e*P **P** 09 49 47.4 0.0
comp=Z,57nm,0.5s
AKASG Malin Array Be 75.97 347 P **P** 09 49 45.2 -1.5
comp=Z,1.5nm,0.5s,baz=14,slow=5.6,SNR=13
AKASG LR LR 10 29 02.3
comp=Z,47nm,18.6s,baz=320,slow=40
KIEV Kiev 75.98 347⇑ *e*P **P** 09 49 45.0 -1.8
RAMN Ramite 76.26 296 *e*P **P** 09 49 48.8 -0.3
comp=Z,66nm,0.9s
KKN Kakani 76.32 298 *e*P **P** 09 49 49.2 -0.2
comp=Z,21nm,0.6s
PKI Pulchoki 76.42 297 *e*P **P** 09 49 49.7 -0.4
comp=Z,37nm,1.0s
PKIN Phulchoki 76.42 297 *e*P **P** 09 49 49.6 -0.5
GKN Gorkha 76.50 298 *e*P **P** 09 49 49.9 -0.5
comp=Z,46nm,0.8s
MHMT Maesarieng 76.51 282 P **P** 09 49 50.9 +0.6
comp=Z,17nm,0.9s
DMN Daman 76.56 298 *e*P **P** 09 49 50.7 -0.1
comp=Z,27nm,0.8s
CLL Collm 76.72 357 *e*P **P** 09 49 50.5 -0.5
comp=Z,10.0nm,1.0s
CLL Collm 76.72 357 *i* P **P** 09 49 50.3 -0.7
comp=Z,10.0nm,1.0s
CLL Collm 76.72 357 *e*P **P** 09 49 50.5 -0.5
CLL pmax pmax
comp=Z,10.0nm,1.0s
CLL Collm 76.72 357 *e*P **P** 09 49 50.5 -0.5
comp=Z,10nm,1.0s
BRG Berggiesshubel 77.12 357 *e*P **P** 09 49 53.1 -0.2
comp=Z,14nm,1.1s
BRG Berggiesshubel 77.12 357 *e*P **P** 09 49 53.2 -0.1
comp=Z,14nm,1.1s
BRG Berggiesshubel 77.12 357 *e*P **P** 09 49 53.1 -0.2
BRG pmax pmax
comp=Z,14nm,1.1s
KOLN Koldanda 77.25 299 *e*P **P** 09 49 54.2 -0.4
MEM Membach 77.44 2 *e*P **P** 09 49 55.8 +0.7
MEM pmax pmax
comp=Z,15nm,1.0s
MEM Membach 77.44 2 *e*P **P** 09 49 55.8 +0.7
comp=Z,15nm,1.0s
DPC Dobruska-Polom 77.55 355 *e*P **P** 09 49 56.0 +0.3
DPC Dobruska-Polom 77.55 355 *e*P **P** 09 49 56.0 +0.3
KRLC Kraliky 77.80 355 *e*P **P** 09 49 57.0 -0.1
KRLC Kraliky 77.80 355 *e*P **P** 09 49 57.0 -0.1
NKC Novy Kostel 77.81 358 *e*P **P** 09 49 57.3 +0.1
NKC Novy Kostel 77.81 358 *e*P **P** 09 49 57.3 +0.1
TNS Taunus Mts 77.86 0 *e*P **P** 09 49 57.5 0.0
comp=Z,10.0nm,0.9s
TNS eL L 10 30 40.1
comp=Z,85nm,18.4s
GIVF Givet 77.92 3⇑ *i*P **P** 09 49 57.5 -0.2
comp=Z,22nm,0.9s
GIVF Givet 77.92 3⇑ *i*P **P** 09 49 57.5 -0.2
GIVF pmax pmax
comp=Z,22nm,0.9s
GIVF Givet 77.92 3⇑ *i*P **P** 09 49 57.5 -0.2
comp=Z,22nm,0.9s
BAIF Baives 77.94 3⇑ *i*P **P** 09 49 57.9 +0.1
comp=Z,28nm,0.9s
BAIF Baives 77.94 3⇑ *i*P **P** 09 49 57.9 +0.1
BAIF pmax pmax
comp=Z,28nm,0.9s
BAIF Baives 77.94 3⇑ *i*P **P** 09 49 57.9 +0.1
comp=Z,28nm,0.9s
OKC Ostrava-Krasne 77.95 354 *e*P **P** 09 49 58.1 +0.2
OKC Ostrava-Krasne 77.95 354 *e*P **P** 09 49 58.1 +0.2
PRU Pruhonice 77.99 356 *e*P **P** 09 49 58.1 0.0
PRU Pruhonice 77.99 356 *e*P **P** 09 49 58.1 0.0
MORC Moravsky Berou 78.05 354 *e*P **P** 09 49 58.6 0.0
MORC pmax pmax
comp=Z,7.0nm,0.9s
MORC Moravsky Berou 78.05 354 *e*P **P** 09 49 58.6 0.0
comp=Z,7.4nm,0.9s
GOPC GO Pecny, Ondr 78.05 356 *e*P **P** 09 49 58.7 +0.2
ROTZ Rotzenmuhle 78.28 358 *e*P **P** 09 50 00.2 +0.4
TREC Trest 78.64 356 *e*P **P** 09 50 01.9 +0.1
TREC Trest 78.64 356 *e*P **P** 09 50 01.9 +0.1
GOF Gofitskoye 78.71 336 *e*P **P** 09 50 01.4 -0.8
SRDT SRDT 78.75 279 P **P** 09 50 03.2 +0.4
comp=Z,55nm,0.9s
KHC Kasperske Hory 78.88 357 *e*P **P** 09 50 03.5 +0.4
KHC AMS AMS 09 50 10.0
KHC Kasperske Hory 78.88 357 *e*P **P** 09 50 03.5 +0.4
WET Wettzell 78.89 357 *e*L L 10 28 47.8

comp=Z,62nm,18.7s
KBL Kabul 78.94 313 *e*P **P** 09 50 02.9 -1.0
KBL pmax pmax
comp=Z,13nm,0.9s
KBL Kabul 78.94 313 *e*P **P** 09 50 02.9 -1.0
comp=Z,13nm,0.9s
GEC2 GERESS Array S 79.16 357 *e*P **P** 09 50 04.7 0.0
comp=Z,10.0nm,1.0s
GEC2 *e*L L 10 21 24.4
comp=Z,49nm,22.0s
GEC2 GERESS Array S 79.16 357 *e*P **P** 09 50 05.0 +0.2
GEC2 GERESS Array S 79.16 357 *e*P **P** 09 50 05.0 +0.2
GERES GERESS Array B 79.16 357 P **P** 09 50 04.8 0.0
comp=Z,4.2nm,0.8s,baz=15,slow=5.5,SNR=33
LDF La Druitiere 79.19 6⇑ *i*P **P** 09 50 04.2 -0.5
comp=Z,44nm,1.0s
LDF La Druitiere 79.19 6⇑ *i*P **P** 09 50 04.2 -0.5
LDF pmax pmax
comp=Z,45nm,1.0s
LDF La Druitiere 79.19 6⇑ *i*P **P** 09 50 04.2 -0.5
comp=Z,44nm,1.0s
GRR Gorron 79.34 7⇑ *i*P **P** 09 50 05.3 -0.3
comp=Z,21nm,0.9s
GRR Gorron 79.34 7⇑ *i*P **P** 09 50 05.3 -0.3
GRR pmax pmax
comp=Z,21nm,0.9s
GRR Gorron 79.34 7⇑ *i*P **P** 09 50 05.3 -0.3
comp=Z,21nm,0.9s
SGMF Saint Gilles 79.34 8 *e*P **P** 09 50 05.3 -0.3
comp=Z,17nm,0.8s
SGMF Saint Gilles 79.34 8 *e*P **P** 09 50 05.3 -0.3
SGMF pmax pmax
comp=Z,17nm,0.8s
SGMF Saint Gilles 79.34 8 *e*P **P** 09 50 05.3 -0.3
comp=Z,17nm,0.8s
PAGF Fort de Pagny 79.49 2⇑ *i*P **P** 09 50 06.8 +0.4
comp=Z,13nm,0.9s
PAGF Fort de Pagny 79.49 2⇑ *i*P **P** 09 50 06.8 +0.4
comp=Z,13nm,0.9s
MEZF Maizieres J'vi 79.52 3 *e*P **P** 09 50 06.8 +0.2
MEZF Maizieres J'vi 79.52 3 *e*P **P** 09 50 06.8 +0.2
CDF Champ du Feu 79.66 1⇑ *i*P **P** 09 50 07.3 -0.2
comp=Z,11nm,0.8s
CDF Champ du Feu 79.66 1⇑ *i*P **P** 09 50 07.3 -0.2
CDF pmax pmax
comp=Z,11nm,0.8s
CDF Champ du Feu 79.66 1⇑ *i*P **P** 09 50 07.3 -0.2
comp=Z,11nm,0.8s
BFO Black Forest 79.75 0 *e*L L 10 19 18.2
comp=Z,51nm,20.1s
SFTF Sexfontaines 79.82 3 *e*P **P** 09 50 08.2 0.0
comp=Z,63nm,1.1s
SFTF Sexfontaines 79.82 3 *e*P **P** 09 50 08.2 0.0
comp=Z,63nm,1.1s
KIV Kislovodsk 79.83 336 *de*P **P** 09 50 08.9 +0.4
KIV pmax pmax
comp=Z,7.0nm,0.7s
CONA Conrad Observa 79.99 355⇑ *i*P **P** 09 50 09.8 +0.5
comp=Z,17nm,1.2s,SNR=5.1
KBZ Khabaz 79.99 336 P **P** 09 50 09.7 +0.6
comp=Z,3.4nm,0.8s,baz=236,slow=24,SNR=11
HAU Haudompre 80.05 2⇑ *i*P **P** 09 50 09.4 -0.1
comp=Z,17nm,0.8s
HAU *e*R
comp=Z,68nm,21.0s
HAU Haudompre 80.05 2⇑ *i*P **P** 09 50 09.4 -0.1
HAU pmax pmax
comp=Z,17nm,0.8s
HAU Haudompre 80.05 2⇑ *i*P **P** 09 50 09.4 -0.1
comp=Z,17nm,0.8s
MOA Molln 80.14 356⇓ *i*P **P** 09 50 10.2 +0.2
comp=Z,8.3nm,1.0s
HINF Hinteralfeld 80.25 2⇑ *i*P **P** 09 50 10.3 -0.3
comp=Z,14nm,0.8s
HINF Hinteralfeld 80.25 2⇑ *i*P **P** 09 50 10.3 -0.3
HINF pmax pmax
comp=Z,14nm,0.8s
HINF Hinteralfeld 80.25 2⇑ *i*P **P** 09 50 10.3 -0.3
comp=Z,14nm,0.8s
GEYT Alibeck 80.51 323 P **P** 09 50 11.7 -0.5
comp=Z,3.1nm,0.7s,baz=335,slow=6.6,SNR=5.3
ZEI Tsey 80.61 335 *e*P **P** 09 50 12.4 -0.4
ZEI pmax pmax
comp=Z,7.0nm,0.6s
HYF Humbligny 80.66 4 *e*P **P** 09 50 12.9 +0.1
HYF Humbligny 80.66 4 *e*P **P** 09 50 12.9 +0.1
ARSA Arzberg 80.68 356⇓ *i*P **P** 09 50 12.0 -0.9
comp=Z,8.7nm,1.0s
LOR Lormes 80.72 4⇑ *i*P **P** 09 50 12.9 -0.2
comp=Z,28nm,0.9s
LOR *e*R
comp=Z,115nm,20.0s
LOR Lormes 80.72 4⇑ *i*P **P** 09 50 12.9 -0.2
LOR pmax pmax
comp=Z,28nm,0.9s
LOR Lormes 80.72 4⇑ *i*P **P** 09 50 12.9 -0.2
comp=Z,28nm,0.9s
MOTA Moosalm 80.72 359⇑ *i*P **P** 09 50 13.1 -0.1
comp=Z,10nm,0.8s,SNR=5.4
DAVA Damuels 80.80 359⇑ *i*P **P** 09 50 15.0 +1.3
comp=Z,10nm,0.9s
WTTA Wattenberg 80.80 358⇑ *i*P **P** 09 50 14.1 +0.4
comp=Z,14nm,0.7s
SSF Saint Saulge 80.91 4⇑ *i*P **P** 09 50 14.1 0.0
comp=Z,26nm,0.8s
SSF Saint Saulge 80.91 4⇑ *i*P **P** 09 50 14.1 0.0
SSF pmax pmax
comp=Z,26nm,0.8s
SSF Saint Saulge 80.91 4⇑ *i*P **P** 09 50 14.1 0.0
comp=Z,26nm,0.8s
KBA Koelnbreinsper 80.94 357⇓ *i*P **P** 09 50 15.1 +0.7
comp=Z,30nm,0.8s,SNR=9.0
FETA Feichten 81.05 359⇑ *i*P **P** 09 50 15.6 +0.5
comp=Z,16nm,0.9s,SNR=6.1
MFF Saint Martin d 81.17 6⇑ *i*P **P** 09 50 15.5 0.0
comp=Z,60nm,1.2s
MFF Saint Martin d 81.17 6⇑ *i*P **P** 09 50 15.5 0.0
MFF pmax pmax
comp=Z,60nm,1.2s
MFF Saint Martin d 81.17 6⇑ *i*P **P** 09 50 15.5 0.0
comp=Z,60nm,1.2s
AVF Avril sur Loir 81.17 4⇑ *i*P **P** 09 50 15.3 -0.2
comp=Z,38nm,0.9s
AVF Avril sur Loir 81.17 4⇑ *i*P **P** 09 50 15.3 -0.2
AVF pmax pmax
comp=Z,38nm,0.9s
AVF Avril sur Loir 81.17 4⇑ *i*P **P** 09 50 15.3 -0.2
comp=Z,38nm,0.9s
SOKA Soboth 81.27 356⇑ *i*P **P** 09 50 16.3 +0.1
comp=Z,12nm,0.9s
SMF Signal de Mont 81.34 4⇑ *i*P **P** 09 50 16.2 -0.2
comp=Z,40nm,0.8s
SMF Signal de Mont 81.34 4⇑ *i*P **P** 09 50 16.2 -0.2
SMF pmax pmax
comp=Z,40nm,0.8s
SMF Signal de Mont 81.34 4⇑ *i*P **P** 09 50 16.2 -0.2
comp=Z,40nm,0.8s
RKT Rikitea 81.40 147 *e*T T 11 19 51.2
comp=Z,2.1nm,0.3s
CABF La Chapelle 81.44 2⇑ *i*P **P** 09 50 17.4 +0.4
comp=Z,30nm,0.8s
CABF La Chapelle 81.44 2⇑ *i*P **P** 09 50 17.4 +0.4
CABF pmax pmax
comp=Z,30nm,0.8s
CABF La Chapelle 81.44 2⇑ *i*P **P** 09 50 17.4 +0.4
comp=Z,30nm,0.8s
FUORN Ofenpass-Fuorn 81.46 359 *e*P **P** 09 50 18.3 +1.0
comp=Z,16nm,1.1s
TCF Toulx Ste Croi 81.62 5⇑ *i*P **P** 09 50 17.7 -0.2
comp=Z,15nm,0.8s
TCF Toulx Ste Croi 81.62 5⇑ *i*P **P** 09 50 17.7 -0.2
TCF pmax pmax
comp=Z,15nm,0.8s
TCF Toulx Ste Croi 81.62 5⇑ *i*P **P** 09 50 17.7 -0.2
comp=Z,15nm,0.8s
LPL La Plagne 82.55 2⇑ *i*P **P** 09 50 24.7 +1.7
comp=Z,13nm,0.9s
LPL La Plagne 82.55 2⇑ *i*P **P** 09 50 24.7 +1.7
LPL pmax pmax
comp=Z,13nm,0.9s
LPL La Plagne 82.55 2⇑ *i*P **P** 09 50 24.7 +1.7
comp=Z,13nm,0.9s
RJF Les Rejaudoux 82.56 5 *e*P **P** 09 50 22.5 -0.3
comp=Z,11nm,0.8s
RJF *e*R
comp=Z,115nm,21.2s
RJF Les Rejaudoux 82.56 5 *e*P **P** 09 50 22.5 -0.3

RJF				pmax	pmax				
	comp=Z,11nm,0.8s								
RJF	**Les Rejaudoux**	**82.56**	**5**	*eP*	**P**	**09 50 22.5**	**-0.3**		
	comp=Z,11nm,0.8s								
LPG	**La Plagne**	**82.57**	**2⇑**	*iP*	**P**	**09 50 24.2**	**+1.0**		
LPG	**La Plagne**	**82.57**	**2⇑**	*iP*	**P**	**09 50 24.2**	**+1.0**		
LPG	**La Plagne**	**82.57**	**2⇑**	*iP*	**P**	**09 50 24.2**	**+1.0**		
LFF	**La Frestale**	**82.88**	**6⇑**	*iP*	**P**	**09 50 24.5**	**0.0**		
	comp=Z,24nm,0.7s								
LFF	**La Frestale**	**82.88**	**6⇑**	*iP*	**P**	**09 50 24.5**	**0.0**		
LFF				pmax	pmax				
	comp=Z,24nm,0.7s								
LFF	**La Frestale**	**82.88**	**6⇑**	*iP*	**P**	**09 50 24.5**	**0.0**		
	comp=Z,24nm,0.7s								
CAF	**Calviac**	**82.97**	**5**	*eP*	**P**	**09 50 25.1**	**+0.1**		
	comp=Z,13nm,0.8s								
CAF	**Calviac**	**82.97**	**5**	*eP*	**P**	**09 50 25.1**	**+0.1**		
CAF				pmax	pmax				
	comp=Z,13nm,0.8s								
CAF	**Calviac**	**82.97**	**5**	*eP*	**P**	**09 50 25.1**	**+0.1**		
	comp=Z,13nm,0.8s								
BNI	**Bardonecchia**	**83.01**	**2**	*eP*	**P**	**09 50 26.8**	**+1.4**		
BNI				pmax	pmax				
	comp=Z,14nm,0.8s								
BNI	**Bardonecchia**	**83.01**	**2**	*eP*	**P**	**09 50 26.8**	**+1.4**		
	comp=Z,14nm,0.8s								
ORIF	**Oris-en-Rattie**	**83.13**	**2**	*eP*	**P**	**09 50 26.4**	**+0.5**		
	comp=Z,18nm,1.0s								
ORIF				*eR*					
	comp=Z,85nm,22.2s								
ORIF	**Oris-en-Rattie**	**83.13**	**2**	*eP*	**P**	**09 50 26.4**	**+0.5**		
ORIF				pmax	pmax				
	comp=Z,18nm,1.0s								
ORIF	**Oris-en-Rattie**	**83.13**	**2**	*eP*	**P**	**09 50 26.4**	**+0.5**		
	comp=Z,18nm,1.0s								
VIVF	**Saint-Julien-l**	**83.16**	**3⇑**	*iP*	**P**	**09 50 26.2**	**+0.2**		
	comp=Z,25nm,1.0s								
VIVF	**Saint-Julien-l**	**83.16**	**3⇑**	*iP*	**P**	**09 50 26.2**	**+0.2**		
VIVF				pmax	pmax				
	comp=Z,25nm,1.0s								
VIVF	**Saint-Julien-l**	**83.16**	**3⇑**	*iP*	**P**	**09 50 26.2**	**+0.2**		
	comp=Z,25nm,1.0s								
SMRF	**Simiane la Rot**	**84.06**	**3**	*eP*	**P**	**09 50 31.6**	**+1.0**		
SMRF	**Simiane la Rot**	**84.06**	**3**	*eP*	**P**	**09 50 31.6**	**+1.0**		
SBF	**Sospel**	**84.21**	**1**	*eP*	**P**	**09 50 31.3**	**-0.1**		
SBF	**Sospel**	**84.21**	**1**	*eP*	**P**	**09 50 31.3**	**-0.1**		
SBF	**Sospel**	**84.21**	**1**	*eP*	**P**	**09 50 31.3**	**-0.1**		
FRF	**La Foret Royal**	**84.50**	**2**	*eP*	**P**	**09 50 32.9**	**+0.1**		
	comp=Z,37nm,1.0s								
FRF	**La Foret Royal**	**84.50**	**2**	*eP*	**P**	**09 50 32.9**	**+0.1**		
FRF				pmax	pmax				
	comp=Z,37nm,1.0s								
FRF	**La Foret Royal**	**84.50**	**2**	*eP*	**P**	**09 50 32.9**	**+0.1**		
	comp=Z,37nm,1.0s								
MTLF	**Montolieu**	**84.56**	**5⇑**	*iP*	**P**	**09 50 33.4**	**+0.3**		
	comp=Z,20nm,0.8s								
MTLF	**Montolieu**	**84.56**	**5⇑**	*iP*	**P**	**09 50 33.4**	**+0.3**		
MTLF				pmax	pmax				
	comp=Z,20nm,0.8s								
MTLF	**Montolieu**	**84.56**	**5⇑**	*iP*	**P**	**09 50 33.4**	**+0.3**		
	comp=Z,20nm,0.8s								
LMR	**La Mourre**	**84.73**	**2**	*eP*	**P**	**09 50 34.1**	**+0.2**		
	comp=Z,64nm,1.2s								
LMR	**La Mourre**	**84.73**	**2**	*eP*	**P**	**09 50 34.1**	**+0.2**		
LMR				pmax	pmax				
	comp=Z,64nm,1.2s								
LMR	**La Mourre**	**84.73**	**2**	*eP*	**P**	**09 50 34.1**	**+0.2**		
	comp=Z,64nm,1.2s								
EPF	**Esparros**	**84.75**	**6⇑**	*iP*	**P**	**09 50 33.6**	**-0.6**		
	comp=Z,18nm,0.9s								
EPF	**Esparros**	**84.75**	**6⇑**	*iP*	**P**	**09 50 33.6**	**-0.6**		
EPF				pmax	pmax				
	comp=Z,19nm,0.9s								
EPF	**Esparros**	**84.75**	**6⇑**	*iP*	**P**	**09 50 33.6**	**-0.6**		
	comp=Z,18nm,0.9s								
ETSF	**Etsaut**	**84.82**	**7**	*eP*	**P**	**09 50 35.0**	**+0.5**		
	comp=Z,41nm,1.0s								
ETSF	**Etsaut**	**84.82**	**7**	*eP*	**P**	**09 50 35.0**	**+0.5**		
ETSF				pmax	pmax				
	comp=Z,41nm,1.0s								
ETSF	**Etsaut**	**84.82**	**7**	*eP*	**P**	**09 50 35.0**	**+0.5**		
	comp=Z,41nm,1.0s								
PBRG	**Braganca**	**85.28**	**12**	*eP*	**P**	**09 50 36.9**	**+0.1**		
	comp=Z,29nm,2.0s								
PGF	**Pioggiola**	**85.54**	**0**	*eP*	**P**	**09 50 38.1**	**0.0**		
	comp=Z,54nm,0.9s								
PGF	**Pioggiola**	**85.54**	**0**	*eP*	**P**	**09 50 38.1**	**0.0**		
PGF				pmax	pmax				
	comp=Z,54nm,0.9s								
PGF	**Pioggiola**	**85.54**	**0**	*eP*	**P**	**09 50 38.1**	**0.0**		
	comp=Z,54nm,0.9s								
POLO	**Lamas de Olo**	**85.57**	**13**	*eP*	**P**	**09 50 38.5**	**+0.2**		
	comp=Z,17nm,1.6s								
BRTR	**Keskin Array B**	**85.89**	**341**	P	**P**	**09 50 40.0**	**0.0**		
	comp=Z,1.4nm,0.6s,baz=62,slow=3.2,SNR=11								
BRTR				LR	LR	10 34 39.9			
	comp=Z,23nm,18.8s,baz=20,slow=40								
BRTR	**Keskin Array B**	**85.89**	**341**	P	**P**	**09 50 40.0**	**0.0**		
BR231	**Keskin MP Arra**	**85.95**	**342**	*eP*	**P**	**09 50 40.9**	**+0.6**		
WRA	**Warramunga Arr**	**86.20**	**230**	P	**P**	**09 50 40.1**	**-1.3**		
	comp=Z,1.8nm,0.6s,baz=33,slow=5.7,SNR=14								
PCAS	**Casmilo, Conde**	**86.77**	**13**	*eP*	**P**	**09 50 44.2**	**0.0**		
	comp=Z,32nm,1.5s								
ES19	**SONSECA Array**	**87.69**	**10**	*eP*	**P**	**09 50 48.5**	**-0.2**		
ESDC	**Sonseca Array**	**87.71**	**10**	P	**P**	**09 50 48.3**	**-0.5**		
	comp=Z,6.7nm,0.8s,baz=348,slow=4.5,SNR=26								
PSI	**Prapat**	**87.88**	**272**	P	**P**	**09 50 49.2**	**-0.8**		
	comp=Z,14nm,0.6s,baz=15,slow=4.6,SNR=7.1								
PSI	**Prapat**	**87.88**	**272**	*eP*	**P**	**09 50 50.2**	**+0.2**		
PSI				pmax	pmax				
	comp=Z,20nm,0.8s								
PSI	**Prapat**	**87.88**	**272**	*eP*	**P**	**09 50 50.2**	**+0.2**		
	comp=Z,20nm,0.8s								
PESTR	**Estremoz**	**88.06**	**13**	*eP*	**P**	**09 50 49.9**	**-0.5**		
	comp=Z,18nm,2.0s								
HYB	**Hyderabad**	**88.31**	**297**	*i* P	**P**	**09 50 50.5**	**-1.4**		
PBAR	**Barrancos**	**88.82**	**13**	*eP*	**P**	**09 50 53.9**	**0.0**		
	comp=Z,38nm,1.8s								
SDV	**Santo Domingo**	**89.29**	**76**	*eP*	**P**	**09 50 56.9**	**+0.2**		
	comp=Z,9.7nm,0.8s								
PVAQ	**Vaqueiros**	**89.48**	**13**	*eP*	**P**	**09 50 56.7**	**-0.4**		
	comp=Z,21nm,2.2s								
AS01	**Alice Springs**	**89.58**	**229**	*eP*	**P**	**09 50 57.1**	**-0.4**		
ASAR	**Alice Springs**	**89.61**	**229**	P	**P**	**09 50 56.5**	**-1.1**		
	comp=Z,5.0nm,0.8s,baz=28,slow=4.9,SNR=64								
ASAR				LR	LR	10 25 07.1			
	comp=Z,107nm,21.2s,baz=66,slow=32								
KEST	**Kesra**	**92.34**	**360**	LR	LR	10 37 13.5			
	comp=Z,15nm,18.0s,baz=282,slow=38								
STKA	**Stephens Creek**	**93.52**	**219**	P	**P**	**09 51 14.6**	**-1.0**		
	comp=Z,2.0nm,0.9s,baz=175,slow=0.9,SNR=3.4								
STKA				LR	LR	10 29 25.4			
	comp=Z,150nm,19.8s,baz=26,slow=33								
RAYN	**Ar Rayn**	**98.06**	**327**	*eP*	**P**	**09 51 35.3**	**-1.5**		
	comp=Z,2.6nm,0.7s								
TORD	**Torodi Ar. Bea**	**114.52**	**8**	PKP	PKPdf	09 56 38.9	-1.4		
	comp=Z,0.4nm,0.4s,baz=348,slow=3.5,SNR=6.8								
TORD				PKKPbc	**PKKPbc**	**10 07 15.9**	**-0.8**		
	comp=Z,0.5nm,0.9s,baz=200,slow=1.7,SNR=5.6								
PLCA	**Paso Flores**	**126.67**	**111**	PKP	**PKPdf**	**09 57 02.3**	**-0.5**		
	comp=Z,4.5nm,0.8s,baz=248,slow=2.0,SNR=9.1								
MAW	**Mawson**	**150.21**	**219**	PKPbc	**PKPbc**	**09 57 49.2**	**-0.2**		
	comp=Z,8.3nm,0.9s,baz=27,slow=6.8,SNR=5.8								
VNA3	**Neumayer Olymp**	**159.21**	**163**	P	**PKPab**	**09 58 32.5**	**-1.6**		
SNAA	**Sanae**	**159.85**	**169**	P	**PKPab**	**09 58 33.3**	**-3.6**		
VNA2	**Neumayer--Watz**	**159.88**	**164**	P	**PKPab**	**09 58 35.5**	**-1.5**		
	baz=30,slow=2.2								
VNA1	**Neumayer--Stat**	**159.96**	**163**	P	**PKPab**	**09 58 36.5**	**-0.8**		

WEL 15 09:39:54.6±0.1, 37°.85S×176°.96E, h3km, ML3.5/11, Error ellipse: s-maj=1.0km s-min=0.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARZ	**Manawahe**	**0.27**	**238**	PG	Pg	09 40 00.3	+0.4
EDRZ	**Edgecumbe**	**0.32**	**214**	PG	Pg	09 40 01.2	+0.3
EDRZ				AML	AML	09 40 09.7	
EDRZ				AML	AML	09 40 11.5	
OPRZ	**Ohinepanea**	**0.32**	**270**	PG	Pg	09 40 00.9	+0.1
OPRZ				SG	Sg	09 40 06.1	+1.0
WIZ	**White Island**	**0.36**	**29**	PG	Pg	09 40 01.8	+0.2
URZ	**Urewera**	**0.43**	**164**	PG	Pg	09 40 02.5	-0.4
URZ				AML	AML	09 40 04.5	
URZ				AML	AML	09 40 09.8	
LIRZ	**Lichensteins R**	**0.48**	**251**	PG	Pg	09 40 04.4	+0.5
MKRZ	**Makatiti**	**0.49**	**233**	PG	Pb	09 40 05.2	-0.7
MKRZ				AML	AML	09 40 09.2	
MKRZ				AML	AML	09 40 14.0	
TARZ	**Mount Tarawera**	**0.53**	**223**	PG	Pg	09 40 05.7	+0.7
OMRZ	**Omania**	**0.54**	**241**	PG	Pg	09 40 05.4	+0.4
TGRZ	**Tauranga**	**0.57**	**282**	PG	Pg	09 40 05.9	+0.4
TGRZ				AML	AML	09 40 08.9	
TGRZ				AML	AML	09 40 18.7	
KARZ	**Kaharoa**	**0.59**	**253**	PG	Pg	09 40 06.5	+0.4
RRRZ	**Republican Roa**	**0.61**	**216**	PG	Pg	09 40 06.4	+0.1
HLRZ	**Highlands Stat**	**0.63**	**230**	P*	Pb	09 40 07.7	-0.7
HAZ	**Te Kaha**	**0.66**	**82**	P*	Pg	09 40 06.7	-0.5
MWZ	**Matawai**	**0.66**	**138**	P*	Pg	09 40 06.9	-0.5
MWZ				S*	Sg	09 40 15.8	-0.3
MWZ				AML	AML	09 40 17.1	
MWZ				AML	AML	09 40 19.0	
MWZ				AML	AML	09 40 19.0	
UTU	**Utuhina**	**0.69**	**241**	P*	Pb	09 40 09.0	-0.4
UTU				AML	AML	09 40 17.1	
UTU				AML	AML	09 40 18.6	
RAGZ	**Rawiri**	**0.74**	**151**	P*	Pg	09 40 08.6	-0.4
PRRZ	**Plateau Road**	**0.79**	**214**	P*	Pg	09 40 09.8	-0.1
MYRZ	**Mayor Island**	**0.81**	**314**	P*	Pg	09 40 10.3	+0.2
GRRZ	**Galatos Road**	**0.84**	**233**	P*	Pb	09 40 11.6	-0.4
ALRZ	**Allen Road**	**0.87**	**214**	P*	Pg	09 40 11.2	-0.2
TWGZ	**Tauwhareparae**	**0.87**	**113**	P*	Pg	09 40 11.6	+0.2
TWGZ				S*	Sb	09 40 24.8	+0.2
TKGZ	**Te Karaka**	**0.92**	**131**	P*	Pg	09 40 12.5	+0.3
TKGZ				S*	Sn	09 40 27.0	-1.0
SNGZ	**Shannon Statio**	**0.98**	**162**	P*	Pg	09 40 13.3	-0.2
PUZ	**Puketiti**	**1.05**	**103**	P*	Pg	09 40 14.7	-0.1
PUZ				AML	AML	09 40 34.8	
PUZ				AML	AML	09 40 39.6	
RIGZ	**Rimuhau**	**1.06**	**144**	P*	Pb	09 40 15.8	0.0
RAHZ	**Arahi**	**1.07**	**175**	P*	Pg	09 40 14.9	-0.4
MXZ	**Matakaoa Point**	**1.10**	**76**	P*	Pb	09 40 16.5	+0.2
MXZ				AML	AML	09 40 39.3	
MXZ				AML	AML	09 40 42.0	
WMGZ	**Waiomatatini S**	**1.15**	**89**	P*	Pb	09 40 17.0	-0.1
TOZ	**Tahuroa Road**	**1.16**	**275**	P*	Pg	09 40 15.2	-1.7
CNGZ	**Carnagh Statio**	**1.17**	**123**	P*	Pn	09 40 18.4	+0.5
TLZ	**Tolley Road**	**1.22**	**246**	P*	Pg	09 40 16.5	-1.7
WHHZ	**Waihua**	**1.25**	**170**	P*	Pb	09 40 18.7	-0.1
NMHZ	**Naumai**	**1.26**	**186**	P*	Pg	09 40 18.1	-0.8
PRGZ	**Paritu Road**	**1.30**	**146**	P*	Pb	09 40 19.7	0.0
KNZ	**Kokohu**	**1.30**	**155**	P*	Pg	09 40 19.2	-0.4
BKZ	**Black Stump Fm**	**1.37**	**196**	P*	Pn	09 40 18.7	-2.0
BKZ				AML	AML	09 40 45.4	
BKZ				AML	AML	09 40 47.5	
ARHZ	**Aropaoanui**	**1.41**	**179**	PN	Pn	09 40 20.9	-0.4
KUZ	**Kuaotunu**	**1.48**	**318**	PN	Pn	09 40 18.7	-3.4
KUZ				AML	AML	09 40 43.0	
KUZ				AML	AML	09 40 49.3	
MHGZ	**Mahia Peninsul**	**1.50**	**151**	PN	Pn	09 40 22.3	-0.1
MKAZ	**Moumakai**	**1.61**	**297**	PN	Pn	09 40 21.1	-2.8
MKAZ				AML	AML	09 40 31.8	
MCHZ	**McNeill Hill**	**1.61**	**187**	PN	Pb	09 40 25.0	0.0
BHHZ	**Black Hill Sta**	**1.79**	**203**	P*	Pn	09 40 24.8	-1.7
HIZ	**Hauiti**	**1.79**	**247**	PN	Pn	09 40 25.1	-1.4
TSZ	**Takapari Road**	**2.34**	**199**	PN	Pn	09 40 32.9	-1.2
BFZ	**Birch Farm**	**2.88**	**191**	PN	Pn	09 40 39.9	-1.6

DJA 15 09:47:32.2±0.4, 3°S±3°×113°9E±°, h51km, M3.8/4, MLv3.8/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.74**	**351**	P	Pn	09 47 46.9	+0.3
SMPI				S	Sn	09 47 59.0	+2.0
GENI	**Genyem**	**1.35**	**84**	P	Pn	09 47 55.0	+0.3
GENI				S	Sn	09 48 12.1	+0.5
JAY	**Jayapura**	**1.90**	**84**	P	Pn	09 48 02.7	+0.5
SRPI	**Serui, Papua**	**2.72**	**288**	P	Pn	09 48 13.2	-0.2
SRPI				S	Sn	09 48 43.7	-1.4
RKPI	**Ransiki, Papua**	**4.79**	**285**	P	Pn	09 48 41.5	-0.4

*ISCJB **15** 09:54:18.6±0.7, 16°.85S±0°.10×70°.0W±0°.1, h10km, mb3.8/7, MS3.3/1, Error ellipse: s-maj=16.9km s-min=13.5km az=150.7*

*IDC **15** 09:54:18.7±0.9, 16°.92S×70°.14W, h0km, mb3.9/7, mb1 4.2/10, mb1mx4.0/39, mbtmp4.0/10, ML3.6/2, MS3.5/3, Ms1 3.5/3, ms1mx3.0/23, Error ellipse: s-maj=23.0km s-min=14.0km az=178.0*

ISC 15 09:54:20.3±0.8, 16°.9S±0°.1×70°.1W±0°.1, h10km, n14, σ1°00/12, mb3.8/7, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.96**	**73**	Pn	**Pb**	**09 54 56.6**	**+0.1**
	18nm,0.3s,baz=260,slow=9.3,SNR=494						
LPAZ				Lg	Lg	09 55 23.9	
	21nm,0.3s,baz=24,slow=16,SNR=6.7						
LVC	**Limon Verde**	**5.80**	**169**	Pn	**Pn**	**09 55 46.8**	**+0.2**
	99nm,0.3s,baz=335,slow=7.4,SNR=20						
LVC				Lg	Lg	09 57 12.3	
	125nm,0.3s,baz=248,slow=22,SNR=7.4						
LVC				LR	LR	09 57 50.7	
	comp=Z,594nm,18.6s,baz=346,slow=37						
SIV	**San Ignacio**	**8.69**	**85**	Pn	**Pn**	**09 56 26.7**	**+0.5**
	1.3nm,0.3s,baz=275,slow=15,SNR=19						
SIV				Lg	Lg	09 58 56.7	
	0.8nm,0.3s,baz=359,slow=18,SNR=3.6						
PTGA	**Pitinga**	**18.89**	**33**	LR	LR	10 06 53.1	
	comp=Z,149nm,20.4s,baz=208,slow=40						
BDFB	**Brasilia**	**21.21**	**90**	P	**P**	**09 59 07.1**	**+0.6**
	2.1nm,0.5s,baz=235,slow=7.4,SNR=4.6						
PLCA	**Paso Flores**	**23.76**	**181**	P	**P**	**09 59 32.9**	**-0.2**
	3.3nm,1.1s,baz=9.9,slow=13,SNR=3.5						
PCRV	**Puerto La Cruz**	**27.43**	**12**	LR	LR	10 12 34.0	
	comp=Z,82nm,19.1s,baz=158,slow=40						
TXAR	**Lajitas Array**	**56.24**	**324**	P	**P**	**10 04 02.2**	**+1.1**
	0.6nm,0.9s,baz=145,slow=7.5,SNR=3.7						
ULM	**Lac du Bonnet**	**70.61**	**343**	P	**P**	**10 05 35.2**	**-0.5**
	2.0nm,0.7s,baz=125,slow=3.1,SNR=3.5						
NVAR	**Mina Array Bea**	**71.20**	**322**	P	**P**	**10 05 41.3**	**+1.4**
	0.2nm,0.4s,baz=104,slow=3.8,SNR=2.5						
TORD	**Torodi Ar. Bea**	**76.91**	**72**	P	**P**	**10 06 12.0**	**-1.4**
	1.2nm,0.9s,baz=267,slow=4.4,SNR=4.7						
YKA	**Yellowknife Ar**	**86.49**	**341**	P	**P**	**10 07 01.3**	**-1.7**
	1.8nm,0.9s,baz=133,slow=4.8,SNR=22						
ZALV	**Zalesovo Beam**	**138.19**	**22**	PKP	**PKPdf**	**10 13 45.4**	**-0.2**
	0.5nm,0.3s,baz=343,slow=4.5,SNR=2.3						
SONM	**Songino Array**	**149.00**	**5**	PKPbc	**PKPbc**	**10 14 09.0**	**+0.1**
	0.5nm,0.5s,baz=340,slow=7.7,SNR=2.8						

MEX 15 10:29:31.0±0.5, 16°.98N×100°.54W, h5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.27**	**75**	*i* P	Pg	10 29 35.8	-0.4
CAIG				*i* S	Sg	10 29 39.8	0.0
ACP2	**Acapulco**	**0.63**	**99**	*eP*	Pg	10 29 40.4	-2.7
ACP2				*i* S	Sg	10 29 50.0	-1.4
ACX	**Acapulco**	**0.66**	**99**	*i* P	Pn	10 29 47.0	-0.1
ACX				*eS*	Sn	10 29 56.2	-1.6
ZIIG	**Zihuatanejo**	**1.09**	**305**	*eP*	Pg	10 29 49.2	-2.7
ZIIG				*i* S	Sg	10 30 02.8	-3.1
TLIG	**Tlapa**	**1.97**	**73**	*i* P	Pn	10 30 02.2	-3.1
TLIG				*i* S	Sn	10 30 26.5	-4.0

NNC 15 10:45:53.3±1.0, 38°.56N×71°.40E, h0km, mb3.9, mpv3.5, 9C-7D, Error ellipse: s-maj=10.9km s-min=5.5km az=158.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.03**	**278**	⇑Pn	Pn	10 46 28.8	-0.1
	65nm,0.5s						
DZET				⇓Lg	Lg	10 46 58.2	
	178nm,0.5s						
SFK	**Sufi-Kurgan**	**2.19**	**48**	⇑Pn	Pn	10 46 30.7	-0.6
	51nm,0.4s						
SFK				⇓Lg	Lg	10 47 02.7	
	66nm,0.4s						
MNAS	**Manas**	**4.01**	**12**	⇓Pn	Pn	10 46 56.4	+0.2
	1.9nm,0.4s						
MNAS				⇑Pg	Pb	10 47 07.0	+1.8
	7.2nm,0.5s						
MNAS				⇑Lg	Lg	10 48 01.3	
	7.6nm,0.5s						
KK31	**Karatay Array**	**4.59**	**352**	Pn	Pn	10 47 05.0	+1.0
	2.5nm,0.5s,baz=175,slow=13,SNR=32						
KK31				⇑Pg	Pb	10 47 16.9	+2.2
	3.0nm,0.5s,baz=170,slow=12,SNR=9.1						
KK31				⇑Sn	Sn	10 47 59.5	+1.5
	2.4nm,0.3s						
KK31				⇓Lg	Lg	10 48 19.1	
	6.1nm,0.6s,baz=178,slow=30,SNR=4.2						
AAK	**Ala-Archa**	**4.70**	**29**	⇑Pn	Pn	10 47 06.8	+1.0
	2.5nm,0.5s						
AAK				⇓Pg	Pb	10 47 19.1	+2.2
	5.7nm,0.5s						
AAK				⇓Lg	Lg	10 48 21.1	
	16nm,0.9s						
TKM2	**Tokmak 2**	**5.40**	**35**	⇓Pn	Pn	10 47 15.9	+0.5
	1.7nm,0.5s						
MK31	**Makanchi Array**	**11.48**	**41**	Pn	Pn	10 48 38.9	+0.4
	1.4nm,0.9s,baz=230,slow=15,SNR=7.7						
AB31	**Akbulak array**	**13.49**	**326**	⇑Pn	Pn	10 49 02.3	-3.6
	0.3nm,0.4s,baz=135,slow=9.8,SNR=3.9						
AB31				⇑Sn	Sn	10 51 32.2	-4.3
	1.3nm,0.9s,baz=157,slow=21,SNR=3.9						

IDC 15 11:00:44.6±2.6, 0°.15S×20°.47W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.4/29, mbtmp3.7/3, ML3.8/1, Error ellipse: s-maj=85.8km s-min=48.2km az=123.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**9.68**	**142**	T	T	11 12 24.4	
	baz=318,slow=74,SNR=262						
H10N3	**ASCENSION HYDR**	**9.68**	**142**	T	T	11 12 30.6	
	baz=318,slow=74,SNR=295						
H10N1	**ASCENSION HYDR**	**9.70**	**142**	T	T	11 12 34.6	
	baz=318,slow=74,SNR=402						
H10S1	**ASCENSION HYDR**	**10.48**	**147**	T	T	11 13 26.8	
	baz=323,slow=74,SNR=129						
H10S3	**ASCENSION HYDR**	**10.48**	**147**	T	T	11 13 32.5	
	baz=323,slow=74,SNR=82						
H10S2	**ASCENSION HYDR**	**10.50**	**147**	T	T	11 13 35.8	
	baz=323,slow=74,SNR=76						
DBIC	**Dimbokro**	**16.99**	**66**	Pn	Pn	11 04 44.5	+0.7
	0.3nm,0.3s,baz=241,slow=15,SNR=4.4						
TORD	**Torodi Ar. Bea**	**25.64**	**58**	P	P	11 06 15.9	-0.3
	1.3nm,0.9s,baz=238,slow=10,SNR=5.7						
GERES	**GERESS Array B**	**57.00**	**26**	P	P	11 10 32.2	0.0
	0.3nm,0.5s,baz=209,slow=7.6,SNR=3.7						
ASAR	**Alice Springs**	**145.65**	**135**	PKPbc	PKPdf	11 20 25.4	-0.6
	0.5nm,0.6s,baz=224,slow=3.2,SNR=9.4						

MAN 15 11:05:43, 12°.44N×120°.42E, h40km, mb4.7, ML3.6, MS3.5, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUSP	**Coron**	**0.48**	**206**	*eP*	Pn	11 05 55.4	+1.8
BUSP				*eS*	Sn	11 06 04.2	+3.3
SJMP	**San Jose**	**0.68**	**88**	*eP*	Pn	11 05 58.0	+1.8
SJMP				*eS*	Sn	11 06 05.2	-0.6
PGP	**Puerto Galera**	**1.18**	**26⇑**	*eP*	Pn	11 06 03.5	+0.4
LUBP	**Lubang**	**1.30**	**353**	*eP*	Pn	11 06 05.9	+1.2
CUYO	**Cuyo Island**	**1.68**	**160**	*eP*	Pn	11 06 14.1	+4.0

*GII **15** 11:09:42.5±0.0, 34°.86N×36°.58E, h7km, MD3.0/4*

*CSEM **15** 11:09:44.5±0.2, 34°.70N×36°.46E, h2km, ML3.5, Error ellipse: s-maj=8.9km s-min=3.0km az=100.0*

*ISK **15** 11:09:46.3, 34°.88N×36°.40E, h7km, MD3.6*

*GRAL **15** 11:09:47.2±0.3, 34°.55N×36°.58E, h16km±10km, MD3.5*

ISC 15 11:09:44.9±1.4, 34°.69N±0°.03×36°.47E±0°.06, h10km±10km, n45, σ0°80/64, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FKH	**Fakeheh**	**0.45**	**186**	*eP*	**Pg**	**11 09 53.7**	**0.0**
FKH				*eS*	**Sg**	**11 09 58.6**	**-1.1**
HWQ	**Hawqa**	**0.60**	**226**	*eP*	**Pg**	**11 09 57.8**	**+0.3**
HWQ				*eS*	**Sg**	**11 10 05.7**	**+1.3**
HWQ	**Hawqa**	**0.60**	**226**	*eP*	**Pb**	**11 09 57.8**	**+0

IDC 15 11:19:51.3±10.0, 38.16°S×92.41°W, h0km, mb4.0/3, mb1 4.5/3, mb1mx3.9/28, mbtmp4.0/3, MS3.2/6, Ms1 3.3/6, ms1mx3.2/22, Error ellipse: s-maj=312.8km s-min=42.2km az=16.0, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**17.08**	**105**	LR	LR	11 28 41.2	
	comp=Z,162nm,18.5s,baz=311,slow=31						
RPN	**Rapa Nui**	**17.98**	**303**	LR	LR	11 28 49.7	
	comp=Z,81nm,19.9s,baz=156,slow=30						
CFAA	**Coronel Fontan**	**20.85**	**79**	P	P	11 24 34.8	0.0
	0.3nm,0.7s,baz=254,slow=7.7,SNR=4.0						
CFAA				LR	LR	11 30 41.9	
	comp=Z,17nm,19.8s,baz=226,slow=31						
NNA	**Nana**	**29.54**	**32**	LR	LR	11 34 15.0	
	comp=Z,43nm,18.1s,baz=182,slow=29						
LPAZ	**La Paz**	**30.51**	**51**	LR	LR	11 35 31.2	
	comp=Z,74nm,21.8s,baz=226,slow=31						
PPT	**Papeete**	**53.68**	**276**	LR	LR	11 46 26.9	
	comp=Z,37nm,18.6s,baz=147,slow=30						
TXAR	**Lajitas Array**	**67.97**	**349**	P	P	11 30 52.1	+0.1
	2.0nm,1.1s,baz=157,slow=6.8,SNR=7.2						
NVAR	**Mina Array Bea**	**79.86**	**340**	P	P	11 32 01.8	+0.1
	1.4nm,0.9s,baz=163,slow=6.7,SNR=7.5						
PDAR	**Pinedale Array**	**82.05**	**347**	P	P	11 32 13.3	0.0
	1.6nm,1.1s,baz=134,slow=5.1,SNR=7.3						

KRSC 15 11:20:02.3±1.8, 53.86N×163.76E, h80km±26km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**1.38**	**301**	*e*P	Pn	11 20 28.0	+2.0
MKZ				*e*S	Sn	11 20 46.5	+2.7
BKI	**Bering**	**1.86**	**43**	*e*P	Pn	11 20 33.3	+1.0
SPN	**Mys Shipunski**	**2.36**	**253**	*e*P	Pn	11 20 40.6	+1.7
SPN				*e*S	Sn	11 21 07.5	+0.5
KZV	**Kizimen**	**2.38**	**303**	*e*P	Pn	11 20 42.1	+2.7
KBTR	**Krutoberegovo**	**2.42**	**347**	*e*P	Pn	11 20 40.3	+0.7
KBTR				*e*S	Sn	11 21 07.6	-0.7
TUMR	**Tumrok**	**2.54**	**306**	*e*P	Pn	11 20 44.7	+3.2
NLC	**Nalytchevo**	**2.73**	**257**	*e*S	Sn	11 21 17.1	+1.4
KMNR	**Kamenistaya**	**2.79**	**314**	*e*P	Pn	11 20 48.9	+4.1
SDLR	**Sedlovina**	**2.97**	**261**	*e*P	Pn	11 20 49.8	+2.5
SDLR				*e*S	Sn	11 21 23.5	+1.6
SMAR	**Somma**	**3.02**	**261**	*e*P	Pn	11 20 50.9	+2.8
UGLR	**Uglovaya**	**3.02**	**260**	*e*P	Pn	11 20 50.8	+2.9
UGLR				*e*S	Sn	11 21 25.2	+2.1
KRER	**Koryakskii**	**3.04**	**261**	*e*P	Pn	11 20 51.2	+2.9
KRER				*e*S	Sn	11 21 25.9	+2.0
AVH	**Avacha**	**3.05**	**261**	*e*P	Pn	11 20 51.5	+3.1
AVH				*e*S	Sn	11 21 26.3	+2.3
KRX	**Arik**	**3.09**	**263**	*e*P	Pn	11 20 51.4	+2.5
KRX				*e*S	Sn	11 21 26.3	+1.4
KOK	**Koryaka**	**3.11**	**262**	*e*P	Pn	11 20 51.8	+2.7
KOK				*e*S	Sn	11 21 27.0	+1.7
PET	**Petropavlovsk**	**3.17**	**257**	*e*S	Sn	11 21 28.4	+1.9
GNL	**Ganaly**	**3.46**	**270**	*e*P	Pn	11 20 58.3	+4.4
GNL				*e*S	Sn	11 21 38.0	+4.2
RUS	**Russkaya**	**3.47**	**248**	*e*P	Pn	11 20 55.8	+1.9
MTVR	**Mutnovka**	**3.63**	**250**	*e*P	Pn	11 20 58.7	+2.4
MTVR				*e*S	Sn	11 21 39.7	+1.6
ASAK	**Asacha**	**3.83**	**250**	*e*P	Pn	11 21 02.0	+3.1
ASAK				*e*S	Sn	11 21 44.2	+1.4

IDC 15 11:57:35.3±2.5, 2.29S×132.27E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/23, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=172.9km s-min=24.8km az=71.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.66**	**174**	P	Pn	12 01 41.3	-1.6
	0.2nm,0.3s,baz=356,slow=13,SNR=11						
ASAR	**Alice Springs**	**21.31**	**176**	P	P	12 02 24.9	+1.0
	1.4nm,0.8s,baz=360,slow=9.4,SNR=13						
STKA	**Stephens Creek**	**30.71**	**164**	P	P	12 03 51.9	-0.2
	2.1nm,0.9s,baz=345,slow=16,SNR=2.7						
MKAR	**Makanchi Array**	**65.63**	**325**	P	P	12 08 21.3	0.0
	0.3nm,0.5s,baz=111,slow=6.9,SNR=6.2						

GUC 15 12:12:14.3±0.6, 34.98S×71.87W, h43km±1km, ML3.9, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.46**	**156**	⇓*i*	P	12 12 24.9	+0.2
TALC				*i*	S	12 12 32.4	+0.3
TALC				AML	AML	12 12 34.6	
	comp=E,23μm,0.3s						
NICH	**Los Niches**	**0.52**	**93**	⇓*i*	P	12 12 25.8	+0.3
NICH				*i*	S	12 12 34.3	+0.9
NICH				AML	AML	12 12 35.3	
	comp=E,6μm,0.2s						
LNCH	**Linares**	**0.89**	**166**	⇑*i*	P	12 12 31.0	+0.5
LNCH				*i*	S	12 12 43.9	+1.6
LNV	**Longovilo**	**1.09**	**20**	⇑*i*	P	12 12 33.9	+0.8
LNV				*i*	S	12 12 49.0	+2.1
CACH	**El Canelo**	**1.35**	**51**	⇑*i*	P	12 12 37.8	+0.8
CACH				*i*	S	12 12 55.9	+2.0
COCH	**Cobquecura**	**1.37**	**213**	*e*P	Pn	12 12 37.5	+0.5
COCH				*i*	S	12 12 55.6	+1.7

*CSEM **15** 12:21:37.4±0.2, 46.13N×7.70E, h2km, ML0.6, Error ellipse: s-maj=6.8km s-min=3.3km az=86.0*
*GEN **15** 12:21:39.0, 46.05N×7.84E, h11km, ML0.6*
ZUR 15 12:21:37.6, 46.16N×7.74E, h8km±3km, ML1.2/2, 4C-2D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMK	**Mattmark**	**0.19**	**125**	⇓*i*Pg	Pg	12 21 41.8	0.0
	120nm,0.1s						
MMK	**Mattmark**	**0.19**	**125**	⇓*i*Pg	Pg	12 21 41.8	0.0
	120nm,0.1s						
LKBD2	**Leukerbad 2**	**0.23**	**343**	⇑*i*Pg	Pg	12 21 42.5	0.0
	12nm,0.1s						
LKBD2	**Leukerbad 2**	**0.23**	**343**	⇑*i*Pg	Pg	12 21 42.5	0.0
	12nm,0.1s						
LKBD	**Leukerbad**	**0.24**	**341**	⇑*e*Pg	Pg	12 21 42.6	-0.1
	4.5nm,4.4s						
LKBD	**Leukerbad**	**0.24**	**341**	⇑*e*Pg	Pg	12 21 42.6	-0.1
	4.5nm,4.4s						
SATI	**Passo dei Sala**	**0.30**	**162**	P	Pg	12 21 43.5	-0.5
SATI				S	Sg	12 21 46.2	-2.1
CIRO	**Champorcher**	**0.57**	**192**	P	Pg	12 21 48.9	-0.1
CIRO				S	Sg	12 21 55.3	-1.4
TRAV	**Traversella**	**0.65**	**179**	P	Pg	12 21 48.9	-1.3
TRAV				S	Sg	12 21 56.2	-2.5
LSD	**Lago del Serru**	**0.82**	**211**	P	Pg	12 21 52.5	-1.2

*ISCJB **15** 12:22:28.7±0.6, 50.77N±0.09×73.49E±0.09, h10km, mb3.5/3, Error ellipse: s-maj=12.8km s-min=8.1km az=14.1*
*NNC **15** 12:22:28.8±0.6, 50.84N×73.48E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=7.1km s-min=5.2km az=44.0*
*IDC **15** 12:22:30.9±0.7, 51.01N×73.75E, h0km, mb3.4/3, mb1 3.5/9, mb1mx3.4/35, mbtmp3.3/9, ML2.8/6, Error ellipse: s-maj=14.1km s-min=8.1km az=28.0*
ISC 15 12:22:31.3±0.8, 50.95N±0.07×73.58E±0.08, h10km, n21, σ1s28/19, mb3.7/3, 9C-11D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTUK	**Ortayu**	**2.83**	**197**	⇑Pg	Pn	12 23 16.8	+0.3
	9.5nm,0.6s						
OTUK				⇓Lg	Lg	12 23 54.8	
	18nm,0.5s						
BVA0	**Borovoye Array**	**2.86**	**318**	⇑Pg	Pb	12 23 21.7	-0.8
	9.7nm,0.6s,baz=128,slow=16,SNR=33						
BVA0				⇓Lg	Lg	12 23 59.9	
	26nm,0.6s,baz=129,slow=29,SNR=15						
BVAR	**Borovoye Array**	**2.86**	**318**	Pn	Pn	12 23 19.1	+2.1
	3.4nm,0.3s,baz=131,slow=16,SNR=31						
BVAR				Lg	Lg	12 24 01.5	
	7.3nm,0.3s,baz=128,slow=32,SNR=16						
BRVK	**Borovoye**	**2.93**	**317**	⇓Pg	Pb	12 23 23.0	-0.6
	12nm,0.6s						
BRVK				Lg	Lg	12 24 02.8	
	57nm,0.6s						
KURBB	**Kurchatov Arra**	**3.16**	**94**	⇓Pn	Pn	12 23 21.7	+0.6
	24nm,0.5s						
KURBB				⇑Lg	Lg	12 24 07.3	
	143nm,0.7s						
KURBB	**Kurchatov Arra**	**3.16**	**94**	Pn	Pn	12 23 20.2	-0.9
	0.4nm,0.3s,baz=276,slow=14,SNR=34						
KURBB				Lg	Lg	12 24 06.7	
	0.6nm,0.3s,baz=326,slow=3.2,SNR=5.5						
KURK	**Kurchatov**	**3.21**	**92**	⇓Pn	Pn	12 23 22.0	+0.3
	3.5nm,0.5s						
KURK				⇓Lg	Lg	12 24 09.6	
	28nm,0.6s						
MK31	**Makanchi Array**	**7.09**	**123**	⇑Pn	Pn	12 24 13.9	-1.3
	1.2nm,0.5s,baz=288,slow=16,SNR=6.5						
MK31				⇓Lg	Lg	12 26 13.0	
	9.6nm,0.7s,baz=309,slow=30,SNR=7.8						
MKAR	**Makanchi Array**	**7.09**	**123**	Pn	Pn	12 24 14.3	-0.9
	0.1nm,0.3s,baz=292,slow=16,SNR=4.4						
MKAR				Lg	Lg	12 26 11.6	
	1.0nm,0.3s,baz=314,slow=27,SNR=6.2						
ZALV	**Zalesovo Beam**	**7.50**	**62**	Pn	Pn	12 24 20.7	+0.1
	0.4nm,0.3s,baz=251,slow=13,SNR=11						
I46RU	**ZALESOVO INFRA**	**7.50**	**62**	*i*		13 11 50.0	
	baz=249,slow=320,SNR=1.2						
TKM2	**Tokmak 2**	**8.15**	**169**	⇑Pg	Pb	12 24 54.2	+1.6
	1.0nm,0.6s						
TKM2				⇑Lg	Lg	12 26 44.7	
	12nm,0.8s						
AAK	**Ala-Archa**	**8.35**	**175**	⇑Pn	Pn	12 24 30.8	-1.7
	1.2nm,0.5s						
AAK				⇓Lg	Lg	12 26 50.6	
	23nm,0.9s						
AAK	**Ala-Archa**	**8.35**	**175**	Pn	Pn	12 24 34.5	+2.0
	0.1nm,0.3s,baz=275,slow=11,SNR=2.2						
AAK				Lg	Lg	12 26 51.1	
	0.3nm,0.3s,baz=19,slow=23,SNR=3.8						
MNAS	**Manas**	**8.50**	**185**	⇑Lg	Lg	12 26 56.1	
	8.8nm,0.7s						
PDGK	**Podgornoye**	**8.62**	**150**	⇓Pn	Pn	12 24 34.1	-2.0
	1.1nm,0.6s						
PDGK				⇓Lg	Lg	12 26 59.2	
	12nm,0.9s						
AB31	**Akbulak array**	**8.93**	**264**	⇓Pn	Pn	12 24 39.1	-1.2
	0.4nm,0.5s,baz=67,slow=10,SNR=5.9						
AB31				⇑Lg	Lg	12 27 08.7	
	1.8nm,0.7s,baz=70,slow=27,SNR=4.5						
AKTO	**Aktyubinsk**	**9.89**	**273**	Pn	Pn	12 24 53.0	-0.5
	0.2nm,0.3s,baz=90,slow=6.1,SNR=3.0						
AKTO				Lg	Lg	12 27 45.0	
	0.2nm,0.3s,baz=13,slow=14,SNR=4.0						
ILAR	**Eielson Array**	**60.42**	**19**	P	P	12 32 40.5	0.0
	0.3nm,0.5s,baz=324,slow=4.9,SNR=12						
YKA	**Yellowknife Ar**	**66.72**	**4**	P	P	12 33 23.2	+1.3
	0.2nm,0.9s,baz=0.3,slow=6.3,SNR=4.4						
WRA	**Warramunga Arr**	**88.39**	**125**	P	P	12 35 22.8	-0.6
	0.6nm,1.2s,baz=342,slow=5.0,SNR=3.8						

*BJI **15** 12:48:16.4, 1.49N×128.89E, h235km, mb4.1/10, mB4.2/7*
*ISCJB **15** 12:48:23.6±0.5, 2.36N±0.04×128.59E±0.05, h242km±5km, mb4.0/15, Error ellipse: s-maj=8.5km s-min=5.0km az=155.6*
*IDC **15** 12:48:23.5±1.8, 2.35N×128.50E, h225km±16km, mb3.7/12, mb1 3.8/13, mb1mx3.6/37, mbtmp4.3/13, Error ellipse: s-maj=27.5km s-min=8.4km az=76.0*
*NEIC **15** 12:48:24.3±0.9, 2.38N×128.69E, h235km±9km, mb4.3/5, Error ellipse: s-maj=13.8km s-min=9.1km az=61.0*
*DJA **15** 12:48:27.9±0.5, 2.7°N±3°×12.8°E±°, h202km±4km, M4.3/18, mb4.5/18, mB4.8/13, MLv4.8/16, Mw(mB)4.0/13*
ISC 15 12:48:24.3±0.5, 2.35N±0.04×128.58E±0.07, h231km±4km, h231km:pP-P, n73, σ1s24/90, mb4.1/15, 1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.98**	**218**	P	Pn	12 49 05.1	+0.1
TNTI	**Ternate**	**1.98**	**218**	*e*Pn	Pn	12 49 05.3	+0.3
LBMI	**Labuha**	**3.16**	**200**	P	Pn	12 49 18.0	+0.5
LBMI				S	S	12 49 57.8	-1.5
SGSI	**Sangihe**	**3.32**	**294**	P	Pn	12 49 19.7	+0.5
SGSI				S	S	12 50 01.3	-1.1
SIJI	**Sorong**	**4.18**	**140**	P	Pn	12 49 30.5	+1.0
	6.6nm,0.3s,baz=337,slow=14,SNR=24						
KMSI	**Cibinong**	**4.92**	**249**	P	Pn	12 49 38.0	-0.5
KMSI				S	S	12 50 36.0	-1.4
SANI	**Sanana**	**5.08**	**211**	P	Pn	12 49 39.5	-1.1
SANI				S	S	12 50 33.8	-7.2
DAV	**Davao City (W)**	**5.55**	**328**	*e*Pn	Pn	12 49 47.0	+0.5
MSAI	**Masohi**	**5.67**	**176**	P	Pn	12 49 50.2	+2.2
	55nm,0.9s,753nm0.2nm						
NLAI	**Namlea**	**5.75**	**195**	P	Pn	12 49 49.6	+0.7
	66nm,1.0s,2μm0.3nm						
NLAI				S	S	12 50 56.5	+0.3
	66nm,1.0s,2μm0.3nm						
AAI	**Ambon**	**6.01**	**184**	P	Pn	12 49 54.0	+1.7
	61nm,0.9s,2μm0.2nm						
FAKI	**Fak Fak**	**6.40**	**145**	P	Pn	12 49 58.7	+1.5
	101nm,0.9s,753nm0.3nm						
FAKI	**Fak Fak**	**6.40**	**145**	P	Pn	12 49 58.5	+1.3
	baz=6.2,SNR=11						
FAKI	**Fak Fak**	**6.40**	**145**	*e*Pn	Pn	12 49 58.4	+1.3
CTBH	**Cotabato--PC H**	**6.48**	**318**	⇓*i*P	Pn	12 49 57.3	-0.9
LUWI	**Luwuk**	**6.71**	**240**	P	Pn	12 50 01.6	+0.5
	170nm,0.7s,2μm1.4nm						
LUWI				S	S	12 51 17.2	-1.2
	170nm,0.7s,2μm1.4nm						
LUWI	**Luwuk**	**6.71**	**240**	P	Pn	12 50 01.1	-0.1
	baz=6.3,SNR=9.7						
LUWI				S	S	12 51 20.3	+1.8
	baz=6.3,SNR=4.4						
LUWI	**Luwuk**	**6.71**	**240**	*e*Pn	Pn	12 50 01.9	+0.8
RKPI	**Ransiki, Papua**	**6.79**	**124**	P	Pn	12 50 06.2	+4.0
	79nm,1.5s,1.0nm						
MRSI	**Marisa**	**6.89**	**254**	P	Pn	12 50 02.8	-0.6
	163nm,0.5s,2μm0.8nm						
BNDI	**Bandanaira**	**6.96**	**169**	P	Pn	12 50 07.1	+2.8
	135nm,1.3s,0.5nm						
APSI	**Ampana**	**7.65**	**245**	P	Pn	12 50 13.3	+0.2
	159nm,0.8s,3μm0.5nm						
TOLI	**Toli-Toli**	**7.87**	**261**	*e*Pn	Pn	12 50 16.8	+0.8
MPSI	**Mapaga**	**8.90**	**257**	P	Pn	12 50 29.7	+0.5
	23nm,0.7s,427nm						
PCI	**Palu**	**9.32**	**250**	P	Pn	12 50 35.3	+0.8
	71nm,0.8s,1μm						
TTSI	**Tana Toraja**	**10.27**	**239**	P	Pn	12 50 46.8	+0.2
	51nm,0.8s,753nm						
SPSI	**Sidrap Palu**	**10.81**	**235**	P	P	12 50 56.3	-2.6
	24nm,0.4s,664nm						
BKSI	**Bulukumba**	**11.38**	**228**	P	Pn	12 51 02.3	+1.7
	25nm,0.6s						
MMRI	**Maumere**	**12.61**	**210**	P	P	12 51 18.5	-0.4
	56nm,0.9s,3μm						
MMRI	**Maumere**	**12.61**	**210**	*e*Pn	Pn	12 51 16.9	+0.8
SOEI	**Soe**	**12.77**	**200**	P	P	12 51 19.5	-1.3
SOEI	**Soe**	**12.77**	**200**	P	Pn	12 51 19.2	+1.0
	baz=12,SNR=5.0						
SOEI	**Soe**	**12.77**	**200**	*e*Pn	Pn	12 51 19.1	+1.0
KDU	**Kakadu**	**15.44**	**166**	P	P	12 51 49.2	-0.9
	baz=15,SNR=39						
SBUM	**Sibu**	**16.34**	**271**	*e*P	Pn	12 52 03.6	+2.2
	14nm,0.8s						
KNRA	**Kununurra**	**17.92**	**179**	P	P	12 52 17.0	-0.3
	baz=18,SNR=45						
KSM	**Kuching**	**18.28**	**268**	P	P	12 52 22.6	+1.3
	baz=18,SNR=4.1						
KSM	**Kuching**	**18.28**	**268**	*e*P	P	12 52 22.4	+1.1
	8.0nm,1.0s						
WRAB	**Tennant Creek**	**22.86**	**166**	*e*P	P	12 53 06.7	-1.2
	18nm,0.8s						
WRA	**Warramunga Arr**	**22.87**	**166**	P	P	12 53 07.2	-0.8
	7.8nm,0.3s,baz=341,slow=10,SNR=169						
WRA				S	S	12 57 03.3	+3.2
	1.6nm,0.9s,baz=355,slow=19,SNR=5.8						
QIS	**Mount Isa**	**25.21**	**155**	P	P	12 53 29.4	+0.3
	baz=25,SNR=4.7						
AS31	**Alice Springs**	**26.38**	**169**	*e*P	P	12 53 39.0	-0.6
ASAR	**Alice Springs**	**26.38**	**169**	P	P	12 53 38.8	-0.9
	4.4nm,0.6s,baz=351,slow=7.6,SNR=76						
ASAR				ScP	ScP	13 00 15.6	-1.5
	0.8nm,0.8s,baz=356,slow=2.7,SNR=5.2						
AS01	**Alice Springs**	**26.39**	**169**	*e*P	P	12 53 38.7	-1.0
WRKA	**Warakurna**	**27.23**	**181**	P	P	12 53 46.3	-0.9
	baz=27,SNR=14						
MEEK	**Meekatharra**	**30.39**	**198**	P	P	12 54 13.8	-1.3
	baz=30,SNR=3.6						
GYA	**Guiyang**	**31.89**	**321**	*e*P	P	12 54 29.8	+1.4
GYA				PMZ			
	10.0nm,0.8s						
KSRS	**Korea Array**	**34.94**	**359**	P	P	12 54 53.9	-0.4
	1.0nm,0.5s,baz=175,slow=9.2,SNR=7.1						
MAJO	**Matsushiro**	**35.16**	**14**	*e*P	P	12 54 55.3	-1.0
	5.2nm,0.7s						
MAT	**Matsushiro**	**35.16**	**14**	P	P	12 54 54.9	-1.5
MJAR	**Matsushiro Arr**	**35.16**	**14**	P	P	12 54 55.2	-1.2
	3.3nm,0.8s,baz=186,slow=9.5,SNR=15						
BBOO	**Buckleboo**	**35.68**	**169**	P	P	12 55 00.1	-0.7
	baz=35,SNR=7.4						
STKA	**Stephens Creek**	**36.22**	**161**	P	P	12 55 04.8	-0.5
	4.4nm,0.3s,baz=343,slow=7.5,SNR=36						
STKA	**Stephens Creek**	**36.22**	**161**	P	P	12 55 04.8	-0.5
	baz=36,SNR=33						
STKA	**Stephens Creek**	**36.22**	**161**	*e*P	P	12 55 04.9	-0.5
	1.4nm,0.6s						
CD2	**Chengdu**	**36.84**	**323**	*e*P	P	12 55 11.3	+0.6
CD2				PMZ			
	10.0nm,0.7s						
HTT	**Hallett**	**36.91**	**166**	P	P	12 55 11.2	0.0
	baz=37,SNR=4.3						
LZH	**Lanzhou**	**40.62**	**329**	*e*P	P	12 55 44.6	+2.5
LZH				pP	pP	12 56 31.8	+1.5
LZH				sP	sP	12 56 57.3	+0.8
LZH				PMZ			
	14nm,1.0s						
ARPS	**Mount Arapiles**	**40.84**	**164**	P	P	12 55 43.8	+0.2
	baz=41,SNR=9.1						
HHC	**Hu-ho-hao-te**	**41.29**	**340**	*e*P	P	12 55 48.5	+1.1
HHC				pP	pP	12 56 39.1	+3.4
HHC				PP	PP	12 57 30.8	+2.8
HHC				S	S	13 01 43.4	-0.6
HHC				sS	sS	13 03 19.3	+10
HHC				PMZ			
	14nm,1.2s						
HHC				PMZ			
	81nm,5.9s						
MDJ	**Mudanjiang**	**42.09**	**1**	P	P	12 55 52.8	-0.9
MDJ				pP	pP	12 56 40.1	-2.1
MDJ				sP	sP	12 57 06.8	-1.6
MDJ				PcS	PcS	13 01 34.8	-1.0
MDJ				S	S	13 01 54.6	-0.9
MDJ				PMZ			
	5.0nm,1.1s						
MDJ				PMZ			
	43nm,4.4s						
WMQ	**Urumqi**	**54.90**	**325**	*e*P	P	12 57 33.5	+2.2
PETK	**Petropavlovsk-**	**56.03**	**21**	P	P	12 57 39.8	+0.8
	3.6nm,0.8s,baz=189,slow=7.5,SNR=8.4						
MK31	**Makanchi Array**	**59.73**	**325**	P	P	12 58 04.9	0.0
	baz=60,SNR=5.0						
MKAR	**Makanchi Array**	**59.73**	**325**	P	P	12 58 04.8	-0.1
	1.8nm,0.4s,baz=121,slow=6.2,SNR=31						
MKAR				pP	pP	12 58 55.0	-1.9
	0.6nm,0.5s,baz=148,slow=4.9,SNR=4.8						
KURBB	**Kurchatov Arra**	**63.88**	**327**	P	P	12 58 32.2	-0.2
	4.3nm,0.5s,baz=126,slow=6.0,SNR=33						
KURBB				pP	pP	12 59 24.9	-0.3
	0.5nm,0.3s,baz=122,slow=6.7,SNR=4.1						
KURK	**Kurchatov**	**63.88**	**327**	*e*P	P	12 58 31.9	-0.5
	1.9nm,0.6s						
BVAR	**Borovoye Array**	**69.47**	**327**	P	P	12 59 07.3	-0.4
	1.0nm,0.7s,baz=108,slow=4.8,SNR=6.6						
AKTO	**Aktyubinsk**	**75.88**	**322**	P	P	12 59 44.6	-0.7
	1.2nm,0.6s,baz=100,slow=5.0,SNR=3.6						
VNDA	**Vanda**	**81.84**	**173**	P	P	13 00 16.4	-0.7
	1.0nm,0.7s,baz=310,slow=5.8,SNR=4.0						
ILAR	**Eielson Array**	**85.55**	**25**	P	P	13 00 35.8	-0.4
	0.3nm,0.7s,baz=256,slow=4.8,SNR=5.4						
TORD	**Torodi Ar. Bea**	**125.09**	**288**	PKP	PKPdf	13 06 57.2	-1.1
	0.5nm,1.0s,baz=72,slow=1.3,SNR=2.5						
CFAA	**Coronel Fontan**	**146.86**	**153**	PKPbc	PKPbc	13 07 39.9	-0.2
	0.2nm,0.6s,baz=269,slow=7.8,SNR=4.3						

IDC 15 12:57:04.3±3.3, 54.27N×87.38E, h0km, mb1 3.1/2, mb1mx2.9/36, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=29.5km s-min=18.6km az=45.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.54**	**259**	*i*		13 06 00.0	
	baz=79,slow=322,SNR=5.5						
ZALV	**Zalesovo Beam**	**1.54**	**259**	Pg	Pn	12 57 31.0	-2.1
	1.4nm,0.3s,baz=80,slow=17,SNR=28						
ZALV				Lg	Lg	12 57 54.1	
	2.3nm,0.3s,baz=76,slow=24,SNR=14						
KURBB	**Kurchatov Arra**	**6.53**	**240**	Pn	Pn	12 58 41.5	0.0
	0.1nm,0.3s,baz=57,slow=14,SNR=4.0						
MKAR	**Makanchi Array**	**8.16**	**205**	Pn	Pn	12 59 05.6	+1.7
	0.1nm,0.3s,baz=31,slow=14,SNR=3.7						
MKAR				Lg	Lg	13 01 23.1	
	baz=26,slow=30,SNR=5.4						

*ISCJB **15** 12:57:56.8±1.0, 32.70S±0.04×71.79W±0.09, h31km±7km, Error ellipse: s-maj=12.6km s-min=6.0km az=160.3*
*NEIC **15** 12:57:58.0, 32.69S×71.63W, h26km, ML3.6(GUC), After GUC.*
NEIC Felt [II] at Vina del Mar and Zapallar.
*GUC **15** 12:57:58.1±0.6, 32.69S×71.63W, h26km±7km, ML3.6*
*SJA **15** 12:58:20.3±1.1, 32.42S×69.72W, h60km±8km, ML3.0*
ISC 15 12:57:57.5±1.2, 32.67S±0.04×71.66W±0.06, h31km±10km, n23, σ0s76/36, 7C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.35**	**178**	⇑*i*P	Pb	12 58 05.7	0.0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QCR	**Quepos**	**0.22**	**339**	⇓*iP*	Pb	13 03 40.6	-0.6
QCR				*eS*	Sb	13 03 45.2	-0.1
BUS	**Buena Vista**	**0.47**	**44**	*eP*	Pb	13 03 44.9	-0.4
BUS				*eS*	Sb	13 03 53.1	+0.9
URSC	**Urasca**	**0.68**	**26**⇑	*eP*	Pb	13 03 48.4	-0.4
URSC				*eS*	Sb	13 03 59.1	+1.0
ACR	**Cerro Adams**	**1.07**	**122**	*eP*	Pn	13 03 53.4	-1.8
ACR				*eS*	Sb	13 04 07.4	-1.3
CAO	**Cobano**	**1.11**	**296**	*eP*	Pb	13 03 58.5	+2.6
CTCR	**Cotoan**	**1.35**	**104**	*eP*	Pn	13 03 58.6	-0.6
CTCR				*eS*	Sb	13 04 17.2	0.0
BRU2	**Volcan**	**1.44**	**107**	*eP*	Pn	13 03 58.3	-0.1
BRU2				*eS*	Sb	13 04 19.7	0.0
TBS2		**1.47**	**107**⇓	*eP*	Pn	13 04 01.3	+0.5
TBS2				*eS*	Sb	13 04 21.9	+1.2

IDC 15 13:12:49.2±1.4, 2°33S×139°12E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/21, mbtmp3.6/4, ML3.9/1, MS3.8/1, Ms1 3.8/1, ms1mx2.7/20, Error ellipse: s-maj=26.4km s-min=14.3km az=179.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.60**	**97**	Pg	Pn	13 13 18.9	+0.1
	7.7nm,0.3s,baz=223,slow=9.3,SNR=34						
JAY				Lg	Lg	13 13 39.0	
	22nm,0.3s,baz=146,slow=19,SNR=18						
WRA	**Warramunga Arr**	**18.12**	**195**	P	Pn	13 17 01.2	-1.3
	0.4nm,0.3s,baz=18,slow=12,SNR=26						
WRA				S	Sn	13 20 14.1	-11
	0.1nm,0.3s,baz=17,slow=23,SNR=4.8						
ASAR	**Alice Springs**	**21.80**	**193**	P	P	13 17 43.1	+0.1
	0.4nm,0.4s,baz=19,slow=11,SNR=14						
STKA	**Stephens Creek**	**29.48**	**176**	P	P	13 18 55.5	+0.5
	0.6nm,0.5s,baz=351,slow=13,SNR=2.9						
PSI	**Prapat**	**40.50**	**277**	LR	LR	13 41 48.9	
	comp=Z,119nm,19.0s,slow=43						
MKAR	**Makanchi Array**	**69.74**	**322**	P	P	13 24 01.0	-0.2
	0.3nm,0.6s,baz=119,slow=4.7,SNR=5.0						

OTT 15 13:15:39.0±0.4, 71°92N×74°60W, h18km, MN3.5/13, 144km southeast from Pond Inlet, Nu Baffin Island Seismic Zone, Nt., Baffin Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GIFN	**Gifford Fjord,**	**3.01**	**233**	PN	Pn	13 16 25.9	+0.3
GIFN				SN	Sn	13 17 00.5	-0.7
GIFN				LG	Lg	13 17 06.6	
GIFN				Trac		13 17 16.5	
	comp=Z,35nm,0.1s						
ILON	**Igloolik, Nuna**	**3.51**	**227**	PN	Pn	13 16 32.8	+0.2
ILON				PG	Pb	13 16 41.4	+0.9
ILON				SN	Sn	13 17 13.0	-0.5
ILON				LG	Lg	13 17 24.5	
ILON				Trac		13 17 29.1	
	comp=Z,75nm,0.3s						
AP3N	**Apex site 3 Nu**	**4.10**	**238**	PN	Pn	13 16 40.9	+0.2
AP3N				SN	Sn	13 17 26.3	-1.9
AP3N				LG	Lg	13 17 41.8	
AP3N				Trac		13 17 42.7	
	comp=Z,93nm,0.3s						
LAIN	**Lailor River,**	**4.11**	**231**	PN	Pn	13 16 40.6	-0.2
LAIN				PG	Pb	13 16 51.3	+0.5
LAIN				SN	Sn	13 17 27.0	-1.4
LAIN				LG	Lg	13 17 42.3	
LAIN				Trac		13 17 44.9	
	comp=Z,42nm,0.2s						
KULLO	**Kullorsuaq**	**5.68**	**54**	PN	Pn	13 17 04.2	+2.0
KULLO				SN	Sn	13 18 06.2	-0.5
RES	**Resolute Bay**	**6.45**	**305**	PN	Pn	13 17 12.5	-0.4
RES				SN	Sn	13 18 21.1	-4.8
RES				LG	Lg	13 18 58.6	
RES				Trac		13 19 09.9	
	comp=Z,7.9nm,0.5s						
QILN	**Qililugaq Expl**	**6.73**	**224**	PN	Pn	13 17 15.5	-1.2
QILN				SN	Sn	13 18 26.4	-6.2
QILN				LG	Lg	13 19 01.4	
QILN				Trac		13 19 12.1	
	comp=Z,16nm,0.2s						
CMBN	**Cumberland Cam**	**7.25**	**145**	PN	Pn	13 17 24.0	+0.2
CMBN				SN	Sn	13 18 41.6	-3.9
CMBN				LG	Lg	13 19 20.4	
CMBN				Trac		13 19 31.4	
	comp=Z,10nm,0.3s						
STLN	**Stellar Camp,**	**7.88**	**243**	PN	Pn	13 17 31.9	-0.6
STLN				SN	Sn	13 18 51.7	-9.4
STLN				LG	Lg	13 19 36.9	
STLN				Trac		13 19 40.7	
	comp=Z,19nm,0.4s						
WAGN	**Wager Bay**	**8.06**	**229**	PN	Pn	13 17 37.1	+2.2
WAGN				SN	Sn	13 18 57.1	-8.4
WAGN				LG	Lg	13 19 40.6	
FRB	**Frobisher Bay**	**8.52**	**162**	PN	Pn	13 17 41.2	+0.1
FRB				SN	Sn	13 19 10.1	-6.5
FRB				LG	Lg	13 19 57.4	
FRB				Trac		13 20 08.6	
	comp=Z,12nm,0.3s						
BULN	**Bullion Camp,**	**8.59**	**239**	PN	Pn	13 17 40.3	-1.9
BULN				SN	Sn	13 19 07.5	-11
BULN				LG	Lg	13 19 58.6	
BULN				Trac		13 20 14.4	
	comp=Z,19nm,0.6s						
EUNU	**Eureka**	**8.63**	**346**	PN	Pn	13 17 44.6	+1.8
EUNU				SN	Sn	13 19 18.1	-1.4
NUNN	**Nunuq Camp, NU**	**9.00**	**230**	PN	Pn	13 17 45.9	-1.9
NUNN				SN	Sn	13 19 19.2	-9.4
NUNN				LG	Lg	13 20 10.9	
NUNN				Trac		13 20 19.9	
	comp=Z,22nm,0.6s						
CB31	**Cambridge Bay**	**10.48**	**269**	PN	Pn	13 18 02.9	-5.2
CB31				SN	Sn	13 19 50.4	-14
CB31				LG	Lg	13 20 51.8	
CB31				Trac		13 21 02.6	
	comp=Z,12nm,0.3s						
SEDN	**First Sedna Si**	**10.71**	**224**	PN	Pn	13 18 07.7	-3.5
SEDN				SN	Sn	13 19 59.2	-11
SEDN				LG	Lg	13 21 03.0	
SEDN				Trac		13 21 06.5	
	comp=Z,9.8nm,0.5s						
JOSN	**Second Sedna S**	**10.86**	**225**	PN	Pn	13 18 07.4	-5.9
JOSN				SN	Sn	13 20 03.8	-10
JOSN				LG	Lg	13 21 07.1	
JOSN				Trac		13 21 14.3	
	comp=Z,23nm,0.8s						
AKVQ	**Akulivik**	**11.25**	**189**	PN	Pn	13 18 17.5	-1.1
AKVQ				SN	Sn	13 20 14.6	-9.0
ARVN	**Arviat, NU**	**13.26**	**225**	SN	Sn	13 20 57.6	-15
ARVN				LG	Lg	13 22 23.4	
INUQ	**Inukjuak**	**13.60**	**188**	PN	Pn	13 18 47.2	-3.4
INUQ				SN	Sn	13 21 08.3	-13

*IDC **15** 13:31:16.6±1.5, 34°53N×69°24E, h0km, mb3.7/5, mb1 3.7/9, mb1mx3.5/45, mbtmp3.6/9, ML3.2/4, Error ellipse: s-maj=43.2km s-min=21.6km az=89.0*
*ISCJB **15** 13:31:18.8±0.7, 34°37N±0°04×69°66E±0°09, h24km, mb3.6/5, Error ellipse: s-maj=10.8km s-min=4.9km az=157.5*
*NNC **15** 13:31:24.4±3.2, 34°75N×69°56E, h0km, mb3.9, mpv4.0, Error ellipse: s-maj=24.2km s-min=21.8km az=30.0*
ISC 15 13:31:19.7±1.1, 34°37N±0°08×69°5E±0°1, h24km, n25, σ1§76/29, mb3.6/5, 5C-6D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**4.46**	**353**	⇓Pn	Pn	13 32 28.9	+3.0
	23nm,0.4s						
DZET				⇑Sn	**Sn**	**13 33 19.2**	**+2.1**
	55nm,0.5s						
SFK	**Sufi-Kurgan**	**6.48**	**28**	⇓Pn	Pn	13 32 57.2	+3.4
	8.6nm,0.5s						
SFK				⇑Sn	**Sn**	**13 34 09.6**	**+2.5**
	13nm,0.4s						
MNAS	**Manas**	**8.44**	**15**	⇓Pn	**Pn**	**13 33 22.7**	**+2.1**
	6.1nm,0.7s						
MNAS				⇑Sn	**Sn**	**13 34 53.9**	**-1.3**
	7.5nm,0.6s						
KK31	**Karatay Array**	**8.76**	**5**	Pn	**Pn**	**13 33 25.7**	**+0.9**
	1.1nm,0.3s,baz=197,slow=15,SNR=59						
KK31				⇑Sn	**Sn**	**13 35 00.2**	**-2.5**
	4.4nm,0.8s,baz=197,slow=25,SNR=5.7						
AAK	**Ala-Archa**	**9.13**	**24**	Pn	**Pn**	**13 33 30.4**	**+0.3**
	0.9nm,0.3s,baz=168,slow=9.1,SNR=6.6						
AAK				Sn	**Sn**	**13 35 12.7**	**+0.5**
	0.5nm,0.3s,baz=196,slow=8.2,SNR=4.3						
TKM2	**Tokmak 2**	**9.78**	**27**	⇓Pn	Pn	13 33 42.5	+3.5
	5.9nm,1.1s						
TKM2				⇓Sn	**Sn**	**13 35 29.1**	**+1.0**
	6.1nm,1.3s						
KOLN	**Koldanda**	**13.76**	**115**	*eP*	**Pn**	**13 34 34.5**	**+1.0**
	7.1nm,0.6s						
GKN	**Gorkha**	**14.43**	**112**	*eP*	**Pn**	**13 34 41.3**	**-1.3**
	9.5nm,0.4s						
DMN	**Daman**	**14.99**	**112**	*eP*	**Pn**	**13 34 48.7**	**-1.5**
	9.2nm,0.6s						
KKN	**Kakani**	**15.03**	**112**	*eP*	**Pn**	**13 34 48.9**	**-1.9**
	12nm,0.7s						
PKIN	**Phulchoki**	**15.22**	**112**	*eP*	**Pn**	**13 34 52.0**	**-1.4**
	11nm,0.5s						
PKI	**Pulchoki**	**15.24**	**112**	*eP*	**Pn**	**13 34 51.7**	**-1.9**
MK31	**Makanchi Array**	**15.74**	**34**	⇓P	**P**	**13 35 01.5**	**-2.1**
	0.7nm,0.6s,baz=228,slow=11,SNR=7.8						
MKAR	**Makanchi Array**	**15.74**	**34**	Pn	**Pn**	**13 35 00.2**	**+0.4**
	0.1nm,0.3s,baz=236,slow=8.6,SNR=6.5						
JIRN	**Jiri**	**15.80**	**111**	*eP*	**Pn**	**13 34 59.2**	**-1.7**
	12nm,0.6s						
AB31	**Akbulak array**	**16.47**	**337**	P	**P**	**13 35 09.5**	**-2.0**
	0.8nm,0.4s,baz=144,slow=9.9,SNR=28						
AB31				⇑S	**Sn**	**13 38 12.2**	**+1.3**
	1.0nm,0.7s						
TAPN	**Taplejung**	**17.13**	**109**	*eP*	**Pn**	**13 35 16.3**	**-1.5**
	10nm,0.9s						
KURBB	**Kurchatov Arra**	**17.54**	**19**	P	**Pn**	**13 35 21.0**	**-1.4**
	0.0nm,0.3s,baz=214,slow=13,SNR=4.4						
BVA0	**Borovoye Array**	**18.66**	**2**	P	**Pn**	**13 35 37.9**	**+1.7**
	0.1nm,0.9s,baz=200,slow=17,SNR=4.1						
BVAR	**Borovoye Array**	**18.66**	**2**	P	**P**	**13 35 33.1**	**-2.7**
	0.1nm,0.3s,baz=170,slow=8.8,SNR=3.6						
ZALV	**Zalesovo Beam**	**22.36**	**24**	P	**P**	**13 36 14.1**	**-1.7**
	0.8nm,0.3s,baz=222,slow=11,SNR=4.6						
ARCES	**ARCESS Array B**	**42.66**	**339**	P	**P**	**13 39 12.9**	**-1.0**
	5.7nm,1.0s,baz=359,slow=9.7,SNR=4.1						
WRA	**Warramunga Arr**	**81.94**	**121**	P	**P**	**13 43 39.8**	**+2.2**
	0.3nm,0.9s,baz=322,slow=4.9,SNR=5.5						
YKA	**Yellowknife Ar**	**83.42**	**2**	P	**P**	**13 43 45.0**	**+0.4**
	0.3nm,0.7s,baz=351,slow=5.2,SNR=7.0						
ASAR	**Alice Springs**	**84.08**	**124**	P	**P**	**13 43 50.6**	**+2.0**
	0.4nm,0.6s,baz=308,slow=5.2,SNR=8.6						

*MOS **15** 14:08:22.5±1.2, 41°27N×30°16E, h10km, mb4.3/6, Error ellipse: s-maj=6.9km s-min=5.1km az=66.8*
*ISCJB **15** 14:08:22.3±0.4, 41°27N±0°01×30°16E±0°02, h7km±3km, mb3.9/17, MS3.1/4, Error ellipse: s-maj=2.2km s-min=2.0km az=1.2*
*IDC **15** 14:08:22.8±0.8, 41°27N×30°21E, h0km, mb3.7/11, mb1 3.8/15, mb1mx3.7/37, mbtmp3.8/15, ML3.8/4, MS3.0/10, Ms1 3.1/10, ms1mx2.8/42, Error ellipse: s-maj=17.7km s-min=7.4km az=41.0*
*ISK **15** 14:08:22.2, 41°20N×30°13E, h5km, ML4.2*
*NEIC **15** 14:08:23.0, 41°18N×30°12E, h9km, mb3.9/2, ML4.3(THE), ML4.3(ISK), After ISK.*
*CSEM **15** 14:08:23.0±0.1, 41°23N×30°15E, h2km, mb4.1/6, Error ellipse: s-maj=2.4km s-min=2.0km az=171.0*
*DDA **15** 14:08:23.1, 41°18N×29°97E, h8km±1km, ML4.3/3, Error ellipse: s-maj=2.2km s-min=1.0km az=36.0*
*THE **15** 14:08:26.1, 41°18N×29°97E, h8km±1km, ML4.3/3, Error ellipse: s-maj=2.2km s-min=1.0km az=36.0*
ISC 15 14:08:23.3±1.0, 41°19N±0°02×30°15E±0°02, h8km±7km, n386, σ1§16/393, mb3.8/17, MS3.2/4, 18C-17D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SILT	**Sile**	**0.39**	**264**	*e*PG	**Pg**	**14 08 31.3**	**+0.4**
SILT				*e*SG	**Sg**	**14 08 37.0**	**+1.0**
SILT	**Sile**	**0.39**	**264**	*e*Pg	**Pg**	**14 08 31.3**	**+0.4**
SILT				*e*Sg	**Sg**	**14 08 37.0**	**+1.0**
SPNC	**Sapanca-Adapaz**	**0.52**	**167**	*e*PG	**Pb**	**14 08 34.3**	**-0.4**
SPNC	**Sapanca-Adapaz**	**0.52**	**167**	*e*Pg	**Pb**	**14 08 34.3**	**-0.4**
HRT	**Hereke**	**0.52**	**225**	*e*PG	**Pg**	**14 08 33.7**	**+0.3**
HRT	**Hereke**	**0.52**	**225**	*e*Pg	**Pg**	**14 08 33.7**	**+0.3**
GULT	**Gulveren**	**0.81**	**160**	*e*PG	**Pg**	**14 08 39.3**	**+0.4**
GULT	**Gulveren**	**0.81**	**160**	*e*Pg	**Pg**	**14 08 39.3**	**+0.4**
ADVT	**Abdulvahap**	**0.82**	**203**	*e*PG	**Pg**	**14 08 39.1**	**0.0**
ADVT	**Abdulvahap**	**0.82**	**203**	*e*Pg	**Pg**	**14 08 39.1**	**0.0**
ISK	**Istanbul-Kandi**	**0.83**	**262**	*e*PG	**Pg**	**14 08 39.0**	**-0.4**
ISK	**Istanbul-Kandi**	**0.83**	**262**	P	**Pg**	**14 08 38.9**	**-0.5**
ISK				S	**Sg**	**14 08 50.3**	**+0.1**
ISK	**Istanbul-Kandi**	**0.83**	**262**	P	**Pg**	**14 08 38.9**	**-0.5**
ISK				S	**Sg**	**14 08 50.3**	**+0.1**
ISK	**Istanbul-Kandi**	**0.83**	**262**	*e*Pg	**Pg**	**14 08 39.0**	**-0.4**
ISK				S	**Sg**	**14 08 50.3**	**+0.1**
ISK	**Istanbul-Kandi**	**0.83**	**262**	P	**Pg**	**14 08 38.9**	**-0.5**
ISK				S	**Sg**	**14 08 50.3**	**+0.1**
KLYT	**Kilyos**	**0.84**	**274**	*e*PG	**Pg**	**14 08 39.1**	**-0.4**
KLYT	**Kilyos**	**0.84**	**274**	*e*Pg	**Pg**	**14 08 39.1**	**-0.4**
BUY	**Buyukada**	**0.85**	**247**	*i* P	**Pg**	**14 08 39.3**	**-0.4**
BUY				*i* S	**Sg**	**14 08 51.1**	**+0.3**
BUY	**Buyukada**	**0.85**	**247**	*i* P	**Pg**	**14 08 39.3**	**-0.4**
BUY				*i* S	**Sg**	**14 08 51.1**	**+0.3**
BTAS	**Taskesti**	**0.89**	**134**	*i* P	**Pg**	**14 08 40.4**	**-0.1**
BTAS				*i* S	**Sg**	**14 08 52.5**	**+0.3**
BTAS	**Taskesti**	**0.89**	**134**	*i* P	**Pg**	**14 08 40.4**	**-0.1**
BTAS				*i* S	**Sg**	**14 08 52.5**	**+0.3**
KDZE	**Karadeniz Ereo**	**0.98**	**83**	*e*PG	**Pb**	**14 08 41.4**	**-1.2**
KDZE	**Karadeniz Ereo**	**0.98**	**83**	*e*Pg	**Pb**	**14 08 41.4**	**-1.2**
IZI	**Iznik**	**1.00**	**211**	*e*PG	**Pb**	**14 08 42.3**	**-0.7**
IZI	**Iznik**	**1.00**	**211**	*e*Pg	**Pb**	**14 08 42.3**	**-0.7**
CAVI	**Cavuskoy**	**1.02**	**193**	*e*PG	**Pb**	**14 08 43.0**	**-0.3**
CAVI	**Cavuskoy**	**1.02**	**193**	*e*Pg	**Pb**	**14 08 43.0**	**-0.3**
BGKT	**Bogazkoy**	**1.04**	**270**	*e*PG	**Pb**	**14 08 42.7**	**-0.9**
BGKT	**Bogazkoy**	**1.04**	**270**	*e*Pg	**Pb**	**14 08 42.7**	**-0.9**
GEMT	**Gemlik**	**1.05**	**284**	*e*PG	**Pb**	**14 08 42.7**	**-1.1**
GEMT	**Gemlik**	**1.05**	**224**	*e*Pg	**Pb**	**14 08 42.7**	**-1.1**
MDUB	**Mudurnu**	**1.07**	**132**	*e*PN	**Pb**	**14 08 43.8**	**-0.5**
MDUB	**Mudurnu**	**1.07**	**132**	*e*Pn	**Pb**	**14 08 43.8**	**-0.5**
ARMT	**Armutlu**	**1.16**	**238**	*e*PN	**Pb**	**14 08 44.8**	**-0.9**
ARMT	**Armutlu**	**1.16**	**238**	*e*Pn	**Pb**	**14 08 44.8**	**-0.9**
CTKS	**Kestanelik-??a**	**1.24**	**273**	*e*PN	**Pn**	**14 08 46.2**	**-0.8**
CTKS	**Kestanelik-??a**	**1.24**	**273**	*e*Pn	**Pn**	**14 08 46.2**	**-0.8**
MDNY	**Mudanya-Bursa**	**1.27**	**230**	*e*PN	**Pn**	**14 08 47.0**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.27**	**230**	*e*Pn	**Pn**	**14 08 47.0**	**-0.4**
ULDT	**Uludag**	**1.30**	**217**	*i* P	**Pb**	**14 08 48.0**	**-0.2**
ULDT				*i* S	**Sg**	**14 09 05.8**	**+0.6**
ULDT	**Uludag**	**1.30**	**217**	*i* P	**Pb**	**14 08 48.0**	**-0.2**
ULDT				*i* S	**Sg**	**14 09 05.8**	**+0.6**
BORA	**Eskisehir**	**1.33**	**170**	*i* P	**Pb**	**14 08 48.7**	**+0.1**
BORA				*i* S	**Sg**	**14 09 06.9**	**+0.8**
BORA	**Eskisehir**	**1.33**	**170**	*i* P	**Pb**	**14 08 48.7**	**+0.1**
BORA				*i* S	**Sg**	**14 09 06.9**	**+0.8**
CTYL	**Yal??k??y-??at**	**1.43**	**282**	*e*PN	**Pn**	**14 08 49.0**	**-0.6**
CTYL	**Yal??k??y-??at**	**1.43**	**282**	*e*Pn	**Pn**	**14 08 49.0**	**-0.6**
SLVT	**Silivri**	**1.47**	**272**	*e*PN	**Pb**	**14 08 50.6**	**-0.2**
SLVT	**Silivri**	**1.47**	**272**	*e*Pn	**Pb**	**14 08 50.6**	**-0.2**
SLVT	**Silivri**	**1.47**	**272**	*i* P	**Pg**	**14 08 51.8**	**+0.4**
SLVT				*i* S	**Sg**	**14 09 10.9**	**+0.4**
BCAM	**Yenicaga**	**1.50**	**104**	*i* P	**Pn**	**14 08 50.0**	**-0.7**
BCAM				*i* S	**Sb**	**14 09 10.7**	**0.0**
BCAM	**Yenicaga**	**1.50**	**104**	*i* P	**Pn**	**14 08 50.0**	**-0.7**
BCAM				*i* S	**Sb**	**14 09 10.7**	**0.0**
KCTX	**Karacabey (Bur**	**1.65**	**236**	*e*PN	**Pn**	**14 08 52.6**	**-0.1**
KCTX	**Karacabey (Bur**	**1.65**	**236**	*e*Pn	**Pn**	**14 08 52.6**	**-0.1**
SEYT	**Eskypehyr**	**1.75**	**162**	*i* P	**Pb**	**14 08 55.0**	**-0.8**
SEYT	**Eskypehyr**	**1.75**	**162**	*i* P	**Pb**	**14 08 55.0**	**-0.8**
TVSB	**Tavsanli**	**1.82**	**197**	*e*PN	**Pn**	**14 08 55.5**	**+0.4**
TVSB	**Tavsanli**	**1.82**	**197**	*e*Pn	**Pn**	**14 08 55.5**	**+0.4**
CRLT	**Corlu**	**1.82**	**269**	*e*PN	**Pb**	**14 08 55.9**	**-1.1**
CRLT	**Corlu**	**1.82**	**269**	*e*Pn	**Pb**	**14 08 55.9**	**-1.1**
EDC	**Edincik**	**1.93**	**245**	*e*PN	**Pn**	**14 08 57.4**	**+0.8**
EDC	**Edincik**	**1.93**	**245**	*e*Pn	**Pn**	**14 08 57.4**	**+0.8**
TKR	**Tekirdag**	**1.99**	**265**	*e*PN	**Pn**	**14 08 58.3**	**+1.0**
TKR	**Tekirdag**	**1.99**	**265**	*e*Pn	**Pn**	**14 08 58.3**	**+1.0**
PHSR	**Pinarhisar**	**2.02**	**283**	*e*PN	**Pb**	**14 08 59.2**	**-1.2**
PHSR	**Pinarhisar**	**2.02**	**283**	*e*Pn	**Pb**	**14 08 59.2**	**-1.2**
MRMT	**Marmara Adasi**	**2.02**	**254**	*e*PN	**Pn**	**14 08 58.0**	**+0.1**
MRMT	**Marmara Adasi**	**2.02**	**254**	*e*Pn	**Pn**	**14 08 58.0**	**+0.1**
SVRH	**Sivrihisar-ESK**	**2.04**	**149**	*e*PN	**Pn**	**14 08 58.7**	**+0.6**
SVRH	**Sivrihisar-ESK**	**2.04**	**149**	*e*Pn	**Pn**	**14 08 58.7**	**+0.6**
DURS	**Dursunbey**	**2.04**	**219**	*i* P	**Pn**	**14 08 57.8**	**-0.3**
DURS				*i* S	**Sb**	**14 09 25.9**	**-0.4**
DURS	**Dursunbey**	**2.04**	**219**	*i* P	**Pn**	**14 08 57.8**	**-0.3**
DURS				*i* S	**Sb**	**14 09 25.9**	**-0.4**
ALT	**Altintas**	**2.13**	**181**	*e*PN	**Pn**	**14 09 00.2**	**+0.8**
ALT	**Altintas**	**2.13**	**181**	P	**Pn**	**14 09 00.0**	**+0.6**
ALT				S	**Sb**	**14 09 28.2**	**-0.9**
ALT	**Altintas**	**2.13**	**181**	*e*Pn	**Pn**	**14 09 00.2**	**+0.8**
ALT				S	**Sb**	**14 09 28.2**	**-0.9**
ALT	**Altintas**	**2.13**	**181**	P	**Pn**	**14 09 00.0**	**+0.6**
ALT				S	**Sb**	**14 09 28.2**	**-0.9**
SART	**Tekirdag**	**2.31**	**258**	*i* P	**Pn**	**14 09 01.3**	**-0.4**
SART				*i* S	**Sb**	**14 09 32.5**	**-1.5**
SART	**Tekirdag**	**2.31**	**258**	*i* P	**Pn**	**14 09 01.3**	**-0.4**
SART				*i* S	**Sb**	**14 09 32.5**	**-1.5**
BALB	**Balikesir**	**2.33**	**229**	*e*PN	**Pn**	**14 09 02.9**	**+0.9**
BALB	**Balikesir**	**2.33**	**229**	*e*Pn	**Pn**	**14 09 02.9**	**+0.9**
LOD	**Lodumlu**	**2.38**	**122**	*e*PN	**Pn**	**14 09 04.1**	**+1.3**
LOD	**Lodumlu**	**2.38**	**122**	*e*Pn	**Pn**	**14 09 04.1**	**+1.3**
ANTO	**Ankara**	**2.41**	**122**	*e*PN	**Pn**	**14 09 04.4**	**+1.3**
ANTO	**Ankara**	**2.41**	**122**	*e*P	**Pn**	**14 09 03.1**	**-0.1**
ANTO				*e*		14 09 30.7	
ANTO	**Ankara**	**2.41**	**122**	⇑*i*P	**Pn**	**14 09 04.5**	**+1.3**
ANTO	**Ankara**	**2.41**	**122**	*e*P	**Pn**	**14 09 03.1**	**-0.1**
ANTO	**Ankara**	**2.41**	**122**	*e*Pg	**Pg**	**14 09 08.6**	**-0.9**
ANTO				*e*S	**Sn**	**14 09 30.7**	**-2.2**
ANTO	**Ankara**	**2.41**	**122**	*e*Pn	**Pn**	**14 09 03.0**	**-0.1**
ANTO				*e*Pg	**Pg**	**14 09 08.6**	**-0.9**
ANTO				*e*Sn	**Sn**	**14 09 30.7**	**-2.2**
DEMI	**Demirci**	**2.41**	**208**	*i* P	**Pn**	**14 09 03.4**	**+0.2**
DEMI				*i* S	**Sn**	**14 09 32.7**	**-0.3**
DEMI	**Demirci**	**2.41**	**208**	*i* P	**Pn**	**14 09 03.4**	**+0.2**
DEMI				*i* S	**Sn**	**14 09 32.7**	**-0.3**
BALY	**Balya**	**2.42**	**234**	*i* P	**Pn**	**14 09 02.7**	**-0.5**
BALY				*i* S	**Sn**	**14 09 34.2**	**+1.2**
BALY	**Balya**	**2.42**	**234**	*i* P	**Pn**	**14 09 02.7**	**-0.5**
BALY				*i* S	**Sn**	**14 09 34.2**	**+1.2**
BOLV	**Bolvadin**	**2.55**	**166**	*i* P	**Pn**	**14 09 05.8**	**+0.7**
BOLV				*i* S	**Sb**	**14 09 38.2**	**-2.7**
BOLV	**Bolvadin**	**2.55**	**166**	*i* P	**Pn**	**14 09 05.8**	**+0.7**
BOLV				*i* S	**Sb**	**14 09 38.2**	**-2.7**
EDRB	**Edirne**	**2.64**	**285**	*e*PN	**Pn**	**14 09 07.1**	**+0.8**
EDRB	**Edirne**	**2.64**	**285**	P	**Pn**	**14 09 06.0**	**-0.3**
EDRB				S	**Sn**	**14 09 36.6**	**-1.9**
EDRB	**Edirne**	**2.64**	**285**	P	**Pn**	**14 09 06.0**	**-0.3**
EDRB	**Edirne**	**2.64**	**285**	*e*Pn	**Pn**	**14 09 07.1**	**+0.8**
EDRB				S	**Sn**	**14 09 36.6**	**-1.9**
EDRB	**Edirne**	**2.64**	**285**	P	**Pn**	**14 09 06.0**	**-0.3**
EDRB				S	**Sn**	**14 09 36.6**	**-1.9**
SHUT	**Suhut-Afyon**	**2.66**	**173**	*e*PN	**Pn**	**14 09 08.4**	**+1.8**
SHUT	**Suhut-Afyon**	**2.66**	**173**	*e*Pn	**Pn**	**14 09 08.4**	**+1.8**
CANT	**Cankiri**	**2.69**	**101**	*e*PN	**Pn**	**14 09 08.9**	**+1.9**
ILGA	**Ilgaz**	**2.70**	**92**	*i* P	**Pn**	**14 09 09.2**	**+1.9**
ILGA	**Ilgaz**	**2.70**	**92**	*i* P	**Pn**	**14 09 09.2**	**+1.9**
ILGA				*i* S	**Sb**	**14 09 47.0**	**+1.7**
LPK	**Lapseki**	**2.70**	**253**	*e*PN	**Pn**	**14 09 09.0**	**+1.9**
LPK	**Lapseki**	**2.70**	**253**	*e*Pn	**Pn**	**14 09 09.0**	**+1.9**
BBAL	**Bala**	**2.81**	**125**	*i* P	**Pn**	**14 09 09.5**	**+0.9**
BBAL	**Bala**	**2.81**	**125**	*i* P	**Pn**	**14 09 09.5**	**+0.9**
ERIK	**Erikli-Kesan**	**2.81**	**260**	*e*PN	**Pn**	**14 09 09.3**	**+0.8**
ERIK	**Erikli-Kesan**	**2.81**	**260**	*e*Pn	**Pn**	**14 09 09.3**	**+0.8**
AFSR	**Afʼar-Bala (A**	**2.83**	**127**	*e*PN	**Pn**	**14 09 10.7**	**+1.7**
AFSR	**Afʼar-Bala (A**	**2.83**	**127**	*e

SIGR	**SIGRI**	**3.84**	**240**	*e*P	**Pn**	**14 09 23.1 +0.4**
SIGR	**SIGRI**	**3.84**	**240**	P	**Pn**	**14 09 22.8 +0.1**
SIGR	**SIGRI**	**3.84**	**240**	*e*Pn	Pn	14 09 24.1 +1.4
SIGR	**SIGRI**	**3.84**	**240**	P	**Pn**	**14 09 22.8 +0.1**
HARR	**Harsova**	**3.86**	**336** ⇓	*i*P	**Pn**	**14 09 22.9 -0.1**
DIKM	**Dikmen**	**3.87**	**82**	*e*PN	Pn	14 09 24.9 +1.8
DIKM	**Dikmen**	**3.87**	**82**	*e*Pn	Pn	14 09 24.9 +1.8
AYDN	**Tasoluk**	**3.94**	**207**	*i* P	Pn	14 09 26.2 +2.0
AYDN	**Tasoluk**	**3.94**	**207**	*i* P	Pn	14 09 26.2 +2.0
SULT	**Sultanhani-AKS**	**3.96**	**138**	*e*PN	Pn	14 09 26.2 +1.7
SULT	**Sultanhani-AKS**	**3.96**	**138**	*e*Pn	Pn	14 09 26.2 +1.7
GOLH	**Golhisar**	**3.98**	**187**	*i* P	**Pn**	**14 09 25.6 +0.9**
GOLH	**Golhisar**	**3.98**	**187**	*i* P	**Pn**	**14 09 25.6 +0.9**
GOLH				*i* S	**Sg**	**14 10 27.0 -4.0**
LIA	**Limnos Island**	**4.00**	**253**	P	**Pn**	**14 09 24.7 -0.2**
LIA	**Limnos Island**	**4.00**	**253**	*e*P	**Pn**	**14 09 24.5 -0.4**
LIA	**Limnos Island**	**4.00**	**253**	P	**Pn**	**14 09 24.7 -0.2**
LIA	**Limnos Island**	**4.00**	**253**	P	**Pn**	**14 09 24.7 -0.2**
TLCR		**4.11**	**347** ⇓	*i*P	**Pn**	**14 09 26.0 -0.4**
PLD	**Plovdiv**	**4.18**	**284**	P	**Pn**	**14 09 27.9 +0.4**
PLD	**Plovdiv**	**4.18**	**284**	P	**Pn**	**14 09 27.9 +0.4**
PLD	**Plovdiv**	**4.18**	**284**	P	**Pn**	**14 09 27.9 +0.4**
PLD	**Plovdiv**	**4.18**	**284**	P	**Pn**	**14 09 27.9 +0.4**
CHOS	**Chios island**	**4.22**	**230**	P	**Pn**	**14 09 28.5 +0.4**
CHOS	**Chios island**	**4.22**	**230**	*e*P	**Pn**	**14 09 28.5 +0.4**
CHOS	**Chios island**	**4.22**	**230**	P	**Pn**	**14 09 28.5 +0.4**
CHOS	**Chios island**	**4.22**	**230**	P	**Pn**	**14 09 28.5 +0.4**
SEV	**Sevastopol'**	**4.23**	**36** ⇓	*i*P	**Pn**	**14 09 26.9 -1.2**
SEV				*e*S	**Sn**	**14 10 13.8 -3.9**
SEV	**Sevastopol'**	**4.23**	**36**	*i* P	**Pn**	**14 09 26.9 -1.2**
SEV				*e*S	**Sn**	**14 10 13.8 -3.9**
CFR	**Carcaliu**	**4.25**	**340** ⇓	*i*P	**Pn**	**14 09 28.5 +0.2**
KAVA	**Kavala**	**4.26**	**269**	P	**Pn**	**14 09 28.8 +0.2**
KAVA	**Kavala**	**4.26**	**269**	*e*P	**Pn**	**14 09 29.0 +0.4**
KAVA	**Kavala**	**4.26**	**269**	P	**Pn**	**14 09 28.8 +0.2**
KAVA	**Kavala**	**4.26**	**269**	P	**Pn**	**14 09 28.8 +0.2**
YER	**Yerkesik**	**4.30**	**200**	*e*PN	Pn	14 09 31.1 +1.9
YER	**Yerkesik**	**4.30**	**200**	*e*Pn	Pn	14 09 31.1 +1.9
SMG	**Samos**	**4.32**	**217**	P	**Pn**	**14 09 29.2 -0.2**
SMG				S	**Sn**	**14 10 19.8 -0.2**
SMG	**Samos**	**4.32**	**217**	*e*P	**Pn**	**14 09 29.0 -0.4**
SMG	**Samos**	**4.32**	**217**	P	**Pn**	**14 09 29.2 -0.2**
SMG				S	**Sn**	**14 10 19.8 -0.2**
SMG	**Samos**	**4.32**	**217**	P	**Pn**	**14 09 29.2 -0.2**
SMG				S	**Sn**	**14 10 19.8 -0.2**
YAL	**Yalta**	**4.42**	**40**	*e*P	**Pn**	**14 09 30.8 +0.2**
YAL				*i* S	**Sn**	**14 10 19.4 -2.8**
YAL	**Yalta**	**4.42**	**40**	*e*P	**Pn**	**14 09 30.8 +0.2**
YAL				*i* S	**Sn**	**14 10 19.4 -2.8**
ELL	**Elmali**	**4.44**	**183**	*e*PN	Pn	14 09 32.7 +1.5
ELL	**Elmali**	**4.44**	**183**	*e*Pn	Pn	14 09 32.7 +1.5
KVT	**Kavak**	**4.45**	**90**	*e*PN	Pn	14 09 32.7 +1.5
KVT	**Kavak**	**4.45**	**90**	*e*Pn	Pn	14 09 32.7 +1.5
DALY	**Dalyan (Mu¨la**	**4.52**	**195**	*e*PN	Pn	14 09 34.2 +2.1
DALY	**Dalyan (Mu¨la**	**4.52**	**195**	*e*Pn	Pn	14 09 34.2 +2.1
ALU	**Alushta**	**4.68**	**40** ⇓	*i*P	**Pn**	**14 09 33.6 -0.7**
ALU				*i* S	**Sn**	**14 10 24.5 -4.2**
ALU	**Alushta**	**4.68**	**40**	*i* P	**Pn**	**14 09 33.6 -0.7**
ALU				*i* S	**Sn**	**14 10 24.5 -4.2**
NVR	**Nevrokopi**	**4.74**	**274**	P	**Pn**	**14 09 35.5 +0.3**
NVR	**Nevrokopi**	**4.74**	**274**	*e*P	**Pn**	**14 09 35.5 +0.3**
NVR	**Nevrokopi**	**4.74**	**274**	P	**Pn**	**14 09 35.5 +0.3**
NVR	**Nevrokopi**	**4.74**	**274**	P	**Pn**	**14 09 35.5 +0.3**
SIM	**Simferopol'**	**4.75**	**36** ⇓	*i*P	**Pn**	**14 09 36.3 +1.1**
SIM				*e*S	**Sn**	**14 10 27.8 -2.6**
SIM	**Simferopol'**	**4.75**	**36**	*i* P	**Pn**	**14 09 36.3 +1.1**
SIM				*e*S	**Sn**	**14 10 27.8 -2.6**
MMB	**Musomiste**	**4.85**	**277** ⇑	*i*P	Pn	14 09 38.7 +2.0
SRS	**Serrai**	**4.95**	**271**	P	**Pn**	**14 09 38.4 +0.3**
SRS	**Serrai**	**4.95**	**271**	P	**Pn**	**14 09 38.4 +0.3**
SRS	**Serrai**	**4.95**	**271**	P	**Pn**	**14 09 38.4 +0.3**
SRS	**Serrai**	**4.95**	**271**	P	**Pn**	**14 09 38.4 +0.3**
AKAS	**Kas**	**4.97**	**185**	*i* P	Pn	14 09 41.6 +3.1
AKAS				*i* S	Sn	14 10 40.2 +4.0
AKAS	**Kas**	**4.97**	**185**	*i* P	Pn	14 09 41.6 +3.1
AKAS				*i* S	Sn	14 10 40.2 +4.0
SUDU	**Sudak**	**5.12**	**42**	*e*P	**Pn**	**14 09 40.8 +0.4**
SUDU				*e*S	**Sn**	**14 10 37.1 -2.6**
SUDU	**Sudak**	**5.12**	**42**	*e*P	**Pn**	**14 09 40.8 +0.4**
SUDU				*e*S	**Sn**	**14 10 37.1 -2.6**
PLG	**Polygyros**	**5.16**	**263**	*e*P	**Pn**	**14 09 39.7 -1.2**
SOH	**Sokhos**	**5.16**	**268**	P	**Pn**	**14 09 40.9 0.0**
SOH	**Sokhos**	**5.16**	**268**	*e*P	**Pn**	**14 09 40.8 -0.1**
SOH	**Sokhos**	**5.16**	**268**	P	**Pn**	**14 09 40.9 0.0**
SOH	**Sokhos**	**5.16**	**268**	P	**Pn**	**14 09 40.9 0.0**
SOH	**Sokhos**	**5.16**	**268**	P	**Pn**	**14 09 40.9 0.0**
ARG	**Arkhangelos**	**5.22**	**198**	*e*P	Pn	14 09 44.1 +2.4
GOLR		**5.27**	**316** ⇓	*i*P	**Pn**	**14 09 43.4 +1.0**
MLR	**Muntele Rosu**	**5.28**	**326**	Pn	**Pn**	**14 09 43.5 +0.8**
	0.9nm,0.3s,baz=321,slow=2.4,SNR=24					
MLR	**Muntele Rosu**	**5.28**	**326** ⇓	*i*P	**Pn**	**14 09 43.3 +0.7**
VRI	**Vrincioaia**	**5.29**	**333** ⇑	*i*P	**Pn**	**14 09 43.4 +0.7**
PLOR	**Plostina**	**5.31**	**333** ⇑	*i*P	**Pn**	**14 09 42.5 -0.4**
SVSK	**Karacayir**	**5.37**	**101**	*e*PN	Pn	14 09 45.9 +2.2
SVSK	**Karacayir**	**5.37**	**101**	*e*Pn	Pn	14 09 45.9 +2.2
VTS	**Vitosha**	**5.37**	**287**	*e*P	**Pn**	**14 09 44.0 +0.1**
VTS	**Vitosha**	**5.37**	**287** ⇑	*i*P	**Pn**	**14 09 44.3 +0.4**
FEO	**Feodosiya**	**5.42**	**43** ⇓	*i*P	**Pn**	**14 09 44.7 +0.3**
FEO				*e*S	**Sn**	**14 10 43.9 -2.9**
FEO	**Feodosiya**	**5.42**	**43**	*i* P	**Pn**	**14 09 44.7 +0.3**
FEO				*e*S	**Sn**	**14 10 43.9 -2.9**
KNT	**Kendrikon**	**5.47**	**272**	*e*P	Pn	14 09 46.9 +1.7
VOIR		**5.64**	**320** ⇓	*i*P	**Pn**	**14 09 47.8 +0.2**
ARR	**Arges**	**5.80**	**318** ⇑	*i*P	**Pn**	**14 09 49.8 +0.1**
GRG	**Griva**	**5.86**	**270**	*e*P	Pn	14 09 51.9 +1.3
KIS	**Kishinev**	**5.88**	**351**	*e*P	**Pn**	**14 09 49.0 -1.8**
KIS	**Kishinev**	**5.88**	**351**	*e*P	**Pn**	**14 09 49.0 -1.8**
KIS				*e*		14 10 55.0
KIS	**Kishinev**	**5.88**	**351**	*e*P	**Pn**	**14 09 49.0 -1.8**
TESR	**Tescani**	**5.89**	**336** ⇑	*i*P	**Pn**	**14 09 50.6 -0.3**
KERU	**Kerch**	**6.17**	**46**	*e*P	Pn	14 09 56.7 +1.9
KERU	**Kerch**	**6.17**	**46**	*e*P	Pn	14 09 56.7 +1.9
DARE	**Darende-Malaty**	**6.22**	**113**	*e*PN	Pn	14 09 57.5 +2.0
DARE	**Darende-Malaty**	**6.22**	**113**	*e*Pn	Pn	14 09 57.5 +2.0
LOT	**Lotru**	**6.30**	**315** ⇑	*i*P	**Pn**	**14 09 56.4 -0.3**
BARS	**Barje**	**6.42**	**287**	*e*Pn	Pn	14 10 00.3 +2.1
ANN	**Anapa**	**6.44**	**54**	*e*P	**Pn**	**14 09 58.0 -0.5**
ANN				*i* S	**Sn**	**14 11 08.4 -3.7**
ANN				pmax	pmax	
	comp=Z,31nm,0.6s					
ANN	**Anapa**	**6.44**	**54**	*e*P	**Pn**	**14 09 58.0 -0.5**
	comp=Z,31nm,0.6s					
CSS	**Prodhromos**	**6.71**	**157**	*e*PN	Pn	14 10 05.3 +3.2
CSS	**Prodhromos**	**6.71**	**157**	*e*Pn	**Pn**	**14 10 00.9 -1.3**
	comp=Z,1.9nm,0.8s					
CSS	**Prodhromos**	**6.71**	**157**	*e*Pn	**Pn**	**14 10 00.9 -1.3**
	comp=Z,1.9nm,0.8s					
CSS				*e*Sn	**Sn**	**14 11 17.5 -1.2**
MALT	**Malatya**	**6.99**	**112**	*e*PN	Pn	14 10 08.8 +2.6
MALT	**Malatya**	**6.99**	**112**	*e*Pn	Pn	14 10 08.8 +2.6
SELS	**Selova**	**7.01**	**290**	*e*Pn	**Pn**	**14 10 06.3 0.0**
IDI	**Anoyia**	**7.20**	**217**	LR	LR	14 13 40.5
	comp=Z,110nm,20.8s,baz=110,slow=44					
BURAR	**Bucovina Array**	**7.33**	**333** ⇑	*i*P	**Pn**	**14 10 11.5 +0.8**
BUR08	**Bucovina Ar. S**	**7.36**	**333**	*e*Pn	**Pn**	**14 10 10.3 -0.9**
BUR08				*e*Sn	**Sn**	**14 11 33.7 -1.2**
BUR08	**Bucovina Ar. S**	**7.36**	**333**	*e*Pn	**Pn**	**14 10 10.3 -0.9**
BUR08				*e*Sn	**Sn**	**14 11 33.7 -1.2**
GRUS	**Gruza**	**7.47**	**294**	*e*Pn	**Pn**	**14 10 12.2 -0.4**
SOC	**Sochi**	**7.47**	**68**	*e*P	**Pn**	**14 10 09.9 -2.7**
SOC	**Sochi**	**7.47**	**68**	*e*P	**Pn**	**14 10 09.9 -2.7**
SVRC	**Sivrice-ELAZID**	**7.59**	**109**	*e*PN	Pn	14 10 16.9 +2.5
SVRC	**Sivrice-ELAZID**	**7.59**	**109**	*e*Pn	Pn	14 10 16.9 +2.5
IVAS	**Ivanjica**	**7.78**	**291**	*e*Pn	**Pn**	**14 10 17.6 +0.7**
TRUS	**Trudelj**	**7.79**	**296**	*e*Pn	**Pn**	**14 10 16.3 -0.7**
DIVS	**Divibare**	**8.03**	**295**	*e*Pn	**Pn**	**14 10 21.3 +0.9**
TEKS	**Tekeris**	**8.49**	**297**	*e*Pn	**Pn**	**14 10 26.0 -0.6**
MMAI	**Mount Meron Ar**	**9.17**	**151**	Pn	**Pn**	**14 10 36.1 +0.1**
	comp=Z,1.1nm,0.3s,baz=345,slow=13,SNR=6.9					
UZH	**Uzhgorod**	**9.29**	**326**	*e*P	**Pn**	**14 10 36.7 -0.8**
UZH				*i*		14 12 21.7
UZH	**Uzhgorod**	**9.29**	**326**	*e*P	**Pn**	**14 10 36.7 -0.8**
UZH				*i* S	**Sn**	**14 12 21.7 -0.5**
AK02	**Malin Array Si**	**9.49**	**356**	*e*Pn	**Pn**	**14 10 38.6 -1.6**
AK02	**Malin Array Si**	**9.49**	**356**	*e*Pn	**Pn**	**14 10 38.6 -1.6**
KIEV	**Kiev**	**9.53**	**356** ⇑	*e*P	Pn	14 10 42.5 +1.8
KIEV	**Kiev**	**9.53**	**356**	*e*P	Pn	14 10 42.5 +1.8
AKASG	**Malin Array Be**	**9.53**	**356**	Pn	Pn	14 10 37.6 -3.2
	comp=Z,2.8nm,0.3s,baz=180,slow=11,SNR=6.5					
AKASG				Sn	**Sn**	**14 12 31.1 +3.0**
	comp=Z,12nm,0.3s,baz=184,slow=25,SNR=16					
NEY	**Neytrino**	**9.55**	**73**	*e*P	**Pn**	**14 10 41.9 +0.6**
NEY	**Neytrino**	**9.55**	**73**	*e*P	**Pn**	**14 10 41.9 +0.6**
KIV	**Kislovodsk**	**9.65**	**69** ⇓	*e*P	Pn	14 10 44.6 +2.0
KIV				pmax	pmax	
	comp=Z,3.0nm,1.1s					
KIV	**Kislovodsk**	**9.65**	**69**	*e*P	Pn	14 10 44.6 +2.0
	comp=Z,3.0nm,1.1s					
GNI	**Garni**	**11.13**	**91**	LR	LR	14 15 39.5
	comp=Z,45nm,18.7s,baz=238,slow=39					
GNI	**Garni**	**11.13**	**91**	*c*e*e*P	Pn	14 11 07.1 +4.1
VORD	**Divnogorie**	**11.64**	**30**	*e*P	**Pn**	**14 11 10.6 +0.9**
VORD				*e*S	Sn	14 13 11.8 -8.0
VORD				pmax	pmax	
	comp=Z,10.0nm,0.6s					
VORD				pmax	pmax	
	comp=N,8.0nm,0.5s					
VORD				pmax	pmax	
	comp=E,60nm,0.6s					
VORD				smax	smax	
	comp=E,20nm,0.6s					
VORD				smax	smax	
	comp=Z,10.0nm,0.9s					
VORD				smax	smax	
	comp=N,10.0nm,0.5s					
VORD	**Divnogorie**	**11.64**	**30**	*e*P	**Pn**	**14 11 10.6 +0.9**
	comp=N,8.0nm,0.5s					
VSR	**Storozhevoye**	**11.80**	**29**	*e*P	**Pn**	**14 11 11.0 -0.9**
VSR				pmax	pmax	
	comp=Z,20nm,0.4s					
VSR				pmax	pmax	
	comp=N,50nm,0.8s					
VSR				pmax	pmax	
	comp=E,20nm,0.8s					
VSR	**Storozhevoye**	**11.80**	**29**	*e*P	**Pn**	**14 11 11.0 -0.9**
	comp=E,20nm,0.4s					
VRAC	**Vranov**	**12.52**	**315**	LR	LR	14 16 24.6
	comp=E,39nm,19.2s,baz=96,slow=39					
LPSR	**Galich'ya Gora**	**12.88**	**25**	*e*P	**Pn**	**14 11 25.4 -1.2**
LPSR				*e*S	Sn	14 13 56.1 +6.0
LPSR				pmax	pmax	
	comp=N,30nm,0.6s					
LPSR				pmax	pmax	
	comp=E,20nm,0.6s					
LPSR				pmax	pmax	
	comp=Z,70nm,0.6s					
LPSR				smax	smax	
	comp=E,10.0nm,0.8s					
LPSR				smax	smax	
	comp=N,10.0nm,0.9s					
LPSR				smax	smax	
	comp=Z,8.0nm,0.9s					
LPSR	**Galich'ya Gora**	**12.88**	**25**	*e*P	**Pn**	**14 11 25.4 -1.2**
GERES	**GERESS Array B**	**13.91**	**309**	LR	LR	14 18 27.5
	comp=Z,42nm,18.4s,baz=129,slow=44					
OBN	**Obninsk**	**14.56**	**15**	LR	LR	14 17 23.7
	comp=Z,53nm,21.4s,baz=273,slow=37					
CLL	**Colln**	**15.55**	**316**	*e*PP	P	14 12 11.0 +3.8
DAVOX	**Davos/Dischmat**	**15.61**	**298**	LR	LR	14 18 42.2
	comp=Z,82nm,18.2s,baz=134,slow=40					
SMF	**Signal de Mont**	**19.68**	**295**	*e*P	**Pn**	**14 12 56.1 +1.9**
SMF	**Signal de Mont**	**19.68**	**295**	*e*P	**Pn**	**14 12 56.1 +1.9**
SMF	**Signal de Mont**	**19.68**	**295**	*e*P	**Pn**	**14 12 56.1 +1.9**
FINES	**FINESS Array B**	**20.43**	**354**	P	**P**	**14 13 00.0 -0.8**
	comp=Z,1.6nm,0.6s,baz=162,slow=14,SNR=10					
FINES				S	S	14 16 37.4 -12
	comp=Z,2.2nm,0.6s,baz=176,slow=24,SNR=3.8					
KLMR	**Klimovskoe**	**20.51**	**13**	*e*P	Pn	14 13 03.5 -0.3
KLMR				pmax	pmax	
	comp=Z,9.0nm,0.7s					
KLMR	**Klimovskoe**	**20.51**	**13**	*e*P	Pn	14 13 03.5 -0.3
	comp=Z,9.0nm,0.7s					
AKTK	**Aktyubinsk**	**21.40**	**55**	P	**P**	**14 13 11.2 -0.2**
AKTO	**Aktyubinsk**	**21.40**	**55**	P	**P**	**14 13 11.2 -0.2**
	comp=Z,2.5nm,0.7s,baz=213,slow=4.1,SNR=8.4					
AKTO				LR	LR	14 24 57.3
	comp=Z,55nm,18.2s,baz=250,slow=47					
HFS	**Hagfors**	**21.53**	**337**	P	**P**	**14 13 13.0 +0.3**
	comp=Z,2.3nm,0.6s,baz=152,slow=6.7,SNR=8.2					
HFS	**Hagfors**	**21.53**	**337**	P	**P**	**14 13 13.0 +0.3**
HFS	**Hagfors**	**21.53**	**337**	P	**P**	**14 13 13.0 +0.3**
ABKAR	**Akbulak array**	**22.37**	**59**	*e*P	**P**	**14 13 24.3 +2.6**
	comp=Z,1.1nm,0.6s					
PRGR	**Permogore**	**22.52**	**19**	*e*P	P	14 13 27.2 +4.0
PRGR				pmax	pmax	
	comp=Z,33nm,0.7s					
LDF	**La Druitiere**	**22.58**	**299**	*e*P	**P**	**14 13 24.6 +0.5**
	comp=Z,13nm,0.8s					
LDF	**La Druitiere**	**22.58**	**299**	*e*P	**P**	**14 13 24.6 +0.5**
LDF				pmax	pmax	
	comp=Z,13nm,0.8s					
LDF	**La Druitiere**	**22.58**	**299**	*e*P	**P**	**14 13 24.6 +0.5**
	comp=Z,13nm,0.8s					
LDF	**La Druitiere**	**22.58**	**299**	*e*P	**P**	**14 13 24.6 +0.5**
	comp=Z,13nm,0.8s					
FLN	**La Foliniere**	**22.84**	**300**	*e*P	**P**	**14 13 28.5 +1.7**
FLN	**La Foliniere**	**22.84**	**300**	*e*P	**P**	**14 13 28.5 +1.7**
FLN	**La Foliniere**	**22.84**	**300**	*e*P	**P**	**14 13 28.5 +1.7**
FLN	**La Foliniere**	**22.84**	**300**	*e*P	**P**	**14 13 28.5 +1.7**
NB2	**NORSAR Subarra**	**22.99**	**336**	P	**P**	**14 13 29.5 +1.2**
	comp=Z,1.1nm,0.6s,baz=147,slow=10					
NB2	**NORSAR Subarra**	**22.99**	**336**	P	**P**	**14 13 29.5 +1.2**
	comp=Z,1.1nm,0.6s,SNR=5.4					
NOA	**NORSAR Array B**	**22.99**	**336**	P	**P**	**14 13 28.5 +0.2**
	comp=Z,0.7nm,0.8s,baz=145,slow=10,SNR=5.6					
NOA				LR	LR	14 22 38.2
	comp=Z,25nm,21.1s,baz=150,slow=37					
GRR	**Gorron**	**23.04**	**299**	*e*P	**P**	**14 13 30.2 +1.3**
	comp=Z,13nm,0.8s					
GRR	**Gorron**	**23.04**	**299**	*e*P	**P**	**14 13 30.2 +1.3**
GRR				pmax	pmax	
	comp=Z,13nm,0.8s					
GRR	**Gorron**	**23.04**	**299**	*e*P	**P**	**14 13 30.2 +1.3**
	comp=Z,13nm,0.8s					
GRR	**Gorron**	**23.04**	**299**	*e*P	**P**	**14 13 30.2 +1.3**
	comp=Z,13nm,0.8s					
ARU	**Arti**	**23.89**	**41**	*c i*P	**P**	**14 13 38.6 +1.3**
ARU				S	**S**	**14 17 55.5 +2.0**
ARU				pmax	pmax	
	comp=Z,10.0nm,2.5s					
ARU	**Arti**	**23.89**	**41**	*i* P	**P**	**14 13 38.6 +1.3**
	comp=Z,10.0nm,2.5s					
ARU				S	**S**	**14 17 55.5 +2.0**
ARU	**Arti**	**23.89**	**41**	P	**P**	**14 13 35.3 -2.0**
	comp=Z,6.9nm,0.8s					
ESDC	**Sonseca Array**	**25.92**	**278**	P	P	14 13 58.6 +2.6
	comp=Z,1.9nm,0.9s,baz=66,slow=11,SNR=8.7					
BRVK	**Borovoye**	**29.38**	**52** ⇓	*e*P	P	14 14 29.7 +2.9
BRVK				pmax	pmax	
	comp=Z,1.0nm,0.8s					
BVAR	**Borovoye Array**	**29.44**	**53**	P	P	14 14 28.6 +1.3
	comp=Z,0.5nm,0.4s,baz=275,slow=5.4,SNR=5.4					
NVS	**Novosibirsk**	**37.12**	**50**	*e*P	**P**	**14 15 32.7 -1.4**
NVS	**Novosibirsk**	**37.12**	**50**	*e*P	**P**	**14 15 32.7 -1.4**
MK31	**Makanchi Array**	**37.35**	**63**	*e*P	**P**	**14 15 34.7 -1.6**
MK31	**Makanchi Array**	**37.35**	**63**	*e*P	**P**	**14 15 34.7 -1.6**
MK31	**Makanchi Array**	**37.35**	**63**	*e*P	**P**	**14 15 34.7 -1.6**
MKAR	**Makanchi Array**	**37.35**	**63**	P	**P**	**14 15 36.5 +0.2**
	comp=Z,1.3nm,0.6s,baz=271,slow=12,SNR=17					
TORD	**Torodi Ar. Bea**	**37.38**	**230**	P	**P**	**14 15 36.4 -0.4**
	comp=Z,0.7nm,0.7s,baz=34,slow=8.5,SNR=5.2					
ZAA0	**Zalesovo Array**	**38.08**	**51**	*e*P	**P**	**14 15 41.3 -0.9**
ZAA0	**Zalesovo Array**	**38.08**	**51**	*e*P	**P**	**14 15 41.4 -0.9**
ZALV	**Zalesovo Beam**	**38.08**	**51**	P	**P**	**14 15 42.0 -0.3**
	comp=Z,2.4nm,0.5s,baz=270,slow=10,SNR=10					
ZALV				LR	LR	14 35 55.0
	comp=Z,47nm,18.0s,baz=250,slow=44					
ZALV	**Zalesovo Beam**	**38.08**	**51**	P	**P**	**14 15 42.0 -0.3**
ZALV	**Zalesovo Beam**	**38.08**	**51**	P	**P**	**14 15 42.0 -0.3**
ULN	**Ulaanbaatar**	**53.11**	**55** ⇑	*e*P	P	14 17 43.0 +1.5
ULN				pmax	pmax	
	comp=Z,5.0nm,2.5s					
ULN	**Ulaanbaatar**	**53.11**	**55**	*e*P	P	14 17 43.0 +1.5
	comp=Z,5.0nm,2.5s					
KSAR	**Wonju Array Be**	**71.56**	**56**	P	**P**	**14 19 45.0 0.0**
KSAR	**Wonju Array Be**	**71.56**	**56**	P	**P**	**14 19 45.0 0.0**
KSAR	**Wonju Array Be**	**71.56**	**56**	P	**P**	**14 19 45.0 0.0**
KSRS	**Korea Array**	**71.57**	**56**	P	**P**	**14 19 45.0 -0.1**
	comp=Z,0.9nm,0.7s,baz=315,slow=5.4,SNR=4.9					
KSRS	**Korea Array**	**71.57**	**56**	P	**P**	**14 19 45.0 -0.1**
KSRS				pmax	pmax	
	comp=Z,1.0nm,0.7s					
KSRS	**Korea Array**	**71.57**	**56**	P	**P**	**14 19 45.0 -0.1**
	comp=Z,1.0nm,0.7s					
YKA	**Yellowknife Ar**	**72.85**	**344**	P	**P**	**14 19 52.4 +0.2**
	comp=Z,0.4nm,0.8s,baz=25,slow=5.8,SNR=6.1					
COLA	**College**	**74.26**	**359** ⇑	*e*P	P	14 20 01.5 +1.0
COLA	**College**	**74.26**	**359**	*e*P	P	14 20 01.5 +1.0
PETK	**Petropavlovsk-**	**75.75**	**30**	LR	LR	14 58 32.6
	comp=Z,33nm,18.8s,baz=156,slow=40					
FFC	**Flin Flon**	**76.07**	**334**	*i* P	P	14 20 16.9 +5.8

WEL 15 14:22:25.8±0.4, 37.18S×176.53E, h232km±3km, ML3.5/10, 4C, Error ellipse: s-maj=4.6km s-min=3.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**1.15**	**120**	PN	Pn	14 23 00.0	+0.2
URZ	**Urewera**	**1.17**	**157**	PN	Pn	14 22 60.0	+0.1
URZ				SN	S	14 23 26.7	0.0
MWZ	**Matawai**	**1.40**	**146**	PN	Pn	14 23 01.5	-0.1
WMGZ	**Waiomatatini S**	**1.63**	**114** ⇑	PN	Pn	14 23 03.7	+0.3
TKGZ	**Te Karaka**	**1.64**	**141**	PN	Pn	14 23 03.5	+0.1
PUZ	**Puketiti**	**1.64**	**124** ⇑	PN	Pn	14 23 03.4	-0.1
PUZ				SN	S	14 23 31.6	-1.5
SNGZ	**Shannon Statio**	**1.72**	**158**	PN	Pn	14 23 04.4	+0.1
RAHZ	**Arahi**	**1.79**	**166**	PN	Pn	14 23 05.1	+0.3
RAHZ				SN	S	14 23 35.5	0.0
RIGZ	**Rimuhau**	**1.81**	**148**	PN	Pn	14 23 05.1	+0.1
CNGZ	**Carnagh Statio**	**1.86**	**135**	PN	Pn	14 23 05.7	+0.2
NMHZ	**Naumai**	**1.93**	**174**	PN	Pn	14 23 06.6	+0.4
NMHZ				SN	S	14 23 38.4	+0.5
WHHZ	**Waihua**	**1.97**	**164**	PN	Pn	14 23 06.4	-0.1
BKZ	**Black Stump Fm**	**1.98**	**181** ⇑	PN	Pn	14 23 06.2	-0.4
KNZ	**Kokohu**	**2.05**	**154** ⇑	PN	Pn	14 23 06.5	-0.6
ARHZ	**Aropaoanui**	**2.11**	**170**	PN	Pn	14 23 07.6	-0.2
MHGZ	**Mahia Peninsul**	**2.25**	**152**	PN	Pn	14 23 08.5	-0.7
MCHZ	**McNeill Hill**	**2.27**	**177**	PN	Pn	14 23 09.1	-0.2
BHHZ	**Black Hill Sta**	**2.33**	**189**	PN	Pn	14 23 09.4	-0.7
BHHZ				SN	S	14 23 43.1	-1.9
KRHZ	**Kereru**	**2.46**	**183**	PN	Pn	14 23 10.4	-1.0
KAHZ	**Kahuranaki**	**2.63**	**174**	PN	Pn	14 23 12.1	-1.0
PNHZ	**Pukenui**	**2.74**	**185**	PN	Pn	14 23 12.9	-1.5
LREZ	**Lake Rotokare**	**2.83**	**216**	PN	Pn	14 23 11.5	-3.7
DVHZ	**Dannevirke**	**3.13**	**185**	PN	Pn	14 23 17.3	-1.3
DVHZ				SN	S	14 23 57.0	-3.2
PRWZ	**Pori Road**	**3.40**	**187**	PN	Pn	14 23 20.7	-1.0
BFZ	**Birch Farm**	**3.50**	**184**	PN	Pn	14 23 20.4	-2.5
MRZ	**Mangatainoka R**	**3.56**	**192**	PN	Pn	14 23 20.0	-3.5
MRZ				SN	S	14 24 04.7	-4.3
TIWZ	**Tintock**	**3.63**	**188**	PN	Pn	14 23 22.4	-1.9
OGWZ	**Otaki Gorge**	**3.78**	**196**	PN	Pn	14 23 23.

RAO Raoul Island 5.81 192 P Pn 15 19 36.1 +4.3
142nm,0.3s,baz=95,slow=13,SNR=7.2
RAO S **Sn** **15 20 42.0 +4.8**
2µm,0.3s,baz=55,slow=21,SNR=9.4
RAO Raoul Island 5.81 192 P Pn 15 19 36.1 +4.3
RAO S **Sn** **15 20 42.0 +4.8**
RAO pmax pmax
comp=Z,142nm,0.3s
RAO Raoul Island 5.81 192 *e*Pn Pn 15 19 35.1 +3.2
RAO *e*Sn **Sn** **15 20 40.5 +3.2**
RAO S **Sn** **15 20 42.0 +4.8**
NIUE Niue 7.62 56 P **Pn** **15 19 54.3 -2.4**
baz=7.4,SNR=261
NIUE S Sn 15 21 06.4 -15
baz=7.4,SNR=20
MSVF Nonsavu 7.67 318 Pn Pn 15 20 08.7 +11
comp=Z,17µm,1.5s
WMGZ Waiomatatini S 14.87 196 *e*PN Pn 15 21 30.9 -4.7
NFK Norfolk Island 14.94 245 P P 15 21 49.6 +8.1
baz=15,SNR=5.9
HAZ Te Kaha 14.97 198 PN **Pn** **15 21 35.2 -1.7**
HAZ SN Sn 15 24 12.0 -10
MWZ Matawai 15.59 198 *e*PN **Pn** **15 21 41.1 -3.9**
MWZ SN Sn 15 24 20.2 -16
TKGZ Te Karaka 15.60 197 PN **P** **15 21 47.0 -1.8**
TKGZ SN Sn 15 24 23.3 -14
URZ Urewera 15.63 199 P **P** **15 21 47.6 -1.6**
comp=Z,3.2nm,0.3s,baz=89,slow=0.8,SNR=15
URZ S Sn 15 24 27.1 -11
comp=Z,37nm,0.3s,baz=268,slow=22,SNR=11
URZ LR LR 15 27 14.6
comp=Z,3µm,20.5s,baz=22,slow=35
URZ Urewera 15.63 199 *e*PN **Pn** **15 21 43.2 -2.4**
URZ SN Sn 15 24 25.4 -12
DZM Mont Dzumac 15.74 272 *e*P P 15 21 55.8 +5.2
comp=Z,2µm,1.2s
DZM *e*LR LR 15 25 42.5
comp=Z,18µm,28.6s
DZM Mont Dzumac 15.74 272 P P 15 21 56.0 +5.4
comp=Z,6.1nm,0.3s,baz=90,slow=23,SNR=44
DZM ScP **ScP** **15 30 16.4 -0.5**
comp=Z,0.5nm,0.3s,baz=270,slow=24,SNR=4.8
RIGZ Rimuhau 15.87 196 PN **Pn** **15 21 49.6 +1.0**
SNGZ Shannon Statio 16.05 197 PN **P** **15 21 53.1 -0.8**
KNZ Kokohu 16.19 196 PN **Pn** **15 21 52.6 0.0**
RAHZ Arahi 16.25 198 PN **Pn** **15 21 53.4 -0.1**
NMHZ Naumai 16.50 198 *e*PN **Pn** **15 21 54.4 -2.3**
ARHZ Aropaoanui 16.60 198 PN **Pn** **15 21 57.6 -0.2**
BKZ Black Stump Fm 16.66 199 PN **Pn** **15 21 55.6 -3.1**
BKZ SN Sn 15 24 48.3 -14
MCHZ McNeill Hill 16.85 198 PN **Pn** **15 21 58.8 -2.2**
BHHZ Black Hill Sta 17.08 200 PN **Pn** **15 22 01.4 -2.6**
BHHZ SN Sn 15 24 58.1 -15
MOVZ Moawhango 17.11 201 PN **Pn** **15 22 02.8 -1.5**
MOVZ SN Sn 15 24 58.5 -15
KAHZ Kahuranaki 17.13 197 PN **Pn** **15 22 02.2 -2.4**
KRHZ Kereru 17.13 199 PN **Pn** **15 22 00.7 -3.9**
KRHZ SN Sn 15 24 57.4 -17
PKVZ Pokaka 17.14 202 PN **P** **15 22 06.4 +0.5**
PXZ Pawanui 17.35 197 PN **Pn** **15 22 04.1 -3.1**
PXZ SN Sn 15 25 00.1 -19
PNHZ Pukenui 17.43 199 PN **Pn** **15 22 05.0 -3.3**
PRHZ Porangahau 17.64 197 PN **Pn** **15 22 09.1 -1.6**
TSZ Takapari Road 17.64 199 PN **Pn** **15 22 07.5 -3.3**
ANWZ Angora Road 17.86 198 PN **Pn** **15 22 12.2 -1.3**
POWZ Post Office Ro 18.00 199 PN **Pn** **15 22 13.5 -1.8**
PRWZ Pori Road 18.09 199 PN **Pn** **15 22 14.3 -2.0**
BFZ Birch Farm 18.13 198 PN Pn 15 22 11.8 -5.0
MRZ Mangatainoka R 18.30 199 PN P 15 22 12.1 -6.7
TIWZ Tintock 18.32 199 PN P 15 22 14.3 -4.7
HOWZ Holdsworth Sta 18.54 199 PN **P** **15 22 18.5 -2.8**
OGWZ Otaki Gorge 18.57 200 PN P 15 22 16.0 -5.6
TMWZ Te Maipa 18.62 198 PN **P** **15 22 20.8 -1.5**
KIW Kapiti Island 18.70 201 PN **P** **15 22 18.9 -4.2**
MTW Mount Morrison 18.78 199 PN **P** **15 22 21.6 -2.4**
MTW SN Sn 15 25 32.5 -22
CAW Cannon Point 18.87 200 PN **P** **15 22 21.6 -3.3**
TRWZ Traveller 18.95 198 SN Sn 15 25 37.6 -20
PAWZ Paruwai Farm 19.01 199 SN Sn 15 25 36.8 -23
TCW Tory Channel 19.22 201 PN **P** **15 22 25.2 -3.6**
PLWZ Palliser 19.23 199 PN **P** **15 22 26.6 -2.4**
TUWZ Tuamarina 19.53 202 PN P 15 22 27.5 -4.6
BSWZ Blackbirch Sta 19.80 202 PN **P** **15 22 32.9 -2.2**
CTZ Chatham Island 20.14 180 PN Pn 15 22 43.7 +2.9
THZ Tophouse 20.19 203 PN **P** **15 22 35.9 -3.4**
KHZ Kahutara 20.54 201 PN **P** **15 22 40.5 -2.6**
LTZ Lake Taylor 21.30 203 PN **P** **15 22 48.9 -2.6**
MQZ McQueen's Vall 21.99 201 PN **P** **15 22 56.5 -2.1**
WVZ Waitaha Valley 22.14 205 PN **P** **15 22 57.4 -2.9**
RPZ Rata Peaks 22.56 204 P **P** **15 23 01.6 -3.3**
comp=Z,33nm,0.3s,baz=41,slow=1.5,SNR=32
RPZ S S 15 26 58.3 -11
comp=Z,20nm,0.4s,baz=87,slow=16,SNR=13
RPZ ScP **ScP** **15 30 28.2 -3.6**
comp=Z,27nm,1.0s,baz=129,slow=6.0,SNR=3.9
RPZ LR LR 15 32 19.8
comp=Z,3µm,19.6s,baz=34,slow=38
RPZ Rata Peaks 22.56 204 PN **P** **15 23 01.8 -3.0**
FOZ Fox Glacier 22.96 206 PN **P** **15 23 06.9 -2.1**
LHI Lord Howe Isla 22.99 244 P P 15 23 14.8 +5.3
baz=23,SNR=31
LBZ Lake Benmore 23.46 204 PN **P** **15 23 13.0 -1.0**
JCZ Jackson Bay 23.76 207 PN **P** **15 23 15.4 -1.5**
ODZ Otahua Downs 23.85 203 PN **P** **15 23 16.3 -1.4**
ODZ Otahua Downs 23.85 203 *e*P **P** **15 23 16.1 -1.6**
comp=Z,88nm,1.1s
WKZ Wanaka 24.28 206 PN **P** **15 23 19.9 -1.7**
EAZ Earnscleugh 24.50 205 PN **P** **15 23 22.7 -1.0**
MSZ Milford Sound 24.60 207 PN **P** **15 23 24.7 +0.2**
TUZ Tuapeka 25.00 203 PN **P** **15 23 28.9 +0.9**
MLZ Mavora Lakes 25.05 206 PN **P** **15 23 28.7 +0.2**
DCZ Deep Cove 25.57 207 PN **P** **15 23 33.5 +0.2**
DCZ Deep Cove 25.57 207 *e*P **P** **15 23 31.5 -1.8**
comp=Z,90nm,0.7s
DCZ *e*S **S** **15 27 55.8 -2.5**
WHZ Wether Hill Ro 25.59 206 PN **P** **15 23 32.9 -0.5**
WHZ Wether Hill Ro 25.59 206 *e*P **P** **15 23 32.6 -0.8**
comp=Z,110nm,0.6s
WHZ *e*ScP **ScP** **15 30 38.6 -1.4**
SYZ Scrubby Hill 25.67 203 PN **P** **15 23 35.0 +0.8**
PAE Paea 25.90 82 *e*P **P** **15 23 35.5 -1.1**
comp=Z,58nm,1.1s
PAE Paea 25.90 82 *e*T T 15 49 12.7
comp=Z,103nm,0.3s
PPT2 Papeete2 25.93 82 *e*P **P** **15 23 36.1 -0.8**
comp=Z,405nm,1.2s
PPT2 *e*LR LR 15 29 42.5
comp=Z,23µm,30.2s,baz=249
PPT2 Papeete2 25.93 82 *e*T T 15 49 22.1
comp=Z,154nm,0.3s
PPT Papeete 25.94 82 P **P** **15 23 37.1 +0.2**
comp=Z,308nm,1.0s,baz=333,slow=0.9,SNR=13
PPT LR LR 15 32 50.1
comp=Z,1µm,19.6s,baz=280,slow=34
PPT Papeete 25.94 82 P **P** **15 23 37.1 +0.2**
PPT pmax pmax
comp=Z,309nm,1.0s
PPT MLR MLR
comp=Z,1µm,19.6s
TIAR Tiarei 26.15 82 *e*P **P** **15 23 38.1 -0.7**
comp=Z,200nm,1.1s
TIAR Tiarei 26.15 82 *e*T T 15 49 37.2
comp=Z,22nm,0.3s
HNR Honiara 26.48 298 *e*P **P** **15 23 42.9 +1.1**
HNR pmax pmax
comp=Z,4.0nm,0.8s
HNR MLR MLR
comp=Z,4µm,22.0s
HNR Honiara 26.48 298 *e*P **P** **15 23 42.9 +1.1**
comp=Z,4.4nm,0.8s
HNR LR LR
comp=Z,4µm,22.0s
MEH Mehetia 27.22 83 *e*T T 15 51 15.8
comp=Z,475nm,0.3s
PMOR Pomariorio Ree 28.32 78 *e*P **P** **15 23 57.2 -1.1**
comp=Z,384nm,1.3s
PMOR Pomariorio Ree 28.32 78 *e*T T 15 52 42.7
comp=Z,19nm,0.3s
VAH Vaihoa 28.48 78 *e*P **P** **15 23 58.3 -1.4**
comp=Z,427nm,1.3s
VAH Vaihoa 28.48 78 *e*T T 15 52 50.1
comp=Z,57nm,0.3s
ARMA Armidale 29.09 249 P **P** **15 24 08.3 +3.1**
baz=29,SNR=83
ARMA Armidale 29.09 249 *e*P **P** **15 24 04.7 -0.6**
comp=Z,164nm,0.9s
EIDS Eidsvold 29.47 260 P P 15 24 10.9 +2.4
baz=30,SNR=62
EIDS S **S** **15 28 57.2 -3.0**
baz=30,SNR=4.4
EIDS Eidsvold 29.47 260 *e*P **P** **15 24 10.1 +1.7**
comp=Z,175nm,1.0s
MGCD Mangrove Creek 29.93 244 P **P** **15 24 15.4 +3.0**
baz=30,SNR=60
RMQ Roma 31.51 257 P P 15 24 29.7 +3.3
baz=32,SNR=105
CNB Canberra Magne 31.76 241 P P 15 24 31.8 +3.2
baz=32,SNR=48
CAN Canberra 32.05 241 *e*P **P** **15 24 33.6 +2.4**
CAN pmax pmax
comp=Z,202nm,1.1s
CAN MLR MLR
comp=Z,4µm,22.0s
CAN Canberra 32.05 241 *e*P **P** **15 24 33.6 +2.4**
comp=Z,202nm,1.1s
CAN LR LR
comp=Z,4µm,22.0s
MILA Mila 32.33 237 P **P** **15 24 36.5 +2.8**
baz=32,SNR=20
YNG Young 32.34 243 P P 15 24 37.0 +3.2
baz=33,SNR=71
CMSA Cobar Meteorol 34.27 248 P **P** **15 24 52.2 +1.6**
baz=34,SNR=139
CTA Charters Tower 34.63 268 P **P** **15 24 56.4 +2.6**
comp=Z,72nm,0.3s,baz=95,slow=10,SNR=315
CTA ScP **ScP** **15 31 09.5 -0.3**
comp=Z,7.3nm,0.9s,baz=90,slow=7.9,SNR=3.2
CTA LR LR 15 36 41.8
comp=Z,2µm,21.9s,baz=105,slow=32
CTAO Charters Tower 34.63 268 *e*P **P** **15 24 56.1 +2.3**
CTAO pmax pmax
comp=Z,328nm,1.0s
CTAO MLR MLR
comp=Z,1µm,19.0s
CTAO Charters Tower 34.63 268 *e*P **P** **15 24 56.1 +2.3**
comp=Z,328nm,1.0s
CTAO *e*ScP **ScP** **15 31 10.2 +0.3**
CTAO LR LR
comp=Z,1µm,19.0s
TOO Toolangi 35.29 238 P **P** **15 25 01.4 +2.1**
baz=36,SNR=61
MOO Moorlands 35.42 229 P **P** **15 25 02.4 +2.0**
baz=36,SNR=8.7
QLP Quilpie 35.55 257 P **P** **15 25 03.4 +1.8**
baz=36,SNR=76
RABL Rabaul 35.79 298 P **P** **15 25 05.4 +1.5**
baz=36,SNR=5.0
MCQ Macquarie Isla 35.92 204 *e*P **P** **15 25 03.6 -0.8**
MCQ pmax pmax
comp=Z,338nm,1.0s
MCQ Macquarie Isla 35.92 204 *e*P **P** **15 25 03.6 -0.8**
comp=Z,338nm,1.0s
PMG Port Moresby 37.39 286 *e*P **P** **15 25 19.0 +1.5**
PMG pmax pmax
comp=Z,790nm,0.9s
PMG MLR MLR
comp=Z,2µm,19.0s
PMG Port Moresby 37.39 286 P **P** **15 25 19.6 +2.2**
baz=38,SNR=29
PMG Port Moresby 37.39 286 *e*P **P** **15 25 19.0 +1.5**
comp=Z,790nm,0.9s
PMG LR LR
comp=Z,2µm,19.0s
TAOE Nuku Hiva Isla 37.76 73 *e*T T 16 03 26.3
comp=Z,182nm,0.3s
STKA Stephens Creek 37.77 248 P **P** **15 25 22.0 +1.5**
comp=Z,69nm,0.8s,baz=90,slow=9.5,SNR=70
STKA S **S** **15 31 06.9 -1.8**
comp=Z,2.5nm,0.6s,baz=242,slow=1.7,SNR=2.5
STKA ScP **ScP** **15 31 21.3 +0.1**
comp=Z,8.8nm,0.9s,baz=59,slow=1.3,SNR=4.0
STKA LR LR 15 38 47.9
comp=Z,4µm,21.1s,baz=80,slow=33
STKA Stephens Creek 37.77 248 P **P** **15 25 22.0 +1.5**
STKA S **S** **15 31 06.9 -1.8**
STKA ScP **ScP** **15 31 21.3 +0.1**
ARPS Mount Arapiles 38.02 240 P **P** **15 25 23.9 +1.4**
baz=38,SNR=92
RKT Rikitea 38.10 98 *e*P **P** **15 25 23.1 -0.2**
comp=N,294nm,1.4s
RKT *e*S **S** **15 31 08.9 -4.7**
comp=N,632nm,31.2s
RKT *e*LQ LQ 15 33 58.4
comp=N,2µm,26.5s
RKT *e*LR LR 15 35 20.8
comp=N,10µm,31.5s,baz=262
RKT Rikitea 38.10 98 *e*T T 16 05 09.0
comp=N,44nm,0.3s
COEN Coen 39.19 277 P **P** **15 25 34.9 +2.3**
baz=39,SNR=30
COEN Coen 39.19 277 *e*P **P** **15 25 34.2 +1.6**
comp=N,32nm,1.0s
HTT Hallett 40.09 246 P **P** **15 25 40.7 +0.8**
baz=40,SNR=104
QIS Mount Isa 40.62 265 P **P** **15 25 45.6 +1.1**
baz=41,SNR=37
QIS S S 15 31 33.2 -18
baz=41,SNR=4.3
MANU Manus Island 40.94 296 P **P** **15 25 49.0 +1.9**
baz=41,SNR=4.1
BBOO Buckleboo 42.48 247 P **P** **15 25 59.7 +0.2**
baz=43,SNR=150
BBOO Buckleboo 42.48 247 *e*P **P** **15 25 58.3 -1.2**
comp=N,11nm,0.9s
MMPI Merauke 43.82 283 P **P** **15 26 12.1 +1.5**
comp=N,627nm,0.9s,comp=N,7µm
AS01 Alice Springs 45.16 259 *e*P **P** **15 26 19.9 -1.3**
AS31 Alice Springs 45.20 259 *e*P **P** **15 26 22.1 +0.6**
ASAR Alice Springs 45.20 259 P **P** **15 26 22.4 +0.8**
comp=N,169nm,0.9s,baz=94,slow=8.1,SNR=280
ASAR PcP **PcP** **15 28 01.9 +0.5**
comp=N,31nm,1.2s,baz=114,slow=4.1,SNR=4.9
ASAR ScP **ScP** **15 31 50.8 -0.1**
comp=N,10nm,1.0s,baz=103,slow=3.8,SNR=8.4
ASAR S **S** **15 32 54.6 -4.3**
comp=N,2.6nm,0.8s,baz=93,slow=17,SNR=3.3
ASAR LR LR 15 44 19.7
comp=N,3µm,19.5s,baz=106,slow=35
WRAB Tennant Creek 45.57 265 P **P** **15 26 24.0 -0.5**
comp=N,1µm,1.0s
WRAB Tennant Creek 45.57 265 *d i*P **P** **15 26 24.6 +0.1**
WRAB *i* *PP **pP** **15 26 34.9 -1.0**
WRAB pmax pmax
comp=Z,680nm,1.2s
WRAB Tennant Creek 45.57 265 *e*P **P** **15 26 23.4 -1.0**
comp=Z,180nm,0.9s
WRAB *e*ScP **ScP** **15 31 53.5 +1.1**
WRAB LR LR
comp=Z,2µm,22.0s
WRA Warramunga Arr 45.57 265 P **P** **15 26 24.1 -0.4**
comp=Z,191nm,1.0s,baz=91,slow=8.4,SNR=741
WRA PcP **PcP** **15 28 05.0 +2.3**
comp=Z,42nm,1.1s,baz=101,slow=3.9,SNR=9.9
WRA ScP **ScP** **15 31 52.6 +0.2**
comp=Z,20nm,1.0s,baz=102,slow=4.1,SNR=11
WRA S S 15 32 58.4 -6.0
comp=Z,14nm,1.2s,baz=104,slow=14,SNR=5.4
WRA LR LR 15 44 18.5
comp=Z,2µm,20.4s,baz=110,slow=34
WAKE Wake Island 45.61 338 PFAKE 15 26 40.0 +15
WAKE LR LR
comp=Z,2µm,20.0s
JAY Jayapura 46.31 290 P **P** **15 26 31.7 +1.3**
comp=Z,166nm,0.8s,comp=Z,2µm
JAY Jayapura 46.31 290 P **P** **15 26 31.4 +1.0**
comp=Z,149nm,0.8s,baz=122,slow=1.8,SNR=41
JAY LR LR 15 45 09.9
comp=Z,888nm,19.8s,baz=114,slow=35
GENI Genyem 46.73 290 P **P** **15 26 35.1 +1.4**
comp=Z,233nm,0.9s,comp=Z,2µm
KKH Kailua Kona 47.38 27 *e*P **P** **15 26 40.0 +1.5**
KKH Kailua Kona 47.38 27 *e*P **P** **15 26 40.0 +1.5**
STCH Steam Cracks 47.52 28 *e*P **P** **15 26 39.2 -0.5**
KIP Kipapa 48.21 23 *d i*P **P** **15 26 45.9 +1.0**
KIP pmax pmax
comp=Z,690nm,2.5s
KIP Kipapa 48.21 23 *e*P **P** **15 26 44.6 -0.3**
comp=Z,359nm,0.9s
SMPI Sarmi 48.29 290 P **P** **15 26 47.0 +1.2**
comp=Z,69nm,1.3s
FORT Forrest 49.38 249 P **P** **15 26 53.6 -0.3**
baz=50,SNR=101
FORT Forrest 49.38 249 *e*P **P** **15 26 52.3 -1.7**
comp=Z,204nm,0.7s
KDU Kakadu 49.40 273 P **P** **15 26 54.7 +0.4**
baz=50,SNR=42
WRKA Warakurna 49.98 256 P **P** **15 26 58.9 +0.2**
baz=50,SNR=337
SRPI Serui, Papua 50.50 288 P **P** **15 27 04.4 +1.8**
comp=Z,174nm,1.0s,comp=Z,3µm
DRV Dumont d'Urvil 50.96 201 S S 15 33 45.0 -34
DRV L L 15 39 00.0
DRV R 15 42 00.0
MIDW Midway 51.47 359 PFAKE 15 27 20.0 +10
MIDW LR LR
comp=Z,1µm,19.0s
KNRA Kununurra 51.84 268 P **P** **15 27 13.5 +0.9**
baz=52,SNR=130
SAUI Saumlaki 52.22 278 P **P** **15 27 17.4 +1.9**
comp=Z,823nm,1.0s
SAUI Saumlaki 52.22 278 *e*P **P** **15 27 13.8 -1.7**
comp=Z,662nm,0.9s
RKPI Ransiki, Papua 52.47 287 P **P** **15 27 19.7 +2.3**
comp=Z,84nm,0.8s
GUMO Guam 52.77 310 P **P** **15 27 20.3 +0.8**
comp=Z,136nm,0.9s,baz=167,slow=7.7,SNR=5.1
GUMO LR LR 15 50 17.3
comp=Z,317nm,18.1s,baz=140,slow=37
GUMO Guam 52.77 310 *e*P **P** **15 27 20.8 +1.3**
GUMO pmax pmax
comp=Z,42nm,1.1s
GUMO Guam 52.77 310 *e*P **P** **15 27 20.8 +1.3**
comp=Z,42nm,1.1s
FAKI Fak Fak 53.52 285 P **P** **15 27 26.4 +1.3**
comp=Z,89nm,1.4s,comp=Z,2µm
FAKI Fak Fak 53.52 285 P **P** **15 27 25.4 +0.3**
baz=54,SNR=10
FAKI Fak Fak 53.52 285 *e*P **P** **15 27 24.4 -0.7**
comp=Z,134nm,1.3s
FAKI *e*ScP **ScP** **15 32 27.9 +1.6**
KMBL Kambalda 54.57 247 P **P** **15 27 32.3 -0.4**
baz=55,SNR=15
BNDI Bandanaira 54.91 282 P **P** **15 27 35.9 +0.7**
comp=Z,376nm,1.4s,comp=Z,5µm
VNDA Vanda 55.02 186 P **P** **15 27 37.8 +2.7**
comp=Z,22nm,1.1s,baz=360,slow=8.0,SNR=26
VNDA LR LR 15 47 25.7
comp=Z,466nm,21.2s,baz=23,slow=32
VNDA Vanda 55.02 186 *e*P P 15 27 38.4 +3.3
VNDA pmax pmax
comp=Z,67nm,1.4s
VNDA Vanda 55.02 186 *e*P P 15 27 38.4 +3.3
comp=Z,67nm,1.4s
SIJI Sorong 55.34 286 P **P** **15 27 39.0 +0.7**
comp=Z,157nm,0.9s,baz=86,slow=5.9,SNR=48
SIJI LR LR 15 50 15.0
comp=Z,1µm,21.5s,baz=181,slow=35
AAI Ambon 56.80 282 P **P** **15 27 50.6 +1.8**
comp=Z,185nm,1.3s,comp=Z,3µm
AAI Ambon 56.80 282 P **P** **15 27 50.0 +1.1**
baz=57,SNR=7.5
SOEI Soe 57.96 273 P **P** **15 27 59.1 +1.9**
comp=Z,900nm,0.9s,comp=Z,6µm
SOEI Soe 57.96 273 P **P** **15 27 59.2 +2.1**
baz=58,SNR=97
SOEI Soe 57.96 273 *e*P **P** **15 27 59.3 +2.1**
comp=Z,742nm,0.9s
SOEI *e*ScP **ScP** **15 32 49.2 +3.1**
NLAI Namlea 57.98 281 P **P** **15 27 57.6 +0.5**
comp=Z,120nm,1.1s,comp=Z,2µm
KLBR Kellerberrin 58.02 246 P **P** **15 27 57.1 -0.1**
baz=58,SNR=44
RKGY Rocky Gully 58.20 243 P **P** **15 27 58.6 +0.2**
baz=58,SNR=28
MEEK Meekatharra 58.23 252 P **P** **15 27 58.1 -0.7**
baz=58,SNR=13
NWAO Narrogin (SRO) 58.24 245 P **P** **15 27 58.5 -0.2**
comp=Z,46nm,0.9s,baz=148,slow=6.9,SNR=19
NWAO Narrogin (SRO) 58.24 245 *e*P **P** **15 27 58.9 +0.1**
NWAO pmax pmax
comp=Z,51nm,0.9s
NWAO Narrogin (SRO) 58.24 245 P **P** **15 27 58.8 +0.1**
baz=58,SNR=14
NWAO Narrogin (SRO) 58.24 245 *e*P **P** **15 27 58.9 +0.1**
comp=Z,51nm,0.9s
MBWA Marble Bar 58.53 259 *e*P **P** **15 28 00.8 -0.1**
comp=Z,116nm,0.9s
MBWA LR LR
comp=Z,2µm,22.0s
LBMI Labuha 58.77 284 P **P** **15 28 03.6 +0.9**
comp=Z,281nm,1.0s,comp=Z,2µm
BLDU Ballidu 59.08 247 P **P** **15 28 04.3 -0.3**
baz=59,SNR=96
SANI Sanana 59.50 282 P **P** **15 28 07.8 +0.1**
comp=Z,109nm,0.9s,comp=Z,1µm
TNTI Ternate 59.54 286 P **P** **15 28 08.4 +0.4**
comp=Z,415nm,1.0s,comp=Z,4µm
TNTI Ternate 59.54 286 *e*P **P** **15 28 08.4 +0.4**
comp=Z,346nm,0.9s
RPN Rapa Nui 60.22 109 P **P** **15 28 13.2 +0.7**
comp=Z,131nm,1.0s,baz=312,slow=6.2,SNR=5.8
MMRI Maumere 60.23 273 P **P** **15 28 12.9 +0.1**
comp=Z,237nm,1.0s,comp=Z,2µm
MMRI Maumere 60.23 273 *e*P **P** **15 28 12.3 -0.5**
comp=Z,273nm,1.1s
MMRI *e*ScP **ScP** **15 32 58.0 +1.9**
EDFI Ende, Flores 60.69 273 P **P** **15 28 16.3 +0.3**
comp=Z,294nm,1.0s,comp=Z,2µm
BASI Baing, Sumba 61.18 271 P **P** **15 28 20.6 +1.4**
comp=Z,432nm,1.0s,comp=Z,3µm
WSI Waingapu 61.63 272 P **P** **15 28 23.3 +1.1**
comp=Z,1µm,0.9s,comp=Z,9µm
WSI Waingapu 61.63 272 P **P** **15 28 23.4 +1.1**
baz=62,SNR=6.5
CASY Casey 61.81 206 *e*P **P** **15 28 24.2 +1.6**
comp=Z,259nm,1.3s
CASY LR LR
comp=Z,1µm,21.0s
KMSI Cibinong 62.46 284 P **P** **15 28 29.1 +1.3**
comp=Z,177nm,1.1s,comp=Z,3µm
BSSI Bau Bau, Buton 62.79 275 P **P** **15 28 30.2 +0.2**
comp=Z,81nm,1.0s,comp=Z,1µm
LUWI Luwuk 62.83 282 P **P** **15 28 31.2 +0.9**
comp=Z,177nm,1.2s,comp=Z,2µm
LUWI Luwuk 62.83 282 P **P** **15 28 31.2 +0.9**
baz=63,SNR=6.9
LUWI Luwuk 62.83 282 *e*P **P** **15 28 29.9 -0.3**
comp=Z,214nm,1.1s
GIRL Giralia 63.06 256 P **P** **15 28 33.2 +1.5**
baz=63,SNR=7.2
BKSI Bulukumba 63.45 276 P **P** **15 28 34.2 -0.2**
comp=Z,129nm,0.9s,comp=Z,1µm
BNSI Bone 63.83 277 P **P** **15 28 38.0 +1.1**
comp=Z,86nm,1.1s,comp=Z,942nm
APSI Ampana 63.89 281 P **P** **15 28 38.6 +1.3**
comp=Z,161nm,1.0s,comp=Z,1µm
KAPI Kappang 63.91 276 P **P** **15 28 37.6 +0.2**
comp=Z,18nm,0.7s,baz=136,slow=9.3,SNR=10
KAPI LR LR 15 55 49.4
comp=Z,449nm,22.0s,baz=143,slow=35
KAPI Kappang 63.91 276 *e*P **P** **15 28 36.3 -1.1**
comp=Z,47nm,1.0s
DAV Davao City (W) 64.15 291 P **P** **15 28 40.0 +1.1**
SNR=5.0
DAV Davao City (W) 64.15 291 PFAKE 15 28 50.0 +11
DAV LR LR
comp=Z,727nm,22.0s
JCJ Chichijima 64.21 319 LR LR 15 53 03.8
comp=Z,1µm,21.5s,baz=124,slow=33
MRSI Marisa 64.24 283 P **P** **15 28 38.7 -0.9**
comp=Z,47nm,1.1s,comp=Z,714nm
SPSI Sidrap Palu 64.32 277 P **P** **15 28 39.4 -0.7**
comp=Z,67nm,0.9s,comp=Z,710nm
TTSI Tana Toraja 64.65 278 P **P** **15 28 42.6 +0.3**
comp=Z,112nm,1.0s,comp=Z,763nm
CTBH Cotabato--PC H 65.37 290 *‖ i*P **P** **15 28 47.3 +0.4**
PCI Palu 65.53 280 P **P** **15 28 49.6 +1.6**
comp=Z,199nm,1.0s,comp=Z,2µm

TOLI **Toli-Toli** 65.55 283 *e*P P 15 28 48.2 +0.1
comp=Z,87nm,0.8s
TOLI *e*PKiKP PKiKP 15 35 30.2 +6.9
MPSI Mapaga 66.01 282 P P 15 28 50.8 -0.3
comp=Z,158nm,1.0s,comp=Z,1μm
QSPA South Pole Qui 66.54 180 P P 15 28 56.2 +2.4
comp=Z,31nm,0.9s,baz=278,slow=0.9,SNR=70
QSPA South Pole Qui 66.54 180 *e*P P 15 28 56.0 +2.1
IGBI Denpasar 66.67 270 P P 15 28 55.7 +0.4
comp=Z,309nm,1.1s,comp=Z,3μm
SRBI Singaraja 66.88 271 P P 15 28 57.3 +0.6
comp=Z,195nm,1.0s,comp=Z,2μm
KBKI Kotabaru 67.87 276 P P 15 29 03.9 +1.0
comp=Z,84nm,1.1s,comp=Z,808nm
ABJI Asem Bagus 67.89 271 P P 15 29 03.7 +0.7
comp=Z,170nm,1.1s
BKB Balikpapan 68.04 279 P P 15 29 06.5 +2.5
comp=Z,92nm,0.9s
KMMI Kalianget 68.42 272 P P 15 29 07.1 +0.8
comp=Z,259nm,1.1s,comp=Z,3μm
GMJI Gumukmas 68.44 270 P P 15 29 06.5 0.0
comp=Z,118nm,1.1s
BLJI Banyuglugur 68.49 271 P P 15 29 07.4 +0.6
comp=Z,89nm,0.9s
MIR Mirnyy 68.82 205 *e*P P 15 29 19.0 +11
MIR pmax pmax
comp=Z,18nm,2.0s
RCP Roxas 68.83 294 ⇓*e*P P 15 29 09.3 +0.5
BBKI Banjar Baru 69.01 276 P P 15 29 10.9 +0.8
TSM Tawau 69.57 284 ⇓P P 15 29 15.0 +1.5
SDKM Sandakan 70.78 285 ⇓P P 15 29 22.5 +1.5
UGM Wanagama 71.25 269 P P 15 29 24.9 +1.1
baz=72,SNR=11
KDM Kudat 71.68 286 ⇑P P 15 29 27.7 +1.4
KKM Kota Kinabalu 71.83 285 ⇑P P 15 29 28.9 +1.5
KKM Kota Kinabalu 71.83 285 PFAKE 15 29 40.0 +13
KKM LR LR
comp=Z,332nm,19.0s
JRY Ryogami san 72.67 323 P P 15 29 32.3 +0.5
BTM Bintulu 73.38 281 ⇑P P 15 29 37.6 +1.1
MJAR Matsushiro Arr 73.44 323 P P 15 29 36.3 -0.1
comp=Z,20nm,0.8s,baz=159,slow=6.0,SNR=108
MJAR LR LR 15 59 50.5
comp=Z,175nm,20.0s,baz=140,slow=34
MAJO Matsushiro 73.44 323 *e*P P 15 29 36.5 +0.2
MAJO pmax pmax
comp=Z,31nm,0.8s
MAJO MLR MLR
comp=Z,686nm,22.0s
MAJO Matsushiro 73.44 323 *e*P P 15 29 36.5 +0.2
comp=Z,31nm,0.8s
MAJO LR LR
comp=Z,686nm,22.0s
MAT Matsushiro 73.44 323 P P 15 29 36.4 +0.1
MAT S S 15 38 58.4 -4.5
MAT Matsushiro 73.44 323 P P 15 29 36.5 +0.1
SBUM Sibu 73.84 280 ⇑P P 15 29 40.3 +1.1
SBUM Sibu 73.84 280 *e*P P 15 29 39.8 +0.6
comp=Z,21nm,1.0s
CISI Cisompet, Garu 73.87 269 P P 15 29 39.6 +0.1
baz=74,SNR=4.7
CISI Cisompet, Garu 73.87 269 *e*P P 15 29 38.6 -0.8
comp=Z,80nm,0.9s
JMN Monobe 73.94 319 P P 15 29 40.5 +1.1
JOM Ohasama 74.03 327 P P 15 29 40.2 +0.5
JWT Wachi 74.12 321 P P 15 29 40.8 +0.5
JYA Atsumi 74.16 326 P P 15 29 41.6 +1.1
LEM Lembang 74.33 269 LR LR 16 01 27.6
comp=Z,592nm,20.6s,baz=111,slow=35
LEM Lembang 74.33 269 P P 15 29 43.2 +0.9
baz=74,SNR=11
JSD Sado 74.51 324 P P 15 29 43.1 +0.6
JAD Aida 74.60 320 P P 15 29 44.1 +1.0
JSU Suzuyama 74.61 315 P P 15 29 43.9 +0.6
ERM Erimo 75.12 330 PFAKE 15 30 00.0 +14
ERM LR LR
comp=Z,1μm,21.0s
JTM Tenmabayashi 75.14 328 P P 15 29 47.1 +1.0
KSM Kuching 75.16 278 P P 15 29 47.4 +0.6
baz=75,SNR=8.8
KSM Kuching 75.16 278 ⇑P P 15 29 47.5 +0.6
KSM Kuching 75.16 278 *e*P P 15 29 47.5 +0.6
comp=Z,75nm,1.0s
KSM LR LR
comp=Z,540nm,22.0s
JHS Saijyo 75.27 319 P P 15 29 48.0 +1.0
JNU Nakatsue 75.39 316 P P 15 29 47.7 -0.1
JNU Nakatsue 75.39 316 LR LR 15 59 25.3
comp=Z,579nm,21.8s,slow=33
JNU Nakatsue 75.39 316 *e*P P 15 29 48.6 +0.8
comp=Z,84nm,1.0s
ATKA Atka Island 75.45 2 *e*P P 15 29 48.2 +0.7
comp=Z,66nm,1.2s
JOT Ohata 75.61 328 P P 15 29 50.8 +2.0
TWG Pinlang 76.14 303 *e*P P 15 29 49.7 -2.6
comp=Z,148nm,0.8s
YULB Yu-li 76.28 303 *e*P P 15 29 52.2 -0.8
comp=Z,46nm,1.1s
NACB Ninganchiao 76.48 304 *e*P P 15 29 54.5 +0.3
comp=Z,144nm,1.0s
NIKH Nikolski High 76.49 5 *e*P P 15 29 54.6 +1.1
comp=Z,288nm,1.0s
JMP Maruseppu 76.60 331 P P 15 29 56.1 +1.7
TPUB Ta-pu 76.74 303 *e*P P 15 29 55.0 -0.7
comp=Z,216nm,1.1s
SSLB Suanglung 76.76 303 *e*P P 15 29 55.5 -0.3
comp=Z,78nm,1.0s
YHNB Yeheng 76.92 304 *e*P P 15 29 57.6 +0.9
comp=Z,114nm,1.1s
YHNB LR LR
comp=Z,780nm,20.0s
TATO Taipei 77.00 305 PFAKE 15 30 10.0 +13
TATO LR LR
comp=Z,1μm,21.0s
ASAJ Asahikawa 77.03 331 P P 15 29 58.7 +2.0
ASAJ Asahikawa 77.03 331 LR LR 15 59 16.3
comp=Z,653nm,22.0s,slow=32
ASAJ Asahikawa 77.03 331 *e*P P 15 29 58.8 +2.0
comp=Z,64nm,0.9s
JSH Shimam 77.06 329 P P 15 29 58.2 +1.2
UNV Unalaska Valle 77.56 6 *e*P P 15 29 59.8 +0.3
comp=Z,61nm,0.8s
SKR Severo-Kuril's 77.75 343 P P 15 29 57.8 -2.8
SKR *e* 15 30 06.0
SKR *e* 15 33 05.0
SKR *e*PPP PPP 15 34 44.0
SKR *e*S S 15 39 44.0 -5.8
SKR *e* 15 40 04.0
SKR *e*PS PnS 15 40 22.0 -12
SKR pmax pmax
comp=Z,40nm,1.5s
SKR smax smax
comp=N,1μm,10.0s
SKR smax smax
comp=E,1μm,10.0s
SKR MLR MLR
comp=E,1μm,20.0s
SKR MLR MLR
comp=Z,1μm,20.0s
BSC Santa Cruz Isl 78.76 45 ⇑P P 15 30 08.0 +1.3
baz=79,SNR=12
SCI San Clemente I 78.85 47 ⇓P P 15 30 08.3 +1.1
baz=79,SNR=10.0
SBC Santa Barbara 78.98 45 ⇑P P 15 30 09.5 +1.7
baz=79,SNR=5.3
MAW Mawson 79.16 200 P P 15 30 10.6 +2.2
comp=Z,53nm,0.9s,baz=115,slow=7.6,SNR=21
MAW LR LR 16 02 45.8
comp=Z,683nm,20.6s,baz=125,slow=34
MAW Mawson 79.16 200 *e*P P 15 30 10.6 +2.2
MAW pmax pmax
comp=Z,22nm,1.0s
MAW Mawson 79.16 200 P P 15 30 10.0 +1.7
baz=79,SNR=14
MAW Mawson 79.16 200 *e*P P 15 30 10.6 +2.2
comp=Z,22nm,1.0s
KSKWJ Gwangju 79.17 316 P P 15 30 10.0 +1.1
SNR=7.0
KSKWJ Gwangju 79.17 316 P P 15 30 10.0 +1.1
SNR=7.0
QZH Quanzhou 79.19 303 P P 15 30 11.1 +1.9
QZH S S 15 40 02.4 -4.0
QZH LZ
comp=Z,3μm,37.3s
BLG Laguna Peak, P 79.20 45 ⇑P P 15 30 09.9 +0.9
baz=80,SNR=7.2

YSS Yuzh-Sakhalins 79.20 333 *e*P P 15 30 09.0 +0.3
YSS *e* 15 30 18.0
YSS *e*S S 15 40 03.0 -2.5
YSS *e*PS PnS 15 40 31.0 -22
YSS *e*SS SS 15 45 19.0 +5.8
YSS pmax pmax
comp=Z,70nm,0.9s
YSS Yuzh-Sakhalins 79.20 333 *e*P P 15 30 09.3 +0.6
comp=Z,66nm,0.9s
YSS LR LR
comp=Z,293nm,21.0s
CIS Catalina Islan 79.20 46 ⇓P P 15 30 09.9 +0.8
baz=80,SNR=13
KSCPR CHUPUNGNYEONG 79.22 317 P P 15 30 10.4 +1.2
SNR=6.0
KSCPR CHUPUNGNYEONG 79.22 317 P P 15 30 10.4 +1.2
SNR=6.0
PET Petropavlovsk 79.24 345 *e*P P 15 30 08.6 -0.2
PET *i*S S 15 40 00.6 -5.0
PET *e*PS PnS 15 40 43.9 -9.4
PET *e*SS SS 15 45 06.6 -6.9
PET pmax pmax
comp=Z,42nm,0.8s
PET Petropavlovsk 79.24 345 PFAKE 15 30 20.0 +11
PET LR LR
comp=Z,632nm,22.0s
SAC San Andreas 79.29 41 *e*P P 15 30 10.7 +1.2
SAC San Andreas 79.29 41 *e*P P 15 30 10.7 +1.2
SMMC Simmler 79.34 44 ⇓P P 15 30 11.1 +1.3
baz=80,SNR=34
SAO San Andreas Ge 79.35 42 *e*P P 15 30 11.3 +1.4
SAO pmax pmax
comp=Z,53nm,1.0s
SAO San Andreas Ge 79.35 42 *e*P P 15 30 11.2 +1.4
comp=Z,53nm,1.0s
MCCM Marconi Confer 79.38 40 *e*P P 15 30 11.6 +1.6
comp=Z,204nm,1.4s
KSJEU Jeongeup 79.42 316 P P 15 30 11.2 +1.0
SNR=13
KSJEU Jeongeup 79.42 316 P P 15 30 11.2 +1.0
SNR=13
PTRM Twissleman Ran 79.42 44 *e*P P 15 30 11.8 +1.5
FMP Fort Macarthur 79.46 46 ⇑P P 15 30 11.8 +1.3
baz=80
KSBON Boeun 79.50 317 P P 15 30 11.7 +1.0
SNR=7.8
KSBON Boeun 79.50 317 P P 15 30 11.7 +1.0
SNR=7.8
PEA0 Petropavlovsk- 79.54 345 *e*P P 15 30 11.1 +0.6
PEA0B Petropavlovsk- 79.54 345 *e*P P 15 30 11.2 +0.7
PETK Petropavlovsk- 79.54 345 P P 15 30 11.2 +0.7
comp=Z,57nm,0.8s,baz=137,slow=9.1,SNR=97
PETK PKiKP PKiKP 15 35 42.5 +0.3
comp=Z,1.7nm,0.6s,baz=128,slow=5.4,SNR=5.9
PETK LR LR 15 59 38.3
comp=Z,516nm,21.7s,baz=154,slow=31
KSCHJ Chungju 79.64 318 P P 15 30 12.6 +1.2
SNR=8.3
KSCHJ Chungju 79.64 318 P P 15 30 12.6 +1.2
SNR=8.3
TJN Taejon 79.70 317 *i*P P 15 30 11.9 +0.2
OSI Osito Audit: C 79.73 45 *e*P P 15 30 13.7 +1.7
comp=Z,38nm,1.1s
OSI Osito Audit: C 79.73 45 ⇓P P 15 30 12.8 +0.8
baz=80,SNR=6.4
KSDGY Daegwallycong 79.73 319 P P 15 30 13.5 +1.5
SNR=14
KSDGY Daegwallycong 79.73 319 P P 15 30 13.5 +1.5
SNR=14
109C Camp Elliot, M 79.76 47 ⇓P P 15 30 12.9 +0.7
baz=80
DECC Green Verdugo 79.77 46 ⇑P P 15 30 13.0 +0.8
baz=80,SNR=6.9
SDPT Sand Point 79.77 9 *e*P P 15 30 12.2 +0.6
comp=Z,144nm,0.9s
KSJMJ Jumunjin 79.81 319 P P 15 30 14.0 +1.8
SNR=6.9
KSJMJ Jumunjin 79.81 319 P P 15 30 14.0 +1.8
SNR=6.9
PASC Pasadena Art C 79.81 46 *e*P P 15 30 13.3 +0.9
comp=Z,133nm,1.1s
HOPS Hopland Field 79.83 40 *e*P P 15 30 13.8 +1.4
comp=Z,43nm,1.1s
LPIG La Paz 79.84 58 P P 15 30 13.1 +0.3
comp=Z,51nm,0.3s,baz=19,slow=1.9,SNR=7.2
KSGUS GUNSAN 79.85 317 P P 15 30 14.1 +1.6
SNR=8.0
KSHUK Heuksando 79.87 315 P P 15 30 14.2 +1.6
SNR=12
KSKOJ Gongju 79.89 317 P P 15 30 14.9 +2.1
SNR=5.8
KSKOJ Gongju 79.89 317 P P 15 30 14.9 +2.1
SNR=5.8
SLBS Sierra La Lagu 79.91 59 *e*P P 15 30 14.6 +1.3
comp=Z,194nm,1.4s
BAKC Calstate 79.93 44 *e*P P 15 30 12.9 -0.1
BAR Barrett 79.93 48 *e*P P 15 30 13.8 +0.7
comp=Z,53nm,1.8s
DPP Dos Picos Cty 79.94 47 *e*PKiKP PKiKP 15 35 45.0 +1.4
ARVC Arvin 79.97 45 ⇓P P 15 30 14.4 +1.2
baz=80,SNR=16
KCPM Cahto Peak 80.00 39 *e*P P 15 30 15.4 +2.0
comp=Z,118nm,1.3s
KSRS Korea Array 80.04 318 P P 15 30 14.8 +1.4
comp=Z,14nm,1.0s,baz=135,slow=6.3,SNR=51
KSRS LR LR 16 01 50.3
comp=Z,598nm,21.3s,baz=136,slow=33
KSCEA Cheonan 80.05 317 P P 15 30 14.8 +1.2
SNR=7.5
KSAR Wonju Array Be 80.05 318 P P 15 30 14.9 +1.3
KSAR Wonju Array Be 80.05 318 P P 15 30 14.8 +1.3
KS01 Wonju Array Si 80.07 318 *e*P P 15 30 14.8 +1.0
MURC Murrieta 80.12 47 ⇓P P 15 30 15.3 +1.1
baz=80,SNR=33
KIPM Iron Peak 80.14 39 *e*P P 15 30 15.7 +1.5
BFSC Mount Baldy Ra 80.20 46 ⇓P P 15 30 15.4 +0.8
baz=80,SNR=21
PLM Palomar 80.20 47 *e*PKiKP PKiKP 15 35 46.8 +2.6
MONP Monument Peak, 80.23 48 ⇑P P 15 30 16.2 +1.2
baz=80,SNR=73
KSICN Icheon 80.24 318 P P 15 30 16.3 +1.7
SNR=12
VES Vestal, Richgr 80.25 44 ⇑P P 15 30 15.7 +1.0
baz=81,SNR=53
KSIJA INJE 80.27 319 P P 15 30 16.7 +1.9
SNR=12
KMRM Mail Ridge 80.28 38 *e*P P 15 30 16.8 +1.9
comp=Z,372nm,0.9s
WOFM Oak Flat 80.30 44 *e*PKiKP PKiKP 15 35 43.4 -0.8
KSCHC Chuncheon 80.31 318 P P 15 30 16.5 +1.5
SNR=16
KSCHC Chuncheon 80.31 318 P P 15 30 16.5 +1.5
SNR=16
IBP Imperial Bould 80.32 48 ⇑P P 15 30 16.4 +1.2
baz=81,SNR=56
SEHB SEOHWA 80.36 319 P P 15 30 17.4 +2.1
SNR=9.7
EDW2 Edwards Air Fo 80.37 45 ⇑P P 15 30 16.5 +1.0
baz=81,SNR=192
YUH Yuha Desert 80.42 48 *e*PKiKP PKiKP 15 35 46.9 +2.6
RCTC Rector, Farmer 80.44 44 ⇑P P 15 30 16.9 +1.1
baz=81,SNR=11
KSSWO Suwon 80.51 318 P P 15 30 17.8 +1.8
SNR=9.2
KSSES Seosan 80.53 317 P P 15 30 17.2 +1.1
SNR=10
ISA Isabella, Lake 80.53 44 *e*P P 15 30 17.7 +1.3
ISA pmax pmax
comp=Z,234nm,1.0s
ISA Isabella, Lake 80.53 44 *e*P P 15 30 17.7 +1.3
comp=Z,234nm,1.0s
ISA Isabella, Lake 80.53 44 ⇓P P 15 30 17.7 +1.3
baz=81,SNR=197
PFO Pinyon Flats O 80.63 47 P P 15 30 18.0 +1.0
comp=Z,503nm,1.0s,SNR=34
PFO Pinyon Flats O 80.63 47 P P 15 30 17.9 +1.0
comp=Z,69nm,1.0s,baz=245,slow=3.9,SNR=67
PFO Pinyon Flats O 80.63 47 *e*P P 15 30 18.0 +1.0
PFO pmax pmax
comp=Z,113nm,1.1s
PFO MLR MLR
comp=Z,1μm,22.0s
PFO Pinyon Flats O 80.63 47 *e*P P 15 30 18.0 +1.0
comp=Z,113nm,1.1s
PFO LR LR
comp=Z,1μm,22.0s
PFO Pinyon Flats O 80.63 47 ⇓P P 15 30 17.9 +1.0
baz=81,SNR=55

SSE Sheshan 80.65 310 P P 15 30 18.0 +1.0
SSE sP sP 15 30 32.0 -1.8
SSE S S 15 40 23.3 +1.8
SSE PMZ
comp=Z,46nm,0.9s
SSE PMZ
comp=Z,250nm,10.1s
SSE LN
comp=Z,410nm,29.3s
SSE LE
comp=Z,510nm,29.1s
SSE LZ
comp=Z,730nm,37.5s
KSSEO Seoul 80.68 318 P P 15 30 18.8 +1.9
SNR=9.2
KSSEO Seoul 80.68 318 P P 15 30 18.8 +1.9
SNR=9.2
KSCWO Cheorwon 80.69 319 P P 15 30 18.9 +1.9
SNR=6.7
BBRC Big Bear Solar 80.70 46 ⇑P P 15 30 18.2 +0.7
baz=81
KHMM Horse Mountain 80.71 38 *e*P P 15 30 19.1 +1.8
comp=Z,207nm,1.3s
CMB Columbia Colle 80.81 42 *e*P P 15 30 18.7 +0.9
CMB pmax pmax
comp=Z,122nm,1.1s
CMB Columbia Colle 80.81 42 *e*P P 15 30 18.7 +0.9
comp=Z,122nm,1.1s
INCN Inchon 80.85 318 P P 15 30 19.9 +2.0
SNR=6.8
INCN Inchon 80.85 318 *e*P P 15 30 19.6 +1.7
comp=Z,83nm,1.3s
INCN LR LR
comp=Z,438nm,21.0s
USHA Ushuaia 80.87 146 P P 15 30 19.1 +1.3
comp=Z,68nm,1.0s,baz=240,slow=5.7,SNR=6.3
LRMC Laurel Mtn Rad 80.93 45 ⇓P P 15 30 19.6 +1.1
baz=81,SNR=123
BLKC Black Mountain 81.00 46 *e*P P 15 30 20.2 +1.4
RRX Edison Barstow 81.02 46 ⇓P P 15 30 20.1 +1.2
baz=81,SNR=9.2
YNCB YEONCHEON 81.02 318 P P 15 30 20.5 +1.7
SNR=13
KSMUS Musan 81.03 318 P P 15 30 20.5 +1.7
SNR=8.7
KSGAH Ganghwa 81.11 318 P P 15 30 20.6 +1.4
SNR=7.5
KSGAH Ganghwa 81.11 318 P P 15 30 20.6 +1.4
SNR=7.5
WSHM Spangler Hills 81.13 45 *e*P P 15 30 20.6 +1.1
BELC Belle Mtn. Jos 81.17 47 ⇑P P 15 30 21.0 +1.1
baz=82,SNR=85
MYKOM Kota Tinggi 81.17 276 ⇑P P 15 30 21.2 +1.1
MYKOM Kota Tinggi 81.17 276 *e*P P 15 30 20.8 +0.6
comp=Z,39nm,0.9s
MYKOM *e*PP PP 15 33 28.0 +2.0
WDC Whiskeytown Da 81.19 39 *e*P P 15 30 20.8 +1.2
WDC pmax pmax
comp=Z,125nm,1.0s
WDC Whiskeytown Da 81.19 39 *e*P P 15 30 20.8 +1.2
comp=Z,125nm,1.0s
CWC Cottonwood Cre 81.26 44 ⇓P P 15 30 21.3 +1.0
baz=82,SNR=56
DLV T Lat 81.28 287 *e*P P 15 30 22.8 +1.9
BC3 Big Chuckawall 81.33 48 ⇓P P 15 30 22.0 +1.3
baz=82,SNR=109
KBO Bosley Butte 81.33 37 *e*P P 15 30 22.8 +2.3
comp=Z,178nm,1.3s
N02D Trinity Center 81.35 38 ⇑P P 15 30 22.3 +1.7
baz=82,SNR=56
GSC Goldstone, Bar 81.40 46 *e*P P 15 30 22.0 +1.0
GSC Goldstone, Bar 81.40 46 *e*P P 15 30 22.0 +1.0
GSC Goldstone, Bar 81.40 46 ⇑P P 15 30 22.2 +1.2
baz=82,SNR=98
MPMC Manual Prospec 81.41 45 ⇑P P 15 30 22.4 +1.2
baz=82,SNR=183
HEC Hector,Ludlow 81.43 46 ⇑P P 15 30 22.3 +1.1
baz=82,SNR=31
DAC Darwin (Calif) 81.47 44 *e*P P 15 30 22.4 +0.9
DAC pmax pmax
comp=Z,311nm,1.9s
DAC Darwin (Calif) 81.47 44 *e*P P 15 30 22.4 +0.9
comp=Z,311nm,1.9s
MLAC Mammoth, Mammo 81.52 43 ⇓P P 15 30 23.1 +1.4
baz=82,SNR=12
VLA Vladivostok 81.53 325 ⇑*e*P P 15 30 22.3 +1.0
VLA *e*S S 15 40 32.1 +2.0
VLA pmax pmax
comp=Z,68nm,0.9s
TIN Tinemaha, Big 81.54 44 ⇓P P 15 30 23.2 +1.5
baz=82,SNR=13
M02C Callahan 81.54 38 ⇓P P 15 30 23.4 +1.8
baz=82,SNR=69
L02D Cave Junction, 81.64 37 ⇑P P 15 30 23.8 +1.7
baz=82,SNR=17
WAKR Walker 81.69 42 *e*P P 15 30 23.8 +1.2
KEBM Edson Butte 81.72 36 *e*P P 15 30 24.6 +2.1
comp=Z,165nm,1.1s
KGM Kluang 81.75 276 ⇓P P 15 30 23.9 +0.7
IRM Iron Mountain 81.83 47 ⇓P P 15 30 24.6 +1.3
baz=82,SNR=128
GMRC Granite Mounta 81.85 47 ⇑P P 15 30 24.7 +1.2
baz=82,SNR=74
YBH Yreka Blue Hor 81.85 38 P P 15 30 24.7 +1.4
comp=Z,68nm,0.9s,baz=185,slow=2.5,SNR=167
YBH Yreka Blue Hor 81.85 38 P P 15 30 24.7 +1.4
YBH pmax pmax
comp=Z,68nm,0.9s
YBH Yreka Blue Hor 81.85 38 *e*P P 15 30 24.6 +1.4
comp=Z,88nm,0.9s
113A Mohawk Valley, 81.98 49 ⇑P P 15 30 25.2 +1.2
baz=82
Y12C Blythe 82.02 48 ⇓P P 15 30 25.6 +1.4
baz=82,SNR=34
GRAC Grapevine Rang 82.05 44 ⇓P P 15 30 25.7 +1.4
baz=82,SNR=39
TUQ Turquoise Moun 82.06 46 ⇑P P 15 30 25.8 +1.3
baz=82,SNR=108
FURC Furnace Creek, 82.06 45 ⇑P P 15 30 25.5 +1.2
baz=82,SNR=59
SHOC Shoshone, Teco 82.10 45 ⇓P P 15 30 25.8 +1.2
baz=82,SNR=23
COCO West Island 82.15 260 PFAKE 15 30 40.0 +15
COCO LR LR
comp=Z,1μm,20.0s
214A Organ Pipe Nat 82.19 50 *e*P P 15 30 25.8 +0.6
comp=Z,116nm,1.3s
214A Organ Pipe Nat 82.19 50 ⇑P P 15 30 26.4 +1.2
baz=82
USRK Ussuriysk Ar. 82.22 325 P P 15 30 26.9 +2.0
comp=Z,82nm,0.9s,baz=133,slow=3.6,SNR=86
USRK LR LR 16 02 12.3
comp=Z,429nm,21.5s,baz=131,slow=32
HUMO Hull Mountain 82.30 37 *e*P P 15 30 27.0 +1.5
comp=Z,151nm,1.2s
NV01 Mina Array Sit 82.34 42 *e*P P 15 30 26.0 -0.1
NVAR Mina Array Bea 82.34 42 P P 15 30 27.0 +1.0
comp=Z,94nm,1.0s,baz=223,slow=8.4,SNR=348
NVAR PKPPKP **P'P'df** 15 56 58.5 +2.9
comp=Z,0.4nm,0.7s,baz=46,slow=4.3,SNR=3.5
KSBAR Backryungdo 82.35 317 P P 15 30 28.0 +2.2
SNR=9.2
GZH Guangzhou 82.36 299 P P 15 30 28.4 +2.2
GZH S S 15 40 38.3 -1.3
GZH sS ScS 15 40 54.5 -0.5
GZH LN
comp=Z,820nm,25.7s
GZH LE
comp=Z,2μm,25.7s
M04C Macdoel 82.37 38 ⇓P P 15 30 27.6 +1.5
baz=83,SNR=69
LDFC Landfair 82.39 47 *e*P P 15 30 28.0 +1.8
comp=Z,781nm,1.3s
NEE2 Needles Airpor 82.54 47 ⇓P P 15 30 28.3 +1.5
baz=83
PDMCI Parker Dam,Lak 82.59 48 ⇑P P 15 30 28.4 +1.3
baz=83,SNR=73
TPNV Topopah Spring 82.74 45 *e*P P 15 30 29.3 +1.2
TPNV pmax pmax
comp=Z,126nm,1.0s
TPNV Topopah Spring 82.74 45 *e*P P 15 30 29.2 +1.2
comp=Z,126nm,1.0s
TPNV Topopah Spring 82.74 45 ⇓P P 15 30 29.5 +1.4
baz=83,SNR=139
TPH Tonopah 82.80 43 *e*P P 15 30 29.3 +0.9
TPH pmax pmax

	comp=Z,209nm,1.1s								
TPH	**Tonopah**	**82.80**	**43**	*e*P		**P**	**15 30 29.3**	**+0.9**	
	comp=Z,209nm,1.1s								
OHAK	**Old Harbor**	**82.80**	**13**	*e*P		**P**	**15 30 28.5**	**+0.9**	
I03D	**Drain, OR**	**82.81**	**36**	⇑P		**P**	**15 30 29.6**	**+1.5**	
	baz=83,SNR=45								
NJ2	**Nanjing**	**82.84**	**309**	*e*P		**P**	**15 30 28.8**	**+0.3**	
NJ2				pP		**pP**	**15 30 38.3**	**-2.4**	
NJ2				sP		**sP**	**15 30 42.8**	**-2.5**	
NJ2				S		**S**	**15 40 45.0**	**+1.0**	
NJ2				sS		**ScS**	**15 41 01.5**	**+3.0**	
NJ2				PMZ					
	comp=Z,20nm,0.6s								
NJ2				PMZ					
	comp=Z,440nm,8.5s								
NJ2				LN					
	comp=Z,640nm,20.0s								
NJ2				LE					
	comp=Z,2μm,23.9s								
NJ2				LZ					
	comp=Z,2μm,24.7s								
Z14A	**Wintersburg**	**82.89**	**49**	⇓P		**P**	**15 30 30.3**	**+1.5**	
	baz=83								
K04D	**Chiloquin, OR**	**82.97**	**37**	⇑P		**P**	**15 30 30.5**	**+1.4**	
	baz=83,SNR=6.0								
J04D	**Umpqua Nationa**	**83.18**	**37**	⇑P		**P**	**15 30 31.6**	**+1.4**	
	baz=84,SNR=87								
SHPR	**Sheep Range**	**83.19**	**45**	*e*P		**P**	**15 30 31.8**	**+1.4**	
W13A	**Hualapai Mount**	**83.22**	**47**	⇓P		**P**	**15 30 32.2**	**+1.5**	
	baz=84								
MPOR	**Mary's Peak**	**83.25**	**35**	P		**P**	**15 30 32.1**	**+1.7**	
KTGM	**Kuala Trenggan**	**83.26**	**279**	⇓P		**P**	**15 30 32.6**	**+1.4**	
QIZ	**Qiongzhong**	**83.31**	**294**	P		**P**	**15 30 31.5**	**+0.3**	
QIZ				sP		**sP**	**15 30 44.3**	**-3.8**	
QIZ				S		**SKSac**	**15 40 51.8**	**+1.1**	
QIZ				sS		**ScS**	**15 41 06.3**	**+3.3**	
QIZ				SS		**SS**	**15 46 14.8**	**-0.7**	
QIZ				LN					
	comp=Z,230nm,22.5s								
QIZ				LE					
	comp=Z,200nm,23.8s								
QIZ				LZ					
	comp=Z,860nm,35.3s								
QIZ	**Qiongzhong**	**83.31**	**294**	PFAKE			15 30 40.0	+8.8	
QIZ				LR		LR			
	comp=Z,471nm,19.0s								
I04A	**Tendick Farm,**	**83.38**	**36**	⇑P		**P**	**15 30 32.1**	**+1.0**	
	baz=84,SNR=53								
COR	**Corvallis**	**83.43**	**35**	*e*P		**P**	**15 30 33.1**	**+1.9**	
COR				pmax		pmax			
	comp=Z,133nm,1.1s								
COR	**Corvallis**	**83.43**	**35**	*e*P		**P**	**15 30 33.1**	**+1.9**	
	comp=Z,133nm,1.1s								
HBO	**Huckleberry Mo**	**83.46**	**36**	P		**P**	**15 30 32.7**	**+1.1**	
KDAK	**Kodiak Island**	**83.47**	**13**	*e*P		**P**	**15 30 32.6**	**+1.5**	
KDAK				pmax		pmax			
	comp=Z,100nm,1.1s								
KDAK				MLR		MLR			
	comp=Z,1μm,19.0s								
KDAK	**Kodiak Island**	**83.47**	**13**	*e*P		**P**	**15 30 32.6**	**+1.5**	
	comp=Z,100nm,1.1s								
KDAK				LR		LR			
	comp=Z,1μm,19.0s								
K05A	**Summer Lake**	**83.52**	**38**	*e*P		**P**	**15 30 33.5**	**+1.4**	
	comp=Z,265nm,1.0s								
J05D	**Fort Rock, OR**	**83.69**	**37**	⇑P		**P**	**15 30 34.3**	**+1.5**	
	baz=84,SNR=188								
HABR	**Khabarovsk**	**83.74**	**330**	*ce*P		**P**	**15 30 33.2**	**+0.5**	
HABR				*e*SP			15 30 47.1		
HABR							15 33 45.9		
HABR				*e*			15 35 48.6		
HABR				*e*S		**SKSac**	**15 40 52.2**	**+0.1**	
HABR				*e*SS		**SS**	**15 46 20.6**	**-0.2**	
HABR				*e*SSS		SSS	15 49 50.5		
HABR				pmax		pmax			
	comp=E,41nm,1.7s								
HABR				pmax		pmax			
	comp=Z,122nm,1.7s								
HABR				pmax		pmax			
	comp=N,10.0nm,0.9s								
HABR				MLR		MLR			
	comp=Z,135nm,18.0s								
MDJ	**Mudanjiang**	**83.76**	**325**	P		**P**	**15 30 34.4**	**+1.5**	
MDJ				pP		**pP**	**15 30 43.9**	**-1.3**	
MDJ				sP		**sP**	**15 30 47.4**	**-2.4**	
MDJ				S		**SKSac**	**15 40 50.8**	**-1.7**	
MDJ				sS		**sS**	**15 41 13.1**	**-0.3**	
MDJ				PMZ					
	comp=Z,77nm,1.1s								
MDJ				PMZ					
	comp=Z,160nm,7.1s								
MDJ				LN					
	comp=Z,210nm,31.8s								
MDJ				LE					
	comp=Z,390nm,31.3s								
MDJ				LZ					
	comp=Z,450nm,37.7s								
MDJ	**Mudanjiang**	**83.76**	**325**	*e*P		**P**	**15 30 34.6**	**+1.6**	
	comp=Z,93nm,1.0s								
MDJ				LR		LR			
	comp=Z,474nm,22.0s								
FRIM	**Kepong**	**83.79**	**276**	⇓P		**P**	**15 30 34.8**	**+1.0**	
TUC	**Tucson**	**83.83**	**51**	*e*P		**P**	**15 30 35.4**	**+1.7**	
TUC				pmax		pmax			
	comp=Z,174nm,1.0s								
TUC				MLR		MLR			
	comp=Z,710nm,22.0s								
TUC	**Tucson**	**83.83**	**51**	*e*P		**P**	**15 30 35.4**	**+1.7**	
	comp=Z,174nm,1.0s								
TUC				LR		LR			
	comp=Z,710nm,22.0s								
G03D	**McMinnville, O**	**83.87**	**35**	⇓P		**P**	**15 30 34.9**	**+1.4**	
	baz=84,SNR=19								
R11A	**Troy Canyon, C**	**83.99**	**44**	*e*P		**P**	**15 30 35.2**	**+0.7**	
	comp=Z,50nm,1.0s								
R11A	**Troy Canyon, C**	**83.99**	**44**	⇑P		**P**	**15 30 35.3**	**+0.8**	
	baz=84,SNR=104								
H04A	**Detroit Lake**	**84.09**	**36**	*e*P		**P**	**15 30 34.5**	**-0.2**	
F03A	**Seaside**	**84.20**	**34**	*e*P		**P**	**15 30 36.7**	**+1.5**	
	comp=Z,195nm,0.9s								
BMN	**Battle Mountai**	**84.23**	**41**	*e*P		**P**	**15 30 36.5**	**+0.9**	
BMN				pmax		pmax			
	comp=Z,187nm,1.0s								
BMN	**Battle Mountai**	**84.23**	**41**	*e*P		**P**	**15 30 36.5**	**+0.9**	
	comp=Z,187nm,1.0s								
I05D	**Terrebonne, OR**	**84.32**	**36**	⇑P		**P**	**15 30 37.3**	**+1.4**	
	baz=85,SNR=47								
319A	**Douglas**	**84.41**	**52**	⇓P		**P**	**15 30 38.2**	**+1.4**	
	baz=85								
X16A	**Lo Mia Camp, P**	**84.51**	**49**	⇓P		**P**	**15 30 38.9**	**+1.6**	
	baz=85								
F04D	**Rainier, OR**	**84.59**	**34**	⇑P		**P**	**15 30 39.0**	**+1.9**	
	baz=85,SNR=9.4								
E03A	**Lebam**	**84.62**	**34**	*e*P		**P**	**15 30 38.9**	**+1.7**	
	comp=Z,298nm,1.0s								
WVOR	**Wild Horse Val**	**84.62**	**39**	*e*P		**P**	**15 30 38.6**	**+1.0**	
WVOR				pmax		pmax			
	comp=Z,177nm,1.0s								
WVOR				MLR		MLR			
	comp=Z,430nm,21.0s								
WVOR	**Wild Horse Val**	**84.62**	**39**	*e*P		**P**	**15 30 38.6**	**+1.0**	
	comp=Z,177nm,1.0s								
WVOR				LR		LR			
	comp=Z,430nm,21.0s								
F04A	**Amboy**	**84.80**	**35**	*e*P		**P**	**15 30 39.2**	**+1.0**	
	comp=Z,244nm,1.2s								
IPM	**Ipoh**	**84.83**	**277**	*e*P		**P**	**15 30 39.5**	**+0.3**	
	comp=Z,74nm,0.9s								
DL2	**Dalian**	**84.85**	**316**	P		**P**	**15 30 37.4**	**-1.2**	
DL2				PMZ					
	comp=Z,88nm,9.0s								
DL2				LN					
	comp=Z,140nm,21.4s								
DL2				LE					
	comp=Z,160nm,21.4s								
DL2				LZ					
	comp=Z,240nm,19.4s								
G05D	**Wamic, OR**	**84.92**	**36**	⇑P		**P**	**15 30 40.1**	**+1.2**	
	baz=85,SNR=16								
CROR	**Criterion Ridg**	**84.93**	**36**	P		**P**	**15 30 39.8**	**+0.8**	
SNAA	**Sanae**	**84.94**	**178**	P		**P**	**15 30 36.9**	**-1.8**	
SNAA	**Sanae**	**84.94**	**178**	⇓*e*P		**P**	**15 30 37.0**	**-1.7**	
SNAA				pmax		pmax			
	comp=Z,44nm,1.7s								
SNAA	**Sanae**	**84.94**	**178**	*e*P		**P**	**15 30 36.6**	**-2.1**	
	comp=Z,103nm,1.0s								
KNB	**Kanab**	**85.02**	**46**	*e*P		**P**	**15 30 41.3**	**+1.5**	
KNB				pmax		pmax			
	comp=Z,391nm,1.4s								
KNB	**Kanab**	**85.02**	**46**	*e*P		**P**	**15 30 41.3**	**+1.5**	
	comp=Z,391nm,1.4s								
VNA3	**Neumayer Olymp**	**85.03**	**176**	P		**P**	**15 30 39.5**	**+0.4**	
NLWA	**Neilton Lookou**	**85.04**	**33**	*e*P		**P**	**15 30 41.1**	**+1.6**	
	comp=Z,120nm,1.1s								
NLWA				LR		LR			
	comp=Z,824nm,22.0s								
U15A	**North Rim**	**85.04**	**47**	⇓P		**P**	**15 30 41.7**	**+1.7**	
	baz=85								
WUAZ	**Wupatki**	**85.16**	**48**	*e*P		**P**	**15 30 41.9**	**+1.5**	
	comp=Z,237nm,1.3s								
WUAZ				LR		LR			
	comp=Z,813nm,21.0s								
WUAZ	**Wupatki**	**85.16**	**48**	⇓P		**P**	**15 30 41.7**	**+1.2**	
	baz=85								
I07A	**Izee**	**85.17**	**37**	*e*P		**P**	**15 30 41.4**	**+1.1**	
	comp=Z,90nm,0.9s								
TDL	**Tradedollar La**	**85.18**	**34**	P		**P**	**15 30 41.7**	**+1.4**	
G06A	**Carlson Farm,**	**85.28**	**36**	*e*P		**P**	**15 30 41.5**	**+0.8**	
	comp=Z,85nm,1.0s								
VTHM	**Trough**	**85.29**	**36**	P		**P**	**15 30 41.7**	**+0.9**	
WHN	**Wuhan**	**85.31**	**306**	⇓P		**P**	**15 30 42.5**	**+1.4**	
WHN				LZ					
	comp=Z,2μm,33.6s								
SNY	**Shenyang**	**85.38**	**320**	⇓P		**P**	**15 30 42.3**	**+1.1**	
SNY				S		S	15 41 01.3	-7.8	
SNY				PMZ					
	comp=Z,30nm,0.8s								
SNY				PMZ					
	comp=Z,230nm,8.3s								
SNY				LN					
	comp=Z,310nm,24.9s								
SNY				LE					
	comp=Z,380nm,24.5s								
SNY				LZ					
	comp=Z,540nm,37.6s								
VNA2	**Neumayer--Watz**	**85.48**	**176**	P		**P**	**15 30 42.0**	**+0.6**	
	baz=166,slow=3.6								
KULM	**Kulim**	**85.50**	**278**	*e*P		**P**	**15 30 43.4**	**+0.9**	
	comp=Z,34nm,0.8s								
KULM				LR		LR			
	comp=Z,212nm,19.0s								
CN2	**Changchun**	**85.51**	**322**	*e*P		**P**	**15 30 42.4**	**+0.6**	
CN2				*e*PP		**PP**	**15 33 59.8**	**-1.2**	
CN2				*e*S		**S**	**15 41 13.6**	**+3.3**	
CN2				PMZ					
	comp=Z,80nm,0.9s								
CN2				PMZ					
	comp=Z,280nm,4.0s								
CN2				LN					
	comp=Z,740nm,23.0s								
CN2				LE					
	comp=Z,540nm,23.0s								
CN2				LZ					
	comp=Z,420nm,24.0s								
X18A	**Snowflake**	**85.61**	**49**	⇑P		**P**	**15 30 44.1**	**+1.4**	
	baz=86								
ELK	**Elko**	**85.62**	**42**	P		**P**	**15 30 44.2**	**+1.5**	
	comp=Z,55nm,1.1s,baz=220,slow=4.7,SNR=88								
ELK	**Elko**	**85.62**	**42**	P		**P**	**15 30 44.2**	**+1.5**	
ELK				pmax		pmax			
	comp=Z,55nm,1.1s								
ELK	**Elko**	**85.62**	**42**	*e*P		**P**	**15 30 43.5**	**+0.7**	
	comp=Z,91nm,1.3s								
BRLK	**Bradley Lake**	**85.64**	**13**	*e*P		**P**	**15 30 42.8**	**+0.7**	
	comp=Z,116nm,1.0s								
BRLK				*e*pP		pP	15 31 04.5	+10	
LON	**Longmire**	**85.65**	**34**	*e*P		**P**	**15 30 43.1**	**+0.6**	
LON				pmax		pmax			
	comp=Z,31nm,1.0s								
LON	**Longmire**	**85.65**	**34**	*e*P		**P**	**15 30 43.1**	**+0.6**	
	comp=Z,31nm,1.0s								
VNA1	**Neumayer--Stat**	**85.70**	**176**	P		**P**	**15 30 43.4**	**+1.0**	
WPW	**White Pass**	**85.76**	**34**	P		**P**	**15 30 44.0**	**+0.9**	
NVL	**N'lazarevskaya**	**85.76**	**183**	*e*P		**pP**	**15 30 56.2**	**+1.2**	
NVL				*e*S		**S**	**15 41 08.9**	**-3.3**	
NVL				pmax		pmax			
	comp=Z,60nm,1.2s								
KLR	**Kul'dur**	**85.81**	**329**	*e*P		**P**	**15 30 40.7**	**-2.5**	
KLR				*e*S		SKSac	15 40 57.0	-8.4	
KLR				*e*SS		**SS**	**15 46 47.5**	**-3.9**	
KLR				pmax		pmax			
	comp=Z,55nm,1.4s								
D05A	**Enumclaw**	**85.85**	**34**	*e*P		**P**	**15 30 45.0**	**+1.6**	
	comp=Z,284nm,1.2s								
RSO	**Redoubt South**	**85.93**	**12**	*e*P		**P**	**15 30 44.1**	**+0.4**	
RSO				*e*PKiKP		**PKiKP**	**15 35 57.2**	**+4.8**	
TRW	**Toppenish Ridg**	**86.02**	**35**	P		**P**	**15 30 45.4**	**+1.1**	
SVW2	**Sparrevohn**	**86.04**	**10**	*e*P		**P**	**15 30 43.4**	**-0.6**	
	comp=Z,36nm,1.0s								
W18A	**Petrified Fore**	**86.07**	**49**	*e*P		**P**	**15 30 46.3**	**+1.3**	
	comp=Z,238nm,1.3s								
W18A	**Petrified Fore**	**86.07**	**49**	⇑P		**P**	**15 30 46.0**	**+0.9**	
	baz=86								
PSI	**Prapat**	**86.08**	**275**	LR		LR	16 09 46.1		
	comp=Z,755nm,21.9s,slow=36								
PSI	**Prapat**	**86.08**	**275**	*e*P		**P**	**15 30 45.5**	**0.0**	
PSI				*e*			15 34 05.3		
PSI				pmax		pmax			
	comp=Z,42nm,1.0s								
PSI	**Prapat**	**86.08**	**275**	*e*P		**P**	**15 30 45.5**	**0.0**	
	comp=Z,42nm,1.0s								
PSI				*e*PP		**PP**	**15 34 05.3**	**-1.0**	
121A	**Cookes Peak, D**	**86.10**	**52**	*e*P		**P**	**15 30 45.6**	**+0.4**	
	comp=Z,169nm,1.3s								
121A	**Cookes Peak, D**	**86.10**	**52**	⇓P		**P**	**15 30 46.5**	**+1.3**	
	baz=86								
PGC	**Sidney**	**86.10**	**32**	*e*P		**P**	**15 30 45.7**	**+1.2**	
	comp=Z,3μm,1.4s								
PLCA	**Paso Flores**	**86.23**	**133**	P		**P**	**15 30 47.0**	**+1.2**	
	comp=Z,95nm,1.1s,baz=232,slow=4.8,SNR=13								
PLCA	**Paso Flores**	**86.23**	**133**	*e*P		**P**	**15 30 47.5**	**+1.7**	
PLCA				pmax		pmax			
	comp=Z,150nm,1.1s								
PLCA	**Paso Flores**	**86.23**	**133**	P		**P**	**15 30 47.5**	**+1.7**	
	baz=86,SNR=7.6								
PLCA	**Paso Flores**	**86.23**	**133**	*e*P		**P**	**15 30 47.5**	**+1.7**	
	comp=Z,150nm,1.1s								
G08A	**Pilot Rock**	**86.23**	**37**	*e*P		**P**	**15 30 46.3**	**+0.8**	
SEW	**Seward**	**86.25**	**13**	*e*P		**P**	**15 30 45.9**	**+0.9**	
	comp=Z,105nm,1.3s								
MVU	**Marysvale**	**86.25**	**45**	*e*P		**P**	**15 30 47.5**	**+1.6**	
	comp=Z,113nm,1.2s								
MSU	**Marysvale**	**86.28**	**45**	*e*P		**P**	**15 30 47.5**	**+1.5**	
MSU	**Marysvale**	**86.28**	**45**	*e*P		**P**	**15 30 47.5**	**+1.5**	
TIA	**Tai'an**	**86.30**	**312**	⇑P		**P**	**15 30 47.6**	**+1.7**	
TIA				SKS		**SKSac**	**15 41 06.3**	**-2.8**	
TIA				PMZ					
	comp=Z,80nm,1.1s								
TIA				PMZ					
	comp=Z,340nm,6.5s								
TIA				LN					
	comp=Z,330nm,20.8s								
TIA				LE					
	comp=Z,540nm,20.7s								
TIA				LZ					
	comp=Z,600nm,20.3s								
PAYG	**Puerto Ayora**	**86.32**	**89**	*e*P		**P**	**15 30 48.9**	**+2.4**	
	comp=Z,202nm,1.1s								
PAYG				LR		LR			
	comp=Z,731nm,22.0s								
PAF	**Port-aux-Franc**	**86.34**	**217**	P		P	15 30 52.0	+6.0	
PAF	**Port-aux-Franc**	**86.34**	**217**	S		**S**	**15 41 18.0**	**-0.6**	
PAF				L		L	15 53 00.0		
PAF				R			15 58 00.0		
BBB	**Bella Bella**	**86.46**	**27**	P		**P**	**15 30 47.6**	**+1.4**	
	comp=Z,79nm,0.9s,baz=238,slow=4.8,SNR=49								
E07A	**Sunnyside**	**86.55**	**35**	*e*P		**P**	**15 30 48.2**	**+1.3**	
	comp=Z,102nm,0.9s								
LTY	**Liberty**	**86.58**	**34**	*e*P		**P**	**15 30 47.6**	**+0.5**	
	comp=Z,45nm,1.0s								
HAWA	**Hanford**	**86.62**	**36**	*e*P		**P**	**15 30 48.3**	**+1.1**	
	comp=Z,109nm,1.2s								
HAWA				LR		LR			
	comp=Z,1μm,22.0s								
GSI	**Gunungsitoli**	**86.72**	**273**	*e*P		**P**	**15 30 50.4**	**+1.8**	
	comp=Z,224nm,1.5s								
SPU	**Mount Spurr**	**86.72**	**12**	*e*P		**P**	**15 30 47.8**	**+0.3**	
DUG	**Dugway, Tooele**	**86.81**	**43**	*e*P		**P**	**15 30 49.0**	**+0.5**	
DUG				pmax		pmax			
	comp=Z,25nm,1.1s								
DUG				MLR		MLR			
	comp=Z,490nm,22.0s								
DUG	**Dugway, Tooele**	**86.81**	**43**	*e*P		**P**	**15 30 49.0**	**+0.5**	
	comp=Z,25nm,1.1s								
DUG				LR		LR			
	comp=Z,490nm,22.0s								
DUG	**Dugway, Tooele**	**86.81**	**43**	⇓P		**P**	**15 30 49.0**	**+0.5**	
	baz=87								
MFID	**Camas Ranch**	**86.85**	**40**	*e*P		**P**	**15 30 49.3**	**+0.7**	
	comp=Z,54nm,1.1s								
MFID				*e*PP		**PP**	**15 34 11.5**	**-0.6**	
BMO	**Blue Mountains**	**86.88**	**38**	*e*P		**P**	**15 30 49.0**	**+0.4**	
	comp=Z,266nm,2.2s								
BMO				LR		LR			
	comp=Z,359nm,21.0s								
ETW	**Entiat**	**86.98**	**34**	P		**P**	**15 30 50.0**	**+0.8**	
B06A	**Marblemount**	**86.98**	**33**	*e*P		**P**	**15 30 49.6**	**+0.7**	
	comp=Z,68nm,1.1s								
A05A	**Maple Falls**	**87.00**	**32**	*e*P		**P**	**15 30 50.2**	**+1.2**	
	comp=Z,109nm,1.5s								
RC01	**Rabbit Creek A**	**87.09**	**13**	*e*P		**P**	**15 30 50.2**	**+1.0**	
	comp=Z,126nm,1.2s								
BGU	**Big Grassy Mou**	**87.09**	**43**	*e*P		**P**	**15 30 50.3**	**+0.4**	
	comp=Z,242nm,2.3s								
NLU	**North Lily Min**	**87.15**	**44**	*e*P		**P**	**15 30 51.6**	**+1.3**	
	comp=Z,56nm,1.5s								
WTV	**Waterville**	**87.23**	**34**	P		**P**	**15 30 50.9**	**+0.7**	
TMUT	**Trail Mountain**	**87.34**	**45**	*e*P		**P**	**15 30 52.8**	**+1.4**	
	comp=Z,166nm,0.9s								
D08A	**Wollman Farm,**	**87.37**	**35**	*e*P		**P**	**15 30 51.9**	**+1.0**	
	comp=Z,104nm,0.9s								
E09A	**Wood Farm, Sta**	**87.44**	**36**	*e*P		**P**	**15 30 51.8**	**+0.6**	
	comp=Z,115nm,1.1s								
MNTX	**Cornudas Mount**	**87.44**	**54**	*e*P		**P**	**15 30 52.6**	**+1.0**	
	comp=Z,218nm,1.1s								
MNTX				LR		LR			
	comp=Z,562nm,22.0s								
MNTX	**Cornudas Mount**	**87.44**	**54**	⇓P		**P**	**15 30 52.6**	**+1.0**	
	baz=88								
MPU	**Maple Canyon**	**87.46**	**44**	*e*P		**P**	**15 30 52.6**	**+0.9**	
	comp=Z,50nm,1.0s								
Y22D	**IRIS PASSCAL I**	**87.51**	**51**	⇑P		**P**	**15 30 53.3**	**+1.3**	
	baz=88								
LENM	**Lemitar**	**87.52**	**51**	*e*P		**P**	**15 30 53.5**	**+1.4**	
LAZ	**Ladron**	**87.52**	**51**	*e*P		**P**	**15 30 53.5**	**+1.3**	
RAGM	**Ragged Mountai**	**87.58**	**15**	*e*P		**P**	**15 30 53.0**	**+1.4**	
	comp=Z,65nm,1.1s								
TX31	**Lajitas Ar. Si**	**87.59**	**57**	*e*P		**P**	**15 30 52.3**	**-0.2**	
TXAR	**Lajitas Array**	**87.59**	**57**	P		**P**	**15 30 53.4**	**+0.9**	
	comp=Z,100nm,0.9s,baz=214,slow=6.6,SNR=505								
TXAR				PKKPbc		**PKKPbc**	**15 48 43.0**	**+1.6**	
	comp=Z,0.6nm,0.9s,baz=69,slow=6.9,SNR=4.0								
TXAR				LR		LR	16 01 26.2		
	comp=Z,390nm,21.7s,baz=0.0,slow=30								
F10A	**Beach Ranch, E**	**87.61**	**37**	*e*P		**P**	**15 30 52.3**	**+0.1**	
	comp=Z,108nm,1.0s								
PMR	**Palmer**	**87.67**	**13**	*e*P		**P**	**15 30 52.4**	**+0.5**	
PMR	**Palmer**	**87.67**	**13**	*e*P		**P**	**15 30 52.4**	**+0.5**	
SRU	**San Rafael Swe**	**87.69**	**45**	*e*P		**P**	**15 30 53.5**	**+0.7**	
SRU				pmax		pmax			
	comp=Z,149nm,1.0s								
SRU	**San Rafael Swe**	**87.69**	**45**	*e*P		**P**	**15 30 53.5**	**+0.7**	
	comp=Z,149nm,1.0s								
SRU				*e*PKKPdf		**PKKPbc**	**15 48 44.4**	**+2.6**	
HVU	**Hansel Valley**	**87.74**	**42**	*e*P		**P**	**15 30 53.6**	**+0.6**	
HVU				pmax		pmax			
	comp=Z,31nm,1.0s								
HVU	**Hansel Valley**	**87.74**	**42**	*e*P		**P**	**15 30 53.6**	**+0.6**	
	comp=Z,31nm,1.0s								
BNM	**Barren Site**	**87.76**	**51**	*e*P		**P**	**15 30 54.4**	**+1.1**	
HLID	**Hailey**	**87.77**	**40**	*e*P		**P**	**15 30 54.0**	**+0.9**	
	comp=Z,32nm,0.9s								
HLID				LR		LR			
	comp=Z,319nm,20.0s								
HLID	**Hailey**	**87.77**	**40**	⇑P		**P**	**15 30 54.1**	**+1.0**	
	baz=88,SNR=64								
EFI	**East Falkland**	**87.81**	**147**	*e*P		**P**	**15 30 54.3**	**+1.2**	
EFI				pmax		pmax			
	comp=Z,170nm,1.0s								
EFI				MLR		MLR			
	comp=Z,931nm,20.0s								
EFI	**East Falkland**	**87.81**	**147**	*e*P		**P**	**15 30 54.3**	**+1.2**	
	comp=Z,170nm,1.0s								
EFI				LR		LR			
	comp=Z,931nm,20.0s								
LPM	**Los Pinos Moun**	**87.83**	**51**	*e*P		**P**	**15 30 54.7**	**+1.1**	
JLU	**Jordanelle**	**87.91**	**44**	*e*P		**P**	**15 30 54.6**	**+0.7**	
	comp=Z,193nm,1.9s								
B08A	**Colville Reser**	**87.97**	**34**	*e*P		**P**	**15 30 54.1**	**+0.3**	
	comp=Z,68nm,0.9s								
DIV	**Divide**	**87.98**	**14**	*e*P		**P**	**15 30 54.6**	**+1.1**	
	comp=Z,92nm,1.0s								
WRAK	**Wrangell Islan**	**87.98**	**23**	*e*P		**P**	**15 30 55.6**	**+2.1**	
	comp=Z,98nm,1.1s								
WRAK				LR		LR			
	comp=Z,461nm,19.0s								
MVCO	**Mesa Verde**	**88.02**	**48**	*e*P		**P**	**15 30 54.9**	**+0.4**	
	comp=Z,51nm,1.4s								
MVCO				LR		LR			
	comp=Z,420nm,20.0s								
MVCO	**Mesa Verde**	**88.02**	**48**	⇑P		**P**	**15 30 54.7**	**+0.2**	
	baz=88								
PV05	**Paradox Valley**	**88.07**	**47**	*e*P		**P**	**15 30 55.8**	**+1.1**	
BMRM	**Bremner River**	**88.11**	**15**	*e*P		**P**	**15 30 55.0**	**+0.9**	
	comp=Z,109nm,1.0s								
KHON	**Khomkaen**	**88.13**	**289**	P		**P**	**15 30 57.2**	**+2.0**	
	comp=Z,30nm,1.0s,comp=Z,508nm								
C09A	**Chrisman Ranch**	**88.17**	**35**	*e*P		**P**	**15 30 55.5**	**+0.8**	
	comp=Z,102nm,0.9s								
TCUT	**Toone Canyon**	**88.22**	**43**	*e*P		**P**	**15 30 56.0**	**+0.6**	
	comp=Z,142nm,1.1s								
SCM	**Sheep Creek Mo**	**88.26**	**13**	*e*P		**P**	**15 30 55.7**	**+0.8**	
SCM

NEW LR LR
comp=Z,813nm,22.0s
NEW Newport 89.07 35 ⇑P P 15 30 59.2 +0.3
baz=89,SNR=34
529A Stev Forest Ra 89.07 57 ⇓P P 15 30 59.5 +0.1
baz=89,SNR=55
KTH Kantishna Hill 89.12 11 eP P 15 30 58.5 -0.3
comp=Z,86nm,0.9s
KTH eS S 15 41 42.1 -2.3
TRF Thorofare Moun 89.14 11 eP P 15 30 59.3 +0.2
comp=Z,141nm,0.8s
GYA Guiyang 89.30 299 ⇓iP P 15 31 01.9 +1.3
GYA pP pP 15 31 11.0 -2.0
GYA PP PP 15 34 34.5 +2.4
GYA SKS SKSac 15 41 27.4 -0.5
GYA S S 15 41 47.8 0.0
GYA sS sS 15 42 03.3 -5.1
GYA SS SS 15 47 46.0 +2.5
GYA PMZ
comp=Z,40nm,1.0s
GYA PMZ
comp=Z,190nm,5.3s
GYA LN
comp=Z,3μm,19.7s
GYA LE
comp=Z,1μm,20.0s
GYA LZ
comp=Z,3μm,19.8s
AHID Auburn Hatcher 89.32 42 eP P 15 31 01.7 +1.3
comp=Z,74nm,1.1s
AHID LR LR
comp=Z,348nm,20.0s
CMIG Matias Romero 89.37 71 P P 15 31 01.9 +0.9
comp=Z,32nm,1.0s,baz=268,slow=4.3,SNR=15
RND Reindeer 89.37 12 eP P 15 31 00.6 +0.6
RND eS S 15 41 46.2 -0.5
RND pmax pmax
comp=Z,166nm,1.0s
RND Reindeer 89.37 12 eP P 15 31 00.6 +0.6
comp=Z,166nm,1.0s
RND eS S 15 41 46.2 -0.5
MCMT McKenzie Canyo 89.42 40 eP P 15 31 01.8 +0.8
S22A 4UR Ranch, Cre 89.44 48 eP P 15 31 02.2 +1.0
comp=Z,150nm,1.5s
S22A 4UR Ranch, Cre 89.44 48 ⇓P P 15 31 02.2 +1.0
baz=90
429A Davenport Ranc 89.55 56 ⇓P P 15 31 02.0 +0.3
baz=90,SNR=95
BPAW Bear Paw Mtn. 89.62 11 eP P 15 31 00.4 -0.7
comp=Z,8.5nm,1.2s
BPAW eS S 15 41 44.6 -4.3
SEY Seymchan 89.63 346 iP P 15 31 02.4 +1.3
MCK McKinley 89.65 12 eP P 15 31 01.6 +0.3
MCK pmax pmax
comp=Z,98nm,1.0s
MCK McKinley 89.65 12 eP P 15 31 01.6 +0.3
comp=Z,98nm,1.0s
PAX Paxson 89.67 14 eP P 15 31 01.9 +0.4
PAX pmax pmax
comp=Z,48nm,1.0s
PAX Paxson 89.67 14 eP P 15 31 01.9 +0.4
comp=Z,48nm,1.0s
O20A White River Ci 89.72 45 eP P 15 31 02.8 +0.3
comp=Z,30nm,0.9s
O20A White River Ci 89.72 45 ⇓P P 15 31 02.7 +0.3
baz=90
228A UT Block 9, Go 89.72 55 ⇑P P 15 31 02.8 +0.4
baz=90,SNR=17
530A J-C Ranch, Com 89.76 57 ⇓P P 15 31 03.2 +0.6
baz=90,SNR=39
REDW Red Top Meadow 89.80 42 eP P 15 31 03.3 +0.6
comp=Z,130nm,1.3s
TPAW Teton Pass 89.81 42 eP P 15 31 03.8 +0.9
comp=Z,94nm,1.4s
HYT Haines Junctio 89.83 18 eP P 15 31 03.7 +1.4
FXWY Fox Creek 89.84 41 eP P 15 31 03.8 +0.9
comp=Z,72nm,1.3s
DLMT Dillon 89.87 39 eP P 15 31 03.8 +0.9
comp=Z,108nm,1.1s
329A Wagon Wheel Ra 89.89 55 ⇓P P 15 31 03.7 +0.4
baz=90,SNR=46
SNOW Snow King Moun 89.91 42 eP P 15 31 03.5 +0.2
comp=Z,99nm,1.1s
MSO Missoula 89.94 38 eP P 15 31 03.1 0.0
comp=Z,70nm,1.3s
MSO Missoula 89.94 38 ⇓P P 15 31 03.1 0.0
baz=90,SNR=34
BWN Browne 89.95 12 eP P 15 31 03.3 +0.7
comp=Z,177nm,1.1s
BWN eS S 15 41 53.2 +1.3
832A Faith Ranch, C 89.97 59 ⇑P P 15 31 03.8 +0.2
baz=90,SNR=27
S23A Nye Farm, Mont 89.98 48 ⇑P P 15 31 04.3 +0.6
baz=90
631A Perdido Creek 90.01 58 ⇑P P 15 31 04.2 +0.4
baz=90,SNR=82
MENT Mentasta 90.03 14 eP P 15 31 04.2 +1.1
IMW Indian Meadow 90.04 41 eP P 15 31 04.3 +0.4
comp=Z,117nm,1.3s
IMW ePP PP 15 34 37.0 -0.8
128A Castleberry Fa 90.04 54 ⇓P P 15 31 04.4 +0.5
baz=90,SNR=14
SMCO Snowmass 90.07 47 eP P 15 31 04.8 +0.5
comp=Z,39nm,0.9s
N20A Spence Gulch, 90.07 45 ⇓P P 15 31 04.6 +0.5
baz=90,SNR=40
MOOW Moose Ponds 90.07 41 eP P 15 31 04.5 +0.5
comp=Z,79nm,1.5s
BSMT Bassoo Peak 90.07 36 eP P 15 31 04.0 +0.1
BSMT ePP PP 15 34 36.4 -1.5
LOHW Long Hollow 90.08 42 eP P 15 31 04.2 +0.1
comp=Z,96nm,1.4s
430A Baggett Ranch, 90.13 56 ⇓P P 15 31 04.5 +0.1
baz=90,SNR=14
732A Laxson Ranch, 90.17 59 ⇓P P 15 31 05.2 +0.7
baz=90,SNR=16
LRM Limekiln Ridge 90.22 39 eP P 15 31 05.2 +0.6
LRM ePP PP 15 34 37.5 -1.6
933A Laredo 90.23 60 ⇑P P 15 31 05.3 +0.5
baz=90,SNR=14
229A Bryant Ranch, 90.24 55 ⇓P P 15 31 05.3 +0.4
baz=90,SNR=12
QLMT Earthquake Lak 90.26 40 eP P 15 31 06.2 +1.4
I17A Pilgrim Ck. 90.27 41 ⇑P P 15 31 06.1 +1.2
baz=91,SNR=28
BW06 Boulder Array 90.27 43 eP P 15 31 05.0 +0.1
BW06 LR LR
comp=Z,370nm,20.0s
PDAR Pinedale Array 90.27 43 P P 15 31 05.0 0.0
comp=Z,37nm,1.0s,baz=218,slow=1.7,SNR=162
PDAR LR LR 16 04 56.6
comp=Z,227nm,21.9s,baz=234,slow=31
FLWY Flagg Ranch 90.28 41 eP P 15 31 06.2 +1.3
comp=Z,123nm,1.0s
JTMT Jette 90.29 37 eP P 15 31 04.4 -0.4
JTMT epP pP 15 31 27.2 +10
SWMT Swartz Lake 90.31 37 eP P 15 31 04.5 -0.4
DDM Donnelly Dome 90.31 13 eP P 15 31 05.5 +1.1
comp=Z,128nm,1.0s
DDM eS S 15 41 58.7 +3.3
DLBC Dease Lake 90.33 22 P P 15 31 06.1 +1.5
comp=Z,49nm,0.9s,baz=234,slow=5.2,SNR=66
R23A Moffat 90.34 48 ⇑P P 15 31 06.2 +0.7
baz=91,SNR=32
SDCO Great Sand Dun 90.35 49 eP P 15 31 05.9 +0.4
comp=Z,63nm,1.2s
SDCO LR LR
comp=Z,443nm,21.0s
SDCO Great Sand Dun 90.35 49 ⇑P P 15 31 06.1 +0.6
baz=91,SNR=26
531A Rocksprings 90.38 57 ⇑P P 15 31 05.9 +0.4
baz=91,SNR=46
CHMT Chamberlain Mo 90.38 38 eP P 15 31 05.4 +0.1
CHMT ePP PP 15 34 38.6 -1.7
BLMT Blacktail Moun 90.40 36 eP P 15 31 05.5 +0.1
BLMT ePP PP 15 34 39.4 -1.0
YFT Old Faithful 90.40 41 eP P 15 31 08.2 +2.6
comp=Z,78nm,1.1s
P22A Eagle 90.42 46 ⇑P P 15 31 06.3 +0.6
baz=91,SNR=11
Z28A Tucker Farm, M 90.42 54 ⇓P P 15 31 06.3 +0.6
baz=91,SNR=13
SLMT Seeley Lake 90.43 37 eP P 15 31 05.1 -0.4
SLMT ePP PP 15 34 37.8 -2.9
YMR Madison River 90.44 41 eP P 15 31 07.3 +1.6
comp=Z,161nm,1.3s

833A Chaparral WMA, 90.45 59 ⇓P P 15 31 06.1 +0.3
baz=91,SNR=15
034A Hebbronville 90.46 61 ⇑P P 15 31 07.2 +1.3
baz=91,SNR=8.6
330A Mertzon 90.46 56 ⇑P P 15 31 06.0 +0.1
baz=91,SNR=19
MSTX Muleshoe 90.46 53 eP P 15 31 06.4 +0.5
comp=Z,148nm,1.0s
MSTX Muleshoe 90.46 53 ⇓P P 15 31 06.6 +0.7
baz=91,SNR=78
WRH Wood River Hil 90.48 12 eP P 15 31 05.5 +0.4
comp=Z,124nm,1.1s
129A Stewart Farms, 90.50 54 ⇑P P 15 31 06.2 +0.1
baz=91
YBMT Yellow Bay 90.50 37 eP P 15 31 06.0 +0.2
MLY Manley 90.52 11 eP P 15 31 05.0 -0.3
comp=Z,28nm,1.0s
MLY eS S 15 41 59.5 +2.3
H17A Grant Village 90.53 41 eP P 15 31 08.1 +1.9
comp=Z,58nm,1.0s
H17A Grant Village 90.53 41 ⇑P P 15 31 07.9 +1.8
baz=91,SNR=47
431A Sonora 90.56 57 ⇓P P 15 31 06.5 +0.1
baz=91,SNR=11
DOT Dot Lake 90.58 14 eP P 15 31 06.5 +0.9
comp=Z,184nm,0.7s
BOZ Bozeman (W) 90.59 39 eP P 15 31 07.0 +0.7
BOZ pmax pmax
comp=Z,119nm,1.0s
BOZ MLR MLR
comp=Z,256nm,22.0s
BOZ Bozeman (W) 90.59 39 eP P 15 31 07.0 +0.7
comp=Z,119nm,1.0s
BOZ LR LR
comp=Z,256nm,22.0s
YNR Norris Junctio 90.64 41 eP P 15 31 08.4 +1.7
comp=Z,77nm,1.3s
632A Uvalde 90.67 58 ⇑P P 15 31 07.4 +0.6
baz=91,SNR=47
UTTA Uttaradit 90.68 289 P P 15 31 09.6 +2.5
comp=Z,12nm,1.1s,comp=Z,132nm
035Z Hargill 90.69 61 ⇓P P 15 31 07.4 +0.5
baz=91
CCB Clear Creek Bu 90.69 12 eP P 15 31 06.2 +0.1
comp=Z,67nm,1.0s
CCB eS S 15 41 56.9 -1.8
Q23A Hartsel 90.69 47 ⇑P P 15 31 07.6 +0.5
baz=91
733A Divot King Ran 90.70 59 ⇑P P 15 31 07.2 +0.2
baz=91,SNR=11
LKWY Lake 90.73 41 eP P 15 31 09.3 +2.2
LKWY pmax pmax
comp=Z,81nm,1.0s
LKWY MLR MLR
comp=Z,425nm,19.0s
LKWY Lake 90.73 41 eP P 15 31 09.3 +2.2
comp=Z,81nm,1.0s
LKWY LR LR
comp=Z,425nm,19.0s
230A Sterling City 90.73 55 ⇓P P 15 31 07.6 +0.5
baz=91,SNR=18
T25A Trinidad 90.80 50 eP P 15 31 08.0 +0.4
comp=Z,45nm,0.9s
T25A ePKKPdf PKKPbc 15 48 37.1 +3.3
T25A Trinidad 90.80 50 ⇑P P 15 31 07.9 +0.3
baz=91,SNR=27
Y28A McKinney Farm, 90.82 53 ⇓P P 15 31 08.3 +0.8
baz=91,SNR=19
934A Benavides 90.82 60 ⇓P P 15 31 07.6 0.0
baz=91
O22A Kremmling 90.85 46 ⇓P P 15 31 08.2 +0.3
baz=91,SNR=31
J19A Crowheart 90.85 42 ⇑P P 15 31 08.0 +0.4
baz=91,SNR=68
532A Rocksprings 90.85 57 ⇓P P 15 31 08.1 +0.3
baz=91,SNR=73
035A Encino 90.87 61 ⇓P P 15 31 08.1 +0.3
baz=91
SCRK Sand Creek 90.88 14 eP P 15 31 08.0 +0.9
comp=Z,250nm,0.6s
COLA College 90.89 12 eP P 15 31 07.6 +0.7
COLA pmax pmax
comp=Z,309nm,0.2s
COLA MLR MLR
comp=Z,570nm,22.0s
COLA College 90.89 12 eP P 15 31 07.6 +0.7
comp=Z,309nm,0.2s
COLA LR LR
comp=Z,570nm,22.0s
MDM Murphy Dome 90.90 12 eP P 15 31 07.1 0.0
comp=Z,96nm,1.1s
MDM eS S 15 41 55.4 -5.2
IM04 Indian Mountai 90.91 9 eP P 15 31 07.6 +0.5
IM04 ePP PP 15 34 49.4 +5.5
Z29A Hungry Hill Ra 90.91 54 ⇓P P 15 31 08.0 0.0
baz=91,SNR=66
P23A Jefferson 90.93 47 ⇑P P 15 31 09.2 +1.0
baz=91,SNR=20
IL1 Eielson Array 90.98 12 eP P 15 31 06.5 -0.9
ILAR Eielson Array 90.98 12 P P 15 31 07.5 0.0
comp=Z,22nm,0.9s,baz=220,slow=5.5,SNR=156
ILAR LR LR 16 04 36.1
comp=Z,183nm,21.1s,baz=218,slow=31
331A San Angelo 90.98 56 ⇓P P 15 31 08.6 +0.3
baz=91,SNR=21
XAN Xi'an 91.02 307 P P 15 31 10.0 +1.6
XAN pP pP 15 31 20.3 -0.5
XAN sP sP 15 31 24.5 -0.9
XAN PP PP 15 34 49.3 +3.8
XAN SKS SKSac 15 41 35.3 -2.1
XAN S S 15 42 01.8 -1.4
XAN sS sS 15 42 20.0 -3.9
XAN SS SS 15 48 11.5 +3.5
XAN PMZ
comp=Z,17nm,1.0s
XAN PMZ
comp=Z,33nm,4.8s
XAN LN
comp=Z,180nm,20.9s
XAN LE
comp=Z,100nm,23.5s
XAN LZ
comp=Z,120nm,23.5s
834A Tilden 91.03 60 ⇓P P 15 31 09.4 +0.9
baz=91,SNR=5.7
HRY Holter Researc 91.07 38 eP P 15 31 09.1 +0.7
JCT Junction City 91.09 57 eP P 15 31 08.8 0.0
JCT pmax pmax
comp=Z,72nm,1.1s
JCT MLR MLR
comp=Z,473nm,21.0s
JCT Junction City 91.09 57 eP P 15 31 08.8 0.0
comp=Z,72nm,1.1s
JCT LR LR
comp=Z,473nm,21.0s
JCT Junction City 91.09 57 ⇓P P 15 31 09.1 +0.3
baz=91,SNR=29
633A Saathoff Ranch 91.12 58 ⇓P P 15 31 09.7 +0.7
baz=91,SNR=25
X28A Dimmitt 91.14 53 ⇓P P 15 31 09.4 +0.4
baz=91,SNR=28
130A Snyder 91.16 55 ⇑P P 15 31 09.6 +0.5
baz=91,SNR=24
Q24A Divide 91.19 48 eP P 15 31 10.5 +1.0
comp=Z,158nm,1.6s
Q24A Divide 91.19 48 ⇑P P 15 31 10.2 +0.8
baz=92,SNR=14
Y29A Porterfield Fa 91.22 53 ⇑P P 15 31 09.9 +0.5
baz=92,SNR=101
H18A Shoshone NF, C 91.23 41 ⇑P P 15 31 10.6 +1.3
baz=92,SNR=26
N22A Wattenberg Ran 91.23 46 ⇑P P 15 31 10.6 +1.0
baz=92,SNR=13
WALA Waterton Lakes 91.25 36 eP P 15 31 09.7 +0.4
comp=Z,2μm,1.1s
432A Menard 91.28 57 ⇓P P 15 31 09.9 +0.2
baz=92,SNR=51
ISCO Idaho Springs 91.29 47 eP P 15 31 10.3 +0.4
ISCO pmax pmax
comp=Z,32nm,1.3s
ISCO MLR MLR
comp=Z,323nm,22.0s
ISCO Idaho Springs 91.29 47 eP P 15 31 10.3 +0.4
comp=Z,32nm,1.3s
ISCO LR LR
comp=Z,323nm,22.0s
ISCO Idaho Springs 91.29 47 ⇑P P 15 31 10.7 +0.8
baz=92,SNR=20
O23A Lake Granby, G 91.29 46 ⇑P P 15 31 10.5 +0.7
baz=92,SNR=29
I19A Meeteetse 91.29 42 ⇓P P 15 31 10.6 +0.9
baz=92,SNR=74
KVTX Kingsville 91.30 61 PFAKE 15 31 20.0 +10
KVTX LR LR
comp=Z,1μm,19.0s
734A La Parita Cree 91.34 59 ⇑P P 15 31 10.7 +0.7
baz=92
231A Bronte 91.35 56 ⇓P P 15 31 10.3 +0.3
baz=92,SNR=57
Z30A Sanderson Ranc 91.36 54 ⇓P P 15 31 10.2 +0.2
baz=92,SNR=59
T26A Comanche Natio 91.39 50 ⇓P P 15 31 10.6 +0.3
baz=92,SNR=26
M22A Cedar Creek Ra 91.44 45 ⇑P P 15 31 11.0 +0.5
baz=92,SNR=12
X29A Tulia 91.47 53 ⇓P P 15 31 11.4 +0.9
baz=92,SNR=30
W28A Vega 91.48 52 ⇓P P 15 31 11.0 +0.4
baz=92,SNR=9.2
J20A Shoshoni 91.50 43 ⇑P P 15 31 11.4 +0.9
baz=92,SNR=89
533A Kerrville 91.50 58 ⇓P P 15 31 11.2 +0.4
baz=92,SNR=24
332A Millersview 91.54 56 ⇑P P 15 31 11.1 +0.2
baz=92,SNR=110
U27A Thompson Grove 91.58 51 ⇓P P 15 31 11.7 +0.6
baz=92
LCO Las Campanas 91.61 123 PFAKE 15 31 20.0 +8.3
LCO LR LR
comp=Z,1μm,20.0s
N23A Red Feather La 91.61 46 eP P 15 31 11.8 +0.5
comp=Z,70nm,1.5s
N23A Red Feather La 91.61 46 ⇑P P 15 31 12.0 +0.7
baz=92,SNR=18
131A Roby 91.63 55 ⇑P P 15 31 11.6 +0.3
baz=92,SNR=25
H19A Powell 91.64 41 ⇓P P 15 31 12.0 +0.8
baz=92,SNR=22
K21A Alcova 91.65 44 ⇓P P 15 31 11.9 +0.6
baz=92,SNR=43
835A Beeville 91.67 60 ⇓P P 15 31 11.8 +0.3
baz=92
AMTX Amarillo 91.68 53 eP P 15 31 11.8 +0.2
comp=Z,101nm,1.0s
AMTX Amarillo 91.68 53 ⇓P P 15 31 11.9 +0.4
baz=92
S26A Kim 91.69 49 ⇑P P 15 31 11.9 +0.3
baz=92,SNR=48
V28A Channing 91.69 52 ⇑P P 15 31 12.4 +0.8
baz=92,SNR=18
RLMT Red Lodge 91.70 41 eP P 15 31 12.4 +0.9
comp=Z,71nm,1.1s
RLMT LR LR
comp=Z,262nm,21.0s
936A North Padre Is 91.71 61 ⇓P P 15 31 12.0 +0.3
baz=92
634A China Grove, S 91.73 59 ⇓P P 15 31 12.7 +0.9
baz=92
433A Art 91.76 57 ⇑P P 15 31 12.3 +0.4
baz=92,SNR=140
I20A Worland 91.78 42 ⇑P P 15 31 12.3 +0.5
baz=92,SNR=75
Y30A Stafford Cattl 91.80 54 ⇓P P 15 31 12.7 +0.7
baz=92,SNR=11
LAMP Lampang 91.80 289 P P 15 31 14.7 +2.4
comp=Z,49nm,0.9s,comp=Z,320nm
O24A Longmont 91.81 47 ⇓P P 15 31 13.8 +1.8
baz=92,SNR=8.0
GCMT Greycliff 91.82 40 eP P 15 31 13.1 +1.1
232A Coleman 91.84 56 ⇑P P 15 31 12.9 +0.6
baz=92,SNR=112
CRAI Chiangrai 91.86 291 P P 15 31 10.5 -2.1
J21A Lysite 91.89 43 ⇑P P 15 31 13.4 +1.0
baz=92,SNR=109
KMI Kunming 91.90 296 ⇓P P 15 31 15.1 +2.2
KMI pP pP 15 31 24.1 -1.2
KMI sP sP 15 31 28.3 -1.6
KMI PP PP 15 34 56.1 +3.2
KMI SKS SKSac 15 41 41.4 -1.8
KMI S ScS 15 42 14.8 +0.4
KMI sS sS 15 42 28.1 -4.5
KMI SS SS 15 48 24.0 +2.6
KMI PMZ
comp=Z,52nm,1.0s
KMI PMZ
comp=Z,120nm,3.1s
KMI LN
comp=Z,210nm,21.6s
KMI LE
comp=Z,340nm,25.2s
KMI LZ
comp=Z,1μm,26.1s
534A Blanco 91.92 58 ⇑P P 15 31 13.3 +0.6
baz=92,SNR=71
HIA Hailar 91.93 324 eP P 15 31 13.2 +1.0
HIA pmax pmax
comp=Z,22nm,0.9s
HIA MLR MLR
comp=Z,502nm,21.0s
HIA Hailar 91.93 324 eP P 15 31 13.2 +1.0
comp=Z,22nm,0.9s
HIA LR LR
comp=Z,502nm,21.0s
735A Kenedy 91.93 59 ⇓P P 15 31 14.1 +1.4
baz=92,SNR=8.7
T27A Campo 91.95 50 ⇑P P 15 31 13.1 +0.3
baz=92,SNR=15
U28A Mallet 91.99 51 ⇑P P 15 31 13.5 +0.5
baz=92,SNR=7.5
DAWY Dawson 92.02 15 eP P 15 31 13.4 +1.1
DAWY eS S 15 42 15.7 +4.8
R26A Arlington 92.03 49 ⇑P P 15 31 13.6 +0.5
baz=92,SNR=41
X30A Coker Ranch, T 92.07 53 ⇑P P 15 31 13.9 +0.6
baz=92,SNR=9.9
333A Richland Sprin 92.10 57 ⇑P P 15 31 13.7 +0.2
baz=92,SNR=52
Z31A Sharp Cattle R 92.11 55 ⇓P P 15 31 14.0 +0.6
baz=92,SNR=56
K22A Casper 92.12 44 eP P 15 31 13.9 +0.5
comp=Z,100nm,1.3s
K22A ePP PP 15 34 52.0 -2.2
K22A Casper 92.12 44 ⇓P P 15 31 14.3 +0.9
baz=92,SNR=14
S27A Las Animas 92.12 50 ⇑P P 15 31 14.4 +0.8
baz=92
PHWY Pilot Hill 92.14 46 eP P 15 31 14.2 +0.5
comp=Z,39nm,1.4s
PHWY epP pP 15 31 35.8 +10
H20A Greybull 92.14 42 ⇓P P 15 31 14.2 +0.8
baz=92,SNR=27
ABTX Abilene, Hawle 92.17 55 eP P 15 31 14.2 +0.4
comp=Z,213nm,1.1s
ABTX Abilene, Hawle 92.17 55 ⇑P P 15 31 14.3 +0.6
baz=92,SNR=59
635A Leesville 92.19 59 ⇑P P 15 31 14.9 +1.0
baz=92
EGAK Eagle 92.20 14 eP P 15 31 14.0 +0.9
comp=Z,1μm,0.4s
EGAK LR LR
comp=Z,596nm,22.0s
I21A Big Trails, Te 92.23 43 ⇑P P 15 31 14.5 +0.6
baz=92,SNR=84
V29A Stinnett 92.26 52 ⇓P P 15 31 14.8 +0.6
baz=92,SNR=9.2
Q26A Hugo 92.28 48 ⇓P P 15 31 15.0 +0.7
baz=92,SNR=8.8
N24A Carr 92.28 46 ⇑P P 15 31 15.1 +0.9
baz=93,SNR=17
F19A Roth Farm, Mol 92.29 40 ⇓P P 15 31 15.0 +0.9
baz=93,SNR=45
Y31A Rekieta Farm, 92.31 54 ⇑P P 15 31 15.0 +0.6
baz=93,SNR=45
CM01 Chiang Mai Arr 92.34 289 eP P 15 31 16.1 +1.3
CM01 eSS SS 15 48 29.4 +2.0
CM31 Chiang Mai Arr 92.37 289 P P 15 31 13.0 -1.9
comp=Z,68nm,1.0s
CMAR Chiang Mai Arr 92.37 289 P P 15 31 17.4 +2.4
comp=Z,48nm,0.9s,baz=130,slow=3.1,SNR=32
CMAR PKKP PKKPbc 15 48 29.8 +1.0
comp=Z,2.6nm,0.8s,baz=287,slow=5.1,SNR=13
CMAR PKPPKP P'P'df 15 56 41.8 +2.0
comp=Z,0.7nm,1.0s,baz=275,slow=4.5,SNR=4.5
CMAR LR LR 16 09 57.0

comp=Z,139nm,21.6s,baz=120,slow=34
G20A Bridger 92.39 41 ⇑P P 15 31 15.3 +0.7
baz=93,SNR=25
T28A Walsh 92.41 50 ⇓P P 15 31 15.1 +0.2
baz=93,SNR=23
HHC Hu-ho-hao-te 92.42 314 *e*P P 15 31 16.5 +1.7
HHC pP **pP** 15 31 26.9 -0.3
HHC PP **PP** 15 34 57.8 +1.3
HHC SKS **SKSac** 15 41 44.1 -1.0
HHC S **ScS** 15 42 17.3 -0.5
HHC sS sS 15 42 29.9 -6.5
HHC SS **SS** 15 48 33.3 +5.3
HHC PMZ
comp=Z,36nm,1.1s
HHC PMZ
comp=Z,130nm,5.5s
HHC LN
comp=Z,390nm,17.8s
HHC LE
comp=Z,470nm,17.6s
HHC LZ
comp=Z,450nm,17.1s
434A Burnet 92.42 57 ⇓P P 15 31 15.2 +0.2
baz=93,SNR=49
233A Rising Star 92.47 56 ⇓P P 15 31 15.5 +0.3
baz=93,SNR=45
R27A Eads 92.47 49 ⇓P P 15 31 15.4 +0.3
baz=93,SNR=18
CHTO Chiang Mai 92.52 289 P P 15 31 17.5 +1.9
comp=Z,382nm,0.9s,comp=Z,4µm
CHTO Chiang Mai 92.52 289 *e*P P 15 31 17.8 +2.2
CHTO *e* 15 34 58.6
CHTO pmax pmax
comp=Z,84nm,1.0s
CHTO MLR MLR
comp=Z,249nm,20.0s
CHTO Chiang Mai 92.52 289 ⇑P P 15 31 17.9 +2.3
SNR=29
CHTO Chiang Mai 92.52 289 *e*P P 15 31 17.8 +2.2
comp=Z,84nm,1.0s
CHTO *e*PP **PP** 15 34 58.6 +1.1
CHTO LR LR
comp=Z,249nm,20.0s
J22A Midwest 92.53 43 ⇑P P 15 31 15.7 +0.4
baz=93,SNR=64
736A Circle Diamond 92.56 60 ⇓P P 15 31 17.3 +1.7
baz=93
Z32A Haskell 92.60 55 ⇑P P 15 31 16.4 +0.7
baz=93,SNR=123
COLD Coldfoot 92.62 10 *e*P P 15 31 16.3 +1.3
comp=Z,26nm,1.0s
535A Dale 92.63 58 ⇑P P 15 31 16.6 +0.7
baz=93
334A Lometa 92.67 57 ⇓P P 15 31 16.8 +0.7
baz=93,SNR=126
E19A Rath Farm, Rou 92.70 40 ⇑P P 15 31 17.1 +1.2
baz=93,SNR=77
P26A Davis Ranch, A 92.70 48 ⇑P P 15 31 16.6 +0.4
baz=93,SNR=14
U29A Oasis Ranch, S 92.70 51 ⇓P P 15 31 16.7 +0.5
baz=93,SNR=6.2
133A Hamilton Ranch 92.71 56 ⇑P P 15 31 16.7 +0.5
baz=93,SNR=36
F20A Billings 92.73 41 ⇓P P 15 31 17.1 +1.0
baz=93,SNR=13
K23A Bowen Ranch, D 92.75 44 ⇑P P 15 31 17.3 +0.9
baz=93,SNR=24
I22A 9 Mile Ranch, 92.77 43 ⇓P P 15 31 17.3 +0.9
baz=93,SNR=55
S28A Manter 92.78 50 ⇑P P 15 31 17.1 +0.6
baz=93,SNR=9.5
636A Smothers Creek 92.80 59 ⇓P P 15 31 16.8 +0.2
baz=93
H21A Big Horn, Sher 92.80 42 ⇓P P 15 31 17.5 +1.0
baz=93,SNR=6.8
V30A Spur Ranch, Mi 92.81 52 ⇑P P 15 31 17.4 +0.7
baz=93,SNR=27
X31A McDonald Ranch 92.82 53 ⇑P P 15 31 16.9 +0.2
baz=93,SNR=19
CMAI Chiengmai2 92.88 290 P P 15 31 19.5 +2.0
comp=Z,92nm,0.9s,comp=Z,6µm
KSCO Kaye Shedlock' 92.93 49 *e*P P 15 31 17.9 +0.6
comp=Z,269nm,1.6s
KSCO *e*pP pP 15 31 39.8 +10
KSCO Kaye Shedlock' 92.93 49 ⇑P P 15 31 18.3 +1.1
baz=93,SNR=16
Y32A R-V Farms, Ver 92.93 54 ⇓P P 15 31 17.8 +0.6
baz=93,SNR=63
435B Jarrell 92.94 58 ⇑P P 15 31 18.1 +0.8
baz=93,SNR=5.2
EGMT Eagleton 92.97 38 *e*P P 15 31 17.7 +0.6
comp=Z,77nm,1.3s
EGMT LR LR
comp=Z,712nm,22.0s
EGMT Eagleton 92.97 38 ⇓P P 15 31 18.1 +0.9
baz=93,SNR=17
G21A Lodge Grass 93.00 41 ⇑P P 15 31 18.3 +0.9
baz=93
D19A Cripps Ranch, 93.01 39 ⇑P P 15 31 18.6 +1.2
baz=93,SNR=52
234A Clairette 93.04 56 ⇑P P 15 31 18.6 +0.8
baz=93,SNR=60
536A Bastrop 93.04 59 ⇓P P 15 31 19.1 +1.3
baz=93
O26A Horse Wrangler 93.05 47 ⇑P P 15 31 18.2 +0.5
baz=93
W31A Holland Ranch, 93.09 53 ⇑P P 15 31 18.5 +0.5
baz=93,SNR=31
E20A Meyer Farm, Mu 93.11 40 ⇑P P 15 31 18.8 +1.0
baz=93,SNR=38
J23A Dilts Ranch, B 93.11 44 ⇑P P 15 31 18.6 +0.6
baz=93
M25A Palm-Egli Farm 93.12 46 ⇓P P 15 31 19.0 +0.9
baz=93,SNR=10
Z33A Whitaker Ranch 93.12 55 ⇑P P 15 31 18.9 +0.8
baz=93,SNR=39
U30A WK&E Inc. Balk 93.18 51 ⇑P P 15 31 18.6 +0.2
baz=93,SNR=5.1
R28A Tribune 93.19 49 ⇑P P 15 31 19.2 +0.8
baz=94,SNR=15
H22A Clearmont 93.21 42 ⇓P P 15 31 19.5 +1.2
baz=94,SNR=14
C19A Slack Wire Ran 93.22 39 ⇓P P 15 31 19.5 +1.2
baz=94,SNR=71
P27A Ficken Ranch, 93.22 48 ⇓P P 15 31 19.2 +0.6
baz=94,SNR=5.2
X32A Elmer 93.23 54 ⇑P P 15 31 19.1 +0.5
baz=94,SNR=57
K24A Anderson Ranch 93.25 45 ⇑P P 15 31 19.8 +1.1
baz=94
335A Moody 93.28 57 ⇑P P 15 31 19.4 +0.6
baz=94,SNR=12
TRQA Torquist 93.30 134 *e*P P 15 31 20.2 +1.2
comp=Z,57nm,1.4s
TRQA LR LR
comp=Z,1µm,22.0s
BTO Baotou 93.33 313 *e*P P 15 31 12.0 -7.0
134A White-Moore Ra 93.33 56 ⇓P P 15 31 19.8 +0.7
baz=94,SNR=18
S29A Ulysses 93.34 50 ⇑P P 15 31 19.7 +0.6
baz=94,SNR=7.4
F21A Absaloka Mine, 93.36 41 ⇓P P 15 31 20.5 +1.5
baz=94,SNR=6.9
N26A Koester Ranch, 93.39 47 ⇓P P 15 31 20.7 +1.4
baz=94
D20A Manuel Ranch, 93.41 40 ⇑P P 15 31 20.6 +1.4
baz=94
V31A Spring Creek L 93.43 52 ⇓P P 15 31 20.6 +1.1
baz=94,SNR=23
I23A Meade Ranch, G 93.45 43 ⇑P P 15 31 20.3 +0.8
baz=94
Q28A Sharon Springs 93.51 49 ⇑P P 15 31 20.7 +0.8
baz=94,SNR=11
T30A Plains 93.51 51 ⇑P P 15 31 20.1 +0.2
baz=94
L25A Engebretsen Ra 93.53 45 ⇑P P 15 31 21.1 +1.2
baz=94
CD2 Chengdu 93.54 302 P P 15 31 22.0 +1.9
CD2 pP **pP** 15 31 30.1 -2.4
CD2 sP **sP** 15 31 37.0 -0.1
CD2 PP PP 15 35 13.6 +8.2
CD2 SKS **SKSac** 15 41 48.1 -3.5
CD2 S **S** 15 42 24.0 -1.8
CD2 SS SS 15 48 52.3 +8.0
CD2 PMZ
comp=Z,20nm,1.0s
CD2 PMZ
comp=Z,160nm,8.4s
CD2 LN
comp=Z,340nm,20.5s
CD2 LE
comp=Z,470nm,21.7s
CD2 LZ
comp=Z,480nm,21.7s
Y33A Hilltop Ranch, 93.55 54 ⇑P P 15 31 20.6 +0.6
baz=94,SNR=22
436A Wall Ranch, Ga 93.55 58 ⇓P P 15 31 20.7 +0.7
baz=94
G22A Birney 93.56 42 ⇓P P 15 31 20.7 +0.7
baz=94,SNR=17
WHTX Lake Whitney, 93.56 57 *e*P P 15 31 20.3 +0.2
comp=Z,101nm,1.1s
WHTX Lake Whitney, 93.56 57 ⇑P P 15 31 20.6 +0.5
baz=94,SNR=7.4
W32A Sentinel 93.58 53 ⇑P P 15 31 20.7 +0.5
baz=94,SNR=43
O27A Beecher Island 93.59 48 ⇓P P 15 31 21.1 +0.9
baz=94,SNR=18
537A Green Hill Far 93.63 59 ⇓P P 15 31 21.6 +1.1
baz=94
738A Farr-Stevens R 93.64 60 ⇓P P 15 31 21.2 +0.7
baz=94
J24A Dixon Ranch, L 93.64 44 ⇑P P 15 31 21.3 +0.9
baz=94,SNR=17
B19A Brinkman Farms 93.66 38 ⇑P P 15 31 21.5 +1.2
baz=94,SNR=27
U31A Nine Bar Ranch 93.69 52 ⇓P P 15 31 21.6 +0.9
baz=94
R29A Marienthal 93.69 50 ⇑P P 15 31 21.7 +1.0
baz=94,SNR=7.2
M26A McRoberts Ranc 93.74 46 ⇓P P 15 31 22.1 +1.1
baz=94,SNR=5.1
WMOK Wichita Mounta 93.75 54 *e*P P 15 31 20.6 -0.4
WMOK pmax pmax
comp=Z,38nm,1.3s
WMOK MLR MLR
comp=Z,746nm,22.0s
WMOK Wichita Mounta 93.75 54 *e*P P 15 31 20.6 -0.4
comp=Z,38nm,1.3s
WMOK LR LR
comp=Z,746nm,22.0s
E21A Keefer Ranch, 93.75 40 ⇑P P 15 31 22.2 +1.5
baz=94,SNR=32
336A Riesel 93.77 57 ⇑P P 15 31 21.5 +0.4
baz=94,SNR=9.5
P28A Saint Francis 93.79 48 ⇓P P 15 31 22.0 +0.8
baz=94,SNR=9.7
Z34A Collier Ranch, 93.80 55 ⇑P P 15 31 21.8 +0.5
baz=94,SNR=11
K25A Mack Ranch, Ha 93.81 45 ⇑P P 15 31 22.3 +1.1
baz=94
C20A Veseth Ranch, 93.81 39 ⇑P P 15 31 22.6 +1.6
baz=94,SNR=46
S30A Montezuma 93.81 51 ⇓P P 15 31 22.0 +0.8
baz=94
N27A Anderson Farm, 93.83 47 ⇓P P 15 31 22.1 +0.8
baz=94,SNR=9.5
135A Vickery Place, 93.84 56 ⇓P P 15 31 22.2 +0.8
baz=94,SNR=9.9
F22A Rosebud 93.86 41 ⇑P P 15 31 22.5 +1.2
baz=94,SNR=9.0
X33A Lawton 93.87 54 ⇑P P 15 31 21.9 +0.3
baz=94,SNR=6.8
I24A Kuemmerle Ranc 93.92 44 ⇓P P 15 31 22.3 +0.6
baz=94,SNR=8.7
CLNS Chul'man 93.94 332 *e*P P 15 31 21.7 +0.4
CLNS pmax pmax
comp=N,4.0nm,0.9s
CLNS pmax pmax
comp=Z,14nm,0.9s
CLNS pmax pmax
comp=E,4.0nm,0.9s
EDM Edmonton 93.94 33 *e*P P 15 31 21.0 -0.4
EDM *e**PP pP 15 31 42.8 +9.0
EDM Edmonton 93.94 33 *e*P P 15 31 21.0 -0.4
EDM *e*pP pP 15 31 42.8 +9.0
HKT Hockley 93.96 59 *e*P P 15 31 22.8 +0.9
HKT *e**PP pP 15 31 44.1 +10
HKT pmax pmax
comp=E,111nm,1.7s
HKT Hockley 93.96 59 *e*P P 15 31 22.8 +0.9
comp=Z,111nm,1.7s
HKT *e*pP pP 15 31 44.1 +10
V32A Arapaho 93.98 53 ⇓P P 15 31 23.0 +1.0
baz=94,SNR=6.2
NNA Nana 94.00 105 P P 15 31 23.4 +0.8
comp=Z,6.5nm,0.4s,baz=255,slow=11,SNR=4.3
NNA Nana 94.00 105 *e*P P 15 31 24.5 +1.8
NNA pmax pmax
comp=Z,42nm,1.2s
NNA MLR MLR
comp=Z,1µm,21.0s
NNA Nana 94.00 105 *e*P P 15 31 24.5 +1.8
comp=Z,42nm,1.2s
NNA LR LR
comp=Z,1µm,21.0s
Q29A Oakley 94.02 49 ⇓P P 15 31 22.5 +0.4
baz=94
A19A Klindworth Far 94.02 38 ⇑P P 15 31 22.8 +0.8
baz=94
O28A Kreisinger Ran 94.03 48 ⇑P P 15 31 23.1 +0.8
baz=94,SNR=5.2
L26A Underwood Farm 94.05 46 ⇑P P 15 31 23.2 +0.9
baz=94,SNR=5.0
D21A La Casta Ranch 94.07 40 ⇑P P 15 31 23.3 +1.1
baz=94,SNR=12
437A Phantom Ranch, 94.08 58 ⇑P P 15 31 23.1 +0.5
baz=94
G23A Biddle 94.10 42 ⇓P P 15 31 23.2 +0.8
baz=94,SNR=26
W33A Caddo, Fort Co 94.16 54 ⇓P P 15 31 23.9 +1.1
baz=94,SNR=12
B20A Solberg Farm, 94.17 38 ⇓P P 15 31 23.6 +1.0
baz=94,SNR=19
Y34A Reagan Ranch, 94.17 55 ⇑P P 15 31 23.1 +0.2
baz=94,SNR=16
J25A Sunshine Ranch 94.22 44 ⇑P P 15 31 23.8 +0.8
baz=94
R30A Dighton 94.24 50 ⇓P P 15 31 23.9 +0.7
baz=94
OGNE Ogallala 94.24 47 PFAKE 15 31 40.0 +17
OGNE LR LR
comp=Z,763nm,22.0s
OGNE Ogallala 94.24 47 ⇑P P 15 31 23.5 +0.3
baz=94
M27A Reverse DX Ran 94.27 46 ⇓P P 15 31 24.2 +0.9
baz=94,SNR=5.5
236A Katherine and 94.27 57 ⇑P P 15 31 24.1 +0.7
baz=94,SNR=9.6
Z35A Perchaven, San 94.28 56 ⇑P P 15 31 23.9 +0.5
baz=94,SNR=20
K26A Motz Farm, Whi 94.30 45 ⇑P P 15 31 24.5 +1.1
baz=95,SNR=30
U32A Winter Ranch, 94.31 52 ⇑P P 15 31 24.1 +0.6
baz=95,SNR=13
LAO LASA Array 94.33 41 *e*P P 15 31 24.7 +1.3
comp=Z,112nm,1.1s
LAO *e*PP **PP** 15 35 10.0 -1.3
LAO LR LR
comp=Z,437nm,22.0s
538A Harpers Horsep 94.34 59 ⇑P P 15 31 24.4 +0.7
baz=95
F23A Volborg 94.35 42 ⇓P P 15 31 24.6 +1.1
baz=95,SNR=42
E22A Miles City 94.37 41 ⇓P P 15 31 24.9 +1.3
baz=95,SNR=12
P29A Atwood 94.37 49 ⇓P P 15 31 24.5 +0.7
baz=95
C21A Desert Coulee 94.39 39 ⇑P P 15 31 24.9 +1.2
baz=95,SNR=19
X34A Smith Ranch, M 94.39 54 ⇓P P 15 31 24.7 +0.8
baz=95,SNR=52
H24A Dirks Ranch, A 94.40 43 ⇑P P 15 31 24.4 +0.6
baz=95,SNR=82
RSSD Black Hills 94.42 44 *e*P P 15 31 24.3 +0.2
RSSD pmax pmax
comp=Z,124nm,0.9s
RSSD Black Hills 94.42 44 *e*P P 15 31 24.3 +0.2
comp=Z,124nm,0.9s
N28A Pribbeno Ranch 94.45 47 ⇓P P 15 31 24.8 +0.7
baz=95
A20A Cobblestone Ra 94.45 38 ⇑P P 15 31 25.0 +1.1
baz=95,SNR=26
337A Centerville 94.49 58 ⇓P P 15 31 25.2 +0.8
baz=95
S31A Mullinville 94.50 51 ⇑P P 15 31 25.1 +0.7
baz=95,SNR=13
I25A Rochford 94.57 44 ⇓P P 15 31 25.3 +0.6
baz=95
438A Sam Houston St 94.57 59 ⇓P P 15 31 25.6 +0.8
baz=95
V33A Lossen Ranch, 94.58 53 ⇑P P 15 31 25.4 +0.6
baz=95,SNR=11
Q30A Quinter 94.58 49 ⇑P P 15 31 25.6 +0.8
baz=95,SNR=9.5
D22A Cohagen 94.59 40 ⇓P P 15 31 25.8 +1.2
baz=95,SNR=21
ATAH Atahualpa 94.61 100 P P 15 31 28.8 +2.9
comp=Z,35nm,1.1s,baz=208,slow=8.9,SNR=18
J26A Sides Ranch, S 94.65 45 ⇓P P 15 31 26.0 +1.0
baz=95,SNR=21
O29A 4D Ranch, Culb 94.70 48 ⇑P P 15 31 26.1 +0.8
baz=95,SNR=6.8
W34A Bridge Creek, 94.71 54 *e*P P 15 31 26.0 +0.7
comp=Z,161nm,1.4s
W34A Bridge Creek, 94.71 54 ⇓P P 15 31 26.2 +0.9
baz=95,SNR=9.7
T32A Huddler Ranch, 94.71 52 ⇑P P 15 31 25.9 +0.6
baz=95
B21A Ellsworth Farm 94.74 39 ⇓P P 15 31 26.6 +1.4
baz=95
G24A Alzada 94.77 42 ⇓P P 15 31 26.3 +0.8
baz=95,SNR=27
R31A Burdett 94.77 50 ⇑P P 15 31 26.1 +0.5
baz=95
E23A Ismay 94.79 41 ⇑P P 15 31 26.7 +1.2
baz=95,SNR=12
P30A Selden 94.82 49 ⇓P P 15 31 26.6 +0.8
baz=95,SNR=9.4
237A Washetta, Mont 94.83 57 ⇑P P 15 31 26.8 +0.8
baz=95
M28A Bar X Bar Ranc 94.89 47 ⇑P P 15 31 27.3 +1.1
baz=95
K27A Flueckinger Fa 94.91 45 ⇓P P 15 31 27.2 +1.0
baz=95,SNR=14
S32A Newby Ranch, P 94.93 51 ⇑P P 15 31 27.0 +0.7
baz=95,SNR=12
H25A Fruitdale 94.94 43 ⇑P P 15 31 27.3 +1.0
baz=95,SNR=12
X35A Drake 94.95 55 ⇑P P 15 31 27.0 +0.6
baz=95
338A Crockett 94.95 58 ⇑P P 15 31 27.6 +1.1
baz=95
U33A Lingo Farm, Me 94.97 52 ⇑P P 15 31 27.1 +0.5
baz=95,SNR=6.1
F24A Ekalaka 95.00 42 ⇑P P 15 31 27.5 +1.0
baz=95,SNR=20
A21A Bergtoll Ranch 95.08 38 ⇑P P 15 31 27.8 +1.1
baz=95,SNR=13
137A Heron Place, G 95.12 57 ⇓P P 15 31 28.4 +1.1
baz=95
I26A New Underwood 95.13 44 ⇓P P 15 31 28.5 +1.3
baz=95,SNR=7.1
N29A Votaw Ranch, W 95.13 48 ⇑P P 15 31 28.5 +1.3
baz=95
439A Center Grove, 95.14 59 ⇓P P 15 31 28.6 +1.2
baz=95
V34A Guthrie 95.15 53 ⇓P P 15 31 28.2 +0.8
baz=95
T33A Patterson Ranc 95.16 52 ⇑P P 15 31 28.3 +0.9
baz=95,SNR=8.6
Q31A Ellis 95.17 50 ⇑P P 15 31 28.9 +1.4
baz=95
D23A Lindsay 95.18 40 ⇑P P 15 31 29.0 +1.7
baz=96
O30A MW Ranch, Wils 95.23 48 ⇑P P 15 31 28.8 +1.1
baz=96
B22A Reddig Ranch S 95.27 39 ⇑P P 15 31 28.9 +1.2
baz=96
J27A Elkhorn Farm, 95.32 45 ⇑P P 15 31 29.5 +1.5
baz=96,SNR=22
G25A Newell 95.32 43 ⇑P P 15 31 28.9 +0.9
baz=96,SNR=11
W35A Tecumseh 95.34 54 ⇑P P 15 31 29.1 +0.8
baz=96,SNR=32
238A Jacksonville 95.36 58 ⇓P P 15 31 29.4 +1.0
baz=96
M29A Burnside Ranch 95.37 47 ⇓P P 15 31 29.5 +1.2
baz=96
U34A Anderson Ranch 95.40 53 *e*P P 15 31 29.0 +0.6
comp=Z,28nm,0.9s
U34A Anderson Ranch 95.40 53 ⇑P P 15 31 28.8 +0.3
baz=96,SNR=5.7
R32A Long Quarter, 95.40 50 ⇑P P 15 31 29.0 +0.5
baz=96,SNR=5.4
P31A Stockton 95.41 49 ⇑P P 15 31 29.2 +0.7
baz=96
YAK Yakutsk 95.42 338 *e*P P 15 31 27.4 -0.5
YAK *e**PP **pP** 15 31 44.4 +4.1
YAK *e* 15 35 19.0
YAK *e*SP SP 15 44 01.4 +3.0
YAK *e*SS **SS** 15 49 09.9 +0.3
YAK pmax pmax
comp=Z,44nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK pmax pmax
comp=N,7.0nm,1.4s
YAK pmax pmax
comp=Z,51nm,3.7s
YAK pmax pmax
comp=N,68nm,4.4s
YAK pmax pmax
comp=E,41nm,3.8s
YAK Yakutsk 95.42 338 *e*P P 15 31 28.2 +0.3
comp=E,48nm,1.0s
YAK LR LR
comp=Z,365nm,22.0s
E24A Baker 95.42 41 ⇑P P 15 31 29.4 +1.0
baz=96,SNR=6.0
H26A Fairpoint 95.45 44 ⇑P P 15 31 29.5 +0.9
baz=96,SNR=6.8
Z37A Pogue Cattle C 95.47 56 ⇑P P 15 31 29.9 +1.0
baz=96
N30A Hueftle Ranch, 95.48 48 ⇓P P 15 31 29.8 +1.0
baz=96
X36A Centrahoma 95.49 55 ⇓P P 15 31 29.5 +0.6
baz=96,SNR=12
K28A Ten Mile Ranch 95.49 46 ⇑P P 15 31 29.9 +1.1
baz=96
C23A Lambert 95.50 40 ⇑P P 15 31 30.2 +1.4
baz=96,SNR=8.7
JTS JuntasAbangare 95.50 81 P P 15 31 30.7 +1.2
comp=Z,198nm,1.3s,SNR=5.3
JTS JuntasAbangare 95.50 81 *e*P P 15 31 30.9 +1.4
JTS pmax pmax
comp=Z,67nm,1.3s
JTS JuntasAbangare 95.50 81 *e*P P 15 31 30.9 +1.4
comp=Z,67nm,1.3s
339A Huntington 95.53 58 ⇓P P 15 31 29.8 +0.6
baz=96
S33A Kaszmaul Farm, 95.55 51 ⇑P P 15 31 29.6 +0.5
baz=96
V35A Meyer Ranch, C 95.62 54 ⇑P P 15 31 29.9 +0.4
baz=96,SNR=5.7
F25A Bowman 95.64 42 ⇓P P 15 31 30.4 +1.0
baz=96,SNR=19
138A Matatall Enter 95.66 57 ⇓P P 15 31 30.5 +0.7
baz=96
A22A Carney Farms, 95.66 39 ⇑P P 15 31 30.5 +1.1
baz=96
I27A Quinn 95.66 44 ⇑P P 15 31 30.4 +0.9
baz=96,SNR=7.2
LZH Lanzhou 95.66 307 ⇑P P 15 31 31.8 +1.9
LZH pP **pP** 15 31 41.5 -0.8
LZH sP **sP** 15 31 45.6 -1.2
LZH SKS **SKSac** 15 42 00.4 -2.7
LZH S **S** 15 42 43.0 -1.4
LZH sS **sS** 15 43 02.0 -3.2
LZH SS **SS** 15 49 15.5 +0.9
LZH PMZ
comp=Z,40nm,1.0s
LZH PMZ
comp=Z,180nm,5.3s
LZH LN
comp=Z,210nm,17.2s
LZH LE
comp=Z,440nm,18.8s
LZH LZ
comp=Z,420nm,19.6s
D24A Glendive 95.68 41 ⇓P P 15 31 30.9 +1.4
baz=96,SNR=23
O31A Woolen Ranch, 95.72 49 ⇓P P 15 31 30.6 +0.7

baz=96
Q32A Meitler Ranch, 95.75 50 ⇓P **P 15 31 30.8 +0.7**
baz=96,SNR=5.6
L29A Maesberg Ranch 95.78 47 ⇓P **P 15 31 30.9 +0.7**
baz=96
C24A Savage 95.82 40 ⇓P **P 15 31 31.4 +1.2**
baz=96
W36A Wetumka 95.82 54 ⇑P **P 15 31 30.9 +0.5**
baz=96,SNR=23
R33A Olander Ranch, 95.87 51 ⇓P **P 15 31 31.4 +0.7**
baz=96,SNR=12
239A Gary 95.87 58 ⇓P **P 15 31 31.5 +0.8**
baz=96
G26A Maurine 95.88 43 ⇑P **P 15 31 31.4 +0.8**
baz=96,SNR=16
J28A Allard Ranch, 95.89 45 ⇓P **P 15 31 31.8 +1.1**
baz=96,SNR=30
T34A McClaskey Farm 95.90 52 ⇓P **P 15 31 31.4 +0.7**
baz=96,SNR=9.6
H27A Howes 95.90 44 ⇑P **P 15 31 31.5 +0.8**
baz=96,SNR=5.6
B23A Brockton 95.93 39 ⇓P **P 15 31 32.0 +1.4**
baz=96,SNR=11
E25A Miller Ranch, 95.95 42 ⇓P **P 15 31 32.0 +1.2**
baz=96,SNR=5.4
M30A Dale-Ortello V 95.96 47 ⇓P **P 15 31 32.2 +1.2**
baz=96
Z38A Mt. Pleasant 95.98 56 ⇓P **P 15 31 32.0 +0.8**
baz=96
P32A Huiting Farm, 96.00 49 ⇑P **P 15 31 31.7 +0.5**
baz=96
LVC Limon Verde 96.04 118 P **P 15 31 34.5 +2.3**
comp=Z,126nm,0.9s,baz=272,slow=3.5,SNR=21
LVC Limon Verde 96.04 118 *e*P **P 15 31 34.5 +2.3**
comp=Z,40nm,0.9s
LVC *e*PP **PP 15 35 25.3 +0.5**
LVC *e*PKKPdf **PKKPdf 15 48 22.6 +3.0**
LVC LR LR
comp=Z,1μm,22.0s
340A Bronson 96.08 59 ⇓P **P 15 31 32.3 +0.7**
baz=96
F26A Lodgepole 96.09 42 ⇓P **P 15 31 32.4 +0.9**
baz=96,SNR=10
I28A Midland 96.20 45 ⇑P **P 15 31 32.9 +0.9**
baz=96,SNR=6.6
139A Bunkhouse Ranc 96.20 57 ⇓P **P 15 31 32.7 +0.5**
baz=96
K29A Lazy Trails An 96.20 46 ⇓P **P 15 31 33.4 +1.3**
baz=96,SNR=15
X37A Clayton 96.23 55 ⇓P **P 15 31 32.9 +0.6**
baz=96,SNR=8.5
S34A Willow Spring 96.24 52 ⇑P **P 15 31 32.7 +0.4**
baz=96
L30A Spencer Herefo 96.24 47 ⇓P **P 15 31 33.3 +1.0**
baz=96,SNR=5.1
Q33A Connelly Farm, 96.27 50 ⇓P **P 15 31 33.0 +0.6**
baz=96,SNR=6.8
N31A Bailey Ranch, 96.27 48 ⇓P **P 15 31 33.2 +0.8**
baz=96
D25A Fairfield 96.30 41 ⇓P **P 15 31 34.0 +1.6**
baz=97,SNR=8.0
G27A Dupree 96.34 43 ⇑P **P 15 31 33.1 +0.6**
baz=97,SNR=32
T35A Sooner Cattle 96.34 53 ⇑P **P 15 31 33.3 +0.5**
baz=97,SNR=11
TEIG Tepich 96.36 71 PFAKE 15 31 50.0 +17
TEIG LR LR
comp=Z,365nm,19.0s
DGMT Dagmar 96.40 40 *e*P **P 15 31 34.1 +1.3**
comp=Z,54nm,0.9s
DGMT LR LR
comp=Z,490nm,22.0s
DGMT Dagmar 96.40 40 ⇓P **P 15 31 33.9 +1.2**
baz=97
W37A Quinton 96.41 55 ⇑P **P 15 31 33.5 +0.3**
baz=97,SNR=7.8
TUL1 Leonard 96.46 54 *e*P **P 15 31 33.9 +0.6**
comp=Z,43nm,1.3s
TUL1 *e*pP pP 15 31 56.2 +11
TUL1 Leonard 96.46 54 ⇓P **P 15 31 34.0 +0.7**
baz=97,SNR=6.5
M31A Lambtecht Ranc 96.48 48 ⇑P **P 15 31 34.6 +1.3**
baz=97
J29A Okreek 96.48 45 ⇓P **P 15 31 33.9 +0.7**
baz=97,SNR=24
O32A Brockman Farm, 96.50 49 ⇓P **P 15 31 33.8 +0.4**
baz=97
F27A Lemmon 96.51 43 ⇓P **P 15 31 34.2 +0.8**
baz=97,SNR=7.2
E26A Carlson Angus 96.51 42 ⇓P **P 15 31 34.4 +1.0**
baz=97,SNR=9.5
P33A Williams Farm, 96.55 50 ⇑P **P 15 31 34.3 +0.7**
baz=97
H28A Mission Ridge 96.59 44 ⇑P **P 15 31 34.5 +0.7**
baz=97
C25A Freed Ranch, W 96.60 41 ⇑P **P 15 31 35.2 +1.5**
baz=97
K30A Basset 96.63 46 ⇑P **P 15 31 35.3 +1.3**
baz=97,SNR=19
N32A Stulken Farm, 96.70 48 ⇓P **P 15 31 35.5 +1.2**
baz=97
A24A Westby 96.73 39 ⇑P **P 15 31 35.4 +1.2**
baz=97
I29A Vivian Onida 96.77 45 ⇑P **P 15 31 35.3 +0.8**
baz=97
D26A Manning 96.78 42 ⇓P **P 15 31 35.7 +1.2**
baz=97,SNR=10.0
S35A Otter Creek Ra 96.80 52 ⇓P **P 15 31 35.5 +0.7**
baz=97
G28A Parade 96.84 44 ⇑P **P 15 31 36.1 +1.2**
baz=97
INK Inuvik 96.86 15 P **P 15 31 34.4 +0.1**
comp=Z,7.1nm,0.9s,baz=224,slow=5.3,SNR=27
INK Inuvik 96.86 15 P **P 15 31 34.4 +0.1**
INK pmax pmax
comp=Z,7.0nm,0.9s
INK Inuvik 96.86 15 *e*P **P 15 31 34.3 0.0**
comp=Z,10.0nm,0.9s
T36A Boggs Farm, Ca 96.86 53 ⇓P **P 15 31 35.7 +0.6**
baz=97
L31A Butterfield Fa 96.93 47 ⇑P **P 15 31 36.6 +1.3**
baz=97
J30A Dallas 96.99 46 ⇑P **P 15 31 36.6 +1.0**
baz=97,SNR=15
E27A Carson 97.04 42 ⇓P Pdif 15 31 36.8 +0.9
baz=97,SNR=6.6
W38A Poteau 97.07 55 ⇑P Pdif 15 31 37.0 +0.8
baz=97
BGNE Belgrade 97.07 48 *e*P Pdif 15 31 38.1 +2.0
comp=Z,60nm,0.9s
BGNE Belgrade 97.07 48 ⇑P Pdif 15 31 37.2 +1.2
baz=97
H29A Onida 97.09 44 ⇓P Pdif 15 31 36.8 +0.7
baz=97,SNR=12
KSU1 Kansas State U 97.18 51 *e*P Pdif 15 31 37.3 +0.7
comp=Z,28nm,1.3s
KSU1 LR LR
comp=Z,833nm,22.0s
KSU1 Kansas State U 97.18 51 ⇓P Pdif 15 31 37.3 +0.7
baz=97
F28A McLaughlin 97.26 43 ⇑P Pdif 15 31 37.3 +0.5
baz=98
I30A Oacoma 97.29 45 ⇓P Pdif 15 31 37.3 +0.3
baz=98
S36A Lake Cedric, C 97.34 52 ⇓P Pdif 15 31 37.9 +0.6
baz=98
C26A Wahner Farm, P 97.35 41 ⇓P Pdif 15 31 38.1 +1.0
baz=98
D27A Center 97.37 42 ⇑P Pdif 15 31 38.3 +1.0
baz=98
OTAV Otavalo 97.54 93 PFAKE 15 31 50.0 +11
OTAV LR LR
comp=Z,822nm,20.0s
MIAR Mount Ida 97.57 56 *e*P **P 15 31 38.6 +0.2**
MIAR pmax pmax
comp=Z,23nm,1.4s
MIAR MLR MLR
comp=Z,648nm,21.0s
MIAR Mount Ida 97.57 56 *e*P **P 15 31 38.6 +0.2**
comp=Z,23nm,1.4s
MIAR LR LR
comp=Z,648nm,21.0s
E28A Huff 97.64 42 ⇓P Pdif 15 31 39.7 +1.2
baz=98
R36A Gordon, Harris 97.65 52 ⇑P Pdif 15 31 39.5 +0.8
baz=98
C27A Sayler Ranch, 97.65 41 ⇑P Pdif 15 31 40.1 +1.6
baz=98

BRSD Miller 97.82 45 *e*P Pdif 15 31 39.9 +0.6
comp=Z,95nm,1.5s
BRSD Miller 97.82 45 ⇓P Pdif 15 31 40.3 +0.9
baz=98
F29A Eureka 97.86 43 ⇓P Pdif 15 31 40.5 +1.0
baz=98
R37A Teagarden Farm 98.13 52 ⇑P Pdif 15 31 41.4 +0.5
baz=98
E29A Napoleon 98.29 43 ⇓P Pdif 15 31 42.2 +0.8
baz=99
ULN Ulaanbaatar 98.52 319 *e*P Pdif 15 31 42.8 +0.2
ULN pmax pmax
comp=Z,5.0nm,0.9s
ULN MLR MLR
comp=Z,191nm,20.0s
ULN Ulaanbaatar 98.52 319 *e*P Pdif 15 31 42.8 +0.2
comp=Z,5.0nm,0.9s
ULN LR LR
comp=Z,191nm,20.0s
B28A Dugan Ranch, T 98.67 41 ⇓P Pdif 15 31 43.5 +0.6
baz=99
YKA Yellowknife Ar 98.71 24 P **P 15 31 42.8 0.0**
comp=Z,9.2nm,0.9s,baz=237,slow=4.2,SNR=110
YKA PP PP 15 35 39.3 -5.2
comp=Z,2.9nm,1.0s,baz=235,slow=7.7,SNR=4.7
YKA PKKPbc **PKKPbc 15 48 11.6 -1.7**
comp=Z,0.4nm,0.7s,baz=39,slow=2.4,SNR=5.3
YKB5 Yellowknife Ar 98.71 24 *e*P **P 15 31 42.4 -0.4**
SONM Songino Array 98.91 318 P Pdif 15 31 44.8 +0.6
comp=Z,2.1nm,0.8s,baz=156,slow=15,SNR=3.7
SONM LR LR 16 16 06.2
comp=Z,78nm,19.1s,baz=100,slow=35
A28A Rude Farm, Bot 98.92 40 ⇓P Pdif 15 31 45.3 +1.2
baz=99
ECSD EROS Data Cent 99.06 46 *e*P **Pdif 15 31 44.5 -0.3**
comp=Z,65nm,1.3s
ECSD LR LR
comp=Z,551nm,22.0s
ECSD EROS Data Cent 99.06 46 ⇓P **Pdif 15 31 45.9 +1.1**
baz=99
D30A Buchanan 99.07 43 ⇑P **Pdif 15 31 45.0 +0.2**
baz=99
C30A Mose, Pekin 99.49 42 ⇓P **Pdif 15 31 47.7 +1.0**
baz=100
LPAZ La Paz 99.67 112 P **Pdif 15 31 49.4 +0.3**
comp=Z,11nm,0.8s,baz=214,slow=3.2,SNR=27
LPAZ LR LR 16 09 31.7
comp=Z,325nm,18.9s,baz=248,slow=31
LPAZ La Paz 99.67 112 *e*P **Pdif 15 31 51.0 +2.0**
LPAZ pmax pmax
comp=Z,20nm,1.0s
LPAZ La Paz 99.67 112 *e*Pdif **Pdif 15 31 51.0 +2.0**
comp=Z,20nm,1.0s
LPAZ *e*PKKPbc **PKKPbc 15 48 11.2 +1.6**
BCIP Isla Barro Col 99.73 84 PFAKE 15 32 00.0 +12
BCIP LR LR
comp=Z,651nm,22.0s
GTA Gaotai 99.92 309 *e*P **Pdif 15 31 49.9 +1.0**
GTA pP **pP 15 31 59.8 -1.6**
GTA sP **sP 15 32 03.6 -2.3**
GTA PP **PP 15 35 57.9 +3.4**
GTA S **Sdif 15 43 18.5 -1.9**
GTA SS **SS 15 50 15.1 +0.8**
GTA PMZ
comp=Z,7.0nm,1.2s
GTA PMZ
comp=Z,66nm,6.9s
GTA LN
comp=Z,170nm,22.3s
GTA LE
comp=Z,190nm,25.9s
GTA LZ
comp=Z,690nm,32.5s
A30A Hoffart Farm, 100.11 41 ⇑P **Pdif 15 31 50.3 +0.9**
baz=100
FFC Flin Flon 100.49 35 PFAKE 15 32 00.0 +9.1
FFC LR LR
comp=Z,624nm,22.0s
SCIA State Center 100.66 49 PFAKE 15 32 00.0 +8.0
SCIA LR LR
comp=Z,420nm,20.0s
AGMN Agassiz Nation 101.34 42 *e*Pdif **Pdif 15 31 54.6 -0.3**
AGMN LR LR
comp=Z,274nm,19.0s
AGMN Agassiz Nation 101.34 42 ⇓P **Pdif 15 31 55.3 +0.4**
baz=102
BRAL Brewton 101.35 61 PFAKE 15 32 10.0 +15
BRAL LR LR
comp=Z,389nm,19.0s
ZAK Zakamensk 101.81 320 *e*P **Pdif 15 31 56.3 -0.7**
ZAK *e* 15 36 14.8
ZAK pmax pmax
comp=Z,2.0nm,1.8s
ULM Lac du Bonnet 102.08 40 P **Pdif 15 31 57.5 -0.6**
comp=Z,5.8nm,0.9s,baz=278,slow=4.9,SNR=9.7
ULM Lac du Bonnet 102.08 40 P **Pdif 15 31 57.5 -0.6**
ULM pmax pmax
comp=Z,6.0nm,0.9s
ULM Lac du Bonnet 102.08 40 *e*Pdif **Pdif 15 31 59.2 +1.1**
TLY Talaya 102.10 321 *e*P **Pdif 15 31 59.8 +1.6**
TLY *e*S SKKSac 15 43 22.5 +10
TLY pmax pmax
comp=Z,4.0nm,0.9s
TLY MLR MLR
comp=Z,312nm,20.0s
TLY Talaya 102.10 321 PFAKE 15 32 10.0 +12
TLY LR LR
comp=Z,417nm,22.0s
SPMN Marine on St. 102.15 46 *e*Pdif **Pdif 15 31 59.3 +0.7**
HDIL Hopedale 102.94 51 PFAKE 15 32 10.0 +7.8
HDIL LR LR
comp=Z,668nm,22.0s
JFWS Jewell Farm 103.07 49 PFAKE 15 32 10.0 +7.3
JFWS LR LR
comp=Z,546nm,22.0s
LSA Lhasa 103.16 297 PFAKE 15 32 20.0 +16
LSA LR LR
comp=Z,314nm,22.0s
EYMN Ely 103.95 44 *e*Pdif **Pdif 15 32 07.5 +1.0**
EYMN LR LR
comp=Z,507nm,22.0s
WCI Wyandotte Cave 104.37 54 *e*PKiKP **PKiKP 15 36 26.2 +1.3**
WCI *e*PKKPab **PKKPab 15 48 16.0 +3.3**
SFIN Lafayette 104.47 52 *e*PKiKP **PKiKP 15 36 26.9 +1.9**
COWI Conover 104.87 46 *e*PKiKP **PKiKP 15 36 28.3 +2.7**
COWI LR LR
comp=Z,534nm,22.0s
MTDJ Mount Denham 105.09 76 PFAKE 15 36 40.0
MTDJ LR LR
comp=Z,382nm,20.0s
TZTN Tazewell 105.92 57 *e*PP PP 15 36 38.7 -0.8
TZTN *e*PKKPab **PKKPab 15 48 10.4 +4.5**
DGAR Diego Garcia 105.96 254 PFAKE 15 36 40.0
DGAR LR LR
comp=Z,1μm,22.0s
SAML Samuel 107.36 108 *e*PKKPbc PKKPbc 15 47 48.9 +3.0
SAML LR LR
comp=Z,655nm,22.0s
ACSO Alum Creek Sta 107.42 53 *e*PKKPdf PKKPdf 15 48 02.6 +2.4
ACSO LR LR
comp=Z,404nm,21.0s
AAM Ann Arbor 107.51 51 PFAKE 15 36 40.0
AAM LR LR
comp=Z,718nm,22.0s
GLMI Grayling 107.53 48 PFAKE 15 36 40.0
GLMI LR LR
comp=Z,762nm,22.0s
NHSC New Hope 107.55 61 PFAKE 15 36 40.0
NHSC LR LR
comp=Z,340nm,22.0s
GTBY Guantanamo Bay 107.82 76 PFAKE 15 36 40.0
GTBY LR LR
comp=Z,382nm,20.0s
WMQ Urumqi 109.91 310 Pdif **Pdif 15 32 33.8 +0.6**
WMQ PP **PP 15 37 12.3 +3.8**
WMQ S **Sdif 15 44 39.5 -3.9**
WMQ SS **SS 15 52 31.1 +0.4**
WMQ PPMZ
comp=Z,44nm,11.4s
WMQ LN
comp=Z,320nm,23.0s
WMQ LE
comp=Z,630nm,23.8s
WMQ LZ
comp=Z,750nm,23.8s
CNNC Cliffs of the 109.97 59 PFAKE 15 36 50.0

CNNC LR LR
comp=Z,446nm,21.0s
RES Resolute Bay 110.34 16 *e*PKiKP **PKiKP 15 36 34.5 -0.5**
SDDR Presa de Saban 110.93 78 PFAKE 15 36 50.0
SDDR LR LR
comp=Z,627nm,21.0s
CBN Corbin Frederi 111.11 56 PFAKE 15 36 50.0
CBN LR LR
comp=Z,415nm,22.0s
SSPA Standing Stone 111.29 54 *e*PP PP 15 37 22.8 +4.4
BINY Binghamton 113.02 53 PFAKE 15 36 50.0
BINY LR LR
comp=Z,703nm,21.0s
ZAA0 Zalesovo Array 113.68 320 *e*PKiKP **PKiKP 15 36 41.1 -0.8**
ZALV Zalesovo Beam 113.68 320 PKiKP **PKiKP 15 36 40.8 -1.1**
comp=Z,2.8nm,0.7s,baz=131,slow=1.0,SNR=12
ZALV PKKPbc **PKKPbc 15 47 26.0 -0.5**
comp=Z,1.5nm,0.7s,baz=289,slow=4.5,SNR=4.9
PTGA Pitinga 113.94 102 PKiKP **PKiKP 15 36 43.2 -0.4**
comp=Z,0.8nm,0.3s,baz=333,slow=6.8,SNR=4.4
PTGA Pitinga 113.94 102 PKiKP **PKiKP 15 36 43.2 -0.4**
PTGA LR LR
comp=Z,3μm,19.0s
MK01 Makanchi Array 114.22 312 *e*PKiKP PKPdf 15 36 42.4 -0.8
MK01 *e*PKKPbc **PKKPbc 15 47 20.9 -3.7**
MK31 Makanchi Array 114.24 312 *e*PKiKP PKPdf 15 36 42.5 -0.7
MK31 Makanchi Array 114.24 312 *e*PKPdf PKPdf 15 36 42.5 -0.7
MKAR Makanchi Array 114.24 312 PKP PKPdf 15 36 41.9 -1.4
comp=Z,5.3nm,0.9s,baz=263,slow=3.7,SNR=20
MKAR Makanchi Array 114.24 312 *e*PKiKP PKPdf 15 36 43.1 -0.1
MKAR *e* 15 47 24.5
MKAR Makanchi Array 114.24 312 *e*PKiKP PKPdf 15 36 43.1 -0.2
MKAR *e*PKKPbc **PKKPbc 15 47 24.5 0.0**
LONY Lake Ozonia 114.46 50 PFAKE 15 37 00.0 +16
LONY LR LR
comp=Z,409nm,19.0s
NCB Newcomb 114.61 51 PFAKE 15 37 00.0 +16
NCB LR LR
comp=Z,732nm,20.0s
NVS Novosibirsk 114.71 321 *i* PKiKP PKPdf 15 36 42.5 -1.3
NVS *i* 15 43 22.8
NVS pmax pmax
comp=Z,12nm,1.3s
NVS pmax pmax
comp=N,1.0nm,0.6s
NVS pmax pmax
comp=E,4.0nm,0.8s
NVS pmax pmax
comp=Z,11nm,1.4s
NVS pmax pmax
comp=E,4.0nm,1.2s
NVS pmax pmax
comp=N,7.0nm,1.2s
NVS pmax pmax
comp=E,66nm,2.0s
SJG San Juan 115.29 80 PFAKE 15 37 00.0 +14
SJG LR LR
comp=Z,321nm,19.0s
DHRM DHARAMSHALA 116.11 296 *e*P **PKPdf 15 36 47.5 0.0**
BDFB Brasilia 116.40 123 PKP **PKPdf 15 36 47.3 -1.1**
comp=Z,3.3nm,0.8s,baz=171,slow=5.4,SNR=4.1
BDFB PKKPab **PKKPbc 15 47 19.4 +2.9**
comp=Z,3.1nm,0.8s,baz=30,slow=9.2,SNR=4.1
KURK Kurchatov 117.12 316 *e*PKiKP **PKPdf 15 36 47.7 -0.9**
KURK MLR MLR
comp=Z,449nm,20.0s
KURK Kurchatov 117.12 316 *e*PKPdf **PKPdf 15 36 47.6 -0.9**
KURK *e*PKKPbc **PKKPbc 15 47 14.7 +0.2**
KURK LR LR
comp=Z,449nm,20.0s
KURBB Kurchatov Arra 117.17 316 PKKPbc PKKPbc 15 47 14.5 +0.2
comp=Z,4.1nm,0.9s,baz=274,slow=4.7,SNR=24
GRGR Grenville 117.45 88 PFAKE 15 37 00.0 +10
GRGR LR LR
comp=Z,404nm,21.0s
KSH Kashi 117.69 304 PKP **PKPdf 15 36 52.0 +1.7**
KSH PKS **PKSdf 15 40 27.3 +0.3**
KSH SKS **SKSdf 15 43 59.3 0.0**
KSH SKKS **SKKSac 15 45 03.6 +2.5**
KSH PPMZ
comp=Z,41nm,3.7s
KSH LN
comp=Z,130nm,5.5s
KSH LE
comp=Z,110nm,6.4s
KSH LZ
comp=Z,390nm,22.8s
PKME Peaks-Kenny Pk 118.27 50 PFAKE 15 37 00.0 +9.0
PKME LR LR
comp=Z,499nm,21.0s
TKM2 Tokmak 2 118.43 307 *e*PKiKP **PKPdf 15 36 51.7 0.0**
TKM2 MLR MLR
comp=Z,313nm,21.0s
TKM2 Tokmak 2 118.43 307 *e*PKPdf **PKPdf 15 36 51.7 0.0**
TKM2 *e*PKKPbc **PKKPbc 15 47 10.0 +0.2**
TKM2 LR LR
comp=Z,313nm,21.0s
FDF Fort de France 118.78 86 PFAKE 15 37 00.0 +7.1
FDF LR LR
comp=Z,411nm,22.0s
AAK Ala-Archa 119.20 307 *c i* PKiKP **PKPdf 15 36 54.2 +1.0**
AAK pmax pmax
comp=Z,44nm,1.0s
AAK Ala-Archa 119.20 307 ⇑P **PKPdf 15 36 55.3 +2.1**
SNR=6.0
AAK Ala-Archa 119.20 307 *e*PKPdf **PKPdf 15 36 54.1 +1.0**
AAK *e*PKPdf **PKiKP 15 36 55.5 +2.3**
AAK *e*PKKPbc **PKKPbc 15 47 07.1 +0.1**
AAK LR LR
comp=Z,259nm,21.0s
EKS2 Erkin-Say 119.73 307 *e*PKiKP **PKPdf 15 36 56.1 +2.0**
EKS2 MLR MLR
comp=Z,373nm,22.0s
EKS2 Erkin-Say 119.73 307 *e*PKPdf **PKPdf 15 36 56.1 +2.0**
EKS2 LR LR
comp=Z,373nm,22.0s
ABPO Ambohimpanom 119.88 229 PFAKE 15 37 10.0 +15
ABPO LR LR
comp=Z,552nm,22.0s
BBSR BB Station 120.06 65 PFAKE 15 37 10.0 +15
BBSR LR LR
comp=Z,340nm,20.0s
KULLO Kullorsuaq 120.20 16 *i* P **PKPdf 15 36 53.1 -0.8**
comp=Z,17nm,0.6s
SCHQ Schefferville 120.21 39 PKP **PKPdf 15 36 53.2 -1.3**
comp=Z,8.7nm,1.0s,baz=249,slow=4.6,SNR=4.7
MSEY Mahe Island 122.04 248 PFAKE 15 37 10.0 +11
MSEY LR LR
comp=Z,699nm,20.0s
KKAR Karatay Array 122.16 307 *e*PKiKP **PKPdf 15 36 59.1 +0.5**
KKAR Karatay Array 122.16 307 *e*PKPdf **PKPdf 15 36 59.1 +0.5**
BVAR Borovoye Array 122.25 319 PKKPbc PKKPbc 15 46 54.6 -1.0
comp=Z,0.8nm,0.8s,baz=270,slow=5.9,SNR=3.6
BVAR SKKPbc SKKPbc 15 50 40.1 -3.2
comp=Z,0.9nm,0.8s,baz=230,slow=3.7,SNR=4.4
BRVK Borovoye 122.31 319 *c i* PKiKP **PKPdf 15 36 58.2 -0.3**
BRVK pmax pmax
comp=Z,22nm,1.2s
BRVK Borovoye 122.31 319 ⇑P **PKPdf 15 36 59.1 +0.6**
SNR=9.5
BRVK Borovoye 122.31 319 *e*PKPdf **PKPdf 15 36 58.7 +0.2**
BRVK LR LR
comp=Z,230nm,19.0s
KBL Kabul 122.48 297 *e*PKiKP **PKPdf 15 37 00.8 +1.0**
KBL Kabul 122.48 297 *e*PKPdf **PKPdf 15 37 00.8 +1.0**
ILULI Ilulissat 124.13 21 ⇑ *i*P **PKPdf 15 37 00.8 -0.7**
comp=Z,53nm,0.9s
KBS Kingsbay 124.42 358 *e*P **PKPdf 15 37 02.6 +0.8**
KBS *e*SS SS 15 55 32.1 -5.1
KBS Kingsbay 124.42 358 *e*PKiKP **PKPdf 15 37 02.7 +0.8**
KBS MLR MLR
comp=Z,313nm,21.0s
KBS Kingsbay 124.42 358 *e*PKPdf **PKPdf 15 37 02.7 +0.8**
KBS LR LR
comp=Z,313nm,21.0s
SPA0 Spitsbergen Ar 124.97 357 *e*P **PKPdf 15 37 02.5 -0.5**
SPITS Spitsbergen Ar 124.97 357 PKP **PKPdf 15 37 03.2 +0.2**
comp=Z,60nm,0.9s,baz=130,slow=9.9,SNR=26
SFJD Kangerlussuaq 125.24 23 ⇑ *i*P **PKPdf 15 37 02.8 -0.9**
comp=Z,18nm,0.9s
SFJD Kangerlussuaq 125.24 23 ⇑ *i*PKiKP **PKPdf 15 37 02.8 -0.9**
SFJD pmax pmax
comp=Z,18nm,0.9s
SFJD Kangerlussuaq 125.24 23 *e*PKPdf **PKPdf 15 37 03.2 -0.5**
SFJD LR LR

comp=Z,655nm,22.0s
SUMG Summit 125.77 14 ⇓ *i*P **PKPdf 15 37 05.7 +0.5**
comp=Z,45nm,1.1s
SUMG Summit 125.77 14 *e*PKIKP **PKPdf 15 37 04.5 -0.7**
SUMG Summit 125.77 14 *e*PKPdf **PKPdf 15 37 04.5 -0.7**
SUMG *ep*PKPdf pPKPdf 15 37 26.1 +8.2
HSPB Hornsund (broa 126.16 357 *e*P **PKPdf 15 37 06.2 +0.9**
SVE Sverdlovsk 127.24 325 ⇑ *i*PKIKP **PKPdf 15 37 08.4 +0.6**
SVE *e* 15 39 18.5
SVE pmax pmax
comp=Z,40nm,1.4s
SOKR Solikamsk 128.36 329 *d i*PKIKP **PKPdf 15 37 10.3 +0.5**
SOKR pmax pmax
comp=Z,70nm,1.4s
ARU Arti 128.45 324 *i* PKIKP **PKPdf 15 37 10.4 +0.2**
ARU 15 39 16.7
ARU 15 44 14.5
ARU SS SS 15 56 22.4 -6.3
ARU Arti 128.45 324 *e*PKPdf **PKPdf 15 37 10.5 +0.4**
ARU LR LR
comp=Z,403nm,22.0s
ABKAR Akbulak array 129.19 315 *e*PKPdf **PKPdf 15 37 10.0 -1.8**
GEYT Alibeck 131.50 301 PKHKP PKPpre 15 37 07.0
comp=Z,1.5nm,0.2s,baz=343,slow=2.0,SNR=5.9
GEYT PKP **PKiKP 15 37 17.8 +0.2**
comp=Z,7.7nm,0.7s,baz=239,slow=0.9,SNR=10.0
GEYT PP **PP 15 39 34.9 -1.5**
comp=Z,3.5nm,0.4s,baz=46,slow=4.3,SNR=5.8
GEYT SKPbc **SKPbc 15 40 37.3 -1.5**
comp=Z,68nm,1.1s,baz=318,slow=2.0,SNR=29
LVZ Lovozero 131.66 345 ⇑ *i*PKIKP **PKPdf 15 37 16.3 +0.3**
LVZ pmax pmax
comp=Z,25nm,1.2s
LVZ Lovozero 131.66 345 *e*PKPdf **PKPdf 15 37 16.0 0.0**
LVZ *e*SKPbc **SKPbc 15 40 35.3 -3.1**
LVZ LR LR
comp=Z,386nm,21.0s
KEV Kevo 131.69 349 *e*PKIKP **PKPdf 15 37 16.4 +0.4**
KEV MLR MLR
comp=Z,469nm,21.0s
KEV Kevo 131.69 349 *e*PKPdf **PKPdf 15 37 16.4 +0.4**
KEV LR LR
comp=Z,469nm,21.0s
RCBR Riachuelo 131.77 122 PFAKE 15 37 30.0 +12
RCBR LR LR
comp=Z,511nm,19.0s
ARA0 ARCESS Array S 132.14 350 *e*PKPdf **PKPdf 15 37 17.1 +0.3**
ARA0 *e*SKPbc **SKPbc 15 40 38.4 -1.7**
ARCES ARCESS Array B 132.14 350 PKP **PKPdf 15 37 16.7 -0.1**
comp=Z,29nm,0.8s,baz=42,slow=2.0,SNR=25
ARCES SKPbc **SKPbc 15 40 38.8 -1.3**
comp=Z,43nm,1.1s,baz=7.4,slow=2.8,SNR=20
ARE0 ARCESS Array S 132.14 350 *e*P **PKPdf 15 37 17.3 +0.5**
ARE0 *e*SS SS 15 57 11.1 -1.8
ARE0 ARCESS Array S 132.14 350 *e*PKPdf **PKPdf 15 37 17.4 +0.6**
HATD Hatta, Dubai 132.16 283 ⇑ *i*P **SKPbc 15 40 40.3 -1.3**
SNR=11
BANOM Banah 132.19 284 ⇓ *i*P **SKPbc 15 40 40.9 -0.8**
SNR=23
ASHO Ashiyiah 132.20 283 ⇓ *i*P **SKPbc 15 40 40.7 -1.0**
SNR=15
APA Apatity 132.21 345 ⇑ *i*PKIKP **PKPdf 15 37 17.8 +0.8**
APA *i* 15 39 43.0
APA MLR MLR
comp=Z,400nm,22.0s
PRGR Permogore 132.35 334 *e*PKIKP **PKPdf 15 37 17.5 +0.1**
PRGR pmax pmax
comp=Z,20nm,1.0s
NAZ Nazwa, Dubai 132.61 283 ⇑ *i*P **SKPbc 15 40 42.0 -1.0**
SNR=9.8
FAQ Al Faqa, Dubai 132.63 283 ⇑ *i*P **SKPbc 15 40 42.1 -1.1**
SNR=8.9
ASUD Al Ashush, Dub 132.85 282 *i* P **SKPbc 15 40 44.8 +1.0**
SNR=6.5
TRO Tromso 132.98 353 *e*P **PKPdf 15 37 17.5 -0.9**
TRO *e*SS SS 15 57 20.3 -2.6
LSZ Lusaka 134.45 214 *e*PKIKP **PKPdf 15 37 24.3 +1.3**
LSZ MLR MLR
comp=Z,682nm,19.0s
LSZ Lusaka 134.45 214 *e*PKPdf **PKPdf 15 37 24.3 +1.3**
LSZ LR LR
comp=Z,682nm,19.0s
KLMR Klimovskoe 135.19 336 *e*PKIKP **PKPdf 15 37 23.9 +1.2**
KLMR pmax pmax
comp=Z,30nm,1.0s
MAK Makhachkala 138.92 309 *i* PKIKP **PKPdf 15 37 32.2 +2.0**
MAK *e* 15 40 21.3
MAK *e* 15 44 32.1
MAK *e*SS SS 15 58 28.0 -8.1
MAK pmax pmax
comp=Z,31nm,0.8s
KMBO Kilima Mbogo 138.99 238 PKP **PKPdf 15 37 33.2 +1.6**
comp=Z,1.2nm,0.3s,baz=359,slow=7.1,SNR=3.3
KMBO SKPbc **SKPbc 15 41 01.9 -1.6**
comp=Z,5.4nm,0.7s,baz=356,slow=2.5,SNR=5.2
KMBO Kilima Mbogo 138.99 238 PKIKP **PKPdf 15 37 33.2 +1.6**
KMBO MLR MLR
comp=Z,455nm,19.0s
KMBO Kilima Mbogo 138.99 238 PKP **PKPdf 15 37 33.2 +1.6**
KMBO *e*SKPbc **SKPbc 15 41 03.0 -0.6**
KMBO LR LR
comp=Z,455nm,19.0s
FIA1 FINESS Array S 139.05 344 *e*PKPdf **PKPdf 15 37 30.3 +0.4**
FINES FINESS Array B 139.06 344 PKhKP PKPpre 15 37 20.6
comp=Z,2.4nm,0.6s,baz=29,slow=4.4,SNR=17
FINES PKP **PKPdf 15 37 29.5 -0.4**
comp=Z,14nm,0.8s,baz=90,slow=5.6,SNR=18
FINES SKPbc **SKPbc 15 40 59.7 -2.1**
comp=Z,13nm,1.0s,baz=76,slow=8.0,SNR=9.8
FINES FINESS Array B 139.06 344 *i* PKHKP PKPpre 15 37 20.6
FINES 15 37 29.5
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES pmax pmax
comp=Z,14nm,0.8s
FINES pmax pmax
comp=N,13nm,1.0s
MOS Moscow 139.19 331 *e*PKIKP **PKPdf 15 37 30.7 +0.4**
MOS pmax pmax
comp=Z,53nm,1.1s
OBN Obninsk 140.05 331 ⇓ *e*PKHKP PKPpre 15 37 26.8
OBN *i* 15 37 32.6
OBN *e* 15 40 39.3
OBN *i*S SS 15 58 45.4 -2.6
OBN pmax pmax
comp=Z,14nm,1.0s
OBN pmax pmax
comp=Z,34nm,1.2s
OBN MLR MLR
comp=Z,266nm,19.0s
OBN Obninsk 140.05 331 PFAKE 15 37 40.0 +8.1
OBN LR LR
comp=Z,280nm,20.0s
DAMY Dhamar 140.39 265 *e*PKPdf **PKPdf 15 37 32.2 -1.8**
LPSR Galich'ya Gora 140.40 326 *e*PKIKP PKPpre 15 37 28.4
LPSR pmax pmax
comp=N,10.0nm,1.4s
LPSR pmax pmax
comp=E,10.0nm,1.4s
LPSR pmax pmax
comp=Z,20nm,1.4s
VSR Storozhevoye 141.02 324 *e*PKHKP PKPpre 15 37 28.9
VSR pmax pmax
comp=Z,9.0nm,0.6s
VSR pmax pmax
comp=N,8.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.0s
VORD Divnogorie 141.08 324 *e*PKHKP PKPpre 15 37 27.7
VORD pmax pmax
comp=Z,8.0nm,0.4s
VORD pmax pmax
comp=N,40nm,1.3s
VORD pmax pmax
comp=E,30nm,0.6s
AKN Aaknes 141.31 357 *e*P PKPpre 15 37 28.7
VSU Vasula 141.35 341 ⇓ *i*PKIKP **PKPdf 15 37 35.5 +1.4**
ZEI Tsey 141.52 310 *i* PKHKP PKPpre 15 37 29.2
ZEI pmax pmax
comp=Z,16nm,1.1s
GNI Garni 141.59 305 *c i*PKIKP **PKPdf 15 37 32.7 -2.7**
GNI Garni 141.59 305 *e*PKPdf **PKPdf 15 37 33.0 -2.4**
GNI LR LR
comp=Z,241nm,20.0s
KBZ Khabaz 141.93 312 PKhKP PKPpre 15 37 31.8
comp=Z,6.9nm,1.0s,baz=236,slow=24,SNR=14
KBZ Khabaz 141.93 312 *i* PKHKP PKPpre 15 37 31.8
KBZ pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 142.00 312 *ce*PKHKP PKPpre 15 37 32.0
KIV *e* 15 40 46.4
KIV *i*SS SS 15 59 15.4 +3.2
KIV pmax pmax
comp=Z,18nm,1.2s
KIV pmax pmax
comp=Z,32nm,1.3s
KIV MLR MLR
comp=Z,441nm,21.0s
KIV Kislovodsk 142.00 312 ⇓ P **PKPdf 15 37 32.6 -3.3**
SNR=9.5
NB2 NORSAR Subarra 142.14 354 PKP PKPpre 15 37 30.9
comp=Z,17nm,0.8s,baz=13,slow=3.4
NB2 NORSAR Subarra 142.14 354 PKP PKPpre 15 37 30.9
baz=13,slow=3.4
NOA NORSAR Array B 142.14 354 PKhKP PKPpre 15 37 31.3
comp=Z,13nm,0.7s,baz=7.9,slow=2.3,SNR=72
NOA PKP **PKPdf 15 37 36.6 +1.0**
comp=Z,5.5nm,0.8s,baz=14,slow=4.1,SNR=18
NOA SKPbc **SKPbc 15 41 08.4 -1.6**
comp=Z,3.5nm,0.9s,baz=14,slow=4.3,SNR=3.6
NEY Neytrino 142.20 311 *i* PKIKP **PKPdf 15 37 35.9 -0.5**
EAK Akyaka 142.30 307 *i* P **PKPdf 15 37 41.8 +5.1**
NA001 NORSAR Array S 142.37 354 *e*PKPdf **PKPdf 15 37 36.0 +0.1**
NC002 NORSAR Array S 142.41 353 *e*P PKPpre 15 37 30.6
SUE Sulen 142.50 359 *e*P PKPpre 15 37 32.1
HAKT HAKKARI 142.90 302 *i* P **PKPdf 15 37 35.7 -2.2**
CUKT Cukurca 143.03 301 *e*P PKPbc 15 37 34.6 -0.3
ASK Askoy 143.07 359 *e*P PKPbc 15 37 34.5 +0.5
RUND Rundenannen 143.13 358 *e*P PKPab 15 37 33.5 +0.6
BER Bergen 143.16 358 *e*P PKPbc 15 37 34.5 +0.2
OSL Oslo 143.28 354 *e*P PKPbc 15 37 34.7 +0.1
EATA Eleskirt 143.33 306 *i* P **PKPdf 15 37 37.6 -1.1**
DAGI Agillar 143.43 308 *i* P PKPbc 15 37 36.7 +0.8
ODD1 Odda 143.59 357 *e*P PKPbc 15 37 35.8 +0.2
ODD1 IAmb IAmb 15 37 46.2
comp=Z,40nm,1.3s
KONO Kongsberg 143.66 355 *e*P PKPab 15 37 35.3 +0.3
KONO Kongsberg 143.66 355 *e*PKIKP PKPbc 15 37 35.8 +0.1
KONO MLR MLR
comp=Z,284nm,22.0s
KONO Kongsberg 143.66 355 *e*PKPpre PKPbc 15 37 35.8 +0.1
KONO LR LR
comp=Z,284nm,22.0s
EKAR Karacoban 143.80 305 *i* P PKPbc 15 37 38.4 +1.2
BLS5 Blasjo 144.09 357 *e*P PKPbc 15 37 37.6 +0.5
MICGM Minsk 144.09 336 *e* **PKPab 15 37 35.0 -1.7**
MNK Minsk 144.11 336 *e*PKHKP PKPpre 15 37 35.0
SOC Sochi 144.14 313 *i* PKHKP PKPpre 15 37 34.8
SOC MLR MLR
comp=Z,449nm,22.0s
ERZM Erzurum 144.16 306 *i* P **PKPdf 15 37 40.4 +0.3**
ASCN Ascension 144.20 149 PFAKE 15 37 50.0 +9.4
ASCN LR LR
comp=Z,1µm,19.0s
MBAR Mbarara 144.22 232 PFAKE 15 37 50.0 +9.1
MBAR LR LR
comp=Z,686nm,22.0s
VRTB Varto-Mus 144.28 305 *e*P **PKPdf 15 37 41.0 +0.9**
KMY Karmoy 144.34 358 *e*P **PKPab 15 37 37.6 +0.1**
KMY IAmb IAmb 15 37 38.2
comp=Z,168nm,1.4s
BIGH Upper Bighouse 144.69 7 *e*P **PKPab 15 37 38.5 -0.3**
BNGB Bing ¶‖ 144.91 305 *e*P **PKPdf 15 37 42.1 +0.9**
BAYT Ayd¨–ntepe-Bay 144.92 307 *e*P **PKPdf 15 37 42.5 +1.2**
MLA1 Lathron 144.93 6 *e*P **PKPab 15 37 39.7 0.0**
HOMB Hombosund 145.12 355 *e*P **PKPdf 15 37 41.0 +0.3**
SNART Snartemo 145.13 357 *e*P **PKPdf 15 37 40.9 +0.1**
SNART IAmb IAmb 15 37 41.6
comp=Z,97nm,0.9s
ANN Anapa 145.15 316 *d i*PKIKP **PKPdf 15 37 41.5 +0.3**
ANN pmax pmax
comp=Z,540nm,1.5s
ANN MLR MLR
comp=Z,310nm,21.0s
MVH1 Achvaich 145.22 7 *e*P **PKPbc 15 37 40.1 -0.6**
ERZN Erzincan 145.46 306 *e*P **PKPab 15 37 44.3 +1.8**
KAC Achnashellach 145.49 8 *e*P **PKPdf 15 37 41.6 +0.1**
DYBB Diyarbakir 145.58 303 *e*P **PKPab 15 37 44.3 +1.4**
DIYA Diyarbakir 145.60 303 *i* P **PKPab 15 37 44.4 +1.4**
KPL Plockton 145.60 9 *e*P **PKPdf 15 37 40.0 -1.6**
KELT Kelkit 145.64 307 *i* P **PKPab 15 37 44.9 +1.6**
MCD Coleburn Disti 145.65 6 *e*P **PKPdf 15 37 41.3 -0.4**
MDO Dochfour 145.67 7 *e*P **PKPdf 15 37 41.9 +0.1**
KSB Sheil Bridge 145.76 9 *e*P **PKPdf 15 37 42.2 +0.3**
ESPY Espiye-Giresun 145.78 309 *e*P **PKPab 15 37 44.2 +0.8**
PTK Pertek 145.90 305 *e*P **PKPab 15 37 45.5 +1.3**
MME1 Meikle Cairn 145.94 6 *e*P **PKPdf 15 37 42.3 0.0**
SVRC Sivrice-ELAZID 146.11 304 *e*P **PKPab 15 37 46.3 +1.3**
SUW Suwalki 146.14 339 *e*PKP **PKPdf 15 37 42.8 +0.1**
SUW *e* 15 38 04.5
SUW Suwalki 146.14 339 *e*PKIKP **PKPdf 15 37 42.8 +0.1**
SUW Suwalki 146.14 339 *e*PKPdf **PKPdf 15 37 43.2 +0.5**
AKASG Malin Array Be 146.31 330 PKPbc **PKPbc 15 37 43.9 -0.3**
comp=Z,49nm,0.6s,baz=43,slow=4.1,SNR=106
ELZG Elazig 146.32 305 *i* P **PKPab 15 37 47.8 +2.0**
KIEV Kiev 146.32 330 *e*PKIKP **PKPdf 15 37 43.7 +0.6**
KIEV MLR MLR
comp=Z,348nm,20.0s
KIEV Kiev 146.32 330 *e*PKPdf **PKPdf 15 37 43.7 +0.6**
KIEV LR LR
comp=Z,348nm,20.0s
ILIC ilic-Erzincan 146.36 306 *e*P **PKPab 15 37 47.7 +1.8**
SUSE Susehri 146.38 308 *i* P **PKPab 15 37 47.0 +1.0**
DRUM Mains of Drumt 146.39 6 *e*P **PKPbc 15 37 44.0 -0.3**
EDU Dundee 146.70 7 *e*P **PKPbc 15 37 44.6 -0.6**
H07N1 FLORES T-PHASB 146.71 53 *e*PKP **PKPbc 15 37 46.4 +0.2**
H07S1 FLORES T-PHASB 146.74 53 *e*PKP **PKPbc 15 37 46.2 +0.2**
MALT Malatya 146.79 305 *e*P **PKPab 15 37 48.9 +1.3**
MALT Malatya 146.79 305 ⇑ PKP2 **PKPab 15 37 47.7 +0.1**
MALT Malatya 146.79 305 ⇑ *i*P **PKPab 15 37 47.7 +0.1**
MUD Monsted U'grnd 146.86 354 ⇑ *i*P **PKPbc 15 37 46.3 +0.7**
comp=Z,177nm,0.9s
MUD *e* 15 38 06.9
MUD Monsted U'grnd 146.86 354 ⇑ *i*PKP2 **PKPbc 15 37 46.3 +0.7**
MUD pmax pmax
comp=Z,180nm,0.9s
EAB Aberfoyle 146.90 8 *e*P **PKPbc 15 37 45.4 -0.4**
RSDY Resadiye-TOKAT 146.95 309 *e*P **PKPab 15 37 49.0 +1.0**
SIM Simferopol' 147.16 318 *d i*PKP2 **PKPab 15 37 49.0 +0.4**
SIM *e* 15 41 20.0
SIM pmax pmax
comp=Z,191nm,1.0s
AKCD Akcadag 147.18 305 *i* P **PKPab 15 37 49.4 +0.2**
COP Copenhagen 147.22 351 ⇑ *i*P **PKPbc 15 37 47.3 +0.6**
comp=Z,99nm,1.0s
COP Copenhagen 147.22 351 ⇑ *i*PKP2 **PKPbc 15 37 47.3 +0.6**
COP pmax pmax
comp=Z,99nm,1.0s
PGBU Glenifferbraes 147.24 8 *e*P **PKPbc 15 37 46.7 -0.1**
BSD Bornholm Skovb 147.33 348 ⇑ *i*P **PKPbc 15 37 47.3 +0.3**
comp=Z,200nm,1.1s
BSD *i* 15 38 05.6
BSD Bornholm Skovb 147.33 348 ⇑ *i*PKP2 **PKPbc 15 37 47.3 +0.3**
BSD pmax pmax
comp=Z,200nm,1.1s
SVSK Karacayir 147.35 308 *e*P **PKPab 15 37 50.4 +0.8**
ESY Stoneypath 147.36 6 *e*P **PKPdf 15 37 43.6 -1.1**
DARE Darende-Malaty 147.43 305 *e*P **PKPab 15 37 50.3 +0.3**
EBL Broad Law 147.46 7 *e*P **PKPbc 15 37 47.5 +0.1**
LLD Lille Linde 147.59 351 *i* P **PKPdf 15 37 46.4 +1.4**
LLD Lille Linde 147.59 351 *i* PKIKP **PKPdf 15 37 46.4 +1.4**
KVT Kavak 147.61 310 *e*P **PKPab 15 37 50.9 +0.3**
GZT Gaziantep 147.71 303 *i* P **PKPab 15 37 50.4 -0.8**
ESK Eskdalemuir 147.89 7 *e*P **PKPdf 15 37 45.3 -0.2**
ESK Eskdalemuir 147.89 7 *e*PKP2 **PKPbc 15 37 48.5 -0.1**
ESK Eskdalemuir 147.89 7 *e*PKPbc **PKPbc 15 37 48.5 -0.1**
ECK Cauldkaine Hil 148.03 7 *e*P **PKPbc 15 37 48.3 -0.6**
GAL1 Galloway 148.13 9 *e*P **PKPbc 15 37 48.4 -0.8**
KMRS Kahramanmaras 148.18 304 *e*P **PKPab 15 37 51.9 -1.1**
HCB Kahramanmara¨ 148.21 303 *i* P **PKPbc 15 37 51.1 +1.0**
GCD Castle Douglas 148.24 8 *e*P **PKPdf 15 37 46.4 +0.2**
BOYT Boyabat 148.26 312 *i* P **PKPab 15 37 52.1 -1.1**
KAMA Osmaniye 148.44 303 *i* P **PKPbc 15 37 51.7 +0.9**
GKP Gorka Klasztor 148.53 344 *e*PKP **PKPdf 15 37 47.5 +0.9**
GKP *e* 15 37 51.0
GKP Gorka Klasztor 148.53 344 *e*PKIKP **PKPdf 15 37 47.6 +0.9**
GKP *e* 15 37 51.0
GMM Mts of Mourne 148.55 11 *e*P **PKPbc 15 37 50.2 -0.1**
ANDN Andirin 148.58 304 *i* P **PKPbc 15 37 52.6 +1.5**
KESW Keswick, Cumbr 148.61 7 *e*P **PKPbc 15 37 49.4 -1.1**
CTKT Corum 148.67 310 *i* P **PKPab 15 37 53.8 -1.3**
BEL Belsk 148.76 339 *e*PKP **PKPdf 15 37 47.8 +0.7**
BEL *e* 15 37 52.2
BEL Belsk 148.76 339 *e*PKIKP **PKPdf 15 37 47.8 +0.7**
BEL *e* 15 37 52.2
PCED Cedros 148.83 54 *e*PKP **PKPbc 15 37 51.4 -0.2**
CALA Caldeira 148.84 54 *e*PKP **PKPab 15 37 54.8 -0.9**
HOR Horta 148.91 54 *e*PKP **PKPbc 15 37 52.5 +0.7**
CORM Corum 148.95 310 *e*P **PKPab 15 37 54.8 -1.4**
KIS Kishinev 148.99 325 *e*PKP **PKPbc 15 37 52.0 +0.3**
KIS *e*SKKS 15 49 20.0
KIS LRM MLR 16 43 06.0
comp=Z,400nm,22.0s
KIS Kishinev 148.99 325 *e*PKP2 **PKPbc 15 37 52.0 +0.3**
KIS MLR MLR
comp=Z,400nm,22.0s
PICO Pico 149.07 54 *e*PKP **PKPbc 15 37 53.3 +1.0**
ROSA Rosais 149.14 53 *e*PKP **PKPbc 15 37 52.7 +0.3**
YAYL Yayladag 149.18 301 *i* P **PKPbc 15 37 51.6 -1.2**
CEYT Ceyhan 149.20 303 *e*P **PKPbc 15 37 53.4 +0.8**
PPNO Prainha do Nor 149.20 54 *e*PKP **PKPbc 15 37 53.5 +0.9**
BSEG Bad Segeberg 149.21 352 *e*PKP **PKPdf 15 37 48.2 +0.5**
BSEG Bad Segeberg 149.21 352 *e*PKP **PKPdf 15 37 48.2 +0.5**
LVV L'vov 149.21 334 *i* PKP2 **PKPbc 15 37 52.6 +0.4**
PGRA Graciosa 149.22 52 *e*PKP **PKPbc 15 37 52.7 +0.1**
ILGA Ilgaz 149.23 312 *i* P **PKPbc 15 37 54.9 +2.0**
PMAN Manadas 149.28 53 *e*PKP **PKPbc 15 37 53.8 +1.1**
PID Ribeirinha 149.32 54 *e*PKP **PKPab 15 37 56.3 -1.3**
DSB Dublin 149.42 12 *e*PKPdf **PKPdf 15 37 48.3 +0.2**
KRTS Karatas 149.61 303 *e*P PKPpre 15 37 33.8
WME Myndd Eilian 149.62 9 *e*P **PKPdf 15 37 47.6 -0.8**
LEOM Leova 149.63 325 ⇑ PKP2 **PKPbc 15 37 54.7 +1.4**
LEOM Leova 149.63 325 ⇑ *i*P **PKPbc 15 37 54.7 +1.4**
KARA Karaisali 149.65 304 *e*P **PKPdf 15 37 48.6 -0.4**
HWQ Hawqa 149.72 298 *e*P **PKPbc 15 37 55.0 +0.9**
YRC Rhoscolyn 149.72 10 *e*P **PKPbc 15 37 52.8 -0.5**
LHO Holmfirth 149.78 6 *e*P **PKPdf 15 37 48.8 +0.1**
WPM1 Penmaenmawr 149.81 9 *e*P **PKPdf 15 37 48.4 -0.3**
BR131 Keskin Array S 149.83 309 *e*PKPdf **PKPdf 15 37 49.6 +0.1**
BR131 *e*PKPbc **PKPbc 15 37 54.7 +0.5**
BR131 *e*PKPab **PKPab 15 37 59.8 0.0**
BRTR Keskin Array B 149.83 309 PKP **PKPdf 15 37 49.5 +0.1**
comp=Z,3.5nm,1.1s,baz=130,slow=1.9,SNR=16
BRTR PKPbc **PKiKP 15 37 55.6 +0.4**
comp=Z,35nm,0.8s,baz=139,slow=2.6,SNR=92
KWP Kalwaria Pacla 149.89 335 *e*PKP **PKPdf 15 37 49.8 +0.8**
KWP *e* 15 37 54.9
KWP Kalwaria Pacla 149.89 335 *e*PKHKP **PKPdf 15 37 49.9 +0.9**
KWP Kalwaria Pacla 149.89 335 ⇓ *i*P **PKPdf 15 37 49.9 +0.9**
KWP Kalwaria Pacla 149.89 335 *e*PKPdf **PKPdf 15 37 49.6 +0.6**
KWP *e*PKPbc **PKiKP 15 37 54.9 +0.1**
KWP LR LR
comp=Z,488nm,21.0s
ADH Angra Heroismo 149.90 53 *e*PKP **PKPbc 15 37 53.1 -1.1**
RCY Rachaya 149.96 297 *e*P **PKPbc 15 37 55.0 +0.2**
LMK Market Rasen 150.00 5 *e*P **PKPbc 15 37 49.4 +0.4**
YRE Yr Eifi 150.00 10 *e*P **PKPbc 15 37 53.4 -0.6**
BHL Bhannes 150.03 297 *e*P **PKPbc 15 37 55.8 +1.0**
RUE Ruedersdorf 150.05 347 *e*PKPbc **PKPbc 15 37 55.2 +1.1**
TLCR 150.14 323 ⇑ PKP2 **PKPbc 15 37 56.1 +1.5**
TLCR 150.14 323 ⇑ *i*P **PKPbc 15 37 56.1 +1.5**
DQRL Deir Qamar 150.14 297 *e*P **PKPbc 15 37 56.5 +1.4**
MERS Mersin 150.18 304 *e*P **PKPbc 15 37 56.6 +1.5**
FOEL Foel Wylfa 150.27 8 *e*P **PKPdf 15 37 49.4 -0.1**
BUR08 Bucovina Ar. S 150.34 330 *e*PKPbc **PKPbc 15 37 57.0 +1.8**
BUR08 *e*PKPab **PKPab 15 38 01.6 +0.1**
BURAR Bucovina Array 150.35 330 ⇑ PKIKP **PKPbc 15 37 56.3 +1.1**
BURAR Bucovina Array 150.35 330 ⇑ *i*P **PKPbc 15 37 56.3 +1.1**
ANTO Ankara 150.37 310 *e*P **PKPbc 15 37 58.5 +3.0**
ANTO Ankara 150.37 310 ⇓ PKIKP **PKPbc 15 37 57.5 +2.1**
ANTO Ankara 150.37 310 ⇓ *i*P **PKPbc 15 37 57.5 +2.1**
ANTO Ankara 150.37 310 ⇓ P **PKPdf 15 37 51.2 +1.1**
SNR=33
LOD Lodumlu 150.38 310 *e*P **PKPbc 15 37 57.6 +2.2**
BR231 Keskin MP Arra 150.39 310 *e*PKPdf **PKPdf 15 37 49.9 -0.3**
TESR Tescani 150.43 327 ⇑ *i*P **PKPbc 15 37 56.5 +1.2**
BCAM Yenicaga 150.46 312 *i* P **PKPbc 15 37 58.2 +2.5**
OJC Ojcow 150.47 338 *e*PKP **PKPdf 15 37 50.9 +1.0**
OJC *e* 15 37 55.9
OJC Ojcow 150.47 338 *e*PKIKP **PKPdf 15 37 50.9 +1.0**
OJC Ojcow 150.47 338 *e*PKPdf **PKPdf 15 37 51.1 +1.2**
MMLI Mount Malkishu 150.49 295 *e*P **PKPbc 15 37 57.6 +1.7**
SULT Sultanhani-AKS 150.49 307 *e*P **PKPbc 15 37 57.4 +1.6**
CFR Carcaliu 150.52 323 ⇑ PKIKP **PKPdf 15 37 51.6 +1.5**
CFR Carcaliu 150.52 323 ⇑ *i*P **PKPdf 15 37 51.6 +1.5**
NRDL Niedersach Rie 150.65 352 *e*PKP **PKPdf 15 37 50.6 +0.6**
NRDL Niedersach Rie 150.65 352 *e*PKP **PKPdf 15 37 50.5 +0.6**
HLM1 Long Mynd 150.67 8 *e*P **PKPdf 15 37 50.5 +0.3**
TIRR Tirgusor 150.81 322 ⇑ PKIKP **PKPbc 15 37 57.7 +1.5**
TIRR Tirgusor 150.81 322 ⇑ *i*P **PKPbc 15 37 57.7 +1.5**
TIRR Tirgusor 150.81 322 *e*PKPbc **PKPbc 15 37 57.7 +1.5**
VRI Vrincioaia 150.83 325 ⇓ PKIKP **PKPbc 15 37 57.3 +1.1**
VRI Vrincioaia 150.83 325 ⇓ *i*P **PKPbc 15 37 57.3 +1.1**
EREN Erenkoy 150.83 301 *e*P **PKPbc 15 37 54.5 -2.0**
UZH Uzhgorod 150.85 334 *i* PKIKP **PKPbc 15 37 55.7 -0.5**
UZH *e* 15 38 07.7
UZH *e* 15 44 55.1
LPW Lampeter 150.90 10 *e*P **PKPdf 15 37 50.6 +0.1**
HARR Harsova 150.94 322 ⇑ PKIKP **PKPbc 15 37 57.9 +1.4**
HARR Harsova 150.94 322 ⇑ *i*P **PKPbc 15 37 57.9 +1.4**
TLB Topalu 150.94 322 ⇑ PKIKP **PKPbc 15 37 58.3 +1.8**
TLB Topalu 150.94 322 ⇑ *i*P **PKPbc 15 37 58.3 +1.8**
NIE Niedzica 150.96 337 *e*PKP **PKPdf 15 37 51.5 +0.8**
NIE *e* 15 37 58.0
NIE Niedzica 150.96 337 *e*PKIKP **PKPdf 15 37 51.5 +0.8**
KSP Ksiaz 150.98 343 *e*PKP **PKPdf 15 37 51.2 +0.5**
KSP *e* 15 37 57.7
KSP Ksiaz 150.98 343 *e*PKIKP **PKPdf 15 37 51.2 +0.5**
BMR Baia Mare 151.09 331 ⇓ PKIKP **PKPbc 15 37 57.9 +1.1**
BMR Baia Mare 151.09 331 ⇓ *i*P **PKPbc 15 37 57.9 +1.1**
IBBN Ibbenburen 151.09 355 *e*PKP **PKPdf 15 37 51.2 +0.5**
IBBN Ibbenburen 151.09 355 *e*PKP **PKPdf 15 37 50.8 +0.1**
HRFI Mount Harif 151.12 290 *e*P **PKPbc 15 37 60.0 +2.5**
TRPA Tarpa 151.15 333 ⇓ *i*P **PKPbc 15 37 55.8 -1.1**
MCH1 Michaelchurch 151.17 8 *e*P **PKPdf 15 37 50.0 -0.9**
MDUB Mudurnu 151.20 312 *e*P **PKPbc 15 37 59.0 +1.6**
PSET Sete Cidades 151.31 53 *e*PKP **PKPbc 15 37 56.5 -1.1**
AYK Aydincik 151.31 303 *i* P **PKPdf 15 37 50.2 -1.5**
CLL Collm 151.31 347 *e*PKP **PKPdf 15 37 51.3 +0.1**
CLL Collm 151.31 347 *e*PKP **PKPdf 15 37 51.2 +0.1**
CLL *e*L L 16 45 13.3
comp=Z,289nm,22.0s
CLL Collm 151.31 347 *e*PKPdf **PKPdf 15 37 52.0 +0.9**
CLL ⇑ *i*PKPbc **PKiKP 15 37 58.0 +0.4**
comp=Z,237nm,0.9s
CLL *i* PKPab **PKPab 15 38 07.2 +2.0**
comp=Z,168nm,1.0s
CLL *i* pPKPbc pPKPbc 15 38 19.2 +9.3
CLL *e*(PP) 15 41 54.0
CLL *e*PSKS 15 52 00.0
CLL *e* 15 53 18.0
CLL *e*SS SS 16 00 54.0 -1.5
CLL *e* 16 05 00.0
CLL *e*SSS SSS 16 06 48.0
CLL Collm 151.31 347 ⇑ *e*PKIKP **PKPdf 15 37 52.0 +0.9**
CLL *i* 15 38 07.2
CLL pmax pmax
comp=Z,237nm,0.9s
CLL pmax pmax
comp=Z,168nm,1.0s
CLL Collm 151.31 347 *e*PKPdf **PKPdf 15 37 51.7 +0.6**
SSW Stow on the Wo 151.33 7 *e*P **PKPbc 15 37 56.0 -1.2**
OKC Ostrava-Krasne 151.34 340 *e*PKPDF **PKPdf 15 37 51.9 +0.7**
OKC ⇑ *i*PKP **PKiKP 15 37 58.7 +0.9**
OKC *e*PKPAB **PKPab 15 38 07.9 +2.5**
OKC AMS AMS 16 43 40.0
comp=Z,400nm,15.9s
OKC Ostrava-Krasne 151.34 340 *e*PKIKP **PKPdf 15 37 51.9 +0.7**
OKC *i* 15 37 58.7
OKC *e* 15 38 07.9
OKC MLR MLR
comp=Z,400nm,15.9s
LADK Ladik-KONYA 151.34 307 *e*P **PKPbc 15 37 59.8 +1.9**
MSAB Monastry St. A 151.37 322 ⇓ *i*P **PKPbc 15 37 57.5 0.0**
LFK Lefkose 151.40 301 *e*P **PKPbc 15 37 59.8 +1.9**
PSN Preselentsi 151.41 321 ⇓ PKIKP **PKPbc 15 37 58.6 +1.0**
PSN Preselentsi 151.41 321 ⇓ *i*P **PKPbc 15 37 58.6 +1.0**
DPC Dobruska-Polom 151.42 343 *e*PKPDF **PKPdf 15 37 52.3 +0.9**
DPC ⇑ *i*PKP **PKiKP 15 37 59.0 +1.0**

DPC ePKPAB **PKPab** 15 38 08.7 +2.9
DPC epPKP pPKP 15 38 19.7
DPC AMS AMS 16 45 20.0
DPC Dobruska-Polom 151.42 343 ePKIKP **PKPdf** **15 37 52.3 +0.9**
DPC *i* 15 37 59.0
DPC *e* 15 38 08.7
MLR Muntele Rosu 151.49 326 ⇓PKIKP **PKPbc** **15 37 58.5 +0.6**
MLR Muntele Rosu 151.49 326 ⇓*i*P **PKPbc** **15 37 58.5 +0.6**
STRD Stroud 151.49 7 *e*P **PKPbc** **15 37 56.1 -1.4**
WTSB Winterswijk 151.51 356 *e*PKP **PKPbc** **15 37 58.0 +0.4**
comp=Z,189nm,0.8s
BRG Berggiesshubel 151.52 346 *i* PKP **PKPdf** **15 37 51.5 0.0**
comp=Z,25nm,1.1s
BRG *i* 15 37 58.7
comp=Z,177nm,0.8s
BRG *i* 15 38 19.4
comp=Z,70nm,0.8s
BRG *e* 15 41 41.1
comp=Z,10nm,1.2s
BRG SS SS 16 00 45.0 -13
comp=N,291nm,31.6s
comp=E,307nm,28.2s
comp=Z,419nm,26.6s
BRG Berggiesshubel 151.52 346 *e*PKP **PKPdf** **15 37 51.9 +0.4**
BRG Berggiesshubel 151.52 346 *e*PKP **PKPdf** **15 37 51.8 +0.3**
BRG Berggiesshubel 151.52 346 *i* PKIKP **PKPdf** **15 37 51.5 0.0**
BRG *i* 15 37 58.7
BRG *e* 15 41 41.1
BRG pmax pmax
comp=Z,25nm,1.1s
BRG pmax pmax
comp=Z,177nm,0.8s
BRG pmax pmax
comp=Z,70nm,0.8s
BRG pmax pmax
comp=Z,10.0nm,1.2s
BRG MLR MLR
comp=N,291nm,31.6s
BRG MLR MLR
comp=E,307nm,28.2s
BRG MLR MLR
comp=Z,419nm,26.6s
KRLC Kraliky 151.53 342 *e*PKPDF **PKPdf** **15 37 52.3 +0.7**
KRLC ⇑*i*PKP **PKiKP** **15 37 59.0 +0.8**
KRLC *e*PKPAB **PKPab** **15 38 08.5 +2.2**
KRLC Kraliky 151.53 342 *e*PKIKP **PKPdf** **15 37 52.3 +0.7**
KRLC *i* 15 37 59.0
KRLC *e* 15 38 08.5
MORC Moravsky Berou 151.58 341 *e*PKIKP **PKPdf** **15 37 52.5 +0.8**
MORC Moravsky Berou 151.58 341 ⇑*i*P **PKPbc** **15 37 59.0 +1.1**
MORC Moravsky Berou 151.58 341 *e*PKPdf **PKPdf** **15 37 52.5 +0.8**
CSS Prodhromos 151.65 300 *e*P **PKPbc** **15 38 00.0 +1.5**
CSS Prodhromos 151.65 300 P **PKPbc** **15 37 59.3 +0.8**
CSS Prodhromos 151.65 300 P **PKPbc** **15 37 59.1 +0.6**
CSS Prodhromos 151.65 300 *e*PKPbc **PKPbc** **15 37 59.2 +0.8**
CSS LR LR
comp=Z,89nm,21.0s
MAMC Mammari 151.68 301 P **PKPbc** **15 38 00.2 +1.6**
PVCC Panska Ves 151.70 345 *e*PKPDF **PKPdf** **15 37 52.8 +1.0**
PVCC ⇑*i*PKP **PKiKP** **15 37 59.6 +1.1**
PVCC *e*PKPAB **PKPab** **15 38 09.3 +2.4**
PVCC epPKP pPKP 15 38 20.0
PVCC Panska Ves 151.70 345 *e*PKIKP **PKPdf** **15 37 52.8 +1.0**
PVCC *i* 15 37 59.6
PVCC *e* 15 38 09.3
SECR 151.73 325 ⇑*i*P **PKPbc** **15 38 00.0 +1.6**
BART Pico Bartolome 151.73 53 *e*PKP **PKPdf** **15 37 53.3 +1.0**
CJR Cluj-Napoca 151.76 330 ⇑PKIKP **PKPbc** **15 37 59.5 +1.1**
CJR Cluj-Napoca 151.76 330 ⇑*i*P **PKPbc** **15 37 59.5 +1.1**
SULR 151.86 324 ⇓*i*P **PKPbc** **15 37 59.8 +1.2**
SEYT Eskypehyr 151.87 311 *i* P **PKPbc** **15 38 00.8 +1.8**
LEF Lefka 151.95 301 *e*P **PKPbc** **15 38 00.9 +1.7**
VOIR 151.98 326 ⇓PKIKP **PKPbc** **15 38 00.8 +1.8**
VOIR 151.98 326 ⇓*i*P **PKPbc** **15 38 00.8 +1.8**
BUG Bochum--Univer 151.99 355 *e*PKP **PKPdf** **15 37 52.6 +0.5**
BUG Bochum--Univer 151.99 355 *e*PKP **PKPdf** **15 37 52.4 +0.3**
PSMA Santa Maria 152.04 55 *e*PKP **PKPbc** **15 37 58.7 -0.6**
WOL Wolverton 152.04 6 *e*P **PKPbc** **15 37 56.8 -2.1**
SZAC Souni-Zanaja 152.06 300 P **PKPbc** **15 38 00.4 +0.9**
PSMN Pico do Norte, 152.09 55 *e*PKP **PKPbc** **15 37 58.0 -1.4**
DRGR 152.11 331 ⇑PKIKP **PKPbc** **15 37 59.1 -0.1**
DRGR 152.11 331 ⇑*i*P **PKPbc** **15 37 59.1 -0.1**
PRD Provadia 152.15 321 *i* P **PKPbc** **15 38 02.3 +3.0**
PRA Prague 152.16 345 ⇑*i*PKP **PKPbc** **15 38 00.5 +1.4**
PRA epPKP pPKP 15 38 23.0
PRA Prague 152.16 345 *i* PKIKP **PKPbc** **15 38 00.5 +1.4**
ALFC Alevga 152.17 301 P **PKPbc** **15 38 00.8 +1.1**
MOX Moxa 152.21 349 *e*PKP **PKPdf** **15 37 53.5 +1.0**
PRU Pruhonice 152.21 345 *e*PKPDF **PKPdf** **15 37 52.9 +0.4**
PRU ⇑*i*PKP **PKiKP** **15 38 00.4 +0.8**
PRU *e*PKPAB **PKPab** **15 38 10.2 +1.2**
PRU epPKP pPKP 15 38 20.7
PRU *ex* x 16 00 53.6
PRU AMS AMS 16 45 30.0
comp=Z,600nm,24.6s
PRU Pruhonice 152.21 345 *e*PKIKP **PKPdf** **15 37 52.9 +0.4**
PRU *i* 15 38 00.4
PRU *e* 15 38 10.2
PRU MLR MLR
comp=Z,600nm,24.6s
GOPC GO Pecny, Ondr 152.22 344 *e*PKPDF **PKPdf** **15 37 53.2 +0.6**
GOPC ⇑*i*PKP **PKiKP** **15 38 00.4 +0.8**
GOPC *e*PKPAB **PKPab** **15 38 10.3 +1.2**
GOPC *e*SS SS 16 00 57.2 -8.4
GOPC AMS AMS 16 45 50.0
comp=Z,600nm,26.5s
ARR Arges 152.24 327 ⇑*i*P **PKPbc** **15 38 01.1 +1.5**
TANN Tannenbergstha 152.27 348 *e*PKP **PKPdf** **15 37 53.0 +0.2**
TANN Tannenbergstha 152.27 348 *e*PKP **PKPdf** **15 37 52.9 +0.2**
VRAC Vranov 152.28 341 ⇑PKIKP **PKPbc** **15 38 00.4 +0.9**
VRAC Vranov 152.28 341 ⇑*i*P **PKPbc** **15 38 00.4 +0.9**
UBBA Unterbreizbach 152.30 351 *e*PKP **PKPdf** **15 37 53.0 +0.5**
UBBA Unterbreizbach 152.30 351 *e*PKP **PKPdf** **15 37 53.3 +0.8**
PSZ Piszkesteto 152.37 336 *e*PKIKP **PKPdf** **15 37 54.0 +1.0**
PSZ MLR MLR
comp=Z,309nm,20.0s
PSZ Piszkesteto 152.37 336 ⇑*i*P **PKPbc** **15 38 01.1 +1.3**
PSZ Piszkesteto 152.37 336 *e*PKPdf **PKPdf** **15 37 54.0 +1.0**
PSZ *e*PKPbc **PKiKP** **15 38 00.6 +0.5**
PSZ LR LR
comp=Z,309nm,20.0s
PSZ Piszkesteto 152.37 336 *e* **PKPbc** **15 38 00.8 +1.0**
AKMC Akamas 152.42 301 P **PKPbc** **15 38 00.5 +0.2**
NKC Novy Kostel 152.44 347 *e*PKPDF **PKPdf** **15 37 53.5 +0.6**
NKC ⇑*i*PKP **PKiKP** **15 38 01.1 +1.0**
NKC *e*PKPAB **PKPab** **15 38 10.5 +0.4**
NKC Novy Kostel 152.44 347 *e*PKIKP **PKPdf** **15 37 53.5 +0.6**
NKC *i* 15 38 01.1
NKC *e* 15 38 10.5
PPCY Paphos 152.45 301 P **PKPbc** **15 38 00.9 +0.6**
ALT Altintas 152.59 311 P **PKPbc** **15 38 03.2 +2.6**
TREC Trest 152.60 343 ⇑*i*PKP **PKPbc** **15 38 01.4 +1.2**
TREC AMS AMS 16 47 30.0
comp=Z,500nm,22.6s
TREC Trest 152.60 343 *i* PKIKP **PKPbc** **15 38 01.4 +1.2**
TREC MLR MLR
comp=Z,500nm,22.6s
HUMR Humele 152.64 325 ⇑*i*P **PKPdf** **15 37 55.0 +1.6**
BEBN Eben Emael 152.74 357 PKPbc **PKPbc** **15 38 00.8 +0.4**
HGN Heimansgroeve 152.76 357 *e*PKP **PKPbc** **15 38 00.6 +0.1**
comp=Z,52nm,1.0s
HGN *e*PP **SKPdf** **15 41 21.2 -2.2**
UCC Uccle 152.78 359 *e*PKIKP **PKPbc** **15 38 01.5 +1.0**
UCC Uccle 152.78 359 *e*PKPbc **PKPbc** **15 38 01.5 +1.0**
ISP Isparta 152.82 308 ⇑PKIKP **PKPdf** **15 37 56.5 +2.5**
ISP Isparta 152.82 308 ⇑*i*P **PKPdf** **15 37 56.5 +2.5**
ISP Isparta 152.82 308 *e*PKPbc **PKPbc** **15 38 02.9 +1.7**
ISP LR LR
comp=Z,326nm,21.0s
MEM Membach 152.91 356 PKP **PKPdf** **15 37 53.6 +0.1**
MEM PKPbc **PKiKP** **15 38 01.6 +0.6**
MEM Membach 152.91 356 *e*PKIKP **PKPdf** **15 37 54.6 +1.0**
MEM Membach 152.91 356 *e*PKPdf **PKPdf** **15 37 54.6 +1.0**
ROTZ Rotzenmuhle 152.94 347 *e*PKP **PKPdf** **15 37 53.6 0.0**
SIRR Siria 152.97 331 ⇑*i*P **PKPbc** **15 38 01.8 +0.7**
SNF Seneffe 153.08 359 PKPbc **PKPbc** **15 38 01.7 +0.6**
SACV Santiago Islan 153.12 104 *e*PKPbc **PKPbc** **15 38 01.3 -1.0**
SACV LR LR
comp=Z,413nm,19.0s
GZR Gura Zlata 153.13 329 ⇑PKIKP **PKPbc** **15 38 02.2 +0.7**
GZR Gura Zlata 153.13 329 ⇑*i*P **PKPbc** **15 38 02.2 +0.7**
BCLA Clavier 153.13 357 PKP **PKPdf** **15 37 53.6 -0.3**
BCLA PKPbc **PKPbc** **15 38 01.2 -0.1**
GRFO Grafenberg 153.20 349 *e*PKIKP **PKPdf** **15 37 54.7 +0.7**
GRFO *e* 15 38 01.9
GRFO Grafenberg 153.20 349 *e*PKPdf **PKPdf** **15 37 54.7 +0.7**
GRFO *e*PKPbc **PKiKP** **15 38 01.9 +0.3**
KHC Kasperske Hory 153.24 345 *e*PKPDF **PKPdf** **15 37 54.7 +0.6**
KHC ⇑*i*PKP **PKiKP** **15 38 02.7 +0.9**
KHC *e*PKPAB **PKPab** **15 38 14.7 +1.2**
KHC *ep*PKP pPKP 15 38 25.5
KHC *ex* x 15 47 51.0
KHC *e*SS SS 16 01 10.0 -6.9
KHC AMS AMS 16 50 30.0
comp=Z,400nm,22.1s
KHC Kasperske Hory 153.24 345 *e*PKIKP **PKPdf** **15 37 54.7 +0.6**
KHC *i* 15 38 02.7
KHC *e* 15 38 14.7
KHC *e* 16 01 10.0
KHC MLR MLR
comp=Z,400nm,22.1s
EDRB Edirne 153.35 319 P **PKPbc** **15 38 02.8 +0.8**
PKSG 153.36 337 *e*PKPdf **PKPbc** **15 38 02.5 +0.6**
WET Wettzell 153.39 346 *e*PKP **PKPdf** **15 37 54.3 0.0**
WET Wettzell 153.39 346 *e*PKP **PKPdf** **15 37 54.4 +0.1**
WET *e*L L 16 47 35.9
comp=Z,402nm,21.8s
GIVF Givet 153.47 358 *e*PKIKP **PKPdf** **15 37 54.8 +0.4**
GIVF Givet 153.47 358 *e*PKIKP **PKPdf** **15 37 54.8 +0.4**
GIVF Givet 153.47 358 *e*PKPdf **PKPdf** **15 37 54.8 +0.4**
GEC2 GERESS Array S 153.48 345 *e*PKP **PKPdf** **15 37 54.5 -0.1**
GEC2 GERESS Array S 153.48 345 *e*PKP **PKPdf** **15 37 54.5 -0.1**
GEC2 *e*L L 16 51 26.5
comp=Z,333nm,21.5s
GEC2 GERESS Array S 153.48 345 *e*PKIKP **PKPdf** **15 37 54.9 +0.3**
GEC2 *e* 15 37 59.0
GEC2 GERESS Array S 153.48 345 *e*PKPdf **PKPdf** **15 37 54.9 +0.3**
GEC2 *e*PKPdf **PKPbc** **15 37 59.0 -3.3**
GERES GERESS Array B 153.48 345 PKP **PKPdf** **15 37 54.8 +0.2**
comp=Z,6.2nm,0.9s,baz=79,slow=0.7,SNR=40
GERES PKPbc **PKiKP** **15 38 03.1 +0.7**
comp=Z,16nm,0.9s,baz=45,slow=2.1,SNR=35
DOU Dourbes 153.48 358 PKP **PKPdf** **15 37 55.7 +1.3**
DOU PKPbc **PKiKP** **15 38 02.7 +0.6**
BZS Buzias 153.50 331 ⇑PKIKP **PKPdf** **15 37 55.2 +0.6**
BZS Buzias 153.50 331 ⇑*i*P **PKPdf** **15 37 55.2 +0.6**
BAIF Baives 153.53 359 *e*PKIKP **PKPdf** **15 37 54.6 +0.2**
comp=Z,32nm,1.3s
BAIF Baives 153.53 359 *e*PKIKP **PKPdf** **15 37 54.6 +0.2**
BAIF Baives 153.53 359 *e*PKPdf **PKPdf** **15 37 54.6 +0.2**
CONA Conrad Observa 153.73 341 *i* PKPdf **PKPdf** **15 37 55.3 +0.3**
comp=Z,49nm,1.3s,SNR=5.4
SOP Sopron 153.73 340 ⇑*e* **PKPbc** **15 38 03.2 +0.5**
GOLH Golhisar 153.76 307 *i* P **PKPbc** **15 38 06.0 +2.7**
WLF Walferdange 153.84 356 PKPbc **PKPbc** **15 38 04.4 +1.6**
WLF Walferdange 153.84 356 *e*PKIKP **PKPbc** **15 38 04.4 +1.6**
WLF MLR MLR
comp=Z,481nm,21.0s
WLF Walferdange 153.84 356 *e*PKPbc **PKPbc** **15 38 04.4 +1.6**
WLF LR LR
comp=Z,481nm,21.0s
KULA Kula-Manisa 153.85 311 P **PKPbc** **15 38 03.9 +0.5**
BALY Balya 153.96 314 *i* P **PKPbc** **15 38 05.1 +1.6**
MPEP Malo Peshtene 154.09 325 P **PKPbc** **15 38 03.4 -0.2**
MOA Molln 154.25 343 ⇑*i*PKPdf **PKPdf** **15 37 55.1 -0.5**
comp=Z,12nm,1.1s
MOA *i* PKPab **PKPab** **15 38 20.1 +2.3**
comp=Z,108nm,1.6s,SNR=7.0
KDZ Kurdzhali 154.26 320 ⇑PKIKP **PKPbc** **15 38 03.5 -0.5**
KDZ Kurdzhali 154.26 320 ⇑*i*P **PKPbc** **15 38 03.5 -0.5**
PKSM Moragy 154.26 335 ⇑PKIKP **PKPdf** **15 37 55.4 -0.2**
PKSM Moragy 154.26 335 ⇑*i*P **PKPdf** **15 37 55.3 -0.3**
PKSM Moragy 154.26 335 ⇑*e*PKPdf **PKPdf** **15 37 55.7 +0.1**
LANF Langenberg 154.38 353 PKP **PKPdf** **15 37 56.0 +0.3**
STU Stuttgart 154.41 351 *e*PKP **PKPdf** **15 37 56.1 +0.3**
STU Stuttgart 154.41 351 *e*PKP **PKPdf** **15 37 56.2 +0.4**
STU Stuttgart 154.41 351 *e*PKIKP **PKPdf** **15 37 56.4 +0.6**
STU Stuttgart 154.41 351 *e*PKPdf **PKPdf** **15 37 56.4 +0.6**
RDO Rodhopi 154.49 319 *e*PKPdf **PKPdf** **15 37 56.6 +0.5**
FLN La Foliniere 154.64 6 *e*PKIKP **PKPdf** **15 37 55.8 -0.3**
FLN *e*R
comp=Z,249nm,22.5s
FLN La Foliniere 154.64 6 *e*PKIKP **PKPdf** **15 37 55.8 -0.3**
FLN La Foliniere 154.64 6 *e*PKPdf **PKPdf** **15 37 55.8 -0.3**
FUR Furstenfeldbru 154.65 348 *e*L L 16 47 02.9
comp=Z,470nm,22.0s
ROSF Rostrenen 154.69 11 *e*PKIKP **PKPdf** **15 37 56.4 +0.2**
ROSF Rostrenen 154.69 11 *e*PKIKP **PKPdf** **15 37 56.4 +0.2**
ROSF Rostrenen 154.69 11 *e*PKPdf **PKPdf** **15 37 56.4 +0.2**
RJOB Jochberg 154.73 345 *e*PKP **PKPdf** **15 37 55.9 -0.4**
AYDN Tasoluk 154.78 310 *i* P **PKPbc** **15 38 08.6 +3.3**
LDF La Druitiere 154.84 6 *e*PKIKP **PKPdf** **15 37 55.9 -0.5**
LDF La Druitiere 154.84 6 *e*PKIKP **PKPdf** **15 37 55.9 -0.5**
LDF La Druitiere 154.84 6 *e*PKPdf **PKPdf** **15 37 55.9 -0.5**
VTS Vitosha 154.90 324 ⇑PKIKP PKPdf 15 38 02.7 +5.8
VTS Vitosha 154.90 324 ⇑*i*P PKPdf 15 38 02.7 +5.8
VTS Vitosha 154.90 324 *i* P **PKPab** **15 38 23.2 +2.3**
KOGS Kog 154.92 339 *i* PKPab **PKPab** **15 38 22.1 +1.5**
BFO Black Forest 154.96 352 *e*PKP **PKPdf** **15 37 56.4 -0.2**
BFO Black Forest 154.96 352 *e*L L 16 48 20.4
comp=Z,240nm,21.9s
BFO Black Forest 154.96 352 *e*PKIKP **PKPdf** **15 37 56.7 +0.1**
BFO *e* 15 38 05.4
BFO MLR MLR
comp=Z,371nm,22.0s
BFO Black Forest 154.96 352 *e*PKPdf **PKPdf** **15 37 56.7 +0.1**
BFO *e*PKPbc **PKPbc** **15 38 05.4 +0.1**
BFO LR LR
comp=Z,371nm,22.0s
GRR Gorron 154.97 7 *e*PKIKP **PKPdf** **15 37 56.4 -0.1**
GRR Gorron 154.97 7 *e*PKIKP **PKPdf** **15 37 56.4 -0.1**
GRR Gorron 154.97 7 *e*PKPdf **PKPdf** **15 37 56.4 -0.1**
PAGF Fort de Pagny 154.97 356 *e*PKIKP **PKPdf** **15 37 56.8 +0.2**
comp=Z,8.9nm,1.1s
PAGF Fort de Pagny 154.97 356 *e*PKPdf **PKPdf** **15 37 56.8 +0.2**
CDF Champ du Feu 155.00 354 *e*PKIKP **PKPdf** **15 37 56.4 -0.3**
CDF Champ du Feu 155.00 354 *e*PKIKP **PKPdf** **15 37 56.4 -0.3**
CDF Champ du Feu 155.00 354 *e*PKPdf **PKPdf** **15 37 56.4 -0.3**
MEZF Maizieres J'vi 155.06 357 *e*PKIKP **PKPdf** **15 37 57.1 +0.4**
comp=Z,71nm,1.2s
MEZF Maizieres J'vi 155.06 357 *e*PKPdf **PKPdf** **15 37 57.1 +0.4**
SOKA Soboth 155.10 341 ⇑*i*PKPdf **PKPdf** **15 37 56.4 -0.5**
comp=Z,20nm,1.2s
SOKA ⇑*i*PKPab **PKPab** **15 38 21.9 +0.4**
comp=Z,63nm,1.3s
PERS Pernice 155.11 341 *i* PKPdf **PKPdf** **15 37 56.9 0.0**
PERS *e*PKPab **PKPab** **15 38 23.1 +1.6**
QUIF Quistinic 155.12 11 *e*PKIKP **PKPdf** **15 37 57.2 +0.5**
QUIF Quistinic 155.12 11 *e*PKIKP **PKPdf** **15 37 57.2 +0.5**
QUIF Quistinic 155.12 11 *e*PKPdf **PKPdf** **15 37 57.2 +0.5**
ECH Echery 155.20 354 PKP **PKPdf** **15 37 57.0 +0.1**
ECH Echery 155.20 354 *e*PKIKP **PKPdf** **15 37 57.0 +0.1**
ECH *e* 15 38 06.0
ECH MLR MLR
comp=Z,289nm,19.0s
ECH Echery 155.20 354 *e*PKPdf **PKPdf** **15 37 57.0 +0.1**
ECH *e*PKPbc PKPbc 15 38 06.0
ECH LR LR
comp=Z,289nm,19.0s
KBA Koelnbreinsper 155.21 344 ⇓*i*PKPdf **PKPdf** **15 37 57.0 -0.1**
comp=Z,17nm,1.0s
KBA ⇓*i*PKPab **PKPab** **15 38 24.3 +2.2**
comp=Z,62nm,1.1s
MMB Musomiste 155.28 322 ⇓*i*P PKPdf 15 38 07.4 +10
MMB Musomiste 155.28 322 *i* P **PKPab** **15 38 23.9 +1.5**
THEF They Montfort 155.28 356 PKP **PKPdf** **15 37 57.0 0.0**
NVR Nevrokopi 155.36 321 P PKPdf 15 38 06.5 +9.1
SFTF Sexfontaines 155.36 357 *e*PKIKP **PKPdf** **15 37 57.4 +0.3**
comp=Z,92nm,1.3s
SFTF Sexfontaines 155.36 357 *e*PKPdf **PKPdf** **15 37 57.4 +0.3**
RETA Reutte 155.40 348 ⇓*i*PKPdf **PKPdf** **15 37 57.5 +0.2**
comp=Z,30nm,1.5s
RETA *i* PKPab **PKPab** **15 38 24.9 +2.2**
comp=Z,87nm,1.5s,SNR=5.6
WTTA Wattenberg 155.44 346 ⇑*i*PKPdf **PKPdf** **15 37 57.2 -0.3**
comp=Z,31nm,1.3s,SNR=7.5
WTTA ⇓*i*PKPab **PKPab** **15 38 24.9 +1.8**
comp=Z,99nm,1.4s
MOTA Moosalm 155.47 347 *i* PKPdf **PKPdf** **15 37 57.4 0.0**
comp=Z,31nm,1.3s,SNR=9.9
MOTA ⇑*i*PKPab **PKPab** **15 38 24.3 +1.2**
comp=Z,83nm,1.2s
HAU Haudompre 155.48 355 *e*PKIKP **PKPdf** **15 37 57.2 -0.1**
comp=Z,13nm,0.9s
HAU *e*R
comp=Z,230nm,20.2s
HAU Haudompre 155.48 355 *e*PKIKP **PKPdf** **15 37 57.2 -0.1**
HAU Haudompre 155.48 355 *e*PKPdf **PKPdf** **15 37 57.2 -0.1**
MOF Molkenrain 155.56 354 PKP **PKPdf** **15 37 57.5 0.0**
HINF Hinteralfeld 155.62 354 *e*PKIKP **PKPdf** **15 37 57.2 -0.3**
HINF Hinteralfeld 155.62 354 *e*PKIKP **PKPdf** **15 37 57.2 -0.3**
HINF Hinteralfeld 155.62 354 *e*PKPdf **PKPdf** **15 37 57.2 -0.3**
SRS Serrai 155.66 321 P **PKPab** **15 38 23.5 -0.5**
ABTA Abfaltersbach 155.72 345 *i* PKPdf **PKPdf** **15 37 57.5 -0.3**
comp=Z,37nm,1.1s,SNR=9.3
ABTA ⇑*i*PKPab **PKPab** **15 38 24.3 +0.1**
comp=Z,51nm,0.9s
FETA Feichten 155.85 348 *i* PKPdf **PKPdf** **15 37 58.4 +0.3**
comp=Z,37nm,1.2s,SNR=10
FETA ⇓*i*PKPab **PKPab** **15 38 24.8 0.0**
comp=Z,49nm,1.2s
CRNS Crni Vrh 155.87 341 *e*PKPdf **PKPdf** **15 37 57.4 -0.5**
CRNS *e*PKPab **PKPab** **15 38 25.6 +0.8**
SKO Skopje 156.28 325 *e*PKP **PKPab** **15 38 27.2 +0.5**
HYF Humbligny 156.32 1 *e*PKIKP **PKPdf** **15 37 58.9 +0.5**
HYF Humbligny 156.32 1 *e*PKPdf **PKPdf** **15 37 58.9 +0.5**
LOR Lormes 156.32 359 *e*PKIKP **PKPdf** **15 37 58.7 +0.3**
comp=Z,54nm,1.1s
LOR *e*R
comp=Z,533nm,22.5s
LOR Lormes 156.32 359 *e*PKIKP **PKPdf** **15 37 58.7 +0.3**
LOR Lormes 156.32 359 *e*PKPdf **PKPdf** **15 37 58.7 +0.3**
FUORN Ofenpass-Fuorn 156.33 348 *e*PKPdf **PKPdf** **15 37 59.6 +0.9**
SSF Saint Saulge 156.53 360 *e*PKIKP **PKPdf** **15 37 58.9 +0.2**
comp=Z,60nm,1.2s
SSF Saint Saulge 156.53 360 *e*PKIKP **PKPdf** **15 37 58.9 +0.2**
SSF Saint Saulge 156.53 360 *e*PKPdf **PKPdf** **15 37 58.9 +0.2**
TUE Stuetta 156.63 350 PFAKE 15 38 10.0 +11
TUE LR LR
comp=Z,588nm,20.0s
AVF Avril sur Loir 156.81 0 *e*PKIKP **PKPdf** **15 37 58.9 -0.1**
comp=Z,29nm,1.2s
AVF Avril sur Loir 156.81 0 *e*PKIKP **PKPdf** **15 37 58.9 -0.1**
AVF Avril sur Loir 156.81 0 *e*PKPdf **PKPdf** **15 37 58.9 -0.1**
MFF Saint Martin d 156.81 6 *e*PKIKP **PKPdf** **15 37 59.0 0.0**
MFF Saint Martin d 156.81 6 *e*PKIKP **PKPdf** **15 37 59.0 0.0**
MFF Saint Martin d 156.81 6 *e*PKPdf **PKPdf** **15 37 59.0 0.0**
CABF La Chapelle 156.89 355 *e*PKIKP **PKPdf** **15 37 59.9 +0.6**
comp=Z,60nm,1.0s
CABF La Chapelle 156.89 355 *e*PKIKP **PKPdf** **15 37 59.9 +0.6**
CABF La Chapelle 156.89 355 *e*PKPdf **PKPdf** **15 37 59.9 +0.6**
SMF Signal de Mont 156.95 359 *e*PKIKP **PKPdf** **15 37 59.1 -0.1**
comp=Z,57nm,1.4s
SMF Signal de Mont 156.95 359 *e*PKIKP **PKPdf** **15 37 59.1 -0.1**
SMF Signal de Mont 156.95 359 *e*PKPdf **PKPdf** **15 37 59.1 -0.1**
LIT Litokhoron 156.96 320 P **PKPab** **15 38 26.9 -2.8**
SENIN Lac Senin/Sane 157.02 353 *e*PKPdf **PKPdf** **15 38 00.1 +0.5**
SANT Santorini 157.10 309 PFAKE 15 38 10.0 +10
SANT LR LR
comp=Z,252nm,21.0s
OHR Ohrid 157.22 324 *e*PKP **PKPab** **15 38 31.0 +0.2**
TCF Toulx Ste Croi 157.29 2 *e*PKIKP **PKPdf** **15 37 59.8 +0.1**
comp=Z,39nm,1.1s
TCF Toulx Ste Croi 157.29 2 *e*PKIKP **PKPdf** **15 37 59.8 +0.1**
TCF Toulx Ste Croi 157.29 2 *e*PKPdf **PKPdf** **15 37 59.8 +0.1**
AGO Saint Agoulin 157.54 1 PKP **PKPdf** **15 38 01.4 +1.4**
PYM Petit Puy Mans 157.84 1 PKP **PKPdf** **15 38 01.6 +1.1**
LPL La Plagne 157.92 354 *e*PKIKP **PKPdf** **15 38 01.2 +0.4**
comp=Z,15nm,1.0s
LPL La Plagne 157.92 354 *e*PKIKP **PKPdf** **15 38 01.2 +0.4**
LPL La Plagne 157.92 354 *e*PKPdf **PKPdf** **15 38 01.2 +0.4**
LPG La Plagne 157.93 354 *e*PKIKP **PKPdf** **15 38 01.3 +0.4**
comp=Z,12nm,1.0s
LPG La Plagne 157.93 354 *e*PKIKP **PKPdf** **15 38 01.3 +0.4**
LPG La Plagne 157.93 354 *e*PKPdf **PKPdf** **15 38 01.3 +0.4**
RJF Les Rejaudoux 158.24 4 *e*PKIKP **PKPdf** **15 38 00.9 0.0**
RJF *e*R
comp=Z,455nm,22.2s
RJF Les Rejaudoux 158.24 4 *e*PKIKP **PKPdf** **15 38 00.9 0.0**
RJF Les Rejaudoux 158.24 4 *e*PKPdf **PKPdf** **15 38 00.9 0.0**
SSB Saint Sauveur 158.30 358 *e*PKIKP **PKPdf** **15 38 01.0 0.0**
SSB MLR MLR
comp=Z,531nm,21.0s
SSB Saint Sauveur 158.30 358 *e*PKPdf **PKPdf** **15 38 01.0 0.0**
SSB LR LR
comp=Z,531nm,21.0s
LBL Lubilhac 158.36 0 PKP **PKPdf** **15 38 03.2 +2.1**
BNI Bardonecchia 158.38 354 PFAKE 15 38 10.0 +8.8
BNI LR LR
comp=Z,558nm,19.0s
LFF La Frestale 158.54 5 *e*PKIKP **PKPdf** **15 38 01.3 +0.1**
LFF La Frestale 158.54 5 *e*PKIKP **PKPdf** **15 38 01.3 +0.1**
LFF La Frestale 158.54 5 *e*PKPdf **PKPdf** **15 38 01.3 +0.1**
ORIF Oris-en-Rattie 158.59 355 *e*PKIKP **PKPdf** **15 38 01.7 +0.3**
comp=Z,34nm,1.3s
ORIF *e*R
comp=Z,368nm,21.0s
ORIF Oris-en-Rattie 158.59 355 *e*PKIKP **PKPdf** **15 38 01.7 +0.3**
ORIF Oris-en-Rattie 158.59 355 *e*PKPdf **PKPdf** **15 38 01.7 +0.3**
CAF Calviac 158.64 3 *e*PKIKP **PKPdf** **15 38 01.8 +0.4**
CAF Calviac 158.64 3 *e*PKIKP **PKPdf** **15 38 01.8 +0.4**
CAF Calviac 158.64 3 *e*PKPdf **PKPdf** **15 38 01.8 +0.4**
VLC Villacollemand 158.66 346 PFAKE 15 38 10.0 +8.5
VLC LR LR
comp=Z,450nm,22.0s
MBDF Montbardon 158.69 353 *e*PKIKP **PKPdf** **15 38 01.8 +0.1**
MBDF Montbardon 158.69 353 *e*PKIKP **PKPdf** **15 38 01.8 +0.1**
MBDF Montbardon 158.69 353 *e*PKPdf **PKPdf** **15 38 01.8 +0.1**
VIVF Saint-Julien-l 158.72 358 *e*PKIKP **PKPdf** **15 38 01.9 +0.4**
comp=Z,65nm,1.4s
VIVF Saint-Julien-l 158.72 358 *e*PKIKP **PKPdf** **15 38 01.9 +0.4**
VIVF Saint-Julien-l 158.72 358 *e*PKPdf **PKPdf** **15 38 01.9 +0.4**
PGAV Gavieira, Arco 159.20 25 PKPdf **PKPdf** **15 38 01.7 -0.6**
PGAV Gavieira, Arco 159.20 25 *e*LR LR 16 32 42.3
comp=Z,296nm,22.0s
SBF Sospel 159.47 352 *e*PKIKP **PKPdf** **15 38 02.2 -0.3**
comp=Z,36nm,0.9s
SBF Sospel 159.47 352 *e*PKIKP **PKPdf** **15 38 02.2 -0.3**
SBF Sospel 159.47 352 *e*PKPdf **PKPdf** **15 38 02.2 -0.3**
PCAB Cabril 159.51 25 *e*PKPdf **PKPdf** **15 38 03.7 +1.2**
PCAB Cabril 159.51 25 PKPab **PKPab** **15 38 41.2 +0.6**
LASF Ste Croix 159.52 359 *e*PKIKP **PKPdf** **15 38 03.0 +0.5**
comp=Z,35nm,1.1s
LASF Ste Croix 159.52 359 *e*PKPdf **PKPdf** **15 38 03.0 +0.5**
SMRF Simiane la Rot 159.54 356 *e*PKIKP **PKPdf** **15 38 03.3 +0.8**
comp=Z,26nm,1.0s
SMRF Simiane la Rot 159.54 356 *e*PKPdf **PKPdf** **15 38 03.3 +0.8**
PMOZ Porto Moniz, M 159.63 58 *e*LR LR 16 32 38.6
comp=Z,316nm,24.0s
FRF La Foret Royal 159.86 353 *e*PKIKP **PKPdf** **15 38 02.8 0.0**
FRF La Foret Royal 159.86 353 *e*PKIKP **PKPdf** **15 38 02.8 0.0**
FRF La Foret Royal 159.86 353 *e*PKPdf **PKPdf** **15 38 02.8 0.0**
POLO Lamas de Olo 159.89 25 *e*PKPdf **PKPdf** **15 38 02.6 -0.5**
POLO Lamas de Olo 159.89 25 PKPab **PKPab** **15 38 42.6 +0.3**
POLO Lamas de Olo 159.89 25 *e*PP PP 15 42 25.7 +2.2
POLO Lamas de Olo 159.89 25 *e*LR LR 16 32 38.6
comp=Z,122nm,20.0s
PBRG Braganca 159.91 23 PKPab **PKPab** **15 38 43.2 +0.9**
PBRG Braganca 159.91 23 *e*PP PP 15 42 50.2 +27
PBRG Braganca 159.91 23 *e*LR LR 16 33 04.5
comp=Z,205nm,22.0s
PVRL Vila Real 160.00 25 *e*PKPdf **PKPdf** **15 38 02.9 -0.2**
PVRL Vila Real 160.00 25 PKPab **PKPab** **15 38 43.0 +0.2**
SJPF Ste Jean 160.10 10 *e*PKIKP **PKPdf** **15 38 03.9 +0.7**
comp=Z,43nm,1.3s
SJPF Ste Jean 160.10 10 *e*PKIKP **PKPdf** **15 38 03.9 +0.7**
SJPF Ste Jean 160.10 10 *e*PKPdf **PKPdf** **15 38 03.9 +0.7**
MTLF Montolieu 160.23 3 *e*PKIKP **PKPdf** **15 38 03.6 +0.3**
**MTLF

comp=Z,325nm,22.0s
TIP Timpagrande 160.74 327 PFAKE 15 38 10.0 +6.0
TIP LR LR
comp=Z,459nm,20.0s
LIC Lamto 160.95 153 *e*PKIKP **PKPdf 15 38 04.1 -0.8**
LIC *e*R
comp=Z,822nm,23.0s
LIC Lamto 160.95 153 *e*PKPdf **PKPdf 15 38 04.1 -0.8**
PTOM Tomar 161.09 29 PKPdf **PKPdf 15 38 05.5 +1.2**
PTOM Tomar 161.09 29 PKPab **PKPab 15 38 47.6 +0.1**
PMAFR Mafra 161.21 32 PKPab **PKPab 15 38 48.3 +0.2**
PMAFR Mafra 161.21 32 *e*PP PP 15 42 32.7 +1.9
PMAFR Mafra 161.21 32 *e*LR LR 16 33 26.7
comp=Z,284nm,22.0s
PCBR Castelo Branco 161.31 27 *e*PKPdf **PKPdf 15 38 05.4 +0.9**
PCBR Castelo Branco 161.31 27 *e*PKPab **PKPab 15 38 48.5 0.0**
DBIC Dimbokro 161.42 153 PKP **PKPdf 15 38 04.3 -1.1**
comp=Z,6.9nm,0.9s,baz=281,slow=2.4,SNR=4.3
DBIC PKPab **PKPab 15 38 50.4 +0.9**
comp=Z,20nm,1.0s,baz=180,slow=7.6,SNR=6.0
PMTG Montargil 161.62 30 PKPab **PKPab 15 38 50.0 +0.2**
PMTG Montargil 161.62 30 *e*PP PP 15 42 45.8 +13
PMTG Montargil 161.62 30 *e*LR LR 16 33 15.6
comp=Z,178nm,22.0s
PMRV Marv??o 161.69 28 *e*PKPdf **PKPdf 15 38 05.8 +0.8**
PMRV Marv??o 161.69 28 PKPab **PKPab 15 38 50.4 +0.2**
PMRV Marv??o 161.69 28 *e*PP PP 15 42 33.6 +0.4
PMRV Marv??o 161.69 28 *e*LR LR 16 32 49.7
comp=Z,331nm,22.0s
CEL Celeste 161.88 327 PFAKE 15 38 20.0 +15
CEL LR LR
comp=Z,676nm,19.0s
PESTR Estremoz 162.07 29 *e*PKPdf **PKPdf 15 38 06.6 +1.2**
PESTR Estremoz 162.07 29 PKPab **PKPab 15 38 52.0 +0.2**
PESTR Estremoz 162.07 29 *e*PP PP 15 42 37.9 +2.6
PESTR Estremoz 162.07 29 *e*LR LR 16 33 26.7
comp=Z,193nm,24.0s
EVOP Sao Brissos 162.10 31 *e*PKIKP **PKPdf 15 38 05.3 -0.1**
EVOP Sao Brissos 162.10 31 *e*PKPdf **PKPdf 15 38 05.3 -0.1**
EVO Evora 162.15 31 *e*PKIKP **PKPdf 15 38 05.3 -0.1**
comp=Z,43nm,1.0s
EVO *e*R
comp=Z,419nm,22.8s
EVO Evora 162.15 31 PKPdf **PKPdf 15 38 06.3 +0.9**
EVO Evora 162.15 31 *e*PKPab **PKPab 15 38 52.3 +0.1**
PNCL Nicolau / Gran 162.24 32 *e*PKPdf **PKPdf 15 38 05.1 -0.4**
PNCL Nicolau / Gran 162.24 32 PKPab **PKPab 15 38 52.5 -0.1**
PNCL Nicolau / Gran 162.24 32 *e*PP PP 15 42 34.5 -1.7
PNCL Nicolau / Gran 162.24 32 *e*LR LR 16 33 26.7
comp=Z,279nm,20.0s
PTEO Sao Teotonio 162.58 34 *e*PKPdf **PKPdf 15 38 07.6 +1.7**
MESJ Messejana 162.60 32 *e*P **PKPdf 15 38 05.6 -0.3**
MESJ Messejana 162.60 32 *e*PKIKP **PKPdf 15 38 05.6 -0.3**
ES19 SONSECA Array 162.74 19 *e*PKPdf **PKPdf 15 38 07.0 +0.9**
ES19 *e*PKPab **PKPab 15 38 55.5 +0.8**
ES19 *e*PP **PP 15 42 37.1 -1.5**
PAB San Pablo 162.74 21 *e*PKIKP **PKPdf 15 38 07.4 +1.3**
PAB *e* 15 38 21.2
PAB MLR MLR
comp=Z,403nm,22.0s
PAB San Pablo 162.74 21 *e*PKPdf **PKPdf 15 38 07.4 +1.3**
PAB *e*PKPdif **pPKPdf 15 38 21.2 +2.3**
PAB LR LR
comp=Z,403nm,22.0s
ESDC Sonseca Array 162.74 20 PKP **PKPdf 15 38 07.0 +1.0**
comp=Z,5.2nm,0.9s,baz=344,slow=2.7,SNR=23
ESDC PKPab **PKPab 15 38 55.6 +0.9**
comp=Z,19nm,0.9s,baz=328,slow=4.0,SNR=23
ESDC PP **PP 15 42 41.8 +3.2**
comp=Z,5.0nm,1.1s,baz=334,slow=5.8,SNR=6.2
ESLA Sonseca Array 162.74 20 *e*PKPdf **PKPdf 15 38 04.7 -1.4**
MORF Marmelete 162.79 34 *e*P **PKPdf 15 38 05.9 -0.4**
MORF AMS AMS 16 44 25.6
comp=N,321nm,18.1s
MORF Marmelete 162.79 34 *e*PKPdf **PKPdf 15 38 06.0 -0.2**
MORF Marmelete 162.79 34 *e*PKPab **PKPab 15 38 55.2 +0.1**
MORF Marmelete 162.79 34 *e*LR LR 16 35 25.3
comp=N,262nm,24.0s
MORF Marmelete 162.79 34 *e*PKIKP **PKPdf 15 38 05.8 -0.4**
PFVI Vila Bisbo 162.83 35 *e*PKPdf **PKPdf 15 38 06.0 -0.2**
PFVI Vila Bisbo 162.83 35 *e*PKPab **PKPab 15 38 55.4 +0.2**
PFVI Vila Bisbo 162.83 35 *e*PP PP 15 42 38.8 -0.7
PFVI Vila Bisbo 162.83 35 *e*LR LR 16 33 52.6
comp=N,232nm,24.0s
PCVE Castro Verde 162.85 32 *e*PKPdf **PKPdf 15 38 06.8 +0.6**
PCVE Castro Verde 162.85 32 PKPab **PKPab 15 38 55.3 0.0**
PCVE Castro Verde 162.85 32 *e*LR LR 16 33 30.4
comp=N,764nm,24.0s
PBAR Barrancos 162.89 29 *e*PKPdf **PKPdf 15 38 06.2 0.0**
PBAR Barrancos 162.89 29 *e*PKPab **PKPab 15 38 55.8 +0.4**
PBAR Barrancos 162.89 29 *e*LR LR 16 34 22.3
comp=N,466nm,22.0s
PVAQ Vaqueiros 163.19 32 *e*PKPdf **PKPdf 15 38 07.5 +1.0**
PVAQ Vaqueiros 163.19 32 *e*PKPab **PKPab 15 38 57.1 +0.3**
PVAQ Vaqueiros 163.19 32 *e*LR LR 16 33 41.5
comp=N,251nm,20.0s
PBDV Barranco-do-Ve 163.21 33 PKPdf **PKPdf 15 38 07.4 +0.8**
PBDV Barranco-do-Ve 163.21 33 *e*LR LR 16 33 45.2
comp=N,186nm,20.0s
VSL Villasalto 163.32 344 PFAKE 15 38 20.0 +13
VSL LR LR
comp=Z,461nm,21.0s
CLTB Caltabellotta 163.69 331 PFAKE 15 38 20.0 +13
CLTB LR LR
comp=Z,266nm,20.0s
KEST Kesra 166.82 338 PKPab **PKPab 15 39 13.7 +0.8**
comp=Z,6.6nm,1.0s,baz=103,slow=2.8,SNR=4.4
KEST Kesra 166.82 338 *e*PKPab **PKPab 15 39 15.2 +2.4**
TOA0 Torodi Ar. Sit 169.53 171 *e*PKPdf **PKPdf 15 38 11.2 -0.9**
TOA0 *e*PKPdf PKPdf 15 38 11.4 -0.7
TORD Torodi Ar. Bea 169.53 171 PKP **PKPdf 15 38 11.3 -0.8**
comp=Z,11nm,1.0s,baz=306,slow=0.8,SNR=39
TORD PKPab **PKPab 15 39 25.9 +0.9**
comp=Z,10.0nm,0.9s,baz=187,slow=4.0,SNR=7.7
TORD PP **PP 15 43 17.9 +4.5**
comp=Z,3.7nm,1.1s,baz=194,slow=3.1,SNR=4.8
TAM Tamanrasset 177.94 249 *e*PKIKP **PKPdf 15 38 16.0 +0.9**
TAM MLR MLR
comp=Z,469nm,20.0s
TAM Tamanrasset 177.94 249 *e*PKPdf **PKPdf 15 38 16.0 +0.9**
TAM LR LR
comp=Z,469nm,20.0s

*GUC **15** 15:27:14.8±0.5, 35°.09S×72°.69W, h33km±3km, ML3.8*
*SJA **15** 15:28:23.5±0.7, 31°.58S×68°.63W, h99km±4km, ML3.6*
ISC 15 15:27:14.5±1.4, 35°.14S±0°.04×72°.68W±0°.08, h10km, n16, σ1§82/21, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.89**	**107**	*e*P		**Pg**		**15 27 32.1**	**+0.4**
TALC				*e*S		**Sb**		**15 27 45.0**	**+0.9**
COCH	**Cobquecura**	**1.00**	**185**	*e*P		**Pg**		**15 27 33.7**	**0.0**
COCH				*e*S		**Sn**		**15 27 48.3**	**-0.4**
LNCH	**Linares**	**1.13**	**129**	*e*P		**Pb**		**15 27 35.8**	**-0.4**
LNCH				*e*S		**Sn**		**15 27 52.0**	**0.0**
NICH	**Los Niches**	**1.20**	**84**	*e*P		**Pb**		**15 27 36.6**	**-0.6**
NICH				*e*S		**Sb**		**15 27 52.8**	**0.0**
LNV	**Longovilo**	**1.57**	**42**	*e*P		**Pn**		**15 27 41.9**	**-0.6**
CHCH	**Chadas Angostu**	**2.06**	**55**	*e*P		**Pn**		**15 27 49.9**	**+0.7**
CLCH	**Cerro Calan**	**2.48**	**46**	*e*P		**Pn**		**15 27 55.6**	**+0.5**
CLCH				*e*S		**Sn**		**15 28 26.4**	**+0.9**
CLCH				AML		AML		15 28 44.8	
comp=N,625nm,0.6s									
AAGR	**Agrelo**	**3.79**	**58**	*i* P		Sn		15 28 51.2	-6.7
AAGR				*i* S		**Sb**		**15 29 11.5**	**+3.8**
ARCO	**CERRO ARCO**	**3.86**	**55**	*i* P		Sn		15 28 48.4	-11
ARCO				*i* S		**Sb**		**15 29 06.5**	**-3.3**
ARCO				AML		AML		15 29 10.1	
comp=Z,760nm,0.2s									
AUSP	**Uspallata**	**4.00**	**44**	*i* P		Pg		15 28 43.8	+12
AUSP				*i* S		**Sn**		**15 28 59.9**	**-3.3**
RTLS	**Leoncito**	**4.37**	**41**	*i* P		**Pg**		**15 28 41.2**	**+3.1**
RTCV	**Cerro Valdivia**	**4.75**	**48**	*i* P		**Pb**		**15 28 38.8**	**+0.8**
RTCV				*i* P		**Pb**		**15 28 38.8**	**+0.8**
SJA	**San Juan**	**4.98**	**45**	*i* P		Pb		15 28 38.2	-3.8
SJA				*i* S		**Pg**		**15 28 48.5**	**-1.5**
SJA				AML		AML		15 28 50.8	
comp=Z,2μm,0.2s									
CFAA	**Coronel Fontan**	**5.12**	**48**	*i* P		Pb		15 28 38.9	-5.3
CFAA				*i* S		**Pg**		**15 28 50.1**	**-2.5**
RTLL	**Cerro Villicun**	**5.18**	**44**	*i* P		Pn		15 28 38.4	+6.2
ACAN	**Cantantal**	**5.39**	**60**	*i* P		**Pb**		**15 28 49.7**	**+0.8**
ACAN				*i* S		Pg		15 29 08.4	+10

JMA 15 15:27:21.3±0.2, 28°.08N×129°.41E, h22km±3km, M1.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAMN	**Amaminishikomi**	**0.26**	**308**	P		Pb		15 27 27.6	0.0
JAMN				S		Sb		15 27 32.2	+0.3
JAM	**Amami Oshima**	**0.37**	**28**	P		Pb		15 27 28.8	-0.4
JAM				S		Sb		15 27 34.2	-0.4
JTK	**Tokunoshima**	**0.50**	**234**	P		Pb		15 27 31.0	-0.5
JTK				S		Sb		15 27 37.7	-0.6
JZK	**Kikaishima**	**0.55**	**65**	P		Pb		15 27 32.7	+0.4
JZK				*e*S		Sb		15 27 40.6	+0.8
JOKE	**Okinoerabujima**	**1.03**	**226**	P		Pn		15 27 39.9	-0.6
JTAJ	**Takarajima**	**1.08**	**350**	P		Pn		15 27 40.7	-0.5
JTAJ				*e*S		Sn		15 27 55.5	0.0

JMA 15 15:28:41.9, 35°.20N×137°.69E, h16km±1km, M-0.7, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JNY	**Yasuok**	**0.21**	**42**	P		Pg		15 28 46.9	-0.1
JNY				S		Sg		15 28 50.4	0.0

*CSEM **15** 15:35:41.5, 34°.86N×32°.91E, h48km, ML2.9*
NIC 15 15:35:41.5, 34°.86N×32°.91E, h48km, ML2.9, 2C, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SZAC	**Souni-Zanaja**	**0.10**	**193**	P		Pn		15 35 49.1	0.0
baz=12									
SZAC				S		Sn		15 35 55.3	+0.8
SZAC	**Souni-Zanaja**	**0.10**	**193**	P		Pn		15 35 49.1	0.0
SZAC				S		Sn		15 35 55.3	+0.8
CSS	**Prodhromos**	**0.36**	**73**	⇑P		Pn		15 35 51.1	+0.1
baz=253									
CSS	**Prodhromos**	**0.36**	**73**	⇑P		Pn		15 35 51.1	+0.1
ALFC	**Alevga**	**0.39**	**320**	P		Pn		15 35 51.6	+0.2
baz=139									
ALFC				S		Sn		15 35 59.2	+0.7
ALFC	**Alevga**	**0.39**	**320**	P		Pn		15 35 51.6	+0.2
ALFC				S		Sn		15 35 59.2	+0.7
MAMC	**Mammari**	**0.40**	**39**	P		Pn		15 35 52.2	+0.7
baz=218									
MAMC	**Mammari**	**0.40**	**39**	P		Pn		15 35 52.2	+0.7
PPCY	**Paphos**	**0.47**	**274**	P		Pn		15 35 52.1	-0.1
baz=93									
PPCY	**Paphos**	**0.47**	**274**	P		Pn		15 35 52.1	-0.1
AKMC	**Akamas**	**0.51**	**290**	P		Pn		15 35 53.0	+0.3
baz=109									
AKMC	**Akamas**	**0.51**	**290**	P		Pn		15 35 53.0	+0.3

*IDC **15** 15:44:10.7±1.4, 3°.07S×147°.79E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.7/20, mbtmp3.7/9, Error ellipse: s-maj=49.3km s-min=22.3km az=114.0*
ISC 15 15:44:13.2±0.8, 3°.2S±0°.2×148°.0E±0°.1, h22km, n18, σ1§00/11, mb3.7/9, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**1.33**	**332**	P		Pn		15 44 30.4	-6.1
baz=8.7,SNR=71									
RABL	**Rabaul**	**4.27**	**103**	P		**Pb**		**15 45 27.1**	**-0.5**
baz=13,SNR=4.2									
WRA	**Warramunga Arr**	**21.30**	**218**	P		**P**		**15 48 59.0**	**+0.4**
3.6nm,1.0s,baz=44,slow=11,SNR=11									
ASAR	**Alice Springs**	**24.47**	**213**	P		**P**		**15 49 32.0**	**+1.1**
4.7nm,1.1s,baz=42,slow=7.5,SNR=21									
H11S3	**WAKE ISLAND Hy**	**28.37**	**40**	T		T		16 19 57.5	
baz=223,slow=76,SNR=98									
H11S2	**WAKE ISLAND Hy**	**28.37**	**40**	T		T		16 19 56.8	
baz=223,slow=76,SNR=68									
H11S1	**WAKE ISLAND Hy**	**28.38**	**40**	T		T		16 19 58.0	
baz=223,slow=76,SNR=82									
H11N1	**WAKE ISLAND Hy**	**29.40**	**38**	T		T		16 21 10.5	
baz=221,slow=76,SNR=33									
H11N3	**WAKE ISLAND Hy**	**29.41**	**38**	T		T		16 21 11.2	
baz=221,slow=76,SNR=80									
H11N2	**WAKE ISLAND Hy**	**29.41**	**38**	T		T		16 21 11.3	
baz=221,slow=76,SNR=78									
CMAR	**Chiang Mai Arr**	**52.88**	**296**	P		**P**		**15 53 27.5**	**-0.4**
0.6nm,0.7s,baz=126,slow=6.4,SNR=3.8									
PETK	**Petropavlovsk-**	**56.72**	**7**	P		**P**		**15 53 56.7**	**+1.6**
2.1nm,0.8s,baz=174,slow=7.9,SNR=4.4									
MKAR	**Makanchi Array**	**76.02**	**320**	P		**P**		**15 55 57.6**	**-1.3**
0.1nm,0.3s,baz=190,slow=0.9,SNR=3.3									
KURBB	**Kurchatov Arra**	**79.63**	**323**	P		**P**		**15 56 17.9**	**-1.0**
0.1nm,0.2s,baz=100,slow=4.9,SNR=2.5									
ILAR	**Eielson Array**	**82.55**	**23**	P		**P**		**15 56 34.5**	**+0.3**
0.2nm,0.6s,baz=264,slow=5.3,SNR=2.9									
BVAR	**Borovoye Array**	**85.13**	**324**	P		**P**		**15 56 46.9**	**-0.7**
0.3nm,0.5s,baz=93,slow=5.8,SNR=2.1									
YKA	**Yellowknife Ar**	**96.27**	**28**	P		**P**		**15 57 40.0**	**+0.3**
0.2nm,0.7s,baz=276,slow=4.7,SNR=4.2									
TORD	**Torodi Ar. Bea**	**145.27**	**288**	PKPbc		**PKPbc**		**16 03 50.1**	**0.0**
0.9nm,1.2s,baz=50,slow=2.5,SNR=3.0									

*IDC **15** 15:53:01.3±1.4, 5°.64N×125°.05E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.5/40, mbtmp3.7/5, ML4.0/1, Error ellipse: s-maj=111.0km s-min=21.2km az=61.0*
*ISCJB **15** 15:53:12.6±0.6, 5°.91N±0°.06×125°.95E±0°.10, h127km, mb3.6/4, Error ellipse: s-maj=14.5km s-min=6.8km az=161.2*
*MAN **15** 15:53:16, 6°.10N×125°.97E, h59km, mb4.8, ML3.8, MS3.8*
ISC 15 15:53:14.4±0.8, 5°.95N±0°.08×126°.0E±0°.1, h127km, n14, σ1§19/14, mb3.5/4, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.02**	**15**	*e*P		Pn		15 53 32.0	-5.3
MATI				*e*S		Sn		15 53 47.3	-7.3
GSPH	**General Santos**	**1.04**	**277**	⇓*e*P		Pn		15 53 33.3	-4.3
BUKP	**Musuan**	**2.12**	**334**	*e*P		**Pn**		**15 53 48.6**	**-1.2**
CTBH	**Cotabato--PC H**	**2.14**	**306**	⇑*i*P		**Pn**		**15 53 48.9**	**-1.0**
BIPH	**Bislig**	**2.25**	**9**	⇓*i*P		**Pn**		**15 53 51.7**	**+0.4**
BIPH				*i* S		**Sn**		**15 54 19.2**	**-0.4**
CGP	**Cagayan de Oro**	**2.80**	**333**	*e*P		**Pn**		**15 53 56.8**	**-1.5**
CGP				*i* S		**Sn**		**15 54 32.4**	**+0.3**
BUTP	**Butuan**	**3.02**	**353**	*e*P		**Pn**		**15 54 00.9**	**-0.3**
PAGZ	**Pagadian**	**3.20**	**306**	*e*P		**Pn**		**15 54 03.6**	**+0.1**
SIJI	**Sorong**	**8.59**	**142**	Pn		**Pn**		**15 55 13.7**	**-2.2**
1.5nm,0.3s,baz=327,slow=17,SNR=7.6									
WRA	**Warramunga Arr**	**27.01**	**162**	P		**P**		**15 58 44.5**	**-0.2**
0.4nm,0.4s,baz=342,slow=10.0,SNR=15									
ASAR	**Alice Springs**	**30.44**	**166**	P		**P**		**15 59 15.9**	**+0.8**
0.7nm,0.5s,baz=337,slow=7.3,SNR=27									
STKA	**Stephens Creek**	**40.46**	**159**	P		**P**		**16 00 42.0**	**+1.3**
1.6nm,0.4s,baz=344,slow=7.5,SNR=9.8									
MKAR	**Makanchi Array**	**55.32**	**325**	P		**P**		**16 02 35.1**	**+0.1**
0.1nm,0.4s,baz=134,slow=6.2,SNR=3.7									
TORD	**Torodi Ar. Bea**	**121.51**	**289**	PKP		**PKPdf**		**16 11 55.8**	**+1.8**
0.3nm,0.9s,baz=95,slow=0.7,SNR=2.4									

IDC 15 16:02:13.5±8.1, 7°.37S×129°.70E, h175km±89km, mb2.7/1, mb1 2.6/3, mb1mx2.5/19, mbtmp3.0/3, Error ellipse: s-maj=149.0km s-min=35.4km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.29**	**161**	P		Pn		16 05 15.0	-0.6
0.1nm,0.3s,baz=344,slow=13,SNR=8.0									
WRA				S		Sn		16 07 33.5	-10
0.0nm,0.3s,baz=336,slow=22,SNR=3.3									
ASAR	**Alice Springs**	**16.70**	**166**	P		Pn		16 05 57.9	+0.3
0.0nm,0.3s,baz=339,slow=9.3,SNR=4.5									
ASAR				S		S		16 09 02.5	+0.4
0.0nm,0.3s,baz=344,slow=21,SNR=2.7									
MKAR	**Makanchi Array**	**68.37**	**327**	P		P		16 12 56.1	0.0
0.1nm,0.6s,baz=145,slow=5.3,SNR=2.5									

DHMR 15 16:26:13.9±1.4, 12°.05N×43°.72E, h7km±17km, ML3.5, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.24**	**18**	*i* P		Pn		16 26 37.7	-0.2
TRBA				*i* S		Sg		16 26 54.5	+0.1
TRBA				AML		AML		16 26 56.2	
comp=Z,1μm,0.4s									
DHBB	**Dhamar BB**	**2.59**	**14**	*i* P		Pn		16 26 58.9	+2.2
DHBB				*i* S		Sb		16 27 34.3	+0.8
BDHA	**Al Bayda'**	**2.63**	**43**	*i* P		Pn		16 26 58.9	+1.8
BDHA				*i* S		Sb		16 27 35.4	+1.0
BDHA				AML		AML		16 27 42.0	
comp=E,286nm,0.4s									

*SJA **15** 16:35:18.6±0.8, 34°.79S×74°.14W, h15km, ML3.4*
*IDC **15** 16:35:20.1±1.2, 34°.85S×74°.10W, h0km, mb3.8/5, mb1 4.0/8, mb1mx3.8/29, mbtmp3.7/8, ML3.8/3, MS4.0/1, Ms1 4.0/1, ms1mx2.9/21, Error ellipse: s-maj=32.3km s-min=28.4km az=48.0*
*ISCJB **15** 16:35:22.9±0.8, 34°.88S±0°.07×74°.06W±0°.08, h33km, mb3.8/5, MS4.0/1, Error ellipse: s-maj=11.6km s-min=7.3km az=141.8*
ISC 15 16:35:25.5±0.9, 34°.78S±0°.07×74°.11W±0°.10, h35km, n19, σ1§45/24, mb3.6/5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CANA	**Caviahue**	**3.96**	**142**	*i* P		**Pn**		**16 36 22.0**	**-1.8**
AUSP	**Uspallata**	**4.70**	**58**	*i* P		**Pn**		**16 36 33.8**	**-0.3**
AUSP				*i* S		**Sn**		**16 37 29.1**	**+1.6**
AAGR	**Agrelo**	**4.70**	**70**	*i* P		**Pn**		**16 36 33.5**	**-0.5**
AAGR				*i* P		**Pn**		**16 36 33.5**	**-0.5**
ARCO	**CERRO ARCO**	**4.72**	**67**	*i* P		**Pn**		**16 36 34.2**	**-0.1**
ARCO				*i* S		**Sn**		**16 37 29.1**	**+1.1**
ARCO				AML		AML		16 37 34.8	
comp=Z,30nm,0.5s									
ASAL	**Salagasta**	**4.91**	**65**	*i* P		**Pn**		**16 36 36.4**	**-0.5**
RTLS	**Leoncito**	**5.01**	**55**	*i* P		**Pn**		**16 36 37.4**	**-1.0**
RTLS				*i* S		**Sn**		**16 37 35.9**	**+0.8**
RTCV	**Cerro Valdivia**	**5.49**	**60**	*i* P		**Pn**		**16 36 44.1**	**-0.7**
CFAA	**Coronel Fontan**	**5.85**	**59**	Pn		**Pn**		**16 36 48.3**	**-1.5**
comp=Z,0.7nm,0.3s,baz=231,slow=12,SNR=49									
CFAA				Sn		**Sn**		**16 37 54.5**	**-1.1**
comp=Z,0.5nm,0.3s,baz=319,slow=21,SNR=15									
PLCA	**Paso Flores**	**6.58**	**156**	Pn		**Pn**		**16 36 57.4**	**-2.3**
comp=Z,1.5nm,0.3s,baz=324,slow=9.8,SNR=52									
PLCA				Sn		**Sn**		**16 38 16.9**	**+3.5**
baz=32,slow=19,SNR=1.6									
LPAZ	**La Paz**	**19.18**	**18**	P		**Pn**		**16 39 47.5**	**-0.3**
comp=Z,0.1nm,0.3s,baz=164,slow=7.4,SNR=2.5									
SIV	**San Ignacio**	**22.07**	**35**	P		**P**		**16 40 16.7**	**-0.8**
comp=Z,2.4nm,0.9s,baz=234,slow=12,SNR=4.8									
RCBR	**Riachuelo**	**45.51**	**60**	LR		LR		17 02 36.2	
comp=Z,159nm,18.7s,baz=72,slow=36									
TXAR	**Lajitas Array**	**69.61**	**333**	P		**P**		**16 46 31.8**	**+0.7**
comp=Z,1.0nm,0.6s,baz=154,slow=8.6,SNR=13									
NVAR	**Mina Array Bea**	**83.57**	**327**	P		**P**		**16 47 51.1**	**+1.1**
comp=Z,0.3nm,0.6s,baz=171,slow=6.4,SNR=3.6									
PDAR	**Pinedale Array**	**83.71**	**335**	P		**P**		**16 47 49.4**	**-1.3**
comp=Z,0.4nm,0.8s,baz=147,slow=5.4,SNR=2.4									
TORD	**Torodi Ar. Bea**	**86.08**	**71**	P		**P**		**16 48 01.4**	**-1.6**
comp=Z,1.2nm,1.0s,baz=213,slow=6.2,SNR=2.4									
BVAR	**Borovoye Array**	**149.02**	**43**	PKPbc		**PKPbc**		**16 55 10.0**	**+0.7**
comp=Z,0.7nm,0.6s,baz=250,slow=3.0,SNR=5.2									
ZALV	**Zalesovo Beam**	**155.79**	**31**	PKPab		**PKPab**		**16 55 43.6**	**+1.8**
comp=Z,0.3nm,0.4s,baz=295,slow=7.8,SNR=3.7									
MKAR	**Makanchi Array**	**158.56**	**49**	PKPab		**PKPab**		**16 55 55.9**	**+1.8**
comp=Z,0.5nm,0.7s,baz=281,slow=9.3,SNR=7.2									

IDC 15 16:46:27.4±5.3, 17°.06S×174°.08W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/20, mbtmp4.1/3, Error ellipse: s-maj=172.6km s-min=105.0km az=155.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.66**	**241**	P		P		16 54 25.5	-0.6
0.9nm,0.5s,baz=52,slow=7.5,SNR=5.3									
WRA	**Warramunga Arr**	**48.85**	**258**	P		P		16 55 14.9	-0.2
0.4nm,0.4s,baz=94,slow=7.2,SNR=26									
ASAR	**Alice Springs**	**49.00**	**253**	P		P		16 55 16.8	+0.5
4.9nm,0.5s,baz=88,slow=8.8,SNR=228									
ASAR				PcP		PcP		16 56 39.9	-0.5
0.2nm,0.5s,baz=105,slow=3.6,SNR=4.1									

*ISCJB **15** 16:49:15.7±1.0, 9°.7N±0°.2×40°.6W±0°.2, h10km, mb3.6/6, Error ellipse: s-maj=32.4km s-min=20.1km az=150.8*
*IDC **15** 16:49:15.7±1.3, 9°.69N×40°.60W, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.6/26, mbtmp3.7/6, Error ellipse: s-maj=40.1km s-min=26.3km az=154.0*
ISC 15 16:49:17.3±1.1, 9°.7N±0°.2×40°.6W±0°.2, h10km, n12, σ1§05/6, mb3.6/6, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PTGA	**Pitinga**	**21.87**	**243**	P		**P**		**16 54 09.5**	**-1.0**
3.3nm,0.8s,baz=69,slow=15,SNR=4.1									
H10N3	**ASCENSION HYDR**	**31.27**	**123**	T		T		17 28 28.8	
baz=303,slow=75,SNR=4.4									
H10N2	**ASCENSION HYDR**	**31.27**	**123**	T		T		17 28 31.1	
baz=303,slow=75,SNR=5.4									
H10N1	**ASCENSION HYDR**	**31.29**	**123**	T		T		17 28 33.0	
baz=303,slow=75,SNR=5.6									
H10S3	**ASCENSION HYDR**	**31.75**	**125**	T		T		17 29 08.9	
baz=305,slow=74,SNR=2.9									
H10S1	**ASCENSION HYDR**	**31.76**	**125**	T		T		17 29 09.2	
baz=305,slow=74,SNR=3.2									
H10S2	**ASCENSION HYDR**	**31.77**	**125**	T		T		17 29 07.0	
baz=305,slow=74,SNR=2.5									

s-maj=65.9km s-min=27.0km az=134.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**21.50**	**245**	P	P	17 04 57.1	-1.6
	1.7nm,0.7s,baz=87,slow=13,SNR=9.3						
STKA	**Stephens Creek**	**30.76**	**225**	P	P	17 06 26.6	+1.3
	2.0nm,0.7s,baz=49,slow=8.5,SNR=4.8						
WRA	**Warramunga Arr**	**32.31**	**251**	P	P	17 06 39.2	0.0
	0.7nm,0.7s,baz=84,slow=9.2,SNR=9.1						
WRA				PcP	PcP	17 09 27.0	-0.6
	0.6nm,1.1s,baz=77,slow=3.4,SNR=4.0						
ASAR	**Alice Springs**	**33.51**	**245**	P	P	17 06 49.6	0.0
	0.7nm,0.7s,baz=69,slow=9.6,SNR=13						
ASAR				PcP	PcP	17 09 29.8	-1.0
	0.2nm,0.6s,baz=81,slow=3.0,SNR=4.6						
CMAR	**Chiang Mai Arr**	**73.38**	**293**	P	P	17 11 43.3	+0.7
	1.1nm,0.6s,baz=124,slow=4.9,SNR=9.2						
MKAR	**Makanchi Array**	**94.75**	**317**	P	P	17 13 31.4	-0.3
	0.8nm,0.6s,baz=94,slow=3.8,SNR=12						
YKA	**Yellowknife Ar**	**95.03**	**27**	P	P	17 13 32.3	-0.2
	0.1nm,0.4s,baz=260,slow=3.7,SNR=2.7						

MEX 15 17:17:45.4±0.3, 17°.24N×101°.30W, h13^{km}, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.39**	**336**	*eP*	Pg	17 17 52.6	-0.7
ZIIG				*i* S	Sg	17 17 58.3	-0.4
CAIG	**El Cayaco**	**1.01**	**101**	*eP*	Pb	17 18 01.4	-3.3
CAIG				*eS*	Sb	17 18 13.9	-4.0
ARIG	**Puente Sto Nin**	**1.37**	**41**	*i* P	Pn	17 18 06.7	-3.7
ARIG				*eS*	Sn	17 18 22.4	-6.1
ACX	**Acapulco**	**1.43**	**105**	*eP*	Pg	17 18 12.5	-0.5
ACX				*eS*	Sn	17 18 28.5	-1.3
TLIG	**Tlapa**	**2.63**	**83**	*eP*	Pn	17 18 18.7	-9.0

*ISCJB **15** 17:22:22.9±0.4, 5.°86S±0.°04×146.°45E±0.°07, h100^{km}, mb4.0/22, Error ellipse: s-maj=10.0km s-min=5.5km az=172.8*
*NEIC **15** 17:22:23.7±1.1, 5.°89S×146.°41E, h95^{km}±11^{km}, mb4.2/6, Error ellipse: s-maj=12.3km s-min=8.6km az=72.0*
*IDC **15** 17:22:24.9±3.3, 5.°79S×146.°44E, h102^{km}±29^{km}, mb3.8/17, mb1 4.0/21, mb1mx3.9/25, mbtmp4.1/21, MS3.4/4, Ms1 3.4/4, ms1mx3.0/26, Error ellipse: s-maj=25.3km s-min=11.4km az=80.0*

ISC 15 17:22:24.6±0.5, 5.°93S±0.°06×146.°42E±0.°08, h100^{km}, n56, σ1^{s}47/52, mb4.0/20, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.54**	**168**	P	**Pn**	**17 23 14.4**	**-3.2**
	baz=3.7,SNR=31						
PMG	**Port Moresby**	**3.54**	**168**	*e*Pn	**Pn**	**17 23 14.3**	**-3.2**
PMG				*e*Sn	**Sn**	**17 23 58.3**	**-0.2**
RABL	**Rabaul**	**5.98**	**74**	P	Pn	17 23 44.3	-6.4
	baz=5.8,SNR=10						
JAY	**Jayapura**	**6.63**	**301**	P	**Pn**	**17 24 00.9**	**+1.4**
	0.8nm,0.3s,baz=90,slow=3.0,SNR=5.1						
JAY				LR	LR	17 26 48.8	
	comp=Z,243nm,20.8s,baz=54,slow=40						
COEN	**Coen**	**8.60**	**202**	P	**Pn**	**17 24 24.8**	**-1.4**
	baz=8.8,SNR=28						
COEN	**Coen**	**8.60**	**202**	*e*Pn	**Pn**	**17 24 24.6**	**-1.7**
	21nm,0.6s						
COEN				*e*Sn	**Sn**	**17 25 59.7**	**-1.9**
HNR	**Honiara**	**13.85**	**105**	Pn	**Pn**	**17 25 38.0**	**+1.2**
CTA	**Charters Tower**	**14.08**	**181**	P	**Pn**	**17 25 40.3**	**+0.7**
	0.4nm,0.3s,baz=1.8,slow=15,SNR=5.7						
CTAO	**Charters Tower**	**14.08**	**181**	*e*Pn	**Pn**	**17 25 38.5**	**-1.1**
	23nm,1.3s						
KDU	**Kakadu**	**15.31**	**243**	P	**P**	**17 25 56.2**	**-1.7**
	baz=16,SNR=4.3						
SIJI	**Sorong**	**15.93**	**288**	P	**P**	**17 26 05.0**	**+0.1**
	1.1nm,0.3s,baz=49,slow=13,SNR=9.3						
QIS	**Mount Isa**	**15.98**	**204**	P	**P**	**17 26 05.2**	**-0.1**
	baz=16,SNR=4.3						
WRAB	**Tennant Creek**	**18.21**	**219**	*e*Pn	**Pn**	**17 26 29.9**	**-1.1**
	7μm,0.7s						
WRA	**Warramunga Arr**	**18.22**	**219**	P	**Pn**	**17 26 30.4**	**-0.8**
	0.3nm,0.3s,baz=41,slow=12,SNR=23						
WRA				PcP	**PcP**	**17 31 00.5**	**+1.7**
	0.2nm,0.3s,baz=26,slow=1.9,SNR=14						
KNRA	**Kununurra**	**19.85**	**239**	P	**Pn**	**17 26 53.9**	**+3.6**
	baz=20,SNR=6.0						
RMQ	**Roma**	**20.57**	**174**	P	Pn	17 26 59.4	+0.8
	baz=21,SNR=18						
QLP	**Quilpie**	**20.65**	**186**	P	Pn	17 26 57.9	-1.7
	baz=21,SNR=21						
AS31	**Alice Springs**	**21.36**	**213**	*e*P	**P**	**17 27 04.5**	**+0.4**
ASAR	**Alice Springs**	**21.36**	**213**	P	**P**	**17 27 04.3**	**+0.3**
	4.3nm,0.9s,baz=46,slow=9.7,SNR=22						
ASAR				PcP	**PcP**	**17 31 05.6**	**+1.1**
	0.8nm,0.8s,baz=45,slow=2.9,SNR=4.6						
ASAR				LR	LR	17 37 09.2	
	comp=Z,88nm,19.6s,baz=56,slow=41						
WRKA	**Warakurna**	**25.75**	**221**	P	**P**	**17 27 47.9**	**+1.9**
	baz=26,SNR=11						
WSI	**Wainganu**	**26.14**	**260**	S	S	17 32 21.5	+7.2
	baz=26,SNR=3.4						
STKA	**Stephens Creek**	**26.21**	**189**	P	**P**	**17 27 51.8**	**+1.7**
	4.9nm,0.7s,baz=360,slow=7.2,SNR=17						
STKA				LR	LR	17 38 14.3	
	comp=Z,120nm,19.6s,baz=16,slow=36						
STKA	**Stephens Creek**	**26.21**	**189**	P	**P**	**17 27 52.0**	**+1.8**
	baz=26,SNR=9.7						
STKA	**Stephens Creek**	**26.21**	**189**	*e*P	**P**	**17 27 50.9**	**+0.7**
	1.2nm,0.8s						
HTT	**Hallett**	**28.24**	**193**	P	P	17 28 13.4	+5.1
	baz=29,SNR=3.8						
MEEK	**Meekatharra**	**33.56**	**229**	P	P	17 29 01.8	+6.5
	baz=34,SNR=6.0						
YHNB	**Yeheng**	**38.98**	**322**	P	**P**	**17 29 41.7**	**+0.3**
	23nm,1.1s						
MJAR	**Matsushiro Arr**	**42.94**	**350**	P	**P**	**17 30 11.6**	**-2.0**
	1.1nm,0.5s,baz=180,slow=7.2,SNR=6.0						
RPZ	**Rata Peaks**	**43.43**	**1**	P	**P**	**17 30 18.2**	**+0.6**
	8.1nm,0.8s,baz=234,slow=1.7,SNR=5.9						
KSRS	**Korea Array**	**46.48**	**340**	P	**P**	**17 30 41.5**	**-0.2**
	1.8nm,0.6s,baz=155,slow=8.8,SNR=9.5						
KSAR	**Wonju Array Be**	**46.48**	**340**	P	**P**	**17 30 41.5**	**-0.3**
KULM	**Kulim**	**47.03**	**283**	*e*P	**P**	**17 30 45.8**	**-0.7**
	3.9nm,0.6s						
USRK	**Ussuriysk Ar.**	**51.56**	**347**	P	**P**	**17 31 19.6**	**-0.8**
	2.4nm,0.5s,baz=197,slow=8.8,SNR=6.3						
CMAR	**Chiang Mai Arr**	**52.71**	**298**	P	**P**	**17 31 30.2**	**+0.8**
	1.2nm,0.6s,baz=124,slow=6.0,SNR=11						
PETK	**Petropavlovsk-**	**59.58**	**8**	P	**P**	**17 32 17.2**	**-0.5**
	1.8nm,0.6s,baz=166,slow=8.8,SNR=6.8						
CASY	**Casey**	**65.18**	**195**	P	**P**	**17 32 56.6**	**+1.8**
	3.7nm,0.8s						
VNDA	**Vanda**	**72.02**	**177**	P	**P**	**17 33 38.1**	**+0.9**
	0.6nm,0.6s,baz=314,slow=7.8,SNR=3.6						
MK31	**Makanchi Array**	**77.07**	**321**	*e*P	**P**	**17 34 05.7**	**-1.3**
MKAR	**Makanchi Array**	**77.07**	**321**	P	**P**	**17 34 06.2**	**-0.8**
	0.7nm,0.6s,baz=95,slow=3.8,SNR=12						
ZAA0	**Zalesovo Array**	**78.64**	**328**	P	**P**	**17 34 13.2**	**-2.2**
ZALV	**Zalesovo Beam**	**78.64**	**328**	P	**P**	**17 34 13.7**	**-1.8**
	1.2nm,0.5s,baz=114,slow=6.3,SNR=8.1						
KURK	**Kurchatov**	**80.81**	**323**	P	**P**	**17 34 26.3**	**-1.0**
KURBB	**Kurchatov Arra**	**80.83**	**323**	P	**P**	**17 34 26.3**	**-1.1**
	0.4nm,0.7s,baz=125,slow=4.6,SNR=8.1						
AAK	**Ala-Archa**	**80.88**	**315**	P	**P**	**17 34 26.6**	**-1.5**
	0.9nm,0.6s						
EKS2	**Erkin-Say**	**81.39**	**315**	P	**P**	**17 34 29.4**	**-1.3**
QSPA	**South Pole Qui**	**84.04**	**180**	P	**P**	**17 34 44.4**	**+0.4**
	1.4nm,0.7s,baz=281,slow=0.4,SNR=9.1						
ILAR	**Eielson Array**	**85.64**	**23**	P	**P**	**17 34 49.8**	**-2.1**
	2.7nm,0.6s,baz=252,slow=5.0,SNR=37						
ILAR				LR	LR	18 07 29.6	
	comp=Z,27nm,20.9s,baz=150,slow=32						
BVAR	**Borovoye Array**	**86.37**	**324**	P	**P**	**17 34 53.5**	**-2.1**
	0.6nm,0.6s,baz=132,slow=8.2,SNR=4.5						
BRVK	**Borovoye**	**86.44**	**324**	P	**P**	**17 34 57.4**	**+1.4**
	2.4nm,0.8s						
NVAR	**Mina Array Bea**	**97.78**	**52**	P	Pdif	17 35 49.9	+0.6
	0.5nm,0.7s,baz=254,slow=5.9,SNR=4.2						
YKA	**Yellowknife Ar**	**99.38**	**28**	P	**Pdif**	**17 35 56.2**	**+0.7**
	0.1nm,0.6s,baz=274,slow=4.7,SNR=3.2						
TOA0	**Torodi Ar. Sit**	**144.51**	**284**	*e*PKPdf	PKPbc	17 41 48.6	-0.7
TORD	**Torodi Ar. Bea**	**144.51**	**284**	PKP	**PKPdf**	**17 41 49.4**	**-1.1**
	2.0nm,0.7s,baz=56,slow=3.0,SNR=14						
SIV	**San Ignacio**	**145.15**	**129**	PKPbc	**PKPdf**	**17 41 51.9**	**+0.3**
	6.2nm,0.7s,baz=237,slow=5.2,SNR=26						
SAML	**Samuel**	**147.00**	**116**	*e*PKPbc	**PKPbc**	**17 41 56.8**	**-0.1**
SAML				*e*SKP		17 45 13.3	
DBIC	**Dimbokro**	**151.44**	**273**	PKPbc	**PKPbc**	**17 42 08.2**	**+0.2**
	1.6nm,0.6s,baz=270,slow=1.0,SNR=2.4						

*SJA **15** 17:39:40.1±0.8, 33.°95S×72.°61W, h22^{km}±31^{km}, ML3.9*
*GUC **15** 17:39:44.7±0.7, 33.°63S×72.°03W, h15^{km}±471^{km}, ML3.8*
*IDC **15** 17:39:46.7±5.5, 33.°49S×71.°74W, h33^{km}±39^{km}, mb3.6/2, mb1 3.8/5, mb1mx3.7/19, mbtmp3.8/5, ML3.7/3, MS3.7/2, Ms1 3.7/2, ms1mx3.1/24, Error ellipse: s-maj=40.9km s-min=26.7km az=110.0*

ISC 15 17:39:43.1±1.2, 33.°63S±0.°04×72.°04W±0.°05, h18^{km}±4^{km}, n32, σ0^{s}76/43, 6C-6D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.62**	**122**	*i* P	**Pg**	**17 39 56.4**	**+1.0**
IHA	**Instituto Hidr**	**0.69**	**29**	*i* P	**Pb**	**17 39 57.3**	**+0.7**
IHA				*i* S	**Sg**	**17 40 06.8**	**+1.0**
TACH	**Talagante**	**0.92**	**92**	*i* P	**Pb**	**17 40 00.7**	**+0.1**
RCDM	**Rinconada Maip**	**1.04**	**83**	*i* P	**Pb**	**17 40 02.4**	**-0.2**
RCDM				*i* S	**Sb**	**17 40 16.2**	**+0.2**
RCDM				AML	AML	17 40 17.9	
	comp=E,3μm,0.4s						
SAN	**Santiago**	**1.17**	**82**	*i* P	**Pn**	**17 40 04.9**	**+0.3**
SAN				*eS*	**Sb**	**17 40 20.7**	**+1.0**
STL	**Santa Lucia**	**1.19**	**81**	*eP*	**Pn**	**17 40 04.4**	**-0.5**
STL				*eS*	**Sb**	**17 40 20.1**	**-0.1**
CHCH	**Chadas Angostu**	**1.20**	**105**	*i* P	**Pn**	**17 40 05.1**	**0.0**
CHCH				*i* S	**Sb**	**17 40 21.1**	**+0.5**
FSR	**Penalolen**	**1.27**	**84**	*i* P	**Pg**	**17 40 08.4**	**+0.7**
FSR				*i* S	**Sb**	**17 40 24.8**	**+2.0**
LACH	**Col Las Americ**	**1.27**	**82**	*eP*	**Pn**	**17 40 06.6**	**+0.4**
LACH				*eS*	**Sn**	**17 40 23.2**	**+0.4**
PCH	**Pirque**	**1.27**	**90**	*i* P	**Pn**	**17 40 06.7**	**+0.5**
CLCH	**Cerro Calan**	**1.28**	**80**	*i* P	**Pn**	**17 40 06.9**	**+0.7**
CLCH				*i* S	**Sn**	**17 40 23.3**	**+0.3**
CLCH				AML	AML	17 40 30.2	
	comp=E,5μm,0.4s						
CACH	**El Canelo**	**1.29**	**113**	*i* P	**Pb**	**17 40 08.1**	**+1.0**
SJCH	**San Jose de Ma**	**1.41**	**91**	*i* P	**Pn**	**17 40 07.9**	**-0.1**
SJCH				*i* S	**Sn**	**17 40 26.5**	**+0.3**
NICH	**Los Niches**	**1.53**	**154**	*eP*	**Pn**	**17 40 11.2**	**+0.2**
NICH				*i* S	**Sb**	**17 40 31.2**	**+1.2**
TALC	**Talca**	**1.80**	**169**	*i* P	**Pb**	**17 40 15.1**	**-0.5**
TALC				*i* S	**Sb**	**17 40 38.3**	**+0.6**
AUSP	**Uspallata**	**2.63**	**59**	*i* P	**Pb**	**17 40 30.5**	**+0.5**
ARCO	**CERRO ARCO**	**2.72**	**74**	*i* P	**Pb**	**17 40 32.0**	**+0.6**
ARCO				*i* S	**Sg**	**17 41 09.2**	**-1.5**
ARCO				AML	AML	17 41 18.9	
	comp=Z,306nm,0.8s						
AAGR	**Agrelo**	**2.74**	**79**	*i* P	**Pb**	**17 40 31.4**	**-0.4**
ASAL	**Salagasta**	**2.88**	**70**	*i* P	**Pb**	**17 40 34.1**	**0.0**
RTLS	**Leoncito**	**2.95**	**52**	*i* P	**Pb**	**17 40 35.5**	**+0.2**
RTLS				*i* P	**Pb**	**17 40 35.5**	**+0.2**
RTLS				*i* S	**Sg**	**17 41 16.8**	**-1.1**
RTLL	**Cerro Villicun**	**3.79**	**54**	*i* P	Pb	17 40 45.9	-3.6
CFAA	**Coronel Fontan**	**3.79**	**59**	Pn	**Pn**	**17 40 39.4**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=231,slow=9.5,SNR=4.5						
CFAA				Lg	Lg	17 41 37.8	
	comp=Z,3.5nm,0.3s,baz=22,slow=17,SNR=7.0						
CFAA				LR	LR	17 42 32.6	
	comp=Z,31nm,20.3s,baz=274,slow=47						
PLCA	**Paso Flores**	**7.19**	**171**	Pn	Pn	17 41 31.1	+3.6
	comp=Z,0.2nm,0.3s,baz=343,slow=11,SNR=2.3						
LVC	**Limon Verde**	**11.31**	**15**	LR	LR	17 47 04.1	
	comp=Z,614nm,19.2s,baz=224,slow=39						
LPAZ	**La Paz**	**17.62**	**12**	P	**Pn**	**17 43 48.5**	**0.0**
	comp=Z,0.1nm,0.3s,baz=182,slow=2.3,SNR=6.0						
SIV	**San Ignacio**	**20.16**	**32**	P	**P**	**17 44 16.2**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=205,slow=8.4,SNR=3.4						
BDFB	**Brasilia**	**28.13**	**56**	LR	LR	17 57 59.0	
	comp=Z,97nm,18.5s,baz=192,slow=39						
TXAR	**Lajitas Array**	**69.41**	**331**	P	**P**	**17 50 50.9**	**+0.7**
	comp=Z,0.1nm,0.5s,baz=146,slow=9.1,SNR=4.2						
TORD	**Torodi Ar. Bea**	**84.09**	**70**	P	**P**	**17 52 12.2**	**-1.1**
	comp=Z,1.8nm,0.8s,baz=250,slow=4.1,SNR=6.8						
BVAR	**Borovoye Array**	**147.01**	**43**	PKPbc	**PKPbc**	**17 59 25.3**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=300,slow=3.6,SNR=6.2						
ZALV	**Zalesovo Beam**	**153.91**	**32**	PKPbc	**PKPbc**	**17 59 41.2**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=285,slow=2.8,SNR=3.8						
ZALV				PKPab	**PKPab**	**17 59 53.5**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=298,slow=5.0,SNR=3.5						
MKAR	**Makanchi Array**	**156.52**	**48**	PKPab	**PKPab**	**18 00 05.4**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=305,slow=5.1,SNR=3.6						

*IDC **15** 17:41:46.1±1.2, 29.°85N×50.°61E, h0^{km}, mb3.9/16, mb1 4.0/22, mb1mx3.8/38, mbtmp3.9/22, ML3.4/6, MS2.8/1, Ms1 2.8/1, ms1mx2.4/39, Error ellipse: s-maj=28.5km s-min=13.9km az=163.0*
*ISCJB **15** 17:41:47.2±0.5, 29.°74N±0.°05×50.°53E±0.°04, h22^{km}, mb3.9/21, Error ellipse: s-maj=7.5km s-min=5.1km az=2.5*
*TEH **15** 17:41:47.9, 29.°70N×50.°63E, h3^{km}, ML3.6*
*CSEM **15** 17:41:47.2±0.4, 29.°74N×50.°55E, h12^{km}, mb4.0/15, Error ellipse: s-maj=13.7km s-min=8.5km az=12.0*
*MOS **15** 17:41:48.6±1.3, 29.°79N×50.°60E, h33^{km}, mb4.0/14, Error ellipse: s-maj=14.6km s-min=8.9km az=102.7*

ISC 15 17:41:48.8±0.7, 29.°72N±0.°07×50.°64E±0.°05, h22^{km}, n64, σ1^{s}22/69, mb3.9/21, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKAZ	**Kazeroun**	**1.05**	**87**	*e*		17 42 26.3	
	comp=Z,9μm,0.1s						
IKAZ				*e*Pg	Pn	17 42 03.8	-4.7
IKAZ	**Kazeroun**	**1.05**	**87**	*e*Pg	Pn	17 42 03.7	-4.7
SHI	**Shiraz**	**1.63**	**92**	*e*Pn	**Pb**	**17 42 17.2**	**-1.1**
SHI				*e*Sg	**Sb**	**17 42 39.0**	**+0.4**
SHI				*e*		17 42 41.2	
	comp=Z,10μm,0.3s						
SHI	**Shiraz**	**1.63**	**92**	*e*Pn	**Pb**	**17 42 17.2**	**-1.1**
SHI				*e*Sg	**Sb**	**17 42 39.0**	**+0.4**
IPAR	**Pars**	**2.10**	**86**	*e*Pn	**Pn**	**17 42 24.2**	**+1.3**
IPAR				*e*		17 43 06.2	
	comp=Z,3μm,0.4s						
IPAR	**Pars**	**2.10**	**86**	*e*Pn	**Pn**	**17 42 24.2**	**+1.3**
ISRV	**Sarvestan**	**2.18**	**98**	*e*Pn	**Pn**	**17 42 25.4**	**+1.3**
ISRV				*e*		17 43 22.6	
	comp=Z,5μm,0.5s						
ISRV	**Sarvestan**	**2.18**	**98**	*e*Pn	**Pn**	**17 42 25.4**	**+1.3**
IPIR	**Pirpir**	**2.96**	**4**	*e*Pn	**Pn**	**17 42 35.4**	**+0.6**
IPIR				*e*Sn	**Sn**	**17 43 11.3**	**+1.5**
IPIR				*e*		17 43 32.6	
	comp=Z,3μm,0.3s						
IPIR	**Pirpir**	**2.96**	**4**	*e*Pn	**Pn**	**17 42 35.4**	**+0.6**
IPIR				*e*Sn	**Sn**	**17 43 11.3**	**+1.5**
ISAD	**Sadrabad**	**3.41**	**49**	*e*Pn	**Pn**	**17 42 42.1**	**+1.1**
ISAD				*e*		17 43 45.2	
	comp=Z,1μm,0.3s						
ISAD	**Sadrabad**	**3.41**	**49**	*e*Pn	**Pn**	**17 42 42.1**	**+1.1**
IZEF	**Zefreh**	**3.48**	**24**	*e*Pn	**Pn**	**17 42 43.3**	**+1.4**
IZEF				*e*		17 42 48.9	
	comp=Z,567nm,0.1s						
IZEF	**Zefreh**	**3.48**	**24**	*e*Pn	**Pn**	**17 42 43.3**	**+1.4**
IKLH	**Kolahrood**	**3.68**	**12**	*e*Pn	**Pn**	**17 42 45.8**	**+1.2**
IKLH				*e*Sn	**Sn**	**17 43 27.5**	**+0.2**
IKLH				*e*		17 44 05.9	
	comp=Z,2μm,0.6s						
IKLH	**Kolahrood**	**3.68**	**12**	*e*Pn	**Pn**	**17 42 45.8**	**+1.2**
IKLH				*e*Sn	**Sn**	**17 43 27.5**	**+0.2**
IMEH	**Mehriz**	**3.81**	**63**	*e*Pn	**Pn**	**17 42 47.1**	**+0.7**
IMEH				*e*		17 44 03.5	
	comp=Z,632nm,0.6s						
IMEH	**Mehriz**	**3.81**	**63**	*e*Pn	**Pn**	**17 42 47.1**	**+0.7**
GEYT	**Alibeck**	**10.28**	**35**	Pn	**Pn**	**17 44 15.1**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=224,slow=10,SNR=10.0						
GEYT				LR	LR	17 48 26.8	
	comp=Z,57nm,19.9s,baz=125,slow=39						
ASF	**Jabal al Asfar**	**12.05**	**285**	Pn	**Pn**	**17 44 39.5**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=117,slow=2.3,SNR=3.7						
MMAI	**Mount Meron Ar**	**13.43**	**288**	Pn	**Pn**	**17 44 58.1**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=94,slow=15,SNR=2.4						
EIL	**Elat**	**13.64**	**274**	Pn	**Pn**	**17 45 01.2**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=349,slow=5.2,SNR=2.4						
ZEI	**Tsey**	**14.12**	**339**	*e*P	**Pn**	**17 45 08.1**	**+0.5**
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KBZ	**Khabaz**	**15.28**	**338**	Pn	**Pn**	**17 45 23.6**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=233,slow=20,SNR=4.5						
KIV	**Kislovodsk**	**15.55**	**338**	*i* P	**P**	**17 45 31.4**	**+0.5**
KIV				pmax	pmax		
	comp=Z,23nm,1.0s						
KIV	**Kislovodsk**	**15.55**	**338**	*i* P	**P**	**17 45 31.4**	**+0.5**
	comp=Z,23nm,1.0s						
BRTR	**Keskin Array B**	**17.14**	**310**	Pn	**P**	**17 45 47.6**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=131,slow=12,SNR=16						
AKTK	**Aktyubinsk**	**21.42**	**13**	P	**P**	**17 46 33.9**	**-1.2**
	comp=Z,2.0nm,0.6s						
AKTO	**Aktyubinsk**	**21.42**	**13**	P	**P**	**17 46 33.9**	**-1.2**
	comp=Z,1.6nm,0.6s,baz=199,slow=12,SNR=7.5						
AKTO	**Aktyubinsk**	**21.42**	**13**	P	**P**	**17 46 33.9**	**-1.2**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.6s						
IDI	**Anoyia**	**22.38**	**291**	P	**P**	**17 46 44.7**	**-0.9**
	comp=Z,11nm,0.7s,baz=117,slow=7.6,SNR=5.4						
VORD	**Divnogorie**	**22.86**	**341**	*e*P	**P**	**17 46 47.8**	**-2.7**
VORD				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VORD				pmax	pmax		
	comp=N,10.0nm,0.6s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.6s						
VORD	**Divnogorie**	**22.86**	**341**	*e*P	**P**	**17 46 47.8**	**-2.7**
	comp=E,10.0nm,0.9s						
AAK	**Ala-Archa**	**23.08**	**50**	P	**P**	**17 46 53.5**	**+0.5**
	comp=E,0.7nm,0.2s,baz=223,slow=13,SNR=2.5						
AAK	**Ala-Archa**	**23.08**	**50**	P	**P**	**17 46 53.5**	**+0.5**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.2s						
VSR	**Storozhevoye**	**23.12**	**341**	*e*P	**P**	**17 46 49.6**	**-3.6**
VSR				pmax	pmax		
	comp=N,5.0nm,0.5s						
VSR				pmax	pmax		
	comp=E,5.0nm,0.5s						
VSR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
LPSR	**Galich'ya Gora**	**24.44**	**343**	*e*P	**P**	**17 47 03.6**	**-2.1**
LPSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
LPSR				pmax	pmax		
	comp=N,6.0nm,0.5s						
LPSR				pmax	pmax		
	comp=E,7.0nm,0.4s						
LPSR	**Galich'ya Gora**	**24.44**	**343**	*e*P	**P**	**17 47 03.6**	**-2.1**
	comp=E,6.0nm,0.5s						
MLR	**Muntele Rosu**	**24.97**	**316**	P	**P**	**17 47 11.9**	**+1.1**
	comp=E,1.2nm,0.8s,baz=164,slow=1.7,SNR=9.6						
MLR	**Muntele Rosu**	**24.97**	**316**	P	**P**	**17 47 11.9**	**+1.1**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**26.41**	**329**	P	**P**	**17 47 23.0**	**-0.6**
	comp=Z,3.1nm,0.6s,baz=136,slow=9.4,SNR=20						
AKASG	**Malin Array Be**	**26.41**	**329**	P	**P**	**17 47 23.0**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BVAR	**Borovoye Array**	**27.42**	**26**	P	**P**	**17 47 32.2**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=205,slow=6.6,SNR=6.9						
BVAR	**Borovoye Array**	**27.42**	**26**	P	**P**	**17 47 32.2**	**-0.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**29.55**	**37**	P	**P**	**17 47 52.1**	**+0.5**
	comp=Z,0.7nm,0.9s,baz=236,slow=9.3,SNR=6.5						
KURK	**Kurchatov**	**29.64**	**37**	P	**P**	**17 47 52.1**	**-0.4**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KURK	**Kurchatov**	**29.64**	**37**	P	**P**	**17 47 52.1**	**-0.4**
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**29.87**	**46**	P	**P**	**17 47 55.1**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=247,slow=11,SNR=4.1						
MKAR				PcP	**PcP**	**17 50 59.1**	**+1.8**
	comp=Z,0.3nm,0.8s,baz=245,slow=2.7,SNR=2.7						
ZALV	**Zalesovo Beam**	**34.

0.3nm,0.8s,baz=13,slow=10.0,SNR=4.2

IDC 15 17:59:42.0±2.5, 10°.91N×122°.28E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.1/38, mbtmp3.2/3, Error ellipse: s-maj=258.6km s-min=26.0km az=63.0, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.88**	**159**	P	P	18 06 16.2	-1.7
	0.4nm,0.8s,baz=337,slow=10,SNR=8.1						
ASAR	**Alice Springs**	**36.20**	**162**	P	P	18 06 48.2	+1.6
	0.1nm,0.4s,baz=345,slow=9.1,SNR=6.0						
MKAR	**Makanchi Array**	**49.19**	**324**	P	P	18 08 31.8	-0.2
	0.2nm,0.5s,baz=133,slow=7.5,SNR=3.6						

*SKHL **15** 18:00:39.7±0.5, 43°.67N×147°.63E, h30km±5km, mb4.4/2*
*JMA **15** 18:00:39.6±0.2, 43°.56N×147°.55E, h41km, M3.1*
ISC 15 18:00:39.2±2.8, 43°.6N±0°.1×147°.7E±0°.1, h45km, n9, σ1°.08/14, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.65**	**293**	*e*P	**Pn**	**18 00 51.4**	**-0.7**
SHO				AMB	AMB	18 00 51.6	
	240nm,0.2s						
SHO				*e*S	**Sn**	**18 01 00.0**	**-1.4**
SHO				A	A	18 01 00.4	
	520nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.37**	**288**	*i* P	**Pn**	**18 01 01.4**	**-0.4**
YUK				AMB	AMB	18 01 02.8	
	20nm,0.3s						
YUK				AMB	AMB	18 01 02.8	
	40nm,0.3s						
YUK				AMB	AMB	18 01 02.8	
	70nm,0.3s						
YUK				*i* S	**Sn**	**18 01 18.1**	**-0.6**
YUK				A	A	18 01 18.5	
	180nm,0.4s						
YUK				A	A	18 01 18.5	
	310nm,0.4s						
NEM2	**Nemuro 2**	**1.42**	**260**	P	**Pn**	**18 01 02.4**	**-0.1**
NEM2				*e*S	**Sn**	**18 01 18.8**	**-1.1**
KUR	**Kuril'sk**	**1.62**	**5**	*e*P	**Pn**	**18 01 05.2**	**-0.1**
KUR				*i* S	**Sn**	**18 01 24.0**	**-0.9**
KUR				A	A	18 01 37.3	
	80nm,0.6s						
JRA	**Rausu**	**1.87**	**281**	P	**Pn**	**18 01 09.1**	**+0.5**
JNK	**Nakash**	**2.14**	**270**	P	**Pn**	**18 01 12.9**	**+0.5**
JNK				*e*S	**Sn**	**18 01 37.4**	**-0.3**
JAK	**Akkeshi**	**2.25**	**255**	P	**Pn**	**18 01 14.5**	**+0.6**
JAR	**Ashorobuto**	**2.85**	**265**	*e*S	**Sn**	**18 01 55.6**	**+0.4**
YSS	**Yuzh-Sakhalins**	**4.81**	**316**	*e*P	**Pn**	**18 01 51.5**	**+2.5**

MEX 15 18:11:50.1±0.4, 32°.31N×115°.09W, h13km±11km, MD3.7, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.14**	**319**	*e*P	Pg	18 11 53.3	-0.3
SPIG	**San Pedro Mart**	**1.29**	**194**	*e*P	Pn	18 12 10.4	-4.0
CBX	**Cerro Bola**	**1.33**	**271**	*e*P	Pn	18 12 10.7	-3.9

IDC 15 18:12:46.5±2.2, 1°.73N×127°.20E, h0km, mb3.0/3, mb1 3.3/3, mb1mx3.1/22, mbtmp3.1/3, Error ellipse: s-maj=154.0km s-min=28.5km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.64**	**162**	P	P	18 17 49.5	+0.2
	0.3nm,0.5s,baz=342,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**26.07**	**166**	P	P	18 18 21.7	-0.2
	0.1nm,0.3s,baz=343,slow=10,SNR=4.2						
MKAR	**Makanchi Array**	**59.46**	**326**	P	P	18 22 51.3	0.0
	0.2nm,0.5s,baz=123,slow=8.7,SNR=3.2						

*ISK **15** 18:24:02.7, 41°.19N×39°.88E, h5km, MD2.7*
*CSEM **15** 18:24:04.4±0.3, 41°.11N×39°.81E, h18km±1km, MD2.7, Error ellipse: s-maj=9.9km s-min=4.0km az=163.0*
DDA 15 18:24:09.1, 40°.90N×39°.72E, h6km, MD2.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACK	**Trabzon**	**0.06**	**42**	*i* P	Pg	18 24 10.0	-0.8
MACK				*i* S	Sg	18 24 13.2	+1.3
MACK	**Trabzon**	**0.06**	**42**	*i* P	Pg	18 24 10.0	-0.7
MACK				*i* S	Sg	18 24 13.2	+1.2
KTUT	**Trabzon**	**0.09**	**23**	*e*PG	Pg	18 24 07.8	-3.5
KTUT				*e*SG	Sg	18 24 11.5	-1.2
KTUT	**Trabzon**	**0.09**	**23**	*e*Pg	Pg	18 24 07.8	-3.5
KTUT				*e*Sg	Sg	18 24 11.5	-1.2
ESPY	**Espiye-Giresun**	**0.75**	**271**	*e*PG	Pg	18 24 20.8	-2.8
ESPY				*e*SG	Sg	18 24 34.1	+0.6
ESPY	**Espiye-Giresun**	**0.75**	**271**	*e*Pg	Pg	18 24 20.8	-2.9
ESPY				*e*Sg	Sg	18 24 34.1	+0.6
KELT	**Kelkit**	**0.83**	**205**	*i* P	Pg	18 24 24.3	-1.1
KELT				*i* S	Sb	18 24 38.1	+0.2
KELT	**Kelkit**	**0.83**	**205**	*i* P	Pg	18 24 24.3	-1.1
KELT				*i* S	Sb	18 24 38.1	+0.3
SUSE	**Susehri**	**1.35**	**240**	*i* P	Pn	18 24 30.1	-4.6
SUSE	**Susehri**	**1.35**	**240**	*i* P	Pn	18 24 30.1	-4.6

IDC 15 18:27:22.1±3.0, 20°.34S×175°.71W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.5/19, mbtmp3.7/2, Error ellipse: s-maj=187.4km s-min=54.3km az=155.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.64**	**256**	P	P	18 35 53.1	+0.4
	1.0nm,0.6s,baz=90,slow=8.3,SNR=32						
ASAR				PcP	PcP	18 37 25.8	-0.9
	0.3nm,0.7s,baz=104,slow=3.8,SNR=5.0						
WRA	**Warramunga Arr**	**46.74**	**261**	P	P	18 35 53.2	-0.3
	0.4nm,0.6s,baz=97,slow=7.3,SNR=22						
WRA				PcP	PcP	18 37 25.3	-1.8
	0.4nm,0.9s,baz=96,slow=3.5,SNR=2.5						
AKASG	**Malin Array Be**	**143.88**	**333**	PKP	PKPdf	18 46 58.9	-0.4
	0.8nm,0.6s,baz=27,slow=2.6,SNR=6.6						
BRTR	**Keskin Array B**	**148.29**	**314**	PKPbc	PKPbc	18 47 11.4	+0.6
	0.3nm,0.5s,baz=147,slow=2.9,SNR=3.3						

FUNV 15 18:30:55.8, 9°.93N×71°.94W, h1km, MW3.5, 1D, Lake Maracaibo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIRV	**Villa del Rosa**	**0.73**	**321**	*i* P	Pg	18 31 10.5	+0.6
VIRV				*e*S	Sg	18 31 20.6	+1.2
VIGV	**El Vigia**	**1.22**	**152**	*e*P	Pg	18 31 18.7	-0.6
VIGV				*e*S	Sb	18 31 35.7	-0.4
QARV	**Quebrada Arrib**	**1.42**	**79**	*e*P	Pn	18 31 22.5	-0.3
QARV				*e*S	Sn	18 31 42.2	-0.1
DABV	**Dabajuro**	**1.62**	**52**	*e*P	Pn	18 31 24.7	-0.8
DABV				*e*S	Sn	18 31 46.0	-1.0
CURV	**Curarigua**	**1.95**	**87**	*e*P	Pn	18 31 29.3	-0.9
CURV				*e*S	Sn	18 31 54.8	-0.7
SOCV	**Socops**	**1.96**	**147**	*e*P	Pn	18 31 29.1	-1.1
SOCV				*e*S	Sn	18 31 54.8	-0.6
SIQV	**Siquisique**	**2.22**	**71**	*e*P	Pn	18 31 33.0	-0.8
SIQV				*e*S	Sn	18 32 00.8	-1.1
SANV	**Sanarito**	**2.41**	**100**	*e*P	Pn	18 31 35.4	-1.1
TEPV	**Terepaima**	**2.71**	**89**	*e*P	Pn	18 31 39.4	-1.2
BAUV	**El Baul**	**3.97**	**104**	*e*P	Pn	18 31 56.1	-1.8
BAUV				*e*S	Sn	18 32 42.2	-3.0

GUC 15 18:37:08.9±0.5, 35°.58S×72°.64W, h25km±5km, ML3.6, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.56**	**192**	*e*P	Pb	18 37 20.6	+0.4
COCH				*e*S	Sb	18 37 28.7	+0.9
TALC	**Talca**	**0.84**	**78**	*e*P	Pn	18 37 25.0	-0.1
TALC				*e*S	Sn	18 37 37.0	+0.3
LNCH	**Linares**	**0.89**	**108**	*e*P	Pb	18 37 25.6	-0.1
LNCH				*e*S	Sn	18 37 38.5	+0.7
NICH	**Los Niches**	**1.29**	**64**	*e*P	Pb	18 37 32.4	-0.1
NICH				*e*S	Sb	18 37 50.2	+1.6
LNV	**Longovilo**	**1.91**	**32**	*e*P	Pb	18 37 42.3	-0.8
CHCH	**Chadas Angostu**	**2.32**	**45**	*e*P	Pb	18 37 48.1	-2.0
CLCH	**Cerro Calan**	**2.79**	**39**	⇓*e*P	Pn	18 37 55.1	+3.0
CLCH				*e*S	Sb	18 38 30.0	-2.0
CLCH				AML	AML	18 38 46.3	
	comp=N,200nm,0.6s						
PEL	**Peldehue**	**2.92**	**34**	*e*P	Pn	18 37 56.6	+2.8
PEL				AML	AML	18 38 46.5	
	comp=N,183nm,0.5s						

*IDC **15** 18:46:38.0±1.1, 38°.80N×70°.80E, h0km, mb3.6/6, mb1 3.6/11, mb1mx3.4/50, mbtmp3.6/11, ML2.9/5, MS2.9/3, Ms1 3.0/3, ms1mx2.6/36, Error ellipse: s-maj=19.8km s-min=12.1km az=148.0*
*ISCJB **15** 18:46:39.3±0.7, 38°.77N±0°.07×70°.47E±0°.06, h17km, mb3.4/6, MS3.1/2, Error ellipse: s-maj=10.7km s-min=5.0km az=150.8*
*NNC **15** 18:46:41.4±1.0, 38°.93N×70°.57E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=12.4km s-min=3.3km az=153.0*
ISC 15 18:46:42.3±1.0, 38°.93N±0°.08×70°.45E±0°.05, h17km, n33, σ1°.97/40, mb3.4/6, 9C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**1.27**	**265**	⇓P	**Pb**	**18 47 06.1**	**+0.3**
	92nm,0.4s						
DZET				⇑S	**Sg**	**18 47 26.1**	**+2.7**
	659nm,0.5s						
SFK	**Sufi-Kurgan**	**2.60**	**64**	⇓Pn	**Pn**	**18 47 23.6**	**-0.2**
	19nm,0.4s						
SFK				⇑Lg	Lg	18 47 59.7	
	80nm,0.3s						
MNAS	**Manas**	**3.88**	**23**	⇓Pn	**Pn**	**18 47 42.7**	**+1.3**
	9.8nm,0.6s						
MNAS				⇑Sn	**Sn**	**18 48 29.8**	**+3.1**
	47nm,0.6s						
AML	**Almayashu**	**4.05**	**37**	P	**Pn**	**18 47 43.7**	**-0.1**
	SNR=42						
KK31	**Karatay Array**	**4.17**	**1**	Pn	**Pn**	**18 47 46.7**	**+1.5**
	1.8nm,0.4s,baz=171,slow=11,SNR=141						
KK31				⇑Pg	**Pb**	**18 47 56.9**	**+1.7**
	9.4nm,0.7s,baz=177,slow=13,SNR=10						
KK31				⇑Sn	**Sn**	**18 48 36.0**	**+2.4**
	13nm,0.6s,baz=341,slow=40,SNR=4.2						
KK31				⇑Lg	Lg	18 48 50.1	
	65nm,0.8s,baz=185,slow=28,SNR=7.6						
EKS2	**Erkin-Say**	**4.51**	**33**	P	**Pn**	**18 47 50.6**	**+0.7**
	SNR=13						
UCH	**Uchtor**	**4.52**	**42**	P	**Pn**	**18 47 50.3**	**-0.1**
	SNR=27						
AAK	**Ala-Archa**	**4.81**	**38**	P	**Pn**	**18 47 55.6**	**+1.5**
	SNR=6.6						
AAK	**Ala-Archa**	**4.81**	**38**	⇓Pn	**Pn**	**18 47 55.4**	**+1.3**
	10nm,0.7s						
AAK				⇓Sn	**Sn**	**18 48 51.7**	**+2.2**
	27nm,0.8s						
AAK	**Ala-Archa**	**4.81**	**38**	Pn	**Pn**	**18 47 54.1**	**-0.1**
	2.1nm,0.3s,baz=208,slow=7.7,SNR=38						
AAK				Sn	**Sn**	**18 48 51.2**	**+1.7**
	1.4nm,0.3s,baz=260,slow=11,SNR=5.9						
AAK				LR	LR	18 49 56.0	
	comp=Z,58nm,18.3s,baz=202,slow=42						
KZA	**Kyzart**	**4.83**	**48**	P	**Pn**	**18 47 54.3**	**-0.3**
	SNR=23						
KBK	**Karagaybulak**	**5.05**	**41**	P	**Pn**	**18 47 58.2**	**+0.8**
	SNR=45						
CHMS	**Chumysh**	**5.21**	**37**	P	**Pn**	**18 48 00.6**	**+1.1**
	SNR=16						
USP	**Ospenovka**	**5.31**	**34**	P	**Pn**	**18 48 00.3**	**-0.5**
	SNR=9.7						
ULHL	**Ulahol**	**5.52**	**51**	P	**Pn**	**18 48 02.6**	**-1.2**
	SNR=6.5						
TKM2	**Tokmak 2**	**5.58**	**43**	P	**Pn**	**18 48 05.7**	**+1.0**
	SNR=15						
TKM2	**Tokmak 2**	**5.58**	**43**	⇑Pn	**Pn**	**18 48 05.0**	**+0.2**
	6.0nm,0.6s						
TKM2				⇓Sn	**Sn**	**18 49 12.2**	**+3.7**
	18nm,0.7s						
GEYT	**Alibeck**	**9.73**	**268**	Pn	**Pn**	**18 49 00.2**	**-1.3**
	0.2nm,0.3s,baz=138,slow=5.1,SNR=3.8						
GEYT				Sn	**Sn**	**18 50 52.2**	**+1.9**
	0.7nm,0.3s,baz=332,slow=5.0,SNR=4.4						
MK31	**Makanchi Array**	**11.71**	**44**	Pn	**Pn**	**18 49 27.3**	**-1.3**
	2.7nm,0.8s,baz=240,slow=12,SNR=13						
MKAR	**Makanchi Array**	**11.71**	**44**	Pn	**Pn**	**18 49 26.8**	**-1.7**
	0.1nm,0.3s,baz=241,slow=16,SNR=18						
AB31	**Akbulak array**	**12.78**	**327**	⇑Pn	**Pn**	**18 49 41.5**	**-1.6**
	0.9nm,0.4s,baz=110,slow=8.4,SNR=28						
AB31				⇓Sn	**Sn**	**18 51 59.5**	**-5.4**
	4.2nm,0.6s,baz=262,slow=60,SNR=7.4						
KURBB	**Kurchatov Arra**	**13.02**	**23**	Pn	Pn	18 49 41.5	-4.9
	0.0nm,0.3s,baz=215,slow=12,SNR=5.8						
AKTO	**Aktyubinsk**	**14.49**	**327**	⇑Pn	**Pn**	**18 50 06.9**	**+0.5**
	2.7nm,0.9s						
AKTO				⇓Sn	**Sn**	**18 52 42.8**	**-3.7**
	15nm,1.1s						
AKTO	**Aktyubinsk**	**14.49**	**327**	Pn	**Pn**	**18 50 05.2**	**-1.2**
	0.1nm,0.3s,baz=141,slow=14,SNR=4.1						
AKTO				Sn	**Sn**	**18 52 43.6**	**-3.0**
	0.2nm,0.3s,baz=147,slow=18,SNR=7.2						
ZALV	**Zalesovo Beam**	**17.94**	**28**	Pn	**Pn**	**18 50 47.1**	**-3.6**
	0.2nm,0.3s,baz=221,slow=11,SNR=6.8						
BRTR	**Keskin Array B**	**28.36**	**283**	P	**P**	**18 52 37.5**	**+1.8**
	0.4nm,0.6s,baz=97,slow=4.3,SNR=3.0						
CMAR	**Chiang Mai Arr**	**32.05**	**121**	LR	LR	19 07 58.2	
	comp=Z,63nm,18.1s,baz=184,slow=40						
HFS	**Hagfors**	**40.91**	**320**	P	**P**	**18 54 22.4**	**-0.9**
	1.6nm,0.5s,baz=97,slow=12,SNR=13						
NOA	**NORSAR Array B**	**42.20**	**321**	P	**P**	**18 54 33.4**	**-0.5**
	0.4nm,0.5s,baz=95,slow=8.4,SNR=2.8						
TGY	**Tagaytay City**	**50.73**	**105**	LR	LR	19 18 42.2	
	comp=Z,9.8nm,20.8s,baz=72,slow=38						
TORD	**Torodi Ar. Bea**	**65.37**	**267**	P	**P**	**18 57 24.9**	**+0.8**
	0.6nm,1.1s,baz=42,slow=6.2,SNR=2.9						
YKA	**Yellowknife Ar**	**78.84**	**2**	P	**P**	**18 58 43.6**	**-0.3**
	0.1nm,0.5s,baz=350,slow=5.7,SNR=3.9						
ASAR	**Alice Springs**	**86.00**	**125**	P	P	18 59 18.3	-3.6
	0.2nm,0.8s,baz=318,slow=4.0,SNR=2.9						

IDC 15 18:49:19.9±11.0, 16°.84S×174°.25E, h0km, mb4.2/3, mb1 4.3/4, mb1mx3.8/19, mbtmp4.2/4, ML3.8/1, Error ellipse: s-maj=218.6km s-min=93.8km az=102.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.01**	**234**	Pn	Pn	18 51 31.2	-0.3
	1.0nm,0.3s,baz=90,slow=20,SNR=9.0						
STKA	**Stephens Creek**	**33.14**	**237**	P	P	18 55 57.9	-0.2
	1.7nm,0.7s,baz=70,slow=8.9,SNR=8.7						
WRA	**Warramunga Arr**	**37.94**	**259**	P	P	18 56 39.5	0.0
	0.6nm,0.4s,baz=83,slow=6.6,SNR=29						
ASAR	**Alice Springs**	**38.36**	**253**	P	P	18 56 42.9	-0.2
	5.4nm,0.4s,baz=81,slow=8.7,SNR=368						

*GUC **15** 18:55:34.1±0.5, 36°.80S×74°.36W, h13km±8km, ML3.8*
*IDC **15** 18:55:39.2±1.7, 36°.57S×73°.84W, h0km, mb3.9/5, mb1 4.0/8, mb1mx3.9/18, mbtmp3.9/8, ML3.5/2, MS3.9/1, Ms1 3.9/1, ms1mx3.1/21, Error ellipse: s-maj=44.0km s-min=20.0km az=72.0*
*NEIC **15** 18:55:43.9±0.9, 36°.55S×73°.51W, h35km, mb4.5/5, Error ellipse: s-maj=21.1km s-min=10.9km az=89.0*
ISC 15 18:55:40.1±0.8, 36°.57S±0°.06×73°.75W±0°.09, h10km, n29, σ1°.90/29, mb4.2/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.58**	**118**	*e*P	**Pb**	**18 55 52.2**	**-0.2**
CCSP				*e*S	**Sn**	**18 56 05.4**	**+1.3**
COCH	**Cobquecura**	**0.89**	**61**	*e*P	**Pn**	**18 55 58.9**	**+0.2**
COCH				*e*S	**Sn**	**18 56 17.4**	**+5.8**
TALC	**Talca**	**2.08**	**56**	*e*P	**Pb**	**18 56 16.9**	**-0.9**
CHCH	**Chadas Angostu**	**3.65**	**45**	*e*P	**Pn**	**18 56 38.5**	**+1.8**
CLCH	**Cerro Calan**	**4.12**	**41**	*e*P	**Pn**	**18 56 44.5**	**+1.3**
CLCH				*e*S	**Sb**	**18 57 38.5**	**-4.1**
PEL	**Peldehue**	**4.25**	**37**	*e*P	**Pn**	**18 56 46.1**	**+1.2**
PLCA	**Paso Flores**	**4.85**	**150**	Pn	**Pn**	**18 56 54.5**	**+1.3**
	0.8nm,0.3s,baz=320,slow=10,SNR=19						
PLCA				Lg	Lg	18 58 14.7	
	1.4nm,0.3s,baz=40,slow=20,SNR=3.4						
PLCA	**Paso Flores**	**4.85**	**150**	*e*Pn	**Pn**	**18 56 53.5**	**+0.3**
PLCA				Lg	Lg	18 58 14.7	
CFAA	**Coronel Fontan**	**6.74**	**44**	Pn	**Pn**	**18 57 19.8**	**+0.7**
	0.2nm,0.3s,baz=213,slow=12,SNR=16						
LCO	**Las Campanas**	**7.96**	**20**	*e*Pn	**Pn**	**18 57 34.7**	**-1.4**
LCO				*e*Sn	Sn	18 58 58.0	-8.3
TRQA	**Tornquist**	**9.49**	**103**	*e*Pn	**Pn**	**18 57 54.6**	**-2.3**
LVC	**Limon Verde**	**14.53**	**18**	Pn	**Pn**	**18 59 06.2**	**+0.2**
	9.7nm,0.3s,baz=180,slow=9.1,SNR=3.3						
LVC	**Limon Verde**	**14.53**	**18**	Pn	**Pn**	**18 59 03.9**	**-2.1**
	2.3nm,0.7s						
CPUP	**Villa Florida**	**17.31**	**58**	*e*Pn	**Pn**	**18 59 41.1**	**-0.8**
	0.1nm,1.0s						
LPAZ	**La Paz**	**20.81**	**15**	P	Pn	19 00 24.7	-0.2
	3.5nm,0.9s,baz=193,slow=4.6,SNR=7.8						
LPAZ	**La Paz**	**20.81**	**15**	*e*P	**P**	**19 00 21.2**	**-1.1**
	8.7nm,1.2s						
SIV	**San Ignacio**	**23.39**	**32**	P	**P**	**19 00 49.5**	**+0.4**
	3.2nm,0.9s,baz=229,slow=6.7,SNR=6.0						
SIV				LR	LR	19 11 55.7	
	comp=Z,250nm,18.5s,baz=270,slow=42						
SAML	**Samuel**	**29.12**	**22**	*e*P	**P**	**19 01 41.6**	**+0.4**
	6.0nm,1.3s						
VNA3	**Neumayer Olymp**	**47.53**	**157**	P	P	19 04 23.1	+7.9
VNA2	**Neumayer--Watz**	**48.21**	**156**	P	P	19 04 27.6	+7.2
	baz=285,slow=9.7						
SNAA	**Sanae**	**49.76**	**157**	P	**P**	**19 04 29.8**	**-2.5**
SNAA	**Sanae**	**49.76**	**157**	*e*P	**P**	**19 04 29.8**	**-2.5**
	8.4nm,1.1s						
QSPA	**South Pole Qui**	**53.67**	**180**	P	**P**	**19 05 02.5**	**+0.8**
	6.3nm,1.1s						
TXAR	**Lajitas Array**	**71.33**	**333**	P	**P**	**19 07 00.4**	**+0.4**
	0.3nm,0.7s,baz=143,slow=9.1,SNR=3.7						
DBIC	**Dimbokro**	**77.32**	**72**	P	**P**	**19 07 36.9**	**+1.7**
	3.1nm,0.8s,baz=236,slow=5.8,SNR=3.4						
DBIC	**Dimbokro**	**77.32**	**72**	P	**P**	**19 07 36.5**	**+1.3**
	18nm,1.1s						
TORD	**Torodi Ar. Bea**	**86.39**	**71**	P	**P**	**19 08 23.1**	**+0.2**
	0.8nm,0.8s,baz=213,slow=3.8,SNR=5.1						
ZALV	**Zalesovo Beam**	**157.14**	**34**	PKPab	**PKPab**	**19 16 07.0**	**+0.9**
	0.8nm,0.7s,baz=291,slow=4.3,SNR=3.2						
MKAR	**Makanchi Array**	**159.47**	**53**	PKPab	**PKPab**	**19 16 16.9**	**+0.4**
	0.3nm,0.8s,baz=289,slow=5.7,SNR=2.6						

IDC 15 19:15:01.8±2.2, 36°.93S×74°.78W, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.7/14, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=72.4km s-min=32.5km az=59.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**5.04**	**140**	Pn	Pn	19 16 20.7	+1.9
	0.6nm,0.3s,baz=316,slow=15,SNR=15						
PLCA				Sn	Sn	19 17 23.2	+5.5
	1.1nm,0.3s,baz=245,slow=11,SNR=3.4						
LPAZ	**La Paz**	**21.39**	**18**	P	P	19 19 53.2	+1.4
	0.9nm,0.7s,baz=175,slow=10,SNR=3.3						
TXAR	**Lajitas Array**	**71.27**	**334**	P	P	19 26 23.3	+0.2
	0.7nm,0.9s,baz=156,slow=6.9,SNR=4.5						
TORD	**Torodi Ar. Bea**	**87.29**	**71**	P	P	19 27 49.3	-1.4
	0.4nm,0.7s,baz=227,slow=4.7,SNR=4.5						

*IDC **15** 19:19:37.1±0.5, 32°.76S×178°.34W, h0km, mb4.6/15, mb1 4.7/17, mb1mx4.7/22, mbtmp4.6/17, ML5.0/2, Error ellipse: s-maj=18.8km s-min=16.3km az=85.0*
*ISCJB **15** 19:19:39.8±0.4, 33°.10S±0°.03×178°.36W±0°.07, h32km, mb4.8/28, Error ellipse: s-maj=9.3km s-min=3.6km az=17.1*
*MOS **15** 19:19:42.1±1.4, 32°.62S×178°.57W, h34km, mb4.8/12, Error ellipse: s-maj=17.6km s-min=13.9km az=129.1*
*NEIC **15** 19:19:42.9±1.7, 33°.06S×178°.39W, h43km±14km, mb4.9/16, Error ellipse: s-maj=13.8km s-min=10.2km az=45.0*
ISC 15 19:19:41.3±0.4, 32°.97S±0°.05×178°.34W±0°.07, h32km, n184, σ1°.61/183, mb4.9/28, 3C-7D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.72**	**6**	Pn	Pn	19 20 32.1	-4.5
	199nm,0.3s,baz=131,slow=7.5,SNR=6.8						
RAO				Sn	**Sn**	**19 21 14.8**	**-4.5**
	355nm,0.3s,baz=78,slow=22,SNR=7.2						
RAO	**Raoul Island**	**3.72**	**6**	P	Pn	19 20 32.1	-4.5
RAO						19 21 14.8	
RAO				pmax	pmax		
	comp=Z,199nm,0.3s						
RAO				smax	smax		
	comp=N,355nm,0.3s						
RAO	**Raoul Island**	**3.72**	**6**	*e*Pn	Pn	19 20 31.4	-5.2
RAO				*e*Sn	**Sn**	**19 21 15.0**	**-4.4**
MXZ	**Matakaoa Point**	**5.34**	**210**	PN	**Pn**	**19 20 57.8**	**-1.1**
MXZ				SN	**Sn**	**19 22 01.3**	**+2.1**
WMGZ	**Waiomatatini S**	**5.52**	**208**	PN	**Pn**	**19 21 00.2**	**-1.0**
HAZ	**Te Kaha**	**5.73**	**212**	PN	**Pn**	**19 21 03.8**	**-0.3**
HAZ				SN	**Sn**	**19 22 11.3**	**+2.4**
PUZ	**Puketiti**	**5.80**	**208**	PN	**Pn**	**19 21 03.1**	**-2.0**
PUZ				SN	**Sn**	**19 22 10.0**	**-0.6**
TWGZ	**Tauwhareparae**	**6.00**	**209**	PN	**Pn**	**19 21 07.0**	**-0.9**
TWGZ				SN	**Sn**	**19 22 15.8**	**+0.3**
KUZ	**Kuaotunu**	**6.17**	**231**	PN	**Pn**	**19 21 12.4**	**+2.2**
CNGZ	**Carnagh Statio**	**6.18**	**206**	PN	**Pn**	**19 21 08.8**	**-1.5**
TKGZ	**Te Karaka**	**6.28**	**209**	PN	**Pn**	**19 21 10.7**	**-1.0**
TKGZ				SN	**Sn**	**19 22 24.1**	**+1.8**
MWZ	**Matawai**	**6.33**	**211**	PN	**Pn**	**19 21 10.1**	**-2.2**
MWZ				SN	**Sn**	**19 22 24.4**	**+0.8**
URZ	**Urewera**	**6.45**	**214**	Pn	**Pn**	**19 21 14.1**	**+0.1**
	comp=N,24nm,0.3s,baz=279,slow=1.7,SNR=80						
URZ				Sn	**Sn**	**19 22 27.9**	**+1.3**
	comp=N,41nm,0.3s,baz=268,slow=21,SNR=8.3						
URZ	**Urewera**	**6.45**	**214**	PN	**

CMSA	**Cobar Meteorol**	**30.36 263**	P	**P**	**19 25 52.5 +2.2**		
	baz=32,SNR=21						
ARPS	**Mount Arapiles**	**32.73 252**	P	**P**	**19 26 12.6 +1.5**		
	baz=34,SNR=5.9						
QLP	**Quilpie**	**32.98 271**	P	**P**	**19 26 14.9 +1.6**		
	baz=34,SNR=8.7						
STKA	**Stephens Creek**	**33.70 261**	P	**P**	**19 26 21.1 +1.5**		
	comp=N,3.7nm,0.9s,baz=98,slow=11,SNR=6.5						
STKA	**Stephens Creek**	**33.70 261**	P	**P**	**19 26 21.1 +1.5**		
STKA			pmax	pmax			
	comp=Z,4.0nm,0.9s						
STKA	**Stephens Creek**	**33.70 261**	P	**P**	**19 26 21.4 +1.7**		
	baz=35,SNR=4.7						
STKA	**Stephens Creek**	**33.70 261**	*e*P	**P**	**19 26 20.7 +1.1**		
	comp=Z,1.1nm,0.9s						
CTA	**Charters Tower**	**34.01 283**	P	**P**	**19 26 23.8 +1.3**		
	comp=Z,8.7nm,0.5s,baz=113,slow=11,SNR=25						
CTA	**Charters Tower**	**34.01 283**	P	**P**	**19 26 23.8 +1.3**		
CTA			pmax	pmax			
	comp=Z,9.0nm,0.5s						
CTAO	**Charters Tower**	**34.01 283**	*e*P	**P**	**19 26 23.6 +1.1**		
	comp=Z,33nm,1.2s						
HTT	**Hallett**	**35.58 257**	P	**P**	**19 26 36.8 +0.8**		
	baz=37,SNR=5.0						
QIS	**Mount Isa**	**39.29 278**	P	**P**	**19 27 08.1 +0.7**		
	baz=40,SNR=5.3						
PMG	**Port Moresby**	**39.51 299**⇑	*e*P	**P**	**19 27 07.0 -2.2**		
PMG			pmax	pmax			
	comp=Z,123nm,1.2s						
PMG	**Port Moresby**	**39.51 299**	P	P	19 27 04.2 -5.1		
	comp=Z,34nm,1.0s						
COEN	**Coen**	**39.77 289**	P	**P**	**19 27 12.6 +1.2**		
	baz=41,SNR=8.6						
AS01	**Alice Springs**	**42.71 270**	*e*P	**P**	**19 27 35.2 -0.3**		
AS31	**Alice Springs**	**42.75 270**	*e*P	**P**	**19 27 35.5 -0.4**		
ASAR	**Alice Springs**	**42.75 270**	P	**P**	**19 27 36.0 +0.1**		
	comp=Z,17nm,0.7s,baz=107,slow=7.5,SNR=264						
ASAR			S	**S**	**19 33 55.6 -2.2**		
	comp=Z,1.3nm,0.8s,baz=118,slow=15,SNR=5.1						
ASAR	**Alice Springs**	**42.75 270**	P	**P**	**19 27 36.0 +0.1**		
ASAR			S	**S**	**19 33 55.6 -2.2**		
ASAR			pmax	pmax			
	comp=Z,17nm,0.7s						
ASAR			smax	smax			
	comp=N,1.0nm,0.8s						
WRAB	**Tennant Creek**	**43.96 275***d i*P		**P**	**19 27 45.2 -0.5**		
WRAB			pmax	pmax			
	comp=Z,179nm,2.5s						
WRAB	**Tennant Creek**	**43.96 275**	*e*P	**P**	**19 27 45.3 -0.5**		
	comp=Z,22nm,0.6s						
WRA	**Warramunga Arr**	**43.97 275**	P	**P**	**19 27 45.4 -0.3**		
	comp=Z,22nm,0.6s,baz=115,slow=7.6,SNR=326						
WRA			S	**S**	**19 34 12.0 -3.7**		
	comp=Z,1.8nm,1.0s,baz=115,slow=12,SNR=4.5						
WRA	**Warramunga Arr**	**43.97 275**	P	**P**	**19 27 45.4 -0.3**		
WRA			S	**S**	**19 34 12.0 -3.7**		
WRA			pmax	pmax			
	comp=Z,22nm,0.6s						
WRA			smax	smax			
	comp=N,2.0nm,1.0s						
FORT	**Forrest**	**45.16 258**	P	**P**	**19 27 54.6 -0.5**		
	baz=46,SNR=12						
FORT	**Forrest**	**45.16 258**	*e*P	**P**	**19 27 54.0 -1.1**		
	comp=N,37nm,0.8s						
SBA	**Scott Base**	**45.46 184**	*e*P	P	19 28 00.2 +3.3		
	comp=N,16nm,1.4s						
VNDA	**Vanda**	**45.52 186**	P	P	19 28 00.7 +3.4		
	comp=N,1.0nm,0.8s,baz=31,slow=6.5,SNR=4.9						
VNDA	**Vanda**	**45.52 186**	P	P	19 28 00.7 +3.4		
VNDA			pmax	pmax			
	comp=Z,1.0nm,0.8s						
VNDA	**Vanda**	**45.52 186**	P	**P**	**19 27 58.9 +1.5**		
	comp=Z,8.6nm,1.3s						
WRKA	**Warakurna**	**46.92 265**	P	**P**	**19 28 08.2 -1.0**		
	baz=48,SNR=11						
JAY	**Jayapura**	**48.86 300**	P	**P**	**19 28 24.4 +0.2**		
	comp=Z,15nm,0.9s,baz=101,slow=5.8,SNR=3.7						
KDU	**Kakadu**	**49.13 282**	P	**P**	**19 28 26.9 +0.7**		
	baz=50,SNR=7.0						
KNRA	**Kununurra**	**50.66 277**	P	**P**	**19 28 37.6 -0.2**		
	baz=52,SNR=8.1						
CASY	**Casey**	**52.75 209**	*e*P	**P**	**19 28 53.8 +1.1**		
	comp=Z,106nm,2.1s						
KLBR	**Kellerberrin**	**53.28 253**	P	**P**	**19 28 56.2 -1.1**		
	baz=54,SNR=6.6						
MEEK	**Meekatharra**	**54.37 259**	P	**P**	**19 29 04.3 -1.0**		
	baz=56,SNR=4.6						
QSPA	**South Pole Qui**	**57.15 180**	P	**P**	**19 29 27.4 +2.6**		
	comp=Z,7.8nm,1.0s,baz=33,slow=3.8,SNR=14						
SNAA	**Sanae**	**75.60 179**	P	P	19 31 30.3 +7.7		
SNAA	**Sanae**	**75.60 179**‖	*e*P	**P**	**19 31 21.2 -1.4**		
SNAA			pmax	pmax			
	comp=Z,13nm,2.5s						
SNAA	**Sanae**	**75.60 179**	*e*P	**P**	**19 31 21.5 -1.2**		
	comp=Z,18nm,1.3s						
SNAA			*e*		19 31 30.2		
VNA3	**Neumayer Olymp**	**75.77 176**	P	P	19 31 35.1 +12		
VNA2	**Neumayer--Watz**	**76.20 177**	P	P	19 31 37.3 +11		
	baz=178,slow=5.2						
VNA1	**Neumayer--Stat**	**76.43 177**	P	P	19 31 38.8 +12		
MAJO	**Matsushiro**	**80.19 326**	*e*P	**P**	**19 31 47.1 -1.4**		
	comp=Z,3.9nm,0.8s						
PLCA	**Paso Flores**	**80.97 133**	P	**P**	**19 31 54.0 +1.1**		
	comp=Z,2.2nm,1.0s,baz=334,slow=15,SNR=2.8						
PLCA	**Paso Flores**	**80.97 133**	P	**P**	**19 31 54.0 +1.1**		
PLCA			pmax	pmax			
	comp=Z,2.0nm,1.0s						
PLCA	**Paso Flores**	**80.97 133**	P	**P**	**19 31 53.9 +0.9**		
	comp=Z,14nm,1.3s						
JNU	**Nakatsue**	**81.29 319**	P	**P**	**19 31 54.0 -0.4**		
	comp=Z,9.9nm,0.9s,baz=132,slow=8.5,SNR=5.2						
KSRS	**Korea Array**	**86.12 320**	P	**P**	**19 32 18.6 -0.3**		
	comp=Z,2.2nm,0.8s,baz=134,slow=4.8,SNR=8.1						
KSRS	**Korea Array**	**86.12 320**	P	**P**	**19 32 18.6 -0.3**		
KSRS			pmax	pmax			
	comp=Z,2.0nm,0.9s						
KSAR	**Wonju Array Be**	**86.13 320**	P	**P**	**19 32 18.6 -0.4**		
YSS	**Yuzh-Sakhalins**	**86.93 334**	*e*P	**P**	**19 32 23.1 +0.5**		
	comp=Z,17nm,0.7s						
PEA0	**Petropavlovsk-**	**88.22 346**	*e*P	P	19 32 25.3 -3.4		
PEA0			*es*P	sP	19 32 29.2 -13		
PEA0B	**Petropavlovsk-**	**88.22 346**	*e*P	P	19 32 24.3 -4.4		
PETK	**Petropavlovsk-**	**88.22 346**	P	**P**	**19 32 29.5 +0.7**		
	comp=Z,6.0nm,0.9s,baz=138,slow=7.2,SNR=7.3						
PETK	**Petropavlovsk-**	**88.22 346**	P	**P**	**19 32 29.5 +0.7**		
PETK			pmax	pmax			
	comp=Z,6.0nm,0.9s						
CMB	**Columbia Colle**	**88.86 42**	*e*P	**P**	**19 32 33.4 +1.2**		
	comp=Z,6.2nm,1.2s						
GSC	**Goldstone, Bar**	**89.07 46**	*e*P	**P**	**19 32 34.5 +1.1**		
	comp=Z,14nm,1.5s						
USRK	**Ussuriysk Ar.**	**89.14 327**	P	**P**	**19 32 33.2 -0.1**		
	comp=Z,4.3nm,0.8s,baz=135,slow=4.3,SNR=7.6						
NVAR	**Mina Array Bea**	**90.31 43**	P	**P**	**19 32 39.9 +0.7**		
	comp=Z,0.5nm,0.7s,baz=213,slow=7.6,SNR=5.4						
MDJ	**Mudanjiang**	**90.58 326**	P	**P**	**19 32 39.1 -0.9**		
	comp=Z,5.6nm,0.9s						
LVC	**Limon Verde**	**92.94 119**	P	**P**	**19 32 53.9 +1.8**		
	comp=Z,7.7nm,0.7s,baz=231,slow=6.5,SNR=2.2						
CMAR	**Chiang Mai Arr**	**93.97 289**	PP	PP	19 36 41.0 -1.9		
	comp=Z,0.3nm,0.6s,baz=126,slow=7.3,SNR=5.2						
TXAR	**Lajitas Array**	**94.01 58**	P	**P**	**19 32 57.9 +1.4**		
	comp=Z,0.2nm,0.4s,baz=234,slow=7.7,SNR=3.5						
ULN	**Ulaanbaatar**	**104.49 318**⇑	*e*P	**Pdif**	**19 33 40.9 -2.2**		
ULN			pmax	pmax			
	comp=Z,3.0nm,1.0s						
MK31	**Makanchi Array**	**119.18 309**	*e*PKPdf	**PKPdf**	**19 38 26.1 -0.7**		
MKAR	**Makanchi Array**	**119.18 309**	PKP	**PKPdf**	**19 38 26.4 -0.4**		
	comp=Z,0.8nm,0.7s,baz=264,slow=2.4,SNR=5.6						
MKAR	**Makanchi Array**	**119.18 309**	PKIKP	**PKPdf**	**19 38 26.4 -0.4**		
MKAR			pmax	pmax			
	comp=Z,1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**119.74 317**	PKP	**PKPdf**	**19 38 28.0 +0.5**		
	comp=Z,1.1nm,0.6s,baz=116,slow=2.7,SNR=4.9						
ZALV	**Zalesovo Beam**	**119.74 317**	PKIKP	**PKPdf**	**19 38 28.0 +0.5**		
ZALV			pmax	pmax			
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**122.59 313**	PKIKP	**PKPdf**	**19 38 32.7 -0.4**		
KURK			pmax	pmax			
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**122.59 313**	*e*PKPdf	PKPpre	19 38 25.1		
KURK			PKP	**PKPdf**	**19 38 32.7 -0.4**		
KURBB	**Kurchatov Arra**	**122.63 313**	PKP	**PKPdf**	**19 38 32.7 -0.5**		
	comp=Z,2.0nm,0.8s,baz=107,slow=1.8,SNR=14						
AAK	**Ala-Archa**	**123.27 303**	PKP	**PKPdf**	**19 38 35.6 +0.7**		
	comp=Z,1.4nm,0.7s,baz=167,slow=3.3,SNR=4.8						
AAK	**Ala-Archa**	**123.27 303**	PKIKP	**PKPdf**	**19 38 35.6 +0.7**		
AAK			pmax	pmax			
	comp=Z,1.0nm,0.7s						
BRVK	**Borovoye**	**128.08 314**‖	*i*PKIKP	**PKPdf**	**19 38 45.5 +1.9**		
KMBO	**Kilima Mbogo**	**132.29 232**	SKPbc	**SKPab**	**19 42 21.9 +3.4**		
	comp=Z,5.1nm,0.8s,baz=149,slow=3.0,SNR=6.3						
GEYT	**Alibeck**	**134.34 293**	PKP	**PKPdf**	**19 38 56.2 +0.2**		
	comp=Z,0.6nm,0.4s,baz=224,slow=8.1,SNR=4.1						
GEYT			SKPbc	**SKPab**	**19 42 26.0 -0.4**		
	comp=Z,3.8nm,0.8s,baz=131,slow=4.4,SNR=7.6						
ARU	**Arti**	**134.86 319**	*e*PKPdf	**PKPdf**	**19 38 56.8 +0.5**		
ARCES	**ARCESS Array B**	**141.03 347**	PKhKP	PKPpre	19 39 03.1		
	comp=Z,4.4nm,0.9s,baz=31,slow=2.1,SNR=5.9						
ARCES			PKP	**PKiKP**	**19 39 08.7 -1.3**		
	comp=Z,4.2nm,0.8s,baz=67,slow=0.9,SNR=4.9						
ARCES	**ARCESS Array B**	**141.03 347**	*i* PKIKP	PKPpre	19 39 03.1		
ARCES					19 39 08.7		
ARCES			pmax	pmax			
	comp=Z,4.0nm,0.9s						
ARCES			pmax	pmax			
	comp=Z,4.0nm,0.8s						
GNI	**Garni**	**144.93 294**‖	*e*PKIKP	PKPbc	19 39 14.7 +0.1		
GNI	**Garni**	**144.93 294**	*e*PKPdf	**PKPab**	**19 39 13.5 -1.1**		
ZEI	**Tsey**	**145.56 299**	*e*PKP2	**PKPdf**	**19 39 14.8 -1.5**		
ZEI			pmax	pmax			
	comp=Z,10.0nm,1.1s						
GOF	**Gofitskoye**	**146.01 303**	*e*PKP2	**PKPbc**	**19 39 17.4 -0.2**		
KBZ	**Khabaz**	**146.24 301**	PKPbc	**PKPbc**	**19 39 18.6 +0.3**		
	comp=Z,6.5nm,0.9s,baz=236,slow=24,SNR=16						
KBZ	**Khabaz**	**146.24 301**	PKP2	**PKPbc**	**19 39 18.6 +0.3**		
KBZ			pmax	pmax			
	comp=Z,7.0nm,0.9s						
MOS	**Moscow**	**146.25 323**	*e*PKIKP	**PKPdf**	**19 39 16.5 -0.3**		
MOS			pmax	pmax			
	comp=Z,127nm,1.0s						
MOS			pmax	pmax			
	comp=Z,100nm,1.2s						
KIV	**Kislovodsk**	**146.37 301***c i*PKP2		**PKPbc**	**19 39 18.3 -0.6**		
KIV			pmax	pmax			
	comp=Z,13nm,1.6s						
KIV	**Kislovodsk**	**146.37 301**	*e*PKPdf	**PKPdf**	**19 39 17.6 +0.1**		
LPSR	**Galich'ya Gora**	**146.85 318**	*e*PKP2	**PKPbc**	**19 39 19.3 -0.5**		
LPSR			pmax	pmax			
	comp=Z,40nm,0.9s						
LPSR			pmax	pmax			
	comp=N,7.0nm,0.8s						
LPSR			pmax	pmax			
	comp=E,10.0nm,1.3s						
OBN	**Obninsk**	**147.07 323**‖	*e*PKIKP	**PKPdf**	**19 39 18.8 +0.6**		
OBN			pmax	pmax			
	comp=Z,45nm,1.4s						
OBN	**Obninsk**	**147.07 323**	*e*PKPbc	**PKPbc**	**19 39 20.3 0.0**		
VSR	**Storozhevoye**	**147.19 315**	*e*PKP2	**PKPbc**	**19 39 20.6 -0.2**		
VSR			pmax	pmax			
	comp=Z,30nm,0.9s						
VSR			pmax	pmax			
	comp=N,10.0nm,0.7s						
VSR			pmax	pmax			
	comp=E,20nm,1.2s						
VORD	**Divnogorie**	**147.20 315**	*e*PKP2	**PKPbc**	**19 39 20.7 -0.1**		
VORD			pmax	pmax			
	comp=Z,10.0nm,0.5s						
VORD			pmax	pmax			
	comp=N,20nm,0.4s						
VORD			pmax	pmax			
	comp=E,20nm,0.6s						
FIA1	**FINESS Array S**	**147.43 338**	*e*PKPbc	**PKPbc**	**19 39 21.1 -0.1**		
FINES	**FINESS Array B**	**147.44 338**	PKPbc	**PKPbc**	**19 39 21.2 +0.1**		
	comp=E,27nm,0.7s,baz=57,slow=3.1,SNR=86						
FINES	**FINESS Array B**	**147.44 338**	PKP2	**PKPbc**	**19 39 21.2 +0.1**		
FINES			pmax	pmax			
	comp=Z,27nm,0.7s						
NOA	**NORSAR Array B**	**151.23 350**	PKPbc	**PKPbc**	**19 39 31.3 +0.6**		
	comp=Z,3.2nm,0.8s,baz=20,slow=4.7,SNR=50						
NOA			PKPab	**PKPab**	**19 39 38.8 0.0**		
	comp=Z,7.8nm,0.9s,baz=19,slow=2.9,SNR=16						
NOA	**NORSAR Array B**	**151.23 350**	PKIKP	**PKPbc**	**19 39 31.3 +0.6**		
NOA					19 39 38.8		
NOA			pmax	pmax			
	comp=Z,3.0nm,0.8s						
NOA			pmax	pmax			
	comp=Z,8.0nm,0.9s						
NAO01	**NORSAR Array S**	**151.47 351**	*e*PKPbc	**PKPbc**	**19 39 31.3 +0.1**		
NACGM	**Naroch**	**151.85 329**	*e*	**PKPbc**	**19 39 30.0 -2.3**		
SIM	**Simferopol'**	**152.26 305**	*e*PKIKP	**PKPbc**	**19 39 34.0 +0.5**		
SIM			pmax	pmax			
	comp=Z,14nm,0.6s						
AKASG	**Malin Array Be**	**153.11 319**	PKPbc	**PKPbc**	**19 39 35.8 +0.6**		
	comp=Z,4.6nm,0.7s,baz=59,slow=2.3,SNR=23						
AKASG			PKPab	**PKPab**	**19 39 47.5 +0.7**		
	comp=Z,4.9nm,0.8s,baz=61,slow=2.4,SNR=7.4						
AKASG	**Malin Array Be**	**153.11 319**	PKIKP	**PKPbc**	**19 39 35.8 +0.6**		
AKASG					19 39 47.6		
AKASG			pmax	pmax			
	comp=Z,5.0nm,0.7s						
AKASG			pmax	pmax			
	comp=Z,5.0nm,0.8s						
AK01	**Malin Array Si**	**153.12 319**	*e*PKPbc	**PKPbc**	**19 39 35.2 0.0**		
KIEV	**Kiev**	**153.12 319**	*e*PKPbc	**PKPbc**	**19 39 34.2 -1.0**		
AK02	**Malin Array Si**	**153.14 319**	*e*PKPbc	**PKPbc**	**19 39 35.2 -0.1**		
AK11	**Malin Array Si**	**153.15 319**	*e*PKPdf	**PKPbc**	**19 39 35.5 +0.2**		
BR131	**Keskin Array S**	**153.47 294**	*e*PKPbc	**PKPbc**	**19 39 36.0 -0.6**		
BRTR	**Keskin Array B**	**153.47 294**	PKPbc	**PKPbc**	**19 39 36.8 +0.2**		
	comp=Z,3.9nm,0.6s,baz=132,slow=3.7,SNR=25						
BRTR			PKPab	**PKPab**	**19 39 49.6 +0.6**		
	comp=Z,3.0nm,0.8s,baz=127,slow=3.3,SNR=6.9						
BRTR	**Keskin Array B**	**153.47 294**	PKIKP	**PKPbc**	**19 39 36.8 +0.2**		
BRTR					19 39 49.6		
BRTR			pmax	pmax			
	comp=Z,4.0nm,0.6s						
BRTR			pmax	pmax			
	comp=Z,3.0nm,0.8s						
CSS	**Prodhromos**	**153.71 283**	*e*PKPbc	**PKPbc**	**19 39 37.1 0.0**		
OKC	**Ostrava-Krasne**	**159.17 329**	*e*PKPAB	**PKPab**	**19 40 12.7 -0.2**		
OKC			*ep*PKP	pPKP	19 40 24.9		
OKC	**Ostrava-Krasne**	**159.17 329**	*e*PKP2	**PKPab**	**19 40 12.7 -0.2**		
DPC	**Dobruska-Polom**	**159.53 332**	*e*PKPAB	**PKPab**	**19 40 14.2 -0.3**		
DPC			*ep*PKP	pPKP	19 40 27.1		
DPC	**Dobruska-Polom**	**159.53 332**	*e*PKP2	**PKPab**	**19 40 14.2 -0.3**		
KRLC	**Kraliky**	**159.57 331**	*e*PKPAB	**PKPab**	**19 40 14.4 -0.3**		
KRLC			*ep*PKP	pPKP	19 40 29.6		
KRLC	**Kraliky**	**159.57 331**	*e*PKP2	**PKPab**	**19 40 14.4 -0.3**		
CLL	**Collm**	**159.88 339**‖	*i*PKPab	**PKPab**	**19 40 15.7 -0.2**		
	comp=Z,10.0nm,1.0s						
CLL			*ep*PKPab	**pPKPab**	**19 40 27.0 +0.8**		
CLL	**Collm**	**159.88 339**‖	*i*PKP2	**PKPab**	**19 40 15.7 -0.2**		
CLL			pmax	pmax			
	comp=Z,10.0nm,1.0s						
BRG	**Berggiesshubel**	**159.96 337**	*e*P	**PKPab**	**19 40 16.3 0.0**		
	comp=Z,7.3nm,1.0s						
BRG	**Berggiesshubel**	**159.96 337**	*e*PKP2	**PKPab**	**19 40 16.3 0.0**		
BRG			pmax	pmax			
	comp=Z,7.0nm,1.0s						
PVCC	**Panska Ves**	**160.04 335**	*e*PKPAB	**PKPab**	**19 40 16.9 +0.3**		
PVCC	**Panska Ves**	**160.04 335**	*e*PKP2	**PKPab**	**19 40 16.9 +0.3**		
TORD	**Torodi Ar. Bea**	**160.27 180**	PKPab	**PKPab**	**19 40 18.0 -0.5**		
	comp=Z,0.8nm,0.7s,baz=190,slow=3.7,SNR=2.6						
GOPC	**GO Pecny, Ondr**	**160.47 334**	*e*PKPAB	**PKPab**	**19 40 18.6 0.0**		
PRU	**Pruhonice**	**160.50 334**	*e*PKPAB	**PKPab**	**19 40 19.0 +0.4**		
PRU	**Pruhonice**	**160.50 334**	*e*PKP2	**PKPab**	**19 40 19.0 +0.4**		
NKC	**Novy Kostel**	**160.99 338**	*e*PKPAB	**PKPab**	**19 40 21.2 +0.4**		
NKC	**Novy Kostel**	**160.99 338**	*e*PKP2	**PKPab**	**19 40 21.2 +0.4**		
KHC	**Kasperske Hory**	**161.56 335**	*e*PKPAB	**PKPab**	**19 40 23.3 -0.1**		
KHC			*ep*PKP	pPKP	19 40 34.4		
KHC	**Kasperske Hory**	**161.56 335**	*e*PKP2	**PKPab**	**19 40 23.3 -0.1**		
GERES	**GERESS Array B**	**161.75 334**	PKPab	**PKPab**	**19 40 23.7 -0.6**		
	comp=Z,2.3nm,1.0s,baz=20,slow=4.3,SNR=9.2						
GERES	**GERESS Array B**	**161.75 334**	PKP2	**PKPab**	**19 40 23.7 -0.6**		
GERES			pmax	pmax			
	comp=Z,2.0nm,1.0s						

IDC ***15*** *19:20:29.2≈2.2,32.°93S×178.°35W,h0km, mb4.7/6, mb1 4.9/6,mb1mx4.4/17,mbtmp4.7/6, Error ellipse: s-maj=88.1km s-min=32.7km az=161.0*
NEIC ***15*** *19:20:35.0≈0.8,32.°94S×178.°56W,h35km, mb4.8/5, Error ellipse: s-maj=24.4km s-min=15.0km az=149.0*
ISC 15 19:20:34.2≈1.2,**32.°9S**≈0.°2×**178.°5W**≈0.°2,**h32**km,**n24,**
σ1**f01/25,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EIDS	**Eidsvold**	**27.53**	**278**	*e*P	**P**	**19 26 15.3**	**-2.7**
	9.4nm,0.9s						
TAU	**Tasmania Unive**	**28.59**	**240**	P	**P**	**19 26 27.5**	**+0.3**
	35nm,1.2s						
STKA	**Stephens Creek**	**33.57**	**261**	P	**P**	**19 27 10.1**	**-1.2**
	1.2nm,1.0s						
CTA	**Charters Tower**	**33.85**	**283**	P	**P**	**19 27 15.2**	**+1.4**
	6.1nm,0.5s,baz=113,slow=13,SNR=3.9						
CTAO	**Charters Tower**	**33.85**	**283**	*e*P	**P**	**19 27 14.5**	**+0.6**
	9.5nm,0.7s						
AS01	**Alice Springs**	**42.56**	**270**	*e*P	**P**	**19 28 28.6**	**+1.4**
ASAR	**Alice Springs**	**42.60**	**270**	P	**P**	**19 28 28.6**	**+1.0**
	7.4nm,0.5s,baz=109,slow=7.5,SNR=8.2						
WRAB	**Tennant Creek**	**43.81**	**275**	*e*P	**P**	**19 28 37.6**	**+0.2**
	16nm,0.6s						
WRA	**Warramunga Arr**	**43.82**	**275**	P	**P**	**19 28 38.0**	**+0.6**
	15nm,0.6s,baz=115,slow=7.6,SNR=10.0						
FORT	**Forrest**	**45.04**	**258**	*e*P	**P**	**19 28 46.3**	**-0.7**
	474nm,2.8s						
CASY	**Casey**	**52.75**	**209**	*e*P	**P**	**19 29 45.6**	**+0.1**
	7.3nm,0.7s						
KSRS	**Korea Array**	**85.96**	**320**	P	**P**	**19 33 12.2**	**+1.2**
	1.6nm,0.8s,baz=175,slow=4.4,SNR=3.4						
KSAR	**Wonju Array Be**	**85.98**	**320**	P	**P**	**19 33 12.2**	**+1.1**
PEA0	**Petropavlovsk-**	**88.11**	**346**	*e*P	**P**	**19 33 20.4**	**-0.7**
PETK	**Petropavlovsk-**	**88.11**	**346**	P	P	19 33 22.5	+1.4
	5.6nm,1.0s,baz=134,slow=4.2,SNR=3.0						
USRK	**Ussuriysk Ar.**	**89.00**	**327**	P	**P**	**19 33 24.8**	**-0.7**
	5.0nm,1.0s,baz=159,slow=4.5,SNR=3.8						
KURK	**Kurchatov**	**122.43**	**313**	PKP	**PKPdf**	**19 39 25.9**	**+0.2**
KURBB	**Kurchatov Arra**	**122.47**	**313**	PKP	**PKPdf**	**19 39 25.9**	**+0.1**
	1.2nm,0.8s,baz=111,slow=1.9,SNR=3.5						
FINES	**FINESS Array B**	**147.31**	**338**	PKPbc	**PKPab**	**19 40 13.8**	**-1.7**
	11nm,0.5s,baz=58,slow=3.3,SNR=5.8						
NOA	**NORSAR Array B**	**151.13**	**350**	PKPbc	**PKPbc**	**19 40 23.8**	**+0.5**
	3.1nm,0.8s,baz=36,slow=2.1,SNR=3.8						
NOA				PKPab	**PKPab**	**19 40 31.2**	**0.0**
	4.4nm,0.9s,baz=21,slow=2.7,SNR=2.1						
AKASG	**Malin Array Be**	**152.96**	**319**	PKPbc	**PKPbc**	**19 40 28.5**	**+0.8**
	2.2nm,0.6s,baz=46,slow=2.6,SNR=4.5						
AKASG				PKPab	**PKPab**	**19 40 38.6**	**-0.5**
	1.9nm,0.7s,baz=54,slow=2.2,SNR=2.5						
BRTR	**Keskin Array B**	**153.31**	**294**	PKPbc	**PKPbc**	**19 40 29.4**	**+0.3**
	2.4nm,0.5s,baz=149,slow=3.7,SNR=8.2						
CSS	**Prodhromos**	**153.55**	**283**	*e*PKPbc	**PKPbc**	**19 40 29.6**	**-0.1**
GERES	**GERESS Array B**	**161.62**	**334**	PKPab	**PKPab**	**19 41 16.7**	**+0.1**
	0.8nm,0.7s,baz=52,slow=2.2,SNR=3.7						

MOS ***15*** *19:25:07.5≈1.2,3.°82N×128.°07E,h33km, mb4.9/17, Error ellipse: s-maj=16.1km s-min=7.5km az=116.4*
ISCJB ***15*** *19:25:15.7≈0.5,3.°68N≈0.°03×127.°98E≈0.°03,h107km≈4km, mb4.5/52, Error ellipse: s-maj=6.2km s-min=3.7km az=154.1*
NEIC ***15*** *19:25:16.5≈0.8,3.°74N×127.°98E,h101km≈7km, mb4.5/19, Error ellipse: s-maj=8.7km s-min=5.4km az=69.0*
IDC ***15*** *19:25:16.5≈1.9,3.°72N×128.°04E,h100km≈18km, mb4.1/20, mb1 4.2/22, mb1mx4.0/32, mbtmp4.4/22, Error ellipse: s-maj=18.3km s-min=9.4km az=72.0*
BJI ***15*** *19:25:16.7,3.°81N×127.°89E,h99km, mb4.6/3, mB4.7/3*
KLM ***15*** *19:25:19.4,3.°67N×127.°88E,h87km, mb4.4, ML4.2, MS6.2*
DJA ***15*** *19:25:24.2≈0.5,3.°N≈4.°×12.°8E≈.°,h74km≈9km, M4.7/17, mb4.8/17, mB5.2/7, MLv4.8/12, Mw(mB)4.5/7*
ISC 15 19:25:16.8≈0.4,**3.°68N**≈0.°04×**127.°97E**≈0.°05,**h101**km,3km,
h100km:pP-P,n143,σ1**19/169,mb4.5/52,6C-4D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.95**	**192**	P	**Pn**	**19 26 03.2**	**+1.2**
TNTI				S	**Sn**	**19 26 32.9**	**-3.9**
TNTI	**Ternate**	**2.95**	**192**	*e*Pn	**Pn**	**19 26 03.1**	**+1.1**
MATI	**Mati**	**3.67**	**332**	*e*P	**Pn**	**19 26 13.6**	**+2.1**
GSPH	**General Santos**	**3.85**	**309**⇑	*i*P	**Pn**	**19 26 12.7**	**-1.4**
GSPH				*i* S	**Sn**	**19 26 57.6**	**-0.9**
DAV	**Davao City (W)**	**4.12**	**325**	Pn	**Pn**	**19 26 17.4**	**-0.4**
KMSI	**Cibinong**	**5.04**	**232**	P	**Pn**	**19 26 31.0**	**+0.8**
KMSI				S	**Sn**	**19 27 25.5**	**-1.8**
BUKP	**Musuan**	**5.08**	**325**	*e*P	**Pn**	**19 26 31.7**	**+1.0**
BUKP				*e*S	Sn	19 26 59.2	-29
CTBH	**Cotabato--PC H**	**5.11**	**314**‖	*e*P	**Pn**	**19 26 28.6

comp=Z,0.4nm,0.9s,baz=337,slow=2.3,SNR=4.1
JNU Nakatsue 29.41 5 P P 19 31 10.1 -0.8
comp=Z,1.8nm,0.7s,baz=176,slow=14,SNR=4.2
PBKT Sadao Pong 29.45 298 P P 19 31 12.3 +1.0
comp=Z,16nm,1.1s
UTTA Uttaradit 30.28 300 P P 19 31 20.1 +1.4
comp=Z,2.7nm,1.1s
MEEK Meekatharra 31.47 196 P P 19 31 29.2 +0.1
baz=32,SNR=3.2
CM31 Chiang Mai Arr 31.97 300 *eP* **P 19 31 33.1 -0.5**
comp=Z,3.8nm,0.7s
CMAR Chiang Mai Arr 31.97 300 P P 19 31 34.5 +1.0
comp=Z,4.7nm,0.8s,baz=116,slow=7.0,SNR=38
CMMT Chiang Mai 32.11 300 P P 19 31 35.7 +0.9
comp=Z,17nm,1.1s
CHTO Chiang Mai 32.11 300 P P 19 31 35.7 +0.9
comp=Z,5.3nm,1.2s
CHTO Chiang Mai 32.11 300 *eP* **P 19 31 35.0 +0.1**
CHTO pmax pmax
comp=Z,9.0nm,1.1s
CHTO Chiang Mai 32.11 300 *eP* **P 19 31 35.0 +0.1**
comp=Z,9.4nm,1.1s
CMAI Chiengmai2 32.50 302 P P 19 31 39.6 +1.2
comp=Z,122nm,0.7s
MHMT Maesarieng 32.74 298 P P 19 31 41.9 +1.6
KSAR Wonju Array Be 33.60 360 P P 19 31 47.5 0.0
KSAR Wonju Array Be 33.60 360 P P 19 31 47.5 0.0
KSRS Korea Array 33.61 360 P P 19 31 47.4 -0.2
comp=Z,2.3nm,0.7s,baz=173,slow=10,SNR=11
KSRS Korea Array 33.61 360 P P 19 31 47.4 -0.2
KSRS pmax pmax
comp=Z,2.0nm,0.7s
MJAR Matsushiro Arr 34.03 15 P P 19 31 49.5 -1.9
comp=Z,1.0nm,0.5s,baz=188,slow=9.1,SNR=11
MAJO Matsushiro 34.03 15 *eP* **P 19 31 48.8 -2.5**
comp=Z,2.3nm,0.5s
XAN Xi'an 35.03 332 P P 19 31 59.9 -0.1
CD2 Chengdu 35.42 323 *eP* **P 19 32 04.1 +0.7**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
BBOO Buckleboo 37.09 169 P P 19 32 17.7 +0.1
baz=38,SNR=20
STKA Stephens Creek 37.66 161 P P 19 32 22.4 0.0
comp=Z,7.3nm,0.5s,baz=333,slow=8.6,SNR=28
STKA Stephens Creek 37.66 161 *eP* **P 19 32 22.3 0.0**
STKA pmax pmax
comp=Z,1.0nm,0.7s
STKA Stephens Creek 37.66 161 P P 19 32 22.3 0.0
baz=38,SNR=27
STKA Stephens Creek 37.66 161 *eP* **P 19 32 22.3 -0.1**
comp=Z,1.5nm,0.7s
STKA *epP* **pP 19 32 46.1 +0.7**
NWAO Narrogin (SRO) 37.80 195 P P 19 32 23.5 0.0
comp=Z,5.0nm,0.6s,baz=333,slow=4.3,SNR=4.6
HTT Hallett 38.34 165 P P 19 32 28.6 +0.5
baz=39,SNR=3.5
LZH Lanzhou 39.18 328 *eP* **P 19 32 35.8 +0.5**
LZH pP **pP 19 32 58.6 +0.2**
LZH sP **sP 19 33 09.8 -0.2**
LZH pmax pmax
comp=Z,15nm,1.0s
HHC Hu-ho-hao-te 39.84 340 *eP* **P 19 32 41.9 +1.3**
HHC pP **pP 19 33 02.9 -0.9**
HHC sP sP 19 33 21.0 +5.7
HHC PP **PnPn 19 34 17.3 -1.1**
HHC S **S 19 38 38.8 +0.9**
HHC sS **sS 19 39 17.8 -0.1**
HHC SS **SS 19 41 37.5 -0.6**
HHC pmax pmax
comp=Z,12nm,0.9s
HHC pmax pmax
comp=Z,75nm,4.3s
HHC LR LR
comp=N,95nm,14.2s
HHC LR LR
comp=E,240nm,15.2s
HHC LR LR
comp=Z,66nm,14.7s
CN2 Changchun 40.02 357 *eP* **P 19 32 44.9 +3.1**
CN2 *ePP* **PnPn 19 34 22.5 +2.3**
CN2 *eS* **S 19 38 42.8 +2.7**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
H11S3 WAKE ISLAND Hy 40.62 66 T T 20 16 02.0
baz=253,slow=75,SNR=13
H11S1 WAKE ISLAND Hy 40.63 66 T T 20 16 02.6
baz=253,slow=9.0
H11S2 WAKE ISLAND Hy 40.63 66 T T 20 16 02.5
baz=253,slow=75,SNR=12
MDJ Mudanjiang 40.79 2 P P 19 32 47.8 -0.4
MDJ pmax pmax
comp=Z,3.0nm,1.0s
MDJ pmax pmax
comp=Z,29nm,3.2s
ARPS Mount Arapiles 42.27 163 P P 19 33 01.3 +0.9
baz=43,SNR=16
LSA Lhasa 43.41 311 *eP* **P 19 33 11.2 +0.9**
LSA pmax pmax
comp=Z,3.0nm,0.8s
LSA Lhasa 43.41 311 *eP* **P 19 33 11.2 +0.9**
comp=Z,3.2nm,0.8s
GTA Gaotai 43.78 328 *eP* **P 19 33 13.6 +0.8**
GTA pP pP 19 33 17.8 -19
GTA sP sP 19 33 21.0 -27
GTA pmax pmax
comp=Z,6.0nm,0.9s
TAPN Taplejung 45.05 306 *eP* **P 19 33 23.7 +0.5**
comp=Z,10.0nm,0.9s
ODAN Odare 45.11 305 *eP* **P 19 33 24.0 +0.3**
comp=Z,14nm,0.8s
RAMN Ramite 45.79 305 *eP* **P 19 33 29.7 +0.6**
comp=Z,14nm,0.8s
JIRN Jiri 46.41 305 *eP* **P 19 33 34.2 +0.2**
comp=Z,13nm,0.8s
GUN Gumba 46.76 305 *eP* **P 19 33 37.1 +0.3**
comp=Z,20nm,0.9s
PKIN Phulchoki 47.02 305 *eP* **P 19 33 39.2 +0.5**
KKN Kakani 47.20 305 *eP* **P 19 33 40.0 0.0**
DMN Daman 47.27 305 *eP* **P 19 33 40.7 0.0**
comp=Z,14nm,1.0s
ULN Ulaanbaatar 47.56 341 *eP* **P 19 33 41.9 -0.5**
ULN pmax pmax
comp=Z,5.0nm,1.1s
ULN Ulaanbaatar 47.56 341 *eP* **P 19 33 41.9 -0.5**
comp=Z,5.1nm,1.1s
SONM Songino Array 47.75 340 P P 19 33 40.3 -3.5
comp=Z,1.0nm,0.7s,baz=134,slow=6.2,SNR=2.5
GKN Gorkha 47.81 305 *eP* **P 19 33 44.3 -0.4**
KOLN Koldanda 48.57 304 *eP* **P 19 33 51.1 +0.5**
comp=Z,27nm,0.8s
WMQ Urumqi 53.48 324 P P 19 34 28.0 +1.1
WMQ pP **pP 19 34 51.6 +0.3**
WMQ sP **sP 19 35 02.8 +0.3**
WMQ PcP **PcP 19 35 32.1 -0.6**
WMQ PcS **PcS 19 39 31.5 -0.3**
WMQ S **S 19 41 50.9 -1.2**
WMQ pmax pmax
comp=Z,17nm,0.6s
WMQ pmax pmax
comp=Z,100nm,4.6s
WMQ LR LR
comp=N,43nm,22.2s
WMQ LR LR
comp=E,41nm,21.6s
WMQ LR LR
comp=Z,34nm,21.2s
PETK Petropavlovsk- 55.01 21 P P 19 34 37.9 +0.1
comp=Z,2.7nm,0.5s,baz=179,slow=4.7,SNR=7.2
YAK Yakutsk 58.23 1 *eP* **P 19 34 59.5 -0.8**
YAK pmax pmax
comp=Z,13nm,1.0s
MK31 Makanchi Array 58.31 325 *eP* **P 19 35 01.5 +0.2**
MK31 Makanchi Array 58.31 325 P P 19 35 01.8 +0.5
baz=58,SNR=18
MK31 Makanchi Array 58.31 325 *eP* **P 19 35 01.5 +0.2**
MKAR Makanchi Array 58.31 325 P P 19 35 01.6 +0.4
comp=Z,7.6nm,0.5s,baz=126,slow=5.6,SNR=135
KSH Kashi 58.96 315 P P 19 35 08.0 +2.0
KSH pP **pP 19 35 32.0 +1.2**
KSH sP **sP 19 35 43.0 +1.1**
KSH PP **PP 19 37 21.5 +4.1**
KSH PcS **PcS 19 39 55.3 -0.9**
KSH S **S 19 43 05.1 +0.3**
KSH sS **sS 19 43 46.8 -0.4**
KSH ScS **ScS 19 44 44.9 -1.9**
KSH pmax pmax
comp=Z,78nm,5.3s
KSH LR LR
comp=N,54nm,5.0s
KSH LR LR
comp=E,71nm,4.3s
KSH LR LR
comp=Z,120nm,5.2s
TKM2 Tokmak 2 60.61 318 *eP* **P 19 35 17.8 +0.4**
TKM2 pmax pmax
comp=Z,5.0nm,0.6s
TKM2 Tokmak 2 60.61 318 *eP* **P 19 35 17.8 +0.4**
comp=Z,4.7nm,0.6s
RPZ Rata Peaks 61.01 146 P **P 19 35 19.3 -0.5**
comp=Z,5.4nm,0.7s,baz=49,slow=19,SNR=2.8
ZAA0 Zalesovo Array 61.20 333 *eP* **P 19 35 19.3 -1.5**
ZALV Zalesovo Beam 61.20 333 P **P 19 35 19.6 -1.2**
comp=Z,1.1nm,0.6s,baz=116,slow=6.8,SNR=7.4
AAK Ala-Archa 61.23 317 P **P 19 35 22.1 +0.5**
comp=Z,1.2nm,0.4s,baz=183,slow=11,SNR=8.6
AAK Ala-Archa 61.23 317 *d iP* **P 19 35 21.9 +0.3**
AAK *i* *PP pP 19 35 39.5 -6.9
AAK pmax pmax
comp=Z,12nm,1.7s
AAK Ala-Archa 61.23 317 *eP* **P 19 35 21.8 +0.2**
comp=Z,1.8nm,0.7s
URZ Urewera 61.66 137 P **P 19 35 25.3 +1.0**
comp=Z,5.9nm,0.9s,baz=331,slow=19,SNR=2.2
EKS2 Erkin-Say 61.72 317 *eP* **P 19 35 25.4 +0.5**
EKS2 pmax pmax
comp=Z,5.0nm,0.7s
EKS2 Erkin-Say 61.72 317 *eP* **P 19 35 25.4 +0.5**
comp=Z,5.0nm,0.7s
SEY Seymchan 61.81 12 P **P 19 35 24.6 -0.2**
comp=Z,1.4nm,0.8s,baz=164,slow=1.3,SNR=4.4
SEY Seymchan 61.81 12 *i* P **P 19 35 25.9 +1.1**
KURBB Kurchatov Arra 62.45 327 P **P 19 35 29.2 -0.1**
comp=Z,8.9nm,0.7s,baz=128,slow=6.2,SNR=127
KURK Kurchatov 62.45 327 *eP* **P 19 35 28.9 -0.4**
KURK pmax pmax
comp=Z,12nm,0.8s
KURK Kurchatov 62.45 327 *eP* **P 19 35 28.9 -0.4**
comp=Z,12nm,0.8s
KURK *epP* **pP 19 35 51.2 -3.1**
KBL Kabul 62.54 307 *eP* **P 19 35 30.3 -0.2**
KBL pmax pmax
comp=Z,4.0nm,0.8s
KBL Kabul 62.54 307 *eP* **P 19 35 30.3 -0.2**
comp=Z,3.7nm,0.8s
KKAR Karatay Array 64.11 317 *eP* **P 19 35 40.2 -0.3**
KKAR pmax pmax
comp=Z,4.0nm,0.7s
KKAR Karatay Array 64.11 317 *eP* **P 19 35 40.2 -0.3**
comp=Z,4.0nm,0.7s
BRVK Borovoye 68.11 327 *d iP* **P 19 36 05.6 -0.3**
BRVK pmax pmax
comp=Z,8.0nm,0.8s
BRVK Borovoye 68.11 327 *eP* **P 19 36 05.4 -0.5**
comp=Z,10nm,1.0s
CASY Casey 70.92 187 *eP* **P 19 36 23.3 +0.4**
GEYT Alibeck 71.89 309 P **P 19 36 29.9 +0.5**
comp=Z,3.3nm,0.7s,baz=159,slow=4.5,SNR=11
ABKAR Akbulak array 72.97 321 *eP* **P 19 36 34.1 -1.4**
comp=Z,2.8nm,0.8s
SVE Sverdlovsk 74.65 328 *eP* **P 19 36 44.6 -0.5**
SVE pmax pmax
comp=Z,9.0nm,0.6s
ARU Arti 75.64 328 *i* P **P 19 36 49.4 -1.4**
ARU S **S 19 46 24.4 +0.5**
ARU pmax pmax
comp=Z,6.0nm,0.8s
ARU Arti 75.64 328 *eP* **P 19 36 49.4 -1.4**
OBN Obninsk 87.81 325 ⇓ *eP* **P 19 37 53.7 -1.0**
OBN pmax pmax
comp=Z,5.0nm,0.6s
ARCES ARCESS Array B 90.92 340 P **P 19 38 07.5 -1.6**
comp=Z,1.6nm,0.5s,baz=78,slow=6.0,SNR=12
FINES FINESS Array B 92.46 332 P **P 19 38 14.6 -1.7**
comp=Z,0.6nm,0.4s,baz=64,slow=4.4,SNR=8.8
AKASG Malin Array Be 92.71 321 P **P 19 38 15.5 -2.2**
comp=Z,0.7nm,0.6s,baz=66,slow=4.9,SNR=5.9
TORD Torodi Ar. Bea 124.11 288 PKP **PKPdf 19 44 04.1 -0.6**
comp=Z,1.0nm,0.8s,baz=42,slow=2.0,SNR=5.0
CFAA Coronel Fontan 148.31 153 PKPbc **PKPbc 19 44 51.7 -0.5**
comp=Z,0.1nm,0.4s,baz=180,slow=5.1,SNR=3.1

SKHL ***15*** *19:27:49.6±0.6, 52.°12N×142.°39E, h10km, mb4.4/4*
ISCJB ***15*** *19:27:51.0±0.6, 52.°07N±0.°03×142.°16E±0.°07, h10km, mb3.6/2, Error ellipse: s-maj=6.0km s-min=4.0km az=168.7*
ISC 15 19:27:53.7±1.0**, 52.°06N**±0.°04×**142.°28E**±0.°06**, h10**km**, n11,**
σ1§**54**/15**, 1C, Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TYV	**Tymovskoe**	**1.22**	**169**	*e*Pg	**Pn**	**19 28 15.0**	**-1.8**
TYV				AMB	AMB	19 28 18.0	
	168nm,0.6s						
TYV				*e*Sg	**Sb**	**19 28 32.5**	**-0.1**
TYV				A	A	19 28 34.5	
	484nm,0.8s						
NKL	**Nikolayevsk**	**1.47**	**319**	*i* Pg	**Pn**	**19 28 18.8**	**-1.4**
NKL				AMB	AMB	19 28 19.9	
	140nm,0.3s						
NKL				AMB	AMB	19 28 19.9	
	270nm,0.3s						
NKL				AMB	AMB	19 28 20.0	
	200nm,1.0s						
NKL				AMB	AMB	19 28 20.0	
	300nm,1.0s						
NKL				*e*Sg	**Sn**	**19 28 39.0**	**-0.4**
NKL				A	A	19 28 41.0	
	900nm,1.5s						
NKL				A	A	19 28 41.0	
	1μm,1.5s						
NKL				A	A	19 28 47.0	
	560nm,0.4s						
OKH	**Okha**	**1.55**	**15**	*e*Pg	**Pn**	**19 28 21.0**	**-0.3**
OKH				AMB	AMB	19 28 25.0	
	220nm,0.3s						
OKH				⇑ *i*Sg	**Sb**	**19 28 43.5**	**+1.5**
OKH				A	A	19 28 44.1	
	300nm,0.6s						
UGL	**Uglegorsk**	**2.99**	**183**	*e*Sg	**Sg**	**19 29 32.5**	**+2.9**
UGL				A	A	19 29 38.0	
	90nm,0.6s						
GRNR	**Gornyy**	**3.89**	**253**	*e*Pg	**Pb**	**19 29 04.0**	**+1.7**
GRNR				*e*Sg	**Sg**	**19 29 58.0**	**-0.5**
EKMR	**Ekimchan**	**5.78**	**284**	*e*P	**Pn**	**19 29 20.5**	**+1.0**
EKMR				*e*Pg	**Pg**	**19 29 45.0**	**+0.6**
EKMR				AMB	AMB	19 29 45.5	
	5.0nm,0.4s						
EKMR				*e*S	**Sn**	**19 30 23.5**	**-2.3**
EKMR				*e*Sg	Sg	19 31 06.0	+6.8
EKMR				A	A	19 31 08.8	
	35nm,0.6s						
EKMR				A	A	19 31 08.8	
	20nm,0.6s						
BMKR	**Bomnak**	**8.46**	**294**	*e*Pg	**Pb**	**19 30 20.0**	**-0.2**
BMKR				*e*Sg	Sg	19 32 17.9	-7.1
YASR	**Yasnyy**	**8.78**	**284**	*e*Sg	Sg	19 32 19.3	-16
YASR				A	A	19 32 22.8	
	25nm,0.9s						
YASR				A	A	19 32 22.8	
	10.0nm,0.9s						
KROS	**Kirovskiy**	**9.48**	**291**	*e*Sg	Sn	19 32 53.3	+56
KROS				A	A	19 33 04.6	
	14nm,0.9s						
WRA	**Warramunga Arr**	**72.03**	**188**	P	**P**	**19 39 16.1**	**-1.5**
	0.8nm,1.2s,baz=7.8,slow=6.0,SNR=3.3						
ASAR	**Alice Springs**	**75.75**	**188**	P	**P**	**19 39 39.0**	**-0.3**
	0.6nm,0.7s,baz=7.0,slow=5.6,SNR=8.6						

ISCJB ***15*** *19:37:38.7±0.6, 22.°41S±0.°05×68.°36W±0.°09, h113km±8km, mb3.8/4, Error ellipse: s-maj=13.8km s-min=7.4km az=2.8*
IDC ***15*** *19:37:39.5±0.7, 22.°46S×68.°35W, h104km±8km, mb3.6/5, mb1 3.7/8, mb1mx3.5/29, mbtmp4.0/8, Error ellipse: s-maj=22.7km s-min=19.4km az=111.0*
GUC ***15*** *19:37:39.0±0.5, 22.°39S×68.°67W, h138km±5km, ML4.3*
ISC 15 19:37:39.3±0.8**, 22.°39S**±0.°06×**68.°30W**±0.°08**, h103**km±9km**,**
n20, σ1§**48**/26**, mb4.0**/4**, 3C, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.61**	**249**	LR	LR	19 37 54.2	
	comp=Z,175nm,21.3s,baz=30,slow=27						
LVC				P	**Pn**	**19 37 57.8**	**+1.3**
	14μm,0.3s,baz=57,slow=1.9,SNR=5747						
LVC				S	**Sn**	**19 38 10.2**	**+0.8**
	58μm,0.3s,baz=270,slow=20,SNR=197						
PB04	**IPOC Station P**	**1.11**	**276**	*e*P	Pn	19 38 07.4	+6.3
PB04				*e*S	Sn	19 38 28.4	+11
PB04				AML	AML	19 38 33.3	
	comp=N,3μm,0.2s						
PB06	**IPOC Station P**	**1.22**	**255** ⇑	*e*P	**Pn**	**19 38 02.5**	**0.0**
PB06				*e*S	**Sn**	**19 38 20.1**	**0.0**
PB06				AML	AML	19 38 21.8	
	comp=N,3μm,0.5s						
PB07	**IPOC Station P**	**1.61**	**294** ⇑	*e*P	**Pn**	**19 38 07.4**	**+0.1**
PB07				*e*S	**Sn**	**19 38 27.2**	**-1.3**
PB07				AML	AML	19 38 27.7	
	comp=N,11μm,0.3s						
PB01	**IPOC Station P**	**1.74**	**320**	*e*P	**Pn**	**19 38 08.9**	**+0.1**
PB01				*e*S	**Sn**	**19 38 31.6**	**+0.4**
PB01				AML	AML	19 38 32.2	
	comp=E,3μm,0.2s						
CEN1	**Los Morros**	**2.02**	**240**	*e*P	**Pn**	**19 38 13.7**	**+1.4**
CEN1				*e*S	**Sn**	**19 38 39.8**	**+2.3**
PATCX	**Punta Patache**	**2.33**	**312**	*e*P	**Pn**	**19 38 15.3**	**-1.0**
PATCX				*e*S	**Sn**	**19 38 43.4**	**-1.2**
PB10	**IPOC Station P**	**2.36**	**241**	*e*P	**Pn**	**19 38 14.7**	**-1.9**
PB10				AML	AML	19 38 45.5	
	comp=N,2μm,0.1s						
PB11	**IPOC Station P**	**2.91**	**334** ⇑	*e*P	**Pn**	**19 38 24.4**	**+0.3**
PB11				*e*S	**Sn**	**19 38 58.7**	**+0.2**
PB11				AML	AML	19 39 06.2	
	comp=E,2μm,0.3s						
PSGC	**Pisagua**	**3.26**	**328**	AML	AML	19 39 27.9	
	comp=E,366nm,0.4s						
MNMC	**Minimini**	**3.46**	**339**	*e*P	**Pn**	**19 38 32.1**	**+0.5**
MNMC				AML	AML	19 39 47.1	
	comp=N,562nm,0.8s						
LPAZ	**La Paz**	**6.07**	**2**	P	**Pn**	**19 39 10.0**	**+2.9**
	comp=N,0.7nm,0.3s,baz=154,slow=3.5,SNR=18						
CFAA	**Coronel Fontan**	**9.18**	**180**	P	**Pn**	**19 39 46.8**	**-2.0**
	comp=N,0.1nm,0.3s,baz=352,slow=14,SNR=8.4						
CFAA				S	Sn	19 41 22.3	-8.0
	comp=N,0.1nm,0.3s,baz=259,slow=16,SNR=2.9						
SIV	**San Ignacio**	**9.33**	**48**	P	**Pn**	**19 39 51.5**	**+0.5**
	comp=N,2.2nm,0.3s,baz=251,slow=9.9,SNR=32						
SIV				S	**Sn**	**19 41 30.4**	**-3.8**
	comp=N,0.3nm,0.3s,baz=319,slow=20,SNR=3.0						
PLCA	**Paso Flores**	**18.39**	**185**	P	**Pn**	**19 41 46.4**	**-1.0**
	comp=N,0.1nm,0.3s,baz=6.3,slow=13,SNR=4.7						
BDFB	**Brasilia**	**20.31**	**74**	P	**P**	**19 42 08.3**	**+1.0**
	comp=N,3.7nm,0.6s,baz=259,slow=12,SNR=7.1						
PTGA	**Pitinga**	**23.01**	**22**	P	**P**	**19 42 35.2**	**-0.3**
	comp=N,2.2nm,0.3s,baz=185,slow=22,SNR=7.0						
TXAR	**Lajitas Array**	**61.68**	**325**	P	**P**	**19 47 46.8**	**+0.2**
	comp=N,0.1nm,0.5s,baz=154,slow=11,SNR=2.9						
TORD	**Torodi Ar. Bea**	**77.12**	**70**	P	**P**	**19 49 22.7**	**+0.8**
	comp=N,1.4nm,0.3s,baz=259,slow=5.7,SNR=27						
YKA	**Yellowknife Ar**	**92.21**	**340**	P	**P**	**19 50 37.3**	**+0.4**
	comp=N,0.5nm,0.6s,baz=133,slow=5.0,SNR=9.2						

IDC ***15*** *19:47:35.3±1.6, 32.°91S×178.°65W, h0km, mb4.1/2, mb1 4.3/4, mb1mx3.9/18, mbtmp4.2/4, ML3.9/2, Error ellipse: s-maj=51.5km s-min=27.0km az=126.0*
ISCJB ***15*** *19:47:37.3±0.9, 32.°88S±0.°06×178.°7W±0.°2, h32km, mb4.2/6, Error ellipse: s-maj=24.3km s-min=5.9km az=16.0*
NEIC ***15*** *19:47:40.5±1.0, 32.°86S×178.°77W, h35km, mb4.6/4, Error ellipse: s-maj=28.3km s-min=13.7km az=109.0*
ISC 15 19:47:39.9±0.9**, 32.°80S**±0.°08×**178.°7W**±0.°2**, h32**km**, n29,**
σ1§**45**/31**, mb4.3**/6**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.59**	**10**	*e*Pn	**Pn**	**19 48 32.8**	**-0.5**
WMGZ	**Waiomatatini S**	**5.55**	**205**	PN	**Pn**	**19 48 59.3**	**-1.0**
WMGZ				SN	**Sn**	**19 50 04.6**	**+1.6**
HAZ	**Te Kaha**	**5.74**	**209**	PN	**Pn**	**19 49 04.2**	**+1.3**
PUZ	**Puketiti**	**5.84**	**205**	PN	**Pn**	**19 49 02.1**	**-2.1**
PUZ				SN	**Sn**	**19 50 08.8**	**-1.2**
CNGZ	**Carnagh Statio**	**6.22**	**203**	PN	**Pn**	**19 49 07.4**	**-2.1**
MWZ	**Matawai**	**6.34**	**208**	PN	**Pn**	**19 49 08.7**	**-2.5**
MWZ				SN	**Sn**	**19 50 21.2**	**-1.3**
URZ	**Urewera**	**6.45**	**211**	Pn	**Pn**	**19 49 10.4**	**-2.2**
	2.7nm,0.3s,baz=279,slow=4.5,SNR=21						
URZ				Sn	**Sn**	**19 50 24.3**	**-0.8**
	7.7nm,0.3s,baz=269,slow=3.5,SNR=11						
RIGZ	**Rimuhau**	**6.58**	**205**	PN	**Pn**	**19 49 14.2**	**-0.2**
RIGZ				SN	**Sn**	**19 50 28.3**	**0.0**
SNGZ	**Shannon Statio**	**6.80**	**207**	PN	**Pn**	**19 49 17.8**	**+0.4**
SNGZ				SN	**Sn**	**19 50 32.7**	**-1.0**
KNZ	**Kokohu**	**6.89**	**205**	PN	Pn	19 49 14.7	-3.9
KNZ				SN	**Sn**	**19 50 32.8**	**-3.0**
ARHZ	**Aropaoanui**	**7.35**	**207**	PN	**Pn**	**19 49 22.5**	**-2.5**
RPZ	**Rata Peaks**	**13.56**	**214**	Pn	Pn	19 50 46.4	-3.5
	0.7nm,0.3s,baz=180,slow=2.0,SNR=3.3						
RPZ				Sn	Sn	19 53 06.4	-13
	0.5nm,0.3s,baz=323,slow=20,SNR=3.6						
CTA	**Charters Tower**	**33.71**	**283**	P	P	19 54 22.2	+3.9
	3.0nm,0.6s,baz=145,slow=12,SNR=3.6						
CTAO	**Charters Tower**	**33.71**	**283**	P	**P**	**19 54 18.1**	**-0.3**
	7.6nm,1.0s						
ASAR	**Alice Springs**	**42.48**	**270**	P	**P**	**19 55 34.1**	**+1.9**
	1.2nm,0.5s,baz=106,slow=7.3,SNR=19						
WRAB	**Tennant Creek**	**43.68**	**275**	*e*P	**P**	**19 55 41.2**	**-0.7**
	2.2nm,0.6s						
WRA	**Warramunga Arr**	**43.69**	**275**	P	**P**	**19 55 40.3**	**-1.7**
	1.8nm,0.5s,baz=114,slow=7.9,SNR=28						
CASY	**Casey**	**52.77**	**209**	P	**P**	**19 56 52.5**	**+1.1**
QSPA	**South Pole Qui**	**57.32**	**180**	*e*P	**P**	**19 57 24.8**	**+0.2**
	6.4nm,1.2s						
KSM	**Kuching**	**74.94**	**282**	*e*P	**P**	**19 59 17.8**	**-0.3**
	10.0nm,1.2s						
SNAA	**Sanae**	**75.78**	**179**	P	P	19 59 13.3	-8.9
VNA3	**Neumayer Olymp**	**75.96**	**176**	P	P	19 59 32.9	+10
VNA2	**Neumayer--Watz**	**76.39**	**177**	P	P	19 59 14.8	-11
	baz=20,slow=15						
VNA1	**Neumayer--Stat**	**76.62**	**177**	P	P	19 59 12.9	-14
FINES	**FINESS Array B**	**147.18**	**338**	PKPbc	**PKPab**	**20 07 19.6**	**-1.1**
	1.5nm,0.5s,baz=52,slow=3.8,SNR=19						
NB2	**NORSAR Subarra**	**151.02**	**350**	PKP	**PKPbc**	**20 07 28.7**	**-0.1**
	comp=Z,4.4nm,1.4s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**151.02**	**350**	PKPbc	**PKPbc**	**20 07 28.4**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=14,slow=4.1,SNR=4.6						
AKASG	**Malin Array Be**	**152.81**	**319**	PKPbc	**PKPbc**	**20 07 33.8**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=56,slow=1.7,SNR=2.2						
AKASG				PKPab	**PKPab**	**20 07 44.6**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=63,slow=1.6,SNR=2.7						
BRTR	**Keskin Array B**	**153.16**	**294**	PKPbc	**PKPbc**	**20 07 36.3**	**+1.8**
	comp=Z,0.3nm,0.4s,baz=129,slow=1.8,SNR=3.7						
BRTR				PKPab	**PKPab**	**20 07 46.3**	**0.0**
	comp=Z,0.3nm,0.7s,baz=75,slow=4.0,SNR=3.0						

ISCJB ***15*** *19:48:11.3±1.0, 14.°70S±0.°08×167.°3E±0.°2, h170km, mb3.8/7, Error ellipse: s-maj=25.0km s-min=10.8km az=179.3*
IDC ***15*** *19:48:12.2±4.3, 14.°72S×167.°39E, h166km±37km, mb3.6/8, mb1 3.7/9, mb1mx3.4/37, mbtmp4.1/9, Error ellipse: s-maj=28.0km s-min=23.8km az=21.0*
ISC 15 19:48:12.4±1.0**, 14.°72S**±0.°10×**167.°4E**±0.°2**, h170**km**, n12,**
σ0§**78**/12**, mb3.9**/6**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.38**	**187**	P	**Pn**	**19 49 57.9**	**+0.4**
	1.3nm,0.3s,baz=270,slow=24,SNR=11						
DZM				S	**Sn**	**19 51 19.8**	**-0.7**
	0.4nm,0.3s,baz=90,slow=24,SNR=9.2						
CTA	**Charters Tower**	**20.90**	**252**	P	**P**	**19 52 42.0**	**+0.4**
	3.7nm,0.5s,baz=82,slow=13,SNR=7.0						
STKA	**Stephens Creek**	**29.13**	**230**	P	**P**	**19 53 58.1**	**+0.7**
	0.9nm,0.3s,baz=59,slow=6.9,SNR=5.9						
WRA	**Warramunga Arr**	**31.99**	**256**	P	**P**	**19 54 21.8**	**-1.0**
	0.8nm,0.3s,baz=84,slow=8.7,SNR=22						
ASAR	**Alice Springs**	**32.83**	**249**	P	**P**	**19 54 29.2**	**-0.8**
	1.1nm,0.3s,baz=79,slow=9.4,SNR=87						
QSPA	**South Pole Qui**	**75.31**	**180**	P	**P**	**19 59 37.0**	**+0.3**
	1.2nm,0.6s,baz=216,slow=1.4,SNR=9.3						
SONM	**Songino Array**	**82.58**	**324**	P	**P**	**20 00 17.1**	**+0.6**
	1.4nm,0.6s,baz=147,slow=6.0,SNR=2.7						

ILAR	**Eielson Array**	**86.46**	**18**	P		**P**		**20 00 34.5**	**-0.9**
	0.4nm,0.7s,baz=242,slow=5.6,SNR=4.4									
MKAR	**Makanchi Array**	**97.31**	**316**	P		Pdif		20 01 26.7	+0.5	
	0.3nm,0.7s,baz=74,slow=4.3,SNR=4.5									
ARCES	**ARCESS Array B**	**120.28**	**345**	PKP		**PKPdf**		**20 06 42.8**	**+0.2**	
	5.8nm,1.1s,baz=64,slow=2.1,SNR=8.1									
FINES	**FINESS Array B**	**125.77**	**338**	PKP		**PKPdf**		**20 06 54.4**	**+1.0**	
	0.4nm,0.5s,baz=15,slow=5.8,SNR=4.9									
GERES	**GERESS Array B**	**139.71**	**333**	PKP		**PKPdf**		**20 07 19.6**	**-0.5**	
	0.1nm,0.2s,baz=45,slow=1.5,SNR=3.0									

*IDC **15** 19:50:10.3±1.7, 32.2°S×178.2°W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.8/17, mbtmp4.0/4, ML3.6/1, Error ellipse: s-maj=63.2km s-min=33.8km az=147.0*

*ISCJB **15** 19:50:12.0±5.4, 33.2°S±0.2°×178.0°W±0.8, h34km, mb3.9/3, Error ellipse: s-maj=101.5km s-min=15.7km az=16.7*

ISC 15 19:50:14.9±1.9, 33.1°S±0.2°×178.1°W±0.3, h34km, n8, σ1§02/10, mb3.9/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**6.46**	**216**	Pn		**Pn**	**19 51 47.0**	**-0.5**
	1.4nm,0.3s,baz=276,slow=3.7,SNR=6.2							
URZ				Sn		**Sn**	**19 53 00.3**	**+0.2**
	1.2nm,0.3s,baz=150,slow=20,SNR=4.3							
STKA	**Stephens Creek**	**33.90**	**261**	P		**P**	**19 56 56.2**	**+1.6**
	1.3nm,0.9s,baz=94,slow=6.0,SNR=2.8							
ASAR	**Alice Springs**	**42.97**	**270**	P		**P**	**19 58 10.0**	**-1.0**
	0.8nm,0.6s,baz=109,slow=7.7,SNR=8.5							
WRA	**Warramunga Arr**	**44.20**	**275**	P		**P**	**19 58 19.6**	**-1.3**
	1.8nm,0.4s,baz=114,slow=7.8,SNR=20							
FINES	**FINESS Array B**	**147.65**	**338**	PKPbc		**PKPbc**	**20 09 55.2**	**+0.2**
	1.1nm,0.4s,baz=58,slow=3.4,SNR=29							
NOA	**NORSAR Array B**	**151.41**	**351**	PKPbc		**PKPbc**	**20 10 04.0**	**-0.4**
	0.7nm,0.8s,baz=16,slow=4.3,SNR=3.5							
MMAI	**Mount Meron Ar**	**152.01**	**279**	PKPbc		**PKPbc**	**20 10 07.8**	**+1.1**
	0.5nm,0.4s,baz=85,slow=4.8,SNR=3.6							
BRTR	**Keskin Array B**	**153.73**	**294**	PKPbc		**PKPbc**	**20 10 10.7**	**+0.3**
	0.4nm,0.5s,baz=136,slow=3.2,SNR=4.3							
BRTR				PKPab		**PKPab**	**20 10 22.9**	**-0.5**
	0.2nm,0.5s,baz=71,slow=4.3,SNR=2.7							

*ISCJB **15** 20:03:27.7±0.6, 13.6°S±0.0°, 167.1°E±0.1, h200km, mb3.9/18, Error ellipse: s-maj=18.1km s-min=10.2km az=12.0*

*IDC **15** 20:03:29.2±2.0, 13.6°S×167.1°E, h200km±16km, mb3.7/13, mb1 3.8/14, mb1mx3.6/23, mbtmp4.2/14, MS3.8/1, Ms1 3.8/1, ms1mx2.9/26, Error ellipse: s-maj=27.4km s-min=13.7km az=118.0*

*NEIC **15** 20:03:31.4±1.7, 13.6°S×167.2°E, h223km±15km, mb4.1/8, Error ellipse: s-maj=12.2km s-min=10.3km az=95.0*

ISC 15 20:03:29.1±0.7, 13.6°S±0.0°, 167.2°E±0.2, h200km, n31, σ0§77/38, mb4.0/18, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.44**	**184**	P		**Pn**	**20 05 29.3**	**+1.2**
	0.5nm,0.3s,baz=90,slow=24,SNR=82							
EIDS	**Eidsvold**	**19.11**	**230**	*e*P		**P**	**20 07 38.2**	**+1.2**
EIDS				*e*			20 07 51.7	
CTA	**Charters Tower**	**21.00**	**249**	P		**P**	**20 07 58.0**	**+0.8**
	4.3nm,0.7s,baz=77,slow=14,SNR=8.1							
CTAO	**Charters Tower**	**21.00**	**249**	*e*P		**P**	**20 07 57.4**	**+0.2**
	3.9nm,0.6s							
STKA	**Stephens Creek**	**29.64**	**228**	P		**P**	**20 09 16.1**	**+0.2**
	3.0nm,0.4s,baz=54,slow=9.3,SNR=26							
STKA				PcP		**PcP**	**20 12 15.3**	**-0.2**
	1.0nm,0.7s,baz=341,slow=5.0,SNR=3.4							
STKA				ScP		**ScP**	**20 15 38.0**	**-0.5**
	1.3nm,0.8s,baz=194,slow=2.4,SNR=3.0							
STKA	**Stephens Creek**	**29.64**	**228**	*e*P		**P**	**20 09 15.5**	**-0.4**
	0.7nm,0.5s							
STKA				PcP		**PcP**	**20 12 15.3**	**-0.2**
STKA				ScP		**ScP**	**20 15 38.0**	**-0.5**
WRA	**Warramunga Arr**	**32.00**	**254**	P		**P**	**20 09 36.0**	**-0.9**
	0.9nm,0.6s,baz=86,slow=9.4,SNR=19							
WRA				ScP		**ScP**	**20 15 47.3**	**+0.7**
	0.6nm,0.8s,baz=86,slow=3.3,SNR=4.4							
AS31	**Alice Springs**	**32.97**	**247**	*e*P		**P**	**20 09 44.3**	**-1.1**
ASAR	**Alice Springs**	**32.98**	**247**	P		**P**	**20 09 44.5**	**-0.9**
	2.1nm,0.5s,baz=74,slow=9.6,SNR=91							
ASAR				PcP		**PcP**	**20 12 24.2**	**-0.4**
	0.6nm,0.6s,baz=73,slow=2.4,SNR=7.9							
ASAR				ScP		**ScP**	**20 15 50.7**	**+0.8**
	1.6nm,0.9s,baz=89,slow=3.2,SNR=9.5							
MBWA	**Marble Bar**	**45.73**	**254**	P		**P**	**20 11 30.8**	**+0.1**
MJAR	**Matsushiro Arr**	**56.87**	**332**	P		**P**	**20 12 53.1**	**0.0**
	1.2nm,0.8s,baz=171,slow=9.0,SNR=5.1							
MAJO	**Matsushiro**	**56.87**	**332**	P		**P**	**20 12 52.8**	**-0.3**
	2.3nm,0.7s							
KSM	**Kuching**	**58.29**	**280**	P		**P**	**20 13 02.8**	**-0.7**
	5.9nm,1.0s							
LEM	**Lembang**	**58.86**	**270**	LR		LR	20 38 29.5	
	comp=Z,82nm,19.1s,slow=36							
ASAJ	**Asahikawa**	**61.66**	**340**	P		**P**	**20 13 26.9**	**+1.1**
	7.6nm,1.0s,baz=24,slow=1.3,SNR=4.7							
VNDA	**Vanda**	**63.97**	**181**	P		**P**	**20 13 39.7**	**-0.8**
	3.3nm,1.3s							
SBA	**Scott Base**	**64.24**	**180**	*e*P		**P**	**20 13 42.8**	**+0.5**
	5.8nm,1.2s							
PETK	**Petropavlovsk-**	**66.95**	**354**	P		**P**	**20 14 01.2**	**+1.3**
	2.6nm,0.8s,baz=153,slow=13,SNR=4.2							
CMAR	**Chiang Mai Arr**	**74.39**	**294**	P		**P**	**20 14 47.0**	**+1.4**
	1.2nm,0.8s,baz=136,slow=5.6,SNR=8.6							
QSPA	**South Pole Qui**	**76.41**	**180**	*e*P		**P**	**20 14 55.6**	**-0.7**
	4.2nm,0.9s							
SEY	**Seymchan**	**77.17**	**353**	P		**P**	**20 15 00.6**	**+0.3**
	1.8nm,0.6s,baz=160,slow=5.4,SNR=11							
YAK	**Yakutsk**	**80.94**	**343**	P		**P**	**20 15 19.9**	**-0.8**
	6.9nm,0.6s							
SONM	**Songino Array**	**81.54**	**324**	P		**P**	**20 15 25.3**	**+0.9**
	0.6nm,0.3s,baz=101,slow=7.5,SNR=2.9							
ILAR	**Eielson Array**	**85.51**	**18**	P		**P**	**20 15 43.4**	**-0.7**
	0.5nm,0.7s,baz=232,slow=6.3,SNR=4.8							
MKAR	**Makanchi Array**	**96.32**	**316**	P		**P**	**20 16 35.3**	**+0.3**
	0.7nm,0.6s,baz=82,slow=3.7,SNR=11							
ZALV	**Zalesovo Beam**	**96.43**	**324**	P		**P**	**20 16 34.4**	**-0.8**
	0.3nm,0.4s,baz=92,slow=7.2,SNR=2.4							
ARCES	**ARCESS Array B**	**119.15**	**346**	PKP		**PKPdf**	**20 21 53.0**	**-0.6**
	4.0nm,0.9s,baz=57,slow=1.5,SNR=9.1							
FINES	**FINESS Array B**	**124.65**	**338**	PKP		**PKPdf**	**20 22 03.4**	**-1.0**
	1.0nm,0.8s,baz=145,slow=7.0,SNR=4.8							
GERES	**GERESS Array B**	**138.60**	**333**	PKP		**PKPdf**	**20 22 31.7**	**+0.5**
	0.5nm,0.7s,baz=48,slow=1.5,SNR=3.8							
KEST	**Kesra**	**150.28**	**322**	PKPbc		**PKPbc**	**20 22 57.4**	**+0.3**
	2.6nm,1.0s,baz=275,slow=1.0,SNR=6.0							
TORD	**Torodi Ar. Bea**	**165.84**	**270**	PKP		**PKPdf**	**20 23 10.1**	**-0.8**
	0.5nm,0.7s,baz=116,slow=1.5,SNR=3.1							
TORD				PKPab		**PKPab**	**20 24 10.9**	**-0.8**
	0.3nm,0.8s,baz=84,slow=4.8,SNR=5.2							

*NIC **15** 20:12:18.4, 36.1°N×29.6°E, h11km, mb4.3, ML3.9*

*DDA **15** 20:12:19.6, 35.6°N×29.9°E, h19km, ML4.3*

*IDC **15** 20:12:20.5±0.9, 36.0°N×30.0°E, h0km, mb3.7/7, mb1 3.8/13, mb1mx3.6/30, mbtmp3.7/13, ML3.6/6, MS2.8/1, Ms1 2.8/1, ms1mx2.2/38, Error ellipse: s-maj=18.2km s-min=16.0km az=177.0*

*ISK **15** 20:12:21.0, 35.8°N×30.0°E, h5km, MD3.8, ML3.7*

*HLW **15** 20:12:23.6, 36.1°N×30.0°E, h26km±14km, Md3.2*

*CSEM **15** 20:12:23.5±0.1, 35.8°N×29.9°E, h10km, ML4.3, Error ellipse: s-maj=3.7km s-min=2.8km az=37.0*

*THE **15** 20:12:26.3, 35.9°N×30.0°E, h28km±41km, Error ellipse: s-maj=41.6km s-min=1.7km az=89.0*

ISC 15 20:12:23.3±1.2, 35.8°N±0.0°×29.9°E±0.0°2, h17km±8km, n207, σ1§48/225, mb3.6/7, 5C-2D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AKAS	**Kas**	**0.47**	**320**	*i* P		**Pg**	**20 12 32.0**	**-0.8**
AKAS	**Kas**	**0.47**	**320**	*i* P		**Pg**	**20 12 32.0**	**-0.8**
ELL	**Elmali**	**0.88**	**356**	*e*PG		**Pg**	**20 12 39.4**	**-1.1**
ELL				*e*SG		**Sb**	**20 12 53.0**	**+1.2**
ELL	**Elmali**	**0.88**	**356**	*e*Pg		**Pg**	**20 12 39.4**	**-1.1**
ELL				*e*Sg		**Sb**	**20 12 53.0**	**+1.2**
ANTB	**Antalya**	**1.17**	**28**	*e*PN		**Pb**	**20 12 44.5**	**-0.5**
ANTB	**Antalya**	**1.17**	**28**	*e*P		**Pb**	**20 12 44.5**	**-0.5**
KORT	**Korkueli**	**1.17**	**15**	*i* P		**Pb**	**20 12 42.9**	**-2.3**
KORT	**Korkueli**	**1.17**	**15**	*i* P		**Pb**	**20 12 42.9**	**-2.3**
KORT				*i* S		**Sn**	**20 13 05.5**	**+4.7**
GLHS	**Glhisar (BURDU**	**1.34**	**343**	*e*PN		**Pn**	**20 12 48.4**	**+1.0**
GLHS	**Glhisar (BURDU**	**1.34**	**343**	*e*Pn		**Pn**	**20 12 48.4**	**+1.0**
GOLH	**Golhisar**	**1.41**	**346**	*i* P		**Pn**	**20 12 49.2**	**+0.9**
GOLH	**Golhisar**	**1.41**	**346**	*i* P		**Pn**	**20 12 49.2**	**+0.9**
GOLH				*i* S		**Sg**	**20 13 11.0**	**+2.2**
DALY	**Dalyan (Mu˘la**	**1.43**	**312**	*e*PN		**Pn**	**20 12 49.0**	**+0.5**
DALY	**Dalyan (Mu˘la**	**1.43**	**312**	*e*Pn		**Pn**	**20 12 49.0**	**+0.5**
TURN	**Turunc**	**1.50**	**313**	*i* P		**Pg**	**20 12 52.3**	**+0.2**
TURN	**Turunc**	**1.50**	**313**	*i* P		**Pg**	**20 12 52.3**	**+0.2**
ARG	**Arkhangelos**	**1.54**	**284**	P		**Pn**	**20 12 50.8**	**+0.8**
ARG				S		**Sn**	**20 13 09.0**	**-0.7**
ARG	**Arkhangelos**	**1.54**	**284**	*e*P		**Pn**	**20 12 50.8**	**+0.8**
ARG	**Arkhangelos**	**1.54**	**284**	P		**Pn**	**20 12 50.8**	**+0.8**
ARG				S		**Sn**	**20 13 09.0**	**-0.7**
BCK	**Bucak**	**1.66**	**17**	*e*PN		**Pn**	**20 12 52.4**	**+0.6**
BCK	**Bucak**	**1.66**	**17**	*e*Pn		**Pn**	**20 12 52.4**	**+0.6**
YER	**Yerkesik**	**1.86**	**313**	*e*PN		**Pn**	**20 12 55.5**	**+1.0**
YER	**Yerkesik**	**1.86**	**313**	*e*Pn		**Pn**	**20 12 55.5**	**+1.0**
GAZI	**Gazipasa**	**1.93**	**78**	*i* P		**Pn**	**20 12 54.9**	**-0.5**
GAZI	**Gazipasa**	**1.93**	**78**	*i* P		**Pn**	**20 12 54.9**	**-0.5**
ISP	**Isparta**	**2.00**	**12**	*e*PN		**Pn**	**20 12 57.0**	**+0.5**
ISP	**Isparta**	**2.00**	**12**	*e*Pn		**Pn**	**20 12 57.0**	**+0.5**
AKMC	**Akamas**	**2.10**	**113**	P		**Pn**	**20 12 58.5**	**+0.8**
	baz=298							
AKMC	**Akamas**	**2.10**	**113**	P		**Pn**	**20 12 58.5**	**+0.8**
PPCY	**Paphos**	**2.17**	**116**	P		**Pn**	**20 13 00.1**	**+1.4**
	baz=301							
PPCY	**Paphos**	**2.17**	**116**	P		**Pn**	**20 13 00.1**	**+1.4**
ALFC	**Alevga**	**2.25**	**108**	P		**Pn**	**20 13 00.5**	**+0.6**
	baz=293							
ALFC				S		**Sb**	**20 13 33.2**	**+2.0**
ALFC	**Alevga**	**2.25**	**108**	P		**Pn**	**20 13 00.5**	**+0.6**
ALFC				S		**Sb**	**20 13 33.2**	**+2.0**
KARP	**Karpathos**	**2.31**	**263**	P		**Pn**	**20 13 02.5**	**+1.8**
KARP				S		**Sn**	**20 13 29.1**	**+0.3**
KARP	**Karpathos**	**2.31**	**263**	*e*P		**Pn**	**20 13 02.6**	**+1.8**
KARP	**Karpathos**	**2.31**	**263**	P		**Pn**	**20 13 02.5**	**+1.8**
KARP				S		**Sn**	**20 13 29.1**	**+0.3**
BDRM	**Kayabasi**	**2.37**	**301**	*i* P		**Pn**	**20 13 01.9**	**+0.5**
BDRM	**Kayabasi**	**2.37**	**301**	*i* P		**Pn**	**20 13 01.9**	**+0.5**
AYDN	**Tasoluk**	**2.46**	**317**	*i* P		**Pn**	**20 13 05.8**	**+3.1**
AYDN	**Tasoluk**	**2.46**	**317**	*i* P		**Pn**	**20 13 05.8**	**+3.1**
AYDN				*i* S		**Sg**	**20 13 42.2**	**-0.1**
BODT	**Bodrum**	**2.46**	**300**	*e*PN		**Pn**	**20 13 03.3**	**+0.6**
BODT	**Bodrum**	**2.46**	**300**	*e*Pn		**Pn**	**20 13 03.3**	**+0.6**
LEF	**Lefka**	**2.49**	**107**	*e*PN		**Pn**	**20 13 02.5**	**-0.6**
LEF	**Lefka**	**2.49**	**107**	*e*Pn		**Pn**	**20 13 02.5**	**-0.6**
ERMK	**Ermenek**	**2.50**	**71**	*i* P		**Pn**	**20 13 04.4**	**+1.0**
ERMK				*i* S		**Sb**	**20 13 37.6**	**-0.8**
ERMK	**Ermenek**	**2.50**	**71**	*i* P		**Pn**	**20 13 04.4**	**+1.0**
ERMK				*i* S		**Sb**	**20 13 37.6**	**-0.8**
SZAC	**Souni-Zanaja**	**2.62**	**114**	P		**Pn**	**20 13 05.7**	**+0.7**
	baz=299							
SZAC	**Souni-Zanaja**	**2.62**	**114**	P		**Pn**	**20 13 05.7**	**+0.7**
AYDB	**Zeytinkoy-Aydi**	**2.66**	**322**	*e*PN		**Pn**	**20 13 06.6**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**2.66**	**322**	*e*Pn		**Pn**	**20 13 06.6**	**+1.0**
SHUT	**Suhut-Afyon**	**2.72**	**10**	*e*PN		**Pn**	**20 13 07.5**	**+1.1**
SHUT	**Suhut-Afyon**	**2.72**	**10**	*e*Pn		**Pn**	**20 13 07.5**	**+1.1**
MAMC	**Mammari**	**2.73**	**104**	P		**Pn**	**20 13 07.6**	**+1.1**
	baz=290							
MAMC	**Mammari**	**2.73**	**104**	P		**Pn**	**20 13 07.6**	**+1.1**
KONT	**Konya--Tatoy**	**2.82**	**42**	*e*PN		**Pn**	**20 13 08.2**	**+0.6**
KONT	**Konya--Tatoy**	**2.82**	**42**	*e*Pn		**Pn**	**20 13 08.3**	**+0.6**
KULA	**Kula-Manisa**	**2.84**	**339**	*e*PN		**Pn**	**20 13 09.2**	**+1.2**
KULA	**Kula-Manisa**	**2.84**	**339**	P		**Pn**	**20 13 07.5**	**-0.5**
KULA	**Kula-Manisa**	**2.84**	**339**	P		**Pn**	**20 13 07.5**	**-0.5**
KULA	**Kula-Manisa**	**2.84**	**339**	*e*Pn		**Pn**	**20 13 09.2**	**+1.2**
GCAM	**G?zelcaml?**	**2.86**	**310**	*i* P		**Pn**	**20 13 08.1**	**-0.1**
GCAM	**G?zelcaml?**	**2.86**	**310**	*i* P		**Pn**	**20 13 08.1**	**-0.1**
CSS	**Prodhromos**	**2.88**	**107**	*e*PN		**Pn**	**20 13 07.5**	**-1.0**
CSS	**Prodhromos**	**2.88**	**107**	P		**Pn**	**20 13 08.6**	**0.0**
	baz=293							
CSS	**Prodhromos**	**2.88**	**107**	P		**Pn**	**20 13 08.2**	**-0.3**
CSS	**Prodhromos**	**2.88**	**107**	*e*P		**Pn**	**20 13 08.3**	**-0.3**
CSS	**Prodhromos**	**2.88**	**107**	*e*Pn		**Pn**	**20 13 07.6**	**-1.0**
CSS	**Prodhromos**	**2.88**	**107**	P		**Pn**	**20 13 08.6**	**0.0**
BOLV	**Bolvadin**	**2.95**	**15**	*i* P		**Pn**	**20 13 11.0**	**+1.5**
BOLV	**Bolvadin**	**2.95**	**15**	*i* P		**Pn**	**20 13 11.0**	**+1.5**
LFK	**Lefkose**	**2.96**	**100**	*e*PN		**Pn**	**20 13 09.5**	**-0.1**
LFK	**Lefkose**	**2.96**	**100**	*e*Pn		**Pn**	**20 13 09.5**	**-0.1**
LADK	**Ladik-KONYA**	**3.01**	**39**	*e*PN		**Pn**	**20 13 11.0**	**+0.6**
LADK	**Ladik-KONYA**	**3.01**	**39**	*e*Pn		**Pn**	**20 13 11.0**	**+0.6**
SMG	**Samos**	**3.12**	**307**	P		**Pn**	**20 13 11.9**	**+0.1**
SMG				S		**Sn**	**20 13 47.4**	**-1.3**
SMG	**Samos**	**3.12**	**307**	*e*P		**Pn**	**20 13 11.9**	**+0.1**
SMG	**Samos**	**3.12**	**307**	P		**Pn**	**20 13 11.9**	**+0.1**
SMG				S		**Sn**	**20 13 47.4**	**-1.3**
ZKR	**Zakros**	**3.16**	**257**	P		**Pn**	**20 13 14.6**	**+2.3**
ZKR				S		**Sn**	**20 13 51.3**	**+1.7**
ZKR	**Zakros**	**3.16**	**257**	P		**Pn**	**20 13 14.6**	**+2.3**
ZKR				S		**Sn**	**20 13 51.3**	**+1.7**
ALT	**Altintas**	**3.18**	**2**	*e*PN		**Pn**	**20 13 13.7**	**+1.0**
ALT	**Altintas**	**3.18**	**2**	P		**Pn**	**20 13 12.3**	**-0.4**
ALT	**Altintas**	**3.18**	**2**	P		**Pn**	**20 13 12.3**	**-0.4**
ALT	**Altintas**	**3.18**	**2**	*e*Pn		**Pn**	**20 13 13.7**	**+1.0**
GDZ	**Gediz**	**3.24**	**353**	*i* P		**Pn**	**20 13 12.9**	**-0.6**
GDZ	**Gediz**	**3.24**	**353**	*i* P		**Pn**	**20 13 12.9**	**-0.6**
DEMI	**Demirci**	**3.32**	**343**	*i* P		Pn	20 13 11.0	-3.6
KIZK	**Mersin**	**3.43**	**79**	*i* P		**Pn**	**20 13 18.1**	**+2.1**
KIZK	**Mersin**	**3.43**	**79**	*i* P		**Pn**	**20 13 18.1**	**+2.1**
KIZK				*i* S		**Sn**	**20 14 00.9**	**+4.7**
EREN	**Erenkoy**	**3.43**	**94**	*e*PN		**Pn**	**20 13 16.0**	**0.0**
EREN	**Erenkoy**	**3.43**	**94**	*e*Pn		**Pn**	**20 13 16.0**	**0.0**
BLCB	**Balcova**	**3.44**	**318**	*e*PN		**Pn**	**20 13 16.5**	**+0.4**
BLCB	**Balcova**	**3.44**	**318**	*e*Pn		**Pn**	**20 13 16.5**	**+0.4**
TVSB	**Tavsanli**	**3.60**	**354**	*e*PN		**Pn**	**20 13 20.0**	**+1.6**
TVSB	**Tavsanli**	**3.60**	**354**	*e*Pn		**Pn**	**20 13 20.0**	**+1.6**
NPS	**Neapolis**	**3.61**	**262**	P		**Pn**	**20 13 20.3**	**+1.8**
NPS				S		**Sn**	**20 14 00.8**	**0.0**
NPS	**Neapolis**	**3.61**	**262**	*e*P		**Pn**	**20 13 20.2**	**+1.8**
NPS	**Neapolis**	**3.61**	**262**	P		**Pn**	**20 13 20.3**	**+1.8**
NPS				S		**Sn**	**20 14 00.8**	**0.0**
ZEY	**˙zmir**	**3.65**	**311**	*i* P		**Pn**	**20 13 18.5**	**-0.5**
SULT	**Sultanhani-AKS**	**3.66**	**50**	*e*PN		**Pn**	**20 13 20.0**	**+0.7**
SULT	**Sultanhani-AKS**	**3.66**	**50**	*e*Pn		**Pn**	**20 13 20.0**	**+0.7**
SEYT	**Eskypehyr**	**3.71**	**10**	*i* P		**Pn**	**20 13 21.3**	**+1.3**
SEYT				*i* S		**Sn**	**20 14 03.0**	**-0.4**
SEYT	**Eskypehyr**	**3.71**	**10**	*i* P		**Pn**	**20 13 21.3**	**+1.3**
SEYT				*i* S		**Sn**	**20 14 03.0**	**-0.4**
LAST	**Lasithi**	**3.74**	**260**	*e*P		**Pn**	**20 13 22.5**	**+2.2**
SVRH	**Sivrihisar-ESK**	**3.78**	**18**	*e*PN		**Pn**	**20 13 22.0**	**+1.1**
SVRH	**Sivrihisar-ESK**	**3.78**	**18**	*e*Pn		**Pn**	**20 13 22.0**	**+1.1**
APE	**Apeiranthos**	**3.78**	**290**	*e*PN		**Pn**	**20 13 23.1**	**+2.2**
APE	**Apeiranthos**	**3.78**	**290**	P		**Pn**	**20 13 21.1**	**+0.2**
APE	**Apeiranthos**	**3.78**	**290**	*e*P		**Pn**	**20 13 22.3**	**+1.4**
APE	**Apeiranthos**	**3.78**	**290**	P		**Pn**	**20 13 21.1**	**+0.2**
APE	**Apeiranthos**	**3.78**	**290**	*e*Pn		**Pn**	**20 13 23.1**	**+2.2**
MERS	**Mersin**	**3.80**	**73**	*e*PN		**Pn**	**20 13 22.0**	**+0.8**
MERS	**Mersin**	**3.80**	**73**	*e*Pn		**Pn**	**20 13 22.0**	**+0.8**
DURS	**Dursunbey**	**3.91**	**343**	*i* P		**Pn**	**20 13 21.2**	**-1.5**
DURS	**Dursunbey**	**3.91**	**343**	*i* P		**Pn**	**20 13 21.2**	**-1.5**
BORA	**Eskisehir**	**4.02**	**5**	*i* P		**Pn**	**20 13 25.8**	**+1.6**
BORA				*i* S		**Sn**	**20 14 12.2**	**+1.1**
BORA	**Eskisehir**	**4.02**	**5**	*i* P		**Pn**	**20 13 25.8**	**+1.6**
BORA				*i* S		**Sn**	**20 14 12.2**	**+1.1**
BALB	**Balikesir**	**4.12**	**337**	*e*PN		**Pn**	**20 13 27.5**	**+2.1**
BALB	**Balikesir**	**4.12**	**337**	*e*Pn		**Pn**	**20 13 27.5**	**+2.1**
IDI	**Anoyia**	**4.19**	**264**	Pn		**Pn**	**20 13 27.6**	**+1.1**
	1.7nm,0.3s,baz=19,slow=6.6,SNR=34							
IDI						Sn		
	7.2nm,0.3s,baz=261,slow=18,SNR=6.5					**Sn**	**20 14 19.8**	**+4.7**
SIVA	**Sivas**	**4.30**	**260**	*e*P		**Pn**	**20 13 30.6**	**+2.6**
KARA	**Karaisali**	**4.32**	**70**	*e*PN		**Pn**	**20 13 29.0**	**+0.8**
KARA	**Karaisali**	**4.32**	**70**	*e*Pn		**Pn**	**20 13 29.0**	**+0.8**
CAVI	**Cavuskoy**	**4.33**	**359**	*e*PN		**Pn**	**20 13 30.5**	**+2.1**
CAVI	**Cavuskoy**	**4.33**	**359**	*e*Pn		**Pn**	**20 13 30.5**	**+2.1**
AFSR	**Af˘ar-Bala (A**	**4.33**	**34**	*e*PN		**Pn**	**20 13 29.5**	**+0.9**
AFSR	**Af˘ar-Bala (A**	**4.33**	**34**	*e*Pn		**Pn**	**20 13 29.5**	**+0.9**
KRTS	**Karatas**	**4.42**	**79**	*e*PN		**Pn**	**20 13 30.5**	**+0.9**
KRTS	**Karatas**	**4.42**	**79**	*e*Pn		**Pn**	**20 13 30.5**	**+0.9**
PRK	**Paraskevi**	**4.47**	**320**	*e*P		Pn	20 13 27.6	-2.8
IZI	**Iznik**	**4.48**	**355**	*e*PN		**Pn**	**20 13 32.0**	**+1.5**
IZI	**Iznik**	**4.48**	**355**	*e*Pn		**Pn**	**20 13 32.0**	**+1.5**
KCTX	**Karacabey (Bur**	**4.57**	**344**	*e*PN		**Pn**	**20 13 34.5**	**+2.8**
KCTX	**Karacabey (Bur**	**4.57**	**344**	*e*Pn		**Pn**	**20 13 34.5**	**+2.8**
ANTO	**Ankara**	**4.57**	**28**	*e*PN		**Pn**	**20 13 33.3**	**+1.5**
ANTO	**Ankara**	**4.57**	**28**	*e*Pn		**Pn**	**20 13 33.3**	**+1.5**
GULT	**Gulveren**	**4.58**	**5**	*e*PN		**Pn**	**20 13 34.5**	**+2.6**
GULT	**Gulveren**	**4.58**	**5**	*e*Pn		**Pn**	**20 13 34.5**	**+2.6**
YURE	**YUREGIR**	**4.66**	**77**	*i* P		**Pn**	**20 13 34.0**	**+1.0**
YURE	**YUREGIR**	**4.66**	**77**	*i* P		**Pn**	**20 13 34.0**	**+1.0**
SIGR	**SIGRI**	**4.67**	**317**	*e*P		**Pn**	**20 13 33.2**	**+0.1**
MDUB	**Mudurnu**	**4.69**	**11**	*e*PN		**Pn**	**20 13 35.4**	**+1.9**
MDUB	**Mudurnu**	**4.69**	**11**	*e*Pn		**Pn**	**20 13 35.4**	**+1.9**
VAM	**Vamos**	**4.73**	**266**	*e*P		Pn	20 13 31.5	-2.4
CEYT	**Ceyhan**	**4.79**	**75**	*e*PN		**Pn**	**20 13 35.8**	**+1.1**
CEYT	**Ceyhan**	**4.79**	**75**	*e*Pn		**Pn**	**20 13 35.8**	**+1.1**
BRTR	**Keskin Array B**	**4.82**	**36**	Pn		**Pn**	**20 13 35.9**	**+0.6**
	0.9nm,0.3s,baz=206,slow=15,SNR=35							
BRTR				Sn		**Sn**	**20 14 30.8**	**0.0**
	1.8nm,0.3s,baz=212,slow=24,SNR=8.4							
KARN	**Karanos**	**4.96**	**266**	*e*P		Pn	20 13 40.3	+3.2
KOZT	**Kozan**	**4.97**	**69**	*e*PN		**Pn**	**20 13 38.0**	**+0.8**
KOZT	**Kozan**	**4.97**	**69**	*e*Pn		**Pn**	**20 13 38.0**	**+0.8**
YAYL	**Yayladag**	**4.98**	**86**	*i* P		Pn	**20 13 35.1**	**-2.3**
YAYL				*i* S		Sn	20 14 28.0	-6.6
TAHT	**Tahtakopru-Hat**	**5.05**	**82**	*e*PN		**Pn

DCPH	Dipolog City	1.22	334	⇑eP	Pg	20 24 18.4	-0.1
BUKP	Musuan	1.23	71	eP	Pb	20 24 19.1	-0.1
BUKP				eS	Sn	20 24 36.9	+0.2

*ISCJB **15** 20:37:33.4±0.2,43.°74N±0.°01×105.°36W±0.°02, h0km, Error ellipse: s-maj=2.1km s-min=2.0km az=29.4*
*IDC **15** 20:37:34.0±1.6,43.°73N×105.°49W, h0km, mb1 3.5/5, mb1mx3.3/31, mbtmp3.3/5, ML2.9/4, Error ellipse: s-maj=42.3km s-min=9.1km az=148.0*
*NEIC **15** 20:37:34.4±0.4, 43.80N×105.27W, h0km, ML3.3, Error ellipse: s-maj=4.7km s-min=4.3km az=129.0, Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.

ISC 15 20:37:33.9±0.7,**43.75N**±0.°02×**105.31W**±0.°02,**h0**km,**n106,** σ0**9**0/117,**37C-32D,Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.23**	**333**	P	**Pg**	**20 37 39.8**	**+1.3**
	baz=0.2,SNR=246						
J23A	**Dilts Ranch, B**	**0.39**	**207**	P	**Pg**	**20 37 42.1**	**+0.7**
	baz=0.4,SNR=112						
I24A	**Kuemmerle Ranc**	**0.51**	**78**	P	**Pg**	**20 37 44.1**	**+0.5**
	baz=0.5,SNR=292						
I24A				⇓S	**Sb**	**20 37 52.6**	**-1.2**
	baz=0.5						
J24A	**Dixon Ranch, L**	**0.63**	**131**	P	**Pg**	**20 37 46.3**	**+0.3**
	baz=0.6,SNR=120						
J24A				⇓S	**Sg**	**20 37 55.6**	**+1.4**
	baz=0.6						
H23A	**Clabaugh Cattl**	**0.81**	**356**	P	**Pg**	**20 37 49.7**	**+0.2**
	baz=0.8,SNR=22						
H23A				⇑S	**Sb**	**20 38 01.9**	**-0.6**
	baz=0.8						
I22A	**9 Mile Ranch,**	**0.86**	**280**	P	**Pg**	**20 37 50.7**	**+0.4**
	baz=0.9,SNR=1000						
J22A	**Midwest**	**0.91**	**249**	P	**Pg**	**20 37 51.1**	**-0.2**
	baz=1.0,SNR=213						
J22A				⇑S	**Sg**	**20 38 02.5**	**-0.7**
	baz=1.0						
RSSD	**Black Hills**	**0.99**	**68**	ePg	**Pg**	**20 37 52.5**	**-0.5**
K23A	**Bowen Ranch, D**	**1.02**	**193**	⇓P	**Pg**	**20 37 52.9**	**-0.6**
	baz=1.1						
K23A				⇑S	**Sg**	**20 38 06.5**	**-0.2**
	baz=1.1						
K24A	**Anderson Ranch**	**1.09**	**160**	⇑P	**Pg**	**20 37 54.2**	**-0.6**
	baz=1.1,SNR=129						
K24A				⇑S	**Sb**	**20 38 10.2**	**-0.4**
	baz=1.1						
H22A	**Clearmont**	**1.13**	**319**	⇓P	**Pg**	**20 37 55.4**	**0.0**
	baz=1.1,SNR=157						
H22A				⇓S	**Sg**	**20 38 10.4**	**+0.3**
	baz=1.1						
H24A	**Dirks Ranch, A**	**1.14**	**29**	⇑P	**Pg**	**20 37 55.1**	**-0.6**
	baz=1.1						
J25A	**Sunshine Ranch**	**1.16**	**108**	⇓P	**Pg**	**20 37 55.7**	**-0.3**
	baz=1.1,SNR=125						
J25A				⇓S	**Sb**	**20 38 13.3**	**+0.9**
	baz=1.1						
I25A	**Rochford**	**1.17**	**76**	P	**Pg**	**20 37 55.9**	**-0.5**
	baz=1.1,SNR=210						
I25A				⇑S	**Sn**	**20 38 14.2**	**-0.4**
	baz=1.1						
K22A	**Casper**	**1.41**	**219**	⇑P	**Pn**	**20 37 60.0**	**-1.0**
	baz=1.5,SNR=68						
I21A	**Big Trails, Te**	**1.44**	**273**	P	**Pn**	**20 37 59.9**	**-1.5**
	baz=1.5,SNR=550						
I21A				⇑S	**Sg**	**20 38 19.3**	**-0.7**
	baz=1.5						
G23A	**Biddle**	**1.45**	**358**	⇓P	**Pn**	**20 38 00.9**	**-0.6**
	baz=1.4,SNR=179						
G23A				⇓S	**Sn**	**20 38 21.6**	**+0.3**
	baz=1.4						
H25A	**Fruitdale**	**1.51**	**54**	⇑P	**Pn**	**20 38 02.1**	**-0.2**
	baz=1.5,SNR=131						
H21A	**Big Horn, Sher**	**1.52**	**306**	⇓Pg	**Pb**	**20 38 02.6**	**-0.5**
	baz=1.5,SNR=180						
K25A	**Mack Ranch, Ha**	**1.55**	**137**	⇓Pb	**Pn**	**20 38 03.2**	**+0.3**
	baz=1.6,SNR=170						
K25A				⇑S	**Sn**	**20 38 23.8**	**0.0**
	baz=1.6						
J21A	**Lysite**	**1.60**	**256**	⇑Pb	**Pn**	**20 38 03.0**	**-0.7**
	baz=1.6,SNR=238						
G22A	**Birney**	**1.63**	**335**	⇑Pb	**Pb**	**20 38 04.4**	**-0.5**
	baz=1.6,SNR=169						
J26A	**Sides Ranch, S**	**1.69**	**104**	⇓P	**Pn**	**20 38 05.1**	**+0.4**
	baz=1.7,SNR=32						
G24A	**Alzada**	**1.70**	**22**	⇑P	**Pn**	**20 38 05.4**	**+0.4**
	baz=1.6,SNR=138						
G24A				⇓S	**Sg**	**20 38 28.8**	**+0.2**
	baz=1.6						
I26A	**New Underwood**	**1.79**	**80**	⇓P	**Pn**	**20 38 06.9**	**+0.7**
	baz=1.8,SNR=8.0						
L25A	**Engebretsen Ra**	**1.88**	**148**	Pb	**Pb**	**20 38 08.6**	**-0.5**
	baz=1.9,SNR=98						
K26A	**Motz Farm, Whi**	**1.88**	**123**	⇓P	**Pn**	**20 38 08.0**	**+0.6**
	baz=1.9,SNR=26						
F23A	**Volborg**	**1.97**	**358**	P	**Pn**	**20 38 09.0**	**+0.4**
	baz=1.9,SNR=268						
G21A	**Lodge Grass**	**2.00**	**318**	⇑P	**Pn**	**20 38 09.5**	**+0.5**
	baz=2.0						
H26A	**Fairpoint**	**2.02**	**64**	⇓P	**Pb**	**20 38 11.0**	**-0.5**
	baz=2.0,SNR=28						
I20A	**Worland**	**2.05**	**277**	Pb	**Pn**	**20 38 10.6**	**+0.9**
	baz=2.1,SNR=426						
J20A	**Shoshoni**	**2.05**	**260**	⇑Pb	**Pb**	**20 38 11.4**	**-0.7**
	baz=2.1,SNR=252						
H20A	**Greybull**	**2.07**	**292**	⇑Pb	**Pn**	**20 38 10.8**	**+0.8**
	baz=2.1,SNR=12						
F22A	**Rosebud**	**2.14**	**342**	⇓P	**Pn**	**20 38 10.5**	**-0.4**
	baz=2.1,SNR=33						
F24A	**Ekalaka**	**2.18**	**16**	⇓P	**Pn**	**20 38 12.2**	**+0.7**
	baz=2.1,SNR=33						
I27A	**Quinn**	**2.38**	**81**	⇑P	**Pn**	**20 38 15.1**	**+0.9**
	baz=2.3,SNR=29						
F21A	**Absaloka Mine,**	**2.44**	**329**	⇓P	**Pn**	**20 38 15.1**	**0.0**
	baz=2.4,SNR=7.4						
G26A	**Maurine**	**2.48**	**51**	⇑P	**Pn**	**20 38 16.7**	**+1.2**
	baz=2.4,SNR=21						
K27A	**Flueckinger Fa**	**2.48**	**114**	⇑P	**Pn**	**20 38 15.1**	**-0.5**
	baz=2.5,SNR=44						
M22A	**Cedar Creek Ra**	**2.53**	**202**	⇓P	**Pn**	**20 38 18.1**	**+1.6**
	baz=2.6,SNR=103						
G20A	**Bridger**	**2.54**	**306**	P	**Pn**	**20 38 16.5**	**0.0**
	baz=2.5,SNR=224						
I19A	**Meeteetse**	**2.68**	**277**	⇓P	**Pn**	**20 38 19.8**	**+1.4**
	baz=2.7,SNR=44						
E22A	**Miles City**	**2.72**	**351**	⇓P	**Pn**	**20 38 18.8**	**-0.1**
	baz=2.7						
E23A	**Ismay**	**2.75**	**0**	⇑P	**Pn**	**20 38 19.5**	**+0.2**
	baz=2.7,SNR=25						
J19A	**Crowheart**	**2.76**	**261**	⇑P	**Pn**	**20 38 21.4**	**+1.8**
	baz=2.8,SNR=32						
H19A	**Powell**	**2.80**	**290**	⇓P	**Pn**	**20 38 20.6**	**+0.6**
	baz=2.8,SNR=18						
F20A	**Billings**	**2.88**	**316**	⇑P	**Pn**	**20 38 20.6**	**-0.5**
	baz=2.9,SNR=18						
E24A	**Baker**	**2.90**	**14**	⇑P	**Pn**	**20 38 22.3**	**+1.0**
	baz=2.8,SNR=55						
G27A	**Dupree**	**2.91**	**55**	⇓P	**Pn**	**20 38 22.6**	**+1.0**
	baz=2.9,SNR=5.9						
E25A	**Miller Ranch,**	**3.06**	**26**	⇑P	**Pn**	**20 38 25.2**	**+1.6**
	baz=3.0,SNR=18						
RLMT	**Red Lodge**	**3.15**	**297**	ePn	**Pn**	**20 38 25.2**	**+0.3**
PDAR	**Pinedale Array**	**3.25**	**254**	Pn	**Pn**	**20 38 27.6**	**+1.2**
	3.8nm,0.3s,baz=78,slow=15,SNR=56						
PDAR				Lg	Lg	20 39 11.6	
	5.0nm,0.3s,baz=71,slow=35,SNR=4.3						
H18A	**Shoshone NF, C**	**3.26**	**288**	⇑P	**Pn**	**20 38 27.2**	**+0.7**
	baz=3.3,SNR=8.8						
F19A	**Roth Farm, Mol**	**3.33**	**310**	⇓P	**Pn**	**20 38 28.0**	**+0.6**
	baz=3.3,SNR=54						
D24A	**Glendive**	**3.43**	**11**	⇓P	**Pn**	**20 38 29.9**	**+1.2**
	baz=3.4,SNR=38						
N27A	**Anderson Farm,**	**3.59**	**144**	⇓P	**Pn**	**20 38 31.9**	**+1.0**
	baz=3.6,SNR=6.7						
N20A	**Spence Gulch,**	**3.65**	**218**	⇑P	**Pn**	**20 38 33.1**	**+1.3**
	baz=3.7,SNR=9.4						
E19A	**Rath Farm, Rou**	**3.66**	**319**	⇓P	**Pn**	**20 38 31.7**	**-0.1**
	baz=3.6,SNR=12						
D25A	**Fairfield**	**3.68**	**22**	⇑P	**Pn**	**20 38 33.9**	**+1.9**
	baz=3.6,SNR=22						
O22A	**Kremmling**	**3.70**	**195**	⇑P	**Pn**	**20 38 34.4**	**+1.7**
	baz=3.8,SNR=8.0						
GCMT	**Greycliff**	**3.71**	**305**	ePn	**Pn**	**20 38 33.1**	**+0.5**
OGNE	**Ogallala**	**3.71**	**138**	ePn	**Pn**	**20 38 33.4**	**+0.8**
LKWY	**Lake**	**3.75**	**284**	ePn	**Pn**	**20 38 33.9**	**+0.7**
C24A	**Savage**	**3.83**	**9**	⇓P	**Pn**	**20 38 35.6**	**+1.5**
	baz=3.8,SNR=14						
H17A	**Grant Village**	**3.85**	**281**	ePn	**Pn**	**20 38 35.9**	**+1.3**
ISCO	**Idaho Springs**	**3.96**	**183**	⇑P	**Pn**	**20 38 35.3**	**-0.8**
	baz=4.0,SNR=11						
SNOW	**Snow King Moun**	**3.96**	**268**	ePn	**Pn**	**20 38 37.6**	**+1.5**
C23A	**Lambert**	**4.05**	**1**	⇑P	**Pn**	**20 38 38.5**	**+1.3**
	baz=4.0,SNR=31						
N28A	**Pribbeno Ranch**	**4.15**	**136**	⇑P	**Pn**	**20 38 38.1**	**-0.5**
	baz=4.2,SNR=5.2						
C25A	**Freed Ranch, W**	**4.21**	**19**	⇑P	**Pn**	**20 38 39.4**	**0.0**
	baz=4.2,SNR=7.4						
AHID	**Auburn Hatcher**	**4.34**	**259**	ePn	**Pn**	**20 38 39.9**	**-1.4**
C20A	**Veseth Ranch,**	**4.39**	**336**	⇑P	**Pn**	**20 38 42.1**	**+0.3**
	baz=4.4,SNR=14						
P26A	**Davis Ranch, A**	**4.44**	**160**	⇓P	**Pn**	**20 38 41.7**	**-0.9**
	baz=4.5,SNR=11						
L30A	**Spencer Herefo**	**4.49**	**112**	⇑P	**Pn**	**20 38 43.9**	**+0.7**
	baz=4.5,SNR=6.8						
QLMT	**Earthquake Lak**	**4.52**	**286**	ePn	**Pn**	**20 38 42.7**	**-1.1**
P27A	**Ficken Ranch,**	**4.67**	**153**	⇓P	**Pn**	**20 38 46.1**	**+0.4**
	baz=4.7,SNR=10.0						
B25A	**Knox Farm, Ray**	**4.76**	**18**	⇑P	**Pn**	**20 38 47.1**	**+0.2**
	baz=4.7,SNR=9.6						
BOZ	**Bozeman (W)**	**4.89**	**295**	ePn	**Pn**	**20 38 48.6**	**-0.2**
HWUT	**Hardware Ranch**	**5.08**	**247**	ePn	**Pn**	**20 38 52.3**	**+0.8**
	6.3nm,0.4s						
TCUT	**Toone Canyon**	**5.22**	**242**	ePn	**Pn**	**20 38 54.7**	**+1.2**
	26nm,0.7s						
A24A	**Westby**	**5.25**	**9**	⇑P	**Pn**	**20 38 53.4**	**-0.3**
	baz=5.2,SNR=6.9						
EGMT	**Eagleton**	**5.28**	**326**	ePn	**Pn**	**20 38 53.5**	**-0.5**
	16nm,0.5s						
HRY	**Holter Researc**	**5.47**	**305**	ePn	**Pn**	**20 38 57.2**	**+0.5**
	8.6nm,0.4s						
LRM	**Limekiln Ridge**	**5.49**	**295**	ePn	**Pn**	**20 38 57.9**	**+0.8**
	26nm,0.6s						
MCMT	**McKenzie Canyo**	**5.52**	**284**	ePn	**Pn**	**20 38 59.7**	**+2.2**
	2.2nm,0.4s						
JLU	**Jordanelle**	**5.54**	**237**	ePn	**Pn**	**20 38 59.0**	**+1.2**
	4.5nm,0.4s						
R26A	**Arlington**	**5.62**	**165**	⇓P	**Pn**	**20 38 59.3**	**+0.5**
	baz=5.7,SNR=14						
HVU	**Hansel Valley**	**5.84**	**253**	ePn	**Pn**	**20 39 02.7**	**+0.9**
	8.4nm,0.8s						
SDCO	**Great Sand Dun**	**6.00**	**181**	ePn	**Pn**	**20 39 05.0**	**+0.8**
	1.0nm,0.5s						
MPU	**Maple Canyon**	**6.01**	**234**	Pn	**Pn**	**20 39 06.2**	**+1.9**
	13nm,0.8s						
SRU	**San Rafael Swe**	**6.07**	**222**	ePn	**Pn**	**20 39 05.0**	**0.0**
	7.0nm,0.4s						
PV01	**Paradox Valley**	**6.13**	**205**	ePn	**Pn**	**20 39 07.4**	**+1.5**
TMUT	**Trail Mountain**	**6.28**	**227**	ePn	**Pn**	**20 39 09.0**	**+1.1**
	5.0nm,0.4s						
BGU	**Big Grassy Mou**	**6.38**	**246**	ePn	**Pn**	**20 39 10.2**	**+1.0**
	3.5nm,0.9s						
CHMT	**Chamberlain Mo**	**6.43**	**302**	ePn	**Pn**	**20 39 10.5**	**+0.5**
	1.1nm,0.4s						
HLID	**Hailey**	**6.61**	**271**	ePn	**Pn**	**20 39 11.8**	**-0.5**
	3.9nm,1.0s						
SWMT	**Swartz Lake**	**7.15**	**305**	ePn	**Pn**	**20 39 20.1**	**+0.3**
	1.9nm,0.4s						
YBMT	**Yellow Bay**	**7.34**	**307**	ePn	**Pn**	**20 39 23.4**	**+1.1**
	3.0nm,0.3s						
MSU	**Marysvale**	**7.36**	**227**	ePn	**Pn**	**20 39 23.8**	**+1.0**
	1.5nm,0.4s						
MVU	**Marysvale**	**7.39**	**227**	Pn	**Pn**	**20 39 24.7**	**+1.5**
	3.9nm,0.8s						
ELK	**Elko**	**7.95**	**251**	Pn	**Pn**	**20 39 31.7**	**+0.8**
	0.1nm,0.3s,baz=111,slow=14,SNR=4.6						
I10CA	**LAC DU BONNET**	**9.05**	**41**	*i*		21 41 20.0	
	baz=227,slow=311,SNR=1.7						
ULM	**Lac du Bonnet**	**9.15**	**41**	Pn	**Pn**	**20 39 46.1**	**-1.0**
	1.1nm,0.3s,baz=235,slow=11,SNR=7.6						
ULM				Lg	Lg	20 42 20.4	
	0.3nm,0.3s,baz=125,slow=22,SNR=3.9						
NEW	**Newport**	**9.37**	**303**	Lg	Lg	20 42 23.1	
	0.1nm,0.3s,baz=166,slow=17,SNR=2.4						
NVAR	**Mina Array Bea**	**11.15**	**246**	Pn	**Pn**	**20 40 16.1**	**+1.4**
	0.1nm,0.3s,baz=59,slow=14,SNR=3.7						
YKA	**Yellowknife Ar**	**19.55**	**347**	P	**Pn**	**20 42 03.9**	**-0.1**
	0.1nm,0.3s,baz=168,slow=11,SNR=4.1						

*NIED **15** 21:05:00,28.°80N×128.°50E, h5km, Mw3.9 Best double couple: M07.75000×1014 NP1:φs305.00000°, δ74.00000°, λ-7.00000°. NP2:φs37.00000°, δ83.00000°, λ-163.00000°.*
*ISCJB **15** 21:05:25.0±0.6,28.°77N±0.°03×128.°50E±0.°05, h10km, mb3.4/4, MS2.9/2, Error ellipse: s-maj=6.6km s-min=4.9km az=179.1*
*JMA **15** 21:05:25.4±0.3,28.°77N×128.°52E, h8km±4km, M3.6*
*IDC **15** 21:05:32.8±3.6,28.°75N×128.°48E, h73km±34km, mb3.1/4, mb1 3.3/7, mb1mx3.1/32, mbtmp3.4/7, ML2.9/3, MS2.9/5, Ms1 3.0/5, ms1mx2.8/15, Error ellipse: s-maj=36.9km s-min=24.4km az=65.0*

ISC 15 21:05:25.5±0.9,**28.75N**±0.°04×**128.53E**±0.°07,**h10**km,**n22,** σ1**9**03/21,**mb3.3/4,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.72**	**55**	P	**Pg**	**21 05 39.1**	**-0.3**
JTAJ				eS	**Sg**	**21 05 48.2**	**-0.5**
JAMN	**Amaminishikomi**	**0.76**	**131**	P	**Pg**	**21 05 40.4**	**+0.3**
JAMN				eS	**Sg**	**21 05 51.1**	**+1.1**
JAM	**Amami Oshima**	**1.00**	**109**	P	**Pg**	**21 05 44.3**	**-0.5**
JAM				eS	**Sg**	**21 05 57.0**	**-0.8**
JTK	**Tokunoshima**	**1.02**	**159**	P	**Pg**	**21 05 44.7**	**-0.5**
JTK				eS	**Sg**	**21 05 59.2**	**+0.6**
JZK	**Kikaishima**	**1.34**	**108**	P	**Pb**	**21 05 51.0**	**+0.3**
JOKE	**Okinoerabujima**	**1.38**	**179**	P	**Pn**	**21 05 50.5**	**-0.3**
JNN	**Nakanoshima**	**1.60**	**47**	P	**Pn**	**21 05 54.1**	**+0.2**
JIH	**Iheya**	**1.77**	**196**	P	**Pn**	**21 05 56.8**	**+0.5**
JOW	**Kunigami**	**1.92**	**187**	P	**Pn**	**21 05 59.6**	**+1.3**
JKC	**Kuchinoerabu**	**2.24**	**40**	P	**Pn**	**21 06 03.7**	**+1.0**
JYAK	**Yakushimahirau**	**2.28**	**49**	P	**Pn**	**21 06 03.9**	**+0.7**
JTN	**Tanegashima 3**	**2.86**	**48**	P	**Pn**	**21 06 12.5**	**+1.3**
JNU	**Nakatsue**	**4.81**	**24**	P	Pb	21 06 43.9	-5.9
	0.7nm,0.3s,baz=198,slow=6.4,SNR=7.8						
KSRS	**Korea Array**	**8.70**	**357**	P	**Pn**	**21 07 33.6**	**+2.2**
	0.1nm,0.3s,baz=175,slow=15,SNR=4.2						
KSRS				LR	LR	21 11 01.4	
	comp=Z,77nm,21.4s,baz=182,slow=38						
MJAR	**Matsushiro Arr**	**11.26**	**44**	P	Pn	21 08 12.0	+5.4
	0.1nm,0.3s,baz=234,slow=14,SNR=3.3						
MJAR				LR	LR	21 12 55.8	
	comp=Z,51nm,18.1s,baz=200,slow=39						
ASAJ	**Asahikawa**	**19.02**	**32**	LR	LR	21 16 58.8	
	comp=Z,35nm,18.7s,baz=212,slow=36						
CMAR	**Chiang Mai Arr**	**28.91**	**256**	LR	LR	21 23 41.6	
	comp=Z,24nm,19.2s,baz=10.0,slow=38						
TLY	**Talaya**	**29.50**	**328**	LR	LR	21 24 58.4	
	comp=Z,32nm,20.6s,baz=298,slow=40						
MKAR	**Makanchi Array**	**40.10**	**310**	P	**P**	**21 13 02.4**	**+1.2**
	0.4nm,0.8s,baz=90,slow=9.4,SNR=5.1						
ZALV	**Zalesovo Beam**	**40.44**	**321**	P	**P**	**21 13 02.2**	**-1.7**
	0.4nm,0.4s,baz=93,slow=9.1,SNR=2.3						
WRA	**Warramunga Arr**	**48.73**	**173**	P	**P**	**21 14 09.8**	**-0.6**
	1.1nm,0.8s,baz=354,slow=8.2,SNR=7.8						
YKA	**Yellowknife Ar**	**76.14**	**25**	P	**P**	**21 17 12.5**	**-0.8**
	0.1nm,0.7s,baz=306,slow=5.4,SNR=2.9						

*IDC **15** 21:46:23.2±1.5, 49.°08N×156.°14E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.2/27, mbtmp3.3/4, ML1.9/1, MS2.4/1, Ms1 2.4/1, ms1mx2.2/20, Error ellipse: s-maj=87.0km s-min=29.1km az=117.0*
*MOS **15** 21:46:23.8±1.8, 49.°27N×155.°91E, h19km, mb4.2/1, Error ellipse: s-maj=73.6km s-min=10.1km az=75.8*
*ISCJB **15** 21:46:29.9±1.0, 49.°44N±0.°07×156.°3E±0.°2, h54km, mb3.3/3, Error ellipse: s-maj=23.9km s-min=8.5km az=14.4*
*KRSC **15** 21:46:29.4±2.3, 49.°54N×156.°85E, h16km±35km, ML4.1*

ISC 15 21:46:29.8±1.3,**49.44N**±0.°09×**156.0E**±0.°2,**h54**km,**n32,** σ1**8**74/32,**mb3.3/3,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.25**	**3**	eP	**Pn**	**21 46 49.9**	**-1.0**
SKR				eS	**Sn**	**21 47 05.6**	**-1.0**
SKR	**Severo-Kuril's**	**1.25**	**3**	ePN	Pn	21 46 46.3	-4.6
SKR				eS	**Sn**	**21 47 02.0**	**-4.6**
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
SKR				pmax	pmax		
	comp=N,60nm,0.3s						
SKR				smax	smax		
	comp=N,660nm,0.3s						
SKR				smax	smax		
	comp=E,260nm,0.3s						
SKR				smax	smax		
	comp=Z,80nm,0.5s						
PAU	**Pauzhetka**	**2.09**	**14**	eP	**Pn**	**21 47 03.8**	**+1.4**
PAU				eS	**Sn**	**21 47 27.4**	**+0.1**
PAU	**Pauzhetka**	**2.09**	**14**	PN	**Pn**	**21 47 03.8**	**+1.4**
PAU				S	**Sn**	**21 47 27.4**	**+0.1**
MIPR	**Malaya Ipel'ka**	**2.88**	**9**	eP	**Pn**	**21 47 13.6**	**+0.4**
ASAK	**Asacha**	**3.18**	**21**	eP	**Pn**	**21 47 18.5**	**+1.1**
MTVR	**Mutnovka**	**3.34**	**24**	eP	**Pn**	**21 47 21.0**	**+1.3**
MTVR				eS	**Sn**	**21 47 58.2**	**0.0**
RUS	**Russkaya**	**3.39**	**27**	eP	**Pn**	**21 47 19.6**	**-0.6**
RUS				eS	**Sn**	**21 47 57.3**	**-1.8**
RUS	**Russkaya**	**3.39**	**27**	PN	**Pn**	**21 47 19.6**	**-0.6**
PETK	**Petropavlovsk-**	**3.82**	**16**	Pn	**Pn**	**21 47 28.5**	**+2.4**
	comp=Z,0.4nm,0.3s,baz=171,slow=13,SNR=11						
PETK				Sn	Sn	21 48 21.2	+11
	comp=Z,0.1nm,0.3s,baz=297,slow=19,SNR=2.0						
PETK				LR	LR	21 49 05.4	
	comp=Z,42nm,18.1s,baz=207,slow=39						
PET	**Petropavlovsk**	**3.96**	**24**	ePN	**Pn**	**21 47 26.0**	**-1.9**
UGLR	**Uglovaya**	**4.17**	**24**	eP	**Pn**	**21 47 32.7**	**+1.8**
KOK	**Koryaka**	**4.19**	**22**	eP	**Pn**	**21 47 33.9**	**+2.6**
AVH	**Avacha**	**4.20**	**23**	eP	**Pn**	**21 47 33.8**	**+2.5**
SMAR	**Somma**	**4.21**	**24**	eP	**Pn**	**21 47 33.9**	**+2.3**
KRER	**Koryakskii**	**4.23**	**23**	eP	**Pn**	**21 47 34.2**	**+2.3**
SDLR	**Sedlovina**	**4.25**	**24**	eP	**Pn**	**21 47 32.8**	**+0.8**
SDLR				eS	**Sn**	**21 48 20.0**	**-0.3**
KRX	**Arik**	**4.26**	**22**	eP	**Pn**	**21 47 34.5**	**+2.3**
GNL	**Ganaly**	**4.43**	**15**	eP	**Pn**	**21 47 36.8**	**+2.3**
SPN	**Mys Shipunski**	**4.45**	**33**	eP	**Pn**	**21 47 33.8**	**-0.8**
SPN	**Mys Shipunski**	**4.45**	**33**	PN	**Pn**	**21 47 33.8**	**-0.8**
MKZ	**Mys Kozlova**	**6.22**	**32**	eP	**Pn**	**21 47 59.3**	**+0.4**
MKZ	**Mys Kozlova**	**6.22**	**32**	PN	**Pn**	**21 47 59.3**	**+0.4**
H11N2	**WAKE ISLAND Hy**	**30.90**	**160**	T	T	22 25 30.7	
	baz=322						
H11N1	**WAKE ISLAND Hy**	**30.92**	**160**	T	T	22 25 35.2	
	baz=322						
H11N3	**WAKE ISLAND Hy**	**30.92**	**160**	T	T	22 25 35.4	
	baz=322						
H11S1	**WAKE ISLAND Hy**	**32.04**	**161**	T	T	22 26 53.9	
	baz=349						
H11S3	**WAKE ISLAND Hy**	**32.05**	**161**	T	T	22 26 54.8	
	baz=348						
H11S2	**WAKE ISLAND Hy**	**32.06**	**161**	T	T	22 26 55.1	
	baz=348						
WRA	**Warramunga Arr**	**71.71**	**201**	P	**P**	**21 57 44.3**	**-1.7**
	comp=Z,0.3nm,0.7s,baz=11,slow=5.2,SNR=3.1						
TXAR	**Lajitas Array**	**74.51**	**63**	P	**P**	**21 58 03.9**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=284,slow=3.6,SNR=4.9						
ASAR	**Alice Springs**	**75.40**	**201**	P	**P**	**21 58 07.9**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=22,slow=5.1,SNR=3.1						

*ISK **15** 22:00:43.0, 34.°63N×26.°66E, h4km, MD3.6*
*CSEM **15** 22:00:48.4±0.5, 34.°72N×26.°55E, h93km±9km, MD3.6*
*ATH **15** 22:00:49.4, 34.°84N×26.°46E, h90km±5km*
*DDA **15** 22:00:56.8, 35.°25N×27.°44E, h12km, MD3.3*

ISC 15 22:00:43.1±1.7,**34.62N**±0.°08×**26.69E**±0.°03,**h2**km±13km, **n54,**σ2**9**19/63,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**1.00**	**23**	eP	Pn	22 01 08.7	+4.5
KARP				eS	**Sn**	**22 01 22.8**	**+3.9**
KARP	**Karpathos**	**1.00**	**23**	eP	Pn	22 01 08.7	+4.5
KARP				eS	**Sn**	**22 01 22.8**	**+3.9**
NPS	**Neapolis**	**1.09**	**306**	eP	**Pn**	**22 01 07.6**	**+2.2**
NPS				eS	**Sn**	**22 01 21.0**	**-0.1**
NPS	**Neapolis**	**1.09**	**306**	eP	**Pn**	**22 01 07.6**	**+2.2**
NPS				eS	**Sn**	**22 01 21.0**	**-0.1**
LAST	**Lasithi**	**1.13**	**299**	eP	**Pn**	**22 01 07.3**	**+1.3**
LAST	**Lasithi**	**1.13**	**299**	eP	**Pn**	**22 01 07.3**	**+1.3**
SIVA	**Sivas**	**1.60**	**285**	eP	**Pg**	**22 01 14.8**	**+1.1**
SIVA	**Sivas**	**1.60**	**285**	eP	**Pg**	**22 01 14.8**	**+1.1**
ARG	**Arkhangelos**	**1.98**	**36**	eP	**Pg**	**22 01 22.4**	**+1.4**
ARG	**Arkhangelos**	**1.98**	**36**	eP	**Pg**	**22 01 22.4**	**+1.4**

JAMN	**Amaminishikomi**	**0.71**	**134**	P		**Pg**	**22 17 30.0**	**+0.1**
JAMN				*eS*		**Sg**	**22 17 40.6**	**+1.4**
JAM	**Amami Oshima**	**0.95**	**110**	P		**Pg**	**22 17 33.9**	**-0.5**
JAM				*eS*		**Sg**	**22 17 47.3**	**+0.5**
JTK	**Tokunoshima**	**1.00**	**162**	P		**Pg**	**22 17 34.4**	**-1.0**
JTK				*eS*		**Sg**	**22 17 48.7**	**+0.3**
JZK	**Kikaishima**	**1.28**	**109**	P		**Pb**	**22 17 40.6**	**+0.1**
JOKE	**Okinoerabujima**	**1.37**	**181**	P		**Pn**	**22 17 39.9**	**-1.5**
JNN	**Nakanoshima**	**1.57**	**45**	P		**Pn**	**22 17 43.9**	**-0.3**
JIH	**Iheya**	**1.78**	**198**	P		**Pn**	**22 17 46.5**	**-0.6**
JOW	**Kunigami**	**1.92**	**189**	P		**Pn**	**22 17 49.2**	**+0.2**
JNU	**Nakatsue**	**4.79**	**24**	Pn		Pn	22 18 32.4	+3.8
	1.5nm,0.3s,baz=268,slow=4.3,SNR=12							
KSRS	**Korea Array**	**8.71**	**356**	Pn		**Pn**	**22 19 23.4**	**+1.1**
	0.1nm,0.3s,baz=178,slow=15,SNR=4.5							
KSRS				LR		LR	22 22 39.7	
	comp=Z,72nm,21.8s,baz=182,slow=37							
MJAR	**Matsushiro Arr**	**11.23**	**44**	Pn		Pn	22 19 59.5	+2.6
	0.1nm,0.3s,baz=241,slow=14,SNR=3.1							
MJAR				LR		LR	22 24 46.3	
	comp=Z,54nm,19.8s,baz=170,slow=40							
JCJ	**Chichijima**	**12.13**	**95**	LR		LR	22 24 19.9	
	comp=Z,54nm,20.9s,baz=93,slow=35							
USRK	**Ussuriysk Ar.**	**15.67**	**9**	LR		LR	22 26 56.4	
	comp=Z,72nm,19.4s,baz=134,slow=37							
ASAJ	**Asahikawa**	**19.00**	**32**	LR		LR	22 28 39.6	
	comp=Z,39nm,18.1s,baz=336,slow=36							
CMAR	**Chiang Mai Arr**	**28.96**	**256**	LR		LR	22 35 32.7	
	comp=Z,33nm,20.1s,baz=210,slow=38							
TLY	**Talaya**	**29.54**	**328**	LR		LR	22 35 46.5	
	comp=Z,33nm,18.4s,baz=160,slow=38							
MKAR	**Makanchi Array**	**40.15**	**310**	P		**P**	**22 24 52.0**	**-0.4**
	0.3nm,0.7s,baz=100,slow=6.0,SNR=3.3							
ZALV	**Zalesovo Beam**	**40.48**	**321**	P		**P**	**22 24 55.1**	**+0.1**
	0.5nm,0.5s,baz=111,slow=8.7,SNR=2.5							
WRA	**Warramunga Arr**	**48.71**	**173**	P		**P**	**22 26 00.3**	**-0.7**
	0.6nm,0.6s,baz=353,slow=8.4,SNR=6.4							
ASAR	**Alice Springs**	**52.35**	**174**	P		**P**	**22 26 27.9**	**-0.6**
	0.2nm,0.6s,baz=1.1,slow=7.0,SNR=4.1							
FINES	**FINESS Array B**	**70.85**	**330**	P		**P**	**22 28 33.4**	**+0.4**
	1.3nm,0.9s,baz=74,slow=8.1,SNR=4.3							
YKA	**Yellowknife Ar**	**76.13**	**25**	P		**P**	**22 29 04.5**	**+0.5**
	0.1nm,0.6s,baz=307,slow=6.1,SNR=3.3							
NOA	**NORSAR Array B**	**77.22**	**334**	LR		LR	23 06 01.9	
	comp=Z,8.2nm,20.4s,baz=95,slow=38							

CSEM ***15*** *22:32:19.5±2.3,35.54N×30.05E,h5km,MD3.0,Error ellipse: s-maj=43.7km s-min=32.5km az=128.0*

DDA 15 22:32:18.4,35.38N×29.19E,h3km,MD3.0,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**0.92**	**22**	*i* P	Pg	22 32 35.4	-0.8
AKAS				*i* S	Sg	22 32 45.8	-2.4
AKAS	**Kas**	**0.92**	**22**	*i* P	Pg	22 32 35.4	-0.7
AKAS				*i* S	Sg	22 32 45.8	-2.3
ELL	**Elmali**	**1.48**	**23**	*e*PG	Pn	22 32 43.0	-3.2
ELL				*e*SG	Sb	22 32 57.3	-8.9
ELL	**Elmali**	**1.48**	**23**	*e*Pg	Pn	22 32 43.0	-3.2
ELL				*e*Sg	Sb	22 32 57.3	-8.9
DALY	**Dalyan (Mu˘la**	**1.50**	**343**	*e*PG	Pg	22 32 51.5	+4.5
DALY				*e*SG	Sg	22 33 08.3	+1.8
DALY	**Dalyan (Mu˘la**	**1.50**	**343**	*e*Pg	Pg	22 32 51.5	+4.4
DALY				*e*Sg	Sg	22 33 08.3	+1.8
GOLH	**Golhisar**	**1.88**	**9**	*i* P	Pb	22 32 53.3	-0.2
GOLH				*i* S	Sb	22 33 17.4	-0.1

ISCJB ***15*** *22:48:36.0±0.2,51.55N×0.01×16.08E±0.02,h0km, mb3.4/5, Error ellipse: s-maj=1.9km s-min=1.8km az=179.8*

CSEM ***15*** *22:48:37.8±0.1,51.58N×16.11E,h0km,ML4.0/19,Ms3.4, Error ellipse: s-maj=2.2km s-min=1.8km az=88.0*

LDG ***15*** *22:48:37.0±0.1,51.60N×16.21E,h1km,Ml3.8/21, Error ellipse: s-maj=4.0km s-min=1.9km az=6.0,Suspected Mining induced.*

STR ***15*** *22:48:38.9±0.5,51.60N×16.09E,h5km,Ml3.7,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

IDC ***15*** *22:48:38.5±0.5,51.54N×15.98E,h0km,mb3.5/5, mb1 3.6/13,mb1mx3.4/44,mbtmp3.4/13,ML3.2/8, Error ellipse: s-maj=10.8km s-min=5.8km az=99.0*

UPP ***15*** *22:48:39.7,51.63N×15.55E,h0km,ML2.3,Suspected Mining explosion.*

BGR ***15*** *22:48:39.7±0.5,51.56N×16.10E,h1km,ML3.6/12,Error ellipse: s-maj=5.6km s-min=4.4km az=154.0*

PRU ***15*** *22:48:39.6,51.50N×16.10E,h0km*

VIE ***15*** *22:48:41.1±0.4,51.33N×16.07E,h0km,mb2.9/13, ML3.1/14,Ms3.4/2,Error ellipse: s-maj=2.6km s-min=1.8km az=1.0 71 km WNW of Wroclaw Suspected Mining induced.*

BNS ***15*** *22:48:41.1±0.8,51.51N×16.04E,h10km,ML3.4*

ISC 15 22:48:37.4±0.5,51.59N±0.02×16.10E±0.02,h0km,n210, σ1ı°40/300,mb3.5/5,19C-17D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.76**	**171**	*i* Pg	**Pg**	**22 48 52.9**	**+1.0**
KSP				*e*		22 48 56.0	
KSP				*i* Sg	**Sg**	**22 49 02.3**	**+0.7**
KSP				*e*		22 49 07.2	
KSP	**Ksiaz**	**0.76**	**171**	⇓*i*Pg	**Pg**	**22 48 52.9**	**+1.0**
KSP				*i* Sg	**Sg**	**22 49 02.3**	**+0.7**
UPC	**Upice**	**1.08**	**183**	*e*PG	**Pb**	**22 48 58.9**	**-0.1**
UPC	**Upice**	**1.08**	**183**	Pg	**Pb**	**22 48 58.9**	**-0.1**
DPC	**Dobruska-Polom**	**1.25**	**173**	*e*PG	**Pg**	**22 49 01.6**	**+0.3**
DPC				*e*SG	**Sg**	**22 49 16.6**	**-0.8**
DPC	**Dobruska-Polom**	**1.25**	**173**	Pg	**Pg**	**22 49 01.6**	**+0.3**
DPC				Sg	**Sg**	**22 49 16.6**	**-0.8**
PVCC	**Panska Ves**	**1.43**	**223**	*e*PG	**Pb**	**22 49 05.3**	**+0.3**
PVCC				*e*SG	**Sn**	**22 49 24.3**	**+0.1**
	comp=Z,718nm,0.2s						
PVCC	**Panska Ves**	**1.43**	**223**	Pg	**Pb**	**22 49 05.3**	**+0.3**
PVCC				Sg	**Sn**	**22 49 24.3**	**+0.1**
	718nm,0.2s						
BRG	**Berggiesshubel**	**1.53**	**243**	PN	**Pn**	**22 49 06.0**	**0.0**
BRG				PG	**Pg**	**22 49 07.6**	**+0.8**
BRG				SG	**Sn**	**22 49 28.0**	**+1.4**
	394nm,0.5s						
BRG	**Berggiesshubel**	**1.53**	**243**	*e*Pn	**Pg**	**22 49 07.5**	**+0.8**
	SNR=84						
BRG				*e*Sg	**Sn**	**22 49 27.9**	**+1.4**
BRG	**Berggiesshubel**	**1.53**	**243**	Pn	**Pg**	**22 49 07.5**	**+0.8**
	SNR=84						
BRG				Sg	**Sn**	**22 49 27.9**	**+1.4**
KRLC	**Kraliky**	**1.58**	**164**	*e*PG	**Pn**	**22 49 06.8**	**+0.2**
KRLC				*e*SG	**Sn**	**22 49 27.0**	**-0.7**
KRLC	**Kraliky**	**1.58**	**164**	Pg	**Pn**	**22 49 06.8**	**+0.2**
KRLC				Sg	**Sn**	**22 49 27.0**	**-0.7**
RUE	**Ruedersdorf**	**1.69**	**303**	*e*Pn	**Pn**	**22 49 08.5**	**+0.4**
	SNR=7.8						
RUE				*e*Sg	**Sg**	**22 49 34.2**	**+2.6**
	SNR=5.3						
RUE	**Ruedersdorf**	**1.69**	**303**	Pn	**Pn**	**22 49 08.5**	**+0.4**
	SNR=7.8						
RUE				Sg	**Sg**	**22 49 34.2**	**+2.6**
	SNR=5.3						
GKP	**Gorka Klasztor**	**1.82**	**22**	*e*Pn	**Pb**	**22 49 12.2**	**+0.6**
GKP				*e*Pg	Pg	22 49 15.8	+3.5
GKP				*e*		22 49 18.1	
GKP				*e*Sn	**Sg**	**22 49 37.7**	**+1.8**
GKP				*e*Sg	Sb	22 49 42.5	+7.6
GKP	**Gorka Klasztor**	**1.82**	**22**	*e*Pn	**Pb**	**22 49 12.2**	**+0.6**
FBE	**Freiberg**	**1.85**	**250**	*e*Pn	**Pg**	**22 49 13.2**	**+0.4**
	SNR=4.7						
FBE				*e*Sg	**Sg**	**22 49 38.0**	**+1.3**
	SNR=3.3						
FBE	**Freiberg**	**1.85**	**250**	Pn	**Pg**	**22 49 13.2**	**+0.4**
	SNR=4.7						
FBE				Sg	**Sg**	**22 49 38.0**	**+1.3**
	SNR=3.3						
PRA	**Prague**	**1.85**	**215**	*e*PN	**Pn**	**22 49 10.8**	**+0.5**
PRA				*e*SG	**Sb**	**22 49 35.9**	**+0.2**
PRA	**Prague**	**1.85**	**215**	Pn	**Pn**	**22 49 10.8**	**+0.5**
PRA				Sg	**Sb**	**22 49 35.9**	**+0.2**
GOPC	**GO Pecny, Ondr**	**1.87**	**207**	*e*PN	**Pn**	**22 49 10.9**	**+0.2**
GOPC				*e*PG	**Pb**	**22 49 12.9**	**+0.5**
GOPC	**GO Pecny, Ondr**	**1.87**	**207**	Pn	**Pn**	**22 49 10.9**	**+0.2**
GOPC	**GO Pecny, Ondr**	**1.87**	**207**	Pg	**Pb**	**22 49 12.9**	**+0.5**
PRU	**Pruhonice**	**1.88**	**212**	*e*PN	**Pn**	**22 49 10.9**	**+0.1**
PRU				*e*PG	**Pg**	**22 49 13.3**	**-0.1**
PRU				*e*SG	**Sb**	**22 49 37.1**	**+0.5**
	comp=Z,95nm,0.1s						
PRU	**Pruhonice**	**1.88**	**212**	Pn	**Pn**	**22 49 10.9**	**+0.1**
PRU	**Pruhonice**	**1.88**	**212**	Pg	**Pg**	**22 49 13.3**	**-0.1**
PRU				Sg	**Sb**	**22 49 37.1**	**+0.5**
	95nm,0.1s						
CLL	**Collm**	**1.96**	**263**	*e*Pn	**Pn**	**22 49 11.9**	**+0.1**
	SNR=28						
CLL				*e*Sg	**Sg**	**22 49 41.4**	**+1.2**
	SNR=3.0						
CLL	**Collm**	**1.96**	**263**	*i* Pn	**Pn**	**22 49 12.0**	**+0.2**
	comp=Z,45nm,0.5s						
CLL				*i* Pg	**Pg**	**22 49 15.2**	**+0.3**
CLL				*i*		22 49 19.0	
CLL				*i* Sg	**Sg**	**22 49 41.2**	**+1.0**
	comp=Z,173nm,0.4s						
CLL	**Collm**	**1.96**	**263**	Pn	**Pn**	**22 49 11.9**	**+0.1**
	SNR=28						
CLL				Sg	**Sg**	**22 49 41.4**	**+1.2**
	SNR=3.0						
RAC	**Raciborz**	**2.01**	**138**	*e*Pg	**Pg**	**22 49 16.3**	**+0.4**
RAC				*e*Sg	**Sg**	**22 49 41.6**	**-0.3**
MORC	**Moravsky Berou**	**2.03**	**153**	⇓*i*P	**Pn**	**22 49 12.9**	**0.0**
MORC	**Moravsky Berou**	**2.03**	**153**	*e*Pn	**Pn**	**22 49 12.9**	**0.0**
MORC				*e*Sg	**Sn**	**22 49 40.3**	**+1.3**
OKC	**Ostrava-Krasne**	**2.18**	**143**	*e*PG	**Pb**	**22 49 18.8**	**+1.1**
OKC				*e*SG	**Sb**	**22 49 45.6**	**+0.3**
	comp=Z,115nm,0.5s						
OKC	**Ostrava-Krasne**	**2.18**	**143**	Pg	**Pb**	**22 49 18.8**	**+1.1**
OKC				Sg	**Sb**	**22 49 45.6**	**+0.3**
	comp=Z,115nm,0.5s						
CHZP	**Chorzow**	**2.25**	**124**	*e*P	**Pg**	**22 49 21.2**	**+0.8**
VRAC	**Vranov**	**2.31**	**172**	⇑*i*P	**Pn**	**22 49 17.3**	**+0.7**
	comp=Z,4.0nm,0.3s,baz=340,slow=14,SNR=64						
VRAC				Sn	**Sn**	**22 49 45.1**	**-0.5**
	comp=Z,4.2nm,0.3s,baz=294,slow=17,SNR=3.2						
VRAC				Lg	Lg	22 49 49.9	
	comp=Z,22nm,0.3s,baz=161,slow=4.2,SNR=12						
VRAC	**Vranov**	**2.31**	**172**	⇑*i*P	**Pn**	**22 49 17.4**	**+0.8**
TREC	**Trest**	**2.33**	**190**	*e*PN	**Pn**	**22 49 17.6**	**+0.6**
TREC				*e*SG	**Sg**	**22 49 51.5**	**-0.7**
	comp=Z,122nm,0.6s						
TREC	**Trest**	**2.33**	**190**	Pn	**Pn**	**22 49 17.6**	**+0.6**
TREC				Sg	**Sg**	**22 49 51.5**	**-0.7**
	comp=Z,122nm,0.6s						
KRUC	**Moravsky**	**2.54**	**176**	*e*Pn	**Pn**	**22 49 20.8**	**+1.0**
KRUC				*e*Sg	**Sb**	**22 49 57.3**	**+1.8**
TANN	**Tannenbergstha**	**2.58**	**244**	*e*Pn	**Pn**	**22 49 21.2**	**+0.8**
	SNR=14						
TANN				*e*Sg	**Sg**	**22 50 01.1**	**+0.9**
	SNR=4.6						
TANN	**Tannenbergstha**	**2.58**	**244**	Pn	**Pn**	**22 49 21.2**	**+0.8**
	SNR=14						
TANN				Sg	**Sg**	**22 50 01.1**	**+0.9**
	SNR=4.6						
WERD	**Werda**	**2.65**	**246**	*e*Pn	**Pn**	**22 49 22.2**	**+0.8**
	SNR=1.9						
WERD	**Werda**	**2.65**	**246**	Pn	**Pn**	**22 49 22.2**	**+0.8**
	SNR=1.9						
GUNZ	**Gunzen**	**2.68**	**244**	*e*Pn	**Pn**	**22 49 22.5**	**+0.7**
	SNR=8.3						
GUNZ				*e*Sg	**Sg**	**22 50 04.5**	**+1.1**
	SNR=6.3						
GUNZ	**Gunzen**	**2.68**	**244**	Pn	**Pn**	**22 49 22.5**	**+0.7**
	SNR=8.3						
GUNZ				Sg	**Sg**	**22 50 04.5**	**+1.1**
	SNR=6.3						
NKC	**Novy Kostel**	**2.68**	**241**	*e*PN	**Pn**	**22 49 22.7**	**+0.9**
NKC				*e*PG	**Pg**	**22 49 29.3**	**+0.6**
NKC				*e*SG	**Sg**	**22 50 04.8**	**+1.4**
	comp=Z,199nm,0.5s						
NKC	**Novy Kostel**	**2.68**	**241**	Pn	**Pn**	**22 49 22.7**	**+0.9**
WERN	**Wernitzgruen**	**2.69**	**242**	*e*Pn	**Pn**	**22 49 22.8**	**+0.8**
	SNR=13						
WERN				*e*Sg	**Sg**	**22 50 04.8**	**+1.0**
	SNR=6.0						
WERN	**Wernitzgruen**	**2.69**	**242**	Pn	**Pn**	**22 49 22.8**	**+0.8**
	SNR=13						
WERN				Sg	**Sg**	**22 50 04.8**	**+1.0**
	SNR=6.0						
OJC	**Ojcow**	**2.71**	**119**	*e*Pn	**Pn**	**22 49 21.2**	**-1.0**
OJC				*e*Pg	**Pg**	**22 49 29.5**	**+0.1**
OJC				*e*Sg	**Sg**	**22 50 05.0**	**+0.5**
OJC	**Ojcow**	**2.71**	**119**	*e*Pn	**Pn**	**22 49 21.2**	**-1.0**
PLN	**Plauen**	**2.72**	**248**	*e*Pn	**Pn**	**22 49 22.9**	**+0.6**
	SNR=9.4						
PLN				*e*Sg	**Sg**	**22 50 05.3**	**+0.6**
	SNR=7.0						
PLN	**Plauen**	**2.72**	**248**	Pn	**Pn**	**22 49 22.9**	**+0.6**
	SNR=9.4						
PLN				Sg	**Sg**	**22 50 05.3**	**+0.6**
	SNR=7.0						
NEUB	**Neuenburg**	**2.73**	**264**	*e*Sg	**Sg**	**22 50 07.1**	**+2.0**
	SNR=4.2						
NEUB	**Neuenburg**	**2.73**	**264**	Sg	**Sg**	**22 50 07.1**	**+2.0**
	SNR=4.2						
JAVC	**Velka Javorina**	**2.91**	**159**	*e*Pn	**Pn**	**22 49 26.6**	**+1.6**
JAVC				*e*Sg	**Sg**	**22 50 11.2**	**+0.3**
BEL	**Belsk**	**2.93**	**83**	*e*Pn	**Pn**	**22 49 27.7**	**+2.6**
BEL				*e*Pg	Pg	22 49 37.9	+4.4
BEL	**Belsk**	**2.93**	**83**	*e*PN	**Pn**	**22 49 27.8**	**+2.6**
BEL	**Belsk**	**2.93**	**83**	*e*Pg	Pg	22 49 38.0	+4.4
KHC	**Kasperske Hory**	**2.94**	**214**	*e*PN	**Pn**	**22 49 25.9**	**+0.5**
KHC				*e*PG	**Pb**	**22 49 32.2**	**+1.5**
KHC				*e*SG	**Sg**	**22 50 10.4**	**-1.4**
	comp=Z,61nm,0.5s						
KHC	**Kasperske Hory**	**2.94**	**214**	Pn	**Pn**	**22 49 25.9**	**+0.5**
MANZ	**Manzenberg**	**3.00**	**239**	*e*Sg	**Sg**	**22 50 13.8**	**+0.2**
	SNR=4.3						
MANZ	**Manzenberg**	**3.00**	**239**	Sg	**Sg**	**22 50 13.8**	**+0.2**
	SNR=4.3						
GEC2	**GERESS Array S**	**3.15**	**210**	*e*Pn	**Pn**	**22 49 28.9**	**+0.6**
	SNR=16						
GEC2	**GERESS Array S**	**3.15**	**210**	Pn	**Pn**	**22 49 28.9**	**+0.6**
	SNR=16						
GERES	**GERESS Array B**	**3.15**	**210**	Pn	**Pn**	**22 49 28.9**	**+0.6**
	comp=Z,3.6nm,0.3s,baz=31,slow=12,SNR=121						
GERES				Sn	**Sn**	**22 50 06.3**	**-0.2**
	comp=Z,5.6nm,0.3s,baz=26,slow=26,SNR=7.0						
GERES				Lg	Lg	22 50 16.5	
	comp=Z,18nm,0.3s,baz=32,slow=26,SNR=15						
WET	**Wettzell**	**3.20**	**221**	*e*Pn	**Pn**	**22 49 29.7**	**+0.8**
	SNR=19						
WET	**Wettzell**	**3.20**	**221**	Pn	**Pn**	**22 49 29.7**	**+0.8**
	SNR=19						
NIE	**Niedzica**	**3.46**	**127**	*e*P	**Pg**	**22 49 43.5**	**-0.1**
NIE				*e*S	**Sg**	**22 50 29.6**	**+1.2**
BSD	**Bornholm Skovb**	**3.60**	**349**	*i* P	**Pn**	**22 49 34.4**	**0.0**
BSD				*i* S	Sn	22 50 08.2	-9.4
BSD	**Bornholm Skovb**	**3.60**	**349**	*i* P	**Pn**	**22 49 34.4**	**0.0**
CONA	**Conrad Observa**	**3.67**	**182**	⇑*i*Pn	**Pn**	**22 49 36.3**	**+0.9**
CONA				⇓*i*Sg	**Sg**	**22 50 35.0**	**-0.1**
	comp=Z,76nm,0.6s						
CONA	**Conrad Observa**	**3.67**	**182**	Pn	**Pn**	**22 49 36.3**	**+0.9**
CONA				Sg	**Sg**	**22 50 35.0**	**-0.1**
	comp=Z,76nm,0.6s						
MOA	**Molln**	**3.93**	**198**	⇑*i*Pn	**Pn**	**22 49 39.9**	**+1.0**
	SNR=14						
MOA				⇑*i*Sg	**Sg**	**22 50 42.8**	**-0.7**
	comp=Z,77nm,0.6s						
MOA	**Molln**	**3.93**	**198**	Pn	**Pn**	**22 49 39.9**	**+1.0**
	SNR=14						
MOA				Sg	**Sg**	**22 50 42.8**	**-0.7**
	comp=Z,77nm,0.6s						
LUNU	**Lund**	**4.35**	**340**	P	**Pn**	**22 49 44.0**	**-0.6**
LUNU				S	**Sn**	**22 50 34.4**	**-1.6**
LUNU	**Lund**	**4.35**	**340**	P	**Pn**	**22 49 44.0**	**-0.6**
LUNU				S	**Sn**	**22 50 34.4**	**-1.6**
ARSA	**Arzberg**	**4.36**	**185**	⇑*i*Pn	**Pn**	**22 49 45.5**	**+0.7**
ARSA				⇑*i*Sg	**Sg**	**22 50 57.0**	**-0.3**
	comp=Z,112nm,0.9s						
ARSA	**Arzberg**	**4.36**	**185**	Pn	**Pn**	**22 49 45.5**	**+0.7**
ARSA				Sg	**Sg**	**22 50 57.0**	**-0.3**
	comp=Z,112nm,0.9s						
PSZ	**Piszkesteto**	**4.42**	**145**	⇑*i*P	**Pn**	**22 49 46.3**	**+0.5**
KWP	**Kalwaria Pacla**	**4.64**	**112**	*e*Pn	**Pn**	**22 49 50.0**	**+1.3**
KWP				*e*Pg	**Pg**	**22 50 08.2**	**+1.9**
KWP	**Kalwaria Pacla**	**4.64**	**112**	⇓*i*P	**Pn**	**22 49 48.5**	**-0.2**
KWP	**Kalwaria Pacla**	**4.64**	**112**	*e*Pn	**Pn**	**22 49 50.0**	**+1.3**
BLEU	**Blekinge**	**4.73**	**358**	P	**Pn**	**22 49 50.1**	**+0.2**
BLEU	**Blekinge**	**4.73**	**358**	P	**Pn**	**22 49 50.1**	**+0.2**
BJUU	**Bjuv**	**4.85**	**339**	P	**Pn**	**22 49 50.7**	**-0.8**
BJUU				S	**Sn**	**22 50 45.0**	**-3.3**
BJUU	**Bjuv**	**4.85**	**339**	P	**Pn**	**22 49 50.7**	**-0.8**
BJUU				S	**Sn**	**22 50 45.0**	**-3.3**
KBA	**Koelnbreinsper**	**4.86**	**203**	⇑*i*Pn	**Pn**	**22 49 53.2**	**+1.3**
	SNR=7.0						
KBA				⇓*i*Sg	**Sg**	**22 51 13.5**	**+0.1**
	comp=Z,61nm,0.6s						
KBA	**Koelnbreinsper**	**4.86**	**203**	Pn	**Pn**	**22 49 53.2**	**+1.3**
	SNR=7.0						
KBA				Sg	**Sg**	**22 51 13.5**	**+0.1**
	comp=Z,61nm,0.6s						
SOKA	**Soboth**	**4.96**	**189**	⇓*i*Pn	**Pn**	**22 49 54.5**	**+1.3**
SOKA				⇑*i*Sg	**Sg**	**22 51 17.0**	**+0.2**
	comp=Z,37nm,1.0s						
SOKA	**Soboth**	**4.96**	**189**	Pn	**Pn**	**22 49 54.5**	**+1.3**
SOKA				Sg	**Sg**	**22 51 17.0**	**+0.2**
	comp=Z,37nm,1.0s						
TOD	**Tromm**	**5.05**	**250**	P	**Pn**	**22 49 55.1**	**+0.7**
TOD				S	**Sn**	**22 50 58.7**	**+5.3**
DEL	**Delary**	**5.07**	**346**	P	**Pn**	**22 49 54.2**	**-0.3**
DEL				S	**Sn**	**22 50 51.0**	**-2.6**
DEL	**Delary**	**5.07**	**346**	P	**Pn**	**22 49 54.2**	**-0.3**
DEL				S	**Sn**	**22 50 51.0**	**-2.6**
WATA	**Walderalm**	**5.18**	**216**	⇓*i*Pn	**Pn**	**22 49 57.6**	**+1.4**
	SNR=9.6						
WATA				⇑*i*Sg	**Sg**	**22 51 25.3**	**+1.7**
	comp=Z,24nm,0.5s						
WATA	**Walderalm**	**5.18**	**216**	Pn	**Pn**	**22 49 57.6**	**+1.4**
	SNR=9.6						
WATA				Sg	**Sg**	**22 51 25.3**	**+1.7**
	comp=Z,24nm,0.5s						
OBKA	**Obir**	**5.18**	**192**	⇓*i*Pn	**Pn**	**22 49 57.1**	**+0.8**
OBKA				⇑*i*Sg	**Sg**	**22 51 25.0**	**+1.1**
	comp=Z,34nm,0.6s						
OBKA	**Obir**	**5.18**	**192**	Pn	**Pn**	**22 49 57.1**	**+0.8**
OBKA				Sg	**Sg**	**22 51 25.0**	**+1.1**
	comp=Z,34nm,0.6s						
WTTA	**Wattenberg**	**5.21**	**216**	⇓*i*Pn	**Pn**	**22 49 57.6**	**+0.9**
WTTA				⇓*i*Sg	**Sg**	**22 51 25.4**	**+0.6**
	comp=Z,32nm,0.6s						
WTTA	**Wattenberg**	**5.21**	**216**	Pn	**Pn**	**22 49 57.6**	**+0.9**
WTTA				Sg	**Sg**	**22 51 25.4**	**+0.6**
	comp=Z,32nm,0.6s						
MYKA	**Terra Mystica**	**5.22**	**199**	⇑*i*Pn	**Pn**	**22 49 56.8**	**+0.1**
MYKA				⇑*i*Sg	**Sg**	**22 51 24.9**	**0.0**
	comp=Z,14nm,0.5s						
MYKA	**Terra Mystica**	**5.22**	**199**	Pn	**Pn**	**22 49 56.8**	**+0.1**
MYKA				Sg	**Sg**	**22 51 24.9**	**0.0**
	comp=Z,14nm,0.5s						
MOTA	**Moosalm**	**5.35**	**219**	⇓*i*Pn	**Pn**	**22 49 59.1**	**+0.5**
	SNR=5.8						
MOTA				⇑*i*Sg	**Sg**	**22 51 31.1**	**+1.9**
	comp=Z,26nm,0.6s						
MOTA	**Moosalm**	**5.35**	**219**	Pn	**Pn**	**22 49 59.1**	**+0.5**
	SNR=5.8						
MOTA				Sg	**Sg**	**22 51 31.1**	**+1.9**
	comp=Z,26nm,0.6s						
RETA	**Reutte**	**5.38**	**222**	⇑*i*Pn	**Pn**	**22 49 59.4**	**+0.5**
RETA				⇑*i*Sg	**Sg**	**22 51 31.9**	**+1.9**
	comp=Z,21nm,0.5s						
RETA	**Reutte**	**5.38**	**222**	Pn	**Pn**	**22 49 59.4**	**+0.5**
RETA				Sg	**Sg**	**22 51 31.9**	**+1.9**
	comp=Z,21nm,0.5s						
ABTA	**Abfaltersbach**	**5.38**	**207**	⇓*i*Pn	**Pn**	**22 49 59.8**	**+0.8**
ABTA	**Abfaltersbach**	**5.38**	**207**	Pn	**Pn**	**22 49 59.8**	**+0.8**
VXJU	**Vaexsjoe**	**5.39**	**353**	P	**Pn**	**22 49 59.3**	**+0.4**
VXJU	**Vaexsjoe**	**5.39**	**353**	P	**Pn**	**22 49 59.3**	**+0.4**
KOE	**Koeppel**	**5.41**	**261**	*e*Pn	**Pn**	**22 49 59.1**	**-0.2**
KOE	**Koeppel**	**5.41**	**261**	Pn	**Pn**	**22 49 59.1**	**-0.2**
TRPA	**Tarpa**	**5.42**	**127**	⇓*i*P	**Pn**	**22 49 59.1**	**-0.2**
KTD	**Kalmit**	**5.60**	**249**	P	**Pn**	**22 50 03.0**	**+1.1**
OSKU	**Oskarshamn**	**5.62**	**0**	P	**Pn**	**22 50 02.4**	**+0.3**
OSKU	**Oskarshamn**	**5.62**	**0**	P	**Pn**	**22 50 02.4**	**+0.3**
PKSM	**Moragy**	**5.64**	**162**	⇓*i*P	**Pn**	**22 50 03.3**	**+0.9**
ABH	**Alteburg**	**5.69**	**256**	P	**Pn**	**22 50 04.5**	**+1.3**
BGG	**Burgeitz**	**5.71**	**259**	*e*Pn	**Pn**	**22 50 04.3**	**+0.9**
BGG	**Burgeitz**	**5.71**	**259**	Pn	**Pn**	**22 50 04.3

SFTF	**Sexfontaines**	**7.90 249**	*e*Pg	Pg	22 51 04.3	-4.4
SFTF			*e*Sg	**Sg**	**22 52 46.1**	**-4.9**
	comp=Z,71nm,1.2s					
CABF	**La Chapelle**	**8.24 237**	*e*Pn	**Pn**	**22 50 39.3**	**+1.1**
CABF	**La Chapelle**	**8.24 237**	*e*Pg	**Pg**	**22 51 13.5**	**-1.6**
CABF			*e*Sg	**Sg**	**22 52 56.9**	**-4.9**
	comp=Z,42nm,0.9s					
CABF	**La Chapelle**	**8.24 237**	*e*Pn	**Pn**	**22 50 39.3**	**+1.1**
AKASG	**Malin Array Be**	**8.30 91**	Pn	**Pn**	**22 50 37.9**	**-1.1**
	comp=Z,1.2nm,0.3s,baz=280,slow=12,SNR=20					
AKASG			Lg	Lg	22 53 05.6	
	comp=Z,0.2nm,0.3s,baz=279,slow=25,SNR=3.2					
HFS	**Hagfors**	**8.67 352**	Pn	**Pn**	**22 50 42.5**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=160,slow=14,SNR=5.3					
HFS			Sn	**Sn**	**22 52 18.7**	**-3.6**
	comp=Z,0.3nm,0.3s,baz=173,slow=24,SNR=4.0					
HFS			Lg	Lg	22 53 15.2	
	comp=Z,0.3nm,0.3s,baz=156,slow=25,SNR=2.4					
LPL	**La Plagne**	**8.69 229**	*e*Pn	**Pn**	**22 50 42.2**	**-2.2**
LPL			*e*Sn	Sn	22 52 15.8	-7.3
	comp=Z,0.7nm,0.2s					
LPG	**La Plagne**	**8.69 229**	*e*Pn	**Pn**	**22 50 42.5**	**-2.0**
LPG			*e*Sn	Sn	22 52 16.0	-7.3
	comp=Z,1.5nm,0.6s					
LOR	**Lormes**	**9.07 246**	*e*Pn	**Pn**	**22 50 48.4**	**-1.1**
	baz=70					
LOR			*e*Sg	Sn	22 53 22.6	+50
	comp=Z,39nm,1.3s					
LOR	**Lormes**	**9.07 246**	*e*Pn	**Pn**	**22 50 48.4**	**-1.1**
LOR			*e*Sg	Sn	22 53 22.6	+50
	comp=Z,19nm,1.3s					
MBDF	**Montbardon**	**9.27 226**	*e*Pn	**Pn**	**22 50 49.8**	**-2.5**
MBDF			*e*Sn	Sn	22 52 29.5	-7.8
	comp=Z,0.9nm,0.3s					
SSF	**Saint Saulge**	**9.38 246**	*e*Pn	**Pn**	**22 50 51.8**	**-2.0**
SSF			*e*Sg	Sn	22 53 32.7	+53
	comp=Z,11nm,0.9s					
SMF	**Signal de Mont**	**9.43 243**	*e*Pn	**Pn**	**22 50 52.5**	**-2.0**
SMF			*e*Sg	Sn	22 53 33.9	+53
	comp=Z,20nm,0.9s					
ORIF	**Oris-en-Rattie**	**9.53 230**	*e*Pn	**Pn**	**22 50 53.3**	**-2.6**
ORIF			*e*Sn	Sn	22 52 36.0	-7.7
	comp=Z,2.5nm,0.6s					
AVF	**Avril sur Loir**	**9.62 245**	*e*Pn	**Pn**	**22 50 55.0**	**-2.0**
AVF			*e*Sg	Sn	22 53 40.1	+54
	comp=Z,39nm,1.4s					
NOA	**NORSAR Array B**	**9.85 346**	Pn	**Pn**	**22 50 58.7**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=163,slow=12,SNR=2.5					
TCF	**Toulx Ste Croi**	**10.56 245**	*e*Pn	**Pn**	**22 51 07.4**	**-2.5**
TCF			*e*Sg		22 54 09.1	
	comp=Z,27nm,1.2s					
FINES	**FINESS Array B**	**11.29 25**	Pn	**Pn**	**22 51 18.5**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=215,slow=12,SNR=9.4					
FINES			Sn	Sn	22 53 17.1	-9.5
	comp=Z,0.3nm,0.3s,baz=217,slow=20,SNR=6.0					
FINES			Lg	Lg	22 54 35.5	
	baz=202,slow=25,SNR=3.1					
EKA	**Eskdalemuir Ar**	**12.06 296**	Pn	Pn	22 51 27.3	-3.1
	baz=102,slow=14,SNR=6.1					
ARCES	**ARCESS Array B**	**18.55 10**	Pn	**P**	**22 52 54.0**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=194,slow=11,SNR=5.7					
AKTO	**Aktyubinsk**	**26.14 76**	P	**P**	**22 54 13.9**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=289,slow=11,SNR=4.8					
TORD	**Torodi Ar. Bea**	**40.07 202**	P	**P**	**22 56 13.5**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=16,slow=8.8,SNR=3.2					
MKAR	**Makanchi Array**	**42.19 69**	P	**P**	**22 56 33.3**	**+1.6**
	comp=Z,0.2nm,0.7s,baz=283,slow=7.2,SNR=3.0					
YKA	**Yellowknife Ar**	**59.78 336**	P	**P**	**22 58 45.0**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=26,slow=6.9,SNR=9.4					
PDAR	**Pinedale Array**	**74.87 322**	P	**P**	**23 00 21.2**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=58,slow=6.7,SNR=3.3					

*IDC **15** 22:49:58.4±0.9, 38.49S×177.74E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.9/27, mbtmp4.0/5, ML3.8/1, MS3.7/5, Ms1 3.7/5, ms1mx3.4/17, Error ellipse: s-maj=31.4km s-min=9.8km az=26.0*

*ISCJB **15** 22:49:60.0±0.3, 38.13S±0.02×177.72E±0.03, h26km±2km, mb3.9/4, MS3.8/5, Error ellipse: s-maj=4.4km s-min=3.8km az=152.3*

*NEIC **15** 22:50:00.3, 38.09S×177.68E, h5km, mb4.0/1, ML4.5(WEL), After WEL.*

NEIC Felt [IV] at Ohope, Opotiki and Whakatane. Also felt in the Gisborne area.

*WEL **15** 22:50:00.3±0.1, 38.09S×177.67E, h5km, ML4.7/39, Error ellipse: s-maj=0.8km s-min=0.8km az=90.0*

WEL Felt from Bay of Plenty to Gisborne, maximum reported intensity MM 5.

ISC 15 22:49:60.0±0.9, 38.12S±0.02×177.67E±0.02, h11km±6km, n190, σ1s18/188, mb3.9/4, MS3.7/5, 1C-2D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**0.24**	**208**	*e*Pg	**Pg**	**22 50 04.7**	**-0.3**
MWZ				SG	**Sg**	**22 50 08.7**	**+0.3**
MWZ	**Matawai**	**0.24**	**208**	*e*Pg	**Pg**	**22 50 04.7**	**-0.3**
TWGZ	**Tauwhareparae**	**0.25**	**102**	↓Pg	**Pg**	**22 50 04.8**	**-0.4**
TWGZ				SG	**Sg**	**22 50 09.5**	**+0.7**
TKGZ	**Te Karaka**	**0.35**	**156**	↑Pg	**Pg**	**22 50 07.3**	**+0.4**
TKGZ				SG	**Sb**	**22 50 14.2**	**+0.5**
HAZ	**Te Kaha**	**0.38**	**14**	PG	**Pg**	**22 50 06.4**	**-1.1**
HAZ				SG	**Sg**	**22 50 13.2**	**+0.7**
RAGZ	**Rawiri**	**0.42**	**208**	PG	**Pg**	**22 50 08.6**	**+0.3**
URZ	**Urewera**	**0.46**	**253**	PG	**Pg**	**22 50 09.2**	**+0.2**
URZ				AML	AML	22 50 17.3	
URZ				AML	AML	22 50 19.6	
URZ				AML	AML	22 50 19.7	
URZ				AML	AML	22 50 19.7	
URZ	**Urewera**	**0.46**	**253**	Pg	**Pg**	**22 50 09.2**	**+0.2**
	2μm,0.3s,baz=236,slow=3.1,SNR=3414						
URZ				Lg	Lg	22 50 16.4	
	4μm,0.3s,baz=128,slow=19,SNR=57						
PUZ	**Puketiti**	**0.47**	**84**	PG	**Pg**	**22 50 09.2**	**+0.1**
PUZ				AML	AML	22 50 24.1	
PUZ				AML	AML	22 50 32.1	
PUZ	**Puketiti**	**0.47**	**84**	*e*Pg	**Pg**	**22 50 08.6**	**-0.8**
CNGZ	**Carnagh Statio**	**0.56**	**131**	P*	**Pg**	**22 50 12.2**	**+0.4**
CNGZ	**Carnagh Statio**	**0.56**	**131**	Pg	**Pb**	**22 50 12.2**	**+0.4**
RIGZ	**Rimuhau**	**0.59**	**173**	P*	**Pb**	**22 50 12.4**	**+0.1**
WMGZ	**Waiomatatini S**	**0.66**	**63**	P*	**Pb**	**22 50 13.4**	**-0.2**
WIZ	**White Island**	**0.70**	**327**	P*	**Pg**	**22 50 13.7**	**+0.1**
WIZ				SG	**Sg**	**22 50 20.9**	**-2.0**
WIZ	**White Island**	**0.70**	**327**	P*	**Pg**	**22 50 13.7**	**+0.1**
SNGZ	**Shannon Statio**	**0.71**	**201**	P*	**Pb**	**22 50 14.5**	**+0.2**
EDRZ	**Edgecumbe**	**0.73**	**271**	P*	**Pb**	**22 50 14.8**	**0.0**
EDRZ				AML	AML	22 50 39.7	
EDRZ				AML	AML	22 50 39.8	
EDRZ	**Edgecumbe**	**0.73**	**271**	P*	**Pb**	**22 50 14.8**	**0.0**
MXZ	**Matakaoa Point**	**0.75**	**42**	P*	**Pg**	**22 50 14.8**	**+0.2**
MXZ				AML	AML	22 50 35.2	
MXZ				AML	AML	22 50 35.3	
MXZ				AML	AML	22 50 36.1	
MXZ				AML	AML	22 50 36.2	
MXZ	**Matakaoa Point**	**0.75**	**42**	P*	**Pg**	**22 50 14.5**	**-0.1**
MARZ	**Manawahe**	**0.80**	**280**	P*	**Pb**	**22 50 15.8**	**0.0**
MARZ	**Manawahe**	**0.80**	**280**	P*	**Pb**	**22 50 15.8**	**0.0**
PRGZ	**Paritu Road**	**0.82**	**168**	P*	**Pn**	**22 50 17.0**	**-0.4**
PRGZ	**Paritu Road**	**0.82**	**168**	P*	**Pn**	**22 50 17.0**	**-0.4**
KNZ	**Kokohu**	**0.90**	**180**	P*	**Pn**	**22 50 18.2**	**-0.2**
KNZ	**Kokohu**	**0.90**	**180**	P*	**Pn**	**22 50 18.1**	**-0.4**
RAHZ	**Arahi**	**0.92**	**210**	P*	**Pn**	**22 50 18.2**	**-0.6**
RAHZ	**Arahi**	**0.92**	**210**	P*	**Pn**	**22 50 18.2**	**-0.6**
OPRZ	**Ohinepanea**	**0.92**	**287**	P*	**Pg**	**22 50 17.4**	**-0.3**
OPRZ	**Ohinepanea**	**0.92**	**287**	P*	**Pg**	**22 50 17.4**	**-0.3**
TARZ	**Mount Tarawera**	**0.92**	**263**	P*	**Pn**	**22 50 18.6**	**-0.4**
TARZ	**Mount Tarawera**	**0.92**	**263**	P*	**Pn**	**22 50 18.6**	**-0.4**
RRRZ	**Republican Roa**	**0.93**	**256**	P*	**Pb**	**22 50 18.3**	**+0.1**
RRRZ	**Republican Roa**	**0.93**	**256**	P*	**Pb**	**22 50 18.3**	**+0.1**
MKRZ	**Makatiti**	**0.95**	**269**	P*	**Pn**	**22 50 19.2**	**0.0**
MKRZ				AML	AML	22 50 27.9	
MKRZ				AML	AML	22 50 34.3	
MKRZ	**Makatiti**	**0.95**	**269**	P*	**Pn**	**22 50 19.2**	**0.0**
WHHZ	**Waihua**	**1.01**	**200**	P*	**Pn**	**22 50 20.6**	**+0.5**
LIRZ	**Lichensteins R**	**1.02**	**276**	P*	**Pn**	**22 50 19.9**	**-0.3**
LIRZ	**Lichensteins R**	**1.02**	**276**	P*	**Pn**	**22 50 20.1**	**-0.1**
OMRZ	**Omania**	**1.02**	**270**	P*	**Pb**	**22 50 19.6**	**-0.1**
OMRZ	**Omania**	**1.02**	**270**	*e*P*	**Pg**	**22 50 19.8**	**+0.2**
HLRZ	**Highlands Stat**	**1.04**	**262**	P*	**Pn**	**22 50 20.3**	**-0.3**
MHGZ	**Mahia Peninsul**	**1.05**	**170**	P*	**Pn**	**22 50 20.4**	**-0.1**
MHGZ	**Mahia Peninsul**	**1.05**	**170**	P*	**Pn**	**22 50 20.4**	**-0.1**
PRRZ	**Plateau Road**	**1.07**	**249**	P*	**Pg**	**22 50 20.5**	**0.0**
PRRZ	**Plateau Road**	**1.07**	**249**	P*	**Pg**	**22 50 20.6**	**0.0**
HRRZ	**Handcock Road**	**1.12**	**256**	P*	**Pg**	**22 50 21.7**	**+0.2**
HRRZ	**Handcock Road**	**1.12**	**256**	P*	**Pg**	**22 50 21.7**	**+0.2**
KARZ	**Kaharoa**	**1.13**	**275**	P*	**Pb**	**22 50 20.9**	**-0.6**
KARZ	**Kaharoa**	**1.13**	**275**	P*	**Pb**	**22 50 21.1**	**-0.4**
ALRZ	**Allen Road**	**1.13**	**247**	P*	**Pb**	**22 50 21.5**	**-0.1**
ALRZ	**Allen Road**	**1.13**	**247**	P*	**Pg**	**22 50 21.7**	**0.0**
UTU	**Utuhina**	**1.17**	**267**	P*	**Pg**	**22 50 22.2**	**-0.1**
UTU				AML	AML	22 50 38.6	
UTU				AML	AML	22 50 45.6	
UTU	**Utuhina**	**1.17**	**267**	P*	**Pg**	**22 50 22.8**	**+0.5**
TGRZ	**Tauranga**	**1.18**	**289**	P*	**Pn**	**22 50 21.4**	**-1.0**
TGRZ				AML	AML	22 50 50.9	
TGRZ				AML	AML	22 50 53.9	
TGRZ	**Tauranga**	**1.18**	**289**	P*	**Pn**	**22 50 21.4**	**-1.0**
NMHZ	**Naumai**	**1.19**	**214**	P*	**Pg**	**22 50 23.3**	**+0.5**
NMHZ	**Naumai**	**1.19**	**214**	P*	**Pg**	**22 50 23.3**	**+0.5**
GRRZ	**Galatos Road**	**1.25**	**259**	P*	**Pb**	**22 50 23.4**	**-0.2**
WPRZ	**Whakapapataran**	**1.25**	**251**	P*	**Pb**	**22 50 23.5**	**0.0**
ARHZ	**Aropaoanui**	**1.25**	**205**	P*	**Pg**	**22 50 24.5**	**+0.4**
BKZ	**Black Stump Fm**	**1.39**	**221**	PN	**Pn**	**22 50 25.4**	**+0.1**
BKZ				AML	AML	22 50 56.0	
BKZ				AML	AML	22 51 00.7	
BKZ	**Black Stump Fm**	**1.39**	**221**	Pn	**Pn**	**22 50 25.4**	**+0.1**
WHTZ	**Whakaora**	**1.45**	**247**	PN	**Pg**	**22 50 27.4**	**-0.4**
WHTZ	**Whakaora**	**1.45**	**247**	Pn	**Pg**	**22 50 27.4**	**-0.4**
HATZ	**Hinemaiaia**	**1.46**	**238**	PN	**Pn**	**22 50 26.0**	**-0.2**
HATZ				AML	AML	22 50 56.0	
HATZ				AML	AML	22 51 09.4	
HATZ	**Hinemaiaia**	**1.46**	**238**	Pn	**Pn**	**22 50 26.0**	**-0.2**
KUTZ	**Kaahu Road**	**1.50**	**255**	PN	**Pn**	**22 50 26.7**	**-0.1**
MCHZ	**McNeill Hill**	**1.52**	**210**	PN	**Pb**	**22 50 28.4**	**+0.2**
MCHZ	**McNeill Hill**	**1.52**	**210**	Pn	**Pb**	**22 50 28.5**	**+0.3**
CKHZ	**Cape Kidnapper**	**1.60**	**197**	PN	**Pn**	**22 50 28.2**	**0.0**
CKHZ	**Cape Kidnapper**	**1.60**	**197**	Pn	**Pn**	**22 50 28.2**	**0.0**
WATZ	**Wairara**	**1.63**	**248**	PN	**Pn**	**22 50 28.5**	**-0.1**
WATZ				AML	AML	22 50 55.0	
WATZ				AML	AML	22 51 13.5	
WATZ	**Wairara**	**1.63**	**248**	Pn	**Pn**	**22 50 28.7**	**+0.1**
RITZ	**Rihia Road**	**1.66**	**238**	PN	**Pn**	**22 50 29.3**	**+0.4**
RITZ				AML	AML	22 51 06.5	
RITZ				AML	AML	22 51 21.5	
RITZ	**Rihia Road**	**1.66**	**238**	Pn	**Pn**	**22 50 29.3**	**+0.4**
RATZ	**Rangitukua**	**1.66**	**243**	PN	**Pb**	**22 50 29.8**	**-0.9**
RATZ				AML	AML	22 51 11.8	
RATZ				AML	AML	22 51 14.2	
RATZ	**Rangitukua**	**1.66**	**243**	Pn	**Pb**	**22 50 29.8**	**-0.9**
TLZ	**Tolley Road**	**1.69**	**262**	PN	**Pn**	**22 50 29.0**	**-0.5**
TOZ	**Tahuroa Road**	**1.76**	**282**	PN	**Pn**	**22 50 29.5**	**-0.8**
TOZ	**Tahuroa Road**	**1.76**	**282**	Pn	**Pn**	**22 50 29.7**	**-0.6**
KAHZ	**Kahuranaki**	**1.78**	**200**	PN	**Pn**	**22 50 30.7**	**0.0**
KAHZ	**Kahuranaki**	**1.78**	**200**	Pn	**Pn**	**22 50 30.7**	**0.0**
KRHZ	**Kereru**	**1.83**	**213**	PN	**Pn**	**22 50 31.8**	**+0.5**
BHHZ	**Black Hill Sta**	**1.85**	**222**	PN	**Pn**	**22 50 32.0**	**+0.3**
BHHZ	**Black Hill Sta**	**1.85**	**222**	Pn	**Pn**	**22 50 32.0**	**+0.3**
KRVZ	**Karewarewa**	**1.86**	**238**	PN	**Pn**	**22 50 31.9**	**0.0**
KRVZ				AML	AML	22 51 11.6	
KRVZ				AML	AML	22 51 16.5	
KRVZ	**Karewarewa**	**1.86**	**238**	Pn	**Pn**	**22 50 31.9**	**0.0**
OTVZ	**Oturere**	**1.88**	**236**	PN	**Pn**	**22 50 32.4**	**+0.2**
OTVZ				AML	AML	22 51 09.6	
OTVZ				AML	AML	22 51 13.7	
OTVZ	**Oturere**	**1.88**	**236**	Pn	**Pn**	**22 50 32.4**	**+0.2**
WTVZ	**West Tongariro**	**1.91**	**238**	PN	**Pb**	**22 50 35.1**	**+0.3**
WTVZ				AML	AML	22 51 15.2	
WTVZ				AML	AML	22 51 25.7	
WTVZ	**West Tongariro**	**1.91**	**238**	Pn	**Pg**	**22 50 38.1**	**+1.6**
NGZ	**Ngauruhoe**	**1.93**	**236**	PN	**Pn**	**22 50 35.0**	**-0.2**
NGZ				AML	AML	22 51 12.4	
NGZ				AML	AML	22 51 19.2	
NGZ	**Ngauruhoe**	**1.93**	**236**	Pn	**Pb**	**22 50 35.4**	**+0.2**
MOVZ	**Moawhango**	**1.97**	**229**	↓PN	**Pn**	**22 50 33.2**	**-0.2**
MOVZ				AML	AML	22 51 16.2	
MOVZ				AML	AML	22 51 16.7	
MOVZ	**Moawhango**	**1.97**	**229**	Pn	**Pn**	**22 50 33.2**	**-0.2**
COVZ	**Chateau Observ**	**1.98**	**236**	PN	**Pn**	**22 50 33.2**	**-0.3**
WPVZ	**Whakapapa**	**1.98**	**236**	PN	**Pn**	**22 50 33.8**	**+0.3**
WPVZ				AML	AML	22 51 13.0	
WPVZ				AML	AML	22 51 26.4	
WPVZ	**Whakapapa**	**1.98**	**236**	Pn	**Pn**	**22 50 33.8**	**+0.3**
WHVZ	**Whangaehu Hut**	**2.00**	**234**	PN	**Pn**	**22 50 33.8**	**-0.1**
FWVZ	**Far West T-bar**	**2.01**	**235**	PN	**Pn**	**22 50 33.9**	**-0.1**
FWVZ				AML	AML	22 51 13.5	
FWVZ				AML	AML	22 51 22.5	
FWVZ	**Far West T-bar**	**2.01**	**235**	Pn	**Pn**	**22 50 33.9**	**-0.1**
PKZ	**Pawanui**	**2.01**	**198**	PN	**Pn**	**22 50 32.6**	**-1.1**
PXZ				AML	AML	22 51 10.4	
PXZ				AML	AML	22 51 10.4	
PXZ				AML	AML	22 51 37.1	
PXZ				AML	AML	22 51 37.1	
WNVZ	**Wahianoa**	**2.02**	**233**	PN	**Pn**	**22 50 34.0**	**-0.1**
WNVZ	**Wahianoa**	**2.02**	**233**	Pn	**Pn**	**22 50 34.9**	**+0.8**
PNHZ	**Pukenui**	**2.12**	**212**	PN	**Pn**	**22 50 35.3**	**-0.2**
PNHZ	**Pukenui**	**2.12**	**212**	Pn	**Pn**	**22 50 35.5**	**0.0**
MTVZ	**Mangateitei**	**2.13**	**233**	PN	**Pb**	**22 50 38.5**	**-0.1**
MTVZ				AML	AML	22 51 18.4	
MTVZ				AML	AML	22 51 36.9	
MTVZ	**Mangateitei**	**2.13**	**233**	Pn	**Pb**	**22 50 38.5**	**-0.1**
PKVZ	**Pokaka**	**2.16**	**237**	AML	AML	22 51 21.9	
PKVZ				AML	AML	22 51 29.3	
WPHZ	**Waipukurau**	**2.16**	**206**	PN	**Pn**	**22 50 35.4**	**-0.5**
WPHZ	**Waipukurau**	**2.16**	**206**	Pn	**Pn**	**22 50 35.6**	**-0.3**
PRHZ	**Porangahau**	**2.29**	**200**	PN	**Pn**	**22 50 36.3**	**-1.4**
PRHZ	**Porangahau**	**2.29**	**200**	Pn	**Pn**	**22 50 36.6**	**-1.1**
TSZ	**Takapari Road**	**2.35**	**214**	PN	**Pn**	**22 50 37.9**	**-0.6**
TSZ				AML	AML	22 51 34.7	
TSZ				AML	AML	22 51 36.6	
TSZ	**Takapari Road**	**2.35**	**214**	Pn	**Pn**	**22 50 38.1**	**-0.4**
DVHZ	**Dannevirke**	**2.47**	**208**	PN	**Pn**	**22 50 39.1**	**-1.0**
DVHZ	**Dannevirke**	**2.47**	**208**	Pn	**Pn**	**22 50 39.1**	**-1.0**
VRZ	**Vera Road**	**2.49**	**245**	PN	**Pn**	**22 50 42.0**	**+1.7**
VRZ				AML	AML	22 51 37.8	
VRZ				AML	AML	22 51 54.8	
VRZ	**Vera Road**	**2.49**	**245**	Pn	**Pn**	**22 50 42.0**	**+1.7**
ANWZ	**Angora Road**	**2.51**	**201**	PN	**Pn**	**22 50 39.4**	**-1.3**
WAZ	**Wanganui**	**2.65**	**231**	AML	AML	22 51 40.5	
WAZ				AML	AML	22 51 52.8	
POWZ	**Post Office Ro**	**2.71**	**212**	PN	**Pn**	**22 50 43.1**	**-0.3**
POWZ	**Post Office Ro**	**2.71**	**212**	Pn	**Pn**	**22 50 43.1**	**-0.3**
PRUZ	**Puri Road**	**2.76**	**208**	PN	**Pn**	**22 50 43.1**	**-0.9**
BFZ	**Birch Farm**	**2.78**	**203**	PN	**Pn**	**22 50 42.7**	**-1.8**
BFZ	**Birch Farm**	**2.78**	**203**	Pn	**Pn**	**22 50 42.7**	**-1.8**
TIWZ	**Tintock**	**2.99**	**207**	PN	**Pn**	**22 50 46.4**	**-0.9**
TIWZ				AML	AML	22 51 34.8	
TIWZ				AML	AML	22 51 35.5	
TIWZ	**Tintock**	**2.99**	**207**	Pn	**Pn**	**22 50 46.4**	**-0.9**
CPWZ	**Castlepoint**	**3.00**	**202**	PN	**Pn**	**22 50 46.1**	**-1.3**
MRZ	**Mangatainoka R**	**3.01**	**212**	PN	**Pn**	**22 50 45.9**	**-1.7**
MRZ				AML	AML	22 51 35.2	
MRZ				AML	AML	22 51 35.5	
HOWZ	**Holdsworth Sta**	**3.23**	**210**	PN	**Pn**	**22 50 48.8**	**-1.8**
HOWZ	**Holdsworth Sta**	**3.23**	**210**	Pn	**Pn**	**22 50 48.8**	**-1.8**
TMWZ	**Te Maipa**	**3.28**	**204**	PN	**Pn**	**22 50 49.2**	**-2.1**
TMWZ	**Te Maipa**	**3.28**	**204**	Pn	**Pn**	**22 50 49.2**	**-2.1**
OGWZ	**Otaki Gorge**	**3.31**	**215**	PN	**Pn**	**22 50 50.4**	**-1.3**
OGWZ	**Otaki Gorge**	**3.31**	**215**	Pn	**Pn**	**22 50 50.4**	**-1.3**
MTW	**Mount Morrison**	**3.46**	**208**	PN	**Pn**	**22 50 51.4**	**-2.4**
MTW				AML	AML	22 51 42.7	
MTW				AML	AML	22 51 44.5	
MTW	**Mount Morrison**	**3.46**	**208**	Pn	**Pn**	**22 50 51.4**	**-2.4**
KIW	**Kapiti Island**	**3.47**	**217**	PN	**Pn**	**22 50 52.7**	**-1.1**
KIW				AML	AML	22 51 45.8	
KIW				AML	AML	22 51 49.1	
KIW	**Kapiti Island**	**3.47**	**217**	Pn	**Pn**	**22 50 52.8**	**-1.1**
CAW	**Cannon Point**	**3.59**	**213**	PN	**Pn**	**22 50 53.6**	**-2.0**
CAW				AML	AML	22 52 14.6	
CAW				AML	AML	22 52 15.4	
CAW	**Cannon Point**	**3.59**	**213**	Pn	**Pn**	**22 50 53.6**	**-2.0**
TRWZ	**Traveller**	**3.61**	**204**	PN	**Pn**	**22 50 53.8**	**-2.1**
TRWZ				AML	AML	22 51 46.5	
TRWZ				AML	AML	22 51 46.9	
TRWZ	**Traveller**	**3.61**	**204**	Pn	**Pn**	**22 50 53.8**	**-2.1**
PLWZ	**Palliser**	**3.91**	**208**	PN	**Pn**	**22 50 57.1**	**-2.9**
PLWZ	**Palliser**	**3.91**	**208**	Pn	**Pn**	**22 50 57.1**	**-2.9**
SNZO	**South Karori**	**3.92**	**215**	*e*Pn	**Pn**	**22 50 58.2**	**-1.8**
BHW	**Baring Head**	**3.93**	**212**	PN	**Pn**	**22 50 58.1**	**-2.0**
BHW				AML	AML	22 51 56.1	
BHW				AML	AML	22 51 56.5	
BHW	**Baring Head**	**3.93**	**212**	Pn	**Pn**	**22 50 58.1**	**-2.0**
DUWZ	**D'Urville Isla**	**3.95**	**226**	PN	**Pn**	**22 51 00.1**	**-0.4**
DUWZ				AML	AML	22 52 12.0	
DUWZ				AML	AML	22 52 13.6	
DUWZ	**D'Urville Isla**	**3.95**	**226**	Pn	**Pn**	**22 51 00.1**	**-0.4**
TCW	**Tory Channel**	**4.05**	**219**	PN	**Pn**	**22 51 00.2**	**-1.6**
TCW				AML	AML	22 51 58.6	
TCW				AML	AML	22 52 17.3	
TCW	**Tory Channel**	**4.05**	**219**	Pn	**Pn**	**22 51 00.2**	**-1.6**
OUZ	**Omahuta**	**4.37**	**310**	*e*Pn	**Pn**	**22 51 06.2**	**0.0**
TUWZ	**Tuamarina**	**4.38**	**220**	PN	**Pn**	**22 51 04.6**	**-1.7**
TUWZ				AML	AML	22 52 08.9	
TUWZ				AML	AML	22 52 35.0	
TUWZ	**Tuamarina**	**4.38**	**220**	Pn	**Pn**	**22 51 04.6**	**-1.7**
NNZ	**Nelson**	**4.53**	**226**	Pn	**Pn**	**22 51 07.3**	**-1.1**
BSWZ	**Blackbirch Sta**	**4.62**	**218**	PN	**Pn**	**22 51 07.4**	**-2.3**
BSWZ				AML	AML	22 52 27.6	
BSWZ				AML	AML	22 52 52.1	
BSWZ	**Blackbirch Sta**	**4.62**	**218**	Pn	**Pn**	**22 51 07.4**	**-2.3**
QRZ	**Quartz Range**	**4.81**	**234**	PN	**Pn**	**22 51 11.9**	**-0.3**
QRZ	**Quartz Range**	**4.81**	**234**	Pn	**Pn**	**22 51 11.9**	**-0.3**
THZ	**Tophouse**	**5.16**	**224**	PN	**Pn**	**22 51 15.4**	**-1.8**
THZ				AML	AML	22 52 42.3	
THZ				AML	AML	22 52 51.3	
THZ	**Tophouse**	**5.16**	**224**	Pn	**Pn**	**22 51 15.3**	**-1.8**
KHZ	**Kahutara**	**5.33**	**215**	PN	**Pn**	**22 51 16.2**	**-3.1**
KHZ				AML	AML	22 52 25.8	
KHZ				AML	AML	22 52 26.7	
KHZ	**Kahutara**	**5.33**	**215**	Pn	**Pn**	**22 51 16.2**	**-3.1**
MQZ	**McQueen's Vall**	**6.75**	**213**	PN	**Pn**	**22 51 34.5**	**-4.4**
MQZ	**McQueen's Vall**	**6.75**	**213**	Pn	**Pn**	**22 51 34.5**	**-4.4**
CTZ	**Chatham Island**	**7.08**	**144**	PN	**Pn**	**22 51 42.7**	**-0.8**
CTZ	**Chatham Island**	**7.08**	**144**	Pn	**Pn**	**22 51 42.7**	**-0.8**
RPZ	**Rata Peaks**	**7.50**	**220**	PN	**Pn**	**22 51 46.5**	**-2.8**
RPZ				AML	AML	22 53 17.9	
RPZ				AML	AML	22 54 16.3	
RPZ	**Rata Peaks**	**7.50**	**220**	Pn	**Pn**	**22 51 46.0**	**-3.2**
	1.7nm,0.3s,baz=200,slow=1.4,SNR=9.5						
RPZ				Sn	**Sn**	**22 53 09.7**	**-4.5**
	9.4nm,0.3s,baz=355,slow=20,SNR=13						
RPZ	**Rata Peaks**	**7.50**	**220**	Pn	**Pn**	**22 51 46.5**	**-2.8**
RPZ				Sn	**Sn**	**22 53 09.7**	**-4.5**
ODZ	**Otahua Downs**	**8.69**	**215**	PN	**Pn**	**22 52 01.7**	**-3.8**
ODZ	**Otahua Downs**	**8.69**	**215**	Pn	**Pn**	**22 52 01.7**	**-3.8**
DZM	**Mont Dzumac**	**18.69**	**326**	*e*P	**Pn**	**22 54 20.8**	**+2.1**
	4.3nm,0.4s						
STKA	**Stephens Creek**	**30.07**	**271**	P	**P**	**22 56 11.

KLR eSg Sb 23 40 30.4 +2.7
BMKR Bomnak 4.84 315 *e*rx rx 23 40 27.4
BMKR eSg Sg 23 41 29.8 -4.6
BMKR A A 23 41 32.1
6.0nm,0.5s
KROS Kirovskiy 5.59 305 *e*Sg Sg 23 41 52.2 -6.0
KROS A A 23 41 57.8
4.0nm,0.6s

NIED ***15*** *23:41:00,28˚.80N×128˚.50E,h8km,Mw4.0 Best double couple: M₀1.18000×10¹⁵ NP1:φs37.00000°,δ88.00000°, λ-178.00000°. NP2:φs307.00000°,δ88.00000°, λ-2.00000°.*
ISCJB ***15*** *23:41:35.5±0.5,28˚.76N±0˚.03×128˚.54E±0˚.05,h10km, mb3.7/8,MS3.2/3,Error ellipse: s-maj=6.2km s-min=4.9km az=0.5*
IDC ***15*** *23:41:35.3±0.8,28˚.68N×128˚.68E,h0km,mb3.7/8, mb1 3.8/11,mb1mx3.6/33,mbtmp3.6/11,ML3.2/3,MS3.2/7, Ms1 3.2/7,ms1mx2.9/33,Error ellipse: s-maj=27.8km s-min=15.9km az=89.0*
JMA ***15*** *23:41:35.7±0.2,28˚.78N×128˚.51E,h16km±3km,M4.1*
JMA Felt I J1.
ISC 15 23:41:36.8±0.7,**28˚.72N**±0˚.04×**128˚.59E**±0˚.06,**h10**km,**n26,**
σ0**87**/24,**mb3.5/8,MS3.2/3,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JTAJ	**Takarajima**	**0.69**	**51**	P		**Pg**	**23 41 49.3**	**-0.9**
JTAJ				*e*S		**Sg**	**23 41 58.5**	**-0.8**
JAMN	**Amaminishikomi**	**0.70**	**132**	P		**Pg**	**23 41 50.7**	**+0.3**
JAM	**Amami Oshima**	**0.95**	**109**	P		**Pg**	**23 41 54.5**	**-0.6**
JAM				*e*S		**Sg**	**23 42 07.8**	**+0.4**
JTK	**Tokunoshima**	**0.98**	**161**	P		**Pg**	**23 41 55.0**	**-0.8**
JTK				*e*S		**Sg**	**23 42 09.1**	**+0.5**
JZK	**Kikaishima**	**1.28**	**108**	P		**Pn**	**23 42 01.1**	**+0.2**
JOKE	**Okinoerabujima**	**1.35**	**181**	P		**Pn**	**23 42 00.7**	**-1.1**
JNN	**Nakanoshima**	**1.59**	**45**	P		**Pn**	**23 42 03.5**	**-1.5**
JIH	**Iheya**	**1.77**	**198**	P		**Pn**	**23 42 06.8**	**-0.6**
JOW	**Kunigami**	**1.90**	**188**	P		**Pn**	**23 42 08.5**	**-0.8**
JOW	**Kunigami**	**1.90**	**188**	Pn		**Pn**	**23 42 08.7**	**-0.6**
	baz=29,slow=12							
JOW				LR		LR	23 43 09.4	
	comp=Z,63nm,19.9s,baz=136,slow=50							
JYAK	**Yakushimahirau**	**2.26**	**47**	P		**Pn**	**23 42 13.5**	**-0.8**
JNU	**Nakatsue**	**4.81**	**24**	Pn		Pn	23 42 51.2	+1.8
	1.2nm,0.3s,baz=204,slow=5.3,SNR=14							
JNU				LR		LR	23 44 52.2	
	comp=Z,216nm,18.6s,baz=215,slow=41							
KSRS	**Korea Array**	**8.73**	**357**	Pn		**Pn**	**23 43 43.5**	**+0.4**
	0.3nm,0.3s,baz=176,slow=13,SNR=7.0							
KSRS				LR		LR	23 47 10.8	
	comp=Z,122nm,20.4s,baz=178,slow=38							
MJAR	**Matsushiro Arr**	**11.25**	**44**	Pn		**Pn**	**23 44 18.9**	**+1.2**
	0.2nm,0.3s,baz=213,slow=16,SNR=3.0							
MJAR				LR		LR	23 48 30.4	
	comp=Z,73nm,18.6s,baz=205,slow=37							
JCJ	**Chichijima**	**12.14**	**94**	LR		LR	23 48 18.5	
	comp=Z,106nm,18.9s,baz=130,slow=34							
CMAR	**Chiang Mai Arr**	**28.95**	**256**	LR		LR	00 00 24.2	
	comp=Z,58nm,18.4s,baz=176,slow=39							
PETK	**Petropavlovsk-**	**32.43**	**33**	LR		LR	00 01 44.9	
	comp=Z,15nm,18.2s,baz=149,slow=37							
MKAR	**Makanchi Array**	**40.16**	**310**	P		**P**	**23 49 13.9**	**+0.9**
	0.5nm,0.7s,baz=103,slow=5.2,SNR=4.9							
ZALV	**Zalesovo Beam**	**40.49**	**321**	P		**P**	**23 49 15.7**	**0.0**
	0.4nm,0.4s,baz=105,slow=11,SNR=2.7							
AAK	**Ala-Archa**	**45.35**	**303**	LR		LR	00 09 23.5	
	comp=Z,83nm,19.9s,baz=270,slow=37							
BVAR	**Borovoye Array**	**46.66**	**317**	P		**P**	**23 50 21.5**	**+0.5**
	1.3nm,0.6s,baz=89,slow=9.5,SNR=2.4							
WRA	**Warramunga Arr**	**48.70**	**173**	P		**P**	**23 50 20.9**	**-0.6**
	1.2nm,0.6s,baz=353,slow=8.2,SNR=6.7							
ASAR	**Alice Springs**	**52.33**	**174**	P		**P**	**23 50 48.9**	**-0.1**
	0.4nm,0.7s,baz=6.7,slow=15,SNR=6.5							
ILAR	**Eielson Array**	**62.11**	**29**	P		**P**	**23 51 56.0**	**-1.6**
	0.2nm,0.5s,baz=291,slow=7.6,SNR=3.8							
FINES	**FINESS Array B**	**70.86**	**330**	P		**P**	**23 52 54.9**	**+1.3**
	2.3nm,1.1s,baz=357,slow=3.8,SNR=4.4							
YKA	**Yellowknife Ar**	**76.14**	**25**	P		**P**	**23 53 25.0**	**+0.3**
	0.3nm,0.7s,baz=300,slow=5.9,SNR=5.0							

IDC ***15*** *23:59:27.1±1.1,33˚.64N×59˚.87E,h0km,mb3.6/11, mb1 3.8/13,mb1mx3.6/42,mbtmp3.7/13,ML3.8/2,MS3.2/1, Ms1 3.2/1,ms1mx2.4/36,Error ellipse: s-maj=20.6km s-min=16.7km az=4.0*
ISCJB ***15*** *23:59:28.3±0.3,33˚.71N±0˚.03×59˚.82E±0˚.06,h11km, mb3.5/10,MS3.1/1,Error ellipse: s-maj=7.1km s-min=4.0km az=166.2*
CSEM ***15*** *23:59:30.7,33˚.69N×59˚.81E,h16km,ML3.8*
TEH ***15*** *23:59:30.7,33˚.69N×59˚.81E,h16km,ML3.8*
ISC 15 23:59:29.3±0.6,**33˚.70N**±0˚.04×**59˚.85E**±0˚.07,**h11**km,**n43,**
σ0**74**/46,**mb3.5**/10,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IDAH	**Dahanechah**	**0.96**	**179**	*e*Pg		**Pg**	**23 59 47.3**	**-0.5**
IDAH				*e*Sg		**Sb**	**00 00 01.3**	**+0.4**
IDAH				*e*			00 00 07.7	
	comp=Z,18μm,0.2s							
IDAH	**Dahanechah**	**0.96**	**179**	*e*Sg		**Sb**	**00 00 01.3**	**+0.4**
IDAH	**Dahanechah**	**0.96**	**179**	*e*Pg		**Pg**	**23 59 47.3**	**-0.5**
ITEG	**Tejag**	**1.22**	**229**	*e*Pn		**Pg**	**23 59 52.9**	**+0.1**
ITEG				*e*			00 00 12.8	
	comp=Z,20μm,0.1s							
ITEG	**Tejag**	**1.22**	**229**	*e*Pn		**Pg**	**23 59 52.9**	**+0.1**
IKOO	**Kooshah**	**1.45**	**209**	*e*Pg		**Pb**	**23 59 56.9**	**+0.3**
IKOO				*e*			00 00 22.1	
	comp=Z,7μm,0.2s							
IKOO	**Kooshah**	**1.45**	**209**	*e*Pg		**Pb**	**23 59 56.8**	**+0.3**
ISRO	**Mashad**	**2.62**	**353**	*e*Pn		**Pn**	**00 00 12.4**	**+0.7**
ISRO				*e*Sn		**Sn**	**00 00 43.0**	**-0.6**
ISRO				*e*			00 01 00.5	
	comp=Z,7μm,0.5s							
ISRO	**Mashad**	**2.62**	**353**	*e*Pn		**Pn**	**00 00 12.4**	**+0.7**
ISRO				*e*Sn		**Sn**	**00 00 43.0**	**-0.6**
IMYA	**Miami**	**2.65**	**5**	*e*Pn		**Pn**	**00 00 13.2**	**+1.1**
IMYA				*e*			00 00 54.9	
	comp=Z,10μm,0.3s							
IMYA	**Miami**	**2.65**	**5**	*e*Pn		**Pn**	**00 00 13.2**	**+1.1**
IPAY	**Payeh**	**2.83**	**346**	*e*Pn		**Pn**	**00 00 15.1**	**+0.4**
IPAY				*e*			00 00 59.0	
	comp=Z,3μm,0.3s							
IPAY	**Payeh**	**2.83**	**346**	*e*Pn		**Pn**	**00 00 15.1**	**+0.4**
IAKL	**Akhelmad**	**3.03**	**343**	*e*Pn		**Pn**	**00 00 18.1**	**+0.6**
IAKL				*e*			00 01 13.4	
	comp=Z,2μm,0.2s							
IAKL	**Akhelmad**	**3.03**	**343**	*e*Pn		**Pn**	**00 00 18.1**	**+0.6**
IKRD	**Kardeh**	**3.26**	**341**	*e*Pn		**Pn**	**00 00 18.8**	**-1.8**
IKRD				*e*			00 01 18.4	
	comp=Z,3μm,0.2s							
IKRD	**Kardeh**	**3.26**	**341**	*e*Pn		**Pn**	**00 00 18.8**	**-1.8**
ISFR	**Sfrayin**	**3.67**	**336**	*e*Pn		**Pn**	**00 00 26.8**	**+0.5**
ISFR				*e*			00 01 36.9	
	comp=Z,2μm,0.3s							
ISFR	**Sfrayin**	**3.67**	**336**	*e*Pn		**Pn**	**00 00 26.8**	**+0.5**
ISHV	**Shirvan**	**4.21**	**336**	*e*Pn		**Pn**	**00 00 34.1**	**+0.5**
ISHV				*e*			00 02 04.1	
	comp=Z,2μm,0.4s							
GEYT	**Alibeck**	**4.45**	**342**	Pn		**Pn**	**00 00 36.7**	**-0.1**
	comp=Z,3.4nm,0.3s,baz=178,slow=11,SNR=24							
GEYT				Sn		**Sn**	**00 01 29.6**	**+1.0**
	comp=Z,3.7nm,0.3s,baz=149,slow=12,SNR=3.9							
GEYT				Lg		Lg	00 01 53.1	
	comp=Z,1.7nm,0.3s,baz=142,slow=22,SNR=2.9							
AAK	**Ala-Archa**	**14.56**	**48**	Pn		Pn	00 02 51.4	-4.0
	comp=Z,0.6nm,0.3s,baz=236,slow=3.5,SNR=13							
AAK				Sn		Sn	00 05 29.3	-7.5
	comp=Z,0.1nm,0.3s,baz=127,slow=16,SNR=1.8							
BVAR	**Borovoye Array**	**20.74**	**18**	P		**P**	**00 04 09.4**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=202,slow=7.4,SNR=7.1							
MKAR	**Makanchi Array**	**21.46**	**46**	P		**P**	**00 04 17.6**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=243,slow=14,SNR=12							
KURBB	**Kurchatov Arra**	**21.76**	**33**	P		**P**	**00 04 20.8**	**0.0**
	comp=Z,0.6nm,0.7s,baz=231,slow=10.0,SNR=5.7							
BRTR	**Keskin Array B**	**21.81**	**294**	P		**P**	**00 04 22.3**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=99,slow=12,SNR=4.6							
GKN	**Gorkha**	**22.00**	**98**	*e*P		**P**	**00 04 24.7**	**+0.9**
	comp=Z,15nm,0.6s							
DMN	**Daman**	**22.54**	**99**	*e*P		**P**	**00 04 30.0**	**+0.4**
	comp=Z,13nm,0.6s							
KKN	**Kakani**	**22.61**	**98**	*e*P		**P**	**00 04 30.5**	**+0.1**

PKIN Phulchoki 22.79 99 *e*P **P 00 04 32.8 +0.5**
comp=Z,21nm,1.0s
PKI Pulchoki 22.80 99 *e*P **P 00 04 32.9 +0.4**
comp=Z,33nm,1.1s
GUN Gumba 23.06 97 *e*P **P 00 04 35.5 +0.2**
comp=Z,22nm,0.8s
JIRN Jiri 23.41 98 *e*P **P 00 04 39.0 +0.2**
comp=Z,18nm,0.8s
RAMN Ramite 24.01 99 *e*P **P 00 04 44.2 -0.3**
comp=Z,7.7nm,0.6s
ODAN Odare 24.70 99 *e*P **P 00 04 50.9 +0.1**
comp=Z,33nm,0.8s
TAPN Taplejung 24.78 97 *e*P **P 00 04 52.4 +0.8**
comp=Z,12nm,0.7s
ZALV Zalesovo Beam 26.86 34 P **P 00 05 10.7 +0.9**
comp=Z,0.3nm,0.4s,baz=228,slow=9.6,SNR=2.6
ZALV LR LR 00 17 13.8
comp=Z,48nm,18.5s,baz=248,slow=40
AKASG Malin Array Be 28.06 316 P **P 00 05 21.7 +1.1**
comp=Z,0.7nm,0.5s,baz=131,slow=7.8,SNR=3.9
FINES FINESS Array B 35.18 332 P **P 00 06 22.9 -0.2**
comp=Z,0.8nm,0.6s,baz=130,slow=11,SNR=7.7
CMAR Chiang Mai Arr 38.01 104 P **P 00 06 47.8 +0.1**
comp=Z,1.2nm,0.5s,baz=298,slow=8.2,SNR=7.8
NOA NORSAR Array B 41.36 326 P **P 00 07 14.3 -0.8**
comp=Z,0.5nm,0.6s,baz=109,slow=8.0,SNR=2.6
TORD Torodi Ar. Bea 56.40 263 P **P 00 09 10.3 -0.8**
comp=Z,1.1nm,0.8s,baz=47,slow=7.2,SNR=7.8
YKA Yellowknife Ar 84.04 357 P **P 00 11 57.8 -1.7**
comp=Z,0.4nm,0.8s,baz=357,slow=6.0,SNR=5.5

ISCJB ***16*** *00:00:43.2±1.0,29˚.50S±0˚.04×71˚.95W±0˚.10,h10km, mb3.9/1,Error ellipse: s-maj=12.1km s-min=5.0km az=6.2*
IDC ***16*** *00:00:44.2±3.5,29˚.69S×71˚.61W,h0km,mb3.9/1, mb1 3.9/2,mb1mx3.5/15,mbtmp3.8/2,ML3.7/1,Error ellipse: s-maj=123.5km s-min=74.5km az=87.0*
GUC ***16*** *00:00:44.5±0.5,29˚.48S×71˚.85W,h38km±2km,ML4.1*
ISC 16 00:00:46.9±1.4,**29˚.52S**±0˚.05×**71˚.7W**±0˚.1,**h10**km,**n10,**
σ1**82**/12,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LSCH	**La Serena**	**0.55**	**135**	*e*P		**Pg**	**00 00 58.0**	**+0.4**
LSCH				*e*S		**Sb**	**00 01 08.4**	**+1.8**
VACH	**Vallenar**	**1.25**	**41**	*e*P		Pn	00 01 08.2	-2.2
VACH				*e*S		**Sb**	**00 01 26.0**	**-0.8**
VACH				AML		AML	00 01 30.8	
	comp=N,4μm,0.7s							
CPCH	**Copiapo**	**2.46**	**29**	*e*S		**Sn**	**00 01 56.3**	**-0.9**
CPCH				AML		AML	00 02 08.4	
	comp=N,1μm,0.4s							
CDCH	**Caldera**	**2.56**	**18**	*e*P		Pn	00 01 25.7	-2.7
ROCH	**El Roble**	**3.49**	**170**	*e*P		**Pn**	**00 01 40.5**	**-1.0**
ROCH				AML		AML	00 02 43.8	
	comp=N,267nm,0.6s							
PEL	**Peldehue**	**3.72**	**167**	*e*P		**Pn**	**00 01 43.1**	**-1.3**
PEL				*e*S		**Sn**	**00 02 27.0**	**-1.3**
CLCH	**Cerro Calan**	**3.99**	**166**	*e*P		**Pn**	**00 01 46.7**	**-1.5**
CLCH				*e*S		**Sn**	**00 02 34.2**	**-0.9**
LPAZ	**La Paz**	**13.57**	**15**	Pn		**Pn**	**00 04 00.6**	**+0.5**
	comp=N,0.2nm,0.3s,baz=188,slow=6.9,SNR=4.9							
TORD	**Torodi Ar. Bea**	**82.42**	**70**	P		**P**	**00 13 08.7**	**-1.1**
	comp=N,1.0nm,0.9s,baz=243,slow=4.5,SNR=7.7							
ZALV	**Zalesovo Beam**	**150.22**	**28**	PKPbc		**PKPdf**	**00 20 36.6**	**+4.0**
	comp=N,1.3nm,0.6s,baz=306,slow=2.9,SNR=6.9							

ISCJB ***16*** *00:12:59.6±1.0,35˚.0N±0˚.2×36˚.2W±0˚.2,h10km,mb3.6/6, MS3.3/2,Error ellipse: s-maj=33.5km s-min=18.8km az=21.7*
IDC ***16*** *00:12:59.9±1.3,34˚.96N×36˚.20W,h0km,mb3.7/6, mb1 3.9/6,mb1mx3.6/28,mbtmp3.7/6,MS3.3/2,Ms1 3.3/2, ms1mx2.8/40,Error ellipse: s-maj=45.6km s-min=23.9km az=24.0*
ISC 16 00:13:01.5±1.1,**35˚.0N**±0˚.3×**36˚.2W**±0˚.2,**h10**km,**n13,**
σ1**68**/6,**mb3.6**/6,**Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ESDC	**Sonseca Array**	**25.97**	**70**	P		**P**	**00 18 35.7**	**+1.5**
	0.4nm,0.6s,baz=267,slow=11,SNR=3.9							
SCHQ	**Schefferville**	**29.05**	**323**	LR		LR	00 29 18.2	
	comp=Z,58nm,20.6s,baz=358,slow=34							
DBIC	**Dimbokro**	**40.31**	**127**	P		**P**	**00 20 39.1**	**0.0**
	8.0nm,1.0s,baz=286,slow=7.4,SNR=3.2							
DBIC				LR		LR	00 35 40.5	
	comp=Z,49nm,19.5s,baz=207,slow=34							
TORD	**Torodi Ar. Bea**	**40.51**	**113**	P		**P**	**00 20 39.8**	**-1.0**
	3.0nm,1.1s,baz=310,slow=8.5,SNR=9.1							
H10N2	**ASCENSION HYDR**	**47.26**	**150**	T		T	01 11 52.2	
	baz=335,slow=75,SNR=19							
H10N3	**ASCENSION HYDR**	**47.26**	**150**	T		T	01 11 53.5	
	baz=335,slow=75,SNR=13							
H10N1	**ASCENSION HYDR**	**47.28**	**150**	T		T	01 11 53.6	
	baz=335,slow=75,SNR=16							
H10S1	**ASCENSION HYDR**	**48.20**	**151**	T		T	01 13 07.1	
	baz=336,slow=75,SNR=18							
H10S3	**ASCENSION HYDR**	**48.21**	**151**	T		T	01 13 06.8	
	baz=336,slow=75,SNR=21							
H10S2	**ASCENSION HYDR**	**48.22**	**151**	T		T	01 13 07.0	
	baz=336,slow=75,SNR=22							
AKASG	**Malin Array Be**	**48.87**	**50**	P		**P**	**00 21 47.5**	**+0.3**
	0.3nm,0.4s,baz=278,slow=7.1,SNR=2.6							
YKA	**Yellowknife Ar**	**54.41**	**326**	P		**P**	**00 22 26.6**	**-1.8**
	0.4nm,0.9s,baz=79,slow=7.2,SNR=3.4							
TXAR	**Lajitas Array**	**56.44**	**285**	P		**P**	**00 22 45.1**	**+1.5**
	0.4nm,0.8s,baz=43,slow=5.4,SNR=2.7							

ISCJB ***16*** *00:25:37.8±0.5,31˚.70S±0˚.06×67˚.06W±0˚.06,h127km, mb3.6/4,Error ellipse: s-maj=9.9km s-min=5.1km az=144.7*
GUC ***16*** *00:25:37.1±0.5,31˚.30S×67˚.73W,h227km±33km,ML4.9*
IDC ***16*** *00:25:38.6±0.7,31˚.66S×67˚.09W,h125km±8km,mb3.5/4, Error ellipse: s-maj=20.9km s-min=15.0km az=153.0*
SJA ***16*** *00:25:40.0±0.3,31˚.72S×67˚.26W,h126km±3km,ML4.3*
ISC 16 00:25:38.8±0.7,**31˚.67S**±0˚.08×**67˚.10W**±0˚.07,**h127**km,**n26,**
σ0**72**/39,**mb3.7**/4,**3C-2D,San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ACAN	**Cantantal**	**0.60**	**187**	*e*P		**Pn**	**00 25 59.5**	**+1.2**
CFAA	**Coronel Fontan**	**0.97**	**274**	P		**Pn**	**00 26 01.5**	**+0.3**
	50nm,0.3s,baz=106,slow=4.6,SNR=8971							
CFAA				S		**Sn**	**00 26 18.1**	**-0.2**
	50nm,0.3s,baz=205,slow=21,SNR=12							
CFAA	**Coronel Fontan**	**0.97**	**274**	*e*P		**Pn**	**00 26 01.7**	**+0.4**
CFAA				*e*S		**Sn**	**00 26 18.1**	**-0.2**
RTLL	**Cerro Villicun**	**1.23**	**286**	*e*P		**Pn**	**00 26 04.3**	**+0.5**
RTCV	**Cerro Valdivia**	**1.25**	**261**	*e*P		**Pn**	**00 26 04.4**	**+0.5**
RTCV				*e*P		**Pn**	**00 26 04.4**	**+0.5**
SJA	**San Juan**	**1.25**	**276**	*e*P		**Pn**	**00 26 04.8**	**+0.7**
SJA				*e*S		**Sn**	**00 26 22.7**	**-0.5**
ASAL	**Salagasta**	**1.74**	**238**	*e*P		**Pn**	**00 26 10.1**	**+0.6**
ASAL				*e*S		**Sn**	**00 26 32.0**	**-0.9**
RTLS	**Leoncito**	**1.88**	**266**	*e*P		**Pn**	**00 26 12.2**	**+0.8**
ARCO	**CERRO ARCO**	**1.94**	**233**	*e*P		**Pn**	**00 26 12.6**	**+0.5**
ARCO				*e*S		**Sn**	**00 26 36.5**	**-1.0**
ARCO				AML		AML	00 26 38.8	
	comp=Z,2μm,0.3s							
AUSP	**Uspallata**	**2.02**	**254**	*e*P		**Pn**	**00 26 13.8**	**+0.6**
AAGR	**Agrelo**	**2.03**	**226**	*e*P		**Pn**	**00 26 13.7**	**+0.5**
PEL	**Peldehue**	**3.37**	**243**	↓*i*P		**Pn**	**00 26 30.0**	**-0.2**
PEL				*i* S		**Sn**	**00 27 09.9**	**0.0**
PEL				AML		AML	00 27 14.5	
	comp=N,939nm,0.3s							
CLCH	**Cerro Calan**	**3.38**	**238**	↑*i*P		**Pn**	**00 26 30.5**	**+0.2**
CLCH				*i* S		**Sn**	**00 27 10.7**	**+0.6**
SAN	**Santiago**	**3.50**	**239**	*i* S		**Sn**	**00 27 13.6**	**+0.8**
ROCH	**El Roble**	**3.56**	**248**	↑*i*P		**Pn**	**00 26 31.9**	**-0.9**
ROCH				*i* S		**Sn**	**00 27 13.6**	**-1.0**
ROCH				AML		AML	00 27 15.5	
	comp=E,1μm,0.2s							
RCDM	**Rinconada Maip**	**3.62**	**239**	↓*i*P		**Pn**	**00 26 33.5**	**+0.1**
RCDM				*e*S		**Sn**	**00 27 16.0**	**+0.3**
CHCH	**Chadas Angostu**	**3.75**	**232**	↑*i*P		**Pn**	**00 26 35.4**	**+0.3**
LNV	**Longovilo**	**4.29**	**237**	*e*P		**Pn**	**00 26 41.2**	**-1.1**
PLCA	**Paso Flores**	**9.46**	**196**	P		**Pn**	**00 27 52.0**	**+0.1**
	comp=E,0.5nm,0.3s,baz=22,slow=14,SNR=8.1							
LPAZ	**La Paz**	**15.35**	**356**	P		**Pn**	**00 29 09.8**	**+0.6**
	comp=E,0.3nm,0.3s,baz=174,slow=6.2,SNR=8.2							
SIV	**San Ignacio**	**16.55**	**21**	P		**Pn**	**00 29 23.4**	**-0.1**

	comp=E,0.5nm,0.3s,baz=218,slow=14,SNR=24							
BDFB	**Brasilia**	**23.61**	**52**	P		**P**	**00 30 36.6**	**-1.8**
	comp=E,0.8nm,0.4s,baz=207,slow=2.3,SNR=2.5							
BDFB				pP		**pP**	**00 31 02.8**	**-1.0**
	comp=E,3.2nm,0.7s,baz=224,slow=9.2,SNR=4.3							
SNAA	**Sanae**	**52.21**	**159**	P		**P**	**00 34 36.5**	**+0.3**
	baz=247,slow=7.7							
TXAR	**Lajitas Array**	**69.92**	**326**	P		**P**	**00 36 36.8**	**+0.5**
	comp=E,0.2nm,0.5s,baz=124,slow=8.0,SNR=3.5							
TXAR				pP		**pP**	**00 37 08.9**	**+1.4**
	comp=E,0.1nm,0.4s,baz=187,slow=7.1,SNR=2.3							
DBIC	**Dimbokro**	**70.48**	**69**	P		**P**	**00 36 39.7**	**-0.2**
	comp=E,3.9nm,1.1s,baz=162,slow=6.4,SNR=2.9							
TORD	**Torodi Ar. Bea**	**79.49**	**67**	P		**P**	**00 37 31.6**	**0.0**
	comp=E,1.1nm,0.6s,baz=281,slow=6.7,SNR=11							
TORD				pP		**pP**	**00 38 03.5**	**-0.1**
	comp=E,0.4nm,0.6s,baz=272,slow=4.7,SNR=2.2							

BJI ***16*** *00:33:01.1,0˚.16S×124˚.97E,h138km,mb5.9/82,mB5.8/49*
NEIC ***16*** *00:33:06.3±0.1,0˚.51N×124˚.66E,h123km,mb5.7/120, MW5.8,Error ellipse: s-maj=4.1km s-min=3.6km az=67.0, Moment Tensor Solution. s18 Moment tensor: Scale 10¹⁷Nm; Mrr-0.03; Mθθ0.15; Mφφ-0.12; Mrθ3.79; Mθφ-2.87; Mφr4.18; Best double couple: Mo6.30000×10¹⁷ NP1: φs244.00000°,δ8.00000°,λ114.00000°. NP2:φs40.00000°, δ83.00000°,λ87.00000°. Principal axes: T 4.3800, Plg51.0000°, Azm306.0000°; N 2.8800, Plg3.0000°, Azm40.0000°; P -7.2600, Plg37.0000°, Azm133.0000°;*
NEIC Felt [III] at Gorontalo, Luwuk and Manado.
GCMT ***16*** *00:33:06.3±0.1,0˚.48N×124˚.70E,h134km,MW5.8/127, Moment Tensor Solution. s126,c262; s127,c360; Duration: 1s9 Moment tensor: Scale 10¹⁷Nm; Mrr-1.10±.05; Mθθ2.41±.06; Mφφ-1.31±.06; Mrθ4.29±.04; Mθφ-2.89±.05; Mφr3.08±.04; Best double couple: Mo6.21100×10¹⁷ NP1:φs251.00000°,δ84.00000°, λ-125.00000°. NP2:φs153.00000°,δ36.00000°, λ-11.00000°. Principal axes: T 5.3860, Plg30.0000°, Azm9.0000°; N 1.6480, Plg35.0000°, Azm256.0000°; P -7.0350, Plg41.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
ISCJB ***16*** *00:33:08.3±0.2,0˚.45N±0˚.01×124˚.65E±0˚.01,h150km±1km, mb5.5/220 Error ellipse: s-maj=2.1km s-min=2.0km az=42.9*
MOS ***16*** *00:33:09.0±0.9,0˚.49N×124˚.54E,h157km,mb5.7/86, MS4.9/22,Error ellipse: s-maj=7.6km s-min=4.2km az=116.1*
KLM ***16*** *00:33:09.3,0˚.39N×124˚.71E,h142km,mb5.8,MS6.5*
DJA ***16*** *00:33:09.3±0.1,0˚.N±.1˚×12˚.5E±.˚,h127km±1km,M5.7/140, mb5.7/140,mB6.0/116,MLv6.3/30,Mw(mB)5.7/116, Mwp5.7/18*
IDC ***16*** *00:33:10.8±0.6,0˚.55N×124˚.38E,h151km±4km,mb5.3/34, mb1 5.3/36,mb1mx5.3/37,mbtmp5.7/36,MS4.6/11, Ms1 4.7/11,ms1mx4.1/34,Error ellipse: s-maj=8.4km s-min=5.6km az=73.0*
ISC 16 00:33:09.3±0.2,**0˚.49N**±0˚.02×**124˚.60E**±0˚.03,**h146**km±1km,
h146km:**pP-P,n1415,**σ1**54**/1717,**mb5.6**/219,**177C-194D,**
Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KMSI	**Cibinong**	**0.62**	**277**	P		**Pn**	**00 33 29.7**	**-1.2**
KMSI				S		**Sn**	**00 33 46.3**	**-1.0**
LUWI	**Luwuk**	**2.38**	**230**	P		**Pn**	**00 33 47.6**	**-1.2**
LUWI				S		**Sn**	**00 34 20.4**	**+1.2**
LUWI	**Luwuk**	**2.38**	**230**	P		**Pn**	**00 33 47.2**	**-1.6**
	baz=2.5,SNR=244							
LUWI				S		**Sn**	**00 34 19.2**	**-0.1**
	baz=2.5,SNR=5.8							
LUWI	**Luwuk**	**2.38**	**230**	*e*Pn		**Pn**	**00 33 47.0**	**-1.8**
LUWI				*e*Sn		**Sn**	**00 34 19.8**	**+0.6**
MRSI	**Marisa**	**2.66**	**270**	P		**Pn**	**00 33 51.2**	**-1.1**
MRSI				S		**Sn**	**00 34 26.2**	**+0.9**
TNTI	**Ternate**	**2.78**	**84**	P		**Pn**	**00 33 52.1**	**-1.7**
TNTI				S		**Sn**	**00 34 25.4**	**-2.6**
TNTI	**Ternate**	**2.78**	**84**	*e*Pn		**Pn**	**00 33 52.2**	**-1.5**
TNTI				*e*Sn		**Sn**	**00 34 25.8**	**-2.2**
SANI	**Sanana**	**2.88**	**151**	P		Pn	00 33 51.7	-3.4
SANI				S		Sn	00 34 23.1	-7.3
LBMI	**Labuha**	**3.11**	**111**	P		**Pn**	**00 33 56.2**	**-1.8**
LBMI				S		**Sn**	**

BSSI S Sn 00 36 26.3 0.0
3µm,0.8s,31µm11nm
BIPH Bislig 7.84 13⇑*i*P Pn 00 35 03.1 +2.5
BIPH *i*S Sn 00 36 31.0 +2.9
BKB Balikpapan 7.90 257 P Pn 00 35 03.3 +1.9
1µm,0.8s,12µm4.5nm
CGP Cagayan de Oro 7.91 1 *e*P Pn 00 35 02.8 +1.2
DCPH Dipolog City 8.13 351⇑*e*P Pn 00 35 08.1 +3.6
FAKI Fak Fak 8.36 114 P Pn 00 35 04.5 -3.2
1µm,0.8s,11µm
FAKI S Sn 00 36 39.4 -1.4
1µm,0.8s,11µm
FAKI Fak Fak 8.36 114 P Pn 00 35 04.8 -2.9
baz=8.3,SNR=143
FAKI Fak Fak 8.36 114 *e*Pn Pn 00 35 04.3 -3.4
FAKI *e*Sn Sn 00 36 35.4 -5.4
BUTP Butuan 8.48 7 *e*P Pn 00 35 10.0 +0.8
SNPH Sibulan 8.89 351 *e*P Pn 00 35 01.8 -13
SNPH *e*S Px 00 35 47.7
SDKM Sandakan 8.99 305 ⇑P Pn 00 35 18.2 +2.1
TBP Tagbilaran 9.17 355 *e*P Pn 00 35 21.9 +3.5
KBKI Kotabaru 9.23 246 P Pn 00 35 18.7 -0.6
268nm,1.2s,4µm11µm
SCPH Surigao 9.27 5 *e*P Pn 00 35 22.1 +2.4
MMRI Maumere 9.37 195 P Pn 00 35 19.2 -1.9
893nm,1.4s,11µm
MMRI Maumere 9.37 195 *e*Pn Pn 00 35 19.5 -1.6
EDFI Ende, Flores 9.63 197 P Pn 00 35 24.1 -0.6
410nm,0.8s,10µm
RKPI Ransiki, Papua 9.78 102 P Pn 00 35 26.5 -0.1
1µm,0.8s,20µm
MTKI Muara Teweh, K 9.81 262 P Pn 00 35 28.4 +1.4
256nm,0.9s
KKM Kota Kinabalu 10.02 304 P Pn 00 35 32.3 +2.5
baz=10,SNR=33
KKM Kota Kinabalu 10.02 304 ⇑P Pn 00 35 32.4 +2.5
KKM Kota Kinabalu 10.02 304 *e*Pn Pn 00 35 31.6 +1.8
KDM Kudat 10.04 310 ⇑P Pn 00 35 32.5 +2.6
SOEI Soe 10.19 182 P Pn 00 35 31.1 -1.0
1µm,1.1s,23µm23µm
SOEI Soe 10.19 182 P Pn 00 35 34.4 +2.3
baz=10,SNR=6.5
SOEI Soe 10.19 182 *e*Pn Pn 00 35 33.7 +1.6
BBKI Banjar Baru 10.52 248 P Pn 00 35 37.1 +0.8
279nm,1.2s,14µm
PLP Palo 10.61 2⇑*i*P Pn 00 35 39.3 +1.7
SAUI Saumlaki 10.75 142 P Pn 00 35 38.3 -1.1
2µm,1.0s,16µm
SAUI Saumlaki 10.75 142 *e*Pn Pn 00 35 37.0 -2.4
WSI Waingapu 10.97 203 P Pn 00 35 41.8 -0.5
1µm,1.1s,19µm
RCP Roxas 11.15 351⇓*e*P Pn 00 35 47.2 +2.6
BASI Baing, Sumba 11.37 201 P Pn 00 35 46.6 -1.0
1µm,1.4s,14µm
BTM Bintulu 11.82 283 ⇑P Pn 00 35 55.3 +1.8
SRPI Serui, Papua 11.87 101 P Pn 00 35 52.3 -1.9
411nm,0.9s,7µm
SBUM Sibu 12.53 279 ⇑P Pn 00 36 04.1 +1.4
SBUM Sibu 12.53 279 *e*Pn Pn 00 36 03.6 +0.9
SBUM *e*ScP ScP 00 44 50.3 +0.9
SRBI Singaraja 12.66 227 P Pn 00 36 05.9 +1.6
212nm,1.3s,5µm
KMMI Kalianget 12.99 235 P Pn 00 36 10.9 +2.3
890nm,0.7s,8µm
DNP Denpasar 13.06 226 P Pn 00 36 10.6 +1.1
2µm,0.7s
STKI Sintang 13.13 268 P Pn 00 36 11.4 +0.9
168nm,2.4s,22µm
IGBI Denpasar 13.20 225 P Pn 00 36 13.5 +2.1
514nm,0.8s,7µm
ABJI Asem Bagus 13.22 231 P Pn 00 36 12.1 +0.6
175nm,0.7s,5µm
PBKI Pangkalan Bun 13.31 256 P Pn 00 36 14.7 +1.9
294nm,1.1s
GQP Guinayangan 13.49 351⇑*e*P P 00 36 18.4 -0.7
BLJI Banyuglugur 13.69 233 P Pn 00 36 19.4 +1.8
415nm,0.6s,5µm
LUBP Lubang 13.84 342 *e*P P 00 36 21.6 -1.4
LQP Lukban 13.87 348⇓*e*P P 00 36 23.6 +0.1
TGY Tagaytay City 14.00 345 P P 00 36 25.0 +0.2
63nm,0.3s,baz=194,slow=2.9,SNR=81
TGY Tagaytay City 14.00 345 P P 00 36 25.0 +0.2
TGY pmax pmax
comp=Z,63nm,0.3s
GMJI Gumukmas 14.12 232 P P 00 36 25.6 -0.6
comp=Z,394nm,0.8s,comp=Z,6µm
GRJI Gresik 14.16 238 P P 00 36 25.3 -1.3
comp=Z,123nm,0.8s,comp=Z,1µm
SMPI Sarmi 14.32 100 P Pn 00 36 25.1 -0.5
comp=Z,723nm,1.9s,comp=Z,15µm
KSM Kuching 14.32 274 P P 00 36 27.5 -0.9
baz=14,SNR=5.9
KSM S S 00 39 16.0 +2.2
baz=14,SNR=6.1
KSM Kuching 14.32 274 ⇓P Pn 00 36 26.5 +0.9
KSM Kuching 14.32 274 *e*Pn Pn 00 36 25.5 -0.1
KSM *e*S S 00 39 15.7 +1.9
KSM *e*ScP ScP 00 44 53.5 +1.2
TBJI Tambak Boyo 14.65 240 P P 00 36 32.2 +0.1
comp=Z,247nm,1.6s,comp=Z,6µm
KDU Kakadu 15.25 149 P Pn 00 36 34.4 -2.7
baz=15,SNR=136
UWJI Ujung Watu 15.26 243 P Pn 00 36 38.1 +0.8
comp=Z,411nm,0.7s,comp=Z,10µm
PWJI Pagerwojo 15.31 236 P P 00 36 39.5 +0.2
comp=Z,430nm,0.7s,comp=Z,6µm
PCPH Palayan 15.37 347⇓*e*P P 00 36 40.1 +0.1
BALP Baler 15.44 349 *e*P P 00 36 40.9 +0.1
GENI Genyem 15.86 101 P Pn 00 36 44.5 -0.2
comp=Z,1µm,1.2s,comp=Z,13µm
SCZP Santa Cruz 15.87 343 *e*Pn Pn 00 36 44.4 -0.4
SCZP *e*S pP 00 37 15.8 +5.1
PCJI Pacitan 15.92 237 P P 00 36 48.0 +1.9
comp=Z,546nm,0.6s,comp=Z,8µm
WOJI Wonogiri, Jawa 15.95 238 P P 00 36 47.7 +1.2
SMRI Semarang 15.99 242 P P 00 36 47.6 +0.7
comp=Z,424nm,0.8s
SMRI Semarang 15.99 242 P P 00 36 48.5 +1.6
baz=16,SNR=5.7
SMRI Semarang 15.99 242 *e*Pn Pn 00 36 46.5 +0.2
comp=Z,272nm,0.7s
UGM Wanagama 16.33 239 P P 00 37 01.3 +11
UGM Wanagama 16.33 239 P P 00 36 52.5 +1.7
baz=16,SNR=19
UGM Wanagama 16.33 239 *e*Pn P 00 36 51.9 +1.2
comp=Z,759nm,1.4s
JAY Jayapura 16.38 101 P Pn 00 36 49.9 -1.1
comp=Z,172nm,1.0s,comp=Z,8µm
JAY Jayapura 16.38 101 P Pn 00 36 49.3 -1.8
comp=Z,6.4nm,0.3s,baz=296,slow=9.1,SNR=58
JAY Jayapura 16.38 101 P Pn 00 36 49.3 -1.8
JAY pmax pmax
comp=Z,6.0nm,0.3s
KNRA Kununurra 16.59 166 P P 00 36 52.7 -0.7
baz=17,SNR=814
TPI Tanjungpandan 17.25 259 P Pn 00 37 01.5 0.0
comp=Z,75nm,1.0s,comp=Z,2µm
CVP Callao Caves 17.32 351⇓*e*P Pn 00 37 03.4 +1.1
SZP Santa 17.43 347 *e*P Pn 00 37 03.8 +0.1
comp=Z,1µm,0.8s
JCJI Jatiwangi 17.71 247 P Pn 00 37 08.4 +1.3
comp=Z,397nm,1.3s,comp=Z,10µm
CMJI Cimerak 18.08 243 P Pn 00 37 12.2 +0.7
comp=Z,209nm,0.7s,comp=Z,5µm
LEM Lembang 18.44 246 P P 00 37 14.3 +0.3
comp=Z,259nm,0.7s,comp=Z,6µm
LEM Lembang 18.44 246 P P 00 37 13.9 -0.1
comp=Z,14nm,0.3s,baz=44,slow=7.4,SNR=18
LEM pP pP 00 37 38.0 -1.4
comp=Z,8.4nm,0.3s,baz=186,slow=21,SNR=4.0
LEM ScS ScS 00 48 45.0 +2.8
comp=Z,4.1nm,0.3s,baz=347,slow=22,SNR=3.8
LEM Lembang 18.44 246 P P 00 37 13.9 -0.1
LEM pmax pmax
comp=Z,14nm,0.3s
LEM pmax pmax
comp=Z,8.0nm,0.3s
LEM pmax pmax
comp=N,4.0nm,0.3s
LEM Lembang 18.44 246 P Pn 00 37 15.1 -0.8
baz=19,SNR=8.0
CISI Cisompet, Garu 18.55 244 P P 00 37 16.1 +1.0
comp=N,282nm,0.7s
CISI Cisompet, Garu 18.55 244 P P 00 37 16.1 +1.0
baz=19,SNR=9.1
CISI Cisompet, Garu 18.55 244 *e*P P 00 37 13.0 -2.1
comp=N,273nm,0.9s
CISI *e*ScP ScP 00 45 00.2 -0.5
PPBI Pangkal Pinang 18.65 262 P P 00 37 16.5 +0.4
comp=N,76nm,0.7s,comp=N,14µm
CBJI Citeko 19.00 249 P P 00 37 20.3 +0.4
comp=N,326nm,1.1s,comp=N,11µm
CNJI Cibinong 19.07 246 P P 00 37 22.0 +1.3
comp=N,259nm,1.5s,comp=N,6µm
TNG Tangerang 19.11 249 P Pn 00 37 23.3 -0.2
comp=N,481nm,0.5s
TNG Tangerang 19.11 249 P Pn 00 37 23.8 +0.3
comp=N,788nm,0.4s
SKJI Sukabumi 19.48 247 P Pn 00 37 27.7 -0.2
comp=N,241nm,0.6s,comp=N,8µm
SBJI Serang 19.57 250 P Pn 00 37 28.1 -0.9
comp=N,104nm,1.3s,comp=N,13µm
DLV T Lat 19.62 306 *e*P P 00 37 27.0 +0.1
DSRI Dabo 20.05 267 P Pn 00 37 34.0 -0.6
comp=N,12nm,0.9s,comp=N,1µm
TPRI Tanjung Pinang 20.08 271 P Pn 00 37 33.7 -1.2
comp=N,174nm,0.9s,comp=N,10µm
PMBI Palembang 20.11 260 P Pn 00 37 35.5 +0.2
comp=N,323nm,1.4s
PMBI Palembang 20.11 260 *e*P P 00 37 32.9 +0.9
comp=N,2µm,1.7s
CGJI Cibinong 20.15 249 P P 00 37 32.9 +0.6
comp=N,217nm,0.6s,comp=N,4µm
BLSI Bandar Lampung 20.19 253 P Pn 00 37 35.2 -1.0
comp=N,239nm,0.5s
KLI Kotabumi 20.43 255 P P 00 37 37.2 +1.9
comp=N,124nm,0.9s,comp=N,4µm
MYKOM Kota Tinggi 20.79 274 *e*P P 00 37 38.7 -0.5
comp=N,105nm,0.9s
BTDF Bukit Timah Da 20.84 273 P Pn 00 37 42.5 -1.5
baz=21,SNR=4.9
KASI Kota Agung 20.95 253 P Pn 00 37 43.6 -1.7
comp=N,209nm,0.6s
MDSI Maura Dua 21.00 256 P P 00 37 40.9 -0.5
comp=N,101nm,1.7s,comp=N,3µm
JMBI JAMBI 21.06 264 P P 00 37 44.8 +2.6
comp=N,388nm,0.5s,comp=N,10µm
LWLI Liwa 21.24 255 P P 00 37 47.2 +3.1
comp=N,164nm,0.8s
KGM Kluang 21.33 274 ⇓P P 00 37 45.6 +0.5
LHSI Lahat 21.50 258 P P 00 37 48.9 +2.1
comp=N,130nm,0.8s
XMI Christmas Isla 21.73 239 P P 00 37 50.1 +0.8
baz=22,SNR=4.1
KTGM Kuala Trenggan 21.96 283 ⇑P P 00 37 53.5 +1.8
MBWA Marble Bar 22.04 192 P P 00 37 51.6 -0.7
SNR=7.8
MBWA Marble Bar 22.04 192 *e*P P 00 37 51.1 -1.3
comp=N,287nm,0.8s
MBWA *e*PcP PcP 00 41 42.7 -2.1
MNAI Manna 22.16 257 P P 00 37 55.0 +1.3
baz=22,SNR=8.0
I07AU WARRAMUNGA INZ 22.43 155 P P 00 37 57.8 +1.5
baz=315,slow=14,SNR=0.3
WRAB Tennant Creek 22.44 155 P P 00 37 55.3 -1.0
comp=N,9µm,0.6s
WRAB Tennant Creek 22.44 155 *e*P P 00 37 54.7 -1.6
WRAB *e* 00 41 46.6
WRAB pmax pmax
comp=Z,1µm,0.9s
WRAB Tennant Creek 22.44 155 *e*P P 00 37 54.7 -1.6
comp=Z,1µm,0.9s
WRAB *e*PcP PcP 00 41 46.6 +0.9
WRA Warramunga Arr 22.44 155 P P 00 37 55.1 -1.3
comp=Z,306nm,0.6s,baz=334,slow=10,SNR=497
WRA S S 00 41 49.8 -2.3
comp=Z,102nm,1.1s,baz=331,slow=19,SNR=7.3
WRA ScS ScS 00 48 53.5 -1.9
comp=Z,3.5nm,0.8s,baz=260,slow=2.6,SNR=5.5
WRA P3KPbc 01 11 30.5
comp=Z,1.1nm,0.9s,baz=151,slow=4.1,SNR=6.0
WRA Warramunga Arr 22.44 155 P P 00 37 55.1 -1.3
WRA S S 00 41 49.8 -2.3
WRA 00 48 53.5
WRA pmax pmax
comp=Z,306nm,0.6s
WRA smax smax
comp=N,103nm,1.1s
WRA pmax pmax
comp=N,4.0nm,0.8s
TWG Pinlang 22.46 351 *e*P P 00 37 53.6 -2.8
comp=N,628nm,0.5s
TWG *e*PcP PcP 00 41 45.3 -0.3
MANU Manus Island 22.90 96 P P 00 38 04.0 +3.2
baz=23,SNR=3.2
YULB Yu-li 22.99 352 *e*P P 00 37 58.8 -2.7
comp=N,133nm,0.5s
TPUB Ta-pu 23.00 351 *e*P P 00 38 00.4 -1.1
comp=N,756nm,0.8s
FRIM Kepong 23.12 277 ⇑P P 00 38 03.9 +1.1
SDSI Sungai Dareh 23.21 267 P P 00 38 04.0 +0.4
comp=N,121nm,0.6s,comp=N,29µm
COEN Coen 23.34 129 P P 00 38 04.1 -0.7
baz=23,SNR=128
COEN S S 00 42 09.1 +2.5
baz=23,SNR=4.9
COEN Coen 23.34 129 *e*P P 00 38 03.9 -0.8
comp=N,142nm,1.4s
SSLB Suanglung 23.42 352 *e*P P 00 38 04.2 -1.3
comp=N,249nm,0.8s
SSLB *e*ScP ScP 00 45 14.5 +2.1
SSLB *e*ScS ScS 00 48 59.8 +0.7
QIZ Qiongzhong 23.43 323 P P 00 38 05.6 +0.1
QIZ sP sP 00 38 51.0 -1.0
QIZ S S 00 42 08.3 +0.3
QIZ sS sS 00 43 00.8 +1.2
QIZ PMZ
comp=N,2µm,12.1s
QIZ LN
comp=N,6µm,17.5s
QIZ LE
comp=N,2µm,11.9s
QIZ LZ
comp=N,5µm,20.4s
QIZ Qiongzhong 23.43 323 *e*P P 00 38 05.7 +0.1
comp=N,2µm,2.9s
BKNI Bangkinang 23.56 270 P P 00 38 08.4 +1.6
comp=N,147nm,1.1s,comp=N,4µm
BKNI Bangkinang 23.56 270 *e*P P 00 38 07.4 +0.6
comp=N,334nm,1.1s
NACB Ninganchiao 23.72 353 *e*P P 00 38 06.9 -1.2
comp=N,80nm,0.6s
YOJ Yonaguni jima 23.88 356 *e*P P 00 38 08.9 -0.6
YOJ pmax pmax
comp=Z,641nm,1.3s
YOJ Yonaguni jima 23.88 356 *e*P P 00 38 08.9 -0.6
comp=Z,641nm,1.3s
IPM Ipoh 23.88 280 ⇑P P 00 38 10.2 +0.5
IPM Ipoh 23.88 280 *e*P P 00 38 09.7 0.0
comp=Z,2µm,2.6s
IPM *e*ScP ScP 00 45 15.2 +1.4
GUMO Guam 23.92 56 P P 00 38 11.1 +1.1
comp=Z,95nm,0.6s,baz=160,slow=9.0,SNR=6.0
GUMO Guam 23.92 56 P P 00 38 11.1 +1.1
GUMO pmax pmax
comp=Z,95nm,0.6s
HKC Hong Kong Obse 23.94 336 *e*P P 00 38 12.0 +1.9
PDSI Padang 24.18 267 P P 00 38 11.7 -0.8
comp=Z,114nm,1.1s,comp=Z,3µm
YHNB Yeheng 24.23 353 *e*P P 00 38 11.8 -1.1
comp=Z,181nm,0.7s
PMG Port Moresby 24.52 114 *d i*P P 00 38 16.1 +0.6
PMG pmax pmax
comp=Z,3µm,0.9s
PMG Port Moresby 24.52 114 P P 00 38 16.1 +0.6
baz=24,SNR=76
TATO Taipei 24.52 353 *e*P P 00 38 14.0 -1.3
comp=Z,193nm,1.0s
SKLT Songkhla 24.82 286 P P 00 38 20.2 +2.0
comp=Z,118nm,1.0s,comp=Z,11µm
GZH Guangzhou 24.98 335 P P 00 38 23.6 +4.1
GZH ScP ScP 00 45 16.0 -0.6
GZH LN
comp=Z,4µm,12.5s
GZH LE
comp=Z,4µm,12.0s
MNSI Mandailing Nat 25.02 271 P P 00 38 21.5 +1.4
comp=Z,56nm,0.5s,comp=Z,5µm
GIRL Giralia 25.12 203 P P 00 38 21.5 +0.7
baz=25,SNR=19
QIS Mount Isa 25.56 146 P P 00 38 25.2 +0.3
baz=26,SNR=601
QIS S S 00 42 55.4 +13
baz=26,SNR=5.8
WRKA Warakurna 25.63 172 P P 00 38 25.4 0.0
baz=26,SNR=540
ASAR Alice Springs 25.66 160 P P 00 38 25.9 +0.1
comp=Z,100nm,0.5s,baz=342,slow=6.7,SNR=785
ASAR PcP PcP 00 41 53.9 +1.2
comp=Z,22nm,0.5s,baz=350,slow=2.4,SNR=6.2
ASAR S S 00 42 41.6 -1.9
comp=Z,7.7nm,0.8s,baz=359,slow=1.6,SNR=4.2
ASAR ScP ScP 00 45 19.6 +0.9
comp=Z,16nm,0.7s,baz=348,slow=2.9,SNR=11
ASAR ScS ScS 00 49 06.9 -1.4
comp=Z,0.9nm,0.8s,baz=221,slow=51,SNR=2.5
ASAR Alice Springs 25.66 160 P P 00 38 25.9 +0.1
ASAR 00 41 53.9
ASAR S S 00 42 41.6 -1.9
ASAR 00 49 06.9
ASAR pmax pmax
comp=Z,72nm,0.3s
ASAR pmax pmax
comp=Z,23nm,0.5s
ASAR smax smax
comp=N,8.0nm,0.8s
ASAR pmax pmax
comp=N,16nm,0.7s
ASAR pmax pmax
comp=N,1.0nm,0.8s
AS01 Alice Springs 25.68 160 *e*P P 00 38 25.1 -0.8
AS01 *e*PcP PcP 00 41 53.9 +1.2
AS01 *e*ScP ScP 00 45 19.6 +1.0
PSI Prapat 25.77 275 P P 00 38 26.9 -0.1
comp=N,45nm,0.8s,baz=90,slow=1.8,SNR=20
PSI pP pP 00 38 57.6 0.0
comp=N,100nm,1.0s,baz=83,slow=11,SNR=8.4
PSI S S 00 42 43.9 -1.7
comp=N,3.0nm,0.5s,baz=299,slow=22,SNR=1.3
PSI ScP ScP 00 45 19.4 +0.1
comp=N,15nm,0.9s,baz=183,slow=1.5,SNR=6.8
PSI Prapat 25.77 275 P P 00 38 26.9 -0.1
PSI *PP pP 00 38 57.6 0.0
PSI S S 00 42 43.9 -1.7
PSI pmax pmax
comp=Z,45nm,0.8s
PSI pmax pmax
comp=Z,100nm,1.0s
PSI smax smax
comp=N,3.0nm,0.5s
PSI pmax pmax
comp=N,15nm,1.0s
PSI Prapat 25.77 275 *e*P P 00 38 26.4 -0.6
comp=N,110nm,0.9s
PSI pP pP 00 38 57.6 0.0
PSI S S 00 42 43.9 -1.7
PSI *e*ScP ScP 00 45 19.4 +0.1
TRTT Trang 25.88 287 P P 00 38 29.1 +1.3
comp=N,85nm,1.2s,comp=N,5µm
SKNT Sakolnakorn 26.09 310 P P 00 38 30.7 +1.1
comp=N,123nm,1.9s,comp=N,7µm
TSI Tuntungan 26.19 277 P P 00 38 32.7 +2.1
comp=N,83nm,1.1s,comp=N,8µm
JOW Kunigami 26.42 7 *e*P P 00 38 33.8 +1.3
comp=N,962nm,1.6s
KHON Khomkaen 26.62 307 P P 00 38 35.8 +1.3
comp=N,67nm,0.7s
KCSI Kotacane, Aceh 26.98 277 P P 00 38 39.0 +1.3
comp=N,58nm,1.6s,comp=N,5µm
GSI Gunungsitoli 27.03 272 P P 00 38 39.0 +0.8
comp=N,86nm,0.9s
GSI Gunungsitoli 27.03 272 *e*P P 00 38 37.3 -0.9
comp=N,121nm,0.7s
SURT Suratani 27.04 289 P P 00 38 39.3 +1.1
comp=N,33nm,1.2s,comp=N,1µm
PKDT Phuket 27.19 286 P P 00 38 40.6 +1.0
comp=N,95nm,1.2s,comp=N,4µm
MEEK Meekatharra 27.59 192 P P 00 38 42.3 -0.6
baz=28,SNR=237
RABL Rabaul 27.93 100 P P 00 38 50.0 +3.8
baz=28,SNR=5.3
LHMI Lhok Sumawe 28.01 280 P P 00 38 48.2 +1.3
comp=N,128nm,1.0s,comp=N,4µm
LHMI Lhok Sumawe 28.01 280 *e*P P 00 38 46.4 -0.4
comp=N,160nm,1.0s
JAM Amami Oshima 28.17 9 P P 00 38 49.2 +1.1
PBKT Sadao Pong 28.24 306 P P 00 38 50.1 +1.3
comp=N,53nm,1.1s,comp=N,4µm
SNSI Sinabang, Aceh 28.33 274 P P 00 38 52.2 +2.5
comp=N,6µm,0.8s,comp=N,340µm
SRDT SRDT 28.72 300 P P 00 38 54.6 +1.5
comp=N,191nm,1.2s,comp=N,5µm
UTHA Uthaitani 29.00 302 P P 00 38 56.4 +0.8
comp=N,56nm,0.6s,comp=N,480nm
UTTA Uttaradit 29.21 307 P P 00 38 58.7 +1.3
comp=N,21nm,1.0s,comp=N,183nm
KHLT Khaolaem Dam 29.38 300 P P 00 39 01.0 +2.0
comp=N,38nm,2.1s,comp=N,1µm
CTA Charters Tower 29.47 135 P P 00 39 00.6 +0.9
comp=N,41nm,0.5s,baz=318,slow=12,SNR=48
CTA pP pP 00 39 35.3 +4.5
comp=N,37nm,0.9s,baz=318,slow=13,SNR=2.4
CTA Charters Tower 29.47 135 P P 00 39 00.6 +0.9
CTA *PP pP 00 39 35.3 +4.5
CTA pmax pmax
comp=Z,41nm,0.5s
CTA pmax pmax
comp=Z,37nm,0.9s
CTAO Charters Tower 29.47 135 *e*P P 00 38 59.4 -0.3
CTAO pmax pmax
comp=Z,55nm,0.6s
CTAO Charters Tower 29.47 135 *e*P P 00 38 59.4 -0.3
comp=Z,55nm,0.6s
BSI Banda Aceh 29.67 280 P P 00 39 02.4 +0.7
comp=Z,78nm,1.3s
LAMP Lampang 30.36 308 P P 00 39 09.4 +1.7
comp=Z,21nm,1.0s,comp=Z,244nm
SSE Sheshan 30.61 354 ⇑P P 00 39 11.0 +1.4
SSE pP pP 00 39 40.3 -0.4
SSE PP PP 00 40 22.8 +1.1
SSE S S 00 44 02.5 +1.5
SSE sS sS 00 44 57.0 +1.4
SSE PMZ
comp=Z,51nm,0.7s
SSE PMZ
comp=Z,520nm,6.5s
SSE LN
comp=Z,650nm,22.1s
SSE LE
comp=Z,1µm,21.0s
SSE LZ
comp=Z,860nm,20.8s
CRAI Chiangrai 30.77 311 P P 00 39 08.1 -3.1
comp=Z,32nm,0.7s,comp=Z,3µm
CM01 Chiang Mai Arr 30.84 307 *e*P P 00 39 13.0 +1.1
CM01 *e*ScP ScP 00 45 36.6 +1.8
CMAR Chiang Mai Arr 30.88 307 P P 00 39 13.1 +0.9
comp=Z,31nm,1.0s,baz=132,slow=7.4,SNR=128
CMAR pP pP 00 39 45.8 +2.5
comp=Z,34nm,0.9s,baz=132,slow=7.8,SNR=6.8
CMAR PcP PcP 00 42 07.7 +2.1
comp=Z,6.9nm,0.8s,baz=160,slow=2.3,SNR=5.1
CMAR ScP ScP 00 45 36.9 +1.9
comp=Z,13nm,0.8s,baz=163,slow=2.7,SNR=17
CMAR ScS ScS 00 49 34.5 +2.3
comp=Z,0.8nm,0.3s,baz=23,slow=44,SNR=1.5
CMAR LR LR 00 51 33.2
comp=Z,2µm,21.6s,baz=128,slow=36
CMAR Chiang Mai Arr 30.88 307 P P 00 39 13.1 +0.9
CMAR *PP pP 00 39 45.8 +2.5
CMAR 00 42 07.7
CMAR 00 49 34.5
CMAR pmax pmax
comp=Z,31nm,1.0s
CMAR pmax pmax
comp=Z,34nm,0.9s
CMAR pmax pmax
comp=Z,7.0nm,0.8s
CMAR pmax pmax
comp=N,13nm,0.8s
CMAR pmax pmax
comp=N,1.0nm,0.3s
CMAR MLR MLR
comp=Z,2µm,21.6s
GYA Guiyang 31.06 328⇑*i*P P 00 39 14.5 +0.7
GYA pP pP 00 39 46.0 +1.0
GYA sP sP 00 40 03.4 +1.6
GYA PP PnPn 00 40 24.3 +2.6
GYA PcP PcP 00 42 07.5 +1.4
GYA S S 00 44 05.9 -2.6

GYA					sS	**sS**	**00 45 04.0**	**+0.8**
GYA					ScP	**ScP**	**00 45 35.5**	**0.0**
GYA					ScS	**ScS**	**00 49 33.4**	**+0.3**
GYA					PMZ			
	comp=Z,120nm,1.0s							
GYA					PMZ			
	comp=Z,1µm,10.9s							
GYA					LN			
	comp=Z,3µm,15.9s							
GYA					LE			
	comp=Z,3µm,16.9s							
GYA					LZ			
	comp=Z,3µm,17.2s							
CMMT	**Chiang Mai**	**31.07**	**307**		P	**P**	**00 39 14.9**	**+1.1**
	comp=Z,164nm,1.2s,comp=Z,2µm							
CHTO	**Chiang Mai**	**31.07**	**307**		P	**P**	**00 39 15.0**	**+1.1**
	comp=Z,562nm,1.2s,comp=Z,8µm							
CHTO	**Chiang Mai**	**31.07**	**307**	*e*	P	**P**	**00 39 14.7**	**+0.8**
CHTO					pmax	pmax		
	comp=Z,118nm,0.9s							
CHTO	**Chiang Mai**	**31.07**	**307**		P	**P**	**00 39 15.8**	**+1.9**
	SNR=56							
CHTO	**Chiang Mai**	**31.07**	**307**	*e*	P	**P**	**00 39 14.7**	**+0.8**
	comp=Z,118nm,0.9s							
CHTO				*e*	ScP	**ScP**	**00 45 37.2**	**+1.7**
FORT	**Forrest**	**31.27**	**174**		P	**P**	**00 39 15.4**	**-0.1**
	baz=32,SNR=714							
FORT	**Forrest**	**31.27**	**174**	*e*	P	**P**	**00 39 15.1**	**-0.4**
	comp=Z,1µm,0.6s							
JSU	**Suzuyama**	**31.34**	**10**		P	**P**	**00 39 16.4**	**+0.3**
CBIJ	**Chichi jima**	**31.39**	**31**	*e*	P	**P**	**00 39 16.0**	**-0.5**
	comp=Z,1µm,1.3s							
CBIJ					S	**S**	**00 44 08.2**	**-5.1**
JCJ	**Chichijima**	**31.39**	**31**		S	**S**	**00 44 08.2**	**-5.2**
	comp=Z,80nm,1.0s,baz=343,slow=21,SNR=1.9							
WHN	**Wuhan**	**31.43**	**343**	⇑*i*	P	**P**	**00 39 18.0**	**+1.2**
WHN					LN			
	comp=Z,1µm,5.0s							
WHN					LE			
	comp=Z,3µm,11.7s							
WHN					LZ			
	comp=Z,4µm,24.8s							
MHMT	**Maesarieng**	**31.55**	**305**		P	**P**	**00 39 19.4**	**+1.3**
	comp=Z,62nm,1.3s,comp=Z,1µm							
CMAI	**Chiengmai2**	**31.61**	**309**		P	**P**	**00 39 19.7**	**+0.9**
	comp=Z,80nm,1.2s,comp=Z,1µm							
KMBL	**Kambalda**	**31.79**	**184**		P	**P**	**00 39 19.8**	**-0.2**
	baz=32,SNR=79							
KMBL					S	**S**	**00 44 17.9**	**-1.6**
	baz=32,SNR=6.9							
BLDU	**Ballidu**	**31.84**	**193**		P	**P**	**00 39 19.8**	**-0.6**
	baz=32,SNR=11							
JFU	**Fukue jima 2**	**32.23**	**7**		P	**P**	**00 39 24.5**	**+0.7**
KMI	**Kunming**	**32.34**	**321**	⇑	P	**P**	**00 39 27.1**	**+1.9**
KMI					pP	**pP**	**00 39 57.0**	**+0.6**
KMI					sP	**sP**	**00 40 12.3**	**-0.9**
KMI					PP	**PnPn**	**00 40 36.6**	**-1.3**
KMI					S	**S**	**00 44 29.3**	**+0.6**
KMI					sS	**sS**	**00 45 22.8**	**-0.7**
KMI					PMZ			
	comp=Z,77nm,1.5s							
KMI					PMZ			
	comp=Z,690nm,3.1s							
KMI					LN			
	comp=Z,2µm,15.9s							
KMI					LE			
	comp=Z,2µm,18.3s							
KMI					LZ			
	comp=Z,2µm,20.7s							
KLBR	**Kellerberrin**	**32.56**	**191**		P	**P**	**00 39 26.2**	**-0.5**
	baz=33,SNR=59							
KSJJU	**Jeju**	**32.81**	**3**		P	**P**	**00 39 30.4**	**+1.4**
	SNR=6.8							
KSJJU	**Jeju**	**32.81**	**3**		P	**P**	**00 39 30.4**	**+1.4**
	SNR=6.8							
QLP	**Quilpie**	**32.90**	**146**		P	**P**	**00 39 29.5**	**-0.3**
	baz=33,SNR=98							
ENH	**Enshi**	**32.92**	**335**	*e*	P	**P**	**00 39 30.1**	**+0.2**
	comp=Z,116nm,1.0s							
ENH				*e*	ScP	**ScP**	**00 45 42.5**	**+0.8**
ENH				*e*	ScS	**ScS**	**00 49 41.8**	**-0.4**
JNU	**Nakatsue**	**32.99**	**10**		P	**P**	**00 39 30.7**	**+0.2**
JNU	**Nakatsue**	**32.99**	**10**		S	**S**	**00 44 38.0**	**-0.1**
	comp=Z,14nm,1.0s,baz=58,slow=22,SNR=3.7							
JNU					ScP	**ScP**	**00 45 43.1**	**+1.3**
	comp=Z,9.7nm,0.8s,baz=259,slow=2.5,SNR=3.9							
JNU					PKPPKP	**P'P'df**	**01 13 01.2**	**+3.2**
	comp=Z,6.9nm,0.9s,baz=221,slow=3.9,SNR=4.1							
JNU	**Nakatsue**	**32.99**	**10**	*e*	P	**P**	**00 39 31.0**	**+0.5**
	comp=Z,522nm,0.9s							
JNU				*e*	S	**S**	**00 44 37.9**	**-0.2**
JNU					ScP	**ScP**	**00 45 43.1**	**+1.3**
JNU					P'P'		01 13 01.2	
KSWAN	**Wando**	**33.78**	**3**		P	**P**	**00 39 37.7**	**+0.5**
	SNR=9.7							
KSWAN	**Wando**	**33.78**	**3**		P	**P**	**00 39 37.7**	**+0.5**
	SNR=9.7							
DGPR	**DIGLIPUR**	**33.81**	**293**	*e*	P	**P**	**00 39 37.3**	**-0.6**
DGPR					AMB	AMB	00 40 08.1	
	comp=Z,57nm,2.6s							
KSJDO	**Jindo**	**33.84**	**3**	⇓	P	**P**	**00 39 38.0**	**+0.1**
	SNR=9.3							
KSJDO	**Jindo**	**33.84**	**3**	⇓	P	**P**	**00 39 38.0**	**+0.1**
	SNR=9.3							
NWAO	**Narrogin (SRO)**	**33.96**	**191**	*e*	P	**P**	**00 39 38.6**	**-0.3**
NWAO					pmax	pmax		
	comp=Z,59nm,0.6s							
NWAO	**Narrogin (SRO)**	**33.96**	**191**		P	**P**	**00 39 38.8**	**-0.1**
	baz=34,SNR=57							
NWAO	**Narrogin (SRO)**	**33.96**	**191**	*e*	P	**P**	**00 39 38.6**	**-0.3**
	comp=Z,59nm,0.6s							
KSHUK	**Heuksando**	**34.02**	**1**	⇓	P	**P**	**00 39 39.5**	**+0.2**
	SNR=17							
KSHUK	**Heuksando**	**34.02**	**1**	⇓	P	**P**	**00 39 39.5**	**+0.2**
	SNR=17							
KSKOH	**Goheung**	**34.03**	**4**		P	**P**	**00 39 40.2**	**+0.7**
	SNR=36							
KSKOH	**Goheung**	**34.03**	**4**		P	**P**	**00 39 40.2**	**+0.7**
	SNR=36							
JTU	**Tsushima**	**34.15**	**7**		P	**P**	**00 39 41.3**	**+0.8**
JMN	**Monobe**	**34.19**	**14**		P	**P**	**00 39 42.2**	**+1.3**
KSNAH	**Namhae**	**34.29**	**5**		P	**P**	**00 39 42.9**	**+1.3**
	SNR=28							
KSNAH	**Namhae**	**34.29**	**5**		P	**P**	**00 39 42.9**	**+1.3**
	SNR=28							
JWZ	**Kozaga**	**34.48**	**17**		P	**P**	**00 39 44.3**	**+0.9**
KSKWJ	**Gwangju**	**34.56**	**3**		P	**P**	**00 39 44.7**	**+0.7**
	SNR=17							
KSKWJ	**Gwangju**	**34.56**	**3**		P	**P**	**00 39 44.9**	**+0.9**
	SNR=13							
KSGWJ	**Gwangju-acc**	**34.57**	**3**		P	**P**	**00 39 44.6**	**+0.5**
	SNR=5.8							
KSGWJ	**Gwangju-acc**	**34.57**	**3**		P	**P**	**00 39 44.6**	**+0.5**
	SNR=5.8							
KSJIN	**Jinju**	**34.64**	**5**		P	**P**	**00 39 45.8**	**+1.2**
	SNR=11							
KSJIN	**Jinju**	**34.64**	**5**		P	**P**	**00 39 45.8**	**+1.2**
	SNR=11							
KSBUS	**Busan**	**34.83**	**6**	⇓	P	**P**	**00 39 47.4**	**+1.1**
	SNR=10							
KSBUS	**Busan**	**34.83**	**6**	⇓	P	**P**	**00 39 47.4**	**+1.1**
	SNR=10							
BBOO	**Buckleboo**	**34.85**	**163**		P	**P**	**00 39 46.6**	**+0.1**
	baz=35,SNR=595							
BBOO					S	**S**	**00 45 07.2**	**+0.5**
	baz=35,SNR=4.8							
BBOO	**Buckleboo**	**34.85**	**163**	*e*	P	**P**	**00 39 46.4**	**-0.1**
	comp=Z,24nm,0.9s							
KSJEU	**Jeongeup**	**34.89**	**3**		P	**P**	**00 39 47.3**	**+0.5**
	SNR=8.9							
JHS	**Saijyo**	**35.24**	**12**		P	**P**	**00 39 51.0**	**+1.2**
KSDAG	**Daegu**	**35.32**	**6**		P	**P**	**00 39 51.5**	**+1.0**
	SNR=17							
KSJEO	**Jeonju**	**35.35**	**4**		P	**P**	**00 39 50.8**	**0.0**
	SNR=10							
JAD	**Aida**	**35.41**	**14**		P	**P**	**00 39 52.1**	**+0.8**
KSGUS	**GUNSAN**	**35.42**	**3**		P	**P**	**00 39 51.5**	**+0.1**
	SNR=7.1							
JHJ2	**Mitsune**	**35.46**	**22**	*e*	P	**P**	**00 39 50.6**	**-1.2**
	comp=Z,260nm,0.5s							
RMQ	**Roma**	**35.52**	**141**		P	**P**	**00 39 52.4**	**0.0**
	baz=36,SNR=17							
KSYOC	**YEONGCHEON**	**35.53**	**6**		P	**P**	**00 39 53.5**	**+1.3**
	SNR=12							
JIE	**Ise**	**35.58**	**17**		P	**P**	**00 39 53.7**	**+1.0**
RKGY	**Rocky Gully**	**35.64**	**191**		P	**P**	**00 39 54.4**	**+1.1**
	baz=36,SNR=68							
KSCPR	**CHUPUNGNYEONG**	**35.68**	**5**		P	**P**	**00 39 54.4**	**+0.8**
	SNR=33							
KSTEJ	**Daejeon**	**35.79**	**4**		P	**P**	**00 39 57.1**	**+2.6**
	SNR=6.5							
KSPHA	**Pohang**	**35.79**	**7**		P	**P**	**00 39 55.8**	**+1.3**
	SNR=12							
TJN	**Taejon**	**35.80**	**4**	*e*	P	**P**	**00 39 55.2**	**+0.7**
KSKOJ	**Gongju**	**35.87**	**4**		P	**P**	**00 39 57.1**	**+1.8**
	SNR=6.3							
KSEUS	**ULSEONG**	**35.88**	**6**		P	**P**	**00 39 56.5**	**+1.2**
	SNR=23							
KSSAJ	**Sangju**	**35.88**	**5**		P	**P**	**00 39 56.4**	**+1.1**
	SNR=20							
KSBON	**Boeun**	**35.95**	**4**		P	**P**	**00 39 57.4**	**+1.5**
	SNR=21							
STKA	**Stephens Creek**	**35.99**	**155**		P	**P**	**00 39 56.6**	**+0.3**
	comp=Z,208nm,0.7s,baz=323,slow=8.5,SNR=483							
STKA					PP	**PP**	**00 41 18.8**	**-2.4**
	comp=Z,27nm,0.7s,baz=338,slow=12,SNR=3.0							
STKA					S	**S**	**00 45 23.5**	**-0.8**
	comp=Z,14nm,0.9s,baz=205,slow=19,SNR=2.6							
STKA	**Stephens Creek**	**35.99**	**155**		P	**P**	**00 39 56.6**	**+0.3**
STKA							00 41 18.8	
STKA					S	**S**	**00 45 23.5**	**-0.8**
STKA					pmax	pmax		
	comp=Z,208nm,0.7s							
STKA					pmax	pmax		
	comp=Z,27nm,0.7s							
STKA					smax	smax		
	comp=N,14nm,0.9s							
STKA	**Stephens Creek**	**35.99**	**155**		P	**P**	**00 39 56.8**	**+0.5**
	baz=36,SNR=209							
STKA	**Stephens Creek**	**35.99**	**155**	*e*	P	**P**	**00 39 56.6**	**+0.3**
	comp=N,44nm,0.8s							
STKA					PP	**PP**	**00 41 18.8**	**-2.4**
STKA					S	**S**	**00 45 23.5**	**-0.8**
JWT	**Wachi**	**36.05**	**15**		P	**P**	**00 39 57.9**	**+1.2**
KSCEJ	**CHEONGJU**	**36.06**	**4**		P	**P**	**00 39 58.5**	**+1.7**
	SNR=6.9							
KSSES	**Seosan**	**36.16**	**3**		P	**P**	**00 39 58.2**	**+0.6**
	SNR=11							
TIA	**Tai'an**	**36.21**	**350**	⇑	P	**P**	**00 39 57.8**	**-0.3**
TIA					pP	**pP**	**00 40 26.6**	**-3.2**
TIA					sP	**sP**	**00 40 42.3**	**-4.2**
TIA					PP	**PnPn**	**00 41 30.3**	**+5.4**
TIA					S	S	00 45 33.8	+6.3
TIA					sS	**sS**	**00 46 22.8**	**-0.1**
TIA					SS	**SnSn**	**00 48 11.3**	**+0.1**
TIA					PMZ			
	comp=N,90nm,0.9s							
TIA					PMZ			
	comp=N,730nm,3.6s							
TIA					LN			
	comp=N,920nm,23.9s							
TIA					LE			
	comp=N,1µm,11.3s							
TIA					LZ			
	comp=N,2µm,22.4s							
KSCEA	**Cheonan**	**36.23**	**4**		P	**P**	**00 39 59.0**	**+0.7**
	SNR=15							
EIDS	**Eidsvold**	**36.29**	**137**		P	**P**	**00 39 58.6**	**-0.3**
	baz=36,SNR=23							
EIDS	**Eidsvold**	**36.29**	**137**	*e*	P	**P**	**00 39 58.0**	**-0.9**
	comp=N,106nm,1.3s							
KSULJ	**Uljin**	**36.30**	**7**		P	**P**	**00 40 00.4**	**+1.5**
	SNR=14							
KSCHJ	**Chungju**	**36.33**	**5**		P	**P**	**00 40 00.4**	**+1.2**
	SNR=15							
HTT	**Hallett**	**36.34**	**160**		P	**P**	**00 39 59.8**	**+0.5**
	baz=37,SNR=198							
XAN	**Xi'an**	**36.46**	**338**		P	**P**	**00 40 00.0**	**-0.4**
XAN					pP	**pP**	**00 40 30.3**	**-1.8**
XAN					sP	sP	00 40 43.3	-5.5
XAN					PP	**PP**	**00 41 25.6**	**-0.8**
XAN					S	**S**	**00 45 27.3**	**-4.2**
XAN					ScS	**ScS**	**00 50 01.3**	**+0.2**
XAN					PMZ			
	comp=N,100nm,1.0s							
XAN					LN			
	comp=N,1µm,16.4s							
XAN					LE			
	comp=N,890nm,16.4s							
XAN					LZ			
	comp=N,790nm,24.5s							
HNR	**Honiara**	**36.55**	**107**	*e*	P	**P**	**00 40 01.1**	**-0.2**
HNR					pmax	pmax		
	comp=Z,3.0nm,0.6s							
HNR	**Honiara**	**36.55**	**107**	*e*	P	**P**	**00 40 01.1**	**-0.2**
	comp=Z,3.1nm,0.6s							
KSSWO	**Suwon**	**36.66**	**3**		P	**P**	**00 40 03.5**	**+1.6**
	SNR=21							
KSTBA	**Taebaek**	**36.67**	**6**		P	**P**	**00 40 03.5**	**+1.4**
	SNR=70							
KSYOW	**Yeongwol**	**36.67**	**5**		P	**P**	**00 40 03.5**	**+1.5**
	SNR=21							
KSICN	**Icheon**	**36.71**	**4**		P	**P**	**00 40 03.9**	**+1.7**
	SNR=14							
INCN	**Inchon**	**36.85**	**3**		P	**P**	**00 40 04.7**	**+1.2**
	SNR=8.2							
INCN	**Inchon**	**36.85**	**3**	*e*	P	**P**	**00 40 03.2**	**-0.4**
	comp=Z,40nm,0.9s							
KSWJU	**Wonju**	**36.87**	**5**		P	**P**	**00 40 05.2**	**+1.5**
	SNR=13							
KSSEO	**Seoul**	**36.87**	**3**		P	**P**	**00 40 05.5**	**+1.8**
	SNR=9.3							
KSAR	**Wonju Array Be**	**36.89**	**4**		P	**P**	**00 40 05.0**	**+1.1**
KSAR							00 42 24.0	
KSAR	**Wonju Array Be**	**36.89**	**4**		P	**P**	**00 40 05.0**	**+1.1**
KSAR					PcP	**PcP**	**00 42 24.0**	**+1.7**
KSAR					ScP	**ScP**	**00 45 57.1**	**+1.4**
JGF	**Kuroka**	**36.89**	**17**		P	**P**	**00 40 04.2**	**+0.2**
KSRS	**Korea Array**	**36.91**	**4**		P	**P**	**00 40 05.0**	**+1.0**
	comp=Z,94nm,0.9s,baz=174,slow=10,SNR=112							
KSRS					PcP	**PcP**	**00 42 24.0**	**+1.6**
	comp=Z,7.6nm,0.8s,baz=181,slow=5.3,SNR=5.4							
KSRS					ScP	**ScP**	**00 45 57.1**	**+1.3**
	comp=Z,3.7nm,0.8s,baz=253,slow=39,SNR=26							
KSRS					LR	LR	00 56 54.7	
	comp=Z,775nm,19.7s,baz=200,slow=39							
KSRS	**Korea Array**	**36.91**	**4**		P	**P**	**00 40 05.0**	**+1.0**
KSRS							00 42 24.0	
KSRS					pmax	pmax		
	comp=Z,94nm,0.9s							
KSRS					pmax	pmax		
	comp=Z,8.0nm,0.8s							
KSRS					pmax	pmax		
	comp=N,4.0nm,0.8s							
KSRS					MLR	MLR		
	comp=Z,775nm,19.7s							
KS01	**Wonju Array Si**	**36.92**	**4**	*e*	P	**P**	**00 40 04.9**	**+0.8**
KS01				*e*	PcP	**PcP**	**00 42 23.4**	**+0.9**
KS01				*e*	ScP	**ScP**	**00 45 57.0**	**+1.1**
KSJES	**JEONGSEON**	**36.95**	**5**		P	**P**	**00 40 05.9**	**+1.6**
	SNR=25							
KSGAH	**Ganghwa**	**37.07**	**2**		P	**P**	**00 40 06.3**	**+0.9**
	SNR=8.4							
KSDGY	**Daegwallycong**	**37.20**	**5**		P	**P**	**00 40 08.4**	**+1.9**
	SNR=48							
KSCHC	**Chuncheon**	**37.22**	**4**		P	**P**	**00 40 08.3**	**+1.7**
	SNR=35							
KSULL	**Ulleungdo**	**37.25**	**8**		P	**P**	**00 40 08.9**	**+2.0**
	SNR=9.9							
KSMUS	**Musan**	**37.26**	**3**		P	**P**	**00 40 08.3**	**+1.4**
	SNR=28							
KSDDC	**Dongducheon**	**37.29**	**3**		P	**P**	**00 40 09.1**	**+1.9**
	SNR=13							
KSBAR	**Backryungdo**	**37.30**	**0**		P	**P**	**00 40 08.5**	**+1.3**
	SNR=45							
KSJMJ	**Jumunjin**	**37.40**	**5**		P	**P**	**00 40 10.0**	**+1.9**
	SNR=86							
YNCB	**YEONCHEON**	**37.42**	**3**		P	**P**	**00 40 10.0**	**+1.7**
	SNR=41							
KSIJA	**INJE**	**37.45**	**5**		P	**P**	**00 40 10.6**	**+2.1**
	SNR=25							
KSCWO	**Cheorwon**	**37.50**	**4**		P	**P**	**00 40 10.7**	**+1.7**
	SNR=46							
CMSA	**Cobar Meteorol**	**37.61**	**150**		P	**P**	**00 40 11.0**	**+1.0**
	baz=38,SNR=603							
SEHB	**SEOHWA**	**37.74**	**5**		P	**P**	**00 40 13.0**	**+2.0**
	SNR=19							
JRY	**Ryogami san**	**37.76**	**19**		P	**P**	**00 40 10.9**	**-0.3**
KSSKC	**Sokcho**	**37.78**	**5**		P	**P**	**00 40 13.5**	**+2.2**
	SNR=56							
MAJO	**Matsushiro**	**38.02**	**18**	*c*	*i*P	**P**	**00 40 13.2**	**-0.2**
MAJO					pmax	pmax		
	comp=Z,2µm,0.9s							
MAJO	**Matsushiro**	**38.02**	**18**	*e*	P	**P**	**00 40 13.2**	**-0.2**
	comp=Z,328nm,0.8s							
MAJO				*e*	S	**S**	**00 45 55.5**	**+0.5**
MAT	**Matsushiro**	**38.02**	**18**		P	**P**	**00 40 13.3**	**-0.2**
MAT					S	**S**	**00 45 54.6**	**-0.4**
MAT	**Matsushiro**	**38.02**	**18**		P	**P**	**00 40 13.2**	**-0.2**
MJAR	**Matsushiro Arr**	**38.02**	**18**		P	**P**	**00 40 13.2**	**-0.2**
	comp=Z,276nm,0.8s,baz=194,slow=9.3,SNR=882							
MJAR					PP	**PP**	**00 41 44.7**	**+1.3**
	comp=Z,17nm,0.9s,baz=192,slow=9.6,SNR=2.2							
MJAR					S	**S**	**00 45 52.1**	**-2.8**
	comp=Z,1.1nm,0.7s,baz=70,slow=3.3,SNR=4.9							
MJAR					ScP	**ScP**	**00 46 00.3**	**+0.2**
	comp=Z,5.2nm,1.0s,baz=342,slow=24,SNR=6.4							
MJAR					LR	LR	00 55 39.7	
	comp=Z,533nm,20.1s,baz=225,slow=36							
MJAR	**Matsushiro Arr**	**38.02**	**18**		P	**P**	**00 40 13.2**	**-0.2**
MJAR							00 41 44.7	
MJAR					S	**S**	**00 45 52.2**	**-2.8**
MJAR					pmax	pmax		
	comp=Z,276nm,0.8s							
MJAR					pmax	pmax		
	comp=Z,17nm,0.9s							
MJAR					smax	smax		
	comp=N,1.0nm,0.7s							
MJAR					pmax	pmax		
	comp=N,5.0nm,1.0s							
MJAR					MLR	MLR		
	comp=Z,533nm,20.2s							
IMP	**Imphal**	**38.24**	**311**	*ex*		**pP**	**00 40 48.0**	**+0.5**
IMP				*ex*		**ScP**	**00 46 01.5**	**+0.2**
DL2	**Dalian**	**38.32**	**356**		P	**P**	**00 40 15.3**	**-0.6**
DL2					sP	**sP**	**00 40 59.8**	**-4.6**
DL2					PcP	**PcP**	**00 42 27.8**	**+1.0**
DL2					S	**S**	**00 45 59.1**	**-0.2**
DL2					PMZ			
	comp=Z,210nm,0.7s							
DL2					PMZ			
	comp=Z,420nm,7.5s							
DL2					LN			
	comp=Z,830nm,15.7s							
DL2					LE			
	comp=Z,1µm,19.6s							
DL2					LZ			
	comp=Z,740nm,16.1s							
TIY	**Taiyuan**	**38.70**	**344**	*e*	P	**P**	**00 40 19.1**	**0.0**
TIY					pP	**pP**	**00 40 50.3**	**-0.8**
TIY					PP	**PP**	**00 41 51.4**	**+0.5**
TIY					PMZ			
	comp=Z,320nm,0.7s							
TIY					LN			
	comp=Z,1µm,12.4s							
TIY					LE			
	comp=Z,520nm,10.0s							
TIY					LZ			
	comp=Z,1µm,17.9s							
JSD	**Sado**	**39.42**	**17**		P	**P**	**00 40 25.0**	**0.0**
JMM	**Marumori**	**40.07**	**20**		P	**P**	**00 40 31.2**	**+0.8**
ARMA	**Armidale**	**40.08**	**142**		P	**P**	**00 40 31.9**	**+1.2**
	baz=40,SNR=224							
ARMA	**Armidale**	**40.08**	**142**	*e*	P	**P**	**00 40 31.8**	**+1.1**
	comp=Z,198nm,0.6s							
BJT	**Baijiatuau**	**40.08**	**350**	*e*	P	**P**	**00 40 30.0**	**-0.4**
BJT					pmax	pmax		
	comp=Z,204nm,0.7s							
BJT	**Baijiatuau**	**40.08**	**350**	*e*	P	**P**	**00 40 30.0**	**-0.4**
	comp=Z,204nm,0.7s							
BJT				*e*	ScP	**ScP**	**00 46 09.3**	**+1.3**
BJI	**Beijing**	**40.10**	**350**		P	**P**	**00 40 30.3**	**-0.3**
BJI					sP	**sP**	**00 41 18.3**	**-1.1**
BJI					S	**S**	**00 46 22.6**	**-3.3**
BJI					SS	**SS**	**00 49 33.8**	**+4.1**
BJI					PMZ			
	comp=Z,120nm,0.7s							
BJI					PMZ			
	comp=Z,880nm,3.5s							
BJI					LN			
	comp=Z,910nm,19.5s							
BJI					LE			
	comp=Z,1µm,18.0s							
BJI					LZ			
	comp=Z,2µm,23.9s							
SHL	**Shillong**	**40.22**	**311**	*i*	P	**P**	**00 40 30.0**	**-2.1**
SHL					AMB	AMB	00 40 35.5	
	comp=Z,89nm,1.2s							
SHL				*ex*		x	00 47 20.0	
LZH	**Lanzhou**	**40.32**	**334**	⇑	P	**P**	**00 40 33.8**	**+1.1**
LZH					pP	**pP**	**00 41 04.8**	**-0.1**
LZH					sP	**sP**	**00 41 22.0**	**+0.5**
LZH					ScP	**ScP**	**00 46 11.0**	**+1.8**
LZH					S	**S**	**00 46 30.3**	**+0.6**
LZH					sS	**sS**	**00 47 26.1**	**+0.3**
LZH					PMZ			
	comp=Z,510nm,1.0s							
LZH					PMZ			
	comp=Z,1µm,4.0s							
LZH					LN			
	comp=Z,2µm,15.1s							
LZH					LE			
	comp=Z,2µm,14.6s							
LZH					LZ			
	comp=Z,3µm,18.1s							
JYA	**Atsumi**	**40.37**	**18**		P	**P**	**00 40 34.3**	**+1.4**
ARPS	**Mount Arapiles**	**40.38**	**158**		P	**P**	**00 40 33.8**	**+0.8**
	baz=41,SNR=206							
YNG	**Young**	**41.18**	**150**		P	**P**	**00 40 41.1**	**+1.5**
	baz=41,SNR=29							
YNG					S	**S**	**00 46 46.0**	**+3.9**
	baz=41,SNR=4.3							
JOM	**Ohasama**	**41.69**	**20**		P	**P**	**00 40 44.7**	**+1.1**
MGCD	**Mangrove Creek**	**41.80**	**146**		P	**P**	**00 40 46.8**	**+2.1**
	baz=42,SNR=83							
HHC	**Hu-ho-hao-te**	**41.88**	**345**	*e*	P	**P**	**00 40 45.3**	**0.0**
HHC					sP	sP	00 41 28.4	-5.8
HHC					PP	**PP**	**00 42 25.6**	**+0.4**
HHC					S	**S**	**00 46 48.8**	**-3.6**
HHC					SS	**SS**	**00 50 00.6**	**-4.3**
HHC					PMZ			
	comp=Z,23nm,0.7s							
HHC					PMZ			
	comp=Z,330nm,7.4s							
CNB	**Canberra Magne**	**42.47**	**150**		P	**P**	**00 40 51.5**	**+1.4**
	baz=43,SNR=85							
TOO	**Toolangi**	**42.52**	**155**		P	**P**	**00 40 52.2**	**+1.8**
	baz=43,SNR=136							
JTM	**Tenmabayashi**	**42.80**	**18**		P	**P**	**00 40 53.9**	**+1.3**
VLA	**Vladivostok**	**42.94**	**8**	⇑	*i*P	**P**	**00 40 55.1**	**+1.5**
VLA				*e*			00 42 35.8	
VLA				*e*	S	**S**	**00 47 11.7**	**+4.1**
VLA					pmax	pmax		
	comp=Z,132nm,0.6s							
LSA	**Lhasa**	**43.10**	**315**		P	**P**	**00 40 57.3**	**+1.5**
LSA					LN			
	comp=Z,1µm,29.4s							
LSA					LE			
	comp=Z,2µm,29.5s							
LSA

comp=Z,407nm,21.3s,baz=166,slow=36
VIS Vishakhapatnam 44.03 295 *i* P **P 00 41 03.1 +0.3**
VIS AMB AMB 00 41 07.5
comp=Z,63nm,1.1s
VIS *i* x x 00 41 34.8
BOK Bokaro 44.10 305 *e*P **P 00 41 03.7 +0.4**
BOK AMB AMB 00 41 07.5
comp=Z,60nm,0.0s
MDJ Mudanjiang 44.16 5 P **P 00 41 04.4 +1.0**
MDJ pP **pP 00 41 35.3 -0.8**
MDJ sP **sP 00 41 51.4 -1.1**
MDJ S **S 00 47 27.5 +2.1**
MDJ sS **sS 00 48 19.9 -2.3**
MDJ ScS **ScS 00 50 47.5 +0.9**
MDJ PMZ
comp=Z,470nm,0.9s
MDJ PMZ
comp=Z,620nm,3.8s
MDJ LN
comp=Z,550nm,14.7s
MDJ LE
comp=Z,930nm,17.0s
MDJ LZ
comp=Z,880nm,15.4s
MDJ Mudanjiang 44.16 5 *e*P **P 00 41 04.3 +1.0**
comp=Z,379nm,0.8s
MDJ *e*ScP **ScP 00 46 23.2 -0.9**
JSH Shimam 44.20 16 P **P 00 41 05.2 +1.5**
PALK Pallekele 44.28 280 *e*P **P 00 41 04.0 -1.0**
PALK pmax pmax
comp=Z,105nm,1.8s
PALK Pallekele 44.28 280 *e*P **P 00 41 04.0 -1.0**
comp=Z,105nm,1.8s
ODAN Odare 44.33 309 *e*P **P 00 41 05.7 +0.3**
comp=Z,149nm,0.7s
ODAN Odare 44.33 309 *e*P **ScP 00 46 27.2 +1.6**
comp=Z,126nm,0.8s
TAPN Taplejung 44.33 310 *e*P **P 00 41 05.9 +0.4**
comp=Z,133nm,0.5s
TAPN Taplejung 44.33 310 *e*P **ScP 00 46 27.3 +1.6**
comp=Z,223nm,1.3s
ERM Erimo 44.59 20 P **P 00 41 08.3 +1.4**
comp=Z,741nm,0.9s,SNR=24
ERM Erimo 44.59 20 *d i*P **P 00 41 08.5 +1.6**
ERM pmax pmax
comp=Z,125nm,0.9s
ERM Erimo 44.59 20 *e*P **P 00 41 07.7 +0.8**
comp=Z,116nm,0.9s
JEM Erimo 44.59 20 P **P 00 41 08.5 +1.6**
GTA Gaotai 44.87 333 ⇑P **P 00 41 09.6 +0.3**
GTA pP **pP 00 41 40.8 -1.3**
GTA sP **sP 00 41 57.1 -1.4**
GTA PcP **PcP 00 42 49.1 +0.6**
GTA PP **PP 00 42 58.0 +0.8**
GTA PcS **PcS 00 46 41.8 -0.6**
GTA S **S 00 47 36.8 +0.7**
GTA sS **sS 00 48 32.4 -0.7**
GTA ScS **ScS 00 50 50.3 -1.4**
GTA SS **SS 00 50 54.4 -6.5**
GTA PMZ
comp=Z,430nm,0.9s
GTA PMZ
comp=Z,830nm,4.3s
GTA LN
comp=Z,2μm,19.0s
GTA LE
comp=Z,2μm,17.6s
GTA LZ
comp=Z,2μm,19.5s
RAMN Ramite 44.99 309 *e*P **P 00 41 11.3 +0.7**
comp=Z,146nm,0.6s
RAMN Ramite 44.99 309 *e*P **ScP 00 46 29.8 +1.4**
comp=Z,90nm,0.7s
H11S3 WAKE ISLAND Hy 45.01 64 T T 01 28 57.6
baz=252,slow=75,SNR=80
H11S2 WAKE ISLAND Hy 45.03 64 T T 01 28 58.8
baz=252,slow=75,SNR=36
H11S1 WAKE ISLAND Hy 45.03 64 T T 01 28 58.2
baz=252,slow=75,SNR=6.1
H11N1 WAKE ISLAND Hy 45.59 63 T T 01 29 38.4
baz=245,slow=75,SNR=4.2
H11N2 WAKE ISLAND Hy 45.60 63 T T 01 29 38.6
baz=245
H11N3 WAKE ISLAND Hy 45.61 63 T T 01 29 39.6
baz=245,slow=75,SNR=5.2
JIRN Jiri 45.66 310 *e*P **P 00 41 16.3 +0.3**
comp=Z,122nm,0.4s
JIRN Jiri 45.66 310 *e*P **ScP 00 46 33.0 +1.7**
comp=Z,63nm,0.8s
GUN Gumba 46.02 310 *e*P **P 00 41 19.1 +0.3**
comp=Z,250nm,0.6s
GUN Gumba 46.02 310 *e*P **ScP 00 46 34.4 +1.7**
comp=Z,96nm,0.9s
PKI Pulchoki 46.22 309 *e*P **P 00 41 20.1 -0.3**
comp=Z,67nm,0.5s
PKI Pulchoki 46.22 309 *e*P **ScP 00 46 35.0 +1.4**
comp=Z,155nm,0.9s
PKIN Phulchoki 46.23 309 *e*P **P 00 41 20.2 -0.2**
comp=Z,59nm,0.4s
PKIN Phulchoki 46.23 309 *e*P **ScP 00 46 34.9 +1.4**
comp=Z,89nm,0.8s
ASAJ Asahikawa 46.30 18 P **P 00 41 21.7 +1.5**
ASAJ Asahikawa 46.30 18 P **P 00 41 21.8 +1.5**
comp=Z,77nm,0.4s,baz=227,slow=9.2,SNR=126
ASAJ S **S 00 47 57.2 +1.0**
comp=Z,17nm,1.1s,baz=93,slow=24,SNR=3.1
ASAJ Asahikawa 46.30 18 P **P 00 41 21.8 +1.5**
ASAJ S **S 00 47 57.2 +1.0**
ASAJ pmax pmax
comp=Z,77nm,0.4s
ASAJ smax smax
comp=N,17nm,1.1s
ASAJ Asahikawa 46.30 18 *e*P **P 00 41 21.4 +1.1**
comp=N,295nm,1.1s
ASAJ S **S 00 47 57.2 +1.0**
SKHT Srikalahasti 46.34 289 *e*P **P 00 41 20.8 -0.3**
SKHT *e*pP **pP 00 41 52.5 -1.6**
SKHT *e*S **S 00 48 01.2 +3.7**
KKN Kakani 46.42 309 *e*P **P 00 41 21.7 -0.2**
comp=N,80nm,0.5s
KKN Kakani 46.42 309 *e*P **ScP 00 46 36.0 +1.7**
comp=N,144nm,0.8s
JMP Maruseppu 46.44 19 P **P 00 41 22.9 +1.5**
DMN Daman 46.47 309 *e*P **P 00 41 22.3 0.0**
comp=N,259nm,1.0s
DZM Mont Dzumac 46.54 122 *e*P **P 00 41 23.7 +1.0**
comp=N,185nm,1.3s
GKN Gorkha 47.02 309 *e*P **P 00 41 26.3 -0.2**
comp=N,240nm,1.0s
JWK2 Keihoku 47.18 17 P **P 00 41 28.8 +1.7**
YUK Yuzh-Kuril'sk 47.31 21 *c i*P **P 00 41 29.1 +1.0**
YUK *i* 00 43 19.9
YUK *i* S **S 00 48 11.7 +1.2**
YUK pmax pmax
comp=N,103nm,1.0s
YUK pmax pmax
comp=E,132nm,1.0s
YUK pmax pmax
comp=Z,407nm,1.0s
YUK pmax pmax
comp=Z,491nm,2.0s
MOO Moorlands 47.34 157 P **P 00 41 29.8 +1.3**
baz=48,SNR=18
NJS Nagarjunasagar 47.38 292 *e*P **P 00 41 28.2 -1.0**
NJS *e*pP pP 00 41 57.0 -5.3
NJS *e*ScP **ScP 00 46 39.5 +1.3**
NJS *e*S **S 00 48 15.7 +3.3**
KOLN Koldanda 47.72 308 *e*P **P 00 41 32.1 +0.2**
comp=Z,449nm,0.7s
TAU Tasmania Unive 47.79 157 P **P 00 41 33.2 +1.3**
comp=Z,303nm,0.7s,SNR=6.5
TAU Tasmania Unive 47.79 157 *e*P **P 00 41 32.9 +1.0**
TAU pmax pmax
comp=Z,48nm,0.8s
TAU Tasmania Unive 47.79 157 *e*P **P 00 41 32.9 +1.0**
comp=Z,48nm,0.8s
RPR Rampur 48.03 295 *e*P **P 00 41 33.6 -0.5**
RPR *e*pP **pP 00 42 05.5 -1.8**
RPR *e*ScP **ScP 00 46 42.2 +1.2**
RPR *e*S **S 00 48 20.5 -1.1**
TRD Trivandrum 48.11 281 *e*P **P 00 41 35.2 +0.3**
HYB Hyderabad 48.30 293 *i* P **P 00 41 34.5 -1.8**
comp=Z,115nm,1.0s
HYB Hyderabad 48.30 293 *e*P **P 00 41 35.6 -0.7**
HYBB Hyderabad (bro 48.31 293 *e*P **P 00 41 35.5 -0.9**
HYBB *e*S **S 00 48 26.7 +1.2**

HABR Khabarovsk 48.64 9 *c e*P **P 00 41 39.0 +0.7**
HABR *e*SP 00 42 18.4
HABR *e* 00 43 00.1
HABR *e* 00 43 31.0
HABR *e*S **S 00 48 32.7 +3.6**
HABR *e* 00 51 16.4
HABR *e*SS **SS 00 52 03.3 +1.9**
HABR pmax pmax
comp=N,94nm,1.0s
HABR pmax pmax
comp=E,51nm,0.7s
HABR pmax pmax
comp=Z,316nm,1.0s
HABR pmax pmax
comp=Z,724nm,1.0s
HABR MLR MLR
comp=Z,344nm,18.0s
HIA Hailar 48.77 356 *e*P **P 00 41 39.2 -0.1**
HIA *e* 00 43 03.0
HIA pmax pmax
comp=Z,131nm,0.7s
HIA Hailar 48.77 356 *e*P **P 00 41 39.1 -0.1**
comp=Z,131nm,0.7s
HIA *e*PcP **PcP 00 43 03.0 +1.0**
HIA *e*ScP **ScP 00 46 44.4 +1.0**
URV Uravakonda 48.92 289 *e*P **P 00 41 39.5 -1.6**
URV *e*pP **pP 00 42 12.0 -2.3**
URV *e*S **S 00 48 33.9 -0.3**
YSS Yuzh-Sakhalins 48.92 16 *i* P **P 00 41 41.0 +0.6**
YSS *e*PP **PP 00 43 34.0 -1.3**
YSS *e*S **S 00 48 34.0 +0.9**
YSS *e*SCS **ScS 00 51 17.0 -0.6**
YSS pmax pmax
comp=Z,220nm,1.0s
YSS Yuzh-Sakhalins 48.92 16 *e*P **P 00 41 41.1 +0.7**
comp=Z,304nm,1.2s
KLR Kul'dur 48.94 6 ⇓ *i*P P 00 41 37.2 -3.4
KLR *e*S S 00 48 22.5 -11
KLR pmax pmax
comp=E,100nm,1.8s
KLR pmax pmax
comp=Z,600nm,1.8s
KLR MLR MLR
comp=E,600nm,12.0s
KLR MLR MLR
comp=Z,2μm,12.0s
NGP Nagpur 48.95 298 *e*P **P 00 41 40.5 -0.7**
NGP AMB AMB 00 41 44.0
comp=Z,72nm,0.3s
NGP *ex* x 00 48 44.6
ULN Ulaanbaatar 49.58 345 *c i*P **P 00 41 45.5 -0.2**
ULN pmax pmax
comp=Z,160nm,1.0s
ULN Ulaanbaatar 49.58 345 P **P 00 41 45.6 -0.1**
SNR=101
ULN Ulaanbaatar 49.58 345 *e*P **P 00 41 45.5 -0.2**
comp=Z,149nm,1.0s
ULN *e*ScP **ScP 00 46 48.0 +0.9**
SONM Songino Array 49.73 344 P **P 00 41 46.5 -0.3**
comp=Z,142nm,1.0s,baz=159,slow=8.7,SNR=124
SONM ScP **ScP 00 46 48.2 +0.4**
comp=Z,7.2nm,0.8s,baz=157,slow=4.9,SNR=5.0
SONM LR LR 01 04 23.5
comp=Z,1μm,20.8s,baz=140,slow=38
SONM Songino Array 49.73 344 P **P 00 41 46.5 -0.3**
SONM pmax pmax
comp=Z,140nm,1.0s
SONM pmax pmax
comp=N,7.0nm,0.8s
SONM MLR MLR
comp=Z,1μm,20.8s
SONA1 Songino Array 49.74 344 *e*P **P 00 41 46.9 0.0**
SONA1 *e*ScP **ScP 00 46 48.5 +0.7**
AKL Akola 50.62 297 *e*P **P 00 41 52.4 -1.4**
AKL AMB AMB 00 41 57.1
comp=Z,121nm,2.6s
BHPL Bhopal 51.05 300 *e*P **P 00 41 56.3 -0.8**
BHPL AMB AMB 00 42 00.3
comp=Z,162nm,0.8s
LGTI Lohaghat 51.11 308 *e*P **P 00 41 57.5 +0.2**
CIT Chita 52.18 351 *e*P **P 00 42 05.6 +0.7**
CIT *e* 00 42 44.1
CIT *e* 00 42 58.6
CIT pmax pmax
comp=Z,228nm,1.3s
GOA Goa 52.27 289 *e*P **P 00 42 05.0 -1.1**
POO Poona 52.92 293 *e*P **P 00 42 09.4 -1.6**
ZAK Zakamensk 52.92 343 ⇑ *i*P **P 00 42 10.2 -0.3**
ZAK pmax pmax
comp=Z,35nm,1.1s
DDI Dehra Dun 53.20 308 *e*P **P 00 42 12.3 -0.5**
DDI AMB AMB 00 42 16.4
comp=Z,231nm,2.4s
NDI New Delhi 53.20 306 *e*P **P 00 42 11.0 -1.8**
NDI *ex* x 00 49 29.0
TLY Talaya 53.98 344 P **P 00 42 18.8 +0.7**
comp=Z,761nm,0.9s,SNR=33
TLY Talaya 53.98 344 P **P 00 42 18.5 +0.5**
comp=Z,81nm,0.8s,baz=212,slow=4.2,SNR=41
TLY ScS ScS 00 51 52.4 -0.3
comp=Z,0.7nm,0.4s,baz=263,slow=18,SNR=1.1
TLY Talaya 53.98 344 *e*P **P 00 42 18.6 +0.5**
TLY *e* 00 44 19.7
TLY *e* 00 45 32.0
TLY *e*S S 00 49 30.8 -12
TLY pmax pmax
comp=Z,142nm,1.0s
TLY MLR MLR
comp=Z,827nm,19.0s
TLY Talaya 53.98 344 P **P 00 42 18.8 +0.7**
SNR=55
TLY Talaya 53.98 344 *e*P **P 00 42 18.4 +0.5**
comp=Z,111nm,0.9s
TLY ScS ScS 00 51 52.4 -0.3
WMQ Urumqi 54.22 328 P **P 00 42 20.3 +0.3**
WMQ pP **pP 00 42 49.8 -4.1**
WMQ sP sP 00 43 04.0 -6.1
WMQ PcP **PcP 00 43 22.5 -0.1**
WMQ PP **PP 00 44 24.1 +0.7**
WMQ ScP **ScP 00 47 08.1 +0.9**
WMQ PcS **PcS 00 47 20.8 -1.3**
WMQ S **S 00 49 46.3 +0.2**
WMQ ScS **ScS 00 51 55.1 +0.3**
WMQ PMZ
comp=Z,230nm,1.2s
WMQ PMZ
comp=Z,820nm,4.2s
WMQ LN
comp=Z,2μm,16.4s
WMQ LE
comp=Z,1μm,15.6s
WMQ LZ
comp=Z,1μm,19.8s
SMLA Simla 54.23 309 *i* P **P 00 42 20.4 +0.1**
SMLA AMB AMB 00 42 24.3
comp=Z,2μm,0.3s
SMLA *i* x x 00 49 42.9
IRK Irkutsk 54.32 345 *e*P **P 00 42 20.3 -0.2**
IRK pmax pmax
comp=Z,182nm,1.9s
SDNR Sundarnagar 54.54 309 *e*P **P 00 42 23.0 +0.4**
MOY Mondy 54.73 342 *e*P **P 00 42 24.0 +0.3**
MOY pmax pmax
comp=Z,220nm,2.0s
BHK Bhakra 54.94 309 *e*P **P 00 42 26.1 +0.7**
DHRM DHARAMSHALA 55.38 310 *e*P **P 00 42 28.0 -0.8**
DHRM AMB AMB 00 42 30.7
comp=Z,412nm,0.8s
PONG Pong 55.52 309 *ex* **PcP 00 43 30.5 +2.8**
MSVF Nonsavu 55.60 112 *e*P **P 00 42 29.1 -1.3**
MSVF pmax pmax
comp=Z,116nm,1.4s
MSVF Nonsavu 55.60 112 *e*P **P 00 42 29.1 -1.3**
comp=Z,116nm,1.4s
CLNS Chul'man 56.17 0 *e*P **P 00 42 34.0 +0.3**
CLNS *e* 00 43 31.3
CLNS *e*S **S 00 50 11.0 -0.5**
CLNS *e*SS **SS 00 54 04.3 +3.9**
CLNS *e*SSS SSS 00 56 11.8
CLNS pmax pmax
comp=N,260nm,0.9s
CLNS pmax pmax
comp=Z,351nm,0.9s
CLNS pmax pmax
comp=E,137nm,1.2s

CLNS pmax pmax
comp=Z,14nm,1.0s
CLNS pmax pmax
comp=N,26nm,1.0s
CLNS pmax pmax
comp=E,10.0nm,0.8s
CLNS smax smax
comp=E,204nm,14.0s
CLNS smax smax
comp=N,257nm,13.5s
SKR Severo-Kuril's 56.71 23 *e*P **P 00 42 35.0 -2.5**
SKR *e* 00 43 30.0
SKR *e* 00 44 49.0
SKR *e*S **S 00 50 18.0 -0.7**
SKR *e*PS **pPKiKP 00 50 37.0 -1.5**
SKR *e* 00 52 06.0
SKR *e*SS **SS 00 54 04.0 -4.9**
SKR *e*SSS SSS 00 56 35.0
SKR pmax pmax
comp=E,40nm,0.5s
SKR pmax pmax
comp=Z,50nm,0.5s
SKR pmax pmax
comp=E,1μm,4.0s
SKR pmax pmax
comp=Z,1μm,4.0s
SKR smax smax
comp=Z,2μm,10.0s
SKR MLR MLR
comp=Z,1μm,20.0s
BOD Bodaibo 57.77 353 ⇓ *i*P **P 00 42 45.3 +0.4**
BOD pmax pmax
comp=Z,287nm,1.2s
OUZ Omahuta 57.84 133 *e*P **P 00 42 45.0 -0.8**
comp=Z,34nm,0.8s
KSH Kashi 58.89 317 P **P 00 42 53.9 +0.7**
KSH pP **pP 00 43 27.0 -0.7**
KSH sP **sP 00 43 42.6 -1.0**
KSH PP **PP 00 45 07.5 +2.4**
KSH S **S 00 50 46.3 -1.6**
KSH PMZ
comp=Z,130nm,0.9s
KSH PMZ
comp=Z,430nm,3.0s
KSH LN
comp=Z,2μm,16.7s
KSH LE
comp=Z,440nm,13.5s
KSH LZ
comp=Z,890nm,18.7s
MK01 Makanchi Array 59.03 327 *e*P **P 00 42 53.1 -0.8**
MK01 *e*ScP **ScP 00 47 28.4 +0.1**
MK31 Makanchi Array 59.05 327 *e*P **P 00 42 53.8 -0.2**
MK31 pmax pmax
comp=Z,85nm,0.6s
MK31 Makanchi Array 59.05 327 P **P 00 42 53.9 -0.2**
baz=59,SNR=192
MKAR Makanchi Array 59.05 327 P **P 00 42 53.6 -0.4**
comp=Z,106nm,0.7s,baz=143,slow=5.0,SNR=268
MKAR PcP **PcP 00 43 43.5 +2.1**
comp=Z,16nm,0.6s,baz=163,slow=4.5,SNR=3.9
MKAR ScP **ScP 00 47 28.0 -0.4**
comp=Z,5.0nm,0.7s,baz=155,slow=2.9,SNR=4.8
MKAR S **S 00 50 48.6 -0.8**
comp=Z,0.5nm,0.6s,baz=28,slow=32,SNR=2.1
MKAR ScS **ScS 00 52 26.7 -3.1**
comp=Z,1.1nm,0.8s,baz=179,slow=15,SNR=3.5
MKAR LR LR 01 10 24.1
comp=Z,911nm,19.6s,baz=114,slow=38
MKAR PKPPKP **P'P'df 01 12 26.0 -0.1**
comp=Z,0.8nm,0.7s,baz=271,slow=7.0,SNR=6.1
MKAR PKP2bc 01 12 37.6
comp=Z,1.8nm,1.0s,baz=271,slow=5.9,SNR=4.3
MKAR P4KPbc 01 20 01.2
comp=Z,1.4nm,0.6s,baz=165,slow=2.8,SNR=17
MKAR Makanchi Array 59.05 327 P **P 00 42 53.7 -0.4**
MKAR 00 43 43.5
MKAR S **S 00 50 48.7 -0.8**
MKAR 00 52 26.7
MKAR pmax pmax
comp=Z,103nm,0.7s
MKAR pmax pmax
comp=Z,16nm,0.6s
MKAR pmax pmax
comp=N,5.0nm,0.7s
MKAR smax smax
comp=N,1.0nm,0.6s
MKAR pmax pmax
comp=N,1.0nm,0.8s
MKAR MLR MLR
comp=Z,911nm,19.6s
DCZ Deep Cove 59.19 146 *e*P **P 00 42 54.1 -0.9**
comp=Z,54nm,0.8s
PEA0 Petropavlovsk- 59.21 23 *e*P **P 00 42 56.4 +1.4**
PETK Petropavlovsk- 59.21 23 P **P 00 42 56.7 +1.7**
comp=Z,100nm,0.6s,baz=188,slow=4.1,SNR=386
PETK PcP **PcP 00 43 43.6 +1.8**
comp=Z,36nm,0.8s,baz=184,slow=7.1,SNR=2.2
PETK ScP **ScP 00 47 29.9 +1.0**
comp=Z,1.9nm,0.7s,baz=236,slow=2.6,SNR=2.8
PETK Petropavlovsk- 59.21 23 P **P 00 42 56.7 +1.7**
PETK 00 43 43.6
PETK pmax pmax
comp=Z,103nm,0.6s
PETK pmax pmax
comp=Z,36nm,0.8s
PETK pmax pmax
comp=N,2.0nm,0.7s
PET Petropavlovsk 59.52 23 *α i*P **P 00 42 58.6 +1.6**
PET *e**PP **pP 00 43 32.4 +0.9**
PET *e**SP **sP 00 43 48.3 +0.8**
PET *i* S **S 00 50 55.8 +0.7**
PET *e* 00 52 30.6
PET *e*SS **SS 00 54 48.2 -4.7**
PET pmax pmax
comp=Z,99nm,0.8s
PET pmax pmax
comp=Z,600nm,3.7s
PET pmax pmax
comp=Z,500nm,12.5s
PET Petropavlovsk 59.52 23 *e*P **P 00 42 58.3 +1.2**
comp=Z,216nm,1.4s
WHZ Wether Hill Ro 59.89 146 *e*P **P 00 42 59.4 -0.3**
comp=Z,88nm,0.7s
ULHL Ulahol 60.06 320 P **P 00 43 02.2 +0.8**
SNR=16
ULHL Ulahol 60.06 320 *i*P **P 00 43 02.1 +0.8**
AAA Alma-Ata 60.14 322 *e*P **P 00 43 02.0 +0.4**
AAA *e*S **S 00 51 03.3 -0.4**
AAA pmax pmax
comp=Z,600nm,2.2s
AAA smax smax
comp=E,1μm,12.8s
RPZ Rata Peaks 60.42 143 *e*P **P 00 43 04.3 +0.8**
comp=E,434nm,1.3s
KZA Kyzart 60.62 320 P **P 00 43 05.9 +0.6**
SNR=212
KZA Kyzart 60.62 320 *i*P **P 00 43 05.9 +0.6**
SFK Sufi-Kurgan 60.80 317 P **P 00 43 06.5 +0.1**
SFK pmax pmax
comp=Z,136nm,0.8s
TKM2 Tokmak 2 60.81 321 P **P 00 43 08.5 +2.2**
SNR=11
TKM2 Tokmak 2 60.81 321 P **P 00 43 06.5 +0.1**
TKM2 pmax pmax
comp=Z,145nm,0.8s
TKM2 Tokmak 2 60.81 321 *e*P **P 00 43 06.1 -0.3**
comp=Z,139nm,0.8s
ODZ Otahua Downs 60.92 144 *e*P **P 00 43 06.8 0.0**
comp=Z,337nm,2.4s
KBK Karagaybulak 61.09 320 P **P 00 43 08.6 +0.4**
SNR=48
UCH Uchtor 61.17 319 P **P 00 43 09.5 +0.4**
SNR=228
UCH Uchtor 61.17 319 *i*P **P 00 43 09.5 +0.4**
KHZ Kahutara 61.27 140 *e*P **P 00 43 08.8 -0.4**
comp=Z,116nm,0.7s
AAK Ala-Archa 61.38 320 P **P 00 43 10.9 +0.8**
comp=Z,750nm,0.8s,SNR=94
AAK Ala-Archa 61.38 320 P **P 00 43 10.4 +0.3**
SNR=91
AAK Ala-Archa 61.38 320 P **P 00 43 10.4 +0.3**
comp=Z,76nm,0.8s,baz=109,slow=5.8,SNR=145
AAK S **S 00 51 15.7 -3.9**
comp=Z,1.1nm,0.3s,baz=84,slow=23,SNR=1.7
AAK Ala-Archa 61.38 320 P **P 00 43 10.4 +0.3**

AAK S S 00 51 15.7 -3.9
AAK pmax pmax
comp=Z,77nm,0.8s
AAK smax smax
comp=N,1.0nm,0.3s
AAK Ala-Archa 61.38 320 P P 00 43 10.5 +0.3
SNR=99
AAK Ala-Archa 61.38 320 *e*P P 00 43 10.2 0.0
comp=N,117nm,0.9s
AAK S S 00 51 15.7 -3.9
CHMS Chumysh 61.39 320 P P 00 43 11.5 +1.4
SNR=59
CHMS Chumysh 61.39 320 *i* P P 00 43 11.5 +1.4
FRU Bishkek 61.39 320 *i* P P 00 43 11.0 +0.9
FRU *e* 00 51 22.0
FRU *e* 00 52 00.0
FRU pmax pmax
comp=Z,170nm,2.0s
FRU MLR MLR
comp=E,700nm,22.0s
SNZO South Karori 61.48 139 *e*P P 00 43 09.8 -0.7
comp=E,221nm,0.8s
YAK Yakutsk 61.50 3 P P 00 43 11.0 +0.6
comp=E,637nm,0.7s,baz=202,slow=4.0,SNR=158
YAK S S 00 51 20.5 +0.4
comp=E,9.5nm,0.3s,baz=36,slow=3.6,SNR=1.5
YAK ScS SKKSac 00 52 45.9 -1.4
comp=E,15nm,0.4s,baz=224,slow=0.9,SNR=1.3
YAK Yakutsk 61.50 3*c* *i*P P 00 43 11.2 +0.9
YAK *e* 00 43 54.1
YAK *e* 00 45 27.6
YAK *e*S S 00 51 21.5 +1.5
YAK *e* 00 52 46.0
YAK *e*SSS SSS 00 58 14.5
YAK pmax pmax
comp=Z,487nm,0.9s
YAK pmax pmax
comp=N,75nm,0.8s
YAK pmax pmax
comp=E,31nm,0.8s
YAK pmax pmax
comp=Z,112nm,2.3s
YAK pmax pmax
comp=N,124nm,2.0s
YAK pmax pmax
comp=E,35nm,1.2s
YAK smax smax
comp=N,455nm,1.6s
YAK smax smax
comp=E,303nm,1.6s
YAK Yakutsk 61.50 3 *e*P P 00 43 10.9 +0.6
comp=E,692nm,0.8s
YAK S S 00 51 20.5 +0.4
YAK ScS SKKSac 00 52 45.9 -1.4
AML Almayashu 61.66 319 P P 00 43 12.6 +0.3
SNR=195
AML Almayashu 61.66 319 *i* P P 00 43 12.6 +0.3
MCQ Macquarie Isla 61.67 158 *e*P P 00 43 12.7 +1.1
MCQ pmax pmax
comp=Z,196nm,0.8s
MCQ Macquarie Isla 61.67 158 P P 00 43 13.4 +1.9
baz=62,SNR=8.4
MCQ Macquarie Isla 61.67 158 *e*P P 00 43 12.7 +1.1
comp=Z,196nm,0.8s
USP Ospenovka 61.68 320 P P 00 43 13.9 +1.8
SNR=119
USP Ospenovka 61.68 320 *i* P P 00 43 13.8 +1.8
BKZ Black Stump Fm 61.68 136 *e*P P 00 43 12.6 +0.5
comp=Z,162nm,0.6s
URZ Urewera 61.72 135 *e*P P 00 43 11.9 -0.4
comp=Z,104nm,0.6s
EKS2 Erkin-Say 61.85 320 P P 00 43 13.7 +0.5
SNR=179
EKS2 Erkin-Say 61.85 320 *e*P P 00 43 13.3 0.0
EKS2 pmax pmax
comp=Z,163nm,0.9s
EKS2 Erkin-Say 61.85 320 *e*P P 00 43 13.2 0.0
comp=Z,163nm,0.9s
KBL Kabul 61.85 309 *e*P P 00 43 12.6 -1.0
KBL pmax pmax
comp=Z,212nm,0.8s
KBL Kabul 61.85 309 P P 00 43 13.0 -0.5
baz=62,SNR=19
KBL Kabul 61.85 309 *e*P P 00 43 12.6 -1.0
comp=Z,212nm,0.8s
BFZ Birch Farm 62.20 138 *e*P P 00 43 15.3 -0.2
comp=Z,205nm,1.3s
ZAA0 Zalesovo Array 62.54 335 P P 00 43 16.6 -0.9
baz=63,SNR=21
ZAA0 Zalesovo Array 62.54 335 *e*P P 00 43 16.2 -1.3
ZALV Zalesovo Beam 62.54 335 P P 00 43 16.0 -1.4
comp=Z,52nm,0.5s,baz=121,slow=5.7,SNR=74
ZALV S S 00 51 27.7 -5.7
comp=Z,2.6nm,0.7s,baz=133,slow=13,SNR=3.3
ZALV ScS SKSac 00 52 50.7 -4.9
comp=Z,0.8nm,0.6s,baz=202,slow=7.5,SNR=3.6
ZALV LR LR 01 11 21.0
comp=Z,707nm,19.8s,baz=74,slow=37
ZALV PKP2bc 01 12 26.8
comp=Z,2.2nm,0.7s,baz=306,slow=3.3,SNR=6.5
ZALV Zalesovo Beam 62.54 335 P P 00 43 16.0 -1.4
ZALV S S 00 51 27.7 -5.7
ZALV 00 52 50.7
ZALV pmax pmax
comp=Z,32nm,0.3s
ZALV smax smax
comp=N,3.0nm,0.7s
ZALV pmax pmax
comp=N,1.0nm,0.6s
ZALV MLR MLR
comp=Z,707nm,19.8s
MNAS Manas 62.60 319 P P 00 43 18.6 +0.3
MNAS pmax pmax
comp=Z,176nm,0.8s
KURBB Kurchatov Arra 63.35 329 P P 00 43 22.1 -0.8
comp=Z,150nm,0.8s,baz=129,slow=6.1,SNR=180
KURBB S S 00 51 37.4 -6.2
comp=Z,0.6nm,0.4s,baz=243,slow=30,SNR=6.2
KURBB ScS SKSac 00 52 57.4 -4.4
comp=Z,0.3nm,0.3s,baz=56,slow=46,SNR=1.7
KURK Kurchatov 63.36 329 P P 00 43 22.2 -0.7
comp=Z,2µm,0.6s
KURK Kurchatov 63.36 329 *e*P P 00 43 22.3 -0.7
KURK S S 00 51 37.4 -6.3
KURK 00 52 57.4
KURK pmax pmax
comp=Z,345nm,0.7s
KURK Kurchatov 63.36 329 P P 00 43 22.7 -0.2
SNR=123
KURK Kurchatov 63.36 329 *e*P P 00 43 22.3 -0.6
comp=Z,345nm,0.7s
KURK S S 00 51 37.4 -6.3
KURK ScS SKSac 00 52 57.4 -4.5
DZET Dzherino 63.59 314 P P 00 43 24.1 -0.8
DZET pmax pmax
comp=Z,205nm,1.1s
NVS Novosibirsk 63.83 335⇑ *i*P P 00 43 23.5 -2.4
NVS *i* *PP PcP 00 43 56.2 -4.2
NVS *i* 00 52 57.0
NVS pmax pmax
comp=N,76nm,0.8s
NVS pmax pmax
comp=Z,988nm,0.8s
NVS pmax pmax
comp=E,47nm,0.5s
KK31 Karatay Array 64.19 319 *i* P P 00 43 28.2 -0.4
KK31 pmax pmax
comp=Z,66nm,0.7s
KKAR Karatay Array 64.19 319 *e*P P 00 43 28.0 -0.6
KKAR Karatay Array 64.19 319 *e*P P 00 43 28.0 -0.6
SEY Seymchan 65.65 14 P P 00 43 39.2 +1.7
comp=Z,44nm,0.8s,baz=219,slow=5.1,SNR=126
SEY S S 00 52 12.4 +1.0
comp=Z,0.5nm,0.2s,baz=180,slow=24,SNR=1.3
SEY ScS ScS 00 53 21.4 +2.4
comp=Z,0.3nm,0.2s,baz=1.9,slow=24,SNR=1.1
SEY Seymchan 65.65 14 P P 00 43 39.2 +1.7
SEY S S 00 52 12.4 +1.0
SEY 00 53 21.4
SEY pmax pmax
comp=Z,44nm,0.8s
SEY smax smax
comp=N,1.0nm,0.2s
CASY Casey 67.38 186 *e*P P 00 43 48.6 +0.1
comp=N,36nm,0.8s
DRV Dumont d'Urvil 67.90 173 P P 00 43 41.0 -11

DRV S S 00 52 23.0 -15
DRV SS SS 00 56 51.0 -12
DRV L L 00 59 00.0
DRV R 01 04 00.0
PAF Port-aux-Franc 68.02 215 P P 00 43 52.0 -0.8
PAF S S 00 52 37.0 -3.3
PAF L L 01 00 00.0
PAF R 01 04 00.0
MRIV Mauritius Mete 68.76 248 *e*P P 00 43 56.7 -1.3
BVAR Borovoye Array 68.90 328 P P 00 43 57.5 -0.7
comp=N,50nm,0.6s,baz=130,slow=8.0,SNR=101
BVAR Borovoye Array 68.90 328 P P 00 43 57.5 -0.7
BVAR pmax pmax
comp=Z,50nm,0.6s
BRVK Borovoye 68.97 328 P P 00 43 58.8 +0.1
comp=Z,912nm,0.6s,SNR=69
BRVK Borovoye 68.97 328*c* *i*P P 00 43 58.0 -0.6
BRVK pmax pmax
comp=Z,146nm,1.1s
BRVK Borovoye 68.97 328 P P 00 43 58.4 -0.3
SNR=76
BRVK Borovoye 68.97 328 *e*P P 00 43 58.1 -0.6
comp=Z,192nm,1.2s
HATD Hatta, Dubai 70.30 296 ⇓P P 00 44 07.2 -0.2
MIR Mirnyy 70.55 193 *e*P P 00 44 18.0 +10
MIR pmax pmax
comp=Z,10.0nm,1.0s
FAQ Al Faqa, Dubai 70.78 296 *i* P P 00 44 09.9 -0.4
SNR=7.1
ADK Adak 70.82 34 *e*P P 00 44 09.6 -0.4
ADK pmax pmax
comp=Z,89nm,1.1s
ADK Adak 70.82 34 *e*P P 00 44 09.6 -0.4
comp=Z,89nm,1.1s
ASUD Al Ashush, Dub 70.99 296 ⇓ *i*P P 00 44 11.2 -0.4
SNR=13
GEYT Alibeck 71.29 310 P P 00 44 12.7 -0.5
comp=Z,74nm,0.8s,baz=134,slow=4.3,SNR=86
ATKA Atka Island 72.35 34 *e*P P 00 44 18.8 -0.3
comp=Z,44nm,0.8s
AB31 Akbulak array 73.33 322 P P 00 44 24.4 -0.6
AB31 pmax pmax
comp=Z,85nm,0.6s
ABKAR Akbulak array 73.33 322 *e*P P 00 44 24.2 -0.8
AKTO Aktyubinsk 74.89 323 P P 00 44 33.6 -0.4
comp=Z,214nm,0.7s,baz=108,slow=7.7,SNR=134
AKTO S S 00 53 54.7 -4.6
comp=Z,3.2nm,0.9s,baz=215,slow=23,SNR=8.2
AKTO LR LR 01 19 33.9
comp=Z,620nm,20.8s,slow=37
AKTO Aktyubinsk 74.89 323 P P 00 44 33.6 -0.4
AKTO S S 00 53 54.7 -4.6
AKTO pmax pmax
comp=Z,215nm,0.7s
AKTO smax smax
comp=N,3.0nm,0.9s
AKTO MLR MLR
comp=Z,620nm,20.8s
SVE Sverdlovsk 75.61 329*d* *i*P P 00 44 37.6 -0.4
SVE *e*S S 00 53 56.5 -11
SVE pmax pmax
comp=Z,207nm,0.8s
SPIA Saint Paul Isl 76.35 31 *e*P P 00 44 41.2 -0.9
comp=Z,170nm,1.3s
ARU Arti 76.54 329 P P 00 44 42.3 -1.0
comp=Z,1µm,0.9s,SNR=73
ARU Arti 76.54 329*c* *i*P P 00 44 42.0 -1.3
ARU S S 00 54 12.3 -4.9
ARU *SS ScS 00 55 01.2 +16
ARU pmax pmax
comp=Z,175nm,1.0s
ARU Arti 76.54 329 *e*P P 00 44 42.5 -0.7
comp=Z,148nm,0.9s
UNV Unalaska Valle 77.28 35 *e*P P 00 44 47.9 +0.5
comp=Z,1µm,2.9s
AKUT Akutan 77.77 34 *e*P P 00 44 49.5 -0.7
ABPO Ambohimpanom 78.23 251 *e*P P 00 44 52.6 -1.1
ABPO pmax pmax
comp=Z,163nm,2.0s
ABPO Ambohimpanom 78.23 251 *e*P P 00 44 52.6 -1.1
comp=Z,163nm,2.0s
CRZF Crozet Islands 78.52 222 S SKiKP 00 54 06.0 +16
CRZF SS SS 00 59 05.0 -41
CRZF R 01 09 00.0
RAYN Ar Rayn 79.81 294 P P 00 45 01.6 -0.4
comp=Z,219nm,0.7s,SNR=38
RAYN Ar Rayn 79.81 294 *e*P P 00 45 00.8 -1.2
comp=Z,25nm,1.0s
MAW Mawson 80.00 200 P P 00 45 03.3 +1.2
comp=Z,31nm,0.7s,baz=81,slow=6.0,SNR=30
MAW Mawson 80.00 200 P P 00 45 03.3 +1.2
MAW pmax pmax
comp=Z,31nm,0.7s
MAW Mawson 80.00 200 P P 00 45 03.3 +1.2
baz=80,SNR=18
MAW Mawson 80.00 200 *e*P P 00 45 01.5 -0.6
comp=Z,6.8nm,0.6s
MAK Makhachkala 80.23 313 *e*P P 00 44 59.6 -4.2
MAK *e* 00 48 08.2
MAK *e*S S 00 54 52.3 -4.7
MAK *e*S pS 00 55 38.6 -3.2
MAK pmax pmax
comp=Z,140nm,1.5s
MAK MLR MLR
comp=Z,414nm,14.0s
TNA Tin City 80.38 23 *e*P P 00 45 04.6 +0.5
comp=Z,38nm,1.1s
DAMY Dhamar 80.40 285 *e*P P 00 45 04.7 -1.0
comp=Z,20nm,0.8s
VNDA Vanda 80.52 172 P P 00 45 05.4 +0.7
comp=Z,21nm,0.7s,baz=317,slow=6.1,SNR=112
VNDA PP PP 00 48 07.7 -2.3
comp=Z,7.0nm,0.9s,baz=327,slow=11,SNR=3.8
VNDA S S 00 54 59.0 +0.2
comp=Z,0.8nm,0.8s,baz=59,slow=9.5,SNR=2.9
VNDA PKKP PKKPdf 01 03 40.4 +3.3
comp=Z,0.7nm,0.5s,baz=275,slow=20,SNR=3.8
VNDA PKPPKP P'P'df 01 11 49.4 +1.3
comp=Z,0.8nm,0.8s,baz=101,slow=2.1,SNR=3.5
VNDA Vanda 80.52 172 *e*P P 00 45 05.0 +0.3
VNDA 00 48 07.7
VNDA S S 00 54 59.0 +0.2
VNDA 01 03 40.4
VNDA pmax pmax
comp=Z,21nm,0.8s
VNDA Vanda 80.52 172 *e*P P 00 45 05.0 +0.3
comp=Z,21nm,0.8s
VNDA PP PP 00 48 07.7 -2.3
VNDA S S 00 54 59.0 +0.2
VNDA PKKP PKKPdf 01 03 40.4 +3.3
VNDA P'P' 01 11 49.4
SDPT Sand Point 81.05 34 *e*P P 00 45 07.7 -0.2
comp=Z,193nm,0.6s
SBA Scott Base 81.45 172 *e*P P 00 45 10.2 +0.6
SBA pmax pmax
comp=Z,174nm,2.1s
SBA Scott Base 81.45 172 *e*P P 00 45 10.2 +0.6
comp=Z,174nm,2.1s
DGRG David-gareji 81.60 312 P P 00 45 12.1 +0.9
GNI Garni 81.93 310 P P 00 45 13.4 +0.3
comp=Z,24nm,0.7s,baz=243,slow=2.3,SNR=26
GNI Garni 81.93 310 P P 00 45 13.4 +0.3
GNI pmax pmax
comp=Z,24nm,0.7s
GNI Garni 81.93 310 P P 00 45 13.9 +0.8
SNR=20
GNI Garni 81.93 310⇑ *i*P P 00 45 13.5 +0.4
SNR=8.0
GNI Garni 81.93 310 *e*P P 00 45 13.2 +0.1
comp=Z,89nm,0.7s
SEAG Tbilisi Sea 82.06 312 P P 00 45 13.1 -0.5
TBLG Delisi 82.10 312 P P 00 45 14.0 +0.2
CLDR Caldiran 82.46 309 *e*P P 00 45 16.6 +0.6
DYDN Diyadin 82.67 310 *i* P P 00 45 20.4 +3.3
TVAN Van 82.80 309 *i* P P 00 45 18.7 +0.9
VANB Van 82.82 309 *e*P P 00 45 15.9 -1.9
ZEI Tsey 82.83 313 *e*P P 00 45 17.4 -0.4
ZEI pmax pmax
comp=Z,109nm,1.0s
EAK Akyaka 82.84 311 *i* P P 00 45 19.3 +1.5
AKH Akhalkalaki 83.00 312 P P 00 45 19.6 +0.9
GEVA Gevas 83.05 308 *i* P P 00 45 18.1 -0.9
NCK Nalchik 83.13 314⇓ *e*P P 00 45 19.0 -0.1
ONI Oni 83.14 313 P P 00 45 19.7 +0.5
KARS Kars 83.24 311 *e*P P 00 45 20.9 +1.0

TUTA Tutak 83.33 309 *i* P P 00 45 21.6 +1.1
SIRN S¯¬rnak 83.49 308 *i* P P 00 45 21.2 0.0
EATA Eleskirt 83.62 310 *i* P P 00 45 23.3 +1.2
KBZ Khabaz 83.66 314 P P 00 45 21.6 -0.1
comp=Z,44nm,0.9s,baz=56,slow=24,SNR=39
KBZ S S 00 55 29.3 -2.8
comp=Z,0.8nm,0.7s,baz=56,slow=24,SNR=1.7
KBZ Khabaz 83.66 314 P P 00 45 21.6 -0.1
KBZ S S 00 55 29.3 -2.8
KBZ pmax pmax
comp=Z,45nm,0.9s
KBZ smax smax
comp=N,1.0nm,0.7s
GOF Gofitskoye 83.68 315 *e*P P 00 45 20.9 -0.9
GOF *e*S S 00 55 31.4 -0.9
GOF pmax pmax
comp=Z,50nm,1.1s
TATV Tatvan 83.69 309 *i* P P 00 45 23.8 +1.5
NEY Neytrino 83.74 313 *i* P P 00 45 23.3 +0.9
NEY pmax pmax
comp=Z,35nm,1.9s
KIV Kislovodsk 83.83 314 P P 00 45 22.6 -0.1
comp=Z,278nm,0.6s,SNR=12
KIV Kislovodsk 83.83 314 *e*P P 00 45 22.2 -0.5
KIV *e* 00 48 37.1
KIV *e*S S 00 55 33.2 -0.9
KIV *e*SS SS 01 01 06.3 +1.4
KIV pmax pmax
comp=Z,35nm,0.8s
KIV MLR MLR
comp=Z,327nm,19.0s
KIV Kislovodsk 83.83 314 P P 00 45 22.8 +0.1
SNR=19
KIV Kislovodsk 83.83 314⇑ *i*P P 00 45 22.6 -0.1
SNR=10
KIV Kislovodsk 83.83 314 *e*P P 00 45 22.0 -0.7
comp=Z,68nm,1.2s
EKAR Karacoban 83.90 309 *i* P P 00 45 24.9 +1.4
ARTV Artvin 84.15 311 *i* P P 00 45 25.3 +0.7
DAGI Agillar 84.16 311 *i* P P 00 45 24.4 -0.1
CHVG Ch'k'valeri 84.16 313 P P 00 45 25.2 +0.8
DDEM Demirkent 84.26 311 *i* P P 00 45 28.0 +2.9
DBAD Bademkaya 84.32 311 *i* P P 00 45 25.1 -0.2
PRGR Permogore 84.33 332⇑ *i*P P 00 45 24.3 -0.4
PRGR *e*S S 00 55 31.4 -6.6
PRGR pmax pmax
comp=Z,254nm,1.0s
VRTB Varto-Mus 84.36 309 *e*P P 00 45 26.8 +1.1
BEST Besiri 84.43 308 *i* P P 00 45 26.4 +0.5
ERZM Erzurum 84.49 310 *i* P P 00 45 27.6 +1.2
SVAN Silvan-Diyarba 84.50 308 *e*P P 00 45 26.6 +0.4
BNGL BINGOL 84.59 309 *i* P P 00 45 28.5 +1.6
SVW2 Sparrevohn 84.64 29 *e*P P 00 45 25.4 -1.0
comp=Z,37nm,1.0s
MARD Mardin 84.78 307 *i* P P 00 45 27.8 0.0
BNGB Bing¶l 84.96 309 *e*P P 00 45 28.6 0.0
KOPT Kop Dagi 85.16 310 *i* P P 00 45 31.2 +1.4
OHAK Old Harbor 85.31 33 *e*P P 00 45 28.7 -1.0
DYBB Diyarbakir 85.32 308 *e*P P 00 45 29.9 -0.4
DIYA Diyarbakir 85.34 308 *i* P P 00 45 30.5 0.0
KDAK Kodiak Island 85.74 32 P P 00 45 33.3 +1.5
comp=Z,374nm,1.5s,SNR=6.2
KDAK Kodiak Island 85.74 32 *e*P P 00 45 30.9 -1.0
KDAK pmax pmax
comp=Z,636nm,2.3s
KDAK Kodiak Island 85.74 32 *e*P P 00 45 30.9 -1.0
comp=Z,636nm,2.3s
MACK Trabzon 85.77 311 *i* P P 00 45 32.7 +0.3
FURI Furi 85.89 279 *e*P P 00 45 32.1 -1.9
comp=Z,285nm,2.5s
RSO Redoubt South 85.94 30 *e*P P 00 45 32.6 -0.5
SOC Sochi 85.95 313*c* *i*P P 00 45 32.4 -0.8
SOC *e* 00 48 51.6
SOC *e*S SKSac 00 55 44.1 -1.4
SOC pmax pmax
comp=Z,76nm,0.9s
PTK Pertek 85.95 309 *e*P P 00 45 33.9 +0.2
SVRC Sivrice-ELAZID 86.00 308 *e*P P 00 45 34.6 +0.8
KELT Kelkit 86.12 310 *i* P P 00 45 35.2 +0.8
IM04 Indian Mountai 86.13 24 *e*P P 00 45 34.4 +0.7
PPT2 Papeete2 86.16 108 *e*S S 00 55 50.6 -7.4
comp=Z,2µm,27.2s
PPT2 Papeete2 86.16 108 *e*LQ LQ 01 09 16.7
comp=Z,1µm,31.5s
PPT2 *e*LR LR 01 12 54.5
comp=Z,921nm,30.2s
ELZG Elazig 86.26 308 *i* P P 00 45 34.8 -0.3
PPLA Purkeypile 86.46 27 *e*P P 00 45 35.9 +0.4
comp=Z,45nm,1.5s
TBI Tubuai 86.46 113 *e*S S 00 55 53.2 -7.3
comp=Z,837nm,27.5s
TBI Tubuai 86.46 113 *e*LQ LQ 01 09 20.9
comp=Z,646nm,26.2s
TBI *e*LR LR 01 13 03.7
comp=Z,612nm,42.2s
CAST Castle Rocks 86.56 27 *e*P P 00 45 36.2 +0.4
comp=Z,13nm,1.2s
VORD Divnogorie 86.65 321 *e*P P 00 45 35.8 -0.7
VORD *e*S S 00 56 00.6 -0.7
VORD pmax pmax
comp=Z,130nm,1.4s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,120nm,1.3s
VORD smax smax
comp=E,30nm,0.9s
VORD smax smax
comp=Z,10.0nm,2.8s
VORD smax smax
comp=N,20nm,0.9s
MALT Malatya 86.69 308 *e*P P 00 45 38.8 +1.7
MALT Malatya 86.69 308⇑ *i*P P 00 45 37.6 +0.5
VSR Storozhevoye 86.75 321 *e*P P 00 45 36.3 -0.6
VSR *e*S S 00 55 59.5 -2.7
VSR pmax pmax
comp=Z,130nm,1.5s
VSR pmax pmax
comp=N,20nm,1.2s
VSR pmax pmax
comp=E,60nm,1.0s
VSR smax smax
comp=N,40nm,1.1s
VSR smax smax
comp=Z,7.0nm,2.3s
VSR smax smax
comp=E,6.0nm,0.6s
VOR Voronezh 86.76 322 *e*P P 00 45 36.0 -1.0
VOR pmax pmax
comp=Z,500nm,1.0s
ATAB Bozova 86.76 307 *i* P P 00 45 37.9 +0.5
BRLK Bradley Lake 86.80 30 *e*P P 00 45 36.8 -0.2
comp=Z,590nm,2.4s
SUSE Susehri 86.93 310 *i* P P 00 45 38.9 +0.6
LPSR Galich'ya Gora 86.97 322 *e*P P 00 45 37.4 -0.6
LPSR pmax pmax
comp=Z,260nm,0.8s
LPSR pmax pmax
comp=N,30nm,1.6s
LPSR pmax pmax
comp=E,80nm,1.8s
AKCD Akcadag 87.08 308 *i* P P 00 45 40.3 +1.2
KTH Kantishna Hill 87.09 27 *e*P P 00 45 38.0 -0.4
comp=E,25nm,1.3s
BPAW Bear Paw Mtn. 87.11 26 *e*P P 00 45 38.7 +0.2
comp=E,3.7nm,1.1s
KLMR Klimovskoe 87.17 331*c* *i*P P 00 45 37.7 -1.0
KLMR *e*PP PP 00 49 04.6 +0.2
KLMR S SKSac 00 55 50.8 -1.4
KLMR pmax pmax
comp=Z,190nm,1.1s
MLY Manley 87.29 25 *e*P P 00 45 40.2 +0.8
comp=Z,28nm,0.9s
GZT Gaziantep 87.34 307 *i* P P 00 45 39.9 -0.5
KMBO Kilima Mbogo 87.36 269 P P 00 45 42.2 +1.2
comp=Z,31nm,0.9s,baz=65,slow=6.8,SNR=22
KMBO Kilima Mbogo 87.36 269 P P 00 45 42.2 +1.2
KMBO pmax pmax
comp=Z,31nm,0.9s
KMBO Kilima Mbogo 87.36 269 P P 00 45 42.7 +1.6
baz=88,SNR=4.2
KMBO Kilima Mbogo 87.36 269 P P 00 45 42.6 +1.6
SNR=13
KMBO Kilima Mbogo 87.36 269 *e*P P 00 45 40.1 -0.9
comp=Z,50nm,1.1s

TRF	Thorofare Moun		87.37	27	*e*P		P	00 45 39.0	-0.9
	comp=Z,21nm,1.0s									
RC01	Rabbit Creek A		87.46	29	*e*P		P	00 45 39.1	-1.1
	comp=Z,33nm,1.0s									
SEW	Seward		87.55	30	*e*P		P	00 45 40.1	-0.4
	comp=Z,49nm,0.9s									
RSDY	Resadiye-TOKAT		87.60	310	*e*P		P	00 45 42.5	+1.1
ANN	Anapa		87.64	315	*e*P		P	00 45 40.3	-1.0
ANN					*e*S		SKSac	00 55 56.2	+0.4
ANN					pmax		pmax			
	comp=Z,466nm,1.0s									
COLD	Coldfoot		87.68	23	*e*P		P	00 45 42.0	+0.9
	comp=Z,54nm,0.9s									
KUZU	Kuzuini		87.72	307	*i* P		P	00 45 42.7	+0.7
BWN	Browne		87.78	26	*e*P		P	00 45 41.2	-0.4
	comp=Z,35nm,0.9s									
PMR	Palmer		87.78	29	*e*P		P	00 45 41.7	+0.1
PMR					pmax		pmax			
	comp=Z,72nm,1.8s									
PMR	Palmer		87.78	29	*e*P		P	00 45 41.7	+0.1
	comp=Z,72nm,1.8s									
ASF	Jabal al Asfar		87.79	302	S		SKSac	00 55 59.5	+2.0
	comp=Z,0.6nm,0.4s,baz=5.1,slow=22,SNR=1.7									
SVSK	Karacayir		87.84	310	*e*P		P	00 45 43.2	+0.8
HCB	Kahramanmara~		87.86	307	*i* P		P	00 45 42.6	0.0
MOS	Moscow		87.89	326	*α i* P		P	00 45 41.0	-1.3
MOS					*e*			00 49 06.9		
MOS					*e*			00 55 55.2		
MOS					*e*S		S	00 56 06.1	-6.7
MOS					pmax		pmax			
	comp=Z,278nm,1.1s									
MOS					pmax		pmax			
	comp=Z,600nm,1.8s									
MCK	McKinley		87.99	26	*e*P		P	00 45 42.6	0.0
MCK					pmax		pmax			
	comp=Z,32nm,1.0s									
MCK	McKinley		87.99	26	*e*P		P	00 45 42.6	0.0
	comp=Z,32nm,1.0s									
RND	Reindeer		88.01	27	*e*P		P	00 45 42.3	-0.5
RND					pmax		pmax			
	comp=Z,23nm,0.9s									
RND	Reindeer		88.01	27	*e*P		P	00 45 42.2	-0.5
	comp=Z,23nm,0.9s									
KAMA	Osmaniye		88.05	307	*i* P		P	00 45 43.8	+0.1
TMCR	Tamitsa		88.05	334	*e*P		P	00 45 41.8	-1.1
TMCR					*e*			00 49 14.6		
TMCR					pmax		pmax			
	comp=Z,100nm,1.1s									
TOKA	Tokat		88.25	310	*i* P		P	00 45 48.3	+3.9
PINB	Pinarbasi		88.28	308	*i* P		P	00 45 45.5	+0.5
ANDN	Andirin		88.32	307	*i* P		P	00 45 44.9	0.0
MDM	Murphy Dome		88.35	25	*e*P		P	00 45 43.8	-0.5
	comp=Z,12nm,0.8s									
WRH	Wood River Hil		88.39	26	*e*P		P	00 45 44.4	-0.1
	comp=Z,27nm,1.0s									
TAHT	Tahtakopru-Hat		88.43	306	*e*P		P	00 45 45.5	+0.1
OBN	Obninsk		88.47	325	P		P	00 45 44.2	-0.8
	comp=Z,748nm,0.7s,SNR=20									
OBN	Obninsk		88.47	325	LR		LR	01 26 33.6		
	comp=Z,367nm,20.9s,baz=90,slow=36									
OBN	Obninsk		88.47	325	*c i* P		P	00 45 44.1	-0.9
OBN					*i*			00 49 18.5		
OBN					*i* S		SKSac	00 55 58.7	-1.6
OBN					pmax		pmax			
	comp=Z,255nm,2.0s									
OBN					MLR		MLR			
	comp=Z,675nm,24.0s									
OBN	Obninsk		88.47	325	*e*P		P	00 45 44.3	-0.8
	comp=Z,2μm,2.8s									
YAYL	Yayladag		88.49	306	*i* P		P	00 45 44.1	-1.6
COLA	College		88.51	25	*d i* P		P	00 45 44.7	-0.3
COLA					pmax		pmax			
	comp=Z,45nm,1.0s									
CCB	Clear Creek Bu		88.52	25	*e*P		P	00 45 44.5	-0.6
	comp=Z,22nm,0.8s									
KVT	Kavak		88.59	311	*e*P		P	00 45 46.5	+0.5
HWQ	Hawqa		88.61	304	*e*P		P	00 45 46.5	+0.1
SCM	Sheep Creek Mo		88.65	28	*e*P		P	00 45 46.3	+0.4
SCM					pmax		pmax			
	comp=Z,32nm,1.0s									
SCM	Sheep Creek Mo		88.65	28	*e*P		P	00 45 46.3	+0.4
	comp=Z,32nm,1.0s									
RCY	Rachaya		88.70	303	*e*P		P	00 45 47.3	+0.5
KOZT	Kozan		88.73	307	*e*P		P	00 45 46.9	+0.2
CEYT	Ceyhan		88.79	307	*e*P		P	00 45 47.4	+0.5
HAVZ	Havza		88.83	311	*i* P		P	00 45 51.2	+4.1
BHL	Bhannes		88.85	304	*e*P		P	00 45 47.7	+0.2
YURE	YUREGIR		88.88	307	*i* P		P	00 45 48.2	+0.8
IL1	Eielson Array		88.92	25	*e*P		P	00 45 45.2	-1.8
ILAR	Eielson Array		88.92	25	P		P	00 45 46.0	-1.0
	comp=Z,3.8nm,0.5s,baz=261,slow=4.5,SNR=34									
ILAR					PP		PP	00 49 15.6	-2.8
	comp=Z,2.3nm,0.9s,baz=260,slow=5.4,SNR=3.6									
ILAR					PKKP		PKKPdf	01 03 23.4	+0.9
	comp=Z,0.9nm,0.7s,baz=85,slow=1.4,SNR=9.8									
ILAR					PKKPbc		PKKPbc	01 03 26.8	-1.5
	comp=Z,0.8nm,0.7s,baz=121,slow=2.2,SNR=9.7									
ILAR	Eielson Array		88.92	25	P		P	00 45 46.0	-1.0
ILAR								00 49 15.6		
ILAR					pmax		pmax			
	comp=Z,4.0nm,0.5s									
ILAR					pmax		pmax			
	comp=Z,2.0nm,0.9s									
ILAR					pmax		pmax			
	comp=Z,1.0nm,0.7s									
ILAR					pmax		pmax			
	comp=Z,1.0nm,0.7s									
DQRL	Deir Qamar		88.92	304	*e*P		P	00 45 47.9	+0.1
MML1	Mount Malkishu		89.04	302	*e*P		P	00 45 49.1	+0.8
KRTS	Karatas		89.08	306	*e*P		P	00 45 49.0	+0.7
KLU	Klutina		89.32	29	*e*P		P	00 45 48.0	-1.0
	comp=Z,29nm,1.0s									
KARA	Karaisali		89.34	307	*e*P		P	00 45 52.0	+2.4
DDM	Donnelly Dome		89.35	26	*e*P		P	00 45 49.3	+0.2
	comp=Z,45nm,1.0s									
DIV	Divide		89.39	29	*e*P		P	00 45 50.2	+0.8
	comp=Z,43nm,1.1s									
BOYT	Boyabat		89.45	311	*i* P		P	00 45 49.7	-0.4
EIL	Elat		89.45	300	P		P	00 45 50.8	+0.5
	baz=90,SNR=14									
LVZ	Lovozero		89.53	338	P		P	00 45 48.9	-0.9
	comp=Z,288nm,0.8s,SNR=5.3									
LVZ	Lovozero		89.53	338	*ce*P		P	00 45 48.8	-1.0
LVZ					pmax		pmax			
	comp=Z,53nm,0.9s									
LVZ	Lovozero		89.53	338	*e*P		P	00 45 48.8	-1.0
	comp=Z,48nm,0.9s									
CORM	Corum		89.66	310	*e*P		P	00 45 51.3	+0.1
MERS	Mersin		89.77	307	*e*P		P	00 45 51.4	-0.3
CDAG	Cicekdag		89.86	309	*i* P		P	00 45 51.3	-0.8
BMRM	Bremner River		89.96	29	*e*P		P	00 45 51.5	-0.5
	comp=Z,92nm,1.6s									
SIM	Simferopol'		90.00	315	*e*P		P	00 45 52.3	-0.2
SIM					*e*			00 49 28.0		
SIM					*e*PPP		PPP	00 51 24.0		
SIM					*e*			00 56 09.0		
SIM					*e*S		S	00 56 34.0	+0.9
SIM					pmax		pmax			
	comp=Z,210nm,9.5s									
APA	Apatity		90.00	337	⇑ *i* P		P	00 45 54.0	+2.0
APA					MLR		MLR			
	comp=Z,900nm,15.0s									
EREN	Erenkoy		90.07	305	*e*P		P	00 45 54.5	+1.5
KIZK	Mersin		90.08	306	*i* P		P	00 45 52.9	-0.2
DOT	Dot Lake		90.16	26	*e*P		P	00 45 51.4	-1.4
	comp=Z,19nm,0.9s									
SCRK	Sand Creek		90.18	26	*e*P		P	00 45 52.4	-0.7
	comp=Z,8.3nm,0.8s									
ILGA	Ilgaz		90.35	311	*i* P		P	00 45 55.2	+0.7
BR131	Keskin Array S		90.43	310	P		P	00 45 54.0	-0.7
	baz=90,SNR=28									
BRTR	Keskin Array B		90.43	310	P		P	00 45 53.5	-1.3
	comp=Z,20nm,0.8s,baz=126,slow=5.0,SNR=52									
BRTR					PP		PP	00 49 24.8	-6.4	
	comp=Z,6.6nm,1.0s,baz=111,slow=6.9,SNR=5.4									
BRTR					LR		LR	01 34 52.4		
	comp=Z,93nm,18.0s,baz=76,slow=41									
BRTR	Keskin Array B		90.43	310	P		P	00 45 53.5	-1.3
BRTR					pmax		pmax			
	comp=Z,21nm,0.8s									
BRTR					pmax		pmax			
	comp=Z,7.0nm,1.0s									
LFK	Lefkose		90.59	305	*e*P		P	00 45 55.3	-0.2
CSS	Prodhromos		90.76	305	*e*P		P	00 45 56.0	-0.3
CSS	Prodhromos		90.76	305	*e*P		P	00 45 55.5	-0.8
	comp=Z,16nm,0.8s									
BBAL	Bala		90.83	309	*i* P		P	00 45 56.3	-0.4
ERMK	Ermenek		91.07	306	*i* P		P	00 45 57.4	-0.4
ANTO	Ankara		91.08	310	*e*P		P	00 45 56.1	-1.6
ANTO					pmax		pmax			
	comp=Z,20nm,1.0s									
ANTO	Ankara		91.08	310	⇑ *i* P		P	00 45 57.4	-0.3
ANTO	Ankara		91.08	310	*e*P		P	00 45 56.0	-1.6
	comp=Z,20nm,1.0s									
LEF	Lefka		91.12	305	*e*P		P	00 45 57.4	-0.5
EGAK	Eagle		91.37	25	*e*P		P	00 45 57.0	-1.4
	comp=Z,190nm,2.7s									
GAZI	Gazipasa		91.56	306	*i* P		P	00 45 58.0	-1.9
BCAM	Yenicaga		91.60	311	*i* P		P	00 46 00.3	+0.1
PUL	Pulkovo		91.74	330	*ce*P		P	00 45 59.0	-1.2
PUL					pmax		pmax			
	comp=Z,76nm,0.6s									
DAWY	Dawson		92.20	26	*e*P		P	00 46 01.9	-0.4
BOLV	Bolvadin		92.55	309	*i* P		P	00 46 03.9	-0.8
SEYT	Eskypehyr		92.59	309	*i* P		P	00 46 03.4	-1.4
ARA0	ARCESS Array S		92.73	340	*e*P		P	00 46 03.2	-1.3
ARCES	ARCESS Array B		92.73	340	P		P	00 46 03.2	-1.4
	comp=Z,19nm,0.7s,baz=82,slow=4.4,SNR=70									
ARCES					PKKP		PKKPdf	01 03 15.6	-0.3	
	comp=Z,2.1nm,0.8s,baz=253,slow=4.5,SNR=7.6									
ARCES	ARCESS Array B		92.73	340	P		P	00 46 03.2	-1.4
ARCES								01 03 15.6		
ARCES					pmax		pmax			
	comp=Z,19nm,0.7s									
ARCES					pmax		pmax			
	comp=Z,2.0nm,0.8s									
ARE0	ARCESS Array S		92.73	340	*e*P		P	00 46 03.9	-0.7
AKASG	Malin Array Be		93.04	321	P		P	00 46 05.0	-1.3
	comp=Z,12nm,0.7s,baz=73,slow=4.3,SNR=30									
AKASG					PP		PP	00 49 54.0	+2.9	
	comp=Z,2.4nm,0.7s,baz=68,slow=7.4,SNR=7.9									
AKASG	Malin Array Be		93.04	321	P		P	00 46 05.0	-1.3
AKASG								00 49 54.1		
AKASG					pmax		pmax			
	comp=Z,13nm,0.7s									
AKASG					pmax		pmax			
	comp=Z,2.0nm,0.7s									
KIEV	Kiev		93.05	321	*c i* P		P	00 46 05.1	-1.3
KORT	Korkueli		93.11	307	*i* P		P	00 46 06.7	-0.5
SPA0	Spitsbergen Ar		93.22	349	*e*P		P	00 46 07.1	+0.4
SPA0					IAmb		IAmb	00 46 09.2		
	comp=Z,127nm,1.4s									
SPITS	Spitsbergen Ar		93.22	349	P		P	00 46 06.1	-0.6
	comp=Z,16nm,0.5s,baz=107,slow=7.9,SNR=65									
SPITS	Spitsbergen Ar		93.22	349	P		P	00 46 06.1	-0.6
SPITS					pmax		pmax			
	comp=Z,16nm,0.5s									
HYT	Haines Junctio		93.43	29	*e*P		P	00 46 08.9	+0.7
MICGM	Minsk		93.51	325	⇑ *e*P		P	00 46 05.0	-3.5
MNK	Minsk		93.54	325	⇑ *e*P		P	00 46 05.0	-3.6
MNK					pmax		pmax			
	comp=Z,130nm,1.0s									
KIS	Kishinev		93.60	317	*e*P		P	00 46 06.0	-3.0
KIS	Kishinev		93.60	317	*e*P		P	00 46 06.0	-3.0
KIS					*e*			00 56 30.0		
KIS					*e*			00 56 54.0		
KIS					MLR		MLR			
	comp=Z,200nm,19.0s									
FINES	FINESS Array B		93.65	332	P		P	00 46 07.5	-1.5
	comp=Z,10.0nm,0.5s,baz=68,slow=5.0,SNR=68									
FINES					PP		PP	00 49 58.3	+2.7	
	comp=Z,14nm,1.1s,baz=91,slow=15,SNR=5.0									
FINES					PKKPbc		PKKPbc	01 03 15.9	-0.2	
	comp=Z,1.9nm,0.9s,baz=272,slow=2.4,SNR=8.1									
FINES	FINESS Array B		93.65	332	P		P	00 46 07.5	-1.5
FINES								00 49 58.3		
FINES					pmax		pmax			
	comp=Z,10.0nm,0.5s									
FINES					pmax		pmax			
	comp=Z,14nm,1.1s									
FINES					pmax		pmax			
	comp=Z,2.0nm,0.9s									
VSU	Vasula		93.71	329	*d i* P		P	00 46 08.5	-0.7
VSU					pmax		pmax			
	comp=Z,94nm,1.0s									
GOLH	Golhisar		93.72	307	*i* P		P	00 46 08.1	-1.9
TLCR			93.74	315	⇓ *i* P		P	00 46 09.3	-0.4
AKAS	Kas		93.75	306	*i* P		P	00 46 08.2	-1.9
HSPB	Hornsund (broa		93.76	348	*e*P		P	00 46 07.0	-2.1
KBS	Kingsbay		93.79	350	*e*P		P	00 46 08.7	-0.6
KBS					IAmb		IAmb	00 46 10.5		
	comp=Z,18nm,1.0s									
KBS	Kingsbay		93.79	350	*e*P		P	00 46 08.2	-1.1
KBS					pmax		pmax			
	comp=Z,4.0nm,0.9s									
KBS	Kingsbay		93.79	350	*e*P		P	00 46 08.2	-1.1
	comp=Z,3.9nm,0.9s									
INK	Inuvik		93.93	21	P		P	00 46 10.4	+0.3
	comp=Z,9.3nm,0.6s,baz=284,slow=4.3,SNR=26									
INK					PP		PP	00 50 03.2	+5.6	
	comp=Z,3.9nm,0.9s,baz=317,slow=8.0,SNR=3.0									
INK	Inuvik		93.93	21	*e*P		P	00 46 09.8	-0.3
INK								00 50 03.2		
INK					pmax		pmax			
	comp=Z,37nm,1.3s									
INK	Inuvik		93.93	21	*e*P		P	00 46 09.8	-0.3
	comp=Z,36nm,1.3s									
INK					PP		PP	00 50 03.2	+5.6	
NACGM	Naroch		94.10	325	*e*P		P	00 46 08.0	-3.2
CFR	Carcaliu		94.22	315	⇓ *i* P		P	00 46 11.2	-0.7
TLB	Topalu		94.34	315	⇑ *i* P		P	00 46 11.9	-0.6
TURN	Turunc		94.51	307	*i* P		P	00 46 18.0	+4.5
MSAB	Monastry St. A		94.53	314	⇓ *i* P		P	00 46 12.7	-0.7
SKAG	Skagway		94.70	30	*e*P		P	00 46 14.9	+1.1
TRO	Tromso		94.97	340	*e*P		P	00 46 12.9	-1.9
GRER			95.02	315	⇓ *i* P		P	00 46 15.6	0.0
BESE	Bessie Mountai		95.08	31	*e*P		P	00 46 16.1	+0.4
	comp=Z,15nm,1.1s									
TESR	Tescani		95.13	317	⇓ *i* P		P	00 46 15.9	-0.2
VRI	Vrincioaia		95.14	316	⇑ *i* P		P	00 46 16.1	-0.1
PLOR	Plostina		95.19	316	⇓ *i* P		P	00 46 16.2	-0.3
SULR			95.60	315	⇓ *i* P		P	00 46 18.3	+0.1
MLR	Muntele Rosu		95.73	316	⇑ *i* P		P	00 46 18.2	-0.8
BURAR	Bucovina Array		95.97	318	⇓ *i* P		P	00 46 20.2	+0.2
BUR04	Bucovina Ar. S		95.97	318	*e*P		P	00 46 19.6	-0.5
DOPR	Dopca		96.06	316	⇑ *i* P		P	00 46 19.9	-0.5
SUW	Suwalki		96.31	324	*e*P		P	00 46 20.7	-0.6
SUW	Suwalki		96.31	324	*e*P		P	00 46 19.9	-1.3
SUW					pmax		pmax			
	comp=Z,113nm,1.0s									
SUW	Suwalki		96.31	324	*e*P		P	00 46 19.9	-1.3
	comp=Z,113nm,1.0s									
LVV	L'vov		96.45	320	*e*P		P	00 46 20.4	-1.6
HUMR	Humele		96.52	315	⇑ *i* P		P	00 46 21.5	-0.9
CJR	Cluj-Napoca		97.19	317	⇑ *i* P		Pdif	00 46 29.7	+4.1
LOF	Lofoten		97.28	339	*e*P		Pdif	00 46 26.1	+0.8
KWP	Kalwaria Pacla		97.32	320	*e*P		P	00 46 25.9	-0.1
KWP	Kalwaria Pacla		97.32	320	*e*P		P	00 46 25.9	-0.1
KWP	Kalwaria Pacla		97.32	320	⇑ *i* P		P	00 46 26.0	-0.1
TRPA	Tarpa		97.68	319	⇑ *i* P		P	00 46 27.1	-0.5
UZH	Uzhgorod		97.76	319	⇓ *e*P		P	00 46 27.5	-0.4
UZH					*e**PP		pP	00 47 05.7	+0.5
UZH					*e**SP		sP	00 47 21.7	+1.2
UZH					*e*			00 50 27.1		
UZH					*e*			00 56 52.7		
UZH					*e*S		S	00 57 36.7	-4.4
UZH					*e*PS		PS	00 59 12.1	-11
UZH					MLR		MLR			
	comp=N,350nm,20.0s									
UZH					MLR		MLR			
	comp=E,460nm,20.0s									
UZH					MLR		MLR			
	comp=Z,190nm,20.0s									
DRGR			97.78	317	⇑ *i* P		P	00 46 28.0	-0.2
DEV	Deva		97.79	316	⇓ *i* P		Pdif	00 46 28.4	+0.2
MMB	Musomiste		97.81	312	⇓ *i* P		P	00 46 26.7	-1.7
VTS	Vitosha		98.05	313	⇑ *i* P		P	00 46 28.7	-0.9
BEL	Belsk		98.13	323	*e*P		P	00 46 29.4	0.0
BEL	Belsk		98.13	323	*e*P		P	00 46 29.5	0.0
BZS	Buzias		98.72	316	⇑ *i* P		P	00 46 31.6	-0.7
NIE	Niedzica		98.90	320	*e*P		Pdif	00 46 33.5	+0.4
NIE					*e*			00 50 42.2		
NIE	Niedzica		98.90	320	*e*P		Pdif	00 46 33.6	+0.5
NIE					*e*			00 50 42.3		
OJC	Ojcow		99.06	321	*e*P		Pdif	00 46 33.5	-0.3
OJC					*e*			00 50 42.6		
OJC	Ojcow		99.06	321	*e*P		Pdif	00 46 33.5	-0.3
OJC					pmax		pmax			
	comp=Z,13nm,0.9s									
OJC	Ojcow		99.06	321	*e*P		Pdif	00 46 33.5	-0.3
	comp=Z,13nm,0.9s									
NSS	Namsos		99.13	336	*e*P		Pdif	00 46 35.0	+1.4
PSZ	Piszkesteto		99.46	319	*e*P		Pdif	00 46 35.1	-0.6
PSZ					*e*			00 50 44.6		
PSZ					pmax		pmax			
	comp=Z,38nm,1.5s									
PSZ	Piszkesteto		99.46	319	⇓ *i* P		Pdif	00 46 35.4	-0.3
PSZ	Piszkesteto		99.46	319	*e*Pdif		Pdif	00 46 35.1	-0.6
	comp=Z,38nm,1.5s									
PSZ					*e*PP		PP	00 50 44.6	+3.8
RKT	Rikitea		99.78	113	*e*LR		LR	01 19 16.5		
	comp=Z,425nm,33.5s									
HFS	Hagfors		99.86	332	LR		LR	01 35 37.4		
	comp=Z,529nm,19.2s,baz=72,slow=38									
GKP	Gorka Klasztor		99.93	324	*e*P		Pdif	00 46 38.5	+1.1
GKP					*e*			00 50 48.7		
GKP	Gorka Klasztor		99.93	324	*e*P		Pdif	00 46 38.6	+1.1
GKP					*e*			00 50 48.7		
DIVS	Divibare		100.12	315	⇓ *i* P		Pdif	00 46 38.0	-0.7
OKC	Ostrava-Krasne		100.19	321	*e*PDIFF		Pdif	00 46 38.8	+0.1
OKC					*ex*		x	00 46 43.0		
OKC					*ex*		x	00 46 57.4		
OKC					*e*PP		PP	00 50 52.9	+6.8	
OKC					*ex*		x	00 51 19.8		
OKC					*e*SKS			00 57 07.1		
OKC					AMS		AMS	01 34 50.0		
	comp=Z,400nm,17.0s									
OKC	Ostrava-Krasne		100.19	321	*e*P		Pdif	00 46 38.8	+0.1
OKC					*e*			00 50 52.9		
OKC					*e*			00 57 07.1		
OKC					MLR		MLR			
	comp=Z,400nm,17.0s									
MORC	Moravsky Berou		100.58	321	*e*P		Pdif	00 46 39.9	-0.7
MORC					*e*			00 50 49.4		
MORC	Moravsky Berou		100.58	321	⇓ *i* P		Pdif	00 46 41.0	+0.4
MORC	Moravsky Berou		100.58	321	*e*Pdif		Pdif	00 46 39.9	-0.7
MORC					*e*PP		PP	00 50 49.4	+0.2
PKSM	Moragy		100.65	317	⇑ *i* P		Pdif	00 46 40.3	-0.6
NB2	NORSAR Subarra		100.70	333	P		Pdif	00 46 39.1	-1.7
	comp=Z,14nm,1.2s,baz=73,slow=4.4									
NB2	NORSAR Subarra		100.70	333	P		Pdif	00 46 39.1	-1.7
	baz=73,slow=4.4									
NOA	NORSAR Array B		100.70	333	P		Pdif	00 46 39.2	-1.7
	comp=Z,8.5nm,1.1s,baz=77,slow=4.3,SNR=17									
NOA					pP		pP	00 47 17.0	-1.2	
	comp=Z,1.3nm,0.8s,baz=90,slow=3.8,SNR=2.5									
NOA					PP		PP	00 50 50.0	+0.4	
	comp=Z,9.0nm,1.0s,baz=74,slow=7.4,SNR=6.1									
NOA					PKKPbc		PKKPbc	01 02 56.1	-0.7	
	comp=Z,0.7nm,0.7s,baz=73,slow=3.2,SNR=3.4									
NOA	NORSAR Array B		100.70	333	P		Pdif	00 46 39.2	-1.6
NOA								00 50 50.0		
NOA					pmax		pmax			
	comp=Z,9.0nm,1.1s									
NOA					pmax		pmax			
	comp=Z,1.0nm,0.8s									
NOA					pmax		pmax			
	comp=Z,9.0nm,1.0s									
NOA					pmax		pmax			
	comp=Z,1.0nm,0.7s									
BSD	Bornholm Skovb		100.75	327	*i* P		PP	00 50 58.1	+7.9
	comp=Z,590nm,22.0s									
NBO02	NORSAR Array S		100.86	333	*e*Pdif		Pdif	00 46 39.5	-2.0
NBO02					*e*PP		PP	00 50 48.8	-2.0
KRLC	Kraliky		100.99	321	*e*PDIFF		Pdif	00 46 42.3	-0.1
KRLC					*ex*		x	00 46 45.5		
KRLC					*e*PP		PP	00 50 55.0	+2.8	
KRLC					*ex*		x	00 51 01.5		
KRLC	Kraliky		100.99	321	*e*P		Pdif	00 46 42.3	-0.1
KRLC					*e*			00 50 55.0		
KSP	Ksiaz		101.10	322	*e*P		Pdif	00 46 43.3	+0.5
KSP	Ksiaz		101.10	322	*e*P		Pdif	00 46 43.3	+0.5
DPC	Dobruska-Polom		101.21	322	*e*PDIFF		Pdif	00 46 43.5	+0.2
DPC					*ex*		x	00 46 46.7		
DPC					*e*PP		PP	00 50 57.2	+3.3	
DPC					*ex*		x	00 51 01.8		
DPC					*ex*		x	00 51 29.8		
DPC					*e*SKS			00 57 11.5		
DPC					*ex*		x	00 57 56.8		
DPC					*e*PS		PS	01 00 02.5	+2.3	
DPC					AMS		AMS	01 33 20.0		
DPC	Dobruska-Polom		101.21	322	*e*P		Pdif	00 46 43.5	+0.2

comp=Z,6.7nm,1.1s
BRG esP 00 47 36.9
comp=Z,18nm,1.6s
BRG e 00 50 57.4
comp=Z,7.1nm,1.1s
BRG ePP **PKiKP** **00 51 08.2 -1.4**
comp=Z,27nm,1.5s
comp=N,389nm,17.8s
comp=E,316nm,15.8s
comp=Z,395nm,19.4s
BRG Berggiesshubel 102.53 323 ePdiff **Pdif** **00 46 49.2 +0.1**
BRG Berggiesshubel 102.53 323 eP **Pdif** **00 46 49.3 +0.2**
BRG e 00 51 08.2
BRG pmax pmax
comp=Z,12nm,1.1s
BRG pmax pmax
comp=Z,7.0nm,1.1s
BRG pmax pmax
comp=N,18nm,1.6s
BRG pmax pmax
comp=Z,7.0nm,1.1s
BRG pmax pmax
comp=Z,27nm,1.5s
BRG MLR MLR
comp=N,389nm,17.8s
BRG MLR MLR
comp=E,316nm,15.8s
BRG MLR MLR
comp=Z,395nm,19.4s
HYA Hoyanger 102.89 334 eP **Pdif** **00 46 51.6 +1.1**
PERS Pernice 102.92 318 *i* P **Pdif** **00 46 54.2 +3.1**
CLL Collm 102.97 323 ePdiff **Pdif** **00 46 50.8 -0.3**
CLL Collm 102.97 323 ePdif **Pdif** **00 46 50.0 -1.1**
comp=Z,20nm,1.4s
CLL epPdif **pPdif** **00 47 26.0 -2.3**
CLL e 00 50 19.0
CLL ePP **PP** **00 51 03.0 -3.9**
comp=Z,21nm,1.3s
CLL e 00 51 16.0
CLL esPP 00 51 54.0
CLL ePPP PPP 00 53 24.0
CLL esPPP 00 54 00.0
CLL eSKSac **SKSac** **00 57 18.0 +1.0**
CLL eSP **SP** **00 59 58.0 -2.0**
CLL ePS **PS** **01 00 15.0 -3.5**
CLL ePPS PPS 01 01 05.0
CLL esPPS 01 01 54.0
CLL ePKKPbc **PKKPbc** **01 02 49.0 -0.8**
CLL eSS SS 01 05 48.0 +11
CLL esSS 01 06 24.0
CLL eSSS SSS 01 09 48.0
CLL e 01 14 00.0
CLL e 01 15 54.0
CLL Collm 102.97 323 eP **Pdif** **00 46 50.0 -1.1**
CLL e 00 51 03.0
CLL pmax pmax
comp=Z,20nm,1.4s
CLL pmax pmax
comp=Z,21nm,1.3s
CLL pmax pmax
comp=Z,10.0nm,1.3s
CLL Collm 102.97 323 ePdif **Pdif** **00 46 49.5 -1.5**
BOJS Bojanci 103.11 317 *i* P **Pdif** **00 46 55.7 +3.9**
VNA2 Neumayer--Watz 103.18 195 P **Pdif** **00 46 53.7 +2.1**
baz=122,slow=4.4
KHC Kasperske Hory 103.25 321 ePDIFF **Pdif** **00 46 52.3 -0.1**
KHC ex x 00 46 55.9
KHC ex x 00 47 15.5
KHC epP 00 47 20.8
KHC ePP **PP** **00 51 10.1 +0.9**
KHC ex x 00 51 43.0
KHC eSKS 00 57 15.8
KHC eXSKS 00 58 17.4
KHC ePS **PS** **01 00 25.9 +4.2**
KHC AMS AMS 01 38 10.0
comp=Z,600nm,19.6s
KHC Kasperske Hory 103.25 321 eP **Pdif** **00 46 52.3 -0.1**
KHC e 00 51 10.1
KHC e 00 57 15.8
KHC e 00 58 17.4
KHC ePS **PS** **01 00 25.9 +4.2**
KHC MLR MLR
comp=Z,600nm,19.6s
GEC2 GERESS Array S 103.25 321 eP **Pdif** **00 46 52.0 -0.5**
GEC2 GERESS Array S 103.25 321 ePdif **Pdif** **00 46 52.0 -0.5**
GERES GERESS Array B 103.25 321 Pdiff **Pdif** **00 46 52.2 -0.3**
comp=Z,3.7nm,0.9s,baz=73,slow=4.5,SNR=12
GERES PP **PP** **00 51 09.2 0.0**
comp=Z,6.5nm,1.0s,baz=72,slow=5.7,SNR=7.2
GERES PKKPbc **PKKPbc** **01 02 46.7 -2.3**
comp=Z,0.9nm,0.8s,baz=270,slow=2.5,SNR=5.2
GERES GERESS Array B 103.25 321 P **Pdif** **00 46 52.2 -0.3**
GERES 00 51 09.2
GERES pmax pmax
comp=Z,4.0nm,0.9s
GERES pmax pmax
comp=Z,7.0nm,1.0s
GERES pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 103.30 24 Pdiff **Pdif** **00 46 53.0 +0.7**
comp=Z,2.4nm,1.0s,baz=298,slow=4.6,SNR=14
YKA pP 00 47 29.8
comp=Z,1.3nm,0.9s,baz=295,slow=4.7,SNR=2.3
YKA sP 00 47 45.9
comp=Z,1.3nm,0.9s,baz=304,slow=4.7,SNR=2.2
YKA PKiKP **PP** **00 51 09.4 +0.4**
comp=Z,0.7nm,0.5s,baz=301,slow=1.7,SNR=11
YKA pPKiKP **pPKiKP** **00 51 50.0 +0.4**
comp=Z,0.8nm,0.8s,baz=292,slow=1.9,SNR=3.5
YKA PKPPbc **PKKPbc** **01 02 46.3 -2.9**
comp=Z,1.7nm,0.7s,baz=112,slow=2.4,SNR=18
YKA Yellowknife Ar 103.30 24 P **Pdif** **00 46 53.0 +0.7**
YKA pmax pmax
comp=Z,2.0nm,1.0s
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKB5 Yelloknife Ar 103.30 24 ePdif **Pdif** **00 46 52.6 +0.3**
YKB5 ePP **PP** **00 51 08.5 -0.5**
YKB5 ePKKPbc **PKKPbc** **01 02 46.2 -3.0**
VISS Visnje 103.32 317 *i* P **Pdif** **00 46 57.7 +4.9**
MUD Monsted U'grnd 103.37 329 *i* P **PP** **00 51 04.6 -5.1**
MUD *i* 00 57 21.9
TANN Tannenbergstha 103.56 322 ePdiff **Pdif** **00 46 53.8 0.0**
VNA1 Neumayer--Stat 103.58 195 P **Pdif** **00 46 57.6 +4.2**
NKC Novy Kostel 103.63 322 ePDIFF **Pdif** **00 46 54.2 +0.1**
NKC ex x 00 46 57.8
NKC ex x 00 47 12.4
NKC ePP **PP** **00 51 14.8 +2.9**
NKC ex x 00 51 47.5
NKC eSKS 00 57 24.0
NKC eXSKS 00 58 18.8
NKC ex x 01 00 39.6
NKC AMS AMS 01 36 00.0
comp=Z,300nm,16.2s
NKC Novy Kostel 103.63 322 eP **Pdif** **00 46 54.2 +0.1**
NKC e 00 51 14.8
NKC e 00 57 24.0
NKC e 00 58 18.8
NKC MLR MLR
comp=Z,300nm,16.2s
BSEG Bad Segeberg 103.67 326 ePdiff **Pdif** **00 46 54.9 +0.8**
WET Wettzell 103.68 321 ePP PP 00 51 14.9 +2.5
JAVS Javornik 103.82 318 *i* P **Pdif** **00 46 58.4 +3.2**
ROTZ Rotzenmuhle 103.92 322 ePdiff **Pdif** **00 46 56.2 +0.8**
MOX Moxa 104.00 323 ePP PP 00 51 16.6 +1.9
NRDL Niedersach Rie 104.28 325 ePdiff **Pdif** **00 46 57.8 +1.0**
NRDL ePP **PP** **00 51 20.1 +3.6**
IBBN Ibbenburen 105.69 325 ePdiff **Pdif** **00 47 01.8 -1.4**
STU Stuttgart 106.10 322 ePP PP 00 51 33.7 +3.5
STU Stuttgart 106.10 322 ePP PP 00 51 29.4 -0.8
FUORN Ofenpass-Fuorn 106.13 319 ePdif **Pdif** **00 47 05.3 -0.3**
FUORN ePP **PP** **00 51 32.2 +1.4**
SUMG Summit 106.26 355 *i* P **PP** **00 51 26.5 -4.5**
SUMG Summit 106.26 355 ePP PP 00 51 25.5 -5.6
BUG Bochum--Univer 106.30 325 ePdiff **Pdif** **00 47 00.3 -5.6**
BFO Black Forest 106.80 321 ePP PP 00 51 38.7 +3.4
BFO Black Forest 106.80 321 ePP PP 00 51 37.5 +2.1
LANF Langenberg 106.89 322 eP **PP** **00 51 38.5 +2.5**
J05D Fort Rock, OR 107.04 44 ⇓P **PKiKP** **00 51 20.4 +2.0**
baz=107
CDF Champ du Feu 107.42 322 eP **Pdif** **00 47 11.7 +0.6**
comp=Z,10.0nm,1.1s

ECH Echery 107.57 321 eP **PP** **00 51 43.7 +2.7**
MOF Molkenrain 107.72 321 eP **PP** **00 51 44.9 +2.8**
LOMF Lomont 108.09 321 eP **PP** **00 51 46.7 +1.8**
THEF They Montfort 108.29 322 eP **PP** **00 51 49.5 +3.3**
LPG La Plagne 108.81 319 eP **Pdif** **00 47 17.1 -0.5**
comp=Z,13nm,1.0s
BSMT Bassoo Peak 109.67 38 ePKKPab PKKPab 01 02 40.3 -0.1
KEST Kesra 110.01 308 PP PP 00 51 52.9 -6.3
comp=Z,4.0nm,1.0s,baz=304,slow=8.3,SNR=4.5
KEST PKKPbc **PKKPbc** **01 02 28.6 +0.9**
comp=Z,1.7nm,0.6s,baz=206,slow=1.6,SNR=10
SWMT Swartz Lake 110.30 38 ePP PP 00 51 59.0 -1.9
SWMT ePKKPab **PKKPab** **01 02 36.5 -1.0**
MSO Missoula 110.61 39 ePKiKP **PKiKP** **00 51 25.2 +0.3**
MSO *e* 00 52 01.5
MSO Missoula 110.61 39 ⇑P **PKiKP** **00 51 25.9 +0.9**
baz=111
NV01 Mina Array Sit 110.64 48 ePKiKP **PKiKP** **00 51 25.4 0.0**
NVAR Mina Array Bea 110.64 48 Pdiff **Pdif** **00 47 31.1 +5.3**
comp=Z,0.8nm,1.0s,baz=247,slow=5.7,SNR=3.2
NVAR PKiKP **PKiKP** **00 51 27.1 +1.7**
comp=Z,0.9nm,0.7s,baz=256,slow=3.8,SNR=6.9
NVAR PP **PP** **00 52 01.9 -1.8**
comp=Z,1.8nm,0.9s,baz=262,slow=5.8,SNR=4.4
NVAR SKP 00 54 48.8
comp=Z,1.3nm,0.7s,baz=263,slow=1.1,SNR=4.1
NVAR PKKPbc **PKKPbc** **01 02 26.2 +0.3**
comp=Z,1.9nm,1.1s,baz=165,slow=3.2,SNR=4.1
NVAR PKKPab **PKKPab** **01 02 37.2 +1.0**
comp=Z,0.5nm,0.6s,baz=129,slow=5.6,SNR=4.7
HLID Hailey 111.61 42 ePKiKP **PKiKP** **00 51 26.3 -0.8**
HLID Hailey 111.61 42 ⇑P **PKiKP** **00 51 29.3 +2.2**
baz=112,SNR=9.2
EDW2 Edwards Air Fo 111.94 52 ⇓P **PKiKP** **00 51 29.0 +1.2**
baz=112
MPMC Manual Prospec 111.98 51 ⇑P **PKiKP** **00 51 30.7 +2.7**
baz=112
DLMT Dillon 112.08 40 ePKiKP **PKiKP** **00 51 23.6 -4.2**
DLMT ePKKPab **PKKPab** **01 02 29.0 -0.7**
ELK Elko 112.09 45 ePKiKP **PKiKP** **00 51 28.5 +0.4**
MCMT McKenzie Canyo 112.14 40 ePP PP 00 52 13.7 -0.6
SFJD Kangerlussuaq 112.57 358 PP PP 00 52 14.7 -1.3
comp=Z,10.0nm,0.8s,baz=358,slow=6.7,SNR=6.4
SFJD Kangerlussuaq 112.57 358 ePP PP 00 52 14.0 -2.0
BOZ Bozeman (W) 112.57 39 ePKiKP **PKiKP** **00 51 30.8 +2.0**
EGMT Eagleton 112.63 36 ePKiKP **PKiKP** **00 51 29.7 +1.0**
EGMT Eagleton 112.63 36 ⇓P **PKiKP** **00 51 29.1 +0.4**
baz=113
TPNV Topopah Spring 112.65 49 ⇓P **PKiKP** **00 51 30.7 +1.4**
baz=113
R11A Troy Canyon, C 112.68 48 ePKiKP **PKiKP** **00 51 29.4 +0.2**
R11A Troy Canyon, C 112.68 48 ⇓P **PKiKP** **00 51 31.0 +1.8**
baz=113
GSC Goldstone, Bar 112.74 51 ⇓P **PKiKP** **00 51 30.8 +1.5**
baz=113
B19A Brinkman Farms 112.90 36 ⇑P **PKiKP** **00 51 29.6 +0.4**
baz=113
FFC Flin Flon 113.06 27 ePKiKP **PKiKP** **00 51 27.4 -1.8**
C19A Slack Wire Ran 113.19 36 ⇑P **PKiKP** **00 51 32.3 +2.5**
baz=113
HVU Hansel Valley 113.42 43 ePKiKP **PKiKP** **00 51 31.2 +0.6**
B20A Solberg Farm, 113.44 35 ⇓P **PKiKP** **00 51 30.6 +0.4**
baz=113
PFO Pinyon Flats O 113.53 53 PKiKP **PKiKP** **00 51 33.2 +2.3**
comp=Z,3.9nm,0.9s,baz=258,slow=3.8,SNR=3.9
PFO SKP 00 54 53.8
comp=Z,1.9nm,0.7s,baz=56,slow=3.6,SNR=3.7
PFO Pinyon Flats O 113.53 53 ePKiKP **PKiKP** **00 51 29.0 -1.9**
PFO SKP 00 54 53.8
SHPR Sheep Range 113.62 49 ePKiKP **PKiKP** **00 51 30.4 -0.7**
GCMT Greycliff 113.73 38 ePKiKP **PKiKP** **00 51 31.6 +0.6**
BELC Belle Mtn. Jos 113.77 52 ⇓P **PKiKP** **00 51 32.5 +1.1**
baz=114
IMW Indian Meadow 113.77 41 ePKiKP **PKiKP** **00 51 31.3 -0.1**
GMRC Granite Mounta 113.79 51 ⇑P **PKiKP** **00 51 32.8 +1.4**
baz=114
C20A Veseth Ranch, 113.81 36 ⇑P **PKiKP** **00 51 32.5 +1.6**
baz=114
FXWY Fox Creek 113.83 41 ePKiKP **PKiKP** **00 51 30.4 -1.0**
MOOW Moose Ponds 113.96 41 ePKiKP **PKiKP** **00 51 30.6 -1.1**
MOOW ePP **PP** **00 52 24.3 -2.9**
DUG Dugway, Tooele 114.02 45 ePKiKP PKPdf 00 51 32.1 +0.4
DUG Dugway, Tooele 114.02 45 ePKiKP **PKiKP** **00 51 32.1 +0.4**
DUG Dugway, Tooele 114.02 45 ⇑P **PKiKP** **00 51 33.9 +2.2**
baz=114
D20A Manuel Ranch, 114.04 37 ⇓P PKPdf 00 51 32.7 +1.3
baz=114
REDW Red Top Meadow 114.06 41 ePKiKP PKPdf 00 51 30.8 -1.1
SNOW Snow King Moun 114.08 41 ePKiKP PKPdf 00 51 31.8 0.0
LOHW Long Hollow 114.11 41 ePKiKP **PKiKP** **00 51 32.6 +0.7**
F19A Roth Farm, Mol 114.15 38 ⇓P PKPdf 00 51 32.8 +1.1
baz=114
H18A Shoshone NF, C 114.25 39 ⇓P PKPdf 00 51 33.2 +1.1
baz=114
C21A Desert Coulee 114.29 35 ⇑P PKPdf 00 51 33.1 +1.2
baz=114
RLMT Red Lodge 114.29 39 ePP **PP** **00 52 28.9 -0.6**
BC3 Big Chuckawall 114.31 52 ⇑P PKPdf 00 51 33.0 +0.6
baz=114
HWUT Hardware Ranch 114.32 43 ePKiKP **PKiKP** **00 51 33.2 +0.9**
E20A Meyer Farm, Mu 114.33 37 ⇓P PKPdf 00 51 33.2 +1.1
baz=114
A22A Carney Farms, 114.35 34 ⇓P PKPdf 00 51 32.8 +0.8
baz=114
IRM Iron Mountain 114.39 52 ⇑P PKPdf 00 51 33.0 +0.6
baz=114
NLU North Lily Min 114.63 45 ePKiKP **PKiKP** **00 51 32.1 -0.9**
H19A Powell 114.68 39 ⇓P PKPdf 00 51 34.1 +1.3
baz=115
JLU Jordanelle 114.81 44 ePKiKP PKPdf 00 51 34.2 +0.9
G20A Bridger 114.90 38 ⇑P PKPdf 00 51 34.2 +0.9
baz=115
MPU Maple Canyon 114.92 45 ePKiKP **PKiKP** **00 51 33.1 -0.4**
E21A Keefer Ranch, 114.95 37 ⇑P PKPdf 00 51 34.9 +1.8
baz=115
I19A Meeteetse 114.97 40 ⇑P PKPdf 00 51 35.1 +1.6
baz=115
W13A Hualapai Mount 115.07 51 ⇑P **PKPdf** **00 51 35.5 +1.6**
baz=115
MSU Marysvale 115.12 46 ePKiKP **PKPdf** **00 51 32.4 -1.6**
MSU Marysvale 115.12 46 ePKiKP **PKPdf** **00 51 32.4 -1.6**
B23A Brockton 115.15 34 ⇓P **PKPdf** **00 51 34.9 +1.4**
baz=115
BW06 Boulder Array 115.17 41 ePKiKP **PKiKP** **00 51 33.1 -0.8**
BW06 ePKPdf **PKPdf** **00 51 34.2 +0.3**
PDAR Pinedale Array 115.17 41 PKP **PKPdf** **00 51 35.5 +1.6**
comp=Z,1.8nm,0.8s,baz=155,slow=1.8,SNR=9.0
PDAR pPKP pPKP 00 52 12.0
comp=Z,1.0nm,0.7s,baz=12,slow=0.4,SNR=2.8
PDAR PKKPbc **PKKPbc** **01 02 09.1 -1.8**
comp=Z,0.8nm,0.8s,baz=99,slow=5.0,SNR=6.0
PDAR PKKPab **PKKPab** **01 02 15.6 -0.4**
comp=Z,3.5nm,0.9s,baz=105,slow=6.5,SNR=15
J19A Crowheart 115.28 41 ⇓P **PKPdf** **00 51 34.8 +0.7**
baz=115
LAO LASA Array 115.38 36 ePKPdf **PKPdf** **00 51 32.4 -1.6**
C23A Lambert 115.40 35 ⇑P **PKPdf** **00 51 35.3 +1.3**
baz=115
A24A Westby 115.45 33 ⇑P **PKPdf** **00 51 35.1 +1.0**
baz=115
TMUT Trail Mountain 115.51 45 ePKPdf **PKPdf** **00 51 33.7 -1.1**
I20A Worland 115.56 40 ⇑P **PKPdf** **00 51 35.6 +1.1**
baz=116
E22A Miles City 115.67 36 ⇓P **PKPdf** **00 51 36.2 +1.6**
baz=116
U15A North Rim 115.81 49 ⇑P **PKPdf** **00 51 37.0 +1.6**
baz=116
F22A Rosebud 115.83 37 ⇓P **PKPdf** **00 51 36.7 +1.8**
baz=116
J20A Shoshoni 115.87 40 ⇓P **PKPdf** **00 51 36.8 +1.6**
baz=116
A25A Svangstu Ranch 115.92 33 ⇑P **PKPdf** **00 51 36.8 +1.9**
baz=116
E23A Ismay 116.02 36 ⇓P **PKPdf** **00 51 37.1 +1.9**
baz=116
SRU San Rafael Swe 116.07 45 ePKiKP **PKPdf** **00 51 35.0 -0.7**
SRU San Rafael Swe 116.07 45 ePKPdf **PKPdf** **00 51 35.0 -0.7**
I21A Big Trails, Te 116.16 39 ⇑P **PKPdf** **00 51 36.9 +1.1**
baz=116
H22A Clearmont 116.36 38 ⇑P **PKPdf** **00 51 37.5 +1.4**
baz=116
F23A Volborg 116.37 37 ⇑P **PKPdf** **00 51 37.6 +1.6**
baz=116
I22A 9 Mile Ranch, 116.63 39 ⇑P **PKPdf** **00 51 36.8 +0.1**
baz=117
G23A Biddle 116.64 37 ⇓P **PKPdf** **00 51 37.0 +0.4**
baz=117
WUAZ Wupatki 116.84 49 ePKPdf **PKPdf** **00 51 36.6 -0.7**
WUAZ Wupatki 116.84 49 ⇓P **PKPdf** **00 51 37.2 -0.1**
baz=117
J22A Midwest 116.87 39 ⇓P **PKPdf** **00 51 37.7 +0.6**
baz=117
N20A Spence Gulch, 116.90 43 ⇑P **PKPdf** **00 51 39.2 +1.8**
baz=117,SNR=7.6
214A Organ Pipe Nat 116.95 53 ⇓P **PKPdf** **00 51 38.9 +1.5**
baz=117
E25A Miller Ranch, 117.13 35 ⇓P **PKPdf** **00 51 38.3 +0.9**
baz=117
X16A Lo Mia Camp, P 117.19 50 ⇓P **PKPdf** **00 51 40.6 +2.6**
baz=117
K22A Casper 117.21 40 ePKPdf **PKPdf** **00 51 37.7 -0.1**
K22A Casper 117.21 40 ⇑P **PKPdf** **00 51 38.6 +0.8**
baz=117
O20A White River Ci 117.23 43 ePKPdf **PKPdf** **00 51 37.3 -0.7**
O20A White River Ci 117.23 43 ⇑P **PKPdf** **00 51 40.1 +2.2**
baz=117,SNR=11
PV09 Paradox Valley 117.31 45 ePKPdf **PKPdf** **00 51 37.7 -0.6**
D26A Manning 117.38 34 ⇑P **PKPdf** **00 51 39.6 +1.7**
baz=117
H24A Dirks Ranch, A 117.39 37 ⇓P **PKPdf** **00 51 38.7 +0.7**
baz=117
F25A Bowman 117.41 36 ⇓P **PKPdf** **00 51 39.3 +1.4**
baz=117
J23A Dilts Ranch, B 117.46 39 ⇓P **PKPdf** **00 51 38.3 +0.1**
baz=117
PV05 Paradox Valley 117.51 46 ePKPdf **PKPdf** **00 51 38.5 -0.1**
E26A Carlson Angus 117.68 35 ⇓P **PKPdf** **00 51 40.2 +1.7**
baz=118
B28A Dugan Ranch, T 117.69 32 ⇑P **PKPdf** **00 51 40.3 +1.9**
baz=118
I24A Kuemmerle Ranc 117.81 38 ⇑P **PKPdf** **00 51 39.5 +0.6**
baz=118
G25A Newell 117.83 36 ⇓P **PKPdf** **00 51 39.9 +1.2**
baz=118
D27A Center 117.85 34 ⇓P **PKPdf** **00 51 39.8 +1.0**
baz=118
PV01 Paradox Valley 117.87 46 ePKPdf **PKPdf** **00 51 40.5 +1.2**
F26A Lodgepole 117.91 36 ⇓P **PKPdf** **00 51 40.2 +1.3**
baz=118
A29A Manning Farm, 117.99 31 ⇑P **PKPdf** **00 51 39.7 +0.8**
baz=118
RSSD Black Hills 118.03 38 ePKIKP **PKPdf** **00 51 39.2 -0.2**
RSSD Black Hills 118.03 38 ePKPdf **PKPdf** **00 51 39.1 -0.2**
H25A Fruitdale 118.03 37 ⇑P **PKPdf** **00 51 40.2 +1.0**
baz=118
J24A Dixon Ranch, L 118.06 39 ⇓P **PKPdf** **00 51 40.5 +1.1**
baz=118
N22A Wattenberg Ran 118.14 42 ⇓P **PKPdf** **00 51 40.6 +0.8**
baz=118
G26A Maurine 118.26 36 ⇓P **PKPdf** **00 51 40.6 +1.0**
baz=118
I25A Rochford 118.27 38 ⇓P **PKPdf** **00 51 40.8 +0.9**
baz=118
X18A Snowflake 118.29 50 ⇓P **PKPdf** **00 51 40.9 +0.7**
baz=118
MVCO Mesa Verde 118.31 46 ePKPdf **PKPdf** **00 51 39.1 -1.1**
MVCO Mesa Verde 118.31 46 ⇓P **PKPdf** **00 51 40.8 +0.6**
baz=118
ES19 SONSECA Array 118.35 317 ePKPdf **PKPdf** **00 51 39.6 -0.3**
O22A Kremmling 118.37 43 ⇓P **PKPdf** **00 51 41.3 +1.0**
baz=118
ESDC Sonseca Array 118.40 317 PKP **PKPdf** **00 51 40.6 +0.6**
comp=Z,8.7nm,1.4s,baz=0.4,slow=4.5,SNR=6.8
ESDC PP PP 00 52 46.9 -11
comp=Z,1.9nm,0.8s,baz=51,slow=6.8,SNR=5.8
ESDC PKKPbc **PKKPbc** **01 01 58.7 -0.5**
comp=Z,0.8nm,0.7s,baz=256,slow=3.7,SNR=5.9
N23A Red Feather La 118.43 42 ⇓P **PKPdf** **00 51 41.5 +1.2**
baz=118
TUC Tucson 118.45 52 ePKIKP **PKPdf** **00 51 38.6 -1.8**
TUC Tucson 118.45 52 ePKPdf **PKPdf** **00 51 38.6 -1.8**
MDND Maddock 118.46 32 ⇑P **PKPdf** **00 51 42.0 +2.2**
baz=118
A30A Hoffart Farm, 118.46 31 ⇑P **PKPdf** **00 51 41.3 +1.5**
baz=118
P22A Eagle 118.49 43 ⇑P **PKPdf** **00 51 42.2 +1.8**
baz=118
SMCO Snowmass 118.53 44 ePKPdf **PKPdf** **00 51 39.1 -1.7**
G27A Dupree 118.61 36 ⇓P **PKPdf** **00 51 41.5 +1.3**
baz=118
O23A Lake Granby, G 118.78 42 ⇓P **PKPdf** **00 51 43.0 +1.9**
baz=119,SNR=11
ULM Lac du Bonnet 118.80 28 PKP **PKPdf** **00 51 40.5 +0.1**
comp=Z,5.6nm,0.8s,baz=338,slow=2.9,SNR=10
ULM pPKP **pPKPdf** **00 52 19.9 +0.7**
comp=Z,2.7nm,0.7s,baz=329,slow=3.2,SNR=2.4
ULM SKP 00 55 02.2
comp=Z,3.9nm,1.0s,baz=340,slow=7.5,SNR=3.3
ULM PKKPbc **PKKPbc** **01 01 55.6 -2.4**
comp=Z,2.5nm,0.7s,baz=101,slow=0.5,SNR=6.8
ULM Lac du Bonnet 118.80 28 PKiKP **PKPdf** **00 51 40.5 +0.1**
ULM 00 52 19.9
ULM pmax pmax
comp=Z,6.0nm,0.8s
ULM pmax pmax
comp=Z,3.0nm,0.7s
ULM pmax pmax
comp=N,4.0nm,1.0s
ULM pmax pmax
comp=Z,3.0nm,0.7s
ULM Lac du Bonnet 118.80 28 ePKPdf **PKPdf** **00 51 38.3 -2.1**
ULM pPKP **pPKPdf** **00 52 19.9 +0.7**
ULM SKP 00 55 02.2
ULM PKKPbc **PKKPbc** **01 01 55.6 -2.4**
H27A Howes 118.94 36 ⇓P **PKPdf** **00 51 41.7 +0.7**
baz=119
J26A Sides Ranch, S 119.05 38 ⇑P **PKPdf** **00 51 42.0 +0.8**
baz=119
L25A Engebretsen Ra 119.10 40 ⇑P **PKPdf** **00 51 42.2 +0.8**
baz=119
C30A Mose, Pekin 119.14 32 ⇓P **PKPdf** **00 51 42.1 +1.0**
baz=119
ISCO Idaho Springs 119.18 43 ePKIKP **PKPdf** **00 51 39.5 -2.4**
ISCO Idaho Springs 119.18 43 ePKPdf **PKPdf** **00 51 39.5 -2.4**
ISCO Idaho Springs 119.18 43 ⇑P **PKPdf** **00 51 42.3 +0.5**
baz=119
P23A Jefferson 119.22 43 ⇑P **PKPdf** **00 51 43.0 +1.0**
baz=119
I27A Quinn 119.26 37 ⇑P **PKPdf** **00 51 42.0 +0.4**
baz=119
S22A 4UR Ranch, Cre 119.27 45 ePKPdf **PKPdf** **00 51 40.6 -1.5**
S22A 4UR Ranch, Cre 119.27 45 ⇑P **PKPdf** **00 51 43.3 +1.2**
baz=119
K26A Motz Farm, Whi 119.31 39 ⇓P **PKPdf** **00 51 42.2 +0.4**
baz=119
D30A Buchanan 119.36 33 ⇓P **PKPdf** **00 51 43.2 +1.5**
baz=119
G28A Parade 119.37 35 ⇓P **PKPdf** **00 51 42.7 +0.9**
baz=119
O24A Longmont 119.39 42 ⇓P **PKPdf** **00 51 43.4 +1.4**
baz=119
E30A Jud 119.65 33 ⇑P **PKPdf** **00 51 42.7 +0.5**
baz=120
MVO Moncorvo 119.73 319 PKPdf **PKPdf** **00 51 42.9 +0.3**
J27A Elkhorn Farm, 119.74 38 ⇑P **PKPdf** **00 51 43.9 +1.3**
baz=120
R23A Moffat 119.78 44 ⇓P **PKPdf** **00 51 42.9 -0.2**
baz=120
I28A Midland 119.83 37 ⇑P **PKPdf** **00 51 42.8 +0.1**
baz=120
Q24A Divide 119.89 43 ePKPdf **PKPdf** **00 51 41.1 -2.2**
Q24A Divide 119.89 43 ⇓P **PKPdf** **00 51 43.4 +0.1**
baz=120
319A Douglas 119.98 53 ⇑P **PKPdf** **00 51 44.9 +1.5**
baz=120
AGMN Agassiz Nation 120.11 30 ⇑P **PKPdf** **00 51 43.6 +0.6**
baz=120
PGAV Gavieira, Arco 120.11 321 PKPdf **PKPdf** **00 51 43.8 +0.5**
PGAV Gavieira, Arco 120.11 321 ePP PP 00 53 10.3 +0.6
J28A Allard Ranch, 120.11 37 ⇓P **PKPdf** **00 51 43.9 +0.7**
baz=120
POLO Lamas de Olo 120.12 320 PKPdf **PKPdf** **00 51 43.3 0.0**
POLO Lamas de Olo 120.12 320 ePP PP 00 53 10.7 +0.9
PVRL Vila Real 120.12 320 PKPdf **PKPdf** **00 51 45.1 +1.8**
SDCO Great Sand Dun 120.21 45 ePKPdf **PKPdf** **00 51 42.8 -1.1**
SDCO Great Sand Dun 120.21 45 ⇓P **PKPdf** **00 51 45.3 +1.4**
baz=120,SNR=8.6
I29A Vivian Onida 120.33 36 ⇑P **PKPdf** **00 51 45.1 +1.5**
baz=120
G30A Faulkton 120.35 35 ⇑P **PKPdf** **00 51 44.4 +0.9**
baz=120
LAZ Ladron 120.48 49 ePKPdf **PKPdf** **00 51 44.4 0.0**
PVIS Viseu 120.52 319 ePKPdf **PKPdf** **00 51 45.0 +0.9**

J29A	Okreek	120.67	37	⇓P		PKPdf	00 51 45.4	+1.1
	baz=121							
PCBR	Castelo Branco	120.70	318		PKPdf	PKPdf	00 51 45.4	+1.0
PCBR	Castelo Branco	120.70	318	*e*PP		PP	00 53 17.6	+3.9
N27A	Anderson Farm,	120.72	40	⇓P		PKPdf	00 51 45.4	+0.8
	baz=121							
121A	Cookes Peak, D	120.73	51	⇓P		PKPdf	00 51 47.0	+2.2
	baz=121							
ANMO	Albuquerque	120.76	48	*d*	PKIKP	PKPdf	00 51 45.8	+0.9
ANMO					pmax	pmax		
	comp=Z,28nm,1.0s							
ANMO	Albuquerque	120.76	48	*e*	PKPdf	PKPdf	00 51 43.8	-1.1
P26A	Davis Ranch, A	120.82	42	⇓P		PKPdf	00 51 46.8	+1.9
	baz=121							
LPM	Los Pinos Moun	120.89	49	*e*	PKPdf	PKPdf	00 51 44.4	-0.8
BNM	Barren Site	120.97	49	*e*	PKPdf	PKPdf	00 51 44.9	-0.5
Q26A	Hugo	121.02	43	⇓P		PKPdf	00 51 46.9	+1.6
	baz=121							
O27A	Beecher Island	121.07	41	⇓P		PKPdf	00 51 46.6	+1.3
	baz=121							
M28A	Bar X Bar Ranc	121.15	39	⇓P		PKPdf	00 51 47.4	+2.1
	baz=121							
J30A	Dallas	121.22	36	⇓P		PKPdf	00 51 45.4	+0.1
	baz=121							
J30A				⇓P		PKiKP	00 51 48.6	+3.2
	baz=121							
PBAR	Barrancos	121.22	316		PKPdf	PKPdf	00 51 46.2	+0.8
PESTR	Estremoz	121.26	317	*e*	PKPdf	PKPdf	00 51 47.9	+2.4
PCAS	Casmilo, Conde	121.26	319		PKPdf	PKPdf	00 51 41.6	-3.9
PCAS	Casmilo, Conde	121.26	319	*e*PP		PP	00 53 18.6	+1.1
T25A	Trinidad	121.26	45	*e*	PKPdf	PKPdf	00 51 44.9	-0.9
T25A	Trinidad	121.26	45	⇓P		PKPdf	00 51 47.8	+2.0
	baz=121,SNR=6.4							
R26A	Arlington	121.38	43	⇓P		PKPdf	00 51 47.8	+1.8
	baz=121							
PTOM	Tomar	121.43	319	*e*	PKPdf	PKPdf	00 51 47.3	+1.5
K30A	Basset	121.52	37	⇓P		PKPdf	00 51 46.8	+0.8
	baz=122							
KSCO	Kaye Shedlock'	121.58	42	*e*	PKPdf	PKPdf	00 51 45.7	-0.6
PMTG	Montargil	121.59	318		PKPdf	PKPdf	00 51 45.1	-1.0
PMTG	Montargil	121.59	318	*e*PP		PP	00 53 19.0	-0.7
S26A	Kim	121.69	44	⇓P		PKPdf	00 51 48.3	+1.7
	baz=122,SNR=7.9							
EVO	Evora	121.71	317	*e*	PKIKP	PKPdf	00 51 46.7	+0.3
	comp=Z,20nm,0.9s							
EVO	Evora	121.71	317		PKPdf	PKPdf	00 51 47.0	+0.6
EVO	Evora	121.71	317	*e*PP		PP	00 53 23.1	+2.5
TOA0	Torodi Ar. Sit	121.82	286	*e*	PKPdf	PKPdf	00 51 45.4	-1.8
TOA0				*e*	PKKPbc	PKKPab	01 01 47.1	+0.3
TORD	Torodi Ar. Bea	121.82	286		PKP	PKPdf	00 51 47.1	0.0
	comp=Z,8.1nm,0.7s,baz=61,slow=1.4,SNR=42							
TORD					pPKP	pPKPdf	00 52 24.1	-1.9
	comp=Z,2.8nm,0.7s,baz=57,slow=1.8,SNR=1.6							
TORD					SKP		00 55 09.2	
	comp=Z,3.8nm,0.8s,baz=60,slow=2.1,SNR=3.7							
TORD					PKKPab	PKKPab	01 01 48.4	+1.6
	comp=Z,4.4nm,0.7s,baz=258,slow=3.8,SNR=25							
T26A	Comanche Natio	121.82	44	⇑P		PKPdf	00 51 48.3	+1.4
	baz=122,SNR=17							
R27A	Eads	121.83	43	⇑P		PKPdf	00 51 48.1	+1.3
	baz=122							
PVAQ	Vaqueiros	122.07	316	*e*	PP	PP	00 53 25.4	+2.3
Q28A	Sharon Springs	122.08	42	⇑P		PKPdf	00 51 47.2	0.0
	baz=122							
PCVE	Castro Verde	122.18	316		PKPdf	PKPdf	00 51 48.8	+1.5
PCVE	Castro Verde	122.18	316	*e*PP		PP	00 53 25.1	+1.3
MESJ	Messejana	122.20	317		PKPdf	PKPdf	00 51 46.3	-1.0
MESJ	Messejana	122.20	317	*e*PP		PP	00 53 27.1	+3.2
O29A	4D Ranch, Culb	122.20	40	⇓P		PKPdf	00 51 47.7	+0.3
	baz=122							
PNCL	Nicolau / Gran	122.28	317	*e*	PKPdf	PKPdf	00 51 48.9	+1.5
PNCL	Nicolau / Gran	122.28	317	*e*PP		PP	00 53 24.8	+0.4
PMST	Lisbon--Monsan	122.40	318		PKPdf	PKPdf	00 51 46.7	-1.0
R28A	Tribune	122.47	42	⇓P		PKPdf	00 51 49.6	+1.7
	baz=122							
EYMN	Ely	122.47	28	*e*	PKPdf	PKPdf	00 51 46.5	-1.1
T27A	Campo	122.49	44	⇑P		PKPdf	00 51 50.1	+2.0
	baz=122							
ECSD	EROS Data Cent	122.64	35	*e*	PKPdf	PKPdf	00 51 47.6	-0.4
ECSD				*e*	PKKPbc	PKKPab	01 01 41.5	-1.6
ECSD	EROS Data Cent	122.64	35	⇑P		PKPdf	00 51 48.9	+0.9
	baz=123							
M31A	Lambtecht Ranc	122.67	38	⇑P		PKPdf	00 51 49.7	+1.5
	baz=123							
U27A	Thompson Grove	122.72	45	⇑P		PKPdf	00 51 50.3	+1.8
	baz=123							
Q29A	Oakley	122.74	42	⇓P		PKPdf	00 51 50.5	+2.1
	baz=123							
MORF	Marmelete	122.76	316		PKPdf	PKPdf	00 51 47.8	-0.7
S28A	Manter	122.79	43	⇓P		PKPdf	00 51 50.4	+1.8
	baz=123							
P30A	Selden	122.87	40	⇓P		PKPdf	00 51 50.6	+1.9
	baz=123							
R29A	Marienthal	122.88	42	⇑P		PKPdf	00 51 50.5	+1.8
	baz=123							
T28A	Walsh	122.88	44	⇑P		PKPdf	00 51 50.4	+1.6
	baz=123							
MNTX	Cornudas Mount	122.93	51	*e*	PKPdf	PKPdf	00 51 49.1	+0.2
MNTX	Cornudas Mount	122.93	51	⇓P		PKPdf	00 51 51.1	+2.2
	baz=123							
PFVI	Vila Bisbo	122.97	316	*e*	PKPdf	PKPdf	00 51 52.9	+4.1
V27A	Dan Oppiter Fa	123.03	46	⇑P		PKPdf	00 51 52.2	+2.1
	baz=123,SNR=6.2							
BGNE	Belgrade	123.14	38	*e*	PKPdf	PKPdf	00 51 49.0	-0.1
BGNE	Belgrade	123.14	38	⇓P		PKPdf	00 51 49.6	+0.5
	baz=123							
U28A	Mallet	123.17	45	⇑P		PKPdf	00 51 50.3	+0.9
	baz=123							
Q30A	Quinter	123.19	41	⇓P		PKPdf	00 51 50.5	+1.2
	baz=123							
S29A	Ulysses	123.31	43	⇓P		PKPdf	00 51 51.2	+1.7
	baz=123							
P31A	Stockton	123.44	40	⇓P		PKPdf	00 51 51.2	+1.4
	baz=123							
V28A	Channing	123.47	45	⇓P		PKPdf	00 51 51.4	+1.4
	baz=123							
R30A	Dighton	123.53	42	⇑P		PKPdf	00 51 51.4	+1.5
	baz=124							
Q31A	Ellis	123.72	41	⇓P		PKPdf	00 51 51.2	+0.9
	baz=124							
O32A	Brockman Farm,	123.73	39	⇓P		PKPdf	00 51 51.1	+0.9
	baz=124							
SPMN	Marine on St.	123.73	31	*e*	PKPdf	PKPdf	00 51 47.8	-2.2
SPMN	Marine on St.	123.73	31	⇑P		PKPdf	00 51 51.1	+1.0
	baz=124							
S30A	Montezuma	123.74	43	⇑P		PKPdf	00 51 51.9	+1.6
	baz=124							
U29A	Oasis Ranch, S	123.80	44	⇑P		PKPdf	00 51 52.2	+1.6
	baz=124							
P32A	Huiting Farm,	123.89	40	⇑P		PKPdf	00 51 51.4	+0.9
	baz=124							
V29A	Stinnett	123.91	45	⇓P		PKPdf	00 51 52.0	+1.2
	baz=124							
MSTX	Muleshoe	123.92	47	*e*	PKPdf	PKPdf	00 51 50.2	-0.7
MSTX	Muleshoe	123.92	47	⇓P		PKPdf	00 51 51.8	+0.9
	baz=124,SNR=7.0							
T30A	Plains	124.01	43	⇓P		PKPdf	00 51 52.4	+1.4
	baz=124							
R31A	Burdett	124.02	41	⇓P		PKPdf	00 51 51.8	+0.9
	baz=124							
SCHQ	Schefferville	124.06	8		PKP	PKPdf	00 51 51.2	+0.8
	comp=Z,9.2nm,0.6s,baz=342,slow=1.6,SNR=27							
SCHQ					pPKP	pPKPdf	00 52 28.0	-1.2
	comp=Z,9.2nm,0.8s,baz=358,slow=2.1,SNR=4.7							
SCHQ					PP	PP	00 53 36.2	+0.8
	comp=Z,13nm,1.1s,baz=8.7,slow=7.4,SNR=3.3							
SCHQ					SKP		00 55 14.1	
	comp=Z,4.8nm,0.6s,baz=348,slow=3.3,SNR=5.0							
SCHQ	Schefferville	124.06	8	*e*	PKPdf	PKPdf	00 51 50.3	-0.1
SCHQ					pPKP	pPKPdf	00 52 28.0	-1.2
SCHQ					PP	PP	00 53 36.2	+0.8
SCHQ					SKP		00 55 14.1	
X28A	Dimmitt	124.08	47	⇑P		PKPdf	00 51 52.6	+1.4
	baz=124,SNR=8.8							
U30A	WK&E Inc. Balk	124.19	44	⇑P		PKPdf	00 51 53.1	+1.8
	baz=124							
Q32A	Meitler Ranch,	124.27	40	⇓P		PKPdf	00 51 52.8	+1.5
	baz=124							
AMTX	Amarillo	124.28	46	*e*	PKPdf	PKPdf	00 51 51.2	-0.3
AMTX	Amarillo	124.28	46	⇓P		PKPdf	00 51 52.6	+1.1
	baz=124							
Y28A	McKinney Farm,	124.33	47	⇓P		PKPdf	00 51 53.0	+1.3
	baz=124							
X29A	Tulia	124.48	46	⇓P		PKPdf	00 51 53.0	+1.0
	baz=124,SNR=7.0							
R32A	Long Quarter,	124.49	41	⇓P		PKPdf	00 51 53.0	+1.2
	baz=124							
Z28A	Tucker Farm, M	124.52	48	⇓P		PKPdf	00 51 53.2	+1.2
	baz=124							
V30A	Spur Ranch, Mi	124.55	45	⇓P		PKPdf	00 51 53.3	+1.3
	baz=124							
P33A	Williams Farm,	124.57	39	⇑P		PKPdf	00 51 52.8	+0.9
	baz=124							
Q33A	Connelly Farm,	124.73	40	⇓P		PKPdf	00 51 53.4	+1.2
	baz=125							
S32A	Newby Ranch, P	124.73	42	⇑P		PKPdf	00 51 53.4	+1.2
	baz=125							
128A	Castleberry Fa	124.75	49	⇓P		PKPdf	00 51 53.9	+1.4
	baz=125							
Y29A	Porterfield Fa	124.78	47	⇑P		PKPdf	00 51 54.2	+1.7
	baz=125,SNR=19							
U31A	Nine Bar Ranch	124.83	44	⇓P		PKPdf	00 51 53.7	+1.2
	baz=125							
COWI	Conover	124.92	28	*e*	PKPdf	PKPdf	00 51 51.9	-0.5
R33A	Olander Ranch,	125.02	41	⇓P		PKPdf	00 51 54.2	+1.4
	baz=125							
T32A	Huddler Ranch,	125.03	42	⇓P		PKPdf	00 51 54.2	+1.4
	baz=125							
Z29A	Hungry Hill Ra	125.04	48	⇑P		PKPdf	00 51 53.7	+0.7
	baz=125,SNR=10							
X30A	Coker Ranch, T	125.08	46	⇑P		PKPdf	00 51 54.0	+1.0
	baz=125							
129A	Stewart Farms,	125.21	48	⇓P		PKPdf	00 51 54.2	+0.8
	baz=125							
TX31	Lajitas Ar. Si	125.24	53	*e*	PKPdf	PKPdf	00 51 53.3	-0.2
TXAR	Lajitas Array	125.24	53		PKP	PKPdf	00 51 54.9	+1.4
	comp=Z,3.3nm,0.9s,baz=267,slow=1.3,SNR=19							
TXAR					SKPbc	SKPbc	00 54 59.3	
	comp=Z,3.0nm,0.9s,baz=269,slow=2.3,SNR=5.1							
TXAR	Lajitas Array	125.24	53		PKiKP	PKPdf	00 51 54.9	+1.4
TXAR					pmax	pmax		
	comp=Z,3.0nm,0.9s							
TXAR					pmax	pmax		
	comp=N,3.0nm,0.9s							
Y30A	Stafford Cattl	125.34	47	⇓P		PKPdf	00 51 55.3	+1.7
	baz=125							
W31A	Holland Ranch,	125.37	45	⇑P		PKPdf	00 51 55.0	+1.4
	baz=125							
U32A	Winter Ranch,	125.40	43	⇓P		PKPdf	00 51 55.0	+1.4
	baz=125							
S33A	Kaszmaul Farm,	125.41	41	⇓P		PKPdf	00 51 55.1	+1.6
	baz=125							
KSU1	Kansas State U	125.45	39	*e*	PKPdf	PKPdf	00 51 51.7	-1.8
KSU1	Kansas State U	125.45	39	⇓P		PKPdf	00 51 54.9	+1.3
	baz=125							
Z30A	Sanderson Ranc	125.45	47	⇓P		PKPdf	00 51 54.6	+0.8
	baz=125,SNR=7.3							
T33A	Patterson Ranc	125.53	42	⇑P		PKPdf	00 51 55.1	+1.4
	baz=126							
X31A	McDonald Ranch	125.62	45	⇓P		PKPdf	00 51 54.8	+0.8
	baz=126							
329A	Wagon Wheel Ra	125.64	50	⇓P		PKPdf	00 51 54.8	+0.6
	baz=126,SNR=5.5							
Y31A	Rekieta Farm,	125.76	46	⇓P		PKPdf	00 51 55.0	+0.7
	baz=126,SNR=6.3							
W32A	Sentinel	125.89	45	⇓P		PKPdf	00 51 55.6	+1.1
	baz=126							
130A	Snyder	125.90	48	⇓P		PKPdf	00 51 55.8	+1.1
	baz=126							
S34A	Willow Spring	125.94	41	⇓P		PKPdf	00 51 55.4	+0.9
	baz=126							
529A	Stev Forest Ra	126.05	51	⇓P		PKPdf	00 51 56.1	+1.1
	baz=126							
429A	Davenport Ranc	126.09	51	⇑P		PKPdf	00 51 56.3	+1.3
	baz=126,SNR=17							
230A	Sterling City	126.12	49	⇓P		PKPdf	00 51 56.3	+1.2
	baz=126							
Z31A	Sharp Cattle R	126.16	47	⇑P		PKPdf	00 51 56.6	+1.5
	baz=126							
V33A	Losen Ranch,	126.19	43	⇓P		PKPdf	00 51 56.7	+1.6
	baz=126							
X32A	Elmer	126.22	45	⇑P		PKPdf	00 51 56.8	+1.6
	baz=126							
T34A	McClaskey Farm	126.27	41	⇑P		PKPdf	00 51 56.4	+1.3
	baz=126							
131A	Roby	126.29	48	⇓P		PKPdf	00 51 57.2	+1.8
	baz=126							
330A	Mertzon	126.29	49	⇓P		PKPdf	00 51 56.1	+0.7
	baz=126							
Y32A	R-V Farms, Ver	126.33	46	⇓P		PKPdf	00 51 56.8	+1.4
	baz=126							
U34A	Anderson Ranch	126.36	42	*e*	PKPdf	PKPdf	00 51 53.8	-1.5
U34A	Anderson Ranch	126.36	42	⇓P		PKPdf	00 51 57.0	+1.7
	baz=126							
WMOK	Wichita Mounta	126.42	45	*e*	PKIKP	PKPdf	00 51 53.8	-1.8
WMOK	Wichita Mounta	126.42	45	*e*	PKPdf	PKPdf	00 51 53.8	-1.8
W33A	Caddo, Fort Co	126.42	44	⇑P		PKPdf	00 51 56.9	+1.4
	baz=126							
S35A	Otter Creek Ra	126.46	40	⇑P		PKPdf	00 51 57.0	+1.5
	baz=126							
430A	Baggett Ranch,	126.53	50	⇓P		PKPdf	00 51 57.6	+1.7
	baz=126,SNR=10							
R36A	Gordon, Harris	126.60	39	⇓P		PKPdf	00 51 57.1	+1.3
	baz=126							
Z32A	Haskell	126.65	47	⇑P		PKPdf	00 51 56.8	+0.8
	baz=127							
JFWS	Jewell Farm	126.66	32	*e*	PKIKP	PKPdf	00 51 54.2	-1.6
JFWS	Jewell Farm	126.66	32	*e*	PKPdf	PKPdf	00 51 54.1	-1.6
231A	Bronte	126.69	48	⇑P		PKPdf	00 51 57.2	+1.0
	baz=127,SNR=5.2							
V34A	Guthrie	126.71	43	*e*	PKPdf	PKPdf	00 51 55.4	-0.7
V34A	Guthrie	126.71	43	⇑P		PKPdf	00 51 57.3	+1.2
	baz=127							
X33A	Lawton	126.72	45	⇓P		PKPdf	00 51 57.7	+1.6
	baz=127							
530A	J-C Ranch, Com	126.73	51	⇑P		PKPdf	00 51 58.8	+2.5
	baz=127,SNR=15							
T35A	Sooner Cattle	126.78	41	⇑P		PKPdf	00 51 58.1	+2.0
	baz=127							
W34A	Bridge Creek,	126.86	44	*e*	PKPdf	PKPdf	00 51 53.9	-2.5
W34A	Bridge Creek,	126.86	44	⇑P		PKPdf	00 51 58.4	+2.0
	baz=127							
ABTX	Abilene, Hawle	126.86	47	⇓P		PKPdf	00 51 58.2	+1.7
	baz=127							
S36A	Lake Cedric, C	126.90	40	⇑P		PKPdf	00 51 58.0	+1.7
	baz=127							
331A	San Angelo	126.91	49	⇑P		PKPdf	00 51 57.9	+1.3
	baz=127,SNR=9.1							
Y33A	Hilltop Ranch,	126.91	45	⇓P		PKPdf	00 51 58.2	+1.7
	baz=127							
Q37A	Longview Farm,	126.92	38	⇑P		PKPdf	00 51 57.3	+0.9
	baz=127							
R37A	Teagarden Farm	127.03	39	⇓P		PKPdf	00 51 57.8	+1.2
	baz=127							
431A	Sonora	127.06	50	⇑P		PKPdf	00 51 58.0	+1.1
	baz=127,SNR=8.7							
T36A	Boggs Farm, Ca	127.11	41	⇓P		PKPdf	00 51 58.6	+1.9
	baz=127							
X34A	Smith Ranch, M	127.15	44	⇓P		PKPdf	00 51 59.1	+2.2
	baz=127							
Z33A	Whitaker Ranch	127.17	46	⇓P		PKPdf	00 51 58.9	+1.9
	baz=127							
V35A	Meyer Ranch, C	127.21	43	⇓P		PKPdf	00 51 58.3	+1.3
	baz=127							
232A	Coleman	127.22	48	⇓P		PKPdf	00 51 58.9	+1.7
	baz=127							
531A	Rocksprings	127.34	51	⇑P		PKPdf	00 51 58.6	+1.1
	baz=127,SNR=11							
332A	Millersview	127.39	49	⇑P		PKPdf	00 51 59.4	+1.9
	baz=127,SNR=8.7							
133A	Hamilton Ranch	127.40	47	⇓P		PKPdf	00 51 59.2	+1.7
	baz=127							
W35A	Tecumseh	127.52	43	⇑P		PKPdf	00 51 59.7	+2.1
	baz=128							
Y34A	Reagan Ranch,	127.55	45	⇑P		PKPdf	00 51 59.5	+1.8
	baz=128							
432A	Menard	127.59	49	⇑P		PKPdf	00 51 57.8	-0.2
	baz=128							
631A	Perdido Creek	127.65	51	⇑P		PKPdf	00 51 59.9	+1.9
	baz=128,SNR=11							
233A	Rising Star	127.71	48	⇑P		PKPdf	00 51 59.5	+1.4
	baz=128							
Z34A	Collier Ranch,	127.74	46	⇓P		PKPdf	00 51 59.5	+1.4
	baz=128							
JCT	Junction City	127.77	50	*e*	PKIKP	PKPdf	00 51 56.7	-1.5
JCT	Junction City	127.77	50	*e*	PKPdf	PKPdf	00 51 56.7	-1.5
JCT	Junction City	127.77	50	⇓P		PKPdf	00 51 59.7	+1.4
	baz=128,SNR=14							
TUL1	Leonard	127.83	42	*e*	PKPdf	PKPdf	00 51 57.0	-1.2
TUL1	Leonard	127.83	42	⇓P		PKPdf	00 51 59.1	+0.9
	baz=128							
532A	Rocksprings	127.85	50	⇓P		PKPdf	00 51 59.5	+1.0
	baz=128							
X35A	Drake	127.86	44	⇑P		PKPdf	00 51 59.1	+0.8
	baz=128							
W36A	Wetumka	127.97	43	⇑P		PKPdf	00 51 59.8	+1.3
	baz=128							
333A	Richland Sprin	127.98	48	⇓P		PKPdf	00 51 59.9	+1.3
	baz=128							
134A	White-Moore Ra	128.03	47	⇓P		PKPdf	00 51 59.7	+1.0
	baz=128							
433A	Art	128.18	49	⇑P		PKPdf	00 51 59.9	+0.9
	baz=128,SNR=5.9							
X36A	Centrahoma	128.20	43	⇑P		PKPdf	00 52 00.6	+1.7
	baz=128							
632A	Uvalde	128.22	51	⇓P		PKPdf	00 52 00.5	+1.4
	baz=128,SNR=9.1							
Z35A	Perchaven, San	128.23	45	⇑P		PKPdf	00 52 00.4	+1.4
	baz=128							
234A	Clairette	128.28	47	⇓P		PKPdf	00 52 00.5	+1.4
	baz=128							
732A	Laxson Ranch,	128.43	52	⇑P		PKPdf	00 52 01.1	+1.6
	baz=128							
W37A	Quinton	128.51	42	⇓P		PKPdf	00 52 01.0	+1.5
	baz=128							
135A	Vickery Place,	128.53	46	⇑P		PKPdf	00 52 01.0	+1.4
	baz=128							
334A	Lometa	128.54	48	⇑P		PKPdf	00 52 01.1	+1.4
	baz=128							
533A	Kerrville	128.54	50	⇓P		PKPdf	00 52 01.9	+2.1
	baz=128							
832A	Faith Ranch, C	128.62	52	⇑P		PKPdf	00 52 02.8	+2.9
	baz=129,SNR=11							
633A	Saathoff Ranch	128.72	51	⇑P		PKPdf	00 52 01.6	+1.6
	baz=129							
434A	Burnet	128.77	49	⇑P		PKPdf	00 52 02.0	+1.9
	baz=129							
WHTX	Lake Whitney,	128.78	47	⇓P		PKPdf	00 52 01.9	+1.8
	baz=129							
X37A	Clayton	128.86	43	⇓P		PKPdf	00 52 02.3	+2.1
	baz=129							
733A	Divot King Ran	128.96	52	⇑P		PKPdf	00 52 02.5	+2.0
	baz=129							
KIC	Kosan Boka	128.99	279	*e*		PKPdf	00 52 01.2	+0.2
	comp=N,139nm,1.9s							
534A	Blanco	128.99	50	⇓P		PKPdf	00 52 02.7	+2.1
	baz=129							
833A	Chaparral WMA,	129.06	52	⇓P		PKPdf	00 52 02.6	+1.9
	baz=129							
DBIC	Dimbokro	129.07	279		PKP	PKPdf	00 52 01.2	+0.1
	comp=N,12nm,1.1s,baz=82,slow=2.5,SNR=10.0							
DBIC					SKPbc	SKPbc	00 55 09.7	+0.5
	comp=N,12nm,0.8s,baz=67,slow=4.0,SNR=8.0							
DBIC	Dimbokro	129.07	279		PKiKP	PKPdf	00 52 01.2	+0.1
DBIC					pmax	pmax		
	comp=Z,12nm,1.1s							
DBIC					pmax	pmax		
	comp=N,12nm,0.8s							
W38A	Poteau	129.16	42	⇑P		PKPdf	00 52 03.1	+2.4
	baz=129							
335A	Moody	129.16	48	⇑P		PKPdf	00 52 03.0	+2.2
	baz=129							
TIC	Toumodi	129.23	279	*e*		PKPdf	00 52 02.4	+1.0
	comp=N,11nm,0.4s							
LIC	Lamto	129.28	278	*e*	PKIKP	PKPdf	00 52 01.2	-0.3
LIC	Lamto	129.28	278	*e*		PKPdf	00 52 02.6	+1.1
	comp=N,80nm,1.6s							
435B	Jarrell	129.29	48	⇓P		PKPdf	00 52 03.6	+2.5
	baz=129							
236A	Katherine and	129.45	46	⇓P		PKPdf	00 52 03.2	+1.9
	baz=129							
933A	Laredo	129.47	53	⇓P		PKPdf	00 52 04.8	+3.3
	baz=129							
734A	La Parita Cree	129.48	51	⇑P		PKPdf	00 52 04.6	+3.1
	baz=129							
336A	Riesel	129.54	47	⇑P		PKPdf	00 52 04.3	+2.8
	baz=130							
535A	Dale	129.68	49	⇑P		PKPdf	00 52 05.2	+3.3
	baz=130							
137A	Heron Place, G	129.69	45	⇓P		PKPdf	00 52 04.9	+3.1
	baz=130							
834A	Tilden	129.81	52	⇓P		PKPdf	00 52 04.4	+2.3
	baz=130							
635A	Leesville	129.83	50	⇑P		PKPdf	00 52 04.8	+2.7
	baz=130							
Z38A	Mt. Pleasant	129.87	44	⇓P		PKPdf	00 52 05.0	+2.8
	baz=130							
237A	Washetta, Mont	129.97	46	⇓P		PKPdf	00 52 05.1	+2.7
	baz=130							
735A	Kenedy	130.06	51	⇓P		PKPdf	00 52 05.7	+3.1
	baz=130							
MIAR	Mount Ida	130.09	42	*e*	PKIKP	PKPdf	00 52 02.3	-0.2
MIAR	Mount Ida	130.09	42	*e*

BRAL	**Brewton**	**136.59**	**41**	*e*SKPbc	**SKPbc**	**00 55 34.7**	**+0.8**
KMSC	**Kings Mountain**	**137.06**	**32**	*e*PKPpre	PKPpre	00 52 06.3	
KMSC				*e*SKPbc	**SKPbc**	**00 55 35.7**	**+0.5**
GOGA	**Godfrey**	**137.17**	**35**	*e*PKHKP	PKPpre	00 52 07.2	
GOGA	**Godfrey**	**137.17**	**35**	*e*PKPpre	PKPpre	00 52 07.2	
GOGA				*e*SKPbc	**SKPbc**	**00 55 36.1**	**+0.5**
CMIG	**Matias Romero**	**137.36**	**64**	PKHKP	PKPpre	00 52 11.4	
	comp=N,2.7nm,0.6s,baz=20,slow=3.0,SNR=3.6						
CMIG				PKP	**PKiKP**	**00 52 18.7**	**+0.2**
	comp=N,6.0nm,0.7s,baz=317,slow=3.3,SNR=8.3						
CMIG				SKPbc	**SKPbc**	**00 55 37.2**	**+0.7**
	comp=N,8.9nm,0.8s,baz=311,slow=3.4,SNR=7.7						
PLCA	**Paso Flores**	**137.65**	**163**	PKHKP	PKPpre	00 52 06.5	
	comp=N,2.3nm,0.5s,baz=228,slow=1.1,SNR=4.8						
PLCA				PKP	**PKPdf**	**00 52 18.8**	**+2.1**
	comp=N,8.8nm,0.7s,baz=183,slow=1.9,SNR=15						
PLCA				SKPbc	**SKPbc**	**00 55 38.8**	**+1.9**
	comp=N,8.8nm,0.8s,baz=226,slow=1.9,SNR=8.7						
PLCA	**Paso Flores**	**137.65**	**163**	PKP	**PKPdf**	**00 52 18.8**	**+2.1**
PLCA				*e*SKPbc	**SKPbc**	**00 55 38.5**	**+1.6**
TIGA	**Tifton**	**138.49**	**38**	*e*PKPdf	**PKPdf**	**00 52 17.0**	**-1.3**
TIGA				*e*SKPbc	**SKPbc**	**00 55 39.6**	**+0.1**
TEIG	**Tepich**	**141.79**	**55**	PKP	**PKPdf**	**00 52 24.5**	**-0.1**
	comp=N,12nm,0.9s,baz=349,slow=5.2,SNR=2.6						
TEIG				SKPbc	**SKPbc**	**00 55 48.7**	**+0.2**
	comp=N,17nm,1.0s,baz=27,slow=2.3,SNR=4.2						
TRQA	**Tornquist**	**142.13**	**172**	*e*PKPpre	PKPpre	00 52 21.0	
BBSR	**BB Station**	**146.15**	**14**	*e*PKPdf	**PKPdf**	**00 52 30.2**	**-1.6**
CFAA	**Coronel Fontan**	**146.76**	**160**	PKPbc	**PKPbc**	**00 52 34.8**	**-0.1**
	comp=N,5.0nm,0.5s,baz=221,slow=2.9,SNR=99						
LCO	**Las Campanas**	**148.10**	**154**	*e*PKPdf	**PKPdf**	**00 52 34.0**	**-1.6**
JTS	**JuntasAbangare**	**148.71**	**69**	PKP	**PKPdf**	**00 52 38.1**	**+1.5**
	comp=N,7.6nm,0.4s,baz=270,slow=5.1,SNR=5.4						
JTS				PKPbc	**PKiKP**	**00 52 42.5**	**+0.6**
	comp=N,9.3nm,0.3s,baz=348,slow=11,SNR=14						
JTS				pPKP	**pPKPdf**	**00 53 16.8**	**+1.3**
	comp=N,18nm,0.9s,baz=28,slow=1.4,SNR=2.4						
JTS	**JuntasAbangare**	**148.71**	**69**	PKIKP	**PKPdf**	**00 52 38.1**	**+1.5**
JTS						00 52 42.5	
JTS						00 53 16.8	
JTS				pmax	pmax		
	comp=Z,8.0nm,0.4s						
JTS				pmax	pmax		
	comp=Z,9.0nm,0.3s						
JTS				pmax	pmax		
	comp=Z,18nm,0.9s						
JTS	**JuntasAbangare**	**148.71**	**69**	*e*PKPdf	**PKPdf**	**00 52 37.5**	**+0.9**
JTS				pPKP	**pPKPdf**	**00 53 16.8**	**+1.3**
CPUP	**Villa Florida**	**154.25**	**176**	*e*PKIKP	**PKPdf**	**00 52 43.7**	**-0.9**
CPUP	**Villa Florida**	**154.25**	**176**	*e*PKPdf	**PKPdf**	**00 52 43.7**	**-0.9**
LVC	**Limon Verde**	**154.38**	**150**	PKP	**PKPdf**	**00 52 48.6**	**+3.3**
	comp=Z,4.7nm,0.6s,baz=301,slow=6.1,SNR=5.0						
LVC				PKPbc	**PKiKP**	**00 52 56.1**	**+2.4**
	comp=Z,34nm,0.5s,baz=263,slow=2.7,SNR=24						
LVC				PKPab	**PKPab**	**00 53 11.0**	**+2.8**
	comp=Z,55nm,0.6s,baz=200,slow=4.7,SNR=6.8						
LVC				pPKPab	**pPKPab**	**00 53 47.4**	**+1.7**
	comp=Z,36nm,0.7s,baz=230,slow=5.6,SNR=1.9						
LVC	**Limon Verde**	**154.38**	**150**	*e*PKPdf	**PKPdf**	**00 52 43.0**	**-2.3**
LVC				PKP	**PKPdf**	**00 52 48.6**	**+3.3**
LVC				PKPbc	**PKiKP**	**00 52 56.1**	**+2.4**
LVC				PKPab	**PKPab**	**00 53 11.0**	**+2.8**
LVC				pPKPab	**pPKPab**	**00 53 47.4**	**+1.7**
ATAH	**Atahualpa**	**156.14**	**107**	PKP	**PKPdf**	**00 52 49.6**	**+1.6**
	comp=Z,1.8nm,0.3s,baz=234,slow=3.1,SNR=2.8						
ATAH				PKPbc	PKPbc	00 53 02.8	
	comp=Z,4.1nm,0.5s,baz=307,slow=5.1,SNR=3.8						
ATAH				PKPab	**PKPab**	**00 53 18.9**	**+2.5**
	comp=Z,15nm,0.8s,baz=212,slow=2.9,SNR=6.8						
OTAV	**Otavalo**	**156.94**	**88**	*e*PKPdf	**PKPdf**	**00 52 44.9**	**-4.3**
LRS	**Lares**	**158.20**	**31**	*e*PKPab	**PKPab**	**00 53 21.6**	**-2.8**
LPAZ	**La Paz**	**159.90**	**142**	PKP	**PKPdf**	**00 52 55.0**	**+2.2**
	comp=Z,4.0nm,0.8s,baz=177,slow=1.0,SNR=14						
LPAZ				PKPbc	PKPbc	00 53 11.3	
	comp=Z,2.2nm,0.4s,baz=226,slow=2.3,SNR=9.5						
LPAZ				PKPab	**PKPab**	**00 53 34.2**	**+1.6**
	comp=Z,18nm,0.7s,baz=208,slow=7.9,SNR=16						
LPAZ	**La Paz**	**159.90**	**142**	PKIKP	**PKPdf**	**00 52 55.0**	**+2.2**
LPAZ						00 53 34.3	
LPAZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.4s						
LPAZ				pmax	pmax		
	comp=Z,18nm,0.7s						
LPAZ	**La Paz**	**159.90**	**142**	*e*PKPdf	**PKPdf**	**00 52 51.9**	**-0.9**
LPAZ				PKPbc	PKPbc	00 53 11.3	
LPAZ				PKPab	**PKPab**	**00 53 34.2**	**+1.6**
ROSC	**El Rosal**	**160.36**	**74**	PKP	**PKPdf**	**00 52 55.0**	**+1.9**
	comp=Z,5.4nm,0.7s,baz=268,slow=7.4,SNR=5.0						
ROSC				PKPab	**PKPab**	**00 53 37.5**	**+2.8**
	comp=Z,12nm,0.8s,baz=26,slow=5.5,SNR=6.6						
ROSC	**El Rosal**	**160.36**	**74**	*e*PKPdf	**PKPdf**	**00 52 51.2**	**-1.9**
ROSC				PKPab	**PKPab**	**00 53 37.5**	**+2.8**
SDV	**Santo Domingo**	**162.19**	**58**	*e*PKPdf	**PKPdf**	**00 52 52.0**	**-2.8**
BDFB	**Brasilia**	**163.28**	**205**	PKP	**PKPdf**	**00 52 57.5**	**+1.8**
	comp=Z,4.6nm,0.9s,baz=87,slow=3.0,SNR=7.1						
BDFB				PKPab	**PKPab**	**00 53 48.0**	**+1.3**
	comp=Z,11nm,0.8s,baz=160,slow=4.2,SNR=14						
BDFB				pPKPab	**pPKPab**	**00 54 24.2**	**+0.2**
	comp=Z,4.3nm,0.7s,baz=180,slow=3.0,SNR=2.1						
BDFB	**Brasilia**	**163.28**	**205**	PKIKP	**PKPdf**	**00 52 57.5**	**+1.8**
BDFB				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BDFB				pmax	pmax		
	comp=Z,11nm,0.8s						
BDFB				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BDFB	**Brasilia**	**163.28**	**205**	*e*PKPdf	**PKPdf**	**00 52 53.1**	**-2.6**
BDFB				*e*PKPab	**PKPab**	**00 53 45.8**	**-0.9**
BDFB				pPKPab	**pPKPab**	**00 54 24.2**	**+0.2**
SIV	**San Ignacio**	**163.62**	**160**	PKP	**PKPdf**	**00 52 57.9**	**+2.0**
	comp=Z,3.4nm,0.9s,baz=207,slow=1.9,SNR=7.0						
SIV				PKPab	**PKPab**	**00 53 49.1**	**+1.1**
	comp=Z,7.1nm,0.6s,baz=221,slow=3.5,SNR=13						
SIV				PP	**PP**	**00 57 36.3**	**+4.0**
	comp=Z,1.7nm,0.8s,baz=227,slow=8.0,SNR=3.6						
SAML	**Samuel**	**168.57**	**138**	*e*PKPdf	**PKPdf**	**00 52 59.2**	**-0.7**
SAML				*e*PKPab	**PKPab**	**00 54 09.5**	**-0.5**
PTGA	**Pitinga**	**175.43**	**93**	PKP	**PKPdf**	**00 53 03.8**	**+0.8**
	comp=Z,1.4nm,0.3s,baz=332,slow=22,SNR=1.1						
PTGA				PKPab	**PKPab**	**00 54 44.0**	**+3.1**
	comp=Z,1.7nm,0.3s,baz=252,slow=7.1,SNR=5.8						
PTGA				pPKPab	**pPKPab**	**00 55 22.4**	**+4.2**
	comp=Z,2.8nm,0.4s,baz=243,slow=6.8,SNR=1.8						
PTGA	**Pitinga**	**175.43**	**93**	*e*PKPdf	**PKPdf**	**00 53 01.2**	**-1.9**
PTGA				*e*PKPab	**PKPab**	**00 54 41.1**	**+0.2**
PTGA				pPKPab	**pPKPab**	**00 55 22.4**	**+4.2**

ISCJB ***16*** *00:46:25.8±0.6,2˚.02N±0˚.04×96˚.47E±0˚.06, h28km, mb4.1/12, Error ellipse: s-maj=9.2km s-min=4.8km az=146.8*

IDC ***16*** *00:46:27.3±1.0,2˚.00N×96˚.54E, h28km±5km, mb4.0/12, mb1 4.1/14, mb1mx3.8/28, mbtmp4.2/14, ML3.9/2, Error ellipse: s-maj=26.3km s-min=14.5km az=60.0*

DJA ***16*** *00:46:28.8±0.6,2˚N±4˚×9˚?E±˚, h12km±8km, M4.2/11, MLv4.2/9, MLv4.3/11*

ISC 16 00:46:27.6±0.7,2˚.06N±0˚.06×96˚.58E±0˚.07, h28km, n28, σ1§26/33, mb4.2/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.43**	**325**	P		**Pn**	**00 46 38.5**	**+0.5**
GSI	**Gunungsitoli**	**1.25**	**127**	P		**Pn**	**00 46 49.9**	**+0.7**
GSI				S		**Sn**	**00 47 05.0**	**-0.1**
KCSI	**Kotacane, Aceh**	**1.88**	**39**	P		**Pn**	**00 46 57.8**	**-0.2**
KCSI				S		**Sn**	**00 47 21.2**	**+0.4**
TSI	**Tuntungan**	**2.45**	**54**	P		**Pn**	**00 47 06.0**	**+0.3**
PSI	**Prapat**	**2.46**	**72**	Pn		**Pn**	**00 47 05.7**	**-0.3**
	6.4nm,0.3s,baz=276,slow=6.4,SNR=21							
PSI				Pg		Pb	00 47 16.4	+5.2
	17nm,0.3s,baz=243,slow=14,SNR=22							
PSI				Lg		Lg	00 47 40.3	
	8.4nm,0.3s,baz=172,slow=3.6,SNR=7.9							
LHMI	**Lhok Sumawe**	**3.17**	**7**	P		**Pn**	**00 47 17.4**	**+1.7**
LHMI				S		**Sn**	**00 47 55.6**	**+2.9**
MNSI	**Mandailing Nat**	**3.25**	**113**	P		**Pn**	**00 47 18.1**	**+1.3**
MNSI				S		**Sn**	**00 47 57.1**	**+2.5**
BSI	**Banda Aceh**	**3.65**	**340**	P		**Pn**	**00 47 24.7**	**+2.4**
BSI				S		**Sn**	**00 48 04.3**	**-0.1**
BKNI	**Bangkinang**	**4.78**	**111**	P		**Pn**	**00 47 39.4**	**+1.6**
PDSI	**Padang**	**4.88**	**127**	P		**Pn**	**00 47 41.2**	**+2.0**
CMAR	**Chiang Mai Arr**	**16.46**	**8**	Pn		**Pn**	**00 50 15.5**	**-1.3**
	0.4nm,0.3s,baz=201,slow=12,SNR=22							
H01W3	**Cape Leeuwin H**	**40.27**	**157**	T		T	01 36 46.7	
	baz=334,slow=76,SNR=19							
H01W2	**Cape Leeuwin H**	**40.28**	**157**	T		T	01 36 47.0	
	baz=334,slow=76,SNR=21							
H01W1	**Cape Leeuwin H**	**40.28**	**157**	T		T	01 36 48.0	
	baz=334,slow=76,SNR=21							
WRA	**Warramunga Arr**	**43.01**	**122**	P		**P**	**00 54 25.2**	**+0.2**
	2.5nm,0.8s,baz=303,slow=9.1,SNR=21							
WRA				pP		**pP**	**00 54 32.4**	**-1.1**
	0.8nm,0.3s,baz=305,slow=9.1,SNR=6.9							
ASAR	**Alice Springs**	**44.41**	**127**	P		**P**	**00 54 36.7**	**+0.5**
	1.4nm,0.7s,baz=310,slow=8.3,SNR=9.0							
KSRS	**Korea Array**	**45.51**	**35**	P		**P**	**00 54 44.1**	**-0.6**
	0.8nm,0.4s,baz=236,slow=7.6,SNR=6.2							
MKAR	**Makanchi Array**	**46.27**	**346**	P		**P**	**00 54 50.7**	**+0.1**
	3.8nm,0.7s,baz=183,slow=8.0,SNR=29							
MKAR				pP		**pP**	**00 54 59.9**	**+0.8**
	0.9nm,0.7s,baz=171,slow=6.1,SNR=3.4							
SONM	**Songino Array**	**46.39**	**9**	P		**P**	**00 54 51.8**	**+0.1**
	1.3nm,0.3s,baz=188,slow=8.4,SNR=7.4							
SONM				pP		**pP**	**00 55 00.0**	**-0.1**
	0.6nm,0.4s,baz=200,slow=9.5,SNR=2.5							
KURBB	**Kurchatov Arra**	**50.75**	**345**	P		**P**	**00 55 25.3**	**+0.3**
	1.8nm,0.5s,baz=162,slow=7.1,SNR=13							
MJAR	**Matsushiro Ar**	**51.49**	**43**	P		**P**	**00 55 30.8**	**-0.1**
	0.7nm,0.8s,baz=238,slow=7.0,SNR=3.2							
USRK	**Ussuriysk Ar.**	**52.37**	**32**	P		**P**	**00 55 37.4**	**+0.2**
	1.2nm,0.6s,baz=238,slow=8.3,SNR=3.5							
ZALV	**Zalesovo Beam**	**52.62**	**351**	P		**P**	**00 55 39.0**	**+0.1**
	6.0nm,0.5s,baz=177,slow=7.2,SNR=27							
MAW	**Mawson**	**73.40**	**193**	P		**P**	**00 57 55.7**	**-1.1**
	2.8nm,0.6s,baz=23,slow=7.7,SNR=3.6							
FINES	**FINESS Array B**	**78.96**	**333**	P		**P**	**00 58 27.9**	**-0.6**
	1.2nm,0.9s,baz=111,slow=7.6,SNR=3.5							
ARCES	**ARCESS Array B**	**81.53**	**340**	P		**P**	**00 58 43.1**	**+0.9**
	2.5nm,0.9s,baz=102,slow=7.5,SNR=3.4							
ARCES				pP		**pP**	**00 58 51.0**	**-0.2**
	2.3nm,0.8s,baz=91,slow=5.4,SNR=1.2							
ULM	**Lac du Bonnet**	**126.81**	**10**	PKP		**PKPdf**	**01 05 25.9**	**-2.9**
	1.3nm,0.7s,baz=0.0,slow=1.0,SNR=3.8							
CFAA	**Coronel Fontan**	**147.30**	**204**	pPKPbc		pPKPbc	01 06 17.9	-0.6
	0.6nm,0.7s,baz=174,slow=2.8,SNR=6.2							

WEL 16 00:52:57.3±0.5, 41˚.91S×178˚.37E, h33km, ML3.2/7, Error ellipse: s-maj=4.3km s-min=3.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BFZ	**Birch Farm**	**2.02**	**307**	*e*Pn		Pn	00 53 28.8	-0.2
BFZ				Sn		Sn	00 53 51.5	-1.6
ANWZ	**Angora Road**	**2.03**	**315**	*e*Pn		Pn	00 53 29.3	+0.1
ANWZ				*e*Sn		Sn	00 53 51.8	-1.7
PRHZ	**Porangahau**	**2.10**	**321**	PN		Pn	00 53 30.0	-0.2
TIWZ	**Tintock**	**2.19**	**300**	PN		Pn	00 53 30.7	-0.7
KAHZ	**Kahuranaki**	**2.40**	**331**	PN		Pn	00 53 33.5	-0.8
MRZ	**Mangatainoka R**	**2.44**	**300**	PN		Pn	00 53 33.7	-1.3
PNHZ	**Pukenui**	**2.58**	**320**	PN		Pn	00 53 36.7	-0.2
PNHZ				SN		Sn	00 54 05.3	-1.9
TSZ	**Takapari Road**	**2.59**	**315**	PN		Pn	00 53 35.9	-1.1
KIW	**Kapiti Island**	**2.81**	**291**	PN		Pn	00 53 39.1	-0.8
ARHZ	**Aropaoanui**	**2.84**	**338**	*e*Pn		Pn	00 53 39.5	-0.9
BHHZ	**Black Hill Sta**	**2.99**	**323**	PN		Pn	00 53 41.9	-0.5
TCW	**Tory Channel**	**3.15**	**281**	AML		AML	00 54 17.0	
WNVZ	**Wahianoa**	**3.33**	**320**	PN		Pn	00 53 47.5	+0.1
MTVZ	**Mangateitei**	**3.35**	**318**	PN		Pn	00 53 48.0	+0.5
WAZ	**Wanganui**	**3.35**	**309**	PN		Pn	00 53 48.0	+0.6
WHVZ	**Whangaehu Hut**	**3.37**	**320**	PN		Pn	00 53 48.1	+0.1
FWVZ	**Far West T-bar**	**3.41**	**320**	PN		Pn	00 53 48.6	+0.1
KRVZ	**Karewarewa**	**3.50**	**323**	PN		Pn	00 53 49.8	+0.2
MWZ	**Matawai**	**3.63**	**349**	PN		Pn	00 53 50.1	-1.2
PRRZ	**Plateau Road**	**3.73**	**335**	*e*PN		Pn	00 53 52.0	-0.6
URZ	**Urewera**	**3.77**	**345**	*e*PN		Pn	00 53 52.3	-0.9
HAZ	**Te Kaha**	**4.17**	**354**	*e*PN		Pn	00 53 57.3	-1.3

MAN 16 01:01:27,14˚.22N×123˚.69E, h5km, mb4.2, ML3.1, MS2.8, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.77**	**144**	*e*P		Pb	01 01 42.6	-0.3
PVCP				*e*S		Sg	01 01 52.8	+0.9
GQP	**Guinayangan**	**1.25**	**255**	↓*e*P		Pg	01 01 48.9	-2.1
GQP				*e*S		Sg	01 02 03.5	-3.5
AUQP	**San Andres**	**1.33**	**228**	*e*P		Pn	01 01 50.8	-1.4
CNP	**Catarman**	**1.95**	**151**	*e*P		Pn	01 02 00.8	+0.1
RCP	**Roxas**	**2.80**	**199**	↑*e*P		Pn	01 02 14.8	+2.2
RCP				*e*S		Sn	01 02 49.0	+2.2
PCPH	**Palayan**	**2.84**	**298**	↓*e*P		Pn	01 02 14.9	+2.0
PCPH				*e*S		Sn	01 02 49.3	+1.8

IDC ***16*** *01:08:05.3±0.3,51˚.86S×28˚.33E, h0km, mb4.8/26, mb1 4.9/26, mb1mx4.9/32, mbtmp4.8/26, MS4.4/15, Ms1 4.4/15, ms1mx4.3/22, Error ellipse: s-maj=15.2km s-min=11.8km az=76.0*

MOS ***16*** *01:08:05.9±0.9,51˚.82S×28˚.31E, h10km, mb5.3/22, Error ellipse: s-maj=20.0km s-min=8.2km az=89.8*

ISCJB ***16*** *01:08:05.6±0.2,51˚.83S±0˚.03×28˚.23E±0˚.08, h10km, mb5.0/66, MS4.5/23, Error ellipse: s-maj=6.9km s-min=5.0km az=3.9*

NEIC ***16*** *01:08:06.9±0.1,51˚.84S×28˚.32E, h10km, mb5.2/52, Error ellipse: s-maj=5.7km s-min=4.0km az=88.0*

GCMT ***16*** *01:08:06.9±0.2,51˚.90S×28˚.52E, h26km±1km, MW5.4/85, Moment Tensor Solution. s46,c58; s85,c129; Duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.03±.04; $M_{\theta\theta}$0.88±.04; $M_{\phi\phi}$-0.84±.04; $M_{r\theta}$0.33±.07; $M_{r\phi}$-0.28±.07; Best double couple: M_o1.33200×10^{17} NP1:ϕ_s291.00000°, δ85.00000°, λ-18.00000°. NP2: ϕ_s22.00000°, δ72.00000°, λ-174.00000°. Principal axes: T 1.3030, Plg8.0000°, Azm338.0000°; N 0.0570, Plg72.0000°, Azm94.0000°; P -1.3600, Plg16.0000°, Azm245.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

AWI ***16*** *01:08:07.0,51˚.87S×28˚.25E*

BJI ***16*** *01:08:07.1,51˚.90S×28˚.30E, h10km, mb5.5/3, mB5.7/10, Ms5.1/8, Ms7 4.7/8*

ISC 16 01:08:07.1±0.2,51˚.87S±0˚.05×28˚.29E±0˚.06, h10km, n545, σ1§01/569, mb5.1/72, MS4.5/23, 126C-93D, South of Africa

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GRM	**Grahamstown**	**18.59**	**355**	*e*P		**P**	**01 12 22.7**	**-1.7**
GRM					AMB	AMB	01 12 26.5	
	comp=Z,297nm,2.2s							
GRM	**Grahamstown**	**18.59**	**355**	P		**P**	**01 12 22.7**	**-1.7**
GRM				pmax	pmax			
	comp=Z,297nm,2.2s							
GRM	**Grahamstown**	**18.59**	**355**	P		**P**	**01 12 22.7**	**-1.7**
	comp=Z,297nm,2.2s							
SOE	**Somerset East**	**19.25**	**353**	*e*P		**P**	**01 12 32.0**	**+0.4**
SOE					AMB	AMB	01 12 38.7	
	comp=Z,116nm,1.9s							
SOE					AMS	AMS	01 17 38.1	
	comp=Z,3μm,21.1s							
SOE	**Somerset East**	**19.25**	**353**	P		**P**	**01 12 32.0**	**+0.4**
	comp=Z,116nm,1.9s							
CER	**Ceres**	**19.62**	**337**	*e*P		**Pn**	**01 12 36.4**	**-0.6**
CER					AMB	AMB	01 12 39.7	
	comp=Z,340nm,1.8s							
CER	**Ceres**	**19.62**	**337**	P		**Pn**	**01 12 36.4**	**-0.6**
	comp=Z,340nm,1.8s							
SUR	**Sutherland**	**20.23**	**341**	*e*P		**P**	**01 12 42.0**	**-0.5**
SUR					AMB	AMB	01 13 01.8	
	comp=Z,104nm,3.5s							
SUR					AMS	AMS	01 20 25.7	
	comp=Z,2μm,6.8s							
SUR	**Sutherland**	**20.23**	**341**	P		**P**	**01 12 42.4**	**-0.1**
	comp=Z,830nm,1.4s,SNR=16							
SUR	**Sutherland**	**20.23**	**341**	P		**P**	**01 12 42.4**	**-0.1**
	comp=Z,139nm,1.1s,baz=153,slow=11,SNR=26							
SUR					S	S	01 16 16.9	-13
	comp=Z,3.7nm,0.5s,baz=272,slow=22,SNR=2.5							
SUR	**Sutherland**	**20.23**	**341**	*e*P		**P**	**01 12 42.0**	**-0.5**
	comp=Z,79nm,1.4s							
SUR					S	S	01 16 16.9	-13
NVL	**N'lazarevskaya**	**20.39**	**196**	*e*P		P	01 12 36.3	-7.4
HVD	**Gariep Dam**	**21.35**	**353**	*e*P		**P**	**01 12 53.4**	**-1.1**
HVD					AMB	AMB	01 12 57.6	
	comp=Z,226nm,1.1s							
HVD					AMS	AMS	01 18 54.7	
	comp=Z,2μm,22.6s							
HVD	**Gariep Dam**	**21.35**	**353**	P		**P**	**01 12 53.4**	**-1.1**
HVD				pmax	pmax			
	comp=Z,226nm,1.1s							
HVD	**Gariep Dam**	**21.35**	**353**	P		**P**	**01 12 53.4**	**-1.1**
	comp=Z,226nm,1.1s							
MAW	**Mawson**	**23.02**	**146**	P		**P**	**01 13 12.5**	**+0.7**
	comp=Z,101nm,1.2s,baz=286,slow=13,SNR=12							
MAW				S		**S**	**01 17 17.3**	**-4.9**
	comp=Z,19nm,0.8s,baz=193,slow=18,SNR=3.5							
MAW				LR		LR	01 20 17.6	
	comp=Z,852nm,20.8s,baz=312,slow=32							
MAW	**Mawson**	**23.02**	**146**	*e*P		**P**	**01 13 12.7**	**+0.8**
MAW				S		**S**	**01 17 17.3**	**-4.9**
MAW				pmax	pmax			
	comp=Z,28nm,0.9s							
MAW	**Mawson**	**23.02**	**146**	*e*P		**P**	**01 13 12.7**	**+0.8**
	comp=Z,28nm,0.9s							
MAW				S		**S**	**01 17 17.3**	**-4.9**
SEK	**Senekal**	**23.53**	**359**	*e*P		**P**	**01 13 17.3**	**-0.2**
SEK					AMB	AMB	01 13 19.0	
	comp=Z,109nm,2.6s							
SEK					AMS	AMS	01 20 38.5	
	comp=Z,2μm,16.2s							
SEK	**Senekal**	**23.53**	**359**	P		**P**	**01 13 17.3**	**-0.2**
	comp=Z,109nm,2.6s							
SNAA	**Sanae**	**24.18**	**204**	P		**P**	**01 13 21.8**	**-1.5**
SNAA	**Sanae**	**24.18**	**204**	S		S	01 17 49.0	+7.8
SNAA	**Sanae**	**24.18**	**204**	*e*P		**P**	**01 13 21.4**	**-1.9**
SNAA	**Sanae**	**24.18**	**204**	P		**P**	**01 13 24.0**	**+0.7**
	comp=Z,15nm,0.8s,baz=45,slow=2.2,SNR=107							
SNAA				S		S	01 17 51.9	+11
	comp=Z,1.2nm,0.8s,baz=323,slow=20,SNR=3.4							
SNAA	**Sanae**	**24.18**	**204**	*e*P		**P**	**01 13 21.8**	**-1.5**
SNAA				pmax	pmax			
	comp=Z,68nm,1.0s							
SNAA	**Sanae**	**24.18**	**204**	*e*P		**P**	**01 13 21.8**	**-1.5**
	comp=Z,68nm,1.0s							
SNAA				S		S	01 17 51.9	+11
SWZ	**Schweizer**	**24.76**	**354**	*e*P		**P**	**01 13 26.6**	**-2.4**
SWZ					AMB	AMB	01 13 29.4	
	comp=Z,123nm,1.9s							
SWZ	**Schweizer**	**24.76**	**354**	P		**P**	**01 13 26.6**	**-2.4**
	comp=Z,123nm,1.9s							
PRYS	**Parys**	**24.93**	**358**	*e*P		**P**	**01 13 29.5**	**-0.9**
PRYS					AMB	AMB	01 13 32.0	
	comp=Z,56nm,1.3s							
PRYS	**Parys**	**24.93**	**358**	P		**P**	**01 13 29.5**	**-0.9**
	comp=Z,56nm,1.3s							
VNA2	**Neumayer--Watz**	**24.96**	**207**	P		**P**	**01 13 31.3**	**+1.0**
	baz=44,slow=9.5							
VNA2	**Neumayer--Watz**	**24.96**	**207**	S		S	01 18 08.2	+15
	baz=57,slow=10							
BFSD	**Buffelsfontein**	**25.00**	**357**	*e*P		**P**	**01 13 30.4**	**-0.8**
BFSD					AMB	AMB	01 13 32.8	
	comp=Z,139nm,1.3s							
BFSD	**Buffelsfontein**	**25.00**	**357**	P		**P**	**01 13 30.4**	**-0.8**
	comp=Z,139nm,1.3s							
VNA1	**Neumayer--Stat**	**25.07**	**208**	P		**P**	**01 13 33.2**	**+1.9**
KLOF	**Kloof**	**25.49**	**359**	*e*P		**P**	**01 13 35.3**	**-0.3**
KLOF	**Kloof**	**25.49**	**359**	P		**P**	**01 13 35.3**	**-0.3**
VNA3	**Neumayer Olymp**	**25.77**	**207**	P		**P**	**01 13 37.9**	**+0.3**
KSR	**Koster**	**26.01**	**357**	*e*P		**P**	**01 13 39.3**	**-1.0**
KSR					AMB	AMB	01 13 40.3	
	comp=Z,85nm,0.9s							
KSR	**Koster**	**26.01**	**357**	P		**P**	**01 13 39.3**	**-1.0**
	comp=Z,85nm,0.9s	

comp=Z,58nm,1.3s
PLCA Paso Flores 64.05 237 P **P 01 18 41.0 +0.1**
comp=Z,9.9nm,0.8s,baz=135,slow=7.3,SNR=18
PLCA Paso Flores 64.05 237 *e*P **P 01 18 41.3 +0.4**
PLCA pmax pmax
comp=Z,20nm,1.1s
PLCA Paso Flores 64.05 237 *e*P **P 01 18 41.3 +0.4**
comp=Z,20nm,1.1s
NWAO Narrogin (SRO) 64.27 111 *e*P **P 01 18 43.1 +0.7**
NWAO Narrogin (SRO) 64.27 111 *e*P **P 01 18 43.1 +0.7**
comp=Z,0.1nm,0.7s
DBIC Dimbokro 64.84 323 P **P 01 18 45.2 -0.9**
comp=Z,4.7nm,0.9s,baz=148,slow=16,SNR=3.6
DBIC LR LR 01 42 14.5
comp=Z,144nm,19.1s,baz=68,slow=32
DBIC Dimbokro 64.84 323 *e*P **P 01 18 46.3 +0.1**
DBIC pmax pmax
comp=Z,49nm,1.6s
DBIC Dimbokro 64.84 323 *e*P **P 01 18 46.3 +0.1**
comp=Z,49nm,1.6s
CPUP Villa Florida 67.13 256 *e*P **P 01 19 00.9 0.0**
CPUP pmax pmax
comp=Z,2.0nm,1.3s
CPUP Villa Florida 67.13 256 *e*P **P 01 19 00.9 0.0**
comp=Z,1.5nm,1.3s
DAMY Dhamar 67.63 17 *e*P **P 01 19 06.7 +2.3**
comp=Z,45nm,1.2s
ACAN Cantantal 68.48 245 *i*P **P 01 19 08.3 -1.1**
ACAN *i*S Px 01 19 24.4
TOA0 Torodi Ar. Sit 68.73 332 *e*P **P 01 19 10.2 -0.8**
TORD Torodi Ar. Bea 68.73 332 P **P 01 19 10.4 -0.5**
comp=Z,11nm,0.8s,baz=169,slow=5.3,SNR=84
AAGR Agrelo 68.79 243 *i*P P 01 19 08.0 -3.4
ARCO CERRO ARCO 69.03 243 *i*P **P 01 19 09.8 -3.2**
ARCO AML AML 01 19 28.0
comp=Z,7.1nm,0.7s
ASAL Salagasta 69.16 244 *i*P P 01 19 09.2 -4.6
BDFB Brasilia 69.41 271 P **P 01 19 15.6 +0.2**
comp=Z,12nm,0.9s,baz=108,slow=5.3,SNR=14
RTCV Cerro Valdivia 69.55 244 *i*P P 01 19 12.8 -3.3
CFAA Coronel Fontan 69.57 245 *i*P **P 01 19 14.5 -1.7**
RCBR Riachuelo 69.66 287 P **P 01 19 17.2 +0.3**
comp=Z,21nm,1.0s,baz=104,slow=12,SNR=4.6
RCBR Riachuelo 69.66 287 *e*P **P 01 19 16.9 0.0**
comp=Z,21nm,0.9s
AUSP Uspallata 69.75 244 *i*P **P 01 19 16.5 -1.1**
RTLL Cerro Villicun 69.91 245 *i*P **P 01 19 17.7 -0.6**
RTLS Leoncito 70.02 244 *i*P **P 01 19 17.8 -1.4**
FORT Forrest 72.00 117 *e*P **P 01 19 31.2 +0.3**
comp=Z,9.3nm,0.6s
LCO Las Campanas 72.92 245 *e*P **P 01 19 36.9 +0.1**
comp=Z,15nm,0.7s
PALK Pallekele 73.95 55 *e*P **P 01 19 43.1 +0.5**
PALK pmax pmax
comp=Z,14nm,0.8s
PALK Pallekele 73.95 55 *e*P **P 01 19 43.1 +0.5**
comp=Z,14nm,0.8s
MBWA Marble Bar 74.51 104 *e*P **P 01 19 46.9 +1.0**
comp=Z,23nm,1.1s
RAYN Ar Rayn 76.57 16 P **P 01 19 58.5 +1.0**
comp=Z,60nm,1.3s,SNR=6.3
RAYN Ar Rayn 76.57 16 *e*P **P 01 19 58.1 +0.7**
comp=Z,8.8nm,1.2s
LVC Limon Verde 76.81 250 *e*P **P 01 20 00.3 +1.0**
comp=Z,20nm,1.1s
LVC LR LR
comp=Z,454nm,19.0s
TAM Tamanrasset 76.98 338 *e*P **P 01 20 00.1 +0.2**
TAM pmax pmax
comp=Z,16nm,1.0s
TAM Tamanrasset 76.98 338 *e*P **P 01 20 00.1 +0.2**
comp=Z,16nm,1.0s
STKA Stephens Creek 78.25 127 P **P 01 20 07.2 +0.2**
comp=Z,12nm,0.9s,baz=167,slow=5.7,SNR=6.5
STKA LR LR 01 48 06.9
comp=Z,302nm,19.3s,baz=208,slow=31
STKA Stephens Creek 78.25 127 *e*P **P 01 20 07.1 +0.2**
STKA pmax pmax
comp=Z,4.0nm,1.0s
STKA Stephens Creek 78.25 127 *e*P **P 01 20 07.1 +0.2**
comp=Z,3.6nm,1.0s
URV Uravakonda 78.91 48 *e*P **P 01 20 10.2 -0.4**
URV IAmb IAmb 01 20 10.8
comp=Z,51nm,0.9s
URV *e*S **S 01 30 10.6 +1.5**
URV *e*SKSac **SKSac 01 30 25.1 -1.1**
SKHT Srikalahasti 79.02 51 *e*P **P 01 20 11.5 +0.3**
SKHT IAmb IAmb 01 20 11.9
comp=Z,35nm,0.9s
SKHT *e*S **S 01 30 12.8 +2.7**
PSI Prapat 80.37 73 P **P 01 20 18.4 -0.5**
comp=Z,21nm,0.9s,baz=195,slow=3.2,SNR=12
POO Poona 80.56 43⇑ *i*P **P 01 20 18.0 -1.5**
comp=Z,80nm,1.0s
ASAR Alice Springs 80.78 117 P **P 01 20 20.5 -0.4**
comp=Z,9.3nm,0.8s,baz=216,slow=4.8,SNR=37
ASAR LR LR 01 49 13.0
comp=Z,258nm,20.3s,baz=212,slow=31
AS31 Alice Springs 80.78 117 *e*P **P 01 20 20.2 -0.7**
LPAZ La Paz 81.25 255 P **P 01 20 24.8 +0.6**
comp=Z,1.6nm,0.7s,baz=161,slow=7.8,SNR=4.8
LPAZ La Paz 81.25 255 *e*P **P 01 20 24.7 +0.6**
LPAZ pmax pmax
comp=Z,21nm,1.5s
LPAZ La Paz 81.25 255 *e*P **P 01 20 24.7 +0.6**
comp=Z,21nm,1.5s
NJS Nagarjunasagar 81.26 49 *e*P **P 01 20 23.5 +0.2**
NJS IAmb IAmb 01 20 23.9
comp=Z,40nm,1.3s
NJS *e*S **S 01 30 33.5 -0.2**
EIL Elat 81.40 6 P **P 01 20 24.0 +0.3**
comp=Z,13nm,0.9s,baz=133,slow=0.3,SNR=7.4
HYB Hyderabad 81.67 48 *i*P **P 01 20 24.0 -1.4**
HYB Hyderabad 81.67 48 *e*P **P 01 20 24.0 -1.4**
HYB Hyderabad 81.67 48 *e*P **P 01 20 24.0 -1.4**
HYBB Hyderabad (bro 81.67 48 *e*P **P 01 20 25.2 -0.2**
HYBB IAmb IAmb 01 20 25.9
comp=Z,39nm,0.8s
HYBB *e*SKSac **SKSac 01 30 44.8 -0.4**
MYKOM Kota Tinggi 82.52 77 *e*P **P 01 20 30.1 0.0**
IPM Ipoh 82.96 74 *e*P **P 01 20 32.0 -0.3**
comp=Z,9.7nm,0.7s
RPR Rampur 83.26 48 *e*P **P 01 20 33.6 -0.1**
RPR IAmb IAmb 01 20 35.1
comp=Z,35nm,0.8s
RPR *e*SKSac **S 01 30 54.7 +0.7**
SAML Samuel 83.94 263 *e*P **P 01 20 37.6 +0.2**
comp=Z,19nm,1.0s
WRA Warramunga Arr 83.98 115 P **P 01 20 36.9 -0.8**
comp=Z,8.3nm,0.9s,baz=217,slow=4.2,SNR=18
WRAB Tennant Creek 84.00 115 *e*P **P 01 20 37.1 -0.6**
WRAB pmax pmax
comp=Z,20nm,1.3s
WRAB Tennant Creek 84.00 115 *e*P **P 01 20 37.1 -0.6**
comp=Z,20nm,1.3s
CHLP Challavanipeta 85.22 52 *e*P **P 01 20 44.2 +0.6**
CHLP IAmb IAmb 01 20 45.1
comp=Z,29nm,0.8s
CSS Prodhromos 86.58 4 *e*P **P 01 20 51.2 +1.2**
comp=Z,4.3nm,1.0s
KAPI Kappang 87.00 94 *e*P **P 01 20 53.0 +0.3**
KEST Kesra 88.80 345 P **P 01 21 01.7 +0.9**
comp=Z,3.6nm,0.9s,baz=189,slow=1.0,SNR=5.8
KEST LR LR 02 01 18.0
comp=Z,177nm,21.0s,baz=160,slow=36
KEST Kesra 88.80 345 *e*P **P 01 21 01.2 +0.5**
MDT Midelt 89.14 333 P **P 01 21 02.8 +0.4**
comp=Z,7.3nm,1.0s,baz=147,slow=6.3,SNR=7.6
NNA Nana 89.80 251 *e*P **P 01 21 06.5 +0.5**
NNA Nana 89.80 251 *e*P **P 01 21 06.5 +0.5**
CTAO Charters Tower 90.31 124 *e*P **P 01 21 07.8 -0.6**
CTAO pmax pmax
comp=Z,9.0nm,1.0s
CTAO Charters Tower 90.31 124 *e*P **P 01 21 07.8 -0.6**
comp=Z,9.1nm,1.0s
BRTR Keskin Array B 91.34 4 P **P 01 21 12.3 -0.2**
comp=Z,5.6nm,1.0s,baz=178,slow=7.4,SNR=31
BRTR PP **PP 01 24 53.0 +2.4**
comp=Z,0.6nm,0.8s,baz=172,slow=8.4,SNR=4.4
BRTR LR LR 02 03 16.6
comp=Z,98nm,20.4s,baz=195,slow=36
BR131 Keskin Array S 91.34 4 *e*P **P 01 21 12.4 -0.2**
comp=Z,6.7nm,1.0s
ANTO Ankara 91.45 3 *e*P **P 01 21 14.0 +1.0**
ANTO pmax pmax
comp=Z,22nm,1.2s
ANTO Ankara 91.45 3 *e*P **P 01 21 14.0 +1.0**
comp=Z,22nm,1.2s
GNI Garni 92.76 13 *e*P **P 01 21 19.5 +0.3**
GNI pmax pmax
comp=Z,3.0nm,0.8s
GNI Garni 92.76 13 *e*P **P 01 21 19.5 +0.3**
comp=Z,3.5nm,0.8s
KOLN Koldanda 92.92 47 *e*P **P 01 21 19.8 -0.5**
comp=Z,37nm,0.9s
CMAR Chiang Mai Arr 92.98 64 P **P 01 21 19.1 -1.4**
comp=Z,0.7nm,0.4s,baz=211,slow=5.3,SNR=5.2
CMAR LR LR 01 58 56.6
comp=Z,119nm,18.1s,baz=225,slow=33
GEYT Alibeck 93.15 23 P **P 01 21 20.8 -0.1**
comp=Z,3.8nm,0.8s,baz=228,slow=3.8,SNR=13
GEYT LR LR 02 01 08.8
comp=Z,87nm,19.7s,baz=355,slow=34
KBL Kabul 93.16 33 *e*P **P 01 21 21.8 +0.6**
KBL pmax pmax
comp=Z,5.0nm,0.7s
KBL Kabul 93.16 33 *e*P **P 01 21 21.8 +0.6**
comp=Z,4.9nm,0.7s
CHTO Chiang Mai 93.27 64 *e*P **P 01 21 21.2 -0.7**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
CHTO Chiang Mai 93.27 64 *e*P **P 01 21 21.2 -0.7**
comp=Z,4.7nm,0.9s
DMN Daman 93.47 48 *e*P **P 01 21 22.3 -0.6**
comp=Z,50nm,1.0s
PKIN Phulchoki 93.58 48 *e*P **P 01 21 22.5 -0.9**
PKI Pulchoki 93.58 48 *e*P **P 01 21 22.6 -0.9**
GKN Gorkha 93.59 48 *e*P **P 01 21 22.8 -0.5**
RAMN Ramite 93.61 50 *e*P **P 01 21 23.3 -0.3**
comp=Z,67nm,1.1s
KKN Kakani 93.71 48 *e*P **P 01 21 23.4 -0.6**
comp=Z,26nm,0.7s
ODAN Odare 93.91 50 *e*P **P 01 21 24.7 -0.2**
JIRN Jiri 94.02 49 *e*P **P 01 21 25.0 -0.6**
comp=Z,40nm,0.8s
GUN Gumba 94.09 49 *e*P **P 01 21 25.5 -0.4**
comp=Z,67nm,0.8s
TAPN Taplejung 94.47 50 *e*P **P 01 21 26.8 -0.8**
comp=Z,29nm,1.1s
ESDC Sonseca Array 95.41 336 P **P 01 21 31.5 +0.3**
comp=Z,2.0nm,0.8s,baz=172,slow=4.6,SNR=13
ESDC LR LR 02 06 44.5
comp=Z,147nm,18.1s,baz=115,slow=37
NEY Neytrino 95.56 11 *e*P **P 01 21 34.7 +2.7**
NEY pmax pmax
comp=Z,1.0nm,1.7s
KBZ Khabaz 96.06 11 P **P 01 21 34.2 +0.2**
comp=Z,1.8nm,0.9s,baz=56,slow=23,SNR=5.3
KBZ LR LR 02 05 21.1
comp=Z,123nm,19.0s,baz=184,slow=36
KIV Kislovodsk 96.26 10 *e*P **P 01 21 37.2 +2.2**
KIV pmax pmax
comp=Z,5.0nm,0.9s
MLR Muntele Rosu 97.01 358 P **P 01 21 37.7 -0.8**
comp=Z,0.8nm,0.8s,baz=185,slow=12,SNR=5.4
EPF Esparros 97.58 340 *e*P Pdif 01 21 41.4 +0.3
comp=Z,36nm,1.3s
EPF Esparros 97.58 340 *e*P Pdif 01 21 41.4 +0.3
EPF pmax pmax
comp=Z,36nm,1.3s
EPF Esparros 97.58 340 *e*P Pdif 01 21 41.4 +0.3
comp=Z,36nm,1.3s
ETSF Etsaut 97.65 339 *e*P Pdif 01 21 41.7 +0.3
comp=Z,127nm,1.8s
ETSF Etsaut 97.65 339 *e*P Pdif 01 21 41.7 +0.3
ETSF pmax pmax
comp=Z,127nm,1.8s
ETSF Etsaut 97.65 339 *e*P Pdif 01 21 41.7 +0.3
comp=Z,127nm,1.8s
LPG La Plagne 98.75 345 *e*P Pdif 01 21 47.1 +0.6
comp=Z,15nm,1.2s
LPG La Plagne 98.75 345 *e*P Pdif 01 21 47.1 +0.6
LPG pmax pmax
comp=Z,15nm,1.2s
LPG La Plagne 98.75 345 *e*P Pdif 01 21 47.1 +0.6
comp=Z,15nm,1.2s
LPL La Plagne 98.77 345 *e*P Pdif 01 21 46.9 +0.4
comp=Z,62nm,1.7s
LPL La Plagne 98.77 345 *e*P Pdif 01 21 46.9 +0.4
LPL pmax pmax
comp=Z,62nm,1.7s
LPL La Plagne 98.77 345 *e*P Pdif 01 21 46.9 +0.4
comp=Z,62nm,1.7s
BUR08 Bucovina Ar. S 99.17 358 *e*P **Pdif 01 21 48.5 +0.4**
QIZ Qiongzhong 99.68 72 P **Pdif 01 21 52.8 +1.9**
QIZ S **S 01 33 26.3 +2.0**
QIZ PMZ
comp=Z,19nm,2.1s
DAVA Damuels 100.04 347⇑ *i*PP PP 01 25 55.9 -2.1
comp=Z,27nm,1.4s
KSH Kashi 100.04 36 P **Pdif 01 21 50.3 -1.9**
KSH pP pP 01 21 54.8 -0.8
KSH sP sP 01 21 57.3 +0.5
KSH PP **PP 01 25 55.4 -2.8**
KSH SKS **SKSac 01 32 26.8 -3.8**
KSH S SKKSac 01 33 17.6 +14
KSH PMZ
comp=Z,6.0nm,1.1s
KSH PMZ
comp=Z,120nm,4.8s
KSH LN
comp=Z,98nm,6.9s
KSH LE
comp=Z,100nm,5.1s
KSH LZ
comp=Z,150nm,7.3s
KMI Kunming 100.41 63 P **Pdif 01 21 57.9 +3.6**
KMI PMZ
comp=Z,9.0nm,0.8s
GERES GERESS Array B 101.11 350 P **Pdif 01 21 58.1 +1.4**
comp=Z,0.4nm,0.7s,baz=202,slow=4.2,SNR=2.4
GERES PP **PP 01 26 06.8 +0.8**
comp=Z,0.6nm,0.8s,baz=165,slow=6.2,SNR=5.6
VRAC Vranov 101.30 352 PP PP 01 26 07.7 +0.3
comp=Z,1.9nm,0.6s,baz=304,slow=4.7,SNR=4.7
TREC Trest 101.38 351 AMS AMS 02 10 40.0
comp=Z,300nm,14.8s
KKAR Karatay Array 101.42 30 *e*P **Pdif 01 21 57.9 -0.2**
KKAR pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 101.42 30 *e*Pdif **Pdif 01 21 57.9 -0.2**
comp=Z,2.5nm,0.8s
ROSC El Rosal 101.59 263 *e*Pdif **Pdif 01 22 00.2 +0.1**
OKC Ostrava-Krasne 101.70 353 *e*PP PP 01 26 08.1 -2.3
KRLC Kraliky 102.04 352 *e*PP PP 01 26 10.3 -2.7
EKS2 Erkin-Say 102.07 33 *e*P **Pdif 01 22 01.3 +0.1**
EKS2 pmax pmax
comp=Z,4.0nm,0.7s
EKS2 Erkin-Say 102.07 33 *e*Pdif **Pdif 01 22 01.3 +0.1**
comp=Z,3.5nm,0.7s
PRU Pruhonice 102.16 351 *e*PP PP 01 26 09.9 -3.9
PRU AMS AMS 02 13 00.0
AKASG Malin Array Be 102.20 1 P **Pdif 01 22 00.8 -0.6**
comp=Z,0.2nm,0.3s,baz=153,slow=0.9,SNR=4.1
AKASG PP **PP 01 26 14.9 +0.8**
comp=Z,0.2nm,0.3s,baz=196,slow=6.9,SNR=6.6
PRA Prague 102.25 351 AMS AMS 02 11 30.0
comp=Z,200nm,16.9s
AAK Ala-Archa 102.29 33⇑ *e*P **Pdif 01 22 02.8 +0.6**
AAK pmax pmax
comp=Z,17nm,1.2s
AAK Ala-Archa 102.29 33 *e*Pdif **Pdif 01 22 02.4 +0.2**
DPC Dobruska-Polom 102.35 352 *e*PP PP 01 26 12.7 -2.6
DPC AMS AMS 02 11 30.0
NKC Novy Kostel 102.62 350 *e*PP PP 01 26 17.4 +0.1
NKC AMS AMS 02 12 20.0
comp=Z,200nm,17.9s
WLF Walferdange 102.90 345 *e*P **Pdif 01 22 03.5 -1.0**
WLF Walferdange 102.90 345 *e*Pdif **Pdif 01 22 03.5 -1.0**
TKM2 Tokmak 2 102.92 34 *e*P **Pdif 01 22 04.9 -0.2**
TKM2 Tokmak 2 102.92 34 *e*Pdif **Pdif 01 22 04.9 -0.2**
CLL Collm 103.62 350 *i*PP PP 01 26 23.4 -1.3
comp=Z,10.0nm,1.3s
CD2 Chengdu 105.51 60 *e*Pdif **Pdif 01 22 19.1 +2.5**
CD2 PP PP 01 26 45.0 +5.9
CD2 S **Sdif 01 34 08.8 -3.7**
CD2 SS **SKKPbc 01 41 39.5 +2.7**
CD2 PPMZ
comp=Z,180nm,8.2s
CD2 LN
comp=Z,190nm,19.0s
CD2 LZ
comp=Z,240nm,16.7s
SUW Suwalki 105.60 357 *e*PKP **PKiKP 01 26 29.8 +0.4**
SUW *e*PP **PP 01 26 38.1 -1.3**
MK31 Makanchi Array 108.65 36 *e*PKP **PKiKP 01 26 35.0 -0.4**
MKAR Makanchi Array 108.65 36 Pdiff **Pdif 01 22 28.1 -2.1**
comp=Z,0.7nm,0.8s,baz=246,slow=9.1,SNR=4.5
MKAR PKiKP **PKiKP 01 26 37.0 +1.7**
comp=Z,0.2nm,0.7s,baz=245,slow=2.6,SNR=3.7
GTA Gaotai 110.12 51 *e*PKP **PKiKP 01 26 41.5 +3.0**
GTA PP PP 01 27 20.8 +7.9
GTA SKS **SKSdf 01 33 53.1 +2.8**
GTA PPMZ
comp=Z,120nm,5.5s
GTA LN
comp=Z,260nm,19.9s
GTA LE
comp=Z,470nm,20.0s
GTA LZ
comp=Z,170nm,19.5s
ARU Arti 110.79 17 *i* PKiKP **PKiKP 01 26 38.4 -0.6**
ARU 01 27 15.5
ARU 01 33 17.7
ARU Arti 110.79 17 *e*PKP **PKiKP 01 26 38.0 -1.0**
WHN Wuhan 111.10 67 *e*Pdif **Pdif 01 22 47.5 +6.1**
WHN PP **PP 01 27 22.8 +2.9**
HFS Hagfors 112.27 352 PP PP 01 27 26.2 -1.6
comp=Z,4.4nm,1.1s,baz=166,slow=7.5,SNR=4.8
FINES FINESS Array B 112.98 359 PKiKP **PKiKP 01 26 41.5 -1.4**
comp=Z,1.5nm,0.9s,baz=204,slow=2.4,SNR=4.7
NB2 NORSAR Subarra113.39 351 PP PP 01 27 33.7 -2.1
comp=Z,16nm,1.2s,baz=168,slow=7.4
NB2 NORSAR Subarra113.39 351 PP PP 01 27 33.7 -2.1
baz=168,slow=7.4
NOA NORSAR Array B113.39 351 PP PP 01 27 34.6 -1.2
comp=Z,5.0nm,1.0s,baz=173,slow=6.9,SNR=6.0
ZALV Zalesovo Beam 115.52 33 PKP **PKPdf 01 26 46.1 -2.0**
comp=Z,0.8nm,0.6s,baz=224,slow=4.1,SNR=3.8
HHC Hu-ho-hao-te 117.14 58 *e*PKP **PKPdf 01 26 54.8 +3.0**
HHC PP PP 01 28 10.8 +8.1
HHC SKS **SKSdf 01 34 05.8 +2.1**
HHC PPMZ
comp=Z,71nm,8.6s
HHC LN
comp=Z,140nm,18.5s
HHC LE
comp=Z,140nm,17.3s
HHC LZ
comp=Z,120nm,19.7s
SONM Songino Array 119.58 49 PKP **PKPdf 01 26 55.4 -1.0**
comp=Z,2.8nm,0.7s,baz=201,slow=2.5,SNR=11
ULN Ulaanbaatar 119.92 50⇓ *i*PKiKP **PKPdf 01 26 55.9 -1.1**
ULN Ulaanbaatar 119.92 50 *e*PKPdf **PKPdf 01 26 55.8 -1.2**
ZAK Zakamensk 120.00 46 *e*PKiKP **PKPdf 01 26 55.4 -1.6**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
TLY Talaya 121.09 45 PKP **PKPdf 01 26 58.2 -0.7**
comp=Z,2.1nm,0.8s,baz=221,slow=3.5,SNR=6.8
TLY Talaya 121.09 45 *e*PKiKP **PKPdf 01 26 58.5 -0.4**
TLY pmax pmax
comp=Z,4.0nm,1.0s
ARCES ARCESS Array B 121.11 359 PKP **PKPdf 01 26 57.2 -1.2**
comp=Z,7.8nm,1.0s,baz=236,slow=1.3,SNR=9.9
KSAR Wonju Array Be 123.86 71 PKiKP **PKPdf 01 27 03.9 -0.8**
KSAR Wonju Array Be 123.86 71 PKP **PKPdf 01 27 03.9 -0.8**
KSRS Korea Array 123.90 71 PKP **PKPdf 01 27 03.9 -0.9**
comp=Z,1.5nm,0.7s,baz=217,slow=2.7,SNR=7.1
CN2 Changchun 126.66 64 *e*PKP **PKPdf 01 27 12.3 +2.5**
MJAR Matsushiro Arr 129.44 79 PKP **PKPdf 01 27 15.0 -0.4**
comp=Z,0.2nm,0.3s,baz=226,slow=5.1,SNR=5.2
MDJ Mudanjiang 129.49 65 PKP **PKPdf 01 27 16.8 +1.6**
SPITS Spitsbergen Ar 129.99 357 PKP **PKPdf 01 27 14.6 -0.6**
comp=Z,5.1nm,0.8s,baz=172,slow=1.4,SNR=4.0
USRK Ussuriysk Ar. 130.60 67 PKP **PKPdf 01 27 14.8 -2.5**
comp=Z,1.1nm,0.7s,baz=228,slow=3.0,SNR=5.2
SCHQ Schefferville 132.22 309 PKP **PKPdf 01 27 18.7 -1.4**
comp=Z,6.1nm,0.6s,baz=102,slow=2.0,SNR=13
430A Baggett Ranch, 137.66 260⇓ P **PKPdf 01 27 30.8 -0.3**
baz=138
Z33A Whitaker Ranch 137.86 265⇓ P **PKPdf 01 27 31.5 +0.2**
baz=138
429A Davenport Ranc 137.95 259⇑ P **PKPdf 01 27 31.1 -0.6**
baz=138
330A Mertzon 138.06 261⇑ P **PKPdf 01 27 31.6 -0.3**
baz=138
TXAR Lajitas Array 138.10 256 PKP **PKPdf 01 27 31.9 -0.1**
comp=Z,0.9nm,0.8s,baz=148,slow=4.3,SNR=10.0
TXAR SKPbc **SKPbc 01 31 04.5 -1.5**
comp=Z,1.8nm,1.0s,baz=146,slow=6.9,SNR=6.6
230A Sterling City 138.35 262⇓ P **PKPdf 01 27 32.2 -0.1**
baz=138
YSS Yuzh-Sakhalins 138.37 70 *e*PKiKP **PKPdf 01 27 32.2 +0.4**
YSS Yuzh-Sakhalins 138.37 70 *e*PKPdf **PKPdf 01 27 32.2 +0.4**
W34A Bridge Creek, 138.54 268⇑ P **PKPdf 01 27 32.5 -0.1**
baz=139
JFWS Jewell Farm 138.58 283 *e*PKiKP **PKPdf 01 27 33.1 +0.8**
JFWS Jewell Farm 138.58 283 *e*PKPdf **PKPdf 01 27 33.1 +0.8**
Z31A Sharp Cattle R 138.73 264⇑ P **PKPdf 01 27 32.5 -0.5**
baz=139
S36A Lake Cedric, C 138.78 273⇑ P **PKPdf 01 27 33.5 +0.7**
baz=139
W33A Caddo, Fort Co 138.92 267⇑ P **PKPdf 01 27 33.3 +0.1**
baz=139
X32A Elmer 138.94 266⇓ P **PKPdf 01 27 34.2 +1.0**
baz=139
Y31A Rekieta Farm, 139.24 265⇑ P **PKPdf 01 27 34.4 +0.5**
baz=139
Z30A Sanderson Ranc 139.32 263⇑ P **PKPdf 01 27 34.0 -0.1**
baz=139
129A Stewart Farms, 139.33 262⇓ P **PKPdf 01 27 34.3 +0.2**
baz=139
228A UT Block 9, Go 139.42 260⇑ P **PKPdf 01 27 34.8 +0.4**
baz=140
X31A McDonald Ranch 139.51 266⇓ P **PKPdf 01 27 34.4 +0.1**
baz=140
Z29A Hungry Hill Ra 139.66 263⇑ P **PKPdf 01 27 34.9 +0.1**
baz=140
COWI Conover 139.66 287 *e*PKPdf **PKPdf 01 27 35.2 +1.0**
128A Castleberry Fa 139.70 261⇑ P **PKPdf 01 27 34.8 0.0**
baz=140
Y28A McKinney Farm, 140.43 263⇑ P **PKPdf 01 27 35.9 -0.2**
baz=140
MNTX Cornudas Mount 140.82 257⇓ P **PKPdf 01 27 36.5 -0.3**
baz=141
Q33A Connelly Farm, 140.95 273⇓ P **PKPdf 01 27 36.8 0.0**
baz=141
P33A Williams Farm, 141.12 273⇑ P **PKPdf 01 27 36.9 -0.2**
baz=141
W28A Vega 141.30 264⇑ P **PKPdf 01 27 37.9 +0.2**
baz=141
T29A Hugoton 141.95 268⇑ P **PKPdf 01 27 38.9 +0.2**
baz=142
U28A Mallet 142.03 266⇓ P **PKPdf 01 27 38.3 -0.6**
baz=142
P31A Stockton 142.22 272⇑ P **PKPdf 01 27 39.4 +0.3**
baz=142
ECSD EROS Data Cent 142.91 280 *e*PKPpre PKPpre 01 27 35.6
ECSD EROS Data Cent 142.91 280⇑ P **PKPdf 01 27 39.5 -0.6**
baz=143
R28A Tribune 143.01 269⇑ P **PKPdf 01 27 40.0 -0.6**
baz=143
T26A Comanche Natio 143.39 266⇑ P PKPbc 01 27 39.9 +1.2
baz=144
L31A Butterfield Fa 143.42 276⇑ P **PKPdf 01 27 39.9 -1.2**
baz=144
Q28A Sharon Springs 143.46 270⇓ P **PKPdf 01 27 40.3 -1.1**
baz=144
R27A Eads 143.59 268⇑ P PKPbc 01 27 40.1 +1.0
baz=144,SNR=5.6
S26A Kim 143.59 266⇓ P **PKPdf 01 27 40.5 -1.2**
baz=144
LAZ Ladron 143.75 259 *e*PKPdf **PKPdf 01 27 42.3 +0.1**
T25A Trinidad 143.87 265⇓ P PKPbc 01 27 40.7 +0.6
baz=144
R26A Arlington 144.00 267⇑ P **PKPdf 01 27 41.7 -0.7**
baz=144
K30A Basset 144.17 276⇑ P **PKPdf 01 27 41.6 -0.8**
baz=144
P27A Ficken Ranch, 144.22 270⇑ P **PKPdf 01 27 42.4 -0.3**
baz=144
N28A Pribbeno Ranch 144.25 272⇑ P **PKPdf 01 27 42.3 -0.4**
baz=144
Q26A Hugo 144.43 268⇓ P **PKPdf 01 27 43.0 -0.1**
baz=145,SNR=7.2
J30A Dallas 144.45 277⇑ P **PKPdf 01 27 42.9 0.0**
baz=145
TUC Tucson 144.49 253 *e*PKiKP PKPbc 01 27 42.0 0.0
TUC Tucson 144.49 253 *e*PKPdf PKPbc 01 27 42.0 0.0

O27A	Beecher Island	144.54 271	⇑P	PKPbc	01 27 42.6	+0.6	
	baz=145						
M28A	Bar X Bar Ranc	144.55 273	⇓P	PKPbc	01 27 42.1	+0.2	
	baz=145						
K29A	Lazy Trails An	144.66 276	⇑P	PKPab	01 27 42.1	+0.1	
	baz=145						
OGNE	Ogallala	144.70 272	⇑P	PKPbc	01 27 42.5	+0.1	
	baz=145						
P26A	Davis Ranch, A	144.70 269	⇓P	PKPbc	01 27 42.7	+0.1	
	baz=145,SNR=6.4						
BRSD	Miller	144.72 279	⇑P	PKPbc	01 27 42.5	+0.3	
	baz=145						
I30A	Oacoma	144.73 278	⇑P	PKPab	01 27 42.2	+0.1	
	baz=145						
AGMN	Agassiz Nation	144.73 287	ePKPdf	PKPab	01 27 41.1	-1.0	
AGMN	Agassiz Nation	144.73 287	⇑P	PKPab	01 27 41.7	-0.4	
	baz=145,SNR=8.5						
SDCO	Great Sand Dun	144.93 265	ePKPdf	PKPab	01 27 42.9	-0.5	
SDCO	Great Sand Dun	144.93 265	⇑P	PKPab	01 27 43.4	-0.1	
	baz=145,SNR=13						
N27A	Anderson Farm,	144.93 271	⇑P	PKPbc	01 27 43.3	+0.2	
	baz=145,SNR=11						
L28A	Connealy Angus	144.98 274	⇓P	PKPdf	01 27 44.0	+0.1	
	baz=145						
J29A	Okreek	145.01 277	⇑P	PKPab	01 27 43.3	+0.1	
	baz=145						
G30A	Faulkton	145.18 280	⇑P	PKPbc	01 27 43.7	0.0	
	baz=145						
S23A	Nye Farm, Mont	145.21 264	⇓P	PKPdf	01 27 44.7	0.0	
	baz=145						
M27A	Reverse DX Ran	145.25 273	⇓P	PKPdf	01 27 44.5	0.0	
	baz=145						
K28A	Ten Mile Ranch	145.28 275	⇑P	PKPbc	01 27 44.2	+0.1	
	baz=145						
I29A	Vivian Onida	145.32 278	⇑P	PKPab	01 27 44.9	+0.5	
	baz=146						
N26A	Koester Ranch,	145.37 271	⇑P	PKPab	01 27 45.0	+0.2	
	baz=146						
R23A	Moffat	145.40 265	⇑P	PKPab	01 27 45.5	+0.3	
	baz=146,SNR=6.0						
214A	Organ Pipe Nat	145.43 250	ePKPbc	PKPab	01 27 45.1	0.0	
214A	Organ Pipe Nat	145.43 250	⇑P	PKPdf	01 27 45.0	+0.1	
	baz=146						
Q24A	Divide	145.46 267	⇓P	PKPab	01 27 46.0	+0.5	
	baz=146,SNR=8.9						
F30A	Leola	145.46 281	⇑P	PKPbc	01 27 44.7	+0.1	
	baz=146						
O25A	Wiggins	145.51 269	⇑P	PKPab	01 27 45.4	+0.1	
	baz=146						
L27A	T5 Ranch, Ells	145.52 273	⇓P	PKPab	01 27 45.5	+0.2	
	baz=146						
X18A	Snowflake	145.54 256	⇓P	PKPbc	01 27 45.5	+0.1	
	baz=146						
H29A	Onida	145.58 279	⇑P	PKPab	01 27 45.5	+0.2	
	baz=146						
J28A	Allard Ranch,	145.58 276	⇑P	PKPbc	01 27 45.1	0.0	
	baz=146,SNR=12						
ULM	Lac du Bonnet	145.60 290	PKPbc	PKPdf	01 27 42.8	-1.8	
	comp=Z,14nm,0.9s,baz=77,slow=2.2,SNR=22						
ULM	Lac du Bonnet	145.60 290	ePKPbc	PKPdf	01 27 42.7	-1.9	
M26A	McRoberts Ranc	145.68 272	⇑P	PKPab	01 27 46.1	+0.1	
	baz=146						
E30A	Jud	145.72 282	⇓P	PKPab	01 27 45.7	-0.1	
	baz=146						
S22A	4UR Ranch, Cre	145.75 264	⇑P	PKPbc	01 27 46.1	0.0	
	baz=146,SNR=18						
K27A	Flueckinger Fa	145.81 274	⇑P	PKPab	01 27 46.2	-0.1	
	baz=146						
I28A	Midland	145.84 277	⇓P	PKPbc	01 27 45.6	-0.2	
	baz=146						
Q23A	Hartsel	145.85 266	⇓P	PKPdf	01 27 45.8	0.0	
	baz=146						
D30A	Buchanan	145.91 283	⇓P	PKPbc	01 27 46.1	+0.1	
	baz=146						
F29A	Eureka	145.95 281	⇓P	PKPbc	01 27 46.3	+0.2	
	baz=146						
J27A	Elkhorn Farm,	145.96 275	⇓P	PKPbc	01 27 46.5	+0.2	
	baz=146						
L26A	Underwood Farm	145.96 273	⇑P	PKPab	01 27 47.1	+0.1	
	baz=146						
C30A	Mose, Pekin	146.02 284	⇑P	PKPbc	01 27 46.0	-0.2	
	baz=146						
O24A	Longmont	146.10 268	⇓P	PKPab	01 27 47.5	-0.1	
	baz=146						
P23A	Jefferson	146.13 267	⇑P	PKPab	01 27 47.7	-0.2	
	baz=146,SNR=13						
G28A	Parade	146.24 279	⇑P	PKPbc	01 27 47.2	+0.2	
	baz=146,SNR=6.7						
ISCO	Idaho Springs	146.25 268	ePKP2	PKPbc	01 27 47.4	-0.2	
ISCO	Idaho Springs	146.25 268	ePKPbc	PKPbc	01 27 47.4	-0.2	
ISCO	Idaho Springs	146.25 268	⇑P	PKPbc	01 27 47.5	-0.2	
	baz=146,SNR=34						
B30A	Myrvik Farm, E	146.27 286	⇑P	PKPbc	01 27 46.5	-0.5	
	baz=146,SNR=10						
X16A	Lo Mia Camp, P	146.36 255	⇑P	PKPab	01 27 48.6	-0.1	
	baz=146,SNR=8.4						
K26A	Motz Farm, Whi	146.39 274	⇓P	PKPbc	01 27 48.0	+0.4	
	baz=146,SNR=11						
N24A	Carr	146.40 270	⇓P	PKPab	01 27 48.4	-0.3	
	baz=146						
I27A	Quinn	146.42 277	⇓P	PKPbc	01 27 47.8	+0.1	
	baz=147,SNR=9.7						
MVCO	Mesa Verde	146.43 261	ePKPbc	PKPbc	01 27 47.9	-0.2	
MVCO	Mesa Verde	146.43 261	⇓P	PKPbc	01 27 48.4	+0.3	
	baz=146						
A30A	Hoffart Farm,	146.47 287	⇓P	PKPbc	01 27 47.3	-0.3	
	baz=147,SNR=13						
Z14A	Wintersburg	146.52 252	⇑P	PKPab	01 27 48.7	-0.4	
	baz=147						
F28A	McLaughlin	146.55 280	⇑P	PKPbc	01 27 48.3	+0.3	
	baz=147,SNR=5.2						
113A	Mohawk Valley,	146.57 250	⇓P	PKPbc	01 27 48.4	+0.1	
	baz=147						
L25A	Engebretsen Ra	146.58 272	⇑P	PKPab	01 27 48.9	-0.4	
	baz=147,SNR=15						
J26A	Sides Ranch, S	146.66 275	⇑P	PKPbc	01 27 48.3	-0.1	
	baz=147						
O23A	Lake Granby, G	146.68 268	⇑P	PKPbc	01 27 48.9	+0.1	
	baz=147,SNR=15						
SMCO	Snowmass	146.72 265	ePKPbc	PKPbc	01 27 48.7	-0.4	
H27A	Howes	146.73 277	⇓P	PKPbc	01 27 48.1	-0.4	
	baz=147,SNR=12						
K25A	Mack Ranch, Ha	146.77 273	⇑P	PKPbc	01 27 48.8	0.0	
	baz=147,SNR=12						
E28A	Huff	146.84 281	⇓P	PKPbc	01 27 49.2	+0.5	
	baz=147						
P22A	Eagle	146.84 266	⇓P	PKPbc	01 27 49.5	+0.3	
	baz=147,SNR=12						
B29A	Wagenman Farm,	146.89 285	⇑P	PKPbc	01 27 48.7	-0.1	
	baz=147						
I26A	New Underwood	146.90 276	⇑P	PKPbc	01 27 48.7	-0.3	
	baz=147,SNR=8.9						
G27A	Dupree	147.01 279	⇓P	PKPbc	01 27 49.3	0.0	
	baz=147,SNR=9.2						
A29A	Manning Farm,	147.01 286	⇓P	PKPbc	01 27 48.8	-0.3	
	baz=147,SNR=5.1						
O22A	Kremmling	147.04 267	⇑P	PKPbc	01 27 49.4	-0.5	
	baz=147,SNR=23						
D28A	Regan	147.05 282	⇓P	PKPbc	01 27 50.0	+0.7	
	baz=147						
PV01	Paradox Valley	147.06 263	ePKPbc	PKPbc	01 27 50.6	+0.7	
WUAZ	Wupatki	147.07 256	ePKPbc	PKPbc	01 27 50.0	+0.1	
WUAZ	Wupatki	147.07 256	⇓P	PKPbc	01 27 50.1	+0.2	
	baz=147						
N23A	Red Feather La	147.09 269	⇓P	PKPbc	01 27 50.3	+0.3	
	baz=147,SNR=18						
J25A	Sunshine Ranch	147.15 274	⇑P	PKPbc	01 27 49.8	0.0	
	baz=147,SNR=10.0						
H26A	Fairpoint	147.15 277	⇑P	PKPbc	01 27 49.8	+0.1	
	baz=147,SNR=9.3						
E27A	Carson	147.30 281	⇑P	PKPbc	01 27 50.2	+0.1	
	baz=147						
F27A	Lemmon	147.31 279	⇑P	PKPbc	01 27 50.0	0.0	
	baz=147						
N22A	Wattenberg Ran	147.36 268	⇓P	PKPbc	01 27 50.4	-0.3	
	baz=148,SNR=6.6						
G26A	Maurine	147.38 278	⇑P	PKPbc	01 27 50.4	+0.1	
	baz=148,SNR=12						
K24A	Anderson Ranch	147.41 273	⇑P	PKPbc	01 27 50.3	-0.4	
	baz=148						
FCC	Fort Churchill	147.42 305	ePKP2	PKPbc	01 27 48.8	-1.1	
FCC	Fort Churchill	147.42 305	ePKPbc	PKPbc	01 27 48.8	-1.1	
I25A	Rochford	147.43 275	⇑P	PKPbc	01 27 50.2	-0.5	
	baz=148,SNR=29						
B28A	Dugan Ranch, T	147.49 285	⇓P	PKPbc	01 27 50.3	-0.2	
	baz=148						
D27A	Center	147.59 282	⇑P	PKPbc	01 27 50.7	-0.1	
	baz=148						
A28A	Rude Farm, Bot	147.63 286	⇓P	PKPbc	01 27 50.7	-0.1	
	baz=148,SNR=15						
J24A	Dixon Ranch, L	147.65 274	⇑P	PKPbc	01 27 51.5	+0.3	
	baz=148						
H25A	Fruitdale	147.66 276	⇓P	PKPbc	01 27 51.3	+0.2	
	baz=148						
RSSD	Black Hills	147.67 275	ePKIKP	PKPdf	01 27 47.7	-0.9	
RSSD			e		01 27 51.0		
RSSD	Black Hills	147.67 275	ePKPdf	PKPdf	01 27 47.7	-0.9	
RSSD			ePKPbc	PKPbc	01 27 51.0	-0.4	
F26A	Lodgepole	147.69 279	⇓P	PKPbc	01 27 51.3	+0.1	
	baz=148,SNR=6.9						
G25A	Newell	147.83 277	⇓P	PKPbc	01 27 51.7	+0.1	
	baz=148						
RES	Resolute Bay	147.84 335	PKPbc	PKPbc	01 27 50.6	0.0	
	comp=Z,18nm,0.8s,baz=60,slow=7.0,SNR=33						
C27A	Sayler Ranch,	147.85 283	⇓P	PKPbc	01 27 51.7	+0.2	
	baz=148						
E26A	Carlson Angus	147.86 280	⇑P	PKPbc	01 27 51.7	+0.1	
	baz=148,SNR=6.1						
I24A	Kuemmerle Ranc	147.90 274	⇓P	PKPbc	01 27 51.7	-0.2	
	baz=148,SNR=5.2						
O20A	White River Ci	148.07 266	ePKPbc	PKPbc	01 27 51.7	-0.8	
O20A	White River Ci	148.07 266	⇓P	PKPbc	01 27 52.4	-0.2	
	baz=148,SNR=8.1						
D26A	Manning	148.11 281	⇓P	PKPbc	01 27 52.4	+0.2	
	baz=148						
F25A	Bowman	148.21 279	⇓P	PKPbc	01 27 52.7	+0.1	
	baz=148,SNR=6.9						
A27A	Bedoux Ranch,	148.23 285	⇑P	PKPbc	01 27 52.3	-0.1	
	baz=148						
U15A	North Rim	148.23 257	⇓P	PKPbc	01 27 52.5	-0.7	
	baz=148						
C26A	Wahner Farm, P	148.26 283	⇑P	PKPbc	01 27 52.3	-0.2	
	baz=148						
W13A	Hualapai Mount	148.28 253	⇑P	PKPbc	01 27 52.4	-0.8	
	baz=148						
H24A	Dirks Ranch, A	148.31 276	⇓P	PKPbc	01 27 53.0	+0.1	
	baz=148,SNR=35						
IRM	Iron Mountain	148.37 250	⇓P	PKPbc	01 27 53.5	+0.1	
	baz=148						
K22A	Casper	148.44 271	ePKPdf	PKPdf	01 27 48.9	-0.9	
K22A			ePKPbc	PKPbc	01 27 52.9	-0.5	
K22A			ePKPab	PKPab	01 27 56.8	0.0	
E25A	Miller Ranch,	148.45 280	⇑P	PKPbc	01 27 53.8	+0.7	
	baz=149						
N20A	Spence Gulch,	148.50 267	⇑P	PKPbc	01 27 53.7	0.0	
	baz=149						
G24A	Alzada	148.51 277	⇓P	PKPbc	01 27 54.5	+1.1	
	baz=149						
109C	Camp Elliot, M	148.58 246	⇓P	PKPbc	01 27 53.9	+0.1	
	baz=149						
A26A	Wade Farm, Ken	148.68 285	⇑P	PKPbc	01 27 54.0	+0.4	
	baz=149						
D25A	Fairfield	148.70 281	⇑P	PKPbc	01 27 53.8	0.0	
	baz=149						
PFO	Pinyon Flats O	148.74 248	⇓P	PKPbc	01 27 55.4	+1.0	
	baz=149						
BELC	Belle Mtn. Jos	148.75 249	⇑P	PKPbc	01 27 55.0	+0.6	
	baz=149						
F24A	Ekalaka	148.78 278	⇑P	PKPbc	01 27 53.9	-0.2	
	baz=149						
J22A	Midwest	148.81 272	⇑P	PKPbc	01 27 52.9	-1.4	
	baz=149,SNR=16						
SRU	San Rafael Swe	148.87 262	ePKIKP	PKPdf	01 27 49.8	-0.8	
SRU			e		01 27 53.8		
SRU	San Rafael Swe	148.87 262	ePKPdf	PKPdf	01 27 49.8	-0.8	
SRU			ePKPbc	PKPbc	01 27 53.8	-0.8	
C25A	Freed Ranch, W	148.91 282	⇑P	PKPbc	01 27 54.6	+0.3	
	baz=149						
SEY	Seymchan	148.95 47	PKPbc	PKPbc	01 27 53.4	-0.4	
	comp=Z,18nm,0.8s,baz=233,slow=3.2,SNR=60						
LDFC	Landfair	148.99 252	ePKPbc	PKPbc	01 27 55.8	+0.8	
E24A	Baker	149.03 279	⇑P	PKPbc	01 27 54.7	0.0	
	baz=149						
G23A	Biddle	149.05 276	⇑P	PKPbc	01 27 54.3	-0.4	
	baz=149,SNR=7.5						
I22A	9 Mile Ranch,	149.07 273	⇑P	PKPbc	01 27 53.8	-1.1	
	baz=149,SNR=7.7						
B25A	Knox Farm, Ray	149.09 283	⇓P	PKPbc	01 27 55.1	+0.4	
	baz=149						
GMRC	Granite Mounta	149.11 251	⇓P	PKPbc	01 27 54.4	-0.9	
	baz=149						
D24A	Glendive	149.30 280	⇓P	PKPbc	01 27 55.0	-0.2	
	baz=149,SNR=5.8						
F23A	Volborg	149.31 277	⇑P	PKPbc	01 27 54.7	-0.6	
	baz=149						
H22A	Clearmont	149.34 274	⇓P	PKPbc	01 27 54.9	-0.7	
	baz=150,SNR=5.5						
A25A	Svangstu Ranch	149.34 284	⇑P	PKPbc	01 27 55.3	0.0	
	baz=150						
J21A	Lysite	149.38 272	⇑P	PKPbc	01 27 54.9	-0.9	
	baz=150						
TMUT	Trail Mountain	149.40 262	ePKPdf	PKPdf	01 27 51.4	-0.3	
TMUT			ePKPbc	PKPbc	01 27 56.1	0.0	
TMUT			ePKPab	PKPab	01 28 01.0	+0.1	
SCI	San Clemente I	149.47 245	⇑P	PKPbc	01 27 55.1	-0.9	
	baz=150						
MSU	Marysvale	149.51 260	ePKPdf	PKPdf	01 27 51.9	+0.1	
MSU			ePKPbc	PKPbc	01 27 56.2	-0.1	
MSU			ePKPab	PKPab	01 28 01.7	+0.4	
MVU	Marysvale	149.52 260	ePKPdf	PKPdf	01 27 52.4	+0.6	
MVU			ePKPbc	PKPbc	01 27 56.1	-0.3	
MVU			ePKPab	PKPab	01 28 01.6	+0.2	
I21A	Big Trails, Te	149.53 272	⇑P	PKPbc	01 27 54.2	-1.8	
	baz=150,SNR=26						
HEC	Hector,Ludlow	149.53 250	⇓P	PKPbc	01 27 56.6	+0.3	
	baz=150						
C24A	Savage	149.54 281	⇓P	PKPbc	01 27 55.8	0.0	
	baz=150						
E23A	Ismay	149.62 278	⇑P	PKPbc	01 27 55.9	-0.1	
	baz=150,SNR=5.2						
G22A	Birney	149.62 276	⇑P	PKPbc	01 27 55.9	-0.3	
	baz=150,SNR=6.1						
PETK	Petropavlovsk-	149.69 67	PKPbc	PKPbc	01 27 54.5	-1.4	
	comp=Z,7.5nm,0.8s,baz=184,slow=2.4,SNR=10						
CIS	Catalina Islan	149.70 246	⇑P	PKPbc	01 27 56.2	-0.4	
	baz=150						
TUQ	Turquoise Moun	149.72 251	⇑P	PKPbc	01 27 57.4	+0.6	
	baz=150						
J20A	Shoshoni	149.78 271	⇓P	PKPbc	01 27 56.6	0.0	
	baz=150,SNR=12						
H21A	Big Horn, Sher	149.79 274	⇑P	PKPbc	01 27 55.8	-0.8	
	baz=150,SNR=5.6						
DGMT	Dagmar	149.80 283	⇑P	PKPbc	01 27 56.6	+0.2	
	baz=150						
D23A	Lindsay	149.86 280	⇓P	PKPbc	01 27 56.7	0.0	
	baz=150						
F22A	Rosebud	149.86 277	⇓P	PKPbc	01 27 56.4	-0.3	
	baz=150,SNR=5.8						
A24A	Westby	149.87 284	⇑P	PKPbc	01 27 56.8	+0.3	
	baz=150						
SHPR	Sheep Range	150.00 254	ePKPbc	PKPbc	01 27 57.5	+0.1	
MPU	Maple Canyon	150.09 263	ePKPbc	PKPbc	01 27 57.4	-0.2	
MPU			ePKPab	PKPab	01 28 04.4	+0.8	
I20A	Worland	150.12 272	⇑P	PKPbc	01 27 56.8	-0.6	
	baz=150,SNR=7.8						
C23A	Lambert	150.12 281	⇑P	PKPbc	01 27 57.5	+0.2	
	baz=150						
GSC	Goldstone, Bar	150.14 250	ePKIKP	PKPbc	01 27 58.0	+0.2	
GSC	Goldstone, Bar	150.14 250	ePKPbc	PKPbc	01 27 58.0	+0.2	
GSC	Goldstone, Bar	150.14 250	⇓P	PKPbc	01 27 57.7	-0.1	
	baz=150						
G21A	Lodge Grass	150.18 275	⇑P	PKPbc	01 27 55.8	-1.8	
	baz=150						
PET	Petropavlovsk	150.21 68	*i* PKIKP	PKPbc	01 27 56.4	-0.7	
PET			*e*SS	SS	01 50 56.2	+5.3	
PET			pmax	pmax			
	comp=Z,74nm,1.2s						
PET			pmax	pmax			
	comp=Z,100nm,20.9s						
PET	Petropavlovsk	150.21 68	ePKPbc	PKPbc	01 27 56.0	-1.2	
SHOC	Shoshone, Teco	150.25 252	⇑P	PKPbc	01 27 58.1	+0.2	
	baz=150						
LAO	LASA Array	150.26 278	ePKPdf	PKPdf	01 27 52.8	+0.3	
LAO			ePKPbc	PKPbc	01 27 57.1	-0.5	
LAO			ePKPab	PKPab	01 28 03.6	-0.3	
B23A	Brockton	150.28 282	⇑P	PKPbc	01 27 57.5	-0.1	
	baz=150						
H20A	Greybull	150.31 273	⇓P	PKPbc	01 27 57.1	-0.8	
	baz=150,SNR=8.5						
JLU	Jordanelle	150.33 264	ePKPdf	PKPdf	01 27 52.8	-0.3	
JLU			ePKPbc	PKPbc	01 27 58.5	+0.2	
JLU			ePKPab	PKPab	01 28 05.0	+0.3	
NLU	North Lily Min	150.33 262	ePKPbc	PKPbc	01 27 58.4	+0.1	
J19A	Crowheart	150.33 270	⇓P	PKPbc	01 27 57.4	-0.7	
	baz=150						
BW06	Boulder Array	150.38 269	ePKPdf	PKPdf	01 27 51.8	-1.2	
BW06			ePKPbc	PKPbc	01 27 56.3	-2.0	
BW06			ePKPab	PKPab	01 28 04.5	-0.3	
PDAR	Pinedale Array	150.38 269	PKP	PKPdf	01 27 52.0	-1.0	
	comp=Z,5.5nm,0.9s,baz=102,slow=3.0,SNR=19						
PDAR			PKPbc	PKPbc	01 27 57.0	-1.3	
	comp=Z,5.6nm,0.9s,baz=108,slow=4.7,SNR=31						
PDAR			PKPab	PKPab	01 28 03.1	-1.6	
	comp=Z,3.1nm,0.7s,baz=102,slow=5.0,SNR=15						
D22A	Cohagen	150.44 279	⇓P	PKPbc	01 27 58.1	0.0	
	baz=151						
EDW2	Edwards Air Fo	150.53 248	⇓P	PKPbc	01 27 58.8	+0.1	
	baz=151						
TCUT	Toone Canyon	150.60 265	ePKPbc	PKPbc	01 27 58.9	0.0	
FFC	Flin Flon	150.64 295	ePKIKP	PKPdf	01 27 52.3	-0.4	
FFC			e		01 27 57.1		
FFC	Flin Flon	150.64 295	ePKPdf	PKPdf	01 27 52.3	-0.4	
FFC			ePKPbc	PKPbc	01 27 57.1	-1.1	
FFC			ePKPab	PKPab	01 28 05.1	-0.1	
I19A	Meeteetse	150.70 272	⇓P	PKPbc	01 27 58.8	-0.1	
	baz=151,SNR=7.0						
LRMC	Laurel Mtn Rad	150.78 249	⇑P	PKPbc	01 27 59.9	+0.6	
	baz=151						
G20A	Bridger	150.80 274	⇓P	PKPbc	01 27 58.5	-0.6	
	baz=151,SNR=8.4						
B22A	Reddig Ranch S	150.83 281	⇓P	PKPbc	01 27 59.2	+0.3	
	baz=151						
D21A	La Casta Ranch	150.91 278	⇓P	PKPbc	01 27 59.3	+0.1	
	baz=151,SNR=5.3						
DUG	Dugway, Tooele	150.93 262	⇓P	PKPbc	01 27 59.5	0.0	
	baz=151						
TPNV	Topopah Spring	150.94 253	⇓P	PKPbc	01 27 59.9	+0.2	
	baz=151						
HWUT	Hardware Ranch	150.98 265	ePKPdf	PKPdf	01 27 53.5	-0.4	
HWUT			ePKPbc	PKPbc	01 27 59.0	-0.7	
HWUT			ePKPab	PKPab	01 28 07.9	+0.7	
FURC	Furnace Creek,	150.98 252	⇓P	PKPbc	01 28 00.5	+0.9	
	baz=151						
H19A	Powell	151.01 273	⇓P	PKPbc	01 27 59.4	-0.1	
	baz=151,SNR=5.4						
F20A	Billings	151.04 275	⇑P	PKPbc	01 27 59.0	-0.6	
	baz=151,SNR=5.4						
A22A	Carney Farms,	151.06 283	⇑P	PKPbc	01 27 59.4	0.0	
	baz=151						
MPMC	Manual Prospec	151.07 250	⇓P	PKPbc	01 28 00.1	0.0	
	baz=151						
ARVC	Arvin	151.19 247	⇓P	PKPbc	01 28 01.0	+0.9	
	baz=151						
DAC	Darwin (Calif)	151.28 251	ePKIKP	PKPbc	01 28 00.0	-0.6	
DAC	Darwin (Calif)	151.28 251	ePKPbc	PKPbc	01 27 60.0	-0.6	
AHID	Auburn Hatcher	151.33 268	ePKPdf	PKPdf	01 27 54.6	+0.2	
AHID			ePKPbc	PKPbc	01 28 00.3	-0.2	
AHID			ePKPab	PKPab	01 28 09.2	+0.5	
E20A	Meyer Farm, Mu	151.35 277	⇓P	PKPbc	01 28 00.2	0.0	
	baz=152						
ISA	Isabella, Lake	151.37 249	ePKIKP	PKPbc	01 28 01.1	+0.5	
ISA			e		01 28 08.1		
ISA	Isabella, Lake	151.37 249	ePKPbc	PKPbc	01 28 01.1	+0.5	
ISA			ePKPab	PKPab	01 28 08.1	-0.7	
ISA	Isabella, Lake	151.37 249	⇓P	PKPbc	01 28 00.9	+0.3	
	baz=152						
RLMT	Red Lodge	151.41 273	ePKPdf	PKPdf	01 27 54.5	0.0	
RLMT			ePKPbc	PKPbc	01 27 59.9	-0.7	
RLMT			ePKPab	PKPab	01 28 08.6	-0.3	
H18A	Shoshone NF, C	151.43 272	⇑P	PKPbc	01 27 60.0	-0.7	
	baz=152,SNR=5.6						
R11A	Troy Canyon, C	151.47 256	ePKPbc	PKPbc	01 28 00.8	-0.1	
R11A	Troy Canyon, C	151.47 256	⇑P	PKPbc	01 28 00.8	-0.1	
	baz=152						
LOHW	Long Hollow	151.48 270	ePKPdf	PKPdf	01 27 54.5	-0.1	
LOHW			ePKPbc	PKPbc	01 28 00.2	-0.6	
LOHW			ePKPab	PKPab	01 28 08.9	-0.4	
REDW	Red Top Meadow	151.50 269	ePKPdf	PKPdf	01 27 53.7	-1.0	
REDW			ePKPbc	PKPbc	01 28 00.3	-0.6	
REDW			ePKPab	PKPab	01 28 07.6	-1.8	
F19A	Roth Farm, Mol	151.56 275	⇓P	PKPbc	01 28 00.0	-0.7	
	baz=152,SNR=7.7						
I17A	Pilgrim Ck.	151.62 270	⇑P	PKPbc	01 28 01.1	0.0	
	baz=152						
D20A	Manuel Ranch,	151.62 278	⇓P	PKPbc	01 28 00.6	-0.2	
	baz=152						
TPAW	Teton Pass	151.63 269	ePKPdf	PKPdf	01 27 55.1	+0.1	
TPAW			ePKPbc	PKPbc	01 28 00.8	-0.4	
MOOW	Moose Ponds	151.63 270	ePKPbc	PKPbc	01 28 00.6	-0.6	
MOOW			ePKPab	PKPab	01 28 09.4	-0.5	
A21A	Bergtoll Ranch	151.67 282	⇑P	PKPbc	01 28 00.7	-0.1	
	baz=152,SNR=9.2						
E19A	Rath Farm, Rou	151.74 276	⇓P	PKPbc	01 28 00.7	-0.5	
	baz=152,SNR=11						
FLWY	Flagg Ranch	151.78 270	ePKPbc	PKPbc	01 28 00.9	-0.6	
FLWY			ePKPab	PKPab	01 28 10.2	-0.3	
C20A	Veseth Ranch,	151.81 279	⇓P	PKPbc	01 28 01.0	-0.2	
	baz=152						
IMW	Indian Meadow	151.83 270	ePKPdf	PKPdf	01 27 55.2	0.0	
IMW			ePKPbc	PKPbc	01 28 01.3	-0.4	
IMW			ePKPab	PKPab	01 28 10.2	-0.6	
H17A	Grant Village	151.86 271	ePKPbc	PKPbc	01 28 01.7	-0.1	
H17A	Grant Village	151.86 271	⇑P	PKPbc	01 28 01.6	-0.1	
	baz=152						
G

CASC 16 01:09:49.0±1.6, 8°27N×83°79W, h12km±13km, MD3.7, 1C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.73**	**58**	⇓*iP*	Pg	01 10 02.5	-0.7
ACR				*eS*	Sg	01 10 12.5	-0.3
CTCR	**Cotoan**	**1.20**	**58**	⇓*eP*	Pn	01 10 10.8	-1.1
CTCR				*eS*	Sg	01 10 27.9	-0.2
QCR	**Quepos**	**1.21**	**342**	*eP*	Pn	01 10 10.7	-1.1
QCR				*eS*	Sb	01 10 26.5	-0.9
BRU2	**Volcan**	**1.21**	**64**	⇓*iP*	Pn	01 10 10.9	-1.0
BRU2				*eS*	Sb	01 10 27.9	+0.1
TBS2		**1.24**	**65**	⇑*eP*	Pb	01 10 12.6	0.0
TBS2				*eS*	Sg	01 10 29.3	0.0
BUS	**Buena Vista**	**1.28**	**1**	*eP*	Pn	01 10 12.1	-1.2
BUS				*eS*	Sb	01 10 29.3	-1.2
URSC	**Urasca**	**1.56**	**0**	*eP*	Pn	01 10 07.9	-8.9
URSC				*eS*	Sn	01 10 17.6	-19
CAO	**Cobano**	**1.93**	**318**	*eP*	Pn	01 10 21.4	-0.3
CAO				*eS*	Sn	01 10 45.7	-0.1
JCR	**Jicaral**	**2.04**	**320**	⇓*eP*	Pn	01 10 24.0	+0.7
VCR	**Vista de Mar**	**2.59**	**316**	*eP*	Pn	01 10 30.9	0.0

ROM 16 01:20:20.8±0.2, 42°25N×13°47E, h8km±2km, Md2.0/3, Error ellipse: s-maj=1.3km s-min=0.8km az=48.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T0106	**Roio Piano**	**0.08**	**310**	Pg	Pg	01 20 23.5	+0.4
T0106				Sg	Sg	01 20 25.1	+0.3
	466nm,0.3s						
FAGN	**Fagnano**	**0.09**	**82**	Pg	Pg	01 20 23.3	+0.2
FAGN				Sg	Sg	01 20 25.1	+0.5
	507nm,0.3s						
T0104	**Madonna delle**	**0.14**	**317**	Pg	Pg	01 20 24.4	+0.4
T0104				Sg	Sg	01 20 26.8	+0.6
PTQR	**Pietraquaria**	**0.24**	**193**	Pg	Pg	01 20 26.2	+0.5
PTQR				Sg	Sg	01 20 30.4	+1.4
	5.0nm,0.2s						

WEL 16 01:20:44.6±0.1, 37°86S×176°99E, h3km, ML2.5/2, 4C-1D, Error ellipse: s-maj=0.7km s-min=0.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.34**	**273**	⇑PG	Pg	01 20 51.8	+0.5
WIZ	**White Island**	**0.37**	**26**	⇓PG	Pg	01 20 52.5	+0.8
URZ	**Urewera**	**0.41**	**166**	⇑PG	Pg	01 20 53.1	+0.6
URZ				SG	Sg	01 20 59.5	+1.6
URZ				AML	AML	01 21 03.6	
URZ	**Urewera**	**0.41**	**166**	*eP*	Pg	01 20 53.1	+0.6
	55nm,0.6s						
MWZ	**Matawai**	**0.64**	**138**	⇑P*	Pg	01 20 57.5	+0.5
MWZ				S*	Sg	01 21 06.4	+1.2
MWZ				AML	AML	01 21 06.9	
HAZ	**Te Kaha**	**0.64**	**81**	P*	Pg	01 20 57.4	+0.6
HAZ				S*	Sb	01 21 06.5	-1.2
SNGZ	**Shannon Statio**	**0.96**	**163**	⇑P*	Pb	01 21 03.9	0.0
RIGZ	**Rimuhau**	**1.04**	**144**	P*	Pn	01 21 06.4	+0.2

*IDC **16** 01:28:02.7±0.8, 10°12N×61°03W, h0km, mb3.8/11, mb1 4.1/13, mb1mx3.8/47, mbtmp3.9/13, ML3.0/2, MS3.9/2, Ms1 3.9/2, ms1mx3.2/37, Error ellipse: s-maj=21.1km s-min=20.6km az=138.0*

*TRN **16** 01:28:06.9, 10°00N×60°81W, h5km, MD4.2*

*NEIC **16** 01:28:09.5±0.7, 10°01N×61°12W, h52km±5km, mb4.0/14, MD4.2(TRN), Error ellipse: s-maj=10.2km s-min=6.7km az=112.0*

ISC 16 01:28:05.7±1.3, 9°89N±0°05×60°97W±0°05, h22km±10km, n57, σ1s78/69, mb3.9/22, 4C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPA	**Siparia**	**0.58**	**296**	*eP*	**Pn**	**01 28 20.8**	**+2.1**
SIPA				*eS*	**Sn**	**01 28 30.1**	**+2.5**
SIPA	**Siparia**	**0.58**	**296**	*eP*	**Pn**	**01 28 20.8**	**+2.1**
SIPA				*eS*	**Sn**	**01 28 30.1**	**+2.5**
TBH	**Brigand Hill**	**0.60**	**351**	⇑*iP*	**Pb**	**01 28 18.0**	**+0.4**
TBH				*eS*	**Sb**	**01 28 24.5**	**-1.1**
TBH	**Brigand Hill**	**0.60**	**351**	⇑*iP*	**Pb**	**01 28 18.0**	**+0.4**
TBH				*eS*	**Sb**	**01 28 24.5**	**-1.1**
TPP	**Pointe-a-Pierr**	**0.64**	**312**	*eP*	**Pn**	**01 28 20.0**	**+0.6**
TPP				*eS*	**Sn**	**01 28 31.1**	**+2.3**
TPP	**Pointe-a-Pierr**	**0.64**	**312**	*eP*	**Pn**	**01 28 20.0**	**+0.6**
TPP				*eS*	**Sn**	**01 28 31.1**	**+2.3**
ALNG	**Atlantic LNG**	**0.76**	**292**	*eP*	**Pn**	**01 28 24.2**	**+3.0**
ALNG				*eS*	**Sn**	**01 28 37.2**	**+5.3**
ALNG	**Atlantic LNG**	**0.76**	**292**	*eP*	**Pn**	**01 28 24.2**	**+3.0**
ALNG				*eS*	**Sn**	**01 28 37.2**	**+5.3**
TRN	**Trinidad (W)**	**0.86**	**331**	⇑*eP*	**Pn**	**01 28 24.4**	**+1.8**
TRN				*eS*	**Sn**	**01 28 36.4**	**+1.9**
TRN	**Trinidad (W)**	**0.86**	**331**	⇑*eP*	**Pn**	**01 28 24.4**	**+1.8**
BOT	**Bacolet**	**1.29**	**11**	*eP*	**Pb**	**01 28 29.5**	**+0.1**
BOT	**Bacolet**	**1.29**	**11**	*eP*	**Pb**	**01 28 29.5**	**+0.1**
TPR	**Prospect**	**1.30**	**8**	*eP*	**Pb**	**01 28 30.2**	**+0.6**
TPR	**Prospect**	**1.30**	**8**	*eP*	**Pb**	**01 28 30.2**	**+0.6**
TOSP	**Speyside**	**1.46**	**17**	*e*	**Pn**	**01 28 29.9**	**-0.9**
TOSP	**Speyside**	**1.46**	**17**	*eP*	**Pn**	**01 28 31.4**	**+0.5**
TOSP				*eS*	**Sb**	**01 28 51.5**	**+1.1**
GRGR	**Grenville**	**2.33**	**343**	*ePn*	**Pn**	**01 28 41.7**	**-1.1**
GRW	**Mount Saint Ca**	**2.35**	**343**	*eP*	**Pb**	**01 28 46.5**	**-1.1**
GRW	**Mount Saint Ca**	**2.35**	**343**	*eP*	**Pb**	**01 28 46.5**	**-1.1**
SVB	**Belmont**	**3.37**	**355**	*eP*	**Pn**	**01 28 59.6**	**+2.5**
SVB	**Belmont**	**3.37**	**355**	*eS*	**Pn**	**01 28 59.6**	**+2.5**
PCRV	**Puerto La Cruz**	**3.62**	**275**	Pn	**Pn**	**01 28 60.0**	**-0.6**
	2.7nm,0.3s,baz=111,slow=4.7,SNR=14						
PCRV				Lg	Lg	01 29 56.5	
	7.5nm,0.3s,baz=202,slow=12,SNR=3.8						
MCLT	**Moule a Chique**	**3.80**	**0**	*eP*	**Pn**	**01 29 04.9**	**+1.9**
MCLT	**Moule a Chique**	**3.80**	**0**	*eP*	**Pn**	**01 29 04.9**	**+1.9**
SDV	**Santo Domingo**	**9.59**	**265**	*ePn*	**Pn**	**01 30 21.0**	**-1.7**
	14nm,0.6s						
SDV				*eSn*	**Sn**	**01 32 08.0**	**-1.9**
OBIP	**Obispado Ponce**	**9.77**	**327**	*ePn*	**Pn**	**01 30 23.2**	**-1.9**
PTGA	**Pitinga**	**10.60**	**175**	Pn	**Pn**	**01 30 35.6**	**-0.8**
	3.1nm,0.3s,baz=2.4,slow=15,SNR=18						
PTGA				Sn	**Sn**	**01 32 32.7**	**-1.8**
	2.4nm,0.3s,baz=256,slow=21,SNR=8.0						
ROSC	**El Rosal**	**14.16**	**250**	Pn	**Pn**	**01 31 24.8**	**-0.6**
	0.9nm,0.3s,baz=81,slow=15,SNR=5.8						
ROSC				Lg	Lg	01 35 40.0	
	0.3nm,0.3s,baz=107,slow=20,SNR=2.7						
ROSC				LR	LR	01 37 49.1	
	comp=Z,734nm,20.4s,baz=21,slow=41						
ROSC	**El Rosal**	**14.16**	**250**	*ePn*	**Pn**	**01 31 26.0**	**+0.5**
ROSC				Lg	Lg	01 35 40.0	
BCIP	**Isla Barro Col**	**18.62**	**269**	*eP*	**P**	**01 32 20.6**	**-1.3**
	61nm,1.1s						
SAML	**Samuel**	**18.84**	**187**	*eP*	**Pn**	**01 32 25.6**	**+0.6**
	8.1nm,0.9s						
SAML				*eS*	**S**	**01 35 57.8**	**+0.4**
OTAV	**Otavalo**	**19.86**	**242**	*eP*	**P**	**01 32 36.7**	**+0.7**
	13nm,1.2s						
ATAH	**Atahualpa**	**24.23**	**226**	P	**P**	**01 33 23.3**	**+1.6**
	7.4nm,0.6s,baz=9.1,slow=3.7,SNR=4.8						
SIV	**San Ignacio**	**25.72**	**180**	P	**P**	**01 33 36.8**	**+2.1**
	2.4nm,0.7s,baz=20,slow=9.2,SNR=7.3						
NNA	**Nana**	**26.86**	**216**	LR	LR	01 44 08.5	
	comp=Z,146nm,18.8s,baz=28,slow=36						
LPAZ	**La Paz**	**26.96**	**195**	*eP*	**P**	**01 33 48.0**	**+1.4**
	1.9nm,0.7s						
LVC	**Limon Verde**	**33.23**	**193**	*eP*	**P**	**01 34 43.0**	**+1.5**
	2.9nm,0.8s						
WVT	**Waverly**	**35.73**	**321**	*eP*	**P**	**01 35 03.4**	**+0.6**
	2.4nm,0.8s						
CPUP	**Villa Florida**	**36.18**	**174**	*eP*	**P**	**01 35 07.4**	**+0.7**
LCO	**Las Campanas**	**39.80**	**193**	*eP*	**P**	**01 35 39.4**	**+1.7**
	9.0nm,0.7s						
WMOK	**Wichita Mounta**	**42.45**	**312**	*eP*	**P**	**01 35 57.4**	**-1.8**
	1.3nm,0.8s						
TXAR	**Lajitas Array**	**44.31**	**302**	P	**P**	**01 36 13.8**	**-0.6**
	0.6nm,0.7s,baz=104,slow=5.3,SNR=5.9						
SCHQ	**Schefferville**	**45.07**	**355**	P	**P**	**01 36 19.6**	**-0.2**
	2.8nm,0.7s,baz=196,slow=7.8,SNR=5.2						
MNTX	**Cornudas Mount**	**46.43**	**305**	*eP*	**P**	**01 36 29.4**	**-1.7**
	1.4nm,0.9s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDCO	**Great Sand Dun**	**48.63**	**312**	*eP*	**P**	**01 36 47.0**	**-1.5**
	0.9nm,0.6s						
BW06	**Boulder Array**	**53.46**	**317**	*eP*	**P**	**01 37 22.9**	**-1.7**
	1.1nm,0.6s						
PDAR	**Pinedale Array**	**53.46**	**317**	P	**P**	**01 37 22.7**	**-1.9**
	0.8nm,0.6s,baz=101,slow=8.3,SNR=8.2						
BOZ	**Bozeman (W)**	**55.96**	**319**	*eP*	**P**	**01 37 41.3**	**-1.2**
	1.1nm,0.7s						
HLID	**Hailey**	**57.06**	**316**	*eP*	**P**	**01 37 49.3**	**-1.2**
	0.9nm,0.7s						
NVAR	**Mina Array Bea**	**58.44**	**309**	P	**P**	**01 37 59.3**	**-1.0**
	0.4nm,0.6s,baz=94,slow=7.5,SNR=4.9						
NEW	**Newport**	**60.42**	**320**	*eP*	**P**	**01 38 12.4**	**-1.1**
	1.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**61.36**	**80**	P	**P**	**01 38 20.6**	**+0.1**
	0.4nm,0.9s,baz=298,slow=6.6,SNR=6.6						
YKA	**Yellowknife Ar**	**65.01**	**336**	P	**P**	**01 38 42.2**	**-1.6**
	0.6nm,0.7s,baz=109,slow=7.5,SNR=8.5						
GERES	**GERESS Array B**	**72.53**	**42**	P	**P**	**01 39 31.4**	**+0.2**
	0.4nm,0.7s,baz=255,slow=5.1,SNR=4.6						
INK	**Inuvik**	**74.44**	**338**	P	**P**	**01 39 40.0**	**-1.8**
	1.0nm,0.8s,baz=166,slow=19,SNR=2.9						
ILAR	**Eielson Array**	**79.38**	**334**	P	**P**	**01 40 09.3**	**-0.4**
	0.9nm,1.1s,baz=114,slow=4.7,SNR=6.0						
CMAR	**Chiang Mai Arr**	**145.56**	**35**	PKPbc	**PKPab**	**01 47 44.6**	**+1.1**
	0.6nm,0.3s,baz=320,slow=5.2,SNR=5.1						

IDC 16 01:30:00.8±3.3, 24°65S×116°08W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/33, mbtmp3.9/4, Error ellipse: s-maj=100.2km s-min=36.5km az=23.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**40.02**	**71**	P	P	01 37 37.5	-0.8
	3.3nm,0.6s,baz=253,slow=11,SNR=3.0						
LPAZ	**La Paz**	**45.49**	**89**	P	P	01 38 23.5	+0.4
	2.0nm,0.8s,baz=220,slow=0.6,SNR=4.1						
PDAR	**Pinedale Array**	**67.35**	**5**	P	P	01 40 58.1	+0.2
	0.4nm,0.8s,baz=188,slow=5.5,SNR=2.8						
H11S2	**WAKE ISLAND Hy**	**86.54**	**292**	T	T	03 18 35.4	
	baz=118,slow=75,SNR=67						
H11S1	**WAKE ISLAND Hy**	**86.56**	**292**	T	T	03 18 43.1	
	baz=118,slow=75,SNR=44						
H11S3	**WAKE ISLAND Hy**	**86.56**	**292**	T	T	03 18 35.4	
	baz=118,slow=75,SNR=36						
YKA	**Yellowknife Ar**	**86.85**	**1**	P	P	01 42 46.9	+0.2
	0.6nm,0.9s,baz=179,slow=4.7,SNR=5.5						
ZALV	**Zalesovo Beam**	**146.83**	**337**	PKPbc	PKPdf	01 49 43.4	+0.6
	0.5nm,0.3s,baz=60,slow=3.5,SNR=3.4						

*NIED **16** 01:30:00, 28°80N×128°50E, h5km, Mw4.0 Best double couple: M₀1.02000×10¹⁵ NP1:φs39.00000°, δ86.00000°, λ179.00000°. NP2:φs129.00000°, δ89.00000°, λ4.00000°.*

JMA 16 01:30:39.7±0.3, 28°77N×128°52E, h6km±4km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.71**	**57**	P	Pg	01 30 53.5	+0.1
JTAJ				S	Sg	01 31 02.5	-0.1
JAMN	**Amaminishikomi**	**0.78**	**132**	P	Pg	01 30 54.9	+0.2
JAMN				S	Sb	01 31 05.7	-0.8
JAM	**Amami Oshima**	**1.02**	**110**	P	Pg	01 30 58.7	-0.6
JAM				S	Sg	01 31 12.3	-0.2
JTK	**Tokunoshima**	**1.05**	**159**	P	Pg	01 30 59.2	-0.7
JTK				S	Sg	01 31 13.3	-0.3
JZK	**Kikaishima**	**1.36**	**109**	P	Pn	01 31 05.3	+0.1
JZK				S	Sn	01 31 23.6	+0.1
JOKE	**Okinoerabujima**	**1.40**	**178**	P	Pn	01 31 05.0	-0.9
JOKE				S	Sb	01 31 24.2	-0.3
JNN	**Nakanoshima**	**1.59**	**48**	P	Pb	01 31 09.3	-0.3
JNN				S	Sn	01 31 29.3	-0.1
JIH	**Iheya**	**1.80**	**196**	P	Pn	01 31 11.1	-0.1
JOW	**Kunigami**	**1.94**	**186**	P	Pb	01 31 15.5	0.0
JYAK	**Yakushimahirau**	**2.27**	**49**	P	Pn	01 31 18.9	+1.2

*IDC **16** 02:23:47.2±2.1, 7°05S×129°42E, h0km, mb3.5/1, mb1 3.9/3, mb1mx3.6/23, mbtmp3.6/3, ML3.9/2, Error ellipse: s-maj=109.6km s-min=32.1km az=68.0*

ISC 16 02:23:48.3±0.8, 6°97S±0°06×129°39E±0°09, h10km, n14, σ2s11/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**4.94**	**35**	P	**Pg**	**02 25 22.7**	**-0.2**
	baz=5.8,SNR=9.5						
FAKI				S	**Sg**	**02 26 25.7**	**-1.3**
	baz=5.8,SNR=4.8						
SOEI	**Soe**	**5.77**	**241**	P	**Pn**	**02 25 15.0**	**+0.8**
	baz=5.0,SNR=15						
SOEI				S	Sn	02 26 12.9	-7.7
	baz=5.0,SNR=5.1						
KDU	**Kakadu**	**6.44**	**152**	P	Pn	02 25 29.3	+6.0
KDU				S	**Sn**	**02 26 36.3**	**-0.6**
	baz=6.1,SNR=5.2						
KNRA	**Kununurra**	**8.67**	**184**	P	**Pn**	**02 25 53.5**	**-0.4**
	baz=8.0,SNR=31						
KNRA				S	Sn	02 27 11.9	-20
	baz=8.0,SNR=6.4						
WRA	**Warramunga Arr**	**13.76**	**160**	Pn	**Pn**	**02 27 03.0**	**-0.6**
	0.6nm,0.3s,baz=339,slow=13,SNR=16						
WRA				Sn	Sn	02 29 23.2	-14
	1.6nm,0.3s,baz=327,slow=23,SNR=14						
COEN	**Coen**	**15.22**	**118**	P	P	02 27 34.9	+6.3
	baz=15,SNR=4.8						
QIS	**Mount Isa**	**16.74**	**145**	P	**P**	**02 27 49.8**	**+4.3**
	baz=16,SNR=3.2						
ASAR	**Alice Springs**	**17.16**	**166**	P	**Pn**	**02 27 47.2**	**-1.1**
	0.3nm,0.3s,baz=341,slow=11,SNR=17						
ASAR				S	Sn	02 30 44.5	-15
	0.4nm,0.3s,baz=288,slow=10,SNR=6.3						
WRKA	**Warakurna**	**17.99**	**183**	P	**Pn**	**02 27 55.2**	**-3.6**
	baz=17,SNR=7.9						
WRKA				S	Sn	02 31 03.3	-16
	baz=17,SNR=4.6						
MEEK	**Meekatharra**	**22.08**	**206**	P	**P**	**02 28 42.3**	**-1.5**
	baz=21,SNR=4.5						
QLP	**Quilpie**	**24.08**	**146**	P	**P**	**02 29 07.1**	**+3.0**
	baz=24,SNR=7.1						
PMBI	**Palembang**	**24.85**	**278**	P	**P**	**02 29 11.4**	**+0.2**
	baz=24,SNR=5.6						
BBOO	**Buckleboo**	**26.45**	**167**	P	**P**	**02 29 24.4**	**-1.1**
	baz=26,SNR=4.9						
MKAR	**Makanchi Array**	**67.87**	**327**	P	**P**	**02 34 48.0**	**+1.0**
	0.2nm,0.4s,baz=120,slow=7.2,SNR=5.0						

*BYKL **16** 02:40:47.9±0.2, 55°21N×112°90E*
*MOS **16** 02:40:47.3±0.7, 55°22N×112°87E, h10km, mb4.3/1, Error ellipse: s-maj=30.4km s-min=18.2km az=77.7*

ISC 16 02:40:47.8±0.7, 55°23N±0°03×112°83E±0°02, h10km, n25, σ1s77/51, 3D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UKT	**Uakit**	**0.52**	**60**	⇓*iPg*	**Pg**	**02 40 57.4**	**-0.6**
UKT				*eSg*	**Sg**	**02 41 04.5**	**-0.4**
UKT				Pmax			
	150nm,0.1s						
UKT				Smax			
	751nm,0.1s						
UKT	**Uakit**	**0.52**	**60**	*ePG*	**Pg**	**02 40 57.4**	**-0.6**
UKT				*e*		02 41 04.1	
UKT				pmax	pmax		
	comp=Z,146nm,0.1s						
UKT				smax	smax		
	comp=E,748nm,0.1s						
SVKR	**Severomuysk**	**0.98**	**25**	*ePg*	**Pn**	**02 41 06.9**	**-0.8**
SVKR				*ePb*	**Pb**	**02 41 08.2**	**+1.3**
SVKR				*eSg*	**Sn**	**02 41 20.7**	**-1.0**
SVKR				*eSb*	**Sb**	**02 41 23.3**	**+3.4**
SVKR				max			
	comp=E,242nm,0.2s						
SVKR				max			
	comp=E,1μm,0.4s						
SVKR	**Severomuysk**	**0.98**	**25**	*ePG*	**Pb**	**02 41 06.5**	**-0.4**
SVKR				*e*		02 41 20.1	
SVKR				pmax	pmax		
	comp=Z,296nm,0.3s						
SVKR				smax	smax		
	comp=E,2μm,0.5s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**1.02**	**250**	⇓*iPg*	**Pg**	**02 41 07.3**	**-0.1**
YLYR				*eSg*	**Sn**	**02 41 22.1**	**-0.5**
YLYR				Pmax			
	comp=E,105nm,0.1s						
YLYR				Smax			
	comp=E,271nm,0.2s						
YLYR	**Ulyunkhan**	**1.02**	**250**	⇓*iPG*	**Pg**	**02 41 07.3**	**-0.1**
YLYR				*e*		02 41 20.6	
YLYR				pmax	pmax		
	comp=Z,104nm,0.1s						
YLYR				smax	smax		
	comp=E,381nm,0.3s						
YOA	**Uoyan**	**1.10**	**326**	*ePg*	**Pb**	**02 41 08.7**	**-0.2**
YOA				*ePb*	**Pn**	**02 41 10.5**	**+1.2**
YOA				*eSg*	**Sn**	**02 41 24.6**	**0.0**
YOA				max			
	comp=E,420nm,0.2s						
YOA				Smax			
	comp=E,1μm,0.4s						
YOA	**Uoyan**	**1.10**	**326**	*ePG*	**Pb**	**02 41 08.3**	**-0.6**
YOA				*i*		02 41 24.5	
YOA				pmax	pmax		
	comp=Z,396nm,0.2s						
YOA				smax	smax		
	comp=E,1μm,0.5s						
KMO	**Kumora**	**1.14**	**306**	*ePg*	**Pb**	**02 41 09.2**	**-0.3**
KMO				*ePb*	**Pg**	**02 41 10.3**	**+0.7**
KMO				*eSg*	**Sb**	**02 41 24.6**	**+0.2**
KMO				*eSb*	**Sn**	**02 41 26.9**	**+1.5**
KMO				max			
	comp=E,110nm,0.3s						
KMO				max			
	comp=E,834nm,0.6s						
KMO	**Kumora**	**1.14**	**306**	*ePG*	**Pb**	**02 41 09.1**	**-0.4**
KMO				*e*		02 41 23.5	
KMO				pmax	pmax		
	comp=Z,111nm,0.3s						
KMO				smax	smax		
	comp=N,829nm,1.0s						
NIZ	**Nizh Angarsk**	**1.95**	**288**	*ePn*	**Pn**	**02 41 21.9**	**+1.0**
NIZ				*ePg*	**Pb**	**02 41 22.9**	**-0.5**
NIZ				*eSn*	**Sn**	**02 41 46.5**	**+1.0**
NIZ				*eSg*	**Sg**	**02 41 49.7**	**-0.7**
NIZ				Pmax			
	comp=N,8.0nm,0.2s						
NIZ				Smax			
	comp=N,123nm,0.3s						
NLYR	**Nelyaty**	**2.06**	**51**	*ePg*	**Pb**	**02 41 24.0**	**-1.2**
NLYR				*e*		02 41 31.5	
NLYR				*eSg*	**Sb**	**02 41 51.0**	**+0.2**
NLYR				max			
	comp=N,50nm,0.4s						
NLYR				Smax			
	comp=N,474nm,0.8s						
NLYR	**Nelyaty**	**2.06**	**51**	*ePN*	**Pb**	**02 41 23.9**	**-1.2**
NLYR				*e*		02 41 51.4	
NLYR				pmax	pmax		
	comp=Z,26nm,0.2s						
NLYR				smax	smax		
	comp=N,471nm,0.8s						
SYVR	**Suvo**	**2.28**	**228**	*ePn*	**Pn**	**02 41 25.4**	**-0.1**
SYVR				*ePg*	**Pb**	**02 41 28.1**	**-0.9**
SYVR				*eSg*	**Sg**	**02 41 59.2**	**-1.9**
SYVR				Pmax			
	comp=N,17nm,0.2s						
SYVR				Smax			
	comp=N,136nm,0.3s						
BOD	**Bodaibo**	**2.68**	**14**	*ePg*	**Pb**	**02 41 35.2**	**-0.5**
BOD				*eSg*	**Sb**	**02 42 09.2**	**+0.6**
BOD				Pmax			
	comp=N,11nm,0.4s						
BOD				Smax			
	comp=N,69nm,0.5s						
CIT	**Chita**	**3.24**	**172**	*eSg*	**Sb**	**02 42 27.4**	**+2.4**
CIT				Smax			
	comp=N,135nm,0.2s						
OGRR	**Ongureny**	**3.44**	**245**	*ePn*	**Pn**	**02 41 41.4**	**-0.1**
OGRR				*ePg*	**Pb**	**02 41 49.1**	**+0.2**
OGRR				*eSn*	**Sn**	**02 42 23.0**	**+0.7**
OGRR				*eSg*	**Sg**	**02 42 35.5**	**-2.8**
OGRR				Pmax			
	comp=N,16nm,0.4s						
OGRR				Smax			
	comp=N,38nm,0.5s						
CRS	**Chara**	**3.48**	**59**	*ePn*	**Pn**	**02 41 42.3**	**+0.3**
CRS				*ePg*	**Pb**	**02 41 49.8**	**+0.4**
CRS				*eSg*	**Sb**	**02 42 34.5**	**+2.8**
CRS				Pmax			
	comp=N,18nm,0.7s						
CRS				Smax			
	comp=N,56nm,0.5s						
TUP	**Tupik**	**4.20**	**98**	*ePn*	**Pn**	**02 41 50.5**	**-1.3**
TUP				*ePg*	**Pb**	**02 42 02.3**	**+0.6**
TUP				*e*		02 42 07.7	
TUP				*eSg*	**Sb**	**02 42 56.0**	**+3.6**
TUP				Pmax			
	comp=N,6.0nm,0.3s						
TUP				Smax			
	comp=N,93nm,0.4s						
TRG	**Tyrgan**	**4.55**	**240**	*ePn*	**Pn**	**02 41 57.4**	**+0.7**
TRG				*ePg*	**Pb**	**02 42 09.6**	**+1.8**
TRG				*eSg*	**Sg**	**02 43 09.8**	**-4.1**
TRG				Pmax			
	comp=N,2.0nm,0.2s						
TRG				Smax			
	comp=N,16nm,0.3s						
UUDB	**Ulan-Yde**	**4.56**	**225**	*ePg*	**Pb**	**02 42 10.8**	**+2.9**
UUDB				*eSg*	**Sg**	**02 43 10.3**	**-3.9**
UUDB				Pmax			
	comp=N,13nm,0.6s						
UUDB				Smax			
	comp=N,69nm,1.5s						
KPC	**Khapcheranga**	**5.54**	**183**	*ePn*	**Pn**	**02 42 10.7**	**+0.4**
KPC				*ePg*	**Pb**	**02 42 26.9**	**+2.3**
KPC				*eSg*	**Sg**	**02 43 39.9**	**-5.7**
KPC				Pmax			
	comp=N,2.0nm,0.3s						
KPC				Smax			
	comp=N,39nm,0.8s						
IENR	**Iengra**	**6.87**	**77**	*ePg*	Pb	02 42 49.9	+2.8
IENR				*eSg*	Sg	02 44 20.4	-7.6
MOY	**Mondy**	**7.92**	**248**	*eSg*	Sg	02 44 52.7	-8.9
MOY				Smax			
	comp=N,14nm,2.1s						
ORL	**Orlik**	**8.15**	**256**	*eSg*	Sg	02 45 01.5	-7.6
ORL				Smax			
	comp=N,7.0nm,1.6s						

*IDC **16** 02:48:54.0±2.5, 2°02N×96°41E, h0km, mb3.7/5, mb1

ISCJB ***16*** *02:50:21.8±0.5, 20°.04S±0°.04×69°.08W±0°.10, h125km±7km, mb3.9/3, Error ellipse: s-maj=15.2km s-min=6.7km az=3.0*
GUC ***16*** *02:50:22.6±0.4, 20°.04S×69°.14W, h114km±4km, ML4.1*
IDC ***16*** *02:50:24.1±1.0, 20°.08S×68°.75W, h123km±9km, mb3.5/5, mb1 3.6/8, mb1mx3.4/29, mbtmp4.0/8, Error ellipse: s-maj=23.7km s-min=8.0km az=101.0*

ISC 16 02:50:22.3±0.7, 20°.04S±0°.05×69°.01W±0°.08, h112km±8km, n14, σ1°52/23, mb3.9/3, 5C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNMC	**Minimini**	**1.06**	**328**	*i*P	**Pn**	**02 50 45.1**	**+0.5**
MNMC				*i* S	**Sn**	**02 51 01.9**	**+0.5**
MNMC				AML	AML	02 51 02.7	
	comp=E,21μm,0.2s						
PB01	**IPOC Station P**	**1.10**	**204**	⇑*i*P	**Pn**	**02 50 45.4**	**+0.5**
PB01				*i* S	**Sn**	**02 51 02.3**	**+0.5**
PB01				AML	AML	02 51 03.9	
	comp=N,3μm,0.3s						
PSGC	**Pisagua**	**1.14**	**292**	⇑*i*P	**Pn**	**02 50 45.0**	**-0.2**
PSGC				*i* S	**Sn**	**02 51 01.8**	**-0.7**
PSGC				AML	AML	02 51 02.6	
	comp=E,3μm,0.6s						
PATCX	**Punta Patache**	**1.33**	**234**	⇑*i*P	**Pn**	**02 50 47.1**	**-0.2**
PATCX				*i* S	**Sn**	**02 51 05.9**	**-0.4**
PATCX				AML	AML	02 51 07.1	
	comp=N,1μm,0.8s						
PB07	**IPOC Station P**	**1.87**	**206**	⇑*i*P	**Pn**	**02 50 54.5**	**+0.5**
PB07				*i* S	**Sn**	**02 51 18.1**	**-0.1**
PB07				AML	AML	02 51 19.9	
	comp=E,819nm,0.3s						
LVC	**Limon Verde**	**2.56**	**178**	P	**Pn**	**02 51 04.7**	**+1.8**
	comp=E,522nm,0.3s,baz=26,slow=9.8,SNR=76						
LVC				S	**Sn**	**02 51 36.3**	**+2.2**
	comp=E,3μm,0.3s,baz=233,slow=20,SNR=21						
LPAZ	**La Paz**	**3.82**	**13**	P	**Pn**	**02 51 22.6**	**+2.6**
	comp=E,5.3nm,0.3s,baz=203,slow=5.7,SNR=138						
LPAZ				S	**Sn**	**02 52 07.0**	**+2.6**
	comp=E,0.5nm,0.3s,baz=252,slow=20,SNR=1.9						
SIV	**San Ignacio**	**8.55**	**63**	P	**Pn**	**02 52 22.1**	**-1.4**
	comp=E,1.5nm,0.3s,baz=273,slow=9.4,SNR=21						
SIV				S	**Sn**	**02 53 54.5**	**-3.8**
	baz=168,slow=20,SNR=2.7						
BDFB	**Brasilia**	**20.45**	**81**	P	**P**	**02 54 50.9**	**-0.4**
	comp=E,2.0nm,0.5s,baz=265,slow=12,SNR=3.7						
PLCA	**Paso Flores**	**20.67**	**183**	P	**P**	**02 54 53.7**	**+0.3**
	comp=E,1.6nm,0.9s,baz=270,slow=20,SNR=2.6						
DBIC	**Dimbokro**	**68.42**	**74**	P	**P**	**03 01 11.6**	**-1.0**
	comp=E,2.9nm,0.9s,baz=226,slow=7.0,SNR=4.5						
TORD	**Torodi Ar. Bea**	**76.96**	**71**	P	**P**	**03 02 02.5**	**-0.6**
	comp=E,0.5nm,0.4s,baz=252,slow=5.4,SNR=26						
YKA	**Yellowknife Ar**	**89.78**	**341**	P	**P**	**03 03 08.5**	**+0.8**
	comp=E,0.8nm,0.8s,baz=133,slow=4.9,SNR=12						
YKA				pP	**pP**	**03 03 38.1**	**+1.3**
	comp=E,1.0nm,0.7s,baz=133,slow=4.7,SNR=10						
WRA	**Warramunga Arr**	**134.16**	**211**	PKP	**PKPdf**	**03 09 27.7**	**+0.1**
	comp=E,0.6nm,1.1s,baz=151,slow=1.7,SNR=3.1						

CRAAG 16 02:50:22.5, 35°.93N×4°.11E, Ml3.3, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKET	**Djebel Ketaf**	**0.22**	**302**	P	Pg	02 50 28.3	+1.4
AKET	**Djebel Ketaf**	**0.22**	**302**	P	Pg	02 50 28.3	+1.4
ADJB	**Djebel Djouab**	**0.59**	**293**	P	Pb	02 50 35.4	-0.5
ADJB	**Djebel Djouab**	**0.59**	**293**	P	Pb	02 50 35.4	-0.5

ISCJB ***16*** *03:01:01.3±0.5, 32°.24N±0°.02×115°.26W±0°.02, h11km±4km, Error ellipse: s-maj=4.0km s-min=3.4km az=160.4*
MEX ***16*** *03:01:03.9±0.3, 32°.42N×115°.17W, h26km±4km, MD3.5*
NEIC ***16*** *03:01:03.5, 32°.23N×115°.30W, h9km, MD3.5(MEX), ML3.2(PAS), ML3.4(ECX), After ECX.*
ECX ***16*** *03:01:03.5±0.5, 32°.23N×115°.31W, h9km, MD3.2, ML3.4*

ISC 16 03:01:02.5±0.9, 32°.21N±0°.02×115°.36W±0°.02, h12km±7km, n39, σ1°50/65, 5C-9D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.21**	**13**	*e*P	**Pg**	**03 01 07.1**	**+0.1**
CPBX	**Cerro Prieto**	**0.21**	**13**	*e*P9	**Pg**	**03 01 07.2**	**+0.1**
CPBX				*e*S	**Sg**	**03 01 10.4**	**+0.2**
CPBX				IAML		03 01 12.2	
	comp=N,25μm,0.2s						
CPBX				⇓*e*		03 01 12.2	
MBIG	**Mexicali**	**0.24**	**35**	*e*P	**Pg**	**03 01 07.3**	**-0.2**
MBIG				*e*S	**Sg**	**03 01 09.7**	**-1.2**
SGL	**Mount Signal**	**0.53**	**325**	⇓*e*P	**Pg**	**03 01 13.3**	**+0.3**
RDX	**Rancho Dawling**	**0.57**	**240**	*i* P	**Pb**	**03 01 14.8**	**+0.2**
RDX				*e*S	**Sb**	**03 01 23.0**	**+0.2**
RDX	**Rancho Dawling**	**0.57**	**240**	⇑*i*P	**Pb**	**03 01 14.8**	**+0.2**
RDX				*e*S	**Sb**	**03 01 23.0**	**+0.2**
RDX				⇓*e*		03 01 24.8	
	comp=N,954nm,0.3s						
EMSC	**East Mesa**	**0.61**	**31**	⇑*e*P	**Pg**	**03 01 13.9**	**-0.5**
WESC	**Westside Schoo**	**0.63**	**330**	*e*P	**Pg**	**03 01 15.1**	**+0.3**
YUH	**Yuha Desert**	**0.65**	**312**	⇓*e*P	**Pg**	**03 01 15.2**	**+0.1**
COA	**Coachella**	**0.68**	**17**	⇓*e*P	**Pg**	**03 01 14.9**	**-0.8**
COK	**Cook Ranch**	**0.71**	**334**	⇑*e*P	**Pg**	**03 01 16.0**	**-0.3**
RMX	**La Rumorosa**	**0.72**	**303**	*e*P	**Pg**	**03 01 16.8**	**+0.2**
RMX				*e*S	**Sg**	**03 01 26.8**	**+0.7**
RMX	**La Rumorosa**	**0.72**	**303**	*e*P	**Pg**	**03 01 16.8**	**+0.2**
RMX				*e*S	**Sg**	**03 01 26.8**	**+0.7**
RMX				⇑*e*		03 01 28.3	
	comp=E,2μm,0.2s						
YMD	**Yuma Desert**	**0.77**	**63**	⇓*e*P	**Pg**	**03 01 15.8**	**-1.6**
ECBX	**El Chinero**	**0.78**	**160**	*e*P9	**Pg**	**03 01 15.7**	**-2.0**
ECBX				*e*S	**Sg**	**03 01 26.5**	**-1.4**
ECBX				⇑*e*		03 01 27.7	
	comp=E,960nm,0.5s						
CRR	**Carrizo Plain**	**0.85**	**323**	⇓*e*P	**Pg**	**03 01 18.0**	**-0.9**
ZAX	**El Zacaton**	**1.04**	**228**	*e*P	**Pb**	**03 01 22.3**	**-0.3**
ZAX				*e*S	**Sn**	**03 01 37.6**	**-0.1**
CBX	**Cerro Bola**	**1.11**	**276**	*e*P	**Pb**	**03 01 23.3**	**-0.4**
CBX	**Cerro Bola**	**1.11**	**276**	*e*P	**Pb**	**03 01 23.3**	**-0.4**
CBX	**Cerro Bola**	**1.11**	**276**	*e*P	**Pb**	**03 01 23.3**	**-0.4**
CBX				*e*S	**Sg**	**03 01 38.9**	**+0.5**
CBX				IAML		03 01 40.2	
	comp=N,942nm,0.4s						
CBX				⇓*e*		03 01 40.2	
SPIG	**San Pedro Mart**	**1.17**	**185**	*e*P	**Pg**	**03 01 25.3**	**+0.3**
SPIG	**San Pedro Mart**	**1.17**	**185**	*e*P	**Pg**	**03 01 25.3**	**+0.3**
SPX	**San Pedro Mart**	**1.17**	**184**	*e*P	**Pg**	**03 01 25.4**	**+0.3**
SPX				*e*S	**Sg**	**03 01 40.9**	**+0.6**
SPX	**San Pedro Mart**	**1.17**	**184**	*e*P	**Pb**	**03 01 23.9**	**-1.0**
SPX				*e*S	**Sg**	**03 01 40.9**	**+0.6**
SPX				⇓*e*		03 01 43.6	
	comp=E,409nm,0.3s						
ECNX	**Esteban Cantu**	**1.19**	**243**	*e*P	**Pb**	**03 01 24.9**	**-0.2**
ECNX				*e*S	**Sn**	**03 01 41.6**	**+0.4**
BAR	**Barrett**	**1.21**	**293**	*e*Pn	**Pn**	**03 01 24.6**	**-0.6**
BAR				*e*Sg	**Sb**	**03 01 41.1**	**+0.2**
BAR	**Barrett**	**1.21**	**293**	*e*P	**Pn**	**03 01 24.5**	**-0.7**
PBX	**Punta Banda**	**1.25**	**248**	*e*P	**Pn**	**03 01 25.8**	**-0.1**
PBX				*e*S	**Sg**	**03 01 43.3**	**+0.4**
PFO	**Pinyon Flats O**	**1.67**	**327**	*e*Pn	**Pn**	**03 01 29.4**	**-2.4**
PFO				*e*Sg	**Sb**	**03 01 55.2**	**+0.9**
214A	**Organ Pipe Nat**	**2.18**	**96**	*e*Pn	Pn	03 01 35.4	-3.3
214A				*e*Pg	**Pb**	**03 01 41.9**	**0.0**
214A				*e*Sg	**Sb**	**03 02 08.3**	**-0.6**
LDFC	**Landfair**	**2.87**	**4**	*e*Pn	**Pn**	**03 01 47.6**	**-0.6**
PASC	**Pasadena Art C**	**3.07**	**310**	*e*Pn	**Pn**	**03 01 50.1**	**-0.8**
PASC				*e*Sg	**Sb**	**03 02 37.0**	**+2.4**
GSC	**Goldstone, Bar**	**3.31**	**339**	*e*Pn	**Pn**	**03 01 55.4**	**+1.2**
GSC				*e*Pg	**Pg**	**03 02 04.9**	**-1.1**
TUC	**Tucson**	**3.88**	**87**	*e*Pn	**Pn**	**03 02 00.9**	**-1.2**
TUC				*e*Pg	**Pb**	**03 02 13.9**	**+3.0**
TUC				*e*Sg	**Sb**	**03 03 00.8**	**+3.0**
SHPR	**Sheep Range**	**4.29**	**2**	*e*Pn	**Pn**	**03 02 08.0**	**+0.2**
SHPR				*e*Pg	**Pg**	**03 02 22.7**	**-1.9**
ISA	**Isabella, Lake**	**4.31**	**324**	*e*Pn	**Pn**	**03 02 09.7**	**+1.7**
ISA				*e*Pg	**Pg**	**03 02 23.6**	**-1.4**
ISA				*e*Sg	**Sg**	**03 03 18.6**	**-2.2**
WUAZ	**Wupatki**	**4.67**	**44**	*e*Pn	**Pn**	**03 02 13.0**	**0.0**
WUAZ				*e*Sn	**Sn**	**03 03 07.4**	**+0.1**
WUAZ				*e*Sg	**Sb**	**03 03 26.5**	**+5.6**
R11A	**Troy Canyon, C**	**6.12**	**358**	*e*Pn	**Pn**	**03 02 34.9**	**+1.9**
R11A				*e*Sg	**Sg**	**03 04 13.5**	**-5.7**
121A	**Cookes Peak, D**	**6.42**	**85**	*e*Pn	**Pn**	**03 02 35.5**	**-1.5**

IDC ***16*** *03:03:30.0±0.7, 34°.68N×6°.96E, h0km, mb3.9/17, mb1 3.9/18, mb1mx3.8/38, mbtmp3.9/18, ML2.6/1, MS3.1/8, Ms1 3.1/8, ms1mx2.8/47, Error ellipse: s-maj=18.2km s-min=15.5km az=142.0*
NEIC ***16*** *03:03:31.7±0.4, 34°.58N×7°.14E, h10km, mb4.3/10, ML4.2(ALG), Error ellipse: s-maj=7.6km s-min=6.5km az=120.0*
CSEM ***16*** *03:03:32.0±0.3, 34°.65N×7°.21E, h10km, mb4.2/11, Error ellipse: s-maj=7.5km s-min=6.3km az=12.0*
ISCJB ***16*** *03:03:32.8±0.4, 35°.05N±0°.03×7°.16E±0°.03, h10km, mb3.9/26, MS3.1/3, Error ellipse: s-maj=5.0km s-min=3.4km az=5.2*
LDG ***16*** *03:03:33.3±0.2, 34°.48N×7°.03E, h30km, Ml3.9/23, Error ellipse: s-maj=4.0km s-min=3.5km az=137.0*
CRAAG ***16*** *03:03:35.7, 34°.89N×7°.09E, Ml4.5*

ISC 16 03:03:32.9±0.5, 34°.86N±0°.05×7°.14E±0°.03, h10km, n160, σ2s06/170, mb4.0/26, MS3.1/3, 1D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTEI	**Djebel Teioual**	**1.34**	**334**	P	Pg	03 04 01.9	+3.2
CTEI	**Djebel Teioual**	**1.34**	**334**	P	Pg	03 04 01.9	+3.2
CTEI	**Djebel Teioual**	**1.34**	**334**	P	Pg	03 04 01.9	+3.2
ABSA	**Djebel Ababsia**	**1.44**	**11**	P	Pg	03 04 03.3	+2.8
ABSA	**Djebel Ababsia**	**1.44**	**11**	P	Pg	03 04 03.3	+2.8
THTN	**Thala**	**1.45**	**61**	P	**Pg**	**03 04 01.6**	**+0.9**
THTN	**Thala**	**1.45**	**61**	P	**Pg**	**03 04 01.6**	**+0.9**
CASM	**Ain Smara**	**1.50**	**339**	P	**Pg**	**03 04 03.7**	**+2.1**
CASM	**Ain Smara**	**1.50**	**339**	P	**Pg**	**03 04 03.7**	**+2.1**
CASM	**Ain Smara**	**1.50**	**339**	P	**Pg**	**03 04 03.7**	**+2.1**
CKFL	**Kef-Lekhel**	**1.58**	**348**	P	**Pg**	**03 04 04.7**	**+1.5**
CKFL	**Kef-Lekhel**	**1.58**	**348**	P	**Pg**	**03 04 04.7**	**+1.5**
CKFL	**Kef-Lekhel**	**1.58**	**348**	P	**Pg**	**03 04 04.7**	**+1.5**
CMAH	**Djebel Manchou**	**1.78**	**7**	P	**Pg**	**03 04 07.0**	**0.0**
CMAH	**Djebel Manchou**	**1.78**	**7**	P	**Pg**	**03 04 07.0**	**0.0**
CAEH	**'Ain El Ouahch**	**1.93**	**353**	*e*P	**Pg**	**03 04 09.1**	**-0.9**
CAEH	**'Ain El Ouahch**	**1.93**	**353**	*e*P	**Pg**	**03 04 09.1**	**-0.9**
KEST	**Kesra**	**2.00**	**64**	Pn	**Pb**	**03 04 09.4**	**-0.1**
	1.6nm,0.3s,baz=112,slow=5.0,SNR=64						
KEST				Lg	Lg	03 04 46.5	
	14nm,0.3s,baz=338,slow=16,SNR=7.6						
KEST	**Kesra**	**2.00**	**64**	*e*Pn	**Pb**	**03 04 09.0**	**-0.5**
KEST	**Kesra**	**2.00**	**64**	*e*Pg	**Pg**	**03 04 13.0**	**+1.7**
KEST	**Kesra**	**2.00**	**64**	*e*Pn	**Pb**	**03 04 09.0**	**-0.5**
KEST				*e*Pg	**Pg**	**03 04 13.0**	**+1.7**
KEST				Lg	Lg	03 04 46.5	
OKGL	**Djebel Kef Gue**	**5.43**	**284**	P	Pn	03 04 57.0	+3.0
	16nm,0.2s,SNR=7.9						
OKGL				S	**Sn**	**03 05 58.2**	**+1.6**
	460nm,1.9s,SNR=7.9						
ETOS	**Mallorca**	**5.99**	**326**	P	Pn	03 05 05.9	+4.2
	3.1nm,0.1s,SNR=10						
EIBI	**Ibiza**	**6.23**	**314**	P	Pn	03 05 09.9	+4.9
	5.2nm,0.2s,SNR=7.9						
EIBI				S	**Sn**	**03 06 17.6**	**+1.3**
	2.3nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**7.05**	**305**	P	Pn	03 05 20.1	+3.9
	0.1nm,0.1s,SNR=4.0						
EBEN				S	**Sn**	**03 06 34.4**	**-2.0**
	0.5nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**7.39**	**296**	P	**Pn**	**03 05 22.5**	**+1.6**
	0.8nm,0.2s,SNR=9.6						
EMUR				S	**Sn**	**03 06 46.1**	**+1.3**
	0.5nm,0.2s,SNR=31						
PGF	**Pioggiola**	**7.81**	**10**	*e*Pn	**Pn**	**03 05 28.3**	**+1.6**
PGF				*e*Sn	**Sn**	**03 06 54.6**	**-0.7**
	13nm,0.7s						
PGF	**Pioggiola**	**7.81**	**10**	*e*Pn	**Pn**	**03 05 28.3**	**+1.6**
PGF				*e*Sn	**Sn**	**03 06 54.6**	**-0.7**
	6.3nm,0.7s						
CFON	**Fontmartina**	**7.82**	**333**	P	Pn	03 05 29.6	+2.8
	2.9nm,0.2s,SNR=13						
ETOB	**Tobarra**	**7.93**	**301**	P	Pn	03 05 31.3	+3.0
	3.2nm,0.8s,SNR=9.8						
ETOB				S	**Sn**	**03 07 00.2**	**+2.0**
	2.2nm,0.4s,SNR=6.6						
ERTA	**Horta de San J**	**8.12**	**321**	P	Pn	03 05 34.6	+3.7
	0.9nm,0.2s,SNR=7.9						
ERTA				S	**Sn**	**03 07 01.7**	**-1.1**
	10nm,0.6s,SNR=7.9						
EMOS	**Mosqueruela**	**8.16**	**315**	P	Pn	03 05 35.9	+4.3
	6.6nm,0.7s,SNR=7.0						
EMOS				S	**Sn**	**03 07 04.1**	**0.0**
	10nm,0.8s,SNR=7.9						
EJON	**La Jonquera**	**8.28**	**338**	P	**Pn**	**03 05 35.5**	**+2.5**
	0.7nm,0.2s,SNR=7.9						
SJAF	**Saint Jean de**	**8.31**	**338**	P	**Pn**	**03 05 36.2**	**+2.7**
	0.6nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**8.39**	**293**	P	Pn	03 05 38.3	+3.6
	0.4nm,0.3s,SNR=7.9						
EHUE				S	**Sn**	**03 07 11.9**	**+2.4**
	0.4nm,0.2s,SNR=7.9						
EBER	**Berja**	**8.39**	**287**	P	**Pn**	**03 05 36.4**	**+1.6**
	0.6nm,0.1s,SNR=7.9						
SESP	**Santiago Espad**	**8.45**	**295**	P	Pn	03 05 38.6	+3.0
	1.1nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**03 07 11.9**	**+0.8**
	2.6nm,0.2s,SNR=7.9						
LMR	**La Mourre**	**8.48**	**357**	*e*Pn	**Pn**	**03 05 36.9**	**+1.2**
LMR				*e*Sn	**Sn**	**03 07 09.8**	**-1.6**
	21nm,0.5s						
LMR	**La Mourre**	**8.48**	**357**	*e*Pn	**Pn**	**03 05 36.9**	**+1.2**
LMR				*e*Sn	**Sn**	**03 07 09.8**	**-1.6**
	10nm,0.5s						
CLLI	**Llivia**	**8.61**	**334**	P	Pn	03 05 41.8	+4.1
	1.5nm,0.3s,SNR=19						
FRF	**La Foret Royal**	**8.70**	**358**	*e*Pn	**Pn**	**03 05 40.1**	**+1.3**
FRF				*e*Sn	**Sn**	**03 07 15.2**	**-1.7**
	20nm,0.7s						
FRF	**La Foret Royal**	**8.70**	**358**	*e*Pn	**Pn**	**03 05 40.1**	**+1.3**
FRF				*e*Sn	**Sn**	**03 07 15.2**	**-1.7**
	9.9nm,0.7s						
EQES	**Quesada**	**8.75**	**293**	P	Pn	03 05 42.7	+3.1
	7.0nm,0.8s,SNR=11						
EQES				S	**Sn**	**03 07 20.3**	**+2.0**
	0.6nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**8.89**	**288**	P	Pn	03 05 46.6	+5.1
	1.3nm,0.4s,SNR=7.9						
EGUA	**Guajares**	**8.91**	**286**	P	Pn	03 05 46.7	+4.9
	1.0nm,0.3s,SNR=7.9						
SBF	**Sospel**	**8.99**	**1**	*e*Pn	**Pn**	**03 05 44.3**	**+1.4**
SBF	**Sospel**	**8.99**	**1**	*e*Pn	**Pn**	**03 05 44.3**	**+1.4**
SMRF	**Simiane la Rot**	**9.19**	**353**	*e*Pn	**Pn**	**03 05 46.4**	**+0.9**
SMRF	**Simiane la Rot**	**9.19**	**353**	*e*Pn	**Pn**	**03 05 46.4**	**+0.9**
MTLF	**Montolieu**	**9.29**	**337**	*e*Pn	**Pn**	**03 05 47.4**	**+0.5**
MTLF				*e*Sn	**Sn**	**03 07 28.0**	**-3.5**
	2.4nm,0.5s						
MTLF	**Montolieu**	**9.29**	**337**	*e*Pn	**Pn**	**03 05 47.4**	**+0.5**
MTLF				*e*Sn	**Sn**	**03 07 28.0**	**-3.5**
	1.2nm,0.5s						
LASF	**Ste Croix**	**9.55**	**346**	*e*Pn	**Pn**	**03 05 51.3**	**+0.9**
LASF	**Ste Croix**	**9.55**	**346**	*e*Pn	**Pn**	**03 05 51.3**	**+0.9**
EPF	**Esparros**	**9.72**	**329**	*e*Pn	**Pn**	**03 05 53.4**	**+0.5**
EPF	**Esparros**	**9.72**	**329**	*e*P	Pn	03 05 58.7	+5.8
EPF				*e*Sn	**Sn**	**03 07 37.4**	**-4.8**
	24nm,0.7s						
EPF	**Esparros**	**9.72**	**329**	*e*Pn	**Pn**	**03 05 53.4**	**+0.5**
MBDF	**Montbardon**	**9.86**	**358**	*e*Pn	**Pn**	**03 05 56.1**	**+1.3**
MBDF				*e*Sn	**Sn**	**03 07 43.2**	**-2.4**
	18nm,0.9s						
MBDF	**Montbardon**	**9.86**	**358**	*e*Pn	**Pn**	**03 05 56.1**	**+1.3**
MBDF				*e*Sn	**Sn**	**03 07 43.2**	**-2.4**
	8.9nm,0.9s						
MDT	**Midelt**	**9.99**	**262**	Pn	**Pn**	**03 05 57.3**	**+0.7**
	0.7nm,0.3s,baz=57,slow=9.5,SNR=20						
MDT				Sn	**Sn**	**03 07 43.3**	**-5.6**
	0.3nm,0.3s,baz=230,slow=17,SNR=2.5						
MDT				Lg	Lg	03 08 51.8	
	baz=332,slow=12,SNR=1.8						
MDT				LR	LR	03 09 31.3	
	comp=Z,44nm,18.1s,baz=85,slow=37						
ETSF	**Etsaut**	**10.02**	**326**	*e*Pn	**Pn**	**03 05 57.1**	**+0.1**
ETSF	**Etsaut**	**10.02**	**326**	*e*P	Pn	03 06 03.0	+6.0
ETSF				*e*Sn	**Sn**	**03 07 44.2**	**-5.3**
	26nm,1.0s						
ETSF	**Etsaut**	**10.02**	**326**	*e*Pn	**Pn**	**03 05 57.1**	**+0.1**
ESDC	**Sonseca Array**	**10.07**	**302**	Pn	**Pn**	**03 06 00.1**	**+2.5**
	0.3nm,0.3s,baz=117,slow=14,SNR=5.4						
ESDC				Sn	**Sn**	**03 07 47.9**	**-2.7**
	0.1nm,0.3s,baz=111,slow=24,SNR=2.8						
ESDC				LR	LR	03 10 15.7	
	comp=Z,162nm,20.0s,baz=140,slow=40						
ESDC	**Sonseca Array**	**10.07**	**302**	P	Pn	03 06 02.4	+4.8
	0.2nm,0.3s,SNR=5.4						
ESDC				Sn	**Sn**	**03 07 47.9**	**-2.7**
ORIF	**Oris-en-Rattie**	**10.09**	**355**	*e*Pn	**Pn**	**03 05 59.0**	**+1.0**
ORIF	**Oris-en-Rattie**	**10.09**	**355**	*e*Pn	**Pn**	**03 05 59.0**	**+1.0**
VIVF	**Saint-Julien-l**	**10.16**	**350**	*e*Pn	**Pn**	**03 06 00.5**	**+1.6**
VIVF				*e*Sn	**Sn**	**03 07 49.9**	**-3.0**
	20nm,0.9s						
VIVF	**Saint-Julien-l**	**10.16**	**350**	*e*Pn	**Pn**	**03 06 00.5**	**+1.6**
VIVF				*e*Sn	**Sn**	**03 07 49.9**	**-3.0**
	10nm,0.9s						
SJPF	**Ste Jean**	**10.50**	**324**	*e*Pn	**Pn**	**03 06 02.9**	**-0.6**
SJPF	**Ste Jean**	**10.50**	**324**	*e*P	Pn	03 06 09.6	+6.1
SJPF				*e*Sn	**Sn**	**03 07 55.5**	**-5.6**
	16nm,0.9s						
SJPF	**Ste Jean**	**10.50**	**324**	*e*Pn	**Pn**	**03 06 02.9**	**-0.6**
LPG	**La Plagne**	**10.63**	**359**	*e*Pn	**Pn**	**03 06 06.8**	**+1.3**
LPG				*e*Sn	**Sn**	**03 08 01.9**	**-2.8**
	20nm,1.2s						
LPG	**La Plagne**	**10.63**	**359**	*e*Pn	**Pn**	**03 06 06.8**	**+1.3**
LPG				*e*Sn	**Sn**	**03 08 01.9**	**-2.8**
	10nm,1.2s						
LPL	**La Plagne**	**10.65**	**358**	*e*Pn	**Pn**	**03 06 06.9**	**+1.2**
LPL				*e*Sn	**Sn**	**03 08 02.1**	**-3.0**
	9.3nm,0.9s						
LPL	**La Plagne**	**10.65**	**358**	*e*Pn	**Pn**	**03 06 06.9**	**+1.2**
LPL				*e*Sn	**Sn**	**03 08 02.1**	**-3.0**
	4.7nm,0.9s						
CAF	**Calviac**	**10.78**	**340**	*e*Pn	**Pn**	**03 06 07.6**	**+0.3**
CAF				*e*Sn	**Sn**	**03 08 03.8**	**-4.3**
	14nm,1.0s						
CAF	**Calviac**	**10.78**	**340**	*e*Pn	**Pn**	**03 06 07.6**	**+0.3**
CAF				*e*Sn	**Sn**	**03 08 03.8**	**-4.3**
	6.9nm,1.0s						
LFF	**La Frestale**	**11.20**	**336**	*e*Pn	**Pn**	**03 06 13.0**	**0.0**
LFF				*e*Sn	**Sn**	**03 08 13.3**	**-4.9**
	12nm,1.0s						
LFF	**La Frestale**	**11.20**	**336**	*e*Pn	**Pn**	**03 06 13.0**	**0.0**
RJF	**Les Rejaudoux**	**11.28**	**339**	*e*Pn	**Pn**	**03 06 14.3**	**+0.1**
RJF				*e*Sn	**Sn**	**03 08 15.4**	**-4.9**
	10nm,1.1s						
RJF	**Les Rejaudoux**	**11.28**	**339**	*e*Pn	**Pn**	**03 06 14.3**	**+0.1**
RJF				*e*Sn	**Sn**	**03 08 15.4**	**-4.9**
	5.2nm,1.1s						
CABF	**La Chapelle**	**11.77**	**356**	*e*Pn	**Pn**	**03 06 21.8**	**+0.9**
CABF				*e*Sn	**Sn**	**03 08 28.9**	**-3.4**
	5.7nm,1.1s						
CABF	**La Chapelle**	**11.77**	**356**	*e*Pn	**Pn**	**03 06 21.8**	**+0.9**
CABF				*e*Sn	**Sn**	**03 08 28.9**	**-3.4**
	2.8nm,1.1s						
TCF	**Toulx Ste Croi**	**12.01**	**343**	*e*Pn	**Pn**	**03 06 24.3**	**+0.1**
TCF	**Toulx Ste Croi**	**12.01**	**343**	*e*Pn	**Pn**	**03 06 24.3**	**+0.1**
SMF	**Signal de Mont**	**12.04**	**349**	*e*Pn	**Pn**	**03 06 25.0**	**+0.5**
SMF				*e*Sn	**Sn**	**03 08 34.5**	**-4.2**
	1.9nm,0.6s						
SMF	**Signal de Mont**	**12.04**	**349**	*e*Pn	**Pn**	**03 06 25.0**	**+0.5**
SMF				*e*Sn	**Sn**	**03 08 34.5**	**-4.2**
	0.9nm,0.6s						
DAVOX	**Davos/Dischmat**	**12.09**	**9**	Pn	Pn	03 06 33.8	+8.5
	0.3nm,0.3s,baz=280,slow=3.7,SNR=3.3						
DAVOX				LR	LR	03 11 23.5	
	comp=Z,102nm,20.1s,baz=269,slow=38						
TAM	**Tamanrasset**	**12.11**	**187**	*e*Pn	Pn	03 06 21.3	-4.4
	7.2nm,1.0s						
TAM	**Tamanrasset**	**12.11**	**187**	*e*Pn	Pn	03 06 21.3	-4.4
	7.3nm,1.0s						
SSF	**Saint Saul

LBTB	**Lobatse**	**62.06**	**161**	*e*P		**P**	**03 13 51.9**	**-1.9**
	1.5nm,0.4s							
SONM	**Songino Array**	**70.65**	**45**	P		**P**	**03 14 49.4**	**+0.7**
	0.9nm,0.9s,baz=283,slow=7.4,SNR=4.5							
ULM	**Lac du Bonnet**	**71.50**	**319**	P		**P**	**03 14 52.3**	**-1.4**
	3.0nm,0.7s,baz=62,slow=5.5,SNR=10.0							
ULM	**Lac du Bonnet**	**71.50**	**319**	*e*P		**P**	**03 14 52.2**	**-1.5**
	5.0nm,0.9s							
ULM	**Lac du Bonnet**	**71.50**	**319**	*e*P		**P**	**03 14 52.2**	**-1.5**
	5.0nm,0.9s							
WCI	**Wyandotte Cave**	**71.83**	**304**	*e*P		**P**	**03 14 54.2**	**-1.8**
	2.8nm,0.8s							
WCI	**Wyandotte Cave**	**71.83**	**304**	*e*P		**P**	**03 14 54.2**	**-1.8**
	2.8nm,0.8s							
YKA	**Yellowknife Ar**	**72.36**	**336**	P		**P**	**03 14 58.7**	**+0.1**
	0.9nm,0.8s,baz=52,slow=5.9,SNR=12							
ECSD	**EROS Data Cent**	**75.51**	**313**	*e*P		**P**	**03 15 15.6**	**-1.9**
	1.8nm,0.7s							
ECSD	**EROS Data Cent**	**75.51**	**313**	*e*P		**P**	**03 15 15.6**	**-1.9**
	1.8nm,0.7s							
BOZ	**Bozeman (W)**	**82.66**	**322**	*e*P		**P**	**03 15 55.5**	**-1.3**
	1.9nm,1.0s							
BOZ	**Bozeman (W)**	**82.66**	**322**	*e*P		**P**	**03 15 55.5**	**-1.3**
	1.9nm,1.0s							
PDAR	**Pinedale Array**	**83.52**	**319**	P		**P**	**03 16 01.4**	**0.0**
	0.8nm,0.8s,baz=54,slow=7.5,SNR=6.9							
BW06	**Boulder Array**	**83.52**	**319**	*e*P		**P**	**03 16 01.1**	**-0.3**
	1.9nm,0.9s							
BW06	**Boulder Array**	**83.52**	**319**	*e*P		**P**	**03 16 01.1**	**-0.3**
	1.9nm,0.9s							
SDCO	**Great Sand Dun**	**84.50**	**313**	*e*P		**P**	**03 16 06.4**	**-0.1**
	1.4nm,0.9s							
SDCO	**Great Sand Dun**	**84.50**	**313**	*e*P		**P**	**03 16 06.4**	**-0.1**
	1.4nm,0.9s							
WRA	**Warramunga Arr**	**131.35**	**87**	PKP		**PKPdf**	**03 22 44.6**	**-1.3**
	0.3nm,0.8s,baz=329,slow=1.9,SNR=4.9							
ASAR	**Alice Springs**	**132.72**	**91**	PKP		**PKPdf**	**03 22 48.3**	**-0.2**
	0.8nm,1.1s,baz=247,slow=1.9,SNR=3.6							
STKA	**Stephens Creek**	**142.09**	**99**	*e*PKIKP		**PKPdf**	**03 23 04.9**	**-0.5**
STKA	**Stephens Creek**	**142.09**	**99**	*e*PKPdf		**PKPdf**	**03 23 04.9**	**-0.5**

NNC ***16*** *03:37:16.6±1.5, 42.°57N×79.°39E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=13.1km s-min=4.4km az=128.0*
KRNET ***16*** *03:37:16.1±0.1, 42.°26N×79.°07E, h20km, mb3.5*
ISC 16 03:37:16.0±2.5, 42.°3N±0.°2×79.°15E±0.°09, h24km±17km, n11, σ1°48/15, 8C-8D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**1.07**	**13**	⇑P		Pn	03 37 31.0	-4.5
	14nm,0.5s							
PDGK				⇑S		Sb	03 37 42.3	-7.1
	35nm,0.5s							
ANVS	**Anan'yevo**	**1.21**	**295**	*i* P		**Pn**	**03 37 37.3**	**-0.2**
	baz=297							
ANVS				*e*S		**Sn**	**03 37 53.0**	**-0.2**
	baz=297							
KDJ	**Kajisay**	**1.47**	**265**	*e*P		**Pn**	**03 37 41.2**	**0.0**
	baz=265							
KDJ				*e*S		**Sn**	**03 37 59.7**	**-0.1**
	baz=265							
ULHL	**Ulahol**	**2.16**	**270**	⇓*i*P		**Pb**	**03 37 54.7**	**+0.2**
	baz=271							
ULHL				⇓*i*S		**Sb**	**03 38 23.7**	**+2.7**
	baz=271							
BOOM	**Boomskoye usch**	**2.39**	**276**	⇑*i*P		**Pb**	**03 37 57.2**	**-1.2**
	baz=277							
BOOM				⇑*e*S		**Sb**	**03 38 26.7**	**-0.8**
	baz=277							
TKM2	**Tokmak 2**	**2.70**	**285**	⇓Pn		**Pb**	**03 38 02.5**	**-1.2**
	9.1nm,0.7s							
TKM2				⇓Sn		**Sb**	**03 38 38.3**	**+1.8**
	45nm,0.7s							
AAK	**Ala-Archa**	**3.46**	**277**	⇑Pn		**Pb**	**03 38 14.5**	**-2.2**
	1.4nm,0.3s							
AAK				⇑Sn		**Sb**	**03 39 00.3**	**+1.8**
	8.5nm,0.5s							
MK31	**Makanchi Array**	**5.04**	**25**	Pn		**Pn**	**03 38 30.9**	**+0.9**
	0.2nm,0.3s,baz=212,slow=12,SNR=22							
MK31				⇓Pg		**Pb**	**03 38 42.5**	**-0.9**
	0.6nm,0.5s,baz=249,slow=14,SNR=4.6							
MK31				⇓Sn		**Sn**	**03 39 27.2**	**-0.2**
	0.5nm,0.5s,baz=206,slow=29,SNR=3.8							
MK31				⇑Lg		Lg	03 39 44.7	
	2.2nm,0.6s,baz=172,slow=39,SNR=4.4							
KK31	**Karatay Array**	**6.42**	**280**	⇓Lg		Lg	03 40 43.7	
	4.3nm,0.8s							
KURBB	**Kurchatov Arra**	**8.35**	**357**	⇑Lg		Lg	03 41 33.4	
	5.2nm,0.8s							
KURK	**Kurchatov**	**8.44**	**358**	⇓Lg		Lg	03 41 36.2	
	1.0nm,0.8s							

INMG ***16*** *03:51:25.5±1.9, 35.°62N×4.°55E, h10km, Mb4.6, Error ellipse: s-maj=7.9km s-min=5.1km az=108.0*
ISCJB ***16*** *03:51:28.9±0.6, 36.°14N±0.°02×4.°12E±0.°02, h3km±4km, mb4.1/40, MS3.2/10, Error ellipse: s-maj=4.1km s-min=2.4km az=177.8*
LDG ***16*** *03:51:28.5±0.2, 35.°87N×4.°05E, h2km, Ml3.8/14, Error ellipse: s-maj=3.8km s-min=2.6km az=173.0*
CRAAG ***16*** *03:51:28.1, 35.°97N×4.°20E, Ml3.8*
BJI ***16*** *03:51:29.5, 35.°90N×4.°10E, h10km, mb4.8/6, mB4.7/2, Ms4.3/2, Ms7 3.9/3*
IDC ***16*** *03:51:29.8±0.7, 36.°03N×4.°08E, h0km, mb3.9/16, mb1 4.1/22, mb1mx4.0/41, mbtmp3.9/22, ML4.0/6, MS3.3/15, Ms1 3.3/15, ms1mx3.1/43, Error ellipse: s-maj=18.3km s-min=15.3km az=161.0*
CSEM ***16*** *03:51:30.3±0.2, 36.°12N×4.°14E, h2km, mb4.4/24, Error ellipse: s-maj=5.8km s-min=3.8km az=1.0*
NEIC ***16*** *03:51:30.8±0.3, 35.°94N×4.°10E, h10km, mb4.3/22, ML4.2(ALG), Error ellipse: s-maj=6.0km s-min=4.6km az=183.0*
SFS ***16*** *03:51:30.0, 35.°90N×4.°09E, h10km, ML4.4*
MDD ***16*** *03:51:31.2±0.6, 35.°98N×4.°15E, h0km, mb4.8/36, Error ellipse: s-maj=9.0km s-min=4.2km az=174.0, PRXIMO*
MOS ***16*** *03:51:31.4±1.7, 35.°98N×4.°09E, h24km, mb4.5/21, Error ellipse: s-maj=11.6km s-min=5.0km az=69.2*
ISC 16 03:51:31.7±0.5, 36.°05N±0.°04×4.°15E±0.°02, h12km±2km, h12km:pP-P, n469, σ1°85/494, mb4.1/40, MS3.2/10, 17C-13D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKET	**Djebel Ketaf**	**0.22**	**270**	P		**Pg**	**03 51 34.6**	**-1.9**
AKET	**Djebel Ketaf**	**0.22**	**270**	P		**Pg**	**03 51 34.6**	**-1.9**
AKET	**Djebel Ketaf**	**0.22**	**270**	P		**Pg**	**03 51 34.7**	**-1.9**
AKET	**Djebel Ketaf**	**0.22**	**270**	P		**Pg**	**03 51 34.6**	**-1.9**
ADJB	**Djebel Djouab**	**0.59**	**281**	P		**Pb**	**03 51 42.1**	**-1.9**
ADJB	**Djebel Djouab**	**0.59**	**281**	P		**Pb**	**03 51 42.1**	**-1.9**
ADJB	**Djebel Djouab**	**0.59**	**281**	P		**Pb**	**03 51 42.1**	**-1.9**
ADJB	**Djebel Djouab**	**0.59**	**281**	P		**Pb**	**03 51 42.1**	**-1.9**
CKHR	**Kef el Ahmar**	**1.10**	**91**	P		**Pn**	**03 51 53.5**	**+0.4**
CKHR	**Kef el Ahmar**	**1.10**	**91**	P		**Pn**	**03 51 53.5**	**+0.4**
CKHR	**Kef el Ahmar**	**1.10**	**91**	P		**Pb**	**03 51 50.5**	**-2.3**
CKHR	**Kef el Ahmar**	**1.10**	**91**	P		**Pb**	**03 51 50.5**	**-2.3**
DFRA	**Djebel Bou Aff**	**1.48**	**70**	P		**Pg**	**03 51 59.5**	**-0.7**
DFRA	**Djebel Bou Aff**	**1.48**	**70**	P		**Pg**	**03 51 59.5**	**-0.7**
DFRA	**Djebel Bou Aff**	**1.48**	**70**	P		**Pg**	**03 51 59.5**	**-0.7**
CTEI	**Djebel Teioual**	**1.83**	**89**	P		**Pn**	**03 52 03.2**	**+0.1**
CTEI	**Djebel Teioual**	**1.83**	**89**	P		**Pn**	**03 52 03.2**	**+0.1**
CTEI	**Djebel Teioual**	**1.83**	**89**	P		**Pn**	**03 52 03.2**	**+0.1**
CTEI	**Djebel Teioual**	**1.83**	**89**	P		**Pn**	**03 52 03.2**	**+0.1**
CASM	**Ain Smara**	**1.91**	**83**	P		**Pn**	**03 52 04.2**	**+0.2**
CASM	**Ain Smara**	**1.91**	**83**	P		**Pn**	**03 52 04.2**	**+0.2**
CASM	**Ain Smara**	**1.91**	**83**	P		**Pn**	**03 52 04.2**	**+0.2**
CKFL	**Kef-Lekhel**	**2.11**	**80**	P		**Pn**	**03 52 06.4**	**-0.5**
CKFL	**Kef-Lekhel**	**2.11**	**80**	P		**Pn**	**03 52 06.4**	**-0.5**
CKFL	**Kef-Lekhel**	**2.11**	**80**	P		**Pn**	**03 52 06.4**	**-0.5**
CAEH	**'Ain El Ouahch**	**2.30**	**71**	P		**Pn**	**03 52 08.7**	**-0.7**
CAEH	**'Ain El Ouahch**	**2.30**	**71**	P		**Pn**	**03 52 08.7**	**-0.7**
CAEH	**'Ain El Ouahch**	**2.30**	**71**	P		**Pn**	**03 52 08.7**	**-0.7**
CMAH	**Djebel Manchou**	**2.70**	**77**	P		**Pn**	**03 52 13.7**	**-1.3**
CMAH	**Djebel Manchou**	**2.70**	**77**	P		**Pn**	**03 52 13.7**	**-1.3**
CMAH	**Djebel Manchou**	**2.70**	**77**	P		**Pn**	**03 52 13.7**	**-1.3**
OKGL	**Djebel Kef Gue**	**2.84**	**271**	⇓P		**Pn**	**03 52 15.8**	**-1.2**
	1µm,0.9s,SNR=18							
OKGL				S		**Sn**	**03 52 51.6**	**+0.5**
	84nm,0.5s,SNR=7.9							
OKGL	**Djebel Kef Gue**	**2.84**	**271**	P		**Pn**	**03 52 15.8**	**-1.2**
	1µm,0.9s,SNR=18							
OKGL				S		**Sn**	**03 52 51.6**	**+0.5**
	84nm,0.5s,SNR=7.9							
EIBI	**Ibiza**	**3.72**	**324**	P		**Pn**	**03 52 29.9**	**+1.0**
	135nm,0.5s,SNR=29							
EIBI				S		**Sn**	**03 53 14.5**	**+1.9**
	7.4nm,0.2s,SNR=7.9							
EIBI	**Ibiza**	**3.72**	**324**	P		**Pn**	**03 52 29.9**	**+1.0**
	135nm,0.5s,SNR=29							
EIBI				S		**Sn**	**03 53 14.5**	**+1.9**
	7.4nm,0.2s,SNR=7.9							
EIBI	**Ibiza**	**3.72**	**324**	P		**Pn**	**03 52 29.9**	**+1.0**
THTN	**Thala**	**3.72**	**96**	P		**Pn**	**03 52 30.5**	**+1.5**
THTN	**Thala**	**3.72**	**96**	P		**Pn**	**03 52 30.5**	**+1.5**
ETOS	**Mallorca**	**3.86**	**345**	P		**Pn**	**03 52 31.7**	**+0.8**
	63nm,0.5s,SNR=7.9							
ETOS				S		**Sn**	**03 53 19.6**	**+3.4**
	4.2nm,0.2s,SNR=7.9							
ETOS	**Mallorca**	**3.86**	**345**	P		**Pn**	**03 52 31.7**	**+0.8**
	63nm,0.5s,SNR=7.9							
ETOS				S		**Sn**	**03 53 19.6**	**+3.4**
	4.2nm,0.2s,SNR=7.9							
KEST	**Kesra**	**4.23**	**93**	Pn		**Pn**	**03 52 36.8**	**+0.8**
	2.9nm,0.3s,baz=244,slow=3.0,SNR=114							
KEST				Sn		**Sn**	**03 53 24.6**	**-0.8**
	2.6nm,0.3s,baz=180,slow=20,SNR=2.6							
KEST	**Kesra**	**4.23**	**93**	*e*Pn		**Pn**	**03 52 37.7**	**+1.7**
KEST					Sn	**Sn**	**03 53 24.6**	**-0.8**
KEST	**Kesra**	**4.23**	**93**	*e*Pn		**Pn**	**03 52 37.7**	**+1.7**
KEST					Sn	**Sn**	**03 53 24.6**	**-0.8**
EBEN	**Beniarda**	**4.38**	**309**	P		**Pn**	**03 52 39.8**	**+1.7**
	7.0nm,0.4s,SNR=14							
EBEN				S		**Sn**	**03 53 32.4**	**+3.4**
	0.7nm,0.2s,SNR=7.9							
EBEN	**Beniarda**	**4.38**	**309**	P		**Pn**	**03 52 39.8**	**+1.7**
	7.0nm,0.4s,SNR=14							
EBEN				S		**Sn**	**03 53 32.4**	**+3.4**
	0.7nm,0.2s,SNR=7.9							
CART	**Cartagena**	**4.41**	**292**	⇓P		**Pn**	**03 52 37.0**	**-1.4**
CART				S		Sn	03 53 22.6	-7.0
CART	**Cartagena**	**4.41**	**292**	*i* P		**Pn**	**03 52 37.0**	**-1.4**
CART				*e*S		Sn	03 53 22.6	-7.0
EMUR	**La Murta**	**4.67**	**294**	P		**Pn**	**03 52 41.8**	**-0.3**
	130nm,0.8s,SNR=102							
EMUR				S		**Sn**	**03 53 39.5**	**+3.2**
	2.1nm,0.2s,SNR=7.9							
EMUR	**La Murta**	**4.67**	**294**	P		**Pn**	**03 52 41.8**	**-0.3**
	130nm,0.8s,SNR=102							
EMUR				S		**Sn**	**03 53 39.5**	**+3.2**
	2.1nm,0.2s,SNR=7.9							
ENIJ	**Nijar**	**5.20**	**282**	⇑P		**Pn**	**03 52 47.8**	**-1.5**
	46nm,0.4s,SNR=18							
ENIJ				S		**Sn**	**03 53 50.8**	**+1.5**
	5.1nm,0.3s,SNR=7.9							
ENIJ	**Nijar**	**5.20**	**282**	P		**Pn**	**03 52 47.8**	**-1.5**
	46nm,0.4s,SNR=18							
ENIJ				S		**Sn**	**03 53 50.8**	**+1.5**
	5.1nm,0.3s,SNR=7.9							
ETOB	**Tobarra**	**5.23**	**301**	⇓P		**Pn**	**03 52 50.5**	**+0.8**
	11nm,0.2s,SNR=18							
ETOB				S		**Sn**	**03 53 53.0**	**+3.0**
	4.0nm,0.3s,SNR=7.9							
ETOB	**Tobarra**	**5.23**	**301**	P		**Pn**	**03 52 50.5**	**+0.8**
	11nm,0.2s,SNR=18							
ETOB				S		**Sn**	**03 53 53.0**	**+3.0**
	4.0nm,0.3s,SNR=7.9							
EMOS	**Mosqueruela**	**5.64**	**321**	P		**Pn**	**03 52 56.5**	**+1.0**
	22nm,0.5s,SNR=39							
EMOS				S		**Sn**	**03 53 56.0**	**-4.3**
	1.7nm,0.3s,SNR=7.9							
EHUE	**Huescar**	**5.68**	**290**	P		**Pn**	**03 52 56.5**	**+0.5**
	24nm,0.4s,SNR=7.9							
EHUE				S		**Sn**	**03 54 03.9**	**+2.7**
	1.3nm,0.6s,SNR=7.9							
EBER	**Berja**	**5.74**	**281**	P		**Pn**	**03 52 55.6**	**-1.2**
	38nm,0.5s,SNR=34							
EBER				S		**Sn**	**03 54 01.4**	**-1.3**
	1.6nm,0.5s,SNR=7.9							
SESP	**Santiago Espad**	**5.74**	**293**	⇓P		**Pn**	**03 52 57.8**	**+0.9**
	158nm,0.7s,SNR=18							
SESP				S		**Sn**	**03 54 05.7**	**+3.0**
	9.7nm,0.2s,SNR=7.9							
ERTA	**Horta de San J**	**5.74**	**330**	P		**Pn**	**03 52 57.9**	**+1.2**
	53nm,0.7s,SNR=7.9							
ERTA				S		**Sn**	**03 54 04.7**	**+2.1**
	1.7nm,0.3s,SNR=7.9							
EPOB	**Poblet**	**5.81**	**337**	P		**Pn**	**03 52 59.5**	**+1.7**
	19nm,0.6s,SNR=13							
EPOB				S		**Sn**	**03 54 01.6**	**-2.8**
	0.9nm,0.2s,SNR=7.9							
EMEL	**Melilla**	**5.83**	**265**	P		**Pn**	**03 52 57.4**	**-0.6**
	20nm,0.1s,SNR=4.0							
CFON	**Fontmartina**	**5.86**	**347**	P		**Pn**	**03 53 00.2**	**+1.7**
	6.1nm,0.3s,SNR=11							
CFON				S		**Sn**	**03 54 07.8**	**+2.2**
	18nm,0.5s,SNR=7.9							
EVIA	**Vianos**	**5.90**	**298**	⇑P		**Pn**	**03 52 59.3**	**+0.4**
	65nm,0.5s,SNR=18							
EVIA				S		**Sn**	**03 54 08.9**	**+2.3**
	4.3nm,0.2s,SNR=7.9							
EQES	**Quesada**	**6.04**	**289**	P		**Pn**	**03 53 01.8**	**+0.8**
	54nm,0.6s,SNR=108							
EQES				S		**Sn**	**03 54 11.6**	**+1.5**
	4.5nm,0.3s,SNR=7.9							
EMIR	**Miracle**	**6.20**	**342**	P		**Pn**	**03 53 05.5**	**+2.3**
	69nm,0.4s,SNR=58							
EMIR				S		**Sn**	**03 54 11.8**	**-2.2**
	1.9nm,0.2s,SNR=7.9							
EQUE	**Quentar**	**6.21**	**283**	P		**Pn**	**03 53 03.2**	**-0.1**
	41nm,0.4s,SNR=61							
EQUE				S		**Sn**	**03 54 14.5**	**+0.2**
	1.5nm,0.3s,SNR=7.9							
EGUA	**Guajares**	**6.27**	**279**	P		**Pn**	**03 53 03.3**	**-0.7**
	19nm,0.4s,SNR=7.9							
EGUA				S		**Sn**	**03 54 13.7**	**-1.9**
	0.8nm,0.4s,SNR=7.9							
SELV	**Sierra Elvira**	**6.45**	**283**	P		**Pn**	**03 53 06.4**	**0.0**
	24nm,0.6s,SNR=7.9							
SELV				S		**Sn**	**03 54 17.9**	**-2.0**
	62nm,1.0s,SNR=7.9							
EJON	**La Jonquera**	**6.47**	**352**	P		**Pn**	**03 53 08.7**	**+2.0**
	8.6nm,0.4s,SNR=15							
EJON				S		**Sn**	**03 54 21.7**	**+1.3**
	1.0nm,0.2s,SNR=7.9							
SJAF	**Saint Jean de**	**6.50**	**352**	P		**Pn**	**03 53 08.9**	**+1.7**
	12nm,0.5s,SNR=7.9							
SJAF				S		**Sn**	**03 54 22.9**	**+1.6**
	0.1nm,0.2s,SNR=7.9							
VALF	**Valcebollere**	**6.56**	**346**	*e*P		Pn	03 53 12.8	+4.7
VALF	**Valcebollere**	**6.56**	**346**	*e*P		Pn	03 53 12.8	+4.7
FILF	**Fillols**	**6.62**	**350**	*e*P		Pn	03 53 12.9	+4.1
FILF	**Fillols**	**6.62**	**350**	*e*P		Pn	03 53 12.9	+4.1
CLLI	**Llivia**	**6.64**	**346**	P		**Pn**	**03 53 11.3**	**+2.1**
	17nm,0.6s,SNR=15							
CLLI				S		**Sn**	**03 54 25.2**	**+0.4**
	0.4nm,0.2s,SNR=7.9							
EBAN	**Banos Encina**	**6.69**	**291**	P		**Pn**	**03 53 09.9**	**+0.2**
	19nm,0.5s,SNR=10							
ESAC	**San Caprasio**	**6.71**	**329**	P		**Pn**	**03 53 12.2**	**+2.1**
	12nm,0.3s,SNR=7.9							
CSOR	**Sort**	**6.74**	**341**	P		**Pn**	**03 53 13.0**	**+2.5**
	4.4nm,0.4s,SNR=10							
CSOR				S		**Sn**	**03 54 29.4**	**+2.2**
	0.1nm,0.6s,SNR=7.9							
ETOR	**Torete**	**6.81**	**316**	P		Pn	03 53 13.9	+2.4
	6.3nm,0.3s,SNR=16							
ELUQ	**Luque**	**6.92**	**285**	P		**Pn**	**03 53 14.1**	**+1.2**
	1.8nm,0.2s,SNR=7.9							
EMIJ	**Mijas**	**7.22**	**277**	P		**Pn**	**03 53 15.3**	**-1.8**
	3.2nm,0.3s,SNR=8.9							
EMIJ				S		**Sn**	**03 54 35.7**	**-3.3**
	0.6nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**7.29**	**289**	P		**Pn**	**03 53 17.5**	**-0.5**
	2.3nm,0.3s,SNR=7.9							
EADA				S		**Sn**	**03 54 40.9**	**+0.2**
	0.6nm,0.2s,SNR=7.9							
ESDC	**Sonseca Array**	**7.37**	**302**	P		**Pn**	**03 53 19.5**	**+0.3**
	3.8nm,0.2s,baz=118,slow=13,SNR=30							
ESDC	**Sonseca Array**	**7.37**	**302**	Pn		**Pn**	**03 53 19.1**	**0.0**
	4.1nm,0.3s,baz=118,slow=13,SNR=45							
ESDC				Sn		**Sn**	**03 54 46.3**	**+3.6**
	baz=121,slow=28,SNR=2.2							
ESDC					LR	LR	03 56 10.4	
	comp=Z,157nm,20.7s,baz=110,slow=38							
ESLA	**Sonseca Array**	**7.37**	**302**	*e*Pn		**Pn**	**03 53 18.9**	**-0.2**
	2.0nm,0.6s							
ESLA	**Sonseca Array**	**7.37**	**302**	*e*Pn		**Pn**	**03 53 18.9**	**-0.2**
	2.0nm,0.6s							
MTLF	**Montolieu**	**7.43**	**349**	*e*Pn		**Pn**	**03 53 18.3**	**-1.7**
MTLF				*e*Sn		**Sn**	**03 54 38.8**	**-5.4**
	7.7nm,0.5s							
MTLF	**Montolieu**	**7.43**	**349**	P		**Pn**	**03 53 18.3**	**-1.7**
MTLF				S		**Sn**	**03 54 38.8**	**-5.4**
	3.8nm,0.5s							
MTLF	**Montolieu**	**7.43**	**349**	*e*Pn		**Pn**	**03 53 18.3**	**-1.7**
MTLF				*e*Sn		**Sn**	**03 54 38.8**	**-5.4**
	3.8nm,0.5s							
LMR	**La Mourre**	**7.50**	**13**	*e*Pn		**Pn**	**03 53 19.4**	**-1.4**
LMR				*e*Sn		**Sn**	**03 54 41.3**	**-4.5**
	18nm,0.6s							
LMR	**La Mourre**	**7.50**	**13**	P		**Pn**	**03 53 19.4**	**-1.4**
LMR				S		**Sn**	**03 54 41.3**	**-4.5**
	8.9nm,0.6s							
LMR	**La Mourre**	**7.50**	**13**	*e*Pn		**Pn**	**03 53 19.4**	**-1.4**
LMR				*e*Sn		**Sn**	**03 54 41.3**	**-4.5**
	8.9nm,0.6s							
PGF	**Pioggiola**	**7.50**	**29**	*e*Pn		**Pn**	**03 53 19.0**	**-2.0**
PGF				*e*Sn		**Sn**	**03 54 41.7**	**-4.2**
	12nm,0.5s							
PGF	**Pioggiola**	**7.50**	**29**	P		**Pn**	**03 53 19.0**	**-2.0**
PGF				S		**Sn**	**03 54 41.7**	**-4.2**
	6.1nm,0.5s							
PGF	**Pioggiola**	**7.50**	**29**	*e*Pn		**Pn**	**03 53 19.0**	**-2.0**
PGF				*e*Sn		**Sn**	**03 54 41.7**	**-4.2**
	6.1nm,0.5s							
LEPF	**PUYLOUBIER**	**7.56**	**9**	*e*P		**Pn**	**03 53 22.3**	**+0.6**
LEPF	**PUYLOUBIER**	**7.56**	**9**	*e*P		**Pn**	**03 53 22.3**	**+0.6**
EPF	**Esparros**	**7.57**	**338**	*e*Pn		**Pn**	**03 53 20.1**	**-1.8**
EPF				*e*Sn		Sn	03 54 41.5	-6.0
	7.2nm,0.5s							
EPF	**Esparros**	**7.57**	**338**	P		**Pn**	**03 53 20.1**	**-1.8**
EPF				S		Sn	03 54 41.5	-6.0
	3.6nm,0.5s							
EPF	**Esparros**	**7.57**	**338**	*e*Pn		**Pn**	**03 53 20.1**	**-1.8**
EPF				*e*Sn		Sn	03 54 41.5	-6.0
	3.6nm,0.5s							
PAB	**San Pablo**	**7.58**	**300**	*e*P		**Pn**	**03 53 21.5**	**-0.6**
PAB	**San Pablo**	**7.58**	**300**	*e*Pn		**Pn**	**03 53 21.5**	**-0.6**
PAB	**San Pablo**	**7.58**	**300**	*e*Pn		**Pn**	**03 53 21.5**	**-0.6**
FRF	**La Foret Royal**	**7.74**	**14**	*e*Pn		**Pn**	**03 53 23.1**	**-1.1**
FRF				*e*Sn		**Sn**	**03 54 47.2**	**-4.6**
	35nm,0.9s							
FRF	**La Foret Royal**	**7.74**	**14**	P		**Pn**	**03 53 23.1**	**-1.1**
FRF				S		**Sn**	**03 54 47.2**	**-4.6**
	18nm,0.9s							
FRF	**La Foret Royal**	**7.74**	**14**	*e*Pn		**Pn**	**03 53 23.1**	**-1.1**
FRF				*e*Sn		**Sn**	**03 54 47.2**	**-4.6**
	18nm,0.9s							
LIJA	**Lijar**	**7.75**	**279**	P		Pn	03 53 27.5	+3.2
LIJA				S		**Sn**	**03 54 56.0**	**+4.0**
LIJA	**Lijar**	**7.75**	**279**	*e*P		Pn	03 53 27.5	+3.2
LIJA				*e*S		**Sn**	**03 54 56.0**	**+4.0**
ETSF	**Etsaut**	**7.75**	**333**	*e*Pn		**Pn**	**03 53 22.2**	**-2.1**
ETSF				*e*Sn		Sn	03 54 45.5	-6.5
	4.0nm,0.5s							
ETSF	**Etsaut**	**7.75**	**333**	P		**Pn**	**03 53 22.2**	**-2.1**
ETSF				S		Sn	03 54 45.5	-6.5
	2.0nm,0.5s							
ETSF	**Etsaut**	**7.75**	**333**	*e*Pn		**Pn**	**03 53 22.2**	**-2.1**
ETSF				*e*Sn		Sn	03 54 45.5	-6.5
	2.0nm,0.5s							
ECAB	**El Cabril**	**7.91**	**288**	P		**Pn**	**03 53 25.6**	**-1.0**
	5.0nm,0.4s,SNR=7.9							
ECAB				S		**Sn**	**03 54 51.7**	**-4.3**
	7.1nm,0.7s,SNR=7.9							
MDT	**Midelt**	**7.92**	**249**	Pn		**Pn**	**03 53 25.8**	**-1.1**
	1.5nm,0.3s,baz=67,slow=14,SNR=40							
MDT					Lg	Lg	03 55 39.0	
	2.3nm,0.3s,baz=348,slow=20,SNR=3.5							
GUD	**Guadarrama**	**7.97**	**308**	P		**Pn**	**03 53 28.4**	**+0.9**

comp=Z,8.8nm,0.9s
LPG La Plagne 9.64 11 *e*Pn **Pn 03 53 49.7 -0.8**
LPG eSn Sn 03 55 32.5 -6.3
comp=Z,8.8nm,0.9s
LPL La Plagne 9.66 11 *e*Pn **Pn 03 53 49.6 -1.1**
LPL eSn Sn 03 55 33.0 -6.1
comp=Z,25nm,1.3s
LPL La Plagne 9.66 11 P **Pn 03 53 49.6 -1.1**
LPL S Sn 03 55 33.0 -6.1
comp=Z,13nm,1.3s
LPL La Plagne 9.66 11 *e*Pn **Pn 03 53 49.6 -1.1**
LPL eSn Sn 03 55 33.0 -6.1
comp=Z,13nm,1.3s
PMRV Marv??o 9.74 294 *e*Pn **Pn 03 53 51.4 -0.3**
PMRV A A 03 54 00.6
comp=Z,35nm,1.7s
PMRV eLR LR 03 55 53.5
PMRV Marv??o 9.74 294 P **Pn 03 53 51.4 -0.3**
PMRV Marv??o 9.74 294 *e*Pn **Pn 03 53 51.4 -0.3**
comp=Z,35nm,1.7s
PESTR Estremoz 9.75 290 *e*Pn **Pn 03 53 51.4 -0.3**
PESTR A A 03 54 03.9
comp=Z,18nm,1.6s
PESTR eLR LR 03 56 44.8
PESTR Estremoz 9.75 290 *e*Pn **Pn 03 53 51.4 -0.3**
comp=Z,18nm,1.6s
PBDV Barranco-do-Ve 9.78 281 eLR LR 03 56 10.2
PCVE Castro Verde 9.90 283 *e*Pn **Pn 03 53 54.3 +0.5**
PCVE A A 03 54 09.9
comp=Z,8.7nm,1.8s
PCVE eLR LR 03 56 17.9
PCVE Castro Verde 9.90 283 P **Pn 03 53 54.3 +0.5**
PCVE Castro Verde 9.90 283 *e*Pn **Pn 03 53 54.3 +0.5**
comp=Z,8.7nm,1.8s
PLDF La Plantade 9.92 358 *e*P **Pn 03 53 56.7 +2.6**
PLDF La Plantade 9.92 358 *e*P **Pn 03 53 56.7 +2.6**
PCBR Castelo Branco 9.93 296 *e*Pn **Pn 03 53 55.7 +1.5**
PCBR A A 03 54 01.6
comp=Z,32nm,1.6s
PCBR Castelo Branco 9.93 296 P **Pn 03 53 55.7 +1.5**
PCBR Castelo Branco 9.93 296 *e*Pn **Pn 03 53 55.7 +1.5**
comp=Z,32nm,1.6s
MESJ Messejana 10.06 284 *e*P **Pn 03 53 55.9 -0.1**
MESJ Messejana 10.06 284 *e*Pn **Pn 03 53 55.9 -0.1**
MESJ A A 03 54 19.4
comp=Z,24nm,1.7s
MESJ Messejana 10.06 284 P **Pn 03 53 55.9 -0.1**
MESJ Messejana 10.06 284 *e*Pn **Pn 03 53 55.9 -0.1**
comp=Z,24nm,1.7s
MVO Moncorvo 10.13 304 *e*Pn **Pn 03 53 58.4 +1.4**
MVO A A 03 54 17.5
comp=Z,24nm,1.8s
MVO eLR LR 03 56 03.3
MVO Moncorvo 10.13 304 P **Pn 03 53 58.3 +1.4**
comp=Z,3.6nm,0.4s,SNR=7.5
MVO Moncorvo 10.13 304 *e*Pn **Pn 03 53 58.4 +1.4**
comp=Z,24nm,1.8s
EARI Arriondas 10.22 318 P **Pn 03 53 59.5 +1.4**
comp=Z,11nm,0.5s,SNR=26
PBRG Braganca 10.24 307 *e*Pn **Pn 03 53 59.8 +1.3**
PBRG A A 03 54 11.7
comp=Z,32nm,1.9s
PBRG eLR LR 03 56 55.7
PBRG Braganca 10.24 307 P **Pn 03 53 59.8 +1.3**
PBRG Braganca 10.24 307 *e*Pn **Pn 03 53 59.8 +1.3**
comp=Z,32nm,1.9s
PMTG Montargil 10.28 291 eLR LR 03 56 59.5
ECAL Calabor 10.31 308 P **Pn 03 54 00.8 +1.3**
comp=Z,8.0nm,0.3s,SNR=12
TCF Toulx Ste Croi 10.33 352 *e*Pn **Pn 03 53 57.6 -2.1**
TCF Toulx Ste Croi 10.33 352 P **Pn 03 53 57.6 -2.1**
TCF Toulx Ste Croi 10.33 352 *e*Pn **Pn 03 53 57.6 -2.1**
PNCL Nicolau / Gran 10.34 285 *e*Pn **Pn 03 53 59.2 -0.6**
PNCL A A 03 54 28.8
comp=Z,27nm,1.8s
PNCL eLR LR 03 56 21.9
PNCL Nicolau / Gran 10.34 285 *e*Pn **Pn 03 53 59.2 -0.6**
comp=Z,27nm,1.8s
MORF Marmelete 10.36 281 eLR LR 03 57 28.3
TIP Timpagrande 10.48 69 *e*Pn **Pn 03 54 02.8 +1.1**
TIP Timpagrande 10.48 69 *e*Pn **Pn 03 54 02.9 +1.1**
PFVI Vila Bisbo 10.49 280 eLR LR 03 56 50.7
PVIS Viseu 10.54 300 *e*Pn **Pn 03 54 03.9 +1.3**
PVIS A A 03 54 05.5
comp=Z,29nm,1.6s
PVIS Viseu 10.54 300 P **Pn 03 54 03.9 +1.3**
PVIS Viseu 10.54 300 *e*Pn **Pn 03 54 03.9 +1.3**
comp=Z,29nm,1.6s
SMF Signal de Mont 10.59 359 *e*Pn **Pn 03 54 01.1 -2.1**
SMF Signal de Mont 10.59 359 P **Pn 03 54 01.1 -2.1**
SMF Signal de Mont 10.59 359 *e*Pn **Pn 03 54 01.1 -2.1**
PVRL Vila Real 10.64 303 *e*Pn **Pn 03 54 04.3 +0.3**
PVRL A A 03 54 18.7
comp=Z,30nm,1.9s
PVRL Vila Real 10.64 303 P **Pn 03 54 04.3 +0.3**
PVRL Vila Real 10.64 303 *e*Pn **Pn 03 54 04.3 +0.3**
comp=Z,30nm,1.9s
CABF La Chapelle 10.65 7 *e*Pn **Pn 03 54 01.6 -2.5**
CABF La Chapelle 10.65 7 P **Pn 03 54 01.6 -2.5**
CABF La Chapelle 10.65 7 *e*Pn **Pn 03 54 01.6 -2.5**
POLO Lamas de Olo 10.74 303 *e*Pn **Pn 03 54 05.8 +0.5**
POLO Lamas de Olo 10.74 303 *e*Pn **Pn 03 54 06.0 +0.7**
POLO A A 03 54 26.9
comp=Z,15nm,1.8s
POLO eLR LR 03 57 06.9
POLO Lamas de Olo 10.74 303 *e*Pn **Pn 03 54 06.0 +0.7**
comp=Z,15nm,1.8s
PCAS Casmilo, Conde 10.74 296 eLR LR 03 57 01.1
AVF Avril sur Loir 10.75 357 *e*Pn **Pn 03 54 02.8 -2.6**
AVF Avril sur Loir 10.75 357 P **Pn 03 54 02.8 -2.6**
AVF Avril sur Loir 10.75 357 *e*Pn **Pn 03 54 02.8 -2.6**
SSF Saint Saulge 11.02 358 *e*Pn **Pn 03 54 07.0 -2.0**
SSF Saint Saulge 11.02 358 P **Pn 03 54 07.0 -2.0**
SSF Saint Saulge 11.02 358 *e*Pn **Pn 03 54 07.0 -2.0**
MFF Saint Martin d 11.03 344 *e*Pn **Pn 03 54 06.3 -2.9**
MFF Saint Martin d 11.03 344 P **Pn 03 54 06.3 -2.9**
MFF Saint Martin d 11.03 344 *e*Pn **Pn 03 54 06.3 -2.9**
PMAFR Mafra 11.06 289 eLR LR 03 57 23.5
ELOB Lobios 11.14 305 P **Pn 03 54 11.8 +1.0**
comp=Z,2.8nm,0.5s,SNR=6.0
LOR Lormes 11.21 359 *e*Pn **Pn 03 54 10.1 -1.6**
LOR Lormes 11.21 359 P **Pn 03 54 10.1 -1.6**
LOR Lormes 11.21 359 *e*Pn **Pn 03 54 10.1 -1.6**
PGAV Gavieira, Arco 11.32 305 eLR LR 03 56 57.7
DAVOX Davos/Dischmat 11.55 20 Pn **Pn 03 54 18.1 +1.6**
comp=Z,0.2nm,0.3s,baz=180,slow=17,SNR=3.4
DAVOX LR LR 03 58 30.9
comp=Z,236nm,20.0s,baz=264,slow=36
HINF Hinteralfeld 11.93 9 *e*Pn **Pn 03 54 19.7 -1.9**
HINF Hinteralfeld 11.93 9 P **Pn 03 54 19.7 -1.9**
HINF Hinteralfeld 11.93 9 *e*Pn **Pn 03 54 19.7 -1.9**
HAU Haudompre 12.06 7 *e*Pn **Pn 03 54 21.8 -1.5**
HAU Haudompre 12.06 7 P **Pn 03 54 21.8 -1.5**
HAU Haudompre 12.06 7 *e*Pn **Pn 03 54 21.8 -1.5**
SFTF Sexfontaines 12.17 3 *e*Pn **Pn 03 54 23.9 -0.9**
SFTF Sexfontaines 12.17 3 P **Pn 03 54 23.9 -0.9**
SFTF Sexfontaines 12.17 3 *e*Pn **Pn 03 54 23.9 -0.9**
THEF They Montfort 12.24 6 *e*P **Pn 03 54 26.2 +0.4**
THEF They Montfort 12.24 6 *e*P **Pn 03 54 26.2 +0.4**
MEZF Maizieres J'vi 12.46 3 *e*Pn **Pn 03 54 26.4 -2.4**
MEZF Maizieres J'vi 12.46 3 P **Pn 03 54 26.4 -2.4**
MEZF Maizieres J'vi 12.46 3 *e*Pn **Pn 03 54 26.4 -2.4**
PAGF Fort de Pagny 12.55 5 *e*Pn **Pn 03 54 28.5 -1.5**
PAGF Fort de Pagny 12.55 5 *e*Pn **Pn 03 54 28.5 -1.5**
CDF Champ du Feu 12.57 10 *e*Pn **Pn 03 54 29.2 -1.1**
CDF Champ du Feu 12.57 10 P **Pn 03 54 29.2 -1.1**
CDF Champ du Feu 12.57 10 *e*Pn **Pn 03 54 29.2 -1.1**
WLS Welschbruch 12.58 10 *e*P **Pn 03 54 30.6 +0.1**
WLS Welschbruch 12.58 10 *e*P **Pn 03 54 30.6 +0.1**
GRR Gorron 12.87 345 *e*Pn **Pn 03 54 31.6 -2.8**
GRR Gorron 12.87 345 P **Pn 03 54 31.6 -2.8**
GRR Gorron 12.87 345 *e*Pn **Pn 03 54 31.6 -2.8**
LDF La Druitiere 12.93 347 *e*Pn **Pn 03 54 32.4 -2.7**
LDF La Druitiere 12.93 347 *e*Pn **Pn 03 54 32.4 -2.7**
QUIF Quistinic 13.04 338 *e*Pn Pn 03 54 33.3 -3.4
QUIF Quistinic 13.04 338 P Pn 03 54 33.3 -3.4
QUIF Quistinic 13.04 338 *e*Pn Pn 03 54 33.3 -3.4
FLN La Foliniere 13.15 346 *e*Pn **Pn 03 54 35.4 -2.8**
FLN La Foliniere 13.15 346 P **Pn 03 54 35.4 -2.8**
FLN La Foliniere 13.15 346 *e*Pn **Pn 03 54 35.4 -2.8**
SGMF Saint Gilles 13.16 340 *e*Pn **Pn 03 54 35.4 -3.0**
SGMF Saint Gilles 13.16 340 P **Pn 03 54 35.4 -3.0**
SGMF Saint Gilles 13.16 340 *e*Pn **Pn 03 54 35.4 -3.0**

TAM Tamanrasset 13.27 174 *e*P Pn 03 54 36.7 -3.3
TAM pmax pmax
comp=Z,4.0nm,0.6s
TAM Tamanrasset 13.27 174 *e*Pn Pn 03 54 36.7 -3.3
comp=Z,4.4nm,0.6s
TAM Tamanrasset 13.27 174 *e*Pn Pn 03 54 36.7 -3.3
comp=Z,4.4nm,0.6s
TAM *e*Lg Lg 03 58 23.7
WLF Walferdange 13.69 6 *e*P **Pn 03 54 46.0 +0.5**
WLF Walferdange 13.69 6 *e*Pn **Pn 03 54 46.0 +0.5**
WLF Walferdange 13.69 6 *e*Pn **Pn 03 54 46.0 +0.5**
BAIF Baives 14.00 0 *e*Pn **Pn 03 54 47.9 -1.9**
BAIF Baives 14.00 0 P **Pn 03 54 47.9 -1.9**
BAIF Baives 14.00 0 *e*Pn **Pn 03 54 47.9 -1.9**
DOU Dourbes 14.04 1 P **Pn 03 54 52.0 +1.7**
GIVF Givet 14.06 2 *e*Pn **Pn 03 54 48.1 -2.4**
GIVF Givet 14.06 2 P **Pn 03 54 48.1 -2.4**
GIVF Givet 14.06 2 *e*Pn **Pn 03 54 48.1 -2.4**
SNF Seneffe 14.45 0 P **Pn 03 54 58.1 +2.1**
GEC2 GERESS Array S 14.59 26 *e*P **Pn 03 55 00.8 +2.9**
GEC2 GERESS Array S 14.59 26 *e*Pn **Pn 03 55 00.8 +2.9**
GEC2 GERESS Array S 14.59 26 *e*Pn **Pn 03 55 00.8 +2.9**
GERES GERESS Array B 14.59 26 Pn **Pn 03 54 58.2 +0.3**
comp=Z,0.1nm,0.3s,baz=206,slow=12,SNR=14
GERES LR LR 04 00 58.1
comp=Z,134nm,19.5s,baz=240,slow=39
MEM Membach 14.62 5 P **Pn 03 55 00.4 +2.2**
KHC Kasperske Hory 14.79 25 *e*P **Pn 03 55 03.0 +2.4**
KHC *epP* P 03 55 13.2 +6.7
KHC AMS AMS 04 01 30.0
comp=Z,300nm,10.7s
KHC Kasperske Hory 14.79 25 *e*P **Pn 03 55 03.0 +2.4**
KHC MLR MLR
comp=Z,300nm,10.7s
KHC Kasperske Hory 14.79 25 *e*P **Pn 03 55 03.0 +2.4**
comp=Z,300nm,10.7s
NKC Novy Kostel 15.40 20 *e*P P 03 55 19.5 +6.2
NKC Novy Kostel 15.40 20 *e*P P 03 55 19.5 +6.2
NKC Novy Kostel 15.40 20 *e*P P 03 55 19.5 +6.2
PRU Pruhonice 15.85 25 AMS AMS 04 01 00.0
comp=Z,200nm,18.3s
GOPC GO Pecny, Ondr 15.87 26 AMS AMS 04 01 40.0
comp=Z,200nm,13.6s
VRAC Vranov 16.07 31 Pn **P 03 55 22.3 +1.6**
baz=217,slow=8.7,SNR=5.9
VRAC LR LR 04 01 38.8
comp=Z,100nm,18.8s,baz=220,slow=38
VRAC Vranov 16.07 31 ⇑P **P 03 55 23.4 +2.6**
VRAC Vranov 16.07 31 ⇑*i*P **P 03 55 23.4 +2.6**
MMB Musomiste 16.22 64 ⇑P **P 03 55 24.1 +1.6**
MMB Musomiste 16.22 64 ⇑*i*P **P 03 55 24.1 +1.6**
MMB Musomiste 16.22 64 P **P 03 55 24.1 +1.6**
CLL Collm 16.52 20 *e*(sP) **sP 03 55 28.0 -2.8**
comp=Z,27nm,2.0s
CLL *e*S **S 03 58 36.0 -2.1**
CLL Collm 16.52 20 *e*P **sP 03 55 28.0 -2.8**
CLL pmax pmax
comp=Z,27nm,2.0s
CLL Collm 16.52 20 *e*P sP 03 55 28.0 -2.8
comp=Z,27nm,2.0s
PSZ Piszkesteto 16.62 40 *e*P **P 03 55 25.4 -1.6**
PSZ Piszkesteto 16.62 40 *e*Pn **P 03 55 25.4 -1.6**
PSZ Piszkesteto 16.62 40 *e*Pn **P 03 55 25.4 -1.6**
KRLC Kraliky 16.75 29 *e*P **P 03 55 30.3 +2.0**
KRLC Kraliky 16.75 29 *e*P **Pn 03 55 21.8 -4.3**
KRLC Kraliky 16.75 29 *e*P **Pn 03 55 21.8 -4.3**
DPC Dobruska-Polom 16.79 28 *e*P **Pn 03 55 25.1 -1.5**
DPC *epP* **pP 03 55 33.3 +1.1**
DPC AMS AMS 04 02 30.0
DPC Dobruska-Polom 16.79 28 *e*P **Pn 03 55 25.1 -1.5**
DPC Dobruska-Polom 16.79 28 *e*P **Pn 03 55 25.1 -1.5**
MORC Moravsky Berou 16.83 31 *e*P **Pn 03 55 26.4 -0.7**
MORC Moravsky Berou 16.83 31 *e*Pn **Pn 03 55 26.4 -0.7**
MORC Moravsky Berou 16.83 31 *e*Pn **Pn 03 55 26.4 -0.7**
IDI Anoyia 16.87 86 Pn **P 03 55 32.2 +2.4**
comp=Z,0.9nm,0.3s,baz=271,slow=12,SNR=5.3
OKC Ostrava-Krasne 17.13 32 *e*P **P 03 55 33.5 +1.0**
OKC *epP* **pP 03 55 38.0 +2.0**
OKC *ex* x 03 55 43.4
OKC *ex* x 03 55 49.2
OKC Ostrava-Krasne 17.13 32 *e*P **P 03 55 33.5 +1.0**
OKC Ostrava-Krasne 17.13 32 *e*P **P 03 55 33.5 +1.0**
ARR Arges 18.06 53 ⇓*i*P **P 03 55 45.1 +2.2**
VOIR 18.36 53 ⇓P **Pn 03 55 47.5 +1.4**
VOIR 18.36 53 ⇓*i*P **Pn 03 55 47.5 +1.4**
VOIR 18.36 53 P **Pn 03 55 47.5 +1.4**
MLR Muntele Rosu 18.96 53 P **Pn 03 55 54.8 +1.3**
comp=Z,0.2nm,0.3s,baz=347,slow=21,SNR=7.2
MLR LR LR 04 04 00.7
comp=Z,26nm,19.4s,baz=254,slow=40
MLR Muntele Rosu 18.96 53 ⇑*i*P **P 03 55 52.3 -0.5**
KWP Kalwaria Pacla 19.15 39 *e*P **Pn 03 55 57.4 +1.8**
KWP pmax pmax
comp=Z,11nm,1.0s
KWP Kalwaria Pacla 19.15 39 *e*P **Pn 03 55 57.4 +1.8**
comp=Z,11nm,1.0s
KWP Kalwaria Pacla 19.15 39 *e*P **Pn 03 55 57.4 +1.8**
comp=Z,11nm,1.0s
BURAR Bucovina Array 19.43 47 ⇑P **Pn 03 56 00.3 +1.3**
BURAR Bucovina Array 19.43 47 ⇑*i*P **Pn 03 56 00.3 +1.3**
BUR08 Bucovina Ar. S 19.43 47 *e*P **Pn 03 56 00.0 +0.9**
BUR08 Bucovina Ar. S 19.43 47 *e*P **Pn 03 56 00.0 +0.9**
PLOR Plostina 19.56 53 ⇑P Pn 03 56 06.8 +6.3
PLOR Plostina 19.56 53 ⇑*i*P Pn 03 56 06.8 +6.3
PLOR Plostina 19.56 53 P Pn 03 56 06.8 +6.3
VRI Vrincioaia 19.61 53 ⇓P Pn 03 56 06.5 +5.3
VRI Vrincioaia 19.61 53 ⇓*i*P Pn 03 56 06.5 +5.3
VRI Vrincioaia 19.61 53 P Pn 03 56 06.5 +5.3
MSAB Monastry St. A 19.77 59 ⇓*i*P **Pn 03 56 06.2 +3.1**
TESR Tescani 19.81 51 ⇓*i*P Pn 03 56 09.6 +6.0
ESK Eskdalemuir 19.92 348 *e*P **Pn 03 56 03.6 -1.1**
ESK pmax pmax
comp=Z,10.0nm,0.8s
ESK Eskdalemuir 19.92 348 *e*P **Pn 03 56 03.6 -1.1**
comp=Z,10.0nm,0.8s
ESK Eskdalemuir 19.92 348 *e*P **Pn 03 56 03.6 -1.1**
comp=Z,10.0nm,0.8s
EKA Eskdalemuir Ar 19.93 348 P **Pn 03 56 08.1 +3.2**
baz=158,slow=11,SNR=4.4
CFR Carcaliu 20.30 56 ⇑P Pn 03 56 08.1 -1.2
CFR Carcaliu 20.30 56 ⇑*i*P Pn 03 56 08.1 -1.2
CFR Carcaliu 20.30 56 P Pn 03 56 08.1 -1.2
TOA0 Torodi Ar. Sit 22.91 186 *e*P **P 03 56 34.1 -1.4**
TOA0 Torodi Ar. Sit 22.91 186 *e*P **P 03 56 34.1 -1.4**
TORD Torodi Ar. Bea 22.91 186 P **P 03 56 33.7 -1.8**
comp=Z,3.7nm,0.6s,baz=360,slow=11,SNR=30
TORD Lg Lg 04 03 37.6
comp=Z,1.4nm,0.9s,baz=4.3,slow=26,SNR=3.7
TORD LR LR 04 06 08.6
comp=Z,145nm,18.9s,baz=340,slow=38
AK02 Malin Array Si 23.20 43 *e*P **P 03 56 37.4 -0.8**
AK02 Malin Array Si 23.20 43 *e*P **P 03 56 37.4 -0.8**
KIEV Kiev 23.22 43 *e*P **P 03 56 37.5 -0.9**
KIEV pmax pmax
comp=Z,11nm,1.1s
KIEV Kiev 23.22 43 *e*P **P 03 56 37.5 -0.9**
comp=Z,11nm,1.1s
KIEV Kiev 23.22 43 *e*P **P 03 56 37.5 -0.9**
comp=Z,11nm,1.1s
AK01 Malin Array Si 23.22 43 *e*P **P 03 56 37.4 -1.0**
AK01 Malin Array Si 23.22 43 *e*P **P 03 56 37.4 -1.0**
AKASG Malin Array Be 23.23 43 P **P 03 56 36.9 -1.6**
comp=Z,3.2nm,0.5s,baz=240,slow=9.2,SNR=14
AKASG LR LR 04 05 55.4
comp=Z,81nm,20.9s,baz=230,slow=37
AKASG Malin Array Be 23.23 43 P **P 03 56 36.9 -1.6**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG MLR MLR
comp=Z,81nm,20.9s
AKBB Malin Array Si 23.23 43 *e*P **P 03 56 37.6 -0.9**
AKBB Malin Array Si 23.23 43 *e*P **P 03 56 37.6 -0.9**
AKBB Malin Array Si 23.23 43 *e*P **P 03 56 37.6 -0.9**
BR131 Keskin Array S 23.51 72 *e*P **P 03 56 41.4 -0.2**
comp=Z,0.6nm,0.5s
BR131 Keskin Array S 23.51 72 *e*P **P 03 56 41.4 -0.2**
comp=Z,0.6nm,0.5s
BRTR Keskin Array B 23.51 72 P **P 03 56 42.4 +0.7**
comp=Z,1.2nm,0.8s,baz=262,slow=10,SNR=7.0
BRTR Keskin Array B 23.51 72 P **P 03 56 42.4 +0.7**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
CSS Prodhromos 23.74 84 *e*P **P 03 56 41.4 -2.4**
comp=Z,2.0nm,0.8s

CSS Prodhromos 23.74 84 *e*P **P 03 56 41.4 -2.4**
comp=Z,2.0nm,0.8s
HFS Hagfors 24.88 11 P **P 03 56 52.6 -1.4**
comp=Z,1.5nm,0.7s,baz=200,slow=12,SNR=8.0
HFS LR LR 04 06 54.3
comp=Z,69nm,20.4s,baz=201,slow=37
HFS Hagfors 24.88 11 P **P 03 56 52.6 -1.4**
HFS pmax pmax
comp=Z,2.0nm,0.7s
HFS MLR MLR
comp=Z,69nm,20.4s
NAO01 NORSAR Array S 25.19 8 *e*P **P 03 56 54.6 -2.1**
comp=Z,4.0nm,0.9s
NOA NORSAR Array B 25.41 8 P **P 03 56 59.6 +0.7**
comp=Z,0.7nm,0.8s,baz=207,slow=8.0,SNR=3.9
NOA LR LR 04 07 56.7
comp=Z,72nm,18.2s,baz=190,slow=39
NOA NORSAR Array B 25.41 8 P **P 03 56 59.6 +0.7**
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA MLR MLR
comp=Z,72nm,18.3s
MMAI Mount Meron Ar 25.87 88 P **P 03 57 04.2 +0.9**
comp=Z,0.6nm,0.3s,baz=358,slow=3.6,SNR=3.8
VSU Vasula 26.91 26 ⇑*e*P **P 03 57 11.3 -1.0**
VSU pmax pmax
comp=Z,34nm,1.7s
VSU Vasula 26.91 26 *e*P **P 03 57 11.3 -1.0**
comp=Z,34nm,1.7s
BBTS Babate 28.22 226 LR LR 04 09 57.9
comp=Z,74nm,19.3s,baz=18,slow=39
FINES FINESS Array B 28.95 22 P **P 03 57 29.8 -0.7**
comp=Z,0.8nm,0.7s,baz=229,slow=7.3,SNR=6.5
FINES PcP **PcP 04 00 40.0 +1.0**
comp=Z,0.9nm,0.7s,baz=288,slow=0.4,SNR=2.6
FINES FINESS Array B 28.95 22 P **P 03 57 29.8 -0.7**
FINES 04 00 40.0
FINES pmax pmax
comp=Z,1.0nm,0.7s
FINES pmax pmax
comp=Z,1.0nm,0.7s
OBN Obninsk 29.24 39 LR LR 04 10 39.3
comp=Z,142nm,18.4s,baz=270,slow=39
OBN Obninsk 29.24 39 ⇓*e*P **P 03 57 32.2 -1.0**
OBN pmax pmax
comp=Z,18nm,1.7s
OBN MLR MLR
comp=Z,156nm,20.0s
OBN Obninsk 29.24 39 *e*P **P 03 57 32.2 -1.0**
comp=Z,156nm,20.0s
DBIC Dimbokro 30.38 198 LR LR 04 10 16.4
comp=Z,92nm,18.2s,baz=359,slow=37
ARCES ARCESS Array B 35.52 13 P **P 03 58 28.0 0.0**
comp=Z,3.2nm,1.0s,baz=209,slow=7.2,SNR=3.0
ARCES LR LR 04 12 59.9
comp=Z,50nm,19.8s,baz=202,slow=36
ARCES ARCESS Array B 35.52 13 P **P 03 58 28.0 0.0**
ARCES pmax pmax
comp=Z,3.0nm,1.0s
ARCES MLR MLR
comp=Z,50nm,19.8s
ARCES ARCESS Array B 35.52 13 P **P 03 58 28.0 0.0**
JMIC Jan Mayen 35.64 353 LR LR 04 12 40.3
comp=Z,20nm,19.3s,baz=17,slow=36
LVZ Lovozero 36.24 19 ⇑*e*P **P 03 58 31.8 -2.4**
LVZ pmax pmax
comp=Z,53nm,1.7s
LVZ Lovozero 36.24 19 *e*P **P 03 58 31.8 -2.4**
comp=Z,53nm,1.7s
AKTO Aktyubinsk 40.88 52 LR LR 04 18 05.8
comp=Z,20nm,18.6s,baz=263,slow=39
ARU Arti 41.48 43 *c i*P **P 03 59 19.0 +0.7**
ARU S **S 04 05 37.7 +4.5**
ARU SS **SS 04 08 31.9 -5.4**
ARU pmax pmax
comp=Z,9.0nm,1.7s
ARU Arti 41.48 43 *i*P **P 03 59 19.0 +0.7**
comp=Z,9.0nm,1.7s
ARU Arti 41.48 43 *e*P **P 03 59 18.8 +0.5**
comp=Z,3.1nm,0.6s
ABKAR Akbulak array 42.17 54 *e*P **P 03 59 23.7 -0.3**
ABKAR Akbulak array 42.17 54 *e*P **P 03 59 23.7 -0.3**
BRVK Borovoye 48.31 48 *e*P P 04 00 15.6 +2.9
BRVK pmax pmax
comp=Z,5.0nm,1.1s
BRVK Borovoye 48.31 48 *e*P P 04 00 15.6 +2.9
comp=Z,5.4nm,1.1s
BRVK Borovoye 48.31 48 *e*P P 04 00 15.6 +2.9
comp=Z,5.4nm,1.1s
EKS2 Erkin-Say 52.87 60 *e*P **P 04 00 48.0 +0.6**
EKS2 pmax pmax
comp=Z,1.0nm,0.5s
EKS2 Erkin-Say 52.87 60 *e*P **P 04 00 48.0 +0.6**
comp=Z,1.2nm,0.5s
EKS2 Erkin-Say 52.87 60 *e*P **P 04 00 48.0 +0.6**
comp=Z,1.2nm,0.5s
AAK Ala-Archa 53.38 60 ⇑*e*P **P 04 00 51.7 +0.5**
AAK pmax pmax
comp=Z,11nm,2.5s
AAK Ala-Archa 53.38 60 *e*P **P 04 00 51.7 +0.5**
comp=Z,11nm,2.5s
KURK Kurchatov 53.83 49 *e*P **P 04 00 54.2 0.0**
KURK pmax pmax
comp=Z,6.0nm,0.8s
KURK Kurchatov 53.83 49 *e*P **P 04 00 54.2 0.0**
comp=Z,5.8nm,0.8s
KURK Kurchatov 53.83 49 *e*P **P 04 00 54.2 0.0**
comp=Z,5.8nm,0.8s
KSH Kashi 55.47 63 *e*P **P 04 01 07.8 +1.4**
KSH sP **sP 04 01 14.8 +2.9**
KSH PP **PP 04 03 13.5 +3.4**
KSH PcS **PcS 04 06 06.0 -0.7**
KSH S **S 04 08 52.0 +0.7**
KSH ScS **ScS 04 10 53.6 -2.1**
KSH PMZ
comp=Z,39nm,3.4s
KSH LZ
comp=Z,120nm,5.6s
ZALV Zalesovo Beam 56.62 44 P **P 04 01 14.2 0.0**
comp=Z,0.4nm,0.3s,baz=280,slow=8.6,SNR=2.8
MK31 Makanchi Array 57.31 53 *e*P **P 04 01 19.5 +0.2**
MK31 Makanchi Array 57.31 53 *e*P **P 04 01 19.5 +0.2**
MK31 Makanchi Array 57.31 53 *e*P **P 04 01 19.4 +0.2**
MKAR Makanchi Array 57.31 53 P **P 04 01 19.4 +0.1**
comp=Z,5.2nm,0.7s,baz=284,slow=9.9,SNR=53
MKAR Makanchi Array 57.31 53 P **P 04 01 19.4 +0.1**
MKAR pmax pmax
comp=Z,5.0nm,0.7s
MKAR Makanchi Array 57.31 53 *e*P **P 04 01 19.7 +0.4**
MKAR Makanchi Array 57.31 53 *e*P **P 04 01 19.7 +0.4**
RES Resolute Bay 57.93 342 *e*P **P 04 01 22.9 -0.3**
RES pmax pmax
comp=Z,3.0nm,1.0s
RES Resolute Bay 57.93 342 *e*P **P 04 01 22.9 -0.3**
comp=Z,3.4nm,1.0s
RES Resolute Bay 57.93 342 *e*P **P 04 01 22.9 -0.3**
comp=Z,3.4nm,1.0s
WMQ Urumqi 61.95 55 *e*P **P 04 01 53.5 +2.1**
WMQ pP **pP 04 01 58.1 +2.7**
WMQ sP sP 04 02 00.5 +3.6
WMQ PMZ
comp=Z,7.0nm,0.8s
WMQ PMZ
comp=Z,75nm,5.8s
WMQ LN
comp=Z,61nm,21.4s
WMQ LE
comp=Z,67nm,22.0s
WMQ LZ
comp=Z,60nm,21.4s
LBTB Lobatse 64.03 158 *e*P **P 04 02 03.2 -2.1**
LBTB pmax pmax
comp=Z,4.0nm,0.7s
LBTB Lobatse 64.03 158 *e*P **P 04 02 03.2 -2.1**
comp=Z,4.4nm,0.7s
LBTB Lobatse 64.03 158 *e*P **P 04 02 03.2 -2.1**
comp=Z,4.5nm,0.7s
ULM Lac du Bonnet 68.98 317 P **P 04 02 35.9 -0.8**
comp=Z,3.2nm,0.7s,baz=64,slow=9.5,SNR=3.1
ULM Lac du Bonnet 68.98 317 P **P 04 02 35.9 -0.8**
ULM pmax pmax
comp=Z,3.0nm,0.7s
WCI Wyandotte Cave 69.14 303 *e*P **P 04 02 37.4 -0.5**
WCI pmax pmax
comp=Z,4.0nm,0.9s
WCI Wyandotte Cave 69.14 303 *e*P **P 04 02 37.4 -0.5**

	comp=Z,4.5nm,0.9s								
WCI	**Wyandotte Cave**	**69.14**	**303**	*e*P		**P**	**04 02 37.4**	**-0.5**
	comp=Z,4.5nm,0.9s								
SUR	**Sutherland**	**69.84**	**165**	*e*P		**P**	**04 02 39.3**	**-3.0**
YKA	**Yellowknife Ar**	**70.25**	**334**	P		**P**	**04 02 44.5**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=50,slow=6.2,SNR=11								
YKA	**Yellowknife Ar**	**70.25**	**334**	P		**P**	**04 02 44.5**	**+0.2**
YKA				pmax	pmax				
	comp=Z,1.0nm,0.6s								
SONM	**Songino Array**	**71.51**	**44**	P		**P**	**04 02 53.5**	**+1.1**
	comp=Z,0.8nm,1.1s,baz=308,slow=7.1,SNR=3.0								
SONM	**Songino Array**	**71.51**	**44**	P		**P**	**04 02 53.5**	**+1.1**
SONM				pmax	pmax				
	comp=Z,1.0nm,0.9s								
ULN	**Ulaanbaatar**	**71.86**	**44**	*e*P		**P**	**04 02 56.7**	**+2.1**
ULN				pmax	pmax				
	comp=Z,3.0nm,1.7s								
ULN	**Ulaanbaatar**	**71.86**	**44**	*e*P		**P**	**04 02 56.7**	**+2.1**
	comp=Z,3.0nm,1.7s								
ECSD	**EROS Data Cent**	**72.91**	**312**	*e*P		**P**	**04 02 59.8**	**-0.9**
	comp=Z,3.4nm,0.7s								
ECSD	**EROS Data Cent**	**72.91**	**312**	*e*P		**P**	**04 02 59.9**	**-0.9**
	comp=Z,3.4nm,0.7s								
LZH	**Lanzhou**	**76.52**	**55**	*e*P		**P**	**04 03 21.1**	**-0.9**
LZH				pP		**pP**	**04 03 25.0**	**-1.1**
LZH				sP		**sP**	**04 03 27.8**	**+0.3**
LZH				PMZ					
	comp=Z,13nm,1.0s								
ILAR	**Eielson Array**	**76.97**	**348**	P		P	04 03 26.9	+3.1	
	comp=Z,3.9nm,0.8s,baz=35,slow=3.3,SNR=4.6								
HHC	**Hu-ho-hao-te**	**78.59**	**48**	*e*P		**P**	**04 03 32.3**	**-1.1**
HHC				PP		**PP**	**04 06 31.8**	**+1.1**
HHC				S		**S**	**04 13 26.8**	**-3.2**
HHC				SS		**SS**	**04 18 33.3**	**+0.5**
HHC				PMZ					
	comp=Z,13nm,0.7s								
HHC				PMZ					
	comp=Z,43nm,6.2s								
HHC				LN					
	comp=Z,90nm,17.3s								
HHC				LE					
	comp=Z,91nm,18.5s								
HHC				LZ					
	comp=Z,53nm,19.7s								
CD2	**Chengdu**	**79.44**	**60**	*e*P		**P**	**04 03 38.4**	**+0.3**
WMOK	**Wichita Mounta**	**79.46**	**305**	*e*P		**P**	**04 03 37.4**	**-0.7**
WMOK				pmax	pmax				
	comp=Z,2.0nm,0.9s								
WMOK	**Wichita Mounta**	**79.46**	**305**	*e*P		**P**	**04 03 37.4**	**-0.7**
	comp=Z,2.4nm,0.9s								
WMOK	**Wichita Mounta**	**79.46**	**305**	*e*P		**P**	**04 03 37.4**	**-0.7**
	comp=Z,2.4nm,0.9s								
PHWY	**Pilot Hill**	**79.61**	**314**	*e*P		**P**	**04 03 39.7**	**+0.5**
	comp=Z,4.9nm,0.7s								
PHWY	**Pilot Hill**	**79.61**	**314**	*e*P		**P**	**04 03 39.7**	**+0.5**
	comp=Z,4.9nm,0.7s								
BOZ	**Bozeman (W)**	**80.19**	**320**	*e*P		**P**	**04 03 42.2**	**+0.1**
BOZ				pmax	pmax				
	comp=Z,1.0nm,0.6s								
BOZ	**Bozeman (W)**	**80.19**	**320**	*e*P		**P**	**04 03 42.2**	**+0.1**
	comp=Z,1.1nm,0.6s								
BOZ	**Bozeman (W)**	**80.19**	**320**	*e*P		**P**	**04 03 42.2**	**+0.1**
	comp=Z,1.1nm,0.6s								
MOOW	**Moose Ponds**	**81.00**	**318**	*e*P		**P**	**04 03 46.9**	**+0.4**
	comp=Z,0.9nm,0.8s								
MOOW	**Moose Ponds**	**81.00**	**318**	*e*P		**P**	**04 03 46.9**	**+0.4**
	comp=Z,0.9nm,0.8s								
BW06	**Boulder Array**	**81.00**	**317**	*e*P		**P**	**04 03 46.1**	**-0.5**
	comp=Z,5.1nm,1.4s								
BW06	**Boulder Array**	**81.00**	**317**	*e*P		**P**	**04 03 46.1**	**-0.5**
	comp=Z,5.1nm,1.4s								
PDAR	**Pinedale Array**	**81.00**	**317**	P		**P**	**04 03 46.4**	**-0.2**
	comp=Z,1.2nm,0.9s,baz=52,slow=5.8,SNR=7.2								
SDCO	**Great Sand Dun**	**81.89**	**311**	*e*P		**P**	**04 03 51.1**	**-0.3**
	comp=Z,1.0nm,0.8s								
SDCO	**Great Sand Dun**	**81.89**	**311**	*e*P		**P**	**04 03 51.1**	**-0.3**
	comp=Z,1.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**83.10**	**72**	P		**P**	**04 03 57.7**	**0.0**
	comp=Z,0.8nm,0.3s,baz=308,slow=9.3,SNR=4.5								
CMAR	**Chiang Mai Arr**	**83.10**	**72**	P		**P**	**04 03 57.7**	**0.0**
CMAR				pmax	pmax				
	comp=Z,1.0nm,0.3s								
BMO	**Blue Mountains**	**83.63**	**322**	*e*P		**P**	**04 04 00.1**	**0.0**
	comp=Z,5.9nm,1.3s								
BMO	**Blue Mountains**	**83.63**	**322**	*e*P		**P**	**04 04 00.1**	**0.0**
	comp=Z,5.9nm,1.3s								
TXAR	**Lajitas Array**	**86.04**	**304**	P		**P**	**04 04 12.8**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=60,slow=4.9,SNR=5.1								
TXAR	**Lajitas Array**	**86.04**	**304**	P		**P**	**04 04 12.8**	**+0.2**
TXAR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
WRA	**Warramunga Arr**	**133.68**	**84**	PKP		**PKPdf**	**04 10 49.1**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=312,slow=1.7,SNR=4.9								
WRA	**Warramunga Arr**	**133.68**	**84**	PKIKP		**PKPdf**	**04 10 49.1**	**+0.4**
WRA				pmax	pmax				
	comp=Z,1.0nm,0.8s								
ASAR	**Alice Springs**	**135.16**	**88**	PKP		**PKPdf**	**04 10 52.7**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=320,slow=0.8,SNR=5.9								
STKA	**Stephens Creek**	**144.66**	**96**	PKP		**PKPdf**	**04 11 08.6**	**+0.2**
	comp=Z,4.8nm,0.6s,baz=311,slow=3.6,SNR=20								
STKA	**Stephens Creek**	**144.66**	**96**	*e*PKIKP		**PKPdf**	**04 11 08.4**	**0.0**
STKA	**Stephens Creek**	**144.66**	**96**	*e*PKPdf		**PKPdf**	**04 11 08.3**	**0.0**

*IDC **16** 03:52:51.2±1.6, 13°.67N×120°.67E, h157km±20km, mb2.9/4, mb1 3.1/4, mb1mx2.9/48, mbtmp3.4/4, Error ellipse: s-maj=127.7km s-min=18.0km az=67.0*

ISC 16 03:52:51.6±0.9, 13°.74N±0°.08×120°.7E±0°.1, h150km, n12, σ2s12/12, mb3.2/4, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.37**	**129**	*i* P		**Pn**	**03 53 13.7**	**+1.2**
LUBP	**Lubang**	**0.40**	**270**	*e*P		**Pn**	**03 53 13.9**	**+1.5**
TGY	**Tagaytay City**	**0.46**	**37**	P		**Pn**	**03 53 15.2**	**+2.4**
	97nm,0.3s,baz=225,slow=4.3,SNR=6.5							
TGY				S		**Sn**	**03 53 31.7**	**+2.6**
	168nm,0.3s,baz=263,slow=5.0,SNR=18							
SJMP	**San Jose**	**1.35**	**160**	*e*P		**Pn**	**03 53 21.2**	**+1.6**
SJMP				*e*S		Sn	03 53 32.0	-9.0
BUSP	**Coron**	**1.78**	**194**	*e*P		**Pn**	**03 53 25.8**	**+1.6**
BUSP				*e*S		Sn	03 53 40.7	-8.6
OTRP	**Odiongan**	**1.91**	**136**	*e*P		Sn	03 53 45.2	-6.7
ENPP	**El Nido**	**2.79**	**206**	*e*P		**Pn**	**03 53 38.6**	**+2.2**
CUYO	**Cuyo Island**	**2.89**	**173**	*e*P		**Pn**	**03 53 39.6**	**+1.9**
SONM	**Songino Array**	**36.01**	**344**	P		**P**	**03 59 37.0**	**-1.3**
	0.4nm,0.5s,baz=160,slow=7.0,SNR=4.1							
WRA	**Warramunga Arr**	**36.08**	**158**	P		**P**	**03 59 36.5**	**-2.5**
	0.4nm,0.8s,baz=331,slow=10,SNR=5.2							
ASAR	**Alice Springs**	**39.37**	**161**	P		**P**	**04 00 05.1**	**-1.6**
	0.1nm,0.3s,baz=338,slow=7.4,SNR=6.5							
MKAR	**Makanchi Array**	**45.98**	**324**	P		**P**	**04 00 59.4**	**-0.4**
	0.4nm,0.7s,baz=135,slow=6.9,SNR=4.8							

*IDC **16** 03:55:59.9±0.5, 1°.17S×120°.18E, h0km, mb4.4/21, mb1 4.5/23, mb1mx4.4/38, mbtmp4.4/23, ML4.1/2, MS3.7/18, Ms1 3.7/18, ms1mx3.6/32, Error ellipse: s-maj=17.6km s-min=11.6km az=70.0*

*ISCJB **16** 03:55:60.0±0.9, 1°.26S±0°.02×120°.15E±0°.02, h11km±6km, mb4.5/46, MS3.7/15, Error ellipse: s-maj=4.1km s-min=3.6km az=30.6*

*BJI **16** 03:56:00.9, 1°.30S×120°.20E, h10km, mb4.7/37, mB4.8/23, Ms4.5/20, Ms7 4.3/16*

*NEIC **16** 03:56:01.0±0.2, 1°.27S×120°.17E, h10km, mb4.6/19, Error ellipse: s-maj=6.7km s-min=4.9km az=55.0*

NEIC Felt at Palu.

*DJA **16** 03:56:02.4±0.2, 1°S±1°×12°0E±°, h10km, M5.0/23, mb4.9/9, mB5.8/2, MLv5.0/23, Mw(mB)5.3/2*

*MOS **16** 03:56:02.6±1.0, 1°.21S×120°.22E, h33km, mb4.9/14, Error ellipse: s-maj=15.1km s-min=7.5km az=118.3*

ISC 16 03:56:03.0±0.5, 1°.32S±0°.02×120°.10E±0°.03, h19km±1km, n162, σ1s54/192, mb4.6/46, MS3.7/15, 6C-1D, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCI	**Palu**	**0.49**	**327**	P		**Pb**	**03 56 10.1**	**-2.8**
PCI				S		**Sn**	**03 56 22.7**	**-0.2**
APSI	**Ampana**	**1.60**	**75**	P		**Pn**	**03 56 30.2**	**0.0**
APSI				S		**Sb**	**03 56 52.4**	**+0.7**
MPSI	**Mapaga**	**1.66**	**353**	P		**Pn**	**03 56 29.0**	**-2.0**
MPSI				S		**Sb**	**03 56 54.4**	**+1.1**
TTSI	**Tana Toraja**	**1.74**	**189**	P		**Pn**	**03 56 30.5**	**-1.7**
TTSI				S		**Sb**	**03 56 56.4**	**+0.6**
TOLI	**Toli-Toli**	**2.52**	**16**	*e*Pn		**Pn**	**03 56 41.1**	**-1.8**
TOLI				*e*Sn		**Sn**	**03 57 11.5**	**-1.5**
MRSI	**Marisa**	**2.56**	**46**	P		**Pn**	**03 56 40.4**	**-3.0**
MRSI				S		**Sb**	**03 57 17.3**	**-2.1**
SGKI	**Sangatta, Kali**	**2.62**	**287**	S		**Sg**	**03 57 25.7**	**-1.5**
SPSI	**Sidrap Palu**	**2.65**	**187**	P		**Pn**	**03 56 44.7**	**0.0**
SPSI				S		**Sb**	**03 57 22.0**	**-0.1**
LUWI	**Luwuk**	**2.68**	**84**	P		**Pn**	**03 56 43.9**	**-1.2**
LUWI				S		**Sb**	**03 57 22.2**	**-0.8**
LUWI	**Luwuk**	**2.68**	**84**	P		**Pn**	**03 56 44.6**	**-0.6**
	baz=2.8,SNR=116							
LUWI				S		**Sg**	**03 57 27.5**	**-1.9**
	baz=2.8,SNR=5.6							
LUWI	**Luwuk**	**2.68**	**84**	*e*Pn		**Pn**	**03 56 44.0**	**-1.1**
LUWI				*e*Pg		**Pb**	**03 56 50.9**	**+0.5**
LUWI				*e*Sn		**Sn**	**03 57 15.4**	**-1.7**
LUWI				*e*Sg		**Sb**	**03 57 24.7**	**+1.7**
BNSI	**Bone**	**3.06**	**180**	P		**Pn**	**03 56 50.9**	**+0.5**
BKB	**Balikpapan**	**3.21**	**271**	P		**Pn**	**03 56 52.0**	**-0.3**
KAPI	**Kappang**	**3.69**	**185**	Pn		**Pn**	**03 56 60.0**	**+1.0**
	23nm,0.3s,baz=349,slow=9.6,SNR=29							
KAPI				Sn		**Sb**	**03 57 48.4**	**-3.6**
	baz=234,slow=19,SNR=2.7							
KAPI				LR		LR	03 58 52.8		
	comp=Z,2μm,21.6s,baz=357,slow=45								
KAPI	**Kappang**	**3.69**	**185**	*e*Pn		**Pn**	**03 57 00.0**	**+1.0**
KAPI				*e*Pg		**Pb**	**03 57 10.0**	**+2.4**
KAPI				Sn		**Sb**	**03 57 48.4**	**-3.6**
BKSI	**Bulukumba**	**3.98**	**180**	P		**Pn**	**03 57 05.0**	**+2.0**
KMSI	**Cibinong**	**4.31**	**64**	P		**Pn**	**03 57 09.0**	**+1.5**
KBKI	**Kotabaru**	**4.40**	**243**	P		**Pn**	**03 57 07.0**	**-1.7**
KBKI				S		**Sn**	**03 57 57.1**	**-2.3**
BSSI	**Bau Bau, Buton**	**4.81**	**175**	P		**Pn**	**03 57 16.1**	**+1.7**
BBSI	**Bau Bau**	**4.82**	**149**	P		**Pn**	**03 57 16.2**	**+1.6**
MTKI	**Muara Teweh, K**	**5.22**	**274**	P		**Pn**	**03 57 19.3**	**-0.7**
	41nm,0.7s,0.2nm							
BBKI	**Banjar Baru**	**5.67**	**248**	P		**Pn**	**03 57 26.1**	**-0.2**
	182nm,0.8s,1.4nm							
BBKI				S		**Sn**	**03 58 32.2**	**+1.3**
	182nm,0.8s,1.4nm							
SANI	**Sanana**	**5.93**	**97**	P		**Pn**	**03 57 27.6**	**-2.2**
SANI				S		**Sn**	**03 58 35.9**	**-1.4**
NLAI	**Namlea**	**7.25**	**105**	P		**Pn**	**03 57 45.5**	**-2.4**
LBMI	**Labuha**	**7.43**	**85**	P		**Pn**	**03 57 48.8**	**-1.6**
	210nm,0.9s,2μm1.9nm							
EDFI	**Ende, Flores**	**7.55**	**168**	P		Pn	03 57 56.8	+4.6	
TNTI	**Ternate**	**7.55**	**74**	P		**Pn**	**03 57 52.8**	**+0.6**
	76nm,1.0s,0.4nm							
MMRI	**Maumere**	**7.58**	**164**	P		**Pn**	**03 57 54.6**	**+2.1**
	70nm,0.8s,0.2nm							
KKM	**Kota Kinabalu**	**8.28**	**332**	P		Pn	03 58 07.6	+5.4	
	baz=8.4,SNR=5.1							
KKM				S		**Sn**	**03 59 40.3**	**+5.0**
	baz=8.4,SNR=4.6							
KKM	**Kota Kinabalu**	**8.28**	**332**	*e*Pn		**Pn**	**03 58 02.4**	**+0.3**
PBKI	**Pangkalan Bun**	**8.54**	**261**	P		Pn	03 58 09.7	+4.0	
SBUM	**Sibu**	**8.72**	**295**	*e*Pn		**Pn**	**03 58 08.0**	**-0.2**
STKI	**Sintang**	**8.73**	**279**	P		**Pn**	**03 58 07.6**	**-0.7**
	100nm,1.1s,16μm							
JAGI	**Jajag, Banyuwa**	**9.25**	**220**	*e*Pn		**Pn**	**03 58 14.1**	**-1.4**
	61nm,1.1s							
SOEI	**Soe**	**9.35**	**154**	P		Pn	03 58 20.4	+3.5	
KSM	**Kuching**	**10.18**	**286**	P		**Pn**	**03 58 27.5**	**-0.7**
	baz=10,SNR=11							
KSM	**Kuching**	**10.18**	**286**	*e*Pn		**Pn**	**03 58 26.9**	**-1.2**
SIJI	**Sorong**	**11.17**	**88**	Pn		**Pn**	**03 58 41.5**	**-0.3**
	1.0nm,0.3s,baz=294,slow=7.3,SNR=7.5							
SIJI				Sn		**Sn**	**04 00 44.9**	**-1.4**
	0.4nm,0.3s,baz=180,slow=20,SNR=2.5							
SIJI				LR		LR	04 03 28.9		
	comp=Z,302nm,20.2s,baz=322,slow=40								
FAKI	**Fak Fak**	**12.24**	**98**	P		**Pn**	**03 58 55.1**	**-1.4**
	baz=12,SNR=7.2							
FAKI				S		**Sn**	**04 01 12.0**	**-0.5**
	baz=12,SNR=3.2							
FAKI	**Fak Fak**	**12.24**	**98**	*e*Pn		Pn	03 58 53.0	-3.4	
LEM	**Lembang**	**13.60**	**246**	LR		LR	04 05 23.4		
	comp=Z,637nm,19.2s,baz=104,slow=41								
MYKOM	**Kota Tinggi**	**16.54**	**281**	*e*Pn		**Pn**	**03 59 54.8**	**+0.8**
	48nm,1.5s							
BTDF	**Bukit Timah Da**	**16.54**	**279**	P		**Pn**	**03 59 51.7**	**-2.4**
	baz=16,SNR=3.8							
MBWA	**Marble Bar**	**19.73**	**181**	*e*P		**P**	**04 00 31.1**	**-0.5**
	16nm,0.9s							
IPM	**Ipoh**	**19.91**	**287**	*e*P		**P**	**04 00 34.4**	**+0.7**
	31nm,1.1s							
KULM	**Kulim**	**20.51**	**289**	*e*P		**P**	**04 00 40.1**	**-0.1**
	26nm,1.4s							
JAY	**Jayapura**	**20.63**	**94**	P		**P**	**04 00 41.7**	**+0.2**
	17nm,1.0s,baz=292,slow=4.5,SNR=4.9							
JAY				LR		LR	04 10 44.0		
	comp=Z,181nm,20.7s,baz=322,slow=43								
SKLT	**Songkhla**	**21.19**	**294**	P		**P**	**04 00 51.0**	**+3.5**
	39nm,0.7s							
PSI	**Prapat**	**21.56**	**281**	P		**P**	**04 00 53.4**	**+1.7**
	31nm,1.0s,baz=99,slow=9.1,SNR=11							
PSI				LR		LR	04 11 54.1		
	comp=Z,269nm,18.0s,baz=106,slow=44								
TRTT	**Trang**	**22.29**	**294**	P		**P**	**04 01 01.3**	**+1.9**
	29nm,1.3s							
CHBT	**CHBT**	**22.50**	**309**	P		P	04 01 10.0	+8.4	
WRAB	**Tennant Creek**	**23.17**	**144**	*c i* P		**P**	**04 01 08.1**	**-0.5**
WRAB				pmax	pmax				
	comp=Z,163nm,1.7s								
WRAB	**Tennant Creek**	**23.17**	**144**	*e*P		**P**	**04 01 06.9**	**-1.7**
	comp=Z,39nm,1.0s								
WRA	**Warramunga Arr**	**23.17**	**144**	P		**P**	**04 01 06.2**	**-2.4**
	comp=Z,18nm,0.8s,baz=322,slow=11,SNR=41								
SURT	**Suratani**	**23.56**	**296**	P		**P**	**04 01 15.2**	**+2.7**
	comp=Z,13nm,1.2s								
SKNT	**Sakolnakorn**	**24.15**	**319**	P		**P**	**04 01 18.1**	**0.0**
YULB	**Yu-li**	**24.59**	**3**	*e*P		**P**	**04 01 21.9**	**-0.1**
	comp=Z,13nm,0.8s								
WRKA	**Warakurna**	**24.88**	**162**	P		**P**	**04 01 25.6**	**+0.9**
	baz=25,SNR=27							
SSLB	**Suanglung**	**24.97**	**2**	*e*P		**P**	**04 01 26.0**	**+0.5**
MEEK	**Meekatharra**	**25.22**	**183**	P		**P**	**04 01 27.6**	**-0.1**
	baz=25,SNR=4.6							
AS31	**Alice Springs**	**25.94**	**150**	*e*P		**P**	**04 01 35.1**	**+0.8**
ASAR	**Alice Springs**	**25.94**	**150**	P		**P**	**04 01 34.0**	**-0.3**
	comp=Z,6.4nm,0.8s,baz=321,slow=7.8,SNR=23								
ASAR				PcP		**PcP**	**04 05 04.7**	**+1.7**
	comp=Z,1.2nm,0.5s,baz=332,slow=2.1,SNR=9.7								
ASAR				LR		LR	04 12 36.2		
	comp=Z,295nm,21.5s,baz=321,slow=38								
CMAR	**Chiang Mai Arr**	**28.62**	**314**	P		**P**	**04 01 58.9**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=137,slow=8.1,SNR=7.0								
GUMO	**Guam**	**28.67**	**58**	LR		LR	04 10 51.8		
	comp=Z,64nm,21.1s,baz=126,slow=31								
CHTO	**Chiang Mai**	**28.86**	**315**	*e*P		**P**	**04 01 59.0**	**-1.5**
CHTO	**Chiang Mai**	**28.86**	**315**	*e*P		**P**	**04 01 59.0**	**-1.5**
FORT	**Forrest**	**30.26**	**166**	P		**P**	**04 02 13.2**	**+0.4**
	baz=30,SNR=7.9							
FORT	**Forrest**	**30.26**	**166**	*e*P		**P**	**04 02 12.2**	**-0.6**
	comp=Z,16nm,0.8s								
KMI	**Kunming**	**31.20**	**329**	P		**P**	**04 02 23.6**	**+2.1**
KMI				PMZ					
	comp=Z,8.0nm,1.1s								
WHN	**Wuhan**	**32.15**	**351**	P		**P**	**04 02 32.5**	**+3.0**
WHN				S		**S**	**04 07 46.3**	**+5.0**
WHN				LZ					
	comp=Z,530nm,12.8s								
NJ2	**Nanjing**	**33.21**	**358**	*e*P		**P**	**04 02 38.3**	**-0.4**
NJ2				S		**S**	**04 07 58.5**	**+0.8**
NJ2				PMZ					
	comp=Z,30nm,0.5s								
NJ2				LN					
	comp=Z,410nm,12.4s								
NJ2				LE					
	comp=Z,640nm,11.8s								
QLP	**Quilpie**	**34.19**	**139**	P		**P**	**04 02 49.0**	**+1.6**
	baz=34,SNR=6.6							
BBOO	**Buckleboo**	**34.74**	**156**	P		**P**	**04 02 52.1**	**0.0**
	baz=35,SNR=6.6							
BBOO	**Buckleboo**	**34.74**	**156**	*e*P		**P**	**04 02 52.1**	**0.0**
CBIJ	**Chichi jima**	**35.36**	**35**	P		**P**	**04 02 57.0**	**-0.4**
JCJ	**Chichijima**	**35.36**	**35**	P		**P**	**04 02 57.0**	**-0.4**
	comp=Z,67nm,0.8s,baz=270,slow=17,SNR=3.6								
JCJ				LR		LR	04 15 07.0		
	comp=Z,96nm,21.3s,baz=152,slow=33								
CD2	**Chengdu**	**35.62**	**335**	*e*P		**P**	**04 03 02.0**	**+2.3**
CD2				sP		**sP**	**04 03 07.8**	**-0.3**
CD2				S		**S**	**04 08 36.1**	**+1.0**
CD2				SS		**SnSn**	**04 10 56.5**	**-0.3**
CD2				PMZ					
	comp=Z,20nm,0.9s								
CD2				PMZ					
	comp=Z,50nm,7.0s								
CD2				LN					
	comp=Z,190nm,17.8s								
CD2				LZ					
	comp=Z,130nm,19.0s								
JNU	**Nakatsue**	**35.73**	**16**	LR		LR	04 18 51.6		
	comp=Z,102nm,19.1s,baz=204,slow=39								
HTT	**Hallett**	**36.50**	**153**	P		**P**	**04 03 08.5**	**+1.2**
	baz=36,SNR=14								
STKA	**Stephens Creek**	**36.55**	**148**	P		**P**	**04 03 07.2**	**-0.4**
	comp=Z,12nm,0.8s,baz=316,slow=8.4,SNR=24								
STKA				LR		LR	04 18 56.1		
	comp=Z,184nm,19.4s,baz=337,slow=38								
STKA	**Stephens Creek**	**36.55**	**148**	*e*P		**P**	**04 03 07.2**	**-0.4**
STKA				pmax	pmax				
	comp=Z,5.0nm,1.0s								
STKA	**Stephens Creek**	**36.55**	**148**	P		**P**	**04 03 08.7**	**+1.1**
	baz=37,SNR=16								
STKA	**Stephens Creek**	**36.55**	**148**	*e*P		**P**	**04 03 07.2**	**-0.4**
	comp=Z,4.5nm,1.0s								
XAN	**Xi'an**	**36.71**	**344**	P		**P**	**04 03 12.0**	**+3.0**
XAN				pP		**pP**	**04 03 16.8**	**+1.9**
XAN				S		S	04 08 44.8	-6.9
XAN				PMZ					
	comp=Z,2.0nm,0.6s								
XAN				LN					
	comp=Z,170nm,20.4s								
TIA	**Tai'an**	**37.44**	**356**	*i*P		**P**	**04 03 17.6**	**+2.5**
TIA				PMZ					
	comp=Z,10.0nm,0.7s								
KSAR	**Wonju Array Be**	**39.23**	**10**	P		**P**	**04 03 29.3**	**-0.9**
KSAR	**Wonju Array Be**	**39.23**	**10**	P		**P**	**04 03 29.2**	**-0.9**
KSRS	**Korea Array**	**39.25**	**10**	P		**P**	**04 03 29.2**	**-1.0**
	comp=Z,1.9nm,0.7s,baz=188,slow=10.0,SNR=9.8								
KSRS				LR		LR	04 21 21.2		
	comp=Z,114nm,18.6s,baz=172,slow=39								
KSRS	**Korea Array**	**39.25**	**10**	P		**P**	**04 03 29.3**	**-1.0**
KSRS				pmax	pmax				
	comp=Z,2.0nm,0.7s								
KSRS				MLR		MLR			
	comp=Z,114nm,18.6s								
LZH	**Lanzhou**	**40.18**	**339**	*e*P		**P**	**04 03 40.0**	**+1.7**
LZH				pP		**pP**	**04 03 44.8**	**+0.5**
LZH				sP		**sP**	**04 03 47.1**	**+0.4**
LZH				PMZ					
	comp=Z,14nm,1.0s								
ARPS	**Mount Arapiles**	**40.60**	**153**	P		**P**	**04 03 43.1**	**+1.6**
	baz=41,SNR=8.0								
MAJO	**Matsushiro**	**41.26**	**22**	*i*P		**P**	**04 03 45.6**	**-1.4**
MAJO				pmax	pmax				
	comp=Z,95nm,1.7s								
MAJO	**Matsushiro**	**41.26**	**22**	*e*P		**P**	**04 03 46.2**	**-0.8**
	comp=Z,2.8nm,0.7s								
MJAR	**Matsushiro Arr**	**41.26**	**22**	P		P	04 03 43.6	-3.5	
	comp=Z,2.7nm,0.8s,baz=197,slow=9.1,SNR=11								
MJAR				LR		LR	04 19 04.7		
	comp=Z,126nm,21.4s,baz=215,slow=34								
BJI	**Beijing**	**41.31**	**355**	P		**P**	**04 03 48.1**	**+0.7**
BJI				S		**S**	**04 10 01.3**	**+0.6**
BJI				PMZ					
	comp=Z,21nm,0.7s								
BJI				PMZ					
	comp=Z,83nm,3.6s								
BJI				LN					
	comp=Z,210nm,20.4s								
BJI				LE					
	comp=Z,150nm,21.2s								
ODAN	**Odare**	**42.17**	**314**	*e*P		**P**	**04 03 55.7**	**+0.8**
	comp=Z,42nm,1.2s								
TAPN	**Taplejung**	**42.23**	**315**	*e*P		**P**	**04 03 56.0**	**+0.5**
HHC	**Hu-ho-hao-te**	**42.68**	**350**	*e*P		**P**	**04 04 00.8**	**+2.1**
HHC				PP		**PP**	**04 05 42.9**	**+5.0**
HHC				S		**S**	**04 10 24.8**	**+3.6**
HHC				sS		**sS**	**04 10 32.3**	**+1.1**
HHC				SS		**SS**	**04 13 29.8**	**-2.3**
HHC				PMZ					
	comp=Z,22nm,1.1s								
HHC				PMZ					
	comp=Z,120nm,6.2s								
HHC				LN				

MK31	**Makanchi Array**	**58.26**	**330**	P		**P**	**04 05 56.5**	**+0.2**
	baz=58,SNR=5.1							
MK31	**Makanchi Array**	**58.26**	**330**	*eP*		**P**	**04 05 55.9**	**-0.4**
MKAR	**Makanchi Array**	**58.26**	**330**	P		**P**	**04 05 56.1**	**-0.2**
	comp=Z,8.4nm,0.8s,baz=164,slow=5.1,SNR=29							
MKAR				LR		LR	04 34 34.7	
	comp=Z,27nm,19.3s,baz=142,slow=40							
TKM2	**Tokmak 2**	**59.45**	**323**	*eP*		**P**	**04 06 04.0**	**-0.9**
TKM2				pmax		pmax		
	comp=Z,5.0nm,1.0s							
TKM2	**Tokmak 2**	**59.45**	**323**	*eP*		**P**	**04 06 04.0**	**-0.9**
	comp=Z,5.2nm,1.0s							
KBL	**Kabul**	**59.61**	**312**	*eP*		**P**	**04 06 06.8**	**+0.6**
KBL				pmax		pmax		
	comp=Z,9.0nm,0.5s							
KBL	**Kabul**	**59.61**	**312**	*eP*		**P**	**04 06 06.8**	**+0.6**
	comp=Z,8.6nm,0.5s							
AAK	**Ala-Archa**	**59.95**	**322**⇓	*eP*		**P**	**04 06 09.2**	**+0.9**
AAK				pmax		pmax		
	comp=Z,11nm,1.7s							
AAK	**Ala-Archa**	**59.95**	**322**	*eP*		**P**	**04 06 07.3**	**-1.0**
	comp=Z,10nm,1.3s							
EKS2	**Erkin-Say**	**60.41**	**322**	*eP*		**P**	**04 06 12.0**	**+0.7**
EKS2				pmax		pmax		
	comp=Z,3.0nm,0.9s							
EKS2	**Erkin-Say**	**60.41**	**322**	*eP*		**P**	**04 06 12.0**	**+0.7**
	comp=Z,3.4nm,0.9s							
ZAA0	**Zalesovo Array**	**62.35**	**337**	P		**P**	**04 06 22.8**	**-1.3**
	baz=63,SNR=3.3							
ZAA0	**Zalesovo Array**	**62.35**	**337**	*eP*		**P**	**04 06 22.4**	**-1.7**
ZALV	**Zalesovo Beam**	**62.35**	**337**	P		**P**	**04 06 22.3**	**-1.9**
	comp=Z,7.8nm,1.0s,baz=130,slow=6.0,SNR=16							
PETK	**Petropavlovsk-**	**62.66**	**24**	P		**P**	**04 06 26.3**	**+0.1**
	comp=Z,3.4nm,0.8s,baz=189,slow=8.4,SNR=4.9							
PETK				LR		LR	04 32 07.6	
	comp=Z,39nm,21.9s,baz=220,slow=35							
KKAR	**Karatay Array**	**62.67**	**321**	*eP*		**P**	**04 06 25.8**	**-0.7**
KKAR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
KKAR	**Karatay Array**	**62.67**	**321**	*eP*		**P**	**04 06 25.8**	**-0.7**
	comp=Z,1.9nm,0.7s							
KURBB	**Kurchatov Arra**	**62.69**	**332**	P		**P**	**04 06 25.5**	**-0.9**
	comp=Z,4.2nm,0.6s,baz=137,slow=6.3,SNR=30							
KURK	**Kurchatov**	**62.71**	**332**	P		**P**	**04 06 25.3**	**-1.2**
KURK				pmax		pmax		
	comp=Z,8.0nm,0.8s							
KURK	**Kurchatov**	**62.71**	**332**	*eP*		**P**	**04 06 25.5**	**-1.1**
	comp=Z,17nm,0.8s							
YAK	**Yakutsk**	**63.60**	**5**	*eP*		**P**	**04 06 31.4**	**-0.8**
YAK				pmax		pmax		
	comp=Z,12nm,0.8s							
BVAR	**Borovoye Array**	**68.14**	**330**	P		**P**	**04 07 00.2**	**-1.5**
	comp=Z,3.2nm,0.8s,baz=147,slow=8.6,SNR=15							
BRVK	**Borovoye**	**68.21**	**330**	*eP*		**P**	**04 07 01.1**	**-1.1**
BRVK				pmax		pmax		
	comp=Z,8.0nm,1.0s							
BRVK	**Borovoye**	**68.21**	**330**	*eP*		**P**	**04 07 01.1**	**-1.1**
	comp=Z,7.9nm,1.0s							
GEYT	**Alibeck**	**69.06**	**312**	P		**P**	**04 07 08.0**	**+0.2**
	comp=Z,3.6nm,0.7s,baz=29,slow=3.3,SNR=3.1							
AB31	**Akbulak array**	**72.02**	**323**	*i P*		**P**	**04 07 24.0**	**-1.6**
AB31				pmax		pmax		
	comp=Z,1.0nm,0.5s							
ABKAR	**Akbulak array**	**72.02**	**323**	*eP*		**P**	**04 07 23.8**	**-1.8**
AKTO	**Aktyubinsk**	**73.63**	**324**	P		**P**	**04 07 33.3**	**-1.9**
	comp=Z,1.6nm,0.7s,baz=124,slow=5.7,SNR=7.0							
SVE	**Sverdlovsk**	**74.92**	**331**	*eP*		**P**	**04 07 41.4**	**-1.1**
ARU	**Arti**	**75.78**	**330**	*d iP*		P	04 07 41.8	-5.6
ARU				S		S	04 17 20.7	-7.6
ARU				pmax		pmax		
	comp=Z,6.0nm,1.7s							
ARU	**Arti**	**75.78**	**330**	*eP*		**P**	**04 07 45.4**	**-2.0**
	comp=Z,5.5nm,1.1s							
MAW	**Mawson**	**76.80**	**199**	P		**P**	**04 07 53.5**	**+0.6**
	comp=Z,3.5nm,0.7s,baz=53,slow=5.1,SNR=3.5							
VNDA	**Vanda**	**79.37**	**172**	P		**P**	**04 08 07.7**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=306,slow=6.3,SNR=7.2							
VNDA				LR		LR	04 44 09.5	
	comp=Z,108nm,18.4s,baz=244,slow=36							
ZEI	**Tsey**	**80.79**	**314**	*eP*		**P**	**04 08 16.8**	**+1.0**
ZEI				pmax		pmax		
	comp=Z,11nm,1.3s							
KBZ	**Khabaz**	**81.67**	**314**	P		P	04 08 23.5	+3.4
	comp=Z,2.3nm,0.9s,baz=236,slow=24,SNR=6.6							
ASF	**Jabal al Asfar**	**84.94**	**302**	P		**P**	**04 08 37.4**	**0.0**
	comp=Z,1.4nm,0.3s,baz=173,slow=2.4,SNR=6.7							
MMAI	**Mount Meron Ar**	**86.26**	**303**	P		**P**	**04 08 45.4**	**+1.4**
	comp=Z,0.9nm,0.4s,baz=58,slow=8.7,SNR=6.2							
EIL	**Elat**	**86.43**	**300**	P		P	04 08 49.1	+4.3
	comp=Z,3.1nm,0.8s,baz=204,slow=2.3,SNR=3.5							
KLMR	**Klimovskoe**	**86.55**	**331**	*eP*		**P**	**04 08 43.1**	**-1.5**
KLMR				pmax		pmax		
	comp=Z,13nm,1.2s							
BRTR	**Keskin Array B**	**88.11**	**310**	P		**P**	**04 08 54.0**	**+1.2**
	comp=Z,1.2nm,0.8s,baz=111,slow=6.8,SNR=5.2							
PPT	**Papeete**	**89.92**	**107**	LR		LR	04 49 23.1	
	comp=Z,27nm,18.5s,baz=261,slow=36							
BUR08	**Bucovina Ar. S**	**94.28**	**317**	*eP*		**P**	**04 09 21.2**	**0.0**
SNAA	**Sanae**	**98.65**	**196**⇑	*iP*		**P**	**04 09 38.4**	**-2.2**
SNAA				pmax		pmax		
	comp=Z,7.0nm,1.7s							
TORD	**Torodi Ar. Bea**	**117.93**	**284**	PKP		**PKPdf**	**04 14 48.2**	**-1.3**
	comp=Z,0.6nm,0.9s,baz=110,slow=3.3,SNR=3.9							
PDAR	**Pinedale Array**	**119.47**	**40**	PKKPbc		PKKPbc	04 25 03.5	-1.3
	comp=Z,0.7nm,0.8s,baz=118,slow=5.7,SNR=5.8							
CFAA	**Coronel Fontan**	**146.32**	**167**	PKPbc		**PKPab**	**04 15 44.1**	**+0.2**
	comp=Z,1.3nm,1.1s,baz=230,slow=3.4,SNR=13							
BDFB	**Brasilia**	**159.46**	**214**	PKPab		**PKPab**	**04 16 39.4**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=63,slow=4.5,SNR=4.4							
LPAZ	**La Paz**	**160.71**	**155**	PKPab		**PKPab**	**04 16 46.0**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=284,slow=2.9,SNR=4.1							

*ISCJB **16** 03:57:12.4±0.4,37.83N±0.02×21.16E±0.02,h6km±3km, Error ellipse: s-maj=3.2km s-min=3.1km az=149.0*
*THE **16** 03:57:12.5,37.81N×21.15E,h0km±2km,ML3.5/6,Error ellipse: s-maj=2.8km s-min=0.8km az=268.0*
*ATH **16** 03:57:12.6,37.86N×21.15E,h11km,MD3.6/27,ML3.1*
*CSEM **16** 03:57:12.8±0.2,37.85N×21.17E,h2km,ML3.5,Error ellipse: s-maj=3.6km s-min=2.9km az=55.0*

ISC 16 03:57:12.9±0.8,37.83N±0.02×21.15E±0.02,h17km±6km, n101,σ0.972/132,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VTN	**Vitineika**	**0.09**	**18**	P		**Pg**	**03 57 16.7**	**+0.4**
ZKS	**Zakynthos**	**0.32**	**245**	P		**Pg**	**03 57 19.4**	**-0.4**
ZKS	**Zakynthos**	**0.32**	**245**	P		**Pg**	**03 57 19.4**	**-0.4**
ZKS				S		**Sg**	**03 57 25.1**	**+0.7**
RLS	**Riolos of Patr**	**0.33**	**48**	P		**Pg**	**03 57 19.7**	**-0.3**
RLS	**Riolos of Patr**	**0.33**	**48**	*e*PB		**Pg**	**03 57 19.7**	**-0.3**
RLS				*e*SB		**Sg**	**03 57 24.0**	**-0.8**
RLS	**Riolos of Patr**	**0.33**	**48**	P		**Pg**	**03 57 19.7**	**-0.3**
RLS				*e*Sb		**Sg**	**03 57 24.0**	**-0.8**
RLS				S		**Sb**	**03 57 25.0**	**-0.5**
KFL	**Anninata**	**0.40**	**314**	P		**Pg**	**03 57 20.9**	**-0.2**
KFL	**Anninata**	**0.40**	**314**	P		**Pg**	**03 57 20.8**	**-0.3**
KFL				S		**Sg**	**03 57 27.6**	**+0.9**
DRO	**Drossia**	**0.46**	**75**	P		**Pg**	**03 57 21.6**	**-0.6**
DRO				S		**Sg**	**03 57 29.0**	**+0.6**
DRO	**Drossia**	**0.46**	**75**	*e*PB		**Pg**	**03 57 21.6**	**-0.6**
DRO				*e*SB		**Sg**	**03 57 28.1**	**-0.3**
DRO	**Drossia**	**0.46**	**75**	P		**Pg**	**03 57 21.5**	**-0.6**
DRO				*e*Sb		**Sg**	**03 57 28.1**	**-0.3**
DRO				S		**Sg**	**03 57 29.0**	**+0.6**
AMT	**Artemida-Makis**	**0.54**	**124**	P		**Pg**	**03 57 22.7**	**-0.9**
AMT				S		**Sg**	**03 57 31.3**	**+0.5**
AMT	**Artemida-Makis**	**0.54**	**124**	*e*PB		**Pg**	**03 57 22.9**	**-0.7**
AMT				*e*SB		**Sg**	**03 57 31.4**	**+0.6**
AMT	**Artemida-Makis**	**0.54**	**124**	P		**Pg**	**03 57 22.5**	**-1.1**
AMT	**Artemida-Makis**	**0.54**	**124**	*e*Pb		**Pg**	**03 57 22.9**	**-0.7**
AMT				S		**Sg**	**03 57 31.3**	**+0.5**
VLS	**Valsamata**	**0.56**	**308**	P		**Pg**	**03 57 23.4**	**-0.7**
VLS	**Valsamata**	**0.56**	**308**	*e*PB		**Pg**	**03 57 23.4**	**-0.7**
VLS				*e*SB		**Sg**	**03 57 31.3**	**-0.3**
VLS	**Valsamata**	**0.56**	**308**	P		**Pg**	**03 57 23.6**	**-0.5**
VLS				*e*Sb		**Sg**	**03 57 31.3**	**-0.3**
SFD	**Strofades**	**0.59**	**190**	*e*PB		**Pg**	**03 57 24.4**	**-0.2**
SFD				*e*SB		**Sg**	**03 57 33.0**	**+0.5**
SFD	**Strofades**	**0.59**	**190**	*e*Pb		**Pg**	**03 57 24.4**	**-0.2**
SFD				*e*Sb		**Sg**	**03 57 33.0**	**+0.5**
UPR	**University Cam**	**0.67**	**48**	P		**Pg**	**03 57 26.2**	**0.0**
UPR	**University Cam**	**0.67**	**48**	P		**Pg**	**03 57 26.2**	**0.0**
PDO	**Prodromos**	**0.76**	**2**	P		**Pb**	**03 57 27.5**	**-0.3**
PDO	**Prodromos**	**0.76**	**2**	*e*PB		**Pb**	**03 57 27.4**	**-0.3**
PDO	**Prodromos**	**0.76**	**2**	P		**Pb**	**03 57 27.4**	**-0.3**
KLV	**Kalavryta, Ach**	**0.82**	**75**	P		**Pb**	**03 57 27.7**	**-1.0**
KLV	**Kalavryta, Ach**	**0.82**	**75**	*e*PB		**Pb**	**03 57 28.0**	**-0.7**
KLV				*e*SB		**Sb**	**03 57 39.8**	**+0.3**
KLV	**Kalavryta, Ach**	**0.82**	**75**	P		**Pb**	**03 57 28.0**	**-0.7**
KLV				*e*Sb		**Sb**	**03 57 39.8**	**+0.3**
PVO	**Paravola**	**0.83**	**21**	P		**Pb**	**03 57 29.1**	**+0.1**
PVO	**Paravola**	**0.83**	**21**	P		**Pb**	**03 57 28.7**	**-0.3**
EFP	**Efpalio**	**0.84**	**45**	P		**Pb**	**03 57 28.2**	**-0.9**
EFP				S		**Sn**	**03 57 41.8**	**-0.1**
EFP	**Efpalio**	**0.84**	**45**	*e*PG		**Pb**	**03 57 28.0**	**-1.1**
EFP				*e*SB		**Sb**	**03 57 40.0**	**0.0**
EFP	**Efpalio**	**0.84**	**45**	P		**Pb**	**03 57 28.2**	**-0.9**
EFP				*e*Sb		**Sb**	**03 57 40.0**	**0.0**
ITM	**Ithomi**	**0.90**	**136**	P		**Pb**	**03 57 28.9**	**-1.2**
ITM	**Ithomi**	**0.90**	**136**	*e*PG		**Pb**	**03 57 29.6**	**-0.5**
ITM				*e*SB		**Sg**	**03 57 42.7**	**+0.5**
ITM	**Ithomi**	**0.90**	**136**	P		**Pb**	**03 57 28.9**	**-1.2**
ITM	**Ithomi**	**0.90**	**136**	*e*Pg		**Pb**	**03 57 29.6**	**-0.5**
ITM				S		**Sg**	**03 57 42.7**	**+0.5**
GUR	**Goura**	**0.95**	**83**	P		**Pb**	**03 57 29.9**	**-1.1**
GUR				S		**Sg**	**03 57 44.4**	**+0.6**
GUR	**Goura**	**0.95**	**83**	*e*PG		**Pb**	**03 57 30.5**	**-0.5**
GUR				*e*SB		**Sb**	**03 57 43.5**	**+0.2**
GUR	**Goura**	**0.95**	**83**	P		**Pb**	**03 57 29.9**	**-1.1**
GUR	**Goura**	**0.95**	**83**	*e*Pg		**Pb**	**03 57 30.5**	**-0.5**
GUR				*e*Sb		**Sb**	**03 57 43.5**	**+0.2**
GUR				S		**Sg**	**03 57 44.4**	**+0.6**
KALE	**Kalithea**	**0.96**	**54**	P		**Pb**	**03 57 30.4**	**-0.7**
KALE	**Kalithea**	**0.96**	**54**	*e*PG		**Pb**	**03 57 30.1**	**-1.0**
KALE				*e*SB		**Sb**	**03 57 43.6**	**+0.1**
KALE	**Kalithea**	**0.96**	**54**	*e*Pg		**Pb**	**03 57 30.1**	**-1.0**
KALE	**Kalithea**	**0.96**	**54**	P		**Pb**	**03 57 30.4**	**-0.7**
KALE				*e*Sb		**Sb**	**03 57 43.6**	**+0.1**
LKD2	**Lefkada island**	**1.03**	**338**	P		**Pb**	**03 57 31.8**	**-0.5**
LKD2	**Lefkada island**	**1.03**	**338**	*e*PG		**Pb**	**03 57 31.5**	**-0.8**
LKD2	**Lefkada island**	**1.03**	**338**	*e*Pg		**Pb**	**03 57 31.5**	**-0.8**
LKD2	**Lefkada island**	**1.03**	**338**	P		**Pb**	**03 57 31.8**	**-0.5**
PYL	**PYLOS**	**1.05**	**153**	P		**Pb**	**03 57 31.1**	**-1.5**
PYL				S		**Sb**	**03 57 46.3**	**+0.2**
PYL	**PYLOS**	**1.05**	**153**	*e*PB		**Pb**	**03 57 31.1**	**-1.5**
PYL	**PYLOS**	**1.05**	**153**	P		**Pb**	**03 57 31.1**	**-1.5**
PYL				S		**Sb**	**03 57 46.3**	**+0.2**
VLX	**Vlachokerasia**	**1.08**	**115**	P		**Pb**	**03 57 33.1**	**-0.1**
VLX	**Vlachokerasia**	**1.08**	**115**	*e*PG		**Pb**	**03 57 32.9**	**-0.3**
VLX	**Vlachokerasia**	**1.08**	**115**	P		**Pb**	**03 57 33.1**	**-0.1**
EVR	**Evrytania**	**1.20**	**25**	*e*PG		**Pn**	**03 57 34.7**	**-0.3**
EVR	**Evrytania**	**1.20**	**25**	P		**Pn**	**03 57 34.4**	**-0.6**
EVR	**Evrytania**	**1.20**	**25**	*e*Pg		**Pn**	**03 57 34.7**	**-0.3**
DSF	**Desfina**	**1.23**	**62**	P		**Pn**	**03 57 35.1**	**-0.3**
DSF	**Desfina**	**1.23**	**62**	*e*PN		**Pn**	**03 57 34.9**	**-0.5**
DSF	**Desfina**	**1.23**	**62**	P		**Pn**	**03 57 35.1**	**-0.3**
DSL	**Palaion Diasel**	**1.30**	**358**	*e*PB		**Pn**	**03 57 36.7**	**+0.4**
DSL	**Palaion Diasel**	**1.30**	**358**	*e*Pb		**Pn**	**03 57 36.7**	**+0.4**
LTK	**Loutraki**	**1.45**	**82**	*e*PB		**Pg**	**03 57 40.7**	**-0.1**
LTK	**Loutraki**	**1.45**	**82**	*e*Pb		**Pg**	**03 57 40.7**	**-0.1**
AGG	**Agios Georgios**	**1.50**	**38**	*e*PB		**Pb**	**03 57 41.0**	**+0.6**
AGG	**Agios Georgios**	**1.50**	**38**	*e*Pb		**Pb**	**03 57 41.0**	**+0.6**
AXAR	**Agios Charalam**	**1.51**	**51**	P		**Pn**	**03 57 39.8**	**+0.6**
AXAR				S		**Sg**	**03 58 02.0**	**+0.4**
AXAR	**Agios Charalam**	**1.51**	**51**	*e*PB		**Pb**	**03 57 40.8**	**+0.3**
AXAR	**Agios Charalam**	**1.51**	**51**	P		**Pn**	**03 57 39.8**	**+0.6**
AXAR	**Agios Charalam**	**1.51**	**51**	*e*Pb		**Pb**	**03 57 40.8**	**+0.3**
AXAR				S		**Sg**	**03 58 02.0**	**+0.4**
LKR	**Lokris**	**1.67**	**60**	*e*PB		**Pb**	**03 57 43.8**	**+0.6**
LKR	**Lokris**	**1.67**	**60**	*e*Pb		**Pb**	**03 57 43.8**	**+0.6**
DID	**Didima**	**1.69**	**101**	*e*PG		**Pb**	**03 57 43.5**	**0.0**
DID	**Didima**	**1.69**	**101**	*e*Pg		**Pb**	**03 57 43.5**	**0.0**
IGT	**Igoumenitsa**	**1.81**	**340**	*e*PN		**Pn**	**03 57 45.0**	**+1.6**
IGT	**Igoumenitsa**	**1.81**	**340**	*e*Pn		**Pn**	**03 57 45.0**	**+1.6**
JAN	**Janina**	**1.83**	**353**	*e*PG		**Pb**	**03 57 46.0**	**-0.1**
JAN	**Janina**	**1.83**	**353**	*e*Pg		**Pb**	**03 57 46.0**	**-0.1**
NAIG	**Nisos Aigina**	**1.85**	**92**	*e*PN		**Pb**	**03 57 46.4**	**+0.1**
NAIG	**Nisos Aigina**	**1.85**	**92**	*e*Pn		**Pb**	**03 57 46.4**	**+0.1**
THL	**Klokotos Trika**	**1.85**	**21**	*e*PG		**Pb**	**03 57 46.9**	**+0.5**
THL	**Klokotos Trika**	**1.85**	**21**	*e*Pg		**Pb**	**03 57 46.9**	**+0.5**
SMIA	**Simia**	**1.93**	**57**	*e*PN		**Pn**	**03 57 46.7**	**+1.8**
SMIA	**Simia**	**1.93**	**57**	*e*Pn		**Pn**	**03 57 46.7**	**+1.8**
ATH	**Athens Observa**	**2.03**	**85**	*e*PN		**Pb**	**03 57 49.0**	**-0.4**
ATH	**Athens Observa**	**2.03**	**85**	*e*Pn		**Pb**	**03 57 49.0**	**-0.4**
MRKA	**Markates**	**2.10**	**65**	*e*PN		**Pb**	**03 57 50.1**	**-0.6**
MRKA	**Markates**	**2.10**	**65**	*e*Pn		**Pb**	**03 57 50.1**	**-0.6**
PTL	**Penteli**	**2.16**	**83**	*e*PN		**Pb**	**03 57 50.4**	**-1.1**
PTL	**Penteli**	**2.16**	**83**	*e*Pn		**Pb**	**03 57 50.4**	**-1.1**
KYTH	**Kithira**	**2.16**	**135**	P		**Pn**	**03 57 49.6**	**+1.4**
KYTH	**Kithira**	**2.16**	**135**	*e*PN		**Pb**	**03 57 51.2**	**-0.4**
KYTH	**Kithira**	**2.16**	**135**	P		**Pn**	**03 57 49.6**	**+1.4**
KYTH	**Kithira**	**2.16**	**135**	*e*Pn		**Pb**	**03 57 51.2**	**-0.4**
NEO	**Neokhori**	**2.19**	**47**	*e*PN		**Pb**	**03 57 51.3**	**-0.8**
NEO	**Neokhori**	**2.19**	**47**	*e*Pn		**Pb**	**03 57 51.3**	**-0.8**
NEST	**Nestorio**	**2.58**	**358**	*e*PN		**Pb**	**03 57 57.1**	**-1.7**
NEST	**Nestorio**	**2.58**	**358**	*e*Pn		**Pb**	**03 57 57.1**	**-1.7**
KNT	**Kendrikon**	**3.59**	**22**	*e*PN		Pn	03 58 11.3	+3.5
KNT	**Kendrikon**	**3.59**	**22**	*e*Pn		Pn	03 58 11.3	+3.5

*IDC **16** 03:58:16.3±0.8, 1.18S×120.16E,h0km,mb4.0/9, mb1 4.1/10,mb1mx3.8/38,mbtmp4.0/10,ML3.9/1,MS3.7/4, Ms1 3.7/4,ms1mx3.2/29,Error ellipse: s-maj=46.6km s-min=15.1km az=68.0*
*ISCJB **16** 03:58:17.9±0.4, 1.18S±0.04×120.12E±0.05,h28km, mb4.1/14,MS3.7/4,Error ellipse: s-maj=7.9km s-min=5.4km az=175.0*
*NEIC **16** 03:58:17.2±0.4, 1.17S×120.13E,h10km,mb4.3/7,Error ellipse: s-maj=11.0km s-min=6.8km az=59.0*

ISC 16 03:58:19.5±0.6, 1.14S±0.05×120.21E±0.07,h28km,n30, σ1.331/28,mb4.2/14,MS3.8/4,Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TOLI	**Toli-Toli**	**2.32**	**15**	*e*Pn		**Pn**	**03 58 55.8**	**-0.1**
TOLI				*e*Sn		**Sb**	**03 59 26.2**	**-2.9**
LUWI	**Luwuk**	**2.56**	**88**	*e*Pn		**Pn**	**03 58 59.6**	**+0.3**
LUWI				*e*Sn		**Sn**	**03 59 30.2**	**+0.7**
KAPI	**Kappang**	**3.87**	**187**	Pn		**Pn**	**03 59 17.2**	**0.0**
	9.0nm,0.3s,baz=26,slow=5.0,SNR=6.6							
KAPI				Sn		**Sn**	**04 00 02.3**	**+0.4**
	6.3nm,0.3s,baz=37,slow=20,SNR=1.7							
KKM	**Kota Kinabalu**	**8.18**	**331**	*e*Pn		**Pn**	**04 00 15.0**	**-1.5**
KSM	**Kuching**	**10.23**	**285**	*e*Pn		Pn	04 00 41.1	-3.5
FAKI	**Fak Fak**	**12.16**	**99**	*e*Pn		**Pn**	**04 01 09.6**	**-1.5**
MBWA	**Marble Bar**	**19.90**	**181**	*e*P		**P**	**04 02 48.8**	**-0.2**
	7.3nm,0.9s							
IPM	**Ipoh**	**19.96**	**286**	*e*P		**P**	**04 02 48.5**	**-1.3**
	8.3nm,0.9s							
WRAB	**Tennant Creek**	**23.24**	**144**	*e*P		**P**	**04 03 24.3**	**-0.5**
	8.5nm,0.8s							
WRA	**Warramunga Arr**	**23.24**	**144**	P		**P**	**04 03 23.6**	**-1.2**
	4.2nm,0.8s,baz=322,slow=11,SNR=5.8							
AS31	**Alice Springs**	**26.03**	**150**	*e*P		**P**	**04 03 52.5**	**+1.9**
ASAR	**Alice Springs**	**26.03**	**150**	P		**P**	**04 03 53.1**	**+2.5**
	2.4nm,0.8s,baz=324,slow=8.4,SNR=4.9							
CMAR	**Chiang Mai Arr**	**28.58**	**314**	LR		LR	04 16 52.9	
	comp=Z,118nm,18.0s,baz=152,slow=39							
FORT	**Forrest**	**30.40**	**167**	*e*P		**P**	**04 04 28.4**	**-1.0**
	5.1nm,0.7s							
STKA	**Stephens Creek**	**36.64**	**149**	P		**P**	**04 05 24.4**	**+0.7**
	2.1nm,0.8s,baz=312,slow=10,SNR=2.8							
MJAR	**Matsushiro Arr**	**41.06**	**22**	P		**P**	**04 06 02.3**	**+1.5**
	1.1nm,0.9s,baz=192,slow=7.9,SNR=3.9							
SONM	**Songino Array**	**50.24**	**348**	P		**P**	**04 07 15.5**	**+2.1**
	0.6nm,0.5s,baz=164,slow=9.2,SNR=3.4							
MK31	**Makanchi Array**	**58.16**	**330**	*e*P		**P**	**04 08 12.3**	**+1.4**
MKAR	**Makanchi Array**	**58.16**	**330**	P		**P**	**04 08 12.6**	**+1.7**
	1.4nm,0.6s,baz=154,slow=5.0,SNR=4.9							
ZAA0	**Zalesovo Array**	**62.24**	**337**	*e*P		**P**	**04 08 39.0**	**+0.4**
ZALV	**Zalesovo Beam**	**62.24**	**337**	P		**P**	**04 08 39.1**	**+0.5**
	1.2nm,0.7s,baz=142,slow=4.9,SNR=4.5							
KURBB	**Kurchatov Arra**	**62.59**	**332**	P		**P**	**04 08 41.8**	**+0.8**
	1.5nm,0.6s,baz=138,slow=6.2,SNR=5.9							
KURK	**Kurchatov**	**62.61**	**332**	*e*P		**P**	**04 08 42.0**	**+0.8**
	7.6nm,0.9s							
BVAR	**Borovoye Array**	**68.05**	**330**	P		**P**	**04 09 17.3**	**+0.9**
	0.9nm,0.7s,baz=155,slow=11,SNR=3.6							
BRVK	**Borovoye**	**68.12**	**330**	*e*P		**P**	**04 09 17.1**	**+0.3**
	2.2nm,0.7s							
ABKAR	**Akbulak array**	**71.94**	**323**	*e*P		**P**	**04 09 40.2**	**-0.2**
AKTO	**Aktyubinsk**	**73.56**	**324**	LR		LR	04 47 18.1	
	comp=Z,37nm,18.2s,baz=117,slow=40							
VNDA	**Vanda**	**79.52**	**172**	*e*P		**P**	**04 10 23.4**	**+0.2**
	2.8nm,1.2s							
KMBO	**Kilima Mbogo**	**82.94**	**269**	LR		LR	04 44 21.5	
	comp=Z,48nm,21.7s,baz=86,slow=33							
ARCES	**ARCESS Array B**	**92.71**	**339**	LR		LR	04 58 45.4	
	comp=Z,31nm,18.3s,baz=41,slow=39							

*ISCJB **16** 04:02:38.7±0.8,31.94N±0.04×114.99W±0.07,h24km±8km, Error ellipse: s-maj=9.7km s-min=6.2km az=175.4*
*ECX **16** 04:02:39.8±0.5,31.94N×115.02W,h10km,MD3.4,ML3.6*
*MEX **16** 04:02:40.8±0.5,31.99N×114.99W,h8km,MD3.2*

ISC 16 04:02:38.2±1.4,31.94N±0.03×115.01W±0.06,h18km±7km, n15,σ0.943/20,2D,Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ECBX	**El Chinero**	**0.46**	**184**	*e*P9		**Pg**	**04 02 47.6**	**-0.1**
ECBX				*e*S		**Sb**	**04 02 54.2**	**-0.2**
MBIG	**Mexicali**	**0.49**	**342**	*e*P		**Pb**	**04 02 49.0**	**+0.6**
CPBX	**Cerro Prieto**	**0.54**	**333**	*e*P9		**Pg**	**04 02 49.7**	**+0.7**
CPBX				*e*S		**Sb**	**04 02 57.1**	**+0.4**
YMD	**Yuma Desert**	**0.73**	**33**⇓	*iP*		**Pg**	**04 02 52.4**	**-0.3**
RDX	**Rancho Dawling**	**0.79**	**270**	*eP*		**Pb**	**04 02 53.8**	**+0.2**
RDX				*e*S		**Sb**	**04 03 04.5**	**+0.4**
RDX				IAML			04 03 06.1	
	comp=N,2μm,0.2s							
EMSC	**East Mesa**	**0.80**	**2**⇓	*iP*		**Pg**	**04 02 53.5**	**-0.4**
SPIG	**San Pedro Mart**	**0.97**	**204**	*eP*		**Pn**	**04 02 57.7**	**+0.5**
SPIG	**San Pedro Mart**	**0.97**	**204**	*eP*		**Pb**	**04 02 57.0**	**+0.3**
SPX	**San Pedro Mart**	**0.97**	**204**	*eP*		**Pb**	**04 02 57.0**	**+0.3**
RMX	**La Rumorosa**	**1.12**	**307**	*e*P9		**Pn**	**04 02 58.7**	**-0.5**
RMX				*e*S		**Sb**	**04 03 13.9**	**+0.4**
RMX				*e*			04 03 15.0

KURBB	**Kurchatov Arra**	**43.26**	**315**	P		**P**	**04 23 40.3**	**-0.3**
	0.8nm,0.8s,baz=102,slow=8.9,SNR=4.5							
WRA	**Warramunga Ar**	**48.72**	**173**	P		**P**	**04 24 23.3**	**-0.6**
	0.5nm,0.7s,baz=352,slow=8.1,SNR=6.2							
ASAR	**Alice Springs**	**52.36**	**174**	P		**P**	**04 24 52.4**	**+1.0**
	0.4nm,0.9s,baz=4.6,slow=15,SNR=3.9							
ILAR	**Eielson Array**	**62.11**	**29**	P		**P**	**04 26 02.2**	**+2.3**
	0.2nm,0.6s,baz=287,slow=9.3,SNR=3.0							
YKA	**Yellowknife Ar**	**76.15**	**25**	P		**P**	**04 27 25.9**	**-1.1**
	0.4nm,0.8s,baz=302,slow=5.7,SNR=5.0							

IDC 16 04:28:47.0±3.0, 4°20S×153°50E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/27, mbtmp3.7/3, Error ellipse: s-maj=97.0km s-min=48.4km az=110.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.36**	**228**	P	P	04 34 08.3	+1.2
	1.4nm,0.5s,baz=56,slow=10,SNR=22						
ASAR	**Alice Springs**	**27.06**	**223**	P	P	04 34 30.8	-0.7
	0.4nm,0.8s,baz=54,slow=9.8,SNR=4.1						
STKA	**Stephens Creek**	**29.71**	**201**	P	P	04 34 55.2	+0.2
	1.7nm,0.9s,baz=18,slow=13,SNR=3.5						
TORD	**Torodi Ar. Bea**	**150.78**	**289**	PKPbc	PKPbc	04 48 41.3	-1.2
	0.5nm,0.7s,baz=70,slow=2.7,SNR=4.5						

THR 16 04:35:24.4±0.6, 28°38N×54°94E, h14km±7km, ML3.5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**1.47**	**132**	*e*Pg	Pb	04 35 51.5	-0.1
BNDS				*e*Sg	Sb	04 36 11.1	+0.8
BNDS				AML	AML	04 36 12.8	
	comp=E,704nm,0.5s						
BNDS				AML	AML	04 36 16.4	
	comp=N,511nm,0.3s						
GHIR	**Ghir-Karzin**	**1.73**	**267**	*e*Pg	Pb	04 35 55.9	-0.2
KRBR	**Kerman**	**2.25**	**45**	*e*Pn	Pb	04 36 03.7	-1.5
KRBR				*e*Sg	Sb	04 36 35.2	+1.9
KRBR				AML	AML	04 36 41.2	
	comp=N,286nm,0.5s						

*ISCJB **16** 04:44:17.1±0.5, 4°38S±0°05×153°63E±0°08, h85km, mb4.2/23, Error ellipse: s-maj=11.9km s-min=6.6km az=21.3*
*IDC **16** 04:44:18.8±0.7, 4°41S×153°62E, h90km±5km, mb3.8/14, mb1 4.0/14, mb1mx3.9/30, mbtmp4.2/14, MS3.1/6, Ms1 3.1/6, ms1mx3.0/21, Error ellipse: s-maj=22.1km s-min=13.4km az=101.0*
*NEIC **16** 04:44:19.7±0.6, 4°40S×153°64E, h98km±5km, mb4.3/13, Error ellipse: s-maj=15.1km s-min=7.9km az=114.0*
ISC 16 04:44:18.8±0.5, 4°35S±0°07×153°65E±0°07, h85km, n62, σ1s22/66, mb4.2/23, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.49**	**276**	P	**Pn**	**04 44 46.0**	**+1.8**
	baz=1.4,SNR=31						
RABL				S	**Sn**	**04 45 07.3**	**+3.8**
	baz=1.4,SNR=4.9						
HNR	**Honiara**	**8.03**	**129**	*e*P	**Sn**	**04 47 45.0**	**+2.9**
PMG	**Port Moresby**	**8.17**	**232**	P	**Pn**	**04 46 16.1**	**+1.4**
	baz=8.2,SNR=38						
PMG				S	**Sn**	**04 47 45.6**	**+0.1**
	baz=8.2,SNR=5.8						
PMG	**Port Moresby**	**8.17**	**232**	*e*Pn	**Pn**	**04 46 16.1**	**+1.4**
	189nm,0.7s						
PMG				*e*Sn	**Sn**	**04 47 45.5**	**-0.1**
JAY	**Jayapura**	**13.05**	**278**	P	**P**	**04 47 27.7**	**-0.5**
	1.1nm,0.3s,baz=117,slow=4.5,SNR=6.2						
JAY				LR	LR	04 51 16.6	
	comp=Z,139nm,22.0s,baz=168,slow=32						
COEN	**Coen**	**14.07**	**227**	P	**Pn**	**04 47 36.1**	**+1.8**
	baz=14,SNR=16						
COEN	**Coen**	**14.07**	**227**	*e*Pn	**Pn**	**04 47 36.0**	**+1.7**
	19nm,0.7s						
CTA	**Charters Tower**	**17.23**	**204**	P	**P**	**04 48 15.4**	**+1.0**
	0.3nm,0.3s,baz=22,slow=9.9,SNR=5.9						
CTAO	**Charters Tower**	**17.23**	**204**	*e*P	**P**	**04 48 15.1**	**+0.7**
	10nm,1.0s						
GUMO	**Guam**	**19.84**	**334**	LR	LR	04 56 13.7	
	comp=Z,34nm,20.9s,baz=120,slow=36						
QIS	**Mount Isa**	**21.13**	**219**	P	**P**	**04 48 56.6**	**-0.3**
	baz=21,SNR=16						
FAKI	**Fak Fak**	**21.41**	**273**	*e*P	**P**	**04 48 58.7**	**-1.2**
	10nm,0.7s						
RMQ	**Roma**	**22.51**	**192**	P	**P**	**04 49 11.9**	**+0.4**
	baz=23,SNR=9.6						
SIJI	**Sorong**	**22.63**	**278**	P	**P**	**04 49 12.5**	**-0.5**
	13nm,0.9s,baz=80,slow=19,SNR=4.2						
QLP	**Quilpie**	**23.88**	**201**	P	**P**	**04 49 23.7**	**-0.8**
	baz=24,SNR=23						
WRAB	**Tennant Creek**	**24.37**	**229**	*e*P	**P**	**04 49 27.3**	**-1.8**
	20nm,0.8s						
WRA	**Warramunga Arr**	**24.38**	**229**	P	**P**	**04 49 27.9**	**-1.4**
	15nm,0.7s,baz=52,slow=9.7,SNR=74						
ARMA	**Armidale**	**26.00**	**184**	P	**P**	**04 49 44.7**	**+0.7**
	baz=26,SNR=5.4						
KNRA	**Kununurra**	**26.93**	**244**	P	**P**	**04 49 51.9**	**-0.4**
	baz=27,SNR=3.4						
AS31	**Alice Springs**	**27.05**	**223**	*e*P	**P**	**04 49 52.2**	**-1.2**
ASAR	**Alice Springs**	**27.06**	**223**	P	**P**	**04 49 51.8**	**-1.7**
	2.7nm,0.7s,baz=58,slow=8.7,SNR=22						
ASAR				pP	**pP**	**04 50 12.8**	**-0.1**
	1.8nm,0.7s,baz=60,slow=9.0,SNR=5.1						
CMSA	**Cobar Meteorol**	**28.06**	**195**	P	**P**	**04 50 02.1**	**-0.2**
	baz=28,SNR=8.3						
STKA	**Stephens Creek**	**29.63**	**201**	P	**P**	**04 50 14.8**	**-1.5**
	8.2nm,0.6s,baz=24,slow=13,SNR=28						
STKA				LR	LR	05 02 30.2	
	comp=Z,105nm,18.1s,baz=23,slow=37						
STKA	**Stephens Creek**	**29.63**	**201**	P	**P**	**04 50 15.1**	**-1.1**
	baz=30,SNR=11						
STKA	**Stephens Creek**	**29.63**	**201**	*e*P	**P**	**04 50 14.5**	**-1.8**
	1.7nm,0.7s						
WRKA	**Warakurna**	**31.89**	**227**	P	**P**	**04 50 34.2**	**-2.0**
	baz=32,SNR=11						
HTT	**Hallett**	**32.03**	**204**	P	**P**	**04 50 36.3**	**-1.1**
	baz=32,SNR=8.4						
ARPS	**Mount Arapiles**	**34.04**	**197**	P	**P**	**04 50 55.3**	**+0.4**
	baz=34,SNR=9.7						
FORT	**Forrest**	**35.67**	**220**	P	**P**	**04 51 07.7**	**-1.3**
	baz=36,SNR=9.2						
FORT	**Forrest**	**35.67**	**220**	*e*P	**P**	**04 51 07.4**	**-1.6**
	32nm,0.8s						
MEEK	**Meekatharra**	**40.15**	**233**	P	**P**	**04 51 45.0**	**-1.8**
	baz=40,SNR=6.1						
KMBL	**Kambalda**	**40.17**	**224**	P	**P**	**04 51 45.6**	**-1.2**
	baz=40,SNR=5.3						
MJAR	**Matsushiro Arr**	**43.16**	**342**	LR	LR	05 08 31.5	
	comp=Z,12nm,20.0s,baz=45,slow=34						
KSRS	**Korea Array**	**47.99**	**332**	P	**P**	**04 52 49.0**	**-0.2**
	0.6nm,0.4s,baz=148,slow=8.2,SNR=4.7						
KSRS				LR	LR	05 13 16.0	
	comp=Z,12nm,18.1s,baz=149,slow=36						
KSAR	**Wonju Array Be**	**48.00**	**332**	P	**P**	**04 52 49.0**	**-0.3**
BTDF	**Bukit Timah Da**	**50.16**	**275**	P	P	04 53 01.2	-5.1
	baz=50,SNR=3.5						
USRK	**Ussuriysk Ar.**	**52.10**	**340**	LR	LR	05 15 21.4	
	comp=Z,18nm,18.4s,baz=119,slow=36						
KULM	**Kulim**	**53.80**	**280**	*e*P	**P**	**04 53 31.6**	**-1.6**
	8.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**58.46**	**295**	P	**P**	**04 54 07.0**	**+0.6**
	1.2nm,0.6s,baz=114,slow=5.0,SNR=10.0						
SONM	**Songino Array**	**66.40**	**327**	P	**P**	**04 54 59.1**	**+0.1**
	0.4nm,0.5s,baz=107,slow=4.3,SNR=2.6						
LSA	**Lhasa**	**68.69**	**304**	*e*P	**P**	**04 55 14.5**	**+0.3**
	5.3nm,0.6s						
VNDA	**Vanda**	**73.25**	**178**	P	**P**	**04 55 40.1**	**-0.2**
	2.2nm,0.7s,baz=352,slow=8.6,SNR=8.8						
VNDA				pP	**pP**	**04 56 03.3**	**+0.9**
	1.3nm,0.8s,baz=316,slow=5.0,SNR=3.1						
VNDA	**Vanda**	**73.25**	**178**	*e*P	**P**	**04 55 40.1**	**-0.2**
	3.1nm,0.8s						
VNDA				pP	**pP**	**04 56 03.3**	**+0.9**
MCK	**McKinley**	**80.12**	**22**	*e*P	**P**	**04 56 19.4**	**+0.2**
	5.2nm,1.0s						
MK31	**Makanchi Array**	**80.55**	**319**	*e*P	**P**	**04 56 22.7**	**+0.8**
MKAR	**Makanchi Array**	**80.55**	**319**	P	**P**	**04 56 21.4**	**-0.5**
	1.6nm,0.9s,baz=155,slow=4.0,SNR=11						
ZALV	**Zalesovo Beam**	**81.25**	**326**	P	**P**	**04 56 24.2**	**-1.2**
	0.8nm,0.4s,baz=101,slow=7.8,SNR=2.9						
ILAR	**Eielson Array**	**81.42**	**22**	P	**P**	**04 56 25.1**	**-1.0**
	0.7nm,0.9s,baz=239,slow=4.6,SNR=7.4						
ILAR				pP	**pP**	**04 56 49.5**	**+0.8**
	1.7nm,1.1s,baz=258,slow=4.8,SNR=6.0						
KURK	**Kurchatov**	**83.94**	**322**	*e*P	**P**	**04 56 39.2**	**-0.2**
	2.9nm,1.1s						
TKM2	**Tokmak 2**	**84.23**	**314**	*e*P	**P**	**04 56 41.3**	**-0.2**
AAK	**Ala-Archa**	**84.97**	**313**	*e*P	**P**	**04 56 45.8**	**+0.6**
	3.6nm,0.9s						
EKS2	**Erkin-Say**	**85.50**	**313**	*e*P	**P**	**04 56 48.3**	**+0.6**
	2.4nm,0.6s						
QSPA	**South Pole Qui**	**85.61**	**180**	P	**P**	**04 56 47.0**	**-0.7**
	1.1nm,0.4s,baz=179,slow=3.1,SNR=8.3						
QSPA				pP	**pP**	**04 57 10.8**	**+0.3**
	2.3nm,0.8s,baz=52,slow=2.9,SNR=4.5						
QSPA	**South Pole Qui**	**85.61**	**180**	*e*P	**P**	**04 56 46.4**	**-1.4**
	2.7nm,0.8s						
QSPA				pP	**pP**	**04 57 10.8**	**+0.3**
MAW	**Mawson**	**86.31**	**203**	pP	pP	04 57 14.9	+1.2
	3.2nm,0.7s,baz=273,slow=18,SNR=1.9						
INK	**Inuvik**	**87.73**	**21**	P	**P**	**04 56 57.7**	**-0.1**
	1.3nm,0.9s,baz=272,slow=5.2,SNR=2.6						
INK	**Inuvik**	**87.73**	**21**	*e*P	**P**	**04 56 58.2**	**+0.4**
	3.2nm,1.2s						
NVAR	**Mina Array Bea**	**91.14**	**52**	pP	pP	04 57 40.1	+2.5
	0.1nm,0.4s,baz=360,slow=14,SNR=1.9						
YKA	**Yellowknife Ar**	**94.63**	**28**	P	**P**	**04 57 30.3**	**+0.3**
	0.2nm,0.6s,baz=263,slow=4.3,SNR=3.5						
GERES	**GERESS Array B**	**124.11**	**329**	PKP	**PKPdf**	**05 03 08.6**	**+0.8**
	0.2nm,0.3s,baz=48,slow=1.5,SNR=3.0						
TOA0	**Torodi Ar. Sit**	**150.97**	**289**	*e*PKPbc	**PKPbc**	**05 04 01.0**	**-1.9**
TORD	**Torodi Ar. Bea**	**150.97**	**289**	PKPbc	**PKPbc**	**05 04 00.8**	**-2.1**
	3.3nm,0.7s,baz=69,slow=1.9,SNR=17						
TORD				pPKPbc	**pPKPbc**	**05 04 26.5**	**-0.1**
	3.7nm,0.8s,baz=69,slow=2.4,SNR=4.8						

*ISCJB **16** 04:51:13.9±0.5, 56°20S±0°07×26°6W±0°2, h88km, mb4.3/11, Error ellipse: s-maj=13.2km s-min=9.0km az=148.4*
*NEIC **16** 04:51:13.8±1.8, 56°34S×26°56W, h77km±17km, mb4.5/7, Error ellipse: s-maj=15.8km s-min=11.1km az=50.0*
*IDC **16** 04:51:15.7±6.7, 56°25S×26°64W, h90km±59km, mb4.0/7, mb1 4.0/8, mb1mx3.7/21, mbtmp4.2/8, ML3.5/1, Error ellipse: s-maj=24.4km s-min=19.3km az=90.0*
*AWI **16** 04:51:26.9, 58°02S×29°30W*
ISC 16 04:51:15.1±0.5, 56°29S±0°09×26°6W±0°1, h88km, n36, σ0s97/30, mb4.4/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.98**	**286**	*e*Pn	**Pn**	**04 52 41.0**	**+0.1**
VNA1	**Neumayer--Stat**	**16.46**	**158**	P	**P**	**04 55 02.8**	**+1.3**
VNA3	**Neumayer Olymp**	**16.66**	**161**	P	**Pn**	**04 55 02.9**	**+0.1**
VNA3	**Neumayer Olymp**	**16.66**	**161**	S	Sn	04 57 54.8	-12
VNA2	**Neumayer--Watz**	**16.85**	**158**	P	**P**	**04 55 06.2**	**+0.4**
	baz=323,slow=14						
SNAA	**Sanae**	**18.40**	**156**	P	**P**	**04 55 20.2**	**-2.6**
SNAA	**Sanae**	**18.40**	**156**	S	S	04 58 38.7	-8.9
SNAA	**Sanae**	**18.40**	**156**	P	**P**	**04 55 22.1**	**-0.8**
	0.2nm,0.3s,baz=308,slow=11,SNR=23						
SNAA	**Sanae**	**18.40**	**156**	*e*Pn	**P**	**04 55 19.7**	**-3.2**
	13nm,0.5s						
QSPA	**South Pole Qui**	**33.96**	**180**	P	**P**	**04 57 50.3**	**+0.5**
	1.3nm,0.4s,baz=209,slow=0.7,SNR=7.2						
CPUP	**Villa Florida**	**37.20**	**311**	*e*P	**P**	**04 58 17.1**	**-0.6**
LVC	**Limon Verde**	**45.69**	**300**	*e*P	**P**	**04 59 27.8**	**+0.4**
	5.6nm,0.6s						
VNDA	**Vanda**	**46.35**	**183**	P	**P**	**04 59 32.9**	**+1.3**
	1.3nm,0.6s,baz=202,slow=6.6,SNR=8.8						
VNDA	**Vanda**	**46.35**	**183**	*e*P	**P**	**04 59 32.1**	**+0.5**
	1.6nm,0.6s						
H10S2	**ASCENSION HYDR**	**48.14**	**16**	T	T	05 52 32.0	
	baz=189,slow=75,SNR=12						
H10S3	**ASCENSION HYDR**	**48.15**	**16**	T	T	05 52 36.7	
	baz=189,slow=75,SNR=8.4						
H10S1	**ASCENSION HYDR**	**48.16**	**16**	T	T	05 52 34.2	
	baz=189,slow=75,SNR=9.2						
LBTB	**Lobatse**	**48.78**	**72**	P	**P**	**04 59 51.5**	**+0.2**
	3.2nm,0.7s,baz=206,slow=2.1,SNR=5.5						
H10N1	**ASCENSION HYDR**	**49.26**	**16**	T	T	05 53 55.6	
	baz=192						
H10N3	**ASCENSION HYDR**	**49.26**	**16**	T	T	05 53 49.1	
	baz=192						
H10N2	**ASCENSION HYDR**	**49.28**	**16**	T	T	05 53 51.9	
	baz=192						
TSUM	**Tsumeb**	**49.53**	**60**	*e*P	**P**	**04 59 57.1**	**+0.1**
	6.5nm,0.9s						
LPAZ	**La Paz**	**50.77**	**305**	P	**P**	**05 00 06.8**	**-0.1**
	2.0nm,0.4s,baz=102,slow=3.7,SNR=15						
LPAZ	**La Paz**	**50.77**	**305**	*e*P	**P**	**05 00 06.7**	**-0.2**
	2.7nm,0.7s						
SAML	**Samuel**	**55.19**	**314**	*e*P	**P**	**05 00 38.6**	**-0.1**
	0.8nm,0.4s						
LSZ	**Lusaka**	**58.17**	**68**	*e*P	**P**	**05 00 60.0**	**0.0**
	7.0nm,0.9s						
DBIC	**Dimbokro**	**65.26**	**24**	P	**P**	**05 01 47.7**	**+0.4**
	3.1nm,0.8s,baz=164,slow=5.4,SNR=6.6						
TOA0	**Torodi Ar. Sit**	**73.11**	**29**	*e*P	**P**	**05 02 36.0**	**+0.2**
TORD	**Torodi Ar. Bea**	**73.11**	**29**	P	**P**	**05 02 36.5**	**+0.7**
	3.0nm,0.4s,baz=200,slow=6.2,SNR=103						
TORD				pP	**pP**	**05 02 59.1**	**+0.6**
	1.1nm,0.5s,baz=198,slow=6.9,SNR=3.3						
ASAR	**Alice Springs**	**98.67**	**162**	P	Pdif	05 04 46.5	+2.0
	0.1nm,0.3s,baz=179,slow=4.2,SNR=5.4						
FINES	**FINESS Array B**	**124.45**	**28**	PKP	**PKPdf**	**05 10 01.7**	**-0.7**
	0.8nm,0.6s,baz=174,slow=1.7,SNR=10						
ARCES	**ARCESS Array B**	**131.05**	**22**	PKP	**PKPdf**	**05 10 14.2**	**-0.6**
	4.3nm,1.0s,baz=328,slow=4.3,SNR=4.6						
YKA	**Yellowknife Ar**	**136.56**	**318**	PKP	**PKPdf**	**05 10 24.7**	**-0.6**
	0.3nm,0.5s,baz=131,slow=2.1,SNR=13						
SONM	**Songino Array**	**150.43**	**86**	PKPbc	**PKPbc**	**05 10 54.9**	**-0.6**
	2.2nm,0.6s,baz=223,slow=3.1,SNR=12						
SONM				PKPab	**PKPab**	**05 11 02.1**	**-0.3**
	0.9nm,0.7s,baz=219,slow=4.8,SNR=3.6						
ILAR	**Eielson Array**	**150.51**	**311**	PKPbc	**PKPbc**	**05 10 54.4**	**-0.6**
	2.2nm,0.9s,baz=121,slow=1.7,SNR=18						
ILAR				PKPab	**PKPab**	**05 11 02.4**	**+0.3**
	0.9nm,0.9s,baz=108,slow=1.7,SNR=4.7						
MCK	**McKinley**	**151.16**	**309**	*e*PKPbc	**PKPbc**	**05 10 56.3**	**-0.3**

*LDG **16** 05:16:03.2±0.2, 18°31N×67°38W, h80km, Mb5.5/43, Ms4.6/12, Error ellipse: s-maj=9.2km s-min=5.9km az=61.0*
*MOS **16** 05:16:08.4±0.9, 18°26N×67°09W, h112km, mb5.6/116, MS4.9/17, Error ellipse: s-maj=4.9km s-min=4.1km az=67.8*
*IDC **16** 05:16:09.7±0.6, 18°25N×67°11W, h114km±5km, mb4.9/30, mb1 5.1/33, mb1mx5.1/35, mbtmp5.4/33, MS4.7/20, Ms1 4.7/20, ms1mx4.7/27, Error ellipse: s-maj=9.2km s-min=7.0km az=84.0*
*ISCJB **16** 05:16:09.3±0.1, 18°27N±0°02×67°07W±0°01, h120km±1km, mb5.5/371, Error ellipse: s-maj=3.0km s-min=1.4km az=13.9*
*NEIC **16** 05:16:10.0, 18°40N×67°07W, h113km, mb5.4/213, MW5.7, MW5.8, MW5.8, Moment Tensor Solution. s9 Moment tensor: Scale 10¹⁷Nm; Mrr-3.30; Mθθ-0.44; Mϕϕ3.74; Mrθ1.78; Mθϕ0.07; Mϕr3.53; Best double couple: M₀5.30000×10¹⁷ NP1:ϕs342.00000°, δ25.00000°, λ-125.00000°. NP2:ϕs200.00000°, δ70.00000°, λ-75.00000°. Principal axes: T 5.3100, Plg23.0000°, Azm278.0000°; N 0.0000, Plg14.0000°, Azm14.0000°; P -5.3100, Plg62.0000°, Azm132.0000°; Moment Tensor Solution. s71 Moment tensor: Scale 10¹⁷ Nm; Mrr-4.71; Mθθ0.18; Mϕϕ4.53; Mrθ2.05; Mθϕ2.15; Mϕr4.43; Best double couple: M₀7.10000×10¹⁷ NP1:ϕs20.00000°, δ23.00000°, λ-94.00000°. NP2:ϕs204.00000°, δ67.00000°, λ-88.00000°. Principal axes: T 7.3800, Plg21.0000°, Azm292.0000°; N -0.7000, Plg1.0000°, Azm23.0000°; P -6.6800, Plg67.0000°, Azm117.0000°; After RSPR.*
NEIC Minor damage to homes at Lares and Vega Baja. A landslide was reported at Utuado. Felt [V] at Adjuntas, Aguada, Anasco, Barranquitas, Jayuya, Lares, Las Marias, Maricao, Mayaguez, Moca, Morovis, Orocovis, Ponce, San German, San Sebastian, Utuado and Villalba. Felt strongly throughout Puerto Rico. Felt [IV] at Otra Banda and [III] in much of eastern Dominican Republic, including Santo Domingo. Also felt in the Virgin Islands.
*RSPR **16** 05:16:10.9, 18°40N×67°07W, h113km±1km, MD5.5/18, MD5.7/18*
*GCMT **16** 05:16:10.0±0.1, 18°41N×67°13W, h116km, MW5.8/129, Moment Tensor Solution. s119,c258; s129,c361; Duration: 2s0 Moment tensor: Scale 10¹⁷Nm; Mrr-4.23±.06; Mθθ-1.92±.07; Mϕϕ6.15±.07; Mrθ3.13±.04; Mθϕ0.65±.06; Mϕr3.66±.05; Best double couple: M₀7.28300×10¹⁷ NP1:ϕs210.00000°, δ69.00000°, λ-63.00000°. NP2:ϕs336.00000°, δ34.00000°, λ-139.00000°. Principal axes: T 7.5840, Plg19.0000°, Azm281.0000°; N -0.6040, Plg25.0000°, Azm20.0000°; P -6.9810, Plg57.0000°, Azm157.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*BJI **16** 05:16:10.0, 18°40N×67°10W, h113km, mB5.1/20*
*SZGRF **16** 05:16:15.5, 18°17N×66°05W, h122km, mb5.7, MS4.8, Puerto Rico region*
*NEIC **16** 05:16:19.5±0.0, 18°50N×66°91W, h98km, Moment Tensor Solution. s101 Moment tensor: Scale 10¹⁷Nm; Mrr-3.85; Mθθ-1.92; Mϕϕ5.78; Mrθ3.02; Mθϕ0.42; Mϕr3.55; Best double couple: M₀6.90000×10¹⁷ NP1:ϕs210.00000°, δ70.00000°, λ-61.00000°. NP2:ϕs333.00000°, δ34.00000°, λ-141.00000°. Principal axes: T 7.1600, Plg19.0000°, Azm279.0000°; N -0.5000, Plg26.0000°, Azm19.0000°; P -6.6500, Plg56.0000°, Azm156.0000°;*
ISC 16 05:16:09.6±0.2, 18°27N±0°02×67°11W±0°02, h114km±1km, h113km:pP-P, n1529, σ1s26/2224, mb5.5/371, 477C-530D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPR	**Mayaguez**	**0.06**	**203**	*e*P	**Pn**	**05 16 26.1**	**+0.8**
MPR	**Mayaguez**	**0.06**	**203**	P	**Pn**	**05 16 26.2**	**+1.0**
MPR				*e*S	**Sn**	**05 16 38.0**	**+1.1**
LSP	**Las Mesas**	**0.10**	**164**	*e*P	**Pn**	**05 16 26.3**	**+1.0**
AGP	**Aguadilla**	**0.14**	**350**	*e*Pn	**Pn**	**05 16 26.0**	**+0.6**
AGPR	**Aguadilla, PR**	**0.20**	**1**	*e*P	**Pn**	**05 16 25.9**	**+0.4**
AGPR	**Aguadilla, PR**	**0.20**	**1**	*e*S	**Sn**	**05 16 37.6**	**+0.2**
LRS	**Lares**	**0.26**	**85**	*e*P	**Pn**	**05 16 26.5**	**+0.8**
CRPR	**Cabo Rojo, PR**	**0.26**	**179**	*e*P	**Pn**	**05 16 27.1**	**+1.4**
CRPR	**Cabo Rojo, PR**	**0.26**	**179**	*e*S	**Sn**	**05 16 39.6**	**+1.9**
AOPR	**Arecibo Observ**	**0.35**	**77**	*e*P	**Pn**	**05 16 26.5**	**+0.4**
AOPR				*e*S	**Sn**	**05 16 38.5**	**+0.1**
AOPR	**Arecibo Observ**	**0.35**	**77**	*e*P	**Pn**	**05 16 26.5**	**+0.4**
IDE	**Isla Desecheo**	**0.36**	**289**	*e*P	**Pn**	**05 16 27.6**	**+1.5**
GBPR	**Guanica, Bosqu**	**0.37**	**143**	*e*P	**Pn**	**05 16 27.9**	**+1.8**
OBIP	**Obispado Ponce**	**0.53**	**115**	*e*P	**Pn**	**05 16 28.5**	**+1.4**
OBIP	**Obispado Ponce**	**0.53**	**115**	*e*S	**Sn**	**05 16 41.4**	**+1.1**
CELP	**Cerrillos**	**0.54**	**111**	*e*P	**Pn**	**05 16 28.2**	**+1.1**
ICM	**Isla Caja Muer**	**0.68**	**123**	*e*P	**Pn**	**05 16 29.6**	**+1.5**
ICM	**Isla Caja Muer**	**0.68**	**123**	*e*S	**Sn**	**05 16 44.1**	**+2.1**
IMO	**Isla Mona**	**0.77**	**258**	*e*P	**Pn**	**05 16 30.2**	**+1.3**
SJG	**San Juan**	**0.93**	**100**	*e*P	**Pn**	**05 16 30.3**	**-0.1**
SJG				*e*S	**Sn**	**05 16 46.1**	**0.0**
SJG	**San Juan**	**0.93**	**100**	*e*P	**Pn**	**05 16 30.8**	**+0.4**
HUMP	**Col San Antoni**	**1.21**	**96**	*e*P	**Pn**	**05 16 33.9**	**+0.6**
HUMP	**Col San Antoni**	**1.21**	**96**	*e*P	**Pn**	**05 16 34.0**	**+0.6**
HUMP				*e*S	**Sn**	**05 16 51.5**	**+0.2**
PCDR	**Punta Cana, DR**	**1.23**	**282**	*e*P	**Pn**	**05 16 34.8**	**+1.2**
PCDR	**Punta Cana, DR**	**1.23**	**282**	*e*S	**Sn**	**05 16 52.8**	**+1.2**
STVI	**Saint Thomas**	**2.05**	**87**	*e*Pn	**Pn**	**05 16 43.0**	**-0.5**
STVI				*e*Sn	**Sn**	**05 17 08.2**	**-1.1**
STVI	**Saint Thomas**	**2.05**	**87**	*e*P	**Pn**	**05 16 43.5**	**+0.1**
STVI				*e*S	**Sn**	**05 17 09.3**	**-0.1**
STVI	**Saint Thomas**	**2.05**	**87**	*e*P	**Pn**	**05 16 43.7**	**+0.3**
SMN1	**Samana, DR**	**2.24**	**294**	*e*P	**Pn**	**05 16 46.1**	**+0.2**
SMN1	**Samana, DR**	**2.24**	**294**	*e*S	**Sn**	**05 17 13.4**	**-0.2**
TBVI	**Tortola**	**2.38**	**86**	*i*P	**Pn**	**05 16 47.0**	**-0.6**
ABV	**Anegada**	**2.68**	**80**	*i*P	**Pn**	**05 16 51.5**	**0.0**
ABV	**Anegada**	**2.68**	**80**	*e*S	**Sn**	**05 17 25.4**	**+1.6**
SABA	**Saba**	**3.74**	**99**	*i*P	**Pn**	**05 17 05.6**	**-0.1**
SABA	**Saba**	**3.74**	**99**	*e*Pn	**Pn**	**05 17 05.8**	**+0.2**
SABA	**Saba**	**3.74**	**99**	*e*S	**Sn**	**05 17 48.5**	**-0.5**
SABA	**Saba**	**3.74**	**99**	*i*P	**Pn**	**05 17 05.8**	**+0.2**
SMRT	**St. Maarten**	**3.85**	**93**	*i*P	**Pn**	**05 17 06.5**	**-0.5**
SMRT				*e*S	**Sn**	**05 17 50.1**	**-1.4**
SMRT	**St. Maarten**	**3.85**	**93**	*e*Pn	**Pn**	**05 17 06.6**	**-0.5**
SMRT	**St. Maarten**	**3.85**	**93**	*i*P	**Pn**	**05 17 06.7**	**-0.4**
SDDR	**Presa de Saban**	**4.02**	**281**	*e*Pn	**Pn**	**05 17 10.4**	**+1.1**
SDDR				*e*Sn	**Sn**	**05 17 55.9**	**+0.2**
SDDR	**Presa de Saban**	**4.02**	**281**	*i*P	**Pn**	**05 17 10.5**	**+1.1**
SDDR				*e*S	**Sn**	**05 17 57.0**	**+1.3**
MBWH		**4.94**	**107**	*i*P	**Pn**	**05 17 21.8**	**0.0**
GRTK	**Grand Turk**	**4.97**	**311**	*e*Pn	**Pn**	**05 17 20.1**	**-1.8**
GRTK				*e*Sn	**Sn**	**05 18 13.0**	**-2.4**
ANWB	**Willy Bob**	**5.11**	**96**	*i*P	**Pn**	**05 17 22.4**	**-1.6**
ANWB	**Willy Bob**	**5.11**	**96**	*e*S	**Sn**	**05 18 19.8**	**-2.0**
ANWB	**Willy Bob**	**5.11**	**96**	*e*Pn	**Pn**	**05 17 22.2**	**

BOT	**Bacolet**	**9.39**	**138**	*eP*		Pn	05 18 26.2	+4.3
BOT	**Bacolet**	**9.39**	**138**	*eS*		Sn	05 19 56.5	-9.2
TPP	**Pointe-a-Pierr**	**9.62**	**144**	*eP*		**Pn**	**05 18 26.6**	**+1.5**
TPP	**Pointe-a-Pierr**	**9.62**	**144**	*eP*		Pn	05 18 32.1	+7.0
TPP	**Pointe-a-Pierr**	**9.62**	**144**	*eS*		Sn	05 20 04.0	-7.5
TBH	**Brigand Hill**	**9.71**	**142**	*eP*		Pn	05 18 30.1	+3.8
TBH	**Brigand Hill**	**9.71**	**142**	*eP*		Pn	05 18 33.1	+6.8
TBH	**Brigand Hill**	**9.71**	**142**	*eS*		Sn	05 20 02.2	-11
MTDJ	**Mount Denham**	**9.90**	**271**	*ePn*		**Pn**	**05 18 27.4**	**-1.6**
	comp=Z,248nm,0.7s							
SDV	**Santo Domingo**	**9.93**	**201**	*ePn*		**Pn**	**05 18 31.8**	**+2.2**
SDV				*eSn*		**Sn**	**05 20 17.5**	**-1.8**
BBSR	**BB Station**	**14.21**	**8**	*ePn*		**Pn**	**05 19 25.5**	**-0.2**
	comp=Z,186nm,0.6s							
BBSR				*eSn*		Sn	05 21 42.7	-20
BBSR				*ePcP*		PcP	05 24 21.2	-15
ROSC	**El Rosal**	**15.08**	**209**	P		**P**	**05 19 38.9**	**-1.0**
	comp=Z,8.1nm,0.3s,baz=280,slow=23,SNR=44							
ROSC				S		**Sn**	**05 22 29.0**	**+4.7**
	comp=Z,6.8nm,0.3s,baz=86,slow=19,SNR=4.0							
ROSC				LR		LR	05 26 08.0	
	comp=Z,4µm,20.4s,baz=6.5,slow=40							
ROSC				ScP		**ScP**	**05 28 02.1**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=96,slow=4.9,SNR=5.9							
ROSC	**El Rosal**	**15.08**	**209**	P		**P**	**05 19 38.9**	**-1.0**
ROSC				*eSn*		**Sn**	**05 22 23.3**	**-1.0**
ROSC				S		**Sn**	**05 22 29.0**	**+4.7**
ROSC				ScP		**ScP**	**05 28 02.1**	**+0.6**
UPA	**Univ. de Panam**	**15.19**	**234**	*eS*		**Sn**	**05 22 23.4**	**-2.8**
BCIP	**Isla Barro Col**	**15.31**	**235**	*eP*		**P**	**05 19 41.5**	**-0.5**
BCIP	**Isla Barro Col**	**15.31**	**235**	*ePn*		**P**	**05 19 41.2**	**-0.7**
	comp=Z,4µm,1.7s							
ZANG	**Zanguenga, Cho**	**15.46**	**235**	*eP*		**P**	**05 19 44.0**	**+0.3**
AZU	**Azuero**	**16.50**	**233**	*eP*		**P**	**05 19 55.6**	**+0.4**
BRU2	**Volcan**	**17.82**	**240**	*eP*		**Pn**	**05 20 11.5**	**+0.8**
CTCR	**Cotoan**	**17.82**	**241**	*eP*		**Pn**	**05 20 11.3**	**+0.5**
URSC	**Urasca**	**18.20**	**245**	*eP*		**Pn**	**05 20 16.1**	**+0.9**
ACR	**Cerro Adams**	**18.29**	**241**	*eP*		**P**	**05 20 15.6**	**+0.6**
BUS	**Buena Vista**	**18.32**	**244**	*eP*		**Pn**	**05 20 17.9**	**+0.9**
RGRS	**Roger Stewart**	**18.73**	**324**	*eP*		**Pn**	**05 20 20.4**	**-0.7**
	comp=Z,53nm,0.3s							
QCR	**Quepos**	**18.73**	**244**	*eP*		**Pn**	**05 20 20.9**	**-0.5**
NHSC	**New Hope**	**18.86**	**324**	*eP*		**P**	**05 20 21.6**	**+0.6**
	comp=Z,86nm,1.5s							
NHSC				*eS*		S	05 23 36.3	-13
NHSC				*eScP*		**ScP**	**05 28 09.6**	**+1.2**
JTS	**JuntasAbangare**	**19.01**	**248**	P		**Pn**	**05 20 24.7**	**0.0**
	comp=Z,4µm,1.4s,SNR=76							
JTS	**JuntasAbangare**	**19.01**	**248**	P		**Pn**	**05 20 24.1**	**-0.5**
	comp=Z,12nm,0.3s,baz=76,slow=3.0,SNR=88							
JTS				S		**S**	**05 23 52.3**	**-0.4**
	comp=Z,2.3nm,0.3s,baz=254,slow=19,SNR=7.4							
JTS	**JuntasAbangare**	**19.01**	**248**	P		**Pn**	**05 20 24.1**	**-0.5**
JTS				S		**S**	**05 23 52.3**	**-0.4**
JTS				*eS*		**Sn**	**05 23 53.9**	**-4.3**
JTS				pmax		pmax		
	comp=Z,376nm,1.4s							
JTS	**JuntasAbangare**	**19.01**	**248**	P		**Pn**	**05 20 24.1**	**-0.5**
	comp=Z,376nm,1.4s							
JTS				S		**S**	**05 23 52.3**	**-0.4**
JTS				*eS*		**Sn**	**05 23 53.9**	**-4.3**
JCR	**Jicaral**	**19.35**	**247**	*eP*		**P**	**05 20 27.2**	**+0.8**
CAO	**Cobano**	**19.41**	**246**	*eP*		**P**	**05 20 27.8**	**+0.7**
CNNC	**Cliffs of the**	**19.42**	**333**	*eP*		**P**	**05 20 27.3**	**+0.3**
	comp=Z,205nm,0.4s							
CNNC				*eS*		S	05 23 46.4	-14
VCR	**Vista de Mar**	**19.68**	**248**	*eP*		**P**	**05 20 29.8**	**-0.3**
TIGA	**Tifton**	**19.85**	**314**	*eP*		**P**	**05 20 32.6**	**+0.9**
	comp=Z,2µm,1.6s							
TIGA	**Tifton**	**19.85**	**314**	P		**Pn**	**05 20 33.5**	**-0.8**
	baz=20,SNR=88							
TEIG	**Tepich**	**20.07**	**279**	P		**P**	**05 20 34.8**	**+0.6**
	comp=Z,130nm,0.5s,baz=55,slow=2.4,SNR=146							
TEIG	**Tepich**	**20.07**	**279**	*eP*		**P**	**05 20 34.9**	**+0.6**
	comp=Z,2µm,1.8s							
TEIG				*eS*		**S**	**05 24 11.2**	**-2.6**
PTGA	**Pitinga**	**20.15**	**159**	P		**P**	**05 20 35.0**	**-0.1**
	comp=Z,90nm,0.5s,baz=351,slow=12,SNR=114							
PTGA	**Pitinga**	**20.15**	**159**	*eP*		**P**	**05 20 35.4**	**+0.3**
PTGA				*eS*		**S**	**05 24 15.2**	**0.0**
KMSC	**Kings Mountain**	**21.02**	**326**	*eP*		**P**	**05 20 44.4**	**+0.2**
KMSC				*eS*		S	05 24 22.1	-10
KMSC	**Kings Mountain**	**21.02**	**326**	⇑P		**P**	**05 20 45.1**	**+0.8**
	baz=21							
GOGA	**Godfrey**	**21.03**	**319**	*eP*		**P**	**05 20 45.0**	**+0.7**
GOGA				*eS*		**S**	**05 24 26.0**	**-6.1**
GOGA				pmax		pmax		
	comp=Z,831nm,1.6s							
GOGA	**Godfrey**	**21.03**	**319**	*eP*		**P**	**05 20 45.0**	**+0.7**
	comp=Z,831nm,1.6s							
GOGA				*eS*		**S**	**05 24 26.0**	**-6.1**
OTAV	**Otavalo**	**21.10**	**213**	*eP*		**P**	**05 20 47.8**	**+2.0**
	comp=Z,1µm,1.4s							
OTAV				*eS*		**S**	**05 24 38.0**	**+3.4**
OTAV				*eScP*		**ScP**	**05 28 15.2**	**+0.7**
JSRW	**J. Sargeant Re**	**21.53**	**336**	*eP*		**P**	**05 20 49.8**	**+0.2**
JSRW				*eS*		**S**	**05 24 34.5**	**-7.1**
LBRS	**Las Brisas**	**21.55**	**261**	*eP*		**P**	**05 20 54.3**	**+4.1**
LFRS	**El Faro**	**21.60**	**261**	*eS*		pP	05 21 12.4	+0.3
CBN	**Corbin Frederi**	**21.79**	**338**	*eP*		**P**	**05 20 52.8**	**+0.4**
	comp=Z,289nm,0.8s							
VWCC	**Virginia Weste**	**22.02**	**332**	*eP*		**P**	**05 20 55.6**	**+0.7**
VWCC				*e*			05 24 49.2	
BRAL	**Brewton**	**22.08**	**309**	*eP*		**P**	**05 20 57.0**	**+1.5**
	comp=Z,1µm,1.2s							
BLA	**Blacksburg**	**22.20**	**331**	*eP*		**P**	**05 20 57.4**	**+0.7**
BLA				pmax		pmax		
	comp=Z,759nm,1.3s							
BLA	**Blacksburg**	**22.20**	**331**	*eP*		**P**	**05 20 57.4**	**+0.7**
	comp=Z,759nm,1.3s							
SDMD	**Soldier's Deli**	**22.69**	**340**	*eP*		**P**	**05 21 01.0**	**-0.7**
	comp=Z,66nm,0.7s							
SDMD				*eS*		**S**	**05 25 04.1**	**+2.6**
TKL	**Tuckaleechee C**	**22.75**	**323**	P		**P**	**05 21 02.3**	**0.0**
	comp=Z,32nm,0.4s,baz=146,slow=8.2,SNR=120							
TKL				S		**S**	**05 25 04.1**	**+1.5**
	comp=Z,19nm,0.3s,baz=130,slow=19,SNR=2.7							
TKL	**Tuckaleechee C**	**22.75**	**323**	*eP*		**P**	**05 21 02.5**	**+0.2**
TKL				*e*PP		**pP**	**05 21 24.6**	**+0.3**
TKL				S		Sn	05 25 04.1	-23
TKL				*eS*		Sn	05 25 05.4	-22
TKL	**Tuckaleechee C**	**22.75**	**323**	*eP*		**P**	**05 21 02.5**	**+0.2**
TKL				*ep*P		**pP**	**05 21 24.6**	**+0.3**
TKL				S		Sn	05 25 04.1	-23
TKL				*eS*		Sn	05 25 05.4	-22
LRAL	**Lakeview Retre**	**23.12**	**313**	*eP*		**P**	**05 21 06.8**	**+0.9**
	comp=Z,386nm,0.9s							
LRAL				*eS*		**S**	**05 25 04.5**	**-4.0**
CPNY	**Central Park**	**23.20**	**347**	*eP*		**P**	**05 21 06.7**	**+0.2**
	comp=Z,109nm,0.6s							
CPNY				*ep*P		**pP**	**05 21 28.6**	**-0.5**
LUPA	**Lehigh Univers**	**23.36**	**344**	*eP*		**P**	**05 21 09.3**	**+1.3**
PAL	**Palisades**	**23.40**	**347**	*eP*		**P**	**05 21 09.7**	**+1.4**
PAL				pmax		pmax		
	comp=Z,114nm,0.8s							
PAL	**Palisades**	**23.40**	**347**	*eP*		**P**	**05 21 09.7**	**+1.4**
	comp=Z,114nm,0.8s							
YLE	**Yale**	**23.50**	**349**	*eP*		**P**	**05 21 09.6**	**+0.3**
	comp=Z,176nm,0.5s							
ODNJ	**Ogdensburg**	**23.63**	**346**	*eP*		**P**	**05 21 11.8**	**+1.3**
	comp=Z,111nm,1.0s							
BRYW	**Bryant College**	**23.87**	**352**	*eP*		**P**	**05 21 14.9**	**+2.3**
SSPA	**Standing Stone**	**24.14**	**340**	*eP*		**P**	**05 21 16.3**	**+1.2**
	comp=Z,232nm,1.2s							
QUA2	**Belchertown**	**24.34**	**351**	*eP*		**P**	**05 21 17.7**	**+0.9**
	comp=Z,20nm,0.6s							
KSPA	**Keystone Colle**	**24.36**	**344**	*eP*		**P**	**05 21 18.9**	**+1.8**
	comp=Z,408nm,1.6s							
HRV	**Adam Dziewonsk**	**24.45**	**352**	*eP*		**P**	**05 21 19.4**	**+1.6**
HRV				pmax		pmax		
	comp=Z,109nm,0.7s							
HRV	**Adam Dziewonsk**	**24.45**	**352**	*eP*		**P**	**05 21 19.4**	**+1.6**
	comp=Z,109nm,0.7s							
TRY	**Troy**	**25.01**	**349**	P		**P**	**05 21 22.6**	**-0.3**
	comp=Z,187nm,1.1s							
BINY	**Binghamton**	**25.02**	**344**	*eP*		**P**	**05 21 24.2**	**+1.2**
	comp=Z,1µm,2.0s							
BINY				*ep*P		**pP**	**05 21 46.5**	**-1.2**
FFD	**Franklin Falls**	**25.41**	**352**	*eP*		**P**	**05 21 28.3**	**+1.8**
	comp=Z,351nm,1.1s							
WVT	**Waverly**	**25.52**	**318**	*eP*		**P**	**05 21 27.6**	**0.0**
WVT				pmax		pmax		
	comp=Z,313nm,1.4s							
WVT	**Waverly**	**25.52**	**318**	*eP*		**P**	**05 21 27.6**	**0.0**
	comp=Z,313nm,1.4s							
OXF	**Oxford**	**25.61**	**314**	*eP*		**P**	**05 21 29.0**	**+0.6**
OXF				pmax		pmax		
	comp=Z,885nm,1.5s							
OXF	**Oxford**	**25.61**	**314**	*eP*		**P**	**05 21 29.0**	**+0.6**
	comp=Z,885nm,1.5s							
ACCN	**Adirondack Com**	**25.64**	**349**	*eP*		**P**	**05 21 30.2**	**+1.6**
	comp=Z,148nm,0.6s							
HNH	**Hanover**	**25.73**	**351**	*eP*		**P**	**05 21 30.8**	**+1.4**
	comp=Z,792nm,0.5s							
ACSO	**Alum Creek Sta**	**25.82**	**331**	*eP*		**P**	**05 21 32.0**	**+1.8**
	comp=Z,280nm,1.1s							
ALLY	**Alegheny Colle**	**25.83**	**337**	*eP*		**P**	**05 21 32.1**	**+1.8**
	comp=Z,215nm,1.0s							
WCI	**Wyandotte Cave**	**26.00**	**324**	*eP*		**P**	**05 21 32.5**	**+0.6**
WCI				pmax		pmax		
	comp=Z,632nm,1.8s							
WCI	**Wyandotte Cave**	**26.00**	**324**	*eP*		**P**	**05 21 32.5**	**+0.6**
	comp=Z,632nm,1.8s							
MMNY	**Mt. Morris Dam**	**26.05**	**342**	*eP*		**P**	**05 21 34.5**	**+2.2**
	comp=Z,424nm,1.3s							
MDV	**Middlebury**	**26.16**	**350**	*eP*		**P**	**05 21 34.6**	**+1.4**
	comp=Z,2µm,0.8s							
WVL	**Waterville**	**26.30**	**356**	*eP*		**P**	**05 21 36.2**	**+1.7**
	comp=Z,43nm,0.4s							
NCB	**Newcomb**	**26.31**	**348**	*eP*		**P**	**05 21 35.5**	**+0.8**
	comp=Z,45nm,0.4s							
CMIG	**Matias Romero**	**26.48**	**272**	P		**P**	**05 21 33.5**	**-3.0**
	comp=Z,4.2nm,0.3s,baz=95,slow=4.9,SNR=12							
GLAT	**Glass**	**26.54**	**317**	*eP*		**P**	**05 21 38.0**	**+1.3**
USIN	**University of**	**26.60**	**322**	*eP*		**P**	**05 21 38.2**	**+0.8**
BLO	**Bloomington**	**26.79**	**325**	*eP*		**P**	**05 21 40.0**	**+1.0**
BLO				pmax		pmax		
	comp=Z,317nm,1.6s							
BLO	**Bloomington**	**26.79**	**325**	*eP*		**P**	**05 21 40.0**	**+1.0**
	comp=Z,317nm,1.6s							
PVMO	**Portageville**	**26.89**	**317**	*eP*		**P**	**05 21 41.3**	**+1.4**
	comp=Z,207nm,1.0s							
LONY	**Lake Ozonia**	**27.01**	**348**	*eP*		**P**	**05 21 41.2**	**+0.3**
	comp=Z,40nm,1.0s							
PTN	**Potsdam (NY)**	**27.04**	**348**	*eP*		**P**	**05 21 42.8**	**+1.6**
PTN				pmax		pmax		
	comp=Z,156nm,1.4s							
PTN	**Potsdam (NY)**	**27.04**	**348**	*eP*		**P**	**05 21 42.8**	**+1.6**
	comp=Z,156nm,1.4s							
PARMO	**Parma**	**27.07**	**317**	*eP*		**P**	**05 21 42.7**	**+1.2**
PARMO				*eS*		**S**	**05 26 11.7**	**+0.5**
SAML	**Samuel**	**27.32**	**172**	*eP*		**P**	**05 21 43.7**	**-0.3**
OLIL	**Olney**	**27.37**	**322**	*eP*		**P**	**05 21 45.3**	**+1.1**
	comp=Z,305nm,1.0s							
340A	**Bronson**	**27.51**	**304**	⇓P		**P**	**05 21 47.0**	**+1.4**
	baz=28,SNR=40							
340A				⇓ScP		**ScP**	**05 28 30.9**	**-0.4**
	baz=28							
PBMO	**Poplar Bluff**	**27.58**	**317**	*eP*		**P**	**05 21 46.3**	**+0.2**
	comp=Z,346nm,2.0s							
ATAH	**Atahualpa**	**27.59**	**205**	P		**P**	**05 21 48.0**	**+1.2**
	comp=Z,156nm,0.9s,baz=30,slow=7.6,SNR=72							
539A	**Cross D Ranch,**	**27.73**	**300**	⇓P		**P**	**05 21 49.5**	**+2.0**
	baz=28							
AAM	**Ann Arbor**	**27.79**	**333**	*eP*		**P**	**05 21 48.9**	**+1.0**
AAM				pmax		pmax		
	comp=Z,153nm,1.1s							
AAM	**Ann Arbor**	**27.79**	**333**	*eP*		**P**	**05 21 48.9**	**+1.0**
	comp=Z,153nm,1.1s							
UALR	**University of**	**27.81**	**311**	*eP*		**P**	**05 21 49.6**	**+1.5**
	comp=Z,171nm,1.4s							
SFIN	**Lafyette**	**27.96**	**326**	*eP*		**P**	**05 21 50.3**	**+0.9**
SFIN	**Lafayette**	**27.96**	**326**	⇑P		**P**	**05 21 51.7**	**+2.3**
	baz=28,SNR=23							
439A	**Center Grove,**	**27.99**	**302**	⇑P		**P**	**05 21 51.4**	**+1.6**
	baz=28,SNR=8.1							
439A				⇑ScP		**ScP**	**05 28 34.2**	**+1.4**
	baz=28							
339A	**Huntington**	**28.01**	**303**	⇓P		**P**	**05 21 51.8**	**+1.8**
	baz=28,SNR=28							
339A				⇓ScP		**ScP**	**05 28 32.9**	**+0.1**
	baz=28							
738A	**Farr-Stevens R**	**28.12**	**297**	⇑P		**P**	**05 21 52.7**	**+1.6**
	baz=28							
239A	**Gary**	**28.20**	**304**	⇓P		**P**	**05 21 53.7**	**+2.0**
	baz=28,SNR=28							
239A				⇓ScP		**ScP**	**05 28 33.4**	**0.0**
	baz=28							
VHO	**Vista Hermosa**	**28.23**	**272**	P		P	05 21 47.3	-5.0
NATX	**Nacogdoches**	**28.25**	**304**	*eP*		**P**	**05 21 54.0**	**+1.9**
SADO	**Sadowa**	**28.27**	**342**	P		**P**	**05 21 52.5**	**+0.3**
	comp=Z,15nm,1.0s,baz=171,slow=7.0,SNR=13							
538A	**Harpers Horsep**	**28.39**	**300**	⇓P		**P**	**05 21 55.4**	**+2.0**
	baz=28,SNR=10							
139A	**Bunkhouse Ranc**	**28.40**	**306**	⇑P		**P**	**05 21 55.2**	**+1.8**
	baz=28,SNR=18							
139A				⇑ScP		**ScP**	**05 28 34.8**	**+0.8**
	baz=28							
Z39A	**Irene McRaven,**	**28.46**	**307**	⇓P		**P**	**05 21 55.9**	**+1.9**
	baz=28,SNR=8.8							
438A	**Sam Houston St**	**28.55**	**301**	⇑P		**P**	**05 21 56.6**	**+1.8**
	baz=28,SNR=39							
438A				⇑ScP		**ScP**	**05 28 36.1**	**+1.6**
	baz=28							
SLM	**Saint Louis**	**28.58**	**320**	*eP*		**P**	**05 21 55.7**	**+0.7**
SLM	**Saint Louis**	**28.58**	**320**	*eP*		**P**	**05 21 55.7**	**+0.7**
MIAR	**Mount Ida**	**28.59**	**310**	*eP*		**P**	**05 21 55.5**	**+0.4**
MIAR				pmax		pmax		
	comp=Z,63nm,1.0s							
MIAR	**Mount Ida**	**28.59**	**310**	*eP*		**P**	**05 21 55.5**	**+0.4**
	comp=Z,63nm,1.0s							
HKT	**Hockley**	**28.59**	**299**	*eP*		**P**	**05 21 56.3**	**+1.1**
HKT	**Hockley**	**28.59**	**299**	*eP*		**P**	**05 21 56.2**	**+1.1**
338A	**Crockett**	**28.62**	**302**	⇑P		**P**	**05 21 57.6**	**+2.2**
	baz=29,SNR=50							
338A				⇑ScP		**ScP**	**05 28 36.4**	**+1.6**
	baz=29							
238A	**Jacksonville**	**28.70**	**304**	⇓P		**P**	**05 21 58.4**	**+2.2**
	baz=29,SNR=28							
238A				⇓ScP		**ScP**	**05 28 36.6**	**+1.6**
	baz=29							
138A	**Matatall Enter**	**28.93**	**305**	⇑P		**P**	**05 22 00.4**	**+2.2**
	baz=29,SNR=56							
138A				⇑ScP		**ScP**	**05 28 35.6**	**-0.1**
	baz=29							
537A	**Green Hill Far**	**29.03**	**299**	⇓P		**P**	**05 22 01.1**	**+2.0**
	baz=29,SNR=22							
537A				⇑ScP		**ScP**	**05 28 36.7**	**+0.6**
	baz=29							
337A	**Centerville**	**29.07**	**302**	⇓P		**P**	**05 22 01.6**	**+2.2**
	baz=29,SNR=30							
337A				⇑ScP		**ScP**	**05 28 37.5**	**+1.3**
	baz=29							
Z38A	**Mt. Pleasant**	**29.08**	**306**	⇓P		**P**	**05 22 01.3**	**+1.8**
	baz=29,SNR=25							
Z38A				⇓ScP		**ScP**	**05 28 37.6**	**+1.4**
	baz=29							
437A	**Phantom Ranch,**	**29.12**	**301**	⇑P		**P**	**05 22 01.5**	**+1.7**
	baz=29,SNR=8.2							
437A				⇑ScP		**ScP**	**05 28 38.6**	**+2.2**
	baz=29							
237A	**Washetta, Mont**	**29.25**	**303**	⇑P		**P**	**05 22 02.9**	**+1.9**
	baz=29,SNR=76							
237A				⇑ScP		**ScP**	**05 28 39.2**	**+2.5**
	baz=29							
HDIL	**Hopedale**	**29.28**	**324**	*eP*		**P**	**05 22 02.1**	**+0.9**
736A	**Circle Diamond**	**29.36**	**297**	⇓P		**P**	**05 22 04.3**	**+2.4**
	baz=29,SNR=35							
736A				⇓ScP		**ScP**	**05 28 39.7**	**+2.6**
	baz=29,SNR=7.1							
137A	**Heron Place, G**	**29.42**	**305**	⇑P		**P**	**05 22 04.7**	**+2.1**
	baz=29,SNR=32							
137A				⇓ScP		**ScP**	**05 28 39.3**	**+2.0**
	baz=29							
636A	**Smothers Creek**	**29.48**	**298**	⇑P		**P**	**05 22 05.0**	**+2.0**
	baz=29,SNR=67							
636A				⇓ScP		**ScP**	**05 28 40.6**	**+3.1**
	baz=29,SNR=6.9							
W38A	**Poteau**	**29.52**	**310**	⇑P		**P**	**05 22 05.5**	**+2.1**
	baz=30,SNR=135							
W38A				⇑ScP		**ScP**	**05 28 39.0**	**+1.4**
	baz=30							
Z37A	**Pogue Cattle C**	**29.55**	**306**	⇑P		**P**	**05 22 05.5**	**+1.8**
	baz=30,SNR=65							
Z37A				⇓ScP		**ScP**	**05 28 39.3**	**+1.6**
	baz=30							
PAYG	**Puerto Ayora**	**29.56**	**233**	*eP*		**P**	**05 22 05.8**	**+2.0**
436A	**Wall Ranch, Ga**	**29.64**	**300**	⇓P		**P**	**05 22 06.2**	**+1.7**
	baz=30,SNR=39							
436A				⇑ScP		**ScP**	**05 28 39.4**	**+1.4**
	baz=30,SNR=12							
536A	**Bastrop**	**29.65**	**299**	⇓P		**P**	**05 22 06.0**	**+1.4**
	baz=30,SNR=20							
536A				⇑ScP		**ScP**	**05 28 39.4**	**+1.4**
	baz=30,SNR=5.8							
035Z	**Hargill**	**29.71**	**292**	⇓P		**P**	**05 22 06.5**	**+1.4**
	baz=30,SNR=11							
035Z				⇓ScP		**ScP**	**05 28 39.6**	**+1.3**
	baz=30							
KVTX	**Kingsville**	**29.75**	**294**	*eP*		**P**	**05 22 07.0**	**+1.5**
035A	**Encino**	**29.82**	**292**	⇓P		**P**	**05 22 08.1**	**+2.0**
	baz=30,SNR=8.7							
035A				⇑ScP		**ScP**	**05 28 41.4**	**+2.8**
	baz=30							
236A	**Katherine and**	**29.82**	**303**	⇑P		**P**	**05 22 07.8**	**+1.8**
	baz=30,SNR=46							
236A				⇓ScP		**ScP**	**05 28 39.5**	**+1.0**
	baz=30,SNR=12							
835A	**Beeville**	**29.85**	**295**	⇑P		**P**	**05 22 08.3**	**+2.0**
	baz=30,SNR=23							
835A				⇓ScP		**ScP**	**05 28 40.7**	**+2.0**
	baz=30,SNR=8.4							
336A	**Riesel**	**29.87**	**302**	⇓P		**P**	**05 22 08.2**	**+1.8**
	baz=30,SNR=18							
336A				⇓ScP		**ScP**	**05 28 40.0**	**+1.2**
	baz=30,SNR=11							
X37A	**Clayton**	**29.93**	**308**	⇑P		**P**	**05 22 08.4**	**+1.4**
	baz=30,SNR=81							
X37A				⇑ScP		**ScP**	**05 28 39.7**	**+0.8**
	baz=30							
735A	**Kenedy**	**29.96**	**296**	⇑P		**P**	**05 22 09.3**	**+2.0**
	baz=30,SNR=43							
735A				⇓ScP		**ScP**	**05 28 40.8**	**+1.8**
	baz=30							
535A	**Dale**	**30.06**	**299**	⇓P		**P**	**05 22 09.4**	**+1.2**
	baz=30,SNR=33							
535A				⇑ScP		**ScP**	**05 28 41.1**	**+1.7**
	baz=30							
635A	**Leesville**	**30.06**	**297**	⇓P		**P**	**05 22 09.4**	**+1.2**
	baz=30,SNR=19							
635A				⇑ScP		**ScP**	**05 28 40.6**	**+1.2**
	baz=30,SNR=9.1							
W37A	**Quinton**	**30.21**	**309**	⇑P		**P**	**05 22 10.4**	**+0.9**
	baz=30,SNR=72							
W37A				⇓ScP		**ScP**	**05 28 40.6**	**+0.8**
	baz=30							
GLMI	**Grayling**	**30.25**	**335**	*eP*		**P**	**05 22 11.2**	**+1.4**
435B	**Jarrell**	**30.29**	**300**	⇑P		**P**	**05 22 11.6**	**+1.4**
	baz=30,SNR=204							
435B				⇓ScP		**ScP**	**05 28 41.6**	**+1.5**
	baz=30,SNR=10							
934A	**Benavides**	**30.30**	**294**	⇓P		**P**	**05 22 11.6**	**+1.3**
	baz=30,SNR=55							
934A				⇑ScP		**ScP**	**05 28 42.1**	**+1.8**
	baz=30							
335A	**Moody**	**30.31**	**301**	⇓P		**P**	**05 22 11.7**	**+1.3**
	baz=30,SNR=130							
335A				⇑ScP		**ScP**	**05 28 41.5**	**+1.3**
	baz=30,SNR=7.3							
034A	**Hebbronville**	**30.35**	**292**	⇓P		**P**	**05 22 12.2**	**+1.4**
	baz=30,SNR=25							
034A				⇑ScP		**ScP**	**05 28 42.2**	**+1.8**
	baz=30,SNR=11							
834A	**Tilden**	**30.44**	**295**	⇓P		**P**	**05 22 13.2**	**+1.6**
	baz=30,SNR=71							
834A				⇓ScP		**ScP**	**05 28 41.7**	**+1.1**
	baz=30,SNR=11							
634A	**China Grove, S**	**30.55**	**297**	⇑P		**P**	**05 22 14.3**	**+1.8**
	baz=30,SNR=22							
634A				⇓ScP		**ScP**	**05 28 42.4**	**+1.4**
	baz=30							
WHTX	**Lake Whitney,**	**30.56**	**302**	*eP*		**P**	**05 22 13.8**	**+1.2**
WHTX	**Lake Whitney,**	**30.56**	**302**	⇑P		**P**	**05 22 14.6**	**+2.0**
	baz=30,SNR=36							
WHTX				⇑ScP		**ScP**	**05 28 42.7**	**+1.7**
	baz=30							
734A	**La Parita Cree**	**30.60**	**296**	⇓P		**P**	**05 22 14.6**	**+1.6**
	baz=31,SNR=46							
734A				⇓ScP		**ScP**	**05 28 42.4**	**+1.2**
	baz=31,SNR=6.3							
X36A	**Centrahoma**	**30.66**	**308**	⇑P		**P**	**05 22 14.3**	**+0.9**
	baz=31,SNR=136			

433A	**Art**	**31.52 299**	⇓P	**P**	**05 22 21.7**	**+0.5**
	baz=32,SNR=306					
433A			⇑ScP	**ScP**	**05 28 45.3**	**+1.0**
	baz=32,SNR=13					
V35A	**Meyer Ranch, C**	**31.52 310**	⇑P	**P**	**05 22 21.8**	**+0.8**
	baz=32,SNR=70					
V35A			⇑ScP	**ScP**	**05 28 44.9**	**+0.8**
	baz=32					
S36A	**Lake Cedric, C**	**31.55 314**	⇓P	**P**	**05 22 21.9**	**+0.7**
	baz=32,SNR=24					
S36A			⇑ScP	**ScP**	**05 28 44.5**	**+0.3**
	baz=32					
NNA	**Nana**	**31.56 198**	P	**P**	**05 22 21.0**	**-0.5**
	comp=Z,31nm,0.5s,baz=359,slow=10,SNR=21					
NNA			ScP	**ScP**	**05 28 44.8**	**+0.2**
	comp=Z,26nm,0.9s,baz=316,slow=7.5,SNR=6.5					
NNA	**Nana**	**31.56 198**	*e*P	**P**	**05 22 22.3**	**+0.8**
NNA			pmax	pmax		
	comp=Z,84nm,1.0s					
NNA	**Nana**	**31.56 198**	*e*P	**P**	**05 22 22.3**	**+0.8**
	comp=Z,84nm,1.0s					
NNA			ScP	**ScP**	**05 28 44.8**	**+0.2**
333A	**Richland Sprin**	**31.59 300**	⇓P	**P**	**05 22 22.5**	**+0.8**
	baz=32,SNR=215					
333A			⇓ScP	**ScP**	**05 28 45.5**	**+1.0**
	baz=32,SNR=12					
832A	**Faith Ranch, C**	**31.70 294**	⇓P	**P**	**05 22 23.0**	**+0.3**
	baz=32,SNR=98					
832A			⇑ScP	**ScP**	**05 28 46.3**	**+1.4**
	baz=32,SNR=17					
233A	**Rising Star**	**31.73 302**	⇓P	**P**	**05 22 23.5**	**+0.6**
	baz=32,SNR=248					
233A			⇓ScP	**ScP**	**05 28 46.4**	**+1.5**
	baz=32,SNR=9.0					
732A	**Laxson Ranch,**	**31.78 295**	⇑P	**P**	**05 22 23.7**	**+0.3**
	baz=32,SNR=77					
732A			⇑ScP	**ScP**	**05 28 45.7**	**+0.6**
	baz=32,SNR=14					
X34A	**Smith Ranch, M**	**31.79 307**	⇑P	**P**	**05 22 24.6**	**+1.2**
	baz=32,SNR=91					
X34A			⇑ScP	**ScP**	**05 28 46.2**	**+1.1**
	baz=32					
632A	**Uvalde**	**31.80 297**	⇓P	**P**	**05 22 24.5**	**+1.0**
	baz=32,SNR=79					
632A			⇑ScP	**ScP**	**05 28 47.1**	**+1.9**
	baz=32,SNR=20					
R36A	**Gordon, Harris**	**31.80 315**	⇑P	**P**	**05 22 23.9**	**+0.5**
	baz=32,SNR=23					
R36A			⇑ScP	**ScP**	**05 28 44.9**	**-0.1**
	baz=32					
T35A	**Sooner Cattle**	**31.81 312**	⇓P	**P**	**05 22 24.5**	**+1.0**
	baz=32,SNR=68					
T35A			⇑ScP	**ScP**	**05 28 45.8**	**+0.7**
	baz=32					
133A	**Hamilton Ranch**	**31.93 303**	⇓P	**P**	**05 22 25.9**	**+1.3**
	baz=32,SNR=52					
133A			⇑ScP	**ScP**	**05 28 47.2**	**+1.6**
	baz=32,SNR=18					
W34A	**Bridge Creek,**	**32.00 308**	*e*P	**P**	**05 22 25.6**	**+0.4**
	comp=Z,234nm,1.0s					
W34A			*e*PcP	**PcP**	**05 25 14.0**	**+1.4**
W34A	**Bridge Creek,**	**32.00 308**	⇓P	**P**	**05 22 25.8**	**+0.6**
	baz=32,SNR=60					
W34A			⇓ScP	**ScP**	**05 28 46.9**	**+1.1**
	baz=32,SNR=8.7					
Z33A	**Whitaker Ranch**	**32.03 304**	⇑P	**P**	**05 22 26.8**	**+1.2**
	baz=32,SNR=100					
Z33A			⇓ScP	**ScP**	**05 28 47.5**	**+1.6**
	baz=32,SNR=9.6					
S35A	**Otter Creek Ra**	**32.03 313**	⇑P	**P**	**05 22 26.3**	**+0.8**
	baz=32,SNR=56					
S35A			⇑ScP	**ScP**	**05 28 46.6**	**+0.8**
	baz=32					
532A	**Rocksprings**	**32.04 298**	⇑P	**P**	**05 22 26.8**	**+1.1**
	baz=32,SNR=153					
532A			⇑ScP	**ScP**	**05 28 47.5**	**+1.4**
	baz=32,SNR=16					
JCT	**Junction City**	**32.04 299**	*e*P	**P**	**05 22 26.3**	**+0.6**
JCT	**Junction City**	**32.04 299**	*e*P	**P**	**05 22 26.3**	**+0.6**
JCT	**Junction City**	**32.04 299**	⇑P	**P**	**05 22 26.2**	**+0.5**
	baz=32,SNR=157					
JCT			⇓ScP	**ScP**	**05 28 47.3**	**+1.3**
	baz=32,SNR=20					
V34A	**Guthrie**	**32.05 309**	*e*P	**P**	**05 22 26.1**	**+0.4**
	comp=Z,298nm,1.1s					
V34A	**Guthrie**	**32.05 309**	⇓P	**P**	**05 22 26.5**	**+0.8**
	baz=32,SNR=100					
V34A			⇓ScP	**ScP**	**05 28 47.1**	**+1.1**
	baz=32					
432A	**Menard**	**32.14 299**	⇑P	**P**	**05 22 27.3**	**+0.8**
	baz=32,SNR=263					
432A			⇑ScP	**ScP**	**05 28 47.5**	**+1.1**
	baz=32,SNR=13					
Y33A	**Hilltop Ranch,**	**32.18 305**	⇓P	**P**	**05 22 28.0**	**+1.3**
	baz=32,SNR=60					
Y33A			⇓ScP	**ScP**	**05 28 48.2**	**+1.8**
	baz=32					
332A	**Millersview**	**32.23 300**	⇑P	**P**	**05 22 27.8**	**+0.4**
	baz=32,SNR=131					
332A			⇑ScP	**ScP**	**05 28 48.3**	**+1.6**
	baz=32,SNR=13					
X33A	**Lawton**	**32.28 306**	⇓P	**P**	**05 22 28.4**	**+0.8**
	baz=32,SNR=193					
X33A			⇑ScP	**ScP**	**05 28 47.9**	**+1.1**
	baz=32,SNR=8.6					
232A	**Coleman**	**32.30 301**	⇓P	**P**	**05 22 28.8**	**+0.9**
	baz=32,SNR=186					
232A			⇑ScP	**ScP**	**05 28 48.4**	**+1.5**
	baz=32,SNR=19					
U34A	**Anderson Ranch**	**32.32 310**	*e*P	**P**	**05 22 28.7**	**+0.7**
	comp=Z,447nm,1.0s					
U34A	**Anderson Ranch**	**32.32 310**	⇑P	**P**	**05 22 28.8**	**+0.7**
	baz=32,SNR=70					
U34A			⇓ScP	**ScP**	**05 28 47.9**	**+1.0**
	baz=32,SNR=5.5					
T34A	**McClaskey Farm**	**32.34 311**	⇑P	**P**	**05 22 29.2**	**+1.1**
	baz=32,SNR=45					
T34A			⇓ScP	**ScP**	**05 28 47.8**	**+0.9**
	baz=32					
SCIA	**State Center**	**32.40 322**	*e*P	**P**	**05 22 29.1**	**+0.4**
631A	**Perdido Creek**	**32.45 296**	⇑P	**P**	**05 22 30.1**	**+0.9**
	baz=32,SNR=100					
631A			⇑ScP	**ScP**	**05 28 48.1**	**+0.7**
	baz=32,SNR=33					
W33A	**Caddo, Fort Co**	**32.48 307**	⇑P	**P**	**05 22 30.3**	**+0.8**
	baz=32,SNR=36					
W33A			⇓ScP	**ScP**	**05 28 49.0**	**+1.6**
	baz=32,SNR=10					
ABTX	**Abilene, Hawle**	**32.52 302**	*e*P	**P**	**05 22 30.5**	**+0.7**
	comp=Z,450nm,0.9s					
ABTX	**Abilene, Hawle**	**32.52 302**	⇓P	**P**	**05 22 30.5**	**+0.7**
	baz=32,SNR=333					
ABTX			⇑ScP	**ScP**	**05 28 48.7**	**+1.1**
	baz=32,SNR=11					
WMOK	**Wichita Mounta**	**32.56 307**	*e*P	**P**	**05 22 30.3**	**+0.1**
WMOK	**Wichita Mounta**	**32.56 307**	*e*P	**P**	**05 22 30.3**	**+0.1**
531A	**Rocksprings**	**32.59 298**	⇑P	**P**	**05 22 31.5**	**+1.0**
	baz=33,SNR=58					
531A			⇑ScP	**ScP**	**05 28 49.3**	**+1.4**
	baz=33,SNR=15					
S34A	**Willow Spring**	**32.59 313**	⇓P	**P**	**05 22 31.4**	**+1.0**
	baz=32,SNR=13					
S34A			⇓ScP	**ScP**	**05 28 48.5**	**+0.7**
	baz=32					
Z32A	**Haskell**	**32.60 304**	⇑P	**P**	**05 22 31.6**	**+1.1**
	baz=33,SNR=104					
Z32A			⇑ScP	**ScP**	**05 28 50.1**	**+2.2**
	baz=33,SNR=13					
V33A	**Lossen Ranch,**	**32.62 309**	⇑P	**P**	**05 22 31.2**	**+0.6**
	baz=33,SNR=50					
V33A			⇑ScP	**ScP**	**05 28 48.9**	**+1.0**
	baz=33					
U33A	**Lingo Farm, Me**	**32.74 310**	⇑P	**P**	**05 22 32.3**	**+0.6**
	baz=33,SNR=77					
U33A			⇑ScP	**ScP**	**05 28 49.6**	**+1.2**
	baz=33					
431A	**Sonora**	**32.77 299**	⇓P	**P**	**05 22 32.6**	**+0.6**
	baz=33,SNR=253					
431A			⇑ScP	**ScP**	**05 28 50.4**	**+1.8**
	baz=33,SNR=20					
331A	**San Angelo**	**32.77 300**	⇓P	**P**	**05 22 32.7**	**+0.6**
	baz=33,SNR=173					
331A			⇑ScP	**ScP**	**05 28 50.2**	**+1.6**
	baz=33,SNR=13					
Y32A	**R-V Farms, Ver**	**32.81 305**	⇑P	**P**	**05 22 32.9**	**+0.6**
	baz=33,SNR=66					
Y32A			⇑ScP	**ScP**	**05 28 50.1**	**+1.5**
	baz=33,SNR=13					
X32A	**Elmer**	**32.84 306**	⇓P	**P**	**05 22 33.3**	**+0.7**
	baz=33,SNR=80					
X32A			⇑ScP	**ScP**	**05 28 50.0**	**+1.3**
	baz=33					
231A	**Bronte**	**32.86 301**	⇑P	**P**	**05 22 33.1**	**+0.3**
	baz=33,SNR=151					
231A			⇑ScP	**ScP**	**05 28 50.2**	**+1.3**
	baz=33,SNR=20					
KSU1	**Kansas State U**	**32.94 315**	*e*P	**P**	**05 22 32.5**	**-0.8**
	comp=Z,35nm,0.4s					
KSU1	**Kansas State U**	**32.94 315**	⇓P	**P**	**05 22 33.6**	**+0.2**
	baz=33,SNR=22					
KSU1			⇓ScP	**ScP**	**05 28 49.0**	**+0.1**
	baz=33					
W32A	**Sentinel**	**33.06 307**	⇑P	**P**	**05 22 35.2**	**+0.6**
	baz=33,SNR=129					
W32A			⇑ScP	**ScP**	**05 28 50.7**	**+1.3**
	baz=33					
T33A	**Patterson Ranc**	**33.12 311**	⇑P	**P**	**05 22 35.8**	**+0.8**
	baz=33,SNR=34					
T33A			⇓ScP	**ScP**	**05 28 50.5**	**+0.9**
	baz=33					
131A	**Roby**	**33.13 302**	⇑P	**P**	**05 22 35.8**	**+0.6**
	baz=33,SNR=97					
131A			⇓ScP	**ScP**	**05 28 51.7**	**+1.9**
	baz=33,SNR=16					
Z31A	**Sharp Cattle R**	**33.13 303**	⇑P	**P**	**05 22 35.6**	**+0.5**
	baz=33,SNR=71					
Z31A			⇑ScP	**ScP**	**05 28 51.9**	**+2.1**
	baz=33,SNR=15					
S33A	**Kaszmaul Farm,**	**33.17 312**	⇑P	**P**	**05 22 36.5**	**+1.0**
	baz=33,SNR=17					
S33A			⇑ScP	**ScP**	**05 28 51.1**	**+1.3**
	baz=33					
COWI	**Conover**	**33.20 332**	*e*P	**P**	**05 22 36.5**	**+0.9**
	comp=Z,75nm,1.0s					
COWI			*e*S	**S**	**05 27 48.5**	**+1.5**
530A	**J-C Ranch, Com**	**33.25 297**	⇑P	**P**	**05 22 36.6**	**+0.3**
	baz=33,SNR=202					
530A			⇓ScP	**ScP**	**05 28 52.1**	**+1.8**
	baz=33,SNR=24					
430A	**Baggett Ranch,**	**33.31 298**	⇓P	**P**	**05 22 37.3**	**+0.5**
	baz=33,SNR=88					
430A			⇑ScP	**ScP**	**05 28 51.6**	**+1.1**
	baz=33,SNR=16					
U32A	**Winter Ranch,**	**33.37 309**	⇑P	**P**	**05 22 38.4**	**+1.2**
	baz=33,SNR=35					
U32A			⇑ScP	**ScP**	**05 28 52.3**	**+1.8**
	baz=33					
330A	**Mertzon**	**33.42 300**	⇓P	**P**	**05 22 38.3**	**+0.5**
	baz=33,SNR=275					
330A			⇓ScP	**ScP**	**05 28 52.1**	**+1.3**
	baz=33,SNR=18					
Y31A	**Rekieta Farm,**	**33.44 304**	⇓P	**P**	**05 22 38.4**	**+0.6**
	baz=33,SNR=58					
Y31A			⇑ScP	**ScP**	**05 28 52.5**	**+1.7**
	baz=33,SNR=14					
X31A	**McDonald Ranch**	**33.45 306**	⇓P	**P**	**05 22 38.3**	**+0.4**
	baz=33,SNR=79					
X31A			⇑ScP	**ScP**	**05 28 52.2**	**+1.4**
	baz=33,SNR=14					
R33A	**Olander Ranch,**	**33.49 313**	⇓P	**P**	**05 22 39.3**	**+1.1**
	baz=33,SNR=38					
R33A			⇑ScP	**ScP**	**05 28 51.3**	**+0.4**
	baz=33					
230A	**Sterling City**	**33.49 300**	⇑P	**P**	**05 22 38.8**	**+0.5**
	baz=34,SNR=166					
230A			⇓ScP	**ScP**	**05 28 52.8**	**+1.7**
	baz=34,SNR=14					
130A	**Snyder**	**33.57 302**	⇓P	**P**	**05 22 39.6**	**+0.6**
	baz=34,SNR=39					
130A			⇓ScP	**ScP**	**05 28 52.9**	**+1.5**
	baz=34,SNR=12					
W31A	**Holland Ranch,**	**33.62 307**	⇓P	**P**	**05 22 39.7**	**+0.3**
	baz=34,SNR=44					
W31A			⇑ScP	**ScP**	**05 28 53.1**	**+1.7**
	baz=34					
T32A	**Huddler Ranch,**	**33.65 311**	⇓P	**P**	**05 22 40.6**	**+1.0**
	baz=34,SNR=23					
T32A			⇑ScP	**ScP**	**05 28 52.7**	**+1.2**
	baz=34					
Q33A	**Connelly Farm,**	**33.71 314**	⇑P	**P**	**05 22 41.3**	**+1.2**
	baz=34,SNR=60					
Q33A			⇑ScP	**ScP**	**05 28 52.0**	**+0.4**
	baz=34					
V31A	**Spring Creek L**	**33.76 308**	⇓P	**P**	**05 22 41.8**	**+1.2**
	baz=34,SNR=61					
V31A			⇑ScP	**ScP**	**05 28 53.8**	**+1.9**
	baz=34					
429A	**Davenport Ranc**	**33.83 298**	⇑P	**P**	**05 22 41.5**	**+0.2**
	baz=34,SNR=122					
429A			⇑ScP	**ScP**	**05 28 54.3**	**+2.0**
	baz=34,SNR=14					
P33A	**Williams Farm,**	**33.83 315**	⇑P	**P**	**05 22 41.9**	**+0.8**
	baz=34,SNR=6.5					
P33A			⇓ScP	**ScP**	**05 28 52.9**	**+0.8**
	baz=34					
S32A	**Newby Ranch, P**	**33.88 311**	⇓P	**P**	**05 22 42.4**	**+0.8**
	baz=34,SNR=12					
S32A			⇑ScP	**ScP**	**05 28 53.3**	**+1.0**
	baz=34,SNR=5.1					
Z30A	**Sanderson Ranc**	**33.91 303**	⇑P	**P**	**05 22 42.5**	**+0.6**
	baz=34,SNR=137					
Z30A			⇓ScP	**ScP**	**05 28 53.2**	**+0.6**
	baz=34,SNR=19					
Y30A	**Stafford Cattl**	**33.91 304**	⇑P	**P**	**05 22 42.3**	**+0.4**
	baz=34,SNR=40					
Y30A			⇑ScP	**ScP**	**05 28 52.2**	**-0.3**
	baz=34,SNR=13					
529A	**Stev Forest Ra**	**33.99 297**	⇑P	**P**	**05 22 44.0**	**+1.3**
	baz=34,SNR=10					
529A			⇓ScP	**ScP**	**05 28 54.8**	**+2.0**
	baz=34					
U31A	**Nine Bar Ranch**	**34.00 309**	⇑P	**P**	**05 22 43.6**	**+1.0**
	baz=34,SNR=15					
U31A			⇑ScP	**ScP**	**05 28 55.1**	**+2.3**
	baz=34					
R32A	**Long Quarter,**	**34.05 313**	⇓P	**P**	**05 22 44.4**	**+1.4**
	baz=34,SNR=38					
R32A			⇑ScP	**ScP**	**05 28 53.7**	**+0.8**
	baz=34					
X30A	**Coker Ranch, T**	**34.08 305**	⇑P	**P**	**05 22 43.8**	**+0.4**
	baz=34,SNR=46					
X30A			⇑ScP	**ScP**	**05 28 55.3**	**+2.2**
	baz=34					
229A	**Bryant Ranch,**	**34.09 300**	⇑P	**P**	**05 22 44.2**	**+0.7**
	baz=34,SNR=70					
229A			⇓ScP	**ScP**	**05 28 55.0**	**+1.8**
	baz=34,SNR=12					
W30A	**Crocket Farms**	**34.10 306**	⇑P	**P**	**05 22 43.7**	**+0.1**
	baz=34,SNR=6.1					
W30A			⇑ScP	**ScP**	**05 28 56.0**	**+2.8**
	baz=34					
329A	**Wagon Wheel Ra**	**34.10 299**	⇓P	**P**	**05 22 44.3**	**+0.6**
	baz=34,SNR=413					
329A			⇑ScP	**ScP**	**05 28 54.7**	**+1.4**
	baz=34,SNR=14					
Q32A	**Meitler Ranch,**	**34.21 314**	⇑P	**P**	**05 22 44.8**	**+0.5**
	baz=34,SNR=38					
Q32A			⇑ScP	**ScP**	**05 28 54.5**	**+1.1**
	baz=34					
S31A	**Mullinville**	**34.24 311**	⇑P	**P**	**05 22 45.7**	**+1.0**
	baz=34,SNR=122					
S31A			⇑ScP	**ScP**	**05 28 54.6**	**+1.0**
	baz=34,SNR=5.0					
129A	**Stewart Farms,**	**34.31 301**	⇑P	**P**	**05 22 46.1**	**+0.6**
	baz=34,SNR=152					
129A			⇓ScP	**ScP**	**05 28 55.4**	**+1.4**
	baz=34,SNR=29					
SPMN	**Marine on St.**	**34.35 327**	*e*P	**P**	**05 22 45.7**	**+0.2**
	comp=Z,10nm,1.0s					
SPMN			*e*ScP	**ScP**	**05 28 53.5**	**-0.2**
SPMN	**Marine on St.**	**34.35 327**	⇓P	**P**	**05 22 46.2**	**+0.7**
	baz=34,SNR=51					
LPAZ	**La Paz**	**34.35 182**	P	**P**	**05 22 45.9**	**-0.5**
	comp=Z,130nm,1.3s,baz=21,slow=9.5,SNR=112					
LPAZ			S	**S**	**05 28 01.9**	**-4.5**
	comp=Z,9.2nm,1.1s,baz=241,slow=13,SNR=3.1					
LPAZ			ScP	**ScP**	**05 28 55.5**	**+0.7**
	comp=Z,5.2nm,0.6s,baz=200,slow=3.9,SNR=4.5					
LPAZ			LR	LR	05 37 47.8	
	comp=Z,2μm,21.1s,baz=342,slow=38					
LPAZ	**La Paz**	**34.35 182**	*e*P	**P**	**05 22 46.0**	**-0.5**
LPAZ			S	**S**	**05 28 01.9**	**-4.5**
LPAZ			*e*S	**S**	**05 28 11.9**	**+5.5**
LPAZ			pmax	pmax		
	comp=Z,6.0nm,1.1s					
LPAZ	**La Paz**	**34.35 182**	*e*P	**P**	**05 22 46.0**	**-0.4**
	comp=Z,5.9nm,1.1s					
LPAZ			S	**S**	**05 28 01.9**	**-4.5**
LPAZ			*e*S	**S**	**05 28 11.9**	**+5.5**
LPAZ			ScP	**ScP**	**05 28 55.5**	**+0.7**
LPAZ			*e*ScP	ScP	05 28 57.4	+2.5
Z29A	**Hungry Hill Ra**	**34.36 303**	⇓P	**P**	**05 22 46.5**	**+0.6**
	baz=34,SNR=100					
Z29A			⇓ScP	**ScP**	**05 28 55.7**	**+1.5**
	baz=34,SNR=15					
V30A	**Spur Ranch, Mi**	**34.39 307**	⇑P	**P**	**05 22 46.8**	**+0.7**
	baz=34,SNR=8.9					
V30A			⇑ScP	**ScP**	**05 28 55.6**	**+1.4**
	baz=34					
Y29A	**Porterfield Fa**	**34.51 304**	⇑P	**P**	**05 22 47.6**	**+0.5**
	baz=34,SNR=163					
Y29A			⇑ScP	**ScP**	**05 28 56.4**	**+1.7**
	baz=34,SNR=8.5					
P32A	**Huiting Farm,**	**34.54 315**	⇓P	**P**	**05 22 47.8**	**+0.6**
	baz=34,SNR=31					
P32A			⇓ScP	**ScP**	**05 28 55.3**	**+0.7**
	baz=34					
R31A	**Burdett**	**34.56 312**	⇓P	**P**	**05 22 48.9**	**+1.5**
	baz=34,SNR=82					
R31A			⇓ScP	**ScP**	**05 28 55.6**	**+0.8**
	baz=34,SNR=7.1					
SIV	**San Ignacio**	**34.56 170**	P	**P**	**05 22 47.1**	**-0.5**
	comp=Z,238nm,0.7s,baz=359,slow=8.2,SNR=629					
SIV			LR	LR	05 37 47.7	
	comp=Z,3μm,18.8s,baz=7.5,slow=38					
O32A	**Brockman Farm,**	**34.63 316**	⇓P	**P**	**05 22 48.4**	**+0.4**
	baz=35,SNR=9.3					
O32A			⇓ScP	**ScP**	**05 28 54.9**	**-0.1**
	baz=35					
U30A	**WK&E Inc. Balk**	**34.65 309**	⇑P	**P**	**05 22 49.4**	**+1.1**
	baz=35,SNR=26					
X29A	**Tulia**	**34.72 305**	⇑P	**P**	**05 22 49.1**	**+0.2**
	baz=35,SNR=96					
X29A			⇑ScP	**ScP**	**05 28 57.9**	**+2.5**
	baz=35					
T30A	**Plains**	**34.77 309**	⇑P	**P**	**05 22 50.4**	**+1.1**
	baz=35,SNR=85					
T30A			⇓ScP	**ScP**	**05 28 57.1**	**+1.6**
	baz=35					
228A	**UT Block 9, Go**	**34.77 300**	⇓P	**P**	**05 22 49.9**	**+0.5**
	baz=35,SNR=166					
228A			⇑ScP	**ScP**	**05 28 56.8**	**+1.2**
	baz=35,SNR=11					
Q31A	**Ellis**	**34.79 313**	⇓P	**P**	**05 22 50.0**	**+0.6**
	baz=35,SNR=46					
Q31A			⇑ScP	**ScP**	**05 28 55.8**	**+0.3**
	baz=35,SNR=7.4					
128A	**Castleberry Fa**	**34.81 301**	⇑P	**P**	**05 22 50.8**	**+1.0**
	baz=35,SNR=51					
128A			⇓ScP	**ScP**	**05 28 57.1**	**+1.3**
	baz=35,SNR=16					
AMTX	**Amarillo**	**34.85 305**	*e*P	**P**	**05 22 50.2**	**+0.1**
	comp=Z,163nm,1.3s					
AMTX			*e*pP	**pP**	**05 23 13.3**	**-2.0**
AMTX			*e*sP	**sP**	**05 23 28.7**	**+0.3**
AMTX			*e*ScP	**ScP**	**05 28 55.9**	**0.0**
AMTX	**Amarillo**	**34.85 305**	⇑P	**P**	**05 22 50.2**	**+0.1**
	baz=35					
AMTX			⇓ScP	**ScP**	**05 28 56.9**	**+1.0**
	baz=35					
N32A	**Stulken Farm,**	**34.90 317**	⇑P	**P**	**05 22 51.1**	**+0.8**
	baz=35					
N32A			⇑ScP	**ScP**	**05 28 55.5**	**-0.4**
	baz=35					
Z28A	**Tucker Farm, M**	**34.91 302**	⇑P	**P**	**05 22 51.3**	**+0.6**
	baz=35,SNR=44					
Z28A			⇓ScP	**ScP**	**05 28 56.8**	**+0.7**
	baz=35,SNR=10					
S30A	**Montezuma**	**34.96 310**	⇑P	**P**	**05 22 52.2**	**+1.3**
	baz=35,SNR=67					
S30A			⇓ScP	**ScP**	**05 28 56.4**	**+0.2**
	baz=35					
Y28A	**McKinney Farm,**	**34.98 303**	⇓P	**P**	**05 22 51.3**	**0.0**
	baz=35,SNR=24					
P31A	**Stockton**	**35.02 314**	⇑P	**P**	**05 22 51.9**	**+0.5**
	baz=35,SNR=61					
P31A			⇓ScP	**ScP**	**05 28 56.7**	**+0.3**
	baz=35					
V29A	**Stinnett**	**35.06 307**	⇓P	**P**	**05 22 53.4**	**+1.5**
	baz=35,SNR=16					
V29A			⇑ScP	**ScP**	**05 28 57.6**	**+0.9**
	baz=35					
TXAR	**Lajitas Array**	**35.08 295**	P	**P**	**05 22 52.6**	**+0.6**
	comp=Z,118nm,0.6s,baz=112,slow=9.2,SNR=759					
TXAR			PcP	**PcP**	**05 25 22.1**	**+0.6**
	comp=Z,5.7nm,0.6s,baz=122,slow=3.4,SNR=7.0					
TXAR			ScP	**ScP**	**05 28 57.7**	**+0.9**
	comp=Z,86nm,0.8s,baz=122,slow=5.0,SNR=74					
TXAR			LR	LR	05 41 24.7	
	comp=Z,933nm,19.1s,baz=0.0,slow=43					
TXAR			P3KPbc		05 53 44.0	
	comp=Z,0.1nm,0.4s,baz=254,slow=4.2,SNR=3.8					
U29A	**Oasis Ranch, S**	**35.09 308**	⇑P	**P**	**05 22 53.2**	**+1.1**
	baz=35,SNR=10.0					
U29A			⇑ScP	**ScP**	**05 28 57.9**	**+1.2**
	baz=35					
R30A	**Dighton**	**35.09 312**	⇓P	**P**	**05 22 52.8**	**+0.7**
	baz=35,SNR=112					
R30A			⇓ScP	**ScP**	**05 28 57.3**	**+0.6**
	baz=35,SNR=5.8					
X28A	**Dimmitt**	**35.13 304**	⇑P	**P**	**05 22 52.7**	**+0.1**
	baz=35,SNR=24					
X28A			⇓ScP	**ScP**	**05 28 57.6**	**+0.6**
	baz=35,SNR=14					
BGNE	**Belgrade**	**35.14 318**	*e*P	**P**	**05 22 52.7**	**+0.3**
	comp=Z,74nm,0.5s					
BGNE			*e*PcP	**PcP**	**05 25 22.1**	**+0.7**
BGNE	**Belgrade**	**35.14 318**	⇓P	**P**	**05 22 53.2**	**+0.8**
	baz=35,SNR=9.2					
BGNE			⇑ScP	**ScP**	**05 28 56.1**	**-0.6**
	baz=35					
O31A	**Woolen Ranch,**	**35.28 315**	⇓P	**P**	**05 22 54.5**	**+0.8**
	baz=35,SNR=14					
O31A			⇓ScP	**ScP**	**05 28 57.3**	**0.0**
	baz=35					
Q30A	**Quinter**	**35.35 313**	⇑P	**P**	**05 22 55.2**	**+0.9**
	baz=35,SNR=57					
Q30A			⇓ScP	**ScP**	**05 28 58.2**	**+0.6**
	baz=35,SNR=5.3					
N31A	**Bailey Ranch,**	**35.36 316**	⇓P	**P**	**05 22 56.0**	**+1.6**
	baz=35					
T29A	**Hugoton**	**35.37 309**	⇑P	**P**	**05 22 55.4**	**+1.0**
	baz=35,SNR=61					
T29A			⇑ScP	**ScP**	**05 28 58.5**	**+0.7**
	baz=35					
W28A	**Vega**	**35.38 306**	⇑P	**P**	**05 22 55.5**	**+0.8**
	baz=35					
MSTX	**Muleshoe**	**35.42 303**	*e*P	**P**	**05 22 55.1**	**+0.1**
	comp=Z,254nm,1.0s					
MSTX			*e*PP	PnPn	05 24 08.2	-9.2
MSTX			*e*ScP	**ScP**	**05 28 58.6**	**+0.6**
MSTX	**Muleshoe**	**35.42 303**	⇑P	**P**	**05 22 55.4**	**+0.4**
	baz=35,SNR=120					
MSTX			⇑ScP	**ScP**	**05 28 58.4**	**+0.4**
	baz=35,SNR=48					
S29A	**Ulysses**	**35.42 310**	⇓P	**P**	**05 22 55.3**	**+0.4**
	ba

EYMN *e*PP **PnPn** **05 24 21.0 +1.0**
EYMN *e*S **S** **05 28 23.1 -1.6**
EYMN *e*ScP **ScP** **05 28 56.9 -1.6**
R29A **Marienthal** **35.76 311** ⇓P **P** **05 22 58.6 +0.8**
baz=36,SNR=28
R29A ⇑ScP **ScP** **05 28 59.4 +0.3**
baz=36
U28A **Mallet** **35.77 307** ⇑P **P** **05 22 59.0 +1.0**
baz=36,SNR=16
U28A ⇑ScP **ScP** **05 28 59.9 +0.7**
baz=36
O30A **MW Ranch, Wils** **35.79 315** ⇑P **P** **05 22 58.4 +0.4**
baz=36,SNR=44
O30A ⇑ScP **ScP** **05 28 59.2 +0.1**
baz=36
Q29A **Oakley** **35.85 312** ⇑P **P** **05 22 59.1 +0.5**
baz=36,SNR=53
Q29A ⇓ScP **ScP** **05 28 59.9 +0.5**
baz=36
T28A **Walsh** **35.96 309** ⇓P **P** **05 23 00.5 +0.9**
baz=36,SNR=79
T28A ⇑ScP **ScP** **05 29 00.3 +0.3**
baz=36,SNR=10
L31A **Butterfield Fa** **35.98 318** ⇑P **P** **05 23 00.6 +1.0**
baz=36,SNR=35
L31A ⇓ScP **ScP** **05 28 59.5 -0.3**
baz=36,SNR=8.8
S28A **Manter** **35.98 310** ⇓P **P** **05 23 00.6 +0.9**
baz=36,SNR=125
V27A **Dan Oppiter Fa** **36.03 306** ⇓P **P** **05 23 01.3 +1.1**
baz=36,SNR=10
V27A ⇑ScP **ScP** **05 29 00.7 +0.5**
baz=36
N30A **Hueftle Ranch,** **36.11 315** ⇓P **P** **05 23 01.4 +0.7**
baz=36,SNR=5.5
P29A **Atwood** **36.12 313** ⇑P **P** **05 23 01.5 +0.6**
baz=36,SNR=26
P29A ⇑ScP **ScP** **05 29 01.3 +0.8**
baz=36
R28A **Tribune** **36.21 311** ⇓P **P** **05 23 02.2 +0.5**
baz=36,SNR=153
R28A ⇓ScP **ScP** **05 29 01.9 +1.1**
baz=36
U27A **Thompson Grove** **36.24 307** ⇑P **P** **05 23 02.5 +0.4**
baz=36,SNR=117
U27A ⇓ScP **ScP** **05 29 01.6 +0.5**
baz=36
O29A **4D Ranch, Culb** **36.27 314** ⇑P **P** **05 23 02.6 +0.6**
baz=36,SNR=46
O29A ⇓ScP **ScP** **05 29 01.6 +0.7**
baz=36,SNR=5.7
M30A **Dale-Ortello V** **36.32 317** ⇑P **P** **05 23 03.1 +0.6**
baz=36,SNR=8.2
M30A ⇑ScP **ScP** **05 29 01.2 +0.1**
baz=36
T27A **Campo** **36.39 308** ⇓P **P** **05 23 03.4 +0.2**
baz=36,SNR=44
T27A ⇑ScP **ScP** **05 29 02.2 +0.6**
baz=36
L30A **Spencer Herefo** **36.42 317** ⇓P **P** **05 23 03.7 +0.3**
baz=36,SNR=38
L30A ⇑ScP **ScP** **05 29 01.6 +0.2**
baz=36
N29A **Votaw Ranch, W** **36.47 315** ⇑P **P** **05 23 04.0 +0.2**
baz=36,SNR=21
N29A ⇓ScP **ScP** **05 29 01.8 +0.2**
baz=36
SCHQ **Schefferville** **36.50 0** P **P** **05 23 04.2 +0.5**
comp=Z,18nm,0.5s,baz=189,slow=7.4,SNR=52
SCHQ LR LR 05 37 35.4
comp=Z,2µm,19.6s,baz=190,slow=35
SCHQ **Schefferville** **36.50 0** *e*P **P** **05 23 04.4 +0.7**
comp=Z,44nm,0.8s
Q28A **Sharon Springs** **36.52 312** ⇑P **P** **05 23 04.8 +0.5**
baz=36,SNR=36
Q28A ⇑ScP **ScP** **05 29 02.4 +0.5**
baz=36
P28A **Saint Francis** **36.68 313** ⇑P **P** **05 23 06.3 +0.6**
baz=37,SNR=55
P28A ⇑ScP **ScP** **05 29 03.6 +1.1**
baz=37
K30A **Basset** **36.73 319** ⇑P **P** **05 23 06.5 +0.6**
baz=37,SNR=53
K30A ⇑ScP **ScP** **05 29 02.9 +0.4**
baz=37
S27A **Las Animas** **36.75 309** ⇓P **P** **05 23 07.4 +1.0**
baz=37,SNR=11
S27A ⇓ScP **ScP** **05 29 03.6 +0.7**
baz=37
M29A **Burnside Ranch** **36.81 316** ⇑P **P** **05 23 07.1 +0.4**
baz=37,SNR=18
M29A ⇓ScP **ScP** **05 29 03.4 +0.5**
baz=37
R27A **Eads** **36.91 310** ⇑P **P** **05 23 08.3 +0.7**
baz=37,SNR=62
R27A ⇑ScP **ScP** **05 29 04.2 +0.8**
baz=37
O28A **Krutsinger Ran** **36.94 313** ⇓P **P** **05 23 08.1 +0.3**
baz=37,SNR=33
O28A ⇓ScP **ScP** **05 29 04.4 +1.0**
baz=37
L29A **Maesberg Ranch** **36.97 317** ⇑P **P** **05 23 08.3 +0.2**
baz=37,SNR=23
L29A ⇓ScP **ScP** **05 29 03.9 +0.4**
baz=37
MNTX **Cornudas Mount** **36.98 299** *e*P **P** **05 23 08.8 +0.6**
comp=Z,180nm,1.1s
MNTX *e*pP **pP** **05 23 32.6 -1.1**
MNTX *e*PP **PP** **05 24 34.0 -0.7**
MNTX *e*S **S** **05 28 46.7 +1.3**
MNTX *e*ScP **ScP** **05 29 04.0 +0.3**
MNTX **Cornudas Mount** **36.98 299** ⇓P **P** **05 23 08.3 +0.1**
baz=37,SNR=134
MNTX ⇑ScP **ScP** **05 29 04.8 +1.1**
baz=37
J30A **Dallas** **37.00 320** ⇑P **P** **05 23 08.4 +0.2**
baz=37,SNR=94
J30A ⇑ScP **ScP** **05 29 02.9 -0.6**
baz=37
N28A **Pribbeno Ranch** **37.02 314** ⇑P **P** **05 23 09.0 +0.4**
baz=37,SNR=13
N28A ⇑ScP **ScP** **05 29 04.9 +1.1**
baz=37
KSCO **Kaye Shedlock'** **37.07 311** *e*P **P** **05 23 09.3 +0.3**
comp=Z,139nm,0.9s
KSCO *e*pP **pP** **05 23 34.2 -0.3**
KSCO *e*S **S** **05 28 47.1 +0.4**
KSCO **Kaye Shedlock'** **37.07 311** ⇑P **P** **05 23 09.9 +0.9**
baz=37,SNR=33
KSCO ⇓ScP **ScP** **05 29 05.3 +1.3**
baz=37
T26A **Comanche Natio** **37.08 308** ⇓P **P** **05 23 10.4 +1.1**
baz=37,SNR=39
T26A ⇓ScP **ScP** **05 29 06.0 +1.8**
baz=37,SNR=12
S26A **Kim** **37.15 309** ⇓P **P** **05 23 10.5 +0.8**
baz=37,SNR=20
S26A ⇓ScP **ScP** **05 29 05.9 +1.5**
baz=37
K29A **Lazy Trails An** **37.22 318** ⇑P **P** **05 23 11.0 +0.9**
baz=37,SNR=22
K29A ⇑ScP **ScP** **05 29 05.0 +0.6**
baz=37
M28A **Bar X Bar Ranc** **37.24 316** ⇓P **P** **05 23 11.2 +0.8**
baz=37,SNR=15
M28A ⇑ScP **ScP** **05 29 05.6 +1.1**
baz=37
P27A **Ficken Ranch,** **37.25 312** ⇓P **P** **05 23 11.7 +1.2**
baz=37,SNR=30
P27A ⇓ScP **ScP** **05 29 05.8 +1.1**
baz=37,SNR=7.3
I30A **Oacoma** **37.27 320** ⇑P **P** **05 23 11.3 +0.8**
baz=37,SNR=23
I30A ⇑ScP **ScP** **05 29 04.4 -0.1**
baz=37,SNR=5.1
BRSD **Miller** **37.28 321** *e*P **P** **05 23 10.4 -0.2**
comp=Z,153nm,0.7s
BRSD *e*PP **PP** **05 24 37.5 -0.3**
BRSD *e*S **S** **05 28 47.2 -2.4**
BRSD **Miller** **37.28 321** ⇑P **P** **05 23 11.2 +0.6**
baz=37,SNR=28
BRSD ⇓ScP **ScP** **05 29 03.6 -1.0**
baz=37
R26A **Arlington** **37.38 310** ⇑P **P** **05 23 12.2 +0.6**
baz=37,SNR=60
R26A ⇑ScP **ScP** **05 29 05.8 +0.6**
baz=37,SNR=8.1
O27A **Beecher Island** **37.45 313** ⇑P **P** **05 23 12.6 +0.5**
baz=37,SNR=55
O27A ⇑ScP **ScP** **05 29 06.4 +1.0**
baz=37
OGNE **Ogallala** **37.47 315** *e*P **P** **05 23 12.3 -0.1**
comp=Z,67nm,1.0s
OGNE *e*PP **PP** **05 24 40.1 +0.1**
OGNE *e*S **S** **05 28 54.9 +2.2**
OGNE **Ogallala** **37.47 315** ⇓P **P** **05 23 12.8 +0.4**
baz=37,SNR=9.7
OGNE ⇓ScP **ScP** **05 29 06.5 +1.1**
baz=37
H07S1 **FLORES T-PHASE** **37.49 48** *e*P **P** **05 23 12.9 +0.4**
H07S1 *e*S S 05 29 08.1 +15
H07S1 **FLORES T-PHASE** **37.49 48** T T 06 03 00.4
SNR=8.2
J29A **Okreek** **37.56 319** ⇓P **P** **05 23 13.2 +0.3**
baz=38,SNR=86
J29A ⇑ScP **ScP** **05 29 05.0 -0.6**
baz=38
L28A **Connealy Angus** **37.62 316** ⇓ScP **ScP** **05 29 07.1 +1.1**
baz=38
Q26A **Hugo** **37.67 311** ⇑P **P** **05 23 15.1 +1.0**
baz=38,SNR=35
H07N1 **FLORES T-PHASE** **37.68 48** T T 06 03 50.4
SNR=2.0
T25A **Trinidad** **37.69 308** ⇑P **P** **05 23 15.2 +0.9**
baz=38,SNR=86
N27A **Anderson Farm,** **37.76 314** ⇓P **P** **05 23 15.8 +1.1**
baz=38,SNR=19
N27A ⇓ScP **ScP** **05 29 07.6 +1.0**
baz=38
G30A **Faulkton** **37.78 322** ⇓P **P** **05 23 15.4 +0.6**
baz=38,SNR=84
G30A ⇑ScP **ScP** **05 29 06.6 +0.1**
baz=38
P26A **Davis Ranch, A** **37.80 312** ⇑P **P** **05 23 16.1 +1.0**
baz=38,SNR=70
K28A **Ten Mile Ranch** **37.86 317** ⇓P **P** **05 23 16.3 +0.7**
baz=38,SNR=19
I29A **Vivian Onida** **37.87 320** ⇑P **P** **05 23 15.8 +0.3**
baz=38,SNR=54
M27A **Reverse DX Ran** **37.98 315** ⇓P **P** **05 23 17.3 +0.7**
baz=38,SNR=16
AGMN **Agassiz Nation** **37.98 329** *e*P **P** **05 23 15.8 -0.5**
comp=Z,95nm,0.7s
AGMN *e*PP **PP** **05 24 43.7 -1.6**
AGMN *e*S **S** **05 28 56.9 -3.1**
AGMN **Agassiz Nation** **37.98 329** ⇑P **P** **05 23 16.5 +0.1**
baz=38,SNR=95
O26A **Horse Wrangler** **38.05 313** ⇓P **P** **05 23 17.6 +0.3**
baz=38,SNR=53
O26A ⇑ScP **ScP** **05 29 07.9 +0.2**
baz=38,SNR=5.1
F30A **Leola** **38.12 323** ⇑P **P** **05 23 18.4 +0.8**
baz=38,SNR=74
F30A ⇑ScP **ScP** **05 29 07.8 +0.1**
baz=38,SNR=6.3
H29A **Onida** **38.13 321** ⇓P **P** **05 23 17.9 +0.1**
baz=38,SNR=14
H29A ⇑ScP **ScP** **05 29 06.3 -1.5**
baz=38,SNR=5.7
J28A **Allard Ranch,** **38.13 319** ⇓P **P** **05 23 18.1 +0.2**
baz=38,SNR=44
J28A ⇑ScP **ScP** **05 29 07.5 -0.3**
baz=38
L27A **T5 Ranch, Ells** **38.18 316** ⇑P **P** **05 23 19.3 +1.0**
baz=38
N26A **Koester Ranch,** **38.23 314** ⇑P **P** **05 23 19.1 +0.3**
baz=38,SNR=13
G29A **Hoven** **38.27 322** ⇑P **P** **05 23 19.4 +0.4**
baz=38,SNR=8.5
I28A **Midland** **38.39 319** ⇑P **P** **05 23 20.3 +0.4**
baz=38,SNR=67
K27A **Flueckinger Fa** **38.42 317** ⇑P **P** **05 23 20.7 +0.4**
baz=38
E30A **Jud** **38.45 324** ⇑P **P** **05 23 20.8 +0.5**
baz=38,SNR=11
E30A ⇓ScP **ScP** **05 29 09.0 +0.1**
baz=38
M26A **McRoberts Ranc** **38.46 315** ⇓P **P** **05 23 21.0 +0.4**
baz=38,SNR=9.2
M26A ⇓ScP **ScP** **05 29 10.0 +0.7**
baz=38
J27A **Elkhorn Farm,** **38.54 318** ⇓P **P** **05 23 21.3 +0.1**
baz=38,SNR=12
J27A ⇑ScP **ScP** **05 29 10.2 +0.7**
baz=38
O25A **Wiggins** **38.56 312** ⇓P **P** **05 23 22.5 +1.0**
baz=38,SNR=21
F29A **Eureka** **38.58 323** ⇓P **P** **05 23 21.4 0.0**
baz=38,SNR=43
F29A ⇓ScP **S** **05 29 08.7 -0.4**
baz=38
LPM **Los Pinos Moun** **38.59 302** *e*P **P** **05 23 23.0 +1.0**
comp=Z,92nm,0.9s
LPM *e*S **S** **05 29 11.2 +1.2**
BDFB **Brasilia** **38.59 150** P **P** **05 23 21.4 -0.6**
comp=Z,19nm,0.4s,baz=309,slow=9.3,SNR=60
BDFB PcP **PcP** **05 25 33.0 +0.7**
comp=Z,6.8nm,0.4s,baz=252,slow=3.2,SNR=4.3
BDFB S **S** **05 29 08.6 -1.4**
comp=Z,10nm,0.9s,baz=312,slow=15,SNR=4.0
ANMO **Albuquerque** **38.61 303** *e*P **P** **05 23 23.1 +1.0**
ANMO *e* 05 24 51.1
ANMO *e* 05 29 10.6
ANMO pmax pmax
comp=Z,45nm,0.9s
ANMO **Albuquerque** **38.61 303** *e*P **P** **05 23 23.1 +1.0**
comp=Z,45nm,0.9s
ANMO *e*PP **PP** **05 24 51.1 -1.6**
ANMO *e*ScP **S** **05 29 10.6 +0.3**
H28A **Mission Ridge** **38.65 320** ⇓P **P** **05 23 23.5 +1.5**
baz=39,SNR=23
H28A ⇓ScP **ScP** **05 29 09.3 -0.4**
baz=39
L26A **Underwood Farm** **38.67 316** ⇑P **P** **05 23 22.8 +0.5**
baz=39,SNR=5.1
SDCO **Great Sand Dun** **38.70 308** *e*P **P** **05 23 23.1 +0.1**
comp=Z,210nm,0.4s
SDCO *e*PP **PnPn** **05 24 57.0 -0.1**
SDCO *e*ScP **ScP** **05 29 10.4 0.0**
SDCO **Great Sand Dun** **38.70 308** ⇑P **P** **05 23 24.0 +1.0**
baz=39,SNR=344
SDCO ⇓ScP **S** **05 29 11.4 -0.4**
baz=39,SNR=12
D30A **Buchanan** **38.73 325** ⇓P **P** **05 23 23.2 +0.5**
baz=39,SNR=80
D30A ⇑ScP **ScP** **05 29 10.1 +0.1**
baz=39,SNR=7.9
Y22D **IRIS PASSCAL I** **38.77 302** ⇑P **P** **05 23 24.9 +1.5**
baz=39,SNR=12
Y22D ⇑ScP **S** **05 29 12.3 -0.3**
baz=39
G28A **Parade** **38.80 321** ⇓P **P** **05 23 24.2 +0.9**
baz=39,SNR=51
G28A ⇓ScP **ScP** **05 29 10.4 +0.1**
baz=39
N25A **Grover** **38.82 313** ⇓P **P** **05 23 23.7 0.0**
baz=39,SNR=5.9
LENM **Lemitar** **38.83 302** *e*P **P** **05 23 25.1 +1.1**
comp=Z,69nm,1.0s
Q24A **Divide** **38.87 310** ⇑P **P** **05 23 25.7 +1.4**
baz=39,SNR=31
Q24A ⇑ScP **ScP** **05 29 11.7 +0.6**
baz=39
E29A **Napoleon** **38.90 324** ⇑P **P** **05 23 24.7 +0.6**
baz=39,SNR=88
E29A ⇓ScP **ScP** **05 29 10.4 -0.3**
baz=39
C30A **Mose, Pekin** **38.94 326** ⇑P **P** **05 23 25.0 +0.6**
baz=39,SNR=46
C30A ⇑ScP **ScP** **05 29 09.8 -1.0**
baz=39
I27A **Quinn** **38.97 319** ⇑P **P** **05 23 25.3 +0.5**
baz=39,SNR=27
I27A ⇓ScP **ScP** **05 29 11.6 +0.5**
baz=39,SNR=6.9
RCBR **Riachuelo** **39.00 125** P **P** **05 23 26.2 +0.8**
comp=Z,9.8nm,0.6s,baz=292,slow=9.7,SNR=18
K26A **Motz Farm, Whi** **39.03 316** ⇓P **P** **05 23 25.6 +0.2**
baz=39,SNR=11
K26A ⇓ScP **ScP** **05 29 11.7 +0.3**
baz=39
M25A **Palm-Egli Farm** **39.06 314** ⇑P **P** **05 23 27.0 +1.3**
baz=39,SNR=10
S23A **Nye Farm, Mont** **39.07 308** ⇑P **P** **05 23 27.5 +1.6**
baz=39,SNR=17
S23A ⇓ScP **ScP** **05 29 13.2 +1.4**
baz=39
R23A **Moffat** **39.10 309** ⇑P **P** **05 23 27.4 +1.2**
baz=39
R23A ⇑ScP **ScP** **05 29 12.7 +0.8**
baz=39
PCAN **Candelaria** **39.13 51** *e*P **P** **05 23 26.2 +0.1**
comp=Z,124nm,1.1s
PCAN *e*S S 05 29 32.2 +15
121A **Cookes Peak, D** **39.14 299** *e*P **P** **05 23 28.2 +1.6**
comp=Z,159nm,1.3s
121A *e*PP **PnPn** **05 25 00.8 -1.5**
121A **Cookes Peak, D** **39.14 299** ⇑P **P** **05 23 28.2 +1.6**
baz=39,SNR=39
121A ⇑ScP **ScP** **05 29 13.3 +1.2**
baz=39
F28A **McLaughlin** **39.15 322** ⇑P **P** **05 23 27.1 +0.8**
baz=39,SNR=53
F28A ⇓ScP **ScP** **05 29 12.3 +0.7**
baz=39,SNR=5.3
D29A **Pettibone, Tap** **39.16 324** ⇓P **P** **05 23 27.4 +1.2**
baz=39,SNR=12
D29A ⇑ScP **ScP** **05 29 11.4 -0.2**
baz=39
O24A **Longmont** **39.24 312** ⇓P **P** **05 23 28.5 +1.3**
baz=39,SNR=56
O24A ⇑ScP **ScP** **05 29 13.0 +0.7**
baz=39,SNR=5.4
J26A **Sides Ranch, S** **39.25 317** ⇓P **P** **05 23 28.0 +0.8**
baz=39,SNR=18
J26A ⇓ScP **ScP** **05 29 12.2 +0.1**
baz=39
H27A **Howes** **39.27 320** ⇑P **P** **05 23 27.5 +0.2**
baz=39,SNR=40
H27A ⇓ScP **ScP** **05 29 12.4 +0.3**
baz=39
PPNO **Prainha do Nor** **39.29 51** *e*S S 05 29 32.9 +13
L25A **Engebretsen Ra** **39.31 315** ⇑P **P** **05 23 28.5 +0.8**
baz=39
L25A ⇑ScP **ScP** **05 29 13.5 +1.0**
baz=39
ULM **Lac du Bonnet** **39.31 331** P **P** **05 23 26.8 -0.8**
comp=Z,66nm,0.7s,baz=128,slow=8.1,SNR=129
ULM ScP **ScP** **05 29 10.4 -1.8**
comp=Z,20nm,0.9s,baz=136,slow=3.9,SNR=7.8
ULM LR LR 05 38 46.8
comp=Z,1µm,21.6s,baz=138,slow=34
ULM **Lac du Bonnet** **39.31 331** *e*P **P** **05 23 26.7 -0.8**
ULM *e* 05 24 59.9
ULM *e* 05 29 10.9
ULM pmax pmax
comp=Z,78nm,0.8s
ULM **Lac du Bonnet** **39.31 331** *e*P **P** **05 23 26.7 -0.8**
comp=Z,78nm,0.8s
ULM *e*PP **PP** **05 24 59.9 0.0**
ULM ScP **ScP** **05 29 10.4 -1.8**
ULM *e*ScP S 05 29 10.9 -9.1
B30A **Myrvik Farm, E** **39.33 327** ⇑P **P** **05 23 28.4 +0.7**
baz=39,SNR=67
B30A ⇑ScP **ScP** **05 29 11.1 -1.1**
baz=39,SNR=6.8
Q23A **Hartsel** **39.34 310** ⇓P **P** **05 23 29.8 +1.5**
baz=39,SNR=6.8
N24A **Carr** **39.38 313** ⇓P **P** **05 23 29.3 +0.9**
baz=39,SNR=62
N24A ⇑ScP **ScP** **05 29 13.6 +0.7**
baz=39,SNR=6.0
ROSA **Rosais** **39.39 51** *e*P P 05 23 35.5 +7.2
comp=Z,173nm,1.6s
ROSA *e*S S 05 29 33.7 +12
K25A **Mack Ranch, Ha** **39.45 316** ⇑P **P** **05 23 29.6 +0.7**
baz=39,SNR=29
K25A ⇑ScP **ScP** **05 29 13.5 +0.5**
baz=39
I26A **New Underwood** **39.46 318** ⇑P **P** **05 23 29.4 +0.6**
baz=39,SNR=27
PMAN **Manadas** **39.48 51** *e*P **P** **05 23 27.1 -1.9**
comp=Z,124nm,1.2s
PMAN *e*S S 05 29 32.2 +9.5
E28A **Huff** **39.49 323** ⇑P **P** **05 23 29.9 +0.8**
baz=39,SNR=26
E28A ⇓ScP **ScP** **05 29 12.7 -0.2**
baz=39,SNR=10.0
ISCO **Idaho Springs** **39.51 311** *e*P **P** **05 23 30.4 +0.8**
ISCO *e* 05 29 14.5
ISCO pmax pmax
comp=Z,10µm,0.3s
ISCO **Idaho Springs** **39.51 311** *e*P **P** **05 23 30.4 +0.8**
comp=Z,25µm,0.3s
ISCO *e*ScP **ScP** **05 29 14.5 +1.0**
ISCO **Idaho Springs** **39.51 311** ⇓P **P** **05 23 30.5 +0.9**
baz=39,SNR=165
P23A **Jefferson** **39.51 310** ⇑P **P** **05 23 31.2 +1.5**
baz=40,SNR=47
P23A ⇓ScP **ScP** **05 29 14.4 +0.8**
baz=40
G27A **Dupree** **39.57 321** ⇓P **P** **05 23 30.5 +0.8**
baz=40,SNR=176
G27A ⇑ScP **ScP** **05 29 13.8 +0.5**
baz=40,SNR=5.8
A30A **Hoffart Farm,** **39.62 328** ⇑P **P** **05 23 30.5 +0.5**
baz=40,SNR=86
A30A ⇓ScP **ScP** **05 29 12.2 -1.2**
baz=40,SNR=6.3
MDND **Maddock** **39.63 325** *e*P **P** **05 23 30.7 +0.5**
comp=Z,229nm,1.1s
MDND **Maddock** **39.63 325** ⇑P **P** **05 23 31.1 +0.9**
baz=40,SNR=7.1
MDND ⇓ScP **ScP** **05 29 12.5 -0.9**
baz=40
PGRA **Graciosa** **39.69 50** *e*P P 05 23 41.0 +10
comp=Z,172nm,1.3s
PGRA *e*S S 05 29 38.2 +12
H26A **Fairpoint** **39.69 319** ⇑P **P** **05 23 31.5 +0.7**
baz=40,SNR=25
H26A ⇑ScP **ScP** **05 29 13.5 -0.3**
baz=40,SNR=5.4
S22A **4UR Ranch, Cre** **39.70 308** ⇑P **P** **05 23 32.2 +0.9**
baz=40,SNR=102
S22A ⇑ScP **ScP** **05 29 15.4 +1.0**
baz=40
J25A **Sunshine Ranch** **39.76 317** ⇓P **P** **05 23 32.0 +0.6**
baz=40
D28A **Regan** **39.78 324** ⇑P **P** **05 23 33.1 +1.7**
baz=40,SNR=6.2
B29A **Wagenman Farm,** **39.87 326** ⇑P **P** **05 23 32.7 +0.5**
baz=40,SNR=22
B29A ⇓ScP **ScP** **05 29 13.2 -1.1**
baz=40
O23A **Lake Granby, G** **39.87 312** ⇑P **P** **05 23 34.2 +1.6**
baz=40,SNR=13
O23A ⇑ScP **ScP** **05 29 15.2 +0.2**
baz=40
F27A **Lemmon** **39.88 321** ⇑P **P** **05 23 33.4 +1.1**
baz=40,SNR=164
F27A ⇑ScP **ScP** **05 29 14.9 +0.4**
baz=40
E27A **Carson** **39.91 322** ⇑P **P** **05 23 34.2 +1.6**
baz=40,SNR=41
E27A ⇓ScP **ScP** **05 29 15.0 +0.4**
baz=40
G26A **Maurine** **39.93 320** ⇑P **P** **05 23 33.3 +0.6**
baz=40,SNR=62
G26A ⇓ScP **ScP** **05 29 14.2 -0.5**
baz=40
PHWY **Pilot Hill** **39.97 313** *e*P **P** **05 23 33.7 +0.3**
comp=Z,84nm,1.1s
C28A **Hausauer Farms** **39.98 325** ⇑P **P** **05 23 34.2 +1.2**
baz=40,SNR=19
C28A ⇑ScP **ScP** **05 29 14.7 -0.1**
baz=40
I25A **Rochford** **40.01 318** ⇓P **P** **05 23 34.4 +0.8**
baz=40,SNR=30
I25A ⇑ScP **ScP** **05 29 15.0 -0.3**
baz=40,SNR=7.1
A29A **Manning Farm,** **40.09 327** ⇓P **P** **05 23 34.7 +0.7**
baz=40,SNR=73
A29A ⇓ScP **ScP** **05 29 13.7 -1.5**
baz=40,SNR=7.3
K24A **Anderson Ranch** **40.12 316** ⇓P **P** **05 23 35.5 +1.0**
baz=40
K24A ⇓ScP **ScP** **05 29 15.9 +0.3**
baz=40
N23A **Red Feather La** **40.15 313** ⇓P **P** **05 23 36.0 +1.1**
baz=40,SNR=21
N23A ⇓ScP **ScP** **05 29 16.5 +0.6**
baz=40
319A **Douglas** **40.20 297** ⇑P **P** **05 23 36.9 +1.7**
baz=40,SNR=72

319A ⇓ScP **ScP** **05 29 17.3 +1.2**
baz=40
H25A **Fruitdale** **40.21 319** ⇓P **P** **05 23 35.4 +0.4**
baz=40,SNR=53
H25A ⇓ScP **ScP** **05 29 15.9 0.0**
baz=40
RSSD **Black Hills** **40.25 318** *e*P **P** **05 23 35.5 -0.1**
RSSD *e**PP **pP** **05 23 59.0 -2.4**
RSSD *e* 05 25 09.4
RSSD pmax pmax
comp=Z,23nm,1.0s
RSSD **Black Hills** **40.25 318** *e*P **P** **05 23 35.5 -0.1**
comp=Z,23nm,1.0s
RSSD *ep*P **pP** **05 23 59.0 -2.4**
RSSD *e*PP **PP** **05 25 09.4 -1.0**
RSSD *e*ScP **ScP** **05 29 15.1 -1.2**
F26A **Lodgepole** **40.26 321** ⇓P **P** **05 23 36.4 +0.9**
baz=40,SNR=103
F26A ⇓ScP **ScP** **05 29 15.7 -0.3**
baz=40
P22A **Eagle** **40.26 310** ⇓P **P** **05 23 36.4 +0.7**
baz=40,SNR=38
P22A ⇓ScP **ScP** **05 29 16.6 +0.2**
baz=40
D27A **Center** **40.27 323** ⇑P **P** **05 23 37.1 +1.6**
baz=40,SNR=10
SMCO **Snowmass** **40.27 310** *e*P **P** **05 23 36.7 +0.6**
comp=Z,85nm,1.2s
SMCO *e*PP **PP** **05 25 12.3 +1.5**
SMCO *e*ScP **ScP** **05 29 16.6 0.0**
J24A **Dixon Ranch, L** **40.29 317** ⇓P **P** **05 23 36.9 +1.1**
baz=40,SNR=8.3
J24A ⇑ScP **ScP** **05 29 16.2 -0.1**
baz=40
O22A **Kremmling** **40.30 311** ⇓P **P** **05 23 37.3 +1.1**
baz=40,SNR=63
O22A ⇑ScP **ScP** **05 29 16.7 +0.1**
baz=40
G25A **Newell** **40.38 320** ⇑P **P** **05 23 37.3 +0.9**
baz=40,SNR=22
G25A ⇑ScP **ScP** **05 29 16.5 0.0**
baz=40,SNR=10
B28A **Dugan Ranch, T** **40.40 326** ⇓P **P** **05 23 37.9 +1.4**
baz=40,SNR=32
B28A ⇓ScP **ScP** **05 29 15.6 -0.8**
baz=40
E26A **Carlson Angus** **40.46 322** ⇓P **P** **05 23 37.6 +0.6**
baz=40,SNR=23
E26A ⇑ScP **ScP** **05 29 16.8 0.0**
baz=40,SNR=5.7
N22A **Wattenberg Ran** **40.47 312** ⇓P **P** **05 23 38.7 +1.2**
baz=40,SNR=39
N22A ⇑ScP **ScP** **05 29 17.3 +0.1**
baz=40
I24A **Kuemmerle Ranc** **40.50 317** ⇑P **P** **05 23 38.1 +0.6**
baz=40
I24A ⇑ScP **ScP** **05 29 16.7 -0.4**
baz=40
C27A **Sayler Ranch,** **40.59 324** ⇑P **P** **05 23 39.0 +0.8**
baz=40,SNR=13
C27A ⇓ScP **ScP** **05 29 17.3 +0.1**
baz=40
A28A **Rude Farm, Bot** **40.62 326** ⇓P **P** **05 23 38.4 +0.1**
baz=41,SNR=31
LVC **Limon Verde** **40.67 183** P **P** **05 23 37.9 -1.4**
comp=Z,377nm,0.6s,baz=12,slow=6.8,SNR=52
LVC ScP **ScP** **05 29 19.2 +1.1**
comp=Z,66nm,1.1s,baz=358,slow=2.4,SNR=4.9
K23A **Bowen Ranch, D** **40.68 315** ⇑P **P** **05 23 40.4 +1.4**
baz=41,SNR=17
D26A **Manning** **40.74 323** ⇓P **P** **05 23 40.8 +1.4**
baz=41,SNR=22
D26A ⇓ScP **ScP** **05 29 18.1 +0.2**
baz=41,SNR=5.4
F25A **Bowman** **40.77 321** ⇑P **P** **05 23 40.6 +1.0**
baz=41,SNR=15
F25A ⇓ScP **ScP** **05 29 17.9 -0.1**
baz=41,SNR=5.8
MVCO **Mesa Verde** **40.81 306** *e*P **P** **05 23 41.1 +0.6**
comp=Z,24nm,0.6s
MVCO *e*PP **PP** **05 25 19.2 +2.5**
MVCO **Mesa Verde** **40.81 306** ⇑P **P** **05 23 41.0 +0.6**
baz=41,SNR=42
MVCO ⇑ScP **ScP** **05 29 19.2 +0.6**
baz=41
B27A **Peters Farms,** **40.85 325** ⇑P **P** **05 23 41.7 +1.5**
baz=41
H24A **Dirks Ranch, A** **40.87 319** ⇑P **P** **05 23 40.4 -0.1**
baz=41,SNR=43
H24A ⇓ScP **ScP** **05 29 17.9 -0.5**
baz=41,SNR=6.3
J23A **Dilts Ranch, B** **40.90 316** ⇑P **P** **05 23 41.9 +1.0**
baz=41
J23A ⇑ScP **ScP** **05 29 18.4 -0.3**
baz=41
C26A **Wahner Farm, P** **40.99 324** ⇓P **P** **05 23 42.3 +0.9**
baz=41,SNR=20
C26A ⇑ScP **ScP** **05 29 18.7 -0.1**
baz=41,SNR=5.0
PSET **Sete Cidades** **40.99 53** *e*P **P** **05 23 43.9 +2.3**
comp=Z,123nm,1.4s
E25A **Miller Ranch,** **41.03 321** ⇓P **P** **05 23 42.4 +0.6**
baz=41,SNR=51
E25A ⇓ScP **ScP** **05 29 19.4 +0.4**
baz=41
G24A **Alzada** **41.06 319** ⇓P **P** **05 23 42.9 +0.8**
baz=41,SNR=24
G24A ⇓ScP **ScP** **05 29 19.3 0.0**
baz=41
I23A **Meade Ranch, G** **41.09 317** ⇑ScP **ScP** **05 29 19.6 +0.2**
baz=41
PV01 **Paradox Valley** **41.13 307** *e*P **P** **05 23 44.9 +2.0**
comp=Z,25µm,1.5s
PV01 *e*ScP **ScP** **05 29 21.5 +1.7**
A27A **Ledoux Ranch,** **41.16 326** ⇑P **P** **05 23 43.4 +0.6**
baz=41
PSMA **Santa Maria** **41.22 54** *e*P **P** **05 23 43.9 +0.5**
comp=Z,102nm,0.9s
PSMA *e*S **S** **05 29 45.7 -3.0**
K22A **Casper** **41.24 315** *e*P **P** **05 23 44.0 +0.4**
comp=Z,53nm,1.0s
K22A *e*PP **PP** **05 25 22.0 +0.9**
K22A *e*S **S** **05 29 48.6 -0.6**
K22A **Casper** **41.24 315** ⇑P **P** **05 23 44.1 +0.4**
baz=41,SNR=31
K22A ⇑ScP **ScP** **05 29 20.1 0.0**
baz=41
W18A **Petrified Fore** **41.27 303** *e*P **P** **05 23 45.2 +1.1**
comp=Z,62nm,1.0s
W18A *e*PP **PP** **05 25 21.6 +0.1**
W18A *e*S **S** **05 29 51.4 +1.6**
W18A **Petrified Fore** **41.27 303** ⇓P **P** **05 23 45.2 +1.1**
baz=41,SNR=8.2
PSMN **Pico do Norte,** **41.27 54** *e*P **P** **05 23 43.4 -0.4**
comp=Z,80nm,1.7s
PSMN *e*S S 05 29 56.9 +7.4
X18A **Snowflake** **41.31 302** ⇑P **P** **05 23 45.9 +1.5**
baz=41,SNR=90
H23A **Clabaugh Cattl** **41.32 318** ⇓P **P** **05 23 45.4 +1.2**
baz=41
H23A ⇑ScP **ScP** **05 29 20.0 -0.3**
baz=41
D25A **Fairfield** **41.32 322** ⇑P **P** **05 23 45.8 +1.6**
baz=41,SNR=33
D25A ⇓ScP **ScP** **05 29 20.6 +0.5**
baz=41
F24A **Ekalaka** **41.33 320** ⇓P **P** **05 23 45.0 +0.8**
baz=41,SNR=37
F24A ⇓ScP **ScP** **05 29 20.2 -0.1**
baz=41,SNR=6.3
B26A **Jensen Ranch,** **41.37 325** ⇓P **P** **05 23 45.8 +1.3**
baz=41
BART **Pico Bartolome** **41.40 53** *e*S S 05 29 57.7 +6.1
O20A **White River Ci** **41.51 310** *e*P **P** **05 23 47.0 +1.0**
comp=Z,57nm,1.0s
O20A *ep*P **pP** **05 24 11.4 -0.5**
O20A *e*PP **PnPn** **05 25 28.4 -1.4**
O20A *e*ScP **ScP** **05 29 20.3 -0.9**
O20A **White River Ci** **41.51 310** ⇓P **P** **05 23 47.3 +1.3**
baz=42,SNR=53
J22A **Midwest** **41.52 316** ⇓P **P** **05 23 46.8 +0.9**
baz=42,SNR=66
J22A ⇑ScP **ScP** **05 29 20.4 -0.7**
baz=42
A26A **Wade Farm, Ken** **41.56 325** ⇑P **P** **05 23 47.3 +1.2**
baz=42,SNR=44
C25A **Freed Ranch, W** **41.58 323** ⇑P **P** **05 23 47.5 +1.3**
baz=42,SNR=57
C25A ⇑ScP **ScP** **05 29 21.1 0.0**
baz=42
E24A **Baker** **41.60 321** ⇓P **P** **05 23 48.2 +1.8**
baz=42,SNR=6.3
E24A ⇓ScP **ScP** **05 29 21.7 +0.4**
baz=42,SNR=5.3
G23A **Biddle** **41.60 319** ⇑P **P** **05 23 47.2 +0.6**
baz=42,SNR=31
G23A ⇓ScP **ScP** **05 29 21.2 -0.1**
baz=42
TUC **Tucson** **41.60 298** *e*P **P** **05 23 48.1 +1.4**
TUC *e* 05 25 25.0
TUC *e*S **S** **05 29 57.5 +2.8**
TUC pmax pmax
comp=Z,446nm,2.0s
TUC **Tucson** **41.60 298** *e*P **P** **05 23 48.1 +1.4**
comp=Z,446nm,2.0s
TUC *e*PP **PP** **05 25 25.0 0.0**
TUC *e*S **S** **05 29 57.5 +2.8**
I22A **9 Mile Ranch,** **41.73 316** ⇓P **P** **05 23 48.6 +1.0**
baz=42,SNR=22
I22A ⇑ScP **ScP** **05 29 21.7 -0.2**
baz=42,SNR=7.6
SACV **Santiago Islan** **41.75 88** P **P** **05 23 48.1 +0.1**
comp=Z,746nm,0.8s,SNR=5.9
N20A **Spence Gulch,** **41.77 311** ⇑P **P** **05 23 49.3 +1.2**
baz=42,SNR=36
B25A **Knox Farm, Ray** **41.83 324** ⇓P **P** **05 23 49.2 +1.0**
baz=42
B25A ⇓ScP **ScP** **05 29 21.9 -0.2**
baz=42
F23A **Volborg** **41.86 319** ⇓P **P** **05 23 48.8 +0.3**
baz=42,SNR=40
F23A ⇓ScP **ScP** **05 29 23.0 +0.7**
baz=42
D24A **Glendive** **41.89 322** ⇓P **P** **05 23 49.6 +0.8**
baz=42,SNR=72
D24A ⇑ScP **ScP** **05 29 23.5 +1.1**
baz=42,SNR=8.0
H22A **Clearmont** **41.94 317** ⇓P **P** **05 23 49.6 +0.3**
baz=42,SNR=12
H22A ⇓ScP **ScP** **05 29 22.7 0.0**
baz=42
J21A **Lysite** **42.14 315** ⇓P **P** **05 23 52.1 +1.1**
baz=42,SNR=31
C24A **Savage** **42.16 322** ⇑P **P** **05 23 52.0 +1.0**
baz=42,SNR=42
C24A ⇓ScP **ScP** **05 29 23.9 +0.4**
baz=42,SNR=5.5
E23A **Ismay** **42.17 320** ⇓P **P** **05 23 51.5 +0.5**
baz=42,SNR=12
E23A ⇑ScP **ScP** **05 29 23.6 0.0**
baz=42
A25A **Svangstu Ranch** **42.17 325** ⇓P **P** **05 23 52.3 +1.3**
baz=42,SNR=12
A25A ⇓ScP **ScP** **05 29 23.6 +0.1**
baz=42
G22A **Birney** **42.18 318** ⇓P **P** **05 23 51.8 +0.6**
baz=42,SNR=71
G22A ⇑ScP **ScP** **05 29 23.7 0.0**
baz=42,SNR=6.3
I21A **Big Trails, Te** **42.22 316** ⇑P **P** **05 23 51.6 0.0**
baz=42,SNR=35
H21A **Big Horn, Sher** **42.40 317** ⇑P **P** **05 23 53.2 +0.1**
baz=42,SNR=11
F22A **Rosebud** **42.41 319** ⇑P **P** **05 23 53.8 +0.7**
baz=42,SNR=63
F22A ⇓ScP **ScP** **05 29 24.3 -0.3**
baz=42,SNR=6.8
D23A **Lindsay** **42.44 321** ⇓P **P** **05 23 54.2 +1.0**
baz=42
D23A ⇑ScP **ScP** **05 29 25.1 +0.5**
baz=42
X16A **Lo Mia Camp, P** **42.50 301** ⇓P **P** **05 23 55.2 +1.0**
baz=42,SNR=85
DGMT **Dagmar** **42.52 324** *e*P **P** **05 23 54.2 +0.4**
comp=Z,115nm,0.8s
DGMT *e*PP **PP** **05 25 32.7 -1.8**
DGMT **Dagmar** **42.52 324** ⇓P **P** **05 23 55.3 +1.5**
baz=42,SNR=37
DGMT ⇓ScP **ScP** **05 29 25.4 +0.5**
baz=42
E22A **Miles City** **42.53 320** ⇓P **P** **05 23 54.6 +0.6**
baz=42,SNR=55
E22A ⇑ScP **ScP** **05 29 24.9 -0.1**
baz=42,SNR=7.1
J20A **Shoshoni** **42.57 315** ⇑P **P** **05 23 55.5 +1.0**
baz=42,SNR=35
A24A **Westby** **42.65 324** ⇓P **P** **05 23 56.2 +1.3**
baz=43,SNR=16
A24A ⇑ScP **ScP** **05 29 25.6 +0.2**
baz=43
WUAZ **Wupatki** **42.66 303** *e*P **P** **05 23 56.9 +1.6**
comp=Z,182nm,1.0s
WUAZ *e*S **S** **05 30 11.3 +1.0**
WUAZ **Wupatki** **42.66 303** ⇓P **P** **05 23 57.0 +1.6**
baz=43,SNR=167
C23A **Lambert** **42.74 322** ⇓P **P** **05 23 56.9 +1.2**
baz=43,SNR=93
C23A ⇑ScP **ScP** **05 29 26.2 +0.4**
baz=43,SNR=5.6
G21A **Lodge Grass** **42.76 318** ⇑P **P** **05 23 56.4 +0.5**
baz=43,SNR=17
LAO **LASA Array** **42.81 320** *e*P **P** **05 23 56.9 +0.6**
comp=Z,73nm,1.0s
LAO *e*ScP **ScP** **05 29 26.5 +0.3**
I20A **Worland** **42.83 316** ⇑P **P** **05 23 56.8 +0.3**
baz=43,SNR=39
SRU **San Rafael Swe** **42.88 308** *e*P **P** **05 23 57.8 +0.7**
SRU *e* 05 25 38.5
SRU pmax pmax
comp=Z,28nm,0.7s
SRU **San Rafael Swe** **42.88 308** *e*P **P** **05 23 57.8 +0.7**
comp=Z,28nm,0.7s
SRU *e*PP **PP** **05 25 38.5 -0.2**
SRU *e*ScP **ScP** **05 29 26.5 -0.3**
H20A **Greybull** **42.96 317** ⇓P **P** **05 23 57.3 -0.3**
baz=43,SNR=20
B23A **Brockton** **42.97 323** ⇓P **P** **05 23 59.0 +1.5**
baz=43,SNR=48
B23A ⇑ScP **ScP** **05 29 26.9 +0.2**
baz=43
F21A **Absaloka Mine,** **42.97 319** ⇓P **P** **05 23 58.5 +0.9**
baz=43,SNR=9.0
D22A **Cohagen** **43.01 321** ⇓P **P** **05 23 59.2 +1.4**
baz=43,SNR=39
A23A **Redstone** **43.16 324** ⇓P **P** **05 24 00.1 +1.1**
baz=43,SNR=5.5
A23A ⇓ScP **ScP** **05 29 27.5 0.0**
baz=43
J19A **Crowheart** **43.19 314** ⇓P **P** **05 23 59.9 +0.4**
baz=43,SNR=65
214A **Organ Pipe Nat** **43.26 297** *e*P **P** **05 24 01.6 +1.5**
comp=Z,55nm,0.8s
214A *ep*P **pP** **05 24 24.7 -1.4**
214A *e*PP **PP** **05 25 44.5 +1.7**
214A *e*S **S** **05 30 18.0 -0.9**
214A **Organ Pipe Nat** **43.26 297** ⇑P **P** **05 24 01.4 +1.3**
baz=43,SNR=72
E21A **Keefer Ranch,** **43.27 320** ⇑P **P** **05 24 00.5 +0.6**
baz=43,SNR=6.5
BW06 **Boulder Array** **43.35 314** *e*P **P** **05 24 01.0 +0.1**
comp=Z,66nm,1.2s
BW06 *ep*P **pP** **05 24 25.8 -1.2**
BW06 *e*PP **PP** **05 25 44.2 +0.4**
BW06 *e*ScP **ScP** **05 29 27.8 -0.9**
BW06 *e*S **S** **05 30 19.0 -1.4**
PDAR **Pinedale Array** **43.35 314** P **P** **05 24 00.9 +0.1**
comp=Z,21nm,0.8s,baz=115,slow=5.6,SNR=116
PDAR PcP **PcP** **05 25 47.6 0.0**
comp=Z,8.0nm,0.5s,baz=98,slow=5.7,SNR=5.1
PDAR ScP **ScP** **05 29 28.6 -0.1**
comp=Z,14nm,0.9s,baz=101,slow=6.4,SNR=13
PDAR PKiKP **PKiKP** **05 32 48.4 -1.7**
comp=Z,0.5nm,0.5s,baz=78,slow=5.5,SNR=5.5
PDAR LR LR 05 42 14.3
comp=Z,1µm,21.9s,baz=117,slow=36
G20A **Bridger** **43.41 317** ⇑P **P** **05 24 01.2 0.0**
baz=43,SNR=41
I19A **Meeteetse** **43.44 316** ⇓P **P** **05 24 02.4 +0.9**
baz=43,SNR=68
TMUT **Trail Mountain** **43.44 308** *e*P **P** **05 24 02.5 +0.7**
comp=Z,89nm,1.0s
TMUT *e*PP **PcP** **05 25 46.7 -1.4**
D21A **La Casta Ranch** **43.46 320** ⇓P **P** **05 24 03.1 +1.6**
baz=43,SNR=96
B22A **Reddig Ranch S** **43.46 322** ⇑P **P** **05 24 03.1 +1.7**
baz=43,SNR=37
Z14A **Wintersburg** **43.56 299** ⇑P **P** **05 24 04.3 +1.9**
baz=44,SNR=45
U15A **North Rim** **43.58 304** ⇑P **P** **05 24 04.7 +1.8**
baz=44,SNR=88
F20A **Billings** **43.61 318** ⇑P **P** **05 24 03.5 +0.8**
baz=44,SNR=40
H19A **Powell** **43.68 316** ⇑P **P** **05 24 04.0 +0.6**
baz=44,SNR=31
A22A **Carney Farms,** **43.76 323** ⇑P **P** **05 24 04.5 +0.6**
baz=44,SNR=38
C21A **Desert Coulee** **43.87 321** ⇑P **P** **05 24 05.9 +1.1**
baz=44,SNR=33
E20A **Meyer Farm, Mu** **43.90 319** ⇑P **P** **05 24 06.1 +1.1**
baz=44,SNR=89
MPU **Maple Canyon** **43.95 309** *e*P **P** **05 24 06.3 +0.5**
comp=Z,110nm,1.1s
MPU *e* 05 25 52.4
MPU *e*S **S** **05 30 29.8 +0.6**
MSU **Marysvale** **43.97 307** *e*P **P** **05 24 07.1 +1.2**
MSU pmax pmax
comp=Z,5.0nm,0.8s
MSU **Marysvale** **43.97 307** *e*P **P** **05 24 07.1 +1.2**
comp=Z,4.7nm,0.8s
JLU **Jordanelle** **43.99 310** *e*P **P** **05 24 06.8 +0.7**
comp=Z,40nm,0.6s
JLU *e* 05 25 52.8
JLU *e*S **S** **05 30 29.4 -0.4**
MVU **Marysvale** **43.99 307** *e*P **P** **05 24 07.3 +1.3**
comp=Z,393nm,2.1s
MVU *ep*P **pP** **05 24 33.3 +1.0**
MVU *e* 05 25 52.7
MVU *e*S **S** **05 30 32.7 +2.8**
RLMT **Red Lodge** **44.05 317** *e*P **P** **05 24 06.8 +0.4**
comp=Z,92nm,1.0s
RLMT *e*ScP **ScP** **05 29 30.4 -1.0**
RLMT *e*S **S** **05 30 29.7 -0.7**
TCUT **Toone Canyon** **44.11 311** *e*P **P** **05 24 07.4 +0.3**
comp=Z,87nm,1.0s
B21A **Ellsworth Farm** **44.12 322** ⇓P **P** **05 24 08.5 +1.8**
baz=44,SNR=44
H18A **Shoshone NF, C** **44.13 316** ⇑P **P** **05 24 07.1 0.0**
baz=44,SNR=79
F19A **Roth Farm, Mol** **44.13 318** ⇑P **P** **05 24 07.2 +0.2**
baz=44,SNR=30
113A **Mohawk Valley,** **44.16 298** ⇑P **P** **05 24 08.6 +1.4**
baz=44,SNR=34
D20A **Manuel Ranch,** **44.16 320** ⇓P **P** **05 24 08.2 +1.1**
baz=44
CTU **Camp Tracy** **44.23 310** *e*P **P** **05 24 09.9 +2.0**
comp=Z,77nm,0.9s
NLU **North Lily Min** **44.26 309** *e*P **P** **05 24 09.0 +0.8**
comp=Z,47nm,1.1s
E19A **Rath Farm, Rou** **44.29 319** ⇑P **P** **05 24 09.4 +1.3**
baz=44,SNR=85
A21A **Bergtoll Ranch** **44.34 323** ⇑P **P** **05 24 09.4 +1.0**
baz=44,SNR=210
C20A **Veseth Ranch,** **44.36 321** ⇑P **P** **05 24 09.8 +1.1**
baz=44,SNR=38
LOHW **Long Ridge** **44.37 314** *e*P **P** **05 24 09.6 +0.6**
comp=Z,159nm,1.3s
LOHW *ep*P **pP** **05 24 33.7 -1.5**
LOHW *e* 05 25 55.4
LOHW *e*ScP **ScP** **05 29 32.1 -0.7**
HWUT **Hardware Ranch** **44.37 311** *e*P **P** **05 24 09.1 +0.1**
comp=Z,70nm,1.0s
HWUT *e*ScP **ScP** **05 29 31.7 -1.1**
AHID **Auburn Hatcher** **44.42 313** *e*P **P** **05 24 10.0 +0.6**
comp=Z,45nm,0.8s
AHID *e*S **S** **05 30 38.0 +2.2**
SNOW **Snow King Moun** **44.42 314** *e*P **P** **05 24 09.8 +0.4**
comp=Z,85nm,1.0s
SNOW *ep*P **pP** **05 24 33.7 -1.9**
SNOW *e*S **S** **05 30 35.6 -0.3**
REDW **Red Top Meadow** **44.45 314** *e*P **P** **05 24 10.1 +0.5**
comp=Z,186nm,1.3s
REDW *ep*P **pP** **05 24 35.8 -0.1**
REDW *e*S **S** **05 30 32.6 -3.7**
I17A **Pilgrim Ck.** **44.46 315** ⇑P **P** **05 24 10.4 +0.7**
baz=44,SNR=33
MOOW **Moose Ponds** **44.51 314** *e*P **P** **05 24 10.4 +0.3**
comp=Z,42nm,0.9s
TPAW **Teton Pass** **44.56 314** *e*P **P** **05 24 11.1 +0.5**
comp=Z,31nm,0.8s
TPAW *e*PP **PP** **05 25 57.6 +0.9**
TPAW *e*S **S** **05 30 37.8 -0.2**
GCMT **Greycliff** **44.57 318** *e*P **P** **05 24 11.5 +1.0**
comp=Z,65nm,1.1s
LKWY **Lake** **44.57 316** *e*P **P** **05 24 11.8 +1.1**
LKWY pmax pmax
comp=Z,28nm,0.9s
LKWY **Lake** **44.57 316** *e*P **P** **05 24 11.8 +1.1**
comp=Z,28nm,0.9s
FLWY **Flagg Ranch** **44.60 315** *e*P **P** **05 24 11.2 +0.4**
comp=Z,40nm,0.9s
FLWY *e*PP **PP** **05 25 58.3 +1.3**
FLWY *e*S **S** **05 30 38.9 +0.5**
W13A **Hualapai Mount** **44.60 302** ⇓P **P** **05 24 13.1 +2.1**
baz=44
H17A **Grant Village** **44.63 315** *e*P **P** **05 24 11.9 +0.8**
comp=Z,26nm,1.1s
H17A *e*ScP **ScP** **05 29 33.9 0.0**
H17A *e*S **S** **05 30 37.9 -1.0**
H17A **Grant Village** **44.63 315** ⇓P **P** **05 24 12.2 +1.1**
baz=45,SNR=17
D19A **Cripps Ranch,** **44.65 320** ⇑P **P** **05 24 11.8 +0.8**
baz=45,SNR=47
PDMCI **Parker Dam,Lak** **44.68 301** ⇑P **P** **05 24 12.7 +1.3**
baz=45,SNR=30
IMW **Indian Meadow** **44.69 315** *e*P **P** **05 24 11.7 +0.1**
comp=Z,24nm,0.6s
IMW *e*PP **PP** **05 25 58.8 +0.7**
IMW *e*S **S** **05 30 39.5 -0.5**
B20A **Solberg Farm,** **44.71 322** ⇓P **P** **05 24 13.2 +1.8**
baz=45,SNR=83
YNR **Norris Junctio** **44.81 316** *e*P **P** **05 24 13.6 +1.0**
comp=Z,19nm,0.8s
YFT **Old Faithful** **44.82 315** *e*P **P** **05 24 13.8 +1.1**
comp=Z,41nm,1.0s
A20A **Cobblestone Ra** **44.86 322** ⇓P **P** **05 24 14.5 +1.9**
baz=45,SNR=112
DUG **Dugway, Tooele** **44.87 309** *e*P **P** **05 24 13.7 +0.7**
DUG *e**PP **pP** **05 24 39.9 +0.7**
DUG *e* 05 26 00.9
DUG *e*S **S** **05 30 43.3 +0.9**
DUG pmax pmax
comp=Z,54nm,1.0s
DUG **Dugway, Tooele** **44.87 309** *e*P **P** **05 24 13.7 +0.7**
comp=Z,54nm,1.0s
DUG *ep*P **pP** **05 24 39.9 +0.7**
DUG *e*PP **PP** **05 26 00.9 +1.0**
DUG *e*S **S** **05 30 43.3 +0.9**
DUG **Dugway, Tooele** **44.87 309** ⇓P **P** **05 24 13.8 +0.7**
baz=45,SNR=60
Y12C **Blythe** **44.92 300** ⇓P **P** **05 24 15.1 +1.8**
baz=45,SNR=29
FCC **Fort Churchill** **44.99 340** *e*P **P** **05 24 12.5 -0.8**
FCC *e*S **S** **05 30 41.0 -2.0**
FCC pmax pmax
comp=Z,122nm,1.0s
FCC **Fort Churchill** **44.99 340** *e*P **P** **05 24 12.5 -0.8**
comp=Z,122nm,1.0s
FCC *e*ScP **ScP** **05 29 33.6 -1.0**
FCC *e*S **S** **05 30 41.0 -2.0**
YMR **Madison River** **44.99 316** *e*P **P** **05 24 15.0 +1.1**
comp=Z,28nm,0.7s
C19A **Slack Wire Ran** **45.00 320** ⇑P **P** **05 24 15.2 +1.4**
baz=45,SNR=27
FFC **Flin Flon** **45.08 332** P **P** **05 24 14.5 +0.3**
comp=Z,223nm,1.0s,SNR=24
FFC **Flin Flon** **45.08 332** *e*P **P** **05 24 13.4 -0.8**
FFC *e*S **S** **05 30 40.0 -4.6**
FFC pmax pmax
comp=Z,40nm,0.9s
FFC **Flin Flon** **45.08 332** *e*P **P** **05 24 13.4 -0.8**
comp=Z,40nm,0.9s
FFC *e*ScP **ScP** **05 29 33.5 -1.7**
FFC *e*S **S** **05 30 40.0 -4.6**
BGU **Big Grassy Mou** **45.23 310** *e*P **P** **05 24 16.4 +0.6**
comp=Z,18nm,0.5s
BGU *e*PP **PP** **05 26 05.8 +2.1**
B19A **Brinkman Farms** **45.26 321** ⇓P **P** **05 24 17.4 +1.6**
baz=45,SNR=35
HVU **Hansel Valley** **45.29 311** *e*P **P** **05 24 16.4 +0.1**
HVU pmax pmax

comp=Z,86nm,1.2s
HVU Hansel Valley 45.29 311 *e*P P 05 24 16.4 +0.1
comp=Z,86nm,1.2s
CPUP Villa Florida 45.34 168 *e*P P 05 24 14.4 -2.1
CPUP *e* 05 26 05.8
CPUP pmax pmax
comp=Z,3.0nm,0.7s
CPUP Villa Florida 45.34 168 *e*P P 05 24 14.4 -2.1
comp=Z,2.8nm,0.7s
CPUP *e*PP PP 05 26 05.8 +0.8
QLMT Earthquake Lak 45.35 316 *e*P P 05 24 19.0 +2.2
comp=Z,17nm,1.0s
A19A Klindworth Far 45.36 322 ⇓P P 05 24 18.3 +1.7
baz=45,SNR=50
IRM Iron Mountain 45.49 300 ⇑P P 05 24 19.9 +2.1
baz=45,SNR=159
EGMT Eagleton 45.56 320 *e*P P 05 24 19.2 +1.0
comp=Z,73nm,1.1s
EGMT *e*ScP ScP 05 29 35.3 -2.1
EGMT *e*S S 05 30 50.9 -1.0
EGMT Eagleton 45.56 320 ⇑P P 05 24 19.2 +1.0
baz=46,SNR=41
LDFC Landfair 45.59 301 *e*P P 05 24 21.2 +2.5
comp=Z,330nm,0.9s
BC3 Big Chuckawall 45.68 299 ⇑P P 05 24 21.3 +1.9
baz=46,SNR=76
BOZ Bozeman (W) 45.78 317 *e*P P 05 24 20.7 +0.6
BOZ *e* 05 26 10.7
BOZ *e*S S 05 30 55.8 +0.5
BOZ pmax pmax
comp=Z,109nm,1.5s
BOZ Bozeman (W) 45.78 317 *e*P P 05 24 20.7 +0.6
comp=Z,109nm,1.5s
BOZ *e*PP PP 05 26 10.7 +1.2
BOZ *e*S S 05 30 55.8 +0.5
SHPR Sheep Range 45.86 303 *e*P P 05 24 22.6 +1.7
comp=Z,227nm,1.6s
SHPR *e*PP PP 05 26 17.6 +7.1
GMRC Granite Mounta 45.99 301 ⇓P P 05 24 23.8 +2.0
baz=46,SNR=82
IBP Imperial Bould 46.10 298 ⇑P P 05 24 24.9 +2.2
baz=46
BELC Belle Mtn. Jos 46.17 300 ⇑P P 05 24 25.2 +1.9
baz=46,SNR=32
MCMT McKenzie Canyo 46.30 315 *e*P P 05 24 25.5 +1.2
comp=Z,20nm,1.0s
MCMT *e*ScP ScP 05 29 41.6 +0.8
TUQ Turquoise Moun 46.30 302 ⇓P P 05 24 26.5 +2.2
baz=46,SNR=98
HRY Holter Researc 46.31 318 *e*P P 05 24 24.5 +0.3
comp=Z,32nm,0.5s
DLMT Dillon 46.32 316 *e*P P 05 24 25.4 +1.1
comp=Z,68nm,1.0s
DLMT *e*PP PP 05 26 16.3 +1.5
DLMT *e*ScP ScP 05 29 40.7 0.0
LRM Limekiln Ridge 46.38 317 *e*P P 05 24 25.9 +1.0
comp=Z,384nm,1.0s
LRM *e*S S 05 31 06.0 +1.9
MONP Monument Peak, 46.40 298 ⇑P P 05 24 27.3 +2.1
baz=46,SNR=129
PFO Pinyon Flats O 46.50 299 P P 05 24 27.2 +1.4
comp=Z,282nm,1.1s,SNR=19
PFO Pinyon Flats O 46.50 299 *e*P P 05 24 27.5 +1.7
PFO *e* 05 26 19.6
PFO *e*S S 05 31 10.0 +4.1
PFO pmax pmax
comp=Z,736nm,2.3s
PFO Pinyon Flats O 46.50 299 *e*P P 05 24 27.5 +1.7
comp=Z,736nm,2.3s
PFO *e*PP PP 05 26 19.6 +2.8
PFO *e*S S 05 31 09.9 +4.1
PFO Pinyon Flats O 46.50 299 ⇑P P 05 24 27.7 +1.8
baz=46,SNR=28
R11A Troy Canyon, C 46.54 306 *e*P P 05 24 27.6 +1.4
comp=Z,61nm,1.1s
R11A *e*ScP ScP 05 29 43.1 +1.3
R11A Troy Canyon, C 46.54 306 ⇑P P 05 24 27.7 +1.6
baz=46,SNR=107
HEC Hector,Ludlow 46.55 301 ⇑P P 05 24 28.3 +2.1
baz=46,SNR=29
BAR Barrett 46.59 298 *e*P P 05 24 27.6 +1.2
comp=Z,31nm,0.8s
BAR *e*pP pP 05 24 55.5 +2.7
BAR *e*PP PP 05 26 21.9 +4.4
BAR *e*S S 05 31 07.6 +0.7
SHOC Shoshone, Teco 46.66 302 ⇓P P 05 24 29.2 +2.3
baz=47,SNR=28
TPNV Topopah Spring 46.80 304 ⇑P P 05 24 30.6 +2.4
baz=47,SNR=180
ELK Elko 46.80 309 *e*P P 05 24 28.8 +0.6
ELK *e* 05 26 21.4
ELK *e*S S 05 31 10.4 +0.2
ELK pmax pmax
comp=Z,51nm,1.1s
ELK Elko 46.80 309 *e*P P 05 24 28.8 +0.6
comp=Z,51nm,1.1s
ELK *e*PP PP 05 26 21.4 +1.8
ELK *e*S S 05 31 10.4 +0.2
PMOZ Porto Moniz, M 46.90 62 *e*P P 05 24 29.9 +1.0
comp=Z,203nm,1.3s
BBRC Big Bear Solar 46.96 300 ⇑P P 05 24 31.9 +2.4
baz=47,SNR=18
109C Camp Elliot, M 46.97 298 ⇓P P 05 24 31.0 +1.7
baz=47,SNR=28
HLID Hailey 46.97 313 *e*P P 05 24 30.3 +0.9
comp=Z,69nm,0.9s
HLID *e*PP PP 05 26 22.3 +1.4
HLID *e*ScP ScP 05 29 43.6 0.0
HLID *e*S S 05 31 13.0 +0.6
HLID Hailey 46.97 313 ⇓P P 05 24 30.5 +1.1
baz=47,SNR=150
GSC Goldstone, Bar 47.00 301 ⇓P P 05 24 31.7 +2.1
baz=47,SNR=48
RRX Edison Barstow 47.10 301 ⇑P P 05 24 32.8 +2.5
baz=47,SNR=11
MURC Murrieta 47.12 299 ⇓P P 05 24 32.4 +1.9
baz=47,SNR=40
LCO Las Campanas 47.13 184 *e*P P 05 24 29.6 -1.2
comp=Z,886nm,2.0s
LCO *e*PP PP 05 26 22.9 +0.1
FUL Funchal 47.14 62 *e*P P 05 24 31.2 +0.5
comp=Z,177nm,1.7s
FURC Furnace Creek, 47.21 303 ⇓P P 05 24 33.3 +2.2
baz=47,SNR=26
CHMT Chamberlain Mo 47.29 318 *e*P P 05 24 32.5 +0.6
comp=Z,15nm,0.7s
CHMT *e*ScP ScP 05 29 45.2 +0.3
BFSC Mount Baldy Ra 47.56 300 ⇑P P 05 24 35.6 +1.5
baz=48,SNR=28
SLMT Seeley Lake 47.57 318 *e*P P 05 24 34.9 +0.9
comp=Z,17nm,0.7s
SLMT *e*ScP ScP 05 29 45.9 -0.1
MPMC Manual Prospec 47.65 302 ⇓P P 05 24 36.9 +2.0
baz=48,SNR=61
GRAC Grapevine Rang 47.69 304 ⇑P P 05 24 36.8 +1.8
baz=48,SNR=37
MSO Missoula 47.71 317 ⇓P P 05 24 35.5 +0.6
baz=48,SNR=33
LRMC Laurel Mtn Rad 47.73 302 ⇓P P 05 24 37.0 +1.6
baz=48,SNR=40
TPH Tonopah 47.75 305 *e*P P 05 24 37.0 +1.4
TPH pmax pmax
comp=Z,52nm,0.9s
TPH Tonopah 47.75 305 *e*P P 05 24 37.0 +1.4
comp=Z,52nm,0.9s
DAC Darwin (Calif) 47.77 303 *e*P P 05 24 37.4 +1.7
DAC *e* 05 26 32.6
DAC pmax pmax
comp=Z,74nm,0.9s
DAC Darwin (Calif) 47.77 303 *e*P P 05 24 37.4 +1.7
comp=Z,74nm,0.9s
DAC *e*PP PP 05 26 32.6 +4.2
MWC Mount Wilson 47.89 300 *e*P P 05 24 38.1 +1.4
MWC pmax pmax
comp=Z,177nm,1.5s
MWC Mount Wilson 47.89 300 *e*P P 05 24 38.1 +1.4
comp=Z,177nm,1.5s
EDW2 Edwards Air Fo 47.91 301 ⇓P P 05 24 38.7 +2.0
baz=48,SNR=80
MFID Camas Ranch 47.91 312 *e*P P 05 24 37.3 +0.7
comp=Z,88nm,0.9s
MFID *e*PP PP 05 26 32.2 +2.7
MFID *e*ScP ScP 05 29 47.2 -0.2
MFID *e*S S 05 31 26.0 +0.4
SWMT Swartz Lake 47.98 318 *e*P P 05 24 37.6 +0.5
comp=Z,27nm,1.0s

PASC Pasadena Art C 47.99 300 *e*P P 05 24 38.5 +1.3
comp=Z,75nm,1.0s
PASC *e*PP PP 05 26 35.4 +5.1
PASC *e*S S 05 31 28.0 +1.2
FMP Fort Macarthur 48.04 299 ⇓P P 05 24 39.9 +2.3
baz=48,SNR=5.3
CIS Catalina Islan 48.10 299 ⇑P P 05 24 40.2 +2.0
baz=48,SNR=12
DECC Green Verdugo 48.12 300 ⇑P P 05 24 40.2 +1.9
baz=48,SNR=7.8
YBMT Yellow Bay 48.12 319 *e*P P 05 24 38.9 +0.7
comp=Z,17nm,0.4s
YBMT *e*ScP ScP 05 29 48.7 +0.4
CWC Cottonwood Cre 48.18 303 ⇑P P 05 24 41.1 +2.3
baz=48,SNR=6.8
SCI San Clemente I 48.18 298 ⇓P P 05 24 41.0 +2.3
baz=48
BMN Battle Mountai 48.20 308 *e*P P 05 24 39.8 +0.8
BMN *e* 05 26 33.7
BMN *e*S S 05 31 32.3 +2.4
BMN pmax pmax
comp=Z,95nm,1.1s
BMN Battle Mountai 48.20 308 *e*P P 05 24 39.8 +0.8
comp=Z,95nm,1.1s
BMN *e*PP PP 05 26 33.7 +1.4
BMN *e*S S 05 31 32.3 +2.4
JTMT Jette 48.25 318 *e*P P 05 24 39.9 +0.7
comp=Z,13nm,0.5s
TIN Tinemaha, Big 48.38 304 ⇑P P 05 24 42.4 +2.1
baz=48,SNR=15
BLMT Blacktail Moun 48.39 319 *e*P P 05 24 41.2 +0.8
comp=Z,20nm,0.6s
BLMT *e*ScP ScP 05 29 49.6 +0.1
ISA Isabella, Lake 48.39 302 *e*P P 05 24 42.2 +1.8
ISA *e* 05 26 36.7
ISA *e*S S 05 31 30.2 -2.3
ISA pmax pmax
comp=Z,554nm,2.4s
ISA Isabella, Lake 48.39 302 *e*P P 05 24 42.2 +1.8
comp=Z,554nm,2.4s
ISA *e*PP PP 05 26 36.7 +2.8
ISA *e*S S 05 31 30.2 -2.3
ISA Isabella, Lake 48.39 302 ⇓P P 05 24 42.2 +1.8
baz=48,SNR=27
OSI Osito Audit: C 48.48 300 *e*P P 05 24 41.8 +0.7
comp=Z,65nm,1.0s
OSI *e*pP pP 05 25 07.2 -0.4
OSI *e*ScP ScP 05 29 50.1 +0.2
OSI *e*S S 05 31 35.3 +1.6
OSI Osito Audit: C 48.48 300 ⇓P P 05 24 41.7 +0.7
baz=48,SNR=10
WALA Waterton Lakes 48.50 320 *e*P P 05 24 41.0 -0.1
comp=Z,16nm,0.9s
WALA *e*pP pP 05 25 05.6 -2.1
WALA *e*PP PP 05 26 35.0 +0.2
WALA *e*ScP ScP 05 29 49.6 -0.2
BSMT Bassoo Peak 48.60 318 *e*P P 05 24 42.5 +0.5
comp=Z,25nm,1.1s
BSMT *e*ScP ScP 05 29 50.5 +0.1
ARVC Arvin 48.62 301 ⇑P P 05 24 44.1 +2.1
baz=48,SNR=38
NVAR Mina Array Bea 48.65 305 P P 05 24 43.5 +1.0
comp=Z,19nm,0.6s,baz=112,slow=5.5,SNR=179
NVAR ScP ScP 05 29 51.3 +0.5
comp=Z,21nm,0.9s,baz=124,slow=4.9,SNR=24
BLG Laguna Peak, P 48.71 300 ⇑P P 05 24 44.0 +1.2
baz=49
VES Vestal, Richgr 48.91 302 ⇓P P 05 24 46.3 +2.1
baz=49,SNR=55
MLAC Mammoth, Mammo 48.94 304 ⇑P P 05 24 46.7 +1.9
baz=49,SNR=13
RCTC Rector, Farmer 49.09 302 ⇓P P 05 24 47.2 +1.6
baz=49,SNR=25
BSC Santa Cruz Isl 49.17 299 ⇓P P 05 24 47.9 +1.6
baz=49,SNR=5.1
SBC Santa Barbara 49.28 300 ⇓P P 05 24 48.5 +1.5
baz=49
BMO Blue Mountains 49.33 314 *e*P P 05 24 47.2 -0.2
BMO *e*S S 05 31 44.1 -1.3
BMO pmax pmax
comp=Z,26nm,0.7s
BMO Blue Mountains 49.33 314 *e*P P 05 24 47.2 -0.2
comp=Z,26nm,0.7s
BMO *e*PP PP 05 26 45.6 +3.3
BMO *e*S S 05 31 44.0 -1.3
WAKR Walker 49.54 305 *e*P P 05 24 50.9 +1.6
comp=Z,398nm,2.0s
SMMC Simmler 49.59 301 ⇑P P 05 24 51.6 +2.1
baz=50,SNR=29
CFAA Coronel Fontan 49.60 181 P P 05 24 47.9 -1.6
comp=Z,4.5nm,0.5s,baz=352,slow=8.3,SNR=188
CFAA ScP ScP 05 29 55.0 +0.5
comp=Z,1.0nm,0.9s,baz=331,slow=2.3,SNR=3.3
WVOR Wild Horse Val 49.67 311 *e*P P 05 24 50.3 +0.2
WVOR *e*S S 05 31 49.8 -0.5
WVOR pmax pmax
comp=Z,97nm,1.3s
WVOR Wild Horse Val 49.67 311 *e*P P 05 24 50.3 +0.2
comp=Z,97nm,1.3s
WVOR *e*ScP ScP 05 29 55.9 +0.9
WVOR *e*S S 05 31 49.8 -0.5
SFJD Kangerlussuaq 49.86 8 *i*P P 05 24 51.7 +0.8
comp=Z,17nm,0.6s
SFJD *i* S S 05 31 51.1 -0.8
SFJD *i* 05 34 24.0
comp=Z,1μm,18.0s
SFJD Kangerlussuaq 49.86 8 ⇓*i*P P 05 24 51.7 +0.8
SFJD *i* S S 05 31 51.1 -0.8
SFJD *i* 05 34 24.0
SFJD pmax pmax
comp=Z,17nm,0.6s
SFJD MLR MLR
comp=Z,1μm,18.0s
SFJD Kangerlussuaq 49.86 8 *e*P P 05 24 51.4 +0.4
comp=Z,16nm,0.6s
EDM Edmonton 49.90 325 *e*P P 05 24 51.4 -0.1
EDM *e**PP pP 05 25 17.2 -1.0
EDM *e* 05 26 48.1
EDM *e*S S 05 31 49.5 -3.4
EDM pmax pmax
comp=Z,80nm,1.0s
EDM Edmonton 49.90 325 *e*P P 05 24 51.4 -0.1
comp=Z,80nm,1.0s
EDM *e*pP pP 05 25 17.2 -1.0
EDM *e*PP PP 05 26 48.0 +0.8
EDM *e*S S 05 31 49.5 -3.4
CMB Columbia Colle 50.22 305 *e*P P 05 24 54.9 +0.7
CMB pmax pmax
comp=Z,33nm,1.3s
CMB Columbia Colle 50.22 305 *e*P P 05 24 54.9 +0.7
comp=Z,33nm,1.3s
NEW Newport 50.22 318 *e*P P 05 24 54.0 0.0
NEW pmax pmax
comp=Z,69nm,1.0s
NEW Newport 50.22 318 *e*P P 05 24 54.0 0.0
comp=Z,69nm,1.0s
NEW *e*ScP ScP 05 29 57.3 +0.2
NEW Newport 50.22 318 ⇓P P 05 24 54.7 +0.6
baz=50,SNR=82
G08A Pilot Rock 50.57 314 P P 05 24 57.1 +0.3
SAO San Andreas Ge 50.91 303 *e*P P 05 25 00.0 +0.7
SAO pmax pmax
comp=Z,13nm,1.0s
SAO San Andreas Ge 50.91 303 *e*P P 05 25 00.0 +0.7
comp=Z,13nm,1.0s
HAWA Hanford 51.24 315 *e*P P 05 25 01.9 +0.2
comp=Z,37nm,1.0s
J05D Fort Rock, OR 51.72 311 ⇓P P 05 25 06.8 +1.3
baz=52,SNR=31
SAC San Andreas 51.76 304 *e*P P 05 25 07.3 +1.6
SAC pmax pmax
comp=Z,90nm,0.7s
SAC San Andreas 51.76 304 *e*P P 05 25 07.2 +1.6
comp=Z,90nm,0.7s
M04C Macdoel 51.88 309 ⇑P P 05 25 08.0 +1.3
baz=52,SNR=14
ILULI Ilulissat 51.89 7 *i*P P 05 25 06.5 +0.4
comp=Z,22nm,0.6s
comp=Z,3μm,21.0s
CROR Criterion Ridg 51.90 313 P P 05 25 07.8 +1.1
TRW Toppenish Ridg 51.90 315 P P 05 25 08.2 +1.6
K04D Chiloquin, OR 51.97 310 ⇑P P 05 25 09.1 +1.8
baz=52,SNR=23
I05D Terrebonne, OR 52.00 312 ⇑P P 05 25 09.1 +1.6
baz=52,SNR=35
G05D Wamic, OR 52.18 313 ⇓P P 05 25 10.8 +2.1
baz=52,SNR=14
MCCM Marconi Confer 52.18 304 *e*P P 05 25 09.1 +0.3
comp=Z,50nm,0.9s
MCCM *e*pP pP 05 25 35.5 -0.2
WDC Whiskeytown Da 52.22 307 *e*P P 05 25 07.6 -1.5
WDC pmax pmax
comp=Z,23nm,1.0s
WDC Whiskeytown Da 52.22 307 *e*P P 05 25 07.6 -1.5
comp=Z,23nm,1.0s
J04D Umpqua Nationa 52.34 311 ⇓P P 05 25 11.5 +1.3
baz=52,SNR=91
N02D Trinity Center 52.40 308 ⇑P P 05 25 10.7 +0.2
baz=52,SNR=8.7
HOPS Hopland Field 52.43 305 *e*P P 05 25 11.9 +1.3
comp=Z,13nm,1.1s
YBH Yreka Blue Hor 52.52 309 *e*P P 05 25 10.2 -1.2
YBH *e**PP pP 05 25 34.7 -3.7
YBH *e*S S 05 32 28.0 -1.5
YBH pmax pmax
comp=Z,26nm,0.9s
YBH Yreka Blue Hor 52.52 309 *e*P P 05 25 10.2 -1.2
comp=Z,26nm,0.9s
YBH *e*pP pP 05 25 34.7 -3.7
YBH *e*S S 05 32 28.0 -1.5
M02C Callahan 52.57 308 ⇑P P 05 25 12.2 +0.5
baz=52,SNR=22
HBO Huckleberry Mo 52.60 312 P P 05 25 12.9 +0.9
I04A Tendick Farm, 52.65 312 ⇑P P 05 25 13.3 +1.0
baz=53,SNR=36
KIPM Iron Peak 52.84 306 *e*P P 05 25 15.4 +1.6
comp=Z,35nm,0.9s
HUMO Hull Mountain 52.84 310 *e*P P 05 25 13.0 -0.6
comp=Z,23nm,0.8s
HUMO *e*ScP ScP 05 30 08.4 -0.1
LON Longmire 52.85 315 *e*P P 05 25 14.0 +0.3
LON pmax pmax
comp=Z,13nm,0.7s
LON Longmire 52.85 315 *e*P P 05 25 14.0 +0.3
comp=Z,13nm,0.7s
KCPM Cahto Peak 52.90 306 *e*P P 05 25 15.8 +1.5
comp=Z,13nm,0.8s
KHMM Horse Mountain 53.16 308 *e*P P 05 25 16.4 +0.3
comp=Z,30nm,0.9s
L02D Cave Junction, 53.24 309 ⇓P P 05 25 17.2 +0.6
baz=53,SNR=7.1
I03D Drain, OR 53.30 311 ⇑P P 05 25 17.5 +0.5
baz=53,SNR=19
COR Corvallis 53.43 312 *e*P P 05 25 18.1 +0.3
COR pmax pmax
comp=Z,93nm,1.3s
COR Corvallis 53.43 312 *e*P P 05 25 18.1 +0.3
comp=Z,93nm,1.3s
COR *e*ScP ScP 05 30 11.6 +0.6
F04D Rainier, OR 53.52 314 ⇑P P 05 25 19.9 +1.4
baz=53
G03D McMinnville, O 53.52 313 ⇑P P 05 25 20.1 +1.5
baz=53,SNR=11
RNO Roman Nose 53.62 311 P P 05 25 20.0 +0.6
KBO Bosley Butte 53.71 309 *e*P P 05 25 20.7 +0.6
comp=Z,252nm,1.4s
KBO *e*ScP ScP 05 30 12.4 0.0
PMAFR Mafra 53.87 55 *e*P P 05 25 22.7 +1.5
comp=Z,151nm,1.5s
PMAFR *e*S S 05 32 49.3 +1.5
PMAFR *e*LR LR 05 38 53.1
comp=Z,590nm,18.0s
KEBM Edson Butte 53.88 310 *e*P P 05 25 22.1 +0.8
comp=Z,200nm,1.0s
LIS Lisbon 53.96 55 *e*P P 05 25 21.8 -0.1
LIS AMb AMB 05 25 23.9
comp=Z,171nm,1.2s
LIS *e*S S 05 32 49.4 +0.6
LIS Lisbon 53.96 55 *e*P P 05 25 21.7 -0.1
LIS *e*S S 05 32 49.4 +0.6
LIS pmax pmax
comp=Z,171nm,1.2s
PFVI Vila Bisbo 54.09 57 *e*P P 05 25 24.0 +1.2
comp=Z,98nm,1.7s
PFVI *e*S S 05 32 52.1 +1.4
PFVI *e*LR LR 05 39 11.1
comp=Z,1μm,18.0s
PTEO Sao Teotonio 54.20 57 *e*P P 05 25 24.5 +0.9
comp=Z,81nm,1.7s
PACT Alcochete 54.21 55 *e*P P 05 25 23.5 -0.1
comp=Z,309nm,1.4s
MORF Marmelete 54.24 57 *e*P P 05 25 24.4 +0.3
MORF AMb AMB 05 25 28.4
comp=Z,85nm,1.1s
MORF *e*S S 05 32 52.6 -0.3
MORF Marmelete 54.24 57 *e*P P 05 25 25.3 +1.3
comp=Z,86nm,1.0s
MORF *e*S S 05 32 49.3 -3.6
MORF *e*LR LR 05 39 11.1
comp=Z,1μm,20.0s
MORF Marmelete 54.24 57 *e*P P 05 25 24.3 +0.3
MORF *e*S S 05 32 52.6 -0.3
MORF pmax pmax
comp=Z,85nm,1.0s
NLWA Neilton Lookou 54.37 316 *e*P P 05 25 25.2 +0.4
comp=Z,28nm,1.0s
NLWA *e*pP pP 05 25 50.0 -1.9
NLWA *e*S S 05 32 56.5 +2.3
PGC Sidney 54.37 317 *e*P P 05 25 24.1 -0.5
comp=Z,54nm,0.9s
PGC *e*ScP ScP 05 30 15.1 +0.2
PNCL Nicolau / Gran 54.40 56 *e*P P 05 25 25.8 +0.8
comp=Z,56nm,1.6s
PNCL *e*S S 05 32 50.2 -4.6
PNCL *e*LR LR 05 39 11.1
comp=Z,894nm,18.0s
PCAS Casmilo, Conde 54.58 54 *e*P P 05 25 27.2 +0.9
comp=Z,101nm,1.4s
PCAS *e*S S 05 32 59.6 +2.4
PCAS *e*LR LR 05 39 14.7
comp=Z,839nm,22.0s
PTOM Tomar 54.61 54 *e*P P 05 25 27.2 +0.7
comp=Z,102nm,1.5s
PTO Porto 54.61 52 *e*P P 05 25 26.8 +0.3
comp=Z,64nm,1.1s
MESJ Messejana 54.62 56 *e*P P 05 25 27.1 +0.5
MESJ AMb AMB 05 25 30.5
comp=Z,91nm,0.7s
MESJ *e*S S 05 32 57.9 +0.1
MESJ Messejana 54.62 56 *e*P P 05 25 27.2 +0.6
comp=Z,89nm,1.5s
MESJ Messejana 54.62 56 *e*P P 05 25 27.1 +0.5
MESJ *e*S S 05 32 57.8 +0.1
MESJ pmax pmax
comp=Z,91nm,0.7s
PMTG Montargil 54.70 55 *e*P P 05 25 27.9 +0.7
comp=Z,93nm,1.6s
PMTG *e*S S 05 32 58.6 -0.3
PMTG *e*LR LR 05 39 14.7
comp=Z,510nm,18.0s
EVOP Sao Brissos 54.74 55 ⇓*i*P P 05 25 28.3 +0.8
EVOP pmax pmax
comp=Z,109nm,0.9s
EVOP Sao Brissos 54.74 55 ⇓*i*P P 05 25 28.3 +0.8
comp=Z,109nm,0.9s
PCVE Castro Verde 54.75 57 *e*P P 05 25 28.7 +1.1
comp=Z,23nm,2.1s
PCVE *e*S S 05 33 02.4 +2.8
PCVE *e*LR LR 05 39 14.7
comp=Z,3μm,18.0s
PBDV Barranco-do-Ve 54.81 57 *e*P P 05 25 29.7 +1.6
comp=Z,73nm,1.1s
PBDV *e*S S 05 33 03.3 +2.8
PBDV *e*LR LR 05 39 18.3
comp=Z,1μm,18.0s
EVO Evora 54.83 55 ⇓*i*P P 05 25 28.3 +0.1
comp=Z,109nm,0.9s
EVO *e*R
comp=Z,1μm,19.5s
EVO Evora 54.83 55 *e*P P 05 25 28.9 +0.7
comp=Z,83nm,0.9s
PGAV Gavieira, Arco 54.96 51 *e*P P 05 25 29.7 +0.6
comp=Z,114nm,1.3s
PGAV *e*S S 05 33 04.9 +2.5
PGAV *e*LR LR 05 39 14.7
comp=Z,968nm,16.0s
YKA Yellowknife Ar 54.97 335 P P 05 25 28.4 -0.3
comp=Z,15nm,0.5s,baz=112,slow=7.3,SNR=216
YKA *e*P P 05 25 54.7 -1.1
comp=Z,9.2nm,0.5s,baz=112,slow=7.3,SNR=2.0
YKA ScP ScP 05 30 15.2 -2.1
comp=Z,2.1nm,0.8s,baz=110,slow=5.1,SNR=4.6

YKA PKP2bc 05 55 49.0
comp=Z,0.6nm,0.9s,baz=292,slow=2.3,SNR=5.5
PVAQ Vaqueiros 54.99 57 *eP* **P 05 25 30.2 +0.9**
comp=Z,81nm,1.4s
PVAQ *eS* **S 05 33 04.8 +2.0**
PVAQ *e*LR LR 05 39 29.1
comp=Z,959nm,20.0s
PVIS Viseu 55.10 53 *eP* **P 05 25 30.8 +0.6**
comp=Z,46nm,1.6s
PCAB Cabril 55.11 52 *eP* **P 05 25 30.6 +0.5**
comp=Z,58nm,0.9s
PESTR Estremoz 55.18 55 *eP* **P 05 25 31.5 +0.8**
comp=Z,86nm,1.3s
PESTR *eS* **S 05 33 06.2 +0.8**
PESTR *e*LR LR 05 39 11.1
comp=Z,651nm,18.0s
POLO Lamas de Olo 55.24 52 *eP* **P 05 25 31.3 +0.1**
comp=Z,48nm,1.3s
POLO *eS* **S 05 33 06.0 -0.3**
POLO *e*LR LR 05 39 14.7
comp=Z,548nm,20.0s
PVRL Vila Real 55.29 52 *eP* **P 05 25 32.0 +0.5**
comp=Z,113nm,1.3s
PCBR Castelo Branco 55.34 54 *eP* **P 05 25 32.5 +0.7**
comp=Z,65nm,1.4s
PMRV Marv??o 55.38 54 *eP* **P 05 25 32.1 0.0**
comp=Z,73nm,1.5s
PMRV *eS* **S 05 33 09.6 +1.7**
PMRV *e*LR LR 05 39 36.4
comp=Z,474nm,18.0s
VAL Valentia 55.51 39 *eP* **P 05 25 33.8 +1.0**
PBAR Barrancos 55.57 56 *eP* **P 05 25 34.5 +1.0**
comp=Z,109nm,1.6s
PBAR *eS* **S 05 33 13.0 +2.5**
PBAR *e*LR LR 05 39 29.1
comp=Z,2µm,18.0s
MVO Moncorvo 55.80 52 *eP* **P 05 25 35.9 +0.7**
comp=Z,113nm,1.3s
MVO *eS* **S 05 33 15.2 +1.6**
MVO *e*LR LR 05 39 40.0
comp=Z,774nm,22.0s
PBRG Braganca 56.07 52 *eP* **P 05 25 38.0 +0.9**
comp=Z,37nm,1.4s
PBRG *eS* **S 05 33 19.9 +2.7**
PBRG *e*LR LR 05 39 43.6
comp=Z,792nm,18.0s
TRQA Tornquist 56.23 175 *eP* **P 05 25 37.5 -0.5**
comp=Z,40nm,1.3s
KULLO Kullorsuaq 56.59 3 *i* P **P 05 25 42.9 +2.8**
KULLO *i* S **S 05 33 20.5 -2.3**
KULLO *i* 05 35 14.3
comp=Z,2µm,21.0s
SUMG Summit 56.75 10⇓ *i*P **P 05 25 42.7 +0.9**
comp=Z,48nm,0.7s
SUMG *i* S **S 05 33 27.5 +1.7**
comp=Z,2µm,22.0s
SUMG Summit 56.75 10⇓ *i*P **P 05 25 42.7 +0.9**
SUMG *i* S **S 05 33 27.5 +1.7**
SUMG pmax pmax
comp=Z,48nm,0.7s
SUMG MLR MLR
comp=Z,2µm,22.0s
SUMG Summit 56.75 10 *eP* **P 05 25 42.4 +0.7**
comp=Z,45nm,0.6s
SUMG *e*ScP **ScP 05 30 24.3 -1.2**
PAB San Pablo 57.74 54 *eP* **P 05 25 49.1 +0.2**
PAB pmax pmax
comp=Z,57nm,1.1s
PAB San Pablo 57.74 54 *eP* **P 05 25 49.1 +0.2**
comp=Z,57nm,1.1s
ESDC Sonseca Array 58.04 54 P **P 05 25 51.2 +0.2**
comp=Z,45nm,0.7s,baz=269,slow=7.2,SNR=208
ESDC pP **pP 05 26 18.7 +0.3**
comp=Z,15nm,0.8s,baz=274,slow=6.9,SNR=3.2
ESDC LR LR 05 46 54.3
comp=Z,359nm,20.6s,baz=270,slow=32
ESDC PKP2bc 05 55 43.5
comp=Z,0.5nm,0.7s,baz=67,slow=2.4,SNR=5.5
ESLA Sonseca Array 58.04 54 *eP* **P 05 25 51.7 +0.7**
comp=Z,18nm,0.9s
PLCA Paso Flores 58.78 183 P **P 05 25 54.7 -1.3**
comp=Z,44nm,0.8s,baz=358,slow=7.5,SNR=81
PLCA pP **pP 05 26 23.5 0.0**
comp=Z,37nm,1.0s,baz=2.4,slow=7.8,SNR=5.2
PLCA PcP **PcP 05 26 45.3 +0.9**
comp=Z,17nm,0.5s,baz=3.1,slow=6.0,SNR=8.4
PLCA LR LR 05 52 40.4
comp=Z,557nm,21.7s,baz=15,slow=37
PLCA Paso Flores 58.78 183 *eP* **P 05 25 54.9 -1.0**
PLCA *PP **pP 05 26 23.5 0.0**
PLCA 05 26 45.3
PLCA pmax pmax
comp=Z,216nm,1.4s
PLCA Paso Flores 58.78 183 *eP* **P 05 25 54.9 -1.0**
comp=Z,216nm,1.4s
PLCA pP **pP 05 26 23.5 0.0**
PLCA *epP **pP 05 26 23.8 +0.3**
PLCA PcP **PcP 05 26 45.3 +0.9**
YRC Rhoscolyn 59.18 38 *eP* **P 05 25 59.2 +0.8**
ROSF Rostrenen 59.23 44⇓ *i*P **P 05 25 59.6 +0.6**
comp=Z,72nm,0.7s
ROSF Rostrenen 59.23 44⇓ *i*P **P 05 25 59.6 +0.6**
ROSF pmax pmax
comp=Z,72nm,0.7s
ROSF Rostrenen 59.23 44⇓ *i*P **P 05 25 59.6 +0.6**
comp=Z,72nm,0.7s
QUIF Quistinic 59.25 45⇓ *i*P **P 05 25 59.7 +0.6**
comp=Z,62nm,0.6s
QUIF Quistinic 59.25 45⇓ *i*P **P 05 25 59.7 +0.6**
QUIF pmax pmax
comp=Z,62nm,0.6s
QUIF Quistinic 59.25 45⇓ *i*P **P 05 25 59.7 +0.6**
comp=Z,62nm,0.6s
HEX Exmoor 59.27 41 *eP* **P 05 26 00.0 +0.8**
HEX AMB AMB 05 26 01.7
comp=Z,51nm,0.8s
LPW Lampeter 59.28 40 *eP* **P 05 25 59.3 +0.1**
LPW AMB AMB 05 26 02.0
comp=Z,40nm,1.0s
WLF1 Llynfaes 59.29 38 *eP* **P 05 25 59.7 +0.5**
WLF1 AMB AMB 05 26 03.3
comp=Z,54nm,2.1s
GAL1 Galloway 59.42 37 *eP* **P 05 26 00.5 +0.3**
GAL1 AMB AMB 05 26 01.5
comp=Z,84nm,1.7s
KPL Plockton 59.47 34 *eP* **P 05 26 00.1 -0.4**
WPM1 Penmaenmawr 59.58 38 *eP* **P 05 26 02.1 +0.9**
SGMF Saint Gilles 59.70 44⇓ *i*P **P 05 26 02.6 +0.4**
comp=Z,40nm,0.7s
SGMF Saint Gilles 59.70 44⇓ *i*P **P 05 26 02.6 +0.4**
SGMF pmax pmax
comp=Z,40nm,0.7s
SGMF Saint Gilles 59.70 44⇓ *i*P **P 05 26 02.6 +0.4**
comp=Z,40nm,0.7s
KAC Achnashellach 59.70 33 *eP* **P 05 26 02.2 +0.2**
PGBU Glenifferbraes 59.75 35 *eP* **P 05 26 02.8 +0.4**
PGBU AMB AMB 05 26 04.9
comp=Z,69nm,0.8s
GCD Castle Douglas 59.86 37 *eP* **P 05 26 03.3 +0.2**
EAB Aberfoyle 59.91 35 *eP* **P 05 26 03.5 0.0**
MCH1 Michaelchurch 59.91 40 *eP* **P 05 26 03.2 -0.4**
FOEL Foel Wylfa 59.93 39 *eP* **P 05 26 04.1 +0.4**
FOEL AMB AMB 05 26 05.9
comp=Z,52nm,0.8s
HLM1 Long Mynd 60.06 39 *eP* **P 05 26 04.9 +0.3**
HLM1 AMB AMB 05 26 06.9
comp=Z,84nm,1.0s
OLDB Oldbury-Upon-S 60.13 40 *eP* **P 05 26 05.6 +0.6**
MDO Dochfour 60.17 34 *eP* **P 05 26 04.7 -0.6**
SJPF Ste Jean 60.23 50⇓ *i*P **P 05 26 07.0 +1.0**
comp=Z,162nm,0.7s
SJPF Ste Jean 60.23 50⇓ *i*P **P 05 26 07.0 +1.0**
SJPF pmax pmax
comp=Z,162nm,0.7s
SJPF Ste Jean 60.23 50⇓ *i*P **P 05 26 07.0 +1.0**
comp=Z,162nm,0.7s
KESW Keswick, Cumbr 60.28 37 *eP* **P 05 26 06.7 +0.7**
KESW AMB AMB 05 26 08.5
comp=Z,69nm,1.3s
ESK Eskdalemuir 60.36 36 P **P 05 26 06.9 +0.3**
comp=Z,358nm,0.5s,SNR=26
ESK Eskdalemuir 60.36 36 *eP* **P 05 26 06.5 -0.1**
ESK Eskdalemuir 60.36 36 *eP* **P 05 26 07.3 +0.7**
ESK pmax pmax
comp=Z,30nm,0.5s
ESK Eskdalemuir 60.36 36 *eP* **P 05 26 07.3 +0.7**
comp=Z,30nm,0.5s
ECK Cauldkaine Hil 60.38 36 *eP* **P 05 26 07.2 +0.5**
MVH1 Achvaich 60.38 33 *eP* **P 05 26 06.0 -0.7**
LARF Larrau 60.41 50⇑ *eP* **P 05 26 08.3 +1.1**
DLBC Dease Lake 60.49 327 *eP* **P 05 26 08.8 +1.2**
comp=Z,57nm,1.0s
ATE Arette 60.62 50 *eP* **P 05 26 09.1 +0.5**
EDU Dundee 60.70 35 *eP* **P 05 26 09.2 +0.3**
ETSF Etsaut 60.72 51⇓ *i*P **P 05 26 10.2 +0.9**
comp=Z,42nm,0.7s
ETSF Etsaut 60.72 51⇓ *i*P **P 05 26 10.2 +0.9**
ETSF pmax pmax
comp=Z,42nm,0.7s
ETSF Etsaut 60.72 51⇓ *i*P **P 05 26 10.2 +0.9**
comp=Z,42nm,0.7s
MCD Coleburn Disti 60.79 34 *eP* **P 05 26 09.2 -0.2**
ESY Stoneypath 60.80 36 *eP* **P 05 26 09.6 0.0**
LHO Holmfirth 60.83 38 *eP* **P 05 26 10.2 +0.4**
GRR Gorron 60.84 44⇓ *i*P **P 05 26 10.4 +0.5**
comp=Z,135nm,0.8s
GRR Gorron 60.84 44⇓ *i*P **P 05 26 10.4 +0.5**
GRR pmax pmax
comp=Z,135nm,0.8s
GRR Gorron 60.84 44⇓ *i*P **P 05 26 10.4 +0.5**
comp=Z,135nm,0.8s
REYF Montagne du Re 60.84 50 *eP* **P 05 26 11.1 +0.9**
MLA1 Latheron 60.89 33 *eP* **P 05 26 10.1 0.0**
WOL Wolverton 60.91 41 *eP* **P 05 26 11.2 +0.8**
WOL AMB AMB 05 26 11.2
comp=Z,89nm,2.1s
HPK Haverah Park 61.03 38 *eP* **P 05 26 11.1 -0.1**
HPK AMB AMB 05 26 13.8
comp=Z,62nm,0.8s
FLN La Foliniere 61.12 44⇓ *i*P **P 05 26 12.4 +0.6**
comp=Z,75nm,0.6s
FLN *eR
comp=Z,488nm,18.0s
FLN La Foliniere 61.12 44⇓ *i*P **P 05 26 12.4 +0.6**
FLN pmax pmax
comp=Z,75nm,0.6s
FLN La Foliniere 61.12 44⇓ *i*P **P 05 26 12.4 +0.6**
comp=Z,75nm,0.6s
VIEF Viey 61.14 51⇑ *eP* **P 05 26 13.1 +0.8**
MFF Saint Martin d 61.18 46⇓ *i*P **P 05 26 13.0 +0.7**
comp=Z,136nm,0.4s
MFF Saint Martin d 61.18 46⇓ *i*P **P 05 26 13.0 +0.7**
MFF pmax pmax
comp=Z,136nm,0.4s
MFF Saint Martin d 61.18 46⇓ *i*P **P 05 26 13.0 +0.7**
comp=Z,136nm,0.4s
SKP1 Kophill 61.22 41 *eP* **P 05 26 13.0 +0.5**
LDF La Druitiere 61.34 44⇓ *i*P **P 05 26 13.9 +0.5**
comp=Z,119nm,0.7s
LDF La Druitiere 61.34 44⇓ *i*P **P 05 26 13.9 +0.5**
LDF pmax pmax
comp=Z,119nm,0.7s
LDF La Druitiere 61.34 44⇓ *i*P **P 05 26 13.9 +0.5**
comp=Z,119nm,0.7s
EPF Esparros 61.38 50⇓ *i*P **P 05 26 14.8 +1.0**
comp=Z,73nm,0.5s
EPF Esparros 61.38 50⇓ *i*P **P 05 26 14.8 +1.0**
EPF pmax pmax
comp=Z,73nm,0.5s
EPF Esparros 61.38 50⇓ *i*P **P 05 26 14.8 +1.0**
comp=Z,73nm,0.5s
TIC Toumodi 61.47 92 *eP* **P 05 26 14.6 -0.2**
comp=Z,38nm,0.3s
LIC Lamto 61.59 93⇓ *i*P **P 05 26 15.6 0.0**
comp=Z,66nm,0.6s,baz=280
LIC *eR
comp=Z,462nm,20.8s
LIC Lamto 61.59 93 *eP* **P 05 26 15.3 -0.3**
comp=Z,253nm,1.3s
LIC Lamto 61.59 93⇓ *i*P **P 05 26 15.6 0.0**
comp=Z,66nm,0.6s
DBIC Dimbokro 61.62 92 P **P 05 26 15.6 -0.2**
comp=Z,46nm,0.5s,baz=278,slow=7.1,SNR=172
DBIC LR LR 05 52 33.6
comp=Z,462nm,18.9s,baz=239,slow=35
DBIC Dimbokro 61.62 92 *eP* **P 05 26 16.0 +0.2**
DBIC Dimbokro 61.62 92 *eP* **P 05 26 16.0 +0.2**
MELF Melles 61.68 51 *eP* **P 05 26 17.1 +1.2**
LFF La Frestale 61.72 48⇓ *i*P **P 05 26 16.5 +0.5**
comp=Z,136nm,0.8s
LFF La Frestale 61.72 48⇓ *i*P **P 05 26 16.5 +0.5**
LFF pmax pmax
comp=Z,136nm,0.8s
LFF La Frestale 61.72 48⇓ *i*P **P 05 26 16.5 +0.5**
comp=Z,136nm,0.8s
KIC Kosan Boka 61.82 93 *eP* **P 05 26 17.0 -0.2**
comp=Z,175nm,0.8s
SALF Salau 62.00 51⇑ *eP* **P 05 26 19.0 +1.0**
RJF Les Rejaudoux 62.28 48⇓ *i*P **P 05 26 20.1 +0.3**
comp=Z,102nm,0.8s
RJF *eR
comp=Z,744nm,19.0s
RJF Les Rejaudoux 62.28 48⇓ *i*P **P 05 26 20.1 +0.3**
RJF pmax pmax
comp=Z,102nm,0.8s
RJF Les Rejaudoux 62.28 48⇓ *i*P **P 05 26 20.1 +0.3**
comp=Z,102nm,0.8s
CAF Calviac 62.66 48⇓ *i*P **P 05 26 22.8 +0.5**
comp=Z,116nm,0.8s
CAF Calviac 62.66 48⇓ *i*P **P 05 26 22.8 +0.5**
CAF pmax pmax
comp=Z,116nm,0.8s
CAF Calviac 62.66 48⇓ *i*P **P 05 26 22.8 +0.5**
comp=Z,116nm,0.8s
MTLF Montolieu 62.76 50⇓ *i*P **P 05 26 23.4 +0.5**
comp=Z,227nm,1.4s
MTLF Montolieu 62.76 50⇓ *i*P **P 05 26 23.4 +0.5**
MTLF pmax pmax
comp=Z,227nm,1.4s
MTLF Montolieu 62.76 50⇓ *i*P **P 05 26 23.4 +0.5**
comp=Z,227nm,1.4s
TCF Toulx Ste Croi 62.80 47⇓ *i*P **P 05 26 23.5 +0.3**
comp=Z,119nm,0.7s
TCF Toulx Ste Croi 62.80 47⇓ *i*P **P 05 26 23.5 +0.3**
TCF pmax pmax
comp=Z,119nm,0.7s
TCF Toulx Ste Croi 62.80 47⇓ *i*P **P 05 26 23.5 +0.3**
comp=Z,119nm,0.7s
MENF Mencas 62.97 42⇑ *eP* **P 05 26 23.7 -0.4**
HYF Humbligny 63.12 46 *eP* **P 05 26 25.7 +0.4**
HYF Humbligny 63.12 46 *eP* **P 05 26 25.7 +0.4**
PYM Petit Puy Mans 63.34 47⇑ *eP* **P 05 26 26.0 -0.9**
LBL Lubilhac 63.50 48 *eP* **P 05 26 28.6 +0.7**
AVF Avril sur Loir 63.60 46⇓ *i*P **P 05 26 28.4 0.0**
comp=Z,46nm,0.5s
AVF Avril sur Loir 63.60 46⇓ *i*P **P 05 26 28.4 0.0**
AVF pmax pmax
comp=Z,46nm,0.5s
AVF Avril sur Loir 63.60 46⇓ *i*P **P 05 26 28.4 0.0**
comp=Z,46nm,0.5s
SSF Saint Saulge 63.71 46⇓ *i*P **P 05 26 29.0 -0.1**
comp=Z,85nm,0.9s
SSF Saint Saulge 63.71 46⇓ *i*P **P 05 26 29.0 -0.1**
SSF pmax pmax
comp=Z,85nm,0.9s
SSF Saint Saulge 63.71 46⇓ *i*P **P 05 26 29.0 -0.1**
comp=Z,85nm,0.9s
PLDF La Plantade 63.77 47⇑ *eP* **P 05 26 29.7 0.0**
COLF Collangettes 63.82 48 *eP* **P 05 26 30.6 +0.6**
SMF Signal de Mont 63.93 46⇓ *i*P **P 05 26 30.7 +0.1**
comp=Z,86nm,0.8s
SMF Signal de Mont 63.93 46⇓ *i*P **P 05 26 30.7 +0.1**
SMF pmax pmax
comp=Z,86nm,0.8s
SMF Signal de Mont 63.93 46⇓ *i*P **P 05 26 30.7 +0.1**
comp=Z,86nm,0.8s
LASF Ste Croix 63.94 49⇓ *i*P **P 05 26 31.7 +0.9**
comp=Z,83nm,0.8s
LASF Ste Croix 63.94 49⇓ *i*P **P 05 26 31.7 +0.9**
comp=Z,83nm,0.8s
LOR Lormes 63.95 46⇓ *i*P **P 05 26 30.7 -0.1**
comp=Z,66nm,0.4s
LOR *eR
comp=Z,676nm,20.0s
LOR Lormes 63.95 46⇓ *i*P **P 05 26 30.7 -0.1**
LOR pmax pmax
comp=Z,66nm,0.4s
LOR Lormes 63.95 46⇓ *i*P **P 05 26 30.7 -0.1**
comp=Z,66nm,0.4s
BAIF Baives 64.25 43⇓ *i*P **P 05 26 32.6 0.0**
comp=Z,37nm,0.9s
BAIF Baives 64.25 43⇓ *i*P **P 05 26 32.6 0.0**
BAIF pmax pmax
comp=Z,37nm,0.9s
BAIF Baives 64.25 43⇓ *i*P **P 05 26 32.6 0.0**
comp=Z,37nm,0.9s
SNF Seneffe 64.32 42 P **P 05 26 33.2 +0.2**
ALE Alert 64.33 1 P **P 05 26 32.0 -0.6**
comp=Z,731nm,0.4s,SNR=47
UCC Uccle 64.38 42 P **P 05 26 33.6 +0.2**
comp=Z,70nm,1.1s
SSB Saint Sauveur 64.42 48 *eP* **P 05 26 34.6 +0.7**
SSB Saint Sauveur 64.42 48 *eP* **P 05 26 34.6 +0.7**
SSB pmax pmax
comp=Z,32nm,0.8s
SSB Saint Sauveur 64.42 48 *eP* **P 05 26 34.6 +0.7**
comp=Z,32nm,0.8s
INK Inuvik 64.49 338 PKPPKP **P'P'df 05 55 21.7 -0.3**
comp=Z,2.9nm,1.2s,baz=296,slow=4.1,SNR=6.9
INK LR LR 05 55 31.1
comp=Z,1µm,19.8s,baz=98,slow=37
DOU Dourbes 64.50 43 P **P 05 26 34.5 +0.2**
VIVF Saint-Julien-l 64.52 48⇓ *i*P **P 05 26 35.5 +1.0**
comp=Z,75nm,0.9s
VIVF Saint-Julien-l 64.52 48⇓ *i*P **P 05 26 35.5 +1.0**
VIVF pmax pmax
comp=Z,75nm,0.9s
VIVF Saint-Julien-l 64.52 48⇓ *i*P **P 05 26 35.5 +1.0**
comp=Z,75nm,0.9s
GIVF Givet 64.65 43⇓ *i*P **P 05 26 35.4 +0.2**
comp=Z,85nm,0.6s
GIVF Givet 64.65 43⇓ *i*P **P 05 26 35.4 +0.2**
GIVF pmax pmax
comp=Z,85nm,0.6s
GIVF Givet 64.65 43⇓ *i*P **P 05 26 35.4 +0.2**
comp=Z,85nm,0.6s
HYT Haines Junctio 64.67 329 *eP* **P 05 26 36.5 +1.2**
comp=Z,38nm,1.3s
SFTF Sexfontaines 64.76 45⇓ *i*P **P 05 26 36.1 +0.1**
comp=Z,92nm,0.5s
SFTF Sexfontaines 64.76 45⇓ *i*P **P 05 26 36.1 +0.1**
comp=Z,92nm,0.5s
MEZF Maizieres J'vi 64.77 44⇓ *i*P **P 05 26 36.5 +0.5**
comp=Z,206nm,0.5s
MEZF Maizieres J'vi 64.77 44⇓ *i*P **P 05 26 36.5 +0.5**
comp=Z,206nm,0.5s
BCLA Clavier 64.97 42 P **P 05 26 37.5 +0.2**
SMRF Simiane la Rot 65.18 49⇓ *i*P **P 05 26 39.4 +0.5**
SMRF Simiane la Rot 65.18 49⇓ *i*P **P 05 26 39.4 +0.5**
BEBN Eben Emael 65.22 42 P **P 05 26 39.3 +0.4**
PAGF Fort de Pagny 65.22 44⇓ *i*P **P 05 26 39.3 +0.3**
comp=Z,38nm,0.9s
PAGF Fort de Pagny 65.22 44⇓ *i*P **P 05 26 39.3 +0.3**
comp=Z,38nm,0.9s
ORIF Oris-en-Rattie 65.37 48⇓ *i*P **P 05 26 41.2 +1.1**
comp=Z,51nm,0.9s
ORIF *eR
comp=Z,454nm,18.8s
ORIF Oris-en-Rattie 65.37 48⇓ *i*P **P 05 26 41.2 +1.1**
ORIF pmax pmax
comp=Z,51nm,0.9s
ORIF Oris-en-Rattie 65.37 48⇓ *i*P **P 05 26 41.2 +1.1**
comp=Z,51nm,0.9s
HGN Heimansgroeve 65.38 42 *eP* **P 05 26 40.2 +0.3**
HGN *eS* **S 05 35 19.2 +4.1**
HGN *e*SS **SS 05 39 36.0 +6.0**
THEF They Montfort 65.39 45⇑ *eP* **P 05 26 40.5 +0.4**
SUE Sulen 65.42 31 *eP* **P 05 26 39.4 -0.6**
SUE *eS* **S 05 35 16.3 +1.2**
MEM Membach 65.42 42 P **P 05 26 40.6 +0.4**
KMY Karmoy 65.46 33 *eP* **P 05 26 40.0 -0.2**
KMY *eS* **S 05 35 15.3 -0.4**
CABF La Chapelle 65.48 47⇓ *i*P **P 05 26 41.1 +0.3**
comp=Z,46nm,0.6s
CABF La Chapelle 65.48 47⇓ *i*P **P 05 26 41.1 +0.3**
CABF pmax pmax
comp=Z,46nm,0.6s
CABF La Chapelle 65.48 47⇓ *i*P **P 05 26 41.1 +0.3**
comp=Z,46nm,0.6s
WLF Walferdange 65.50 43 P **P 05 26 41.4 +0.7**
WLF Walferdange 65.50 43 *eP* **P 05 26 41.5 +0.7**
comp=Z,63nm,1.0s
WLF Walferdange 65.50 43 *eP* **P 05 26 40.9 +0.1**
WLF pmax pmax
comp=Z,39nm,0.8s
WLF Walferdange 65.50 43 *eP* **P 05 26 40.9 +0.1**
comp=Z,39nm,0.8s
ASK Askoy 65.56 31 *eP* **P 05 26 41.5 +0.6**
FOO Floro 65.61 30 *eP* **P 05 26 43.5 +2.3**
FOO *eS* **S 05 35 20.8 +3.3**
BER Bergen 65.62 31 *eP* **P 05 26 41.4 +0.1**
BER *eS* **S 05 35 17.8 +0.1**
HAU Haudompre 65.64 45⇓ *i*P **P 05 26 41.7 0.0**
comp=Z,22nm,0.4s
HAU *eR
comp=Z,672nm,19.0s
HAU Haudompre 65.64 45⇓ *i*P **P 05 26 41.7 0.0**
HAU pmax pmax
comp=Z,22nm,0.4s
HAU Haudompre 65.64 45⇓ *i*P **P 05 26 41.7 0.0**
comp=Z,22nm,0.4s
RUND Rundenannen 65.64 31 *eP* **P 05 26 41.7 +0.2**
LMR La Mourre 65.89 50⇓ *i*P **P 05 26 43.6 +0.3**
comp=Z,54nm,1.0s
LMR La Mourre 65.89 50⇓ *i*P **P 05 26 43.6 +0.3**
LMR pmax pmax
comp=Z,54nm,1.0s
LMR La Mourre 65.89 50⇓ *i*P **P 05 26 43.6 +0.3**
comp=Z,54nm,1.0s
OG01 Vacheresse 65.90 47 *eP* **P 05 26 43.6 +0.1**
WTSB Winterswijk 65.94 41 *eP* **P 05 26 44.0 +0.5**
WTSB *eS* **S 05 35 18.4 -3.4**
LPL La Plagne 65.96 48⇓ *i*P **P 05 26 44.8 +0.8**
comp=Z,58nm,0.7s
LPL La Plagne 65.96 48⇓ *i*P **P 05 26 44.8 +0.8**
LPL pmax pmax
comp=Z,59nm,0.7s
LPL La Plagne 65.96 48⇓ *i*P **P 05 26 44.8 +0.8**
comp=Z,58nm,0.7s
LPG La Plagne 65.97 48⇓ *i*P **P 05 26 45.1 +0.9**
comp=Z,62nm,0.9s
LPG La Plagne 65.97 48⇓ *i*P **P 05 26 45.1 +0.9**
LPG pmax pmax
comp=Z,62nm,0.9s
LPG La Plagne 65.97 48⇓ *i*P **P 05 26 45.1 +0.9**
comp=Z,62nm,0.9s
LOMF Lomont 65.97 46⇑ *eP* **P 05 26 44.2 +0.3**
FRF La Foret Royal 65.97 50⇓ *i*P **P 05 26 44.1 +0.2**
comp=Z,56nm,0.9s
FRF La Foret Royal 65.97 50⇓ *i*P **P 05 26 44.1 +0.2**
FRF pmax pmax
comp=Z,56nm,0.9s
FRF La Foret Royal 65.97 50⇓ *i*P **P 05 26 44.1 +0.2**
comp=Z,56nm,0.9s
HINF Hinteralfeld 65.98 45⇓ *i*P **P 05 26 43.6 -0.3**
comp=Z,37nm,0.5s
HINF Hinteralfeld 65.98 45⇓ *i*P **P 05 26 43.6 -0.3**
HINF pmax pmax
comp=Z,37nm,0.5s
HINF Hinteralfeld 65.98 45⇓ *i*P **P 05 26 43.6 -0.3**
comp=Z,37nm,0.5s
MBDF Montbardon 66.01 49⇓ *i*P **P 05 26 45.2 +0.9**
comp=Z,57nm,0.8s
MBDF Montbardon 66.01 49⇓ *i*P **P 05 26 45.2 +0.9**
MBDF pmax pmax
comp=Z,57nm,0.8s
MBDF Montbardon 66.01 49⇓ *i*P **P 05 26 45.2 +0.9**
comp=Z,57nm,0.8s
BLS5 Blasjo 66.10 32 *eP* **P 05 26 45.8 +1.4**
TOA0 Torodi Ar. Sit 66.11 83 *eP* **P 05 26 44.8 -0.4**
TORD Torodi Ar. Bea 66.11 83 P **P 05 26 44.6 -0.6**
comp=Z,22nm,0.6s,baz=270,slow=5.2,SNR=131
TORD pP **pP 05 27 13.4 +0.2**
comp=Z,14nm,0.6s,baz=277,slow=4.9,SNR=3.9
TORD LR LR 05 51 42.4
comp=Z,618nm,21.8s,baz=285,slow=32
TORD PKPPKP **P'P'df 05 55 18.6 -2.7**
comp=Z,2.2nm,0.9s,baz=114,slow=3.1,SNR=7.7
HYA Hoyanger 66.12 31 *eP* **P 05 26 45.0 +0.6**
MOF Molkenrain 66.17 45⇑ *eP* **P 05 26 44.4 -0.8**
ECH Echery 66.18 45⇑ *eP* **P 05 26 45.3 +0.1**
ECH Echery 66.18 45 *eP* **P 05 26 45.2 +0.1**
ECH pmax pmax
comp=Z,55nm,1.0s
ECH Echery 66.18 45 *eP* **P 05 26 45.2 0.0**
comp=Z,55nm,1.0s
ODD1 Odda 66.22 32 *eP* **P 05 26 46.5 +1.2**
BUG Bochum--Univer 66.23 41 *eP* **P 05 26 45.8 +0.5**

comp=Z,92nm,1.5s
CDF Champ du Feu 66.25 45⇓ *i*P P 05 26 45.7 0.0
comp=Z,38nm,0.6s
CDF Champ du Feu 66.25 45⇓ *i*P P 05 26 45.7 0.0
CDF pmax pmax
comp=Z,38nm,0.6s
CDF Champ du Feu 66.25 45⇓ *i*P P 05 26 45.7 0.0
comp=Z,38nm,0.6s
MVIF Mont Vial 66.33 49⇑ *e*P P 05 26 46.6 +0.3
TOUF Mont Tournerai 66.39 49⇑ *e*P P 05 26 46.9 +0.1
SNART Snartemo 66.41 34 *e*P P 05 26 47.1 +0.7
SBF Sospel 66.53 49⇓ *i*P P 05 26 47.8 +0.3
comp=Z,95nm,0.8s
SBF Sospel 66.53 49⇓ *i*P P 05 26 47.8 +0.3
SBF pmax pmax
comp=Z,95nm,0.8s
SBF Sospel 66.53 49⇓ *i*P P 05 26 47.8 +0.3
comp=Z,95nm,0.8s
IBBN Ibbenburen 66.53 40 *e*P P 05 26 47.9 +0.6
comp=Z,87nm,1.2s
LANF Langenberg 66.59 44⇑ *e*P P 05 26 48.3 +0.5
AKN Aaknes 66.60 29 *e*P P 05 26 48.6 +1.1
AKN *e*S S 05 35 29.7 +0.2
SAOF Saorge 66.61 49⇑ *e*P P 05 26 48.8 +0.8
EGAK Eagle 66.83 333 *e*P P 05 26 49.7 +0.8
comp=Z,15nm,1.8s
EGAK *e*S S 05 35 32.5 +0.3
BFO Black Forest 66.96 45 *e*P P 05 26 49.5 -0.6
comp=Z,107nm,0.8s,SNR=18
BFO Black Forest 66.96 45 *e*P P 05 26 50.1 0.0
comp=Z,63nm,1.8s
BFO Black Forest 66.96 45 *e*P P 05 26 50.1 0.0
BFO pmax pmax
comp=Z,11nm,0.8s
BFO Black Forest 66.96 45 *e*P P 05 26 50.0 0.0
comp=Z,12nm,0.8s
TNS Taunus Mts 66.98 43 *e*P P 05 26 51.0 +0.7
comp=Z,46nm,1.0s
TNS *e*L L 05 52 21.0
comp=Z,753nm,20.2s
HOMB Homborsund 67.09 34 *e*P P 05 26 49.5 -1.1
HOMB *e*P P 05 26 51.5 +0.8
HOMB IAMs_20 IAMs_20 05 50 17.4
comp=Z,814nm,18.4s
MUD Monsted U'grnd 67.41 36 *i* P P 05 26 53.4 +0.7
comp=Z,54nm,1.1s
MUD Monsted U'grnd 67.41 36 *i* P P 05 26 53.4 +0.7
MUD pmax pmax
comp=Z,54nm,1.1s
STU Stuttgart 67.52 44 *e*P P 05 26 53.8 +0.2
comp=Z,91nm,1.5s
STU Stuttgart 67.52 44 *e*P P 05 26 53.5 -0.1
STU pmax pmax
comp=Z,26nm,0.6s
STU Stuttgart 67.52 44 *e*P P 05 26 53.5 -0.1
comp=Z,26nm,0.6s
TAM Tamanrasset 67.56 72 *e*P P 05 26 56.6 +2.1
TAM pmax pmax
comp=Z,49nm,0.8s
TAM Tamanrasset 67.56 72 *e*P P 05 26 56.6 +2.1
comp=Z,49nm,0.8s
KONO Kongsberg 67.71 32 *e*P P 05 26 55.7 +1.2
KONO *e*S S 05 35 41.9 -1.0
KONO Kongsberg 67.71 32 *e*P P 05 26 55.0 +0.4
KONO pmax pmax
comp=Z,16nm,1.0s
KONO Kongsberg 67.71 32 *e*P P 05 26 55.0 +0.4
comp=Z,16nm,1.0s
PGF Pioggiola 67.76 51⇓ *i*P P 05 26 55.3 -0.1
comp=Z,49nm,0.8s
PGF Pioggiola 67.76 51⇓ *i*P P 05 26 55.3 -0.1
PGF pmax pmax
comp=Z,49nm,0.8s
PGF Pioggiola 67.76 51⇓ *i*P P 05 26 55.3 -0.1
comp=Z,49nm,0.8s
UBBA Unterbreizbach 67.96 42 *e*P P 05 26 56.4 +0.2
comp=Z,79nm,1.9s
NRDL Niedersach Rie 67.97 40 *e*P P 05 26 57.1 +0.8
comp=Z,48nm,1.2s
DOT Dot Lake 68.00 332 *e*P P 05 26 57.5 +1.1
comp=Z,63nm,1.2s
DAVA Damuels 68.05 46⇓ *i*P P 05 26 57.9 +0.8
comp=Z,66nm,1.1s,SNR=15
BSEG Bad Segeberg 68.06 38 *e*P P 05 26 57.4 +0.5
comp=Z,68nm,1.7s
BMRM Bremner River 68.14 329 *e*P P 05 26 58.4 +1.1
comp=Z,38nm,0.7s
NAO01 NORSAR Array S 68.38 31 *e*P P 05 26 59.1 +0.3
comp=Z,20nm,0.8s
NB2 NORSAR Subarra 68.55 31 P P **05 27 00.3 +0.4**
comp=Z,1nm,0.7s,baz=270,slow=6.5
NB2 NORSAR Subarra 68.55 31 P P **05 27 00.3 +0.4**
baz=270,slow=6.5
NOA NORSAR Array B 68.55 31 P P **05 27 00.7 +0.8**
comp=Z,8.3nm,0.7s,baz=270,slow=6.3,SNR=37
NOA LR LR 05 54 56.5
comp=Z,537nm,18.9s,baz=270,slow=34
NOA PKPPKP **P'P'df** **05 55 15.7 0.0**
comp=Z,0.5nm,0.7s,baz=91,slow=1.8,SNR=3.4
PAX Paxson 68.61 331 *e*P P 05 27 02.0 +1.8
PAX Paxson 68.61 331 *e*P P 05 27 02.0 +1.8
VLC Villacollemand 68.63 49 *e*P P 05 27 01.1 +0.4
comp=Z,35nm,0.6s
RETA Reutte 68.63 45 *i* P P 05 27 01.3 +0.6
comp=Z,65nm,0.9s,SNR=24
FETA Feichten 68.64 46 *i* P P 05 27 01.7 +0.8
comp=Z,46nm,0.5s,SNR=30
NC602 NORSAR Array S 68.70 31 *e*P P 05 27 02.2 +1.5
NC602 *e*S S 05 35 55.8 +1.1
NC602 *e*SKSac **SKSac 05 36 48.6 -0.7**
DIV Divide 68.71 329 *e*P P 05 27 01.1 +0.2
comp=Z,26nm,0.9s
KEST Kesra 68.77 58 P P **05 27 02.1 +0.3**
comp=Z,22nm,0.8s,baz=197,slow=1.6,SNR=32
KEST Kesra 68.77 58 *e*P P 05 27 02.4 +0.6
GRFO Grafenberg 68.79 43 *e*P P 05 27 01.8 +0.3
GRFO pmax pmax
comp=Z,61nm,1.6s
GRFO Grafenberg 68.79 43 *e*P P 05 27 01.8 +0.3
comp=Z,61nm,1.6s
MOTA Moosalm 68.88 46⇓ *i*P P 05 27 02.4 +0.1
comp=Z,50nm,1.0s,SNR=28
FUR Furstenfeldbru 68.93 45 *e*P P 05 27 02.9 +0.4
comp=Z,41nm,0.8s
FUR *e*L L 05 53 33.1
comp=Z,497nm,21.6s
MOX Moxa 68.99 42 *e*P P 05 27 04.1 +1.3
comp=Z,204nm,2.8s
WATA Walderalm 69.20 46⇑ *i*P P 05 27 04.1 -0.1
comp=Z,13nm,0.5s,SNR=17
WTTA Wattenberg 69.24 46 *i* P P 05 27 05.0 +0.4
comp=Z,42nm,1.1s,SNR=12
ILAR Eielson Array 69.28 333 P P **05 27 04.1 -0.2**
comp=Z,6.7nm,0.5s,baz=100,slow=4.3,SNR=156
ILAR S S **05 36 00.4 -1.0**
comp=Z,1.1nm,1.1s,baz=94,slow=13,SNR=7.8
ILAR PKP2bc 05 55 10.2
comp=Z,0.3nm,0.9s,baz=259,slow=3.9,SNR=4.9
ILAR LR LR 05 58 36.3
comp=Z,1µm,18.9s,baz=96,slow=37
ROTZ Rotzenmuhle 69.43 43 *e*P P 05 27 06.3 +0.8
comp=Z,43nm,1.1s
STOK Stokkvaagen 69.46 25 *e*P P 05 27 06.6 +1.3
KONS Konsvik 69.51 25 *e*P P 05 27 07.0 +1.4
TANN Tannenbergstha 69.55 42 *e*P P 05 27 06.8 +0.5
comp=Z,31nm,1.1s
NKC Novy Kostel 69.55 42 *e*P P 05 27 06.8 +0.6
NKC *e*S S **05 36 05.3 +0.2**
NKC *e*SKS **SKSac 05 36 52.5 -3.7**
NKC AMS AMS 05 53 10.0
comp=Z,700nm,17.6s
NKC Novy Kostel 69.55 42 *e*P P 05 27 06.8 +0.6
NKC *e*S S **05 36 05.3 +0.2**
NKC *e* 05 36 52.5
NKC MLR MLR
comp=Z,700nm,17.6s
COLA College 69.69 333 *d i*P P 05 27 07.1 +0.3
COLA pmax pmax
comp=Z,67nm,0.8s
COLA College 69.69 333 *e*P P 05 27 06.6 -0.2
comp=Z,40nm,1.0s
LOF Lofoten 69.72 23 *e*P P 05 27 07.4 +0.6
CLL Collm 69.82 41 *e*P P 05 27 08.3 +0.4
comp=Z,39nm,1.2s
CLL Collm 69.82 41 *i* P P 05 27 08.2 +0.4
comp=Z,39nm,1.2s
CLL *ep*P **pP 05 27 35.0 -1.1**
CLL *es*P **sP 05 27 47.0 -1.5**
CLL *eS* **S 05 36 08.0 -0.2**
CLL *e*PS **PnS 05 36 53.0 +2.6**
CLL *es*PPS 05 37 33.0
CLL *eSS* **SS 05 40 35.0 -3.6**
CLL *es*SS 05 41 31.0
CLL *e*SSS SSS 05 44 00.0
CLL *e*SSSS 05 45 24.0
CLL LmV 05 54 00.0
comp=Z,700nm,21.2s
CLL Collm 69.82 41 *i* P P 05 27 08.2 +0.4
CLL *eS* **S 05 36 08.0 -0.2**
CLL pmax pmax
comp=Z,39nm,1.2s
ABTA Abfaltersbach 69.89 46⇑ *i*P P 05 27 08.3 -0.2
comp=Z,40nm,1.1s,SNR=12
WET Wettzell 69.91 44 *e*P P 05 27 09.1 +0.6
comp=Z,67nm,1.6s
WET *e*L L 05 52 05.8
comp=Z,516nm,21.6s
RJOB Jochberg 69.98 45 *e*P P 05 27 09.0 0.0
comp=Z,64nm,1.8s
KBS Kingsbay 70.09 12 *e*P P 05 27 10.0 +1.0
KBS *e*S S **05 36 12.2 +1.8**
EFI East Falkland 70.09 174⇑ *e*P P 05 27 08.7 -0.5
EFI pmax pmax
comp=Z,522nm,5.0s
MCK McKinley 70.17 332 *e*P P 05 27 09.3 -0.5
MCK pmax pmax
comp=Z,38nm,1.0s
MCK McKinley 70.17 332 *e*P P 05 27 09.3 -0.5
comp=Z,38nm,1.0s
STEI Steigen 70.35 23 *e*P P 05 27 11.4 +0.7
KHC Kasperske Hory 70.37 43 *e*P P 05 27 10.9 -0.4
KHC *ex* x 05 27 17.1
KHC *ep*P **pP 05 27 40.3 +0.6**
KHC *es*P **sP 05 27 49.6 -2.4**
KHC *eS* **S 05 36 15.3 +0.5**
KHC *eXS* **sS 05 37 03.5 0.0**
KHC AMS AMS 05 58 30.0
comp=Z,500nm,14.6s
KHC Kasperske Hory 70.37 43 *e*P P 05 27 10.9 -0.4
KHC *e**PP **pP 05 27 40.3 +0.6**
KHC *e* 05 27 49.6
KHC *eS* **S 05 36 15.3 +0.5**
KHC *e* 05 37 03.5
KHC MLR MLR
comp=Z,500nm,14.6s
KBA Koelnbreinsper 70.42 46⇓ *i*P P 05 27 11.7 -0.1
comp=Z,47nm,0.9s,SNR=13
BRG Berggiesshubel 70.45 42 *e*P P 05 27 12.1 +0.5
comp=Z,29nm,0.8s
BRG S S **05 36 13.0 -2.5**
comp=N,380nm,15.8s
comp=E,632nm,19.2s
comp=Z,946nm,16.7s
BRG Berggiesshubel 70.45 42 *e*P P 05 27 12.2 +0.5
comp=Z,29nm,0.9s
BRG Berggiesshubel 70.45 42 *e*P P 05 27 12.1 +0.5
BRG S S **05 36 13.0 -2.5**
BRG pmax pmax
comp=Z,29nm,0.9s
BRG MLR MLR
comp=N,380nm,15.8s
BRG MLR MLR
comp=E,632nm,19.2s
BRG MLR MLR
comp=Z,946nm,16.7s
GEC2 GERESS Array S 70.48 44 *e*P P 05 27 12.3 +0.2
comp=Z,52nm,1.5s
GEC2 *e*L L 05 54 10.2
comp=Z,517nm,19.4s
GERES GERESS Array B 70.48 44 P P **05 27 11.6 -0.5**
comp=Z,3.0nm,0.5s,baz=274,slow=4.1,SNR=39
GERES LR LR 05 54 41.0
comp=Z,395nm,20.5s,baz=266,slow=33
SEW Seward 70.54 328 *e*P P 05 27 12.2 +0.2
comp=Z,42nm,1.2s
COLD Coldfoot 70.64 336 *e*P P 05 27 13.2 +0.6
comp=Z,31nm,1.1s
HSPB Hornsund (broa 70.67 14 *e*P P 05 27 14.0 +1.4
MYKA Terra Mystica 70.67 46⇑ *i*P P 05 27 13.0 -0.3
comp=Z,28nm,0.5s,SNR=11
BSD Bornholm Skovb 70.69 37 *i* P P 05 27 10.7 -2.3
comp=Z,880nm,21.0s
BSD Bornholm Skovb 70.69 37 *i* P P 05 27 10.7 -2.3
BSD pmax pmax
comp=Z,24nm,0.7s
BSD MLR MLR
comp=Z,880nm,21.0s
TRF Thorofare Moun 70.78 332 *e*P P 05 27 14.1 +0.4
comp=Z,60nm,0.9s
PRA Prague 70.84 42 *e*P P 05 27 14.7 +0.7
PRA *ex* x 05 27 19.8
PRA *eS* **S 05 36 22.3 +2.3**
PRA *eXS* **sS 05 37 10.3 +1.5**
PRA AMS AMS 05 57 10.0
comp=Z,800nm,16.3s
PRA Prague 70.84 42 *e*P P 05 27 14.7 +0.7
PRA *eS* **S 05 36 22.3 +2.3**
PRA *e* 05 37 10.3
PRA MLR MLR
comp=Z,800nm,16.3s
PVCC Panska Ves 70.88 42 *e*P P 05 27 15.0 +0.7
PVCC *ex* x 05 27 19.4
PVCC *ex* x 05 27 26.1
PVCC *eS* **S 05 36 23.0 +2.5**
PVCC AMS AMS 05 57 50.0
comp=Z,800nm,17.2s
PVCC Panska Ves 70.88 42 *e*P P 05 27 15.0 +0.7
PVCC *eS* **S 05 36 23.0 +2.5**
PVCC MLR MLR
comp=Z,800nm,17.2s
SPA0 Spitsbergen Ar 70.91 13 *e*P P 05 27 14.8 +0.8
SPA0 *eP* P 05 27 16.0 +2.0
SPA0 *eS* **S 05 36 19.5 -0.5**
PRU Pruhonice 70.91 43 *e*P P 05 27 14.6 +0.1
PRU *ep*P **pP 05 27 43.9 +1.0**
PRU *es*P **sP 05 27 54.4 -0.8**
PRU *eS* **S 05 36 23.8 +2.9**
PRU *eSKS* **ScS 05 37 07.8 -0.2**
PRU AMS AMS 05 54 10.0
comp=Z,700nm,17.6s
PRU Pruhonice 70.91 43 *e*P P 05 27 14.6 +0.1
PRU *e**PP **pP 05 27 43.9 +1.0**
PRU *e* 05 27 54.4
PRU *eS* **S 05 36 23.8 +2.9**
PRU *e* 05 37 07.8
PRU MLR MLR
comp=Z,700nm,17.6s
MOA Molln 70.96 45 *i* P P 05 27 15.0 +0.2
comp=Z,19nm,0.7s,SNR=11
JAVS Javornik 71.05 47 *i* P P 05 27 16.3 +0.7
JAVS *eS* **S 05 36 23.9 +1.1**
KTH Kantishna Hill 71.06 332 *e*P P 05 27 15.7 +0.4
comp=Z,67nm,0.9s
BPAW Bear Paw Mtn. 71.06 333 *e*P P 05 27 15.2 0.0
comp=Z,8.8nm,0.8s
GOPC GO Pecny, Ondr 71.08 43 *e*P P 05 27 16.2 +0.6
GOPC *ex* x 05 27 28.7
GOPC *ep*P **pP 05 27 45.6 +1.6**
GOPC *eS* **S 05 36 23.1 +0.2**
GOPC *eXS* **sS 05 37 11.1 -0.6**
GOPC AMS AMS 05 57 10.0
comp=Z,600nm,17.6s
OBKA Obir 71.31 46 *i* P P 05 27 18.0 +0.9
comp=Z,22nm,0.6s,SNR=8.2
VISS Visnje 71.60 47 *i* P P 05 27 19.1 +0.3
TREC Trest 71.60 43 *e*P P 05 27 19.4 +0.7
TREC *ex* x 05 27 23.8
TREC AMS AMS 05 55 40.0
comp=Z,500nm,20.5s
TREC Trest 71.60 43 *e*P P 05 27 19.4 +0.7
TREC MLR MLR
comp=Z,500nm,20.5s
SOKA Soboth 71.62 46⇑ *i*P P 05 27 18.3 -0.6
comp=Z,30nm,1.2s,SNR=6.0
TRO Tromso 71.65 22 *e*P P 05 27 18.1 -0.4
TRO *eS* **S 05 36 30.2 +1.6**
PPLA Purkeypile 71.68 331 *e*P P 05 27 19.3 +0.2
comp=Z,43nm,1.0s
PERS Pernice 71.68 46 *i* P P 05 27 18.6 -0.7
NVLJ Novalja 71.78 48 P P **05 27 19.7 -0.1**
ARSA Arzberg 71.88 45⇑ *i*P P 05 27 20.1 -0.3
comp=Z,19nm,0.7s,SNR=15
BOJS Bojanci 71.92 47 *i* P P 05 27 21.3 +0.6
KSP Ksiaz 71.93 41 *e*P P 05 27 21.2 +0.6
KSP *eS* **S 05 36 33.6 +1.0**
KSP *e*SKSac **ScS 05 37 18.9 +2.8**
KSP LMZ LR 05 51 56.8
KSP Ksiaz 71.93 41 *e*P P 05 27 21.2 +0.6
KSP *eS* **S 05 36 33.7 +1.1**
KSP *e* 05 37 18.9
KSP pmax pmax
comp=Z,400nm,3.2s
DPC Dobruska-Polom 72.01 42 *e*P P 05 27 21.7 +0.5
DPC *ex* x 05 27 26.7
DPC *ep*P **pP 05 27 51.2 +1.6**
DPC *es*P **sP 05 28 01.2 -0.7**
DPC *eS* **S 05 36 34.9 +1.2**
DPC *ex* x 05 37 17.1
DPC AMS AMS 05 58 10.0
DPC Dobruska-Polom 72.01 42 *e*P P 05 27 21.7 +0.5
DPC *e**PP **pP 05 27 51.2 +1.6**
DPC *e* 05 28 01.2
DPC *eS* **S 05 36 34.9 +1.2**
DPC *e* 05 37 17.1
CONA Conrad Observa 72.02 45⇑ *i*P P 05 27 21.6 +0.3
comp=Z,18nm,1.2s,SNR=10
IM04 Indian Mountai 72.13 335 *e*P P 05 27 21.9 +0.4
VRAC Vranov 72.32 43⇓ *i*P P 05 27 23.5 +0.5
VRAC Vranov 72.32 43⇓ *i*P P 05 27 23.5 +0.5
KRLC Kraliky 72.34 42 *e*P P 05 27 24.0 +0.9
KRLC *ex* x 05 27 29.4
KRLC *e*PCP **PcP 05 27 38.8 -1.7**
KRLC *ep*P **pP 05 27 52.6 +1.0**
KRLC Kraliky 72.34 42 *e*P P 05 27 24.0 +0.9
KRLC *e* 05 27 38.8
KRLC *e**PP **pP 05 27 52.6 +1.0**
KDAK Kodiak Island 72.34 326 *i* P P 05 27 24.2 +1.3
UDBI Udbina 72.42 48 P P **05 27 24.4 +0.6**
SOP Sopron 72.52 45⇓ *e*P P 05 27 24.2 0.0
BEHE Becsehely 72.84 46⇑ *e*P P 05 27 27.7 +1.6
MORC Moravsky Berou 72.87 42 *e*P P 05 27 26.1 -0.2
MORC pmax pmax
comp=Z,60nm,1.1s
MORC Moravsky Berou 72.87 42⇓ *i*P P 05 27 25.9 -0.4
MORC Moravsky Berou 72.87 42 *e*P P 05 27 26.1 -0.2
comp=Z,60nm,1.1s
KTK1 Kautokeino 73.23 22 *e*P P 05 27 29.1 +1.1
OKC Ostrava-Krasne 73.25 42 *e*P P 05 27 29.3 +0.9
OKC *ex* x 05 27 34.0
OKC *ep*P **pP 05 27 56.8 -0.2**
OKC *eS* **S 05 36 46.4 -1.2**
OKC AMS AMS 05 58 30.0
comp=Z,600nm,19.1s
OKC Ostrava-Krasne 73.25 42 *e*P P 05 27 29.3 +0.9
OKC *e**PP **pP 05 27 56.8 -0.2**
OKC *eS* **S 05 36 46.4 -1.2**
OKC MLR MLR
comp=Z,600nm,19.1s
CSKK Cs˘‡kako 73.70 45 *e*P P 05 27 31.4 +0.2
PKSG 73.79 45⇓ *e*P P 05 27 32.1 +0.5
PKS9 Tamasi 73.84 46⇓ *e*P P 05 27 34.1 +2.1
ARCES ARCESS Array B 73.95 21 P P **05 27 32.6 +0.4**
comp=Z,17nm,0.6s,baz=290,slow=4.5,SNR=118
ARE0 ARCESS Array S 73.95 21 *e*P P 05 27 32.7 +0.5
ARE0 *eS* **S 05 36 56.2 +1.3**
STON Ston 74.08 50 P P **05 27 33.7 +0.3**
PKSM Moragy 74.15 46 ⇓P P 05 27 34.6 +0.7
PKSM Moragy 74.15 46⇓ *i*P P 05 27 34.5 +0.7
PKSM Moragy 74.15 46⇓ *e*P P 05 27 34.5 +0.7
BUD Budapest 74.19 45⇓ *e*P P 05 27 34.4 +0.4
OJC Ojcow 74.24 42 *e*P P 05 27 35.1 +0.9
OJC *eS* **S 05 36 59.3 +0.6**
OJC *e*SKSac ScS 05 37 42.0 +7.5
OJC LMZ LR 05 53 28.1
OJC Ojcow 74.24 42 *e*P P 05 27 35.2 +1.0
OJC *eS* **S 05 36 59.4 +0.7**
OJC *e* 05 37 42.1
PKS2 Kecel 74.50 46⇓ *e*P P 05 27 36.5 +0.8
BEL Belsk 74.58 40 *e*P P 05 27 37.5 +1.4
BEL LMZ LR 05 54 08.2
BEL Belsk 74.58 40 *e*P P 05 27 37.6 +1.4
BEL pmax pmax
comp=Z,200nm,1.4s
PSZ Piszkesteto 74.70 44 *e*P P 05 27 37.7 +0.7
PSZ pmax pmax
comp=Z,115nm,1.7s
PSZ Piszkesteto 74.70 44⇓ *i*P P 05 27 37.9 +0.9
PSZ Piszkesteto 74.70 44 *e*P P 05 27 37.7 +0.7
comp=Z,115nm,1.7s
PSZ Piszkesteto 74.70 44⇓ *e*P P 05 27 38.0 +0.9
NIE Niedzica 74.70 43 *e*P P 05 27 38.6 +1.6
NIE *eS* **S 05 37 05.3 +1.3**
NIE LMZ LR 05 53 30.2
NIE Niedzica 74.70 43 *e*P P 05 27 38.7 +1.7
NIE *eS* **S 05 37 05.4 +1.4**
DIVS Divibare 75.48 46⇓ *i*P P 05 27 42.8 +1.2
SUW Suwalki 75.60 38 *e*P P 05 27 42.5 +0.5
SUW *eS* **S 05 37 13.7 0.0**
SUW LMZ LR 05 57 59.2
SUW Suwalki 75.60 38 *e*P P 05 27 42.5 +0.5
SUW *eS* **S 05 37 13.7 0.0**
SUW Suwalki 75.60 38 *e*P P 05 27 41.3 -0.7
comp=Z,68nm,0.8s
FINES FINESS Array B 75.65 30 P P **05 27 42.6 +0.5**
comp=Z,14nm,0.5s,baz=260,slow=4.4,SNR=145
FINES PKKPbc **PKKPbc 05 46 58.8 -2.7**
comp=Z,0.5nm,0.4s,baz=133,slow=4.4,SNR=8.1
FIA1 FINESS Array S 75.65 30 *e*P P 05 27 42.4 +0.3
UZH Uzhgorod 76.13 43⇑ *i*P P 05 27 45.9 +0.8
UZH *e* 05 27 51.9
UZH *e**PP **pP 05 28 15.7 +1.9**
UZH *e* 05 28 29.1
UZH *eS* **S 05 37 17.5 -2.2**
KWP Kalwaria Pacla 76.19 42 *e*P P 05 27 46.0 +0.5
KWP LMZ LR 05 54 41.1
KWP Kalwaria Pacla 76.19 42 ⇓P P 05 27 47.3 +1.8
KWP Kalwaria Pacla 76.19 42⇓ *i*P P 05 27 47.3 +1.8
KEK Kerkira 76.25 52 *e*P P 05 27 47.1 +1.2
BZS Buzias 76.31 46 ⇓P P 05 27 47.2 +1.0
BZS Buzias 76.31 46⇓ *i*P P 05 27 47.2 +1.0
TRPA Tarpa 76.40 44⇑ *i*P P 05 27 47.8 +1.2
TRPA Tarpa 76.40 44⇓ *e*P P 05 27 47.8 +1.2
VSU Vasula 76.61 33 *d i*P P 05 27 47.4 -0.2
VSU pmax pmax
comp=Z,226nm,1.7s
DRGR 76.80 45 ⇓P P 05 27 49.7 +0.7
DRGR 76.80 45⇓ *i*P P 05 27 49.7 +0.7
SKO Skopje 76.97 50 *i* P P 05 27 49.2 -0.7
LVV L'vov 76.99 42 *e*P P 05 27 49.2 -0.7
LVV *e* 05 28 02.0
LVV *eS* S 05 37 20.2 -8.9
JAN Janina 77.05 52 *e*P P 05 27 52.9 +2.4
BMR Baia Mare 77.12 44 ⇓P P 05 27 52.0 +1.3
BMR Baia Mare 77.12 44⇓ *i*P P 05 27 52.0 +1.3
GZR Gura Zlata 77.15 46 ⇓P P 05 27 51.6 +0.6
GZR Gura Zlata 77.15 46⇓ *i*P P 05 27 51.6 +0.6
FNA Florina 77.19 51 *e*P P 05 27 52.0 +0.7
APA Apatity 77.22 23 *i* P P 05 27 52.0 +1.1
APA *i* 05 28 06.8
APA *i* *PP **pP 05 28 18.2 -1.4**
APA *i* S S **05 37 32.0 +1.1**
DSL Palaion Diasel 77.35 53 *e*P P 05 27 53.6 +1.4
CJR Cluj-Napoca 77.41 45⇑ *e*P P 05 27 53.4 +1.0
CJR Cluj-Napoca 77.41 45⇑ *i*P P 05 27 53.4 +1.0
NAGCM Naroch 77.46 36 *e*P P 05 27 50.0 -2.4
LVZ Lovozero 77.58 22 P P **05 27 53.0 +0.1**
comp=Z,199nm,1.2s,SNR=6.9
LVZ Lovozero 77.58 22⇑ *e*P P 05 27 53.7 +0.8
LVZ pmax pmax
comp=Z,77nm,2.5s
KZN Kozani 77.59 52 *e*P P 05 27 54.6 +1.0
GRG Griva 77.90 51 *e*P P 05 27 55.8 +0.6
TNA Tin City 77.92 335 *e*P P 05 27 55.9 +1.1
comp=Z,24nm,0.8s
EVR Evrytania 77.94 53 *e*P P 05 27 57.4 +1.8
THL Klokotos Trika 77.94 52 *e*P P 05 27 56.2 +0.8
RKT Rikitea 77.99 241 *e*S S 05 37 40.7 +0.1
comp=Z,736nm,31.2s
RKT *e*SS **SS 05 42 44.2 -0.4**
comp=Z,543nm,29.0s

RKT eLR LR 05 52 19.9
comp=Z,955nm,29.2s

MDB Medias 78.07 45 ⇓P P 05 27 57.6 +1.6
MDB Medias 78.07 45 ⇓i P P 05 27 57.6 +1.6
DRO Drossia 78.10 54 eP P 05 27 58.4 +2.0
VTS Vitosha 78.10 49 ⇓P P 05 27 57.6 +1.1
VTS Vitosha 78.10 49 ⇓i P P 05 27 57.6 +1.1
VTS Vitosha 78.10 49 eP P 05 27 57.4 +0.9
EFP Efpalio 78.13 53 eP P 05 27 58.4 +1.9
MNK Minsk 78.15 36 eP P 05 27 56.0 -0.3
MAKR Makrakomi, Fth 78.17 53 eP P 05 27 59.0 +2.3
MICGM Minsk 78.18 36 eP P 05 27 56.0 -0.4
KKB Krupnik 78.19 50 eP P 05 27 55.6 -1.2
AMT Artemida-Makis 78.20 54 eP P 05 27 59.1 +2.2
BUR08 Bucovina Ar. S 78.25 44 eP P 05 27 58.3 +1.1
BURAR Bucovina Array 78.27 44 ⇓P P 05 27 58.5 +1.3
BURAR Bucovina Array 78.27 44 ⇓i P P 05 27 58.5 +1.3
MPEP Malo Peshtene 78.30 48 eP P 05 27 58.2 +0.9
AGG Agios Georgios 78.31 53 eP P 05 27 58.7 +1.2
KALE Kalithea 78.32 53 eP P 05 27 57.5 -0.1
KLV Kalavryta, Ach 78.41 54 eP P 05 27 59.6 +1.5
ARR Arges 78.43 46 ⇑i P P 05 27 57.5 -0.6
ARR Arges 78.43 46 ⇓i P P 05 27 59.9 +1.8
ITM Ithomi 78.45 55 eP P 05 27 58.8 +0.5
HORT Hortiatis 78.50 51 eP P 05 27 59.9 +1.3
DSF Desfina 78.61 53 eP P 05 27 59.9 +0.7
AXAR Agios Charalam 78.62 53 eP P 05 28 00.3 +1.1
VOIR 78.70 46 ⇓P P 05 28 00.5 +0.9
VOIR 78.70 46 ⇓i P P 05 28 00.5 +0.9
MMB Musomiste 78.72 50 ⇓P P 05 28 01.2 +1.5
MMB Musomiste 78.72 50 ⇓i P P 05 28 01.2 +1.5
MMB Musomiste 78.72 50 eP P 05 28 00.3 +0.6
DOPR Dopca 78.79 45 ⇑i P P 05 28 01.0 +1.0
PGB Panagyurishte 78.80 49 eP P 05 28 00.9 +0.7
PLG Polygyros 78.82 51 eP P 05 28 02.0 +1.7
HUMR Humele 78.88 47 ⇓i P P 05 28 02.1 +1.6
LKR Lokris 78.91 53 eP P 05 28 01.2 +0.4
NEO Neokhori 78.92 52 eP P 05 28 00.7 -0.1
LTK Loutraki 79.04 54 eP P 05 28 01.3 -0.2
MLR Muntele Rosu 79.29 46 ⇓P P 05 28 04.2 +1.3
MLR Muntele Rosu 79.29 46 ⇓i P P 05 28 04.2 +1.3
PLD Plovdiv 79.30 49 eP P 05 28 03.6 +0.8
MRKA Markates 79.34 53 eP P 05 28 03.6 +0.4
DID Didima 79.38 54 eP P 05 28 04.5 +1.1
RZN Rozhen 79.41 50 eP P 05 28 04.8 +1.1
TESR Tescani 79.50 44 ⇓i P P 05 28 04.8 +1.0
ATH Athens Observa 79.63 53 eP P 05 28 01.7 -3.0
PLOR Plostina 79.67 45 ⇑P P 05 28 04.5 -0.3
PLOR Plostina 79.67 45 ⇑i P P 05 28 04.5 -0.3
PTL Penteli 79.72 53 eP P 05 28 06.1 +0.9
VRI Vrincioaia 79.72 45 ⇓P P 05 28 04.9 -0.2
VRI Vrincioaia 79.72 45 ⇓i P P 05 28 04.9 -0.2
SZH Strazhica 79.87 48 eP P 05 28 06.8 +0.9
KDZ Kurdzhali 79.93 50 ⇑P P 05 28 06.9 +0.6
KDZ Kurdzhali 79.93 50 ⇑i P P 05 28 06.9 +0.6
KDZ Kurdzhali 79.93 50 eP P 05 28 06.1 -0.2
KIEV Kiev 79.98 40 d i P P 05 28 06.5 +0.2
KIEV Kiev 79.98 40 eP P 05 28 06.5 +0.2
comp=Z,12nm,0.5s
AKASG Malin Array Be 79.99 40 P **P 05 28 06.5 +0.1**
comp=Z,15nm,0.6s,baz=277,slow=6.9,SNR=49
AKASG LR LR 06 01 32.8
comp=Z,628nm,21.1s,baz=290,slow=34
TMCR Tamitsa 80.14 25 eP **P 05 28 08.5 +1.6**
TMCR pmax pmax
comp=Z,67nm,1.1s
VAM Vamos 80.68 56 eP **P 05 28 08.8 -1.6**
KIS Kishinev 80.80 44 eP **P 05 28 11.0 +0.2**
KIS epP pP 05 29 04.0 +24
KIS eS **S 05 38 08.0 -1.6**
CFR Carcaliu 80.86 46 ⇑P P 05 28 10.4 -0.7
CFR Carcaliu 80.86 46 ⇑i P P 05 28 10.4 -0.7
PRD Provadia 80.92 48 eP **P 05 28 10.7 -0.8**
MSAB Monastry St. A 80.96 47 ⇑i P P 05 28 12.2 +0.5
TLB Topalu 80.97 46 ⇓P P 05 28 11.4 -0.3
TLB Topalu 80.97 46 ⇓i P P 05 28 11.4 -0.3
APE Apeiranthos 81.26 54 eP **P 05 28 12.0 -1.5**
TIRR Tirgusor 81.26 46 ⇑P P 05 28 14.1 +0.8
TIRR Tirgusor 81.26 46 ⇑i P P 05 28 14.1 +0.8
PSN Preselentsi 81.33 47 ⇓P P 05 28 14.6 +1.0
PSN Preselentsi 81.33 47 ⇓i P P 05 28 14.6 +1.0
PSN Preselentsi 81.33 47 eP **P 05 28 14.6 +1.0**
NPS Neapolis 81.83 56 eP **P 05 28 17.4 +0.9**
KLMR Klimovskoe 82.04 28 d i P P 05 28 17.2 +0.2
KLMR S **S 05 38 20.9 -0.9**
KLMR pmax pmax
comp=Z,100nm,1.2s
SMG Samos 82.08 53 eP **P 05 28 18.3 +0.6**
OBN Obninsk 82.77 34 P **P 05 28 21.8 +0.9**
comp=Z,1μm,0.5s,SNR=10
OBN Obninsk 82.77 34 d i P P 05 28 21.2 +0.3
OBN *i* *PP **pP 05 28 50.8 +0.8**
OBN *i* S **S 05 38 25.0 -4.5**
OBN *i* SS **SS 05 43 51.7 -1.9**
OBN pmax pmax
comp=Z,393nm,1.9s
OBN Obninsk 82.77 34 eP **P 05 28 21.3 +0.4**
comp=Z,138nm,0.8s
MOS Moscow 83.09 33 eP **P 05 28 21.7 -0.9**
MOS e*PP **pP 05 28 51.2 -0.5**
MOS eS **S 05 38 30.8 -2.0**
MOS e*SS **sS 05 39 25.0 +2.1**
MOS pmax pmax
comp=Z,131nm,1.2s
MOS pmax pmax
comp=Z,500nm,2.2s
MOS MLR MLR
comp=Z,1μm,20.0s
ARG Arkhangelos 83.50 54 eP **P 05 28 24.8 -0.3**
PRGR Permogore 84.36 26 eP **P 05 28 29.8 +0.9**
PRGR e*PP **pP 05 28 59.4 +1.3**
PRGR pmax pmax
comp=Z,67nm,0.7s
SIM Simferopol' 84.95 44 eP **P 05 28 32.4 +0.1**
SIM e*PP **pP 05 29 04.0 +2.5**
SIM eS **S 05 38 53.0 +1.2**
SIM e*SS **sS 05 39 45.0 +2.8**
SIM pmax pmax
comp=E,15μm,1.4s
SIM MLR MLR
comp=Z,200nm,19.9s
LPSR Galich'ya Gora 85.02 36 eP **P 05 28 32.6 +0.2**
LPSR pmax pmax
comp=Z,230nm,1.7s
LPSR pmax pmax
comp=N,30nm,1.3s
LPSR pmax pmax
comp=E,90nm,1.7s
VOR Voronezh 85.53 37 P **P 05 28 34.0 -1.0**
VOR pmax pmax
comp=Z,250nm,1.4s
VSR Storozhevoye 85.72 37 eP **P 05 28 36.2 +0.3**
VSR eS S 05 38 51.5 -7.5
VSR pmax pmax
comp=Z,130nm,1.7s
VSR pmax pmax
comp=N,20nm,1.3s
VSR pmax pmax
comp=E,60nm,1.6s
VSR smax smax
comp=E,30nm,1.1s
VSR smax smax
comp=Z,10.0nm,1.2s
VSR smax smax
comp=N,20nm,1.0s
ANTO Ankara 85.81 49 eP **P 05 28 37.2 +0.5**
ANTO pmax pmax
comp=Z,87nm,1.2s
ANTO Ankara 85.81 49 ⇓i P P 05 28 37.6 +0.9
ANTO Ankara 85.81 49 eP **P 05 28 37.2 +0.5**
comp=Z,87nm,1.2s
VORD Divnogorie 85.89 37 eP **P 05 28 36.9 +0.1**
VORD eS S 05 38 51.0 -10
VORD pmax pmax
comp=Z,110nm,1.5s
VORD pmax pmax
comp=N,160nm,0.6s
VORD pmax pmax
comp=E,110nm,0.6s
VORD smax smax
comp=N,30nm,0.6s
VORD smax smax
comp=Z,10.0nm,0.5s

VORD smax smax
comp=E,30nm,0.6s
BR131 Keskin Array S 86.47 49 eP **P 05 28 40.4 +0.4**
comp=E,9.5nm,0.6s
BRTR Keskin Array B 86.47 49 P **P 05 28 40.5 +0.4**
comp=E,11nm,0.6s,baz=276,slow=4.2,SNR=39
BRTR PKKPbc **PKKPbc 05 46 35.9 -0.7**
comp=E,0.9nm,0.8s,baz=132,slow=4.9,SNR=4.5
BRTR LR LR 06 07 57.2
comp=E,128nm,18.0s,baz=293,slow=36
ANN Anapa 87.20 44 eP **P 05 28 42.8 -0.5**
ANN e*PP **pP 05 29 12.5 -0.2**
ANN eS **SKSac 05 38 58.1 -2.3**
ANN pmax pmax
comp=Z,149nm,3.0s
ANN MLR MLR
comp=Z,346nm,16.0s
CSS Prodhromos 87.92 54 eP **P 05 28 47.2 +0.2**
comp=Z,6.5nm,0.8s
PPT Papeete 88.54 251 LR LR 06 01 39.6
comp=Z,220nm,19.7s,baz=68,slow=31
PPT2 Papeete2 88.55 251 eS **S 05 39 26.1 -1.4**
comp=Z,1μm,25.8s
PPT2 eSS **SS 05 45 25.6 +4.5**
comp=Z,735nm,26.5s
PPT2 Papeete2 88.55 251 eLR LR 05 57 10.0
comp=Z,1μm,32.8s
SOC Sochi 89.19 44 d i P **P 05 28 53.8 +1.0**
SOC e*PP **pP 05 29 22.6 +0.3**
SOC e*SP **sP 05 29 33.5 -0.8**
SOC eS **SKSac 05 39 13.3 +0.9**
SOC pmax pmax
comp=Z,50nm,1.4s
TBI Tubuai 90.37 246 ePP PP 05 32 32.9 -1.7
comp=Z,217nm,33.5s
TBI eS **S 05 39 42.4 -1.6**
comp=Z,858nm,33.2s
TBI eSS **SS 05 45 45.2 -2.0**
comp=Z,528nm,30.0s
TBI Tubuai 90.37 246 eLR LR 05 58 10.8
comp=Z,648nm,32.8s
MALT Malatya 90.45 49 ⇓P **P 05 29 00.0 +1.1**
MALT Malatya 90.45 49 ⇓i P **P 05 29 00.0 +1.1**
GOF Gofitskoye 90.70 42 eP **P 05 29 00.9 +1.1**
GOF pmax pmax
comp=Z,40nm,1.4s
KIV Kislovodsk 90.97 43 P **P 05 29 03.6 +2.4**
comp=Z,105nm,0.6s,SNR=6.9
KIV Kislovodsk 90.97 43 eP **P 05 29 02.5 +1.3**
KIV e*PP **pP 05 29 30.5 -0.2**
KIV e 05 32 41.1
KIV eSS SS 05 46 04.9 +11
KIV pmax pmax
comp=Z,16nm,1.0s
KIV Kislovodsk 90.97 43 eP **P 05 29 02.0 +0.9**
comp=Z,6.2nm,0.6s
TSUM Tsumeb 91.08 110 eP **P 05 29 02.4 +0.3**
comp=Z,229nm,2.1s
KBZ Khabaz 91.21 43 P **P 05 29 03.5 +1.4**
comp=Z,8.9nm,0.9s,baz=233,slow=20,SNR=17
KBZ LR LR 06 06 48.9
comp=Z,276nm,21.9s,baz=315,slow=33
ZEI Tsey 92.29 43 eP **P 05 29 08.6 +1.1**
ZEI pmax pmax
comp=Z,11nm,1.1s
ARU Arti 92.80 27 d i P **P 05 29 09.8 +0.6**
ARU *PP **pP 05 29 36.9 -1.9**
ARU *SP **sP 05 29 47.1 -3.7**
ARU 05 32 54.2
ARU S **SKSac 05 39 33.0 +0.5**
ARU *SS S 05 39 58.5 -6.3
ARU PS **SP 05 41 13.4 -2.8**
ARU pmax pmax
comp=Z,39nm,1.7s
ARU MLR MLR
comp=Z,508nm,19.0s
ARU Arti 92.80 27 eP **P 05 29 09.8 +0.6**
comp=Z,46nm,1.5s
ARU epP **pP 05 29 37.5 -1.2**
SEY Seymchan 93.34 343 eP **P 05 29 12.9 +1.3**
SVE Sverdlovsk 93.41 26 eP **P 05 29 12.6 +0.6**
SVE pmax pmax
comp=Z,34nm,1.2s
GNI Garni 94.07 45 d i P **P 05 29 16.6 +0.9**
GNI pmax pmax
comp=Z,35nm,1.9s
MAK Makhachkala 94.53 42 eP **P 05 29 16.7 -0.8**
MAK e*PP **pP 05 29 47.6 +0.6**
MAK e*SP **sP 05 29 59.1 0.0**
MAK e 05 33 11.5
MAK eS **SKSac 05 39 39.6 -2.8**
MAK eS **S 05 40 20.6 +0.1**
MAK eSS SS 05 46 56.1 +11
MAK pmax pmax
comp=Z,6.0nm,0.2s
MAK MLR MLR
comp=Z,609nm,18.0s
VNA3 Neumayer Olymp 97.44 164 P Pdif 05 29 30.3 +0.3
VNA1 Neumayer--Stat 97.47 163 P Pdif 05 29 31.2 +1.2
VNA2 Neumayer--Watz 97.86 163 P Pdif 05 29 31.9 +0.1
baz=315,slow=8.7
ABKAR Akbulak array 98.03 32 eP Pdif 05 29 33.5 +0.3
comp=Z,1.2nm,0.6s
PET Petropavlovsk 98.75 334 eP Pdif 05 29 48.3 +12
PET e*PP pP 05 30 17.7 +12
PET e 05 33 39.6
PET e 05 40 00.0
PET eS **S 05 40 59.5 +3.3**
PET eSP **SP 05 42 25.4 +4.2**
PET eSS **SS 05 47 44.8 +1.4**
PET MLR MLR
comp=Z,500nm,20.0s
PET MLR MLR
comp=Z,600nm,20.0s
PETK Petropavlovsk- 99.08 335 LR LR 06 16 08.3
comp=Z,437nm,20.7s,baz=49,slow=36
SNAA Sanae 99.50 163 P **Pdif 05 29 36.9 -2.3**
SNAA Sanae 99.50 163 P PP 05 33 38.4 -6.0
SNAA Sanae 99.50 163 PP PP 05 33 40.7 -3.7
comp=Z,1.8nm,0.9s,baz=350,slow=6.0,SNR=4.5
SNAA Sanae 99.50 163 ⇑i P Pdif 05 29 36.9 -2.3
SNAA pmax pmax
comp=Z,23nm,1.7s
BRVK Borovoye 100.00 25 ⇑ eP **Pdif 05 29 43.5 +1.6**
ZALV Zalesovo Beam 104.14 17 Pdiff **Pdif 05 30 02.0 +1.7**
comp=Z,0.5nm,0.5s,baz=325,slow=7.0,SNR=2.5
ZALV PKiKP **PKiKP 05 34 16.1 -0.6**
comp=Z,1.2nm,0.5s,baz=288,slow=3.5,SNR=3.6
ZALV PKKP PKKPdf 05 46 03.0 +5.3
comp=Z,0.9nm,0.5s,baz=170,slow=2.6,SNR=4.3
KURK Kurchatov 104.99 22 P **Pdif 05 30 04.6 +0.5**
KURK Kurchatov 104.99 22 Pdif **Pdif 05 30 04.6 +0.5**
KURBB Kurchatov Arra 105.04 22 Pdiff **Pdif 05 30 04.6 +0.3**
comp=Z,0.4nm,0.5s,baz=320,slow=4.0,SNR=6.6
MKAR Makanchi Array 109.61 22 PKiKP **PKiKP 05 34 26.2 -1.0**
comp=Z,0.5nm,0.5s,baz=284,slow=3.8,SNR=9.2
MKAR PKKPbc **PKKPbc 05 45 29.8 -3.2**
comp=Z,0.5nm,0.5s,baz=144,slow=2.4,SNR=7.7
KLR Kul'dur 110.74 347 eP pPdif 05 30 50.0 -9.4
YUK Yuzh-Kuril'sk 111.05 335 *i* PKiKP **PKiKP 05 34 29.6 -0.3**
YUK *i* 05 35 00.1
YUK e 05 35 10.0
YUK e 05 41 35.4
KSH Kashi 112.97 30 PKP **PKiKP 05 34 34.9 +1.0**
KSH sPKP 05 35 12.5
KSH PP **PP 05 35 24.3 +1.2**
KSH PKS **PKSdf 05 38 10.6 -0.1**
KSH SKS **SKSdf 05 41 36.3 +0.4**
KSH SKKS SKKSac 05 42 07.9 -7.5
KSH PPMZ
comp=Z,68nm,4.6s
KSH LN
comp=Z,770nm,18.7s
KSH LE
comp=Z,290nm,15.6s
KSH LZ
comp=Z,640nm,21.3s
SONM Songino Array 113.94 5 PKiKP **PKiKP 05 34 34.6 -1.0**
comp=Z,0.8nm,0.5s,baz=318,slow=0.5,SNR=5.0
SONM PKKPbc **PKKPbc 05 45 16.2 -2.7**
comp=Z,1.8nm,0.5s,baz=182,slow=4.4,SNR=10
WMQ Urumqi 114.04 20 ePdif Pdif 05 30 54.9 +10
WMQ PP PP 05 35 46.3 +16
WMQ Urumqi 114.04 20 SKS SKSdf 05 41 46.4 +8.8
WMQ Urumqi 114.04 20 SS SS 05 51 24.3 +13

WMQ AMB AMB
comp=Z,93nm,6.2s
WMQ LR LR
comp=N,660nm,19.2s
WMQ LR LR
comp=E,280nm,19.2s
WMQ LR LR
comp=Z,530nm,20.4s
MDJ Mudanjiang 115.59 347 PKP **PKPdf 05 34 38.8 +0.2**
MDJ sPKP 05 35 20.8
MDJ PKS **PKSdf 05 38 13.0 -2.2**
MDJ SKS **SKSdf 05 41 40.9 +0.5**
MDJ PPMZ
comp=Z,91nm,6.0s
MDJ LN
comp=Z,350nm,19.8s
MDJ LE
comp=Z,450nm,18.2s
MDJ LZ
comp=Z,700nm,20.6s
VNDA Vanda 116.09 191 PKP **PKPdf 05 34 38.3 -0.2**
comp=Z,1.6nm,0.8s,baz=202,slow=0.4,SNR=7.8
CN2 Changchun 117.17 350 ePKP **PKPdf 05 34 40.8 -0.8**
CN2 PP **PP 05 35 54.9 +2.9**
CN2 SS SS 05 51 49.0 -2.4
CN2 PPMZ
comp=Z,400nm,6.0s
CN2 LN
comp=Z,520nm,18.0s
CN2 LE
comp=Z,490nm,18.0s
CN2 LZ
comp=Z,620nm,18.0s
MAJO Matsushiro 120.46 336 ⇑ i PKiKP **PKPdf 05 34 46.6 -1.6**
MAT Matsushiro 120.46 336 PKP **PKPdf 05 34 47.2 -1.0**
MAT Matsushiro 120.46 336 P **PKKPab 05 44 55.0 -3.2**
MJAR Matsushiro Arr 120.46 336 PKP **PKPdf 05 34 47.3 -1.0**
comp=Z,1.9nm,0.5s,baz=118,slow=0.7,SNR=13
MJAR PKKPbc **PKKPbc 05 44 55.0 -0.4**
comp=Z,2.5nm,0.9s,baz=199,slow=5.7,SNR=7.7
URZ Urewera 121.16 236 PKP **PKPdf 05 34 48.9 -0.4**
comp=Z,6.8nm,0.4s,baz=258,slow=2.4,SNR=8.7
HHC Hu-ho-hao-te 121.17 1 ePKP **PKPdf 05 34 51.1 +1.5**
HHC PP PP 05 36 25.3 +5.6
HHC SKS **SKSdf 05 41 51.8 +0.3**
HHC SS **SS 05 52 45.8 +2.7**
HHC PPMZ
comp=Z,49nm,8.6s
HHC LN
comp=Z,380nm,21.0s
HHC LE
comp=Z,340nm,23.4s
HHC LZ
comp=Z,320nm,20.0s
GTA Gaotai 121.33 12 ePKP **PKPdf 05 34 50.4 +0.4**
GTA sPKP 05 35 27.5
GTA PP **PP 05 36 24.3 +3.4**
GTA SKS **SKSdf 05 41 50.8 -1.1**
GTA SKKS **SKKSac 05 43 06.3 -4.6**
GTA SS **SS 05 52 43.9 -1.5**
GTA PPMZ
comp=Z,88nm,9.3s
GTA LN
comp=Z,930nm,19.5s
GTA LE
comp=Z,1μm,19.0s
GTA LZ
comp=Z,930nm,19.5s
MAW Mawson 121.45 160 PKP **PKPdf 05 34 49.1 +0.1**
comp=Z,12nm,0.4s,baz=212,slow=2.7,SNR=40
MAW Mawson 121.45 160 PKP **PKPdf 05 34 49.1 +0.1**
MAW ePKPdf **PKiKP 05 34 49.2 +0.1**
BJI Beijing 121.91 357 PKP **PKPdf 05 34 50.6 -0.3**
BJI LN
comp=Z,670nm,20.4s
BJI LE
comp=Z,320nm,22.9s
BJI LZ
comp=Z,420nm,24.1s
KSRS Korea Array 122.79 346 PKP **PKPdf 05 34 51.6 -1.0**
comp=Z,2.3nm,0.6s,baz=14,slow=2.1,SNR=9.6
KSAR Wonju Array Be 122.81 346 PKiKP **PKPdf 05 34 51.6 -1.1**
KSAR Wonju Array Be 122.81 346 PKP **PKPdf 05 34 51.6 -1.1**
CRZF Crozet Islands 122.92 134 SS SS 05 53 23.0 +15
CRZF L L 06 01 00.0
CRZF R 06 13 00.0
LZH Lanzhou 125.27 9 ePKP **PKPdf 05 34 58.9 +1.2**
LZH LN
comp=Z,310nm,14.1s
LZH LE
comp=Z,470nm,17.6s
LZH LZ
comp=Z,360nm,20.7s
RPZ Rata Peaks 125.31 229 PKP **PKPdf 05 34 57.1 -0.1**
comp=Z,13nm,0.5s,baz=304,slow=1.0,SNR=11
RPZ Rata Peaks 125.31 229 ePKPdf **PKPdf 05 34 57.0 -0.2**
PYUN Piuthan 125.57 33 eP **PKPdf 05 34 58.0 -0.5**
comp=Z,98nm,0.5s
TIA Tai'an 125.67 356 PKP **PKPdf 05 34 58.3 +0.1**
KOLN Koldanda 126.16 32 eP **PKPdf 05 34 58.8 -0.8**
comp=Z,17nm,0.5s
GKN Gorkha 126.48 31 eP **PKPdf 05 34 59.9 -0.3**
comp=Z,63nm,0.5s
KKN Kakani 126.98 31 eP **PKPdf 05 35 00.9 -0.3**
comp=Z,36nm,0.5s
DMN Daman 127.04 31 eP **PKPdf 05 35 00.9 -0.5**
comp=Z,24nm,0.4s
GUN Gumba 127.17 30 eP **PKPdf 05 35 01.0 -0.8**
comp=Z,29nm,0.4s
PKIN Phulchoki 127.21 31 eP **PKPdf 05 35 00.8 -0.9**
comp=Z,19nm,0.5s
PKI Pulchoki 127.22 31 eP **PKPdf 05 35 01.0 -0.8**
comp=Z,24nm,0.5s
JIRN Jiri 127.53 30 eP **PKPdf 05 35 01.8 -0.7**
comp=Z,19nm,0.3s
XAN Xi'an 127.85 4 PKP **PKPdf 05 35 02.6 +0.1**
LSA Lhasa 127.91 24 ePKiKP **PKPdf 05 35 03.9 +0.6**
LSA Lhasa 127.91 24 ePKPdf **PKPdf 05 35 03.9 +0.6**
LSA eSKPdf **SKPdf 05 38 28.7 +0.3**
RAMN Ramite 128.32 30 eP **PKPdf 05 35 03.3 -0.5**
comp=Z,60nm,0.6s
TAPN Taplejung 128.50 29 eP **PKPdf 05 35 03.8 -0.5**
comp=Z,23nm,0.5s
ODAN Odare 128.77 30 eP **PKPdf 05 35 03.9 -0.8**
NJ2 Nanjing 129.64 353 ePKP **PKPdf 05 35 06.1 +0.2**
NJ2 PP **PP 05 37 18.0 +2.1**
NJ2 PPMZ
comp=Z,1μm,5.8s
NJ2 LN
comp=Z,10μm,23.6s
NJ2 LE
comp=Z,11μm,25.5s
NJ2 LZ
comp=Z,17μm,26.6s
CD2 Chengdu 130.32 10 ePKP **PKPdf 05 35 07.6 +0.3**
CD2 PP PP 05 37 26.6 +6.1
CD2 SKS **SKSdf 05 42 10.0 +1.2**
CD2 SKKS **SKKSac 05 44 04.1 -3.9**
CD2 PPMZ
comp=Z,90nm,11.8s
CD2 LN
comp=Z,390nm,21.4s
CD2 LZ
comp=Z,470nm,20.2s
RPR Rampur 130.50 44 ePKiKP **PKPdf 05 35 08.0 +0.1**
RPR eSKPab **SKPab 05 38 19.9 -1.3**
HYBB Hyderabad (bro 131.03 46 ePKiKP **PKPdf 05 35 09.3 +0.4**
HYB Hyderabad 131.03 46 *i* PKP **PKPdf 05 35 09.0 +0.1**
HYB eSKP 05 38 21.0
HYB *e* 05 39 20.0
WHN Wuhan 131.45 358 PKP **PKPdf 05 35 09.9 +0.6**
WHN PP **PP 05 37 29.6 +2.0**
WHN LZ
comp=Z,2μm,21.6s
URV Uravakonda 131.81 49 ePKiKP **PKPdf 05 35 10.9 +0.5**
CASY Casey 131.99 179 ePKPdf **PKPdf 05 35 09.6 +0.4**
NJS Nagarjunasagar 132.15 46 ePKiKP **PKPdf 05 35 10.9 0.0**
CHLP Challavanipeta 133.76 39 ePKPdf **PKPdf 05 35 12.8 -1.1**
PAF Port-aux-Franc 133.84 142 Pdif Pdif 05 32 30.0 +18
PAF PP PP 05 37 38.0 -5.9
PAF SP SP 05 49 26.0 +95
PAF SS SS 05 55 47.0 +25
PAF L L 06 10 00.0
SKHT Srikalahasti 134.37 48 ePKiKP **PKPdf 05 35 15.7 +0.5**
GYA Guiyang 135.13 8 Pdif **Pdif 05 32 16.8 -2.1**

GYA				PKP	**PKPdf**	**05 35 16.0**	**-0.6**
GYA				sPKP		05 35 59.3	
GYA				PP	**PP**	**05 37 55.4**	**+4.1**
GYA				PKS	**PKSdf**	**05 38 51.0**	**-2.2**
GYA				SKKS		05 44 33.0	
GYA				SS	**SS**	**05 55 34.3**	**-1.7**
GYA				PPMZ			
	comp=Z,160nm,8.2s						
GYA				LN			
	comp=Z,230nm,23.8s						
GYA				LE			
	comp=Z,190nm,25.0s						
GYA				LZ			
	comp=Z,210nm,23.2s						
KMI	**Kunming**	**135.75**	**13**	PKP	**PKPdf**	**05 35 17.9**	**0.0**
KMI				sPKP		05 36 02.5	
KMI				PP	**PP**	**05 37 57.6**	**+2.2**
KMI				SS	SS	05 55 40.3	-3.5
KMI				PPMZ			
	comp=Z,120nm,4.6s						
KMI				LN			
	comp=Z,350nm,16.8s						
KMI				LE			
	comp=Z,460nm,18.3s						
KMI				LZ			
	comp=Z,380nm,21.8s						
CHTO	**Chiang Mai**	**140.69**	**21**	PKP	**PKPdf**	**05 35 27.3**	**+0.5**
CHTO	**Chiang Mai**	**140.69**	**21**	*e*PKIKP	**PKPdf**	**05 35 26.4**	**-0.4**
CHTO				*e*		05 35 55.2	
CHTO				*e*		05 38 26.2	
CHTO	**Chiang Mai**	**140.69**	**21**	*e*PKPdf	**PKPdf**	**05 35 26.4**	**-0.4**
CHTO				*ep*PKPdf	**pPKPdf**	**05 35 55.2**	**-2.5**
CHTO				*e*PP	**PP**	**05 38 26.2**	**+0.3**
MHMT	**Maesarieng**	**140.91**	**23**	PKP	**PKPdf**	**05 35 28.0**	**+0.8**
CMAR	**Chiang Mai Arr**	**141.01**	**21**	PKhKP	PKPpre	05 35 19.1	
	comp=Z,1.7nm,0.4s,baz=315,slow=5.0,SNR=8.8						
CMAR				PKP	**PKPdf**	**05 35 26.4**	**-0.9**
	comp=Z,4.4nm,0.6s,baz=313,slow=2.9,SNR=13						
CMAR				SKPbc	**SKPbc**	**05 38 51.5**	**-2.4**
	comp=Z,7.6nm,0.9s,baz=321,slow=4.0,SNR=8.3						
CMAR				SKKPbc	**SKKPab**	**05 47 20.6**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=188,slow=3.7,SNR=7.6						
QIZ	**Qiongzhong**	**142.81**	**5**	PKP	**PKPdf**	**05 35 28.4**	**-2.2**
QIZ				pPKP	**pPKPdf**	**05 36 00.1**	**-1.4**
QIZ				PP	**PP**	**05 38 38.3**	**-0.2**
QIZ				SS	SS	05 57 06.8	+0.7
QIZ				PPMZ			
	comp=Z,85nm,5.5s						
QIZ				LN			
	comp=Z,400nm,17.0s						
QIZ				LZ			
	comp=Z,390nm,20.4s						
ARMA	**Armidale**	**142.86**	**244**	*e*PKPdf	**PKPdf**	**05 35 26.8**	**-3.7**
EIDS	**Eidsvold**	**143.94**	**252**	*e*PKPdf	PKPab	05 35 29.0	-0.8
PMG	**Port Moresby**	**145.63**	**280***c*	*i*PKP2	**PKPab**	**05 35 37.0**	**+0.5**
PMG				pmax	pmax		
	comp=Z,204nm,0.8s						
PMG	**Port Moresby**	**145.63**	**280**	*e*PKPdf	**PKPdf**	**05 35 35.4**	**-0.1**
TGY	**Tagaytay City**	**146.87**	**346**	PKPbc	**PKPbc**	**05 35 38.8**	**-0.9**
	comp=Z,136nm,0.3s,baz=71,slow=6.3,SNR=3.7						
CTA	**Charters Tower**	**148.46**	**261**	PKP	**PKPdf**	**05 35 39.4**	**-0.8**
	comp=Z,31nm,0.5s,baz=117,slow=2.3,SNR=7.3						
CTA				PKPbc	**PKPbc**	**05 35 43.4**	**-0.5**
	comp=Z,31nm,0.5s,baz=96,slow=3.5,SNR=55						
CTAO	**Charters Tower**	**148.46**	**261**	*e*PKIKP	**PKPdf**	**05 35 41.1**	**+0.9**
CTAO	**Charters Tower**	**148.46**	**261**	*e*PKPdf	**PKPdf**	**05 35 41.1**	**+0.9**
DLV	**T Lat**	**149.67**	**9**	*e*PKPdf	**PKPdf**	**05 35 44.3**	**+1.8**
DLV				*e*PKPbc	**PKPbc**	**05 35 47.4**	**+0.2**
COEN	**Coen**	**150.61**	**274**	*e*PKPdf	**PKPdf**	**05 35 44.4**	**+0.7**
COEN				*e*PKPbc	**PKPbc**	**05 35 49.5**	**+0.3**
COEN				*ep*PKPdf	**pPKPdf**	**05 36 15.0**	**+0.4**
STKA	**Stephens Creek**	**150.78**	**237**	PKP	**PKPdf**	**05 35 42.2**	**-1.3**
	comp=Z,13nm,0.6s,baz=48,slow=0.9,SNR=21						
STKA				PKPbc	**PKPbc**	**05 35 48.0**	**-1.1**
	comp=Z,40nm,0.8s,baz=72,slow=3.4,SNR=37						
STKA	**Stephens Creek**	**150.78**	**237**	PKIKP	**PKPdf**	**05 35 42.2**	**-1.3**
STKA				*e*		05 35 43.9	
STKA	**Stephens Creek**	**150.78**	**237**	PKP	**PKPdf**	**05 35 42.2**	**-1.3**
STKA				*e*PKPdf	**PKPdf**	**05 35 43.9**	**+0.3**
STKA				PKPbc	**PKPbc**	**05 35 48.0**	**-1.1**
STKA				*e*PKPbc	**PKPbc**	**05 35 49.6**	**+0.4**
STKA				*e*PKPab	**PKPab**	**05 35 57.3**	**+0.6**
SKLT	**Songkhla**	**151.97**	**27**	PKP	**PKPbc**	**05 35 51.7**	**-0.7**
KULM	**Kulim**	**153.66**	**28**	*e*PKPdf	**PKPdf**	**05 35 48.7**	**+0.4**
KULM				*e*PKPbc	**PKPbc**	**05 35 55.7**	**-0.5**
KULM				*e*PKPab	**PKPab**	**05 36 09.7**	**+0.7**
IPM	**Ipoh**	**154.55**	**28**	*e*PKPdf	**PKPdf**	**05 35 49.0**	**-0.6**
IPM				*e*PKPbc	**PKPbc**	**05 35 57.8**	**-0.3**
IPM				*e*PKPab	**PKPab**	**05 36 11.7**	**-1.1**
IPM				*e*PP	**PP**	**05 39 46.4**	**-0.9**
BBOO	**Buckleboo**	**154.65**	**231**	*e*PKPdf	**PKPdf**	**05 35 49.5**	**+0.4**
BBOO				*e*PKPbc	**PKPbc**	**05 35 57.2**	**-0.5**
BBOO				*e*PKPab	**PKPab**	**05 36 12.0**	**-0.9**
BBOO				*e*SKPdf	**SKPdf**	**05 39 12.7**	**+0.9**
PSI	**Prapat**	**154.95**	**35**	PKP	**PKPdf**	**05 35 50.4**	**+0.1**
	comp=Z,2.7nm,0.6s,baz=219,slow=9.6,SNR=4.2						
PSI				PKPab	**PKPab**	**05 36 14.7**	**0.0**
	comp=Z,12nm,0.7s,baz=264,slow=5.1,SNR=6.4						
SIJI	**Sorong**	**155.00**	**312**	PKP	**PKPdf**	**05 35 49.9**	**-0.3**
	comp=Z,4.0nm,0.7s,baz=336,slow=6.9,SNR=3.8						
SIJI				PKPab	**PKPab**	**05 36 14.2**	**-0.6**
	comp=Z,3.4nm,0.5s,baz=0.9,slow=6.8,SNR=3.9						
WRAB	**Tennant Creek**	**159.65**	**262**i	*e*PKIKP	**PKPdf**	**05 35 56.0**	**+0.2**
WRAB	**Tennant Creek**	**159.65**	**262**	*e*PKPdf	**PKPdf**	**05 35 56.0**	**+0.2**
AS31	**Alice Springs**	**159.66**	**251**	*e*PKPdf	**PKPdf**	**05 35 55.9**	**+0.1**
AS31				*e*PKPab	**PKPab**	**05 36 34.6**	**-0.3**
WRA	**Warramunga Arr**	**159.66**	**262**	PKP	**PKPdf**	**05 35 55.1**	**-0.7**
	comp=Z,9.5nm,0.8s,baz=68,slow=0.9,SNR=30						
WRA				PKPab	**PKPab**	**05 36 34.5**	**-0.4**
	comp=Z,6.9nm,0.6s,baz=89,slow=3.8,SNR=11						
ASAR	**Alice Springs**	**159.66**	**251**	PKP	**PKPdf**	**05 35 55.0**	**-0.7**
	comp=Z,5.1nm,0.7s,baz=104,slow=1.3,SNR=36						
ASAR				PKPab	**PKPab**	**05 36 34.3**	**-0.6**
	comp=Z,11nm,0.8s,baz=110,slow=4.4,SNR=17						
NWAO	**Narrogin (SRO)**	**164.89**	**194**	PKP	**PKPdf**	**05 36 00.1**	**-0.7**
	comp=Z,8.4nm,0.9s,baz=152,slow=3.5,SNR=3.9						
NWAO				PKPab	**PKPab**	**05 36 56.2**	**-1.0**
	comp=Z,20nm,0.8s,baz=149,slow=4.0,SNR=8.9						

NIED **16** *05:26:00,28.˚80N×128.˚50E,h5km,Mw4.1 Best double couple: M₀1.58000×10¹⁵ NP1:φ₁265.00000°,δ41.00000°, λ-51.00000°. NP2:φ₂38.00000°,δ59.00000°, λ-119.00000°.*

ISCJB **16** *05:26:12.5±1.0,28.˚75N±0.˚02×128.˚55E±0.˚04,h6km±6km, mb4.0/12, Error ellipse: s-maj=6.1km s-min=3.9km az=178.4*

IDC **16** *05:26:12.7±0.7,28.˚67N×128.˚68E,h0km,mb3.9/10, mb1 4.0/12,mb1mx3.8/44,mbtmp3.8/12,ML3.2/2,MS3.4/1, Ms1 3.4/1,ms1mx2.8/41, Error ellipse: s-maj=25.9km s-min=15.0km az=84.0*

JMA **16** *05:26:13.0±0.3,28.˚78N×128.˚54E,h15km±4km,M3.8*

NEIC **16** *05:26:17.8±0.8,28.˚67N×128.˚67E,h35km±8km,mb4.6/2, MW4.1(NIED), Error ellipse: s-maj=11.3km s-min=7.0km az=110.0*

ISC 16 05:26:13.4±1.5,28.˚66N±0.˚04×128.˚67E±0.˚05,h3km±10km, n34,σ1s19/43,mb4.0/12,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAMN	**Amaminishikomi**	**0.61**	**133**	P	**Pn**	**05 26 27.8**	**-1.2**
JAMN				S	**Sn**	**05 26 38.6**	**-0.8**
JTAJ	**Takarajima**	**0.68**	**44**	P	**Pg**	**05 26 26.3**	**-0.1**
JTAJ				S	**Sg**	**05 26 34.8**	**-0.4**
JAM	**Amami Oshima**	**0.86**	**107**	P	**Pb**	**05 26 31.4**	**+0.4**
JAM				S	**Sn**	**05 26 44.7**	**-0.8**
JTK	**Tokunoshima**	**0.91**	**164**	P	**Pb**	**05 26 32.3**	**+0.5**
JTK				S	**Sn**	**05 26 47.0**	**+0.3**
JZK	**Kikaishima**	**1.20**	**107**	P	**Pn**	**05 26 38.3**	**+1.2**
JZK				S	**Sn**	**05 26 56.4**	**+2.5**
JOKE	**Okinoerabujima**	**1.30**	**184**	P	**Pg**	**05 26 38.1**	**-0.2**
JOKE				S	**Sn**	**05 26 56.7**	**+0.3**
JNN	**Nakanoshima**	**1.58**	**42**	P	**Pn**	**05 26 40.4**	**-1.9**
JIH	**Iheya**	**1.74**	**201**	P	**Pn**	**05 26 44.3**	**-0.2**
JOW	**Kunigami**	**1.86**	**191**	P	**Pn**	**05 26 45.9**	**-0.3**
JOW				S	**Sn**	**05 27 09.8**	**-0.4**
JOW	**Kunigami**	**1.86**	**191**	Pn	**Pn**	**05 26 46.1**	**-0.1**
	baz=2.4,slow=12						
JNTH	**Nagotoyohara**	**2.21**	**195**	P	**Pn**	**05 26 51.3**	**+0.3**
JYAK	**Yakushimahirau**	**2.25**	**45**	P	**Pn**	**05 26 50.1**	**-1.4**
JNU	**Nakatsue**	**4.83**	**23**	Pn	**Pn**	**05 27 30.1**	**+3.0**
	2.2nm,0.3s,baz=172,slow=10,SNR=21						
JNU	**Nakatsue**	**4.83**	**23**	*e*Pn	**Pn**	**05 27 28.9**	**+1.7**
YHNB	**Yeheng**	**7.64**	**240**	*e*Pn	**Pn**	**05 28 07.7**	**+1.9**
	40nm,1.0s						
SSLB	**Suanglung**	**8.46**	**237**	*e*Pn	**Pn**	**05 28 18.6**	**+1.7**
	10nm,0.3s						
KSAR	**Wonju Array Be**	**8.78**	**356**	Pn	**Pn**	**05 28 20.9**	**-0.4**
KSAR				Sn	**Sn**	**05 30 02.6**	**+1.8**
KSAR				Lg	Lg	05 30 48.5	
KSRS	**Korea Array**	**8.79**	**356**	Pn	**Pn**	**05 28 20.9**	**-0.5**
	0.7nm,0.3s,baz=177,slow=13,SNR=14						
KSRS				Sn	**Sn**	**05 30 02.6**	**+1.6**
	baz=145,slow=27,SNR=3.1						
KSRS				Lg	Lg	05 30 48.5	
	0.5nm,0.3s,baz=182,slow=29,SNR=3.3						
KSRS				LR	LR	05 31 57.7	
	comp=Z,212nm,18.0s,baz=172,slow=39						
MJAR	**Matsushiro Arr**	**11.24**	**43**	Pn	**Pn**	**05 28 55.7**	**+0.7**
	0.1nm,0.3s,baz=256,slow=15,SNR=2.8						
USRK	**Ussuriysk Ar.**	**15.73**	**9**	Pn	**P**	**05 29 59.1**	**-1.0**
	0.2nm,0.3s,baz=168,slow=11,SNR=4.1						
SONM	**Songino Array**	**25.77**	**324**	P	**P**	**05 31 46.5**	**+0.9**
	1.6nm,0.9s,baz=141,slow=9.8,SNR=6.4						
MK31	**Makanchi Array**	**40.25**	**310**	*e*P	**P**	**05 33 49.4**	**-2.1**
MKAR	**Makanchi Array**	**40.25**	**310**	P	**P**	**05 33 50.8**	**-0.7**
	0.8nm,0.7s,baz=94,slow=6.4,SNR=7.8						
ZALV	**Zalesovo Beam**	**40.58**	**321**	P	**P**	**05 33 52.6**	**-1.5**
	1.4nm,0.5s,baz=112,slow=11,SNR=5.2						
KURK	**Kurchatov**	**43.36**	**315**	P	**P**	**05 34 17.4**	**+0.5**
KURBB	**Kurchatov Arra**	**43.40**	**315**	P	**P**	**05 34 17.4**	**+0.2**
	0.7nm,0.6s,baz=100,slow=8.9,SNR=6.5						
WRAB	**Tennant Creek**	**48.62**	**173**	*e*P	**P**	**05 34 58.4**	**-0.3**
	4.8nm,0.8s						
WRA	**Warramunga Arr**	**48.63**	**173**	P	**P**	**05 34 58.3**	**-0.4**
	4.0nm,0.7s,baz=353,slow=8.2,SNR=27						
BRVK	**Borovoye**	**48.81**	**317**	P	**P**	**05 34 58.8**	**-1.0**
	6.0nm,0.8s						
ASAR	**Alice Springs**	**52.27**	**174**	P	**P**	**05 35 25.9**	**-0.3**
	0.7nm,0.6s,baz=5.4,slow=14,SNR=15						
ILAR	**Eielson Array**	**62.12**	**29**	P	**P**	**05 36 36.1**	**+0.7**
	0.4nm,0.7s,baz=267,slow=5.4,SNR=5.4						
INK	**Inuvik**	**66.51**	**24**	P	**P**	**05 37 03.7**	**-0.4**
	2.0nm,1.1s,baz=275,slow=3.3,SNR=2.8						
FINES	**FINESS Array B**	**70.95**	**330**	P	**P**	**05 37 31.5**	**-0.4**
	1.1nm,0.8s,baz=54,slow=9.8,SNR=4.1						
YKA	**Yellowknife Ar**	**76.17**	**25**	P	**P**	**05 38 01.2**	**-1.3**
	1.4nm,0.9s,baz=300,slow=5.4,SNR=10						

ISCJB **16** *05:30:56.6±0.2,34.˚85S±0.˚04×16.˚08W±0.˚06,h10km, mb5.1/101,MS4.8/5, Error ellipse: s-maj=7.0km s-min=6.2km az=177.0*

MOS **16** *05:30:56.7±0.7,34.˚81S×16.˚12W,h10km,mb5.6/41, MS4.8/4, Error ellipse: s-maj=15.4km s-min=6.9km az=75.0*

IDC **16** *05:30:56.2±0.4,34.˚79S×16.˚11W,h0km,mb4.6/20, mb1 4.7/20,mb1mx4.6/26,mbtmp4.6/20, Error ellipse: s-maj=15.8km s-min=13.2km az=155.0*

NEIC **16** *05:30:57.9±0.1,34.˚83S×16.˚07W,h10km,mb5.1/18, Error ellipse: s-maj=5.4km s-min=4.6km az=134.0*

BJI **16** *05:30:59.1,34.˚80S×16.˚10W,h10km,mB5.5/12,Ms5.5/13, Ms7 5.1/14*

ISC 16 05:30:58.0±0.3,34.˚81S±0.˚07×16.˚12W±0.˚07,h10km,n325, σ1s10/333,mb5.2/101,MS4.8/5,32C-10D,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H09N1	**TRISTAN DA CUN**	**3.82**	**127**	Pn	**Pn**	**05 31 54.6**	**-2.3**
H09N1				T	T	05 36 00.7	
	SNR=318						
TRIS	**Tristan da Cun**	**3.82**	**127**	*e*Pn	**Pn**	**05 31 55.0**	**-1.9**
H09W1	**TRISTAN DA CUN**	**3.82**	**128**	Pn	**Pn**	**05 31 55.5**	**-1.4**
	SNR=464						
H09W1				T	T	05 35 55.0	
	SNR=479						
H10S2	**ASCENSION HYDR**	**25.77**	**3**	T	T	06 03 10.5	
	baz=183,slow=74,SNR=479						
H10S3	**ASCENSION HYDR**	**25.77**	**3**	T	T	06 03 10.8	
	baz=183,slow=74,SNR=412						
H10S1	**ASCENSION HYDR**	**25.79**	**3**	T	T	06 03 11.8	
	baz=183,slow=74,SNR=397						
H10N1	**ASCENSION HYDR**	**26.88**	**4**	T	T	06 04 30.9	
	baz=190,slow=78,SNR=33						
H10N3	**ASCENSION HYDR**	**26.89**	**4**	T	T	06 04 26.3	
	baz=190,slow=78,SNR=406						
H10N2	**ASCENSION HYDR**	**26.90**	**4**	T	T	06 04 29.7	
	baz=190,slow=78,SNR=155						
BDFB	**Brasilia**	**34.38**	**296**	P	**P**	**05 37 44.8**	**-0.8**
	18nm,1.1s,baz=113,slow=11,SNR=5.9						
CPUP	**Villa Florida**	**36.27**	**272**	*e*P	**P**	**05 38 02.1**	**+0.5**
CPUP				pmax	pmax		
	comp=Z,1.0nm,1.2s						
CPUP	**Villa Florida**	**36.27**	**272**	*e*P	**P**	**05 38 02.1**	**+0.5**
	comp=Z,0.6nm,1.2s						
VNA2	**Neumayer--Watz**	**36.48**	**175**	P	**P**	**05 38 04.2**	**+1.4**
	baz=342,slow=12						
VNA3	**Neumayer Olymp**	**36.65**	**177**	P	**P**	**05 38 05.2**	**+0.8**
TRQA	**Tornquist**	**36.76**	**251**	*e*P	**P**	**05 38 06.0**	**+0.3**
LBTB	**Lobatse**	**37.23**	**86**	P	**P**	**05 38 09.2**	**-0.7**
	comp=Z,21nm,1.2s,baz=273,slow=7.9,SNR=8.5						
SNAA	**Sanae**	**37.58**	**173**	P	**P**	**05 38 10.8**	**-1.6**
SNAA	**Sanae**	**37.58**	**173**	P	**P**	**05 38 12.5**	**+0.1**
	comp=Z,2.8nm,1.2s,baz=337,slow=6.5,SNR=4.1						
SNAA				PcP	**PcP**	**05 40 29.7**	**-0.2**
	comp=Z,2.8nm,1.1s,baz=338,slow=4.3,SNR=5.7						
SNAA	**Sanae**	**37.58**	**173**	P	**P**	**05 38 12.5**	**+0.1**
SNAA						05 40 29.7	
SNAA				pmax	pmax		
	comp=Z,27nm,1.6s						
SNAA	**Sanae**	**37.58**	**173**	P	**P**	**05 38 12.5**	**+0.1**
	comp=Z,27nm,1.6s						
SNAA				PcP	**PcP**	**05 40 29.7**	**-0.2**
NVL	**N'lazarevskaya**	**39.01**	**166**	*e*P	P	05 38 13.0	-11
NVL				pmax	pmax		
	comp=Z,10.0nm,0.9s						
LIC	**Lamto**	**42.14**	**17**i	*i*P	**P**	**05 38 49.5**	**-1.1**
	comp=Z,114nm,1.2s,baz=207						
LIC	**Lamto**	**42.14**	**17**	*e*P	**P**	**05 38 49.6**	**-1.1**
	comp=Z,127nm,1.2s						
LIC	**Lamto**	**42.14**	**17**i	*i*P	**P**	**05 38 49.5**	**-1.1**
	comp=Z,114nm,1.2s						
KIC	**Kosan Boka**	**42.34**	**17**	*e*P	**P**	**05 38 51.0**	**-1.3**
	comp=Z,141nm,1.1s						
TIC	**Toumodi**	**42.55**	**16**	*e*P	**P**	**05 38 52.2**	**-1.8**
	comp=Z,62nm,0.9s						
DBIC	**Dimbokro**	**42.61**	**17**	P	**P**	**05 38 53.4**	**-1.1**
	comp=Z,33nm,1.0s,baz=180,slow=9.6,SNR=15						
DBIC	**Dimbokro**	**42.61**	**17**	*e*P	**P**	**05 38 53.8**	**-0.7**
DBIC	**Dimbokro**	**42.61**	**17**	*e*P	**P**	**05 38 53.8**	**-0.7**
PLCA	**Paso Flores**	**42.85**	**245**	P	**P**	**05 38 56.8**	**+0.3**
	comp=Z,5.7nm,0.8s,baz=100,slow=5.5,SNR=9.6						
CFAA	**Coronel Fontan**	**43.33**	**259**	P	**P**	**05 38 59.0**	**-1.3**
	comp=Z,3.9nm,1.0s,baz=91,slow=7.3,SNR=16						
LSZ	**Lusaka**	**44.19**	**75**	P	**P**	**05 39 07.0**	**-0.5**
	comp=Z,8.8nm,1.1s,baz=62,slow=7.1,SNR=4.6						
SIV	**San Ignacio**	**44.31**	**283**	P	**P**	**05 39 09.4**	**+1.1**
	comp=Z,20nm,1.0s,baz=128,slow=8.9,SNR=21						
LVC	**Limon Verde**	**47.39**	**270**	*e*P	**P**	**05 39 32.1**	**-0.8**
	comp=Z,29nm,1.6s						
LPAZ	**La Paz**	**49.85**	**278**	P	**P**	**05 39 51.0**	**-1.3**
	comp=Z,10nm,1.1s,baz=88,slow=5.0,SNR=9.7						
LPAZ	**La Paz**	**49.85**	**278**	*e*P	**P**	**05 39 51.3**	**-1.0**
LPAZ	**La Paz**	**49.85**	**278**	*e*P	**P**	**05 39 51.3**	**-1.0**
SAML	**Samuel**	**50.09**	**289**	*e*P	**P**	**05 39 54.1**	**+0.7**
	comp=Z,24nm,1.0s						
TOAO	**Torodi Ar. Sit**	**50.61**	**23**	*e*P	**P**	**05 39 55.9**	**-1.4**
TORD	**Torodi Ar. Bea**	**50.61**	**23**	P	**P**	**05 39 56.0**	**-1.2**
	comp=Z,30nm,0.9s,baz=200,slow=8.7,SNR=81						
MAW	**Mawson**	**54.19**	**152**	P	**P**	**05 40 22.2**	**-1.0**
	comp=Z,8.2nm,1.1s,baz=235,slow=12,SNR=3.2						
QSPA	**South Pole Qui**	**55.44**	**180**	*e*P	**P**	**05 40 33.7**	**+1.2**
	comp=Z,26nm,1.0s						
NNA	**Nana**	**59.27**	**277**	*e*P	**P**	**05 41 00.8**	**+0.6**
NNA	**Nana**	**59.27**	**277**	*e*P	**P**	**05 41 00.8**	**+0.6**
KMBO	**Kilima Mbogo**	**59.87**	**68**	P	**P**	**05 41 05.1**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=225,slow=13,SNR=4.4						
TAM	**Tamanrasset**	**60.86**	**23**	*e*P	**P**	**05 41 11.3**	**+0.3**
TAM				pmax	pmax		
	comp=Z,18nm,1.0s						
TAM	**Tamanrasset**	**60.86**	**23**	*e*P	**P**	**05 41 11.2**	**+0.3**
	comp=Z,18nm,1.0s						
SDV	**Santo Domingo**	**67.37**	**299**	*e*P	**P**	**05 41 54.3**	**+0.3**
	comp=Z,27nm,1.0s						
ROSC	**El Rosal**	**67.41**	**293**	P	**P**	**05 41 54.6**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=227,slow=19,SNR=2.4						
SBA	**Scott Base**	**67.58**	**181**	*e*P	**P**	**05 41 55.9**	**+1.7**
SBA	**Scott Base**	**67.58**	**181**	*e*P	**P**	**05 41 55.9**	**+1.7**
OTAV	**Otavalo**	**67.69**	**287**	*e*P	**P**	**05 41 57.2**	**+0.9**
VNDA	**Vanda**	**67.92**	**180**	P	**P**	**05 41 57.2**	**+0.9**
	comp=Z,17nm,1.4s,baz=192,slow=5.4,SNR=14						
CASY	**Casey**	**71.28**	**160**	*e*P	**P**	**05 42 17.6**	**+0.4**
	comp=Z,11nm,1.0s						
PBDV	**Barranco-do-Ve**	**72.09**	**7**	*e*P	**P**	**05 42 22.2**	**-0.1**
	comp=Z,64nm,1.4s						
PVAQ	**Vaqueiros**	**72.27**	**7**	*e*P	**P**	**05 42 24.0**	**+0.6**
	comp=Z,35nm,1.2s						
PTEO	**Sao Teotonio**	**72.32**	**6**	*e*P	**P**	**05 42 26.1**	**+2.5**
	comp=Z,76nm,1.4s						
PCVE	**Castro Verde**	**72.47**	**7**	*e*P	**P**	**05 42 26.1**	**+1.6**
PNCL	**Nicolau / Gran**	**72.90**	**6**	*e*P	**P**	**05 42 28.4**	**+1.3**
PBAR	**Barrancos**	**73.11**	**7**	*e*P	**P**	**05 42 29.1**	**+0.8**
	comp=Z,72nm,1.4s						
EVOP	**Sao Brissos**	**73.35**	**7**i	*i*P	**P**	**05 42 29.9**	**+0.2**
EVOP				pmax	pmax		
	comp=Z,51nm,1.3s						
EVOP	**Sao Brissos**	**73.35**	**7**i	*i*P	**P**	**05 42 29.9**	**+0.2**
	comp=Z,51nm,1.3s						
EVO	**Evora**	**73.36**	**7**i	*i*P	**P**	**05 42 29.9**	**+0.1**
	comp=Z,51nm,1.3s						
EVO				*e*R			
	comp=Z,216nm,18.0s						
EVO	**Evora**	**73.36**	**7**	*e*P	**P**	**05 42 30.6**	**+0.8**
	comp=Z,36nm,1.5s						
PACT	**Alcochete**	**73.52**	**6**	*e*P	**P**	**05 42 32.5**	**+1.8**
	comp=Z,122nm,0.9s						
PESTR	**Estremoz**	**73.74**	**7**	*e*P	**P**	**05 42 32.7**	**+0.7**
	comp=Z,25nm,1.8s						
PMTG	**Montargil**	**73.88**	**6**	*e*P	**P**	**05 42 33.7**	**+0.9**
	comp=Z,28nm,1.2s						
KEST	**Kesra**	**74.10**	**21**	P	**P**	**05 42 33.8**	**-0.5**
	comp=Z,3.5nm,0.8s,baz=186,slow=6.3,SNR=5.4						
PMRV	**Marv??o**	**74.31**	**7**	*e*P	**P**	**05 42 36.1**	**+0.7**
	comp=Z,25nm,1.5s						
PTOM	**Tomar**	**74.40**	**6**	*e*P	**P**	**05 42 37.7**	**+1.8**
PCBR	**Castelo Branco**	**74.71**	**7**	*e*P	**P**	**05 42 38.2**	**+0.5**
	comp=Z,22nm,2.3s						
ESDC	**Sonseca Array**	**74.96**	**10**	P	**P**	**05 42 38.5**	**-0.7**
	comp=Z,6.8nm,1.0s,baz=187,slow=6.3,SNR=20						
MVO	**Moncorvo**	**76.07**	**7**	*e*P	**P**	**05 42 46.4**	**+0.9**
	comp=Z,29nm,1.3s						
PCAB	**Cabril**	**76.51**	**6**	*e*P	**P**	**05 42 48.8**	**+0.8**
	comp=Z,41nm,1.1s						
PBRG	**Braganca**	**76.73**	**7**	*e*P	**P**	**05 42 50.0**	**+0.7**
	comp=Z,30nm,2.0s						
PGAV	**Gavieira, Arco**	**76.75**	**6**	*e*P	**P**	**05 42 50.1**	**+0.7**
ETSF	**Etsaut**	**78.64**	**12**	*e*P	**P**	**05 43 00.1**	**+0.2**
	comp=Z,54nm,1.4s						
ETSF	**Etsaut**	**78.64**	**12**	*e*P	**P**	**05 43 00.1**	**+0.2**
ETSF				pmax	pmax		
	comp=Z,54nm,1.4s						
ETSF	**Etsaut**	**78.64**	**12**	*e*P	**P**	**05 43 00.1**	**+0.2**
	comp=Z,54nm,1.4s						
SJPF	**Ste Jean**	**78.74**	**11**	*e*P	**P**	**05 42 59.8**	**-0.6**
	comp=Z,67nm,1.2s						
SJPF	**Ste Jean**	**78.74**	**11**	*e*P	**P**	**05 42 59.8**	**-0.6**
SJPF				pmax	pmax		
	comp=Z,67nm,1.2s						
SJPF	**Ste Jean**	**78.74**	**11**	*e*P	**P**	**05 42 59.8**	**-0.6**
	comp=Z,67nm,1.2s						
EPF	**Esparros**	**78.92**	**12**	*e*P	**P**	**05 43 01.3**	**-0.1**
	comp=Z,37nm,1.2s						
EPF	**Esparros**	**78.92**	**12**	*e*P	**P**	**05 43 01.3**	**-0.1**
EPF				pmax	pmax		
	comp=Z,37nm,1.2s						
EPF	**Esparros**	**78.92**	**12**	*e*P	**P**	**05 43 01.3**	**-0.1**
	comp=Z,37nm,1.2s

LPL La Plagne 82.59 16 *e*P **P 05 43 21.5 +0.3**
comp=Z,45nm,1.1s
SMF Signal de Mont 83.06 14 *e*P **P 05 43 23.4 0.0**
comp=Z,42nm,1.1s
SMF Signal de Mont 83.06 14 *e*P **P 05 43 23.4 0.0**
SMF pmax pmax
comp=Z,42nm,1.1s
SMF Signal de Mont 83.06 14 *e*P **P 05 43 23.4 0.0**
comp=Z,42nm,1.1s
AVF Avril sur Loir 83.10 13 *e*P **P 05 43 24.0 +0.5**
comp=Z,48nm,1.2s
AVF Avril sur Loir 83.10 13 *e*P **P 05 43 24.0 +0.5**
AVF pmax pmax
comp=Z,49nm,1.2s
AVF Avril sur Loir 83.10 13 *e*P **P 05 43 24.0 +0.5**
comp=Z,48nm,1.2s
QUIF Quistinic 83.17 9 *e*P **P 05 43 24.2 +0.3**
comp=Z,78nm,1.4s
QUIF Quistinic 83.17 9 *e*P **P 05 43 24.2 +0.3**
QUIF pmax pmax
comp=Z,78nm,1.4s
QUIF Quistinic 83.17 9 *e*P **P 05 43 24.2 +0.3**
comp=Z,78nm,1.4s
SSF Saint Saulge 83.39 13 *e*P **P 05 43 25.2 +0.1**
comp=Z,64nm,1.6s
SSF Saint Saulge 83.39 13 *e*P **P 05 43 25.2 +0.1**
SSF pmax pmax
comp=Z,64nm,1.6s
SSF Saint Saulge 83.39 13 *e*P **P 05 43 25.2 +0.1**
comp=Z,64nm,1.6s
CABF La Chapelle 83.48 15 *e*P **P 05 43 25.4 -0.3**
comp=Z,32nm,1.4s
CABF La Chapelle 83.48 15 *e*P **P 05 43 25.4 -0.3**
CABF pmax pmax
comp=Z,33nm,1.4s
CABF La Chapelle 83.48 15 *e*P **P 05 43 25.4 -0.3**
comp=Z,32nm,1.4s
ROSF Rostrenen 83.57 9 *e*P **P 05 43 26.4 +0.5**
comp=Z,108nm,1.4s
ROSF Rostrenen 83.57 9 *e*P **P 05 43 26.4 +0.5**
ROSF pmax pmax
comp=Z,108nm,1.4s
ROSF Rostrenen 83.57 9 *e*P **P 05 43 26.4 +0.5**
comp=Z,108nm,1.4s
SGMF Saint Gilles 83.58 9 *e*P **P 05 43 26.2 +0.2**
comp=Z,130nm,1.5s
SGMF Saint Gilles 83.58 9 *e*P **P 05 43 26.2 +0.2**
SGMF pmax pmax
comp=Z,130nm,1.5s
SGMF Saint Gilles 83.58 9 *e*P **P 05 43 26.2 +0.2**
comp=Z,130nm,1.5s
LOR Lormes 83.66 14 *e*P **P 05 43 26.5 +0.1**
comp=Z,37nm,1.4s
LOR *e*R
comp=Z,372nm,21.0s
LOR Lormes 83.66 14 *e*P **P 05 43 26.5 +0.1**
LOR pmax pmax
comp=Z,37nm,1.4s
LOR Lormes 83.66 14 *e*P **P 05 43 26.5 +0.1**
comp=Z,37nm,1.4s
GRR Gorron 83.94 10 *e*P **P 05 43 27.9 +0.1**
comp=Z,51nm,1.2s
GRR Gorron 83.94 10 *e*P **P 05 43 27.9 +0.1**
GRR pmax pmax
comp=Z,51nm,1.2s
GRR Gorron 83.94 10 *e*P **P 05 43 27.9 +0.1**
comp=Z,51nm,1.2s
LDF La Druitiere 84.25 11 *e*P **P 05 43 29.5 +0.1**
comp=Z,22nm,1.0s
LDF La Druitiere 84.25 11 *e*P **P 05 43 29.5 +0.1**
LDF pmax pmax
comp=Z,22nm,1.0s
LDF La Druitiere 84.25 11 *e*P **P 05 43 29.5 +0.1**
comp=Z,22nm,1.0s
FLN La Foliniere 84.37 10 *e*P **P 05 43 30.2 +0.2**
comp=Z,49nm,1.1s
FLN *e*R
comp=Z,365nm,20.5s
FLN La Foliniere 84.37 10 *e*P **P 05 43 30.2 +0.2**
FLN pmax pmax
comp=Z,49nm,1.1s
FLN La Foliniere 84.37 10 *e*P **P 05 43 30.2 +0.2**
comp=Z,49nm,1.1s
MMB Musomiste 84.37 29 ⇑P **P 05 43 30.3 0.0**
MMB Musomiste 84.37 29 ⇑*i*P **P 05 43 30.3 0.0**
SFTF Sexfontaines 84.78 14 *e*P **P 05 43 32.4 +0.3**
comp=Z,86nm,1.6s
SFTF Sexfontaines 84.78 14 *e*P **P 05 43 32.4 +0.3**
comp=Z,86nm,1.5s
HINF Hinteralfeld 84.79 15 *e*P **P 05 43 31.7 -0.6**
comp=Z,30nm,1.4s
HINF Hinteralfeld 84.79 15 *e*P **P 05 43 31.7 -0.6**
HINF pmax pmax
comp=Z,30nm,1.4s
HINF Hinteralfeld 84.79 15 *e*P **P 05 43 31.7 -0.6**
comp=Z,30nm,1.4s
HAU Haudompre 84.86 15 *e*P **P 05 43 32.4 -0.2**
comp=Z,28nm,1.3s
HAU *e*R
comp=Z,295nm,20.2s
HAU Haudompre 84.86 15 *e*P **P 05 43 32.4 -0.2**
HAU pmax pmax
comp=Z,28nm,1.3s
HAU Haudompre 84.86 15 *e*P **P 05 43 32.4 -0.2**
comp=Z,28nm,1.3s
FETA Feichten 84.96 18 ⇑*i*P **P 05 43 33.7 +0.4**
comp=Z,12nm,1.2s
DAVA Damuels 85.00 17 *i*P **P 05 43 33.5 +0.1**
comp=Z,36nm,1.3s,SNR=11
VTS Vitosha 85.02 28 ⇑P **P 05 43 34.0 +0.3**
VTS Vitosha 85.02 28 ⇑*i*P **P 05 43 34.0 +0.3**
MEZF Maizieres J'vi 85.07 14 *e*P **P 05 43 34.0 +0.5**
comp=Z,83nm,1.4s
MEZF Maizieres J'vi 85.07 14 *e*P **P 05 43 34.0 +0.5**
comp=Z,83nm,1.4s
KDZ Kurdzhali 85.11 30 ⇓P **P 05 43 33.8 -0.1**
KDZ Kurdzhali 85.11 30 ⇓*i*P **P 05 43 33.8 -0.1**
DIVS Divibare 85.13 25 ⇓*i*P **P 05 43 34.8 +0.7**
ABTA Abfaltersbach 85.18 19 ⇓*i*P **P 05 43 34.7 +0.4**
comp=Z,30nm,1.3s,SNR=9.7
PAGF Fort de Pagny 85.26 14 *e*P **P 05 43 34.9 +0.4**
comp=Z,14nm,1.3s
PAGF Fort de Pagny 85.26 14 *e*P **P 05 43 34.9 +0.4**
comp=Z,14nm,1.3s
WTTA Wattenberg 85.42 19 ⇑*i*P **P 05 43 35.5 -0.1**
comp=Z,30nm,1.2s,SNR=8.4
CDF Champ du Feu 85.45 15 *e*P **P 05 43 35.2 -0.4**
comp=Z,32nm,1.4s
CDF Champ du Feu 85.45 15 *e*P **P 05 43 35.2 -0.4**
CDF pmax pmax
comp=Z,32nm,1.4s
CDF Champ du Feu 85.45 15 *e*P **P 05 43 35.2 -0.4**
comp=Z,32nm,1.4s
WATA Walderalm 85.47 18 *i*P **P 05 43 36.1 +0.3**
comp=Z,18nm,1.2s,SNR=6.9
BFO Black Forest 85.61 16 P **P 05 43 36.8 +0.5**
comp=Z,85nm,1.2s,SNR=6.5
BFO Black Forest 85.61 16 P **P 05 43 36.1 -0.2**
comp=Z,85nm,1.2s,SNR=6.5
BFO Black Forest 85.61 16 P P 05 43 32.7 -3.6
BFO pmax pmax
comp=Z,19nm,1.1s
BFO Black Forest 85.61 16 P P 05 43 32.7 -3.6
comp=Z,19nm,1.1s
SOKA Soboth 85.83 21 ⇓*i*P **P 05 43 38.2 +0.7**
comp=Z,23nm,1.2s,SNR=7.6
STU Stuttgart 86.22 16 *e*P **P 05 43 40.1 +0.8**
STU pmax pmax
comp=Z,5.0nm,0.7s
STU Stuttgart 86.22 16 *e*P **P 05 43 40.1 +0.8**
comp=Z,4.6nm,0.7s
BAIF Baives 86.40 13 *e*P **P 05 43 40.6 +0.5**
comp=Z,40nm,1.3s
BAIF Baives 86.40 13 *e*P **P 05 43 40.6 +0.5**
BAIF pmax pmax
comp=Z,40nm,1.3s
BAIF Baives 86.40 13 *e*P **P 05 43 40.6 +0.5**
comp=Z,40nm,1.3s
WLF Walferdange 86.40 14 P **P 05 43 41.2 +1.1**
comp=Z,9.3nm,1.2s
ARSA Arzberg 86.49 21 *i*P **P 05 43 41.5 +0.8**
comp=Z,17nm,1.2s,SNR=5.3
DOU Dourbes 86.51 13 P **P 05 43 42.2 +1.6**
PKSM Moragy 86.53 23 ⇑P **P 05 43 41.2 +0.3**
PKSM Moragy 86.53 23 ⇑*i*P **P 05 43 41.2 +0.3**
GIVF Givet 86.56 13 *e*P **P 05 43 41.3 +0.4**
comp=Z,53nm,1.3s
GIVF Givet 86.56 13 *e*P **P 05 43 41.3 +0.4**
GIVF pmax pmax
comp=Z,53nm,1.3s
GIVF Givet 86.56 13 *e*P **P 05 43 41.3 +0.4**
comp=Z,53nm,1.3s
SNF Seneffe 86.84 13 P **P 05 43 43.5 +1.3**
ANTO Ankara 86.94 36 ⇑P P 05 43 50.3 +7.1
ANTO Ankara 86.94 36 ⇑*i*P P 05 43 50.3 +7.1
BCLA Clavier 86.95 14 P **P 05 43 43.8 +1.0**
comp=Z,13nm,1.8s
BZS Buzias 87.03 25 ⇑P **P 05 43 43.8 +0.5**
BZS Buzias 87.03 25 ⇑*i*P **P 05 43 43.8 +0.5**
CONA Conrad Observa 87.20 21 ⇑*i*P **P 05 43 44.1 -0.2**
comp=Z,20nm,1.3s,SNR=6.1
BR131 Keskin Array S 87.24 36 *e*P **P 05 43 44.9 +0.2**
comp=Z,2.7nm,0.8s
BRTR Keskin Array B 87.24 36 P **P 05 43 44.4 -0.3**
comp=Z,2.3nm,0.9s,baz=190,slow=5.0,SNR=8.8
GZR Gura Zlata 87.25 26 ⇓P **P 05 43 44.7 +0.2**
GZR Gura Zlata 87.25 26 ⇓*i*P **P 05 43 44.7 +0.2**
MEM Membach 87.27 14 P **P 05 43 46.2 +1.9**
GERES GERESS Array B 87.42 19 P **P 05 43 45.4 +0.2**
comp=Z,0.6nm,0.4s,baz=201,slow=5.2,SNR=10
GERES PP **PP 05 47 07.8 -2.6**
comp=Z,2.0nm,0.9s,baz=194,slow=10,SNR=8.0
KHC Kasperske Hory 87.65 19 *e*P **P 05 43 46.6 +0.3**
KHC *e*PP **PP 05 47 08.6 -3.6**
KHC AMS AMS 06 21 30.0
comp=Z,500nm,13.7s
KHC Kasperske Hory 87.65 19 *e*P **P 05 43 46.6 +0.3**
KHC *e* 05 47 08.6
KHC MLR MLR
comp=Z,500nm,13.7s
ARR Arges 87.92 27 ⇑*i*P **P 05 43 47.9 +0.2**
NKC Novy Kostel 88.37 18 *e*P **P 05 43 50.5 +0.8**
NKC *e*PP **PP 05 47 15.6 -2.3**
NKC AMS AMS 06 22 10.0
comp=Z,300nm,17.6s
NKC Novy Kostel 88.37 18 *e*P **P 05 43 50.5 +0.8**
NKC *e* 05 47 15.6
NKC MLR MLR
comp=Z,300nm,17.6s
DRGR 88.42 26 ⇑P **P 05 43 50.5 +0.4**
DRGR 88.42 26 ⇑*i*P **P 05 43 50.5 +0.4**
PSZ Piszkesteto 88.44 23 *e*P **P 05 43 49.9 -0.2**
PSZ pmax pmax
comp=Z,21nm,1.2s
PSZ Piszkesteto 88.44 23 ⇑*i*P **P 05 43 50.1 0.0**
PSZ Piszkesteto 88.44 23 *e*P **P 05 43 49.9 -0.2**
comp=Z,21nm,1.2s
MLR Muntele Rosu 88.53 28 ⇑P **P 05 43 49.3 -1.4**
MLR Muntele Rosu 88.53 28 ⇑*i*P **P 05 43 49.3 -1.4**
VRAC Vranov 88.66 21 ⇑P **P 05 43 51.2 +0.2**
VRAC Vranov 88.66 21 ⇑*i*P **P 05 43 51.2 +0.2**
GOPC GO Pecny, Ondr 88.69 19 *e*P **P 05 43 52.6 +1.4**
GOPC *e*pP **pP 05 43 56.6 +2.1**
GOPC *e*PP **PP 05 47 24.3 +3.8**
GOPC AMS AMS 06 20 30.0
comp=Z,300nm,18.1s
PRU Pruhonice 88.69 19 *e*P **P 05 43 52.1 +0.9**
PRU *e*pP **pP 05 43 56.3 +1.8**
PRU AMS AMS 06 22 20.0
comp=Z,300nm,14.7s
PRU Pruhonice 88.69 19 *e*P **P 05 43 52.1 +0.9**
PRU *e* 05 43 56.3
PRU MLR MLR
comp=Z,300nm,14.7s
DOPR Dopca 88.71 28 ⇑*i*P **P 05 43 52.1 +0.7**
PVCC Panska Ves 89.19 19 *e*PP PP 05 47 23.1 -1.3
BRG Berggiesshubel 89.34 19 *e*P **P 05 43 55.6 +1.4**
comp=Z,13nm,1.6s
BRG Berggiesshubel 89.34 19 *e*P **P 05 43 55.6 +1.4**
BRG pmax pmax
comp=Z,13nm,1.6s
MORC Moravsky Berou 89.35 21 P **P 05 43 54.8 +0.4**
MORC pmax pmax
comp=Z,10.0nm,1.3s
MORC Moravsky Berou 89.35 21 ⇑*i*P **P 05 43 55.2 +0.9**
MORC Moravsky Berou 89.35 21 P **P 05 43 54.8 +0.4**
comp=Z,10nm,1.3s
KRLC Kraliky 89.40 20 *e*P **P 05 43 56.3 +1.8**
KRLC *e*PP **PP 05 47 25.8 -0.3**
KRLC Kraliky 89.40 20 *e*P **P 05 43 56.3 +1.8**
KRLC *e* 05 47 25.8
CLL Collm 89.50 18 ⇓*i*P **P 05 43 55.7 +0.8**
comp=Z,45nm,2.2s
CLL *e* 05 44 27.0
CLL *e*PP **PP 05 47 25.0 -1.8**
CLL *i* (sPP) 05 47 32.8
CLL *i* 05 47 46.6
CLL Collm 89.50 18 ⇓*i*P **P 05 43 55.7 +0.8**
CLL *e* 05 47 25.0
CLL pmax pmax
comp=Z,45nm,2.2s
TRPA Tarpa 89.51 25 ⇓*i*P **P 05 43 55.7 +0.7**
DPC Dobruska-Polom 89.51 20 *e*P **P 05 43 56.0 +0.9**
DPC *e*pP **pP 05 44 01.5 +3.1**
DPC *e*PP **PP 05 47 24.3 -2.8**
DPC Dobruska-Polom 89.51 20 *e*P **P 05 43 56.0 +0.9**
DPC *e* 05 44 01.5
DPC *e* 05 47 24.3
OKC Ostrava-Krasne 89.59 21 *e*P **P 05 43 56.6 +1.2**
OKC *ex* x 05 44 02.5
OKC *e*PP **PP 05 47 24.9 -2.7**
OKC AMS AMS 06 22 30.0
comp=Z,300nm,16.3s
OKC Ostrava-Krasne 89.59 21 *e*P **P 05 43 56.6 +1.2**
OKC *e* 05 44 02.5
OKC *e* 05 47 24.9
OKC MLR MLR
comp=Z,300nm,16.3s
UZH Uzhgorod 89.86 24 *e*P **P 05 43 55.9 -0.7**
UZH *e* 05 44 02.5
BURAR Bucovina Array 90.03 27 ⇑P P 05 44 01.4 +3.8
BURAR Bucovina Array 90.03 27 ⇑*i*P P 05 44 01.4 +3.8
ESK Eskdalemuir 90.45 7 *i*P P 05 44 02.5 +3.3
LVV L'vov 91.47 25 *e*P **P 05 44 04.4 +0.3**
KIEV Kiev 94.05 27 *e*P **P 05 44 15.5 -0.5**
KIEV pmax pmax
comp=Z,11nm,1.1s
KIEV Kiev 94.05 27 *e*P **P 05 44 15.5 -0.5**
comp=Z,11nm,1.1s
AKASG Malin Array Be 94.06 27 P **P 05 44 16.2 +0.1**
comp=Z,5.9nm,1.0s,baz=221,slow=5.0,SNR=23
ZEI Tsey 94.70 40 *e*P **P 05 44 19.2 -0.3**
ZEI pmax pmax
comp=Z,20nm,1.8s
SUW Suwalki 94.76 22 *e*P **P 05 44 20.6 +1.4**
SUW pmax pmax
comp=Z,30nm,0.9s
SUW Suwalki 94.76 22 *e*P **P 05 44 20.6 +1.4**
comp=Z,30nm,0.9s
KBZ Khabaz 94.84 39 P **P 05 44 20.6 +0.8**
comp=Z,3.0nm,1.0s,baz=233,slow=20,SNR=7.6
KIV Kislovodsk 94.89 38 *e*P **P 05 44 19.6 -0.6**
KIV pmax pmax
comp=Z,8.0nm,1.0s
H01W2 Cape Leeuwin H 96.51 141 T T 07 32 46.0
baz=219,slow=75,SNR=38
H01W3 Cape Leeuwin H 96.52 141 T T 07 32 45.6
baz=219,slow=75,SNR=40
H01W1 Cape Leeuwin H 96.52 141 T T 07 32 44.8
baz=219,slow=75,SNR=38
TXAR Lajitas Array 104.26 296 PP PP 05 49 20.5 -0.8
comp=Z,1.7nm,1.1s,baz=101,slow=5.7,SNR=7.5
KSH Kashi 112.54 57 *e*PKP **PKiKP 05 49 39.5 +4.9**
KSH PPMZ
comp=Z,110nm,5.1s
KSH LN
comp=Z,130nm,8.6s
KSH LE
comp=Z,300nm,15.3s
KSH LZ
comp=Z,230nm,15.8s
ASAR Alice Springs 115.25 150 PKP **PKPdf 05 49 38.6 -1.6**
comp=Z,1.0nm,0.8s,baz=192,slow=1.5,SNR=6.2
ASAR PKKPbc **PKKPbc 06 00 14.7 +0.5**
comp=Z,0.4nm,0.7s,baz=23,slow=1.8,SNR=5.1
MPMC Manual Prospec 117.68 296 P **PKPdf 05 49 45.0 +0.4**
baz=118
ISA Isabella, Lake 118.25 295 P **PKPdf 05 49 46.2 +0.6**
baz=118
HLID Hailey 118.46 305 P **PKPdf 05 49 46.4 +0.6**
baz=119
WRA Warramunga Arr 118.73 148 PKP **PKPdf 05 49 45.1 -1.9**
comp=Z,1.3nm,0.8s,baz=229,slow=2.0,SNR=7.6
WRA PKKPbc **PKKPbc 06 00 01.5 -0.4**
comp=Z,0.7nm,0.8s,baz=31,slow=3.7,SNR=6.5
NVAR Mina Array Bea 119.22 298 PKP **PKPdf 05 49 47.9 +0.3**
comp=Z,0.9nm,0.6s,baz=134,slow=1.9,SNR=7.4
MSO Missoula 119.35 309 P **PKPdf 05 49 47.2 -0.2**
baz=120
MKAR Makanchi Array 119.71 51 PKKPbc PKKPbc 05 59 58.3 -0.3
comp=Z,0.4nm,0.7s,baz=90,slow=4.5,SNR=4.5
CMAR Chiang Mai Arr 120.64 88 PKP **PKPdf 05 49 50.3 -0.3**
comp=Z,0.7nm,0.4s,baz=236,slow=4.4,SNR=7.3
WMQ Urumqi 122.30 56 *e*PKP **PKPdf 05 49 53.6 +0.5**
WMQ PP PP 05 51 35.4 +6.0
WMQ PKS **PKSdf 05 53 27.3 -2.4**
WMQ SKS **SKSdf 05 56 59.3 -5.8**
WMQ PPMZ
comp=Z,46nm,9.6s
WMQ LN
comp=Z,220nm,21.4s
WMQ LE
comp=Z,220nm,20.2s
WMQ LZ
comp=Z,170nm,21.4s
M04C Macdoel 122.96 301 P **PKPdf 05 49 54.1 -0.4**
baz=123
J05D Fort Rock, OR 123.02 303 P **PKPdf 05 49 54.8 +0.1**
baz=123
N02D Trinity Center 123.30 300 P **PKPdf 05 49 55.6 +0.4**
baz=124
I05D Terrebonne, OR 123.42 304 P **PKPdf 05 49 55.6 +0.3**
baz=124
M02C Callahan 123.55 300 P **PKPdf 05 49 55.6 0.0**
baz=124
J04D Umpqua Nationa 123.61 302 P **PKPdf 05 49 55.6 -0.3**
baz=124
I04A Tendick Farm, 123.99 303 P **PKPdf 05 49 55.7 -0.6**
baz=124
YKA Yellowknife Ar 124.04 326 PKP **PKPdf 05 49 54.1 -1.6**
comp=Z,1.7nm,0.7s,baz=98,slow=2.0,SNR=26
YKA PKKPbc **PKKPbc 05 59 41.9 -0.3**
comp=Z,0.8nm,1.2s,baz=273,slow=3.9,SNR=3.6
I03D Drain, OR 124.61 303 P **PKPdf 05 49 57.6 +0.2**
baz=125
G03D McMinnville, O 124.99 304 P **PKPdf 05 49 57.9 -0.2**
baz=125
KMI Kunming 126.87 83 PKP **PKPdf 05 50 04.9 +2.3**
GTA Gaotai 129.65 65 *e*PKP **PKPdf 05 50 08.3 +0.9**
GTA PP **PP 05 52 23.3 +4.8**
GTA SKS **SKSdf 05 57 18.4 -0.7**
GTA SKKS **SKKSac 05 59 15.3 +0.1**
GTA SS **SS 06 09 45.8 +3.6**
GTA PPMZ
comp=Z,120nm,8.1s
GTA LN
comp=Z,350nm,17.6s
GTA LE
comp=Z,480nm,18.5s
GTA LZ
comp=Z,290nm,17.6s
CD2 Chengdu 130.00 77 *e*PKP **PKPdf 05 50 09.3 +1.1**
CD2 PP PP 05 52 27.6 +6.7
CD2 PKS **PKSdf 05 53 42.5 -2.3**
CD2 SKKS 05 59 16.3
CD2 PPMZ
comp=Z,120nm,7.1s
CD2 LN
comp=Z,550nm,17.8s
CD2 LZ
comp=Z,610nm,16.6s
GYA Guiyang 130.63 83 PKP **PKPdf 05 50 08.4 -1.2**
GYA PP **PP 05 52 28.3 +3.2**
GYA PPMZ
comp=Z,120nm,7.8s
LZH Lanzhou 131.77 70 *e*PKP **PKPdf 05 50 08.3 -3.3**
LZH sPKP 05 50 14.3
LZH LN
comp=Z,410nm,13.7s
LZH LE
comp=Z,270nm,13.6s
LZH LZ
comp=Z,520nm,20.9s
INK Inuvik 131.94 334 PKP **PKPdf 05 50 09.6 -1.1**
comp=Z,11nm,1.1s,baz=102,slow=2.7,SNR=14
INK Inuvik 131.94 334 PKIKP **PKPdf 05 50 09.6 -1.1**
INK *e* 05 50 10.8
INK Inuvik 131.94 334 PKP **PKPdf 05 50 09.6 -1.1**
INK *e*PKPdf **PKiKP 05 50 10.8 -0.8**
TLY Talaya 134.35 49 *e*PKIKP **PKPdf 05 50 17.1 +1.4**
TLY pmax pmax
comp=Z,3.0nm,1.0s
HYT Haines Junctio 134.86 324 *e*PKPdf **PKPdf 05 50 16.6 0.0**
SONM Songjin Array 135.88 55 PKP **PKPdf 05 50 18.8 -0.1**
comp=Z,0.8nm,0.9s,baz=180,slow=4.3,SNR=3.4
ILAR Eielson Array 138.05 331 PKhKP PKPpre 05 50 11.7
comp=Z,0.7nm,0.7s,baz=18,slow=0.9,SNR=8.3
ILAR PKP **PKPdf 05 50 21.9 -0.2**
comp=Z,4.3nm,1.0s,baz=354,slow=1.5,SNR=18
ILAR Eielson Array 138.05 331 PKIKP **PKPdf 05 50 22.0 -0.2**
COLA College 138.40 331 ⇑*i*PKIKP **PKPdf 05 50 23.3 +0.5**
WHN Wuhan 138.43 82 *e*PKP **PKPdf 05 50 23.0 -0.9**
HHC Hu-ho-hao-te 138.75 66 *e*PKP **PKPdf 05 50 26.3 +1.9**
HHC PP PP 05 53 21.8 +5.5
HHC SKS **SKSdf 05 57 35.1 +0.1**
HHC SS **SS 06 11 34.8 +3.0**
HHC PPMZ
comp=Z,72nm,9.9s
HHC LN
comp=Z,140nm,16.0s
HHC LE
comp=Z,220nm,13.6s
HHC LZ
comp=Z,87nm,17.3s
TRF Thorofare Moun 139.94 330 *e*PKPdf **PKPdf 05 50 25.4 -0.5**
IM04 Indian Mountai 140.13 335 *e*PKPdf **PKPdf 05 50 25.5 -0.5**
BJI Beijing 142.11 68 PKP **PKPdf 05 50 30.0 -0.3**
BJI SS SS 06 12 12.0 +1.0
BJI LN
comp=Z,660nm,18.8s
BJI LE
comp=Z,320nm,19.4s
BJI LZ
comp=Z,610nm,24.5s
TNA Tin City 144.94 340 *e*PKPdf PKPbc 05 50 33.8 +0.1
YAK Yakutsk 145.29 28 PKPbc **PKPbc 05 50 34.3 -0.6**
comp=Z,42nm,0.7s,baz=301,slow=1.2,SNR=17
YAK Yakutsk 145.29 28 *e*PKP2 **PKPbc 05 50 33.3 -1.6**
YAK *e* 05 53 54.4
YAK *e*SS SS 06 12 38.9 -6.7
YAK pmax pmax
comp=Z,84nm,1.1s
YAK pmax pmax
comp=N,16nm,1.3s
YAK pmax pmax
comp=E,17nm,1.1s
YAK pmax pmax
comp=E,55nm,3.0s
YAK pmax pmax
comp=Z,53nm,3.2s
YAK pmax pmax
comp=N,56nm,4.0s
YAK Yakutsk 145.29 28 *e*PKPbc **PKPbc 05 50 34.5 -0.4**
CLNS Chul'man 145.72 38 *e*PKHKP PKPpre 05 50 30.9
CLNS pmax pmax
comp=Z,18nm,1.8s
CLNS pmax pmax
comp=N,8.0nm,1.8s
CN2 Changchun 149.17 61 *e*PKPbc **PKPbc 05 50 46.0 -0.5**
INCN Inchon 149.93 74 *e*PKPbc **PKPbc 05 50 48.3 -0.2**
INCN *e*PKPab **PKPab 05 50 53.9 -0.4**
KSAR Wonju Array Be 150.91 74 PKIKP **PKPbc 05 50 49.4 -1.5**
KSAR Wonju Array Be 150.91 74 PKPbc **PKPbc 05 50 49.4 -1.5**
KSRS Korea Array 150.94 74 PKPbc **PKPbc 05 50 49.4 -1.6**
comp=N,1.5nm,0.4s,baz=276,slow=3.1,SNR=14
SEY Seymchan 150.95 11 PKP **PKPdf 05 50 44.2 -0.2**
comp=N,1.2nm,0.3s,baz=1.2,slow=2.5,SNR=6.5
SEY PKPbc **PKPbc 05 50 50.2 +0.1**
comp=N,13nm,0.7s,baz=340,slow=1.2,SNR=22
MDJ Mudanjiang 152.04 59 PKPbc **PKPdf 05 50 46.1 -0.6**
KLR Kul'dur 152.37 49 *e*PKIKP **PKPdf 05 50 49.7 +2.7**
KLR pmax pmax
comp=Z,48nm,1.6s
MJAR Matsushiro Arr 159.09 78 PKP **PKPdf 05 50 55.4 -1.0**
comp=Z,1.7nm,1.0s,baz=284,slow=4.2,SNR=5.2
MJAR PKPab **PKPab 05 51 33.4 +0.2**
comp=Z,1.9nm,1.0s,baz=277,slow=4.1,SNR=5.1

PETK Petropavlovsk- 161.19 12 PKPab **PKPab 05 51 41.1 -0.6**
comp=Z,6.9nm,1.0s,baz=264,slow=2.7,SNR=4.8

*IDC **16** 05:44:32.5±2.6, 46°.12N × 142°.48E, h315km±23km, mb3.0/4, mb1 3.2/6, mb1mx2.8/36, mbtmp3.5/6, Error ellipse: s-maj=108.5km s-min=35.8km az=115.0*
*ISCJB **16** 05:44:33.8±0.6, 45°.47N±0°.07 × 143°.3E±0°.1, h341km, mb3.2/4, Error ellipse: s-maj=13.3km s-min=8.3km az=20.0*
*JMA **16** 05:44:33.5±0.2, 45°.69N × 143°.29E, h335km, M3.3*
ISC 16 05:44:34.0±0.8, 45°.48N±0°.09 × 143°.3E±0°.1, h341km, n19, σ1§40/25, mb3.2/4, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**0.71**	**224**	P	**Pn**		**05 45 17.1**	**-0.7**
JWK2	**Keihoku**	**0.98**	**261**	P	**Pn**		**05 45 18.0**	**-0.7**
ASAJ	**Asahikawa**	**1.44**	**200**	P	**Pn**		**05 45 21.7**	**+0.7**
ASAJ	**Asahikawa**	**1.44**	**200**	P	**Pn**		**05 45 21.7**	**+0.7**
	5.0nm,0.3s,baz=11,slow=5.2,SNR=28							
ASAJ				S	**S**		**05 45 59.5**	**+0.8**
	0.4nm,0.3s,baz=342,slow=20,SNR=2.2							
JSS	**Shosan**	**1.48**	**224**	P	**Pn**		**05 45 21.4**	**+0.2**
JTKR	**Abashiri--Toko**	**1.57**	**163**	P	**Pn**		**05 45 22.4**	**+0.7**
JTKR				*eS*	**S**		**05 46 00.3**	**+0.4**
JKK2	**Kamakawa 2**	**1.65**	**193**	P	**Pn**		**05 45 23.1**	**+0.9**
JRA	**Rausu**	**2.02**	**139**	P	**Pn**		**05 45 25.5**	**+0.8**
JAR	**Ashorobuto**	**2.21**	**171**	*eS*	**S**		**05 46 08.7**	**+0.8**
JAK	**Akkeshi**	**2.68**	**157**	*eS*	**S**		**05 46 13.4**	**-1.4**
NEM2	**Nemuro 2**	**2.75**	**139**	P	**Pn**		**05 45 30.6**	**+0.1**
NEM2				*eS*	**S**		**05 46 12.7**	**-3.2**
JCH	**Churui**	**2.86**	**179**	P	**Pn**		**05 45 32.0**	**+0.5**
JCH				*eS*	**S**		**05 46 15.2**	**-2.5**
JKB	**Kayabe**	**3.94**	**205**	P	**Pn**		**05 45 42.2**	**+0.3**
JKB				*eS*	**S**		**05 46 34.5**	**-2.0**
JOT	**Ohata**	**4.40**	**202**	P	**Pn**		**05 45 47.7**	**+0.9**
JOT				*eS*	**S**		**05 46 42.9**	**-2.5**
MJAR	**Matsushiro Arr**	**9.71**	**205**	P	**P**		**05 46 51.6**	**+1.0**
	0.2nm,0.3s,baz=3.4,slow=12,SNR=5.3							
INK	**Inuvik**	**46.32**	**31**	P	**P**		**05 52 24.6**	**-1.7**
	2.1nm,1.1s,baz=278,slow=7.1,SNR=4.1							
YKA	**Yellowknife Ar**	**55.89**	**33**	P	**P**		**05 53 36.1**	**-0.7**
	0.4nm,0.6s,baz=306,slow=9.3,SNR=9.3							
PDAR	**Pinedale Array**	**70.86**	**48**	P	**P**		**05 55 15.6**	**+0.9**
	0.4nm,0.7s,baz=336,slow=4.2,SNR=2.8							
TXAR	**Lajitas Array**	**83.93**	**54**	P	**P**		**05 56 28.3**	**+1.7**
	0.2nm,0.5s,baz=305,slow=3.2,SNR=3.3							

*IDC **16** 06:05:43.0±1.2, 52°.27N × 170°.07W, h0km, mb3.6/5, mb1 3.9/6, mb1mx3.4/51, mbtmp3.7/6, ML3.7/1, Error ellipse: s-maj=38.6km s-min=24.9km az=166.0*
*ISCJB **16** 06:05:47.0±0.8, 52°.1N±0°.1 × 169°.96W±0°.08, h29km, mb3.6/5, Error ellipse: s-maj=15.8km s-min=3.3km az=156.5*
*NEIC **16** 06:05:48.5, 52°.35N × 170°.10W, h25km, ML3.5(AEIC), After AEIC.*
ISC 16 06:05:48.1±1.0, 52°.2N±0°.1 × 169°.95W±0°.06, h29km, n30, σ1§44/32, mb3.8/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.05**	**39**	P	**Pn**		**06 06 05.6**	**-1.3**
NIKH				S	**Sn**		**06 06 18.8**	**-1.7**
OKFG	**Magazine Ridge**	**1.76**	**44**	P	**Pn**		**06 06 16.6**	**0.0**
OKFG				S	**Sn**		**06 06 39.6**	**+1.6**
MSOM	**Makushin Julie**	**2.46**	**46**	P	**Pn**		**06 06 26.5**	**+0.4**
MREP	**Makushin Rep't**	**2.54**	**48**	P	**Pn**		**06 06 28.5**	**+1.1**
KOFP	**Korovin Flat P**	**2.56**	**274**	P	**Pn**		**06 06 28.1**	**+0.5**
MSW	**Makushin Switc**	**2.59**	**46**	P	**Pn**		**06 06 29.1**	**+1.1**
MSW				S	**Sn**		**06 07 00.8**	**+2.2**
ATKA	**Atka Island**	**2.62**	**273**	P	**Pn**		**06 06 28.3**	**0.0**
UNV	**Unalaska Valle**	**2.68**	**50**	P	**Pn**		**06 06 30.3**	**+1.1**
UNV				S	**Sn**		**06 07 03.2**	**+2.6**
AKRB	**Akutan Reef Bi**	**3.06**	**48**	P	**Pn**		**06 06 34.6**	**+0.2**
AKGG	**Akutan Green G**	**3.13**	**48**	P	**Pn**		**06 06 36.3**	**+0.8**
GSMY	**Great Sitkin M**	**3.77**	**271**	P	**Pn**		**06 06 44.8**	**+0.6**
GSTD	**Great Sitkin T**	**3.82**	**271**	P	**Pn**		**06 06 45.0**	**0.0**
GSTD				S	**Sn**		**06 07 30.1**	**+1.2**
GSCK	**Great Sitkin C**	**3.84**	**270**	P	**Pn**		**06 06 45.2**	**+0.1**
ADK	**Adak**	**4.17**	**269**	P	**Pn**		**06 06 49.8**	**+0.1**
ADK				S	**Sn**		**06 07 38.0**	**+0.6**
FALS	**False Pass**	**4.74**	**53**	P	**Pn**		**06 07 00.2**	**+2.6**
TAFP	**Tanaga Falls P**	**4.97**	**270**	P	**Pn**		**06 07 03.2**	**+2.6**
TASE	**Tanaga Southea**	**5.01**	**269**	P	**Pn**		**06 07 04.0**	**+2.7**
SPIA	**Saint Paul Isl**	**5.03**	**358**	P	**Pn**		**06 07 01.6**	**+0.1**
GAEA	**Gareloi East**	**5.45**	**269**	P	**Pn**		**06 07 09.6**	**+2.3**
CERAA	**Semis' Rag'd T**	**6.40**	**272**	P	**Pn**		**06 07 21.8**	**+1.4**
CESW	**Semis' Southwe**	**6.48**	**272**	P	**Pn**		**06 07 23.4**	**+2.0**
PETK	**Petropavlovsk-**	**19.57**	**286**	P	**P**		**06 10 12.7**	**-0.7**
	1.1nm,0.3s,baz=91,slow=15,SNR=20							
INK	**Inuvik**	**23.72**	**33**	P	**P**		**06 10 56.3**	**-0.8**
	0.3nm,0.5s,baz=236,slow=6.9,SNR=3.3							
H11S1	**WAKE ISLAND Hy**	**38.26**	**217**	T	T		06 53 55.1	
	baz=22,slow=74							
H11S2	**WAKE ISLAND Hy**	**38.27**	**217**	T	T		06 53 57.4	
	baz=22,slow=74							
H11S3	**WAKE ISLAND Hy**	**38.28**	**217**	T	T		06 54 01.4	
	baz=22							
TXAR	**Lajitas Array**	**53.11**	**88**	P	**P**		**06 15 03.0**	**+0.1**
	0.2nm,0.6s,baz=305,slow=5.4,SNR=3.5							
FINES	**FINESS Array B**	**66.02**	**352**	P	P		06 16 29.0	-2.3
	0.8nm,0.8s,baz=9.6,slow=9.2,SNR=2.5							
CMAR	**Chiang Mai Arr**	**76.31**	**282**	P	**P**		**06 17 33.4**	**-0.9**
	0.8nm,0.3s,baz=25,slow=7.2,SNR=4.5							
ASAR	**Alice Springs**	**89.99**	**230**	P	**P**		**06 18 43.7**	**-0.9**
	0.4nm,0.7s,baz=32,slow=5.5,SNR=2.8							

*ISCJB **16** 06:06:43.7±1.4, 4°.4S±0°.1 × 153°.7E±0°.2, h33km, mb3.9/7, Error ellipse: s-maj=33.9km s-min=17.0km az=0.0*
*IDC **16** 06:06:58.2±15.0, 4°.54S × 153°.36E, h141km±125km, mb3.6/7, mb1 3.8/7, mb1mx3.5/37, mbtmp4.0/7, Error ellipse: s-maj=74.6km s-min=22.2km az=73.0*
ISC 16 06:06:44.8±1.4, 4°.3S±0°.1 × 153°.8E±0°.3, h35km, n15, σ1§50/15, mb4.0/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.34**	**232**	S		Sn	06 10 23.9	+7.7
	baz=1.1,SNR=3.3							
QIS	**Mount Isa**	**21.26**	**219**	P	**P**		**06 11 32.2**	**+3.9**
	baz=14,SNR=4.6							
KDU	**Kakadu**	**22.69**	**247**	P	**P**		**06 11 43.1**	**-0.5**
	baz=16,SNR=3.4							
QLP	**Quilpie**	**23.96**	**202**	P	**P**		**06 11 56.7**	**+0.7**
	baz=17,SNR=15							
WRA	**Warramunga Arr**	**24.54**	**229**	P	**P**		**06 11 59.9**	**-1.5**
	7.4nm,0.6s,baz=54,slow=10.0,SNR=42							
ASAR	**Alice Springs**	**27.20**	**223**	P	**P**		**06 12 24.8**	**-0.7**
	0.7nm,0.4s,baz=56,slow=8.9,SNR=14							
ASAR				PcP	**PcP**		**06 15 44.4**	**-1.0**
	0.4nm,0.7s,baz=46,slow=4.0,SNR=4.9							
STKA	**Stephens Creek**	**29.72**	**201**	P	**P**		**06 12 47.5**	**-0.3**
	1.9nm,0.3s,baz=11,slow=12,SNR=8.8							
WRKA	**Warakurna**	**32.04**	**228**	P	**P**		**06 13 07.1**	**-1.4**
	baz=24,SNR=7.5							
HTT	**Hallett**	**32.13**	**204**	P	**P**		**06 13 09.2**	**+0.1**
	baz=25,SNR=5.6							
MEEK	**Meekatharra**	**40.31**	**233**	P	**P**		**06 14 17.9**	**-1.2**
	baz=33,SNR=4.9							
CMAR	**Chiang Mai Arr**	**58.62**	**295**	P	**P**		**06 16 39.1**	**+0.2**
	1.0nm,0.3s,baz=116,slow=4.1,SNR=4.3							
SONM	**Songino Array**	**66.49**	**327**	P	**P**		**06 17 32.3**	**+1.2**
	0.2nm,0.3s,baz=134,slow=4.2,SNR=2.2							
VNDA	**Vanda**	**73.26**	**178**	P	**P**		**06 18 12.8**	**+0.7**
	1.0nm,0.6s,baz=319,slow=6.2,SNR=6.7							
MKAR	**Makanchi Array**	**80.66**	**319**	P	**P**		**06 18 54.2**	**-0.1**
	0.5nm,0.8s,baz=98,slow=4.4,SNR=4.0							
TORD	**Torodi Ar. Bea**	**151.14**	**289**	PKPbc	**PKPbc**		**06 26 34.1**	**-1.4**
	1.8nm,0.7s,baz=74,slow=2.2,SNR=12							

IDC 16 06:11:21.2±2.7, 4°.36S × 153°.79E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/40, mbtmp3.9/4, Error ellipse: s-maj=93.7km s-min=30.2km az=102.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.48**	**229**	P	P		06 16 42.5	+0.2
	4.3nm,0.5s,baz=54,slow=10.0,SNR=42							
ASAR	**Alice Springs**	**27.14**	**223**	P	P		06 17 06.4	0.0
	0.3nm,0.4s,baz=54,slow=9.1,SNR=10							
STKA	**Stephens Creek**	**29.67**	**201**	P	P		06 17 29.1	+0.3
	1.3nm,0.3s,baz=23,slow=11,SNR=5.4							
MKAR	**Makanchi Array**	**80.65**	**319**	P	P		06 23 37.0	+0.9
	0.1nm,0.4s,baz=103,slow=6.5,SNR=2.9							
TORD	**Torodi Ar. Bea**	**151.10**	**289**	PKPbc	PKPbc		06 31 15.8	-1.7
	1.2nm,0.7s,baz=83,slow=2.8,SNR=7.5							

*ISCJB **16** 06:16:12.0±0.9, 43°.13N±0°.05 × 144°.35E±0°.05, h87km±8km, Error ellipse: s-maj=8.3km s-min=5.1km az=162.0*
*SKHL **16** 06:16:12.8±0.3, 42°.73N × 144°.64E, h55km±4km, mb4.3/2*
*JMA **16** 06:16:12.1, 43°.14N × 144°.35E, h88km±1km, M2.6*
ISC 16 06:16:12.5±1.7, 43°.12N±0°.06 × 144°.35E±0°.04, h86km±11km, n16, σ0§62/27, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.28**	**116**	P	**Pn**		**06 16 25.3**	**0.0**
JAK				*eS*	**Sn**		**06 16 35.3**	**+0.5**
JOB	**Onbets**	**0.44**	**241**	P	**Pn**		**06 16 26.6**	**+0.3**
JOB				*eS*	**Sn**		**06 16 37.0**	**+0.5**
JAR	**Ashorobuto**	**0.46**	**293**	P	**Pn**		**06 16 26.3**	**-0.2**
JAR				*eS*	**Sn**		**06 16 36.7**	**-0.2**
JNK	**Nakash**	**0.54**	**30**	P	**Pn**		**06 16 26.8**	**-0.3**
JNK				*eS*	**Sn**		**06 16 37.8**	**-0.2**
JCH	**Churui**	**0.89**	**236**	P	**Pn**		**06 16 30.7**	**+0.1**
JCH				*eS*	**Sn**		**06 16 44.2**	**+0.1**
JTKR	**Abashiri--Toko**	**0.91**	**339**	P	**Pn**		**06 16 30.8**	**0.0**
JTKR				*eS*	**Sn**		**06 16 44.2**	**-0.4**
JRA	**Rausu**	**0.99**	**34**	P	**Pn**		**06 16 31.8**	**+0.1**
JRA				*eS*	**Sn**		**06 16 46.7**	**+0.5**
NEM2	**Nemuro 2**	**1.04**	**76**	P	**Pn**		**06 16 31.7**	**-0.7**
NEM2				*eS*	**Sn**		**06 16 46.3**	**-1.0**
JMP	**Maruseppu**	**1.14**	**321**	P	**Pn**		**06 16 33.3**	**-0.3**
JMP				*eS*	**Sn**		**06 16 48.9**	**-0.6**
JFR	**Furan**	**1.29**	**273**	P	**Pn**		**06 16 35.7**	**+0.3**
JKK2	**Kamakawa 2**	**1.39**	**303**	P	**Pn**		**06 16 36.6**	**0.0**
JKK2				*eS*	**Sn**		**06 16 54.7**	**-0.2**
YUK	**Yuzh-Kuril'sk**	**1.43**	**50**	*i* P	**Pn**		**06 16 37.9**	**+0.8**
YUK				AMB	AMB		06 16 38.1	
	10.0nm,0.1s							
YUK				AMB	AMB		06 16 38.1	
	50nm,0.1s							
YUK				*i* S	**Sn**		**06 16 57.0**	**+1.4**
YUK				A	A		06 16 57.6	
	180nm,0.3s							
YUK				A	A		06 16 57.6	
	100nm,0.3s							
JNBK	**Urakawa-nobuka**	**1.45**	**235**	P	**Pn**		**06 16 37.0**	**-0.3**
SHO	**Shikotan**	**1.95**	**67**	*eP*	**Pn**		**06 16 43.6**	**-0.2**
SHO				AMB	AMB		06 16 44.7	
	160nm,1.0s							
SHO				*eS*	**Sn**		**06 17 06.5**	**-1.3**
SHO				A	A		06 17 08.9	
	140nm,0.2s							
KUR	**Kuril'sk**	**3.29**	**49**	*eS*	**Sn**		**06 17 41.0**	**+1.1**
KUR				A	A		06 17 46.5	
	90nm,0.7s							
YSS	**Yuzh-Sakhalins**	**4.00**	**344**	*eP*	Pn		06 17 18.2	+6.9
YSS				*eS*	Sn		06 18 07.5	+11
YSS				A	A		06 18 08.3	
	140nm,0.3s							

*ISCJB **16** 06:18:30.6±0.4, 73°.31N±0°.03 × 8°.0E±0°.2, h10km, mb4.0/30, MS3.9/30, Error ellipse: s-maj=6.7km s-min=3.9km az=166.6*
*CSEM **16** 06:18:30.2±0.2, 73°.37N × 7°.59E, h2km, mb4.4/13, Error ellipse: s-maj=6.0km s-min=3.9km az=74.0*
*IDC **16** 06:18:31.0±0.5, 73°.29N × 7°.22E, h0km, mb3.8/19, mb1 4.0/26, mb1mx3.8/60, mbtmp3.9/26, ML3.7/6, MS4.0/26, Ms1 4.0/26, ms1mx3.8/49, Error ellipse: s-maj=13.9km s-min=9.4km az=51.0*
*MOS **16** 06:18:31.6±2.1, 73°.45N × 8°.02E, h10km, mb4.3/19, Error ellipse: s-maj=27.3km s-min=5.8km az=94.6*
*NEIC **16** 06:18:32.1±0.4, 73°.32N × 7°.33E, h10km, mb4.4/7, Error ellipse: s-maj=9.0km s-min=6.7km az=64.0*
*BER **16** 06:18:33.4±2.3, 73°.35N × 7°.92E, h10km, MD3.0, ML2.8, ML4.0(NAO)*
*UPP **16** 06:18:44.6, 72°.56N × 9°.08E, h0km, ML2.2*
ISC 16 06:18:33.0±0.5, 73°.43N±0°.04 × 8°.01E±0°.06, h10km, n182, σ1§90/177, mb4.0/30, MS3.9/30, 2C-6D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BJO	**Bjornoya**	**3.29**	**65**	Pn	**Pn**		**06 19 22.8**	**-1.6**
BJO	**Bjornoya**	**3.29**	**65**	Pn	**Pn**		**06 19 22.8**	**-1.6**
BJO	**Bjornoya**	**3.29**	**65**	Pn	**Pn**		**06 19 22.8**	**-1.6**
	SNR=50							
HSPB	**Hornsund (broa**	**4.08**	**25**	*eP*	**Pn**		**06 19 34.6**	**-0.6**
HSPB	**Hornsund (broa**	**4.08**	**25**	*eP*	**Pn**		**06 19 34.6**	**-0.6**
	SNR=49							
HSP	**Hornsund**	**4.08**	**25**	Pn	**Pn**		**06 19 34.1**	**-1.2**
HSP	**Hornsund**	**4.08**	**25**	Pn	**Pn**		**06 19 34.1**	**-1.2**
TRO	**Tromso**	**5.15**	**132**	*eP*	**Pn**		**06 19 48.2**	**-1.8**
TRO				*eS*	Sn		06 20 42.0	-7.3
TRO				IAML			06 20 49.6	
	comp=Z,39nm,0.7s							
TRO	**Tromso**	**5.15**	**132**	*eP*	**Pn**		**06 19 48.2**	**-1.8**
	SNR=49							
SPA0	**Spitsbergen Ar**	**5.19**	**19**	Pn	**Pn**		**06 19 50.3**	**-0.3**
	baz=203,slow=16							
SPA0				Sn	**Sn**		**06 20 46.9**	**-3.6**
SPA0	**Spitsbergen Ar**	**5.19**	**19**	Pn	**Pn**		**06 19 50.3**	**-0.3**
	baz=203,slow=16							
SPA0				Sn	**Sn**		**06 20 46.9**	**-3.6**
SPA0	**Spitsbergen Ar**	**5.19**	**19**	Pn	**Pn**		**06 19 50.3**	**-0.3**
	baz=203,slow=14,SNR=50							
SPITS	**Spitsbergen Ar**	**5.19**	**19**	Pn	**Pn**		**06 19 50.4**	**-0.2**
	baz=189,slow=15,SNR=528							
SPITS				Sn	**Sn**		**06 20 46.6**	**-3.8**
	baz=194,slow=24,SNR=1.1							
SPITS				LR	LR		06 21 40.3	
	comp=Z,1μm,19.6s,baz=230,slow=35							
HOPEN	**Hopen**	**5.38**	**47**	Pn	**Pn**		**06 19 52.8**	**-0.4**
HOPEN	**Hopen**	**5.38**	**47**	*eP*	**Pn**		**06 19 52.8**	**-0.4**
HOPEN				Pn	**Pn**		**06 19 52.8**	**-0.4**
HOPEN	**Hopen**	**5.38**	**47**	*eP*	**Pn**		**06 19 52.8**	**-0.4**
	SNR=49							
KBS	**Kingsbay**	**5.61**	**8**	Pn	**Pn**		**06 19 54.9**	**-1.4**
KBS	**Kingsbay**	**5.61**	**8**	*eP*	**Pn**		**06 19 55.2**	**-1.0**
KBS	**Kingsbay**	**5.61**	**8**	*eP*	**Pn**		**06 19 55.2**	**-1.0**
KBS				*e*			06 21 05.8	
KBS				pmax	pmax			
	comp=Z,5.0nm,0.5s							
KBS	**Kingsbay**	**5.61**	**8**	Pn	**Pn**		**06 19 54.9**	**-1.4**
KBS	**Kingsbay**	**5.61**	**8**	*eP*	**Pn**		**06 19 55.2**	**-1.0**
	SNR=49							
KBS	**Kingsbay**	**5.61**	**8**	*ePn*	**Pn**		**06 19 55.2**	**-1.0**
	comp=Z,5.0nm,0.5s							
KBS				*eSn*	**Sn**		**06 21 05.8**	**+5.2**
JMIC	**Jan Mayen**	**5.61**	**252**	Pn	Pn		06 19 51.6	-4.7
JMIC	**Jan Mayen**	**5.61**	**252**	Pn	Pn		06 19 51.4	-5.0
	comp=Z,8.6nm,0.3s,baz=35,slow=3.7,SNR=4.3							
JMIC				LR	LR		06 21 31.4	
	comp=Z,945nm,21.0s,baz=64,slow=34							
JMIC	**Jan Mayen**	**5.61**	**252**	Pn	Pn		06 19 51.6	-4.7
LOF	**Lofoten**	**5.62**	**158**	*eP*	**Pn**		**06 19 53.8**	**-2.7**
LOF				*eS*	Sn		06 20 51.3	-10
LOF				IAML			06 20 54.6	
	comp=Z,38nm,0.5s							
LOF				*eT*	T		06 24 49.5	
LOF	**Lofoten**	**5.62**	**158**	*eP*	**Pn**		**06 19 53.8**	**-2.7**
	SNR=49							
STEI	**Steigen**	**6.02**	**153**	*eP*	**Pn**		**06 20 00.6**	**-1.3**
STEI				*eS*	Sn		06 21 02.6	-8.1
STEI				IAML			06 21 08.1	
	comp=Z,7.9nm,0.3s							
STEI	**Steigen**	**6.02**	**153**	*eP*	**Pn**		**06 20 00.6**	**-1.3**
	SNR=49							
KTK1	**Kautokeino**	**6.60**	**125**	*e*	**Pn**		**06 20 10.9**	**+1.0**
NIKU	**Nikkaluokta**	**6.67**	**141**	P	**Pn**		**06 20 09.9**	**-0.9**
	baz=344							
NIKU	**Nikkaluokta**	**6.67**	**141**	P	**Pn**		**06 20 09.9**	**-0.9**
	baz=344							
ARA0	**ARCESS Array S**	**6.79**	**116**	Pn	**Pn**		**06 20 11.5**	**-0.9**
	baz=318,slow=12							
ARA0				Sn	**Sn**		**06 21 24.6**	**-5.0**
	baz=317,slow=22							
ARA0	**ARCESS Array S**	**6.79**	**116**	Pn	**Pn**		**06 20 11.2**	**-1.3**
	baz=318,slow=12							
ARA0				Sn	**Sn**		**06 21 24.6**	**-5.0**
	baz=317,slow=22							
ARA0	**ARCESS Array S**	**6.79**	**116**	Pn	**Pn**		**06 20 11.5**	**-0.9**
	baz=318,slow=12,SNR=211							
ARCES	**ARCESS Array B**	**6.79**	**116**	Pn	**Pn**		**06 20 11.8**	**-0.6**
	comp=Z,2.9nm,0.3s,baz=321,slow=13,SNR=106							
ARCES				Sn	**Sn**		**06 21 26.7**	**-3.0**
	comp=Z,2.7nm,0.3s,baz=312,slow=22,SNR=8.2							
ARCES	**ARCESS Array B**	**6.79**	**116**	P	**Pn**		**06 20 11.8**	**-0.6**
ARCES							06 21 26.7	
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.3s							
ARCES				smax	smax			
	comp=N,3.0nm,0.3s							
ARE0	**ARCESS Array S**	**6.79**	**116**	*eP*	**Pn**		**06 20 12.1**	**-0.3**
ARE0	**ARCESS Array S**	**6.79**	**116**	*eP*	**Pn**		**06 20 12.1**	**-0.3**
	SNR=47							
KUA	**Kurravaara**	**6.83**	**137**	P	**Pn**		**06 20 12.6**	**-0.5**
KUA	**Kurravaara**	**6.83**	**137**	P	**Pn**		**06 20 12.6**	**-0.5**
KUA				S	Sn		06 21 21.0	-10
SALU	**Saltoluokta**	**7.01**	**145**	P	**Pn**		**06 20 13.9**	**-1.7**
SALU	**Saltoluokta**	**7.01**	**145**	P	**Pn**		**06 20 13.9**	**-1.7**
LANU	**Lannavaara**	**7.09**	**133**	P	**Pn**		**06 20 16.0**	**-0.6**
LANU	**Lannavaara**	**7.09**	**133**	P	**Pn**		**06 20 16.1**	**-0.6**
KONS	**Konsvik**	**7.18**	**163**	*eP*	**Pn**		**06 20 15.7**	**-2.1**
KONS				*eS*	Sn		06 21 27.9	-11
KONS				IAML			06 21 34.1	
	comp=Z,12nm,0.4s							
KONS	**Konsvik**	**7.18**	**163**	*eP*	**Pn**		**06 20 15.6**	**-2.1**
	SNR=47							
STOK	**Stokkvaagen**	**7.33**	**164**	*eP*	**Pn**		**06 20 17.9**	**-2.0**
STOK				*eS*	Sn		06 21 33.0	-10
STOK				IAML			06 21 36.5	
	comp=Z,9.8nm,0.6s							
STOK	**Stokkvaagen**	**7.33**	**164**	*eP*	**Pn**		**06 20 17.9**	**-2.0**
	SNR=47							
FLOS	**Flostrand**	**7.36**	**163**	*ePn*	Pb		06 20 32.7	-7.9
FLOS				*eS*	**Sn**		**06 21 48.6**	**+5.0**
FLOS				IAML			06 21 55.4	
	comp=Z,14nm,0.3s							
MASU	**Masugnsbyn**	**7.59**	**135**	P	**Pn**		**06 20 22.9**	**-0.6**
MASU	**Masugnsbyn**	**7.59**	**135**	P	**Pn**		**06 20 22.9**	**-0.6**
MOR8	**Moi Rana**	**7.62**	**160**	*ePn*	**Pn**		**06 20 21.4**	**-2.4**
MOR8				*eSn*	Sn		06 21 39.7	-10
MOR8				IAML			06 21 41.4	
	comp=Z,15nm,0.4s							
MOR8	**Moi Rana**	**7.62**	**160**	*ePn*	**Pn**		**06 20 21.5**	**-2.4**
	SNR=50							
PAJU	**Pajala**	**8.19**	**134**	P	**Pn**		**06 20 31.2**	**-0.5**
PAJU	**Pajala**	**8.19**	**134**	P	**Pn**		**06 20 31.2**	**-0.5**
ERTU	**Ertsjaerv**	**8.41**	**138**	P	**Pn**		**06 20 34.4**	**-0.3**
ERTU	**Ertsjaerv**	**8.41**	**138**	P	**Pn**		**06 20 34.4**	**-0.3**
HARU	**Harads**	**8.54**	**142**	P	**Pn**		**06 20 35.1**	**-1.3**
HARU	**Harads**	**8.54**	**142**	P	**Pn**		**06 20 35.1**	**-1.3**
SJUU	**Sjulsmark**	**9.24**	**142**	P	**Pn**		**06 20 44.1**	**-2.0**
SJUU	**Sjulsmark**	**9.24**	**142**	P	**Pn**		**06 20 44.1**	**-2.0**
APA0	**Apatity Array**	**10.10**	**113**	Pn	**Pn**		**06 20 56.2**	**-1.6**
	baz=316,slow=11							
APA0	**Apatity Array**	**10.10**	**113**	Pn	**Pn**		**06 20 56.2**	**-1.6**
	baz=316,slow=11							
APA0	**Apatity Array**	**10.10**	**113**	Pn	**Pn**		**06 20 56.2**	**-1.6**
	baz=316,slow=11,SNR=50							
LVZ	**Lovozero**	**10.34**	**109**	*eP*	**Pn**		**06 20 59.0**	**-2.1**
LVZ				pmax	pmax			
	comp=Z,83nm,1.7s							
LVZ	**Lovozero**	**10.34**	**109**	*eP*	**Pn**		**06 20 59.0**	**-2.1**
	comp=Z,83nm,1.7s							
LVZ	**Lovozero**	**10.34**	**109**	*ePn*	**Pn**		**06 20 58.9**	**-2.3**
	comp=Z,700nm,1.1s							
LVZ				*eSn*	Sn		06 22 48.8	-8.1
NB2	**NORSAR Subarra**	**12.50**	**173**	Pn	**Pn**		**06 21 28.7**	**-2.0**
	baz=354,slow=16							
NB2	**NORSAR Subarra**	**12.50**	**173**	Pn	Pn		06 21 27.4	-3.3
	comp=Z,1.6nm,0.6s,baz=355,slow=14							
NB2	**NORSAR Subarra**	**12.50**	**173**	Pn	**Pn**		**06 21 28.7**	**-2.0**
	baz=354,slow=16							
NB2	**NORSAR Subarra**	**12.50**	**173**	Pn	**Pn**		**06 21 28.7**	**-2.0**
	baz=354,slow=14,SNR=50							
NOA	**NORSAR Array B**	**12.50**	**173**	Pn	**Pn**		**06 21

NKC *e* 06 23 42.0
NKC MLR MLR
comp=Z,200nm,14.4s
NKC Novy Kostel 23.36 173 *eP* **P 06 23 40.4 -0.8**
DPC Dobruska-Polom 23.44 167 *eP* **P 06 23 42.2 +0.2**
DPC *epP* **pP 06 23 46.1 +1.1**
DPC *ex* x 06 23 52.3
DPC AMS AMS 06 32 20.0
DPC Dobruska-Polom 23.44 167 *eP* **P 06 23 42.2 +0.2**
DPC *e* 06 23 46.1
BAIF Baives 23.51 186 *eP* **P 06 23 44.1 +1.4**
comp=Z,8.0nm,0.8s
BAIF Baives 23.51 186 *eP* **P 06 23 44.1 +1.4**
BAIF pmax pmax
comp=Z,8.0nm,0.8s
BAIF Baives 23.51 186 *eP* **P 06 23 44.1 +1.4**
comp=Z,8.0nm,0.8s
PRU Pruhonice 23.70 169 *eP* **P 06 23 45.5 +1.0**
PRU AMS AMS 06 32 40.0
comp=Z,400nm,21.7s
PRU Pruhonice 23.70 169 *eP* **P 06 23 45.5 +1.0**
PRU MLR MLR
comp=Z,400nm,21.7s
KRLC Kraliky 23.75 166 *eP* **P 06 23 47.1 +2.1**
KRLC *epP* **pP 06 23 49.2 +1.2**
KRLC Kraliky 23.75 166 *eP* **P 06 23 47.1 +2.1**
KRLC *e* 06 23 49.2
GOPC GO Pecny, Ondr 23.78 169 AMS AMS 06 32 30.0
comp=Z,300nm,17.4s
OKC Ostrava-Krasne 24.09 164 AMS AMS 06 33 00.0
comp=Z,400nm,16.2s
TREC Trest 24.44 168 AMS AMS 06 33 00.0
comp=Z,400nm,17.5s
VRAC Vranov 24.50 166 P **P 06 23 51.9 -0.1**
comp=Z,7.4nm,0.8s,baz=349,slow=9.0,SNR=8.0
VRAC LR LR 06 33 42.3
comp=Z,402nm,18.3s,baz=360,slow=37
VRAC Vranov 24.50 166 P **P 06 23 51.9 -0.1**
VRAC pmax pmax
comp=Z,7.0nm,0.8s
VRAC MLR MLR
comp=Z,402nm,18.3s
KHC Kasperske Hory 24.50 171 *eP* P 06 23 58.6 +6.5
KHC *ex* x 06 24 09.8
KHC AMS AMS 06 33 30.0
KHC Kasperske Hory 24.50 171 *eP* P 06 23 58.6 +6.5
AKASG Malin Array Be 24.57 146 P **P 06 23 51.7 -0.9**
comp=Z,0.7nm,0.4s,baz=341,slow=10.0,SNR=5.5
AKASG LR LR 06 33 26.1
comp=Z,562nm,19.9s,baz=350,slow=36
AKASG Malin Array Be 24.57 146 P **P 06 23 51.7 -0.9**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG MLR MLR
comp=Z,562nm,20.0s
KIEV Kiev 24.58 146 *eP* **P 06 23 52.1 -0.6**
KIEV pmax pmax
comp=Z,12nm,1.3s
KIEV Kiev 24.58 146 *eP* **P 06 23 52.1 -0.6**
comp=Z,12nm,1.3s
GERES GERESS Array B 24.80 171 P **P 06 23 54.3 -0.5**
comp=Z,2.9nm,0.8s,baz=2.9,slow=8.0,SNR=14
GERES LR LR 06 33 39.1
comp=Z,224nm,18.5s,baz=342,slow=37
GERES GERESS Array B 24.80 171 P **P 06 23 54.3 -0.5**
GERES pmax pmax
comp=Z,3.0nm,0.8s
GERES MLR MLR
comp=Z,224nm,18.5s
RES Resolute Bay 24.98 322 LR LR 06 33 34.1
comp=Z,278nm,19.2s,baz=42,slow=36
FLN La Foliniere 25.03 193 *eP* **P 06 23 59.5 +2.7**
FLN La Foliniere 25.03 193 *eP* **P 06 23 59.5 +2.7**
FLN La Foliniere 25.03 193 *eP* **P 06 23 59.5 +2.7**
LDF La Druitiere 25.18 193 *eP* **P 06 24 00.8 +2.7**
comp=Z,61nm,1.5s
LDF La Druitiere 25.18 193 *eP* **P 06 24 00.8 +2.7**
LDF pmax pmax
comp=Z,61nm,1.5s
LDF La Druitiere 25.18 193 *eP* **P 06 24 00.8 +2.7**
comp=Z,61nm,1.5s
BFO Black Forest 25.18 179 *i* P **P 06 24 00.9 +2.7**
ARU Arti 26.13 103 *d i* P **P 06 24 07.7 +1.0**
ARU 06 24 42.0
ARU S **S 06 28 41.2 +3.4**
ARU pmax pmax
comp=Z,11nm,1.2s
ARU Arti 26.13 103 *i* P **P 06 24 07.7 +1.0**
comp=Z,11nm,1.2s
ARU S **S 06 28 41.2 +3.4**
ARU Arti 26.13 103 *eP* **P 06 24 08.3 +1.6**
comp=Z,9.6nm,1.1s
DAVOX Davos/Dischmat 26.75 177 LR LR 06 34 06.9
comp=Z,180nm,20.6s,baz=322,slow=35
AVF Avril sur Loir 26.81 187 *eP* **P 06 24 15.2 +2.4**
comp=Z,23nm,1.3s
AVF Avril sur Loir 26.81 187 *eP* **P 06 24 15.2 +2.4**
AVF pmax pmax
comp=Z,23nm,1.3s
AVF Avril sur Loir 26.81 187 *eP* **P 06 24 15.2 +2.4**
comp=Z,23nm,1.3s
FRB Frobisher Bay 27.42 290 LR LR 06 34 38.0
comp=Z,241nm,18.2s,baz=19,slow=36
MLR Muntele Rosu 29.20 154 LR LR 06 36 28.8
comp=Z,125nm,19.2s,baz=0.5,slow=37
AKTK Aktyubinsk 31.31 109 P **P 06 24 54.2 +1.4**
comp=Z,264nm,21.0s
AKTO Aktyubinsk 31.31 109 P **P 06 24 54.2 +1.4**
comp=Z,1.5nm,0.7s,baz=314,slow=7.2,SNR=5.4
AKTO LR LR 06 38 05.4
comp=Z,264nm,21.0s,baz=349,slow=37
AKTO Aktyubinsk 31.31 109 P **P 06 24 54.2 +1.4**
AKTO pmax pmax
comp=Z,2.0nm,0.7s
AKTO MLR MLR
comp=Z,264nm,21.0s
BRVK Borovoye 32.40 94 *eP* **P 06 25 02.4 0.0**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BRVK MLR MLR
comp=Z,224nm,15.0s
BRVK Borovoye 32.40 94 *eP* **P 06 25 02.4 0.0**
comp=Z,224nm,15.0s
BVAR Borovoye Array 32.46 94 P **P 06 25 05.0 +2.1**
comp=Z,3.8nm,0.8s,baz=335,slow=10.0,SNR=7.6
BVAR Borovoye Array 32.46 94 P **P 06 25 05.0 +2.1**
BVAR pmax pmax
comp=Z,4.0nm,0.8s
BVAR Borovoye Array 32.46 94 P **P 06 25 05.0 +2.1**
comp=Z,4.0nm,0.8s
ABKAR Akbulak array 32.90 108 *eP* **P 06 25 07.4 +0.6**
comp=Z,1.5nm,0.7s
ABKAR Akbulak array 32.90 108 *eP* **P 06 25 07.4 +0.6**
comp=Z,1.5nm,0.7s
ABKAR *ePP* **PP 06 26 21.7 +0.7**
KIV Kislovodsk 33.59 132 *eP* **P 06 25 15.3 +2.3**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,200nm,15.0s
KBZ Khabaz 33.85 132 LR LR 06 39 11.5
comp=Z,345nm,21.9s,baz=86,slow=37
SCHQ Schefferville 34.44 279 LR LR 06 37 36.7
comp=Z,278nm,21.6s,baz=53,slow=34
ZALV Zalesovo Beam 35.77 80 P P 06 25 34.8 +3.2
comp=Z,0.5nm,0.3s,baz=310,slow=9.2,SNR=2.8
ZALV LR LR 06 43 08.9
comp=Z,181nm,18.7s,baz=70,slow=41
ZALV Zalesovo Beam 35.77 80 P P 06 25 34.8 +3.2
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV MLR MLR
comp=Z,181nm,18.7s
BRTR Keskin Array B 35.97 145 P **P 06 25 34.5 +0.9**
comp=Z,1.1nm,0.7s,baz=1.1,slow=6.9,SNR=4.9
BRTR LR LR 06 41 15.8
comp=Z,157nm,20.5s,baz=348,slow=38
BRTR Keskin Array B 35.97 145 P **P 06 25 34.5 +0.9**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR MLR MLR
comp=Z,157nm,20.5s
KURK Kurchatov 36.87 88 *eP* **P 06 25 40.6 -0.4**
KURK pmax pmax
comp=Z,7.0nm,1.4s
KURK Kurchatov 36.87 88 *eP* **P 06 25 40.6 -0.4**
comp=Z,6.9nm,1.4s
KURK Kurchatov 36.87 88 *eP* **P 06 25 40.6 -0.4**
comp=Z,7.0nm,1.4s
GNI Garni 37.67 131 ||*eP* P 06 25 51.2 +3.1
GNI pmax pmax
comp=Z,4.0nm,0.6s
GNI MLR MLR
comp=Z,267nm,25.0s
YKA Yellowknife Ar 39.05 322 P **P 06 25 57.3 -1.9**
comp=Z,0.3nm,0.7s,baz=16,slow=8.3,SNR=5.0
YKA PcP **PcP 06 28 07.7 -1.1**
comp=Z,0.6nm,0.7s,baz=14,slow=3.2,SNR=10
ILAR Eielson Array 41.05 344 P **P 06 26 16.1 +0.3**
comp=Z,0.7nm,0.8s,baz=5.8,slow=7.4,SNR=7.3
ILAR Eielson Array 41.05 344 P **P 06 26 16.2 +0.3**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 41.46 87 P **P 06 26 20.7 +1.3**
comp=Z,0.7nm,0.9s,baz=316,slow=10.0,SNR=4.3
MKAR LR LR 06 46 25.8
comp=Z,293nm,19.8s,baz=348,slow=40
MKAR Makanchi Array 41.46 87 P **P 06 26 20.7 +1.3**
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR MLR MLR
comp=Z,293nm,19.8s
SEY Seymchan 41.83 24 P **P 06 26 23.4 +1.2**
comp=Z,1.3nm,0.3s,baz=323,slow=20,SNR=4.6
SEY Seymchan 41.83 24 P **P 06 26 23.4 +1.2**
SEY pmax pmax
comp=Z,1.0nm,0.3s
GEYT Alibeck 42.95 117 P **P 06 26 33.0 +1.3**
comp=Z,1.8nm,0.6s,baz=327,slow=11,SNR=3.7
GEYT LR LR 06 46 00.3
comp=Z,342nm,21.4s,baz=330,slow=38
ULM Lac du Bonnet 46.35 301 P **P 06 26 57.2 -1.4**
comp=Z,1.1nm,0.7s,baz=38,slow=8.6,SNR=2.8
ULM PcP **PcP 06 28 33.8 +0.4**
comp=Z,1.5nm,0.8s,baz=37,slow=5.1,SNR=3.4
ULM LR LR 06 46 10.8
comp=Z,303nm,18.3s,baz=40,slow=36
ULM Lac du Bonnet 46.35 301 P **P 06 26 57.2 -1.4**
ULM 06 28 33.8
ULM pmax pmax
comp=Z,1.0nm,0.7s
ULM pmax pmax
comp=Z,2.0nm,0.8s
ULM MLR MLR
comp=Z,303nm,18.3s
SONM Songino Array 47.18 65 P **P 06 27 07.1 +1.8**
comp=Z,1.1nm,0.9s,baz=323,slow=3.6,SNR=4.3
SONM Songino Array 47.18 65 P **P 06 27 07.1 +1.8**
SONM pmax pmax
comp=Z,1.0nm,0.9s
HHC Hu-ho-hao-te 55.03 64 *eP* **P 06 28 07.1 +2.8**
HHC PP **PP 06 30 11.3 +4.3**
HHC S **S 06 35 46.8 +0.5**
PDAR Pinedale Array 56.61 309 P **P 06 28 15.3 -0.5**
comp=Z,0.4nm,0.6s,baz=47,slow=8.0,SNR=3.4
PDAR LR LR 06 52 42.5
comp=Z,168nm,18.2s,baz=32,slow=36
TORD Torodi Ar. Bea 60.37 187 P **P 06 28 41.1 -0.8**
comp=Z,1.7nm,1.2s,baz=346,slow=6.9,SNR=4.3
NVAR Mina Array Bea 62.65 315 P **P 06 28 57.0 -0.4**
comp=Z,0.4nm,0.8s,baz=15,slow=2.7,SNR=4.1
TXAR Lajitas Array 68.02 299 P P 06 29 29.4 -2.7
comp=Z,0.3nm,0.9s,baz=30,slow=7.3,SNR=2.7
TXAR LR LR 06 59 19.3
comp=Z,196nm,18.1s,baz=0.0,slow=36
ATAH Atahualpa 95.76 265 LR LR 07 11 53.9
comp=Z,31nm,20.0s,baz=20,slow=34
SIV San Ignacio 99.42 246 LR LR 07 11 36.4
comp=Z,69nm,18.8s,baz=0.0,slow=32
ASAR Alice Springs 122.46 62 PKP **PKPdf 06 37 26.4 -1.5**
comp=Z,0.3nm,0.6s,baz=2.4,slow=2.5,SNR=6.8

ISCJB ***16*** *06:18:36.6±0.3, 57.°71N±0.°03×155.°60W±0.°05, h107km±2km, mb3.8/18, Error ellipse: s-maj=6.3km s-min=3.5km az=147.3*
NEIC ***16*** *06:18:39.7, 57.°69N×155.°65W, h81km, MG3.9(AEIC), After AEIC.*
IDC ***16*** *06:18:42.2±2.5, 58.°27N×156.°01W, h113km±20km, mb3.5/19, mb1 3.7/22, mb1mx3.5/64, mbtmp3.9/22, Error ellipse: s-maj=21.3km s-min=12.6km az=4.0*
ISC 16 06:18:37.6±0.7, 57.°73N±0.°05×155.°60W±0.°04, h102km±5km, n131, σ1s25/147, mb3.8/18, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PLK3	**Peulik 3**	**0.36**	**264**	P	**Pn**		**06 18 52.3**	**-0.4**
PLK3				S	**Sn**		**06 19 03.0**	**-1.1**
PLK2	**Peulik 2**	**0.39**	**276**	P	**Pn**		**06 18 52.4**	**-0.5**
KABR	**Katmai Barrier**	**0.53**	**39**	P	**Pn**		**06 18 53.7**	**-0.1**
KCE	**Katmai Mt Cerb**	**0.56**	**23**	P	**Pn**		**06 18 54.4**	**+0.3**
KABU	**Katmai Buttres**	**0.57**	**17**	P	**Pn**		**06 18 54.3**	**+0.1**
KABU				S	**Sn**		**06 19 07.2**	**+0.5**
KAKN	**Katmai Knife C**	**0.64**	**26**	P	**Pn**		**06 18 54.7**	**-0.1**
KAKN				S	**Sn**		**06 19 06.7**	**-0.9**
PLBL	**Peulik Blue Cr**	**0.66**	**268**	P	**Pn**		**06 18 54.5**	**-0.3**
KVTA	**Katmai Vly 10**	**0.68**	**14**	P	**Pn**		**06 18 55.0**	**0.0**
KELA	**Mount Kelaz**	**0.72**	**354**	P	**Pn**		**06 18 55.1**	**-0.3**
OHAK	**Old Harbor**	**1.35**	**111**	P	**Pn**		**06 19 02.2**	**+0.2**
OHAK				S	**Sn**		**06 19 20.0**	**-0.5**
MCNL	**McNeil River**	**1.60**	**24**	P	**Pn**		**06 19 06.0**	**+0.8**
KDAK	**Kodiak Island**	**1.62**	**87**	P	**Pn**		**06 19 06.0**	**+0.7**
KDAK				S	**Sn**		**06 19 26.4**	**0.0**
AUI	**Augustine Isla**	**1.97**	**34**	P	**Pn**		**06 19 11.2**	**+1.4**
AUI				S	**Sn**		**06 19 36.4**	**+2.0**
AUP	**Augustine Pinn**	**2.00**	**34**	P	**Pn**		**06 19 11.7**	**+1.5**
PDB	**Pedro Bay**	**2.19**	**19**	P	**Pn**		**06 19 13.6**	**+0.9**
OPT	**Oil Point**	**2.29**	**32**	P	**Pn**		**06 19 15.5**	**+1.5**
VNHG	**Veniaminof 1**	**2.47**	**234**	P	**Pn**		**06 19 17.2**	**+0.8**
VNSG	**Veniaminof 6**	**2.50**	**231**	P	**Pn**		**06 19 17.6**	**+0.9**
ILS	**Iliamna Low So**	**2.59**	**29**	P	**Pn**		**06 19 19.4**	**+1.4**
ILW	**Iliamna West**	**2.67**	**28**	P	**Pn**		**06 19 20.3**	**+1.2**
HOM	**Homer**	**2.83**	**45**	P	**Pn**		**06 19 22.6**	**+1.6**
HOM				S	**Sn**		**06 19 56.0**	**+1.6**
RSO	**Redoubt South**	**3.11**	**27**	*e*Pn	**Pn**		**06 19 26.4**	**+1.5**
RSO				*e*Sn	**Sn**		**06 20 03.2**	**+1.8**
RDN	**Redoubt North**	**3.15**	**26**	P	**Pn**		**06 19 27.6**	**+2.2**
NCT	**North Crescent**	**3.16**	**25**	P	**Pn**		**06 19 26.9**	**+1.4**
BRLK	**Bradley Lake**	**3.19**	**48**	P	**Pn**		**06 19 26.3**	**+0.4**
BRLK				S	**Sn**		**06 20 01.7**	**-1.5**
DFR	**Drift River**	**3.24**	**26**	P	**Pn**		**06 19 28.1**	**+1.5**
SVW2	**Sparrevohn**	**3.38**	**0**	P	**Pn**		**06 19 28.8**	**+0.5**
SDPT	**Sand Point**	**3.60**	**231**	P	**Pn**		**06 19 31.3**	**-0.1**
SDPT				S	**Sn**		**06 20 11.2**	**-1.7**
CKL	**Chakachamna La**	**3.86**	**24**	P	**Pn**		**06 19 36.5**	**+1.6**
BGL	**Barrier Glacie**	**3.91**	**23**	P	**Pn**		**06 19 36.8**	**+1.3**
SPBG	**Spurr Blockage**	**3.91**	**24**	P	**Pn**		**06 19 37.3**	**+1.8**
CKN	**Chakachatna No**	**3.92**	**25**	P	**Pn**		**06 19 37.7**	**+2.1**
SLKM	**Skilak Lake**	**3.93**	**43**	P	**Pn**		**06 19 37.1**	**+1.3**
SEW	**Seward**	**3.98**	**51**	P	**Pn**		**06 19 36.3**	**0.0**
STLK	**Strandline Lak**	**4.24**	**25**	P	**Pn**		**06 19 41.7**	**+1.7**
SUA	**Susitna One**	**4.49**	**31**	P	**Pn**		**06 19 44.5**	**+1.1**
RC01	**Rabbit Creek A**	**4.51**	**39**	P	**Pn**		**06 19 43.8**	**+0.3**
DT1	**Dutton Round H**	**4.55**	**238**	P	**Pn**		**06 19 43.6**	**-0.4**
SKT	**Skwentna**	**4.73**	**24**	P	**Pn**		**06 19 46.8**	**+0.2**
PMR	**Palmer**	**5.08**	**38**	P	**Pn**		**06 19 51.9**	**+0.7**
TT01	**Tatalina**	**5.20**	**358**	P	**Pn**		**06 19 54.1**	**+1.3**
GLI	**Glacier Island**	**5.38**	**50**	P	**Pn**		**06 19 54.8**	**-0.6**
PPLA	**Purkeypile**	**5.46**	**17**	P	**Pn**		**06 19 58.5**	**+2.1**
JPK	**Jack Peak**	**5.68**	**50**	P	**Pn**		**06 20 00.3**	**+0.8**
EYAK	**Cordova Ski Ar**	**5.80**	**57**	P	**Pn**		**06 20 01.4**	**+0.3**
VLZ	**Valdez**	**5.83**	**50**	P	**Pn**		**06 20 02.2**	**+0.8**
SCM	**Sheep Creek Mo**	**5.86**	**42**	P	**Pn**		**06 20 02.0**	**+0.1**
CAST	**Castle Rocks**	**5.97**	**15**	P	**Pn**		**06 20 04.5**	**+1.2**
DIV	**Divide**	**6.06**	**52**	P	**Pn**		**06 20 05.2**	**+0.5**
KLU	**Klutina**	**6.19**	**48**	P	**Pn**		**06 20 07.0**	**+0.6**
RAGM	**Ragged Mountai**	**6.23**	**60**	P	**Pn**		**06 20 07.9**	**+0.9**
KTH	**Kantishna Hill**	**6.28**	**20**	P	**Pn**		**06 20 08.3**	**+0.7**
GOAT	**Goat Mountain**	**6.28**	**58**	P	**Pn**		**06 20 08.3**	**+0.7**
TRF	**Thorofare Moun**	**6.31**	**22**	P	**Pn**		**06 20 08.5**	**+0.4**
BMRM	**Bremner River**	**6.49**	**55**	P	**Pn**		**06 20 11.2**	**+0.8**
NICHA	**Nichawak Mount**	**6.52**	**62**	P	**Pn**		**06 20 12.2**	**+1.4**
RND	**Reindeer**	**6.59**	**27**	P	**Pn**		**06 20 11.8**	**-0.1**
DHY	**Denali Highway**	**6.73**	**34**	P	**Pn**		**06 20 14.2**	**+0.4**
BPAW	**Bear Paw Mtn.**	**6.78**	**17**	P	**Pn**		**06 20 14.3**	**+0.1**
GRIN	**Grindle Hills**	**6.84**	**63**	P	**Pn**		**06 20 15.1**	**-0.1**
MCK	**McKinley**	**6.85**	**26**	P	**Pn**		**06 20 15.4**	**+0.1**
KHIT	**Khitrov Hills**	**6.92**	**62**	P	**Pn**		**06 20 16.8**	**+0.5**
HARP	**HAARP**	**7.02**	**44**	P	**Pn**		**06 20 17.9**	**+0.3**
VRDI	**Verde Repeater**	**7.11**	**55**	P	**Pn**		**06 20 19.3**	**+0.4**
KULT	**Kultieth River**	**7.12**	**64**	P	**Pn**		**06 20 20.3**	**+1.3**
BWN	**Browne**	**7.12**	**22**	P	**Pn**		**06 20 19.6**	**+0.7**
WASW	**Wrangell South**	**7.13**	**49**	P	**Pn**		**06 20 20.5**	**+1.2**
PAX	**Paxson**	**7.27**	**39**	P	**Pn**		**06 20 22.4**	**+1.4**
BARK	**Barkley Ridge**	**7.27**	**63**	P	**Pn**		**06 20 22.0**	**+1.0**
MSW	**Makushin Switc**	**7.37**	**244**	P	**Pn**		**06 20 22.7**	**+0.3**
ISLE	**Juniper Island**	**7.40**	**62**	P	**Pn**		**06 20 23.6**	**+0.8**
MESA	**MESA**	**7.47**	**65**	P	**Pn**		**06 20 24.8**	**+0.9**
PS10	**TAPS Pump St10**	**7.48**	**36**	P	**Pn**		**06 20 24.8**	**+0.9**
BAGL	**Bagley Icefiel**	**7.48**	**63**	P	**Pn**		**06 20 25.1**	**+1.2**
KIAG	**Kiagna River**	**7.49**	**59**	P	**Pn**		**06 20 24.8**	**+0.6**
PTPK	**Patty Peak**	**7.53**	**57**	P	**Pn**		**06 20 25.2**	**+0.5**
WRH	**Wood River Hil**	**7.68**	**25**	P	**Pn**		**06 20 25.1**	**-1.4**
MLY	**Manley**	**7.69**	**16**	P	**Pn**		**06 20 26.1**	**-0.6**
GRNC	**Granite Creek**	**7.71**	**61**	P	**Pn**		**06 20 28.2**	**+1.0**
DDM	**Donnelly Dome**	**7.72**	**34**	P	**Pn**		**06 20 27.7**	**+0.6**
RKAV	**Rock Avalanche**	**7.79**	**65**	P	**Pn**		**06 20 29.4**	**+1.2**
BARN	**Barnard Glacie**	**7.86**	**59**	P	**Pn**		**06 20 30.2**	**+1.0**
CHX	**Chaix Hills**	**7.86**	**67**	P	**Pn**		**06 20 30.3**	**+1.3**
CCB	**Clear Creek Bu**	**7.89**	**25**	P	**Pn**		**06 20 28.0**	**-1.4**
TABL	**Table Mountain**	**7.92**	**64**	P	**Pn**		**06 20 31.5**	**+1.4**
PS08	**TAPS Pump Stn8**	**8.04**	**28**	P	**Pn**		**06 20 30.4**	**-1.0**
MDM	**Murphy Dome**	**8.07**	**23**	P	**Pn**		**06 20 30.8**	**-1.0**
COLA	**College**	**8.07**	**24**	P	**Pn**		**06 20 31.2**	**-0.6**
DOT	**Dot Lake**	**8.19**	**39**	*e*Pn	**Pn**		**06 20 34.8**	**+1.3**
DOT				*e*Sn	**Sn**		**06 22 01.8**	**-2.5**
IL1	**Eielson Array**	**8.21**	**27**	P	**Pn**		**06 20 32.3**	**-1.4**
ILAR	**Eielson Array**	**8.21**	**27**	P	**Pn**		**06 20 32.3**	**-1.5**
ILAR				S	**Sn**		**06 21 58.9**	**-5.8**
ILB	**Eielson Array**	**8.21**	**27**	P	**Pn**		**06 20 32.2**	**-1.5**
IM04	**Indian Mountai**	**8.32**	**5**	*e*Pn	**Pn**		**06 20 36.2**	**+1.0**
IM3	**Indian Mountai**	**8.33**	**5**	P	**Pn**		**06 20 36.5**	**+1.1**
SCRK	**Sand Creek**	**8.44**	**37**	P	**Pn**		**06 20 36.5**	**-0.5**
BCA3	**Beaver Creek A**	**8.67**	**46**	P	**Pn**		**06 20 40.9**	**+0.9**
HYT	**Haines Junctio**	**9.76**	**64**	*e*Pn	**Pn**		**06 20 55.9**	**+1.0**
HYT				*e*Sn	**Sn**		**06 22 38.2**	**-4.3**
COLD	**Coldfoot**	**9.85**	**12**	*e*Pn	**Pn**		**06 20 55.1**	**-0.9**
EGAK	**Eagle**	**9.89**	**38**	*e*Pn	**Pn**		**06 20 56.2**	**-0.4**
DLBC	**Dease Lake**	**13.52**	**76**	P	**P**		**06 21 50.7**	**+0.1**
DLBC				S	**Sn**		**06 24 10.1**	**-3.6**
INK	**Inuvik**	**14.48**	**34**	P	**Pn**		**06 21 56.1**	**-1.1**
INK				S	**S**		**06 24 45.8**	**-3.4**
INK	**Inuvik**	**14.48**	**34**	*e*Pn	**Pn**		**06 21 56.5**	**-0.7**
YKA	**Yellowknife Ar**	**20.70**	**59**	P	Pn		06 23 11.1	-1.3
YKA				PcP	**PcP**		**06 27 16.2**	**+1.7**
YKA				ScP	**ScP**		**06 30 41.8**	**+0.3**
SEY	**Seymchan**	**25.65**	**304**	P	**P**		**06 23 56.4**	**-0.9**
PETK	**Petropavlovsk-**	**26.48**	**280**	P	**P**		**06 24 06.7**	**+1.8**
NVAR	**Mina Array Bea**	**30.95**	**112**	P	P		06 24 52.5	+7.5
PDAR	**Pinedale Array**	**32.31**	**97**	P	P		06 25 02.9	+6.1
FRB	**Frobisher Bay**	**39.81**	**44**	P	**P**		**06 26 02.0**	**+1.8**
SPITS	**Spitsbergen Ar**	**44.26**	**2**	P	**P**		**06 26 35.2**	**-0.9**
MJAR	**Matsushiro Arr**	**47.57**	**273**	P	**P**		**06 27 02.3**	**-0.4**
ARCES	**ARCESS Array B**	**53.03**	**360**	PcP	**PcP**		**06 28 51.5**	**+1.1**
SONM	**Songino Array**	**55.02**	**305**	P	**P**		**06 27 58.8**	**+0.5**
SONM				PcP	**PcP**		**06 28 59.9**	**+1.3**
NOA	**NORSAR Array B**	**61.12**	**7**	P	**P**		**06 28 41.0**	**+0.5**
FINES	**FINESS Array B**	**61.16**	**359**	P	**P**		**06 28 40.3**	**-0.3**
FINES				PcP	**PcP**		**06 29 22.6**	**+0.2**
HFS	**Hagfors**	**62.18**	**6**	P	**P**		**06 28 47.1**	**-0.4**
EKA	**Eskdalemuir Ar**	**65.11**	**17**	P	**P**		**06 29 07.4**	**+0.6**
MKAR	**Makanchi Array**	**65.34**	**320**	P	**P**		**06 29 07.7**	**-0.8**
AKTO	**Aktyubinsk**	**68.71**	**338**	P	**P**		**06 29 29.1**	**-0.6**
AKASG	**Malin Array Be**	**71.86**	**357**	P	**P**		**06 29 47.8**	**-1.0**
GERES	**GERESS Array B**	**73.42**	**7**	P	**P**		**06 29 58.6**	**+0.3**
KBZ	**Khabaz**	**77.73**	**346**	P	**P**		**06 30 23.7**	**+0.9**
ESDC	**Sonseca Array**	**80.08**	**22**	P	**P**		**06 30 37.6**	**+1.8**
TAPN	**Taplejung**	**80.14**	**306**	*e*P	**P**		**06 30 36.9**	**+0.3**
GUN	**Gumba**	**80.43**	**308**	*e*P	**P**		**06 30 38.7**	**+0.4**
JIRN	**Jiri**	**80.52**	**308**	*e*P	**P**		**06 30 39.4**	**+0.6**
PKI	**Pulchoki**	**80.93**	**308**	*e*P	**P**		**06 30 41.0**	**+0.1**
PKIN	**Phulchoki**	**80.93**	**308**	*e*P	**P**		**06 30 40.7**	**-0.1**
RAMN	**Ramite**	**80.96**	**307**	*e*P	**P**		**06 30 41.0**	**0.0**
DMN	**Daman**	**81.02**	**308**	*e*P	**P**		**06 30 41.7**	**+0.4**
PYUN	**Piuthan**	**81.47**	**310**	*e*P	**P**		**06 30 43.9**	**+0.3**
KOLN	**Koldanda**	**81.51**	**310**	*e*P	**P**		**06 30 44.0**	**+0.2**

IDC 16 06:18:37.7±1.4, 11.°59N×143.°48E, h0km, mb3.4/4, mb1 3.8/5, mb1mx3.5/53, mbtmp3.5/5, ML3.7/1, Error ellipse: s-maj=155.2km s-min=20.5km az=113.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.41**	**34**	Pn	Pn		06 19 18.3	-0.1
	18nm,0.3s,baz=183,slow=17,SNR=8.5							
GUMO				Sn	Sn		06 19 45.3	-3.3
	33nm,0.3s,baz=173,slow=24,SNR=9.1							
WRA	**Warramunga Arr**	**32.60**	**196**	P	P		06 25 10.9	-0.3
	0.2nm,0.4s,baz=18,slow=9.4,SNR=5.4							
ASAR	**Alice Springs**	**36.27**	**195**	P	P		06 25 43.0	0.0
	0.4nm,0.9s,baz=18,slow=9.8,SNR=7.1							
ILAR	**Eielson Array**	**70.95**	**25**	P	P		06 29 56.1	-0.6
	0.5nm,1.1s,baz=242,slow=6.1,SNR=2.7							
YKA	**Yellowknife Ar**	**85.25**	**27**	P	P		06 31 16.9	+0.9
	0.1nm,0.6s,baz=286,slow=5.1,SNR=2.8							

IDC 16 06:33:33.8±2.8, 20.°12N×145.°04E, h210km±28km, mb3.3/10, mb1 3.5/12, mb1mx3.3/33, mbtmp3.9/12, Error ellipse: s-maj=22.1km s-min=12.4km az=87.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.50**	**181**	P	Pn		06 35 08.3	+0.6
	1.6nm,0.3s,baz=356,slow=19,SNR=2.2							
GUMO				S	S		06 36 21.7	-0.3
	3.5nm,0.3s,baz=43,slow=15,SNR=2.2							
JCJ	**Chichijima**	**7.42**	**340**	S	S		06 36 34.6	-9.1
	10nm,0.3s,baz=284,slow=23,SNR=5.9							
MJAR	**Matsushiro Arr**	**17.42**	**341**	P	P		06 37 21.3	-1.4
	1.3nm,0.3s,baz=164,slow=9.0,SNR=16							
KSRS	**Korea Array**	**22.81**	**323**	P	P		06 38 18.8	+0.3
	2.2nm,0.6s,baz=148,slow=8.8,SNR=11							
WRA	**Warramunga Arr**	**41.17**	**195**	P	P		06 40 57.7	-0.3
	1.5nm,0.6s,baz=16,slow=8.8,SNR=17							
SONM	**Songino Array**	**41.65**	**321**	P	P		06 41 02.7	+1.0
	0.4nm,0.4s,baz=140,slow=7.3,SNR=5.0							
ASAR	**Alice Springs**	**44.85**	**195**	P	P		06 41 26.9	-0.6
	0.3nm,0.4s,baz=11,slow=7.0,SNR=9.4							

MKAR	**Makanchi Array**	**57.03**	**313**	P	P	06 42 58.3	+0.4	
	0.6nm,0.6s,baz=91,slow=5.9,SNR=7.9							
ILAR	**Eielson Array**	**62.66**	**27**	P	P	06 43 34.9	-0.9	
	1.0nm,0.8s,baz=259,slow=5.0,SNR=11							
INK	**Inuvik**	**68.32**	**23**	P	P	06 44 12.0	+0.1	
	1.0nm,0.8s,baz=213,slow=5.8,SNR=5.0							
YKA	**Yellowknife Ar**	**77.03**	**28**	P	P	06 45 03.7	+0.4	
	0.6nm,0.7s,baz=292,slow=5.7,SNR=7.3							
NVAR	**Mina Array Bea**	**82.76**	**52**	P	P	06 45 36.1	+1.2	
	1.0nm,0.8s,baz=262,slow=6.3,SNR=8.9							
FINES	**FINESS Array B**	**85.34**	**335**	P	P	06 45 45.9	-1.1	
	0.6nm,0.4s,baz=64,slow=3.2,SNR=9.8							

SZGRF ***16*** *06:52:35.2, 35˚.50N×4˚.56E, h10km, mb3.9, Northern Algeria*

INMG ***16*** *06:52:35.0±2.1, 35˚.53N×4˚.54E, h0km, Mb5.2, Error ellipse: s-maj=18.4km s-min=9.8km az=124.0*

LDG ***16*** *06:52:39.3±0.1, 35˚.75N×3˚.94E, h2km, Ml4.6/19, ms4.3/8, Error ellipse: s-maj=4.0km s-min=2.5km az=176.0*

CRAAG ***16*** *06:52:40.5, 35˚.98N×4˚.00E, Ml5.2*

BJI ***16*** *06:52:40.4, 35˚.90N×3˚.90E, h10km, mb5.2/57, mB5.2/31, Ms5.0/34, Ms7 4.6/32*

IDC ***16*** *06:52:40.9±0.4, 36˚.05N×3˚.91E, h0km, mb4.6/40, mb1 4.7/48, mb1mx4.6/57, mbtmp4.6/48, ML4.4/8, MS4.3/31, Ms1 4.4/31, ms1mx4.2/44, Error ellipse: s-maj=11.5km s-min=8.9km az=151.0*

ISCJB ***16*** *06:52:41.3±0.4, 36˚.00N±0˚.02×3˚.96E±0˚.01, h8km±2km, mb4.9/229, MS4.4/40, Error ellipse: s-maj=2.5km s-min=1.4km az=177.0*

IGIL ***16*** *06:52:41.4, 35˚.84N×4˚.05E, h2km, MS4.2*

GCMT ***16*** *06:52:42.6±0.2, 35˚.97N×4˚.19E, h12km, MW5.2/90, Moment Tensor Solution. s36,c47; s90,c152; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=5.02±.15; Mθθ=1.76±.14; Mφφ=3.26±.15; Mrθ=-2.05±.52; Mrφ=-3.73±.12; Mθφ=2.03±.53; Best double couple: M0=6.45300×10^16 NP1:φs14.00000°, δs53.00000°, λs53.00000°. NP2: φs245.00000°, δs50.00000°, λs128.00000°. Principal axes: T 6.5850, Plg61.0000°, Azm222.0000°; N -0.2630, Plg28.0000°, Azm38.0000°; P -6.3220, Plg2.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

CSEM ***16*** *06:52:42.5±0.1, 35˚.96N×4˚.05E, h10km, mb5.0/99, Ms4.6 Error ellipse: s-maj=3.1km s-min=2.3km az=167.0*

NEIC ***16*** *06:52:42.5±0.1, 36˚.00N×3˚.96E, h10km, mb5.0/146, ML5.0(ALG), Error ellipse: s-maj=2.9km s-min=2.6km az=161.0*

NEIC Felt at Algiers.

MDD ***16*** *06:52:42.3±0.3, 35˚.98N×4˚.10E, h0km, mb5.2/44, Error ellipse: s-maj=4.7km s-min=3.0km az=11.0, PRXIMO*

MOS ***16*** *06:52:42.6±1.4, 36˚.10N×3˚.91E, h20km, mb5.1/79, MS4.4/33, Error ellipse: s-maj=5.4km s-min=2.4km az=77.9*

SFS ***16*** *06:52:42.0, 35˚.85N×4˚.02E, h10km, ML4.8*

CNRM ***16*** *06:52:43.9, 35˚.47N×4˚.42E, h30km, MD5.0*

ISC 16 06:52:43.7±0.4, 36°01N±0°.03×4°01E±0°.03, h16km±2km, h16km:pP-P, n1768, σ1s55/1894, mb5.0/229, MS4.5/40, 223C-210D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKET	**Djebel Ketaf**	**0.11**	**291**	P	**Pg**	**06 52 44.8**	**-2.6**
AKET	**Djebel Ketaf**	**0.11**	**291**	P	**Pg**	**06 52 44.8**	**-2.6**
AKET	**Djebel Ketaf**	**0.11**	**291**	P	**Pg**	**06 52 44.8**	**-2.6**
AKET	**Djebel Ketaf**	**0.11**	**291**	P	**Pg**	**06 52 44.9**	**-2.6**
ATAF	**Djebel Tarf**	**0.26**	**121**	P	Pg	06 52 45.3	-4.1
ATAF	**Djebel Tarf**	**0.26**	**121**	P	Pg	06 52 45.3	-4.1
ATAF	**Djebel Tarf**	**0.26**	**121**	P	Pg	06 52 45.3	-4.1
ADJB	**Djebel Djouab**	**0.48**	**288**	P	**Pg**	**06 52 52.7**	**-0.7**
ADJB	**Djebel Djouab**	**0.48**	**288**	P	**Pg**	**06 52 52.7**	**-0.7**
ADJB	**Djebel Djouab**	**0.48**	**288**	P	**Pg**	**06 52 52.8**	**-0.7**
ADJB	**Djebel Djouab**	**0.48**	**288**	P	**Pg**	**06 52 52.8**	**-0.7**
EMHD	**Djebel Mahouad**	**0.88**	**283**	P	**Pb**	**06 53 00.0**	**-0.5**
EMHD	**Djebel Mahouad**	**0.88**	**283**	P	**Pb**	**06 53 00.0**	**-0.5**
EMHD	**Djebel Mahouad**	**0.88**	**283**	P	**Pb**	**06 53 00.6**	**+0.1**
EMHD	**Djebel Mahouad**	**0.88**	**283**	P	**Pb**	**06 53 00.6**	**+0.1**
ABA	**Alger-Bouzarea**	**1.11**	**316**	P	**Pn**	**06 53 04.9**	**+0.3**
ABA	**Alger-Bouzarea**	**1.11**	**316**	P	**Pn**	**06 53 04.9**	**+0.3**
ABA	**Alger-Bouzarea**	**1.11**	**316**	P	**Pn**	**06 53 04.9**	**+0.3**
SET	**Setif**	**1.14**	**80**	P	**Pn**	**06 53 04.5**	**-0.6**
SET	**Setif**	**1.14**	**80**	P	**Pn**	**06 53 04.5**	**-0.6**
SET	**Setif**	**1.14**	**80**	P	**Pn**	**06 53 04.5**	**-0.6**
CKHR	**Kef el Ahmar**	**1.22**	**89**	P	**Pn**	**06 53 03.3**	**-2.9**
CKHR	**Kef el Ahmar**	**1.22**	**89**	P	**Pn**	**06 53 03.3**	**-2.9**
CKHR	**Kef el Ahmar**	**1.22**	**89**	P	**Pn**	**06 53 03.3**	**-2.9**
CKHR	**Kef el Ahmar**	**1.22**	**89**	P	**Pn**	**06 53 03.3**	**-2.9**
DFRA	**Djebel Bou Aff**	**1.60**	**70**	P	**Pn**	**06 53 10.4**	**-1.0**
DFRA	**Djebel Bou Aff**	**1.60**	**70**	P	**Pn**	**06 53 10.4**	**-1.0**
DFRA	**Djebel Bou Aff**	**1.60**	**70**	P	**Pn**	**06 53 10.4**	**-1.0**
CTEI	**Djebel Teioual**	**1.94**	**88**	P	**Pn**	**06 53 14.6**	**-1.5**
CTEI	**Djebel Teioual**	**1.94**	**88**	P	**Pn**	**06 53 14.6**	**-1.5**
CTEI	**Djebel Teioual**	**1.94**	**88**	P	**Pn**	**06 53 14.7**	**-1.5**
CTEI	**Djebel Teioual**	**1.94**	**88**	P	**Pn**	**06 53 14.7**	**-1.5**
CASM	**Ain Smara**	**2.02**	**82**	P	**Pn**	**06 53 15.9**	**-1.3**
CASM	**Ain Smara**	**2.02**	**82**	P	**Pn**	**06 53 15.9**	**-1.3**
CASM	**Ain Smara**	**2.02**	**82**	P	**Pn**	**06 53 15.9**	**-1.3**
EBNR	**Beni Rached**	**2.02**	**279**	P	**Pn**	**06 53 17.3**	**+0.1**
EBNR	**Beni Rached**	**2.02**	**279**	P	**Pn**	**06 53 17.3**	**+0.1**
CKFL	**Kef-Lekhel**	**2.23**	**79**	P	**Pn**	**06 53 18.5**	**-1.5**
CKFL	**Kef-Lekhel**	**2.23**	**79**	P	**Pn**	**06 53 18.5**	**-1.5**
CKFL	**Kef-Lekhel**	**2.23**	**79**	P	**Pn**	**06 53 18.5**	**-1.5**
ETRT	**Tiaret**	**2.29**	**255**	P	**Pn**	**06 53 21.0**	**+0.1**
ETRT	**Tiaret**	**2.29**	**255**	P	**Pn**	**06 53 21.0**	**+0.1**
ETRT	**Tiaret**	**2.29**	**255**	P	**Pn**	**06 53 21.0**	**+0.1**
EANR	**'Ain N'Sour**	**2.36**	**269**	P	**Pn**	**06 53 22.0**	**+0.2**
EANR	**'Ain N'Sour**	**2.36**	**269**	P	**Pn**	**06 53 22.0**	**+0.2**
EANR	**'Ain N'Sour**	**2.36**	**269**	P	**Pn**	**06 53 22.0**	**+0.2**
CAEH	**'Ain El Ouahch**	**2.42**	**71**	P	**Pn**	**06 53 20.4**	**-2.2**
CAEH	**'Ain El Ouahch**	**2.42**	**71**	P	**Pn**	**06 53 20.4**	**-2.2**
CAEH	**'Ain El Ouahch**	**2.42**	**71**	P	**Pn**	**06 53 20.4**	**-2.2**
OJGS	**Djebel Guires**	**2.70**	**260**	P	**Pn**	**06 53 25.0**	**-1.4**
OJGS	**Djebel Guires**	**2.70**	**260**	P	**Pn**	**06 53 25.0**	**-1.4**
OJGS	**Djebel Guires**	**2.70**	**260**	P	**Pn**	**06 53 25.0**	**-1.4**
OKGL	**Djebel Kef Gue**	**2.73**	**272**	P	**Pn**	**06 53 26.0**	**-0.9**
OKGL	**Djebel Kef Gue**	**2.73**	**272**	P	**Pn**	**06 53 25.9**	**-0.9**
	3µm,0.8s,SNR=7.9						
OKGL				S	**Sb**	**06 54 07.9**	**+2.6**
	18µm,0.7s,SNR=4.0						
OKGL	**Djebel Kef Gue**	**2.73**	**272**	P	**Pn**	**06 53 25.9**	**-0.9**
	3µm,0.8s,SNR=7.9						
ABSA	**Djebel Ababsia**	**2.82**	**84**	P	**Pn**	**06 53 26.6**	**-1.6**
ABSA	**Djebel Ababsia**	**2.82**	**84**	P	**Pn**	**06 53 26.6**	**-1.6**
CABS	**Djebel Ababsia**	**2.82**	**84**	P	**Pn**	**06 53 26.6**	**-1.6**
CABS	**Djebel Ababsia**	**2.82**	**84**	P	**Pn**	**06 53 26.6**	**-1.6**
CMAH	**Djebel Manchou**	**2.82**	**76**	P	**Pn**	**06 53 26.4**	**-1.8**
CMAH	**Djebel Manchou**	**2.82**	**76**	P	**Pn**	**06 53 26.4**	**-1.8**
CMAH	**Djebel Manchou**	**2.82**	**76**	P	**Pn**	**06 53 26.4**	**-1.8**
OJBR	**Djebel Berber**	**3.01**	**263**	P	**Pb**	**06 53 36.0**	**-0.9**
OJBR	**Djebel Berber**	**3.01**	**263**	P	**Pb**	**06 53 36.0**	**-0.9**
ODJA	**Bouhanifia**	**3.45**	**260**	P	Pn	06 53 24.0	-13
ODJA	**Bouhanifia**	**3.45**	**260**	P	Pn	06 53 24.0	-13
EIBI	**Ibiza**	**3.68**	**326**	P	**Pn**	**06 53 39.6**	**-0.3**
	447nm,0.6s,SNR=29						
EIBI				S	**Sn**	**06 54 22.5**	**-0.5**
	261nm,0.4s,SNR=4.0						
EIBI	**Ibiza**	**3.68**	**326**	P	**Pn**	**06 53 39.9**	**0.0**
EIBI				S	**Sn**	**06 54 22.5**	**-0.5**
	261nm,0.4s,SNR=4.0						
EIBI	**Ibiza**	**3.68**	**326**	P	**Pn**	**06 53 39.9**	**0.0**
USTO	**Oran**	**3.71**	**267**	P	**Pn**	**06 53 43.0**	**+2.7**
USTO	**Oran**	**3.71**	**267**	P	**Pn**	**06 53 43.0**	**+2.7**
THTN	**Thala**	**3.83**	**95**	P	**Pn**	**06 53 42.3**	**+0.2**
THTN	**Thala**	**3.83**	**95**	P	**Pn**	**06 53 42.3**	**+0.2**
ETOS	**Mallorca**	**3.87**	**346**	P	**Pn**	**06 53 41.7**	**-0.8**
	98nm,0.3s,SNR=68						
ETOS				S	**Sn**	**06 54 27.2**	**-0.4**
	76nm,0.3s						
ETOS	**Mallorca**	**3.87**	**346**	P	**Pn**	**06 53 41.7**	**-0.8**
	98nm,0.3s,SNR=68						
ETOS				S	**Sn**	**06 54 27.2**	**-0.4**
	76nm,0.3s						
EBEN	**Beniarda**	**4.31**	**310**	P	**Pn**	**06 53 49.0**	**+0.4**
	11nm,0.2s,SNR=46						
EBEN				S	Sn	06 54 44.6	+6.0
	55nm,0.7s						
EBEN	**Beniarda**	**4.31**	**310**	P	**Pn**	**06 53 49.0**	**+0.4**
	11nm,0.2s,SNR=46						
CART	**Cartagena**	**4.32**	**293**	P	**Pn**	**06 53 47.5**	**-1.1**
CART				S	**Sn**	**06 54 36.6**	**-2.0**
CART	**Cartagena**	**4.32**	**293**	P	**Pn**	**06 53 47.5**	**-1.1**
CART				S	**Sn**	**06 54 36.6**	**-2.0**
KEST	**Kesra**	**4.34**	**92**	Pn	**Pn**	**06 53 49.1**	**0.0**
	29nm,0.3s,baz=212,slow=1.0,SNR=278						
KEST				Sn	**Sn**	**06 54 36.7**	**-2.8**
	28nm,0.3s,baz=256,slow=4.8,SNR=6.1						
EMUR	**La Murta**	**4.58**	**295**	P	**Pn**	**06 53 51.8**	**-0.6**
	108nm,0.2s,SNR=172						
EMUR				S	**Sn**	**06 54 45.3**	**0.0**
	337nm,0.7s						
EMUR	**La Murta**	**4.58**	**295**	P	**Pn**	**06 53 51.8**	**-0.6**
	108nm,0.2s,SNR=172						
EMUR				S	**Sn**	**06 54 45.3**	**0.0**
	337nm,0.7s						
ENIJ	**Nijar**	**5.10**	**283**	P	**Pn**	**06 53 57.8**	**-1.6**
	134nm,0.4s,SNR=7.9						
ENIJ				S	**Sn**	**06 54 55.4**	**-2.5**
	266nm,0.6s,SNR=7.9						
ENIJ	**Nijar**	**5.10**	**283**	P	**Pn**	**06 53 57.8**	**-1.6**
	134nm,0.4s,SNR=7.9						
ENIJ				S	**Sn**	**06 54 55.4**	**-2.5**
	266nm,0.6s,SNR=7.9						
ETOB	**Tobarra**	**5.15**	**302**	P	**Pn**	**06 54 00.5**	**+0.4**
	41nm,0.2s,SNR=70						
ETOB				S	**Sn**	**06 55 03.5**	**+4.2**
	264nm,0.6s						
ETOB	**Tobarra**	**5.15**	**302**	P	**Pn**	**06 54 00.5**	**+0.4**
	41nm,0.2s,SNR=70						
ETOB				S	**Sn**	**06 55 03.5**	**+4.2**
	264nm,0.6s						
VSL	**Villasalto**	**5.50**	**49**	*e*Pn	**Pn**	**06 54 04.6**	**-0.2**
VSL	**Villasalto**	**5.50**	**49**	*e*Pn	**Pn**	**06 54 04.6**	**-0.2**
EHUE	**Huescar**	**5.59**	**291**	P	**Pn**	**06 54 07.1**	**+0.9**
	62nm,0.4s,SNR=7.9						
EHUE				S	**Sn**	**06 55 14.0**	**+3.9**
	36nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**5.60**	**322**	P	**Pn**	**06 54 05.9**	**-0.5**
	24nm,0.3s,SNR=52						
EMOS				S	**Sn**	**06 55 07.8**	**-2.7**
	144nm,0.7s						
ZAI	**Zaio**	**5.61**	**261**	P	**Pn**	**06 54 07.0**	**+0.6**
ZAI				S	**Sn**	**06 55 10.0**	**-0.5**
ZAI	**Zaio**	**5.61**	**261**	*i* P	**Pn**	**06 54 07.0**	**+0.6**
ZAI				*i* S	**Sn**	**06 55 10.0**	**-0.5**
EBER	**Berja**	**5.63**	**281**	P	**Pn**	**06 54 05.5**	**-1.3**
	76nm,0.5s,SNR=86						
EBER				S	**Sn**	**06 55 11.7**	**+0.4**
	363nm,0.9s,SNR=5.1						
SESP	**Santiago Espad**	**5.65**	**294**	P	**Pn**	**06 54 07.8**	**+0.8**
	131nm,0.3s,SNR=7.9						
SESP				S	**Sn**	**06 55 13.0**	**+1.4**
	404nm,0.8s,SNR=7.9						
MELI	**Melilla**	**5.70**	**265**	P	**Pn**	**06 54 08.5**	**+0.9**
	62nm,0.2s,SNR=4.0						
MELI	**Melilla**	**5.70**	**265**	*e*P	**Pn**	**06 54 08.0**	**+0.4**
MELI				*e*S	**Sg**	**06 55 43.1**	**-3.4**
EMEL	**Melilla**	**5.71**	**265**	P	**Pn**	**06 54 08.3**	**+0.4**
	179nm,0.2s,SNR=4.0						
ERTA	**Horta de San J**	**5.72**	**331**	P	**Pn**	**06 54 08.8**	**+0.8**
	12nm,0.3s,SNR=10						
ERTA				S	**Sn**	**06 55 10.1**	**-3.2**
	63nm,0.4s						
EPOB	**Poblet**	**5.81**	**338**	P	**Pn**	**06 54 08.9**	**-0.3**
	43nm,0.4s,SNR=41						
EPOB				S	**Sn**	**06 55 13.4**	**-2.1**
	31nm,0.5s						
EVIA	**Vianos**	**5.81**	**299**	P	**Pn**	**06 54 09.1**	**-0.2**
	212nm,0.4s,SNR=35						
EVIA				S	**Sn**	**06 55 16.6**	**+1.0**
	189nm,0.5s						
GORA	**Gorafe**	**5.85**	**287**	P	**Pn**	**06 54 12.5**	**+2.8**
	105nm,0.3s,SNR=4.0						
GORA				S	**Sn**	**06 55 20.1**	**+3.6**
	276nm,0.6s,SNR=7.9						
CFON	**Fontmartina**	**5.88**	**348**	P	**Pn**	**06 54 09.3**	**-0.8**
	43nm,0.3s,SNR=42						
CFON				S	**Sn**	**06 55 19.8**	**+2.7**
	75nm,0.4s						
EQES	**Quesada**	**5.95**	**290**	P	**Pn**	**06 54 12.1**	**+0.9**
	127nm,0.3s,SNR=126						
EQES				S	**Sn**	**06 55 22.3**	**+3.3**
	231nm,0.5s,SNR=4.1						
EQUE	**Quentar**	**6.11**	**283**	P	**Pn**	**06 54 13.5**	**+0.1**
	129nm,0.5s,SNR=212						
EQUE				S	**Sn**	**06 55 26.4**	**+3.4**
	348nm,1.0s,SNR=4.1						
EGUA	**Guajares**	**6.16**	**280**	P	**Pn**	**06 54 13.6**	**-0.4**
	90nm,0.5s,SNR=7.9						
EGUA				S	**Sn**	**06 55 23.7**	**-0.4**
	61nm,0.5s,SNR=7.9						
EMIR	**Miracle**	**6.21**	**343**	P	**Pn**	**06 54 15.0**	**+0.4**
	94nm,0.4s,SNR=93						
EMIR				S	**Sn**	**06 55 21.8**	**-3.5**
	75nm,0.5s						
SELV	**Sierra Elvira**	**6.34**	**283**	P	**Pn**	**06 54 17.1**	**+0.6**
	32nm,0.4s,SNR=7.9						
SELV				S	**Sn**	**06 55 32.3**	**+3.7**
	255nm,0.9s,SNR=7.9						
TOU	**Touzarine**	**6.42**	**263**	P	**Pn**	**06 54 20.0**	**+2.4**
TOU				S	**Sn**	**06 55 31.0**	**+0.4**
TOU	**Touzarine**	**6.42**	**263**	*i* P	**Pn**	**06 54 20.0**	**+2.4**
TOU				*i* S	**Sn**	**06 55 31.0**	**+0.4**
EJON	**La Jonquera**	**6.49**	**353**	P	**Pn**	**06 54 18.5**	**0.0**
	43nm,0.3s,SNR=23						
EJON				S	**Sn**	**06 55 30.3**	**-1.9**
	54nm,0.5s,SNR=4.7						
SJAF	**Saint Jean de**	**6.53**	**353**	P	**Pn**	**06 54 18.4**	**-0.6**
	19nm,0.2s,SNR=7.9						
SJAF				S	**Sn**	**06 55 32.6**	**-0.4**
	79nm,0.7s,SNR=7.9						
VALF	**Valcebollere**	**6.57**	**347**	P	**Pn**	**06 54 21.0**	**+1.3**
VALF	**Valcebollere**	**6.57**	**347**	P	**Pn**	**06 54 21.0**	**+1.3**
EBAN	**Banos Encina**	**6.59**	**291**	P	**Pn**	**06 54 20.6**	**+0.7**
	67nm,0.6s,SNR=29						
FILF	**Fillols**	**6.64**	**351**	P	**Pn**	**06 54 22.4**	**+1.8**
FILF				S	Sn	06 55 46.2	+10
FILF	**Fillols**	**6.64**	**351**	P	**Pn**	**06 54 22.4**	**+1.8**
FILF				S	Sn	06 55 46.2	+10
CLLI	**Llivia**	**6.65**	**347**	P	**Pn**	**06 54 22.2**	**+1.4**
	31nm,0.5s,SNR=14						
CLLI				S	**Sn**	**06 55 38.3**	**+2.0**
	41nm,0.6s						
ESAC	**San Caprasio**	**6.69**	**330**	P	**Pn**	**06 54 23.4**	**+2.2**
	25nm,0.2s,SNR=8.0						
ESAC				S	**Sn**	**06 55 42.6**	**+5.5**
	170nm,0.5s,SNR=4.0						
CSOR	**Sort**	**6.74**	**342**	P	**Pn**	**06 54 23.3**	**+1.3**
	11nm,0.3s,SNR=29						
CSOR				S	**Sn**	**06 55 35.9**	**-2.6**
	114nm,0.7s						
ETOR	**Torete**	**6.76**	**317**	P	**Pn**	**06 54 25.0**	**+2.7**
	29nm,0.3s,SNR=29						
ETOR				S	**Sn**	**06 55 42.4**	**+3.4**
	57nm,0.7s						
ELUQ	**Luque**	**6.82**	**286**	P	**Pn**	**06 54 24.3**	**+1.2**
	20nm,0.3s,SNR=7.9						
ELUQ				S	**Sn**	**06 55 44.3**	**+3.9**
	81nm,0.7s,SNR=7.9						
EMAL	**Malaga-Limoner**	**6.85**	**279**	*e*P	**Pn**	**06 54 22.5**	**-0.9**
EMAL				*e*S	Sn	06 55 29.6	-11
CARF	**Carcanieres**	**6.86**	**348**	P	**Pn**	**06 54 25.2**	**+1.6**
CARF	**Carcanieres**	**6.86**	**348**	P	**Pn**	**06 54 25.2**	**+1.6**
LRDF	**Laroque-de-Fa**	**7.01**	**351**	P	**Pn**	**06 54 26.9**	**+1.2**
LRDF	**Laroque-de-Fa**	**7.01**	**351**	P	**Pn**	**06 54 26.9**	**+1.2**
SALF	**Salau**	**7.09**	**343**	P	**Pn**	**06 54 28.8**	**+2.1**
SALF	**Salau**	**7.09**	**343**	P	**Pn**	**06 54 28.8**	**+2.1**
EMIJ	**Mijas**	**7.11**	**277**	P	**Pn**	**06 54 24.9**	**-2.2**
	12nm,0.2s,SNR=32						
EMIJ				S	**Sn**	**06 55 43.5**	**-4.1**
	95nm,0.7s,SNR=7.9						
EADA	**Adamuz**	**7.19**	**290**	P	**Pn**	**06 54 27.7**	**-0.5**
	7.5nm,0.3s,SNR=26						
EADA				S	**Sn**	**06 55 51.6**	**+2.1**
	26nm,0.5s,SNR=7.9						
ES19	**SONSECA Array**	**7.26**	**303**	*e*Pn	**Pn**	**06 54 29.7**	**+0.6**
ES19	**SONSECA Array**	**7.26**	**303**	*e*Pn	**Pn**	**06 54 29.7**	**+0.6**
ESDC	**Sonseca Array**	**7.29**	**303**	P	**Pn**	**06 54 29.3**	**-0.2**
	8.5nm,0.2s,baz=119,slow=13,SNR=74						
ESDC				S	**Sn**	**06 55 55.9**	**+3.9**
	11nm,0.3s,baz=117,slow=24,SNR=3.8						
ESDC	**Sonseca Array**	**7.29**	**303**	Pn	**Pn**	**06 54 29.3**	**-0.2**
	9.8nm,0.3s,baz=118,slow=14,SNR=44						
ESDC				Sn	**Sn**	**06 55 55.1**	**+3.1**
	baz=118,slow=16,SNR=3.2						
ESDC				LR	LR	06 57 20.0	
	comp=Z,4µm,21.1s,baz=115,slow=39						
ESLA	**Sonseca Array**	**7.29**	**303**	*e*Pn	**Pn**	**06 54 29.5**	**0.0**
	9.0nm,0.7s						
ESLA				*e*Sn	**Sn**	**06 55 53.7**	**+1.7**
ESLA	**Sonseca Array**	**7.29**	**303**	*e*Pn	**Pn**	**06 54 29.5**	**0.0**
	9.0nm,0.7s						
ESLA				*e*Sn	**Sn**	**06 55 53.7**	**+1.7**
MLS	**Moulis**	**7.30**	**343**	P	**Pn**	**06 54 31.8**	**+2.2**
MLS	**Moulis**	**7.30**	**343**	P	**Pn**	**06 54 31.8**	**+2.2**
MELF	**Melles**	**7.30**	**341**	P	**Pn**	**06 54 31.6**	**+1.9**
MELF	**Melles**	**7.30**	**341**	P	**Pn**	**06 54 31.6**	**+1.9**
MTLF	**Montolieu**	**7.45**	**350**	*e*Pn	**Pn**	**06 54 30.9**	**-0.8**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**06 55 51.8**	**-4.0**
	829nm,1.7s						
MTLF	**Montolieu**	**7.45**	**350**	P	**Pn**	**06 54 30.9**	**-0.8**
MTLF				S	**Sn**	**06 55 51.8**	**-4.0**
	415nm,1.7s						
MTLF	**Montolieu**	**7.45**	**350**	*e*P	**Pn**	**06 54 30.9**	**-0.8**
MTLF				*e*		06 55 51.8	
MTLF	**Montolieu**	**7.45**	**350**	*e*Pn	**Pn**	**06 54 30.9**	**-0.8**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**06 55 51.8**	**-4.0**
	415nm,1.7s						
MTLF	**Montolieu**	**7.45**	**350**	*e*Pn	**Pn**	**06 54 30.9**	**-0.8**
MTLF				*e*Sn	**Sn**	**06 55 51.8**	**-4.0**
REAL	**Reales**	**7.46**	**276**	P	**Pn**	**06 54 31.2**	**-0.8**
REAL				S	Sn	06 55 50.0	-6.3
REAL	**Reales**	**7.46**	**276**	*e*P	**Pn**	**06 54 31.2**	**-0.8**
REAL				*e*S	Sn	06 55 50.0	-6.3
PAB	**San Pablo**	**7.50**	**301**	*e*P	**Pn**	**06 54 32.6**	**+0.2**
PAB	**San Pablo**	**7.50**	**301**	*e*Pn	**Pn**	**06 54 32.6**	**+0.2**
PAB	**San Pablo**	**7.50**	**301**	*e*Pn	**Pn**	**06 54 32.6**	**+0.2**
VIEF	**Viey**	**7.53**	**337**	P	**Pn**	**06 54 33.8**	**+1.0**
VIEF	**Viey**	**7.53**	**337**	P	**Pn**	**06 54 33.8**	**+1.0**
CLTB	**Caltabellotta**	**7.55**	**75**	*e*Pn	**Pn**	**06 54 32.5**	**-0.7**
CLTB	**Caltabellotta**	**7.55**	**75**	*e*Pn	**Pn**	**06 54 32.5**	**-0.7**
EPF	**Esparros**	**7.56**	**339**	*e*Pn	**Pn**	**06 54 32.9**	**-0.4**
	SNR=1.0						
EPF				*e*Sn	**Sn**	**06 55 54.7**	**-3.9**
	144nm,0.9s,SNR=1.0						
EPF	**Esparros**	**7.56**	**339**	P	**Pn**	**06 54 32.9**	**-0.4**
EPF				S	**Sn**	**06 55 54.7**	**-3.9**
	72nm,0.9s						
EPF	**Esparros**	**7.56**	**339**	*e*P	**Pn**	**06 54 32.9**	**-0.4**
EPF				*e*		06 55 54.7	
EPF	**Esparros**	**7.56**	**339**	*e*Pn	**Pn**	**06 54 32.9**	**-0.4**
	SNR=1.0						
EPF				*e*Sn	**Sn**	**06 55 54.7**	**-3.9**
	72nm,0.9s,SNR=1.0						
EPF	**Esparros**	**7.56**	**339**	*e*Pn	**Pn**	**06 54 32.9**	**-0.4**
EPF				*e*Sn	**Sn**	**06 55 54.7**	**-3.9**
LMR	**La Mourre**	**7.57**	**14**	*e*Pn	**Pn**	**06 54 32.3**	**-0.9**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**06 55 54.4**	**-4.2**
	27nm,0.4s						
LMR	**La Mourre**	**7.57**	**14**	P	**Pn**	**06 54 32.3**	**-0.9**
LMR				S	**Sn**	**06 55 54.4**	**-4.2**
	13nm,0.4s						
LMR	**La Mourre**	**7.57**	**14**	*e*P	**Pn**	**06 54 32.3**	**-0.9**
LMR				*e*		06 55 54.4	
LMR	**La Mourre**	**7.57**	**14**	*e*Pn	**Pn**	**06 54 32.3**	**-0.9**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**06 55 54.4**	**-4.2**
	13nm,0.4s						
LMR	**La Mourre**	**7.57**	**14**	*e*Pn	**Pn**	**06 54 32.3**	**-0.9**
LMR				*e*Sn	**Sn**	**06 55 54.4**	**-4.2**
PGF	**Pioggiola**	**7.59**	**29**	*e*Pn	**Pn**	**06 54 31.9**	**-1.8**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**06 55 54.9**	**-4.5**

CZD *i* S **Sn** **06 56 06.0 -4.7**
CALN Calern 8.04 15 P **Pn** **06 54 41.2 +1.3**
CALN Calern 8.04 15 P **Pn** **06 54 41.2 +1.3**
SMRF Simiane la Rot 8.05 8 *e*Pn **Pn** **06 54 39.4 -0.5**
SNR=1.0
SMRF *e*Sn **Sn** **06 56 06.3 -4.3**
17nm,0.6s
SMRF Simiane la Rot 8.05 8 P **Pn** **06 54 39.4 -0.5**
SMRF S **Sn** **06 56 06.3 -4.3**
17nm,0.6s
SMRF Simiane la Rot 8.05 8 *e*Pn **Pn** **06 54 39.4 -0.5**
SNR=1.0
SMRF *e*Sn **Sn** **06 56 06.3 -4.3**
8.4nm,0.6s
SMRF Simiane la Rot 8.05 8 *e*Pn **Pn** **06 54 39.4 -0.5**
SMRF *e*Sn **Sn** **06 56 06.3 -4.3**
LASF Ste Croix 8.06 359 *e*Pn **Pn** **06 54 38.9 -1.1**
SNR=1.0
LASF *e*Sn **Sn** **06 56 06.3 -4.5**
152nm,1.0s,SNR=1.0
LASF Ste Croix 8.06 359 P **Pn** **06 54 38.9 -1.1**
LASF S **Sn** **06 56 06.3 -4.5**
76nm,1.0s
LASF Ste Croix 8.06 359 *e*Pn **Pn** **06 54 38.9 -1.1**
SNR=1.0
LASF *e*Sn **Sn** **06 56 06.3 -4.5**
76nm,1.0s,SNR=1.0
LASF Ste Croix 8.06 359 *e*Pn **Pn** **06 54 38.9 -1.1**
LASF *e*Sn **Sn** **06 56 06.3 -4.5**
ORDF Ordiarp 8.14 334 P **Pn** **06 54 42.8 +1.7**
ORDF Ordiarp 8.14 334 P **Pn** **06 54 42.8 +1.7**
CNIL Conil 8.14 275 P **Pn** **06 54 42.5 +1.4**
CNIL Conil 8.14 275 *e*P **Pn** **06 54 42.5 +1.4**
SJPF Ste Jean 8.16 332 *e*Pn **Pn** **06 54 39.4 -2.1**
SNR=1.0
SJPF *e*Sn **Sn** **06 56 08.2 -5.2**
179nm,1.3s,SNR=1.0
SJPF Ste Jean 8.16 332 P **Pn** **06 54 39.4 -2.1**
SJPF S **Sn** **06 56 08.2 -5.2**
90nm,1.3s
SJPF Ste Jean 8.16 332 *e*P **Pn** **06 54 39.4 -2.1**
SJPF *e* 06 56 08.2
SJPF Ste Jean 8.16 332 *e*Pn **Pn** **06 54 39.4 -2.1**
SNR=1.0
SJPF *e*Sn **Sn** **06 56 08.2 -5.2**
90nm,1.3s,SNR=1.0
SJPF Ste Jean 8.16 332 *e*Pn **Pn** **06 54 39.4 -2.1**
SJPF *e*Sn **Sn** **06 56 08.2 -5.2**
SFS San Fernando 8.27 276 S Sn 06 56 27.5 +12
SFS San Fernando 8.27 276 *e*S Sn 06 56 27.5 +12
SBF Sospel 8.27 17 *e*Pn **Pn** **06 54 41.2 -1.8**
SNR=1.0
SBF *e*Sn **Sn** **06 56 11.6 -4.5**
119nm,0.8s,SNR=1.0
SBF Sospel 8.27 17 P **Pn** **06 54 41.2 -1.8**
SBF S **Sn** **06 56 11.6 -4.5**
59nm,0.8s
SBF Sospel 8.27 17 *e*P **Pn** **06 54 41.2 -1.8**
SBF *e* 06 56 11.6
SBF Sospel 8.27 17 *e*Pn **Pn** **06 54 41.2 -1.8**
SNR=1.0
SBF *e*Sn **Sn** **06 56 11.6 -4.5**
59nm,0.8s,SNR=1.0
SBF Sospel 8.27 17 *e*Pn **Pn** **06 54 41.2 -1.8**
SBF *e*Sn **Sn** **06 56 11.6 -4.5**
OSSF Osses 8.30 332 P **Pn** **06 54 44.8 +1.5**
OSSF S Sn 06 56 27.4 +11
OSSF Osses 8.30 332 P **Pn** **06 54 44.8 +1.5**
OSSF S Sn 06 56 27.4 +11
EALK Alkurruntz 8.36 331 P **Pn** **06 54 46.4 +2.2**
10nm,0.3s,SNR=12
EALK S **Sn** **06 56 16.8 -1.4**
24nm,0.4s,SNR=4.8
TOUF Mont Tournerai 8.37 16 P **Pn** **06 54 45.7 +1.2**
TOUF S Sn 06 56 29.1 +10
TOUF Mont Tournerai 8.37 16 P **Pn** **06 54 45.7 +1.2**
TOUF S Sn 06 56 29.1 +10
AUTN L'Aution 8.40 17 P **Pn** **06 54 46.0 +1.2**
AUTN S Sn 06 56 29.4 +10
AUTN L'Aution 8.40 17 P **Pn** **06 54 46.0 +1.2**
AUTN S Sn 06 56 29.4 +10
SAOF Saorge 8.42 18 P **Pn** **06 54 45.7 +0.7**
SAOF Saorge 8.42 18 P **Pn** **06 54 45.7 +0.7**
OG26 St.-Nazaire-De 8.62 6 P **Pn** **06 54 48.4 +0.7**
OG26 St.-Nazaire-De 8.62 6 P **Pn** **06 54 48.4 +0.7**
EMIN Mina Concepcio 8.73 285 P **Pn** **06 54 48.5 -0.8**
5.3nm,0.4s,SNR=25
EMIN S **Sn** **06 56 28.2 +0.7**
37nm,0.9s,SNR=4.0
VIVF Saint-Julien-l 8.85 3 *e*Pn **Pn** **06 54 49.6 -1.3**
SNR=1.0
VIVF *e*Sn **Sn** **06 56 25.7 -4.6**
81nm,0.8s,SNR=1.0
VIVF Saint-Julien-l 8.85 3 P **Pn** **06 54 49.6 -1.3**
VIVF S **Sn** **06 56 25.7 -4.6**
40nm,0.8s
VIVF Saint-Julien-l 8.85 3 *e*P **Pn** **06 54 49.6 -1.3**
VIVF *e* 06 56 25.7
VIVF Saint-Julien-l 8.85 3 *e*Pn **Pn** **06 54 49.6 -1.3**
SNR=1.0
VIVF *e*Sn **Sn** **06 56 25.7 -4.6**
40nm,0.8s,SNR=1.0
VIVF Saint-Julien-l 8.85 3 *e*Pn **Pn** **06 54 49.6 -1.3**
VIVF *e*Sn **Sn** **06 56 25.7 -4.6**
EPLA Plasencia 8.93 300 P **Pn** **06 54 53.0 +1.0**
4.5nm,0.3s,SNR=11
MBDF Montbardon 8.96 13 *e*Pn **Pn** **06 54 51.1 -1.4**
SNR=1.0
MBDF *e*Sn **Sn** **06 56 28.3 -4.8**
79nm,0.8s
MBDF Montbardon 8.96 13 P **Pn** **06 54 51.1 -1.4**
MBDF S **Sn** **06 56 28.3 -4.8**
40nm,0.8s
MBDF Montbardon 8.96 13 *e*P **Pn** **06 54 51.1 -1.4**
MBDF *e* 06 56 28.3
MBDF Montbardon 8.96 13 *e*Pn **Pn** **06 54 51.1 -1.4**
SNR=1.0
MBDF *e*Sn **Sn** **06 56 28.3 -4.8**
40nm,0.8s
MBDF Montbardon 8.96 13 *e*Pn **Pn** **06 54 51.1 -1.4**
MBDF *e*Sn **Sn** **06 56 28.3 -4.8**
KIB El Ksiba 8.99 251 P **Pn** **06 54 53.0 +0.1**
KIB S **Sn** **06 56 31.0 -2.8**
KIB El Ksiba 8.99 251 *i* P **Pn** **06 54 53.0 +0.1**
KIB *i* S **Sn** **06 56 31.0 -2.8**
ORIF Oris-en-Rattie 9.01 9 *e*Pn **Pn** **06 54 51.3 -1.9**
SNR=1.0
ORIF *e*Sn **Sn** **06 56 29.4 -4.9**
87nm,1.1s
ORIF *e*R
3µm,18.0s
ORIF Oris-en-Rattie 9.01 9 P **Pn** **06 54 51.3 -1.9**
ORIF S **Sn** **06 56 29.4 -4.9**
43nm,1.1s
ORIF Oris-en-Rattie 9.01 9 *e*P **Pn** **06 54 51.3 -1.9**
ORIF *e* 06 56 29.4
ORIF Oris-en-Rattie 9.01 9 *e*Pn **Pn** **06 54 51.3 -1.9**
SNR=1.0
ORIF *e*Sn **Sn** **06 56 29.4 -4.9**
43nm,1.1s
ORIF Oris-en-Rattie 9.01 9 *e*Pn **Pn** **06 54 51.3 -1.9**
ORIF *e*Sn **Sn** **06 56 29.4 -4.9**
CAF Calviac 9.03 351 *e*Pn **Pn** **06 54 51.6 -1.7**
SNR=1.0
CAF Calviac 9.03 351 P **Pn** **06 54 51.6 -1.7**
CAF Calviac 9.03 351 *e*P **Pn** **06 54 51.6 -1.7**
CAF Calviac 9.03 351 *e*Pn **Pn** **06 54 51.6 -1.7**
SNR=1.0
CAF Calviac 9.03 351 *e*Pn **Pn** **06 54 51.6 -1.7**
PBAR Barrancos 9.09 287 *e*Pn **Pn** **06 54 54.7 +0.6**
PBAR A A 06 55 01.2
131nm,2.1s
PBAR *e*LR LR 06 55 29.2
PBAR Barrancos 9.09 287 P **Pn** **06 54 54.7 +0.6**
PBAR Barrancos 9.09 287 *e*Pn **Pn** **06 54 54.7 +0.6**
131nm,2.1s
EBAD Badajoz 9.19 291 P **Pn** **06 54 54.6 -0.9**
32nm,0.9s,SNR=24
EBAD S **Sn** **06 56 39.3 +0.7**
3.4nm,0.2s,SNR=7.9
ELAN Lanestosa 9.21 324 P **Pn** **06 54 57.3 +1.4**
26nm,0.8s,SNR=11
LBL Lubilhac 9.23 357 P **Pn** **06 54 57.7 +1.5**
LBL Lubilhac 9.23 357 P **Pn** **06 54 57.7 +1.5**

LFF La Frestale 9.26 345 *e*Pn **Pn** **06 54 55.3 -1.2**
SNR=1.0
LFF La Frestale 9.26 345 P **Pn** **06 54 55.3 -1.2**
LFF La Frestale 9.26 345 *e*P **Pn** **06 54 55.3 -1.2**
LFF La Frestale 9.26 345 *e*Pn **Pn** **06 54 55.3 -1.2**
SNR=1.0
LFF La Frestale 9.26 345 *e*Pn **Pn** **06 54 55.3 -1.2**
SSB Saint Sauveur 9.27 2 P **Pn** **06 54 57.7 +1.1**
SSB Saint Sauveur 9.27 2 *e*P **Pn** **06 54 57.2 +0.6**
SSB *e* 06 56 34.8
SSB pmax pmax
comp=Z,91nm,1.1s
SSB Saint Sauveur 9.27 2 *e*Pn **Pn** **06 54 57.2 +0.6**
comp=Z,90nm,1.1s
SSB Saint Sauveur 9.27 2 P **Pn** **06 54 57.7 +1.1**
SSB *e*Sn **Sn** **06 56 34.8 -5.8**
SSB Saint Sauveur 9.27 2 *e*Pn **Pn** **06 54 57.2 +0.6**
comp=Z,90nm,1.1s
SSB *e*Sn **Sn** **06 56 34.8 -5.8**
EGRO El Granado 9.35 283 P **Pn** **06 54 57.9 +0.2**
comp=Z,11nm,0.4s,SNR=11
EGRO S **Sn** **06 56 38.6 -3.8**
comp=Z,25nm,0.9s,SNR=4.0
RJF Les Rejaudoux 9.48 349 *e*Pn **Pn** **06 54 58.1 -1.3**
SNR=1.0
RJF *e*R
comp=Z,4µm,18.8s
RJF Les Rejaudoux 9.48 349 P **Pn** **06 54 58.1 -1.3**
RJF Les Rejaudoux 9.48 349 *e*P **Pn** **06 54 58.1 -1.3**
RJF Les Rejaudoux 9.48 349 *e*Pn **Pn** **06 54 58.1 -1.3**
SNR=1.0
RJF Les Rejaudoux 9.48 349 *e*Pn **Pn** **06 54 58.1 -1.3**
VLC Villacollemand 9.49 29 *e*Pn **Pn** **06 55 01.2 +1.5**
VLC Villacollemand 9.49 29 *e*Pn **Pn** **06 55 01.2 +1.5**
COLF Collangettes 9.50 359 P **Pn** **06 55 00.5 +0.7**
COLF Collangettes 9.50 359 P **Pn** **06 55 00.5 +0.7**
PVAQ Vaqueiros 9.52 282 *e*Pn **Pn** **06 55 00.4 +0.4**
PVAQ *e*LR LR 06 55 31.6
PVAQ Vaqueiros 9.52 282 P **Pn** **06 55 00.4 +0.4**
PVAQ Vaqueiros 9.52 282 *e*Pn **Pn** **06 55 00.4 +0.4**
TZC Tazercounte 9.52 249 P **Pn** **06 55 01.0 +0.8**
TZC S **Sn** **06 56 44.0 -3.0**
TZC Tazercounte 9.52 249 *i* P **Pn** **06 55 01.0 +0.8**
TZC *i* S **Sn** **06 56 44.0 -3.0**
PESTR Estremoz 9.65 291 *e*Pn **Pn** **06 55 03.0 +1.1**
PESTR A A 06 55 08.4
comp=Z,64nm,0.9s
PESTR *e*LR LR 06 55 09.3
PESTR *e*Sn Sn 06 56 59.1 +9.1
PESTR Estremoz 9.65 291 *e*Pn **Pn** **06 55 03.0 +1.1**
comp=Z,64nm,0.9s
PESTR *e*Sn Sn 06 56 59.1 +9.1
PMRV Marv??o 9.65 294 *e*Pn **Pn** **06 55 03.6 +1.7**
PMRV *e*LR LR 06 55 06.5
PMRV A A 06 55 11.7
comp=Z,249nm,1.8s
PMRV *e*Sn Sn 06 56 57.8 +7.8
PMRV Marv??o 9.65 294 P **Pn** **06 55 03.6 +1.7**
PMRV S Sn 06 56 57.8 +7.8
PMRV Marv??o 9.65 294 *e*Pn **Pn** **06 55 03.6 +1.7**
comp=Z,249nm,1.8s
PMRV *e*Sn Sn 06 56 57.8 +7.8
PBDV Barranco-do-Ve 9.68 281 *e*Pn **Pn** **06 55 02.4 +0.2**
PBDV *e*LR LR 06 55 03.4
PBDV A A 06 55 07.4
comp=Z,81nm,1.6s
PBDV *e*Sn **Sn** **06 56 52.3 +1.7**
PBDV Barranco-do-Ve 9.68 281 P **Pn** **06 55 02.4 +0.2**
PBDV S **Sn** **06 56 52.3 +1.7**
PBDV Barranco-do-Ve 9.68 281 *e*Pn **Pn** **06 55 02.4 +0.2**
comp=Z,81nm,1.6s
PBDV *e*Sn **Sn** **06 56 52.3 +1.7**
LPG La Plagne 9.70 12 *e*Pn **Pn** **06 55 01.6 -1.2**
SNR=1.0
LPG *e*Sn **Sn** **06 56 45.8 -5.8**
comp=Z,81nm,1.0s,SNR=1.0
LPG La Plagne 9.70 12 P **Pn** **06 55 01.6 -1.2**
LPG S **Sn** **06 56 45.8 -5.8**
comp=Z,41nm,1.0s
LPG La Plagne 9.70 12 *e*P **Pn** **06 55 01.6 -1.2**
LPG *e* 06 56 45.8
LPG La Plagne 9.70 12 *e*Pn **Pn** **06 55 01.6 -1.2**
SNR=1.0
LPG *e*Sn **Sn** **06 56 45.8 -5.8**
comp=Z,41nm,1.0s,SNR=1.0
LPG La Plagne 9.70 12 *e*Pn **Pn** **06 55 01.6 -1.2**
LPG *e*Sn **Sn** **06 56 45.8 -5.8**
LPL La Plagne 9.72 11 *e*Pn **Pn** **06 55 01.8 -1.2**
SNR=1.0
LPL *e*Sn **Sn** **06 56 46.4 -5.5**
comp=Z,47nm,0.7s
LPL La Plagne 9.72 11 P **Pn** **06 55 01.8 -1.2**
LPL S **Sn** **06 56 46.4 -5.5**
comp=Z,24nm,0.7s
LPL La Plagne 9.72 11 *e*P **Pn** **06 55 01.8 -1.2**
LPL *e* 06 56 46.4
LPL La Plagne 9.72 11 *e*Pn **Pn** **06 55 01.8 -1.2**
SNR=1.0
LPL *e*Sn **Sn** **06 56 46.4 -5.5**
comp=Z,24nm,0.7s
LPL La Plagne 9.72 11 *e*Pn **Pn** **06 55 01.8 -1.2**
LPL *e*Sn **Sn** **06 56 46.4 -5.5**
PYM Petit Puy Mans 9.76 356 P **Pn** **06 55 05.2 +1.8**
PYM Petit Puy Mans 9.76 356 P **Pn** **06 55 05.2 +1.8**
PCVE Castro Verde 9.79 283 *e*Pn **Pn** **06 55 04.8 +1.0**
PCVE A A 06 55 11.2
comp=Z,20nm,2.1s
PCVE *e*LR LR 06 55 23.5
PCVE Castro Verde 9.79 283 P **Pn** **06 55 04.8 +1.0**
PCVE Castro Verde 9.79 283 *e*Pn **Pn** **06 55 04.8 +1.0**
comp=Z,20nm,2.1s
PCBR Castelo Branco 9.85 296 *e*Pn **Pn** **06 55 05.7 +1.2**
PCBR A A 06 55 14.2
comp=Z,216nm,1.5s
PCBR Castelo Branco 9.85 296 P **Pn** **06 55 05.7 +1.2**
PCBR Castelo Branco 9.85 296 *e*Pn **Pn** **06 55 05.7 +1.2**
comp=Z,216nm,1.5s
EVO Evora 9.91 288 *e*Pn **Pn** **06 55 02.7 -2.6**
EVO *e*Sn Sn 06 56 49.2 -7.0
comp=Z,53nm,0.9s
EVO *e*R
comp=Z,4µm,21.0s
EVO Evora 9.91 288 *e*Pn **Pn** **06 55 05.3 0.0**
EVO A A 06 55 12.5
comp=Z,92nm,1.8s
EVO Evora 9.91 288 P **Pn** **06 55 05.3 0.0**
EVO Evora 9.91 288 *e*Pn **Pn** **06 55 05.3 0.0**
comp=Z,92nm,1.8s
PLDF La Plantade 9.96 358 P **Pn** **06 55 07.5 +1.4**
PLDF La Plantade 9.96 358 P **Pn** **06 55 07.5 +1.4**
MESJ Messejana 9.96 284 *e*P **Pn** **06 55 06.5 +0.4**
MESJ AMS AMS 06 58 35.2
comp=N,3µm,18.6s
MESJ Messejana 9.96 284 *e*Pn **Pn** **06 55 06.7 +0.6**
MESJ A A 06 55 13.0
comp=N,52nm,1.7s
MESJ Messejana 9.96 284 P **Pn** **06 55 06.5 +0.4**
MESJ Messejana 9.96 284 *e*Pn **Pn** **06 55 06.7 +0.6**
comp=N,52nm,1.7s
EVOP Sao Brissos 9.99 288 *e*P Pn 06 55 02.7 -3.8
EVOP *e* 06 56 49.2
EVOP Sao Brissos 9.99 288 *e*Pn Pn 06 55 02.7 -3.8
EVOP *e*Sn Sn 06 56 49.2 -9.0
comp=N,27nm,0.9s
EVOP Sao Brissos 9.99 288 *e*Pn Pn 06 55 02.7 -3.8
EVOP *e*Sn Sn 06 56 49.2 -9.0
MVO Moncorvo 10.05 304 *e*LR LR 06 55 04.8
MVO Moncorvo 10.05 304 *e*Pn **Pn** **06 55 08.7 +1.3**
MVO A A 06 55 14.4
comp=N,70nm,0.9s
MVO Moncorvo 10.05 304 P **Pn** **06 55 08.2 +0.8**
comp=N,9.8nm,0.3s,SNR=18
MVO Moncorvo 10.05 304 *e*Pn **Pn** **06 55 08.7 +1.3**
comp=N,70nm,0.9s
AGO Saint Agoulin 10.06 357 P **Pn** **06 55 08.9 +1.5**
AGO Saint Agoulin 10.06 357 P **Pn** **06 55 08.9 +1.5**
EARI Arriondas 10.17 319 P **Pn** **06 55 10.8 +1.8**
comp=N,35nm,0.5s,SNR=36
PBRG Braganca 10.18 308 *e*Pn **Pn** **06 55 10.6 +1.5**
PBRG *e*LR LR 06 55 15.2
PBRG A A 06 55 15.6
comp=N,69nm,1.4s
PBRG Braganca 10.18 308 P **Pn** **06 55 10.6 +1.5**
PBRG Braganca 10.18 308 *e*Pn **Pn** **06 55 10.6 +1.5**
comp=N,69nm,1.4s
PMTG Montargil 10.18 291 *e*Pn **Pn** **06 55 09.9 +0.8**
PMTG *e*LR LR 06 55 11.7
PMTG A A 06 55 20.0
comp=N,81nm,2.1s
PMTG Montargil 10.18 291 *e*Pn **Pn** **06 55 09.9 +0.8**
comp=N,81nm,2.1s
PNCL Nicolau / Gran 10.24 286 *e*Pn **Pn** **06 55 09.5 -0.4**
PNCL *e*LR LR 06 55 13.5
PNCL A A 06 55 16.9
comp=N,56nm,1.5s
PNCL Nicolau / Gran 10.24 286 *e*Pn **Pn** **06 55 09.5 -0.4**
comp=N,56nm,1.5s
ECAL Calabor 10.25 309 P **Pn** **06 55 11.4 +1.3**
comp=N,34nm,0.3s,SNR=48
MORF Marmelete 10.25 281 *e*P **Pn** **06 55 10.6 +0.5**
MORF AMS AMS 06 58 55.5
comp=N,4µm,19.4s
MORF Marmelete 10.25 281 *e*Pn **Pn** **06 55 11.0 +0.9**
MORF A A 06 55 17.2
comp=N,96nm,1.4s
MORF *e*LR LR 06 55 55.7
MORF Marmelete 10.25 281 P **Pn** **06 55 10.6 +0.5**
MORF Marmelete 10.25 281 *e*Pn **Pn** **06 55 11.0 +0.9**
comp=N,96nm,1.4s
PTEO Sao Teotonio 10.33 282 *e*Pn **Pn** **06 55 12.2 +1.1**
PTEO A A 06 55 23.7
comp=N,81nm,1.5s
PTEO Sao Teotonio 10.33 282 P **Pn** **06 55 12.2 +1.1**
PTEO Sao Teotonio 10.33 282 *e*Pn **Pn** **06 55 12.2 +1.1**
comp=N,81nm,1.5s
TCF Toulx Ste Croi 10.36 353 *e*Pn **Pn** **06 55 11.7 +0.2**
SNR=1.0
TCF Toulx Ste Croi 10.36 353 P **Pn** **06 55 11.7 +0.2**
TCF Toulx Ste Croi 10.36 353 *e*P **Pn** **06 55 11.7 +0.2**
TCF Toulx Ste Croi 10.36 353 *e*Pn **Pn** **06 55 11.7 +0.2**
SNR=1.0
TCF Toulx Ste Croi 10.36 353 *e*Pn **Pn** **06 55 11.7 +0.2**
PFVI Vila Bisbo 10.38 280 *e*Pn **Pn** **06 55 11.6 -0.3**
PFVI *e*LR LR 06 55 16.0
PFVI A A 06 55 18.2
comp=N,189nm,1.9s
PFVI Vila Bisbo 10.38 280 P **Pn** **06 55 11.6 -0.3**
comp=N,16nm,0.3s,SNR=4.0
PFVI Vila Bisbo 10.38 280 *e*Pn **Pn** **06 55 11.6 -0.3**
comp=N,189nm,1.9s
PVIS Viseu 10.46 300 *e*Pn **Pn** **06 55 14.9 +2.0**
PVIS A A 06 55 20.6
comp=N,40nm,1.0s
PVIS Viseu 10.46 300 P **Pn** **06 55 14.9 +2.0**
PVIS Viseu 10.46 300 *e*Pn **Pn** **06 55 14.9 +2.0**
comp=N,40nm,1.0s
PTOM Tomar 10.46 294 *e*Pn **Pn** **06 55 14.4 +1.4**
PTOM A A 06 55 21.6
comp=N,142nm,2.2s
PTOM Tomar 10.46 294 P **Pn** **06 55 14.4 +1.4**
PTOM Tomar 10.46 294 *e*Pn **Pn** **06 55 14.4 +1.4**
comp=N,142nm,2.2s
OG01 Vacheresse 10.51 10 P **Pn** **06 55 15.7 +2.1**
OG01 Vacheresse 10.51 10 P **Pn** **06 55 15.7 +2.1**
PVRL Vila Real 10.57 303 *e*Pn **Pn** **06 55 16.2 +1.8**
PVRL A A 06 55 24.8
comp=N,40nm,1.6s
PVRL Vila Real 10.57 303 P **Pn** **06 55 16.2 +1.8**
PVRL Vila Real 10.57 303 *e*Pn **Pn** **06 55 16.2 +1.8**
comp=N,40nm,1.6s
TIP Timpagrande 10.60 69 *e*Pn **Pn** **06 55 15.4 +0.5**
TIP Timpagrande 10.60 69 *e*Pn **Pn** **06 55 15.4 +0.5**
SMF Signal de Mont 10.63 359 *e*Pn **Pn** **06 55 13.3 -1.9**
SNR=1.0
SMF Signal de Mont 10.63 359 P **Pn** **06 55 13.3 -1.9**
SMF Signal de Mont 10.63 359 *e*P **Pn** **06 55 13.3 -1.9**
SMF Signal de Mont 10.63 359 *e*Pn **Pn** **06 55 13.3 -1.9**
SNR=1.0
SMF Signal de Mont 10.63 359 *e*Pn **Pn** **06 55 13.3 -1.9**
SENIN Lac Senin/Sane 10.64 12 *e*Pn **Pn** **06 55 17.1 +1.6**
SENIN Lac Senin/Sane 10.64 12 *e*Pn **Pn** **06 55 17.1 +1.6**
PCAS Casmilo, Conde 10.66 296 *e*LR LR 06 55 09.6
PCAS Casmilo, Conde 10.66 296 *e*Pn **Pn** **06 55 18.2 +2.6**
PCAS A A 06 55 24.8
comp=N,146nm,1.7s
PCAS Casmilo, Conde 10.66 296 *e*Pn **Pn** **06 55 18.2 +2.6**
comp=N,146nm,1.7s
POLO Lamas de Olo 10.66 304 *e*Pn **Pn** **06 55 17.8 +2.0**
POLO *e*LR LR 06 55 22.8
POLO A A 06 55 26.1
comp=N,26nm,1.9s
POLO Lamas de Olo 10.66 304 *e*Pn **Pn** **06 55 17.8 +2.0**
comp=N,26nm,1.9s
CABF La Chapelle 10.71 8 *e*Pn **Pn** **06 55 15.1 -1.3**
SNR=1.0
CABF La Chapelle 10.71 8 P **Pn** **06 55 15.1 -1.3**
CABF La Chapelle 10.71 8 *e*P **Pn** **06 55 15.1 -1.3**
CABF La Chapelle 10.71 8 *e*Pn **Pn** **06 55 15.1 -1.3**
SNR=1.0
CABF La Chapelle 10.71 8 *e*Pn **Pn** **06 55 15.1 -1.3**
AVF Avril sur Loir 10.78 358 *e*Pn **Pn** **06 55 15.7 -1.6**
AVF Avril sur Loir 10.78 358 P **Pn** **06 55 15.7 -1.6**
AVF Avril sur Loir 10.78 358 *e*P **Pn** **06 55 15.7 -1.6**
AVF Avril sur Loir 10.78 358 *e*Pn **Pn** **06 55 15.7 -1.6**
AVF Avril sur Loir 10.78 358 *e*Pn **Pn** **06 55 15.7 -1.6**
PMAFR Mafra 10.96 290 *e*LR LR 06 55 25.0
PMAFR Mafra 10.96 290 P **Pn** **06 55 18.8 -1.0**
comp=N,8.9nm,0.4s,SNR=4.0
PCAB Cabril 10.97 305 *e*Pn **Pn** **06 55 22.4 +2.5**
PCAB A A 06 55 27.0
comp=N,61nm,1.2s
PCAB Cabril 10.97 305 P **Pn** **06 55 22.4 +2.5**
PCAB Cabril 10.97 305 *e*Pn **Pn** **06 55 22.4 +2.5**
comp=N,61nm,1.2s
MFF Saint Martin d 11.03 345 *e*Pn **Pn** **06 55 20.0 -0.7**
SNR=1.0
MFF Saint Martin d 11.03 345 P **Pn** **06 55 20.0 -0.7**
MFF Saint Martin d 11.03 345 *e*P **Pn** **06 55 20.0 -0.7**
MFF Saint Martin d 11.03 345 *e*Pn **Pn** **06 55 20.0 -0.7**
SNR=1.0
MFF Saint Martin d 11.03 345 *e*Pn **Pn** **06 55 20.0 -0.7**
SSF Saint Saulge 11.05 358 *e*Pn **Pn** **06 55 21.3 +0.3**
SNR=1.0
SSF Saint Saulge 11.05 358 P **Pn** **06 55 21.3 +0.3**
SSF Saint Saulge 11.05 358 *e*P **Pn** **06 55 21.3 +0.3**
SSF Saint Saulge 11.05 358 *e*Pn **Pn** **06 55 21.3 +0.3**
SNR=1.0
SSF Saint Saulge 11.05 358 *e*Pn **Pn** **06 55 21.3 +0.3**
ELOB Lobios 11.07 306 P **Pn** **06 55 22.8 +1.5**
comp=N,2.7nm,0.2s,SNR=13
TUE Stuetta 11.20 19 *e*Pn **Pn** **06 55 24.5 +1.3**
comp=N,371nm,0.4s
TUE Stuetta 11.20 19 *e*Pn **Pn** **06 55 24.5 +1.3**
comp=N,371nm,0.4s
PGAV Gavieira, Arco 11.25 306 *e*Pn **Pn** **06 55 26.1 +2.3**
PGAV *e*LR LR 06 55 26.9
PGAV A A 06 55 38.9
comp=N,93nm,1.6s
PGAV Gavieira, Arco 11.25 306 *e*Pn **Pn** **06 55 26.1 +2.3**
comp=N,93nm,1.6s
LOR Lormes 11.25 359 *e*Pn **Pn** **06 55 23.5 -0.2**
baz=179
LOR *e*R
comp=N,3µm,17.8s
LOR Lormes 11.25 359 P **Pn** **06 55 23.5 -0.2**
LOR Lormes 11.25 359 *e*P **Pn** **06 55 23.5 -0.2**
LOR Lormes 11.25 359 *e*Pn **Pn** **06 55 23.5 -0.2**
LOR Lormes 11.25 359 *e*Pn **Pn** **06 55 23.5 -0.2**
EPON Pontenova 11.28 314 P **Pn** **06 55 26.5 +2.4**
comp=N,4.5nm,0.3s,SNR=5.6
HYF Humbligny 11.30 355 *e*Pn **Pn** **06 55 22.4 -2.0**
HYF Humbligny 11.30 355 P **Pn** **06 55 22.4 -2.0**
HYF Humbligny 11.30 355 *e*Pn **Pn** **06 55 22.4 -2.0**
HYF Humbligny 11.30 355 *e*Pn **Pn** **06 55 22.4 -2.0**
LOMF Lomont 11.53 10 P **Pn** **06 55 28.9 +1.3**
LOMF Lomont 11.53 10 P **Pn** **06 55 28.9 +1.3**
FUORN Ofenpass-Fuorn 11.59 22 *e*Pn Pn 06 55 32.2 +3.6
FUORN Ofenpass-Fuorn 11.59 22 *e*Pn Pn 06 55 32.2 +3.6
DAVOX Davos/Dischmat 11.63 20 Pn **Pn** **06 55 30.0 +1.0**
comp=N,0.7nm,0.3s,baz=237,slow=7.6,SNR=7.5
DAVOX LR LR 06 59 32.0
comp=N,460nm,18.8s,baz=210,slow=35
DAVOX Davos/Dischmat 11.63 20 P **Pn** **06 55 30.0 +1.0**
DAVOX pmax pmax
comp=Z,1.0nm,0.3s
DAVOX MLR MLR
comp=Z,460nm,18.8s
DAVOX Davos/Dischmat 11.63 20 Pn **Pn** **06 55 30.0 +1.0**
DAVOX Davos/Dischmat 11.63 20 Pn **Pn** **06 55 30.0 +1.0**

STS	Santiago	11.88	309	P		Pn	06 55 34.6	+2.2	
	comp=Z,3.2nm,0.2s,SNR=4.0								
HINF	Hinteralfeld	11.99	9	*e*Pn		Pn	06 55 32.3	-1.5	
	SNR=1.0								
HINF	Hinteralfeld	11.99	9	P		Pn	06 55 32.3	-1.5	
HINF	Hinteralfeld	11.99	9	*e*P		Pn	06 55 32.3	-1.5	
HINF	Hinteralfeld	11.99	9	*e*Pn		Pn	06 55 32.3	-1.5	
	SNR=1.0								
HINF	Hinteralfeld	11.99	9	*e*Pn		Pn	06 55 32.3	-1.5	
MOF	Molkenrain	12.06	10	P		Pn	06 55 36.3	+1.4	
MOF	Molkenrain	12.06	10	P		Pn	06 55 36.3	+1.4	
DAVA	Damuels	12.09	19⇑	*i*P		P	06 55 42.4	-5.7	
	comp=Z,85nm,1.1s,SNR=8.0								
FETA	Feichten	12.10	22⇑	*i*P		Pn	06 55 40.8	+5.4	
	comp=Z,20nm,0.9s								
HAU	Haudompre	12.11	8	*e*Pn		Pn	06 55 34.2	-1.3	
	SNR=1.0								
HAU				*e*R					
	comp=Z,849nm,21.0s								
HAU	Haudompre	12.11	8	P		Pn	06 55 34.2	-1.3	
HAU	Haudompre	12.11	8	*e*P		Pn	06 55 34.2	-1.3	
HAU	Haudompre	12.11	8	*e*Pn		Pn	06 55 34.2	-1.3	
	SNR=1.0								
HAU	Haudompre	12.11	8	*e*Pn		Pn	06 55 34.2	-1.3	
EMAZ	Mazaricos	12.19	309	P		Pn	06 55 37.8	+1.3	
	comp=Z,4.8nm,0.3s,SNR=10								
SFTF	Sexfontaines	12.21	3	*e*Pn		Pn	06 55 35.7	-1.2	
	baz=167								
SFTF	Sexfontaines	12.21	3	P		Pn	06 55 35.7	-1.2	
SFTF	Sexfontaines	12.21	3	*e*Pn		Pn	06 55 35.7	-1.2	
SFTF	Sexfontaines	12.21	3	*e*Pn		Pn	06 55 35.7	-1.2	
FELD	Feldberg im Sc	12.22	13	P		Pn	06 55 37.9	+0.8	
THEF	They Montfort	12.30	6	P		Pn	06 55 38.4	+0.4	
THEF	They Montfort	12.30	6	P		Pn	06 55 38.4	+0.4	
ECH	Echery	12.42	10	P		Pn	06 55 40.1	+0.4	
ECH	Echery	12.42	10	*e*P		Pn	06 55 40.3	+0.6	
ECH				*e*			06 57 54.6		
ECH					pmax	pmax			
	comp=Z,65nm,1.4s								
ECH	Echery	12.42	10	P		Pn	06 55 40.1	+0.4	
ECH				*e*Sn		Sn	06 57 54.6	-3.1	
ECH	Echery	12.42	10	*e*Pn		Pn	06 55 40.3	+0.6	
	comp=Z,65nm,1.4s								
ECH				*e*Sn		Sn	06 57 54.6	-3.1	
ABTA	Abfaltersbach	12.48	28	*i* P		Pn	06 55 44.9	+4.4	
	comp=Z,75nm,1.3s,SNR=20								
MOTA	Moosalm	12.50	23⇓	*i*P		Pn	06 55 44.2	+3.3	
	comp=Z,36nm,0.9s								
MOTA	Moosalm	12.50	23	P		Pn	06 55 44.2	+3.3	
	comp=Z,36nm,0.9s								
MEZF	Maizieres J'vi	12.51	3	*e*Pn		Pn	06 55 39.7	-1.2	
	baz=189,SNR=1.0								
MEZF	Maizieres J'vi	12.51	3	P		Pn	06 55 39.7	-1.2	
MEZF	Maizieres J'vi	12.51	3	*e*Pn		Pn	06 55 39.7	-1.2	
	SNR=1.0								
MEZF	Maizieres J'vi	12.51	3	*e*Pn		Pn	06 55 39.7	-1.2	
RETA	Reutte	12.52	22⇑	*i*P		P	06 55 47.7	-5.1	
	comp=Z,55nm,1.0s,SNR=13								
PAGF	Fort de Pagny	12.60	5	*e*Pn		Pn	06 55 40.6	-1.6	
	baz=185								
PAGF	Fort de Pagny	12.60	5	*e*Pn		Pn	06 55 40.6	-1.6	
PAGF	Fort de Pagny	12.60	5	*e*Pn		Pn	06 55 40.6	-1.6	
WTTA	Wattenberg	12.60	24⇑	*i*P		Pn	06 55 45.8	+3.5	
	comp=Z,38nm,1.1s,SNR=9.1								
CDF	Champ du Feu	12.63	10	*e*Pn		Pn	06 55 40.8	-1.8	
	SNR=1.0								
CDF	Champ du Feu	12.63	10	P		Pn	06 55 40.8	-1.8	
CDF	Champ du Feu	12.63	10	*e*P		Pn	06 55 40.8	-1.8	
CDF	Champ du Feu	12.63	10	*e*Pn		Pn	06 55 40.8	-1.8	
	SNR=1.0								
CDF	Champ du Feu	12.63	10	*e*Pn		Pn	06 55 40.8	-1.8	
WATA	Walderalm	12.64	24⇓	*i*P		Pn	06 55 48.3	+5.4	
	comp=Z,76nm,1.4s,SNR=6.9								
BFO	Black Forest	12.72	13	Pn		Pn	06 55 44.2	+0.4	
	comp=Z,116nm,1.5s,SNR=6.2								
BFO	Black Forest	12.72	13	*e*P		Pn	06 55 48.1	+4.3	
	comp=Z,48nm,1.4s								
BFO				*e*L		L	06 59 39.1		
	comp=Z,983nm,20.6s								
BFO	Black Forest	12.72	13	*e*P		Pn	06 55 44.6	+0.8	
BFO	Black Forest	12.72	13	*e*Pn		Pn	06 55 44.6	+0.8	
BFO	Black Forest	12.72	13	*e*P		Pn	06 55 48.1	+4.3	
	comp=Z,48nm,1.4s								
BFO	Black Forest	12.72	13	*e*Pn		Pn	06 55 44.6	+0.8	
GRR	Gorron	12.88	345	*e*Pn		Pn	06 55 45.3	-0.7	
GRR	Gorron	12.88	345	P		Pn	06 55 45.3	-0.7	
GRR	Gorron	12.88	345	*e*P		Pn	06 55 45.3	-0.7	
GRR	Gorron	12.88	345	*e*Pn		Pn	06 55 45.3	-0.7	
GRR	Gorron	12.88	345	*e*Pn		Pn	06 55 45.3	-0.7	
LDF	La Druitiere	12.94	348	*e*Pn		Pn	06 55 46.4	-0.4	
LDF	La Druitiere	12.94	348	*e*P		Pn	06 55 46.4	-0.4	
LDF	La Druitiere	12.94	348	*e*Pn		Pn	06 55 46.4	-0.4	
LDF	La Druitiere	12.94	348	*e*Pn		Pn	06 55 46.4	-0.4	
KEK	Kerkira	13.01	69	*e*P		P	06 55 57.4	-0.8	
QUIF	Quistinic	13.03	338	*e*Pn		Pn	06 55 47.8	-0.2	
	SNR=1.0								
QUIF	Quistinic	13.03	338	P		Pn	06 55 47.8	-0.2	
QUIF	Quistinic	13.03	338	*e*P		Pn	06 55 47.8	-0.2	
QUIF	Quistinic	13.03	338	*e*Pn		Pn	06 55 47.8	-0.2	
	SNR=1.0								
QUIF	Quistinic	13.03	338	*e*Pn		Pn	06 55 47.8	-0.2	
KBA	Koelnbreinsper	13.07	29	*i* P		Pn	06 55 53.7	+4.9	
	comp=Z,35nm,1.2s,SNR=9.7								
OBKA	Obir	13.14	34⇑	*i*P		Pn	06 55 52.9	+3.3	
	comp=Z,34nm,1.4s,SNR=6.4								
OBKA	Obir	13.14	34	P		Pn	06 55 52.9	+3.3	
	comp=Z,34nm,1.4s,SNR=6.4								
SGMF	Saint Gilles	13.16	340	*e*Pn		Pn	06 55 48.8	-1.0	
	SNR=1.0								
SGMF	Saint Gilles	13.16	340	P		Pn	06 55 48.8	-1.0	
SGMF	Saint Gilles	13.16	340	*e*P		Pn	06 55 48.8	-1.0	
SGMF	Saint Gilles	13.16	340	*e*Pn		Pn	06 55 48.8	-1.0	
	SNR=1.0								
SGMF	Saint Gilles	13.16	340	*e*Pn		Pn	06 55 48.8	-1.0	
FLN	La Foliniere	13.17	347	*e*Pn		Pn	06 55 50.2	+0.3	
	baz=167,SNR=1.0								
FLN				*e*R					
	comp=Z,3μm,16.8s								
FLN	La Foliniere	13.17	347	P		Pn	06 55 50.2	+0.3	
FLN	La Foliniere	13.17	347	*e*P		Pn	06 55 50.2	+0.3	
FLN	La Foliniere	13.17	347	*e*Pn		Pn	06 55 50.2	+0.3	
	SNR=1.0								
FLN	La Foliere	13.17	347	*e*Pn		Pn	06 55 50.2	+0.3	
TAM	Tamanrasset	13.24	174	*e*P		Pn	06 55 48.4	-2.7	
TAM					pmax	pmax			
	comp=Z,28nm,0.7s								
TAM	Tamanrasset	13.24	174	*e*Pn		Pn	06 55 48.4	-2.7	
	comp=Z,28nm,0.7s								
TAM				*e*Sn		Sn	06 58 08.1	-10	
TAM	Tamanrasset	13.24	174	*e*Pn		Pn	06 55 48.4	-2.7	
	comp=Z,28nm,0.7s								
TAM				*e*Sn		Sn	06 58 08.1	-10	
LANF	Langenberg	13.26	11	P		Pn	06 55 52.2	+1.0	
LANF	Langenberg	13.26	11	P		Pn	06 55 52.2	+1.0	
FUR	Furstenfeldbru	13.28	22	*e*P		Pn	06 55 56.0	+4.5	
	comp=Z,166nm,1.4s								
FUR				*e*L		L	07 00 35.9		
	comp=Z,1μm,18.0s								
FUR	Furstenfeldbru	13.28	22	*e*P		Pn	06 55 56.0	+4.5	
	comp=Z,166nm,1.4s								
STU	Stuttgart	13.31	15	*e*L		L	07 00 16.9		
	comp=Z,2μm,18.2s								
STU	Stuttgart	13.31	15	*e*P		Pn	06 55 54.9	+3.0	
STU	Stuttgart	13.31	15	*e*Pn		Pn	06 55 54.9	+3.0	
STU	Stuttgart	13.31	15	*e*Pn		Pn	06 55 54.9	+3.0	
IGT	Igoumenitsa	13.38	70	*e*P		P	06 56 02.1	-0.3	
RJOB	Jochberg	13.41	26	*e*P		P	06 55 58.7	-4.0	
	comp=Z,35nm,1.3s								
RJOB	Jochberg	13.41	26	*e*P		P	06 55 58.7	-4.0	
	comp=Z,35nm,1.3s								
ROSF	Rostrenen	13.44	339	*e*Pn		Pn	06 55 52.6	-1.0	
	SNR=1.0								
ROSF	Rostrenen	13.44	339	P		Pn	06 55 52.6	-1.0	
ROSF	Rostrenen	13.44	339	*e*P		Pn	06 55 52.6	-1.0	
ROSF	Rostrenen	13.44	339	*e*Pn		Pn	06 55 52.6	-1.0	
	SNR=1.0								
ROSF	Rostrenen	13.44	339	*e*Pn		Pn	06 55 52.6	-1.0	
SOKA	Soboth	13.48	34⇑	*i*P		Pn	06 55 57.4	+3.1	
	comp=Z,34nm,1.2s,SNR=13								
SOKA	Soboth	13.48	34	P		Pn	06 55 57.4	+3.1	
	comp=Z,34nm,1.2s,SNR=13								
WLF	Walferdange	13.74	6	P		Pn	06 55 59.6	+1.9	
	comp=Z,29nm,1.7s								
WLF	Walferdange	13.74	6	*e*P		Pn	06 55 59.6	+1.9	
WLF	Walferdange	13.74	6	P		Pn	06 55 59.5	+1.9	
	comp=Z,29nm,1.7s								
WLF	Walferdange	13.74	6	*e*Pn		Pn	06 55 59.6	+1.9	
JAN	Janina	13.80	70	P		P	06 56 03.0	-4.0	
JAN	Janina	13.80	70	*e*P		P	06 56 07.1	+0.1	
JAN	Janina	13.80	70	P		P	06 56 03.0	-4.0	
JAN	Janina	13.80	70	P		P	06 56 03.0	-4.0	
JAN	Janina	13.80	70	P		P	06 56 03.0	-4.0	
KNS	Konitsa	13.81	68	P		Pn	06 56 00.6	+1.8	
KNS	Konitsa	13.81	68	P		Pn	06 56 00.6	+1.8	
KNS	Konitsa	13.81	68	P		Pn	06 56 00.6	+1.8	
RUP	Ruppelstein	13.87	8	P		Pn	06 56 00.2	+0.7	
PDO	Prodromos	13.92	74	*e*P		Pn	06 56 04.2	+4.0	
TOD	Tromm	14.03	13	P		Pn	06 56 03.2	+1.5	
BAIF	Baives	14.04	1	*e*Pn		Pn	06 56 01.4	-0.4	
	SNR=1.0								
BAIF	Baives	14.04	1	P		Pn	06 56 01.4	-0.4	
BAIF	Baives	14.04	1	*e*P		Pn	06 56 01.4	-0.4	
BAIF	Baives	14.04	1	*e*Pn		Pn	06 56 01.4	-0.4	
	SNR=1.0								
BAIF	Baives	14.04	1	*e*Pn		Pn	06 56 01.4	-0.4	
MOA	Molln	14.06	30⇑	*i*P		P	06 56 06.5	-3.4	
	comp=Z,35nm,1.4s,SNR=5.3								
MOA	Molln	14.06	30	P		P	06 56 06.5	-3.4	
	comp=Z,35nm,1.4s,SNR=5.3								
DOU	Dourbes	14.09	2	P		Pn	06 56 04.0	+1.6	
	comp=Z,40nm,1.4s								
OHR	Ohrid	14.09	64	*i* P		P	06 56 10.0	-0.2	
RLS	Riolos of Patr	14.10	76	*e*P		P	06 56 08.9	-1.4	
GIVF	Givet	14.10	2	*e*Pn		Pn	06 56 01.8	-0.8	
GIVF	Givet	14.10	2	P		Pn	06 56 01.8	-0.8	
GIVF	Givet	14.10	2	*e*P		Pn	06 56 01.8	-0.8	
GIVF	Givet	14.10	2	*e*Pn		Pn	06 56 01.8	-0.8	
GIVF	Givet	14.10	2	*e*Pn		Pn	06 56 01.8	-0.8	
ABH	Alteburg	14.10	9	P		Pn	06 56 03.9	+1.2	
ARSA	Arzberg	14.13	34	*i* P		Pn	06 56 06.7	+3.5	
	comp=Z,46nm,1.2s,SNR=6.3								
ARSA	Arzberg	14.13	34	P		Pn	06 56 06.7	+3.5	
	comp=Z,46nm,1.2s,SNR=6.3								
AMT	Artemida-Makis	14.27	79	*e*P		P	06 56 14.4	+2.1	
DRO	Drossia	14.29	77	P		P	06 56 12.7	+0.3	
DRO	Drossia	14.29	77	*e*P		P	06 56 12.6	+0.2	
DRO	Drossia	14.29	77	P		P	06 56 12.7	+0.3	
PYL	PYLOS	14.31	81	*e*P		Pn	06 56 00.8	-4.7	
BCLA	Clavier	14.44	3	P		Pn	06 56 08.7	+1.5	
	comp=Z,34nm,1.5s								
EVR	Evrytania	14.44	73	*e*P		Pn	06 56 09.8	+2.4	
ITM	Ithomi	14.45	80	*e*P		Pn	06 56 08.2	+0.7	
EFP	Efpalio	14.47	75	*e*P		P	06 56 11.8	-2.6	
SNF	Seneffe	14.49	1	P		Pn	06 56 08.6	+0.6	
TNS	Taunus Mts	14.57	11	*e*P		P	06 56 12.6	-2.9	
	comp=Z,97nm,1.7s								
TNS				*e*L		L	07 00 48.0		
	comp=Z,785nm,20.5s								
TNS	Taunus Mts	14.57	11	*e*P		P	06 56 12.6	-2.9	
	comp=Z,97nm,1.7s								
KZN	Kozani	14.62	68	*e*P		P	06 56 16.0	-0.1	
KLV	Kalavryta, Ach	14.64	77	*e*P		P	06 56 14.4	-2.0	
KALE	Kalithea	14.65	75	*e*P		P	06 56 16.3	-0.2	
WET	Wettzell	14.65	24	*e*P		Pn	06 56 11.2	+1.0	
	comp=Z,69nm,1.5s								
WET	Wettzell	14.65	24	*e*P		Pn	06 56 11.2	+1.0	
	comp=Z,69nm,1.5s								
DIVS	Divibare	14.65	52⇓	*i*P		Pn	06 56 13.3	+3.0	
GRFO	Grafenberg	14.65	19	*e*P		Pn	06 56 11.8	+1.6	
GRFO					pmax	pmax			
	comp=Z,123nm,1.6s								
GRFO	Grafenberg	14.65	19	*e*Pn		Pn	06 56 11.8	+1.6	
	comp=Z,123nm,1.6s								
GRFO	Grafenberg	14.65	19	*e*Pn		Pn	06 56 11.8	+1.6	
	comp=Z,123nm,1.6s								
MEM	Membach	14.67	5	P		Pn	06 56 11.2	+0.8	
	comp=Z,15nm,1.3s								
MEM	Membach	14.67	5	*e*P		Pn	06 56 11.5	+1.2	
MEM	Membach	14.67	5	*e*Pn		Pn	06 56 11.5	+1.2	
MEM	Membach	14.67	5	*e*Pn		Pn	06 56 11.5	+1.2	
GEC2	GERESS Array S	14.67	26	*e*P		Pn	06 56 13.4	+2.8	
	comp=Z,141nm,1.5s								
GEC2				*e*L		L	07 01 10.6		
	comp=Z,773nm,21.6s								
GEC2	GERESS Array S	14.67	26	*e*P		Pn	06 56 13.4	+2.8	
	comp=Z,141nm,1.5s								
GERES	GERESS Array B	14.67	26	Pn		Pn	06 56 09.9	-0.7	
	comp=Z,0.3nm,0.3s,baz=207,slow=12,SNR=59								
GERES					LR	LR	07 01 31.6		
	comp=Z,804nm,19.6s,baz=223,slow=36								
THL	Klokotos Trika	14.67	71	*e*P		P	06 56 15.7	-1.0	
MAKR	Makrakomi, Fth	14.70	73	P		Pn	06 56 13.5	+2.6	
MAKR	Makrakomi, Fth	14.70	73	*e*P		P	06 56 15.1	-1.9	
MAKR	Makrakomi, Fth	14.70	73	P		Pn	06 56 13.5	+2.6	
MAKR	Makrakomi, Fth	14.70	73	P		Pn	06 56 13.5	+2.6	
GUR	Goura	14.79	77	P		P	06 56 16.3	-1.7	
GUR	Goura	14.79	77	*e*P		P	06 56 15.8	-2.2	
GUR	Goura	14.79	77	P		P	06 56 16.3	-1.7	
GUR	Goura	14.79	77	P		P	06 56 16.3	-1.7	
UCC	Uccle	14.79	1	P		Pn	06 56 14.6	+2.6	
	comp=Z,76nm,1.7s								
UCC	Uccle	14.79	1	*e*P		Pn	06 56 13.7	+1.7	
UCC	Uccle	14.79	1	*e*Pn		Pn	06 56 13.7	+1.7	
UCC	Uccle	14.79	1	*e*Pn		Pn	06 56 13.7	+1.7	
CONA	Conrad Observa	14.80	33	*i* P		P	06 56 15.8	-2.3	
	comp=Z,38nm,1.4s,SNR=10								
SKO	Skopje	14.80	61	*e*P		P	06 56 16.1	-2.0	
VLX	Vlachokerasia	14.81	79	*e*P		P	06 56 17.0	-1.3	
HGN	Heimansgroeve	14.81	5	*e*P		Pn	06 56 13.8	+1.5	
HGN				*e*S		Sn	06 58 53.7	-2.4	
HGN				*e*L		L	07 01 25.6		
	comp=Z,952nm,18.4s								
BEBN	Eben Emael	14.83	4	P		Pn	06 56 14.4	+1.8	
	comp=Z,16nm,1.5s								
AGG	Agios Georgios	14.85	73	*e*P		P	06 56 17.4	-1.3	
KHC	Kasperske Hory	14.87	25	*e*P		Pn	06 56 12.3	-0.9	
KHC				*ex*		x	06 56 15.9		
KHC					AMS	AMS	07 03 30.0		
	comp=Z,3μm,12.7s								
KHC	Kasperske Hory	14.87	25	*e*P		Pn	06 56 12.3	-0.9	
KHC					MLR	MLR			
	comp=Z,3μm,12.7s								
DSF	Desfina	14.95	75	*e*P		Pn	06 56 17.0	+2.6	
ROTZ	Rotzenmuhle	14.99	21	*e*P		Pn	06 56 16.1	+1.3	
	comp=Z,93nm,1.7s								
ROTZ	Rotzenmuhle	14.99	21	*e*P		Pn	06 56 16.1	+1.3	
	comp=Z,93nm,1.7s								
PKSM	Moragy	14.99	43⇓	*i*P		P	06 56 17.9	-2.3	
AXAR	Agios Charalam	15.08	74	*e*P		P	06 56 21.0	-0.2	
LIT	Litokhoron	15.12	69	*e*P		P	06 56 21.8	+0.1	
GRG	Griva	15.22	66	*e*P		Pn	06 56 19.8	+1.9	
LTK	Loutraki	15.28	77	*e*P		Pn	06 56 18.0	-0.7	
LKR	Lokris	15.34	74	P		P	06 56 23.0	-1.1	
LKR	Lokris	15.34	74	*e*P		P	06 56 23.7	-0.4	
LKR	Lokris	15.34	74	P		P	06 56 23.0	-1.1	
LKR	Lokris	15.34	74	P		P	06 56 23.0	-1.1	
PKST	T''s	15.35	39	*e*Pn		Pn	06 56 19.8	+0.3	
UBBA	Unterbreizbach	15.42	14	*e*P		P	06 56 24.8	0.0	
	comp=Z,76nm,1.9s								
UBBA	Unterbreizbach	15.42	14	*e*P		P	06 56 24.8	0.0	
	comp=Z,76nm,1.9s								
NKC	Novy Kostel	15.48	21	*e*P		Pn	06 56 21.9	+0.7	
NKC				*ex*		x	06 56 24.7		
NKC				*ep*P		pP	06 56 29.1	-1.0	
NKC					AMS	AMS	07 02 30.0		
	comp=Z,1μm,14.8s								
NKC	Novy Kostel	15.48	21	*e*P		Pn	06 56 21.9	+0.7	
NKC					MLR	MLR			
	comp=Z,1μm,14.8s								
PKS2	Kecel	15.48	43	*e*Pn		P	06 56 23.8	-1.8	
DID	Didima	15.49	79	*e*Pn		Pn	06 56 22.4	+1.0	
SMIA	Simia	15.52	74	P		P	06 56 26.3	+0.2	
SMIA	Simia	15.52	74	*e*P		P	06 56 25.4	-0.7	
SMIA	Simia	15.52	74	P		P	06 56 26.3	+0.2	
XOR	Xorichti	15.55	72	*e*P		P	06 56 27.0	+0.5	
NEO	Neokhori	15.57	72	*e*P		P	06 56 26.0	-0.7	
PKSG		15.62	39	*e*Pn		P	06 56 26.3	-0.8	
KNT	Kendrikon	15.63	65	P		Pn	06 56 23.7	+0.4	
KNT	Kendrikon	15.63	65	*e*P		Pn	06 56 24.8	+1.5	
KNT	Kendrikon	15.63	65	P		Pn	06 56 23.7	+0.4	
KNT	Kendrikon	15.63	65	P		Pn	06 56 23.7	+0.4	
KNT	Kendrikon	15.63	65	P		Pn	06 56 23.7	+0.4	
TANN	Tannenbergstha	15.65	20	*e*P		P	06 56 27.2	-0.3	
	comp=Z,112nm,2.0s								
TANN	Tannenbergstha	15.65	20	*e*P		P	06 56 27.2	-0.3	
	comp=Z,112nm,2.0s								
HORT	Hortiatis	15.67	67	*e*P		Pn	06 56 25.5	+1.7	
TREC	Trest	15.71	29	*e*P		P	06 56 27.2	-1.0	
TREC				*ep*P		pP	06 56 32.9	+0.2	
TREC				*ex*		x	06 56 40.5		
TREC					AMS	AMS	07 04 00.0		
	comp=Z,1μm,12.8s								
TREC	Trest	15.71	29	*e*P		P	06 56 27.2	-1.0	
TREC					MLR	MLR			
	comp=Z,1μm,12.8s								
MRKA	Markates	15.80	74	P		P	06 56 29.0	-0.2	
MRKA	Markates	15.80	74	*e*P		P	06 56 27.6	-1.6	
MRKA	Markates	15.80	74	P		P	06 56 29.0	-0.2	
ATH	Athens Observa	15.87	77	*e*P		P	06 56 30.8	+0.8	
PLG	Palygyros	15.89	68	*e*P		P	06 56 28.6	-1.6	
SOH	Sokhos	15.90	67	P		Pn	06 56 28.0	+1.2	
SOH	Sokhos	15.90	67	*e*P		P	06 56 29.2	-1.2	
SOH	Sokhos	15.90	67	P		Pn	06 56 28.0	+1.2	
SOH	Sokhos	15.90	67	P		Pn	06 56 28.0	+1.2	
SOH	Sokhos	15.90	67	P		Pn	06 56 28.0	+1.2	
PRU	Pruhonice	15.93	25	*e*P		Pn	06 56 28.3	+1.3	
PRU				*ep*P		pP	06 56 34.5	-0.6	
PRU				*ex*		x	06 56 38.8		
PRU					AMS	AMS	07 04 20.0		
	comp=Z,2μm,11.8s								
PRU	Pruhonice	15.93	25	*e*P		Pn	06 56 28.3	+1.3	
PRU					MLR	MLR			
	comp=Z,2μm,11.8s								
KKB	Krupnik	15.94	63	*i* P		P	06 56 30.3	-0.5	
GOPC	GO Pecny, Ondr	15.96	26	*e*P		Pn	06 56 29.1	+1.7	
GOPC				*ep*P		pP	06 56 34.9	-0.5	
GOPC					AMS	AMS	07 03 50.0		
	comp=Z,2μm,12.9s								
PRA	Prague	15.96	25	*e*P		P	06 56 29.2	-1.7	
PRA				*ep*P		pP	06 56 35.0	-0.5	
PRA				*ex*		x	06 56 41.8		
PRA					AMS	AMS	07 04 30.0		
	comp=Z,2μm,12.3s								
PRA	Prague	15.96	25	*e*P		P	06 56 29.2	-1.7	
PRA					MLR	MLR			
	comp=Z,2μm,12.3s								
PTL	Penteli	15.99	77	*e*P		Pn	06 56 27.9	0.0	
PAIG	Palouri	16.00	70	*e*P		P	06 56 29.9	-1.5	
BUD	Budapest	16.00	40⇓	*e*Pn		Pn	06 56 29.5	+1.6	
AOS	Alonnisos	16.07	73	*e*P		P	06 56 31.6	-0.5	
WTSB	Winterswijk	16.08	6	*e*P		P	06 56 31.8	-0.4	
SRS	Serrai	16.14	66	*e*P		Pn	06 56 30.0	+0.2	
VRAC	Vranov	16.17	31	Pn		Pn	06 56 30.0	-0.1	
	comp=Z,0.2nm,0.3s,baz=216,slow=14,SNR=12								
VRAC	Vranov	16.17	31	P		Pn	06 56 30.0	-0.1	
VRAC	Vranov	16.17	31⇑	*i*P		P	06 56 31.9	-1.3	
VRAC	Vranov	16.17	31	Pn		Pn	06 56 30.0	-0.1	
VTS	Vitosha	16.24	60⇓	*i*P		Pn	06 56 32.4	+1.3	
VTS	Vitosha	16.24	60	*i* P		Pn	06 56 32.5	+1.3	
VTS	Vitosha	16.24	60	*e*P		P	06 56 36.5	+2.3	
OUR	Ouranopolis	16.29	69	*e*P		P	06 56 33.4	-1.1	
MMB	Musomiste	16.34	64⇑	*i*P		Pn	06 56 33.7	+1.3	
MMB	Musomiste	16.34	64	*i* P		Pn	06 56 32.9	+0.5	
NVR	Nevrokopi	16.39	65	P		Pn	06 56 33.3	+0.4	

RUE Ruedersdorf 17.86 20 ePn P 06 56 56.6 +4.7
comp=Z,168nm,1.5s
RUE Ruedersdorf 17.86 20 ePn P 06 56 56.6 +4.7
comp=Z,168nm,1.5s
PRK Paraskevi 17.92 73 eP P 06 56 53.5 +0.8
ALN Alexandroupoli 17.92 68 eP P 06 56 53.9 +1.2
NIE Niedzica 17.92 37 eP P 06 56 55.1 +2.4
NIE Niedzica 17.92 37 eP P 06 56 55.1 +2.4
CJR Cluj-Napoca 18.13 48 ⇓ iP P 06 56 56.2 +1.2
ARR Arges 18.18 53 ⇓ iP P 06 56 56.6 +1.0
OJC Ojcow 18.24 34 eP P 06 56 57.0 +0.9
OJC Ojcow 18.24 34 eP P 06 56 57.0 +0.9
OJC Ojcow 18.24 34 ePn P 06 56 56.8 +0.7
comp=Z,74nm,1.3s
OJC Ojcow 18.24 34 ePn P 06 56 56.9 +0.7
comp=Z,74nm,1.3s
TRPA Tarpa 18.27 43 ⇓ eP P 06 56 58.2 +1.7
SMG Samos 18.34 78 eP Pn 06 56 57.3 -0.1
SZH Strazhica 18.35 60 i P P 06 56 58.5 +1.1
UZH Uzhgorod 18.43 41 eP Pn 06 56 59.3 +1.0
UZH eS Sn 07 00 22.1 -1.7
UZH MLR MLR
comp=Z,1μm,12.0s
BSEG Bad Segeberg 18.46 12 eP Pn 06 57 01.3 +2.7
comp=Z,180nm,1.9s
BSEG Bad Segeberg 18.46 12 eP Pn 06 57 01.3 +2.7
comp=Z,180nm,1.9s
VOIR 18.48 53 ⇑ iP Pn 06 57 00.6 +1.6
BMR Baia Mare 18.56 45 ⇓ iP Pn 06 57 01.6 +1.7
EDRB Edirne 18.60 65 P Pn 06 57 00.6 +0.1
EDRB Edirne 18.60 65 P Pn 06 57 00.6 +0.1
EDRB Edirne 18.60 65 P Pn 06 57 00.6 +0.1
VAL Valentia 18.89 332 ePP Pn 06 57 13.1 +9.3
VAL Valentia 18.89 332 ⇑ iS S 07 00 48.5 +11
DOPR Dopca 18.91 52 ⇑ iP Pn 06 57 05.1 +0.9
SECR 18.99 55 ⇓ iP Pn 06 57 05.7 +0.5
MLR Muntele Rosu 19.08 54 P Pn 06 57 06.7 +0.4
comp=Z,0.3nm,0.3s,baz=163,slow=15,SNR=17
MLR LR LR 07 05 03.5
comp=Z,210nm,18.3s,baz=238,slow=39
MLR Muntele Rosu 19.08 54 ⇓ iP Pn 06 57 07.1 +0.8
KWP Kalwaria Pacla 19.25 39 eP Pn 06 57 11.4 +3.2
KWP Kalwaria Pacla 19.25 39 eP Pn 06 57 11.5 +3.2
ARG Arkhangelos 19.48 82 eP P 06 57 10.2 +0.4
BUR04 Bucovina Ar. S 19.54 47 eP Pn 06 57 11.6 -0.2
BUR04 Bucovina Ar. S 19.54 47 eP Pn 06 57 11.6 -0.2
BURAR Bucovina Array 19.54 47 ⇑ iP Pn 06 57 14.3 +2.5
BUR08 Bucovina Ar. S 19.54 47 eP Pn 06 57 14.0 +2.1
BUR08 Bucovina Ar. S 19.54 47 eP Pn 06 57 14.0 +2.1
GKP Gorka Klasztor 19.60 24 eP Pn 06 57 14.7 +2.3
GKP Gorka Klasztor 19.60 24 eP Pn 06 57 14.7 +2.3
PLOR Plostina 19.67 53 ⇑ iP Pn 06 57 13.4 0.0
VRI Vrincioaia 19.73 53 ⇓ iP Pn 06 57 13.7 -0.3
KULA Kula-Manisa 19.77 75 P P 06 57 13.7 +0.6
KULA Kula-Manisa 19.77 75 P P 06 57 13.7 +0.6
KULA Kula-Manisa 19.77 75 P P 06 57 13.7 +0.6
BEL Belsk 19.84 32 eP Pn 06 57 16.3 +1.1
BEL Belsk 19.84 32 eP Pn 06 57 16.3 +1.1
MSAB Monastry St. A 19.89 59 ⇑ iP Pn 06 57 15.5 -0.4
TESR Tescani 19.93 51 ⇓ iP Pn 06 57 18.2 +1.8
EKA Eskdalemuir Ar 19.94 348 P Pn 06 57 16.3 -0.1
baz=161,slow=10,SNR=13
EKA LR LR 07 03 45.9
comp=Z,880nm,21.9s,baz=200,slow=33
PETR Petresti 20.00 54 ⇓ iP Pn 06 57 16.7 -0.5
PSN Preselentsi 20.04 60 ⇑ iP P 06 57 16.7 +0.9
LVV L'vov 20.05 40 eP Pn 06 57 17.2 -0.6
LVV e 06 57 39.8
LVV eS S 07 00 58.2 -2.5
LVV eSS SnSn 07 01 38.0 +21
LVV MLR MLR
comp=N,800nm,11.0s
LVV MLR MLR
comp=E,900nm,11.0s
LVV MLR MLR
comp=Z,1μm,11.0s
HARR Harsova 20.14 57 ⇑ iP P 06 57 17.7 +0.8
TLB Topalu 20.18 58 ⇓ iP P 06 57 17.4 0.0
TIRR Tirgusor 20.40 58 ⇑ iP Pn 06 57 21.2 -0.7
CFR Carcaliu 20.42 56 ⇑ iP P 06 57 19.6 -0.4
BSD Bornholm Skovb 20.53 18 i P Pn 06 57 22.3 -1.0
comp=Z,56nm,1.1s
comp=Z,1μm,13.0s
BSD Bornholm Skovb 20.53 18 i P Pn 06 57 22.3 -1.0
BSD pmax pmax
comp=Z,56nm,1.1s
BSD MLR MLR
comp=Z,1μm,13.0s
MUD Monsted U'grnd 20.75 8 i P Pn 06 57 25.4 -0.4
comp=Z,45nm,0.9s
comp=Z,1μm,11.0s
MUD Monsted U'grnd 20.75 8 i P Pn 06 57 25.4 -0.4
MUD pmax pmax
comp=Z,45nm,0.9s
MUD MLR MLR
comp=Z,1μm,11.0s
LEOM Leova 20.93 53 ⇓ iP Pn 06 57 27.1 -1.0
ISP Isparta 21.26 77 eP P 06 57 28.4 -0.8
ISP pmax pmax
comp=Z,59nm,1.2s
ISP Isparta 21.26 77 ⇓ iP P 06 57 30.0 +0.8
ISP Isparta 21.26 77 eP P 06 57 28.4 -0.8
comp=Z,58nm,1.2s
ISP Isparta 21.26 77 eP P 06 57 28.4 -0.8
comp=Z,58nm,1.2s
KIS Kishinev 21.49 52 ⇓ iP P 06 57 32.0 +0.5
comp=Z,600nm,2.0s
KIS Kishinev 21.49 52 i PP PP 06 57 48.0
KIS Kishinev 21.49 52 i PPP PPP 06 58 04.0
KIS eS S 07 01 24.0 -5.2
KIS Kishinev 21.49 52 ePcP PcP 07 01 38.0 +4.1
KIS eSS Sn 07 02 02.0 +24
KIS eLi 07 03 20.0
KIS eLQ LQ 07 05 00.0
KIS LRM MLR 07 06 57.0
comp=Z,1μm,15.0s
SUW Suwalki 22.41 31 eP P 06 57 40.3 -1.1
SUW Suwalki 22.41 31 eP P 06 57 40.2 -1.1
SUW pmax pmax
comp=Z,185nm,1.4s
SUW Suwalki 22.41 31 eP P 06 57 40.2 -1.1
comp=Z,185nm,1.4s
SUW Suwalki 22.41 31 eP P 06 57 40.2 -1.1
comp=Z,185nm,1.4s
TOA0 Torodi Ar. Sit 22.86 186 eP P 06 57 44.3 -2.0
TOA0 Torodi Ar. Sit 22.86 186 eP P 06 57 44.3 -2.0
TORD Torodi Ar. Bea 22.86 186 P P 06 57 44.5 -1.8
comp=Z,48nm,0.8s,baz=358,slow=9.3,SNR=44
TORD PcP PcP 07 01 39.2 +2.1
comp=Z,1.4nm,0.7s,baz=337,slow=3.1,SNR=4.2
TORD Lg Lg 07 04 49.9
comp=Z,12nm,1.1s,baz=6.5,slow=24,SNR=4.1
TORD LR LR 07 05 53.5
comp=Z,1μm,21.6s,baz=345,slow=35
BR231 Keskin MP Arra 22.97 72 eP P 06 57 53.1 +5.6
BR231 Keskin MP Arra 22.97 72 eP P 06 57 53.1 +5.6
ANTO Ankara 22.98 72 eP P 06 57 46.5 -1.1
ANTO pmax pmax
comp=Z,35nm,1.2s
ANTO Ankara 22.98 72 ⇓ iP P 06 57 48.8 +1.2
ANTO Ankara 22.98 72 eP P 06 57 46.5 -1.1
comp=Z,35nm,1.2s
ANTO Ankara 22.98 72 P P 06 57 49.8 +2.2
SNR=7.0
ANTO Ankara 22.98 72 eP P 06 57 46.5 -1.1
comp=Z,35nm,1.2s
AKMC Akamas 23.05 84 P P 06 57 48.8 +0.6
PPCY Paphos 23.08 84 P P 06 57 47.4 -1.2
ALFC Alevga 23.24 84 P P 06 57 49.7 -0.5
KIEV Kiev 23.32 43 eP P 06 57 47.6 -3.3
KIEV pmax pmax
comp=Z,232nm,1.8s
KIEV Kiev 23.32 43 eP P 06 57 47.5 -3.3
comp=Z,232nm,1.8s
KIEV Kiev 23.32 43 eP P 06 57 47.5 -3.3
comp=Z,232nm,1.8s
AKASG Malin Array Be 23.34 43 P P 06 57 47.7 -3.3
comp=Z,15nm,0.8s,baz=240,slow=9.9,SNR=39
AKASG LR LR 07 06 55.3
comp=Z,465nm,20.9s,baz=230,slow=37
AKASG Malin Array Be 23.34 43 P P 06 57 47.7 -3.3
AKASG pmax pmax
comp=Z,15nm,0.8s
AKASG MLR MLR
comp=Z,465nm,20.9s
BR131 Keskin Array S 23.63 72 eP P 06 57 53.9 -0.3
comp=Z,50nm,1.2s
BR131 Keskin Array S 23.63 72 eP P 06 57 53.9 -0.3
comp=Z,50nm,1.2s
BRTR Keskin Array B 23.63 72 P P 06 57 53.8 -0.4
comp=Z,24nm,1.1s,baz=269,slow=9.2,SNR=33
BRTR Keskin Array B 23.63 72 P P 06 57 53.8 -0.4
BRTR pmax pmax
comp=Z,24nm,1.1s
CSS Prodhromos 23.86 84 P P 06 57 56.8 +0.5
CSS Prodhromos 23.86 84 P P 06 57 57.6 +1.3
CSS Prodhromos 23.86 84 eP P 06 57 57.4 +1.1
comp=Z,18nm,1.0s
CSS Prodhromos 23.86 84 eP P 06 57 57.4 +1.1
comp=Z,18nm,1.0s
KONO Kongsberg 23.93 7 eP P 06 57 56.9 +0.2
KONO pmax pmax
comp=Z,50nm,1.4s
KONO Kongsberg 23.93 7 eP P 06 57 56.9 +0.2
comp=Z,50nm,1.4s
KONO Kongsberg 23.93 7 eP P 06 57 56.9 +0.2
comp=Z,50nm,1.4s
SIM Simferopol' 24.47 59 i P P 06 58 03.8 +2.0
SIM eS S 07 02 24.0 +2.8
SIM pmax pmax
comp=Z,67nm,1.1s
SIM MLR MLR
comp=Z,400nm,14.3s
NACGM Naroch 24.55 33 eP P 06 58 04.0 +1.6
MNK Minsk 24.76 34 eP P 06 58 02.0 -2.3
MICGM Minsk 24.79 34 eP P 06 58 02.0 -2.5
HFS Hagfors 24.94 12 P P 06 58 04.5 -1.4
comp=Z,7.8nm,0.8s,baz=189,slow=8.7,SNR=14
HFS LR LR 07 07 53.7
comp=Z,607nm,18.7s,baz=202,slow=37
HFS Hagfors 24.94 12 P P 06 58 04.5 -1.4
HFS pmax pmax
comp=Z,8.0nm,0.8s
HFS MLR MLR
comp=Z,607nm,18.7s
NAO01 NORSAR Array S 25.24 8 eP P 06 58 09.4 +0.8
comp=Z,11nm,0.9s
NAO01 NORSAR Array S 25.24 8 eP P 06 58 09.4 +0.8
comp=Z,11nm,0.9s
NBO02 NORSAR Array S 25.44 8 eP P 06 58 11.1 +0.7
NBO02 NORSAR Array S 25.44 8 eP P 06 58 11.1 +0.7
NB2 NORSAR Subarra 25.47 8 P P 06 58 10.3 -0.4
comp=Z,49nm,1.7s,baz=194,slow=9.3
NB2 NORSAR Subarra 25.47 8 P P 06 58 10.3 -0.4
baz=194,slow=9.3
NB2 NORSAR Subarra 25.47 8 P P 06 58 10.3 -0.4
comp=Z,49nm,1.7s,SNR=1.6
NOA NORSAR Array B 25.47 8 P P 06 58 09.3 -1.4
comp=Z,3.0nm,0.8s,baz=207,slow=11,SNR=12
NOA PcP PcP 07 01 42.9 +0.8
comp=Z,1.5nm,0.9s,baz=183,slow=2.0,SNR=4.8
NOA LR LR 07 08 17.4
comp=Z,614nm,18.7s,baz=200,slow=37
NOA NORSAR Array B 25.47 8 P P 06 58 09.3 -1.4
NOA 07 01 42.9
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA pmax pmax
comp=Z,2.0nm,0.9s
NOA MLR MLR
comp=Z,615nm,18.7s
MMAI Mount Meron Ar 25.99 87 P P 06 58 17.6 +1.9
comp=Z,14nm,0.7s,baz=280,slow=11,SNR=12
EIL Elat 26.68 95 P P 06 58 22.8 +0.7
comp=Z,26nm,0.9s,baz=306,slow=7.2,SNR=17
ANN Anapa 26.77 61 eP P 06 58 22.1 -0.5
ANN eS S 07 02 56.9 -0.9
ANN pmax pmax
comp=Z,140nm,1.5s
VSU Vasula 27.00 27 d iP P 06 58 26.3 +1.8
VSU pmax pmax
comp=Z,169nm,1.3s
ASF Jabal al Asfar 27.43 88 P P 06 58 30.4 +1.6
comp=Z,2.4nm,0.6s,baz=220,slow=7.3,SNR=5.9
ASF Jabal al Asfar 27.43 88 P P 06 58 30.4 +1.6
ASF pmax pmax
comp=Z,2.0nm,0.6s
MALT Malatya 27.44 75 ⇓ iP P 06 58 29.9 +1.1
BBTS Babate 28.11 226 P P 06 58 34.5 -0.3
comp=Z,28nm,0.8s,baz=43,slow=3.6,SNR=4.4
BBTS LR LR 07 09 59.7
comp=Z,1μm,18.1s,baz=327,slow=37
SOC Sochi 28.30 63 eP P 06 58 37.2 +0.9
SOC e 06 59 21.8
SOC eS S 07 03 28.3 +6.4
SOC pmax pmax
comp=Z,29nm,1.0s
SOC MLR MLR
comp=Z,285nm,19.0s
FINES FINESS Array B 29.03 22 P P 06 58 41.7 -0.9
comp=Z,4.2nm,0.8s,baz=206,slow=8.3,SNR=12
FINES PcP PcP 07 01 51.0 +0.5
comp=Z,2.7nm,0.8s,baz=224,slow=2.8,SNR=3.8
FINES FINESS Array B 29.03 22 P P 06 58 41.7 -0.9
FINES 07 01 51.0
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES pmax pmax
comp=Z,3.0nm,0.8s
FIA1 FINESS Array S 29.03 22 eP P 06 58 42.5 -0.1
FIA1 FINESS Array S 29.03 22 eP P 06 58 42.5 -0.1
VSR Storozhevoye 29.31 48 eP P 06 58 44.9 -0.3
VSR pmax pmax
comp=Z,20nm,1.0s
VSR pmax pmax
comp=N,20nm,1.3s
VSR pmax pmax
comp=E,50nm,1.3s
VORD Divnogorie 29.31 48 eP P 06 58 43.6 -1.6
VORD pmax pmax
comp=Z,10.0nm,1.2s
VORD pmax pmax
comp=N,100nm,0.6s
VORD pmax pmax
comp=E,40nm,0.6s
OBN Obninsk 29.34 39 P P 06 58 44.8 -0.7
comp=E,9.8nm,0.4s,baz=237,slow=6.3,SNR=9.3
OBN LR LR 07 11 32.4
comp=E,625nm,19.2s,baz=250,slow=38
OBN Obninsk 29.34 39 i P P 06 58 45.1 -0.4
OBN i 06 58 53.8
OBN i 07 01 51.6
OBN i S S 07 03 34.9 -3.2
OBN i SS SnSn 07 05 10.3 +6.0
OBN pmax pmax
comp=Z,53nm,1.5s
OBN MLR MLR
comp=Z,1μm,18.0s
OBN Obninsk 29.34 39 eP P 06 58 44.9 -0.6
LPSR Galich'ya Gora 29.62 45 eP P 06 58 47.2 -0.7
LPSR pmax pmax
comp=Z,20nm,1.0s
LPSR pmax pmax
comp=N,10.0nm,1.2s
LPSR pmax pmax
comp=E,20nm,1.3s
LPSR MLR MLR
comp=Z,620nm,12.0s
LPSR MLR MLR
comp=N,510nm,14.0s
LPSR MLR MLR
comp=E,940nm,16.0s
MOS Moscow 30.16 39 eP P 06 58 52.9 +0.2
MOS i 06 59 05.4
MOS pmax pmax
comp=Z,69nm,0.9s
MOS pmax pmax
comp=Z,100nm,1.5s
MOS MLR MLR
comp=Z,2μm,15.0s
DBIC Dimbokro 30.31 198 P P 06 58 52.6 -1.7
comp=Z,6.9nm,0.6s,baz=353,slow=9.8,SNR=12
DBIC LR LR 07 11 18.7
comp=Z,861nm,19.3s,baz=3.0,slow=37
DBIC Dimbokro 30.31 198 P P 06 58 52.7 -1.7
DBIC pmax pmax
comp=Z,7.0nm,0.6s
DBIC MLR MLR
comp=Z,861nm,19.3s
TIC Toumodi 30.38 198 ePKP1 P 06 58 54.1 -0.9
comp=Z,7.2nm,0.3s
KIV Kislovodsk 30.46 63 eP P 06 58 56.9 +1.3
KIV pmax pmax
comp=Z,8.0nm,0.9s
KIV MLR MLR
comp=Z,126nm,15.0s
KIC Kosan Boka 30.58 197 ePKP1 P 06 58 55.1 -1.7
comp=Z,58nm,1.1s
KBZ Khabaz 30.61 63 P P 06 58 56.6 -0.2
comp=Z,2.4nm,0.7s,baz=233,slow=20,SNR=8.8
KBZ Khabaz 30.61 63 P P 06 58 56.6 -0.2
KBZ pmax pmax
comp=Z,2.0nm,0.7s
GOF Gofitskoye 30.76 61 eP P 06 58 59.2 +1.0
LIC Lamto 30.78 198 eP P 06 58 57.0 -1.5
comp=Z,20nm,0.7s,baz=22
LIC eR
comp=Z,2μm,15.0s
LIC Lamto 30.78 198 ePKP1 P 06 58 54.7 -3.8
comp=Z,79nm,1.4s
LIC Lamto 30.78 198 eP P 06 58 57.0 -1.5
comp=Z,9.8nm,0.7s
LIC Lamto 30.78 198 eP P 06 58 57.0 -1.5
comp=Z,20nm,0.7s
ONI Oni 31.01 66 P P 06 59 01.9 +1.4
ZEI Tsey 31.34 65 eP P 06 59 04.9 +1.4
ZEI pmax pmax
comp=Z,26nm,1.7s
TBLG Delisi 32.00 67 P P 06 59 10.4 +1.3
GNI Garni 32.13 70 d iP P 06 59 11.7 +1.2
GNI pmax pmax
comp=Z,32nm,1.4s
GNI Garni 32.13 70 eP P 06 59 10.1 -0.4
comp=Z,34nm,1.3s
GNI Garni 32.13 70 P P 06 59 12.4 +2.0
SNR=6.2
GNI Garni 32.13 70 eP P 06 59 10.1 -0.4
comp=Z,34nm,1.3s
DGRG David-gareji 32.49 68 P P 06 59 15.0 +1.5
KLMR Klimovskoe 33.54 31 eP P 06 59 21.7 -0.6
KLMR pmax pmax
comp=Z,50nm,1.6s
KLMR MLR MLR
comp=Z,711nm,14.0s
ARCES ARCESS Array B 35.59 13 P P 06 59 39.3 -0.6
comp=Z,4.4nm,0.9s,baz=210,slow=9.4,SNR=5.6
ARCES PcP PcP 07 02 08.2 -0.3
comp=Z,1.3nm,0.6s,baz=222,slow=1.5,SNR=7.4
ARCES ARCESS Array B 35.59 13 P P 06 59 39.3 -0.6
ARCES 07 02 08.2
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES pmax pmax
comp=Z,1.0nm,0.6s
PRGR Permogore 36.51 32 eP P 06 59 49.4 +1.5
PRGR pmax pmax
comp=Z,17nm,0.9s
AKTO Aktyubinsk 41.00 52 P P 07 00 22.9 -2.9
AKTO pmax pmax
comp=Z,17nm,1.3s
ARU Arti 41.59 43 P P 07 00 29.6 -0.9
comp=Z,150nm,0.6s,SNR=7.2
ARU Arti 41.59 43 d iP P 07 00 29.5 -0.9
ARU 07 02 04.7
ARU 07 02 28.0
ARU S S 07 06 47.4 +1.6
ARU SS SS 07 09 50.1 -0.4
ARU pmax pmax
comp=Z,66nm,2.5s
ARU MLR MLR
comp=Z,862nm,17.0s
ARU Arti 41.59 43 PcP PcP 07 02 28.0 +0.6
ARU S S 07 06 47.4 +1.6
comp=Z,862nm,17.0s
AB31 Akbulak array 42.29 54 P P 07 00 34.5 -1.8
AB31 pmax pmax
comp=Z,5.0nm,0.7s
ABKAR Akbulak array 42.29 54 eP P 07 00 35.1 -1.2
ABKAR Akbulak array 42.29 54 eP P 07 00 35.1 -1.2
SUMG Summit 42.41 342 i P P 07 00 38.6 +1.1
comp=Z,56nm,1.6s
comp=Z,1μm,18.0s
SUMG Summit 42.41 342 i P P 07 00 38.6 +1.1
SUMG pmax pmax
comp=Z,56nm,1.6s
SUMG MLR MLR
comp=Z,1μm,18.0s
SUMG Summit 42.41 342 eP P 07 00 37.7 +0.2
comp=Z,66nm,1.7s
SUMG Summit 42.41 342 eP P 07 00 37.7 +0.2
comp=Z,66nm,1.7s
GEYT Ailbeck 42.76 71 P P 07 00 40.6 +0.2
comp=Z,28nm,1.1s,baz=268,slow=11,SNR=23
GEYT LR LR 07 23 08.6
comp=Z,80nm,18.2s,baz=295,slow=43
SVE Sverdlovsk 42.77 43 eP P 07 00 40.9 +0.8
SVE e 07 10 10.9
SVE pmax pmax
comp=Z,42nm,1.2s
SVE MLR MLR
comp=Z,1μm,16.0s
KBS Kingsbay 43.15 2 eP P 07 00 44.9 +2.0
KBS pmax pmax
comp=Z,5.0nm,1.0s
KBS Kingsbay 43.15 2 eP P 07 00 44.9 +2.0
comp=Z,5.5nm,1.0s
KBS Kingsbay 43.15 2 eP P 07 00 44.9 +2.0
comp=Z,5.5nm,1.0s
SFJD Kangerlussuaq 43.72 332 i P P 07 00 48.3 +0.7
comp=Z,9.3nm,1.0s
SFJD i S S 07 07 20.2 +3.4
SFJD Kangerlussuaq 43.72 332 P P 07 00 47.6 0.0
comp=Z,7.9nm,0.8s,baz=112,slow=6.6,SNR=4.8
SFJD Kangerlussuaq 43.72 332 i P P 07 00 48.3 +0.7
SFJD i S S 07 07 20.2 +3.4
SFJD pmax pmax
comp=Z,9.0nm,1.0s
SFJD Kangerlussuaq 43.72 332 eP P 07 00 48.4 +0.7
comp=Z,10nm,0.9s
KMBO Kilima Mbogo 48.20 133 P P 07 01 24.9 +1.0
comp=Z,24nm,1.0s,baz=315,slow=7.7,SNR=21
KMBO LR LR 07 23 15.9
comp=Z,921nm,20.7s,baz=318,slow=38
KMBO Kilima Mbogo 48.20 133 P P 07 01 24.9 +1.0
KMBO pmax pmax
comp=Z,24nm,1.0s
KMBO MLR MLR
comp=Z,921nm,20.7s
KMBO Kilima Mbogo 48.20 133 eP P 07 01 25.6 +1.7
KMBO Kilima Mbogo 48.20 133 P P 07 01 27.5 +3.6
SNR=8.7
KMBO Kilima Mbogo 48.20 133 eP P 07 01 25.6 +1.7
BRVK Borovoye 48.43 48 P P 07 01 25.4 +0.5
comp=Z,277nm,1.2s,SNR=8.4
BRVK Borovoye 48.43 48 d iP P 07 01 24.6 -0.3
BRVK pmax pmax
comp=Z,78nm,1.2s
BRVK MLR MLR
comp=Z,534nm,14.0s
BRVK Borovoye 48.43 48 P P 07 01 25.1 +0.2
SNR=28
KK31 Karatay Array 50.56 60 i P P 07 01 40.4 -1.0
KK31 pmax pmax
comp=Z,2.0nm,0.5s
SCHQ Schefferville 50.85 315 P P 07 01 42.6 -0.7
comp=Z,7.9nm,0.9s,baz=60,slow=6.7,SNR=9.5
SCHQ LR LR 07 19 52.4
comp=Z,716nm,21.8s,baz=92,slow=32
MNAS Manas 52.14 61 P P 07 01 53.5 +0.1
MNAS pmax pmax
comp=Z,14nm,1.5s
EKS2 Erkin-Say 52.98 60 P P 07 02 01.5 +1.8
SNR=17
EKS2 Erkin-Say 52.98 60 i P P 07 02 01.4 +1.8
EKS2 Erkin-Say 52.98 60 eP P 07 01 59.3 -0.3
EKS2 Erkin-Say 52.98 60 eP P 07 01 59.3 -0.3
AAK Ala-Archa 53.50 60 P P 07 02 04.5 +1.0
SNR=5.5
AAK Ala-Archa 53.50 60 P P 07 02 04.4 +1.0
AAK pmax pmax
comp=Z,13nm,1.4s
AAK Ala-Archa 53.50 60 P P 07 02 04.4 +1.0
comp=Z,13nm,1.4s
AAK Ala-Archa 53.50 60 eP P 07 02 04.4 +1.0
FRU Bishkek 53.52 60 eP P 07 02 03.0 -0.5
FRU pmax pmax

comp=Z,88nm,1.6s
FRU Bishkek 53.52 60 *e*P **P 07 02 03.0 -0.5**
comp=Z,88nm,1.6s
CHMS Chumysh 53.56 59 P **P 07 02 04.1 +0.3**
SNR=7.1
CHMS Chumysh 53.56 59 *i* P **P 07 02 04.1 +0.3**
CHMS Chumysh 53.56 59 *i* P **P 07 02 04.1 +0.3**
SFK Sufi-Kurgan 53.63 63 P **P 07 02 04.9 +0.4**
SFK pmax pmax
comp=Z,15nm,1.1s
SFK Sufi-Kurgan 53.63 63 P **P 07 02 04.9 +0.4**
comp=Z,15nm,1.1s
UCH Uchtor 53.64 60 P **P 07 02 06.7 +1.9**
SNR=12
UCH Uchtor 53.64 60 *i* P **P 07 02 06.7 +1.9**
UCH Uchtor 53.64 60 *i* P **P 07 02 06.7 +1.9**
KURK Kurchatov 53.94 49 P **P 07 02 06.2 -0.1**
comp=Z,145nm,0.8s,SNR=42
KURK Kurchatov 53.94 49 *e*P **P 07 02 06.3 -0.1**
KURK pmax pmax
comp=Z,99nm,1.3s
KURK Kurchatov 53.94 49 *e*P **P 07 02 06.3 -0.1**
comp=Z,99nm,1.3s
KURK Kurchatov 53.94 49 P **P 07 02 05.8 -0.6**
SNR=31
KURK Kurchatov 53.94 49 *e*P **P 07 02 06.3 -0.1**
comp=Z,99nm,1.3s
TKM2 Tokmak 2 54.18 59 P **P 07 02 07.7 -0.8**
SNR=7.7
TKM2 Tokmak 2 54.18 59 P **P 07 02 07.5 -1.0**
TKM2 pmax pmax
comp=Z,7.0nm,1.0s
TKM2 Tokmak 2 54.18 59 *e*P **P 07 02 07.7 -0.8**
TKM2 Tokmak 2 54.18 59 *e*P **P 07 02 07.7 -0.8**
KZA Kyzart 54.20 60 P **P 07 02 11.2 +2.2**
SNR=19
KZA Kyzart 54.20 60 *i* P **P 07 02 11.1 +2.2**
KZA Kyzart 54.20 60 *i* P **P 07 02 11.1 +2.2**
ULHL Ulahol 54.85 60 P **P 07 02 15.0 +1.7**
SNR=8.4
ULHL Ulahol 54.85 60 *i* P **P 07 02 15.0 +1.7**
ULHL Ulahol 54.85 60 *i* P **P 07 02 15.0 +1.7**
NVS Novosibirsk 55.59 44 *e*P **P 07 02 17.2 -1.0**
NVS *e*S **S 07 10 02.6 -0.5**
NVS pmax pmax
comp=Z,31nm,1.6s
NVS pmax pmax
comp=E,5.0nm,0.7s
NVS pmax pmax
comp=Z,13nm,1.1s
NVS pmax pmax
comp=N,3.0nm,0.7s
NVS pmax pmax
comp=E,4.0nm,0.7s
NVS smax smax
comp=N,7.0nm,1.0s
NVS smax smax
comp=E,3.0nm,0.4s
NVS Novosibirsk 55.59 44 *e*P **P 07 02 17.2 -1.0**
comp=E,7.0nm,1.0s
KSH Kashi 55.59 63 P **P 07 02 18.3 -0.3**
KSH pP **pP 07 02 22.8 -1.0**
KSH sP **sP 07 02 25.3 -0.5**
KSH PcS **PcS 07 07 16.9 -1.6**
KSH S **S 07 10 00.5 -3.3**
KSH ScS **ScS 07 12 03.3 -4.1**
KSH PMZ
comp=E,130nm,2.1s
KSH LN
comp=E,310nm,10.7s
KSH LE
comp=E,190nm,8.1s
KSH LZ
comp=E,150nm,5.4s
LSZ Lusaka 55.90 151 *e*P **P 07 02 20.8 -0.2**
LSZ pmax pmax
comp=Z,27nm,0.8s
LSZ Lusaka 55.90 151 *e*P **P 07 02 20.8 -0.2**
comp=Z,27nm,0.8s
LSZ Lusaka 55.90 151 *e*P **P 07 02 20.8 -0.2**
comp=Z,27nm,0.8s
TSUM Tsumeb 56.40 165 *e*P **P 07 02 24.9 +0.5**
comp=Z,18nm,0.9s
TSUM Tsumeb 56.40 165 *e*P **P 07 02 24.9 +0.5**
comp=Z,18nm,0.9s
ZAA0 Zalesovo Array 56.73 44 *e*P **P 07 02 25.1 -1.2**
ZAA0 Zalesovo Array 56.73 44 *e*P **P 07 02 25.1 -1.2**
ZALV Zalesovo Beam 56.73 44 P **P 07 02 26.2 -0.1**
comp=Z,3.4nm,0.7s,baz=292,slow=7.8,SNR=9.0
ZALV PP **PP 07 04 35.5 +3.3**
comp=Z,0.9nm,0.5s,baz=292,slow=7.8,SNR=3.8
ZALV LR LR 07 28 49.5
comp=Z,402nm,18.5s,baz=248,slow=38
ZALV Zalesovo Beam 56.73 44 P **P 07 02 26.3 -0.1**
ZALV 07 04 35.5
ZALV pmax pmax
comp=Z,3.0nm,0.7s
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV MLR MLR
comp=Z,402nm,18.5s
PDGK Podgornoye 56.73 58 P **P 07 02 26.2 -0.3**
PDGK pmax pmax
comp=Z,34nm,1.1s
PDGK Podgornoye 56.73 58 P **P 07 02 26.2 -0.3**
comp=Z,34nm,1.1s
MK31 Makanchi Array 57.42 53 P **P 07 02 30.3 -1.2**
MK31 pmax pmax
comp=Z,22nm,0.6s
MK31 Makanchi Array 57.42 53 *e*P **P 07 02 31.1 -0.4**
MK31 Makanchi Array 57.42 53 *e*P **P 07 02 31.1 -0.4**
MKAR Makanchi Array 57.42 53 P **P 07 02 30.9 -0.6**
comp=Z,22nm,0.7s,baz=280,slow=10,SNR=143
MKAR LR LR 07 30 19.4
comp=Z,225nm,18.3s,baz=294,slow=39
MKAR Makanchi Array 57.42 53 P **P 07 02 30.9 -0.6**
MKAR pmax pmax
comp=Z,22nm,0.7s
MKAR MLR MLR
comp=Z,225nm,18.3s
MDV Middlebury 57.66 304 *e*P **P 07 02 32.6 -0.5**
MDV Middlebury 57.66 304 *e*P **P 07 02 32.6 -0.5**
RES Resolute Bay 57.93 342 P **P 07 02 34.4 -0.2**
comp=Z,3.9nm,1.0s,baz=45,slow=3.2,SNR=5.2
RES Resolute Bay 57.93 342 P **P 07 02 34.4 -0.2**
RES pmax pmax
comp=Z,4.0nm,1.0s
ODNJ Ogdensburg 59.72 301 *e*P **P 07 02 48.0 +0.5**
ODNJ Ogdensburg 59.72 301 *e*P **P 07 02 48.0 +0.5**
WMQ Urumqi 62.07 55 P **P 07 03 05.6 +2.1**
WMQ pP **pP 07 03 10.3 +1.5**
WMQ sP **sP 07 03 12.6 +1.9**
WMQ PcP **PcP 07 03 45.3 +1.5**
WMQ S **S 07 11 30.6 +2.8**
WMQ SS **SS 07 15 33.9 +3.9**
WMQ PMZ
comp=Z,24nm,0.7s
WMQ PMZ
comp=Z,180nm,5.0s
WMQ LN
comp=Z,820nm,14.6s
WMQ LE
comp=Z,630nm,15.0s
WMQ LZ
comp=Z,180nm,16.8s
SSPA Standing Stone 62.18 302 *e*P **P 07 03 04.3 +0.1**
comp=Z,7.2nm,0.9s
SSPA Standing Stone 62.18 302 *e*P **P 07 03 04.3 +0.1**
comp=Z,7.2nm,0.9s
FCC Fort Churchill 63.89 325 *e*P **P 07 03 15.0 -0.2**
FCC pmax pmax
comp=Z,14nm,1.1s
FCC Fort Churchill 63.89 325 *e*P **P 07 03 15.0 -0.2**
comp=Z,14nm,1.1s
FCC Fort Churchill 63.89 325 *e*P **P 07 03 15.0 -0.2**
comp=Z,14nm,1.1s
LBTB Lobatse 64.03 158 *e*P **P 07 03 16.6 0.0**
LBTB pmax pmax
comp=Z,32nm,0.8s
LBTB Lobatse 64.03 158 *e*P **P 07 03 16.6 0.0**
comp=Z,32nm,0.8s
LBTB Lobatse 64.03 158 *e*P **P 07 03 16.6 0.0**
comp=Z,32nm,0.8s
PYUN Piuthan 65.72 72 *e*P **P 07 03 27.9 -0.1**
comp=Z,239nm,0.6s
ACSO Alum Creek Sta 65.85 303 *e*P **P 07 03 27.7 -0.7**
comp=Z,27nm,0.8s
ACSO Alum Creek Sta 65.85 303 *e*P **P 07 03 27.7 -0.7**
comp=Z,27nm,0.8s
KOLN Koldanda 66.36 72 *e*P **P 07 03 31.4 -0.7**
comp=Z,20nm,0.7s
GKN Gorkha 67.04 71 *e*P **P 07 03 35.9 -0.5**
comp=Z,124nm,1.2s
COWI Conover 67.08 311 *e*P **P 07 03 36.0 -0.2**
comp=Z,36nm,1.3s
COWI Conover 67.08 311 *e*P **P 07 03 36.0 -0.2**
comp=Z,36nm,1.3s
KMSC Kings Mountain 67.08 298 ⇓P **P 07 03 36.5 +0.2**
baz=67
NHSC New Hope 67.22 295 *e*P **P 07 03 38.1 +0.9**
comp=Z,57nm,1.1s
NHSC New Hope 67.22 295 *e*P **P 07 03 38.1 +0.9**
comp=Z,57nm,1.1s
DMN Daman 67.59 71 *e*P **P 07 03 39.5 -0.5**
comp=Z,168nm,1.3s
EYMN Ely 67.60 314 *e*P **P 07 03 38.5 -0.9**
comp=Z,29nm,1.2s
EYMN Ely 67.60 314 *e*P **P 07 03 38.5 -0.9**
comp=Z,29nm,1.2s
KKN Kakani 67.64 71 *e*P **P 07 03 39.3 -0.9**
comp=Z,32nm,0.5s
PKIN Phulchoki 67.83 71 *e*P **P 07 03 41.0 -0.5**
comp=Z,79nm,1.4s
PKI Pulchoki 67.85 71 *e*P **P 07 03 41.2 -0.5**
comp=Z,36nm,0.8s
GUN Gumba 68.04 71 *e*P **P 07 03 42.8 -0.1**
comp=Z,75nm,1.0s
TLY Talaya 68.07 41 *e*P **P 07 03 43.2 +0.9**
TLY *e*S **S 07 12 37.7 -3.4**
TLY pmax pmax
comp=Z,15nm,1.6s
TLY MLR MLR
comp=Z,270nm,13.0s
TLY Talaya 68.07 41 *e*P **P 07 03 43.2 +0.9**
comp=Z,15nm,1.6s
TLY Talaya 68.07 41 P **P 07 03 43.7 +1.4**
SNR=9.0
JIRN Jiri 68.40 71 *e*P **P 07 03 45.0 -0.2**
comp=Z,20nm,0.5s
ZAK Zakamensk 68.53 43 *e*P **P 07 03 43.8 -1.5**
ZAK pmax pmax
comp=Z,5.0nm,1.7s
ZAK Zakamensk 68.53 43 *e*P **P 07 03 43.8 -1.5**
comp=Z,5.0nm,1.7s
TKL Tuckaleechee C 68.58 299 *e*P **P 07 03 46.2 +0.4**
TKL Tuckaleechee C 68.58 299 *e*P **P 07 03 46.2 +0.4**
TKL Tuckaleechee C 68.58 299 *e*P **P 07 03 46.2 +0.4**
BLO Bloomington 68.75 303 *e*P **P 07 03 45.9 -0.9**
BLO pmax pmax
comp=Z,16nm,0.8s
BLO Bloomington 68.75 303 *e*P **P 07 03 45.9 -0.9**
comp=Z,16nm,0.8s
BLO Bloomington 68.75 303 *e*P **P 07 03 45.9 -0.9**
comp=Z,16nm,0.8s
ULM Lac du Bonnet 68.93 317 P **P 07 03 46.2 -1.5**
comp=Z,17nm,0.7s,baz=65,slow=6.0,SNR=55
ULM LR LR 07 31 04.7
comp=Z,498nm,18.9s,baz=52,slow=34
ULM Lac du Bonnet 68.93 317 *e*P **P 07 03 46.2 -1.5**
comp=Z,18nm,0.7s
WCI Wyandotte Cave 69.06 303 *e*P **P 07 03 47.2 -1.6**
WCI pmax pmax
comp=Z,13nm,0.8s
WCI Wyandotte Cave 69.06 303 *e*P **P 07 03 47.2 -1.6**
comp=Z,13nm,0.8s
WCI Wyandotte Cave 69.06 303 *e*P **P 07 03 47.2 -1.6**
comp=Z,13nm,0.8s
RAMN Ramite 69.07 71 *e*P **P 07 03 48.6 -0.7**
JFWS Jewell Farm 69.33 308 *e*P **P 07 03 49.1 -1.2**
JFWS pmax pmax
comp=Z,5.0nm,0.8s
JFWS Jewell Farm 69.33 308 *e*P **P 07 03 49.1 -1.2**
comp=Z,5.0nm,0.8s
JFWS Jewell Farm 69.33 308 *e*P **P 07 03 49.1 -1.2**
comp=Z,5.5nm,0.8s
GOGA Godfrey 69.47 297 *e*P **P 07 03 50.6 -0.7**
GOGA pmax pmax
comp=Z,23nm,1.3s
GOGA Godfrey 69.47 297 *e*P **P 07 03 50.6 -0.7**
comp=Z,23nm,1.3s
GOGA Godfrey 69.47 297 *e*P **P 07 03 50.6 -0.7**
comp=Z,23nm,1.3s
PTGA Pitinga 69.61 253 P **P 07 03 52.0 -0.4**
comp=Z,5.7nm,0.9s,baz=6.6,slow=4.8,SNR=8.1
FFC Flin Flon 69.68 324 P **P 07 03 51.5 -0.8**
comp=Z,65nm,1.0s,SNR=5.5
TAPN Taplejung 69.72 70 *e*P **P 07 03 52.3 -1.1**
comp=Z,15nm,0.6s
ODAN Odare 69.73 71 *e*P **P 07 03 52.5 -0.8**
SPMN Marine on St. 69.75 312 *e*P **P 07 03 52.1 -0.7**
comp=Z,14nm,0.8s
SPMN Marine on St. 69.75 312 *e*P **P 07 03 52.1 -0.7**
comp=Z,14nm,0.8s
SPMN Marine on St. 69.75 312 ⇑P **P 07 03 52.3 -0.6**
baz=70
BOD Bodaibo 69.75 32 *e*P **P 07 03 50.2 -2.4**
BOD pmax pmax
comp=Z,19nm,1.2s
HDIL Hopedale 69.91 306 *e*P **P 07 03 53.0 -0.9**
comp=Z,17nm,0.9s
HDIL Hopedale 69.91 306 *e*P **P 07 03 53.0 -0.9**
comp=Z,17nm,0.9s
AGMN Agassiz Nation 69.95 316 *e*P **P 07 03 53.0 -1.0**
comp=Z,10nm,0.8s
AGMN Agassiz Nation 69.95 316 *e*P **P 07 03 53.0 -1.0**
comp=Z,10nm,0.8s
AGMN Agassiz Nation 69.95 316 ⇑P **P 07 03 54.0 0.0**
baz=70,SNR=14
OLIL Olney 70.04 304 *e*P **P 07 03 52.5 -2.2**
comp=Z,24nm,0.7s
OLIL Olney 70.04 304 *e*P **P 07 03 52.5 -2.2**
comp=Z,24nm,0.7s
YKA Yellowknife Ar 70.24 334 P **P 07 03 54.2 -1.3**
comp=Z,4.7nm,0.7s,baz=52,slow=6.1,SNR=51
YKA Yellowknife Ar 70.24 334 P **P 07 03 54.2 -1.3**
YKA pmax pmax
comp=Z,5.0nm,0.7s
TIGA Tifton 70.56 295 *e*P **P 07 03 57.7 -0.4**
comp=Z,29nm,1.1s
TIGA Tifton 70.56 295 *e*P **P 07 03 57.6 -0.4**
comp=Z,29nm,1.1s
TIGA Tifton 70.56 295 ⇑P **P 07 03 57.6 -0.4**
baz=70
A30A Hoffart Farm, 70.97 317 ⇓P **P 07 04 00.1 -0.2**
baz=71,SNR=5.4
BDFB Brasilia 71.10 233 P **P 07 04 01.8 +0.3**
comp=Z,5.7nm,0.9s,baz=110,slow=3.5,SNR=9.4
BDFB LR LR 07 34 53.3
comp=Z,211nm,18.0s,baz=40,slow=36
BDFB Brasilia 71.10 233 P **P 07 04 01.8 +0.3**
BDFB pmax pmax
comp=Z,6.0nm,0.9s
BDFB MLR MLR
comp=Z,211nm,18.0s
LSA Lhasa 71.11 67 *e*P **P 07 04 02.3 +0.3**
LSA pmax pmax
comp=Z,39nm,0.9s
LSA Lhasa 71.11 67 *e*P **P 07 04 02.3 +0.3**
comp=Z,39nm,0.9s
LSA Lhasa 71.11 67 *e*P **P 07 04 02.3 +0.3**
comp=Z,39nm,0.9s
WVT Waverly 71.18 301 *e*P **P 07 03 59.2 -2.5**
WVT pmax pmax
comp=Z,5.0nm,0.8s
WVT Waverly 71.18 301 *e*P **P 07 03 59.2 -2.5**
comp=Z,5.0nm,0.8s
WVT Waverly 71.18 301 *e*P **P 07 03 59.2 -2.5**
comp=Z,5.2nm,0.8s
B30A Myrvik Farm, E 71.25 317 ⇓P **P 07 04 01.4 -0.6**
baz=71,SNR=9.3
INK Inuvik 71.28 345 P **P 07 04 00.6 -1.2**
comp=Z,5.9nm,1.0s,baz=18,slow=8.1,SNR=15
INK LR LR 07 36 51.7
comp=Z,493nm,19.0s,baz=24,slow=37
INK Inuvik 71.28 345 *e*P **P 07 04 01.4 -0.3**
INK pmax pmax
comp=Z,12nm,1.0s
INK Inuvik 71.28 345 *e*P **P 07 04 01.4 -0.3**
comp=Z,12nm,1.0s
INK Inuvik 71.28 345 *e*P **P 07 04 01.4 -0.3**
comp=Z,12nm,1.0s
A29A Manning Farm, 71.49 317 ⇓P **P 07 04 02.6 -0.8**
baz=71,SNR=9.6
SONM Songino Array 71.62 44 P **P 07 04 03.3 -1.1**
comp=Z,3.3nm,1.1s,baz=299,slow=6.4,SNR=17
SONM LR LR 07 37 53.0
comp=Z,407nm,18.6s,baz=278,slow=38
SONM Songino Array 71.62 44 P **P 07 04 03.3 -1.1**
SONM pmax pmax
comp=Z,3.0nm,1.1s
SONM MLR MLR
comp=Z,407nm,18.6s
SCIA State Center 71.74 309 *e*P **P 07 04 03.2 -1.8**
comp=Z,63nm,0.3s
SCIA State Center 71.74 309 *e*P **P 07 04 03.2 -1.8**
comp=Z,63nm,0.3s
C30A Mose, Pekin 71.75 316 ⇓P **P 07 04 04.3 -0.7**
baz=72,SNR=13
B29A Wagenman Farm, 71.81 317 ⇓P **P 07 04 05.3 -0.1**
baz=72
ULN Ulaanbaatar 71.97 44*ce*P **P 07 04 06.8 +0.3**
ULN pmax pmax
comp=Z,12nm,1.5s
ULN MLR MLR
comp=Z,408nm,16.0s
ULN Ulaanbaatar 71.97 44 *e*P **P 07 04 06.8 +0.3**
comp=Z,408nm,16.0s
ULN Ulaanbaatar 71.97 44 P P 07 04 09.9 +3.4
SNR=6.5
ULN Ulaanbaatar 71.97 44 *e*P **P 07 04 05.9 -0.6**
comp=Z,18nm,1.5s
A28A Rude Farm, Bot 72.06 318 ⇓P **P 07 04 07.3 +0.4**
baz=72
GTA Gaotai 72.15 54 *e*P **P 07 04 09.0 +1.3**
GTA pP **pP 07 04 13.8 +0.8**
GTA sP **sP 07 04 16.0 +1.1**
GTA S **S 07 13 29.5 0.0**
GTA sS **sS 07 13 37.8 -0.4**
GTA SKS **SKSac 07 14 09.4 -2.2**
GTA SS **SS 07 18 09.5 +3.2**
GTA PMZ
comp=Z,19nm,1.5s
GTA PMZ
comp=Z,150nm,4.3s
GTA LN
comp=Z,430nm,19.0s
GTA LE
comp=Z,350nm,19.0s
GTA LZ
comp=Z,200nm,17.1s
LRAL Lakeview Retre 72.20 298 *e*P **P 07 04 07.2 -0.8**
comp=Z,10nm,0.8s
LRAL Lakeview Retre 72.20 298 *e*P **P 07 04 07.2 -0.8**
comp=Z,10nm,0.8s
D30A Buchanan 72.23 316 ⇓P **P 07 04 08.1 +0.2**
baz=72
MDND Maddock 72.30 317 ⇑P **P 07 04 08.6 +0.3**
baz=72
B28A Dugan Ranch, T 72.38 317 ⇓P **P 07 04 09.7 +0.9**
baz=72
SDV Santo Domingo 72.42 268 *e*P **P 07 04 09.8 +0.1**
comp=Z,32nm,1.5s
SDV Santo Domingo 72.42 268 *e*P **P 07 04 09.8 +0.1**
comp=Z,32nm,1.5s
E30A Jud 72.66 315 ⇑P **P 07 04 10.1 -0.4**
baz=72
ECSD EROS Data Cent 72.85 312 *e*P **P 07 04 09.9 -1.7**
comp=Z,18nm,0.8s
ECSD EROS Data Cent 72.85 312 *e*P **P 07 04 09.9 -1.7**
comp=Z,18nm,0.8s
ECSD EROS Data Cent 72.85 312 ⇓P **P 07 04 10.8 -0.9**
baz=73,SNR=27
YAK Yakutsk 72.95 24 *e*P **P 07 04 11.8 0.0**
YAK *e* 07 04 27.1
YAK *e* 07 06 56.3
YAK *e*PPP PPP 07 08 40.8
YAK *e*S **S 07 13 32.0 -5.5**
YAK *e* 07 14 09.9
YAK *e**SS **SKSac 07 14 15.5 -0.9**
YAK *e*SS **SS 07 18 12.8 -4.1**
YAK pmax pmax
comp=Z,24nm,1.1s
YAK pmax pmax
comp=N,10.0nm,1.2s
YAK pmax pmax
comp=E,15nm,1.3s
YAK pmax pmax
comp=Z,124nm,6.2s
YAK pmax pmax
comp=N,70nm,4.4s
YAK pmax pmax
comp=E,31nm,4.1s
YAK smax smax
comp=N,32nm,2.6s
YAK smax smax
comp=E,37nm,3.3s
YAK Yakutsk 72.95 24 *e*P **P 07 04 11.8 0.0**
comp=E,10.0nm,1.2s
YAK Yakutsk 72.95 24 *e*PcP **PcP 07 04 27.1 -1.6**
A26A Wade Farm, Ken 73.03 318 ⇑P **P 07 04 11.2 -1.5**
baz=73
E29A Napoleon 73.04 315 ⇓P **P 07 04 12.5 -0.2**
baz=73
F30A Leola 73.10 315 ⇑P **P 07 04 13.5 +0.4**
baz=73
OXF Oxford 73.13 301 *e*P **P 07 04 11.1 -2.3**
OXF pmax pmax
comp=Z,50nm,0.9s
OXF Oxford 73.13 301 *e*P **P 07 04 11.1 -2.3**
comp=Z,50nm,0.9s
OXF Oxford 73.13 301 *e*P **P 07 04 11.1 -2.3**
comp=Z,50nm,0.9s
C27A Sayler Ranch, 73.42 317 ⇓P **P 07 04 14.9 -0.1**
baz=73
B26A Jensen Ranch, 73.44 318 ⇓P **P 07 04 15.5 +0.4**
baz=73
F29A Eureka 73.56 315 ⇑P **P 07 04 16.2 +0.4**
baz=73
G30A Faulkton 73.57 314 ⇓P **P 07 04 16.2 +0.3**
baz=73,SNR=10.0
A25A Svangstu Ranch 73.58 319 ⇓P **P 07 04 16.4 +0.6**
baz=73,SNR=8.5
E28A Huff 73.63 316 ⇑P **P 07 04 16.3 0.0**
baz=73,SNR=8.2
C26A Wahner Farm, P 73.69 318 ⇑P **P 07 04 17.1 +0.5**
baz=73
D27A Center 73.79 317 ⇓P **P 07 04 17.2 0.0**
baz=74
BRSD Miller 73.85 313 *e*P **P 07 04 17.2 -0.4**
comp=Z,27nm,0.7s
BRSD Miller 73.85 313 *e*P **P 07 04 17.2 -0.4**
comp=Z,27nm,0.7s
BRSD Miller 73.85 313 ⇓P **P 07 04 17.4 -0.1**
baz=74
G29A Hoven 73.99 314 ⇑P **P 07 04 18.5 +0.1**
baz=74
A24A Westby 74.06 319 ⇓P **P 07 04 19.3 +0.5**
baz=74,SNR=10
F28A McLaughlin 74.11 315 ⇑P **P 07 04 19.5 +0.4**
baz=74,SNR=12
Q37A Longview Farm, 74.17 307 ⇓P **P 07 04 19.1 -0.4**
baz=74
E27A Carson 74.21 316 ⇑P **P 07 04 20.1 +0.5**
baz=74
D26A Manning 74.34 317 ⇓P **P 07 04 21.0 +0.6**
baz=74
C25A Freed Ranch, W 74.38 318 ⇑P **P 07 04 20.1 -0.5**
baz=74
I30A Oacoma 74.43 313 ⇑P **P 07 04 20.8 -0.1**
baz=74,SNR=7.1
DGMT Dagmar 74.44 319 *e*P **P 07 04 21.3 +0.4**
comp=Z,28nm,1.3s
DGMT Dagmar 74.44 319 *e*P **P 07 04 21.3 +0.4**
comp=Z,28nm,1.3s
DGMT Dagmar 74.44 319 ⇓P **P 07 04 21.6 +0.7**
baz=74
H29A Onida 74.48 314 ⇓P **P 07 04 21.0 -0.3**
baz=74,SNR=8.8
G28A Parade 74.63 315 ⇓P **P 07 04 22.2 +0.1**
baz=74
E26A Carlson Angus 74.68 317 ⇑P **P 07 04 22.7 +0.2**
baz=74,SNR=7.5
R37A Teagarden Farm 74.73 306 ⇓P **P 07 04 23.7 +1.0**
baz=74
D25A Fairfield 74.75 318 ⇑P **P 07 04 25.2 +2.4**
baz=74,SNR=8.9
F27A Lemmon 74.79 316 ⇑P **P 07 04 23.8 +0.7**
baz=74
J30A Dallas 74.81 313 ⇓P **P 07 04 22.6 -0.5**
baz=75,SNR=9.2

B23A	Brockton	74.86	319	⇓P		P	07 04 23.7	+0.3
	baz=75,SNR=21							
I29A	Vivian Onida	74.89	314	⇓P		P	07 04 23.7	+0.1
	baz=75,SNR=7.8							
H28A	Mission Ridge	74.92	314	⇓P		P	07 04 24.0	+0.2
	baz=75							
A22A	Carney Farms,	75.02	320	⇓P		P	07 04 24.7	+0.4
	baz=75,SNR=15							
G27A	Dupree	75.03	315	⇑P		P	07 04 24.5	+0.1
	baz=75,SNR=7.8							
L31A	Butterfield Fa	75.08	311	⇓P		P	07 04 24.8	+0.1
	baz=75							
BGNE	Belgrade	75.09	310	eP		P	07 04 23.3	-1.5
	comp=Z,67nm,0.7s							
BGNE	Belgrade	75.09	310	eP		P	07 04 23.3	-1.5
	comp=Z,67nm,0.7s							
BGNE	Belgrade	75.09	310	⇑P		P	07 04 24.6	-0.3
	baz=75,SNR=6.9							
C24A	Savage	75.13	318	⇑P		P	07 04 25.6	+0.6
	baz=75,SNR=6.7							
R36A	Gordon, Harris	75.16	307	⇓P		P	07 04 25.0	-0.3
	baz=75							
F26A	Lodgepole	75.17	316	⇓P		P	07 04 25.7	+0.5
	baz=75,SNR=9.8							
E25A	Miller Ranch,	75.19	317	⇑P		P	07 04 25.3	0.0
	baz=75,SNR=11							
COLD	Coldfoot	75.23	350	eP		P	07 04 27.0	+1.9
	comp=Z,18nm,1.0s							
COLD	Coldfoot	75.23	350	eP		P	07 04 27.0	+1.9
	comp=Z,18nm,1.0s							
J29A	Okreek	75.26	313	⇓P		P	07 04 25.4	-0.4
	baz=75,SNR=13							
K30A	Basset	75.26	312	⇑P		P	07 04 25.0	-0.8
	baz=75,SNR=13							
C23A	Lambert	75.37	319	⇑P		P	07 04 27.7	+1.4
	baz=75,SNR=14							
I28A	Midland	75.40	314	⇓P		P	07 04 26.7	+0.1
	baz=75							
KSU1	Kansas State U	75.44	308	eP		P	07 04 25.7	-1.1
	comp=Z,24nm,0.8s							
KSU1	Kansas State U	75.44	308	eP		P	07 04 25.7	-1.1
	comp=Z,24nm,0.8s							
KSU1	Kansas State U	75.44	308	⇑P		P	07 04 26.6	-0.3
	baz=75							
G26A	Maurine	75.46	316	⇑P		P	07 04 26.6	-0.3
	baz=75,SNR=16							
B22A	Reddig Ranch S	75.49	320	⇓P		P	07 04 27.2	+0.1
	baz=75							
A21A	Bergtoll Ranch	75.55	321	⇑P		P	07 04 27.6	+0.3
	baz=75,SNR=8.5							
N32A	Stulken Farm,	75.55	310	⇓P		P	07 04 27.6	+0.1
	baz=75							
H27A	Howes	75.56	315	⇓P		P	07 04 27.4	0.0
	baz=75,SNR=9.6							
S36A	Lake Cedric, C	75.56	306	⇑P		P	07 04 26.6	-0.9
	baz=75,SNR=14							
F25A	Bowman	75.56	317	⇑P		P	07 04 27.4	-0.2
	baz=75							
K29A	Lazy Trails An	75.63	313	⇑P		P	07 04 27.9	-0.1
	baz=75,SNR=9.4							
M31A	Lambtecht Ranc	75.64	311	⇓P		P	07 04 27.7	-0.3
	baz=75,SNR=6.0							
E24A	Baker	75.65	317	⇑P		P	07 04 28.0	0.0
	baz=75							
L30A	Spencer Herefo	75.74	312	⇓P		P	07 04 28.5	-0.1
	baz=76							
D23A	Lindsay	75.77	318	⇓P		P	07 04 29.0	+0.4
	baz=76							
J28A	Allard Ranch,	75.78	314	⇑P		P	07 04 28.9	+0.1
	baz=76,SNR=22							
I27A	Quinn	75.88	314	⇓P		P	07 04 28.9	-0.4
	baz=76,SNR=9.2							
EGAK	Eagle	75.89	345	eP		P	07 04 30.2	+1.2
	comp=Z,20nm,1.4s							
EGAK	Eagle	75.89	345	eP		P	07 04 30.2	+1.2
	comp=Z,20nm,1.4s							
EDM	Edmonton	75.90	327	eP		P	07 04 28.7	-0.6
EDM				pmax		pmax		
	comp=Z,33nm,1.0s							
EDM	Edmonton	75.90	327	eP		P	07 04 28.6	-0.6
	comp=Z,33nm,1.0s							
EDM	Edmonton	75.90	327	eP		P	07 04 28.6	-0.6
	comp=Z,33nm,1.0s							
P33A	Williams Farm,	75.94	309	⇑P		P	07 04 30.4	+0.7
	baz=76							
B21A	Ellsworth Farm	75.94	320	⇑P		P	07 04 30.5	+0.9
	baz=76							
H26A	Fairpoint	75.97	315	⇑P		P	07 04 29.2	-0.7
	baz=76,SNR=5.6							
MIAR	Mount Ida	75.99	303	eP		P	07 04 29.4	-0.7
MIAR				pmax		pmax		
	comp=Z,15nm,0.8s							
MIAR	Mount Ida	75.99	303	eP		P	07 04 29.4	-0.7
	comp=Z,15nm,0.8s							
MIAR	Mount Ida	75.99	303	eP		P	07 04 29.4	-0.7
	comp=Z,15nm,0.8s							
S35A	Otter Creek Ra	76.06	306	⇑P		P	07 04 30.2	-0.2
	baz=76							
M30A	Dale-Ortello V	76.08	311	⇑P		P	07 04 30.6	0.0
	baz=76,SNR=7.4							
T36A	Boggs Farm, Ca	76.12	306	⇓P		P	07 04 30.2	-0.5
	baz=76,SNR=12							
A20A	Cobblestone Ra	76.13	321	⇓P		P	07 04 30.4	-0.2
	baz=76,SNR=9.7							
L29A	Maesberg Ranch	76.13	312	⇑P		P	07 04 30.6	-0.2
	baz=76							
DAWY	Dawson	76.14	344	eP		P	07 04 31.4	+0.9
	comp=Z,15nm,1.0s							
DAWY	Dawson	76.14	344	eP		P	07 04 31.4	+0.9
	comp=Z,15nm,1.0s							
F24A	Ekalaka	76.16	317	⇑P		P	07 04 31.1	+0.2
	baz=76,SNR=20							
E23A	Ismay	76.23	318	⇑P		P	07 04 31.8	+0.5
	baz=76,SNR=8.4							
Q33A	Connelly Farm,	76.28	308	⇓P		P	07 04 31.0	-0.7
	baz=76,SNR=9.9							
K28A	Ten Mile Ranch	76.28	313	⇑P		P	07 04 32.6	+0.9
	baz=76							
D22A	Cohagen	76.30	319	⇓P		P	07 04 31.8	+0.1
	baz=76,SNR=11							
J27A	Elkhorn Farm,	76.34	314	⇑P		P	07 04 32.5	+0.5
	baz=76,SNR=9.4							
W38A	Poteau	76.34	303	⇓P		P	07 04 32.1	+0.1
	baz=76							
C21A	Desert Coulee	76.36	320	⇓P		P	07 04 32.2	+0.1
	baz=76,SNR=17							
I26A	New Underwood	76.37	315	⇓P		P	07 04 32.4	+0.3
	baz=76,SNR=8.4							
P32A	Huiting Farm,	76.40	309	⇓P		P	07 04 31.8	-0.6
	baz=76,SNR=21							
H25A	Fruitdale	76.43	316	⇓P		P	07 04 32.9	+0.4
	baz=76,SNR=5.4							
G24A	Alzada	76.46	316	⇓P		P	07 04 32.7	0.0
	baz=76,SNR=10							
A19A	Klindworth Far	76.52	321	⇑P		P	07 04 32.8	-0.1
	baz=76,SNR=11							
S34A	Willow Spring	76.56	307	⇑P		P	07 04 33.0	-0.3
	baz=76,SNR=13							
LAO	LASA Array	76.61	318	eP		P	07 04 33.4	-0.1
	comp=Z,19nm,0.8s							
LAO	LASA Array	76.61	318	eP		P	07 04 33.4	-0.1
	comp=Z,19nm,0.8s							
T35A	Sooner Cattle	76.62	306	⇑P		P	07 04 32.9	-0.7
	baz=76,SNR=16							
E22A	Miles City	76.62	318	⇑P		P	07 04 33.4	-0.1
	baz=76,SNR=17							
LZH	Lanzhou	76.64	55	eP		P	07 04 34.5	+0.5
LZH				pP		pP	07 04 39.1	-0.2
LZH				sP		sP	07 04 41.5	+0.3
LZH				PMZ				
	comp=Z,100nm,1.3s							
LZH				PMZ				
	comp=Z,410nm,5.0s							
LZH				LN				
	comp=Z,240nm,14.3s							
LZH				LE				
	comp=Z,350nm,16.0s							
LZH				LZ				
	comp=Z,160nm,16.2s							
TUL1	Leonard	76.72	305	eP		P	07 04 32.7	-1.5
	comp=Z,16nm,0.8s							
TUL1	Leonard	76.72	305	eP		P	07 04 32.7	-1.5
	comp=Z,16nm,0.8s							
TUL1	Leonard	76.72	305	⇑P		P	07 04 33.3	-0.9
	baz=76,SNR=12							
Q32A	Meitler Ranch,	76.74	309	⇑P		P	07 04 33.2	-1.1
	baz=76,SNR=6.2							
F23A	Volborg	76.77	317	⇓P		P	07 04 34.3	0.0
	baz=76,SNR=10							
R33A	Olander Ranch,	76.77	308	⇓P		P	07 04 34.1	-0.4
	baz=76,SNR=11							
D21A	La Casta Ranch	76.79	319	⇑P		P	07 04 35.1	+0.6
	baz=76,SNR=15							
K27A	Flueckinger Fa	76.80	313	⇓P		P	07 04 35.0	+0.4
	baz=76,SNR=6.5							
I25A	Rochford	76.87	315	⇑P		P	07 04 35.4	+0.3
	baz=77,SNR=23							
H24A	Dirks Ranch, A	76.89	316	⇑P		P	07 04 34.9	-0.2
	baz=77							
IM04	Indian Mountai	76.90	351	eP		P	07 04 36.0	+1.3
IM04	Indian Mountai	76.90	351	eP		P	07 04 36.0	+1.3
C20A	Veseth Ranch,	76.91	320	⇑P		P	07 04 35.1	0.0
	baz=77,SNR=16							
W37A	Quinton	76.91	304	⇓P		P	07 04 34.5	-0.8
	baz=77,SNR=5.4							
B19A	Brinkman Farms	76.92	321	⇓P		P	07 04 35.6	+0.4
	baz=77,SNR=16							
P31A	Stockton	76.95	309	⇓P		P	07 04 34.9	-0.6
	baz=77,SNR=15							
N29A	Votaw Ranch, W	76.96	311	⇑P		P	07 04 35.3	-0.2
	baz=77,SNR=12							
ILAR	Eielson Array	76.98	348	P		P	07 04 35.9	+0.8
	comp=Z,4.4nm,1.0s,baz=24,slow=4.1,SNR=20							
ILAR				LR		LR	07 39 43.7	
	comp=Z,219nm,21.8s,baz=32,slow=37							
ILAR	Eielson Array	76.98	348	P		P	07 04 35.9	+0.8
ILAR				pmax		pmax		
	comp=Z,3.0nm,1.1s							
ILAR				MLR		MLR		
	comp=Z,219nm,21.8s							
RSSD	Black Hills	76.98	315	eP		P	07 04 35.7	-0.1
RSSD				pmax		pmax		
	comp=Z,11nm,0.8s							
RSSD	Black Hills	76.98	315	eP		P	07 04 35.7	-0.1
	comp=Z,11nm,0.8s							
RSSD	Black Hills	76.98	315	eP		P	07 04 35.7	-0.1
	comp=Z,11nm,0.8s							
O30A	MW Ranch, Wils	76.99	310	⇓P		P	07 04 35.4	-0.3
	baz=77,SNR=7.9							
T34A	McClaskey Farm	77.00	306	⇓P		P	07 04 35.6	-0.2
	baz=77							
COLA	College	77.05	348	eP		P	07 04 37.5	+2.0
COLA				pmax		pmax		
	comp=Z,13nm,1.1s							
COLA	College	77.05	348	eP		P	07 04 37.5	+2.0
	comp=Z,13nm,1.1s							
COLA	College	77.05	348	eP		P	07 04 37.5	+2.0
	comp=Z,13nm,1.1s							
G23A	Biddle	77.08	317	⇓P		P	07 04 35.9	-0.3
	baz=77,SNR=22							
E21A	Keefer Ranch,	77.16	319	⇑P		P	07 04 37.6	+1.0
	baz=77							
R32A	Long Quarter,	77.17	308	⇓P		P	07 04 36.4	-0.3
	baz=77,SNR=17							
X37A	Clayton	77.19	303	⇑P		P	07 04 36.8	0.0
	baz=77,SNR=13							
F22A	Rosebud	77.20	318	⇑P		P	07 04 37.0	+0.2
	baz=77,SNR=9.2							
S33A	Kaszmaul Farm,	77.20	307	⇓P		P	07 04 37.0	+0.1
	baz=77,SNR=10							
L27A	T5 Ranch, Ells	77.22	313	⇓P		P	07 04 37.5	+0.5
	baz=77							
Q31A	Ellis	77.26	309	⇑P		P	07 04 37.7	+0.4
	baz=77							
SAML	Samuel	77.29	249	eP		P	07 04 37.0	-0.6
	comp=Z,6.4nm,1.3s							
SAML	Samuel	77.29	249	eP		P	07 04 37.0	-0.6
	comp=Z,6.4nm,1.3s							
J25A	Sunshine Ranch	77.30	315	⇓P		P	07 04 38.8	+1.4
	baz=77							
K26A	Motz Farm, Whi	77.36	314	⇑P		P	07 04 38.3	+0.5
	baz=77,SNR=7.4							
D20A	Manuel Ranch,	77.38	320	⇑P		P	07 04 38.4	+0.6
	baz=77							
C19A	Slack Wire Ran	77.44	320	⇑P		P	07 04 38.3	+0.2
	baz=77,SNR=15							
W36A	Wetumka	77.45	304	⇓P		P	07 04 38.9	+0.6
	baz=77							
O29A	4D Ranch, Culb	77.47	311	⇑P		P	07 04 38.7	+0.3
	baz=77,SNR=5.6							
P30A	Selden	77.48	310	⇑P		P	07 04 38.5	0.0
	baz=77,SNR=8.3							
I24A	Kuemmerle Ranc	77.48	315	⇑P		P	07 04 39.1	+0.6
	baz=77							
DOT	Dot Lake	77.48	346	eP		P	07 04 39.6	+1.6
	comp=Z,11nm,1.0s							
DOT	Dot Lake	77.48	346	eP		P	07 04 39.6	+1.6
	comp=Z,11nm,1.0s							
H23A	Clabaugh Cattl	77.48	316	⇓P		P	07 04 38.6	+0.1
	baz=77							
V35A	Meyer Ranch, C	77.50	305	⇓P		P	07 04 38.4	-0.2
	baz=77,SNR=6.3							
U34A	Anderson Ranch	77.57	306	eP		P	07 04 38.6	-0.3
	comp=Z,38nm,0.7s							
U34A	Anderson Ranch	77.57	306	eP		P	07 04 38.6	-0.3
	comp=Z,38nm,0.7s							
U34A	Anderson Ranch	77.57	306	⇓P		P	07 04 38.9	0.0
	baz=77,SNR=15							
G22A	Birney	77.57	317	⇑P		P	07 04 39.2	+0.3
	baz=77							
N28A	Pribbeno Ranch	77.59	311	⇑P		P	07 04 38.9	-0.2
	baz=77,SNR=10							
M27A	Reverse DX Ran	77.60	312	⇑P		P	07 04 40.0	+0.9
	baz=77							
139A	Bunkhouse Ranc	77.61	301	⇓P		P	07 04 40.6	+1.4
	baz=77							
EGMT	Eagleton	77.61	321	eP		P	07 04 39.1	0.0
	comp=Z,25nm,1.0s							
EGMT	Eagleton	77.61	321	eP		P	07 04 39.1	0.0
	comp=Z,25nm,1.0s							
EGMT	Eagleton	77.61	321	⇑P		P	07 04 39.9	+0.8
	baz=77,SNR=18							
F21A	Absaloka Mine,	77.64	318	⇑P		P	07 04 39.7	+0.4
	baz=77							
T33A	Patterson Ranc	77.65	307	⇑P		P	07 04 40.1	+0.7
	baz=77							
Z38A	Mt. Pleasant	77.69	302	⇑P		P	07 04 40.8	+1.1
	baz=78							
L26A	Underwood Farm	77.70	313	⇓P		P	07 04 41.0	+1.2
	baz=77							
D19A	Cripps Ranch,	77.72	320	⇑P		P	07 04 40.8	+1.1
	baz=77,SNR=8.4							
ROSC	El Rosal	77.73	267	P		P	07 04 40.1	-0.6
	comp=Z,1.1nm,0.4s,baz=258,slow=4.5,SNR=4.6							
ROSC				LR		LR	07 37 54.0	
	comp=Z,182nm,19.4s,baz=69,slow=35							
OGNE	Ogallala	77.74	312	eP		P	07 04 39.7	-0.2
	comp=Z,21nm,0.7s							
OGNE	Ogallala	77.74	312	eP		P	07 04 39.7	-0.2
	comp=Z,21nm,0.7s							
OGNE	Ogallala	77.74	312	⇓P		P	07 04 40.4	+0.5
	baz=78,SNR=7.4							
S32A	Newby Ranch, P	77.74	308	⇓P		P	07 04 40.0	+0.1
	baz=78,SNR=11							
E20A	Meyer Farm, Mu	77.75	319	⇑P		P	07 04 40.6	+0.7
	baz=78							
R31A	Burdett	77.77	308	⇑P		P	07 04 39.5	-0.6
	baz=78,SNR=17							
HIA	Hailar	77.78	37	eP		P	07 04 40.2	+0.2
HIA				pmax		pmax		
	comp=Z,40nm,1.2s							
HIA	Hailar	77.78	37	eP		P	07 04 40.2	+0.2
	comp=Z,40nm,1.2s							
HIA	Hailar	77.78	37	eP		P	07 04 40.1	+0.2
	comp=Z,40nm,1.2s							
K25A	Mack Ranch, Ha	77.81	314	⇓P		P	07 04 41.2	+0.8
	baz=78,SNR=9.1							
J24A	Dixon Ranch, L	77.83	315	⇑P		P	07 04 40.4	0.0
	baz=78							
X36A	Centrahoma	77.86	304	⇑P		P	07 04 40.9	+0.3
	baz=78							
P29A	Atwood	77.87	310	⇓P		P	07 04 40.7	0.0
	baz=78,SNR=6.2							
W35A	Tecumseh	77.87	305	⇓P		P	07 04 40.6	0.0
	baz=78							
I23A	Meade Ranch, G	77.89	316	⇑P		P	07 04 41.2	+0.3
	baz=78							
V34A	Guthrie	77.91	305	eP		P	07 04 40.8	-0.1
	comp=Z,28nm,1.1s							
V34A	Guthrie	77.91	305	eP		P	07 04 40.8	-0.1
	comp=Z,28nm,1.1s							
V34A	Guthrie	77.91	305	⇑P		P	07 04 41.1	+0.2
	baz=78,SNR=7.2							
U33A	Lingo Farm, Me	77.95	306	⇑P		P	07 04 41.3	+0.2
	baz=78,SNR=12							
340A	Bronson	77.97	300	⇑P		P	07 04 41.1	-0.1
	baz=78							
239A	Gary	78.04	301	⇑P		P	07 04 41.3	-0.3
	baz=78							
T32A	Huddler Ranch,	78.04	307	⇑P		P	07 04 41.9	+0.3
	baz=78,SNR=12							
G21A	Lodge Grass	78.07	318	⇑P		P	07 04 42.1	+0.4
	baz=78							
O28A	Krutsinger Ran	78.07	311	⇑P		P	07 04 41.9	+0.1
	baz=78							
138A	Matatall Enter	78.10	302	⇑P		P	07 04 42.9	+1.0
	baz=78							
E19A	Rath Farm, Rou	78.12	319	⇓P		P	07 04 42.4	+0.4
	baz=78,SNR=9.0							
N27A	Anderson Farm,	78.12	312	⇑P		P	07 04 42.2	+0.1
	baz=78							
Z37A	Pogue Cattle C	78.16	302	⇓P		P	07 04 43.0	+0.7
	baz=78							
F20A	Billings	78.21	319	⇓P		P	07 04 43.1	+0.7
	baz=78,SNR=6.6							
R30A	Dighton	78.25	309	⇓P		P	07 04 42.9	+0.2
	baz=78,SNR=10							
K24A	Anderson Ranch	78.29	315	⇑P		P	07 04 43.5	+0.4
	baz=78							
MCK	McKinley	78.29	348	eP		P	07 04 43.8	+1.3
MCK				pmax		pmax		
	comp=Z,22nm,1.3s							
MCK	McKinley	78.29	348	eP		P	07 04 43.8	+1.3
	comp=Z,22nm,1.3s							
MCK	McKinley	78.29	348	eP		P	07 04 43.8	+1.3
	comp=Z,22nm,1.3s							
Q29A	Oakley	78.33	310	⇓P		P	07 04 43.7	+0.5
	baz=78,SNR=10							
H21A	Big Horn, Sher	78.36	317	⇓P		P	07 04 44.0	+0.6
	baz=78							
X35A	Drake	78.38	304	⇓P		P	07 04 42.8	-0.7
	baz=78,SNR=8.2							
DLBC	Dease Lake	78.38	337	eP		P	07 04 44.3	+1.1
	comp=Z,44nm,1.7s							
DLBC	Dease Lake	78.38	337	eP		P	07 04 44.3	+1.1
	comp=Z,44nm,1.7s							
P28A	Saint Francis	78.39	311	⇓P		P	07 04 43.7	+0.1
	baz=78,SNR=7.7							
V33A	Lossen Ranch,	78.42	306	⇓P		P	07 04 43.8	+0.1
	baz=78,SNR=11							
W34A	Bridge Creek,	78.42	305	⇑P		P	07 04 44.6	+0.8
	baz=78							
O27A	Beecher Island	78.47	311	⇓P		P	07 04 45.4	+1.4
	baz=78							
238A	Jacksonville	78.50	301	⇓P		P	07 04 45.1	+1.0
	baz=78							
HYT	Haines Junctio	78.50	342	eP		P	07 04 46.3	+2.4
	comp=Z,9.2nm,1.0s							
HYT	Haines Junctio	78.50	342	eP		P	07 04 46.3	+2.4
	comp=Z,9.2nm,1.0s							
I22A	9 Mile Ranch,	78.51	316	⇑P		P	07 04 44.2	0.0
	baz=78,SNR=12							
N26A	Koester Ranch,	78.52	312	⇓P		P	07 04 45.1	+0.7
	baz=78							
U32A	Winter Ranch,	78.56	307	⇓P		P	07 04 44.5	+0.1
	baz=78,SNR=23							
137A	Heron Place, G	78.59	302	⇓P		P	07 04 46.2	+1.5
	baz=78							
F19A	Roth Farm, Mol	78.60	319	⇓P		P	07 04 44.7	0.0
	baz=78,SNR=30							
G20A	Bridger	78.62	318	⇑P		P	07 04 44.4	-0.4
	baz=78,SNR=20							
M25A	Palm-Egli Farm	78.65	313	⇑P		P	07 04 46.0	+0.9
	baz=78							
R29A	Marienthal	78.70	309	⇓P		P	07 04 44.8	-0.5
	baz=78,SNR=7.4							
HHC	Hu-ho-hao-te	78.71	48	eP		P	07 04 44.8	-0.5
HHC				PP		PP	07 07 44.5	+1.6
HHC				S		S	07 14 39.8	-2.3
HHC				SS		SS	07 19 46.4	+0.9
HHC				PMZ				
	comp=Z,13nm,0.9s							
HHC				PMZ				
	comp=Z,110nm,8.6s							
HHC				LN				
	comp=Z,200nm,18.5s							
HHC				LE				
	comp=Z,200nm,19.7s							
HHC				LZ				
	comp=Z,56nm,21.0s							
K23A	Bowen Ranch, D	78.74	315	⇓P		P	07 04 45.5	-0.1
	baz=78,SNR=11							
S30A	Montezuma	78.75	308	⇑P		P	07 04 45.3	-0.2
	baz=78,SNR=9.7							
Q28A	Sharon Springs	78.75	310	⇑P		P	07 04 45.7	+0.1
	baz=78,SNR=9.9							
TRF	Thorofare Moun	78.78	349	eP		P	07 04 46.1	+0.7
	comp=Z,22nm,1.2s							
TRF	Thorofare Moun	78.78	349	eP		P	07 04 46.1	+0.7
	comp=Z,22nm,1.2s							
KTH	Kantishna Hill	78.78	349	eP		P	07 04 45.9	+0.6
	comp=Z,17nm,1.0s							
KTH	Kantishna Hill	78.78	349	eP		P	07 04 45.9	+0.6
	comp=Z,17nm,1.0s							
J22A	Midwest	78.81	316	⇑P		P	07 04 46.0	+0.1
	baz=78,SNR=7.4							
X34A	Smith Ranch, M	78.83	305	⇓P		P	07 04 46.1	+0.1
	baz=79,SNR=8.7							
P27A	Ficken Ranch,	78.91	311	⇑P		P	07 04 46.8	+0.3
	baz=79							
W33A	Caddo, Fort Co	78.93	305	⇑P		P	07 04 47.4	+0.8
	baz=79							
O26A	Horse Wrangler	78.94	312	⇑P		P	07 04 47.2	+0.6
	baz=79							
439A	Center Grove,	78.94	300	⇓P		P	07 04 48.8	+2.1
	baz=79							
H20A	Greygull	78.97	317	⇓P		P	07 04 47.4	+0.6
	baz=79,SNR=9.2							
237A	Washetta, Mont	78.97	301	⇓P		P	07 04 46.3	-0.5
	baz=79							
V32A	Arapaho	78.98	306	⇑P		P	07 04 48.6	+1.8
	baz=79							
WALA	Waterton Lakes	78.98	324	eP		P	07 04 46.5	-0.2
	comp=Z,7.6nm,0.9s							
WALA	Waterton Lakes	78.98	324	eP		P	07 04 46.5	-0.2
	comp=Z,7.6nm,0.9s							
338A	Crockett	79.00	301	⇑P		P	07 04 48.1	+1.1
	baz=79							
I21A	Big Trails, Te	79.01	317	⇓P		P	07 04 46.5	-0.6
	baz=79,SNR=23							
GCMT	Greycliff	79.02	319	eP		P	07 04 47.2	+0.2
	comp=Z,7.3nm,0.9s							
GCMT	Greycliff	79.02	319	eP		P	07 04 47.2	+0.2
	comp=Z,7.3nm,0.9s							
U31A	Nine Bar Ranch	79.11	307	⇑P		P	07 04 48.4	+0.8
	baz=79							
T30A	Plains	79.14	308	⇑P		P	07 04 48.4	+0.6
	baz=79						

baz=79,SNR=16
H19A Powell 79.39 318 ⇑P P 07 04 49.5 +0.5
baz=79,SNR=12
J21A Lysite 79.40 316 ⇓P P 07 04 48.7 -0.5
baz=79,SNR=15
W32A Sentinel 79.46 306 ⇓P P 07 04 50.1 +0.7
baz=79,SNR=7.2
V31A Spring Creek L 79.47 307 ⇓P P 07 04 50.4 +0.9
baz=79
438A Sam Houston St 79.47 300 ⇑P P 07 04 50.5 +1.0
baz=79
236A Katherine and 79.47 302 ⇑P P 07 04 49.9 +0.4
baz=79
N24A Carr 79.51 313 ⇑P P 07 04 50.5 +0.6
baz=79,SNR=10
U30A WK&E Inc. Balk 79.53 308 ⇓P P 07 04 51.1 +1.3
baz=79
HRY Holter Researc 79.54 321 *e*P P 07 04 50.2 +0.4
comp=Z,13nm,1.3s
HRY Holter Researc 79.54 321 *e*P P 07 04 50.2 +0.4
comp=Z,13nm,1.3s
PHWY Pilot Hill 79.56 314 *e*P P 07 04 49.7 -0.5
comp=Z,28nm,0.7s
PHWY Pilot Hill 79.56 314 *e*P P 07 04 49.7 -0.5
comp=Z,28nm,0.7s
CD2 Chengdu 79.56 59 P P 07 04 50.4 +0.3
CD2 PP PP 07 07 51.0 +0.7
CD2 S S 07 14 49.6 -1.8
CD2 PMZ
comp=Z,90nm,1.2s
CD2 PMZ
comp=Z,180nm,10.7s
CD2 LN
comp=Z,320nm,13.1s
CD2 LZ
comp=Z,300nm,13.1s
T29A Hugoton 79.57 308 ⇓P P 07 04 50.9 +0.9
baz=79,SNR=5.8
Z34A Collier Ranch, 79.61 304 ⇑P P 07 04 50.1 -0.2
baz=79
S28A Manter 79.69 309 ⇑P P 07 04 50.8 +0.1
baz=79,SNR=6.6
Y33A Hilltop Ranch, 79.71 305 ⇑P P 07 04 50.5 -0.3
baz=80,SNR=6.5
J20A Shoshoni 79.75 317 ⇑P P 07 04 50.8 -0.2
baz=80,SNR=20
H18A Shoshone NF, C 79.75 318 ⇓P P 07 04 51.0 -0.2
baz=80,SNR=15
I19A Meeteetse 79.81 318 ⇓P P 07 04 51.5 +0.1
baz=80,SNR=12
R27A Eads 79.82 310 ⇓P P 07 04 51.9 +0.5
baz=80
YBMT Yellow Bay 79.85 323 *e*P P 07 04 52.0 +0.5
comp=Z,3.3nm,1.0s
YBMT Yellow Bay 79.85 323 *e*P P 07 04 52.0 +0.5
comp=Z,3.3nm,1.0s
W31A Holland Ranch, 79.88 306 ⇑P P 07 04 53.2 +1.4
baz=80
X32A Elmer 79.91 305 ⇑P P 07 04 52.2 +0.3
baz=80,SNR=13
U29A Oasis Ranch, S 79.98 308 ⇓P P 07 04 53.4 +1.1
baz=80,SNR=5.3
BMRM Bremner River 80.02 345 *e*P P 07 04 53.1 +1.1
comp=Z,43nm,1.3s
BMRM Bremner River 80.02 345 *e*P P 07 04 53.1 +1.1
comp=Z,43nm,1.3s
SLMT Seeley Lake 80.02 322 *e*P P 07 04 51.1 -1.4
comp=Z,8.3nm,1.2s
SLMT Seeley Lake 80.02 322 *e*P P 07 04 51.1 -1.4
comp=Z,8.3nm,1.2s
336A Riesel 80.05 301 ⇓P P 07 04 53.9 +1.2
baz=80
JTMT Jette 80.06 323 *e*P P 07 04 52.2 -0.4
comp=Z,6.9nm,1.1s
JTMT Jette 80.06 323 *e*P P 07 04 52.2 -0.4
comp=Z,6.9nm,1.1s
O24A Longmont 80.07 313 ⇓P P 07 04 53.4 +0.5
baz=80,SNR=11
SWMT Swartz Lake 80.09 323 *e*P P 07 04 52.8 +0.1
comp=Z,15nm,1.3s
SWMT Swartz Lake 80.09 323 *e*P P 07 04 52.8 +0.1
comp=Z,15nm,1.3s
N23A Red Feather La 80.10 314 ⇓P P 07 04 54.3 +1.1
baz=80,SNR=16
T28A Walsh 80.11 309 ⇑P P 07 04 53.0 0.0
baz=80,SNR=5.8
WHTX Lake Whitney, 80.11 302 ⇑P P 07 04 53.8 +0.8
baz=80
CHMT Chamberlain Mo 80.12 322 *e*P P 07 04 53.1 0.0
comp=Z,6.7nm,1.2s
CHMT Chamberlain Mo 80.12 322 *e*P P 07 04 53.1 0.0
comp=Z,6.7nm,1.2s
BOZ Bozeman (W) 80.15 320 *e*P P 07 04 52.8 -0.4
BOZ pmax pmax
comp=Z,17nm,1.3s
BOZ Bozeman (W) 80.15 320 *e*P P 07 04 52.8 -0.4
comp=Z,17nm,1.3s
BOZ Bozeman (W) 80.15 320 *e*P P 07 04 52.8 -0.4
comp=Z,17nm,1.3s
134A White-Moore Ra 80.20 303 ⇓P P 07 04 53.9 +0.4
baz=80
R26A Arlington 80.22 310 ⇑P P 07 04 53.9 +0.3
baz=80,SNR=12
LKWY Lake 80.22 319 *e*P P 07 04 55.7 +2.0
LKWY pmax pmax
comp=Z,10.0nm,1.1s
LKWY Lake 80.22 319 *e*P P 07 04 55.7 +2.0
comp=Z,10.0nm,1.1s
LKWY Lake 80.22 319 *e*P P 07 04 55.7 +2.0
comp=Z,9.7nm,1.1s
BSMT Bassoo Peak 80.23 323 *e*P P 07 04 53.2 -0.4
comp=Z,11nm,1.0s
BSMT Bassoo Peak 80.23 323 *e*P P 07 04 53.2 -0.4
comp=Z,11nm,1.0s
Z33A Whitaker Ranch 80.24 304 ⇓P P 07 04 54.5 +0.8
baz=80
X31A McDonald Ranch 80.24 306 ⇑P P 07 04 54.6 +0.9
baz=80
S27A Las Animas 80.26 310 ⇑P P 07 04 54.7 +0.8
baz=80,SNR=5.8
Y32A R-V Farms, Ver 80.26 305 ⇓P P 07 04 54.0 +0.2
baz=80
W30A Crocket Farms 80.30 306 ⇑P P 07 04 55.1 +1.0
baz=80
SIV San Ignacio 80.31 242 P P 07 04 54.0 -0.2
comp=Z,3.9nm,0.7s,baz=85,slow=8.4,SNR=11
J19A Crowheart 80.34 317 ⇑P P 07 04 54.1 -0.2
baz=80,SNR=6.1
H17A Grant Village 80.43 319 *e*P P 07 04 57.2 +2.4
comp=Z,13nm,1.0s
H17A Grant Village 80.43 319 *e*P P 07 04 57.2 +2.4
comp=Z,13nm,1.0s
H17A Grant Village 80.43 319 ⇓P P 07 04 57.4 +2.6
baz=80,SNR=12
537A Green Hill Far 80.45 300 ⇓P P 07 04 56.3 +1.5
baz=80
N22A Wattenberg Ran 80.45 314 ⇓P P 07 04 55.8 +0.8
baz=80,SNR=16
YMR Madison River 80.45 319 *e*P P 07 04 56.9 +2.0
comp=Z,22nm,1.2s
YMR Madison River 80.45 319 *e*P P 07 04 56.9 +2.0
comp=Z,22nm,1.2s
LRM Limekiln Ridge 80.46 321 *e*P P 07 04 55.1 +0.2
comp=Z,45nm,1.0s
LRM Limekiln Ridge 80.46 321 *e*P P 07 04 55.1 +0.2
comp=Z,45nm,1.0s
V29A Stinnett 80.49 307 ⇑P P 07 04 56.1 +1.0
baz=80
335A Moody 80.51 302 ⇑P P 07 04 56.0 +0.8
baz=80
O23A Lake Granby, G 80.51 313 ⇑P P 07 04 55.9 +0.5
baz=80,SNR=8.7
MSO Missoula 80.53 322 ⇑P P 07 04 56.6 +1.5
baz=80
T27A Campo 80.53 309 ⇓P P 07 04 55.8 +0.4
baz=80
YFT Old Faithful 80.53 319 *e*P P 07 04 57.9 +2.6
comp=Z,17nm,1.0s
YFT Old Faithful 80.53 319 *e*P P 07 04 57.9 +2.6
comp=Z,17nm,1.0s
234A Clairette 80.57 303 ⇑P P 07 04 56.4 +0.9
baz=80
QLMT Earthquake Lak 80.59 319 *e*P P 07 04 57.0 +1.3
comp=Z,2.6nm,1.4s
QLMT Earthquake Lak 80.59 319 *e*P P 07 04 57.0 +1.3
comp=Z,2.6nm,1.4s
ISCO Idaho Springs 80.59 313 *e*P P 07 04 55.7 -0.2
ISCO pmax pmax
comp=Z,26nm,1.3s
ISCO Idaho Springs 80.59 313 *e*P P 07 04 55.7 -0.2
comp=Z,26nm,1.3s
ISCO Idaho Springs 80.59 313 *e*P P 07 04 55.7 -0.2
comp=Z,26nm,1.3s
ISCO Idaho Springs 80.59 313 ⇓P P 07 04 55.7 -0.2
baz=80,SNR=19
U28A Mallet 80.63 308 ⇓P P 07 04 56.6 +0.7
baz=80
S26A Kim 80.65 310 ⇓P P 07 04 56.2 +0.2
baz=80,SNR=11
Z32A Haskell 80.70 304 ⇑P P 07 04 55.6 -0.6
baz=80,SNR=11
133A Hamilton Ranch 80.74 304 ⇑P P 07 04 55.6 -0.8
baz=80
I17A Pilgrim Ck. 80.74 318 ⇓P P 07 04 57.7 +1.2
baz=80,SNR=7.7
Y31A Rekieta Farm, 80.83 305 ⇓P P 07 04 57.0 +0.2
baz=81,SNR=12
Q24A Divide 80.84 312 ⇓P P 07 04 57.9 +0.7
baz=81
DLMT Dillon 80.84 320 *e*P P 07 04 57.3 +0.4
comp=Z,16nm,1.2s
DLMT Dillon 80.84 320 *e*P P 07 04 57.3 +0.4
comp=Z,16nm,1.2s
O22A Kremmling 80.92 313 ⇓P P 07 04 57.5 0.0
baz=81,SNR=24
435B Jarrell 80.92 301 ⇑P P 07 04 57.0 -0.3
baz=81
X30A Coker Ranch, T 80.94 306 ⇑P P 07 04 58.2 +0.8
baz=81
MOOW Moose Ponds 80.95 318 *e*P P 07 04 57.7 +0.1
comp=Z,8.5nm,1.1s
MOOW Moose Ponds 80.95 318 *e*P P 07 04 57.7 +0.1
comp=Z,8.5nm,1.1s
BW06 Boulder Array 80.95 317 *e*P P 07 04 56.8 -0.8
comp=Z,18nm,1.0s
BW06 Boulder Array 80.95 317 *e*P P 07 04 56.8 -0.8
comp=Z,18nm,1.0s
PDAR Pinedale Array 80.95 317 P P 07 04 56.0 -1.6
comp=Z,5.8nm,0.7s,baz=52,slow=6.5,SNR=42
PDAR LR LR 07 37 43.0
comp=Z,470nm,21.1s,baz=52,slow=33
PDAR Pinedale Array 80.95 317 P P 07 04 56.0 -1.6
IMW Indian Meadow 80.95 318 *e*P P 07 04 57.7 0.0
comp=Z,12nm,1.0s
IMW Indian Meadow 80.95 318 *e*P P 07 04 57.7 0.0
comp=Z,12nm,1.0s
LOHW Long Hollow 80.96 318 *e*P P 07 04 57.9 +0.2
comp=Z,5.0nm,0.9s
LOHW Long Hollow 80.96 318 *e*P P 07 04 57.9 +0.2
comp=Z,5.0nm,0.9s
536A Bastrop 80.97 301 ⇓P P 07 04 56.7 -0.9
baz=81
U27A Thompson Grove 80.99 309 ⇑P P 07 04 57.8 0.0
baz=81,SNR=12
P23A Jefferson 81.00 312 ⇓P P 07 04 58.0 -0.1
baz=81,SNR=9.8
T26A Comanche Natio 81.00 310 ⇑P P 07 04 58.2 +0.2
baz=81
V28A Channing 81.02 308 ⇓P P 07 04 57.1 -0.8
baz=81
334A Lometa 81.04 302 ⇓P P 07 04 57.3 -0.7
baz=81,SNR=18
NEW Newport 81.06 325 *e*P P 07 04 57.3 -0.6
NEW pmax pmax
comp=Z,11nm,1.0s
NEW Newport 81.06 325 *e*P P 07 04 57.2 -0.6
comp=Z,11nm,1.0s
NEW Newport 81.06 325 *e*P P 07 04 57.2 -0.6
comp=Z,11nm,1.0s
NEW Newport 81.06 325 ⇓P P 07 04 57.7 -0.1
baz=81
233A Rising Star 81.08 303 ⇑P P 07 04 57.8 -0.5
baz=81,SNR=8.0
Z31A Sharp Cattle R 81.14 305 ⇑P P 07 04 58.1 -0.5
baz=81,SNR=14
SNOW Snow King Moun 81.15 318 *e*P P 07 04 59.8 +1.1
comp=Z,12nm,0.9s
SNOW Snow King Moun 81.15 318 *e*P P 07 04 59.8 +1.1
comp=Z,12nm,0.9s
AMTX Amarillo 81.20 307 ⇓P P 07 04 58.1 -0.8
baz=81
XAN Xi'an 81.21 54 P P 07 05 00.1 +1.2
XAN PMZ
comp=Z,12nm,1.3s
ABTX Abilene, Hawle 81.22 304 *e*P P 07 04 58.3 -0.7
comp=Z,9.3nm,0.8s
ABTX Abilene, Hawle 81.22 304 *e*P P 07 04 58.3 -0.7
comp=Z,9.3nm,0.8s
ABTX Abilene, Hawle 81.22 304 ⇓P P 07 04 58.6 -0.3
baz=81,SNR=8.9
TPAW Teton Pass 81.23 318 *e*P P 07 04 59.2 +0.1
comp=Z,16nm,1.1s
TPAW Teton Pass 81.23 318 *e*P P 07 04 59.2 +0.1
comp=Z,16nm,1.1s
REDW Red Top Meadow 81.27 318 *e*P P 07 04 58.9 -0.4
comp=Z,24nm,1.3s
REDW Red Top Meadow 81.27 318 *e*P P 07 04 58.9 -0.4
comp=Z,24nm,1.3s
Y30A Stafford Cattl 81.30 306 ⇓P P 07 04 58.8 -0.6
baz=81
636A Smothers Creek 81.32 300 ⇓P P 07 04 59.0 -0.5
baz=81
MCMT McKenzie Canyo 81.34 320 *e*P P 07 05 00.4 +0.7
comp=Z,2.4nm,0.8s
MCMT McKenzie Canyo 81.34 320 *e*P P 07 05 00.4 +0.7
comp=Z,2.4nm,0.8s
535A Dale 81.36 301 ⇓P P 07 04 59.0 -0.7
baz=81
434A Burnet 81.37 302 ⇓P P 07 04 59.8 0.0
baz=81
P22A Eagle 81.41 313 ⇑P P 07 05 00.8 +0.7
baz=81,SNR=12
V27A Dan Oppiter Fa 81.41 308 ⇑P P 07 05 00.8 +0.8
baz=81
X29A Tulia 81.48 306 ⇑P P 07 05 00.1 -0.3
baz=81
N20A Spence Gulch, 81.48 315 ⇑P P 07 05 01.2 +0.7
baz=81,SNR=16
T25A Trinidad 81.54 310 ⇑P P 07 04 59.9 -1.0
baz=81
333A Richland Sprin 81.56 303 ⇑P P 07 05 00.8 0.0
baz=81,SNR=8.2
736A Circle Diamond 81.64 300 ⇑P P 07 05 01.0 -0.1
baz=81
232A Coleman 81.67 303 ⇓P P 07 05 01.4 0.0
baz=81
131A Roby 81.69 304 ⇓P P 07 05 01.9 +0.4
baz=82,SNR=6.5
R23A Moffat 81.74 311 ⇑P P 07 05 02.1 +0.1
baz=82
X28A Dimmitt 81.76 307 ⇑P P 07 05 02.5 +0.6
baz=82,SNR=6.2
AHID Auburn Hatcher 81.80 318 *e*P P 07 05 02.2 +0.1
comp=Z,16nm,1.0s
AHID Auburn Hatcher 81.80 318 *e*P P 07 05 02.2 +0.1
comp=Z,16nm,1.0s
SMCO Snowmass 81.80 313 *e*P P 07 05 01.9 -0.5
comp=Z,13nm,1.3s
SMCO Snowmass 81.80 313 *e*P P 07 05 01.9 -0.5
comp=Z,13nm,1.3s
Z30A Sanderson Ranc 81.81 305 ⇑P P 07 05 02.3 +0.1
baz=82,SNR=7.6
Y29A Porterfield Fa 81.82 306 ⇓P P 07 05 02.8 +0.6
baz=82
SDCO Great Sand Dun 81.83 311 *e*P P 07 05 01.5 -0.9
comp=Z,10nm,1.2s
SDCO Great Sand Dun 81.83 311 *e*P P 07 05 01.5 -0.9
comp=Z,10nm,1.2s
SDCO Great Sand Dun 81.83 311 ⇓P P 07 05 01.6 -0.8
baz=82,SNR=15
635A Leesville 81.88 300 ⇑P P 07 05 02.2 -0.3
baz=82,SNR=5.8
O20A White River Ci 81.93 314 *e*P P 07 05 02.6 -0.2
comp=Z,11nm,0.9s
O20A White River Ci 81.93 314 *e*P P 07 05 02.6 -0.2
comp=Z,11nm,0.9s
O20A White River Ci 81.93 314 ⇑P P 07 05 03.0 +0.2
baz=82,SNR=5.6
BJT Baijiatuau 81.95 46 *e*P P 07 05 02.7 +0.1
BJT Baijiatuau 81.95 46 *e*P P 07 05 02.7 +0.1
BJT Baijiatuau 81.95 46 *e*P P 07 05 02.7 +0.1
433A Art 81.97 302 ⇑P P 07 05 03.0 0.0
baz=82,SNR=7.5
534A Blanco 81.98 301 ⇑P P 07 05 03.0 -0.1
baz=82,SNR=6.4
332A Millersview 82.04 303 ⇑P P 07 05 04.1 +0.8
baz=82,SNR=8.5
231A Bronte 82.09 304 ⇓P P 07 05 04.1 +0.5
baz=82,SNR=12
130A Snyder 82.13 305 ⇑P P 07 05 04.2 +0.4
baz=82,SNR=9.0
S23A Nye Farm, Mont 82.16 311 ⇓P P 07 05 04.8 +0.6
baz=82
Y28A McKinney Farm, 82.17 306 ⇓P P 07 05 04.0 -0.1
baz=82
KMI Kunming 82.21 65 P P 07 05 06.5 +2.0
KMI PMZ
comp=Z,17nm,1.6s
Z29A Hungry Hill Ra 82.21 306 ⇓P P 07 05 05.0 +0.7
baz=82
735A Kenedy 82.22 300 ⇓P P 07 05 06.3 +2.1
baz=82
533A Kerrville 82.34 302 ⇑P P 07 05 05.1 +0.1
baz=82,SNR=6.3
432A Menard 82.38 303 ⇓P P 07 05 04.9 -0.2
baz=82,SNR=11
MSTX Muleshoe 82.47 307 *e*P P 07 05 05.2 -0.5
comp=Z,6.1nm,0.8s
MSTX Muleshoe 82.47 307 *e*P P 07 05 05.2 -0.5
comp=Z,6.1nm,0.8s
MSTX Muleshoe 82.47 307 ⇑P P 07 05 05.6 -0.1
baz=82,SNR=5.0
331A San Angelo 82.55 303 ⇑P P 07 05 06.8 +0.8
baz=82
835A Beeville 82.57 299 ⇑P P 07 05 06.4 +0.4
baz=82
MHMT Maesarieng 82.60 73 P P 07 05 08.4 +2.0
comp=Z,27nm,1.0s,comp=Z,2µm
JCT Junction City 82.63 302 *e*P P 07 05 06.1 -0.3
JCT pmax pmax
comp=Z,7.0nm,0.7s
JCT Junction City 82.63 302 *e*P P 07 05 06.1 -0.3
comp=Z,7.0nm,0.7s
JCT Junction City 82.63 302 *e*P P 07 05 06.1 -0.3
comp=Z,7.2nm,0.7s
JCT Junction City 82.63 302 ⇓P P 07 05 06.8 +0.4
baz=82
S22A 4UR Ranch, Cre 82.64 312 ⇑P P 07 05 06.8 +0.1
baz=82,SNR=16
Z28A Tucker Farm, M 82.64 306 ⇑P P 07 05 06.6 +0.1
baz=82,SNR=13
230A Sterling City 82.66 304 ⇑P P 07 05 06.9 +0.4
baz=82,SNR=8.8
129A Stewart Farms, 82.70 305 ⇑P P 07 05 07.2 +0.3
baz=82
734A La Parita Cree 82.75 300 ⇓P P 07 05 07.2 +0.2
baz=82
633A Saathoff Ranch 82.81 301 ⇓P P 07 05 07.5 +0.2
baz=83
HWUT Hardware Ranch 82.83 317 *e*P P 07 05 07.2 -0.3
comp=Z,20nm,1.3s
HWUT Hardware Ranch 82.83 317 *e*P P 07 05 07.2 -0.3
comp=Z,20nm,1.3s
532A Rocksprings 82.91 302 ⇑P P 07 05 07.5 -0.4
baz=83
330A Mertzon 83.00 304 ⇑P P 07 05 08.2 -0.1
baz=83,SNR=8.6
CHTO Chiang Mai 83.02 72 P P 07 05 10.0 +1.4
comp=Z,90nm,1.2s
CHTO Chiang Mai 83.02 72 *e*P P 07 05 07.8 -0.8
CHTO pmax pmax
comp=Z,23nm,1.2s
CHTO Chiang Mai 83.02 72 *e*P P 07 05 07.8 -0.8
comp=Z,23nm,1.2s
CHTO Chiang Mai 83.02 72 P P 07 05 10.7 +2.1
SNR=8.2
CHTO Chiang Mai 83.02 72 *e*P P 07 05 07.8 -0.8
comp=Z,23nm,1.2s
CMMT Chiang Mai 83.02 72 P P 07 05 10.0 +1.4
comp=Z,26nm,1.2s
HLID Hailey 83.03 320 *e*P P 07 05 08.2 -0.3
comp=Z,12nm,1.2s
HLID Hailey 83.03 320 *e*P P 07 05 08.2 -0.3
comp=Z,12nm,1.2s
HLID Hailey 83.03 320 ⇑P P 07 05 08.7 +0.3
baz=83,SNR=14
431A Sonora 83.05 303 ⇓P P 07 05 09.0 +0.4
baz=83,SNR=16
229A Bryant Ranch, 83.08 305 ⇑P P 07 05 09.9 +1.1
baz=83
128A Castleberry Fa 83.12 305 ⇓P P 07 05 10.2 +1.2
baz=83,SNR=5.6
834A Tilden 83.18 300 ⇓P P 07 05 10.1 +0.8
baz=83
632A Uvalde 83.21 302 ⇑P P 07 05 10.2 +0.8
baz=83,SNR=11
CM31 Chiang Mai Arr 83.22 72 *e*P P 07 05 10.9 +1.3
comp=Z,15nm,0.9s
CM31 Chiang Mai Arr 83.22 72 *e*P P 07 05 10.9 +1.3
comp=Z,15nm,0.9s
CMAR Chiang Mai Arr 83.22 72 P P 07 05 09.4 -0.2
comp=Z,7.6nm,0.8s,baz=305,slow=7.4,SNR=52
CMAR LR LR 07 47 18.5
comp=Z,77nm,21.4s,baz=270,slow=39
CMAR Chiang Mai Arr 83.22 72 P P 07 05 09.4 -0.2
CMAR pmax pmax
comp=Z,9.0nm,0.8s
CMAR Chiang Mai Arr 83.22 72 P P 07 05 09.4 -0.2
comp=Z,9.0nm,0.8s
CRAI Chiangrai 83.29 70 P P 07 05 07.8 -2.2
comp=Z,8.9nm,1.5s
KLR Kul'dur 83.30 31 *e*P P 07 05 08.0 -1.5
KLR pmax pmax
comp=Z,48nm,1.6s
KLR Kul'dur 83.30 31 *e*P P 07 05 08.0 -1.5
comp=Z,48nm,1.6s
531A Rocksprings 83.33 302 ⇓P P 07 05 10.7 +0.6
baz=83
733A Divot King Ran 83.34 301 ⇓P P 07 05 10.7 +0.6
baz=83
HVU Hansel Valley 83.38 318 *e*P P 07 05 10.2 -0.1
HVU pmax pmax
comp=Z,17nm,1.3s
HVU Hansel Valley 83.38 318 *e*P P 07 05 10.2 -0.1
comp=Z,17nm,1.3s
HVU Hansel Valley 83.38 318 *e*P P 07 05 10.2 -0.1
comp=Z,17nm,1.3s
430A Baggett Ranch, 83.42 303 ⇓P P 07 05 11.5 +1.0
baz=83
PV01 Paradox Valley 83.43 313 *e*P P 07 05 10.9 +0.2
comp=Z,436nm,0.8s
PV01 Paradox Valley 83.43 313 *e*P P 07 05 10.9 +0.2
comp=Z,436nm,0.8s
934A Benavides 83.47 299 ⇑P P 07 05 11.7 +1.0
baz=83
329A Wagon Wheel Ra 83.49 304 ⇑P P 07 05 11.9 +1.0
baz=83,SNR=7.1
228A UT Block 9, Go 83.50 305 ⇑P P 07 05 11.8 +0.8
baz=83
HAWA Hanford 83.55 325 *e*P P 07 05 11.9 +1.0
comp=Z,4.6nm,0.9s
HAWA Hanford 83.55 325 *e*P P 07 05 11.9 +1.0
comp=Z,4.6nm,0.9s
035A Encino 83.58 299 ⇑P P 07 05 12.7 +1.4
baz=83
BMO Blue Mountains 83.59 322 *e*P P 07 05 10.6 -0.6
comp=Z,39nm,1.3s
BMO Blue Mountains 83.59 322 *e*P P 07 05 10.6 -0.6
comp=Z,39nm,1.3s
833A Chaparral WMA, 83.65 300 ⇓P P 07 05 12.4 +0.7
baz=83
LAMP Lampang 83.72 72 P P 07 05 14.2 +2.0
comp=Z,14nm,0.9s,comp=Z,117nm
OTAV Otavalo 83.75 266 *e*P P 07 05 13.6 +0.7
comp=Z,17nm,1.3s
OTAV Otavalo 83.75 266 *e*P P 07 05 13.6 +0.7
comp=Z,17nm,1.3s
732A Laxson Ranch, 83.81 301 ⇑P P 07 05 13.1 +0.6
baz=84
631A Perdido Creek 83.81 302 ⇑P P 07 05 13.3 +0.8
baz=84
MFID Camas Ranch 83.86 321 *e*P P 07 05 12.6 -0.1
comp=Z,13nm,1.1s
MFID Camas Ranch 83.86 321 *e*P P 07 05 12.6 -0.1
comp=Z,13nm,1.1s
530A J-C Ranch, Com 83.88 303 ⇓P P 07 05 13.8 +0.9
baz=84,SNR=6.7
ENH Enshi 83.89 57 *e*P P 07 05 12.5 -0.4
comp=Z,27nm,1.2s
ENH Enshi 83.89 57 *e*P P 07 05 12.5 -0.4
comp=Z,27nm,1.2s
034A Hebbronville 83.91 299 ⇓P P 07 05 13.7 +0.7
baz=84
SRU San Rafael Swe 83.92 315 *e*P P 07 05 12.6 -0.6

SRU pmax pmax
comp=Z,16nm,1.0s
SRU San Rafael Swe 83.92 315 *e*P **P 07 05 12.6 -0.6**
comp=Z,16nm,1.0s
SRU San Rafael Swe 83.92 315 *e*P **P 07 05 12.6 -0.6**
comp=Z,16nm,1.0s
429A Davenport Ranc 83.96 304 ⇑P **P 07 05 14.1 +0.7**
baz=84,SNR=6.1
MVCO Mesa Verde 83.99 312 *e*P **P 07 05 13.6 0.0**
comp=Z,27nm,1.3s
MVCO Mesa Verde 83.99 312 *e*P **P 07 05 13.6 0.0**
comp=Z,27nm,1.3s
MVCO Mesa Verde 83.99 312 ⇑P **P 07 05 14.5 +0.9**
baz=84,SNR=12
933A Laredo 84.00 300 ⇑P **P 07 05 14.4 +0.9**
baz=84,SNR=6.0
832A Faith Ranch, C 84.08 301 ⇑P **P 07 05 15.2 +1.3**
baz=84
BGU Big Grassy Mou 84.11 317 *e*P **P 07 05 13.7 -0.3**
comp=Z,17nm,1.3s
BGU Big Grassy Mou 84.11 317 *e*P **P 07 05 13.7 -0.3**
comp=Z,17nm,1.3s
TMUT Trail Mountain 84.19 315 *e*P **P 07 05 15.8 +1.1**
comp=Z,22nm,1.1s
TMUT Trail Mountain 84.19 315 *e*P **P 07 05 15.8 +1.1**
comp=Z,22nm,1.1s
ANMO Albuquerque 84.21 309 *ce*P **P 07 05 14.7 0.0**
ANMO pmax pmax
comp=Z,62nm,2.5s
ANMO Albuquerque 84.21 309 *e*P **P 07 05 14.6 -0.1**
comp=Z,7.8nm,1.2s
ANMO Albuquerque 84.21 309 *e*P **P 07 05 14.6 -0.1**
comp=Z,7.8nm,1.2s
NLU North Lily Min 84.24 316 *e*P **P 07 05 14.4 -0.4**
comp=Z,9.4nm,1.0s
NLU North Lily Min 84.24 316 *e*P **P 07 05 14.4 -0.4**
comp=Z,9.4nm,1.0s
GYA Guiyang 84.25 62 P **P 07 05 14.3 -0.7**
GYA PMZ
comp=Z,10.0nm,1.0s
LON Longmire 84.33 326 *e*P **P 07 05 15.0 +0.1**
LON pmax pmax
comp=Z,7.0nm,0.8s
LON Longmire 84.33 326 *e*P **P 07 05 15.0 +0.1**
comp=Z,7.0nm,0.8s
LON Longmire 84.33 326 *e*P **P 07 05 15.0 +0.1**
comp=Z,7.5nm,0.8s
DUG Dugway, Tooele 84.49 317 *e*P **P 07 05 15.9 0.0**
DUG pmax pmax
comp=Z,13nm,1.3s
DUG Dugway, Tooele 84.49 317 *e*P **P 07 05 15.9 0.0**
comp=Z,13nm,1.3s
DUG Dugway, Tooele 84.49 317 *e*P **P 07 05 15.9 0.0**
comp=Z,13nm,1.3s
DUG Dugway, Tooele 84.49 317 ⇑P **P 07 05 16.6 +0.7**
baz=84,SNR=10
529A Stev Forest Ra 84.49 303 ⇓P **P 07 05 17.5 +1.5**
baz=84
GDL2 Guadalupe Moun 84.62 306 *e*P **P 07 05 16.1 -0.6**
comp=Z,131nm,1.4s
GDL2 Guadalupe Moun 84.62 306 *e*P **P 07 05 16.1 -0.6**
comp=Z,131nm,1.4s
NLWA Neilton Lookou 84.77 327 *e*P **P 07 05 18.0 +0.9**
comp=Z,16nm,1.2s
NLWA Neilton Lookou 84.77 327 *e*P **P 07 05 18.0 +0.9**
comp=Z,16nm,1.2s
CPUP Villa Florida 84.79 232 *e*P **P 07 05 17.5 +0.2**
CPUP Villa Florida 84.79 232 *e*P **P 07 05 17.5 +0.2**
comp=Z,0.4nm,1.1s
CPUP Villa Florida 84.79 232 *e*P **P 07 05 17.5 +0.2**
comp=Z,0.4nm,1.1s
UTTA Uttaradit 84.88 72 P **P 07 05 19.8 +1.7**
comp=Z,3.7nm,1.1s,comp=Z,46nm
LAZ Ladron 84.99 309 *e*P **P 07 05 19.0 +0.4**
comp=Z,7.6nm,1.3s
LAZ Ladron 84.99 309 *e*P **P 07 05 19.0 +0.4**
comp=Z,7.6nm,1.3s
TIA Tai'an 85.02 48 ⇓P **P 07 05 20.8 +2.3**
TIA S **S 07 15 48.3 +1.2**
TIA PMZ
comp=Z,20nm,1.7s
TIA PMZ
comp=Z,280nm,3.4s
TIA LN
comp=Z,290nm,14.8s
TIA LE
comp=Z,440nm,16.9s
TIA LZ
comp=Z,260nm,17.2s
LENM Lemitar 85.04 309 *e*P **P 07 05 19.5 +0.6**
comp=Z,18nm,1.3s
LENM Lemitar 85.04 309 *e*P **P 07 05 19.5 +0.6**
comp=Z,18nm,1.3s
Y22D IRIS PASSCAL I 85.06 309 ⇑P **P 07 05 19.7 +0.7**
baz=85
KHLT Khaolaem Dam 85.07 75 P **P 07 05 21.1 +2.0**
comp=Z,15nm,1.2s,comp=Z,322nm
G05D Wamic, OR 85.24 325 ⇓P **P 07 05 20.4 +1.0**
baz=85
MSU Marysvale 85.28 315 *e*P **P 07 05 20.1 0.0**
MSU pmax pmax
comp=Z,13nm,1.1s
MSU Marysvale 85.28 315 *e*P **P 07 05 20.0 0.0**
comp=Z,13nm,1.1s
MSU Marysvale 85.28 315 *e*P **P 07 05 20.1 0.0**
comp=Z,13nm,1.1s
UTHA Uthaitani 85.30 74 P **P 07 05 22.1 +1.9**
comp=Z,8.8nm,1.0s
MVU Marysvale 85.31 315 *e*P **P 07 05 20.3 +0.1**
comp=Z,16nm,1.1s
MVU Marysvale 85.31 315 *e*P **P 07 05 20.3 +0.1**
comp=Z,16nm,1.1s
ELK Elko 85.44 318 *e*P **P 07 05 21.4 +0.6**
ELK pmax pmax
comp=Z,24nm,1.5s
ELK Elko 85.44 318 *e*P **P 07 05 21.4 +0.6**
comp=Z,24nm,1.5s
ELK Elko 85.44 318 *e*P **P 07 05 21.4 +0.6**
comp=Z,24nm,1.5s
MNTX Cornudas Mount 85.61 306 *e*P **P 07 05 20.9 -0.6**
comp=Z,8.1nm,1.1s
MNTX Cornudas Mount 85.61 306 *e*P **P 07 05 20.9 -0.6**
comp=Z,8.1nm,1.1s
MNTX Cornudas Mount 85.61 306 ⇓P **P 07 05 21.3 -0.2**
baz=85,SNR=9.0
LPAZ La Paz 85.66 246 P **P 07 05 22.3 -0.3**
comp=Z,1.1nm,0.9s,baz=346,slow=7.9,SNR=3.3
LPAZ LR LR 07 40 23.4
comp=Z,166nm,22.0s,baz=52,slow=33
SRDT SRDT 85.75 75 P **P 07 05 24.4 +2.0**
comp=Z,74nm,1.2s
I05D Terrebonne, OR 85.92 324 ⇑P **P 07 05 23.1 +0.2**
baz=86
TXAR Lajitas Array 85.97 303 P **P 07 05 23.5 0.0**
comp=Z,3.5nm,0.8s,baz=58,slow=4.7,SNR=31
TXAR LR LR 07 41 49.3
comp=Z,344nm,21.5s,baz=0.0,slow=34
WVOR Wild Horse Val 86.00 321 *e*P **P 07 05 23.2 -0.3**
WVOR pmax pmax
comp=Z,11nm,1.2s
WVOR Wild Horse Val 86.00 321 *e*P **P 07 05 23.2 -0.3**
comp=Z,11nm,1.2s
WVOR Wild Horse Val 86.00 321 *e*P **P 07 05 23.2 -0.3**
comp=Z,11nm,1.2s
W18A Petrified Fore 86.12 311 ⇑P **P 07 05 23.6 -0.7**
baz=86
G03D McMinnville, O 86.16 326 ⇑P **P 07 05 23.9 -0.1**
baz=86
121A Cookes Peak, D 86.62 308 *e*P **P 07 05 27.8 +1.0**
comp=Z,8.9nm,1.1s
121A Cookes Peak, D 86.62 308 ⇑P **P 07 05 28.2 +1.4**
baz=86,SNR=6.0
X18A Snowflake 86.65 311 ⇓P **P 07 05 27.8 +0.9**
baz=86
J05D Fort Rock, OR 86.66 323 ⇑P **P 07 05 28.4 +1.7**
baz=86
U15A North Rim 86.77 314 ⇑P **P 07 05 28.1 +0.6**
baz=86
I04A Tendick Farm, 86.84 324 ⇓P **P 07 05 28.6 +1.2**
baz=86
WUAZ Wupatki 86.85 312 *e*P **P 07 05 29.0 +1.2**
comp=Z,9.8nm,1.3s
WUAZ Wupatki 86.85 312 *e*P **P 07 05 29.0 +1.2**
comp=Z,9.8nm,1.3s
WUAZ Wupatki 86.85 312 ⇓P **P 07 05 28.6 +0.8**
baz=87
WHN Wuhan 86.97 54 P **P 07 05 31.1 +2.9**
CMIG Matias Romero 87.07 289 P **P 07 05 28.0 -0.9**
comp=Z,2.5nm,0.9s,baz=327,slow=3.0,SNR=3.9
J04D Umpqua Nationa 87.12 324 ⇑P **P 07 05 30.1 +1.1**
baz=87
USRK Ussuriysk Ar. 87.26 35 P **P 07 05 30.4 +1.0**
comp=Z,0.7nm,0.5s,baz=26,slow=6.9,SNR=4.1
USRK LR LR 07 47 36.2
comp=Z,142nm,18.7s,baz=316,slow=38
R11A Troy Canyon, C 87.31 317 *e*P **P 07 05 30.1 +0.1**
comp=Z,18nm,1.7s
R11A Troy Canyon, C 87.31 317 *e*P **P 07 05 30.1 +0.1**
comp=Z,18nm,1.7s
R11A Troy Canyon, C 87.31 317 ⇑P **P 07 05 30.9 +0.8**
baz=87
I03D Drain, OR 87.36 325 ⇓P **P 07 05 31.0 +1.1**
baz=87
X16A Lo Mia Camp, P 87.63 312 ⇓P **P 07 05 32.1 +0.4**
baz=87
SKNT Sakolnakorn 87.97 71 P **P 07 05 35.0 +1.7**
comp=Z,20nm,1.1s
M04C Macdoel 88.08 323 ⇓P **P 07 05 34.8 +1.2**
baz=88
319A Douglas 88.33 308 ⇓P **P 07 05 36.1 +1.1**
baz=88
PETK Petropavlovsk- 88.35 16 LR LR 07 50 27.2
comp=Z,82nm,18.4s,baz=343,slow=39
SHPR Sheep Range 88.38 315 *e*P **P 07 05 35.4 +0.3**
comp=Z,22nm,1.8s
SHPR Sheep Range 88.38 315 *e*P **P 07 05 35.4 +0.3**
comp=Z,22nm,1.8s
TPH Tonopah 88.41 318 *e*P **P 07 05 36.3 +1.0**
TPH pmax pmax
comp=Z,4.0nm,1.1s
TPH Tonopah 88.41 318 *e*P **P 07 05 36.3 +1.0**
comp=Z,4.0nm,1.1s
TPH Tonopah 88.41 318 *e*P **P 07 05 36.3 +1.0**
comp=Z,4.2nm,1.1s
W13A Hualapai Mount 88.62 314 ⇓P **P 07 05 37.1 +0.8**
baz=88
SURT Suratani 88.64 80 P **P 07 05 39.1 +2.6**
comp=Z,6.1nm,1.3s
L02D Cave Junction, 88.66 324 ⇓P **P 07 05 37.7 +1.6**
baz=88
TUC Tucson 88.66 310 *e*P **P 07 05 35.7 -0.7**
TUC pmax pmax
comp=Z,10.0nm,1.4s
TUC Tucson 88.66 310 *e*P **P 07 05 35.7 -0.7**
comp=Z,10.0nm,1.4s
TUC Tucson 88.66 310 *e*P **P 07 05 35.7 -0.7**
comp=Z,9.8nm,1.4s
TPNV Topopah Spring 88.68 316 ⇑P **P 07 05 37.9 +1.3**
baz=88
NVAR Mina Array Bea 88.74 318 P **P 07 05 37.6 +0.7**
comp=Z,0.4nm,0.7s,baz=43,slow=2.7,SNR=4.2
NJ2 Nanjing 88.86 50 *e*P **P 07 05 37.3 +0.1**
NJ2 S **S 07 16 25.5 +1.1**
NJ2 PMZ
comp=Z,60nm,0.8s
NJ2 LN
comp=Z,270nm,16.6s
NJ2 LE
comp=Z,820nm,14.3s
M02C Callahan 88.88 323 ⇓P **P 07 05 38.6 +1.3**
baz=89
PKDT Phuket 88.90 81 P P 07 05 41.2 +3.5
comp=Z,34nm,1.2s
N02D Trinity Center 89.12 323 ⇑P **P 07 05 38.0 -0.4**
baz=89
CHBT CHBT 89.20 75 P P 07 05 42.3 +3.2
comp=Z,14nm,1.2s
GRAC Grapevine Rang 89.27 317 ⇑P **P 07 05 40.0 +0.9**
baz=89
PDMCI Parker Dam,Lak 89.33 313 ⇑P **P 07 05 40.2 +0.8**
baz=89
FURC Furnace Creek, 89.36 316 ⇓P **P 07 05 41.1 +1.6**
baz=89
SHOC Shoshone, Teco 89.44 315 ⇓P **P 07 05 41.5 +1.5**
baz=89
TUQ Turquoise Moun 89.57 315 ⇓P **P 07 05 41.7 +1.0**
baz=89
MLAC Mammoth, Mammo 89.61 318 ⇑P **P 07 05 41.9 +0.9**
baz=89
GMRC Granite Mounta 89.88 314 ⇓P **P 07 05 43.5 +1.3**
baz=90
MPMC Manual Prospec 90.01 316 ⇑P **P 07 05 44.0 +1.2**
baz=90
TRTT Trang 90.02 80 P **P 07 05 45.1 +2.2**
comp=Z,18nm,1.2s
IRM Iron Mountain 90.02 314 ⇑P **P 07 05 43.4 +0.7**
baz=90
214A Organ Pipe Nat 90.15 311 ⇓P **P 07 05 43.6 +0.2**
baz=90
GSC Goldstone, Bar 90.17 315 ⇑P **P 07 05 43.9 +0.4**
baz=90
113A Mohawk Valley, 90.17 312 ⇑P **P 07 05 44.3 +0.9**
baz=90
LVC Limon Verde 90.21 242 P **P 07 05 43.8 -0.1**
comp=Z,11nm,0.7s,baz=44,slow=4.7,SNR=6.0
LVC Limon Verde 90.21 242 *e*P **P 07 05 43.2 -0.7**
comp=Z,6.5nm,1.1s
LVC Limon Verde 90.21 242 *e*P **P 07 05 43.1 -0.7**
comp=Z,6.5nm,1.1s
KSAR Wonju Array Be 90.31 41 P **P 07 05 42.9 -1.0**
KSAR Wonju Array Be 90.31 41 P **P 07 05 42.9 -1.0**
KSAR Wonju Array Be 90.31 41 P **P 07 05 42.9 -1.0**
KSRS Korea Array 90.32 41 P **P 07 05 42.9 -1.0**
comp=Z,1.3nm,0.9s,baz=323,slow=4.8,SNR=7.4
KSRS LR LR 07 50 38.4
comp=Z,228nm,18.8s,baz=330,slow=38
BC3 Big Chuckawall 90.56 313 ⇓P **P 07 05 45.7 +0.4**
baz=90
RRX Edison Barstow 90.58 315 ⇑P **P 07 05 47.1 +1.8**
baz=90
BELC Belle Mtn. Jos 90.63 314 ⇓P **P 07 05 45.2 -0.6**
baz=90
ISA Isabella, Lake 90.85 317 ⇓P **P 07 05 46.6 0.0**
baz=91
EDW2 Edwards Air Fo 91.15 316 ⇑P **P 07 05 49.3 +1.3**
baz=91
SKLT Songkhla 91.15 80 P **P 07 05 50.5 +2.3**
comp=Z,24nm,1.3s
PFO Pinyon Flats O 91.18 314 ⇑P **P 07 05 50.6 +2.4**
baz=91
KULM Kulim 92.28 82 *e*P **P 07 05 54.3 +0.9**
comp=Z,56nm,1.1s
KULM Kulim 92.28 82 *e*P **P 07 05 54.4 +0.9**
comp=Z,56nm,1.1s
CFAA Coronel Fontan 95.41 235 P **P 07 06 06.3 -1.1**
comp=Z,0.1nm,0.4s,baz=117,slow=9.0,SNR=5.1
MJAR Matsushiro Arr 96.21 36 P **P 07 06 11.3 +0.1**
comp=Z,0.4nm,0.5s,baz=349,slow=3.7,SNR=5.1
MJAR LR LR 07 54 01.6
comp=Z,102nm,18.7s,baz=325,slow=38
DAV Davao City (W) 110.47 65 *e*PKPdf **PKiKP 07 11 18.7 +2.9**
WRA Warramunga Arr 133.80 84 PKhKP PKPpre 07 11 49.6
comp=Z,0.2nm,0.5s,baz=289,slow=1.8,SNR=5.0
WRA PKP **PKPdf 07 12 00.7 +0.5**
comp=Z,2.1nm,1.0s,baz=291,slow=2.1,SNR=8.4
WRA Warramunga Arr 133.80 84 *i* PKHKP PKPpre 07 11 49.6
WRA 07 12 00.7
WRA pmax pmax
comp=Z,2.0nm,0.8s
ASAR Alice Springs 135.27 88 PKhKP PKPpre 07 11 48.4
comp=Z,0.5nm,0.5s,baz=306,slow=2.2,SNR=4.2
ASAR PKP **PKPdf 07 12 03.6 +0.7**
comp=Z,1.5nm,1.0s,baz=317,slow=1.6,SNR=7.9
ASAR SKPbc **SKPbc 07 15 33.0 -0.1**
comp=Z,0.7nm,0.8s,baz=276,slow=2.0,SNR=4.9
ASAR Alice Springs 135.27 88 *i* PKHKP PKPpre 07 11 48.4
ASAR 07 12 03.6
ASAR pmax pmax
comp=Z,1.0nm,0.5s
ASAR pmax pmax
comp=Z,2.0nm,1.0s
ASAR pmax pmax
comp=N,1.0nm,0.8s
AS31 Alice Springs 135.27 88 *e*PKIKP **PKPdf 07 12 04.8 +1.9**
AS31 Alice Springs 135.27 88 *e*PKPdf **PKPdf 07 12 04.8 +1.9**
STKA Stephens Creek 144.78 96 PKP **PKPab 07 12 17.7 -1.0**
comp=N,46nm,0.8s,baz=304,slow=3.8,SNR=32
STKA Stephens Creek 144.78 96 PKIKP **PKPab 07 12 17.7 -1.0**
STKA pmax pmax
comp=Z,46nm,0.8s
STKA Stephens Creek 144.78 96 *e*PKIKP **PKPab 07 12 18.3 -0.5**
STKA Stephens Creek 144.78 96 *e*PKPdf **PKPab 07 12 18.3 -0.5**
PPT2 Papeete2 150.28 301 *e*LR LR 08 02 26.1
comp=Z,262nm,26.5s
CAN Canberra 151.64 99 *e*PKIKP **PKPdf 07 12 30.6 -0.4**
CAN Canberra 151.64 99 *e*PKPdf **PKPdf 07 12 30.6 -0.4**

IDC ***16*** *07:15:06.5±0.9, 11.41N×143.88E, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.8/33, mbtmp3.8/10, ML3.7/1, MS2.6/2, Ms1 2.6/2, ms1mx2.4/38, Error ellipse: s-maj=30.2km s-min=18.6km az=106.0*
ISCJB ***16*** *07:15:09.7±0.7, 11.43N±0.10×143.9E±0.2, h33km, mb3.8/9, MS3.0/1, Error ellipse: s-maj=25.0km s-min=9.3km az=26.5*

ISC 16 07:15:11.7±0.9, 11.5N±0.1×143.9E±0.2, h35km, n17, σ1§13/11, mb3.8/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.33**	**24**	Pn		Pn	Pn	**07 15 47.0**	**-0.6**
	20nm,0.3s,baz=165,slow=14,SNR=14								
GUMO				Sn		Sn	Sn	**07 16 14.3**	**-0.7**
	34nm,0.3s,baz=181,slow=22,SNR=9.3								
GUMO				LR		LR	LR	07 16 35.8	
	comp=Z,35nm,21.0s,baz=199,slow=38								
H11S3	**WAKE ISLAND Hy**	**23.09**	**70**	T		T	T	07 43 44.7	
	baz=254,slow=74								
H11S1	**WAKE ISLAND Hy**	**23.11**	**70**	T		T	T	07 43 57.3	
	baz=254								
H11S2	**WAKE ISLAND Hy**	**23.11**	**70**	T		T	T	07 43 58.3	
	baz=254,slow=74								
H11N1	**WAKE ISLAND Hy**	**23.61**	**67**	T		T	T	07 44 49.4	
	baz=248								
H11N2	**WAKE ISLAND Hy**	**23.61**	**67**	T		T	T	07 44 56.4	
	baz=248								
H11N3	**WAKE ISLAND Hy**	**23.62**	**67**	T		T	T	07 44 56.3	
	baz=248								
MJAR	**Matsushiro Arr**	**25.50**	**349**	LR		LR	LR	07 29 13.8	
	comp=Z,47nm,20.7s,baz=180,slow=33								
WRA	**Warramunga Arr**	**32.58**	**197**	P		P	**P**	**07 21 39.3**	**-0.7**
	1.0nm,0.7s,baz=20,slow=9.8,SNR=12								
ASAR	**Alice Springs**	**36.24**	**196**	P		P	**P**	**07 22 11.3**	**-0.3**
	0.5nm,0.7s,baz=20,slow=11,SNR=9.6								
CMAR	**Chiang Mai Arr**	**43.89**	**285**	P		P	**P**	**07 23 14.0**	**-1.3**
	0.9nm,0.5s,baz=89,slow=8.4,SNR=2.7								
SONM	**Songino Array**	**47.95**	**326**	P		P	**P**	**07 23 48.0**	**+1.0**
	0.6nm,0.6s,baz=145,slow=4.5,SNR=3.1								
MKAR	**Makanchi Array**	**52.39**	**317**	P		P	**P**	**07 25 32.3**	**+1.3**
	0.7nm,0.7s,baz=88,slow=10,SNR=4.4								
ILAR	**Eielson Array**	**70.90**	**25**	P		P	**P**	**07 26 23.9**	**-1.1**
	0.3nm,0.7s,baz=252,slow=5.8,SNR=5.5								
YKA	**Yellowknife Ar**	**85.19**	**27**	P		P	**P**	**07 27 45.1**	**+0.9**
	0.3nm,0.9s,baz=287,slow=5.0,SNR=3.4								
NVAR	**Mina Array Bea**	**88.99**	**51**	P		P	**P**	**07 28 04.9**	**+1.4**
	0.5nm,0.7s,baz=283,slow=5.2,SNR=6.3								
FINES	**FINESS Array B**	**92.68**	**335**	P		P	**P**	**07 28 19.1**	**-0.7**
	1.1nm,0.9s,baz=71,slow=6.0,SNR=2.5								

IGQ 16 07:28:33±0.3, 2.64S×78.10W, h2km±155km, Mb4.2, 2C-20D, Error ellipse: s-maj=6.7km s-min=1.6km az=12.0, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PAT1	**Patacocha**	**1.18**	**343**	P		P	Pg	07 28 55.2	-1.0
BPAT	**Tungurahua Vol**	**1.18**	**344**	⇓P		Pg	Pg	07 28 55.0	-1.2
BPAT	**Tungurahua Vol**	**1.18**	**344**	⇓S		Sg	Sg	07 29 11.9	-0.1
ARRY	**Arrayan**	**1.18**	**343**	⇓P		Pg	Pg	07 28 55.9	-0.2
BMAS	**Trigal station**	**1.19**	**342**	⇓P		Pg	Pg	07 28 55.3	-1.1
BMAS	**Trigal station**	**1.19**	**342**	⇓S		Sg	Sg	07 29 12.0	-0.2
ULBA	**Ulba**	**1.22**	**346**	P		Pg	Pg	07 28 56.1	-0.9
RETU	**Refugio**	**1.23**	**344**	P		Pg	Pg	07 28 56.3	-1.1
BULB	**Ulba Tungurahu**	**1.23**	**346**	⇓P		Pg	Pg	07 28 57.0	-0.2
BULB	**Ulba Tungurahu**	**1.23**	**346**	⇓S		Sg	Sg	07 29 12.9	-0.7
BBIL	**Ulba Tungurahu**	**1.24**	**342**	⇓P		Pg	Pg	07 28 56.4	-0.9
BIL2	**Estacion Bilba**	**1.24**	**341**	⇑P		Pg	Pg	07 28 57.2	-0.1
BRUN	**Tungurahua Vol**	**1.25**	**346**	⇓S		Sb	Sg	07 29 14.6	-0.1
BRUN	**Tungurahua Vol**	**1.25**	**346**	⇓P		Pg	Pg	07 28 56.4	-1.1
RUN5	**Runtun**	**1.26**	**345**	P		Pg	Pg	07 28 56.5	-1.2
RUN5	**Runtun**	**1.26**	**345**	S		Sb	Sg	07 29 14.9	+0.1
IGUA	**Igualata**	**1.26**	**335**	⇓P		Pn	Pg	07 28 59.0	+0.6
IGUA	**Igualata**	**1.26**	**335**	⇓S		Sn	Sg	07 29 17.0	+0.5
JUI6	**Juive**	**1.26**	**343**	S		Sg	Sg	07 29 14.2	-0.1
JUI6	**Juive**	**1.26**	**343**	P		Pg	Pg	07 28 57.6	0.0
PISA	**Pisayambo**	**1.60**	**350**	⇓P		Pb	Pg	07 29 03.6	-0.3
BMOR	**Cotopaxi Volca**	**1.93**	**349**	P		Pn	Pg	07 29 08.2	+0.6
MOV1	**Cotopaxi Vol s**	**1.94**	**350**	P		Pb	Pg	07 29 09.7	-0.2
MOV1	**Cotopaxi Vol s**	**1.94**	**350**	S		Sb	Pg	07 29 35.7	+0.5
TAMB	**Tambo**	**1.95**	**352**	P		Pn	Pg	07 29 08.4	+0.6
BTAM	**Cotopaxi Volca**	**1.98**	**351**	⇓P		Pb	Pg	07 29 09.8	-0.6
BTAM	**Cotopaxi Volca**	**1.98**	**351**	⇓S		Sb	Pg	07 29 36.1	+0.2
COV1	**Cotopaxi Volc**	**1.98**	**353**	P		Pn	Pg	07 29 09.4	+1.1
COV1	**Cotopaxi Volc**	**1.98**	**353**	S		Sb	Pg	07 29 36.9	+0.6
BREF	**Cotopaxi Volca**	**1.99**	**350**	⇓S		Sb	Pg	07 29 36.0	-0.5
BREF	**Cotopaxi Volca**	**1.99**	**350**	⇓P		Pn	Pg	07 29 09.4	+1.0
CAMI	**Rancho Maria**	**1.99**	**348**	S		Sg	Pg	07 29 37.6	-0.5
CAMI	**Rancho Maria**	**1.99**	**348**	P		Pb	Pg	07 29 10.8	+0.2
BVC2	**Cotopaxi Volca**	**1.99**	**351**	⇓P		Pn	Pg	07 29 09.2	+0.7
PAST	**Pastocalle**	**2.01**	**344**	P		Pg	Pg	07 29 11.7	-0.4
VC1	**Cotopaxi 1**	**2.01**	**351**	P		Pb	Pg	07 29 10.6	-0.4
VC1	**Cotopaxi 1**	**2.01**	**351**	S		Sb	Pg	07 29 37.5	+0.7
NAS2	**Nasa**	**2.02**	**350**	P		Pg	Pg	07 29 11.9	-0.5
PITA	**Cotopaxi Volc**	**2.10**	**351**	P		Pb	Pg	07 29 11.2	-1.1
ANTI	**Antisana**	**2.18**	**358**	⇓P		Pn	Pg	07 29 11.2	+0.2
JUA2	**San Juan 2**	**2.46**	**348**	S		Sb	Pg	07 29 50.4	+0.6
JUA2	**San Juan 2**	**2.46**	**348**	P		Pb	Pg	07 29 18.3	-0.3
GGP	**Refugio Guagua**	**2.50**	**349**	P		Pb	Pg	07 29 18.4	-0.9
TERV	**Terraza Guagua**	**2.50**	**348**	P		Pg	Pg	07 29 21.7	0.0
PINO	**Pino**	**2.52**	**348**	P		Pb	Pg	07 29 19.8	+0.1
YANA	**Yana**	**2.55**	**349**	P		Pb	Pg	07 29 19.3	-0.8
LAV4	**Lava4-Reventad**	**2.58**	**11**	P		Pb	Pg	07 29 18.7	-1.6
LAV4	**Lava4-Reventad**	**2.58**	**11**	S		Sn	Pg	07 29 50.4	+2.2
CONE	**Cono NE Rev Vo**	**2.59**	**10**	P		Pb	Pg	07 29 18.8	-1.9
CONE	**Cono NE Rev Vo**	**2.59**	**10**	S		Sb	Pg	07 29 51.2	-2.1
CAYR	**Refugio Cayamb**	**2.64**	**2**	P		Pb	Pg	07 29 20.6	-1.3
CAYA	**Cayambe**	**2.70**	**2**	P		Pb	Pg	07 29 20.8	-1.9
CAYA	**Cayambe**	**2.70**	**2**	S		Sn	Pg	07 29 54.2	+2.5
OTAV	**Otavalo**	**2.88**	**353**	⇓P		Pb	Pg	07 29 24.5	-1.2
URCU	**Urcuqui**	**3.06**	**357**	⇑P		Pb	Pg	07 29 28.0	-0.8

NNC 16 07:37:41.1±3.7, 37.18N×72.21E, h0km, mb3.5, mpv3.2, 6C-4D, Error ellipse: s-maj=30.7km s-min=13.5km az=160.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.00**	**19**	⇑Pn		Pn	Pn	07 38 30.6	+0.3
	4.9nm,0.6s								
SFK				⇓Sn		Sb	Sn	07 39 10.4	-2.9
	14nm,0.4s								
DZET	**Dzherino**	**3.12**	**302**	⇑Pn		Pn	Pn	07 38 31.4	-0.3
	5.4nm,0.4s								
DZET				⇑Sn		Sn	Sn	07 39 11.7	+1.9
	116nm,0.5s								
MNAS	**Manas**	**5.30**	**2**	⇑Pn		Pn	Pn	07 39 02.3	+0.5
	1.6nm,0.7s								
MNAS				⇓Sn		Sn	Sn	07 40 02.0	-1.7
	8.0nm,0.7s								
AAK	**Ala-Archa**	**5.72**	**17**	Pn		Pn	Pn	07 39 05.2	-2.4
	2.8nm,0.8s								
KK31	**Karatay Array**	**6.05**	**348**	⇓Pn		Pn	Pn	07 39 09.9	-2.0
	1.2nm,0.7s,baz=172,slow=12,SNR=15								
KK31				⇑Pg		Pb	Pb	07 39 29.9	+2.4
	0.9nm,0.5s,baz=173,slow=16,SNR=5.1								
KK31				⇑Sn		Sn	Sn	07 40 21.1	-0.8
	1.3nm,0.5s,baz=164,slow=23,SNR=4.9								
KK31				⇓Lg		Lg	Lg	07 40 52.3	
	2.0nm,0.7s								

ISCJB ***16*** *07:59:11.5±1.0, 27.1N±0.2×140.3E±0.2, h443km, mb3.0/4, Error ellipse: s-maj=27.3km s-min=18.4km az=150.5*
IDC ***16*** *07:59:12.6±0.8, 27.10N×140.67E, h451km±9km, mb2.7/4, mb1 2.8/5, mb1mx2.5/53, mbtmp3.5/5, Error ellipse: s-maj=34.1km s-min=20.7km az=79.0*

ISC 16 07:59:12.6±1.0, 27.1N±0.2×140.4E±0.2, h443km, n6, σ1§23/7, mb3.0/4, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.56**	**89**	P		P	**P**	**08 00 11.6**	**+1.4**
	8.1nm,0.3s,baz=254,slow=20,SNR=29								
JCJ				S		S	**S**	**08 00 56.8**	**-0.1**
	3.7nm,0.3s,baz=270,slow=20,SNR=3.8								

MJAR	**Matsushiro Arr**	**9.62**	**349**	P	**P**	**08 01 25.4**	**0.0**
	0.3nm,0.3s,baz=167,slow=10,SNR=3.9						
SONM	**Songino Array**	**33.66**	**317**	P	**P**	**08 05 16.1**	**+1.2**
	0.4nm,0.7s,baz=129,slow=8.4,SNR=2.6						
WRA	**Warramunga Arr**	**47.12**	**188**	P	**P**	**08 07 02.9**	**-0.4**
	0.3nm,0.8s,baz=4.8,slow=7.6,SNR=5.0						
YKA	**Yellowknife Ar**	**72.89**	**28**	P	**P**	**08 09 54.2**	**-0.8**
	0.2nm,0.5s,baz=291,slow=5.3,SNR=3.3						
FINES	**FINESS Array B**	**77.27**	**333**	P	**P**	**08 10 18.3**	**-1.3**
	0.7nm,0.4s,baz=64,slow=6.3,SNR=12						

ISCJB ***16*** *08:00:04.9±0.3,59.78N±0.02×24.44E±0.05,h0km, Error ellipse: s-maj=3.8km s-min=3.2km az=18.2*
CSEM ***16*** *08:00:05.6±0.2,59.78N×24.53E,h2km, ML2.2, Error ellipse: s-maj=3.8km s-min=3.3km az=122.0, Mining explosion.*
IDC ***16*** *08:00:05.4±2.1,59.75N×24.73E, h0km, mb1 3.4/3, mb1mx3.0/44, mbtmp3.3/3, ML3.2/3, Error ellipse: s-maj=24.3km s-min=8.8km az=150.0*
HEL ***16*** *08:00:06.4±0.1,59.79N×24.43E, h0km, ML2.2, ML1.5(UPP), Explosion*
NAO ***16*** *08:00:06.6±1.0,59.79N×24.63E, ML2.1*
BER ***16*** *08:00:07.3±2.6,59.80N×24.60E, h0km, ML2.1(NAO), Suspected explosion*
UPP ***16*** *08:00:08.4,59.82N×24.15E, h0km, ML1.5, Suspected Mining explosion.*

ISC 16 08:00:05.7±0.7,59.79N±0.02×24.44E±0.03,h0km,n78, σ0s88/98,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRPE	**Suurupi**	**0.33**	**186**	*e*P	**Pg**	**08 00 12.2**	**+0.2**
SRPE				*e*S	**Sg**	**08 00 16.3**	**+0.1**
SRPE	**Suurupi**	**0.33**	**186**	P	**Pg**	**08 00 12.1**	**+0.2**
SRPE				S	**Sg**	**08 00 16.3**	**+0.1**
MEF	**Metsahovi**	**0.43**	**357**	*e*P	**Pg**	**08 00 14.2**	**+0.3**
MEF				*e*S	**Sg**	**08 00 19.9**	**+0.4**
MEF	**Metsahovi**	**0.43**	**357**	P	**Pg**	**08 00 14.2**	**+0.3**
MEF				S	**Sg**	**08 00 19.8**	**+0.4**
PVF	**Pernaja**	**1.04**	**43**	*e*P	**Pg**	**08 00 25.0**	**-0.5**
PVF				*e*SN	**Sn**	**08 00 44.3**	**+1.7**
PVF	**Pernaja**	**1.04**	**43**	P	**Pg**	**08 00 25.0**	**-0.5**
MTSE	**Matsula**	**1.13**	**197**	*e*P	**Pg**	**08 00 26.7**	**-0.5**
MTSE				*e*S	**Sg**	**08 00 41.5**	**-0.3**
MTSE	**Matsula**	**1.13**	**197**	P	**Pg**	**08 00 26.7**	**-0.5**
MTSE				S	**Sg**	**08 00 41.5**	**-0.3**
VJF	**Virojoki**	**1.73**	**63**	*e*P	**Pn**	**08 00 36.8**	**-0.2**
VJF				*e*S	**Sn**	**08 00 59.0**	**-0.7**
VJF	**Virojoki**	**1.73**	**63**	P	**Pn**	**08 00 36.7**	**-0.2**
VJF				S	**Sn**	**08 00 58.9**	**-0.7**
VSU	**Vasula**	**1.78**	**137**	Pg	**Pb**	**08 00 38.4**	**-0.7**
VSU				Lg	Lg	08 01 00.9	
VSU	**Vasula**	**1.78**	**137**	Pg	**Pb**	**08 00 38.4**	**-0.7**
VSU				Lg	Lg	08 01 00.9	
VSU	**Vasula**	**1.78**	**137**	*e*P	**Pb**	**08 00 38.4**	**-0.7**
VSU				*e*S	**Sn**	**08 01 00.8**	**-0.1**
VSU	**Vasula** SNR=90	**1.78**	**137**	Pg	**Pb**	**08 00 38.4**	**-0.7**
VSU				S	**Sn**	**08 01 00.8**	**-0.1**
RAF	**Rauma**	**1.81**	**314**	*e*P	**Pn**	**08 00 39.0**	**+0.8**
RAF				*e*S	**Sb**	**08 01 02.7**	**-0.2**
RAF	**Rauma**	**1.81**	**314**	P	**Pn**	**08 00 38.9**	**+0.8**
RAF				S	**Sb**	**08 01 02.7**	**-0.2**
FIA0	**FINESS Array S** baz=196,slow=22	**1.84**	**25**	Pg	**Pb**	**08 00 39.6**	**-0.5**
FIA0				Lg	Lg	08 01 02.8	
FIA0	**FINESS Array S** baz=196,slow=22	**1.84**	**25**	Pg	**Pb**	**08 00 39.6**	**-0.5**
FIA0				Lg	Lg	08 01 02.8	
FIA0	**FINESS Array S** SNR=90	**1.84**	**25**	Pg	**Pb**	**08 00 39.7**	**-0.5**
FIA0				Lg	Lg	08 01 02.8	
FINES	**FINESS Array B**	**1.84**	**25**	Pn	**Pb**	**08 00 39.5**	**-0.6**
FINES	4.7nm,0.3s,baz=200,slow=17,SNR=321			Sn	**Sn**	**08 01 02.3**	**-0.2**
KEF	**Keuruu** comp=Z,14nm,0.2s	**2.39**	**5**	MSG		08 01 20.7	
SLIT	**Slitere, Latvi**	**2.44**	**208**	*e*PB	**Pn**	**08 00 48.6**	**+1.9**
SLIT				*e*SG	**Sb**	**08 01 21.5**	**+0.5**
KAF	**Kangasniemi** comp=Z,9.4nm,0.2s	**2.50**	**21**	MSG		08 01 24.8	
NRTU	**Norrtaelje**	**2.94**	**270**	*e*P	**Pn**	**08 00 54.3**	**+0.7**
NRTU	**Norrtaelje**	**2.94**	**270**	P	**Pn**	**08 00 54.3**	**+0.7**
NRTU	**Norrtaelje**	**2.94**	**270**	P	**Pn**	**08 00 54.3**	**+0.7**
GRAU	**Graesoe**	**3.01**	**283**	*e*P	**Pn**	**08 00 54.6**	**+0.1**
GRAU				*e*S	**Sn**	**08 01 33.4**	**+2.1**
GRAU	**Graesoe**	**3.01**	**283**	P	**Pn**	**08 00 54.6**	**+0.1**
GRAU				S	**Sn**	**08 01 33.3**	**+2.1**
GRAU	**Graesoe**	**3.01**	**283**	P	**Pn**	**08 00 54.6**	**+0.1**
GRAU				S	**Sn**	**08 01 33.4**	**+2.1**
SUF	**Sumiainen** comp=Z,4.3nm,0.2s	**3.05**	**15**	MSG		08 01 43.2	
FORU	**Forsmark**	**3.19**	**283**	*e*P	**Pn**	**08 00 57.6**	**+0.6**
FORU	**Forsmark**	**3.19**	**283**	P	**Pn**	**08 00 57.6**	**+0.6**
FORU	**Forsmark**	**3.19**	**283**	P	**Pn**	**08 00 57.6**	**+0.6**
FLYU	**Flymyra**	**3.32**	**279**	*e*P	**Pn**	**08 00 59.0**	**+0.3**
FLYU	**Flymyra**	**3.32**	**279**	P	**Pn**	**08 00 59.0**	**+0.3**
FLYU	**Flymyra**	**3.32**	**279**	P	**Pn**	**08 00 59.0**	**+0.3**
NYNU	**Nynaeshamn**	**3.39**	**259**	*e*P	**Pn**	**08 01 00.6**	**+1.0**
NYNU	**Nynaeshamn**	**3.39**	**259**	P	**Pn**	**08 01 00.6**	**+1.0**
NYNU	**Nynaeshamn**	**3.39**	**259**	P	**Pn**	**08 01 00.6**	**+1.0**
OSTU	**Oestervaala**	**3.70**	**280**	*e*P	**Pn**	**08 01 04.4**	**+0.4**
OSTU	**Oestervaala**	**3.70**	**280**	P	**Pn**	**08 01 04.4**	**+0.4**
OSTU	**Oestervaala**	**3.70**	**280**	P	**Pn**	**08 01 04.4**	**+0.4**
BACU	**Backbrunna**	**3.70**	**274**	*e*P	**Pn**	**08 01 04.9**	**+0.9**
BACU	**Backbrunna**	**3.70**	**274**	P	**Pn**	**08 01 04.9**	**+0.9**
BACU	**Backbrunna**	**3.70**	**274**	P	**Pn**	**08 01 04.9**	**+0.9**
ARNU	**Arnoeviken**	**3.96**	**302**	*e*P	**Pn**	**08 01 08.3**	**+0.8**
ARNU	**Arnoeviken**	**3.96**	**302**	P	**Pn**	**08 01 08.3**	**+0.8**
ARNU	**Arnoeviken**	**3.96**	**302**	P	**Pn**	**08 01 08.3**	**+0.8**
VIKU	**Vikbolandet**	**4.19**	**255**	*e*P	**Pn**	**08 01 11.2**	**+0.4**
VIKU	**Vikbolandet**	**4.19**	**255**	P	**Pn**	**08 01 11.2**	**+0.4**
VIKU	**Vikbolandet**	**4.19**	**255**	P	**Pn**	**08 01 11.2**	**+0.4**
FALU	**Falun**	**4.36**	**283**	*e*P	**Pn**	**08 01 13.8**	**+0.7**
FALU	**Falun**	**4.36**	**283**	P	**Pn**	**08 01 13.8**	**+0.7**
FALU	**Falun**	**4.36**	**283**	P	**Pn**	**08 01 13.8**	**+0.7**
HASU	**Hassela**	**4.49**	**305**	*e*P	**Pn**	**08 01 15.9**	**+1.0**
HASU	**Hassela**	**4.49**	**305**	P	**Pn**	**08 01 15.8**	**+1.0**
HASU	**Hassela**	**4.49**	**305**	P	**Pn**	**08 01 15.9**	**+1.0**
ROTU	**Roteberg**	**4.56**	**295**	*e*P	**Pn**	**08 01 15.6**	**-0.1**
ROTU	**Roteberg**	**4.56**	**295**	P	**Pn**	**08 01 15.6**	**-0.1**
ROTU	**Roteberg**	**4.56**	**295**	P	**Pn**	**08 01 15.6**	**-0.1**
VSTU	**Vaestervik**	**4.64**	**246**	*e*P	**Pn**	**08 01 18.1**	**+1.2**
VSTU	**Vaestervik**	**4.64**	**246**	P	**Pn**	**08 01 18.1**	**+1.2**
VSTU	**Vaestervik**	**4.64**	**246**	P	**Pn**	**08 01 18.1**	**+1.2**
HFS	**Hagfors** baz=94,slow=14	**5.41**	**278**	Pn	**Pn**	**08 01 27.8**	**+0.3**
HFS				Sn	**Sn**	**08 02 29.6**	**-0.8**
HFS	**Hagfors** baz=85,slow=28	**5.41**	**278**	Pn	**Pn**	**08 01 27.8**	**+0.3**
HFS				Sn	**Sn**	**08 02 29.6**	**-0.8**
HFS	**Hagfors** comp=Z,0.4nm,0.3s,baz=88,slow=14,SNR=25	**5.41**	**278**	Pn	**Pn**	**08 01 27.2**	**-0.3**
HFS	comp=Z,0.5nm,0.3s,baz=84,slow=26,SNR=7.3			Sn	**Sn**	**08 02 29.8**	**-0.7**
HFS	comp=Z,0.8nm,0.3s,baz=86,slow=28,SNR=7.3			Lg	Lg	08 02 50.8	
HFS	**Hagfors** SNR=50	**5.41**	**278**	Pn	**Pn**	**08 01 27.8**	**+0.3**
HFS	SNR=50			Sn	**Sn**	**08 02 29.6**	**-0.8**
NB2	**NORSAR Subarra** baz=93,slow=14	**6.67**	**287**	Pn	**Pn**	**08 01 44.3**	**-0.5**
NB2	**NORSAR Subarra** baz=93,slow=14	**6.67**	**287**	Pn	**Pn**	**08 01 44.3**	**-0.5**
NB2	**NORSAR Subarra** SNR=50	**6.67**	**287**	Pn	**Pn**	**08 01 44.3**	**-0.5**
NOA	**NORSAR Array B** comp=Z,0.4nm,0.3s,baz=92,slow=13,SNR=18	**6.67**	**287**	Pn	**Pn**	**08 01 44.0**	**-0.9**
NOA	comp=Z,0.2nm,0.3s,baz=97,slow=19,SNR=2.9			Sn	**Sn**	**08 02 59.4**	**-2.0**
NOA	comp=Z,0.4nm,0.3s,baz=132,slow=24,SNR=2.3			Lg	Lg	08 03 27.2	
APA0	**Apatity Array** baz=216,slow=14	**8.70**	**22**	Pn	**Pn**	**08 02 14.5**	**+1.9**
APA0	**Apatity Array** baz=216,slow=14	**8.70**	**22**	Pn	**Pn**	**08 02 14.5**	**+1.9**
APA0	**Apatity Array** SNR=50	**8.70**	**22**	Pn	**Pn**	**08 02 14.5**	**+1.9**
ARA0	**ARCESS Array S** baz=176,slow=14	**9.79**	**2**	Pn	**Pn**	**08 02 26.2**	**-1.3**
ARA0	**ARCESS Array S** baz=176,slow=14	**9.79**	**2**	Pn	**Pn**	**08 02 26.2**	**-1.3**
ARA0	**ARCESS Array S** SNR=50	**9.79**	**2**	Pn	**Pn**	**08 02 26.2**	**-1.3**
ARCES	**ARCESS Array B** comp=Z,0.3nm,0.3s,baz=178,slow=13,SNR=29	**9.79**	**2**	Pn	**Pn**	**08 02 26.1**	**-1.4**
ARCES	comp=Z,0.1nm,0.3s,baz=185,slow=26,SNR=2.6			Sn	Sn	08 04 11.5	-6.6

ISCJB ***16*** *08:01:22.7±0.7,32.21N±0.04×115.22W±0.06,h14km±7km, Error ellipse: s-maj=8.7km s-min=6.4km az=144.8*
MEX ***16*** *08:01:24.7±0.5,32.24N×115.17W,h12km±414km, MD3.9*
ECX ***16*** *08:01:24.1±0.6,32.20N×115.25W,h5km, MD2.8, ML3.0*

ISC 16 08:01:22.6±1.2,32.20N±0.03×115.23W±0.04,h19km±2km, n17,σ0s32/23,7C,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.21**	**6**	*e*P	**Pg**	**08 01 28.1**	**+0.4**
MBIG				*e*S	**Sb**	**08 01 30.4**	**+0.2**
CPBX	**Cerro Prieto**	**0.23**	**343**	*e*P9	**Pb**	**08 01 27.9**	**+0.1**
CPBX				*e*S	**Sb**	**08 01 31.0**	**-0.1**
CPBX				IAML		08 01 32.9	
	comp=N,7μm,0.3s						
CPBX				⇑*e*		08 01 32.9	
CPBX				IAML		08 01 33.4	
	comp=E,10μm,0.2s						
CPBX				⇑*e*		08 01 33.4	
EMSC	**East Mesa**	**0.58**	**21**	*e*P2	**Pb**	**08 01 34.4**	**+0.4**
SGL	**Mount Signal**	**0.62**	**317**	⇑*i*P	**Pg**	**08 01 34.8**	**-0.1**
RDX	**Rancho Dawling**	**0.67**	**246**	⇑*e*P	**Pg**	**08 01 36.0**	**+0.2**
RDX				*e*S	**Sb**	**08 01 44.8**	**+0.2**
RDX				*e*		08 01 46.5	
RDX				IAML		08 01 46.5	
	comp=N,696nm,0.4s						
YMD	**Yuma Desert**	**0.68**	**58**	⇑*i*P	**Pg**	**08 01 35.8**	**-0.2**
WESC	**Westside Schoo**	**0.70**	**323**	*e*P	**Pg**	**08 01 36.4**	**0.0**
ECBX	**El Chinero**	**0.74**	**168**	*e*P9	**Pb**	**08 01 36.7**	**-0.2**
ECBX				*e*S	**Sg**	**08 01 46.9**	**-0.1**
YUH	**Yuha Desert**	**0.74**	**307**	*e*P2	**Pb**	**08 01 36.4**	**-0.5**
RMX	**La Rumorosa**	**0.83**	**299**	*e*P	**Pb**	**08 01 38.3**	**-0.1**
RMX				*e*S	**Sb**	**08 01 49.1**	**-0.2**
RMX				⇑*e*		08 01 50.1	
RMX				IAML		08 01 50.1	
	comp=N,410nm,0.2s						
ZAX	**El Zacaton**	**1.12**	**233**	*e*P	**Pn**	**08 01 43.0**	**-0.4**
SPIG	**San Pedro Mart**	**1.17**	**190**	*i* P	**Pn**	**08 01 44.0**	**-0.2**
SPX	**San Pedro Mart**	**1.17**	**190**	*e*P	**Pn**	**08 01 44.1**	**-0.1**
CBX	**Cerro Bola**	**1.22**	**276**	*e*P	**Pn**	**08 01 44.6**	**-0.2**
CBX	**Cerro Bola**	**1.22**	**276**	*e*P	**Pn**	**08 01 44.6**	**-0.2**
CBX				IAML		08 02 02.3	
	comp=E,332nm,0.6s						
CBX				⇑*e*		08 02 02.3	
ECNX	**Esteban Cantu**	**1.29**	**246**	*e*P	**Pb**	**08 01 46.3**	**+0.1**
ECNX				*e*S	**Sb**	**08 02 03.4**	**+1.0**
BAR	**Barrett**	**1.31**	**292**	*e*P	**Pn**	**08 01 46.0**	**0.0**

WEL 16 08:03:35.0±0.3,37.56S×176.87E,h138km±2km, ML3.6/6, 2C-3D, Error ellipse: s-maj=1.7km s-min=1.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.38**	**221**	PN	Pn	08 03 54.2	-0.1
TGRZ	**Tauranga**	**0.51**	**251**	PN	Pn	08 03 55.0	+0.1
URZ	**Urewera**	**0.72**	**165**	⇓PN	Pn	08 03 56.0	-0.3
URZ				*e*SN	Sn	08 04 12.6	+0.1
URZ				AML	AML	08 04 15.2	
HAZ	**Te Kaha**	**0.75**	**105**	PN	Pn	08 03 56.4	-0.1
HAZ				SN	Sn	08 04 13.2	+0.4
MWZ	**Matawai**	**0.93**	**146**	PN	Pn	08 03 57.7	-0.3
MWZ				AML	AML	08 04 22.7	
MWZ				AML	AML	08 04 22.7	
MWZ				AML	AML	08 04 22.7	
MWZ				AML	AML	08 04 22.8	
PRRZ	**Plateau Road**	**1.01**	**202**	PN	Pn	08 03 58.8	+0.1
RAGZ	**Rawiri**	**1.03**	**155**	*e*PN	Pn	08 03 59.1	+0.2
RAGZ				SN	Sn	08 04 17.8	+0.6
TWGZ	**Tauwhareparae**	**1.07**	**125**	PN	Pn	08 03 59.5	+0.2
MXZ	**Matakaoa Point**	**1.14**	**90**	PN	Pn	08 04 00.6	+0.7
MXZ				AML	AML	08 04 03.3	
MXZ				AML	AML	08 04 27.9	
MXZ				AML	AML	08 04 28.1	
TKGZ	**Te Karaka**	**1.17**	**139**	PN	Pn	08 03 59.9	-0.2
PUZ	**Puketiti**	**1.21**	**115**	⇓PN	Pn	08 04 00.2	-0.4
PUZ				AML	AML	08 04 29.1	
PUZ				AML	AML	08 04 30.9	
KUZ	**Kuaotunu**	**1.23**	**311**	⇑PN	Pn	08 04 00.8	+0.1
WMGZ	**Waiomatatini S**	**1.25**	**102**	PN	Pn	08 04 01.1	+0.2
SNGZ	**Shannon Statio**	**1.27**	**163**	PN	Pn	08 04 01.0	-0.2
TLZ	**Tolley Road**	**1.30**	**234**	⇑PN	Pn	08 04 01.7	+0.1
RIGZ	**Rimuhau**	**1.34**	**149**	PN	Pn	08 04 02.0	+0.1
RAHZ	**Arahi**	**1.36**	**173**	PN	Pn	08 04 02.4	+0.3
CNGZ	**Carnagh Statio**	**1.40**	**131**	PN	Pn	08 04 02.7	+0.2
NMHZ	**Naumai**	**1.53**	**182**	PN	Pn	08 04 04.2	+0.1
WHHZ	**Waihua**	**1.54**	**169**	*e*PN	Pn	08 04 04.7	+0.7
KNZ	**Kokohu**	**1.59**	**157**	PN	Pn	08 04 03.9	-0.6
BKZ	**Black Stump Fm**	**1.63**	**190**	PN	Pn	08 04 04.0	-1.1
BKZ				AML	AML	08 04 31.2	
BKZ				AML	AML	08 04 34.7	
ARHZ	**Aropaoanui**	**1.70**	**177**	PN	Pn	08 04 05.4	-0.5
MHGZ	**Mahia Peninsul**	**1.79**	**153**	PN	Pn	08 04 06.8	0.0
MCHZ	**McNeill Hill**	**1.88**	**184**	PN	Pn	08 04 07.7	-0.3
FWVZ	**Far West T-bar**	**1.98**	**211**	PN	Pn	08 04 08.8	-0.6
WHVZ	**Whangaehu Hut**	**1.99**	**210**	PN	Pn	08 04 08.9	-0.6
BHHZ	**Black Hill Sta**	**2.02**	**198**	PN	Pn	08 04 08.4	-1.3
WNVZ	**Wahianoa**	**2.03**	**209**	PN	Pn	08 04 09.0	-0.9
MOVZ	**Moawhango**	**2.04**	**205**	PN	Pn	08 04 08.6	-1.3
KRHZ	**Kereru**	**2.12**	**190**	PN	Pn	08 04 09.8	-0.9
MTVZ	**Mangateitei**	**2.13**	**211**	PN	Pn	08 04 10.3	-0.7
KAHZ	**Kahuranaki**	**2.23**	**180**	PN	Pn	08 04 11.1	-1.1
PNHZ	**Pukenui**	**2.41**	**192**	PN	Pn	08 04 12.7	-1.7
PXZ	**Pawanui**	**2.47**	**180**	PN	Pn	08 04 13.7	-1.3
WPHZ	**Waipukurau**	**2.52**	**187**	*e*PN	Pn	08 04 14.3	-1.4
TSZ	**Takapari Road**	**2.59**	**196**	PN	Pn	08 04 14.4	-2.3
PRHZ	**Porangahau**	**2.71**	**184**	PN	Pn	08 04 16.1	-2.0
DVHZ	**Dannevirke**	**2.79**	**191**	PN	Pn	08 04 16.5	-2.6
ANWZ	**Angora Road**	**2.91**	**186**	PN	Pn	08 04 18.6	-2.1
POWZ	**Post Office Ro**	**2.95**	**197**	PN	Pn	08 04 19.1	-2.1
PRWZ	**Pori Road**	**3.07**	**193**	PN	Pn	08 04 20.6	-2.1
BFZ	**Birch Farm**	**3.15**	**189**	PN	Pn	08 04 21.0	-2.8
MRZ	**Mangatainoka R**	**3.25**	**198**	⇓PN	Pn	08 04 22.0	-3.1
MRZ				AML	AML	08 05 09.7	
TIWZ	**Tintock**	**3.30**	**193**	PN	Pn	08 04 22.6	-3.1
HOWZ	**Holdsworth Sta**	**3.49**	**197**	PN	Pn	08 04 24.6	-3.6
OGWZ	**Otaki Gorge**	**3.51**	**202**	PN	Pn	08 04 25.3	-3.1
TMWZ	**Te Maipa**	**3.62**	**192**	PN	Pn	08 04 26.4	-3.5
KIW	**Kapiti Island**	**3.63**	**204**	PN	Pn	08 04 26.6	-3.3
MTW	**Mount Morrison**	**3.74**	**196**	PN	Pn	08 04 27.5	-4.0
CAW	**Cannon Point**	**3.81**	**201**	*e*PN	Pn	08 04 28.4	-3.9
PAWZ	**Paruwai Farm**	**3.97**	**196**	*e*PN	Pn	08 04 30.4	-4.1
MSWZ	**Moikau Station**	**4.05**	**198**	PN	Pn	08 04 31.3	-4.2
TCW	**Tory Channel**	**4.16**	**208**	PN	Pn	08 04 33.1	-3.8
PLWZ	**Palliser**	**4.19**	**197**	PN	Pn	08 04 32.9	-4.6
TUWZ	**Tuamarina**	**4.48**	**209**	*e*PN	Pn	08 04 37.0	-4.1
NNZ	**Nelson**	**4.54**	**215**	PN	Pn	08 04 38.9	-3.1
THZ	**Tophouse**	**5.19**	**215**	*e*PN	Pn	08 04 46.6	-4.1
KHZ	**Kahutara**	**5.48**	**207**	PN	Pn	08 04 49.7	-4.8
MQZ	**McQueen's Vall**	**6.92**	**206**	PN	Pn	08 05 07.1	-6.7

IDC 16 08:04:51.1±9.2,5.45S×153.75E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.4/34,mbtmp3.4/3,Error ellipse: s-maj=151.1km s-min=95.7km az=21.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.75**	**231**	P	P	08 10 05.8	+0.4
	1.0nm,0.5s,baz=54,slow=10.0,SNR=15						
ASAR	**Alice Springs**	**26.34**	**225**	P	P	08 10 29.2	+0.1
	0.1nm,0.6s,baz=57,slow=10,SNR=3.3						
STKA	**Stephens Creek**	**28.66**	**202**	P	P	08 10 48.9	-0.7
	1.1nm,0.9s,baz=27,slow=11,SNR=3.6						

MEX 16 08:30:01.4±1.4,16.92N×94.34W,h142km±14km,MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.55**	**288**	*i* P	Pn	08 30 20.7	-1.4
CMIG				*i* S	Sn	08 30 35.5	-2.3
PCIG		**1.62**	**138**	*i* P	Pn	08 30 30.7	-1.0
PCIG				*i* S	Sn	08 30 52.9	-1.9
HUIG	**Huatulco**	**2.05**	**236**	*e*P	Pn	08 30 34.2	-2.5
HUIG				*e*S	Sn	08 31 02.3	-1.4
VHO	**Vista Hermosa**	**2.30**	**274**	*e*P	Pn	08 30 39.8	-0.1
VHO				*e*S	Sn	08 31 09.2	-0.2
PNIG	**Pinotepa**	**3.67**	**262**	*e*P	Pn	08 30 55.2	-1.9
PNIG				*e*S	Sn	08 31 33.0	-7.3

IDC 16 08:36:04.5±1.9,1.83N×85.84W,h0km,mb3.6/5, mb1 3.9/5,mb1mx3.7/20,mbtmp3.6/5,MS3.5/5,Ms1 3.5/5, ms1mx3.2/20,Error ellipse: s-maj=113.0km s-min=24.7km az=48.0,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**11.87**	**75**	LR	LR	08 42 42.0	
	comp=Z,88nm,18.4s,baz=299,slow=34						
LPAZ	**La Paz**	**25.10**	**136**	P	P	08 41 31.8	-0.2
	2.3nm,1.0s,baz=321,slow=6.5,SNR=4.6						
LPAZ				LR	LR	08 52 07.3	
	comp=Z,105nm,19.3s,baz=236,slow=38						
TXAR	**Lajitas Array**	**32.19**	**330**	LR	LR	08 54 28.3	
	comp=Z,70nm,18.2s,baz=0.0,slow=34						
PDAR	**Pinedale Array**	**45.95**	**336**	P	P	08 44 29.1	-0.5
	0.7nm,0.8s,baz=110,slow=7.8,SNR=5.6						
PDAR				LR	LR	09 04 31.4	
	comp=Z,90nm,18.8s,baz=164,slow=37						
NVAR	**Mina Array Bea**	**47.00**	**325**	P	P	08 44 38.6	+0.7
	0.4nm,0.8s,baz=152,slow=5.8,SNR=3.0						
SCHQ	**Schefferville**	**55.07**	**13**	LR	LR	09 07 54.2	
	comp=Z,56nm,19.9s,baz=66,slow=35						
ILAR	**Eielson Array**	**76.35**	**337**	P	P	08 47 54.7	-0.6
	0.6nm,1.1s,baz=102,slow=3.8,SNR=3.9						
TORD	**Torodi Ar. Bea**	**87.19**	**77**	P	P	08 48 53.8	+0.3
	0.3nm,0.6s,baz=284,slow=5.2,SNR=3.4						

DJA 16 08:40:21.6±0.6,1°S±3°×120°E±°,h11km±6km,M3.8/12, MLv3.7/5,MLv3.9/12,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.34**	**329**	P	Pg	08 40 28.6	+0.1
MPSI	**Mapaga**	**1.53**	**356**	P	Pn	08 40 47.5	-1.4
APSI	**Ampana**	**1.66**	**80**	P	Pn	08 40 48.4	-2.3
APSI				S	Sn	08 41 11.9	-0.2
TTSI	**Tana Toraja**	**1.84**	**186**	P	Pn	08 40 50.2	-3.0
MRSI	**Marisa**	**2.55**	**49**	P	Pn	08 41 02.2	-0.7
MRSI				S	Sn	08 41 35.1	+1.1
SPSI	**Sidrap Palu**	**2.76**	**185**	P	Pn	08 41 05.7	-0.1
LUWI	**Luwuk**	**2.77**	**87**	P	Pb	08 41 08.5	-2.6
LUWI				S	Sn	08 41 40.5	+1.2
BNSI	**Bone**	**3.18**	**178**	P	Pn	08 41 12.9	+1.3
BKSI	**Bulukumba**	**4.10**	**178**	P	Pn	08 41 26.5	+2.3
KMSI	**Cibinong**	**4.34**	**66**	P	Pb	08 41 38.6	+0.6
KBKI	**Kotabaru**	**4.37**	**241**	P	Pn	08 41 31.2	+3.2

JMA 16 08:46:38.6,35.23N×137.73E,h14km±1km,M-0.2, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNY	**Yasuok**	**0.17**	**40**	P	Pg	08 46 42.7	-0.1
JNY				S	Sg	08 46 45.7	+0.1
JYZW	**Yoshizawa**	**0.23**	**179**	P	Pg	08 46 43.4	-0.3

ISCJB ***16*** *08:50:30.5±0.4,4.18S±0.04×140.54E±0.05,h33km, mb4.0/10, Error ellipse: s-maj=7.0km s-min=5.0km az=160.0*
IDC ***16*** *08:50:32.3±0.8,4.01S×140.61E,h35km±6km, mb3.8/8, mb1 4.0/10,mb1mx3.8/31,mbtmp4.1/10,ML4.4/2,MS3.9/1, Ms1 3.9/1,ms1mx3.2/17, Error ellipse: s-maj=26.9km s-min=11.5km az=91.0*
DJA ***16*** *08:50:32.2±0.3,4°S±2°×14°1E±°,h10km,M5.1/15, mb4.8/15,mB5.3/6,MLv5.4/6,Mw(mB)4.8/6*
NEIC ***16*** *08:50:32.6±0.3,4.15S×140.53E,mb4.8/7, Error ellipse: s-maj=9.1km s-min=6.0km az=76.0*
BJI ***16*** *08:50:34.5,4.20S×140.50E,h44km,mb4.7/12,mB4.9/8, Ms4.8/9,Ms7 4.6/9*

**ISC 16

30nm,0.7s
AS01 Alice Springs 20.26 198 *e*P **P 08 55 06.7 +0.1**
AS31 Alice Springs 20.27 198 *e*P **P 08 55 07.2 +0.5**
ASAR Alice Springs 20.28 198 P **P 08 55 06.9 +0.1**
86nm,0.6s,baz=28,slow=10,SNR=896
ASAR S Sn 08 59 12.3 +16
5.0nm,0.6s,baz=8.5,slow=28,SNR=4.1
BNSI Bone 20.33 269 P **P 08 55 07.7 +0.3**
24nm,1.1s
TTSI Tana Toraja 20.67 273 P Pn 08 55 14.4 +0.9
29nm,1.3s,2µm
SPSI Sidrap Palu 20.67 270 P Pn 08 55 19.0 +5.4
PCI Palu 20.91 279 P Pn 08 55 16.3 0.0
QLP Quilpie 22.44 171 P **P 08 55 30.8 +0.8**
baz=22,SNR=5.4
EIDS Eidsvold 23.29 155 P **P 08 55 39.1 +0.4**
baz=23,SNR=4.7
EIDS Eidsvold 23.29 155 *e*P **P 08 55 38.5 -0.2**
16nm,0.9s
WRKA Warakurna 23.72 208 P **P 08 55 40.7 -2.3**
baz=23,SNR=46
STKA Stephens Creek 27.45 178 P **P 08 56 17.1 +0.3**
2.0nm,0.6s,baz=350,slow=9.7,SNR=11
STKA Stephens Creek 27.45 178 P P 08 56 21.8 +5.0
baz=27,SNR=5.5
FORT Forrest 28.83 203 *e*P **P 08 56 27.8 -1.3**
QIZ Qiongzhong 38.05 309 P **P 08 57 49.8 +0.4**
QIZ pP **pP 08 57 59.4 -0.2**
QIZ sP **sP 08 58 03.6 -0.2**
QIZ S **S 09 03 42.3 +2.4**
QIZ PMZ
30nm,2.5s
QIZ LN
1µm,23.1s
QIZ LZ
1µm,15.7s
MJAR Matsushiro Arr 40.69 357 P P 08 58 06.9 -4.3
0.3nm,0.5s,baz=169,slow=6.1,SNR=2.6
PSI Prapat 42.13 279 P **P 08 58 21.8 -1.7**
8.2nm,0.6s,baz=170,slow=19,SNR=4.4
WHN Wuhan 42.72 326 P **P 08 58 26.6 -1.3**
KSAR Wonju Array Be 43.16 345 P **P 08 58 28.4 -2.9**
KSRS Korea Array 43.16 345 P **P 08 58 28.4 -2.9**
0.9nm,0.5s,baz=160,slow=8.9,SNR=5.3
GYA Guiyang 44.80 315 P **P 08 58 47.0 +2.2**
GYA PMZ
10.0nm,1.0s
HHC Hu-ho-hao-te 52.15 332 *e*P **P 08 59 43.4 +2.2**
HHC PP **PP 09 01 42.9 +3.0**
HHC S **S 09 07 04.9 +1.5**
HHC sS **sS 09 07 21.6 +0.9**
HHC SS **SS 09 10 41.0 -0.3**
HHC PMZ
22nm,1.0s
HHC PMZ
80nm,7.4s
HHC LN
530nm,17.3s
HHC LE
460nm,21.0s
HHC LZ
350nm,19.7s
LZH Lanzhou 52.81 323 *e*P **P 08 59 48.5 +2.2**
LZH pP **pP 08 59 58.4 +1.6**
LZH sP **sP 09 00 02.0 +1.0**
LZH PMZ
14nm,1.0s
GTA Gaotai 57.40 323 *e*P P 09 00 25.5 +6.2
GTA pP pP 09 00 35.8 +5.9
GTA sP sP 09 00 39.6 +5.6
GTA PMZ
2.0nm,1.0s
GTA PMZ
57nm,8.6s
GTA LN
150nm,17.1s
GTA LE
190nm,17.6s
GTA LZ
78nm,15.7s
SONM Songino Array 59.91 334 P **P 09 00 34.3 -2.3**
0.7nm,0.6s,baz=155,slow=5.6,SNR=2.9
SONM pP **pP 09 00 45.7 -1.6**
0.5nm,0.5s,baz=159,slow=8.6,SNR=2.8
WMQ Urumqi 67.35 321 *e*P **P 09 01 28.4 +2.6**
WMQ pP **pP 09 01 38.8 +2.2**
WMQ sP **sP 09 01 42.6 +1.9**
WMQ PcP **PcP 09 01 55.9 +2.7**
WMQ PcS 09 05 59.3
WMQ S **S 09 10 19.4 +0.4**
WMQ sS **sS 09 10 37.4 +0.5**
WMQ ScS **SKSac 09 11 20.3 -0.6**
WMQ PMZ
9.0nm,0.5s
WMQ PMZ
97nm,4.4s
WMQ LN
67nm,18.0s
WMQ LE
180nm,23.6s
WMQ LZ
96nm,19.0s
MK01 Makanchi Array 72.11 322 *e*P **P 09 01 52.8 -2.2**
MKAR Makanchi Array 72.13 322 P **P 09 01 52.9 -2.2**
1.1nm,0.6s,baz=100,slow=7.5,SNR=8.9
VNDA Vanda 74.05 175 pP pP 09 02 17.6 +0.9
0.9nm,0.8s,baz=327,slow=5.8,SNR=3.5
ZALV Zalesovo Beam 74.20 330 P P 09 02 03.4 -3.7
0.8nm,0.6s,baz=102,slow=6.2,SNR=2.4
QSPA South Pole Qui 85.66 180 *e*P **P 09 03 06.7 -2.3**
7.4nm,0.9s
ILAR Eielson Array 86.54 24 P P 09 03 08.9 -4.2
0.5nm,0.6s,baz=258,slow=4.4,SNR=7.4
ILAR pP pP 09 03 21.5 -2.8
5.8nm,0.7s,baz=262,slow=4.3,SNR=32
LPAZ La Paz 145.07 127 PKPbc **PKPbc 09 10 07.5 -1.5**
3.3nm,0.7s,baz=252,slow=3.2,SNR=14
LPAZ La Paz 145.07 127 *e*PKPbc **PKPbc 09 10 08.1 -0.9**
DBIC Dimbokro 145.43 275 PKPbc **PKPdf 09 10 07.7 -1.8**
4.4nm,0.7s,baz=68,slow=6.9,SNR=3.7
DBIC pPKPbc pPKPbc 09 10 19.3 -1.6
5.6nm,0.8s,baz=69,slow=3.8,SNR=2.9

IDC **16** *08:50:48.7±2.2,3°.93S×140°.43E, h0km, mb4.2/5, mb1 4.4/5, mb1mx4.1/31, mbtmp4.3/5, ML5.2/1, MS4.4/1, Ms1 4.4/1, ms1mx3.3/18, Error ellipse: s-maj=87.8km s-min=15.0km az=104.0*
ISCJB **16** *08:50:53.3±0.8, 4°.1S±0°.1×140°.6E±0°.1, h59km, mb4.1/4, Error ellipse: s-maj=20.6km s-min=13.5km az=21.3*
ISC 16 08:50:55.1±1.0,**4°.1S**±0°.1×**140°.6E**±0°.2,**h59**km,**n10, σ1§21/7, mb4.1/4, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.56**	**5**	Pg	Pn	08 51 14.7	-5.9
	254nm,0.3s,baz=225,slow=17,SNR=9.5						
JAY				LR	LR	08 51 32.2	
	comp=Z,690nm,20.9s,baz=275,slow=30						
JAY				Lg	Lg	08 51 33.5	
	322nm,0.3s,baz=162,slow=20,SNR=7.4						
JAY	**Jayapura**	**1.56**	**5**	Lg	Lg	08 51 33.5	
MANU	**Manus Island**	**7.08**	**74**	P	**Pn**	**08 52 36.0**	**-0.1**
	baz=7.9,SNR=4.4						
CTA	**Charters Tower**	**16.85**	**161**	LR	LR	09 02 14.9	
	comp=Z,1µm,18.8s,baz=350,slow=40						
WRA	**Warramunga Arr**	**16.90**	**201**	Pn	**Pn**	**08 54 47.2**	**-0.5**
	9.7nm,0.3s,baz=11,slow=14,SNR=17						
ASAR	**Alice Springs**	**20.51**	**198**	P	**P**	**08 55 29.2**	**+0.7**
	34nm,0.8s,baz=6.5,slow=11,SNR=11						
MJAR	**Matsushiro Arr**	**40.47**	**357**	P	**P**	**08 58 28.9**	**+0.8**
	1.4nm,0.7s,baz=180,slow=8.7,SNR=5.2						
KSRS	**Korea Array**	**42.97**	**345**	P	**P**	**08 58 49.2**	**+0.8**
	2.4nm,0.6s,baz=158,slow=8.7,SNR=9.8						
SONM	**Songino Array**	**59.75**	**334**	P	**P**	**09 00 52.2**	**-1.8**
	0.9nm,0.6s,baz=152,slow=6.7,SNR=4.0						
MKAR	**Makanchi Array**	**72.00**	**322**	P	**P**	**09 02 13.4**	**+0.7**
	3.0nm,0.6s,baz=114,slow=4.7,SNR=10.0						

NIED **16** *08:52:00, 35°.20N×141°.30E, h17km, Mw4.1 Best double couple: M0 1.64000×10¹⁵ NP1:φ=293.00000°, δ34.00000°, λ161.00000°. NP2:φ=39.00000°, δ80.00000°, λ58.00000°.*
IDC **16** *08:52:19.7±0.8, 35°.11N×141°.13E, h0km, mb4.1/16, mb1 4.3/19, mb1mx4.1/42, mbtmp4.1/19, ML3.0/2, MS3.7/6, Ms1 3.7/6, ms1mx3.3/42, Error ellipse: s-maj=19.5km s-min=18.2km az=169.0*
ISCJB **16** *08:52:21.4±0.9, 35°.15N±0°.04×141°.39E±0°.06, h25km±6km, mb4.1/24, MS4.0/3, Error ellipse: s-maj=8.9km s-min=6.5km az=166.0*
JMA **16** *08:52:22.3±0.2, 35°.18N×141°.32E, h29km±3km, M3.5*
NEIC **16** *08:52:24.8±0.5, 35°.15N×141°.19E, h35km, mb4.5/7, MW4.1(NIED), Error ellipse: s-maj=10.8km s-min=9.9km az=153.0*
ISC 16 08:52:22.0±1.4,**35°.18N**±0°.04×**141°.31E**±0°.06,**h16**km±8km, **n55, σ1§16/47, mb4.1**/24,**MS4.6**/3,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.59**	**208**	P	**Pb**	**08 52 34.0**	**+0.3**
BSO1				S	**Sg**	**08 52 40.9**	**-0.5**
CHOJ	**Chosi**	**0.64**	**325**	P	**Pg**	**08 52 34.8**	**+0.2**
CHOJ				S	**Sg**	**08 52 42.5**	**-0.6**
BSO3	**Boso 3**	**0.76**	**240**	P	**Pg**	**08 52 37.0**	**+0.2**
BSO3				S	**Sn**	**08 52 48.0**	**-0.8**
KTR	**Katsuura**	**0.82**	**268**	P	**Pb**	**08 52 37.8**	**0.0**
KTR				S	**Sg**	**08 52 49.3**	**+0.6**
BSO4	**Boso 4**	**0.82**	**257**	P	**Pg**	**08 52 38.2**	**+0.2**
I30JP	**ISUMI INFRASON**	**0.83**	**279**	Pn	**Pn**	**08 52 40.1**	**+1.1**
I30JP				Sn	Sn	08 52 56.9	+6.1
JCN	**Nagara**	**0.94**	**285**	P	**Pg**	**08 52 40.5**	**+0.3**
JYT	**Yasato**	**1.39**	**319**	P	**Pn**	**08 52 46.4**	**-0.2**
MJAR	**Matsushiro Arr**	**2.86**	**299**	Pn	**Pn**	**08 53 06.9**	**-0.1**
	5.6nm,0.3s,baz=99,slow=12,SNR=98						
MJAR				LR	LR	08 54 24.7	
	comp=Z,666nm,18.2s,baz=130,slow=46						
MAJO	**Matsushiro**	**2.87**	**299**	*e*Pn	**Pn**	**08 53 08.6**	**+1.5**
MAT	**Matsushiro**	**2.87**	**299**	P	**Pn**	**08 53 08.7**	**+1.7**
MAT				*e*S	**Sn**	**08 53 42.5**	**+1.3**
ERM	**Erimo**	**6.97**	**11**	*e*Pn	**Pn**	**08 54 03.7**	**+0.2**
	14nm,0.5s						
CBIJ	**Chichi jima**	**8.10**	**174**	Pn	**Pn**	**08 54 17.1**	**-1.8**
CBIJ				Sn	Sn	08 55 40.1	-10
JCJ	**Chichijima**	**8.10**	**174**	Pn	**Pn**	**08 54 17.1**	**-1.8**
	18nm,0.3s,baz=339,slow=11,SNR=12						
JCJ				Sn	Sn	08 55 40.1	-10
	1.6nm,0.3s,baz=340,slow=18,SNR=2.1						
JNU	**Nakatsue**	**8.89**	**260**	Pn	**Pn**	**08 54 26.9**	**-2.9**
	0.1nm,0.3s,baz=41,slow=11,SNR=2.3						
JNU	**Nakatsue**	**8.89**	**260**	*e*Pn	**Pn**	**08 54 29.5**	**-0.3**
ASAJ	**Asahikawa**	**8.98**	**6**	Pn	**Pn**	**08 54 29.0**	**-2.0**
	2.0nm,0.3s,baz=212,slow=12,SNR=14						
ASAJ				Sn	**Sn**	**08 56 08.1**	**-3.5**
	0.2nm,0.3s,baz=90,slow=20,SNR=4.1						
ASAJ				LR	LR	08 58 50.7	
	comp=Z,169nm,21.5s,baz=168,slow=43						
KSRS	**Korea Array**	**11.04**	**286**	Pn	Pn	08 55 03.0	+3.9
	0.1nm,0.3s,baz=100,slow=14,SNR=16						
KSRS				LR	LR	08 59 27.3	
	comp=Z,290nm,18.9s,baz=82,slow=39						
KSAR	**Wonju Array Be**	**11.07**	**286**	Pn	Pn	08 55 03.0	+3.5
USRK	**Ussuriysk Ar.**	**11.51**	**324**	Pn	Pn	08 55 08.0	+2.3
	0.3nm,0.3s,baz=136,slow=12,SNR=9.3						
PETK	**Petropavlovsk-**	**21.34**	**28**	LR	LR	09 06 09.0	
	comp=Z,46nm,20.0s,baz=188,slow=39						
H11N2	**WAKE ISLAND Hy**	**27.32**	**118**	T	T	09 26 40.8	
	baz=310,slow=76,SNR=33						
H11N1	**WAKE ISLAND Hy**	**27.32**	**118**	T	T	09 26 46.6	
	baz=310,slow=76,SNR=33						
H11N3	**WAKE ISLAND Hy**	**27.34**	**118**	T	T	09 26 42.9	
	baz=310,slow=76,SNR=42						
YAK	**Yakutsk**	**27.86**	**348**	P	**P**	**08 58 11.3**	**+0.8**
	10nm,0.4s,baz=9.5,slow=1.2,SNR=5.3						
H11S3	**WAKE ISLAND Hy**	**27.97**	**120**	T	T	09 27 37.5	
	baz=312,slow=75,SNR=115						
H11S1	**WAKE ISLAND Hy**	**27.97**	**120**	T	T	09 27 42.9	
	baz=312,slow=75,SNR=132						
H11S2	**WAKE ISLAND Hy**	**27.98**	**120**	T	T	09 27 43.7	
	baz=312,slow=75,SNR=89						
SEY	**Seymchan**	**28.62**	**11**	P	**P**	**08 58 16.3**	**-1.0**
	0.7nm,0.4s,baz=342,slow=20,SNR=2.5						
ZALV	**Zalesovo Beam**	**43.12**	**314**	P	**P**	**09 00 21.6**	**+0.3**
	1.8nm,0.4s,baz=93,slow=7.0,SNR=8.7						
MK31	**Makanchi Array**	**45.05**	**304**	*e*P	**P**	**09 00 37.3**	**+0.3**
MKAR	**Makanchi Array**	**45.05**	**304**	P	**P**	**09 00 37.0**	**0.0**
	1.2nm,0.6s,baz=91,slow=5.5,SNR=16						
KURK	**Kurchatov**	**47.03**	**309**	*e*P	**P**	**09 00 52.0**	**-0.4**
	10nm,0.8s						
TKM2	**Tokmak 2**	**50.46**	**300**	*e*P	**P**	**09 01 18.7**	**-0.5**
	5.5nm,1.0s						
ILAR	**Eielson Array**	**51.11**	**32**	P	**P**	**09 01 24.7**	**+1.2**
	1.3nm,0.8s,baz=269,slow=6.0,SNR=18						
KKAR	**Karatay Array**	**54.00**	**301**	*e*P	**P**	**09 01 44.6**	**-0.6**
	8.7nm,1.2s						
WRA	**Warramunga Arr**	**55.22**	**188**	P	**P**	**09 01 53.3**	**-0.9**
	9.2nm,0.8s,baz=4.9,slow=7.5,SNR=4.8						
INK	**Inuvik**	**56.06**	**27**	P	**P**	**09 02 01.3**	**+1.5**
	1.3nm,0.9s,baz=296,slow=7.6,SNR=4.9						
ARU	**Arti**	**57.70**	**319**	*e*P	**P**	**09 02 10.7**	**-0.8**
	8.6nm,1.0s						
ABKAR	**Akbulak array**	**59.08**	**311**	*e*P	**P**	**09 02 20.6**	**-0.7**
	0.4nm,0.5s						
YKA	**Yellowknife Ar**	**65.45**	**30**	P	**P**	**09 03 04.2**	**+0.5**
	0.7nm,0.8s,baz=295,slow=6.2,SNR=8.2						
FINES	**FINESS Array B**	**70.41**	**333**	P	**P**	**09 03 34.1**	**-0.9**
	1.6nm,0.7s,baz=68,slow=10.1,SNR=6.0						
JTMT	**Jette**	**73.40**	**43**	*e*P	**P**	**09 03 54.8**	**+1.4**
	2.3nm,0.8s						
SLMT	**Seeley Lake**	**74.12**	**43**	*e*P	**P**	**09 03 59.2**	**+1.5**
	2.8nm,0.7s						
FFC	**Flin Flon**	**75.31**	**32**	*e*P	**P**	**09 04 05.4**	**+1.3**
	1.6nm,0.8s						
AKASG	**Malin Array Be**	**75.71**	**323**	P	**P**	**09 04 05.8**	**-0.7**
	1.5nm,0.7s,baz=48,slow=5.5,SNR=7.4						
AKASG				LR	LR	09 37 31.5	
	comp=Z,390nm,21.4s,baz=90,slow=36						
NB2	**NORSAR Subarra**	**75.86**	**337**	P	**P**	**09 04 07.5**	**+0.3**
	comp=Z,0.2nm,0.8s,baz=49,slow=5.9						
NOA	**NORSAR Array B**	**75.86**	**337**	P	**P**	**09 04 07.0**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=39,slow=5.7,SNR=6.6						
NVAR	**Mina Array Bea**	**76.17**	**53**	P	P	09 04 12.2	+2.6
	comp=Z,1.4nm,0.8s,baz=280,slow=6.5,SNR=12						
PDAR	**Pinedale Array**	**79.03**	**45**	P	P	09 04 27.2	+1.6
	comp=Z,0.9nm,0.6s,baz=330,slow=2.3,SNR=11						
BRTR	**Keskin Array B**	**80.02**	**312**	P	**P**	**09 04 31.1**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=123,slow=4.6,SNR=4.3						
CLL	**Collm**	**82.66**	**330**	*e*P	**P**	**09 04 45.0**	**+0.5**
GERES	**GERESS Array B**	**84.24**	**328**	P	**P**	**09 04 53.2**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=32,slow=5.2,SNR=5.8						
DAVOX	**Davos/Dischmat**	**87.47**	**329**	LR	LR	09 46 07.8	
	comp=Z,256nm,21.8s,baz=82,slow=37						
TXAR	**Lajitas Array**	**91.31**	**52**	P	P	09 05 29.3	+2.1
	comp=Z,0.3nm,0.7s,baz=301,slow=3.7,SNR=4.6						

SZGRF **16** *08:55:42.7, 12°.77N×93°.04E, h30km, mb5.5, MS4.5, Andaman Islands, India, region*
ISCJB **16** *08:55:42.2±0.6, 14°.43N±0°.02×93°.16E±0°.02, h20km±4km, mb5.3/235, MS4.4/30, Error ellipse: s-maj=3.5km s-min=2.5km az=28.1*
BJI **16** *08:55:43.5, 14°.32N×93°.18E, h34km, mb5.2/71, mB5.2/42, Ms4.6/70, Ms7 4.4/62*
MOS **16** *08:55:43.2±1.0, 14°.40N×93°.20E, h29km, mb5.7/98, MS4.5/13, Error ellipse: s-maj=6.6km s-min=3.6km az=117.5*
BKK **16** *08:55:44.0±0.2, 15°.N±2°×93°.3E±°, h10km, M5.0/39, mB5.4/29, mb5.3/39, MLv5.3/13, Mw(mB)4.9/29*
GCMT **16** *08:55:46.3±0.2, 14°.31N×93°.29E, h30km±1km, MW5.1/82, Moment Tensor Solution. s39,c48; s82,c112; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-3.06±.22; Mθθ 0.93±.15; Mφφ 2.13±.15; Mrθ-2.86±.22; Mrφ 3.59±.11; Mθφ-2.20±.21; Best double couple: Ms5.52800×10¹⁶ NP1:φ=54.00000°, δ67.00000°, λ-74.00000°. NP2: φ=198.00000°, δ28.00000°, λ-123.00000°. Principal axes: T 6.4840, Plg20.0000°, Azm132.0000°; N -1.9090, Plg15.0000°, Azm228.0000°; P -4.5710, Plg65.0000°, Azm351.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC **16** *08:55:46.3±0.1, 14°.42N×93°.18E, mb5.3/60, MW5.3 Error ellipse: s-maj=4.3km s-min=2.8km az=224.0, Moment Tensor Solution. s16 Moment tensor: Scale 10¹⁷Nm; Mrr-1.09; Mθθ 0.04; Mφφ 1.06; Mrθ 0.32; Mrφ-0.41; Mθφ 0.18; Best double couple: M0 1.20000×10¹⁷ NP1:φ=323.00000°, δ46.00000°, λ-116.00000°. NP2:φ=178.00000°, δ49.00000°, λ-66.00000°. Principal axes: T 1.2100, Plg1.0000°, Azm250.0000°; N 0.0100, Plg18.0000°, Azm341.0000°; P -1.2100, Plg71.0000°, Azm156.0000°;*
IDC **16** *08:55:46.2±0.4, 14°.39N×93°.24E, h38km±3km, mb4.9/41, mb1 5.0/42, mb1mx4.9/46, mbtmp5.1/42, ML4.9/1, MS4.4/17, Ms1 4.4/17, ms1mx4.0/40 Error ellipse: s-maj=11.6km s-min=8.0km az=41.0*
KLM **16** *08:55:46.7, 14°.28N×93°.20E, h39km, mb5.2, MS6.2*
DJA **16** *08:55:49.8±0.4, 15°.N±2°×93°.3E±°, h64km±4km, M5.2/62, mb5.4/62, mB5.6/36, MLv5.4/5, Mw(mB)5.1/36*
ISC 16 08:55:45.7±0.3,**14°.36N**±0°.03×**93°.20E**±0°.03,**h34**km, **h34**km:**pP-P, n970,σ1§19/1070, mb5.4**/234,**MS4.5**/36, **25C-58D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DGPR	**DIGLIPUR**	**1.20**	**192**	*e*P	**Pb**	**08 56 07.9**	**0.0**
DGPR				AMB	AMB	08 56 16.6	
	comp=Z,11µm,0.6s						
PBA	**Port Blair**	**2.72**	**189**	*e*P	Pn	08 56 28.6	+1.6
PBA				AMB	AMB	08 57 14.2	
	comp=Z,4µm,2.0s						
KHLT	**Khaolaem Dam**	**5.24**	**85**	P	**Pn**	**08 57 02.8**	**+1.1**
	comp=Z,369nm,0.7s,comp=Z,3µmcomp=Z,1.1nm						
SRDT	**SRDT**	**5.74**	**89**	P	**Pn**	**08 57 09.8**	**+1.2**
	comp=Z,2µm,0.5s,comp=Z,15µmcomp=Z,5.3nm						
MHMT	**Maesarieng**	**5.92**	**49**	P	**Pn**	**08 57 10.3**	**-0.8**
	comp=Z,328nm,0.8s,comp=Z,4µmcomp=Z,1.6nm						
CM31	**Chiang Mai Arr**	**6.86**	**53**	*e*Pn	**Pn**	**08 57 24.5**	**+0.6**
	comp=Z,94nm,0.4s						
CM31				*e*Sn	**Sn**	**08 58 38.3**	**-2.6**
CMAR	**Chiang Mai Arr**	**6.86**	**53**	Pn	**Pn**	**08 57 23.4**	**-0.5**
	comp=Z,6.1nm,0.3s,baz=243,slow=15,SNR=116						
CMAR				Sn	**Sn**	**08 58 37.7**	**-3.2**
	comp=Z,12nm,0.3s,baz=239,slow=28,SNR=6.4						
CMAR				LR	LR	09 00 49.2	
	comp=Z,1µm,19.6s,baz=234,slow=44						
CHTO	**Chiang Mai**	**7.07**	**50**	P	**Pn**	**08 57 26.1**	**-0.8**
	comp=Z,753nm,0.7s,comp=Z,8µmcomp=Z,4.4nm						
CHTO	**Chiang Mai**	**7.07**	**50**	*e*P	**Pn**	**08 57 26.3**	**-0.6**
CHTO				*e*		08 58 41.4	
CHTO	**Chiang Mai**	**7.07**	**50**	Pn	**Pn**	**08 57 26.6**	**-0.3**
	SNR=43						
CHTO	**Chiang Mai**	**7.07**	**50**	*e*Pn	**Pn**	**08 57 26.2**	**-0.6**
CHTO				*e*Sn	**Sn**	**08 58 41.4**	**-4.7**
CMMT	**Chiang Mai**	**7.07**	**50**	P	**Pn**	**08 57 26.0**	**-0.9**
	comp=Z,266nm,0.9s,comp=Z,4µmcomp=Z,1.4nm						
CMBY	**CAMPBELL BAY**	**7.33**	**174**	*e*P	**Pn**	**08 57 31.1**	**+0.6**
CMBY				AMB	AMB	08 57 31.9	
	comp=Z,708nm,0.3s						
LAMP	**Lampang**	**7.43**	**55**	P	**Pn**	**08 57 32.8**	**+0.9**
	comp=Z,63nm,0.6s,comp=Z,747nmcomp=Z,0.6nm						
SURT	**Suratani**	**7.67**	**134**	P	**Pn**	**08 57 37.7**	**+2.6**
	comp=Z,58nm,0.7s,comp=Z,481nmcomp=Z,0.2nm						
PBKT	**Sadao Pong**	**7.81**	**73**	P	**Pn**	**08 57 38.4**	**+1.4**
	comp=Z,160nm,0.8s,comp=Z,2µmcomp=Z,0.6nm						
UTTA	**Uttaradit**	**7.83**	**64**	P	**Pn**	**08 57 37.5**	**+0.2**
	comp=Z,43nm,0.8s,comp=Z,482nmcomp=Z,0.3nm						
CMAI	**Chiengmai2**	**7.87**	**44**	P	**Pn**	**08 57 37.5**	**-0.5**
	comp=Z,103nm,0.8s,comp=Z,2µmcomp=Z,1.4nm						
PKDT	**Phuket**	**8.16**	**141**	P	Pn	08 57 45.1	+3.2
	comp=Z,130nm,0.7s,comp=Z,7µmcomp=Z,0.6nm						
CRAI	**Chiangrai**	**9.00**	**49**	P	Pn	08 57 50.2	-3.2
	comp=Z,58nm,0.8s,comp=Z,1.5nm						
CHBT	**CHBT**	**9.02**	**99**	P	**Pn**	**08 57 55.7**	**+2.0**
	comp=Z,122nm,0.7s,comp=Z,3µm						
BSI	**Banda Aceh**	**9.04**	**167**	P	**Pn**	**08 57 54.9**	**+0.9**
	comp=Z,168nm,0.7s						
BSI				S	**Sn**	**08 59 31.9**	**-2.8**
	comp=Z,168nm,0.7s						
TRTT	**Trang**	**9.09**	**135**	P	Pn	08 57 57.8	+3.3
	comp=Z,48nm,1.1s,comp=Z,1µm						
KHON	**Khomkaen**	**9.49**	**77**	P	Pn	08 58 04.5	+4.4
	comp=Z,74nm,0.9s,comp=Z,752nm						
CHLP	**Challavanipeta**	**9.69**	**296**	*e*Pn	**Pn**	**08 58 01.3**	**-1.5**
CHLP				Sn	Sn	08 59 39.4	-11
LHMI	**Lhok Sumawe**	**9.79**	**157**	P	Pn	08 58 09.4	+5.2
	comp=Z,703nm,0.7s,comp=Z,5µm						
LHMI	**Lhok Sumawe**	**9.79**	**157**	*e*Pn	Pn	08 58 07.6	+3.4
	comp=Z,439nm,0.6s						
VIS	**Vishakhapatnam**	**10.06**	**291**	*i* P	**Pn**	**08 58 06.8**	**-1.1**
VIS				AMB	AMB	08 58 18.8	
	comp=Z,673nm,0.9s						
VIS				*i* x	x	08 59 47.0	
SKLT	**Songkhla**	**10.20**	**134**	P	Pn	08 58 13.1	+3.2
	comp=Z,50nm,0.9s,comp=Z,912nm						
IMP	**Imphal**	**10.40**	**4**	*e*P	**Pn**	**08 58 11.5**	**-1.0**
IMP				*ex*	x	09 00 02.0	
SKNT	**Sakolnakorn**	**10.71**	**75**	P	Pn	08 58 21.3	+4.5
	comp=Z,94nm,1.0s,comp=Z,3µm						
SHL	**Shillong**	**11.22**	**354**	*ex*	Pn	08 58 19.3	-4.6
SHL				AMB	AMB	08 58 31.5	
	comp=Z,81nm,0.8s						
KULM	**Kulim**	**11.62**	**140**	⇓P	**Pn**	**08 58 32.4**	**+3.1**
KULM	**Kulim**	**11.62**	**140**	*e*Pn	**Pn**	**08 58 31.7**	**+2.5**
KCSI	**Kotacane, Aceh**	**11.67**	**157**	P	Pn	08 58 33.5	+3.5
	comp=Z,210nm,0.9s,comp=Z,3µm						
TSI	**Tuntungan**	**12.02**	**153**	P	Pn	08 58 40.9	+6.2
	comp=Z,314nm,0.8s						
IPM	**Ipoh**	**12.48**	**141**	⇑P	**Pn**	**08 58 42.8**	**+1.8**
IPM	**Ipoh**	**12.48**	**141**	*e*Pn	**Pn**	**08 58 42.2**	**+1.2**
MDRS	**Chennai**	**12.65**	**266**	*ex*	**Sn**	**09 01 01.5**	**-1.6**
PSI	**Prapat**	**12.80**	**153**	Pn	Pn	08 58 49.6	+4.1
	comp=Z,4.3nm,0.3s,baz=324,slow=11,SNR=47						
SKHT	**Srikalahasti**	**13.10**	**269**	*e*Pn	**Pn**	**08 58 48.6**	**-0.9**
SKHT				Sn	Sn	09 00 58.4	-16
KTGM	**Kuala Trenggan**	**13.27**	**132**	⇓P	**Pn**	**08 58 54.4**	**+2.5**
NJS	**Nagarjunasagar**	**13.57**	**281**	*e*Pn	**Pn**	**08 58 54.1**	**-1.8**
NJS				Sn	Sn	09 01 11.3	-14
ODAN	**Odare**	**13.57**	**337**	*e*P	Pn	08 58 52.4	-3.7
FRIM	**Kepong**	**13.83**	**142**	⇑P	Pn	08 59 03.4	+3.9
TAPN	**Taplejung**	**13.90**	**339**	*e*P	Pn	08 58 57.3	-3.4
RAMN	**Ramite**	**13.96**	**335**	*e*P	Pn	08 58 57.9	-3.6
KMI	**Kunming**	**13.97**	**38**	P	P	08 59 05.8	-3.3
KMI				pP	pP	08 59 11.8	
KMI				PP	**PnPn**	**08 59 15.3**	**+5.6**
KMI				S	Sn	09 01 43.0	+7.4
KMI				SS	**S**	**09 01 56.8**	**+0.3**
KMI				PMZ			
	comp=Z,12nm,1.6s						
KMI				PMZ			
	comp=Z,220nm,4.9s						
KMI				LN			
	comp=Z,1µm,13.4s						
KMI				LE			
	comp=Z,2µm,13.8s						
KMI				LZ			
	comp=Z,1µm,14.6s						
RPR	**Rampur**	**14.05**	**290**	*e*Pn	**Pn**	**08 59 01.8**	**-0.7**
RPR				*e*P	**P**	**08 59 08.4**	**-1.4**
RPR				Sn	Sn	09 01 24.1	-13

URV eP P 08 59 25.6 +0.4
URV Sn Sn 09 01 54.9 -16
GKN Gorkha 15.74 331 eP Pn 08 59 21.0 -4.1
comp=Z,226nm,0.5s
KGM Kluang 15.82 140 ⇑P Pn 08 59 27.3 +1.3
BKNI Bangkinang 15.95 150 P Pn 08 59 28.3 +0.6
comp=Z,366nm,0.9s,comp=Z,5μm
BKNI Bangkinang 15.95 150 ePn Pn 08 59 28.4 +0.6
comp=Z,339nm,1.0s
KOLN Koldanda 16.06 328 eP Pn 08 59 25.3 -4.0
comp=Z,354nm,0.6s
MYKOM Kota Tinggi 16.33 139 ⇓P P 08 59 35.6 +0.4
MYKOM Kota Tinggi 16.33 139 eP P 08 59 35.7 +0.4
comp=Z,110nm,0.8s
QIZ Qiongzhong 16.61 71 P Pn 08 59 36.5 +0.4
QIZ pP pP 08 59 46.8 -0.4
QIZ PMZ
comp=Z,130nm,3.5s
QIZ LN
comp=Z,1μm,21.1s
QIZ LZ
comp=Z,1μm,15.6s
PYUN Piuthan 16.64 327 eP Pn 08 59 33.3 -3.4
comp=Z,994nm,0.6s
AKL Akola 16.67 295 eP Pn 08 59 36.1 -0.7
AKL AMB AMB 08 59 51.0
comp=Z,276nm,2.1s
PDSI Padang 16.79 154 P Pn 08 59 36.6 -1.8
comp=Z,397nm,0.8s,comp=Z,8μm
RGRI Rengat 17.18 147 P P 08 59 45.7 +1.1
comp=Z,323nm,1.1s,comp=Z,111μm
SDSI Sungai Dareh 17.24 151 P Pn 08 59 42.9 -1.1
comp=Z,138nm,1.2s,comp=Z,13μm
BHPL Bhopal 17.34 303 eP Pn 08 59 45.2 0.0
BHPL AMB AMB 08 59 59.5
comp=Z,190nm,2.1s
GYA Guiyang 17.43 44⇑*i*P Pn 08 59 46.5 +0.1
GYA pP pP 08 59 54.8 -1.5
GYA PP PnPn 09 00 04.0 +7.0
GYA S S 09 03 04.8 -2.2
GYA SS SnSn 09 03 21.0 +7.8
GYA PMZ
comp=Z,30nm,0.8s
GYA PMZ
comp=Z,140nm,4.8s
GYA LN
comp=Z,810nm,13.1s
GYA LE
comp=Z,590nm,16.5s
GYA LZ
comp=Z,710nm,18.1s
TPRI Tanjung Pinang 17.43 139 P P 08 59 49.0 +1.7
comp=Z,115nm,0.7s
MNGI Mangalore 17.91 268 eP Pn 08 59 50.5 -1.8
MNGI AMb AMB 08 59 54.2
comp=Z,95nm,1.1s
MNGI ex x 09 02 40.6
DSRI Dabo 18.55 142 P Pn 09 00 00.8 +0.7
comp=Z,432nm,0.9s,comp=Z,5μm
GOA Goa 18.75 276 eP Pn 09 00 03.1 +0.6
POO Poona 19.01 285 eP Pn 09 00 05.8 +0.1
POO ⇑*i*PN P 09 00 06.0 +1.2
comp=Z,182nm,1.2s
POO AMB AMB 09 00 16.8
comp=Z,55nm,0.9s
CD2 Chengdu 19.12 29⇓*i*P P 09 00 05.8 -0.1
CD2 pP pP 09 00 13.3 -1.6
CD2 sP sP 09 00 18.4 -0.9
CD2 PP PnPn 09 00 26.1 +6.0
CD2 S Sn 09 03 36.3 -4.0
CD2 sS S 09 03 46.5 +5.5
CD2 SS SnSn 09 04 00.1 +5.3
CD2 PMZ
comp=Z,220nm,0.9s
CD2 PMZ
comp=Z,460nm,4.2s
CD2 LN
comp=Z,1μm,19.0s
CD2 LE
comp=Z,1μm,15.5s
CD2 LZ
comp=Z,2μm,20.2s
AGRA Agra 19.14 314 eP P 09 00 06.0 -0.1
MASI Maura Aman, Be 19.56 152 P P 09 00 11.5 +0.7
comp=Z,417nm,0.8s,comp=Z,5μm
BISR Bishrakh 20.34 317 ex Pn 09 00 26.4 +5.0
BISR AMB AMB 09 00 28.6
comp=Z,160nm,0.5s
SONA Sohna 20.38 315 eP P 09 00 20.2 +0.6
AYAN Aya Nagar 20.49 316 eP P 09 00 21.3 +0.4
PMBI Palembang 20.65 145 P P 09 00 22.7 0.0
comp=Z,614nm,0.8s,comp=Z,8μm
BHGR Bahadurgarh 20.75 316 eP P 09 00 24.3 +0.6
BHGR AMB AMB 09 00 25.3
comp=Z,74nm,0.8s
LHSI Lahat 20.77 150 P P 09 00 20.7 -3.2
comp=Z,118nm,0.8s
PPBI Pangkal Pinang 20.83 141 P P 09 00 25.0 +0.5
comp=Z,294nm,0.8s,comp=Z,4μm
DDI Dehra Dun 21.14 321 eP P 09 00 29.3 +1.4
DDI AMB AMB 09 00 29.8
comp=Z,262nm,2.2s
KHET Khetri 21.16 313 eP P 09 00 28.6 +0.6
KSM Kuching 21.21 126 ⇓P P 09 00 29.7 +1.0
KSM Kuching 21.21 126 eP P 09 00 30.2 +1.5
comp=Z,46nm,0.9s
RTK Rohtak 21.32 316 eP P 09 00 30.7 +0.9
RTK AMB AMB 09 00 31.6
comp=Z,176nm,0.7s
MDSI Maura Dua 21.66 149 P P 09 00 30.3 -3.2
comp=Z,36nm,0.9s
KKR Kurukshetra 21.66 318 eP P 09 00 34.0 +0.6
KKR AMB AMB 09 00 35.0
comp=Z,113nm,0.6s
ENH Enshi 21.82 41 eP P 09 00 34.7 -0.5
comp=Z,36nm,0.7s
SBUM Sibu 22.20 120 ⇓P P 09 00 39.3 0.0
SBUM Sibu 22.20 120 eP P 09 00 39.0 -0.4
comp=Z,99nm,1.4s
TPI Tanjungpandan 22.23 139 P P 09 00 39.7 0.0
comp=Z,86nm,1.3s,comp=Z,1μm
SMLA Simla 22.25 321 *i* P P 09 00 40.9 +1.2
SMLA AMB AMB 09 00 48.0
comp=Z,366nm,0.6s
SMLA *i* x x 09 04 33.2
BTM Bintulu 22.54 118 ⇓P P 09 00 43.3 +0.3
BLSI Bandar Lampung 22.95 148 P P 09 00 50.2 +2.9
comp=Z,115nm,0.5s
STKI Sintang 23.00 127 P P 09 00 48.4 +0.6
comp=Z,87nm,1.5s,comp=Z,12μm
DHRM DHARAMSHALA 23.57 322 eP P 09 00 54.2 +0.7
DHRM AMB AMB 09 01 05.8
comp=Z,369nm,1.2s
LZH Lanzhou 23.65 22 ⇓P P 09 00 54.4 +0.2
LZH pP pP 09 01 04.8 +1.0
LZH sP sP 09 01 08.0 0.0
LZH S S 09 05 07.8 +1.0
LZH sS sS 09 05 16.4 -6.5
LZH PMZ
comp=Z,140nm,1.0s
LZH PMZ
comp=Z,630nm,4.0s
LZH LN
comp=Z,2μm,14.2s
LZH LE
comp=Z,1μm,15.0s
LZH LZ
comp=Z,2μm,15.9s
XAN Xi'an 24.22 33 P P 09 00 58.3 -1.2
XAN pP pP 09 01 08.8 -0.4
XAN S S 09 05 11.0 -4.8
XAN PMZ
comp=Z,46nm,0.8s
XAN LN
comp=Z,630nm,24.5s
XAN LE
comp=Z,360nm,25.5s
XAN LZ
comp=Z,200nm,24.5s
KDM Kudat 24.36 105 ⇓P P 09 00 59.7 -1.1
PBKI Pangkalan Bun 24.95 131 P P 09 01 06.3 +0.1
comp=Z,225nm,0.8s
SDKM Sandakan 25.15 108 ⇓P P 09 01 08.1 +0.1
LEM Lembang 25.45 145 P P 09 01 09.6 -1.3
comp=Z,17nm,0.5s,baz=342,slow=20,SNR=2.9
JCJI Jatiwangi 25.55 143 P P 09 01 15.6 +4.1
comp=Z,297nm,0.8s
GTA Gaotai 25.63 12 ⇓P P 09 01 13.0 +0.8
GTA pP pP 09 01 22.3 +0.3
GTA sP sP 09 01 26.3 +0.2
GTA PcP PcP 09 04 44.0 +1.5
GTA S S 09 05 39.4 +1.0
GTA sS sS 09 05 54.4 -0.1
GTA ScP ScP 09 08 20.5 +1.0
GTA PcS PcS 09 08 24.3 +1.1
GTA ScS ScS 09 12 07.6 -1.2
GTA PMZ
comp=Z,52nm,1.2s
GTA PMZ
comp=Z,280nm,8.3s
GTA LN
comp=Z,690nm,19.0s
GTA LE
comp=Z,360nm,16.1s
GTA LZ
comp=Z,710nm,19.5s
TSM Tawau 26.29 110 ⇓P P 09 01 19.9 +1.5
TGY Tagaytay City 26.89 87 LR LR 09 12 49.7
comp=Z,4.9nm,18.5s,baz=303,slow=38
SSLB Suanglung 27.81 66 eP P 09 01 33.6 +1.6
comp=Z,37nm,1.0s
BBKI Banjar Baru 27.82 128 P P 09 01 32.7 +0.6
comp=Z,405nm,0.9s,comp=Z,6μm
TBJI Tambak Boyo 28.02 137 P P 09 01 38.0 +4.2
comp=Z,598nm,1.5s
YULB Yu-li 28.02 67 P P 09 01 37.5 +3.7
comp=Z,16nm,0.9s
KSH Kashi 29.28 332 P P 09 01 44.3 -0.7
KSH sP sP 09 01 57.6 -1.4
KSH PP PnPn 09 02 38.4 -0.6
KSH S S 09 06 31.6 -4.4
KSH sS sS 09 06 47.4 -4.8
KSH PMZ
comp=Z,68nm,0.8s
KSH LN
comp=Z,500nm,15.3s
KSH LE
comp=Z,500nm,14.3s
KSH LZ
comp=Z,1μm,21.5s
NJ2 Nanjing 29.31 49 eP P 09 01 46.0 +0.8
NJ2 S S 09 06 35.0 -1.3
NJ2 PMZ
comp=Z,30nm,0.6s
NJ2 LN
comp=Z,660nm,17.7s
NJ2 LE
comp=Z,2μm,18.9s
NJ2 LZ
comp=Z,3μm,11.6s
WMQ Urumqi 29.74 352 eP P 09 01 52.3 +3.4
WMQ pP pP 09 02 01.8 +3.0
WMQ sP sP 09 02 05.8 +2.9
WMQ PP PnPn 09 02 49.3 +4.1
WMQ PcP PcP 09 04 56.0 +3.7
WMQ S S 09 06 44.6 +1.7
WMQ sS sS 09 07 00.5 +1.3
WMQ SS SnSn 09 08 20.0 +5.7
WMQ ScS ScS 09 12 28.1 +1.2
WMQ PMZ
comp=Z,32nm,0.8s
WMQ PMZ
comp=Z,260nm,5.0s
WMQ LN
comp=Z,830nm,20.2s
WMQ LE
comp=Z,590nm,16.2s
WMQ LZ
comp=Z,760nm,22.2s
BTO Baotou 30.00 26 eP P 09 01 50.1 -1.2
TIA Tai'an 30.53 40 ⇓P P 09 01 55.9 -0.1
TIA PMZ
comp=Z,60nm,0.9s
TIA LN
comp=Z,820nm,16.0s
TIA LE
comp=Z,700nm,20.7s
TIA LZ
comp=Z,890nm,19.5s
SSE Sheshan 30.60 52 eP P 09 01 57.3 +0.7
SSE pP pP 09 02 08.1 +1.7
SSE S S 09 06 55.3 -1.2
SSE PMZ
comp=Z,31nm,0.7s
SSE PMZ
comp=Z,88nm,4.0s
SSE LN
comp=Z,780nm,23.7s
SSE LE
comp=Z,350nm,23.7s
SSE LZ
comp=Z,420nm,17.8s
SFK Sufi-Kurgan 30.84 330 P P 09 01 59.2 +0.3
SFK pmax pmax
comp=Z,70nm,1.2s
HHC Hu-ho-hao-te 30.87 28 eP P 09 02 00.3 +1.2
HHC PP PnPn 09 03 02.3 +2.1
HHC S S 09 07 00.3 -0.6
HHC sS sS 09 07 16.8 -0.3
HHC SS SnSn 09 08 45.6 +3.7
HHC PMZ
comp=Z,40nm,0.6s
HHC PMZ
comp=Z,85nm,6.2s
HHC LN
comp=Z,970nm,18.5s
HHC LE
comp=Z,860nm,21.0s
HHC LZ
comp=Z,750nm,14.8s
PDGK Podgornoye 31.18 340 P P 09 02 02.1 +0.6
PDGK pmax pmax
comp=Z,41nm,0.9s
ULHL Ulahol 31.42 335 P P 09 02 04.8 +0.8
SNR=5.5
ULHL Ulahol 31.42 335 *i* P P 09 02 04.7 +0.8
TTSI Tana Toraja 31.55 121 P P 09 02 03.9 -1.2
comp=Z,22nm,0.9s
MRSI Marisa 31.60 113 P P 09 02 07.4 +1.8
comp=Z,22nm,0.7s
KZA Kyzart 31.69 334 P P 09 02 07.5 +0.9
SNR=12
KZA Kyzart 31.69 334 *i* P P 09 02 07.5 +0.9
APSI Ampana 31.99 116 P P 09 02 09.4 +0.4
comp=Z,110nm,1.0s
SPSI Sidrap Palu 32.02 123 P P 09 02 10.8 +1.5
comp=Z,31nm,1.3s
UCH Uchtor 32.13 333 P P 09 02 11.3 +0.8
SNR=22
UCH Uchtor 32.13 333 *i* P P 09 02 11.2 +0.8
TKM2 Tokmak 2 32.24 335 P P 09 02 11.9 +0.7
SNR=15
TKM2 Tokmak 2 32.24 335 P P 09 02 11.7 +0.4
TKM2 pmax pmax
comp=Z,22nm,0.9s
TKM2 Tokmak 2 32.24 335 eP P 09 02 11.6 +0.4
comp=Z,19nm,0.9s
KBK Karagaybulak 32.29 334 P P 09 02 12.1 +0.5
SNR=7.9
KBK Karagaybulak 32.29 334 *i* P P 09 02 12.1 +0.5
AML Almayashu 32.41 332 P P 09 02 14.0 +1.1
SNR=19
AML Almayashu 32.41 332 *i* P P 09 02 14.0 +1.1
AAK Ala-Archa 32.47 334 P P 09 02 14.5 +1.4
comp=Z,176nm,1.2s,SNR=11
AAK Ala-Archa 32.47 334 P P 09 02 14.2 +1.1
SNR=18
AAK Ala-Archa 32.47 334 LR LR 09 16 58.0
comp=Z,2μm,21.5s,baz=129,slow=39
AAK Ala-Archa 32.47 334 P P 09 02 14.0 +0.9
AAK pmax pmax
comp=Z,33nm,1.0s
AAK Ala-Archa 32.47 334 P P 09 02 14.6 +1.5
SNR=14
AAK Ala-Archa 32.47 334 eP P 09 02 13.5 +0.4
DZET Dzherino 32.48 323 P P 09 02 12.8 -0.5
DZET pmax pmax
comp=Z,47nm,0.8s
BJT Baijiatuao 32.53 34 eP P 09 02 14.6 +1.1
BJT pmax pmax
comp=Z,26nm,0.6s
BJT Baijiatuao 32.53 34 eP P 09 02 14.6 +1.1
comp=Z,26nm,0.6s
BNSI Bone 32.55 123 P P 09 02 14.7 +0.8
comp=Z,33nm,1.1s
BJI Beijing 32.55 34 P P 09 02 14.6 +0.9
BJI S S 09 07 26.3 -0.5
BJI PMZ
comp=Z,65nm,0.7s
BJI PMZ
comp=Z,150nm,5.1s
BJI LN
comp=Z,780nm,24.5s
BJI LE
comp=Z,930nm,25.8s
BJI LZ
comp=Z,500nm,27.6s
FRU Bishkek 32.58 334 eP P 09 02 14.2 +0.3
FRU pmax pmax
comp=Z,81nm,2.0s
KAPI Kappang 32.62 124 P P 09 02 13.9 -0.6
comp=Z,7.7nm,0.5s,baz=319,slow=5.0,SNR=5.7
KAPI LR LR 09 17 35.7
comp=Z,650nm,18.7s,baz=309,slow=40
CHMS Chumysh 32.66 335 P P 09 02 15.3 +0.6
SNR=20
CHMS Chumysh 32.66 335 *i* P P 09 02 15.2 +0.6
EKS2 Erkin-Say 32.80 333 P P 09 02 17.3 +1.3
SNR=27
EKS2 Erkin-Say 32.80 333 *i* P P 09 02 17.2 +1.3
EKS2 Erkin-Say 32.80 333 eP P 09 02 17.3 +1.3
USP Ospenovka 32.98 335 P P 09 02 18.2 +0.8
SNR=23
USP Ospenovka 32.98 335 *i* P P 09 02 18.2 +0.8
LUWI Luwuk 33.04 115 P P 09 02 18.6 +0.4
comp=Z,91nm,1.0s
LUWI Luwuk 33.04 115 eP P 09 02 17.3 -1.0
comp=Z,72nm,0.9s
BKSI Bulukumba 33.10 124 P P 09 02 19.0 +0.3
comp=Z,29nm,0.9s
MNAS Manas 33.23 332 P P 09 02 20.6 +0.8
MNAS pmax pmax
comp=Z,53nm,0.9s
MK31 Makanchi Array 33.60 346 *i* P P 09 02 22.4 -0.5
MK31 pmax pmax
comp=Z,81nm,1.0s
MK31 Makanchi Array 33.60 346 eP P 09 02 22.3 -0.5
MKAR Makanchi Array 33.60 346 P P 09 02 22.6 -0.3
comp=Z,32nm,0.7s,baz=184,slow=7.3,SNR=79
MKAR PcP PcP 09 05 02.6 0.0
comp=Z,3.4nm,0.7s,baz=168,slow=1.3,SNR=4.0
BSSI Bau Bau, Buton 33.88 125 P P 09 02 25.2 -0.4
comp=Z,86nm,1.0s,comp=Z,1μm
SMDO Samad 34.33 290 P P 09 02 32.5 +3.0
SNR=8.8
KK31 Karatay Array 34.65 330 eP P 09 02 32.1 +0.2
KK31 pmax pmax
comp=Z,12nm,0.6s
KKAR Karatay Array 34.65 330 eP P 09 02 32.5 +0.6
KKAR Karatay Array 34.65 330 eP P 09 02 32.5 +0.6
DL2 Dalian 35.01 40 P P 09 02 35.6 +0.6
DL2 S S 09 08 06.4 +1.5
DL2 PMZ
comp=Z,100nm,0.8s
DL2 LN
comp=Z,240nm,14.1s
DL2 LN
comp=Z,300nm,15.9s
DL2 LZ
comp=Z,240nm,18.1s
BSY Bisya 35.06 289 P P 09 02 38.8 +3.1
SNR=8.8
HOQ Hoqain 35.07 291 P P 09 02 38.0 +2.2
SNR=6.1
SONM Songino Array 35.13 16 P P 09 02 36.7 +0.5
comp=Z,33nm,1.0s,baz=199,slow=8.9,SNR=89
SONM PcP PcP 09 05 08.0 +0.8
comp=Z,7.3nm,0.7s,baz=205,slow=3.1,SNR=7.3
SONM ScP ScP 09 08 51.5 +1.1
comp=Z,2.2nm,0.8s,baz=195,slow=3.7,SNR=5.4
ULN Ulaanbaatar 35.34 16*d*/*i*P P 09 02 38.2 +0.3
ULN pmax pmax
comp=Z,52nm,1.2s
ULN Ulaanbaatar 35.34 16 P P 09 02 38.6 +0.6
SNR=16
ULN Ulaanbaatar 35.34 16 eP P 09 02 38.3 +0.3
HATD Hatta, Dubai 36.33 292⇓*i*P P 09 02 49.2 +2.6
SNR=11
ASHO Ashiyiah 36.38 292 P P 09 02 49.6 +2.5
SNR=9.6
ASHO Ashiyiah 36.38 292 *i* P P 09 02 49.5 +2.5
SNR=16
EDFI Ende, Flores 36.41 127 P P 09 02 45.6 -1.9
comp=Z,84nm,0.7s,comp=Z,985nm
KSKWJ Gwangju 36.76 50 P P 09 02 49.9 -0.2
SNR=8.5
KSKWJ Gwangju 36.76 50 P P 09 02 49.9 -0.2
SNR=8.5
MMRI Maumere 36.77 127 P P 09 02 48.7 -1.7
comp=Z,129nm,0.7s
MMRI Maumere 36.77 127 eP P 09 02 48.6 -1.7
comp=Z,81nm,0.8s
ZAK Zakamensk 36.85 11 eP P 09 02 49.1 -1.7
ZAK *e* 09 04 11.6
ZAK pmax pmax
comp=Z,12nm,1.6s
KSJEU Jeongeup 36.86 49 P P 09 02 50.8 -0.1
SNR=6.9
KSJEU Jeongeup 36.86 49 P P 09 02 50.8 -0.1
SNR=6.9
ASUD Al Ashush, Dub 37.02 292⇑*i*P P 09 02 54.9 +2.4
SNR=10
TJN Taejon 37.57 48 *i* P P 09 02 56.4 -0.5
MOY Mondy 37.74 8 eP P 09 02 58.9 +0.6
KSMUS Musan 37.85 45 P P 09 02 59.5 +0.3
SNR=5.2
KSMUS Musan 37.85 45 P P 09 02 59.5 +0.3
SNR=5.2
KSBON Boeun 37.94 48 P P 09 03 00.0 -0.1
SNR=9.5
KSBON Boeun 37.94 48 P P 09 03 00.0 -0.1
SNR=9.5
YNCB YEONCHEON 38.04 45 P P 09 03 01.0 +0.1
SNR=7.3
YNCB YEONCHEON 38.04 45 P P 09 03 01.0 +0.1
SNR=7.3
KURK Kurchatov 38.14 345 P P 09 03 01.3 -0.3
comp=Z,226nm,1.0s,SNR=22
KURK Kurchatov 38.14 345 P P 09 03 01.1 -0.5
KURK pmax pmax
comp=Z,60nm,1.3s
KURK Kurchatov 38.14 345 P P 09 03 02.1 +0.5
SNR=27
KURK Kurchatov 38.14 345 eP P 09 03 01.7 +0.1
TLY Talaya 38.17 11 LR LR 09 21 08.8
comp=Z,655nm,21.5s,baz=175,slow=40
TLY Talaya 38.17 11 eP P 09 03 03.8 +2.0
TLY *e* 09 04 28.1
TLY *e*S S 09 08 43.5 -9.4
TLY pmax pmax
comp=Z,32nm,1.6s
TLY MLR MLR
comp=Z,486nm,18.0s
TLY Talaya 38.17 11 P P 09 03 03.6 +1.8
SNR=8.5
TLY Talaya 38.17 11 P P 09 03 01.8 0.0
comp=Z,12nm,0.9s
KSCHJ Chungju 38.23 48 P P 09 03 02.3 -0.3
SNR=7.4
KSCHJ Chungju 38.23 48 P P 09 03 02.3 -0.3
SNR=7.4
KSAR Wonju Array Be 38.42 47 P P 09 03 03.3 -0.9
KSAR 09 09 02.8
KSAR Wonju Array Be 38.42 47 P P 09 03 03.2 -0.9
KSAR ScP ScP 09 09 02.8 +0.1
KSRS Korea Array 38.45 47 P P 09 03 03.2 -1.2
comp=Z,5.7nm,0.7s,baz=237,slow=9.2,SNR=28
KSRS ScP ScP 09 09 02.8 0.0
comp=Z,1.5nm,0.8s,baz=242,slow=3.1,SNR=8.2
KSCHC Chuncheon 38.53 46 P P 09 03 04.8 -0.3
SNR=7.9
KSCHC Chuncheon 38.53 46 P P 09 03 04.8 -0.3
SNR=7.9
IRK Irkutsk 38.82 11 eP P 09 03 08.2 +0.9
IRK *e* 09 04 39.9
IRK pmax pmax
comp=Z,62nm,1.9s
KSIJA INJE 38.83 46 P P 09 03 08.1 +0.5
SNR=8.3

KSIJA	**INJE**	**38.83**	**46**	P	**P**	**09 03 08.1**	**+0.5**
	SNR=8.3						
GEYT	**Alibeck**	**38.92**	**314**	P	**P**	**09 03 09.8**	**+1.3**
	comp=Z,40nm,0.8s,baz=142,slow=7.5,SNR=76						
GEYT				PcP	**PcP**	**09 05 19.1**	**+0.3**
	comp=Z,13nm,0.8s,baz=144,slow=3.3,SNR=4.1						
GEYT				LR	LR	09 21 30.1	
	comp=Z,870nm,18.2s,baz=145,slow=40						
SOEI	**Soe**	**39.03**	**126**	P	**P**	**09 03 07.6**	**-2.0**
	comp=Z,115nm,0.9s						
SOEI	**Soe**	**39.03**	**126**	*e*P	P	09 03 06.5	-3.2
	comp=Z,77nm,0.7s						
KSTBA	**Taebaek**	**39.04**	**48**	P	**P**	**09 03 09.7**	**+0.3**
	SNR=7.2						
KSTBA	**Taebaek**	**39.04**	**48**	P	**P**	**09 03 09.7**	**+0.3**
	SNR=7.2						
SEHB	**SEOHWA**	**39.06**	**46**	P	**P**	**09 03 09.9**	**+0.4**
	SNR=6.6						
SEHB	**SEOHWA**	**39.06**	**46**	P	**P**	**09 03 09.9**	**+0.4**
	SNR=6.6						
KSDGY	**Daegwallycong**	**39.09**	**47**	P	**P**	**09 03 09.8**	**-0.1**
	SNR=10						
KSDGY	**Daegwallycong**	**39.09**	**47**	P	**P**	**09 03 09.8**	**-0.1**
	SNR=10						
KSJMJ	**Jumunjin**	**39.24**	**47**	P	**P**	**09 03 11.8**	**+0.9**
	SNR=5.2						
KSSKC	**Sokcho**	**39.26**	**46**	P	**P**	**09 03 11.4**	**+0.2**
	SNR=6.3						
KSSKC	**Sokcho**	**39.26**	**46**	P	**P**	**09 03 11.4**	**+0.2**
	SNR=6.3						
ZAA0	**Zalesovo Array**	**40.05**	**352**	*e*P	**P**	**09 03 17.2**	**-0.2**
ZALV	**Zalesovo Beam**	**40.05**	**352**	P	**P**	**09 03 17.4**	**-0.1**
	comp=Z,32nm,0.7s,baz=177,slow=9.0,SNR=73						
ZALV				PcP	**PcP**	**09 05 20.8**	**-1.1**
	comp=Z,4.0nm,0.7s,baz=164,slow=4.9,SNR=2.3						
ZALV				LR	LR	09 24 15.3	
	comp=Z,464nm,19.4s,baz=248,slow=43						
CN2	**Changchun**	**40.23**	**37**			P	**P**	**09 03 19.1**	**-0.1**
CN2				PcP	**PcP**	**09 05 22.3**	**-0.4**
CN2				*e*S	S	09 09 14.9	-9.2
CN2				SS	**SS**	**09 12 17.9**	**-5.2**
CN2				PMZ			
	comp=Z,40nm,1.0s						
CN2				PMZ			
	comp=Z,200nm,4.0s						
CN2				LN			
	comp=Z,740nm,20.0s						
CN2				LE			
	comp=Z,590nm,20.0s						
CN2				LZ			
	comp=Z,800nm,19.0s						
SIJI	**Sorong**	**40.61**	**109**	P	**P**	**09 03 21.9**	**-0.8**
	comp=Z,22nm,0.5s,baz=317,slow=8.7,SNR=15						
NVS	**Novosibirsk**	**41.14**	**351**			*i*P	**P**	**09 03 24.0**	**-2.4**
NVS				pmax	pmax		
	comp=Z,45nm,1.2s						
NVS				pmax	pmax		
	comp=N,17nm,0.8s						
NVS				pmax	pmax		
	comp=E,13nm,0.6s						
BRVK	**Borovoye**	**42.67**	**340**			*i*P	**P**	**09 03 38.9**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,20nm,0.8s						
BRVK	**Borovoye**	**42.67**	**340**	P	**P**	**09 03 39.3**	**+0.2**
	SNR=5.5						
BRVK	**Borovoye**	**42.67**	**340**	*e*P	**P**	**09 03 38.8**	**-0.2**
MDJ	**Mudanjiang**	**43.15**	**38**	P	**P**	**09 03 43.1**	**+0.1**
MDJ				pP	**pP**	**09 03 52.0**	**-1.1**
MDJ				sP	**sP**	**09 03 55.9**	**-1.3**
MDJ				PP	**PP**	**09 05 22.8**	**-0.8**
MDJ				S	**S**	**09 10 08.8**	**+1.6**
MDJ				sS	**sS**	**09 10 24.0**	**+0.2**
MDJ				ScS	**ScS**	**09 13 42.8**	**+2.0**
MDJ				PMZ			
	comp=Z,10.0nm,0.8s						
MDJ				PMZ			
	comp=Z,64nm,4.9s						
MDJ				LN			
	comp=Z,380nm,13.8s						
MDJ				LE			
	comp=Z,190nm,12.2s						
MDJ				LZ			
	comp=Z,410nm,14.7s						
VLA	**Vladivostok**	**43.80**	**41**			*e*P	**P**	**09 03 45.9**	**-2.4**
VLA				*e*		09 05 28.3	
VLA				*e*S	**S**	**09 10 15.5**	**-1.3**
VLA				pmax	pmax		
	comp=Z,18nm,0.7s						
MBWA	**Marble Bar**	**43.87**	**143**	*e*P	**P**	**09 03 47.5**	**-1.5**
	comp=Z,15nm,0.7s						
ABKAR	**Akbulak array**	**44.18**	**329**	*e*P	**P**	**09 03 52.0**	**+0.8**
USRK	**Ussuriysk Ar.**	**44.40**	**40**	P	**P**	**09 03 52.5**	**-0.6**
	comp=Z,7.5nm,0.7s,baz=252,slow=7.7,SNR=24						
MAJO	**Matsushiro**	**45.74**	**53**	*e*P	**P**	**09 04 04.0**	**0.0**
MAJO				pmax	pmax		
	comp=Z,17nm,0.8s						
MAJO	**Matsushiro**	**45.74**	**53**	*e*P	**P**	**09 04 04.0**	**0.0**
	comp=Z,17nm,0.8s						
MAT	**Matsushiro**	**45.74**	**53**	P	**P**	**09 04 04.1**	**+0.1**
MAT				S	S	09 10 39.0	-6.3
MJAR	**Matsushiro Arr**	**45.74**	**53**	P	**P**	**09 04 04.4**	**+0.4**
	comp=Z,4.8nm,0.7s,baz=262,slow=10,SNR=34						
MJAR				PcP	**PcP**	**09 05 41.7**	**+0.3**
	comp=Z,6.2nm,0.7s,baz=223,slow=3.2,SNR=16						
MJAR				pPcP		09 05 54.0	
	comp=Z,11nm,0.6s,baz=233,slow=2.6,SNR=14						
MJAR				ScP	**ScP**	**09 09 32.0**	**0.0**
	comp=Z,2.4nm,0.9s,baz=230,slow=3.2,SNR=7.8						
MJAR				LR	LR	09 24 59.2	
	comp=Z,226nm,20.3s,baz=235,slow=38						
RAYN	**Ar Rayn**	**45.85**	**289**	P	**P**	**09 04 05.2**	**+0.2**
	comp=Z,88nm,1.0s,SNR=7.8						
RAYN	**Ar Rayn**	**45.85**	**289**	*e*P	**P**	**09 04 05.0**	**0.0**
	comp=Z,11nm,1.1s						
BOD	**Bodaibo**	**46.13**	**15**	*e*P	**P**	**09 04 05.7**	**-0.9**
BOD				*e*		09 05 41.8	
BOD				pmax	pmax		
	comp=Z,37nm,1.5s						
KLR	**Kul'dur**	**46.93**	**34**	*e*P	P	09 04 09.2	-3.8
KLR				pmax	pmax		
	comp=Z,50nm,1.8s						
DAMY	**Dhamar**	**47.18**	**277**	*e*P	**P**	**09 04 18.4**	**+2.5**
	comp=Z,62nm,0.9s						
HABR	**Khabarovsk**	**48.37**	**36**	*e*P	**P**	**09 04 22.0**	**-2.2**
HABR				*e**PP	**pP**	**09 04 31.7**	**-2.7**
HABR				*e*SP		09 04 35.9	
HABR				*e*		09 05 47.6	
HABR						09 06 15.0	
HABR				*e*		09 07 04.0	
HABR				S	**S**	**09 11 21.1**	**-1.2**
HABR				*e*		09 14 11.8	
HABR				*e*SS	**SS**	**09 14 52.5**	**+0.4**
HABR				pmax	pmax		
	comp=Z,46nm,1.4s						
HABR				MLR	MLR		
	comp=Z,366nm,19.0s						
CLNS	**Chul'man**	**48.77**	**23**	*e*P	**P**	**09 04 27.5**	**+0.3**
CLNS				pmax	pmax		
	comp=Z,44nm,1.0s						
CLNS				pmax	pmax		
	comp=E,22nm,0.9s						
CLNS				pmax	pmax		
	comp=N,22nm,1.0s						
SVE	**Sverdlovsk**	**49.09**	**337**	*c*i*P*	**P**	**09 04 30.0**	**+0.4**
SVE				pmax	pmax		
	comp=Z,168nm,0.9s						
SVE				MLR	MLR		
	comp=Z,1μm,24.0s						
DGRG	**David-gareji**	**49.33**	**313**	P	**P**	**09 04 33.4**	**+1.6**
GNI	**Garni**	**49.39**	**311**	*d*i*P*	**P**	**09 04 34.2**	**+1.8**
GNI				pmax	pmax		
	comp=Z,156nm,1.2s						
GNI	**Garni**	**49.39**	**311**	P	**P**	**09 04 34.4**	**+2.0**
	SNR=35						
GNI	**Garni**	**49.39**	**311**	⇑*i*P	**P**	**09 04 34.4**	**+2.0**
	SNR=13						
GNI	**Garni**	**49.39**	**311**	*e*P	**P**	**09 04 34.2**	**+1.8**
ARU	**Arti**	**49.62**	**336**	P	**P**	**09 04 33.9**	**+0.3**
	comp=Z,415nm,0.8s,SNR=17						
ARU	**Arti**	**49.62**	**336**	*d*i*P*	**P**	**09 04 33.5**	**-0.1**
ARU						09 05 53.4	
ARU						09 06 29.6	
ARU				PPP	PPP	09 07 25.5	
ARU				S	**S**	**09 11 41.9**	**+2.3**
ARU				SS	**SS**	**09 15 11.0**	**-1.0**
ARU				pmax	pmax		
	comp=Z,116nm,1.7s						
ARU				MLR	MLR		
	comp=Z,664nm,23.0s						
ARU	**Arti**	**49.62**	**336**	*e*P	**P**	**09 04 33.3**	**-0.4**
TBLG	**Delisi**	**49.88**	**313**	P	**P**	**09 04 36.6**	**+0.7**
GUMO	**Guam**	**50.06**	**84**	P	**P**	**09 04 38.6**	**+1.0**
	comp=Z,62nm,0.9s,baz=225,slow=19,SNR=2.5						
AKH	**Akhalkalaki**	**50.67**	**312**	P	**P**	**09 04 43.6**	**+1.5**
ZEI	**Tsey**	**50.80**	**314**	*e*P	**P**	**09 04 42.3**	**-0.8**
ZEI				pmax	pmax		
	comp=Z,47nm,0.8s						
ONI	**Oni**	**51.05**	**314**	P	**P**	**09 04 46.1**	**+1.3**
KBZ	**Khabaz**	**51.79**	**315**	P	**P**	**09 04 50.9**	**+0.7**
	comp=Z,20nm,0.8s,baz=236,slow=24,SNR=44						
KBZ				LR	LR	09 31 14.1	
	comp=Z,332nm,19.2s,baz=155,slow=41						
KIV	**Kislovodsk**	**52.01**	**315**	P	**P**	**09 04 52.8**	**+0.8**
	comp=Z,1μm,0.8s,SNR=18						
KIV	**Kislovodsk**	**52.01**	**315**	*e*P	**P**	**09 04 52.8**	**+0.8**
KIV				*e*S	**S**	**09 12 14.9**	**+1.6**
KIV				pmax	pmax		
	comp=Z,171nm,1.0s						
KIV				pmax	pmax		
	comp=Z,29nm,3.3s						
KIV				MLR	MLR		
	comp=Z,360nm,16.0s						
KIV	**Kislovodsk**	**52.01**	**315**	P	**P**	**09 04 53.2**	**+1.2**
	SNR=33						
KIV	**Kislovodsk**	**52.01**	**315**	*i* P	**P**	**09 04 53.0**	**+1.0**
	SNR=23						
KIV	**Kislovodsk**	**52.01**	**315**	*e*P	**P**	**09 04 52.6**	**+0.6**
	comp=Z,125nm,0.8s						
GOF	**Gofitskoye**	**52.12**	**316**	*e*P	**P**	**09 04 53.5**	**+0.8**
GOF				pmax	pmax		
	comp=Z,90nm,0.7s						
YSS	**Yuzh-Sakhalins**	**52.40**	**41**	⇑*i*P	**P**	**09 04 55.0**	**+0.3**
YSS				*e*		09 05 10.3	
YSS				pmax	pmax		
	comp=Z,50nm,0.8s						
WRA	**Warramunga Arr**	**52.91**	**129**	P	**P**	**09 04 57.8**	**-1.0**
	comp=Z,42nm,0.8s,baz=311,slow=7.9,SNR=52						
WRA				PcP	**PcP**	**09 06 07.5**	**-0.2**
	comp=Z,7.8nm,0.8s,baz=318,slow=3.4,SNR=6.4						
WRA				pPcP		09 06 18.5	
	comp=Z,18nm,0.7s,baz=313,slow=3.4,SNR=11						
WRA				ScP	**ScP**	**09 10 00.1**	**-2.6**
	comp=Z,1.4nm,0.8s,baz=321,slow=4.3,SNR=4.5						
WRA				LR	LR	09 29 26.1	
	comp=Z,240nm,21.8s,baz=310,slow=38						
WRAB	**Tennant Creek**	**52.91**	**129**	P	**P**	**09 04 57.6**	**-1.3**
	comp=Z,411nm,0.7s,SNR=15						
WRAB	**Tennant Creek**	**52.91**	**129**	*c*i*P*	**P**	**09 04 57.9**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,113nm,0.6s						
WRAB	**Tennant Creek**	**52.91**	**129**	*e*P	**P**	**09 04 58.0**	**-0.9**
MALT	**Malatya**	**53.71**	**307**			*i*P	**P**	**09 05 05.4**	**+0.8**
SOC	**Sochi**	**53.96**	**314**	*d*i*P*	**P**	**09 05 05.9**	**-0.3**
SOC				*e*S	**S**	**09 12 37.6**	**-2.1**
SOC				pmax	pmax		
	comp=Z,53nm,0.8s						
YAK	**Yakutsk**	**54.22**	**20**	P	**P**	**09 05 06.9**	**-0.9**
	comp=Z,43nm,0.6s,baz=37,slow=0.5,SNR=16						
YAK	**Yakutsk**	**54.22**	**20**	*e*P	**P**	**09 05 06.5**	**-1.3**
YAK				*e*		09 06 05.8	
YAK				*e*		09 07 08.6	
YAK				*e*PPP	PPP	09 08 20.7	
YAK				*e*S	S	09 12 36.0	-6.6
YAK				*e*		09 14 45.9	
YAK				*e*SS	**SKiKP**	**09 16 19.8**	**+3.2**
YAK				pmax	pmax		
	comp=Z,35nm,0.9s						
YAK				pmax	pmax		
	comp=N,14nm,1.1s						
YAK				pmax	pmax		
	comp=E,17nm,1.1s						
YAK				pmax	pmax		
	comp=Z,49nm,3.7s						
YAK				pmax	pmax		
	comp=N,14nm,1.9s						
YAK				pmax	pmax		
	comp=E,16nm,1.9s						
YAK				smax	smax		
	comp=N,20nm,2.8s						
YAK				smax	smax		
	comp=E,22nm,1.8s						
YAK	**Yakutsk**	**54.22**	**20**	*e*P	**P**	**09 05 06.9**	**-0.9**
	comp=E,38nm,0.6s						
AS31	**Alice Springs**	**54.88**	**133**	*e*P	**P**	**09 05 12.3**	**-1.0**
ASAR	**Alice Springs**	**54.88**	**133**	P	**P**	**09 05 12.4**	**-0.8**
	comp=E,28nm,0.7s,baz=308,slow=7.0,SNR=79						
ASAR				PcP	**PcP**	**09 06 15.3**	**+0.2**
	comp=E,5.9nm,0.7s,baz=316,slow=4.8,SNR=4.2						
ASAR				pPcP		09 06 26.7	
	comp=E,16nm,0.8s,baz=312,slow=3.8,SNR=11						
ASAR				ScP	**ScP**	**09 10 09.2**	**-2.1**
	comp=E,3.0nm,1.0s,baz=311,slow=4.5,SNR=6.3						
ASAR				LR	LR	09 30 12.2	
	comp=E,406nm,21.8s,baz=302,slow=38						
ANN	**Anapa**	**55.86**	**315**	*e*P	**P**	**09 05 19.2**	**-0.8**
ANN				pmax	pmax		
	comp=Z,41nm,0.9s						
FORT	**Forrest**	**56.02**	**144**	*e*P	**P**	**09 05 20.9**	**-0.3**
	comp=Z,88nm,0.9s						
VORD	**Divnogorie**	**56.50**	**322**	*e*P	**P**	**09 05 23.3**	**-1.1**
VORD				pmax	pmax		
	comp=Z,30nm,0.6s						
VORD				pmax	pmax		
	comp=N,40nm,0.8s						
VORD				pmax	pmax		
	comp=E,50nm,0.6s						
VSR	**Storozhevoye**	**56.66**	**322**	*e*P	**P**	**09 05 24.4**	**-1.2**
VSR				pmax	pmax		
	comp=Z,30nm,0.7s						
VSR				pmax	pmax		
	comp=N,10.0nm,0.9s						
VSR				pmax	pmax		
	comp=E,20nm,0.6s						
COEN	**Coen**	**56.90**	**117**	*e*P	**P**	**09 05 26.9**	**-1.0**
	comp=E,33nm,0.6s						
LPSR	**Galich'ya Gora**	**57.28**	**324**	*e*P	**P**	**09 05 29.0**	**-1.0**
LPSR				pmax	pmax		
	comp=Z,60nm,0.8s						
LPSR				pmax	pmax		
	comp=N,6.0nm,0.7s						
LPSR				pmax	pmax		
	comp=E,50nm,1.7s						
CSS	**Prodhromos**	**57.30**	**302**	*e*P	**P**	**09 05 30.2**	**-0.2**
	comp=E,5.6nm,0.9s						
KMBO	**Kilima Mbogo**	**57.47**	**259**	P	**P**	**09 05 33.2**	**+1.1**
	comp=E,1.1nm,0.3s,baz=54,slow=19,SNR=2.9						
BR131	**Keskin Array S**	**57.62**	**308**	*e*P	**P**	**09 05 32.3**	**-0.4**
	comp=E,36nm,0.8s						
BRTR	**Keskin Array B**	**57.62**	**308**	P	**P**	**09 05 32.1**	**-0.6**
	comp=E,46nm,0.8s,baz=119,slow=7.5,SNR=179						
BRTR				LR	LR	09 33 42.8	
	comp=E,311nm,20.2s,baz=91,slow=40						
PRGR	**Permogore**	**58.08**	**335**			*i*P	**P**	**09 05 34.8**	**-0.6**
PRGR				pmax	pmax		
	comp=Z,118nm,0.9s						
SIM	**Simferopol'**	**58.19**	**314**	*d*i*P*	**P**	**09 05 37.1**	**+0.6**
SIM				*i*		09 05 51.0	
SIM				S	**S**	**09 13 35.0**	**-0.9**
SIM				pmax	pmax		
	comp=Z,92nm,0.6s						
SIM				MLR	MLR		
	comp=N,120nm,19.2s						
ANTO	**Ankara**	**58.28**	**308**	*e*P	**P**	**09 05 37.0**	**-0.3**
ANTO				pmax	pmax		
	comp=Z,59nm,1.2s						
ANTO	**Ankara**	**58.28**	**308**	⇑*i*P	**P**	**09 05 37.4**	**+0.1**
ANTO	**Ankara**	**58.28**	**308**	P	**P**	**09 05 37.7**	**+0.4**
	SNR=6.1						
ANTO	**Ankara**	**58.28**	**308**	*e*P	**P**	**09 05 37.0**	**-0.3**
	comp=Z,59nm,1.2s						
PMG	**Port Moresby**	**58.49**	**111**	*c*i*P*	**P**	**09 05 39.2**	**+0.2**
PMG				pmax	pmax		
	comp=Z,95nm,0.7s						
MOS	**Moscow**	**59.13**	**327**	*e*P	**P**	**09 05 41.2**	**-1.6**
MOS				pmax	pmax		
	comp=Z,104nm,1.3s						
MOS				pmax	pmax		
	comp=Z,200nm,1.5s						
OBN	**Obninsk**	**59.47**	**326**	*d*i*P*	**P**	**09 05 44.6**	**-0.6**
OBN				*i*		09 06 32.2	
OBN				pmax	pmax		
	comp=Z,120nm,1.7s						
OBN				MLR	MLR		
	comp=Z,416nm,19.0s						
OBN	**Obninsk**	**59.47**	**326**	*e*P	**P**	**09 05 44.6**	**-0.6**
	comp=Z,72nm,1.1s						
ISP	**Isparta**	**59.82**	**306**	*e*P	**P**	**09 05 46.8**	**-1.2**
ISP				pmax	pmax		
	comp=Z,44nm,1.2s						
ISP	**Isparta**	**59.82**	**306**	⇑*i*P	**P**	**09 05 47.3**	**-0.7**
ISP	**Isparta**	**59.82**	**306**	*e*P	**P**	**09 05 46.8**	**-1.2**
	comp=Z,44nm,1.2s						
KLMR	**Klimovskoe**	**60.27**	**333**	*e*P	**P**	**09 05 50.2**	**-0.4**
KLMR				pmax	pmax		
	comp=Z,87nm,1.3s						
KLMR				MLR	MLR		
	comp=Z,400nm,19.0s						
TIXI	**Tiksi**	**61.11**	**12**	*d*i*P*	**P**	**09 05 55.1**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,86nm,1.2s						
TIXI	**Tiksi**	**61.11**	**12**	*e*P	**P**	**09 05 55.0**	**-1.0**
	comp=Z,48nm,0.8s						
TIRR	**Tirgusor**	**62.12**	**313**			*i*P	**P**	**09 06 02.8**	**-0.6**
PSN	**Preselentsi**	**62.19**	**312**			*i*P	**P**	**09 06 03.5**	**-0.4**
BBOO	**Buckleboo**	**62.27**	**140**	*e*P	**P**	**09 06 03.6**	**-0.9**
	comp=Z,16nm,0.7s						
TMCR	**Tamitsa**	**62.35**	**336**	*e*P	**P**	**09 06 04.2**	**-0.3**
TMCR				pmax	pmax		
	comp=Z,71nm,1.2s						
CTA	**Charters Tower**	**62.40**	**122**	P	**P**	**09 06 05.8**	**+0.2**
	comp=Z,26nm,0.8s,baz=312,slow=7.4,SNR=14						
CTAO	**Charters Tower**	**62.40**	**122**	*e*P	**P**	**09 06 05.4**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,61nm,1.3s						
CTAO	**Charters Tower**	**62.40**	**122**	*e*P	**P**	**09 06 05.4**	**-0.2**
	comp=Z,61nm,1.3s						
TLB	**Topalu**	**62.40**	**313**			*i*P	**P**	**09 06 04.8**	**-0.4**
CFR	**Carcaliu**	**62.41**	**314**	⇑*i*P	**P**	**09 06 05.5**	**+0.2**
AKASG	**Malin Array Be**	**62.58**	**320**	P	**P**	**09 06 05.2**	**-1.1**
	comp=Z,14nm,0.7s,baz=84,slow=4.9,SNR=76						
KIEV	**Kiev**	**62.58**	**320**	*e*P	**P**	**09 06 05.0**	**-1.4**
KIEV				pmax	pmax		
	comp=Z,50nm,1.1s						
KIEV	**Kiev**	**62.58**	**320**	*e*P	**P**	**09 06 05.0**	**-1.4**
	comp=Z,50nm,1.1s						
PETK	**Petropavlovsk-**	**63.38**	**37**	P	**P**	**09 06 10.8**	**-0.8**
	comp=Z,8.2nm,1.0s,baz=234,slow=4.2,SNR=5.2						
VRI	**Vrincioaia**	**63.47**	**314**			*i*P	**P**	**09 06 13.3**	**+0.9**
SEY	**Seymchan**	**63.50**	**26**	P	**P**	**09 06 11.3**	**-1.0**
	comp=Z,3.8nm,0.8s,baz=272,slow=6.0,SNR=9.3						
PLOR	**Plostina**	**63.52**	**314**			*i*P	**P**	**09 06 13.5**	**+0.7**
TESR	**Tescani**	**63.60**	**315**			*i*P	**P**	**09 06 13.2**	**-0.1**
APE	**Apeiranthos**	**63.74**	**304**	⇑*i*P	**P**	**09 06 13.2**	**-1.2**
SZH	**Strazhica**	**63.78**	**311**	*e*P	**P**	**09 06 13.9**	**-0.6**
MLR	**Muntele Rosu**	**63.98**	**314**	P	**P**	**09 06 16.4**	**+0.5**
	comp=Z,16nm,0.9s,baz=167,slow=0.7,SNR=65						
MLR	**Muntele Rosu**	**63.98**	**314**			*i*P	**P**	**09 06 16.4**	**+0.5**
KDZ	**Kurdzhali**	**64.04**	**309**	⇑*i*P	**P**	**09 06 16.7**	**+0.5**
KDZ	**Kurdzhali**	**64.04**	**309**	*e*P	**P**	**09 06 16.1**	**-0.1**
IDI	**Anoyia**	**64.23**	**302**	P	**P**	**09 06 16.8**	**-0.9**
	comp=Z,30nm,0.7s,baz=90,slow=7.4,SNR=15						
RZN	**Rozhen**	**64.56**	**310**	*e*P	**P**	**09 06 19.4**	**-0.5**
VOIR		**64.60**	**314**			*i*P	**P**	**09 06 19.9**	**0.0**
BURAR	**Bucovina Array**	**64.70**	**316**			*i*P	**P**	**09 06 20.7**	**+0.1**
BUR08	**Bucovina Ar. S**	**64.72**	**316**	*e*P	**P**	**09 06 20.8**	**+0.1**
NACGM	**Naroch**	**64.84**	**324**	*e*	P	09 06 18.0	-3.2
ARR	**Arges**	**64.88**	**314**	⇑*i*P	**P**	**09 06 21.3**	**-0.5**
LVZ	**Lovozero**	**65.20**	**339**	P	**P**	**09 06 22.8**	**-0.6**
	comp=Z,263nm,0.9s,SNR=5.5						
STKA	**Stephens Creek**	**65.29**	**136**	P	**P**	**09 06 24.0**	**-0.5**
	comp=Z,24nm,0.6s,baz=311,slow=5.6,SNR=43						
STKA				LR	LR	09 35 57.8	
	comp=Z,379nm,21.9s,baz=295,slow=37						
STKA	**Stephens Creek**	**65.29**	**136**	P	**P**	**09 06 24.0**	**-0.5**
STKA				pmax	pmax		
	comp=Z,50nm,0.6s						
STKA	**Stephens Creek**	**65.29**	**136**	P	**P**	**09 06 24.0**	**-0.5**
	comp=Z,50nm,0.6s						
MMB	**Musomiste**	**65.30**	**309**	⇑*i*P	**P**	**09 06 23.2**	**-1.3**
MMB	**Musomiste**	**65.30**	**309**	*e*P	**P**	**09 06 23.4**	**-1.1**
MPEP	**Malo Peshtene**	**65.38**	**311**	*e*P	**P**	**09 06 25.4**	**+0.5**
APA	**Apatity**	**65.50**	**339**			*i*P	**P**	**09 06 25.0**	**-0.3**
APA				pmax	pmax		
	comp=Z,49nm,1.0s						
APA				MLR	MLR		
	comp=Z,700nm,19.0s						
CJR	**Cluj-Napoca**	**65.72**	**315**			*i*P	**P**	**09 06 27.8**	**+0.7**
VTS	**Vitosha**	**65.73**	**310**	⇑*i*P	**P**	**09 06 27.4**	**0.0**
VTS	**Vitosha**	**65.73**	**310**	*e*P	**P**	**09 06 27.0**	**-0.4**
LVV	**L'vov**	**65.73**	**318**	*e*P	**P**	**09 06 26.0**	**-1.1**
KKB	**Krupnik**	**65.79**	**310**	*e*P	**P**	**09 06 26.8**	**-0.8**
BMR	**Baia Mare**	**65.87**	**316**			*i*P	**P**	**09 06 28.7**	**+0.7**
DRGR		**66.33**	**315**			*i*P	**P**	**09 06 31.5**	**+0.4**
TRPA	**Tarpa**	**66.55**	**316**			*i*P	**P**	**09 06 32.5**	**+0.2**
TRPA	**Tarpa**	**66.55**	**316**			*e*P	**P**	**09 06 32.7**	**+0.4**
KWP	**Kalwaria Pacla**	**66.57**	**318**	*e*P	**P**	**09 06 32.5**	**0.0**
KWP	**Kalwaria Pacla**	**66.57**	**318**	*e*P	**P**	**09 06 32.4**	**0.0**
KWP				*e**PP	**pP**	**09 06 42.9**	**-0.1**
KWP				pmax	pmax		
	comp=Z,85nm,0.9s						
KWP	**Kalwaria Pacla**	**66.57**	**318**			*i*P	**P**	**09 06 32.5**	**0.0**
KWP	**Kalwaria Pacla**	**66.57**	**318**	*e*P	**P**	**09 06 32.4**	**-0.1**
	comp=Z,86nm,0.9s						
KWP				*e*pP	**pP**	**09 06 42.9**	**-0.1**
FIA1	**FINESS Array S**	**66.60**	**331**	*e*P	**P**	**09 06 31.8**	**-0.6**
FIA1				*e*pP	**pP**	**09 06 44.2**	**+1.3**
FINES	**FINESS Array B**	**66.60**	**331**	P	**P**	**09 06 31.9**	**-0.5**
	comp=Z,40nm,0.7s,baz=111,slow=8.6,SNR=112						
PAF	**Port-aux-Franc**	**66.61**	**196**	SS	SS	09 19 49.0	+10
PAF				R		09 28 00.0	
UZH	**Uzhgorod**	**66.75**	**317**	⇑*i*P	**P**	**09 06 33.1**	**-0.5**
UZH				*e*		09 06 37.3	
UZH				*e*		09 06 47.5	
UZH				*e*		09 07 01.5	
SUW	**Suwalki**	**66.77**	**323**	*e*P	**P**	**09 06 32.8**	**-0.8**
SUW	**Suwalki**	**66.77**	**323**	*e*P	**P**	**09 06 33.2**	**-0.5**
SUW				*e**PP	**pP**	**09 06 45.2**	**+1.0**
SUW				*e*		09 07 03.1	
SUW				*e*		09 08 58.1	
SUW				pmax	pmax		
	comp=Z,145nm,1.0s						

MORC **Moravsky Berou** 69.92 318 *e*P P 09 06 53.6 +0.1
comp=Z,49nm,0.9s
GKP **Gorka Klasztor** 70.23 322 *e*P P 09 06 55.1 -0.2
GKP **Gorka Klasztor** 70.23 322 *e*P P 09 06 55.2 -0.1
KRLC **Kraliky** 70.42 318 *e*P P 09 06 56.9 +0.3
KRLC *e*pP pP 09 07 04.7 -2.5
KRLC **Kraliky** 70.42 318 *e*P P 09 06 56.9 +0.3
KRLC *e* 09 07 04.7
VRAC **Vranov** 70.53 318 P P 09 06 57.5 +0.3
comp=Z,7.7nm,0.7s,baz=104,slow=7.3,SNR=15
VRAC **Vranov** 70.53 318⇑ *i*P P 09 06 57.5 +0.3
SOP **Sopron** 70.55 316⇓ *e*P P 09 06 57.3 -0.1
LSZ **Lusaka** 70.69 248 *e*P P 09 06 59.8 +0.9
LSZ *e**PP pP 09 07 10.1 +0.7
LSZ pmax pmax
comp=Z,31nm,0.8s
LSZ **Lusaka** 70.69 248 *e*P P 09 06 59.8 +0.9
comp=Z,31nm,0.8s
LSZ *e*pP pP 09 07 10.1 +0.7
DPC **Dobruska-Polom** 70.72 319 *e*P P 09 06 58.9 +0.5
DPC *ex* x 09 07 01.8
DPC *e*pP pP 09 07 06.1 -2.9
DPC *es*P sP 09 07 12.5 -0.5
DPC AMS AMS 09 41 40.0
DPC **Dobruska-Polom** 70.72 319 *e*P P 09 06 58.9 +0.5
DPC *e* 09 07 06.1
DPC *e* 09 07 12.5
KSP **Ksiaz** 70.75 319 *e*P P 09 06 58.6 +0.1
KSP **Ksiaz** 70.75 319 *e*P P 09 06 58.7 +0.2
CONA **Conrad Observa** 71.02 316 *i*P P 09 07 00.2 -0.1
comp=Z,14nm,0.8s,SNR=8.4
ARSA **Arzberg** 71.26 315⇑ *i*P P 09 07 01.5 -0.2
comp=Z,19nm,0.9s,SNR=10
BSD **Bornholm Skovb** 71.65 324 *i*P P 09 07 01.4 -2.5
comp=Z,43nm,0.9s
BSD **Bornholm Skovb** 71.65 324 *i*P P 09 07 01.4 -2.5
BSD pmax pmax
comp=Z,43nm,0.9s
GOPC **GO Pecny, Ondr** 71.71 318 *e*P P 09 07 04.7 +0.3
GOPC *ex* x 09 07 12.0
GOPC *e*pP pP 09 07 17.0 +2.0
GOPC AMS AMS 09 42 30.0
comp=Z,300nm,14.8s
PVCC **Panska Ves** 71.84 319 *e*P P 09 07 05.5 +0.4
PVCC *e*pP pP 09 07 12.9 -2.8
PVCC *es*P sP 09 07 20.9 +1.2
PVCC AMS AMS 09 42 20.0
comp=Z,400nm,22.2s
PVCC **Panska Ves** 71.84 319 *e*P P 09 07 05.5 +0.4
PVCC *e* 09 07 12.9
PVCC *e* 09 07 20.9
PVCC MLR MLR
comp=Z,400nm,22.2s
PRU **Pruhonice** 71.87 318 *e*P P 09 07 05.4 +0.1
PRU *ex* x 09 07 11.0
PRU *e*pP pP 09 07 13.8 -2.1
PRU AMS AMS 09 42 20.0
comp=Z,300nm,18.0s
PRU **Pruhonice** 71.87 318 *e*P P 09 07 05.4 +0.1
PRU *e* 09 07 13.8
PRU MLR MLR
comp=Z,300nm,18.0s
PRA **Prague** 71.94 318 *e*P P 09 07 05.9 +0.2
PRA **Prague** 71.94 318 *e*P P 09 07 05.9 +0.2
OBKA **Obir** 71.94 315 *i*P P 09 07 06.0 0.0
comp=Z,39nm,0.9s,SNR=11
LJU **Ljubljana** 71.98 314 *i*P P 09 07 06.1 +0.1
MOA **Molln** 72.09 316 *i*P P 09 07 06.4 -0.3
comp=Z,30nm,0.9s,SNR=11
BRG **Berggiesshubel** 72.23 319⇓ *i*P P 09 07 07.4 0.0
comp=Z,40nm,0.8s
BRG *e* 09 07 19.9
comp=Z,12nm,0.8s
BRG **Berggiesshubel** 72.23 319 *e*P P 09 07 07.7 +0.2
comp=Z,40nm,0.8s
BRG **Berggiesshubel** 72.23 319⇓ *i*P P 09 07 07.4 0.0
BRG *e* 09 07 20.0
BRG pmax pmax
comp=Z,40nm,0.8s
BRG pmax pmax
comp=Z,12nm,0.8s
RUE **Ruedersdorf** 72.31 321 *e*P P 09 07 07.7 -0.1
comp=Z,161nm,1.2s
GEC2 **GERESS Array S** 72.44 317 *e*P P 09 07 08.9 0.0
comp=Z,54nm,1.0s
GEC2 *e*L L 09 43 34.3
comp=Z,171nm,21.0s
GERES **GERESS Array B** 72.44 317 P P 09 07 08.8 0.0
comp=Z,33nm,0.8s,baz=93,slow=5.5,SNR=161
KHC **Kasperske Hory** 72.51 317 *e*P P 09 07 08.9 -0.3
KHC *ex* x 09 07 12.6
KHC *ex* x 09 07 16.5
KHC *e*pP pP 09 07 21.7 +1.9
KHC **Kasperske Hory** 72.51 317 *e*P P 09 07 08.9 -0.3
KHC *e* 09 07 16.5
KHC *e* 09 07 21.7
CLL **Collm** 72.82 320 *e*P P 09 07 10.7 -0.2
comp=Z,30nm,1.0s
CLL **Collm** 72.82 320⇓ *i*P P 09 07 10.2 -0.7
comp=Z,30nm,1.0s
CLL *e*pP pP 09 07 21.0 -0.5
CLL Lm MLR 09 43 00.0
comp=Z,400nm,21.5s
CLL LmV 10 02 00.0
comp=Z,100nm,20.0s
CLL **Collm** 72.82 320⇓ *i*P P 09 07 10.2 -0.7
CLL pmax pmax
comp=Z,30nm,1.0s
CLL MLR MLR
comp=Z,400nm,21.5s
WET **Wettzell** 72.97 317 *e*P P 09 07 12.1 +0.2
comp=Z,50nm,1.2s
WET *e*L L 09 43 29.7
comp=Z,246nm,21.7s
RJOB **Jochberg** 73.09 316 *e*P P 09 07 12.1 -0.6
comp=Z,26nm,0.8s
TANN **Tannenbergstha** 73.19 319 *e*P P 09 07 13.3 +0.1
comp=Z,32nm,1.2s
TANN *e*L L 09 43 28.2
comp=Z,395nm,21.8s
NKC **Novy Kostel** 73.21 319 *e*P P 09 07 13.0 -0.3
NKC *ex* x 09 07 20.6
NKC AMS AMS 09 43 10.0
comp=Z,300nm,19.5s
NKC **Novy Kostel** 73.21 319 *e*P P 09 07 13.0 -0.3
NKC *e* 09 07 20.6
NKC MLR MLR
comp=Z,300nm,19.5s
ABTA **Abfaltersbach** 73.34 315⇑ *i*P P 09 07 13.4 -0.8
comp=Z,18nm,0.9s,SNR=6.6
ROTZ **Rotzenmuhle** 73.38 318 *e*P P 09 07 14.9 +0.6
comp=Z,63nm,1.2s
NB2 **NORSAR Subarra** 73.68 330 P P 09 07 14.6 -1.3
comp=Z,23nm,0.7s,baz=88,slow=5.9
NB2 **NORSAR Subarra** 73.68 330 P P 09 07 14.6 -1.3
baz=88,slow=5.9
NOA **NORSAR Array B** 73.68 330 P P 09 07 14.8 -1.0
comp=Z,20nm,0.7s,baz=90,slow=5.9,SNR=102
NOA pP pP 09 07 27.0 +0.5
comp=Z,7.6nm,0.7s,baz=90,slow=6.0,SNR=8.9
MOX **Moxa** 73.72 319 *e*P P 09 07 17.1 +0.8
comp=Z,28nm,0.9s
NAO01 **NORSAR Array S** 73.84 330 *e*P P 09 07 15.2 -1.5
comp=Z,17nm,0.7s
NAO01 *e*pP pP 09 07 28.1 +0.7
GRFO **Grafenberg** 74.03 318 *e*P P 09 07 18.3 +0.2
GRFO pmax pmax
comp=Z,43nm,1.3s
GRFO **Grafenberg** 74.03 318 *e*P P 09 07 18.3 +0.2
comp=Z,43nm,1.3s
FUR **Furstenfeldbru** 74.08 316 *e*P P 09 07 18.1 -0.4
comp=Z,37nm,1.0s
BSEG **Bad Segeberg** 74.35 322 *e*P P 09 07 20.3 +0.5
comp=Z,67nm,0.9s
RETA **Reute** 74.48 316 *i*P P 09 07 20.2 -0.7
comp=Z,28nm,0.6s,SNR=15
FETA **Feichten** 74.54 315 *i*P P 09 07 20.6 -0.7
comp=Z,32nm,1.1s,SNR=11
NRDL **Niedersach Rie** 74.56 321 *e*P P 09 07 21.4 +0.4
comp=Z,90nm,1.6s
MUD **Monsted U'grnd** 74.87 325 *i*P P 09 07 23.1 +0.3
comp=Z,28nm,0.9s
MUD **Monsted U'grnd** 74.87 325 *i*P P 09 07 23.1 +0.3
MUD pmax pmax
comp=Z,28nm,0.9s

DAVA **Damuels** 75.09 316 *i*P P 09 07 24.1 -0.5
comp=Z,40nm,0.7s,SNR=16
DAVOX **Davos/Dischmat** 75.14 315 P P 09 07 24.5 -0.4
comp=Z,19nm,0.8s,baz=116,slow=5.6,SNR=25
TNS **Taunus Mts** 75.77 319 *e*P P 09 07 28.2 0.0
comp=Z,26nm,0.9s
TNS *e*L L 09 45 16.8
comp=Z,283nm,21.2s
IBBN **Ibbenburen** 76.01 321 *e*P P 09 07 29.7 +0.3
comp=Z,46nm,0.9s
BFO **Black Forest** 76.03 317 *e*P P 09 07 29.2 -0.5
comp=Z,29nm,1.4s
BFO *e*L L 09 46 47.2
comp=Z,152nm,20.0s
BFO **Black Forest** 76.03 317 *e*P P 09 07 28.7 -1.0
BFO pmax pmax
comp=Z,20nm,1.3s
BFO **Black Forest** 76.03 317 *e*P P 09 07 28.7 -1.0
comp=Z,20nm,1.3s
PGF **Pioggiola** 76.21 311 *e*P P 09 07 29.9 -1.0
comp=Z,42nm,0.8s
PGF **Pioggiola** 76.21 311 *e*P P 09 07 29.9 -1.0
PGF pmax pmax
comp=Z,42nm,0.8s
PGF **Pioggiola** 76.21 311 *e*P P 09 07 29.9 -1.0
comp=Z,42nm,0.8s
LANF **Langenberg** 76.31 317 *e*P P 09 07 31.1 -0.2
BUG **Bochum-Univer** 76.39 320 *e*P P 09 07 31.7 +0.1
comp=Z,56nm,1.3s
LBTB **Lobatse** 76.62 240 *e*P P 09 07 34.1 +0.6
LBTB pmax pmax
comp=Z,32nm,1.0s
LBTB **Lobatse** 76.62 240 *e*P P 09 07 34.1 +0.6
comp=Z,32nm,1.0s
CDF **Champ du Feu** 76.72 317 *e*P P 09 07 32.6 -1.1
comp=Z,44nm,1.1s
CDF **Champ du Feu** 76.72 317 *e*P P 09 07 32.6 -1.1
CDF pmax pmax
comp=Z,44nm,1.1s
CDF **Champ du Feu** 76.72 317 *e*P P 09 07 32.6 -1.1
comp=Z,44nm,1.1s
ECH **Echery** 76.82 317 *e*P P 09 07 33.7 -0.5
ECH **Echery** 76.82 317 *e*P P 09 07 33.8 -0.5
ECH pmax pmax
comp=Z,4.0nm,0.9s
ECH **Echery** 76.82 317 *e*P P 09 07 33.8 -0.4
comp=Z,3.7nm,0.9s
KEST **Kesra** 76.84 304 P P 09 07 34.5 -0.1
comp=Z,9.8nm,0.9s,baz=324,slow=0.6,SNR=16
KEST LR LR 09 48 48.7
comp=Z,51nm,18.0s,baz=308,slow=41
MOF **Molkenrain** 76.88 316 *e*P P 09 07 34.3 -0.3
HINF **Hinteralfeld** 77.08 316 *e*P P 09 07 34.5 -1.2
comp=Z,18nm,0.9s
HINF **Hinteralfeld** 77.08 316 *e*P P 09 07 34.5 -1.2
HINF pmax pmax
comp=Z,18nm,0.9s
HINF **Hinteralfeld** 77.08 316 *e*P P 09 07 34.5 -1.2
comp=Z,18nm,0.9s
LOMF **Lomont** 77.15 316 *e*P P 09 07 35.0 -1.1
SBF **Sospel** 77.18 312 *e*P P 09 07 35.3 -1.0
comp=Z,69nm,0.8s
SBF **Sospel** 77.18 312 *e*P P 09 07 35.3 -1.0
SBF pmax pmax
comp=Z,69nm,0.8s
SBF **Sospel** 77.18 312 *e*P P 09 07 35.3 -1.0
comp=Z,69nm,0.8s
MEM **Membach** 77.28 319 P P 09 07 36.7 +0.1
MEM AP pP 09 07 48.5 +1.1
WLF **Walferdange** 77.31 318 P P 09 07 37.0 +0.1
comp=Z,17nm,1.6s
WLF **Walferdange** 77.31 318 *e*P P 09 07 37.1 +0.3
comp=Z,88nm,1.9s
HAU **Haudompre** 77.39 317 *e*P P 09 07 36.2 -1.2
comp=Z,62nm,1.1s
HAU *e*R
comp=Z,227nm,22.0s
HAU **Haudompre** 77.39 317 *e*P P 09 07 36.2 -1.2
HAU pmax pmax
comp=Z,62nm,1.1s
HAU **Haudompre** 77.39 317 *e*P P 09 07 36.2 -1.2
comp=Z,62nm,1.1s
LPG **La Plagne** 77.44 314 *e*P P 09 07 37.5 -0.6
comp=Z,112nm,0.8s
LPG **La Plagne** 77.44 314 *e*P P 09 07 37.5 -0.6
LPG pmax pmax
comp=Z,112nm,0.8s
LPG **La Plagne** 77.44 314 *e*P P 09 07 37.5 -0.6
comp=Z,112nm,0.8s
LPL **La Plagne** 77.45 314 *e*P P 09 07 37.5 -0.6
comp=Z,130nm,0.7s
LPL **La Plagne** 77.45 314 *e*P P 09 07 37.5 -0.6
LPL pmax pmax
comp=Z,130nm,0.7s
LPL **La Plagne** 77.45 314 *e*P P 09 07 37.5 -0.6
comp=Z,130nm,0.7s
MBDF **Montbardon** 77.53 313 *e*P P 09 07 36.8 -1.6
comp=Z,48nm,0.8s
MBDF **Montbardon** 77.53 313 *e*P P 09 07 36.8 -1.6
MBDF pmax pmax
comp=Z,48nm,0.8s
MBDF **Montbardon** 77.53 313 *e*P P 09 07 36.8 -1.6
comp=Z,48nm,0.8s
THEF **They Montfort** 77.60 317 *e*P P 09 07 37.8 -0.8
PAGF **Fort de Pagny** 77.73 317 *e*P P 09 07 38.5 -0.7
comp=Z,5.5nm,0.8s
PAGF **Fort de Pagny** 77.73 317 *e*P P 09 07 38.5 -0.7
comp=Z,5.5nm,0.8s
CABF **La Chapelle** 77.75 315 *e*P P 09 07 38.8 -0.7
comp=Z,50nm,0.8s
CABF **La Chapelle** 77.75 315 *e*P P 09 07 38.8 -0.7
CABF pmax pmax
comp=Z,50nm,0.8s
CABF **La Chapelle** 77.75 315 *e*P P 09 07 38.8 -0.7
comp=Z,50nm,0.8s
BCLA **Clavier** 77.75 319 P P 09 07 39.1 -0.2
comp=Z,17nm,1.8s
BCLA AP pP 09 07 53.2 +3.2
FRF **La Foret Royal** 77.78 312 *e*P P 09 07 38.9 -0.8
comp=Z,98nm,0.9s
FRF **La Foret Royal** 77.78 312 *e*P P 09 07 38.9 -0.8
FRF pmax pmax
comp=Z,99nm,0.9s
FRF **La Foret Royal** 77.78 312 *e*P P 09 07 38.9 -0.8
comp=Z,98nm,0.9s
LMR **La Mourre** 77.92 312 *e*P P 09 07 39.6 -0.8
comp=Z,81nm,1.0s
LMR **La Mourre** 77.92 312 *e*P P 09 07 39.6 -0.8
LMR pmax pmax
comp=Z,81nm,1.0s
LMR **La Mourre** 77.92 312 *e*P P 09 07 39.6 -0.8
comp=Z,81nm,1.0s
GIVF **Givet** 78.10 319 *e*P P 09 07 40.4 -0.9
comp=Z,41nm,1.1s
GIVF **Givet** 78.10 319 *e*P P 09 07 40.4 -0.9
GIVF pmax pmax
comp=Z,41nm,1.1s
GIVF **Givet** 78.10 319 *e*P P 09 07 40.4 -0.9
comp=Z,41nm,1.1s
ORIF **Oris-en-Rattie** 78.13 314 *e*P P 09 07 40.5 -1.2
comp=Z,23nm,0.7s
ORIF *e*R
comp=Z,300nm,23.0s
ORIF **Oris-en-Rattie** 78.13 314 *e*P P 09 07 40.5 -1.2
ORIF pmax pmax
comp=Z,23nm,0.7s
ORIF **Oris-en-Rattie** 78.13 314 *e*P P 09 07 40.5 -1.2
comp=Z,23nm,0.7s
MEZF **Maizieres J'vi** 78.18 317 *e*P P 09 07 40.9 -0.8
comp=Z,48nm,1.2s
MEZF **Maizieres J'vi** 78.18 317 *e*P P 09 07 40.9 -0.8
comp=Z,48nm,1.2s
SFTF **Sexfontaines** 78.23 317 *e*P P 09 07 41.1 -0.9
comp=Z,61nm,1.0s
SFTF **Sexfontaines** 78.23 317 *e*P P 09 07 41.1 -0.9
comp=Z,61nm,1.0s
DOU **Dourbes** 78.25 319 P P 09 07 41.8 -0.2
comp=Z,12nm,2.1s
DOU AP pP 09 07 55.0 +2.3
UCC **Uccle** 78.29 320 P P 09 07 41.8 -0.5
SNF **Seneffe** 78.38 319 P P 09 07 42.6 -0.2
SNF AP pP 09 07 55.0 +1.5
SMRF **Simiane la Rot** 78.49 313 *e*P P 09 07 43.3 -0.3
comp=Z,52nm,0.8s
SMRF **Simiane la Rot** 78.49 313 *e*P P 09 07 43.3 -0.3
comp=Z,52nm,0.8s
BAIF **Baives** 78.50 319 *e*P P 09 07 42.9 -0.6
comp=Z,64nm,0.9s

BAIF **Baives** 78.50 319 *e*P P 09 07 42.9 -0.6
BAIF pmax pmax
comp=Z,64nm,0.9s
BAIF **Baives** 78.50 319 *e*P P 09 07 42.9 -0.6
comp=Z,64nm,0.9s
VIVF **Saint-Julien-l** 78.99 314 *e*P P 09 07 45.4 -1.0
comp=Z,56nm,1.0s
VIVF **Saint-Julien-l** 78.99 314 *e*P P 09 07 45.4 -1.0
VIVF pmax pmax
comp=Z,56nm,1.0s
VIVF **Saint-Julien-l** 78.99 314 *e*P P 09 07 45.4 -1.0
comp=Z,56nm,1.0s
SSB **Saint Sauveur** 79.02 314 *e*P P 09 07 45.9 -0.6
SSB pmax pmax
comp=Z,11nm,0.7s
SSB **Saint Sauveur** 79.02 314 *e*P P 09 07 45.9 -0.6
comp=Z,11nm,0.7s
LOR **Lormes** 79.16 316 *e*P P 09 07 46.0 -1.2
comp=Z,48nm,1.0s
LOR *e*R
comp=Z,286nm,22.5s
LOR **Lormes** 79.16 316 *e*P P 09 07 46.0 -1.2
LOR pmax pmax
comp=Z,48nm,1.0s
LOR **Lormes** 79.16 316 *e*P P 09 07 46.0 -1.2
comp=Z,48nm,1.0s
SMF **Signal de Mont** 79.28 315 *e*P P 09 07 46.7 -1.1
comp=Z,55nm,0.8s
SMF **Signal de Mont** 79.28 315 *e*P P 09 07 46.7 -1.1
SMF pmax pmax
comp=Z,55nm,0.8s
SMF **Signal de Mont** 79.28 315 *e*P P 09 07 46.7 -1.1
comp=Z,55nm,0.8s
SSF **Saint Saulge** 79.43 316 *e*P P 09 07 47.6 -1.1
comp=Z,42nm,0.9s
SSF **Saint Saulge** 79.43 316 *e*P P 09 07 47.6 -1.1
SSF pmax pmax
comp=Z,42nm,0.9s
SSF **Saint Saulge** 79.43 316 *e*P P 09 07 47.6 -1.1
comp=Z,42nm,0.9s
PLDF **La Plantade** 79.54 315⇑ *e*P P 09 07 48.0 -1.4
AVF **Avril sur Loir** 79.58 316 *e*P P 09 07 48.3 -1.2
comp=Z,42nm,0.9s
AVF **Avril sur Loir** 79.58 316 *e*P P 09 07 48.3 -1.2
AVF pmax pmax
comp=Z,42nm,0.9s
AVF **Avril sur Loir** 79.58 316 *e*P P 09 07 48.3 -1.2
comp=Z,42nm,0.9s
LASF **Ste Croix** 79.70 313 *e*P P 09 07 49.7 -0.5
comp=Z,84nm,1.2s
LASF **Ste Croix** 79.70 313 *e*P P 09 07 49.7 -0.5
comp=Z,84nm,1.2s
AGO **Saint Agoulin** 79.86 315⇑ *e*P P 09 07 49.5 -1.5
LBL **Lubilhac** 79.92 314 *e*P P 09 07 50.3 -1.2
HYF **Humbligny** 79.98 316 *e*P P 09 07 51.2 -0.4
HYF **Humbligny** 79.98 316 *e*P P 09 07 51.2 -0.4
PYM **Petit Puy Mans** 80.00 315 *e*P P 09 07 50.0 -1.9
DZM **Mont Dzumac** 80.38 116 P P 09 07 55.4 +1.1
comp=Z,6.7nm,0.6s,baz=270,slow=24,SNR=8.6
TCF **Toulx Ste Croi** 80.45 315 *e*P P 09 07 53.5 -0.7
comp=Z,58nm,1.0s
TCF **Toulx Ste Croi** 80.45 315 *e*P P 09 07 53.5 -0.7
TCF pmax pmax
comp=Z,58nm,1.0s
TCF **Toulx Ste Croi** 80.45 315 *e*P P 09 07 53.5 -0.7
comp=Z,58nm,1.0s
CAF **Calviac** 80.81 314 *e*P P 09 07 55.6 -0.6
comp=Z,37nm,0.9s
CAF **Calviac** 80.81 314 *e*P P 09 07 55.6 -0.6
CAF pmax pmax
comp=Z,37nm,0.9s
CAF **Calviac** 80.81 314 *e*P P 09 07 55.6 -0.6
comp=Z,37nm,0.9s
MTLF **Montolieu** 81.00 312 *e*P P 09 07 56.6 -0.6
comp=Z,43nm,0.9s
MTLF **Montolieu** 81.00 312 *e*P P 09 07 56.6 -0.6
MTLF pmax pmax
comp=Z,43nm,0.9s
MTLF **Montolieu** 81.00 312 *e*P P 09 07 56.6 -0.6
comp=Z,43nm,0.9s
RJF **Les Rejaudoux** 81.11 314 *e*P P 09 07 57.4 -0.4
comp=Z,59nm,0.9s
RJF *e*R
comp=Z,158nm,21.5s
RJF **Les Rejaudoux** 81.11 314 *e*P P 09 07 57.4 -0.4
RJF pmax pmax
comp=Z,59nm,0.9s
RJF **Les Rejaudoux** 81.11 314 *e*P P 09 07 57.4 -0.4
comp=Z,59nm,0.9s
LDF **La Druitiere** 81.55 318 *e*P P 09 07 59.0 -1.0
comp=Z,55nm,0.8s
LDF **La Druitiere** 81.55 318 *e*P P 09 07 59.0 -1.0
LDF pmax pmax
comp=Z,55nm,0.8s
LDF **La Druitiere** 81.55 318 *e*P P 09 07 59.0 -1.0
comp=Z,55nm,0.8s
LFF **La Frestale** 81.72 314 *e*P P 09 08 00.5 -0.5
comp=Z,29nm,0.8s
LFF **La Frestale** 81.72 314 *e*P P 09 08 00.5 -0.5
LFF pmax pmax
comp=Z,29nm,0.8s
LFF **La Frestale** 81.72 314 *e*P P 09 08 00.5 -0.5
comp=Z,29nm,0.8s
FLN **La Foliniere** 81.74 318 *e*P P 09 08 00.0 -1.0
comp=Z,64nm,0.9s
FLN *e*R
comp=Z,250nm,19.2s
FLN **La Foliniere** 81.74 318 *e*P P 09 08 00.0 -1.0
FLN pmax pmax
comp=Z,64nm,0.9s
FLN **La Foliniere** 81.74 318 *e*P P 09 08 00.0 -1.0
comp=Z,64nm,0.9s
EKA **Eskdalemuir Ar** 81.90 325 P P 09 08 01.4 -0.3
comp=Z,18nm,0.7s,baz=85,slow=5.8,SNR=46
EKA pP pP 09 08 13.8 +1.4
comp=Z,15nm,0.8s,baz=88,slow=6.1,SNR=12
EKA PP PP 09 11 08.6 -0.4
comp=Z,1.6nm,0.7s,baz=83,slow=8.8,SNR=3.8
ESK **Eskdalemuir** 81.93 325 *e*P P 09 08 01.7 -0.2
ESK pmax pmax
comp=Z,17nm,0.8s
ESK **Eskdalemuir** 81.93 325 *e*P P 09 08 01.7 -0.2
comp=Z,17nm,0.8s
MFF **Saint Martin d** 81.98 316 *e*P P 09 08 01.4 -0.9
comp=Z,56nm,0.9s
MFF **Saint Martin d** 81.98 316 *e*P P 09 08 01.4 -0.9
MFF pmax pmax
comp=Z,56nm,0.9s
MFF **Saint Martin d** 81.98 316 *e*P P 09 08 01.4 -0.9
comp=Z,56nm,0.9s
GRR **Gorron** 82.07 318 *e*P P 09 08 01.7 -1.0
comp=Z,15nm,0.9s
GRR **Gorron** 82.07 318 *e*P P 09 08 01.7 -1.0
GRR pmax pmax
comp=Z,15nm,0.9s
GRR **Gorron** 82.07 318 *e*P P 09 08 01.7 -1.0
comp=Z,15nm,0.9s
EPF **Esparros** 82.41 312 *e*P P 09 08 03.7 -1.0
comp=Z,11nm,0.9s
EPF **Esparros** 82.41 312 *e*P P 09 08 03.7 -1.0
EPF pmax pmax
comp=Z,11nm,0.9s
EPF **Esparros** 82.41 312 *e*P P 09 08 03.7 -1.0
comp=Z,11nm,0.9s
TAM **Tamanrasset** 82.46 292 *e*P P 09 08 05.8 +0.3
TAM pmax pmax
comp=Z,6.0nm,0.9s
TAM **Tamanrasset** 82.46 292 *e*P P 09 08 05.8 +0.3
comp=Z,6.1nm,0.9s
ALE **Alert** 82.62 357 P P 09 08 04.7 -0.3
comp=Z,151nm,0.7s,SNR=7.8
ETSF **Etsaut** 83.08 312 *e*P P 09 08 07.7 -0.5
comp=Z,38nm,0.9s
ETSF **Etsaut** 83.08 312 *e*P P 09 08 07.7 -0.5
ETSF pmax pmax
comp=Z,38nm,0.9s
ETSF **Etsaut** 83.08 312 *e*P P 09 08 07.7 -0.5
comp=Z,38nm,0.9s
SGMF **Saint Gilles** 83.20 318 *e*P P 09 08 07.8 -0.8
comp=Z,44nm,0.8s
SGMF **Saint Gilles** 83.20 318 *e*P P 09 08 07.8 -0.8
SGMF pmax pmax
comp=Z,44nm,0.8s
SGMF **Saint Gilles** 83.20 318 *e*P P 09 08 07.8 -0.8
comp=Z,44nm,0.8s
SJPF **Ste Jean** 83.51 313 *e*P P 09 08 08.9 -1.4

comp=Z,79nm,1.3s
SJPF Ste Jean 83.51 313 *e*P **P** 09 08 08.9 -1.4
SJPF pmax pmax
comp=Z,79nm,1.3s
SJPF Ste Jean 83.51 313 *e*P **P** 09 08 08.9 -1.4
comp=Z,79nm,1.3s
ROSF Rostrenen 83.65 318 *e*P **P** 09 08 10.1 -0.8
comp=Z,55nm,0.9s
ROSF Rostrenen 83.65 318 *e*P **P** 09 08 10.1 -0.8
ROSF pmax pmax
comp=Z,55nm,0.9s
ROSF Rostrenen 83.65 318 *e*P **P** 09 08 10.1 -0.8
comp=Z,55nm,0.9s
QUIF Quistinic 83.68 318 *e*P **P** 09 08 09.9 -1.2
comp=Z,18nm,0.8s
QUIF Quistinic 83.68 318 *e*P **P** 09 08 09.9 -1.2
QUIF pmax pmax
comp=Z,18nm,0.8s
QUIF Quistinic 83.68 318 *e*P **P** 09 08 09.9 -1.2
comp=Z,18nm,0.8s
MAW Mawson 84.67 191 P **P** 09 08 16.7 +1.3
comp=Z,2.9nm,0.8s,baz=310,slow=11,SNR=3.6
MAW pP **pP** 09 08 27.5 +1.2
comp=Z,12nm,1.0s,baz=25,slow=9.6,SNR=6.3
IM04 Indian Mountai 86.01 22 *e*P **P** 09 08 22.6 +0.2
ESDC Sonseca Array 86.36 310 P **P** 09 08 24.4 -0.5
comp=Z,8.3nm,0.7s,baz=56,slow=4.5,SNR=52
ESDC pP **pP** 09 08 36.6 +1.0
comp=Z,4.0nm,0.6s,baz=55,slow=4.8,SNR=8.7
ESLA Sonseca Array 86.36 310 *e*P **P** 09 08 24.5 -0.3
comp=Z,8.1nm,1.5s
ESLA *e*pP **pP** 09 08 36.5 +0.9
COLD Coldfoot 86.67 20 *e*P **P** 09 08 25.7 0.0
comp=Z,10nm,0.9s
PAB San Pablo 86.68 310 *e*P **P** 09 08 26.1 -0.3
PAB pmax pmax
comp=Z,8.0nm,0.8s
PAB San Pablo 86.68 310 *e*P **P** 09 08 26.1 -0.3
comp=Z,7.8nm,0.8s
SUMG Summit 87.66 347 *j iP* **P** 09 08 30.6 -0.3
comp=Z,32nm,0.9s
SUMG Summit 87.66 347 *e*P **P** 09 08 30.5 -0.3
SUMG *e**PP **pP** 09 08 43.4 +1.7
SUMG pmax pmax
comp=Z,46nm,1.1s
SUMG Summit 87.66 347 *e*P **P** 09 08 30.5 -0.4
comp=Z,46nm,1.1s
SUMG *e*pP **pP** 09 08 43.4 +1.7
BPAW Bear Paw Mtn. 87.94 23 *e*P **P** 09 08 32.1 +0.2
comp=Z,14nm,1.1s
PPLA Purkeypile 88.04 25 *e*P **P** 09 08 32.7 +0.1
comp=Z,12nm,0.6s
MVO Moncorvo 88.19 312 *e*P **P** 09 08 33.5 -0.1
comp=Z,20nm,1.8s
TOA0 Torodi Ar. Sit 88.23 283 *e*P **P** 09 08 34.2 0.0
TOA0 *e*pP **pP** 09 08 46.4 +1.3
TORD Torodi Ar. Bea 88.23 283 P **P** 09 08 34.2 +0.1
comp=Z,26nm,0.8s,baz=86,slow=4.4,SNR=147
TORD pP **pP** 09 08 46.2 +1.2
comp=Z,14nm,0.8s,baz=86,slow=4.0,SNR=13
TORD PP **PP** 09 11 59.8 -1.9
comp=Z,4.0nm,0.9s,baz=65,slow=7.2,SNR=8.7
TORD LR LR 09 50 25.1
comp=Z,123nm,19.8s,baz=80,slow=37
KTH Kantishna Hill 88.23 24 *e*P **P** 09 08 33.4 0.0
comp=Z,12nm,0.9s
TRF Thorofare Moun 88.53 24 *e*P **P** 09 08 34.6 -0.3
comp=Z,18nm,0.7s
PVRL Vila Real 88.65 312 *e*P **P** 09 08 35.8 0.0
comp=Z,23nm,1.3s
COLA College 88.71 22 *d iP* **P** 09 08 34.8 -0.6
COLA pmax pmax
comp=Z,90nm,2.3s
PCAB Cabril 88.73 313 *e*P **P** 09 08 36.6 +0.4
comp=Z,32nm,1.1s
MDT Midelt 88.74 303 P **P** 09 08 36.7 +0.3
comp=Z,3.1nm,0.8s,baz=69,slow=9.3,SNR=7.9
MDT pP **pP** 09 08 48.2 +0.8
comp=Z,3.3nm,0.9s,baz=78,slow=7.3,SNR=4.6
MDT LR LR 09 54 03.9
comp=Z,117nm,18.1s,baz=88,slow=39
MCK McKinley 88.91 23 *e*P **P** 09 08 36.5 0.0
MCK pmax pmax
comp=Z,55nm,1.2s
MCK McKinley 88.91 23 *e*P **P** 09 08 36.5 0.0
comp=Z,55nm,1.2s
PCBR Castelo Branco 88.91 311 *e*P **P** 09 08 36.8 -0.2
comp=Z,26nm,1.5s
PVIS Viseu 88.95 312 *e*P **P** 09 08 37.1 -0.1
PBAR Barrancos 89.09 309 *e*P **P** 09 08 38.0 +0.2
comp=Z,45nm,1.6s
ILAR Eielson Array 89.11 22 P **P** 09 08 36.1 -1.3
comp=Z,9.7nm,0.7s,baz=301,slow=4.4,SNR=112
ILAR PP PP 09 12 01.6 -5.6
comp=Z,1.0nm,0.8s,baz=307,slow=7.7,SNR=4.2
ILAR PKKPbc PKKPbc 09 26 25.9 +8.9
comp=Z,0.5nm,1.0s,baz=192,slow=2.6,SNR=4.1
PESTR Estremoz 89.29 310 *e*P **P** 09 08 38.5 -0.3
comp=Z,17nm,1.7s
KULLO Kullorsuaq 89.32 352 *j iP* **P** 09 08 38.1 0.0
comp=Z,85nm,0.8s
PTOM Tomar 89.66 311 *e*P **P** 09 08 41.0 +0.5
comp=Z,43nm,1.4s
PVAQ Vaqueiros 89.83 309 *e*P **P** 09 08 41.6 +0.3
comp=Z,41nm,1.5s
RC01 Rabbit Creek A 89.94 26 *e*P **P** 09 08 41.3 -0.1
comp=Z,68nm,0.9s
PBDV Barranco-do-Ve 90.05 308 *e*P **P** 09 08 42.8 +0.4
comp=Z,45nm,1.8s
PNCL Nicolau / Gran 90.22 309 *e*P **P** 09 08 43.5 +0.4
comp=Z,14nm,1.4s
PTEO Sao Teotonio 90.55 309 *e*P **P** 09 08 45.3 +0.6
comp=Z,69nm,1.8s
SEW Seward 90.56 26 *e*P **P** 09 08 43.6 -0.6
comp=Z,126nm,1.4s
PFVI Vila Bisbo 90.76 309 *e*P **P** 09 08 46.5 +0.8
comp=Z,65nm,1.6s
DOT Dot Lake 90.77 22 *e*P **P** 09 08 45.0 -0.2
comp=Z,13nm,0.7s
RES Resolute Bay 91.00 2 P **P** 09 08 46.1 +0.1
comp=Z,6.9nm,0.8s,baz=334,slow=4.7,SNR=9.3
INK Inuvik 91.05 16 P **P** 09 08 46.2 -0.1
comp=Z,18nm,1.0s,baz=336,slow=5.4,SNR=61
INK Inuvik 91.05 16 *e*P **P** 09 08 45.9 -0.4
INK pmax pmax
comp=Z,24nm,1.0s
INK Inuvik 91.05 16 *e*P **P** 09 08 45.9 -0.4
comp=Z,24nm,1.0s
EGAK Eagle 91.11 20 *e*P **P** 09 08 46.5 -0.2
comp=Z,9.4nm,0.7s
BMRM Bremner River 92.11 24 *e*P **P** 09 08 51.5 0.0
comp=Z,15nm,0.9s
BMRM *e*pP **pP** 09 09 01.9 -0.5
SFJD Kangerlussuaq 94.64 347 *i* P **P** 09 09 02.3 -0.6
comp=Z,12nm,1.2s
SFJD Kangerlussuaq 94.64 347 *i* P **P** 09 09 02.3 -0.6
SFJD pmax pmax
comp=Z,12nm,1.2s
DBIC Dimbokro 96.11 278 P **P** 09 09 10.7 0.0
comp=Z,6.4nm,0.7s,baz=59,slow=6.6,SNR=6.7
DBIC pP **pP** 09 09 22.6 +1.1
comp=Z,6.7nm,0.8s,baz=5.3,slow=6.1,SNR=3.6
DBIC LR LR 09 53 25.1
comp=Z,121nm,19.3s,baz=58,slow=36
VNDA Vanda 99.42 168 P **Pdif** 09 09 26.8 +2.6
comp=Z,1.0nm,0.6s,baz=316,slow=5.8,SNR=4.5
YKA Yellowknife Ar 100.36 13 P **Pdif** 09 09 28.4 -0.3
comp=Z,1.6nm,0.9s,baz=330,slow=4.2,SNR=14
YKA PP **PP** 09 13 30.2 -4.2
comp=Z,1.4nm,0.8s,baz=333,slow=7.6,SNR=8.5
EDM Edmonton 108.93 17 *e*PKPdf **PKiKP** 09 14 12.8 +1.1
A19A Klindworth Far 114.06 16 P PKPdf 09 14 21.2 -0.4
baz=114
J04D Umpqua Nationa 114.19 28 P PKPdf 09 14 22.0 -0.2
baz=114
A20A Cobblestone Ra 114.31 15 P PKPdf 09 14 21.4 -0.7
baz=114
MSO Missoula 114.40 20 P PKPdf 09 14 21.5 -0.8
baz=114
A21A Bergtoll Ranch 114.46 14 P PKPdf 09 14 22.0 -0.3
baz=114
J05D Fort Rock, OR 114.55 27 P PKPdf 09 14 23.3 +0.5
baz=114
EGMT Eagleton 114.61 17 *e*PKPdf PKPdf 09 14 22.3 -0.4
EGMT Eagleton 114.61 17 P PKPdf 09 14 22.2 -0.5
baz=114
A22A Carney Farms, 114.69 14 P PKPdf 09 14 22.5 -0.3
baz=114
B20A Solberg Farm, 114.70 15 P PKPdf 09 14 22.7 -0.1
baz=114
C19A Slack Wire Ran 115.07 16 P **PKPdf** 09 14 23.7 +0.1
baz=115
ULM Lac du Bonnet 115.18 6 PKP **PKPdf** 09 14 22.8 -0.8
comp=Z,2.7nm,0.7s,baz=334,slow=3.7,SNR=9.3
ULM PKKPbc **PKKPbc** 09 25 01.1 +0.8
comp=Z,0.8nm,0.4s,baz=189,slow=7.3,SNR=3.2
C20A Veseth Ranch, 115.37 16 P **PKPdf** 09 14 24.2 +0.1
baz=115
D19A Cripps Ranch, 115.64 17 P **PKPdf** 09 14 24.7 0.0
baz=115
C23A Lambert 115.98 14 P **PKPdf** 09 14 25.1 -0.1
baz=116
A29A Manning Farm, 116.05 9 P **PKPdf** 09 14 24.6 -0.7
baz=116
D21A La Casta Ranch 116.23 15 P **PKPdf** 09 14 26.2 +0.4
baz=116
E19A Rath Farm, Rou 116.31 17 P **PKPdf** 09 14 25.8 -0.2
baz=116
D22A Cohagen 116.36 15 P **PKPdf** 09 14 26.4 +0.4
baz=116
D23A Lindsay 116.57 14 P **PKPdf** 09 14 27.0 +0.5
baz=116
B30A Myrvik Farm, E 116.64 9 P **PKPdf** 09 14 26.3 -0.2
baz=116
MFID Camas Ranch 116.67 23 *e*PKPdf **PKPdf** 09 14 27.4 +0.6
E21A Keefer Ranch, 116.70 16 P **PKPdf** 09 14 27.0 +0.3
baz=116
LAO LASA Array 116.78 15 *e*PKPdf **PKPdf** 09 14 27.5 +0.6
F19A Roth Farm, Mol 116.82 17 P **PKPdf** 09 14 27.5 +0.5
baz=116
HLID Hailey 117.07 22 P **PKPdf** 09 14 27.7 0.0
baz=117
F20A Billings 117.09 17 P **PKPdf** 09 14 27.7 +0.1
baz=117
E23A Ismay 117.18 14 P **PKPdf** 09 14 27.9 +0.3
baz=117
D26A Manning 117.31 12 P **PKPdf** 09 14 27.5 -0.3
baz=117
C30A Mose, Pekin 117.35 9 P **PKPdf** 09 14 27.7 -0.2
baz=117
E24A Baker 117.35 14 P **PKPdf** 09 14 28.7 +0.8
baz=117
G20A Bridger 117.61 17 P **PKPdf** 09 14 28.6 0.0
baz=117
E25A Miller Ranch, 117.61 13 P **PKPdf** 09 14 28.6 +0.1
baz=117
D29A Pettibone, Tap 117.80 10 P **PKPdf** 09 14 28.8 +0.1
baz=118
E26A Carlson Angus 117.83 12 P **PKPdf** 09 14 28.7 -0.2
baz=118
G21A Lodge Grass 117.88 16 P **PKPdf** 09 14 28.6 -0.5
baz=118
F23A Volborg 117.88 15 P **PKPdf** 09 14 28.6 -0.5
baz=118
D30A Buchanan 117.89 9 P **PKPdf** 09 14 28.4 -0.5
baz=118
H19A Powell 117.89 18 P **PKPdf** 09 14 29.9 +0.7
baz=118
F24A Ekalaka 118.00 14 P **PKPdf** 09 14 29.5 +0.2
baz=118
E28A Huff 118.08 11 P **PKPdf** 09 14 29.1 -0.3
baz=118
G22A Birney 118.13 16 P **PKPdf** 09 14 29.3 -0.3
baz=118
F25A Bowman 118.14 13 P **PKPdf** 09 14 29.5 0.0
baz=118
H20A Greybull 118.34 17 P **PKPdf** 09 14 29.7 -0.3
baz=118
LOHW Long Hollow 118.34 19 *e*PKPdf **PKPdf** 09 14 30.5 +0.4
LOHW *e*PP **PP** 09 15 46.6 +1.3
G23A Biddle 118.37 15 P **PKPdf** 09 14 29.7 -0.3
baz=118
F26A Lodgepole 118.38 13 P **PKPdf** 09 14 29.9 -0.1
baz=118
SNOW Snow King Moun 118.43 20 *e*PKPdf **PKPdf** 09 14 30.8 +0.4
SNOW *e*PP **PP** 09 15 45.0 -1.0
REDW Red Top Meadow 118.48 20 *e*PKPdf **PKPdf** 09 14 30.8 +0.3
REDW *e*PP **PP** 09 15 46.1 -0.2
G24A Alzada 118.49 14 P **PKPdf** 09 14 29.6 -0.7
baz=118
F27A Lemmon 118.50 12 P **PKPdf** 09 14 30.1 -0.1
baz=118
H22A Clearmont 118.69 16 P **PKPdf** 09 14 30.7 0.0
baz=118
I20A Worland 118.80 17 P **PKPdf** 09 14 30.8 -0.1
baz=118
G26A Maurine 118.93 13 P **PKPdf** 09 14 30.6 -0.5
baz=119
F29A Eureka 118.95 10 P **PKPdf** 09 14 30.5 -0.5
baz=119
G27A Dupree 118.99 12 P **PKPdf** 09 14 30.7 -0.4
baz=119
H24A Dirks Ranch, A 119.00 14 P **PKPdf** 09 14 30.5 -0.7
baz=119
F30A Leola 119.08 10 P **PKPdf** 09 14 30.8 -0.4
baz=119
J19A Crowheart 119.14 18 P **PKPdf** 09 14 31.9 +0.2
baz=119
I21A Big Trails, Te 119.16 17 P **PKPdf** 09 14 31.0 -0.7
baz=119
I22A 9 Mile Ranch, 119.31 16 P **PKPdf** 09 14 31.2 -0.7
baz=119
J20A Shoshoni 119.35 18 P **PKPdf** 09 14 31.9 -0.2
baz=119
BW06 Boulder Array 119.44 19 *e*PKPdf **PKPdf** 09 14 31.8 -0.6
PDAR Pinedale Array 119.44 19 PKP **PKPdf** 09 14 31.9 -0.5
comp=Z,2.8nm,0.7s,baz=43,slow=2.1,SNR=26
PDAR PKKPab PKKPab 09 24 54.1 +6.0
comp=Z,0.4nm,0.6s,baz=157,slow=2.7,SNR=4.0
H26A Fairpoint 119.54 13 P **PKPdf** 09 14 31.5 -0.8
baz=119
J21A Lysite 119.55 17 P **PKPdf** 09 14 31.6 -0.8
baz=119
H27A Howes 119.67 13 P **PKPdf** 09 14 32.0 -0.5
baz=119
RSSD Black Hills 119.72 14 *e*PKIKP **PKPdf** 09 14 32.1 -0.7
RSSD Black Hills 119.72 14 *e*PKPdf **PKPdf** 09 14 32.1 -0.7
G30A Faulkton 119.75 10 P **PKPdf** 09 14 31.8 -0.8
baz=119
J22A Midwest 119.75 16 P **PKPdf** 09 14 31.6 -1.2
baz=119
NVAR Mina Array Bea 119.77 28 PKP **PKPdf** 09 14 33.9 +0.8
comp=Z,3.8nm,0.6s,baz=313,slow=2.1,SNR=41
HWUT Hardware Ranch 119.80 21 *e*PKPdf **PKPdf** 09 14 33.0 0.0
I24A Kuemmerle Ranc 119.82 15 P **PKPdf** 09 14 31.8 -1.1
baz=120
I25A Rochford 119.89 14 P **PKPdf** 09 14 32.5 -0.6
baz=120
H29A Onida 120.05 11 P **PKPdf** 09 14 32.5 -0.7
baz=120
I26A New Underwood 120.08 13 P **PKPdf** 09 14 33.2 -0.2
baz=120
I27A Quinn 120.21 13 P **PKPdf** 09 14 33.1 -0.5
baz=120
J24A Dixon Ranch, L 120.31 15 P **PKPdf** 09 14 33.2 -0.6
baz=120
BRSD Miller 120.45 10 *e*PKPdf **PKPdf** 09 14 33.7 -0.2
BRSD Miller 120.45 10 P **PKPdf** 09 14 33.3 -0.6
baz=120
K22A Casper 120.45 17 *e*PKPdf **PKPdf** 09 14 33.6 -0.6
K22A Casper 120.45 17 P **PKPdf** 09 14 33.5 -0.7
baz=120
SPMN Marine on St. 120.45 5 P **PKPdf** 09 14 33.0 -0.9
baz=120
I28A Midland 120.46 12 P **PKPdf** 09 14 33.6 -0.4
baz=120
J25A Sunshine Ranch 120.46 14 P **PKPdf** 09 14 33.7 -0.4
baz=120
TPH Tonopah 120.55 28 *e*PKIKP **PKPdf** 09 14 34.8 +0.3
TPH Tonopah 120.55 28 *e*PKPdf **PKPdf** 09 14 34.8 +0.3
DUG Dugway, Tooele 120.58 23 *e*PKIKP **PKPdf** 09 14 34.7 +0.2
DUG Dugway, Tooele 120.58 23 *e*PKPdf **PKPdf** 09 14 34.7 +0.2
DUG Dugway, Tooele 120.58 23 P **PKPdf** 09 14 34.8 +0.2
baz=120
K23A Bowen Ranch, D 120.60 16 P **PKPdf** 09 14 33.8 -0.7
baz=120
I29A Vivian Onida 120.61 11 P **PKPdf** 09 14 33.8 -0.4
baz=120
J26A Sides Ranch, S 120.71 14 P **PKPdf** 09 14 34.0 -0.5
baz=120
I30A Oacoma 120.88 11 P **PKPdf** 09 14 34.4 -0.4
baz=120
J28A Allard Ranch, 121.00 12 P **PKPdf** 09 14 34.9 -0.2
baz=121
J27A Elkhorn Farm, 121.00 13 P **PKPdf** 09 14 35.3 +0.2
baz=121
R11A Troy Canyon, C 121.04 26 *e*PKPdf **PKPdf** 09 14 35.8 +0.3
R11A *e*SKPdf **SKPdf** 09 18 07.5 -1.1
R11A Troy Canyon, C 121.04 26 P **PKPdf** 09 14 36.0 +0.5
baz=121
K25A Mack Ranch, Ha 121.18 15 P **PKPdf** 09 14 35.2 -0.4
baz=121
J29A Okreek 121.20 11 P **PKPdf** 09 14 35.3 -0.1
baz=121
K26A Motz Farm, Whi 121.26 14 P **PKPdf** 09 14 35.0 -0.7
baz=121
J30A Dallas 121.44 11 P **PKPdf** 09 14 35.5 -0.4
baz=121
ECSD EROS Data Cent 121.50 8 *e*PKPdf **PKPdf** 09 14 35.5 -0.5
ECSD EROS Data Cent 121.50 8 P **PKPdf** 09 14 35.6 -0.4
baz=121
N20A Spence Gulch, 121.60 19 P **PKPdf** 09 14 36.4 -0.2
baz=121
K28A Ten Mile Ranch 121.66 13 P **PKPdf** 09 14 36.1 -0.3
baz=121
K29A Lazy Trails An 121.82 12 P **PKPdf** 09 14 36.6 -0.1
baz=122
DAC Darwin (Calif) 121.84 29 *e*PKIKP **PKPdf** 09 14 37.7 +0.6
DAC Darwin (Calif) 121.84 29 *e*PKPdf **PKPdf** 09 14 37.7 +0.6
DAC *e*PP PP 09 15 59.9 -10
DAC *e*SKPdf SKPdf 09 17 59.9 -10
TPNV Topopah Spring 121.91 28 P **PKPdf** 09 14 37.5 +0.3
baz=122
K30A Basset 122.04 11 P **PKPdf** 09 14 37.0 -0.1
baz=122
MPMC Manual Prospec 122.07 29 P **PKPdf** 09 14 37.9 +0.4
baz=122
N22A Wattenberg Ran 122.17 18 P **PKPdf** 09 14 37.7 0.0
baz=122
N23A Red Feather La 122.24 17 P **PKPdf** 09 14 37.6 -0.2
baz=122
O20A White River Ci 122.24 19 P **PKPdf** 09 14 37.6 -0.2
baz=122
MVU Marysvale 122.28 23 *e*PKPdf **PKPdf** 09 14 39.1 +1.2
MSU Marysvale 122.29 23 *e*PKIKP **PKPdf** 09 14 39.0 +1.1
MSU Marysvale 122.29 23 *e*PKPdf **PKPdf** 09 14 39.0 +1.1
L28A Connealy Angus 122.30 13 P **PKPdf** 09 14 37.3 -0.4
baz=122
SRU San Rafael Swe 122.38 22 *e*PKIKP **PKPdf** 09 14 38.0 -0.1
SRU San Rafael Swe 122.38 22 *e*PKPdf **PKPdf** 09 14 38.0 -0.1
L31A Butterfield Fa 122.67 11 P **PKPdf** 09 14 38.1 -0.2
baz=122
L30A Spencer Herefo 122.72 11 P **PKPdf** 09 14 37.7 -0.7
baz=122
O22A Kremmling 122.74 18 P **PKPdf** 09 14 38.1 -0.8
baz=122
SHOC Shoshone, Teco 122.76 28 P **PKPdf** 09 14 38.5 -0.1
baz=122
SHPR Sheep Range 122.77 27 *e*PKPdf **PKPdf** 09 14 38.7 -0.1
O23A Lake Granby, G 122.88 17 P **PKPdf** 09 14 39.1 -0.1
baz=123
GSC Goldstone, Bar 123.01 29 *e*PKIKP **PKPdf** 09 14 39.7 +0.5
GSC *e* 09 16 16.6
GSC Goldstone, Bar 123.01 29 *e*PKPdf **PKPdf** 09 14 39.7 +0.5
GSC *e*PP **PP** 09 16 16.6 -0.8
GSC Goldstone, Bar 123.01 29 P **PKPdf** 09 14 40.1 +0.9
baz=123
N26A Koester Ranch, 123.02 15 P **PKPdf** 09 14 38.4 -0.7
baz=123
P22A Eagle 123.19 18 P **PKPdf** 09 14 39.3 -0.3
baz=123
N27A Anderson Farm, 123.21 14 P **PKPdf** 09 14 39.7 +0.3
baz=123
ISCO Idaho Springs 123.34 17 P **PKPdf** 09 14 39.5 -0.5
baz=123
BFSC Mount Baldy Ra 123.45 31 P **PKPdf** 09 14 40.6 +0.4
baz=123
O25A Wiggins 123.47 16 P **PKPdf** 09 14 39.8 -0.3
baz=123
SMCO Snowmass 123.51 19 *e*PKPdf **PKPdf** 09 14 40.6 +0.1
SMCO *e*PP **PP** 09 16 20.3 -0.5
BGNE Belgrade 123.53 10 *e*PKPdf **PKPdf** 09 14 39.7 -0.3
BGNE Belgrade 123.53 10 P **PKPdf** 09 14 39.4 -0.6
baz=123
O26A Horse Wrangler 123.55 15 P **PKPdf** 09 14 39.6 -0.6
baz=123
N28A Pribbeno Ranch 123.56 13 P **PKPdf** 09 14 39.9 -0.2
baz=123
N29A Votaw Ranch, W 123.63 13 P **PKPdf** 09 14 39.8 -0.4
baz=123
P23A Jefferson 123.67 18 P **PKPdf** 09 14 39.8 -0.9
baz=123
O27A Beecher Island 123.81 14 P **PKPdf** 09 14 40.0 -0.6
baz=124
GMRC Granite Mounta 123.97 29 P **PKPdf** 09 14 42.2 +1.1
baz=124
U15A North Rim 124.05 25 P **PKPdf** 09 14 42.5 +1.0
baz=124
P26A Davis Ranch, A 124.19 15 P **PKPdf** 09 14 41.2 -0.2
baz=124
MURC Murrieta 124.19 31 P **PKPdf** 09 14 42.0 +0.5
baz=124
O30A MW Ranch, Wils 124.36 12 P **PKPdf** 09 14 40.9 -0.7
baz=124
P27A Ficken Ranch, 124.39 15 P **PKPdf** 09 14 41.3 -0.5
baz=124
BELC Belle Mtn. Jos 124.45 29 P **PKPdf** 09 14 42.8 +0.7
baz=124
W13A Hualapai Mount 124.51 27 P **PKPdf** 09 14 43.2 +0.9
baz=124
PFO Pinyon Flats O 124.55 30 P **PKPdf** 09 14 42.8 +0.5
baz=124
P28A Saint Francis 124.57 14 P **PKPdf** 09 14 41.6 -0.5
baz=124
O32A Brockman Farm, 124.63 11 P **PKPdf** 09 14 41.3 -0.8
baz=124
IRM Iron Mountain 124.72 29 P **PKPdf** 09 14 43.6 +1.1
baz=124
Q26A Hugo 124.74 16 P **PKPdf** 09 14 42.1 -0.4
baz=124
R23A Moffat 124.77 18 P **PKPdf** 09 14 43.0 +0.2
baz=124
MVCO Mesa Verde 124.79 21 *e*PKPdf **PKPdf** 09 14 43.6 +0.8
MVCO Mesa Verde 124.79 21 P **PKPdf** 09 14 43.2 +0.4
baz=124
KSCO Kaye Shedlock' 124.89 15 P **PKPdf** 09 14 42.4 -0.4
baz=125
BC3 Big Chuckawall 124.99 29 P **PKPdf** 09 14 44.1 +1.0
baz=125
PDMCI Parker Dam,Lak 125.07 28 P **PKPdf** 09 14 44.1 +1.1
baz=125
P31A Stockton 125.13 12 P **PKPdf** 09 14 42.6 -0.5
baz=125
P32A Huiting Farm, 125.19 11 P **PKPdf** 09 14 42.6 -0.6
baz=125
SDCO Great Sand Dun 125.28 18 P **PKPdf** 09 14 43.2 -0.6
baz=125
R26A Arlington 125.34 16 P **PKPdf** 09 14 43.6 -0.1
baz=125
Y12C Blythe 125.35 28 P **PKPdf** 09 14 44.8 +1.1
baz=125
Q29A Oakley 125.40 14 P **PKPdf** 09 14 43.1 -0.6
baz=125
Q30A Quinter 125.48 13 P **PKPdf** 09 14 43.5 -0.4
baz=125
R27A Eads 125.53 15 P **PKPdf** 09 14 43.6 -0.4
baz=125
P33A Williams Farm, 125.53 10 P **PKPdf** 09 14 43.2 -0.7
baz=125
SFIN Lafayette 125.55 0 *e*PKPdf **PKPdf** 09 14 42.9 -0.9
SFIN Lafayette 125.55 0 P **PKPdf** 09 14 43.1 -0.7
baz=125
ACSO Alum Creek Sta 125.58 356 *e*PKPdf **PKPdf** 09 14 43.3 -0.6
ACSO *e*PP **PP** 09 16 32.2 -1.7
R28A Tribune 125.72 15 P **PKPdf** 09 14 44.3 0.0
baz=125
Q33A Connelly Farm, 125.93 11 P **PKPdf** 09 14 44.3 -0.3
baz=126
S26A Kim 125.98 16 P **PKPdf** 09 14 44.8 -0.2
baz=126
KSU1 Kansas State U 126.04 9 *e*PKPdf **PKPdf** 09 14 44.3 -0.5
KSU1 Kansas State U 126.04 9 P **PKPdf** 09 14 44.2 -0.6
baz=126
S27A Las Animas 126.07 16 P **PKPdf** 09 14 44.8 -0.3
baz=126
X16A Lo Mia Camp, P 126.13 25 P **PKPdf** 09 14 46.5 +1.1
baz=126
R30A Dighton 126.14 13 P **PKPdf** 09 14 45.1 0.0
baz=126
T25A Trinidad 126.16 17 P **PKPdf** 09 14 45.7 +0.3
baz=126

W18A	Petrified Fore	126.20	23	ePKPdf	PKPdf	09 14 46.9	+1.5
R31A	Burdett	126.29	12	P	PKPdf	09 14 44.8	-0.6
	baz=126						
R32A	Long Quarter,	126.33	12	P	PKPdf	09 14 45.2	-0.2
	baz=126						
Z14A	Wintersburg	126.39	27	P	PKPdf	09 14 46.9	+1.2
	baz=126						
S28A	Manter	126.42	15	P	PKPdf	09 14 45.7	0.0
	baz=126						
R33A	Olander Ranch,	126.58	11	P	PKPdf	09 14 45.8	-0.1
	baz=126						
X18A	Snowflake	126.64	24	P	PKPdf	09 14 46.8	+0.5
	baz=126						
T27A	Campo	126.70	16	P	PKPdf	09 14 46.2	-0.1
	baz=126						
S30A	Montezuma	126.71	14	P	PKPdf	09 14 45.7	-0.5
	baz=126						
T28A	Walsh	126.81	15	P	PKPdf	09 14 46.1	-0.4
	baz=126						
S31A	Mullinville	126.94	13	P	PKPdf	09 14 46.5	-0.1
	baz=127						
R36A	Gordon, Harris	126.97	9	P	PKPdf	09 14 45.7	-0.9
	baz=127						
T29A	Hugoton	126.98	14	P	PKPdf	09 14 46.5	-0.2
	baz=127						
S32A	Newby Ranch, P	126.98	12	P	PKPdf	09 14 46.5	-0.2
	baz=127						
R37A	Teagarden Farm	127.07	8	P	PKPdf	09 14 45.5	-1.3
	baz=127						
U27A	Thompson Grove	127.28	16	P	PKPdf	09 14 47.3	-0.1
	baz=127						
S35A	Otter Creek Ra	127.47	10	P	PKPdf	09 14 47.1	-0.5
	baz=127						
ANMO	Albuquerque	127.54	20	ePKIKP	PKPdf	09 14 48.9	+0.9
ANMO	Albuquerque	127.54	20	ePKPdf	PKPdf	09 14 48.9	+0.9
S36A	Lake Cedric, C	127.54	9	P	PKPdf	09 14 47.2	-0.5
	baz=127						
214A	Organ Pipe Nat	127.64	28	P	PKPdf	09 14 48.6	+0.5
	baz=127						
WCI	Wyandotte Cave	127.69	359	ePKIKP	PKPdf	09 14 47.4	-0.6
WCI	Wyandotte Cave	127.69	359	ePKPdf	PKPdf	09 14 47.4	-0.6
U30A	WK&E Inc. Balk	127.73	14	P	PKPdf	09 14 48.2	0.0
	baz=127						
T34A	McClaskey Farm	127.97	11	P	PKPdf	09 14 48.5	0.0
	baz=128						
LENM	Lemitar	128.07	21	ePKPdf	PKPdf	09 14 50.1	+1.1
T36A	Boggs Farm, Ca	128.15	9	P	PKPdf	09 14 49.0	+0.1
	baz=128						
T35A	Sooner Cattle	128.19	10	P	PKPdf	09 14 49.3	+0.3
	baz=128						
TUC	Tucson	128.23	26	ePKIKP	PKPdf	09 14 50.8	+1.5
TUC	Tucson	128.23	26	ePKPdf	PKPdf	09 14 50.8	+1.5
U33A	Lingo Farm, Me	128.37	12	P	PKPdf	09 14 49.3	-0.1
	baz=128						
U34A	Anderson Ranch	128.48	11	ePKPdf	PKPdf	09 14 50.2	+0.6
U34A	Anderson Ranch	128.48	11	P	PKPdf	09 14 50.0	+0.5
	baz=128						
V31A	Spring Creek L	128.64	14	P	PKPdf	09 14 50.9	+0.9
	baz=128						
V32A	Arapaho	128.87	13	P	PKPdf	09 14 51.0	+0.6
	baz=128						
V33A	Lossen Ranch,	128.93	12	P	PKPdf	09 14 50.3	-0.2
	baz=129						
121A	Cookes Peak, D	129.24	23	ePKPdf	PKPdf	09 14 53.0	+1.6
121A	Cookes Peak, D	129.24	23	P	PKPdf	09 14 52.9	+1.6
	baz=129						
V35A	Meyer Ranch, C	129.26	11	P	PKPdf	09 14 51.3	+0.2
	baz=129						
TUL1	Leonard	129.29	9	P	PKPdf	09 14 51.3	+0.2
	baz=129						
W32A	Sentinel	129.40	13	P	PKPdf	09 14 51.6	+0.3
	baz=129						
W33A	Caddo, Fort Co	129.54	12	P	PKPdf	09 14 51.8	+0.2
	baz=129						
MSTX	Muleshoe	129.59	17	ePKPdf	PKPdf	09 14 52.0	+0.1
MSTX	Muleshoe	129.59	17	P	PKPdf	09 14 52.4	+0.5
	baz=129						
W34A	Bridge Creek,	129.59	12	P	PKPdf	09 14 52.5	+0.7
	baz=129						
319A	Douglas	129.67	25	P	PKPdf	09 14 53.9	+1.8
	baz=129						
X31A	McDonald Ranch	129.70	14	P	PKPdf	09 14 52.2	+0.2
	baz=129						
WVT	Waverly	129.78	1	ePKIKP	PKPdf	09 14 51.4	-0.6
WVT				e		09 17 01.8	
WVT	Waverly	129.78	1	ePKPdf	PKPdf	09 14 51.4	-0.6
WVT				ePP	PP	09 17 01.8	+0.2
WVT				eSKPdf	SKPdf	09 18 18.8	-6.1
W35A	Tecumseh	129.84	11	P	PKPdf	09 14 52.7	+0.5
	baz=130						
WMOK	Wichita Mounta	129.87	13	ePKIKP	PKPdf	09 14 52.2	-0.1
WMOK	Wichita Mounta	129.87	13	ePKPdf	PKPdf	09 14 52.2	-0.1
W36A	Wetumka	129.97	10	P	PKPdf	09 14 52.8	+0.4
	baz=130						
W37A	Quinton	130.10	9	P	PKPdf	09 14 53.2	+0.5
	baz=130						
X34A	Smith Ranch, M	130.20	12	P	PKPdf	09 14 54.1	+1.2
	baz=130						
W38A	Poteau	130.30	8	P	PKPdf	09 14 53.6	+0.6
	baz=130						
Z28A	Tucker Farm, M	130.34	17	P	PKPdf	09 14 53.6	+0.3
	baz=130						
Y32A	R-V Farms, Ver	130.43	14	P	PKPdf	09 14 53.6	+0.2
	baz=130						
KMSC	Kings Mountain	130.50	354	P	PKPdf	09 14 53.5	+0.1
	baz=130						
X36A	Centrahoma	130.50	10	P	PKPdf	09 14 54.0	+0.6
	baz=130						
X35A	Drake	130.56	11	P	PKPdf	09 14 53.7	+0.2
	baz=130						
Z29A	Hungry Hill Ra	130.56	16	P	PKPdf	09 14 53.6	-0.1
	baz=130						
Y33A	Hilltop Ranch,	130.60	13	P	PKPdf	09 14 53.8	+0.2
	baz=130						
X37A	Clayton	130.65	9	P	PKPdf	09 14 54.2	+0.5
	baz=130						
Z30A	Sanderson Ranc	130.69	16	P	PKPdf	09 14 54.7	+0.8
	baz=130						
Y34A	Reagan Ranch,	130.84	12	P	PKPdf	09 14 54.5	+0.5
	baz=130						
MNTX	Cornudas Mount	130.86	21	ePKPdf	PKPdf	09 14 54.9	+0.6
MNTX	Cornudas Mount	130.86	21	P	PKPdf	09 14 54.8	+0.6
	baz=131						
Z31A	Sharp Cattle R	130.91	15	P	PKPdf	09 14 54.8	+0.5
	baz=131						
128A	Castleberry Fa	130.94	18	P	PKPdf	09 14 55.3	+0.8
	baz=131						
Z32A	Haskell	131.09	14	P	PKPdf	09 14 54.5	-0.1
	baz=131						
129A	Stewart Farms,	131.11	17	P	PKPdf	09 14 54.9	+0.2
	baz=131						
131A	Roby	131.46	15	P	PKPdf	09 14 55.5	+0.1
	baz=131						
230A	Sterling City	132.02	16	P	PKPdf	09 14 56.6	+0.1
	baz=132						
232A	Coleman	132.40	15	P	PKPdf	09 14 57.6	+0.5
	baz=132						
330A	Mertzon	132.45	17	P	PKPdf	09 14 56.9	-0.4
	baz=132						
233A	Rising Star	132.46	14	P	PKPdf	09 14 57.4	+0.1
	baz=132						
138A	Matatall Enter	132.58	10	P	PKPdf	09 14 57.7	+0.3
	baz=132						
234A	Clairette	132.64	13	P	PKPdf	09 14 57.5	0.0
	baz=132						
331A	San Angelo	132.75	16	P	PKPdf	09 14 57.8	0.0
	baz=132						
332A	Millersview	132.86	15	P	PKPdf	09 14 58.0	-0.1
	baz=132						
236A	Katherine and	132.97	11	P	PKPdf	09 14 58.2	0.0
	baz=133						
429A	Davenport Ranc	132.98	18	P	PKPdf	09 14 58.7	+0.4
	baz=133						
333A	Richland Sprin	133.10	14	P	PKPdf	09 14 57.7	-0.7
	baz=133						
334A	Lometa	133.26	13	P	PKPdf	09 14 58.4	-0.3
	baz=133						
431A	Sonora	133.29	16	P	PKPdf	09 14 58.9	0.0
	baz=133						
239A	Gary	133.31	9	P	PKPdf	09 14 58.8	0.0
	baz=133						
432A	Menard	133.33	15	P	PKPdf	09 14 59.4	+0.4
	baz=133						
529A	Stev Forest Ra	133.35	18	P	PKPdf	09 14 58.9	-0.1
	baz=133						
335A	Moody	133.49	13	P	PKPdf	09 14 58.7	-0.4
	baz=133						
336A	Riesel	133.51	12	P	PKPdf	09 14 59.2	0.0
	baz=133						
530A	J-C Ranch, Com	133.59	17	P	PKPdf	09 15 01.0	+1.5
	baz=133						
TXAR	Lajitas Array	133.61	20	PKP	PKPdf	09 14 59.2	-0.4
	comp=Z,2.0nm,0.6s,baz=206,slow=0.8,SNR=20						
TXAR				PP	PP	09 17 20.7	-6.1
	comp=Z,0.6nm,0.7s,baz=15,slow=3.7,SNR=4.1						
TXAR				SKPab	SKPab	09 18 27.1	-0.9
	comp=Z,1.2nm,0.9s,baz=320,slow=1.1,SNR=4.4						
433A	Art	133.62	15	P	PKPdf	09 14 59.6	+0.1
	baz=133						
JCT	Junction City	133.70	16	ePKIKP	PKPdf	09 14 59.9	+0.2
JCT	Junction City	133.70	16	ePKPdf	PKPdf	09 14 59.9	+0.2
JCT	Junction City	133.70	16	P	PKPdf	09 14 59.5	-0.2
	baz=133						
434A	Burnet	133.76	14	P	PKPdf	09 14 58.8	-0.9
	baz=133						
531A	Rocksprings	133.80	17	P	PKPdf	09 14 60.0	+0.1
	baz=134						
340A	Bronson	133.98	8	P	PKPdf	09 15 00.5	+0.4
	baz=134						
533A	Kerrville	134.28	15	P	PKPdf	09 15 00.6	-0.2
	baz=134						
534A	Blanco	134.46	14	P	PKPdf	09 15 00.2	-0.8
	baz=134						
632A	Uvalde	134.63	16	P	PKPdf	09 15 01.7	+0.3
	baz=134						
635A	Leesville	135.24	14	P	PKPdf	09 15 02.8	+0.3
	baz=135						
636A	Smothers Creek	135.31	13	P	PKPdf	09 15 03.5	+0.9
	baz=135						
733A	Divot King Ran	135.51	16	P	PKPdf	09 15 03.2	+0.2
	baz=135						
832A	Faith Ranch, C	135.73	17	P	PKPdf	09 15 03.4	-0.1
	baz=135						
735A	Kenedy	135.74	14	P	PKPdf	09 15 03.5	0.0
	baz=135						
736A	Circle Diamond	135.81	13	P	PKPdf	09 15 04.1	+0.6
	baz=136						
BDFB	Brasilia	142.54	263	PKhKP	PKPpre	09 15 11.4	
	comp=Z,2.9nm,0.7s,baz=147,slow=5.2,SNR=7.0						
TEIG	Tepich	145.60	2	ePKPbc	PKPab	09 15 21.7	-0.1
TRQA	Tornquist	147.74	218	ePKPbc	PKPbc	09 15 28.0	+0.7
CPUP	Villa Florida	149.99	242	ePKIKP	PKPbc	09 15 32.4	-0.9
CPUP				e		09 15 39.0	
CPUP	Villa Florida	149.99	242	ePKPbc	PKPbc	09 15 32.4	-0.9
CPUP				ePKPab	PKPab	09 15 39.0	-0.1
PLCA	Paso Flores	150.14	205	PKPbc	PKPbc	09 15 34.1	+0.7
	comp=Z,6.5nm,0.8s,baz=298,slow=2.0,SNR=19						
PLCA				pPKPbc	pPKPbc	09 15 45.6	+1.1
	comp=Z,14nm,0.7s,baz=157,slow=1.3,SNR=14						
PLCA	Paso Flores	150.14	205	ePKPbc	PKPbc	09 15 33.8	+0.4
PLCA				pPKPbc	pPKPbc	09 15 45.6	+1.1
SDV	Santo Domingo	151.88	324	ePKPdf	PKPdf	09 15 31.6	-0.4
SDV				ePKPbc	PKPbc	09 15 37.4	-1.0
SDV				ePKPab	PKPab	09 15 47.3	-0.1
SAML	Samuel	156.26	280	ePKPab	PKPab	09 16 06.2	+0.3
ROSC	El Rosal	157.25	326	PKP	PKPdf	09 15 39.7	0.0
	comp=Z,5.7nm,0.7s,baz=98,slow=12,SNR=8.5						
ROSC				PKPab	PKPab	09 16 09.2	-1.3
	comp=Z,11nm,0.7s,baz=96,slow=4.9,SNR=9.4						
LPAZ	La Paz	161.89	261	PKP	PKPdf	09 15 45.1	0.0
	comp=Z,3.2nm,0.9s,baz=329,slow=1.9,SNR=8.2						
LPAZ				PKPab	PKPab	09 16 30.5	-0.6
	comp=Z,3.0nm,0.7s,baz=102,slow=2.7,SNR=6.5						
OTAV	Otavalo	163.31	330	ePKPdf	PKPdf	09 15 46.8	+0.3

*ISCJB **16** 09:02:09.6±0.6, 32.°18N±0.°03×115.°18W±0.°03, h11km±6km, Error ellipse: s-maj=5.2km s-min=4.1km az=34.8*
*NEIC **16** 09:02:11.7, 32.°18N×115.°23W, h9km, ML2.9(PAS), ML3.2(ECX), After ECX.*
*ECX **16** 09:02:11.7±0.4, 32.°18N×115.°23W, h9km, MD3.0, ML3.2*
*MEX **16** 09:02:12.2±0.7, 32.°23N×115.°15W, h13km±999km, MD3.7*

ISC 16 09:02:09.8±0.9, 32.°17N±0.°02×115.°20W±0.°02, h13km±7km, n42, σ0.°73/64, 8C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	Mexicali	0.23	1	eP	Pb	09 02 16.2	+0.3
MBIG				eS	Sg	09 02 18.5	+0.3
MBIG	Mexicali	0.23	1	eP	Pb	09 02 16.4	+0.4
CPBX	Cerro Prieto	0.26	341	eP	Pg	09 02 15.3	+0.1
CPBX				eS	Sg	09 02 18.9	0.0
CPBX	Cerro Prieto	0.26	341⇓	eP	Pg	09 02 15.3	+0.1
CPBX				eS	Sg	09 02 18.9	0.0
CPBX				IAML		09 02 20.6	
	comp=E,15μm,0.1s						
CPBX				e		09 02 20.6	
EMSC	East Mesa	0.59	18	eP	Pb	09 02 22.3	+0.2
EMSC	East Mesa	0.59	18⇑	eP	Pb	09 02 22.3	+0.2
SGL	Mount Signal	0.65	317	eP	Pb	09 02 22.8	-0.2
SGL	Mount Signal	0.65	317⇓	eP	Pb	09 02 22.8	-0.2
RDX	Rancho Dawling	0.67	249	eP	Pb	09 02 23.6	+0.1
RDX				eS	Sg	09 02 32.5	+0.6
RDX	Rancho Dawling	0.67	249⇑	eP	Pb	09 02 23.6	+0.1
RDX				eS	Sg	09 02 32.5	+0.6
RDX			⇑	e		09 02 34.3	
	comp=N,854nm,0.6s						
YMD	Yuma Desert	0.67	55	eP	Pg	09 02 23.4	+0.5
YMD	Yuma Desert	0.67	55⇑	eP	Pg	09 02 23.4	+0.5
COA	Coachella	0.69	5	eP	Pg	09 02 23.5	+0.2
COA	Coachella	0.69	5⇑	eP	Pg	09 02 23.5	+0.2
ECBX	El Chinero	0.71	170	eP9	Pg	09 02 23.5	0.0
ECBX				eS	Sb	09 02 33.6	-0.1
ECBX			⇑	e		09 02 34.3	
	comp=N,924nm,0.3s						
WESC	Westside Schoo	0.74	323	eP	Pb	09 02 24.5	0.0
WESC	Westside Schoo	0.74	323	eP	Pb	09 02 24.5	0.0
YUH	Yuha Desert	0.77	308	eP	Pg	09 02 24.7	-0.1
YUH	Yuha Desert	0.77	308⇓	eP	Pg	09 02 24.7	-0.1
COK	Cook Ranch	0.81	327	eP	Pb	09 02 25.6	-0.1
COK	Cook Ranch	0.81	327⇓	eP	Pb	09 02 25.6	-0.1
RMX	La Rumorosa	0.86	300	eP	Pg	09 02 26.4	0.0
RMX				eS	Sg	09 02 37.4	-0.3
RMX	La Rumorosa	0.86	300	eP	Pg	09 02 26.4	0.0
RMX				eS	Sg	09 02 37.4	-0.3
RMX				IAML		09 02 38.1	
	comp=N,878nm,0.1s						
RMX			⇑	e		09 02 38.1	
IBP	Imperial Bould	0.90	303	eP	Pg	09 02 27.1	-0.1
ZAX	El Zacaton	1.12	235	eP	Pb	09 02 30.8	-0.4
ZAX				eS	Sg	09 02 46.0	0.0
SPIG	San Pedro Mart	1.14	191	eP	Pb	09 02 31.0	-0.7
SPIG	San Pedro Mart	1.14	191	eP	Pb	09 02 31.0	-0.7
SPX	San Pedro Mart	1.15	191	eP	Pb	09 02 31.4	-0.2
SPX				eS	Sg	09 02 47.7	+0.9
SPX	San Pedro Mart	1.15	191	eP	Pb	09 02 31.4	-0.2
SPX				eS	Sg	09 02 47.7	+0.9
SPX			⇑	e		09 02 49.6	
	comp=N,256nm,0.2s						
CBX	Cerro Bola	1.25	277	eP	Pn	09 02 32.3	-0.8
CBX	Cerro Bola	1.25	277	eP	Pn	09 02 32.8	-0.3
CBX				eS	Sb	09 02 49.3	0.0
CBX	Cerro Bola	1.25	277	eP	Pn	09 02 32.8	-0.3
CBX				eS	Sb	09 02 49.3	0.0
CBX			⇓	e		09 02 50.2	
CBX				IAML		09 02 50.2	
	comp=E,606nm,0.6s						
ECNX	Esteban Cantu	1.29	247	eP	Pn	09 02 33.5	-0.2
ECNX				eS	Sn	09 02 50.9	-0.1
ECNX	Esteban Cantu	1.29	247	eP	Pn	09 02 33.5	-0.2
ECNX				eS	Sn	09 02 50.9	-0.1
BAR	Barrett	1.34	293	ePn	Pn	09 02 33.2	-1.1
BAR				eSg	Sb	09 02 51.2	-0.8
PBX	Punta Banda	1.36	252	eP	Pn	09 02 34.9	+0.3
PBX				eS	Sn	09 02 53.0	+0.4
PBX	Punta Banda	1.36	252	eP	Pn	09 02 34.5	-0.1
PBX				eS	Sn	09 02 53.0	+0.4
PFO	Pinyon Flats O	1.78	324	ePn	Pn	09 02 40.1	-0.3
PFO				eSg	Sg	09 03 07.6	+0.5
214A	Organ Pipe Nat	2.04	95	ePn	Pn	09 02 42.7	-1.2
214A				eSg	Sg	09 03 15.0	-0.4
LDFC	Landfair	2.90	1	ePn	Pb	09 02 59.6	-1.9
LDFC				ePg	Pg	09 03 07.3	+1.9
GSC	Goldstone, Bar	3.40	337	ePg	Pg	09 03 17.1	+2.2
TUC	Tucson	3.75	87	ePg	Pg	09 03 23.9	+2.4
TUC				eSg	Sg	09 04 08.1	-2.0

IDC 16 09:03:40.5±12.0, 17.°67S×65.°69E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/53, mbtmpg3.6/4, Error ellipse: s-maj=402.0km s-min=35.3km az=58.0, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N3	Diego Garcia H	12.39	25	T	T	09 18 06.7	
	baz=200,slow=76,SNR=21						
H08N1	Diego Carcia H	12.40	25	T	T	09 17 53.7	
	baz=200,slow=76,SNR=16						
H08N2	Diego Garcia H	12.41	25	T	T	09 18 02.7	
	baz=200,slow=76,SNR=22						
H01W2	Cape Leeuwin H	46.24	122	T	T	10 00 56.7	
	baz=280,slow=75,SNR=10						
H01W3	Cape Leeuwin H	46.24	122	T	T	10 01 19.2	
	baz=280,slow=75,SNR=6.3						
H01W1	Cape Leeuwin H	46.25	122	T	T	10 01 23.3	
	baz=280,slow=75,SNR=7.9						
ASAR	Alice Springs	63.59	108	P	P	09 14 13.7	+0.1
	0.6nm,0.7s,baz=265,slow=5.7,SNR=4.6						
WRA	Warramunga Arr	64.61	104	P	P	09 14 20.1	-0.2
	0.9nm,0.8s,baz=267,slow=6.5,SNR=4.9						
KURBB	Kurchatov Arra	68.93	9	P	P	09 14 46.9	-0.2
	0.2nm,0.4s,baz=201,slow=6.9,SNR=3.4						
SONM	Songino Array	74.69	27	P	P	09 15 22.4	+0.3
	0.2nm,0.4s,baz=226,slow=3.8,SNR=3.3						
PPT2	Papeete2	130.68	133	eLR	LR	09 22 59.9	
	178nm,29.5s						

MEX 16 09:09:04.9±1.2, 17.°97N×102.°05W, h16km±573km, MD4.0, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	Zihuatanejo	0.67	123	eP	Pg	09 09 15.9	-2.1
ZIIG				eS	Sg	09 09 23.8	-3.0
CAIG	El Cayaco	1.93	118	eP	Pn	09 09 33.6	-3.5
ACX	Acapulco	2.36	117	eP	Pn	09 09 39.7	-3.4
ACX				eS	Sn	09 10 11.6	-0.2
TLIG	Tlapa	3.35	96	eP	Pn	09 09 53.9	-2.9

NNC 16 09:22:27.2±1.9, 37.°24N×70.°79E, h0km, mb3.7, mpv3.3, 7C-3D, Error ellipse: s-maj=16.3km s-min=10.8km az=169.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	Dzherino	2.20	316	⇑Pn	Pn	09 23 04.6	-0.6
	27nm,0.6s						
DZET				⇑Lg	Lg	09 23 39.1	
	69nm,0.5s						
SFK	Sufi-Kurgan	3.49	37	⇑Pn	Pn	09 23 24.5	+1.4
	3.8nm,0.5s						
SFK				⇑Lg	Lg	09 24 18.1	
	15nm,0.8s						
MNAS	Manas	5.40	14	⇓Pn	Pn	09 23 48.4	-0.9
	1.7nm,0.5s						
MNAS				⇑Sn	Sn	09 24 53.1	+0.7
	3.4nm,0.5s						
MNAS				⇓Lg	Lg	09 25 18.7	
	5.5nm,0.9s						
KK31	Karatay Array	5.86	358	⇑Pn	Pn	09 23 54.8	-0.6
	0.6nm,0.3s,baz=181,slow=13,SNR=24						
KK31				⇓Sn	Sn	09 25 04.2	+0.9
	1.2nm,0.5s,baz=29,slow=81,SNR=4.2						
KK31				⇑Lg	Lg	09 25 31.4	
	1.4nm,0.5s,baz=171,slow=22,SNR=5.6						

DJA 16 09:32:35.4±0.3, 1.°S±3.°×12.°0E±.°, h10km, M3.5/9, MLv3.5/9, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCI	Palu	0.25	328	P	Pg	09 32 40.6	0.0
MPSI	Mapaga	1.45	357	P	Pn	09 33 01.1	-0.6
APSI	Ampana	1.69	83	P	Pn	09 33 03.5	-1.5
APSI				S	Sn	09 33 26.3	-0.4
TTSI	Tana Toraja	1.92	185	P	Pn	09 33 06.0	-2.1
TTSI				S	Sn	09 33 32.0	-0.4
MRSI	Marisa	2.53	51	P	Pn	09 33 16.9	+0.3
MRSI				S	Sn	09 33 48.5	+1.0
LUWI	Luwuk	2.80	88	P	Pb	09 33 23.5	-2.1
SPSI	Sidrap Palu	2.83	184	P	Pn	09 33 21.7	+1.0
BNSI	Bone	3.26	178	P	Pb	09 33 30.3	-3.1

IDC 16 09:40:15.6±1.6, 11.°13N×144.°35E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.3/35, mbtmp3.3/4, Error ellipse: s-maj=285.5km s-min=24.6km az=111.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	32.41	198	P	P	09 46 46.7	-0.8
	0.2nm,0.6s,baz=21,slow=9.4,SNR=3.4						
ASAR	Alice Springs	36.06	196	P	P	09 47 19.6	+0.5
	0.1nm,0.3s,baz=20,slow=11,SNR=2.7						
ILAR	Eielson Array	71.00	25	P	P	09 51 34.5	-0.5
	0.2nm,0.6s,baz=243,slow=5.9,SNR=4.3						
YKA	Yellowknife Ar	85.27	27	P	P	09 52 54.8	+0.7
	0.2nm,0.6s,baz=290,slow=5.2,SNR=3.9						

*IDC **16** 09:46:02.1±1.5, 35.°97N×4.°03E, h0km, mb3.2/2, mb1 3.3/5, mb1mx3.1/50, mbtmpg3.2/5, ML3.4/3, Error ellipse: s-maj=33.9km s-min=25.7km az=158.0*
*ISCJB **16** 09:46:04.5±0.7, 36.°06N±0.°05×4.°00E±0.°04, h20km±6km, mb3.3/2, Error ellipse: s-maj=9.1km s-min=4.8km az=7.3*
*CRAAG **16** 09:46:04.2, 35.°92N×3.°81E, MI4.2*
*CSEM **16** 09:46:04.1±0.3, 36.°00N×4.°01E, h2km, mb4.2, Error ellipse: s-maj=14.3km s-min=4.6km az=4.0*
*MDD **16** 09:46:06.0±0.7, 36.°04N×3.°94E, h0km, mb4.2/13, Error ellipse: s-maj=15.3km s-min=5.5km az=178.0, PRXIMO*

ISC 16 09:46:03.8±1.2, 36.°04N±0.°06×4.°07E±0.°02, h10km±8km, n74, σ1.°40/90, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKET	Djebel Ketaf	0.15	272	P	Pg	09 46 06.7	-0.5
AKET	Djebel Ketaf	0.15	272	P	Pg	09 46 06.7	-0.5
AKET	Djebel Ketaf	0.15	272	P	Pg	09 46 06.7	-0.5
ADJB	Djebel Djouab	0.52	283	P	Pg	09 46 13.8	-0.2
ADJB	Djebel Djouab	0.52	283	P	Pg	09 46 13.8	-0.2
ADJB	Djebel Djouab	0.52	283	P	Pg	09 46 13.8	-0.2
EMHD	Djebel Mahouad	0.92	280	P	Pg	09 46 22.2	+0.7
EMHD	Djebel Mahouad	0.92	280	P	Pg	09 46

OKGL S Sn 09 47 20.7 -1.3
348nm,0.7s,SNR=4.0
EIBI Ibiza 3.68 325 P Pn 09 47 01.7 +0.8
3.9nm,0.2s,SNR=7.9
EIBI S Sn 09 47 41.6 -2.7
3.1nm,0.2s,SNR=7.9
EIBI Ibiza 3.68 325 P Pn 09 47 01.7 +0.8
3.9nm,0.2s,SNR=7.9
ETOS Mallorca 3.85 345 P Pn 09 47 03.9 +0.8
2.7nm,0.4s,SNR=7.9
ETOS S Sn 09 47 46.6 -1.8
1.8nm,0.3s,SNR=7.9
ETOS Mallorca 3.85 345 P Pn 09 47 03.9 +0.8
2.7nm,0.4s,SNR=7.9
KEST Kesra 4.30 93 Pn Pn 09 47 10.8 +1.4
0.4nm,0.3s,baz=254,slow=7.3,SNR=11
KEST Sn Sn 09 47 55.5 -4.1
0.2nm,0.3s,baz=214,slow=11,SNR=2.5
EBEN Beniarda 4.33 309 P Pn 09 47 12.2 +2.4
0.4nm,0.2s,SNR=4.0
EBEN Beniarda 4.33 309 P Pn 09 47 12.2 +2.4
0.4nm,0.2s,SNR=4.0
EMUR La Murta 4.61 294 P Pn 09 47 13.8 +0.1
5.6nm,0.2s,SNR=18
EMUR S Sn 09 48 09.6 +2.2
2.4nm,0.4s,SNR=4.0
EMUR La Murta 4.61 294 P Pn 09 47 13.8 +0.1
5.6nm,0.2s,SNR=18
EMUR S Sn 09 48 09.6 +2.2
2.4nm,0.4s,SNR=4.0
ETOB Tobarra 5.17 302 P Pn 09 47 22.9 +1.5
2.6nm,0.3s,SNR=8.8
ETOB S Sn 09 48 20.8 -0.4
1.6nm,0.2s
ETOB Tobarra 5.17 302 P Pn 09 47 22.9 +1.5
2.6nm,0.3s,SNR=8.8
ETOB S Sn 09 48 20.8 -0.4
1.6nm,0.2s
EMOS Mosqueruela 5.60 322 P Pn 09 47 28.5 +1.1
1.5nm,0.3s,SNR=7.0
EMOS S Sn 09 48 28.0 -3.9
0.8nm,0.3s,SNR=7.9
EMOS Mosqueruela 5.60 322 P Pn 09 47 28.5 +1.1
1.5nm,0.3s,SNR=7.0
EHUE Huescar 5.62 290 P Pn 09 47 30.4 +2.8
2.6nm,0.3s,SNR=7.9
EHUE Huescar 5.62 290 P Pn 09 47 30.4 +2.8
2.6nm,0.3s,SNR=7.9
EBER Berja 5.67 281 P Pn 09 47 27.8 -0.6
3.3nm,0.3s,SNR=5.9
EBER S Sn 09 48 33.1 -0.5
1.2nm,0.3s
EBER Berja 5.67 281 P Pn 09 47 27.8 -0.6
3.3nm,0.3s,SNR=5.9
EBER S Sn 09 48 33.1 -0.5
1.2nm,0.3s
SESP Santiago Espad 5.68 293 P Pn 09 47 30.1 +1.7
4.9nm,0.2s,SNR=7.9
SESP S Sn 09 48 34.9 +1.1
6.4nm,0.4s,SNR=7.9
SESP Santiago Espad 5.68 293 P Pn 09 47 30.1 +1.7
4.9nm,0.2s,SNR=7.9
SESP S Sn 09 48 34.9 +1.1
6.4nm,0.4s,SNR=7.9
EPOB Poblet 5.79 337 P Pn 09 47 35.0 +5.1
0.8nm,0.2s,SNR=4.0
EPOB S Sn 09 48 31.8 -4.6
1.2nm,0.3s,SNR=4.0
EVIA Vianos 5.84 298 P Pn 09 47 30.6 0.0
2.6nm,0.2s,SNR=4.0
EVIA Vianos 5.84 298 P Pn 09 47 30.6 0.0
2.6nm,0.2s,SNR=4.0
EQES Quesada 5.98 289 P Pn 09 47 34.4 +1.8
3.8nm,0.3s,SNR=13
EQES S Sn 09 48 41.9 +0.7
2.0nm,0.4s,SNR=7.9
EQES Quesada 5.98 289 P Pn 09 47 34.4 +1.8
3.8nm,0.3s,SNR=13
EQES S Sn 09 48 41.9 +0.7
2.0nm,0.4s,SNR=7.9
EQUE Quentar 6.15 283 P Pn 09 47 35.3 +0.5
3.3nm,0.5s,SNR=4.0
EQUE Quentar 6.15 283 P Pn 09 47 35.3 +0.5
3.3nm,0.5s,SNR=4.0
ESDC Sonseca Array 7.31 302 P Pn 09 47 51.6 +0.8
0.3nm,0.1s,baz=120,slow=13,SNR=8.4
ESDC Sonseca Array 7.31 302 Pn Pn 09 47 50.5 -0.2
0.5nm,0.3s,baz=116,slow=13,SNR=7.1
ESDC Sonseca Array 7.31 302 P Pn 09 47 51.6 +0.8
0.3nm,0.1s,SNR=8.4
ECAB El Cabril 7.85 288 P Pn 09 47 58.3 +0.2
0.2nm,0.2s,SNR=7.9
ECAB El Cabril 7.85 288 P Pn 09 47 58.3 +0.2
0.2nm,0.2s,SNR=7.9
MDT Midelt 7.86 248 Pn Pn 09 47 58.0 -0.3
0.2nm,0.3s,baz=64,slow=16,SNR=6.4
MDT Lg Lg 09 50 15.4
0.3nm,0.3s,baz=67,slow=20,SNR=4.1
ECAL Calabor 10.26 308 P Pn 09 48 33.3 +2.1
1.8nm,0.3s,SNR=6.3
ECAL Calabor 10.26 308 P Pn 09 48 33.3 +2.1
1.8nm,0.3s,SNR=6.3
TORD Torodi Ar. Bea 22.90 186 P P 09 51 06.3 -1.6
0.4nm,0.7s,baz=359,slow=9.8,SNR=3.0
MKAR Makanchi Array 57.37 53 P P 09 55 52.0 -0.2
0.4nm,0.7s,baz=272,slow=9.0,SNR=5.0

IDC 16 09:53:46.7±2.2, 4.°14S×153.°68E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/34, mbtmp3.9/4, Error ellipse: s-maj=61.8km s-min=45.1km az=111.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.53**	**229**	P	P	09 59 08.9	+0.6
	3.9nm,0.8s,baz=54,slow=9.9,SNR=36						
ASAR	**Alice Springs**	**27.22**	**223**	P	P	09 59 32.4	-0.2
	0.5nm,0.7s,baz=55,slow=8.9,SNR=7.5						
STKA	**Stephens Creek**	**29.83**	**201**	P	P	09 59 55.3	-0.4
	1.6nm,0.6s,baz=21,slow=8.5,SNR=6.0						
VNDA	**Vanda**	**73.45**	**178**	P	P	10 05 20.7	+0.2
	0.9nm,0.9s,baz=345,slow=9.3,SNR=4.0						
TORD	**Torodi Ar. Bea**	**150.93**	**290**	PKPbc	PKPbc	10 13 42.0	-0.6
	1.5nm,0.8s,baz=96,slow=1.5,SNR=8.2						

IDC 16 10:07:34.8±2.9, 4.°32S×153.°83E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/27, mbtmp3.7/4, Error ellipse: s-maj=96.8km s-min=30.8km az=101.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.53**	**229**	P	P	10 12 56.5	+0.2
	2.2nm,0.5s,baz=54,slow=9.9,SNR=39						
ASAR	**Alice Springs**	**27.20**	**223**	P	P	10 13 20.1	-0.4
	0.3nm,0.7s,baz=55,slow=8.9,SNR=6.1						
STKA	**Stephens Creek**	**29.72**	**201**	P	P	10 13 43.4	+0.6
	1.2nm,0.6s,baz=39,slow=14,SNR=6.2						
MKAR	**Makanchi Array**	**80.64**	**319**	P	P	10 19 50.5	+0.8
	0.2nm,0.6s,baz=72,slow=4.7,SNR=2.8						
TORD	**Torodi Ar. Bea**	**151.13**	**289**	PKPbc	PKPbc	10 27 29.1	-2.0
	0.5nm,0.7s,baz=75,slow=1.9,SNR=3.8						

*IDC **16** 10:08:39.1±0.9, 38.°37S×74.°98W, h0km, mb4.0/6, mb1 4.1/8, mb1mx3.9/23, mbtmp3.9/8, ML3.4/2, MS3.4/1, Ms1 3.4/1, ms1mx2.9/17, Error ellipse: s-maj=30.8km s-min=21.6km az=98.0*

*ISCJB **16** 10:08:43.0±0.5, 38.°33S±0.°06×74.°88W±0.°10, h33km, mb4.2/13, Error ellipse: s-maj=11.3km s-min=8.4km az=12.4*

*NEIC **16** 10:08:44.4±0.5, 38.°39S×75.°01W, h35km, mb4.5/8, Error ellipse: s-maj=12.4km s-min=10.4km az=60.0*

ISC 16 10:08:44.5±0.6, 38.°29S±0.°08×75.°13W±0.°09, h35km, n29, σ1ᵖ41/33, mb4.3/13, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**4.30**	**126**	P	**Pn**	**10 09 45.5**	**-2.0**
	0.9nm,0.3s,baz=305,slow=12,SNR=45						
PLCA				Sn	**Sn**	**10 10 39.4**	**+3.0**
	2.1nm,0.3s,baz=201,slow=23,SNR=5.4						
PLCA				LR	LR	10 11 30.3	
	comp=Z,494nm,21.2s,baz=318,slow=41						
PLCA	**Paso Flores**	**4.30**	**126**	*e*Pn	**Pn**	**10 09 47.0**	**-0.5**
PLCA				Sn	**Sn**	**10 10 39.4**	**+3.0**
CFAA	**Coronel Fontan**	**8.75**	**42**	Pn	**Pn**	**10 10 46.9**	**-1.6**
	0.2nm,0.3s,baz=92,slow=0.5,SNR=31						
CFAA				Sn	**Sn**	**10 12 26.2**	**+0.3**
	0.1nm,0.3s,baz=327,slow=24,SNR=6.6						
TRQA	**Tornquist**	**10.36**	**93**	*e*Pn	**Pn**	10 11 08.0	-2.6
CPUP	**Villa Florida**	**19.16**	**57**	*e*P	**Pn**	10 13 06.5	+0.5
	0.1nm,1.0s						
LPAZ	**La Paz**	**22.77**	**18**	*e*P	**P**	10 13 44.7	+0.1
	2.8nm,1.1s						
SIV	**San Ignacio**	**25.43**	**33**	P	**P**	10 14 09.1	+0.1
	1.1nm,0.6s,baz=228,slow=14,SNR=3.8						
VNA3	**Neumayer Olymp**	**46.40**	**156**	P	**P**	10 17 07.0	0.0
VNA1	**Neumayer--Stat**	**46.78**	**155**	P	**P**	10 17 10.8	+0.9
VNA2	**Neumayer--Watz**	**47.09**	**155**	P	**P**	10 17 12.5	0.0
	baz=271,slow=7.8						
SNAA	**Sanae**	**48.61**	**156**	P	**P**	10 17 21.9	-2.4
SNAA	**Sanae**	**48.61**	**156**	*e*P	**P**	10 17 21.9	-2.4
	12nm,1.0s						
QSPA	**South Pole Qui**	**51.95**	**180**	P	**P**	10 17 49.4	-0.3
	8.3nm,0.9s,baz=150,slow=3.7,SNR=26						
QSPA	**South Pole Qui**	**51.95**	**180**	*e*P	**P**	10 17 49.1	-0.7
	9.6nm,1.0s						
TXAR	**Lajitas Array**	**72.37**	**334**	P	**P**	10 20 08.4	+1.5
	0.6nm,0.7s,baz=158,slow=8.3,SNR=6.5						
SWET	**Sewanee**	**73.82**	**351**	*e*P	**P**	10 20 16.2	+1.0
	8.4nm,1.0s						
TUL1	**Leonard**	**76.27**	**343**	*e*P	**P**	10 20 29.6	+0.4
	9.7nm,0.9s						
ANMO	**Albuquerque**	**78.45**	**334**	*e*P	**P**	10 20 42.6	+0.9
	1.1nm,0.8s						
ACSO	**Alum Creek Sta**	**78.48**	**354**	*e*P	**P**	10 20 41.9	+0.3
	6.1nm,0.9s						
ECSD	**EROS Data Cent**	**83.94**	**345**	*e*P	**P**	10 21 11.0	+0.6
	4.3nm,1.1s						
PDAR	**Pinedale Array**	**86.53**	**335**	P	**P**	10 21 24.8	+1.0
	0.6nm,1.0s,baz=143,slow=5.2,SNR=4.1						
TORD	**Torodi Ar. Bea**	**87.98**	**72**	P	**P**	10 21 30.9	-0.3
	0.3nm,0.8s,baz=250,slow=3.9,SNR=3.6						
ULM	**Lac du Bonnet**	**90.04**	**347**	P	**P**	10 21 40.7	+0.8
	0.9nm,0.5s,baz=153,slow=6.0,SNR=3.6						
WRA	**Warramunga Arr**	**115.80**	**211**	PKP	**PKPdf**	10 27 22.2	-1.5
	0.4nm,0.8s,baz=168,slow=1.6,SNR=5.1						
TIXI	**Tiksi**	**144.39**	**347**	*e*PKPdf	**PKPab**	10 28 13.7	-0.2
AKTO	**Aktyubinsk**	**144.94**	**54**	PKP	**PKPdf**	10 28 17.3	0.0
	1.6nm,0.8s,baz=254,slow=1.9,SNR=5.6						
ABKAR	**Akbulak array**	**146.23**	**56**	*e*PKPbc	**PKPbc**	10 28 20.6	0.0
KKAR	**Karatay Array**	**153.63**	**69**	*e*PKPdf	**PKPdf**	10 28 32.5	+1.0
MKAR	**Makanchi Array**	**161.37**	**56**	PKP	**PKPdf**	10 28 40.5	-0.4
	0.4nm,0.9s,baz=282,slow=1.3,SNR=4.7						
MKAR				PKPab	**PKPab**	10 29 23.2	-2.1
	0.2nm,0.4s,baz=296,slow=4.3,SNR=3.2						

*ISCJB **16** 10:24:52.1±0.3, 4.°91N±0.°03×127.°56E±0.°05, h108km, mb3.9/14, Error ellipse: s-maj=7.6km s-min=4.3km az=162.0*

*IDC **16** 10:24:53.6±3.4, 4.°83N×127.°56E, h108km±32km, mb3.7/14, mb1 3.8/15, mb1mx3.7/34, mbtmp4.1/15, MS2.5/1, Ms1 2.5/1, ms1mx2.2/31, Error ellipse: s-maj=33.7km s-min=11.6km az=79.0*

*DJA **16** 10:24:55.5±1.3, 5.°1N±9.°x12.°7E±.°, h10km, M4.6/6, mb4.7/3, mB5.1/2, MLv4.5/6, Mw(mB)4.4/2*

ISC 16 10:24:53.5±0.5, 4.°95N±0.°04×127.°57E±0.°08, h108km, n40, σ1ᵖ44/45, mb3.9/14, 2C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**2.38**	**327**	*e*P	**Pn**	**10 25 30.8**	**-0.6**
MATI				*e*S	**Sn**	**10 25 57.8**	**-2.6**
SGSI	**Sangihe**	**2.39**	**239**	P	**Pn**	**10 25 29.7**	**-1.8**
SGSI				S	**Sn**	**10 25 58.3**	**-2.3**
GSPH	**General Santos**	**2.85**	**294**	*e*P	**Pn**	**10 25 35.1**	**-2.5**
BIPH	**Bislig**	**3.44**	**340**	*i*P	**Pn**	**10 25 47.0**	**+1.7**
BIPH				*i*S	**Sn**	**10 26 22.4**	**-2.9**
BUKP	**Musuan**	**3.84**	**320**	*e*P	**Pn**	**10 25 52.1**	**+1.4**
TNTI	**Ternate**	**4.15**	**183**	P	**Pn**	**10 25 56.1**	**+1.2**
TNTI				S	**Sn**	**10 26 43.2**	**+0.7**
CGP	**Cagayan de Oro**	**4.51**	**321**	*e*P	**Pn**	**10 26 01.0**	**+1.3**
PAGZ	**Pagadian**	**5.07**	**305**	*e*P	**Pn**	**10 26 07.5**	**+0.3**
LBMI	**Labuha**	**5.55**	**181**	P	**Pn**	**10 26 14.4**	**+0.6**
	38nm,0.9s,0.2nm						
SIJI	**Sorong**	**6.85**	**147**	P	**Pn**	**10 26 30.0**	**-1.5**
	6.1nm,0.3s,baz=139,slow=20,SNR=39						
SIJI				S	Sn	10 27 40.0	-8.0
	2.1nm,0.3s,baz=24,slow=20,SNR=3.4						
SIJI				LR	LR	10 29 02.8	
	comp=Z,42nm,20.5s,baz=83,slow=37						
MRSI	**Marisa**	**7.17**	**232**	P	**Pn**	**10 26 35.8**	**+0.1**
	61nm,0.6s,917nm0.3nm						
LUWI	**Luwuk**	**7.64**	**219**	P	**Pn**	**10 26 43.4**	**+1.2**
LUWI	**Luwuk**	**7.64**	**219**	P	Pn	10 26 49.0	+6.8
	baz=7.4,SNR=3.7						
APSI	**Ampana**	**8.30**	**226**	P	**Pn**	**10 26 54.3**	**+3.2**
FAKI	**Fak Fak**	**9.10**	**149**	P	**Pn**	**10 27 01.5**	**-0.6**
	baz=8.7,SNR=6.8						
FAKI				S	**Sn**	**10 28 39.3**	**-3.5**
	baz=8.7,SNR=3.8						
KDU	**Kakadu**	**18.18**	**165**	P	**Pn**	**10 28 59.1**	**+0.1**
	baz=18,SNR=6.3						
KNRA	**Kununurra**	**20.52**	**177**	P	**P**	**10 29 23.1**	**-0.2**
	baz=20,SNR=7.8						
MANU	**Manus Island**	**20.96**	**109**	P	Pn	10 29 30.2	-1.5
	baz=21,SNR=6.0						
WRA	**Warramunga Arr**	**25.61**	**165**	P	**P**	**10 30 11.8**	**-1.2**
	1.7nm,0.6s,baz=343,slow=10,SNR=65						
QIS	**Mount Isa**	**27.96**	**155**	P	**P**	**10 30 33.5**	**-0.6**
	baz=28,SNR=3.3						
ASAR	**Alice Springs**	**29.10**	**168**	P	**P**	**10 30 43.5**	**-0.7**
	1.0nm,0.5s,baz=358,slow=8.7,SNR=34						
ASAR				PcP	**PcP**	**10 33 50.0**	**+0.2**
	1.0nm,0.6s,baz=351,slow=2.2,SNR=14						
WRKA	**Warakurna**	**29.81**	**179**	P	**P**	**10 30 50.1**	**-0.4**
	baz=30,SNR=18						
KSRS	**Korea Array**	**32.36**	**1**	P	**P**	**10 31 13.7**	**+1.0**
	0.2nm,0.3s,baz=352,slow=7.4,SNR=3.9						
MEEK	**Meekatharra**	**32.57**	**195**	P	**P**	**10 31 14.4**	**-0.3**
	baz=32,SNR=3.2						
MJAR	**Matsushiro Arr**	**32.93**	**16**	P	**P**	**10 31 17.5**	**-0.2**
	0.4nm,0.6s,baz=184,slow=9.9,SNR=3.7						
FORT	**Forrest**	**35.53**	**179**	P	**P**	**10 31 39.9**	**-0.3**
	baz=35,SNR=14						
BBOO	**Buckleboo**	**38.40**	**168**	P	**P**	**10 32 03.9**	**-0.6**
	baz=38,SNR=12						
STKA	**Stephens Creek**	**38.98**	**161**	P	**P**	**10 32 08.7**	**-0.7**
	2.1nm,0.3s,baz=342,slow=8.4,SNR=17						
STKA				PcP	**PcP**	**10 34 18.1**	**+0.3**
	0.3nm,0.3s,baz=255,slow=5.6,SNR=3.1						
STKA	**Stephens Creek**	**38.98**	**161**	P	**P**	**10 32 08.7**	**-0.7**
	baz=39,SNR=12						
SONM	**Songino Array**	**46.43**	**340**	P	**P**	**10 33 11.2**	**+1.6**
	0.5nm,0.4s,baz=170,slow=10,SNR=3.8						
PETK	**Petropavlovsk-**	**53.99**	**22**	P	**P**	**10 34 09.0**	**+2.7**
	2.0nm,0.6s,baz=161,slow=4.7,SNR=9.1						
MK31	**Makanchi Array**	**57.05**	**324**	P	**P**	**10 34 30.0**	**+1.6**
	baz=58,SNR=5.6						
MKAR	**Makanchi Array**	**57.05**	**324**	P	**P**	**10 34 29.5**	**+1.1**
	1.7nm,0.4s,baz=111,slow=6.6,SNR=28						
AKTO	**Aktyubinsk**	**73.24**	**321**	P	**P**	**10 36 14.1**	**+1.1**
	1.3nm,0.7s,baz=102,slow=9.3,SNR=9.0						
ILAR	**Eielson Array**	**83.65**	**25**	P	**P**	**10 37 09.6**	**-0.3**
	0.4nm,0.5s,baz=245,slow=5.1,SNR=13						
VNDA	**Vanda**	**84.52**	**173**	P	**P**	**10 37 13.6**	**-0.4**
	0.8nm,0.6s,baz=328,slow=5.7,SNR=5.2						
ARCES	**ARCESS Array B**	**89.61**	**340**	P	**P**	**10 37 38.1**	**-0.6**
	3.0nm,0.9s,baz=70,slow=7.0,SNR=9.4						
FINES	**FINESS Array B**	**91.16**	**332**	P	**P**	**10 37 45.4**	**-0.7**
	0.8nm,0.5s,baz=116,slow=4.4,SNR=5.6						
AKASG	**Malin Array Be**	**91.48**	**321**	P	**P**	**10 37 47.0**	**-0.8**
	0.4nm,0.5s,baz=60,slow=5.5,SNR=3.0						
TORD	**Torodi Ar. Bea**	**123.33**	**289**	PKP	**PKPdf**	**10 43 38.7**	**-0.2**
	0.7nm,0.6s,baz=68,slow=1.5,SNR=6.0						

*IDC **16** 10:38:40.2±4.1, 29.°83S×177.°66W, h56km±28km, mb3.4/3, mb1 3.6/3, mb1mx3.4/23, mbtmp3.7/3, Error ellipse: s-maj=61.1km s-min=38.2km az=151.0*

ISC 16 10:38:37.4±3.1, 30.°14S±0.°10×177.°6W±0.°4, h35km, n7, σ1ᵖ34/7, mb3.8/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.92**	**343**	P	**Pn**	**10 38 53.9**	**+0.1**
	228nm,0.3s,baz=98,slow=9.5,SNR=10						
RAO				S	**Sn**	**10 39 04.5**	**-1.3**
	445nm,0.3s,baz=154,slow=22,SNR=11						
URZ	**Urewera**	**9.21**	**207**	S	**Sn**	**10 42 28.4**	**-1.5**
	0.6nm,0.3s,baz=180,slow=21,SNR=6.7						
STKA	**Stephens Creek**	**34.87**	**256**	P	**P**	**10 45 26.9**	**+1.5**
	0.7nm,0.4s,baz=106,slow=8.8,SNR=3.9						
ASAR	**Alice Springs**	**43.46**	**266**	P	**P**	**10 46 37.0**	**-0.4**
	0.3nm,0.5s,baz=102,slow=7.6,SNR=8.5						
WRA	**Warramunga Arr**	**44.42**	**272**	P	**P**	**10 46 45.7**	**+0.6**
	0.8nm,0.5s,baz=110,slow=8.1,SNR=16						
FINES	**FINESS Array B**	**145.01**	**340**	PKP	PKPbc	10 58 09.2	-0.4
	1.0nm,0.4s,baz=61,slow=3.0,SNR=12						
AKASG	**Malin Array Be**	**151.29**	**323**	PKPbc	**PKPbc**	**10 58 26.3**	**-0.5**
	0.3nm,0.4s,baz=42,slow=2.4,SNR=3.7						

*NIED **16** 10:47:00,28.°80N×128.°50E, h5km, Mw4.1 Best double couple: M0 1.84000×10^15 NP1:φs=204.00000°, δ71.00000°, λ-172.00000°. NP2:φs 111.00000°, δ83.00000°, λ-19.00000°.*

*ISCJB **16** 10:47:08.8±0.6, 28.°80N±0.°04×128.°46E±0.°05, h10km, mb3.3/5, MS3.3/7, Error ellipse: s-maj=6.3km s-min=5.4km az=17.4*

*IDC **16** 10:47:08.6±1.0, 28.°67N×127.°96E, h0km, mb3.3/5, mb1 3.6/8, mb1mx3.4/37, mbtmp3.3/8, ML3.3/3, MS3.2/11, Ms1 3.3/11, ms1mx3.2/18, Error ellipse: s-maj=35.8km s-min=19.7km az=96.0*

*JMA **16** 10:47:09.3±0.3, 28.°79N×128.°51E, h9km±3km, M3.7*

ISC 16 10:47:10.1±0.8, 28.°77N±0.°04×128.°54E±0.°06, h10km, n28, σ1ᵖ06/21, mb3.4/5, MS3.2/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTAJ	**Takarajima**	**0.70**	**56**	P	**Pg**	**10 47 23.0**	**-0.6**
JTAJ				*e*S	**Sg**	**10 47 32.1**	**-0.6**
JAMN	**Amaminishikomi**	**0.76**	**133**	P	**Pg**	**10 47 24.8**	**0.0**
JAM	**Amami Oshima**	**1.00**	**110**	P	**Pg**	**10 47 28.6**	**-0.7**
JAM				S	**Sg**	**10 47 42.6**	**+0.3**
JTK	**Tokunoshima**	**1.04**	**160**	P	**Pg**	**10 47 29.1**	**-1.0**
JTK				*e*S	**Sg**	**10 47 43.5**	**-0.1**
JZK	**Kikaishima**	**1.34**	**109**	P	**Pb**	**10 47 35.0**	**-0.3**
JZK				*e*S	**Sg**	**10 47 53.9**	**+0.8**
JOKE	**Okinoerabujima**	**1.40**	**179**	P	**Pn**	**10 47 35.0**	**-0.7**
JNN	**Nakanoshima**	**1.58**	**47**	P	**Pb**	**10 47 38.5**	**-1.0**
JIH	**Iheya**	**1.80**	**197**	P	**Pn**	**10 47 41.1**	**-0.1**
JOW	**Kunigami**	**1.94**	**187**	P	**Pn**	**10 47 42.6**	**-0.6**
JYAK	**Yakushimahirau**	**2.26**	**49**	P	**Pn**	**10 47 47.8**	**+0.3**
JNTH	**Nagotoyohara**	**2.29**	**192**	P	**Pn**	**10 47 48.4**	**+0.5**
JNU	**Nakatsue**	**4.78**	**24**	Pn	Pb	10 48 28.0	-6.1
	1.8nm,0.3s,baz=161,slow=6.0,SNR=19						
KSRS	**Korea Array**	**8.68**	**357**	Pn	**Pn**	**10 49 17.6**	**+1.8**
	0.3nm,0.3s,baz=178,slow=14,SNR=7.0						
KSRS				LR	LR	10 52 45.5	
	comp=Z,210nm,20.1s,baz=171,slow=38						
MJAR	**Matsushiro Arr**	**11.24**	**44**	Pn	Pn	10 49 58.1	+7.2
	0.1nm,0.3s,baz=235,slow=11,SNR=3.0						
MJAR				LR	LR	10 55 02.9	
	comp=Z,90nm,18.3s,baz=205,slow=41						
USRK	**Ussuriysk Ar.**	**15.65**	**9**	LR	LR	10 56 49.6	
	comp=Z,70nm,18.9s,baz=171,slow=37						
ASAJ	**Asahikawa**	**19.00**	**32**	LR	LR	10 58 26.0	
	comp=Z,44nm,19.6s,baz=170,slow=35						
GUMO	**Guam**	**21.40**	**131**	LR	LR	10 59 22.7	
	comp=Z,58nm,18.2s,baz=322,slow=34						
CMAR	**Chiang Mai Arr**	**28.93**	**256**	LR	LR	11 06 00.1	
	comp=Z,52nm,18.6s,baz=299,slow=40						
TLY	**Talaya**	**29.49**	**328**	LR	LR	11 06 28.5	
	comp=Z,56nm,20.1s,baz=128,slow=40						
PETK	**Petropavlovsk-**	**32.41**	**33**	LR	LR	11 07 09.5	
	comp=Z,24nm,19.3s,baz=198,slow=37						
MKAR	**Makanchi Array**	**40.10**	**310**	P	**P**	**10 54 43.1**	**-2.7**
	0.2nm,0.7s,baz=79,slow=7.5,SNR=2.2						
WRA	**Warramunga Arr**	**48.74**	**173**	P	**P**	**10 55 55.1**	**0.0**
	0.6nm,0.7s,baz=352,slow=8.2,SNR=8.4						
ASAR	**Alice Springs**	**52.38**	**174**	P	**P**	**10 56 22.6**	**-0.1**
	0.3nm,0.7s,baz=1.1,slow=14,SNR=4.6						
GEYT	**Ailbeck**	**58.29**	**299**	LR	LR	11 24 33.6	
	comp=Z,27nm,18.8s,baz=20,slow=39						
ILAR	**Eielson Array**	**62.09**	**29**	P	**P**	**10 57 31.6**	**+0.8**
	0.2nm,0.8s,baz=286,slow=6.5,SNR=3.3						
AKASG	**Malin Array Be**	**73.80**	**319**	LR	LR	11 34 04.6	
	comp=Z,42nm,18.6s,baz=65,slow=38						
YKA	**Yellowknife Ar**	**76.12**	**25**	P	**P**	**10 58 59.8**	**+1.9**
	0.3nm,0.7s,baz=296,slow=4.7,SNR=3.4						
NOA	**NORSAR Array B**	**77.17**	**334**	LR	LR	11 35 35.9	
	comp=Z,20nm,18.2s,baz=60,slow=38						

*IDC **16** 10:47:51.6±2.2, 30.°57S×177.°52W, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.7/24, mbtmp3.9/4, ML3.0/1, Error ellipse: s-maj=51.9km s-min=25.8km az=112.0*

ISC 16 10:47:55.5±2.3, 30.°50S±0.°09×177.°7W±0.°4, h33km, n7, σ1ᵖ67/8, mb4.0/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.26**	**351**	Pn	**Pb**	**10 48 17.5**	**-1.3**
	108nm,0.3s,baz=128,slow=19,SNR=4.8						
RAO				Sn	**Sn**	**10 48 32.0**	**-0.6**
	572nm,0.3s,baz=119,slow=17,SNR=12						
URZ	**Urewera**	**8.85**	**208**	Pn	**Pn**	**10 49 59.1**	**-1.9**
	0.2nm,0.3s,baz=158,slow=19,SNR=3.5						
URZ				Sn	**Sn**	**10 51 39.4**	**-0.2**
	1.0nm,0.3s,baz=5.4,slow=23,SNR=7.4						
STKA	**Stephens Creek**	**34.71**	**257**	P	P	10 54 46.1	+3.7
	2.3nm,0.6s,baz=103,slow=11,SNR=9.5						
ASAR	**Alice Springs**	**43.37**	**267**	P	**P**	**10 55 56.9**	**+1.9**
	0.3nm,0.6s,baz=105,slow=7.6,SNR=5.7						
WRA	**Warramunga Arr**	**44.36**	**272**	P	**P**	**10 56 03.9**	**+0.9**
	0.8nm,0.3s,baz=110,slow=8.1,SNR=38						
FINES	**FINESS Array B**	**145.33**	**340**	PKPbc	**PKPab**	**11 07 30.2**	**+1.1**
	2.1nm,0.5s,baz=60,slow=2.6,SNR=17						
AKASG	**Malin Array Be**	**151.54**	**323**	PKPbc	**PKPbc**	**11 07 47.4**	**+1.6**
	0.7nm,0.5s,baz=47,slow=2.9,SNR=5.2

11C-6D, Error ellipse: s-maj=1.0km s-min=0.5km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUWZ	**D'Urville Isla**	**0.38**	**146**	⇑PN	Pn	11 12 17.6	-0.2
DUWZ				SN	Sn	11 12 31.4	-1.0
NNZ	**Nelson**	**0.75**	**195**	⇓PN	Pn	11 12 19.8	-0.2
NNZ				SN	Sn	11 12 35.0	-1.3
TCW	**Tory Channel**	**0.86**	**146**	PN	Pn	11 12 21.0	+0.2
TCW				SN	Sn	11 12 36.6	-1.2
TCW				AML	AML	11 12 37.4	
QRZ	**Quartz Range**	**0.91**	**248**	⇑PN	Pn	11 12 20.6	-0.6
TUWZ	**Tuamarina**	**0.96**	**166**	PN	Pn	11 12 22.0	+0.3
TUWZ				SN	Sn	11 12 38.2	-1.2
TUWZ				AML	AML	11 12 38.5	
KIW	**Kapiti Island**	**1.03**	**111**	PN	Pn	11 12 22.2	-0.1
KIW				AML	AML	11 12 41.1	
KIW				AML	AML	11 12 41.1	
NMEZ	**Namu Road**	**1.09**	**10**	PN	Pn	11 12 22.7	-0.2
WEL	**Wellington**	**1.16**	**133**	PN	Pn	11 12 23.6	+0.1
WEL				AML	AML	11 12 41.2	
WEL				AML	AML	11 12 44.5	
LREZ	**Lake Rotokare**	**1.19**	**30**	PN	Pn	11 12 24.0	+0.2
OGWZ	**Otaki Gorge**	**1.21**	**106**	⇑PN	Pn	11 12 24.0	0.0
NWEZ	**Newall Road**	**1.23**	**8**	PN	Pn	11 12 24.3	0.0
NWEZ				SN	Sn	11 12 43.2	-0.6
KHEZ	**Kahui Hut**	**1.23**	**14**	PN	Pn	11 12 24.2	-0.2
BSWZ	**Blackbirch Sta**	**1.23**	**172**	PN	Pn	11 12 24.5	+0.2
BSWZ				AML	AML	11 12 45.3	
BSWZ				AML	AML	11 12 45.3	
CAW	**Cannon Point**	**1.25**	**120**	⇑PN	Pn	11 12 24.3	-0.1
CAW				AML	AML	11 12 44.5	
CAW				AML	AML	11 12 45.9	
WAZ	**Wanganui**	**1.27**	**55**	*e*PN	Pn	11 12 24.5	-0.1
NEZ	**North Egmont**	**1.27**	**16**	PN	Pn	11 12 24.6	-0.1
BHW	**Baring Head**	**1.30**	**135**	PN	Pn	11 12 24.8	-0.1
BHW				AML	AML	11 12 45.1	
BHW				AML	AML	11 12 45.3	
PKE	**Pukeiti**	**1.32**	**12**	PN	Pn	11 12 25.2	0.0
DREZ	**Durham Road**	**1.37**	**18**	PN	Pn	11 12 25.5	-0.2
THZ	**Tophouse**	**1.39**	**203**	⇓PN	Pn	11 12 25.6	-0.3
HOWZ	**Holdsworth Sta**	**1.48**	**106**	⇑PN	Pn	11 12 26.6	-0.3
MRZ	**Mangatainoka R**	**1.49**	**97**	PN	Pn	11 12 26.6	-0.3
MRZ				AML	AML	11 12 50.4	
MRZ				AML	AML	11 12 51.2	
MHEZ	**Mangahewa**	**1.51**	**21**	PN	Pn	11 12 27.0	-0.2
MSWZ	**Moikau Station**	**1.53**	**128**	⇑PN	Pn	11 12 27.3	-0.1
MSWZ				AML	AML	11 12 49.4	
MSWZ				AML	AML	11 12 50.6	
MTW	**Mount Morrison**	**1.56**	**116**	⇑PN	Pn	11 12 27.5	-0.2
MTW				AML	AML	11 12 50.1	
MTW				AML	AML	11 12 50.1	
VRZ	**Vera Road**	**1.61**	**33**	⇓PN	Pn	11 12 27.8	-0.6
PAWZ	**Paruwai Farm**	**1.62**	**124**	PN	Pn	11 12 28.3	-0.1
PAWZ				AML	AML	11 12 51.0	
PAWZ				AML	AML	11 12 51.2	
POWZ	**Post Office Ro**	**1.63**	**87**	PN	Pn	11 12 28.1	-0.4
PLWZ	**Palliser**	**1.63**	**132**	PN	Pn	11 12 28.3	-0.2
TIWZ	**Tintock**	**1.73**	**100**	PN	Pn	11 12 29.4	-0.3
TIWZ				AML	AML	11 12 53.1	
TIWZ				AML	AML	11 12 53.5	
PRWZ	**Pori Road**	**1.78**	**93**	PN	Pn	11 12 30.1	-0.1
MTVZ	**Mangateitei**	**1.79**	**52**	PN	Pn	11 12 30.2	-0.2
TRWZ	**Traveller**	**1.79**	**121**	PN	Pn	11 12 30.2	-0.2
TRWZ				AML	AML	11 12 53.3	
TMWZ	**Te Maipa**	**1.81**	**110**	⇑PN	Pn	11 12 30.5	-0.2
TSZ	**Takapari Road**	**1.83**	**77**	PN	Pn	11 12 30.5	-0.3
TSZ				AML	AML	11 12 55.8	
TSZ				AML	AML	11 12 56.7	
TRVZ	**Turoa**	**1.89**	**52**	*e*PN	Pn	11 12 31.7	-0.2
WHVZ	**Wahianoa**	**1.90**	**53**	⇑PN	Pn	11 12 31.2	-0.7
DRZ	**Dome Shelter**	**1.92**	**51**	*e*PN	Pn	11 12 32.5	+0.2
FWVZ	**Far West T-bar**	**1.92**	**51**	PN	Pn	11 12 31.4	-0.8
KHZ	**Kahutara**	**1.92**	**182**	PN	Pn	11 12 31.7	-0.1
WHVZ	**Whangaehu Hut**	**1.93**	**52**	PN	Pn	11 12 32.3	+0.1
DVHZ	**Dannevirke**	**1.94**	**85**	PN	Pn	11 12 31.4	-0.7
WPVZ	**Whakapapa**	**1.95**	**49**	PN	Pn	11 12 31.7	-0.7
MOVZ	**Moawhango**	**1.95**	**57**	PN	Pn	11 12 31.3	-1.0
COVZ	**Chateau Observ**	**1.95**	**49**	PN	Pn	11 12 31.6	-0.9
TWVZ	**Taurewa**	**1.98**	**45**	PN	Pn	11 12 31.9	-0.8
CPWZ	**Castlepoint**	**1.99**	**103**	PN	Pn	11 12 33.0	+0.3
BFZ	**Birch Farm**	**1.99**	**96**	PN	Pn	11 12 32.2	-0.5
WTVZ	**West Tongariro**	**2.04**	**48**	PN	Pn	11 12 32.5	-0.9
PNHZ	**Pukenui**	**2.04**	**74**	*e*PN	Pn	11 12 32.7	-0.7
KRVZ	**Karewarewa**	**2.08**	**48**	⇑PN	Pn	11 12 33.0	-1.0
BHHZ	**Black Hill Sta**	**2.11**	**62**	PN	Pn	11 12 33.2	-1.1
ANWZ	**Angora Road**	**2.16**	**90**	PN	Pn	11 12 34.3	-0.5
WPHZ	**Waipukurau**	**2.18**	**80**	PN	Pn	11 12 34.5	-0.5
HIZ	**Hauiti**	**2.19**	**26**	⇓PN	Pn	11 12 34.1	-1.1
KATZ	**Kakaramea**	**2.19**	**47**	PN	Pn	11 12 34.4	-0.9
KRHZ	**Kereru**	**2.26**	**69**	PN	Pn	11 12 35.1	-1.0
PRHZ	**Porangahau**	**2.30**	**85**	PN	Pn	11 12 35.8	-0.6
RATZ	**Rangitukua**	**2.31**	**46**	⇑PN	Pn	11 12 36.2	-0.5
LTZ	**Lake Taylor**	**2.51**	**204**	PN	Pn	11 12 38.3	-0.8
BKZ	**Black Stump Fm**	**2.56**	**60**	⇓PN	Pn	11 12 38.3	-1.6
BKZ				AML	AML	11 13 10.1	
BKZ				AML	AML	11 13 10.1	
MCHZ	**McNeill Hill**	**2.57**	**67**	PN	Pn	11 12 39.0	-0.8
KAHZ	**Kahuranaki**	**2.58**	**75**	PN	Pn	11 12 39.3	-0.7
TLZ	**Tolley Road**	**2.61**	**35**	PN	Pn	11 12 39.3	-1.2
NMHZ	**Naumai**	**2.81**	**61**	PN	Pn	11 12 42.0	-1.0
ARHZ	**Aropaoanui**	**2.86**	**66**	PN	Pn	11 12 42.2	-1.3
TOZ	**Tahuroa Road**	**3.12**	**28**	PN	Pn	11 12 45.3	-1.6
CRLZ	**Canterbury Las**	**3.17**	**194**	PN	Pn	11 12 45.5	-2.0
MQZ	**McQueen's Vall**	**3.29**	**193**	PN	Pn	11 12 46.8	-2.3
WVZ	**Waitaha Valley**	**3.37**	**219**	⇓PN	Pn	11 12 48.7	-1.4
KNZ	**Kokohu**	**3.44**	**66**	*e*PN	Pn	11 12 48.5	-2.4
MHGZ	**Mahia Peninsul**	**3.55**	**69**	PN	Pn	11 12 51.1	-1.3
MKAZ	**Moumakai**	**3.58**	**20**	PN	Pn	11 12 52.2	-0.7
RIGZ	**Rimuhau**	**3.65**	**62**	PN	Pn	11 12 52.0	-1.9
MWZ	**Matawai**	**3.70**	**56**	PN	Pn	11 12 52.1	-2.4
RPZ	**Rata Peaks**	**3.75**	**210**	PN	Pn	11 12 54.0	-1.1
HAZ	**Te Kaha**	**4.22**	**51**	PN	Pn	11 12 57.8	-3.5
FOZ	**Fox Glacier**	**4.25**	**223**	PN	Pn	11 12 58.4	-3.3
PUZ	**Puketiti**	**4.32**	**57**	*e*PN	Pn	11 12 59.7	-3.0
WMGZ	**Waiomatatini S**	**4.57**	**56**	PN	Pn	11 13 02.8	-3.2
ODZ	**Otahua Downs**	**5.05**	**205**	PN	Pn	11 13 10.2	-2.1

NNC 16 11:19:30.6±4.0, 36.97N×71.09E, h0km, mb3.8, mpv3.4, 2C-4D, Error ellipse: s-maj=34.3km s-min=16.4km az=168.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.56**	**316**	⇑Pn	Pn	11 20 13.4	-0.2
	6.5nm,0.4s						
DZET				⇓Sn	Sn	11 20 47.4	+1.8
SFK	**Sufi-Kurgan**	**3.58**	**31**	⇓Pn	Pn	11 20 27.4	-0.3
	2.8nm,0.3s						
SFK				⇓Sn	Sn	11 21 13.4	+2.5
	1.7nm,0.2s						
MNAS	**Manas**	**5.62**	**11**	⇑Sn	Sn	11 22 00.9	-0.1
	3.7nm,0.9s						
KK31	**Karatay Array**	**6.14**	**356**	Pn	Pn	11 21 01.4	-1.2
	1.7nm,0.4s,baz=180,slow=13,SNR=41						
KK31				⇓Sn	Sn	11 22 13.0	-0.7
	0.7nm,0.5s						

NIED ***16*** *11:26:00, 28.80N×128.50E, h5km, Mw4.6 Best double couple: M0 9.14000×10^15 NP1:φs=203.00000°, δ60.00000°, λ=-151.00000°. NP2:φs=97.00000°, δ65.00000°, λ=-33.00000°.*

IDC ***16*** *11:26:09.9±0.6, 28.77N×128.97E, h0km, mb4.0/20, mb1 4.2/22, mb1mx4.1/44, mbtmp4.0/22, ML3.7/2, MS3.8/27, Ms1 3.8/27, ms1mx3.7/39, Error ellipse: s-maj=17.9km s-min=14.2km az=96.0*

JMA ***16*** *11:26:10.0±0.2, 28.78N×128.53E, h11km±3km, M4.6*

JMA Felt II J1.

ISCJB ***16*** *11:26:11.1±0.9, 28.77N±0.02×128.61E±0.02, h12km±6km, mb4.4/58, MS3.9/27, Error ellipse: s-maj=3.5km s-min=2.9km az=23.6*

MOS ***16*** *11:26:13.0±1.4, 28.77N×128.78E, h31km, mb4.5/29, Error ellipse: s-maj=11.2km s-min=7.0km az=92.5*

BJI ***16*** *11:26:15.5, 28.75N×128.43E, h24km, mb4.3/43, mB4.8/36, Ms4.5/46, Ms7 4.2/42*

NEIC ***16*** *11:26:16.1±0.8, 28.75N×128.69E, h36km±7km, mb4.7/35, MW4.6(NIED), Error ellipse: s-maj=9.3km s-min=6.8km az=137.0*

NEIC Recorded [2 JMA] on Amami-oshima.

ISC 16 11:26:16.0±0.5, 28.71N±0.03×128.78E±0.03, h37km, n173, σ2.05/193, mb4.5/58, MS3.8/27, 2C, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTAJ	**Takarajima**	**0.58**	**40**	P	Pn	11 26 23.4	-4.4
JTAJ				S	**Sn**	**11 26 32.5**	**-3.5**
JAMN	**Amaminishikomi**	**0.58**	**143**	P	**Pn**	**11 26 25.0**	**-2.9**
JAMN				S	**Sn**	**11 26 35.7**	**-0.5**
JAM	**Amami Oshima**	**0.79**	**112**	P	**Pn**	**11 26 28.8**	**-1.8**
JAM				S	**Sn**	**11 26 42.4**	**+1.3**
JTK	**Tokunoshima**	**0.94**	**170**	P	**Pn**	**11 26 29.7**	**-2.9**
JTK				S	**Sn**	**11 26 43.4**	**-1.4**
JZK	**Kikaishima**	**1.12**	**110**	P	**Pn**	**11 26 35.5**	**+0.3**
JZK				S	**Sn**	**11 26 53.8**	**+4.4**
JOKE	**Okinoerabujima**	**1.36**	**188**	P	**Pn**	**11 26 35.6**	**-2.8**
JOKE				S	**Sn**	**11 26 54.6**	**-0.6**
JNN	**Nakanoshima**	**1.48**	**40**	P	**Pn**	**11 26 37.5**	**-2.6**
JIH	**Iheya**	**1.82**	**203**	P	**Pn**	**11 26 41.9**	**-2.8**
JOW	**Kunigami**	**1.93**	**193**	P	**Pn**	**11 26 43.4**	**-2.8**
JOW	**Kunigami**	**1.93**	**193**	Pn	**Pn**	**11 26 43.4**	**-2.8**
	baz=3.9,slow=12						
JKC	**Kuchinoerabu**	**2.14**	**35**	P	**Pn**	**11 26 47.0**	**-2.1**
JKC				S	**Sn**	**11 27 16.1**	**+1.7**
JYAK	**Yakushimahirau**	**2.14**	**44**	P	**Pn**	**11 26 47.1**	**-2.1**
JNTH	**Nagotoyohara**	**2.29**	**197**	P	**Pn**	**11 26 48.6**	**-2.5**
JNTH				*e*S	**Sn**	**11 27 17.4**	**-0.6**
JAGN	**Aguni-jima**	**2.52**	**213**	P	**Pn**	**11 26 53.4**	**-0.9**
JAGN				*e*S	**Sn**	**11 27 22.4**	**-1.3**
JJT2	**Tamagusuku 2**	**2.72**	**200**	P	**Pn**	**11 26 56.6**	**-0.5**
JJT2				*e*S	**Sn**	**11 27 28.9**	**+0.1**
JTN	**Tanegashima 3**	**2.72**	**44**	P	**Pn**	**11 26 55.8**	**-1.4**
JTN				*e*S	**Sn**	**11 27 30.6**	**+1.7**
JKE	**Kume jima 2**	**2.96**	**217**	P	**Pn**	**11 26 59.8**	**-0.6**
JNU	**Nakatsue**	**4.75**	**22**	Pn	**Pn**	**11 27 28.0**	**+2.9**
	7.2nm,0.3s,baz=209,slow=4.7,SNR=97						
JNU	**Nakatsue**	**4.75**	**22**	*e*Pn	**Pn**	**11 27 27.8**	**+2.8**
YHNB	**Yeheng**	**7.75**	**240**	*e*Pn	Pn	11 28 09.2	+3.0
NACB	**Ninganchiao**	**7.86**	**237**	*e*Pn	**Pn**	**11 28 07.4**	**-0.4**
YULB	**Yu-li**	**8.56**	**233**	*e*Pn	Pn	11 28 13.7	-3.7
SSLB	**Suanglung**	**8.56**	**237**	*e*Pn	**Pn**	**11 28 17.6**	**+0.2**
KSAR	**Wonju Array Be**	**8.74**	**355**	P	**Pn**	**11 28 18.2**	**-1.5**
KSAR	**Wonju Array Be**	**8.74**	**355**	Pn	**Pn**	**11 28 18.2**	**-1.5**
KSRS	**Korea Array**	**8.75**	**356**	Pn	**Pn**	**11 28 18.2**	**-1.6**
	0.3nm,0.3s,baz=178,slow=13,SNR=25						
KSRS				LR	LR	11 31 45.2	
	comp=Z,892nm,19.9s,baz=172,slow=38						
KS01	**Wonju Array Si**	**8.77**	**355**	*e*Pn	**Pn**	**11 28 19.8**	**-0.4**
INCN	**Inchon**	**8.93**	**349**	*e*Pn	**Pn**	**11 28 20.3**	**-2.1**
TWG	**Pinlang**	**9.09**	**232**	*e*Pn	**Pn**	**11 28 24.9**	**+0.3**
TPUB	**Ta-pu**	**9.09**	**236**	*e*Pn	**Pn**	**11 28 24.8**	**+0.1**
NJ2	**Nanjing**	**9.19**	**294**	*e*P	**Pn**	**11 28 25.3**	**-0.7**
NJ2				S	**Sn**	**11 30 05.3**	**-2.8**
NJ2				PMZ			
	40nm,0.9s						
NJ2				LN			
	2μm,8.7s						
NJ2				LE			
	2μm,9.9s						
NJ2				LZ			
	4μm,7.6s						
MAJO	**Matsushiro**	**11.14**	**43**	*e*P	**Pn**	**11 28 53.8**	**+1.2**
MAJO	**Matsushiro**	**11.14**	**43**	*e*Pn	**Pn**	**11 28 53.8**	**+1.2**
MAT	**Matsushiro**	**11.14**	**43**	P	**Pn**	**11 28 53.0**	**+0.4**
MAT				*e*S	Sn	11 31 02.4	+6.5
MJAR	**Matsushiro Arr**	**11.14**	**43**	Pn	**Pn**	**11 28 53.4**	**+0.7**
	0.4nm,0.3s,baz=240,slow=13,SNR=12						
MJAR				LR	LR	11 33 06.5	
	comp=Z,267nm,21.1s,baz=235,slow=38						
CBIJ	**Chichi jima**	**11.97**	**95**	Pn	**Pn**	**11 29 03.0**	**-1.0**
JCJ	**Chichijima**	**11.97**	**95**	Pn	**Pn**	**11 29 03.0**	**-1.0**
	5.9nm,0.3s,baz=283,slow=23,SNR=4.9						
WHN	**Wuhan**	**12.68**	**282**	P	**Pn**	**11 29 16.3**	**+2.5**
WHN				S	**Sn**	**11 31 31.6**	**-2.1**
WHN				LN			
	1μm,5.1s						
WHN				LE			
	1μm,5.4s						
WHN				LZ			
	1μm,12.9s						
CN2	**Changchun**	**15.29**	**351**	*e*P	**P**	**11 29 56.8**	**+3.4**
CN2				*e*S	**S**	**11 32 58.9**	**+6.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,110nm,4.0s						
CN2				LR	LR		
	comp=N,1μm,12.0s						
CN2				LR	LR		
	comp=E,2μm,12.0s						
CN2				LR	LR		
	comp=Z,1μm,13.0s						
BJI	**Beijing**	**15.34**	**321**	P	**Pn**	**11 29 48.3**	**-1.3**
BJI				S	**Sn**	**11 32 35.6**	**-2.7**
BJI				PMZ			
	comp=Z,14nm,0.6s						
BJI				PMZ			
	comp=Z,120nm,3.6s						
BJI				LN			
	comp=Z,610nm,18.0s						
BJI				LE			
	comp=Z,410nm,15.4s						
BJI				LZ			
	comp=Z,340nm,22.2s						
USRK	**Ussuriysk Ar.**	**15.67**	**9**	Pn	**Pn**	**11 29 55.8**	**+1.9**
	baz=213,slow=7.7,SNR=5.0						
USRK				LR	LR	11 35 21.2	
	comp=Z,301nm,20.0s,baz=134,slow=35						
MDJ	**Mudanjiang**	**15.89**	**2**	P	**P**	**11 29 59.6**	**-0.4**
MDJ				S	**Sn**	**11 32 52.3**	**+0.7**
MDJ				ScP	**ScP**	**11 38 23.9**	**-1.1**
MDJ				PcS	**PcS**	**11 38 28.9**	**0.0**
MDJ				ScS	**ScS**	**11 42 04.6**	**+1.1**
MDJ				PMZ			
	comp=Z,15nm,1.1s						
MDJ				PMZ			
	comp=Z,150nm,4.3s						
MDJ				LN			
	comp=Z,340nm,13.6s						
MDJ				LE			
	comp=Z,500nm,11.0s						
MDJ				LZ			
	comp=Z,600nm,11.7s						
ERM	**Erimo**	**17.68**	**38**	*e*P	**P**	**11 30 20.8**	**+1.0**
ERM				pmax	pmax		
	comp=Z,37nm,1.3s						
ERM	**Erimo**	**17.68**	**38**	*e*P	**P**	**11 30 20.8**	**+1.0**
	comp=Z,37nm,1.3s						
XAN	**Xi'an**	**17.76**	**292**	P	**Pn**	**11 30 17.9**	**-2.4**
XAN				pP	**pP**	**11 30 28.4**	**-2.0**
HHC	**Hu-ho-hao-te**	**18.57**	**315**	*e*P	**Pn**	**11 30 30.3**	**0.0**
HHC				PP	**PnPn**	**11 30 46.8**	**+4.3**
HHC				S	**Sn**	**11 33 50.8**	**-6.1**
HHC				sS	**S**	**11 34 05.6**	**+5.9**
HHC				SS	**SnSn**	**11 34 15.8**	**+4.9**
HHC				PMZ			
	comp=Z,16nm,1.1s						
HHC				PMZ			
	comp=Z,180nm,6.2s						
HHC				LN			
	comp=Z,800nm,17.5s						
HHC				LE			
	comp=Z,900nm,17.5s						
HHC				LZ			
	comp=Z,760nm,17.5s						
ASAJ	**Asahikawa**	**18.93**	**32**	P	**P**	**11 30 30.7**	**-2.9**
	comp=Z,0.7nm,0.3s,baz=200,slow=11,SNR=7.9						
ASAJ				LR	LR	11 37 15.8	
	comp=Z,120nm,19.5s,baz=186,slow=35						
ASAJ	**Asahikawa**	**18.93**	**32**	P	**P**	**11 30 30.7**	**-2.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,120nm,19.5s						
ASAJ	**Asahikawa**	**18.93**	**32**	*e*P	**P**	**11 30 31.0**	**-2.6**
	comp=Z,6.2nm,0.8s						
BTO	**Baotou**	**19.42**	**313**	*e*P	P	11 30 28.3	-11
GYA	**Guiyang**	**19.73**	**269**	*e*P	**P**	**11 30 42.8**	**+0.2**
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
QIZ	**Qiongzhong**	**19.79**	**245**	P	**P**	**11 30 41.9**	**-1.3**
QIZ				S	**S**	**11 34 22.1**	**-2.2**
QIZ				PMZ			
	comp=Z,17nm,2.1s						
QIZ				LN			
	comp=Z,440nm,11.7s						
QIZ				LZ			
	comp=Z,440nm,11.8s						
GUMO	**Guam**	**21.21**	**132**	LR	LR	11 37 32.3	
	comp=Z,314nm,21.9s,baz=324,slow=32						
YSS	**Yuzh-Sakhalins**	**21.24**	**27**	*e*P	P	11 31 05.7	+7.1
YSS				MLR	MLR		
	comp=E,500nm,14.0s						
YSS				MLR	MLR		
	comp=Z,500nm,14.0s						
CD2	**Chengdu**	**21.81**	**282**	*e*P	**P**	**11 31 04.6**	**-0.3**
CD2				pP	**pP**	**11 31 13.3**	**-1.4**
CD2				sP	**sP**	**11 31 18.3**	**-1.1**
CD2				S	**S**	**11 35 03.0**	**-1.1**
CD2				PMZ			
	comp=Z,40nm,0.6s						
CD2				PMZ			
	comp=Z,190nm,4.2s						
CD2				LN			
	comp=Z,3μm,13.1s						
CD2				LE			
	comp=Z,1μm,13.1s						
CD2				LZ			
	comp=Z,780nm,14.3s						
LZH	**Lanzhou**	**22.26**	**296**	*e*P	**P**	**11 31 09.3**	**-0.6**
LZH				pP	**pP**	**11 31 20.0**	**+0.4**
LZH				sP	**sP**	**11 31 26.5**	**+2.1**
LZH				S	**S**	**11 35 06.3**	**-6.5**
LZH				sS	Sn	11 35 22.4	-3.4
LZH				SS	**SnSn**	**11 35 46.1**	**+4.7**
LZH				PMZ			
	comp=Z,16nm,1.0s						
LZH				PMZ			
	comp=Z,100nm,4.0s						
LZH				LN			
	comp=Z,1μm,12.3s						
LZH				LE			
	comp=Z,530nm,13.1s						
LZH				LZ			
	comp=Z,2μm,13.4s						
KMI	**Kunming**	**23.47**	**267**	P	**P**	**11 31 21.5**	**-1.0**
KMI				pP	**pP**	**11 31 32.3**	**-0.3**
KMI				sP	**sP**	**11 31 36.9**	**-0.4**
KMI				PP	**PnPn**	**11 31 53.5**	**+3.7**
KMI				S	S	11 35 26.3	-7.5
KMI				sS	**sS**	**11 35 46.3**	**-4.9**
KMI				SS	**SnSn**	**11 36 14.9**	**+3.5**
KMI				PMZ			
	comp=Z,10.0nm,0.8s						
KMI				PMZ			
	comp=Z,39nm,3.1s						
KMI				LN			
	comp=Z,820nm,13.9s						
KMI				LE			
	comp=Z,520nm,12.3s						
KMI				LZ			
	comp=Z,480nm,9.1s						
ULN	**Ulaanbaatar**	**25.47**	**325**	⇑*e*P	**P**	**11 31 40.7**	**+0.1**
ULN				pmax	pmax		
	comp=Z,13nm,1.5s						
ULN				MLR	MLR		
	comp=Z,238nm,16.0s						
ULN	**Ulaanbaatar**	**25.47**	**325**	*e*P	**P**	**11 31 39.6**	**-1.0**
	comp=Z,45nm,2.0s						
SONM	**Songino Array**	**25.79**	**324**	P	**P**	**11 31 44.6**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=108,slow=9.5,SNR=10.0						
SONM				LR	LR	11 42 55.2	
	comp=Z,320nm,18.0s,baz=108,slow=39						
SONM	**Songino Array**	**25.79**	**324**	P	**P**	**11 31 44.6**	**+1.1**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,321nm,18.0s						
SONA1	**Songino Array**	**25.79**	**324**	*e*P	**P**	**11 31 42.0**	**-1.6**
GTA	**Gaotai**	**26.15**	**302**	*e*P	**P**	**11 31 44.3**	**-2.6**
GTA				S	**S**	**11 36 11.4**	**-4.8**
GTA				SS	**SnSn**	**11 37 18.9**	**+2.3**
GTA				PMZ			
	comp=Z,4.0nm,1.3s						
GTA				PMZ			
	comp=Z,70nm,5.9s						
GTA				LN			
	comp=Z,2μm,14.7s						
GTA				LE			
	comp=Z,790nm,15.2s						
GTA				LZ			
	comp=Z,840nm,13.8s						
ZAK	**Zakamensk**	**28.98**	**325**	*e*P	P	11 32 04.1	-8.0
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s						
CMAR	**Chiang Mai Arr**	**29.11**	**256**	P	**P**	**11 32 15.8**	**+2.4**
	comp=Z,0.5nm,0.3s,baz=38,slow=7.2,SNR=5.6						
CMAR				LR	LR	11 44 40.2	
	comp=Z,241nm,19.4s,baz=66,slow=38						
CMAR	**Chiang Mai Arr**	**29.11**	**256**	P	**P**	**11 32 15.8**	**+2.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,241nm,19.4s						
TLY	**Talaya**	**29.64**	**328**	LR	LR	11 45 28.5	
	comp=Z,376nm,18.4s,baz=127,slow=39						
TLY	**Talaya**	**29.64**	**328**	*e*P	**P**	**11 32 16.9**	**-0.9**
TLY				*e*S	**S**	**11 37 09.1**	**-1.6**
TLY				pmax	pmax		
	comp=Z,6.0nm,1.4s						
TLY				MLR	MLR		
	comp=Z,440nm,15.0s						
TLY	**Talaya**	**29.64**	**328**	*e*P	**P**	**11 32 16.8**	**-0.9**
	comp=Z,4.4nm,1.0s						
KSM	**Kuching**	**32.32**	**216**	*e*P	P	11 32 45.1	+3.4
	comp=Z,7.3nm,1.0s						
PETK	**Petropavlovsk-**	**32.35**	**33**	LR	LR	11 46 09.4	
	comp=Z,57nm,19.1s,baz=222,slow=37						
JAY	**Jayapura**	**33.09**	**158**	LR	LR	11 43 31.5	
	comp=Z,143nm,21.6s,baz=332,slow=32						
KAPI	**Kappang**	**34.64**	**196**	LR	LR	11 48 17.9	
	comp=Z,81nm,18.4s,baz=327,slow=38						
WMQ	**Urumqi**	**36.00**	**306**	P	**P**	**11 33 13.9**	**+0.5**
WMQ				pP	**pP**	**11 33 26.0**	**+1.9**
WMQ				sP	**sP**	**11 33 31.4**	**+2.8**
WMQ				PP	**PP**	**11 34

ZALV	**Zalesovo Beam**	**40.60**	**321**	P	**P**	**11 33 49.9**	**-2.0**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZALV				MLR	MLR		
	comp=Z,93nm,19.2s						
NVS	**Novosibirsk**	**41.78**	**322**	*e*P	**P**	**11 33 59.6**	**-1.9**
KURK	**Kurchatov**	**43.39**	**315**	P	**P**	**11 34 14.5**	**-0.2**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KURK	**Kurchatov**	**43.39**	**315**	*e*P	**P**	**11 34 13.1**	**-1.6**
	comp=Z,6.6nm,1.0s						
KURBB	**Kurchatov Arra**	**43.43**	**315**	P	**P**	**11 34 14.4**	**-0.5**
	comp=Z,3.2nm,1.0s,baz=101,slow=8.4,SNR=12						
KSH	**Kashi**	**44.47**	**298**	*e*P	P	11 34 26.9	+3.2
KSH				pP	pP	11 34 39.3	+4.8
KSH				PP	**PP**	**11 36 12.6**	**+4.9**
KSH				S	**S**	**11 40 59.0**	**+2.7**
KSH				sS	sS	11 41 20.3	+6.0
KSH				PMZ			
	comp=Z,76nm,4.3s						
KSH				LN			
	comp=Z,520nm,16.5s						
KSH				LE			
	comp=Z,370nm,12.7s						
KSH				LZ			
	comp=Z,340nm,15.0s						
TKM2	**Tokmak 2**	**44.68**	**303**	*e*P	**P**	**11 34 24.1**	**-1.4**
TKM2	**Tokmak 2**	**44.68**	**303**	*e*P	**P**	**11 34 24.1**	**-1.4**
KKAR	**Karatay Array**	**48.41**	**304**	*e*P	**P**	**11 34 54.5**	**+0.1**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KKAR	**Karatay Array**	**48.41**	**304**	*e*P	**P**	**11 34 54.5**	**+0.1**
	comp=Z,2.1nm,0.7s						
WRAB	**Tennant Creek**	**48.66**	**173**	*e*P	**P**	**11 34 55.9**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,9.0nm,1.1s						
WRAB	**Tennant Creek**	**48.66**	**173**	*e*P	**P**	**11 34 55.9**	**-0.5**
	comp=Z,9.1nm,1.1s						
WRA	**Warramunga Arr**	**48.67**	**173**	P	**P**	**11 34 55.4**	**-1.1**
	comp=Z,3.3nm,0.9s,baz=353,slow=8.4,SNR=18						
WRA	**Warramunga Arr**	**48.67**	**173**	P	**P**	**11 34 55.4**	**-1.1**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRVK	**Borovoye**	**48.84**	**317**	*e*P	**P**	**11 34 56.0**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BRVK	**Borovoye**	**48.84**	**317**	*e*P	**P**	**11 34 56.0**	**-1.5**
	comp=Z,9.7nm,0.8s						
KBL	**Kabul**	**50.56**	**293**	*e*P	**P**	**11 35 11.3**	**+0.1**
KBL				pmax	pmax		
	comp=Z,17nm,1.3s						
KBL	**Kabul**	**50.56**	**293**	*e*P	**P**	**11 35 11.3**	**+0.1**
	comp=Z,17nm,1.3s						
ASAR	**Alice Springs**	**52.31**	**174**	P	**P**	**11 35 23.9**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=4.9,slow=10,SNR=17						
ASAR				LR	LR	11 57 28.6	
	comp=Z,46nm,20.3s,baz=337,slow=36						
ASAR	**Alice Springs**	**52.31**	**174**	P	**P**	**11 35 23.9**	**-0.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR				MLR	MLR		
	comp=Z,46nm,20.3s						
AS01	**Alice Springs**	**52.31**	**174**	*e*P	**P**	**11 35 24.2**	**+0.2**
ABKAR	**Akbulak array**	**55.33**	**312**	*e*P	**P**	**11 35 44.4**	**-1.5**
	comp=Z,2.7nm,0.8s						
ARU	**Arti**	**55.77**	**321**	*c i*P	**P**	**11 35 49.6**	**+0.7**
ARU						11 37 50.5	
ARU				S	**S**	**11 43 36.9**	**+4.0**
ARU				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ARU				MLR	MLR		
	comp=Z,293nm,18.0s						
GEYT	**Alibeck**	**58.49**	**299**	P	**P**	**11 36 10.4**	**+1.9**
	comp=Z,2.0nm,0.5s,baz=358,slow=10,SNR=4.4						
MLY	**Manley**	**60.37**	**29**	*e*P	**P**	**11 36 21.5**	**+0.4**
	comp=Z,4.1nm,0.8s						
MCK	**McKinley**	**61.28**	**30**	*e*P	**P**	**11 36 26.4**	**-0.8**
MCK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MCK	**McKinley**	**61.28**	**30**	*e*P	**P**	**11 36 26.4**	**-0.8**
	comp=Z,8.4nm,1.0s						
RND	**Reindeer**	**61.36**	**31**	*e*P	**P**	**11 36 26.8**	**-1.0**
RND				pmax	pmax		
	comp=Z,11nm,0.7s						
RND	**Reindeer**	**61.36**	**31**	*e*P	**P**	**11 36 26.8**	**-1.0**
	comp=Z,10nm,0.7s						
MDM	**Murphy Dome**	**61.44**	**29**	*e*P	**P**	**11 36 28.1**	**-0.2**
	comp=Z,13nm,0.8s						
STKA	**Stephens Creek**	**61.48**	**168**	LR	LR	12 03 51.0	
	comp=Z,36nm,20.0s,baz=7.7,slow=37						
COLA	**College**	**61.61**	**29**	*e*P	**P**	**11 36 31.1**	**+1.7**
COLA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
COLA	**College**	**61.61**	**29**	*e*P	**P**	**11 36 31.1**	**+1.7**
	comp=Z,4.6nm,1.0s						
ILAR	**Eielson Array**	**62.03**	**29**	P	**P**	**11 36 31.1**	**-1.1**
	comp=Z,1.0nm,0.9s,baz=276,slow=5.9,SNR=8.3						
ILAR				LR	LR	12 06 02.1	
	comp=Z,61nm,18.2s,baz=124,slow=39						
ILAR	**Eielson Array**	**62.03**	**29**	P	**P**	**11 36 31.1**	**-1.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR				MLR	MLR		
	comp=Z,61nm,18.2s						
SCRK	**Sand Creek**	**63.41**	**30**	*e*P	**P**	**11 36 40.5**	**-1.0**
	comp=Z,6.3nm,0.8s						
DOT	**Dot Lake**	**63.44**	**30**	*e*P	P	11 36 44.8	+3.2
	comp=Z,8.5nm,1.0s						
INK	**Inuvik**	**66.43**	**24**	P	**P**	**11 36 59.0**	**-1.9**
	comp=Z,1.1nm,0.9s,baz=351,slow=5.7,SNR=7.5						
INK	**Inuvik**	**66.43**	**24**	*e*P	**P**	**11 37 00.2**	**-0.7**
INK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
INK	**Inuvik**	**66.43**	**24**	*e*P	**P**	**11 37 00.2**	**-0.7**
	comp=Z,2.8nm,1.0s						
ZEI	**Tsey**	**67.59**	**308**	*e*P	P	11 37 13.2	+4.1
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ARCES	**ARCESS Array B**	**67.88**	**338**	LR	LR	12 11 00.3	
	comp=Z,112nm,19.0s,baz=60,slow=40						
KBZ	**Khabaz**	**67.98**	**309**	P	**P**	**11 37 10.6**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=53,slow=20,SNR=2.3						
KBZ	**Khabaz**	**67.98**	**309**	P	**P**	**11 37 10.6**	**-0.6**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KIV	**Kislovodsk**	**68.05**	**309**	*e*P	**P**	**11 37 11.5**	**-0.3**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,87nm,17.0s						
FINES	**FINESS Array B**	**70.95**	**330**	P	**P**	**11 37 27.4**	**-1.7**
	comp=Z,1.0nm,0.5s,baz=76,slow=8.0,SNR=6.6						
FINES				LR	LR	12 12 57.2	
	comp=Z,166nm,19.3s,baz=273,slow=40						
FINES	**FINESS Array B**	**70.95**	**330**	P	**P**	**11 37 27.5**	**-1.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES				MLR	MLR		
	comp=Z,166nm,19.3s						
DLBC	**Dease Lake**	**71.53**	**33**	P	**P**	**11 37 34.5**	**+1.6**
	comp=Z,2.1nm,0.9s,baz=274,slow=10,SNR=5.5						
RES	**Resolute Bay**	**73.03**	**11**	P	**P**	**11 37 39.8**	**-1.7**
	comp=Z,1.5nm,0.8s,baz=274,slow=17,SNR=2.8						
RES	**Resolute Bay**	**73.03**	**11**	P	**P**	**11 37 39.8**	**-1.7**
RES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array Be**	**73.97**	**319**	LR	LR	12 13 05.4	
	comp=Z,181nm,18.3s,baz=70,slow=38						
BRTR	**Keskin Array B**	**75.90**	**308**	P	**P**	**11 38 00.1**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=72,slow=9.3,SNR=3.2						
BRTR				LR	LR	12 16 32.2	
	comp=Z,52nm,18.9s,baz=63,slow=40						
YKA	**Yellowknife Ar**	**76.08**	**25**	P	**P**	**11 37 58.5**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=301,slow=6.0,SNR=9.8						
YKA	**Yellowknife Ar**	**76.08**	**25**	P	**P**	**11 37 58.5**	**-0.8**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKB5	**Yellowknife Ar**	**76.08**	**25**	*e*P	**P**	**11 37 58.5**	**-0.9**
NOA	**NORSAR Array B**	**77.31**	**334**	P	**P**	**11 38 07.9**	**+1.5**
	comp=Z,1.4nm,0.8s,baz=49,slow=5.8,SNR=4.9						
NOA				LR	LR	12 15 06.1	
	comp=Z,103nm,18.8s,baz=90,slow=38						
NOA	**NORSAR Array B**	**77.31**	**334**	P	**P**	**11 38 07.9**	**+1.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,103nm,18.8s						
B08A	**Colville Reser**	**82.09**	**39**	*e*P	P	11 38 37.5	+4.9
	comp=Z,42nm,2.8s						
NEW	**Newport**	**83.34**	**38**	*e*P	**P**	**11 38 42.0**	**+2.9**
NEW				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NEW	**Newport**	**83.34**	**38**	*e*P	**P**	**11 38 42.0**	**+2.9**
	comp=Z,3.6nm,0.9s						
GERES	**GERESS Array B**	**83.52**	**323**	LR	LR	12 19 25.7	
	comp=Z,160nm,18.4s,baz=70,slow=38						
BSMT	**Bassoo Peak**	**84.84**	**37**	*e*P	P	11 38 51.3	+4.3
	comp=Z,4.8nm,1.1s						
SWMT	**Swartz Lake**	**85.47**	**37**	*e*P	**P**	**11 38 50.2**	**+0.2**
SLMT	**Seeley Lake**	**85.91**	**37**	*e*P	**P**	**11 38 51.8**	**-0.4**
FFC	**Flin Flon**	**86.16**	**27**	*e*P	P	11 38 56.7	+3.6
FFC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
FFC	**Flin Flon**	**86.16**	**27**	*e*P	P	11 38 56.7	+3.6
	comp=Z,6.2nm,0.8s						
MFID	**Camas Ranch**	**86.97**	**41**	*e*P	**P**	**11 38 57.5**	**0.0**
	comp=Z,47nm,2.9s						
EGMT	**Eagleton**	**87.34**	**35**	*e*P	P	11 39 02.4	+3.2
	comp=Z,4.0nm,1.0s						
DLMT	**Dillon**	**87.58**	**38**	*e*P	**P**	**11 39 00.2**	**-0.2**
	comp=Z,7.2nm,1.1s						
HLID	**Hailey**	**87.70**	**40**	*e*P	**P**	**11 39 03.1**	**+2.1**
	comp=Z,3.7nm,1.0s						
NVAR	**Mina Array Bea**	**88.44**	**46**	P	**P**	**11 39 05.5**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=343,slow=2.8,SNR=3.4						
GCMT	**Greycliff**	**88.86**	**37**	*e*P	P	11 39 10.0	+3.5
	comp=Z,2.9nm,0.7s						
YNR	**Norris Junctio**	**89.03**	**38**	*e*P	P	11 39 11.6	+4.1
	comp=Z,5.8nm,0.9s						
H17A	**Grant Village**	**89.30**	**38**	*e*P	**P**	**11 39 10.7**	**+1.9**
	comp=Z,2.5nm,0.6s						
TPH	**Tonopah**	**89.34**	**46**	*e*P	**P**	**11 39 10.1**	**+1.2**
TPH				pmax	pmax		
	comp=Z,4.0nm,1.3s						
TPH	**Tonopah**	**89.34**	**46**	*e*P	**P**	**11 39 10.1**	**+1.2**
	comp=Z,3.6nm,1.3s						
HVU	**Hansel Valley**	**89.75**	**41**	*e*P	P	11 39 14.9	+4.1
HVU				pmax	pmax		
	comp=Z,2.0nm,1.0s						
HVU	**Hansel Valley**	**89.75**	**41**	*e*P	P	11 39 14.9	+4.1
	comp=Z,1.9nm,1.0s						
HWUT	**Hardware Ranch**	**90.56**	**41**	*e*P	**P**	**11 39 16.0**	**+1.4**
	comp=Z,56nm,2.9s						
DUG	**Dugway, Tooele**	**90.74**	**42**	*e*P	**P**	**11 39 18.1**	**+2.8**
DUG				pmax	pmax		
	comp=Z,3.0nm,1.0s						
DUG	**Dugway, Tooele**	**90.74**	**42**	*e*P	**P**	**11 39 18.1**	**+2.8**
	comp=Z,2.6nm,1.0s						
PDAR	**Pinedale Array**	**90.93**	**39**	P	**P**	**11 39 15.6**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=69,slow=8.1,SNR=4.0						
PDAR				LR	LR	12 21 45.0	
	comp=Z,28nm,19.2s,baz=345,slow=37						
PPT	**Papeete**	**91.24**	**109**	LR	LR	12 13 00.5	
	comp=Z,34nm,19.9s,baz=318,slow=31						
ULM	**Lac du Bonnet**	**91.99**	**27**	P	**P**	**11 39 20.3**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=18,slow=6.4,SNR=2.4						
ULM	**Lac du Bonnet**	**91.99**	**27**	P	**P**	**11 39 20.3**	**-0.4**
ULM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MVU	**Marysvale**	**92.17**	**43**	*e*P	P	11 39 27.0	+4.9
	comp=Z,39nm,2.8s						
PV10	**Paradox Valley**	**94.14**	**42**	*e*P	**P**	**11 39 32.6**	**+1.4**
	comp=Z,65nm,0.8s						
KEST	**Kesra**	**94.20**	**315**	LR	LR	12 25 19.8	
	comp=Z,18nm,18.8s,baz=276,slow=38						
SCHQ	**Schefferville**	**95.72**	**9**	LR	LR	12 23 51.3	
	comp=Z,32nm,21.8s,baz=266,slow=36						
ESDC	**Sonseca Array**	**98.98**	**325**	LR	LR	12 28 43.4	
	comp=Z,86nm,19.9s,baz=25,slow=38						

ISCJB ***16*** *11:45:13.1±0.5,31.80N±0.04×104.50E±0.06,h15km, mb3.5/6,MS3.7/1,Error ellipse: s-maj=7.6km s-min=4.8km az=21.7*

IDC ***16*** *11:45:13.4±0.9,31.85N×104.53E,h0km,mb3.5/6, mb1 3.7/8,mb1mx3.5/41,mbtmp3.6/8,ML3.8/2,MS3.8/1, Ms1 3.8/1,ms1mx2.6/35,Error ellipse: s-maj=38.4km s-min=17.5km az=56.0*

BJI ***16*** *11:45:16.2,31.82N×104.32E,h19km,ML3.5/16,Ms3.4/2, Ms7 3.1/2*

ISC 16 11:45:15.6±0.7,31.92N±0.04×104.42E±0.06,h15km,n13, σ2s16/19,mb3.7/6,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.15**	**210**	Pg	Pn	11 45 33.9	-3.3
CD2				Sg	**Sb**	**11 45 48.8**	**-3.2**
CD2				SMN			
	4μm,0.7s						
CD2				SME			
	4μm,0.5s						
LZH	**Lanzhou**	**4.19**	**354**	Pn	Pn	11 46 24.1	+5.0
LZH				Pg	**Pg**	**11 46 34.6**	**-1.2**
LZH				Sn	**Sn**	**11 47 08.9**	**+1.1**
LZH				Sg	**Sg**	**11 47 29.8**	**-0.3**
LZH				SMN			
	99nm,1.1s						
LZH				SME			
	120nm,1.0s						
LZH				LN			
	240nm,5.2s						
LZH				LE			
	380nm,6.8s						
LZH				LZ			
	200nm,7.6s						
XAN	**Xi'an**	**4.33**	**60**	Pn	**Pn**	**11 46 21.6**	**+0.6**
XAN				Pg	**Pg**	**11 46 37.3**	**-1.3**
XAN				Sn	**Sn**	**11 47 11.6**	**+0.3**
XAN				Sg	**Sg**	**11 47 32.8**	**-2.0**
XAN				SMN			
	81nm,0.7s						
XAN				SME			
	43nm,0.7s						
GYA	**Guiyang**	**5.78**	**160**	Pn	Pn	11 46 46.6	+5.6
GYA				Pg	**Pg**	**11 47 06.5**	**+0.2**
GYA				Sn	**Sn**	**11 47 42.8**	**-4.3**
GYA				Sg	**Sb**	**11 48 10.8**	**+5.4**
GYA				smax	smax		
	comp=N,60nm,0.7s						
GYA				smax	smax		
	comp=E,60nm,0.8s						
CMAR	**Chiang Mai Arr**	**14.28**	**202**	Pn	**Pn**	**11 48 38.6**	**+1.2**
	comp=E,0.2nm,0.3s,baz=16,slow=14,SNR=3.2						
KSRS	**Korea Array**	**20.08**	**68**	P	**P**	**11 49 48.3**	**-0.2**
	comp=E,0.3nm,0.3s,baz=260,slow=9.8,SNR=7.8						
MKAR	**Makanchi Array**	**22.55**	**318**	P	**P**	**11 50 16.6**	**+1.5**
	comp=E,0.5nm,0.8s,baz=119,slow=7.1,SNR=5.9						
ZALV	**Zalesovo Beam**	**26.11**	**333**	P	**P**	**11 50 49.4**	**+0.7**
	comp=E,0.5nm,0.4s,baz=132,slow=4.3,SNR=2.8						
KURBB	**Kurchatov Arra**	**26.76**	**322**	P	**P**	**11 50 55.9**	**+1.3**
	comp=E,0.4nm,0.5s,baz=130,slow=8.3,SNR=6.5						
PSI	**Prapat**	**29.42**	**191**	LR	LR	12 05 12.3	
	comp=E,153nm,18.4s,baz=174,slow=41						
FINES	**FINESS Array B**	**57.05**	**326**	P	**P**	**11 55 01.1**	**+0.4**
	comp=E,0.9nm,0.6s,baz=90,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**59.00**	**147**	P	**P**	**11 55 14.0**	**-0.8**
	comp=E,0.4nm,0.5s,baz=317,slow=12,SNR=13						
ASAR	**Alice Springs**	**62.05**	**149**	P	**P**	**11 55 35.0**	**-0.6**
	comp=E,0.3nm,0.5s,baz=333,slow=6.4,SNR=7.3						

IDC 16 11:51:29.9±3.3,4.07S×153.77E,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.4/30,mbtmp3.7/3,Error ellipse: s-maj=103.4km s-min=50.6km az=108.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.65**	**229**	P	P	11 56 53.4	+0.8
	2.0nm,0.6s,baz=54,slow=9.9,SNR=22						
ASAR	**Alice Springs**	**27.34**	**223**	P	P	11 57 16.0	-0.8
	0.3nm,0.6s,baz=52,slow=9.7,SNR=3.6						
STKA	**Stephens Creek**	**29.93**	**201**	P	P	11 57 39.8	0.0
	0.9nm,0.7s,baz=27,slow=10,SNR=6.0						
TORD	**Torodi Ar. Bea**	**150.99**	**290**	PKPbc	PKPbc	12 11 25.4	-0.5
	0.6nm,0.8s,baz=55,slow=2.3,SNR=3.6						

ISCJB ***16*** *12:02:53.4±0.7,32.19N±0.04×115.22W±0.05,h14km±6km, Error ellipse: s-maj=6.7km s-min=5.9km az=163.5*

ECX ***16*** *12:02:54.8±0.5,32.20N×115.25W,h7km,MD2.8,ML3.0*

MEX ***16*** *12:02:55.5±0.5,32.25N×115.16W,h12km±930km,MD3.7*

ISC 16 12:02:52.8±1.1,32.17N±0.03×115.21W±0.04,h15km±9km, n20,σ0s34/27,1C-8D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.23**	**3**	*e*P	**Pb**	**12 02 59.1**	**+0.3**
MBIG				*i* S	**Sg**	**12 03 01.2**	**-0.4**
CPBX	**Cerro Prieto**	**0.26**	**342**	*e*P9	**Pb**	**12 02 59.1**	**-0.1**
CPBX				*e*S	**Sg**	**12 03 02.6**	**+0.5**
CPBX				⇓*e*		12 03 05.1	
CPBX				IAML		12 03 05.1	
	comp=E,8μm,0.2s						
CPBX				IAML		12 03 06.6	
	comp=N,9μm,0.2s						
CPBX				⇓*e*		12 03 06.6	
EMSC	**East Mesa**	**0.59**	**19**	⇓*i*P	**Pb**	**12 03 05.4**	**+0.5**
SGL	**Mount Signal**	**0.64**	**318**	⇓*i*P	**Pb**	**12 03 05.7**	**-0.1**
RDX	**Rancho Dawling**	**0.67**	**249**	*e*P	**Pb**	**12 03 06.6**	**+0.3**
RDX				*e*S	**Sg**	**12 03 15.4**	**+0.6**
RDX				IAML		12 03 17.3	
	comp=N,814nm,0.3s						
RDX				⇓*e*		12 03 17.3	
YMD	**Yuma Desert**	**0.68**	**56**	⇑*i*P	**Pb**	**12 03 06.7**	**+0.3**
COA	**Coachella**	**0.69**	**6**	⇓*i*P	**Pb**	**12 03 06.6**	**0.0**
ECBX	**El Chinero**	**0.71**	**169**	*e*P9	**Pb**	**12 03 06.2**	**-0.7**
ECBX				*e*S	**Sb**	**12 03 16.5**	**0.0**
WESC	**Westside Schoo**	**0.73**	**323**	*e*P	**Pb**	**12 03 07.3**	**0.0**
YUH	**Yuha Desert**	**0.77**	**308**	*e*P2	**Pg**	**12 03 07.6**	**-0.2**
RMX	**La Rumorosa**	**0.85**	**300**	*e*P	**Pb**	**12 03 09.1**	**-0.2**
RMX				*e*S	**Sb**	**12 03 20.0**	**-0.7**
RMX				IAML		12 03 20.7	
	comp=N,327nm,0.5s						
RMX				⇓*e*		12 03 20.7	
ZAX	**El Zacaton**	**1.12**	**234**	*e*P	**Pn**	**12 03 14.2**	**+0.1**
ZAX				*e*S	**Sn**	**12 03 29.3**	**+0.1**
SPIG	**San Pedro Mart**	**1.15**	**191**	*e*P	**Pn**	**12 03 14.7**	**+0.1**
SPIG	**San Pedro Mart**	**1.15**	**191**	*e*P	**Pn**	**12 03 14.8**	**+0.1**
SPX	**San Pedro Mart**	**1.15**	**191**	*e*P	**Pn**	**12 03 14.8**	**+0.2**
CBX	**Cerro Bola**	**1.24**	**277**	*e*P	**Pn**	**12 03 15.6**	**-0.2**
CBX	**Cerro Bola**	**1.24**	**277**	*e*P	**Pn**	**12 03 15.6**	**-0.2**
CBX				*e*S	**Sb**	**12 03 31.9**	**+0.1**
CBX				IAML		12 03 33.5	
	comp=N,408nm,0.3s						
CBX				⇓*e*		12 03 33.5	
ECNX	**Esteban Cantu**	**1.29**	**247**	*e*P	**Pb**	**12 03 17.1**	**+0.3**
BAR	**Barrett**	**1.33**	**293**	*e*P	**Pn**	**12 03 16.7**	**-0.3**
PBX	**Punta Banda**	**1.36**	**252**	*e*P	**Pn**	**12 03 17.6**	**+0.3**

MEX 16 12:07:11.8±0.4,32.33N×115.08W,h16km±6km,MD3.6, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.12**	**307**	*e*P	Pg	12 07 14.8	-0.7
MBIG				*i* S	Sg	12 07 17.1	-0.8
SPIG	**San Pedro Mart**	**1.32**	**194**	*e*P	Pn	12 07 32.6	-3.5
CBX	**Cerro Bola**	**1.34**	**270**	*e*P	Pn	12 07 32.2	-3.8

NEIC 16 12:32:50.9,51.69N×178.06E,h70km,ML3.6(AEIC),After AEIC.,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.38**	**47**	P	Pn	12 33 03.1	+0.5
LSNW	**Little Sitkin**	**0.40**	**45**	P	Pn	12 33 03.1	+0.4
LSPA	**Little Sitkin**	**0.41**	**50**	P	Pn	12 33 03.4	+0.6
LSPA				S	Sn	12 33 12.7	+1.1
AMKA	**Amchitka**	**0.84**	**112**	P	Pn	12 33 07.7	+0.4
AMKA				S	Sn	12 33 20.2	+0.8
CETU	**Semis' Tuman**	**0.93**	**72**	P	Pn	12 33 09.2	+0.8
CESW	**Semis' Southwe**	**0.95**	**77**	P	Pn	12 33 09.2	+0.4
CEAP	**Semis' Anvil P**	**0.99**	**71**	P	Pn	12 33 09.8	+0.6
CERB	**Semis' Cerberu**	**1.00**	**76**	P	Pn	12 33 09.9	+0.5
CERB				S	Sn	12 33 24.4	+1.2
GAEA	**Gareloi East**	**1.99**	**86**	P	Pn	12 33 23.2	+0.9
TANO	**Tanaga North**	**2.38**	**83**	P	Pn	12 33 28.6	+1.0
TASE	**Tanaga Southea**	**2.43**	**85**	P	Pn	12 33 29.1	+0.8
TAFP	**Tanaga Falls P**	**2.46**	**84**	P	Pn	12 33 29.3	+0.6
TAFP				S	Sn	12 33 58.1	+0.3
TAFL	**Tanaga Flats**	**2.51**	**87**	P	Pn	12 33 30.3	+0.9
SMY	**Shemya**	**2.65**	**295**	P	Pn	12 33 32.1	+0.9
SMY				S	Sn	12 34 02.4	+0.1
KIKV	**Kanaga Island**	**2.97**	**85**	P	Pn	12 33 36.4	+0.8
KIRH	**Kanaga Island**	**3.01**	**84**	P	Pn	12 33 37.0	+0.8
ETKA	**Kagalaska Isla**	**3.44**	**85**	P	Pn	12 33 43.0	+0.9
GSCK	**Great Sitkin C**	**3.59**	**83**	P	Pn	12 33 44.6	+0.5
GSMY	**Great Sitkin M**	**3.66**	**82**	P	Pn	12 33 46.2	+1.1
ATKA	**Atka Island**	**4.82**	**81**	P	Pn	12 34 02.5	+1.7
KOFP	**Korovin Flat P**	**4.88**	**80**	P	Pn	12 34 03.5	+1.7
MREP	**Makushin Rep't**	**9.46**	**71**	P	Pn	12 35 07.6	+3.4
UNV	**Unalaska Valle**	**9.60**	**71**	P	Pn	12 35 08.5	+2.4

JMA 16 12:35:08.7±0.2,28.78N×128.57E,h7km,M2.8,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTAJ	**Takarajima**	**0.67**	**56**	P	Pg	12 35 21.7	+0.1
JTAJ				*e*S	Sg	12 35 30.5	+0.2
JAMN	**Amaminishikomi**	**0.76**	**135**	P	Pg	12 35 23.3	+0.1
JAMN				*e*S	Sg	12 35 33.2	+0.2
JAM	**Amami Oshima**	**0.98**	**112**	P	Pg	12 35 27.3	-0.3
JAM				*e*S	Sg	12 35 40.5	+0.2
JTK	**Tokunoshima**	**1.05**	**161**	P	Pg	12 35 27.8	-1.0
JTK				*e*S	Sg	12 35 42.4	0.0
JOKE	**Okinoerabujima**	**1.41**	**180**	P	Pb	12 35 35.4	0.0

NIED ***16*** *12:35:00,28.70N×128.60E,h5km,Mw5.0 Best double couple: M03.83000×

JTK S **Sn** **12 36 18.5 -1.6**
JZK Kikaishima 1.20 112 P **Pn** **12 36 10.0 +0.2**
JZK S **Sb** **12 36 28.5 +1.7**
JOKE Okinoerabujima 1.41 185 P **Pn** **12 36 10.3 -2.4**
JNN Nakanoshima 1.47 43 P **Pn** **12 36 12.5 -1.1**
JNN *e*S **Sn** **12 36 33.2 +1.5**
JIH Iheya 1.85 201 P **Pn** **12 36 16.3 -2.4**
JIH S **Sn** **12 36 40.5 -0.5**
JOW Kunigami 1.97 191 P **Pn** **12 36 20.8 +0.4**
JOW Kunigami 1.97 191 *e*Pn **Pn** **12 36 20.8 +0.4**
JKC Kuchinoerabu 2.12 37 P **Pb** **12 36 26.4 -0.7**
JYAK Yakushimahirau 2.15 47 P **Pb** **12 36 26.5 -1.0**
JNTH Nagotoyohara 2.33 195 P **Pn** **12 36 27.0 +1.7**
JAGN Aguni-jima 2.53 211 P **Pn** **12 36 29.6 +1.5**
JTN Tanegashima 3 2.73 46 P **Pn** **12 36 33.6 +2.9**
JKE Kume jima 2 2.98 215 P **Pn** **12 36 35.3 +1.1**
JNU Nakatsue 4.72 23 Pn **Pn** **12 36 57.9 -0.3**
8.1nm,0.3s,baz=196,slow=8.2,SNR=50
JNU LR LR 12 39 01.6
comp=Z,6μm,18.9s,baz=284,slow=42
JNU Nakatsue 4.72 23 *e*Pn **Pn** **12 37 00.8 +2.6**
KSJJU Jeju 5.00 339 P **Pn** **12 37 00.5 -1.5**
SNR=6.5
KSJJU Jeju 5.00 339 P **Pn** **12 37 00.5 -1.5**
SNR=6.5
KSWAN Wando 5.85 344 P **Pn** **12 37 13.2 -0.6**
SNR=6.5
KSWAN Wando 5.85 344 P **Pn** **12 37 13.2 -0.6**
SNR=6.5
KSJDO Jindo 6.03 341 P **Pn** **12 37 15.6 -0.7**
SNR=9.1
KSJDO Jindo 6.03 341 P **Pn** **12 37 15.6 -0.7**
SNR=9.1
KSHUK Heuksando 6.51 336 P **Pn** **12 37 21.3 -1.5**
SNR=6.1
KSHUK Heuksando 6.51 336 P **Pn** **12 37 21.3 -1.5**
SNR=6.1
YOJ Yonaguni jima 6.66 231 *e*P **Pn** **12 37 26.1 +1.2**
YOJ Yonaguni jima 6.66 231 *e*Pn **Pn** **12 37 26.1 +1.2**
KSJEU Jeongeup 6.87 348 P **Pn** **12 37 28.6 +0.9**
SNR=6.3
KSJEU Jeongeup 6.87 348 P **Pn** **12 37 28.6 +0.9**
SNR=6.3
SSE Sheshan 6.92 291 P **Pn** **12 37 26.1 -2.3**
SSE S **Sn** **12 38 45.8 -0.3**
SSE PMZ
78nm,0.7s
SSE LN
9μm,15.1s
SSE LE
4μm,15.0s
SSE LZ
4μm,10.1s
TATO Taipei 7.47 241 *e*Pn **Pn** **12 37 36.1 +0.1**
TJN Taejon 7.67 352 *e*P **Pn** **12 37 40.4 +1.8**
YHNB Yeheng 7.72 240 *e*Pn **Pn** **12 37 40.0 +0.4**
KSBON Boeun 7.74 355 P **Pn** **12 37 41.9 +2.2**
SNR=9.0
KSBON Boeun 7.74 355 P **Pn** **12 37 41.9 +2.2**
SNR=9.0
NACB Ninganchiao 7.85 236 *e*Pn **Pn** **12 37 41.2 +0.1**
KSCEA Cheonan 8.12 352 P **Pn** **12 37 47.4 +2.5**
SNR=10.0
KSCEA Cheonan 8.12 352 P **Pn** **12 37 47.4 +2.5**
SNR=10.0
SSLB Suanglung 8.55 236 *e*Pn **Pn** **12 37 49.8 -1.0**
YULB Yu-li 8.55 233 *e*Pn **Pn** **12 37 48.5 -2.2**
KSSWO Suwon 8.60 351 P **Pn** **12 37 53.0 +1.7**
SNR=7.3
KSAR Wonju Array Be 8.67 356 P **Pn** **12 37 53.2 +0.8**
KSAR Wonju Array Be 8.67 356 Pn **Pn** **12 37 53.2 +0.8**
KSRS Korea Array 8.68 356 Pn **Pn** **12 37 53.2 +0.7**
0.4nm,0.3s,baz=178,slow=14,SNR=32
KSRS LR LR 12 41 20.5
comp=Z,4μm,20.4s,baz=162,slow=39
KS01 Wonju Array Si 8.71 356 *e*Pn **Pn** **12 37 54.7 +1.8**
INCN Inchon 8.86 349 *e*Pn **Pn** **12 37 56.2 +1.2**
KSCHC Chuncheon 9.01 355 P **Pn** **12 37 59.7 +2.6**
SNR=14
KSCHC Chuncheon 9.01 355 P **Pn** **12 37 59.7 +2.6**
SNR=14
TWG Pinlang 9.08 231 *e*Pn **Pn** **12 37 55.0 -3.0**
TPUB Ta-pu 9.08 235 *e*Pn **Pn** **12 37 57.9 -0.2**
NJ2 Nanjing 9.11 293 *e*P **Pn** **12 37 56.5 -2.0**
NJ2 S **Sn** **12 39 39.0 -0.9**
NJ2 PMZ
50nm,0.6s
NJ2 LN
6μm,10.0s
NJ2 LE
10μm,9.6s
KSIJA INJE 9.20 357 P Pn 12 38 03.1 +3.4
SNR=10.0
KSIJA INJE 9.20 357 P Pn 12 38 03.1 +3.4
SNR=10.0
YNCB YEONCHEON 9.36 351 P **Pn** **12 38 03.5 +1.6**
SNR=7.6
QZH Quanzhou 9.80 249 P **Pn** **12 38 10.3 +2.3**
QZH S **Sn** **12 39 53.0 -3.9**
QZH LN
6μm,9.7s
QZH LE
6μm,10.7s
QZH LZ
8μm,8.8s
MAJO Matsushiro 11.13 43⇓ *e*P **Pn** **12 38 28.9 +2.7**
MAJO pmax pmax
comp=Z,134nm,1.4s
MAJO Matsushiro 11.13 43 *e*Pn **Pn** **12 38 28.9 +2.7**
MAT Matsushiro 11.13 43 P **Pn** **12 38 28.4 +2.2**
MAT S **Sn** **12 40 31.4 +1.9**
MJAR Matsushiro Arr 11.14 44 Pn **Pn** **12 38 28.6 +2.4**
comp=Z,0.4nm,0.3s,baz=237,slow=14,SNR=21
MJAR LR LR 12 43 25.0
comp=Z,1μm,20.0s,baz=225,slow=41
MJAR Matsushiro Arr 11.14 44 P **Pn** **12 38 28.6 +2.4**
MJAR MLR MLR
comp=Z,1μm,20.0s
DL2 Dalian 11.69 332 P **Pn** **12 38 35.8 +2.1**
DL2 S **Sn** **12 40 45.1 +2.1**
DL2 PMZ
comp=Z,37nm,1.0s
DL2 PMZ
comp=Z,200nm,10.2s
DL2 LN
comp=Z,3μm,12.5s
DL2 LZ
comp=Z,2μm,12.1s
CBIJ Chichi jima 12.03 95 Pn **Pn** **12 38 38.9 +0.4**
JCJ Chichijima 12.04 95 Pn **Pn** **12 38 38.9 +0.4**
comp=Z,8.3nm,0.3s,baz=289,slow=19,SNR=6.6
JCJ LR LR 12 43 24.8
comp=Z,1μm,18.1s,baz=307,slow=38
TIA Tai'an 12.27 310⇑ P **Pn** **12 38 42.1 +0.5**
TIA PMZ
comp=Z,20nm,1.1s
TIA PMZ
comp=Z,410nm,9.9s
TIA LN
comp=Z,7μm,14.9s
TIA LE
comp=Z,6μm,15.5s
TIA LZ
comp=Z,4μm,15.5s
WHN Wuhan 12.61 282 P **Pn** **12 38 45.4 -1.0**
WHN S **Sn** **12 41 06.5 +0.8**
WHN LN
comp=Z,14μm,14.1s
WHN LE
comp=Z,4μm,8.4s
WHN LZ
comp=Z,5μm,9.2s
SNY Shenyang 13.68 344⇑ P **P** **12 39 09.8 +0.6**
SNY S S 12 42 02.0 +8.4
SNY pmax pmax
comp=Z,17nm,1.4s
SNY pmax pmax
comp=Z,640nm,6.7s
SNY LR LR
comp=N,3μm,14.5s
SNY LR LR
comp=E,5μm,14.9s
SNY LR LR
comp=Z,5μm,14.1s
VLA Vladivostok 14.54 9⇓ *e*P **Pn** **12 39 15.8 +3.1**
VLA S **Sn** **12 41 56.9 +4.2**
VLA pmax pmax
comp=Z,30nm,1.7s
GZH Guangzhou 14.93 251 P **Pn** **12 39 18.9 +0.9**
GZH S **Sn** **12 42 03.4 +1.1**
GZH SS **S** **12 42 20.0 +0.5**
GZH LN
comp=Z,3μm,12.3s
GZH LE
comp=Z,2μm,12.7s
CN2 Changchun 15.22 351 *e*P **P** **12 39 28.3 +1.9**
CN2 PMZ
comp=Z,40nm,1.3s
CN2 PMZ
comp=Z,600nm,4.0s
CN2 LN
comp=Z,5μm,12.0s
CN2 LE
comp=Z,4μm,12.0s
CN2 LZ
comp=Z,5μm,12.0s
BJT Baijiatuau 15.24 321 *e*P **Pn** **12 39 22.5 +0.4**
BJT pmax pmax
comp=Z,62nm,0.8s
BJT Baijiatuau 15.24 321 *e*P **Pn** **12 39 22.5 +0.4**
comp=Z,62nm,0.8s
BJI Beijing 15.26 321 P **Pn** **12 39 21.1 -1.1**
BJI S **Sn** **12 42 07.6 -2.4**
BJI PMZ
comp=Z,59nm,1.5s
BJI PMZ
comp=Z,530nm,6.7s
BJI LN
comp=Z,3μm,17.3s
BJI LE
comp=Z,2μm,19.9s
USRK Ussuriysk Ar. 15.62 9 Pn **Pn** **12 39 27.4 +0.5**
comp=Z,0.1nm,0.3s,baz=178,slow=8.7,SNR=3.2
USRK LR LR 12 44 57.6
comp=Z,1μm,19.5s,baz=180,slow=36
MDJ Mudanjiang 15.83 2 P **P** **12 39 34.5 +1.4**
MDJ sP **sP** **12 39 49.3 +3.4**
MDJ S **Sn** **12 42 28.0 +4.1**
MDJ ScP **ScP** **12 48 00.3 +1.1**
MDJ PcS **PcS** **12 48 04.3 +1.5**
MDJ PMZ
comp=Z,56nm,1.4s
MDJ PMZ
comp=Z,610nm,5.2s
MDJ LN
comp=Z,1μm,14.4s
MDJ LE
comp=Z,2μm,10.8s
MDJ LZ
comp=Z,2μm,9.9s
MDJ Mudanjiang 15.83 2 P **P** **12 39 34.9 +1.9**
comp=Z,76nm,1.2s
TIY Taiyuan 16.26 307 *e*P **Pn** **12 39 36.6 +1.4**
TIY pP **pP** **12 39 46.4 -0.2**
TIY S **Sn** **12 42 32.6 -1.9**
TIY sS **S** **12 42 49.1 +2.5**
TIY PMZ
comp=Z,580nm,5.0s
TIY LN
comp=Z,5μm,13.8s
TIY LE
comp=Z,3μm,12.0s
TIY LZ
comp=Z,4μm,14.6s
ENH Enshi 16.80 280 *e*P **P** **12 39 44.3 +0.4**
comp=Z,25nm,0.9s
ERM Erimo 17.67 38 P **P** **12 39 56.1 +2.7**
comp=Z,329nm,1.0s,SNR=5.9
ERM Erimo 17.67 38⇓ *i*P **P** **12 39 56.4 +3.0**
ERM pmax pmax
comp=Z,104nm,1.7s
ERM MLR MLR
comp=Z,2μm,16.0s
ERM Erimo 17.67 38 *e*P **P** **12 39 55.5 +2.1**
comp=Z,43nm,0.8s
XAN Xi'an 17.68 292 P **Pn** **12 39 51.4 -1.6**
XAN pP **pP** **12 40 02.0 -0.4**
XAN sP **sP** **12 40 07.3 +0.7**
XAN PMZ
comp=Z,33nm,1.0s
XAN PMZ
comp=Z,160nm,8.4s
XAN LN
comp=Z,2μm,11.5s
XAN LZ
comp=Z,850nm,11.0s
HHC Hu-ho-hao-te 18.49 315 *e*P **Pn** **12 40 03.8 +0.8**
HHC PP **PnPn** **12 40 19.3 +4.4**
HHC sS S 12 43 39.8 +7.9
HHC PMZ
comp=Z,53nm,1.0s
HHC PMZ
comp=Z,800nm,6.2s
HHC LN
comp=Z,3μm,15.1s
HHC LE
comp=Z,3μm,11.1s
HHC LZ
comp=Z,3μm,11.6s
ASAJ Asahikawa 18.91 32 P **P** **12 40 06.2 -0.9**
comp=Z,1.3nm,0.3s,baz=196,slow=9.6,SNR=16
ASAJ LR LR 12 47 18.8
comp=Z,990nm,18.2s,baz=243,slow=37
ASAJ Asahikawa 18.91 32 P **P** **12 40 06.2 -0.9**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ MLR MLR
comp=Z,990nm,18.2s
ASAJ Asahikawa 18.91 32 *e*P **P** **12 40 06.0 -1.2**
comp=Z,292nm,2.1s
BTO Baotou 19.33 313 *e*P **P** **12 40 12.5 +0.6**
GYA Guiyang 19.67 268⇓ *i*P **P** **12 40 15.5 -0.2**
GYA pP **pP** **12 40 25.4 +1.0**
GYA PP **PnPn** **12 40 35.0 +3.8**
GYA sS **Sn** **12 44 02.5 +5.2**
GYA SS **SnSn** **12 44 16.0 +4.4**
GYA PMZ
comp=Z,70nm,1.0s
GYA PMZ
comp=Z,500nm,6.2s
GYA LN
comp=Z,2μm,13.1s
GYA LE
comp=Z,2μm,13.7s
GYA LZ
comp=Z,2μm,14.3s
QIZ Qiongzhong 19.76 245 P **P** **12 40 16.6 0.0**
QIZ pP **pP** **12 40 23.4 -2.0**
QIZ sP **sP** **12 40 28.4 -1.1**
QIZ S **S** **12 43 56.3 -1.4**
QIZ LN
comp=Z,1μm,13.9s
QIZ LZ
comp=Z,2μm,12.7s
HABR Khabarovsk 20.27 12 *c e*P **P** **12 40 20.5 -1.4**
HABR *e**PP **pP** **12 40 29.1 -1.5**
HABR *e* 12 40 38.1
HABR S **S** **12 44 07.0 -0.4**
HABR *e*SS **SnSn** **12 44 22.2 -3.9**
HABR *e*SS Sn 12 44 27.0 +16
HABR *e*SSS SSS 12 44 40.7
HABR *e* 12 51 49.8
HABR MLR MLR
comp=Z,2μm,15.0s
YUK Yuzh-Kuril'sk 20.50 37 *c i*P **P** **12 40 23.5 -0.9**
YUK *i* S **S** **12 44 10.5 -1.4**
YUK MLR MLR
comp=N,543nm,17.0s
YUK MLR MLR
comp=E,293nm,17.0s
YUK MLR MLR
comp=Z,761nm,17.0s
KLR Kul'dur 20.56 6 *e*P **P** **12 40 20.8 -4.3**
KLR *e*S **S** **12 44 14.5 +1.3**
KLR MLR MLR
comp=Z,8μm,12.0s
YSS Yuzh-Sakhalins 21.21 27 *e*P **P** **12 40 34.3 +2.2**
YSS pmax pmax
comp=Z,80nm,1.4s
YSS MLR MLR
comp=E,1μm,14.0s
YSS MLR MLR
comp=Z,1μm,14.0s
YSS Yuzh-Sakhalins 21.21 27 *e*P **P** **12 40 33.3 +1.2**
comp=Z,82nm,1.3s
GUMO Guam 21.30 132 LR LR 12 47 07.6
comp=Z,1μm,22.0s,baz=320,slow=32
HIA Hailar 21.59 344⇓ *i*P **P** **12 40 36.5 +0.4**
HIA pmax pmax
comp=Z,36nm,1.5s
HIA MLR MLR
comp=Z,1μm,15.0s
HIA Hailar 21.59 344 *e*P **P** **12 40 35.7 -0.5**
comp=Z,173nm,1.8s
CD2 Chengdu 21.74 282 P **P** **12 40 36.3 -1.6**
CD2 pP **pP** **12 40 44.1 -2.6**
CD2 sP **sP** **12 40 52.0 +1.1**
CD2 S **S** **12 44 33.8 -3.0**
CD2 SS **SnSn** **12 45 05.9 +3.7**
CD2 PMZ
comp=Z,180nm,1.0s
CD2 PMZ
comp=Z,470nm,5.3s
CD2 LN
comp=Z,7μm,17.8s
CD2 LE
comp=Z,4μm,11.9s
CD2 LZ
comp=Z,3μm,13.1s
LZH Lanzhou 22.18 296⇑ P **P** **12 40 42.6 -0.2**
LZH pP **pP** **12 40 52.0 +0.4**
LZH sP **sP** **12 40 56.4 +0.6**
LZH S S 12 44 38.0 -7.4
LZH sS Sn 12 44 49.0 -8.7
LZH SS **SnSn** **12 45 19.0 +5.8**
LZH PMZ
comp=Z,100nm,1.6s
LZH PMZ
comp=Z,350nm,4.6s
LZH LN
comp=Z,5μm,11.8s
LZH LE
comp=Z,2μm,12.5s
LZH LZ
comp=Z,4μm,13.9s
KMI Kunming 23.41 267 P **P** **12 40 55.3 -0.5**
KMI pP **pP** **12 41 04.8 -0.1**
KMI PP **PnPn** **12 41 25.1 +2.5**
KMI S **S** **12 45 00.8 -6.3**
KMI sS sS 12 45 15.9 -6.8
KMI SS **SnSn** **12 45 47.8 +4.1**
KMI PMZ
comp=Z,69nm,1.0s
KMI PMZ
comp=Z,430nm,3.8s
KMI LN
comp=Z,2μm,10.1s
KMI LE
comp=Z,1μm,11.8s
KMI LZ
comp=Z,940nm,9.5s
ULN Ulaanbaatar 25.39 325 *e*P **P** **12 41 13.6 -0.1**
ULN pmax pmax
comp=Z,156nm,1.8s
ULN Ulaanbaatar 25.39 325 P **P** **12 41 13.4 -0.2**
SNR=34
ULN Ulaanbaatar 25.39 325 *e*P **P** **12 41 13.6 -0.1**
comp=Z,156nm,1.8s
SDKM Sandakan 25.46 208⇑ P **P** **12 41 14.7 +0.3**
SONM Songino Array 25.70 324 P **P** **12 41 15.8 -0.7**
comp=Z,20nm,0.9s,baz=137,slow=9.6,SNR=34
SONM LR LR 12 52 11.3
comp=Z,989nm,20.0s,baz=126,slow=39
SONM Songino Array 25.70 324 P **P** **12 41 15.8 -0.7**
SONM pmax pmax
comp=Z,20nm,0.9s
SONM MLR MLR
comp=Z,989nm,20.0s
SONA1 Songino Array 25.71 324 *e*P **P** **12 41 16.7 +0.1**
GTA Gaotai 26.07 302⇓ P **P** **12 41 19.3 -0.7**
GTA pP **pP** **12 41 28.4 -1.0**
GTA sP **sP** **12 41 32.8 -0.6**
GTA PcP **PcP** **12 44 47.1 -0.1**
GTA S **S** **12 45 47.3 -1.8**
GTA sS **sS** **12 46 02.3 -2.5**
GTA SS **SnSn** **12 46 56.1 +7.7**
GTA ScP **ScP** **12 48 25.5 +1.1**
GTA PcS **PcS** **12 48 27.4 -0.7**
GTA PMZ
comp=Z,98nm,1.0s
GTA PMZ
comp=Z,430nm,6.4s
GTA LN
comp=Z,6μm,15.0s
GTA LE
comp=Z,3μm,15.2s
GTA LZ
comp=Z,2μm,13.3s
TSM Tawau 26.43 205⇑ P **P** **12 41 23.6 +0.4**
TNTI Ternate 27.87 183 P **P** **12 41 38.7 +2.6**
comp=Z,40nm,1.4s,comp=Z,1μm
TNTI Ternate 27.87 183 *e*P **P** **12 41 37.8 +1.7**
comp=Z,13nm,0.4s
PBKT Sadao Pong 28.25 251 P **P** **12 41 39.8 +0.3**
comp=Z,6.8nm,1.1s
CMAI Chiengmai2 28.36 259 P P 12 41 46.0 +5.3
LAMP Lampang 28.45 255 P P 12 41 44.6 +3.3
comp=Z,3.8nm,0.9s
MRSI Marisa 28.87 194 P **P** **12 41 45.2 +0.2**
comp=Z,27nm,1.6s
ZAK Zakamensk 28.90 325 *e*P **P** **12 41 42.7 -2.4**
ZAK pmax pmax
comp=Z,10.0nm,1.4s
CHTO Chiang Mai 28.91 257 P **P** **12 41 45.0 -0.5**
comp=Z,61nm,0.9s
CHTO Chiang Mai 28.91 257 *e*P **P** **12 41 44.9 -0.5**
CHTO pmax pmax
comp=Z,9.0nm,0.6s
CHTO Chiang Mai 28.91 257 P **P** **12 41 45.2 -0.3**
SNR=5.4
CHTO Chiang Mai 28.91 257 *e*P **P** **12 41 44.9 -0.5**
comp=Z,8.8nm,0.6s
CMAR Chiang Mai Arr 29.07 256 P **P** **12 41 46.2 -0.5**
comp=Z,2.5nm,0.9s,baz=53,slow=7.7,SNR=16
CMAR PcP **PcP** **12 44 55.1 +0.6**
comp=Z,1.9nm,0.8s,baz=31,slow=1.7,SNR=9.5
CMAR LR LR 12 54 12.1
comp=Z,412nm,19.0s,baz=74,slow=38
CMAR Chiang Mai Arr 29.07 256 P **P** **12 41 46.3 -0.5**
CMAR 12 44 55.1
CMAR pmax pmax
comp=Z,3.0nm,0.9s
CMAR pmax pmax
comp=Z,2.0nm,0.8s
CMAR MLR MLR
comp=Z,412nm,19.0s
CM01 Chiang Mai Arr 29.07 256 *e*P **P** **12 41 45.5 -1.4**
CHBT CHBT 29.26 242 P **P** **12 41 48.9 +0.4**
comp=Z,29nm,1.2s,comp=Z,2μm
LBMI Labuha 29.27 182 P **P** **12 41 50.5 +2.0**
comp=Z,36nm,1.3s,comp=Z,1μm
TLY Talaya 29.56 328 P **P** **12 41 51.5 +0.6**
comp=Z,121nm,1.2s,SNR=6.3
TLY Talaya 29.56 328 P **P** **12 41 50.6 -0.3**
comp=Z,7.5nm,0.9s,baz=142,slow=9.3,SNR=8.7
TLY LR LR 12 55 02.4
comp=Z,1μm,18.4s,baz=126,slow=39
TLY Talaya 29.56 328 *d i*P **P** **12 41 50.8 -0.1**
TLY *e* 12 42 44.4
TLY *e*PPP PPP 12 42 56.0
TLY *e*S S 12 46 49.7 +6.1
TLY pmax pmax
comp=Z,42nm,1.3s
TLY MLR MLR
comp=Z,1μm,15.0s
TLY Talaya 29.56 328 P **P** **12 41 51.4 +0.5**
SNR=14
TLY Talaya 29.56 328 *e*P **P** **12 41 51.1 +0.3**
comp=Z,53nm,1.4s
SIJI Sorong 29.58 175 LR LR 12 53 15.8
comp=Z,761nm,20.1s,baz=252,slow=35
IRK Irkutsk 29.65 329⇓ *i*P **P** **12 41 51.3 -0.3**
IRK pmax pmax
comp=Z,98nm,1.4s
SBUM Sibu 30.53 214⇓ P **P** **12 41 59.0 -0.7**
SBUM Sibu 30.53 214 *e*P **P** **12 41 59.5 -0.2**
comp=Z,85nm,2.2s

SANI Sanana 30.76 185 P **P** 12 42 03.7 +2.0
comp=Z,26nm,1.6s
BOD Bodaibo 30.80 345 *eP* **P** 12 42 00.9 -0.8
BOD pmax pmax
comp=Z,5.0nm,1.7s
MOY Mondy 30.83 326 *eP* **P** 12 42 01.9 -0.3
MOY pmax pmax
comp=Z,45nm,2.3s
PETK Petropavlovsk- 32.33 33 P **P** 12 42 16.5 +1.3
comp=Z,6.8nm,0.9s,baz=260,slow=5.7,SNR=3.9
PETK LR LR 12 54 58.7
comp=Z,455nm,21.6s,baz=224,slow=36
PETK Petropavlovsk- 32.33 33 P **P** 12 42 16.5 +1.3
PETK pmax pmax
comp=Z,7.0nm,1.0s
PETK MLR MLR
comp=Z,455nm,21.6s
KSM Kuching 32.33 216 ⇓P **P** 12 42 15.2 -0.4
KSM Kuching 32.33 216 *eP* **P** 12 42 15.8 +0.2
comp=Z,20nm,1.0s
LSA Lhasa 32.69 281 P **P** 12 42 19.6 +0.3
LSA Lhasa 32.69 281 *eP* **P** 12 42 19.7 +0.4
LSA pmax pmax
comp=Z,15nm,0.7s
LSA Lhasa 32.69 281 *eP* **P** 12 42 19.7 +0.4
comp=Z,15nm,0.7s
PET Petropavlovsk 32.74 34 *eP* **P** 12 42 18.5 -0.3
PET *eS* **S** 12 47 30.6 -2.6
PET pmax pmax
comp=Z,26nm,1.5s
PET MLR MLR
comp=Z,400nm,17.0s
JAY Jayapura 33.17 158 LR LR 12 53 06.1
comp=Z,634nm,21.9s,baz=330,slow=31
YAK Yakutsk 33.27 1 LR LR 12 55 57.3
comp=Z,608nm,21.7s,baz=190,slow=37
YAK Yakutsk 33.27 1 *eP* **P** 12 42 20.2 -3.1
YAK *e**PP **pP** 12 42 29.6 -3.2
YAK *e* 12 43 28.7
YAK *e* 12 45 02.8
YAK *eS* **S** 12 47 38.8 -2.3
YAK pmax pmax
comp=Z,14nm,1.1s
YAK pmax pmax
comp=N,7.0nm,1.2s
YAK pmax pmax
comp=Z,96nm,4.9s
YAK pmax pmax
comp=E,21nm,3.2s
YAK pmax pmax
comp=N,29nm,3.5s
YAK smax smax
comp=N,272nm,17.6s
YAK smax smax
comp=E,27nm,14.6s
YAK MLR MLR
comp=Z,847nm,13.0s
YAK MLR MLR
comp=N,684nm,12.0s
YAK MLR MLR
comp=E,270nm,11.0s
SURT Suratani 34.32 241 P **P** 12 42 33.5 +0.5
comp=E,12nm,1.2s
TRTT Trang 34.36 238 P **P** 12 42 33.9 +0.6
comp=E,22nm,1.4s
BBKI Banjar Baru 34.71 205 P **P** 12 42 37.0 +0.7
comp=E,60nm,1.4s
PKDT Phuket 35.35 240 P **P** 12 42 42.3 +0.5
comp=E,28nm,0.9s
KULM Kulim 35.38 234 *eP* **P** 12 42 41.9 -0.2
comp=E,7.6nm,0.8s
IPM Ipoh 35.69 233 *eP* **P** 12 42 44.0 -0.8
comp=E,80nm,1.9s
WMQ Urumqi 35.91 306 P **P** 12 42 46.8 +0.3
WMQ pP **pP** 12 42 56.5 +0.4
WMQ sP **sP** 12 43 00.4 +0.3
WMQ PP **PP** 12 44 08.3 -0.1
WMQ PcP **PcP** 12 45 15.0 +1.9
WMQ S **S** 12 48 21.3 -1.3
WMQ sS **sS** 12 48 37.3 -1.2
WMQ PcS **PcS** 12 49 00.3 -0.2
WMQ ScS **ScS** 12 53 00.3 -1.9
WMQ PMZ
comp=E,45nm,1.2s
WMQ PMZ
comp=E,310nm,3.6s
WMQ LN
comp=E,2μm,16.0s
WMQ LE
comp=E,2μm,13.4s
WMQ LZ
comp=E,880nm,22.0s
TAPN Taplejung 36.08 278 *eP* **P** 12 42 47.3 -1.1
ODAN Odare 36.47 277 *eP* **P** 12 42 50.8 -0.8
comp=E,128nm,0.7s
RAMN Ramite 37.13 277 *eP* **P** 12 42 56.1 -1.2
comp=E,28nm,0.7s
KRAR Krasnoyarsk 37.26 327⇑ *eP* **P** 12 42 57.9 +0.2
KRAR pmax pmax
comp=Z,88nm,2.2s
KRAR MLR MLR
comp=Z,531nm,14.0s
JIRN Jiri 37.34 279 *eP* **P** 12 42 58.4 -0.8
comp=Z,19nm,0.7s
SEY Seymchan 37.48 18 P **P** 12 42 59.1 -0.4
comp=Z,5.0nm,0.8s,baz=207,slow=6.0,SNR=17
SEY PcP **PcP** 12 45 16.1 -1.1
comp=Z,1.3nm,0.3s,baz=214,slow=3.6,SNR=5.5
SEY LR LR 12 59 02.2
comp=Z,852nm,18.1s,baz=204,slow=37
SEY Seymchan 37.48 18 *iP* **P** 12 42 59.7 +0.2
GUN Gumba 37.55 279 *eP* **P** 12 43 00.3 -0.7
MMRI Maumere 37.71 190 P **P** 12 43 04.0 +2.1
comp=Z,48nm,1.4s
EDFI Ende, Flores 37.91 191 P **P** 12 43 05.5 +1.8
PKI Pulchoki 38.03 279 *eP* **P** 12 43 04.3 -0.8
comp=Z,108nm,0.9s
PKIN Phulchoki 38.04 279 *eP* **P** 12 43 04.1 -1.0
comp=Z,75nm,0.9s
KKN Kakani 38.10 279 *eP* **P** 12 43 04.7 -0.8
comp=Z,114nm,0.9s
DMN Daman 38.29 279 *eP* **P** 12 43 06.3 -0.8
comp=Z,282nm,1.5s
PSI Prapat 38.35 233 P **P** 12 43 06.8 -0.7
comp=Z,4.4nm,0.5s,baz=337,slow=13,SNR=3.0
PSI Prapat 38.35 233 P **P** 12 43 06.8 -0.7
PSI pmax pmax
comp=Z,4.0nm,0.5s
SOEI Soe 38.54 187 *eP* **P** 12 43 10.5 +1.4
comp=Z,120nm,1.7s
GKN Gorkha 38.61 280 *eP* **P** 12 43 09.1 -0.6
comp=Z,138nm,0.8s
KOLN Koldanda 39.56 280 *eP* **P** 12 43 16.7 -1.0
comp=Z,62nm,1.2s
PYUN Piuthan 40.02 280 *eP* **P** 12 43 20.6 -0.9
comp=Z,80nm,0.7s
MK01 Makanchi Array 40.19 310 *eP* **P** 12 43 21.0 -1.5
MK31 Makanchi Array 40.20 310 *i* P **P** 12 43 21.4 -1.2
MK31 pmax pmax
comp=Z,13nm,0.9s
MK31 Makanchi Array 40.20 310 *eP* **P** 12 43 21.7 -0.9
MKAR Makanchi Array 40.20 310 P **P** 12 43 21.6 -0.9
comp=Z,6.7nm,0.7s,baz=96,slow=7.3,SNR=58
MKAR PcP **PcP** 12 45 25.1 -1.1
comp=Z,1.9nm,0.7s,baz=318,slow=1.6,SNR=4.4
MKAR LR LR 13 01 38.1
comp=Z,423nm,18.1s,baz=94,slow=39
MKAR Makanchi Array 40.20 310 P **P** 12 43 21.7 -0.9
MKAR 12 45 25.1
MKAR pmax pmax
comp=Z,7.0nm,0.7s
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR MLR MLR
comp=Z,423nm,18.1s
UGM Wanagama 40.47 208 *eP* P 12 43 29.2 +4.1
comp=Z,313nm,1.4s
ZAA0 Zalesovo Array 40.52 321 *eP* **P** 12 43 23.7 -1.3
ZALV Zalesovo Beam 40.52 321 P **P** 12 43 24.0 -1.0
comp=Z,10nm,0.7s,baz=111,slow=7.9,SNR=41
ZALV PcP **PcP** 12 45 25.4 -1.7
comp=Z,7.3nm,1.0s,baz=108,slow=4.8,SNR=5.8
ZALV LR LR 13 01 43.2
comp=Z,342nm,18.1s,baz=72,slow=39
ZALV Zalesovo Beam 40.52 321 P **P** 12 43 24.0 -1.0
ZALV 12 45 25.4
ZALV pmax pmax
comp=Z,10.0nm,0.7s
ZALV pmax pmax
comp=Z,7.0nm,1.0s
ZALV MLR MLR
comp=Z,342nm,18.1s
LEM Lembang 40.81 213 P **P** 12 43 29.2 +1.1
comp=Z,44nm,0.9s,baz=335,slow=14,SNR=6.2
LEM LR LR 13 01 38.2
comp=Z,103nm,18.9s,baz=22,slow=38
LEM Lembang 40.81 213 P **P** 12 43 29.2 +1.1
LEM pmax pmax
comp=Z,45nm,0.8s
LEM MLR MLR
comp=Z,103nm,18.9s
NVS Novosibirsk 41.69 322⇓ *iP* **P** 12 43 32.7 -2.0
NVS pmax pmax
comp=Z,63nm,2.1s
NVS pmax pmax
comp=N,19nm,1.8s
NVS pmax pmax
comp=E,40nm,1.8s
PDGK Podgornoye 41.77 304 P **P** 12 43 34.0 -1.5
PDGK pmax pmax
comp=Z,46nm,1.3s
TIXI Tiksi 42.92 0⇑ *eP* **P** 12 43 43.1 -1.3
TIXI pmax pmax
comp=Z,10.0nm,2.0s
TIXI MLR MLR
comp=Z,763nm,16.0s
TIXI Tiksi 42.92 0 *eP* **P** 12 43 42.5 -1.9
comp=Z,28nm,1.7s
KURK Kurchatov 43.30 315 P **P** 12 43 46.1 -1.7
comp=Z,76nm,1.4s,SNR=21
KURK Kurchatov 43.30 315 P **P** 12 43 47.2 -0.6
KURK 12 45 32.1
KURK pmax pmax
comp=Z,8.0nm,0.8s
KURK pmax pmax
comp=Z,3.0nm,1.0s
KURK Kurchatov 43.30 315 P **P** 12 43 47.2 -0.6
SNR=28
KURK Kurchatov 43.30 315 *eP* **P** 12 43 46.9 -0.9
comp=Z,77nm,1.5s
KURK PP **PP** 12 45 32.1 +3.4
KURBB Kurchatov Arra 43.34 315 P **P** 12 43 47.2 -1.0
comp=Z,7.9nm,0.8s,baz=103,slow=8.3,SNR=65
KURBB PP **PP** 12 45 32.1 +3.0
comp=Z,3.3nm,1.0s,baz=101,slow=12,SNR=5.8
ULHL Ulahol 44.12 302 P **P** 12 43 54.7 -0.1
SNR=7.2
ULHL Ulahol 44.12 302 *iP* **P** 12 43 54.7 -0.1
KSH Kashi 44.38 298 P **P** 12 43 59.6 +2.7
KSH pP **pP** 12 44 09.5 +2.9
KSH sP **sP** 12 44 13.4 +2.8
KSH PP **PP** 12 45 43.9 +3.3
KSH PcS **PcS** 12 49 35.4 +1.6
KSH S **S** 12 50 31.3 +1.9
KSH sS **sS** 12 50 47.6 +2.1
KSH SS **SS** 12 53 42.3 -6.4
KSH PMZ
comp=Z,27nm,1.4s
KSH PMZ
comp=Z,170nm,2.8s
KSH LN
comp=Z,3μm,17.2s
KSH LE
comp=Z,880nm,13.4s
KSH LZ
comp=Z,1μm,14.2s
TKM2 Tokmak 2 44.60 303 P **P** 12 43 58.8 +0.1
SNR=20
TKM2 Tokmak 2 44.60 303 *eP* **P** 12 43 58.7 +0.1
TKM2 pmax pmax
comp=Z,143nm,1.9s
TKM2 Tokmak 2 44.60 303 *eP* **P** 12 43 58.7 +0.1
comp=Z,143nm,1.9s
NDI New Delhi 44.85 283 *eP* **P** 12 43 58.0 -2.6
KZA Kyzart 44.86 302 P **P** 12 44 01.4 +0.4
SNR=16
KZA Kyzart 44.86 302 *iP* **P** 12 44 01.4 +0.4
KBK Karagaybulak 45.08 303 P **P** 12 44 01.6 -0.8
SNR=8.1
KBK Karagaybulak 45.08 303 *iP* **P** 12 44 01.6 -0.8
CHMS Chumysh 45.22 303 *iP* **P** 12 44 03.0 -0.4
SNR=14
CHMS Chumysh 45.22 303 *iP* **P** 12 44 03.0 -0.4
FRU Bishkek 45.32 303 *eP* **P** 12 44 03.8 -0.4
FRU *i* 12 44 10.0
FRU pmax pmax
comp=Z,90nm,2.0s
UCH Uchtor 45.40 302 P **P** 12 44 05.9 +0.5
SNR=37
UCH Uchtor 45.40 302 *iP* **P** 12 44 05.8 +0.5
AAK Ala-Archa 45.41 303 P **P** 12 44 04.8 -0.2
comp=Z,4.0nm,0.7s,baz=90,slow=7.4,SNR=13
AAK Ala-Archa 45.41 303 *diP* **P** 12 44 04.6 -0.5
AAK pmax pmax
comp=Z,46nm,1.7s
AAK MLR MLR
comp=Z,2μm,16.0s
AAK Ala-Archa 45.41 303 P **P** 12 44 05.4 +0.3
SNR=7.3
AAK Ala-Archa 45.41 303 *eP* **P** 12 44 04.8 -0.2
comp=Z,59nm,2.0s
EKS2 Erkin-Say 45.94 303 *eP* **P** 12 44 09.3 +0.1
EKS2 pmax pmax
comp=Z,41nm,1.8s
EKS2 Erkin-Say 45.94 303 *eP* **P** 12 44 09.2 +0.1
comp=Z,41nm,1.8s
AML Almayashu 46.01 302 P **P** 12 44 10.5 +0.4
SNR=8.2
AML Almayashu 46.01 302 *iP* **P** 12 44 10.5 +0.4
SFK Sufi-Kurgan 46.26 299 P **P** 12 44 10.6 -1.2
SFK pmax pmax
comp=Z,18nm,1.3s
MNAS Manas 46.89 303 P **P** 12 44 15.9 -0.7
MNAS pmax pmax
comp=Z,23nm,1.3s
KK31 Karatay Array 48.33 304 *iP* **P** 12 44 27.0 -0.6
KK31 pmax pmax
comp=Z,8.0nm,0.7s
KKAR Karatay Array 48.33 304 *eP* **P** 12 44 27.5 -0.1
KKAR pmax pmax
comp=Z,18nm,1.0s
KKAR Karatay Array 48.33 304 *eP* **P** 12 44 27.5 -0.1
comp=Z,18nm,1.0s
WRAB Tennant Creek 48.73 173 P **P** 12 44 30.6 -0.2
comp=Z,139nm,0.7s,SNR=10
WRAB Tennant Creek 48.73 173 ⇓*iP* **P** 12 44 31.4 +0.6
WRAB pmax pmax
comp=Z,95nm,1.7s
WRAB Tennant Creek 48.73 173 *eP* **P** 12 44 31.1 +0.2
comp=Z,17nm,0.8s
WRA Warramunga Arr 48.73 173 P **P** 12 44 30.6 -0.2
comp=Z,12nm,0.6s,baz=353,slow=8.4,SNR=33
WRA Warramunga Arr 48.73 173 P **P** 12 44 30.7 -0.2
WRA pmax pmax
comp=Z,12nm,0.6s
BRVK Borovoye 48.76 317 P **P** 12 44 30.1 -0.6
comp=Z,364nm,1.0s,SNR=12
BRVK Borovoye 48.76 317 *diP* **P** 12 44 29.7 -1.1
BRVK pmax pmax
comp=Z,91nm,1.2s
BRVK MLR MLR
comp=Z,2μm,17.0s
BRVK Borovoye 48.76 317 P **P** 12 44 30.1 -0.6
SNR=28
BRVK Borovoye 48.76 317 *eP* **P** 12 44 29.7 -1.1
comp=Z,52nm,0.8s
DZET Dzherino 49.98 298 P **P** 12 44 39.0 -1.5
DZET pmax pmax
comp=Z,23nm,0.8s
PALK Pallekele 49.99 254 *iP* **P** 12 44 41.4 +0.7
MBWA Marble Bar 50.39 191 *eP* **P** 12 44 43.3 -0.1
comp=Z,68nm,1.4s
KBL Kabul 50.48 293 *eP* **P** 12 44 44.4 -0.1
KBL pmax pmax
comp=Z,49nm,1.3s
KBL Kabul 50.48 293 *eP* **P** 12 44 44.4 -0.1
comp=Z,49nm,1.3s
CTA Charters Tower 51.45 159 P **P** 12 44 52.7 +1.3
comp=Z,6.0nm,0.7s,baz=351,slow=8.7,SNR=8.3
CTA Charters Tower 51.45 159 P **P** 12 44 52.7 +1.3
CTA pmax pmax
comp=Z,6.0nm,0.7s
AS31 Alice Springs 52.37 174 *eP* **P** 12 44 58.5 +0.1
ASAR Alice Springs 52.38 174 P **P** 12 44 58.8 +0.4
comp=Z,4.1nm,0.9s,baz=4.3,slow=15,SNR=34
ASAR LR LR 13 08 36.9
comp=Z,109nm,19.0s,baz=355,slow=38
ASAR Alice Springs 52.38 174 P **P** 12 44 58.8 +0.4
ASAR pmax pmax
comp=Z,4.0nm,0.9s
ASAR MLR MLR
comp=Z,109nm,19.0s
AS01 Alice Springs 52.38 174 *eP* **P** 12 44 58.8 +0.4
SVE Sverdlovsk 54.53 321⇑ *eP* **P** 12 45 13.5 -0.3
SVE *eS* **S** 12 52 45.3 -5.4
SVE pmax pmax
comp=Z,30nm,1.3s
SVE MLR MLR
comp=Z,1μm,14.0s
AB31 Akbulak array 55.24 312 *i* P **P** 12 45 17.0 -2.1
AB31 pmax pmax
comp=Z,22nm,1.0s
ABKAR Akbulak array 55.24 312 *eP* **P** 12 45 18.0 -1.1
comp=Z,16nm,1.0s
ARU Arti 55.68 321 P **P** 12 45 20.2 -1.9
comp=Z,113nm,0.9s,SNR=5.3
ARU Arti 55.68 321 *c iP* **P** 12 45 20.8 -1.3
ARU 12 46 15.5
ARU 12 47 22.4
ARU S **S** 12 53 05.3 -0.7
ARU SS **SS** 12 56 50.5 -0.7
ARU pmax pmax
comp=Z,28nm,1.2s
ARU MLR MLR
comp=Z,1μm,18.0s
ARU Arti 55.68 321 *eP* **P** 12 45 20.6 -1.6
comp=Z,34nm,1.3s
AKTO Aktyubinsk 56.37 314 LR LR 13 09 26.8
comp=Z,438nm,21.5s,baz=87,slow=36
AKTO Aktyubinsk 56.37 314 P **P** 12 45 26.3 -0.9
AKTO pmax pmax
comp=Z,12nm,1.3s
GEYT Alibeck 58.41 299 P **P** 12 45 41.7 -0.1
comp=Z,6.3nm,0.7s,baz=64,slow=3.4,SNR=16
IM04 Indian Mountai 59.03 28 *eP* **P** 12 45 45.5 -0.1
FORT Forrest 59.22 181 *eP* **P** 12 45 49.6 +2.4
comp=Z,18nm,1.0s
RSO Redoubt South 59.84 34 *eP* **P** 12 45 51.7 +0.1
PPLA Purkeypile 59.89 31 *eP* **P** 12 45 52.9 +1.1
comp=Z,42nm,1.2s
CAST Castle Rocks 59.90 31 *eP* **P** 12 45 52.3 +0.7
comp=Z,155nm,2.7s
SPU Mount Spurr 60.11 33 *eP* **P** 12 45 53.7 +0.5
KDAK Kodiak Island 60.24 37 *iP* **P** 12 45 55.0 +1.0
BPAW Bear Paw Mtn. 60.32 30 *eP* **P** 12 45 55.0 +0.4
comp=Z,14nm,2.0s
MLY Manley 60.35 29 *eP* **P** 12 45 55.4 +0.7
comp=Z,48nm,1.8s
COLD Coldfoot 60.40 26 *eP* **P** 12 45 55.8 +0.8
comp=Z,25nm,1.6s
KTH Kantishna Hill 60.40 31 *eP* **P** 12 45 55.9 +0.7
comp=Z,166nm,2.6s
BRLK Bradley Lake 60.85 35 *eP* **P** 12 45 59.4 +1.1
comp=Z,197nm,2.1s
BWN Browne 60.98 30 *eP* **P** 12 46 00.4 +1.4
comp=Z,59nm,1.3s
MCK McKinley 61.26 30 *eP* **P** 12 46 00.5 -0.5
MCK pmax pmax
comp=Z,15nm,0.9s
MCK McKinley 61.26 30 *eP* **P** 12 46 00.5 -0.5
comp=Z,15nm,0.9s
RND Reindeer 61.34 31 *eP* **P** 12 46 01.2 -0.4
RND pmax pmax
comp=Z,38nm,0.9s
RND Reindeer 61.34 31 *eP* **P** 12 46 01.2 -0.4
comp=Z,38nm,0.9s
MDM Murphy Dome 61.42 29 *eP* **P** 12 46 02.5 +0.5
comp=Z,45nm,1.0s
SEW Seward 61.52 34 *eP* **P** 12 46 01.6 -1.1
comp=Z,39nm,1.0s
WRH Wood River Hil 61.54 29 *eP* **P** 12 46 03.5 +0.7
comp=Z,11nm,1.0s
STKA Stephens Creek 61.55 168 P **P** 12 46 04.1 +1.0
comp=Z,2.0nm,0.7s,baz=13,slow=7.2,SNR=6.1
STKA LR LR 13 12 47.9
comp=Z,87nm,21.7s,baz=8.7,slow=36
STKA Stephens Creek 61.55 168 P **P** 12 46 04.1 +1.0
STKA pmax pmax
comp=Z,2.0nm,0.7s
STKA MLR MLR
comp=Z,87nm,21.7s
STKA Stephens Creek 61.55 168 *eP* P 12 46 06.6 +3.4
comp=Z,3.8nm,1.5s
COLA College 61.59 29 *eP* **P** 12 46 03.4 +0.4
COLA pmax pmax
comp=Z,158nm,2.5s
COLA College 61.59 29 *eP* **P** 12 46 03.4 +0.4
comp=Z,158nm,2.5s
CCB Clear Creek Bu 61.64 29 *eP* **P** 12 46 03.2 -0.2
comp=Z,95nm,2.7s
PRGR Permogore 61.88 327 *eP* **P** 12 46 02.9 -2.2
PRGR pmax pmax
comp=Z,7.0nm,0.9s
IL1 Eielson Array 62.01 29 *eP* **P** 12 46 04.2 -1.8
ILAR Eielson Array 62.01 29 P **P** 12 46 04.9 -1.1
comp=Z,3.2nm,0.7s,baz=275,slow=5.7,SNR=37
ILAR LR LR 13 15 37.5
comp=Z,276nm,18.0s,baz=297,slow=39
ILAR Eielson Array 62.01 29 P **P** 12 46 04.9 -1.1
ILAR pmax pmax
comp=Z,3.0nm,0.7s
ILAR MLR MLR
comp=Z,276nm,18.0s
SCM Sheep Creek Mo 62.27 32 *eP* **P** 12 46 08.4 +0.5
SCM pmax pmax
comp=Z,42nm,1.1s
SCM Sheep Creek Mo 62.27 32 *eP* **P** 12 46 08.4 +0.5
comp=Z,42nm,1.1s
FYU Fort Yukon 62.42 27 *eP* **P** 12 46 10.1 +1.5
comp=Z,64nm,1.6s
DDM Donnelly Dome 62.61 30 *eP* **P** 12 46 09.9 -0.2
comp=Z,294nm,2.6s
PAX Paxson 62.92 31 *eP* **P** 12 46 12.6 +0.4
PAX pmax pmax
comp=Z,10.0nm,0.9s
PAX Paxson 62.92 31 *eP* **P** 12 46 12.6 +0.4
comp=Z,10nm,0.9s
KLU Klutina 62.99 32 *eP* **P** 12 46 13.2 +0.5
comp=Z,10nm,1.0s
DIV Divide 63.13 33 *eP* **P** 12 46 14.3 +0.7
comp=Z,25nm,0.9s
SCRK Sand Creek 63.39 30 *eP* **P** 12 46 15.0 -0.3
comp=Z,21nm,1.0s
DOT Dot Lake 63.42 30 *eP* **P** 12 46 15.0 -0.4
comp=Z,17nm,0.8s
BMRM Bremner River 63.72 33 *eP* **P** 12 46 18.1 +0.7
comp=Z,29nm,1.0s
EGAK Eagle 64.42 28 *eP* **P** 12 46 22.1 +0.1
comp=Z,65nm,2.2s
KLMR Klimovskoe 64.94 327 *eP* **P** 12 46 23.9 -1.4
KLMR pmax pmax
comp=Z,16nm,1.6s
DAWY Dawson 65.34 29 *eP* **P** 12 46 28.0 0.0
APA Apatity 65.73 335 *eP* **P** 12 46 31.6 +1.3
APA MLR MLR
comp=Z,700nm,16.0s
INK Inuvik 66.40 24 P **P** 12 46 34.4 -0.3
comp=Z,5.9nm,0.9s,baz=284,slow=8.0,SNR=22
INK Inuvik 66.40 24 *eP* **P** 12 46 34.5 -0.1
INK pmax pmax
comp=Z,11nm,1.0s
INK Inuvik 66.40 24 *eP* **P** 12 46 34.5 -0.1
comp=Z,11nm,1.0s
SPITS Spitsbergen Ar 66.44 348 LR LR 13 17 52.2
comp=Z,401nm,19.1s,baz=100,slow=38
HYT Haines Junctio 67.11 32 *eP* **P** 12 46 40.7 +1.3
ZEI Tsey 67.50 307 *eP* **P** 12 46 39.4 -3.0
ZEI pmax pmax
comp=Z,10.0nm,0.9s
GNI Garni 67.77 305 P **P** 12 46 45.0 +0.9
GNI pmax pmax
comp=Z,9.0nm,1.1s
GNI MLR MLR
comp=Z,307nm,18.0s
ARCES ARCESS Array B 67.81 338 LR LR 13 20 27.2
comp=Z,348nm,18.7s,baz=32,slow=40
KBZ Khabaz 67.89 309 P **P** 12 46 43.5 -1.0
comp=Z,8.5nm,0.8s,baz=56,slow=24,SNR=18
KBZ LR LR 13 19 22.8

comp=Z,503nm,18.1s,baz=150,slow=39
KBZ Khabaz 67.89 309 P **P** 12 46 43.5 -1.0
KBZ pmax pmax
comp=Z,9.0nm,0.8s
KBZ MLR MLR
comp=Z,503nm,18.1s
KIV Kislovodsk 67.96 309 *e*P **P** 12 46 43.9 -1.2
KIV *e*S **S** 12 55 40.6 -1.4
KIV pmax pmax
comp=Z,11nm,0.9s
KIV MLR MLR
comp=Z,351nm,17.0s
KIV Kislovodsk 67.96 309 P **P** 12 46 44.7 -0.5
SNR=6.2
KIV Kislovodsk 67.96 309 *e*P **P** 12 46 44.2 -0.9
comp=Z,9.7nm,0.7s
OBN Obninsk 68.09 322 LR LR 13 18 48.4
comp=Z,980nm,18.7s,baz=86,slow=38
SKAG Skagway 68.58 33 *e*P **P** 12 46 49.9 +1.3
comp=Z,34nm,1.3s
BESE Bessie Mountai 69.13 34 *e*P **P** 12 46 53.2 +1.1
comp=Z,17nm,1.5s
FINES FINESS Array B 70.87 330 P **P** 12 47 00.8 -1.8
comp=Z,1.5nm,0.4s,baz=81,slow=5.9,SNR=24
FINES LR LR 13 20 41.2
comp=Z,622nm,20.3s,baz=89,slow=38
FINES FINESS Array B 70.87 330 P **P** 12 47 00.8 -1.8
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES MLR MLR
comp=Z,622nm,20.3s
DLBC Dease Lake 71.52 33 *e*P **P** 12 47 07.7 +1.0
VSU Vasula 71.84 327 P **P** 12 47 09.0 +0.5
RES Resolute Bay 72.98 11 P **P** 12 47 14.3 -0.7
comp=Z,9.5nm,0.8s,baz=321,slow=5.7,SNR=21
RES Resolute Bay 72.98 11 P **P** 12 47 14.4 -0.7
RES pmax pmax
comp=Z,10.0nm,0.8s
RES Resolute Bay 72.98 11 *e*P **P** 12 47 14.4 -0.7
comp=Z,12nm,0.8s
AKASG Malin Array Be 73.88 319 P **P** 12 47 18.3 -2.5
comp=Z,0.5nm,0.4s,baz=52,slow=6.3,SNR=6.9
AKASG LR LR 13 22 30.4
comp=Z,748nm,18.1s,baz=60,slow=38
AKASG Malin Array Be 73.88 319 P **P** 12 47 18.3 -2.5
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG MLR MLR
comp=Z,748nm,18.1s
BR131 Keskin Array S 75.82 308 *e*P **P** 12 47 30.7 -1.7
comp=Z,3.7nm,0.9s
BRTR Keskin Array B 75.82 308 P **P** 12 47 30.6 -1.7
comp=Z,1.9nm,0.8s,baz=114,slow=4.6,SNR=8.7
BRTR LR LR 13 26 07.0
comp=Z,206nm,19.2s,baz=50,slow=40
BRTR Keskin Array B 75.82 308 P **P** 12 47 30.7 -1.7
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR MLR MLR
comp=Z,206nm,19.2s
YKA Yellowknife Ar 76.05 25 P **P** 12 47 33.1 0.0
comp=Z,10nm,0.9s,baz=299,slow=5.7,SNR=63
YKA Yellowknife Ar 76.05 25 P **P** 12 47 33.1 0.0
YKA pmax pmax
comp=Z,10.0nm,0.9s
BR231 Keskin MP Arra 76.36 308 *e*P P 12 47 31.5 -4.0
NB2 NORSAR Subarra 77.23 334 P **P** 12 47 37.1 -2.7
comp=Z,7.9nm,1.0s,baz=52,slow=5.9
NOA NORSAR Array B 77.23 334 P **P** 12 47 37.8 -2.0
comp=Z,4.9nm,0.8s,baz=50,slow=5.5,SNR=13
NOA NORSAR Array B 77.23 334 P **P** 12 47 37.8 -2.0
NOA pmax pmax
comp=Z,5.0nm,0.8s
MLR Muntele Rosu 78.23 316 LR LR 13 25 22.0
comp=Z,87nm,18.6s,baz=51,slow=38
SUMG Summit 78.54 356 *i* P **P** 12 47 46.6 -0.8
comp=Z,5.6nm,0.8s
SUMG Summit 78.54 356 *i* P **P** 12 47 46.6 -0.8
SUMG pmax pmax
comp=Z,6.0nm,0.8s
SUMG Summit 78.54 356 *e*P **P** 12 47 46.6 -0.8
comp=Z,4.8nm,0.9s
NLWA Neilton Lookou 80.05 41 *e*P **P** 12 47 57.2 +1.5
comp=Z,35nm,1.5s
OKC Ostrava-Krasne 80.48 322 AMS AMS 13 28 50.0
comp=Z,600nm,15.0s
E03A Lebam 80.68 42 *e*P **P** 12 48 00.9 +2.0
DPC Dobruska-Polom 81.17 323 AMS AMS 13 27 20.0
G03D McMinnville, O 81.57 43 ⇑P **P** 12 48 03.7 0.0
baz=81
LON Longmire 81.58 41 *e*P **P** 12 48 02.6 -1.3
LON pmax pmax
comp=Z,10.0nm,1.5s
LON Longmire 81.58 41 *e*P **P** 12 48 02.6 -1.3
comp=Z,9.9nm,1.5s
VRAC Vranov 81.62 322 LR LR 13 26 50.1
comp=Z,466nm,18.7s,baz=58,slow=38
F04A Amboy 81.68 42 *e*P **P** 12 48 05.2 +0.9
LTY Liberty 81.95 40 *e*P **P** 12 48 06.4 +0.5
PVCC Panska Ves 81.98 324 AMS AMS 13 27 30.0
comp=Z,700nm,17.5s
B08A Colville Reser 82.08 39 *e*P **P** 12 48 06.7 +0.3
TREC Trest 82.22 323 AMS AMS 13 27 50.0
comp=Z,600nm,15.6s
EDM Edmonton 82.23 32 *e*P **P** 12 48 07.7 +0.6
EDM Edmonton 82.23 32 *e*P **P** 12 48 07.7 +0.6
GOPC GO Pecny, Ondr 82.23 323 AMS AMS 13 27 30.0
comp=Z,600nm,14.2s
CLL Collm 82.31 325 *e*(P) **P** 12 48 10.0 +2.5
CLL LmH 13 22 00.0
comp=N,2μm,18.3s
CLL LmH 13 22 00.0
comp=E,800nm,21.0s
CLL Collm 82.31 325 *e*P **P** 12 48 10.0 +2.5
PRU Pruhonice 82.31 324 AMS AMS 13 27 30.0
comp=E,700nm,17.6s
I03D Drain, OR 82.33 44 ⇑P **P** 12 48 08.8 +1.1
baz=82
H04A Detroit Lake 82.50 43 *e*P **P** 12 48 09.5 +0.8
G05D Wamic, OR 82.70 42 ⇑P **P** 12 48 10.4 +0.7
baz=83
I04A Tendick Farm, 82.85 44 ⇑P **P** 12 48 11.5 +1.0
baz=83
C09A Chrisman Ranch 82.98 39 *e*P **P** 12 48 12.0 +0.9
L02D Cave Junction, 83.00 46 ⇑P **P** 12 48 12.7 +1.4
baz=83
D08A Wollman Farm, 83.05 40 *e*P **P** 12 48 12.2 +0.7
HAWA Hanford 83.09 40 *e*P **P** 12 48 12.3 +0.6
comp=E,42nm,1.6s
G06A Carlson Farm, 83.11 42 *e*P **P** 12 48 13.0 +1.1
HUMO Hull Mountain 83.16 45 *e*P **P** 12 48 13.5 +1.4
comp=E,4.3nm,0.8s
I05D Terrebonne, OR 83.19 43 ⇓P **P** 12 48 13.0 +0.7
baz=83
NKC Novy Kostel 83.25 325 AMS AMS 13 29 30.0
comp=E,600nm,17.4s
KHC Kasperske Hory 83.33 323 AMS AMS 13 28 40.0
comp=E,600nm,14.7s
NEW Newport 83.33 38 *e*P **P** 12 48 13.7 +0.7
NEW pmax pmax
comp=Z,7.0nm,0.8s
NEW Newport 83.33 38 *e*P **P** 12 48 13.7 +0.7
comp=Z,6.7nm,0.8s
NEW Newport 83.33 38 ⇑P **P** 12 48 13.6 +0.6
baz=83
J04D Umpqua Nationa 83.33 44 ⇑P **P** 12 48 13.9 +0.6
baz=83,SNR=7.5
GERES GERESS Array B 83.43 323 LR LR 13 29 00.2
comp=Z,609nm,18.2s,baz=58,slow=38
YBH Yreka Blue Hor 83.79 46 *e*P **P** 12 48 16.9 +1.4
YBH pmax pmax
comp=Z,16nm,1.4s
YBH Yreka Blue Hor 83.79 46 *e*P **P** 12 48 16.9 +1.4
comp=Z,16nm,1.4s
E09A Wood Farm, Sta 83.80 40 *e*P **P** 12 48 16.5 +1.2
J05D Fort Rock, OR 83.84 44 ⇓P **P** 12 48 16.3 +0.5
baz=84,SNR=18
M02C Callahan 83.89 46 ⇓P **P** 12 48 16.2 +0.2
baz=84
K04D Chiloquin, OR 83.89 44 ⇓P **P** 12 48 16.1 0.0
baz=84
BORG Borgarnes 83.90 348 LR LR 13 26 24.3
comp=Z,173nm,21.8s,baz=326,slow=36
G08A Pilot Rock 84.05 41 *e*P **P** 12 48 17.8 +1.0
N02D Trinity Center 84.21 46 ⇓P **P** 12 48 17.6 0.0
baz=84
M04C Macdoel 84.31 45 ⇓P **P** 12 48 18.5 +0.3
baz=84,SNR=12
K05A Summer Lake 84.36 44 *e*P **P** 12 48 20.0 +1.5
WDC Whiskeytown Da 84.53 46 *e*P **P** 12 48 20.1 +0.9
WDC pmax pmax
comp=Z,28nm,1.5s
WDC Whiskeytown Da 84.53 46 *e*P **P** 12 48 20.1 +0.9
comp=Z,28nm,1.5s
SFJD Kangerlussuaq 84.53 360 *i* P **P** 12 48 17.5 -1.1
comp=Z,14nm,1.0s
SFJD Kangerlussuaq 84.53 360 LR LR 13 27 27.0
comp=Z,178nm,18.7s,baz=356,slow=37
SFJD Kangerlussuaq 84.53 360 *i* P **P** 12 48 17.5 -1.1
SFJD pmax pmax
comp=Z,14nm,1.0s
WALA Waterton Lakes 84.54 36 *e*P **P** 12 48 20.2 +1.0
comp=Z,16nm,1.3s
F10A Beach Ranch, E 84.63 40 *e*P **P** 12 48 20.6 +0.9
BSMT Bassoo Peak 84.83 37 *e*P **P** 12 48 21.8 +0.9
BLMT Blacktail Moun 84.96 37 *e*P **P** 12 48 22.8 +1.3
JTMT Jette 85.17 37 *e*P **P** 12 48 23.3 +0.9
YBMT Yellow Bay 85.24 37 *e*P **P** 12 48 23.9 +1.1
BMO Blue Mountains 85.25 41 *e*P **P** 12 48 23.3 +0.4
comp=Z,15nm,1.3s
SWMT Swartz Lake 85.46 37 *e*P **P** 12 48 24.3 +0.4
FCC Fort Churchill 85.82 21 *e*P **P** 12 48 24.3 -0.9
FCC pmax pmax
comp=Z,18nm,1.0s
FCC Fort Churchill 85.82 21 *e*P **P** 12 48 24.3 -0.9
comp=Z,18nm,1.0s
WVOR Wild Horse Val 85.90 43 *e*P **P** 12 48 26.8 +0.7
WVOR pmax pmax
comp=Z,11nm,1.2s
WVOR Wild Horse Val 85.90 43 *e*P **P** 12 48 26.8 +0.7
comp=Z,11nm,1.2s
SLMT Seeley Lake 85.90 37 *e*P **P** 12 48 26.2 +0.1
MSO Missoula 85.92 38 *e*P **P** 12 48 26.5 +0.4
MSO Missoula 85.92 38 ⇑P **P** 12 48 26.0 -0.1
baz=86
FFC Flin Flon 86.14 27 P **P** 12 48 26.6 -0.3
comp=Z,159nm,0.9s,SNR=13
FFC Flin Flon 86.14 27 *e*P **P** 12 48 26.6 -0.3
FFC pmax pmax
comp=Z,29nm,1.0s
FFC Flin Flon 86.14 27 *e*P **P** 12 48 26.6 -0.3
comp=Z,29nm,1.0s
CHMT Chamberlain Mo 86.23 37 *e*P **P** 12 48 28.0 +0.1
EKA Eskdalemuir Ar 86.66 335 LR LR 13 32 08.4
comp=Z,455nm,18.3s,baz=40,slow=39
ESK Eskdalemuir 86.69 335 *i* P **P** 12 48 29.7 +0.1
DAVOX Davos/Dischmat 86.73 323 LR LR 13 30 46.2
comp=Z,518nm,19.3s,baz=56,slow=38
FRB Frobisher Bay 86.79 9 LR LR 13 27 46.1
comp=Z,227nm,21.6s,baz=3.0,slow=36
MFID Camas Ranch 86.97 41 *e*P **P** 12 48 32.3 +0.9
comp=Z,97nm,2.0s
HRY Holter Researc 87.11 37 *e*P **P** 12 48 33.0 +0.9
A19A Klindworth Far 87.22 34 ⇑P **P** 12 48 32.5 +0.1
baz=87
EGMT Eagleton 87.33 35 *e*P **P** 12 48 33.3 +0.3
comp=Z,14nm,0.9s
EGMT Eagleton 87.33 35 ⇑P **P** 12 48 32.7 -0.3
baz=87,SNR=9.4
CMB Columbia Colle 87.34 48 *e*P **P** 12 48 33.9 +0.7
CMB pmax pmax
comp=Z,14nm,1.1s
CMB Columbia Colle 87.34 48 *e*P **P** 12 48 33.9 +0.7
comp=Z,14nm,1.1s
LRM Limekiln Ridge 87.35 38 *e*P **P** 12 48 33.8 +0.5
B19A Brinkman Farms 87.44 34 ⇑P **P** 12 48 33.2 -0.3
baz=87
DLMT Dillon 87.57 38 *e*P **P** 12 48 35.1 +0.8
comp=Z,91nm,1.7s
A20A Cobblestone Ra 87.65 33 ⇓P **P** 12 48 34.3 -0.2
baz=87
WAKR Walker 87.68 47 *e*P **P** 12 48 36.3 +1.3
HLID Hailey 87.69 40 *e*P **P** 12 48 36.0 +1.1
comp=Z,28nm,1.4s
HLID Hailey 87.69 40 ⇓P **P** 12 48 34.8 -0.2
baz=88,SNR=22
MCMT McKenzie Canyo 87.77 39 *e*P **P** 12 48 36.1 +0.7
C19A Slack Wire Ran 87.87 35 ⇓P **P** 12 48 35.5 -0.1
baz=88,SNR=7.2
B20A Solberg Farm, 87.91 34 ⇓P **P** 12 48 35.6 -0.1
baz=88
BOZ Bozeman (W) 87.91 38 *e*P **P** 12 48 36.9 +1.0
BOZ pmax pmax
comp=Z,28nm,1.6s
BOZ Bozeman (W) 87.91 38 *e*P **P** 12 48 36.9 +1.0
comp=Z,28nm,1.6s
A21A Bergtoll Ranch 88.06 33 ⇓P **P** 12 48 36.6 +0.2
baz=88,SNR=12
D19A Cripps Ranch, 88.34 35 ⇑P **P** 12 48 38.2 +0.4
baz=88,SNR=10.0
C20A Veseth Ranch, 88.41 34 ⇓P **P** 12 48 37.9 -0.1
baz=88,SNR=11
NVAR Mina Array Bea 88.45 46 P **P** 12 48 39.8 +1.1
comp=Z,2.7nm,1.0s,baz=277,slow=5.0,SNR=10
A22A Carney Farms, 88.54 32 ⇑P **P** 12 48 38.7 0.0
baz=88,SNR=14
QLMT Earthquake Lak 88.54 38 *e*P **P** 12 48 40.4 +1.4
MLAC Mammoth, Mammo 88.57 47 ⇑P **P** 12 48 39.1 -0.3
baz=88
D20A Manuel Ranch, 88.77 35 ⇓P **P** 12 48 39.7 -0.1
baz=89
C21A Desert Coulee 88.78 34 ⇑P **P** 12 48 40.0 +0.1
baz=89
GCMT Greycliff 88.85 37 *e*P **P** 12 48 41.4 +1.0
E19A Rath Farm, Rou 88.86 36 ⇑P **P** 12 48 40.3 0.0
baz=89,SNR=11
ELK Elko 88.95 43 *e*P **P** 12 48 42.1 +1.1
ELK pmax pmax
comp=Z,14nm,1.5s
ELK Elko 88.95 43 *e*P **P** 12 48 42.1 +1.1
comp=Z,14nm,1.5s
B22A Reddig Ranch S 88.98 33 ⇓P **P** 12 48 40.9 +0.1
baz=89
YNR Norris Junctio 89.02 38 *e*P **P** 12 48 42.6 +1.3
comp=Z,31nm,1.5s
YFT Old Faithful 89.11 38 *e*P **P** 12 48 44.8 +3.1
comp=Z,43nm,1.4s
E20A Meyer Farm, Mu 89.17 35 ⇑P **P** 12 48 42.7 +1.0
baz=89,SNR=8.0
LKWY Lake 89.27 38 *e*P **P** 12 48 45.4 +2.9
LKWY pmax pmax
comp=Z,35nm,1.4s
LKWY Lake 89.27 38 *e*P **P** 12 48 45.4 +2.9
comp=Z,35nm,1.4s
H17A Grant Village 89.29 38 *e*P **P** 12 48 45.3 +2.7
comp=Z,147nm,1.9s
TPH Tonopah 89.34 46 *e*P **P** 12 48 44.1 +1.2
TPH pmax pmax
comp=Z,18nm,1.4s
TPH Tonopah 89.34 46 *e*P **P** 12 48 44.0 +1.2
comp=Z,18nm,1.4s
B23A Brockton 89.34 32 ⇓P **P** 12 48 43.2 +0.7
baz=89,SNR=12
D21A La Casta Ranch 89.35 34 ⇓P **P** 12 48 43.4 +0.9
baz=89
IMW Indian Meadow 89.42 39 *e*P **P** 12 48 44.6 +1.4
comp=Z,10nm,1.1s
FLWY Flagg Ranch 89.43 38 *e*P **P** 12 48 45.4 +2.2
comp=Z,37nm,1.4s
A24A Westby 89.48 32 ⇑P **P** 12 48 43.8 +0.7
baz=89
RLMT Red Lodge 89.51 37 *e*P **P** 12 48 44.7 +1.2
comp=Z,32nm,1.5s
FXWY Fox Creek 89.54 39 *e*P **P** 12 48 45.3 +1.6
H18A Shoshone NF, C 89.59 37 ⇑P **P** 12 48 45.0 +1.0
baz=89,SNR=8.0
I17A Pilgrim Ck. 89.60 38 ⇑P **P** 12 48 44.9 +0.9
baz=89
MOOW Moose Ponds 89.62 39 *e*P **P** 12 48 44.9 +0.8
comp=Z,18nm,1.5s
F20A Billings 89.63 36 ⇑P **P** 12 48 44.7 +0.8
baz=89
E21A Keefer Ranch, 89.67 35 ⇑P **P** 12 48 45.2 +1.1
baz=90
TPAW Teton Pass 89.68 39 *e*P **P** 12 48 45.5 +1.0
comp=Z,12nm,1.3s
D22A Cohagen 89.69 34 ⇑P **P** 12 48 45.2 +1.1
baz=90
DGMT Dagmar 89.71 32 *e*P **P** 12 48 45.6 +1.4
comp=Z,39nm,1.0s
DGMT Dagmar 89.71 32 ⇑P **P** 12 48 44.9 +0.7
baz=90
C23A Lambert 89.72 33 ⇓P **P** 12 48 44.6 +0.3
baz=90
HVU Hansel Valley 89.75 41 *e*P **P** 12 48 46.2 +1.5
HVU pmax pmax
comp=Z,14nm,1.3s
HVU Hansel Valley 89.75 41 *e*P **P** 12 48 46.2 +1.5
comp=Z,14nm,1.3s
LOHW Long Hollow 89.79 39 *e*P **P** 12 48 45.6 +0.8
comp=Z,14nm,1.6s
REDW Red Top Meadow 89.81 39 *e*P **P** 12 48 47.2 +2.1
SBC Santa Barbara 89.84 50 ⇓P **P** 12 48 45.5 +0.6
baz=90
A25A Svangstu Ranch 89.87 31 ⇓P **P** 12 48 45.2 +0.3
baz=90
H19A Powell 89.96 37 ⇓P **P** 12 48 45.7 +0.1
baz=90
ISA Isabella, Lake 89.96 49 ⇑P **P** 12 48 45.8 +0.2
baz=90
G20A Bridger 89.99 36 ⇑P **P** 12 48 45.2 -0.5
baz=90
LAO LASA Array 90.00 34 *e*P **P** 12 48 46.3 +0.7
comp=Z,36nm,1.3s
ARVC Arvin 90.04 49 ⇓P **P** 12 48 45.8 -0.1
baz=90
BGU Big Grassy Mou 90.14 42 *e*P **P** 12 48 47.6 +1.1
comp=Z,20nm,1.6s
D23A Lindsay 90.15 33 ⇑P **P** 12 48 46.8 +0.5
baz=90
BSC Santa Cruz Isl 90.16 51 ⇑P **P** 12 48 47.4 +0.8
baz=90
R11A Troy Canyon, C 90.20 45 *e*P **P** 12 48 47.4 +0.5
comp=Z,20nm,1.8s
R11A Troy Canyon, C 90.20 45 ⇓P **P** 12 48 47.8 +0.9
baz=90
C24A Savage 90.28 33 ⇑P **P** 12 48 47.4 +0.6
baz=90
E22A Miles City 90.31 34 ⇓P **P** 12 48 47.9 +0.9
baz=90
B25A Knox Farm, Ray 90.33 32 ⇑P **P** 12 48 48.2 +1.1
baz=90
MPMC Manual Prospec 90.37 48 ⇓P **P** 12 48 48.5 +0.8
baz=90
I19A Meeteetse 90.38 38 ⇑P **P** 12 48 47.4 -0.2
baz=90
A26A Wade Farm, Ken 90.39 31 ⇑P **P** 12 48 47.3 0.0
baz=90
G21A Lodge Grass 90.51 36 ⇓P **P** 12 48 49.4 +1.4
baz=90
HWUT Hardware Ranch 90.56 41 *e*P **P** 12 48 49.9 +1.4
comp=Z,44nm,1.5s
E23A Ismay 90.58 34 ⇑P **P** 12 48 49.4 +1.2
baz=90
LRMC Laurel Mtn Rad 90.59 48 ⇓P **P** 12 48 49.7 +1.1
baz=90
H20A Greybull 90.60 37 ⇑P **P** 12 48 49.2 +0.7
baz=90,SNR=9.0
F22A Rosebud 90.61 35 ⇑P **P** 12 48 48.5 +0.1
baz=90
D24A Glendive 90.62 33 ⇑P **P** 12 48 49.0 +0.5
baz=90
TPNV Topopah Spring 90.64 47 *e*P **P** 12 48 49.9 +1.0
TPNV Topopah Spring 90.64 47 *e*P **P** 12 48 49.9 +1.0
TPNV Topopah Spring 90.64 47 ⇑P **P** 12 48 49.9 +1.0
baz=90
B26A Jensen Ranch, 90.68 31 ⇑P **P** 12 48 49.2 +0.5
baz=90
C25A Freed Ranch, W 90.70 32 ⇑P **P** 12 48 50.1 +1.3
baz=90
A27A Ledoux Ranch, 90.70 30 ⇓P **P** 12 48 49.5 +0.7
baz=90
DUG Dugway, Tooele 90.73 42 *e*P **P** 12 48 50.5 +1.2
DUG pmax pmax
comp=Z,29nm,1.5s
DUG Dugway, Tooele 90.73 42 *e*P **P** 12 48 50.5 +1.2
comp=Z,29nm,1.5s
DUG Dugway, Tooele 90.73 42 ⇓P **P** 12 48 50.5 +1.2
baz=91
EDW2 Edwards Air Fo 90.74 49 ⇑P **P** 12 48 50.6 +1.3
baz=91
J19A Crowheart 90.86 38 ⇑P **P** 12 48 50.7 +0.8
baz=91
I20A Worland 90.90 37 ⇑P **P** 12 48 50.7 +0.8
baz=91
BW06 Boulder Array 90.92 39 *e*P **P** 12 48 50.1 0.0
comp=Z,13nm,1.4s
PDAR Pinedale Array 90.92 39 P **P** 12 48 50.6 +0.4
comp=Z,1.7nm,0.8s,baz=354,slow=3.0,SNR=13
TCUT Toone Canyon 90.96 41 *e*P **P** 12 48 51.5 +1.0
comp=Z,56nm,1.6s
G22A Birney 90.98 35 ⇑P **P** 12 48 50.9 +0.6
baz=91
E24A Baker 91.02 33 ⇓P **P** 12 48 51.1 +0.8
baz=91
D25A Fairfield 91.07 33 ⇓P **P** 12 48 49.8 -0.8
baz=91
F23A Volborg 91.08 35 ⇑P **P** 12 48 51.2 +0.5
baz=91
C26A Wahner Farm, P 91.15 31 ⇓P **P** 12 48 49.5 -1.4
baz=91
A28A Rude Farm, Bot 91.17 30 ⇑P **P** 12 48 50.4 -0.6
baz=91
FMP Fort Macarthur 91.22 50 ⇓P **P** 12 48 51.1 -0.4
baz=91
SHOC Shoshone, Teco 91.25 47 ⇑P **P** 12 48 51.5 -0.1
baz=91
GSC Goldstone, Bar 91.27 48 *e*P **P** 12 48 52.8 +1.1
GSC pmax pmax
comp=Z,21nm,1.4s
GSC Goldstone, Bar 91.27 48 *e*P **P** 12 48 52.8 +1.1
comp=Z,21nm,1.4s
GSC Goldstone, Bar 91.27 48 ⇑P **P** 12 48 52.1 +0.4
baz=91
JLU Jordanelle 91.27 41 *e*P **P** 12 48 52.7 +0.8
comp=Z,15nm,1.4s
PPT Papeete 91.32 109 LR LR 13 22 36.1
comp=Z,76nm,21.1s,baz=302,slow=31
J20A Shoshoni 91.33 38 ⇓P **P** 12 48 52.2 +0.3
baz=91
CIS Catalina Islan 91.33 50 ⇓P **P** 12 48 52.7 +0.7
baz=91
BFSC Mount Baldy Ra 91.34 49 ⇓P **P** 12 48 52.1 0.0
baz=91
H22A Clearmont 91.39 36 ⇑P **P** 12 48 52.1 0.0
baz=91
I21A Big Trails, Te 91.44 37 ⇑P **P** 12 48 52.5 0.0
baz=91
G23A Biddle 91.45 35 ⇑P **P** 12 48 53.2 +0.8
baz=91
F24A Ekalaka 91.47 34 ⇑P **P** 12 48 53.3 +0.8
baz=91
B28A Dugan Ranch, T 91.47 30 ⇓P **P** 12 48 52.5 +0.2
baz=91
SCI San Clemente I 91.48 51 ⇑P **P** 12 48 53.6 +0.9
baz=91
E25A Miller Ranch, 91.50 33 ⇓P **P** 12 48 53.4 +0.8
baz=91
C27A Sayler Ranch, 91.50 31 ⇑P **P** 12 48 53.3 +0.8
baz=91
MPU Maple Canyon 91.54 42 *e*P **P** 12 48 54.5 +1.5
comp=Z,18nm,1.2s
D26A Manning 91.58 32 ⇑P **P** 12 48 53.7 +0.8
baz=91
SHPR Sheep Range 91.60 46 *e*P **P** 12 48 54.4 +1.0
A29A Manning Farm, 91.60 29 ⇓P **P** 12 48 53.5 +0.6
baz=91
J21A Lysite 91.67 37 ⇑P **P** 12 48 54.1 +0.5
baz=92
TUQ Turquoise Moun 91.76 48 ⇑P **P** 12 48 55.2 +1.1
baz=92
I22A 9 Mile Ranch, 91.80 36 ⇓P **P** 12 48 54.8 +0.7
baz=92
KMBO Kilima Mbogo 91.81 270 LR LR 13 33 20.3
comp=Z,70nm,18.3s,baz=90,slow=38
BBRC Big Bear Solar 91.82 49 ⇓P **P** 12 48 55.2 +0.7
baz=92
G24A Alzada 91.85 34 ⇑P **P** 12 48 54.6 +0.3
baz=92
HEC Hector,Ludlow 91.86 48 ⇑P **P** 12 48 55.7 +1.2
baz=92
F25A Bowman 91.89 33 ⇓P **P** 12 48 55.4 +1.0
baz=92
H23A Clabaugh Cattl 91.89 35 ⇓P **P** 12 48 55.0 +0.5
baz=92
B29A Wagenman Farm, 91.90 30 ⇑P **P** 12 48 54.7 +0.4
baz=92
D27A Center 91.94 32 ⇓P **P** 12 48 55.3 +0.8
baz=92
ULM Lac du Bonnet 91.96 27 P **P** 12 48 53.9 -0.6
comp=Z,7.5nm,0.8s,baz=317,slow=5.2,SNR=13
ULM LR LR 13 30 54.7

comp=Z,80nm,21.6s,baz=332,slow=36
ULM Lac du Bonnet 91.96 27 *e*P **P 12 48 54.0 -0.6**
ULM pmax pmax
comp=Z,9.0nm,0.8s
ULM Lac du Bonnet 91.96 27 *e*P **P 12 48 54.0 -0.6**
comp=Z,9.0nm,0.8s
A30A Hoffart Farm, 91.99 29 ⇓P **P 12 48 54.8 +0.1**
baz=92
C28A Hausauer Farms 92.01 31 ⇓P **P 12 48 54.9 +0.1**
baz=92
MURC Murrieta 92.03 50 ⇑P **P 12 48 56.0 +0.8**
baz=92
J22A Midwest 92.14 37 ⇑P **P 12 48 56.1 +0.4**
baz=92
MVU Marysvale 92.17 43 *e*P **P 12 48 58.0 +1.9**
comp=Z,23nm,1.5s
MSU Marysvale 92.19 43 *e*P **P 12 48 57.7 +1.6**
MSU Marysvale 92.19 43 *e*P **P 12 48 57.7 +1.6**
H24A Dirks Ranch, A 92.19 35 ⇓P **P 12 48 56.4 +0.6**
baz=92
MDND Maddock 92.26 30 ⇑P **P 12 48 56.3 +0.4**
baz=92
I23A Meade Ranch, G 92.28 36 ⇓P **P 12 48 56.3 0.0**
baz=92
F26A Lodgepole 92.32 33 ⇑P **P 12 48 57.0 +0.7**
baz=92
GMRC Granite Mounta 92.33 48 ⇓P **P 12 48 56.8 0.0**
baz=92
B30A Myrvik Farm, E 92.35 29 ⇓P **P 12 48 56.3 -0.1**
baz=92
E27A Carson 92.42 32 ⇓P **P 12 48 56.7 -0.1**
baz=92
G25A Newell 92.44 34 ⇓P **P 12 48 56.5 -0.5**
baz=92
LDFC Landfair 92.51 47 *e*P **P 12 48 58.4 +0.8**
comp=Z,63nm,1.6s
109C Camp Elliot, M 92.51 50 ⇓P **P 12 48 58.2 +0.8**
baz=92
PFO Pinyon Flats O 92.52 49 P **P 12 48 57.1 -0.5**
comp=Z,49nm,1.0s,SNR=6.1
PFO Pinyon Flats O 92.52 49 P **P 12 48 57.8 +0.2**
comp=Z,5.9nm,0.9s,baz=260,slow=3.6,SNR=11
PFO Pinyon Flats O 92.52 49 *e*P **P 12 48 58.2 +0.6**
PFO pmax pmax
comp=Z,20nm,1.3s
PFO Pinyon Flats O 92.52 49 *e*P **P 12 48 58.2 +0.6**
comp=Z,20nm,1.3s
PFO Pinyon Flats O 92.52 49 ⇑P **P 12 48 58.2 +0.6**
baz=92
BELC Belle Mtn. Jos 92.58 49 ⇑P **P 12 48 58.5 +0.6**
baz=92
F27A Lemmon 92.62 33 ⇓P **P 12 48 58.1 +0.4**
baz=92
J23A Dilts Ranch, B 92.63 36 ⇓P **P 12 48 58.3 +0.3**
baz=92
K22A Casper 92.64 37 ⇓P **P 12 48 58.4 +0.3**
baz=92
KNB Kanab 92.75 45 *e*P **P 12 49 00.2 +1.5**
KNB Kanab 92.75 45 *e*P **P 12 49 00.2 +1.5**
H25A Fruitdale 92.76 34 ⇓P **P 12 48 58.0 -0.4**
baz=92
G26A Maurine 92.76 33 ⇑P **P 12 48 59.3 +0.9**
baz=92
SRU San Rafael Swe 92.78 42 *e*P **P 12 48 59.6 +0.8**
SRU pmax pmax
comp=Z,9.0nm,1.1s
SRU San Rafael Swe 92.78 42 *e*P **P 12 48 59.5 +0.8**
comp=Z,9.5nm,1.1s
I24A Kuemmerle Ranc 92.78 36 ⇓P **P 12 48 58.3 -0.4**
baz=93
C30A Mose, Pekin 92.86 30 ⇓P **P 12 48 58.8 0.0**
baz=93
RSSD Black Hills 92.90 35 *e*P **P 12 48 59.9 +0.6**
RSSD pmax pmax
comp=Z,48nm,1.8s
RSSD Black Hills 92.90 35 *e*P **P 12 48 59.9 +0.6**
comp=Z,48nm,1.8s
BAR Barrett 92.93 50 *e*P **P 12 49 00.2 +0.8**
comp=Z,4.4nm,0.8s
N20A Spence Gulch, 92.93 40 ⇓P **P 12 49 00.1 +0.6**
baz=93
MONP Monument Peak, 92.97 50 ⇑P **P 12 49 00.1 +0.3**
baz=93
G27A Dupree 93.02 33 ⇓P **P 12 49 00.2 +0.6**
baz=93
IRM Iron Mountain 93.04 48 ⇑P **P 12 49 01.0 +1.1**
baz=93
K23A Bowen Ranch, D 93.05 37 ⇑P **P 12 49 00.2 +0.2**
baz=93
I25A Rochford 93.12 35 ⇑P **P 12 49 01.0 +0.7**
baz=93
J24A Dixon Ranch, L 93.14 36 ⇓P **P 12 49 00.7 +0.4**
baz=93
BC3 Big Chuckawall 93.15 49 ⇓P **P 12 49 00.8 +0.3**
baz=93
H26A Fairpoint 93.17 34 ⇑P **P 12 49 00.5 +0.1**
baz=93
D30A Buchanan 93.19 30 ⇓P **P 12 49 00.6 +0.3**
baz=93
E29A Napoleon 93.20 31 ⇑P **P 12 49 00.2 -0.2**
baz=93
F28A McLaughlin 93.21 32 ⇓P **P 12 49 00.2 -0.3**
baz=93
W13A Hualapai Mount 93.28 47 ⇑P **P 12 49 01.9 +0.6**
baz=93
IBP Imperial Bould 93.33 50 ⇑P **P 12 49 02.6 +1.3**
baz=93
O20A White River Ci 93.42 40 ⇓P **P 12 49 01.9 +0.2**
baz=93
U15A North Rim 93.45 45 ⇑P **P 12 49 02.4 +0.4**
baz=93
K24A Anderson Ranch 93.49 36 ⇓P **P 12 49 01.7 -0.3**
baz=93
H27A Howes 93.50 34 ⇑P **P 12 49 01.7 -0.1**
baz=93
AGMN Agassiz Nation 93.51 28 ⇑P **P 12 49 01.6 -0.1**
baz=93
J25A Sunshine Ranch 93.54 35 ⇓P **P 12 49 01.7 -0.4**
baz=93
I26A New Underwood 93.55 34 ⇑P **P 12 49 01.9 -0.2**
baz=93
E30A Jud 93.58 31 ⇑P **P 12 49 02.1 -0.1**
baz=93
F29A Eureka 93.67 32 ⇑P **P 12 49 02.6 +0.1**
baz=93
G28A Parade 93.73 33 ⇑P **P 12 49 02.6 -0.2**
baz=94
N22A Wattenberg Ran 93.96 39 ⇓P **P 12 49 04.2 -0.1**
baz=94
J26A Sides Ranch, S 93.96 35 ⇑P **P 12 49 04.0 0.0**
baz=94
PV09 Paradox Valley 94.00 42 *e*P **P 12 49 06.2 +1.6**
F30A Leola 94.04 31 ⇑P **P 12 49 04.5 +0.2**
baz=94
K25A Mack Ranch, Ha 94.06 36 ⇓P **P 12 49 04.4 -0.2**
baz=94
G29A Hoven 94.11 32 ⇓P **P 12 49 04.6 0.0**
baz=94
KEST Kesra 94.12 315 LR LR 13 34 46.3
comp=Z,54nm,19.4s,baz=344,slow=38
PV10 Paradox Valley 94.14 42 *e*P **P 12 49 06.5 +1.3**
comp=Z,134nm,0.8s
N23A Red Feather La 94.17 38 *e*P **P 12 49 08.0 +2.7**
N23A Red Feather La 94.17 38 ⇓P **P 12 49 04.8 -0.5**
baz=94
PV05 Paradox Valley 94.30 42 *e*P **P 12 49 07.0 +1.2**
L25A Engebretsen Ra 94.34 36 ⇑P **P 12 49 05.2 -0.6**
baz=94
O22A Kremmling 94.35 39 ⇑P **P 12 49 05.5 -0.7**
baz=94
K26A Motz Farm, Whi 94.35 36 ⇑P **P 12 49 05.3 -0.6**
baz=94
H29A Onida 94.40 33 ⇓P **P 12 49 05.5 -0.4**
baz=94
I28A Midland 94.41 34 ⇓P **P 12 49 05.4 -0.5**
baz=94
G30A Faulkton 94.52 32 ⇓P **P 12 49 06.5 0.0**
baz=94
J27A Elkhorn Farm, 94.54 35 ⇑P **P 12 49 06.2 -0.5**
baz=94
PV01 Paradox Valley 94.58 42 *e*P **P 12 49 08.3 +1.2**
WUAZ Wupatki 94.60 45 *e*P **P 12 49 08.1 +0.8**
comp=Z,15nm,1.6s
WUAZ Wupatki 94.60 45 ⇑P **P 12 49 07.4 +0.1**
baz=94
P22A Eagle 94.62 40 ⇑P **P 12 49 07.3 -0.1**
baz=94
O23A Lake Granby, G 94.66 39 ⇓P **P 12 49 08.0 +0.4**
baz=94
SMCO Snowmass 94.79 40 *e*P **P 12 49 08.9 +0.6**
comp=Z,13nm,1.6s
N24A Carr 94.79 38 ⇑P **P 12 49 07.6 -0.5**
baz=95
113A Mohawk Valley, 94.81 49 ⇑P **P 12 49 08.5 +0.5**
baz=95
Z14A Wintersburg 94.98 48 ⇓P **P 12 49 08.7 0.0**
baz=95
ISCO Idaho Springs 95.12 39 ⇑P **P 12 49 09.5 -0.2**
baz=95
BRSD Miller 95.13 32 ⇓P **P 12 49 09.0 -0.3**
baz=95
O24A Longmont 95.19 38 ⇓P **P 12 49 09.2 -0.6**
baz=95
N25A Grover 95.23 37 ⇑P **P 12 49 09.6 -0.4**
baz=95
MVCO Mesa Verde 95.24 42 ⇓P **P 12 49 09.8 -0.4**
baz=95
L27A T5 Ranch, Ells 95.24 36 ⇓P **P 12 49 09.2 -0.7**
baz=95
J29A Okreek 95.26 34 ⇓P **P 12 49 09.7 -0.2**
baz=95
M26A McRoberts Ranc 95.26 36 ⇑P **P 12 49 09.4 -0.6**
baz=95
X16A Lo Mia Camp, P 95.27 46 ⇓P **P 12 49 10.0 -0.4**
baz=95
P23A Jefferson 95.29 39 ⇑P **P 12 49 09.8 -0.7**
baz=95
I30A Oacoma 95.31 33 ⇓P **P 12 49 09.6 -0.5**
baz=95
DRV Dumont d'Urvil 95.53 176 SS SS 13 06 36.0 -17
DRV R 13 21 00.0
SCHQ Schefferville 95.67 9 LR LR 13 33 15.3
comp=Z,222nm,21.8s,baz=289,slow=36
O25A Wiggins 95.71 38 ⇑P **P 12 49 11.6 -0.5**
baz=96
J30A Dallas 95.72 33 ⇓P **P 12 49 11.4 -0.6**
baz=96
K29A Lazy Trails An 95.74 34 ⇑P **P 12 49 11.7 -0.5**
baz=96
S22A 4UR Ranch, Cre 95.85 41 ⇑P **P 12 49 12.4 -0.7**
baz=96
W18A Petrified Fore 95.88 45 ⇑P **P 12 49 12.6 -0.5**
baz=96
214A Organ Pipe Nat 95.95 49 *e*P **P 12 49 14.0 +0.7**
comp=Z,16nm,1.6s
214A Organ Pipe Nat 95.95 49 ⇑P **P 12 49 12.9 -0.4**
baz=96
ANMO Albuquerque 97.98 43⇑ *e*P Pdif 12 49 23.5 +0.8
ANMO pmax pmax
comp=Z,12nm,1.6s
ESDC Sonseca Array 98.90 325 LR LR 13 38 17.4
comp=Z,271nm,18.7s,baz=10.0,slow=38
TORD Torodi Ar. Bea 113.99 302 PKIKP **PKiKP 12 54 24.2 -1.5**
comp=Z,0.5nm,0.7s,baz=29,slow=1.7,SNR=4.8
QSPA South Pole Qui 118.54 180 *e*PKPdf **PKPdf 12 54 32.1 -0.8**
VNA2 Neumayer--Watz 131.31 198 P **PKPdf 12 54 57.3 +0.2**
baz=55,slow=0.9
NNA Nana 150.91 60 *e*PKIKP **PKPbc 12 55 38.9 -0.5**
NNA Nana 150.91 60 *e*PKPbc **PKPbc 12 55 38.9 -0.5**
SAML Samuel 157.33 32 *e*PKPab **PKPab 12 56 11.9 -1.8**
LPAZ La Paz 160.12 55 PKP **PKPdf 12 55 47.5 +0.9**
comp=Z,3.3nm,1.1s,baz=304,slow=3.6,SNR=6.0
LPAZ PKPab **PKPab 12 56 26.2 -0.5**
comp=Z,3.3nm,1.0s,baz=0.0,slow=5.1,SNR=4.9
LPAZ La Paz 160.12 55 PKIKP **PKPdf 12 55 47.6 +0.9**
LPAZ 12 56 26.2
LPAZ pmax pmax
comp=Z,3.0nm,1.1s
LPAZ pmax pmax
comp=Z,3.0nm,1.0s

TAP 16 12:37:23.4, 24.54N×122.59E, h48km±1km, ML3.0, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.68**	**276**	*i* P			Pn	12 37 37.2	+0.5
	baz=275								
TWC				*e*S			Sn	12 37 47.1	+0.7
	baz=275								
ENA	**Nanu**	**0.78**	**262**	P			Pn	12 37 38.8	+0.7
	baz=261								
TWE	**Neicheng**	**0.86**	**282**	*e*P			Pn	12 37 39.1	0.0
	baz=281								
TWE				*e*S			Sn	12 37 52.0	+1.5
	baz=281								
ENTT	**Nioudou**	**0.94**	**276**	*e*P			Pn	12 37 41.2	+1.0
	baz=275								
NNS	**Nan Shan**	**1.11**	**265**	*e*P			Pn	12 37 42.7	0.0
	baz=264								
NSK	**Sanguang**	**1.13**	**277**	P			Pn	12 37 43.4	+0.6
	baz=276								
NSK				*e*S			Sn	12 37 55.5	-1.9
	baz=276								
WHF	**Hehuan Shan**	**1.27**	**252**	*i* P			Pn	12 37 45.2	0.0
	baz=251								
ESL	**Shilin**	**1.28**	**236**	*e*P			Pn	12 37 44.5	-0.4
	baz=235								
TWT	**Tachien**	**1.32**	**258**	*e*P			Pn	12 37 46.5	+0.9
	baz=257								
WDT	**Danda**	**1.54**	**240**	*e*P			Pn	12 37 48.6	-0.2
	baz=239								
EHY	**Hungye**	**1.55**	**229**	*e*P			Pn	12 37 48.2	-0.4
	baz=228								
TWF1	**Yuli**	**1.67**	**225**	*e*P			Pn	12 37 49.4	-0.9
	baz=224								
SMLT	**Sun Moon Lake**	**1.68**	**247**	*e*P			Pn	12 37 51.3	+0.9
	baz=246								
TYC	**Yuchr**	**1.70**	**248**	*e*P			Pn	12 37 51.6	+1.0
	baz=247								
YUS	**Yu-Shan**	**1.83**	**235**	*e*P			Pn	12 37 52.9	0.0
	baz=234								
ALS	**Alishan**	**1.93**	**238**	P			Pn	12 37 54.5	+0.4
	baz=237								
CHN5	**Tsauling**	**1.98**	**242**	*e*P			Pn	12 37 55.7	+1.1
	baz=241								
STYT	**Tauyuan**	**2.17**	**231**	P			Pn	12 37 57.9	+0.8
	baz=230								
CHN4	**Tsaushan**	**2.18**	**237**	P			Pn	12 37 58.2	+1.1
	baz=236								
WTP	**Ta-pu**	**2.22**	**235**	P			Pn	12 37 58.1	+0.3
	baz=234								
TWK	**Hsinying**	**2.30**	**237**	*e*P			Pn	12 37 59.8	+0.9
	baz=236								
CHN1	**Nanshi**	**2.32**	**235**	P			Pn	12 37 59.9	+0.8
	baz=234								
CHN1				*e*S			Sn	12 38 26.6	+0.1
	baz=234								
SGST	**Jiashian**	**2.34**	**232**	*e*P			Pn	12 38 00.2	+0.8
	baz=231								
SGST				*e*S			Sn	12 38 24.9	-2.2
	baz=231								
EAST	**Anshuo**	**2.68**	**217**	*e*P			Pn	12 38 01.5	-2.6
	baz=216								

*ISCJB **16** 12:41:36.1±0.7, 20.5S±0.1×178.1W±0.1, h534km, mb3.8/11, Error ellipse: s-maj=16.3km s-min=13.1km az=44.3*
*IDC **16** 12:41:38.5±2.1, 20.58S×178.10W, h552km±25km, mb3.3/10, mb1 3.5/11, mb1mx3.3/34, mbtmp4.3/11, Error ellipse: s-maj=24.6km s-min=14.3km az=157.0*
ISC 16 12:41:37.1±0.7, **20.5S**±0.1×**178.1W**±0.1, **h534**km, **n22,** σ**0s92/24, mb4.0/11, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.68**	**179**	P			P	**12 43 40.6**	**-0.4**
	272nm,0.3s,baz=36,slow=22,SNR=6.6								
URZ	**Urewera**	**18.14**	**192**	P			P	**12 45 16.5**	**-0.4**
	1.5nm,0.3s,baz=256,slow=4.2,SNR=8.6								
CTA	**Charters Tower**	**33.40**	**264**	P			P	**12 47 32.2**	**+0.6**
	3.7nm,0.4s,baz=100,slow=11,SNR=8.3								
QLP	**Quilpie**	**34.96**	**253**	P			P	**12 47 45.2**	**+0.5**
	baz=37,SNR=6.4								
STKA	**Stephens Creek**	**37.69**	**244**	P			P	**12 48 07.5**	**+0.4**
	2.5nm,0.6s,baz=104,slow=8.7,SNR=5.4								
STKA	**Stephens Creek**	**37.69**	**244**	P			P	**12 48 08.2**	**+1.1**
	baz=40,SNR=5.8								
BBOO	**Buckleboo**	**42.45**	**244**	P			P	**12 48 45.6**	**+0.4**
	baz=44,SNR=8.3								
JAY	**Jayapura**	**43.97**	**289**	P			P	**12 48 57.8**	**+0.5**
	6.7nm,0.4s,baz=162,slow=5.0,SNR=8.1								
ASAR	**Alice Springs**	**44.42**	**257**	P			P	**12 49 01.1**	**+0.3**
	11nm,0.8s,baz=92,slow=7.8,SNR=122								
ASAR				PcP			PcP	**12 50 33.4**	**+0.5**
	1.3nm,0.7s,baz=106,slow=3.6,SNR=6.4								
ASAR				S			S	**12 54 54.0**	**-2.8**
	0.5nm,0.7s,baz=94,slow=15,SNR=5.6								
WRA	**Warramunga Arr**	**44.51**	**262**	P			P	**12 49 01.1**	**-0.3**
	4.5nm,0.7s,baz=96,slow=7.5,SNR=103								
WRA				PcP			PcP	**12 50 33.8**	**+0.6**
	0.5nm,0.7s,baz=92,slow=3.3,SNR=3.0								
KDU	**Kakadu**	**47.86**	**271**	P			P	**12 49 26.9**	**0.0**
	baz=50,SNR=4.6								
WRKA	**Warakurna**	**49.37**	**254**	P			P	**12 49 38.3**	**+0.2**
	baz=51,SNR=16								
KNRA	**Kununurra**	**50.57**	**266**	P			P	**12 49 46.9**	**0.0**
	baz=52,SNR=3.8								
MJAR	**Matsushiro Arr**	**70.19**	**324**	P			P	**12 51 55.4**	**-0.8**
	0.4nm,0.6s,baz=127,slow=7.7,SNR=3.2								
SEY	**Seymchan**	**86.39**	**347**	P			P	**12 53 21.4**	**-0.8**
	1.0nm,0.3s,baz=253,slow=1.8,SNR=9.0								
TXAR	**Lajitas Array**	**87.15**	**57**	P			P	**12 53 27.3**	**+0.5**
	0.3nm,0.7s,baz=214,slow=5.9,SNR=3.6								
ILAR	**Eielson Array**	**88.37**	**13**	P			P	**12 53 30.5**	**-1.0**
	0.5nm,0.9s,baz=214,slow=5.4,SNR=5.5								
PDAR	**Pinedale Array**	**89.05**	**43**	P			P	**12 53 35.5**	**-0.1**
	0.4nm,0.9s,baz=90,slow=0.2,SNR=2.8								
CMAR	**Chiang Mai Arr**	**90.04**	**290**	P			P	**12 53 42.2**	**+1.9**
	0.3nm,0.4s,baz=117,slow=3.1,SNR=4.7								
AKASG	**Malin Array Be**	**143.00**	**331**	PKP			PKPab	13 00 06.8	-0.6
	1.8nm,0.5s,baz=44,slow=4.3,SNR=14								
BRTR	**Keskin Array B**	**146.80**	**312**	PKPbc			**PKPbc**	**13 00 19.5**	**-0.2**
	1.2nm,0.6s,baz=108,slow=3.6,SNR=6.6								
GERES	**GERESS Array B**	**150.21**	**344**	PKPbc			**PKPbc**	**13 00 27.9**	**+0.1**
	0.5nm,0.5s,baz=65,slow=11,SNR=5.3								

*IDC **16** 12:58:36.8±1.0, 6.59N×125.41E, h75km±9km, mb3.6/10, mb1 3.8/11, mb1mx3.5/49, mbtmp4.0/11, Error ellipse: s-maj=33.3km s-min=13.3km az=80.0*
*ISCJB **16** 12:58:44.9±0.4, 6.72N±0.04×126.22E±0.06, h150km, mb3.8/12, Error ellipse: s-maj=8.2km s-min=5.7km az=165.9*
*DJA **16** 12:58:48.1±1.3, 7.1N±12.1×12.6E±1.1, h168km±11km, M4.7/10, mb4.7/10, mB5.1/9, MLv4.9/6, Mw(mB)4.5/9*
ISC 16 12:58:45.6±0.5, **6.73N**±0.06×**126.02E**±0.08, **h150**km, **n44,** σ**2s25/45, mb3.8/12, 1C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.32**	**47**	*e*P			Pn	12 59 14.7	+8.5
MATI				*e*S			Sn	12 59 29.8	+7.9
GSPH	**General Santos**	**1.24**	**239**	⇑*i*P			**Pn**	**12 59 15.6**	**+2.9**
GSPH				*i* S			**Sn**	**12 59 35.9**	**+2.5**
BUKP	**Musuan**	**1.49**	**320**	*e*P			Pn	12 59 20.6	+5.6
CTBH	**Cotabato--PC H**	**1.83**	**286**	⇓*i*P			**Pn**	**12 59 21.6**	**+2.8**
CGP	**Cagayan de Oro**	**2.16**	**323**	*e*P			Pn	12 59 27.0	+4.4
PAGZ	**Pagadian**	**2.84**	**293**	*e*P			**Pn**	**12 59 33.6**	**+2.6**
SGSI	**Sangihe**	**3.06**	**189**	P			**Pn**	**12 59 36.3**	**+2.5**
TNTI	**Ternate**	**6.07**	**167**	P			**Pn**	**13 00 15.1**	**+1.8**
	312nm,1.0s,5μm1.0nm								
MRSI	**Marisa**	**7.43**	**213**	P			**Pn**	**13 00 33.8**	**+2.4**
	16nm,0.5s,913nm0.2nm								
LBMI	**Labuha**	**7.46**	**169**	P			**Pn**	**13 00 34.3**	**+2.4**
	58nm,0.4s,1μm0.4nm								
LUWI	**Luwuk**	**8.37**	**203**	P			Pn	13 00 48.8	+4.7
	baz=9.8,SNR=4.3								
SANI	**Sanana**	**8.72**	**180**	P			**Pn**	**13 00 46.3**	**-2.4**
SIJI	**Sorong**	**9.18**	**145**	P			**Pn**	**13 00 56.9**	**+2.0**
	3.9nm,0.3s,baz=332,slow=18,SNR=8.3								
SIJI				S			**Sn**	**13 02 35.2**	**-1.7**
	0.2nm,0.3s,baz=344,slow=18,SNR=2.0								
NLAI	**Namlea**	**9.96**	**174**	P			**Pn**	**13 01 04.5**	**-0.7**
	119nm,0.7s,3μm								
BBKI	**Banjar Baru**	**15.07**	**228**	P			P	**13 02 13.0**	**+0.3**
	28nm,0.7s,4μm								
SOEI	**Soe**	**16.47**	**186**	P			P	**13 02 29.5**	**+1.2**
	baz=18,SNR=5.0								
JAY	**Jayapura**	**17.30**	**122**	P			**Pn**	**13 02 40.7**	**+2.5**
	0.8nm,0.3s,baz=323,slow=6.9,SNR=5.0								
JAGI	**Jajag, Banyuwa**	**19.18**	**218**	P			**Pn**	**13 03 00.6**	**+0.2**
	baz=21,SNR=3.8								
KDU	**Kakadu**	**20.33**	**162**	P			P	**13 03 10.7**	**+0.5**
	baz=22,SNR=7.9								
KNRA	**Kununurra**	**22.43**	**173**	P			P	**13 03 31.5**	**-0.6**
	baz=24,SNR=14								
JCJ	**Chichijima**	**25.42**	**35**	P			P	**13 04 01.1**	**+1.6**
	30nm,0.5s,baz=255,slow=20,SNR=5.0								
WRA	**Warramunga Arr**	**27.74**	**163**	P			P	**13 04 18.9**	**-1.4**
	0.7nm,0.4s,baz=334,slow=10,SNR=60								
WRA				pP			pP	13 04 36.9	-15
	5.8nm,0.7s,baz=347,slow=10,SNR=21								
KSRS	**Korea Array**	**30.63**	**3**	P			P	**13 04 47.1**	**+1.5**
	0.9nm,0.5s,baz=188,slow=11,SNR=6.7								
ASAR	**Alice Springs**	**31.18**	**166**	P			P	**13 04 49.9**	**-0.8**
	3.8nm,0.4s,baz=338,slow=7.3,SNR=223								
ASAR				pP			pP	13 05 06.8	-16
	0.7nm,0.5s,baz=338,slow=6.4,SNR=2.6								
WRKA	**Warakurna**	**31.65**	**176**	P			P	**13 04 53.8**	**-1.0**
	baz=33,SNR=21								
MJAR	**Matsushiro Arr**	**31.70**	**19**	P			P	**13 04 56.0**	**+0.9**
	0.5nm,0.7s,baz=185,slow=9.7,SNR=4.1								
MEEK	**Meekatharra**	**33.94**	**192**	P			P	**13 05 11.9**	**-2.8**
	baz=36,SNR=8.3								
HHC	**Hu-ho-hao-te**	**36.35**	**341**	*e*P			P	**13 05 35.4**	**+0.1**
HHC				PP			**PnPn**	**13 07 06.4**	**+3.7**
HHC				S			**S**	**13 11 02.8**	**-2.5**
HHC				sS			sS	13 12 13.4	+11
HHC				SS			**SS**	**13 13 42.3**	**-8.1**
HHC				pmax	pmax				
	comp=Z,8.0nm,0.7s								
HHC				pmax	pmax				
	comp=Z,190nm,6.2s								
FORT	**Forrest**	**37.34**	**177**	P			P	**13 05 42.5**	**-1.1**
	baz=39,SNR=12								
USRK	**Ussuriysk Ar.**	**37.69**	**7**	P			P	**13 05 48.5**	**+2.1**
	comp=Z,1.6nm,0.5s,baz=205,slow=8.3,SNR=4.6								
KMBL	**Kambalda**	**38.09**	**186**	P			P	**13 05 48.2**	**-1.6**
	baz=40,SNR=8.2								
BLDU	**Ballidu**	**38.19**	**193**	P			P	**13 05 48.2**	**-2.6**
	baz=40,SNR=22								
KLBR	**Kellerberrin**	**38.91**	**191**	P			P	**13 05 54.6**	**-2.2**
	baz=40,SNR=8.2								
NWAO	**Narrogin (SRO)**	**40.31**	**191**	P			P	**13 06 06.6**	**-1.7**
	baz=42,SNR=6.3								
BBOO	**Buckleboo**	**40.46**	**167**	P			P	**13 06 09.4**	**-0.2**
	baz=42,SNR=125								
STKA	**Stephens Creek**	**41.17**	**160**	P			P	**13 06 15.6**	**+0.2**
	comp=Z,1.2nm,0.4s,baz=339,slow=7.2,SNR=8.6								
STKA				pP			pP	13 06 31.7	-17
	comp=Z,2.4nm,0.3s,baz=354,slow=6.4,SNR=5.6								
STKA	**Stephens Creek**	**41.17**	**160**	P			P	**13 06 15.6**	**+0.2**
	baz=42,SNR=6.0								
HTT	**Hallett**	**41.77**	**164**	P			P	**13 06 20.7**	**+0.3**
	baz=43,SNR=6.8								
SONM	**Songino Array**	**44.25**	**341**	P			P	**13 06 38.9**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=131,slow=5.9,SNR=2.6								
ARPS	**Mount Arapiles**	**45.74**	**162**	P			P	**13 06 52.4**	**+0.5**
	baz=47,SNR=12								
MKAR	**Makanchi Array**	**54.71**	**324**	P			P	**13 07 57.3**	**-2.1**
	comp=Z,0.3nm,0.4s,baz=125,slow=5.1,SNR=7.5								
ILAR	**Eielson Array**	**82.72**	**26**	P			P	**13 10 52.6**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=236,slow=5.2,SNR=7.0								
INK	**Inuvik**	**87.65**	**21**	P			P	**13 11 16.8**	**0.0**
	comp=Z,0.3nm,0.4s,baz=260,slow=1.3,SNR=4.1								
TORD	**Torodi Ar. Bea**	**121.28**	**290**	PKP			**PKPdf**	**13 17 18.8**	**-3.1**
	comp=Z,0.5nm,0.6s,baz=96,slow=0.7,SNR=6.9								

*ISCJB **16** 13:08:17.5±0.5, 73.41N±0.04×8.3E±0.2, h13km, mb3.6/10, MS3.5/4, Error ellipse: s-maj=7.7km s-min=5.1km az=165.9*
*IDC **16** 13:08:17.6±0.7, 73.32N×7.45E, h0km, mb3.7/10, mb1 3.8/14, mb1mx3.6/51, mbtmp3.7/14, ML3.2/4, MS3.5/5, Ms1 3.5/5, ms1mx3.0/48, Error ellipse: s-maj=16.9km s-min=10.4km az=56.0*
*CSEM **16** 13:08:18.9±0.3, 73.42N×8.18E, h10km, ML3.4, Error ellipse: s-maj=8.6km s-min=3.5km az=82.0*
*BER **16** 13:08:19.5±2.2, 73.34N×7.53E, h10km, ML2.2, ML3.4(NAO)*
*NAO **16** 13:08:20.9±6.9, 73.46N×8.23E, h18km±64km, ML3.4*
ISC 16 13:08:19.7±0.6, **73.42N**±0.06×**8.02E**±0.08, **h13**km, **n48,** σ**1s25/54, mb3.7/10, MS3.5/4, Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC

BJO	**Bjornoya**	**3.28**	**65**	Pn		**Pn**	**13 09 10.2**	**-0.5**
BJO	**Bjornoya**	**3.28**	**65**	*e*P		**Pn**	**13 09 10.2**	**-0.5**
BJO	**Bjornoya**	**3.28**	**65**	*e*P		**Pn**	**13 09 10.1**	**-0.5**
	SNR=50							
HSPB	**Hornsund (broa**	**4.08**	**25**	*e*P		**Pn**	**13 09 20.9**	**-0.7**
HSPB	**Hornsund (broa**	**4.08**	**25**	*e*P		**Pn**	**13 09 20.9**	**-0.7**
	SNR=49							
HSP	**Hornsund**	**4.08**	**25**	Pn		**Pn**	**13 09 20.9**	**-0.7**
TRO	**Tromso**	**5.14**	**132**	*e*P		**Pn**	**13 09 35.6**	**-0.6**
TRO				IAML			13 10 34.6	
	comp=Z,6.9nm,0.3s							
TRO	**Tromso**	**5.14**	**132**	*e*P		**Pn**	**13 09 35.6**	**-0.6**
	SNR=49							
SPA0	**Spitsbergen Ar**	**5.20**	**19**	Pn		**Pn**	**13 09 36.4**	**-0.6**
	baz=202,slow=14							
SPA0	**Spitsbergen Ar**	**5.20**	**19**	*e*P		**Pn**	**13 09 36.7**	**-0.3**
SPA0				*e*S		**Sn**	**13 10 36.1**	**-0.5**
SPA0	**Spitsbergen Ar**	**5.20**	**19**	Pn		**Pn**	**13 09 36.4**	**-0.6**
	baz=202,slow=13,SNR=310							
SPA0	**Spitsbergen Ar**	**5.20**	**19**	*e*P		**Pn**	**13 09 36.7**	**-0.3**
	SNR=49							
SPA0				*e*S		**Sn**	**13 10 36.1**	**-0.5**
	SNR=49							
SPITS	**Spitsbergen Ar**	**5.20**	**19**	Pn		**Pn**	**13 09 36.7**	**-0.3**
	baz=194,slow=15,SNR=152							
SPITS				Sn		**Sn**	**13 10 38.9**	**+2.3**
	baz=217,slow=32,SNR=1.2							
HOPEN	**Hopen**	**5.38**	**47**	*e*P		**Pn**	**13 09 39.8**	**+0.4**
HOPEN				*e*S		**Sn**	**13 10 38.9**	**-2.3**
HOPEN	**Hopen**	**5.38**	**47**	*e*P		**Pn**	**13 09 39.8**	**+0.4**
	SNR=49							
HOPEN				*e*S		**Sn**	**13 10 38.9**	**-2.3**
	SNR=49							
KBS	**Kingsbay**	**5.61**	**8**	Pn		**Pn**	**13 09 41.7**	**-0.9**
KBS	**Kingsbay**	**5.61**	**8**	*e*P		**Pn**	**13 09 41.8**	**-0.9**
KBS	**Kingsbay**	**5.61**	**8**	*e*P		**Pn**	**13 09 41.8**	**-0.9**
	SNR=49							
JMIC	**Jan Mayen**	**5.62**	**252**	LR		LR	13 11 17.8	
	comp=Z,268nm,19.9s,baz=74,slow=33							
ARA0	**ARCESS Array S**	**6.78**	**116**	Pn		**Pn**	**13 09 58.8**	**+0.1**
	baz=307,slow=12							
ARA0				Sn		**Sn**	**13 11 12.8**	**-2.8**
	baz=320,slow=22							
ARA0	**ARCESS Array S**	**6.78**	**116**	Pn		**Pn**	**13 09 58.8**	**+0.1**
	baz=307,slow=12							
ARA0				Sn		**Sn**	**13 11 12.8**	**-2.8**
	baz=320,slow=22							
ARA0	**ARCESS Array S**	**6.78**	**116**	Pn		**Pn**	**13 09 58.8**	**+0.1**
	baz=307,slow=11,SNR=0.8							
ARA0				Sn		**Sn**	**13 11 12.8**	**-2.8**
	baz=320,slow=20,SNR=5.9							
ARCES	**ARCESS Array B**	**6.78**	**116**	Pn		**Pn**	**13 09 58.8**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=317,slow=10,SNR=35							
ARCES				Sn		**Sn**	**13 11 15.2**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=314,slow=20,SNR=6.0							
APA0	**Apatity Array**	**10.10**	**113**	Pn		**Pn**	**13 10 43.3**	**-0.8**
	baz=320,slow=10							
APA0	**Apatity Array**	**10.10**	**113**	Pn		**Pn**	**13 10 43.3**	**-0.8**
	baz=320,slow=10							
APA0	**Apatity Array**	**10.10**	**113**	Pn		**Pn**	**13 10 43.3**	**-0.8**
	baz=320,slow=9.3,SNR=6.0							
NB2	**NORSAR Subarra**	**12.50**	**173**	Pn		**Pn**	**13 11 16.8**	**-0.2**
	baz=352,slow=12							
NB2	**NORSAR Subarra**	**12.50**	**173**	Pn		**Pn**	**13 11 16.8**	**-0.2**
	baz=352,slow=12							
NB2	**NORSAR Subarra**	**12.50**	**173**	Pn		**Pn**	**13 11 16.8**	**-0.2**
	baz=352,slow=12							
HFS	**Hagfors**	**13.52**	**168**	Pn		**Pn**	**13 11 29.5**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=21,slow=22,SNR=4.2							
FIA0	**FINESS Array S**	**13.78**	**141**	Pn		**Pn**	**13 11 32.9**	**-1.5**
	baz=328,slow=12							
FIA0	**FINESS Array S**	**13.78**	**141**	Pn		**Pn**	**13 11 32.9**	**-1.5**
	baz=328,slow=12							
FIA0	**FINESS Array S**	**13.78**	**141**	Pn		**Pn**	**13 11 32.9**	**-1.5**
	baz=328,slow=11							
FINES	**FINESS Array B**	**13.78**	**141**	Pn		**Pn**	**13 11 32.7**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=341,slow=11,SNR=8.5							
AKASG	**Malin Array Be**	**24.57**	**146**	P		**P**	**13 13 38.1**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=346,slow=9.4,SNR=4.9							
AKTO	**Aktyubinsk**	**31.30**	**109**	LR		LR	13 27 51.4	
	comp=Z,103nm,19.1s,baz=23,slow=37							
ZALV	**Zalesovo Beam**	**35.77**	**80**	LR		LR	13 33 08.3	
	comp=Z,52nm,19.1s,baz=248,slow=42							
BRTR	**Keskin Array B**	**35.96**	**145**	P		**P**	**13 15 21.6**	**+1.8**
	comp=Z,0.4nm,0.6s,baz=5.1,slow=9.0,SNR=2.6							
YKA	**Yellowknife Ar**	**39.06**	**322**	P		**P**	**13 15 44.0**	**-1.5**
	comp=Z,0.6nm,0.9s,baz=25,slow=9.5,SNR=5.0							
YKA				PcP		**PcP**	**13 17 54.2**	**-0.8**
	comp=Z,0.6nm,1.0s,baz=5.2,slow=4.3,SNR=4.2							
ILAR	**Eielson Array**	**41.06**	**344**	P		**P**	**13 16 02.6**	**+0.5**
	comp=Z,1.2nm,0.9s,baz=4.4,slow=5.9,SNR=13							
MKAR	**Makanchi Array**	**41.45**	**87**	P		**P**	**13 16 08.1**	**+2.4**
	comp=Z,0.8nm,1.0s,baz=321,slow=9.3,SNR=4.5							
MKAR				LR		LR	13 37 41.7	
	comp=Z,50nm,18.7s,baz=312,slow=42							
SEY	**Seymchan**	**41.83**	**24**	P		**P**	**13 16 10.2**	**+1.7**
	comp=Z,1.5nm,0.9s,baz=3.5,slow=5.4,SNR=4.2							
ULM	**Lac du Bonnet**	**46.36**	**301**	P		**P**	**13 16 43.8**	**-1.1**
	comp=Z,2.3nm,0.6s,baz=346,slow=4.2,SNR=3.5							
SONM	**Songino Array**	**47.18**	**65**	P		**P**	**13 16 53.1**	**+1.6**
	comp=Z,0.7nm,0.9s,baz=313,slow=5.3,SNR=3.1							
TORD	**Torodi Ar. Bea**	**60.37**	**187**	P		**P**	**13 18 28.8**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=349,slow=6.3,SNR=4.1							
NVAR	**Mina Array Bea**	**62.65**	**315**	P		**P**	**13 18 43.4**	**-0.3**
	comp=Z,0.6nm,0.9s,baz=90,slow=3.0,SNR=3.5							
LPIG	**La Paz**	**74.66**	**303**	LR		LR	13 51 51.6	
	comp=Z,65nm,18.4s,baz=355,slow=35							
ASAR	**Alice Springs**	**122.45**	**62**	PKP		**PKPdf**	**13 27 13.4**	**-0.6**
	comp=Z,0.3nm,0.8s,baz=298,slow=1.7,SNR=5.3							

NIED ***16*** *13:10:00,28.°80N×128.°60E,h5km,Mw4.0 Best double couple: M0 1.07000×10^15 NP1:ϕs264.00000°,δ33.00000°, λ-58.00000°. NP2:ϕs47.00000°,δ62.00000°, λ-109.00000°.*

ISCJB ***16*** *13:10:01.7±2.2,28.°83N±0.°03×128.°54E±0.°05, h10km±15km,mb3.4/7,MS2.8/1,Error ellipse: s-maj=7.2km s-min=5.8km az=14.9*

IDC ***16*** *13:10:01.5±0.9,28.°82N×128.°60E,h0km,mb3.4/6, mb1 3.7/6,mb1mx3.5/47,mbtmp3.4/6,MS3.1/2,Ms1 3.1/2, ms1mx2.8/19,Error ellipse: s-maj=39.8km s-min=19.1km az=86.0*

JMA ***16*** *13:10:02.1±0.2,28.°78N×128.°56E,h4km±3km,M3.6*

ISC 16 13:10:02.5±2.0,28.°79N±0.°05×128.°60E±0.°07,h5km±13km, n20,σ1§01/24,mb3.5/7,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
JTAJ	**Takarajima**	**0.64**	**55**	P		**Pb**	**13 10 15.4**	**-0.7**
JTAJ				S		**Sb**	**13 10 24.4**	**-1.0**
JAMN	**Amaminishikomi**	**0.74**	**137**	P		**Pg**	**13 10 16.9**	**+0.2**
JAMN				S		**Sg**	**13 10 27.3**	**+1.1**
JAM	**Amami Oshima**	**0.96**	**113**	P		**Pg**	**13 10 20.9**	**+0.1**
JAM				S		**Sg**	**13 10 33.5**	**+0.3**
JTK	**Tokunoshima**	**1.04**	**163**	P		**Pg**	**13 10 21.8**	**-0.7**
JTK				*e*S		**Sg**	**13 10 36.3**	**+0.3**
JZK	**Kikaishima**	**1.29**	**111**	P		**Pg**	**13 10 27.6**	**+0.3**
JZK				*e*S		**Sn**	**13 10 45.8**	**+1.0**
JOKE	**Okinoerabujima**	**1.42**	**181**	P		**Pn**	**13 10 27.8**	**-1.1**
JOKE				*e*S		**Sn**	**13 10 47.2**	**-0.8**
JIH	**Iheya**	**1.83**	**198**	P		**Pn**	**13 10 34.6**	**0.0**
JIH				*e*S		**Sn**	**13 10 58.5**	**+0.3**
JOW	**Kunigami**	**1.97**	**189**	P		**Pn**	**13 10 36.8**	**+0.3**
JOW	**Kunigami**	**1.97**	**189**	Pn		**Pn**	**13 10 35.8**	**-0.7**
	1.5nm,0.3s,baz=84,slow=22,SNR=14							
JYAK	**Yakushimahirau**	**2.20**	**48**	P		**Pn**	**13 10 39.3**	**-0.4**
JNU	**Nakatsue**	**4.74**	**24**	Pn		Pb	13 11 20.1	-6.0
	0.6nm,0.3s,baz=178,slow=6.6,SNR=18							
KSRS	**Korea Array**	**8.66**	**356**	LR		LR	13 15 12.2	
	comp=Z,124nm,18.3s,baz=158,slow=36							
GUMO	**Guam**	**21.38**	**132**	LR		LR	13 21 44.7	
	comp=Z,40nm,18.8s,baz=350,slow=33							
SONM	**Songino Array**	**25.64**	**324**	P		**P**	**13 15 36.4**	**+3.3**
	0.9nm,0.9s,baz=146,slow=11,SNR=4.8							
MKAR	**Makanchi Array**	**40.12**	**310**	P		**P**	**13 17 39.4**	**+0.1**
	0.3nm,0.7s,baz=80,slow=6.7,SNR=3.8							
ZALV	**Zalesovo Beam**	**40.45**	**321**	P		**P**	**13 17 40.5**	**-1.2**
	0.6nm,0.5s,baz=64,slow=3.4,SNR=3.5							
WRA	**Warramunga Arr**	**48.76**	**173**	P		**P**	**13 18 48.1**	**-0.2**
	1.0nm,0.8s,baz=352,slow=8.4,SNR=4.0							
ASAR	**Alice Springs**	**52.40**	**174**	P		**P**	**13 19 16.7**	**+0.8**
	0.2nm,0.8s,baz=4.2,slow=14,SNR=5.3							
ILAR	**Eielson Array**	**62.04**	**29**	P		**P**	**13 20 23.1**	**-0.5**
	0.3nm,0.7s,baz=284,slow=5.8,SNR=5.4							
YKA	**Yellowknife Ar**	**76.08**	**25**	P		**P**	**13 21 50.5**	**-0.3**
	0.6nm,0.9s,baz=294,slow=6.5,SNR=5.6							

BER ***16*** *13:14:29.9±1.5,73.°22N×6.°40E,h10km,ML1.6*

ISCJB ***16*** *13:14:31.7±1.0,73.°46N±0.°06×8.°3E±0.°4,h11km,mb3.4/3, Error ellipse: s-maj=15.0km s-min=7.2km az=164.6*

IDC ***16*** *13:14:32.2±1.2,73.°37N×7.°68E,h0km,mb3.5/3,mb1 3.6/6, mb1mx3.3/38,mbtmp3.5/6,ML3.1/3,Error ellipse: s-maj=21.5km s-min=12.9km az=68.0*

ISC 16 13:14:33.3±1.1,73.°48N±0.°07×8.°0E±0.°1,h11km,n9, σ1§12/13,mb3.6/3,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
HSPB	**Hornsund (broa**	**4.03**	**25**	*e*P		**Pn**	**13 15 34.7**	**-0.2**
SPA0	**Spitsbergen Ar**	**5.15**	**20**	*e*P		**Pn**	**13 15 50.6**	**+0.5**
SPA0				*e*S		**Sn**	**13 16 50.6**	**+1.1**
SPA0				IAML			13 16 53.4	
	comp=Z,1.6nm,0.7s							
SPITS	**Spitsbergen Ar**	**5.15**	**20**	Pn		**Pn**	**13 15 50.7**	**+0.5**
	baz=189,slow=14,SNR=52							
SPITS				Sn		**Sn**	**13 16 49.9**	**+0.4**
	baz=189,slow=18,SNR=1.5							
KBS	**Kingsbay**	**5.56**	**8**	*e*P		**Pn**	**13 15 55.5**	**-0.3**
KBS				*e*S		**Sn**	**13 16 56.7**	**-2.9**
KBS				IAML			13 16 59.0	
	comp=Z,1.1nm,0.5s							
ARCES	**ARCESS Array B**	**6.81**	**117**	Pn		**Pn**	**13 16 13.4**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=323,slow=12,SNR=13							
ARCES				Sn		**Sn**	**13 17 29.6**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=313,slow=20,SNR=3.6							
FINES	**FINESS Array B**	**13.82**	**141**	Pn		**Pn**	**13 17 48.0**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=336,slow=13,SNR=5.0							
AKASG	**Malin Array Be**	**24.61**	**146**	P		**P**	**13 19 53.0**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=345,slow=9.4,SNR=4.6							
ILAR	**Eielson Array**	**41.01**	**344**	P		**P**	**13 22 16.7**	**+1.0**
	comp=Z,0.4nm,0.9s,baz=8.9,slow=6.4,SNR=3.4							
TORD	**Torodi Ar. Bea**	**60.42**	**187**	P		**P**	**13 24 42.4**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=352,slow=7.3,SNR=2.7							

ISCJB ***16*** *13:19:33.9±0.8,73.°35N±0.°08×7.°8E±0.°3,h13km,mb3.1/4, Error ellipse: s-maj=14.9km s-min=9.3km az=146.4*

IDC ***16*** *13:19:34.2±1.0,73.°31N×7.°28E,h0km,mb3.2/4,mb1 3.4/9, mb1mx3.2/43,mbtmp3.3/9,ML3.1/5,Error ellipse: s-maj=21.6km s-min=12.8km az=58.0*

ISC 16 13:19:36.1±0.9,73.°39N±0.°09×7.°7E±0.°1,h13km,n9, σ1§02/10,mb3.2/4,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
SPITS	**Spitsbergen Ar**	**5.26**	**20**	Pn		**Pn**	**13 20 54.1**	**-0.2**
	baz=195,slow=16,SNR=14							
ARCES	**ARCESS Array B**	**6.85**	**116**	Pn		**Pn**	**13 21 16.2**	**+0.2**
	0.5nm,0.3s,baz=320,slow=11,SNR=17							
ARCES				Sn		**Sn**	**13 22 33.6**	**-0.2**
	0.3nm,0.3s,baz=320,slow=22,SNR=3.1							
NOA	**NORSAR Array B**	**12.48**	**172**	Pn		**Pn**	**13 22 33.2**	**+0.1**
	0.1nm,0.3s,baz=2.1,slow=13,SNR=2.2							
HFS	**Hagfors**	**13.51**	**167**	Pn		**Pn**	**13 22 46.2**	**-0.9**
	0.1nm,0.3s,baz=13,slow=19,SNR=3.1							
FINES	**FINESS Array B**	**13.81**	**141**	Pn		**Pn**	**13 22 50.1**	**-1.2**
	0.1nm,0.3s,baz=353,slow=14,SNR=5.6							
AKASG	**Malin Array Be**	**24.59**	**146**	P		**P**	**13 24 56.0**	**+0.6**
	0.4nm,0.5s,baz=344,slow=9.2,SNR=3.5							
YKA	**Yellowknife Ar**	**39.02**	**321**	P		**P**	**13 27 00.0**	**-1.6**
	0.1nm,0.5s,baz=13,slow=8.4,SNR=3.8							
ILAR	**Eielson Array**	**41.06**	**344**	P		**P**	**13 27 20.0**	**+1.4**
	0.3nm,0.8s,baz=354,slow=7.8,SNR=4.6							
TORD	**Torodi Ar. Bea**	**60.32**	**187**	P		**P**	**13 29 44.5**	**+0.3**
	0.4nm,0.8s,baz=359,slow=8.0,SNR=3.6							

ISCJB ***16*** *13:22:25.7±0.6,73.°37N±0.°04×7.°9E±0.°3,h11km,mb3.5/9, Error ellipse: s-maj=10.8km s-min=6.0km az=173.9*

IDC ***16*** *13:22:26.5±0.7,73.°28N×7.°19E,h0km,mb3.5/8, mb1 3.7/13,mb1mx3.5/43,mbtmp3.5/13,ML3.3/5,Error ellipse: s-maj=19.5km s-min=11.9km az=62.0*

CSEM ***16*** *13:22:27.2±0.2,73.°40N×7.°79E,h10km,ML3.1,Error ellipse: s-maj=7.3km s-min=2.4km az=85.0*

NAO ***16*** *13:22:28.3±3.0,73.°41N×8.°33E,ML3.1*

BER ***16*** *13:22:29.8±2.1,73.°44N×7.°98E,h10km,ML3.1(NAO)*

ISC 16 13:22:28.0±0.7,73.°39N±0.°07×8.°11E±0.°09,h11km,n46, σ1§10/49,mb3.6/9,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
BJO	**Bjornoya**	**3.28**	**65**	Pn		**Pn**	**13 23 19.5**	**+0.3**
BJO	**Bjornoya**	**3.28**	**65**	Pn		**Pn**	**13 23 19.5**	**+0.3**
BJO	**Bjornoya**	**3.28**	**65**	Pn		**Pn**	**13 23 19.5**	**+0.3**
HSPB	**Hornsund (broa**	**4.10**	**24**	Pn		**Pn**	**13 23 30.0**	**-0.5**
HSPB	**Hornsund (broa**	**4.10**	**24**	Pn		**Pn**	**13 23 30.0**	**-0.5**
	SNR=50							
HSP	**Hornsund**	**4.11**	**24**	Pn		**Pn**	**13 23 30.0**	**-0.6**
HSP	**Hornsund**	**4.11**	**24**	Pn		**Pn**	**13 23 30.0**	**-0.6**
TRO	**Tromso**	**5.10**	**132**	*e*P		**Pn**	**13 23 44.9**	**+0.7**
TRO	**Tromso**	**5.10**	**132**	*e*P		**Pn**	**13 23 44.9**	**+0.7**
	SNR=49							
SPA0	**Spitsbergen Ar**	**5.22**	**19**	Pn		**Pn**	**13 23 46.0**	**+0.1**
	baz=195,slow=14							
SPA0	**Spitsbergen Ar**	**5.22**	**19**	Pn		**Pn**	**13 23 46.0**	**+0.1**
	baz=195,slow=14							
SPA0	**Spitsbergen Ar**	**5.22**	**19**	Pn		**Pn**	**13 23 46.0**	**+0.1**
	baz=195,slow=13,SNR=8.2							
SPITS	**Spitsbergen Ar**	**5.22**	**19**	Pn		**Pn**	**13 23 46.0**	**+0.1**
	baz=196,slow=15,SNR=25							
HOPEN	**Hopen**	**5.39**	**47**	Pn		**Pn**	**13 23 48.0**	**-0.2**
HOPEN	**Hopen**	**5.39**	**47**	Pn		**Pn**	**13 23 48.0**	**-0.2**
HOPEN	**Hopen**	**5.39**	**47**	Pn		**Pn**	**13 23 48.0**	**-0.2**
KBS	**Kingsbay**	**5.65**	**8**	Pn		**Pn**	**13 23 51.3**	**-0.4**
KBS	**Kingsbay**	**5.65**	**8**	Pn		**Pn**	**13 23 51.3**	**-0.4**
KBS	**Kingsbay**	**5.65**	**8**	Pn		**Pn**	**13 23 51.3**	**-0.4**
ARA0	**ARCESS Array S**	**6.74**	**116**	Pn		**Pn**	**13 24 08.1**	**+1.4**
	baz=318,slow=14							
ARA0				Sn		**Sn**	**13 25 21.2**	**-2.1**
	baz=311,slow=18							
ARA0	**ARCESS Array S**	**6.74**	**116**	Pn		**Pn**	**13 24 08.1**	**+1.4**
	baz=318,slow=14							
ARA0				Sn		**Sn**	**13 25 21.2**	**-2.1**
	baz=311,slow=18							
ARA0	**ARCESS Array S**	**6.74**	**116**	Pn		**Pn**	**13 24 08.1**	**+1.4**
	baz=318,slow=13,SNR=2.7							
ARCES	**ARCESS Array B**	**6.74**	**116**	Pn		**Pn**	**13 24 08.3**	**+1.6**
	0.8nm,0.3s,baz=321,slow=12,SNR=21							
ARCES				Sn		**Sn**	**13 25 19.6**	**-3.7**
	0.2nm,0.3s,baz=312,slow=18,SNR=3.3							
KONS	**Konsvik**	**7.13**	**164**	*e*P		**Pn**	**13 24 12.2**	**+0.1**
KONS	**Konsvik**	**7.13**	**164**	*e*P		**Pn**	**13 24 12.1**	**+0.1**
	SNR=47							
STOK	**Stokkvaagen**	**7.28**	**164**	*e*P		**Pn**	**13 24 14.2**	**+0.1**
STOK	**Stokkvaagen**	**7.28**	**164**	*e*P		**Pn**	**13 24 14.2**	**+0.1**
	SNR=47							
APA0	**Apatity Array**	**10.06**	**113**	Pn		**Pn**	**13 24 53.0**	**+0.9**
	baz=309,slow=14							
APA0	**Apatity Array**	**10.06**	**113**	Pn		**Pn**	**13 24 53.0**	**+0.9**
	baz=309,slow=14							
APA0	**Apatity Array**	**10.06**	**113**	Pn		**Pn**	**13 24 53.0**	**+0.9**
	baz=309,slow=12							
NOA	**NORSAR Array B**	**12.46**	**173**	Pn		**Pn**	**13 25 23.7**	**-1.3**
	0.2nm,0.3s,baz=354,slow=12,SNR=2.8							
HFS	**Hagfors**	**13.48**	**168**	Pn		**Pn**	**13 25 38.1**	**-0.7**
	0.1nm,0.3s,baz=1.9,slow=13,SNR=5.5							
FIA0	**FINESS Array S**	**13.73**	**141**	Pn		**Pn**	**13 25 42.2**	**-0.1**
	baz=341,slow=16							
FIA0	**FINESS Array S**	**13.73**	**141**	Pn		**Pn**	**13 25 42.2**	**-0.1**
	baz=341,slow=16							
FIA0	**FINESS Array S**	**13.73**	**141**	Pn		**Pn**	**13 25 42.2**	**-0.1**
	baz=341,slow=14,SNR=4.8							
FINES	**FINESS Array B**	**13.73**	**141**	Pn		**Pn**	**13 25 42.2**	**-0.1**
	0.1nm,0.3s,baz=345,slow=14,SNR=6.1							
VRAC	**Vranov**	**24.45**	**167**	P		**P**	**13 27 48.9**	**+2.5**
	4.3nm,0.8s,baz=353,slow=9.6,SNR=5.7							
AKASG	**Malin Array Be**	**24.52**	**146**	P		**P**	**13 27 48.2**	**+1.2**
	2.2nm,0.7s,baz=344,slow=9.6,SNR=9.1							
GERES	**GERESS Array B**	**24.75**	**171**	P		**P**	**13 27 50.2**	**+1.0**
	0.9nm,0.7s,baz=352,slow=13,SNR=4.9							
YKA	**Yellowknife Ar**	**39.10**	**322**	P		**P**	**13 29 53.2**	**-1.3**
	0.5nm,0.9s,baz=15,slow=8.4,SNR=5.5							
YKA				PcP		**PcP**	**13 32 03.7**	**-0.1**
	0.3nm,0.8s,baz=24,slow=2.7,SNR=4.7							
ILAR	**Eielson Array**	**41.10**	**344**	P		**P**	**13 30 12.1**	**+0.9**
	1.0nm,0.9s,baz=1.5,slow=6.9,SNR=12							
MKAR	**Makanchi Array**	**41.43**	**87**	P		**P**	**13 30 16.3**	**+2.2**
	0.4nm,1.0s,baz=335,slow=5.4,SNR=2.8							
SONM	**Songino Array**	**47.17**	**65**	P		**P**	**13 31 04.3**	**+4.2**
	0.3nm,0.6s,baz=335,slow=10.0,SNR=3.1							
PDAR	**Pinedale Array**	**56.66**	**309**	P		**P**	**13 32 10.1**	**-0.9**
	0.2nm,0.4s,baz=23,slow=3.2,SNR=3.6							
TORD	**Torodi Ar. Bea**	**60.33**	**187**	P		**P**	**13 32 36.5**	**0.0**
	0.6nm,0.8s,baz=351,slow=7.1,SNR=4.2							
ASAR	**Alice Springs**	**122.45**	**62**	PKP		**PKPdf**	**13 41 22.4**	**-0.2**
	0.2nm,0.8s,baz=321,slow=1.2,SNR=3.7							

IDC ***16*** *13:25:12.8±0.7,73.°31N×7.°60E,h0km,mb3.9/11, mb1 4.0/17,mb1mx3.7/46,mbtmp3.8/17,ML3.4/5,MS3.5/15, Ms1 3.5/15,ms1mx3.3/43,Error ellipse: s-maj=16.2km s-min=10.6km az=61.0*

ISCJB ***16*** *13:25:12.7±0.5,73.°41N±0.°04×8.°3E±0.°2,h11km,mb3.9/16, MS3.5/14,Error ellipse: s-maj=8.7km s-min=5.6km az=168.3*

CSEM ***16*** *13:25:12.5±0.2,73.°40N×7.°88E,h2km,ML3.5,Error ellipse: s-maj=9.2km s-min=4.6km az=86.0*

NEIC ***16*** *13:25:14.3±0.6,73.°36N×7.°74E,h10km,mb4.4/3,Error ellipse: s-maj=14.5km s-min=8.4km az=81.0*

NAO ***16*** *13:25:14.4±3.0,73.°45N×8.°41E,ML3.5*

BER ***16*** *13:25:15.5±2.3,73.°46N×7.°89E,h10km,ML3.5(NAO)*

ISC 16 13:25:14.7±0.6,73.°42N±0.°07×8.°05E±0.°08,h11km,n66, σ1§57/61,mb4.0/16,MS3.5/14,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
HSPB	**Hornsund (broa**	**4.08**	**24**	Pn		**Pn**	**13 26 15.8**	**-1.1**
HSPB	**Hornsund (broa**	**4.08**	**24**	Pn		**Pn**	**13 26 15.8**	**-1.1**
	SNR=50							
HSP	**Hornsund**	**4.09**	**24**	Pn		**Pn**	**13 26 15.8**	**-1.2**
HSP	**Hornsund**	**4.09**	**24**	Pn		**Pn**	**13 26 15.8**	**-1.2**
TRO	**Tromso**	**5.13**	**132**	*e*P		**Pn**	**13 26 30.5**	**-0.9**
TRO	**Tromso**	**5.13**	**132**	*e*P		**Pn**	**13 26 30.5**	**-0.9**
	SNR=49							
SPA0	**Spitsbergen Ar**	**5.20**	**19**	Pn		**Pn**	**13 26 31.5**	**-0.8**
	baz=203,slow=12							
SPA0	**Spitsbergen Ar**	**5.20**	**19**	Pn		**Pn**	**13 26 31.5**	**-0.8**
	baz=203,slow=12							
SPA0	**Spitsbergen Ar**	**5.20**	**19**	Pn		**Pn**	**13 26 31.5**	**-0.8**
	baz=203,slow=12,SNR=112							
SPITS	**Spitsbergen Ar**	**5.20**	**19**	Pn		**Pn**	**13 26 31.7**	**-0.6**
	baz=189,slow=15,SNR=40							
SPITS				LR		LR	13 28 32.0	
	comp=Z,162nm,18.1s,baz=220,slow=37							
HOPEN	**Hopen**	**5.38**	**47**	Pn		**Pn**	**13 26 34.5**	**-0.2**
HOPEN	**Hopen**	**5.38**	**47**	Pn		**Pn**	**13 26 34.5**	**-0.2**
HOPEN	**Hopen**	**5.38**	**47**	Pn		**Pn**	**13 26 34.5**	**-0.2**
KBS	**Kingsbay**	**5.62**	**8**	Pn		**Pn**	**13 26 36.7**	**-1.3**
KBS	**Kingsbay**	**5.62**	**8**	Pn		**Pn**	**13 26 36.7**	**-1.3**
KBS	**Kingsbay**	**5.62**	**8**	Pn		**Pn**	**13 26 36.7**	**-1.3**
KBS	**Kingsbay**	**5.62**	**8**	*e*Pn		**Pn**	**13 26 37.8**	**-0.2**

*IDC **16** 13:26:38.7±0.9, 5.°40S×151.°98E, h0km, mb4.1/12, mb1 4.3/12, mb1mx4.1/30, mbtmp4.1/12, MS3.4/6, Ms1 3.4/6, ms1mx3.2/18, Error ellipse: s-maj=34.8km s-min=17.8km az=116.0*

*ISCJB **16** 13:26:43.8±0.6, 5.°37S±0.°09×152.°0E±0.°1, h45km, mb4.0/14, MS3.4/5, Error ellipse: s-maj=20.9km s-min=7.7km az=30.2*

*NEIC **16** 13:26:48.6±2.1, 5.°48S×151.°97E, h79km±19km, mb4.2/3, Error ellipse: s-maj=19.9km s-min=11.7km az=118.0*

ISC 16 13:26:45.3±0.8, 5.°4S±0.°1×152.°0E±0.°2, h45km, n37, σ1§14/35, mb4.1/14, MS3.4/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.18**	**6**	P	**Pn**	**13 27 06.6**	**+1.1**
	baz=1.1,SNR=80						
PMG	**Port Moresby**	**6.27**	**230**	P	**Pn**	**13 28 17.5**	**+2.2**
	baz=6.4,SNR=8.2						
PMG				S	Sn	13 29 32.2	+6.4
	baz=6.4,SNR=3.6						
PMG	**Port Moresby**	**6.27**	**230**	*e*P	**Pn**	**13 28 17.4**	**+2.0**
	44nm,0.7s						
PMG				*e*S	Sn	13 29 15.2	-11
JAY	**Jayapura**	**11.65**	**284**	LR	LR	13 33 19.9	
	comp=Z,180nm,19.2s,baz=101,slow=35						
QIS	**Mount Isa**	**19.32**	**218**	P	**Pn**	**13 31 07.9**	**-0.4**
	baz=20,SNR=3.5						
KDU	**Kakadu**	**20.62**	**248**	P	**P**	**13 31 20.2**	**-0.9**
	baz=21,SNR=17						
QLP	**Quilpie**	**22.36**	**199**	P	**P**	**13 31 40.4**	**+0.7**
	baz=23,SNR=3.5						
WRAB	**Tennant Creek**	**22.48**	**228**	*e*P	**P**	**13 31 41.0**	**0.0**
	6.7nm,0.6s						
WRA	**Warramunga Arr**	**22.49**	**228**	P	**P**	**13 31 39.9**	**-1.3**
	3.1nm,0.7s,baz=52,slow=9.7,SNR=29						
WRA				PcP	**PcP**	**13 35 34.9**	**+0.7**
	0.7nm,0.6s,baz=47,slow=2.0,SNR=5.7						
KNRA	**Kununurra**	**25.03**	**244**	P	**P**	**13 32 07.3**	**+1.8**
	baz=25,SNR=15						
AS31	**Alice Springs**	**25.21**	**222**	*e*P	**P**	**13 32 06.3**	**-0.8**
ASAR	**Alice Springs**	**25.21**	**222**	P	**P**	**13 32 06.2**	**-0.9**
	7.6nm,0.7s,baz=55,slow=9.3,SNR=71						
ASAR				LR	LR	13 42 21.2	
	comp=Z,72nm,18.4s,baz=82,slow=38						
SOEI	**Soe**	**27.86**	**259**	P	**P**	**13 32 30.6**	**-0.5**
STKA	**Stephens Creek**	**28.12**	**199**	P	**P**	**13 32 30.9**	**-2.2**
	1.1nm,0.7s,baz=26,slow=13,SNR=6.3						
STKA				LR	LR	13 43 43.1	
	comp=Z,88nm,19.3s,baz=338,slow=36						
STKA	**Stephens Creek**	**28.12**	**199**	P	**P**	**13 32 32.5**	**-0.7**
	baz=28,SNR=3.9						
STKA	**Stephens Creek**	**28.12**	**199**	*e*P	**P**	**13 32 31.1**	**-2.1**
	0.4nm,0.8s						
WRKA	**Warakurna**	**30.01**	**227**	P	**P**	**13 32 48.7**	**-1.3**
	baz=30,SNR=17						
MEEK	**Meekatharra**	**38.25**	**233**	P	**P**	**13 34 00.4**	**-1.0**
	baz=38,SNR=23						
MJAR	**Matsushiro Arr**	**43.66**	**344**	LR	LR	13 51 54.4	
	comp=Z,26nm,20.7s,baz=135,slow=35						
CMAR	**Chiang Mai Arr**	**57.43**	**296**	P	**P**	**13 36 29.7**	**-0.3**
	0.8nm,0.5s,baz=131,slow=5.6,SNR=8.7						
PETK	**Petropavlovsk-**	**58.46**	**4**	P	**P**	**13 36 37.1**	**+0.5**
	2.3nm,0.8s,baz=181,slow=10,SNR=4.4						
ULN	**Ulaanbaatar**	**66.08**	**329**	*e*P	**P**	**13 37 28.2**	**+0.4**
	1.1nm,0.5s						
SONM	**Songino Array**	**66.40**	**328**	P	**P**	**13 37 30.2**	**+0.3**
	1.4nm,0.6s,baz=152,slow=4.8,SNR=10						
SONM				LR	LR	14 04 29.6	
	comp=Z,33nm,21.9s,baz=107,slow=34						
MK31	**Makanchi Array**	**80.25**	**319**	*e*P	**P**	**13 38 51.1**	**-0.3**
MKAR	**Makanchi Array**	**80.25**	**319**	P	**P**	**13 38 51.0**	**-0.5**
	0.8nm,0.9s,baz=96,slow=4.9,SNR=5.9						
KTH	**Kantishna Hill**	**80.83**	**22**	*e*P	**P**	**13 38 53.6**	**-0.6**
BPAW	**Bear Paw Mtn.**	**81.10**	**22**	*e*P	**P**	**13 38 54.4**	**-1.2**
ZALV	**Zalesovo Beam**	**81.20**	**327**	P	**P**	**13 38 54.7**	**-1.6**
	0.9nm,0.5s,baz=119,slow=5.8,SNR=5.3						
ILAR	**Eielson Array**	**82.98**	**22**	P	**P**	**13 39 04.6**	**-0.8**
	1.6nm,0.7s,baz=246,slow=5.3,SNR=24						
INK	**Inuvik**	**89.26**	**21**	P	**P**	**13 39 36.2**	**0.0**
	1.3nm,0.9s,baz=282,slow=4.7,SNR=6.1						
INK	**Inuvik**	**89.26**	**21**	*e*P	**P**	**13 39 36.1**	**0.0**
	2.5nm,1.2s						
NVAR	**Mina Array Bea**	**93.04**	**52**	P	**P**	**13 39 56.0**	**+1.2**
	0.3nm,0.5s,baz=294,slow=1.5,SNR=3.7						
YKA	**Yellowknife Ar**	**96.29**	**28**	P	**P**	**13 40 09.5**	**+0.8**
	0.4nm,0.8s,baz=268,slow=4.6,SNR=3.9						
PDAR	**Pinedale Array**	**99.80**	**48**	LR	LR	14 20 10.8	
	comp=Z,34nm,18.9s,baz=357,slow=32						
GERES	**GERESS Array B**	**124.14**	**328**	PKP	**PKPdf**	**13 45 40.5**	**+1.3**
	0.4nm,0.5s,baz=57,slow=3.6,SNR=2.6						
TOA0	**Torodi Ar. Sit**	**149.75**	**287**	*e*PKPbc	**PKPbc**	**13 46 30.5**	**-0.9**
TORD	**Torodi Ar. Bea**	**149.75**	**287**	PKPbc	**PKPbc**	**13 46 30.9**	**-0.5**
	6.2nm,0.8s,baz=74,slow=2.7,SNR=30						

*NEIC **16** 13:40:54.3, 16.°64N×91.°16W, h20km, MD4.1(MEX), After MEX.*

MEX 16 13:40:54.3±0.4, 16.°63N×91.°03W, h20km, MD4.1, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**1.12**	**252**	*e*P	Pn	13 41 11.9	-3.2
CCIG				*i* S	Sb	13 41 25.1	-4.4
CCIG	**Comitan**	**1.12**	**252**	*e*P	Pn	13 41 11.9	-3.2
CCIG				*i* S	Sb	13 41 25.1	-4.4
PCIG		**2.30**	**247**	*e*P	Pn	13 41 28.3	-2.8
PCIG				*i* S	Sn	13 41 55.6	-3.2
PCIG		**2.30**	**247**	*e*P	Pn	13 41 28.3	-2.8
PCIG				*i* S	Sn	13 41 55.6	-3.2
CMIG	**Matias Romero**	**3.72**	**278**	*e*P	Pn	13 41 48.5	-2.2
CMIG				*i* S	Sn	13 42 31.2	-2.8
CMIG	**Matias Romero**	**3.72**	**278**	*e*P	Pn	13 41 48.5	-2.2
CMIG				*i* S	Sn	13 42 31.2	-2.8
TEIG	**Tepich**	**4.43**	**36**	*e*Pn	Pn	13 42 01.7	+1.3

IDC 16 13:59:27.1±3.6, 4.°05S×153.°01E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.2/25, mbtmp3.4/2, Error ellipse: s-maj=166.2km s-min=46.6km az=119.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.10**	**228**	P	P	14 04 45.4	+0.6
	1.1nm,0.6s,baz=53,slow=9.9,SNR=19						
ASAR	**Alice Springs**	**26.85**	**222**	P	P	14 05 09.3	-0.3
	0.3nm,0.9s,baz=55,slow=9.2,SNR=9.5						
TORD	**Torodi Ar. Bea**	**150.27**	**289**	PKPbc	PKPbc	14 19 20.8	-0.7
	0.2nm,0.5s,baz=52,slow=2.4,SNR=5.1						

*ISCJB **16** 14:25:48.5±0.7, 6.°82N±0.°08×73.°08W±0.°09, h156km, mb3.2/1, Error ellipse: s-maj=16.5km s-min=6.6km az=40.8*

*FUNV **16** 14:25:50.1, 6.°91N×73.°15W, h174km, MW3.0*

*IDC **16** 14:25:52.6±3.6, 6.°70N×73.°71W, h172km±23km, mb3.0/1, mb1 3.4/1, mb1mx2.8/24, mbtmp3.5/1, Error ellipse: s-maj=133.1km s-min=35.1km az=95.0*

ISC 16 14:25:49.2±1.0, 6.°88N±0.°07×73.°12W±0.°09, h156km, n16, σ1§49/21, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.27**	**39**	*e*P	**Pn**	**14 26 18.7**	**+1.5**
CAPV				*e*S	**Sn**	**14 26 40.1**	**+1.4**
ROSC	**El Rosal**	**2.34**	**211**	P	**Pn**	**14 26 30.3**	**+1.2**
	5.0nm,0.3s,baz=106,slow=23,SNR=33						
ROSC				S	**Sn**	**14 26 56.9**	**-3.0**
	5.5nm,0.3s,baz=87,slow=18,SNR=6.5						
VIGV	**El Vigia**	**2.62**	**42**	*e*P	**Pn**	**14 26 33.2**	**+1.2**
VIGV				*e*S	**Sn**	**14 27 05.0**	**-0.2**
SOCV	**Socops**	**2.65**	**58**	*e*P	**Pn**	**14 26 33.5**	**+1.1**
SOCV				*e*S	**Sn**	**14 27 05.1**	**-0.8**
ELOV	**Elorza**	**3.62**	**88**	*e*P	**Pn**	**14 26 44.9**	**+0.2**
VIRV	**Villa del Rosa**	**3.67**	**11**	*e*P	**Pn**	**14 26 45.7**	**+0.3**
VIRV				*e*S	**Sn**	**14 27 25.3**	**-3.8**
CURV	**Curarigua**	**4.42**	**45**	*e*P	**Pn**	**14 26 55.4**	**+0.3**
TEPV	**Terepaima**	**4.95**	**51**	*e*P	**Pn**	**14 27 02.1**	**-0.1**
BAUV	**El Baul**	**5.44**	**67**	*e*P	**Pn**	**14 27 07.3**	**-1.2**
MAPV	**Macapo**	**5.47**	**57**	*e*P	**Pn**	**14 27 08.6**	**-0.4**
MONV	**Montecano**	**5.93**	**31**	*e*P	**Pn**	**14 27 13.9**	**-1.1**
CUPV	**Cepira**	**7.91**	**66**	*e*P	**Pn**	**14 27 40.2**	**-1.3**
YKA	**Yellowknife Ar**	**63.21**	**340**	P	**P**	**14 36 01.8**	**+1.3**
	0.2nm,0.5s,baz=132,slow=6.5,SNR=5.1						
SONM	**Songino Array**	**125.52**	**0**	PKP	**PKPdf**	**14 44 33.0**	**+0.8**
	0.2nm,0.4s,baz=347,slow=5.9,SNR=3.2						
ASAR	**Alice Springs**	**149.14**	**234**	PKPbc	**PKPbc**	**14 45 19.8**	**-0.3**
	0.2nm,0.5s,baz=122,slow=3.3,SNR=9.9						
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc	**PKPbc**	**14 45 22.9**	**-0.2**
	0.2nm,0.4s,baz=110,slow=2.5,SNR=13						

DDA 16 14:30:43.5, 37.°52N×35.°80E, h7km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.04**	**150**	*e*PG	Pg	14 30 47.5	+2.5
KOZT				*e*SG	Sg	14 30 51.6	+5.6
ANDN	**Andirin**	**0.44**	**82**	*i* P	Pg	14 30 52.9	+0.7
ANDN				*i* S	Sg	14 30 57.6	-0.5

IDC 16 14:30:50.9±2.3, 4.°21S×153.°82E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.5/32, mbtmp3.9/3, Error ellipse: s-maj=89.6km s-min=41.3km az=113.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.60**	**229**	P	P	14 36 13.3	+0.3
	3.1nm,0.5s,baz=54,slow=10.0,SNR=41						
ASAR	**Alice Springs**	**27.27**	**223**	P	P	14 36 37.2	0.0
	0.3nm,0.5s,baz=56,slow=9.0,SNR=17						
ASAR				PcP	PcP	14 39 56.5	-0.8
	0.1nm,0.8s,baz=46,slow=2.7,SNR=4.5						
STKA	**Stephens Creek**	**29.83**	**201**	P	P	14 36 59.8	0.0
	1.5nm,0.7s,baz=26,slow=12,SNR=11						
TORD	**Torodi Ar. Bea**	**151.08**	**290**	PKPbc	PKPbc	14 50 46.9	-0.2
	0.7nm,0.7s,baz=62,slow=2.9,SNR=4.9						

IDC 16 14:36:13.0±6.2, 5.°31S×152.°95E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/29, mbtmp3.4/3, Error ellipse: s-maj=109.8km s-min=80.0km az=170.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.22**	**230**	P	P	14 41 23.2	+1.3
	0.7nm,0.5s,baz=54,slow=10.0,SNR=11						
ASAR	**Alice Springs**	**25.88**	**223**	P	P	14 41 46.6	-0.1
	0.3nm,0.9s,baz=57,slow=9.4,SNR=3.5						
STKA	**Stephens Creek**	**28.49**	**201**	P	P	14 42 08.7	-1.4
	0.7nm,0.7s,baz=25,slow=11,SNR=3.0						

*CSEM **16** 14:38:02.0, 35.°71N×3.°93E, h0km, ML3.5*

CRAAG 16 14:38:02.0, 35.°70N×3.°93E, MI3.5, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAF	**Djebel Tarf**	**0.33**	**58**	P	Pg	14 38 09.7	+1.2
ATAF	**Djebel Tarf**	**0.33**	**58**	P	Pg	14 38 09.7	+1.2
AKET	**Djebel Ketaf**	**0.35**	**354**	P	Pg	14 38 10.1	+1.2
AKET	**Djebel Ketaf**	**0.35**	**354**	P	Pg	14 38 10.1	+1.2
EMHD	**Djebel Mahouad**	**0.94**	**303**	P	Pn	14 38 31.5	+8.9
EMHD	**Djebel Mahouad**	**0.94**	**303**	P	Pn	14 38 31.5	+8.9
SET	**Setif**	**1.29**	**67**	P	Pn	14 38 34.0	+6.5
SET	**Setif**	**1.29**	**67**	P	Pn	14 38 34.0	+6.5
CKHR	**Kef el Ahmar**	**1.32**	**76**	P	Pn	14 38 34.5	+6.6
CKHR	**Kef el Ahmar**	**1.32**	**76**	P	Pn	14 38 34.5	+6.6
DFRA	**Djebel Bou Aff**	**1.79**	**61**	P	Pg	14 38 43.1	+6.6
DFRA	**Djebel Bou Aff**	**1.79**	**61**	P	Pg	14 38 43.1	+6.6
CTEI	**Djebel Teioual**	**2.04**	**79**	P	Pg	14 38 47.5	+6.1
CTEI	**Djebel Teioual**	**2.04**	**79**	P	Pg	14 38 47.5	+6.1
EANR	**'Ain N'Sour**	**2.31**	**277**	P	Pg	14 38 56.0	+10
EANR	**'Ain N'Sour**	**2.31**	**277**	P	Pg	14 38 56.0	+10

IDC 16 14:59:08.9±2.8, 12.°20N×144.°05E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/40, mbtmp3.4/3, Error ellipse: s-maj=210.4km s-min=23.2km az=113.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.59**	**30**	Pn	Pn	14 59 38.5	+0.2
	38nm,0.3s,baz=207,slow=4.5,SNR=3.5						
GUMO				Sn	Sn	14 59 56.3	-3.3
	59nm,0.3s,baz=110,slow=20,SNR=14						
WRA	**Warramunga Arr**	**33.34**	**197**	P	P	15 05 50.0	+1.1
	0.4nm,0.7s,baz=7.0,slow=8.7,SNR=6.2						
ASAR	**Alice Springs**	**37.00**	**196**	P	P	15 06 20.9	+0.4
	0.3nm,1.0s,baz=37,slow=7.1,SNR=4.4						
STKA	**Stephens Creek**	**43.89**	**183**	P	P	15 07 15.2	-2.1
	0.4nm,0.4s,baz=21,slow=8.6,SNR=4.2						

*NIED **16** 15:06:00, 28.°80N×128.°60E, h5km, Mw4.4 Best double couple: M≈4.58000×10^15 NP1:φ=272.00000°, δ=42.00000°, λ=-58.00000°. NP2:φ=53.00000°, δ=56.00000°, λ=-115.00000°.*

*JMA **16** 15:06:33.1±0.2, 28.°78N×128.°58E, h4km, M4.1*

*MOS **16** 15:06:34.2±1.2, 28.°64N×128.°49E, h22km, mb4.2/13, Error ellipse: s-maj=19.8km s-min=10.6km az=104.0*

*ISCJB **16** 15:06:35.0±0.9, 28.°76N±0.°03×128.°62E±0.°06, h22km±8km, mb4.0/14, MS3.7/6, Error ellipse: s-maj=8.6km s-min=5.4km az=11.1*

*IDC **16** 15:06:40.9±3.0, 28.°74N×128.°56E, h63km±27km, mb3.5/8, mb1 3.7/11, mb1mx3.5/29, mbtmp3.7/11, ML3.0/3, MS3.6/8, Ms1 3.6/8, ms1mx3.3/42, Error ellipse: s-maj=25.8km s-min=18.0km az=74.0*

*BJI **16** 15:06:42.1, 28.°80N×128.°60E, h53km, mb4.3/28, mB4.6/23, Ms4.2/19, Ms7 4.1/19*

ISC 16 15:06:34.6±1.3, 28.°76N±0.°03×128.°61E±0.°05, h12km±9km, n50, σ2§24/52, mb4.0/15, MS3.7/6, 4C, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTAJ	**Takarajima**	**0.65**	**53**	P	**Pg**	**15 06 46.1**	**-1.1**
JTAJ				*e*S	**Sg**	**15 06 55.0**	**-0.7**
JAMN	**Amaminishikomi**	**0.71**	**136**	P	**Pg**	**15 06 47.9**	**-0.5**
JAMN				S	**Sg**	**15 06 57.6**	**-0.2**
JAM	**Amami Oshima**	**0.94**	**111**	P	**Pg**	**15 06 51.3**	**-1.4**
JAM				S	**Sg**	**15 07 04.4**	**-0.5**
JTK	**Tokunoshima**	**1.01**	**163**	P	**Pg**	**15 06 52.7**	**-1.4**
JTK				*e*S	**Sb**	**15 07 07.6**	**+0.2**
JZK	**Kikaishima**	**1.27**	**110**	P	**Pb**	**15 06 58.6**	**+0.1**
JZK				*e*S	**Sn**	**15 07 16.8**	**+1.5**
JOKE	**Okinoerabujima**	**1.39**	**182**	P	**Pn**	**15 06 58.9**	**-1.0**
JIH	**Iheya**	**1.81**	**199**	P	**Pn**	**15 07 05.2**	**-0.4**
JOW	**Kunigami**	**1.94**	**189**	P	**Pb**	**15 07 08.5**	**-1.4**
JOW	**Kunigami**	**1.94**	**189**	LR	LR	15 08 09.4	
	comp=Z,257nm,18.5s,baz=150,slow=46						
JKC	**Kuchinoerabu**	**2.19**	**39**	P	**Pb**	**15 07 11.8**	**-2.3**
JYAK	**Yakushimahirau**	**2.21**	**48**	P	**Pn**	**15 07 11.5**	**+0.4**
JNTH	**Nagotoyohara**	**2.29**	**193**	P	**Pn**	**15 07 13.2**	**+1.0**
JNU	**Nakatsue**	**4.76**	**24**	P	Pb	15 07 51.7	-6.3
	0.7nm,0.3s,baz=342,slow=1.5,SNR=12						
JNU				LR	LR	15 09 49.5	
	comp=Z,838nm,19.1s,baz=257,slow=39						
KSRS	**Korea Array**	**8.69**	**356**	P	Pn	15 08 42.6	+2.6
	0.1nm,0.3s,baz=175,slow=13,SNR=8.7						
KSRS				LR	LR	15 12 08.6	
	comp=Z,532nm,20.3s,baz=170,slow=38						
NJ2	**Nanjing**	**9.04**	**294**	*e*P	Pn	15 08 54.9	+10
NJ2				S	Sn	15 10 33.5	+6.8
NJ2				PMZ			
	40nm,0.6s						
NJ2				LN			
	710nm,12.2s						
NJ2				LE			
	1μm,9.1s						
NJ2				LZ			
	5μm,11.0s						
MAT	**Matsushiro**	**11.20**	**44**	P	Pn	15 09 30.1	+16
MJAR	**Matsushiro Arr**	**11.20**	**44**	P	Pn	15 09 19.5	+4.9
	0.1nm,0.3s,baz=239,slow=6.9,SNR=3.3						
MJAR				LR	LR	15 14 02.1	
	comp=Z,191nm,21.8s,baz=220,slow=39						
USRK	**Ussuriysk Ar.**	**15.64**	**9**	P	**P**	**15 10 20.5**	**+1.5**
	baz=196,slow=12,SNR=3.7						
USRK				LR	LR	15 15 36.4	
	comp=Z,202nm,21.9s,baz=176,slow=34						
MDJ	**Mudanjiang**	**15.85**	**3**	P	**P**	**15 10 23.8**	**+2.6**
MDJ				PMZ			
	9.0nm,1.3s						
MDJ				PMZ			
	83nm,7.8s						
XAN	**Xi'an**	**17.61**	**292**	P	**P**	**15 10 42.3**	**+1.4**
XAN				pP	pP	15 10 51.3	+7.1
XAN				PMZ			
	3.0nm,1.4s						
XAN				LN			
	250nm,10.2s						
HHC	**Hu-ho-hao-te**	**18.44**	**315**	*e*P	**P**	**15 10 53.3**	**+3.2**
HHC				PP	PnPn	15 11 11.1	+9.4
HHC				S	**Sn**	**15 14 11.5**	**-4.6**
HHC				sS	sS	15 14 32.0	+6.2
HHC				SS	**SnSn**	**15 14 38.4**	**+8.5**
HHC				PMZ			
	16nm,0.7s						
HHC				PMZ			
	110nm,6.2s						
HHC				LN			
	780nm,12.4s						
HHC				LE			
	510nm,10.3s						
HHC				LZ			
	610nm,11.7s						
KLR	**Kul'dur**	**20.58**	**6**	*e*P	**P**	**15 11 10.0**	**-3.3**
KLR				MLR	MLR		
	comp=Z,1μm,12.5s						
YSS	**Yuzh-Sakhalins**	**21.26**	**27**	*e*P	**P**	**15 11 23.8**	**+3.2**
KMI	**Kunming**	**23.33**	**267**	P	**P**	**15 11 43.9**	**+0.9**
KMI				PMZ			
	comp=Z,14nm,1.4s						
KMI				LZ			
	comp=Z,60nm,18.6s						
ULN	**Ulaanbaatar**	**25.35**	**325**	*i*P	**P**	**15 12 02.9**	**+1.4**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.5s						
SONM	**Songino Array**	**25.66**	**324**	P	**P**	**15 12 05.2**	**+0.8**
	comp=Z,1.9nm,0.9s,baz=137,slow=6.7,SNR=12						
SONM				LR	LR	15 23 08.6	
	comp=Z,178nm,18.1s,baz=124,slow=38						
SONM	**Songino Array**	**25.66**	**324**	P	**P**	**15 12 05.2**	**+0.8**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM				MLR	MLR		
	comp=Z,178nm,18.1s						
GTA	**Gaotai**	**26.01**	**302**	*e*P	**P**	**15 12 07.4**	**-0.2**
GTA				S	**S**	**15 16 35.0**	**-3.3**
GTA				SS	**SnSn**	**15 17 40.8**	**+5.4**
GTA				PMZ			
	comp=Z,14nm,1.1s						
GTA				PMZ			
	comp=Z,98nm,6.6s						
GTA				LN			
	comp=Z,670nm,13.8s						
GTA				LE			
	comp=Z,380nm,15.2s						
GTA				LZ			
	comp=Z,360nm,12.3s						
ZAK	**Zakamensk**	**28.86**	**325**	*e*P	**P**	**15 12 32.0**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,2.0nm,2.2s						
TLY	**Talaya**	**29.53**	**328**	*e*P	**P**	**15 12 40.9**	**+2.1**
TLY				*e*S	S	15 17 41.1	+7.9
TLY				pmax	pmax		
	comp=Z,7.0nm,1.3s						
TLY				MLR	MLR		
	comp=Z,116nm,13.0s						
PETK	**Petropavlovsk-**	**32.38**	**33**	LR	LR	15 25 46.0	
	comp=Z,50nm,21.6s,baz=226,slow=35						
JAY	**Jayapura**	**33.19**	**158**	LR	LR	15 24 45.9	
	comp=Z,67nm,19.1s,baz=354,slow=33						
MKAR	**Makanchi Array**	**40.15**	**310**	P	**P**	**15 14 10.7**	**+0.2**
	comp=Z,1.0nm,0.9s,baz=96,slow=7.7,SNR=9.8						
MKAR	**Makanchi Array**	**40.15**	**310**	P	**P**	**15 14 10.7**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ZALV	**Zalesovo Beam**	**40.47**	**321**	P	**P**	**15 14 12.6**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=108,slow=8.3,SNR=6.9						
ZALV	**Zalesovo Beam**	**40.47**	**321**	P	**P**	**15 14 12.6**	**-0.4**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AAK	**Ala-Archa**	**45.35**	**303**	LR	LR	15 34 29.8	
	comp=Z,98nm,18.9s,baz=64,slow=37						
AAK	**Ala-Archa**	**45.35**	**303**	*i*P	**P**	**15 14 53.6**	**+0.7**
AAK				pmax	pmax		
	comp=Z,17nm,3.0s						
BRVK	**Borovoye**	**48.71**	**317**	*i*P	**P**	**15 15 19.5**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
WRA	**Warramunga Arr**	**48.73**	**173**	P	**P**	**15 15 19.1**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=353,slow=8.2,SNR=8.5						
WRA	**Warramunga Arr**	**48.73**	**173**	P	**P**	**15 15 19.1**	**-0.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**52.37**	**174**	P	**P**	**15 15 46.2**	**-0.5**
	comp=Z,0.5nm,0.9s,baz=323,slow=6.0,SNR=6.8						
ASAR	**Alice Springs**	**52.37**	**174**	P	**P**	**15 15 46.2**	**-0.5**
ASAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ARU	**Arti**	**55.64**	**321**	*c i*P	**P**	**15 16 09.6**	**-0.6**
ARU						15 18 10.4	
ARU				S	**S**	**15 23 52.5**	**-3.4**
ARU				SS	**SS**	**15 27 36.0**	**-4.7**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ILAR	**Eielson Array**	**62.06**	**29**	P	**P**	**15 16 54.0**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=274,slow=6.2,SNR=13						
ILAR	**Eielson Array**	**62.06**	**29**	P	**P**	**15 16 54.0**	**-0.7**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KIV	**Kislovodsk**	**67.91**	**309**	*e*P	**P**	**15 17 34.0**	**+0.8**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
YKA	**Yellowknife Ar**	**76.10**	**25**	P	**P**	**15 18 22.1**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=299,slow=5.6,SNR=10						
YKA	**Yellowknife Ar**	**76.10**	**25**	P	**P**	**15 18 22.1**	**+0.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PDAR	**Pinedale Array**	**90.98**	**39**	P	**P**	**15 19 39.5**	**+0.4**
	comp=Z,0.6nm,0.9s,baz=54,slow=7.9,SNR=3.0

s-maj=10.2km s-min=6.6km az=52.0
NEIC Felt [III] in Pariaman and [II] at Lubukbasung.
ISCJB **16** *15:12:59.5±0.6,0.°50S±0.°04×99.°43E±0.°05,h89km±5km, mb4.2/24, Error ellipse: s-maj=9.7km s-min=4.5km az=142.1*
IDC **16** *15:12:59.3±0.8,0.°53S×99.°57E,h70km±5km,mb3.9/18, mb1 4.0/20,mb1mx3.8/30,mbtmp4.2/20,MS3.0/4, Ms1 3.0/4,ms1mx2.8/42, Error ellipse: s-maj=22.2km s-min=11.3km az=58.0*
DJA **16** *15:13:00.6±0.3,1.°S±3.°×9.°9E±.°, h59km±8km,M4.7/20, mb4.7/12,mB5.8/4,MLv4.6/20,Mw(mB)5.3/4*
KLM **16** *15:13:02.3,0.°40S×99.°38E,h118km,mb4.6,ML4.2,MS5.5*

ISC 16 15:12:59.2±0.6,0.°55S±0.°05×99.°42E±0.°06,h71km±4km, h71km:pP-P,n88,σ1°52/97,mb4.2/24,4C-2D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**1.34**	**7**	P	**Pn**	**15 13 23.6**	**+1.4**
MNSI				S	**Sn**	**15 13 40.1**	**+0.7**
BKNI	**Bangkinang**	**1.83**	**62**	P	**Pn**	**15 13 30.1**	**+1.4**
BKNI				S	**Sn**	**15 13 52.7**	**+1.6**
BKNI	**Bangkinang** baz=1.9,SNR=6.6	**1.83**	**62**	P	**Pn**	**15 13 31.0**	**+2.3**
BKNI	**Bangkinang**	**1.83**	**62**	*e*Pn	**Pn**	**15 13 28.6**	**0.0**
SDSI	**Sungai Dareh**	**2.04**	**101**	P	**Pn**	**15 13 33.4**	**+1.9**
GSI	**Gunungsitoli**	**2.60**	**315**	P	**Pn**	**15 13 40.2**	**+1.1**
GSI				S	**Sn**	**15 14 08.8**	**-0.9**
GSI	**Gunungsitoli**	**2.60**	**315**	*e*Pn	**Pn**	**15 13 40.2**	**+1.1**
PSI	**Prapat** 28nm,0.3s,baz=150,slow=11,SNR=68	**3.36**	**351**	P	**Pn**	**15 13 49.1**	**-0.4**
PSI				LR	LR	15 15 29.1	
	comp=Z,316nm,19.8s,baz=134,slow=46						
MASI	**Maura Aman, Be**	**3.82**	**133**	P	**Pn**	**15 13 58.1**	**+2.4**
MASI				S	**Sn**	**15 14 42.7**	**+3.3**
TSI	**Tuntungan**	**4.11**	**348**	P	**Pn**	**15 14 01.1**	**+1.5**
FRIM	**Kepong**	**4.35**	**30**	⇑P	**Pn**	**15 14 04.7**	**+1.8**
JMBI	**JAMBI**	**4.36**	**104**	P	Px	15 15 36.4	
KGM	**Kluang**	**4.65**	**57**	⇓P	**Pn**	**15 14 09.5**	**+2.5**
BTDF	**Bukit Timah Da** baz=4.8,SNR=5.5	**4.74**	**66**	P	**Pn**	**15 14 10.6**	**+2.3**
MYKOM	**Kota Tinggi**	**5.00**	**62**	⇑P	**Pn**	**15 14 14.5**	**+2.8**
DSRI	**Dabo** 120nm,0.5s,5μm0.9nm	**5.16**	**89**	P	**Pn**	**15 14 14.5**	**+0.6**
MNAI	**Manna** 348nm,1.7s,29μm4.0nm	**5.18**	**137**	P	**Pn**	**15 14 15.2**	**+1.0**
MNAI				S	**Sn**	**15 15 10.6**	**-2.1**
MNAI	**Manna** baz=5.2,SNR=4.9	**5.18**	**137**	P	**Pn**	**15 14 15.9**	**+1.7**
MNAI				S	**Sn**	**15 15 10.5**	**-2.1**
LHSI	**Lahat** 80nm,0.9s,0.4nm baz=5.2,SNR=9.2	**5.24**	**129**	P	**Pn**	**15 14 17.8**	**+2.8**
IPM	**Ipoh**	**5.24**	**18**	⇑P	**Pn**	**15 14 18.0**	**+2.9**
IPM	**Ipoh** 50nm,0.6s	**5.24**	**18**	*e*Pn	**Pn**	**15 14 17.7**	**+2.6**
TPRI	**Tanjung Pinang** 65nm,0.5s,30μm1.7nm	**5.31**	**74**	P	**Pn**	**15 14 15.9**	**-0.1**
KULM	**Kulim**	**5.92**	**12**	⇓P	**Pn**	**15 14 26.2**	**+1.8**
KULM	**Kulim** 64nm,0.8s	**5.92**	**12**	*e*Pn	**Pn**	**15 14 25.4**	**+1.0**
MDSI	**Maura Dua** 42nm,0.8s,0.2nm	**6.16**	**130**	P	**Pn**	**15 14 29.7**	**+2.1**
LHMI	**Lhok Sumawe** 68nm,1.2s,0.4nm	**6.25**	**337**	P	**Pn**	**15 14 29.7**	**+0.9**
LHMI	**Lhok Sumawe** baz=6.3,SNR=7.0	**6.25**	**337**	P	**Pn**	**15 14 30.6**	**+1.8**
LHMI	**Lhok Sumawe**	**6.25**	**337**	*e*Pn	**Pn**	**15 14 30.6**	**+1.8**
LWLI	**Liwa** 96nm,0.8s,1.0nm	**6.42**	**134**	P	**Pn**	**15 14 33.1**	**+1.8**
KTGM	**Kuala Trenggan**	**6.91**	**32**	⇑P	**Pn**	**15 14 39.8**	**+1.9**
KASI	**Kota Agung**	**7.08**	**134**	P	**Sn**	**15 15 59.2**	**-0.1**
LEM	**Lembang** comp=Z,104nm,20.1s,baz=200,slow=38	**10.28**	**128**	LR	LR	15 19 27.2	
KSM	**Kuching**	**11.07**	**80**	*e*P	**Pn**	**15 15 32.1**	**-2.7**
CM31	**Chiang Mai Arr** 3.2nm,0.6s	**18.89**	**359**	*e*P	**P**	**15 17 12.4**	**-1.7**
CMAR	**Chiang Mai Arr** 0.6nm,0.3s,baz=189,slow=10.0,SNR=17	**18.89**	**359**	P	**P**	**15 17 12.3**	**-1.7**
CHTO	**Chiang Mai** 3.3nm,0.6s	**19.24**	**359**	*e*P	**P**	**15 17 17.1**	**-0.9**
ODAN	**Odare** 9.3nm,0.6s	**29.61**	**338**	*e*P	**P**	**15 18 57.9**	**-0.2**
TAPN	**Taplejung**	**29.93**	**339**	*e*P	**P**	**15 19 01.8**	**+0.8**
RAMN	**Ramite** 3.0nm,0.3s	**30.00**	**337**	*e*P	**P**	**15 19 00.6**	**-0.9**
JIRN	**Jiri** 18nm,0.7s	**30.79**	**337**	*e*P	**P**	**15 19 08.7**	**0.0**
LSA	**Lhasa** 11nm,0.6s	**31.10**	**346**	*e*P	**P**	**15 19 12.9**	**+1.4**
GUN	**Gumba** 19nm,0.4s	**31.14**	**336**	*e*P	**P**	**15 19 13.0**	**+1.3**
KKN	**Kakani** 13nm,0.6s	**31.28**	**335**	*e*P	**P**	**15 19 13.6**	**+0.8**
GKN	**Gorkha** 4.5nm,0.3s	**31.73**	**335**	*e*P	**P**	**15 19 17.8**	**+1.1**
KOLN	**Koldanda** 15nm,0.6s	**31.99**	**333**	*e*P	**P**	**15 19 20.3**	**+1.2**
KDU	**Kakadu** baz=35,SNR=4.6	**34.91**	**112**	P	**P**	**15 19 42.4**	**-2.0**
XAN	**Xi'an** 2.0nm,0.5s	**35.54**	**14**	P	**P**	**15 19 48.4**	**-1.2**
XAN				PMZ			
H01W3	**Cape Leeuwin H** baz=335,slow=76,SNR=6.8	**36.82**	**160**	T	T	15 58 00.8	
H01W2	**Cape Leeuwin H** baz=335,slow=76,SNR=6.3	**36.84**	**160**	T	T	15 58 01.5	
H01W1	**Cape Leeuwin H** baz=335,slow=76,SNR=5.9	**36.84**	**160**	T	T	15 58 02.1	
WRKA	**Warakurna** baz=37,SNR=4.3	**37.03**	**133**	P	**P**	**15 20 03.6**	**+1.1**
WRA	**Warramunga Arr** 0.8nm,0.5s,baz=302,slow=9.1,SNR=12	**39.23**	**122**	P	**P**	**15 20 19.5**	**-1.5**
WRA				pP	**pP**	**15 20 37.1**	**-1.3**
	2.1nm,0.6s,baz=301,slow=9.4,SNR=7.7						
WRAB	**Tennant Creek**	**39.24**	**122**	*e*P	**P**	**15 20 20.3**	**-0.8**
GTA	**Gaotai** 8.0nm,1.0s	**39.77**	**0**	*e*P	**P**	**15 20 26.1**	**+0.8**
GTA				PMZ			
AS31	**Alice Springs**	**40.58**	**127**	*e*P	**P**	**15 20 32.0**	**-0.2**
ASAR	**Alice Springs** 0.3nm,0.4s,baz=298,slow=7.4,SNR=13	**40.58**	**127**	P	**P**	**15 20 31.8**	**-0.3**
ASAR				pP	**pP**	**15 20 48.4**	**-1.2**
	2.6nm,0.7s,baz=300,slow=8.3,SNR=15						
HHC	**Hu-ho-hao-te**	**42.66**	**14**	*e*P	P	15 20 52.4	+3.5
HHC				PP	**PcP**	**15 22 35.3**	**-4.5**
HHC				S	**S**	**15 27 10.5**	**+3.4**
HHC				SS	**SS**	**15 30 17.0**	**-2.9**
HHC	17nm,0.9s			PMZ			
HHC	65nm,6.2s			PMZ			
HHC	510nm,18.5s			LN			
HHC	500nm,17.3s			LE			
HHC	560nm,18.5s			LZ			
KSAR	**Wonju Array Be**	**46.05**	**32**	P	**P**	**15 21 15.6**	**-0.4**
KSAR				pP	**pP**	**15 21 33.4**	**-0.4**
KSRS	**Korea Array** 3.2nm,0.7s,baz=224,slow=8.3,SNR=29	**46.08**	**32**	P	**P**	**15 21 15.6**	**-0.6**
KSRS				pP	**pP**	**15 21 33.4**	**-0.6**
	0.7nm,0.6s,baz=222,slow=8.3,SNR=2.5						
KSRS				LR	LR	15 43 09.2	
	comp=Z,25nm,18.0s,baz=201,slow=39						
GUMO	**Guam** comp=Z,9.4nm,21.8s,baz=250,slow=34	**47.16**	**71**	LR	LR	15 39 30.6	
AAK	**Ala-Archa** 0.9nm,0.4s,baz=112,slow=7.1,SNR=5.2	**48.49**	**335**	P	**P**	**15 21 35.9**	**+0.9**
AAK	**Ala-Archa** 3.5nm,0.9s	**48.49**	**335**	*e*P	**P**	**15 21 35.8**	**+0.8**
SONM	**Songino Array** 4.1nm,0.5s,baz=190,slow=9.7,SNR=41	**48.57**	**6**	P	**P**	**15 21 35.3**	**-0.2**
ULN	**Ulaanbaatar** 1.3nm,0.5s	**48.67**	**7**	*e*P	**P**	**15 21 36.7**	**+0.3**
MK31	**Makanchi Array** baz=50,SNR=28	**49.48**	**345**	P	**P**	**15 21 43.2**	**+0.8**
MK31	**Makanchi Array**	**49.48**	**345**	*e*P	**P**	**15 21 43.1**	**+0.7**
MKAR	**Makanchi Array** 8.2nm,0.4s,baz=163,slow=8.1,SNR=160	**49.48**	**345**	P	**P**	**15 21 43.1**	**+0.7**
MKAR				pP	**pP**	**15 21 59.4**	**-1.0**
	1.3nm,0.5s,baz=163,slow=6.2,SNR=2.8						
STKA	**Stephens Creek**	**50.55**	**132**	P	**P**	**15 21 51.1**	**+0.4**
	1.5nm,0.9s,baz=284,slow=7.9,SNR=4.0						
STKA	**Stephens Creek** baz=51,SNR=3.7	**50.55**	**132**	*e*P	**P**	**15 21 51.4**	**+0.7**
STKA	**Stephens Creek** 0.8nm,0.4s	**50.55**	**133**	*e*P	**P**	**15 21 52.1**	**+1.2**
KKAR	**Karatay Array**	**50.60**	**333**	*e*P	**P**	**15 21 52.1**	**+1.2**
MJAR	**Matsushiro Arr** 0.5nm,0.3s,baz=223,slow=7.4,SNR=4.8	**51.53**	**40**	P	**P**	**15 21 56.6**	**-1.4**
USRK	**Ussuriysk Ar.** 5.2nm,0.7s,baz=225,slow=5.3,SNR=8.8	**53.16**	**29**	P	**P**	**15 22 09.7**	**-0.2**
KURBB	**Kurchatov Arra** 4.1nm,0.7s,baz=164,slow=7.3,SNR=56	**54.00**	**344**	P	**P**	**15 22 16.5**	**+0.6**
KURBB				pP	**pP**	**15 22 34.7**	**+0.5**
	1.1nm,0.5s,baz=159,slow=7.2,SNR=3.1						
KURK	**Kurchatov** 7.6nm,0.8s	**54.06**	**344**	*e*P	**P**	**15 22 16.9**	**+0.5**
KURK				pP	**pP**	**15 22 34.7**	**+0.1**
ZAA0	**Zalesovo Array** 2.5nm,0.7s,baz=56,SNR=10	**55.64**	**350**	P	**P**	**15 22 28.2**	**+0.5**
ZAA0	**Zalesovo Array**	**55.64**	**350**	*e*P	**P**	**15 22 28.0**	**+0.3**
ZALV	**Zalesovo Beam** 11nm,0.5s,baz=180,slow=6.5,SNR=68	**55.64**	**350**	P	**P**	**15 22 28.2**	**+0.5**
ZALV				sP	**sP**	**15 22 54.2**	**+0.2**
	3.9nm,0.5s,baz=167,slow=7.1,SNR=3.1						
BVAR	**Borovoye Array** 2.0nm,0.6s,baz=148,slow=8.7,SNR=12	**58.63**	**340**	P	**P**	**15 22 48.9**	**0.0**
ABKAR	**Akbulak array** 1.5nm,0.6s	**60.10**	**331**	P	**P**	**15 22 59.0**	**0.0**
TIXI	**Tiksi** 1.7nm,0.5s	**74.52**	**9**	*e*P	**P**	**15 24 28.4**	**-1.3**
BOSA	**Boshof** 2.5nm,0.7s,baz=72,slow=4.3,SNR=5.4	**75.86**	**241**	P	**P**	**15 24 39.3**	**+0.8**
AKASG	**Malin Array Be** 0.1nm,0.4s,baz=91,slow=4.0,SNR=3.0	**77.99**	**322**	P	**P**	**15 24 52.1**	**+2.3**
FINES	**FINESS Array B** 0.9nm,0.6s,baz=116,slow=8.7,SNR=4.5	**82.56**	**332**	P	**P**	**15 25 14.4**	**+0.3**
ARCES	**ARCESS Array B** 2.1nm,0.8s,baz=95,slow=6.4,SNR=7.1	**84.92**	**340**	P	**P**	**15 25 26.2**	**+0.1**
SPITS	**Spitsbergen Ar** 7.0nm,1.0s,baz=171,slow=10,SNR=3.0	**89.10**	**348**	P	**P**	**15 25 46.9**	**+0.7**
TORD	**Torodi Ar. Bea** 0.4nm,0.7s,baz=113,slow=3.3,SNR=2.2	**97.65**	**283**	P	**P**	**15 26 26.2**	**-0.6**
TXAR	**Lajitas Array** 0.5nm,0.7s,baz=333,slow=1.2,SNR=2.9	**143.88**	**36**	PKP	**PKPdf**	**15 32 26.9**	**-0.4**

GUC 16 15:16:41.9±0.5,34.°05S×72.°85W,h23km±4km,ML3.5, 5C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**1.20**	**86**	⇓*i*P	Pn	15 17 02.8	-0.5
NICH	**Los Niches**	**1.64**	**126**	⇑*i*P	Pn	15 17 06.2	-3.2
NICH				*i* S	Sb	15 17 30.9	-0.8
CHCH	**Chadas Angostu**	**1.83**	**87**	⇑*i*P	Pn	15 17 12.7	+0.7
ROCH	**El Roble**	**1.87**	**55**	⇑*i*P	Pn	15 17 13.7	+0.8
ROCH				*i* S	Sn	15 17 34.5	-1.6
ROCH	comp=N,381nm,0.3s			AML	AML	15 17 43.3	
PEL	**Peldehue**	**2.02**	**64**	⇑*i*P	Pn	15 17 16.2	+1.5
PEL				*i* S	Sn	15 17 37.4	-1.9
PEL	comp=N,970nm,0.6s			AML	AML	15 17 48.5	
CLCH	**Cerro Calan**	**2.03**	**72**	⇑*i*P	Pn	15 17 16.1	+1.2
CLCH				*i* S	Sb	15 17 42.1	-1.1
CLCH	comp=N,426nm,0.7s			AML	AML	15 17 49.1	

ISCJB **16** *15:16:41.6±0.8,73.°40N±0.°06×7.°9E±0.°3,h13km, mb3.2/3, Error ellipse: s-maj=13.2km s-min=7.2km az=162.0*
IDC **16** *15:16:41.8±1.1,73.°34N×7.°34E,h0km,mb3.2/3,mb1 3.5/7, mb1mx3.2/45,mbtmp3.4/7,ML3.1/4,MS2.4/1,Ms1 2.5/1, ms1mx2.1/34,Error ellipse: s-maj=26.8km s-min=15.0km az=72.0*
NAO **16** *15:16:41.9±7.6,73.°36N×7.°42E,h2km±80km,ML3.1*
BER **16** *15:16:42.6±3.3,73.°35N×6.°87E,h10km,ML3.1(NAO)*
CSEM **16** *15:16:42.3±0.4,73.°39N×7.°66E,h10km,ML3.1,Error ellipse: s-maj=11.0km s-min=3.3km az=69.0*

ISC 16 15:16:43.5±1.0,73.°41N±0.°09×7.°8E±0.°1,h13km,n28, σ0°50/30,mb3.2/3,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJO	**Bjornoya**	**3.36**	**65**	Pn	**Pn**	**15 17 35.0**	**-0.5**
BJO	**Bjornoya**	**3.36**	**65**	Pn	**Pn**	**15 17 35.0**	**-0.5**
BJO	**Bjornoya**	**3.36**	**65**	Pn	**Pn**	**15 17 35.0**	**-0.5**
HSPB	**Hornsund (broa**	**4.12**	**25**	Pn	**Pn**	**15 17 45.7**	**-0.3**
HSPB	**Hornsund (broa** SNR=50	**4.12**	**25**	Pn	**Pn**	**15 17 45.7**	**-0.3**
HSP	**Hornsund**	**4.13**	**25**	Pn	**Pn**	**15 17 45.7**	**-0.4**
HSP	**Hornsund**	**4.13**	**25**	Pn	**Pn**	**15 17 45.7**	**-0.4**
SPA0	**Spitsbergen Ar** baz=190,slow=12	**5.24**	**20**	Pn	**Pn**	**15 18 01.6**	**+0.2**
SPA0	**Spitsbergen Ar** baz=190,slow=12	**5.24**	**20**	Pn	**Pn**	**15 18 01.6**	**+0.2**
SPA0	**Spitsbergen Ar** baz=190,slow=12,SNR=7.2	**5.24**	**20**	Pn	**Pn**	**15 18 01.6**	**+0.2**
SPITS	**Spitsbergen Ar** baz=193,slow=12,SNR=25	**5.24**	**20**	Pn	**Pn**	**15 18 01.6**	**+0.2**
KBS	**Kingsbay**	**5.64**	**8**	Pn	**Pn**	**15 18 06.5**	**-0.3**
KBS	**Kingsbay**	**5.64**	**8**	Pn	**Pn**	**15 18 06.5**	**-0.3**
KBS	**Kingsbay**	**5.64**	**8**	Pn	**Pn**	**15 18 06.5**	**-0.3**
ARA0	**ARCESS Array S** baz=314,slow=11	**6.84**	**116**	Pn	**Pn**	**15 18 23.7**	**+0.4**
ARA0	baz=312,slow=22			Sn	**Sn**	**15 19 40.9**	**0.0**
ARA0	**ARCESS Array S** baz=314,slow=11	**6.84**	**116**	Pn	**Pn**	**15 18 23.7**	**+0.4**
ARA0	baz=312,slow=22			Sn	**Sn**	**15 19 40.9**	**0.0**
ARA0	**ARCESS Array S** baz=314,slow=11,SNR=6.7	**6.84**	**116**	Pn	**Pn**	**15 18 23.7**	**+0.4**
ARA0	baz=312,slow=21,SNR=4.7			Sn	**Sn**	**15 19 40.8**	**0.0**
ARCES	**ARCESS Array B** 0.7nm,0.3s,baz=322,slow=11,SNR=14	**6.84**	**116**	Pn	**Pn**	**15 18 23.9**	**+0.6**
NOA	**NORSAR Array B** comp=Z,16nm,18.1s,baz=195,slow=36	**12.49**	**172**	LR	LR	15 24 11.5	
HFS	**Hagfors** 0.1nm,0.3s,baz=352,slow=16,SNR=3.1	**13.52**	**167**	Pn	**Pn**	**15 19 54.1**	**-0.6**
FIA0	**FINESS Array S** baz=333,slow=16	**13.81**	**141**	Pn	**Pn**	**15 19 57.9**	**-0.7**
FIA0	**FINESS Array S** baz=333,slow=16	**13.81**	**141**	Pn	**Pn**	**15 19 57.9**	**-0.7**
FIA0	**FINESS Array S** baz=333,slow=15	**13.81**	**141**	Pn	**Pn**	**15 19 57.8**	**-0.7**
FINES	**FINESS Array B** 0.2nm,0.3s,baz=338,slow=14,SNR=5.8	**13.81**	**141**	Pn	**Pn**	**15 19 57.6**	**-0.9**
AKASG	**Malin Array Be** 0.2nm,0.3s,baz=344,slow=9.2,SNR=3.6	**24.59**	**146**	P	**P**	**15 22 03.7**	**+0.8**
ILAR	**Eielson Array** 0.2nm,0.9s,baz=7.5,slow=7.6,SNR=3.6	**41.05**	**344**	P	**P**	**15 24 26.0**	**+0.1**
TORD	**Torodi Ar. Bea** 0.8nm,1.0s,baz=5.2,slow=6.7,SNR=3.4	**60.34**	**187**	P	**P**	**15 26 52.3**	**+0.6**
ASAR	**Alice Springs** 0.2nm,0.9s,baz=18,slow=2.9,SNR=3.0	**122.53**	**61**	PKP	**PKPdf**	**15 35 37.8**	**-0.1**

IDC **16** *15:20:31.8±1.1,32.°66N×91.°31E,h0km,mb3.5/5, mb1 3.6/7,mb1mx3.4/29,mbtmp3.4/7,ML3.3/1, Error ellipse: s-maj=46.1km s-min=21.2km az=63.0*
ISCJB **16** *15:20:32.6±0.8,32.°92N×0.°09×91.°4E±0.°2,h10km,mb3.7/4, Error ellipse: s-maj=25.4km s-min=12.4km az=171.1*
BJI **16** *15:20:32.5,33.°23N×91.°18E,h5km,mb3.6/2,ML3.4/3*

ISC 16 15:20:33.2±0.9,32.°74N±0.°07×91.°3E±0.°2,h10km,n8, σ0°62/9,mb3.9/4,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**3.04**	**183**	Pn	**Pb**	**15 21 26.9**	**-0.8**
LSA				Sn	**Sg**	**15 22 11.8**	**+0.9**
LSA	20nm,0.8s			SMN			
LSA	120nm,0.9s			SME			
MKAR	**Makanchi Array** baz=153,slow=1.1,SNR=1.6	**15.64**	**336**	Pn	**Pn**	**15 24 13.5**	**-0.2**
SONM	**Songino Array** 0.1nm,0.3s,baz=209,slow=12,SNR=3.7	**18.90**	**33**	P	**Pn**	**15 24 54.8**	**+0.2**
KURBB	**Kurchatov Arra** 0.4nm,0.8s,baz=154,slow=10,SNR=3.3	**20.21**	**336**	P	**P**	**15 25 07.8**	**-0.3**
ZALV	**Zalesovo Beam** 1.5nm,0.7s,baz=169,slow=11,SNR=4.8	**21.70**	**350**	P	**P**	**15 25 24.9**	**+0.8**
WRA	**Warramunga Arr**	**66.60**	**136**	P	**P**	**15 31 23.9**	**0.0**
	0.9nm,0.9s,baz=331,slow=6.0,SNR=5.9						
ASAR	**Alice Springs** 1.0nm,0.8s,baz=323,slow=6.3,SNR=11	**69.26**	**138**	P	**P**	**15 31 40.4**	**-0.2**
TORD	**Torodi Ar. Bea** 0.5nm,0.6s,baz=41,slow=5.2,SNR=3.7	**82.71**	**281**	P	**P**	**15 32 57.9**	**+0.2**

ISCJB **16** *15:20:31.9±1.2,73.°4N±0.°1×7.°9E±0.°6,h11km,mb3.2/4, Error ellipse: s-maj=27.0km s-min=15.4km az=166.3*
IDC **16** *15:20:32.1±1.5,73.°34N×7.°43E,h0km,mb3.3/4,mb1 3.4/6, mb1mx3.2/29,mbtmp3.3/6,ML3.0/2, Error ellipse: s-maj=30.2km s-min=18.1km az=71.0*

ISC 16 15:20:33.7±1.3,73.°4N±0.°1×7.°8E±0.°2,h11km,n6,σ0°66/6, mb3.4/4,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPITS	**Spitsbergen Ar** baz=186,slow=14,SNR=26	**5.24**	**20**	Pn	**Pn**	**15 21 51.1**	**-0.7**
ARCES	**ARCESS Array B** 0.2nm,0.3s,baz=320,slow=11,SNR=10	**6.84**	**116**	Pn	**Pn**	**15 22 13.8**	**0.0**
AKASG	**Malin Array Be** 1.0nm,0.6s,baz=345,slow=9.0,SNR=4.0	**24.59**	**146**	P	**P**	**15 25 53.5**	**+0.1**
ILAR	**Eielson Array** 0.2nm,0.8s,baz=3.0,slow=8.0,SNR=4.3	**41.05**	**344**	P	**P**	**15 28 17.0**	**+0.5**
SONM	**Songino Array** 0.2nm,0.7s,baz=338,slow=6.9,SNR=2.8	**47.26**	**65**	P	**P**	**15 29 07.1**	**+0.6**
TORD	**Torodi Ar. Bea** 0.4nm,0.9s,baz=0.5,slow=7.0,SNR=2.8	**60.34**	**187**	P	**P**	**15 30 41.9**	**-0.4**

DJA 16 15:21:44.7±0.5,9.°S±13.°×11.°7E±.°,h94km±10km,M3.6/10, MLv3.6/9,MLv3.6/10,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DNP	**Denpasar**	**1.69**	**278**	P	Pn	15 22 13.5	+0.5
DNP				S	Sn	15 22 36.9	+2.4
IGBI	**Denpasar**	**1.74**	**273**	P	Pn	15 22 12.8	-0.8
IGBI				S	Sn	15 22 35.9	+0.2
SRBI	**Singaraja**	**1.86**	**296**	P	Pn	15 22 15.8	+0.5
SRBI				S	Sn	15 22 39.2	+0.6
JAGI	**Jajag, Banyuwa**	**2.75**	**279**	P	Pn	15 22 26.2	-0.8
JAGI				S	Sn	15 22 59.8	+0.2
BLJI	**Banyuglugur**	**3.47**	**289**	P	Pn	15 22 36.3	-0.4
GMJI	**Gumukmas**	**3.48**	**280**	P	Pn	15 22 36.5	-0.2

CSEM **16** *15:29:00.8±0.1,73.°46N×7.°60E,h2km,mb5.0/99,Ms4.1, Error ellipse: s-maj=4.0km s-min=2.7km az=55.0*
BJI **16** *15:29:00.6,73.°40N×7.°50E,h8km,mb4.8/53,mB5.1/40, Ms4.8/44,Ms7 4.5/42*
ISCJB **16** *15:29:01.6±0.1,73.°51N±0.°02×7.°50E±0.°06,h10km, mb4.8/204,MS4.4/50,Error ellipse: s-maj=2.7km s-min=1.6km az=138.1*
MOS **16** *15:29:01.1±0.8,73.°51N×7.°27E,h10km,mb5.1/95, MS4.4/39,Error ellipse: s-maj=16.5km s-min=3.3km az=92.7*
IDC **16** *15:29:01.1±0.4,73.°42N×7.°31E,h0km,mb4.3/28, mb1 4.5/34,mb1mx4.4/45,mbtmp4.4/34,ML4.0/6,MS4.4/35, Ms1 4.4/35,ms1mx4.3/48,Error ellipse: s-maj=11.4km s-min=8.3km az=45.0*
GCMT **16** *15:29:02.8±0.2,73.°42N×7.°40E,h12km,MW5.1/102, Moment Tensor Solution. s26,c34; s102,c172; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.58±.09; $M_{\theta\theta}$1.25±.09; $M_{\phi\phi}$3.33±.08; $M_{r\theta}$-0.51±.39; $M_{r\phi}$1.95±.07; $M_{\theta\phi}$-2.28±.34; Best double couple: $M_0$5.10400×10^{16} NP1:ϕ23.00000°,δ59.00000°,λ-98.00000°. NP2: ϕ219.00000°,δ32.00000°,λ-77.00000°. Principal axes: T 5.0180, Plg13.0000°, Azm119.0000°; N 0.1720, Plg7.0000°, Azm27.0000°; P -5.1900, Plg75.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC **16** *15:29:02.8±0.1,73.°47N×7.°49E,h10km,mb5.0/138 Error ellipse: s-maj=3.9km s-min=2.4km az=59.0*
BER **16** *15:29:03.3±3.3,73.°42N×7.°60E,h10km,MD3.1,ML3.0, ML5.1(NAO)*
SZGRF **16** *15:29:10.9,72.°82N×9.°36E,h10km,mb5.2,MS4.2, Norwegian Sea*
KOLA **16** *15:29:12.0,74.°77N×13.°74E,h0km*

ISC 16 15:29:03.9±0.4,73.°45N±0.°04×7.°30E±0.°03,h16km±2km, h16km:pP-P,n1172,σ1°28/1186,mb4.9/207,MS4.4/54, 182C-176D,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJO	**Bjornoya**	**3.46**	**67**	Pn	Pn	15 29 53.7	-3.3
BJO	**Bjornoya**	**3.46**	**67**	*e*P	Pn	15 29 53.8	-3.3
BJO	**Bjornoya** SNR=50	**3.46**	**67**	*e*P	Pn	15 29 53.8	-3.3
HSPB	**Hornsund (broa**	**4.14**	**27**	*e*P	**Pn**	**15 30 03.8**	**-2.6**
HSPB	**Hornsund (broa** SNR=49	**4.14**	**27**	*e*P	**Pn**	**15 30 03.8**	**-2.6**
HSP	**Hornsund**	**4.15**	**27**	Pn	**Pn**	**15 30 04.0**	**-2.4**
HSP	**Hornsund**	**4.15**	**27**	Pn	**Pn**	**15 30 04.1**	**-2.4**
SPA0	**Spitsbergen Ar** baz=188,slow=14	**5.24**	**21**	Pn	**Pn**	**15 30 19.8**	**-1.7**
SPA0	**Spitsbergen Ar** baz=188,slow=14	**5.24**	**21**	Pn	**Pn**	**15 30 19.8**	**-1.7**
SPA0				*e*P	**Pn**	**15 30 19.9**	**-1.7**
SPA0	**Spitsbergen Ar** SNR=50	**5.24**	**21**	Pn	**Pn**	**15 30 19.8**	**-1.7**
SPITS	**Spitsbergen Ar** baz=190,slow=14,SNR=130	**5.24**	**21**	Pn	**Pn**	**15 30 19.8**	**-1.7**
SPITS				LR	LR	15 32 09.7	
	comp=Z,4μm,19.5s,baz=215,slow=36						
TRO	**Tromso**	**5.32**	**130**	*e*P	Pn	15 30 18.6	-3.8
TRO				*e*S	Sn	15 31 14.1	-9.1
TRO	comp=Z,62nm,0.6s			IAML		15 31 18.1	
TRO				*e*T	T	15 34 56.2	
TRO	**Tromso** SNR=49	**5.32**	**130**	*e*P	Pn	15 30 18.6	-3.8
JNE	**Jan Mayen East**	**5.37**	**250**	*e*P	**Pn**	**15 30 21.4**	**-1.8**
JNE	**Jan Mayen East** SNR=49	**5.37**	**250**	*e*P	**Pn**	**15 30 21.4**	**-1.8**
JNW	**Jan Mayen West**	**5.38**	**251**	*e*P	**Pn**	**15 30 21.7**	**-1.7**
JNW	**Jan Mayen West** SN

ARA0 Sn Sn 15 31 56.3 -7.9
baz=307,slow=22
ARA0 ARCESS Array S 6.98 115 Pn Pn 15 30 42.0 -3.3
baz=314,slow=11
ARA0 Sn Sn 15 31 56.3 -7.9
baz=307,slow=22
ARA0 ARCESS Array S 6.98 115 Pn Pn 15 30 42.0 -3.3
SNR=50
ARCES ARCESS Array B 6.98 115 Pn **Pn 15 30 42.4 -2.9**
comp=Z,4.7nm,0.3s,baz=319,slow=11,SNR=109
ARCES Sn Sn 15 31 56.1 -8.0
comp=Z,6.9nm,0.3s,baz=312,slow=20,SNR=9.4
ARE0 ARCESS Array S 6.98 115 *e*P **Pn 15 30 42.5 -2.8**
ARE0 ARCESS Array S 6.98 115 *e*Pn **Pn 15 30 42.4 -2.8**
ARE0 ARCESS Array S 6.98 115 *e*Pn **Pn 15 30 42.4 -2.8**
KEV Kevo 7.23 111 *e*P Pn 15 30 45.2 -3.5
KEV pmax pmax
comp=Z,27nm,0.7s
KEV Kevo 7.23 111 *e*P Pn 15 30 45.2 -3.5
comp=Z,27nm,0.7s
KEV Kevo 7.23 111 *e*P Pn 15 30 45.1 -3.5
comp=Z,27nm,0.7s
KONS Konsvik 7.26 161 *e*P **Pn 15 30 46.3 -2.8**
KONS *e*S Sn 15 31 59.2 -12
KONS IAML 15 32 06.7
comp=Z,18nm,0.6s
KONS Konsvik 7.26 161 *e*P **Pn 15 30 46.3 -2.8**
SNR=47
STOK Stokkvaagen 7.41 162 *e*P **Pn 15 30 49.3 -1.9**
STOK IAML 15 32 08.5
comp=Z,15nm,0.5s
STOK Stokkvaagen 7.41 162 *e*P **Pn 15 30 49.3 -1.9**
SNR=47
FLOS Flostrand 7.44 161 *e*P Pb 15 31 05.9 -6.5
MOR8 Moi Rana 7.71 158 *e*P **Pn 15 30 52.5 -2.8**
MOR8 IAML 15 32 20.3
comp=Z,21nm,0.6s
MOR8 Moi Rana 7.71 158 *e*P **Pn 15 30 52.5 -2.8**
SNR=47
NSS Namsos 9.11 167 *e*P **Pn 15 31 13.0 -1.5**
NSS IAML 15 32 56.1
comp=Z,12nm,0.6s
NSS Namsos 9.11 167 *e*P **Pn 15 31 13.0 -1.5**
SNR=47
APA0 Apatity Array 10.30 112 Pn Pn 15 31 26.2 -4.5
baz=315,slow=11
APA0 Apatity Array 10.30 112 Pn Pn 15 31 26.2 -4.5
baz=315,slow=11
APA0 Apatity Array 10.30 112 P Pn 15 31 26.1 -4.6
APA0 S Sn 15 33 07.3 -18
APA0 Apatity Array 10.30 112 Pn Pn 15 31 26.2 -4.5
SNR=50
APA Apatity 10.44 111 ⇓ *j*P **Pn 15 31 29.4 -3.2**
APA pmax pmax
comp=Z,3.0nm,0.6s
APA Apatity 10.44 111 P Pn 15 31 27.5 -5.1
APA S Sn 15 33 09.8 -19
APA Apatity 10.44 111 *i* P **Pn 15 31 29.4 -3.2**
comp=Z,3.0nm,0.6s
LVZ Lovozero 10.54 108 Pn Pn 15 31 29.7 -4.4
comp=Z,531nm,0.8s,SNR=19
LVZ Lovozero 10.54 108 ⇑ *j*P Pn 15 31 30.3 -3.8
LVZ pmax pmax
comp=Z,101nm,1.1s
LVZ Lovozero 10.54 108 *i* P Pn 15 31 30.3 -3.8
comp=Z,101nm,1.1s
LVZ Lovozero 10.54 108 *e*Pn Pn 15 31 29.0 -5.0
NB2 NORSAR Subarra 12.55 171 Pn **Pn 15 32 00.1 -1.5**
baz=354,slow=14
NB2 NORSAR Subarra 12.55 171 Pn Pn 15 31 57.9 -3.7
comp=Z,11nm,1.0s,baz=355,slow=14
NB2 NORSAR Subarra 12.55 171 Pn **Pn 15 32 00.1 -1.5**
baz=354,slow=14
NB2 NORSAR Subarra 12.55 171 Pn Pn 15 31 57.9 -3.7
comp=Z,11nm,1.0s,SNR=2.1
NOA NORSAR Array B 12.55 171 Pn Pn 15 31 57.9 -3.7
comp=Z,0.9nm,0.3s,baz=352,slow=13,SNR=11
NOA LR LR 15 36 30.2
comp=Z,1μm,19.8s,baz=350,slow=36
NOA NORSAR Array B 12.55 171 P Pn 15 31 57.9 -3.7
NOA pmax pmax
comp=Z,1.0nm,0.3s
NOA MLR MLR
comp=Z,1μm,19.8s
NAO01 NORSAR Array S 12.73 172 *e*P **Pn 15 32 01.2 -2.9**
comp=Z,7.5nm,0.8s
NAO01 NORSAR Array S 12.73 172 *e*P **Pn 15 32 01.2 -2.9**
comp=Z,7.5nm,0.8s
SUMG Summit 13.15 288 *i* P **Pn 15 32 08.4 -1.6**
comp=Z,9.0nm,1.0s
comp=Z,4μm,17.0s
SUMG Summit 13.15 288 *i* P **Pn 15 32 08.4 -1.6**
SUMG pmax pmax
comp=Z,9.0nm,1.0s
SUMG MLR MLR
comp=Z,4μm,17.0s
SUMG Summit 13.15 288 *i* P **Pn 15 32 08.4 -1.6**
comp=Z,4μm,17.0s
SUMG Summit 13.15 288 *e*Pn **Pn 15 32 08.8 -1.2**
SUMG Summit 13.15 288 *e*Pn **Pn 15 32 08.8 -1.2**
BORG Borgarnes 13.26 244 LR LR 15 35 50.4
comp=Z,2μm,19.8s,baz=21,slow=31
HFS Hagfors 13.60 166 Pn Pn 15 32 12.1 -3.7
baz=3.9,slow=14
HFS Hagfors 13.60 166 Pn Pn 15 32 12.1 -3.7
baz=3.9,slow=14
HFS Hagfors 13.60 166 Pn Pn 15 32 11.8 -3.9
comp=Z,0.6nm,0.3s,baz=2.0,slow=12,SNR=19
HFS Sn Sn 15 34 37.2 -9.1
comp=Z,0.4nm,0.3s,baz=352,slow=25,SNR=4.2
HFS LR LR 15 37 11.8
comp=Z,3μm,18.0s,baz=349,slow=36
HFS Hagfors 13.60 166 Pn Pn 15 32 12.1 -3.7
SNR=50
FIA1 FINESS Array S 13.93 140 *e*P Pn 15 32 16.0 -4.3
FIA1 FINESS Array S 13.93 140 *e*P Pn 15 32 16.1 -4.3
FIA0 FINESS Array S 13.93 140 Pn Pn 15 32 16.3 -4.0
baz=330,slow=11
FIA0 FINESS Array S 13.93 140 Pn Pn 15 32 16.3 -4.0
baz=330,slow=11
FIA0 FINESS Array S 13.93 140 Pn Pn 15 32 16.3 -4.0
SNR=50
FINES FINESS Array B 13.93 140 Pn Pn 15 32 16.2 -4.0
comp=Z,0.7nm,0.3s,baz=340,slow=11,SNR=21
FINES LR LR 15 37 19.3
comp=Z,3μm,21.3s,baz=271,slow=36
FINES FINESS Array B 13.93 140 P Pn 15 32 16.3 -4.0
FINES pmax pmax
comp=Z,1.0nm,0.3s
FINES MLR MLR
comp=Z,3μm,21.3s
TMCR Tamitsa 14.28 115 *e*P **Pn 15 32 22.7 -2.3**
TMCR pmax pmax
comp=Z,51nm,0.9s
ALE Alert 15.67 333 Pn **Pn 15 32 40.9 -2.7**
comp=Z,85nm,0.7s,SNR=5.2
VSU Vasula 16.84 143 ⇑ *i*P Pn 15 32 53.2 -5.4
VSU pmax pmax
comp=Z,85nm,1.2s
MUD Monsted U'grnd 17.08 176 *i* P **Pn 15 32 57.7 -3.9**
comp=Z,1μm,17.0s
MUD Monsted U'grnd 17.08 176 *e*P **Pn 15 32 57.7 -3.9**
MUD MLR MLR
comp=Z,1μm,17.0s
KLMR Klimovskoe 17.43 119 *d i*P **Pn 15 33 02.7 -3.2**
KLMR *e*S **S 15 36 25.8 -1.6**
KLMR pmax pmax
comp=Z,118nm,1.3s
KLMR MLR MLR
comp=Z,1μm,14.0s
KLMR Klimovskoe 17.43 119 *i* P **Pn 15 33 02.7 -3.2**
comp=Z,118nm,1.3s
PRGR Permogore 18.36 110 *e*P **Pn 15 33 13.7 -3.6**
PRGR pmax pmax
comp=Z,29nm,0.8s
PRGR Permogore 18.36 110 *e*P **Pn 15 33 13.7 -3.6**
comp=Z,29nm,0.8s
ILULI Ilulissat 18.46 286 *i* P **P 15 33 17.9 -0.5**
comp=Z,2μm,16.0s
BSD Bornholm Skovb 18.67 166 *i* P **P 15 33 18.7 -2.1**
comp=Z,40nm,0.9s
comp=Z,2μm,17.0s
BSD Bornholm Skovb 18.67 166 *e*P **P 15 33 18.7 -2.1**
BSD pmax pmax
comp=Z,40nm,0.9s
BSD MLR MLR
comp=Z,2μm,17.0s
BSD Bornholm Skovb 18.67 166 *e*P **P 15 33 18.7 -2.1**
comp=Z,2μm,17.0s
EKA Eskdalemuir Ar 18.68 199 P **P 15 33 20.1 -0.9**
baz=9.0,slow=11,SNR=11
ESK Eskdalemuir 18.70 199 *e*P **P 15 33 19.4 -1.8**
ESK pmax pmax
comp=Z,32nm,1.1s
ESK Eskdalemuir 18.70 199 *e*P **P 15 33 19.4 -1.8**
comp=Z,32nm,1.1s
ESK Eskdalemuir 18.70 199 *e*P **P 15 33 19.4 -1.8**
comp=Z,32nm,1.1s
SFJD Kangerlussuaq 19.82 281 *i* P **P 15 33 34.2 +0.9**
comp=Z,5.6nm,0.8s
comp=Z,2μm,18.0s
SFJD Kangerlussuaq 19.82 281 P **P 15 33 32.6 -0.7**
comp=Z,0.2nm,0.3s,baz=36,slow=8.7,SNR=5.9
SFJD LR LR 15 40 15.0
comp=Z,3μm,18.8s,baz=48,slow=34
SFJD Kangerlussuaq 19.82 281 *i* P **P 15 33 34.2 +0.9**
SFJD pmax pmax
comp=Z,6.0nm,0.8s
SFJD MLR MLR
comp=Z,2μm,18.0s
NACGM Naroch 20.25 146 *e*P **P 15 33 34.0 -4.1**
NACGM Naroch 20.25 146 *e*P **P 15 33 34.5 -3.6**
SUW Suwalki 20.59 153 *e*P **P 15 33 39.5 -2.3**
SUW Suwalki 20.59 153 *e*P **P 15 33 40.5 -1.3**
SUW pmax pmax
comp=Z,84nm,1.0s
SUW Suwalki 20.59 153 *e*P **P 15 33 40.5 -1.3**
comp=Z,84nm,1.0s
SUW Suwalki 20.59 153 *e*P **P 15 33 40.5 -1.3**
comp=Z,84nm,1.0s
GKP Gorka Klasztor 20.68 163 *e*P Pn 15 33 45.2 +0.1
GKP Gorka Klasztor 20.68 163 *e*P Pn 15 33 45.2 +0.1
MNK Minsk 20.81 145 *e*P **P 15 33 41.0 -3.2**
MNK Minsk 20.81 145 *e*P **P 15 33 41.0 -3.2**
MICGM Minsk 20.82 145 *e*P **P 15 33 41.0 -3.2**
NRDL Niedersach Rie 21.07 175 *e*P **P 15 33 48.8 +1.9**
comp=Z,323nm,2.5s
MOS Moscow 21.56 129 *e*P **P 15 33 49.9 -2.3**
MOS *e* 15 34 34.3
MOS *e*S **S 15 37 52.3 +2.1**
MOS pmax pmax
comp=Z,65nm,1.2s
MOS pmax pmax
comp=Z,100nm,1.4s
MOS MLR MLR
comp=Z,1μm,13.0s
MOS Moscow 21.56 129 *e*P **P 15 33 49.9 -2.3**
comp=Z,100nm,1.4s
OBN Obninsk 21.91 131 P **P 15 33 54.2 -1.7**
comp=Z,328nm,1.1s,SNR=9.7
OBN Obninsk 21.91 131 P **P 15 33 54.2 -1.7**
comp=Z,11nm,0.4s,baz=299,slow=22,SNR=8.7
OBN LR LR 15 42 31.6
comp=Z,1μm,18.4s,baz=315,slow=37
OBN Obninsk 21.91 131 *c i*P **P 15 33 53.8 -2.1**
OBN *i* S **S 15 37 55.1 -1.8**
OBN *i* SS SnSn 15 38 38.0 +16
OBN pmax pmax
comp=Z,45nm,1.4s
OBN MLR MLR
comp=Z,3μm,27.0s
OBN Obninsk 21.91 131 *i* P **P 15 33 53.8 -2.1**
comp=Z,45nm,1.4s
OBN Obninsk 21.91 131 *e*P **P 15 33 52.6 -3.3**
comp=Z,383nm,1.9s
BUG Bochum--Univer 22.09 180 *e*P **P 15 33 58.0 +0.1**
BUG Bochum--Univer 22.09 180 *e*P **P 15 33 58.0 +0.1**
CLL Collm 22.36 171 *e*P **P 15 34 02.2 +1.4**
CLL *e*L L 15 42 41.3
comp=Z,1μm,18.0s
CLL Collm 22.36 171 *e*P **P 15 34 00.0 -0.8**
CLL *i* pP **pP 15 34 03.5 -1.9**
CLL *i* 15 34 07.6
CLL *e* 15 34 20.0
CLL *e*S **S 15 38 09.0 +3.4**
CLL Lm MLR 15 42 00.0
comp=Z,1μm,18.0s
CLL Collm 22.36 171 *e*P **P 15 34 00.0 -0.8**
CLL *i* 15 34 03.5
CLL *e*S **S 15 38 09.0 +3.4**
CLL MLR MLR
comp=Z,1μm,18.0s
CLL Collm 22.36 171 *e*P **P 15 34 00.0 -0.8**
CLL Collm 22.36 171 *e*P **P 15 34 00.8 0.0**
comp=Z,73nm,1.5s
BEL Belsk 22.44 158 *e*P **P 15 34 00.2 -1.4**
BEL Belsk 22.44 158 *e*P **P 15 34 00.3 -1.4**
BEL Belsk 22.44 158 *e*P **P 15 34 00.3 -1.4**
UBBA Unterbreizbach 22.74 176 *e*P **P 15 34 06.4 +1.6**
BEBN Eben Emael 22.75 183 P **P 15 34 06.3 +1.4**
BRG Berggiesshubel 22.84 169 *e*P **P 15 34 06.8 +0.9**
comp=Z,28nm,1.7s
BRG S S 15 38 02.0 -12
comp=N,1μm,17.2s
comp=E,285nm,14.8s
comp=Z,1μm,17.5s
BRG Berggiesshubel 22.84 169 *e*P **P 15 34 06.9 +0.9**
BRG Berggiesshubel 22.84 169 *e*P **P 15 34 06.8 +0.9**
BRG S S 15 38 02.0 -12
BRG pmax pmax
comp=Z,28nm,1.7s
BRG MLR MLR
comp=N,1μm,17.2s
BRG MLR MLR
comp=E,285nm,14.8s
BRG MLR MLR
comp=Z,1μm,17.5s
MEM Membach 22.93 182 P **P 15 34 06.5 -0.4**
comp=Z,15nm,1.0s
MEM Membach 22.93 182 *e*P **P 15 34 06.3 -0.5**
MEM pmax pmax
comp=Z,26nm,0.9s
MEM Membach 22.93 182 *e*P **P 15 34 06.3 -0.5**
comp=Z,26nm,0.9s
MEM Membach 22.93 182 *e*P **P 15 34 06.3 -0.5**
comp=Z,26nm,0.9s
KSP Ksiaz 23.02 165 *e*P **P 15 34 05.8 -2.0**
KSP Ksiaz 23.02 165 *e*P **P 15 34 05.9 -1.9**
SNF Seneffe 23.06 185 P **P 15 34 08.4 +0.2**
PVCC Panska Ves 23.22 168 *e*P **P 15 34 10.9 +1.1**
PVCC *e*pP **pP 15 34 13.6 -0.9**
PVCC *ex* x 15 34 18.4
PVCC AMS AMS 15 43 10.0
comp=Z,1μm,15.2s
PVCC Panska Ves 23.22 168 *e*P **P 15 34 10.9 +1.1**
PVCC *e* 15 34 13.6
PVCC *e* 15 34 18.4
PVCC MLR MLR
comp=Z,1μm,15.2s
TANN Tannenbergstha 23.23 172 *e*P **P 15 34 11.6 +1.7**
comp=Z,206nm,2.6s
TANN *e*L L 15 43 08.0
comp=Z,743nm,18.8s
TNS Taunus Mts 23.32 178 *e*P **P 15 34 12.8 +2.0**
comp=Z,385nm,2.9s
NKC Novy Kostel 23.41 172 *e*P **P 15 34 11.2 -0.5**
NKC AMS AMS 15 43 30.0
comp=Z,800nm,15.9s
NKC Novy Kostel 23.41 172 *e*P **P 15 34 11.2 -0.5**
NKC MLR MLR
comp=Z,800nm,15.9s
GIVF Givet 23.45 184 *e*P **P 15 34 12.0 -0.2**
comp=Z,170nm,1.5s
GIVF Givet 23.45 184 *e*P **P 15 34 12.0 -0.2**
GIVF pmax pmax
comp=Z,170nm,1.5s
GIVF Givet 23.45 184 *e*P **P 15 34 12.0 -0.2**
comp=Z,85nm,1.5s
GIVF Givet 23.45 184 *e*P **P 15 34 12.0 -0.2**
comp=Z,170nm,1.5s
DOU Dourbes 23.47 184 P **P 15 34 12.4 +0.1**
DPC Dobruska-Polom 23.51 165 *e*P **P 15 34 11.8 -1.0**
DPC *e*pP **pP 15 34 14.9 -2.6**
DPC *e*S **S 15 38 26.3 +0.7**
DPC AMS AMS 15 43 10.0
DPC Dobruska-Polom 23.51 165 *e*P **P 15 34 11.8 -1.0**
DPC *e* 15 34 14.9
DPC *e*S **S 15 38 26.3 +0.7**
BAIF Baives 23.51 185 *e*P **P 15 34 11.7 -1.0**
comp=Z,71nm,1.0s
BAIF Baives 23.51 185 *e*P **P 15 34 11.7 -1.0**
BAIF pmax pmax
comp=Z,71nm,1.0s
BAIF Baives 23.51 185 *e*P **P 15 34 11.7 -1.0**
comp=Z,36nm,1.0s
BAIF Baives 23.51 185 *e*P **P 15 34 11.7 -1.0**
comp=Z,71nm,1.0s
ABH Alteburg 23.65 180 *e*P **P 15 34 16.5 +2.4**
PRA Prague 23.67 168 *e*P **P 15 34 14.7 +0.5**
PRA AMS AMS 15 43 10.0
comp=Z,1μm,18.7s
PRA Prague 23.67 168 *e*P **P 15 34 14.7 +0.5**
PRA MLR MLR
comp=Z,1μm,18.7s
PRU Pruhonice 23.75 168 *e*P **P 15 34 15.3 +0.2**
PRU *e*S **S 15 38 30.9 +1.5**
PRU AMS AMS 15 43 20.0
comp=Z,1μm,17.9s
PRU Pruhonice 23.75 168 *e*P **P 15 34 15.3 +0.2**
PRU *e*S **S 15 38 30.9 +1.5**
PRU MLR MLR
comp=Z,1μm,17.9s
RUP Ruppelstein 23.83 180 *e*P **P 15 34 17.3 +1.4**
GOPC GO Pecny, Ondr 23.84 168 *e*P **P 15 34 16.3 +0.3**
GOPC *e*pP **pP 15 34 19.2 -1.6**
GOPC *e*S **S 15 38 30.8 -0.1**
GOPC AMS AMS 15 43 20.0
comp=Z,1μm,18.3s
ROTZ Rotzenmuhle 23.86 172 *e*P **P 15 34 16.8 +0.7**
comp=Z,399nm,2.8s
WLF Walferdange 23.87 182 P **P 15 34 17.2 +1.0**
comp=Z,52nm,2.5s
WLF Walferdange 23.87 182 *e*P **P 15 34 17.0 +0.8**
comp=Z,439nm,2.7s
WLF Walferdange 23.87 182 *e*P **P 15 34 16.1 -0.1**
WLF pmax pmax
comp=Z,425nm,2.6s
WLF Walferdange 23.87 182 *e*P **P 15 34 16.1 -0.1**
comp=Z,424nm,2.6s
WLF Walferdange 23.87 182 *e*P **P 15 34 16.1 -0.1**
comp=Z,424nm,2.6s
GRFO Grafenberg 23.90 174 *e*P **P 15 34 17.4 +0.9**
GRFO pmax pmax
comp=Z,66nm,1.5s
GRFO Grafenberg 23.90 174 *e*P **P 15 34 17.4 +0.9**
comp=Z,66nm,1.5s
GRFO Grafenberg 23.90 174 *e*P **P 15 34 17.4 +0.9**
comp=Z,66nm,1.5s
TOD Tromm 23.94 178 *e*P **P 15 34 18.4 +1.6**
OJC Ojcow 23.94 160 *e*P **P 15 34 15.8 -1.0**
OJC Ojcow 23.94 160 *e*P **P 15 34 16.1 -0.7**
OJC pmax pmax
comp=Z,426nm,2.6s
OJC Ojcow 23.94 160 *e*P **P 15 34 16.1 -0.7**
comp=Z,426nm,2.6s
OJC Ojcow 23.94 160 *e*P **P 15 34 16.1 -0.7**
comp=Z,426nm,2.6s
OKC Ostrava-Krasne 24.16 163 *e*P **P 15 34 18.4 -0.5**
OKC *ex* x 15 34 27.2
OKC AMS AMS 15 43 50.0
comp=Z,1μm,15.9s
OKC Ostrava-Krasne 24.16 163 *e*P **P 15 34 18.4 -0.5**
OKC *e* 15 34 27.2
OKC MLR MLR
comp=Z,1μm,15.9s
MORC Moravsky Berou 24.17 164 *e*P **P 15 34 18.4 -0.7**
MORC pmax pmax
comp=Z,183nm,2.2s
MORC Moravsky Berou 24.17 164 ⇓ *j*P **P 15 34 18.8 -0.3**
MORC Moravsky Berou 24.17 164 *e*P **P 15 34 18.4 -0.7**
comp=Z,183nm,2.2s
MORC Moravsky Berou 24.17 164 *e*P **P 15 34 18.4 -0.7**
comp=Z,183nm,2.2s
KTD Kalmit 24.21 179 *e*P **P 15 34 21.4 +1.9**
TREC Trest 24.50 167 AMS AMS 15 44 00.0
comp=Z,1μm,15.2s
WET Wettzell 24.51 171 *e*P **P 15 34 24.7 +2.5**
comp=Z,145nm,2.3s
WET *e*L L 15 43 57.0
comp=Z,878nm,18.6s
LANF Langenberg 24.55 179 *e*P **P 15 34 22.5 0.0**
LANF Langenberg 24.55 179 *e*P **P 15 34 22.5 0.0**
KHC Kasperske Hory 24.56 170 *e*P **P 15 34 23.6 +1.0**
KHC *e*pP **pP 15 34 28.5 +1.0**
KHC *ex* x 15 34 33.9
KHC *e*S **S 15 38 43.8 +1.4**
KHC AMS AMS 15 43 50.0
comp=Z,1μm,19.6s
KHC Kasperske Hory 24.56 170 *e*P **P 15 34 23.6 +1.0**
KHC *e* 15 34 28.5
KHC *e*S **S 15 38 43.8 +1.4**
KHC MLR MLR
comp=Z,1μm,19.6s
VRAC Vranov 24.57 165 P **P 15 34 22.5 -0.1**
comp=Z,23nm,0.8s,baz=354,slow=9.2,SNR=19
VRAC LR LR 15 44 02.9
comp=Z,1μm,18.9s,baz=350,slow=37
VRAC Vranov 24.57 165 ⇓ *j*P **P 15 34 23.0 +0.4**
VRAC Vranov 24.57 165 ⇓ *j*P **P 15 34 23.0 +0.4**
AKASG Malin Array Be 24.70 145 P **P 15 34 22.1 -1.7**
comp=Z,11nm,0.7s,baz=344,slow=9.5,SNR=38
AKASG PcP **PcP 15 37 59.8 -0.4**
comp=Z,0.6nm,0.6s,baz=352,slow=2.5,SNR=5.0
AKASG LR LR 15 43 46.0
comp=Z,3μm,20.5s,baz=335,slow=36
AKASG Malin Array Be 24.70 145 P **P 15 34 22.1 -1.7**
AKASG 15 37 59.8
AKASG pmax pmax
comp=Z,11nm,0.7s
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG MLR MLR
comp=Z,3μm,20.5s
KIEV Kiev 24.71 145 *e*P **P 15 34 21.5 -2.3**
KIEV pmax pmax
comp=Z,77nm,1.5s
KIEV Kiev 24.71 145 *e*P **P 15 34 21.5 -2.3**
comp=Z,77nm,1.5s
KIEV Kiev 24.71 145 *e*P **P 15 34 21.5 -2.3**
comp=Z,77nm,1.5s
AK01 Malin Array Si 24.71 145 *e*P **P 15 34 21.0 -2.9**
AK01 Malin Array Si 24.71 145 *e*P **P 15 34 21.0 -2.9**
AK02 Malin Array Si 24.75 145 *e*P **P 15 34 21.2 -3.0**
AK02 Malin Array Si 24.75 145 *e*P **P 15 34 21.2 -3.0**
LPSR Galich'ya Gora 24.76 130 *e*P **P 15 34 23.5 -0.8**
LPSR pmax pmax
comp=Z,40nm,0.9s
LPSR pmax pmax
comp=N,10.0nm,1.1s
LPSR pmax pmax
comp=E,8.0nm,0.7s
NIE Niedzica 24.78 159 *e*P **P 15 34 24.7 +0.1**
NIE Niedzica 24.78 159 *e*P **P 15 34 24.7 +0.1**
LVV L'vov 24.81 154 *e*P **P 15 34 24.4 -0.4**
LVV *e* 15 35 04.8
LVV *e* 15 38 07.2
LVV *e*S **S 15 38 45.4 -1.0**
LVV *e*SS SnSn 15 40 03.8 +30
LVV MLR MLR
comp=N,1μm,15.0s
LVV MLR MLR
comp=Z,1μm,15.0s
LVV MLR MLR
comp=E,100nm,14.0s
KWP Kalwaria Pacla 24.83 156 *e*P **P 15 34 24.6 -0.4**
KWP Kalwaria Pacla 24.83 156 *e*P **P 15 34 25.7 +0.7**
KWP pmax pmax
comp=Z,90nm,1.4s
KWP Kalwaria Pacla 24.83 156 ⇑ *i*P **P 15 34 26.1 +1.1**
KWP Kalwaria Pacla 24.83 156 *e*P **P 15 34 25.7 +0.7**
comp=Z,90nm,1.4s
KWP Kalwaria Pacla 24.83 156 *e*P **P 15 34 25.7 +0.7**
comp=Z,90nm,1.4s
RES Resolute Bay 24.84 322 P **P 15 34 27.9 +3.1**
comp=Z,1.2nm,0.8s,baz=34,slow=7.3,SNR=2.8
RES LR LR 15 44 13.4
comp=Z,1μm,18.6s,baz=50,slow=37
RES Resolute Bay 24.84 322 P **P 15 34 28.0 +3.1**
RES pmax pmax
comp=Z,1.0nm,0.8s
RES MLR MLR
comp=Z,1μm,18.6s
GEC2 GERESS Array S 24.85 170 *e*P **P 15 34 26.2 +0.9**
comp=Z,171nm,2.8s
GEC2 *e*L L 15 44 07.3
comp=Z,1μm,18.8s
GEC2 GERESS Array S 24.85 170 *e*P **P 15 34 26.0 +0.7**

GEC2 **GERESS Array S** 24.85 170 *eP* P 15 34 26.0 +0.7
GEC2 **GERESS Array S** 24.85 170 *eP* P 15 34 26.0 +0.7
GERES **GERESS Array B** 24.85 170 P P 15 34 25.2 -0.1
comp=Z,9.2nm,0.9s,baz=357,slow=8.0,SNR=25
GERES LR LR 15 44 26.8
comp=Z,1μm,18.3s,baz=348,slow=37
GERES **GERESS Array B** 24.85 170 P P 15 34 25.2 -0.1
GERES pmax pmax
comp=Z,9.0nm,0.9s
GERES MLR MLR
comp=Z,1μm,18.3s
PAGF Fort de Pagny 24.99 182 *eP* P 15 34 27.2 +0.8
comp=Z,30nm,1.3s
PAGF Fort de Pagny 24.99 182 *eP* P 15 34 27.2 +0.8
comp=Z,15nm,1.3s
PAGF Fort de Pagny 24.99 182 *eP* P 15 34 27.2 +0.8
comp=Z,30nm,1.3s
FLN La Foliniere 25.01 192 *eP* P 15 34 27.2 +0.6
comp=Z,138nm,1.7s
FLN *eR*
comp=Z,366nm,19.0s
FLN La Foliniere 25.01 192 *eP* P 15 34 27.2 +0.6
FLN pmax pmax
comp=Z,139nm,1.7s
FLN La Foliniere 25.01 192 *eP* P 15 34 27.2 +0.6
comp=Z,69nm,1.7s
FLN La Foliniere 25.01 192 *eP* P 15 34 27.2 +0.6
comp=Z,138nm,1.7s
MEZF Maizieres J'vi 25.05 184 *eP* P 15 34 27.4 +0.4
comp=Z,35nm,0.9s
MEZF Maizieres J'vi 25.05 184 *eP* P 15 34 27.4 +0.4
comp=Z,18nm,0.9s
MEZF Maizieres J'vi 25.05 184 *eP* P 15 34 27.4 +0.4
comp=Z,35nm,0.9s
CDF Champ du Feu 25.12 180 *eP* P 15 34 27.2 -0.5
comp=Z,30nm,1.2s
CDF Champ du Feu 25.12 180 *eP* P 15 34 27.2 -0.5
CDF pmax pmax
comp=Z,30nm,1.2s
CDF Champ du Feu 25.12 180 *eP* P 15 34 27.2 -0.5
comp=Z,15nm,1.2s
CDF Champ du Feu 25.12 180 *eP* P 15 34 27.2 -0.5
comp=Z,30nm,1.2s
LDF La Druitiere 25.16 192 *eP* P 15 34 28.7 +0.8
comp=Z,58nm,1.0s
LDF La Druitiere 25.16 192 *eP* P 15 34 28.7 +0.8
LDF pmax pmax
comp=Z,58nm,1.0s
LDF La Druitiere 25.16 192 *eP* P 15 34 28.7 +0.8
comp=Z,29nm,1.0s
LDF La Druitiere 25.16 192 *eP* P 15 34 28.7 +0.8
comp=Z,58nm,1.0s
BFO Black Forest 25.21 178 P P 15 34 29.1 +0.7
comp=Z,77nm,1.1s,SNR=5.1
BFO Black Forest 25.21 178 *eP* P 15 34 30.6 +2.2
comp=Z,230nm,2.8s
BFO Black Forest 25.21 178 *eP* P 15 34 29.5 +1.0
BFO pmax pmax
comp=Z,270nm,2.8s
BFO Black Forest 25.21 178 *eP* P 15 34 29.5 +1.0
comp=Z,270nm,2.8s
BFO Black Forest 25.21 178 *eP* P 15 34 29.4 +1.0
comp=Z,270nm,2.8s
THEF They Montfort 25.31 182 *eP* P 15 34 32.1 +2.7
ECH Echery 25.32 180 *eP* P 15 34 31.8 +2.4
ECH Echery 25.32 180 *eP* P 15 34 29.6 +0.2
ECH pmax pmax
comp=Z,18nm,1.1s
ECH Echery 25.32 180 *eP* P 15 34 29.6 +0.2
comp=Z,18nm,1.1s
ECH Echery 25.32 180 *eP* P 15 34 29.6 +0.2
comp=Z,18nm,1.1s
SFTF Sexfontaines 25.35 184 *eP* P 15 34 30.7 +1.0
comp=Z,97nm,1.2s
SFTF Sexfontaines 25.35 184 *eP* P 15 34 30.7 +1.0
comp=Z,48nm,1.2s
SFTF Sexfontaines 25.35 184 *eP* P 15 34 30.7 +1.0
comp=Z,97nm,1.2s
GRR Gorron 25.41 193 *eP* P 15 34 30.2 0.0
comp=Z,65nm,1.3s
GRR Gorron 25.41 193 *eP* P 15 34 30.2 0.0
GRR pmax pmax
comp=Z,65nm,1.3s
GRR Gorron 25.41 193 *eP* P 15 34 30.2 0.0
comp=Z,32nm,1.3s
GRR Gorron 25.41 193 *eP* P 15 34 30.2 0.0
comp=Z,65nm,1.3s
FUR Furstenfeldbru 25.43 174 *eP* P 15 34 33.0 +2.5
FUR *eL* L 15 46 32.6
comp=Z,349nm,19.4s
HAU Haudompre 25.53 181 *eP* P 15 34 31.7 +0.3
comp=Z,34nm,1.0s
HAU *eR*
comp=Z,520nm,21.0s
HAU Haudompre 25.53 181 *eP* P 15 34 31.7 +0.3
HAU pmax pmax
comp=Z,34nm,1.0s
HAU Haudompre 25.53 181 *eP* P 15 34 31.7 +0.3
comp=Z,17nm,1.0s
HAU Haudompre 25.53 181 *eP* P 15 34 31.7 +0.3
comp=Z,34nm,1.0s
VYHS Vyhne 25.56 162 *eP* P 15 34 31.9 +0.3
VYHS Vyhne 25.56 162 *eP* P 15 34 31.9 +0.3
ROSF Rostrenen 25.63 196 *eP* P 15 34 32.5 +0.3
comp=Z,119nm,1.3s
ROSF Rostrenen 25.63 196 *eP* P 15 34 32.5 +0.3
ROSF pmax pmax
comp=Z,119nm,1.3s
ROSF Rostrenen 25.63 196 *eP* P 15 34 32.5 +0.3
comp=Z,60nm,1.3s
ROSF Rostrenen 25.63 196 *eP* P 15 34 32.5 +0.3
comp=Z,119nm,1.3s
SGMF Saint Gilles 25.66 195 *eP* P 15 34 32.1 -0.3
comp=Z,106nm,1.4s
SGMF Saint Gilles 25.66 195 *eP* P 15 34 32.1 -0.3
SGMF pmax pmax
comp=Z,106nm,1.4s
SGMF Saint Gilles 25.66 195 *eP* P 15 34 32.1 -0.3
comp=Z,53nm,1.4s
SGMF Saint Gilles 25.66 195 *eP* P 15 34 32.1 -0.3
comp=Z,106nm,1.4s
FELD Feldberg im Sc 25.66 179 *eP* P 15 34 34.1 +1.4
HINF Hinteralfeld 25.72 181 *eP* P 15 34 34.0 +0.9
comp=Z,40nm,1.4s
HINF Hinteralfeld 25.72 181 *eP* P 15 34 34.0 +0.9
HINF pmax pmax
comp=Z,40nm,1.4s
HINF Hinteralfeld 25.72 181 *eP* P 15 34 34.0 +0.9
comp=Z,20nm,1.4s
HINF Hinteralfeld 25.72 181 *eP* P 15 34 34.0 +0.9
comp=Z,40nm,1.4s
UZH Uzhgorod 25.77 157 *eP* P 15 34 34.1 +0.6
UZH *eS* S 15 39 02.1 +0.5
UZH MLR MLR
comp=Z,600nm,16.0s
CONA Conrad Observa 25.89 167⇑*iP* P 15 34 34.5 -0.2
comp=Z,17nm,0.9s
CONA Conrad Observa 25.89 167 P P 15 34 34.5 -0.2
comp=Z,17nm,0.9s
RJOB Jochberg 25.91 171 *eP* P 15 34 38.3 +3.4
comp=Z,21nm,0.8s
QUIF Quistinic 26.04 196 *eP* P 15 34 36.4 +0.5
comp=Z,38nm,1.0s
QUIF Quistinic 26.04 196 *eP* P 15 34 36.4 +0.5
QUIF pmax pmax
comp=Z,38nm,1.0s
QUIF Quistinic 26.04 196 *eP* P 15 34 36.4 +0.5
comp=Z,19nm,1.0s
QUIF Quistinic 26.04 196 *eP* P 15 34 36.4 +0.5
comp=Z,38nm,1.0s
VSR Storozhevoye 26.11 131 *eP* P 15 34 37.7 +1.1
VSR pmax pmax
comp=Z,8.0nm,0.7s
VSR pmax pmax
comp=N,20nm,1.2s
VSR pmax pmax
comp=E,10.0nm,1.5s
LOMF Lomont 26.18 181 *eP* P 15 34 40.1 +2.7
PSZ Piszkesteto 26.22 161 *eP* P 15 34 38.0 +0.3
PSZ pmax pmax
comp=Z,207nm,2.5s
PSZ Piszkesteto 26.22 161⇓*iP* P 15 34 38.4 +0.7
PSZ Piszkesteto 26.22 161 *eP* P 15 34 38.0 +0.3
comp=Z,207nm,2.5s
PSZ Piszkesteto 26.22 161 *eP* P 15 34 38.0 +0.3
comp=Z,207nm,2.5s
TRPA Tarpa 26.29 157⇑*iP* P 15 34 39.3 +1.1

LOR Lormes 26.31 185 *eP* P 15 34 38.9 +0.5
comp=Z,39nm,1.0s
LOR *eR*
comp=Z,430nm,18.0s
LOR Lormes 26.31 185 *eP* P 15 34 38.9 +0.5
LOR pmax pmax
comp=Z,39nm,1.0s
LOR Lormes 26.31 185 *eP* P 15 34 38.9 +0.5
comp=Z,20nm,1.0s
LOR Lormes 26.31 185 *eP* P 15 34 38.9 +0.5
comp=Z,39nm,1.0s
ARU Arti 26.33 102 P P 15 34 39.5 +1.0
comp=Z,235nm,1.1s,SNR=11
ARU Arti 26.33 102*diP* P 15 34 39.2 +0.7
ARU 15 35 19.4
ARU 15 38 01.4
ARU S S 15 39 14.7 +4.3
ARU pmax pmax
comp=Z,59nm,1.2s
ARU MLR MLR
comp=Z,908nm,17.0s
ARU Arti 26.33 102 *eP* P 15 34 38.8 +0.3
comp=Z,49nm,1.1s
ARU Arti 26.33 102 *eP* P 15 34 38.9 +0.3
comp=Z,49nm,1.1s
SSF Saint Saulge 26.53 186 *eP* P 15 34 40.9 +0.5
comp=Z,94nm,1.8s
SSF Saint Saulge 26.53 186 *eP* P 15 34 40.9 +0.5
SSF pmax pmax
comp=Z,94nm,1.8s
SSF Saint Saulge 26.53 186 *eP* P 15 34 40.9 +0.5
comp=Z,47nm,1.8s
SSF Saint Saulge 26.53 186 *eP* P 15 34 40.9 +0.5
comp=Z,94nm,1.8s
ARSA Arzberg 26.54 167⇑*iP* P 15 34 41.3 +0.8
comp=Z,10nm,1.0s
FETA Feichten 26.56 175⇑*ipP* P 15 34 43.3 +2.5
comp=Z,6.2nm,1.0s
SVE Sverdlovsk 26.57 100⇈*eP* P 15 34 40.8 +0.1
SVE pmax pmax
comp=Z,32nm,1.8s
SVE MLR MLR
comp=Z,1μm,18.0s
DAVOX Davos/Dischmat 26.78 176 LR LR 15 45 12.6
comp=Z,381nm,21.4s,baz=0.5,slow=36
AVF Avril sur Loir 26.80 186 *eP* P 15 34 42.4 -0.4
comp=Z,38nm,1.0s
AVF Avril sur Loir 26.80 186 *eP* P 15 34 42.4 -0.4
AVF pmax pmax
comp=Z,38nm,1.0s
AVF Avril sur Loir 26.80 186 *eP* P 15 34 42.4 -0.4
comp=Z,19nm,1.0s
AVF Avril sur Loir 26.80 186 *eP* P 15 34 42.4 -0.4
comp=Z,38nm,1.0s
CABF La Chapelle 26.93 182 *eP* P 15 34 43.9 -0.2
comp=Z,72nm,1.3s
CABF La Chapelle 26.93 182 *eP* P 15 34 43.9 -0.2
CABF pmax pmax
comp=Z,73nm,1.3s
CABF La Chapelle 26.93 182 *eP* P 15 34 43.9 -0.2
comp=Z,36nm,1.3s
CABF La Chapelle 26.93 182 *eP* P 15 34 43.9 -0.2
comp=Z,72nm,1.3s
SMF Signal de Mont 26.93 185 *eP* P 15 34 44.2 +0.1
comp=Z,110nm,1.6s
SMF Signal de Mont 26.93 185 *eP* P 15 34 44.2 +0.1
SMF pmax pmax
comp=Z,110nm,1.6s
SMF Signal de Mont 26.93 185 *eP* P 15 34 44.2 +0.1
comp=Z,55nm,1.6s
SMF Signal de Mont 26.93 185 *eP* P 15 34 44.2 +0.1
comp=Z,110nm,1.6s
SOKA Soboth 27.08 168⇑*iP* P 15 34 46.2 +0.7
comp=Z,10nm,1.0s
BUR08 Bucovina Ar. S 27.10 153 *eP* P 15 34 45.4 -0.2
BUR08 Bucovina Ar. S 27.10 153 *eP* P 15 34 45.4 -0.2
BURAR Bucovina Array 27.13 153⇑P P 15 34 46.1 +0.2
BURAR Bucovina Array 27.13 153⇑*iP* P 15 34 46.1 +0.2
PERS Pernice 27.13 168 *iP* P 15 34 47.2 +1.3
MFF Saint Martin d 27.14 191 *eP* P 15 34 47.3 +1.4
comp=Z,135nm,1.7s
MFF Saint Martin d 27.14 191 *eP* P 15 34 47.3 +1.4
MFF pmax pmax
comp=Z,135nm,1.7s
MFF Saint Martin d 27.14 191 *eP* P 15 34 47.3 +1.4
comp=Z,68nm,1.7s
MFF Saint Martin d 27.14 191 *eP* P 15 34 47.3 +1.4
comp=Z,135nm,1.7s
SENIN Lac Senin/Sane 27.17 180 *eP* P 15 34 46.8 +0.4
SENIN Lac Senin/Sane 27.17 180 *eP* P 15 34 46.8 +0.4
FRB Frobisher Bay 27.22 289 LR LR 15 44 41.4
comp=Z,717nm,19.8s,baz=21,slow=34
TCF Toulx Ste Croi 27.34 188 *eP* P 15 34 48.1 +0.3
comp=Z,48nm,1.1s
TCF Toulx Ste Croi 27.34 188 *eP* P 15 34 48.1 +0.3
TCF pmax pmax
comp=Z,48nm,1.1s
TCF Toulx Ste Croi 27.34 188 *eP* P 15 34 48.1 +0.3
comp=Z,24nm,1.1s
TCF Toulx Ste Croi 27.34 188 *eP* P 15 34 48.1 +0.3
comp=Z,48nm,1.1s
DRGR 27.63 157⇑P P 15 34 54.0 +3.6
DRGR 27.63 157⇑*iP* P 15 34 54.0 +3.6
PKSM Moragy 27.80 163⇓P P 15 34 52.4 +0.6
PKSM Moragy 27.80 163⇓*iP* P 15 34 52.4 +0.6
JAVS Javornik 27.81 170 *i* P P 15 34 50.7 -1.4
VISS Visnje 27.95 169 *eP* P 15 34 53.8 +0.7
LPL La Plagne 28.02 181 *eP* P 15 34 55.5 +1.5
comp=Z,15nm,1.0s
LPL La Plagne 28.02 181 *eP* P 15 34 55.5 +1.5
LPL pmax pmax
comp=Z,15nm,1.0s
LPL La Plagne 28.02 181 *eP* P 15 34 55.5 +1.5
comp=Z,7.3nm,1.0s
LPL La Plagne 28.02 181 *eP* P 15 34 55.5 +1.5
comp=Z,15nm,1.0s
LPG La Plagne 28.04 181 *eP* P 15 34 54.7 +0.4
comp=Z,20nm,1.1s
LPG La Plagne 28.04 181 *eP* P 15 34 54.7 +0.4
LPG pmax pmax
comp=Z,20nm,1.1s
LPG La Plagne 28.04 181 *eP* P 15 34 54.7 +0.4
comp=Z,9.9nm,1.1s
LPG La Plagne 28.04 181 *eP* P 15 34 54.7 +0.4
comp=Z,20nm,1.1s
KIS Kishinev 28.24 148 *eP* P 15 35 07.0 +11
KIS LRM MLR 15 45 26.0
comp=Z,2μm,17.0s
BOJS Bojanci 28.27 168 *eP* P 15 34 56.9 +0.9
RJF Les Rejaudoux 28.36 189 *eP* P 15 34 57.4 +0.6
comp=Z,18nm,0.9s
RJF *eR*
comp=Z,368nm,19.5s
RJF Les Rejaudoux 28.36 189 *eP* P 15 34 57.4 +0.6
RJF pmax pmax
comp=Z,18nm,0.9s
RJF Les Rejaudoux 28.36 189 *eP* P 15 34 57.4 +0.6
comp=Z,9.1nm,0.9s
RJF Les Rejaudoux 28.36 189 *eP* P 15 34 57.4 +0.6
comp=Z,18nm,0.9s
TESR Tescani 28.40 151⇓*iP* P 15 35 06.8 +10
ORIF Oris-en-Rattie 28.62 182 *eP* P 15 35 00.4 +1.1
ORIF *eR*
comp=Z,479nm,21.2s
ORIF Oris-en-Rattie 28.62 182 *eP* P 15 35 00.4 +1.1
ORIF Oris-en-Rattie 28.62 182 *eP* P 15 35 00.4 +1.1
ORIF Oris-en-Rattie 28.62 182 *eP* P 15 35 00.4 +1.1
VIVF Saint-Julien-l 28.70 184 *eP* P 15 35 01.5 +1.6
comp=Z,24nm,1.0s
VIVF Saint-Julien-l 28.70 184 *eP* P 15 35 01.5 +1.6
VIVF pmax pmax
comp=Z,24nm,1.0s
VIVF Saint-Julien-l 28.70 184 *eP* P 15 35 01.5 +1.6
comp=Z,12nm,1.0s
VIVF Saint-Julien-l 28.70 184 *eP* P 15 35 01.5 +1.6
comp=Z,24nm,1.0s
LFF La Frestale 28.75 190 *eP* P 15 35 01.3 +1.0
comp=Z,14nm,0.8s
LFF La Frestale 28.75 190 *eP* P 15 35 01.3 +1.0
LFF pmax pmax
comp=Z,15nm,0.8s
LFF La Frestale 28.75 190 *eP* P 15 35 01.3 +1.0
comp=Z,7.2nm,0.8s
LFF La Frestale 28.75 190 *eP* P 15 35 01.3 +1.0
comp=Z,14nm,0.8s
MBDF Montbardon 28.81 181 *eP* P 15 35 01.2 +0.2
comp=Z,23nm,1.0s
MBDF pmax pmax
comp=Z,23nm,1.0s
MBDF Montbardon 28.81 181 *eP* P 15 35 01.2 +0.2
comp=Z,12nm,1.0s
MBDF Montbardon 28.81 181 *eP* P 15 35 01.2 +0.2
comp=Z,23nm,1.0s
LOT Lotru 29.08 156⇑*iP* P 15 34 55.4 -7.9
ARR Arges 29.26 155⇓*iP* P 15 35 03.0 -1.9
MLR Muntele Rosu 29.31 153 LR LR 15 46 58.4
comp=Z,550nm,18.9s,baz=354,slow=37
MLR Muntele Rosu 29.31 153⇑P P 15 35 01.6 -3.8
MLR Muntele Rosu 29.31 153⇑*iP* P 15 35 01.6 -3.8
LASF Ste Croix 29.50 185 *eP* P 15 35 07.6 +0.6
LASF Ste Croix 29.50 185 *eP* P 15 35 07.6 +0.6
LASF Ste Croix 29.50 185 *eP* P 15 35 07.6 +0.6
SBF Sospel 29.67 180 *eP* P 15 35 10.0 +1.5
comp=Z,57nm,0.9s
SBF Sospel 29.67 180 *eP* P 15 35 10.0 +1.5
SBF pmax pmax
comp=Z,57nm,0.9s
SBF Sospel 29.67 180 *eP* P 15 35 10.0 +1.5
comp=Z,29nm,0.9s
SBF Sospel 29.67 180 *eP* P 15 35 10.0 +1.5
comp=Z,57nm,0.9s
CFR Carcaliu 29.92 150⇓P P 15 35 11.3 +0.7
CFR Carcaliu 29.92 150⇓*iP* P 15 35 11.3 +0.7
FRF La Foret Royal 29.98 181 *eP* P 15 35 11.9 +0.8
comp=Z,32nm,1.0s
FRF La Foret Royal 29.98 181 *eP* P 15 35 11.9 +0.8
FRF pmax pmax
comp=Z,32nm,1.0s
FRF La Foret Royal 29.98 181 *eP* P 15 35 11.9 +0.8
comp=Z,16nm,1.0s
FRF La Foret Royal 29.98 181 *eP* P 15 35 11.9 +0.8
comp=Z,32nm,1.0s
LMR La Mourre 30.20 181 *eP* P 15 35 13.4 +0.3
comp=Z,56nm,1.2s
LMR La Mourre 30.20 181 *eP* P 15 35 13.4 +0.3
LMR pmax pmax
comp=Z,56nm,1.2s
LMR La Mourre 30.20 181 *eP* P 15 35 13.4 +0.3
comp=Z,28nm,1.2s
LMR La Mourre 30.20 181 *eP* P 15 35 13.4 +0.3
comp=Z,56nm,1.2s
MTLF Montolieu 30.29 187 *eP* P 15 35 14.9 +1.0
comp=Z,43nm,1.4s
MTLF Montolieu 30.29 187 *eP* P 15 35 14.9 +1.0
MTLF pmax pmax
comp=Z,43nm,1.4s
MTLF Montolieu 30.29 187 *eP* P 15 35 14.9 +1.0
comp=Z,21nm,1.4s
MTLF Montolieu 30.29 187 *eP* P 15 35 14.9 +1.0
comp=Z,43nm,1.4s
TIXI Tiksi 30.55 32*diP* P 15 35 16.5 +0.6
TIXI pmax pmax
comp=Z,49nm,2.5s
TIXI Tiksi 30.55 32 *eP* P 15 35 16.1 +0.2
comp=Z,16nm,0.9s
TIXI Tiksi 30.55 32 *eP* P 15 35 16.1 +0.2
comp=Z,16nm,0.9s
EPF Esparros 30.68 190 *eP* P 15 35 17.8 +0.4
comp=Z,28nm,1.1s
EPF Esparros 30.68 190 *eP* P 15 35 17.8 +0.4
EPF pmax pmax
comp=Z,28nm,1.1s
EPF Esparros 30.68 190 *eP* P 15 35 17.8 +0.4
comp=Z,14nm,1.1s
EPF Esparros 30.68 190 *eP* P 15 35 17.8 +0.4
comp=Z,28nm,1.1s
SJPF Ste Jean 30.68 192 *eP* P 15 35 18.8 +1.4
SJPF Ste Jean 30.68 192 *eP* P 15 35 18.8 +1.4
SJPF Ste Jean 30.68 192 *eP* P 15 35 18.8 +1.4
SJPF Ste Jean 30.68 192 *eP* P 15 35 18.8 +1.4
ETSF Etsaut 30.86 191 *eP* P 15 35 20.9 +1.9
comp=Z,66nm,1.5s
ETSF Etsaut 30.86 191 *eP* P 15 35 20.9 +1.9
ETSF pmax pmax
comp=Z,66nm,1.5s
ETSF Etsaut 30.86 191 *eP* P 15 35 20.9 +1.9
comp=Z,33nm,1.5s
ETSF Etsaut 30.86 191 *eP* P 15 35 20.9 +1.9
comp=Z,66nm,1.5s
SIM Simferopol' 31.11 142 *eP* P 15 35 24.9 +3.8
SIM *eS* S 15 40 32.0 +6.4
SIM MLR MLR
comp=N,1μm,17.3s
AKTO Aktyubinsk 31.51 109 P P 15 35 24.3 -0.3
comp=N,7.6nm,1.0s,baz=331,slow=7.6,SNR=15
AKTO LR LR 15 48 34.9
comp=N,1μm,20.6s,baz=345,slow=37
AKTO Aktyubinsk 31.51 109 P P 15 35 24.5 -0.1
AKTO pmax pmax
comp=Z,26nm,1.6s
VTS Vitosha 31.84 157⇑P P 15 35 27.5 -0.2
VTS Vitosha 31.84 157⇑*iP* P 15 35 27.5 -0.2
ANN Anapa 31.87 137 *eP* P 15 35 27.9 +0.1
ANN *eS* S 15 40 43.7 +6.3
ANN pmax pmax
comp=Z,37nm,1.1s
ANN MLR MLR
comp=Z,768nm,18.0s
PGAV Gavieira, Arco 32.42 202 *eLR* LR 15 44 42.0
PBRG Braganca 32.42 200 *eLR* LR 15 44 37.1
comp=Z,116nm,18.0s
BRVK Borovoye 32.60 94 P P 15 35 35.9 +1.7
comp=Z,68nm,1.0s,SNR=5.0
BRVK Borovoye 32.60 94⇓*eP* P 15 35 35.3 +1.1
BRVK pmax pmax
comp=Z,8.0nm,0.8s
BRVK Borovoye 32.60 94 *eP* P 15 35 33.8 -0.3
comp=Z,10.0nm,0.9s
BRVK Borovoye 32.60 94 *eP* P 15 35 33.8 -0.3
comp=Z,10.0nm,0.9s
BVAR Borovoye Array 32.66 94 P P 15 35 35.0 +0.3
comp=Z,10nm,0.8s,baz=330,slow=8.3,SNR=22
BVAR PcP **PcP** 15 38 21.4 +1.4
comp=Z,2.6nm,0.8s,baz=260,slow=0.9,SNR=4.5
BVAR Borovoye Array 32.66 94 P P 15 35 35.0 +0.3
BVAR 15 38 21.4
BVAR pmax pmax
comp=Z,10.0nm,0.9s
BVAR pmax pmax
comp=Z,3.0nm,0.8s
GOF Gofitskoye 32.78 130 *eP* P 15 35 35.6 -0.2
GOF pmax pmax
comp=Z,40nm,0.8s
POLO Lamas de Olo 32.95 201 *eP* P 15 35 38.1 +0.7
comp=Z,9.5nm,1.4s
POLO *eLR* LR 15 44 48.6
comp=Z,61nm,20.0s
PVRL Vila Real 33.04 201 *eP* P 15 35 40.0 +1.8
comp=Z,27nm,2.2s
MVO Moncorvo 33.08 200 *eP* P 15 35 39.2 +0.7
MVO *eLR* LR 15 44 37.6
comp=Z,179nm,16.0s
AB31 Akbulak array 33.10 108 *i* P P 15 35 38.2 -0.3
AB31 pmax pmax
comp=Z,6.0nm,0.7s
ABKAR Akbulak array 33.10 108 *eP* P 15 35 38.4 -0.2
ABKAR Akbulak array 33.10 108 *eP* P 15 35 38.4 -0.2
PTO Porto 33.27 202 *eP* P 15 35 41.8 +1.7
comp=Z,30nm,2.2s
SOC Sochi 33.49 135 *eP* P 15 35 41.5 -0.5
SOC *eS* S 15 41 03.1 +0.4
SOC MLR MLR
comp=Z,1μm,21.0s
PVIS Viseu 33.61 201 *eP* P 15 35 44.5 +1.3
comp=Z,24nm,1.9s
KIV Kislovodsk 33.76 131 P P 15 35 44.3 -0.1
comp=Z,66nm,0.6s,SNR=5.2
KIV Kislovodsk 33.76 131 *eP* P 15 35 44.5 +0.1
KIV *eS* S 15 41 08.5 +1.5
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,818nm,16.0s
KIV Kislovodsk 33.76 131 P P 15 35 44.1 -0.3
comp=Z,23nm,1.1s
KIV Kislovodsk 33.76 131 P P 15 35 44.1 -0.3
comp=Z,23nm,1.1s
KBZ Khabaz 34.02 131 P P 15 35 46.8 +0.3
comp=Z,3.7nm,0.8s,baz=56,slow=24,SNR=9.3
KBZ LR LR 15 50 03.7
comp=Z,1μm,21.0s,baz=334,slow=37

KBZ Khabaz 34.02 131 P **P** **15 35 46.8 +0.3**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
KBZ MLR MLR
comp=Z,1µm,21.0s
SCHQ Schefferville 34.23 278 LR LR 15 48 17.6
comp=Z,1µm,20.2s,baz=78,slow=34
ESDC Sonseca Array 34.29 196 P **P** **15 35 48.6 -0.4**
comp=Z,1.1nm,0.7s,baz=6.0,slow=8.5,SNR=11
PCAS Casmilo, Conde 34.33 202 *e*LR LR 15 44 31.1
comp=Z,118nm,18.0s
NVS Novosibirsk 34.74 80 *e*P **P** **15 35 52.3 -0.4**
NVS pmax pmax
comp=Z,63nm,2.2s
NVS pmax pmax
comp=N,36nm,2.5s
NVS pmax pmax
comp=E,31nm,2.6s
PMRV Marv??o 34.84 200 *e*P **P** **15 35 54.4 +0.7**
comp=E,22nm,1.7s
PMRV *e*LR LR 15 44 37.6
comp=E,152nm,18.0s
ZEI Tsey 35.13 130 *e*P **P** **15 35 57.9 +1.4**
ZEI pmax pmax
comp=Z,21nm,1.7s
ONI Oni 35.22 131 P **P** **15 35 58.8 +1.7**
PMTG Montargil 35.28 201 *e*LR LR 15 46 05.3
comp=Z,109nm,18.0s
PESTR Estremoz 35.41 200 *e*P **P** **15 35 59.3 +0.6**
comp=Z,16nm,2.2s
PESTR *e*LR LR 15 45 33.9
comp=Z,111nm,16.0s
PMAFR Mafra 35.50 203 *e*LR LR 15 44 29.2
comp=Z,177nm,20.0s
MAK Makhachkala 35.78 126 *e*P **P** **15 36 01.4 -0.4**
MAK *e*S **S** **15 41 38.4 +0.4**
MAK pmax pmax
comp=Z,53nm,0.6s
MAK MLR MLR
comp=Z,2µm,22.0s
ZAA0 Zalesovo Array 35.97 79 *e*P **P** **15 36 01.7 -1.6**
ZAA0 Zalesovo Array 35.97 79 *e*P **P** **15 36 01.7 -1.6**
ZALV Zalesovo Beam 35.97 79 P **P** **15 36 04.0 +0.8**
comp=Z,3.2nm,0.9s,baz=324,slow=9.1,SNR=9.8
ZALV PcP **PcP** **15 38 29.0 -0.4**
comp=Z,1.6nm,0.7s,baz=326,slow=3.6,SNR=4.8
ZALV LR LR 15 53 39.9
comp=Z,717nm,20.7s,baz=250,slow=41
ZALV Zalesovo Beam 35.97 79 P **P** **15 36 04.0 +0.8**
ZALV 15 38 29.0
ZALV pmax pmax
comp=Z,3.0nm,0.9s
ZALV pmax pmax
comp=Z,2.0nm,0.7s
ZALV MLR MLR
comp=Z,717nm,20.7s
BR131 Keskin Array S 36.10 144 *e*P **P** **15 36 04.7 0.0**
comp=Z,2.3nm,0.6s
BR131 Keskin Array S 36.10 144 *e*P **P** **15 36 04.7 0.0**
comp=Z,2.3nm,0.6s
BRTR Keskin Array B 36.10 144 P **P** **15 36 04.8 0.0**
comp=Z,2.9nm,0.7s,baz=337,slow=6.9,SNR=13
BRTR Keskin Array B 36.10 144 P **P** **15 36 04.8 0.0**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
INK Inuvik 36.22 337 P **P** **15 36 05.0 -0.3**
comp=Z,1.6nm,0.8s,baz=5.1,slow=5.9,SNR=10
INK Inuvik 36.22 337 P **P** **15 36 05.0 -0.3**
INK pmax pmax
comp=Z,2.0nm,0.8s
INK Inuvik 36.22 337 *e*P **P** **15 36 03.6 -1.6**
comp=Z,17nm,1.1s
INK Inuvik 36.22 337 *e*P **P** **15 36 03.6 -1.6**
comp=Z,17nm,1.1s
PNCL Nicolau / Gran 36.26 201 *e*LR LR 15 44 44.8
comp=Z,167nm,16.0s
TBLG Delisi 36.33 130 P **P** **15 36 07.5 +1.0**
PCVE Castro Verde 36.68 201 *e*LR LR 15 46 36.2
comp=Z,532nm,18.0s
DGRG David-gareji 36.73 129 P P 15 36 18.4 +8.4
PVAQ Vaqueiros 36.88 200 *e*LR LR 15 46 02.2
comp=Z,122nm,16.0s
PBDV Barranco-do-Ve 37.05 200 *e*LR LR 15 44 54.3
comp=Z,134nm,18.0s
KURK Kurchatov 37.07 88 P **P** **15 36 12.7 0.0**
comp=Z,22nm,1.3s,SNR=6.1
KURK Kurchatov 37.07 88 P **P** **15 36 12.9 +0.2**
KURK 15 37 38.3
KURK 15 38 32.8
KURK pmax pmax
comp=Z,4.0nm,0.9s
KURK pmax pmax
comp=Z,2.0nm,1.0s
KURK pmax pmax
comp=Z,3.0nm,0.7s
KURK Kurchatov 37.07 88 P **P** **15 36 11.3 -1.4**
comp=Z,124nm,2.4s
KURK Kurchatov 37.07 88 P **P** **15 36 11.3 -1.4**
comp=Z,124nm,2.4s
KURK PP **PnPn** **15 37 38.3 +1.0**
KURK PcP **PcP** **15 38 32.8 0.0**
KURBB Kurchatov Arra 37.13 88 P **P** **15 36 12.9 -0.3**
comp=Z,4.1nm,0.8s,baz=334,slow=7.2,SNR=30
KURBB PP **PnPn** **15 37 38.3 +0.3**
comp=Z,2.4nm,1.0s,baz=334,slow=10,SNR=3.9
KURBB PcP **PcP** **15 38 32.8 -0.2**
comp=Z,2.5nm,0.7s,baz=326,slow=3.4,SNR=14
PFVI Vila Bisbo 37.26 202 *e*LR LR 15 45 51.3
comp=Z,253nm,18.0s
KEST Kesra 37.81 177 LR LR 15 51 15.0
comp=Z,95nm,21.2s,baz=220,slow=35
GNI Garni 37.84 131 P **P** **15 36 20.1 +0.6**
comp=Z,3.4nm,0.3s,baz=333,slow=2.3,SNR=3.3
GNI Garni 37.84 131 *ce*P **P** **15 36 20.5 +1.0**
GNI pmax pmax
comp=Z,14nm,1.2s
GNI Garni 37.84 131 P **P** **15 36 18.2 -1.3**
comp=Z,211nm,2.3s
GNI Garni 37.84 131 P **P** **15 36 18.2 -1.3**
comp=Z,211nm,2.3s
FCC Fort Churchill 37.98 304 *e*P **P** **15 36 20.5 +0.2**
FCC pmax pmax
comp=Z,8.0nm,1.0s
FCC Fort Churchill 37.98 304 *e*P **P** **15 36 20.5 +0.2**
comp=Z,7.6nm,1.0s
FCC Fort Churchill 37.98 304 *e*P **P** **15 36 20.5 +0.2**
comp=Z,7.6nm,1.0s
COLD Coldfoot 38.80 346 *e*P **P** **15 36 26.5 -0.6**
comp=Z,8.8nm,0.8s
COLD Coldfoot 38.80 346 *e*P **P** **15 36 26.4 -0.6**
comp=Z,8.8nm,0.8s
YKA Yellowknife Ar 38.91 321 P **P** **15 36 27.4 -0.6**
comp=Z,2.2nm,0.9s,baz=13,slow=8.4,SNR=16
YKA PcP **PcP** **15 38 38.1 -0.1**
comp=Z,1.2nm,0.7s,baz=17,slow=2.9,SNR=11
YKA Yellowknife Ar 38.91 321 P **P** **15 36 27.4 -0.6**
YKA 15 38 38.1
YKA pmax pmax
comp=Z,2.0nm,0.9s
YKA pmax pmax
comp=Z,1.0nm,0.7s
IDI Anoyia 39.24 157 LR LR 15 54 58.8
comp=Z,297nm,18.6s,baz=316,slow=40
YAK Yakutsk 39.42 39 *e*P **P** **15 36 30.8 -1.5**
YAK *e* 15 38 01.4
YAK *e*PPP PPP 15 38 24.8
YAK *e* 15 38 38.4
YAK *e*S **S** **15 42 31.0 -1.8**
YAK *e*SS **SS** **15 45 25.4 -1.0**
YAK *e* 15 46 36.4
YAK pmax pmax
comp=Z,7.0nm,1.3s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=Z,69nm,2.8s
YAK pmax pmax
comp=N,57nm,2.3s
YAK pmax pmax
comp=E,22nm,2.1s
YAK smax smax
comp=N,39nm,3.0s
YAK smax smax
comp=E,73nm,3.7s
YAK MLR MLR
comp=Z,213nm,20.0s
YAK MLR MLR
comp=N,209nm,19.0s
YAK MLR MLR
comp=E,105nm,21.0s
BOD Bodaibo 40.08 53 *e*P P 15 36 31.7 -6.1
BOD pmax pmax
comp=Z,12nm,1.8s
IM04 Indian Mountai 40.27 348 *e*P **P** **15 36 40.0 +0.6**
IM04 Indian Mountai 40.27 348 *e*P **P** **15 36 40.0 +0.6**
EGAK Eagle 40.45 340 *e*P **P** **15 36 41.0 +0.1**
comp=Z,69nm,1.8s
EGAK Eagle 40.45 340 *e*P **P** **15 36 41.0 +0.1**
comp=Z,69nm,1.8s
COLA College 40.95 344 *e*P **P** **15 36 47.2 +2.2**
COLA pmax pmax
comp=Z,25nm,1.4s
COLA College 40.95 344 *e*P **P** **15 36 47.2 +2.2**
comp=Z,25nm,1.4s
COLA College 40.95 344 *e*P **P** **15 36 47.2 +2.2**
comp=Z,25nm,1.4s
ILAR Eielson Array 40.97 343 P **P** **15 36 45.6 +0.4**
comp=Z,6.1nm,0.8s,baz=6.3,slow=6.6,SNR=69
ILAR PcP **PcP** **15 38 44.5 -0.5**
comp=Z,0.9nm,0.9s,baz=337,slow=3.5,SNR=4.8
ILAR Eielson Array 40.97 343 P **P** **15 36 45.6 +0.4**
ILAR 15 38 44.5
ILAR pmax pmax
comp=Z,6.0nm,0.8s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
MDT Midelt 41.16 195 LR LR 15 54 14.9
comp=Z,122nm,18.6s,slow=37
MK31 Makanchi Array 41.66 87 *i*P **P** **15 36 50.8 -0.3**
MK31 pmax pmax
comp=Z,3.0nm,0.6s
MK31 Makanchi Array 41.66 87 *e*P **P** **15 36 50.8 -0.3**
MK31 Makanchi Array 41.66 87 *e*P **P** **15 36 50.8 -0.3**
MKAR Makanchi Array 41.66 87 P **P** **15 36 50.7 -0.4**
comp=Z,2.3nm,0.8s,baz=304,slow=8.9,SNR=15
MKAR PP **PP** **15 38 28.5 +1.3**
comp=Z,3.0nm,1.1s,baz=326,slow=10,SNR=4.4
MKAR PcP **PcP** **15 38 47.0 -0.5**
comp=Z,2.2nm,0.8s,baz=330,slow=7.0,SNR=5.2
MKAR LR LR 15 58 17.8
comp=Z,689nm,18.1s,baz=329,slow=42
MKAR Makanchi Array 41.66 87 P **P** **15 36 50.7 -0.4**
MKAR 15 38 28.5
MKAR 15 38 47.0
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR pmax pmax
comp=Z,3.0nm,1.1s
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR MLR MLR
comp=Z,689nm,18.1s
MKAR Makanchi Array 41.66 87 *e*P **P** **15 36 51.0 -0.1**
MKAR Makanchi Array 41.66 87 *e*P **P** **15 36 51.0 -0.1**
MKAR PP **PP** **15 38 28.5 +1.3**
MKAR PcP **PcP** **15 38 47.0 -0.5**
KK31 Karatay Array 41.68 100 *i*P **P** **15 36 51.7 +0.5**
KK31 pmax pmax
comp=Z,6.0nm,0.8s
KKAR Karatay Array 41.68 100 *e*P **P** **15 36 51.1 -0.2**
KKAR Karatay Array 41.68 100 *e*P **P** **15 36 51.0 -0.2**
KKAR Karatay Array 41.68 100 *e*P **P** **15 36 51.0 -0.2**
DOT Dot Lake 41.83 341 *e*P **P** **15 36 53.3 +1.0**
comp=Z,61nm,1.7s
DOT Dot Lake 41.83 341 *e*P **P** **15 36 53.3 +1.0**
comp=Z,61nm,1.7s
SEY Seymchan 41.89 23 *i*P **P** **15 36 53.4 +0.7**
BPAW Bear Paw Mtn. 41.95 346 P **P** **15 36 54.0 +0.8**
comp=Z,19nm,2.2s
BPAW Bear Paw Mtn. 41.95 346 P **P** **15 36 54.0 +0.8**
comp=Z,19nm,2.2s
MOY Mondy 42.44 67 *e*P **P** **15 36 59.9 +2.5**
MOY pmax pmax
comp=Z,77nm,2.6s
IRK Irkutsk 42.77 64 *e*P **P** **15 36 59.2 -0.8**
IRK *e* 15 38 42.0
IRK pmax pmax
comp=Z,73nm,2.7s
MNAS Manas 42.81 99 P **P** **15 37 00.8 +0.2**
MNAS pmax pmax
comp=Z,18nm,1.5s
EKS2 Erkin-Say 43.01 97 *e*P **P** **15 37 01.1 -1.1**
EKS2 pmax pmax
comp=Z,11nm,1.2s
EKS2 Erkin-Say 43.01 97 *e*P **P** **15 37 01.1 -1.1**
comp=Z,11nm,1.2s
EKS2 Erkin-Say 43.01 97 *e*P **P** **15 37 01.1 -1.1**
comp=Z,11nm,1.2s
FRU Bishkek 43.09 97 *e*P P 15 37 06.0 +3.2
TLY Talaya 43.12 65 *e*P **P** **15 37 05.5 +2.6**
TLY *e*SS SS 15 46 34.6 -5.4
TLY pmax pmax
comp=Z,20nm,2.7s
TLY MLR MLR
comp=Z,179nm,17.0s
GEYT Alibeck 43.15 116 P **P** **15 37 03.7 +0.5**
comp=Z,6.7nm,0.8s,baz=311,slow=9.0,SNR=12
GEYT PP **PP** **15 38 43.6 +0.3**
comp=Z,3.6nm,0.9s,baz=297,slow=6.3,SNR=2.8
GEYT LR LR 15 57 02.7
comp=Z,2µm,20.3s,baz=350,slow=39
AAK Ala-Archa 43.24 97 ⇓*i*P **P** **15 37 05.9 +1.8**
AAK pmax pmax
comp=Z,54nm,2.8s
AAK Ala-Archa 43.24 97 *e*P **P** **15 37 05.9 +1.8**
comp=Z,40nm,1.8s
TKM2 Tokmak 2 43.29 95 P **P** **15 37 06.3 +1.7**
TKM2 pmax pmax
comp=Z,21nm,1.6s
TKM2 Tokmak 2 43.29 95 *e*P **P** **15 37 06.8 +2.2**
comp=Z,41nm,1.7s
CLNS Chul'man 43.33 45 *e*P **P** **15 37 04.1 -0.5**
CLNS pmax pmax
comp=N,8.0nm,1.0s
CLNS pmax pmax
comp=Z,12nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,0.8s
FFC Flin Flon 43.49 307 *e*P **P** **15 37 05.0 -0.8**
FFC pmax pmax
comp=Z,17nm,1.1s
FFC Flin Flon 43.49 307 *e*P **P** **15 37 05.0 -0.8**
comp=Z,17nm,1.1s
FFC Flin Flon 43.49 307 *e*P **P** **15 37 05.0 -0.8**
comp=Z,17nm,1.1s
IRAZ Razeghan 43.55 127 *e*P **P** **15 37 07.5 +0.8**
IRAZ Razeghan 43.55 127 *e*P **P** **15 37 07.5 +0.8**
IDMV Damavand 43.87 124 *e*P **P** **15 37 12.2 +2.7**
ISHM Shahmirzad 43.95 123 *e*P **P** **15 37 12.2 +2.2**
PDGK Podgornoye 44.03 91 P **P** **15 37 10.8 +0.6**
PDGK pmax pmax
comp=Z,12nm,1.1s
ZAK Zakamensk 44.21 66 *e*P **P** **15 37 12.5 +0.8**
ZAK *e* 15 38 54.0
ZAK pmax pmax
comp=Z,6.0nm,1.8s
IVRN Varamin 44.35 125 *e*P **P** **15 37 14.2 +1.2**
IVRN Varamin 44.35 125 *e*P **P** **15 37 14.2 +1.2**
SFK Sufi-Kurgan 45.38 99 P **P** **15 37 23.1 +1.7**
SFK pmax pmax
comp=Z,9.0nm,1.1s
RSO Redoubt South 45.68 346 *e*P **P** **15 37 23.0 -0.5**
comp=Z,28nm,0.8s
RSO Redoubt South 45.68 346 *e*P **P** **15 37 23.0 -0.5**
comp=Z,28nm,0.8s
PTN Potsdam (NY) 45.77 279 *e*P **P** **15 37 24.9 +0.8**
PTN pmax pmax
comp=Z,397nm,3.0s
PTN Potsdam (NY) 45.77 279 *e*P **P** **15 37 24.9 +0.8**
comp=Z,397nm,3.0s
PTN Potsdam (NY) 45.77 279 *e*P **P** **15 37 24.9 +0.8**
comp=Z,397nm,3.0s
WMQ Urumqi 45.92 83 P **P** **15 37 27.5 +2.1**
WMQ pP **pP** **15 37 32.0 +1.5**
WMQ sP **sP** **15 37 34.5 +2.0**
WMQ PcP **PcP** **15 39 04.5 +2.5**
WMQ PP **PP** **15 39 15.5 +2.7**
WMQ PcS **PcS** **15 42 56.9 +0.6**
WMQ S **S** **15 44 11.4 +2.5**
WMQ ScS **ScS** **15 47 20.4 +0.4**
WMQ PMZ
comp=Z,13nm,0.7s
WMQ PMZ
comp=Z,180nm,3.6s
WMQ LN
comp=Z,520nm,15.2s
WMQ LE
comp=Z,920nm,19.6s
WMQ LZ
comp=Z,480nm,24.2s
ULM Lac du Bonnet 46.16 300 P **P** **15 37 26.6 -0.5**
comp=Z,6.9nm,0.8s,baz=22,slow=7.1,SNR=12
ULM PcP **PcP** **15 39 02.5 -0.2**
comp=Z,2.3nm,0.8s,baz=329,slow=2.0,SNR=3.1
ULM LR LR 15 56 40.4
comp=Z,1µm,18.4s,baz=42,slow=36
ULM Lac du Bonnet 46.16 300 P **P** **15 37 26.6 -0.5**
ULM 15 39 02.5
ULM pmax pmax
comp=Z,7.0nm,0.8s
ULM pmax pmax
comp=Z,2.0nm,0.8s
ULM MLR MLR
comp=Z,1µm,18.4s
ULM Lac du Bonnet 46.16 300 *e*P **P** **15 37 25.8 -1.3**
comp=Z,15nm,1.0s
ULM Lac du Bonnet 46.16 300 *e*P **P** **15 37 25.8 -1.3**
comp=Z,15nm,1.0s
ULM PcP **PcP** **15 39 02.5 -0.2**
ACCN Adirondack Com 46.48 277 P **P** **15 37 30.0 +0.3**
ACCN Adirondack Com 46.48 277 P **P** **15 37 30.0 +0.3**
KSH Kashi 46.55 97 P P 15 37 35.3 +4.9
KSH PcS **PcS** **15 43 01.5 +2.3**
KSH S S 15 44 25.4 +7.4
KSH sS sS 15 44 33.0 +6.6
KSH ScS **ScS** **15 47 27.0 +2.7**
KSH PMZ
comp=Z,6.0nm,0.8s
KSH PMZ
comp=Z,110nm,3.6s
KSH LN
comp=Z,470nm,14.7s
KSH LE
comp=Z,190nm,7.2s
KSH LZ
comp=Z,590nm,18.0s
EYMN Ely 47.17 295 *e*P **P** **15 37 34.6 -0.5**
comp=Z,50nm,1.8s
EYMN Ely 47.17 295 *e*P **P** **15 37 34.6 -0.5**
comp=Z,50nm,1.8s
EDM Edmonton 47.34 315 *e*P **P** **15 37 35.6 -0.8**
EDM Edmonton 47.34 315 *e*P **P** **15 37 35.6 -0.8**
EDM Edmonton 47.34 315 *e*P **P** **15 37 35.6 -0.8**
SONM Songino Array 47.36 65 P **P** **15 37 36.9 +0.2**
comp=Z,4.1nm,0.9s,baz=325,slow=6.2,SNR=35
SONM PcP **PcP** **15 39 06.3 -0.8**
comp=Z,2.5nm,0.9s,baz=316,slow=4.0,SNR=6.1
SONM LR LR 16 04 05.3
comp=Z,188nm,18.2s,baz=336,slow=44
SONM Songino Array 47.36 65 P **P** **15 37 36.9 +0.2**
SONM 15 39 06.3
SONM pmax pmax
comp=Z,4.0nm,0.9s
SONM pmax pmax
comp=Z,3.0nm,0.9s
ULN Ulaanbaatar 47.50 64 *e*P **P** **15 37 38.5 +0.7**
ULN pmax pmax
comp=Z,11nm,0.8s
ULN Ulaanbaatar 47.50 64 *e*P **P** **15 37 38.5 +0.7**
comp=Z,11nm,0.8s
ULN Ulaanbaatar 47.50 64 *e*P **P** **15 37 38.5 +0.7**
comp=Z,11nm,0.8s
AGMN Agassiz Nation 47.97 299 *e*P **P** **15 37 40.8 -0.4**
comp=Z,12nm,0.9s
AGMN Agassiz Nation 47.97 299 *e*P **P** **15 37 40.8 -0.4**
comp=Z,12nm,0.9s
AGMN Agassiz Nation 47.97 299 ⇓P **P** **15 37 42.2 +1.0**
baz=48,SNR=6.8
A30A Hoffart Farm, 47.97 301 ⇓P **P** **15 37 42.1 +0.8**
baz=48
A29A Manning Farm, 48.22 302 ⇓P **P** **15 37 43.9 +0.7**
baz=48
BINY Binghamton 48.24 278 *e*P **P** **15 37 45.7 +2.3**
comp=Z,14nm,1.0s
BINY Binghamton 48.24 278 *e*P **P** **15 37 45.7 +2.3**
comp=Z,14nm,1.0s
MMNY Mt. Morris Dam 48.29 280 *e*P **P** **15 37 44.3 +0.6**
comp=Z,378nm,2.5s
MMNY Mt. Morris Dam 48.29 280 *e*P **P** **15 37 44.3 +0.6**
comp=Z,378nm,2.5s
KDAK Kodiak Island 48.33 346 *ce*P **P** **15 37 46.2 +2.3**
B30A Myrvik Farm, E 48.44 301 ⇓P **P** **15 37 45.6 +0.8**
baz=48
A28A Rude Farm, Bot 48.48 303 ⇓P **P** **15 37 45.8 +0.6**
baz=48
IDAH Dahanechah 48.51 117 *e*P **P** **15 37 47.2 +1.3**
IDAH Dahanechah 48.51 117 *e*P **P** **15 37 47.2 +1.3**
B29A Wagenman Farm, 48.67 302 ⇓P **P** **15 37 47.6 +1.0**
baz=48
B28A Dugan Ranch, T 48.93 303 ⇓P **P** **15 37 49.2 +0.5**
baz=49
IKAZ Kazeroun 49.38 127 *e*P **P** **15 37 51.6 -1.1**
IKAZ Kazeroun 49.38 127 *e*P **P** **15 37 51.6 -1.1**
IPAR Pars 49.60 125 *e*P **P** **15 37 53.7 -0.6**
IPAR Pars 49.60 125 *e*P **P** **15 37 53.7 -0.6**
B23A Brockton 50.01 307 ⇑P **P** **15 37 57.9 +1.0**
baz=50
SPMN Marine on St. 50.04 295 *e*P **P** **15 37 56.8 -0.3**
comp=Z,11nm,0.8s
SPMN Marine on St. 50.04 295 *e*P **P** **15 37 56.8 -0.3**
comp=Z,11nm,0.8s
SPMN Marine on St. 50.04 295 ⇓P **P** **15 37 58.5 +1.4**
baz=50
ISRV Sarvestan 50.06 125 *e*P **P** **15 37 57.1 -0.7**
ISRV Sarvestan 50.06 125 *e*P **P** **15 37 57.2 -0.7**
A19A Klindworth Far 50.42 310 ⇓P **P** **15 38 01.5 +1.4**
baz=50,SNR=6.5
C23A Lambert 50.68 306 ⇓P **P** **15 38 03.5 +1.5**
baz=50
TAM Tamanrasset 50.70 182 *e*P **P** **15 38 03.9 +1.4**
TAM pmax pmax
comp=Z,1.0nm,0.4s
TAM Tamanrasset 50.70 182 *e*P **P** **15 38 03.9 +1.4**
comp=Z,1.5nm,0.4s
TAM Tamanrasset 50.70 182 *e*P **P** **15 38 03.9 +1.4**
comp=Z,1.5nm,0.4s
C24A Savage 50.76 306 ⇓P **P** **15 38 04.2 +1.6**
baz=50
B19A Brinkman Farms 50.91 310 ⇑P **P** **15 38 04.3 +0.6**
baz=51
F30A Leola 51.05 300 ⇑P **P** **15 38 05.5 +0.7**
baz=51
C21A Desert Coulee 51.09 308 ⇑P **P** **15 38 06.4 +1.3**
baz=51
E27A Carson 51.11 303 ⇓P **P** **15 38 06.2 +1.0**
baz=51
D24A Glendive 51.12 305 ⇑P **P** **15 38 06.1 +0.7**
baz=51
F29A Eureka 51.25 301 ⇓P **P** **15 38 07.5 +1.3**
baz=51
D23A Lindsay 51.27 306 ⇑P **P** **15 38 07.2 +0.7**
baz=51
E26A Carlson Angus 51.29 304 ⇑P **P** **15 38 07.4 +0.8**
baz=51
WALA Waterton Lakes 51.40 314 *e*P **P** **15 38 06.7 -0.8**
WALA Waterton Lakes 51.40 314 *e*P **P** **15 38 06.7 -0.8**
C20A Veseth Ranch, 51.40 309 ⇓P **P** **15 38 08.1 +0.7**
baz=51
F28A McLaughlin 51.47 302 ⇑P **P** **15 38 09.6 +1.6**
baz=51
E25A Miller Ranch, 51.48 304 ⇓P **P** **15 38 09.8 +1.7**
baz=51
EGMT Eagleton 51.50 310 *e*P **P** **15 38 08.1 -0.1**
comp=Z,18nm,0.9s
EGMT Eagleton 51.50 310 *e*P **P** **15 38 08.1 -0.1**
comp=Z,18nm,0.9s
EGMT Eagleton 51.50 310 ⇑P **P** **15 38 09.0 +0.8**
baz=51,SNR=7.9
JFWS Jewell Farm 51.51 291 P **P** **15 38 09.0 +0.7**
JFWS Jewell Farm 51.51 291 P **P** **15 38 09.0 +0.7**
JFWS Jewell Farm 51.51 291 P **P** **15 38 09.0 +0.7**
D22A Cohagen 51.52 307 ⇑P **P** **15 38 10.3 +2.0**
baz=51,SNR=5.5
C19A Slack Wire Ran 51.61 309 ⇓P **P** **15 38 10.6 +1.6**
baz=51,SNR=5.0
E24A Baker 51.64 305 ⇓P **P** **15 38 11.1 +1.9**
baz=51
G30A Faulkton 51.74 300 ⇓P **P** **15 38 11.5 +1.5**
baz=52

F27A **Lemmon** 51.74 303 ⇑P P 15 38 11.4 +1.4
baz=52
D21A **La Casta Ranch** 51.78 308 ⇑P P 15 38 11.1 +0.8
baz=52
KLR **Kul'dur** 51.89 43 eP P 15 38 07.3 -3.7
KLR MLR MLR
comp=Z,800nm,12.5s
F26A **Lodgepole** 51.92 303 ⇓P P 15 38 12.9 +1.6
baz=52
E23A **Ismay** 51.93 306 ⇑P P 15 38 13.0 +1.6
baz=52
LAO **LASA Array** 51.96 307 eP P 15 38 12.0 +0.4
comp=Z,153nm,2.1s
LAO **LASA Array** 51.96 307 eP P 15 38 12.0 +0.4
comp=Z,153nm,2.1s
D20A **Manuel Ranch,** 52.02 308 ⇑P P 15 38 13.3 +1.2
baz=52
ACSO **Alum Creek Sta** 52.03 284 eP P 15 38 12.9 +0.8
comp=Z,31nm,1.4s
ACSO **Alum Creek Sta** 52.03 284 eP P 15 38 12.9 +0.8
comp=Z,31nm,1.4s
F25A **Bowman** 52.04 304 ⇑P P 15 38 13.3 +1.1
baz=52
D19A **Cripps Ranch,** 52.12 309 ⇓P P 15 38 14.3 +1.4
baz=52
PETK **Petropavlovsk-** 52.12 22 P P 15 38 13.3 +0.7
comp=Z,3.0nm,0.8s,baz=76,slow=6.1,SNR=3.7
PETK LR LR 16 00 04.4
comp=Z,115nm,20.1s,baz=337,slow=36
PETK **Petropavlovsk-** 52.12 22 P P 15 38 13.3 +0.7
PETK pmax pmax
comp=Z,3.0nm,0.8s
PETK MLR MLR
comp=Z,115nm,20.1s
E22A **Miles City** 52.14 306 ⇓P P 15 38 14.7 +1.8
baz=52
G27A **Dupree** 52.19 303 ⇑P P 15 38 14.4 +1.1
baz=52,SNR=6.9
G28A **Parade** 52.23 302 ⇑P P 15 38 14.4 +0.9
baz=52
BRSD **Miller** 52.33 300 eP P 15 38 14.4 0.0
comp=Z,50nm,1.0s
BRSD **Miller** 52.33 300 eP P 15 38 14.4 0.0
comp=Z,50nm,1.0s
BRSD **Miller** 52.33 300 ⇓P P 15 38 15.3 +0.9
baz=52
F24A **Ekalaka** 52.35 305 ⇑P P 15 38 16.0 +1.4
baz=52
ECSD **EROS Data Cent** 52.41 297 eP P 15 38 14.5 -0.4
comp=Z,20nm,1.1s
ECSD **EROS Data Cent** 52.41 297 eP P 15 38 14.5 -0.4
comp=Z,20nm,1.1s
ECSD **EROS Data Cent** 52.41 297 ⇑P P 15 38 16.0 +1.0
baz=52,SNR=11
G26A **Maurine** 52.43 303 ⇑P P 15 38 16.2 +1.1
baz=52
H29A **Onida** 52.47 301 ⇓P P 15 38 16.7 +1.3
baz=52
YBMT **Yellow Bay** 52.56 314 eP P 15 38 16.7 +0.6
comp=Z,8.2nm,0.8s
YBMT **Yellow Bay** 52.56 314 eP P 15 38 16.7 +0.6
comp=Z,8.2nm,0.8s
E20A **Meyer Farm, Mu** 52.57 308 ⇑P P 15 38 17.4 +1.2
baz=52,SNR=7.3
H28A **Mission Ridge** 52.63 302 ⇑P P 15 38 16.1 -0.4
baz=52,SNR=6.4
F23A **Volborg** 52.69 306 ⇓P P 15 38 17.6 +0.6
baz=52,SNR=5.3
JTMT **Jette** 52.72 314 eP P 15 38 16.4 -1.0
JTMT **Jette** 52.72 314 eP P 15 38 16.4 -1.0
BSMT **Bassoo Peak** 52.73 314 eP P 15 38 17.5 0.0
comp=Z,9.3nm,0.9s
BSMT **Bassoo Peak** 52.73 314 eP P 15 38 17.4 0.0
comp=Z,9.3nm,0.9s
E19A **Rath Farm, Rou** 52.76 309 ⇑P P 15 38 19.0 +1.4
baz=52
NEW **Newport** 52.81 316 eP P 15 38 17.6 -0.3
NEW pmax pmax
comp=Z,14nm,1.1s
NEW **Newport** 52.81 316 eP P 15 38 17.6 -0.3
comp=Z,14nm,1.1s
NEW **Newport** 52.81 316 eP P 15 38 17.6 -0.3
comp=Z,14nm,1.1s
NEW **Newport** 52.81 316 ⇑P P 15 38 19.6 +1.8
baz=53,SNR=7.9
G24A **Alzada** 52.83 305 ⇑P P 15 38 18.9 +0.8
baz=53
F22A **Rosebud** 52.83 306 ⇓P P 15 38 19.2 +1.1
baz=53
SWMT **Swartz Lake** 52.89 313 eP P 15 38 19.3 +0.7
comp=Z,15nm,1.1s
SWMT **Swartz Lake** 52.89 313 eP P 15 38 19.3 +0.7
comp=Z,15nm,1.1s
H27A **Howes** 52.92 302 ⇑P P 15 38 19.6 +0.9
baz=53
I30A **Oacoma** 52.95 300 ⇑P P 15 38 19.8 +0.9
baz=53
SFIN **Lafayette** 53.02 288 ⇓P P 15 38 20.7 +1.2
baz=53
SLMT **Seeley Lake** 53.04 313 eP P 15 38 19.9 +0.2
comp=Z,10.0nm,1.1s
SLMT **Seeley Lake** 53.04 313 eP P 15 38 19.9 +0.2
comp=Z,10.0nm,1.1s
I29A **Vivian Onida** 53.06 301 ⇑P P 15 38 21.3 +1.5
baz=53
H26A **Fairpoint** 53.10 303 ⇓P P 15 38 21.4 +1.2
baz=53,SNR=6.5
B08A **Colville Reser** 53.15 318 eP P 15 38 20.6 +0.2
comp=Z,17nm,1.3s
B08A **Colville Reser** 53.15 318 eP P 15 38 20.6 +0.2
comp=Z,17nm,1.3s
G23A **Biddle** 53.17 305 ⇓P P 15 38 21.6 +0.9
baz=53
F20A **Billings** 53.24 308 ⇑P P 15 38 22.1 +0.9
baz=53
I28A **Midland** 53.30 301 ⇑P P 15 38 22.9 +1.4
baz=53,SNR=8.1
H25A **Fruitdale** 53.30 304 ⇓P P 15 38 22.0 +0.4
baz=53
CHMT **Chamberlain Mo** 53.30 313 eP P 15 38 20.9 -0.8
comp=Z,5.9nm,0.9s
CHMT **Chamberlain Mo** 53.30 313 eP P 15 38 20.9 -0.8
comp=Z,5.9nm,0.9s
G22A **Birney** 53.37 306 ⇑P P 15 38 23.2 +1.0
baz=53
F19A **Roth Farm, Mol** 53.37 309 ⇓P P 15 38 23.6 +1.4
baz=53
H24A **Dirks Ranch, A** 53.41 305 ⇓P P 15 38 23.6 +1.2
baz=53
GTA **Gaotai** 53.41 75 eP P 15 38 23.3 +0.7
GTA pP pP 15 38 27.9 +0.2
GTA sP sP 15 38 30.8 +1.1
GTA PP PP 15 40 24.9 +2.3
GTA S S 15 45 52.4 -1.4
GTA sS sS 15 46 01.3 -1.0
GTA SS SS 15 49 31.4 -1.8
GTA PMZ
comp=Z,6.0nm,2.0s
GTA PMZ
comp=Z,130nm,5.5s
GTA LN
comp=Z,170nm,19.0s
GTA LE
comp=Z,300nm,18.0s
GTA LZ
comp=Z,210nm,19.0s
I27A **Quinn** 53.45 302 ⇑P P 15 38 23.5 +0.8
baz=53
J30A **Dallas** 53.52 300 ⇑P P 15 38 24.4 +1.3
baz=53
MSO **Missoula** 53.53 313 eP P 15 38 23.8 +0.5
comp=Z,27nm,1.3s
MSO **Missoula** 53.53 313 eP P 15 38 23.8 +0.5
comp=Z,27nm,1.3s
MSO **Missoula** 53.53 313 ⇑P P 15 38 24.8 +1.6
baz=53,SNR=9.0
G21A **Lodge Grass** 53.57 307 ⇑P P 15 38 25.4 +1.8
baz=53
GCMT **Greycliff** 53.59 309 eP P 15 38 23.7 -0.1
GCMT **Greycliff** 53.59 309 eP P 15 38 23.7 -0.1
J29A **Okreek** 53.65 300 ⇓P P 15 38 25.6 +1.5
baz=54
I26A **New Underwood** 53.68 303 ⇓P P 15 38 25.6 +1.2
baz=54
G20A **Bridger** 53.81 308 ⇑P P 15 38 26.2 +0.9
baz=54,SNR=8.6
J28A **Allard Ranch,** 53.85 301 ⇑P P 15 38 27.3 +1.6
baz=54
RSSD **Black Hills** 53.87 304 eP P 15 38 26.4 +0.4
RSSD pmax pmax
comp=Z,26nm,1.8s
RSSD **Black Hills** 53.87 304 eP P 15 38 26.4 +0.4
comp=Z,26nm,1.8s
RSSD **Black Hills** 53.87 304 eP P 15 38 26.4 +0.4
comp=Z,26nm,1.8s
I25A **Rochford** 53.90 304 ⇓P P 15 38 27.6 +1.5
baz=54
H22A **Clearmont** 53.97 306 ⇑P P 15 38 28.5 +2.0
baz=54
RAYN **Ar Rayn** 54.06 135 eP P 15 38 27.2 -0.1
comp=Z,6.6nm,1.1s
RAYN **Ar Rayn** 54.06 135 eP P 15 38 27.2 -0.1
comp=Z,6.6nm,1.1s
H21A **Big Horn, Sher** 54.10 307 ⇑P P 15 38 29.6 +2.1
baz=54
BLA **Blacksburg** 54.12 280 eP P 15 38 28.6 +0.9
BLA **Blacksburg** 54.12 280 eP P 15 38 28.6 +0.9
BLA **Blacksburg** 54.12 280 eP P 15 38 28.6 +0.9
RLMT **Red Lodge** 54.14 309 P P 15 38 27.9 0.0
comp=Z,9.9nm,1.0s
RLMT **Red Lodge** 54.14 309 P P 15 38 27.9 0.0
comp=Z,9.9nm,1.0s
K30A **Basset** 54.16 299 ⇓P P 15 38 30.0 +2.2
baz=54
LRM **Limekiln Ridge** 54.17 312 eP P 15 38 28.0 -0.2
LRM **Limekiln Ridge** 54.17 312 eP P 15 38 28.0 -0.2
J27A **Elkhorn Farm,** 54.20 302 ⇑P P 15 38 30.1 +1.9
baz=54
K29A **Lazy Trails An** 54.25 300 ⇑P P 15 38 30.5 +1.9
baz=54
J26A **Sides Ranch, S** 54.41 303 ⇑P P 15 38 31.1 +1.4
baz=54
H20A **Greybull** 54.45 307 ⇓P P 15 38 31.2 +1.2
baz=54
H19A **Powell** 54.50 308 ⇓P P 15 38 32.1 +1.7
baz=54
J25A **Sunshine Ranch** 54.51 303 ⇓P P 15 38 31.9 +1.5
baz=54
H18A **Shoshone NF, C** 54.65 309 ⇑P P 15 38 32.7 +1.0
baz=54,SNR=5.3
I22A **9 Mile Ranch,** 54.67 306 ⇑P P 15 38 33.1 +1.4
baz=54
J24A **Dixon Ranch, L** 54.77 304 ⇓P P 15 38 33.7 +1.3
baz=55
K27A **Flueckinger Fa** 54.78 302 ⇑P P 15 38 33.5 +1.1
baz=55
L30A **Spencer Herefo** 54.87 299 ⇓P P 15 38 33.5 +0.5
baz=55
J23A **Dilts Ranch, B** 54.91 305 ⇓P P 15 38 33.8 +0.4
baz=55
NLWA **Neilton Lookou** 54.92 321 P P 15 38 34.2 +0.9
comp=Z,10.0nm,0.9s
NLWA **Neilton Lookou** 54.92 321 P P 15 38 34.2 +0.9
comp=Z,10.0nm,0.9s
I21A **Big Trails, Te** 54.93 306 ⇑P P 15 38 34.3 +0.7
baz=55,SNR=13
BGNE **Belgrade** 54.98 298 ⇓P P 15 38 34.6 +0.8
baz=55
I20A **Worland** 54.99 307 ⇑P P 15 38 34.5 +0.5
baz=55,SNR=7.1
K26A **Motz Farm, Whi** 55.01 303 ⇑P P 15 38 35.3 +1.2
baz=55
HAWA **Hanford** 55.07 317 eP P 15 38 34.5 +0.1
comp=Z,14nm,1.1s
HAWA **Hanford** 55.07 317 eP P 15 38 34.5 +0.1
comp=Z,14nm,1.1s
I19A **Meeteetse** 55.11 308 ⇑P P 15 38 35.3 +0.4
baz=55,SNR=7.6
H17A **Grant Village** 55.12 309 eP P 15 38 36.4 +1.3
comp=Z,26nm,1.5s
H17A **Grant Village** 55.12 309 eP P 15 38 36.4 +1.3
comp=Z,26nm,1.5s
H17A **Grant Village** 55.12 309 ⇓P P 15 38 35.9 +0.9
baz=55,SNR=5.0
J22A **Midwest** 55.12 306 ⇑P P 15 38 34.8 -0.2
baz=55,SNR=7.5
LON **Longmire** 55.16 319 eP P 15 38 34.3 -0.8
LON pmax pmax
comp=Z,15nm,1.1s
LON **Longmire** 55.16 319 eP P 15 38 34.3 -0.8
comp=Z,15nm,1.1s
LON **Longmire** 55.16 319 eP P 15 38 34.3 -0.8
comp=Z,15nm,1.1s
MCMT **McKenzie Canyo** 55.20 311 eP P 15 38 35.1 -0.6
MCMT **McKenzie Canyo** 55.20 311 eP P 15 38 35.1 -0.6
HHC **Hu-ho-hao-te** 55.21 64 eP P 15 38 35.1 -0.5
HHC PP PP 15 40 39.8 +1.2
HHC S S 15 46 15.0 -2.9
HHC SS SS 15 49 58.3 -3.0
HHC PMZ
comp=Z,10.0nm,0.8s
HHC PMZ
comp=Z,100nm,7.5s
HHC LN
comp=Z,400nm,17.4s
HHC LE
comp=Z,390nm,16.2s
HHC LZ
comp=Z,400nm,16.8s
M31A **Lambtecht Ranc** 55.25 298 ⇓P P 15 38 36.7 +0.9
baz=55
L28A **Connealy Angus** 55.26 301 ⇓P P 15 38 37.1 +1.2
baz=55
K25A **Mack Ranch, Ha** 55.26 303 ⇑P P 15 38 37.4 +1.4
baz=55
L27A **T5 Ranch, Ells** 55.38 302 ⇑P P 15 38 38.3 +1.5
baz=55
J21A **Lysite** 55.41 306 ⇓P P 15 38 38.0 +0.9
baz=55
FLWY **Flagg Ranch** 55.44 309 eP P 15 38 38.7 +1.3
comp=Z,7.8nm,0.7s
FLWY **Flagg Ranch** 55.44 309 eP P 15 38 38.7 +1.3
comp=Z,7.8nm,0.7s
K23A **Bowen Ranch, D** 55.54 305 ⇑P P 15 38 38.4 +0.4
baz=55
J20A **Shoshoni** 55.55 307 ⇑P P 15 38 38.9 +0.9
baz=55,SNR=11
I17A **Pilgrim Ck.** 55.57 309 ⇓P P 15 38 39.1 +0.8
baz=55
M29A **Burnside Ranch** 55.59 300 ⇑P P 15 38 39.1 +0.9
baz=55
L26A **Underwood Farm** 55.61 302 ⇓P P 15 38 39.1 +0.7
baz=55
N32A **Stulken Farm,** 55.62 298 ⇑P P 15 38 39.4 +0.9
baz=55
IMW **Indian Meadow** 55.67 310 eP P 15 38 39.8 +0.7
comp=Z,18nm,1.1s
IMW **Indian Meadow** 55.67 310 eP P 15 38 39.8 +0.7
comp=Z,18nm,1.1s
L25A **Engebretsen Ra** 55.72 303 ⇑P P 15 38 40.2 +0.9
baz=56
N31A **Bailey Ranch,** 55.73 298 ⇑P P 15 38 40.3 +1.0
baz=56
CN2 **Changchun** 55.75 51 eP P 15 38 38.1 -1.1
CN2 eS S 15 46 20.8 -4.0
CN2 PMZ
comp=Z,10.0nm,0.6s
CN2 PMZ
comp=Z,210nm,4.0s
CN2 LN
comp=Z,340nm,16.0s
CN2 LE
comp=Z,270nm,16.0s
CN2 LZ
comp=Z,400nm,17.0s
M28A **Bar X Bar Ranc** 55.80 300 ⇓P P 15 38 40.3 +0.5
baz=56
J19A **Crowheart** 55.85 308 ⇑P P 15 38 41.0 +0.7
baz=56,SNR=17
K22A **Casper** 55.85 305 eP P 15 38 39.2 -1.1
comp=Z,21nm,1.0s
K22A **Casper** 55.85 305 eP P 15 38 39.2 -1.1
comp=Z,21nm,1.0s
K22A **Casper** 55.85 305 ⇓P P 15 38 39.8 -0.4
baz=56,SNR=5.7
MDJ **Mudanjiang** 55.86 47 P P 15 38 38.9 -1.2
MDJ pP pP 15 38 42.6 -2.6
MDJ PP PP 15 40 42.5 -1.7
MDJ ScP ScP 15 43 37.5 +1.0
MDJ PcS PcS 15 43 38.6 -0.3
MDJ S S 15 46 25.0 -1.3
MDJ PMZ
comp=Z,9.0nm,0.9s
MDJ PMZ
comp=Z,76nm,6.3s
MDJ LN
comp=Z,110nm,13.2s
MDJ LE
comp=Z,260nm,14.1s
MDJ LZ
comp=Z,190nm,11.4s
LOHW **Long Hollow** 55.87 309 eP P 15 38 41.7 +1.3
comp=Z,96nm,2.3s
LOHW **Long Hollow** 55.87 309 eP P 15 38 41.7 +1.3
comp=Z,96nm,2.3s
M27A **Reverse DX Ran** 55.92 301 ⇑P P 15 38 41.8 +1.1
baz=56
G08A **Pilot Rock** 56.02 317 eP P 15 38 42.0 +0.6
comp=Z,21nm,1.2s
G08A **Pilot Rock** 56.02 317 eP P 15 38 42.0 +0.6
comp=Z,21nm,1.2s
TPAW **Teton Pass** 56.06 309 eP P 15 38 43.3 +1.4
comp=Z,105nm,2.3s
TPAW **Teton Pass** 56.06 309 eP P 15 38 43.3 +1.4
comp=Z,105nm,2.3s
YSS **Yuzh-Sakhalins** 56.08 35 eP P 15 38 41.0 -0.6
BMO **Blue Mountains** 56.11 315 eP P 15 38 39.3 -2.6
comp=Z,24nm,1.5s
BMO **Blue Mountains** 56.11 315 eP P 15 38 39.3 -2.6
comp=Z,24nm,1.5s
N29A **Votaw Ranch, W** 56.16 300 ⇑P P 15 38 43.4 +1.1
baz=56
REDW **Red Top Meadow** 56.16 309 eP P 15 38 40.5 -2.1
comp=Z,67nm,2.3s
REDW **Red Top Meadow** 56.16 309 eP P 15 38 40.5 -2.1
comp=Z,67nm,2.3s
M26A **McRoberts Ranc** 56.17 302 ⇑P P 15 38 43.2 +0.8
baz=56
KMSC **Kings Mountain** 56.32 280 eP P 15 38 44.7 +1.2
comp=Z,21nm,1.3s
KMSC **Kings Mountain** 56.32 280 eP P 15 38 44.7 +1.2
comp=Z,21nm,1.3s
KMSC **Kings Mountain** 56.32 280 ⇓P P 15 38 44.4 +1.0
baz=56
OGNE **Ogallala** 56.39 301 eP P 15 38 43.4 -0.6
comp=Z,48nm,1.4s
OGNE **Ogallala** 56.39 301 eP P 15 38 43.4 -0.6
comp=Z,48nm,1.4s
OGNE **Ogallala** 56.39 301 ⇓P P 15 38 45.1 +1.1
baz=56
Q37A **Longview Farm,** 56.41 293 ⇑P P 15 38 44.8 +0.8
baz=56
M25A **Palm-Egli Farm** 56.42 303 ⇓P P 15 38 44.7 +0.4
baz=56
BW06 **Boulder Array** 56.44 308 eP P 15 38 43.6 -0.9
comp=Z,12nm,1.3s
BW06 **Boulder Array** 56.44 308 eP P 15 38 43.6 -0.9
comp=Z,12nm,1.3s
PDAR **Pinedale Array** 56.44 308 P P 15 38 44.0 -0.5
comp=Z,1.9nm,1.0s,baz=45,slow=8.6,SNR=12
PDAR LR LR 16 03 03.9
comp=Z,611nm,18.5s,baz=21,slow=36
O31A **Woolen Ranch,** 56.46 298 ⇓P P 15 38 45.4 +1.0
baz=56
N28A **Pribbeno Ranch** 56.51 300 ⇓P P 15 38 46.1 +1.2
baz=56
G05D **Wamic, OR** 56.52 319 ⇓P P 15 38 46.1 +1.3
baz=56
TKL **Tuckaleechee C** 56.52 283 eP P 15 38 44.6 -0.3
TKL **Tuckaleechee C** 56.52 283 eP P 15 38 44.6 -0.3
TKL **Tuckaleechee C** 56.52 283 eP P 15 38 44.6 -0.3
O30A **MW Ranch, Wils** 56.62 299 ⇓P P 15 38 47.0 +1.4
baz=56
N27A **Anderson Farm,** 56.64 301 ⇑P P 15 38 47.0 +1.1
baz=56
P33A **Williams Farm,** 56.72 297 ⇑P P 15 38 47.8 +1.5
baz=56
HLID **Hailey** 56.74 312 eP P 15 38 45.7 -0.9
comp=Z,6.8nm,0.9s
HLID **Hailey** 56.74 312 eP P 15 38 45.7 -0.9
comp=Z,6.8nm,0.9s
HLID **Hailey** 56.74 312 ⇑P P 15 38 47.7 +1.1
baz=56,SNR=13
USRK **Ussuriysk Ar.** 56.75 45 P P 15 38 45.3 -1.1
comp=Z,3.3nm,0.8s,baz=325,slow=5.5,SNR=8.6
USRK LR LR 16 05 15.5
comp=Z,190nm,18.4s,baz=332,slow=38
KSU1 **Kansas State U** 56.76 295 ⇑P P 15 38 47.5 +1.0
baz=57
P32A **Huiting Farm,** 56.78 297 ⇓P P 15 38 47.9 +1.2
baz=57
N26A **Koester Ranch,** 56.79 302 ⇓P P 15 38 48.1 +1.3
baz=57
O29A **4D Ranch, Culb** 56.86 299 ⇓P P 15 38 48.6 +1.3
baz=57
PHWY **Pilot Hill** 56.88 304 eP P 15 38 47.5 -0.2
comp=Z,17nm,1.4s
PHWY **Pilot Hill** 56.88 304 eP P 15 38 47.5 -0.2
comp=Z,17nm,1.4s
G03D **McMinnville, O** 56.91 320 ⇓P P 15 38 49.1 +1.6
baz=57
N25A **Grover** 57.01 303 ⇓P P 15 38 49.9 +1.4
baz=57
R37A **Teagarden Farm** 57.03 294 ⇑P P 15 38 49.8 +1.3
baz=57
P31A **Stockton** 57.07 298 ⇓P P 15 38 49.5 +0.7
baz=57
O28A **Krutsinger Ran** 57.10 300 ⇑P P 15 38 49.8 +0.7
baz=57
BJI **Beijing** 57.13 60 P P 15 38 47.5 -1.6
BJI S S 15 46 41.9 -1.3
BJI PMZ
comp=Z,11nm,0.5s
BJI PMZ
comp=Z,64nm,3.9s
BJI LN
comp=Z,160nm,17.0s
BJI LE
comp=Z,290nm,18.8s
BJI LZ
comp=Z,110nm,30.3s
Q33A **Connelly Farm,** 57.17 296 ⇓P P 15 38 49.9 +0.4
baz=57
N24A **Carr** 57.19 303 ⇑P P 15 38 50.0 +0.2
baz=57
R36A **Gordon, Harris** 57.20 294 ⇓P P 15 38 50.3 +0.6
baz=57
P30A **Selden** 57.27 299 ⇑P P 15 38 51.1 +0.9
baz=57
I07A **Izee** 57.29 317 eP P 15 38 51.2 +0.8
comp=Z,14nm,0.9s
I07A **Izee** 57.29 317 eP P 15 38 51.1 +0.8
comp=Z,14nm,0.9s
Q32A **Meitler Ranch,** 57.36 297 ⇓P P 15 38 52.0 +1.2
baz=57
O26A **Horse Wrangler** 57.37 302 ⇑P P 15 38 52.2 +1.2
baz=57
N23A **Red Feather La** 57.38 304 ⇓P P 15 38 52.3 +1.1
baz=57,SNR=7.2
P29A **Atwood** 57.38 299 ⇓P P 15 38 52.1 +1.0
baz=57
Q31A **Ellis** 57.56 298 ⇓P P 15 38 52.9 +0.6
baz=57
N22A **Wattenberg Ran** 57.59 305 ⇑P P 15 38 53.2 +0.5
baz=57,SNR=7.2
P28A **Saint Francis** 57.62 300 ⇑P P 15 38 53.4 +0.7
baz=57
LZH **Lanzhou** 57.63 72 eP P 15 38 54.3 +1.3
LZH pP pP 15 38 57.8 -0.3
LZH sP sP 15 39 00.0 -0.1
LZH S S 15 46 52.3 +2.0
LZH sS sS 15 46 58.0 -0.8
LZH SS SS 15 50 40.3 +0.5
LZH PMZ
comp=Z,15nm,1.0s
LZH PMZ
comp=Z,140nm,4.3s
LZH LN
comp=Z,220nm,14.8s
LZH LE
comp=Z,220nm,15.9s
LZH LZ
comp=Z,470nm,15.4s
O25A **Wiggins** 57.69 302 ⇓P P 15 38 54.2 +1.0
baz=58
Q30A **Quinter** 57.80 299 ⇑P P 15 38 55.0 +1.0
baz=58
P27A **Ficken Ranch,** 57.84 301 ⇓P P 15 38 55.2 +0.9
baz=58
R33A **Olander Ranch,** 57.86 296 ⇑P P 15 38 55.5 +1.2
baz=58
O24A **Longmont** 57.91 303 ⇓P P 15 38 56.6 +1.8
baz=58

R32A	Long Quarter,	57.94	297	⇓P		P	15 38 56.7	+1.8
	baz=58							
N20A	Spence Gulch,	57.98	306	⇑P		P	15 38 56.7	+1.2
	baz=58,SNR=18							
HWUT	Hardware Ranch	57.99	309	*eP*		P	15 38 55.2	-0.3
	comp=Z,6.2nm,1.0s							
HWUT	Hardware Ranch	57.99	309	*eP*		P	15 38 55.2	-0.3
	comp=Z,6.2nm,1.0s							
S35A	Otter Creek Ra	58.02	295	⇓P		P	15 38 57.1	+1.6
	baz=58							
P26A	Davis Ranch, A	58.02	301	⇓P		P	15 38 57.1	+1.5
	baz=58							
O23A	Lake Granby, G	58.02	304	⇑P		P	15 38 57.3	+1.5
	baz=58,SNR=9.2							
Q29A	Oakley	58.07	299	⇓P		P	15 38 57.4	+1.5
	baz=58							
Q28A	Sharon Springs	58.12	300	⇑P		P	15 38 57.6	+1.3
	baz=58							
I04A	Tendick Farm,	58.12	319	⇑P		P	15 38 57.6	+1.4
	baz=58							
S34A	Willow Spring	58.21	295	⇓P		P	15 38 57.9	+1.2
	baz=58							
O22A	Kremmling	58.22	304	⇑P		P	15 38 57.8	+0.6
	baz=58,SNR=7.2							
R31A	Burdett	58.27	298	⇓P		P	15 38 58.2	+0.9
	baz=58							
ISCO	Idaho Springs	58.34	304	*eP*		P	15 38 57.8	-0.3
ISCO				pmax		pmax		
	comp=Z,8.0nm,1.1s							
ISCO	Idaho Springs	58.34	304	*eP*		P	15 38 57.8	-0.3
	comp=Z,8.1nm,1.1s							
ISCO	Idaho Springs	58.34	304	*eP*		P	15 38 57.8	-0.3
	comp=Z,8.1nm,1.1s							
ISCO	Idaho Springs	58.34	304	⇓P		P	15 38 58.7	+0.6
	baz=58							
KSCO	Kaye Shedlock'	58.36	301	⇓P		P	15 38 59.1	+1.1
	baz=58							
J05D	Fort Rock, OR	58.39	318	⇓P		P	15 38 59.3	+1.1
	baz=58,SNR=6.8							
I03D	Drain, OR	58.39	320	⇑P		P	15 38 59.3	+1.3
	baz=58							
R30A	Dighton	58.47	298	⇓P		P	15 38 59.4	+0.7
	baz=58							
T36A	Boggs Farm, Ca	58.49	294	⇓P		P	15 38 59.8	+1.0
	baz=58							
S33A	Kaszmaul Farm,	58.54	296	⇓P		P	15 38 59.9	+0.7
	baz=58							
GOGA	Godfrey	58.54	281	*eP*		P	15 38 58.6	-0.5
GOGA				pmax		pmax		
	comp=Z,9.0nm,0.9s							
GOGA	Godfrey	58.54	281	*eP*		P	15 38 58.6	-0.5
	comp=Z,9.4nm,0.9s							
GOGA	Godfrey	58.54	281	*eP*		P	15 38 58.6	-0.5
	comp=Z,9.4nm,0.9s							
R29A	Marienthal	58.55	299	⇑P		P	15 38 59.5	+0.2
	baz=58							
J04D	Umpqua Nationa	58.60	319	⇓P		P	15 39 00.1	+0.4
	baz=58							
O20A	White River Ci	58.64	306	*eP*		P	15 39 00.3	+0.3
	comp=Z,20nm,0.8s							
O20A	White River Ci	58.64	306	*eP*		P	15 39 00.3	+0.3
	comp=Z,20nm,0.8s							
O20A	White River Ci	58.64	306	⇑P		P	15 39 00.8	+0.8
	baz=58,SNR=7.0							
Q26A	Hugo	58.67	301	⇓P		P	15 39 00.9	+0.8
	baz=58							
S32A	Newby Ranch, P	58.68	297	⇓P		P	15 39 00.9	+0.8
	baz=58							
T35A	Sooner Cattle	58.79	294	⇑P		P	15 39 01.3	+0.5
	baz=59							
R28A	Tribune	58.80	300	⇓P		P	15 39 01.7	+0.7
	baz=59							
P23A	Jefferson	58.80	304	⇓P		P	15 39 01.9	+0.5
	baz=59							
P22A	Eagle	58.81	304	⇓P		P	15 39 01.3	0.0
	baz=59							
T34A	McClaskey Farm	58.87	295	⇑P		P	15 39 01.5	+0.1
	baz=59							
S31A	Mullinville	58.89	297	⇓P		P	15 39 01.3	-0.3
	baz=59							
BGU	Big Grassy Mou	58.97	310	*eP*		P	15 39 02.4	+0.2
BGU	Big Grassy Mou	58.97	310	*eP*		P	15 39 02.4	+0.2
Q24A	Divide	59.02	303	⇑P		P	15 39 02.1	-0.7
	baz=59							
T33A	Patterson Ranc	59.08	296	⇓P		P	15 39 03.5	+0.7
	baz=59							
R27A	Eads	59.09	301	⇑P		P	15 39 03.2	+0.1
	baz=59							
S30A	Montezuma	59.12	298	⇓P		P	15 39 03.0	-0.2
	baz=59							
K04D	Chiloquin, OR	59.13	318	⇑P		P	15 39 03.0	-0.3
	baz=59							
T32A	Huddler Ranch,	59.17	297	⇓P		P	15 39 03.4	-0.1
	baz=59							
R26A	Arlington	59.24	301	⇓P		P	15 39 03.9	-0.2
	baz=59							
Q23A	Hartsel	59.24	303	⇓P		P	15 39 03.7	-0.7
	baz=59							
SMCO	Snowmass	59.26	304	*eP*		P	15 39 05.8	+1.2
	comp=Z,18nm,1.3s							
SMCO	Snowmass	59.26	304	*eP*		P	15 39 05.8	+1.2
	comp=Z,18nm,1.3s							
S29A	Ulysses	59.31	299	⇓P		P	15 39 04.5	0.0
	baz=59							
HUMO	Hull Mountain	59.37	319	*eP*		P	15 39 04.7	-0.1
	comp=Z,8.6nm,1.1s							
HUMO	Hull Mountain	59.37	319	*eP*		P	15 39 04.7	-0.1
	comp=Z,8.6nm,1.1s							
U34A	Anderson Ranch	59.51	295	⇑P		P	15 39 05.9	0.0
	baz=59							
S28A	Manter	59.53	299	⇓P		P	15 39 06.8	+0.7
	baz=59							
TUL1	Leonard	59.55	293	⇓P		P	15 39 06.7	+0.6
	baz=59							
ELK	Elko	59.62	312	*eP*		P	15 39 07.2	+0.4
ELK				pmax		pmax		
	comp=Z,7.0nm,1.0s							
ELK	Elko	59.62	312	*eP*		P	15 39 07.2	+0.4
	comp=Z,7.1nm,1.0s							
ELK	Elko	59.62	312	*eP*		P	15 39 07.2	+0.4
	comp=Z,7.1nm,1.0s							
DUG	Dugway, Tooele	59.62	310	*eP*		P	15 39 06.4	-0.3
DUG				pmax		pmax		
	comp=Z,42nm,2.1s							
DUG	Dugway, Tooele	59.62	310	*eP*		P	15 39 06.4	-0.3
	comp=Z,42nm,2.1s							
DUG	Dugway, Tooele	59.62	310	*eP*		P	15 39 06.4	-0.3
	comp=Z,42nm,2.1s							
DUG	Dugway, Tooele	59.62	310	⇓P		P	15 39 08.2	+1.4
	baz=59							
U33A	Lingo Farm, Me	59.66	296	⇑P		P	15 39 08.1	+1.2
	baz=60							
S27A	Las Animas	59.69	300	⇑P		P	15 39 08.7	+1.5
	baz=60							
T30A	Plains	59.70	298	⇓P		P	15 39 08.1	+0.9
	baz=60							
KOLN	Koldanda	59.72	95	*eP*		P	15 39 09.1	+1.4
	comp=Z,12nm,0.9s							
T29A	Hugoton	59.79	299	⇑P		P	15 39 08.3	+0.4
	baz=60							
GKN	Gorkha	59.80	93	*eP*		P	15 39 09.6	+1.5
S26A	Kim	59.89	301	⇓P		P	15 39 09.4	+0.8
	baz=60							
R23A	Moffat	59.92	303	⇑P		P	15 39 08.9	-0.1
	baz=60							
L02D	Cave Junction,	59.93	320	⇑P		P	15 39 10.4	+1.7
	baz=60							
U32A	Winter Ranch,	59.94	297	⇑P		P	15 39 09.2	+0.4
	baz=60							
M04C	Macdoel	59.96	318	⇓P		P	15 39 10.1	+1.1
	baz=60							
V35A	Meyer Ranch, C	59.97	294	⇓P		P	15 39 09.6	+0.6
	baz=60							
W38A	Poteau	60.01	292	⇑P		P	15 39 10.5	+1.2
	baz=60							
T28A	Walsh	60.03	300	⇓P		P	15 39 10.6	+1.1
	baz=60							
LSA	Lhasa	60.07	87	*eP*		P	15 39 10.6	+0.3
LSA				pmax		pmax		
	comp=Z,16nm,1.4s							
LSA	Lhasa	60.07	87	*eP*		P	15 39 10.6	+0.3
	comp=Z,16nm,1.4s							
LSA	Lhasa	60.07	87	*eP*		P	15 39 10.6	+0.3
	comp=Z,16nm,1.4s							
V34A	Guthrie	60.08	295	*eP*		P	15 39 10.1	+0.4
V34A	Guthrie	60.08	295	*eP*		P	15 39 10.1	+0.4
V34A	Guthrie	60.08	295	⇓P		P	15 39 10.8	+1.0
	baz=60							
TMUT	Trail Mountain	60.12	308	*eP*		P	15 39 09.2	-1.2
	comp=Z,19nm,1.3s							
TMUT	Trail Mountain	60.12	308	*eP*		P	15 39 09.2	-1.2
	comp=Z,19nm,1.3s							
U31A	Nine Bar Ranch	60.17	297	⇓P		P	15 39 10.5	0.0
	baz=60							
YBH	Yreka Blue Hor	60.17	319	*eP*		P	15 39 11.0	+0.6
YBH				pmax		pmax		
	comp=Z,71nm,2.5s							
YBH	Yreka Blue Hor	60.17	319	*eP*		P	15 39 11.0	+0.6
	comp=Z,71nm,2.5s							
YBH	Yreka Blue Hor	60.17	319	*eP*		P	15 39 11.0	+0.6
	comp=Z,71nm,2.5s							
KKN	Kakani	60.19	93	*eP*		P	15 39 10.7	-0.1
W37A	Quinton	60.19	293	⇑P		P	15 39 10.9	+0.4
	baz=60							
U30A	WK&E Inc. Balk	60.22	298	⇓P		P	15 39 12.1	+1.3
	baz=60							
T27A	Campo	60.24	300	⇓P		P	15 39 11.0	+0.1
	baz=60							
GUN	Gumba	60.24	92	*eP*		P	15 39 11.4	0.0
	comp=Z,60nm,1.3s							
MIAR	Mount Ida	60.25	291	*eP*		P	15 39 11.5	+0.6
MIAR				pmax		pmax		
	comp=Z,126nm,2.5s							
MIAR	Mount Ida	60.25	291	*eP*		P	15 39 11.5	+0.6
	comp=Z,126nm,2.5s							
MIAR	Mount Ida	60.25	291	*eP*		P	15 39 11.5	+0.6
	comp=Z,126nm,2.5s							
SDCO	Great Sand Dun	60.27	303	*eP*		P	15 39 12.0	+0.6
	comp=Z,83nm,2.8s							
SDCO	Great Sand Dun	60.27	303	*eP*		P	15 39 12.0	+0.6
	comp=Z,83nm,2.8s							
SDCO	Great Sand Dun	60.27	303	⇓P		P	15 39 12.0	+0.6
	baz=60							
V33A	Lossen Ranch,	60.29	296	⇑P		P	15 39 11.9	+0.7
	baz=60							
BBTS	Babate	60.35	207	LR		LR	16 01 17.2	
	comp=Z,136nm,21.9s,baz=72,slow=32							
TOA0	Torodi Ar. Sit	60.37	186	*eP*		P	15 39 10.9	-1.0
TOA0	Torodi Ar. Sit	60.37	186	*eP*		P	15 39 10.9	-1.0
TORD	Torodi Ar. Bea	60.37	186	P		P	15 39 11.2	-0.7
	comp=Z,7.0nm,0.8s,baz=354,slow=6.6,SNR=43							
TORD				LR		LR	16 06 58.4	
	comp=Z,114nm,18.4s,baz=355,slow=38							
W36A	Wetumka	60.40	294	⇑P		P	15 39 12.7	+0.8
	baz=60							
PKIN	Phulchoki	60.42	93	*eP*		P	15 39 13.4	+0.9
S23A	Nye Farm, Mont	60.42	303	⇑P		P	15 39 12.6	+0.2
	baz=60							
PKI	Pulchoki	60.43	93	*eP*		P	15 39 13.5	+0.9
TIGA	Tifton	60.43	281	⇓P		P	15 39 13.4	+1.2
	baz=60							
U29A	Oasis Ranch, S	60.45	299	⇓P		P	15 39 13.8	+1.4
	baz=60							
M02C	Callahan	60.53	319	⇓P		P	15 39 14.7	+1.8
	baz=60,SNR=6.6							
W35A	Tecumseh	60.55	294	⇑P		P	15 39 14.1	+1.1
	baz=60							
JIRN	Jiri	60.57	92	*eP*		P	15 39 14.0	+0.4
	comp=Z,210nm,2.1s							
T25A	Trinidad	60.58	302	⇓P		P	15 39 14.7	+1.2
	baz=60							
S22A	4UR Ranch, Cre	60.59	304	⇑P		P	15 39 15.0	+1.4
	baz=60,SNR=7.4							
PV01	Paradox Valley	60.62	305	*eP*		P	15 39 13.7	-0.1
	comp=Z,528nm,0.8s							
PV01	Paradox Valley	60.62	305	*eP*		P	15 39 13.7	-0.1
	comp=Z,528nm,0.8s							
X37A	Clayton	60.69	293	⇓P		P	15 39 15.7	+1.7
	baz=60							
W34A	Bridge Creek,	60.71	295	⇑P		P	15 39 15.6	+1.5
	baz=60							
V31A	Spring Creek L	60.73	297	⇑P		P	15 39 16.2	+2.0
	baz=61							
U28A	Mallet	60.76	299	⇑P		P	15 39 16.1	+1.5
	baz=61							
U27A	Thompson Grove	60.87	300	⇓P		P	15 39 16.7	+1.4
	baz=61							
N02D	Trinity Center	60.90	318	⇑P		P	15 39 17.1	+1.7
	baz=61							
XAN	Xi'an	60.93	69	P		P	15 39 15.8	+0.1
XAN				pP		pP	15 39 24.9	+4.0
XAN				PMZ				
	comp=Z,3.0nm,1.3s							
ERM	Erimo	60.95	36	*ceP*		P	15 39 14.7	-0.9
ERM				pmax		pmax		
	comp=Z,58nm,1.7s							
V30A	Spur Ranch, Mi	60.96	298	⇓P		P	15 39 17.8	+1.9
	baz=61							
X36A	Centrahoma	60.97	293	⇑P		P	15 39 17.7	+1.9
	baz=61							
W33A	Caddo, Fort Co	60.97	296	⇑P		P	15 39 17.1	+1.2
	baz=61							
TIA	Tai'an	61.00	60	⇑P		P	15 39 18.3	+2.3
TIA				PMZ				
	comp=Z,20nm,2.1s							
V29A	Stinnett	61.06	299	⇓P		P	15 39 18.0	+1.4
	baz=61							
MSU	Marysvale	61.09	309	*eP*		P	15 39 16.8	-0.1
MSU				pmax		pmax		
	comp=Z,19nm,1.5s							
MSU	Marysvale	61.09	309	*eP*		P	15 39 16.8	-0.1
	comp=Z,19nm,1.5s							
MSU	Marysvale	61.09	309	*eP*		P	15 39 16.8	-0.1
	comp=Z,19nm,1.5s							
MVU	Marysvale	61.10	309	*eP*		P	15 39 17.9	+0.9
	comp=Z,27nm,1.8s							
MVU	Marysvale	61.10	309	*eP*		P	15 39 17.9	+0.9
	comp=Z,27nm,1.8s							
KHMM	Horse Mountain	61.19	319	*eP*		P	15 39 17.7	+0.3
	comp=Z,18nm,1.0s							
KHMM	Horse Mountain	61.19	319	*eP*		P	15 39 17.7	+0.3
	comp=Z,18nm,1.0s							
WDC	Whiskeytown Da	61.25	318	*eP*		P	15 39 17.8	+0.1
WDC				pmax		pmax		
	comp=Z,10.0nm,1.1s							
WDC	Whiskeytown Da	61.25	318	*eP*		P	15 39 17.8	+0.1
	comp=Z,10nm,1.1s							
WDC	Whiskeytown Da	61.25	318	*eP*		P	15 39 17.8	+0.1
	comp=Z,10nm,1.1s							
X35A	Drake	61.29	294	⇓P		P	15 39 19.3	+1.3
	baz=61							
TAPN	Taplejung	61.30	91	*eP*		P	15 39 18.0	-0.5
W31A	Holland Ranch,	61.31	297	⇑P		P	15 39 19.7	+1.5
	baz=61							
X34A	Smith Ranch, M	61.33	295	⇓P		P	15 39 20.1	+1.9
	baz=61							
RAMN	Ramite	61.36	92	*eP*		P	15 39 20.3	+1.5
	comp=Z,43nm,1.4s							
V28A	Channing	61.36	299	⇑P		P	15 39 20.0	+1.4
	baz=61							
WMOK	Wichita Mounta	61.44	296	*eP*		P	15 39 18.5	-0.6
WMOK				pmax		pmax		
	comp=Z,60nm,2.1s							
WMOK	Wichita Mounta	61.44	296	*eP*		P	15 39 18.5	-0.6
	comp=Z,60nm,2.1s							
WMOK	Wichita Mounta	61.44	296	*eP*		P	15 39 18.5	-0.6
	comp=Z,60nm,2.1s							
MVCO	Mesa Verde	61.49	305	*eP*		P	15 39 20.0	+0.3
	comp=Z,95nm,2.0s							
MVCO	Mesa Verde	61.49	305	*eP*		P	15 39 19.9	+0.3
	comp=Z,95nm,2.0s							
MVCO	Mesa Verde	61.49	305	⇑P		P	15 39 21.8	+2.2
	baz=61							
X33A	Lawton	61.55	295	⇑P		P	15 39 22.2	+2.4
	baz=61							
ODAN	Odare	61.67	91	*eP*		P	15 39 21.2	+0.3
	comp=Z,113nm,1.5s							
W28A	Vega	61.82	299	⇑P		P	15 39 24.4	+2.7
	baz=62							
X31A	McDonald Ranch	61.85	297	⇓P		P	15 39 23.8	+2.0
	baz=62							
Z38A	Mt. Pleasant	61.85	292	⇑P		P	15 39 23.3	+1.5
	baz=62							
X32A	Elmer	61.87	296	⇓P		P	15 39 23.8	+1.9
	baz=62							
Y34A	Reagan Ranch,	61.91	295	⇑P		P	15 39 23.8	+1.6
	baz=62							
R11A	Troy Canyon, C	61.99	312	*eP*		P	15 39 22.9	0.0
	comp=Z,17nm,1.5s							
R11A	Troy Canyon, C	61.99	312	*eP*		P	15 39 22.9	0.0
	comp=Z,17nm,1.5s							
R11A	Troy Canyon, C	61.99	312	⇓P		P	15 39 23.7	+0.8
	baz=62,SNR=8.9							
AMTX	Amarillo	62.04	298	⇑P		P	15 39 24.3	+1.1
	baz=62							
Y33A	Hilltop Ranch,	62.09	295	⇑P		P	15 39 24.2	+0.8
	baz=62							
X30A	Coker Ranch, T	62.25	297	⇑P		P	15 39 25.5	+0.9
	baz=62							
Y32A	R-V Farms, Ver	62.31	296	⇓P		P	15 39 26.0	+1.1
	baz=62							
KSRS	Korea Array	62.36	51	P		P	15 39 24.2	-0.9
	comp=Z,2.1nm,0.7s,baz=355,slow=6.5,SNR=20							
KSRS				PP		PP	15 41 41.4	-0.5
	comp=Z,0.5nm,0.7s,baz=339,slow=7.8,SNR=4.2							
KSRS				LR		LR	16 09 55.9	
	comp=Z,224nm,18.0s,baz=342,slow=39							
KSRS	Korea Array	62.36	51	P		P	15 39 24.2	-0.9
KSRS							15 41 41.4	
KSRS				pmax		pmax		
	comp=Z,2.0nm,0.7s							
KSRS				pmax		pmax		
	comp=Z,1.0nm,0.7s							
KSRS				MLR		MLR		
	comp=Z,225nm,18.0s							
KSAR	Wonju Array Be	62.36	51	P		P	15 39 24.2	-1.0
KSAR							15 41 41.4	
KSAR	Wonju Array Be	62.36	51	P		P	15 39 24.2	-1.0
KSAR	Wonju Array Be	62.36	51	P		P	15 39 24.2	-1.0
KSAR				PP		PP	15 41 41.4	-0.5
Z35A	Perchaven, San	62.38	294	⇑P		P	15 39 27.7	+2.4
	baz=62							
CD2	Chengdu	62.49	74	*eP*		P	15 39 27.1	+0.9
CD2				sP		sP	15 39 34.6	+1.3
CD2				S		S	15 47 55.8	+3.3
CD2				SS		SS	15 51 58.0	+2.3
CD2				PMZ				
	comp=Z,20nm,1.8s							
CD2				PMZ				
	comp=Z,110nm,4.2s							
CD2				LN				
	comp=Z,380nm,17.8s							
CD2				LE				
	comp=Z,220nm,14.4s							
CD2				LZ				
	comp=Z,450nm,21.4s							
NVAR	Mina Array Bea	62.49	314	P		P	15 39 26.4	+0.1
	comp=Z,2.7nm,0.8s,baz=19,slow=5.1,SNR=22							
NVAR				PP		PP	15 41 41.5	-1.8
	comp=Z,0.2nm,0.5s,baz=10,slow=5.5,SNR=2.4							
Z34A	Collier Ranch,	62.51	294	⇑P		P	15 39 27.4	+1.1
	baz=62							
Y31A	Rekieta Farm,	62.56	297	⇓P		P	15 39 27.5	+0.9
	baz=62							
TPH	Tonopah	62.60	313	*eP*		P	15 39 28.4	+1.3
TPH				pmax		pmax		
	comp=Z,12nm,1.2s							
TPH	Tonopah	62.60	313	*eP*		P	15 39 28.4	+1.3
	comp=Z,12nm,1.2s							
TPH	Tonopah	62.60	313	*eP*		P	15 39 28.4	+1.3
	comp=Z,12nm,1.2s							
WAKR	Walker	62.65	315	*eP*		P	15 39 27.5	+0.2
WAKR	Walker	62.65	315	*eP*		P	15 39 27.5	+0.2
Z33A	Whitaker Ranch	62.81	295	⇓P		P	15 39 29.1	+0.8
	baz=63							
239A	Gary	62.88	291	⇑P		P	15 39 29.4	+0.7
	baz=63							
Z32A	Haskell	62.98	296	⇑P		P	15 39 30.0	+0.6
	baz=63							
Y29A	Porterfield Fa	63.01	298	⇓P		P	15 39 30.5	+0.9
	baz=63							
U15A	North Rim	63.11	308	⇑P		P	15 39 30.9	+0.4
	baz=63							
ANMO	Albuquerque	63.16	303	*ceP*		P	15 39 32.3	+1.5
ANMO				pmax		pmax		
	comp=Z,42nm,1.7s							
MSTX	Muleshoe	63.19	299	P		P	15 39 30.0	-0.9
	comp=Z,3.8nm,0.6s							
MSTX	Muleshoe	63.19	299	P		P	15 39 30.0	-0.9
	comp=Z,3.8nm,0.6s							
MSTX	Muleshoe	63.19	299	⇑P		P	15 39 31.7	+0.8
	baz=63							
237A	Washetta, Mont	63.25	292	⇓P		P	15 39 31.9	+0.7
	baz=63							
340A	Bronson	63.29	290	⇑P		P	15 39 33.1	+1.7
	baz=63							
134A	White-Moore Ra	63.31	294	⇑P		P	15 39 32.7	+1.2
	baz=63							
Z30A	Sanderson Ranc	63.42	297	⇑P		P	15 39 32.9	+0.6
	baz=63							
236A	Katherine and	63.45	293	⇑P		P	15 39 34.0	+1.5
	baz=63							
TPNV	Topopah Spring	63.48	312	⇓P		P	15 39 34.2	+1.3
	baz=63,SNR=9.4							
339A	Huntington	63.55	291	⇓P		P	15 39 33.6	+0.4
	baz=63							
Z29A	Hungry Hill Ra	63.59	298	⇓P		P	15 39 34.7	+1.2
	baz=63							
ABTX	Abilene, Hawle	63.67	296	*eP*		P	15 39 32.9	-1.1
	comp=Z,201nm,3.0s							
ABTX	Abilene, Hawle	63.67	296	*eP*		P	15 39 32.9	-1.1
	comp=Z,201nm,3.0s							
ABTX	Abilene, Hawle	63.67	296	⇓P		P	15 39 34.6	+0.6
	baz=64							
SHPR	Sheep Range	63.67	311	*eP*		P	15 39 34.7	+0.6
SHPR	Sheep Range	63.67	311	*eP*		P	15 39 34.7	+0.6
Z28A	Tucker Farm, M	63.74	298	⇓P		P	15 39 36.0	+1.5
	baz=64							
WUAZ	Wupatki	63.77	307	*eP*		P	15 39 34.5	-0.3
WUAZ	Wupatki	63.77	307	*eP*		P	15 39 34.5	-0.3
WUAZ	Wupatki	63.77	307	⇓P		P	15 39 37.0	+2.2
	baz=64							
W18A	Petrified Fore	63.78	306	⇑P		P	15 39 36.7	+1.8
	baz=64							
232A	Coleman	64.37	296	⇑P		P	15 39 39.7	+1.1
	baz=64							
DAC	Darwin (Calif)	64.41	313	*eP*		P	15 39 39.8	+0.8
DAC				pmax		pmax		
	comp=Z,77nm,2.3s							
DAC	Darwin (Calif)	64.41	313	*eP*		P	15 39 39.8	+0.8
	comp=Z,77nm,2.3s							
DAC	Darwin (Calif)	64.41	313	*eP*		P	15 39 39.8	+0.8
	comp=Z,77nm,2.3s							
231A	Bronte	64.50	296	⇑P		P	15 39 40.1	+0.7
	baz=64							
334A	Lometa	64.53	294	⇑P		P	15 39 41.4	+1.8
	baz=64							
MPMC	Manual Prospec	64.60	313	⇑P		P	15 39 41.6	+1.3
	baz=64,SNR=7.2							
ENH	Enshi	64.65	69	P		P	15 39 41.3	+0.9
ENH	Enshi	64.65	69	P		P	15 39 41.3	+0.9
333A	Richland Sprin	64.73	295	⇓P		P	15 39 41.5	+0.5
	baz=65							
230A	Sterling City	64.75	297	⇓P		P	15 39 41.5	+0.5
	baz=65							
X16A	Lo Mia Camp, P	64.84	307	⇑P		P	15 39 42.4	+0.6
	baz=

NJ2	**Nanjing**	**65.39**	**60**	*e*P		**P**	**15 39 46.3**	**+1.2**
NJ2				PMZ				
	comp=Z,40nm,0.6s							
GMRC	**Granite Mounta**	**65.44**	**311**	⇓P		**P**	**15 39 47.7**	**+2.1**
	baz=65							
JCT	**Junction City**	**65.75**	**295**	*e*P		**P**	**15 39 47.1**	**-0.5**
JCT				pmax		pmax		
	comp=Z,10.0nm,1.1s							
JCT	**Junction City**	**65.75**	**295**	*e*P		**P**	**15 39 47.8**	**+0.2**
	comp=Z,70nm,2.3s							
JCT	**Junction City**	**65.75**	**295**	*e*P		**P**	**15 39 47.1**	**-0.5**
	comp=Z,10nm,1.1s							
JCT	**Junction City**	**65.75**	**295**	⇓P		**P**	**15 39 47.9**	**+0.4**
	baz=66							
431A	**Sonora**	**65.76**	**296**	⇑P		**P**	**15 39 48.0**	**+0.4**
	baz=66							
121A	**Cookes Peak, D**	**65.79**	**303**	*e*P		**P**	**15 39 47.8**	**-0.2**
	comp=Z,70nm,2.3s							
121A	**Cookes Peak, D**	**65.79**	**303**	⇑P		**P**	**15 39 48.0**	**0.0**
	baz=66							
430A	**Baggett Ranch,**	**65.83**	**297**	⇓P		**P**	**15 39 48.3**	**+0.2**
	baz=66							
534A	**Blanco**	**65.83**	**294**	⇓P		**P**	**15 39 49.4**	**+1.4**
	baz=66							
EDW2	**Edwards Air Fo**	**65.84**	**313**	⇑P		**P**	**15 39 47.6**	**-0.5**
	baz=66							
IRM	**Iron Mountain**	**65.92**	**310**	⇑P		**P**	**15 39 49.9**	**+1.3**
	baz=66							
533A	**Kerrville**	**65.94**	**294**	⇓P		**P**	**15 39 49.8**	**+1.0**
	baz=66							
636A	**Smothers Creek**	**65.97**	**292**	⇑P		**P**	**15 39 50.9**	**+1.9**
	baz=66							
MNTX	**Cornudas Mount**	**66.00**	**301**	*e*P		**P**	**15 39 49.9**	**+0.8**
	comp=Z,56nm,2.5s							
MNTX	**Cornudas Mount**	**66.00**	**301**	*e*P		**P**	**15 39 49.9**	**+0.8**
	comp=Z,56nm,2.5s							
MNTX	**Cornudas Mount**	**66.00**	**301**	⇓P		**P**	**15 39 49.7**	**+0.5**
	baz=66							
532A	**Rocksprings**	**66.11**	**295**	⇓P		**P**	**15 39 50.9**	**+1.0**
	baz=66							
429A	**Davenport Ranc**	**66.15**	**297**	⇓P		**P**	**15 39 51.5**	**+1.3**
	baz=66							
Y12C	**Blythe**	**66.18**	**309**	⇑P		**P**	**15 39 52.7**	**+2.4**
	baz=66							
Z14A	**Wintersburg**	**66.20**	**308**	⇑P		**P**	**15 39 52.7**	**+2.3**
	baz=66							
531A	**Rocksprings**	**66.24**	**296**	⇓P		**P**	**15 39 52.2**	**+1.5**
	baz=66							
OSI	**Osito Audit: C**	**66.25**	**313**	⇑P		**P**	**15 39 53.1**	**+2.4**
	baz=66							
635A	**Leesville**	**66.25**	**293**	⇑P		**P**	**15 39 52.2**	**+1.4**
	baz=66							
BELC	**Belle Mtn. Jos**	**66.26**	**311**	⇓P		**P**	**15 39 53.2**	**+2.2**
	baz=66							
BFSC	**Mount Baldy Ra**	**66.39**	**312**	⇑P		**P**	**15 39 52.7**	**+1.0**
	baz=66							
530A	**J-C Ranch, Com**	**66.46**	**296**	⇑P		**P**	**15 39 53.3**	**+1.2**
	baz=66							
BC3	**Big Chuckawall**	**66.48**	**310**	⇑P		**P**	**15 39 54.6**	**+2.3**
	baz=66							
633A	**Saathoff Ranch**	**66.55**	**294**	⇑P		**P**	**15 39 54.4**	**+1.7**
	baz=66							
529A	**Stev Forest Ra**	**66.71**	**297**	⇑P		**P**	**15 39 55.1**	**+1.3**
	baz=66							
TUC	**Tucson**	**66.71**	**306**	*e*P		**P**	**15 39 54.3**	**+0.5**
TUC				pmax		pmax		
	comp=Z,96nm,2.4s							
TUC	**Tucson**	**66.71**	**306**	*e*P		**P**	**15 39 54.3**	**+0.5**
	comp=Z,96nm,2.4s							
TUC	**Tucson**	**66.71**	**306**	*e*P		**P**	**15 39 54.3**	**+0.5**
	comp=Z,96nm,2.4s							
PFO	**Pinyon Flats O**	**66.74**	**311**	⇓P		**P**	**15 39 54.5**	**+0.5**
	baz=66							
MURC	**Murrieta**	**66.91**	**312**	⇓P		**P**	**15 39 55.6**	**+0.6**
	baz=67							
319A	**Douglas**	**67.25**	**304**	⇑P		**P**	**15 39 58.7**	**+1.4**
	baz=67							
733A	**Divot King Ran**	**67.29**	**294**	⇓P		**P**	**15 39 58.8**	**+1.5**
	baz=67							
CIS	**Catalina Islan**	**67.35**	**313**	⇓P		**P**	**15 40 00.2**	**+2.5**
	baz=67							
MONP	**Monument Peak,**	**67.42**	**311**	⇑P		**P**	**15 40 00.0**	**+1.5**
	baz=67							
732A	**Laxson Ranch,**	**67.45**	**295**	⇑P		**P**	**15 39 59.7**	**+1.3**
	baz=67							
GYA	**Guiyang**	**67.50**	**73**	P		**P**	**15 40 01.0**	**+2.1**
GYA				PP		**PP**	**15 42 29.6**	**+2.3**
GYA				ScP			15 44 30.0	
GYA				S		**S**	**15 48 53.3**	**-1.0**
GYA				SKS		**SKSac**	**15 49 53.8**	**-1.9**
GYA				SS		**SS**	**15 53 15.3**	**+1.3**
GYA				PMZ				
	comp=Z,20nm,1.0s							
GYA				PMZ				
	comp=Z,120nm,5.2s							
GYA				LN				
	comp=Z,550nm,19.0s							
GYA				LE				
	comp=Z,490nm,20.2s							
GYA				LZ				
	comp=Z,540nm,18.8s							
214A	**Organ Pipe Nat**	**67.52**	**307**	⇓P		**P**	**15 39 59.4**	**+0.5**
	baz=67							
IBP	**Imperial Bould**	**67.57**	**310**	⇑P		**P**	**15 39 59.4**	**+0.1**
	baz=67							
KMI	**Kunming**	**67.67**	**77**	P		**P**	**15 40 01.1**	**+1.0**
KMI				S		**S**	**15 48 55.6**	**-1.1**
KMI				PMZ				
	comp=Z,10.0nm,0.8s							
KMI				PMZ				
	comp=Z,120nm,3.1s							
KMI				LN				
	comp=Z,340nm,16.6s							
KMI				LE				
	comp=Z,300nm,18.8s							
KMI				LZ				
	comp=Z,330nm,18.8s							
833A	**Chaparral WMA,**	**67.69**	**294**	⇓P		**P**	**15 40 00.6**	**+0.7**
	baz=68							
TXAR	**Lajitas Array**	**67.83**	**298**	P		**P**	**15 40 00.5**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=33,slow=5.4,SNR=11							
TXAR				LR		LR	16 09 40.1	
	comp=Z,705nm,19.4s,baz=0.0,slow=36							
TXAR	**Lajitas Array**	**67.83**	**298**	P		**P**	**15 40 00.5**	**-0.4**
TXAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
TXAR				MLR		MLR		
	comp=Z,705nm,19.4s							
832A	**Faith Ranch, C**	**67.88**	**295**	⇑P		**P**	**15 40 01.8**	**+0.7**
	baz=68							
934A	**Benavides**	**68.15**	**293**	⇓P		**P**	**15 40 01.6**	**-1.2**
	baz=68							
933A	**Laredo**	**68.33**	**294**	⇑P		**P**	**15 40 04.8**	**+0.9**
	baz=68							
035A	**Encino**	**68.67**	**292**	⇑P		**P**	**15 40 06.0**	**0.0**
	baz=68							
035Z	**Hargill**	**69.11**	**292**	⇑P		**P**	**15 40 10.5**	**+1.7**
	baz=69							
CMAI	**Chiengmai2**	**71.55**	**82**	P		**P**	**15 40 26.4**	**+2.4**
	comp=Z,48nm,0.9s							
CHTO	**Chiang Mai**	**72.58**	**83**	P		**P**	**15 40 31.4**	**+1.4**
	comp=Z,44nm,1.6s							
CHTO	**Chiang Mai**	**72.58**	**83**	*e*P		**P**	**15 40 29.2**	**-0.8**
CHTO				pmax		pmax		
	comp=Z,20nm,1.5s							
CHTO	**Chiang Mai**	**72.58**	**83**	*e*P		**P**	**15 40 29.2**	**-0.8**
	comp=Z,20nm,1.5s							
CHTO	**Chiang Mai**	**72.58**	**83**	*e*P		**P**	**15 40 29.2**	**-0.8**
	comp=Z,20nm,1.5s							
CMMT	**Chiang Mai**	**72.59**	**83**	P		**P**	**15 40 31.3**	**+1.3**
	comp=Z,13nm,1.7s							
CMAR	**Chiang Mai Arr**	**72.92**	**83**	P		**P**	**15 40 31.7**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=324,slow=7.3,SNR=20							
CMAR				LR		LR	16 17 44.5	
	comp=Z,115nm,21.7s,baz=324,slow=40							
CMAR	**Chiang Mai Arr**	**72.92**	**83**	P		**P**	**15 40 31.7**	**-0.3**
CMAR				pmax		pmax		
	comp=Z,3.0nm,0.8s							
CMAR				MLR		MLR		
	comp=Z,115nm,21.7s							
LOEI	**Loei**	**74.48**	**81**	P		**P**	**15 40 43.2**	**+2.0**
	comp=Z,5.8nm,1.8s							
NONG	**Nongkai**	**74.49**	**79**	P		**P**	**15 40 42.5**	**+1.3**
	comp=Z,27nm,0.7s							
PBKT	**Sadao Pong**	**75.29**	**82**	P		**P**	**15 40 47.5**	**+1.7**
QIZ	**Qiongzhong**	**75.43**	**73**	P		**P**	**15 40 45.9**	**-0.7**
QIZ				S		**S**	**15 50 26.9**	**+1.1**
QIZ				PMZ				
	comp=Z,19nm,1.4s							
QIZ				LZ				
	comp=Z,220nm,23.8s							
SDV	**Santo Domingo**	**78.10**	**261**	*e*P		**P**	**15 41 01.7**	**-0.2**
	comp=Z,9.4nm,1.0s							
SDV	**Santo Domingo**	**78.10**	**261**	*e*P		**P**	**15 41 01.7**	**-0.2**
	comp=Z,9.4nm,1.0s							
WRA	**Warramunga Arr**	**119.16**	**59**	PKP		**PKPdf**	**15 47 51.2**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=339,slow=2.7,SNR=5.8							
WRA	**Warramunga Arr**	**119.16**	**59**	PKIKP		**PKPdf**	**15 47 51.2**	**-0.2**
WRA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
AS31	**Alice Springs**	**122.62**	**61**	*e*PKIKP		**PKPdf**	**15 47 56.1**	**-1.9**
AS31	**Alice Springs**	**122.62**	**61**	*e*PKPdf		**PKPdf**	**15 47 56.1**	**-1.9**
ASAR	**Alice Springs**	**122.62**	**61**	PKP		**PKPdf**	**15 47 56.4**	**-1.6**
	comp=Z,1.9nm,0.7s,baz=7.4,slow=1.7,SNR=28							
ASAR	**Alice Springs**	**122.62**	**61**	PKIKP		**PKPdf**	**15 47 56.4**	**-1.6**
ASAR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
PLCA	**Paso Flores**	**125.23**	**245**	PKP		**PKPdf**	**15 48 02.8**	**+0.3**
	comp=Z,2.6nm,1.0s,baz=335,slow=7.6,SNR=3.0							
PLCA	**Paso Flores**	**125.23**	**245**	PKIKP		**PKPdf**	**15 48 02.8**	**+0.3**
PLCA				pmax		pmax		
	comp=Z,3.0nm,1.0s							
VNA1	**Neumayer--Stat**	**144.21**	**189**	P		**PKPdf**	**15 48 36.1**	**-0.6**
VNA2	**Neumayer--Watz**	**144.45**	**188**	P		PKPbc	15 48 35.8	0.0
	baz=7.4,slow=4.1							
VNA3	**Neumayer Olymp**	**144.87**	**189**	P		**PKPab**	**15 48 36.1**	**-1.0**
SNAA	**Sanae**	**145.04**	**186**	P		**PKPbc**	**15 48 34.9**	**-2.8**
SNAA	**Sanae**	**145.04**	**186**	*e*PKP2		**PKPbc**	**15 48 34.1**	**-3.7**
SNAA	**Sanae**	**145.04**	**186**	*e*PKP		**PKPbc**	**15 48 34.1**	**-3.7**
MAW	**Mawson**	**145.37**	**146**	PKPbc		**PKPdf**	**15 48 38.8**	**+0.1**
	comp=Z,10nm,0.8s,baz=316,slow=5.5,SNR=9.5							
MAW	**Mawson**	**145.37**	**146**	PKIKP		**PKPdf**	**15 48 38.8**	**+0.1**
MAW				pmax		pmax		
	comp=Z,10.0nm,0.8s							

*ISK **16** 15:33:17.7, 40°.11N×29°.51E, h5km, MD2.6*
*ISCJB **16** 15:33:18.5±0.6, 40°.10N±0°.06×29°.47E±0°.04, h9km, Error ellipse: s-maj=8.6km s-min=4.9km az=176.0*
*CSEM **16** 15:33:18.8±0.2, 40°.10N×29°.48E, h2km, MD2.7, Error ellipse: s-maj=5.9km s-min=4.7km az=177.0*
*DDA **16** 15:33:20.1, 40°.20N×29°.36E, h7km, MD2.7*

ISC 16 15:33:19.1±1.0, 40°.11N±0°.04×29°.45E±0°.02, h9km, n16, σ0°90/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IZI	**Iznik**	**0.22**	**4**	*e*PG	**Pg**	**15 33 23.2**	**-0.5**
IZI	**Iznik**	**0.22**	**4**	*e*Pg	**Pg**	**15 33 23.3**	**-0.5**
ULDT	**Uludag**	**0.24**	**277**	*i* P	**Pg**	**15 33 23.3**	**-0.8**
ULDT				*i* S	**Sg**	**15 33 27.2**	**-0.3**
ULDT	**Uludag**	**0.24**	**277**	*i* P	**Pg**	**15 33 23.3**	**-0.8**
ULDT				*i* S	**Sg**	**15 33 27.2**	**-0.3**
CAVI	**Cavuskoy**	**0.31**	**73**	*e*PG	**Pg**	**15 33 24.4**	**-0.9**
CAVI				*e*SG	**Sg**	**15 33 29.1**	**-0.3**
CAVI	**Cavuskoy**	**0.31**	**73**	*e*Pg	**Pg**	**15 33 24.4**	**-0.9**
CAVI				*e*Sg	**Sg**	**15 33 29.1**	**-0.3**
GEMT	**Gemlik**	**0.38**	**328**	*e*PG	**Pg**	**15 33 26.8**	**+0.2**
GEMT	**Gemlik**	**0.38**	**328**	*e*Pg	**Pg**	**15 33 26.8**	**+0.2**
TVSB	**Tavsanli**	**0.66**	**179**	*e*PG	**Pg**	**15 33 31.6**	**-0.3**
TVSB	**Tavsanli**	**0.66**	**179**	*e*Pg	**Pg**	**15 33 31.6**	**-0.3**
BORA	**Eskisehir**	**0.80**	**107**	*i* P	**Pg**	**15 33 33.9**	**-0.6**
BORA				*i* S	**Sn**	**15 33 50.9**	**+2.1**
BORA	**Eskisehir**	**0.80**	**107**	*i* P	**Pg**	**15 33 33.9**	**-0.6**
BORA				*i* S	**Sn**	**15 33 50.9**	**+2.1**
KCTX	**Karacabey (Bur**	**0.85**	**281**	*e*PG	**Pn**	**15 33 36.8**	**-0.5**
KCTX	**Karacabey (Bur**	**0.85**	**281**	*e*Pg	**Pn**	**15 33 36.8**	**-0.5**
DURS	**Dursunbey**	**0.91**	**236**	*i* P	**Pg**	**15 33 36.3**	**-0.3**
DURS				*i* S	**Sn**	**15 33 52.5**	**+1.1**
DURS	**Dursunbey**	**0.91**	**236**	*i* P	**Pg**	**15 33 36.3**	**-0.3**
DURS				*i* S	**Sn**	**15 33 52.5**	**+1.1**

IDC 16 15:33:50.2±17.0, 4°.56S×153°.53E, h143km±138km, mb3.1/5, mb1 3.3/5, mb1mx3.1/19, mbtmp3.5/5, Error ellipse: s-maj=96.9km s-min=29.2km az=81.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.15**	**229**	P	P	15 38 53.5	+0.3
	1.6nm,0.5s,baz=56,slow=10,SNR=30						
ASAR	**Alice Springs**	**26.82**	**223**	P	P	15 39 17.0	-0.3
	0.3nm,0.7s,baz=56,slow=9.0,SNR=12						
ASAR				PcP	PcP	15 42 37.0	+0.4
	0.2nm,0.8s,baz=73,slow=2.9,SNR=4.1						
STKA	**Stephens Creek**	**29.39**	**201**	P	P	15 39 40.0	0.0
	0.7nm,0.6s,baz=34,slow=11,SNR=6.0						
CMAR	**Chiang Mai Arr**	**58.44**	**295**	P	P	15 43 31.5	0.0
	0.3nm,0.4s,baz=101,slow=4.9,SNR=3.3						
SONM	**Songino Array**	**66.52**	**327**	P	P	15 44 24.9	+0.1
	0.1nm,0.3s,baz=144,slow=5.2,SNR=2.0						
TORD	**Torodi Ar. Bea**	**150.92**	**289**	PKPbc	PKPbc	15 53 26.2	-0.9
	0.9nm,0.8s,baz=63,slow=1.6,SNR=4.9						

IDC 16 15:49:43.9±13.0, 3°.94N×124°.45E, h584km±220km, mb2.3/5, mb1 2.4/5, mb1mx2.2/46, mbtmp3.3/5, Error ellipse: s-maj=125.4km s-min=32.2km az=73.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.65**	**158**	P	P	15 54 28.6	-0.1
	0.2nm,0.3s,baz=338,slow=10,SNR=9.6						
ASAR	**Alice Springs**	**28.95**	**162**	P	P	15 54 57.4	-0.2
	0.1nm,0.3s,baz=341,slow=7.0,SNR=8.2						
STKA	**Stephens Creek**	**39.18**	**157**	P	P	15 56 22.8	0.0
	0.3nm,0.4s,baz=328,slow=8.7,SNR=3.2						
SONM	**Songino Array**	**46.41**	**343**	P	P	15 57 19.2	+0.2
	0.3nm,0.6s,baz=149,slow=6.1,SNR=4.3						
MKAR	**Makanchi Array**	**56.10**	**326**	P	P	15 58 28.3	-0.5
	0.4nm,0.4s,baz=142,slow=5.0,SNR=5.9						

*ISCJB **16** 15:57:44.7±0.5, 3°.27S±0°.05×152°.55E±0°.08, h350km, mb3.7/19, Error ellipse: s-maj=10.7km s-min=7.1km az=9.2*
*IDC **16** 15:57:46.6±1.4, 3°.26S×152°.48E, h350km±14km, mb3.5/17, mb1 3.6/19, mb1mx3.5/34, mbtmp4.2/19, Error ellipse: s-maj=13.7km s-min=8.1km az=90.0*

ISC 16 15:57:46.1±0.5, 3°.27S±0°.07×152°.56E±0°.09, h350km, n45, σ1°13/52, mb3.8/19, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.99**	**203**	P	**Pn**	**15 58 30.1**	**-1.8**
	baz=2.1,SNR=5.5						
RABL				S	**S**	**15 59 05.3**	**-3.3**
	baz=2.1,SNR=7.0						
MANU	**Manus Island**	**5.33**	**283**	P	**Pn**	**15 59 08.9**	**-0.5**
	baz=6.3,SNR=6.3						
PMG	**Port Moresby**	**8.12**	**221**	P	**Pn**	**15 59 41.1**	**-0.7**
PMG	**Port Moresby**	**8.12**	**221**	P	**Pn**	**15 59 41.2**	**-0.5**
	baz=9.3,SNR=19						
COEN	**Coen**	**14.09**	**221**	P	**Pn**	**16 00 55.2**	**+2.6**
	baz=15,SNR=15						
CTA	**Charters Tower**	**17.81**	**200**	P	**P**	**16 01 33.3**	**+2.1**
	1.0nm,0.3s,baz=22,slow=10.0,SNR=13						
FAKI	**Fak Fak**	**20.28**	**270**	P	**P**	**16 01 56.7**	**-0.3**
	baz=21,SNR=4.8						
QIS	**Mount Isa**	**21.32**	**215**	P	**P**	**16 02 07.1**	**+0.8**
	baz=22,SNR=13						
SIJI	**Sorong**	**21.41**	**276**	P	**P**	**16 02 07.6**	**+0.4**
	3.1nm,0.3s,baz=102,slow=19,SNR=5.2						
KDU	**Kakadu**	**21.96**	**244**	P	**P**	**16 02 11.2**	**-0.9**
	baz=23,SNR=26						
DZM	**Mont Dzumac**	**23.04**	**145**	P	**P**	**16 02 23.0**	**+0.9**
	3.9nm,0.5s,baz=270,slow=20,SNR=9.0						
WRA	**Warramunga Arr**	**24.30**	**226**	P	**P**	**16 02 33.4**	**0.0**
	15nm,0.5s,baz=48,slow=9.3,SNR=430						
WRA				PcP	**PcP**	**16 06 03.4**	**+0.8**
	1.1nm,0.4s,baz=49,slow=2.4,SNR=6.5						
WRA				S	**S**	**16 06 25.1**	**-1.2**
	0.5nm,0.8s,baz=44,slow=16,SNR=2.7						
WRA				ScP	**ScP**	**16 09 08.5**	**+0.9**
	1.5nm,1.0s,baz=52,slow=3.0,SNR=5.3						
QLP	**Quilpie**	**24.51**	**198**	P	**P**	**16 02 35.9**	**+0.7**
	baz=26,SNR=14						
KNRA	**Kununurra**	**26.47**	**241**	P	**P**	**16 02 51.8**	**-0.9**
	baz=28,SNR=6.4						
ASAR	**Alice Springs**	**27.13**	**220**	P	**P**	**16 02 58.2**	**-0.4**
	3.5nm,0.4s,baz=52,slow=8.9,SNR=367						
ASAR				PcP	**PcP**	**16 06 09.7**	**+0.5**
	0.7nm,0.7s,baz=44,slow=2.3,SNR=4.7						
ASAR				S	**S**	**16 07 08.9**	**-2.1**
	0.5nm,0.6s,baz=47,slow=14,SNR=5.2						
ASAR				ScP	**ScP**	**16 09 18.3**	**+2.5**
	0.6nm,1.0s,baz=50,slow=2.9,SNR=3.6						
CMSA	**Cobar Meteorol**	**28.85**	**192**	P	**P**	**16 03 13.9**	**+0.4**
	baz=30,SNR=44						
STKA	**Stephens Creek**	**30.27**	**199**	P	**P**	**16 03 25.8**	**-0.2**
	1.2nm,0.4s,baz=37,slow=14,SNR=11						
STKA	**Stephens Creek**	**30.27**	**199**	P	**P**	**16 03 26.0**	**0.0**
	baz=31,SNR=7.7						
WRKA	**Warakurna**	**31.84**	**225**	P	**P**	**16 03 38.7**	**-1.1**
	baz=33,SNR=72						
HTT	**Hallett**	**32.60**	**201**	P	**P**	**16 03 46.4**	**+0.1**
	baz=34,SNR=10						
KAPI	**Kappang**	**32.76**	**266**	P	**P**	**16 03 48.2**	**+0.3**
	1.9nm,0.3s,baz=85,slow=6.5,SNR=4.3						
BBOO	**Buckleboo**	**33.20**	**206**	P	**P**	**16 03 50.8**	**-0.6**
	baz=34,SNR=27						
FORT	**Forrest**	**35.83**	**218**	P	**P**	**16 04 13.2**	**-0.6**
	baz=37,SNR=22						
JOW	**Kunigami**	**38.03**	**323**	P	**P**	**16 04 33.2**	**+1.1**
	baz=152,slow=9.2						
MEEK	**Meekatharra**	**39.95**	**231**	P	**P**	**16 04 47.1**	**-1.0**
	baz=41,SNR=10						
JNU	**Nakatsue**	**41.60**	**332**	P	**P**	**16 05 00.6**	**-0.7**
	12nm,0.9s,baz=168,slow=2.1,SNR=10						
KLBR	**Kellerberrin**	**43.19**	**225**	P	**P**	**16 05 13.9**	**0.0**
	baz=44,SNR=5.0						
BLDU	**Ballidu**	**43.41**	**227**	P	**P**	**16 05 15.0**	**-0.8**
	baz=45,SNR=9.0						
RPZ	**Rata Peaks**	**43.48**	**160**	P	**P**	**16 05 17.6**	**+1.5**
	3.3nm,0.5s,baz=327,slow=3.9,SNR=4.6						
CISI	**Cisompet, Garu**	**44.73**	**263**	P	**P**	**16 05 26.2**	**-0.2**
	baz=46,SNR=4.0						
KSRS	**Korea Array**	**46.54**	**333**	P	**P**	**16 05 39.8**	**-0.1**
	2.2nm,0.7s,baz=149,slow=7.8,SNR=18						
USRK	**Ussuriysk Ar.**	**50.73**	**341**	P	**P**	**16 06 11.6**	**+0.1**
	2.7nm,0.7s,baz=208,slow=10,SNR=6.6						
PETK	**Petropavlovsk-**	**56.34**	**4**	P	**P**	**16 06 52.0**	**+0.3**
	2.8nm,1.0s,baz=166,slow=8.9,SNR=16						
CMAR	**Chiang Mai Arr**	**57.02**	**294**	P	**P**	**16 06 57.5**	**+0.5**
	1.2nm,0.8s,baz=106,slow=5.1,SNR=7.7						
SONM	**Songino Array**	**64.91**	**328**	P	**P**	**16 07 49.5**	**+0.2**
	1.9nm,0.6s,baz=146,slow=5.9,SNR=14						
VNDA	**Vanda**	**74.36**	**178**	P	**P**	**16 08 46.0**	**+0.2**
	0.8nm,0.5s,baz=311,slow=7.7,SNR=1.9						
MKAR	**Makanchi Array**	**79.02**	**319**	P	**P**	**16 09 12.2**	**0.0**
	1.1nm,1.0s,baz=106,slow=4.3,SNR=6.4						
ZALV	**Zalesovo Beam**	**79.76**	**326**	P	**P**	**16 09 14.8**	**-1.1**
	0.7nm,0.5s,baz=117,slow=6.3,SNR=4.7						
ILAR	**Eielson Array**	**80.84**	**22**	P	**P**	**16 09 21.0**	**-0.4**
	0.3nm,0.8s,baz=248,slow=4.8,SNR=3.7						
NVAR	**Mina Array Bea**	**91.34**	**52**	P	**P**	**16 10 10.5**	**-2.9**
	0.3nm,0.6s,baz=251,slow=5.6,SNR=2.7						
PDAR	**Pinedale Array**	**98.00**	**47**	P	**P**	**16 10 43.5**	**-0.2**
	0.3nm,0.6s,baz=286,slow=3.4,SNR=2.7						
BOSA	**Boshof**	**120.33**	**234**	PKP	**PKPdf**	**16 15 57.0**	**0.0**
	1.6nm,0.9s,baz=127,slow=10,SNR=3.1						
GERES	**GERESS Array B**	**122.63**	**329**	PKP	**PKPdf**	**16 16 00.9**	**+0.1**
	0.4nm,0.4s,baz=90,slow=2.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	**149.57**	**291**	PKPbc	**PKPbc**	**16 16 55.4**	**-0.3**
	3.0nm,0.6s,baz=73,slow=1.9,SNR=27						
BDFB	**Brasilia**	**152.30**	**133**	PKPbc	**PKPbc**	**16 17 02.5**	**+0.3**
	1.6nm,0.5s,baz=219,slow=6.5,SNR=2.8						

*ISCJB **16** 15:59:08.5±0.8, 73°.36N±0°.06×8°.5E±0°.3, h11km, mb3.3/3, Error ellipse: s-maj=13.0km s-min=6.7km az=152.8*
*IDC **16** 15:59:08.6±1.1, 73°.27N×7°.31E, h0km, mb3.4/3, mb1 3.4/7, mb1mx3.2/43, mbtmp3.4/7, ML2.9/4, Error ellipse: s-maj=27.0km s-min=15.3km az=73.0*
*BER **16** 15:59:12.1±3.2, 73°.50N×8°.33E, h0km±93km, MD2.0, ML1.3, ML2.9(NAO)*
*CSEM **16** 15:59:12.7±1.0, 73°.54N×8°.93E, h10km, ML2.9, Error ellipse: s-maj=32.9km s-min=4.7km az=63.0*
*NAO **16** 15:59:14.3±7.5, 73°.49N×8°.63E, h20km±117km, ML2.9*

ISC 16 15:59:10.1±1.0, 73°.35N±0°.09×8°.1E±0°.1, h11km, n24, σ1°13/28, mb3.5/3, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HSPB	**Hornsund (broa**	**4.13**	**24**	Pn	**Pn**	**16 00 12.6**	**-0.4**
HSPB	**Hornsund (broa**	**4.13**	**24**	Pn	**Pn**	**16 00 12.6**	**-0.4**
	SNR=50						
HSP	**Hornsund**	**4.14**	**24**	Pn	**Pn**	**16 00 12.6**	**-0.5**
HSP	**Hornsund**	**4.14**	**24**	Pn	**Pn**	**16 00 12.6**	**-0.5**
SPA0	**Spitsbergen Ar**	**5.25**	**19**	Pn	**Pn**	**16 00 28.3**	**-0.1**
	baz=193,slow=12						
SPA0	**Spitsbergen Ar**	**5.25**	**19**	Pn	**Pn**	**16 00 28.3**	**-0.1**
	baz=193,slow=12	

H10S3	**ASCENSION HYDR**	**25.54**	**1**	T	T	16 38 20.1		
	baz=181,slow=75,SNR=383							
H10S1	**ASCENSION HYDR**	**25.55**	**1**	T	T	16 38 20.2		
	baz=181,slow=75,SNR=348							
H10N1	**ASCENSION HYDR**	**26.65**	**2**	T	T	16 39 34.0		
	baz=180,slow=73,SNR=26							
H10N3	**ASCENSION HYDR**	**26.65**	**2**	T	T	16 39 42.4		
	baz=180,slow=73,SNR=244							
H10N2	**ASCENSION HYDR**	**26.66**	**2**	T	T	16 39 43.4		
	baz=180,slow=73,SNR=53							
BOSA	**Boshof**	**34.85**	**92**	P	**P**	**16 13 02.1**	**+0.9**	
	11nm,0.9s,baz=254,slow=9.0,SNR=13							
BOSA				LR	LR	16 24 21.7		
	comp=Z,844nm,20.8s,baz=268,slow=31							
BDFB	**Brasilia**	**34.93**	**294**	P	**P**	**16 13 00.8**	**-1.1**	
	1.4nm,0.4s,baz=148,slow=10,SNR=4.9							
BDFB				LR	LR	16 24 50.6		
	comp=Z,807nm,18.5s,baz=102,slow=32							
VNA2	**Neumayer--Watz**	**36.62**	**176**	P	**P**	**16 13 18.3**	**+2.6**	
	baz=346,slow=9.7							
VNA3	**Neumayer Olymp**	**36.82**	**177**	P	**P**	**16 13 19.9**	**+2.6**	
SNAA	**Sanae**	**37.70**	**174**	P	**P**	**16 13 24.0**	**-0.9**	
SNAA	**Sanae**	**37.70**	**174**	P	**P**	**16 13 25.2**	**+0.3**	
	0.6nm,0.9s,baz=339,slow=10,SNR=4.6							
DBIC	**Dimbokro**	**42.22**	**15**	LR	LR	16 27 09.7		
	comp=Z,187nm,21.6s,baz=168,slow=30							
MSKU	**Masuku**	**42.42**	**46**	P	**P**	**16 14 05.6**	**+0.9**	
	3.8nm,0.4s,baz=225,slow=9.3,SNR=6.7							
CFAA	**Coronel Fontan**	**44.05**	**258**	P	**P**	**16 14 17.0**	**-0.8**	
	0.6nm,0.8s,baz=88,slow=7.4,SNR=6.6							
SIV	**San Ignacio**	**44.94**	**283**	P	**P**	**16 14 24.9**	**-0.1**	
	4.1nm,0.9s,baz=120,slow=12,SNR=7.9							
TOA0	**Torodi Ar. Sit**	**50.16**	**22**	*e*P	**P**	**16 15 04.9**	**-0.5**	
TORD	**Torodi Ar. Bea**	**50.16**	**22**	P	**P**	**16 15 04.8**	**-0.5**	
	6.0nm,1.1s,baz=197,slow=5.7,SNR=15							
TORD				ScP	**ScP**	**16 20 19.6**	**-0.9**	
	0.6nm,0.9s,baz=207,slow=6.0,SNR=2.5							
TORD				LR	LR	16 32 14.4		
	comp=Z,400nm,19.4s,baz=190,slow=31							
LPAZ	**La Paz**	**50.52**	**277**	P	**P**	**16 15 07.5**	**-1.5**	
	0.4nm,0.3s,baz=120,slow=4.3,SNR=3.0							
LPAZ				LR	LR	16 36 01.1		
	comp=Z,360nm,19.6s,baz=116,slow=36							
LPAZ	**La Paz**	**50.52**	**277**	*e*P	P	16 15 05.7	-3.3	
	4.2nm,1.3s							
MAW	**Mawson**	**54.04**	**152**	P	**P**	**16 15 34.4**	**+0.7**	
	6.5nm,1.0s,baz=257,slow=11,SNR=3.9							
MAW				LR	LR	16 34 08.3		
	comp=Z,248nm,19.9s,baz=248,slow=31							
QSPA	**South Pole Qui**	**55.64**	**180**	*e*P	**P**	**16 15 47.3**	**+1.8**	
	11nm,0.9s							
KMBO	**Kilima Mbogo**	**59.15**	**68**	LR	LR	16 39 25.2		
	comp=Z,449nm,20.4s,baz=266,slow=34							
SBA	**Scott Base**	**67.79**	**180**	*e*P	**P**	**16 17 08.2**	**+1.2**	
	8.6nm,0.9s							
ROSC	**El Rosal**	**67.98**	**293**	LR	LR	16 45 54.3		
	comp=Z,754nm,18.2s,baz=206,slow=35							
VNDA	**Vanda**	**68.12**	**179**	P	**P**	**16 17 10.0**	**+0.9**	
	1.6nm,0.8s,baz=226,slow=5.9,SNR=6.9							
AKASG	**Malin Array Be**	**93.57**	**27**	P	**P**	**16 19 27.0**	**+1.6**	
	0.3nm,0.4s,baz=220,slow=3.6,SNR=4.8							
H01W2	**Cape Leeuwin H**	**96.22**	**140**	T	T	18 07 49.6		
	baz=220,slow=75,SNR=4.4							
H01W3	**Cape Leeuwin H**	**96.23**	**140**	T	T	18 07 45.4		
	baz=220,slow=75,SNR=4.8							
H01W1	**Cape Leeuwin H**	**96.23**	**140**	T	T	18 07 52.0		
	baz=220,slow=75,SNR=4.5							
PPT2	**Papeete2**	**112.32**	**228**	*e*LR	LR	16 24 38.9		
	220nm,25.0s							
ASAR	**Alice Springs**	**115.07**	**149**	PKP	**PKPdf**	**16 24 51.0**	**-0.5**	
	0.6nm,0.9s,baz=214,slow=1.4,SNR=7.4							
WRA	**Warramunga Arr**	**118.53**	**147**	PKP	**PKPdf**	**16 24 57.0**	**-1.2**	
	0.8nm,0.9s,baz=230,slow=1.8,SNR=7.1							
NVAR	**Mina Array Bea**	**119.74**	**298**	PKP	**PKPdf**	**16 24 59.6**	**-0.5**	
	0.2nm,0.5s,baz=116,slow=4.1,SNR=2.5							
CMAR	**Chiang Mai Arr**	**119.93**	**87**	PKP	**PKPdf**	**16 25 01.2**	**+0.5**	
	0.3nm,0.4s,baz=232,slow=4.4,SNR=3.8							
YKA	**Yellowknife Ar**	**124.26**	**326**	PKP	**PKPdf**	**16 25 06.4**	**-1.3**	
	0.7nm,0.8s,baz=100,slow=2.3,SNR=5.3							
ILAR	**Eielson Array**	**138.21**	**331**	PKP	**PKPdf**	**16 25 34.0**	**0.0**	
	1.3nm,1.0s,baz=350,slow=1.5,SNR=8.0							
KSAR	**Wonju Array Be**	**150.19**	**74**	PKPbc	**PKPbc**	**16 25 59.6**	**-1.1**	
KSRS	**Korea Array**	**150.22**	**74**	PKPbc	**PKPbc**	**16 25 59.6**	**-1.1**	
	1.2nm,1.0s,baz=242,slow=2.5,SNR=7.6							

GUC 16 16:09:46.5±0.5, 36°22S×71°65W, h20km±4km, ML3.6, 3C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.82**	**1⇑**	*i*P	Pb	16 10 01.7	-0.3
TALC				*i* S	Sn	16 10 13.7	-0.6
NICH	**Los Niches**	**1.26**	**16⇑**	*i*P	Pn	16 10 09.1	+0.2
NICH				*i* S	Sb	16 10 26.8	+1.4
CLCH	**Cerro Calan**	**2.96**	**18⇑**	*i*P	Pn	16 10 35.1	+2.7
CLCH				*i* S	Sb	16 11 12.0	-2.5
CLCH				AML	AML	16 11 21.4	
	comp=N,168nm,0.6s						

IDC 16 16:39:24.9±7.4, 6°12S×128°45E, h404km±118km, mb2.8/2, mb1 2.7/5, mb1mx2.5/42, mbtmp3.5/5, Error ellipse: s-maj=194.0km s-min=17.2km az=81.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.93**	**28**	P	P	16 40 57.8	+1.0
	0.6nm,0.3s,baz=269,slow=23,SNR=7.6						
SIJI				S	S	16 42 11.7	-0.4
	0.5nm,0.3s,baz=253,slow=19,SNR=4.9						
WRA	**Warramunga Arr**	**14.88**	**158**	P	P	16 42 37.8	+1.7
	0.1nm,0.3s,baz=331,slow=12,SNR=4.6						
ASAR	**Alice Springs**	**18.21**	**164**	P	P	16 43 11.1	-0.6
	0.1nm,0.3s,baz=345,slow=12,SNR=15						
MKAR	**Makanchi Array**	**66.66**	**327**	P	P	16 49 33.6	-0.2
	0.4nm,0.8s,baz=121,slow=4.7,SNR=3.9						
KURBB	**Kurchatov Arra**	**70.97**	**329**	P	P	16 50 00.2	+0.3
	0.3nm,0.5s,baz=128,slow=4.5,SNR=4.8						

*BJI **16** 16:39:30.1, 73°.40N×7°.30E, h10km, mb4.7/46, mB5.1/39, Ms4.9/51, Ms7 4.6/50*

*ISCJB **16** 16:39:31.6±0.1, 73°.46N±0°.01×7°.25E±0°.05, h10km, mb5.0/275, MS4.4/56, Error ellipse: s-maj=2.6km s-min=1.5km az=140.4*

*CSEM **16** 16:39:31.4±0.1, 73°.45N×7°.27E, h2km, mb5.1/99, Ms4.1, Error ellipse: s-maj=3.4km s-min=2.1km az=59.0*

*MOS **16** 16:39:31.3±1.2, 73°.44N×7°.22E, h10km, mb5.2/89, MS4.4/48, Error ellipse: s-maj=15.0km s-min=3.0km az=93.1*

*IDC **16** 16:39:31.4±0.3, 73°.46N×7°.34E, h0km, mb4.3/44, mb1 4.4/49, mb1mx4.4/55, mbtmp4.3/49, ML4.4/5, MS4.5/37, Ms1 4.5/37, ms1mx4.3/51, Error ellipse: s-maj=9.8km s-min=7.2km az=46.0*

*BER **16** 16:39:32.9±2.8, 73°.39N×7°.71E, h10km, MD3.1, ML3.0, ML4.6(NAO)*

*NEIC **16** 16:39:33.1±0.1, 73°.42N×7°.35E, h10km, mb5.2/180, Error ellipse: s-maj=4.0km s-min=2.3km az=63.0*

*GCMT **16** 16:39:33.1±0.2, 73°.37N×7°.17E, h12km, MW5.1/104, Moment Tensor Solution. s38,c42; s104,c191; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr~5.74±.10; Mθθ 1.82±.10; Mϕϕ 3.92±.09; Mrθ -1.01±.42; Mrϕ 2.58±.09; Mθϕ~0.33±.38; Best double couple: M◎5.79500×10^16 NP1: ϕs 40.00000°, δ50.00000°, λ-82.00000°. NP2: ϕs 208.00000°, δ41.00000°, λ-99.00000°. Principal axes: T 5.7170, Plg4.0000°, Azm124.0000°; N 0.1560, Plg6.0000°, Azm215.0000°; P -5.8730, Plg83.0000°, Azm0.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SZGRF **16** 16:39:36.8, 73°.10N×9°.31E, h10km, mb5.3, MS4.2, Greenland Sea*

*KOLA **16** 16:39:38.6, 71°.33N×7°.60E, h0km*

*UPP **16** 16:39:42.6, 72°.93N×9°.60E, h0km, ML1.8*

ISC 16 16:39:33.4±0.3, 73°.44N±0°.02×7°.23E±0°.02, h12km±1km, h12km: pP-P, n1455, σ1§24/1490, mb5.1/275, MS4.5/62, 175C-176D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO	**Bjornoya**	**3.48**	**66**	Pn	Pn	16 40 23.2	-4.1
BJO	**Bjornoya**	**3.48**	**66**	*e*P	Pn	16 40 23.2	-4.1
BJO				*e*S	Sn	16 41 01.8	-6.5
	SNR=50						
BJO				*e*S	Sn	16 41 01.8	-6.5
	SNR=50						
HSPB	**Hornsund (broa**	**4.16**	**27**	*e*P	**Pn**	**16 40 33.8**	**-2.7**
HSPB				*e*		16 44 18.7	
HSPB	**Hornsund (broa**	**4.16**	**27**	*e*P	**Pn**	**16 40 33.8**	**-2.7**
	SNR=49						
HSP	**Hornsund**	**4.17**	**27**	Pn	**Pn**	**16 40 33.9**	**-2.7**
HSP	**Hornsund**	**4.17**	**27**	*e*P	**Pn**	**16 40 33.9**	**-2.7**
HSP	**Hornsund**	**4.17**	**27**	Pn	**Pn**	**16 40 33.9**	**-2.7**
SPA0	**Spitsbergen Ar**	**5.26**	**21**	Pn	**Pn**	**16 40 49.6**	**-2.0**
	baz=199,slow=10						
SPA0	**Spitsbergen Ar**	**5.26**	**21**	Pn	**Pn**	**16 40 49.9**	**-1.8**
	baz=199,slow=10						
SPA0	**Spitsbergen Ar**	**5.26**	**21**	Pn	**Pn**	**16 40 49.6**	**-2.0**
	SNR=493						
SPITS	**Spitsbergen Ar**	**5.26**	**21**	Pn	**Pn**	**16 40 49.7**	**-1.9**
	baz=189,slow=16,SNR=417						
SPITS				LR	LR	16 42 39.7	
	comp=Z,5μm,19.5s,baz=220,slow=36						
TRO	**Tromso**	**5.33**	**130**	*e*P	Pn	16 40 48.5	-4.0
TRO				*e*S	Sn	16 41 44.4	-9.2
TRO				IAML		16 41 47.2	
	comp=Z,40nm,0.5s						
JNE	**Jan Mayen East**	**5.35**	**250**	*e*P	**Pn**	**16 40 51.1**	**-1.7**
JNE	**Jan Mayen East**	**5.35**	**250**	*e*P	**Pn**	**16 40 51.1**	**-1.7**
	SNR=49						
JNW	**Jan Mayen West**	**5.36**	**251**	*e*P	**Pn**	**16 40 51.4**	**-1.6**
JNW	**Jan Mayen West**	**5.36**	**251**	*e*P	**Pn**	**16 40 51.4**	**-1.6**
	SNR=49						
JMIC	**Jan Mayen**	**5.41**	**251**	Pn	**Pn**	**16 40 51.9**	**-1.7**
JMIC	**Jan Mayen**	**5.41**	**251**	*e*P	**Pn**	**16 40 52.0**	**-1.7**
JMIC	**Jan Mayen**	**5.41**	**251**	Pn	**Pn**	**16 40 52.0**	**-1.6**
	comp=Z,25nm,0.3s,baz=36,slow=6.0,SNR=9.1						
JMIC				LR	LR	16 42 31.7	
	comp=Z,5μm,20.0s,baz=46,slow=33						
JMI	**Jan Mayen**	**5.50**	**251**	*e*P	**Pn**	**16 40 53.5**	**-1.4**
JMI	**Jan Mayen**	**5.50**	**251**	*e*P	**Pn**	**16 40 53.5**	**-1.4**
	SNR=49						
HOPEN	**Hopen**	**5.54**	**48**	Pn	Pn	16 40 51.8	-3.6
HOPEN	**Hopen**	**5.54**	**48**	Pn	Pn	16 40 51.8	-3.6
HOPEN	**Hopen**	**5.54**	**48**	Pn	Pn	16 40 51.8	-3.6
KBS	**Kingsbay**	**5.63**	**9**	*e*P	**Pn**	**16 40 54.8**	**-1.8**
KBS	**Kingsbay**	**5.63**	**9**	*e*P	**Pn**	**16 40 54.4**	**-2.3**
KBS				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KBS	**Kingsbay**	**5.63**	**9**	*e*P	**Pn**	**16 40 54.4**	**-2.3**
	comp=Z,9.0nm,0.5s						
KBS	**Kingsbay**	**5.63**	**9**	*e*Pn	**Pn**	**16 40 54.4**	**-2.3**
	comp=Z,9.3nm,0.5s						
LOF	**Lofoten**	**5.72**	**156**	*e*P	Pn	16 40 54.7	-3.3
LOF				IAML		16 41 56.9	
	comp=Z,61nm,0.4s						
LOF				*e*T	T	16 45 47.1	
KTK1	**Kautokeino**	**6.80**	**123**	*e*P	**Pn**	**16 41 10.3**	**-2.4**
NIKU	**Nikkaluokta**	**6.82**	**139**	P	**Pn**	**16 41 10.5**	**-2.5**
NIKU	**Nikkaluokta**	**6.82**	**139**	P	**Pn**	**16 41 10.5**	**-2.5**
	baz=341						
NIKU				S	Sn	16 42 18.5	-12
ARA0	**ARCESS Array S**	**6.99**	**115**	Pn	Pn	16 41 11.8	-3.7
	baz=317,slow=12						
ARA0				Sn	Sn	16 42 22.4	-12
	baz=312,slow=22						
ARA0	**ARCESS Array S**	**6.99**	**115**	Pn	Pn	16 41 11.8	-3.7
	baz=317,slow=12						
ARA0				Sn	Sn	16 42 22.4	-12
	baz=312,slow=22						
ARA0	**ARCESS Array S**	**6.99**	**115**	*e*Pn	Pn	16 41 11.7	-3.7
ARA0				*e*Sn	Sn	16 42 23.9	-11
ARCES	**ARCESS Array B**	**6.99**	**115**	Pn	Pn	16 41 11.9	-3.5
	comp=Z,8.4nm,0.3s,baz=321,slow=13,SNR=153						
ARCES				Sn	Sn	16 42 24.7	-10
	comp=Z,1.5nm,0.3s,baz=323,slow=24,SNR=3.4						
ARE0	**ARCESS Array S**	**6.99**	**115**	*e*P	Pn	16 41 12.5	-2.9
ARE0				*e*S	Sn	16 42 19.9	-15
ARE0				IAML		16 42 29.9	
	comp=Z,16nm,0.5s						
ARE0	**ARCESS Array S**	**6.99**	**115**	*e*Pn	Pn	16 41 12.1	-3.3
KUA	**Kurravaara**	**7.00**	**135**	P	Pn	16 41 12.4	-3.1
KUA	**Kurravaara**	**7.00**	**135**	P	Pn	16 41 12.4	-3.1
SALU	**Saltoluokta**	**7.16**	**143**	P	Pn	16 41 14.7	-2.9
SALU	**Saltoluokta**	**7.16**	**143**	P	Pn	16 41 14.7	-2.9
KEV	**Kevo**	**7.24**	**111**	*e*P	Pn	16 41 14.6	-4.2
KEV	**Kevo**	**7.24**	**111**	*e*Pn	Pn	16 41 14.6	-4.2
KEV				*e*Sn	Sn	16 42 26.5	-14
KONS	**Konsvik**	**7.26**	**161**	*e*P	**Pn**	**16 41 16.3**	**-2.7**
KONS				*e*S	Sn	16 42 29.1	-12
KONS				IAML		16 42 30.6	
	comp=Z,13nm,0.4s						
LANU	**Lannavaara**	**7.26**	**131**	P	Pn	16 41 16.2	-3.0
LANU	**Lannavaara**	**7.26**	**131**	P	Pn	16 41 16.2	-3.0
LANU				S	Sn	16 42 29.6	-12
STOK	**Stokkvaagen**	**7.41**	**162**	*e*P	Pn	16 41 18.1	-2.9
STOK				IAML		16 42 39.1	
	comp=Z,16nm,0.4s						
FLOS	**Flostrand**	**7.44**	**161**	*e*P	**Pn**	**16 41 19.1**	**-2.4**
FLOS				*e*S	Sn	16 42 33.8	-12
FLOS				IAML		16 42 44.8	
	comp=Z,23nm,0.3s						
FLOS	**Flostrand**	**7.44**	**161**	*e*P	**Pn**	**16 41 19.1**	**-2.4**
	SNR=47						
MOR8	**Moi Rana**	**7.71**	**158**	*e*Pn	Pn	16 41 21.7	-3.6
MOR8				*e*Sn	Sn	16 42 41.5	-11
MOR8				IAML		16 42 50.1	
	comp=Z,21nm,0.4s						
MASU	**Masugnsbyn**	**7.76**	**133**	P	Pn	16 41 22.9	-3.1
MASU	**Masugnsbyn**	**7.76**	**133**	P	Pn	16 41 22.9	-3.1
PAJU	**Pajala**	**8.36**	**132**	P	Pn	16 41 31.1	-3.1
PAJU	**Pajala**	**8.36**	**132**	P	Pn	16 41 31.1	-3.1
ERTU	**Ertsjaerv**	**8.57**	**136**	P	Pn	16 41 34.1	-3.0
ERTU	**Ertsjaerv**	**8.57**	**136**	P	Pn	16 41 34.1	-3.0
NSS	**Namsos**	**9.11**	**167**	*e*Pn	**Pn**	**16 41 42.6**	**-1.8**
NSS				IAML		16 43 28.7	
	comp=Z,13nm,0.5s						
NSS	**Namsos**	**9.11**	**167**	*e*Pn	**Pn**	**16 41 42.6**	**-1.8**
	SNR=50						
APA0	**Apatity Array**	**10.31**	**112**	Pn	Pn	16 41 55.8	-5.1
	baz=312,slow=10						
APA0	**Apatity Array**	**10.31**	**112**	Pn	Pn	16 41 55.8	-5.1
	baz=312,slow=10						
APA0	**Apatity Array**	**10.31**	**112**	P	Pn	16 41 54.7	-6.2
APA0				S	Sn	16 43 37.8	-18
APA	**Apatity**	**10.45**	**111**	⇓*i*P	Pn	16 41 58.4	-4.3
APA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
APA	**Apatity**	**10.45**	**111**	P	Pn	16 41 57.3	-5.4
APA				S	Sn	16 43 41.6	-18
LVZ	**Lovozero**	**10.55**	**108**	Pn	Pn	16 41 59.4	-4.8
	comp=Z,799nm,0.7s,SNR=29						
LVZ	**Lovozero**	**10.55**	**108**	*d* i P	Pn	16 41 59.2	-5.0
LVZ				pmax	pmax		
	comp=Z,85nm,0.6s						
LVZ	**Lovozero**	**10.55**	**108**	*e*P	Pn	16 41 58.8	-5.4
	comp=Z,89nm,0.7s						
UMAU	**Umea**	**10.73**	**146**	P	Pn	16 42 03.2	-3.4
NBO02	**NORSAR Array S**	**12.52**	**172**	*e*Pn	**Pn**	**16 42 28.6**	**-2.5**
NB2	**NORSAR Subarra**	**12.55**	**171**	Pn	**Pn**	**16 42 29.4**	**-2.1**
	baz=355,slow=14						
NB2	**NORSAR Subarra**	**12.55**	**171**	Pn	**Pn**	**16 42 28.8**	**-2.6**
	comp=Z,20nm,1.1s,baz=356,slow=14						
NB2	**NORSAR Subarra**	**12.55**	**171**	Pn	**Pn**	**16 42 29.4**	**-2.1**
	baz=355,slow=14						
NB2	**NORSAR Subarra**	**12.55**	**171**	Pn	**Pn**	**16 42 29.4**	**-2.1**
	SNR=50						
NOA	**NORSAR Array B**	**12.55**	**171**	Pn	Pn	16 42 28.5	-2.9
	comp=Z,1.2nm,0.3s,baz=350,slow=13,SNR=12						
NOA				LR	LR	16 46 60.0	
	comp=Z,2μm,19.9s,baz=350,slow=36						
NOA	**NORSAR Array B**	**12.55**	**171**	P	Pn	16 42 28.5	-2.9
NOA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NOA				MLR	MLR		
	comp=Z,2μm,19.9s						
NAO01	**NORSAR Array S**	**12.73**	**172**	P	**Pn**	**16 42 32.2**	**-1.7**
	comp=Z,13nm,0.9s						
NAO01	**NORSAR Array S**	**12.73**	**172**	P	**Pn**	**16 42 32.2**	**-1.7**
	comp=Z,13nm,0.9s						
SUMG	**Summit**	**13.13**	**288**	*i* P	**Pn**	**16 42 38.1**	**-1.6**
	comp=Z,4μm,15.0s						
SUMG	**Summit**	**13.13**	**288**	*i* P	**Pn**	**16 42 38.1**	**-1.6**
SUMG				MLR	MLR		
	comp=Z,4μm,15.0s						
SUMG	**Summit**	**13.13**	**288**	*e*P	**Pn**	**16 42 37.3**	**-2.4**
SUMG	**Summit**	**13.13**	**288**	*e*P	**Pn**	**16 42 37.3**	**-2.4**
BORG	**Borgarnes**	**13.23**	**244**	LR	LR	16 46 20.3	
	comp=Z,2μm,20.1s,baz=13,slow=31						
HFS	**Hagfors**	**13.59**	**166**	Pn	Pn	16 42 42.3	-3.3
	baz=356,slow=12						
HFS	**Hagfors**	**13.59**	**166**	Pn	Pn	16 42 42.3	-3.3
	baz=356,slow=12						
HFS	**Hagfors**	**13.59**	**166**	Pn	Pn	16 42 42.3	-3.3
	comp=Z,0.9nm,0.3s,baz=353,slow=11,SNR=26						
HFS				Sn	Sn	16 45 07.6	-8.7
	comp=Z,0.4nm,0.3s,baz=360,slow=17,SNR=3.0						
HFS				LR	LR	16 47 41.6	
	comp=Z,3μm,18.1s,baz=349,slow=36						
KONO	**Kongsberg**	**13.88**	**175**	P	Pn	16 42 46.7	-2.9
KONO				pmax	pmax		
	comp=Z,82nm,1.5s						
KONO	**Kongsberg**	**13.88**	**175**	P	Pn	16 42 46.7	-2.9
	comp=Z,82nm,1.5s						
FIA0	**FINESS Array S**	**13.94**	**140**	Pn	Pn	16 42 45.5	-4.9
	baz=341,slow=11						
FIA0	**FINESS Array S**	**13.94**	**140**	Pn	Pn	16 42 45.5	-4.9
	baz=341,slow=11						
FIA1	**FINESS Array S**	**13.94**	**140**	*e*P	Pn	16 42 45.5	-4.8
FINES	**FINESS Array B**	**13.94**	**140**	Pn	Pn	16 42 45.9	-4.4
	comp=Z,0.9nm,0.3s,baz=340,slow=11,SNR=41						
FINES				LR	LR	16 47 49.2	
	comp=Z,3μm,21.8s,baz=271,slow=36						
FINES	**FINESS Array B**	**13.94**	**140**	P	Pn	16 42 45.9	-4.4
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES				MLR	MLR		
	comp=Z,3μm,21.8s						
TMCR	**Tamitsa**	**14.29**	**115**	*e*P	**P**	**16 43 02.0**	**-0.3**
TMCR				pmax	pmax		
	comp=Z,39nm,0.8s						
TMCR	**Tamitsa**	**14.29**	**115**	*e*P	**P**	**16 43 02.0**	**-0.3**
	comp=Z,39nm,0.8s						
ALE	**Alert**	**15.67**	**333**	Pn	**Pn**	**16 43 10.3**	**-3.2**
	comp=Z,106nm,0.9s,SNR=9.1						
PUL	**Pulkovo**	**16.31**	**135**	P	**Pn**	**16 43 23.0**	**+1.2**
PUL				pmax	pmax		
	comp=Z,87nm,0.9s						
PUL				MLR	MLR		
	comp=Z,3μm,22.0s						
PUL	**Pulkovo**	**16.31**	**135**	P	**Pn**	**16 43 23.0**	**+1.2**
	comp=Z,3μm,22.0s						
VSU	**Vasula**	**16.85**	**143**	*d* i P	Pn	16 43 23.0	-5.6
VSU				pmax	pmax		
	comp=Z,154nm,1.5s						
MUD	**Monsted U'grnd**	**17.07**	**176**	*i* P	**Pn**	**16 43 31.6**	**+0.1**
MUD	**Monsted U'grnd**	**17.07**	**176**	*i* P	**Pn**	**16 43 31.6**	**+0.1**
MUD	**Monsted U'grnd**	**17.07**	**176**	*i* P	**Pn**	**16 43 31.6**	**+0.1**
KLMR	**Klimovskoe**	**17.44**	**119**	*d* i P	**Pn**	**16 43 32.5**	**-3.5**
KLMR				*e*S	**S**	**16 46 55.0**	**-3.0**
KLMR				pmax	pmax		
	comp=Z,202nm,1.7s						
KLMR				MLR	MLR		
	comp=Z,2μm,14.0s						
COP	**Copenhagen**	**17.95**	**170**	*i* P	**P**	**16 43 43.8**	**+0.9**
	comp=Z,740nm,18.0s						
COP	**Copenhagen**	**17.95**	**170**	*i* P	**P**	**16 43 43.8**	**+0.9**
COP				MLR	MLR		
	comp=Z,750nm,18.0s						
COP	**Copenhagen**	**17.95**	**170**	*i* P	**P**	**16 43 43.8**	**+0.9**
PRGR	**Permogore**	**18.37**	**110**	*e*P	**Pn**	**16 43 43.6**	**-3.9**
PRGR				pmax	pmax		
	comp=Z,39nm,0.7s						
ILULI	**Ilulissat**	**18.45**	**286**	*i* P	**Pn**	**16 43 49.3**	**+1.0**
	comp=Z,3μm,16.0s						
ILULI	**Ilulissat**	**18.45**	**286**	*i* P	**Pn**	**16 43 49.3**	**+1.0**
	SNR=35						
BSD	**Bornholm Skovb**	**18.67**	**166**	*i* P	**P**	**16 43 48.3**	**-2.5**
	comp=Z,2μm,17.0s						
BSD	**Bornholm Skovb**	**18.67**	**166**	*i* P	**P**	**16 43 48.3**	**-2.5**
BSD				MLR	MLR		
	comp=Z,2μm,17.0s						
EKA	**Eskdalemuir Ar**	**18.67**	**199**	P	**P**	**16 43 49.8**	**-1.0**
	baz=10.0,slow=11,SNR=12						
ESK	**Eskdalemuir**	**18.69**	**199**	*e*P	**Pn**	**16 43 51.4**	**0.0**
ESK				pmax	pmax		
	comp=Z,51nm,1.3s						
ESK	**Eskdalemuir**	**18.69**	**199**	*e*P	**Pn**	**16 43 51.4**	**0.0**
	comp=Z,51nm,1.3s						
ESK	**Eskdalemuir**	**18.69**	**199**	*e*P	**Pn**	**16 43 51.4**	**0.0**
	comp=Z,51nm,1.3s						
SFJD	**Kangerlussuaq**	**19.80**	**281**	*i* P	**Pn**	**16 44 06.0**	**+1.4**
	comp=Z,3μm,18.0s						
SFJD	**Kangerlussuaq**	**19.80**	**281**	P	**Pn**	**16 44 04.9**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=50,slow=8.7,SNR=7.9						
SFJD				LR	LR	16 50 44.9	
	comp=Z,4μm,18.9s,baz=50,slow=34						
SFJD	**Kangerlussuaq**	**19.80**	**281**	*i* P	**Pn**	**16 44 06.0**	**+1.4**
SFJD				MLR	MLR

comp=Z,24nm,1.6s
BEBN Eben Emael 22.74 183 P **P** 16 44 35.4 +0.7
comp=Z,24nm,1.6s
UCC Uccle 22.76 185 P **P** 16 44 35.1 0.0
comp=Z,156nm,1.6s
UCC Uccle 22.76 185 P **P** 16 44 35.0 0.0
comp=Z,156nm,1.6s
VAL Valentia 22.82 209 *e*P **P** 16 44 37.9 +2.2
BRG Berggiesshubel 22.84 169 *e*P **P** 16 44 35.0 -0.8
comp=Z,54nm,1.4s
BRG S **S** 16 48 44.0 -0.6
comp=N,1µm,16.6s
comp=E,392nm,17.0s
comp=Z,2µm,17.8s
BRG Berggiesshubel 22.84 169 *e*P **P** 16 44 35.6 -0.3
comp=Z,54nm,1.4s
BRG Berggiesshubel 22.84 169 *e*P **P** 16 44 35.0 -0.8
BRG S **S** 16 48 44.0 -0.6
BRG pmax pmax
comp=Z,54nm,1.4s
BRG MLR MLR
comp=N,1µm,16.6s
BRG MLR MLR
comp=E,392nm,17.0s
BRG MLR MLR
comp=Z,2µm,17.8s
BRG Berggiesshubel 22.84 169 *e*P **P** 16 44 35.0 -0.8
comp=Z,54nm,1.4s
MEM Membach 22.92 182 P **P** 16 44 36.7 -0.1
comp=Z,26nm,1.3s
MEM Membach 22.92 182 *e*P **P** 16 44 37.5 +0.8
MEM pmax pmax
comp=Z,36nm,1.0s
MEM Membach 22.92 182 *e*P **P** 16 44 37.5 +0.8
comp=Z,36nm,1.0s
MEM Membach 22.92 182 *e*P **P** 16 44 37.5 +0.8
comp=Z,36nm,1.0s
KSP Ksiaz 23.02 165 *e*P **P** 16 44 35.8 -1.9
KSP *e*S **S** 16 48 44.5 -3.3
KSP Ksiaz 23.02 165 *e*P **P** 16 44 35.9 -1.8
KSP *e*S **S** 16 48 44.5 -3.3
KSP Ksiaz 23.02 165 *e*P **P** 16 44 35.9 -1.8
SNF Seneffe 23.05 185 P **P** 16 44 39.0 +0.9
SNF Seneffe 23.05 185 P **P** 16 44 38.9 +0.9
BCLA Clavier 23.12 183 P **P** 16 44 40.8 +1.9
comp=Z,76nm,2.2s
BCLA Clavier 23.12 183 P **P** 16 44 40.7 +1.9
comp=Z,76nm,2.2s
PVCC Panska Ves 23.21 168 *e*P **P** 16 44 39.2 -0.6
PVCC *ep*P **pP** 16 44 43.2 -0.1
PVCC AMS AMS 16 53 20.0
comp=Z,2µm,18.6s
PVCC Panska Ves 23.21 168 *e*P **P** 16 44 39.2 -0.6
PVCC *e* 16 44 43.2
PVCC MLR MLR
comp=Z,2µm,18.6s
PVCC Panska Ves 23.21 168 *e*P **P** 16 44 39.2 -0.6
comp=Z,2µm,18.6s
TANN Tannenbergstha 23.22 171 *e*P **P** 16 44 40.1 +0.2
comp=Z,82nm,1.7s
TANN Tannenbergstha 23.22 171 *e*P **P** 16 44 40.1 +0.2
comp=Z,82nm,1.7s
TNS Taunus Mts 23.31 178 *e*P **P** 16 44 40.8 0.0
comp=Z,430nm,2.3s
TNS *e*L L 16 53 23.1
comp=Z,1µm,20.7s
TNS Taunus Mts 23.31 178 *e*P **P** 16 44 40.8 0.0
comp=Z,430nm,2.3s
NKC Novy Kostel 23.40 172 *e*P **P** 16 44 41.9 +0.2
NKC *ex* x 16 44 52.6
NKC AMS AMS 16 54 00.0
comp=Z,800nm,14.0s
NKC Novy Kostel 23.40 172 *e*P **P** 16 44 41.9 +0.2
NKC MLR MLR
comp=Z,800nm,14.0s
NKC Novy Kostel 23.40 172 *e*P **P** 16 44 41.9 +0.2
comp=Z,800nm,14.0s
GIVF Givet 23.45 184 *e*P **P** 16 44 40.9 -1.2
comp=Z,339nm,1.7s
GIVF Givet 23.45 184 *e*P **P** 16 44 40.9 -1.2
GIVF pmax pmax
comp=Z,339nm,1.7s
GIVF Givet 23.45 184 *e*P **P** 16 44 40.9 -1.2
comp=Z,169nm,1.7s
GIVF Givet 23.45 184 *e*P **P** 16 44 40.9 -1.2
comp=Z,339nm,1.7s
DOU Dourbes 23.46 184 P **P** 16 44 42.3 +0.1
comp=Z,39nm,2.2s
DOU Dourbes 23.46 184 P **P** 16 44 42.3 +0.1
comp=Z,39nm,2.2s
BAIF Baives 23.50 185 *e*P **P** 16 44 41.1 -1.5
comp=Z,501nm,1.9s
BAIF Baives 23.50 185 *e*P **P** 16 44 41.1 -1.5
BAIF pmax pmax
comp=Z,501nm,1.9s
BAIF Baives 23.50 185 *e*P **P** 16 44 41.1 -1.5
comp=Z,251nm,1.9s
BAIF Baives 23.50 185 *e*P **P** 16 44 41.1 -1.5
comp=Z,501nm,1.9s
DPC Dobruska-Polom 23.51 165 *e*P **P** 16 44 42.3 -0.5
DPC *ex* x 16 44 54.6
DPC *e*S **S** 16 48 56.2 +0.2
DPC AMS AMS 16 53 40.0
DPC Dobruska-Polom 23.51 165 *e*P **P** 16 44 42.3 -0.5
DPC *e*S **S** 16 48 56.2 +0.2
DPC Dobruska-Polom 23.51 165 *e*P **P** 16 44 42.3 -0.5
DPC *e*S **S** 16 48 56.2 +0.2
ABH Alteburg 23.64 179 *e*P **P** 16 44 45.5 +1.4
PRA Prague 23.66 168 *e*P **P** 16 44 44.2 0.0
PRA *ep*P **pP** 16 44 48.8 +1.0
PRA *ex* x 16 44 55.6
PRA AMS AMS 16 53 50.0
comp=Z,1µm,16.7s
PRA Prague 23.66 168 *e*P **P** 16 44 44.2 0.0
PRA *e* 16 44 48.8
PRA MLR MLR
comp=Z,1µm,16.7s
PRA Prague 23.66 168 *e*P **P** 16 44 44.2 0.0
PRU Pruhonice 23.75 168 *e*P **P** 16 44 45.3 +0.2
PRU *ex* x 16 44 55.7
PRU *e*S **S** 16 48 59.2 -0.6
PRU AMS AMS 16 53 50.0
comp=Z,1µm,17.3s
PRU Pruhonice 23.75 168 *e*P **P** 16 44 45.3 +0.2
PRU *e*S **S** 16 48 59.2 -0.6
PRU MLR MLR
comp=Z,1µm,17.3s
PRU Pruhonice 23.75 168 *e*P **P** 16 44 45.3 +0.2
PRU *e*S **S** 16 48 59.2 -0.6
comp=Z,1µm,17.3s
RUP Ruppelstein 23.82 180 *e*P **P** 16 44 46.7 +0.9
GOPC GO Pecny, Ondr 23.84 168 *e*P **P** 16 44 45.4 -0.6
GOPC *ep*P **pP** 16 44 48.0 -1.6
GOPC *e*S **S** 16 49 01.8 +0.5
GOPC AMS AMS 16 54 00.0
comp=Z,1µm,15.9s
GOPC GO Pecny, Ondr 23.84 168 P **P** 16 44 45.4 -0.6
GOPC S **S** 16 49 01.8 +0.5
ROTZ Rotzenmuhle 23.86 172 *e*P **P** 16 44 46.3 +0.2
comp=Z,435nm,2.4s
WLF Walferdange 23.86 182 P **P** 16 44 47.2 +1.0
comp=Z,98nm,2.5s
WLF Walferdange 23.86 182 *e*P **P** 16 44 46.3 +0.1
comp=Z,344nm,2.1s
WLF Walferdange 23.86 182 *e*P **P** 16 44 44.3 -1.9
WLF pmax pmax
comp=Z,193nm,1.7s
WLF Walferdange 23.86 182 P **P** 16 44 47.1 +1.0
comp=Z,98nm,2.5s
WLF Walferdange 23.86 182 *e*P **P** 16 44 44.3 -1.9
comp=Z,193nm,1.7s
GRFO Grafenberg 23.90 174 *e*P **P** 16 44 46.9 +0.4
GRFO pmax pmax
comp=Z,128nm,1.5s
GRFO Grafenberg 23.90 174 *e*P **P** 16 44 46.9 +0.4
comp=Z,128nm,1.5s
GRFO Grafenberg 23.90 174 *e*P **P** 16 44 46.9 +0.4
comp=Z,128nm,1.5s
TOD Tromm 23.93 177 *e*P **P** 16 44 48.6 +1.8
OJC Ojcow 23.94 160 *e*P **P** 16 44 45.6 -1.3
OJC *e*S **S** 16 49 02.5 -0.3
OJC Ojcow 23.94 160 *e*P **P** 16 44 45.6 -1.3
OJC *e*S **S** 16 49 02.5 -0.3
OJC Ojcow 23.94 160 *e*P **P** 16 44 45.6 -1.3
OJC *e*S **S** 16 49 02.5 -0.3

OJC Ojcow 23.94 160 *e*P **P** 16 44 46.1 -0.7
comp=Z,270nm,1.8s
OKC Ostrava-Krasne 24.16 163 *e*P **P** 16 44 46.6 -2.3
OKC *ep*P **pP** 16 44 49.1 -3.5
OKC *ex* x 16 44 58.7
OKC AMS AMS 16 54 10.0
comp=Z,1µm,18.1s
OKC Ostrava-Krasne 24.16 163 *e*P **P** 16 44 46.6 -2.3
OKC *e* 16 44 49.1
OKC MLR MLR
comp=Z,1µm,18.1s
MORC Moravsky Berou 24.17 164 *e*P **P** 16 44 47.6 -1.5
MORC pmax pmax
comp=Z,98nm,1.4s
MORC Moravsky Berou 24.17 164⇓*i*P **P** 16 44 47.5 -1.5
MORC Moravsky Berou 24.17 164 *e*P **P** 16 44 47.6 -1.5
MORC Moravsky Berou 24.17 164 *e*P **P** 16 44 47.6 -1.5
comp=Z,98nm,1.4s
TREC Trest 24.50 167 *e*P **P** 16 44 52.8 +0.7
TREC AMS AMS 16 54 10.0
comp=Z,2µm,18.5s
TREC Trest 24.50 167 *e*P **P** 16 44 52.8 +0.7
TREC MLR MLR
comp=Z,2µm,18.5s
TREC Trest 24.50 167 *e*P **P** 16 44 52.8 +0.7
comp=Z,2µm,18.5s
WET Wettzell 24.51 171 *e*P **P** 16 44 51.7 -0.5
comp=Z,174nm,1.9s
WET Wettzell 24.51 171 *e*P **P** 16 44 51.7 -0.5
comp=Z,174nm,1.9s
KHC Kasperske Hory 24.55 170 *e*P **P** 16 44 53.4 +0.8
KHC *ep*P **pP** 16 44 59.0 +2.7
KHC *ex* x 16 45 03.9
KHC *e*S **S** 16 49 14.4 +1.6
KHC AMS AMS 16 54 10.0
comp=Z,1µm,17.8s
KHC Kasperske Hory 24.55 170 *e*P **P** 16 44 53.4 +0.8
KHC *e* 16 44 59.0
KHC *e*S **S** 16 49 14.4 +1.6
KHC MLR MLR
comp=Z,1µm,17.8s
KHC Kasperske Hory 24.55 170 *e*P **P** 16 44 53.4 +0.8
KHC *e*S **S** 16 49 14.4 +1.6
VRAC Vranov 24.56 165 P **P** 16 44 52.6 0.0
comp=Z,34nm,0.8s,baz=357,slow=10,SNR=32
VRAC Vranov 24.56 165 P **P** 16 44 52.6 0.0
VRAC pmax pmax
comp=Z,34nm,0.8s
VRAC Vranov 24.56 165⇑*i*P **P** 16 44 52.1 -0.6
VRAC Vranov 24.56 165 *e*P **P** 16 44 52.1 -0.6
AKASG Malin Array Be 24.71 145 P **P** 16 44 51.9 -2.0
comp=Z,9.1nm,0.7s,baz=345,slow=9.5,SNR=23
AKASG LR LR 16 54 15.9
comp=Z,3µm,20.6s,baz=335,slow=36
AKASG Malin Array Be 24.71 145 P **P** 16 44 51.9 -2.0
AKASG pmax pmax
comp=Z,9.0nm,0.7s
AKASG MLR MLR
comp=Z,3µm,20.6s
AKBB Malin Array Si 24.71 145 P **P** 16 44 51.0 -2.9
AKBB Malin Array Si 24.71 145 P **P** 16 44 51.0 -2.9
KIEV Kiev 24.71 145 *e*P **P** 16 44 52.1 -1.9
KIEV pmax pmax
comp=Z,46nm,1.1s
KIEV Kiev 24.71 145 *e*P **P** 16 44 52.1 -1.9
comp=Z,46nm,1.1s
KIEV Kiev 24.71 145 *e*P **P** 16 44 52.0 -1.9
comp=Z,46nm,1.1s
AK01 Malin Array Si 24.72 145 *e*P **P** 16 44 51.5 -2.5
AK11 Malin Array Si 24.72 145 *e*P **P** 16 44 52.3 -1.8
AK02 Malin Array Si 24.75 145 *e*P **P** 16 44 51.9 -2.4
STU Stuttgart 24.77 177 *e*L L 16 54 06.4
comp=Z,588nm,21.3s
STU Stuttgart 24.77 177 *e*P **P** 16 44 55.7 +1.2
STU pmax pmax
comp=Z,29nm,1.1s
STU Stuttgart 24.77 177 *e*P **P** 16 44 55.7 +1.2
comp=Z,29nm,1.1s
STU Stuttgart 24.77 177 *e*P **P** 16 44 55.7 +1.2
comp=Z,30nm,1.1s
LPSR Galich'ya Gora 24.77 130 *e*P **P** 16 44 53.3 -1.1
LPSR pmax pmax
comp=Z,40nm,1.1s
LPSR pmax pmax
comp=N,10.0nm,1.5s
LPSR pmax pmax
comp=E,5.0nm,0.4s
LPSR MLR MLR
comp=N,1µm,19.0s
LPSR MLR MLR
comp=Z,1µm,19.0s
LPSR MLR MLR
comp=E,1µm,17.0s
LPSR Galich'ya Gora 24.77 130 *e*P **P** 16 44 53.3 -1.1
comp=E,10.0nm,1.5s
NIE Niedzica 24.78 159 *e*P **P** 16 44 54.0 -0.6
NIE Niedzica 24.78 159 *e*P **P** 16 44 54.1 -0.6
NIE Niedzica 24.78 159 *e*P **P** 16 44 54.1 -0.6
KRUC Moravsky 24.80 166 *e*P **P** 16 44 54.4 -0.3
LVV L'vov 24.81 153 *e*P **P** 16 44 53.6 -1.3
LVV *e* 16 45 27.8
LVV *e*S **S** 16 49 16.6 -0.2
LVV *e*SS SnSn 16 50 25.2 +22
LVV MLR MLR
comp=N,1µm,15.0s
LVV MLR MLR
comp=Z,2µm,15.0s
LVV MLR MLR
comp=E,200nm,14.0s
LVV L'vov 24.81 153 *e*P **P** 16 44 53.6 -1.3
LVV *e*S **S** 16 49 16.6 -0.2
KWP Kalwaria Pacla 24.83 156 *e*P **P** 16 44 54.6 -0.5
KWP Kalwaria Pacla 24.83 156 *e*P **P** 16 44 55.6 +0.5
KWP pmax pmax
comp=Z,328nm,1.8s
KWP Kalwaria Pacla 24.83 156 *e*P **P** 16 44 54.7 -0.4
KWP Kalwaria Pacla 24.83 156 *e*P **P** 16 44 55.6 +0.5
comp=Z,328nm,1.8s
RES Resolute Bay 24.83 322 P **P** 16 44 55.7 +0.9
comp=Z,1.7nm,1.0s,baz=19,slow=6.3,SNR=3.6
RES LR LR 16 54 43.6
comp=Z,1µm,18.7s,baz=38,slow=37
RES Resolute Bay 24.83 322 P **P** 16 44 55.7 +0.9
RES pmax pmax
comp=Z,2.0nm,1.0s
RES MLR MLR
comp=Z,1µm,18.7s
GEC2 GERESS Array S 24.85 170 *e*P **P** 16 44 56.4 +1.1
comp=Z,83nm,1.5s
GEC2 *e*L L 16 54 37.0
comp=Z,1µm,18.8s
GEC2 GERESS Array S 24.85 170 *e*P **P** 16 44 57.3 +2.0
GEC2 GERESS Array S 24.85 170 *e*P **P** 16 44 56.4 +1.1
comp=Z,83nm,1.5s
GEC2 GERESS Array S 24.85 170 *e*P **P** 16 44 57.2 +2.0
GERES GERESS Array B 24.85 170 P **P** 16 44 55.9 +0.6
comp=Z,10nm,0.8s,baz=2.9,slow=8.0,SNR=48
GERES GERESS Array B 24.85 170 P **P** 16 44 55.9 +0.6
GERES pmax pmax
comp=Z,11nm,0.8s
PAGF Fort de Pagny 24.98 182 *e*P **P** 16 44 56.5 +0.1
comp=Z,53nm,1.4s
PAGF Fort de Pagny 24.98 182 *e*P **P** 16 44 56.5 +0.1
comp=Z,26nm,1.4s
PAGF Fort de Pagny 24.98 182 *e*P **P** 16 44 56.5 +0.1
comp=Z,53nm,1.4s
FLN La Foliniere 25.00 192 *e*P **P** 16 44 56.9 +0.4
comp=Z,194nm,1.4s
FLN *e*R
comp=Z,387nm,22.2s
FLN La Foliniere 25.00 192 *e*P **P** 16 44 56.9 +0.4
FLN pmax pmax
comp=Z,194nm,1.4s
FLN La Foliniere 25.00 192 *e*P **P** 16 44 56.9 +0.4
comp=Z,97nm,1.4s
FLN La Foliniere 25.00 192 *e*P **P** 16 44 56.9 +0.4
comp=Z,194nm,1.4s
MEZF Maizieres J'vi 25.04 183 *e*P **P** 16 44 57.3 +0.4
comp=Z,322nm,1.7s
MEZF Maizieres J'vi 25.04 183 *e*P **P** 16 44 57.3 +0.4
comp=Z,161nm,1.7s
MEZF Maizieres J'vi 25.04 183 *e*P **P** 16 44 57.3 +0.4
comp=Z,322nm,1.7s
CDF Champ du Feu 25.11 180 *e*P **P** 16 44 56.4 -1.3
comp=Z,94nm,1.6s
CDF Champ du Feu 25.11 180 *e*P **P** 16 44 56.4 -1.3

CDF pmax pmax
comp=Z,94nm,1.6s
CDF Champ du Feu 25.11 180 *e*P **P** 16 44 56.4 -1.3
comp=Z,94nm,1.6s
LDF La Druitiere 25.14 192 *e*P **P** 16 44 58.4 +0.6
comp=Z,187nm,1.3s
LDF La Druitiere 25.14 192 *e*P **P** 16 44 58.4 +0.6
LDF pmax pmax
comp=Z,187nm,1.3s
LDF La Druitiere 25.14 192 *e*P **P** 16 44 58.4 +0.6
comp=Z,94nm,1.3s
LDF La Druitiere 25.14 192 *e*P **P** 16 44 58.4 +0.6
comp=Z,187nm,1.3s
BFO Black Forest 25.20 178 P **P** 16 44 59.4 +1.0
comp=Z,205nm,1.2s,SNR=16
BFO Black Forest 25.20 178 *e*P **P** 16 44 59.4 +1.0
comp=Z,1µm,3.9s
BFO *e*L L 16 54 30.3
comp=Z,804nm,21.4s
BFO Black Forest 25.20 178 *e*P **P** 16 44 58.5 +0.1
BFO pmax pmax
comp=Z,67nm,1.3s
BFO Black Forest 25.20 178 *e*P **P** 16 44 58.5 +0.1
comp=Z,67nm,1.3s
BFO Black Forest 25.20 178 *e*P **P** 16 44 58.5 +0.1
comp=Z,67nm,1.3s
THEF They Montfort 25.30 182 *e*P **P** 16 45 00.1 +0.8
THEF They Montfort 25.30 182 *e*P **P** 16 45 00.1 +0.8
ECH Echery 25.31 180 *e*P **P** 16 45 00.3 +0.9
ECH Echery 25.31 180 *e*P **P** 16 44 59.8 +0.4
ECH pmax pmax
comp=Z,68nm,1.4s
ECH Echery 25.31 180 *e*P **P** 16 45 00.3 +0.9
ECH Echery 25.31 180 *e*P **P** 16 44 59.8 +0.4
comp=Z,68nm,1.4s
SFTF Sexfontaines 25.34 183 *e*P **P** 16 45 00.2 +0.6
comp=Z,165nm,1.3s
SFTF Sexfontaines 25.34 183 *e*P **P** 16 45 00.2 +0.6
comp=Z,83nm,1.3s
SFTF Sexfontaines 25.34 183 *e*P **P** 16 45 00.2 +0.6
comp=Z,165nm,1.3s
GRR Gorron 25.39 193 *e*P **P** 16 44 59.2 -0.9
comp=Z,227nm,1.8s
GRR Gorron 25.39 193 *e*P **P** 16 44 59.2 -0.9
GRR pmax pmax
comp=Z,227nm,1.8s
GRR Gorron 25.39 193 *e*P **P** 16 44 59.2 -0.9
comp=Z,113nm,1.8s
GRR Gorron 25.39 193 *e*P **P** 16 44 59.2 -0.9
comp=Z,227nm,1.8s
FUR Furstenfeldbru 25.42 174 *e*P **P** 16 45 01.4 +1.0
comp=Z,343nm,2.2s
FUR *e*L L 16 56 54.0
comp=Z,530nm,18.1s
FUR Furstenfeldbru 25.42 174 *e*P **P** 16 45 01.4 +1.0
comp=Z,343nm,2.2s
HAU Haudompre 25.52 181 *e*P **P** 16 45 01.3 0.0
comp=Z,90nm,1.2s
HAU *e*R
comp=Z,646nm,20.8s
HAU Haudompre 25.52 181 *e*P **P** 16 45 01.3 0.0
HAU pmax pmax
comp=Z,90nm,1.2s
HAU Haudompre 25.52 181 *e*P **P** 16 45 01.3 0.0
comp=Z,90nm,1.2s
VYHS Vyhne 25.55 162 *e*P **P** 16 45 01.7 +0.1
VYHS Vyhne 25.55 162 *e*P **P** 16 45 01.7 +0.1
VYHS Vyhne 25.55 162 *e*P **P** 16 45 01.7 +0.1
ROSF Rostrenen 25.62 196 *e*P **P** 16 45 02.0 -0.1
comp=Z,136nm,1.3s
ROSF Rostrenen 25.62 196 *e*P **P** 16 45 02.0 -0.1
ROSF pmax pmax
comp=Z,136nm,1.3s
ROSF Rostrenen 25.62 196 *e*P **P** 16 45 02.0 -0.1
comp=Z,68nm,1.3s
ROSF Rostrenen 25.62 196 *e*P **P** 16 45 02.0 -0.1
comp=Z,136nm,1.3s
SGMF Saint Gilles 25.64 195 *e*P **P** 16 45 02.1 -0.3
comp=Z,222nm,1.3s
SGMF Saint Gilles 25.64 195 *e*P **P** 16 45 02.1 -0.3
SGMF pmax pmax
comp=Z,222nm,1.3s
SGMF Saint Gilles 25.64 195 *e*P **P** 16 45 02.1 -0.3
comp=Z,111nm,1.3s
SGMF Saint Gilles 25.64 195 *e*P **P** 16 45 02.1 -0.3
comp=Z,222nm,1.3s
VOR Voronezh 25.65 130 P **P** 16 45 02.0 -0.4
VOR pmax pmax
comp=Z,270nm,2.0s
VOR Voronezh 25.65 130 P **P** 16 45 02.0 -0.4
comp=Z,270nm,2.0s
FELD Feldberg im Sc 25.65 179 *e*P **P** 16 45 03.1 +0.5
HINF Hinteralfeld 25.71 181 *e*P **P** 16 45 03.6 +0.5
comp=Z,80nm,1.4s
HINF Hinteralfeld 25.71 181 *e*P **P** 16 45 03.6 +0.5
HINF pmax pmax
comp=Z,80nm,1.4s
HINF Hinteralfeld 25.71 181 *e*P **P** 16 45 03.6 +0.5
comp=Z,80nm,1.4s
HINF Hinteralfeld 25.71 181 *e*P **P** 16 45 03.6 +0.5
comp=Z,80nm,1.4s
UZH Uzhgorod 25.77 157 *e*P **P** 16 45 03.1 -0.4
UZH *e*S **S** 16 49 26.9 -5.1
UZH MLR MLR
comp=Z,700nm,16.0s
UZH Uzhgorod 25.77 157 *e*P **P** 16 45 03.1 -0.4
comp=Z,700nm,16.0s
MOA Molln 25.87 169⇓*i*P **P** 16 45 04.5 0.0
comp=Z,52nm,1.5s
MOA Molln 25.87 169 P **P** 16 45 04.5 0.0
comp=Z,52nm,1.5s
CONA Conrad Observa 25.89 167⇑*i*P **P** 16 45 04.3 -0.4
comp=Z,66nm,1.4s,SNR=11
CONA Conrad Observa 25.89 167 P **P** 16 45 04.3 -0.4
comp=Z,66nm,1.4s,SNR=11
RJOB Jochberg 25.91 171 *e*P **P** 16 45 06.0 +1.1
comp=Z,26nm,0.9s
RJOB Jochberg 25.91 171 *e*P **P** 16 45 06.0 +1.1
comp=Z,26nm,0.9s
QUIF Quistinic 26.03 196 *e*P **P** 16 45 06.2 +0.4
comp=Z,178nm,1.8s
QUIF Quistinic 26.03 196 *e*P **P** 16 45 06.2 +0.4
QUIF pmax pmax
comp=Z,178nm,1.8s
QUIF Quistinic 26.03 196 *e*P **P** 16 45 06.2 +0.4
comp=Z,89nm,1.8s
QUIF Quistinic 26.03 196 *e*P **P** 16 45 06.2 +0.4
comp=Z,178nm,1.8s
LOMF Lomont 26.18 181 *e*P **P** 16 45 10.2 +2.9
LOMF Lomont 26.18 181 *e*P **P** 16 45 10.2 +2.9
SOP Sopron 26.18 166 *e* **P** 16 45 08.4 +1.2
PSZ Piszkesteto 26.22 160 *e*P **P** 16 45 07.4 -0.4
PSZ pmax pmax
comp=Z,155nm,1.9s
PSZ Piszkesteto 26.22 160⇓*i*P **P** 16 45 07.9 +0.2
PSZ Piszkesteto 26.22 160 *e*P **P** 16 45 07.4 -0.4
comp=Z,155nm,1.9s
PSZ Piszkesteto 26.22 160 *e*P **P** 16 45 07.4 -0.4
comp=Z,155nm,1.9s
PSZ Piszkesteto 26.22 160 *e* **P** 16 45 11.3 +3.6
MOTA Moosalm 26.24 174⇑*i*P **P** 16 45 08.7 +0.7
comp=Z,9.4nm,0.9s
MOTA Moosalm 26.24 174 P **P** 16 45 08.7 +0.7
comp=Z,9.4nm,0.9s
DAVA Damuels 26.27 176⇑*i*pP **P** 16 45 09.8 +1.5
comp=Z,57nm,2.0s
DAVA Damuels 26.27 176 P **P** 16 45 09.8 +1.5
comp=Z,57nm,2.0s
TRPA Tarpa 26.29 156⇓*i*P **P** 16 45 09.0 +0.8
TRPA Tarpa 26.29 156 *e*P **P** 16 45 10.1 +1.9
TRPA Tarpa 26.29 156 *e*PKPPKPo**P** 16 45 10.1 +1.9
LOR Lormes 26.30 185 *e*P **P** 16 45 08.2 -0.2
comp=Z,121nm,1.3s
LOR *e*R
comp=Z,469nm,18.2s
LOR Lormes 26.30 185 *e*P **P** 16 45 08.2 -0.2
LOR pmax pmax
comp=Z,121nm,1.3s
LOR Lormes 26.30 185 *e*P **P** 16 45 08.2 -0.2
comp=Z,60nm,1.3s
LOR Lormes 26.30 185 *e*P **P** 16 45 08.2 -0.2
comp=Z,121nm,1.3s
ARU Arti 26.35 102 P **P** 16 45 09.1 +0.4
comp=Z,154nm,0.9s,SNR=11
ARU Arti 26.35 102*d i*P **P** 16 45 09.6 +0.9
ARU 16 45 50.6
ARU 16 48 29.3

ARU S **S** **16 49 44.7 +3.6**
ARU pmax pmax
comp=Z,38nm,1.2s
ARU MLR MLR
comp=Z,1µm,17.0s
ARU Arti 26.35 102 *e*P **P** **16 45 08.9 +0.2**
comp=Z,534nm,2.7s
ARU S **S** **16 49 44.7 +3.6**
comp=Z,1µm,17.0s
ARU Arti 26.35 102 *e*P **P** **16 45 08.9 +0.2**
comp=Z,534nm,2.7s
SSF Saint Saulge 26.52 186 *e*P **P** **16 45 10.2 -0.1**
comp=Z,86nm,1.4s
SSF Saint Saulge 26.52 186 *e*P **P** **16 45 10.2 -0.1**
SSF pmax pmax
comp=Z,86nm,1.4s
SSF Saint Saulge 26.52 186 *e*P **P** **16 45 10.2 -0.1**
comp=Z,86nm,1.4s
ARSA Arzberg 26.54 167⇑*i*pP **P** **16 45 11.8 +1.2**
comp=Z,42nm,1.8s,SNR=9.8
ARSA Arzberg 26.54 167 P **P** **16 45 11.8 +1.2**
comp=Z,42nm,1.8s,SNR=9.8
FETA Feichten 26.55 175⇑*i*P **P** **16 45 11.3 +0.5**
comp=Z,14nm,1.1s
FETA Feichten 26.55 175 P **P** **16 45 11.4 +0.5**
comp=Z,14nm,1.1s
KBA Koelnbreinsper 26.59 171⇑*i*pP **P** **16 45 12.4 +1.2**
comp=Z,23nm,1.4s
KBA Koelnbreinsper 26.59 171 P **P** **16 45 12.4 +1.2**
comp=Z,23nm,1.4s
SVE Sverdlovsk 26.59 100 *e*P **P** **16 45 11.7 +0.8**
SVE *e*S **S** **16 49 45.4 +0.5**
SVE *e* 16 51 09.1
SVE pmax pmax
comp=Z,48nm,1.8s
SVE MLR MLR
comp=Z,1µm,16.0s
SVE Sverdlovsk 26.59 100 *e*P **P** **16 45 11.7 +0.8**
comp=Z,48nm,1.8s
SVE *e*S **S** **16 49 45.4 +0.5**
DAVOX Davos/Dischmat 26.77 176 P **P** **16 45 14.2 +1.4**
comp=Z,11nm,1.2s,baz=350,slow=14,SNR=3.9
DAVOX LR LR 16 55 52.2
comp=Z,449nm,19.2s,baz=348,slow=37
DAVOX Davos/Dischmat 26.77 176 P **P** **16 45 14.2 +1.4**
DAVOX pmax pmax
comp=Z,11nm,1.2s
DAVOX MLR MLR
comp=Z,449nm,19.2s
AVF Avril sur Loir 26.79 186 *e*P **P** **16 45 12.4 -0.4**
comp=Z,102nm,1.2s
AVF Avril sur Loir 26.79 186 *e*P **P** **16 45 12.4 -0.4**
AVF pmax pmax
comp=Z,102nm,1.2s
AVF Avril sur Loir 26.79 186 *e*P **P** **16 45 12.4 -0.4**
comp=Z,102nm,1.2s
CABF La Chapelle 26.92 182 *e*P **P** **16 45 14.4 +0.3**
comp=Z,56nm,1.1s
CABF La Chapelle 26.92 182 *e*P **P** **16 45 14.4 +0.3**
CABF pmax pmax
comp=Z,57nm,1.1s
CABF La Chapelle 26.92 182 *e*P **P** **16 45 14.4 +0.3**
comp=Z,28nm,1.1s
CABF La Chapelle 26.92 182 *e*P **P** **16 45 14.4 +0.3**
comp=Z,56nm,1.1s
SMF Signal de Mont 26.93 185 *e*P **P** **16 45 13.5 -0.5**
comp=Z,135nm,1.4s
SMF Signal de Mont 26.93 185 *e*P **P** **16 45 13.5 -0.5**
SMF pmax pmax
comp=Z,135nm,1.4s
SMF Signal de Mont 26.93 185 *e*P **P** **16 45 13.5 -0.5**
comp=Z,68nm,1.4s
SMF Signal de Mont 26.93 185 *e*P **P** **16 45 13.5 -0.5**
comp=Z,135nm,1.4s
FUORN Ofenpass-Fuorn 26.94 175 *e*P **P** **16 45 16.8 +2.4**
comp=Z,62nm,1.8s
FUORN Ofenpass-Fuorn 26.94 175 *e*P **P** **16 45 16.8 +2.4**
comp=Z,62nm,1.8s
TUE Stuetta 27.07 177 *e*P **P** **16 45 16.0 +0.5**
comp=Z,37nm,1.4s
TUE Stuetta 27.07 177 *e*P **P** **16 45 16.1 +0.5**
comp=Z,37nm,1.4s
SOKA Soboth 27.08 168⇑*i*pP **P** **16 45 16.7 +1.2**
comp=Z,18nm,1.2s
SOKA Soboth 27.08 168 P **P** **16 45 16.7 +1.2**
comp=Z,18nm,1.2s
BUR08 Bucovina Ar. S 27.10 153 *e*P **P** **16 45 14.9 -0.8**
BUR08 Bucovina Ar. S 27.10 153 *e*P **P** **16 45 14.9 -0.8**
BUR04 Bucovina Ar. S 27.12 153 *e*P **P** **16 45 16.0 +0.1**
BUR04 Bucovina Ar. S 27.12 153 *e*P **P** **16 45 16.0 +0.1**
PERS Pernice 27.13 168 *e*P **P** **16 45 16.8 +0.9**
PERS Pernice 27.13 168 P **P** **16 45 16.8 +0.9**
BURAR Bucovina Array 27.13 153⇑*i*P **P** **16 45 15.7 -0.2**
MFF Saint Martin d 27.13 191 *e*P **P** **16 45 16.9 +1.1**
comp=Z,155nm,1.4s
MFF Saint Martin d 27.13 191 *e*P **P** **16 45 16.9 +1.1**
MFF pmax pmax
comp=Z,155nm,1.4s
MFF Saint Martin d 27.13 191 *e*P **P** **16 45 16.9 +1.1**
comp=Z,78nm,1.4s
MFF Saint Martin d 27.13 191 *e*P **P** **16 45 16.9 +1.1**
comp=Z,155nm,1.4s
SENIN Lac Senin/Sane 27.16 180 *e*P **P** **16 45 18.1 +1.7**
SENIN Lac Senin/Sane 27.16 180 *e*P **P** **16 45 18.1 +1.7**
FRB Frobisher Bay 27.20 289 LR LR 16 55 11.2
comp=Z,848nm,19.4s,baz=26,slow=34
OBKA Obir 27.22 169⇑*i*pP **P** **16 45 18.1 +1.3**
comp=Z,45nm,1.4s,SNR=6.7
OBKA Obir 27.22 169 P **P** **16 45 18.1 +1.3**
comp=Z,45nm,1.4s,SNR=6.7
TCF Toulx Ste Croi 27.33 188 *e*P **P** **16 45 17.7 0.0**
comp=Z,54nm,1.2s
TCF Toulx Ste Croi 27.33 188 *e*P **P** **16 45 17.7 0.0**
TCF pmax pmax
comp=Z,54nm,1.2s
TCF Toulx Ste Croi 27.33 188 *e*P **P** **16 45 17.7 0.0**
comp=Z,54nm,1.2s
DRGR 27.63 157⇑*i*P **P** **16 45 20.8 +0.4**
PKSM Moragy 27.80 163⇓*i*P **P** **16 45 22.8 +1.0**
JAVS Javornik 27.81 170 *i* P **P** **16 45 23.4 +1.4**
JAVS Javornik 27.81 170 *i* P **P** **16 45 23.4 +1.4**
VISS Visnje 27.94 169 *i* P **P** **16 45 23.0 -0.1**
VISS Visnje 27.94 169 *i* P **P** **16 45 23.0 -0.1**
LPL La Plagne 28.01 181 *e*P **P** **16 45 24.7 +0.7**
comp=Z,108nm,1.9s
LPL La Plagne 28.01 181 *e*P **P** **16 45 24.7 +0.7**
LPL pmax pmax
comp=Z,108nm,1.9s
LPL La Plagne 28.01 181 *e*P **P** **16 45 24.7 +0.7**
comp=Z,54nm,1.9s
LPL La Plagne 28.01 181 *e*P **P** **16 45 24.7 +0.7**
comp=Z,108nm,1.9s
LPG La Plagne 28.03 181 *e*P **P** **16 45 23.9 -0.3**
comp=Z,64nm,1.5s
LPG La Plagne 28.03 181 *e*P **P** **16 45 23.9 -0.3**
LPG pmax pmax
comp=Z,64nm,1.5s
LPG La Plagne 28.03 181 *e*P **P** **16 45 23.9 -0.3**
comp=Z,32nm,1.5s
LPG La Plagne 28.03 181 *e*P **P** **16 45 23.9 -0.3**
comp=Z,64nm,1.5s
KIS Kishinev 28.24 148 *e*P P 16 45 29.0 +3.2
KIS *e*S **S** **16 50 10.0 -1.1**
KIS *e*LQ LQ 16 53 25.0
KIS LRM MLR 16 56 00.0
comp=Z,2µm,19.0s
BOJS Bojanci 28.26 168 *i* P **P** **16 45 26.5 +0.5**
BOJS Bojanci 28.26 168 *i* P **P** **16 45 26.5 +0.5**
RJF Les Rejaudoux 28.34 189 *e*P **P** **16 45 26.4 -0.3**
comp=Z,50nm,1.3s
RJF *e*R
comp=Z,433nm,20.8s
RJF Les Rejaudoux 28.34 189 *e*P **P** **16 45 26.4 -0.3**
RJF pmax pmax
comp=Z,50nm,1.3s
RJF Les Rejaudoux 28.34 189 *e*P **P** **16 45 26.4 -0.3**
comp=Z,25nm,1.3s
RJF Les Rejaudoux 28.34 189 *e*P **P** **16 45 26.4 -0.3**
comp=Z,50nm,1.3s
TESR Tescani 28.40 151⇑*i*P **P** **16 45 25.4 -1.8**
ORIF Oris-en-Rattie 28.61 182 *e*P **P** **16 45 29.6 +0.4**
comp=Z,51nm,1.4s
ORIF *e*R
comp=Z,751nm,22.8s
ORIF Oris-en-Rattie 28.61 182 *e*P **P** **16 45 29.6 +0.4**
ORIF pmax pmax
comp=Z,51nm,1.4s
ORIF Oris-en-Rattie 28.61 182 *e*P **P** **16 45 29.6 +0.4**
comp=Z,26nm,1.4s
ORIF Oris-en-Rattie 28.61 182 *e*P **P** **16 45 29.6 +0.4**
comp=Z,51nm,1.4s
BZS Buzias 28.67 159⇑*i*P **P** **16 45 30.6 +1.0**
VIVF Saint-Julien-l 28.70 184 *e*P **P** **16 45 30.2 +0.3**
comp=Z,28nm,1.2s
VIVF Saint-Julien-l 28.70 184 *e*P **P** **16 45 30.2 +0.3**
VIVF pmax pmax
comp=Z,28nm,1.2s
VIVF Saint-Julien-l 28.70 184 *e*P **P** **16 45 30.2 +0.3**
comp=Z,14nm,1.2s
VIVF Saint-Julien-l 28.70 184 *e*P **P** **16 45 30.2 +0.3**
comp=Z,28nm,1.2s
LFF La Frestale 28.74 190 *e*P **P** **16 45 30.6 +0.4**
comp=Z,58nm,1.1s
LFF La Frestale 28.74 190 *e*P **P** **16 45 30.6 +0.4**
LFF pmax pmax
comp=Z,58nm,1.1s
LFF La Frestale 28.74 190 *e*P **P** **16 45 30.6 +0.4**
comp=Z,29nm,1.1s
LFF La Frestale 28.74 190 *e*P **P** **16 45 30.6 +0.4**
comp=Z,58nm,1.1s
DOPR Dopca 28.77 153⇓*i*P **P** **16 45 31.9 +1.4**
MBDF Montbardon 28.80 181 *e*P **P** **16 45 30.9 0.0**
comp=Z,25nm,1.0s
MBDF Montbardon 28.80 181 *e*P **P** **16 45 30.9 0.0**
MBDF pmax pmax
comp=Z,25nm,1.0s
MBDF Montbardon 28.80 181 *e*P **P** **16 45 30.9 0.0**
comp=Z,12nm,1.0s
MBDF Montbardon 28.80 181 *e*P **P** **16 45 30.9 0.0**
comp=Z,25nm,1.0s
VRI Vrincioaia 29.05 151⇓*i*P **P** **16 45 33.9 +0.9**
ARR Arges 29.26 154⇓*i*P **P** **16 45 36.3 +1.4**
MLR Muntele Rosu 29.31 153 P **P** **16 45 33.7 -1.7**
comp=Z,0.3nm,0.5s,baz=315,slow=11,SNR=2.4
MLR LR LR 16 57 28.3
comp=Z,640nm,18.9s,baz=352,slow=37
MLR Muntele Rosu 29.31 153⇑*i*P **P** **16 45 35.7 +0.3**
LASF Ste Croix 29.49 185 *e*P **P** **16 45 37.1 +0.2**
comp=Z,115nm,1.6s
LASF Ste Croix 29.49 185 *e*P **P** **16 45 37.1 +0.2**
comp=Z,58nm,1.6s
LASF Ste Croix 29.49 185 *e*P **P** **16 45 37.1 +0.2**
comp=Z,115nm,1.6s
SMRF Simiane la Rot 29.56 182 *e*P **P** **16 45 37.6 0.0**
SMRF Simiane la Rot 29.56 182 *e*P **P** **16 45 37.6 0.0**
SMRF Simiane la Rot 29.56 182 *e*P **P** **16 45 37.6 0.0**
SBF Sospel 29.66 180 *e*P **P** **16 45 39.2 +0.7**
comp=Z,146nm,1.1s
SBF Sospel 29.66 180 *e*P **P** **16 45 39.2 +0.7**
SBF pmax pmax
comp=Z,146nm,1.1s
SBF Sospel 29.66 180 *e*P **P** **16 45 39.2 +0.7**
comp=Z,73nm,1.1s
SBF Sospel 29.66 180 *e*P **P** **16 45 39.2 +0.7**
comp=Z,146nm,1.1s
FRF La Foret Royal 29.97 181 *e*P **P** **16 45 42.1 +1.0**
comp=Z,119nm,1.5s
FRF La Foret Royal 29.97 181 *e*P **P** **16 45 42.1 +1.0**
FRF pmax pmax
comp=Z,119nm,1.5s
FRF La Foret Royal 29.97 181 *e*P **P** **16 45 42.1 +1.0**
comp=Z,60nm,1.5s
FRF La Foret Royal 29.97 181 *e*P **P** **16 45 42.1 +1.0**
comp=Z,119nm,1.5s
LMR La Mourre 30.20 181 *e*P **P** **16 45 42.7 -0.4**
comp=Z,95nm,1.4s
LMR La Mourre 30.20 181 *e*P **P** **16 45 42.7 -0.4**
LMR pmax pmax
comp=Z,95nm,1.4s
LMR La Mourre 30.20 181 *e*P **P** **16 45 42.7 -0.4**
comp=Z,48nm,1.4s
LMR La Mourre 30.20 181 *e*P **P** **16 45 42.7 -0.4**
comp=Z,95nm,1.4s
MTLF Montolieu 30.28 187 *e*P **P** **16 45 44.2 +0.4**
MTLF Montolieu 30.28 187 *e*P **P** **16 45 44.2 +0.4**
MTLF Montolieu 30.28 187 *e*P **P** **16 45 44.2 +0.4**
MTLF Montolieu 30.28 187 *e*P **P** **16 45 44.2 +0.4**
TIXI Tiksi 30.57 32⇓*i*P **P** **16 45 46.4 +0.2**
TIXI pmax pmax
comp=Z,42nm,2.5s
TIXI MLR MLR
comp=Z,349nm,22.0s
TIXI Tiksi 30.57 32 *e*P **P** **16 45 46.3 +0.2**
comp=Z,14nm,1.0s
TIXI Tiksi 30.57 32 *e*P **P** **16 45 46.3 +0.2**
comp=Z,14nm,1.0s
EPF Esparros 30.67 190 *e*P **P** **16 45 47.2 -0.1**
comp=Z,109nm,1.5s
EPF Esparros 30.67 190 *e*P **P** **16 45 47.2 -0.1**
EPF pmax pmax
comp=Z,109nm,1.5s
EPF Esparros 30.67 190 *e*P **P** **16 45 47.2 -0.1**
comp=Z,55nm,1.5s
EPF Esparros 30.67 190 *e*P **P** **16 45 47.2 -0.1**
comp=Z,109nm,1.5s
SJPF Ste Jean 30.67 192 *e*P **P** **16 45 48.2 +0.9**
comp=Z,72nm,1.4s
SJPF Ste Jean 30.67 192 *e*P **P** **16 45 48.2 +0.9**
SJPF pmax pmax
comp=Z,72nm,1.4s
SJPF Ste Jean 30.67 192 *e*P **P** **16 45 48.2 +0.9**
comp=Z,36nm,1.4s
SJPF Ste Jean 30.67 192 *e*P **P** **16 45 48.2 +0.9**
comp=Z,72nm,1.4s
ETSF Etsaut 30.84 191 *e*P **P** **16 45 50.3 +1.3**
comp=Z,100nm,1.4s
ETSF Etsaut 30.84 191 *e*P **P** **16 45 50.3 +1.3**
ETSF pmax pmax
comp=Z,100nm,1.4s
ETSF Etsaut 30.84 191 *e*P **P** **16 45 50.3 +1.3**
comp=Z,50nm,1.4s
ETSF Etsaut 30.84 191 *e*P **P** **16 45 50.3 +1.3**
comp=Z,100nm,1.4s
SIM Simferopol' 31.11 142 P **P** **16 45 52.7 +1.5**
SIM *i* S **S** **16 51 01.0 +4.9**
SIM MLR MLR
comp=N,2µm,17.5s
SIM Simferopol' 31.11 142 P **P** **16 45 52.7 +1.5**
comp=N,2µm,17.5s
AKTK Aktyubinsk 31.52 109 P **P** **16 45 54.2 -0.6**
comp=N,5.0nm,1.0s
AKTO Aktyubinsk 31.52 109 P **P** **16 45 54.1 -0.6**
comp=N,5.1nm,1.0s,baz=335,slow=8.3,SNR=8.3
AKTO Aktyubinsk 31.52 109 P **P** **16 45 54.2 -0.6**
AKTO pmax pmax
comp=Z,5.0nm,1.0s
VTS Vitosha 31.84 157⇓*i*P **P** **16 45 57.6 -0.2**
ANN Anapa 31.88 137 *e*P P 16 45 53.0 -4.9
ANN *e*S **S** **16 51 02.7 -5.3**
ANN pmax pmax
comp=Z,60nm,1.8s
ANN MLR MLR
comp=Z,691nm,13.0s
PGAV Gavieira, Arco 32.40 202 *e*LR LR 16 55 10.1
comp=Z,126nm,18.0s
PBRG Braganca 32.41 200 *e*P **P** **16 46 03.6 +1.0**
comp=Z,33nm,1.4s
PBRG Braganca 32.41 200 *e*P **P** **16 46 03.6 +1.0**
comp=Z,33nm,1.4s
BRVK Borovoye 32.62 94 *de*P **P** **16 46 05.8 +1.4**
BRVK pmax pmax
comp=Z,11nm,1.2s
BRVK MLR MLR
comp=Z,710nm,18.0s
BRVK Borovoye 32.62 94 P **P** **16 46 06.2 +1.8**
SNR=7.3
BRVK Borovoye 32.62 94 P **P** **16 46 06.2 +1.8**
SNR=7.3
BRVK Borovoye 32.62 94 *e*P **P** **16 46 05.6 +1.2**
comp=Z,90nm,2.4s
BVAR Borovoye Array 32.68 93 P **P** **16 46 04.8 -0.1**
comp=Z,5.1nm,0.8s,baz=325,slow=8.8,SNR=17
BVAR PcP **PcP** **16 48 50.1 -0.1**
comp=Z,2.5nm,0.8s,baz=348,slow=6.1,SNR=2.0
BVAR Borovoye Array 32.68 93 P **P** **16 46 04.8 -0.1**
BVAR 16 48 50.1
BVAR pmax pmax
comp=Z,5.0nm,0.8s
BVAR pmax pmax
comp=Z,3.0nm,0.9s
GOF Gofitskoye 32.79 130 *e*P **P** **16 46 06.2 +0.3**
GOF pmax pmax
comp=Z,90nm,1.5s
GOF Gofitskoye 32.79 130 *e*P **P** **16 46 06.2 +0.3**
comp=Z,90nm,1.5s
MMB Musomiste 32.88 157⇑*i*P **P** **16 46 05.2 -1.6**
POLO Lamas de Olo 32.94 201 *e*P **P** **16 46 06.3 -1.1**
comp=Z,21nm,1.5s
POLO *e*LR LR 16 55 18.2
comp=Z,67nm,18.0s
POLO Lamas de Olo 32.94 201 *e*P **P** **16 46 06.3 -1.1**
comp=Z,21nm,1.5s
PVRL Vila Real 33.03 201 *e*P **P** **16 46 08.8 +0.7**
comp=Z,52nm,1.5s
PVRL Vila Real 33.03 201 *e*P **P** **16 46 08.8 +0.7**
comp=Z,52nm,1.5s
MVO Moncorvo 33.07 200 *e*P **P** **16 46 09.3 +0.8**
comp=Z,36nm,1.4s
MVO *e*LR LR 16 55 21.2
comp=Z,178nm,18.0s
MVO Moncorvo 33.07 200 *e*P **P** **16 46 09.3 +0.8**
comp=Z,36nm,1.4s
AB31 Akbulak array 33.12 107 *i* P **P** **16 46 07.5 -1.2**
AB31 pmax pmax
comp=Z,8.0nm,0.9s
AB31 Akbulak array 33.12 107 *i* P **P** **16 46 07.5 -1.2**
comp=Z,8.0nm,0.9s
ABKAR Akbulak array 33.12 107 *e*P **P** **16 46 07.8 -0.9**
ABKAR Akbulak array 33.12 107 *e*P **P** **16 46 07.8 -0.9**
SOC Sochi 33.50 135 *e*P **P** **16 46 11.7 -0.4**
SOC *e*S **S** **16 51 33.9 +0.6**
SOC *e*SS **SnSn** **16 53 40.3 +5.1**
SOC pmax pmax
comp=Z,8.0nm,0.6s
SOC MLR MLR
comp=Z,1µm,18.0s
SOC Sochi 33.50 135 *e*P **P** **16 46 11.7 -0.4**
comp=Z,8.0nm,0.6s
SOC *e*S **S** **16 51 33.9 +0.6**
PVIS Viseu 33.60 201 *e*P **P** **16 46 14.2 +1.1**
comp=Z,46nm,1.4s
PVIS Viseu 33.60 201 *e*P **P** **16 46 14.2 +1.1**
comp=Z,46nm,1.4s
KIV Kislovodsk 33.77 131 *e*P **P** **16 46 15.9 +1.4**
KIV *e* 16 48 55.6
KIV *e*S **S** **16 51 39.6 +2.0**
KIV pmax pmax
comp=Z,13nm,1.1s
KIV MLR MLR
comp=Z,950nm,15.0s
KIV Kislovodsk 33.77 131 *e*P **P** **16 46 15.3 +0.8**
comp=Z,119nm,1.9s
KIV Kislovodsk 33.77 131 *e*PcP **PcP** **16 48 55.6 +2.1**
comp=Z,950nm,15.0s
KIV *e*S **S** **16 51 39.6 +2.0**
KIV Kislovodsk 33.77 131 *e*P **P** **16 46 15.3 +0.8**
comp=Z,119nm,1.9s
KBZ Khabaz 34.03 131 P **P** **16 46 16.7 0.0**
comp=Z,5.3nm,0.7s,baz=53,slow=20,SNR=13
KBZ Khabaz 34.03 131 P **P** **16 46 16.7 0.0**
KBZ pmax pmax
comp=Z,5.0nm,0.7s
SCHQ Schefferville 34.21 278 P **P** **16 46 19.3 +1.0**
comp=Z,4.8nm,0.9s,baz=76,slow=5.8,SNR=3.5
SCHQ LR LR 16 58 47.6
comp=Z,1µm,20.4s,baz=85,slow=34
ES19 SONSECA Array 34.25 195 *e*P **P** **16 46 19.6 +0.9**
ES19 SONSECA Array 34.25 195 *e*P **P** **16 46 19.6 +0.9**
ESDC Sonseca Array 34.28 195 P **P** **16 46 19.4 +0.4**
comp=Z,2.9nm,0.8s,baz=3.8,slow=8.4,SNR=14
ESLA Sonseca Array 34.28 195 *e*P **P** **16 46 18.8 -0.2**
comp=Z,7.1nm,1.4s
ESLA Sonseca Array 34.28 195 *e*P **P** **16 46 18.8 -0.2**
comp=Z,7.1nm,1.4s
PCAS Casmilo, Conde 34.32 202 *e*LR LR 16 56 01.7
comp=Z,143nm,18.0s
PCBR Castelo Branco 34.42 200 *e*P **P** **16 46 20.1 -0.1**
comp=Z,32nm,1.4s
PAB San Pablo 34.44 196 *e*P **P** **16 46 20.9 +0.5**
PAB pmax pmax
comp=Z,30nm,1.3s
PAB San Pablo 34.44 196 *e*P **P** **16 46 20.9 +0.5**
comp=Z,30nm,1.3s
PAB San Pablo 34.44 196 *e*P **P** **16 46 20.9 +0.5**
comp=Z,30nm,1.3s
PTOM Tomar 34.74 201 *e*P **P** **16 46 24.3 +1.4**
comp=Z,59nm,1.4s
PTOM Tomar 34.74 201 *e*P **P** **16 46 24.3 +1.4**
comp=Z,59nm,1.4s
NVS Novosibirsk 34.76 80 *e*P **P** **16 46 22.6 -0.3**
NVS pmax pmax
comp=Z,91nm,2.4s
NVS pmax pmax
comp=N,34nm,2.5s
NVS Novosibirsk 34.76 80 *e*P **P** **16 46 22.6 -0.3**
comp=N,34nm,2.5s
PMRV Marv??o 34.82 200 *e*P **P** **16 46 23.6 -0.1**
comp=N,55nm,1.4s
PMRV *e*LR LR 16 56 01.7
comp=N,152nm,16.0s
PMRV Marv??o 34.82 200 *e*P **P** **16 46 23.6 -0.1**
comp=N,55nm,1.4s
ZEI Tsey 35.14 130 *e*P **P** **16 46 24.3 -2.3**
ZEI pmax pmax
comp=Z,27nm,1.6s
PMTG Montargil 35.26 201 *e*LR LR 16 56 46.5
comp=Z,130nm,18.0s
PESTR Estremoz 35.40 200 *e*P **P** **16 46 28.6 0.0**
comp=Z,38nm,1.4s
PESTR Estremoz 35.40 200 *e*LR LR 16 56 45.2
comp=Z,130nm,16.0s
PESTR Estremoz 35.40 200 *e*P **P** **16 46 28.6 0.0**
comp=Z,38nm,1.4s
PMAFR Mafra 35.49 202 *e*LR LR 16 56 31.9
comp=Z,209nm,20.0s
BR231 Keskin MP Arra 35.85 145 *e*P **P** **16 46 34.2 +1.6**
BR231 Keskin MP Arra 35.85 145 *e*P **P** **16 46 34.2 +1.6**
BCA Borcka 35.94 134 *e*P **P** **16 46 33.7 +0.4**
BCA Borcka 35.94 134 *e*P **P** **16 46 33.7 +0.4**
ZAA0 Zalesovo Array 35.99 79 *e*P **P** **16 46 36.4 +2.9**
ZAA0 Zalesovo Array 35.99 79 *e*P **P** **16 46 36.4 +2.9**
ZAA0 *e* 16 48 59.5
ZALV Zalesovo Beam 35.99 79 P **P** **16 46 34.7 +1.2**
comp=Z,0.7nm,0.5s,baz=338,slow=11,SNR=4.7
ZALV PcP **PcP** **16 48 58.1 -1.5**
comp=Z,1.0nm,0.6s,baz=328,slow=5.2,SNR=3.3
ZALV LR LR 17 04 09.9
comp=Z,837nm,20.7s,baz=246,slow=41
ZALV Zalesovo Beam 35.99 79 P **P** **16 46 34.7 +1.2**
ZALV 16 48 58.1
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV MLR MLR
comp=Z,837nm,20.7s
BR131 Keskin Array S 36.11 144 *e*P **P** **16 46 34.0 -0.8**
comp=Z,2.7nm,0.7s
BR131 Keskin Array S 36.11 144 *e*P **P** **16 46 34.0 -0.8**
comp=Z,2.7nm,0.7s
BRTR Keskin Array B 36.11 144 P **P** **16 46 34.8 -0.1**
comp=Z,3.9nm,0.7s,baz=344,slow=6.4,SNR=16
BRTR LR LR 17 02 26.3
comp=Z,653nm,21.1s,baz=356,slow=38
BRTR Keskin Array B 36.11 144 P **P** **16 46 34.8 -0.1**
BRTR pmax pmax
comp=Z,4.0nm,0.7s
BRTR MLR MLR
comp=Z,653nm,21.2s
INK Inuvik 36.22 337 P **P** **16 46 34.8 -0.5**
comp=Z,5.1nm,1.1s,baz=18,slow=7.5,SNR=13
INK PcP **PcP** **16 48 59.7 -0.3**
comp=Z,2.5nm,0.7s,baz=6,slow=6.4,SNR=5.1
INK Inuvik 36.22 337 P **P** **16 46 34.8 -0.5**
INK 16 48 59.7
INK pmax pmax
comp=Z,4.0nm,1.1s
INK pmax pmax
comp=Z,3.0nm,0.7s
INK Inuvik 36.22 337 P **P** **16 46 34.8 -0.5**
comp=Z,4.0nm,1.1s
PNCL Nicolau / Gran 36.24 201 *e*LR LR 16 57 00.1
comp=Z,208nm,18.0s
TBLG Delisi 36.34 130 *e*P P 16 46 39.9 +3.3
TBLG Delisi 36.34 130 P **P** **16 46 38.2 +1.5**
TBLG Delisi 36.34 130 P **P** **16 46 38.2 +1.5**
SVSK Karacayir 36.51 140 *e*P **P** **16 46 39.7 +1.6**
SVSK Karacayir 36.51 140 *e*P **P** **16 46 39.7 +1.6**
BAYT Ayd¯–ntepe-Bay 36.65 136 *e*P **P** **16 46 41.8 +2.3**

BAYT Ayd¯–ntepe-Bay 36.65 136 eP P 16 46 41.8 +2.3
PCVE Castro Verde 36.67 200 eLR LR 16 57 28.7
comp=Z,615nm,16.0s
DGRG David-gareji 36.74 129 P P 16 46 41.9 +1.7
DGRG David-gareji 36.74 129 P P 16 46 41.9 +1.7
PVAQ Vaqueiros 36.86 200 eLR LR 16 57 11.0
comp=Z,119nm,20.0s
PBDV Barranco-do-Ve 37.04 200 eLR LR 16 57 38.8
comp=Z,143nm,18.0s
MORF Marmelete 37.05 201 eLR LR 16 57 50.5
comp=Z,218nm,16.0s
KURK Kurchatov 37.09 87 P P 16 46 43.4 +0.5
comp=Z,28nm,1.8s,SNR=7.6
KURK Kurchatov 37.09 87 eP P 16 46 43.1 +0.2
KURK 16 48 05.4
KURK 16 49 02.0
KURK pmax pmax
comp=Z,96nm,2.1s
KURK Kurchatov 37.09 87 eP P 16 46 43.1 +0.2
comp=Z,96nm,2.1s
KURK Kurchatov 37.09 87 P P 16 46 44.1 +1.1
SNR=13
KURK Kurchatov 37.09 87 eP P 16 46 43.1 +0.2
comp=Z,96nm,2.1s
KURK PP PP 16 48 05.4 -1.8
KURK PcP PcP 16 49 02.0 -1.0
KURBB Kurchatov Arra 37.15 88 P P 16 46 42.9 -0.6
comp=Z,2.7nm,0.7s,baz=334,slow=7.0,SNR=24
KURBB PP PP 16 48 05.4 -2.4
comp=Z,2.0nm,1.1s,baz=334,slow=10,SNR=4.3
KURBB PcP PcP 16 49 02.0 -1.1
comp=Z,1.3nm,0.9s,baz=333,slow=3.2,SNR=8.8
PFVI Vila Bisbo 37.24 201 eLR LR 16 56 40.5
comp=Z,312nm,18.0s
ISP Isparta 37.48 149 P P 16 46 45.4 -1.1
ISP Isparta 37.48 149 P P 16 46 45.4 -1.1
ISP Isparta 37.48 149 P P 16 46 45.4 -1.1
KEST Kesra 37.80 177 P P 16 46 50.4 +1.2
comp=Z,2.3nm,0.9s,baz=348,slow=4.3,SNR=4.7
KEST LR LR 17 01 55.3
comp=Z,112nm,21.0s,baz=351,slow=36
GNI Garni 37.85 130 P P 16 46 49.9 +0.2
comp=Z,5.0nm,0.3s,baz=360,slow=19,SNR=8.8
GNI Garni 37.85 130 d iP P 16 46 51.5 +1.8
GNI pmax pmax
comp=Z,25nm,1.2s
GNI MLR MLR
comp=Z,1μm,24.0s
GNI Garni 37.85 130 eP P 16 46 51.4 +1.8
comp=Z,76nm,1.3s
GNI Garni 37.85 130 P P 16 46 51.4 +1.8
SNR=23
GNI Garni 37.85 130 eP P 16 46 51.4 +1.8
comp=Z,76nm,1.3s
FCC Fort Churchill 37.97 304 eP P 16 46 49.7 -0.6
FCC pmax pmax
comp=Z,5μm,2.8s
FCC Fort Churchill 37.97 304 eP P 16 46 49.7 -0.6
comp=Z,5μm,2.8s
FCC Fort Churchill 37.97 304 eP P 16 46 49.7 -0.6
comp=Z,5μm,2.8s
AGRB Hanur-Agry 38.02 133 eP P 16 46 52.3 +1.1
AGRB Hanur-Agry 38.02 133 eP P 16 46 52.3 +1.1
MALT Malatya 38.33 139 eP P 16 46 57.1 +3.4
MALT Malatya 38.33 139 ⇑ iP P 16 46 54.2 +0.5
SVRC Sivrice-ELAZID 38.44 138 eP P 16 46 57.2 +2.5
SVRC Sivrice-ELAZID 38.44 138 eP P 16 46 57.2 +2.5
KARA Karaisali 38.75 143 eP P 16 46 58.6 +1.5
KARA Karaisali 38.75 143 eP P 16 46 58.6 +1.5
COLD Coldfoot 38.80 346 eP P 16 46 57.1 -0.1
comp=Z,12nm,1.0s
COLD Coldfoot 38.80 346 eP P 16 46 57.1 -0.1
comp=Z,12nm,1.0s
KMRS Kahramanmaras 38.84 141 eP P 16 46 58.6 +0.7
KMRS Kahramanmaras 38.84 141 eP P 16 46 58.6 +0.7
YKA Yellowknife Ar 38.90 321 P P 16 46 57.7 -0.4
comp=Z,3.0nm,1.1s,baz=12,slow=8.5,SNR=13
YKA PcP PcP 16 49 07.0 -1.3
comp=Z,1.7nm,0.8s,baz=16,slow=3.0,SNR=15
YKA Yellowknife Ar 38.90 321 P P 16 46 57.7 -0.4
YKA 16 49 07.0
YKA pmax pmax
comp=Z,3.0nm,1.1s
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKB5 Yellowknife Ar 38.90 321 eP P 16 46 57.9 -0.1
YKB5 Yellowknife Ar 38.90 321 eP P 16 46 57.9 -0.1
YKB5 eP cP cP 16 49 07.5 -0.9
VANB Van 39.05 133 eP P 16 47 02.1 +2.4
VANB Van 39.05 133 eP P 16 47 02.1 +2.4
YAK Yakutsk 39.44 39 P P 16 47 01.8 -0.8
comp=Z,4.4nm,0.6s,baz=352,slow=5.9,SNR=6.2
YAK Yakutsk 39.44 39 eP P 16 47 00.7 -1.8
YAK e*PP pP 16 47 09.8 +3.5
YAK e 16 48 30.6
YAK ePPP PPP 16 48 55.3
YAK e 16 49 16.5
YAK eS S 16 53 01.2 -2.3
YAK eSS SS 16 55 55.8 -1.3
YAK e 16 57 07.0
YAK pmax pmax
comp=Z,9.0nm,1.3s
YAK pmax pmax
comp=N,7.0nm,1.6s
YAK pmax pmax
comp=Z,105nm,3.2s
YAK pmax pmax
comp=N,122nm,4.0s
YAK pmax pmax
comp=E,69nm,4.1s
YAK smax smax
comp=E,21nm,1.9s
YAK smax smax
comp=N,23nm,2.8s
YAK MLR MLR
comp=Z,277nm,21.0s
YAK MLR MLR
comp=N,224nm,20.0s
YAK MLR MLR
comp=E,116nm,20.0s
YAK Yakutsk 39.44 39 eP P 16 47 00.7 -1.8
comp=E,7.0nm,1.6s
YAK Yakutsk 39.44 39 eP P 16 47 01.6 -0.9
comp=E,38nm,1.7s
BOD Bodaibo 40.10 53 eP P 16 47 05.7 -2.4
BOD pmax pmax
comp=Z,13nm,1.8s
IM04 Indian Mountai 40.27 348 eP P 16 47 09.5 0.0
IM04 Indian Mountai 40.27 348 eP P 16 47 09.5 0.0
EGAK Eagle 40.45 340 eP P 16 47 10.9 0.0
comp=Z,77nm,1.8s
EGAK Eagle 40.45 340 eP P 16 47 10.9 0.0
comp=Z,77nm,1.8s
CSS Prodhromos 40.71 146 eP P 16 47 14.2 +0.8
CSS Prodhromos 40.71 146 eP P 16 47 14.2 +0.8
CSS Prodhromos 40.71 146 P P 16 47 14.3 +0.9
comp=Z,51nm,2.0s
MDM Murphy Dome 40.90 344 eP P 16 47 15.7 +1.0
comp=Z,34nm,1.4s
MDM Murphy Dome 40.90 344 eP P 16 47 15.7 +1.0
comp=Z,34nm,1.4s
COLA College 40.95 344 ⇑ iP P 16 47 16.8 +1.8
COLA pmax pmax
comp=Z,70nm,1.9s
COLA MLR MLR
comp=Z,1μm,21.0s
COLA College 40.95 344 P P 16 47 15.6 +0.6
comp=Z,47nm,0.3s
COLA College 40.95 344 P P 16 47 15.6 +0.6
comp=Z,47nm,0.3s
DAWY Dawson 40.97 338 eP P 16 47 15.8 +0.5
DAWY Dawson 40.97 338 eP P 16 47 15.8 +0.5
IL1 Eielson Array 40.98 343 eP P 16 47 15.5 +0.2
IL1 Eielson Array 40.98 343 eP P 16 47 15.5 +0.2
ILAR Eielson Array 40.98 343 P P 16 47 16.0 +0.7
comp=Z,3.7nm,0.9s,baz=4.3,slow=6.7,SNR=38
ILAR PcP PcP 16 49 14.9 -0.1
comp=Z,1.4nm,0.8s,baz=336,slow=3.2,SNR=5.4
ILAR Eielson Array 40.98 343 P P 16 47 16.0 +0.7
ILAR 16 49 14.9
ILAR pmax pmax
comp=Z,4.0nm,0.9s
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 40.98 343 P P 16 47 16.0 +0.7
comp=Z,4.0nm,0.9s

MLY Manley 41.01 346 eP P 16 47 17.6 +2.0
comp=Z,23nm,1.4s
MLY Manley 41.01 346 eP P 16 47 17.6 +2.0
comp=Z,23nm,1.4s
CCB Clear Creek Bu 41.17 344 eP P 16 47 18.2 +1.3
comp=Z,13nm,1.2s
CCB Clear Creek Bu 41.17 344 eP P 16 47 18.2 +1.3
comp=Z,13nm,1.2s
WRH Wood River Hil 41.37 344 eP P 16 47 19.8 +1.3
comp=Z,17nm,1.1s
WRH Wood River Hil 41.37 344 eP P 16 47 19.8 +1.3
comp=Z,17nm,1.1s
SCRK Sand Creek 41.51 341 eP P 16 47 20.6 +0.8
comp=Z,32nm,1.5s
SCRK Sand Creek 41.51 341 eP P 16 47 20.6 +0.8
comp=Z,32nm,1.5s
MK31 Makanchi Array 41.68 87 i P P 16 47 22.7 +1.4
MK31 pmax pmax
comp=Z,2.0nm,1.1s
MK31 Makanchi Array 41.68 87 i P P 16 47 22.7 +1.4
comp=Z,2.0nm,1.1s
MKAR Makanchi Array 41.68 87 P P 16 47 21.9 +0.6
comp=Z,10nm,1.3s,baz=316,slow=6.9,SNR=18
MKAR PP PP 16 48 58.2 +0.8
comp=Z,0.6nm,0.8s,baz=340,slow=8.1,SNR=2.2
MKAR LR LR 17 08 47.9
comp=Z,771nm,18.2s,baz=326,slow=42
MKAR Makanchi Array 41.68 87 P P 16 47 21.9 +0.6
MKAR 16 48 58.2
MKAR pmax pmax
comp=Z,9.0nm,1.2s
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR MLR MLR
comp=Z,771nm,18.2s
MKAR Makanchi Array 41.68 87 P P 16 47 21.9 +0.6
comp=Z,9.0nm,1.2s
KK31 Karatay Array 41.70 100 i P P 16 47 21.9 +0.4
KK31 pmax pmax
comp=Z,3.0nm,0.7s
KK31 Karatay Array 41.70 100 i P P 16 47 21.9 +0.4
comp=Z,3.0nm,0.7s
KKAR Karatay Array 41.70 100 eP P 16 47 20.6 -0.9
KKAR Karatay Array 41.70 100 eP P 16 47 20.6 -0.9
KKAR Karatay Array 41.70 100 eP P 16 47 20.6 -0.9
MK01 Makanchi Array 41.71 87 eP P 16 47 22.6 +1.1
MK01 Makanchi Array 41.71 87 eP P 16 47 22.6 +1.1
DOT Dot Lake 41.84 341 eP P 16 47 23.2 +0.8
comp=Z,27nm,1.2s
DOT Dot Lake 41.84 341 eP P 16 47 23.2 +0.8
comp=Z,27nm,1.2s
SEY Seymchan 41.91 23 P P 16 47 23.2 +0.3
comp=Z,4.2nm,0.8s,baz=334,slow=5.3,SNR=16
SEY Seymchan 41.91 23 i P P 16 47 23.6 +0.7
BPAW Bear Paw Mtn. 41.95 346 eP P 16 47 23.2 -0.1
comp=Z,8.6nm,1.4s
BPAW Bear Paw Mtn. 41.95 346 eP P 16 47 23.2 -0.1
comp=Z,8.6nm,1.4s
MCK McKinley 42.16 344 eP P 16 47 26.8 +1.7
MCK pmax pmax
comp=Z,44nm,1.8s
MCK McKinley 42.16 344 eP P 16 47 26.8 +1.7
comp=Z,44nm,1.8s
MCK McKinley 42.16 344 eP P 16 47 26.8 +1.7
comp=Z,44nm,1.8s
MOY Mondy 42.46 67 eP P 16 47 29.2 +1.5
MOY pmax pmax
comp=Z,71nm,2.7s
MOY Mondy 42.46 67 eP P 16 47 29.2 +1.5
comp=Z,71nm,2.7s
RND Reindeer 42.48 344 eP P 16 47 29.8 +2.1
RND pmax pmax
comp=Z,30nm,1.7s
RND Reindeer 42.48 344 eP P 16 47 29.8 +2.1
comp=Z,30nm,1.7s
RND Reindeer 42.48 344 eP P 16 47 29.8 +2.1
comp=Z,30nm,1.7s
KTH Kantishna Hill 42.49 346 P P 16 47 28.2 +0.5
comp=Z,36nm,1.5s
KTH Kantishna Hill 42.49 346 P P 16 47 28.2 +0.5
comp=Z,36nm,1.5s
CAST Castle Rocks 42.70 346 eP P 16 47 31.1 +1.7
comp=Z,29nm,1.2s
CAST Castle Rocks 42.70 346 eP P 16 47 31.1 +1.7
comp=Z,29nm,1.2s
IRK Irkutsk 42.79 64 eP P 16 47 28.3 -1.9
IRK e 16 49 13.4
IRK pmax pmax
comp=Z,57nm,2.7s
IRK Irkutsk 42.79 64 eP P 16 47 28.3 -1.9
comp=Z,57nm,2.7s
MNAS Manas 42.83 99 P P 16 47 31.9 +1.1
MNAS pmax pmax
comp=Z,15nm,1.2s
MNAS Manas 42.83 99 P P 16 47 31.9 +1.1
comp=Z,15nm,1.2s
MMAI Mount Meron Ar 42.95 144 P P 16 47 32.1 +0.3
comp=Z,6.3nm,1.0s,baz=306,slow=4.8,SNR=6.9
MMAI PP PP 16 49 10.9 -0.4
comp=Z,0.3nm,0.4s,baz=359,slow=15,SNR=3.5
EKS2 Erkin-Say 43.03 97 eP P 16 47 32.7 +0.3
EKS2 pmax pmax
comp=Z,14nm,1.4s
EKS2 Erkin-Say 43.03 97 eP P 16 47 32.7 +0.3
comp=Z,14nm,1.4s
EKS2 Erkin-Say 43.03 97 eP P 16 47 32.7 +0.3
comp=Z,14nm,1.4s
FRU Bishkek 43.11 96 eP P 16 47 36.0 +3.0
TLY Talaya 43.14 65 P P 16 47 33.7 +0.6
comp=Z,2.5nm,0.8s,baz=348,slow=5.6,SNR=3.3
TLY PcP PcP 16 49 20.9 -1.6
comp=Z,1.3nm,0.5s,baz=26,slow=4.5,SNR=4.5
TLY Talaya 43.14 65 eP P 16 47 34.6 +1.4
TLY pmax pmax
comp=Z,9.0nm,1.5s
TLY Talaya 43.14 65 P P 16 47 34.5 +1.4
SNR=7.5
TLY Talaya 43.14 65 P P 16 47 34.5 +1.4
SNR=7.5
TLY Talaya 43.14 65 eP P 16 47 32.9 -0.2
comp=Z,28nm,2.0s
TLY e 16 49 23.8
GEYT Alibeck 43.16 116 P P 16 47 34.0 +0.5
comp=Z,6.6nm,0.9s,baz=327,slow=11,SNR=8.0
GEYT PP PP 16 49 13.5 0.0
comp=Z,1.6nm,0.8s,baz=310,slow=7.4,SNR=2.1
GEYT LR LR 17 07 32.6
comp=Z,2μm,20.4s,baz=330,slow=39
AAK Ala-Archa 43.26 97 P P 16 47 35.6 +1.3
comp=Z,5.6nm,1.1s,baz=324,slow=5.9,SNR=8.9
AAK PP PP 16 49 14.3 -0.3
comp=Z,0.4nm,0.2s,baz=336,slow=12,SNR=1.7
AAK Ala-Archa 43.26 97 eP P 16 47 36.3 +2.0
AAK 16 49 14.3
AAK pmax pmax
comp=Z,30nm,1.6s
AAK Ala-Archa 43.26 97 P P 16 47 36.7 +2.4
SNR=5.9
AAK Ala-Archa 43.26 97 P P 16 47 36.7 +2.4
SNR=5.9
AAK Ala-Archa 43.26 97 eP P 16 47 36.3 +2.0
comp=Z,30nm,1.6s
AAK PP PP 16 49 14.3 -0.3
TKM2 Tokmak 2 43.31 95 eP P 16 47 36.5 +1.7
TKM2 pmax pmax
comp=Z,32nm,1.4s
TKM2 Tokmak 2 43.31 95 eP P 16 47 36.5 +1.7
comp=Z,32nm,1.4s
TKM2 Tokmak 2 43.31 95 eP P 16 47 36.5 +1.7
comp=Z,32nm,1.4s
TKM2 eScP ScP 16 53 18.8 +4.8
FFC Flin Flon 43.48 307 eP P 16 47 35.7 -0.1
FFC pmax pmax
comp=Z,13nm,0.9s
FFC Flin Flon 43.48 307 eP P 16 47 35.7 -0.1
comp=Z,13nm,0.9s
FFC Flin Flon 43.48 307 eP P 16 47 35.7 -0.1
comp=Z,13nm,0.9s
MMLI Mount Malkishu 43.52 145 eP P 16 47 36.0 -0.4
MMLI Mount Malkishu 43.52 145 eP P 16 47 36.0 -0.4
IRAZ Razeghan 43.56 126 eP P 16 47 38.6 +1.7
IRAZ Razeghan 43.56 126 eP P 16 47 38.6 +1.7
IDMV Damavand 43.88 124 eP P 16 47 40.3 +0.7
IDMV Damavand 43.88 124 eP P 16 47 40.3 +0.7
HYT Haines Junctio 43.91 336 P P 16 47 40.4 +1.0
HYT Haines Junctio 43.91 336 P P 16 47 40.4 +1.0

SCM Sheep Creek Mo 43.91 343 eP P 16 47 40.8 +1.5
SCM pmax pmax
comp=Z,249nm,2.3s
SCM Sheep Creek Mo 43.91 343 eP P 16 47 40.8 +1.5
comp=Z,249nm,2.3s
SCM Sheep Creek Mo 43.91 343 eP P 16 47 40.8 +1.5
comp=Z,249nm,2.3s
ISHM Shahmirzad 43.97 123 eP P 16 47 42.4 +2.1
ASF Jabal al Asfar 44.03 143 P P 16 47 40.4 -0.1
comp=Z,4.4nm,0.8s,baz=149,slow=3.2,SNR=10
ASF PP PP 16 49 22.2 -0.8
comp=Z,1.1nm,0.6s,baz=39,slow=6.5,SNR=1.7
ASF Jabal al Asfar 44.03 143 P P 16 47 40.4 -0.1
ASF 16 49 22.2
ASF pmax pmax
comp=Z,4.0nm,0.8s
ASF pmax pmax
comp=Z,1.0nm,0.6s
PDGK Podgornoye 44.05 91 P P 16 47 41.4 +1.0
PDGK pmax pmax
comp=Z,13nm,1.3s
PDGK Podgornoye 44.05 91 P P 16 47 41.4 +1.0
comp=Z,13nm,1.3s
ZAK Zakamensk 44.23 66 eP P 16 47 41.5 -0.5
ZAK e 16 49 25.0
ZAK pmax pmax
comp=Z,5.0nm,1.9s
ZAK Zakamensk 44.23 66 eP P 16 47 41.5 -0.5
comp=Z,5.0nm,1.9s
IVRN Varamin 44.37 125 eP P 16 47 45.1 +1.9
IVRN Varamin 44.37 125 eP P 16 47 45.1 +1.9
DLBC Dease Lake 45.25 330 P P 16 47 50.7 +0.7
comp=Z,0.7nm,0.2s,baz=350,slow=8.0,SNR=3.6
SFK Sufi-Kurgan 45.40 99 P P 16 47 52.5 +0.9
SFK pmax pmax
comp=Z,8.0nm,1.0s
SFK Sufi-Kurgan 45.40 99 P P 16 47 52.5 +0.9
comp=Z,8.0nm,1.0s
LONY Lake Ozonia 45.59 278 eP P 16 47 55.7 +2.9
comp=Z,29nm,1.4s
RSO Redoubt South 45.69 346 eP P 16 47 52.9 -0.6
RSO Redoubt South 45.69 346 eP P 16 47 52.9 -0.6
PTN Potsdam (NY) 45.75 279 eP P 16 47 56.4 +2.4
PTN pmax pmax
comp=Z,46nm,1.2s
PTN Potsdam (NY) 45.75 279 eP P 16 47 56.4 +2.4
comp=Z,46nm,1.2s
PTN Potsdam (NY) 45.75 279 eP P 16 47 56.4 +2.4
comp=Z,46nm,1.2s
MDV Middlebury 45.76 277 P P 16 47 56.6 +2.5
WMQ Urumqi 45.94 83 P P 16 47 59.4 +3.8
WMQ pP pP 16 48 03.9 +4.5
WMQ sP sP 16 48 06.4 +5.5
WMQ PcP PcP 16 49 36.4 +4.2
WMQ PP PP 16 49 47.4 +4.4
WMQ PcS PcS 16 53 28.8 +2.3
WMQ S S 16 54 43.3 +3.6
WMQ ScS ScS 16 57 52.3 +1.6
WMQ PMZ
comp=Z,15nm,0.8s
WMQ PMZ
comp=Z,140nm,3.6s
WMQ LN
comp=Z,630nm,16.2s
WMQ LE
comp=Z,1μm,21.0s
WMQ LZ
comp=Z,550nm,21.4s
NCB Newcomb 46.08 278 eP P 16 47 56.8 +0.1
comp=Z,26nm,1.2s
NCB Newcomb 46.08 278 eP P 16 47 56.8 +0.1
comp=Z,26nm,1.2s
ULM Lac du Bonnet 46.15 300 P P 16 47 56.2 -0.8
comp=Z,8.8nm,1.0s,baz=25,slow=6.3,SNR=7.7
ULM PcP PcP 16 49 31.6 -1.1
comp=Z,2.4nm,0.7s,baz=58,slow=6.2,SNR=3.4
ULM LR LR 17 07 10.5
comp=Z,2μm,18.3s,baz=42,slow=36
ULM Lac du Bonnet 46.15 300 P P 16 47 56.3 -0.8
ULM 16 49 31.7
ULM pmax pmax
comp=Z,9.0nm,1.0s
ULM pmax pmax
comp=Z,2.0nm,0.7s
ULM MLR MLR
comp=Z,2μm,18.3s
ULM Lac du Bonnet 46.15 300 eP P 16 47 56.0 -1.1
comp=Z,15nm,1.0s
ULM Lac du Bonnet 46.15 300 eP P 16 47 56.0 -1.1
comp=Z,15nm,1.0s
ULM PcP PcP 16 49 31.6 -1.1
ACCN Adirondack Com 46.47 277 eP P 16 48 01.3 +1.6
comp=Z,76nm,1.8s
ACCN Adirondack Com 46.47 277 eP P 16 48 01.3 +1.6
comp=Z,76nm,1.8s
KSH Kashi 46.56 97 eP P 16 48 04.1 +3.5
KSH pP pP 16 48 08.6 +4.2
KSH sP sP 16 48 11.0 +5.1
KSH PP PP 16 49 54.1 +4.3
KSH PcS PcS 16 53 31.3 +1.9
KSH S S 16 54 53.1 +4.3
KSH sS sS 16 55 00.6 +5.6
KSH PMZ
comp=Z,92nm,2.9s
KSH LN
comp=Z,470nm,14.1s
KSH LE
comp=Z,300nm,13.3s
KSH LZ
comp=Z,740nm,17.5s
EYMN Ely 47.16 295 eP P 16 48 05.1 +0.1
EYMN Ely 47.16 295 eP P 16 48 05.1 +0.1
EDM Edmonton 47.33 315 eP P 16 48 06.1 -0.3
EDM Edmonton 47.33 315 eP P 16 48 06.1 -0.3
EDM Edmonton 47.33 315 eP P 16 48 06.1 -0.3
SONA1 Songino Array 47.37 65 eP P 16 48 06.9 +0.1
SONA1 Songino Array 47.37 65 eP P 16 48 06.9 +0.1
SONM Songino Array 47.38 65 P P 16 48 07.3 +0.4
comp=Z,2.0nm,1.1s,baz=327,slow=6.8,SNR=16
SONM PcP PcP 16 49 37.0 -0.3
comp=Z,0.7nm,0.6s,baz=308,slow=4.7,SNR=2.6
SONM LR LR 17 14 16.0
comp=Z,236nm,18.2s,baz=332,slow=44
SONM Songino Array 47.38 65 P P 16 48 07.3 +0.4
SONM 16 49 37.0
SONM pmax pmax
comp=Z,2.0nm,1.1s
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM MLR MLR
comp=Z,236nm,18.3s
SONM Songino Array 47.38 65 PcP PcP 16 49 37.0 -0.3
comp=Z,236nm,18.3s
ULN Ulaanbaatar 47.52 64 ⇑ iP P 16 48 09.1 +1.1
ULN pmax pmax
comp=Z,35nm,2.5s
ULN MLR MLR
comp=Z,266nm,18.0s
ULN Ulaanbaatar 47.52 64 P P 16 48 09.1 +1.1
SNR=14
ULN Ulaanbaatar 47.52 64 P P 16 48 09.1 +1.1
SNR=14
ULN Ulaanbaatar 47.52 64 eP P 16 48 08.6 +0.6
comp=Z,16nm,1.1s
ICHK Chekchek 47.64 123 eP P 16 48 11.5 +2.3
ICHK Chekchek 47.64 123 eP P 16 48 11.5 +2.3
AGMN Agassiz Nation 47.95 299 eP P 16 48 11.1 -0.1
comp=Z,132nm,2.3s
AGMN Agassiz Nation 47.95 299 eP P 16 48 11.1 -0.1
comp=Z,132nm,2.3s
AGMN Agassiz Nation 47.95 299 ⇓ P P 16 48 11.4 +0.2
baz=48,SNR=6.3
A30A Hoffart Farm, 47.96 301 ⇑ P P 16 48 11.3 +0.1
baz=48
A29A Manning Farm, 48.20 302 ⇑ P P 16 48 12.9 -0.2
baz=48
BINY Binghamton 48.22 278 P P 16 48 13.1 -0.2
comp=Z,214nm,2.3s
BINY Binghamton 48.22 278 P P 16 48 13.2 -0.2
comp=Z,214nm,2.3s
COWI Conover 48.24 292 eP P 16 48 13.3 -0.2
comp=Z,28nm,1.5s
COWI Conover 48.24 292 eP P 16 48 13.3 -0.2
comp=Z,28nm,1.5s
MMNY Mt. Morris Dam 48.27 280 eP P 16 48 15.9 +2.2
comp=Z,212nm,1.8s

MMNY **Mt. Morris Dam** 48.27 280 *e*P P 16 48 15.9 +2.2
comp=Z,212nm,1.8s
KDAK **Kodiak Island** 48.34 346 *i* P P 16 48 16.2 +2.2
KDAK **Kodiak Island** 48.34 346 *i* P P 16 48 16.2 +2.2
B30A **Myrvik Farm, E** 48.42 301 ⇓P P 16 48 15.0 +0.2
baz=48
A28A **Rude Farm, Bot** 48.47 303 ⇑P P 16 48 15.2 0.0
baz=48
IMEH **Mehriz** 48.50 123 *e*P P 16 48 16.3 +0.4
IMEH **Mehriz** 48.50 123 *e*P P 16 48 16.3 +0.4
A27A **Ledoux Ranch,** 48.66 304 ⇓P P 16 48 17.1 +0.4
baz=48
B29A **Wagenman Farm,** 48.66 302 ⇑P P 16 48 16.5 -0.1
baz=48
A26A **Wade Farm, Ken** 48.90 304 ⇓P P 16 48 18.5 -0.1
baz=49
B28A **Dugan Ranch, T** 48.92 303 ⇑P P 16 48 19.1 +0.4
baz=49
A25A **Svangstu Ranch** 49.12 305 ⇑P P 16 48 20.5 +0.4
baz=49
C30A **Mose, Pekin** 49.16 301 ⇑P P 16 48 20.8 +0.3
baz=49
BRNJ **Basking Ridge** 49.22 276 *e*P P 16 48 24.0 +3.0
comp=Z,22nm,1.6s
KBL **Kabul** 49.27 106 P P 16 48 23.2 +1.5
KBL **Kabul** 49.27 106 P P 16 48 23.2 +1.5
KBL **Kabul** 49.27 106 P P 16 48 23.2 +1.5
MDND **Maddock** 49.30 302 ⇓P P 16 48 21.8 +0.3
baz=49
A24A **Westby** 49.34 306 ⇓P P 16 48 22.1 +0.3
baz=49
IKAZ **Kazeroun** 49.39 126 *e*P P 16 48 22.2 -0.7
IKAZ **Kazeroun** 49.39 126 *e*P P 16 48 22.2 -0.7
B26A **Jensen Ranch,** 49.44 304 ⇑P P 16 48 22.9 +0.3
baz=49
LUPA **Lehigh Univers** 49.52 277 *e*P P 16 48 25.6 +2.3
comp=Z,15nm,1.8s
LUPA **Lehigh Univers** 49.52 277 *e*P P 16 48 25.6 +2.3
comp=Z,15nm,1.8s
C28A **Hausauer Farms** 49.61 302 ⇓P P 16 48 24.3 +0.4
baz=49
IPAR **Pars** 49.61 125 *e*P P 16 48 25.3 +0.8
IPAR **Pars** 49.61 125 *e*P P 16 48 25.3 +0.8
A22A **Carney Farms,** 49.71 307 ⇓P P 16 48 25.0 +0.2
baz=50
B25A **Knox Farm, Ray** 49.75 305 ⇓P P 16 48 25.2 +0.1
baz=50
DGMT **Dagmar** 49.81 306 ⇓P P 16 48 26.2 +0.7
baz=50
C27A **Sayler Ranch,** 49.88 303 ⇑P P 16 48 27.1 +1.1
baz=50
ALLY **Alegheny Colle** 49.90 282 *e*P P 16 48 28.8 +2.6
comp=Z,71nm,1.3s
C26A **Wahner Farm, P** 49.92 304 ⇑P P 16 48 26.8 +0.5
baz=50
A21A **Bergtoll Ranch** 49.94 308 ⇑P P 16 48 27.7 +1.2
baz=50
B23A **Brockton** 50.00 306 ⇓P P 16 48 27.7 +0.8
baz=50
SPMN **Marine on St.** 50.02 295 *e*P P 16 48 26.9 -0.1
comp=Z,110nm,2.0s
SPMN **Marine on St.** 50.02 295 *e*P P 16 48 26.9 -0.1
comp=Z,110nm,2.0s
SPMN **Marine on St.** 50.02 295 ⇑P P 16 48 28.6 +1.5
baz=50
D29A **Pettibone, Tap** 50.03 301 ⇑P P 16 48 28.4 +1.3
baz=50
ISRV **Sarvestan** 50.07 125 *e*P P 16 48 28.8 +0.7
ISRV **Sarvestan** 50.07 125 *e*P P 16 48 28.7 +0.7
D28A **Regan** 50.14 302 ⇑P P 16 48 29.2 +1.2
baz=50
SSPA **Standing Stone** 50.20 279 *e*P P 16 48 28.9 +0.4
comp=Z,73nm,1.8s
SSPA **Standing Stone** 50.20 279 *e*P P 16 48 28.9 +0.4
comp=Z,73nm,1.8s
A20A **Cobblestone Ra** 50.27 309 ⇑P P 16 48 30.7 +1.6
baz=50
C25A **Freed Ranch, W** 50.30 305 ⇓P P 16 48 30.3 +1.1
baz=50
E30A **Jud** 50.38 301 ⇓P P 16 48 31.0 +1.2
baz=50
B22A **Reddig Ranch S** 50.38 307 ⇑P P 16 48 31.1 +1.2
baz=50
A19A **Klindworth Far** 50.41 310 ⇑P P 16 48 30.9 +0.8
baz=50
D27A **Center** 50.45 303 ⇑P P 16 48 31.5 +1.2
baz=50
B21A **Ellsworth Farm** 50.49 308 ⇑P P 16 48 31.6 +0.9
baz=50
E29A **Napoleon** 50.50 301 ⇓P P 16 48 30.5 -0.3
baz=50
C23A **Lambert** 50.66 306 ⇑P P 16 48 32.0 0.0
baz=50
TAM **Tamanrasset** 50.69 182 *e*P P 16 48 34.1 +1.6
TAM pmax pmax
comp=Z,22nm,1.4s
TAM **Tamanrasset** 50.69 182 *e*P P 16 48 34.1 +1.6
comp=Z,22nm,1.4s
TAM **Tamanrasset** 50.69 182 *e*P P 16 48 34.1 +1.6
comp=Z,22nm,1.4s
B20A **Solberg Farm,** 50.71 309 ⇑P P 16 48 31.8 -0.6
baz=50
C24A **Savage** 50.74 306 ⇓P P 16 48 33.4 +0.8
baz=50
D26A **Manning** 50.74 304 ⇓P P 16 48 33.7 +1.2
baz=50
F30A **Leola** 51.03 300 ⇓P P 16 48 36.4 +1.6
baz=51
C21A **Desert Coulee** 51.08 308 ⇑P P 16 48 36.6 +1.6
baz=51
D24A **Glendive** 51.11 305 ⇓P P 16 48 36.7 +1.4
baz=51
F29A **Eureka** 51.23 301 ⇑P P 16 48 37.8 +1.5
baz=51
D23A **Lindsay** 51.26 306 ⇑P P 16 48 38.0 +1.6
baz=51
E26A **Carlson Angus** 51.27 303 ⇓P P 16 48 37.7 +1.1
baz=51
WALA **Waterton Lakes** 51.39 314 *e*P P 16 48 37.3 -0.2
comp=Z,488nm,1.0s
WALA **Waterton Lakes** 51.39 314 *e*P P 16 48 37.3 -0.2
comp=Z,488nm,1.0s
C20A **Veseth Ranch,** 51.39 309 ⇓P P 16 48 38.8 +1.3
baz=51,SNR=9.7
F28A **McLaughlin** 51.46 302 ⇓P P 16 48 38.9 +1.0
baz=51
E25A **Miller Ranch,** 51.47 304 ⇓P P 16 48 39.0 +0.9
baz=51
EGMT **Eagleton** 51.49 310 *e*P P 16 48 38.8 +0.6
comp=Z,159nm,2.3s
EGMT **Eagleton** 51.49 310 *e*P P 16 48 38.8 +0.6
comp=Z,159nm,2.3s
EGMT **Eagleton** 51.49 310 ⇓P P 16 48 38.8 +0.6
baz=51
JFWS **Jewell Farm** 51.50 291 *e*P P 16 48 40.1 +1.9
JFWS pmax pmax
comp=Z,17nm,0.9s
JFWS **Jewell Farm** 51.50 291 *e*P P 16 48 40.1 +1.9
comp=Z,17nm,0.9s
JFWS **Jewell Farm** 51.50 291 *e*P P 16 48 40.1 +1.9
comp=Z,17nm,0.9s
D22A **Cohagen** 51.51 307 ⇓P P 16 48 40.0 +1.7
baz=51,SNR=5.3
C19A **Slack Wire Ran** 51.60 309 ⇓P P 16 48 40.1 +1.1
baz=51,SNR=7.1
E24A **Baker** 51.63 305 ⇑P P 16 48 40.6 +1.3
baz=51
G30A **Faulkton** 51.73 300 ⇓P P 16 48 41.4 +1.4
baz=52,SNR=5.8
F27A **Lemmon** 51.73 303 ⇓P P 16 48 41.7 +1.7
baz=52,SNR=5.6
D21A **La Casta Ranch** 51.77 307 ⇓P P 16 48 42.1 +1.8
baz=52
F26A **Lodgepole** 51.91 303 ⇑P P 16 48 42.9 +1.6
baz=52
KLR **Kul'dur** 51.91 43 *e*P P 16 48 37.0 -4.2
KLR pmax pmax
comp=Z,42nm,1.8s
E23A **Ismay** 51.92 306 ⇓P P 16 48 43.1 +1.7
baz=52
LAO **LASA Array** 51.95 307 *e*P P 16 48 42.2 +0.5
comp=Z,75nm,1.5s
LAO **LASA Array** 51.95 307 *e*P P 16 48 42.2 +0.5
comp=Z,75nm,1.5s
D20A **Manuel Ranch,** 52.01 308 ⇓P P 16 48 43.4 +1.3
baz=52
ACSO **Alum Creek Sta** 52.01 284 *e*P P 16 48 41.7 -0.4
comp=Z,23nm,1.1s

ACSO **Alum Creek Sta** 52.01 284 *e*P P 16 48 41.6 -0.4
comp=Z,23nm,1.1s
F25A **Bowman** 52.02 304 ⇓P P 16 48 43.7 +1.5
baz=52
D19A **Cripps Ranch,** 52.10 309 ⇓P P 16 48 43.8 +1.0
baz=52,SNR=5.7
E22A **Miles City** 52.13 306 ⇓P P 16 48 44.4 +1.5
baz=52
PETK **Petropavlovsk-** 52.13 22 LR LR 17 10 24.2
comp=Z,135nm,20.4s,baz=342,slow=36
G27A **Dupree** 52.17 303 ⇑P P 16 48 44.9 +1.6
baz=52,SNR=5.3
G28A **Parade** 52.21 302 ⇓P P 16 48 45.0 +1.4
baz=52
BRSD **Miller** 52.32 300 *e*P P 16 48 43.8 -0.5
comp=Z,46nm,0.8s
BRSD **Miller** 52.32 300 *e*P P 16 48 43.8 -0.5
comp=Z,46nm,0.8s
BRSD **Miller** 52.32 300 ⇓P P 16 48 45.5 +1.1
baz=52
F24A **Ekalaka** 52.33 305 ⇓P P 16 48 45.1 +0.5
baz=52
ECSD **EROS Data Cent** 52.40 297 *e*P P 16 48 44.9 0.0
comp=Z,23nm,1.0s
ECSD **EROS Data Cent** 52.40 297 *e*P P 16 48 44.9 0.0
comp=Z,23nm,1.0s
ECSD **EROS Data Cent** 52.40 297 ⇑P P 16 48 45.7 +0.8
baz=52,SNR=9.4
G26A **Maurine** 52.41 303 ⇓P P 16 48 45.7 +0.6
baz=52,SNR=6.3
H29A **Onida** 52.46 301 ⇓P P 16 48 46.5 +1.1
baz=52
YBMT **Yellow Bay** 52.55 314 *e*P P 16 48 45.6 -0.6
YBMT **Yellow Bay** 52.55 314 *e*P P 16 48 45.6 -0.6
E20A **Meyer Farm, Mu** 52.56 308 ⇓P P 16 48 47.3 +1.1
baz=52,SNR=6.5
H28A **Mission Ridge** 52.61 301 ⇑P P 16 48 47.8 +1.3
baz=52
F23A **Volborg** 52.68 306 ⇓P P 16 48 48.7 +1.7
baz=52
JTMT **Jette** 52.72 314 *e*P P 16 48 47.0 -0.4
JTMT **Jette** 52.72 314 *e*P P 16 48 47.0 -0.4
BSMT **Bassoo Peak** 52.72 314 *e*P P 16 48 47.4 -0.1
BSMT **Bassoo Peak** 52.72 314 *e*P P 16 48 47.4 -0.1
E19A **Rath Farm, Rou** 52.75 309 ⇑P P 16 48 48.8 +1.2
baz=52
NEW **Newport** 52.80 316 P P 16 48 47.5 -0.3
comp=Z,5.1nm,1.0s,baz=27,slow=6.8,SNR=12
NEW **Newport** 52.80 316 *e*P P 16 48 47.9 0.0
NEW pmax pmax
comp=Z,11nm,1.0s
NEW **Newport** 52.80 316 *e*P P 16 48 47.9 0.0
comp=Z,11nm,1.0s
NEW **Newport** 52.80 316 *e*P P 16 48 47.9 0.0
comp=Z,11nm,1.0s
NEW **Newport** 52.80 316 ⇑P P 16 48 48.6 +0.7
baz=53,SNR=11
G24A **Alzada** 52.81 305 ⇑P P 16 48 48.9 +0.8
baz=53
F22A **Rosebud** 52.82 306 ⇓P P 16 48 49.2 +1.1
baz=53
SWMT **Swartz Lake** 52.88 313 *e*P P 16 48 48.2 -0.4
SWMT **Swartz Lake** 52.88 313 *e*P P 16 48 48.2 -0.4
H27A **Howes** 52.91 302 ⇑P P 16 48 49.9 +1.2
baz=53
SFIN **Lafayette** 53.01 288 ⇑P P 16 48 51.1 +1.6
baz=53
SLMT **Seeley Lake** 53.03 313 *e*P P 16 48 49.2 -0.5
SLMT **Seeley Lake** 53.03 313 *e*P P 16 48 49.2 -0.5
I29A **Vivian Onida** 53.05 301 ⇑P P 16 48 50.9 +1.1
baz=53
H26A **Fairpoint** 53.09 303 ⇑P P 16 48 50.7 +0.6
baz=53
B08A **Colville Reser** 53.14 318 *e*P P 16 48 50.9 +0.5
comp=Z,15nm,1.1s
B08A **Colville Reser** 53.14 318 *e*P P 16 48 50.9 +0.5
comp=Z,15nm,1.1s
B08A *e*ScP ScP 16 53 53.8 -1.5
G23A **Biddle** 53.16 305 ⇓P P 16 48 51.5 +0.9
baz=53
F20A **Billings** 53.23 308 ⇓P P 16 48 52.1 +1.0
baz=53
HABR **Khabarovsk** 53.27 41 *de*P P 16 48 50.5 -0.7
HABR *e**PP pP 16 48 53.5 -1.6
HABR *e*SP 16 48 54.9
HABR 16 49 55.4
HABR 16 50 50.6
HABR *e*S S 16 56 22.5 +0.7
HABR *e* 16 58 39.9
HABR *e*SS SS 17 00 03.4 +2.7
HABR *e*SSS SSS 17 01 53.6
HABR pmax pmax
comp=Z,27nm,2.0s
HABR pmax pmax
comp=N,10.0nm,2.0s
HABR pmax pmax
comp=E,6.0nm,1.0s
HABR MLR MLR
comp=Z,259nm,18.0s
HABR **Khabarovsk** 53.27 41 *e*P P 16 48 50.5 -0.7
comp=Z,10.0nm,2.0s
HABR *e*S S 16 56 22.5 +0.7
HABR *e*ScS ScS 16 58 39.9 0.0
I28A **Midland** 53.28 301 ⇑P P 16 48 52.6 +1.1
baz=53,SNR=5.9
H25A **Fruitdale** 53.29 304 ⇑P P 16 48 52.4 +0.8
baz=53,SNR=6.4
CHMT **Chamberlain Mo** 53.29 313 *e*P P 16 48 50.8 -0.9
CHMT **Chamberlain Mo** 53.29 313 *e*P P 16 48 50.8 -0.9
G22A **Birney** 53.36 306 ⇑P P 16 48 53.2 +1.1
baz=53
F19A **Roth Farm, Mol** 53.36 309 ⇑P P 16 48 53.5 +1.4
baz=53,SNR=7.7
H24A **Dirks Ranch, A** 53.39 304 ⇑P P 16 48 53.6 +1.2
baz=53
I27A **Quinn** 53.43 302 ⇓P P 16 48 53.7 +1.1
baz=53
GTA **Gaotai** 53.44 74 *e*P P 16 48 53.3 +0.5
GTA pP pP 16 48 57.9 +1.3
GTA sP sP 16 49 00.9 +2.8
GTA S S 16 56 22.6 -2.0
GTA sS sS 16 56 31.9 +1.0
GTA SS SS 17 00 02.6 -1.4
GTA PMZ
comp=Z,8.0nm,2.0s
GTA PMZ
comp=Z,190nm,6.2s
GTA LN
comp=Z,260nm,18.5s
GTA LE
comp=Z,290nm,20.0s
GTA LZ
comp=Z,230nm,19.5s
J30A **Dallas** 53.50 300 ⇑P P 16 48 54.1 +1.0
baz=53
MSO **Missoula** 53.52 313 *e*P P 16 48 53.3 0.0
comp=Z,29nm,1.2s
MSO **Missoula** 53.52 313 *e*P P 16 48 53.3 0.0
comp=Z,29nm,1.2s
MSO **Missoula** 53.52 313 ⇑P P 16 48 53.3 0.0
baz=53,SNR=12
GCMT **Greycliff** 53.58 309 *e*P P 16 48 54.4 +0.6
GCMT **Greycliff** 53.58 309 *e*P P 16 48 54.4 +0.6
PGC **Sidney** 53.62 321 *e*P P 16 48 54.1 +0.3
comp=Z,2µm,2.0s
PGC **Sidney** 53.62 321 *e*P P 16 48 54.1 +0.3
comp=Z,2µm,2.0s
J29A **Okreek** 53.63 300 ⇑P P 16 48 54.6 +0.6
baz=53
I26A **New Underwood** 53.66 303 ⇓P P 16 48 55.3 +0.9
baz=54
G20A **Bridger** 53.80 308 ⇓P P 16 48 55.4 0.0
baz=54,SNR=7.6
J28A **Allard Ranch,** 53.84 301 ⇑P P 16 48 56.0 +0.4
baz=54
RSSD **Black Hills** 53.86 304 *e*P P 16 48 56.1 +0.1
RSSD pmax pmax
comp=Z,50nm,1.9s
RSSD **Black Hills** 53.86 304 *e*P P 16 48 56.1 +0.1
comp=Z,50nm,1.9s
RSSD **Black Hills** 53.86 304 *e*P P 16 48 56.1 +0.1
comp=Z,50nm,1.9s
I25A **Rochford** 53.89 303 ⇓P P 16 48 56.8 +0.7
baz=54
H22A **Clearmont** 53.96 306 ⇑P P 16 48 57.3 +0.7
baz=54

BLO **Bloomington** 53.98 286 *e*P P 16 48 58.1 +1.5
BLO pmax pmax
comp=Z,39nm,1.4s
BLO **Bloomington** 53.98 286 *e*P P 16 48 58.1 +1.5
comp=Z,39nm,1.4s
BLO **Bloomington** 53.98 286 *e*P P 16 48 58.1 +1.5
comp=Z,39nm,1.4s
RAYN **Ar Rayn** 54.07 135 P P 16 48 58.9 +1.4
comp=Z,78nm,1.2s,SNR=12
H21A **Big Horn, Sher** 54.09 307 ⇓P P 16 48 59.2 +1.7
baz=54
BLA **Blacksburg** 54.11 280 *e*P P 16 48 57.8 +0.2
BLA pmax pmax
comp=Z,100nm,2.0s
BLA **Blacksburg** 54.11 280 *e*P P 16 48 57.8 +0.2
comp=Z,100nm,2.0s
BLA **Blacksburg** 54.11 280 *e*P P 16 48 57.8 +0.2
comp=Z,100nm,2.0s
RLMT **Red Lodge** 54.13 309 P P 16 48 58.1 +0.2
comp=Z,110nm,2.3s
RLMT **Red Lodge** 54.13 309 P P 16 48 58.1 +0.2
comp=Z,110nm,2.3s
K30A **Basset** 54.15 299 ⇓P P 16 48 59.3 +1.4
baz=54
BOZ **Bozeman (W)** 54.15 311 *e*P P 16 48 58.8 +0.8
BOZ pmax pmax
comp=Z,43nm,2.5s
BOZ **Bozeman (W)** 54.15 311 *e*P P 16 48 58.8 +0.8
comp=Z,43nm,2.5s
BOZ **Bozeman (W)** 54.15 311 *e*P P 16 48 58.8 +0.8
comp=Z,43nm,2.5s
LRM **Limekiln Ridge** 54.16 311 *e*P P 16 48 58.2 0.0
LRM **Limekiln Ridge** 54.16 311 *e*P P 16 48 58.1 0.0
J27A **Elkhorn Farm,** 54.19 302 ⇓P P 16 49 00.5 +2.2
baz=54
K29A **Lazy Trails An** 54.24 300 ⇓P P 16 49 00.1 +1.5
baz=54
I24A **Kuemmerle Ranc** 54.25 304 ⇓P P 16 49 00.2 +1.5
baz=54
J26A **Sides Ranch, S** 54.40 303 ⇑P P 16 49 01.7 +2.0
baz=54
L31A **Butterfield Fa** 54.42 299 ⇓P P 16 49 02.3 +2.5
baz=54
H20A **Greybull** 54.44 307 ⇑P P 16 49 01.9 +1.9
baz=54
H19A **Powell** 54.49 308 ⇓P P 16 49 01.4 +0.9
baz=54
J25A **Sunshine Ranch** 54.50 303 ⇑P P 16 49 01.5 +1.0
baz=54
K28A **Ten Mile Ranch** 54.54 301 ⇑P P 16 49 01.9 +1.2
baz=54
H18A **Shoshone NF, C** 54.64 309 ⇓P P 16 49 02.3 +0.7
baz=54
I22A **9 Mile Ranch,** 54.66 306 ⇓P P 16 49 02.1 +0.5
baz=54
J24A **Dixon Ranch, L** 54.76 304 ⇑P P 16 49 03.4 +1.0
baz=55
K27A **Flueckinger Fa** 54.77 302 ⇓P P 16 49 03.8 +1.4
baz=55
WCI **Wyandotte Cave** 54.80 286 *e*P P 16 49 02.3 -0.3
WCI pmax pmax
comp=Z,45nm,1.6s
WCI **Wyandotte Cave** 54.80 286 *e*P P 16 49 02.3 -0.3
comp=Z,45nm,1.6s
WCI **Wyandotte Cave** 54.80 286 *e*P P 16 49 02.3 -0.3
comp=Z,44nm,1.6s
QLMT **Earthquake Lak** 54.88 310 *e*P P 16 49 03.5 +0.1
QLMT **Earthquake Lak** 54.88 310 *e*P P 16 49 03.5 +0.1
LKWY **Lake** 54.91 309 P P 16 49 05.1 +1.5
LKWY pmax pmax
comp=Z,6.0nm,0.9s
LKWY **Lake** 54.91 309 P P 16 49 05.1 +1.5
comp=Z,6.0nm,0.9s
LKWY **Lake** 54.91 309 P P 16 49 05.1 +1.5
comp=Z,5.5nm,0.9s
NLWA **Neilton Lookou** 54.91 321 *e*P P 16 49 04.2 +0.9
comp=Z,38nm,1.4s
NLWA **Neilton Lookou** 54.91 321 *e*P P 16 49 04.2 +0.9
comp=Z,38nm,1.4s
I21A **Big Trails, Te** 54.92 306 ⇓P P 16 49 04.5 +0.9
baz=55,SNR=11
BGNE **Belgrade** 54.97 298 P P 16 49 03.4 -0.4
BGNE **Belgrade** 54.97 298 P P 16 49 03.4 -0.4
I20A **Worland** 54.98 307 ⇓P P 16 49 05.0 +1.1
baz=55
K26A **Motz Farm, Whi** 55.00 302 ⇑P P 16 49 05.0 +0.9
baz=55
F10A **Beach Ranch, E** 55.01 315 *e*P P 16 49 04.7 +0.5
comp=Z,10nm,1.0s
F10A **Beach Ranch, E** 55.01 315 *e*P P 16 49 04.7 +0.5
comp=Z,10nm,1.0s
HAWA **Hanford** 55.06 317 *e*P P 16 49 04.5 +0.1
comp=Z,64nm,1.8s
HAWA **Hanford** 55.06 317 *e*P P 16 49 04.5 +0.1
comp=Z,64nm,1.8s
I19A **Meeteetse** 55.09 308 ⇑P P 16 49 06.0 +1.1
baz=55,SNR=9.5
H17A **Grant Village** 55.11 309 ⇑P P 16 49 07.5 +2.4
baz=55
J22A **Midwest** 55.11 306 ⇓P P 16 49 05.9 +0.9
baz=55,SNR=9.1
MCMT **McKenzie Canyo** 55.19 311 *e*P P 16 49 05.9 +0.3
MCMT **McKenzie Canyo** 55.19 311 *e*P P 16 49 06.0 +0.3
HHC **Hu-ho-hao-te** 55.23 63 *e*P P 16 49 06.1 +0.3
HHC PP PP 16 51 10.8 +2.0
HHC S S 16 56 46.0 -2.7
HHC sS sS 16 56 53.6 -1.4
HHC SS SS 17 00 29.3 -2.8
HHC PMZ
comp=Z,17nm,0.9s
HHC PMZ
comp=Z,91nm,7.4s
HHC LN
comp=Z,570nm,16.5s
HHC LE
comp=Z,650nm,17.0s
HHC LZ
comp=Z,630nm,19.7s
M31A **Lambtecht Ranc** 55.24 298 ⇑P P 16 49 07.2 +1.5
baz=55
K25A **Mack Ranch, Ha** 55.25 303 ⇓P P 16 49 07.0 +1.1
baz=55
M30A **Dale-Ortello V** 55.28 299 ⇓P P 16 49 06.0 -0.1
baz=55
L27A **T5 Ranch, Ells** 55.37 302 ⇓P P 16 49 07.3 +0.5
baz=55
J21A **Lysite** 55.40 306 ⇑P P 16 49 07.7 +0.7
baz=55,SNR=5.3
USIN **University of** 55.42 287 *e*P P 16 49 05.9 -1.1
USIN **University of** 55.42 287 *e*P P 16 49 05.9 -1.1
FLWY **Flagg Ranch** 55.43 309 *e*P P 16 49 08.4 +1.0
comp=Z,178nm,2.3s
FLWY **Flagg Ranch** 55.43 309 *e*P P 16 49 08.4 +1.0
comp=Z,178nm,2.3s
K23A **Bowen Ranch, D** 55.53 305 ⇑P P 16 49 08.4 +0.4
baz=55
J20A **Shoshoni** 55.54 307 ⇓P P 16 49 08.3 +0.3
baz=55,SNR=12
I17A **Pilgrim Ck.** 55.56 309 ⇓P P 16 49 08.7 +0.4
baz=55
M29A **Burnside Ranch** 55.57 300 ⇓P P 16 49 09.0 +0.8
baz=55
L26A **Underwood Farm** 55.60 302 ⇓P P 16 49 09.0 +0.6
baz=55
TZTN **Tazewell** 55.61 283 *e*P P 16 49 11.5 +3.0
comp=Z,124nm,2.0s
N32A **Stulken Farm,** 55.61 298 ⇑P P 16 49 09.2 +0.7
baz=55
E03A **Lebam** 55.67 321 *e*P P 16 49 10.6 +1.9
comp=Z,27nm,1.0s
E03A **Lebam** 55.67 321 *e*P P 16 49 10.6 +1.9
comp=Z,27nm,1.0s
L25A **Engebretsen Ra** 55.70 303 ⇓P P 16 49 09.9 +0.7
baz=56
N31A **Bailey Ranch,** 55.72 298 ⇑P P 16 49 10.1 +0.8
baz=56
MOOW **Moose Ponds** 55.76 309 *e*P P 16 49 10.1 +0.4
comp=Z,104nm,2.6s
MOOW **Moose Ponds** 55.76 309 *e*P P 16 49 10.1 +0.4
comp=Z,104nm,2.6s
CN2 **Changchun** 55.77 51 *e*P P 16 49 10.3 +0.8
CN2 *e*S S 16 56 53.3 -2.3
CN2 PMZ
comp=Z,10.0nm,0.8s
CN2 PMZ
comp=Z,200nm,4.0s
CN2 LN

comp=Z,550nm,15.0s
CN2 LE
comp=Z,270nm,15.0s
CN2 LZ
comp=Z,410nm,15.0s
M28A Bar X Bar Ranc 55.79 300 ⇑P P 16 49 10.8 +1.1
baz=56
J19A Crowheart 55.84 308 ⇑P P 16 49 11.0 +0.8
baz=56,SNR=7.2
K22A Casper 55.84 305 *e*P P 16 49 10.2 0.0
comp=Z,23nm,1.1s
K22A Casper 55.84 305 *e*P P 16 49 10.2 0.0
comp=Z,23nm,1.1s
K22A Casper 55.84 305 ⇓P P 16 49 10.8 +0.6
baz=56
LOHW Long Hollow 55.86 309 *e*P P 16 49 09.0 -1.4
comp=Z,91nm,2.4s
LOHW Long Hollow 55.86 309 *e*P P 16 49 09.0 -1.4
comp=Z,91nm,2.4s
MDJ Mudanjiang 55.88 47 P P 16 49 09.1 -1.2
MDJ pP **pP** 16 49 12.8 -1.3
MDJ PP **PP** 16 51 14.8 +0.4
MDJ ScP **ScP** 16 54 06.5 -0.7
MDJ PcS **PcS** 16 54 09.4 +0.3
MDJ S **S** 16 56 55.8 -1.3
MDJ PMZ
comp=Z,6.0nm,1.0s
MDJ PMZ
comp=Z,43nm,4.5s
MDJ LN
comp=Z,150nm,17.8s
MDJ LE
comp=Z,300nm,16.2s
MDJ LZ
comp=Z,250nm,12.8s
M27A Reverse DX Ran 55.91 301 ⇑P P 16 49 11.7 +1.0
baz=56
FXWY Fox Creek 55.93 309 *e*P P 16 49 12.4 +1.4
comp=Z,101nm,2.8s
FXWY Fox Creek 55.93 309 *e*P P 16 49 12.4 +1.4
comp=Z,101nm,2.8s
G08A Pilot Rock 56.01 317 *e*P P 16 49 12.3 +0.9
comp=Z,80nm,2.0s
G08A Pilot Rock 56.01 317 *e*P P 16 49 12.3 +0.9
comp=Z,80nm,2.0s
F04D Rainier, OR 56.02 320 ⇓P P 16 49 12.1 +0.8
baz=56
N30A Hueftle Ranch, 56.04 299 ⇑P P 16 49 12.1 +0.6
baz=56
F04A Amboy 56.05 320 *e*P P 16 49 12.9 +1.4
F04A Amboy 56.05 320 *e*P P 16 49 12.9 +1.4
O32A Brockman Farm, 56.08 297 ⇓P P 16 49 12.4 +0.6
baz=56
BMO Blue Mountains 56.10 315 *e*P P 16 49 10.8 -1.2
comp=Z,55nm,2.0s
BMO Blue Mountains 56.10 315 *e*P P 16 49 10.8 -1.2
comp=Z,55nm,2.0s
YSS Yuzh-Sakhalins 56.10 35 *e*P P 16 49 15.0 +3.2
N29A Votaw Ranch, W 56.15 300 ⇓P P 16 49 13.1 +0.8
baz=56
REDW Red Top Meadow 56.15 309 *e*P P 16 49 13.2 +0.6
comp=Z,28nm,1.5s
REDW Red Top Meadow 56.15 309 *e*P P 16 49 13.2 +0.6
comp=Z,28nm,1.5s
KMSC Kings Mountain 56.30 280 ⇑P P 16 49 13.5 +0.1
baz=56
OGNE Ogallala 56.38 301 P P 16 49 14.8 +0.8
comp=Z,158nm,1.8s
OGNE Ogallala 56.38 301 P P 16 49 14.8 +0.8
comp=Z,158nm,1.8s
G06A Carlson Farm, 56.39 318 *e*P P 16 49 15.8 +1.8
G06A Carlson Farm, 56.39 318 *e*P P 16 49 15.8 +1.8
Q37A Longview Farm, 56.39 293 ⇑P P 16 49 14.7 +0.7
baz=56
M25A Palm-Egli Farm 56.41 303 ⇓P P 16 49 14.7 +0.4
baz=56
BW06 Boulder Array 56.43 308 *e*P P 16 49 13.6 -0.9
BW06 Boulder Array 56.43 308 *e*P P 16 49 13.6 -0.9
PDAR Pinedale Array 56.43 308 P P 16 49 14.4 -0.1
comp=Z,2.8nm,1.0s,baz=35,slow=5.4,SNR=9.1
PDAR LR LR 17 13 33.7
comp=Z,687nm,18.6s,baz=40,slow=36
O31A Woolen Ranch, 56.45 298 ⇑P P 16 49 14.5 +0.1
baz=56
N28A Pribbeno Ranch 56.50 300 ⇑P P 16 49 14.7 -0.1
baz=56
TKL Tuckaleechee C 56.50 282 *e*P P 16 49 14.8 -0.1
TKL Tuckaleechee C 56.50 282 *e*P P 16 49 14.8 -0.1
TKL Tuckaleechee C 56.50 282 *e*P P 16 49 14.8 -0.1
N27A Anderson Farm, 56.63 301 ⇑P P 16 49 16.0 +0.2
baz=56
HLID Hailey 56.73 312 *e*P P 16 49 16.1 -0.5
comp=Z,44nm,1.8s
HLID Hailey 56.73 312 *e*P P 16 49 16.1 -0.5
comp=Z,44nm,1.8s
HLID Hailey 56.73 312 ⇓P P 16 49 16.6 0.0
baz=56,SNR=8.0
KSU1 Kansas State U 56.74 295 *e*P P 16 49 14.3 -2.2
comp=Z,21nm,1.1s
KSU1 Kansas State U 56.74 295 *e*P P 16 49 14.3 -2.2
comp=Z,21nm,1.1s
KSU1 Kansas State U 56.74 295 ⇑P P 16 49 16.7 +0.1
baz=57
P32A Huiting Farm, 56.76 297 ⇑P P 16 49 16.6 -0.1
baz=57
USRK Ussuriysk Ar. 56.77 45 P P 16 49 15.1 -1.5
comp=Z,2.7nm,0.7s,baz=44,slow=8.8,SNR=6.5
USRK LR LR 17 15 45.5
comp=Z,226nm,18.7s,baz=324,slow=38
O29A 4D Ranch, Culb 56.84 299 ⇓P P 16 49 17.4 +0.1
baz=57
PHWY Pilot Hill 56.87 304 *e*P P 16 49 16.9 -0.8
comp=Z,14nm,1.1s
PHWY Pilot Hill 56.87 304 *e*P P 16 49 16.9 -0.8
comp=Z,14nm,1.1s
G03D McMinnville, O 56.91 320 ⇓P P 16 49 18.1 +0.5
baz=57
R37A Teagarden Farm 57.02 293 ⇑P P 16 49 18.9 +0.4
baz=57
P31A Stockton 57.06 298 ⇑P P 16 49 19.2 +0.4
baz=57
NDI New Delhi 57.07 100 *e*P P 16 49 18.0 -0.9
JSC Jenkinsville 57.08 280 *e*P P 16 49 19.7 +0.8
JSC pmax pmax
comp=Z,55nm,1.7s
JSC Jenkinsville 57.08 280 *e*P P 16 49 19.7 +0.8
comp=Z,55nm,1.7s
JSC Jenkinsville 57.08 280 *e*P P 16 49 19.7 +0.8
comp=Z,55nm,1.7s
Q33A Connelly Farm, 57.16 296 ⇑P P 16 49 19.4 -0.1
baz=57
N24A Carr 57.18 303 ⇑P P 16 49 20.1 +0.3
baz=57
WVT Waverly 57.19 286 P P 16 49 18.4 -1.3
WVT pmax pmax
comp=Z,20nm,1.5s
WVT Waverly 57.19 286 P P 16 49 18.4 -1.3
comp=Z,20nm,1.5s
WVT Waverly 57.19 286 P P 16 49 18.4 -1.3
comp=Z,20nm,1.5s
R36A Gordon, Harris 57.19 294 ⇓P P 16 49 20.1 +0.4
baz=57
O27A Beecher Island 57.20 301 ⇑P P 16 49 21.0 +1.2
baz=57
H04A Detroit Lake 57.22 319 *e*P P 16 49 20.8 +0.9
comp=Z,26nm,1.6s
H04A Detroit Lake 57.22 319 *e*P P 16 49 20.8 +0.9
comp=Z,26nm,1.6s
P30A Selden 57.25 299 ⇓P P 16 49 21.1 +0.9
baz=57
I07A Izee 57.28 317 *e*P P 16 49 21.5 +1.1
comp=Z,12nm,0.9s
I07A Izee 57.28 317 *e*P P 16 49 21.5 +1.1
comp=Z,12nm,0.9s
PBMO Poplar Bluff 57.29 289 *e*P P 16 49 20.2 -0.2
comp=Z,44nm,1.4s
PBMO Poplar Bluff 57.29 289 *e*P P 16 49 20.2 -0.2
comp=Z,44nm,1.4s
Q32A Meitler Ranch, 57.35 297 ⇓P P 16 49 20.8 0.0
baz=57
O26A Horse Wrangler 57.35 302 ⇓P P 16 49 22.0 +1.0
baz=57
N23A Red Feather La 57.37 304 *e*P P 16 49 22.0 +0.7
comp=Z,105nm,1.9s
N23A Red Feather La 57.37 304 *e*P P 16 49 22.0 +0.7
comp=Z,105nm,1.9s
N23A Red Feather La 57.37 304 ⇓P P 16 49 22.4 +1.2
baz=57,SNR=9.4
P29A Atwood 57.37 299 ⇓P P 16 49 21.8 +0.8
baz=57
SWET Sewanee 57.52 284 *e*P P 16 49 21.4 -0.7
SWET Sewanee 57.52 284 *e*P P 16 49 21.4 -0.7
Q31A Ellis 57.55 298 ⇑P P 16 49 23.1 +0.9
baz=57
N22A Wattenberg Ran 57.58 305 ⇓P P 16 49 23.3 +0.6
baz=57
P28A Saint Francis 57.60 300 ⇑P P 16 49 23.6 +0.9
baz=57
LZH Lanzhou 57.66 72 *e*P P 16 49 25.0 +1.8
LZH pP **pP** 16 49 28.5 +1.4
LZH sP **sP** 16 49 31.0 +2.5
LZH S **S** 16 57 20.4 -0.7
LZH sS **sS** 16 57 27.3 -0.1
LZH SS **SS** 17 01 09.5 -1.0
LZH PMZ
comp=Z,14nm,1.0s
LZH PMZ
comp=Z,64nm,4.0s
LZH LN
comp=Z,380nm,14.8s
LZH LE
comp=Z,370nm,13.8s
LZH LZ
comp=Z,720nm,15.9s
O25A Wiggins 57.67 302 ⇑P P 16 49 24.0 +0.8
baz=58
S36A Lake Cedric, C 57.77 294 ⇓P P 16 49 25.1 +1.3
baz=58
Q30A Quinter 57.78 298 ⇓P P 16 49 24.7 +0.7
baz=58
P27A Ficken Ranch, 57.82 301 ⇑P P 16 49 25.4 +1.1
baz=58
R33A Olander Ranch, 57.84 296 ⇓P P 16 49 25.6 +1.2
baz=58
O24A Longmont 57.89 303 ⇓P P 16 49 25.7 +0.9
baz=58
R32A Long Quarter, 57.92 297 ⇓P P 16 49 25.8 +0.9
baz=58
N20A Spence Gulch, 57.97 306 ⇑P P 16 49 25.9 +0.4
baz=58,SNR=14
S35A Otter Creek Ra 58.01 295 ⇓P P 16 49 25.8 +0.4
baz=58
P26A Davis Ranch, A 58.01 301 ⇑P P 16 49 26.8 +1.1
baz=58
O23A Lake Granby, G 58.01 304 ⇓P P 16 49 26.1 +0.3
baz=58,SNR=12
Q29A Oakley 58.06 299 ⇓P P 16 49 26.0 +0.2
baz=58
Q28A Sharon Springs 58.11 300 ⇑P P 16 49 26.8 +0.6
baz=58
I04A Tendick Farm, 58.12 319 ⇑P P 16 49 26.6 +0.5
baz=58
S34A Willow Spring 58.19 295 ⇑P P 16 49 28.7 +1.9
baz=58
O22A Kremmling 58.21 304 ⇓P P 16 49 27.5 +0.3
baz=58,SNR=12
R31A Burdett 58.26 298 ⇑P P 16 49 28.0 +0.8
baz=58
ISCO Idaho Springs 58.33 303 ⇑P P 16 49 29.7 +1.6
baz=58
KSCO Kaye Shedlock' 58.35 301 *e*P P 16 49 27.5 -0.5
comp=Z,64nm,1.5s
KSCO Kaye Shedlock' 58.35 301 *e*P P 16 49 27.5 -0.5
comp=Z,64nm,1.5s
KSCO Kaye Shedlock' 58.35 301 ⇓P P 16 49 29.7 +1.7
baz=58
J05D Fort Rock, OR 58.38 318 ⇓P P 16 49 29.2 +1.0
baz=58,SNR=10
I03D Drain, OR 58.38 320 ⇑P P 16 49 28.6 +0.7
baz=58
R30A Dighton 58.45 298 ⇑P P 16 49 28.4 -0.3
baz=58
T36A Boggs Farm, Ca 58.48 294 ⇓P P 16 49 30.0 +1.3
baz=58
GOGA Godfrey 58.52 281 *e*P P 16 49 27.3 -1.8
GOGA pmax pmax
comp=Z,56nm,1.7s
GOGA Godfrey 58.52 281 *e*P P 16 49 27.3 -1.8
comp=Z,56nm,1.7s
GOGA Godfrey 58.52 281 *e*P P 16 49 27.3 -1.8
comp=Z,56nm,1.7s
S33A Kaszmaul Farm, 58.52 296 ⇓P P 16 49 29.8 +0.7
baz=58
R29A Marienthal 58.54 299 ⇑P P 16 49 29.7 +0.5
baz=58
J04D Umpqua Nationa 58.59 319 ⇑P P 16 49 30.4 +0.7
baz=58
O20A White River Ci 58.63 306 *e*P P 16 49 30.2 +0.2
comp=Z,96nm,1.6s
O20A White River Ci 58.63 306 *e*P P 16 49 30.2 +0.2
comp=Z,96nm,1.6s
O20A White River Ci 58.63 306 ⇑P P 16 49 31.4 +1.4
baz=58,SNR=9.9
Q26A Hugo 58.65 301 ⇑P P 16 49 31.1 +0.9
baz=58
T35A Sooner Cattle 58.78 294 ⇓P P 16 49 32.5 +1.6
baz=59
R28A Tribune 58.78 300 ⇓P P 16 49 32.9 +1.9
baz=59
P23A Jefferson 58.79 304 ⇑P P 16 49 32.4 +1.1
baz=59
P22A Eagle 58.80 304 ⇑P P 16 49 32.9 +1.7
baz=59
ASAJ Asahikawa 58.83 36 LR LR 17 17 48.8
comp=Z,239nm,18.3s,slow=39
T34A McClaskey Farm 58.85 295 ⇑P P 16 49 32.4 +1.1
baz=59
K05A Summer Lake 58.86 317 *e*P P 16 49 34.0 +2.4
comp=Z,30nm,1.1s
K05A Summer Lake 58.86 317 *e*P P 16 49 34.0 +2.4
comp=Z,30nm,1.1s
S31A Mullinville 58.88 297 ⇓P P 16 49 31.9 +0.3
baz=59
BGU Big Grassy Mou 58.96 310 *e*P P 16 49 33.3 +1.1
comp=Z,46nm,2.2s
BGU Big Grassy Mou 58.96 310 *e*P P 16 49 33.3 +1.1
comp=Z,46nm,2.2s
Q24A Divide 59.01 303 *e*P P 16 49 33.3 +0.5
comp=Z,132nm,2.7s
Q24A Divide 59.01 303 *e*P P 16 49 33.4 +0.5
comp=Z,132nm,2.7s
Q24A Divide 59.01 303 ⇓P P 16 49 33.3 +0.5
baz=59
R27A Eads 59.08 300 ⇓P P 16 49 33.4 +0.3
baz=59
S30A Montezuma 59.11 298 ⇓P P 16 49 33.7 +0.5
baz=59
K04D Chiloquin, OR 59.12 318 ⇑P P 16 49 33.7 +0.4
baz=59
OXF Oxford 59.14 287 P P 16 49 31.7 -1.7
OXF Oxford 59.14 287 P P 16 49 31.7 -1.7
OXF Oxford 59.14 287 P P 16 49 31.7 -1.7
T32A Huddler Ranch, 59.15 297 ⇑P P 16 49 33.8 +0.4
baz=59
R26A Arlington 59.23 301 ⇓P P 16 49 34.1 0.0
baz=59
S29A Ulysses 59.29 299 ⇑P P 16 49 35.7 +1.2
baz=59
HUMO Hull Mountain 59.37 319 *e*P P 16 49 34.7 -0.1
comp=Z,95nm,2.8s
HUMO Hull Mountain 59.37 319 *e*P P 16 49 34.7 -0.1
comp=Z,95nm,2.8s
U34A Anderson Ranch 59.50 295 *e*P P 16 49 34.2 -1.6
U34A Anderson Ranch 59.50 295 *e*P P 16 49 34.2 -1.6
U34A Anderson Ranch 59.50 295 ⇑P P 16 49 36.2 +0.4
baz=59
S28A Manter 59.52 299 ⇑P P 16 49 37.4 +1.4
baz=59
TUL1 Leonard 59.54 293 *e*P P 16 49 34.5 -1.6
TUL1 Leonard 59.54 293 *e*P P 16 49 34.5 -1.6
DUG Dugway, Tooele 59.61 310 *e*P P 16 49 37.5 +0.8
DUG Dugway, Tooele 59.61 310 *e*P P 16 49 37.5 +0.8
DUG Dugway, Tooele 59.61 310 *e*P P 16 49 37.5 +0.8
DUG Dugway, Tooele 59.61 310 ⇓P P 16 49 37.9 +1.2
baz=59
ELK Elko 59.61 312 *e*P P 16 49 37.1 +0.3
ELK pmax pmax
comp=Z,7.0nm,1.1s
ELK Elko 59.61 312 *e*P P 16 49 37.1 +0.3
comp=Z,7.4nm,1.1s
ELK Elko 59.61 312 *e*P P 16 49 37.1 +0.3
comp=Z,7.4nm,1.1s
NLU North Lily Min 59.67 309 *e*P P 16 49 39.9 +2.6
comp=Z,92nm,2.7s
NLU North Lily Min 59.67 309 *e*P P 16 49 39.9 +2.6
comp=Z,92nm,2.7s
KOLN Koldanda 59.74 94 *e*P P 16 49 37.9 0.0
comp=Z,43nm,1.5s
T29A Hugoton 59.78 299 ⇓P P 16 49 38.4 +0.5
baz=60
GKN Gorkha 59.82 93 *e*P P 16 49 38.0 -0.3
comp=Z,91nm,1.7s
S26A Kim 59.88 301 ⇓P P 16 49 38.4 -0.2
baz=60
R23A Moffat 59.91 303 ⇓P P 16 49 39.2 +0.2
baz=60
L02D Cave Junction, 59.92 319 ⇓P P 16 49 38.3 -0.4
baz=60
M04C Macdoel 59.95 318 ⇓P P 16 49 39.3 +0.3
baz=60
V35A Meyer Ranch, C 59.95 294 ⇓P P 16 49 40.8 +1.9
baz=60
W38A Poteau 59.99 292 ⇓P P 16 49 40.0 +0.7
baz=60
LSA Lhasa 60.09 86 *e*P P 16 49 42.8 +2.3
LSA pmax pmax
comp=Z,22nm,1.4s
LSA Lhasa 60.09 86 *e*P P 16 49 42.8 +2.3
comp=Z,22nm,1.4s
LSA Lhasa 60.09 86 *e*P P 16 49 42.8 +2.3
comp=Z,22nm,1.4s
TMUT Trail Mountain 60.11 308 *e*P P 16 49 40.6 +0.2
comp=Z,243nm,2.7s
TMUT Trail Mountain 60.11 308 *e*P P 16 49 40.6 +0.2
comp=Z,243nm,2.7s
SRU San Rafael Swe 60.13 307 *e*P P 16 49 39.2 -1.2
SRU pmax pmax
comp=Z,10.0nm,1.3s
SRU San Rafael Swe 60.13 307 *e*P P 16 49 39.2 -1.2
comp=Z,9.6nm,1.3s
SRU San Rafael Swe 60.13 307 *e*P P 16 49 39.2 -1.2
comp=Z,9.6nm,1.3s
YBH Yreka Blue Hor 60.16 319 P P 16 49 39.8 -0.6
comp=Z,2.5nm,0.8s,baz=47,slow=5.7,SNR=8.3
YBH LR LR 17 16 17.4
comp=Z,1μm,18.7s,baz=16,slow=37
YBH Yreka Blue Hor 60.16 319 P P 16 49 39.8 -0.6
YBH pmax pmax
comp=Z,3.0nm,0.8s
YBH MLR MLR
comp=Z,1μm,18.7s
YBH Yreka Blue Hor 60.16 319 *e*P P 16 49 39.4 -1.0
comp=Z,64nm,2.5s
W37A Quinton 60.17 293 ⇑P P 16 49 40.9 +0.5
baz=60
KKN Kakani 60.20 93 *e*P P 16 49 41.5 +0.5
U30A WK&E Inc. Balk 60.21 298 ⇓P P 16 49 40.8 0.0
baz=60
T27A Campo 60.22 300 ⇑P P 16 49 41.2 +0.2
baz=60
SDCO Great Sand Dun 60.25 303 *e*P P 16 49 40.9 -0.5
comp=Z,141nm,2.9s
SDCO Great Sand Dun 60.25 303 *e*P P 16 49 40.9 -0.5
comp=Z,141nm,2.9s
SDCO Great Sand Dun 60.25 303 ⇑P P 16 49 41.2 -0.2
baz=60
GUN Gumba 60.26 92 *e*P P 16 49 43.1 +1.5
comp=Z,81nm,1.3s
V33A Lossen Ranch, 60.27 296 ⇑P P 16 49 41.9 +0.8
baz=60
DMN Daman 60.33 93 *e*P P 16 49 43.3 +1.4
T26A Comanche Natio 60.33 301 ⇓P P 16 49 41.8 0.0
baz=60
TOA0 Torodi Ar. Sit 60.36 186 *e*P P 16 49 41.4 -0.5
TOA0 Torodi Ar. Sit 60.36 186 *e*P P 16 49 41.4 -0.5
TORD Torodi Ar. Bea 60.36 186 P P 16 49 41.5 -0.4
comp=Z,9.7nm,0.9s,baz=354,slow=7.1,SNR=46
TORD LR LR 17 15 15.6
comp=Z,134nm,22.0s,baz=355,slow=36
W36A Wetumka 60.38 294 ⇓P P 16 49 42.5 +0.6
baz=60
PV09 Paradox Valley 60.40 306 *e*P P 16 49 43.2 +0.9
PV09 Paradox Valley 60.40 306 *e*P P 16 49 43.2 +0.9
S23A Nye Farm, Mont 60.41 303 ⇓P P 16 49 42.5 0.0
baz=60
TIGA Tifton 60.41 281 ⇑P P 16 49 42.9 +0.8
baz=60
PKIN Phulchoki 60.44 93 *e*P P 16 49 43.8 +1.1
comp=Z,94nm,1.8s
PKI Pulchoki 60.45 93 *e*P P 16 49 43.5 +0.6
PV10 Paradox Valley 60.49 306 *e*P P 16 49 45.3 +2.4
PV10 Paradox Valley 60.49 306 *e*P P 16 49 45.3 +2.4
M02C Callahan 60.52 319 ⇓P P 16 49 43.3 +0.5
baz=60,SNR=5.9
W35A Tecumseh 60.54 294 ⇑P P 16 49 43.6 +0.6
baz=60
T25A Trinidad 60.57 301 ⇓P P 16 49 43.9 +0.4
baz=60
S22A 4UR Ranch, Cre 60.57 304 *e*P P 16 49 44.4 +0.9
comp=Z,19nm,1.3s
S22A 4UR Ranch, Cre 60.57 304 *e*P P 16 49 44.4 +0.9
comp=Z,19nm,1.3s
S22A 4UR Ranch, Cre 60.57 304 ⇑P P 16 49 44.0 +0.4
baz=60,SNR=8.3
JIRN Jiri 60.59 92 *e*P P 16 49 44.1 +0.2
PV01 Paradox Valley 60.61 305 *e*P P 16 49 43.9 +0.1
PV01 Paradox Valley 60.61 305 *e*P P 16 49 43.9 +0.1
X37A Clayton 60.67 293 ⇑P P 16 49 44.3 +0.4
baz=60
V31A Spring Creek L 60.72 297 ⇑P P 16 49 44.2 -0.1
baz=60
PV05 Paradox Valley 60.79 306 *e*P P 16 49 45.1 +0.2
PV05 Paradox Valley 60.79 306 *e*P P 16 49 45.1 +0.2
U27A Thompson Grove 60.86 300 ⇑P P 16 49 45.7 +0.4
baz=61
N02D Trinity Center 60.90 318 ⇑P P 16 49 45.7 +0.3
baz=61
X36A Centrahoma 60.95 293 ⇓P P 16 49 46.6 +0.8
baz=61
XAN Xi'an 60.95 68 P P 16 49 45.3 -0.6
XAN pP **pP** 16 49 50.8 +1.0
XAN PMZ
comp=Z,19nm,3.7s
XAN LN
comp=Z,290nm,15.3s
XAN LE
comp=Z,110nm,21.4s
XAN LZ
comp=Z,140nm,21.4s
TIA Tai'an 61.02 60 ⇑P P 16 49 46.1 -0.1
TIA PMZ
comp=Z,10.0nm,2.3s
MSU Marysvale 61.08 309 *e*P P 16 49 47.7 +0.8
MSU Marysvale 61.08 309 *e*P P 16 49 47.7 +0.8
MSU Marysvale 61.08 309 *e*P P 16 49 47.7 +0.8
MVU Marysvale 61.09 309 *e*P P 16 49 47.4 +0.4
comp=Z,74nm,2.2s
MVU Marysvale 61.09 309 *e*P P 16 49 47.4 +0.4
comp=Z,74nm,2.2s
W32A Sentinel 61.18 296 ⇓P P 16 49 48.4 +1.0
baz=61
KHMM Horse Mountain 61.19 319 P P 16 49 47.1 -0.4
comp=Z,25nm,1.2s
KHMM Horse Mountain 61.19 319 P P 16 49 47.1 -0.4
comp=Z,25nm,1.2s
WDC Whiskeytown Da 61.25 318 *e*P P 16 49 47.2 -0.5
WDC pmax pmax
comp=Z,28nm,1.5s
WDC Whiskeytown Da 61.25 318 *e*P P 16 49 47.2 -0.5
comp=Z,28nm,1.5s
WDC Whiskeytown Da 61.25 318 *e*P P 16 49 47.2 -0.5
comp=Z,28nm,1.5s
X35A Drake 61.28 294 ⇓P P 16 49 48.4 +0.4
baz=61
X34A Smith Ranch, M 61.31 295 ⇑P P 16 49 49.9 +1.7
baz=61
TAPN Taplejung 61.32 91 *e*P P 16 49 50.0 +1.3
V28A Channing 61.34 299 ⇓P P 16 49 48.8 +0.2
baz=61
RAMN Ramite 61.38 92 *e*P P 16 49 49.9 +0.8
comp=Z,34nm,1.2s
WMOK Wichita Mounta 61.43 296 *e*P P 16 49 48.6 -0.4
WMOK pmax pmax
comp=Z,53nm,1.9s
WMOK Wichita Mounta 61.43 296 *e*P P 16 49 48.6 -0.4
comp=Z,53nm,1.9s
WMOK Wichita Mounta 61.43 296 *e*P P 16 49 48.6 -0.4
comp=Z,53nm,1.9s
MVCO Mesa Verde 61.48 305 *e*P P 16 49 50.1 +0.4
comp=Z,85nm,1.7s
MVCO Mesa Verde 61.48 305 *e*P P 16 49 50.1 +0.4

comp=Z,85nm,1.7s
MVCO Mesa Verde 61.48 305 ⇑P P 16 49 49.9 +0.3
baz=61,SNR=9.7
X33A Lawton 61.54 295 ⇓P P 16 49 50.8 +1.0
baz=61
ODAN Odare 61.69 91 eP P 16 49 52.4 +1.3
comp=Z,171nm,1.7s
X31A McDonald Ranch 61.84 297 ⇓P P 16 49 52.7 +0.9
baz=62
X32A Elmer 61.86 296 ⇑P P 16 49 52.5 +0.6
baz=62
Y34A Reagan Ranch, 61.90 294 ⇑P P 16 49 52.3 +0.1
baz=62
R11A Troy Canyon, C 61.98 312 eP P 16 49 52.3 -0.6
comp=Z,8.0nm,1.1s
R11A Troy Canyon, C 61.98 312 eP P 16 49 52.3 -0.6
comp=Z,8.0nm,1.1s
R11A Troy Canyon, C 61.98 312 ⇓P P 16 49 52.9 0.0
baz=62,SNR=7.2
AMTX Amarillo 62.03 298 ⇑P P 16 49 52.8 -0.4
baz=62
Y33A Hilltop Ranch, 62.08 295 ⇑P P 16 49 54.7 +1.3
baz=62
139A Bunkhouse Ranc 62.22 291 ⇑P P 16 49 55.8 +1.5
baz=62
X30A Coker Ranch, T 62.24 297 ⇑P P 16 49 55.4 +0.9
baz=62
Y32A R-V Farms, Ver 62.29 296 ⇑P P 16 49 55.8 +0.9
baz=62
KS01 Wonju Array Si 62.35 51 eP P 16 49 53.5 -1.7
KS01 Wonju Array Si 62.35 51 eP P 16 49 53.5 -1.7
Z35A Perchaven, San 62.36 294 ⇑P P 16 49 55.7 +0.4
baz=62
KSRS Korea Array 62.38 51 P P 16 49 54.1 -1.2
KSRS LR LR 17 20 17.0
comp=Z,1.5nm,0.7s,baz=352,slow=7.2,SNR=16
comp=Z,247nm,18.4s,baz=336,slow=39
KSRS Korea Array 62.38 51 P P 16 49 54.1 -1.2
KSRS pmax pmax
comp=Z,2.0nm,0.7s
KSRS MLR MLR
comp=Z,247nm,18.4s
KSAR Wonju Array Be 62.38 51 P P 16 49 54.1 -1.3
KSAR Wonju Array Be 62.38 51 P P 16 49 54.1 -1.3
KSAR Wonju Array Be 62.38 51 P P 16 49 54.1 -1.3
138A Matatall Enter 62.42 292 ⇑P P 16 49 56.3 +0.6
baz=62
NV01 Mina Array Sit 62.48 314 eP P 16 49 56.0 -0.3
NV01 Mina Array Sit 62.48 314 eP P 16 49 56.0 -0.3
NVAR Mina Array Bea 62.48 314 P P 16 49 56.2 -0.1
comp=Z,1.6nm,0.8s,baz=25,slow=5.2,SNR=12
Z34A Collier Ranch, 62.50 294 ⇓P P 16 49 56.5 +0.3
baz=62
X28A Dimmitt 62.51 299 ⇑P P 16 49 57.4 +1.0
baz=62
CD2 Chengdu 62.51 74 P P 16 49 57.3 +0.9
CD2 sP **sP 16 50 04.5 +2.8**
CD2 PP **PP 16 52 14.3 +0.8**
CD2 S **S 16 58 18.3 -5.0**
CD2 SS **SS 17 02 26.8 +0.3**
CD2 PMZ
comp=Z,10.0nm,1.2s
CD2 PMZ
comp=Z,100nm,4.2s
CD2 LN
comp=Z,570nm,13.1s
CD2 LE
comp=Z,390nm,15.5s
CD2 LZ
comp=Z,450nm,17.8s
Y31A Rekieta Farm, 62.54 297 ⇓P P 16 49 57.5 +0.9
baz=62
TPH Tonopah 62.59 313 eP P 16 49 57.0 -0.1
TPH pmax pmax
comp=Z,63nm,2.2s
TPH Tonopah 62.59 313 eP P 16 49 57.0 -0.1
comp=Z,62nm,2.2s
TPH Tonopah 62.59 313 eP P 16 49 57.0 -0.1
comp=Z,62nm,2.2s
WAKR Walker 62.64 315 eP P 16 49 58.6 +1.3
WAKR Walker 62.64 315 eP P 16 49 58.6 +1.3
KNB Kanab 62.66 309 eP P 16 49 58.9 +1.4
KNB pmax pmax
comp=Z,48nm,1.8s
KNB Kanab 62.66 309 eP P 16 49 58.9 +1.4
comp=Z,48nm,1.8s
KNB Kanab 62.66 309 eP P 16 49 58.9 +1.4
comp=Z,48nm,1.8s
137A Heron Place, G 62.66 292 ⇑P P 16 49 57.7 +0.4
baz=62
Y30A Stafford Cattl 62.79 297 ⇓P P 16 49 58.9 +0.6
baz=63
Z33A Whitaker Ranch 62.80 295 ⇓P P 16 49 59.0 +0.7
baz=63
239A Gary 62.87 291 ⇑P P 16 49 58.7 +0.1
baz=63
Z32A Haskell 62.96 296 ⇓P P 16 50 00.1 +0.7
baz=63
Y29A Porterfield Fa 63.00 298 ⇓P P 16 50 00.4 +0.7
baz=63
Y28A McKinney Farm, 63.10 298 ⇑P P 16 50 00.7 +0.4
baz=63
U15A North Rim 63.10 308 ⇑P P 16 50 01.0 +0.5
baz=63
ANMO Albuquerque 63.15 303 ⇑iP P 16 50 01.5 +0.7
ANMO MLR MLR
comp=Z,3μm,16.0s
ANMO Albuquerque 63.15 303 eP P 16 50 01.2 +0.4
comp=Z,32nm,1.8s
ANMO Albuquerque 63.15 303 eP P 16 50 01.2 +0.4
comp=Z,32nm,1.8s
MSTX Muleshoe 63.17 299 ⇓P P 16 50 01.4 +0.6
baz=63
340A Bronson 63.28 290 ⇓P P 16 50 02.2 +0.7
baz=63
TJN Taejon 63.29 51 eP P 16 50 01.5 +0.1
TJN Taejon 63.29 51 eP P 16 50 01.5 +0.1
134A White-Moore Ra 63.30 294 ⇑P P 16 50 01.9 +0.3
baz=63
Z30A Sanderson Ranc 63.41 297 ⇑P P 16 50 03.0 +0.7
baz=63
TPNV Topopah Spring 63.47 312 eP P 16 50 02.7 -0.2
TPNV pmax pmax
comp=Z,11nm,1.0s
TPNV Topopah Spring 63.47 312 eP P 16 50 02.7 -0.2
comp=Z,11nm,1.0s
TPNV Topopah Spring 63.47 312 eP P 16 50 02.6 -0.2
comp=Z,11nm,1.0s
TPNV Topopah Spring 63.47 312 ⇓P P 16 50 03.6 +0.7
baz=63
133A Hamilton Ranch 63.48 295 ⇑P P 16 50 03.8 +1.0
baz=63
Z29A Hungry Hill Ra 63.58 298 ⇑P P 16 50 04.4 +0.9
baz=63
ABTX Abilene, Hawle 63.65 296 eP P 16 50 03.5 -0.5
comp=Z,25nm,1.4s
ABTX Abilene, Hawle 63.65 296 eP P 16 50 03.5 -0.5
comp=Z,25nm,1.4s
ABTX Abilene, Hawle 63.65 296 ⇑P P 16 50 04.5 +0.5
baz=64
SHPR Sheep Range 63.66 311 eP P 16 50 04.8 +0.7
SHPR Sheep Range 63.66 311 eP P 16 50 04.8 +0.7
WUAZ Wupatki 63.76 307 ⇓P P 16 50 05.2 +0.4
baz=64
131A Roby 63.80 296 ⇑P P 16 50 06.1 +1.1
baz=64
BNM Barren Site 63.95 302 eP P 16 50 07.8 +1.6
BNM Barren Site 63.95 302 eP P 16 50 07.8 +1.6
130A Snyder 64.02 297 ⇓P P 16 50 06.6 +0.3
baz=64
232A Coleman 64.35 295 ⇓P P 16 50 09.1 +0.5
baz=64
128A Castleberry Fa 64.38 298 ⇓P P 16 50 09.6 +0.8
baz=64
DAC Darwin (Calif) 64.40 313 eP P 16 50 09.6 +0.6
DAC pmax pmax
comp=Z,32nm,1.6s
DAC Darwin (Calif) 64.40 313 eP P 16 50 09.6 +0.6
comp=Z,32nm,1.6s
DAC Darwin (Calif) 64.40 313 eP P 16 50 09.6 +0.6
comp=Z,32nm,1.6s
334A Lometa 64.51 294 ⇑P P 16 50 10.3 +0.7
baz=64
MPMC Manual Prospec 64.59 312 ⇑P P 16 50 11.6 +1.4
baz=64,SNR=6.6
RCTC Rector, Farmer 64.71 314 ⇑P P 16 50 11.9 +1.1
baz=64

333A Richland Sprin 64.72 295 ⇑P P 16 50 11.0 +0.1
baz=64
230A Sterling City 64.73 297 ⇓P P 16 50 11.4 +0.4
baz=65
X16A Lo Mia Camp, P 64.83 307 ⇑P P 16 50 13.0 +1.1
baz=65
332A Millersview 64.86 295 ⇑P P 16 50 12.4 +0.5
baz=65
434A Burnet 65.01 294 ⇑P P 16 50 12.9 0.0
baz=65
LDFC Landfair 65.02 310 eP P 16 50 13.8 +0.8
comp=Z,26nm,0.9s
LDFC Landfair 65.02 310 eP P 16 50 13.8 +0.8
comp=Z,26nm,0.9s
331A San Angelo 65.11 296 ⇓P P 16 50 14.1 +0.6
baz=65
GSC Goldstone, Bar 65.17 312 eP P 16 50 15.0 +1.1
GSC Goldstone, Bar 65.17 312 eP P 16 50 15.0 +1.1
GSC Goldstone, Bar 65.17 312 eP P 16 50 15.0 +1.1
ISA Isabella, Lake 65.18 313 ⇑P P 16 50 14.6 +0.6
baz=65,SNR=7.9
HKT Hockley 65.19 291 eP P 16 50 14.3 +0.4
HKT pmax pmax
comp=Z,29nm,1.7s
HKT Hockley 65.19 291 eP P 16 50 14.3 +0.4
comp=Z,29nm,1.7s
HKT Hockley 65.19 291 eP P 16 50 14.3 +0.4
comp=Z,29nm,1.7s
LRMC Laurel Mtn Rad 65.19 312 ⇑P P 16 50 15.1 +1.0
baz=65
330A Mertzon 65.20 297 ⇑P P 16 50 14.5 +0.4
baz=65
433A Art 65.29 295 ⇓P P 16 50 15.3 +0.7
baz=65
432A Menard 65.35 295 ⇓P P 16 50 15.6 +0.5
baz=65
MAJO Matsushiro 65.39 42⇑ eP P 16 50 14.6 -0.6
MAJO pmax pmax
comp=Z,155nm,3.2s
MAJO MLR MLR
comp=Z,842nm,21.0s
MAJO Matsushiro 65.39 42 eP P 16 50 14.6 -0.6
comp=Z,842nm,21.0s
MAJO Matsushiro 65.39 42 P P 16 50 12.6 -2.6
comp=Z,17nm,1.4s
MAT Matsushiro 65.39 42 P P 16 50 14.0 -1.2
MAT S **S 16 58 58.0 -0.8**
MJAR Matsushiro Arr 65.39 42 P P 16 50 14.5 -0.7
comp=Z,2.7nm,0.9s,baz=344,slow=5.9,SNR=13
MJAR LR LR 17 20 41.7
comp=Z,100nm,18.2s,baz=330,slow=38
MJAR Matsushiro Arr 65.39 42 P P 16 50 14.5 -0.7
MJAR pmax pmax
comp=Z,3.0nm,0.9s
MJAR MLR MLR
comp=Z,100nm,18.2s
NJ2 Nanjing 65.41 60 eP P 16 50 16.8 +1.5
NJ2 S **S 16 59 02.4 +3.4**
NJ2 PMZ
comp=Z,40nm,0.7s
NJ2 LN
comp=Z,260nm,13.9s
NJ2 LE
comp=Z,550nm,14.5s
NJ2 LZ
comp=Z,580nm,14.8s
GMRC Granite Mounta 65.43 311 ⇓P P 16 50 16.7 +1.0
baz=65,SNR=6.4
JCT Junction City 65.73 295 eP P 16 50 17.3 -0.3
JCT pmax pmax
comp=Z,27nm,1.5s
JCT Junction City 65.73 295 eP P 16 50 18.0 +0.5
comp=Z,61nm,2.0s
JCT Junction City 65.73 295 eP P 16 50 17.3 -0.3
comp=Z,27nm,1.5s
JCT Junction City 65.73 295 ⇓P P 16 50 17.8 +0.2
baz=66
431A Sonora 65.75 296 ⇓P P 16 50 18.0 +0.3
baz=66
121A Cookes Peak, D 65.78 303 eP P 16 50 18.0 0.0
comp=Z,61nm,2.0s
121A Cookes Peak, D 65.78 303 ⇓P P 16 50 18.5 +0.5
baz=66
430A Baggett Ranch, 65.81 297 ⇓P P 16 50 18.6 +0.5
baz=66
534A Blanco 65.81 294 ⇑P P 16 50 18.8 +0.7
baz=66
533A Kerrville 65.92 294 ⇓P P 16 50 19.3 +0.6
baz=66
MNTX Cornudas Mount 65.99 301 eP P 16 50 19.1 0.0
comp=Z,49nm,2.5s
MNTX Cornudas Mount 65.99 301 eP P 16 50 19.1 0.0
comp=Z,49nm,2.5s
MNTX Cornudas Mount 65.99 301 ⇓P P 16 50 19.1 0.0
baz=66
VTV Victorville 66.00 312 eP P 16 50 19.2 -0.1
VTV Victorville 66.00 312 eP P 16 50 19.2 -0.1
VTV Victorville 66.00 312 eP P 16 50 19.2 -0.1
532A Rocksprings 66.09 295 ⇓P P 16 50 20.8 +0.9
baz=66
429A Davenport Ranc 66.13 297 ⇓P P 16 50 20.1 0.0
baz=66
531A Rocksprings 66.22 296 ⇑P P 16 50 21.4 +0.7
baz=66
635A Leesville 66.24 293 ⇓P P 16 50 21.6 +0.9
baz=66
BELC Belle Mtn. Jos 66.25 311 ⇓P P 16 50 22.8 +1.8
baz=66,SNR=19
634A China Grove, S 66.40 293 ⇑P P 16 50 23.6 +1.9
baz=66
530A J-C Ranch, Com 66.44 296 ⇓P P 16 50 22.2 +0.1
baz=66,SNR=6.9
BC3 Big Chuckawall 66.47 310 ⇑P P 16 50 21.9 -0.4
baz=66,SNR=35
633A Saathoff Ranch 66.54 294 ⇑P P 16 50 23.7 +1.0
baz=66
SBC Santa Barbara 66.62 314 ⇑P P 16 50 23.3 +0.2
baz=66
632A Uvalde 66.65 295 ⇑P P 16 50 23.1 -0.4
baz=66
529A Stev Forest Ra 66.69 297 ⇑P P 16 50 24.4 +0.6
baz=66
PFO Pinyon Flats O 66.73 311 P P 16 50 21.9 -2.1
comp=Z,309nm,0.4s,SNR=72
PFO Pinyon Flats O 66.73 311 LR LR 17 20 26.5
comp=Z,668nm,19.3s,baz=335,slow=37
PFO Pinyon Flats O 66.73 311 ⇓P P 16 50 21.8 -2.3
baz=66,SNR=32
MURC Murrieta 66.90 312 ⇓P P 16 50 29.3 +4.3
baz=67,SNR=19
113A Mohawk Valley, 66.94 308 ⇓P P 16 50 29.5 +4.3
baz=67,SNR=11
DBIC Dimbokro 67.10 193 LR LR 17 20 17.2
comp=Z,90nm,20.4s,baz=358,slow=36
CIAC Catalina I. Ai 67.35 313 eP P 16 50 30.2 +2.4
CIAC Catalina I. Ai 67.35 313 eP P 16 50 30.2 +2.4
732A Laxson Ranch, 67.44 295 ⇑P P 16 50 28.3 -0.1
baz=67
214A Organ Pipe Nat 67.51 307 ⇓P P 16 50 29.1 +0.3
baz=67
GYA Guiyang 67.52 73 P P 16 50 30.8 +1.7
GYA PP **PP 16 53 01.4 +3.9**
GYA ScP 16 55 00.3
GYA S **S 16 59 24.8 -0.3**
GYA SKS **SKiKP 17 00 24.0 -2.5**
GYA SS **SS 17 03 45.3 +0.5**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,130nm,5.8s
GYA LN
comp=Z,580nm,19.4s
GYA LE
comp=Z,520nm,20.0s
GYA LZ
comp=Z,560nm,18.9s
KMI Kunming 67.70 77 P P 16 50 30.8 +0.4
KMI pP **pP 16 50 34.1 -0.2**
KMI sP **sP 16 50 35.5 -0.2**
KMI PP **PP 16 53 00.4 +1.2**
KMI S **S 16 59 26.9 -0.5**
KMI SS **SS 17 03 47.9 +0.1**
KMI PMZ
comp=Z,9.0nm,1.3s
KMI PMZ
comp=Z,120nm,3.1s
KMI LN

comp=Z,350nm,20.5s
KMI LE
comp=Z,360nm,20.5s
KMI LZ
comp=Z,400nm,19.8s
TX31 Lajitas Ar. Si 67.81 298 eP P 16 50 30.0 -0.9
TX31 Lajitas Ar. Si 67.81 298 eP P 16 50 30.0 -0.9
TXAR Lajitas Array 67.81 298 P P 16 50 30.2 -0.7
comp=Z,0.8nm,0.7s,baz=47,slow=5.7,SNR=10
TXAR PP **PP 16 52 57.3 -2.7**
comp=Z,0.7nm,1.0s,baz=29,slow=7.6,SNR=3.6
TXAR LR LR 17 20 10.2
comp=Z,783nm,19.6s,baz=0.0,slow=36
TXAR Lajitas Array 67.81 298 P P 16 50 30.2 -0.7
TXAR 16 52 57.3
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR pmax pmax
comp=Z,1.0nm,1.0s
TXAR MLR MLR
comp=Z,783nm,19.6s
933A Laredo 68.32 294 ⇓P P 16 50 34.6 +0.6
baz=68
034A Hebbronville 68.69 293 ⇑P P 16 50 37.6 +1.3
baz=68
CMAI Chiengmai2 71.57 82 P P 16 50 55.8 +1.6
comp=Z,22nm,1.9s,comp=Z,5μm
CHTO Chiang Mai 72.61 83 P P 16 51 01.0 +0.7
comp=Z,46nm,1.5s
CHTO Chiang Mai 72.61 83 eP P 16 51 00.4 +0.2
CHTO pmax pmax
comp=Z,24nm,1.5s
CHTO Chiang Mai 72.61 83 eP P 16 51 00.4 +0.2
comp=Z,24nm,1.5s
CHTO Chiang Mai 72.61 83 P P 16 51 00.9 +0.7
SNR=7.4
CHTO Chiang Mai 72.61 83 eP P 16 51 00.4 +0.2
comp=Z,24nm,1.5s
CMMT Chiang Mai 72.61 83 P P 16 51 00.9 +0.6
comp=Z,15nm,1.2s
CM31 Chiang Mai Arr 72.94 83 eP P 16 51 02.5 +0.3
comp=Z,18nm,1.4s
CM31 Chiang Mai Arr 72.94 83 eP P 16 51 02.5 +0.3
comp=Z,18nm,1.4s
CMAR Chiang Mai Arr 72.94 83 P P 16 51 02.6 +0.4
comp=Z,5.2nm,1.2s,baz=332,slow=6.2,SNR=19
CMAR PP **PP 16 53 46.3 +2.1**
comp=Z,1.2nm,1.1s,baz=334,slow=8.0,SNR=5.1
CMAR LR LR 17 27 51.0
comp=Z,112nm,21.5s,baz=317,slow=40
CMAR Chiang Mai Arr 72.94 83 P P 16 51 02.6 +0.4
CMAR 16 53 46.3
CMAR pmax pmax
comp=Z,5.0nm,1.2s
CMAR pmax pmax
comp=Z,1.0nm,1.1s
CMAR MLR MLR
comp=Z,112nm,21.5s
CM01 Chiang Mai Arr 72.98 83 eP P 16 51 01.7 -0.8
CM01 Chiang Mai Arr 72.98 83 eP P 16 51 01.7 -0.8
SSLB Suanglung 73.83 61 eP P 16 51 08.5 +1.1
comp=Z,42nm,1.3s
SSLB Suanglung 73.83 61 eP P 16 51 08.5 +1.1
comp=Z,42nm,1.3s
UTTA Uttaradit 74.08 82 P P 16 51 15.3 +6.4
comp=Z,1.8nm,1.5s
LOEI Loei 74.50 81 P P 16 51 16.1 +4.7
comp=Z,17nm,1.4s,comp=Z,368nm
NONG Nongkai 74.51 79 P P 16 51 12.8 +1.4
comp=Z,46nm,1.0s,comp=Z,1μm
PBKT Sadao Pong 75.31 82 P P 16 51 16.9 +0.9
comp=Z,11nm,1.5s
MBAR Mbarara 75.35 156 eP P 16 51 17.4 +1.0
MBAR pmax pmax
comp=Z,71nm,2.3s
MBAR Mbarara 75.35 156 eP P 16 51 17.4 +1.0
comp=Z,71nm,2.3s
MBAR Mbarara 75.35 156 eP P 16 51 17.4 +1.0
comp=Z,71nm,2.3s
QIZ Qiongzhong 75.45 73 P P 16 51 16.5 -0.4
QIZ S **S 17 00 56.0 -0.5**
QIZ PMZ
comp=Z,52nm,3.2s
QIZ LZ
comp=Z,310nm,21.8s
SKNT Sakolnakorn 75.78 79 P P 16 51 22.1 +3.4
comp=Z,24nm,1.4s
KHON Khomkaen 76.06 80 P P 16 51 26.8 +6.5
KMBO Kilima Mbogo 76.73 149 P P 16 51 25.9 +1.5
comp=Z,1.1nm,0.3s,baz=41,slow=20,SNR=2.4
KMBO LR LR 17 28 46.5
comp=Z,125nm,19.1s,baz=16,slow=38
KMBO Kilima Mbogo 76.73 149 P P 16 51 25.9 +1.5
KMBO pmax pmax
comp=Z,1.0nm,0.3s
KMBO MLR MLR
comp=Z,125nm,19.1s
SDV Santo Domingo 78.08 261 eP P 16 51 32.3 +0.4
comp=Z,22nm,1.4s
SDV Santo Domingo 78.08 261 eP P 16 51 32.3 +0.4
comp=Z,22nm,1.4s
ROSC El Rosal 82.96 263 P P 16 51 59.9 +1.5
comp=Z,5.8nm,0.5s,baz=95,slow=19,SNR=3.3
ROSC LR LR 17 25 18.5
comp=Z,79nm,20.6s,baz=216,slow=33
PTGA Pitinga 84.32 248 eP P 16 52 05.7 +0.8
comp=Z,9.5nm,1.0s
PTGA Pitinga 84.32 248 eP P 16 52 05.7 +0.8
comp=Z,9.5nm,1.0s
PSI Prapat 87.82 88 P P 16 52 22.9 +0.6
comp=Z,3.9nm,0.8s,baz=3.5,slow=19,SNR=3.5
PSI Prapat 87.82 88 P P 16 52 22.9 +0.6
PSI pmax pmax
comp=Z,4.0nm,0.8s
OTAV Otavalo 88.53 266 eP P 16 52 27.6 +1.5
OTAV Otavalo 88.53 266 eP P 16 52 27.6 +1.5
BDFB Brasilia 95.69 233 LR LR 17 29 33.6
comp=Z,180nm,19.4s,baz=79,slow=31
LEM Lembang 99.47 82 LR LR 17 46 04.4
comp=Z,176nm,20.2s,baz=324,slow=40
WRA Warramunga Arr 119.18 59 PKP PKPdf 16 58 19.0 -2.6
comp=Z,2.3nm,1.3s,baz=339,slow=2.5,SNR=4.7
WRA Warramunga Arr 119.18 59 PKIKP PKPdf 16 58 19.0 -2.6
WRA pmax pmax
comp=Z,2.0nm,1.3s
AS31 Alice Springs 122.64 61 ePKPdf PKPdf 16 58 26.2 -2.0
ASAR Alice Springs 122.65 61 PKP PKPdf 16 58 26.2 -1.9
comp=Z,1.0nm,0.6s,baz=353,slow=1.8,SNR=43
ASAR Alice Springs 122.65 61 PKIKP PKPdf 16 58 26.3 -1.9
ASAR pmax pmax
comp=Z,1.0nm,0.6s
PLCA Paso Flores 125.21 245 PKP PKPdf 16 58 32.3 -0.3
comp=Z,1.9nm,0.9s,baz=14,slow=18,SNR=1.8
PLCA Paso Flores 125.21 245 PKIKP PKPdf 16 58 32.3 -0.3
PLCA pmax pmax
comp=Z,2.0nm,0.9s
VNA1 Neumayer--Stat 144.20 189 P PKPdf 16 59 06.2 -0.5
VNA2 Neumayer--Watz 144.44 188 P PKPdf 16 59 07.3 0.0
baz=11,slow=4.9
VNA3 Neumayer Olymp 144.86 189 P PKPbc 16 59 07.7 +0.5
SNAA Sanae 145.03 186 P PKPbc 16 59 06.2 -1.6
SNAA Sanae 145.03 186 ePKP2 PKPbc 16 59 05.8 -2.0
SNAA Sanae 145.03 186 ePKP PKPbc 16 59 05.8 -2.0
MAW Mawson 145.37 146 PKPbc PKPab 16 59 09.4 +0.3
comp=Z,16nm,1.0s,baz=321,slow=4.0,SNR=6.3
MAW Mawson 145.37 146 PKIKP PKPab 16 59 09.4 +0.3
MAW pmax pmax
comp=Z,16nm,1.0s

ISCJB **16** *17:04:08.9±0.4, 1°.29N±0°.04×127°.70E±0°.05, h200km, mb3.8/12, Error ellipse: s-maj=6.8km s-min=4.8km az=162.7*
IDC **16** *17:04:11.6±2.4, 1°.26N×127°.64E, h214km±22km, mb3.6/12, mb1 3.8/13, mb1mx3.6/34, mbtmp4.2/13, Error ellipse: s-maj=23.1km s-min=8.6km az=75.0*
DJA **16** *17:04:12.8±0.6, 1°.1N±4°×12°.8E±°, h165km±5km, M4.6/13, mb4.6/10, mB5.1/8, MLv4.8/13, Mw(mB)4.4/8*
ISC 16 17:04:10.2±0.5, **1°.25N**±0°.05×**127°.62E**±0°.07, **h200**km, **n48,** σ **1§23**/61, **mb4.0**/12, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.54**	**208**	P	**Pn**	**17 04 37.5**	**0.0**
TNTI				S	**Sn**	**17 04 57.1**	**-1.6**
SGSI	**Sangihe**	**3.19**	**319**	P	**Pn**	**17 05 01.6**	**-0.5**

SGSI			S	**Sn**	**17 05 40.4**	**-2.4**
SANI	**Sanana**	**3.66 206**	P	**Pn**	**17 05 07.4**	**-0.5**
SANI			S	**Sn**	**17 05 49.3**	**-3.8**
KMSI	**Cibinong**	**3.70 260**	P	**Pn**	**17 05 08.4**	**+0.1**
KMSI			S	**Sn**	**17 05 52.1**	**-1.7**
NLAI	**Namlea**	**4.49 187**	P	**Pn**	**17 05 18.9**	**+0.7**
NLAI			S	**Sn**	**17 06 09.3**	**-2.5**
LUWI	**Luwuk**	**5.36 245**	P	**Pn**	**17 05 30.7**	**+1.5**
	231nm,0.7s,5μm2.0nm					
LUWI			S	**Sn**	**17 06 28.3**	**-3.2**
	231nm,0.7s,5μm2.0nm					
LUWI	**Luwuk**	**5.36 245**	P	**Pn**	**17 05 30.0**	**+0.8**
	baz=5.8,SNR=39					
MRSI	**Marisa**	**5.73 262**	P	**Pn**	**17 05 34.0**	**0.0**
	79nm,0.7s,1μm0.4nm					
APSI	**Ampana**	**6.34 250**	P	**Pn**	**17 05 42.2**	**+0.2**
	172nm,0.6s,9μm1.5nm					
MPSI	**Mapaga**	**7.77 263**	P	**Pn**	**17 06 01.7**	**+1.2**
	25nm,0.8s,464nm0.1nm					
TTSI	**Tana Toraja**	**8.89 241**	P	**Pn**	**17 06 15.5**	**+0.4**
	44nm,0.8s,881nm					
BNSI	**Bone**	**9.38 233**	P	**Pn**	**17 06 23.4**	**+2.0**
	18nm,0.6s					
SPSI	**Sidrap Palu**	**9.40 237**	P	**Pn**	**17 06 24.5**	**+2.7**
	29nm,0.7s,871nm					
KAPI	**Kappang**	**10.03 232**	P	**Pn**	**17 06 31.0**	**+1.1**
	1.1nm,0.3s,baz=103,slow=18,SNR=2.9					
KAPI			S	**Sn**	**17 08 22.3**	**+0.3**
	0.5nm,0.3s,baz=30,slow=20,SNR=4.1					
KDU	**Kakadu**	**14.66 161**	P	**Pn**	**17 07 28.9**	**+0.5**
	baz=15,SNR=10					
KNRA	**Kununurra**	**16.86 176**	P	**Pn**	**17 07 55.0**	**+0.1**
	baz=17,SNR=11					
WRA	**Warramunga Arr**	**22.07 163**	P	**P**	**17 08 49.1**	**-0.1**
	17nm,0.6s,baz=337,slow=11,SNR=256					
WRA			PcP	**PcP**	**17 12 38.0**	**-1.3**
	0.9nm,0.7s,baz=340,slow=2.2,SNR=5.1					
QIS	**Mount Isa**	**24.65 152**	P	**P**	**17 09 13.8**	**+1.1**
	baz=25,SNR=6.1					
ASAR	**Alice Springs**	**25.51 167**	P	**P**	**17 09 20.5**	**0.0**
	4.0nm,0.5s,baz=345,slow=7.5,SNR=233					
ASAR			PcP	**PcP**	**17 12 46.6**	**-0.1**
	0.6nm,0.5s,baz=348,slow=2.5,SNR=6.8					
ASAR			S	**S**	**17 13 32.5**	**-0.5**
	0.4nm,0.9s,baz=344,slow=17,SNR=2.9					
WRKA	**Warakurna**	**26.14 179**	P	**P**	**17 09 26.5**	**+0.4**
	baz=26,SNR=33					
MEEK	**Meekatharra**	**29.06 197**	P	**P**	**17 09 52.1**	**+0.1**
	baz=30,SNR=6.7					
FORT	**Forrest**	**31.86 179**	P	**P**	**17 10 16.7**	**+0.2**
	baz=32,SNR=12					
CMAR	**Chiang Mai Arr**	**32.92 303**	P	**P**	**17 10 27.9**	**+1.9**
	0.6nm,0.8s,baz=131,slow=7.7,SNR=5.7					
BLDU	**Ballidu**	**33.35 197**	P	**P**	**17 10 29.7**	**+0.2**
	baz=34,SNR=7.0					
KLBR	**Kellerberrin**	**33.98 195**	P	**P**	**17 10 35.2**	**+0.2**
	baz=34,SNR=14					
BBOO	**Buckleboo**	**34.81 167**	P	**P**	**17 10 42.2**	**+0.2**
	baz=35,SNR=77					
STKA	**Stephens Creek**	**35.52 159**	P	**P**	**17 10 48.6**	**+0.5**
	9.3nm,0.6s,baz=334,slow=8.5,SNR=50					
STKA			PcP	**PcP**	**17 13 12.5**	**-0.3**
	1.5nm,0.7s,baz=32,slow=1.9,SNR=4.0					
STKA	**Stephens Creek**	**35.52 159**	P	**P**	**17 10 48.6**	**+0.5**
	baz=36,SNR=35					
KSRS	**Korea Array**	**36.02 0**	P	**P**	**17 10 51.8**	**-0.5**
	0.6nm,0.7s,baz=180,slow=9.8,SNR=4.1					
HTT	**Hallett**	**36.11 164**	P	**P**	**17 10 53.7**	**+0.6**
	baz=36,SNR=8.2					
TAPN	**Taplejung**	**46.21 308**	*eP*	**P**	**17 12 17.1**	**+1.3**
	9.9nm,0.5s					
ODAN	**Odare**	**46.24 307**	*eP*	**P**	**17 12 17.3**	**+1.3**
	17nm,0.6s					
RAMN	**Ramite**	**46.91 307**	*eP*	**P**	**17 12 22.8**	**+1.6**
	27nm,0.5s					
JIRN	**Jiri**	**47.55 307**	*eP*	**P**	**17 12 27.6**	**+1.3**
	19nm,0.5s					
GUN	**Gumba**	**47.91 307**	*eP*	**P**	**17 12 30.3**	**+1.3**
	28nm,0.6s					
PKI	**Pulchoki**	**48.14 307**	*eP*	**P**	**17 12 31.5**	**+0.8**
PKIN	**Phulchoki**	**48.15 307**	*eP*	**P**	**17 12 31.4**	**+0.6**
	2.6nm,0.3s					
KKN	**Kakani**	**48.33 307**	*eP*	**P**	**17 12 33.1**	**+1.0**
GKN	**Gorkha**	**48.94 307**	*eP*	**P**	**17 12 37.5**	**+0.9**
KOLN	**Koldanda**	**49.67 306**	*eP*	**P**	**17 12 43.6**	**+1.3**
	24nm,0.5s					
SONM	**Songino Array**	**49.91 341**	P	**P**	**17 12 44.0**	**+0.4**
	0.8nm,0.6s,baz=158,slow=8.4,SNR=6.3					
SONM			PcP	**PcP**	**17 14 01.0**	**+0.1**
	0.3nm,0.5s,baz=161,slow=5.8,SNR=2.6					
PETK	**Petropavlovsk-**	**57.39 21**	P	**P**	**17 13 37.4**	**-0.2**
	1.5nm,0.5s,baz=196,slow=5.1,SNR=7.3					
MKAR	**Makanchi Array**	**60.09 326**	P	**P**	**17 13 56.2**	**-0.1**
	2.2nm,0.5s,baz=140,slow=4.7,SNR=16					
MKAR			PcP	**PcP**	**17 14 40.1**	**0.0**
	0.4nm,0.7s,baz=134,slow=4.2,SNR=3.6					
ZALV	**Zalesovo Beam**	**63.18 333**	P	**P**	**17 14 15.5**	**-1.3**
	0.6nm,0.5s,baz=133,slow=6.9,SNR=3.3					
VNDA	**Vanda**	**80.88 173**	P	**P**	**17 16 01.9**	**+0.5**
	2.2nm,0.7s,baz=327,slow=6.5,SNR=11					
BRTR	**Keskin Array B**	**92.27 310**	P	**P**	**17 16 57.2**	**-0.9**
	0.5nm,0.8s,baz=90,slow=1.4,SNR=3.1					
ARCES	**ARCESS Array B**	**93.06 340**	P	**P**	**17 16 59.5**	**-1.3**
	1.6nm,0.7s,baz=94,slow=4.9,SNR=9.2					
TORD	**Torodi Ar. Bea**	**124.50 287**	PKP	**PKPdf**	**17 22 46.3**	**-0.3**
	0.3nm,0.4s,baz=81,slow=3.5,SNR=3.5					

*IDC **16** 17:14:18.6±2.1,4.°40S×154.°06E,h0km,mb3.6/6, mb1 3.8/6,mb1mx3.6/27,mbtmp3.6/6,Error ellipse: s-maj=70.5km s-min=23.9km az=96.0*

*ISCJB **16** 17:14:22.9±2.7,4.°4S±0.°2×153.°9E±0.°5,h33km,mb3.5/6, Error ellipse: s-maj=77.2km s-min=21.4km az=6.2*

ISC 16 17:14:24.2±2.3,4.°4S±0.°2×154.°0E±0.°5,h35km,n7,σ0⁰83/8, mb3.5/6,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.60 230**		P	**P**	**17 19 41.1**	**-0.2**
	2.3nm,0.5s,baz=54,slow=10.0,SNR=40						
ASAR	**Alice Springs**	**27.24 224**		P	**P**	**17 20 04.7**	**-0.6**
	0.5nm,0.8s,baz=55,slow=8.9,SNR=9.1						
ASAR				PcP	**PcP**	**17 23 24.8**	**0.0**
	0.3nm,0.8s,baz=46,slow=5.3,SNR=3.0						
STKA	**Stephens Creek**	**29.69 202**		P	**P**	**17 20 27.6**	**+0.7**
	1.2nm,0.6s,baz=37,slow=13,SNR=9.8						
CMAR	**Chiang Mai Arr**	**58.81 295**		P	**P**	**17 24 19.6**	**0.0**
	0.3nm,0.7s,baz=116,slow=7.3,SNR=4.3						
SONM	**Songino Array**	**66.65 327**		P	**P**	**17 25 11.9**	**+0.5**
	0.3nm,0.6s,baz=143,slow=5.0,SNR=2.6						
MKAR	**Makanchi Array**	**80.83 319**		P	**P**	**17 26 34.8**	**+0.2**
	0.3nm,0.8s,baz=140,slow=4.7,SNR=2.5						
TORD	**Torodi Ar. Bea**	**151.32 289**		PKPbc	**PKPbc**	**17 34 13.7**	**-1.5**
	0.7nm,0.7s,baz=50,slow=2.5,SNR=4.8						

*ISCJB **16** 17:14:49.3±0.5,50.°56N±0.°03×130.°11W±0.°06,h10km, mb3.7/2,MS3.4/1,Error ellipse: s-maj=6.5km s-min=2.8km az=136.3*

*PGC **16** 17:14:50.7±0.5,50.°47N×130.°22W,h10km,ML3.2/45, Mw3.8, 199km west of Pt. Hardy, Bc Vancouver Island Region*

*IDC **16** 17:14:53.9±1.5,50.°62N×129.°75W,h0km,mb3.8/2, mb1 3.9/10,mb1mx3.6/38,mbtmp3.6/10,ML3.6/7,MS3.2/4, Ms1 3.2/4,ms1mx2.8/43,Error ellipse: s-maj=23.0km s-min=9.7km az=71.0*

ISC 16 17:14:51.2±1.0,50.°52N±0.°05×130.°08W±0.°05,h10km,n72, σ1⁰46/74,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.25**	**84**	P	**Pb**	**17 15 13.4**	**-1.4**
HOLB				S	**Sg**	**17 15 29.4**	**-1.9**
BPBC	**Brooks Peninsu**	**1.52**	**103**	Pn	**Pn**	**17 15 16.4**	**-2.2**
PHC	**Port Hardy**	**1.70**	**83**	Pn	**Pn**	**17 15 20.1**	**-0.7**
PHC				Sn	**Sn**	**17 15 40.5**	**-2.1**
MAYB	**Maynard**	**1.86**	**93**	Pn	**Pn**	**17 15 22.0**	**-1.3**
FHRB	**Fair Harbour**	**1.96**	**103**	Pn	**Pn**	**17 15 22.9**	**-1.5**
EDB	**Eliza Dome**	**2.01**	**108**	Pn	**Pn**	**17 15 23.1**	**-2.0**
TLCB	**Telegraph Cove**	**2.07**	**88**	Pn	**Pn**	**17 15 25.5**	**-0.4**
TLCB				Sn	**Sn**	**17 15 50.1**	**-1.7**
BBB	**Bella Bella**	**2.07**	**36**	Pn	**Pn**	**17 15 25.5**	**-0.5**
BBB				Sn	**Sn**	**17 15 49.3**	**-2.5**
BBB	**Bella Bella**	**2.07**	**36**	Pn	**Pn**	**17 15 25.5**	**-0.5**
	16nm,0.3s,baz=240,slow=6.5,SNR=214						
BBB				Sn	**Sn**	**17 15 49.5**	**-2.3**
	107nm,0.3s,baz=307,slow=20,SNR=23						
WOSB	**Woss**	**2.28**	**98**	Pn	**Pn**	**17 15 28.2**	**-0.7**
BNB	**Barry Inlet**	**2.31**	**334**	Pn	**Pn**	**17 15 26.9**	**-2.4**
ETB	**Estevan Point**	**2.56**	**115**	Pn	**Pn**	**17 15 31.0**	**-1.7**
NCRB	**Newcastle Ridg**	**2.58**	**91**	Pn	**Pn**	**17 15 32.4**	**-0.7**
GDR	**Gold River**	**2.71**	**104**	Pn	**Pn**	**17 15 33.6**	**-1.1**
BCBC	**Bella Coola**	**2.79**	**47**	Pn	**Pn**	**17 15 36.0**	**+0.2**
BCBC				Sn	**Sn**	**17 16 08.0**	**-1.4**
MOBC	**Moresby Island**	**2.88**	**337**	Pn	**Pn**	**17 15 35.0**	**-2.1**
MOBC				Sn	**Sn**	**17 16 07.9**	**-3.8**
SPLB	**Strathcona Par**	**2.91**	**101**	Pn	**Pn**	**17 15 37.1**	**-0.5**
TOFB	**Tofino**	**3.03**	**115**	Pn	**Pn**	**17 15 38.1**	**-1.0**
CBB	**Campbell River**	**3.06**	**97**	Pn	**Pn**	**17 15 39.4**	**-0.3**
CBB				Sn	**Sn**	**17 16 14.5**	**-1.8**
DIB	**Dawson Inlet,**	**3.07**	**332**	Pn	**Pn**	**17 15 37.9**	**-1.8**
H02S1	**DAWSON INLET T**	**3.07**	**332**	Pn	**Pn**	**17 15 37.9**	**-1.7**
	SNR=567						
H02S1				Sn	**Sn**	**17 16 14.1**	**-2.3**
BTB	**Buttle Lake**	**3.13**	**108**	Pn	**Pn**	**17 15 39.5**	**-1.1**
H02N1	**VAN INLET T-PH**	**3.13**	**332**	Pn	**Pn**	**17 15 38.7**	**-1.9**
H02N1				Sn	**Sn**	**17 16 16.7**	**-1.4**
VIB	**Van Inlet**	**3.13**	**332**	Pn	**Pn**	**17 15 38.7**	**-1.9**
OZB	**Mount Ozzard**	**3.36**	**116**	Pn	**Pn**	**17 15 42.2**	**-1.5**
BMSB	**Bamfield Mari**	**3.63**	**116**	Pn	**Pn**	**17 15 47.0**	**-0.4**
TXB	**Texada**	**3.73**	**101**	Pn	**Pn**	**17 15 48.4**	**-0.4**
MGB	**Mount Grey**	**3.81**	**111**	Pn	**Pn**	**17 15 49.0**	**-1.0**
RUBB	**Prince Rupert**	**3.81**	**358**	Pn	**Pn**	**17 15 49.4**	**-0.5**
RUBB				Sn	**Sn**	**17 16 32.1**	**-2.6**
NDB	**Naden**	**3.86**	**334**	Pn	**Pn**	**17 15 48.9**	**-1.7**
GHNB	**Nanoose**	**3.97**	**106**	Pn	**Pn**	**17 15 51.5**	**-0.5**
SHB	**Sechelt**	**4.11**	**101**	Pn	**Pn**	**17 15 53.9**	**-0.1**
YOUB	**Youbou, Lake C**	**4.11**	**111**	Pn	**Pn**	**17 15 54.0**	**0.0**
NLLB	**Nanaimo Lost L**	**4.15**	**106**	Pn	**Pn**	**17 15 54.9**	**+0.4**
PFB	**Port Renfrew**	**4.16**	**116**	Pn	**Pn**	**17 15 54.3**	**-0.4**
UBRB	**Upper Baezaeko**	**4.42**	**55**	Pn	**Pn**	**17 16 00.0**	**+1.6**
BPCB	**Bare Point**	**4.43**	**109**	Pn	**Pn**	**17 15 58.3**	**-0.1**
LZB	**Mount Lazard**	**4.50**	**113**	Pn	**Pn**	**17 15 59.3**	**-0.1**
WPB	**Watts Point**	**4.51**	**98**	Pn	**Pn**	**17 15 59.9**	**+0.5**
BIB	**Bowen Island**	**4.51**	**102**	Pn	**Pn**	**17 15 59.6**	**+0.1**
GOBB	**Galiano Island**	**4.54**	**108**	Pn	**Pn**	**17 16 00.3**	**+0.4**
WSLR	**Whistler**	**4.61**	**92**	Pn	**Pn**	**17 16 01.6**	**+0.8**
PGC	**Sidney**	**4.70**	**111**	Pn	**Pn**	**17 16 02.0**	**-0.1**
SNB	**Saturna Island**	**4.82**	**109**	Pn	**Pn**	**17 16 04.5**	**+0.8**
VGZ	**Gonzales**	**4.88**	**113**	Pn	**Pn**	**17 16 04.7**	**+0.1**
HNB	**Haney**	**5.01**	**102**	Pn	**Pn**	**17 16 07.2**	**+0.9**
LLLB	**Lillooet**	**5.23**	**86**	Pn	**Pn**	**17 16 10.1**	**+0.7**
FSB	**Fort Saint Jam**	**5.29**	**39**	Pn	**Pn**	**17 16 11.7**	**+1.4**
VDB	**Vedder Mountai**	**5.38**	**103**	Pn	**Pn**	**17 16 13.1**	**+1.6**
MBW	**Mount Baker**	**5.59**	**105**	Pn	**Pn**	**17 16 15.5**	**+1.0**
CMW	**Cultus Mountai**	**5.60**	**109**	Pn	**Pn**	**17 16 15.7**	**+1.1**
B06A	**Marblemount**	**5.95**	**106**	Pn	**Pn**	**17 16 20.6**	**+1.4**
RPW	**Rockport**	**5.96**	**107**	Pn	**Pn**	**17 16 20.5**	**+1.1**
PNT	**Penticton**	**6.87**	**96**	Pn	**Pn**	**17 16 32.9**	**+1.1**
DLBC	**Dease Lake**	**7.93**	**0**	Pn	Pn	17 16 49.0	+2.5
	1.1nm,0.3s,baz=182,slow=11,SNR=38						
DLBC				Sn	**Sn**	**17 18 18.6**	**+2.4**
	0.7nm,0.3s,baz=219,slow=18,SNR=4.1						
DLBC				LR	LR	17 19 17.8	
	comp=Z,131nm,18.4s,baz=152,slow=34						
NEW	**Newport**	**8.75**	**100**	Pn	**Pn**	**17 16 59.1**	**+1.4**
	0.5nm,0.3s,baz=301,slow=13,SNR=6.5						
NEW				LR	LR	17 20 05.1	
	comp=Z,116nm,21.4s,baz=214,slow=36						
YBH	**Yreka Blue Hor**	**10.16**	**147**	Pn	Pn	17 17 22.1	+5.0
	0.2nm,0.3s,baz=348,slow=9.3,SNR=4.5						
ELK	**Elko**	**14.24**	**128**	LR	LR	17 23 52.0	
	comp=Z,113nm,18.2s,baz=27,slow=38						
YKA	**Yellowknife Ar**	**14.67**	**29**	Pn	**Pn**	**17 18 17.9**	**-0.6**
	0.1nm,0.3s,baz=219,slow=12,SNR=8.7						
NVAR	**Mina Array Bea**	**14.70**	**141**	Pn	**P**	**17 18 26.5**	**+1.0**
	baz=323,slow=15,SNR=2.5						
PDAR	**Pinedale Array**	**16.05**	**111**	Pn	**P**	**17 18 41.0**	**+0.5**
	0.1nm,0.3s,baz=322,slow=12,SNR=19						
ILAR	**Eielson Array**	**16.79**	**335**	Pn	**P**	**17 18 51.1**	**+2.8**
	0.0nm,0.3s,baz=147,slow=10.0,SNR=13						
INK	**Inuvik**	**17.92**	**356**	P	**P**	**17 19 02.2**	**+1.5**
	0.1nm,0.3s,baz=130,slow=5.8,SNR=2.9						
ULM	**Lac du Bonnet**	**21.70**	**77**	P	**P**	**17 19 42.8**	**+0.7**
	3.1nm,0.5s,baz=273,slow=8.9,SNR=3.3						
TXAR	**Lajitas Array**	**29.03**	**127**	P	**P**	**17 20 53.4**	**+2.0**
	0.8nm,1.0s,baz=324,slow=6.2,SNR=5.8						
SCHQ	**Schefferville**	**37.43**	**58**	LR	LR	17 36 55.0	
	comp=Z,59nm,18.3s,baz=26,slow=36						
H11N2	**WAKE ISLAND Hy**	**57.92**	**262**	T	T	18 27 13.1	
	baz=42,slow=75,SNR=1224						
H11N3	**WAKE ISLAND Hy**	**57.92**	**262**	T	T	18 27 16.2	
	baz=42,slow=75,SNR=653						
H11N1	**WAKE ISLAND Hy**	**57.94**	**262**	T	T	18 27 14.5	
	baz=42,slow=75,SNR=871						
H11S1	**WAKE ISLAND Hy**	**58.95**	**261**	T	T	18 28 40.9	
	baz=40,slow=74,SNR=23						
H11S2	**WAKE ISLAND Hy**	**58.96**	**261**	T	T	18 28 40.9	
	baz=40,slow=74,SNR=26						
H11S3	**WAKE ISLAND Hy**	**58.97**	**261**	T	T	18 28 40.2	
	baz=40,slow=74,SNR=19						

*ISCJB **16** 17:33:34.6±0.7,73.°35N±0.°06×8.°1E±0.°3,h10km,mb3.4/5, MS3.0/10,Error ellipse: s-maj=12.4km s-min=7.1km az=155.8*

*NAO **16** 17:33:34.5±2.9,73.°33N×7.°27E,ML3.4*

*IDC **16** 17:33:35.6±0.9,73.°26N×7.°19E,h0km,mb3.4/5, mb1 3.6/10,mb1mx3.4/46,mbtmp3.5/10,ML3.4/5,MS3.1/13, Ms1 3.1/13,ms1mx2.9/37,Error ellipse: s-maj=22.6km s-min=13.1km az=68.0*

*BER **16** 17:34:05.6±1.1,76.°94N×10.°60E,h16km±34km,MD2.1, ML1.3,ML3.4(NAO)*

ISC 16 17:33:36.6±0.9,73.°37N±0.°09×7.°9E±0.°1,h10km,n30, σ0⁰82/20,mb3.4/5,MS3.0/10,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**4.14**	**25**	*eS*	**Pn**	**17 34 39.2**	**-0.6**
HSP	**Hornsund**	**4.15**	**25**	Pn	**Pn**	**17 34 39.1**	**-0.7**
SPA0	**Spitsbergen Ar**	**5.26**	**19**	Pn	**Pn**	**17 34 55.0**	**-0.1**
	baz=194,slow=14						
SPA0	**Spitsbergen Ar**	**5.26**	**19**	*eS*	**Pn**	**17 34 55.0**	**-0.1**
SPA0				IAML		17 34 57.4	
	comp=Z,4.3nm,0.3s						
SPITS	**Spitsbergen Ar**	**5.26**	**19**	Pn	**Pn**	**17 34 55.1**	**-0.1**
	baz=195,slow=16,SNR=26						
JMIC	**Jan Mayen**	**5.57**	**253**	LR	LR	17 36 35.1	
	comp=Z,129nm,19.8s,baz=76,slow=34						
KBS	**Kingsbay**	**5.67**	**8**	Pn	**Pn**	**17 35 00.1**	**-0.7**
KBS	**Kingsbay**	**5.67**	**8**	*eS*	**Pn**	**17 35 00.1**	**-0.7**
KBS				IAML		17 35 02.8	
	comp=Z,4.2nm,0.4s						
ARA0	**ARCESS Array S**	**6.78**	**116**	Pn	**Pn**	**17 35 17.0**	**+0.9**
	baz=315,slow=14						
ARCES	**ARCESS Array B**	**6.78**	**116**	Pn	**Pn**	**17 35 17.2**	**+1.2**
	comp=Z,1.4nm,0.3s,baz=321,slow=11,SNR=47						
ARCES				Sn	**Sn**	**17 36 31.9**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=314,slow=18,SNR=3.1						
APA0	**Apatity Array**	**10.11**	**112**	Pn	**Pn**	**17 36 02.1**	**+0.6**
	baz=323,slow=10						
NOA	**NORSAR Array B**	**12.45**	**173**	Pn	**Pn**	**17 36 32.4**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=354,slow=13,SNR=2.5						
NOA				LR	LR	17 41 04.6	
	comp=Z,40nm,18.5s,baz=340,slow=36						
HFS	**Hagfors**	**13.48**	**168**	Pn	**Pn**	**17 36 47.3**	**-0.3**
	baz=355,slow=14						
HFS	**Hagfors**	**13.48**	**168**	Pn	**Pn**	**17 36 47.1**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=9.2,slow=12,SNR=5.7						
HFS				LR	LR	17 41 36.7	
	comp=Z,96nm,18.1s,baz=32,slow=36						
FIA0	**FINESS Array S**	**13.76**	**141**	Pn	**Pn**	**17 36 50.9**	**-0.5**
	baz=325,slow=11						
FINES	**FINESS Array B**	**13.76**	**141**	Pn	**Pn**	**17 36 51.1**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=331,slow=10,SNR=13						
SFJD	**Kangerlussuaq**	**20.01**	**282**	LR	LR	17 44 39.2	
	comp=Z,66nm,19.9s,baz=28,slow=34						
OBN	**Obninsk**	**21.72**	**132**	LR	LR	17 46 43.6	
	comp=Z,38nm,21.0s,baz=293,slow=36						
VRAC	**Vranov**	**24.45**	**166**	LR	LR	17 47 56.5	
	comp=Z,38nm,20.7s,baz=243,slow=35						
AKASG	**Malin Array Be**	**24.54**	**146**	P	**P**	**17 38 57.0**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=343,slow=9.7,SNR=4.6						
AKASG				LR	LR	17 48 20.9	
	comp=Z,68nm,20.9s,baz=280,slow=36						
RES	**Resolute Bay**	**25.01**	**322**	LR	LR	17 47 59.9	
	comp=Z,56nm,18.5s,baz=5.5,slow=35						
FRB	**Frobisher Bay**	**27.41**	**290**	LR	LR	17 49 04.5	
	comp=Z,62nm,18.4s,baz=200,slow=34						
MLR	**Muntele Rosu**	**29.16**	**153**	LR	LR	17 51 22.3	
	comp=Z,12nm,19.9s,baz=340,slow=37						
ZALV	**Zalesovo Beam**	**35.81**	**80**	LR	LR	17 57 29.0	
	comp=Z,20nm,21.4s,baz=70,slow=40						
YKA	**Yellowknife Ar**	**39.08**	**322**	P	**P**	**17 41 02.4**	**-0.8**
	comp=Z,0.6nm,1.0s,baz=25,slow=8.9,SNR=3.0						
ILAR	**Eielson Array**	**41.10**	**344**	P	**P**	**17 41 20.9**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=7.8,slow=6.7,SNR=7.2						
MKAR	**Makanchi Array**	**41.49**	**87**	LR	LR	18 01 11.5	
	comp=Z,29nm,20.9s,baz=24,slow=40						
GEYT	**Alibeck**	**42.95**	**117**	LR	LR	18 01 37.0	
	comp=Z,60nm,19.1s,baz=230,slow=39						
SONM	**Songino Array**	**47.23**	**65**	P	P	17 42 13.5	+4.2
	comp=Z,0.4nm,0.9s,baz=344,slow=4.8,SNR=3.4						
TORD	**Torodi Ar. Bea**	**60.31**	**187**	P	**P**	**17 43 45.9**	**+0.7**
	comp=Z,0.6nm,1.0s,baz=353,slow=10,SNR=3.6						

*IDC **16** 17:35:23.7±1.6,2.°43N×127.°77E,h0km,mb3.2/3, mb1 3.5/4,mb1mx3.2/31,mbtmp3.2/4,ML3.8/1,Error ellipse: s-maj=82.8km s-min=23.1km az=62.0*

*ISCJB **16** 17:35:27.2±1.4,2.°74N±0.°10×128.°33E±0.°09,h35km, mb3.1/3,Error ellipse: s-maj=14.3km s-min=12.9km az=40.7*

*DJA **16** 17:35:29.3±1.9,3.°N±10.°×12.°8E±1.°4,h10km,M3.3/2, MLv3.3/2*

ISC 16 17:35:28.8±1.5,2.°7N±0.°1×128.°3E±0.°1,h35km,n5,σ2⁰08/7, mb3.1/3,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.12**	**205**	P	**Pn**	**17 36 02.7**	**+1.0**
TNTI				S	**Sn**	**17 36 27.4**	**+0.6**
SIJI	**Sorong**	**4.66**	**140**	Pn	**Pn**	**17 36 38.5**	**+1.8**
	4.2nm,0.3s,baz=277,slow=23,SNR=48						
SIJI				Sn	**Sn**	**17 37 29.3**	**-0.4**
	0.7nm,0.3s,baz=287,slow=19,SNR=3.5						
WRA	**Warramunga Arr**	**23.29**	**165**	P	**P**	**17 40 32.6**	**-1.1**
	0.2nm,0.3s,baz=345,slow=10,SNR=15						
ASAR	**Alice Springs**	**26.79**	**168**	P	**P**	**17 41 02.3**	**-3.4**
	0.2nm,0.5s,baz=337,slow=10,SNR=5.7						
MKAR	**Makanchi Array**	**59.25**	**325**	P	**P**	**17 45 27.2**	**+0.4**
	0.3nm,0.7s,baz=143,slow=5.0,SNR=3.3						

*IDC **16** 17:36:47.4±1.4,34.°32S×72.°28W,h0km,mb3.7/4, mb1 3.9/7,mb1mx3.8/18,mbtmp3.7/7,ML3.6/3,MS2.8/2, Ms1 2.9/2,ms1mx2.7/20,Error ellipse: s-maj=39.8km s-min=26.3km az=109.0*

*ISCJB **16** 17:36:48.2±1.6,34.°25S±0.°03×72.°44W±0.°06,h12km±10km, mb3.7/3,MS3.5/1,Error ellipse: s-maj=9.2km s-min=5.0km az=17.3*

*GUC **16** 17:36:49.9±0.5,34.°25S×72.°39W,h20km±21km,ML4.1*

ISC 16 17:36:49.5±1.9,34.°30S±0.°04×72.°31W±0.°07,h14km±11km, n20,σ0⁰61/29,mb3.8/3,2C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.82**	**66**	*eP*	**Pg**	**17 37 05.3**	**-0.1**
NICH	**Los Niches**	**1.13**	**129**	*eP*	**Pn**	**17 37 11.1**	**+0.2**
NICH				*eS*	**Sn**	**17 37 26.8**	**+0.5**
NICH				*e*		17 37 27.2	
TALC	**Talca**	**1.23**	**153**	*eP*	**Pb**	**17 37 12.4**	**-0.1**
TALC				*eS*	**Sg**	**17 37 29.5**	**+0.3**
CHCH	**Chadas Angostu**	**1.42**	**76**	⇑*eP*	**Pn**	**17 37 15.4**	**+0.4**
CACH	**El Canelo**	**1.43**	**83**	*eP*	**Pb**	**17 37 15.8**	**-0.2**
STL	**Santa Lucia**	**1.63**	**59**	*eP*	**Pn**	**17 37 17.5**	**-0.4**
STL				*eS*	**Sn**	**17 37 38.8**	**0.

*IDC **16** 17:51:59.1±1.5,4.˚41S×153.˚99E, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.6/32, mbtmp3.6/6, Error ellipse: s-maj=51.5km s-min=23.1km az=111.0*
*ISCJB **16** 17:52:02.9±1.5,4.˚5S±0.˚2×153.˚9E±0.˚3, h33km, mb3.5/6, Error ellipse: s-maj=48.4km s-min=21.2km az=19.9*
ISC 16 17:52:04.6±1.5,**4.˚4S**±0.˚2×**154.˚0E**±0.˚4,**h35**km,**n7**,σ0§**93**/7,
mb3.5/6,**New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.56**	**229**	P	**P**	**17 57 21.1**	**-0.3**
	2.3nm,0.6s,baz=54,slow=10.0,SNR=34						
ASAR	**Alice Springs**	**27.21**	**223**	P	**P**	**17 57 44.8**	**-0.7**
	0.5nm,0.7s,baz=54,slow=9.0,SNR=13						
STKA	**Stephens Creek**	**29.67**	**202**	P	**P**	**17 58 07.9**	**+0.7**
	1.3nm,0.7s,baz=26,slow=11,SNR=8.0						
CMAR	**Chiang Mai Arr**	**58.77**	**295**	P	**P**	**18 02 00.4**	**+0.6**
	0.4nm,0.7s,baz=120,slow=5.3,SNR=3.9						
MKAR	**Makanchi Array**	**80.81**	**319**	P	**P**	**18 04 14.9**	**0.0**
	0.2nm,0.5s,baz=102,slow=4.7,SNR=2.9						
ILAR	**Eielson Array**	**81.38**	**22**	P	**P**	**18 04 17.7**	**+0.2**
	0.3nm,0.8s,baz=230,slow=5.6,SNR=2.6						
TORD	**Torodi Ar. Bea**	**151.28**	**289**	PKPbc	**PKPbc**	**18 11 54.2**	**-1.4**
	0.9nm,0.8s,baz=62,slow=2.7,SNR=4.8						

*IDC **16** 18:24:59.9±0.9,28.˚54N×128.˚70E, h0km, mb3.5/7, mb1 3.6/9, mb1mx3.5/42, mbtmp3.4/9, ML2.7/2, MS3.0/5, Ms1 3.1/5, ms1mx2.7/26, Error ellipse: s-maj=32.2km s-min=16.0km az=86.0*
*ISCJB **16** 18:25:00.2±1.2,28.˚75N±0.˚03×128.˚60E±0.˚06, h8km±7km, mb3.5/7, MS3.1/3, Error ellipse: s-maj=8.4km s-min=5.1km az=1.4*
*JMA **16** 18:25:00.2±0.3,28.˚79N×128.˚56E, h17km, M3.2*
ISC 16 18:25:00.3±1.7,**28.˚64N**±0.˚04×**128.˚71E**±0.˚07,**h1**km±11km,
n22,σ0§**91**/24,**mb3.6**/7,**MS3.2**/3,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAMN	**Amaminishikomi**	**0.57**	**133**	P	**Pn**	**18 25 15.0**	**-0.5**
JAMN				*e*S	**Sn**	**18 25 25.0**	**-0.5**
JTAJ	**Takarajima**	**0.68**	**40**	P	**Pg**	**18 25 13.1**	**-0.2**
JTAJ				*e*S	**Sg**	**18 25 21.5**	**-0.5**
JAM	**Amami Oshima**	**0.82**	**106**	P	**Pn**	**18 25 18.5**	**-0.5**
JAM				*e*S	**Sn**	**18 25 32.1**	**+0.3**
JTK	**Tokunoshima**	**0.87**	**166**	P	**Pb**	**18 25 19.1**	**+0.9**
JTK				*e*S	**Sn**	**18 25 33.0**	**0.0**
JZK	**Kikaishima**	**1.16**	**106**	P	**Pn**	**18 25 24.8**	**+1.2**
JOKE	**Okinoerabujima**	**1.27**	**185**	P	**Pb**	**18 25 25.7**	**+0.6**
JOW	**Kunigami**	**1.84**	**192**	P	**Pn**	**18 25 33.1**	**+0.1**
JOW				*e*S	**Sb**	**18 25 58.2**	**0.0**
JOW	**Kunigami**	**1.84**	**192**	Pn	**Pn**	**18 25 31.5**	**-1.4**
	baz=20,slow=12						
JYAK	**Yakushimahirau**	**2.24**	**44**	P	**Pn**	**18 25 37.7**	**-0.8**
JYAK				*e*S	**Sn**	**18 26 05.0**	**-1.8**
JNU	**Nakatsue**	**4.85**	**22**	Pn	**Pn**	**18 26 15.2**	**+0.8**
	0.4nm,0.3s,baz=185,slow=12,SNR=4.7						
KSRS	**Korea Array**	**8.82**	**356**	Pn	**Pn**	**18 27 08.8**	**0.0**
	0.1nm,0.3s,baz=174,slow=13,SNR=5.1						
KSRS				LR	LR	18 30 35.2	
	comp=Z,92nm,20.3s,baz=164,slow=38						
MJAR	**Matsushiro Arr**	**11.24**	**43**	LR	LR	18 31 56.3	
	comp=Z,40nm,20.9s,baz=235,slow=37						
GUMO	**Guam**	**21.21**	**132**	LR	LR	18 36 52.6	
	comp=Z,35nm,20.9s,baz=92,slow=34						
SONM	**Songino Array**	**25.81**	**324**	P	**P**	**18 30 33.5**	**+0.5**
	0.5nm,0.8s,baz=132,slow=8.0,SNR=3.1						
MKAR	**Makanchi Array**	**40.29**	**310**	P	**P**	**18 32 39.6**	**+0.6**
	0.4nm,0.7s,baz=90,slow=5.8,SNR=5.0						
ZALV	**Zalesovo Beam**	**40.62**	**321**	P	**P**	**18 32 41.5**	**-0.1**
	0.8nm,0.4s,baz=106,slow=9.2,SNR=2.7						
WRA	**Warramunga Arr**	**48.60**	**173**	P	**P**	**18 33 43.5**	**-2.1**
	0.8nm,0.8s,baz=354,slow=8.3,SNR=6.0						
ASAR	**Alice Springs**	**52.24**	**174**	P	**P**	**18 34 12.7**	**-0.4**
	0.2nm,0.6s,baz=7.1,slow=11,SNR=7.0						
ILAR	**Eielson Array**	**62.13**	**29**	P	**P**	**18 35 22.9**	**+0.3**
	0.2nm,0.5s,baz=279,slow=7.2,SNR=3.7						
AKASG	**Malin Array Be**	**73.99**	**319**	LR	LR	19 11 27.9	
	comp=Z,26nm,20.0s,baz=290,slow=38						
YKA	**Yellowknife Ar**	**76.18**	**25**	P	**P**	**18 36 50.8**	**+1.0**
	0.5nm,0.8s,baz=290,slow=5.2,SNR=3.7						
NOA	**NORSAR Array B**	**77.35**	**334**	LR	LR	19 13 43.9	
	comp=Z,11nm,19.7s,baz=50,slow=38						

*IDC **16** 18:26:17.9±2.1,1.˚50N×97.˚13E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.4/39, mbtmp3.6/6, ML3.2/2, MS2.3/1, Ms1 2.3/1, ms1mx2.2/40, Error ellipse: s-maj=47.7km s-min=26.5km az=53.0*
ISC 16 18:26:23.7±1.7,**1.˚7N**±0.˚2×**97.˚5E**±0.˚2,**h28**km,**n13**,σ0§**58**/7,
mb3.7/5,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**1.79**	**54**	Pn	**Pb**	**18 26 55.8**	**-0.1**
	1.0nm,0.3s,baz=260,slow=12,SNR=3.4						
PSI				LR	LR	18 27 32.3	
	comp=Z,75nm,19.8s,baz=1.5,slow=34						
CMAR	**Chiang Mai Arr**	**16.68**	**5**	Pn	**P**	**18 30 17.4**	**-0.4**
	0.1nm,0.3s,baz=199,slow=12,SNR=4.4						
H08N1	**Diego Carcia H**	**27.61**	**253**	T	T	19 00 59.4	
	baz=110						
H08N2	**Diego Garcia H**	**27.62**	**253**	T	T	19 00 58.1	
	baz=110						
H08N3	**Diego Garcia H**	**27.64**	**253**	T	T	19 00 56.9	
	baz=110						
H01W3	**Cape Leeuwin H**	**39.63**	**158**	T	T	19 15 11.5	
	baz=331						
H01W2	**Cape Leeuwin H**	**39.64**	**158**	T	T	19 15 10.8	
	baz=331						
H01W1	**Cape Leeuwin H**	**39.65**	**158**	T	T	19 15 13.1	
	baz=331						
WRA	**Warramunga Arr**	**42.08**	**123**	P	**P**	**18 34 13.4**	**-0.1**
	0.6nm,1.0s,baz=300,slow=9.0,SNR=3.8						
KSRS	**Korea Array**	**45.26**	**35**	P	**P**	**18 34 39.0**	**+0.3**
	0.6nm,0.7s,baz=233,slow=10,SNR=6.0						
SONM	**Songino Array**	**46.57**	**8**	P	**P**	**18 34 50.0**	**+0.8**
	1.0nm,0.8s,baz=189,slow=8.5,SNR=6.7						
MKAR	**Makanchi Array**	**46.80**	**346**	P	**P**	**18 34 50.5**	**-0.4**
	0.6nm,0.7s,baz=179,slow=8.5,SNR=5.4						
ZALV	**Zalesovo Beam**	**53.08**	**351**	P	**P**	**18 35 37.9**	**-0.5**
	1.5nm,0.8s,baz=180,slow=7.2,SNR=4.0						

*CSEM **16** 18:27:07.4, 37.˚83N×2.˚55W, h0km, ML1.5*
MDD 16 18:27:07.4±0.4,**37.˚83N**×**2.˚55W**,**h0**km,**mbLg1.5**/12,**1C**,
Error ellipse: s-maj=5.2km s-min=2.3km az=134.0,
PRXIMO,Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHUE	**Huescar**	**0.03**	**250**	⇑Pg	Pg	18 27 07.8	-0.3
	1.8nm,0.1s,SNR=18						
EHUE				Lg	Lg	18 27 08.8	
	200nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**0.03**	**250**	Pg	Pg	18 27 07.8	-0.4
	1.8nm,0.1s,SNR=18						
EHUE				Lg	Lg	18 27 08.8	
	200nm,0.1s,SNR=7.9						
SESP	**Santiago Espad**	**0.29**	**1**	Pg	Pg	18 27 12.4	-0.9
	4.7nm,0.2s,SNR=7.9						
SESP				Lg	Lg	18 27 16.9	
	25nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**0.29**	**1**	Pg	Pg	18 27 12.4	-0.9
	4.7nm,0.2s,SNR=7.9						
SESP				Lg	Lg	18 27 16.9	
	25nm,0.2s,SNR=7.9						
EQES	**Quesada**	**0.41**	**267**	Pg	Pg	18 27 15.2	-0.2
	0.9nm,0.1s,SNR=9.4						
EQES				Lg	Lg	18 27 21.8	
	5.6nm,0.3s,SNR=8.6						
EQES	**Quesada**	**0.41**	**267**	Pg	Pg	18 27 15.2	-0.2
	0.9nm,0.1s,SNR=9.4						
EQES				Lg	Lg	18 27 21.8	
	5.6nm,0.3s,SNR=8.6						
EVIA	**Vianos**	**0.81**	**3**	Pg	Pg	18 27 22.7	-0.4
	5.8nm,0.2s,SNR=6.6						
EVIA				Lg	Lg	18 27 34.5	
	9.3nm,0.1s,SNR=10						
EVIA	**Vianos**	**0.81**	**3**	Pg	Pg	18 27 22.7	-0.4
	5.8nm,0.2s,SNR=6.6						
EVIA				Lg	Lg	18 27 34.5	
	9.3nm,0.1s,SNR=10						
EQUE	**Quentar**	**0.94**	**229**	Pg	Pn	18 27 27.7	-0.2
	0.2nm,0.1s,SNR=5.2						
EQUE				Lg	Lg	18 27 38.7	
	1.0nm,0.2s,SNR=5.0						
EQUE	**Quentar**	**0.94**	**229**	Pg	Pn	18 27 27.7	-0.3
	0.2nm,0.1s,SNR=5.2						
EQUE				Lg	Lg	18 27 38.7	
	1.0nm,0.2s,SNR=5.0						
EBER	**Berja**	**0.96**	**196**	Pg	Pn	18 27 28.9	+0.5
	2.0nm,0.5s,SNR=7.2						
EBER				Lg	Lg	18 27 41.8	
	1.9nm,0.4s,SNR=5.0						
EBER	**Berja**	**0.96**	**196**	Pg	Pn	18 27 28.9	+0.5
	2.0nm,0.5s,SNR=7.2						
EBER				Lg	Lg	18 27 41.8	
	1.9nm,0.4s,SNR=5.0						
EBAN	**Banos Encina**	**1.03**	**290**	Pg	Pg	18 27 25.9	-1.3
	2.3nm,0.1s,SNR=7.9						
EBAN				Lg	Lg	18 27 39.8	
	3.5nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**1.03**	**290**	Pg	Pg	18 27 25.9	-1.3
	2.3nm,0.1s,SNR=7.9						
EBAN				Lg	Lg	18 27 39.8	
	3.5nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**1.04**	**89**	Pg	Pg	18 27 26.7	-0.7
	0.4nm,0.2s,SNR=4.0						
EMUR				Lg	Lg	18 27 40.6	
	7.4nm,0.5s,SNR=7.9						
EMUR	**La Murta**	**1.04**	**89**	Pg	Pg	18 27 26.7	-0.7
	0.4nm,0.2s,SNR=4.0						
EMUR				Lg	Lg	18 27 40.6	
	7.4nm,0.5s,SNR=7.9						
SELV	**Sierra Elvira**	**1.10**	**238**	Pg	Pg	18 27 28.9	+0.3
	0.6nm,0.2s,SNR=7.9						
SELV				Lg	Lg	18 27 44.2	
	1.0nm,0.2s,SNR=7.9						
SELV	**Sierra Elvira**	**1.10**	**238**	Pg	Pg	18 27 28.9	+0.3
	0.6nm,0.2s,SNR=7.9						
SELV				Lg	Lg	18 27 44.2	
	1.0nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**1.14**	**44**	Pg	Pg	18 27 29.2	-0.2
	1.0nm,0.1s,SNR=7.5						
ETOB				Lg	Lg	18 27 45.0	
	2.9nm,0.2s,SNR=5.0						
ETOB	**Tobarra**	**1.14**	**44**	Pg	Pg	18 27 29.2	-0.1
	1.0nm,0.1s,SNR=7.5						
ETOB				Lg	Lg	18 27 45.0	
	2.9nm,0.2s,SNR=5.0						
EGUA	**Guajares**	**1.28**	**219**	Pg	Pb	18 27 32.3	-0.1
	0.4nm,0.2s,SNR=7.9						
EGUA				Lg	Lg	18 27 48.7	
	1.2nm,0.3s,SNR=7.9						
EGUA	**Guajares**	**1.28**	**219**	Pg	Pb	18 27 32.3	0.0
	0.4nm,0.2s,SNR=7.9						
EGUA				Lg	Lg	18 27 48.7	
	1.2nm,0.3s,SNR=7.9						
ELUQ	**Luque**	**1.38**	**259**	Pg	Pg	18 27 33.6	-0.4
	1.8nm,0.2s,SNR=7.9						
ELUQ				Lg	Lg	18 27 53.3	
	2.6nm,0.1s,SNR=7.9						
ELUQ	**Luque**	**1.38**	**259**	Pg	Pg	18 27 33.6	-0.4
	1.8nm,0.2s,SNR=7.9						
ELUQ				Lg	Lg	18 27 53.3	
	2.6nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**1.63**	**283**	Pn	Pn	18 27 35.3	-2.1
	0.3nm,0.1s,SNR=7.9						
EADA				Sn	Sn	18 27 57.7	-1.5
	1.5nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**1.63**	**283**	Pn	Pn	18 27 35.3	-2.2
	0.3nm,0.1s,SNR=7.9						
EADA				Sn	Sn	18 27 57.7	-1.5
	1.5nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**2.15**	**330**	Pg	Pb	18 27 47.2	0.0
	0.7nm,0.1s,baz=147,slow=17,SNR=3.8						
ESDC				Lg	Lg	18 28 12.8	
	1.0nm,0.3s,baz=148,slow=23,SNR=3.7						
ESDC	**Sonseca Array**	**2.15**	**330**	Pg	Pb	18 27 47.2	-0.1
	0.7nm,0.1s,SNR=3.8						
ESDC				Lg	Lg	18 28 12.8	
	1.0nm,0.3s,baz=148,SNR=3.7						
ECAB	**El Cabril**	**2.28**	**277**	Pn	Pn	18 27 44.1	-2.2
	0.2nm,0.1s,SNR=7.9						
ECAB				Sn	Sn	18 28 12.5	-2.7
	0.7nm,0.1s,SNR=7.9						
ECAB				Lg	Lg	18 28 17.8	
	0.6nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**2.28**	**277**	Pn	Pn	18 27 44.1	-2.2
	0.2nm,0.1s,SNR=7.9						
ECAB				Sn	Sn	18 28 12.5	-2.6
	0.7nm,0.1s,SNR=7.9						
ECAB				Lg	Lg	18 28 17.8	
	0.6nm,0.1s,SNR=7.9						
ETOR	**Torete**	**3.01**	**7**	Pg	Pb	18 28 03.7	+1.6
	1.5nm,0.2s,SNR=7.9						
ETOR				Lg	Lg	18 28 41.0	
	2.3nm,0.2s,SNR=7.9						
ETOR	**Torete**	**3.01**	**7**	Pg	Pg	18 28 03.7	-1.6
	1.5nm,0.2s,SNR=7.9						
ETOR				Lg	Lg	18 28 41.0	
	2.3nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**3.08**	**337**	Pg	Pg	18 28 05.2	-1.3
	0.5nm,0.2s,SNR=7.9						
GUD				Lg	Lg	18 28 42.9	
	0.4nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**3.08**	**337**	Pg	Pg	18 28 05.2	-1.3
	0.5nm,0.2s,SNR=7.9						
GUD				Lg	Lg	18 28 42.9	
	0.4nm,0.2s,SNR=7.9						

*CSEM **16** 18:28:08.1, 38.˚52N×8.˚36W, h5km, ML0.8*
INMG 16 18:28:08.1±1.4,**38.˚52N**×**8.˚36W**,**h5**km,**ML0.8**,**Error**
ellipse: s-maj=4.6km s-min=2.3km az=83.0,**Portugal**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EVO	**Evora**	**0.27**	**88**	*e*Sn	Sg	18 28 17.6	+0.6
EVO				A	A	18 28 17.8	
	6.3nm,0.2s						
EVO	**Evora**	**0.27**	**88**	*e*Sn	Sg	18 28 17.6	+0.6
	6.3nm,0.2s						
PNCL	**Nicolau / Gran**	**0.43**	**198**	*e*Pn	Pg	18 28 15.6	-0.8
PNCL				*e*S	Sg	18 28 20.5	-1.5
PNCL				A	A	18 28 24.3	
	2.2nm,0.7s						
PMTG	**Montargil**	**0.56**	**11**	*e*P	Pg	18 28 18.0	-0.9
PMTG				*e*S	Sg	18 28 25.6	-0.5
PMTG				A	A	18 28 25.9	
	1.9nm,0.2s						
PMTG	**Montargil**	**0.56**	**11**	*e*P	Pg	18 28 18.0	-0.9
PMTG				*e*S	Sg	18 28 25.6	-0.5
	1.9nm,0.2s						
MESJ	**Messejana**	**0.69**	**171**	*e*P	Pg	18 28 20.9	-0.4
MESJ				*e*S	Sg	18 28 30.0	-0.3
MESJ				A	A	18 28 39.7	
	1.9nm,0.8s						
MESJ	**Messejana**	**0.69**	**171**	*e*P	Pg	18 28 20.9	-0.4
MESJ				*e*S	Sg	18 28 30.0	-0.3
	1.9nm,0.8s						
PESTR	**Estremoz**	**0.69**	**60**	*e*S	Sg	18 28 30.8	+0.3
PESTR				A	A	18 28 32.2	
	1.2nm,0.5s						
PESTR	**Estremoz**	**0.69**	**60**	*e*S	Sg	18 28 30.8	+0.3
	11nm,0.9s						
PMAFR	**Mafra**	**0.84**	**301**	A	A	18 28 34.7	
	11nm,0.9s						
PMAFR				*e*S	Sg	18 28 35.4	+0.1
PMAFR	**Mafra**	**0.84**	**301**	*e*S	Sg	18 28 35.4	+0.1
	0.1nm,0.6s						
PCVE	**Castro Verde**	**0.92**	**164**	A	A	18 28 37.4	
	0.1nm,0.6s						
PCVE				*e*S	Sg	18 28 37.6	-0.2
PCVE	**Castro Verde**	**0.92**	**164**	*e*S	Sg	18 28 37.6	-0.2
PBAR	**Barrancos**	**1.09**	**108**	*e*S	Sg	18 28 42.8	-0.5
PBAR				A	A	18 28 44.9	
	5.9nm,0.8s						
PBAR	**Barrancos**	**1.09**	**108**	Sn	Sg	18 28 42.8	-0.5
	5.9nm,0.8s						
PBAR	**Barrancos**	**1.09**	**108**	*e*S	Sg	18 28 42.8	-0.5
	5.9nm,0.8s						
PBAR	**Barrancos**	**1.09**	**108**	Sn	Sg	18 28 42.8	-0.5
	5.9nm,0.8s						
PVAQ	**Vaqueiros**	**1.23**	**155**	*e*P	Pg	18 28 30.9	-0.7
PVAQ				*e*S	Sg	18 28 46.5	-1.0
PVAQ				A	A	18 28 56.9	
	2.8nm,0.8s						
PVAQ	**Vaqueiros**	**1.23**	**155**	*e*P	Pg	18 28 30.9	-0.7
PVAQ				*e*S	Sg	18 28 46.5	-1.0
	2.8nm,0.8s						

*IDC **16** 18:32:17.7±1.0,25.˚87N×128.˚55E, h0km, mb3.7/6, mb1 3.8/8, mb1mx3.6/27, mbtmp3.7/8, ML3.7/2, Error ellipse: s-maj=58.0km s-min=16.6km az=75.0*
*JMA **16** 18:32:21.9±0.3,26.˚05N×128.˚51E, h41km±4km, M3.6*
ISC 16 18:32:19.0±1.7,**25.˚93N**±0.˚04×**128.˚59E**±0.˚04,**h15**km±10km,
n25,σ1§**48**/41,**mb3.8**/6,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNTH	**Nagotoyohara**	**0.78**	**319**	P	**Pg**	**18 32 34.4**	**+0.2**
JNTH				S	**Sg**	**18 32 43.2**	**-1.2**
JJT2	**Tamagusuku 2**	**0.78**	**286**	P	**Pn**	**18 32 35.4**	**-0.1**
JJT2				S	**Sb**	**18 32 45.7**	**+0.9**
JOW	**Kunigami**	**0.94**	**343**	P	**Pb**	**18 32 37.2**	**+0.1**
JOW				S	**Sb**	**18 32 47.7**	**-1.7**
JIH	**Iheya**	**1.23**	**333**	P	**Pn**	**18 32 41.8**	**+0.1**
JIH				S	**Sb**	**18 32 56.0**	**-1.8**
JAGN	**Aguni-jima**	**1.38**	**299**	P	**Pn**	**18 32 43.7**	**0.0**
JAGN				S	**Sn**	**18 32 59.9**	**-1.7**
JOKE	**Okinoerabujima**	**1.43**	**359**	P	**Pn**	**18 32 44.2**	**-0.2**
JOKE				S	**Sn**	**18 33 01.4**	**-1.6**
JKE	**Kume jima 2**	**1.67**	**284**	P	**Pn**	**18 32 47.3**	**-0.4**
JKE				S	**Sn**	**18 33 06.7**	**-2.1**
JTK	**Tokunoshima**	**1.88**	**10**	P	**Pn**	**18 32 50.4**	**-0.2**
JTK				S	**Sn**	**18 33 11.9**	**-2.2**
JAMN	**Amaminishikomi**	**2.37**	**13**	P	**Pn**	**18 32 57.4**	**+0.1**
JMZ	**Minamidaito 2**	**2.38**	**92**	P	**Pn**	**18 32 56.7**	**-0.7**
JMZ				S	**Sn**	**18 33 22.4**	**-3.9**
JAM	**Amami Oshima**	**2.64**	**20**	P	**Pn**	**18 33 01.4**	**+0.4**
JAM				S	**Sn**	**18 33 31.0**	**-1.7**
JZK	**Kikaishima**	**2.68**	**27**	P	**Pn**	**18 33 02.6**	**+1.0**
JZK				S	**Sn**	**18 33 33.2**	**-0.6**
JOGS	**Gusukube**	**3.10**	**249**	P	**Pn**	**18 33 07.8**	**+0.4**
JOGS				*e*S	**Sn**	**18 33 42.2**	**-2.1**
JMJ	**Miyako jima 2**	**3.18**	**250**	P	**Pn**	**18 33 08.5**	**0.0**
JMJ				*e*S	**Sn**	**18 33 44.2**	**-1.9**
JIKM	**Ikemajima**	**3.18**	**252**	P	**Pn**	**18 33 08.4**	**-0.1**
JIKM				S	**Sn**	**18 33 43.4**	**-2.7**
JIRB	**Irabujima**	**3.28**	**251**	P	**Pn**	**18 33 09.3**	**-0.5**
JIRB				S	**Sn**	**18 33 45.7**	**-2.8**
JNN	**Nakanoshima**	**4.06**	**16**	P	**Pn**	**18 33 21.1**	**+0.5**
JNU	**Nakatsue**	**7.44**	**15**	Pn	**Pn**	**18 34 08.2**	**+1.0**
	2.0nm,0.3s,baz=214,slow=3.6,SNR=34						
JNU				Sn	**Sn**	**18 35 29.4**	**-1.8**
	0.5nm,0.3s,baz=226,slow=18,SNR=3.5						
KSRS	**Korea Array**	**11.51**	**357**	Pn	**Pn**	**18 35 03.6**	**+0.8**
	0.2nm,0.3s,baz=173,slow=14,SNR=5.0						
SONM	**Songino Array**	**27.98**	**327**	P	**P**	**18 38 11.5**	**+2.3**
	1.0nm,0.4s,baz=146,slow=11,SNR=16						
MKAR	**Makanchi Array**	**41.97**	**312**	P	**P**	**18 40 09.3**	**-0.2**
	0.2nm,0.4s,baz=94,slow=8.1,SNR=4.6						
WRA	**Warramunga Arr**	**45.94**	**172**	P	**P**	**18 40 42.0**	**+0.5**
	1.1nm,0.5s,baz=353,slow=8.5,SNR=16						
ASAR	**Alice Springs**	**49.57**	**174**	P	**P**	**18 41 10.4**	**+0.8**
	0.5nm,0.4s,baz=2.9,slow=15,SNR=20						
STKA	**Stephens Creek**	**58.81**	**167**	P	**P**	**18 42 16.9**	**+0.2**
	0.7nm,0.8s,baz=350,slow=6.1,SNR=3.8						
FINES	**FINESS Array B**	**73.28**	**331**	P	**P**	**18 43 51.0**	**+1.5**
	0.6nm,0.8s,baz=81,slow=11,SNR=4.0						

*ISCJB **16** 18:33:24.6±0.3,32.˚54N±0.˚03×115.˚58W±0.˚02, h24km±3km, Error ellipse: s-maj=4.5km s-min=3.3km az=169.1*
*NEIC **16** 18:33:26.3,32.˚32N×115.˚39W, h4km, ML3.6(PAS), ML3.9(ECX), After ECX.*
NEIC Felt [II] at Mexicali. Also felt at Ensenada. Felt [II] at El Centro, California. Also felt at Calexico.
*MEX **16** 18:33:26.6±1.5,32.˚55N×115.˚51W, h18km±999km, MD3.3*
*ECX **16** 18:33:26.3±0.6,32.˚53N×115.˚66W, h4km, MD3.7, ML3.9*
ISC 16 18:33:24.6±0.9,**32.˚50N**±0.˚03×**115.˚62W**±0.˚02,**h15**km±7km,
n37,σ1§**04**/57,**4C-8D,California-Baja California border**
region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.18**	**329**	‖*e*P	**Pg**	**18 33 28.7**	**-0.3**
CPBX	**Cerro Prieto**	**0.28**	**106**	*e*P	**Pb**	**18 33 31.8**	**+0.5**
CPBX				*i* S	**Sg**	**18 33 35.2**	**+0.6**
CPBX	**Cerro Prieto**	**0.28**	**106**	*e*P9	**Pb**	**18 33 31.8**	**+0.5**
CPBX				*e*S	**Sb**	**18 33 36.6**	**+0.9**
CPBX				⇓*e*		18 33 39.5	
CPBX				IAML		18 33 39.5	
	comp=N,39μm,0.3s						
WESC	**Westside Schoo**	**0.28**	**340**	*e*P	**Pg**	**18 33 30.9**	**+0.3**
YUH	**Yuha Desert**	**0.30**	**300**	‖*e*P	**Pg**	**18 33 30.9**	**-0.1**
COK	**Cook Ranch**	**0.36**	**345**	‖*e*P	**Pg**	**18 33 32.6**	**+0.5**
MBIG	**Mexicali**	**0.36**	**104**	*e*P	**Pb**	**18 33 33.6**	**+0.8**
MBIG				*e*S	**Sg**	**18 33 35.9**	**-1.2**
RMX	**La Rumorosa**	**0.40**	**285**	*e*P	**Pg**	**18 33 32.9**	**+0.1**
RMX				*e*S	**Sg**	**18 33 38.2**	**-0.2**
CRR	**Carrizo Plain**	**0.49**	**323**	‖*e*P	**Pg**	**18 33 34.4**	**0.0**
COA	**Coachella**	**0.56**	**49**	‖*e*P	**Pb**	**18 33 36.4**	**+0.4**
EMSC	**East Mesa**	**0.59**	**65**	‖*e*P	**Pb**	**18 33 37.2**	**+0.6**
RDX	**Rancho Dawling**	**0.63**	**206**	⇑*e*P	**Pg**

DJA **16** *18:43:49.5±0.5,0˚N±3˝×12˚2E± ˚, h84km±6km, M3.8/7, MLv3.8/7*

ISC 16 18:43:47.3±0.9, 0˚45N±0˚07×121˚56E±0˚05, h112km±8km, n11, σ1§62/15, mb3.4/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.38**	**85**	P	**Pn**	**18 44 03.3**	**-0.4**
MRSI				S	**Sn**	**18 44 15.0**	**-1.0**
APSI	**Ampana**	**1.35**	**176**	P	**Pn**	**18 44 12.8**	**+0.3**
APSI				S	**Sn**	**18 44 33.1**	**+1.5**
MPSI	**Mapaga**	**1.67**	**266**	P	**Pn**	**18 44 17.0**	**+0.8**
MPSI				S	**Sn**	**18 44 38.8**	**+0.5**
LUWI	**Luwuk**	**1.91**	**141**	P	**Pn**	**18 44 20.0**	**+0.7**
LUWI				S	**Sn**	**18 44 43.9**	**+0.2**
KMSI	**Cibinong**	**2.42**	**87**	P	**Pn**	**18 44 27.0**	**+1.2**
KMSI				S	**Sn**	**18 44 57.8**	**+2.4**
TTSI	**Tana Toraja**	**3.88**	**207**	P	**Pn**	**18 44 46.5**	**+1.4**
WRA	**Warramunga Arr**	**23.82**	**149**	P	**P**	**18 48 47.7**	**-2.5**
	0.4nm,0.7s,baz=325,slow=11,SNR=9.2						
ASAR	**Alice Springs**	**26.80**	**154**	P	**P**	**18 49 14.2**	**-2.9**
	0.1nm,0.6s,baz=333,slow=7.9,SNR=3.3						
STKA	**Stephens Creek**	**37.33**	**151**	P	P	18 50 44.9	-4.0
	0.5nm,0.6s,baz=323,slow=15,SNR=3.5						
SONM	**Songino Array**	**49.01**	**346**	P	**P**	**18 52 23.3**	**+0.5**
	0.4nm,0.7s,baz=159,slow=8.5,SNR=3.1						
MKAR	**Makanchi Array**	**57.49**	**329**	P	**P**	**18 53 24.9**	**+0.1**
	0.4nm,0.3s,baz=138,slow=6.2,SNR=14						

IDC 16 18:58:07.3±3.1, 5˚21S×146˚73E, h258km±25km, mb2.8/3, mb1 3.2/5, mb1mx2.9/27, mbtmp3.6/5, Error ellipse: s-maj=42.6km s-min=12.7km az=114.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**6.59**	**294**	P	Pn	18 59 43.3	+0.3
	0.5nm,0.3s,baz=153,slow=2.3,SNR=4.5						
WRA	**Warramunga Arr**	**18.97**	**218**	P	P	19 02 09.6	-0.4
	1.0nm,0.3s,baz=43,slow=9.8,SNR=80						
WRA				S	S	19 05 31.7	+0.1
	0.1nm,0.3s,baz=38,slow=20,SNR=3.0						
ASAR	**Alice Springs**	**22.12**	**213**	P	P	19 02 42.2	+0.3
	2.6nm,0.6s,baz=44,slow=8.5,SNR=71						
ASAR				S	S	19 06 28.1	+1.4
	0.5nm,1.0s,baz=38,slow=15,SNR=2.9						
SONM	**Songino Array**	**63.59**	**331**	P	P	19 08 10.8	0.0
	0.1nm,0.5s,baz=123,slow=5.3,SNR=2.1						
SONM				pP	pP	19 09 04.4	-4.7
	0.3nm,0.7s,baz=138,slow=5.0,SNR=2.3						
ILAR	**Eielson Array**	**84.87**	**23**	P	P	19 10 12.6	-0.2
	0.2nm,0.6s,baz=256,slow=3.6,SNR=2.9						

ISCJB **16** *19:06:35.8±0.2,34˚65S±0˚04×15˚37W±0˚05, h10km, mb5.1/98, MS4.9/173, Error ellipse: s-maj=6.2km s-min=5.4km az=36.0*

MOS **16** *19:06:35.6±0.8,34˚67S×15˚42W, h10km, mb5.6/42, MS4.7/10, Error ellipse: s-maj=13.0km s-min=7.1km az=72.1*

IDC **16** *19:06:36.0±0.4,34˚47S×15˚34W, h0km, mb4.5/26, mb1 4.6/26, mb1mx4.5/40, mbtmp4.5/26, MS4.8/23, Ms1 4.8/23, ms1mx4.7/27, Error ellipse: s-maj=14.0km s-min=11.1km az=171.0*

GCMT **16** *19:06:37.0±0.1, 34˚45S×15˚13W, h12km, MW5.3/119, Moment Tensor Solution. s54,c67; s119,c198; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr0.75±.02; Mθθ0.21±.02; Mϕϕ-0.96±.02; Mrθ-0.18±.06; Mθϕ-0.52±.01; Mϕr0.08±.05; Best double couple: M0 1.00400×10^17 NP1:ϕs358.00000°, δ50.00000°, λ57.00000°. NP2:ϕs224.00000°, δ50.00000°, λ123.00000°. Principal axes: T 0.8440, Plg65.0000°, Azm201.0000°; N 0.3210, Plg25.0000°, Azm21.0000°; P -1.1640, Plg0.0000°, Azm111.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC **16** *19:06:37.1±0.2,34˚66S×15˚40W, h10km, mb5.2/36, MS5.0/135 Error ellipse: s-maj=6.1km s-min=5.0km az=178.0*

BJI **16** *19:06:38.3,34˚50S×15˚40W, h13km, mB5.5/21, Ms5.3/20, Ms7 5.1/22*

ISC 16 19:06:37.2±0.3, 34˚64S±0˚06×15˚38W±0˚06, h10km, n494, σ1§27/352, mb5.2/98, MS5.0/173, 15C-12D, Tristan da Cunha region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H09N1	**TRISTAN DA CUN**	**3.47**	**135**	T	T	19 11 13.3	
	SNR=394						
TRIS	**Tristan da Cun**	**3.47**	**135**	*e*P	**Pn**	**19 07 30.5**	**-0.7**
TRIS	**Tristan da Cun**	**3.47**	**135**	*e*Pn	**Pn**	**19 07 30.2**	**-1.1**
TRIS				*e*Sn	**Sn**	**19 08 09.8**	**-2.6**
H09W1	**TRISTAN DA CUN**	**3.48**	**136**	T	T	19 11 08.6	
	SNR=2238						
SHEL	**Horse Pasture**	**20.52**	**27**	*e*P	**P**	**19 11 15.1**	**-0.6**
SHEL				pmax	pmax		
	comp=Z,726nm,1.8s						
SHEL	**Horse Pasture**	**20.52**	**27**	*e*P	**P**	**19 11 15.1**	**-0.6**
	comp=Z,726nm,1.8s						
H10S2	**ASCENSION HYDR**	**25.57**	**2**	T	T	19 38 13.2	
	baz=182,slow=74,SNR=1882						
H10S3	**ASCENSION HYDR**	**25.58**	**2**	T	T	19 38 13.7	
	baz=182,slow=74,SNR=2300						
H10S1	**ASCENSION HYDR**	**25.59**	**2**	T	T	19 38 13.4	
	baz=182,slow=74,SNR=1574						
ASCN	**Ascension**	**26.60**	**2**	PFAKE		19 12 30.0	+14
ASCN				LR	LR		
	comp=Z,2μm,19.0s						
H10N1	**ASCENSION HYDR**	**26.68**	**2**	T	T	19 39 58.8	
	baz=180,slow=72,SNR=99						
H10N3	**ASCENSION HYDR**	**26.69**	**2**	T	T	19 39 37.6	
	baz=180,slow=72,SNR=929						
H10N2	**ASCENSION HYDR**	**26.70**	**2**	T	T	19 39 36.9	
	baz=180,slow=72,SNR=302						
SUR	**Sutherland**	**30.16**	**96**	LR	LR	19 22 13.2	
	comp=Z,3μm,19.6s,baz=263,slow=31						
UPI	**Upington**	**31.73**	**89**	*e*P	**P**	**19 13 02.1**	**+0.6**
UPI	**Upington**	**31.73**	**89**	P	**P**	**19 13 02.1**	**+0.6**
TSUM	**Tsumeb**	**32.99**	**71**	*e*P	**P**	**19 13 11.2**	**-1.4**
TSUM	**Tsumeb**	**32.99**	**71**	P	**P**	**19 13 10.8**	**-1.8**
	comp=Z,7.5nm,1.2s,baz=232,slow=9.3,SNR=6.3						
TSUM				LR	LR	19 23 43.5	
	comp=Z,2μm,20.4s,baz=229,slow=31						
TSUM	**Tsumeb**	**32.99**	**71**	*e*P	**P**	**19 13 10.6**	**-2.1**
	comp=Z,31nm,1.4s						
SOE	**Somerset East**	**33.96**	**99**	*e*P	**P**	**19 13 20.8**	**-0.1**
SOE				AMB	AMB	19 13 22.8	
	comp=Z,79nm,2.6s						
SOE	**Somerset East**	**33.96**	**99**	P	**P**	**19 13 20.8**	**-0.1**
	comp=Z,79nm,2.6s						
RCBR	**Riachuelo**	**34.38**	**322**	LR	LR	19 25 25.3	
	comp=Z,2μm,18.2s,baz=133,slow=33						
HVD	**Gariep Dam**	**34.49**	**95**	*e*P	**P**	**19 13 26.5**	**+0.8**
HVD				AMB	AMB	19 13 28.6	
	comp=Z,80nm,1.8s						
HVD				AMS	AMS	19 23 45.0	
	comp=Z,3μm,29.8s						
HVD	**Gariep Dam**	**34.49**	**95**	P	**P**	**19 13 26.5**	**+0.8**
HVD				pmax	pmax		
	comp=Z,80nm,1.8s						
HVD	**Gariep Dam**	**34.49**	**95**	P	**P**	**19 13 26.5**	**+0.8**
	comp=Z,80nm,1.8s						
GRM	**Grahamstown**	**34.58**	**100**	*e*P	**P**	**19 13 27.6**	**+1.3**
GRM				AMB	AMB	19 13 30.6	
	comp=Z,61nm,2.8s						
GRM	**Grahamstown**	**34.58**	**100**	P	**P**	**19 13 27.6**	**+1.3**
GRM				pmax	pmax		
	comp=Z,61nm,2.8s						
GRM	**Grahamstown**	**34.58**	**100**	P	**P**	**19 13 27.6**	**+1.3**
	comp=Z,61nm,2.8s						
BDFB	**Brasilia**	**34.86**	**295**	P	**P**	**19 13 28.2**	**-0.7**
	comp=Z,26nm,1.2s,baz=108,slow=7.1,SNR=10						
BDFB				LR	LR	19 25 08.8	
	comp=Z,3μm,19.9s,baz=117,slow=32						
BDFB	**Brasilia**	**34.86**	**295**	*e*P	**P**	**19 13 29.1**	**+0.2**
BDFB	**Brasilia**	**34.86**	**295**	*e*P	**P**	**19 13 29.1**	**+0.2**
BOSA	**Boshof**	**34.94**	**92**	*e*P	**P**	**19 13 29.0**	**-0.5**
BOSA				AMB	AMB	19 13 33.2	
	comp=Z,42nm,4.8s						
BOSA				AMS	AMS	19 24 20.2	
	comp=Z,3μm,21.4s						
BOSA	**Boshof**	**34.94**	**92**	P	**P**	**19 13 29.1**	**-0.4**
	comp=Z,9.7nm,1.0s,baz=271,slow=7.5,SNR=16						
BOSA				LR	LR	19 24 50.0	
	comp=Z,3μm,21.1s,baz=256,slow=31						
BOSA	**Boshof**	**34.94**	**92**	*e*P	**P**	**19 13 28.8**	**-0.7**
BOSA	**Boshof**	**34.94**	**92**	*e*P	**P**	**19 13 28.8**	**-0.7**
SWZ	**Schweizer**	**35.52**	**89**	*e*P	**P**	**19 13 34.5**	**-0.1**
SWZ				AMB	AMB	19 13 41.5	
	comp=Z,33nm,2.9s						
SWZ	**Schweizer**	**35.52**	**89**	P	**P**	**19 13 34.5**	**-0.1**
	comp=Z,33nm,2.9s						
VNA1	**Neumayer--Stat**	**36.27**	**176**	P	P	19 13 43.6	+3.4
VNA2	**Neumayer--Watz**	**36.60**	**176**	P	**P**	**19 13 46.0**	**+2.9**
	baz=342,slow=11						
LBTB	**Lobatse**	**36.61**	**86**	*e*P	**P**	**19 13 44.1**	**+0.3**
LBTB				AMB	AMB	19 13 45.9	
	comp=Z,56nm,1.9s						
LBTB				AMS	AMS	19 26 01.7	
	comp=Z,3μm,20.0s						
LBTB	**Lobatse**	**36.61**	**86**	P	**P**	**19 13 43.1**	**-0.7**
	comp=Z,32nm,1.2s,baz=275,slow=9.0,SNR=12						
LBTB	**Lobatse**	**36.61**	**86**	*e*P	**P**	**19 13 41.5**	**-2.3**
LBTB				pmax	pmax		
	comp=Z,95nm,1.5s						
LBTB	**Lobatse**	**36.61**	**86**	*e*P	**P**	**19 13 41.5**	**-2.3**
	comp=Z,95nm,1.5s						
VNA3	**Neumayer Olymp**	**36.79**	**177**	P	**P**	**19 13 47.0**	**+2.3**
CPUP	**Villa Florida**	**36.88**	**271**	*e*P	**P**	**19 13 46.6**	**+0.6**
CPUP	**Villa Florida**	**36.88**	**271**	*e*P	**P**	**19 13 46.6**	**+0.6**
SEK	**Senekal**	**37.00**	**92**	*e*P	**P**	**19 13 47.7**	**+0.5**
SEK				AMB	AMB	19 13 49.7	
	comp=Z,75nm,1.8s						
SEK	**Senekal**	**37.00**	**92**	P	**P**	**19 13 47.7**	**+0.5**
	comp=Z,75nm,1.8s						
PRYS	**Parys**	**37.29**	**90**	*e*P	**P**	**19 13 50.2**	**+0.5**
PRYS				AMB	AMB	19 13 56.6	
	comp=Z,22nm,2.0s						
PRYS	**Parys**	**37.29**	**90**	P	**P**	**19 13 50.2**	**+0.5**
	comp=Z,22nm,2.0s						
TRQA	**Tornquist**	**37.39**	**251**	*e*P	**P**	**19 13 49.4**	**-0.8**
	comp=Z,196nm,2.3s						
TRQA				LR	LR		
	comp=Z,2μm,21.0s						
SNAA	**Sanae**	**37.68**	**174**	P	**P**	**19 13 53.0**	**+0.6**
SNAA	**Sanae**	**37.68**	**174**	*e*P	**P**	**19 13 52.1**	**-0.2**
SNAA	**Sanae**	**37.68**	**174**	P	**P**	**19 13 53.7**	**+1.4**
	comp=Z,2.1nm,1.0s,baz=337,slow=8.1,SNR=11						
SNAA				LR	LR	19 25 54.2	
	comp=Z,127nm,19.6s,baz=316,slow=31						
SNAA	**Sanae**	**37.68**	**174**	*e*P	**P**	**19 13 52.2**	**-0.1**
SNAA				pmax	pmax		
	comp=Z,44nm,1.6s						
SNAA	**Sanae**	**37.68**	**174**	*e*P	**P**	**19 13 52.2**	**-0.1**
	comp=Z,44nm,1.6s						
ERPM	**east rand prop**	**38.25**	**90**	*e*P	**P**	**19 13 58.8**	**+1.0**
ERPM				AMB	AMB	19 14 00.4	
	comp=Z,68nm,1.8s						
ERPM	**east rand prop**	**38.25**	**90**	P	**P**	**19 13 58.8**	**+1.0**
	comp=Z,68nm,1.8s						
SLR	**Silverton**	**38.52**	**89**	*e*P	**P**	**19 13 59.0**	**-1.0**
SLR				AMB	AMB	19 14 02.0	
	comp=Z,48nm,1.8s						
SLR				AMS	AMS	19 27 11.3	
	comp=Z,4μm,17.3s						
SLR	**Silverton**	**38.52**	**89**	P	**P**	**19 13 59.1**	**-1.0**
SLR				pmax	pmax		
	comp=Z,48nm,1.8s						
SLR	**Silverton**	**38.52**	**89**	P	**P**	**19 13 59.0**	**-1.0**
	comp=Z,48nm,1.8s						
NVL	**N'lazarevskaya**	**39.02**	**166**	*e*P	P	19 13 57.7	-5.8
NVL				pmax	pmax		
	comp=Z,21nm,0.9s						
MSNA	**Messina**	**41.42**	**85**	*e*P	**P**	**19 14 24.3**	**+0.2**
MSNA				AMB	AMB	19 14 27.1	
	comp=Z,40nm,1.5s						
MSNA				AMS	AMS	19 28 31.1	
	comp=Z,2μm,19.2s						
MSNA	**Messina**	**41.42**	**85**	P	**P**	**19 14 24.3**	**+0.2**
	comp=Z,40nm,1.5s						
LIC	**Lamto**	**41.81**	**16**	*e*P	**P**	**19 14 26.2**	**-0.9**
	comp=Z,52nm,1.1s,baz=198						
LIC				*e*R			
	comp=Z,452nm,18.8s						
LIC	**Lamto**	**41.81**	**16**	*e*P	**P**	**19 14 25.7**	**-1.4**
	comp=Z,65nm,1.1s,baz=200						
LIC	**Lamto**	**41.81**	**16**	*e*P	**P**	**19 14 26.2**	**-0.9**
	comp=Z,52nm,1.0s						
KIC	**Kosan Boka**	**42.00**	**16**	*e*P	**P**	**19 14 27.3**	**-1.5**
	comp=Z,60nm,0.8s						
TIC	**Toumodi**	**42.22**	**15**	*e*P	**P**	**19 14 28.9**	**-1.6**
DBIC	**Dimbokro**	**42.27**	**16**	*e*P	**P**	**19 14 29.9**	**-1.0**
DBIC	**Dimbokro**	**42.27**	**16**	P	**P**	**19 14 29.7**	**-1.2**
	comp=Z,18nm,0.9s,baz=174,slow=7.8,SNR=8.7						
DBIC				LR	LR	19 27 36.8	
	comp=Z,432nm,21.4s,baz=171,slow=30						
MSKU	**Masuku**	**42.51**	**46**	*e*P	**P**	**19 14 31.6**	**-1.4**
	comp=Z,42nm,1.1s						
MSKU				LR	LR		
	comp=Z,2.0nm,20.0s						
PLCA	**Paso Flores**	**43.48**	**245**	P	**P**	**19 14 41.5**	**+0.8**
	comp=Z,3.6nm,0.8s,baz=122,slow=5.5,SNR=9.7						
PLCA				LR	LR	19 31 12.7	
	comp=Z,1μm,19.0s,baz=114,slow=34						
PLCA	**Paso Flores**	**43.48**	**245**	*e*P	**P**	**19 14 38.4**	**-2.3**
PLCA				pmax	pmax		
	comp=Z,139nm,2.5s						
PLCA	**Paso Flores**	**43.48**	**245**	*e*P	**P**	**19 14 38.4**	**-2.3**
	comp=Z,139nm,2.5s						
LSZ	**Lusaka**	**43.55**	**75**	*e*P	**P**	**19 14 42.3**	**+0.7**
LSZ	**Lusaka**	**43.55**	**75**	P	**P**	**19 14 41.4**	**-0.1**
	comp=Z,6.6nm,1.0s,baz=21,slow=12,SNR=7.0						
LSZ				LR	LR	19 30 28.9	
	comp=Z,2μm,18.9s,baz=316,slow=33						
CFAA	**Coronel Fontan**	**43.96**	**258**	P	**P**	**19 14 44.6**	**0.0**
	comp=Z,1.5nm,0.9s,baz=79,slow=7.5,SNR=20						
CFAA				LR	LR	19 32 12.2	
	comp=Z,122nm,18.0s,baz=108,slow=35						
SIV	**San Ignacio**	**44.86**	**283**	P	**P**	**19 14 52.2**	**+0.2**
	comp=Z,21nm,1.0s,baz=124,slow=10,SNR=27						
SIV				LR	LR	19 31 58.3	
	comp=Z,4μm,18.5s,baz=138,slow=34						
SYO	**Syowa Base**	**45.70**	**156**	*e*P	P	19 14 54.0	-3.9
LCO	**Las Campanas**	**46.85**	**261**	*e*P	**P**	**19 15 07.6**	**-0.2**
	comp=Z,155nm,2.2s						
LCO				LR	LR		
	comp=Z,1μm,19.0s						
LVC	**Limon Verde**	**48.00**	**270**	P	**P**	**19 15 16.5**	**-0.3**
	comp=Z,6.4nm,0.4s,baz=104,slow=8.4,SNR=4.1						
LVC				LR	LR	19 33 44.9	
	comp=Z,4μm,21.5s,baz=128,slow=34						
LVC	**Limon Verde**	**48.00**	**270**	*e*P	**P**	**19 15 15.1**	**-1.8**
	comp=Z,21nm,1.4s						
SACV	**Santiago Islan**	**49.95**	**350**	PFAKE		19 15 40.0	+8.5
SACV				LR	LR		
	comp=Z,432nm,19.0s						
TOA0	**Torodi Ar. Sit**	**50.22**	**22**	*e*P	**P**	**19 15 31.9**	**-1.6**
TORD	**Torodi Ar. Bea**	**50.22**	**22**	P	**P**	**19 15 32.4**	**-1.1**
	comp=Z,19nm,0.9s,baz=199,slow=6.5,SNR=44						
TORD				LR	LR	19 32 41.8	
	comp=Z,1μm,19.2s,baz=190,slow=31						
LPAZ	**La Paz**	**50.43**	**277**	P	**P**	**19 15 35.4**	**-0.6**
	comp=Z,6.2nm,1.1s,baz=98,slow=8.0,SNR=8.5						
LPAZ				LR	LR	19 36 28.8	
	comp=Z,1μm,19.4s,baz=120,slow=36						
LPAZ	**La Paz**	**50.43**	**277**	*e*P	**P**	**19 15 33.3**	**-2.6**
LPAZ				pmax	pmax		
	comp=Z,46nm,1.9s						
LPAZ	**La Paz**	**50.43**	**277**	*e*P	**P**	**19 15 33.3**	**-2.6**
	comp=Z,46nm,1.9s						
SAML	**Samuel**	**50.61**	**289**	P	**P**	**19 15 34.1**	**-2.4**
	comp=Z,87nm,1.8s						
SAML				LR	LR		
	comp=Z,3μm,20.0s						
CRZF	**Crozet Islands**	**51.00**	**125**	S	S	19 22 49.0	-7.1
CRZF				R		19 29 00.0	
ARE	**Arequipa**	**53.10**	**275**	*e*P	**P**	**19 15 56.0**	**+0.5**
ARE	**Arequipa**	**53.10**	**275**	*e*P	**P**	**19 15 56.0**	**+0.5**
PTGA	**Pitinga**	**53.54**	**299**	P	**P**	**19 15 58.7**	**+0.3**
	comp=Z,7.0nm,0.9s,baz=121,slow=8.8,SNR=9.8						
PTGA				LR	LR	19 37 12.6	
	comp=Z,1μm,19.8s,baz=137,slow=34						
PTGA	**Pitinga**	**53.54**	**299**	*e*P	**P**	**19 15 56.7**	**-1.7**
	comp=Z,32nm,1.3s						
MAW	**Mawson**	**54.05**	**152**	P	**P**	**19 16 03.1**	**+1.7**
	comp=Z,7.6nm,0.8s,baz=286,slow=5.6,SNR=6.7						
MAW				LR	LR	19 33 56.8	
	comp=Z,1μm,21.5s,baz=258,slow=30						
MAW	**Mawson**	**54.05**	**152**	*e*P	**P**	**19 16 01.7**	**+0.3**
MAW				pmax	pmax		
	comp=Z,12nm,1.6s						
MAW	**Mawson**	**54.05**	**152**	*e*P	**P**	**19 16 01.7**	**+0.3**
	comp=Z,12nm,1.6s						
MBAR	**Mbarara**	**54.73**	**62**	*e*P	**P**	**19 16 08.3**	**+1.1**
MBAR	**Mbarara**	**54.73**	**62**	*e*P	**P**	**19 16 08.4**	**+1.1**
MBAR				pmax	pmax		
	comp=Z,36nm,1.1s						
MBAR	**Mbarara**	**54.73**	**62**	*e*P	**P**	**19 16 08.4**	**+1.1**
	comp=Z,36nm,1.1s						
QSPA	**South Pole Qui**	**55.60**	**180**	P	**P**	**19 16 15.6**	**+2.7**
	comp=Z,23nm,1.0s,baz=218,slow=2.8,SNR=41						
QSPA	**South Pole Qui**	**55.60**	**180**	*e*P	**P**	**19 16 12.2**	**-0.7**
ABPO	**Ambohimpanom**	**57.17**	**91**	PFAKE		19 16 40.0	+15
ABPO				LR	LR		
	comp=Z,2μm,22.0s						
KMBO	**Kilima Mbogo**	**59.24**	**68**	P	**P**	**19 16 40.3**	**+1.0**
	comp=Z,1.0nm,0.4s,baz=167,slow=8.2,SNR=4.1						
KMBO				LR	LR	19 39 53.4	
	comp=Z,2μm,20.6s,baz=235,slow=34						
NNA	**Nana**	**59.86**	**276**	PFAKE		19 17 00.0	+17
NNA				LR	LR		
	comp=Z,862nm,22.0s						
TAM	**Tamanrasset**	**60.47**	**22**	P	**P**	**19 16 44.6**	**-2.8**
TAM				pmax	pmax		
	comp=Z,18nm,1.4s						
TAM				MLR	MLR		
	comp=Z,714nm,19.0s						
TAM	**Tamanrasset**	**60.47**	**22**	P	**P**	**19 16 44.6**	**-2.8**
	comp=Z,18nm,1.4s						
TAM				LR	LR		
	comp=Z,714nm,19.0s						
PAF	**Port-aux-Franc**	**61.99**	**132**	S	S	19 25 12.0	-10
PAF				R		19 34 00.0	
ATAH	**Atahualpa**	**63.83**	**280**	P	**P**	**19 17 12.2**	**+1.6**
	comp=Z,5.2nm,0.8s,baz=122,slow=3.1,SNR=8.6						
GRGR	**Grenville**	**63.95**	**308**	PFAKE		19 17 20.0	+9.2
GRGR				LR	LR		
	comp=Z,723nm,20.0s						
PCRV	**Puerto La Cruz**	**64.51**	**304**	P	**P**	**19 17 15.3**	**+0.9**
	comp=Z,6.6nm,0.8s,baz=43,slow=5.0,SNR=4.3						
FDF	**Fort de France**	**65.58**	**310**	PFAKE		19 17 30.0	+8.6
FDF				LR	LR		
	comp=Z,610nm,22.0s						
SBA	**Scott Base**	**67.76**	**180**	P	**P**	**19 17 33.6**	**-0.9**
SBA				pmax	pmax		
	comp=Z,186nm,2.0s						
SBA				MLR	MLR		
	comp=Z,970nm,22.0s						
SBA	**Scott Base**	**67.76**	**180**	P	**P**	**19 17 33.6**	**-0.9**
	comp=Z,186nm,2.0s						
SBA				LR	LR		
	comp=Z,970nm,22.0s						
SDV	**Santo Domingo**	**67.82**	**299**	*e*P	**P**	**19 17 34.9**	**-1.1**
	comp=Z,57nm,1.8s						
SDV				LR	LR		
	comp=Z,2μm,22.0s						
ROSC	**El Rosal**	**67.91**	**293**	LR	LR	19 46 21.8	
	comp=Z,3μm,18.2s,baz=147,slow=35						
VNDA	**Vanda**	**68.09**	**179**	P	**P**	**19 17 39.1**	**+2.5**
	comp=Z,5.8nm,0.9s,baz=208,slow=6.4,SNR=22						
VNDA	**Vanda**	**68.09**	**179**	*e*P	**P**	**19 17 36.9**	**+0.3**
VNDA				pmax	pmax		
	comp=Z,95nm,1.8s						
VNDA	**Vanda**	**68.09**	**179**	*e*P	**P**	**19 17 36.9**	**+0.3**
	comp=Z,95nm,1.8s						
ANWB	**Willy Bob**	**68.20**	**312**	PFAKE		19 17 50.0	+12
ANWB				LR	LR		
	comp=Z,749nm,21.0s						
OTAV	**Otavalo**	**68.22**	**286**	*e*P	**P**	**19 17 39.2**	**+0.4**
	comp=Z,175nm,2.9s						
CASY	**Casey**	**71.22**	**160**	*e*P	**P**	**19 17 56.2**	**+0.1**
	comp=Z,30nm,1.4s						
CASY				LR	LR		
	comp=Z,698nm,22.0s						
SJG	**San Juan**	**71.27**	**309**	PFAKE		19 18 10.0	+13
SJG				LR	LR		
	comp=Z,561nm,21.0s						
MSEY	**Mahe Island**	**71.62**	**83**	PFAKE		19 18 10.0	+11
MSEY				LR	LR		
	comp=Z,1μm,20.0s						
PFVI	**Vila Bisbo**	**71.67**	**6**	*e*P	**P**	**19 17 59.7**	**+0.8**
	comp=Z,100nm,1.8s						
PFVI	**Vila Bisbo**	**71.67**	**6**	*e*LR	LR	19 41 05.0	
	comp=Z,313nm,20.0s						
PBDV	**Barranco-do-Ve**	**71.86**	**6**	*e*P	**P**	**19 18 02.4**	**+2.3**
	comp=Z,42nm,1.7s						
PBDV	**Barranco-do-Ve**	**71.86**	**6**	*e*LR	LR	19 40 55.6	
	comp=Z,243nm,20.0s						
MORF	**Marmelete**	**71.86**	**6**	*e*LR	LR	19 40 21.1	
	comp=Z,338nm,22.0s						
PVAQ	**Vaqueiros**	**72.03**	**6**	*e*P	**P**	**19 18 01.6**	**+0.5**
	comp=Z,39nm,1.6s						
PVAQ	**Vaqueiros**	**72.03**	**6**	*e*LR	LR	19 41 30.1	
	comp=Z,265nm,22.0s						
PCVE	**Castro Verde**	**72.23**	**6**	*e*LR	LR	19 41 58.3	
	comp=Z,1μm,20.0s						
PNCL	**Nicolau / Gran**	**72.67**	**6**	*e*P	**P**	**19 18 06.7**	**+1.8**
	comp=Z,34nm,1.3s						
PNCL				*e*P	**PcP**	**19 18 17.6**	**-4.6**
PNCL	**Nicolau / Gran**	**72.67**	**6**	*e*LR	LR	19 41 36.4	
	comp=Z,284nm,20.0s						
PBAR	**Barrancos**	**72.86**	**7**	*e*P	**P**	**19 18 08.3**	**+2.3**
	comp=Z,63nm,1.8s						
PBAR	**Barrancos**	**72.86**	**7**	*e*LR	LR	19 42 04.6	
	comp=Z,397nm,18.0s						
EVOP	**Sao Brissos**	**73.11**	**6**	*e*P	**P**	**19 18 08.4**	**+0.9**
EVOP				pmax	pmax		
	comp=Z,23nm,1.1s						
EVOP	**Sao Brissos**	**73.11**	**6**	*e*P	**P**	**19 18 08.4**	**+0.9**
	comp=Z,23nm,1.1s						
EVO	**Evora**	**73.13**	**6**	*e*P	**P**	**19 18 08.4**	**+0.8**
	comp=Z,23nm,1.1s						
EVO				*e*R			
	comp=

DRV Dumont d'Urvil 77.27 170 S S 19 28 17.0 -3.6
DRV L L 19 40 00.0
DRV R 19 44 00.0
ETSF Etsaut 78.35 11 *e*P **P 19 18 37.9 +0.4**
comp=Z,63nm,1.6s
ETSF Etsaut 78.35 11 *e*P **P 19 18 37.9 +0.4**
ETSF pmax pmax
comp=Z,63nm,1.6s
ETSF Etsaut 78.35 11 *e*P **P 19 18 37.9 +0.4**
comp=Z,63nm,1.6s
SJPF Ste Jean 78.46 11 *e*P **P 19 18 38.6 +0.6**
comp=Z,136nm,1.7s
SJPF Ste Jean 78.46 11 *e*P **P 19 18 38.6 +0.6**
SJPF pmax pmax
comp=Z,136nm,1.7s
SJPF Ste Jean 78.46 11 *e*P **P 19 18 38.6 +0.6**
comp=Z,136nm,1.7s
GTBY Guantanamo Bay 78.51 304 PFAKE 19 18 50.0 +11
GTBY LR LR
comp=Z,907nm,20.0s
EPF Esparros 78.63 12 *e*P **P 19 18 39.1 +0.1**
comp=Z,58nm,1.5s
EPF Esparros 78.63 12 *e*P **P 19 18 39.1 +0.1**
EPF pmax pmax
comp=Z,58nm,1.5s
EPF Esparros 78.63 12 *e*P **P 19 18 39.1 +0.1**
comp=Z,58nm,1.5s
MTDJ Mount Denham 79.04 301 PFAKE 19 18 50.0 +8.1
MTDJ LR LR
comp=Z,1µm,20.0s
TIP Timpagrande 79.25 25 PFAKE 19 18 50.0 +7.5
TIP LR LR
comp=Z,183nm,21.0s
MTLF Montolieu 79.26 13 *e*P **P 19 18 43.0 +0.6**
comp=Z,99nm,1.8s
MTLF Montolieu 79.26 13 *e*P **P 19 18 43.0 +0.6**
MTLF pmax pmax
comp=Z,99nm,1.8s
MTLF Montolieu 79.26 13 *e*P **P 19 18 43.0 +0.6**
comp=Z,99nm,1.8s
JTS JuntasAbangare 79.47 290 PFAKE 19 19 00.0 +16
JTS LR LR
comp=Z,2µm,22.0s
PGF Pioggiola 80.00 18 *e*P **P 19 18 46.4 -0.2**
comp=Z,94nm,1.3s
PGF Pioggiola 80.00 18 *e*P **P 19 18 46.4 -0.2**
PGF pmax pmax
comp=Z,94nm,1.3s
PGF Pioggiola 80.00 18 *e*P **P 19 18 46.4 -0.2**
comp=Z,94nm,1.3s
SANT Santorini 80.25 32 PFAKE 19 19 00.0 +12
SANT LR LR
comp=Z,864nm,22.0s
LASF Ste Croix 80.28 14 *e*P **P 19 18 47.9 -0.1**
comp=Z,124nm,1.6s
LASF Ste Croix 80.28 14 *e*P **P 19 18 47.9 -0.1**
comp=Z,124nm,1.6s
SMRF Simiane la Rot 80.54 15 *e*P **P 19 18 49.3 -0.1**
SMRF Simiane la Rot 80.54 15 *e*P **P 19 18 49.3 -0.1**
LFF La Frestale 80.55 12 *e*P **P 19 18 49.6 +0.3**
LFF La Frestale 80.55 12 *e*P **P 19 18 49.6 +0.3**
LFF La Frestale 80.55 12 *e*P **P 19 18 49.6 +0.3**
CAF Calviac 80.76 12 *e*P **P 19 18 50.5 0.0**
comp=Z,95nm,1.9s
CAF Calviac 80.76 12 *e*P **P 19 18 50.5 0.0**
CAF pmax pmax
comp=Z,95nm,1.9s
CAF Calviac 80.76 12 *e*P **P 19 18 50.5 0.0**
comp=Z,95nm,1.9s
RJF Les Rejaudoux 81.03 12 *e*P **P 19 18 51.9 0.0**
comp=Z,65nm,1.5s
RJF *e*R
comp=Z,322nm,19.2s
RJF Les Rejaudoux 81.03 12 *e*P **P 19 18 51.9 0.0**
RJF pmax pmax
comp=Z,65nm,1.5s
RJF Les Rejaudoux 81.03 12 *e*P **P 19 18 51.9 0.0**
comp=Z,65nm,1.5s
BBSR BB Station 81.18 320 PFAKE 19 19 00.0 +7.0
BBSR LR LR
comp=Z,256nm,21.0s
VIVF Saint-Julien-l 81.19 14 *e*P **P 19 18 53.1 +0.3**
comp=Z,84nm,1.6s
VIVF Saint-Julien-l 81.19 14 *e*P **P 19 18 53.1 +0.3**
VIVF pmax pmax
comp=Z,84nm,1.6s
VIVF Saint-Julien-l 81.19 14 *e*P **P 19 18 53.1 +0.3**
comp=Z,84nm,1.6s
ORIF Oris-en-Rattie 81.50 15 *e*P **P 19 18 54.7 +0.1**
comp=Z,42nm,1.3s
ORIF *e*R
comp=Z,496nm,22.8s
ORIF Oris-en-Rattie 81.50 15 *e*P **P 19 18 54.7 +0.1**
ORIF pmax pmax
comp=Z,42nm,1.3s
ORIF Oris-en-Rattie 81.50 15 *e*P **P 19 18 54.7 +0.1**
comp=Z,42nm,1.3s
MBDF Montbardon 81.52 16 *e*P **P 19 18 55.0 +0.3**
MBDF Montbardon 81.52 16 *e*P **P 19 18 55.0 +0.3**
MBDF Montbardon 81.52 16 *e*P **P 19 18 55.0 +0.3**
SSB Saint Sauveur 81.57 14 PFAKE 19 19 10.0 +15
SSB LR LR
comp=Z,290nm,20.0s
RAYN Ar Rayn 81.74 54 P **P 19 18 58.7 +2.4**
comp=Z,62nm,1.4s,SNR=5.2
RAYN Ar Rayn 81.74 54 P **P 19 18 55.1 -1.1**
comp=Z,14nm,1.4s
RAYN LR LR
comp=Z,867nm,20.0s
BNI Bardonecchia 81.81 16 PFAKE 19 19 10.0 +14
BNI LR LR
comp=Z,358nm,20.0s
VLC Villacollemand 81.86 18 PFAKE 19 19 10.0 +14
VLC LR LR
comp=Z,213nm,19.0s
MFF Saint Martin d 82.03 11 *e*P **P 19 18 57.2 +0.1**
comp=Z,110nm,1.8s
MFF Saint Martin d 82.03 11 *e*P **P 19 18 57.2 +0.1**
MFF pmax pmax
comp=Z,110nm,1.8s
MFF Saint Martin d 82.03 11 *e*P **P 19 18 57.2 +0.1**
comp=Z,110nm,1.8s
TCF Toulx Ste Croi 82.11 12 *e*P **P 19 18 58.2 +0.6**
comp=Z,54nm,1.7s
TCF Toulx Ste Croi 82.11 12 *e*P **P 19 18 58.2 +0.6**
TCF pmax pmax
comp=Z,54nm,1.7s
TCF Toulx Ste Croi 82.11 12 *e*P **P 19 18 58.2 +0.6**
comp=Z,54nm,1.7s
LPG La Plagne 82.25 16 *e*P **P 19 18 59.1 +0.4**
comp=Z,62nm,1.6s
LPG La Plagne 82.25 16 *e*P **P 19 18 59.1 +0.4**
LPG pmax pmax
comp=Z,62nm,1.6s
LPG La Plagne 82.25 16 *e*P **P 19 18 59.1 +0.4**
comp=Z,62nm,1.6s
LPL La Plagne 82.26 15 *e*P **P 19 18 59.0 +0.3**
comp=Z,63nm,1.5s
LPL La Plagne 82.26 15 *e*P **P 19 18 59.0 +0.3**
LPL pmax pmax
comp=Z,63nm,1.5s
LPL La Plagne 82.26 15 *e*P **P 19 18 59.0 +0.3**
comp=Z,63nm,1.5s
SMF Signal de Mont 82.75 13 *e*P **P 19 19 00.9 0.0**
comp=Z,70nm,1.6s
SMF Signal de Mont 82.75 13 *e*P **P 19 19 00.9 0.0**
SMF pmax pmax
comp=Z,70nm,1.6s
SMF Signal de Mont 82.75 13 *e*P **P 19 19 00.9 0.0**
comp=Z,70nm,1.6s
AVF Avril sur Loir 82.80 13 *e*P **P 19 19 01.2 +0.1**
comp=Z,60nm,1.4s
AVF Avril sur Loir 82.80 13 *e*P **P 19 19 01.2 +0.1**
AVF pmax pmax
comp=Z,60nm,1.4s
AVF Avril sur Loir 82.80 13 *e*P **P 19 19 01.2 +0.1**
comp=Z,60nm,1.4s
CSS Prodhromos 82.87 38 PFAKE 19 19 10.0 +8.1
CSS LR LR
comp=Z,47nm,19.0s
SSF Saint Saulge 83.09 13 *e*P **P 19 19 03.0 +0.3**
comp=Z,39nm,1.3s
SSF Saint Saulge 83.09 13 *e*P **P 19 19 03.0 +0.3**
SSF pmax pmax
comp=Z,39nm,1.3s
SSF Saint Saulge 83.09 13 *e*P **P 19 19 03.0 +0.3**
comp=Z,39nm,1.3s
CABF La Chapelle 83.16 15 *e*P **P 19 19 02.9 -0.3**
comp=Z,59nm,1.5s
CABF La Chapelle 83.16 15 *e*P **P 19 19 02.9 -0.3**
CABF pmax pmax
comp=Z,59nm,1.5s
CABF La Chapelle 83.16 15 *e*P **P 19 19 02.9 -0.3**
comp=Z,59nm,1.5s
SGMF Saint Gilles 83.32 9 *e*P **P 19 19 03.9 +0.1**
SGMF Saint Gilles 83.32 9 *e*P **P 19 19 03.9 +0.1**
SGMF Saint Gilles 83.32 9 *e*P **P 19 19 03.9 +0.1**
LOR Lormes 83.35 13 *e*P **P 19 19 04.3 +0.2**
comp=Z,74nm,1.7s
LOR *e*R
comp=Z,334nm,20.2s
LOR Lormes 83.35 13 *e*P **P 19 19 04.3 +0.2**
LOR pmax pmax
comp=Z,74nm,1.7s
LOR Lormes 83.35 13 *e*P **P 19 19 04.3 +0.2**
comp=Z,74nm,1.7s
GRR Gorron 83.67 10 *e*P **P 19 19 05.9 +0.3**
comp=Z,99nm,1.6s
GRR Gorron 83.67 10 *e*P **P 19 19 05.9 +0.3**
GRR pmax pmax
comp=Z,99nm,1.6s
GRR Gorron 83.67 10 *e*P **P 19 19 05.9 +0.3**
comp=Z,99nm,1.6s
ISP Isparta 83.75 35 PFAKE 19 19 20.0 +14
ISP LR LR
comp=Z,146nm,19.0s
TUE Stuetta 83.76 17 PFAKE 19 19 20.0 +14
TUE LR LR
comp=Z,499nm,20.0s
MMB Musomiste 83.93 28 ⇓*e*P **P 19 19 05.4 -1.8**
MMB Musomiste 83.93 28 ⇓*i*P **P 19 19 05.4 -1.8**
LDF La Druitiere 83.98 10 *e*P **P 19 19 07.3 +0.1**
comp=Z,122nm,1.6s
LDF La Druitiere 83.98 10 *e*P **P 19 19 07.3 +0.1**
LDF pmax pmax
comp=Z,123nm,1.6s
LDF La Druitiere 83.98 10 *e*P **P 19 19 07.3 +0.1**
comp=Z,122nm,1.6s
FLN La Foliniere 84.09 10 *e*P **P 19 19 07.9 +0.1**
comp=Z,66nm,1.4s
FLN *e*R
comp=Z,513nm,18.8s
FLN La Foliniere 84.09 10 *e*P **P 19 19 07.9 +0.1**
FLN pmax pmax
comp=Z,66nm,1.4s
FLN La Foliniere 84.09 10 *e*P **P 19 19 07.9 +0.1**
comp=Z,66nm,1.4s
BOJS Bojanci 84.45 21 *i* P P 19 19 13.9 +4.2
HINF Hinteralfeld 84.47 15 *e*P **P 19 19 09.3 -0.5**
HINF Hinteralfeld 84.47 15 *e*P **P 19 19 09.3 -0.5**
HINF Hinteralfeld 84.47 15 *e*P **P 19 19 09.3 -0.5**
SFTF Sexfontaines 84.47 14 *e*P **P 19 19 09.7 0.0**
comp=Z,73nm,1.7s
SFTF Sexfontaines 84.47 14 *e*P **P 19 19 09.7 0.0**
comp=Z,73nm,1.7s
HAU Haudompre 84.55 14 *e*P **P 19 19 09.9 -0.2**
HAU *e*R
comp=Z,151nm,23.0s
HAU Haudompre 84.55 14 *e*P **P 19 19 09.9 -0.2**
HAU Haudompre 84.55 14 *e*P **P 19 19 09.9 -0.2**
VTS Vitosha 84.59 28 ⇓*e*P **P 19 19 10.7 +0.1**
VTS Vitosha 84.59 28 ⇓*i*P **P 19 19 10.7 +0.1**
VISS Visnje 84.61 21 *e*P **P 19 19 12.4 +1.9**
DAVA Damuels 84.66 17 ⇑*i*P **P 19 19 10.5 -0.4**
comp=Z,18nm,1.2s
DIVS Divibare 84.72 25 ⇑*i*P **P 19 19 11.2 0.0**
MEZF Maizieres J'vi 84.76 13 *e*P **P 19 19 11.7 +0.5**
comp=Z,142nm,1.9s
MEZF Maizieres J'vi 84.76 13 *e*P **P 19 19 11.7 +0.5**
comp=Z,142nm,1.9s
ABTA Abfaltersbach 84.82 19 ⇑*i*P **P 19 19 11.6 -0.1**
comp=Z,20nm,1.4s,SNR=5.7
ECH Echery 84.92 15 PFAKE 19 19 20.0 +8.0
ECH LR LR
comp=Z,273nm,19.0s
PAGF Fort de Pagny 84.94 14 *e*P **P 19 19 12.6 +0.5**
comp=Z,20nm,1.7s
PAGF Fort de Pagny 84.94 14 *e*P **P 19 19 12.6 +0.5**
comp=Z,20nm,1.7s
WTTA Wattenberg 85.07 18 ⇑*i*P **P 19 19 12.5 -0.5**
comp=Z,18nm,1.3s,SNR=5.4
CDF Champ du Feu 85.13 15 *e*P **P 19 19 12.8 -0.3**
comp=Z,22nm,1.3s
CDF Champ du Feu 85.13 15 *e*P **P 19 19 12.8 -0.3**
CDF pmax pmax
comp=Z,22nm,1.3s
CDF Champ du Feu 85.13 15 *e*P **P 19 19 12.8 -0.3**
comp=Z,22nm,1.3s
BFO Black Forest 85.28 16 *e*P **P 19 19 13.5 -0.3**
BFO pmax pmax
comp=Z,17nm,1.3s
BFO MLR MLR
comp=Z,219nm,19.0s
BFO Black Forest 85.28 16 *e*P **P 19 19 13.5 -0.3**
comp=Z,17nm,1.3s
BFO LR LR
comp=Z,219nm,19.0s
PERS Pernice 85.44 21 *e*P **P 19 19 16.8 +2.0**
SOKA Soboth 85.46 20 ⇑*i*P **P 19 19 15.4 +0.6**
comp=Z,16nm,1.3s,SNR=8.2
WLF Walferdange 86.09 14 PFAKE 19 19 30.0 +12
WLF LR LR
comp=Z,247nm,19.0s
BAIF Baives 86.10 13 *e*P **P 19 19 18.1 +0.3**
comp=Z,68nm,1.6s
BAIF Baives 86.10 13 *e*P **P 19 19 18.1 +0.3**
BAIF pmax pmax
comp=Z,69nm,1.6s
BAIF Baives 86.10 13 *e*P **P 19 19 18.1 +0.3**
comp=Z,68nm,1.6s
ARSA Arzberg 86.12 21 *i* P **P 19 19 18.4 +0.4**
comp=Z,9.9nm,1.0s,SNR=6.1
PKSM Moragy 86.14 23 ⇑P **P 19 19 18.2 +0.1**
PKSM Moragy 86.14 23 ⇑*i*P **P 19 19 18.2 +0.1**
PKSM Moragy 86.14 23 ⇑*e*P **P 19 19 19.7 +1.6**
BR231 Keskin MP Arra 86.42 35 *e*P **P 19 19 21.0 +1.2**
ANTO Ankara 86.45 35 PFAKE 19 19 30.0 +10
ANTO LR LR
comp=Z,154nm,21.0s
BRTR Keskin Array B 86.74 36 P **P 19 19 21.1 -0.3**
comp=Z,1.0nm,0.8s,baz=188,slow=5.2,SNR=6.7
SOP Sopron 86.81 21 ⇓*e*P **P 19 19 23.2 +1.8**
CONA Conrad Observa 86.83 20 ⇑*i*P **P 19 19 23.1 +1.5**
comp=Z,15nm,1.7s
GERES GERESS Array B 87.07 19 P **P 19 19 22.7 0.0**
comp=Z,0.7nm,0.8s,baz=188,slow=4.0,SNR=5.9
GERES PP **PP 19 22 45.6 -1.0**
comp=Z,2.3nm,1.0s,baz=195,slow=8.3,SNR=8.0
GERES LR LR 19 55 26.5
comp=Z,264nm,21.0s,baz=228,slow=34
KHC Kasperske Hory 87.30 19 *e*P **P 19 19 24.3 +0.5**
KHC *e*pP **pP 19 19 29.2 +2.1**
KHC *ex* x 19 19 35.8
KHC *ex* x 19 19 45.5
KHC *e*PP **PP 19 22 46.3 -2.2**
KHC AMS AMS 19 55 20.0
comp=Z,300nm,16.2s
KHC Kasperske Hory 87.30 19 *e*P **P 19 19 24.3 +0.5**
KHC *e* 19 19 29.2
KHC *e* 19 22 46.3
KHC MLR MLR
comp=Z,300nm,16.2s
TREC Trest 87.96 20 AMS AMS 19 58 00.0
comp=Z,400nm,14.1s
DRGR 88.01 25 ⇓P **P 19 19 28.0 +0.7**
DRGR 88.01 25 ⇓*i*P **P 19 19 28.0 +0.7**
NKC Novy Kostel 88.02 17 *e*P **P 19 19 28.2 +1.0**
NKC *e*PP **PP 19 22 51.8 -2.5**
NKC AMS AMS 19 55 10.0
NKC Novy Kostel 88.02 17 *e*P **P 19 19 28.2 +1.0**
NKC *e* 19 22 51.8
PSZ Piszkesteto 88.05 23 *e*P **P 19 19 27.8 +0.4**
PSZ pmax pmax
comp=Z,16nm,1.2s
PSZ MLR MLR
comp=Z,329nm,19.0s
PSZ Piszkesteto 88.05 23 ⇑*i*P **P 19 19 29.6 +2.2**
PSZ Piszkesteto 88.05 23 *e*P **P 19 19 27.8 +0.4**
comp=Z,16nm,1.2s
PSZ LR LR
comp=Z,329nm,19.0s
PSZ Piszkesteto 88.05 23 ⇑*e*P **P 19 19 27.6 +0.2**
MLR Muntele Rosu 88.09 28 ⇑P **P 19 19 27.3 -0.5**
MLR Muntele Rosu 88.09 28 ⇑*i*P **P 19 19 27.3 -0.5**
TEIG Tepich 88.10 296 PFAKE 19 19 40.0 +12
TEIG LR LR
comp=Z,709nm,20.0s
VYHS Vyhne 88.22 22 *e*P **P 19 19 28.1 -0.1**
VYHS pmax pmax
comp=Z,11nm,1.7s
VYHS Vyhne 88.22 22 *e*P **P 19 19 28.0 -0.1**
GOPC GO Pecny, Ondr 88.33 19 *e*P **P 19 19 28.7 0.0**
GOPC AMS AMS 19 55 30.0
comp=Z,300nm,18.4s
PRU Pruhonice 88.33 19 *e*P **P 19 19 29.1 +0.5**
PRU *e*pP **pP 19 19 33.3 +1.3**
PRU AMS AMS 19 55 50.0
comp=Z,300nm,17.6s
PRU Pruhonice 88.33 19 *e*P **P 19 19 29.1 +0.5**
PRU *e* 19 19 33.3
PRU MLR MLR
comp=Z,300nm,17.6s
PRA Prague 88.38 19 AMS AMS 19 55 30.0
PVCC Panska Ves 88.83 19 *e*PP PP 19 23 02.1 +1.4
PVCC AMS AMS 19 56 10.0
comp=Z,300nm,20.2s
DPC Dobruska-Polom 89.15 20 *e*P P 19 19 27.8 -4.7
DPC *e*pP **PcP 19 19 33.7 -0.3**
DPC *e*PP **PP 19 23 01.6 -1.7**
DPC Dobruska-Polom 89.15 20 *e*P P 19 19 27.8 -4.7
DPC *e* 19 19 33.7
DPC *e* 19 23 01.6
CLL Collm 89.15 17 *e*P **P 19 19 32.0 -0.4**
comp=Z,33nm,2.0s
CLL *e*PP **PP 19 23 01.0 -2.2**
CLL *e*PS **PS 19 31 36.0 +9.0**
CLL *e*SS SS 19 36 12.0 -3.8
CLL Lm MLR 19 56 00.0
comp=Z,200nm,20.2s
CLL Collm 89.15 17 *e*P **P 19 19 32.0 -0.4**
CLL *e* 19 23 01.0
CLL pmax pmax
comp=Z,33nm,2.0s
CLL MLR MLR
comp=Z,200nm,20.2s
OKC Ostrava-Krasne 89.21 21 *e*P **P 19 19 33.3 +0.6**
OKC AMS AMS 20 00 20.0
comp=Z,200nm,14.0s
OKC Ostrava-Krasne 89.21 21 *e*P **P 19 19 33.3 +0.6**
OKC MLR MLR
comp=Z,200nm,14.0s
UZH Uzhgorod 89.45 24 *e*P **P 19 19 33.9 0.0**
BUR04 Bucovina Ar. S 89.61 26 *e*P **P 19 19 36.9 +2.1**
KWP Kalwaria Pacla 90.46 24 ⇓P **P 19 19 39.9 +1.3**
KWP Kalwaria Pacla 90.46 24 ⇓*i*P **P 19 19 39.9 +1.3**
KWP Kalwaria Pacla 90.46 24 PFAKE 19 19 50.0 +11
KWP LR LR
comp=Z,248nm,19.0s
NHSC New Hope 90.74 311 PFAKE 19 19 50.0 +10
NHSC LR LR
comp=Z,468nm,21.0s
CNNC Cliffs of the 90.78 313 PFAKE 19 19 50.0 +10
CNNC LR LR
comp=Z,468nm,22.0s
LVV L'vov 91.06 24 *e*P **P 19 19 40.0 -1.4**
CBN Corbin Frederi 92.50 316 PFAKE 19 20 00.0 +12
CBN LR LR
comp=Z,433nm,20.0s
GNI Garni 92.78 42 ⇑*i*P **P 19 19 52.3 +2.4**
GNI pmax pmax
comp=Z,19nm,1.5s
GNI MLR MLR
comp=Z,199nm,18.0s
GNI Garni 92.78 42 *e*P **P 19 19 50.7 +0.8**
comp=Z,54nm,1.9s
GNI LR LR
comp=Z,244nm,20.0s
GOGA Godfrey 93.03 309 PFAKE 19 20 00.0 +9.1
GOGA LR LR
comp=Z,591nm,20.0s
PKME Peaks-Kenny Pk 93.31 325 PFAKE 19 20 00.0 +8.1
PKME LR LR
comp=Z,2µm,20.0s
AK11 Malin Array Si 93.60 27 *e*P **P 19 19 53.1 0.0**
BLA Blacksburg 93.61 314 PFAKE 19 20 00.0 +6.4
BLA LR LR
comp=Z,546nm,20.0s
KIEV Kiev 93.62 27 ⇓*i*P **P 19 19 53.6 +0.4**
KIEV Kiev 93.62 27 PFAKE 19 20 00.0 +6.8
KIEV LR LR
comp=Z,156nm,19.0s
AKASG Malin Array Be 93.64 27 P **P 19 19 52.9 -0.4**
comp=Z,1.5nm,0.8s,baz=220,slow=4.7,SNR=14
AKASG LR LR 20 03 00.9
comp=Z,86nm,18.1s,baz=270,slow=36
BRAL Brewton 93.88 305 PFAKE 19 20 10.0 +15
BRAL LR LR
comp=Z,860nm,20.0s
ZEI Tsey 94.18 39 *e*P **P 19 19 56.1 -0.2**
ZEI pmax pmax
comp=Z,24nm,1.8s
KBZ Khabaz 94.33 38 P **P 19 19 56.9 +0.2**
comp=Z,2.5nm,1.0s,baz=236,slow=24,SNR=5.8
SUW Suwalki 94.38 22 *e*P **P 19 19 58.3 +1.7**
SUW pmax pmax
comp=Z,37nm,0.3s
SUW Suwalki 94.38 22 *e*P **P 19 19 58.3 +1.7**
comp=Z,37nm,0.3s
KIV Kislovodsk 94.38 38 *e*P **P 19 19 58.2 +1.1**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV Kislovodsk 94.38 38 *e*P **P 19 19 58.1 +1.1**
comp=Z,30nm,1.6s
KIV LR LR
comp=Z,195nm,19.0s
BINY Binghamton 94.48 320 PFAKE 19 20 10.0 +13
BINY LR LR
comp=Z,410nm,19.0s
NCB Newcomb 94.79 322 PFAKE 19 20 10.0 +11
NCB LR LR
comp=Z,2µm,20.0s
GOF Gofitskoye 95.35 37 *e*P **P 19 20 01.4 +0.1**
LONY Lake Ozonia 95.43 322 PFAKE 19 20 10.0 +8.3
LONY LR LR
comp=Z,340nm,22.0s
MAK Makhachkala 96.22 41 *e*P P 19 20 11.7 +6.4
H01W2 Cape Leeuwin H 96.25 140 T T 21 08 31.2
baz=221,slow=75,SNR=12
H01W3 Cape Leeuwin H 96.26 140 T T 21 08 37.9
baz=221,slow=75,SNR=12
H01W1 Cape Leeuwin H 96.27 140 T T 21 08 40.5
baz=221,slow=75,SNR=13
ACSO Alum Creek Sta 97.10 314 PFAKE 19 20 20.0 +10
ACSO LR LR
comp=Z,471nm,19.0s
NOA NORSAR Array B 97.79 13 LR LR 20 03 38.6
comp=Z,166nm,18.9s,baz=355,slow=35
AAM Ann Arbor 98.81 316 PFAKE 19 20 30.0 +13
AAM LR LR
comp=Z,495nm,19.0s
SCHQ Schefferville 99.46 333 LR LR 19 57 45.8
comp=Z,268nm,20.4s,baz=115,slow=31
KVTX Kingsville 99.50 297 PFAKE 19 20 30.0 +10
KVTX LR LR
comp=Z,749nm,20.0s
OBN Obninsk 99.86 27 PFAKE 19 20 30.0 +8.7
OBN LR LR
comp=Z,154nm,22.0s
MIAR Mount Ida 100.38 305 PFAKE 19 20 40.0 +16
MIAR LR LR
comp=Z,976nm,20.0s
GLMI Grayling 100.93 317 PFAKE 19 20 40.0 +14
GLMI LR LR
comp=Z,470nm,19.0s
HDIL Hopedale 101.10 312 PFAKE 19 20 40.0 +13
HDIL LR LR
comp=Z,708nm,20.0s
JCT Junction City 102.50 298 PFAKE 19 20 50.0 +16
JCT LR LR
comp=Z,351nm,19.0s
JFWS Jewell Farm 103.05 313 PFAKE 19 20 50.0 +14
JFWS LR LR
comp=Z,547nm,21.0s
WMOK Wichita Mounta 104.06 303 PFAKE 19 20 50.0 +9.3
WMOK LR LR
comp=Z,390nm,20.0s

COWI Conover 104.24 316 PFAKE 19 20 50.0 +8.9
COWI LR LR
comp=Z,450nm,20.0s
SCIA State Center 104.29 311 PFAKE 19 20 50.0 +8.5
SCIA LR LR
comp=Z,562nm,20.0s
SFJD Kangerlussuaq 104.81 346 PFAKE 19 20 50.0 +6.9
SFJD LR LR
comp=Z,328nm,22.0s
KSU1 Kansas State U 104.93 307 PFAKE 19 21 00.0 +16
KSU1 LR LR
comp=Z,628nm,22.0s
EYMN Ely 106.61 317 PFAKE 19 25 10.0
EYMN LR LR
comp=Z,428nm,19.0s
MNTX Cornudas Mount 107.22 297 PFAKE 19 25 20.0
MNTX LR LR
comp=Z,592nm,20.0s
ECSD EROS Data Cent 107.38 311 PFAKE 19 25 20.0
ECSD LR LR
comp=Z,415nm,21.0s
KEV Kevo 108.57 14 PFAKE 19 25 20.0
KEV LR LR
comp=Z,1μm,19.0s
LVZ Lovozero 108.87 18 PFAKE 19 25 20.0
LVZ LR LR
comp=Z,1μm,19.0s
AGMN Agassiz Nation 109.28 316 PFAKE 19 25 20.0
AGMN LR LR
comp=Z,489nm,21.0s
OGNE Ogallala 109.45 307 PFAKE 19 25 20.0
OGNE LR LR
comp=Z,523nm,22.0s
ANMO Albuquerque 109.60 299 PFAKE 19 25 20.0
ANMO LR LR
comp=Z,446nm,20.0s
MBWA Marble Bar 110.01 135 PFAKE 19 25 20.0
MBWA LR LR
comp=Z,911nm,19.0s
ARU Arti 110.11 35 PFAKE 19 25 20.0
ARU LR LR
comp=Z,274nm,19.0s
SDCO Great Sand Dun 110.27 302 PFAKE 19 25 20.0
SDCO LR LR
comp=Z,627nm,22.0s
ISCO Idaho Springs 111.31 304 PFAKE 19 25 20.0
ISCO LR LR
comp=Z,584nm,22.0s
TUC Tucson 111.52 295 PFAKE 19 25 20.0
TUC LR LR
comp=Z,395nm,21.0s
EKS2 Erkin-Say 111.91 53 PFAKE 19 25 20.0
EKS2 LR LR
comp=Z,417nm,22.0s
KSH Kashi 111.94 56 *e*PKP **PKiKP 19 25 14.5 +1.9**
KSH PP **PP 19 26 00.3 +3.8**
KSH PKS **PKSdf 19 28 50.1 +0.8**
KSH SKS **SKSdf 19 32 25.5 +0.7**
KSH SKKS **SKKSac 19 32 54.6 -4.0**
KSH PPMZ
comp=Z,82nm,5.1s
KSH LN
comp=Z,150nm,5.7s
KSH LE
comp=Z,97nm,8.8s
KSH LZ
comp=Z,360nm,16.6s
MVCO Mesa Verde 112.12 301 PFAKE 19 25 20.0
MVCO LR LR
comp=Z,414nm,21.0s
AAK Ala-Archa 112.36 53 PFAKE 19 25 20.0
AAK LR LR
comp=Z,350nm,20.0s
TKM2 Tokmak 2 113.22 53 PFAKE 19 25 30.0
TKM2 LR LR
comp=Z,305nm,21.0s
WUAZ Wupatki 113.42 298 PFAKE 19 25 30.0
WUAZ LR LR
comp=Z,375nm,19.0s
DGMT Dagmar 114.27 313 PFAKE 19 25 30.0 +13
DGMT LR LR
comp=Z,437nm,19.0s
BRVK Borovoye 114.43 41 PFAKE 19 25 30.0 +13
BRVK LR LR
comp=Z,284nm,20.0s
KBS Kingsbay 114.43 6 PFAKE 19 25 30.0 +14
KBS LR LR
comp=Z,2μm,22.0s
LAO LASA Array 114.76 311 PFAKE 19 25 30.0 +12
LAO LR LR
comp=Z,574nm,20.0s
RAR Rarotonga 114.96 217 PFAKE 19 25 30.0 +11
RAR LR LR
comp=Z,4.0nm,21.0s
ASAR Alice Springs 115.09 149 PKP **PKPdf 19 25 18.4 -0.7**
comp=Z,1.0nm,0.7s,baz=195,slow=1.9,SNR=24
AS01 Alice Springs 115.11 149 *e*PKiKP **PKiKP 19 25 17.7 -1.4**
BW06 Boulder Array 115.28 306 PFAKE 19 25 30.0 +11
BW06 LR LR
comp=Z,578nm,19.0s
FFC Flin Flon 115.63 320 PFAKE 19 25 30.0 +11
FFC LR LR
comp=Z,522nm,19.0s
RLMT Red Lodge 116.06 308 PFAKE 19 25 30.0 +10
RLMT LR LR
comp=Z,655nm,22.0s
HWUT Hardware Ranch 116.17 304 PFAKE 19 25 30.0 +9.3
HWUT LR LR
comp=Z,532nm,21.0s
AHID Auburn Hatcher 116.32 305 PFAKE 19 25 30.0 +9.0
AHID LR LR
comp=Z,458nm,21.0s
PFO Pinyon Flats O 116.36 294 PFAKE 19 25 30.0 +8.7
PFO LR LR
comp=Z,355nm,20.0s
DUG Dugway, Tooele 116.46 302 PFAKE 19 25 30.0 +8.7
DUG LR LR
comp=Z,466nm,19.0s
HDB Hidalgo Marine 116.57 295 *e*PKPdf **PKPdf 19 25 23.3 +1.7**
LKWY Lake 116.57 307 PFAKE 19 25 30.0 +8.5
LKWY LR LR
comp=Z,719nm,20.0s
EGMT Eagleton 117.49 311 PFAKE 19 25 30.0 +7.1
EGMT LR LR
comp=Z,400nm,20.0s
BOZ Bozeman (W) 117.79 308 PFAKE 19 25 40.0 +16
BOZ LR LR
comp=Z,429nm,22.0s
KURK Kurchatov 118.25 46 PFAKE 19 25 40.0 +16
KURK LR LR
comp=Z,439nm,22.0s
WRA Warramunga Arr 118.55 147 PKP **PKPdf 19 25 24.0 -1.8**
comp=Z,1.3nm,0.8s,baz=229,slow=2.0,SNR=11
WRAB Tennant Creek 118.56 147 PFAKE 19 25 40.0 +14
WRAB LR LR
comp=Z,875nm,19.0s
HLID Hailey 118.86 305 PFAKE 19 25 40.0 +14
HLID LR LR
comp=Z,369nm,20.0s
LSA Lhasa 118.88 72 PFAKE 19 25 40.0 +13
LSA LR LR
comp=Z,536nm,20.0s
MKAR Makanchi Array 119.13 51 PKP **PKPdf 19 25 26.3 +0.3**
comp=Z,0.2nm,0.7s,baz=243,slow=4.7,SNR=2.3
NVAR Mina Array Bea 119.68 298 PKP **PKPdf 19 25 28.0 +0.4**
comp=Z,0.6nm,0.7s,baz=122,slow=2.6,SNR=3.4
KSM Kuching 119.69 111 PFAKE 19 25 40.0 +12
KSM LR LR
comp=Z,440nm,20.0s
CMAR Chiang Mai Arr 120.03 87 PKP **PKPdf 19 25 28.6 0.0**
comp=Z,0.4nm,0.8s,baz=253,slow=1.4,SNR=4.4
CHTO Chiang Mai 120.20 87 PFAKE 19 25 40.0 +11
CHTO LR LR
comp=Z,318nm,19.0s
BMO Blue Mountains 121.26 305 *e*PKiKP **PKPdf 19 25 30.6 +0.3**
BMO MLR MLR
comp=Z,339nm,19.0s
BMO Blue Mountains 121.26 305 *e*PKPdf **PKPdf 19 25 30.6 +0.3**
BMO LR LR
comp=Z,339nm,19.0s
WVOR Wild Horse Val 121.36 302 PFAKE 19 25 40.0 +9.4
WVOR LR LR
comp=Z,461nm,19.0s
WMQ Urumqi 121.70 56 *e*PKP **PKPdf 19 25 31.8 +0.7**
WMQ LN
comp=Z,130nm,19.6s
WMQ LE
comp=Z,170nm,20.4s
WMQ LZ
comp=Z,190nm,19.8s
KAPI Kappang 122.21 124 PFAKE 19 25 40.0 +7.0
KAPI LR LR
comp=Z,259nm,20.0s
NVS Novosibirsk 122.21 43 *e*PKiKP **PKPdf 19 25 30.0 -1.6**
NVS pmax pmax
comp=Z,9.0nm,1.7s
NEW Newport 122.22 309 PFAKE 19 25 40.0 +8.0
NEW LR LR
comp=Z,445nm,20.0s
G08A Pilot Rock 122.51 306 *e*PKPdf **PKPdf 19 25 33.6 +0.9**
CTAO Charters Tower 122.84 159 PFAKE 19 25 50.0 +16
CTAO LR LR
comp=Z,390nm,19.0s
HAWA Hanford 123.23 307 PFAKE 19 25 50.0 +16
HAWA LR LR
comp=Z,473nm,22.0s
B08A Colville Reser 123.66 309 *e*PKPdf **PKPdf 19 25 34.1 -0.6**
YKA Yellowknife Ar 124.23 326 PKP **PKPdf 19 25 34.5 -0.7**
comp=Z,1.2nm,0.8s,baz=92,slow=1.8,SNR=12
HUMO Hull Mountain 124.44 301 *e*PKPdf **PKPdf 19 25 38.4 +2.0**
KMI Kunming 126.24 82 PKP **PKPdf 19 25 40.9 +0.3**
KMI PP PP 19 27 43.3 +7.7
KMI SS SS 19 44 40.1 +0.5
KMI PPMZ
comp=Z,82nm,4.3s
KMI LN
comp=Z,320nm,18.8s
KMI LE
comp=Z,260nm,22.0s
KMI LZ
comp=Z,430nm,19.6s
NLWA Neilton Lookou 126.36 307 PFAKE 19 25 50.0 +10
NLWA LR LR
comp=Z,433nm,19.0s
KKM Kota Kinabalu 127.12 111 PFAKE 19 25 50.0 +7.5
KKM LR LR
comp=Z,450nm,20.0s
GTA Gaotai 129.03 64 *e*PKP **PKPdf 19 25 46.6 +1.2**
GTA PP PP 19 27 59.3 +5.7
GTA SKS **SKSdf 19 32 57.8 +0.6**
GTA SKKS **SKKSac 19 34 51.3 +0.8**
GTA SS **SS 19 45 17.6 +4.0**
GTA PPMZ
comp=Z,83nm,5.9s
GTA LN
comp=Z,510nm,20.4s
GTA LE
comp=Z,530nm,20.4s
GTA LZ
comp=Z,290nm,20.0s
QIZ Qiongzhong 129.29 93 PKP **PKPdf 19 25 45.5 -0.8**
QIZ PP **PP 19 27 55.3 -0.1**
QIZ SS SS 19 45 18.3 +1.3
QIZ LN
comp=Z,310nm,17.1s
QIZ LZ
comp=Z,370nm,18.3s
QIZ Qiongzhong 129.29 93 PFAKE 19 26 00.0 +14
QIZ LR LR
comp=Z,355nm,20.0s
CD2 Chengdu 129.37 76 PKP **PKPdf 19 25 46.9 +0.7**
CD2 SKKS 19 34 50.8
CD2 PPMZ
comp=Z,110nm,8.3s
CD2 LN
comp=Z,300nm,19.0s
CD2 LE
comp=Z,290nm,19.0s
CD2 LZ
comp=Z,250nm,20.2s
GYA Guiyang 130.01 83 Pdif **Pdif 19 22 36.0 -0.3**
GYA PKP **PKPdf 19 25 48.0 +0.4**
GYA PP **PP 19 28 03.3 +3.1**
GYA PKS **PKSdf 19 29 22.6 -1.8**
GYA SKKS 19 34 53.8
GYA SS **SS 19 45 26.0 -0.1**
GYA PPMZ
comp=Z,130nm,7.8s
GYA LN
comp=Z,140nm,22.8s
GYA LE
comp=Z,120nm,23.0s
GYA LZ
comp=Z,160nm,21.6s
LZH Lanzhou 131.14 70 *e*PKP **PKPdf 19 25 47.5 -2.0**
LZH sPKP 19 25 53.3
LZH LN
comp=Z,510nm,19.4s
LZH LE
comp=Z,250nm,18.2s
LZH LZ
comp=Z,380nm,20.1s
INK Inuvik 132.06 334 PKP **PKPdf 19 25 49.3 -0.7**
comp=Z,3.8nm,1.0s,baz=65,slow=3.4,SNR=7.8
INK Inuvik 132.06 334 PKiKP **PKPdf 19 25 49.3 -0.7**
INK *e* 19 25 50.0
INK Inuvik 132.06 334 PKP **PKPdf 19 25 49.3 -0.7**
INK *e*PKPdf **PKiKP 19 25 50.0 -1.0**
WRAK Wrangell Islan 132.71 318 PFAKE 19 26 00.0 +8.4
WRAK LR LR
comp=Z,322nm,19.0s
PMG Port Moresby 133.17 156 PFAKE 19 26 10.0 +16
PMG LR LR
comp=Z,410nm,21.0s
ZAK Zakamensk 133.46 51 *e*PKiKP **PKPdf 19 25 49.4 -4.0**
ZAK pmax pmax
comp=Z,3.0nm,1.7s
ENH Enshi 133.75 79 PFAKE 19 26 10.0 +16
ENH LR LR
comp=Z,118nm,21.0s
TLY Talaya 133.78 49 PFAKE 19 26 10.0 +16
TLY LR LR
comp=Z,349nm,19.0s
XAN Xi'an 134.51 74 PKP **PKPdf 19 25 58.3 +2.5**
DAV Davao City (W) 134.81 118 PFAKE 19 26 10.0 +13
DAV LR LR
comp=Z,261nm,22.0s
SONM Songino Array 135.29 55 PKP **PKPdf 19 25 56.5 -0.4**
comp=Z,0.3nm,0.7s,baz=101,slow=1.5,SNR=3.6
SONM PP **PP 19 28 36.0 +2.4**
comp=Z,1.0nm,1.1s,baz=328,slow=1.9,SNR=4.6
ULN Ulaanbaatar 135.73 55 *i* PKiKP **PKPdf 19 25 57.0 -0.8**
ULN Ulaanbaatar 135.73 55 PFAKE 19 26 10.0 +12
ULN LR LR
comp=Z,282nm,20.0s
EGAK Eagle 135.88 330 *e*PKPdf **PKPdf 19 25 58.6 +1.3**
EGAK LR LR
comp=Z,518nm,22.0s
HNR Honiara 135.94 173 PFAKE 19 26 10.0 +11
HNR LR LR
comp=Z,535nm,21.0s
WHN Wuhan 137.80 81 ⇓PKP PKPdf 19 25 54.3 -7.6
HHC Hu-ho-hao-te 138.12 65 *e*PKP **PKPdf 19 26 05.3 +2.9**
HHC PP PP 19 28 58.3 +6.7
HHC SKS **SKSdf 19 33 14.3 +1.2**
HHC SS **SS 19 47 06.4 +2.8**
HHC PPMZ
comp=Z,43nm,9.9s
HHC LN
comp=Z,200nm,19.7s
HHC LE
comp=Z,250nm,18.5s
HHC LZ
comp=Z,260nm,16.0s
ILAR Eielson Array 138.20 331 PKhKP PKPpre 19 25 51.1
comp=Z,0.3nm,0.7s,baz=41,slow=1.7,SNR=4.6
ILAR PKP **PKPdf 19 26 00.5 -1.2**
comp=Z,1.8nm,0.9s,baz=0.9,slow=1.1,SNR=14
TIXI Tiksi 138.47 16 ⇓*i* PKiKP **PKPdf 19 26 01.6 -0.3**
TIXI Tiksi 138.47 16 PFAKE 19 26 10.0 +8.1
TIXI LR LR
comp=Z,240nm,20.0s
COLA College 138.54 332 *i* PKiKP **PKPdf 19 26 01.8 -0.4**
COLA College 138.54 332 PFAKE 19 26 10.0 +7.8
COLA LR LR
comp=Z,454nm,20.0s
BOD Bodaibo 139.29 39 *e*PKHKP PKPpre 19 25 56.8
BOD pmax pmax
comp=Z,5.0nm,1.3s
TRF Thorofare Moun 140.09 330 *e*PKPdf **PKPdf 19 26 05.5 +0.2**
BPAW Bear Paw Mtn. 140.10 331 *e*PKPdf **PKPdf 19 26 04.9 -0.3**
IM04 Indian Mountai 140.24 335 *e*PKPdf **PKPdf 19 26 05.8 +0.4**
PPLA Purkeypile 141.11 330 *e*PKPdf **PKPdf 19 26 07.6 +0.4**
YHNB Yeheng 141.38 93 PFAKE 19 26 20.0 +11
YHNB LR LR
comp=Z,346nm,22.0s
BJT Baijiatuau 141.48 67 PFAKE 19 26 20.0 +12
BJT LR LR
comp=Z,251nm,20.0s
BJI Beijing 141.49 67 PKP **PKPdf 19 26 08.8 +0.5**
BJI SS SS 19 47 44.9 +2.1
BJI LN
comp=Z,120nm,15.3s
BJI LE
comp=Z,120nm,22.0s
BJI LZ
comp=Z,190nm,28.9s
NJ2 Nanjing 141.93 81 *e*PKP **PKPdf 19 26 10.8 +1.4**
KDAK Kodiak Island 143.31 322 PFAKE 19 26 20.0 +9.0
KDAK LR LR
comp=Z,564nm,20.0s
HIA Hailar 144.12 52 PFAKE 19 26 20.0 +7.2
HIA LR LR
comp=Z,311nm,19.0s
YAK Yakutsk 144.85 28 PKP **PKPab 19 26 12.4 -0.2**
comp=Z,4.4nm,0.4s,baz=249,slow=2.2,SNR=6.8
YAK Yakutsk 144.85 28 *e*PKIKP **PKPab 19 26 11.9 -0.7**
YAK *e* 19 29 37.2
YAK *e*SS SS 19 48 15.0 -4.8
YAK pmax pmax
comp=Z,10.0nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.5s
YAK pmax pmax
comp=Z,64nm,4.1s
YAK pmax pmax
comp=N,15nm,2.5s
YAK pmax pmax
comp=E,20nm,2.5s
YAK Yakutsk 144.85 28 PKP **PKPab 19 26 12.4 -0.2**
YAK LR LR
comp=Z,335nm,22.0s
TNA Tin City 144.98 340 *e*PKPdf PKPbc 19 26 13.0 0.0
CN2 Changchun 148.55 61 *e*PKPbc **PKPdf 19 26 21.3 +0.9**
INCN Inchon 149.29 74 PFAKE 19 26 30.0 -0.8
INCN LR LR
comp=Z,253nm,19.0s
KSAR Wonju Array Be 150.28 74 PKIKP **PKPbc 19 26 27.5 -1.1**
KSAR Wonju Array Be 150.28 74 PKPbc **PKPbc 19 26 27.4 -1.1**
KSRS Korea Array 150.31 74 PKPbc **PKPbc 19 26 27.4 -1.2**
comp=Z,2.9nm,0.9s,baz=278,slow=2.0,SNR=19
SEY Seymchan 150.67 11 PKP **PKPdf 19 26 22.6 -0.6**
comp=Z,0.4nm,0.3s,baz=163,slow=3.0,SNR=5.2
SEY PKPbc **PKiKP 19 26 29.6 +0.3**
comp=Z,13nm,0.9s,baz=339,slow=1.6,SNR=31
SEY Seymchan 150.67 11 *e*PKIKP **PKPbc 19 26 28.5 -0.1**
MDJ Mudanjiang 151.43 59 PKPbc **PKPbc 19 26 31.0 0.0**
MDJ Mudanjiang 151.43 59 *e*PKPbc **PKPbc 19 26 31.1 0.0**
MDJ LR LR
comp=Z,196nm,20.0s
KLR Kul'dur 151.80 49 *e*PKIKP **PKPdf 19 26 26.8 +1.5**
KLR pmax pmax
comp=Z,38nm,1.4s
USRK Ussuriysk Ar. 153.19 59 PKPbc **PKPbc 19 26 34.2 -0.8**
comp=Z,0.7nm,0.6s,baz=270,slow=7.6,SNR=4.7
MAJO Matsushiro 158.46 77 PFAKE 19 26 50.0 +15
MAJO LR LR
comp=Z,262nm,19.0s
MJAR Matsushiro Arr 158.46 77 PKPab **PKPab 19 27 11.8 +2.2**
comp=Z,3.4nm,1.2s,baz=256,slow=4.1,SNR=6.2
YSS Yuzh-Sakhalins 159.46 47 PFAKE 19 26 50.0 +14
YSS LR LR
comp=Z,164nm,21.0s
PET Petropavlovsk 161.14 11 PFAKE 19 26 50.0 +13
PET LR LR
comp=Z,261nm,19.0s
ERM Erimo 161.65 60 PFAKE 19 26 50.0 +12
ERM LR LR
comp=Z,294nm,20.0s

IDC 16 19:09:40.9±2.4, 10°.91S×165°.52E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/34, mbtmp3.6/4, Error ellipse: s-maj=112.6km s-min=29.3km az=134.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**30.39**	**223**	P	P	19 15 55.0	+0.2
	0.7nm,0.6s,baz=28,slow=8.9,SNR=3.1						
WRA	**Warramunga Arr**	**31.32**	**250**	P	P	19 16 03.0	-0.3
	1.3nm,0.7s,baz=82,slow=9.1,SNR=10						
ASAR	**Alice Springs**	**32.65**	**243**	P	P	19 16 15.1	+0.1
	0.3nm,0.5s,baz=64,slow=10,SNR=12						
ILAR	**Eielson Array**	**83.46**	**19**	P	P	19 22 10.0	0.0
	0.2nm,0.8s,baz=223,slow=10,SNR=3.1						

IDC ***16*** *19:09:56.8±1.1, 10°.89S×165°.63E, h0km, mb4.0/10, mb1 4.3/11, mb1mx4.0/35, mbtmp4.1/11, ML4.7/1, MS3.5/2, Ms1 3.5/2, ms1mx3.0/21, Error ellipse: s-maj=35.6km s-min=19.5km az=124.0*

ISCJB ***16*** *19:09:59.9±0.7, 11°.09S±0°.08×165°.7E±0°.1, h35km, mb3.9/9, MS3.4/1, Error ellipse: s-maj=15.3km s-min=11.4km az=178.4*

ISC 16 19:10:01.6±0.8, 11°.0S±0°.1×165°.8E±0°.1, h35km, n29, σ1s03/22, mb3.9/9, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.94**	**285**	P	**Pn**	**19 11 28.0**	**+0.9**
DZM	**Mont Dzumac**	**11.02**	**177**	Pn	**Pn**	**19 12 37.4**	**+0.6**
	4.7nm,0.3s,baz=90,slow=24,SNR=7.9						
DZM				LR	LR	19 16 00.9	
	comp=Z,240nm,20.8s,baz=0.0,slow=33						
NFK	**Norfolk Island**	**18.05**	**174**	P	**Pn**	**19 14 07.5**	**-2.2**
	baz=17,SNR=3.4						
CTA	**Charters Tower**	**20.83**	**242**	P	**P**	**19 14 40.7**	**+0.3**
	14nm,1.1s,baz=72,slow=15,SNR=4.7						
RMQ	**Roma**	**22.23**	**224**	P	**P**	**19 14 53.7**	**-1.6**
	baz=21,SNR=7.3						
QLP	**Quilpie**	**25.53**	**230**	P	**P**	**19 15 27.2**	**+0.1**
	baz=24,SNR=3.3						
URZ	**Urewera**	**28.97**	**161**	LR	LR	19 25 21.5	
	comp=Z,114nm,21.8s,baz=302,slow=32						
H11S2	**WAKE ISLAND Hy**	**29.33**	**2**	T	T	19 46 40.5	
	baz=181,slow=76,SNR=50						
H11S3	**WAKE ISLAND Hy**	**29.34**	**2**	T	T	19 46 30.3	
	baz=181,slow=76,SNR=31						
H11S1	**WAKE ISLAND Hy**	**29.35**	**2**	T	T	19 46 42.8	
	baz=181,slow=76,SNR=31						
STKA	**Stephens Creek**	**30.48**	**223**	P	**P**	**19 16 11.1**	**-0.2**
	3.8nm,0.8s,baz=32,slow=8.4,SNR=11						
STKA	**Stephens Creek**	**30.48**	**223**	P	**P**	**19 16 12.2**	**+0.9**
	baz=29,SNR=5.1						
H11N1	**WAKE ISLAND Hy**	**30.55**	**2**	T	T	19 48 16.7	
	baz=182,slow=76,SNR=30						
H11N3	**WAKE ISLAND Hy**	**30.56**	**2**	T	T	19 48 17.0	
	baz=182,slow=76,SNR=16						
H11N2	**WAKE ISLAND Hy**	**30.57**	**2**	T	T	19 48 18.0	
	baz=182,slow=76,SNR=20						
WRA	**Warramunga Arr**	**31.51**	**250**	P	**P**	**19 16 20.0**	**-0.6**
	6.4nm,0.9s,baz=80,slow=9.1,SNR=22						
TOO	**Toolangi**	**32.11**	**211**	P	**P**	**19 16 26.7**	**+1.1**
	baz=31,SNR=5.0						
KDU	**Kakadu**	**32.62**	**264**	P	P	19 16 35.8	+5.5
	baz=32,SNR=3.1						
ASAR	**Alice Springs**	**32.83**	**243**	P	**P**	**19 16 30.9**	**-1.1**
	1.1nm,0.6s,baz=65,slow=10,SNR=23						
ASAR				PcP	**PcP**	**19 19 17.6**	**+0.9**
	1.3nm,0.8s,baz=66,slow=2.5,SNR=11						
HTT	**Hallett**	**33.21**	**224**	P	**P**	**19 16 35.7**	**+0.4**
	baz=32,SNR=5.4						
BBOO	**Buckleboo**	**34.87**	**227**	P	**P**	**19 16 49.8**	**+0.1**
	baz=33,SNR=5.4						
WRKA	**Warakurna**	**38.12**	**243**	P	**P**	**19 17 16.9**	**-0.6**
	baz=37,SNR=5.0						
MEEK	**Meekatharra**	**46.98**	**244**	P	**P**	**19 18 30.3**	**+0.7**
	baz=46,SNR=4.4						
MJAR	**Matsushiro Arr**	**53.95**	**333**	P	**P**	**19 19 20.1**	**-1.8**
	0.6nm,0.7s,baz=165,slow=9.9,SNR=4.2						
CMAR	**Chiang Mai Arr**	**72.12**	**294**	P	**P**	**19 21 23.6**	**+0.6**
	1.0nm,0.8s,baz=107,slow=4.7,SNR=7.3						
SONM	**Songino Array**	**78.65**	**324**	P	**P**	**19 21 60.0**	**-0.2**
	0.5nm,0.9s,baz=142,slow=5.6,SNR=3.9						
ILAR	**Eielson Array**	**83.48**	**18**	P	**P**	**19 22 25.5**	**+0.2**

1.5nm,0.7s,baz=234,slow=5.1,SNR=19
NVAR Mina Array Bea 85.99 50 P **P 19 22 40.0 +1.2**
0.3nm,0.5s,baz=235,slow=7.6,SNR=3.8
MKAR Makanchi Array 93.51 317 P **P 19 23 13.1 -0.8**
0.3nm,0.8s,baz=188,slow=4.4,SNR=5.3

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*ISCJB **16** 19:12:23.6±0.6, 85.6°N±0.1×8.7°E±.°, h10km, mb3.3/9, Error ellipse: s-maj=16.9km s-min=11.2km az=152.0*
*IDC **16** 19:12:24.0±0.8, 85.54N×87.92E, h0km, mb3.5/9, mb1 3.7/11, mb1mx3.5/50, mbtmp3.5/11, ML3.4/2, Error ellipse: s-maj=22.2km s-min=15.5km az=140.0*
ISC 16 19:12:25.4±0.7, 85.6°N±0.1×87.5°E±0.1, h10km, n11, σ0s76/12, mb3.4/9, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPITS	**Spitsbergen Ar**	**11.26**	**273**	Pn	**Pn**	**19 15 05.4**	**-0.7**
	baz=45,slow=16,SNR=3.7						
ARCES	**ARCESS Array B**	**18.89**	**254**	P	**Pn**	**19 16 45.8**	**-0.2**
	0.1nm,0.3s,baz=15,slow=9.5,SNR=8.5						
INK	**Inuvik**	**25.36**	**35**	P	**P**	**19 17 53.5**	**+1.6**
	1.7nm,0.8s,baz=352,slow=10.0,SNR=4.5						
SEY	**Seymchan**	**25.62**	**107**	P	**P**	**19 17 53.4**	**-1.0**
	1.2nm,0.3s,baz=288,slow=2.5,SNR=10.0						
FINES	**FINESS Array B**	**26.84**	**249**	P	**P**	**19 18 05.2**	**-0.1**
	1.4nm,1.0s,baz=356,slow=11,SNR=3.2						
ILAR	**Eielson Array**	**28.20**	**47**	P	**P**	**19 18 17.1**	**-0.5**
	0.2nm,0.7s,baz=349,slow=9.2,SNR=2.6						
YKA	**Yellowknife Ar**	**31.85**	**19**	P	**P**	**19 18 49.9**	**+0.1**
	0.3nm,0.6s,baz=359,slow=8.7,SNR=4.1						
YKA				PcP	**PcP**	**19 21 39.9**	**0.0**
	0.2nm,0.6s,baz=331,slow=3.4,SNR=4.5						
AKASG	**Malin Array Be**	**37.30**	**243**	P	**P**	**19 19 57.3**	**+0.6**
	0.3nm,0.5s,baz=13,slow=8.7,SNR=2.5						
SONM	**Songino Array**	**38.15**	**159**	P	**P**	**19 19 44.3**	**-0.1**
	0.2nm,0.4s,baz=346,slow=11,SNR=3.3						
MKAR	**Makanchi Array**	**38.94**	**186**	P	**P**	**19 19 51.5**	**+0.6**
	0.2nm,0.6s,baz=10,slow=9.1,SNR=4.6						
TXAR	**Lajitas Array**	**65.22**	**11**	P	**P**	**19 23 06.6**	**0.0**
	0.2nm,0.6s,baz=6.4,slow=2.4,SNR=3.8						

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*BER **16** 19:20:48.1±2.4, 73.50°N×8.24E, h0km±78km, ML2.6(NAO)*
*CSEM **16** 19:20:49.3±0.8, 73.57°N×9.14E, h10km, ML2.6, Error ellipse: s-maj=25.8km s-min=4.2km az=63.0*
*NAO **16** 19:20:50.4±7.3, 73.45°N×8.17E, h34km±263km, ML2.6*
ISC 16 19:20:48.5±5.3, 73.5°N±0.3×8.9°E±0.4, h10km, n13, σ0s58/16, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSPB	**Hornsund (broa**	**3.88**	**23**	Pn	**Pn**	**19 21 48.4**	**+0.3**
HSPB	**Hornsund (broa**	**3.88**	**23**	Pn	**Pn**	**19 21 48.4**	**+0.3**
	SNR=50						
HSP	**Hornsund**	**3.89**	**23**	Pn	**Pn**	**19 21 48.4**	**+0.2**
HSP	**Hornsund**	**3.89**	**23**	Pn	**Pn**	**19 21 48.4**	**+0.2**
SPA0	**Spitsbergen Ar**	**5.02**	**18**	Pn	**Pn**	**19 22 04.0**	**+0.3**
	baz=194,slow=14						
SPA0	**Spitsbergen Ar**	**5.02**	**18**	Pn	**Pn**	**19 22 04.0**	**+0.3**
	baz=194,slow=14						
SPA0	**Spitsbergen Ar**	**5.02**	**18**	Pn	**Pn**	**19 22 04.0**	**+0.3**
	baz=194,slow=12,SNR=5.3						
KBS	**Kingsbay**	**5.48**	**6**	Pn	**Pn**	**19 22 09.7**	**-0.4**
KBS	**Kingsbay**	**5.48**	**6**	Pn	**Pn**	**19 22 09.7**	**-0.4**
KBS	**Kingsbay**	**5.48**	**6**	Pn	**Pn**	**19 22 09.7**	**-0.4**
ARA0	**ARCESS Array S**	**6.60**	**119**	Pn	**Pn**	**19 22 26.3**	**+0.9**
	baz=316,slow=12						
ARA0				Sn	**Sn**	**19 23 39.9**	**-0.6**
	baz=314,slow=22						
ARA0	**ARCESS Array S**	**6.60**	**119**	Pn	**Pn**	**19 22 26.3**	**+0.9**
	baz=316,slow=12						
ARA0				Sn	**Sn**	**19 23 39.9**	**-0.6**
	baz=314,slow=22						
ARA0	**ARCESS Array S**	**6.60**	**119**	Pn	**Pn**	**19 22 26.3**	**+0.9**
	baz=316,slow=12,SNR=5.4						
ARA0				Sn	**Sn**	**19 23 39.9**	**-0.6**
	baz=314,slow=20,SNR=5.9						

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*ISCJB **16** 19:20:49.2±0.6, 12.79°S±0.09×169.15°E±0.10, h625km, mb4.0/20, Error ellipse: s-maj=14.2km s-min=9.3km az=38.7*
*IDC **16** 19:20:53.7±1.6, 12.92°S×168.99E, h666km±19km, mb3.5/20, mb1 3.7/21, mb1mx3.5/36, mbtmp4.5/21, Error ellipse: s-maj=15.0km s-min=11.0km az=135.0*
ISC 16 19:20:50.3±0.6, 12.81°S±0.10×169.14E±0.09, h625km, n43, σ1s20/48, mb4.2/19, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.56**	**195**	P	**P**	**19 23 07.1**	**+1.7**
	1.1nm,0.3s,baz=270,slow=24,SNR=45						
HNR	**Honiara**	**9.63**	**290**	P	**P**	**19 23 07.0**	**+0.9**
CTA	**Charters Tower**	**23.10**	**249**	P	**P**	**19 25 11.1**	**+0.4**
	4.4nm,0.6s,baz=82,slow=12,SNR=9.6						
COEN	**Coen**	**25.29**	**264**	P	**P**	**19 25 31.4**	**+1.4**
	baz=25,SNR=9.6						
QIS	**Mount Isa**	**29.29**	**251**	P	**P**	**19 26 05.2**	**+0.4**
	baz=29,SNR=4.6						
JAY	**Jayapura**	**29.95**	**288**	P	**P**	**19 26 10.9**	**+0.4**
	5.7nm,0.8s,baz=122,slow=8.7,SNR=4.8						
STKA	**Stephens Creek**	**31.62**	**229**	P	**P**	**19 26 24.7**	**+0.2**
	1.3nm,0.3s,baz=55,slow=9.0,SNR=41						
STKA				PcP	**PcP**	**19 28 56.4**	**-0.4**
	2.0nm,0.6s,baz=77,slow=3.8,SNR=5.0						
STKA	**Stephens Creek**	**31.62**	**229**	P	**P**	**19 26 25.7**	**+1.2**
	baz=32,SNR=20						
TOO	**Toolangi**	**32.46**	**216**	P	**P**	**19 26 32.4**	**+0.9**
	baz=32,SNR=7.7						
WRA	**Warramunga Arr**	**34.09**	**253**	P	**P**	**19 26 45.1**	**-0.3**
	12nm,0.4s,baz=84,slow=8.7,SNR=265						
WRA				S	**S**	**19 31 24.1**	**-4.9**
	9.0nm,0.9s,baz=82,slow=14,SNR=6.1						
HTT	**Hallett**	**34.34**	**228**	P	**P**	**19 26 48.3**	**+0.9**
	baz=34,SNR=6.2						
ASAR	**Alice Springs**	**35.07**	**247**	P	**P**	**19 26 52.8**	**-0.8**
	9.7nm,0.4s,baz=71,slow=9.6,SNR=272						
ASAR				PcP	**PcP**	**19 29 06.4**	**-0.6**
	1.4nm,0.7s,baz=82,slow=3.2,SNR=8.0						
ASAR				S	**S**	**19 31 40.4**	**-3.4**
	4.1nm,1.0s,baz=75,slow=16,SNR=16						
KDU	**Kakadu**	**35.75**	**266**	P	**P**	**19 26 59.3**	**+0.2**
	baz=36,SNR=11						
BBOO	**Buckleboo**	**36.19**	**231**	P	**P**	**19 27 03.1**	**+0.6**
	baz=36,SNR=12						
KNRA	**Kununurra**	**39.20**	**261**	P	**P**	**19 27 27.2**	**0.0**
	baz=39,SNR=6.8						
WRKA	**Warakurna**	**40.35**	**246**	P	**P**	**19 27 36.6**	**+0.4**
	baz=40,SNR=17						
WRKA				S	**S**	**19 33 02.0**	**+0.8**
	baz=40,SNR=5.4						
FORT	**Forrest**	**41.84**	**238**	P	**P**	**19 27 48.1**	**+0.3**
	baz=42,SNR=7.4						
BATI	**Baumata**	**44.60**	**268**	P	**P**	**19 28 10.5**	**+1.1**
	12nm,0.5s,baz=119,slow=2.4,SNR=8.8						
MEEK	**Meekatharra**	**49.21**	**246**	P	**P**	**19 28 43.7**	**0.0**
	baz=49,SNR=4.3						
MJAR	**Matsushiro Arr**	**57.10**	**330**	P	**P**	**19 29 39.2**	**+0.1**
	1.9nm,0.6s,baz=170,slow=8.1,SNR=12						
LEM	**Lembang**	**60.80**	**269**	P	**P**	**19 30 04.1**	**-0.3**
	15nm,0.6s,baz=34,slow=7.5,SNR=5.1						
KSRS	**Korea Array**	**63.23**	**324**	P	**P**	**19 30 20.4**	**+1.1**
	0.9nm,0.8s,baz=134,slow=6.0,SNR=6.4						
VNDA	**Vanda**	**64.81**	**182**	P	**P**	**19 30 28.8**	**0.0**
	1.3nm,0.6s,baz=10,slow=6.3,SNR=8.0						
USRK	**Ussuriysk Ar.**	**66.04**	**332**	P	**P**	**19 30 37.7**	**+0.9**
	1.5nm,0.6s,baz=117,slow=6.6,SNR=4.8						
CMAR	**Chiang Mai Arr**	**75.86**	**293**	P	**P**	**19 31 36.0**	**+1.2**
	3.9nm,0.8s,baz=121,slow=4.0,SNR=30						
SONM	**Songino Array**	**82.06**	**323**	P	**P**	**19 32 07.2**	**+0.2**
	1.6nm,0.6s,baz=139,slow=5.1,SNR=14						
ILAR	**Eielson Array**	**84.16**	**17**	P	P	19 32 15.8	-1.0
	4.8nm,0.7s,baz=236,slow=5.2,SNR=60						
MAW	**Mawson**	**84.33**	**202**	P	**P**	**19 32 17.4**	**-0.3**
	3.6nm,0.6s,baz=116,slow=8.7,SNR=6.6						
NVAR	**Mina Array Bea**	**84.65**	**49**	P	**P**	**19 32 20.0**	**-0.1**
	1.2nm,0.7s,baz=228,slow=7.2,SNR=7.7						
TXAR	**Lajitas Array**	**93.76**	**61**	P	**P**	**19 33 03.1**	**+0.6**
	0.2nm,0.6s,baz=224,slow=7.0,SNR=3.8						
YKA	**Yellowknife Ar**	**95.02**	**27**	P	**P**	**19 33 06.9**	**-0.3**
	1.9nm,0.7s,baz=253,slow=4.5,SNR=19						
ZALV	**Zalesovo Beam**	**96.94**	**324**	P	**P**	**19 33 15.2**	**-0.8**
	1.1nm,0.6s,baz=108,slow=3.4,SNR=4.6						
MK31	**Makanchi Array**	**97.08**	**316**	P	Pdif	19 33 17.4	+0.4
	baz=97,SNR=3.1						
MKAR	**Makanchi Array**	**97.08**	**316**	P	Pdif	19 33 16.8	-0.2
	1.0nm,0.5s,baz=75,slow=5.2,SNR=21						
ARCES	**ARCESS Array B**	**118.85**	**346**	PKP	**PKPdf**	**19 38 27.6**	**-0.8**
	1.3nm,0.3s,baz=76,slow=2.7,SNR=26						
FINES	**FINESS Array B**	**124.60**	**339**	PKP	**PKPdf**	**19 38 39.2**	**-0.4**
	0.7nm,0.6s,baz=116,slow=4.4,SNR=6.2						
FINES				PKKPbc	**PKKPab**	**19 48 23.4**	**-1.7**
	1.0nm,0.9s,baz=184,slow=4.2,SNR=4.2						
NOA	**NORSAR Array B**	**129.23**	**346**	PKP	**PKPdf**	**19 38 48.5**	**-0.2**
	0.8nm,0.7s,baz=36,slow=2.6,SNR=2.6						
BRTR	**Keskin Array B**	**132.60**	**313**	PKP	**PKPdf**	**19 38 54.1**	**-1.6**
	0.5nm,0.7s,baz=64,slow=3.4,SNR=3.6						
GERES	**GERESS Array B**	**138.72**	**335**	PKP	**PKPdf**	**19 39 08.0**	**+1.2**
	0.4nm,0.5s,baz=46,slow=3.9,SNR=5.0						
KEST	**Kesra**	**150.80**	**325**	PKPbc	**PKPbc**	**19 39 33.2**	**-0.8**
	1.2nm,0.6s,baz=140,slow=2.4,SNR=5.9						
ESDC	**Sonseca Array**	**152.56**	**348**	PKPbc	**PKPbc**	**19 39 36.7**	**-1.0**
	0.2nm,0.4s,baz=3.1,slow=3.0,SNR=4.1						
ESDC				PKPab	**PKPab**	**19 39 51.0**	**-0.3**
	0.7nm,0.6s,baz=12,slow=4.2,SNR=6.2						
TORD	**Torodi Ar. Bea**	**167.76**	**273**	PKP	**PKPdf**	**19 39 45.9**	**-1.3**
	0.5nm,0.7s,baz=297,slow=0.5,SNR=3.4						
TORD				PKPab	**PKPab**	**19 40 58.0**	**-0.6**
	1.0nm,0.8s,baz=104,slow=4.3,SNR=6.0						
DBIC	**Dimbokro**	**171.50**	**225**	PKP	**PKPdf**	**19 39 49.8**	**+0.4**
	7.0nm,1.0s,baz=110,slow=5.0,SNR=3.3						

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*IDC **16** 19:21:49.0±1.7, 37.00°N×21.18E, h0km, mb3.5/3, mb1 3.3/4, mb1mx3.2/40, mbtmp3.4/4, ML2.6/1, Error ellipse: s-maj=47.5km s-min=25.7km az=119.0*
*THE **16** 19:21:56.4, 36.89°N×21.55E, h26km, ML3.3/5, Error ellipse: s-maj=1.6km s-min=0.9km az=199.0*
*ATH **16** 19:21:56.1, 36.95°N×21.74E, h31km, MD3.4/30, ML3.0*
*CSEM **16** 19:21:56.2±0.3, 36.93°N×21.62E, h23km±2km, MD3.4, Error ellipse: s-maj=6.1km s-min=3.8km az=40.0*
ISC 16 19:21:55.8±0.9, 36.95°N±0.04×21.59E±0.03, h30km±6km, n121, σ1s21/141, mb3.3/3, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.14**	**115**	P	**Pb**	**19 22 01.2**	**-0.2**
PYL				S	**Sb**	**19 22 05.4**	**+0.1**
PYL	**PYLOS**	**0.14**	**115**	*e*PB	**Pb**	**19 22 01.1**	**-0.3**
PYL				*e*SB	**Sn**	**19 22 05.8**	**+0.3**
PYL	**PYLOS**	**0.14**	**115**	P	**Pb**	**19 22 01.2**	**-0.2**
PYL				S	**Sb**	**19 22 05.4**	**+0.1**
ITM	**Ithomi**	**0.35**	**50**	P	**Pn**	**19 22 04.7**	**-0.2**
ITM				S	**Sn**	**19 22 11.9**	**+1.0**
ITM	**Ithomi**	**0.35**	**50**	*e*PB	**Pb**	**19 22 04.0**	**0.0**
ITM	**Ithomi**	**0.35**	**50**	*e*Pb	**Pb**	**19 22 04.0**	**0.0**
ITM	**Ithomi**	**0.35**	**50**	P	**Pn**	**19 22 04.7**	**-0.2**
ITM				S	**Sn**	**19 22 11.9**	**+1.0**
SFD	**Strofades**	**0.55**	**303**	P	**Pb**	**19 22 07.2**	**+0.2**
SFD				S	**Sn**	**19 22 16.1**	**+0.5**
SFD	**Strofades**	**0.55**	**303**	*e*PN	**Pn**	**19 22 09.6**	**+2.1**
SFD	**Strofades**	**0.55**	**303**	P	**Pb**	**19 22 07.2**	**+0.2**
SFD	**Strofades**	**0.55**	**303**	*e*Pn	**Pn**	**19 22 09.6**	**+2.1**
SFD				S	**Sn**	**19 22 16.1**	**+0.5**
AMT	**Artemida-Makis**	**0.59**	**9**	P	**Pn**	**19 22 08.7**	**+0.6**
AMT	**Artemida-Makis**	**0.59**	**9**	*e*PN	**Pb**	**19 22 07.8**	**+0.1**
AMT	**Artemida-Makis**	**0.59**	**9**	*e*Pn	**Pb**	**19 22 07.8**	**+0.1**
AMT	**Artemida-Makis**	**0.59**	**9**	P	**Pn**	**19 22 08.6**	**+0.5**
AMT				S	**Sn**	**19 22 18.8**	**+2.1**
VLX	**Vlachokerasia**	**0.76**	**56**	P	**Pb**	**19 22 10.9**	**+0.4**
VLX				S	**Sn**	**19 22 23.7**	**+2.7**
VLX	**Vlachokerasia**	**0.76**	**56**	*e*PN	**Pn**	**19 22 10.1**	**-0.4**
VLX				*e*SN	**Sb**	**19 22 19.0**	**-1.6**
VLX	**Vlachokerasia**	**0.76**	**56**	*e*Pn	**Pn**	**19 22 10.1**	**-0.4**
VLX	**Vlachokerasia**	**0.76**	**56**	P	**Pb**	**19 22 10.8**	**+0.3**
VLX				S	**Sn**	**19 22 23.7**	**+2.7**
ZKS	**Zakynthos**	**0.98**	**319**	P	**Pn**	**19 22 13.4**	**-0.1**
ZKS	**Zakynthos**	**0.98**	**319**	P	**Pn**	**19 22 13.4**	**-0.1**
DRO	**Drossia**	**1.00**	**5**	P	**Pb**	**19 22 15.1**	**+0.4**
DRO	**Drossia**	**1.00**	**5**	*e*PN	**Pb**	**19 22 15.1**	**+0.4**
DRO	**Drossia**	**1.00**	**5**	P	**Pb**	**19 22 15.0**	**+0.4**
VTN	**Vitineika**	**1.01**	**342**	P	**Pb**	**19 22 15.2**	**+0.4**
VTN	**Vitineika**	**1.01**	**342**	P	**Pb**	**19 22 15.2**	**+0.4**
RLS	**Riolos of Patr**	**1.11**	**355**	P	**Pn**	**19 22 16.9**	**+0.6**
RLS	**Riolos of Patr**	**1.11**	**355**	*e*PN	**Pb**	**19 22 17.0**	**+0.6**
RLS	**Riolos of Patr**	**1.11**	**355**	*e*Pn	**Pb**	**19 22 17.0**	**+0.6**
VLI	**Veliai**	**1.11**	**102**	P	**Pb**	**19 22 16.0**	**-0.3**
VLI	**Veliai**	**1.11**	**102**	*e*PN	**Pn**	**19 22 15.7**	**+0.5**
VLI	**Veliai**	**1.11**	**102**	*e*Pn	**Pn**	**19 22 15.7**	**+0.5**
VLI	**Veliai**	**1.11**	**102**	P	**Pb**	**19 22 16.0**	**-0.3**
VLI				S	**Sb**	**19 22 32.3**	**+1.9**
GUR	**Goura**	**1.15**	**31**	P	**Pb**	**19 22 17.4**	**+0.2**
GUR	**Goura**	**1.15**	**31**	*e*PN	**Pb**	**19 22 17.3**	**+0.1**
GUR				*e*SN	**Sn**	**19 22 31.4**	**+0.7**
GUR	**Goura**	**1.15**	**31**	*e*Pn	**Pb**	**19 22 17.3**	**+0.1**
GUR				*e*Sn	**Sn**	**19 22 31.4**	**+0.7**
KLV	**Kalavryta, Ach**	**1.18**	**22**	*e*PN	**Pb**	**19 22 17.6**	**0.0**
KLV	**Kalavryta, Ach**	**1.18**	**22**	*e*Pn	**Pb**	**19 22 17.6**	**0.0**
KLV	**Kalavryta, Ach**	**1.18**	**22**	P	**Pb**	**19 22 18.0**	**+0.4**
KYTH	**Kithira**	**1.34**	**120**	P	**Pn**	**19 22 19.3**	**+0.8**
KYTH	**Kithira**	**1.34**	**120**	*e*PN	**Pn**	**19 22 19.4**	**+0.9**
KYTH	**Kithira**	**1.34**	**120**	P	**Pn**	**19 22 19.4**	**+0.9**
DID	**Didima**	**1.43**	**67**	P	**Pn**	**19 22 20.1**	**+0.4**
DID				S	**Sb**	**19 22 40.3**	**+0.7**
DID	**Didima**	**1.43**	**67**	*e*PN	**Pn**	**19 22 20.2**	**+0.5**
DID				*e*SN	**Sn**	**19 22 38.5**	**+1.1**
DID	**Didima**	**1.43**	**67**	*e*Pn	**Pn**	**19 22 20.2**	**+0.5**
DID				*e*Sn	**Sn**	**19 22 38.5**	**+1.1**
DID				S	**Sb**	**19 22 40.2**	**+0.7**
VLS	**Valsamata**	**1.46**	**327**	*e*PN	**Pb**	**19 22 23.4**	**+1.1**
VLS	**Valsamata**	**1.46**	**327**	*e*Pn	**Pb**	**19 22 23.4**	**+1.1**
EFP	**Efpalio**	**1.49**	**10**	*e*PN	**Pb**	**19 22 22.9**	**0.0**
EFP	**Efpalio**	**1.49**	**10**	*e*Pn	**Pb**	**19 22 22.9**	**0.0**
KALE	**Kalithea**	**1.50**	**17**	*e*PN	**Pb**	**19 22 23.0**	**-0.1**
KALE	**Kalithea**	**1.50**	**17**	*e*Pn	**Pb**	**19 22 23.0**	**-0.1**
LTK	**Loutraki**	**1.53**	**45**	*e*PN	**Pn**	**19 22 22.0**	**+0.9**
LTK	**Loutraki**	**1.53**	**45**	*e*Pn	**Pn**	**19 22 22.0**	**+0.9**
DSF	**Desfina**	**1.64**	**27**	P	**Pn**	**19 22 23.5**	**+1.0**
DSF				S	**Sb**	**19 22 44.9**	**-0.7**
DSF	**Desfina**	**1.64**	**27**	*e*PB	**Pn**	**19 22 23.6**	**+1.0**
DSF				*e*SN	**Sb**	**19 22 44.6**	**-1.0**
DSF	**Desfina**	**1.64**	**27**	P	**Pn**	**19 22 23.5**	**+1.0**
DSF				*e*Sn	**Sb**	**19 22 44.6**	**-1.0**
PDO	**Prodromos**	**1.67**	**349**	*e*PN	**Pb**	**19 22 25.8**	**-0.2**
PDO	**Prodromos**	**1.67**	**349**	*e*Pn	**Pb**	**19 22 25.8**	**-0.2**
ANKY	**Antikythira Is**	**1.76**	**128**	*e*PN	**Pn**	**19 22 25.1**	**+0.9**
ANKY	**Antikythira Is**	**1.76**	**128**	*e*Pn	**Pn**	**19 22 25.1**	**+0.9**
EVR	**Evrytania**	**1.97**	**5**	*e*PN	**Pn**	**19 22 29.2**	**+2.0**
EVR	**Evrytania**	**1.97**	**5**	*e*Pn	**Pn**	**19 22 29.2**	**+2.0**
ATH	**Athens Observa**	**1.98**	**58**	*e*PN	**Pn**	**19 22 27.4**	**+0.2**
ATH	**Athens Observa**	**1.98**	**58**	*e*Pn	**Pn**	**19 22 27.4**	**+0.2**
LKD2	**Lefkada island**	**1.98**	**338**	*e*PB	**Pb**	**19 22 30.7**	**-0.4**
LKD2	**Lefkada island**	**1.98**	**338**	*e*Pb	**Pb**	**19 22 30.7**	**-0.4**
AXAR	**Agios Charalam**	**2.00**	**25**	*e*PN	**Pn**	**19 22 29.0**	**+1.5**
AXAR	**Agios Charalam**	**2.00**	**25**	*e*Pn	**Pn**	**19 22 29.0**	**+1.5**
LKR	**Lokris**	**2.03**	**33**	*e*PN	**Pn**	**19 22 29.2**	**+1.3**
LKR	**Lokris**	**2.03**	**33**	*e*Pn	**Pn**	**19 22 29.2**	**+1.3**
MAKR	**Makrakomi, Fth**	**2.10**	**12**	*e*PB	**Pb**	**19 22 31.8**	**-1.4**
MAKR	**Makrakomi, Fth**	**2.10**	**12**	*e*Pb	**Pb**	**19 22 31.8**	**-1.4**
PTL	**Penteli**	**2.12**	**58**	*e*PN	**Pn**	**19 22 29.0**	**-0.1**
PTL	**Penteli**	**2.12**	**58**	*e*Pn	**Pn**	**19 22 29.0**	**-0.1**
AGG	**Agios Georgios**	**2.15**	**16**	*e*PN	**Pn**	**19 22 31.5**	**+1.9**
AGG	**Agios Georgios**	**2.15**	**16**	*e*Pn	**Pn**	**19 22 31.5**	**+1.9**
DSL	**Palaion Diasel**	**2.21**	**350**	*e*PN	**Pn**	**19 22 32.2**	**+1.7**
DSL	**Palaion Diasel**	**2.21**	**350**	*e*Pn	**Pn**	**19 22 32.2**	**+1.7**
SMIA	**Simia**	**2.31**	**33**	*e*PN	**Pn**	**19 22 33.2**	**+1.4**
SMIA	**Simia**	**2.31**	**33**	*e*Pn	**Pn**	**19 22 33.2**	**+1.4**
MRKA	**Markates**	**2.36**	**42**	*e*PN	**Pn**	**19 22 32.8**	**+0.3**
MRKA	**Markates**	**2.36**	**42**	*e*Pn	**Pn**	**19 22 32.8**	**+0.3**
KARN	**Karanos**	**2.44**	**129**	*e*PN	**Pn**	**19 22 33.8**	**+0.2**
KARN	**Karanos**	**2.44**	**129**	*e*Pn	**Pn**	**19 22 33.8**	**+0.2**
THL	**Klokotos Trika**	**2.63**	**7**	*e*PN	**Pn**	**19 22 37.7**	**+1.5**
THL	**Klokotos Trika**	**2.63**	**7**	*e*Pn	**Pn**	**19 22 37.7**	**+1.5**
NEO	**Neokhori**	**2.68**	**28**	*e*PN	**Pn**	**19 22 37.8**	**+0.9**
NEO	**Neokhori**	**2.68**	**28**	*e*Pn	**Pn**	**19 22 37.8**	**+0.9**
XOR	**Xorichti**	**2.72**	**27**	*e*PN	**Pn**	**19 22 38.4**	**+0.9**
XOR	**Xorichti**	**2.72**	**27**	*e*Pn	**Pn**	**19 22 38.4**	**+0.9**
IGT	**Igoumenitsa**	**2.76**	**339**	*e*PN	**Pn**	**19 22 38.2**	**+0.2**
IGT	**Igoumenitsa**	**2.76**	**339**	*e*Pn	**Pn**	**19 22 38.2**	**+0.2**
LIT	**Litokhoron**	**3.22**	**12**	*e*PN	**Pn**	**19 22 47.2**	**+2.9**
LIT	**Litokhoron**	**3.22**	**12**	*e*Pn	**Pn**	**19 22 47.2**	**+2.9**
PAIG	**Paliouri**	**3.39**	**28**	*e*PN	**Pn**	**19 22 47.2**	**+0.5**
PAIG	**Paliouri**	**3.39**	**28**	*e*Pn	**Pn**	**19 22 47.2**	**+0.5**
NEST	**Nestorio**	**3.48**	**353**	*e*PN	**Pn**	**19 22 50.5**	**+2.5**
NEST	**Nestorio**	**3.48**	**353**	*e*Pn	**Pn**	**19 22 50.5**	**+2.5**
LAST	**Lasithi**	**3.62**	**118**	*e*PN	**Pn**	**19 22 51.1**	**+1.2**
LAST	**Lasithi**	**3.62**	**118**	*e*Pn	**Pn**	**19 22 51.1**	**+1.2**
PLG	**Polygyros**	**3.71**	**22**	*e*PN	**Pn**	**19 22 53.5**	**+2.4**
PLG	**Polygyros**	**3.71**	**22**	*e*Pn	**Pn**	**19 22 53.5**	**+2.4**
FNA	**Florina**	**3.83**	**358**	*e*PN	**Pn**	**19 22 53.5**	**+0.8**
FNA	**Florina**	**3.83**	**358**	*e*Pn	**Pn**	**19 22 53.5**	**+0.8**
OUR	**Ouranopolis**	**3.86**	**28**	*e*PN	**Pn**	**19 22 53.9**	**+0.8**
OUR	**Ouranopolis**	**3.86**	**28**	*e*Pn	**Pn**	**19 22 53.9**	**+0.8**
GRG	**Griva**	**4.05**	**9**	*e*PN	**Pn**	**19 22 57.3**	**+1.6**
GRG	**Griva**	**4.05**	**9**	*e*Pn	**Pn**	**19 22 57.3**	**+1.6**
SOH	**Sokhos**	**4.10**	**19**	*e*PN	**Pn**	**19 22 57.4**	**+0.9**
SOH	**Sokhos**	**4.10**	**19**	*e*Pn	**Pn**	**19 22 57.4**	**+0.9**
KNT	**Kendrikon**	**4.32**	**13**	*e*PN	**Pn**	**19 23 00.9**	**+1.4**
KNT	**Kendrikon**	**4.32**	**13**	*e*Pn	**Pn**	**19 23 00.9**	**+1.4**
NVR	**Nevrokopi**	**4.73**	**21**	*e*PN	**Pn**	**19 23 05.9**	**+0.8**
NVR	**Nevrokopi**	**4.73**	**21**	*e*Pn	**Pn**	**19 23 05.9**	**+0.8**
STON	**Ston**	**6.62**	**334**	*e*PN	**Pn**	**19 23 28.1**	**-2.9**
UDBI	**Udbina**	**8.76**	**332**	*e*PN	**Pn**	**19 23 59.7**	**-0.7**
UDBI				Sn	Sn	19 25 30.6	-7.5
NVLJ	**Novalja**	**9.15**	**328**	*e*Pn	**Pn**	**19 24 04.5**	**-1.2**
NVLJ				Sn	Sn	19 25 38.6	-8.9
BRTR	**Keskin Array B**	**9.86**	**70**	Pn	**Pn**	**19 24 18.6**	**+2.9**
	0.1nm,0.3s,baz=257,slow=15,SNR=2.6						
HFS	**Hagfors**	**23.75**	**350**	P	**P**	**19 27 02.3**	**-2.8**
	0.5nm,0.5s,baz=152,slow=13,SNR=7.7						
FINES	**FINESS Array B**	**24.68**	**5**	P	**P**	**19 27 10.4**	**-3.3**
	0.4nm,0.5s,baz=166,slow=13,SNR=3.5						
TORD	**Torodi Ar. Bea**	**29.65**	**222**	P	P	19 27 54.8	-4.0
	0.4nm,0.5s,baz=29,slow=9.0,SNR=7.3						

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*IDC **16** 20:01:02.6±1.9, 32.06°S×178.58W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/21, mbtmp4.0/4, ML3.9/1, Error ellipse: s-maj=45.9km s-min=32.7km az=60.0*
ISC 16 20:01:13.1±1.8, 32.5°S±0.1×179.0W±0.3, h61km, n7, σ1s08/6, mb3.9/3, South of Kermadec Islands

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

H06E1	**SOCORRO T-PHAS**	**25.89**	**312**	T	T	20 55 28.2			
	SNR=19								
PCRV	**Puerto La Cruz**	**27.22**	**71**	LR	LR	20 39 58.7			
	comp=Z,99nm,18.6s,baz=252,slow=38								
LPAZ	**La Paz**	**28.77**	**130**	P	**P**	**20 28 43.0**	**+0.6**		
	2.5nm,1.1s,baz=289,slow=9.2,SNR=5.5								
LPAZ				LR	LR	20 39 36.0			
	comp=Z,161nm,21.4s,baz=313,slow=35								
LPIG	**La Paz**	**29.03**	**321**	LR	LR	20 37 17.4			
	comp=Z,75nm,18.9s,baz=348,slow=30								
TXAR	**Lajitas Array**	**29.88**	**337**	P	**P**	**20 28 52.0**	**+0.6**		
	0.1nm,0.4s,baz=162,slow=8.7,SNR=3.4								
TXAR				LR	LR	20 40 01.5			
	comp=Z,93nm,18.8s,baz=0.0,slow=35								
SIV	**San Ignacio**	**34.33**	**122**	P	**P**	**20 29 29.6**	**-1.0**		
	1.3nm,0.6s,baz=299,slow=9.5,SNR=4.5								
ANMO	**Albuquerque**	**35.94**	**338**	P	**P**	**20 29 45.3**	**+0.8**		
	0.6nm,0.5s,baz=103,slow=8.1,SNR=2.7								
PDAR	**Pinedale Array**	**43.99**	**340**	P	**P**	**20 30 51.5**	**+0.2**		
	0.6nm,1.0s,baz=150,slow=6.2,SNR=4.0								
NVAR	**Mina Array Bea**	**44.21**	**329**	P	**P**	**20 30 54.1**	**+1.1**		
	2.1nm,0.9s,baz=160,slow=10,SNR=11								
BDFB	**Brasilia**	**45.73**	**114**	LR	LR	20 50 09.9			
	comp=Z,86nm,19.7s,baz=249,slow=36								
PLCA	**Paso Flores**	**46.30**	**159**	P	**P**	**20 31 09.5**	**+0.1**		
	2.0nm,1.0s,baz=347,slow=15,SNR=3.6								
PPT	**Papeete**	**61.07**	**249**	LR	LR	20 53 32.3			
	comp=Z,86nm,21.9s,baz=124,slow=30								
YKA	**Yellowknife Ar**	**62.99**	**348**	P	**P**	**20 33 08.9**	**-1.2**		
	1.1nm,1.0s,baz=147,slow=6.5,SNR=4.5								
ILAR	**Eielson Array**	**74.39**	**338**	P	**P**	**20 34 20.1**	**-1.0**		
	0.8nm,0.8s,baz=132,slow=5.0,SNR=7.2								
ESDC	**Sonseca Array**	**86.31**	**51**	P	**P**	**20 35 25.0**	**-0.9**		
	0.4nm,0.7s,baz=290,slow=7.1,SNR=3.6								
NOA	**NORSAR Array B**	**94.11**	**29**	LR	LR	21 14 03.1			
	comp=Z,12nm,21.5s,baz=270,slow=33								
GERES	**GERESS Array B**	**98.03**	**40**	LR	LR	21 15 34.8			
	comp=Z,36nm,19.8s,baz=277,slow=32								

NAO **16** *20:22:59.0±1.5, 73.˙40N×7.˙80E, ML4.1*

MOS **16** *20:22:59.3±1.3, 73.˙47N×7.˙66E, h10km, mb4.8/69, MS4.0/30, Error ellipse: s-maj=17.3km s-min=3.4km az=93.9*

IDC **16** *20:22:59.2±0.3, 73.˙42N×7.˙34E, h0km, mb4.2/32, mb1 4.3/40, mb1mx4.3/61, mbtmp4.2/40, ML3.9/8, MS4.1/35, Ms1 4.1/35, ms1mx4.0/48, Error ellipse: s-maj=11.0km s-min=7.4km az=51.0*

ISCJB **16** *20:22:59.4±0.1, 73.˙51N±0.˙02×7.˙47E±0.˙07, h10km, mb4.6/168, MS4.0/45, Error ellipse: s-maj=3.2km s-min=1.8km az=141.8*

CSEM **16** *20:23:00.4±0.1, 73.˙46N×7.˙83E, h10km, mb4.8/99, Ms3.4, Error ellipse: s-maj=4.7km s-min=2.7km az=61.0*

BJI **16** *20:23:01.8, 73.˙50N×7.˙20E, h30km, mb4.6/33, mB5.0/26, Ms4.6/17, Ms7 4.3/17*

GCMT **16** *20:23:01.0±0.3, 73.˙65N×7.˙86E, h12km, MW4.9/78, Moment Tensor Solution. s14,c15; s78,c107; Duration: 0 Moment tenso: Scale 10^16Nm; Mrr-2.03±.08; Mθθ0.54±.08; Mφφ1.48±.07; Mrθ0.82±.38; Mθφ0.92±.08; Mφr-1.57±.32; Best double couple: M◎2.63400×10^16 NP1:φ◎2.00000°, δ64.00000°, λ-117.00000°. NP2: φ◎231.00000°, δ36.00000°, λ-47.00000°. Principal axes: T 2.2940, Plg15.0000°, Azm111.0000°; N 0.6750, Plg24.0000°, Azm15.0000°; P -2.9750, Plg61.0000°, Azm231.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC **16** *20:23:01.0±0.1, 73.˙42N×7.˙66E, h10km, mb4.8/95 Error ellipse: s-maj=5.3km s-min=3.0km az=59.0*

BER **16** *20:23:02.7±2.4, 73.˙47N×8.˙08E, h10km, MD2.6, ML2.8, ML4.1(NAO)*

SZGRF **16** *20:23:07.4, 72.˙93N×8.˙80E, h10km, mb5.0, Norwegian Sea*

KOLA **16** *20:23:07.9, 73.˙36N×10.˙04E, h0km*

ISC 16 20:23:01.3±0.7, 73.˙46N±0.˙04×7.˙52E±0.˙04, h12km±4km, h12km:pP-P, n959, σ1s29/966, mb4.7/169, MS4.0/49, 120C-148D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJO	**Bjornoya**	**3.40**	**66**	Pn	**Pn**	**20 23 51.5**	**-2.5**
BJO	**Bjornoya**	**3.40**	**66**	*e*P	**Pn**	**20 23 51.4**	**-2.5**
BJO	**Bjornoya**	**3.40**	**66**	Pn	**Pn**	**20 23 51.5**	**-2.5**
HSPB	**Hornsund (broa**	**4.11**	**26**	*e*P	**Pn**	**20 24 02.7**	**-1.0**
HSPB	**Hornsund (broa**	**4.11**	**26**	*e*P	**Pn**	**20 24 02.7**	**-1.0**
	SNR=49						
HSP	**Hornsund**	**4.12**	**26**	Pn	**Pn**	**20 24 01.9**	**-1.9**
HSP	**Hornsund**	**4.12**	**26**	*e*P	**Pn**	**20 24 02.0**	**-1.8**
HSP	**Hornsund**	**4.12**	**26**	Pn	**Pn**	**20 24 01.9**	**-1.9**
SPA0	**Spitsbergen Ar**	**5.21**	**20**	Pn	**Pn**	**20 24 17.7**	**-1.2**
	baz=200,slow=14						
SPA0	**Spitsbergen Ar**	**5.21**	**20**	Pn	**Pn**	**20 24 17.7**	**-1.2**
	baz=200,slow=14						
SPA0				*e*P	**Pn**	**20 24 17.8**	**-1.1**
SPA0	**Spitsbergen Ar**	**5.21**	**20**	Pn	**Pn**	**20 24 17.7**	**-1.2**
	SNR=50						
SPITS	**Spitsbergen Ar**	**5.21**	**20**	Pn	**Pn**	**20 24 17.6**	**-1.2**
	baz=183,slow=14,SNR=125						
SPITS				LR	LR	20 26 07.6	
	comp=Z,2μm,19.4s,baz=215,slow=36						
TRO	**Tromso**	**5.27**	**131**	*e*P	**Pn**	**20 24 17.3**	**-2.4**
TRO				*e*S	Sn	20 25 12.1	-8.2
TRO				IAML		20 25 17.8	
	comp=Z,24nm,0.4s						
TRO	**Tromso**	**5.27**	**131**	*e*P	**Pn**	**20 24 17.3**	**-2.4**
	SNR=49						
HOPEN	**Hopen**	**5.47**	**48**	Pn	**Pn**	**20 24 20.9**	**-1.4**
HOPEN	**Hopen**	**5.47**	**48**	Pn	**Pn**	**20 24 20.9**	**-1.4**
HOPEN	**Hopen**	**5.47**	**48**	Pn	**Pn**	**20 24 21.0**	**-1.4**
	SNR=50						
JMIC	**Jan Mayen**	**5.49**	**251**	Pn	**Pn**	**20 24 21.3**	**-1.4**
JMIC	**Jan Mayen**	**5.49**	**251**	Pn	**Pn**	**20 24 21.1**	**-1.6**
	comp=Z,19nm,0.3s,baz=57,slow=3.0,SNR=6.9						
JMIC				LR	LR	20 26 00.7	
	comp=Z,2μm,20.1s,baz=66,slow=33						
JMIC	**Jan Mayen**	**5.49**	**251**	Pn	**Pn**	**20 24 21.3**	**-1.4**
KBS	**Kingsbay**	**5.60**	**9**	Pn	**Pn**	**20 24 22.9**	**-1.3**
KBS	**Kingsbay**	**5.60**	**9**	Pn	**Pn**	**20 24 22.9**	**-1.3**
KBS				*e*P	**Pn**	**20 24 23.3**	**-0.8**
KBS	**Kingsbay**	**5.60**	**9**	*i* P	**Pn**	**20 24 22.8**	**-1.3**
KBS				pmax	pmax		
	comp=Z,26nm,0.7s						
KBS	**Kingsbay**	**5.60**	**9**	Pn	**Pn**	**20 24 22.9**	**-1.3**
	SNR=50						
LOF	**Lofoten**	**5.71**	**157**	*e*P	**Pn**	**20 24 23.6**	**-2.0**
LOF				IAML		20 25 23.6	
	comp=Z,35nm,0.7s						
LOF				*e*T	T	20 29 23.5	
LOF	**Lofoten**	**5.71**	**157**	*e*P	**Pn**	**20 24 23.6**	**-2.0**
	SNR=49						
KTK1	**Kautokeino**	**6.74**	**124**	*e*P	**Pn**	**20 24 39.5**	**-0.3**
KTK1	**Kautokeino**	**6.74**	**124**	*e*P	**Pn**	**20 24 39.5**	**-0.3**
	SNR=47						
ARA0	**ARCESS Array S**	**6.92**	**116**	Pn	**Pn**	**20 24 40.7**	**-1.7**
	baz=314,slow=11						
ARA0				Sn	Sn	20 25 54.1	-6.7
	baz=313,slow=22						
ARA0	**ARCESS Array S**	**6.92**	**116**	Pn	**Pn**	**20 24 40.7**	**-1.7**
	baz=314,slow=11						
ARA0				Sn	Sn	20 25 54.1	-6.7
	baz=313,slow=22						
ARA0	**ARCESS Array S**	**6.92**	**116**	*e*Pn	**Pn**	**20 24 40.2**	**-2.1**
ARA0	**ARCESS Array S**	**6.92**	**116**	*e*Pn	**Pn**	**20 24 40.2**	**-2.1**
ARCES	**ARCESS Array B**	**6.92**	**116**	Pn	**Pn**	**20 24 40.6**	**-1.7**
	comp=Z,3.6nm,0.3s,baz=329,slow=12,SNR=92						
ARCES				Sn	**Sn**	**20 25 56.0**	**-4.9**
	comp=Z,2.5nm,0.3s,baz=308,slow=19,SNR=5.9						
ARCES	**ARCESS Array B**	**6.92**	**116**	P	**Pn**	**20 24 40.7**	**-1.7**
ARCES						20 25 56.0	
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ARCES				smax	smax		
	comp=N,3.0nm,0.3s						
ARE0	**ARCESS Array S**	**6.92**	**116**	*e*P	**Pn**	**20 24 39.9**	**-2.5**
ARE0	**ARCESS Array S**	**6.92**	**116**	*e*P	**Pn**	**20 24 39.9**	**-2.5**
	SNR=47						
ARE0	**ARCESS Array S**	**6.92**	**116**	*e*Pn	**Pn**	**20 24 41.4**	**-1.0**
ARE0				*e*Sn	**Sn**	**20 25 57.8**	**-3.1**
ARE0	**ARCESS Array S**	**6.92**	**116**	*e*Pn	**Pn**	**20 24 41.4**	**-1.0**
ARE0				*e*Sn	**Sn**	**20 25 57.9**	**-3.1**
KEV	**Kevo**	**7.17**	**112**	*e*P	**Pn**	**20 24 43.7**	**-2.0**
KEV				*e*		20 26 04.3	
KEV	**Kevo**	**7.17**	**112**	*e*P	**Pn**	**20 24 43.7**	**-2.0**
KEV				*e*S	**Sn**	**20 26 04.3**	**-2.6**
KEV	**Kevo**	**7.17**	**112**	*e*Pn	**Pn**	**20 24 43.7**	**-2.0**
KEV				*e*Sn	**Sn**	**20 26 04.3**	**-2.6**
KONS	**Konsvik**	**7.25**	**162**	*e*P	**Pn**	**20 24 45.0**	**-1.7**
KONS				IAML		20 26 03.4	
	comp=Z,9.1nm,0.4s						
KONS	**Konsvik**	**7.25**	**162**	*e*P	**Pn**	**20 24 45.0**	**-1.7**
	SNR=47						
STOK	**Stokkvaagen**	**7.40**	**163**	*e*P	**Pn**	**20 24 47.9**	**-1.0**
STOK	**Stokkvaagen**	**7.40**	**163**	*e*P	**Pn**	**20 24 47.9**	**-1.0**
	SNR=47						
FLOS	**Flostrand**	**7.43**	**161**	*e*P	**Pn**	**20 24 48.5**	**-0.7**
FLOS	**Flostrand**	**7.43**	**161**	*e*P	**Pn**	**20 24 48.5**	**-0.7**
	SNR=47						
MOR8	**Moi Rana**	**7.69**	**159**	*e*P	**Pn**	**20 24 51.9**	**-1.0**
MOR8	**Moi Rana**	**7.69**	**159**	*e*P	**Pn**	**20 24 51.9**	**-1.0**
	SNR=47						
APA0	**Apatity Array**	**10.24**	**112**	Pn	**Pn**	**20 25 24.7**	**-3.1**
	baz=315,slow=14						
APA0	**Apatity Array**	**10.24**	**112**	Pn	**Pn**	**20 25 24.7**	**-3.1**
	baz=314,slow=14						
APA0	**Apatity Array**	**10.24**	**112**	P	Pn	20 25 23.4	-4.4
APA0				S	Sn	20 27 05.4	-17
APA0	**Apatity Array**	**10.24**	**112**	Pn	**Pn**	**20 25 24.7**	**-3.1**
	SNR=50						
APA	**Apatity**	**10.38**	**112**	*i* P	**Pn**	**20 25 28.0**	**-1.6**
APA				*i* S	Sn	20 27 18.4	-7.2
APA				pmax	pmax		
	comp=Z,24nm,0.8s						
APA	**Apatity**	**10.38**	**112**	P	Pn	20 25 25.0	-4.6
APA				S	Sn	20 27 08.7	-17
APA	**Apatity**	**10.38**	**112**	*i* P	**Pn**	**20 25 28.0**	**-1.6**
	comp=Z,24nm,0.8s						
LVZ	**Lovozero**	**10.48**	**108**	*i* P	Pn	20 25 27.6	-3.5
LVZ				pmax	pmax		
	comp=Z,48nm,0.9s						
LVZ	**Lovozero**	**10.48**	**108**	*i* P	Pn	20 25 27.6	-3.5
	comp=Z,48nm,0.9s						
NB2	**NORSAR Subarra**	**12.55**	**172**	Pn	**Pn**	**20 25 58.5**	**-0.9**
	baz=353,slow=14						
NB2	**NORSAR Subarra**	**12.55**	**172**	Pn	**Pn**	**20 25 58.5**	**-0.9**
	baz=353,slow=14						
NB2	**NORSAR Subarra**	**12.55**	**172**	Pn	**Pn**	**20 25 58.5**	**-0.9**
	SNR=50						
NOA	**NORSAR Array B**	**12.55**	**172**	Pn	**Pn**	**20 25 57.6**	**-1.7**
	comp=Z,0.8nm,0.3s,baz=352,slow=12,SNR=10						
NOA				LR	LR	20 30 28.9	
	comp=Z,585nm,19.9s,baz=350,slow=36						
NOA	**NORSAR Array B**	**12.55**	**172**	P	**Pn**	**20 25 57.7**	**-1.7**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NOA				MLR	MLR		
	comp=Z,585nm,19.9s						
BORG	**Borgarnes**	**13.32**	**244**	LR	LR	20 29 49.4	
	comp=Z,704nm,19.8s,baz=65,slow=31						
HFS	**Hagfors**	**13.59**	**167**	Pn	**Pn**	**20 26 12.2**	**-1.3**
	baz=349,slow=12						
HFS	**Hagfors**	**13.59**	**167**	Pn	**Pn**	**20 26 12.2**	**-1.3**
	baz=349,slow=12						
HFS	**Hagfors**	**13.59**	**167**	Pn	**Pn**	**20 26 11.9**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=5.1,slow=12,SNR=23						
HFS				LR	LR	20 31 10.5	
	comp=Z,1μm,18.1s,baz=347,slow=36						
HFS	**Hagfors**	**13.59**	**167**	P	**Pn**	**20 26 11.9**	**-1.6**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HFS				MLR	MLR		
	comp=Z,1μm,18.1s						
HFS	**Hagfors**	**13.59**	**167**	Pn	**Pn**	**20 26 12.2**	**-1.3**
	SNR=50						
FIA0	**FINESS Array S**	**13.89**	**140**	Pn	**Pn**	**20 26 15.0**	**-2.7**
	baz=331,slow=12						
FIA0	**FINESS Array S**	**13.89**	**140**	Pn	**Pn**	**20 26 15.0**	**-2.7**
	baz=331,slow=12						
FIA0	**FINESS Array S**	**13.89**	**140**	Pn	**Pn**	**20 26 15.0**	**-2.7**
	SNR=50						
FIA1	**FINESS Array S**	**13.89**	**140**	*e*Pn	**Pn**	**20 26 14.6**	**-3.1**
FIA1	**FINESS Array S**	**13.89**	**140**	*e*Pn	**Pn**	**20 26 14.6**	**-3.1**
FINES	**FINESS Array S**	**13.89**	**140**	Pn	**Pn**	**20 26 15.0**	**-2.7**
	comp=Z,0.6nm,0.3s,baz=332,slow=10,SNR=30						
FINES				LR	LR	20 31 07.2	
	comp=Z,1μm,21.8s,baz=271,slow=35						
FINES	**FINESS Array B**	**13.89**	**140**	P	**Pn**	**20 26 15.0**	**-2.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES				MLR	MLR		
	comp=Z,1μm,21.8s						
TMCR	**Tamitsa**	**14.22**	**115**	*e*P	**P**	**20 26 26.7**	**-2.8**
TMCR				*e*		20 29 07.7	
TMCR				pmax	pmax		
	comp=Z,27nm,0.9s						
KLMR	**Klimovskoe**	**17.38**	**120**	*d* iP	**Pn**	**20 27 00.5**	**-2.6**
KLMR				pmax	pmax		
	comp=Z,63nm,1.6s						
KLMR				MLR	MLR		
	comp=Z,625nm,15.0s						
PRGR	**Permogore**	**18.30**	**110**	*e*P	**Pn**	**20 27 13.8**	**-0.7**
PRGR				pmax	pmax		
	comp=Z,22nm,0.8s						
PRGR	**Permogore**	**18.30**	**110**	*e*P	**Pn**	**20 27 13.8**	**-0.7**
	comp=Z,22nm,0.8s						
EKA	**Esdalemuir Ar**	**18.71**	**199**	P	**P**	**20 27 19.1**	**-0.1**
	baz=5.7,slow=11,SNR=10						
SFJD	**Kangerlussuaq**	**19.88**	**281**	P	**P**	**20 27 32.4**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=37,slow=11,SNR=4.4						
SFJD				LR	LR	20 34 13.6	
	comp=Z,1μm,18.9s,baz=52,slow=34						
NACGM	**Naroch**	**20.23**	**147**	*e*	**P**	**20 27 33.0**	**-2.7**
SUW	**Suwalki**	**20.57**	**153**	*e*P	**P**	**20 27 38.7**	**-0.8**
SUW	**Suwalki**	**20.57**	**153**	*e*P	**P**	**20 27 37.8**	**-1.6**
SUW				pmax	pmax		
	comp=Z,72nm,1.0s						
SUW	**Suwalki**	**20.57**	**153**	*e*P	**P**	**20 27 37.8**	**-1.6**
	comp=Z,72nm,1.0s						
SUW	**Suwalki**	**20.57**	**153**	*e*P	**P**	**20 27 37.8**	**-1.6**
	comp=Z,72nm,1.0s						
GKP	**Gorka Klasztor**	**20.67**	**163**	*e*P	Pn	20 27 47.2	+4.3
GKP	**Gorka Klasztor**	**20.67**	**163**	*e*P	Pn	20 27 47.3	+4.4
MNK	**Minsk**	**20.78**	**145**	*e*P	**P**	**20 27 40.0**	**-1.7**
MNK	**Minsk**	**20.78**	**145**	*e*P	**P**	**20 27 40.0**	**-1.7**
MICGM	**Minsk**	**20.79**	**145**	*e*P	**P**	**20 27 40.0**	**-1.8**
MOS	**Moscow**	**21.52**	**129**	*e*P	**P**	**20 27 48.2**	**-1.4**
MOS				*e*		20 31 47.5	
MOS				pmax	pmax		
	comp=Z,40nm,0.8s						
MOS				MLR	MLR		
	comp=Z,700nm,18.0s						
MOS	**Moscow**	**21.52**	**129**	*e*P	**P**	**20 27 48.2**	**-1.4**
	comp=Z,700nm,18.0s						
OBN	**Obninsk**	**21.86**	**131**	P	**P**	**20 27 53.0**	**-0.3**
	comp=Z,13nm,0.7s,baz=342,slow=7.3,SNR=12						
OBN				LR	LR	20 36 30.0	
	comp=Z,518nm,18.3s,baz=278,slow=37						
OBN	**Obninsk**	**21.86**	**131**	*d* iP	**P**	**20 27 53.3**	**0.0**
OBN				*i*		20 28 15.1	
OBN				pmax	pmax		
	comp=Z,108nm,2.5s						
OBN				MLR	MLR		
	comp=Z,923nm,24.0s						
OBN	**Obninsk**	**21.86**	**131**	*e*P	**P**	**20 27 52.4**	**-0.9**
	comp=Z,100nm,1.2s						
OBN	**Obninsk**	**21.86**	**131**	*e*P	**P**	**20 27 52.4**	**-0.9**
	comp=Z,100nm,1.2s						
BUG	**Bochum--Univer**	**22.10**	**180**	*e*P	**P**	**20 27 55.8**	**-0.1**
	comp=Z,193nm,2.6s						
BUG	**Bochum--Univer**	**22.10**	**180**	*e*P	**P**	**20 27 55.8**	**-0.1**
	comp=Z,193nm,2.6s						
CLL	**Collm**	**22.36**	**171**	*e*L	L	20 36 40.2	
	comp=Z,561nm,18.1s						
CLL	**Collm**	**22.36**	**171**	*e*P	**P**	**20 28 00.0**	**+1.3**
CLL				*es*P	**sP**	**20 28 03.0**	**-0.8**
CLL				*e*		20 28 05.0	
CLL				*e*		20 28 09.0	
CLL				*e*		20 28 18.0	
CLL				*e*(S)	Sn	20 32 10.0	-6.0
CLL				Lm	MLR	20 36 00.0	
	comp=Z,600nm,18.1s						
CLL	**Collm**	**22.36**	**171**	*e*P	**P**	**20 28 00.0**	**+1.3**
CLL				*e*		20 28 03.0	
CLL				MLR	MLR		
	comp=Z,600nm,18.1s						
CLL	**Collm**	**22.36**	**171**	*e*P	**P**	**20 27 58.9**	**+0.2**
	comp=Z,160nm,2.4s						
CLL	**Collm**	**22.36**	**171**	*e*P	**P**	**20 27 58.9**	**+0.2**
	comp=Z,160nm,2.4s						
BEL	**Belsk**	**22.43**	**158**	*e*P	**P**	**20 27 58.0**	**-1.4**
BEL	**Belsk**	**22.43**	**158**	*e*P	**P**	**20 27 58.0**	**-1.4**
BEL	**Belsk**	**22.43**	**158**	*e*P	**P**	**20 27 58.0**	**-1.4**
BRG	**Berggiesshubel**	**22.84**	**169**	*e*P	**P**	**20 28 03.5**	**-0.2**
	comp=Z,12nm,1.2s						
BRG				S	S	20 32 03.0	-10
	comp=N,480nm,19.5s						
	comp=E,148nm,19.7s						
	comp=Z,585nm,16.0s						
BRG	**Berggiesshubel**	**22.84**	**169**	*e*P	**P**	**20 28 03.9**	**+0.1**
	comp=Z,20nm,1.5s						
BRG	**Berggiesshubel**	**22.84**	**169**	*e*P	**P**	**20 28 03.5**	**-0.2**
BRG				S	S	20 32 03.0	-10
BRG				pmax	pmax		
	comp=Z,12nm,1.2s						
BRG				MLR	MLR		
	comp=N,480nm,19.5s						
BRG				MLR	MLR		
	comp=E,148nm,19.7s						
BRG				MLR	MLR		
	comp=Z,585nm,16.0s						
MEM	**Membach**	**22.94**	**182**	P	**P**	**20 28 05.5**	**+0.7**
	comp=Z,13nm,1.5s						
MEM	**Membach**	**22.94**	**182**	*e*P	**P**	**20 28 05.8**	**+1.0**
MEM				pmax	pmax		
	comp=Z,16nm,1.0s						
MEM	**Membach**	**22.94**	**182**	P	**P**	**20 28 05.5**	**+0.7**
	comp=Z,13nm,1.5s						
MEM	**Membach**	**22.94**	**182**	*e*P	**P**	**20 28 05.8**	**+1.0**
	comp=Z,16nm,1.0s						
KSP	**Ksiaz**	**23.01**	**166**	*e*P	**P**	**20 28 04.8**	**-0.8**
KSP	**Ksiaz**	**23.01**	**166**	*e*P	**P**	**20 28 04.8**	**-0.8**
SNF	**Seneffe**	**23.07**	**185**	P	**P**	**20 28 07.6**	**+1.4**
SNF	**Seneffe**	**23.07**	**185**	P	**P**	**20 28 07.6**	**+1.4**
BCLA	**Clavier**	**23.14**	**184**	P	**P**	**20 28 08.8**	**+1.9**
	comp=Z,22nm,2.4s						
BCLA	**Clavier**	**23.14**	**184**	P	**P**	**20 28 08.8**	**+1.9**
	comp=Z,22nm,2.4s						
PVCC	**Panska Ves**	**23.21**	**169**	*e*P	**P**	**20 28 08.6**	**+0.9**
PVCC				*ex*	x	20 28 15.6	
PVCC				AMS	AMS	20 37 20.0	
	comp=Z,600nm,16.1s						
PVCC	**Panska Ves**	**23.21**	**169**	*e*P	**P**	**20 28 08.6**	**+0.9**
PVCC				*e*		20 28 15.6	
PVCC				MLR	MLR		
	comp=Z,600nm,16.1s						
PVCC	**Panska Ves**	**23.21**	**169**	P	**P**	**20 28 08.6**	**+0.9**
TNS	**Taunus Mts**	**23.32**	**178**	*e*P	**P**	**20 28 09.7**	**+0.9**
	comp=Z,141nm,2.3s						
TNS				*e*L	L	20 36 41.5	
	comp=Z,330nm,21.5s						
NKC	**Novy Kostel**	**23.41**	**172**	*e*P	**P**	**20 28 09.9**	**+0.3**
NKC				*ep*P	**pP**	**20 28 14.8**	**+1.5**
NKC				*e*S	**S**	**20 32 21.6**	**-0.6**
NKC				AMS	AMS	20 37 20.0	
	comp=Z,300nm,16.8s						
NKC	**Novy Kostel**	**23.41**	**172**	*e*P	**P**	**20 28 09.9**	**+0.3**
NKC				*e*		20 28 14.8	
NKC				*e*S	**S**	**20 32 21.6**	**-0.6**
NKC				MLR	MLR		
	comp=Z,300nm,16.8s						
NKC	**Novy Kostel**	**23.41**	**172**	P	**P**	**20 28 09.9**	**+0.3**
NKC				S	**S**	**20 32 21.6**	**-0.6**
GIVF	**Givet**	**23.47**	**184**	*e*P	**P**	**20 28 10.1**	**-0.1**
GIVF	**Givet**	**23.47**	**184**	*e*P	**P**	**20 28 10.1**	**-0.1**
GIVF	**Givet**	**23.47**	**184**	*e*P	**P**	**20 28 10.1**	**-0.1**
GIVF	**Givet**	**23.47**	**184**	*e*P	**P**	**20 28 10.1**	**-0.1**
DOU	**Dourbes**	**23.48**	**185**	P	**P**	**20 28 10.8**	**+0.4**
	comp=Z,18nm,2.6s						
DOU	**Dourbes**	**23.48**	**185**	P	**P**	**20 28 10.7**	**+0.4**
	comp=Z,18nm,2.6s						
DPC	**Dobruska-Polom**	**23.50**	**166**	*e*P	**P**	**20 28 10.8**	**+0.2**
DPC				*ep*P	**pP**	**20 28 15.9**	**+1.6**
DPC				*e*S	**S**	**20 32 25.1**	**+1.3**
DPC				AMS	AMS	20 37 10.0	
DPC	**Dobruska-Polom**	**23.50**	**166**	*e*P	**P**	**20 28 10.8**	**+0.2**
DPC				*e*		20 28 15.9	
DPC				*e*S	**S**	**20 32 25.1**	**+1.3**
DPC	**Dobruska-Polom**	**23.50**	**166**	P	**P**	**20 28 10.8**	**+0.2**
DPC				S	**S**	**20 32 25.1**	**+1.3**
BAIF	**Baives**	**23.52**	**185**	*e*P	**P**	**20 28 10.0**	**-0.8**
BAIF	**Baives**	**23.52**	**185**	*e*P	**P**	**20 28 10.0**	**-0.8**
BAIF	**Baives**	**23.52**	**185**	*e*P	**P**	**20 28 10.0**	**-0.8**
BAIF	**Baives**	**23.52**	**185**	*e*P	**P**	**20 28 10.0**	**-0.8**
ABH	**Alteburg**	**23.66**	**180**	*e*P	**P**	**20 28 13.0**	**+0.9**
PRA	**Prague**	**23.66**	**169**	*e*P	**P**	**20 28 14.0**	**+1.9**
PRA				*ep*P	**pP**	**20 28 17.3**	**+1.5**
PRA				*ex*	x	20 28 19.9	
PRA				AMS	AMS	20 37 10.0	
	comp=Z,600nm,20.3s						
PRA	**Prague**	**23.66**	**169**	*e*P	**P**	**20 28 14.0**	**+1.9**
PRA				*e*		20 28 17.3	
PRA				*e*		20 28 19.9	
PRA				MLR	MLR		
	comp=Z,600nm,20.3s						
PRA	**Prague**	**23.66**	**169**	P	**P**	**20 28 14.0**	**+1.9**
PRU	**Pruhonice**	**23.75**	**169**	*e*P	**P**	**20 28 14.3**	**+1.3**
PRU				*ep*P	**pP**	**20 28 18.0**	**+1.3**
PRU				*e*S	**

comp=Z,500nm,16.7s
KHC Kasperske Hory 24.56 170 *e*P **P 20 28 19.9 -0.6**
KHC *e* 20 28 26.2
KHC *e*S **S 20 32 45.5 +4.8**
KHC MLR MLR
comp=Z,500nm,16.7s
KHC Kasperske Hory 24.56 170 P P **20 28 19.9 -0.6**
VRAC Vranov 24.56 166 P P **20 28 20.8 +0.3**
comp=Z,18nm,0.9s,baz=359,slow=10.0,SNR=19
VRAC LR LR 20 38 01.6
comp=Z,528nm,19.0s,baz=3.0,slow=37
VRAC Vranov 24.56 166 P P **20 28 20.8 +0.3**
VRAC pmax pmax
comp=Z,18nm,0.9s
VRAC MLR MLR
comp=Z,529nm,19.0s
VRAC Vranov 24.56 166⇓*i*P P **20 28 22.1 +1.6**
LANF Langenberg 24.56 180 *e*P P **20 28 22.9 +2.4**
AKASG Malin Array Be 24.68 146 P P **20 28 20.4 -1.1**
comp=Z,13nm,0.8s,baz=344,slow=9.5,SNR=45
AKASG LR LR 20 37 44.6
comp=Z,1µm,20.4s,baz=325,slow=36
AKASG Malin Array Be 24.68 146 P P **20 28 20.4 -1.1**
AKASG pmax pmax
comp=Z,13nm,0.8s
AKASG MLR MLR
comp=Z,1µm,20.4s
AKBB Malin Array Si 24.68 146 *e*P P **20 28 21.0 -0.5**
AKBB Malin Array Si 24.68 146 *e*P P **20 28 21.0 -0.5**
AKBB Malin Array Si 24.68 146 *e*P P **20 28 21.0 -0.5**
KIEV Kiev 24.68 146 *e*P P **20 28 19.0 -2.5**
KIEV pmax pmax
comp=Z,18nm,1.0s
KIEV Kiev 24.68 146 *e*P P **20 28 19.0 -2.5**
comp=Z,18nm,1.0s
KIEV Kiev 24.68 146 *e*P P **20 28 18.9 -2.5**
comp=Z,18nm,1.0s
AK01 Malin Array Si 24.68 146 *e*P P **20 28 21.0 -0.6**
AK01 Malin Array Si 24.68 146 *e*P P **20 28 21.0 -0.6**
AK11 Malin Array Si 24.69 146 *e*P P **20 28 21.6 0.0**
AK11 Malin Array Si 24.69 146 *e*P P **20 28 21.6 0.0**
AK02 Malin Array Si 24.71 146 *e*P P **20 28 20.8 -1.1**
AK02 Malin Array Si 24.71 146 *e*P P **20 28 20.8 -1.1**
NIE Niedzica 24.77 160 *e*P P **20 28 24.7 +2.4**
NIE Niedzica 24.77 160 *e*P P **20 28 24.8 +2.4**
LVV L'vov 24.79 154 *e*P P **20 28 23.0 +0.5**
KWP Kalwaria Pacla 24.81 156 *e*P P **20 28 24.6 +1.8**
KWP Kalwaria Pacla 24.81 156 *e*P P **20 28 21.0 -1.8**
KWP pmax pmax
comp=Z,42nm,1.1s
KWP Kalwaria Pacla 24.81 156⇓*i*P P **20 28 23.2 +0.4**
KWP Kalwaria Pacla 24.81 156 *e*P P **20 28 21.0 -1.8**
comp=Z,42nm,1.1s
KWP Kalwaria Pacla 24.81 156 *e*P P **20 28 21.0 -1.8**
comp=Z,42nm,1.1s
GEC2 GERESS Array S 24.85 170 *e*P P **20 28 24.7 +1.5**
comp=Z,13nm,1.1s
GEC2 *e*L L 20 38 05.9
comp=Z,443nm,18.8s
GEC2 GERESS Array S 24.85 170 *e*P P **20 28 24.4 +1.2**
GEC2 GERESS Array S 24.85 170 *e*P P **20 28 24.4 +1.2**
GEC2 GERESS Array S 24.85 170 *e*P P **20 28 24.4 +1.2**
GERES GERESS Array B 24.85 170 P P **20 28 23.4 +0.2**
comp=Z,6.8nm,0.9s,baz=2.9,slow=8.0,SNR=31
GERES LR LR 20 38 25.4
comp=Z,448nm,18.5s,baz=350,slow=37
GERES GERESS Array B 24.85 170 P P **20 28 23.4 +0.2**
GERES pmax pmax
comp=Z,7.0nm,0.9s
GERES MLR MLR
comp=Z,449nm,18.5s
RES Resolute Bay 24.87 322 P P **20 28 23.3 +0.2**
comp=Z,1.5nm,0.9s,baz=247,slow=13,SNR=2.6
RES LR LR 20 38 11.6
comp=Z,542nm,18.4s,baz=32,slow=37
RES Resolute Bay 24.87 322 P P **20 28 23.3 +0.2**
RES pmax pmax
comp=Z,2.0nm,0.9s
RES MLR MLR
comp=Z,543nm,18.4s
PAGF Fort de Pagny 25.00 183 *e*P P **20 28 24.8 +0.3**
comp=Z,47nm,1.8s
PAGF Fort de Pagny 25.00 183 *e*P P **20 28 24.8 +0.3**
comp=Z,24nm,1.8s
PAGF Fort de Pagny 25.00 183 *e*P P **20 28 24.8 +0.3**
comp=Z,47nm,1.8s
FLN La Foliniere 25.03 193 *e*P P **20 28 25.3 +0.6**
comp=Z,82nm,1.5s
FLN *e*R
comp=Z,167nm,22.0s
FLN La Foliniere 25.03 193 *e*P P **20 28 25.3 +0.6**
FLN pmax pmax
comp=Z,82nm,1.5s
FLN La Foliniere 25.03 193 *e*P P **20 28 25.3 +0.6**
comp=Z,41nm,1.5s
FLN La Foliniere 25.03 193 *e*P P **20 28 25.3 +0.6**
comp=Z,82nm,1.5s
MEZF Maizieres J'vi 25.06 184 *e*P P **20 28 25.4 +0.4**
comp=Z,32nm,1.0s
MEZF Maizieres J'vi 25.06 184 *e*P P **20 28 25.4 +0.4**
comp=Z,16nm,1.0s
MEZF Maizieres J'vi 25.06 184 *e*P P **20 28 25.4 +0.4**
comp=Z,32nm,1.0s
CDF Champ du Feu 25.13 180 *e*P P **20 28 25.9 +0.2**
CDF Champ du Feu 25.13 180 *e*P P **20 28 25.9 +0.2**
CDF Champ du Feu 25.13 180 *e*P P **20 28 25.9 +0.2**
CDF Champ du Feu 25.13 180 *e*P P **20 28 25.9 +0.2**
LDF La Druitiere 25.18 192 *e*P P **20 28 26.2 +0.2**
comp=Z,39nm,1.0s
LDF La Druitiere 25.18 192 *e*P P **20 28 26.2 +0.2**
LDF pmax pmax
comp=Z,39nm,1.0s
LDF La Druitiere 25.18 192 *e*P P **20 28 26.2 +0.2**
comp=Z,19nm,1.0s
LDF La Druitiere 25.18 192 *e*P P **20 28 26.2 +0.2**
comp=Z,39nm,1.0s
BFO Black Forest 25.21 179 *e*P P **20 28 27.9 +1.5**
comp=Z,345nm,3.6s
BFO *e*L L 20 37 48.3
comp=Z,281nm,21.8s
BFO Black Forest 25.21 179 *e*P P **20 28 25.0 -1.4**
BFO pmax pmax
comp=Z,23nm,1.4s
BFO Black Forest 25.21 179 *e*P P **20 28 25.0 -1.4**
comp=Z,23nm,1.4s
BFO Black Forest 25.21 179 *e*P P **20 28 25.0 -1.4**
comp=Z,23nm,1.4s
THEF They Montfort 25.32 182 *e*P P **20 28 28.1 +0.7**
THEF They Montfort 25.32 182 *e*P P **20 28 28.1 +0.7**
ECH Echery 25.33 181 *e*P P **20 28 27.9 +0.5**
ECH Echery 25.33 181 *e*P P **20 28 27.3 -0.1**
ECH pmax pmax
comp=Z,8.0nm,1.0s
ECH Echery 25.33 181 *e*P P **20 28 27.3 -0.1**
comp=Z,8.2nm,1.0s
ECH Echery 25.33 181 *e*P P **20 28 27.3 -0.1**
comp=Z,8.3nm,1.0s
SFTF Sexfontaines 25.36 184 *e*P P **20 28 28.5 +0.8**
comp=Z,86nm,1.5s
SFTF Sexfontaines 25.36 184 *e*P P **20 28 28.5 +0.8**
comp=Z,43nm,1.5s
SFTF Sexfontaines 25.36 184 *e*P P **20 28 28.5 +0.8**
comp=Z,86nm,1.5s
GRR Gorron 25.43 193 *e*P P **20 28 27.8 -0.5**
comp=Z,34nm,1.2s
GRR Gorron 25.43 193 *e*P P **20 28 27.8 -0.5**
GRR pmax pmax
comp=Z,34nm,1.2s
GRR Gorron 25.43 193 *e*P P **20 28 27.8 -0.5**
comp=Z,17nm,1.2s
GRR Gorron 25.43 193 *e*P P **20 28 27.8 -0.5**
comp=Z,34nm,1.2s
FUR Furstenfeldbru 25.43 174 *e*P P **20 28 31.2 +2.8**
comp=Z,23nm,0.9s
FUR *e*L L 20 40 31.5
comp=Z,184nm,19.9s
HAU Haudompre 25.54 182 *e*P P **20 28 30.2 +0.8**
comp=Z,30nm,1.2s
HAU *e*R
comp=Z,216nm,19.8s
HAU Haudompre 25.54 182 *e*P P **20 28 30.2 +0.8**
HAU pmax pmax
comp=Z,30nm,1.2s
HAU Haudompre 25.54 182 *e*P P **20 28 30.2 +0.8**
comp=Z,15nm,1.2s
HAU Haudompre 25.54 182 *e*P P **20 28 30.2 +0.8**
comp=Z,30nm,1.2s
VYHS Vyhne 25.55 162 *e*P P **20 28 30.0 +0.6**
VYHS Vyhne 25.55 162 *e*P P **20 28 30.0 +0.6**
ROSF Rostrenen 25.66 197 *e*P P **20 28 30.8 +0.4**
comp=Z,68nm,1.4s
ROSF Rostrenen 25.66 197 *e*P P **20 28 30.8 +0.4**
ROSF pmax pmax
comp=Z,68nm,1.4s
ROSF Rostrenen 25.66 197 *e*P P **20 28 30.8 +0.4**
comp=Z,34nm,1.4s
ROSF Rostrenen 25.66 197 *e*P P **20 28 30.8 +0.4**
comp=Z,68nm,1.4s
SGMF Saint Gilles 25.68 196 *e*P P **20 28 30.2 -0.4**
comp=Z,131nm,1.4s
SGMF Saint Gilles 25.68 196 *e*P P **20 28 30.2 -0.4**
SGMF pmax pmax
comp=Z,131nm,1.4s
SGMF Saint Gilles 25.68 196 *e*P P **20 28 30.2 -0.4**
comp=Z,65nm,1.4s
SGMF Saint Gilles 25.68 196 *e*P P **20 28 30.2 -0.4**
comp=Z,131nm,1.4s
HINF Hinteralfeld 25.73 181 *e*P P **20 28 32.9 +1.8**
comp=Z,50nm,1.7s
HINF Hinteralfeld 25.73 181 *e*P P **20 28 32.9 +1.8**
HINF pmax pmax
comp=Z,50nm,1.7s
HINF Hinteralfeld 25.73 181 *e*P P **20 28 32.9 +1.8**
comp=Z,25nm,1.7s
HINF Hinteralfeld 25.73 181 *e*P P **20 28 32.9 +1.8**
comp=Z,50nm,1.7s
UZH Uzhgorod 25.75 157 *e*P P **20 28 31.4 +0.2**
UZH *e* 20 28 37.2
UZH *e*S **S 20 32 55.4 -4.2**
CONA Conrad Observa 25.88 167⇓*i*P P **20 28 34.2 +1.6**
comp=Z,8.6nm,0.8s
CONA Conrad Observa 25.88 167 P P **20 28 34.2 +1.6**
comp=Z,8.6nm,0.8s
RJOB Jochberg 25.91 172 *e*P P **20 28 36.6 +3.8**
comp=Z,12nm,0.9s
QUIF Quistinic 26.06 196 *e*P P **20 28 34.9 +0.8**
comp=Z,31nm,1.1s
QUIF Quistinic 26.06 196 *e*P P **20 28 34.9 +0.8**
QUIF pmax pmax
comp=Z,31nm,1.1s
QUIF Quistinic 26.06 196 *e*P P **20 28 34.9 +0.8**
comp=Z,15nm,1.1s
QUIF Quistinic 26.06 196 *e*P P **20 28 34.9 +0.8**
comp=Z,31nm,1.1s
VSR Storozhevoye 26.07 131 *e*P P **20 28 34.8 +0.7**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
PSZ Piszkesteto 26.21 161 *e*P P **20 28 32.5 -3.0**
PSZ pmax pmax
comp=Z,59nm,2.0s
PSZ Piszkesteto 26.21 161⇑*i*P P **20 28 37.6 +2.1**
PSZ Piszkesteto 26.21 161 *e*P P **20 28 32.5 -3.0**
comp=Z,59nm,2.0s
PSZ Piszkesteto 26.21 161 *e*P P **20 28 32.5 -3.0**
comp=Z,59nm,2.0s
PSZ Piszkesteto 26.21 161 *e*P P **20 28 39.5 +4.0**
ARU Arti 26.27 103*d i*P P **20 28 37.3 +1.4**
ARU 20 29 14.6
ARU PPP PPP 20 29 25.1
ARU 20 31 57.5
ARU S **S 20 33 12.0 +4.3**
ARU SS **SnSn 20 34 09.0 +2.1**
ARU pmax pmax
comp=Z,7.0nm,0.8s
ARU MLR MLR
comp=Z,378nm,18.0s
ARU Arti 26.27 103 *e*P P **20 28 34.7 -1.2**
comp=Z,24nm,1.1s
ARU Arti 26.27 103 *e*P P **20 28 34.7 -1.2**
comp=Z,24nm,1.1s
TRPA Tarpa 26.27 157⇓*i*P P **20 28 37.7 +1.7**
TRPA Tarpa 26.27 157‖*e*P P **20 28 39.1 +3.1**
DAVA Damuels 26.28 176⇓*i*sP P **20 28 40.0 +3.8**
comp=Z,12nm,1.1s
LOR Lormes 26.33 186 *e*P P **20 28 37.0 +0.5**
comp=Z,43nm,1.4s
LOR *e*R
comp=Z,244nm,22.5s
LOR Lormes 26.33 186 *e*P P **20 28 37.0 +0.5**
LOR pmax pmax
comp=Z,43nm,1.4s
LOR Lormes 26.33 186 *e*P P **20 28 37.0 +0.5**
comp=Z,22nm,1.4s
LOR Lormes 26.33 186 *e*P P **20 28 37.0 +0.5**
comp=Z,43nm,1.4s
VORD Divnogorie 26.33 131 *e*P P **20 28 36.5 0.0**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.8s
SVE Sverdlovsk 26.51 100⇓*i*P P **20 28 39.8 +1.7**
SVE pmax pmax
comp=Z,19nm,1.9s
SVE MLR MLR
comp=Z,471nm,18.0s
ARSA Arzberg 26.54 168⇑*i*pP P **20 28 40.6 +2.2**
comp=Z,7.3nm,1.1s
ARSA Arzberg 26.54 168 P P **20 28 40.6 +2.2**
comp=Z,7.3nm,1.1s
SSF Saint Saulge 26.54 186 *e*P P **20 28 39.0 +0.6**
SSF Saint Saulge 26.54 186 *e*P P **20 28 39.0 +0.6**
SSF Saint Saulge 26.54 186 *e*P P **20 28 39.0 +0.6**
SSF Saint Saulge 26.54 186 *e*P P **20 28 39.0 +0.6**
DAVOX Davos/Dischmat 26.78 176 LR LR 20 39 31.3
comp=Z,115nm,19.0s,baz=346,slow=37
AVF Avril sur Loir 26.82 186 *e*P P **20 28 41.1 +0.2**
comp=Z,70nm,1.7s
AVF Avril sur Loir 26.82 186 *e*P P **20 28 41.1 +0.2**
AVF pmax pmax
comp=Z,70nm,1.7s
AVF Avril sur Loir 26.82 186 *e*P P **20 28 41.1 +0.2**
comp=Z,35nm,1.7s
AVF Avril sur Loir 26.82 186 *e*P P **20 28 41.1 +0.2**
comp=Z,70nm,1.7s
CABF La Chapelle 26.94 182 *e*P P **20 28 43.2 +1.1**
comp=Z,58nm,1.5s
CABF La Chapelle 26.94 182 *e*P P **20 28 43.2 +1.1**
CABF pmax pmax
comp=Z,59nm,1.5s
CABF La Chapelle 26.94 182 *e*P P **20 28 43.2 +1.1**
comp=Z,29nm,1.5s
CABF La Chapelle 26.94 182 *e*P P **20 28 43.2 +1.1**
comp=Z,58nm,1.5s
SMF Signal de Mont 26.95 186 *e*P P **20 28 42.1 0.0**
comp=Z,49nm,1.5s
SMF Signal de Mont 26.95 186 *e*P P **20 28 42.1 0.0**
SMF pmax pmax
comp=Z,49nm,1.5s
SMF Signal de Mont 26.95 186 *e*P P **20 28 42.1 0.0**
comp=Z,24nm,1.5s
SMF Signal de Mont 26.95 186 *e*P P **20 28 42.1 0.0**
comp=Z,49nm,1.5s
BUR08 Bucovina Ar. S 27.07 153 *e*P P **20 28 42.6 -0.7**
BUR08 Bucovina Ar. S 27.07 153 *e*P P **20 28 42.6 -0.7**
BUR04 Bucovina Ar. S 27.10 153 *e*P P **20 28 43.8 +0.2**
BUR04 Bucovina Ar. S 27.10 153 *e*P P **20 28 43.8 +0.2**
BURAR Bucovina Array 27.11 153⇓*i*P P **20 28 43.9 +0.3**
MFF Saint Martin d 27.16 192 *e*P P **20 28 43.9 -0.1**
comp=Z,26nm,1.1s
MFF Saint Martin d 27.16 192 *e*P P **20 28 43.9 -0.1**
MFF pmax pmax
comp=Z,27nm,1.1s
MFF Saint Martin d 27.16 192 *e*P P **20 28 43.9 -0.1**
comp=Z,13nm,1.1s
MFF Saint Martin d 27.16 192 *e*P P **20 28 43.9 -0.1**
comp=Z,26nm,1.1s
SENIN Lac Senin/Sane 27.18 180 *e*P P **20 28 45.4 +1.0**
SENIN Lac Senin/Sane 27.18 180 *e*P P **20 28 45.4 +1.0**
FRB Frobisher Bay 27.28 290 LR LR 20 38 39.9
comp=Z,281nm,20.1s,baz=24,slow=34
TCF Toulx Ste Croi 27.36 188 *e*P P **20 28 46.7 +0.9**
comp=Z,87nm,1.6s
TCF Toulx Ste Croi 27.36 188 *e*P P **20 28 46.7 +0.9**
TCF pmax pmax
comp=Z,87nm,1.6s
TCF Toulx Ste Croi 27.36 188 *e*P P **20 28 46.7 +0.9**
comp=Z,44nm,1.6s
TCF Toulx Ste Croi 27.36 188 *e*P P **20 28 46.7 +0.9**
comp=Z,87nm,1.6s
DRGR 27.61 157⇓*i*P P 20 28 53.3 +5.1
PKSM Moragy 27.79 163⇓*i*P P **20 28 51.0 +1.3**
LPL La Plagne 28.03 181 *e*P P **20 28 52.8 +0.8**
LPL La Plagne 28.03 181 *e*P P **20 28 52.8 +0.8**
LPL La Plagne 28.03 181 *e*P P **20 28 52.8 +0.8**
LPL La Plagne 28.03 181 *e*P P **20 28 52.8 +0.8**
LPG La Plagne 28.05 181 *e*P P **20 28 53.3 +1.0**
comp=Z,34nm,1.6s
LPG La Plagne 28.05 181 *e*P P **20 28 53.3 +1.0**
LPG pmax pmax
comp=Z,34nm,1.6s
LPG La Plagne 28.05 181 *e*P P **20 28 53.3 +1.0**
comp=Z,17nm,1.6s
LPG La Plagne 28.05 181 *e*P P **20 28 53.3 +1.0**
comp=Z,34nm,1.6s
ORIF Oris-en-Rattie 28.64 182 *e*P P **20 28 58.7 +1.4**
comp=Z,35nm,1.4s
ORIF *e*R
comp=Z,233nm,22.2s
ORIF Oris-en-Rattie 28.64 182 *e*P P **20 28 58.7 +1.4**
ORIF pmax pmax
comp=Z,35nm,1.4s
ORIF Oris-en-Rattie 28.64 182 *e*P P **20 28 58.7 +1.4**
comp=Z,18nm,1.4s
ORIF Oris-en-Rattie 28.64 182 *e*P P **20 28 58.7 +1.4**
comp=Z,35nm,1.4s
BZS Buzias 28.66 159⇑*i*P P **20 28 58.5 +1.1**
VIVF Saint-Julien-l 28.72 184 *e*P P **20 28 59.1 +1.1**
VIVF Saint-Julien-l 28.72 184 *e*P P **20 28 59.1 +1.1**
VIVF Saint-Julien-l 28.72 184 *e*P P **20 28 59.1 +1.1**
VIVF Saint-Julien-l 28.72 184 *e*P P **20 28 59.1 +1.1**
DOPR Dopca 28.75 154⇓*i*P P 20 28 51.3 -6.9
LFF La Frestale 28.77 190 *e*P P **20 28 59.2 +0.8**
comp=Z,16nm,0.8s
LFF La Frestale 28.77 190 *e*P P **20 28 59.2 +0.8**
LFF pmax pmax
comp=Z,16nm,0.8s
LFF La Frestale 28.77 190 *e*P P **20 28 59.2 +0.8**
comp=Z,8.2nm,0.8s
LFF La Frestale 28.77 190 *e*P P **20 28 59.2 +0.8**
comp=Z,16nm,0.8s
MBDF Montbardon 28.82 181 *e*P P **20 28 59.7 +0.7**
comp=Z,17nm,1.0s
MBDF Montbardon 28.82 181 *e*P P **20 28 59.7 +0.7**
MBDF pmax pmax
comp=Z,17nm,1.0s
MBDF Montbardon 28.82 181 *e*P P **20 28 59.7 +0.7**
comp=Z,8.7nm,1.0s
MBDF Montbardon 28.82 181 *e*P P **20 28 59.7 +0.7**
comp=Z,17nm,1.0s
MLR Muntele Rosu 29.29 153 P P **20 29 03.5 +0.4**
comp=Z,0.3nm,0.7s,baz=139,slow=20,SNR=2.1
MLR LR LR 20 40 57.0
comp=Z,212nm,18.7s,baz=350,slow=37
MLR Muntele Rosu 29.29 153⇑*i*P P **20 29 04.8 +1.7**
TIXI Tiksi 30.51 32‖*e*P P **20 29 15.1 +1.6**
TIXI pmax pmax
comp=Z,10.0nm,1.7s
TIXI Tiksi 30.51 32 *e*P P **20 29 14.4 +0.9**
comp=Z,8.8nm,1.0s
TIXI Tiksi 30.51 32 *e*P P **20 29 14.4 +0.9**
comp=Z,8.8nm,1.0s
SIM Simferopol' 31.07 142 P P 20 29 22.0 +3.2
SIM *e*S S 20 34 32.0 +8.6
SIM MLR MLR
comp=Z,560nm,18.8s
VTS Vitosha 31.82 158⇑*i*P P **20 29 25.2 -0.3**
BRVK Borovoye 32.54 94⇓*i*P P **20 29 33.4 +1.8**
BRVK pmax pmax
comp=Z,8.0nm,1.0s
GOF Gofitskoye 32.74 130 *e*P P **20 29 34.4 +1.0**
GOF pmax pmax
comp=Z,30nm,0.8s
ABKAR Akbulak array 33.04 108 *e*P P **20 29 36.9 +0.9**
ABKAR Akbulak array 33.04 108 *e*P P **20 29 36.9 +0.9**
KIV Kislovodsk 33.71 131 *e*P P **20 29 43.9 +1.9**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,356nm,15.0s
KIV Kislovodsk 33.71 131 *e*P P **20 29 41.0 -1.0**
KIV Kislovodsk 33.71 131 *e*P P **20 29 41.0 -1.0**
KBZ Khabaz 33.98 131 P P **20 29 43.7 -0.4**
comp=Z,3.0nm,0.7s,baz=56,slow=24,SNR=9.2
KBZ LR LR 20 44 01.9
comp=Z,470nm,20.9s,baz=307,slow=37
KBZ Khabaz 33.98 131 P P **20 29 43.7 -0.4**
KBZ pmax pmax
comp=Z,3.0nm,0.7s
KBZ MLR MLR
comp=Z,470nm,20.9s
SCHQ Schefferville 34.29 279 LR LR 20 42 16.5
comp=Z,427nm,20.8s,baz=91,slow=34
ESDC Sonseca Array 34.32 196 P P **20 29 46.3 -1.0**
comp=Z,0.3nm,0.5s,baz=6.0,slow=8.1,SNR=6.2
NCK Nalchik 34.35 131⇓*i*P P **20 29 49.0 +1.6**
NEY Neytrino 34.40 132 *i* P P 20 29 51.3 +3.3
NEY pmax pmax
comp=Z,1.0nm,0.8s
NVS Novosibirsk 34.67 80 *e*P P **20 29 51.0 +0.9**
NVS pmax pmax
comp=Z,33nm,2.4s
NVS pmax pmax
comp=N,9.0nm,2.2s
ZEI Tsey 35.09 131 *e*P P **20 29 54.3 +0.2**
ZEI pmax pmax
comp=Z,7.0nm,1.0s
BR231 Keskin MP Arra 35.82 146 *e*P P **20 30 02.3 +2.1**
BR231 Keskin MP Arra 35.82 146 *e*P P **20 30 02.3 +2.1**
ZAA0 Zalesovo Array 35.90 80 *e*P P **20 30 02.1 +1.4**
ZAA0 Zalesovo Array 35.90 80 *e*P P **20 30 02.1 +1.4**
ZALV Zalesovo Beam 35.90 80 P P **20 30 00.7 0.0**
comp=Z,1.6nm,0.8s,baz=328,slow=10,SNR=5.4
ZALV LR LR 20 47 37.9
comp=Z,303nm,20.9s,baz=250,slow=41
ZALV Zalesovo Beam 35.90 80 P P **20 30 00.7 0.0**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV MLR MLR
comp=Z,303nm,20.9s
BR131 Keskin Array S 36.07 145 P P **20 29 59.3 -3.1**
comp=Z,2.9nm,0.7s
BR131 Keskin Array S 36.07 145 P P **20 29 59.3 -3.1**
comp=Z,2.9nm,0.7s
BRTR Keskin Array B 36.07 145 P P **20 30 02.8 +0.3**
comp=Z,3.6nm,0.8s,baz=346,slow=6.2,SNR=21
BRTR LR LR 20 45 54.8
comp=Z,220nm,21.2s,baz=357,slow=38
BRTR Keskin Array B 36.07 145 P P **20 30 02.8 +0.3**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR MLR MLR
comp=Z,220nm,21.2s
INK Inuvik 36.24 337 P P **20 30 01.9 -1.4**
comp=Z,3.6nm,1.0s,baz=353,slow=12,SNR=9.6
INK PcP **PcP 20 32 28.0 0.0**
comp=Z,1.6nm,0.9s,baz=50,slow=8.6,SNR=3.7
INK Inuvik 36.24 337 *e*P P **20 30 02.3 -1.1**
INK 20 32 28.0
INK pmax pmax
comp=Z,10.0nm,1.0s
INK Inuvik 36.24 337 *e*P P **20 30 02.2 -1.1**
comp=Z,9.9nm,1.0s
INK Inuvik 36.24 337 *e*P P **20 30 02.2 -1.1**
comp=Z,9.9nm,1.0s
INK PcP **PcP 20 32 28.0 0.0**
KURK Kurchatov 37.01 88 *e*P P **20 30 09.2 -0.9**
KURK pmax pmax
comp=Z,6.0nm,0.8s
KURK Kurchatov 37.01 88 *e*P P **20 30 09.2 -0.9**
comp=Z,6.4nm,0.8s
KURK Kurchatov 37.01 88 *e*P P **20 30 09.2 -0.9**
comp=Z,6.4nm,0.8s
GNI Garni 37.80 131*d i*P P **20 30 19.7 +2.6**
GNI pmax pmax
comp=Z,6.0nm,1.0s
GNI Garni 37.80 131 *e*P P **20 30 15.5 -1.6**
comp=Z,17nm,1.1s
GNI Garni 37.80 131 *e*P P **20 30 15.5 -1.6**
comp=Z,17nm,1.1s
KEST Kesra 37.81 178 P P **20 30 18.1 +0.9**
comp=Z,3.6nm,1.2s,baz=270,slow=8.1,SNR=4.2
KEST LR LR 20 45 12.8

comp=Z,45nm,19.3s,baz=292,slow=35
FCC Fort Churchill 38.03 304 *e*P **P** **20 30 16.8 -1.9**
FCC pmax pmax
comp=Z,278nm,0.8s
FCC Fort Churchill 38.03 304 *e*P **P** **20 30 16.8 -1.9**
comp=Z,278nm,0.8s
FCC Fort Churchill 38.03 304 *e*P **P** **20 30 16.8 -1.9**
comp=Z,278nm,0.8s
MALT Malatya 38.29 139 ǁ *i*P **P** **20 30 23.4 +2.2**
COLD Coldfoot 38.80 346 *e*P **P** **20 30 23.8 -1.3**
comp=Z,8.6nm,1.0s
COLD Coldfoot 38.80 346 *e*P **P** **20 30 23.8 -1.3**
comp=Z,8.6nm,1.0s
YKA Yellowknife Ar 38.94 321 P **P** **20 30 25.8 -0.4**
comp=Z,2.9nm,0.9s,baz=11,slow=8.2,SNR=22
YKA PcP **PcP** **20 32 36.5 +0.1**
comp=Z,1.2nm,0.8s,baz=18,slow=3.0,SNR=9.3
YKA Yellowknife Ar 38.94 321 P **P** **20 30 25.8 -0.4**
YKA 20 32 36.5
YKA pmax pmax
comp=Z,3.0nm,0.9s
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKB5 Yellowknife Ar 38.94 321 *e*P **P** **20 30 25.1 -1.2**
YKB5 Yellowknife Ar 38.94 321 *e*P **P** **20 30 25.1 -1.2**
BOD Bodaibo 40.02 53 *e*P **P** **20 30 33.5 -1.8**
BOD pmax pmax
comp=Z,5.0nm,1.9s
IM04 Indian Mountai 40.27 348 *e*P **P** **20 30 36.5 -0.9**
IM04 Indian Mountai 40.27 348 *e*P **P** **20 30 36.5 -0.9**
EGAK Eagle 40.47 340 *e*P **P** **20 30 39.4 +0.5**
comp=Z,13nm,1.3s
EGAK Eagle 40.47 340 *e*P **P** **20 30 39.4 +0.5**
comp=Z,13nm,1.3s
MDM Murphy Dome 40.91 345 *e*P **P** **20 30 43.6 +1.0**
comp=Z,8.8nm,1.0s
MDM Murphy Dome 40.91 345 *e*P **P** **20 30 43.6 +1.0**
comp=Z,8.8nm,1.0s
IL1 Eielson Array 40.98 344 *e*P **P** **20 30 43.8 +0.5**
IL1 Eielson Array 40.98 344 *e*P **P** **20 30 43.8 +0.5**
ILAR Eielson Array 40.98 344 P **P** **20 30 44.0 +0.8**
comp=Z,5.4nm,0.9s,baz=4.7,slow=6.8,SNR=44
ILAR Eielson Array 40.98 344 P **P** **20 30 44.1 +0.8**
ILAR pmax pmax
comp=Z,5.0nm,0.9s
MLY Manley 41.02 346 *e*P **P** **20 30 44.5 +1.0**
comp=Z,6.0nm,1.0s
MLY Manley 41.02 346 *e*P **P** **20 30 44.5 +1.0**
comp=Z,6.0nm,1.0s
CCB Clear Creek Bu 41.18 344 *e*P **P** **20 30 45.1 +0.3**
comp=Z,6.3nm,1.0s
CCB Clear Creek Bu 41.18 344 *e*P **P** **20 30 45.1 +0.3**
comp=Z,6.3nm,1.0s
WRH Wood River Hil 41.38 344 *e*P **P** **20 30 47.5 +1.0**
comp=Z,9.0nm,1.0s
WRH Wood River Hil 41.38 344 *e*P **P** **20 30 47.5 +1.0**
comp=Z,9.0nm,1.0s
SCRK Sand Creek 41.52 341 *e*P **P** **20 30 47.7 -0.1**
comp=Z,14nm,1.6s
SCRK Sand Creek 41.52 341 *e*P **P** **20 30 47.6 -0.1**
comp=Z,14nm,1.6s
MK31 Makanchi Array 41.60 87 P **P** **20 30 48.2 -0.3**
MK31 Makanchi Array 41.60 87 P **P** **20 30 48.2 -0.3**
MK31 Makanchi Array 41.60 87 P **P** **20 30 48.2 -0.3**
MKAR Makanchi Array 41.60 87 P **P** **20 30 50.1 +1.6**
comp=Z,2.1nm,1.0s,baz=310,slow=10.0,SNR=11
MKAR PP **PnPn** **20 32 28.0 -1.2**
comp=Z,1.0nm,0.9s,baz=312,slow=9.4,SNR=2.7
MKAR LR LR 20 52 06.6
comp=Z,298nm,18.1s,baz=330,slow=42
MKAR Makanchi Array 41.60 87 P **P** **20 30 50.1 +1.6**
MKAR 20 32 28.0
MKAR pmax pmax
comp=Z,2.0nm,1.0s
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR MLR MLR
comp=Z,298nm,18.2s
MKAR Makanchi Array 41.60 87 *e*P **P** **20 30 50.5 +2.0**
MKAR Makanchi Array 41.60 87 *e*P **P** **20 30 50.5 +2.0**
MK01 Makanchi Array 41.62 87 *e*P **P** **20 30 50.3 +1.6**
MK01 Makanchi Array 41.62 87 *e*P **P** **20 30 50.3 +1.6**
DOT Dot Lake 41.85 341 *e*P **P** **20 30 49.7 -0.7**
comp=Z,15nm,1.2s
DOT Dot Lake 41.85 341 *e*P **P** **20 30 49.7 -0.7**
comp=Z,15nm,1.2s
SEY Seymchan 41.86 23 *i*P **P** **20 30 50.8 +0.4**
DDM Donnelly Dome 41.87 343 *e*P **P** **20 30 51.9 +1.3**
DDM Donnelly Dome 41.87 343 *e*P **P** **20 30 51.9 +1.3**
DDM *e*pP pP 20 31 01.6 +7.1
BPAW Bear Paw Mtn. 41.96 346 P **P** **20 30 49.8 -1.5**
comp=Z,1.7nm,1.0s
BPAW Bear Paw Mtn. 41.96 346 P **P** **20 30 49.8 -1.5**
comp=Z,1.7nm,1.0s
KTH Kantishna Hill 42.49 346 *e*P **P** **20 30 54.4 -1.3**
comp=Z,7.5nm,0.9s
KTH Kantishna Hill 42.49 346 *e*P **P** **20 30 54.4 -1.3**
comp=Z,7.5nm,0.9s
CAST Castle Rocks 42.71 347 *e*P **P** **20 30 58.8 +1.5**
CAST Castle Rocks 42.71 347 *e*P **P** **20 30 58.8 +1.5**
CAST *e*pP pP 20 31 08.2 +6.9
IRK Irkutsk 42.71 64 *e*P **P** **20 30 57.7 +0.2**
IRK *e* 20 32 44.9
IRK pmax pmax
comp=Z,32nm,1.9s
EKS2 Erkin-Say 42.95 98 *e*P **P** **20 30 59.5 -0.2**
EKS2 pmax pmax
comp=Z,5.0nm,0.9s
EKS2 Erkin-Say 42.95 98 *e*P **P** **20 30 59.5 -0.2**
comp=Z,5.4nm,0.9s
EKS2 Erkin-Say 42.95 98 *e*P **P** **20 30 59.5 -0.2**
comp=Z,5.4nm,0.9s
TLY Talaya 43.06 65 *e*P **P** **20 30 57.6 -2.7**
TLY pmax pmax
comp=Z,2.0nm,0.6s
TLY MLR MLR
comp=Z,107nm,16.0s
GEYT Alibeck 43.09 117 P **P** **20 31 00.9 +0.1**
comp=Z,5.8nm,0.9s,baz=316,slow=12,SNR=13
GEYT LR LR 20 51 00.8
comp=Z,626nm,20.4s,baz=330,slow=39
AAK Ala-Archa 43.18 97 LR LR 20 50 35.1
comp=Z,192nm,18.0s,baz=318,slow=38
FFC Flin Flon 43.54 307 *e*P **P** **20 31 01.8 -2.3**
FFC pmax pmax
comp=Z,13nm,1.0s
FFC Flin Flon 43.54 307 *e*P **P** **20 31 01.8 -2.3**
comp=Z,13nm,1.0s
SCM Sheep Creek Mo 43.92 343 *e*P **P** **20 31 09.0 +1.8**
SCM pmax pmax
comp=Z,202nm,2.4s
SCM Sheep Creek Mo 43.92 343 *e*P **P** **20 31 09.0 +1.8**
comp=Z,202nm,2.4s
SCM Sheep Creek Mo 43.92 343 *e*P **P** **20 31 09.0 +1.8**
comp=Z,202nm,2.4s
ZAK Zakamensk 44.15 66 *e*P **P** **20 31 08.6 -0.6**
ZAK *e* 20 32 51.8
ZAK pmax pmax
comp=Z,3.0nm,1.6s
DLBC Dease Lake 45.28 330 LR LR 20 50 09.8
comp=Z,277nm,21.4s,baz=354,slow=36
WMQ Urumqi 45.86 84 P P 20 31 25.9 +3.0
WMQ pP pP 20 31 35.8 +9.0
WMQ sP sP 20 31 39.8 +12
WMQ PcP **PcP** **20 33 02.1 +2.3**
WMQ PP **PP** **20 33 13.9 +3.9**
WMQ PcS **PcS** **20 36 55.6 +1.5**
WMQ S **S** **20 38 06.1 -0.2**
WMQ ScS **ScS** **20 41 17.1 -0.9**
WMQ PMZ
comp=Z,11nm,1.0s
WMQ PMZ
comp=Z,140nm,4.0s
WMQ LN
comp=Z,230nm,18.0s
WMQ LE
comp=Z,380nm,18.0s
WMQ LZ
comp=Z,210nm,23.8s
ULM Lac du Bonnet 46.21 300 P **P** **20 31 23.8 -1.7**
comp=Z,8.6nm,0.8s,baz=24,slow=5.5,SNR=14
ULM Lac du Bonnet 46.21 300 *e*P **P** **20 31 23.9 -1.6**
ULM pmax pmax
comp=Z,10.0nm,0.9s
ULM Lac du Bonnet 46.21 300 *e*P **P** **20 31 23.9 -1.6**
comp=Z,9.8nm,0.9s
ULM Lac du Bonnet 46.21 300 *e*P **P** **20 31 23.9 -1.6**
comp=Z,9.8nm,0.9s
KSH Kashi 46.48 97 P P 20 31 32.5 +4.6
KSH sP sP 20 31 46.3 +13
KSH PP PP 20 33 22.3 +5.5
KSH S **S** **20 38 20.1 +4.6**
KSH SS **SS** **20 41 38.6 -2.2**
KSH PMZ
comp=Z,5.0nm,0.8s
KSH PMZ
comp=Z,40nm,3.8s
KSH LN
comp=Z,98nm,6.0s
KSH LE
comp=Z,100nm,7.0s
KSH LZ
comp=Z,170nm,8.7s
EYMN Ely 47.23 295 *e*P **P** **20 31 33.0 -0.5**
comp=Z,8.2nm,0.8s
EYMN Ely 47.23 295 *e*P **P** **20 31 33.0 -0.5**
comp=Z,8.2nm,0.8s
SONA1 Songino Array 47.29 65 *e*P **P** **20 31 35.5 +1.4**
SONA1 Songino Array 47.29 65 *e*P **P** **20 31 35.5 +1.4**
SONM Songino Array 47.30 65 P **P** **20 31 35.6 +1.4**
comp=Z,3.0nm,1.0s,baz=324,slow=5.3,SNR=17
SONM Songino Array 47.30 65 P **P** **20 31 35.6 +1.4**
SONM pmax pmax
comp=Z,3.0nm,1.1s
EDM Edmonton 47.38 315 *e*P **P** **20 31 33.2 -1.4**
EDM Edmonton 47.38 315 *e*P **P** **20 31 33.2 -1.4**
EDM Edmonton 47.38 315 *e*P **P** **20 31 33.2 -1.4**
ULN Ulaanbaatar 47.44 64 *c*/*i*P **P** **20 31 37.9 +2.6**
ULN pmax pmax
comp=Z,6.0nm,1.0s
ULN Ulaanbaatar 47.44 64 P **P** **20 31 34.5 -0.8**
comp=Z,8.1nm,1.0s
ULN Ulaanbaatar 47.44 64 P **P** **20 31 34.5 -0.8**
comp=Z,8.1nm,1.0s
AGMN Agassiz Nation 48.02 299 *e*P **P** **20 31 37.3 -2.2**
comp=Z,11nm,0.8s
AGMN Agassiz Nation 48.02 299 ⇑P **P** **20 31 39.0 -0.5**
baz=48,SNR=5.6
A30A Hoffart Farm, 48.02 301 ⇓P **P** **20 31 38.8 -0.9**
baz=48
BINY Binghamton 48.30 279 *e*P **P** **20 31 44.0 +2.2**
comp=Z,25nm,1.3s
BINY Binghamton 48.30 279 *e*P **P** **20 31 44.0 +2.2**
comp=Z,25nm,1.3s
B30A Myrvik Farm, E 48.49 301 ⇑P **P** **20 31 43.1 -0.2**
baz=48
A28A Rude Farm, Bot 48.53 303 ⇑P **P** **20 31 43.4 -0.2**
baz=48
A27A Ledoux Ranch, 48.72 304 ⇓P **P** **20 31 44.9 -0.1**
baz=48
A26A Wade Farm, Ken 48.96 304 ⇑P **P** **20 31 46.6 -0.3**
baz=49
B28A Dugan Ranch, T 48.98 303 ⇓P **P** **20 31 46.7 -0.3**
baz=49
B26A Jensen Ranch, 49.50 304 ⇑P **P** **20 31 50.9 -0.1**
baz=49
D30A Buchanan 49.84 301 ⇑P **P** **20 31 53.6 0.0**
baz=50
DGMT Dagmar 49.87 306 ⇓P **P** **20 31 53.4 -0.4**
baz=50
C27A Sayler Ranch, 49.94 303 ⇑P **P** **20 31 54.1 -0.2**
baz=50
ALLY Alegheny Colle 49.98 282 *e*P **P** **20 31 52.7 -2.0**
comp=Z,22nm,1.0s
ALLY Alegheny Colle 49.98 282 *e*P **P** **20 31 52.7 -2.0**
comp=Z,22nm,1.0s
A21A Bergtoll Ranch 50.00 308 ⇑P **P** **20 31 54.2 -0.6**
baz=50
B23A Brockton 50.06 307 ⇓P **P** **20 31 54.3 -0.9**
baz=50
SPMN Marine on St. 50.09 295 *e*P **P** **20 31 55.0 -0.5**
comp=Z,10nm,0.8s
SPMN Marine on St. 50.09 295 *e*P **P** **20 31 55.0 -0.5**
comp=Z,10nm,0.8s
SPMN Marine on St. 50.09 295 ⇑P **P** **20 31 55.0 -0.5**
baz=50
A20A Cobblestone Ra 50.33 309 ⇓P **P** **20 31 56.8 -0.5**
baz=50
C25A Freed Ranch, W 50.36 305 ⇓P **P** **20 31 56.9 -0.6**
baz=50
B22A Reddig Ranch S 50.44 307 ⇑P **P** **20 31 57.7 -0.5**
baz=50
E30A Jud 50.45 301 ⇓P **P** **20 31 57.9 -0.3**
baz=50
D27A Center 50.52 303 ⇓P **P** **20 31 58.1 -0.6**
baz=50
E29A Napoleon 50.56 301 ⇑P **P** **20 31 58.3 -0.8**
baz=50
C23A Lambert 50.72 307 ⇓P **P** **20 31 59.9 -0.4**
baz=50
B20A Solberg Farm, 50.77 309 ⇑P **P** **20 32 00.2 -0.4**
baz=51
D26A Manning 50.80 304 ⇓P **P** **20 32 00.8 -0.1**
baz=51
E28A Huff 50.81 302 ⇑P **P** **20 32 01.0 +0.1**
baz=51
D25A Fairfield 50.90 305 ⇓P **P** **20 32 01.8 +0.2**
baz=51
B19A Brinkman Farms 50.95 310 ⇑P **P** **20 32 02.2 +0.2**
baz=51
BBB Bella Bella 51.03 326 LR LR 20 53 33.2
comp=Z,70nm,19.0s,baz=33,slow=36
C21A Desert Coulee 51.14 308 ⇓P **P** **20 32 03.2 -0.2**
baz=51
E27A Carson 51.16 303 ⇓P **P** **20 32 03.8 +0.2**
baz=51
D24A Glendive 51.17 306 ⇓P **P** **20 32 03.5 -0.2**
baz=51
F29A Eureka 51.30 301 ⇓P **P** **20 32 04.6 0.0**
baz=51
D23A Lindsay 51.32 306 ⇓P **P** **20 32 05.0 +0.2**
baz=51
E26A Carlson Angus 51.34 304 ⇓P **P** **20 32 04.5 -0.5**
baz=51
WALA Waterton Lakes 51.44 314 P **P** **20 32 04.1 -1.7**
comp=Z,434nm,1.1s
WALA Waterton Lakes 51.44 314 P **P** **20 32 04.1 -1.7**
comp=Z,434nm,1.1s
C20A Veseth Ranch, 51.45 309 ⇑P **P** **20 32 06.0 +0.2**
baz=51,SNR=9.5
F28A McLaughlin 51.52 302 ⇓P **P** **20 32 06.5 +0.2**
baz=51
E25A Miller Ranch, 51.53 304 ⇑P **P** **20 32 06.5 +0.1**
baz=51
EGMT Eagleton 51.54 310 P **P** **20 32 05.0 -1.5**
comp=Z,23nm,1.0s
EGMT Eagleton 51.54 310 P **P** **20 32 05.0 -1.5**
comp=Z,23nm,1.0s
EGMT Eagleton 51.54 310 ⇓P **P** **20 32 06.8 +0.4**
baz=51,SNR=5.1
D22A Cohagen 51.57 307 ⇓P **P** **20 32 06.7 +0.1**
baz=51
JFWS Jewell Farm 51.57 292 *e*P **P** **20 32 07.7 +1.0**
JFWS pmax pmax
comp=Z,14nm,1.1s
JFWS Jewell Farm 51.57 292 *e*P **P** **20 32 07.7 +1.0**
comp=Z,14nm,1.1s
JFWS Jewell Farm 51.57 292 *e*P **P** **20 32 07.7 +1.0**
comp=Z,14nm,1.1s
C19A Slack Wire Ran 51.66 310 ⇑P **P** **20 32 07.4 0.0**
baz=52
E24A Baker 51.69 305 ⇓P **P** **20 32 08.1 +0.6**
baz=52
G30A Faulkton 51.79 300 ⇓P **P** **20 32 09.0 +0.7**
baz=52,SNR=6.6
F27A Lemmon 51.79 303 ⇑P **P** **20 32 08.8 +0.4**
baz=52
D21A La Casta Ranch 51.83 308 ⇑P **P** **20 32 07.8 -0.8**
baz=52
F26A Lodgepole 51.97 304 ⇑P **P** **20 32 09.4 -0.3**
baz=52
D20A Manuel Ranch, 52.06 309 ⇑P **P** **20 32 10.2 -0.2**
baz=52
D19A Cripps Ranch, 52.16 309 ⇓P **P** **20 32 11.0 -0.1**
baz=52
E22A Miles City 52.18 307 ⇓P **P** **20 32 10.9 -0.3**
baz=52
G27A Dupree 52.23 303 ⇓P **P** **20 32 11.6 0.0**
baz=52
G28A Parade 52.27 302 ⇓P **P** **20 32 12.1 +0.2**
baz=52
E21A Keefer Ranch, 52.34 308 ⇑P **P** **20 32 13.0 +0.5**
baz=52
BRSD Miller 52.38 300 *e*P **P** **20 32 12.6 -0.1**
comp=Z,53nm,1.0s
BRSD Miller 52.38 300 ⇓P **P** **20 32 12.9 +0.1**
baz=52
F24A Ekalaka 52.39 305 ⇑P **P** **20 32 13.2 +0.4**
baz=52
ECSD EROS Data Cent 52.46 298 ⇑P **P** **20 32 13.3 0.0**
baz=52,SNR=15
G26A Maurine 52.48 303 ⇑P **P** **20 32 13.2 -0.3**
baz=52
YBMT Yellow Bay 52.60 314 *e*P **P** **20 32 14.1 -0.3**
YBMT Yellow Bay 52.60 314 *e*P **P** **20 32 14.1 -0.3**
E20A Meyer Farm, Mu 52.62 308 ⇑P **P** **20 32 13.9 -0.5**
baz=52
F23A Volborg 52.73 306 ⇑P **P** **20 32 15.1 -0.3**
baz=52
JTMT Jette 52.76 314 *e*P **P** **20 32 15.4 -0.3**
JTMT Jette 52.76 314 *e*P **P** **20 32 15.3 -0.3**
G25A Newell 52.77 304 ⇑P **P** **20 32 15.5 -0.1**
baz=53
BSMT Bassoo Peak 52.77 314 *e*P **P** **20 32 15.7 -0.1**
BSMT Bassoo Peak 52.77 314 *e*P **P** **20 32 15.7 -0.1**
E19A Rath Farm, Rou 52.80 309 ⇓P **P** **20 32 15.6 -0.3**
baz=53
NEW Newport 52.84 316 P **P** **20 32 15.8 -0.3**
comp=Z,4.6nm,0.9s,baz=20,slow=5.5,SNR=14
NEW Newport 52.84 316 P **P** **20 32 15.8 -0.3**
NEW pmax pmax
comp=Z,5.0nm,0.9s
NEW Newport 52.84 316 P **P** **20 32 13.8 -2.3**
comp=Z,9.8nm,1.0s
NEW Newport 52.84 316 P **P** **20 32 13.8 -2.3**
comp=Z,9.8nm,1.0s
NEW Newport 52.84 316 ⇓P **P** **20 32 16.6 +0.5**
baz=53,SNR=8.5
G24A Alzada 52.87 305 ⇑P **P** **20 32 16.6 +0.1**
baz=53
F22A Rosebud 52.88 307 ⇓P **P** **20 32 16.2 -0.2**
baz=53
SWMT Swartz Lake 52.93 314 *e*P **P** **20 32 16.9 0.0**
SWMT Swartz Lake 52.93 314 *e*P **P** **20 32 16.9 0.0**
I30A Oacoma 53.00 300 ⇑P **P** **20 32 17.9 +0.6**
baz=53
SLMT Seeley Lake 53.08 313 *e*P **P** **20 32 18.2 +0.2**
SLMT Seeley Lake 53.08 313 *e*P **P** **20 32 18.2 +0.2**
I29A Vivian Onida 53.11 301 ⇓P **P** **20 32 18.6 +0.5**
baz=53
H26A Fairpoint 53.15 303 ⇑P **P** **20 32 18.0 -0.5**
baz=53,SNR=6.1
B08A Colville Reser 53.18 318 *e*P **P** **20 32 19.0 +0.4**
comp=Z,49nm,2.2s
B08A Colville Reser 53.18 318 *e*P **P** **20 32 19.0 +0.4**
comp=Z,49nm,2.2s
G23A Biddle 53.22 306 ⇑P **P** **20 32 18.9 -0.1**
baz=53
HRY Holter Researc 53.23 312 *e*P **P** **20 32 21.9 +2.8**
HRY Holter Researc 53.23 312 *e*P **P** **20 32 21.9 +2.8**
CHMT Chamberlain Mo 53.34 313 *e*P **P** **20 32 19.5 -0.5**
CHMT Chamberlain Mo 53.34 313 *e*P **P** **20 32 19.5 -0.5**
H25A Fruitdale 53.35 304 ⇑P **P** **20 32 19.8 -0.1**
baz=53,SNR=8.7
I28A Midland 53.35 302 ⇑P **P** **20 32 20.0 +0.1**
baz=53
GTA Gaotai 53.35 75 *e*P P 20 32 27.9 +7.8
GTA pP pP 20 32 38.0 +14
GTA sP sP 20 32 41.8 +16
GTA PcP **PcP** **20 33 29.6 +2.3**
GTA S S 20 40 06.0 +15
GTA sS sS 20 40 22.8 +25
GTA Gaotai 53.35 75 SS SKiKP 20 43 50.0 +14
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA pmax pmax
comp=Z,68nm,5.9s
GTA LR LR
comp=N,160nm,20.4s
GTA LR LR
comp=E,230nm,20.0s
GTA LR LR
comp=Z,130nm,17.1s
G22A Birney 53.41 306 ⇓P **P** **20 32 19.9 -0.6**
baz=53
F19A Roth Farm, Mol 53.41 309 ⇓P **P** **20 32 20.2 -0.2**
baz=53
H24A Dirks Ranch, A 53.45 305 ⇓P **P** **20 32 20.5 -0.2**
baz=53
I27A Quinn 53.50 302 ⇓P **P** **20 32 20.4 -0.5**
baz=53
MSO Missoula 53.57 313 *e*P **P** **20 32 22.0 +0.5**
comp=Z,20nm,1.2s
MSO Missoula 53.57 313 *e*P **P** **20 32 22.0 +0.5**
comp=Z,20nm,1.2s
MSO Missoula 53.57 313 ⇓P **P** **20 32 21.4 -0.1**
baz=53,SNR=8.6
G21A Lodge Grass 53.62 307 ⇑P **P** **20 32 21.5 -0.5**
baz=53
GCMT Greycliff 53.63 309 *e*P **P** **20 32 24.2 +2.1**
GCMT Greycliff 53.63 309 *e*P **P** **20 32 24.2 +2.1**
I26A New Underwood 53.73 303 ⇓P **P** **20 32 22.6 0.0**
baz=54
H23A Clabaugh Cattl 53.83 305 ⇓P **P** **20 32 22.4 -1.0**
baz=54
G20A Bridger 53.85 308 ⇓P **P** **20 32 23.5 -0.1**
baz=54,SNR=7.8
J28A Allard Ranch, 53.91 301 ⇓P **P** **20 32 23.3 -0.7**
baz=54
RSSD Black Hills 53.92 304 *e*P **P** **20 32 25.1 +0.8**
RSSD pmax pmax
comp=Z,48nm,2.3s
RSSD Black Hills 53.92 304 *e*P **P** **20 32 25.1 +0.8**
comp=Z,48nm,2.3s
RSSD Black Hills 53.92 304 *e*P **P** **20 32 25.1 +0.8**
comp=Z,48nm,2.3s
I25A Rochford 53.95 304 ⇓P **P** **20 32 23.8 -0.7**
baz=54
RAYN Ar Rayn 54.02 136 *e*P **P** **20 32 26.6 +1.6**
comp=Z,4.8nm,1.1s
RAYN Ar Rayn 54.02 136 *e*P **P** **20 32 26.6 +1.6**
comp=Z,4.8nm,1.1s
H21A Big Horn, Sher 54.15 307 ⇓P **P** **20 32 25.1 -0.7**
baz=54
RLMT Red Lodge 54.18 309 *e*P **P** **20 32 27.1 +0.9**
comp=Z,6.3nm,0.8s
RLMT Red Lodge 54.18 309 *e*P **P** **20 32 27.1 +0.9**
comp=Z,6.3nm,0.8s
K30A Basset 54.21 300 ⇓P **P** **20 32 25.8 -0.4**
baz=54
LRM Limekiln Ridge 54.21 312 *e*P **P** **20 32 27.8 +1.4**
LRM Limekiln Ridge 54.21 312 *e*P **P** **20 32 27.8 +1.4**
K29A Lazy Trails An 54.30 300 ⇓P **P** **20 32 27.2 +0.3**
baz=54
J26A Sides Ranch, S 54.46 303 ⇓P **P** **20 32 27.1 -1.0**
baz=54
H20A Greybull 54.50 307 ⇓P **P** **20 32 27.1 -1.3**
baz=54
H19A Powell 54.55 308 ⇓P **P** **20 32 28.6 -0.2**
baz=54
J25A Sunshine Ranch 54.56 304 ⇓P **P** **20 32 28.8 0.0**
baz=54
DLMT Dillon 54.68 312 P **P** **20 32 28.3 -1.4**
comp=Z,3.2nm,0.8s
DLMT Dillon 54.68 312 P **P** **20 32 28.3 -1.4**
comp=Z,3.2nm,0.8s
H18A Shoshone NF, C 54.69 309 ⇓P **P** **20 32 29.8 -0.1**
baz=54
I22A 9 Mile Ranch, 54.71 306 ⇓P **P** **20 32 29.0 -0.9**
baz=54
J24A Dixon Ranch, L 54.82 304 ⇓P **P** **20 32 30.3 -0.4**
baz=55
NLWA Neilton Lookou 54.95 321 *e*P **P** **20 32 32.5 +1.0**
comp=Z,10nm,0.9s
NLWA Neilton Lookou 54.95 321 *e*P **P** **20 32 32.5 +1.0**
comp=Z,10nm,0.9s
I21A Big Trails, Te 54.98 307 ⇓P **P** **20 32 31.9 0.0**
baz=55,SNR=13
I20A Worland 55.04 307 ⇓P **P** **20 32 32.2 -0.1**
baz=55
F10A Beach Ranch, E 55.06 316 *e*P **P** **20 32 31.1 -1.3**
comp=Z,7.2nm,1.0s
F10A Beach Ranch, E 55.06 316 *e*P **P** **20 32 31.1 -1.3**
comp=Z,7.2nm,1.0s
HAWA Hanford 55.11 318 *e*P **P** **20 32 33.7 +1.1**
comp=Z,9.3nm,1.0s
HAWA Hanford 55.11 318 *e*P **P** **20 32 33.7 +1.1**
comp=Z,9.3nm,1.0s
HHC Hu-ho-hao-te 55.15 64 *e*P **P** **20 32 34.4 +1.3**

HHC PP PP 20 34 39.0 +3.0
HHC S S 20 40 12.5 -2.9
HHC sS sS 20 40 29.3 +7.3
HHC SS SS 20 43 56.0 -2.7
HHC PMZ
comp=Z,12nm,0.7s
HHC PMZ
comp=Z,88nm,6.2s
HHC LN
comp=Z,370nm,14.8s
HHC LE
comp=Z,480nm,17.3s
HHC LZ
comp=Z,340nm,18.5s
I19A Meeteetse 55.15 308 ⇑P P 20 32 33.5 +0.3
baz=55,SNR=5.3
H17A Grant Village 55.16 310 ⇑P P 20 32 33.5 +0.2
baz=55
J22A Midwest 55.17 306 ⇓P P 20 32 32.8 -0.5
baz=55,SNR=7.1
LON Longmire 55.20 320 eP P 20 32 34.0 +0.7
LON pmax pmax
comp=Z,19nm,1.5s
LON Longmire 55.20 320 eP P 20 32 34.0 +0.7
comp=Z,19nm,1.5s
LON Longmire 55.20 320 eP P 20 32 34.0 +0.7
comp=Z,19nm,1.5s
MCMT McKenzie Canyo 55.24 312 eP P 20 32 35.2 +1.3
MCMT McKenzie Canyo 55.24 312 eP P 20 32 35.2 +1.3
J21A Lysite 55.45 307 ⇑P P 20 32 35.5 +0.2
baz=55
J20A Shoshoni 55.59 307 ⇑P P 20 32 36.8 +0.5
baz=55,SNR=9.4
I17A Pilgrim Ck. 55.62 309 ⇓P P 20 32 36.3 -0.2
baz=55
M29A Burnside Ranch 55.64 300 ⇑P P 20 32 36.9 +0.4
baz=56
E03A Lebam 55.71 321 eP P 20 32 39.0 +2.1
comp=Z,18nm,0.9s
E03A Lebam 55.71 321 eP P 20 32 39.0 +2.1
comp=Z,18nm,0.9s
IMW Indian Meadow 55.72 310 eP P 20 32 38.0 +0.6
comp=Z,13nm,1.0s
IMW Indian Meadow 55.72 310 eP P 20 32 38.0 +0.6
comp=Z,13nm,1.0s
MDJ Mudanjiang 55.81 47 P P 20 32 39.5 +1.9
MDJ PMZ
comp=Z,4.0nm,0.7s
MDJ PMZ
comp=Z,87nm,6.7s
MOOW Moose Ponds 55.81 310 eP P 20 32 38.5 +0.5
comp=Z,9.4nm,1.3s
MOOW Moose Ponds 55.81 310 eP P 20 32 38.5 +0.5
comp=Z,9.5nm,1.3s
J19A Crowheart 55.90 308 ⇑P P 20 32 39.3 +0.8
baz=56,SNR=15
K22A Casper 55.90 306 eP P 20 32 37.7 -0.8
comp=Z,18nm,0.9s
K22A Casper 55.90 306 eP P 20 32 37.7 -0.8
comp=Z,18nm,0.9s
K22A Casper 55.90 306 ⇓P P 20 32 37.8 -0.7
baz=56
LOHW Long Hollow 55.91 309 eP P 20 32 39.7 +1.0
comp=Z,31nm,2.2s
LOHW Long Hollow 55.91 309 eP P 20 32 39.7 +1.0
comp=Z,31nm,2.2s
M27A Reverse DX Ran 55.98 302 ⇓P P 20 32 38.3 -0.7
baz=56
FXWY Fox Creek 55.98 310 eP P 20 32 39.9 +0.7
comp=Z,6.4nm,1.0s
FXWY Fox Creek 55.98 310 eP P 20 32 39.9 +0.7
comp=Z,6.4nm,1.0s
YSS Yuzh-Sakhalins 56.04 36 eP P 20 32 52.0 +13
G08A Pilot Rock 56.06 317 eP P 20 32 40.4 +0.8
comp=Z,15nm,1.4s
G08A Pilot Rock 56.06 317 eP P 20 32 40.4 +0.8
comp=Z,15nm,1.4s
TPAW Teton Pass 56.11 310 eP P 20 32 41.3 +1.1
comp=Z,5.1nm,1.0s
TPAW Teton Pass 56.11 310 eP P 20 32 41.3 +1.1
comp=Z,5.1nm,1.0s
BMO Blue Mountains 56.15 315 eP P 20 32 40.2 0.0
comp=Z,7.0nm,1.0s
BMO Blue Mountains 56.15 315 eP P 20 32 40.2 0.0
comp=Z,7.0nm,1.0s
G06A Carlson Farm, 56.43 318 eP P 20 32 44.0 +1.8
comp=Z,12nm,1.2s
G06A Carlson Farm, 56.43 318 eP P 20 32 44.0 +1.8
comp=Z,12nm,1.2s
OGNE Ogallala 56.44 301 eP P 20 32 40.8 -1.5
comp=Z,17nm,0.9s
OGNE Ogallala 56.44 301 eP P 20 32 40.8 -1.5
comp=Z,17nm,0.9s
OGNE Ogallala 56.44 301 ⇓P P 20 32 42.3 0.0
baz=56
M25A Palm-Egli Farm 56.47 303 ⇓P P 20 32 42.3 -0.3
baz=56
BW06 Boulder Array 56.48 308 eP P 20 32 43.0 +0.2
BW06 Boulder Array 56.48 308 eP P 20 32 43.0 +0.2
PDAR Pinedale Array 56.48 308 P P 20 32 42.9 0.0
comp=Z,2.2nm,0.9s,baz=39,slow=6.1,SNR=14
PDAR LR LR 20 57 02.5
comp=Z,285nm,18.2s,baz=6.5,slow=36
G05D Wamic, OR 56.56 319 ⇓P P 20 32 43.0 0.0
baz=56
TKL Tuckaleechee C 56.58 283 P P 20 32 42.3 -1.0
comp=Z,4.6nm,0.8s,baz=53,slow=6.9,SNR=7.7
TKL Tuckaleechee C 56.58 283 P P 20 32 42.3 -1.0
TKL pmax pmax
comp=Z,5.0nm,0.8s
TKL Tuckaleechee C 56.58 283 eP P 20 32 43.0 -0.3
TKL Tuckaleechee C 56.58 283 eP P 20 32 43.0 -0.3
N27A Anderson Farm, 56.69 301 ⇑P P 20 32 44.1 0.0
baz=56
USRK Ussuriysk Ar. 56.70 45 P P 20 32 43.2 -0.8
comp=Z,1.2nm,0.7s,baz=335,slow=5.9,SNR=5.0
HLID Hailey 56.79 312 eP P 20 32 44.9 0.0
comp=Z,5.3nm,0.9s
HLID Hailey 56.79 312 eP P 20 32 44.9 0.0
comp=Z,5.3nm,0.9s
HLID Hailey 56.79 312 ⇑P P 20 32 44.9 0.0
baz=57,SNR=8.9
P32A Huiting Farm, 56.83 298 ⇓P P 20 32 45.4 +0.3
baz=57
R37A Teagarden Farm 57.09 294 ⇓P P 20 32 46.9 +0.1
baz=57
P31A Stockton 57.12 298 ⇑P P 20 32 47.2 +0.1
baz=57
Q33A Connelly Farm, 57.22 297 ⇑P P 20 32 48.0 +0.2
baz=57
N24A Carr 57.24 303 ⇓P P 20 32 48.6 +0.5
baz=57
R36A Gordon, Harris 57.26 294 ⇑P P 20 32 48.4 +0.3
baz=57
H04A Detroit Lake 57.26 319 eP P 20 32 49.2 +1.2
comp=Z,4.3nm,0.8s
H04A Detroit Lake 57.26 319 eP P 20 32 49.2 +1.2
comp=Z,4.3nm,0.8s
P30A Selden 57.32 299 ⇓P P 20 32 49.6 +1.0
baz=57
I07A Izee 57.32 317 eP P 20 32 49.8 +1.2
comp=Z,13nm,1.1s
I07A Izee 57.32 317 eP P 20 32 49.9 +1.2
comp=Z,13nm,1.1s
PBMO Poplar Bluff 57.36 289 eP P 20 32 47.8 -1.0
comp=Z,17nm,1.0s
PBMO Poplar Bluff 57.36 289 eP P 20 32 47.8 -1.0
comp=Z,17nm,1.0s
Q32A Meitler Ranch, 57.42 297 ⇓P P 20 32 49.1 -0.1
baz=57
O26A Horse Wrangler 57.42 302 ⇑P P 20 32 49.9 +0.5
baz=57
N23A Red Feather La 57.43 304 eP P 20 32 50.3 +0.7
comp=Z,62nm,2.1s
N23A Red Feather La 57.43 304 eP P 20 32 50.3 +0.7
comp=Z,62nm,2.1s
N23A Red Feather La 57.43 304 ⇑P P 20 32 50.2 +0.6
baz=57
I05D Terrebonne, OR 57.43 318 ⇓P P 20 32 48.9 -0.4
baz=57
Q31A Ellis 57.62 298 ⇑P P 20 32 49.2 -1.4
baz=57
N22A Wattenberg Ran 57.64 305 ⇓P P 20 32 50.9 -0.1
baz=57
Q30A Quinter 57.85 299 ⇑P P 20 32 52.3 0.0
baz=58
R32A Long Quarter, 57.99 297 ⇑P P 20 32 53.5 +0.3
baz=58

N20A Spence Gulch, 58.03 306 ⇓P P 20 32 54.3 +0.5
baz=58,SNR=16
HWUT Hardware Ranch 58.04 309 eP P 20 32 55.8 +2.0
comp=Z,6.5nm,1.1s
HWUT Hardware Ranch 58.04 309 eP P 20 32 55.8 +2.0
comp=Z,6.5nm,1.1s
O23A Lake Granby, G 58.07 304 ⇓P P 20 32 54.6 +0.5
baz=58
S35A Otter Creek Ra 58.07 295 ⇑P P 20 32 54.5 +0.7
baz=58
Q29A Oakley 58.12 299 ⇓P P 20 32 55.7 +1.5
baz=58
I04A Tendick Farm, 58.16 319 ⇑P P 20 32 54.9 +0.5
baz=58
Q28A Sharon Springs 58.17 300 ⇓P P 20 32 54.5 -0.1
baz=58
S34A Willow Spring 58.26 296 ⇑P P 20 32 53.7 -1.4
baz=58
O22A Kremmling 58.27 305 ⇓P P 20 32 56.2 +0.7
baz=58
R31A Burdett 58.33 298 ⇓P P 20 32 56.8 +1.2
baz=58
ISCO Idaho Springs 58.39 304 eP P 20 32 59.8 +3.4
ISCO pmax pmax
comp=Z,6.0nm,1.0s
ISCO Idaho Springs 58.39 304 eP P 20 32 59.8 +3.4
comp=Z,6.3nm,1.0s
ISCO Idaho Springs 58.39 304 eP P 20 32 59.8 +3.4
comp=Z,6.3nm,1.0s
ISCO Idaho Springs 58.39 304 ⇓P P 20 32 56.7 +0.3
baz=58
KSCO Kaye Shedlock' 58.41 301 ⇓P P 20 32 56.8 +0.5
baz=58
I03D Drain, OR 58.43 320 ⇑P P 20 32 57.0 +0.8
baz=58
J05D Fort Rock, OR 58.43 318 ⇑P P 20 32 56.4 0.0
baz=58
R30A Dighton 58.52 299 ⇓P P 20 32 58.2 +1.3
baz=58
T36A Boggs Farm, Ca 58.55 294 ⇓P P 20 32 57.7 +0.6
baz=58
S33A Kaszmaul Farm, 58.59 296 ⇓P P 20 32 58.9 +1.5
baz=58
GOGA Godfrey 58.60 282 eP P 20 32 57.8 +0.3
GOGA pmax pmax
comp=Z,52nm,1.9s
GOGA Godfrey 58.60 282 eP P 20 32 57.8 +0.3
comp=Z,52nm,1.9s
GOGA Godfrey 58.60 282 eP P 20 32 57.8 +0.3
comp=Z,52nm,1.9s
J04D Umpqua Nationa 58.64 319 ⇑P P 20 32 59.3 +1.3
baz=58
O20A White River Ci 58.69 306 eP P 20 32 59.1 +0.8
comp=Z,18nm,0.9s
O20A White River Ci 58.69 306 eP P 20 32 59.1 +0.8
comp=Z,18nm,0.9s
O20A White River Ci 58.69 306 ⇑P P 20 32 59.2 +0.9
baz=58,SNR=14
Q26A Hugo 58.72 302 ⇑P P 20 32 59.0 +0.5
baz=58
S32A Newby Ranch, P 58.73 297 ⇑P P 20 32 58.9 +0.5
baz=59
R28A Tribune 58.85 300 ⇓P P 20 32 59.9 +0.6
baz=59
T35A Sooner Cattle 58.85 295 ⇓P P 20 32 59.4 +0.2
baz=59
P23A Jefferson 58.85 304 ⇓P P 20 32 59.7 +0.1
baz=59
P22A Eagle 58.86 305 ⇓P P 20 33 00.1 +0.5
baz=59
K05A Summer Lake 58.90 318 eP P 20 33 01.5 +1.8
comp=Z,16nm,1.1s
K05A Summer Lake 58.90 318 eP P 20 33 01.5 +1.8
comp=Z,16nm,1.1s
T34A McClaskey Farm 58.92 295 ⇑P P 20 33 01.6 +1.8
baz=59
S31A Mullinville 58.95 298 ⇑P P 20 33 01.1 +1.2
baz=59
T33A Patterson Ranc 59.14 296 ⇑P P 20 33 01.6 +0.3
baz=59
R27A Eads 59.15 301 ⇑P P 20 33 01.7 +0.3
baz=59
S30A Montezuma 59.17 298 ⇑P P 20 33 02.5 +0.9
baz=59
T32A Huddler Ranch, 59.22 297 ⇑P P 20 33 02.8 +1.0
baz=59
R26A Arlington 59.29 301 ⇓P P 20 33 04.4 +2.0
baz=59
Q23A Hartsel 59.29 304 ⇓P P 20 33 04.2 +1.5
baz=59
SMCO Snowmass 59.30 305 eP P 20 33 03.6 +0.8
comp=Z,10nm,1.0s
SMCO Snowmass 59.30 305 eP P 20 33 03.6 +0.8
comp=Z,10nm,1.0s
S29A Ulysses 59.36 299 ⇑P P 20 33 03.6 +0.8
baz=59
U34A Anderson Ranch 59.57 295 ⇑P P 20 33 06.0 +1.9
baz=59
S28A Manter 59.58 300 ⇑P P 20 33 06.3 +1.9
baz=59
TUL1 Leonard 59.61 294 ⇑P P 20 33 04.9 +0.4
baz=59
ELK Elko 59.66 312 LR LR 20 59 52.5
comp=Z,215nm,18.8s,baz=10.0,slow=37
ELK Elko 59.66 312 eP P 20 33 05.7 +0.6
ELK pmax pmax
comp=Z,5.0nm,1.0s
ELK Elko 59.66 312 eP P 20 33 05.7 +0.6
comp=Z,4.8nm,1.0s
ELK Elko 59.66 312 eP P 20 33 05.7 +0.6
comp=Z,4.8nm,1.0s
KOLN Koldanda 59.66 95 eP P 20 33 05.5 +0.3
comp=Z,8.2nm,0.8s
DUG Dugway, Tooele 59.66 310 eP P 20 33 05.9 +0.9
DUG pmax pmax
comp=Z,4.0nm,0.9s
DUG Dugway, Tooele 59.66 310 eP P 20 33 05.9 +0.9
comp=Z,4.1nm,0.9s
DUG Dugway, Tooele 59.66 310 eP P 20 33 05.9 +0.9
comp=Z,4.1nm,0.9s
DUG Dugway, Tooele 59.66 310 ⇑P P 20 33 05.5 +0.5
baz=60
U33A Lingo Farm, Me 59.72 296 ⇑P P 20 33 05.8 +0.6
baz=60
GKN Gorkha 59.74 94 eP P 20 33 06.7 +1.0
comp=Z,21nm,1.1s
S27A Las Animas 59.74 301 ⇑P P 20 33 06.3 +0.7
baz=60
T30A Plains 59.75 298 ⇓P P 20 33 05.9 +0.4
baz=60
T29A Hugoton 59.84 299 ⇑P P 20 33 06.3 +0.1
baz=60
S26A Kim 59.94 301 ⇓P P 20 33 06.6 -0.3
baz=60
L02D Cave Junction, 59.96 320 ⇓P P 20 33 06.8 -0.1
baz=60
R23A Moffat 59.97 303 ⇓P P 20 33 07.7 +0.4
baz=60
M04C Mandoel 59.99 318 ⇓P P 20 33 08.0 +0.8
baz=60
LSA Lhasa 60.01 87 eP P 20 33 07.3 -0.6
LSA pmax pmax
comp=Z,7.0nm,1.0s
LSA Lhasa 60.01 87 eP P 20 33 07.3 -0.6
comp=Z,7.1nm,1.0s
LSA Lhasa 60.01 87 eP P 20 33 07.3 -0.6
comp=Z,7.1nm,1.0s
V35A Meyer Ranch, C 60.02 295 ⇓P P 20 33 08.2 +0.8
baz=60
W38A Poteau 60.06 292 ⇑P P 20 33 07.5 -0.2
baz=60
T28A Walsh 60.08 300 ⇓P P 20 33 08.1 +0.2
baz=60
KKN Kakani 60.12 93 eP P 20 33 09.6 +1.2
comp=Z,18nm,1.0s
GUN Gumba 60.18 92 eP P 20 33 11.3 +2.4
comp=Z,42nm,0.9s
SRU San Rafael Swe 60.19 308 eP P 20 33 12.0 +3.3
SRU San Rafael Swe 60.19 308 eP P 20 33 11.9 +3.3
SRU San Rafael Swe 60.19 308 eP P 20 33 11.9 +3.3
YBH Yreka Blue Hor 60.21 319 P P 20 33 07.5 -1.2
comp=Z,1.1nm,0.3s,baz=45,slow=5.9,SNR=9.5
YBH Yreka Blue Hor 60.21 319 eP P 20 33 08.5 -0.1
YBH pmax pmax
comp=Z,5.0nm,1.0s
YBH Yreka Blue Hor 60.21 319 eP P 20 33 08.5 -0.1
comp=Z,5.3nm,1.0s
YBH Yreka Blue Hor 60.21 319 eP P 20 33 08.5 -0.1
comp=Z,5.3nm,1.0s

W37A Quinton 60.24 293 ⇑P P 20 33 07.7 -1.1
baz=60
DMN Daman 60.24 93 eP P 20 33 10.6 +1.3
U30A WK&E Inc. Balk 60.27 298 ⇓P P 20 33 09.5 +0.4
baz=60
T27A Campo 60.29 300 ⇑P P 20 33 08.8 -0.5
baz=60
SDCO Great Sand Dun 60.32 303 eP P 20 33 11.0 +1.3
comp=Z,5.7nm,1.0s
SDCO Great Sand Dun 60.32 303 eP P 20 33 11.0 +1.3
comp=Z,5.7nm,1.0s
SDCO Great Sand Dun 60.32 303 ⇑P P 20 33 10.2 +0.5
baz=60
PKIN Phulchoki 60.36 93 eP P 20 33 11.0 +1.0
PKI Pulchoki 60.37 93 eP P 20 33 10.8 +0.6
TOA0 Torodi Ar. Sit 60.38 187 eP P 20 33 09.2 -0.8
TOA0 Torodi Ar. Sit 60.38 187 eP P 20 33 09.2 -0.8
TORD Torodi Ar. Bea 60.38 187 P P 20 33 09.4 -0.5
comp=Z,3.4nm,0.8s,baz=335,slow=2.1,SNR=20
TORD LR LR 20 58 22.6
comp=Z,100nm,21.8s,baz=135,slow=35
T26A Comanche Natio 60.40 301 ⇑P P 20 33 10.1 0.0
baz=60
W36A Wetumka 60.45 294 ⇓P P 20 33 10.1 -0.2
baz=60
TIGA Tifton 60.49 281 ⇑P P 20 33 10.6 0.0
baz=60
JIRN Jiri 60.51 92 eP P 20 33 12.7 +1.5
comp=Z,23nm,1.0s
M02C Callahan 60.56 319 ⇓P P 20 33 10.6 -0.4
baz=60,SNR=9.5
W35A Tecumseh 60.61 294 ⇑P P 20 33 11.5 +0.1
baz=60
T25A Trinidad 60.63 302 ⇓P P 20 33 12.2 +0.5
baz=60
S22A 4UR Ranch, Cre 60.63 304 eP P 20 33 12.8 +0.9
comp=Z,7.4nm,1.0s
S22A 4UR Ranch, Cre 60.63 304 eP P 20 33 12.8 +0.9
comp=Z,7.4nm,1.0s
S22A 4UR Ranch, Cre 60.63 304 ⇓P P 20 33 12.5 +0.7
baz=60
PV01 Paradox Valley 60.67 306 eP P 20 33 12.6 +0.6
PV01 Paradox Valley 60.67 306 eP P 20 33 12.6 +0.6
X37A Clayton 60.75 293 ⇓P P 20 33 12.7 +0.4
baz=61
PV05 Paradox Valley 60.85 306 eP P 20 33 15.4 +2.2
PV05 Paradox Valley 60.85 306 eP P 20 33 15.4 +2.2
XAN Xi'an 60.87 69 P P 20 33 19.6 +6.4
XAN pP pP 20 33 29.8 +13
XAN PMZ
comp=Z,3.0nm,1.2s
XAN LN
comp=Z,140nm,20.4s
XAN LZ
comp=Z,68nm,17.3s
U27A Thompson Grove 60.92 300 ⇑P P 20 33 13.4 -0.2
baz=61
N02D Trinity Center 60.94 319 ⇓P P 20 33 13.4 -0.3
baz=61
V30A Spur Ranch, Mi 61.01 298 ⇓P P 20 33 14.0 -0.2
baz=61
X36A Centrahoma 61.02 294 ⇑P P 20 33 14.2 +0.1
baz=61
V29A Stinnett 61.12 299 ⇓P P 20 33 15.0 +0.2
baz=61
MVU Marysvale 61.15 309 eP P 20 33 17.8 +2.5
comp=Z,5.4nm,1.0s
MVU Marysvale 61.15 309 eP P 20 33 17.8 +2.5
comp=Z,5.4nm,1.0s
KHMM Horse Mountain 61.23 319 eP P 20 33 17.6 +1.9
comp=Z,16nm,1.0s
KHMM Horse Mountain 61.23 319 eP P 20 33 17.6 +1.9
comp=Z,16nm,1.0s
W32A Sentinel 61.25 296 ⇓P P 20 33 16.2 +0.5
baz=61
WDC Whiskeytown Da 61.29 318 eP P 20 33 17.8 +1.9
WDC pmax pmax
comp=Z,8.0nm,1.1s
WDC Whiskeytown Da 61.29 318 eP P 20 33 17.8 +1.9
comp=Z,7.9nm,1.1s
WDC Whiskeytown Da 61.29 318 eP P 20 33 17.8 +1.9
comp=Z,7.9nm,1.1s
RAMN Ramite 61.29 92 eP P 20 33 16.6 +0.2
X35A Drake 61.35 294 ⇓P P 20 33 16.8 +0.4
baz=61
X34A Smith Ranch, M 61.38 295 ⇓P P 20 33 17.3 +0.7
baz=61
V28A Channing 61.41 299 ⇓P P 20 33 17.1 +0.2
baz=61
WMOK Wichita Mounta 61.49 296 eP P 20 33 18.1 +0.7
WMOK pmax pmax
comp=Z,11nm,1.1s
WMOK Wichita Mounta 61.49 296 eP P 20 33 18.1 +0.7
comp=Z,11nm,1.1s
WMOK Wichita Mounta 61.49 296 eP P 20 33 18.1 +0.7
comp=Z,11nm,1.1s
MVCO Mesa Verde 61.54 305 eP P 20 33 21.0 +3.1
comp=Z,15nm,1.1s
MVCO Mesa Verde 61.54 305 eP P 20 33 21.0 +3.1
comp=Z,15nm,1.1s
ODAN Odare 61.60 91 eP P 20 33 19.7 +1.2
comp=Z,26nm,1.0s
KMRM Mail Ridge 61.86 319 eP P 20 33 21.5 +1.7
comp=Z,11nm,1.0s
KMRM Mail Ridge 61.86 319 eP P 20 33 21.5 +1.7
comp=Z,11nm,1.0s
W29A Amarillo 61.86 299 ⇑P P 20 33 20.1 +0.2
baz=62
W28A Vega 61.87 299 ⇓P P 20 33 20.2 +0.1
baz=62
X32A Elmer 61.92 296 ⇓P P 20 33 20.5 +0.2
baz=62
Y34A Reagan Ranch, 61.97 295 ⇓P P 20 33 21.3 +0.7
baz=62
R11A Troy Canyon, C 62.03 312 eP P 20 33 21.5 +0.3
comp=Z,7.8nm,1.1s
R11A Troy Canyon, C 62.03 312 eP P 20 33 21.5 +0.3
comp=Z,7.8nm,1.1s
R11A Troy Canyon, C 62.03 312 ⇑P P 20 33 21.5 +0.3
baz=62,SNR=8.4
AMTX Amarillo 62.09 299 ⇓P P 20 33 21.9 +0.4
baz=62
Y33A Hilltop Ranch, 62.15 296 ⇓P P 20 33 22.6 +0.8
baz=62
KSRS Korea Array 62.30 51 P P 20 33 22.0 -0.7
comp=Z,0.9nm,0.6s,baz=354,slow=6.8,SNR=7.2
KSRS LR LR 21 03 45.2
comp=Z,95nm,18.9s,baz=10.0,slow=39
KSRS Korea Array 62.30 51 P P 20 33 22.0 -0.7
KSRS pmax pmax
comp=Z,1.0nm,0.6s
KSRS MLR MLR
comp=Z,95nm,18.9s
X30A Coker Ranch, T 62.31 298 ⇓P P 20 33 23.4 +0.5
baz=62
KSAR Wonju Array Be 62.31 51 P P 20 33 22.0 -0.8
KSAR Wonju Array Be 62.31 51 P P 20 33 22.0 -0.8
KSAR Wonju Array Be 62.31 51 P P 20 33 22.0 -0.8
Y32A R-V Farms, Ver 62.36 296 ⇑P P 20 33 24.4 +1.2
baz=62
CD2 Chengdu 62.42 75 eP P 20 33 24.8 +1.1
CD2 PMZ
comp=Z,10.0nm,0.7s
CD2 PMZ
comp=Z,90nm,8.3s
138A Matatall Enter 62.49 292 ⇓P P 20 33 25.6 +1.5
baz=62
NV01 Mina Array Sit 62.53 314 eP P 20 33 24.9 +0.4
NV01 Mina Array Sit 62.53 314 eP P 20 33 24.9 +0.4
NVAR Mina Array Bea 62.53 314 P P 20 33 25.2 +0.7
comp=Z,2.9nm,0.8s,baz=36,slow=3.8,SNR=12
Z34A Collier Ranch, 62.57 295 ⇓P P 20 33 25.1 +0.5
baz=62
X28A Dimmitt 62.57 299 ⇑P P 20 33 25.5 +0.8
baz=62
Y31A Rekieta Farm, 62.61 297 ⇑P P 20 33 25.3 +0.4
baz=62
TPH Tonopah 62.64 313 eP P 20 33 25.6 +0.3
TPH pmax pmax
comp=Z,8.0nm,1.1s
TPH Tonopah 62.64 313 eP P 20 33 25.5 +0.3
comp=Z,8.2nm,1.1s
TPH Tonopah 62.64 313 eP P 20 33 25.6 +0.3
comp=Z,8.2nm,1.1s
Z33A Whitaker Ranch 62.87 295 ⇓P P 20 33 27.3 +0.7
baz=63

239A	**Gary**	**62.94**	**291**	⇑P		**P**	**20 33 28.4**	**+1.4**
	baz=63								
Z32A	**Haskell**	**63.03**	**296**	⇓P		**P**	**20 33 28.4**	**+0.7**
	baz=63								
Y29A	**Porterfield Fa**	**63.06**	**298**	⇑P		**P**	**20 33 28.6**	**+0.6**
	baz=63								
U15A	**North Rim**	**63.16**	**308**	⇑P		**P**	**20 33 29.0**	**+0.1**
	baz=63								
Y28A	**McKinney Farm,**	**63.16**	**299**	⇓P		**P**	**20 33 28.9**	**+0.2**
	baz=63								
Z31A	**Sharp Cattle R**	**63.19**	**297**	⇓P		**P**	**20 33 29.4**	**+0.6**
	baz=63								
135A	**Vickery Place,**	**63.20**	**294**	⇓P		**P**	**20 33 28.9**	**+0.1**
	baz=63								
ANMO	**Albuquerque**	**63.21**	**303**	P		**P**	**20 33 28.9**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=48,slow=6.4,SNR=6.2								
ANMO	**Albuquerque**	**63.21**	**303**	*ceP*		**P**	**20 33 31.0**	**+1.9**
ANMO				pmax		pmax			
	comp=Z,17nm,1.7s								
MSTX	**Muleshoe**	**63.24**	**299**	*eP*		**P**	**20 33 32.1**	**+2.9**
	comp=Z,8.2nm,1.0s								
MSTX	**Muleshoe**	**63.24**	**299**	*eP*		**P**	**20 33 32.1**	**+2.9**
	comp=Z,8.2nm,1.0s								
MSTX	**Muleshoe**	**63.24**	**299**	⇑P		**P**	**20 33 29.1**	**-0.1**
	baz=63								
MLAC	**Mammoth, Mammo**	**63.41**	**314**	⇓P		**P**	**20 33 30.1**	**-0.3**
	baz=63								
Z30A	**Sanderson Ranc**	**63.47**	**297**	⇑P		**P**	**20 33 31.3**	**+0.6**
	baz=63								
TPNV	**Topopah Spring**	**63.52**	**312**	*eP*		**P**	**20 33 31.1**	**0.0**
TPNV				pmax		pmax			
	comp=Z,9.0nm,0.9s								
TPNV	**Topopah Spring**	**63.52**	**312**	*eP*		**P**	**20 33 31.1**	**0.0**
	comp=Z,9.0nm,0.9s								
TPNV	**Topopah Spring**	**63.52**	**312**	*eP*		**P**	**20 33 31.1**	**0.0**
	comp=Z,9.0nm,0.9s								
TPNV	**Topopah Spring**	**63.52**	**312**	⇑P		**P**	**20 33 30.6**	**-0.5**
	baz=63,SNR=7.2								
133A	**Hamilton Ranch**	**63.55**	**295**	⇑P		**P**	**20 33 31.3**	**+0.1**
	baz=63								
SHPR	**Sheep Range**	**63.71**	**311**	*eP*		**P**	**20 33 35.5**	**+3.1**
SHPR	**Sheep Range**	**63.71**	**311**	*eP*		**P**	**20 33 35.5**	**+3.1**
ABTX	**Abilene, Hawle**	**63.72**	**296**	⇓P		**P**	**20 33 32.3**	**0.0**
	baz=64								
WUAZ	**Wupatki**	**63.82**	**307**	⇑P		**P**	**20 33 33.5**	**+0.4**
	baz=64								
234A	**Clairette**	**63.92**	**294**	⇓P		**P**	**20 33 33.8**	**+0.2**
	baz=64								
130A	**Snyder**	**64.09**	**297**	⇑P		**P**	**20 33 34.6**	**-0.2**
	baz=64								
233A	**Rising Star**	**64.11**	**295**	⇑P		**P**	**20 33 34.8**	**0.0**
	baz=64								
Y22D	**IRIS PASSCAL I**	**64.16**	**303**	⇓P		**P**	**20 33 34.8**	**-0.4**
	baz=64								
439A	**Center Grove,**	**64.18**	**291**	⇓P		**P**	**20 33 35.3**	**+0.1**
	baz=64								
232A	**Coleman**	**64.42**	**296**	⇓P		**P**	**20 33 37.7**	**+0.8**
	baz=64								
128A	**Castleberry Fa**	**64.45**	**298**	⇓P		**P**	**20 33 37.5**	**+0.3**
	baz=64								
DAC	**Darwin (Calif)**	**64.45**	**313**	*eP*		**P**	**20 33 38.3**	**+1.0**
DAC				pmax		pmax			
	comp=Z,9.0nm,1.1s								
DAC	**Darwin (Calif)**	**64.45**	**313**	*eP*		**P**	**20 33 38.2**	**+1.0**
	comp=Z,9.0nm,1.1s								
DAC	**Darwin (Calif)**	**64.45**	**313**	*eP*		**P**	**20 33 38.2**	**+1.0**
	comp=Z,9.0nm,1.1s								
231A	**Bronte**	**64.55**	**296**	⇑P		**P**	**20 33 38.2**	**+0.4**
	baz=64								
334A	**Lometa**	**64.58**	**294**	⇑P		**P**	**20 33 39.0**	**+1.1**
	baz=64								
RCTC	**Rector, Farmer**	**64.76**	**314**	⇓P		**P**	**20 33 40.5**	**+1.5**
	baz=65								
333A	**Richland Sprin**	**64.78**	**295**	⇑P		**P**	**20 33 39.2**	**-0.1**
	baz=65								
X16A	**Lo Mia Camp, P**	**64.89**	**307**	⇑P		**P**	**20 33 40.2**	**0.0**
	baz=65								
332A	**Millersview**	**64.93**	**296**	⇑P		**P**	**20 33 40.3**	**+0.1**
	baz=65								
228A	**UT Block 9, Go**	**64.95**	**298**	⇑P		**P**	**20 33 39.9**	**-0.6**
	baz=65								
434A	**Burnet**	**65.08**	**294**	⇓P		**P**	**20 33 41.3**	**+0.1**
	baz=65								
331A	**San Angelo**	**65.17**	**296**	⇑P		**P**	**20 33 42.0**	**+0.2**
	baz=65								
VES	**Vestal, Richgr**	**65.18**	**314**	⇑P		**P**	**20 33 41.5**	**-0.3**
	baz=65								
GSC	**Goldstone, Bar**	**65.23**	**312**	⇑P		**P**	**20 33 42.2**	**+0.1**
	baz=65								
ISA	**Isabella, Lake**	**65.23**	**313**	*eP*		**P**	**20 33 43.1**	**+0.9**
ISA	**Isabella, Lake**	**65.23**	**313**	*eP*		**P**	**20 33 43.1**	**+0.9**
ISA	**Isabella, Lake**	**65.23**	**313**	*eP*		**P**	**20 33 43.1**	**+0.9**
ISA	**Isabella, Lake**	**65.23**	**313**	⇑P		**P**	**20 33 43.0**	**+0.8**
	baz=65,SNR=7.4								
MJAR	**Matsushiro Arr**	**65.32**	**42**	P		**P**	**20 33 42.7**	**0.0**
	comp=Z,1.8nm,0.8s,baz=342,slow=6.0,SNR=9.9								
MJAR	**Matsushiro Arr**	**65.32**	**42**	P		**P**	**20 33 42.7**	**0.0**
MJAR				pmax		pmax			
	comp=Z,2.0nm,0.8s								
NJ2	**Nanjing**	**65.33**	**61**	*eP*		P	20 33 46.5	+3.8
NJ2				PMZ					
	comp=Z,20nm,0.6s								
433A	**Art**	**65.36**	**295**	⇑P		**P**	**20 33 42.5**	**-0.5**
	baz=65								
GMRC	**Granite Mounta**	**65.48**	**311**	⇓P		**P**	**20 33 43.9**	**0.0**
	baz=65								
PDMCI	**Parker Dam,Lak**	**65.61**	**309**	⇑P		**P**	**20 33 44.0**	**-0.5**
	baz=65								
WHN	**Wuhan**	**65.61**	**65**	P		P	20 33 48.8	+4.2
431A	**Sonora**	**65.82**	**296**	⇑P		**P**	**20 33 46.5**	**+0.5**
	baz=66,SNR=5.7								
EDW2	**Edwards Air Fo**	**65.88**	**313**	⇓P		**P**	**20 33 47.5**	**+1.1**
	baz=66								
MNTX	**Cornudas Mount**	**66.05**	**301**	*eP*		**P**	**20 33 48.6**	**+1.2**
	comp=Z,41nm,2.8s								
MNTX	**Cornudas Mount**	**66.05**	**301**	*eP*		**P**	**20 33 48.6**	**+1.2**
	comp=Z,41nm,2.8s								
TUC	**Tucson**	**66.76**	**306**	*eP*		**P**	**20 33 55.2**	**+3.1**
TUC				pmax		pmax			
	comp=Z,64nm,2.7s								
TUC	**Tucson**	**66.76**	**306**	*eP*		**P**	**20 33 55.2**	**+3.1**
	comp=Z,64nm,2.7s								
TUC	**Tucson**	**66.76**	**306**	*eP*		**P**	**20 33 55.2**	**+3.1**
	comp=Z,64nm,2.7s								
JNU	**Nakatsue**	**67.12**	**50**	P		**P**	**20 33 56.0**	**+1.8**
	comp=Z,5.7nm,0.9s,baz=47,slow=9.5,SNR=3.8								
DBIC	**Dimbokro**	**67.14**	**193**	LR		LR	21 04 17.1		
	comp=Z,68nm,20.0s,baz=330,slow=37								
GYA	**Guiyang**	**67.43**	**73**	*eP*		**P**	**20 33 59.0**	**+2.5**
GYA				PMZ					
	comp=Z,10.0nm,1.0s								
KMI	**Kunming**	**67.61**	**78**	P		**P**	**20 34 00.1**	**+2.4**
KMI				pP		pP	20 34 09.6	+7.8
KMI				PP		PP	20 36 31.4	+5.0
KMI				S		**S**	**20 42 53.4**	**-0.9**
KMI				PMZ					
	comp=Z,5.0nm,1.0s								
KMI				PMZ					
	comp=Z,56nm,3.3s								
KMI				LN					
	comp=Z,160nm,14.7s								
KMI				LE					
	comp=Z,250nm,16.0s								
KMI				LZ					
	comp=Z,190nm,17.6s								
TX31	**Lajitas Ar. Si**	**67.88**	**298**	*eP*		**P**	**20 33 58.7**	**-0.5**
TX31	**Lajitas Ar. Si**	**67.88**	**298**	*eP*		**P**	**20 33 58.7**	**-0.5**
TXAR	**Lajitas Array**	**67.88**	**298**	P		**P**	**20 33 58.9**	**-0.3**
	comp=Z,1.6nm,0.9s,baz=56,slow=4.4,SNR=14								
TXAR				PP		**PP**	**20 36 27.6**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=22,slow=4.4,SNR=3.5								
TXAR				LR		LR	21 03 38.9		
	comp=Z,318nm,19.2s,baz=0.0,slow=36								
TXAR	**Lajitas Array**	**67.88**	**298**	P		**P**	**20 33 58.9**	**-0.3**
TXAR							20 36 27.6		
TXAR				pmax		pmax			
	comp=Z,2.0nm,0.9s								
TXAR				MLR		MLR			
	comp=Z,318nm,19.2s								
TEIG	**Tepich**	**72.42**	**281**	P		**P**	**20 34 25.1**	**-1.8**
TEIG	**Tepich**	**72.42**	**281**	P		**P**	**20 34 25.1**	**-1.8**
CHTO	**Chiang Mai**	**72.52**	**83**	*eP*		**P**	**20 34 30.1**	**+2.5**
CHTO	**Chiang Mai**	**72.52**	**83**	*eP*		**P**	**20 34 30.1**	**+2.5**
CMAR	**Chiang Mai Arr**	**72.86**	**83**	P		**P**	**20 34 30.8**	**+1.2**
	comp=Z,1.2nm,1.0s,baz=328,slow=5.7,SNR=7.6								
CMAR				LR		LR	21 12 26.6		
	comp=Z,44nm,19.2s,baz=70,slow=41								
CMAR	**Chiang Mai Arr**	**72.86**	**83**	P		**P**	**20 34 30.8**	**+1.2**
CMAR				pmax		pmax			
	comp=Z,1.0nm,1.0s								
CMAR				MLR		MLR			
	comp=Z,44nm,19.2s								
JTS	**JuntasAbangare**	**80.92**	**275**	LR		LR	21 11 11.9		
	comp=Z,89nm,18.2s,baz=17,slow=36								
ROSC	**El Rosal**	**83.05**	**264**	LR		LR	21 09 19.7		
	comp=Z,36nm,20.0s,baz=30,slow=34								
PTGA	**Pitinga**	**84.40**	**248**	P		**P**	**20 35 32.3**	**-0.8**
	comp=Z,2.4nm,0.7s,baz=82,slow=4.5,SNR=4.4								
OTAV	**Otavalo**	**88.62**	**266**	*eP*		**P**	**20 35 55.9**	**+1.5**
OTAV	**Otavalo**	**88.62**	**266**	*eP*		**P**	**20 35 55.9**	**+1.5**
BDFB	**Brasilia**	**95.77**	**233**	LR		LR	21 13 12.6		
	comp=Z,76nm,19.0s,baz=228,slow=32								
ASAR	**Alice Springs**	**122.56**	**61**	PKP		**PKPdf**	**20 41 54.7**	**-1.2**
	comp=Z,1.0nm,0.8s,baz=0.7,slow=2.3,SNR=14								
ASAR	**Alice Springs**	**122.56**	**61**	PKIKP		**PKPdf**	**20 41 54.7**	**-1.2**
ASAR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
VNA1	**Neumayer--Stat**	**144.23**	**189**	P		PKPbc	20 42 32.8	-0.2
VNA2	**Neumayer--Watz**	**144.47**	**188**	P		**PKPab**	**20 42 33.6**	**0.0**
	baz=356,slow=6.5								
VNA3	**Neumayer Olymp**	**144.89**	**190**	P		**PKPab**	**20 42 34.5**	**-0.7**
SNAA	**Sanae**	**145.05**	**186**	P		**PKPbc**	**20 42 33.2**	**-2.6**
MAW	**Mawson**	**145.34**	**146**	PKPbc		**PKPab**	**20 42 37.6**	**+0.8**
	comp=Z,5.0nm,0.7s,baz=315,slow=10,SNR=8.1								
MAW	**Mawson**	**145.34**	**146**	PKIKP		**PKPab**	**20 42 37.6**	**+0.8**
MAW				pmax		pmax			
	comp=Z,5.0nm,0.7s								

*IDC **16** 20:28:21.8±1.2,3°.63S×142°.14E,h0km,mb3.6/4, mb1 3.7/5,mb1mx3.4/30,mbtmp3.5/5,ML3.4/1,MS3.7/1, Ms1 3.7/1,ms1mx2.9/23,Error ellipse: s-maj=29.9km s-min=15.2km az=53.0*

*ISCJB **16** 20:28:24.9±1.2,3°.7S±0°.1×142°.2E±0°.2,h33km,mb3.5/4, Error ellipse: s-maj=31.0km s-min=14.8km az=169.6*

ISC 16 20:28:26.8±1.3,3°.7S±0°.1×142°.1E±0°.2,h35km,n7,σ0§80/6, mb3.6/4,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.84**	**309**	Pn	**Pn**	**20 28 55.4**	**-0.5**
	4.2nm,0.3s,baz=157,slow=8.3,SNR=28						
JAY				Lg	Lg	20 29 18.0	
	15nm,0.3s,baz=9.2,slow=23,SNR=14						
WRA	**Warramunga Arr**	**17.85**	**205**	P	**P**	**20 32 32.8**	**-0.1**
	0.1nm,0.3s,baz=32,slow=12,SNR=8.2						
BATI	**Baumata**	**19.43**	**250**	LR	LR	20 42 49.1	
	comp=Z,211nm,18.3s,baz=207,slow=45						
ASAR	**Alice Springs**	**21.39**	**201**	P	**P**	**20 33 11.8**	**+0.3**
	0.3nm,0.8s,baz=32,slow=12,SNR=5.5						
STKA	**Stephens Creek**	**28.04**	**181**	P	**P**	**20 34 14.6**	**-0.2**
	0.9nm,0.9s,baz=39,slow=7.7,SNR=3.0						
MKAR	**Makanchi Array**	**72.68**	**322**	P	**P**	**20 39 52.1**	**+1.1**
	0.8nm,0.7s,baz=108,slow=4.0,SNR=11						
ILAR	**Eielson Array**	**85.32**	**24**	P	**P**	**20 40 59.5**	**-0.5**
	0.8nm,0.7s,baz=262,slow=4.8,SNR=10						

*IDC **16** 20:31:46.2±0.9,27°.21N×142°.81E,h0km,mb3.6/5, mb1 3.8/6,mb1mx3.5/39,mbtmp3.6/6,ML3.2/1,MS3.5/3, Ms1 3.5/3,ms1mx2.9/35,Error ellipse: s-maj=24.8km s-min=13.8km az=150.0*

*ISCJB **16** 20:31:48.9±0.8,27°.3N±0°.1×142°.8E±0°.10,h32km, mb3.7/5,MS3.7/2,Error ellipse: s-maj=17.3km s-min=10.1km az=148.6*

ISC 16 20:31:50.9±1.1,27°.2N±0°.1×142°.8E±0°.1,h32km,n9, σ1§03/8,mb3.6/5,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**0.55**	**258**	Pn	**Pb**	**20 32 02.1**	**-0.2**
	343nm,0.3s,baz=359,slow=5.7,SNR=435						
JCJ				Sn	**Sn**	**20 32 10.7**	**0.0**
	773nm,0.3s,baz=270,slow=20,SNR=24						
MJAR	**Matsushiro Arr**	**10.09**	**338**	Pn	**Pn**	**20 34 13.9**	**+0.3**
	0.2nm,0.3s,baz=160,slow=13,SNR=4.1						
MJAR				LR	LR	20 38 14.5	
	comp=Z,187nm,20.5s,baz=260,slow=39						
YAK	**Yakutsk**	**35.90**	**349**	LR	LR	20 56 03.5	
	comp=Z,87nm,18.1s,baz=62,slow=41						
WRA	**Warramunga Arr**	**47.58**	**191**	P	**P**	**20 40 23.3**	**-0.5**
	1.3nm,0.7s,baz=12,slow=8.6,SNR=15						
ASAR	**Alice Springs**	**51.30**	**190**	P	**P**	**20 40 53.3**	**+1.2**
	0.6nm,0.9s,baz=7.4,slow=12,SNR=5.0						
ILAR	**Eielson Array**	**57.35**	**29**	P	**P**	**20 41 36.0**	**+0.3**
	0.5nm,0.7s,baz=257,slow=5.8,SNR=4.8						
INK	**Inuvik**	**62.70**	**25**	P	**P**	**20 42 13.4**	**+1.1**
	0.3nm,0.4s,baz=281,slow=5.2,SNR=4.0						
YKA	**Yellowknife Ar**	**71.70**	**228**	P		**20 43 08.4**	**-1.5**
	0.3nm,0.7s,baz=299,slow=6.3,SNR=2.8						
AKASG	**Malin Array Be**	**82.84**	**324**	LR	LR	21 22 33.0	
	comp=Z,39nm,19.7s,baz=120,slow=37						

WEL 16 20:31:56.2±0.3,38°.15S×176°.13E,h167km±2km,ML3.7/9, 12C-2D,Error ellipse: s-maj=1.6km s-min=1.4km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLZ	**Tolley Road**	**0.50**	**249**	⇑PN	Pn	20 32 19.9	+0.3
TLZ				SN	Sn	20 32 37.8	+0.2
TOZ	**Tahuroa Road**	**0.65**	**310**	PN	Pn	20 32 20.0	-0.2
TOZ				SN	Sn	20 32 38.3	-0.4
URZ	**Urewera**	**0.78**	**99**	⇑PN	Pn	20 32 20.4	-0.7
URZ				AML	AML	20 32 38.1	
URZ				AML	AML	20 32 38.2	
BKZ	**Black Stump Fm**	**1.06**	**165**	⇑PN	Pn	20 32 22.9	-0.3
BKZ				SN	Sn	20 32 43.0	-1.0
RAGZ	**Rawiri**	**1.07**	**109**	⇓PN	Pn	20 32 23.3	0.0
TWVZ	**Taurewa**	**1.07**	**210**	PN	Pn	20 32 23.4	0.0
RAHZ	**Arahi**	**1.07**	**136**	PN	Pn	20 32 23.5	+0.2
RAHZ				SN	Sn	20 32 43.4	-0.8
NMHZ	**Naumai**	**1.09**	**151**	PN	Pn	20 32 24.0	+0.6
NGZ	**Ngauruhoe**	**1.11**	**202**	PN	Pn	20 32 23.9	+0.2
MWZ	**Matawai**	**1.12**	**100**	PN	Pn	20 32 23.4	-0.3
MWZ				AML	AML	20 32 43.3	
MWZ				AML	AML	20 32 43.3	
MWZ				AML	AML	20 32 43.4	
MWZ				AML	AML	20 32 43.4	
SNGZ	**Shannon Statio**	**1.14**	**124**	PN	Pn	20 32 24.0	+0.1
WPVZ	**Whakapapa**	**1.15**	**203**	PN	Pn	20 32 24.0	-0.1
TUVZ	**Tukino**	**1.18**	**198**	⇑PN	Pn	20 32 24.4	0.0
WHVZ	**Whangaehu Hut**	**1.21**	**200**	*e*PN	Pn	20 32 24.6	-0.1
TRVZ	**Turoa**	**1.24**	**201**	*e*PN	Pn	20 32 25.2	+0.2
WNVZ	**Wahianoa**	**1.25**	**199**	⇑PN	Pn	20 32 24.8	-0.1
WHHZ	**Waihua**	**1.27**	**137**	PN	Pn	20 32 25.2	+0.2
MOVZ	**Moawhango**	**1.29**	**193**	⇑PN	Pn	20 32 24.8	-0.5
ARHZ	**Aropaoanui**	**1.30**	**149**	⇑PN	Pn	20 32 25.6	+0.4
MTVZ	**Mangateitei**	**1.34**	**202**	PN	Pn	20 32 25.6	-0.1
BHHZ	**Black Hill Sta**	**1.34**	**182**	PN	Pn	20 32 25.3	-0.4
HAZ	**Te Kaha**	**1.36**	**74**	PN	Pn	20 32 24.9	-0.9
MCHZ	**McNeill Hill**	**1.37**	**161**	PN	Pn	20 32 25.7	-0.2
RIGZ	**Rimuhau**	**1.40**	**114**	PN	Pn	20 32 26.2	0.0
KUZ	**Kuaotunu**	**1.44**	**347**	PN	Pn	20 32 26.5	0.0
TWGZ	**Tauwhareparae**	**1.46**	**92**	PN	Pn	20 32 26.7	0.0
KNZ	**Kokohu**	**1.49**	**126**	⇑PN	Pn	20 32 26.8	-0.2
KRHZ	**Kereru**	**1.51**	**173**	PN	Pn	20 32 27.1	-0.1
CNGZ	**Carnagh Statio**	**1.67**	**102**	PN	Pn	20 32 29.3	+0.4
PUZ	**Puketiti**	**1.68**	**88**	PN	Pn	20 32 28.5	-0.5
CKHZ	**Cape Kidnapper**	**1.68**	**154**	⇑PN	Pn	20 32 29.2	+0.2
KAHZ	**Kahuranaki**	**1.75**	**161**	⇑PN	Pn	20 32 29.8	+0.1
PNHZ	**Pukenui**	**1.77**	**178**	PN	Pn	20 32 29.4	-0.5
MXZ	**Matakaoa Point**	**1.82**	**72**	PN	Pn	20 32 30.3	-0.1
WMGZ	**Waiomatatini S**	**1.83**	**80**	PN	Pn	20 32 30.3	-0.3
WAZ	**Wanganui**	**1.84**	**209**	PN	Pn	20 32 30.5	-0.1
TSZ	**Takapari Road**	**1.92**	**184**	⇑PN	Pn	20 32 30.8	-0.7
WPHZ	**Waipukurau**	**1.93**	**173**	PN	Pn	20 32 30.8	-0.8
DVHZ	**Dannevirke**	**2.15**	**179**	PN	Pn	20 32 33.2	-1.0
PRHZ	**Porangahau**	**2.15**	**170**	PN	Pn	20 32 33.6	-0.6
POWZ	**Post Office Ro**	**2.26**	**187**	PN	Pn	20 32 34.3	-1.1
ANWZ	**Angora Road**	**2.33**	**173**	PN	Pn	20 32 35.5	-0.6
PRWZ	**Pori Road**	**2.41**	**183**	PN	Pn	20 32 36.2	-0.9
BFZ	**Birch Farm**	**2.53**	**178**	⇓PN	Pn	20 32 37.3	-1.2
MRZ	**Mangatainoka R**	**2.55**	**189**	⇑PN	Pn	20 32 37.3	-1.4
MRZ				AML	AML	20 33 10.4	
MRZ				AML	AML	20 33 10.4	
TIWZ	**Tintock**	**2.63**	**184**	PN	Pn	20 32 38.4	-1.4
TIWZ				AML	AML	20 33 12.9	
TIWZ				AML	AML	20 33 13.8	
CPWZ	**Castlepoint**	**2.76**	**179**	PN	Pn	20 32 40.4	-0.8
OGWZ	**Otaki Gorge**	**2.77**	**195**	PN	Pn	20 32 39.9	-1.5
HOWZ	**Holdsworth Sta**	**2.79**	**190**	PN	Pn	20 32 39.8	-1.9
KIW	**Kapiti Island**	**2.87**	**199**	PN	Pn	20 32 40.9	-1.8
TMWZ	**Te Maipa**	**2.96**	**184**	PN	Pn	20 32 41.9	-1.9
MTW	**Mount Morrison**	**3.05**	**189**	PN	Pn	20 32 42.6	-2.2
CAW	**Cannon Point**	**3.07**	**195**	PN	Pn	20 32 43.2	-1.9
CAW				AML	AML	20 33 20.8	
TRWZ	**Traveller**	**3.27**	**186**	PN	Pn	20 32 45.4	-2.2
TRWZ				AML	AML	20 33 25.5	
PAWZ	**Paruwai Farm**	**3.28**	**189**	PN	Pn	20 32 45.4	-2.2
MSWZ	**Moikau Station**	**3.33**	**191**	PN	Pn	20 32 46.0	-2.5
MSWZ				AML	AML	20 33 24.5	
TCW	**Tory Channel**	**3.38**	**204**	PN	Pn	20 32 46.8	-2.1
TCW				AML	AML	20 33 27.1	
BHW	**Baring Head**	**3.40**	**196**	PN	Pn	20 32 46.7	-2.5
PLWZ	**Palliser**	**3.48**	**191**	PN	Pn	20 32 47.7	-2.7
TUWZ	**Tuamarina**	**3.69**	**206**	PN	Pn	20 32 50.6	-2.2
TUWZ				AML	AML	20 33 33.8	
QRZ	**Quartz Range**	**3.86**	**225**	PN	Pn	20 32 52.2	-2.9
KHZ	**Kahutara**	**4.70**	**204**	PN	Pn	20 33 03.2	-2.8
MQZ	**McQueen's Vall**	**6.15**	**204**	*e*PN	Pn	20 33 20.5	-4.4

LDG 16 20:35:09.5±0.5,43°.66N×14°.26E,h10km,Ml3.2/13,Error ellipse: s-maj=11.2km s-min=7.8km az=57.0,Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGF	**Pioggiola**	**4.01**	**256**	*e*Pn	Pn	20 36 10.0	-1.1
	SNR=1.0						
PGF				*e*Sn	Sn	20 36 54.0	-4.2
	6.6nm,0.3s						
SBF	**Sospel**	**4.94**	**275**	*e*Pn	Pn	20 36 22.6	-1.3
SBF				*e*Sn	Sn	20 37 16.7	-4.5
	25nm,0.4s,SNR=1.0						
MBDF	**Montbardon**	**5.49**	**284**	*e*Pn	Pn	20 36 27.2	-4.2
MBDF				*e*Sn	Sn	20 37 29.2	-5.5
	4.3nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**5.53**	**272**	*e*Pn	Pn	20 36 27.7	-4.1
LMR	**La Mourre**	**5.64**	**269**	*e*Pn	Pn	20 36 29.8	-3.6
LMR				*e*Sn	Sn	20 37 33.8	-4.5
	3.0nm,0.2s						
LPG	**La Plagne**	**5.66**	**291**	*e*Pn	Pn	20 36 31.1	-3.0
	SNR=1.0						
LPG				*e*Sn	Sn	20 37 33.8	-5.6
	3.2nm,0.3s						
LPL	**La Plagne**	**5.68**	**292**	*e*Pn	Pn	20 36 30.4	-3.9
LPL				*e*Sn	Sn	20 37 34.3	-5.4
	3.7nm,0.3s						
ORIF	**Oris-en-Rattie**	**6.14**	**285**	*e*Pn	Pn	20 36 36.0	-4.4
	SNR=1.0						
ORIF				*e*Sn	Sn	20 37 44.8	-6.0
	2.9nm,0.3s						
SMRF	**Simiane la Rot**	**6.29**	**276**	*e*Pn	Pn	20 36 36.5	-5.8
CABF	**La Chapelle**	**6.48**	**300**	*e*Pn	Pn	20 36 44.1	-1.0
CABF				*e*Sn	Sn	20 37 52.7	-6.5
	1.8nm,0.3s						
HINF	**Hinteralfeld**	**6.64**	**311**	*e*P	Pn	20 36 49.9	+2.8
HINF				*e*Sn	Sn	20 37 56.4	-6.4
	1.4nm,0.2s						
CDF	**Champ du Feu**	**6.79**	**317**	*e*P	Pn	20 36 52.0	+2.7
CDF				*e*Sn	Sn	20 38 00.0	-6.7
	1.7nm,0.3s						
HAU	**Haudompre**	**7.02**	**311**	*e*P	Pn	20 36 55.7	+3.3
HAU				*e*Sn	Sn	20 38 05.2	-7.1
	3.8nm,0.4s						
LASF	**Ste Croix**	**7.53**	**277**	*e*Pn	Pn	20 36 55.0	-4.3
PAGF	**Fort de Pagny**	**7.68**	**313**	*e*P	Pn	20 37 04.6	+3.2
LOR	**Lormes**	**8.15**	**300**	*e*Pn	Pn	20 37 06.5	-1.3
	baz=119						
AVF	**Avril sur Loir**	**8.31**	**296**	*e*Pn	Pn	20 37 07.8	-2.1

*LDG **16** 20:35:58.6±1.4,43°.68N×14°.20E,h10km,Ml3.1/4,Error ellipse: s-maj=29.2km s-min=13.4km az=109.0*

*ROM **16** 20:

3.8nm,0.3s
ORIF Oris-en-Rattie 3.06 283 *e*Pn **Pn 20 37 24.5 +0.1**
CABF La Chapelle 3.63 311 *e*Pn **Pn 20 37 32.6 +0.4**
HINF Hinteralfeld 4.16 328 *e*P **Pn 20 37 38.5 -0.9**
HINF *e*Sn **Sg 20 38 43.8 -5.0**
1.7nm,0.3s
LASF Ste Croix 4.49 269 *e*Pn **Pn 20 37 42.7 -1.1**
HAU Haudompre 4.51 326 *e*P **Pn 20 37 44.3 +0.1**
HAU *e*Sn **Sb 20 38 52.5 +2.9**
4.1nm,0.4s
CDF Champ du Feu 4.54 336 *e*P Pn 20 37 40.6 -4.0
PAGF Fort de Pagny 5.20 326 *e*P **Pn 20 37 53.1 -0.5**
LOR Lormes 5.26 306 *e*Pn **Pn 20 37 55.0 +0.5**
baz=121
AVF Avril sur Loir 5.34 300 *e*Pn **Pn 20 37 56.5 +1.0**

*ISCJB **16** 20:39:20.2±0.7,32°.82N±0°.04×105°.41E±0°.08,h11km, mb3.2/3,Error ellipse: s-maj=9.9km s-min=5.1km az=3.6*
*IDC **16** 20:39:22.4±1.4,32°.43N×105°.21E,h0km,mb3.2/3, mb1 3.3/5,mb1mx3.1/47,mbtmp3.1/5,ML3.0/2,Error ellipse: s-maj=61.9km s-min=25.2km az=61.0*
*BJI **16** 20:39:23.8,32°.78N×105°.62E,h6km,ML3.2/17,Ms3.1/1, Ms7 2.9/1*
ISC 16 20:39:22.8±0.8,32°.63N±0°.05×105°.45E±0°.07,h11km,n9, σ2.36/15,mb3.4/3,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CD2	**Chengdu**	**2.24**	**220**	Pn		**Pb**	**20 40 03.0**	**-0.3**
CD2				Pg		**Pg**	**20 40 07.1**	**+1.4**
CD2				Sn		**Sg**	**20 40 35.4**	**+0.7**
CD2				Sg		Sb	20 40 39.8	+8.8
CD2				SMN				
300nm,0.6s								
CD2				SME				
450nm,0.7s								
XAN	**Xi'an**	**3.23**	**63**	Pn		**Pn**	**20 40 11.8**	**-1.7**
XAN				Sg		**Sn**	**20 40 55.0**	**+3.0**
XAN				SMN				
120nm,0.8s								
XAN				SME				
59nm,0.7s								
LZH	**Lanzhou**	**3.70**	**339**	Pn		**Pn**	**20 40 21.1**	**+1.1**
LZH				Pg		**Pb**	**20 40 29.3**	**+1.1**
LZH				Sn		**Sn**	**20 40 58.8**	**-4.9**
LZH				Sg		**Sb**	**20 41 16.5**	**+3.4**
LZH				SMN				
300nm,0.8s								
LZH				SME				
380nm,0.7s								
GTA	**Gaotai**	**8.16**	**328**	*e*P		**Pn**	**20 41 18.6**	**-2.7**
GTA				pP		pP	20 41 24.3	
GTA				sP			20 41 26.9	
GTA				pmax		pmax		
comp=Z,2.0nm,1.0s								
SONM	**Songino Array**	**15.21**	**2**	Pn		**P**	**20 43 02.5**	**-0.1**
comp=Z,0.0nm,0.3s,baz=191,slow=13,SNR=2.3								
CMAR	**Chiang Mai Arr**	**15.28**	**204**	Pn		**Pn**	**20 42 57.2**	**-1.3**
comp=Z,0.0nm,0.3s,baz=11,slow=9.7,SNR=3.0								
MKAR	**Makanchi Array**	**22.64**	**315**	P		**P**	**20 44 24.7**	**+0.9**
comp=Z,0.3nm,0.6s,baz=129,slow=8.6,SNR=6.1								
WRA	**Warramunga Arr**	**59.13**	**148**	P		**P**	**20 49 25.7**	**+2.2**
comp=Z,0.3nm,0.8s,baz=340,slow=7.2,SNR=3.8								
ASAR	**Alice Springs**	**62.22**	**150**	P		**P**	**20 49 44.1**	**-0.5**
comp=Z,0.2nm,0.7s,baz=338,slow=7.0,SNR=3.4								

*ISCJB **16** 20:48:38.6±0.2,36°.56N±0°.02×71°.05E±0°.03,h199km±4km, mb3.9/26,Error ellipse: s-maj=3.6km s-min=2.9km az=153.5*
*IDC **16** 20:48:39.8±0.8,36°.43N×70°.93E,h204km±7km,mb3.7/20, mb1 3.8/24,mb1mx3.6/44,mbtmp4.3/24,Error ellipse: s-maj=12.9km s-min=9.3km az=6.0*
*MOS **16** 20:48:39.7±1.0,36°.57N×71°.09E,h210km,mb4.0/18,Error ellipse: s-maj=10.2km s-min=5.4km az=77.3*
*BJI **16** 20:48:42.1,36°.76N×71°.18E,h207km,mb4.5/13,mB4.4/8*
*NNC **16** 20:48:43.9±1.2,36°.97N×70°.89E,h197km±8km,mb3.5, mpv4.5,Error ellipse: s-maj=12.3km s-min=5.9km az=164.0*
ISC 16 20:48:39.4±0.5,36°.58N±0°.04×71°.04E±0°.04,h197km±4km, h196km:pP-P,n149,σ1964/184,mb4.0/26,22C-12D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZET	**Dzherino**	**2.83**	**322**	⇓P		**Pn**	**20 49 27.2**	**+0.4**
62nm,0.3s								
DZET				⇑S		**Sn**	**20 50 01.0**	**-3.1**
3μm,0.5s								
CEP	**Cherat**	**2.84**	**165**	⇑P		**Pn**	**20 49 28.8**	**+1.7**
CEP				S		**Sn**	**20 50 05.0**	**+0.6**
CHCP	**Chirah Chowk**	**3.44**	**147**	P		**Pn**	**20 49 35.9**	**+1.7**
SFK	**Sufi-Kurgan**	**3.94**	**29**	⇓P		**Pn**	**20 49 41.9**	**+1.5**
118nm,0.4s								
SFK				⇓S		**Sn**	**20 50 27.8**	**-0.7**
220nm,0.4s								
KSH	**Kashi**	**4.88**	**52**	P		Pn	20 49 48.8	-3.4
KSH				S		Sn	20 50 40.3	-9.3
KSH				SMN				
510nm,0.8s								
KSH				SME				
470nm,0.4s								
DLH	**Dalhousie**	**5.72**	**133**	*e*S		**Sn**	**20 51 06.0**	**-3.4**
AML	**Almayashu**	**5.92**	**20**	P		**Pn**	**20 50 06.6**	**+0.8**
SNR=125								
AML	**Almayashu**	**5.92**	**20**	*i* PN		**Pn**	**20 50 06.6**	**+0.8**
MNAS	**Manas**	**6.01**	**10**	⇑P		**Pn**	**20 50 07.1**	**+0.4**
26nm,0.5s								
MNAS				⇑S		**Sn**	**20 51 13.3**	**-2.5**
349nm,0.6s								
DHRM	**DHARAMSHALA**	**6.13**	**133**	*e*P		**Pn**	**20 50 09.2**	**+0.7**
DHRM				*e*S		**Sn**	**20 51 16.4**	**-2.5**
DHRM				AML		AML	20 51 19.2	
comp=E,1μm,1.0s								
DHRM				AML		AML	20 51 19.7	
comp=N,923nm,0.2s								
UCH	**Uchtor**	**6.25**	**24**	P		**Pn**	**20 50 11.1**	**+0.9**
SNR=78								
UCH	**Uchtor**	**6.25**	**24**	*i* PN		**Pn**	**20 50 11.1**	**+0.9**
KZA	**Kyzart**	**6.39**	**29**	P		**Pn**	**20 50 12.1**	**+0.2**
SNR=42								
KZA	**Kyzart**	**6.39**	**29**	*i* PN		**Pn**	**20 50 12.1**	**+0.2**
EKS2	**Erkin-Say**	**6.43**	**18**	P		**Pn**	**20 50 13.2**	**+1.0**
SNR=29								
EKS2	**Erkin-Say**	**6.43**	**18**	*i* PN		**Pn**	**20 50 13.2**	**+1.0**
KK31	**Karatay Array**	**6.53**	**357**	P		**Pn**	**20 50 13.7**	**+0.4**
comp=N,48nm,0.8s,baz=184,slow=12,SNR=398								
KK31				S		**Sn**	**20 51 22.9**	**-4.9**
comp=N,35nm,0.5s,baz=178,slow=14,SNR=16								
AAK	**Ala-Archa**	**6.61**	**23**	P		**Pn**	**20 50 16.9**	**+2.4**
SNR=12								
AAK	**Ala-Archa**	**6.61**	**23**	⇑P		**Pn**	**20 50 15.8**	**+1.3**
comp=N,29nm,0.8s								
AAK				⇓S		**Sn**	**20 51 28.0**	**-1.9**
comp=N,171nm,1.2s								
AAK	**Ala-Archa**	**6.61**	**23**	P		**Pn**	**20 50 15.9**	**+1.3**
comp=N,7.4nm,0.3s,baz=196,slow=6.9,SNR=101								
AAK				S		**Sn**	**20 51 29.7**	**-0.3**
comp=N,11nm,0.3s,baz=2.4,slow=24,SNR=19								
AAK	**Ala-Archa**	**6.61**	**23**	PN		**Pn**	**20 50 15.9**	**+1.3**
AAK				S		**Sn**	**20 51 29.7**	**-0.3**
AAK				pmax		pmax		
comp=Z,7.0nm,0.3s								
AAK				smax		smax		
comp=N,11nm,0.3s								
KBK	**Karagaybulak**	**6.78**	**25**	P		**Pn**	**20 50 18.1**	**+1.4**
SNR=20								
KBK	**Karagaybulak**	**6.78**	**25**	*i* PN		**Pn**	**20 50 18.2**	**+1.4**
BHK	**Bhakra**	**6.82**	**138**	*e*P		**Pn**	**20 50 18.0**	**+0.8**
BHK				*e*S		**Sn**	**20 51 32.0**	**-2.8**
FRU	**Bishkek**	**6.83**	**23**	*e*PN		**Pn**	**20 50 18.0**	**+0.7**
FRU				*i* S		**Sn**	**20 51 35.0**	**+0.1**
FRU				smax		smax		
comp=E,340nm,1.8s								
ULHL	**Ulahol**	**6.95**	**34**	P		**Pn**	**20 50 20.2**	**+1.2**
SNR=14								
ULHL	**Ulahol**	**6.95**	**34**	*i* PN		**Pn**	**20 50 20.2**	**+1.2**
CHMS	**Chumysh**	**7.02**	**23**	P		**Pn**	**20 50 20.6**	**+0.9**
SNR=8.1								
CHMS	**Chumysh**	**7.02**	**23**	*i* PN		**Pn**	**20 50 20.6**	**+0.9**
SDNR	**Sundarnagar**	**7.06**	**134**	*e*P		**Pn**	**20 50 20.0**	**-0.5**
SDNR				*ex*		x	20 51 35.0	
USP	**Ospenovka**	**7.19**	**21**	P		**Pn**	**20 50 22.8**	**+0.7**
SNR=6.6								
USP	**Ospenovka**	**7.19**	**21**	*i* PN		**Pn**	**20 50 22.7**	**+0.7**
TKM2	**Tokmak 2**	**7.24**	**28**	P		**Pn**	**20 50 23.9**	**+1.1**
SNR=11								
TKM2	**Tokmak 2**	**7.24**	**28**	⇑P		**Pn**	**20 50 23.6**	**+0.8**
comp=E,25nm,0.8s								
TKM2				⇑S		**Sn**	**20 51 42.4**	**-2.6**
comp=E,73nm,1.1s								
TKM2	**Tokmak 2**	**7.24**	**28**	*i* PN		**Pn**	**20 50 23.9**	**+1.1**
SMLA	**Simla**	**7.45**	**135**	*i* P		**Pn**	**20 50 25.6**	**+0.2**
SMLA				*i* S		**Sn**	**20 51 47.2**	**-2.6**
SMLA				AML		AML	20 51 49.9	
comp=E,310nm,0.2s								
SMLA				AML		AML	20 51 50.3	
comp=N,322nm,0.4s								
KNDC	**Almaty**	**8.04**	**33**	⇑P		**Pn**	**20 50 34.5**	**+1.4**
comp=N,16nm,0.6s								
KNDC				⇑S		**Sn**	**20 52 02.9**	**-0.8**
comp=N,63nm,0.8s								
KKR	**Kurukshetra**	**8.18**	**142**	*e*S		**Sn**	**20 52 02.0**	**-5.1**
IMYA	**Miami**	**8.81**	**272**	*e*P		**Pn**	**20 50 41.1**	**-2.3**
JOSI	**Joshimath**	**9.30**	**128**	*e*P		**Pn**	**20 50 52.1**	**+2.3**
JOSI				*e*S		**Sn**	**20 52 30.3**	**-3.8**
ISRO	**Mashad**	**9.32**	**272**	*e*P		Pn	20 50 46.7	-3.2
PDGK	**Podgornoye**	**9.35**	**41**	⇑P		**Pn**	**20 50 50.4**	**+0.3**
comp=N,5.7nm,0.8s								
PDGK				⇑S		**Sn**	**20 52 30.5**	**-4.1**
comp=N,28nm,1.0s								
KHET	**Khetri**	**9.39**	**153**	*e*P		**Pn**	**20 50 49.4**	**-1.4**
KHET				*e*S		Sn	20 52 27.1	-8.8
KHET				AML		AML	20 52 30.7	
comp=E,518nm,0.5s								
KHET				AML		AML	20 52 30.9	
comp=N,414nm,0.4s								
AYAN	**Aya Nagar**	**9.57**	**146**	*e*P		**Pn**	**20 50 52.1**	**-0.9**
AYAN				*e*S		Sn	20 52 31.6	-8.5
KUDL	**Kundal**	**9.59**	**150**	*e*P		**Pn**	**20 50 52.1**	**-1.2**
KUDL				*e*S		Sn	20 52 31.1	-9.5
BISR	**Bishrakh**	**9.64**	**144**	*ex*		**Sn**	**20 52 41.6**	**-0.1**
IPAY	**Payeh**	**9.69**	**273**	*e*P		**Pn**	**20 50 53.2**	**-1.7**
SONA	**Sohna**	**9.75**	**147**	*e*P		**Pn**	**20 50 54.4**	**-1.0**
SONA				*e*S		Sn	20 52 35.9	-8.5
SONA				AML		AML	20 52 39.7	
comp=E,74nm,0.7s								
SONA				AML		AML	20 52 41.2	
comp=N,46nm,0.5s								
GEYT	**Alibeck**	**10.39**	**281**	P		**Pn**	**20 51 01.3**	**-2.3**
comp=N,2.5nm,0.3s,baz=106,slow=9.7,SNR=19								
GEYT				S		**Sn**	**20 52 55.7**	**-3.8**
comp=N,5.4nm,0.3s,baz=297,slow=33,SNR=9.2								
ISFR	**Sfrayin**	**10.46**	**276**	*e*P		**Pn**	**20 51 04.4**	**-0.4**
ISHV	**Shirvan**	**10.70**	**279**	*e*P		**Pn**	**20 51 05.9**	**-1.9**
AGRA	**Agra**	**11.01**	**146**	*e*P		**Pn**	**20 51 10.7**	**-1.0**
AGRA				*e*S		Sn	20 53 04.9	-10
AGRA				AML		AML	20 53 11.8	
comp=N,57nm,0.2s								
AGRA				AML		AML	20 53 12.0	
comp=E,68nm,0.4s								
OTUK	**Ortayu**	**11.70**	**4**	⇓P		**Pn**	**20 51 19.4**	**-0.9**
comp=E,4.5nm,0.9s								
MK31	**Makanchi Array**	**13.21**	**36**	⇑P		**Pn**	**20 51 39.9**	**+0.4**
comp=E,15nm,0.8s,baz=234,slow=14,SNR=88								
MKAR	**Makanchi Array**	**13.21**	**36**	P		**Pn**	**20 51 40.1**	**+0.7**
comp=E,1.2nm,0.3s,baz=231,slow=15,SNR=50								
MKAR	**Makanchi Array**	**13.21**	**36**	P		**Pn**	**20 51 40.2**	**+0.7**
MKAR				pmax		pmax		
comp=Z,1.0nm,0.3s								
KOLN	**Koldanda**	**13.79**	**126**	*e*P		**Pn**	**20 51 46.3**	**-0.7**
comp=Z,41nm,0.4s								
IGLO	**Ghalogh**	**13.84**	**275**	*e*P		**P**	**20 51 48.8**	**-1.0**
GKN	**Gorkha**	**14.32**	**123**	*e*P		**Pn**	**20 51 53.2**	**-0.4**
comp=Z,90nm,0.4s								
BHPL	**Bhopal**	**14.39**	**156**	*e*P		**P**	**20 51 55.3**	**-0.5**
BHPL				*ex*		x	20 54 18.9	
IALA	**Alasht**	**14.70**	**273**	*e*P		**P**	**20 52 00.2**	**+0.8**
IFIR	**Firoozkooh**	**14.81**	**272**	*e*P		**P**	**20 52 00.8**	**+0.1**
DMN	**Daman**	**14.89**	**123**	*e*P		**Pn**	**20 52 00.5**	**-0.2**
comp=Z,110nm,0.6s								
KKN	**Kakani**	**14.89**	**122**	*e*P		**Pn**	**20 52 00.5**	**-0.2**
comp=Z,97nm,0.6s								
AB31	**Akbulak array**	**15.03**	**331**	⇓P		**Pn**	**20 52 00.8**	**-1.0**
comp=Z,4.3nm,0.6s								
AB31				⇓S		**S**	**20 54 43.4**	**-5.5**
comp=Z,2.4nm,0.5s,baz=271,slow=57,SNR=5.3								
KURBB	**Kurchatov Arra**	**15.04**	**19**	⇓P		**Pn**	**20 52 01.1**	**-0.9**
comp=Z,11nm,0.5s								
KURBB	**Kurchatov Arra**	**15.04**	**19**	P		**Pn**	**20 52 01.7**	**-0.2**
comp=Z,0.5nm,0.3s,baz=206,slow=10,SNR=46								
IPRN	**Peran**	**15.06**	**274**	*e*P		**P**	**20 52 03.9**	**+0.7**
ISAD	**Sadrabad**	**15.08**	**257**	*e*P		**P**	**20 52 04.0**	**+0.4**
PKIN	**Phulchoki**	**15.11**	**122**	*e*P		**Pn**	**20 52 03.4**	**+0.1**
comp=Z,103nm,0.5s								
PKI	**Pulchoki**	**15.12**	**122**	*e*P		**Pn**	**20 52 03.6**	**0.0**
comp=Z,116nm,0.6s								
KURK	**Kurchatov**	**15.15**	**19**	⇑P		**Pn**	**20 52 02.5**	**-0.8**
comp=Z,3.8nm,0.7s								
KURK	**Kurchatov**	**15.15**	**19**	P		**Pn**	**20 52 01.7**	**-1.6**
KURK				pmax		pmax		
comp=Z,1.0nm,0.3s								
GUN	**Gumba**	**15.23**	**120**	*e*P		**Pn**	**20 52 05.0**	**+0.1**
comp=Z,76nm,0.5s								
IBND	**Bandar-abas**	**15.28**	**238**	*e*P		**P**	**20 52 06.7**	**+1.2**
JIRN	**Jiri**	**15.60**	**120**	*e*P		**P**	**20 52 10.1**	**+0.6**
comp=Z,148nm,0.4s								
IZEF	**Zefreh**	**15.81**	**262**	*e*P		**Pn**	**20 52 12.5**	**+0.7**
RAMN	**Ramite**	**16.33**	**122**	*e*P		**Pn**	**20 52 18.5**	**+0.4**
comp=Z,77nm,0.5s								
BVB5	**Borovoye Array**	**16.45**	**359**	⇑P		**Pn**	**20 52 19.6**	**+0.6**
comp=Z,6.3nm,0.4s								
BANOM	**Banah**	**16.46**	**234**	⇑*i* P		**Pn**	**20 52 19.3**	**-0.2**
SNR=11								
BRVK	**Borovoye**	**16.49**	**358**	⇑P		**Pn**	**20 52 19.4**	**0.0**
comp=Z,8.4nm,0.6s								
BRVK				⇓S		**S**	**20 55 21.1**	**+0.3**
comp=Z,9.0nm,1.1s								
BRVK	**Borovoye**	**16.49**	**358**	⇑*e*P		**Pn**	**20 52 19.3**	**-0.1**
BRVK				pmax		pmax		
comp=Z,14nm,1.4s								
ISRV	**Sarvestan**	**16.65**	**250**	*e*P		**P**	**20 52 21.4**	**+0.5**
AKTO	**Aktyubinsk**	**16.73**	**330**	⇓P		**Pn**	**20 52 22.4**	**0.0**
comp=Z,6.3nm,0.8s								
AKTO				⇓S		**S**	**20 55 22.4**	**-3.4**
comp=Z,7.8nm,0.8s								
AKTO	**Aktyubinsk**	**16.73**	**330**	P		**Pn**	**20 52 22.6**	**+0.3**
comp=Z,0.7nm,0.3s,baz=148,slow=11,SNR=21								
AKTO				S		**S**	**20 55 22.2**	**-3.5**
comp=Z,0.1nm,0.3s,baz=142,slow=19,SNR=6.1								
AKTO	**Aktyubinsk**	**16.73**	**330**	P		**Pn**	**20 52 22.6**	**+0.3**
AKTO				S		**S**	**20 55 22.2**	**-3.5**
AKTO				pmax		pmax		
comp=Z,1.0nm,0.3s								
IGZV	**Ghazvin**	**16.75**	**276**	*e*P		**Pn**	**20 52 24.3**	**+1.3**
TAPN	**Taplejung**	**16.86**	**118**	*e*P		**Pn**	**20 52 25.5**	**+1.1**
ODAN	**Odare**	**16.93**	**120**	*e*P		**Pn**	**20 52 26.3**	**+1.0**
comp=Z,36nm,0.4s								
IPIR	**Pirpir**	**17.02**	**263**	*e*P		**P**	**20 52 24.8**	**-0.2**
IRAZ	**Razeghan**	**17.12**	**272**	*e*P		**Pn**	**20 52 27.5**	**+0.1**
IKAZ	**Kazeroun**	**17.43**	**253**	*e*P		**P**	**20 52 30.1**	**+0.6**
ASHO	**Ashiyiah**	**17.49**	**231**	⇑P		**P**	**20 52 30.6**	**+0.7**
ZALV	**Zalesovo Beam**	**19.83**	**25**	P		**P**	**20 52 55.6**	**+0.7**
comp=Z,24nm,0.6s,baz=221,slow=12,SNR=131								
ZALV	**Zalesovo Beam**	**19.83**	**25**	P		**P**	**20 52 55.6**	**+0.7**
ZALV				pmax		pmax		
comp=Z,24nm,0.6s								
NVS	**Novosibirsk**	**20.10**	**21**	*e*P		**P**	**20 52 57.0**	**-0.7**
NVS				*e*S		**S**	**20 56 30.3**	**-2.0**
NVS				pmax		pmax		
comp=Z,29nm,1.1s								
NVS				pmax		pmax		
comp=N,13nm,0.7s								
NVS				smax		smax		
comp=E,8.0nm,1.1s								
NVS				smax		smax		
comp=N,5.0nm,1.2s								
IDHR	**Dehrash**	**20.11**	**272**	*e*P		Pn	20 53 01.7	-1.2
GNI	**Garni**	**20.90**	**288**	P		**P**	**20 53 06.3**	**-0.3**
comp=N,1.5nm,0.4s,baz=173,slow=1.0,SNR=6.6								
GNI	**Garni**	**20.90**	**288**	P		**P**	**20 53 06.3**	**-0.3**
GNI				pmax		pmax		
comp=Z,2.0nm,0.4s								
ARU	**Arti**	**21.57**	**341**	*d* iP		**P**	**20 53 14.2**	**+1.0**
ARU							20 53 46.8	
ARU				S		**S**	**20 57 01.3**	**+2.5**
ARU				pmax		pmax		
comp=Z,11nm,1.7s								
ZEI	**Tsey**	**21.73**	**295**	*e*P		**P**	**20 53 17.5**	**+2.2**
ZEI				pmax		pmax		
comp=Z,3.0nm,0.4s								
NCK	**Nalchik**	**22.05**	**297**	⇑*e*P		**P**	**20 53 19.0**	**+0.8**
KBZ	**Khabaz**	**22.59**	**297**	P		**P**	**20 53 22.8**	**-0.3**
comp=Z,1.4nm,0.6s,baz=236,slow=24,SNR=4.9								
KBZ	**Khabaz**	**22.59**	**297**	P		**P**	**20 53 22.8**	**-0.3**
KBZ				pmax		pmax		
comp=Z,1.0nm,0.6s								
GOF	**Gofitskoye**	**22.73**	**301**	*e*P		**P**	**20 53 26.0**	**+1.6**
KIV	**Kislovodsk**	**22.78**	**298**	*e*P		**P**	**20 53 26.2**	**+1.3**
KIV				*e**PP		**pP**	**20 54 00.4**	**+0.3**
KIV				*e*S		**S**	**20 57 21.7**	**+2.9**
KIV				pmax		pmax		
comp=Z,4.0nm,0.9s								
GTA	**Gaotai**	**22.82**	**74**	*e*P		**P**	**20 53 28.0**	**+2.6**
GTA				PMZ				
comp=Z,5.0nm,0.9s								
ZAK	**Zakamensk**	**26.92**	**49**	*e*P		**P**	**20 54 03.0**	**+0.8**
ZAK				*e*			20 54 41.1	
ZAK				pmax		pmax		
comp=Z,2.0nm,1.0s								
SONM	**Songino Array**	**28.27**	**55**	P		**P**	**20 54 16.4**	**+2.1**
comp=Z,3.3nm,0.6s,baz=265,slow=9.2,SNR=36								
SONM	**Songino Array**	**28.27**	**55**	P		**P**	**20 54 16.4**	**+2.1**
SONM				pmax		pmax		
comp=Z,4.0nm,0.7s								
ULN	**Ulaanbaatar**	**28.71**	**56**	*c iP*		**P**	**20 54 20.1**	**+1.9**
ULN				pmax		pmax		
comp=Z,1.0nm,0.4s								
BRTR	**Keskin Array B**	**29.44**	**288**	P		**P**	**20 54 24.1**	**-0.6**
comp=Z,0.3nm,0.6s,baz=94,slow=9.0,SNR=3.8								
BRTR				pP		**pP**	**20 55 06.9**	**+2.1**
comp=Z,0.5nm,0.6s,baz=116,slow=11,SNR=2.9								
BRTR	**Keskin Array B**	**29.44**	**288**	P		**P**	**20 54 24.1**	**-0.6**
BRTR				*PP		**pP**	**20 55 06.9**	**+2.1**
BRTR				pmax		pmax		
comp=Z,1.0nm,0.6s								
CMAR	**Chiang Mai Arr**	**30.47**	**119**	P		**P**	**20 54 34.4**	**+0.5**
comp=Z,1.5nm,0.8s,baz=303,slow=7.6,SNR=13								
CMAR	**Chiang Mai Arr**	**30.47**	**119**	P		**P**	**20 54 34.4**	**+0.5**
CMAR				pmax		pmax		
comp=Z,2.0nm,0.9s								
HHC	**Hu-ho-hao-te**	**31.71**	**70**	*e*P		**P**	**20 54 45.9**	**+1.3**
HHC				PP		**PP**	**20 55 59.8**	**-0.5**
HHC				S		**S**	**20 59 36.6**	**-3.0**
HHC				sS		**ScP**	**21 00 57.0**	**+1.2**
HHC				SS		**SnSn**	**21 01 44.6**	**-7.0**
HHC				PMZ				
comp=Z,29nm,0.7s								
HHC				PMZ				
comp=Z,59nm,7.4s								
AKASG	**Malin Array Be**	**32.92**	**309**	P		**P**	**20 54 55.6**	**+0.7**
comp=Z,0.9nm,0.5s,baz=84,slow=6.9,SNR=6.9								
AKASG				PP		**PnPn**	**20 56 09.6**	**-2.4**
comp=Z,0.8nm,0.6s,baz=86,slow=10,SNR=4.2								
AKASG	**Malin Array Be**	**32.92**	**309**	P		**P**	**20 54 55.6**	**+0.7**
AKASG							20 56 09.6	
AKASG				pmax		pmax		
comp=Z,1.0nm,0.5s								
AKASG				pmax		pmax		
comp=Z,1.0nm,0.6s								
BOD	**Bodaibo**	**35.27**	**39**	*e*P		**P**	**20 55 14.1**	**-0.9**
BOD				pmax		pmax		
comp=Z,2.0nm,1.3s								
FINES	**FINESS Array B**	**37.43**	**326**	P		**P**	**20 55 34.2**	**+1.0**
comp=Z,0.6nm,0.3s,baz=130,slow=8.8,SNR=12								
FINES	**FINESS Array B**	**37.43**	**326**	P		**P**	**20 55 34.2**	**+1.0**
FINES				pmax		pmax		
comp=Z,1.0nm,0.4s								
ARCES	**ARCESS Array B**	**41.08**	**338**	P		**P**	**20 56 04.8**	**+1.4**
comp=Z,3.9nm,0.6s,baz=116,slow=8.0,SNR=23								
ARCES	**ARCESS Array B**	**41.08**	**338**	P		**P**	**20 56 04.8**	**+1.4**
ARCES				pmax		pmax		
comp=Z,4.0nm,0.6s								
YAK	**Yakutsk**	**43.89**	**36**	P		**P**	**20 56 26.6**	**+0.6**
comp=Z,7.6nm,0.4s,baz=113,slow=0.6,SNR=5.2								
YAK	**Yakutsk**	**43.89**	**36**	*e*P		**P**	**20 56 26.6**	**+0.6**
YAK				pmax		pmax		
comp=Z,15nm,0.7s								
NB2	**NORSAR Subarra**	**44.33**	**323**	P		**P**	**20 56 29.9**	**+0.3**
comp=Z,1.1nm,0.4s,baz=98,slow=7.9								
NOA	**NORSAR Array B**	**44.33**	**323**	P		**P**	**20 56 29.4**	**-0.2**
comp=Z,1.2nm,0.5s,baz=96,slow=7.7,SNR=6.3								
NOA				pP		**pP**	**20 57 14.5**	**+2.5**
comp=Z,1.7nm,0.7s,baz=96,slow=8.3,SNR=5.0								
NOA	**NORSAR Array B**	**44.33**	**323**	P		**P**	**20 56 29.4**	**-0.2**
NOA				*PP		**pP**	**20 57 14.5**	**+2.5**
NOA				pmax		pmax		
comp=Z,1.0nm,0.5s								
NOA				pmax		pmax		
comp=Z,2.0nm,0.7s								
KSRS	**Korea Array**	**44.83**	**71**	P		**P**	**20 56 34.0**	**+0.2**
comp=Z,0.8nm,0.6s,baz=290,slow=7.1,SNR=6.6								
KSRS	**Korea Array**	**44.83**	**71**	P		**P**	**20 56 34.0**	**+0.2**
KSRS				pmax		pmax		
comp=Z,1.0nm,0.6s	

MPR				eSn		Sn	21 04 29.2	-1.4
LSP	**Las Mesas**	**0.49**	**72**	ePn		Pn	21 04 15.0	0.0
LSP				eSn		Sn	21 04 30.4	-0.6
AGP	**Aguadilla**	**0.57**	**47**	ePn		Pn	21 04 15.1	-0.3
AGP				eSn		Sn	21 04 32.2	+0.5
AGPR	**Aguadilla, PR**	**0.63**	**45⇑**	eP		Pn	21 04 15.4	-0.3
AGPR	**Aguadilla, PR**	**0.63**	**45**	eS		Sn	21 04 32.4	0.0
GBPR	**Guanica, Bosqu**	**0.67**	**94⇑**	eP		Pn	21 04 16.1	+0.1
GBPR	**Guanica, Bosqu**	**0.67**	**94**	eS		Sn	21 04 33.4	+0.7
LRS	**Lares**	**0.75**	**69**	ePn		Pn	21 04 16.3	-0.2
LRS				eSn		Sn	21 04 32.7	-1.1
LRS	**Lares**	**0.75**	**69⇓**	eP		Pn	21 04 15.9	-0.7
LRS				eS		Sn	21 04 32.8	-1.0
AOPR	**Arecibo Observ**	**0.85**	**67**	ePn		Pn	21 04 16.8	-0.5
AOPR				eSn		Sn	21 04 34.4	-0.7
AOPR	**Arecibo Observ**	**0.85**	**67⇓**	eP		Pn	21 04 16.7	-0.6
AOPR	**Arecibo Observ**	**0.85**	**67**	eS		Sn	21 04 34.5	-0.6
PCDR	**Punta Cana, DR**	**0.91**	**303**	ePn		Pn	21 04 18.4	+0.7
PCDR				eSn		Sn	21 04 36.1	+0.3
PCDR	**Punta Cana, DR**	**0.91**	**303⇓**	eP		Pn	21 04 17.1	-0.6
PCDR	**Punta Cana, DR**	**0.91**	**303**	eS		Sn	21 04 35.8	0.0
OBIP	**Obispado Ponce**	**0.93**	**88**	ePn		Pn	21 04 17.8	-0.1
OBIP				eSn		Sn	21 04 35.3	-0.8
OBIP	**Obispado Ponce**	**0.93**	**88⇓**	eP		Pn	21 04 17.6	-0.3
OBIP	**Obispado Ponce**	**0.93**	**88**	eS		Sn	21 04 36.0	0.0
CELP	**Cerrillos**	**0.95**	**86**	ePn		Pn	21 04 18.1	+0.1
CELP	**Cerrillos**	**0.95**	**86⇓**	eP		Pn	21 04 18.0	0.0
ICMP	**Isla Caja de M**	**1.01**	**97**	ePn		Pn	21 04 18.3	-0.2
ICMP				eSn		Sn	21 04 36.2	-1.1
SJG	**San Juan**	**1.36**	**86**	ePn		Pn	21 04 21.6	-0.3
SJG				eSn		Sn	21 04 40.1	-3.1
SJG	**San Juan**	**1.36**	**86⇓**	iP		Pn	21 04 21.6	-0.3
SJG	**San Juan**	**1.36**	**86⇑**	eP		Pn	21 04 21.4	-0.4
HUMP	**Col San Antoni**	**1.65**	**85**	ePn		Pn	21 04 24.4	-0.5
HUMP				eSn		Sn	21 04 47.9	-0.7
HUMP	**Col San Antoni**	**1.65**	**85⇓**	eP		Pn	21 04 24.3	-0.6
SMN1	**Samana, DR**	**1.98**	**306**	ePn		Pn	21 04 27.2	-1.5
SMN1				eSn		Sn	21 04 54.9	-0.7
SMN1	**Samana, DR**	**1.98**	**306⇓**	eP		Pn	21 04 27.6	-1.1
SDD	**Santo Domingo**	**2.26**	**282**	ePn		Pn	21 04 31.9	-0.1
SDD				eSn		Sn	21 05 00.1	-1.2
STVI	**Saint Thomas**	**2.52**	**82**	ePn		Pn	21 04 35.1	0.0
STVI				eSn		Sn	21 05 04.0	-2.8
TBVI	**Tortola**	**2.84**	**82**	ePn		Pn	21 04 37.9	-1.3
TBVI				eSn		Sn	21 05 07.0	-7.2
SDDR	**Presa de Saban**	**3.65**	**286**	ePn		Pn	21 04 51.1	+1.6
SDDR				eSn		Sn	21 05 36.8	+4.1
GRTK	**Grand Turk**	**4.82**	**317**	ePn		Pn	21 05 01.1	-3.9
GRTK				eSn		Sn	21 05 52.2	-8.1

*ISCJB **16** 21:20:53.2±0.4, 60°.06N±0°.03×152°.92W±0°.07, h117km±4km, mb4.2/1, Error ellipse: s-maj=5.5km s-min=5.3km az=145.2*

*NEIC **16** 21:20:55.5, 60°.05N×152°.95W, h101km, MG3.3(AEIC), After AEIC.*

*IDC **16** 21:20:60.0±8.7, 60°.53N×152°.54W, h142km±69km, mb3.7/1, mb1 3.5/3, mb1mx2.9/36, mbtmp3.8/3, MS3.2/1, Ms1 3.1/1, ms1mx2.5/25, Error ellipse: s-maj=74.6km s-min=39.7km az=24.0*

ISC 16 21:20:53.9±0.9, 60°.07N±0°.04×152°.92W±0°.04, h109km±7km, n70, σ1§21/78, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IVE	**Iliamna Volcan**	**0.08**	**222**	ePn	**Pn**	**21 21 09.1**	**0.0**
ILW	**Iliamna West**	**0.11**	**263**	ePn	**Pn**	**21 21 09.1**	**-0.1**
ILS	**Iliamna Low So**	**0.14**	**214**	ePn	**Pn**	**21 21 09.1**	**-0.1**
RDN	**Redoubt North**	**0.45**	**10**	ePn	**Pn**	**21 21 10.9**	**+0.4**
OPT	**Oil Point**	**0.45**	**201**	ePn	**Pn**	**21 21 10.6**	**+0.2**
OPT				eSn	**Sn**	**21 21 22.0**	**-0.7**
NCT	**North Crescent**	**0.49**	**359**	ePn	**Pn**	**21 21 11.1**	**+0.4**
DFR	**Drift River**	**0.53**	**12**	ePn	**Pn**	**21 21 11.3**	**+0.4**
AUL	**Augustine Lava**	**0.74**	**201**	ePn	**Pn**	**21 21 12.7**	**+0.2**
AUP	**Augustine Pinn**	**0.76**	**200**	ePn	**Pn**	**21 21 12.9**	**+0.1**
HOM	**Homer**	**0.77**	**122**	ePn	**Pn**	**21 21 13.4**	**+0.7**
AUI	**Augustine Isla**	**0.78**	**200**	ePn	**Pn**	**21 21 12.9**	**0.0**
BRLK	**Bradley Lake**	**1.07**	**106**	ePn	**Pn**	**21 21 16.4**	**+0.6**
BRLK				eSn	**Sn**	**21 21 32.4**	**+0.2**
NKA	**Nikishka**	**1.07**	**50**	ePn	**Pn**	**21 21 18.1**	**+2.4**
MCNL	**McNeil River**	**1.15**	**220**	ePn	**Pn**	**21 21 16.4**	**-0.2**
CKL	**Chakachamna La**	**1.16**	**14**	ePn	**Pn**	**21 21 17.8**	**+0.9**
SPU	**Mount Spurr**	**1.19**	**21**	ePn	**Pn**	**21 21 17.9**	**+0.8**
SPU				eSn	**Sn**	**21 21 35.5**	**+0.8**
BGL	**Barrier Glacie**	**1.22**	**12**	ePn	**Pn**	**21 21 18.6**	**+1.1**
SLKM	**Skilak Lake**	**1.41**	**71**	ePn	**Pn**	**21 21 20.5**	**+0.9**
STLK	**Strandline Lak**	**1.53**	**20**	ePn	**Pn**	**21 21 21.9**	**+0.9**
SVW2	**Sparrevohn**	**1.67**	**309**	ePn	**Pn**	**21 21 22.8**	**+0.1**
SVW2				eSn	**Sn**	**21 21 44.1**	**-0.5**
FIB	**Fire Island**	**1.74**	**50**	ePn	**Pn**	**21 21 25.7**	**+2.2**
SUA	**Susitna One**	**1.76**	**36**	ePn	**Pn**	**21 21 25.1**	**+1.2**
SKT	**Skwentna**	**2.03**	**19**	ePn	**Pn**	**21 21 28.1**	**+0.8**
KABR	**Katmai Barrier**	**2.22**	**209**	ePn	**Pn**	**21 21 29.8**	**+0.1**
PMR	**Palmer**	**2.40**	**49**	ePn	**Pn**	**21 21 31.9**	**0.0**
LTI	**Latouche**	**2.54**	**89**	ePn	**Pn**	**21 21 33.9**	**+0.1**
TRAP	**Trapper Creek**	**2.61**	**29**	ePn	**Pn**	**21 21 35.7**	**+1.0**
CUT	**Chulitna**	**2.67**	**28**	ePn	**Pn**	**21 21 36.5**	**+1.1**
GLI	**Glacier Island**	**2.99**	**72**	ePn	**Pn**	**21 21 38.5**	**-1.2**
TT01	**Tatalina**	**3.21**	**334**	ePn	**Pn**	**21 21 42.9**	**+0.3**
SCM	**Sheep Creek Mo**	**3.25**	**55**	ePn	**Pn**	**21 21 43.3**	**+0.1**
SCM				eSn	**Sn**	**21 22 17.9**	**-3.3**
JPK	**Jack Peak**	**3.27**	**70**	ePn	**Pn**	**21 21 43.0**	**-0.5**
CAST	**Castle Rocks**	**3.38**	**6**	ePn	**Pn**	**21 21 46.3**	**+1.4**
CAST				eSn	**Sn**	**21 22 24.8**	**+0.4**
MID	**Middleton Isla**	**3.39**	**98**	ePn	**Pn**	**21 21 45.6**	**+0.6**
VLZ	**Valdez**	**3.42**	**69**	ePn	**Pn**	**21 21 45.0**	**-0.3**
KLU	**Klutina**	**3.71**	**64**	ePn	**Pn**	**21 21 49.0**	**-0.4**
RND	**Reindeer**	**3.86**	**28**	ePn	**Pn**	**21 21 52.4**	**+1.0**
DHY	**Denali Highway**	**4.01**	**39**	ePn	**Pn**	**21 21 54.2**	**+0.7**
GOAT	**Goat Mountain**	**4.10**	**79**	ePn	**Pn**	**21 21 55.4**	**+0.8**
RAGM	**Ragged Mountai**	**4.12**	**82**	ePn	**Pn**	**21 21 55.4**	**+0.5**
RAGM				eSn	**Sn**	**21 22 41.3**	**-0.8**
HARP	**HAARP**	**4.42**	**55**	ePn	**Pn**	**21 21 59.0**	**+0.5**
BWN	**Browne**	**4.42**	**20**	ePn	**Pn**	**21 22 00.7**	**+1.9**
WRH	**Wood River Hil**	**4.96**	**25**	ePn	**Pn**	**21 22 06.6**	**+0.6**
DDM	**Donnelly Dome**	**5.00**	**39**	ePn	**Pn**	**21 22 08.4**	**+1.8**
MLY	**Manley**	**5.08**	**10**	ePn	**Pn**	**21 22 08.7**	**+1.0**
CCB	**Clear Creek Bu**	**5.17**	**25**	ePn	**Pn**	**21 22 08.9**	**0.0**
BARK	**Barkley Ridge**	**5.21**	**82**	ePn	**Pn**	**21 22 10.2**	**+0.7**
PTPK	**Patty Peak**	**5.27**	**73**	ePn	**Pn**	**21 22 10.5**	**+0.1**
ISLE	**Juniper Island**	**5.28**	**80**	ePn	**Pn**	**21 22 11.1**	**+0.5**
KIAG	**Kiagna River**	**5.29**	**76**	ePn	**Pn**	**21 22 11.4**	**+0.8**
MDM	**Murphy Dome**	**5.36**	**22**	ePn	**Pn**	**21 22 12.1**	**+0.6**
BAGL	**Bagley Icefiel**	**5.40**	**81**	ePn	**Pn**	**21 22 13.4**	**+1.4**
IL1	**Eielson Array**	**5.48**	**28**	ePn	**Pn**	**21 22 13.4**	**+0.3**
ILAR	**Eielson Array**	**5.48**	**28**	P	**Pn**	**21 22 13.2**	**+0.1**
	5.2nm,0.3s,baz=213,slow=14,SNR=312						
ILAR				S	**Sn**	**21 23 10.3**	**-4.6**
	5.1nm,0.3s,baz=214,slow=23,SNR=8.7						
ILB	**Eielson Array**	**5.48**	**28**	ePn	**Pn**	**21 22 13.4**	**+0.3**
ILB				eSn	**Sn**	**21 23 10.3**	**-4.6**
MESA	**MESA**	**5.49**	**84**	ePn	**Pn**	**21 22 14.7**	**+1.3**
GRNC	**Granite Creek**	**5.57**	**78**	ePn	**Pn**	**21 22 15.5**	**+0.9**
BARN	**Barnard Glacie**	**5.64**	**75**	ePn	**Pn**	**21 22 16.6**	**+1.2**
SCRK	**Sand Creek**	**5.74**	**43**	ePn	**Pn**	**21 22 16.6**	**-0.2**
RKAV	**Rock Avalanche**	**5.78**	**83**	ePn	**Pn**	**21 22 18.9**	**+1.6**
TABL	**Table Mountain**	**5.87**	**81**	ePn	**Pn**	**21 22 18.6**	**-0.1**
CHX	**Chaix Hills**	**5.91**	**85**	ePn	**Pn**	**21 22 20.7**	**+1.7**
IM3	**Indian Mountai**	**5.95**	**357**	ePn	**Pn**	**21 22 20.6**	**+1.3**
BM3	**Burnt Mountain**	**8.23**	**23**	ePn	**Pn**	**21 22 50.5**	**+0.1**
SIT	**Sitka**	**9.67**	**101**	ePn	**Pn**	**21 23 11.3**	**+1.5**
UNV	**Unalaska Valle**	**9.68**	**236**	ePn	**Pn**	**21 23 10.7**	**+0.6**
YKA	**Yellowknife Ar**	**10.38**	**66**	P	**P**	**21 25 00.0**	**+0.1**
	0.1nm,0.3s,baz=279,slow=11,SNR=6.0						
YKB5	**Yellowknife Ar**	**18.38**	**66**	eP	**P**	**21 25 00.1**	**+0.1**
ULM	**Lac du Bonnet**	**33.02**	**81**	LR	LR	21 40 49.0	
	comp=Z,39nm,19.3s,baz=7.5,slow=36						
ZALV	**Zalesovo Beam**	**57.34**	**324**	P	**P**	**21 30 30.6**	**+0.5**
	1.1nm,0.5s,baz=25,slow=6.6,SNR=5.8						

IDC 16 21:27:59.4±2.9, 4°.24S×154°.10E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/28, mbtmp3.6/3, Error ellipse: s-maj=100.9km s-min=45.6km az=109.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.78**	**229**	P	P	21 33 23.2	0.0
	1.2nm,0.6s,baz=56,slow=10,SNR=13						
ASAR	**Alice Springs**	**27.43**	**223**	P	P	21 33 46.8	-0.4
	0.5nm,0.9s,baz=64,slow=8.4,SNR=4.4						
STKA	**Stephens Creek**	**29.89**	**202**	P	P	21 34 09.4	+0.5
	0.6nm,0.6s,baz=21,slow=13,SNR=4.7						
TORD	**Torodi Ar. Bea**	**151.35**	**290**	PKPbc	PKPbc	21 47 55.9	-0.3
	0.5nm,0.7s,baz=63,slow=3.3,SNR=2.9						

*IDC **16** 21:28:40.3±1.4, 42°.36N×81°.17E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.3/37, mbtmp3.5/4, ML3.2/2, Error ellipse: s-maj=40.4km s-min=16.5km az=99.0*

*NNC **16** 21:28:42.0±2.0, 42°.36N×82°.35E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=17.3km s-min=9.4km az=155.0*

ISC 16 21:28:46.7±3.5, 42°.5N±0°.2×82°.3E±0°.2, h10km, n13, σ2§31/11, 9C-8D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**2.23**	**294**	⇓Pn	**Pn**	21 29 20.4	-3.3
	39nm,0.7s						
PDGK				⇓Sn	**Sn**	**21 29 52.3**	**+1.0**
	289nm,0.5s						
KNDC	**Almaty**	**3.98**	**283**	⇑Pg	**Pb**	**21 29 56.0**	**-1.0**
	18nm,0.4s						
KNDC				⇓Lg	Lg	21 30 48.6	
	70nm,0.6s						
MK31	**Makanchi Array**	**4.34**	**0**	Pn	**Pn**	**21 29 50.8**	**-1.9**
	3.2nm,0.5s,baz=236,slow=9.9,SNR=120						
MK31				Pg	**Pb**	**21 30 05.1**	**+2.0**
	7.9nm,0.3s,baz=198,slow=18,SNR=15						
MK31				⇑Lg	Lg	21 31 03.2	
	27nm,0.6s,baz=177,slow=31,SNR=5.7						
MKAR	**Makanchi Array**	**4.34**	**0**	Pn	**Pn**	**21 29 50.6**	**-2.1**
	3.2nm,0.3s,baz=196,slow=13,SNR=167						
MKAR				Pg	**Pb**	**21 30 03.0**	**0.0**
	7.7nm,0.3s,baz=185,slow=9.6,SNR=35						
MKAR				Sn	**Sn**	**21 30 47.2**	**+3.8**
	4.2nm,0.3s,baz=195,slow=22,SNR=5.9						
MKAR				Lg	Lg	21 31 02.9	
	8.6nm,0.3s,baz=181,slow=30,SNR=7.2						
TKM2	**Tokmak 2**	**4.95**	**278**	⇑Pn	**Pn**	**21 30 00.6**	**-0.7**
	5.2nm,0.5s						
TKM2				⇑Lg	Lg	21 31 19.1	
	29nm,0.6s						
AAK	**Ala-Archa**	**5.76**	**274**	⇑Pg	**Pb**	**21 30 26.8**	**-0.5**
	5.0nm,0.7s						
AAK				⇓Lg	Lg	21 31 43.4	
	15nm,0.8s						
MNAS	**Manas**	**7.23**	**274**	⇓Pg	**Pb**	**21 30 55.4**	**+3.0**
	2.6nm,0.9s						
MNAS				⇓Lg	Lg	21 32 32.5	
	6.5nm,1.0s						
KURBB	**Kurchatov Arra**	**8.57**	**344**	⇓Pn	Pn	21 30 46.7	-4.0
	3.4nm,0.8s						
KURBB				⇓Sn	**Sn**	**21 32 25.4**	**-2.0**
	14nm,0.6s						
KURBB				⇑Lg	Lg	21 33 17.0	
	24nm,0.6s						
KURK	**Kurchatov**	**8.64**	**344**	⇑Lg	Lg	21 33 19.2	
	8.3nm,1.2s						
KK31	**Karatay Array**	**8.68**	**278**	⇑Pg	Pg	21 31 20.6	-12
	0.6nm,0.5s,baz=87,slow=15,SNR=4.1						
KK31				⇑Lg	Lg	21 33 19.1	
	1.6nm,0.5s,baz=87,slow=28,SNR=5.0						
ZALV	**Zalesovo Beam**	**11.62**	**7**	Pn	Pn	21 31 28.2	-4.3
	0.3nm,0.3s,baz=198,slow=12,SNR=8.2						
TORD	**Torodi Ar. Bea**	**74.34**	**274**	P	P	21 40 15.6	-9.2
	0.2nm,0.4s,baz=50,slow=4.5,SNR=5.3						
ASAR	**Alice Springs**	**81.21**	**133**	P	P	21 41 00.9	-1.9
	0.1nm,0.4s,baz=335,slow=6.4,SNR=3.8						

MEX 16 21:41:08.1±0.9, 18°.23N×103°.49W, h10km, MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.15**	**67**	*i* P	Pg	21 41 10.5	-1.0
MMIG				*i* S	Sg	21 41 13.3	-0.5
R15V		**1.04**	**334**	*e*P	Pg	21 41 24.4	-3.9
R15V				*i* S	Sg	21 41 38.5	-3.5
EZ5V		**1.25**	**355**	*e*P	Pn	21 41 28.6	-3.4
EZ5V				*e*S	Sb	21 41 44.7	-3.8
ARIG	**Puente Sto Nin**	**2.99**	**89**	*e*P	Pn	21 41 54.4	-1.2
ARIG				*e*S	Sn	21 42 27.6	-4.0
TLIG	**Tlapa**	**4.74**	**97**	*e*P	Pg	21 42 47.6	+8.5

*NIED **16** 21:50:00, 28°.80N×128°.50E, h5km, Mw4.0 Best double couple: M0§9.64000×10^14 NP1:φ§198.00000°, δ60.00000°, λ-162.00000°. NP2:φ§99.00000°, δ75.00000°, λ-32.00000°.*

*JMA **16** 21:50:47.5±0.2, 28°.78N×128°.55E, h9km±3km, M3.6*

JMA Felt I J1.

*IDC **16** 21:50:48.5±1.0, 28°.61N×128°.41E, h0km, mb3.4/4, mb1 3.6/7, mb1mx3.4/32, mbtmp3.4/7, ML3.2/2, MS3.0/6, Ms1 3.0/6, ms1mx2.8/18, Error ellipse: s-maj=36.8km s-min=18.4km az=97.0*

ISC 16 21:50:48.0±1.9, 28°.76N±0°.04×128°.60E±0°.09, h7km±13km, n22, σ1§21/21, mb3.5/4, MS3.0/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTAJ	**Takarajima**	**0.66**	**54**	P	**Pg**	**21 51 00.8**	**+0.1**
JTAJ				S	**Sg**	**21 51 09.8**	**+0.5**
JAMN	**Amaminishikomi**	**0.73**	**135**	P	**Pg**	**21 51 02.3**	**+0.3**
JAMN				S	**Sg**	**21 51 12.5**	**+1.1**
JAM	**Amami Oshima**	**0.95**	**111**	P	**Pg**	**21 51 06.1**	**-0.2**
JAM				S	**Sg**	**21 51 19.7**	**+1.0**
JTK	**Tokunoshima**	**1.02**	**162**	P	**Pg**	**21 51 07.1**	**-0.5**
JTK				S	**Sg**	**21 51 20.5**	**-0.4**
JZK	**Kikaishima**	**1.29**	**110**	P	**Pg**	**21 51 13.0**	**+0.2**
JZK				*e*S	**Sg**	**21 51 31.1**	**+1.6**
JOKE	**Okinoerabujima**	**1.40**	**181**	P	**Pn**	**21 51 13.1**	**-0.8**
JOKE				*e*S	**Sn**	**21 51 32.0**	**-0.6**
JNN	**Nakanoshima**	**1.55**	**46**	P	**Pn**	**21 51 15.4**	**-0.7**
JIH	**Iheya**	**1.81**	**198**	P	**Pn**	**21 51 19.6**	**0.0**
JIH				*e*S	**Sn**	**21 51 42.4**	**-0.4**
JOW	**Kunigami**	**1.94**	**188**	P	**Pn**	**21 51 21.5**	**0.0**
JOW	**Kunigami**	**1.94**	**188**	Pn	**Pb**	**21 51 22.5**	**-1.3**
	baz=22,slow=16						
JYAK	**Yakushimahirau**	**2.23**	**48**	P	**Pn**	**21 51 22.3**	**-3.0**
JNU	**Nakatsue**	**4.77**	**24**	Pn	Pb	21 52 05.8	-6.1
	1.0nm,0.3s,baz=171,slow=6.9,SNR=15						
KSRS	**Korea Array**	**8.69**	**356**	Pn	Pn	21 52 57.0	+2.9
	baz=189,slow=14,SNR=4.0						
KSRS				LR	LR	21 56 23.3	
	comp=Z,71nm,20.8s,baz=168,slow=38						
MJAR	**Matsushiro Arr**	**11.21**	**40**	Pn	Pn	21 53 32.7	+3.9
	0.2nm,0.3s,baz=236,slow=15,SNR=3.2						
MJAR				LR	LR	21 57 58.7	
	comp=Z,28nm,21.0s,baz=210,slow=38						
GUMO	**Guam**	**21.37**	**132**	LR	LR	22 01 58.1	
	comp=Z,63nm,19.4s,baz=90,slow=31						
SONM	**Songino Array**	**25.65**	**324**	LR	LR	22 07 12.2	
	comp=Z,37nm,21.1s,baz=114,slow=38						
CMAR	**Chiang Mai Arr**	**28.97**	**256**	LR	LR	22 09 29.8	
	comp=Z,54nm,20.4s,baz=213,slow=39						
MKAR	**Makanchi Array**	**40.13**	**310**	P	**P**	**21 58 25.7**	**+1.2**
	0.3nm,0.7s,baz=101,slow=6.0,SNR=3.2						
ZALV	**Zalesovo Beam**	**40.46**	**321**	LR	LR	22 18 00.1	
	comp=Z,20nm,20.1s,baz=70,slow=40						
WRA	**Warramunga Arr**	**48.74**	**173**	P	**P**	**21 59 32.5**	**-0.9**
	0.5nm,0.8s,baz=353,slow=8.4,SNR=4.0						
ILAR	**Eielson Array**	**62.07**	**29**	P	P	22 01 13.1	+4.0
	0.4nm,0.7s,baz=302,slow=8.3,SNR=4.9						
YKA	**Yellowknife Ar**	**76.10**	**25**	P	**P**	**22 02 38.3**	**+2.1**
	0.2nm,0.5s,baz=301,slow=6.0,SNR=2.7						

*ISCJB **16** 22:57:27.8±1.7, 34°.00S±0°.05×72°.57W±0°.06, h9km±12km, mb4.2/6, MS2.9/3, Error ellipse: s-maj=9.5km s-min=7.1km az=40.3*

*IDC **16** 22:57:28.9±0.9, 33°.98S×72°.30W, h0km, mb4.0/6, mb1 4.1/8, mb1mx3.9/27, mbtmp4.0/8, ML3.2/3, MS3.2/4, Ms1 3.2/4, ms1mx2.9/21, Error ellipse: s-maj=26.7km s-min=15.2km az=101.0*

*GUC **16** 22:57:28.9±0.6, 34°.12S×72°.46W, h25km±9km, ML4.1*

*NEIC **16** 22:57:32.1±1.2, 34°.03S×72°.60W, h35km, mb4.4/3, Error ellipse: s-maj=24.9km s-min=9.6km az=89.0*

ISC 16 22:57:28.3±2.4, 34°.05S±0°.05×72°.48W±0°.07, h3km±14km, n32, σ1§30/38, mb4.3/6, MS2.8/3, 9C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.90**	**84⇑**	*i*P	**Pb**	**22 57 46.0**	**-0.5**
TALC	**Talca**	**1.52**	**153⇑**	*i*P	**Pn**	**22 57 56.0**	**-0.4**
TALC				*i* S	**Sn**	**22 58 15.3**	**-1.4**
CHCH	**Chadas Angostu**	**1.52**	**86⇑**	*i*P	**Pn**	**22 57 56.3**	**-0.3**
CACH	**El Canelo**	**1.56**	**93**	*i* P	**Pg**	**22 57 58.2**	**-0.1**
SAN	**Santiago**	**1.63**	**69⇑**	*i*P	**Pn**	**22 57 57.6**	**-0.4**
SAN				*i* S	**Sb**	**22 58 19.6**	**-0.5**
ROCH	**El Roble**	**1.63**	**49⇑**	*i*P	**Pn**	**22 57 58.2**	**0.0**
ROCH				*i* S	**Sb**	**22 58 20.1**	**-0.2**
ROCH				AML	AML	22 58 31.3	
	comp=N,2μm,0.5s						
STL	**Santa Lucia**	**1.65**	**69⇑**	*i*P	**Pn**	**22 57 57.7**	**-0.6**
STL				*i* S	**Sb**	**22 58 20.2**	**-0.5**
FSR	**Penalolen**	**1.73**	**71**	*e*P	**Pb**	**22 58 00.7**	**-0.1**
FSR				*e*S	**Sg**	**22 58 24.1**	**+0.3**
CLCH	**Cerro Calan**	**1.75**	**69⇑**	*i*P	**Pn**	**22 57 59.9**	**+0.2**
CLCH				*i* S	**Sb**	**22 58 22.7**	**-0.8**
CLCH				AML	AML	22 58 38.2	
	comp=E,3μm,0.5s						
PEL	**Peldehue**	**1.75**	**59⇑**	*i*P	**Pb**	**22 57 60.0**	**-1.2**
PEL				*i* S	**Sb**	**22 58 22.9**	**-0.6**
PEL				AML	AML	22 58 32.2	
	comp=N,5μm,0.6s						
SJCH	**San Jose de Ma**	**1.82**	**78⇑**	*i*P	**Pn**	**22 58 00.8**	**+0.2**
SJCH				*e*S	**Sb**	**22 58 24.7**	**-0.9**
COCH	**Cobquecura**	**2.09**	**187**	*e*P	**Pn**	**22 58 03.6**	**-0.7**
COCH				*e*S	**Sn**	**22 58 26.1**	**-4.7**
CFAA	**Coronel Fontan**	**4.33**	**57**	Pn	**Pn**	**22 58 35.8**	**+0.7**
	comp=N,0.4nm,0.3s,baz=240,slow=5.7,SNR=68						
CFAA				Lg	Lg	22 59 39.9	
	comp=N,0.9nm,0.3s,baz=288,slow=11,SNR=3.5						
CFAA				LR	LR	23 00 05.9	
	comp=N,10.0nm,19.0s,baz=231,slow=38						
LCO	**Las Campanas**	**5.25**	**17**	*e*Pn	**Pn**	**22 58 47.4**	**-0.6**
LCO				*e*Sn	**Sn**	**22 59 46.7**	**-2.4**
PLCA	**Paso Flores**	**6.85**	**168**	Pn	**Pn**	**22 59 10.5**	**+0.8**
	comp=N,0.1nm,0.3s,baz=330,slow=14,SNR=4.0						
PLCA				Lg	Lg	23 01 03.8	
	comp=N,0.2nm,0.3s,baz=34,slow=5.8,SNR=3.9						
TRQA	**Tornquist**	**9.40**	**118**	*e*Pn	**Pn**	**22 59 47.0**	**+2.3**
LVC	**Limon Verde**	**11.82**	**16**	LR	LR	23 05 31.3	
	comp=N,423nm,19.4s,baz=206,slow=41						
LPAZ	**La Paz**	**18.11**	**14**	P	**P**	**23 01 42.1**	**0.0**
	comp=N,0.1nm,0.3s,baz=166,slow=7.4,SNR=11						
LPAZ	**La Paz**	**18.11**	**14**	*e*Pn	**P**	**23 01 42.2**	**0.0**
	comp=N,3.6nm,0.8s						
EFI	**East Falkland**	**20.48**	**154**	*e*P	Pn	23 02 13.3	+4.1
	comp=N,167nm,1.7s						
SIV	**San Ignacio**	**20.71**	**33**	P	**P**	**23 02 10.2**	**+0.3**
	comp=N,2.9nm,0.7s,baz=223,slow=10,SNR=9.2						
SIV				LR	LR	23 10 24.1	
	comp=N,44nm,19.9s,baz=188,slow=38						
SAML	**Samuel**	**26.41**	**21**	*e*P	**P**	**23 03 06.8**	**+0.5**
	comp=N,18nm,1.9s						
ATAH	**Atahualpa**	**27.33**	**347**	LR	LR	23 12 10.0	
	comp=N,14nm,21.2s,baz=174,slow=32						
BDFB	**Brasilia**	**28.67**	**56**	LR	LR	23 15 58.3	
	comp=N,62nm,19.6s,baz=238,slow=39						
SNAA	**Sanae**	**51.68**	**158**	P	**P**	**23 06 37.8**	**+1.6**
	comp=N,1.6nm,1.0s,baz=311,slow=11,SNR=3.3						
SNAA	**Sanae**	**51.68**	**158**	*

	0.3nm,0.2s,SNR=6.5						
ETOB	**Tobarra**	**5.27**	**302**	P	**Pn**	**23 03 47.8**	**+0.9**
	0.5nm,0.2s,SNR=6.9						
ETOB				S	**Sn**	**23 04 50.2**	**+1.9**
	0.3nm,0.2s,SNR=6.5						
EMOS	**Mosqueruela**	**5.69**	**321**	P	**Pn**	**23 03 53.2**	**+0.3**
	0.4nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**5.69**	**321**	P	**Pn**	**23 03 53.2**	**+0.3**
	0.4nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**5.71**	**291**	P	**Pn**	**23 03 54.2**	**+1.1**
	1.1nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**5.71**	**291**	P	**Pn**	**23 03 54.2**	**+1.1**
	1.1nm,0.2s,SNR=7.9						
EBER	**Berja**	**5.76**	**281**	P	**Pn**	**23 03 53.2**	**-0.7**
	1.0nm,0.3s,SNR=6.0						
EBER				S	**Sn**	**23 04 57.7**	**-2.9**
	0.5nm,0.4s,SNR=7.9						
EBER	**Berja**	**5.76**	**281**	P	**Pn**	**23 03 53.2**	**-0.7**
	1.0nm,0.3s,SNR=6.0						
EBER				S	**Sn**	**23 04 57.7**	**-2.9**
	0.5nm,0.4s,SNR=7.9						
SESP	**Santiago Espad**	**5.77**	**294**	P	**Pn**	**23 03 55.1**	**+1.1**
	1.5nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**23 05 01.6**	**+0.7**
	1.2nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**5.77**	**294**	P	**Pn**	**23 03 55.1**	**+1.1**
	1.5nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**23 05 01.6**	**+0.7**
	1.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**6.08**	**289**	P	**Pn**	**23 03 58.9**	**+0.8**
	1.3nm,0.3s,SNR=16						
EQES				S	**Sn**	**23 05 09.1**	**+0.8**
	0.2nm,0.1s,SNR=7.9						
EQES	**Quesada**	**6.08**	**289**	P	**Pn**	**23 03 58.9**	**+0.8**
	1.3nm,0.3s,SNR=16						
EQES				S	**Sn**	**23 05 09.1**	**+0.8**
	0.2nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**7.41**	**302**	P	**Pn**	**23 04 17.3**	**+0.9**
	0.2nm,0.2s,baz=119,slow=13,SNR=4.0						
ESDC	**Sonseca Array**	**7.41**	**302**	P	**Pn**	**23 04 17.3**	**+0.9**
	0.2nm,0.2s,SNR=4.0						

*IDC **16** 23:07:22.5±1.1, 12°.50S×166°.50E, h0km, mb4.1/11, mb1 4.2/12, mb1mx4.0/32, mbtmp4.0/12, ML3.9/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/16, Error ellipse: s-maj=34.9km s-min=20.9km az=114.0*

*ISCJB **16** 23:07:28.3±0.8, 12°.64S±0°.10×166°.4E±0°.2, h59km, mb4.0/11, MS3.1/1, Error ellipse: s-maj=25.4km s-min=14.1km az=5.4*

ISC 16 23:07:29.7±0.9, 12°.6S±0°.1×166°.5E±0°.2, h59km, n15, σ1§32/14, mb4.1/11, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.44**	**181**	Pn		**Pn**	**23 09 42.8**	**-0.4**
	1.1nm,0.3s,baz=270,slow=24,SNR=5.7							
URZ	**Urewera**	**27.26**	**162**	LR		LR	23 23 07.4	
	comp=Z,46nm,19.1s,baz=26,slow=35							
STKA	**Stephens Creek**	**29.91**	**226**	P		**P**	**23 13 33.1**	**+1.0**
	0.9nm,0.6s,baz=70,slow=11,SNR=3.8							
WRA	**Warramunga Arr**	**31.73**	**252**	P		**P**	**23 13 46.8**	**-1.5**
	0.3nm,0.8s,baz=78,slow=7.8,SNR=3.2							
ASAR	**Alice Springs**	**32.84**	**246**	P		**P**	**23 13 57.0**	**-1.1**
	0.6nm,0.7s,baz=71,slow=9.8,SNR=7.4							
MJAR	**Matsushiro Arr**	**55.68**	**332**	P		**P**	**23 17 00.2**	**+0.2**
	2.1nm,1.1s,baz=162,slow=8.7,SNR=5.9							
KSRS	**Korea Array**	**61.57**	**326**	P		**P**	**23 17 42.9**	**+2.0**
	0.4nm,0.3s,baz=128,slow=7.9,SNR=3.3							
USRK	**Ussuriysk Ar.**	**64.66**	**333**	P		**P**	**23 18 01.4**	**+0.2**
	1.7nm,0.7s,baz=153,slow=6.4,SNR=5.0							
PETK	**Petropavlovsk-**	**65.86**	**354**	P		**P**	**23 18 07.4**	**-1.4**
	1.9nm,0.5s,baz=258,slow=1.4,SNR=7.1							
CMAR	**Chiang Mai Arr**	**73.44**	**294**	P		**P**	**23 18 57.5**	**+1.3**
	1.7nm,0.3s,baz=147,slow=3.9,SNR=3.7							
MKAR	**Makanchi Array**	**95.17**	**317**	P		**P**	**23 20 48.1**	**+1.5**
	0.6nm,0.6s,baz=98,slow=3.2,SNR=7.0							
ZALV	**Zalesovo Beam**	**95.25**	**324**	P		**P**	**23 20 46.6**	**-0.2**
	0.9nm,0.7s,baz=104,slow=6.3,SNR=3.6							
TXAR	**Lajitas Array**	**95.87**	**61**	P		**P**	**23 20 51.1**	**+0.7**
	0.5nm,1.1s,baz=256,slow=3.6,SNR=3.3							
ARCES	**ARCESS Array B**	**118.00**	**345**	PKP		**PKPdf**	**23 26 09.7**	**+0.5**
	2.9nm,1.0s,baz=64,slow=1.9,SNR=8.1							
KEST	**Kesra**	**149.10**	**322**	PKPbc		**PKPab**	**23 27 14.2**	**-2.0**
	2.5nm,1.0s,baz=154,slow=4.0,SNR=4.6							

WEL 16 23:09:04.0±0.1, 40°.90S×175°.01E, h42km±1km, ML3.5/14, 11C-7D, Error ellipse: s-maj=0.8km s-min=0.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KIW	**Kapiti Island**	**0.09**	**292**	⇓P*		Pn	23 09 10.3	-0.5
KIW				S*		Sn	23 09 15.1	-0.4
KIW				AML		AML	23 09 15.2	
OGWZ	**Otaki Gorge**	**0.14**	**57**	⇓P*		Pn	23 09 10.9	-0.1
OGWZ				S*		Sn	23 09 15.9	-0.1
CAW	**Cannon Point**	**0.22**	**169**	⇑P*		Pn	23 09 11.4	-0.2
CAW				S*		Sn	23 09 17.1	+0.2
CAW				AML		AML	23 09 18.4	
HOWZ	**Holdsworth Sta**	**0.38**	**91**	⇑P*		Pn	23 09 13.4	+0.1
HOWZ				S*		Sn	23 09 20.6	+0.7
WEL	**Wellington**	**0.43**	**205**	P*		Pn	23 09 13.5	-0.4
WEL				S*		Sn	23 09 20.9	0.0
WEL				AML		AML	23 09 22.2	
WEL				AML		AML	23 09 22.5	
MTW	**Mount Morrison**	**0.45**	**126**	⇑P*		Pn	23 09 14.3	+0.1
MTW				AML		AML	23 09 23.5	
MTW				AML		AML	23 09 23.7	
MRZ	**Mangatainoka R**	**0.49**	**62**	⇓P*		Pn	23 09 14.6	0.0
MRZ				AML		AML	23 09 24.3	
MRZ				AML		AML	23 09 24.6	
BHW	**Baring Head**	**0.53**	**192**	⇑P*		Pn	23 09 14.8	-0.3
BHW				AML		AML	23 09 23.5	
BHW				AML		AML	23 09 23.5	
MSWZ	**Moikau Station**	**0.55**	**161**	⇑P*		Pn	23 09 15.3	-0.1
MSWZ				AML		AML	23 09 25.4	
MSWZ				AML		AML	23 09 25.5	
PAWZ	**Paruwai Farm**	**0.58**	**148**	⇑P*		Pn	23 09 15.7	-0.1
PAWZ				AML		AML	23 09 25.7	
PAWZ				AML		AML	23 09 26.3	
TCW	**Tory Channel**	**0.64**	**240**	P*		Pn	23 09 16.1	-0.5
TCW				AML		AML	23 09 26.7	
TCW				AML		AML	23 09 26.8	
TIWZ	**Tintock**	**0.67**	**80**	⇓P*		Pn	23 09 17.1	0.0
TIWZ				AML		AML	23 09 29.2	
TIWZ				AML		AML	23 09 29.3	
TMWZ	**Te Maipa**	**0.70**	**108**	⇑P*		Pn	23 09 17.3	-0.2
PLWZ	**Palliser**	**0.70**	**165**	P*		Pn	23 09 17.0	-0.5
TRWZ	**Traveller**	**0.72**	**135**	P*		Pn	23 09 17.3	-0.3
TRWZ				AML		AML	23 09 32.8	
TRWZ				AML		AML	23 09 32.9	
POWZ	**Post Office Ro**	**0.76**	**49**	P*		Pn	23 09 18.2	-0.1
PRWZ	**Pori Road**	**0.80**	**65**	⇓P*		Pn	23 09 19.0	+0.1
DUWZ	**D'Urville Isla**	**0.83**	**276**	⇑P*		Pn	23 09 19.2	-0.1
CPWZ	**Castlepoint**	**0.90**	**91**	PN		Pn	23 09 20.3	+0.1
BFZ	**Birch Farm**	**0.96**	**78**	⇑PN		Pn	23 09 20.5	-0.5
TUWZ	**Tuamarina**	**0.97**	**236**	PN		Pn	23 09 20.7	-0.4
TUWZ				AML		AML	23 09 35.6	
TUWZ				AML		AML	23 09 35.9	
DVHZ	**Dannevirke**	**1.06**	**56**	⇓PN		Pn	23 09 21.8	-0.6
TSZ	**Takapari Road**	**1.10**	**41**	PN		Pn	23 09 22.8	-0.2
TSZ				AML		AML	23 09 44.1	
TSZ				AML		AML	23 09 45.8	
WAZ	**Wanganui**	**1.14**	**359**	⇑PN		Pn	23 09 24.7	+1.2
BSWZ	**Blackbirch Sta**	**1.19**	**226**	PN		Pn	23 09 23.8	-0.3
BSWZ				AML		AML	23 09 58.0	
ANWZ	**Angora Road**	**1.19**	**69**	PN		Pn	23 09 23.5	-0.7
PNHZ	**Pukenui**	**1.33**	**43**	⇓PN		Pn	23 09 25.6	-0.5
WPHZ	**Waipukurau**	**1.37**	**53**	*e*PN		Pn	23 09 25.2	-1.4
PRHZ	**Porangahau**	**1.39**	**64**	PN		Pn	23 09 25.8	-1.0
MTVZ	**Mangateitei**	**1.55**	**13**	PN		Pn	23 09 29.8	+0.7
MOVZ	**Moawhango**	**1.59**	**21**	PN		Pn	23 09 29.7	0.0
BHHZ	**Black Hill Sta**	**1.62**	**30**	PN		Pn	23 09 30.0	-0.1
KRHZ	**Kereru**	**1.62**	**40**	PN		Pn	23 09 29.4	-0.7
WNVZ	**Wahianoa**	**1.63**	**16**	PN		Pn	23 09 30.8	+0.4
PXZ	**Pawanui**	**1.65**	**59**	PN		Pn	23 09 28.7	-1.8
WHVZ	**Whangaehu Hut**	**1.67**	**15**	PN		Pn	23 09 31.7	+0.6
FWVZ	**Far West T-bar**	**1.69**	**14**	PN		Pn	23 09 32.0	+0.8
TUVZ	**Tukino**	**1.70**	**17**	⇑PN		Pn	23 09 32.0	+0.7
WPVZ	**Whakapapa**	**1.74**	**14**	PN		Pn	23 09 32.7	+0.9
COVZ	**Chateau Observ**	**1.74**	**14**	PN		Pn	23 09 33.5	+1.6
NGZ	**Ngauruhoe**	**1.77**	**15**	PN		Pn	23 09 33.2	+0.8
VRZ	**Vera Road**	**1.78**	**354**	PN		Pn	23 09 33.2	+1.0
KAHZ	**Kahuranaki**	**1.80**	**53**	PN		Pn	23 09 31.5	-1.1
OTVZ	**Oturere**	**1.80**	**16**	PN		Pn	23 09 33.3	+0.6
THZ	**Tophouse**	**1.81**	**241**	PN		Pn	23 09 32.2	-0.5
WTVZ	**West Tongariro**	**1.83**	**14**	PN		Pn	23 09 34.1	+1.0
TWVZ	**Taurewa**	**1.85**	**10**	PN		Pn	23 09 34.4	+1.1
KRVZ	**Karewarewa**	**1.86**	**15**	*e*PN		Pn	23 09 34.5	+0.9
QRZ	**Quartz Range**	**1.89**	**271**	PN		Pn	23 09 33.7	0.0
HIZ	**Hauiti**	**2.38**	**357**	PN		Pn	23 09 41.4	+0.9
MWZ	**Matawai**	**3.21**	**38**	PN		Pn	23 09 49.3	-2.7

*ISCJB **16** 23:22:24.5±1.0, 31°.71S±0°.04×70°.04W±0°.05, h110km±11km, Error ellipse: s-maj=7.5km s-min=5.2km az=37.5*

*SJA **16** 23:22:24.7±0.5, 31°.68S×69°.98W, h105km±3km, ML3.3*

*GUC **16** 23:22:25.0±0.6, 31°.77S×70°.39W, h124km±14km, ML3.5*

ISC 16 23:22:24.9±1.8, 31°.71S±0°.04×70°.04W±0°.05, h110km±17km, n19, σ0§53/31, 2C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RTLS	**Leoncito**	**0.64**	**98**	*e*P		**Pn**	**23 22 43.2**	**+0.2**
RTLS				*e*S		**Sn**	**23 22 56.9**	**+0.2**
AUSP	**Uspallata**	**0.75**	**133**	*e*P		**Pn**	**23 22 44.4**	**+0.3**
AUSP				*e*S		**Sn**	**23 22 58.7**	**+0.3**
RTCV	**Cerro Valdivia**	**1.28**	**97**	*e*P		**Pn**	**23 22 49.1**	**-0.1**
RTCV				*e*S		**Sn**	**23 23 07.1**	**-0.6**
ASAL	**Salagasta**	**1.35**	**131**	*e*P		**Pn**	**23 22 50.2**	**+0.2**
ASAL				*e*S		**Sn**	**23 23 09.5**	**+0.5**
RTLL	**Cerro Villicun**	**1.39**	**74**	*e*P		**Pn**	**23 22 50.2**	**-0.3**
RTLL				*e*S		**Sn**	**23 23 09.1**	**-0.8**
ARCO	**CERRO ARCO**	**1.47**	**140**	*e*P		**Pn**	**23 22 52.1**	**+0.6**
ARCO				AML		AML	23 23 15.2	
	comp=Z,345nm,0.6s							
ROCH	**El Roble**	**1.50**	**213**	⇓*i*P		**Pn**	**23 22 51.6**	**-0.4**
ROCH				*i* S		**Sn**	**23 23 11.9**	**-0.5**
ROCH				AML		AML	23 23 13.6	
	comp=N,948nm,0.3s							
PEL	**Peldehue**	**1.53**	**201**	⇑*i*P		**Pn**	**23 22 51.7**	**-0.4**
PEL				*i* S		**Sn**	**23 23 12.3**	**-0.5**
AMOG	**MOGNA**	**1.53**	**60**	*e*P		**Pn**	**23 22 52.3**	**+0.1**
CFAA	**Coronel Fontan**	**1.54**	**86**	*e*P		**Pn**	**23 22 51.9**	**-0.4**
CFAA				*e*S		**Sn**	**23 23 12.3**	**-0.7**
AAGR	**Agrelo**	**1.71**	**143**	*e*P		**Pn**	**23 22 54.8**	**+0.4**
AAGR				*e*S		**Sn**	**23 23 17.3**	**+0.5**
CLCH	**Cerro Calan**	**1.73**	**194**	⇑*i*P		**Pn**	**23 22 54.5**	**-0.1**
CLCH				*i* S		**Sn**	**23 23 17.6**	**+0.4**
CLCH				AML		AML	23 23 19.0	
	comp=N,520nm,0.6s							
STL	**Santa Lucia**	**1.79**	**196**	*e*S		**Sn**	**23 23 18.1**	**-0.4**
SAN	**Santiago**	**1.81**	**197**	*i* S		**Sn**	**23 23 19.7**	**+0.7**
PCH	**Pirque**	**1.94**	**192**	*e*S		**Sn**	**23 23 22.7**	**+0.7**
LSCH	**La Serena**	**2.08**	**330**	*i* P		**Pn**	**23 22 59.2**	**+0.3**
LSCH				*i* S		**Sn**	**23 23 24.8**	**0.0**
TACH	**Talagante**	**2.08**	**201**	*e*S		**Sn**	**23 23 23.7**	**-1.2**
LCO	**Las Campanas**	**2.75**	**348**	*e*P		**Pn**	**23 23 08.6**	**+0.6**
LCO				*e*P		**Pn**	**23 23 08.6**	**+0.6**
VACH	**Vallenar**	**3.19**	**349**	*i* S		**Sn**	**23 23 50.5**	**-0.4**

KRSC 16 23:31:27.0±2.1, 49°.84N×157°.45E, h50km±35km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.20**	**315**	*e*S		Sn	23 32 02.1	-0.5
PAU	**Pauzhetka**	**1.68**	**346**	*e*S		Sn	23 32 17.9	+3.7
ASAK	**Asacha**	**2.56**	**6**	*e*P		Pn	23 32 09.8	+3.7
ASAK				*e*S		Sn	23 32 40.3	+4.1
RUS	**Russkaya**	**2.68**	**14**	*e*P		Pn	23 32 10.4	+2.8
RUS				*e*S		Sn	23 32 41.4	+2.6
MTVR	**Mutnovka**	**2.69**	**10**	*e*P		Pn	23 32 11.3	+3.4
MTVR				*e*S		Sn	23 32 42.8	+3.5
UGLR	**Uglovaya**	**3.48**	**14**	*e*P		Pn	23 32 22.6	+3.8
AVH	**Avacha**	**3.52**	**13**	*e*P		Pn	23 32 23.4	+4.1
SMAR	**Somma**	**3.53**	**13**	*e*P		Pn	23 32 23.1	+3.5
KOK	**Koryaka**	**3.54**	**12**	*e*P		Pn	23 32 24.2	+4.7
SDLR	**Sedlovina**	**3.56**	**14**	*e*P		Pn	23 32 23.3	+3.5
KRER	**Koryakskii**	**3.56**	**13**	*e*P		Pn	23 32 24.2	+4.2
KRX	**Arik**	**3.60**	**12**	*e*P		Pn	23 32 23.9	+3.4
SPN	**Mys Shipunski**	**3.64**	**25**	*e*P		Pn	23 32 24.9	+4.1
SPN				*e*S		Sn	23 33 06.4	+4.0
GNL	**Ganaly**	**3.87**	**4**	*e*P		Pn	23 32 27.8	+3.7
TUMR	**Tumrok**	**5.69**	**16**	*e*P		Pn	23 32 51.7	+2.6
KBTR	**Krutoberegovo**	**7.15**	**25**	*e*P		Pn	23 33 11.9	+3.0

*IDC **16** 23:43:03.6±1.1, 38°.40N×21°.88E, h0km, mb3.3/7, mb1 3.4/11, mb1mx3.3/39, mbtmp3.4/11, ML3.0/2, MS2.5/2, Ms1 2.5/2, ms1mx2.1/27, Error ellipse: s-maj=19.9km s-min=18.3km az=129.0*

*ISCJB **16** 23:43:04.4±0.3, 38°.39N±0°.01×21°.91E±0°.02, h6km±2km, mb3.4/6, MS2.4/1, Error ellipse: s-maj=2.1km s-min=1.9km az=6.9*

*CSEM **16** 23:43:04.7±0.1, 38°.38N×21°.92E, h2km, MD2.9, Error ellipse: s-maj=2.1km s-min=1.8km az=86.0*

*ATH **16** 23:43:04.5, 38°.39N×21°.90E, h14km, MD2.9/16, ML3.2*

*IASPEI **16** 23:43:04.8±0.8, 38°.40N±0°.01×21°.91E±0°.01, h10km±4km, mb3.5/6, Error ellipse: s-maj=2.2km s-min=1.9km az=114.9*

*THE **16** 23:43:04.9, 38°.39N×21°.92E, h0km±1km, ML3.4/9, Error ellipse: s-maj=1.5km s-min=0.4km az=333.0*

*SKO **16** 23:43:05.1, 38°.36N×22°.15E, h0km, M2.8, ML3.5*

ISC 16 23:43:05.0±0.7, 38°.39N±0°.01×21°.91E±0°.01, h9km±3km, n178, σ0§85/264, mb3.5/6, 1C-4D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EFP	**Efpalio**	**0.03**	**358**	P		**Pg**	**23 43 06.0**	**-0.8**
EFP				S		**Sg**	**23 43 07.1**	**-0.9**
EFP	**Efpalio**	**0.03**	**358**	*e*PG		**Pg**	**23 43 06.4**	**-0.4**
EFP				*e*SG		**Sg**	**23 43 09.5**	**+1.5**
EFP	**Efpalio**	**0.03**	**358**	P		**Pg**	**23 43 06.0**	**-0.8**
EFP	**Efpalio**	**0.03**	**358**	*e*Pb		**Pg**	**23 43 06.4**	**-0.4**
EFP				S		**Sg**	**23 43 07.1**	**-0.9**
EFP				*e*Sb		**Sg**	**23 43 09.5**	**+1.5**
UPR	**University Cam**	**0.14**	**221**	P		**Pg**	**23 43 07.9**	**-0.3**
UPR				S		**Sg**	**23 43 10.7**	**+0.3**
UPR	**University Cam**	**0.14**	**221**	P		**Pg**	**23 43 07.9**	**-0.3**
UPR				S		**Sg**	**23 43 10.4**	**0.0**
KALE	**Kalithea**	**0.18**	**91**	P		**Pg**	**23 43 08.6**	**-0.3**
KALE				S		**Sg**	**23 43 11.3**	**-0.2**
KALE	**Kalithea**	**0.18**	**91**	*e*PG		**Pg**	**23 43 08.6**	**-0.3**
KALE				*e*SG		**Sg**	**23 43 12.3**	**+0.8**
KALE	**Kalithea**	**0.18**	**91**	P		**Pg**	**23 43 08.6**	**-0.3**
KALE				S		**Sg**	**23 43 11.3**	**-0.2**
KALE				*e*Sb		**Sg**	**23 43 12.3**	**+0.8**
PVO	**Paravola**	**0.37**	**307**	P		**Pg**	**23 43 12.0**	**-0.4**
PVO	**Paravola**	**0.37**	**307**	P		**Pg**	**23 43 12.0**	**-0.4**
PVO				S		**Sg**	**23 43 17.6**	**+0.3**
KLV	**Kalavryta, Ach**	**0.40**	**151**	P		**Pg**	**23 43 12.3**	**-0.6**
KLV				S		**Sg**	**23 43 19.2**	**+1.1**
KLV	**Kalavryta, Ach**	**0.40**	**151**	*e*PG		**Pg**	**23 43 12.2**	**-0.6**
KLV				*e*SB		**Sg**	**23 43 17.8**	**-0.3**
KLV	**Kalavryta, Ach**	**0.40**	**151**	P		**Pg**	**23 43 12.2**	**-0.6**
KLV				*e*Sb		**Sg**	**23 43 17.8**	**-0.3**
KLV				S		**Sb**	**23 43 18.3**	**-2.2**
DRO	**Drossia**	**0.47**	**199**	P		**Pg**	**23 43 13.5**	**-0.5**
DRO				S		**Sg**	**23 43 20.9**	**+0.7**
DRO	**Drossia**	**0.47**	**199**	*e*PB		**Pg**	**23 43 13.6**	**-0.5**
DRO				*e*SB		**Sg**	**23 43 21.2**	**+1.0**
DRO	**Drossia**	**0.47**	**199**	*e*Pb		**Pg**	**23 43 13.6**	**-0.5**
DRO				S		**Sg**	**23 43 20.8**	**+0.6**
DRO				*e*Sb		**Sg**	**23 43 21.2**	**+1.0**
RLS	**Riolos of Patr**	**0.48**	**226**	P		**Pg**	**23 43 14.1**	**-0.3**
RLS				S		**Sg**	**23 43 21.6**	**+0.9**
RLS	**Riolos of Patr**	**0.48**	**226**	*e*PB		**Pg**	**23 43 14.1**	**-0.3**
RLS				*e*SB		**Sg**	**23 43 21.7**	**+1.0**
RLS	**Riolos of Patr**	**0.48**	**226**	P		**Pg**	**23 43 14.1**	**-0.3**
RLS				S		**Sg**	**23 43 21.2**	**+0.5**
DSF	**Desfina**	**0.49**	**88**	P		**Pg**	**23 43 13.6**	**-0.9**
DSF				S		**Sg**	**23 43 21.8**	**+0.9**
DSF	**Desfina**	**0.49**	**88**	*e*PB		**Pg**	**23 43 13.7**	**-0.8**
DSF				*e*SB		**Sg**	**23 43 21.9**	**+1.0**
DSF	**Desfina**	**0.49**	**88**	*e*Pb		**Pg**	**23 43 13.7**	**-0.8**
DSF				S		**Sg**	**23 43 20.5**	**-0.4**
DSF				*e*Sb		**Sg**	**23 43 21.9**	**+1.0**
EVR	**Evrytania**	**0.53**	**352**	P		**Pg**	**23 43 14.6**	**-0.7**
EVR				S		**Sb**	**23 43 23.6**	**-0.7**
EVR	**Evrytania**	**0.53**	**352**	*e*PG		**Pg**	**23 43 14.6**	**-0.7**
EVR	**Evrytania**	**0.53**	**352**	P		**Pg**	**23 43 14.6**	**-0.7**
EVR				S		**Sg**	**23 43 23.0**	**+0.7**
GUR	**Goura**	**0.57**	**143**	P		**Pg**	**23 43 15.2**	**-0.8**
GUR	**Goura**	**0.57**	**143**	*e*PG		**Pg**	**23 43 15.3**	**-0.8**
GUR				*e*SB		**Sg**	**23 43 23.3**	**-0.3**
GUR	**Goura**	**0.57**	**143**	*e*Pn		**Pg**	**23 43 15.3**	**-0.8**
GUR				*e*Sn		**Sg**	**23 43 23.3**	**-0.3**
PDO	**Prodromos**	**0.60**	**290**	P		**Pg**	**23 43 15.8**	**-0.9**
PDO	**Prodromos**	**0.60**	**290**	*e*PB		**Pg**	**23 43 16.1**	**-0.6**
PDO	**Prodromos**	**0.60**	**290**	*e*Pn		**Pg**	**23 43 16.1**	**-0.6**
MAKR	**Makrakomi, Fth**	**0.64**	**16**	P		**Pg**	**23 43 17.4**	**-0.1**
MAKR				S		**Sb**	**23 43 27.2**	**-0.3**
MAKR	**Makrakomi, Fth**	**0.64**	**16**	*e*PB		**Pg**	**23 43 17.3**	**-0.2**
MAKR				*e*SB		**Sg**	**23 43 26.1**	**+0.2**
MAKR	**Makrakomi, Fth**	**0.64**	**16**	P		**Pg**	**23 43 17.4**	**-0.1**
MAKR				S		**Sg**	**23 43 25.6**	**-0.3**
MAKR				*e*Sn		**Sg**	**23 43 26.1**	**+0.2**
AXAR	**Agios Charalam**	**0.70**	**57**	P		**Pg**	**23 43 17.6**	**-0.9**
AXAR				S		**Sb**	**23 43 28.8**	**-0.2**
AXAR	**Agios Charalam**	**0.70**	**57**	*e*PB		**Pg**	**23 43 17.9**	**-0.6**
AXAR				*e*SB		**Sg**	**23 43 27.5**	**-0.1**
AXAR	**Agios Charalam**	**0.70**	**57**	P		**Pg**	**23 43 17.6**	**-0.9**
AXAR	**Agios Charalam**	**0.70**	**57**	*e*Pn		**Pg**	**23 43 17.9**	**-0.6**
AXAR				*e*Sn		**Sg**	**23 43 27.5**	**-0.1**
AGG	**Agios Georgios**	**0.71**	**28**	P		**Pg**	**23 43 17.6**	**-1.1**
AGG				S		**Sg**	**23 43 28.5**	**+0.5**
AGG	**Agios Georgios**	**0.71**	**28**	*e*PB		**Pg**	**23 43 18.2**	**-0.5**
AGG				*e*SB		**Sb**	**23 43 29.0**	**-0.4**
AGG	**Agios Georgios**	**0.71**	**28**	P		**Pg**	**23 43 18.2**	**-0.5**
AGG	**Agios Georgios**	**0.71**	**28**	*e*Pn		**Pg**	**23 43 18.2**	**-0.5**
AGG				S		**Sg**	**23 43 28.5**	**+0.5**
AGG				*e*Sn		**Sb**	**23 43 29.0**	**-0.4**
AMT	**Artemida-Makis**	**0.87**	**190**	P		**Pg**	**23 43 21.7**	**0.0**
AMT				S		**Sb**	**23 43 34.7**	**+0.6**
AMT	**Artemida-Makis**	**0.87**	**190**	*e*PB		**Pg**	**23 43 21.8**	**0.0**
AMT				*e*SB		**Sg**	**23 43 33.4**	**+0.2**
AMT	**Artemida-Makis**	**0.87**	**190**	P		**Pg**	**23 43 21.2**	**-0.6**
AMT	**Artemida-Makis**	**0.87**	**190**	*e*Pn		**Pg**	**23 43 21.8**	**0.0**
AMT				*e*Sn		**Sg**	**23 43 33.4**	**+0.2**
AMT				S		**Sb**	**23 43 34.7**	**+0.6**
LKR	**Lokris**	**0.89**	**73**	P		**Pg**	**23 43 21.1**	**-1.1**
LKR	**Lokris**	**0.89**	**73**	*e*PB		**Pg**	**23 43 22.1**	**-0.1**
LKR				*e*SB		**Sg**	**23 43 33.9**	**0.0**
LKR	**Lokris**	**0.89**	**73**	P		**Pg**	**23 43 21.1**	**-1.1**
LKR	**Lokris**	**0.89**	**73**	*e*Pn		**Pg**	**23 43 22.1**	**-0.1**
LTK	**Loutraki**	**0.91**	**114**	P		**Pg**	**23 43 21.9**	**-0.6**
LTK	**Loutraki**	**0.91**	**114**	*e*PB		**Pg**	**23 43 22.0**	**-0.6**
LTK	**Loutraki**	**0.91**	**114**	P		**Pg**	**23 43 21.9**	**-0.6**
KFL	**Anninata**	**0.93**	**253**	P		**Pg**	**23 43 22.1**	**-0.7**
KFL				S		**Sb**	**23 43 36.5**	**+0.9**
KFL	**Anninata**	**0.93**	**253**	P		**Pg**	**23 43 22.1**	**-0.7**
KFL				S		**Sb**	**23 43 36.5**	**+0.9**
DSL

HORT	**Hortiatis**	**2.39**	**22**	*e*PN		**Pn**	**23 43 45.3**	**+1.0**
HORT				*e*SN		**Sn**	**23 44 15.8**	**+2.0**
FNA	**Florina**	**2.42**	**350**	P		**Pn**	**23 43 46.1**	**+1.3**
FNA	**Florina**	**2.42**	**350**	*e*PN		**Pn**	**23 43 46.2**	**+1.4**
FNA				*e*SN		**Sn**	**23 44 16.5**	**+1.9**
FNA	**Florina**	**2.42**	**350**	P		**Pn**	**23 43 46.1**	**+1.3**
FNA				*e*Sn		**Sn**	**23 44 16.5**	**+1.9**
OUR	**Ouranopolis**	**2.52**	**39**	*e*PB		**Pn**	**23 43 46.7**	**+0.7**
GRG	**Griva**	**2.59**	**8**	*e*PN		**Pn**	**23 43 48.4**	**+1.3**
SOH	**Sokhos**	**2.67**	**24**	*e*PN		**Pn**	**23 43 48.5**	**+0.3**
SOH				*e*SN		**Sn**	**23 44 21.9**	**+1.2**
SOH	**Sokhos**	**2.67**	**24**	*e*Pn		**Pn**	**23 43 48.5**	**+0.3**
SOH				*e*Sn		**Sn**	**23 44 21.9**	**+1.2**
OHR	**Ohrid**	**2.85**	**343**	*i* Pn		**Pn**	**23 43 52.9**	**+2.2**
OHR				*i* Sn		**Sb**	**23 44 29.6**	**-1.3**
OHR				*e*Lg		Lg	23 44 46.0	
	comp=N,140nm,0.9s							
OHR				*e*Lg		Lg	23 44 46.2	
	comp=E,114nm,0.8s							
OHR	**Ohrid**	**2.85**	**343**	*i* Pn		**Pn**	**23 43 52.8**	**+2.2**
OHR				*i* Sn		**Sb**	**23 44 29.6**	**-1.3**
OHR				*e*Lg		Lg	23 44 46.2	
	comp=E,114nm,0.8s							
KNT	**Kendrikon**	**2.87**	**15**	P		**Pn**	**23 43 51.7**	**+0.8**
KNT	**Kendrikon**	**2.87**	**15**	*e*PN		**Pn**	**23 43 51.4**	**+0.5**
KNT	**Kendrikon**	**2.87**	**15**	*e*Pn		**Pn**	**23 43 51.4**	**+0.5**
KNT	**Kendrikon**	**2.87**	**15**	P		**Pn**	**23 43 51.7**	**+0.8**
SRS	**Serrai**	**3.01**	**25**	*e*PN		**Pn**	**23 43 53.9**	**+1.0**
SRS	**Serrai**	**3.01**	**25**	*e*Pn		**Pn**	**23 43 53.9**	**+1.0**
APE	**Apeiranthos**	**3.16**	**114**	*e*PN		**Pn**	**23 43 56.5**	**+1.5**
APE	**Apeiranthos**	**3.16**	**114**	*e*Pn		**Pn**	**23 43 56.5**	**+1.5**
CHOS	**Chios island**	**3.26**	**89**	*e*PN		**Pn**	**23 43 57.0**	**+0.7**
CHOS	**Chios island**	**3.26**	**89**	*e*Pn		**Pn**	**23 43 57.0**	**+0.7**
NVR	**Nevrokopi**	**3.31**	**26**	*e*PN		**Pn**	**23 43 58.8**	**+1.8**
NVR	**Nevrokopi**	**3.31**	**26**	*e*Pn		**Pn**	**23 43 58.8**	**+1.8**
KARN	**Karanos**	**3.39**	**151**	*e*PN		**Pn**	**23 43 59.1**	**+1.0**
KARN	**Karanos**	**3.39**	**151**	*e*Pn		**Pn**	**23 43 59.1**	**+1.0**
IDI	**Anoyia**	**3.92**	**141**	Pn		**Pn**	**23 44 05.0**	**-0.3**
	comp=E,1.2nm,0.3s,baz=323,slow=13,SNR=7.6							
KDZ	**Kurdzhali**	**4.22**	**39**	⇓*i* P		**Sn**	**23 44 59.2**	**+0.3**
VTS	**Vitosha**	**4.31**	**13**	⇓*i* P		**Sn**	**23 45 04.0**	**+2.7**
BARS	**Barje**	**4.42**	**359**	*e*Pn		**Pn**	**23 44 12.5**	**+0.3**
STON	**Ston**	**5.50**	**326**	*i* Pn		**Pn**	**23 44 27.2**	**+0.2**
STON					Sn	**Sn**	**23 45 29.6**	**-0.7**
STON	**Ston**	**5.50**	**326**	*i* Pn		**Sn**	**23 44 27.2**	**+0.2**
DIVS	**Divibare**	**5.88**	**346**	⇓*i* P		**Sn**	**23 45 39.7**	**-0.2**
DIVS	**Divibare**	**5.88**	**346**	*e*Pn		**Pn**	**23 44 33.6**	**+1.3**
TRUS	**Trudelj**	**5.93**	**350**	*e*Pn		**Pn**	**23 44 33.7**	**+0.7**
UDBI	**Udbina**	**7.67**	**325**	*e*Pn		**Pn**	**23 44 58.0**	**+1.1**
UDBI					Sn	**Sn**	**23 46 21.9**	**-1.9**
UDBI	**Udbina**	**7.67**	**325**	*e*Pn		**Pn**	**23 44 58.0**	**+1.1**
MLR	**Muntele Rosu**	**7.70**	**22**	Pn		**Pn**	**23 45 00.1**	**+2.7**
	baz=180,slow=19							
MLR	**Muntele Rosu**	**7.70**	**22**	⇑*i* P		Pb	23 45 09.9	-8.8
NVLJ	**Novalja**	**8.12**	**322**	*e*Pn		**Pn**	**23 45 03.2**	**+0.2**
NVLJ					Sn	**Sn**	**23 46 32.1**	**-2.6**
NVLJ	**Novalja**	**8.12**	**322**	*e*Pn		**Pn**	**23 45 03.1**	**+0.2**
PLOR	**Plostina**	**8.24**	**24**	⇓*i* P		Pn	23 45 09.4	+4.7
BRTR	**Keskin Array B**	**9.22**	**78**	Pn		**Pn**	**23 45 20.5**	**+2.2**
	comp=E,0.2nm,0.3s,baz=260,slow=14,SNR=7.5							
GERES	**GERESS Array B**	**12.01**	**333**	LR		LR	23 51 46.3	
	comp=E,21nm,18.9s,baz=110,slow=44							
MMAI	**Mount Meron Ar**	**12.21**	**112**	Pn		**Pn**	**23 45 59.8**	**+0.7**
	baz=287,slow=15,SNR=3.4							
ESDC	**Sonseca Array**	**20.12**	**282**	P		**P**	**23 47 39.2**	**0.0**
	comp=E,0.3nm,0.6s,baz=72,slow=12,SNR=2.8							
HFS	**Hagfors**	**22.38**	**349**	P		**P**	**23 48 02.4**	**-0.8**
	comp=E,0.4nm,0.4s,baz=165,slow=12,SNR=4.0							
HFS				LR		LR	23 57 49.8	
	comp=E,15nm,21.3s,baz=170,slow=40							
FINES	**FINESS Array B**	**23.22**	**5**	P		**P**	**23 48 10.2**	**-1.8**
	comp=E,0.4nm,0.5s,baz=172,slow=11,SNR=4.7							
EKA	**Eskdalemuir Ar**	**23.89**	**323**	P		**P**	**23 48 18.8**	**+0.1**
	comp=E,0.9nm,0.7s,baz=119,slow=8.5,SNR=5.1							
TORD	**Torodi Ar. Bea**	**30.89**	**221**	P		**P**	**23 49 22.1**	**+0.2**
	comp=E,0.5nm,0.7s,baz=33,slow=9.2,SNR=9.1							
MKAR	**Makanchi Array**	**44.26**	**59**	P		**P**	**23 51 14.6**	**-0.1**
	comp=E,0.4nm,0.5s,baz=275,slow=11,SNR=7.7							
ZALV	**Zalesovo Beam**	**44.73**	**48**	P		**P**	**23 51 17.8**	**-0.6**
	comp=E,0.5nm,0.4s,baz=259,slow=6.6,SNR=3.4							

DJA ***16*** *23:54:32.2±3.5,4°S±22″×12°7′E±1°7,h363km±30km, M3.8/8,mb3.8/1,mB4.6/1,MLv3.7/8,Mw(mB)3.8/1*

IDC ***16*** *23:54:47.9±1.4,2°06′S×127°98′E,h0km,mb3.5/2, mb1 3.6/5,mb1mx3.5/33,mbtmp3.5/5,ML3.2/3,MS3.1/2, Ms1 3.1/2,ms1mx2.5/29,Error ellipse: s-maj=32.4km s-min=24.8km az=64.0*

ISCJB ***16*** *23:54:51.3±0.8,2°.0S±0°.1×128°.13E±0°.07,h33km,mb3.6/2, MS3.6/1,Error ellipse: s-maj=16.0km s-min=8.5km az=161.7*

ISC 16 23:54:52.1±0.9,**2°.05S**±0°.08×**128°.10E**±0°.06,**h33**km,**n13,** σ1§**17**/**11**,**Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LBMI	**Labuha**	**1.53**	**337**	P		**Sn**	**23 55 35.8**	**-0.1**
NLAI	**Namlea**	**1.55**	**220**	P		**Pb**	**23 55 20.8**	**+0.6**
SANI	**Sanana**	**2.11**	**270**	P		**Pn**	**23 55 25.5**	**+0.3**
TNTI	**Ternate**	**2.90**	**345**	P		Pb	23 55 52.8	+10
BNDI	**Bandanaira**	**3.04**	**144**	P		Pn	23 55 28.8	-9.2
SWI	**Sorong**	**3.37**	**70**	P		**Pn**	**23 55 44.2**	**+1.7**
SIJI	**Sorong**	**3.37**	**70**	Pn		**Pn**	**23 55 43.0**	**+0.5**
	2.2nm,0.3s,baz=200,slow=22,SNR=4.3							
SIJI					Sn	**Sn**	**23 56 20.5**	**-1.0**
	6.3nm,0.3s,baz=159,slow=22,SNR=11							
SIJI					LR	LR	23 57 43.8	
	comp=Z,73nm,18.2s,baz=208,slow=50							
FAKI	**Fak Fak**	**4.23**	**102**	P		**Pn**	**23 55 54.9**	**+0.6**
KAPI	**Kappang**	**8.84**	**252**	Pn		**Pn**	**23 56 55.6**	**-2.0**
	0.3nm,0.3s,baz=71,slow=17,SNR=3.8							
WRA	**Warramunga Arr**	**18.80**	**162**	P		**Pn**	**23 59 09.4**	**-0.2**
	0.1nm,0.3s,baz=338,slow=13,SNR=8.7							
ASAR	**Alice Springs**	**22.21**	**166**	P		**P**	**23 59 47.3**	**+1.3**
	0.6nm,0.6s,baz=345,slow=11,SNR=6.5							
DZM	**Mont Dzumac**	**42.24**	**121**	LR		LR	00 21 20.4	
	comp=Z,68nm,18.6s,baz=268,slow=38							
MKAR	**Makanchi Array**	**63.08**	**326**	P		**P**	**00 05 16.4**	**+0.1**
	0.7nm,0.6s,baz=141,slow=5.9,SNR=11							

IDC 17 00:06:41.8±5.5,**21°.94N**×**143°.16E,h282**km±54km,**mb3.1**/8, **mb1 3.3**/8,**mb1mx3.0**/36,**mbtmp3.8**/8,**Error ellipse: s-maj=28.9km s-min=17.3km az=88.0,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSRS	**Korea Array**	**20.31**	**323**	P		P	00 10 57.2	+0.2
	1.3nm,0.5s,baz=144,slow=8.4,SNR=10							
WRA	**Warramunga Arr**	**42.51**	**192**	P		P	00 14 10.0	-0.2
	0.3nm,0.6s,baz=16,slow=9.1,SNR=11							
ZALV	**Zalesovo Beam**	**54.01**	**322**	P		P	00 15 36.6	-0.4
	0.8nm,0.5s,baz=114,slow=6.8,SNR=5.3							
MKAR	**Makanchi Array**	**54.52**	**313**	P		P	00 15 41.4	+0.4
	0.1nm,0.4s,baz=82,slow=9.1,SNR=4.2							
MKAR					PcP	PcP	00 16 40.3	-0.1
	0.2nm,0.5s,baz=119,slow=5.4,SNR=2.8							
ILAR	**Eielson Array**	**61.84**	**27**	P		P	00 16 30.6	-0.4
	0.7nm,0.6s,baz=266,slow=5.4,SNR=9.3							
YKA	**Yellowknife Ar**	**76.25**	**28**	P		P	00 17 59.8	+0.5
	0.5nm,0.4s,baz=292,slow=6.0,SNR=12							
ARCES	**ARCESS Array B**	**78.69**	**341**	P		P	00 18 12.8	+0.2
	1.6nm,0.8s,baz=68,slow=5.9,SNR=3.6							
FINES	**FINESS Array B**	**82.95**	**334**	P		P	00 18 34.7	-0.4
	0.8nm,0.6s,baz=78,slow=4.7,SNR=9.4							

ISCJB ***17*** *00:21:33.9±0.6,4°.40S±0°.07×153°.72E±0°.07,h100km, mb4.0/10,Error ellipse: s-maj=10.9km s-min=8.6km az=34.1*

IDC ***17*** *00:21:34.5±0.8,4°.42S×153°.76E,h94km±6km,mb3.9/12, mb1 4.1/12,mb1mx3.9/21,mbtmp4.2/12,MS2.8/1, Ms1 2.8/1,ms1mx2.4/22,Error ellipse: s-maj=24.3km s-min=13.0km az=106.0*

ISC 17 00:21:35.1±0.7,**4°.36S**±0°.09×**153°.75E**±0°.09,**h100**km,**n31,** σ1§**32**/**36**,**mb3.9**/**12**,**New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**1.59**	**276**	P		**Pn**	**00 22 01.9**	**-0.6**
	baz=1.5,SNR=15							
RABL					S	**Sn**	**00 22 21.9**	**-1.5**
	baz=1.5,SNR=6.6							
PMG	**Port Moresby**	**8.24**	**232**	P		**Pn**	**00 23 33.2**	**+1.3**
	baz=7.9,SNR=12							
PMG					S	**Sn**	**00 25 01.5**	**-1.9**
	baz=7.9,SNR=5.7							
MMPI	**Merauke**	**13.89**	**252**	P		P	00 25 01.2	+8.5
	baz=14,SNR=3.2							
COEN	**Coen**	**14.13**	**227**	P		**Pn**	**00 24 51.6**	**+0.7**
	baz=14,SNR=7.5							
GUMO	**Guam**	**19.89**	**334**	LR		LR	00 33 29.5	
	comp=Z,28nm,19.6s,baz=116,slow=36							
QIS	**Mount Isa**	**21.18**	**219**	P		**P**	**00 26 14.8**	**+2.2**
	baz=21,SNR=6.5							
RMQ	**Roma**	**22.51**	**192**	P		**P**	**00 26 27.3**	**+0.7**
	baz=22,SNR=7.1							
RMQ					S	S	00 30 32.8	+6.2
	baz=22,SNR=4.8							
KDU	**Kakadu**	**22.59**	**247**	P		**P**	**00 26 25.8**	**-1.8**
	baz=22,SNR=5.3							
QLP	**Quilpie**	**23.90**	**201**	P		**P**	**00 26 39.5**	**-0.2**
	baz=24,SNR=9.1							
WRA	**Warramunga Arr**	**24.44**	**229**	P		**P**	**00 26 43.9**	**-0.9**
	11nm,0.6s,baz=54,slow=10.0,SNR=108							
WRA					PcP	**PcP**	**00 30 21.3**	**-0.1**
	0.9nm,1.0s,baz=56,slow=1.6,SNR=4.8							
WRA					S	**S**	**00 30 59.8**	**+1.9**
	1.5nm,0.8s,baz=54,slow=14,SNR=6.0							
KNRA	**Kununurra**	**27.01**	**244**	P		**P**	**00 27 10.6**	**+2.6**
	baz=27,SNR=3.9							
ASAR	**Alice Springs**	**27.11**	**223**	P		**P**	**00 27 07.5**	**-1.4**
	5.0nm,0.3s,baz=55,slow=8.6,SNR=14							
ASAR					PcP	**PcP**	**00 30 26.9**	**-0.6**
	0.8nm,0.8s,baz=59,slow=3.6,SNR=4.6							
STKA	**Stephens Creek**	**29.66**	**201**	P		**P**	**00 27 30.6**	**-0.8**
	4.0nm,0.7s,baz=34,slow=13,SNR=16							
STKA	**Stephens Creek**	**29.66**	**201**	P		**P**	**00 27 30.6**	**-0.8**
	baz=29,SNR=8.7							
LUWI	**Luwuk**	**31.11**	**275**	P		P	00 27 49.6	+5.2
	baz=31,SNR=4.5							
WRKA	**Warakurna**	**31.95**	**227**	P		**P**	**00 27 50.0**	**-1.8**
	baz=32,SNR=20							
HTT	**Hallett**	**32.06**	**204**	P		**P**	**00 27 52.2**	**-0.4**
	baz=32,SNR=8.6							
WSI	**Waingapu**	**33.60**	**259**	S		**S**	**00 33 24.6**	**+2.9**
	baz=33,SNR=3.9							
FORT	**Forrest**	**35.73**	**220**	P		**P**	**00 28 23.3**	**-1.0**
	baz=36,SNR=12							
MEEK	**Meekatharra**	**40.22**	**233**	P		**P**	**00 29 00.5**	**-1.7**
	baz=40,SNR=5.9							
JNU	**Nakatsue**	**43.12**	**331**	P		**P**	**00 29 25.8**	**0.0**
	2.5nm,0.3s,baz=172,slow=3.7,SNR=4.3							
KSRS	**Korea Array**	**48.05**	**332**	P		**P**	**00 30 05.3**	**+0.9**
	1.1nm,0.7s,baz=138,slow=7.7,SNR=5.1							
CMAR	**Chiang Mai Arr**	**58.55**	**295**	P		**P**	**00 31 23.1**	**+1.3**
	1.4nm,0.6s,baz=113,slow=5.1,SNR=8.0							
VNDA	**Vanda**	**73.23**	**178**	P		**P**	**00 32 55.3**	**+0.4**
	1.4nm,0.7s,baz=344,slow=6.3,SNR=9.2							
MKAR	**Makanchi Array**	**80.62**	**319**	P		**P**	**00 33 37.4**	**+0.5**
	1.6nm,0.9s,baz=93,slow=5.0,SNR=8.9							
ZALV	**Zalesovo Beam**	**81.32**	**326**	P		**P**	**00 33 39.9**	**-0.5**
	0.9nm,0.6s,baz=104,slow=6.3,SNR=4.9							
ILAR	**Eielson Array**	**81.40**	**22**	P		**P**	**00 33 40.9**	**+0.2**
	0.7nm,0.8s,baz=241,slow=5.2,SNR=7.2							
ILAR					pP	**pP**	**00 34 06.2**	**-0.3**
	0.9nm,1.0s,baz=238,slow=6.2,SNR=3.5							
QSPA	**South Pole Qui**	**85.60**	**180**	P		**P**	**00 34 01.8**	**-0.5**
	1.0nm,0.6s,baz=140,slow=0.8,SNR=4.1							
QSPA					pP	**pP**	**00 34 28.4**	**-0.1**
	5.3nm,0.9s,baz=3.7,slow=2.5,SNR=3.8							
YKA	**Yellowknife Ar**	**94.60**	**28**	P		**P**	**00 34 44.8**	**+0.3**
	0.3nm,0.8s,baz=262,slow=4.3,SNR=4.0							
GERES	**GERESS Array B**	**124.17**	**329**	PKP		**PKPdf**	**00 40 22.8**	**+0.5**
	0.4nm,0.5s,baz=48,slow=2.0,SNR=4.3							
TORD	**Torodi Ar. Bea**	**151.06**	**289**	PKPbc		**PKPbc**	**00 41 17.1**	**-0.5**
	3.4nm,0.7s,baz=80,slow=2.2,SNR=32							
TORD					pPKPbc	**pPKPbc**	**00 41 42.5**	**-2.5**
	1.7nm,0.7s,baz=74,slow=2.5,SNR=4.4							

IDC ***17*** *00:22:17.7±0.7,37°.75S×73°.16W,h0km,mb4.0/10, mb1 4.1/13,mb1mx4.0/21,mbtmp4.0/13,ML4.3/2,MS3.5/5, Ms1 3.5/5,ms1mx3.2/19,Error ellipse: s-maj=23.2km s-min=13.4km az=85.0*

ISCJB ***17*** *00:22:21.4±0.6,37°.71S±0°.05×73°.1W±0°.1,h33km, mb4.0/11,MS3.2/3,Error ellipse: s-maj=12.8km s-min=7.1km az=6.9*

NEIC ***17*** *00:22:23.0,37°.66S×73°.37W,h68km,mb4.3/4,After GUC.*

NEIC Felt [III] at La Laja and San Rosendo.

ISC 17 00:22:22.3±0.7,**37°.73S**±0°.07×**73°.2W**±0°.1,**h33**km,**n34,** σ1§**09**/**33**,**mb4.1**/**11**,**MS3.3**/**3**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLCA	**Paso Flores**	**3.65**	**146**	Pn		**Pn**	**00 23 16.3**	**-0.2**
	3.7nm,0.3s,baz=318,slow=15,SNR=78							
PLCA					Lg	Lg	00 24 11.9	
	14nm,0.3s,baz=233,slow=20,SNR=5.1							
PLCA	**Paso Flores**	**3.65**	**146**	*e*Pn		**Pn**	**00 23 17.8**	**+1.3**
PLCA					Lg	Lg	00 24 11.9	
CFAA	**Coronel Fontan**	**7.37**	**35**	Pn		**Pn**	**00 24 06.5**	**-1.1**
	0.2nm,0.3s,baz=211,slow=13,SNR=30							
CFAA					Sn	**Sn**	**00 25 30.2**	**+0.2**
	0.5nm,0.3s,baz=288,slow=20,SNR=7.3							
CFAA					Lg	Lg	00 26 12.5	
	0.1nm,0.3s,baz=300,slow=20,SNR=5.2							
CFAA					LR	LR	00 26 41.2	
	comp=Z,6.7nm,21.2s,baz=212,slow=36							
TRQA	**Tornquist**	**8.90**	**96**	*e*Pn		**Pn**	**00 24 30.2**	**+1.7**
LCO	**Las Campanas**	**8.95**	**14**	*e*Pn		**Pn**	**00 24 27.5**	**-2.0**
LVC	**Limon Verde**	**15.52**	**15**	Pn		**Pn**	**00 25 58.7**	**-0.3**
	4.4nm,0.3s,baz=209,slow=10,SNR=2.3							
LVC					LR	LR	00 32 10.5	
	comp=Z,264nm,21.7s,baz=214,slow=38							
USHA	**Ushuaia**	**17.42**	**171**	LR		LR	00 33 51.8	
	comp=Z,233nm,18.6s,baz=176,slow=40							
EFI	**East Falkland**	**17.57**	**147**	*e*Pn		**Pn**	**00 26 23.2**	**-1.2**
CPUP	**Villa Florida**	**17.61**	**54**	*e*Pn		**Pn**	**00 26 24.1**	**-0.9**
	0.2nm,1.1s							
LPAZ	**La Paz**	**21.83**	**13**	P		**P**	**00 27 13.1**	**+0.5**
	2.5nm,1.0s,baz=191,slow=13,SNR=4.0							
LPAZ					LR	LR	00 35 35.1	
	comp=Z,53nm,18.3s,baz=118,slow=36							
LPAZ	**La Paz**	**21.83**	**13**	*e*P		**P**	**00 27 14.1**	**+1.5**
	2.5nm,0.8s							
SIV	**San Ignacio**	**24.17**	**30**	P		**P**	**00 27 35.3**	**-0.3**
	2.1nm,0.8s,baz=222,slow=11,SNR=6.0							
SIV					LR	LR	00 37 27.4	
	comp=Z,91nm,19.9s,baz=188,slow=38							
BDFB	**Brasilia**	**31.31**	**52**	P		**P**	**00 28 41.4**	**+1.8**
	1.5nm,0.4s,baz=199,slow=8.1,SNR=2.9							
BDFB					LR	LR	00 41 02.0	
	comp=Z,68nm,20.3s,baz=256,slow=36							
VNA3	**Neumayer Olymp**	**46.30**	**156**	P		**P**	**00 30 45.1**	**+0.7**
VNA2	**Neumayer--Watz**	**46.98**	**156**	P		**P**	**00 30 50.6**	**+0.9**
	baz=297,slow=11							
SNAA	**Sanae**	**48.53**	**157**	P		**P**	**00 31 00.3**	**-1.5**
SNAA	**Sanae**	**48.53**	**157**	P		**P**	**00 31 02.5**	**+0.7**
	2.1nm,0.9s,baz=287,slow=7.5,SNR=11							
SNAA	**Sanae**	**48.53**	**157**	*e*P		**P**	**00 31 00.2**	**-1.5**
	5.6nm,0.9s							
QSPA	**South Pole Qui**	**52.51**	**180**	P		**P**	**00 31 32.9**	**+1.0**
	3.1nm,0.8s,baz=122,slow=1.1,SNR=15							
QSPA	**South Pole Qui**	**52.51**	**180**	*e*P		**P**	**00 31 32.8**	**+0.8**
	2.9nm,0.7s							
TXAR	**Lajitas Array**	**72.55**	**332**	P		P	00 33 48.0	+2.0
	0.9nm,0.7s,baz=161,slow=9.7,SNR=9.2							
DBIC	**Dimbokro**	**77.29**	**71**	*e*P		**P**	**00 34 12.1**	**-1.6**
ANMO	**Albuquerque**	**78.62**	**333**	*e*P		**P**	**00 34 22.6**	**+1.8**
	4.4nm,1.3s							
BOSA	**Boshof**	**79.19**	**118**	P		**P**	**00 34 23.5**	**-0.8**
	3.1nm,0.8s,baz=240,slow=6.2,SNR=4.7							
TORD	**Torodi Ar. Bea**	**86.38**	**70**	P		**P**	**00 35 01.2**	**-0.3**
	2.1nm,0.8s,baz=216,slow=5.2,SNR=22							
NVAR	**Mina Array Bea**	**86.41**	**326**	P		**P**	**00 35 01.1**	**-0.3**
	0.3nm,0.6s,baz=153,slow=6.1,SNR=3.3							
PDAR	**Pinedale Array**	**86.67**	**334**	P		**P**	**00 35 03.4**	**+0.8**
	0.8nm,0.9s,baz=151,slow=3.9,SNR=5.3							
WRA	**Warramunga Arr**	**117.04**	**209**	PKP		**PKPdf**	**00 41 04.0**	**-0.2**
	0.4nm,0.6s,baz=163,slow=1.6,SNR=12							
BRTR	**Keskin Array B**	**124.43**	**63**	PKP		**PKPdf**	**00 41 18.0**	**+0.1**
	0.7nm,0.8s,baz=172,slow=3.0,SNR=5.6							
ABKAR	**Akbulak array**	**144.67**	**56**	*e*PKPdf		**PKPdf**	**00 41 54.0**	**-1.0**
BRVK	**Borovoye**	**150.53**	**47**	*e*PKPbc		**PKPbc**	**00 42 10.6**	**+0.7**
AAK	**Ala-Archa**	**154.95**	**69**	*e*PKPab		**PKPab**	**00 42 36.4**	**+0.5**
ZALV	**Zalesovo Beam**	**157.85**	**36**	PKP		**PKPdf**	**00 42 13.9**	**-0.9**
	0.2nm,0.3s,baz=266,slow=3.9,SNR=4.0							
MKAR	**Makanchi Array**	**159.81**	**56**	PKPab		**PKPab**	**00 42 56.7**	**+0.1**
	0.5nm,0.7s,baz=286,slow=5.4,SNR=4.9							

ISCJB ***17*** *00:29:13.4±0.6,32°.28N±0°.03×115°.32W±0°.04,h14km±6km, Error ellipse: s-maj=6.2km s-min=5.8km az=174.3*

MEX ***17*** *00:29:14.3±0.6,32°.37N×115°.13W,h23km±10km,MD3.6*

ECX ***17*** *00:29:14.6±0.6,32°.28N×115°.34W,h7km,MD2.8,ML3.0*

ISC 17 00:29:12.8±1.0,**32°.25N**±0°.03×**115°.32W**±0°.03,**h15**km±8km, **n17**,σ0§**53**/**26**,**6C-4D**,**California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.16**	**3**	*e*P9		**Pb**	**00 29 17.0**	**-0.6**
CPBX				*e*S		**Sg**	**00 29 19.5**	**-0.3**
CPBX				IAML			00 29 22.7	
	comp=N,11μm,0.3s							
CPBX				⇑*e*			00 29 22.7	
MBIG	**Mexicali**	**0.18**	**33**	*e*P		**Pg**	**00 29 17.8**	**+0.5**
MBIG				*e*S		**Sg**	**00 29 20.0**	**-0.2**
SGL	**Mount Signal**	**0.53**	**319**	⇓*e*P		**Pg**	**00 29 23.4**	**+0.1**
EMSC	**East Mesa**	**0.56**	**30**	⇑*e*P		**Pb**	**00 29 24.8**	**+0.5**
WESC	**Westside Schoo**	**0.61**	**325**	*e*P		**Pb**	**00 29 25.3**	**0.0**
RDX	**Rancho Dawling**	**0.62**	**239**	⇑*e*P		**Pg**	**00 29 25.3**	**+0.1**
RDX				⇓*e*			00 29 35.8	
	comp=N,773nm,0.4s							
COA	**Coachella**	**0.63**	**15**	⇓*e*P		**Pg**	**00 29 25.5**	**+0.3**
YUH	**Yuha Desert**	**0.65**	**308**	⇓*e*P		**Pg**	**00 29 25.3**	**-0.3**
YMD	**Yuma Desert**	**0.72**	**65**	⇑*e*P		**Pg**	**00 29 26.9**	**0.0**
RMX	**La Rumorosa**	**0.73**	**299**	*e*P		**Pg**	**00 29 26.9**	**-0.3**
RMX				*e*S		**Sg**	**00 29 36.5**	**-0.5**
RMX				⇑*e*			00 29 37.0	
RMX				IAML			00 29 37.0	
	comp=N,753nm,0.1s							
ECBX	**El Chinero**	**0.81**	**164**	*e*P9		**Pb**	**00 29 27.5**	**-1.1**
ECBX				*e*S		**Sg**	**00 29 38.6**	**-0.7**
ZAX	**El Zacaton**	**1.10**	**228**	*e*P		**Pb**	**00 29 33.8**	**+0.2**
ZAX				*e*S		**Sg**	**00 29 48.5**	**0.0**
CBX	**Cerro Bola**	**1.14**	**273**	*e*P		**Pb**	**00 29 34.2**	**-0.2**
CBX				*e*S		**Sb**	**00 29 48.2**	**-0.9**
CBX	**Cerro Bola**	**1.14**	**273**	*e*P		**Pb**	**00 29 34.2**	**-0.2**
CBX				*e*S		**Sb**	**00 29 49.2**	**+0.1**
CBX				IAML			00 29 52.1	
	comp=N,286nm,0.3s							
CBX				⇓*e*			00 29 52.1	
SPX	**San Pedro Mart**	**1.21**	**186**	*e*S		**Sg**	**00 29 53.1**	**+1.0**
ECNX	**Esteban Cantu**	**1.24**	**242**	*e*P		**Pb**	**00 29 36.4**	**+0.4**
ECNX				*e*S		**Sn**	**00 29 52.8**	**+0.5**
PBX	**Punta Banda**	**1.30**	**247**	*e*P		**Pb**	**00 29 37.1**	**+0

σ1⇟16/84, mb3.7/13, 1C-3D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	Shoshtar-Gavs	1.15	108	ePg	Pn	00 57 15.0	-0.5
SHGR				AML	AML	00 57 35.8	
	comp=E,1μm,0.3s						
SHGR				AML	AML	00 57 40.6	
	comp=N,1μm,0.6s						
SHGR	Shoshtar-Gavs	1.15	108	ePg	Pn	00 57 15.0	-0.5
	comp=N,1μm,0.6s						
IBDR	Badra	1.48	296	ePG	Pn	00 57 20.9	+0.7
IBDR				eSG	Sb	00 57 40.7	+0.5
IKOM	Komasi	1.71	360	ePn	Pb	00 57 25.6	-0.1
IKOM				e		00 57 58.3	
	comp=Z,8μm,0.2s						
IKOM	Komasi	1.71	360	ePn	Pb	00 57 25.6	-0.1
NSR	Nassriya	1.86	219	ePN	Pn	00 57 25.0	-0.4
NSR				eSN	Sn	00 57 48.0	-0.2
NSR	Nassriya	1.86	219	ePn	Pn	00 57 25.0	-0.4
	SNR=3.0						
IBZA	Bozab	2.02	8	ePn	Pn	00 57 29.6	+1.8
IBZA				e		00 58 04.2	
	comp=Z,3μm,0.2s						
IBZA	Bozab	2.02	8	ePn	Pn	00 57 29.6	+1.8
IDHR	Dehrash	2.42	337	ePn	Pn	00 57 35.1	+1.8
IDHR				e		00 58 18.4	
	comp=Z,3μm,0.2s						
IDHR	Dehrash	2.42	337	ePn	Pn	00 57 35.1	+1.8
SNGE	Sanandaj	2.63	357	ePn	Pb	00 57 39.2	-2.2
SNGE				AML	AML	00 58 26.6	
	comp=E,217nm,0.7s						
SNGE	Sanandaj	2.63	357	ePn	Pb	00 57 39.2	-2.2
	comp=E,217nm,0.7s						
BHD	Baghdad	2.76	288	ePN	Pn	00 57 38.2	+0.6
BHD				eSN	x	00 58 06.7	
BHD				eSG	x	00 58 28.1	
BHD	Baghdad	2.76	288	ePn	Pn	00 57 38.2	+0.6
	SNR=39						
BHD				eSg	Sb	00 58 28.1	+11
	SNR=90						
IPIR	Pirpir	2.86	85	ePn	Pn	00 57 39.2	-0.2
IPIR				e		00 58 18.6	
	comp=Z,2μm,0.3s						
IPIR	Pirpir	2.86	85	ePn	Pn	00 57 39.2	-0.2
ASAO	Ashtian	2.95	45	ePn	Pn	00 57 42.3	+1.7
ASAO				eSg	Sb	00 58 23.2	+0.5
ASAO	Ashtian	2.95	45	ePn	Pn	00 57 42.3	+1.7
IKLH	Kolahrood	3.52	75	ePn	Pn	00 57 49.7	+1.2
IKLH				e		00 58 08.7	
	comp=E,816nm,0.1s						
IKLH	Kolahrood	3.52	75	ePn	Pn	00 57 49.7	+1.2
IRAZ	Razeghan	3.55	34	ePn	Pn	00 57 51.2	+2.4
IRAZ				e		00 58 58.1	
	comp=Z,940nm,0.3s						
IRAZ	Razeghan	3.55	34	ePn	Pn	00 57 51.2	+2.4
GHVR	GHOM	3.75	56	ePn	Pn	00 57 53.3	+2.0
GHVR				AML	AML	00 58 40.9	
	comp=N,108nm,0.4s						
GHVR				AML	AML	00 58 43.2	
	comp=E,67nm,0.4s						
GHVR	GHOM	3.75	56	ePn	Pn	00 57 53.3	+2.0
	comp=E,67nm,0.4s						
IKRK	Kirkuk	3.94	319	ePN	Pn	00 57 55.6	+1.6
IKRK				eSN	Sn	00 58 37.2	-2.3
IZEF	Zefreh	4.08	83	ePn	Pn	00 57 56.9	+0.8
IZEF				e		00 58 48.0	
	comp=Z,328nm,0.2s						
IZEF	Zefreh	4.08	83	ePn	Pn	00 57 56.9	+0.8
IMHD	Mahdasht	4.14	38	ePn	Pn	00 57 58.0	+1.1
IMHD				e		00 58 45.5	
	comp=Z,265nm,0.1s						
IMHD	Mahdasht	4.14	38	ePn	Pn	00 57 58.0	+1.1
KFJS		4.28	175	P	Pn	00 58 00.0	+1.4
KFJS				S	Sn	00 58 49.0	+1.2
KFJS		4.28	175	S	Sn	00 58 48.9	+1.0
KFJS		4.28	175	P	Pn	00 57 59.6	+1.0
ZNJK	Zanjan	4.31	13	ePn	Pn	00 58 01.6	+2.4
ZNJK	Zanjan	4.31	13	ePn	Pn	00 58 01.6	+2.4
IVRN	Varamin	4.32	53	ePn	Pn	00 58 00.6	+1.3
IVRN				e		00 58 52.2	
	comp=Z,346nm,0.2s						
IVRN	Varamin	4.32	53	ePn	Pn	00 58 00.6	+1.3
IGZV	Ghazvin	4.51	29	e		00 58 23.4	
	comp=Z,475nm,0.2s						
IGZV				ePn	Pn	00 58 03.5	+1.6
IGZV	Ghazvin	4.51	29	ePn	Pn	00 58 03.5	+1.6
CHTH	Charan	4.56	40	ePn	Pn	00 58 03.7	+1.1
CHTH	Charan	4.56	40	ePn	Pn	00 58 03.7	+1.1
IDMV	Damavand	4.87	49	e		00 58 24.8	
	comp=Z,321nm,0.3s						
IDMV				ePn	Pn	00 58 08.0	+1.0
IDMV	Damavand	4.87	49	ePn	Pn	00 58 08.0	+1.0
ISAD	Sadrabad	5.26	94	ePn	Pn	00 58 12.3	0.0
ISAD				e		00 59 15.6	
	comp=Z,275nm,0.2s						
ISAD	Sadrabad	5.26	94	ePn	Pn	00 58 12.3	0.0
IFIR	Firoozkooh	5.38	52	ePn	Pn	00 58 14.6	+0.6
IFIR				e		00 59 21.4	
	comp=Z,172nm,0.2s						
IFIR	Firoozkooh	5.38	52	ePn	Pn	00 58 14.6	+0.6
ILAS	Lasjerd	5.38	56	ePn	Pn	00 58 14.6	+0.6
ILAS				e		00 58 37.7	
	comp=Z,186nm,0.1s						
ILAS	Lasjerd	5.38	56	ePn	Pn	00 58 14.6	+0.6
ASYS		5.66	210	P	Pn	00 58 17.0	-0.6
ASYS				S	Sn	00 59 21.0	-0.9
ASYS		5.66	210	P	Pn	00 58 17.5	-0.1
ICHK	Chekchek	5.84	90	ePn	Pn	00 58 19.9	-0.3
ICHK				e		00 59 27.3	
	comp=Z,200nm,0.2s						
ICHK	Chekchek	5.84	90	ePn	Pn	00 58 19.9	-0.3
ISHM	Shahmirzad	5.84	54	ePn	Pn	00 58 21.2	+1.0
ISHM				e		00 58 59.3	
	comp=Z,269nm,0.2s						
IANJ	Anjilo	6.10	59	ePn	Pn	00 58 24.1	+0.2
IANJ				e		00 58 50.0	
	comp=Z,157nm,0.4s						
IANJ	Anjilo	6.10	59	ePn	Pn	00 58 24.1	+0.2
IMEH	Mehriz	6.13	98	ePn	Pn	00 58 24.0	-0.2
IMEH				e		00 59 39.2	
	comp=Z,113nm,0.3s						
IMEH	Mehriz	6.13	98	ePn	Pn	00 58 24.0	-0.2
BOQSS		6.77	166	P	Pn	00 58 34.0	+1.2
BOQSS		6.77	166	P	Pn	00 58 33.7	+0.9
BTHS		8.88	160	P	Pn	00 59 01.0	-0.9
BTHS		8.88	160	P	Pn	00 59 01.1	-0.7
ASF	Jabal al Asfar	8.99	271	Pn	Pn	00 59 02.6	-0.8
	comp=Z,0.1nm,0.3s,baz=225,slow=1.4,SNR=3.9						
ASF				Lg	Lg	01 01 37.2	
	comp=Z,0.2nm,0.3s,baz=217,slow=22,SNR=4.4						
MMAI	Mount Meron Ar	10.22	276	Lg	Lg	01 02 25.2	
	comp=Z,0.5nm,0.3s,baz=108,slow=28,SNR=3.5						
GEYT	Ailbeck	5.5	259	Pn	Pn	00 59 22.1	+1.6
	comp=Z,0.3nm,0.3s,baz=259,slow=13,SNR=3.0						
EIL	Elat	11.13	259	Lg	Lg	01 02 54.6	
	comp=Z,0.2nm,0.3s,baz=345,slow=20,SNR=2.3						
AKTO	Aktyubinsk	19.57	20	P	P	01 01 20.7	-0.3
	comp=Z,0.4nm,0.3s,baz=203,slow=12,SNR=9.2						
MLR	Muntele Rosu	21.14	314	P	P	01 01 38.7	+0.4
	comp=Z,0.3nm,0.8s,baz=135,slow=10.0,SNR=2.6						
BVAR	Borovoye Array	26.34	32	P	P	01 02 28.9	0.0
	comp=Z,2.1nm,0.6s,baz=223,slow=8.3,SNR=15						
VRAC	Vranov	28.53	315	LR	LR	01 14 41.6	
	comp=Z,18nm,21.4s,baz=97,slow=38						
KURBB	Kurchatov Arra	29.16	42	P	P	01 02 54.5	+0.3
	comp=Z,1.0nm,0.6s,baz=245,slow=9.5,SNR=7.1						
MKAR	Makanchi Array	30.09	51	P	P	01 03 02.8	+0.3
	comp=Z,0.8nm,0.6s,baz=251,slow=9.3,SNR=11						
MOTA	Moosalm	31.32	309⇓	eP	P	01 03 13.9	+0.4
	comp=Z,2.1nm,0.4s						
FETA	Feichten	31.48	308⇓	iP	P	01 03 16.0	+1.1
	comp=Z,1.6nm,0.6s						
RETA	Reutte	31.58	309⇓	iP	P	01 03 15.9	+0.2
	comp=Z,1.5nm,0.5s						
DAVA	Damuels	32.11	309⇑	iP	P	01 03 20.6	+0.2
	comp=Z,3.9nm,0.4s						
FINES	FINESS Array B	32.16	341	P	P	01 03 19.9	-0.5
	comp=Z,0.6nm,0.6s,baz=148,slow=12,SNR=7.2						
ZALV	Zalesovo Beam	34.07	40	P	P	01 03 36.9	-0.4
	comp=Z,1.4nm,0.4s,baz=248,slow=9.8,SNR=8.3						
ARCES	ARCESS Array B	39.13	348	P	P		
	comp=Z,1.2nm,0.8s,baz=161,slow=9.0,SNR=6.0					01 04 20.2	0.0
ESDC	Sonseca Array	41.75	295	P	P	01 04 42.4	0.0
	comp=Z,0.3nm,0.6s,baz=76,slow=10,SNR=4.0						
TORD	Torodi Ar. Bea	46.00	256	P	P	01 05 17.0	+0.3
	comp=Z,0.7nm,1.1s,baz=62,slow=7.4,SNR=5.2						

KRSC 17 01:03:48.8±0.9, 54.57N×160.17E, h135km±12km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZV	Kizimen	0.55	7	eP	Pn	01 04 09.7	+0.7
TUMR	Tumrok	0.72	359	eP	Pn	01 04 11.1	+1.1
MKZ	Mys Kozlova	0.91	90	eP	Pn	01 04 12.9	+1.6
MKZ				eS	Sn	01 04 30.0	+1.6
KMNR	Kamenistaya	1.19	2	eP	Pn	01 04 15.9	+1.8
SPN	Mys Shipunski	1.47	183	eP	Pn	01 04 17.6	+0.6
SPN				eS	Sn	01 04 38.1	-0.3
SDLR	Sedlovina	1.50	211	eP	Pn	01 04 18.4	+1.0
KRX	Arik	1.51	217	eP	Pn	01 04 18.7	+1.2
KRER	Koryakskii	1.52	214	eP	Pn	01 04 19.2	+1.5
KRER				eS	Sn	01 04 41.0	+1.2
AVH	Avacha	1.56	214	eP	Pn	01 04 19.5	+1.5
KOK	Koryaka	1.57	216	eP	Pn	01 04 19.6	+1.5
GNL	Ganaly	1.57	237	eP	Pn	01 04 18.8	+0.6
UGLR	Uglovaya	1.58	211	eP	Pn	01 04 19.5	+1.2
ESO	Esso	1.60	329	eP	Pn	01 04 19.1	+0.7
SRDR	Sredinnyy	1.77	352	eP	Pn	01 04 21.3	+0.9
KBTR	Krutoberegovo	2.23	41	eP	Pn	01 04 28.4	+2.6
KBTR				eS	Sn	01 04 57.1	+2.8
RUS	Russkaya	2.35	206	eP	Pn	01 04 28.3	+0.9
MTVR	Mutnovka	2.40	210	eP	Pn	01 04 29.7	+1.5
MTVR				eS	Sn	01 05 00.4	+2.0
ASAK	Asacha	2.57	213	eP	Pn	01 04 32.0	+1.8
BKI	Bering	3.41	77	eP	Pn	01 04 42.9	+2.1
BKI				eS	Sn	01 05 20.9	-0.2

ISCJB 17 01:20:33.3±0.6, 32.14N±0.03×115.25W±0.03, h6km±5km, Error ellipse: s-maj=4.8km s-min=4.5km az=7.0
NEIC 17 01:20:34.8, 32.15N×115.24W, h8km, ML2.5(PAS), ML3.1(ECX), After ECX.
ECX 17 01:20:35.1±0.5, 32.17N×115.25W, h8km, MD2.5, ML2.7
MEX 17 01:20:35.3±0.7, 32.21N×115.12W, h9km±999km, MD3.5
ISC 17 01:20:33.3±1.1, 32.12N±0.02×115.32W±0.03, h4km±10km, n25, σ0⇟93/38, 4C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.30	2	eP	Pg	01 20 39.8	+0.7
CPBX				eS	Sg	01 20 42.4	-0.6
CPBX	Cerro Prieto	0.30	2	eP9	Pg	01 20 38.6	-0.5
CPBX				eS	Sg	01 20 42.8	-0.3
CPBX				e		01 20 45.2	
MBIG	Mexicali	0.31	19	eP	Pg	01 20 39.4	+0.2
MBIG				i S	Sg	01 20 42.0	-1.3
RDX	Rancho Dawling	0.56	251⇓	eP	Pb	01 20 46.4	+0.6
RDX				eS	Sb	01 20 55.1	+0.8
RDX				IAML		01 20 55.5	
	comp=N,391nm,0.3s						
RDX				⇓e		01 20 55.5	
SGL	Mount Signal	0.63	327⇑	eP	Pg	01 20 46.1	+0.6
SGL	Mount Signal	0.63	327⇑	eP	Pg	01 20 46.1	+0.6
ECBX	El Chinero	0.68	161	eP9	Pg	01 20 44.7	-1.7
ECBX				eS	Sg	01 20 54.6	-0.6
WESC	Westside Schoo	0.73	331	eP	Pg	01 20 47.8	+0.5
YUH	Yuha Desert	0.74	316⇑	eP	Pg	01 20 47.9	+0.5
YUH	Yuha Desert	0.74	316⇑	eP	Pg	01 20 47.9	+0.5
RMX	La Rumorosa	0.81	307	eP	Pg	01 20 49.2	+0.5
RMX				eS	Sb	01 21 01.0	-0.3
RMX				⇓e		01 21 02.0	
RMX				IAML		01 21 02.0	
	comp=N,195nm,0.1s						
ZAX	El Zacaton	1.01	234	eP	Pb	01 20 53.5	0.0
ZAX				eS	Sn	01 21 08.8	-0.4
SPIG	San Pedro Mart	1.08	187	eP	Pg	01 20 54.2	+0.2
SPIG	San Pedro Mart	1.08	187	eP	Pg	01 20 54.2	+0.2
SPX	San Pedro Mart	1.08	187	eP	Pg	01 20 53.7	-0.3
SPX	San Pedro Mart	1.08	187	eP	Pg	01 20 54.9	+0.9
CBX	Cerro Bola	1.16	280	i P	Pn	01 20 56.5	0.0
CBX				eS	Sg	01 21 10.4	-0.2
CBX	Cerro Bola	1.16	280	i P	Pn	01 20 56.5	0.0
CBX				eS	Sg	01 21 10.4	-0.2
CBX	Cerro Bola	1.16	280	eP	Pb	01 20 55.9	-0.1
ECNX	Esteban Cantu	1.18	247	eP	Pn	01 20 56.9	+0.2
ECNX				eS	Sn	01 21 13.4	0.0
PBX	Punta Banda	1.25	253	eP	Pn	01 20 58.1	+0.4
BAR	Barrett	1.28	296	ePn	Pb	01 20 58.0	0.0
BAR				eS	Sn	01 21 15.2	-0.4
PFO	Pinyon Flats O	1.77	328	ePn	Pn	01 21 05.0	+0.1
PFO				eS	Sn	01 21 24.1	-3.8
214A	Organ Pipe Nat	2.13	94	ePn	Pn	01 21 09.1	-3.8
214A				eS	Sn	01 21 36.2	-0.5
TUC	Tucson	3.85	86	Pn	Pn	01 21 34.8	+1.4
TUC				eS	Sb	01 22 30.5	+1.7

DDA 17 01:25:29.1, 36.73N×34.41E, h7km, MD2.6
ISC 17 01:25:29.2±1.6, 36.7N±0.3×34.4E±0.4, h17km±10km, n4, σ0⇟37/8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MERS	Mersin	0.17	23	ePG	Pg	01 25 33.6	-0.2
MERS				eSG	Sg	01 25 36.9	+0.1
KIZK	Mersin	0.33	226	i P	Pg	01 25 36.0	-0.2
KIZK				i S	Sg	01 25 41.1	+0.2
GULE	Gulek	0.63	25	i P	Pg	01 25 41.7	-0.2
GULE				i S	Sb	01 25 50.6	0.0
KARA	Karaisali	0.74	42	ePG	Pn	01 25 45.3	+0.4
KARA				eSG	Sn	01 25 55.2	-0.5

ISCJB 17 01:29:25.1±0.5, 39.38N±0.02×19.82E±0.03, h25km±3km, Error ellipse: s-maj=4.7km s-min=3.1km az=147.6
ATH 17 01:29:25.4, 39.39N×19.90E, h33km±1km, MD3.3/33, ML3.5
CSEM 17 01:29:25.8±0.1, 39.39N×19.87E, h20km, MD3.3, Error ellipse: s-maj=3.9km s-min=2.3km az=58.0
THE 17 01:29:26.6, 39.39N×19.89E, h17km, ML3.4/12, Error ellipse: s-maj=1.1km s-min=0.5km az=275.0
SKO 17 01:29:29.1, 39.43N×20.18E, h23km
ISC 17 01:29:26.0±0.9, 39.41N±0.02×19.85E±0.03, h31km±7km, n166, σ1⇟05/207, 9C-2D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	Kerkira	0.31	353	P	Pb	01 29 34.0	+0.3
KEK				S	Sb	01 29 38.9	0.0
KEK	Kerkira	0.31	353	ePB	Pb	01 29 34.1	+0.3
KEK				eSB	Sn	01 29 40.1	+0.1
KEK	Kerkira	0.31	353	P	Pb	01 29 34.0	+0.3
KEK				S	Sb	01 29 38.9	0.0
KEK				eSb	Sn	01 29 40.1	+0.1
IGT	Igoumenitsa	0.40	71	P	Pb	01 29 33.9	-1.0
IGT				S	Sb	01 29 39.7	-1.2
IGT	Igoumenitsa	0.40	71	ePB	Pb	01 29 33.9	-1.0
IGT	Igoumenitsa	0.40	71	P	Pb	01 29 33.9	-1.0
IGT				S	Sb	01 29 39.7	-1.2
SRN	Sarande	0.49	14	P	Pb	01 29 36.4	+0.1
SRN	Sarande	0.49	14	P	Pb	01 29 36.4	+0.1
JAN	Janina	0.81	72	P	Pn	01 29 40.7	-0.7
JAN				S	Sn	01 29 52.8	+0.3
JAN	Janina	0.81	72	ePN	Pn	01 29 40.7	-0.7
JAN				eSN	Sb	01 29 51.9	-0.5
JAN	Janina	0.81	72	P	Pn	01 29 40.7	-0.7
JAN				eSn	Sb	01 29 51.9	-0.5
JAN				S	Sn	01 29 52.8	+0.3
LKD2	Lefkada island	0.88	134	P	Pb	01 29 42.4	-0.4
LKD2				S	Sb	01 29 54.4	+0.1
LKD2	Lefkada island	0.88	134	ePN	Pb	01 29 42.5	-0.4
LKD2				eSN	Sb	01 29 54.0	-0.3
LKD2	Lefkada island	0.88	134	P	Pb	01 29 42.4	-0.4
LKD2				eSn	Sb	01 29 54.0	-0.3
DSL	Palaion Diasel	1.01	105	P	Pn	01 29 44.0	0.0
DSL	Palaion Diasel	1.01	105	ePN	Pn	01 29 44.3	+0.3
DSL				eSN	Sn	01 29 57.1	-0.1
DSL	Palaion Diasel	1.01	105	P	Pn	01 29 44.0	0.0
DSL	Palaion Diasel	1.01	105	ePn	Pn	01 29 44.3	+0.3
DSL				eSn	Sn	01 29 57.1	-0.1
PDO	Prodromos	1.32	127	P	Pn	01 29 48.6	+0.3
PDO				eSN	Sb	01 30 05.9	-0.7
PDO	Prodromos	1.32	127	P	Pn	01 29 48.6	+0.3
PDO				eSn	Sb	01 30 05.9	-0.7
VLS	Valsamata	1.36	154	P	Pn	01 29 48.6	-0.2
VLS	Valsamata	1.36	154	ePB	Pn	01 29 48.7	-0.1
VLS				eSN	Sn	01 30 06.2	+0.4
VLS	Valsamata	1.36	154	ePb	Pn	01 29 48.7	-0.1
VLS				eSn	Sn	01 30 06.2	+0.4
NEST	Nestorio	1.37	42	P	Pb	01 29 50.3	-0.7
NEST				S	Sb	01 30 08.3	+0.1
NEST	Nestorio	1.37	42	ePN	Pn	01 29 50.0	+0.9
NEST				eSN	Sb	01 30 08.6	+0.4
NEST	Nestorio	1.37	42	ePn	Pn	01 29 50.0	+0.9
NEST	Nestorio	1.37	42	P	Pb	01 29 50.3	-0.7
NEST				S	Sb	01 30 08.3	+0.1
KFL	Anninata	1.49	150	P	Pn	01 29 50.7	+0.1
KFL	Anninata	1.49	150	P	Pn	01 29 50.7	+0.1
PVO	Paravola	1.53	121	P	Pn	01 29 51.9	+0.7
PVO	Paravola	1.53	121	P	Pn	01 29 51.9	+0.7
EVR	Evrytania	1.60	107	P	Pn	01 29 53.5	+1.2
EVR	Evrytania	1.60	107	ePN	Pn	01 29 53.2	+0.9
EVR				eSN	Sb	01 30 13.7	-1.1
EVR	Evrytania	1.60	107	ePn	Pn	01 29 53.2	+0.9
EVR	Evrytania	1.60	107	P	Pn	01 29 53.5	+1.2
EVR				eSn	Sb	01 30 13.7	-1.1
THL	Klokotos Trika	1.68	84	P	Pn	01 29 54.2	+0.9
THL				S	Sn	01 30 15.5	+1.7
THL	Klokotos Trika	1.68	84	ePB	Pn	01 29 54.2	+0.9
THL	Klokotos Trika	1.68	84	P	Pn	01 29 54.2	+0.9
THL				S	Sn	01 30 15.5	+1.7
KZN	Kozani	1.73	58	P	Pn	01 29 55.2	+1.1
KZN				S	Sb	01 30 17.4	-1.2
KZN	Kozani	1.73	58	ePB	Pn	01 29 55.7	+1.6
KZN				eSN	Sn	01 30 15.9	+0.7
KZN	Kozani	1.73	58	P	Pn	01 29 55.2	+1.1
KZN	Kozani	1.73	58	ePb	Pn	01 29 55.7	+1.6
KZN				eSn	Sn	01 30 15.9	+0.7
KZN				S	Sb	01 30 17.4	-1.2
FNA	Florina	1.81	40	P	Pn	01 29 56.4	+1.3
FNA				S	Sb	01 30 19.5	-1.3
FNA	Florina	1.81	40	ePN	Pn	01 29 56.2	+1.1
FNA	Florina	1.81	40	ePb	Pn	01 29 56.2	+1.1
FNA				S	Sb	01 30 19.5	-1.3
MAKR	Makrakomi, Fth	1.82	102	P	Pb	01 29 57.0	-1.6
MAKR				S	Sn	01 30 18.6	+1.4
MAKR	Makrakomi, Fth	1.82	102	ePB	Pn	01 29 56.1	+0.9
MAKR				eSN	Sn	01 30 18.6	+1.4
MAKR	Makrakomi, Fth	1.82	102	ePb	Pn	01 29 56.1	+0.9
MAKR	Makrakomi, Fth	1.82	102	P	Pb	01 29 57.0	-1.6
MAKR				S	Sn	01 30 18.6	+1.4
RLS	Riolos of Patr	1.85	136	P	Pn	01 29 56.4	+0.8
RLS	Riolos of Patr	1.85	136	ePN	Pn	01 29 56.4	+0.8
RLS	Riolos of Patr	1.85	136	P	Pn	01 29 56.4	+0.8
OHR	Ohrid	1.85	23	i Pn	Pb	01 29 59.4	+0.1
OHR	Ohrid	1.85	23	i Pn	Pb	01 29 59.3	+0.1
EFP	Efpalio	1.88	121	ePB	Pn	01 29 57.0	+1.0
EFP	Efpalio	1.88	121	ePb	Pn	01 29 57.0	+1.0
TIR	Tirane	1.94	0	P	Pn	01 29 58.1	+1.2
TIR	Tirane	1.94	0	P	Pn	01 29 58.1	+1.2
AGG	Agios Georgios	1.97	100	P	Pn	01 29 58.6	+1.4
AGG	Agios Georgios	1.97	100	ePN	Pn	01 29 58.0	+0.8
AGG				eSN	Sn	01 30 22.3	+1.4
AGG	Agios Georgios	1.97	100	ePn	Pn	01 29 58.0	+0.8
AGG	Agios Georgios	1.97	100	P	Pn	01 29 58.6	+1.4
AGG				eSn	Sn	01 30 22.3	+1.4
KALE	Kalithea	2.06	119	P	Pn	01 29 59.2	+1.3
KALE				S	Sn	01 30 24.8	+1.7
KALE	Kalithea	2.06	119	ePB	Pn	01 29 59.8	+1.3
KALE	Kalithea	2.06	119	ePb	Pn	01 29 59.8	+1.3
KALE				S	Sn	01 30 24.8	+1.7
DRO	Drossia	2.06	134	P	Pn	01 29 59.2	+0.8
DRO	Drossia	2.06	134	ePN	Pn	01 29 59.3	+0.8
DRO	Drossia	2.06	134	ePn	Pn	01 29 59.3	+0.8
LIT	Litokhoron	2.15	70	P	Pn	01 30 00.5	+0.7
LIT				S	Sn	01 30 27.6	+2.2
LIT	Litokhoron	2.15	70	ePN	Pn	01 30 00.4	+0.7
LIT	Litokhoron	2.15	70	P	Pn	01 30 00.5	+0.7
LIT				S	Sn	01 30 27.6	+2.2
KLV	Kalavryta, Ach	2.26	126	P	Pn	01 30 02.2	+1.0
KLV	Kalavryta, Ach	2.26	126	ePN	Pn	01 30 02.3	+1.0
KLV	Kalavryta, Ach	2.26	126	P	Pn	01 30 02.2	+1.0
AXAR	Agios Charalam	2.28	105	P	Pn	01 30 02.5	+1.0
AXAR				S	Sn	01 30 30.3	+1.7
AXAR	Agios Charalam	2.28	105	P	Pn	01 30 02.5	+1.0
AXAR				S	Sn	01 30 30.3	+1.7
DSF	Desfina	2.31	115	P	Pn	01 30 03.0	+1.0
DSF	Desfina	2.31	115	ePN	Pn	01 30 03.1	+1.0
DSF	Desfina	2.31	115	P	Pn	01 30 03.0	+1.0
PHP	Peshkopia	2.32	11	P	Pn	01 30 03.7	+1.5
PHP	Peshkopia	2.32	11	P	Pn	01 30 03.7	+1.5
PE1	Pezze di Greco	2.33	308	ePn	Pn	01 30 03.4	+1.2
AMT	Artemida-Makis	2.37	141	P	Pn	01 30 04.0	+1.2
AMT	Artemida-Makis	2.37	141	P	Pn	01 30 04.0	+1.2
GUR	Goura	2.44	126	P	Pn	01 30 05.0	+1.2
GUR	Goura	2.44	126	ePN	Pn	01 30 05.1	+1.2
GUR	Goura	2.44	126	P	Pn	01 30 05.0	+1.2
GRG	Griva	2.50	51	P	Pn	01 30 05.2	+0.7
GRG	Griva	2.50	51	ePN	Pn	01 30 05.2	+0.7
GRG	Griva

SJES	**Sjenica**	**3.85**	**1**	*e*Pn	**Pn**	**01 30 25.7 +2.4**
KYTH	**Kithira**	**4.01**	**140**	P	**Pn**	**01 30 27.0 +1.6**
KYTH	**Kithira**	**4.01**	**140**	P	**Pn**	**01 30 27.0 +1.6**
VTS	**Vitosha**	**4.07**	**38**	⇑*i*P	Pn	01 30 31.8 +5.5
VTS	**Vitosha**	**4.07**	**38**	⇑*i*P	Pn	01 30 31.8 +5.5
DIVS	**Divibare**	**4.69**	**1**	*i*P	Pn	01 30 40.9 +6.2
DIVS	**Divibare**	**4.69**	**1**	*e*Pn	**Pn**	**01 30 35.7 +1.0**
KDZ	**Kurdzhali**	**4.80**	**60**	⇓*i*P	**Pb**	**01 30 47.3 -2.1**
UDBI	**Udbina**	**5.95**	**331**	*e*Pn	**Pn**	**01 30 53.5 +1.4**
UDBI				Sn	**Sn**	**01 31 56.8 -2.5**
UDBI	**Udbina**	**5.95**	**331**	*e*Pn	**Pn**	**01 30 53.5 +1.4**
BZS	**Buzias**	**6.34**	**11**	⇑*i*P	Pn	01 31 05.3 +8.0
NVLJ	**Novalja**	**6.35**	**326**	*e*Pn	**Pn**	**01 30 57.8 +0.4**
NVLJ				Sn	**Sn**	**01 32 05.4 -3.3**
NVLJ	**Novalja**	**6.35**	**326**	*e*Pn	**Pn**	**01 30 57.8 +0.4**
ARR	**Arges**	**6.93**	**29**	⇑*i*P	**Pn**	**01 31 06.5 +1.0**
ARR	**Arges**	**6.93**	**29**	⇑*i*P	**Pn**	**01 31 06.5 +1.0**
MLR	**Muntele Rosu**	**7.57**	**35**	⇓*i*P	Pn	01 31 22.6 +8.3
MOTA	**Moosalm**	**10.17**	**324**	⇑*i*Pn	**Pn**	**01 31 51.9 +2.0**

IDC **17** *01:38:03.6E1.1,41.4°N×16.2°W,h0km,mb3.7/13, mb1 3.9/15,mb1mx3.8/44,mbtmp3.8/15,ML4.9/3,MS2.8/3, Ms1 2.8/3,ms1mx2.4/43,Error ellipse: s-maj=24.5km s-min=19.2km az=49.0*

BGS **17** *01:38:05.8E2.1,41.5°N×16.0°W,h10km,mb4.6*

NEIC **17** *01:38:05.8E0.6,41.5°N×16.0°W,h10km,mb4.0/3,Error ellipse: s-maj=7.7km s-min=7.0km az=67.0*

CSEM **17** *01:38:05.5E0.4,41.5°N×16.0°W,h10km,ML4.4,Error ellipse: s-maj=8.9km s-min=3.6km az=78.0*

IGIL **17** *01:38:07.1,41.5°N×16.1°W,h13km,ML4.5*

SFS **17** *01:38:07.0,41.3°N×15.9°W,h0km,ML5.0*

MDD **17** *01:38:08.3E1.2,41.4°N×15.7°W,h0km,mb5.3/37,Error ellipse: s-maj=11.5km s-min=8.2km az=89.0,PRXIMO*

LDG **17** *01:38:08.9E0.2,41.5°N×15.9°W,h10km,Ml4.5/32,Error ellipse: s-maj=4.6km s-min=3.0km az=85.0*

CNRM **17** *01:38:09.8,41.1°N×15.9°W,h17km,MD4.5*

ISCJB **17** *01:38:11.2E0.4,41.5°N±0.0°×15.1°W±0.0°03,h10km, mb3.7/12,MS2.7/3,Error ellipse: s-maj=3.7km s-min=2.5km az=148.7*

INMG **17** *01:38:11.3E1.8,41.4°N×16.1°W,h10km,ML4.4,Error ellipse: s-maj=6.4km s-min=4.8km az=89.0*

ISC 17 01:38:11.0±0.5,**41.61N**±0.02×**15.28W**±0.02,**h10km**,**n406**, σ1**95**/539,**mb3.9**/12,**MS2.5**/3,**4C-4D**,**North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMAZ	**Mazaricos**	**4.87**	**72**	⇑P	Pn	01 39 27.3	+3.0
	41nm,0.2s,SNR=18						
EMAZ				S	**Sn**	**01 40 23.9**	**+3.3**
	121nm,0.1s,SNR=19						
EMAZ	**Mazaricos**	**4.87**	**72**	P	Pn	01 39 27.3	+3.0
	41nm,0.2s,SNR=18						
EMAZ				S	**Sn**	**01 40 23.9**	**+3.3**
	121nm,0.1s,SNR=19						
EMAZ	**Mazaricos**	**4.87**	**72**	P	Pn	01 39 27.3	+3.0
EMAZ				S	**Sn**	**01 40 24.4**	**+3.8**
PTO	**Porto**	**5.05**	**93**	*e*Pn	Pn	01 39 29.8	+3.1
PTO				*e*Sn	**Sn**	**01 40 27.8**	**+2.8**
PTO				A	A	01 40 32.7	
	690nm,0.1s						
PTO	**Porto**	**5.05**	**93**	P	Pn	01 39 29.8	+3.1
PTO				S	**Sn**	**01 40 27.8**	**+2.8**
	345nm,0.1s						
PTO	**Porto**	**5.05**	**93**	P	Pn	01 39 29.8	+3.1
PTO				S	**Sn**	**01 40 27.8**	**+2.8**
	345nm,0.1s						
STS	**Santiago**	**5.16**	**73**	⇑P	Pn	01 39 31.4	+3.2
	56nm,0.1s,SNR=18						
STS				S	**Sn**	**01 40 31.6**	**+3.9**
	24nm,0.1s,SNR=7.9						
STS	**Santiago**	**5.16**	**73**	P	Pn	01 39 31.4	+3.2
	56nm,0.1s,SNR=18						
STS				S	**Sn**	**01 40 31.6**	**+3.9**
	24nm,0.1s,SNR=7.9						
PGAV	**Gavieira, Arco**	**5.25**	**84**	*e*Pn	Pn	01 39 33.0	+3.4
PGAV				*e*Sn	**Sn**	**01 40 34.1**	**+3.8**
PGAV				A	A	01 40 39.3	
	399nm,0.2s						
PGAV	**Gavieira, Arco**	**5.25**	**84**	*e*Pn	Pn	01 39 33.0	+3.4
PGAV				*e*Sn	**Sn**	**01 40 34.1**	**+3.8**
	399nm,0.2s						
PMAFR	**Mafra**	**5.29**	**118**	*e*Pn	**Pn**	**01 39 31.4**	**+1.2**
PMAFR				*e*Sn	**Sn**	**01 40 31.9**	**+0.7**
PMAFR				A	A	01 40 38.8	
	533nm,0.5s						
PMAFR	**Mafra**	**5.29**	**118**	⇓P	**Pn**	**01 39 31.3**	**+1.2**
	217nm,0.1s,SNR=18						
PMAFR				S	**Sn**	**01 40 31.5**	**+0.3**
	81nm,0.1s,SNR=8.9						
PMAFR	**Mafra**	**5.29**	**118**	P	**Pn**	**01 39 31.3**	**+1.2**
	217nm,0.1s,SNR=18						
PMAFR				S	**Sn**	**01 40 31.5**	**+0.3**
	81nm,0.1s,SNR=8.9						
PMAFR				*e*Sn	**Sn**	**01 40 31.9**	**+0.7**
	533nm,0.5s						
PCAS	**Casmilo, Conde**	**5.37**	**105**	*e*Pn	**Pn**	**01 39 33.5**	**+2.3**
PCAS				*e*Sn	**Sn**	**01 40 35.5**	**+2.4**
PCAS				A	A	01 40 40.0	
	158nm,0.2s						
PCAS	**Casmilo, Conde**	**5.37**	**105**	*e*Pn	**Pn**	**01 39 33.5**	**+2.3**
PCAS				*e*Sn	**Sn**	**01 40 35.5**	**+2.4**
	158nm,0.2s						
ELOB	**Lobios**	**5.41**	**85**	⇓P	Pn	01 39 34.8	+3.1
	90nm,0.1s,SNR=18						
ELOB				S	**Sn**	**01 40 37.4**	**+3.3**
	146nm,0.1s,SNR=14						
ELOB	**Lobios**	**5.41**	**85**	P	Pn	01 39 34.8	+3.1
	90nm,0.1s,SNR=18						
ELOB				S	**Sn**	**01 40 37.4**	**+3.3**
	146nm,0.1s,SNR=14						
PCAB	**Cabril**	**5.43**	**86**	*e*Pn	Pn	01 39 35.1	+3.0
PCAB				*e*Sn	**Sn**	**01 40 37.7**	**+3.0**
PCAB				A	A	01 40 43.0	
	425nm,0.2s						
PCAB	**Cabril**	**5.43**	**86**	P	Pn	01 39 35.1	+3.0
PCAB				S	**Sn**	**01 40 37.7**	**+3.0**
	213nm,0.2s						
PCAB	**Cabril**	**5.43**	**86**	P	Pn	01 39 35.1	+3.0
PCAB				S	**Sn**	**01 40 37.7**	**+3.0**
	213nm,0.2s						
PMST	**Lisbon--Monsan**	**5.48**	**120**	*e*Pn	**Pn**	**01 39 34.0**	**+1.4**
PMST				*e*Sn	**Sn**	**01 40 36.5**	**+0.8**
PMST				A	A	01 40 41.8	
	395nm,0.8s						
PMST	**Lisbon--Monsan**	**5.48**	**120**	*e*Pn	**Pn**	**01 39 34.0**	**+1.4**
PMST				*e*Sn	**Sn**	**01 40 36.5**	**+0.8**
	395nm,0.8s						
LIS	**Lisbon**	**5.51**	**120**	*e*P	**Pn**	**01 39 33.2**	**+0.1**
LIS				*e*S	**Sn**	**01 40 37.0**	**+0.5**
LIS				AML	AML	01 40 42.1	
	comp=N,1μm,0.1s						
LIS	**Lisbon**	**5.51**	**120**	P	**Pn**	**01 39 33.2**	**+0.1**
LIS				S	**Sn**	**01 40 37.0**	**+0.5**
	comp=N,1μm,0.1s						
PTOM	**Tomar**	**5.59**	**109**	*e*Pn	**Pn**	**01 39 36.2**	**+2.0**
PTOM				*e*Sn	**Sn**	**01 40 39.5**	**+1.0**
PTOM				A	A	01 40 44.5	
	comp=N,296nm,0.1s						
PTOM	**Tomar**	**5.59**	**109**	P	**Pn**	**01 39 36.2**	**+2.0**
PTOM				S	**Sn**	**01 40 39.5**	**+1.0**
	comp=N,148nm,0.1s						
PTOM	**Tomar**	**5.59**	**109**	P	**Pn**	**01 39 36.2**	**+2.0**
PTOM				S	**Sn**	**01 40 39.5**	**+1.0**
	comp=N,148nm,0.1s						
POLO	**Lamas de Olo**	**5.63**	**90**	*e*Pn	Pn	01 39 37.7	+2.9
POLO				*e*Sn	**Sn**	**01 40 41.8**	**+2.3**
POLO				A	A	01 40 48.9	
	comp=N,80nm,0.4s						
POLO	**Lamas de Olo**	**5.63**	**90**	*e*Pn	Pn	01 39 37.7	+2.9
POLO				*e*Sn	**Sn**	**01 40 41.8**	**+2.3**
	comp=N,80nm,0.4s						
PVIS	**Viseu**	**5.64**	**97**	*e*Pn	Pn	01 39 37.8	+2.8
PVIS				*e*Sn	**Sn**	**01 40 42.7**	**+2.8**
PVIS				A	A	01 40 45.7	
	comp=N,404nm,0.1s						
PVIS	**Viseu**	**5.64**	**97**	P	Pn	01 39 37.8	+2.8
PVIS				S	**Sn**	**01 40 42.7**	**+2.8**
	comp=N,202nm,0.1s						
PVIS	**Viseu**	**5.64**	**97**	P	Pn	01 39 37.8	+2.8
PVIS				S	**Sn**	**01 40 42.7**	**+2.8**
	comp=N,202nm,0.1s						
PACT	**Alcochete**	**5.69**	**118**	*e*Pn	**Pn**	**01 39 37.5**	**+2.0**
PACT				*e*Sn	**Sn**	**01 40 41.9**	**+1.0**
PACT				A	A	01 40 50.9	
	comp=N,207nm,0.6s						
PACT	**Alcochete**	**5.69**	**118**	*e*Pn	**Pn**	**01 39 37.5**	**+2.0**
PACT				*e*Sn	**Sn**	**01 40 41.9**	**+1.0**
	comp=N,207nm,0.6s						
PVRL	**Vila Real**	**5.70**	**91**	*e*Pn	Pn	01 39 38.4	+2.7
PVRL				*e*Sn	**Sn**	**01 40 43.3**	**+2.2**
PVRL				A	A	01 40 48.4	
	comp=N,317nm,0.1s						
PVRL	**Vila Real**	**5.70**	**91**	P	Pn	01 39 38.4	+2.7
PVRL				S	**Sn**	**01 40 43.3**	**+2.2**
	comp=N,159nm,0.1s						
PVRL	**Vila Real**	**5.70**	**91**	P	Pn	01 39 38.4	+2.7
PVRL				S	**Sn**	**01 40 43.3**	**+2.2**
	comp=N,159nm,0.1s						
PMTG	**Montargil**	**5.96**	**113**	*e*Pn	**Pn**	**01 39 40.8**	**+1.6**
PMTG				*e*Sn	**Sn**	**01 40 47.8**	**+0.4**
PMTG				A	A	01 40 54.1	
	comp=N,99nm,0.3s						
PMTG	**Montargil**	**5.96**	**113**	*e*Pn	**Pn**	**01 39 40.8**	**+1.6**
PMTG				*e*Sn	**Sn**	**01 40 47.8**	**+0.4**
	comp=N,99nm,0.3s						
PCBR	**Castelo Branco**	**6.18**	**104**	*e*Pn	**Pn**	**01 39 44.4**	**+2.1**
PCBR				*e*Sn	**Sn**	**01 40 54.2**	**+1.1**
PCBR				A	A	01 40 58.8	
	comp=N,193nm,0.3s						
PCBR	**Castelo Branco**	**6.18**	**104**	P	**Pn**	**01 39 44.4**	**+2.1**
PCBR				S	**Sn**	**01 40 54.2**	**+1.1**
	comp=N,97nm,0.3s						
PCBR	**Castelo Branco**	**6.18**	**104**	P	**Pn**	**01 39 44.4**	**+2.1**
PCBR				S	**Sn**	**01 40 54.2**	**+1.1**
	comp=N,97nm,0.3s						
MVO	**Moncorvo**	**6.22**	**91**	*e*Pn	Pn	01 39 45.6	+2.7
MVO				*e*Sn	**Sn**	**01 40 55.1**	**+1.0**
MVO				A	A	01 41 04.3	
	comp=N,255nm,0.4s						
MVO	**Moncorvo**	**6.22**	**91**	⇓P	Pn	01 39 45.6	+2.7
	comp=N,14nm,0.2s,SNR=18						
MVO				S	**Sn**	**01 40 55.3**	**+1.2**
	comp=N,58nm,0.2s,SNR=13						
MVO	**Moncorvo**	**6.22**	**91**	P	Pn	01 39 45.6	+2.7
	comp=N,14nm,0.2s,SNR=18						
MVO				S	**Sn**	**01 40 55.3**	**+1.2**
	comp=N,58nm,0.2s,SNR=13						
EPON	**Pontenova**	**6.25**	**71**	P	Pn	01 39 46.4	+3.1
	comp=N,28nm,0.1s,SNR=18						
EPON				S	**Sn**	**01 40 57.2**	**+2.4**
	comp=N,58nm,0.3s,SNR=7.9						
EPON	**Pontenova**	**6.25**	**71**	P	Pn	01 39 46.4	+3.1
	comp=N,28nm,0.1s,SNR=18						
EPON				S	**Sn**	**01 40 57.2**	**+2.4**
	comp=N,58nm,0.3s,SNR=7.9						
PNCL	**Nicolau / Gran**	**6.26**	**122**	*e*Pn	**Pn**	**01 39 44.0**	**+0.7**
PNCL				*e*Sn	**Sn**	**01 40 53.7**	**-1.1**
PNCL				A	A	01 40 59.9	
	comp=N,102nm,0.3s						
PNCL	**Nicolau / Gran**	**6.26**	**122**	*e*Pn	**Pn**	**01 39 44.0**	**+0.7**
PNCL				*e*Sn	**Sn**	**01 40 53.7**	**-1.1**
	comp=N,102nm,0.3s						
EVOP	**Sao Brissos**	**6.29**	**117**	*e*Pn	**Pn**	**01 39 44.4**	**+0.6**
EVOP				*e*Sn	**Sn**	**01 40 56.3**	**+0.6**
	comp=N,183nm,0.3s						
EVOP	**Sao Brissos**	**6.29**	**117**	*e*Pn	**Pn**	**01 39 44.4**	**+0.6**
EVOP				*e*Sn	**Sn**	**01 40 56.3**	**+0.6**
EVO	**Evora**	**6.36**	**116**	*e*Pn	**Pn**	**01 39 44.4**	**-0.4**
EVO				*e*Sn	**Sn**	**01 40 56.3**	**-1.2**
	comp=N,365nm,0.3s						
EVO	**Evora**	**6.36**	**116**	*e*Pn	**Pn**	**01 39 46.0**	**+1.2**
EVO				*e*Sn	**Sn**	**01 40 57.2**	**-0.3**
EVO				A	A	01 41 01.9	
	comp=N,174nm,0.3s						
EVO	**Evora**	**6.36**	**116**	P	**Pn**	**01 39 46.0**	**+1.2**
EVO				S	**Sn**	**01 40 57.2**	**-0.3**
	comp=N,174nm,0.3s						
EVO	**Evora**	**6.36**	**116**	P	**Pn**	**01 39 46.0**	**+1.2**
EVO				S	**Sn**	**01 40 57.2**	**-0.3**
	comp=N,174nm,0.3s						
PMRV	**Marv??o**	**6.39**	**107**	*e*Pn	**Pn**	**01 39 46.6**	**+1.4**
PMRV				*e*Sn	**Sn**	**01 40 58.9**	**+0.7**
PMRV				A	A	01 41 07.0	
	comp=N,160nm,0.4s						
PMRV	**Marv??o**	**6.39**	**107**	P	**Pn**	**01 39 46.6**	**+1.4**
PMRV				S	**Sn**	**01 40 58.9**	**+0.7**
	comp=N,160nm,0.4s						
PMRV	**Marv??o**	**6.39**	**107**	P	**Pn**	**01 39 46.6**	**+1.4**
PMRV				S	**Sn**	**01 40 58.9**	**+0.7**
	comp=N,160nm,0.4s						
PBRG	**Braganca**	**6.39**	**85**	*e*Pn	Pn	01 39 48.2	+2.9
PBRG				*e*Sn	**Sn**	**01 41 00.8**	**+2.5**
PBRG				A	A	01 41 07.6	
	comp=N,88nm,0.1s						
PBRG	**Braganca**	**6.39**	**85**	P	Pn	01 39 48.2	+2.9
PBRG				S	**Sn**	**01 41 00.8**	**+2.5**
	comp=N,44nm,0.1s						
PBRG	**Braganca**	**6.39**	**85**	P	Pn	01 39 48.2	+2.9
PBRG				S	**Sn**	**01 41 00.8**	**+2.5**
	comp=N,44nm,0.1s						
ECAL	**Calabor**	**6.40**	**84**	P	Pn	01 39 48.1	+2.8
	comp=N,64nm,0.2s,SNR=308						
ECAL				S	**Sn**	**01 41 01.4**	**+3.0**
	comp=N,33nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**6.40**	**84**	P	Pn	01 39 48.1	+2.8
	comp=N,64nm,0.2s,SNR=308						
ECAL				S	**Sn**	**01 41 01.4**	**+3.0**
	comp=N,33nm,0.1s,SNR=7.9						
PTEO	**Sao Teotonio**	**6.49**	**127**	*e*Pn	**Pn**	**01 39 46.7**	**+0.2**
PTEO				*e*Sn	**Sn**	**01 40 58.4**	**-2.1**
PTEO				A	A	01 41 02.4	
	comp=N,198nm,0.5s						
PTEO	**Sao Teotonio**	**6.49**	**127**	P	**Pn**	**01 39 46.7**	**+0.2**
PTEO				S	**Sn**	**01 40 58.4**	**-2.1**
	comp=N,99nm,0.5s						
PTEO	**Sao Teotonio**	**6.49**	**127**	P	**Pn**	**01 39 46.7**	**+0.2**
PTEO				S	**Sn**	**01 40 58.4**	**-2.1**
	comp=N,99nm,0.5s						
PESTR	**Estremoz**	**6.49**	**112**	*e*Pn	**Pn**	**01 39 47.6**	**+1.1**
PESTR				*e*Sn	**Sn**	**01 41 00.2**	**-0.4**
PESTR				A	A	01 41 04.9	
	comp=N,112nm,0.4s						
PESTR	**Estremoz**	**6.49**	**112**	*e*Pn	**Pn**	**01 39 47.6**	**+1.1**
PESTR				*e*Sn	**Sn**	**01 41 00.2**	**-0.4**
	comp=N,112nm,0.4s						
MESJ	**Messejana**	**6.61**	**122**	*e*P	**Pn**	**01 39 48.8**	**+0.6**
MESJ				*e*S	**Sn**	**01 41 01.9**	**-1.7**
MESJ				AML	AML	01 41 07.2	
	comp=N,189nm,0.5s						
MESJ	**Messejana**	**6.61**	**122**	*e*Pn	**Pn**	**01 39 48.8**	**+0.6**
MESJ				*e*Sn	**Sn**	**01 41 02.7**	**-1.0**
MESJ				A	A	01 41 07.0	
	comp=N,137nm,0.9s						
MESJ	**Messejana**	**6.61**	**122**	P	**Pn**	**01 39 48.8**	**+0.6**
MESJ				S	**Sn**	**01 41 01.9**	**-1.7**
	comp=N,189nm,0.5s						
MESJ	**Messejana**	**6.61**	**122**	P	**Pn**	**01 39 48.8**	**+0.6**
MESJ				S	**Sn**	**01 41 01.9**	**-1.7**
	comp=N,189nm,0.5s						
MESJ				*e*Sn	**Sn**	**01 41 02.7**	**-1.0**
	comp=N,137nm,0.9s						
MORF	**Marmelete**	**6.69**	**128**	*e*P	**Pn**	**01 39 49.0**	**-0.3**
MORF				*e*S	**Sn**	**01 41 02.7**	**-2.9**
MORF				AML	AML	01 41 08.0	
	comp=N,295nm,0.2s						
MORF	**Marmelete**	**6.69**	**128**	*e*Pn	**Pn**	**01 39 49.1**	**-0.2**
MORF				*e*Sn	**Sn**	**01 41 02.6**	**-3.0**
MORF				A	A	01 41 08.7	
	comp=N,152nm,0.6s						
MORF	**Marmelete**	**6.69**	**128**	P	**Pn**	**01 39 49.0**	**-0.3**
MORF				S	**Sn**	**01 41 02.7**	**-2.9**
	comp=N,295nm,0.2s						
MORF	**Marmelete**	**6.69**	**128**	*e*Pn	**Pn**	**01 39 49.1**	**-0.2**
PFVI	**Vila Bisbo**	**6.70**	**130**	*e*Pn	**Pn**	**01 39 48.7**	**-0.7**
PFVI				*e*Sn	**Sn**	**01 41 03.0**	**-2.8**
PFVI				A	A	01 41 08.9	
	comp=N,87nm,0.3s						
PFVI	**Vila Bisbo**	**6.70**	**130**	⇓P	**Pn**	**01 39 48.7**	**-0.7**
	comp=N,39nm,0.1s,SNR=18						
PFVI				S	**Sn**	**01 41 02.1**	**-3.8**
	comp=N,28nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**6.70**	**130**	P	**Pn**	**01 39 48.7**	**-0.7**
	comp=N,39nm,0.1s,SNR=18						
PCVE	**Castro Verde**	**6.85**	**123**	*e*Pn	**Pn**	**01 39 52.0**	**+0.5**
PCVE				*e*Sn	**Sn**	**01 41 08.1**	**-1.5**
PCVE				A	A	01 41 18.3	
	comp=N,6.2nm,0.7s						
PCVE	**Castro Verde**	**6.85**	**123**	P	**Pn**	**01 39 52.0**	**+0.5**
PCVE				S	**Sn**	**01 41 08.1**	**-1.5**
	comp=N,6.2nm,0.7s						
PCVE	**Castro Verde**	**6.85**	**123**	P	**Pn**	**01 39 52.0**	**+0.5**
PCVE				S	**Sn**	**01 41 08.1**	**-1.5**
	comp=N,6.2nm,0.7s						
EBAD	**Badajoz**	**6.94**	**111**	P	**Pn**	**01 39 53.2**	**+0.5**
	comp=N,71nm,0.1s,SNR=727						
EBAD				S	**Sn**	**01 41 10.4**	**-1.3**
	comp=N,21nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**6.94**	**111**	P	**Pn**	**01 39 53.2**	**+0.5**
	comp=N,71nm,0.1s,SNR=727						
EBAD				S	**Sn**	**01 41 10.4**	**-1.3**
	comp=N,21nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**7.14**	**99**	P	Pn	01 39 57.8	+2.2
	comp=N,14nm,0.1s,SNR=174						
EPLA				S	**Sn**	**01 41 17.9**	**+1.1**
	comp=N,28nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**7.14**	**99**	P	**Pn**	**01 39 57.8**	**+2.2**
	comp=N,14nm,0.1s,SNR=174						
EPLA				S	**Sn**	**01 41 17.9**	**+1.1**
	comp=N,28nm,0.2s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**7.16**	**125**	*e*Pn	**Pn**	**01 39 56.6**	**+0.8**
PBDV				*e*Sn	**Sn**	**01 41 15.7**	**-1.5**
PBDV				A	A	01 41 24.4	
	comp=N,80nm,0.3s						
PBDV	**Barranco-do-Ve**	**7.16**	**125**	P	**Pn**	**01 39 56.6**	**+0.8**
PBDV				S	**Sn**	**01 41 15.7**	**-1.5**
	comp=N,80nm,0.3s						
PBDV	**Barranco-do-Ve**	**7.16**	**125**	P	**Pn**	**01 39 56.6**	**+0.8**
PBDV				S	**Sn**	**01 41 15.7**	**-1.5**
	comp=N,80nm,0.3s						
PVAQ	**Vaqueiros**	**7.20**	**123**	*e*Pn	**Pn**	**01 39 56.8**	**+0.6**
PVAQ				*e*Sn	**Sn**	**01 41 15.7**	**-2.3**
PVAQ				A	A	01 41 22.1	
	comp=N,127nm,0.3s						
PVAQ	**Vaqueiros**	**7.20**	**123**	P	**Pn**	**01 39 56.8**	**+0.6**
PVAQ				S	**Sn**	**01 41 15.7**	**-2.3**
	comp=N,127nm,0.3s						
PVAQ	**Vaqueiros**	**7.20**	**123**	P	**Pn**	**01 39 56.8**	**+0.6**
PBAR	**Barrancos**	**7.20**	**116**	*e*Pn	**Pn**	**01 39 57.5**	**+1.2**
PBAR				*e*Sn	**Sn**	**01 41 17.2**	**-1.0**
PBAR				A	A	01 41 21.4	
	comp=N,287nm,0.5s						
PBAR	**Barrancos**	**7.20**	**116**	P	**Pn**	**01 39 57.5**	**+1.2**
PBAR				S	**Sn**	**01 41 17.2**	**-1.0**
	comp=N,287nm,0.5s						
PBAR	**Barrancos**	**7.20**	**116**	P	**Pn**	**01 39 57.5**	**+1.2**
PBAR				S	**Sn**	**01 41 17.2**	**-1.0**
	comp=N,287nm,0.5s						
EGRO	**El Granado**	**7.26**	**121**	P	**Pn**	**01 39 57.8**	**+0.7**
	comp=N,29nm,0.1s,SNR=110						
EGRO				S	**Sn**	**01 41 18.9**	**-0.8**
	comp=N,8.8nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**7.26**	**121**	P	**Pn**	**01 39 57.8**	**+0.7**
	comp=N,29nm,0.1s,SNR=110						
EGRO				S	**Sn**	**01 41 18.9**	**-0.8**
	comp=N,8.8nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**7.64**	**74**	⇑P	Pn	01 40 06.3	+4.0
	comp=N,32nm,0.3s,SNR=18						
EARI				S	**Sn**	**01 41 31.4**	**+2.5**
	comp=N,3.8nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**7.64**	**74**	P	Pn	01 40 06.3	+4.0
	comp=N,32nm,0.3s,SNR=18						
EARI				S	**Sn**	**01 41 31.4**	**+2.5**
	comp=N,3.8nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**7.66**	**117**	P	Pn	01 40 03.6	+1.0
	comp=N,18nm,0.1s,SNR=278						
EMIN				S	**Sn**	**01 41 28.1**	**-1.4**
	comp=N,18nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**7.66**	**117**	P	**Pn**	**01 40 03.6**	**+1.0**
	comp=N,18nm,0.1s,SNR=278						
EMIN				S	**Sn**	**01 41 28.1**	**-1.4**
	comp=N,18nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**8.37**	**112**	P	**Pn**	**01 40 12.8**	**+0.5**
	comp=N,12nm,0.1s,SNR=148						
ECAB				S	**Sn**	**01 41 44.6**	**-2.2**
	comp=N,2.4nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**8.37**	**112**	P	**Pn**	**01 40 12.8**	**+0.5**
	comp=N,12nm,0.1s,SNR=148						
GUD	**Guadarrama**	**8.45**	**93**	P	Pn	01 40 16.8	+3.2
	comp=N,3.3nm,0.1s,SNR=109						
GUD				S	**Sn**	**01 41 50.8**	**+1.7**
	comp=N,6.3nm,0.1s,SNR=7.9						
GUD	**Guadarrama**	**8.45**	**93**	P	Pn	01 40 16.8	+3.2
	comp=N,3.3nm,0.1s,SNR=109						
GUD				S	**Sn**	**01 41 50.8**	**+1.7**
	comp=N,6.3nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**8.57**	**100**	*e*Pn	Pn	01 40 17.7	+2.5
	comp=N,14nm,0.4s						
PAB	**San Pablo**	**8.57**	**100**	*e*Pn	Pn	01 40 17.7	+2.5
	comp=N,14nm,0.4s						
PAB				*e*S	**Sn**	**01 41 50.4**	**-1.5**
ESPR	**Espera**	**8.71**	**120**	⇑P	**Pn**	**01 40 18.8**	**+1.9**
	comp=N,32nm,0.2s,SNR=18						
ESPR				S	**Sn**	**01 41 56.5**	**+1.4**
	comp=N,43nm,0.3s,SNR=7.9						
ESPR	**Espera**	**8.71**	**120**	P	**Pn**	**01 40 18.8**	**+1.9**
	comp=N,32nm,0.2s,SNR=18						
ESPR				S	**Sn**	**01

comp=N,23nm,0.2s,SNR=48
ETOR S Sn 01 42 27.6 +0.6
comp=N,11nm,0.2s,SNR=7.9
EQES Quesada 10.14 108 P Pn 01 40 37.4 +0.6
comp=N,8.9nm,0.1s,SNR=133
EQES S Sn 01 42 27.3 -3.3
comp=N,16nm,0.2s,SNR=7.9
EQES Quesada 10.14 108 P Pn 01 40 37.4 +0.6
comp=N,8.9nm,0.1s,SNR=133
EQUE Quentar 10.16 112 P Pn 01 40 38.5 +1.6
comp=N,4.5nm,0.2s,SNR=46
EQUE S Sn 01 42 29.0 -2.0
comp=N,1.1nm,0.1s,SNR=7.9
EQUE Quentar 10.16 112 P Pn 01 40 38.5 +1.6
comp=N,4.5nm,0.2s,SNR=46
EVIA Vianos 10.22 103 P Pn 01 40 39.3 +1.5
comp=N,5.9nm,0.2s,SNR=20
EVIA S Sn 01 42 34.7 +2.1
comp=N,22nm,0.2s,SNR=7.9
EVIA Vianos 10.22 103 P Pn 01 40 39.3 +1.5
comp=N,5.9nm,0.2s,SNR=20
EVIA S Sn 01 42 34.7 +2.1
comp=N,22nm,0.2s,SNR=7.9
EARA Aranguren 10.24 79 P Pn 01 40 42.4 +4.4
comp=N,3.8nm,0.1s,SNR=7.8
EARA S Sn 01 42 33.7 +1.0
comp=N,0.7nm,0.1s,SNR=7.9
EGUA Guajares 10.26 114 P Pn 01 40 39.8 +1.6
comp=N,19nm,0.4s,SNR=18
EGUA S Sn 01 42 29.1 -4.2
comp=N,2.5nm,0.2s,SNR=7.9
EGUA Guajares 10.26 114 P Pn 01 40 39.8 +1.6
comp=N,19nm,0.4s,SNR=18
GORA Gorafe 10.31 110 P Pn 01 40 40.6 +1.6
comp=N,17nm,0.2s,SNR=7.9
GORA S Sn 01 42 32.2 -2.5
comp=N,7.2nm,0.2s,SNR=7.9
GORA Gorafe 10.31 110 P Pn 01 40 40.6 +1.6
comp=N,17nm,0.2s,SNR=7.9
EALK Alkurruntz 10.31 76 P Pn 01 40 43.4 +4.5
comp=N,3.3nm,0.2s,SNR=20
EALK S Sn 01 42 37.1 +2.5
comp=N,1.6nm,0.2s,SNR=7.9
EALK Alkurruntz 10.31 76 P Pn 01 40 43.4 +4.5
comp=N,3.3nm,0.2s,SNR=20
EALK S Sn 01 42 37.1 +2.5
comp=N,1.6nm,0.2s,SNR=7.9
SESP Santiago Espad 10.39 105 P Pn 01 40 40.8 +0.6
comp=N,22nm,0.2s,SNR=7.9
SESP S Sn 01 42 35.7 -1.0
comp=N,3.6nm,0.1s,SNR=7.9
SESP Santiago Espad 10.39 105 P Pn 01 40 40.8 +0.6
comp=N,22nm,0.2s,SNR=7.9
SESP S Sn 01 42 35.7 -1.0
comp=N,3.6nm,0.1s,SNR=7.9
EHUE Huescar 10.48 107 P Pn 01 40 42.1 +0.8
comp=N,21nm,0.2s,SNR=7.9
EHUE S Sn 01 42 37.6 -1.2
comp=N,3.4nm,0.2s,SNR=7.9
EHUE Huescar 10.48 107 P Pn 01 40 42.1 +0.8
comp=N,21nm,0.2s,SNR=7.9
IELO Elcoad 10.49 79 P Pn 01 40 45.8 +4.4
comp=N,7.5nm,0.2s,SNR=7.9
IELO S Sn 01 42 41.1 +2.1
comp=N,2.4nm,0.2s,SNR=7.9
IELO Elcoad 10.49 79 P Pn 01 40 45.8 +4.4
comp=N,7.5nm,0.2s,SNR=7.9
IELO S Sn 01 42 41.1 +2.1
comp=N,2.4nm,0.2s,SNR=7.9
OSSF Osses 10.50 76 P Pn 01 40 45.0 +3.6
OSSF Osses 10.50 76 P Pn 01 40 45.0 +3.6
SJPF Ste Jean 10.51 77 *e*Pn **Pn 01 40 44.1 +2.4**
SNR=1.0
SJPF *e*Sn **Sn 01 42 40.3 +0.8**
comp=N,22nm,0.5s
SJPF Ste Jean 10.51 77 P **Pn 01 40 44.1 +2.4**
SJPF S **Sn 01 42 40.3 +0.8**
comp=N,11nm,0.5s
SJPF Ste Jean 10.51 77 P **Pn 01 40 44.1 +2.4**
SJPF S **Sn 01 42 40.3 +0.8**
comp=N,11nm,0.5s
SJPF Ste Jean 10.51 77 *e*Pn **Pn 01 40 44.1 +2.4**
SJPF *e*Sn **Sn 01 42 40.3 +0.8**
QUIF Quistinic 10.67 50 *e*Pn **Pn 01 40 43.5 -0.3**
SNR=1.0
QUIF *e*Sn **Sn 01 42 38.4 -4.9**
comp=N,16nm,0.5s,SNR=1.0
QUIF Quistinic 10.67 50 P **Pn 01 40 43.5 -0.3**
QUIF S **Sn 01 42 38.4 -4.9**
comp=N,7.9nm,0.5s
QUIF Quistinic 10.67 50 P **Pn 01 40 43.5 -0.3**
QUIF Quistinic 10.67 50 *e*Pn **Pn 01 40 43.5 -0.3**
QUIF *e*Sn **Sn 01 42 38.4 -4.9**
LARF Larrau 10.68 78 P Pn 01 40 48.7 +4.7
EBER Berja 10.69 112 P **Pn 01 40 46.1 +1.7**
comp=N,4.9nm,0.1s,SNR=78
EBER S **Sn 01 42 40.9 -3.3**
comp=N,6.6nm,0.3s,SNR=7.9
EBER Berja 10.69 112 P **Pn 01 40 46.1 +1.7**
comp=N,4.9nm,0.1s,SNR=78
ROSF Rostrenen 10.84 48 *e*Pn **Pn 01 40 46.1 0.0**
SNR=1.0
ROSF *e*Sn **Sn 01 42 43.1 -4.3**
comp=N,12nm,0.4s,SNR=1.0
ROSF Rostrenen 10.84 48 P **Pn 01 40 46.1 0.0**
ROSF S **Sn 01 42 43.1 -4.3**
comp=N,6.2nm,0.4s
ROSF Rostrenen 10.84 48 P **Pn 01 40 46.1 0.0**
ROSF Rostrenen 10.84 48 *e*Pn **Pn 01 40 46.1 0.0**
ROSF *e*Sn **Sn 01 42 43.1 -4.3**
ATE Arette 10.90 77 P Pn 01 40 51.5 +4.6
ATE S Sn 01 43 03.6 +15
ATE Arette 10.90 77 P Pn 01 40 51.6 +4.6
comp=N,19nm,0.3s,SNR=7.9
ATE S **Sn 01 42 49.9 +1.0**
comp=N,0.6nm,0.1s,SNR=7.9
VAL Valentia 10.90 17 *e*P **Pn 01 40 45.0 -1.8**
VAL *e*S **Sn 01 42 43.4 -5.3**
ETOB Tobarra 10.92 101 P **Pn 01 40 49.5 +2.1**
comp=N,7.2nm,0.2s,SNR=86
ETOB S **Sn 01 42 47.4 -2.3**
comp=N,1.3nm,0.1s,SNR=7.9
ETOB Tobarra 10.92 101 P **Pn 01 40 49.5 +2.1**
comp=N,7.2nm,0.2s,SNR=86
ETSF Etsaut 10.99 78 *e*Pn Pn 01 40 51.9 +3.6
SNR=1.0
ETSF *e*Sn **Sn 01 42 52.0 +0.7**
comp=N,23nm,0.3s,SNR=1.0
ETSF Etsaut 10.99 78 P Pn 01 40 51.9 +3.6
ETSF S **Sn 01 42 52.0 +0.7**
comp=N,12nm,0.3s
ETSF Etsaut 10.99 78 P Pn 01 40 51.9 +3.6
ETSF S **Sn 01 42 52.0 +0.7**
comp=N,12nm,0.3s
ETSF Etsaut 10.99 78 *e*Pn Pn 01 40 51.9 +3.6
ETSF *e*Sn **Sn 01 42 52.0 +0.7**
CCA1 Carnmenellis 11.07 36 *e*P **Pn 01 40 48.9 -0.3**
CCA1 Carnmenellis 11.07 36 *e*P **Pn 01 40 48.9 -0.3**
ESAC San Caprasio 11.08 84 P Pn 01 40 53.9 +4.3
comp=N,29nm,0.2s,SNR=15
ESAC S **Sn 01 42 55.5 +1.9**
comp=N,9.7nm,0.2s,SNR=7.9
REYF Montagne du Re 11.12 77 P Pn 01 40 54.1 +4.0
REYF S Sn 01 43 09.3 +15
REYF Montagne du Re 11.12 77 P Pn 01 40 54.1 +4.0
ENIJ Nijar 11.13 110 P **Pn 01 40 52.5 +2.3**
comp=N,2.2nm,0.1s,SNR=4.0
ENIJ S **Sn 01 42 53.0 -1.8**
comp=N,1.1nm,0.1s,SNR=7.9
ENIJ Nijar 11.13 110 P **Pn 01 40 52.5 +2.3**
comp=N,2.2nm,0.1s,SNR=4.0
SGMF Saint Gilles 11.20 49 *e*Pn **Pn 01 40 50.7 -0.3**
SNR=1.0
SGMF *e*Sn **Sn 01 42 54.4 -1.7**
comp=N,5.5nm,0.2s,SNR=1.0
SGMF Saint Gilles 11.20 49 P **Pn 01 40 50.7 -0.3**
SGMF S **Sn 01 42 54.4 -1.7**
comp=N,2.8nm,0.2s
SGMF Saint Gilles 11.20 49 P **Pn 01 40 50.7 -0.3**
SGMF Saint Gilles 11.20 49 *e*Pn **Pn 01 40 50.7 -0.3**
SGMF *e*Sn **Sn 01 42 54.4 -1.7**
EMOS Mosqueruela 11.27 91 P Pn 01 40 56.6 +4.4
comp=N,3.9nm,0.2s,SNR=45
EMOS S **Sn 01 42 57.3 -0.9**
comp=N,2.9nm,0.2s,SNR=7.9
VIEF Viey 11.42 78 P Pn 01 40 58.1 +3.9
VIEF Viey 11.42 78 P Pn 01 40 58.1 +3.9

EMUR La Murta 11.45 105 P **Pn 01 40 55.7 +1.2**
comp=N,2.8nm,0.2s,SNR=23
EMUR S **Sn 01 42 59.2 -3.2**
comp=N,0.5nm,0.2s,SNR=7.9
EMUR La Murta 11.45 105 P **Pn 01 40 55.7 +1.2**
comp=N,2.8nm,0.2s,SNR=23
LABF Labassere 11.46 78 P Pn 01 40 59.3 +4.6
KIB El Ksiba 11.64 138 P **Pn 01 40 56.0 -1.2**
KIB S Sn 01 42 59.0 -8.3
KIB El Ksiba 11.64 138 P **Pn 01 40 56.0 -1.2**
EPF Esparros 11.65 78 *e*Pn Pn 01 41 01.8 +4.4
SNR=1.0
EPF *e*Sn **Sn 01 43 07.8 +0.3**
comp=N,19nm,0.4s,SNR=1.0
EPF Esparros 11.65 78 P Pn 01 41 01.8 +4.4
EPF S **Sn 01 43 07.8 +0.3**
comp=N,9.4nm,0.4s
EPF Esparros 11.65 78 *e*Pn Pn 01 41 01.8 +4.4
EPF *e*Sn **Sn 01 43 07.8 +0.3**
TZC Tazercounte 11.77 141 P **Pn 01 40 58.0 -1.0**
TZC S Sn 01 43 01.0 -10
TZC Tazercounte 11.77 141 P **Pn 01 40 58.0 -1.0**
ERTA Horta de San J 11.77 88 P Pn 01 41 02.7 +3.8
comp=N,1.8nm,0.1s,SNR=7.9
ERTA S **Sn 01 43 10.0 -0.3**
comp=N,1.4nm,0.2s,SNR=7.9
ERTA Horta de San J 11.77 88 P Pn 01 41 02.7 +3.8
comp=N,1.8nm,0.1s,SNR=7.9
CZD Col de Zad 11.81 133 P **Pn 01 40 59.0 -0.7**
CZD S Sn 01 43 05.0 -6.6
CZD Col de Zad 11.81 133 P **Pn 01 40 59.0 -0.7**
DYA Yadsworthy 11.83 38 *e*P **Pn 01 40 59.6 0.0**
DYA Yadsworthy 11.83 38 *e*P **Pn 01 40 59.6 0.0**
EBEN Beniarda 11.88 99 P Pn 01 41 03.4 +3.0
comp=N,0.4nm,0.1s,SNR=7.9
EBEN S **Sn 01 43 11.7 -1.4**
comp=N,0.4nm,0.1s,SNR=7.9
EBEN Beniarda 11.88 99 P Pn 01 41 03.4 +3.0
comp=N,0.4nm,0.1s,SNR=7.9
JSA Saint Aubin 11.92 46 *e*P **Pn 01 41 02.0 +1.1**
JSA Saint Aubin 11.92 46 *e*P **Pn 01 41 02.0 +1.1**
MFF Saint Martin d 11.97 60 *e*Pn **Pn 01 41 02.5 +0.9**
SNR=1.0
MFF *e*Sn **Sn 01 43 14.0 -1.0**
comp=N,17nm,0.3s,SNR=1.0
MFF Saint Martin d 11.97 60 P **Pn 01 41 02.5 +0.9**
MFF S **Sn 01 43 14.0 -1.0**
comp=N,8.5nm,0.3s
MFF Saint Martin d 11.97 60 P **Pn 01 41 02.5 +0.9**
MFF Saint Martin d 11.97 60 *e*Pn **Pn 01 41 02.5 +0.9**
MFF *e*Sn **Sn 01 43 14.0 -1.0**
HTL Hartland 11.98 35 *e*P **Pn 01 41 01.8 +0.1**
HTL Hartland 11.98 35 *e*P **Pn 01 41 01.8 +0.1**
LFF La Frestale 12.14 69 *e*Pn **Pn 01 41 05.8 +1.8**
SNR=1.0
LFF *e*Sn **Sn 01 43 19.2 -0.2**
comp=N,20nm,0.4s
LFF La Frestale 12.14 69 P **Pn 01 41 05.8 +1.8**
LFF S **Sn 01 43 19.2 -0.2**
comp=N,9.9nm,0.4s
LFF La Frestale 12.14 69 P **Pn 01 41 05.8 +1.8**
LFF La Frestale 12.14 69 *e*Pn **Pn 01 41 05.8 +1.8**
LFF *e*Sn **Sn 01 43 19.2 -0.2**
MDT Midelt 12.21 133 Pn **Pn 01 41 03.2 -1.8**
comp=N,7.0nm,0.3s,baz=315,slow=14,SNR=239
MDT Sn Sn 01 43 12.7 -8.5
comp=N,5.9nm,0.3s,baz=204,slow=20,SNR=9.6
CSOR Sort 12.24 81 P Pn 01 41 10.2 +4.7
comp=N,0.8nm,0.2s,SNR=7.9
CSOR S **Sn 01 43 23.7 +1.7**
comp=N,0.3nm,0.1s,SNR=7.9
CSOR Sort 12.24 81 S **Sn 01 43 23.7 +1.7**
comp=N,0.3nm,0.1s,SNR=7.9
GRR Gorron 12.25 52 *e*Pn **Pn 01 41 05.7 +0.4**
SNR=1.0
GRR Gorron 12.25 52 P **Pn 01 41 05.7 +0.4**
GRR Gorron 12.25 52 P **Pn 01 41 05.7 +0.4**
GRR Gorron 12.25 52 *e*Pn **Pn 01 41 05.7 +0.4**
EPOB Poblet 12.28 86 P Pn 01 41 09.3 +3.4
comp=N,1.6nm,0.2s,SNR=7.9
EPOB S **Sn 01 43 21.3 -1.4**
comp=N,0.3nm,0.2s,SNR=7.9
EPOB Poblet 12.28 86 P Pn 01 41 09.3 +3.4
comp=N,1.6nm,0.2s,SNR=7.9
HEX Exmoor 12.33 36 *e*P **Pn 01 41 06.0 -0.5**
EMIR Miracle 12.56 83 S **Sn 01 43 28.6 -1.1**
comp=N,0.9nm,0.2s,SNR=7.9
FLN La Foliniere 12.64 51 *e*Pn **Pn 01 41 11.4 +0.6**
baz=240,SNR=1.0
FLN *e*Sn **Sn 01 43 28.8 -2.8**
comp=N,11nm,0.5s
FLN La Foliniere 12.64 51 P **Pn 01 41 11.4 +0.6**
FLN S **Sn 01 43 28.8 -2.8**
comp=N,5.6nm,0.5s
FLN La Foliniere 12.64 51 P **Pn 01 41 11.4 +0.6**
FLN La Foliniere 12.64 51 *e*Pn **Pn 01 41 11.4 +0.6**
FLN *e*Sn **Sn 01 43 28.8 -2.8**
RJF Les Rejaudoux 12.75 68 *e*Pn **Pn 01 41 14.2 +1.9**
SNR=1.0
RJF *e*Sn **Sn 01 43 30.7 -3.5**
comp=N,16nm,0.3s
RJF Les Rejaudoux 12.75 68 P **Pn 01 41 14.2 +1.9**
RJF S **Sn 01 43 30.7 -3.5**
comp=N,8.2nm,0.3s
RJF Les Rejaudoux 12.75 68 P **Pn 01 41 14.2 +1.9**
RJF Les Rejaudoux 12.75 68 *e*Pn **Pn 01 41 14.2 +1.9**
RJF *e*Sn **Sn 01 43 30.7 -3.5**
LDF La Druitiere 12.78 52 *e*Pn **Pn 01 41 12.9 +0.3**
SNR=1.0
LDF *e*Sn **Sn 01 43 32.8 -2.0**
comp=N,13nm,0.6s
LDF La Druitiere 12.78 52 *e*Pn **Pn 01 41 12.9 +0.3**
SNR=1.0
LDF La Druitiere 12.78 52 *e*Pn **Pn 01 41 12.9 +0.3**
LDF *e*Sn **Sn 01 43 32.8 -2.0**
CLLI Llivia 12.86 80 P Pn 01 41 18.4 +4.5
comp=N,1.6nm,0.2s,SNR=7.9
CLLI S **Sn 01 43 38.0 +0.9**
comp=N,0.2nm,0.1s,SNR=7.9
CLLI Llivia 12.86 80 S **Sn 01 43 38.0 +0.9**
comp=N,0.2nm,0.1s,SNR=7.9
ZFT Errachidia 12.95 134 P **Pn 01 41 14.0 -1.2**
ZFT S Sn 01 43 31.0 -8.4
ZFT Errachidia 12.95 134 P **Pn 01 41 14.0 -1.2**
EIBI Ibiza 12.95 96 P Pn 01 41 18.2 +3.2
comp=N,1.3nm,0.3s,SNR=4.0
EIBI S **Sn 01 43 37.8 -1.3**
comp=N,0.7nm,0.2s,SNR=7.9
EIBI Ibiza 12.95 96 P Pn 01 41 18.2 +3.2
comp=N,1.3nm,0.3s,SNR=4.0
LPW Lampeter 13.00 32 *e*P **Pn 01 41 15.5 -0.1**
LPW Lampeter 13.00 32 *e*P **Pn 01 41 15.5 -0.1**
MTLF Montolieu 13.04 77 *e*Pn **Pn 01 41 17.8 +1.6**
SNR=1.0
MTLF *e*Sn **Sn 01 43 40.7 -0.5**
comp=N,8.4nm,0.4s
MTLF Montolieu 13.04 77 P **Pn 01 41 17.8 +1.6**
MTLF S **Sn 01 43 40.7 -0.5**
comp=N,4.2nm,0.4s
MTLF Montolieu 13.04 77 P **Pn 01 41 17.8 +1.6**
MTLF Montolieu 13.04 77 *e*Pn **Pn 01 41 17.8 +1.6**
MTLF *e*Sn **Sn 01 43 40.7 -0.5**
CAF Calviac 13.07 69 *e*Pn **Pn 01 41 18.6 +1.9**
SNR=1.0
CAF *e*Sn **Sn 01 43 40.8 -1.3**
comp=N,20nm,0.5s
CAF Calviac 13.07 69 P **Pn 01 41 18.6 +1.9**
CAF S **Sn 01 43 40.8 -1.3**
comp=N,9.8nm,0.5s
CAF Calviac 13.07 69 P **Pn 01 41 18.6 +1.9**
CAF Calviac 13.07 69 *e*Pn **Pn 01 41 18.6 +1.9**
CAF *e*Sn **Sn 01 43 40.8 -1.3**
DSB Dublin 13.10 24 Pn **Pn 01 41 15.6 -1.4**
CFON Fontmartina 13.25 83 P Pn 01 41 22.2 +3.0
comp=N,7.0nm,0.2s,SNR=4.0
CFON S **Sn 01 43 45.6 -0.9**
comp=N,1.9nm,0.2s,SNR=7.9
CFON Fontmartina 13.25 83 P Pn 01 41 22.2 +3.0
comp=N,7.0nm,0.2s,SNR=4.0
MCH1 Michaelchurch 13.35 35 *e*P **Pn 01 41 20.4 0.0**
MCH1 AMB AMB 01 41 22.5
comp=Z,15nm,0.6s
MCH1 Michaelchurch 13.35 35 *e*P **Pn 01 41 20.4 0.0**
TCF Toulx Ste Croi 13.44 64 *e*Pn **Pn 01 41 23.2 +1.5**
SNR=1.0
TCF *e*Sn **Sn 01 43 47.6 -3.5**
comp=Z,18nm,0.3s
TCF Toulx Ste Croi 13.44 64 P **Pn 01 41 23.2 +1.5**
TCF S **Sn 01 43 47.6 -3.5**
comp=Z,9.2nm,0.3s
TCF Toulx Ste Croi 13.44 64 P **Pn 01 41 23.2 +1.5**
TCF Toulx Ste Croi 13.44 64 *e*Pn **Pn 01 41 23.2 +1.5**
TCF *e*Sn **Sn 01 43 47.6 -3.5**
SJAF Saint Jean de 13.53 80 P P 01 41 28.6 -3.6
SNR=7.9
EJON La Jonquera 13.54 80 P Pn 01 41 27.8 +4.8
SNR=7.9
EJON La Jonquera 13.54 80 P Pn 01 41 27.8 +4.8
SNR=7.9
SWN1 Swindon 13.55 38 *e*P **Pn 01 41 24.4 +1.3**
STRD Stroud 13.56 37 *e*P **Pn 01 41 23.8 +0.5**
STRD AMB AMB 01 41 30.9
comp=Z,34nm,1.8s
HLM1 Long Mynd 13.78 33 *e*P **Pn 01 41 26.5 +0.2**
HLM1 AMB AMB 01 41 28.1
comp=Z,14nm,1.3s
WLF1 Llynfaes 13.79 28 *e*P **Pn 01 41 26.3 -0.1**
WLF1 AMB AMB 01 41 31.8
comp=Z,13nm,1.4s
SSW Stow on the Wo 13.84 37 *e*P **Pn 01 41 26.8 -0.2**
ETOS Mallorca 13.86 92 P Pn 01 41 30.6 +3.2
SNR=7.9
PYM Petit Puy Mans 13.87 66 P Pn 01 41 31.4 +3.9
PYM S **S 01 44 18.2 -5.6**
FOEL Foel Wylfa 13.93 32 *e*P **Pn 01 41 29.2 +0.9**
FOEL AMB AMB 01 41 31.3
comp=Z,22nm,1.9s
LBL Lubilhac 13.94 69 P Pn 01 41 32.2 +3.6
LBL S S 01 44 19.6 -5.8
WPM1 Penmaenmawr 13.95 29 *e*P **Pn 01 41 29.1 +0.6**
HYF Humbligny 13.99 60 *e*Pn **Pn 01 41 30.7 +1.5**
HYF *e*Sn **Sn 01 44 02.7 -1.7**
HYF Humbligny 13.99 60 P **Pn 01 41 30.7 +1.5**
HYF S **Sn 01 44 02.7 -1.7**
HYF Humbligny 13.99 60 *e*Pn **Pn 01 41 30.7 +1.5**
HYF Humbligny 13.99 60 *e*Pn **Pn 01 41 30.7 +1.5**
HYF *e*Sn **Sn 01 44 02.7 -1.7**
AGO Saint Agoulin 14.01 65 P Pn 01 41 32.8 +3.3
AGO S **S 01 44 21.3 -5.3**
LASF Ste Croix 14.26 74 *e*Pn **Pn 01 41 35.1 +2.2**
LASF *e*Sn **Sn 01 44 07.4 -3.6**
comp=Z,17nm,0.5s
LASF Ste Croix 14.26 74 P **Pn 01 41 35.1 +2.2**
LASF S **Sn 01 44 07.4 -3.6**
comp=Z,8.4nm,0.5s
LASF Ste Croix 14.26 74 *e*Pn **Pn 01 41 35.1 +2.2**
LASF Ste Croix 14.26 74 *e*Pn **Pn 01 41 35.1 +2.2**
LASF *e*Sn **Sn 01 44 07.4 -3.6**
AVF Avril sur Loir 14.33 63 *e*Pn **Pn 01 41 34.7 +0.9**
SNR=1.0
AVF *e*Sn **Sn 01 44 07.9 -4.7**
comp=Z,12nm,0.5s
AVF Avril sur Loir 14.33 63 P **Pn 01 41 34.7 +0.9**
AVF S **Sn 01 44 07.9 -4.7**
comp=Z,5.9nm,0.5s
AVF Avril sur Loir 14.33 63 *e*Pn **Pn 01 41 34.7 +0.9**
SNR=1.0
AVF Avril sur Loir 14.33 63 *e*Pn **Pn 01 41 34.7 +0.9**
AVF *e*Sn **Sn 01 44 07.9 -4.7**
PLDF La Plantade 14.33 66 P Pn 01 41 37.1 +3.2
PLDF S **S 01 44 29.8 -3.4**
SSF Saint Saulge 14.50 62 *e*Pn **Pn 01 41 37.8 +1.7**
SNR=1.0
SSF *e*Sn **Sn 01 44 14.0 -2.8**
comp=Z,5.5nm,0.2s
SSF Saint Saulge 14.50 62 P **Pn 01 41 37.8 +1.7**
SSF S **Sn 01 44 14.0 -2.8**
comp=Z,2.8nm,0.2s
SSF Saint Saulge 14.50 62 *e*Pn **Pn 01 41 37.8 +1.7**
SNR=1.0
SSF Saint Saulge 14.50 62 *e*Pn **Pn 01 41 37.8 +1.7**
SSF *e*Sn **Sn 01 44 14.0 -2.8**
SMF Signal de Mont 14.62 63 *e*Pn **Pn 01 41 38.9 +1.1**
SNR=1.0
SMF *e*Sn **Sn 01 44 18.1 -1.7**
comp=Z,6.0nm,0.3s
SMF Signal de Mont 14.62 63 P **Pn 01 41 38.9 +1.1**
SMF S **Sn 01 44 18.1 -1.7**
comp=Z,3.0nm,0.3s
SMF Signal de Mont 14.62 63 *e*Pn **Pn 01 41 38.9 +1.1**
SNR=1.0
SMF Signal de Mont 14.62 63 *e*Pn **Pn 01 41 38.9 +1.1**
SMF *e*Sn **Sn 01 44 18.1 -1.7**
LOR Lormes 14.79 61 *e*Pn **Pn 01 41 41.4 +1.3**
baz=253,SNR=1.0
LOR *e*Sn **Sn 01 44 19.6 -4.3**
comp=Z,5.4nm,0.3s
LOR Lormes 14.79 61 P **Pn 01 41 41.4 +1.3**
LOR S **Sn 01 44 19.6 -4.3**
comp=Z,2.7nm,0.3s
LOR Lormes 14.79 61 *e*Pn **Pn 01 41 41.4 +1.3**
baz=253,SNR=1.0
LOR Lormes 14.79 61 *e*Pn **Pn 01 41 41.4 +1.3**
LOR *e*Sn **Sn 01 44 19.6 -4.3**
SSB Saint Sauveur 14.86 69 *e*Pn Pn 01 41 43.7 +2.6
comp=Z,3.6nm,0.4s
SSB Saint Sauveur 14.86 69 *e*Pn Pn 01 41 43.6 +2.6
comp=Z,3.6nm,0.4s
VIVF Saint-Julien-l 14.90 71 *e*Pn **Pn 01 41 43.6 +2.0**
SNR=1.0
VIVF *e*Sn **Sn 01 44 25.2 -1.5**
comp=Z,13nm,0.4s
VIVF Saint-Julien-l 14.90 71 P **Pn 01 41 43.6 +2.0**
VIVF S **Sn 01 44 25.2 -1.5**
comp=Z,6.3nm,0.4s
VIVF Saint-Julien-l 14.90 71 *e*Pn **Pn 01 41 43.6 +2.0**
SNR=1.0
VIVF Saint-Julien-l 14.90 71 *e*Pn **Pn 01 41 43.6 +2.0**
VIVF *e*Sn **Sn 01 44 25.2 -1.5**
LHO Holmfirth 14.96 32 *e*P **Pn 01 41 42.8 +0.4**
MENF Mencas 15.02 48 P **Pn 01 41 46.1 +2.9**
HPK Haverah Park 15.36 32 *e*P **Pn 01 41 47.7 +0.1**
HPK AMB AMB 01 41 52.4
comp=Z,21nm,2.9s
SMRF Simiane la Rot 15.49 74 *e*Pn **P 01 41 52.1 -1.8**
SMRF Simiane la Rot 15.49 74 P **P 01 41 52.1 -1.8**
SMRF Simiane la Rot 15.49 74 P **P 01 41 52.1 -1.8**
SMRF Simiane la Rot 15.49 74 *e*Pn **P 01 41 52.1 -1.8**
ORIF Oris-en-Rattie 15.76 71 *e*Pn **Pn 01 41 54.9 +1.9**
SNR=1.0
ORIF *e*Sn **Sn 01 44 45.9 -1.8**
comp=Z,9.2nm,0.8s
ORIF Oris-en-Rattie 15.76 71 P **Pn 01 41 54.9 +1.9**
ORIF S **Sn 01 44 45.9 -1.8**
comp=Z,4.6nm,0.8s
ORIF Oris-en-Rattie 15.76 71 *e*Pn **Pn 01 41 54.9 +1.9**
SNR=1.0
ORIF Oris-en-Rattie 15.76 71 *e*Pn **Pn 01 41 54.9 +1.9**
ORIF *e*Sn **Sn 01 44 45.9 -1.8**
SFTF Sexfontaines 15.81 58 *e*Pn **Pn 01 41 54.7 +1.1**
baz=227
SFTF *e*Sn **Sn 01 44 42.4 -6.4**
comp=Z,7.5nm,0.4s
SFTF Sexfontaines 15.81 58 P **Pn 01 41 54.7 +1.1**
SFTF S **Sn 01 44 42.4 -6.4**
comp=Z,7.5nm,0.4s
SFTF Sexfontaines 15.81 58 *e*Pn **Pn 01 41 54.7 +1.1**
baz=227
SFTF Sexfontaines 15.81 58 *e*Pn **Pn 01 41 54.7 +1.1**
SFTF *e*Sn **Sn 01 44 42.4 -6.4**
ESK Eskdalemuir 15.85 26 *e*P **Pn 01 41 54.5 +0.4**
ESK AMB AMB 01 41 57.7
comp=Z,27nm,3.2s
ESK Eskdalemuir 15.85 26 *e*Pn **Pn 01 41 53.7 -0.3**
comp=Z,1.6nm,0.3s
ESK Eskdalemuir 15.85 26 *e*Pn **Pn 01 41 53.7 -0.3**
comp=Z,1.6nm,0.3s
EKA Eskdalemuir Ar 15.88 26 Pn **Pn 01 41 53.1 -1.3**
baz=209,slow=13,SNR=16
MEZF Maizieres J'vi 15.91 57 *e*Pn **Pn 01 41 56.3 +1.4**
baz=254,SNR=1.0
MEZF Maizieres J'vi 15.91 57 P **Pn 01 41 56.3 +1.4**
MEZF Maizieres J'vi 15.91 57 *e*Pn **Pn 01 41 56.3 +1.4**
baz=254,SNR=1.0
MEZF Maizieres J'vi 15.91 57 *e*Pn **Pn 01 41 56.3 +1.4**
BAIF Baives 15.96 51 *e*Pn **Pn 01 41 56.7 +1.2**
SNR=1.0
BAIF Baives 15.96 51 P **Pn 01 41 56.7 +1.2**
BAIF Baives 15.96 51 *e*Pn **Pn 01 41 56.7 +1.2**
SNR=1.0

BAIF	**Baives**	**15.96**	**51**	*e*Pn		**Pn**	**01 41 56.7**	**+1.2**
CABF	**La Chapelle**	**16.13**	**65**	*e*Pn		**P**	**01 41 59.9**	**-1.1**
	SNR=1.0							
CABF				*e*Sn		**Sn**	**01 44 54.2**	**-2.4**
	comp=Z,114nm,0.9s							
CABF	**La Chapelle**	**16.13**	**65**	P		**P**	**01 41 59.9**	**-1.1**
CABF				S		**Sn**	**01 44 54.2**	**-2.4**
	comp=Z,7.2nm,0.9s							
CABF	**La Chapelle**	**16.13**	**65**	P		**P**	**01 41 59.9**	**-1.1**
CABF	**La Chapelle**	**16.13**	**65**	*e*Pn		**P**	**01 41 59.9**	**-1.1**
CABF				*e*Sn		**Sn**	**01 44 54.2**	**-2.4**
DOU	**Dourbes**	**16.21**	**52**	P		**Pn**	**01 42 00.2**	**+1.5**
DOU	**Dourbes**	**16.21**	**52**	P		**Pn**	**01 42 00.1**	**+1.5**
FRF	**La Foret Royal**	**16.26**	**76**	*e*Pn		**P**	**01 42 02.3**	**-0.2**
	SNR=1.0							
FRF	**La Foret Royal**	**16.26**	**76**	P		**P**	**01 42 02.3**	**-0.2**
FRF	**La Foret Royal**	**16.26**	**76**	P		**P**	**01 42 02.3**	**-0.2**
FRF	**La Foret Royal**	**16.26**	**76**	*e*Pn		**P**	**01 42 02.3**	**-0.2**
GIVF	**Givet**	**16.34**	**52**	*e*Pn		**P**	**01 42 02.4**	**-0.9**
	SNR=1.0							
GIVF	**Givet**	**16.34**	**52**	P		**P**	**01 42 02.4**	**-0.9**
GIVF	**Givet**	**16.34**	**52**	P		**P**	**01 42 02.4**	**-0.9**
GIVF	**Givet**	**16.34**	**52**	*e*Pn		**P**	**01 42 02.4**	**-0.9**
PAGF	**Fort de Pagny**	**16.35**	**58**	*e*Pn		**Pn**	**01 42 01.9**	**+1.4**
	baz=240							
PAGF	**Fort de Pagny**	**16.35**	**58**	*e*Pn		**Pn**	**01 42 01.9**	**+1.4**
PAGF	**Fort de Pagny**	**16.35**	**58**	*e*Pn		**Pn**	**01 42 01.9**	**+1.4**
MBDF	**Montbardon**	**16.38**	**72**	*e*Pn		**P**	**01 42 04.1**	**+0.2**
	SNR=1.0							
MBDF	**Montbardon**	**16.38**	**72**	P		**P**	**01 42 04.1**	**+0.2**
MBDF	**Montbardon**	**16.38**	**72**	P		**P**	**01 42 04.1**	**+0.2**
MBDF	**Montbardon**	**16.38**	**72**	*e*Pn		**P**	**01 42 04.1**	**+0.2**
LPL	**La Plagne**	**16.42**	**69**	*e*Pn		**P**	**01 42 04.8**	**+0.4**
LPL	**La Plagne**	**16.42**	**69**	P		**P**	**01 42 04.8**	**+0.4**
LPL	**La Plagne**	**16.42**	**69**	P		**P**	**01 42 04.8**	**+0.4**
LPL	**La Plagne**	**16.42**	**69**	*e*Pn		**P**	**01 42 04.8**	**+0.4**
LPG	**La Plagne**	**16.43**	**69**	*e*Pn		**P**	**01 42 05.0**	**+0.4**
	SNR=1.0							
LPG	**La Plagne**	**16.43**	**69**	P		**P**	**01 42 05.0**	**+0.4**
LPG	**La Plagne**	**16.43**	**69**	P		**P**	**01 42 05.0**	**+0.4**
LPG	**La Plagne**	**16.43**	**69**	*e*Pn		**P**	**01 42 05.0**	**+0.4**
HAU	**Haudompre**	**16.60**	**60**	*e*Pn		**Pn**	**01 42 04.7**	**+1.0**
	SNR=1.0							
HAU				*e*Sn		**Sn**	**01 45 02.6**	**-5.4**
	comp=Z,6.6nm,0.5s							
HAU	**Haudompre**	**16.60**	**60**	P		**Pn**	**01 42 04.7**	**+1.0**
HAU				S		**Sn**	**01 45 02.6**	**-5.4**
	comp=Z,3.3nm,0.5s							
HAU	**Haudompre**	**16.60**	**60**	P		**Pn**	**01 42 04.7**	**+1.0**
HAU	**Haudompre**	**16.60**	**60**	*e*Pn		**Pn**	**01 42 04.7**	**+1.0**
HAU				*e*Sn		**Sn**	**01 45 02.6**	**-5.4**
SBF	**Sospel**	**16.83**	**75**	*e*Pn		**P**	**01 42 09.6**	**+0.7**
SBF	**Sospel**	**16.83**	**75**	P		**P**	**01 42 09.6**	**+0.7**
SBF	**Sospel**	**16.83**	**75**	P		**P**	**01 42 09.6**	**+0.7**
SBF	**Sospel**	**16.83**	**75**	*e*Pn		**P**	**01 42 09.6**	**+0.7**
HINF	**Hinteralfeld**	**16.89**	**61**	*e*Pn		**Pn**	**01 42 08.5**	**+1.1**
	SNR=1.0							
HINF				*e*Sn		**Sn**	**01 45 09.3**	**-5.6**
	comp=Z,3.9nm,0.5s							
HINF	**Hinteralfeld**	**16.89**	**61**	P		**Pn**	**01 42 08.5**	**+1.1**
HINF				S		**Sn**	**01 45 09.3**	**-5.6**
	comp=Z,1.9nm,0.5s							
HINF	**Hinteralfeld**	**16.89**	**61**	P		**Pn**	**01 42 08.5**	**+1.1**
HINF	**Hinteralfeld**	**16.89**	**61**	*e*Pn		**Pn**	**01 42 08.5**	**+1.1**
HINF				*e*Sn		**Sn**	**01 45 09.3**	**-5.6**
MEM	**Membach**	**17.24**	**51**	P		**P**	**01 42 16.8**	**+3.5**
CDF	**Champ du Feu**	**17.31**	**59**	*e*Pn		**P**	**01 42 15.5**	**+1.4**
CDF	**Champ du Feu**	**17.31**	**59**	P		**P**	**01 42 15.5**	**+1.4**
CDF	**Champ du Feu**	**17.31**	**59**	P		**P**	**01 42 15.5**	**+1.4**
CDF	**Champ du Feu**	**17.31**	**59**	*e*Pn		**P**	**01 42 15.5**	**+1.4**
BFO	**Black Forest**	**17.97**	**60**	*e*Pn		**P**	**01 42 23.4**	**+2.0**
	comp=Z,2.3nm,0.7s							
BFO	**Black Forest**	**17.97**	**60**	*e*Pn		**P**	**01 42 23.4**	**+2.0**
	comp=Z,2.3nm,0.7s							
KEST	**Kesra**	**20.07**	**99**	P		Pn	01 42 46.9	+0.5
	comp=Z,3.2nm,1.1s,baz=0.0,slow=6.1,SNR=3.2							
GERES	**GERESS Array B**	**21.57**	**61**	P		**P**	**01 43 01.6**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=265,slow=9.2,SNR=8.4							
GERES				LR		LR	01 50 32.3	
	comp=Z,17nm,21.5s,baz=292,slow=34							
NB2	**NORSAR Subarra**	**25.24**	**31**	P		**P**	**01 43 36.6**	**-0.3**
	comp=Z,3.0nm,0.8s,baz=232,slow=9.3							
NB2	**NORSAR Subarra**	**25.24**	**31**	P		**P**	**01 43 36.6**	**-0.3**
	comp=Z,3.0nm,0.8s,SNR=4.0							
NOA	**NORSAR Array B**	**25.24**	**31**	P		**P**	**01 43 36.7**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=233,slow=9.1,SNR=3.9							
NOA				LR		LR	01 53 48.2	
	comp=Z,14nm,19.1s,baz=235,slow=37							
HFS	**Hagfors**	**25.70**	**34**	P		**P**	**01 43 39.9**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=209,slow=8.5,SNR=7.2							
AKASG	**Malin Array B**	**31.72**	**58**	P		**P**	**01 44 34.5**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=272,slow=9.2,SNR=5.1							
FINES	**FINESS Array B**	**31.72**	**37**	P		**P**	**01 44 34.2**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=232,slow=8.7,SNR=4.7							
FINES				LR		LR	01 57 49.8	
	comp=Z,42nm,21.9s,baz=10.0,slow=37							
TOA0	**Torodi Ar. Sit**	**31.98**	**148**	*e*P		P	01 44 33.5	-3.8
TOA0	**Torodi Ar. Sit**	**31.98**	**148**	*e*P		P	01 44 33.5	-3.8
TORD	**Torodi Ar. Bea**	**31.98**	**148**	P		P	01 44 33.5	-3.8
	comp=Z,2.3nm,0.7s,baz=328,slow=9.6,SNR=26							
ARCES	**ARCESS Array B**	**35.02**	**24**	P		**P**	**01 45 01.2**	**-2.1**
	comp=Z,1.4nm,0.7s,baz=232,slow=9.0,SNR=9.1							
BRTR	**Keskin Array B**	**36.76**	**76**	P		**P**	**01 45 19.9**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=288,slow=8.2,SNR=3.6							
BRTR	**Keskin Array B**	**36.76**	**76**	P		**P**	**01 45 20.0**	**+1.2**
ZALV	**Zalesovo Beam**	**62.88**	**41**	P		**P**	**01 48 35.9**	**-1.0**
	comp=Z,1.5nm,0.5s,baz=309,slow=7.5,SNR=6.3							
MKAR	**Makanchi Array**	**65.62**	**48**	P		**P**	**01 48 54.3**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=304,slow=5.6,SNR=8.8							
PDAR	**Pinedale Array**	**66.03**	**307**	P		P	01 48 48.1	-10
	comp=Z,0.4nm,0.5s,baz=46,slow=5.2,SNR=4.0							
ILAR	**Eielson Array**	**67.40**	**340**	P		P	01 49 00.6	-5.6
	comp=Z,0.2nm,0.8s,baz=33,slow=6.9,SNR=3.1							
WRA	**Warramunga Arr**	**146.40**	**59**	PKPbc		**PKPdf**	**01 57 48.8**	**-2.4**
	comp=Z,0.5nm,0.9s,baz=338,slow=2.7,SNR=4.7							
ASAR	**Alice Springs**	**148.71**	**65**	PKPbc		**PKPdf**	**01 57 54.4**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=300,slow=0.9,SNR=4.5							

ISCJB ***17*** *01:47:14.9±0.8, 36°.04N±0°.09×4°.04E±0°.07, h12km±8km, Error ellipse: s-maj=16.1km s-min=9.1km az=8.3*
CRAAG ***17*** *01:47:14.0, 35°.97N×4°.08E, MI3.0*
MDD ***17*** *01:47:15.4±0.5, 35°.95N×4°.08E, h0km, mb4.0/4, Error ellipse: s-maj=17.1km s-min=4.3km az=25.0, PRXIMO*
CSEM ***17*** *01:47:15.0±0.4, 36°.04N×4°.09E, h2km, ML3.0, Error ellipse: s-maj=15.6km s-min=8.1km az=19.0*

ISC 17 01:47:14.7±1.3, 36°.00N±0°.07×4°.10E±0°.04, h9km±10km, n29, σ1°24/35, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AKET	**Djebel Ketaf**	**0.18**	**286**	P		**Pg**	**01 47 18.5**	**-0.2**
AKET	**Djebel Ketaf**	**0.18**	**286**	P		**Pg**	**01 47 18.5**	**-0.2**
AKET	**Djebel Ketaf**	**0.18**	**286**	P		**Pg**	**01 47 18.5**	**-0.2**
ATAF	**Djebel Tarf**	**0.19**	**131**	P		**Pg**	**01 47 18.4**	**-0.3**
ATAF	**Djebel Tarf**	**0.19**	**131**	P		**Pg**	**01 47 18.4**	**-0.3**
ATAF	**Djebel Tarf**	**0.19**	**131**	P		**Pg**	**01 47 18.4**	**-0.3**
CKHR	**Kef el Ahmar**	**1.15**	**89**	P		**Pn**	**01 47 37.9**	**+0.9**
CKHR	**Kef el Ahmar**	**1.15**	**89**	P		**Pn**	**01 47 37.9**	**+0.9**
CKHR	**Kef el Ahmar**	**1.15**	**89**	P		**Pn**	**01 47 37.9**	**+0.9**
OKGL	**Djebel Kef Gue**	**2.80**	**272**	P		**Pn**	**01 48 00.1**	**+0.4**
	7.5nm,0.1s,SNR=7.9							
OKGL	**Djebel Kef Gue**	**2.80**	**272**	P		**Pn**	**01 48 00.1**	**+0.4**
	7.5nm,0.1s,SNR=7.9							
EIBI	**Ibiza**	**3.73**	**325**	P		**Pn**	**01 48 12.9**	**+0.4**
	0.7nm,0.1s,SNR=7.9							
EIBI	**Ibiza**	**3.73**	**325**	P		**Pn**	**01 48 12.9**	**+0.4**
	0.7nm,0.1s,SNR=7.9							
ETOS	**Mallorca**	**3.90**	**345**	P		**Pn**	**01 48 14.3**	**-0.5**
	1.0nm,0.2s,SNR=7.9							
ETOS				S		**Sn**	**01 49 00.6**	**-0.1**
	0.1nm,0.1s,SNR=7.9							
ETOS	**Mallorca**	**3.90**	**345**	P		**Pn**	**01 48 14.3**	**-0.5**
	1.0nm,0.2s,SNR=7.9							
ETOS				S		**Sn**	**01 49 00.6**	**-0.1**
	0.1nm,0.1s,SNR=7.9							
EBEN	**Beniarda**	**4.38**	**309**	P		**Pn**	**01 48 22.6**	**+1.2**
	0.2nm,0.2s,SNR=7.9							
EBEN	**Beniarda**	**4.38**	**309**	P		**Pn**	**01 48 22.6**	**+1.2**
	0.2nm,0.2s,SNR=7.9							
EMUR	**La Murta**	**4.66**	**295**	P		**Pn**	**01 48 26.2**	**+1.0**
	1.6nm,0.2s,SNR=8.9							
EMUR	**La Murta**	**4.66**	**295**	P		**Pn**	**01 48 26.2**	**+1.0**
	1.6nm,0.2s,SNR=8.9							
ETOB	**Tobarra**	**5.22**	**302**	P		**Pn**	**01 48 34.6**	**+1.6**
	0.8nm,0.2s,SNR=9.8							
ETOB				S		**Sn**	**01 49 33.0**	**-0.3**
	0.1nm,0.2s,SNR=7.9							
ETOB	**Tobarra**	**5.22**	**302**	P		**Pn**	**01 48 34.6**	**+1.6**
	0.8nm,0.2s,SNR=9.8							
ETOB				S		**Sn**	**01 49 33.0**	**-0.3**
	0.1nm,0.2s,SNR=7.9							
EHUE	**Huescar**	**5.66**	**291**	P		**Pn**	**01 48 41.3**	**+2.2**
	0.8nm,0.3s,SNR=7.9							
EHUE	**Huescar**	**5.66**	**291**	P		**Pn**	**01 48 41.3**	**+2.2**
	0.8nm,0.3s,SNR=7.9							
EBER	**Berja**	**5.71**	**281**	P		**Pn**	**01 48 39.4**	**-0.4**
	0.7nm,0.2s,SNR=5.1							
EBER	**Berja**	**5.71**	**281**	P		**Pn**	**01 48 39.4**	**-0.4**
	0.7nm,0.2s,SNR=5.1							
SESP	**Santiago Espad**	**5.72**	**294**	P		**Pn**	**01 48 41.8**	**+1.8**
	1.5nm,0.2s,SNR=7.9							
SESP				S		**Sn**	**01 49 43.6**	**-2.2**
	0.3nm,0.1s,SNR=7.9							
SESP	**Santiago Espad**	**5.72**	**294**	P		**Pn**	**01 48 41.8**	**+1.8**
	1.5nm,0.2s,SNR=7.9							
SESP				S		**Sn**	**01 49 43.6**	**-2.2**
	0.3nm,0.1s,SNR=7.9							
EQES	**Quesada**	**6.02**	**290**	P		**Pn**	**01 48 46.0**	**+2.0**
	0.7nm,0.1s,SNR=7.9							
EQES	**Quesada**	**6.02**	**290**	P		**Pn**	**01 48 46.0**	**+2.0**
	0.7nm,0.1s,SNR=7.9							

IDC ***17*** *02:06:23.6±0.5, 55°.09S×129°.11W, h0km, mb4.5/14, mb1 4.6/14, mb1mx4.5/18, mbtmp4.5/14, MS4.5/13, Ms1 4.5/13, ms1mx4.4/18, Error ellipse: s-maj=24.3km s-min=13.6km az=160.0*
ISCJB ***17*** *02:06:24.7±0.3, 55°.30S±0°.06×128°.7W±0°.1, h10km, mb4.6/23, MS4.6/13, Error ellipse: s-maj=11.4km s-min=8.6km az=25.8*
GCMT ***17*** *02:06:25.2±0.1, 55°.29S×129°.13W, h19km, MW5.3/110, Moment Tensor Solution. s83,c126; s110,c182; Duration: 1s1 Moment tensor: Scale 10¹⁷Nm; Mrr=0.10±.02; Mθθ 0.71±.02; Mφφ -0.61±.02; Mrθ 0.01±.04; Mθφ 0.89±.02; Mφr 0.18±.04; Best double couple: M₀1.12300×10¹⁷ NP1φs199.00000°, δ87.00000°, λ-171.00000°. NP2φs108.00000°, δ81.00000°, λ-3.00000°. Principal axes: T 1.1620, Plg4.0000°, Azm333.0000°; N -0.0770, Plg80.0000°, Azm218.0000°; P -1.0850, Plg9.0000°, Azm64.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***17*** *02:06:25.2±0.3, 55°.06S×129°.01W, h10km, mb5.0/10 Error ellipse: s-maj=15.9km s-min=9.1km az=155.0*

ISC 17 02:06:25.7±0.4, 55°.24S±0°.10×128°.81W±0°.10, h10km, n118, σ1°25/96, mb4.7/23, MS4.7/13, 4C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SBA	**Scott Base**	**31.40**	**202**	P		P	02 12 49.5	+3.3
	16nm,1.2s							
RKT	**Rikitea**	**32.41**	**349**	*e*LR		LR	02 21 18.7	
	3μm,29.5s,baz=172							
RKT	**Rikitea**	**32.41**	**349**	*e*T		T	02 46 20.0	
	26nm,0.3s							
VNDA	**Vanda**	**32.42**	**202**	P		**P**	**02 12 57.2**	**+2.0**
	3.6nm,1.0s,baz=93,slow=8.3,SNR=4.5							
VNDA				LR		LR	02 21 55.8	
	comp=Z,510nm,20.2s,baz=82,slow=29							
QSPA	**South Pole Qui**	**34.93**	**180**	P		**P**	**02 13 18.8**	**+1.5**
	20nm,1.0s,baz=92,slow=6.7,SNR=34							
QSPA	**South Pole Qui**	**34.93**	**180**	*e*P		**P**	**02 13 19.1**	**+1.7**
	27nm,1.1s							
TBI	**Tubuai**	**35.36**	**326**	*e*LR		LR	02 22 28.0	
	2μm,30.0s,baz=164							
TBI	**Tubuai**	**35.36**	**326**	*e*T		T	02 49 48.3	
	255nm,0.3s							
RPZ	**Rata Peaks**	**39.53**	**261**	LR		LR	02 25 55.6	
	comp=Z,1μm,20.9s,baz=122,slow=30							
MEH	**Mehetia**	**40.10**	**331**	*e*T		T	02 55 45.4	
	27nm,0.2s							
PLCA	**Paso Flores**	**40.37**	**94**	P		**P**	**02 14 04.0**	**+0.5**
	5.1nm,1.2s,baz=239,slow=12,SNR=3.5							
PAE	**Paea**	**40.74**	**329**	*e*T		T	02 56 32.7	
	3.9nm,0.2s							
PPT2	**Papeete2**	**40.80**	**329**	*e*S		**S**	**02 20 22.4**	**+4.3**
	383nm,26.0s							
PPT2				*e*LR		LR	02 25 14.3	
	3μm,26.5s							
PPT2	**Papeete2**	**40.80**	**329**	*e*T		T	02 56 37.6	
	3.8nm,0.2s							
PPT	**Papeete**	**40.82**	**329**	LR		LR	02 26 40.9	
	comp=Z,736nm,20.1s,baz=160,slow=30							
VAH	**Vaihoa**	**42.49**	**333**	*e*T		T	02 58 46.0	
	211nm,0.3s							
PMOR	**Pomariorio Ree**	**42.79**	**332**	*e*T		T	02 59 07.7	
	20nm,0.3s							
VNA3	**Neumayer Olymp**	**46.73**	**157**	P		**P**	**02 14 55.0**	**+0.8**
TRQA	**Tornquist**	**47.07**	**98**	*e*P		**P**	**02 14 58.1**	**+0.8**
	15nm,1.1s							
VNA2	**Neumayer--Watz**	**47.46**	**158**	P		**P**	**02 15 01.2**	**+1.2**
	baz=211,slow=8.9							
VNA1	**Neumayer--Stat**	**47.48**	**157**	P		**P**	**02 15 01.7**	**+1.6**
SNAA	**Sanae**	**47.84**	**160**	P		**P**	**02 15 01.7**	**-1.3**
SNAA	**Sanae**	**47.84**	**160**	*e*P		**P**	**02 15 01.5**	**-1.5**
	24nm,1.5s							
CFAA	**Coronel Fontan**	**48.12**	**87**	P		**P**	**02 15 05.4**	**-0.2**
	1.4nm,1.1s,baz=220,slow=7.4,SNR=13							
LCO	**Las Campanas**	**48.66**	**82**	P		**P**	**02 15 09.9**	**-0.2**
	11nm,0.9s							
CASY	**Casey**	**50.84**	**207**	*e*P		**P**	**02 15 26.4**	**+0.7**
	11nm,1.2s							
LVC	**Limon Verde**	**54.63**	**79**	P		**P**	**02 15 55.5**	**+0.7**
	39nm,1.1s,baz=233,slow=6.5,SNR=5.4							
LVC	**Limon Verde**	**54.63**	**79**	*e*P		**P**	**02 15 55.6**	**+0.9**
	18nm,1.2s							
MAW	**Mawson**	**57.16**	**185**	P		**P**	**02 16 12.1**	**+0.2**
	5.7nm,0.9s,baz=164,slow=7.4,SNR=4.3							
MAW				LR		LR	02 38 24.0	
	comp=Z,325nm,21.1s,baz=174,slow=34							
MAW	**Mawson**	**57.16**	**185**	*e*P		**P**	**02 16 12.6**	**+0.7**
	1.2nm,0.9s							
CPUP	**Villa Florida**	**58.34**	**91**	*e*P		**P**	**02 16 20.2**	**-0.6**
	0.8nm,1.6s							
LPAZ	**La Paz**	**60.14**	**75**	P		**P**	**02 16 34.9**	**+0.8**
	19nm,1.2s,baz=204,slow=4.5,SNR=25							
LPAZ	**La Paz**	**60.14**	**75**	*e*P		**P**	**02 16 35.0**	**+0.9**
	37nm,1.4s							
STKA	**Stephens Creek**	**64.26**	**251**	P		**P**	**02 16 59.2**	**-1.7**
	1.8nm,0.8s,baz=156,slow=9.1,SNR=5.6							
STKA				LR		LR	02 39 07.0	
	comp=Z,540nm,21.5s,baz=174,slow=31							
SIV	**San Ignacio**	**64.33**	**81**	P		**P**	**02 17 01.1**	**-0.4**
	8.1nm,1.0s,baz=234,slow=6.9,SNR=15							
HTT	**Hallett**	**64.50**	**248**	P		P	02 17 08.4	+5.9
	baz=4.5,SNR=4.8							
BBOO	**Buckleboo**	**66.49**	**246**	*e*P		**P**	**02 17 15.5**	**+0.2**
	19nm,1.4s							
QLP	**Quilpie**	**66.92**	**256**	P		P	02 17 25.0	+6.9
	baz=5.8,SNR=4.2							
SAML	**Samuel**	**68.89**	**75**	*e*P		**P**	**02 17 29.3**	**-1.2**
	16nm,1.2s							
BDFB	**Brasilia**	**72.06**	**92**	P		**P**	**02 17 50.2**	**0.0**
	5.4nm,1.2s,baz=188,slow=9.3,SNR=3.7							
BDFB				LR		LR	02 47 24.1	
	comp=Z,427nm,18.3s,baz=206,slow=34							
ROSC	**El Rosal**	**74.77**	**57**	P		**P**	**02 18 07.2**	**+0.8**
	2.6nm,0.6s,baz=108,slow=5.8,SNR=6.2							
ROSC				LR		LR	02 45 22.5	
	comp=Z,190nm,18.4s,baz=218,slow=31							
ROSC	**El Rosal**	**74.77**	**57**	*e*P		**P**	**02 18 07.3**	**+1.0**
ASAR	**Alice Springs**	**74.90**	**250**	P		**P**	**02 18 04.7**	**-2.0**
	3.8nm,0.9s,baz=140,slow=5.5,SNR=29							
ASAR				LR		LR	02 46 54.0	
	comp=Z,453nm,19.5s,baz=142,slow=32							
H01W1	**Cape Leeuwin H**	**75.36**	**229**	T		T	03 41 31.4	
	baz=146,slow=76,SNR=218							
H01W2	**Cape Leeuwin H**	**75.36**	**229**	T		T	03 41 43.1	
	baz=146,slow=76,SNR=215							
H01W3	**Cape Leeuwin H**	**75.37**	**229**	T		T	03 41 32.7	
	baz=146,slow=76,SNR=210							
WRKA	**Warakurna**	**76.76**	**245**	P		**P**	**02 18 18.5**	**+1.2**
	baz=9.7,SNR=3.2							
WRA	**Warramunga Arr**	**77.66**	**253**	P		**P**	**02 18 20.6**	**-1.8**
	4.6nm,0.8s,baz=144,slow=5.1,SNR=31							
WRA				LR		LR	02 48 52.0	
	comp=Z,366nm,19.5s,baz=165,slow=33							
WRAB	**Tennant Creek**	**77.67**	**253**	*e*P		**P**	**02 18 20.9**	**-1.5**
	14nm,0.9s							
TXAR	**Lajitas Array**	**86.95**	**22**	P		**P**	**02 19 11.7**	**+1.1**
	3.0nm,1.1s,baz=186,slow=7.2,SNR=9.2							
732A	**Laxson Ranch,**	**87.22**	**25**	P		**P**	**02 19 12.9**	**+1.1**
	baz=87							
631A	**Perdido Creek**	**87.72**	**24**	P		**P**	**02 19 15.1**	**+0.9**
	baz=88							
319A	**Douglas**	**87.88**	**17**	P		**P**	**02 19 16.1**	**+1.0**
	baz=88							
214A	**Organ Pipe Nat**	**87.93**	**14**	P		**P**	**02 19 15.9**	**+0.7**
	baz=88							
529A	**Stev Forest Ra**	**88.03**	**23**	P		**P**	**02 19 16.7**	**+1.0**
	baz=88							
633A	**Saathoff Ranch**	**88.11**	**26**	P		**P**	**02 19 16.7**	**+0.7**
	baz=88							
JAY	**Jayapura**	**88.23**	**268**	LR		LR	02 57 38.1	
	comp=Z,60nm,18.1s,baz=198,slow=35							
634A	**China Grove, S**	**88.24**	**26**	P		**P**	**02 19 17.0**	**+0.4**
	baz=88							
530A	**J-C Ranch, Com**	**88.25**	**24**	P		**P**	**02 19 17.4**	**+0.7**
	baz=88							
532A	**Rocksprings**	**88.57**	**25**	P		**P**	**02 19 19.6**	**+1.3**
	baz=89							
MNTX	**Cormudas Mount**	**88.90**	**20**	P		**P**	**02 19 20.4**	**+0.7**
	baz=89							
330A	**Mertzon**	**89.50**	**23**	P		**P**	**02 19 23.0**	**+0.4**
	baz=90							
334A	**Lometa**	**90.13**	**26**	P		**P**	**02 19 26.5**	**+1.0**
	baz=90							
H11S2	**WAKE ISLAND Hy**	**91.40**	**301**	T		T	04 00 25.5	
	baz=144,slow=75,SNR=159							
H11S3	**WAKE ISLAND Hy**	**91.41**	**301**	T		T	04 00 26.7	
	baz=144,slow=75,SNR=109							
H11S1	**WAKE ISLAND Hy**	**91.41**	**301**	T		T	04 00 35.3	
	baz=144,slow=75,SNR=77							
MPMC	**Manual Prospec**	**91.46**	**9**	P		**P**	**02 19 32.2**	**+0.4**
	baz=92							
BATI	**Baumata**	**91.46**	**250**	LR		LR	02 57 08.4	
	comp=Z,422nm,19.3s,baz=176,slow=33							
H11N3	**WAKE ISLAND Hy**	**92.34**	**302**	T		T	04 01 32.6	
	baz=148,slow=76,SNR=49							
H11N1	**WAKE ISLAND Hy**	**92.35**	**302**	T		T	04 01 44.2	
	baz=148,slow=76,SNR=42							
H11N2	**WAKE ISLAND Hy**	**92.36**	**302**	T		T	04 01 34.8	
	baz=148,slow=76,SNR=61							
TPNV	**Topopah Spring**	**92.46**	**10**	P		**P**	**02 19 36.6**	**+0.2**
	baz=93							
BOSA	**Boshof**	**93.57**	**157**	LR		LR	02 59 25.1	
	comp=Z,364nm,18.6s,baz=194,slow=34							
R11A	**Troy Canyon, C**	**93.91**	**10**	P		**P**	**02 19 44.2**	**+1.1**
	baz=94							
PDAR	**Pinedale Array**	**99.00**	**14**	LR		LR	02 56 11.9	
	comp=Z,225nm,20.6s,baz=208,slow=30							
H02S1	**DAWSON INLET T**	**108.12**	**358**	T		T	04 21 26.0	
H02N1	**VAN INLET T-PH**	**108.17**	**358**	T		T	04 21 35.0	
	SNR=34							
ILAR	**Eielson Array**	**120.49**	**351**	PKP		**PKPdf**	**02 25 15.1**	**-0.8**
	1.4nm,0.7s,baz=196,slow=2.0,SNR=16							
TORD	**Torodi Ar. Bea**	**123.20**	**118**	PKP		**PKPdf**	**02 25 21.5**	**-1.1**
	0.7nm,0.9s,baz=198,slow=1.1,SNR=3.8							
PETK	**Petropavlovsk-**	**123.78**	**316**	PKP		**PKPdf**	**02 25 21.7**	**-0.8**
	5.4nm,0.8s,baz=156,slow=3.9,SNR=3.8							
ESDC	**Sonseca Array**	**140.70**	**90**	PKP		**PKPdf**	**02 25 56.1**	**+1.3**

JNU	**Nakatsue**	**20.00**	**15**	LR	LR	02 45 31.1	
	comp=Z,61nm,21.6s,baz=224,slow=34						
KSRS	**Korea Array**	**23.69**	**6**	P	**P**	**02 39 12.6**	**+0.4**
	0.6nm,0.3s,baz=180,slow=9.7,SNR=4.0						
KSRS				LR	LR	02 47 14.2	
	comp=Z,52nm,21.3s,baz=202,slow=33						
CMAR	**Chiang Mai Arr**	**25.10**	**284**	P	**P**	**02 39 24.6**	**-0.7**
	1.5nm,0.4s,baz=100,slow=7.5,SNR=12						
CMAR				LR	LR	02 49 45.7	
	comp=Z,79nm,19.8s,baz=130,slow=38						
WRA	**Warramunga Arr**	**34.91**	**164**	P	**P**	**02 40 51.0**	**-1.1**
	0.5nm,0.3s,baz=342,slow=8.4,SNR=8.7						
ASAR	**Alice Springs**	**38.37**	**166**	P	**P**	**02 41 21.0**	**-0.6**
	2.5nm,0.4s,baz=345,slow=6.8,SNR=40						
ASAR				S	**S**	**02 47 11.9**	**-2.1**
	0.5nm,0.8s,baz=334,slow=12,SNR=5.2						
WRKA	**Warakurna**	**38.82**	**175**	P	**P**	**02 41 24.6**	**-0.7**
	baz=31,SNR=9.4						
H11S3	**WAKE ISLAND Hy**	**40.57**	**78**	T	T	03 25 07.6	
	baz=270,slow=75,SNR=119						
H11S1	**WAKE ISLAND Hy**	**40.58**	**78**	T	T	03 25 04.7	
	baz=270,slow=75,SNR=52						
H11S2	**WAKE ISLAND Hy**	**40.59**	**78**	T	T	03 25 09.3	
	baz=270,slow=75,SNR=73						
H11N1	**WAKE ISLAND Hy**	**40.78**	**76**	T	T	03 25 22.2	
	baz=267,slow=74,SNR=137						
H11N2	**WAKE ISLAND Hy**	**40.79**	**76**	T	T	03 25 22.6	
	baz=267,slow=74,SNR=64						
H11N3	**WAKE ISLAND Hy**	**40.80**	**76**	T	T	03 25 24.9	
	baz=267,slow=74,SNR=98						
BBOO	**Buckleboo**	**47.66**	**167**	P	**P**	**02 42 36.4**	**-0.3**
	baz=39,SNR=34						
MKAR	**Makanchi Array**	**48.24**	**322**	P	**P**	**02 42 42.1**	**+1.0**
	0.8nm,0.6s,baz=110,slow=8.6,SNR=12						
STKA	**Stephens Creek**	**48.28**	**161**	P	**P**	**02 42 40.4**	**-1.1**
	2.9nm,0.8s,baz=337,slow=6.5,SNR=11						
STKA	**Stephens Creek**	**48.28**	**161**	P	**P**	**02 42 42.3**	**+0.9**
	baz=40,SNR=7.1						
HTT	**Hallett**	**48.95**	**164**	P	**P**	**02 42 47.6**	**+0.9**
	baz=40,SNR=3.2						
CMSA	**Cobar Meteorol**	**49.44**	**156**	P	**P**	**02 42 51.9**	**+1.6**
	baz=41,SNR=11						
ZALV	**Zalesovo Beam**	**50.74**	**331**	P	**P**	**02 43 00.5**	**+0.5**
	0.4nm,0.4s,baz=102,slow=6.6,SNR=3.3						
LHI	**Lord Howe Isla**	**55.91**	**144**	P	**P**	**02 43 37.1**	**-1.1**
	baz=47,SNR=3.5						
ILAR	**Eielson Array**	**76.93**	**26**	P	**P**	**02 45 53.0**	**+0.8**
	0.3nm,0.8s,baz=246,slow=6.2,SNR=5.4						
BRTR	**Keskin Array B**	**82.06**	**309**	P	**P**	**02 46 21.2**	**+0.4**
	0.3nm,0.6s,baz=64,slow=3.4,SNR=3.3						
AKASG	**Malin Array Be**	**82.81**	**320**	P	**P**	**02 46 23.7**	**-0.6**
	0.1nm,0.3s,baz=65,slow=4.9,SNR=3.9						

ISCJB ***17*** *02:40:52.4±2.0, 37.09S±0.04×74.08W±0.08, h7km±11km, mb3.7/4, MS3.9/1, Error ellipse: s-maj=11.7km s-min=6.3km az=14.8*

GUC ***17*** *02:40:52.8±0.5, 37.09S×74.07W, h25km±4km, ML4.6*

IDC ***17*** *02:40:56.4±1.6, 36.96S×73.24W, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.8/19, mbtmp3.7/5, ML3.4/2, MS4.0/2, Ms1 3.9/2, ms1mx3.3/18, Error ellipse: s-maj=41.3km s-min=27.6km az=89.0*

ISC 17 02:40:53.6±2.3, 37.09S±0.05×73.8W±0.1, h2km±13km, n19, σ1s23/20, mb3.8/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CCSP	**San Pedro de C**	**0.61**	**67**	*eP*		**Pn**	**02 41 08.1**	**-1.2**
CCSP				*eS*		**Sn**	**02 41 19.8**	**+0.1**
CCSP				AML		AML	02 41 21.2	
	comp=E,31μm,0.5s							
AGCH	**Angol**	**1.14**	**129**	*eP*		**Pb**	**02 41 16.1**	**0.0**
AGCH				*eS*		**Sn**	**02 41 33.6**	**+0.7**
COCH	**Cobquecura**	**1.26**	**41**	*eP*		**Pg**	**02 41 17.7**	**-0.1**
COCH				*eS*		**Sn**	**02 41 36.4**	**+0.7**
PSCH	**Puerto Saavedr**	**1.74**	**169**	*eP*		**Pn**	**02 41 23.9**	**-0.9**
PSCH				*eS*		**Sn**	**02 41 47.1**	**-0.4**
PSCH				AML		AML	02 42 07.0	
	comp=N,13μm,0.7s							
LNCH	**Linares**	**2.17**	**56**	*eP*		**Pn**	**02 41 31.9**	**+1.2**
TALC	**Talca**	**2.44**	**47**	*eP*		**Pn**	**02 41 35.8**	**+1.4**
TALC				*eS*		**Sb**	**02 42 08.4**	**-0.2**
VLCH	**Valdivia**	**2.75**	**171**	*eP*		**Pn**	**02 41 38.4**	**-0.3**
PLCA	**Paso Flores**	**4.44**	**146**	Pn		**Pn**	02 42 05.3	+3.3
	comp=N,1.2nm,0.3s,baz=332,slow=12,SNR=42							
PLCA				Lg		Lg	02 43 19.8	
	comp=N,7.4nm,0.3s,baz=227,slow=19,SNR=4.1							
CFAA	**Coronel Fontan**	**7.15**	**42**	Pn		**Pn**	**02 42 38.1**	**-1.1**
	comp=N,0.1nm,0.3s,baz=214,slow=13,SNR=13							
CFAA				Sn		**Sn**	**02 43 58.0**	**-3.1**
	comp=N,0.2nm,0.3s,baz=29,slow=19,SNR=2.9							
CFAA				Lg		Lg	02 44 24.4	
	comp=N,0.1nm,0.3s,baz=295,slow=19,SNR=6.9							
LVC	**Limon Verde**	**15.04**	**18**	LR		LR	02 50 19.4	
	comp=N,592nm,21.1s,baz=206,slow=38							
LPAZ	**La Paz**	**21.32**	**15**	P		**P**	**02 45 42.9**	**+0.4**
	comp=N,2.7nm,0.9s,baz=209,slow=10,SNR=7.0							
SIV	**San Ignacio**	**23.86**	**32**	P		**P**	**02 46 08.1**	**-0.3**
	comp=N,1.7nm,0.7s,baz=217,slow=8.9,SNR=6.4							
BDFB	**Brasilia**	**31.30**	**54**	LR		LR	03 01 14.0	
	comp=N,269nm,21.2s,baz=222,slow=40							
VNA3	**Neumayer Olymp**	**47.08**	**157**	P		**P**	**02 49 28.8**	**+2.4**
VNA2	**Neumayer--Watz**	**47.76**	**156**	P		P	02 49 39.8	+8.2
	baz=279,slow=8.1							
SNAA	**Sanae**	**49.30**	**157**	P		**P**	**02 49 43.0**	**-0.6**
TXAR	**Lajitas Array**	**71.77**	**333**	P		P	02 52 21.8	+4.4
	comp=N,0.7nm,0.8s,baz=150,slow=7.9,SNR=5.0							
TORD	**Torodi Ar. Bea**	**86.61**	**71**	P		**P**	**02 53 38.5**	**-0.3**
	comp=N,0.6nm,0.8s,baz=235,slow=6.2,SNR=3.2							
MKAR	**Makanchi Array**	**159.82**	**54**	PKPab		**PKPab**	**03 01 33.1**	**+0.2**
	comp=N,0.3nm,0.7s,baz=284,slow=2.4,SNR=3.7							

MAN 17 02:40:55, 13.48N×124.39E, h6km, mb4.1, ML2.9, MS2.6, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PVCP	**Virac**	**0.26**	**298**	ǁ*iP*		Pg	02 41 01.0	+1.0
PVCP				*i* S		Sb	02 41 10.4	+3.7
CNP	**Catarman**	**1.00**	**164**	*eP*		Pn	02 41 15.1	-0.4
CNP				*eS*		Sn	02 41 30.0	+0.1
AUQP	**San Andres**	**1.67**	**265**	*eP*		Pb	02 41 26.4	+0.2
AUQP				*eS*		Sg	02 41 58.5	+10

IDC 17 02:54:30.8±1.2, 6.20S×128.75E, h299km±17km, mb3.0/1, mb1 3.6/4, mb1mx3.1/21, mbtmp4.1/4, Error ellipse: s-maj=20.2km s-min=11.7km az=98.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SIJI	**Sorong**	**5.86**	**25**	P		Pn	02 56 00.2	+1.7
	2.2nm,0.3s,baz=192,slow=23,SNR=7.1							
SIJI				S		S	02 57 07.4	-1.8
	12nm,0.3s,baz=273,slow=23,SNR=18							
BATI	**Baumata**	**6.42**	**231**	P		Pn	02 56 06.3	+1.1
	77nm,0.3s,baz=70,slow=3.4,SNR=32							
BATI				S		S	02 57 19.2	-2.2
	6.9nm,0.3s,baz=63,slow=22,SNR=3.6							
WRA	**Warramunga Arr**	**14.70**	**159**	P		Pn	02 57 46.5	+0.6
	1.3nm,0.3s,baz=332,slow=12,SNR=70							
WRA				S		S	03 00 24.1	-1.8
	0.1nm,0.3s,baz=341,slow=22,SNR=5.4							
ASAR	**Alice Springs**	**18.06**	**165**	P		P	02 58 22.9	+1.6
	1.4nm,0.3s,baz=346,slow=11,SNR=87							
ASAR				S		S	03 01 32.5	-0.3
	0.3nm,0.3s,baz=344,slow=20,SNR=38							
MKAR	**Makanchi Array**	**66.88**	**327**	P		P	03 04 51.0	-0.3
	0.3nm,0.4s,baz=122,slow=6.3,SNR=4.8							

WEL 17 02:55:06.4±0.2, 43.63S×179.22E, h33km, ML3.9/30, 3C-9D, Error ellipse: s-maj=2.2km s-min=1.5km az=0.0, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CTZ	**Chatham Island**	**3.02**	**93**	PN		Pn	02 55 51.5	-0.4
CTZ				SN		Sn	02 56 24.2	-2.8
TRWZ	**Traveller**	**3.43**	**309**	PN		Pn	02 55 56.7	-0.9
CPWZ	**Castlepoint**	**3.52**	**320**	PN		Pn	02 55 58.7	-0.1
CPWZ				SN		Sn	02 56 36.9	-2.4
TMWZ	**Te Maipa**	**3.53**	**315**	PN		Pn	02 55 58.1	-0.8
PLWZ	**Palliser**	**3.58**	**304**	PN		Pn	02 55 58.7	-0.9
PLWZ				SN		Sn	02 56 37.8	-3.0
PAWZ	**Paruwai Farm**	**3.59**	**307**	PN		Pn	02 55 58.8	-1.0
MSWZ	**Moikau Station**	**3.68**	**306**	PN		Pn	02 55 59.8	-1.2
BFZ	**Birch Farm**	**3.69**	**322**	ǁPN		Pn	02 56 00.2	-0.9
MTW	**Mount Morrison**	**3.70**	**311**	ǁPN		Pn	02 56 00.1	-1.1
ANWZ	**Angora Road**	**3.77**	**326**	PN		Pn	02 56 01.6	-0.6
TIWZ	**Tintock**	**3.78**	**318**	PN		Pn	02 56 01.6	-0.8
HOWZ	**Holdsworth Sta**	**3.88**	**314**	PN		Pn	02 56 02.8	-0.9
PRHZ	**Porangahau**	**3.88**	**329**	ǁPN		Pn	02 56 03.0	-0.7
BHW	**Baring Head**	**3.91**	**303**	PN		Pn	02 56 03.1	-0.9
PRWZ	**Pori Road**	**3.91**	**321**	PN		Pn	02 56 03.8	-0.3
CAW	**Cannon Point**	**3.98**	**308**	PN		Pn	02 56 04.1	-0.9
CAW				AML		AML	02 56 50.8	
CAW				AML		AML	02 56 54.5	
MRZ	**Mangatainoka R**	**4.02**	**316**	⇑PN		Pn	02 56 04.7	-0.9
DVHZ	**Dannevirke**	**4.03**	**325**	PN		Pn	02 56 05.0	-0.9
OGWZ	**Otaki Gorge**	**4.12**	**312**	PN		Pn	02 56 06.2	-0.7
POWZ	**Post Office Ro**	**4.13**	**320**	⇑PN		Pn	02 56 06.9	-0.3
KAHZ	**Kahuranaki**	**4.22**	**335**	PN		Pn	02 56 07.6	-0.8
KIW	**Kapiti Island**	**4.23**	**309**	ǁPN		Pn	02 56 07.9	-0.7
TSZ	**Takapari Road**	**4.32**	**325**	ǁPN		Pn	02 56 09.2	-0.7
KHZ	**Kahutara**	**4.34**	**284**	AML		AML	02 56 11.0	
PNHZ	**Pukenui**	**4.35**	**328**	ǁPN		Pn	02 56 09.5	-0.7
TCW	**Tory Channel**	**4.38**	**302**	PN		Pn	02 56 10.1	-0.5
KRHZ	**Kereru**	**4.52**	**331**	PN		Pn	02 56 12.1	-0.5
MHGZ	**Mahia Peninsul**	**4.58**	**347**	PN		Pn	02 56 12.3	-1.1
MCHZ	**McNeill Hill**	**4.59**	**335**	PN		Pn	02 56 13.1	-0.5
KNZ	**Kokohu**	**4.75**	**345**	PN		Pn	02 56 14.5	-1.2
MQZ	**McQueen's Vall**	**4.76**	**267**	PN		Pn	02 56 16.3	+0.5
BHHZ	**Black Hill Sta**	**4.77**	**329**	PN		Pn	02 56 15.1	-0.9
DUWZ	**D'Urville Isla**	**4.84**	**304**	PN		Pn	02 56 17.2	+0.2
NMHZ	**Naumai**	**4.88**	**337**	PN		Pn	02 56 16.8	-0.7
BKZ	**Black Stump Fm**	**4.91**	**334**	PN		Pn	02 56 16.9	-1.1
NNZ	**Nelson**	**4.95**	**297**	AML		AML	02 56 25.2	
MOVZ	**Moawhango**	**4.96**	**327**	PN		Pn	02 56 18.3	-0.4
RAHZ	**Arahi**	**4.98**	**340**	PN		Pn	02 56 17.8	-1.1
WAZ	**Wanganui**	**5.00**	**319**	PN		Pn	02 56 19.9	+0.7
SNGZ	**Shannon Statio**	**5.05**	**343**	PN		Pn	02 56 19.0	-0.9
WNVZ	**Wahianoa**	**5.09**	**326**	ǁPN		Pn	02 56 20.5	-0.1
MTVZ	**Mangateitei**	**5.09**	**325**	⇑PN		Pn	02 56 20.6	+0.1
TUVZ	**Tukino**	**5.12**	**327**	ǁPN		Pn	02 56 20.9	-0.1
WHVZ	**Whangaehu Hut**	**5.13**	**327**	PN		Pn	02 56 20.9	-0.3
TRVZ	**Turoa**	**5.13**	**326**	PN		Pn	02 56 21.0	-0.3
LTZ	**Lake Taylor**	**5.15**	**277**	AML		AML	02 56 30.1	
FWVZ	**Far West T-bar**	**5.17**	**327**	PN		Pn	02 56 21.2	-0.6
OTVZ	**Oturere**	**5.20**	**328**	PN		Pn	02 56 21.7	-0.4
WPVZ	**Whakapapa**	**5.21**	**327**	PN		Pn	02 56 21.9	-0.3
NGZ	**Ngauruhoe**	**5.22**	**327**	PN		Pn	02 56 21.9	-0.4
KRVZ	**Karewarewa**	**5.27**	**328**	AML		AML	02 56 25.2	
WTVZ	**West Tongariro**	**5.27**	**328**	ǁPN		Pn	02 56 22.6	-0.5
MWZ	**Matawai**	**5.45**	**346**	PN		Pn	02 56 23.8	-1.5

ISCJB ***17*** *03:07:34.0±0.9, 10.0S±0.1×161.8E±0.2, h33km, mb3.7/7, Error ellipse: s-maj=21.8km s-min=15.2km az=6.7*

IDC ***17*** *03:07:37.0±1.2, 10.07S×161.86E, h49km±9km, mb3.6/7, mb1 3.7/9, mb1mx3.6/21, mbtmp3.9/9, ML3.9/2, Error ellipse: s-maj=38.1km s-min=18.6km az=125.0*

ISC 17 03:07:36.5±0.9, 10.0S±0.1×161.8E±0.2, h35km, n9, σ1s59/12, mb3.6/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**12.83**	**160**	P		**Pn**	**03 10 37.2**	**+0.6**
	0.3nm,0.3s,baz=270,slow=20,SNR=2.4							
CTA	**Charters Tower**	**18.02**	**234**	P		**P**	**03 11 45.5**	**+0.8**
	0.4nm,0.3s,baz=54,slow=14,SNR=3.5							
WRA	**Warramunga Arr**	**28.25**	**246**	P		**P**	**03 13 26.0**	**-0.6**
	0.5nm,0.5s,baz=77,slow=9.4,SNR=12							
WRA				pP		**pP**	**03 13 39.3**	**+2.6**
	1.2nm,0.8s,baz=74,slow=9.6,SNR=5.7							
STKA	**Stephens Creek**	**28.70**	**218**	P		**P**	**03 13 28.6**	**-1.8**
	0.4nm,0.4s,baz=45,slow=13,SNR=3.0							
ASAR	**Alice Springs**	**29.86**	**239**	P		**P**	**03 13 39.7**	**-1.3**
	0.3nm,0.4s,baz=66,slow=9.4,SNR=6.2							
ASAR				pP		**pP**	**03 13 52.9**	**+1.8**
	0.7nm,0.9s,baz=70,slow=8.7,SNR=4.4							
USRK	**Ussuriysk Ar.**	**60.31**	**336**	P		**P**	**03 17 42.0**	**+0.3**
	1.4nm,0.7s,baz=111,slow=8.4,SNR=3.1							
SONM	**Songino Array**	**75.53**	**325**	P		**P**	**03 19 18.1**	**+0.5**
	1.8nm,0.6s,baz=153,slow=9.7,SNR=2.8							
ILAR	**Eielson Array**	**83.80**	**20**	P		**P**	**03 20 00.6**	**-1.3**
	0.8nm,0.8s,baz=238,slow=6.5,SNR=18							
ILAR				pP		**pP**	**03 20 14.8**	**+1.9**
	0.4nm,0.7s,baz=242,slow=5.3,SNR=2.7							
MKAR	**Makanchi Array**	**90.09**	**318**	P		**P**	**03 20 32.2**	**-0.8**
	0.2nm,0.5s,baz=108,slow=4.7,SNR=3.3							

SKHL ***17*** *03:23:40.7±0.8, 49.01N×155.00E, h30km±5km, mb4.3/2*
KRSC ***17*** *03:23:40.7±2.4, 48.80N×156.58E, h6km±6km, ML4.1*
MOS ***17*** *03:23:40.6±1.8, 48.80N×156.58E, h6km, mb4.3/1, Error ellipse: s-maj=99.1km s-min=17.1km az=81.1*
ISCJB ***17*** *03:23:41.0±1.1, 48.9N±0.1×155.1E±0.2, h35km, Error ellipse: s-maj=24.7km s-min=4.9km az=135.1*

ISC 17 03:23:42.6±1.7, 48.8N±0.1×155.3E±0.1, h35km, n28, σ1s73/38, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKR	**Severo-Kuril's**	**1.93**	**16**	*eP*		**Pn**	**03 24 11.8**	**-1.1**
SKR				*eS*		**Sn**	**03 24 36.3**	**+0.3**
SKR	**Severo-Kuril's**	**1.93**	**16**	*e*PN		Pn	03 24 07.9	-5.0
SKR				pmax		pmax		
	comp=Z,40nm,0.5s							
SKR	**Severo-Kuril's**	**1.93**	**16**	*eP*		Pn	03 24 08.5	-4.4
SKR				AMB		AMB	03 24 11.9	
	comp=Z,40nm,0.5s							
SKR				*eS*		**Sn**	**03 24 30.2**	**-5.8**
SKR				A		A	03 24 37.0	
	comp=Z,150nm,0.3s							
PAU	**Pauzhetka**	**2.82**	**20**	*eP*		**Pn**	**03 24 26.3**	**+1.2**
PAU				*eS*		**Sn**	**03 25 00.4**	**+2.6**
PAU	**Pauzhetka**	**2.82**	**20**	PN		Pn	**03 24 26.3**	**+1.2**
PAU				S		**Sn**	**03 25 00.4**	**+2.6**
MTVR	**Mutnovka**	**4.10**	**26**	*eP*		**Pn**	**03 24 43.5**	**+0.7**
MTVR				*eS*		**Sn**	**03 25 30.8**	**+1.3**
RUS	**Russkaya**	**4.15**	**28**	*eP*		**Pn**	**03 24 43.4**	**0.0**
RUS				*eS*		**Sn**	**03 25 30.2**	**-0.5**
RUS	**Russkaya**	**4.15**	**28**	PN		**Pn**	**03 24 43.4**	**0.0**
RUS				S		**Sn**	**03 25 30.2**	**-0.5**
RUS	**Russkaya**	**4.15**	**28**	*eP*		**Pn**	**03 24 43.4**	**0.0**
RUS				*eS*		**Sn**	**03 25 30.2**	**-0.5**
UGLR	**Uglovaya**	**4.92**	**26**	*eP*		**Pn**	**03 24 55.8**	**+1.7**
KOK	**Koryaka**	**4.94**	**24**	*eP*		**Pn**	**03 24 56.6**	**+2.2**
AVH	**Avacha**	**4.95**	**25**	*eP*		**Pn**	**03 24 56.6**	**+2.2**
SMAR	**Somma**	**4.96**	**25**	*eP*		**Pn**	**03 24 57.3**	**+2.6**
SDLR	**Sedlovina**	**5.00**	**26**	*eP*		**Pn**	**03 24 56.2**	**+1.0**
KRX	**Arik**	**5.01**	**24**	*eP*		**Pn**	**03 24 56.8**	**+1.5**
GNL	**Ganaly**	**5.15**	**18**	*eP*		**Pn**	**03 24 59.8**	**+2.6**
SPN	**Mys Shipunski**	**5.22**	**33**	*eP*		**Pn**	**03 24 58.3**	**+0.3**
SPN				*eS*		**Sn**	**03 25 55.9**	**-1.0**
SPN	**Mys Shipunski**	**5.22**	**33**	PN		**Pn**	**03 24 58.3**	**+0.3**
SPN				S		**Sn**	**03 25 55.9**	**-1.0**
SPN	**Mys Shipunski**	**5.22**	**33**	*eP*		**Pn**	**03 24 58.3**	**+0.3**
SPN				*eS*		**Sn**	**03 25 55.9**	**-1.0**
KUR	**Kuril'sk**	**6.21**	**237**	*eP*		**Pn**	**03 25 11.4**	**-0.3**
KUR				AMB		AMB	03 25 13.0	
	comp=Z,90nm,0.7s							
KUR				*eS*		**Sn**	**03 26 21.0**	**-0.5**
KUR				A		A	03 26 37.4	
	comp=Z,90nm,0.8s							
MKZ	**Mys Kozlova**	**7.00**	**32**	*eP*		**Pn**	**03 25 21.7**	**-0.7**
MKZ	**Mys Kozlova**	**7.00**	**32**	PN		**Pn**	**03 25 21.7**	**-0.7**
MKZ	**Mys Kozlova**	**7.00**	**32**	*eP*		**Pn**	**03 25 21.7**	**-0.7**
TUMR	**Tumrok**	**7.12**	**23**	*eP*		**Pn**	**03 25 27.3**	**+3.0**
TYV	**Tymovskoe**	**8.41**	**289**	*eP*		**Pn**	**03 25 39.7**	**-2.2**
YSS	**Yuzh-Sakhalins**	**8.63**	**262**	*eP*		**Pn**	**03 25 44.4**	**-0.4**
KBTR	**Krutoberegovo**	**8.70**	**29**	*eP*		**Pn**	**03 25 46.9**	**+1.2**
KBTR	**Krutoberegovo**	**8.70**	**29**	PN		**Pn**	**03 25 46.9**	**+1.2**

SJA ***17*** *03:51:14.5±0.6, 34.35S×74.83W, h18km±199km, ML3.8, MW4.0*
ISCJB ***17*** *03:51:28.6±1.4, 34.76S±0.04×72.87W±0.08, h18km±11km, mb3.5/2, MS3.1/2, Error ellipse: s-maj=10.8km s-min=6.0km az=19.9*
IDC ***17*** *03:51:28.6±2.4, 34.87S×72.61W, h0km, mb3.4/2, mb1 3.4/5, mb1mx3.3/29, mbtmp3.3/5, ML3.6/2, MS3.2/2, Ms1 3.2/2, ms1mx2.8/14, Error ellipse: s-maj=44.8km s-min=19.0km az=102.0*

GUC ***17*** *03:51:28.8±0.5, 34.74S×72.94W, h30km±3km, ML3.6*

ISC 17 03:51:28.6±2.3, 34.79S±0.04×72.80W±0.08, h7km±13km, n21, σ1s02/27, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TALC	**Talca**	**1.13**	**123**	*eP*		**Pg**	**03 51 50.0**	**-0.3**
TALC				*eS*		**Sn**	**03 52 06.0**	**-0.7**
NICH	**Los Niches**	**1.30**	**100**	*eP*		**Pn**	**03 51 52.9**	**-0.5**
NICH				*eS*		**Sg**	**03 52 10.8**	**+0.2**
COCH	**Cobquecura**	**1.34**	**180**	*eP*		**Pn**	**03 51 52.3**	**-1.5**
COCH				*eS*		**Sb**	**03 52 10.0**	**-1.5**
LNCH	**Linares**	**1.44**	**138**	*eP*		**Pn**	**03 51 54.6**	**-0.5**
LNCH				*eS*		**Sb**	**03 52 14.2**	**-0.2**
CLCH	**Cerro Calan**	**2.33**	**54**	*eP*		**Pn**	**03 52 06.8**	**-0.7**
CLCH				*eS*		**Sn**	**03 52 36.4**	**-0.2**
CLCH				AML		AML	03 52 48.8	
	comp=N,504nm,0.6s							
ROCH	**El Roble**	**2.34**	**40**	*eP*		**Pn**	**03 52 07.0**	**-0.8**
ROCH				*eS*		**Sn**	**03 52 36.1**	**-0.9**
ROCH				AML		AML	03 52 49.0	
	comp=E,371nm,0.7s							
PEL	**Peldehue**	**2.40**	**47**	*eP*		**Pn**	**03 52 07.6**	**-0.8**
PEL				*eS*		**Sn**	**03 52 37.7**	**-0.5**
PEL				AML		AML	03 52 52.0	
	comp=E,661nm,0.7s							
CANA	**Caviahue**	**3.39**	**156**	*eP*		**Pn**	**03 52 25.1**	**+2.9**
CANA				*eS*		**Sg**	**03 53 17.6**	**0.0**
CANA				AML		AML	03 53 22.2	
	comp=Z,66nm,0.6s							
ARCO	**CERRO ARCO**	**3.76**	**60**	*eP*		Pn	03 52 31.0	+3.8
ARCO				AML		AML	03 53 31.8	
	comp=Z,37nm,0.5s							
AUSP	**Uspallata**	**3.83**	**49**	*eP*		**Pn**	**03 52 29.9**	**+1.6**
ASAL	**Salagasta**	**3.96**	**58**	*eP*		Pn	03 52 33.5	+3.6
ASAL				*eP*		**Pn**	**03 52 33.5**	**+3.6**
RTLS	**Leoncito**	**4.18**	**45**	*eP*		**Pn**	**03 52 34.5**	**+1.4**
RTCV	**Cerro Valdivia**	**4.61**	**52**	*eP*		**Pn**	**03 52 39.3**	**+0.5**
CFAA	**Coronel Fontan**	**4.97**	**52**	Pn		**Pn**	**03 52 43.6**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=229,slow=14,SNR=30							
CFAA				Sn		**Sn**	**03 53 40.9**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=212,slow=16,SNR=3.9							
CFAA				Lg		Lg	03 54 05.2	
	comp=Z,0.2nm,0.3s,baz=137,slow=16,SNR=8.6							
CFAA				LR		LR	03 54 32.3	
	comp=Z,5.6nm,21.8s,baz=244,slow=38							
RTLL	**Cerro Villicun**	**5.01**	**48**	*eP*		**Pn**	**03 52 44.1**	**-0.2**
AMOG	**MOGNA**	**5.28**	**45**	*eP*		**Pn**	**03 52 47.6**	**-0.4**
PLCA	**Paso Flores**	**6.19**	**164**	Pn		**Pn**	**03 53 01.4**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=347,slow=11,SNR=14							
PLCA				Lg		Lg	03 54 40.0	
	comp=Z,0.2nm,0.3s,baz=270,slow=20,SNR=2.1							
LPAZ	**La Paz**	**18.89**	**14**	P		**Pn**	**03 55 51.9**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=229,slow=3.5,SNR=3.7							
SIV	**San Ignacio**	**21.47**	**32**	P		**P**	**03 56 18.1**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=218,slow=12,SNR=3.2							
SIV				LR		LR	04 05 56.8	
	comp=Z,57nm,18.9s,baz=185,slow=40							
ROSC	**El Rosal**	**39.46**	**358**	LR		LR	04 14 54.2	
	comp=Z,32nm,18.5s,baz=19,slow=36							
TORD	**Torodi Ar. Bea**	**85.07**	**70**	P		**P**	**04 04 05.8**	**+0.3**
	comp=Z,0.8nm,1.1s,baz=225,

	19nm,0.5s							
DMN	**Daman**	**14.80**	**329**	*e*P		**P**	**04 20 36.6**	**+0.2**
	10nm,0.2s							
GKN	**Gorkha**	**15.36**	**329**	*e*P		**P**	**04 20 43.4**	**+0.9**
	28nm,0.3s							
KOLN	**Koldanda**	**15.71**	**326**	*e*P		**P**	**04 20 48.1**	**+1.7**
	22nm,0.3s							
PYUN	**Piuthan**	**16.31**	**325**	*e*P		**P**	**04 20 54.3**	**+1.3**
	61nm,0.4s							
WRA	**Warramunga Arr**	**53.06**	**130**	P		**P**	**04 26 18.4**	**+0.5**
	0.4nm,0.6s,baz=314,slow=8.0,SNR=6.1							
ASAR	**Alice Springs**	**55.08**	**134**	P		**P**	**04 26 32.3**	**-0.3**
	0.2nm,0.5s,baz=305,slow=7.3,SNR=3.5							
TORD	**Torodi Ar. Bea**	**88.39**	**283**	P		**P**	**04 29 52.4**	**-0.5**
	0.3nm,0.7s,baz=78,slow=5.2,SNR=5.0							

NSSP ***17*** *04:38:28.1,41.˚37N×45.˚98E,h10km,Ms3.3*
AZER ***17*** *04:38:29.6±0.0,41.˚37N×46.˚14E,h20km,Error ellipse: s-maj=1.5km s-min=0.9km az=315.0*
ISCJB ***17*** *04:38:30.5±0.4,41.˚37N±0.˚02×46.˚11E±0.˚02,h2km±3km, Error ellipse: s-maj=2.7km s-min=2.1km az=25.6*
MOS ***17*** *04:38:30.1±0.9,41.˚37N×46.˚18E,h9km,mb4.1/1,Error ellipse: s-maj=10.7km s-min=5.5km az=111.6*
CSEM ***17*** *04:38:30.7±0.1,41.˚40N×46.˚13E,h2km,mb4.1,Error ellipse: s-maj=3.3km s-min=2.5km az=35.0*
TIF ***17*** *04:38:31.5,41.˚44N×46.˚06E,h20km±2km*

ISC 17 04:38:30.3±1.1,41.˚38N±0.˚01×46.˚09E±0.˚01,h8km±9km, n99,σ1¶06/168,18C-21D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKTA	**Zakatala**	**0.47**	**57**	P	**Pb**	**04 38 40.3**	**-0.6**
	SNR=44						
ZKTA				⇑S	**Sb**	**04 38 47.6**	**-0.5**
ZKT	**Zaqatala**	**0.51**	**58**	P	**Pg**	**04 38 40.3**	**+0.1**
	SNR=44						
ZKT				S	**Sb**	**04 38 47.6**	**-1.5**
DGRG	**David-gareji**	**0.55**	**278**	P	**Pn**	**04 38 43.5**	**-0.9**
DGRG				S	**Sb**	**04 38 52.0**	**+1.9**
DGRG	**David-gareji**	**0.55**	**278**	PG	**Pn**	**04 38 43.5**	**-0.9**
DGRG				S	**Sn**	**04 38 53.7**	**0.0**
DGRG	**David-gareji**	**0.55**	**278**	P	**Pn**	**04 38 43.5**	**-0.9**
DGRG				S	**Sb**	**04 38 52.0**	**+1.9**
DGRG				Sg	**Sn**	**04 38 53.7**	**0.0**
QZX	**Qazax, Azerbai**	**0.63**	**240**	P	**Pb**	**04 38 44.0**	**+0.4**
	SNR=911						
QZX				⇓S	**Sb**	**04 38 53.3**	**+0.7**
QZX	**Qazax, Azerbai**	**0.63**	**240**	P	**Pb**	**04 38 44.0**	**+0.4**
	SNR=911						
QZX				S	**Sb**	**04 38 53.3**	**+0.7**
GANJ	**Ganja**	**0.76**	**167**	⇓P	**Pb**	**04 38 45.6**	**-0.1**
	SNR=50						
GANJ				⇓S	**Sb**	**04 38 56.7**	**+0.6**
GANJ	**Ganja**	**0.76**	**167**	P	**Pb**	**04 38 45.6**	**-0.1**
	SNR=50						
GANJ				S	**Sb**	**04 38 56.7**	**+0.6**
SEKA	**Sheki**	**0.85**	**101**	P	**Pb**	**04 38 46.6**	**-0.8**
	SNR=56						
SEKA				⇑S	**Sb**	**04 38 58.9**	**0.0**
SEKA	**Sheki**	**0.85**	**101**	P	**Pb**	**04 38 46.6**	**-0.8**
	SNR=56						
SEKA				S	**Sb**	**04 38 58.9**	**0.0**
MNGR	**Mingechevir, A**	**0.97**	**129**	P	**Pn**	**04 38 49.8**	**-0.3**
	SNR=29						
MNGR				⇑S	**Sn**	**04 39 04.6**	**+0.7**
MNGR	**Mingechevir, A**	**0.97**	**129**	P	**Pn**	**04 38 49.8**	**-0.3**
	SNR=29						
SEAG	**Tbilisi Sea**	**1.04**	**292**	P	**Pg**	**04 38 49.8**	**-0.5**
SEAG				S	**Sg**	**04 39 04.3**	**+0.5**
SEAG	**Tbilisi Sea**	**1.04**	**292**	P	**Pg**	**04 38 49.8**	**-0.5**
SEAG				S	**Sg**	**04 39 04.3**	**+0.5**
TBLG	**Delisi**	**1.07**	**289**	P	**Pg**	**04 38 51.1**	**+0.2**
TBLG				S	**Sb**	**04 39 05.5**	**+0.2**
TBLG	**Delisi**	**1.07**	**289**	PG	**Pg**	**04 38 51.1**	**+0.2**
TBLG				S	**Sg**	**04 39 05.3**	**+0.4**
TBLG	**Delisi**	**1.07**	**289**	P	**Pg**	**04 38 51.1**	**+0.2**
TBLG				S	**Sb**	**04 39 05.5**	**+0.2**
CKLZ	**Chkalov**	**1.18**	**248**	⇓P	**Pb**	**04 38 51.6**	**-1.2**
CKLZ				⇓S	**Sg**	**04 39 07.5**	**-0.6**
CKLZ	**Chkalov**	**1.18**	**248**	⇓P	**Pb**	**04 38 51.7**	**-1.2**
CKLZ				S	**Sg**	**04 39 07.5**	**-0.6**
GNBR	**Gunib**	**1.20**	**33**	PG	**Pb**	**04 38 52.5**	**-0.8**
GNBR				S	**Sn**	**04 39 11.9**	**+2.0**
GNBR	**Gunib**	**1.20**	**33**	Pg	**Pb**	**04 38 52.5**	**-0.8**
GNBR				Sg	**Sn**	**04 39 11.9**	**+2.0**
VADZ	**Vardenis**	**1.24**	**192**	*e*P	**Pg**	**04 38 56.0**	**+2.0**
VADZ				*e*S	**Sn**	**04 39 13.0**	**+2.0**
VADZ	**Vardenis**	**1.24**	**192**	P	**Pg**	**04 38 56.0**	**+2.0**
VADZ				S	**Sn**	**04 39 13.0**	**+2.0**
DUS	**Dusheti**	**1.26**	**305**	P	**Pg**	**04 38 54.6**	**+0.2**
DUS				S	**Sn**	**04 39 12.1**	**+0.7**
DUS	**Dusheti**	**1.26**	**305**	PG	**Pn**	**04 38 54.1**	**-0.1**
DUS				S	**Sn**	**04 39 12.1**	**+0.7**
DUS	**Dusheti**	**1.26**	**305**	Pg	**Pn**	**04 38 54.1**	**-0.1**
DUS	**Dusheti**	**1.26**	**305**	P	**Pg**	**04 38 54.7**	**+0.2**
DUS				S	**Sn**	**04 39 12.1**	**+0.7**
KZR	**Kazreti**	**1.26**	**271**	P	**Sn**	**04 39 10.0**	**-1.4**
STEZ	**Stepenevan**	**1.33**	**254**	⇑*i*P	**Pn**	**04 38 54.1**	**-1.2**
STEZ				⇑*i*S	**Sb**	**04 39 12.2**	**-0.7**
STEZ	**Stepenevan**	**1.33**	**254**	⇓*i*P	Pn	04 38 51.5	-3.8
STE	**Stepanavan**	**1.35**	**254**	⇑P	**Pn**	**04 38 54.1**	**-1.5**
STE				S	**Sb**	**04 39 12.2**	**-1.3**
BRDA	**Brd**	**1.39**	**143**	⇑P	**Pg**	**04 38 56.4**	**-0.5**
	SNR=8.9						
BRDA				⇓S	**Sg**	**04 39 16.0**	**+1.1**
BRDA	**Brd**	**1.39**	**143**	P	**Pg**	**04 38 56.4**	**-0.5**
	SNR=8.9						
BRDA				S	**Sg**	**04 39 16.0**	**+1.1**
UNCR	**Uncukul**	**1.43**	**21**	PG	**Pn**	**04 38 56.3**	**-0.3**
UNCR				S	**Sn**	**04 39 15.3**	**-0.3**
UNCR	**Uncukul**	**1.43**	**21**	Pg	**Pn**	**04 38 56.3**	**-0.3**
UNCR				Sg	**Sn**	**04 39 15.3**	**-0.3**
SPIZ	**Spitak**	**1.48**	**249**	⇓*i*P	**Pn**	**04 38 55.3**	**-2.1**
SPIZ				⇓*i*S	**Sn**	**04 39 13.9**	**-3.1**
SPIZ	**Spitak**	**1.48**	**249**	⇓P	**Pn**	**04 38 55.3**	**-2.1**
SPIZ				S	**Sn**	**04 39 13.9**	**-3.1**
GNI	**Garni**	**1.60**	**220**	⇑*i*P	**Pb**	**04 39 00.7**	**+0.5**
GNI				⇓*i*S	**Sg**	**04 39 23.2**	**+1.4**
GNI	**Garni**	**1.60**	**220**	*d i*PN	**Pg**	**04 39 00.8**	**-0.2**
GNI	**Garni**	**1.60**	**220**	*i* Pn	**Pg**	**04 39 00.8**	**-0.2**
GNI				S	**Sg**	**04 39 23.2**	**+1.4**
STKZ		**1.65**	**162**	⇑*i*P	Pn	04 38 55.0	-4.5
STKZ				⇑*i*S	**Sn**	**04 39 16.8**	**-4.1**
IML	**Ismayilli**	**1.69**	**110**	⇑P	**Pb**	**04 39 00.5**	**-1.0**
	SNR=7.7						
IML				⇑S	**Sg**	**04 39 23.3**	**-1.2**
IML	**Ismayilli**	**1.69**	**110**	P	**Pb**	**04 39 00.5**	**-1.0**
	SNR=7.7						
IML				S	**Sg**	**04 39 23.3**	**-1.2**
DBC	**Dubki**	**1.73**	**18**	PN	**Pb**	**04 39 01.4**	**-0.9**
DBC				S	**Sb**	**04 39 24.4**	**+0.2**
DBC	**Dubki**	**1.73**	**18**	Pn	**Pb**	**04 39 01.4**	**-0.9**
DBC				Sg	**Sb**	**04 39 24.4**	**+0.2**
QUBA	**Quba, Azerbaij**	**1.81**	**90**	⇓P	**Pn**	**04 39 02.2**	**+0.5**
	SNR=4.0						
QUBA				⇑S	**Sb**	**04 39 26.6**	**+0.1**
QUBA	**Quba, Azerbaij**	**1.81**	**90**	P	**Pn**	**04 39 02.2**	**+0.5**
	SNR=4.0						
QUBA				S	**Sb**	**04 39 26.6**	**+0.1**
KDMR	**Kurdemir**	**1.88**	**122**	⇓S	**Sb**	**04 39 28.7**	**+0.3**
KDMR	**Kurdemir**	**1.88**	**122**	S	**Sb**	**04 39 28.7**	**+0.3**
GRS	**Goris**	**1.89**	**174**	*e*P	**Pg**	**04 39 06.0**	**-0.5**
GRS	**Goris**	**1.89**	**174**	P	**Pg**	**04 39 06.0**	**-0.5**
MAK	**Makhachkala**	**1.90**	**33**	*e*PN	**Pn**	**04 39 02.8**	**-0.1**
MAK				pmax	pmax		
	comp=Z,244nm,0.3s						
MAK	**Makhachkala**	**1.90**	**33**	*e*Pn	**Pn**	**04 39 02.8**	**-0.1**
	comp=Z,244nm,0.3s						
SNJR	**Sundja**	**1.94**	**331**	*e*PN	**Pb**	**04 39 05.6**	**-0.2**
SNJR				*e*S	**Sg**	**04 39 32.5**	**0.0**
SNJR	**Sundja**	**1.94**	**331**	*e*Pn	**Pg**	**04 39 05.6**	**-0.2**
SNJR				*e*Sg	**Sg**	**04 39 32.5**	**0.0**
GRO	**Groznyy**	**1.95**	**353**	⇓*i*PN	**Pn**	**04 39 04.3**	**+0.6**
GRO	**Groznyy**	**1.95**	**353**	*i* Pn	**Pn**	**04 39 04.3**	**+0.6**
AKH	**Akhalkalaki**	**1.96**	**272**	P	**Pb**	**04 39 05.2**	**-1.0**
AKH				S	**Sb**	**04 39 30.6**	**-0.2**
AKH	**Akhalkalaki**	**1.96**	**272**	P	**Pb**	**04 39 05.2**	**-1.0**
AKH				S	**Sb**	**04 39 30.6**	**-0.2**
LACR	**Lac**	**1.97**	**318**	*e*PN	**Pn**	**04 39 04.7**	**+0.7**
LACR	**Lac**	**1.97**	**318**	*e*Pn	**Pn**	**04 39 04.7**	**+0.7**
VLKR	**Vladikavkaz**	**1.97**	**328**	*e*PN	**Pb**	**04 39 06.0**	**-0.4**
VLKR				*e*S	**Sg**	**04 39 33.5**	**0.0**
VLKR	**Vladikavkaz**	**1.97**	**328**	*e*Pn	**Pb**	**04 39 06.0**	**-0.4**
VLKR				*e*Sg	**Sg**	**04 39 33.5**	**0.0**
PQL	**Pirkuli**	**1.98**	**107**	⇓P	**Pn**	**04 39 03.9**	**-0.3**
	SNR=2.9						
PQL				⇑S	**Sb**	**04 39 32.3**	**+0.8**
PQL	**Pirkuli**	**1.98**	**107**	P	**Pn**	**04 39 03.9**	**-0.3**
	SNR=2.9						
PQL				S	**Sb**	**04 39 32.3**	**+0.8**
ZEI	**Tsey**	**2.15**	**312**	*e*PN	**Pb**	**04 39 08.7**	**-0.9**
ZEI				*e*S	**Sb**	**04 39 37.4**	**+0.9**
ATGJ	**Altiaghaj**	**2.21**	**103**	⇑P	**Pn**	**04 39 08.5**	**+1.2**
ATGJ				⇓S	**Sb**	**04 39 36.5**	**-1.7**
ATGJ	**Altiaghaj**	**2.21**	**103**	P	**Pn**	**04 39 08.5**	**+1.2**
ATGJ				S	**Sb**	**04 39 36.5**	**-1.7**
ARNR	**Ardon**	**2.24**	**324**	*e*PN	**Pg**	**04 39 12.9**	**-0.4**
ARNR				*e*S	**Sg**	**04 39 43.3**	**+0.9**
NAX	**Nakhchivan**	**2.25**	**192**	⇑P	**Pn**	**04 39 09.2**	**+1.3**
NAX				⇓S	**Sb**	**04 39 37.7**	**-1.5**
NAX	**Nakhchivan**	**2.25**	**192**	P	**Pn**	**04 39 09.2**	**+1.3**
NAX				S	**Sb**	**04 39 37.7**	**-1.5**
KORR	**Kora**	**2.27**	**319**	*e*PN	**Pb**	**04 39 10.1**	**-1.5**
KORR				*e*S	**Sb**	**04 39 40.2**	**+0.4**
KORR	**Kora**	**2.27**	**319**	*e*Pn	**Pb**	**04 39 10.1**	**-1.5**
KORR				*e*Sn	**Sb**	**04 39 40.2**	**+0.4**
BTKR	**Batakoyurt**	**2.30**	**331**	*e*PN	**Pb**	**04 39 10.5**	**-1.5**
BTKR				*e*S	**Sb**	**04 39 40.6**	**+0.1**
BTKR	**Batakoyurt**	**2.30**	**331**	*e*Pn	**Pb**	**04 39 10.5**	**-1.5**
BTKR				*e*Sn	**Sb**	**04 39 40.6**	**+0.1**
ONI	**Oni**	**2.31**	**302**	P	**Pb**	**04 39 11.1**	**-1.1**
ONI				S	**Sb**	**04 39 41.8**	**+0.9**
ONI	**Oni**	**2.31**	**302**	PN	**Pb**	**04 39 11.1**	**-1.1**
ONI				S	**Sb**	**04 39 41.8**	**+0.9**
ONI	**Oni**	**2.31**	**302**	P	**Pb**	**04 39 11.1**	**-1.1**
ONI				S	**Sb**	**04 39 41.8**	**+0.9**
DIGR	**Digorskoe uzhe**	**2.41**	**310**	*e*PN	**Pn**	**04 39 11.9**	**+1.8**
DIGR				*e*S	**Sb**	**04 39 43.5**	**-0.3**
DIGR	**Digorskoe uzhe**	**2.41**	**310**	*e*Pn	**Pn**	**04 39 11.9**	**+1.8**
DIGR				*e*Sn	**Sb**	**04 39 43.5**	**-0.3**
LSNR	**Lesken**	**2.53**	**319**	*i* PN	**Pn**	**04 39 12.9**	**+1.2**
LSNR	**Lesken**	**2.53**	**319**	*i* Pn	**Pn**	**04 39 12.9**	**+1.2**
TRKR	**Terskaya**	**2.55**	**337**	*i* PN	**Pn**	**04 39 12.7**	**+0.8**
TRKR	**Terskaya**	**2.55**	**337**	*i* Pn	**Pn**	**04 39 12.7**	**+0.8**
ALIB	**Äli-Bayra**	**2.63**	**122**	⇓S	**Sn**	**04 39 46.7**	**+1.6**
ALIB	**Äli-Bayra**	**2.63**	**122**	S	**Sn**	**04 39 46.7**	**+1.6**
PRTR	**Priterechnaya**	**2.72**	**331**	*i* PN	**Pn**	**04 39 15.2**	**+1.0**
PRTR	**Priterechnaya**	**2.72**	**331**	*i* Pn	**Pn**	**04 39 15.2**	**+1.0**
GLBA	**Clilabad**	**2.77**	**140**	⇑P	**Pn**	**04 39 14.5**	**-0.4**
	SNR=6.7						
GLBA				⇓S	**Sn**	**04 39 49.5**	**+1.0**
GLBA	**Clilabad**	**2.77**	**140**	P	**Pn**	**04 39 14.5**	**-0.4**
	SNR=6.7						
GLBA				S	**Sn**	**04 39 49.5**	**+1.0**
NCK	**Nalchik**	**2.81**	**320**	*i* PN	**Pn**	**04 39 16.6**	**+1.1**
NCK	**Nalchik**	**2.81**	**320**	*i* Pn	**Pn**	**04 39 16.6**	**+1.1**
NEY	**Neytrino**	**3.12**	**308**	*e*PN	**Pn**	**04 39 21.3**	**+1.4**
NEY	**Neytrino**	**3.12**	**308**	*e*Pn	**Pn**	**04 39 21.3**	**+1.4**
LRK	**Lerik**	**3.23**	**147**	P	**Pn**	**04 39 21.9**	**+0.4**
	SNR=12						
LRK				⇑S	**Sn**	**04 40 00.0**	**-0.2**
LRK	**Lerik**	**3.23**	**147**	P	**Pn**	**04 39 21.9**	**+0.4**
	SNR=12						
LRK				S	**Sn**	**04 40 00.0**	**-0.2**
LKRN	**Lenkeran, Azer**	**3.37**	**141**	P	**Pn**	**04 39 23.7**	**+0.5**
	SNR=5.6						
LKRN	**Lenkeran, Azer**	**3.37**	**141**	P	**Pn**	**04 39 23.7**	**+0.5**
	SNR=5.6						

IDC ***17*** *04:48:28.9±0.6,54.˚17N×168.˚55E,h0km,mb4.2/22, mb1 4.4/24,mb1mx4.3/39,mbtmp4.2/24,ML3.2/2,MS3.2/6, Ms1 3.3/6,ms1mx2.9/33,Error ellipse: s-maj=17.1km s-min=12.2km az=168.0*
ISCJB ***17*** *04:48:30.8±0.3,53.˚96N±0.˚04×168.˚51E±0.˚03,h30km, mb4.3/53,MS3.3/7,Error ellipse: s-maj=6.4km s-min=2.6km az=175.6*
KRSC ***17*** *04:48:33.7±2.4,53.˚90N×167.˚92E,h24km±10km,ML4.6*
MOS ***17*** *04:48:33.2±0.9,54.˚18N×168.˚45E,h44km,mb4.5/32,Error ellipse: s-maj=10.2km s-min=8.0km az=104.5*
NEIC ***17*** *04:48:33.4±1.4,54.˚18N×168.˚52E,h30km±10km,mb4.4/19, Error ellipse: s-maj=7.5km s-min=3.5km az=170.0*

ISC 17 04:48:32.7±0.4,53.˚97N±0.˚06×168.˚47E±0.˚05,h30km,n166, σ1¶46/185,mb4.4/53,MS3.2/7,1C-1D,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.91**	**311**	*e*P	**Pn**	**04 49 03.2**	**+0.1**
BKI				*e*S	**Sn**	**04 49 25.5**	**-0.6**
BKI	**Bering**	**1.91**	**311**	PN	**Pn**	**04 49 03.2**	**+0.1**
BKI				S	**Sn**	**04 49 25.5**	**-0.6**
KBTR	**Krutoberegovo**	**3.95**	**307**	*e*P	**Pn**	**04 49 33.3**	**+2.2**
KBTR				*e*S	**Sn**	**04 50 18.3**	**+1.9**
KBTR	**Krutoberegovo**	**3.95**	**307**	PN	**Pn**	**04 49 33.3**	**+2.2**
KBTR				S	**Sn**	**04 50 18.3**	**+1.9**
MKZ	**Mys Kozlova**	**4.00**	**281**	*e*P	**Pn**	**04 49 32.8**	**+1.0**
MKZ				*e*S	**Sn**	**04 50 14.7**	**-2.8**
MKZ	**Mys Kozlova**	**4.00**	**281**	PN	**Pn**	**04 49 32.8**	**+1.0**
SMKR	**Semkarok**	**4.79**	**306**	*e*P	Pn	04 49 46.7	+4.0
SMKR				*e*S	**Sn**	**04 50 40.2**	**+3.1**
KZV	**Kizimen**	**4.90**	**287**	*e*P	**Pn**	**04 49 45.2**	**+0.9**
KZV				*e*S	**Sn**	**04 50 37.3**	**-2.7**
BDR	**Baidarnaya**	**4.90**	**305**	*e*P	Pn	04 49 48.6	+4.3
BDR				*e*S	**Sn**	**04 50 43.0**	**+3.0**
SRKR	**Sorokina**	**4.96**	**306**	*e*P	Pn	04 49 49.4	+4.3
SRKR				*e*S	**Sn**	**04 50 44.5**	**+3.0**
TUMR	**Tumrok**	**5.01**	**289**	*e*P	**Pn**	**04 49 48.4**	**+2.5**
TUMR				*e*S	**Sn**	**04 50 44.1**	**+1.3**
KMNR	**Kamenistaya**	**5.08**	**294**	*e*P	**Pn**	**04 49 49.0**	**+2.2**
SPN	**Mys Shipunski**	**5.12**	**264**	*e*P	**Pn**	**04 49 48.4**	**+1.3**
SPN	**Mys Shipunski**	**5.12**	**264**	PN	**Pn**	**04 49 48.4**	**+1.3**
KII	**Karymskiy**	**5.32**	**274**	*e*P	**Pn**	**04 49 52.0**	**+1.9**
KII				*e*S	**Sn**	**04 50 47.5**	**-2.9**
NLC	**Nalytchevo**	**5.50**	**265**	*e*P	**Pn**	**04 49 53.7**	**+1.3**
NLC				*e*S	**Sn**	**04 50 51.1**	**-3.4**
NLC	**Nalytchevo**	**5.50**	**265**	PN	**Pn**	**04 49 53.7**	**+1.3**
SDLR	**Sedlovina**	**5.75**	**267**	*e*P	**Pn**	**04 49 57.6**	**+1.6**
SDLR				*e*S	**Sn**	**04 50 59.8**	**-1.1**
UGLR	**Uglovaya**	**5.80**	**266**	*e*P	**Pn**	**04 49 58.7**	**+2.1**
UGLR				*e*S	**Sn**	**04 51 01.1**	**-1.8**
SMAR	**Somma**	**5.80**	**267**	*e*P	**Pn**	**04 49 58.6**	**+1.8**
SMAR				*e*S	**Sn**	**04 51 01.0**	**-1.3**
KRER	**Koryakskii**	**5.82**	**267**	*e*P	**Pn**	**04 49 59.1**	**+2.0**
KRER				*e*S	**Sn**	**04 51 01.1**	**-1.8**
AVH	**Avacha**	**5.84**	**267**	*e*P	**Pn**	**04 49 59.3**	**+2.2**
AVH				*e*S	**Sn**	**04 51 01.4**	**-1.6**
KRX	**Arik**	**5.87**	**268**	*e*P	**Pn**	**04 49 59.6**	**+1.9**
KRX				*e*S	**Sn**	**04 51 02.8**	**-1.2**
KOK	**Koryaka**	**5.89**	**267**	*e*P	**Pn**	**04 49 59.8**	**+1.9**
KOK				*e*S	**Sn**	**04 51 01.6**	**-2.8**
PET	**Petropavlovsk**	**5.94**	**265**	*e*S	**Sn**	**04 51 03.6**	**-1.7**
PET	**Petropavlovsk**	**5.94**	**265**	*e*PN	Pn	04 50 02.8	+4.4
PET				MLR	MLR		
	comp=Z,100nm,18.0s						
PET				MLR	MLR		
	comp=Z,200nm,19.0s						
PET	**Petropavlovsk**	**5.94**	**265**	*e*Pn	**Pn**	**04 49 59.5**	**+1.1**
PET				*e*S	**Sn**	**04 51 05.3**	**-0.1**
OSSR	**Ossora**	**6.08**	**333**	*e*P	**Pn**	**04 50 02.5**	**+2.2**
RUS	**Russkaya**	**6.18**	**260**	*e*P	**Pn**	**04 50 03.1**	**+1.4**
RUS				*e*S	**Sn**	**04 51 08.8**	**-2.5**
RUS	**Russkaya**	**6.18**	**260**	PN	**Pn**	**04 50 03.1**	**+1.4**
GNL	**Ganaly**	**6.24**	**272**	*e*P	**Pn**	**04 50 05.3**	**+2.6**
GNL				*e*S	**Sn**	**04 51 13.2**	**+0.2**
MTVR	**Mutnovka**	**6.36**	**261**	*e*P	**Pn**	**04 50 06.4**	**+2.1**
MTVR				*e*S	**Sn**	**04 51 13.9**	**-2.0**
PEA0B	**Petropavlovsk-**	**6.48**	**267**	*e*Pn	**Pn**	**04 50 08.2**	**+2.3**
PEA0B				*e*S	**Sn**	**04 51 15.6**	**-3.2**
PETK	**Petropavlovsk-**	**6.48**	**267**	Pn	**Pn**	**04 50 07.4**	**+1.5**
	comp=Z,2.1nm,0.3s,baz=93,slow=21,SNR=24						
PETK				Sn	**Sn**	**04 51 19.6**	**+0.8**
	comp=Z,3.0nm,0.3s,baz=56,slow=23,SNR=4.2						
ASAK	**Asacha**	**6.55**	**260**	*e*P	**Pn**	**04 50 09.2**	**+2.2**
ASAK				*e*S	**Sn**	**04 51 19.2**	**-1.4**
APC	**Apacha**	**6.84**	**266**	*e*S	**Sn**	**04 51 27.5**	**-0.1**
SEY	**Seymchan**	**12.28**	**323**	Pn	**Pn**	**04 51 23.8**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=166,slow=19,SNR=2.0						
SEY				LR	LR	04 56 13.0	
	comp=Z,202nm,19.1s,baz=288,slow=38						
SEY	**Seymchan**	**12.28**	**323**	*e*PN	Pn	04 51 20.5	-4.7
UNV	**Unalaska Valle**	**14.73**	**80**	*e*Pn	**Pn**	**04 51 57.6**	**-1.0**
YAK	**Yakutsk**	**21.78**	**307**	LR	LR	05 02 00.4	
	comp=Z,40nm,19.7s,baz=112,slow=37						
YAK	**Yakutsk**	**21.78**	**307**	*e*P	**P**	**04 53 21.6**	**0.0**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YAK				pmax	pmax		
	comp=N,2.0nm,0.8s						
IM04	**Indian Mountai**	**21.97**	**42**	*e*P	**P**	**04 53 23.1**	**-0.6**
KTH	**Kantishna Hill**	**22.74**	**49**	*e*P	**P**	**04 53 32.0**	**0.0**
	comp=N,25nm,1.5s						
BPAW	**Bear Paw Mtn.**	**22.78**	**48**	*e*P	**P**	**04 53 30.5**	**-1.8**
	comp=N,0.7nm,1.0s						
TRF	**Thorofare Moun**	**23.02**	**49**	*e*P	**P**	**04 53 33.8**	**-1.1**
	comp=N,10nm,0.7s						
COLA	**College**	**24.21**	**46**	*e*P	**P**	**04 53 44.9**	**-1.3**
COLA				pmax	pmax		
	comp=Z,59nm,0.9s						
TIXI	**Tiksi**	**24.57**	**331**	*c i*P	**P**	**04 53 46.8**	**-2.6**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ILAR	**Eielson Array**	**24.61**	**46**	P	**P**	**04 53 48.4**	**-1.5**
	comp=Z,4.8nm,0.6s,baz=254,slow=7.4,SNR=97						
ILAR				PcP	**PcP**	**04 57 25.8**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=273,slow=3.7,SNR=4.7						
ILAR				LR	LR	05 04 02.1	
	comp=Z,76nm,18.2s,baz=268,slow=38						
ILAR	**Eielson Array**	**24.61**	**46**	P	**P**	**04 53 48.4**	**-1.5**
ILAR						04 57 25.8	
ILAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ILAR				MLR	MLR		
	comp=Z,76nm,18.2s						
EGAK	**Eagle**	**27.07**	**46**	*e*P	**P**	**04 54 10.4**	**-1.7**
	comp=Z,18nm,0.8s						
HYT	**Haines Junctio**	**29.14**	**55**	*e*P	**P**	**04 54 29.9**	**-0.9**
INK	**Inuvik**	**30.08**	**39**	P	**P**	**04 54 38.3**	**-0.4**
	comp=Z,2.4nm,0.5s,baz=286,slow=7.4,SNR=13						
INK	**Inuvik**	**30.08**	**39**	P	**P**	**04 54 38.3**	**-0.4**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
HIA	**Hailar**	**30.13**	**281**	*e*P	**P**	**04 54 40.0**	**+0.5**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
DLBC	**Dease Lake**	**33.44**	**57**	*e*P	**P**	**04 55 09.4**	**+0.9**
H11N2	**WAKE ISLAND Hy**	**34.20**	**183**	T	T	05 31 57.6	
	baz=1.9,slow=76,SNR=438						
H11N3	**WAKE ISLAND Hy**	**34.21**	**183**	T	T	05 32 00.4	
	baz=1.9,slow=76,SNR=362						
H11N1	**WAKE ISLAND Hy**	**34.22**	**183**	T	T	05 31 50.1	
	baz=1.9,slow=76,SNR=374						
H11S1	**WAKE ISLAND Hy**	**35.42**	**183**	T	T	05 33 28.2	
	baz=1.9,slow=76,SNR=112						
H11S3	**WAKE ISLAND Hy**	**35.43**	**183**	T	T	05 33 29.7	
	baz=1.9,slow=76,SNR=37						
H11S2	**WAKE ISLAND Hy**	**35.44**	**183**	T	T	05 33 29.6	
	baz=1.9,slow=76,SNR=98						
TLY	**Talaya**	**38.02**	**294**	*e*P	**P**	**04 55 48.8**	**+1.0**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TLY				MLR	MLR		
	comp=Z,41nm,19.0s						
ULN	**Ulaanbaatar**	**38.11**	**287**	*e*P	**P**	**04 55 48.6**	**-0.2**
ULN				pmax	pmax		
	comp=Z,1.0nm

ULM					pmax	pmax		
	comp=Z,2.0nm,0.5s							
SRU	**San Rafael Swe**	**54.63**	**70**	*e*P	**P**	**04 57 59.2**	**+0.7**	
SRU				pmax	pmax			
	comp=Z,7.0nm,0.9s							
SRU	**San Rafael Swe**	**54.63**	**70**	*e*P	**P**	**04 57 59.2**	**+0.7**	
	comp=Z,7.2nm,0.9s							
RSSD	**Black Hills**	**54.66**	**62**	*e*P	**P**	**04 57 58.4**	**-0.3**	
RSSD	**Black Hills**	**54.66**	**62**	*e*P	**P**	**04 57 58.4**	**-0.3**	
AGMN	**Agassiz Station**	**55.83**	**53**	*e*P	**P**	**04 58 06.3**	**-0.5**	
	comp=Z,3.4nm,0.6s							
ARU	**Arti**	**56.01**	**321**	*d* iP	**P**	**04 58 05.6**	**-2.3**	
ARU				S	**S**	**05 05 49.6**	**-4.2**	
ARU				pmax	pmax			
	comp=Z,8.0nm,1.7s							
SMCO	**Snowmass**	**56.55**	**68**	*e*P	**P**	**04 58 12.8**	**+0.3**	
	comp=Z,1.4nm,0.8s							
EYMN	**Ely**	**58.12**	**51**	*e*P	**P**	**04 58 22.3**	**-0.7**	
	comp=Z,3.4nm,0.5s							
AAK	**Ala-Archa**	**59.05**	**301**	*e*P	**P**	**04 58 29.1**	**-0.7**	
AAK				pmax	pmax			
	comp=Z,6.0nm,1.3s							
ABKAR	**Akbulak array**	**60.89**	**315**	*e*P	**P**	**04 58 41.8**	**-0.2**	
	comp=Z,1.0nm,0.5s							
FINES	**FINESS Array B**	**61.14**	**340**	P	**P**	**04 58 42.9**	**-0.6**	
	comp=Z,1.7nm,0.6s,baz=45,slow=10,SNR=8.4							
FINES	**FINESS Array B**	**61.14**	**340**	P	**P**	**04 58 42.9**	**-0.6**	
FINES				pmax	pmax			
	comp=Z,2.0nm,0.6s							
SCHQ	**Schefferville**	**62.39**	**32**	P	**P**	**04 58 51.0**	**-1.1**	
	comp=Z,2.9nm,0.6s,baz=327,slow=6.2,SNR=8.2							
CMAR	**Chiang Mai Arr**	**63.26**	**265**	P	**P**	**04 59 00.1**	**+1.8**	
	comp=Z,2.5nm,0.6s,baz=25,slow=7.6,SNR=12							
CMAR				LR	LR	05 29 33.8		
	comp=Z,15nm,18.5s,baz=195,slow=39							
CMAR	**Chiang Mai Arr**	**63.26**	**265**	P	**P**	**04 59 00.1**	**+1.8**	
CMAR				pmax	pmax			
	comp=Z,3.0nm,0.6s							
CMAR				MLR	MLR			
	comp=Z,15nm,18.5s							
VSU	**Vasula**	**63.73**	**339**	*e*P	**P**	**04 58 58.0**	**-2.9**	
VSU				pmax	pmax			
	comp=Z,13nm,1.0s							
NB2	**NORSAR Subarra**	**63.92**	**348**	P	**P**	**04 59 01.8**	**-0.4**	
	comp=Z,2.6nm,0.6s,baz=16,slow=6.9							
NOA	**NORSAR Array B**	**63.92**	**348**	P	**P**	**04 59 01.9**	**-0.3**	
	comp=Z,2.4nm,0.6s,baz=17,slow=6.7,SNR=16							
NOA	**NORSAR Array B**	**63.92**	**348**	P	**P**	**04 59 01.9**	**-0.3**	
NOA				pmax	pmax			
	comp=Z,2.0nm,0.6s							
TXAR	**Lajitas Array**	**65.64**	**73**	P	**P**	**04 59 14.2**	**+0.3**	
	comp=Z,1.8nm,0.6s,baz=303,slow=4.5,SNR=32							
TXAR	**Lajitas Array**	**65.64**	**73**	P	**P**	**04 59 14.2**	**+0.3**	
TXAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
AKASG	**Malin Array Be**	**70.24**	**334**	P	**P**	**04 59 41.6**	**-0.7**	
	comp=Z,1.0nm,0.5s,baz=26,slow=6.3,SNR=5.0							
AKASG	**Malin Array Be**	**70.24**	**334**	P	**P**	**04 59 41.6**	**-0.7**	
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
KWP	**Kalwaria Pacla**	**72.82**	**337**	P	**P**	**04 59 59.2**	**+1.2**	
KWP				pmax	pmax			
	comp=Z,3.0nm,0.5s							
KWP	**Kalwaria Pacla**	**72.82**	**337**	P	**P**	**04 59 59.2**	**+1.2**	
	comp=Z,2.6nm,0.5s							
CLL	**Collm**	**73.10**	**344**	*e*P	**P**	**04 59 59.0**	**-0.6**	
CLL	**Collm**	**73.10**	**344**	*e*P	**P**	**04 59 59.0**	**-0.6**	
DPC	**Dobruska-Polom**	**73.45**	**342**	*e*P	**P**	**05 00 02.0**	**+0.3**	
DPC				*ex*	x	05 00 05.1		
DPC	**Dobruska-Polom**	**73.45**	**342**	*e*P	**P**	**05 00 02.0**	**+0.3**	
BUR08	**Bucovina Ar. S**	**74.09**	**335**	*e*P	**P**	**05 00 06.3**	**+0.7**	
NKC	**Novy Kostel**	**74.23**	**344**	*e*P	**P**	**05 00 06.4**	**+0.1**	
NKC	**Novy Kostel**	**74.23**	**344**	*e*P	**P**	**05 00 06.4**	**+0.1**	
KHC	**Kasperske Hory**	**75.11**	**343**	*e*P	**P**	**05 00 12.0**	**+0.6**	
KHC	**Kasperske Hory**	**75.11**	**343**	*e*P	**P**	**05 00 12.0**	**+0.6**	
GERES	**GERESS Array B**	**75.37**	**343**	P	**P**	**05 00 13.4**	**+0.5**	
	comp=Z,1.8nm,0.6s,baz=35,slow=4.9,SNR=17							
GERES	**GERESS Array B**	**75.37**	**343**	P	**P**	**05 00 13.4**	**+0.5**	
GERES				pmax	pmax			
	comp=Z,2.0nm,0.6s							
HAU	**Haudompre**	**77.28**	**348**	*e*P	**P**	**05 00 23.1**	**-0.6**	
HAU	**Haudompre**	**77.28**	**348**	*e*P	**P**	**05 00 23.1**	**-0.6**	
HAU	**Haudompre**	**77.28**	**348**	*e*P	**P**	**05 00 23.1**	**-0.6**	
LDF	**La Druitiere**	**77.36**	**352**	*e*P	**P**	**05 00 22.5**	**-1.6**	
LDF	**La Druitiere**	**77.36**	**352**	*e*P	**P**	**05 00 22.5**	**-1.6**	
LDF	**La Druitiere**	**77.36**	**352**	*e*P	**P**	**05 00 22.5**	**-1.6**	
GRR	**Gorron**	**77.62**	**353**	*e*P	**P**	**05 00 25.6**	**0.0**	
GRR	**Gorron**	**77.62**	**353**	*e*P	**P**	**05 00 25.6**	**0.0**	
GRR	**Gorron**	**77.62**	**353**	*e*P	**P**	**05 00 25.6**	**0.0**	
SSF	**Saint Saulge**	**78.54**	**350**	*e*P	**P**	**05 00 30.2**	**-0.5**	
SSF	**Saint Saulge**	**78.54**	**350**	*e*P	**P**	**05 00 30.2**	**-0.5**	
SSF	**Saint Saulge**	**78.54**	**350**	*e*P	**P**	**05 00 30.2**	**-0.5**	
AVF	**Avril sur Loir**	**78.82**	**350**	*e*P	**P**	**05 00 31.8**	**-0.4**	
	comp=Z,6.8nm,0.8s							
AVF	**Avril sur Loir**	**78.82**	**350**	*e*P	**P**	**05 00 31.8**	**-0.4**	
AVF				pmax	pmax			
	comp=Z,7.0nm,0.8s							
AVF	**Avril sur Loir**	**78.82**	**350**	*e*P	**P**	**05 00 31.8**	**-0.4**	
	comp=Z,6.8nm,0.8s							
BRTR	**Keskin Array B**	**78.91**	**326**	P	**P**	**05 00 33.5**	**+0.4**	
	comp=Z,1.0nm,0.6s,baz=11,slow=3.6,SNR=6.5							
BRTR	**Keskin Array B**	**78.91**	**326**	P	**P**	**05 00 33.5**	**+0.4**	
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
WRA	**Warramunga Arr**	**79.25**	**213**	P	**P**	**05 00 36.3**	**+1.5**	
	comp=Z,0.9nm,0.8s,baz=26,slow=6.3,SNR=7.2							
WRA	**Warramunga Arr**	**79.25**	**213**	P	**P**	**05 00 36.3**	**+1.5**	
WRA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
LPG	**La Plagne**	**79.69**	**347**	*e*P	**P**	**05 00 36.6**	**-0.8**	
LPG	**La Plagne**	**79.69**	**347**	*e*P	**P**	**05 00 36.6**	**-0.8**	
LPG	**La Plagne**	**79.69**	**347**	*e*P	**P**	**05 00 36.6**	**-0.8**	
ASAR	**Alice Springs**	**82.88**	**212**	P	**P**	**05 00 56.2**	**+2.2**	
	comp=Z,1.2nm,0.8s,baz=27,slow=5.4,SNR=8.9							
ASAR	**Alice Springs**	**82.88**	**212**	P	**P**	**05 00 56.3**	**+2.2**	
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ESDC	**Sonseca Array**	**86.50**	**354**	P	**P**	**05 01 12.3**	**-0.1**	
	comp=Z,0.6nm,0.5s,baz=353,slow=5.2,SNR=4.3							
STKA	**Stephens Creek**	**88.61**	**203**	P	**P**	**05 01 24.3**	**+2.1**	
	comp=Z,2.6nm,0.7s,baz=5.3,slow=7.3,SNR=9.5							
STKA	**Stephens Creek**	**88.61**	**203**	P	**P**	**05 01 24.3**	**+2.1**	
STKA				pmax	pmax			
	comp=Z,3.0nm,0.7s							
KEST	**Kesra**	**88.86**	**343**	LR	LR	05 47 08.2		
	comp=Z,6.7nm,18.5s,baz=258,slow=40							
PLCA	**Paso Flores**	**139.07**	**96**	PKP	**PKPdf**	**05 07 56.7**	**+1.0**	
	comp=Z,1.5nm,0.8s,baz=326,slow=3.6,SNR=3.1							
PLCA	**Paso Flores**	**139.07**	**96**	PKIKP	**PKPdf**	**05 07 56.7**	**+1.0**	
PLCA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
MAW	**Mawson**	**143.72**	**219**	PKP	PKPbc	05 08 01.9	+1.3	
	comp=Z,2.6nm,0.8s,baz=108,slow=6.4,SNR=5.2							
MAW	**Mawson**	**143.72**	**219**	PKIKP	PKPbc	05 08 01.9	+1.3	
MAW				pmax	pmax			
	comp=Z,3.0nm,0.8s							

*ISCJB **17** 05:09:03.8±0.3, 32.66N±0.02×115.71W±0.02, h13km±2km, Error ellipse: s-maj=3.2km s-min=2.9km az=7.5*
*NEIC **17** 05:09:05.0, 32.65N×115.73W, h7km, ML3.5(PAS), After PAS.*
NEIC Felt [III] at El Centro. Also felt at Calexico.
*ECX **17** 05:09:05.3±0.6, 32.64N×115.75W, h3km, MD3.6, ML3.8*
*MEX **17** 05:09:10.1±0.7, 32.36N×114.95W, h7km, MD3.6*

ISC 17 05:09:04.1±0.8, 32.63N±0.02×115.72W±0.02, h10km±5km, n41, σ1s18/71, 6C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.02**	**347**	⇑*i*	*i*P	**Pg**		**05 09 06.1**	**+0.2**
ERPC	**Ernies Place**	**0.12**	**23**	⇑*i*	*i*P	**Pg**		**05 09 07.5**	**+0.4**
WESC	**Westside Schoo**	**0.13**	**356**	⇓*e*	P	**Pg**		**05 09 07.4**	**+0.3**
WESC					*e*S	**Sg**		**05 09 10.1**	**+0.8**
YUH	**Yuha Desert**	**0.17**	**276**	⇑*i*	*i*P	**Pg**		**05 09 08.2**	**+0.4**
COK	**Cook Ranch**	**0.22**	**358**	⇓*i*	*i*P	**Pg**		**05 09 09.1**	**+0.4**
RMX	**La Rumorosa**	**0.30**	**265**	⇑*e*	P	**Pg**		**05 09 10.7**	**+0.4**
RMX					*e*S	**Sg**		**05 09 14.9**	**+0.5**
RMX					*e*S	**Sb**		**05 09 15.0**	**-1.7**
CRR	**Carrizo Plain**	**0.33**	**321**	⇑*i*	*i*P	**Pg**		**05 09 10.8**	**+0.1**
CPBX	**Cerro Prieto**	**0.41**	**121**	*i*	*i*P	**Pb**		**05 09 13.1**	**-0.3**
CPBX	**Cerro Prieto**	**0.41**	**121**	*e*	P9	**Pb**		**05 09 13.0**	**-0.3**
CPBX					*e*S	**Sb**		**05 09 19.3**	**-0.4**
CPBX					IAML			05 09 23.2	
	comp=N,31μm,0.4s								
CPBX					IAML			05 09 23.9	
	comp=N,28μm,0.3s								
CPBX					*e*			05 09 23.9	
MBIG	**Mexicali**	**0.49**	**117**		*e*P	**Pb**		**05 09 14.6**	**-0.2**
MBIG					*i* S	**Sg**		**05 09 17.3**	**-2.9**
CLIC	**Calipatria**	**0.53**	**18**	⇓	*e*P	**Pg**		**05 09 14.8**	**+0.4**
RDX	**Rancho Dawling**	**0.72**	**195**		*e*P	**Pg**		**05 09 18.1**	**0.0**
RDX					*e*S	**Sg**		**05 09 28.1**	**+0.5**
RDX				⇑	*e*			05 09 31.1	
	comp=N,2μm,0.3s								
BAR	**Barrett**	**0.81**	**274**		*e*Pg	**Pg**		**05 09 19.3**	**-0.3**
BAR					*e*Sg	**Sg**		**05 09 29.8**	**-0.3**
CBX	**Cerro Bola**	**0.86**	**249**		*e*P	**Sg**		**05 09 33.9**	**+2.1**
CBX	**Cerro Bola**	**0.86**	**249**		*e*P	**Sg**		**05 09 33.9**	**+2.1**
CBX	**Cerro Bola**	**0.86**	**249**		*e*P	**Pg**		**05 09 20.3**	**-0.3**
CBX					*e*S	**Sg**		**05 09 32.2**	**+0.3**
SDRC	**San Diego Road**	**1.04**	**276**		*e*P	**Pg**		**05 09 23.3**	**-0.7**
PFO	**Pinyon Flats O**	**1.16**	**328**		Pg	**Pb**		**05 09 24.2**	**-2.0**
PFO					*e*Sg	**Sb**		**05 09 38.6**	**-2.7**
ZAX	**El Zacaton**	**1.21**	**203**		*e*P	**Pn**		**05 09 26.8**	**-0.3**
ZAX					*e*S	**Sb**		**05 09 42.9**	**+0.1**
ECNX	**Esteban Cantu**	**1.22**	**218**		*e*P	**Pn**		**05 09 27.0**	**-0.3**
ECNX					*e*S	**Sg**		**05 09 43.5**	**+0.1**
PBX	**Punta Banda**	**1.23**	**224**		*e*P	**Pn**		**05 09 27.0**	**-0.3**
PBX					*e*S	**Sb**		**05 09 43.0**	**-0.3**
ECBX	**El Chinero**	**1.29**	**154**		*e*P9	**Pn**		**05 09 26.0**	**-2.0**
ECBX					*e*S	**Sb**		**05 09 43.9**	**-0.9**
ECBX					*e*			05 09 45.0	
	comp=E,1μm,0.4s								
SPX	**San Pedro Mart**	**1.60**	**172**		*e*P	**Pn**		**05 09 32.2**	**-0.5**
SPX	**San Pedro Mart**	**1.60**	**172**		*e*P	**Pn**		**05 09 33.1**	**+0.5**
SPX				⇓	*e*			05 09 58.7	
	comp=N,364nm,0.3s								
LDFC	**Landfair**	**2.49**	**12**		*e*Pn	**Pn**		**05 09 44.3**	**-0.5**
LDFC					*e*Pg	**Pg**		**05 09 54.0**	**+2.1**
LDFC					*e*Sn	**Sn**		**05 10 16.3**	**+1.0**
MWC	**Mount Wilson**	**2.52**	**310**		*e*Pn	**Pn**		**05 09 46.2**	**+1.0**
MWC					*e*Pg	**Pg**		**05 09 53.0**	**+0.6**
MWC					*e*Sg	**Sg**		**05 10 24.1**	**-1.0**
214A	**Organ Pipe Nat**	**2.55**	**104**		*e*Pn	**Pn**		**05 09 46.5**	**+1.0**
214A					*e*Sn	**Sn**		**05 10 16.6**	**-0.1**
PASC	**Pasadena Art C**	**2.57**	**307**		*e*Pn	**Pb**		**05 09 49.3**	**-1.0**
PASC					*e*Sn	**Sn**		**05 10 18.6**	**+1.5**
GSC	**Goldstone, Bar**	**2.81**	**342**		*e*Pn	**Pn**		**05 09 48.0**	**-1.1**
GSC					*e*Pg	**Pg**		**05 09 59.2**	**+1.3**
GSC					*e*Sn	**Sn**		**05 10 23.0**	**-0.1**
OSI	**Osito Audit: C**	**3.19**	**309**		*e*Pn	**Pn**		**05 09 55.2**	**+0.9**
SHPR	**Sheep Range**	**3.89**	**7**		*e*Pn	**Pn**		**05 10 04.1**	**0.0**
SHPR					*e*Sn	**Sn**		**05 10 49.3**	**-0.6**
DAC	**Darwin (Calif)**	**3.95**	**337**		Pn	**Pn**		**05 10 04.6**	**-0.3**
DAC					*e*Sg	**Sg**		**05 11 08.7**	**-2.4**
TUC	**Tucson**	**4.18**	**93**		*e*Pn	**Pn**		**05 10 06.2**	**-1.8**
TUC					*e*Sn	**Sn**		**05 10 58.2**	**+1.2**
WUAZ	**Wupatki**	**4.62**	**50**		*e*Pn	**Pn**		**05 10 15.2**	**+1.3**
TPH	**Tonopah**	**5.57**	**348**		*e*Pn	**Pn**		**05 10 28.2**	**+1.1**
	comp=N,4.3nm,0.9s								
TPH					*e*Pg	**Pg**		**05 10 52.2**	**+1.4**
TPH					*e*Sn	**Sn**		**05 11 34.1**	**+2.9**
R11A	**Troy Canyon, C**	**5.71**	**1**		*e*Pn	**Pn**		**05 10 29.4**	**+0.4**
R11A					*e*Pg	**Pg**		**05 10 52.4**	**-1.0**
R11A					*e*Sn	**Sn**		**05 11 35.1**	**+0.5**
MVU	**Marysvale**	**6.52**	**25**		*e*Pn	Pn		05 10 44.8	+4.6
	comp=N,6.4nm,0.9s								
MSU	**Marysvale**	**6.54**	**25**		*e*Pn	**Pn**		**05 10 42.0**	**+1.5**
	comp=N,6.1nm,0.8s								
MSU					*e*Sg	**Sg**		**05 12 32.5**	**-1.5**
WAKR	**Walker**	**6.60**	**334**		Pn	**Pn**		**05 10 42.5**	**+1.2**
121A	**Cookes Peak, D**	**6.70**	**89**		*e*Pn	**Pn**		**05 10 42.3**	**-0.3**
	comp=N,13nm,0.6s								
121A					*e*Sn	**Sn**		**05 11 59.4**	**+0.3**
MNTX	**Cornudas Mount**	**8.81**	**93**		*e*Pn	**Pn**		**05 11 11.1**	**-0.5**
	comp=N,1.3nm,0.3s								
MNTX					*e*Sn	**Sn**		**05 12 53.0**	**+2.1**

*IDC **17** 05:10:42.3±1.2, 36.80S×73.28W, h0km, mb3.5/5, mb1 3.6/7, mb1mx3.6/29, mbtmp3.5/7, ML3.5/2, MS2.8/4, Ms1 2.8/4, ms1mx2.7/17, Error ellipse: s-maj=33.5km s-min=16.9km az=85.0*
*ISCJB **17** 05:10:43.2±1.7, 36.85S±0.04×73.6W±0.2, h19km±10km, mb3.5/5, MS3.2/2, Error ellipse: s-maj=20.6km s-min=6.4km az=5.2*
*GUC **17** 05:10:44.7±0.7, 36.88S×73.49W, h21km±6km, ML4.5*

ISC 17 05:10:45.8±1.5, 36.85S±0.05×73.4W±0.1, h26km±8km, n15, σ086/21, mb3.5/4, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.20**	**89**	⇓	*i*P	**Pb**		**05 11 51.2**	**-0.3**
CCSP					*i* S	**Sb**		**05 10 55.9**	**+0.4**
COCH	**Cobquecura**	**0.85**	**33**	⇓	*i*P	**Pb**		**05 11 01.3**	**-0.6**
COCH					*i* S	**Sn**		**05 11 14.2**	**+0.6**
AGCH	**Angol**	**1.09**	**151**	⇑	*i*P	**Pn**		**05 11 04.8**	**-0.6**
AGCH					*i* S	**Sn**		**05 11 19.4**	**-0.3**
LNCH	**Linares**	**1.74**	**55**	⇓	*i*P	**Pb**		**05 11 16.3**	**-0.6**
LNCH					*i* S	**Sb**		**05 11 40.1**	**+1.7**
PSCH	**Puerto Saavedr**	**1.95**	**181**		*e*P	**Pn**		**05 11 16.4**	**-0.8**
PSCH					*e*S	**Sn**		**05 11 41.1**	**+0.4**
TALC	**Talca**	**2.01**	**44**	⇑	*i*P	**Pn**		**05 11 18.6**	**+0.6**
TALC					*e*S	**Sb**		**05 11 45.2**	**-1.0**
TALC					AML	AML		05 11 54.5	
	comp=N,3μm,0.6s								
VLCH	**Valdivia**	**2.95**	**178**		*e*P	**Pn**		**05 11 31.3**	**+0.4**
VLCH					AML	AML		05 12 26.1	
	comp=E,2μm,0.7s								
PLCA	**Paso Flores**	**4.46**	**151**		Pn	**Pn**		**05 11 53.0**	**+1.2**
	comp=E,1.2nm,0.3s,baz=324,slow=11,SNR=32								
PLCA					Lg	Lg		05 13 05.0	
	comp=E,4.4nm,0.3s,baz=246,slow=24,SNR=4.9								
PLCA					LR	LR		05 13 28.6	
	comp=E,71nm,19.1s,baz=288,slow=37								
CFAA	**Coronel Fontan**	**6.74**	**41**		Pn	**Pn**		**05 12 22.3**	**-0.7**
	comp=E,0.2nm,0.3s,baz=210,slow=13,SNR=15								
CFAA					Sn	**Sn**		**05 13 37.9**	**-1.0**
	comp=E,0.0nm,0.3s,baz=230,slow=16,SNR=3.4								
CFAA					LR	LR		05 15 33.4	
	comp=E,9.7nm,19.9s,baz=224,slow=44								
LPAZ	**La Paz**	**21.00**	**14**		P	**P**		**05 15 28.3**	**+0.4**
	comp=E,0.9nm,0.6s,baz=181,slow=5.9,SNR=8.2								
SIV	**San Ignacio**	**23.46**	**31**		P	**P**		**05 15 53.1**	**-0.2**
	comp=E,1.1nm,0.7s,baz=194,slow=7.6,SNR=3.3								
SIV					LR	LR		05 26 33.0	
	comp=E,66nm,21.3s,baz=173,slow=41								
BDFB	**Brasilia**	**30.86**	**54**		LR	LR		05 30 20.6	
	comp=E,71nm,21.6s,baz=223,slow=38								
QSPA	**South Pole Qui**	**53.39**	**180**		P	**P**		**05 20 03.7**	**+0.7**
	comp=E,1.3nm,0.9s,baz=88,slow=7.6,SNR=2.3								
TXAR	**Lajitas Array**	**71.72**	**332**		P	**P**		**05 22 06.4**	**+0.8**
	comp=E,0.1nm,0.3s,baz=146,slow=8.3,SNR=2.6								
TORD	**Torodi Ar. Bea**	**86.18**	**71**		P	**P**		**05 23 24.0**	**-1.1**
	comp=E,0.3nm,0.9s,baz=219,slow=5.5,SNR=2.7								

*IDC **17** 05:42:16.5±2.0, 32.96S×178.94W, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/33, mbtmp3.8/4, ML3.9/1, MS3.7/1, Ms1 3.7/1, ms1mx2.9/20, Error ellipse: s-maj=49.5km s-min=32.8km az=59.0*
*ISCJB **17** 05:42:19.0±1.2, 33.19S±0.07×179.3W±0.2, h10km, mb3.7/3, Error ellipse: s-maj=28.3km s-min=8.8km az=12.5*

ISC 17 05:42:18.9±1.7, 33.1S±0.1×179.2W±0.3, h10km, n23, σ1s34/25, mb3.7/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.91**	**204**		PN	**Pn**		**05 43 34.2**	**+1.5**
MXZ					SN	**Sn**		**05 44 29.8**	**+0.2**
WMGZ	**Waiomatatini S**	**5.11**	**202**		PN	**Pn**		**05 43 37.1**	**+1.7**
WMGZ					eSN	**Sn**		**05 44 35.2**	**+0.8**
HAZ	**Te Kaha**	**5.27**	**207**		PN	**Pn**		**05 43 39.9**	**+2.2**
PUZ	**Puketiti**	**5.39**	**202**		ePN	**Pn**		**05 43 37.8**	**-1.5**
PUZ					SN	**Sn**		**05 44 39.3**	**-2.1**
TWGZ	**Tauwhareparae**	**5.57**	**204**		PN	**Pn**		**05 43 42.5**	**+0.6**
TWGZ					SN	**Sn**		**05 44 46.3**	**+0.3**
CNGZ	**Carnagh Statio**	**5.78**	**201**		PN	**Pn**		**05 43 46.6**	**+1.9**
MWZ	**Matawai**	**5.88**	**206**		PN	**Pn**		**05 43 47.0**	**+0.9**
URZ	**Urewera**	**5.97**	**209**		Pn	**Pn**		**05 43 47.5**	**+0.2**
	3.1nm,0.3s,baz=315,slow=10,SNR=12								
URZ					Sn	**Sn**		**05 44 53.9**	**-2.0**
	3.2nm,0.3s,baz=315,slow=19,SNR=6.5								
URZ	**Urewera**	**5.97**	**209**		PN	**Pn**		**05 43 47.9**	**+0.6**
RAGZ	**Rawiri**	**6.06**	**206**		PN	**Pn**		**05 43 48.7**	**+0.2**
RAGZ					SN	**Sn**		**05 44 57.1**	**-0.9**
RIGZ	**Rimuhau**	**6.12**	**203**		PN	**Pn**		**05 43 50.3**	**+0.9**
SNGZ	**Shannon Statio**	**6.34**	**206**		PN	**Pn**		**05 43 53.5**	**+1.1**
KNZ	**Kokohu**	**6.44**	**203**		PN	**Pn**		**05 43 52.1**	**-1.6**
BKZ	**Black Stump Fm**	**7.00**	**209**		PN	**Pn**		**05 44 00.5**	**-1.0**
KAHZ	**Kahuranaki**	**7.40**	**204**		PN	**Pn**		**05 44 06.5**	**-0.5**
MRZ	**Mangatainoka R**	**8.64**	**208**		ePN	Pn		05 44 20.6	-3.4
MRZ					eSN	Sn		05 45 52.3	-9.2
HOWZ	**Holdsworth Sta**	**8.87**	**207**		eSN	Sn		05 45 57.9	-9.2
TCW	**Tory Channel**	**9.64**	**211**		eSN	Sn		05 46 15.4	-11
DZM	**Mont Dzumac**	**16.82**	**307**		LR	LR		05 50 33.9	
	comp=Z,276nm,19.9s,baz=181,slow=30								
ASAR	**Alice Springs**	**42.06**	**270**		P	**P**		**05 50 11.8**	**+0.9**
	0.6nm,0.6s,baz=106,slow=7.4,SNR=6.9								
WRA	**Warramunga Arr**	**43.29**	**276**		P	**P**		**05 50 21.5**	**+0.5**
	0.5nm,0.3s,baz=116,slow=7.7,SNR=20								
QSPA	**South Pole Qui**	**57.02**	**180**		P	**P**		**05 52 05.2**	**+0.5**
	1.3nm,0.9s,baz=56,slow=1.8,SNR=8.8								
FINES	**FINESS Array B**	**147.30**	**338**		PKPbc	**PKPbc**		**06 01 59.6**	**-2.2**
	1.6nm,0.8s,baz=64,slow=3.2,SNR=4.4								

IDC 17 05:50:15.4±3.7, 5.62S×149.88E, h0km, mb3.2/2, mb1 3.6/2, mb1mx3.3/36, mbtmp3.3/2, Error ellipse: s-maj=140.6km s-min=47.8km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.76**	**225**		P	P		05 54 58.3	+0.3
	0.8nm,0.5s,baz=52,slow=11,SNR=13								
ASAR	**Alice Springs**	**23.63**	**219**		P	P		05 55 28.3	-0.2
	0.2nm,0.4s,baz=48,slow=8.7,SNR=4.6								
TORD	**Torodi Ar. Bea**	**147.75**	**286**		PKPbc	PKPbc		06 10 02.5	-0.8
	0.7nm,1.1s,baz=81,slow=2.3,SNR=2.7								

*MOS **17** 06:18:04.6±1.2, 51.15N×156.39E, h131km, mb3.9/3, Error ellipse: s-maj=23.7km s-min=7.8km az=68.5*
*ISCJB **17** 06:18:05.4±0.5, 51.05N±0.06×156.6E±0.1, h136km±3km, mb3.5/11, Error ellipse: s-maj=15.1km s-min=6.0km az=37.6*
*KRSC **17** 06:18:05.2±2.5, 50.90N×157.18E, h124km±26km, ML4.1*
*IDC **17** 06:18:08.0±1.5, 51.25N×156.29E, h143km±10km, mb3.3/11, mb1 3.5/15, mb1mx3.4/32, mbtmp3.8/15, MS3.0/1, Ms1 3.0/1, ms1mx2.4/21, Error ellipse: s-maj=24.5km s-min=13.2km az=134.0*

ISC 17 06:18:05.4±0.8, 50.92N±0.07×156.78E±0.08, h133km±5km, n64, σ1s45/83, mb3.5/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.49**	**241**	*e*P		**Pn**		**06 18 26.2**	**+1.5**
SKR				*e*S		**Sn**		**06 18 40.2**	**+0.9**
SKR	**Severo-Kuril's**	**0.49**	**241**	*e*PN		**Pn**		**06 18 22.5**	**-2.2**
SKR				S		**Sn

H11N1	**WAKE ISLAND Hy 32.15**	**162**		T		T	06 58 25.8	
	baz=348,slow=76,SNR=5.5							
H11S1	**WAKE ISLAND Hy 33.29**	**163**		T		T	06 59 45.7	
	baz=348,slow=76,SNR=17							
H11S3	**WAKE ISLAND Hy 33.30**	**163**		T		T	06 59 24.0	
	baz=348,slow=76,SNR=13							
H11S2	**WAKE ISLAND Hy 33.31**	**163**		T		T	06 59 40.9	
	baz=348,slow=76,SNR=10.0							
INK	**Inuvik**	**36.83**	**36**	P		**P**	**06 25 01.5**	**+1.5**
	comp=Z,1.1nm,0.5s,baz=292,slow=7.5,SNR=14							
INK	**Inuvik**	**36.83**	**36**	P		**P**	**06 25 01.5**	**+1.5**
INK				pmax		pmax		
	comp=Z,1.0nm,0.5s							
RES	**Resolute Bay**	**46.09**	**20**	P		**P**	**06 26 15.2**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=349,slow=6.4,SNR=8.9							
YKA	**Yellowknife Ar**	**46.14**	**40**	P		**P**	**06 26 17.1**	**+1.2**
	comp=Z,0.9nm,0.5s,baz=297,slow=6.3,SNR=13							
YKA	**Yellowknife Ar**	**46.14**	**40**	P		**P**	**06 26 17.1**	**+1.2**
YKA				pmax		pmax		
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**47.25**	**296**	P		**P**	**06 26 23.9**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=48,slow=8.2,SNR=4.5							
MKAR				pP		**pP**	**06 26 56.3**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=49,slow=3.7,SNR=4.3							
FINES	**FINESS Array B**	**61.27**	**335**	P		**P**	**06 28 04.2**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=55,slow=7.2,SNR=3.9							
NOA	**NORSAR Array B**	**65.02**	**342**	P		**P**	**06 28 30.1**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=41,slow=7.1,SNR=2.9							
AKASG	**Malin Array Be**	**69.38**	**327**	P		**P**	**06 28 56.1**	**-2.2**
	comp=Z,0.2nm,0.4s,baz=32,slow=7.0,SNR=4.3							
WRA	**Warramunga Arr**	**73.27**	**202**	P		P	06 29 24.5	+2.6
	comp=Z,0.5nm,0.6s,baz=20,slow=6.4,SNR=8.5							
TXAR	**Lajitas Array**	**73.40**	**64**	P		**P**	**06 29 25.4**	**+2.5**
	comp=Z,0.1nm,0.4s,baz=297,slow=4.0,SNR=2.7							
KEST	**Kesra**	**89.08**	**334**	P		**P**	**06 30 45.1**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=41,slow=4.5,SNR=5.3							

ISCJB ***17*** *06:45:44.3±0.9,31°.45S±0°.03×71°.96W±0°.09,h10km,Error ellipse: s-maj=11.4km s-min=4.0km az=174.4*
GUC ***17*** *06:45:46.3±0.3,31°.45S×71°.77W,h26km±1km,ML4.1*
SJA ***17*** *06:45:48.6±0.7,31°.23S×71°.60W,h31km±15km,ML3.4*

ISC 17 06:45:43.6±1.7,31°.45S±0°.04×72°.1W±0°.1,h10km,n18,
σ1§25/28,1C,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSCH	**La Serena**	**1.70**	**25**	*e*P	**Pn**	**06 46 13.7**	**+0.4**
LSCH				*i* S	**Sn**	**06 46 34.2**	**-0.9**
ROCH	**El Roble**	**1.76**	**150**	*i* P	**Pn**	**06 46 14.9**	**+0.4**
ROCH				*i* S	**Sn**	**06 46 36.5**	**-0.6**
PEL	**Peldehue**	**2.06**	**145**	*e*P	**Pn**	**06 46 16.9**	**+0.6**
PEL				*e*S	**Sn**	**06 46 43.5**	**-0.5**
PEL				AML	AML	06 46 45.7	
	comp=E,4μm,0.3s						
STL	**Santa Lucia**	**2.32**	**149**	*e*P	**Pn**	**06 46 21.9**	**-0.1**
STL				*e*S	**Sn**	**06 46 49.3**	**-1.3**
CLCH	**Cerro Calan**	**2.33**	**147**	*e*P	**Pn**	**06 46 22.5**	**+0.4**
CLCH				*e*S	**Sn**	**06 46 50.1**	**-0.8**
CLCH				AML	AML	06 47 00.1	
	comp=E,1μm,0.6s						
LACH	**Col Las Americ**	**2.38**	**147**	*i* P	**Pn**	**06 46 23.3**	**+0.5**
LACH				*i* S	**Sn**	**06 46 51.3**	**-0.8**
RTLS	**Leoncito**	**2.40**	**99**	*e*P	**Pn**	**06 46 23.6**	**+0.4**
RTLS				*e*S	**Sn**	**06 46 50.4**	**-2.3**
AUSP	**Uspallata**	**2.41**	**109**	*e*P	**Pn**	**06 46 24.7**	**+1.3**
AUSP				*e*S	**Sn**	**06 46 52.0**	**-1.2**
SJCH	**San Jose de Ma**	**2.62**	**147**	⇑*i*P	**Pn**	**06 46 26.2**	**+0.1**
SJCH				*i* S	**Sn**	**06 46 56.8**	**-1.3**
LCO	**Las Campanas**	**2.71**	**26**	*e*P	**Pn**	**06 46 27.8**	**+0.3**
CHCH	**Chadas Angostu**	**2.75**	**155**	*e*P	**Pn**	**06 46 28.7**	**+0.8**
ASAL	**Salagasta**	**2.98**	**113**	*e*P	**Pn**	**06 46 33.0**	**+2.0**
ARCO	**CERRO ARCO**	**3.00**	**118**	*e*P	**Pn**	**06 46 34.2**	**+2.8**
ARCO				AML	AML	06 47 20.0	
	comp=Z,145nm,0.3s						
RTCV	**Cerro Valdivia**	**3.04**	**99**	*e*P	**Pn**	**06 46 32.6**	**+0.7**
RTLL	**Cerro Villicun**	**3.08**	**89**	*e*P	**Pn**	**06 46 32.6**	**+0.2**
VACH	**Vallenar**	**3.08**	**22**	*e*P	**Pn**	**06 46 33.2**	**+0.8**
VACH				*i* S	**Sn**	**06 47 09.2**	**-0.2**
AAGR	**Agrelo**	**3.20**	**121**	*e*P	**Pn**	**06 46 37.1**	**+3.1**
CFAA	**Coronel Fontan**	**3.28**	**94**	*e*P	**Pn**	**06 46 35.4**	**+0.3**

NIED ***17*** *06:49:00,28°.80N×128°.50E,h8km,Mw4.0 Best double couple: M01.20000×10^15 NP1:φs110.00000°,δ38.00000°, λ5.00000°. NP2:φs16.00000°,δ87.00000°,λ127.00000°.*
JMA ***17*** *06:49:58.7±0.2,28°.79N×128°.54E,h10km±3km,M3.5*
ISCJB ***17*** *06:49:59.3±2.4,28°.79N±0°.04×128°.55E±0°.06, h13km±18km,mb3.6/3,MS3.4/3,Error ellipse: s-maj=9.2km s-min=6.0km az=22.5*
IDC ***17*** *06:50:01.9±1.8,28°.37N×130°.33E,h0km,mb3.6/3, mb1 3.9/5,mb1mx3.5/38,mbtmp3.6/5,ML3.1/2,MS3.4/3, Ms1 3.3/3,ms1mx2.6/31,Error ellipse: s-maj=101.4km s-min=24.4km az=92.0*

ISC 17 06:49:58.0±3.5,28°.78N±0°.05×128°.58E±0°.08,h2km±24km,
n18,σ0§81/17,mb3.6/3,MS3.3/3,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTAJ	**Takarajima**	**0.66**	**56**	P	**Pb**	**06 50 11.8**	**-0.5**
JTAJ				*e*S	**Sb**	**06 50 20.8**	**-1.1**
JAMN	**Amaminishikomi**	**0.75**	**136**	P	**Pb**	**06 50 13.8**	**0.0**
JAM	**Amami Oshima**	**0.98**	**112**	P	**Pb**	**06 50 17.7**	**+0.1**
JAM				*e*S	**Sb**	**06 50 30.7**	**-0.3**
JTK	**Tokunoshima**	**1.05**	**162**	P	**Pb**	**06 50 18.4**	**-0.5**
JTK				*e*S	**Sb**	**06 50 32.7**	**-0.3**
JZK	**Kikaishima**	**1.31**	**111**	P	**Pn**	**06 50 24.1**	**+0.7**
JZK				*e*S	**Sn**	**06 50 41.7**	**+0.3**
JOKE	**Okinoerabujima**	**1.42**	**180**	P	**Pn**	**06 50 24.4**	**-0.4**
JOKE				*e*S	**Sn**	**06 50 42.8**	**-1.2**
JNN	**Nakanoshima**	**1.55**	**47**	P	**Pn**	**06 50 26.8**	**+0.2**
JIH	**Iheya**	**1.82**	**197**	P	**Pn**	**06 50 30.6**	**+0.2**
JYAK	**Yakushimahirau**	**2.22**	**49**	P	**Pn**	**06 50 36.6**	**+0.7**
JNTH	**Nagotoyohara**	**2.31**	**192**	P	**Pn**	**06 50 38.9**	**+1.8**
JNU	**Nakatsue**	**4.75**	**24**	Pn	Pn	06 51 15.6	+4.8
	1.1nm,0.3s,baz=173,slow=14,SNR=19						
KSRS	**Korea Array**	**8.66**	**357**	Pn	Pn	06 52 16.5	+12
	0.1nm,0.3s,baz=172,slow=14,SNR=4.3						
TLY	**Talaya**	**29.49**	**328**	LR	LR	07 09 24.7	
	comp=Z,56nm,18.3s,baz=132,slow=38						
WRA	**Warramunga Arr**	**48.76**	**173**	P	**P**	**06 58 44.1**	**-0.3**
	1.3nm,0.9s,baz=355,slow=8.3,SNR=7.9						
AKTO	**Aktyubinsk**	**56.28**	**314**	LR	LR	07 28 18.9	
	comp=Z,25nm,20.1s,baz=83,slow=40						
ILAR	**Eielson Array**	**62.06**	**29**	P	**P**	**07 00 20.4**	**+0.6**
	0.3nm,0.8s,baz=280,slow=6.3,SNR=3.1						
KBZ	**Khabaz**	**67.80**	**309**	LR	LR	07 33 55.6	
	comp=Z,31nm,18.9s,baz=148,slow=38						
YKA	**Yellowknife Ar**	**76.09**	**25**	P	P	07 01 50.8	+3.9
	0.4nm,0.8s,baz=313,slow=6.3,SNR=3.8						

MEX 17 06:50:48.3±0.4,16°.73N×99°.55W,h15km,MD3.9,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.33**	**295**	*i* P	Pg	06 50 55.0	-0.2
ACX				*e*P	Pb	06 50 55.3	-0.6
ACX				*e*S	Sg	06 51 00.0	+0.1
ACP2	**Acapulco**	**0.36**	**294**	*e*P	Pg	06 50 55.5	-0.1
ACP2				*e*S	Sg	06 51 00.7	0.0
CAIG	**El Cayaco**	**0.76**	**295**	*e*P	Pg	06 51 00.6	-2.5
CAIG				*i* S	Sg	06 51 10.2	-3.0
ARIG	**Puente Sto Nin**	**1.72**	**334**	*e*P	Pn	06 51 14.3	-3.5

IDC 17 06:55:20.0±2.4,11°.01S×165°.34E,h0km,mb3.8/5, mb1 3.9/5,mb1mx3.7/19,mbtmp3.7/5,Error ellipse: s-maj=100.6km s-min=28.9km az=131.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**30.19**	**223**	P	P	07 01 31.8	-0.4
	0.3nm,0.3s,baz=24,slow=10.0,SNR=3.5						
WRA	**Warramunga Arr**	**31.12**	**250**	P	P	07 01 40.6	0.0
	2.0nm,0.8s,baz=79,slow=9.1,SNR=11						
ASAR	**Alice Springs**	**32.45**	**243**	P	P	07 01 52.6	+0.2
	0.4nm,0.8s,baz=74,slow=10.0,SNR=4.0						
ILAR	**Eielson Array**	**83.61**	**19**	P	P	07 07 49.8	-0.1
	0.3nm,0.6s,baz=234,slow=5.2,SNR=6.4						
MKAR	**Makanchi Array**	**93.23**	**317**	P	P	07 08 36.8	+0.2
	0.7nm,0.9s,baz=99,slow=4.8,SNR=5.0						

NIED ***17*** *06:55:00,28°.80N×128°.50E,h5km,Mw4.1 Best double couple: M01.58000×10^15 NP1:φs120.00000°,δ14.00000°, λ-16.00000°. NP2:φs226.00000°,δ86.00000°, λ-104.00000°.*

JMA 17 06:55:27.2±0.3,28°.78N×128°.54E,h6km±4km,M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTAJ	**Takarajima**	**0.69**	**57**	P	Pg	06 55 40.6	+0.1
JTAJ				S	Sg	06 55 49.5	0.0
JAMN	**Amaminishikomi**	**0.77**	**134**	P	Pg	06 55 42.2	+0.1
JAMN				*e*S	Sg	06 55 52.9	+0.8
JAM	**Amami Oshima**	**1.01**	**111**	P	Pg	06 55 46.1	-0.4
JAM				*e*S	Sg	06 55 58.8	-0.8
JTK	**Tokunoshima**	**1.05**	**160**	P	Pg	06 55 46.8	-0.7
JTK				*e*S	Sg	06 56 01.4	+0.2
JZK	**Kikaishima**	**1.34**	**110**	P	Pb	06 55 52.7	-0.1
JZK				*e*S	Sn	06 56 10.6	-0.1
JOKE	**Okinoerabujima**	**1.41**	**179**	P	Pn	06 55 53.1	-0.4
JNN	**Nakanoshima**	**1.57**	**47**	P	Pn	06 55 55.9	+0.2
JIH	**Iheya**	**1.81**	**196**	P	Pn	06 55 59.1	+0.2
JOW	**Kunigami**	**1.96**	**187**	P	Pn	06 56 01.4	+0.5
JNTH	**Nagotoyohara**	**2.30**	**192**	P	Pb	06 56 07.5	-1.6

GUC 17 07:11:23.0±0.3,35°.07S×72°.67W,h26km±2km,ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.91**	**112**	*e*P	Pb	07 11 40.2	0.0
TALC				*e*S	Sn	07 11 52.8	+0.3
COCH	**Cobquecura**	**1.07**	**185**	*e*P	Pn	07 11 42.4	+0.1
COCH				*e*S	Sb	07 11 57.1	+0.8
LNCH	**Linares**	**1.17**	**132**	*e*P	Pb	07 11 44.2	-0.4
LNCH				*e*S	Sb	07 12 00.3	+0.9
NICH	**Los Niches**	**1.19**	**87**	*e*P	Pb	07 11 44.6	-0.3
NICH				*e*S	Sb	07 12 00.9	+1.0
CHCH	**Chadas Angostu**	**2.02**	**57**	*e*P	Pb	07 11 57.8	-1.3
CHCH				*e*S	Sb	07 12 24.2	+0.4
CLCH	**Cerro Calan**	**2.43**	**47**	*e*P	Pb	07 12 03.9	-2.3
CLCH				*e*S	Sb	07 12 34.9	-0.9
CLCH				AML	AML	07 12 44.4	
	comp=N,246nm,0.4s						
PEL	**Peldehue**	**2.53**	**41**	*e*P	Pb	07 12 05.2	-2.6
PEL				*e*S	Sb	07 12 37.3	-1.2
PEL				AML	AML	07 12 45.0	
	comp=N,290nm,0.3s						

CNRM ***17*** *07:19:11.6,36°.60N×11°.35W,h30km,MD3.5*
IGIL ***17*** *07:19:11.7,36°.65N×11°.36W,h30km,ML3.0*
LDG ***17*** *07:19:12.8±0.2,36°.76N×11°.22W,h10km,Ml3.5/3,Error ellipse: s-maj=3.6km s-min=2.6km az=40.0*
MDD ***17*** *07:19:12.4±0.9,36°.68N×11°.33W,h39km±34km, mbLg3.3/39,Error ellipse: s-maj=10.9km s-min=7.8km az=68.0,PRXIMO*
INMG ***17*** *07:19:13.8±1.1,36°.68N×11°.27W,h31km±11km,MD2.8, ML3.0,Error ellipse: s-maj=7.0km s-min=3.4km az=58.0*
CSEM ***17*** *07:19:14.9±0.3,36°.86N×11°.05W,h30km,ML3.7/9,Error ellipse: s-maj=5.2km s-min=3.7km az=54.0*

ISC 17 07:19:10.1±2.5,36°.79N±0°.08×11°.2W±0°.1,h10km,n143,
σ1§58/239,7C-2D,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.89**	**79**	*i* Pn	**Pn**	**07 19 43.9**	**+1.4**
PFVI				*e*Sn	**Sn**	**07 20 05.8**	**-0.6**
PFVI				A	A	07 20 07.8	
	118nm,0.4s						
PFVI	**Vila Bisbo**	**1.89**	**79**	⇑P	**Pn**	**07 19 43.9**	**+1.4**
	54nm,0.1s,SNR=18						
PFVI				S	**Sn**	**07 20 05.8**	**-0.6**
	159nm,0.2s,SNR=12						
PFVI	**Vila Bisbo**	**1.89**	**79**	P	**Pn**	**07 19 43.9**	**+1.4**
	54nm,0.1s,SNR=18						
PFVI				S	**Sn**	**07 20 05.8**	**-0.6**
	159nm,0.2s,SNR=12						
MORF	**Marmelete**	**2.07**	**75**	*e*P	**Pn**	**07 19 46.4**	**+1.4**
MORF				*e*S	**Sn**	**07 20 10.3**	**-0.5**
MORF				AML	AML	07 20 11.2	
	comp=N,134nm,0.1s						
MORF	**Marmelete**	**2.07**	**75**	*e*Pn	**Pn**	**07 19 46.5**	**+1.5**
MORF				*e*Sn	**Sn**	**07 20 10.4**	**-0.4**
MORF				A	A	07 20 12.7	
	comp=N,113nm,0.1s						
MORF	**Marmelete**	**2.07**	**75**	⇑P	**Pn**	**07 19 46.5**	**+1.5**
MORF				S	**Sn**	**07 20 10.4**	**-0.4**
	comp=N,113nm,0.1s						
MORF	**Marmelete**	**2.07**	**75**	P	**Pn**	**07 19 46.5**	**+1.5**
MORF				S	**Sn**	**07 20 10.4**	**-0.4**
	comp=N,113nm,0.1s						
PTEO	**Sao Teotonio**	**2.08**	**68**	*i* Pn	**Pn**	**07 19 46.9**	**+1.8**
PTEO				*e*Sn	**Sn**	**07 20 11.2**	**+0.1**
PTEO				A	A	07 20 16.3	
	comp=N,68nm,0.7s						
PTEO	**Sao Teotonio**	**2.08**	**68**	⇑P	**Pn**	**07 19 46.9**	**+1.8**
PTEO				S	**Sn**	**07 20 11.2**	**+0.1**
	comp=N,34nm,0.7s						
PTEO	**Sao Teotonio**	**2.08**	**68**	P	**Pn**	**07 19 46.9**	**+1.8**
PTEO				S	**Sn**	**07 20 11.2**	**+0.1**
	comp=N,34nm,0.7s						
PNCL	**Nicolau / Gran**	**2.47**	**57**	*e*Pn	**Pn**	**07 19 52.4**	**+1.9**
PNCL				*e*Sn	**Sn**	**07 20 21.1**	**+0.4**
PNCL				A	A	07 20 24.5	
	comp=N,36nm,0.1s						
PMST	**Lisbon--Monsan**	**2.50**	**38**	*e*Pn	**Pn**	**07 19 52.6**	**+1.8**
PMST				*e*Sn	**Sn**	**07 20 22.3**	**+1.0**
PMST				A	A	07 20 26.6	
	comp=N,48nm,0.4s						
PMST	**Lisbon--Monsan**	**2.50**	**38**	*e*Pn	**Pn**	**07 19 52.6**	**+1.8**
PMST				*e*Sn	**Sn**	**07 20 22.3**	**+1.0**
	comp=N,48nm,0.4s						
MESJ	**Messejana**	**2.56**	**65**	*e*P	**Pn**	**07 19 53.3**	**+1.7**
MESJ				*e*S	**Sn**	**07 20 22.4**	**-0.5**
MESJ				AML	AML	07 20 25.1	
	comp=N,35nm,0.1s						
MESJ	**Messejana**	**2.56**	**65**	*e*Pn	**Pn**	**07 19 53.4**	**+1.7**
MESJ				*e*Sn	**Sn**	**07 20 22.9**	**-0.1**
MESJ				A	A	07 20 30.3	
	comp=N,32nm,0.3s						
MESJ	**Messejana**	**2.56**	**65**	P	**Pn**	**07 19 53.4**	**+1.7**
MESJ				S	**Sn**	**07 20 22.9**	**-0.1**
	comp=N,32nm,0.3s						
MESJ	**Messejana**	**2.56**	**65**	P	**Pn**	**07 19 53.4**	**+1.7**
MESJ				S	**Sn**	**07 20 22.9**	**-0.1**
	comp=N,32nm,0.3s						
PBDV	**Barranco-do-Ve**	**2.62**	**79**	*e*Pn	**Pn**	**07 19 54.3**	**+1.8**
PBDV				*e*Sn	**Sn**	**07 20 24.2**	**-0.2**
PBDV				A	A	07 20 29.8	
	comp=N,33nm,0.3s						
PBDV	**Barranco-do-Ve**	**2.62**	**79**	P	**Pn**	**07 19 54.3**	**+1.8**
PBDV				S	**Sn**	**07 20 24.2**	**-0.2**
	comp=N,33nm,0.3s						
PBDV	**Barranco-do-Ve**	**2.62**	**79**	P	**Pn**	**07 19 54.3**	**+1.8**
PBDV				S	**Sn**	**07 20 24.2**	**-0.2**
	comp=N,33nm,0.3s						
PMAFR	**Mafra**	**2.62**	**34**	*i* Pn	**Pn**	**07 19 54.0**	**+1.4**
PMAFR				*e*Sn	**Sn**	**07 20 24.9**	**+0.4**
PMAFR				A	A	07 20 26.8	
	comp=N,116nm,0.2s						
PMAFR	**Mafra**	**2.62**	**34**	⇑P	**Pn**	**07 19 54.0**	**+1.4**
	comp=N,17nm,0.1s,SNR=18						
PMAFR				S	**Sn**	**07 20 25.0**	**+0.6**
	comp=N,174nm,0.2s,SNR=23						
PMAFR	**Mafra**	**2.62**	**34**	P	**Pn**	**07 19 54.0**	**+1.4**
	comp=N,17nm,0.1s,SNR=18						
PMAFR				*e*Sn	**Sn**	**07 20 24.9**	**+0.4**
	comp=N,116nm,0.2s						
PCVE	**Castro Verde**	**2.62**	**70**	*e*Pn	**Pn**	**07 19 54.4**	**+1.8**
PCVE				*e*Sn	**Sn**	**07 20 23.2**	**-1.3**
PCVE				A	A	07 20 36.9	
	comp=N,1.8nm,0.6s						
PCVE	**Castro Verde**	**2.62**	**70**	⇑P	**Pn**	**07 19 54.4**	**+1.8**
PCVE				S	**Sn**	**07 20 23.2**	**-1.3**
	comp=N,1.8nm,0.6s						
PCVE	**Castro Verde**	**2.62**	**70**	P	**Pn**	**07 19 54.4**	**+1.8**
PCVE				S	**Sn**	**07 20 23.2**	**-1.3**
	comp=N,1.8nm,0.6s						

PACT	**Alcochete**	**2.70**	**42**	*i* Pn		**Pn**	**07 19 56.3**	**+2.7**
PACT				*e*Sn		**Sn**	**07 20 29.0**	**+2.7**
PACT				A		A	07 20 32.8	
	comp=N,47nm,0.3s							
PVAQ	**Vaqueiros**	**2.81**	**76**	*e*Pn		**Pn**	**07 19 57.0**	**+1.8**
PVAQ				*e*Sn		**Sn**	**07 20 28.4**	**-0.8**
PVAQ				A		A	07 20 33.9	
	comp=N,50nm,0.1s							
PVAQ	**Vaqueiros**	**2.81**	**76**	⇑P		**Pn**	**07 19 57.0**	**+1.8**
PVAQ				S		**Sn**	**07 20 28.4**	**-0.8**
	comp=N,50nm,0.1s							
PVAQ	**Vaqueiros**	**2.81**	**76**	P		**Pn**	**07 19 57.0**	**+1.8**
PVAQ				S		**Sn**	**07 20 28.4**	**-0.8**
	comp=N,50nm,0.1s							
EVOP	**Sao Brissos**	**2.97**	**53**	*e*Pn		**Pn**	**07 19 58.7**	**+1.4**
EVOP				*e*Sn		**Sn**	**07 20 32.8**	**-0.1**
	comp=N,16nm,0.2s							
EGRO	**El Granado**	**3.02**	**75**	P		**Pn**	**07 19 59.8**	**+1.8**
	comp=N,3.5nm,0.1s,SNR=29							
EGRO				S		**Sn**	**07 20 34.2**	**-0.1**
	comp=N,43nm,0.2s,SNR=9.2							
EGRO	**El Granado**	**3.02**	**75**	P		**Pn**	**07 19 59.8**	**+1.8**
	comp=N,3.5nm,0.1s,SNR=29							
EGRO				S		**Sn**	**07 20 34.2**	**-0.1**
	comp=N,43nm,0.2s,SNR=9.2							
EVO	**Evora**	**3.04**	**54**	*e*Pn		**Pn**	**07 19 58.7**	**+0.4**
EVO				*e*Sn		**Sn**	**07 20 32.8**	**-1.9**
	comp=N,32nm,0.2s							
EVO	**Evora**	**3.04**	**54**	*e*Pn		**Pn**	**07 20 00.1**	**+1.8**
EVO				*e*Sn		**Sn**	**07 20 34.8**	**+0.1**
EVO				A		A	07 20 38.2	
	comp=N,51nm,0.1s							
EVO	**Evora**	**3.04**	**54**	P		**Pn**	**07 20 00.1**	**+1.8**
EVO				S		**Sn**	**07 20 34.8**	**+0.1**
	comp=N,51nm,0.1s							
EVO	**Evora**	**3.04**	**54**	P		**Pn**	**07 20 00.1**	**+1.8**
EVO				S		**Sn**	**07 20 34.8**	**+0.1**
	comp=N,51nm,0.1s							
PMTG	**Montargil**	**3.25**	**45**	*e*Pn		**Pn**	**07 20 02.5**	**+1.4**
PMTG				*e*Sn		**Sn**	**07 20 39.9**	**0.0**
PMTG				A		A	07 20 45.5	
	comp=N,14nm,0.2s							
PMTG	**Montargil**	**3.25**	**45**	*e*Pn		**Pn**	**07 20 02.5**	**+1.4**
PMTG				*e*Sn		**Sn**	**07 20 39.9**	**0.0**
	comp=N,14nm,0.2s							
PESTR	**Estremoz**	**3.50**	**53**	*e*Pn		**Pn**	**07 20 06.5**	**+1.8**
PESTR				*e*Sn		**Sn**	**07 20 46.2**	**0.0**
PESTR				A		A	07 20 49.1	
	comp=N,15nm,0.2s							
PBAR	**Barrancos**	**3.55**	**66**	*e*Pn		**Pn**	**07 20 06.9**	**+1.6**
PBAR				*e*Sn		**Sn**	**07 20 46.5**	**-0.9**
PBAR				A		A	07 20 49.7	
	comp=N,49nm,0.4s							
PBAR	**Barrancos**	**3.55**	**66**	P		**Pn**	**07 20 06.9**	**+1.6**
PBAR				S		**Sn**	**07 20 46.5**	**-0.9**
	comp=N,49nm,0.4s							
PBAR	**Barrancos**	**3.55**	**66**	P		**Pn**	**07 20 06.9**	**+1.6**
PBAR				S		**Sn**	**07 20 46.5**	**-0.9**
	comp=N,49nm,0.4s							
PTOM	**Tomar**	**3.56**	**37**	*e*Pn		**Pn**	**07 20 06.8**	**+1.4**
PTOM				*e*Sn		**Sn**	**07 20 47.3**	**-0.2**
PTOM				A		A	07 20 51.8	
	comp=N,29nm,0.2s							
PTOM	**Tomar**	**3.56**	**37**	P		**Pn**	**07 20 06.8**	**+1.4**
PTOM				S		**Sn**	**07 20 47.3**	**-0.2**
	comp=N,14nm,0.2s							
PTOM	**Tomar**	**3.56**	**37**	P		**Pn**	**07 20 06.8**	**+1.4**
PTOM				S		**Sn**	**07 20 47.3**	**-0.2**
	comp=N,14nm,0.2s							
EMIN	**Mina Concepcio**	**3.71**	**73**	⇓P		**Pn**	**07 20 08.8**	**+1.4**
	comp=N,10nm,0.1s,SNR=18							
EMIN				S		**Sn**	**07 20 50.2**	**-0.9**
	comp=N,22nm,0.2s,SNR=17							
EMIN	**Mina Concepcio**	**3.71**	**73**	P		**Pn**	**07 20 08.8**	**+1.4**
	comp=N,10nm,0.1s,SNR=18							
EMIN				S		**Sn**	**07 20 50.2**	**-0.9**
	comp=N,22nm,0.2s,SNR=17							
EBAD	**Badajoz**	**3.82**	**58**	P		**Pn**	**07 20 10.5**	**+1.4**
	comp=N,4.4nm,0.1s,SNR=19							
EBAD				S		**Sn**	**07 20 53.3**	**-0.8**
	comp=N,53nm,0.2s,SNR=10							
EBAD	**Badajoz**	**3.82**	**58**	P		**Pn**	**07 20 10.5**	**+1.4**
	comp=N,4.4nm,0.1s,SNR=19							
EBAD				S		**Sn**	**07 20 53.3**	**-0.8**
	comp=N,53nm,0.2s,SNR=10							
PCAS	**Casmilo, Conde**	**3.87**	**32**	*e*Pn		**Pn**	**07 20 11.1**	**+1.4**
PCAS				*e*Sn		**Sn**	**07 20 54.5**	**-0.7**
PCAS				A		A	07 20 58.4	
	comp=N,18nm,0.4s							
PMRV	**Marv??o**	**3.97**	**47**	*e*Pn		**Pn**	**07 20 12.4**	**+1.3**
PMRV				*e*Sn		**Sn**	**07 20 56.5**	**-1.2**
PMRV				A		A	07 20 58.5	
	comp=N,20nm,0.3s							
PMRV	**Marv??o**	**3.97**	**47**	P		**Pn**	**07 20 12.4**	**+1.3**

	comp=N,7.4nm,0.2s,SNR=35								
EADA					S		Sn	07 21 31.3	-1.9
	comp=N,18nm,0.1s,SNR=13								
EADA	**Adamuz**	**5.41**	**73**		P		**Pn**	**07 20 32.2**	**+1.3**
	comp=N,7.4nm,0.2s,SNR=35								
EADA					S		Sn	07 21 31.3	-1.9
	comp=N,18nm,0.1s,SNR=13								
MVO	**Moncorvo**	**5.42**	**35**		*e*Pn		**Pn**	**07 20 32.2**	**+1.1**
MVO					*e*Sn		**Sn**	**07 21 31.5**	**-2.1**
MVO					A		A	07 21 32.7	
	comp=N,10.0nm,0.4s								
MVO	**Moncorvo**	**5.42**	**35**		P		**Pn**	**07 20 32.2**	**+1.1**
	comp=N,3.1nm,0.1s,SNR=7.1								
MVO					S		Sn	07 21 31.6	-2.1
	comp=N,8.8nm,0.1s								
MVO	**Moncorvo**	**5.42**	**35**		P		**Pn**	**07 20 32.2**	**+1.1**
	comp=N,3.1nm,0.1s,SNR=7.1								
MVO					S		Sn	07 21 31.6	-2.1
	comp=N,8.8nm,0.1s								
PCAB	**Cabril**	**5.48**	**25**		*e*Pn		**Pn**	**07 20 32.9**	**+1.0**
PCAB					*e*Sn		**Sn**	**07 21 32.5**	**-2.5**
PCAB					A		A	07 21 40.4	
	comp=N,9.9nm,0.1s								
PCAB	**Cabril**	**5.48**	**25**		P		**Pn**	**07 20 32.9**	**+1.0**
PCAB					S		**Sn**	**07 21 32.5**	**-2.5**
	comp=N,4.9nm,0.1s								
PCAB	**Cabril**	**5.48**	**25**		P		**Pn**	**07 20 32.9**	**+1.0**
PCAB					S		**Sn**	**07 21 32.5**	**-2.5**
	comp=N,4.9nm,0.1s								
ELOB	**Lobios**	**5.61**	**24**		P		**Pn**	**07 20 34.8**	**+1.1**
	comp=N,7.8nm,0.1s,SNR=49								
ELOB					S		**Sn**	**07 21 35.6**	**-2.7**
	comp=N,13nm,0.1s,SNR=12								
ELOB	**Lobios**	**5.61**	**24**		P		**Pn**	**07 20 34.8**	**+1.1**
	comp=N,7.8nm,0.1s,SNR=49								
ELOB					S		**Sn**	**07 21 35.6**	**-2.7**
	comp=N,13nm,0.1s,SNR=12								
PGAV	**Gavieira, Arco**	**5.63**	**22**		*e*Pn		**Pn**	**07 20 35.1**	**+1.1**
PGAV					*e*Sn		**Sn**	**07 21 36.2**	**-2.6**
PGAV					A		A	07 21 40.0	
	comp=N,8.7nm,0.4s								
PGAV	**Gavieira, Arco**	**5.63**	**22**		*e*Pn		**Pn**	**07 20 35.1**	**+1.1**
PGAV					*e*Sn		**Sn**	**07 21 36.2**	**-2.6**
	comp=N,8.7nm,0.4s								
PMPS	**Porto Santo**	**5.65**	**230**		*e*Sn		Sn	07 21 26.7	-12
PMPS	**Porto Santo**	**5.65**	**230**		S		Sn	07 21 26.7	-12
KIB	**El Ksiba**	**5.95**	**133**		P		Pn	07 20 37.0	-1.3
KIB					S		Sn	07 21 41.0	-5.6
EBAN	**Banos Encina**	**6.02**	**75**		P		**Pn**	**07 20 40.1**	**+0.9**
	comp=N,5.5nm,0.1s,SNR=7.9								
EBAN					S		**Sn**	**07 21 44.9**	**-3.3**
	comp=N,5.6nm,0.2s,SNR=7.9								
EBAN	**Banos Encina**	**6.02**	**75**		P		**Pn**	**07 20 40.2**	**+0.9**
	comp=N,5.5nm,0.1s,SNR=7.9								
EBAN					S		**Sn**	**07 21 44.9**	**-3.3**
	comp=N,5.6nm,0.2s,SNR=7.9								
TZC	**Tazercounte**	**6.02**	**139**		P		Pn	07 20 37.0	-2.4
TZC					S		Sn	07 21 42.0	-6.5
PBRG	**Braganca**	**6.07**	**33**		*e*Pn		**Pn**	**07 20 41.2**	**+1.3**
PBRG					*e*Sn		**Sn**	**07 21 47.1**	**-2.3**
PBRG					A		A	07 21 48.6	
	comp=N,5.5nm,0.2s								
PBRG	**Braganca**	**6.07**	**33**		P		**Pn**	**07 20 41.2**	**+1.3**
PBRG					S		**Sn**	**07 21 47.1**	**-2.3**
	comp=N,2.8nm,0.2s								
PBRG	**Braganca**	**6.07**	**33**		P		**Pn**	**07 20 41.2**	**+1.3**
PBRG					S		**Sn**	**07 21 47.1**	**-2.3**
	comp=N,2.8nm,0.2s								
ECAL	**Calabor**	**6.18**	**32**		P		**Pn**	**07 20 42.4**	**+0.9**
	comp=N,8.4nm,0.2s,SNR=18								
ECAL					S		**Sn**	**07 21 49.8**	**-2.4**
	comp=N,25nm,0.4s,SNR=8.5								
ECAL	**Calabor**	**6.18**	**32**		P		**Pn**	**07 20 42.4**	**+0.9**
	comp=N,8.4nm,0.2s,SNR=18								
ECAL					S		**Sn**	**07 21 49.8**	**-2.4**
	comp=N,25nm,0.4s,SNR=8.5								
EQUE	**Quentar**	**6.19**	**84**		P		**Pn**	**07 20 43.5**	**+1.9**
	comp=N,0.3nm,0.1s,SNR=7.9								
EQUE					S		**Sn**	**07 21 50.4**	**-2.1**
	comp=N,4.6nm,0.5s,SNR=7.9								
EQUE	**Quentar**	**6.19**	**84**		P		**Pn**	**07 20 43.5**	**+1.9**
	comp=N,0.3nm,0.1s,SNR=7.9								
EQUE					S		**Sn**	**07 21 50.4**	**-2.1**
	comp=N,4.6nm,0.5s,SNR=7.9								
PMAR	**Madeira**	**6.24**	**231**		*e*Pn		Pn	07 20 39.7	-2.7
PMAR	**Madeira**	**6.24**	**231**		P		Pn	07 20 39.7	-2.7
CZD	**Col de Zad**	**6.26**	**125**		P		**Pn**	**07 20 43.0**	**+0.2**
CZD					S		Sn	07 21 48.0	-6.5
CZD	**Col de Zad**	**6.26**	**125**		P		**Pn**	**07 20 43.0**	**+0.2**
ESDC	**Sonseca Array**	**6.35**	**61**		P		**Pn**	**07 20 45.3**	**+1.5**
	comp=N,22nm,0.1s,baz=247,slow=13,SNR=8.9								
ESDC					S		**Sn**	**07 21 54.3**	**-2.1**
	comp=N,6.3nm,0.2s,baz=246,slow=23,SNR=9.7								
ESDC	**Sonseca Array**	**6.35**	**61**		P		**Pn**	**07 20 45.3**	**+1.5**
	comp=N,22nm,0.1s,slow=13,SNR=8.9								
ESDC					S		**Sn**	**07 21 54.3**	**-2.1**
	comp=N,6.3nm,0.2s,baz=246,slow=23,SNR=9.7								
EMAZ	**Mazaricos**	**6.38**	**15**		P		**Pn**	**07 20 45.0**	**+0.8**
	comp=N,2.0nm,0.1s,SNR=8.2								
EMAZ					S		Sn	07 21 51.4	-5.7
	comp=N,13nm,0.2s,SNR=4.5								
EMAZ	**Mazaricos**	**6.38**	**15**		P		**Pn**	**07 20 45.0**	**+0.8**
	comp=N,2.0nm,0.1s,SNR=8.2								
EQES	**Quesada**	**6.52**	**79**		P		**Pn**	**07 20 47.4**	**+1.2**
	comp=N,0.7nm,0.1s,SNR=8.8								
EQES					S		**Sn**	**07 21 57.9**	**-2.8**
	comp=N,4.4nm,0.2s,SNR=7.9								
EQES	**Quesada**	**6.52**	**79**		P		**Pn**	**07 20 47.4**	**+1.2**
	comp=N,0.7nm,0.1s,SNR=8.8								
EQES					S		**Sn**	**07 21 57.9**	**-2.8**
	comp=N,4.4nm,0.2s,SNR=7.9								
EBER	**Berja**	**6.63**	**87**		P		**Pn**	**07 20 50.0**	**+2.2**
	comp=N,0.7nm,0.3s,SNR=7.9								
EBER					S		**Sn**	**07 22 01.5**	**-1.9**
	comp=N,1.4nm,0.3s,SNR=7.9								
EBER	**Berja**	**6.63**	**87**		P		**Pn**	**07 20 50.0**	**+2.2**
	comp=N,0.7nm,0.3s,SNR=7.9								
EBER					S		**Sn**	**07 22 01.5**	**-1.9**
	comp=N,1.4nm,0.3s,SNR=7.9								
GUD	**Guadarrama**	**6.69**	**53**		P		**Pn**	**07 20 50.9**	**+2.3**
	comp=N,1.1nm,0.2s,SNR=5.7								
GUD					S		**Sn**	**07 22 03.2**	**-1.7**
	comp=N,2.7nm,0.2s								
GUD	**Guadarrama**	**6.69**	**53**		P		**Pn**	**07 20 50.9**	**+2.3**
	comp=N,1.1nm,0.2s,SNR=5.7								
GUD					S		**Sn**	**07 22 03.2**	**-1.7**
	comp=N,2.7nm,0.2s								
EHUE	**Huescar**	**6.90**	**79**		S		**Sn**	**07 22 06.8**	**-3.2**
	comp=N,1.5nm,0.2s,SNR=7.9								
EHUE	**Huescar**	**6.90**	**79**		S		**Sn**	**07 22 06.8**	**-3.2**
	comp=N,1.5nm,0.2s,SNR=7.9								
SESP	**Santiago Espad**	**6.97**	**76**		P		**Pn**	**07 20 53.9**	**+1.4**
	comp=N,0.6nm,0.1s,SNR=4.0								
SESP					S		**Sn**	**07 22 09.3**	**-2.6**
	comp=N,4.4nm,0.3s,SNR=7.9								
SESP	**Santiago Espad**	**6.97**	**76**		P		**Pn**	**07 20 53.9**	**+1.4**
	comp=N,0.6nm,0.1s,SNR=4.0								
SESP					S		**Sn**	**07 22 09.3**	**-2.6**
	comp=N,4.4nm,0.3s,SNR=7.9								
EVIA	**Vianos**	**7.10**	**72**		P		**Pn**	**07 20 55.2**	**+1.0**
	comp=N,3.4nm,0.1s,SNR=6.7								
EVIA					S		**Sn**	**07 22 12.1**	**-2.9**
	comp=N,11nm,0.3s								
EVIA	**Vianos**	**7.10**	**72**		P		**Pn**	**07 20 55.2**	**+1.0**
	comp=N,3.4nm,0.1s,SNR=6.7								
EVIA					S		**Sn**	**07 22 12.1**	**-2.9**
	comp=N,11nm,0.3s								
EPON	**Pontenova**	**7.22**	**24**		P		**Pn**	**07 20 56.5**	**+0.8**
	comp=N,2.6nm,0.1s,SNR=9.5								
EPON					S		Sn	07 22 13.2	-4.5
	comp=N,4.9nm,0.2s								
EPON	**Pontenova**	**7.22**	**24**		P		**Pn**	**07 20 56.5**	**+0.8**
	comp=N,2.6nm,0.1s,SNR=9.5								
EPON					S		Sn	07 22 13.2	-4.5
	comp=N,4.9nm,0.2s								
ETOB	**Tobarra**	**7.83**	**73**		P		**Pn**	**07 21 04.9**	**+0.7**
	comp=N,0.5nm,0.1s,SNR=7.9								
ETOB					S		Sn	07 22 27.3	-5.7
	comp=N,1.5nm,0.3s,SNR=7.9								
ETOB	**Tobarra**	**7.83**	**73**		P		**Pn**	**07 21 04.9**	**+0.7**
	comp=N,0.5nm,0.1s,SNR=7.9								
EARI	**Arriondas**	**7.94**	**33**		P		**Pn**	**07 21 07.3**	**+1.7**
	comp=N,1.7nm,0.3s,SNR=8.7								
EARI					S		Sn	07 22 30.7	-4.9
	comp=N,1.3nm,0.3s								
EARI	**Arriondas**	**7.94**	**33**		P		**Pn**	**07 21 07.3**	**+1.7**
	comp=N,1.7nm,0.3s,SNR=8.7								
EARI					S		Sn	07 22 30.7	-4.9
	comp=N,1.3nm,0.3s								
ETOR	**Torete**	**8.16**	**58**		P		**Pn**	**07 21 10.4**	**+1.7**
	comp=N,18nm,0.2s,SNR=25								
ETOR					S		Sn	07 22 37.8	-3.3
	comp=N,13nm,0.2s,SNR=7.9								
ETOR	**Torete**	**8.16**	**58**		P		**Pn**	**07 21 10.4**	**+1.7**
	comp=N,18nm,0.2s,SNR=25								
ETOR					S		Sn	07 22 37.8	-3.3
	comp=N,13nm,0.2s,SNR=7.9								
EMOS	**Mosqueruela**	**9.09**	**64**		S		Sn	07 22 58.1	-6.0
	comp=N,0.9nm,0.2s,SNR=7.9								
IELO	**Elcoad**	**9.73**	**49**		P		**Pn**	**07 21 32.1**	**+1.9**
	comp=N,0.6nm,0.1s,SNR=7.9								
IELO	**Elcoad**	**9.73**	**49**		P		**Pn**	**07 21 32.1**	**+1.9**
	comp=N,0.6nm,0.1s,SNR=7.9								
SJPF	**Ste Jean**	**9.90**	**47**		*e*Pn		**Pn**	**07 21 34.1**	**+1.7**
SJPF					*e*Sn		Sn	07 23 18.4	-5.1
	comp=N,1.8nm,0.3s								
SJPF	**Ste Jean**	**9.90**	**47**		*e*Pn		**Pn**	**07 21 34.1**	**+1.7**
SJPF					*e*Sn		Sn	07 23 18.4	-5.1
	comp=N,0.9nm,0.3s								
ETSF	**Etsaut**	**10.17**	**50**		*e*Pn		**Pn**	**07 21 38.0**	**+1.7**
ETSF					*e*Sn		Sn	07 23 25.3	-5.1
	comp=N,1.6nm,0.5s								
ETSF	**Etsaut**	**10.17**	**50**		*e*Pn		**Pn**	**07 21 38.0**	**+1.7**
ETSF					*e*Sn		Sn	07 23 25.3	-5.1
	comp=N,0.8nm,0.5s								
EPF	**Esparros**	**10.80**	**51**		*e*Pn		**Pn**	**07 21 45.7**	**+0.8**
EPF	**Esparros**	**10.80**	**51**		*e*Pn		**Pn**	**07 21 45.7**	**+0.8**
QUIF	**Quistinic**	**12.59**	**25**		*e*Pn		**Pn**	**07 22 09.4**	**+0.3**
QUIF	**Quistinic**	**12.59**	**25**		*e*Pn		**Pn**	**07 22 09.4**	**+0.3**
RJF	**Les Rejaudoux**	**12.79**	**44**		*e*Pn		**Pn**	**07 22 12.4**	**+0.5**
RJF	**Les Rejaudoux**	**12.79**	**44**		*e*Pn		**Pn**	**07 22 12.4**	**+0.5**
ROSF	**Rostrenen**	**12.91**	**24**		*e*Pn		**Pn**	**07 22 13.8**	**+0.2**
ROSF	**Rostrenen**	**12.91**	**24**		*e*Pn		**Pn**	**07 22 13.8**	**+0.2**
SGMF	**Saint Gilles**	**13.09**	**26**		*e*Pn		**Pn**	**07 22 15.7**	**-0.3**
SGMF	**Saint Gilles**	**13.09**	**26**		*e*Pn		**Pn**	**07 22 15.7**	**-0.3**

IDC 17 07:32:06.8±2.6, 54.12N×86.43E, h0km, mb1 2.9/2, mb1mx2.8/31, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=21.0km s-min=12.6km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**260**	*i*		07 39 00.0	
	baz=79,slow=318,SNR=1.6						
ZALV	**Zalesovo Beam**	**0.97**	**260**	Pg	Pg	07 32 25.0	-0.3
	1.4nm,0.3s,baz=84,slow=18,SNR=21						
ZALV				Lg	Lg	07 32 38.8	
	2.3nm,0.3s,baz=77,slow=27,SNR=12						
ZALV				Rg	Rg	07 32 45.0	
	7.8nm,0.8s,baz=77,slow=36,SNR=16						
KURBB	**Kurchatov Arra**	**5.97**	**237**	Pn	Pn	07 33 36.9	+0.5
	0.1nm,0.3s,baz=55,slow=13,SNR=5.9						
MKAR	**Makanchi Array**	**7.80**	**201**	Pn	Pn	07 34 02.6	+1.1
	0.2nm,0.3s,baz=20,slow=13,SNR=8.3						
MKAR				Lg	Lg	07 36 14.6	
	0.0nm,0.3s,baz=14,slow=27,SNR=3.3						

*NEIC **17**07:39:35.0,36.62S×177.07E,h5km,ML4.6(WEL), After WEL.*
NEIC Felt at Kuaotunu and Whitianga.
WEL 17 07:39:35.5±0.2, 36.64S×177.07E, h5km, ML4.5/10, 2C, Error ellipse: s-maj=2.1km s-min=1.7km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYRZ	**Mayor Island**	**0.93**	**226**	P*	Pg	07 39 52.5	-0.8
MYRZ				S*	Sg	07 40 05.5	+0.1
KUZ	**Kuaotunu**	**1.09**	**264**	P*	Pg	07 39 55.2	-1.2
KUZ				S*	Sg	07 40 09.5	-1.2
KUZ				AML	AML	07 40 10.2	
KUZ				AML	AML	07 40 11.2	
KUZ				AML	AML	07 40 12.2	
KUZ	**Kuaotunu**	**1.09**	**264**	P*	Pg	07 39 55.2	-1.2
HAZ	**Te Kaha**	**1.25**	**153**	P*	Pg	07 39 56.5	-3.0
HAZ				S*	Sg	07 40 13.5	-2.3
TGRZ	**Tauranga**	**1.27**	**210**	P*	Pg	07 39 57.5	-2.4
TGRZ				S*	Sg	07 40 14.7	-1.7
TGRZ				AML	AML	07 40 22.5	
TGRZ	**Tauranga**	**1.27**	**210**	P*	Pg	07 39 57.5	-2.4
OPRZ	**Ohinepanea**	**1.28**	**199**	P*	Pn	07 39 57.1	-2.9
OPRZ	**Ohinepanea**	**1.28**	**199**	P*	Pn	07 39 57.1	-2.9
MXZ	**Matakaoa Point**	**1.35**	**134**	P*	Pn	07 39 58.5	-2.5
MXZ				S*	Sb	07 40 15.6	-3.3
MXZ				AML	AML	07 40 16.3	
MXZ				AML	AML	07 40 23.4	
MXZ				AML	AML	07 40 23.4	
MXZ	**Matakaoa Point**	**1.35**	**134**	P*	Pn	07 39 58.5	-2.5
GRZ	**Great Barrier**	**1.36**	**286**	PN	Pn	07 40 00.8	-0.3
GRZ				S*	Sn	07 40 19.7	+0.2
LIRZ	**Lichensteins R**	**1.47**	**202**	P*	Pn	07 40 00.7	-2.0
LIRZ	**Lichensteins R**	**1.47**	**202**	P*	Pn	07 40 00.7	-2.0
KARZ	**Kaharoa**	**1.53**	**205**	P*	Pn	07 40 01.2	-2.4
KARZ	**Kaharoa**	**1.53**	**205**	P*	Pn	07 40 01.7	-1.9
OMRZ	**Omania**	**1.57**	**201**	*e*P*	Pn	07 40 01.9	-2.3
OMRZ	**Omania**	**1.57**	**201**	*e*P*	Pn	07 40 01.9	-2.3
WMGZ	**Waiomatatini S**	**1.59**	**138**	PN	Pn	07 40 03.8	-0.6
MKAZ	**Moumakai**	**1.60**	**252**	PN	Pn	07 40 02.9	-1.5
MKAZ				AML	AML	07 40 26.1	
MKAZ				AML	AML	07 40 26.2	
MKAZ	**Moumakai**	**1.60**	**252**	Pn	Pn	07 40 02.9	-1.5
URZ	**Urewera**	**1.62**	**179**	P*	Pn	07 40 02.2	-2.5
URZ				AML	AML	07 40 26.4	
URZ				AML	AML	07 40 36.7	
URZ	**Urewera**	**1.62**	**179**	P*	Pn	07 40 02.2	-2.5
TOZ	**Tahuroa Road**	**1.66**	**228**	P*	Pn	07 40 03.5	-1.8
TOZ	**Tahuroa Road**	**1.66**	**228**	P*	Pn	07 40 03.5	-1.8
UTU	**Utuhina**	**1.69**	**204**	AML	AML	07 40 52.9	
UTU				AML	AML	07 40 53.0	
TWGZ	**Tauwhareparae**	**1.70**	**155**	PN	Pn	07 40 05.9	0.0
PUZ	**Puketiti**	**1.72**	**147**	⇑PN	Pn	07 40 05.9	-0.2
PUZ				AML	AML	07 40 33.9	
PUZ				AML	AML	07 40 34.5	
PUZ	**Puketiti**	**1.72**	**147**	Pn	Pn	07 40 05.9	-0.2
MWZ	**Matawai**	**1.73**	**168**	P*	Pn	07 40 03.8	-2.6
MWZ				AML	AML	07 40 32.8	
MWZ				AML	AML	07 40 55.1	
MWZ	**Matawai**	**1.73**	**168**	P*	Pn	07 40 03.8	-2.6
MTAZ	**Motutapu**	**1.75**	**264**	PN	Pn	07 40 07.1	+0.7
MTAZ	**Motutapu**	**1.75**	**264**	Pn	Pn	07 40 07.1	+0.7
ETAZ	**East Tamaki Re**	**1.75**	**259**	PN	Pn	07 40 06.1	-0.4
RAGZ	**Rawiri**	**1.88**	**172**	P*	Pn	07 40 06.4	-2.0
TKGZ	**Te Karaka**	**1.90**	**161**	PN	Pn	07 40 07.7	-0.8
RVAZ	**Riverhead Bore**	**2.01**	**265**	PN	Pn	07 40 10.0	-0.1
WTAZ	**Waiatarua**	**2.03**	**261**	PN	Pn	07 40 11.3	+0.9
WTAZ	**Waiatarua**	**2.03**	**261**	Pn	Pn	07 40 11.3	+0.9
CNGZ	**Carnagh Statio**	**2.05**	**154**	PN	Pn	07 40 11.4	+0.7
CNGZ	**Carnagh Statio**	**2.05**	**154**	Pn	Pn	07 40 11.4	+0.7
TLZ	**Tolley Road**	**2.08**	**215**	P*	Pn	07 40 09.4	-1.8
KUTZ	**Kaahu Road**	**2.10**	**208**	⇑P*	Pn	07 40 10.0	-1.4
RIGZ	**Rimuhau**	**2.14**	**165**	PN	Pn	07 40 11.8	-0.1
WCZ	**Waipu Caves**	**2.31**	**287**	PN	Pn	07 40 13.7	-0.5
WCZ	**Waipu Caves**	**2.31**	**287**	Pn	Pn	07 40 13.8	-0.5
NMHZ	**Naumai**	**2.47**	**185**	PN	Pn	07 40 16.9	+0.4
NMHZ	**Naumai**	**2.47**	**185**	Pn	Pn	07 40 15.4	-1.1
BKZ	**Black Stump Fm**	**2.57**	**190**	P*	Pn	07 40 16.1	-1.7
BKZ	**Black Stump Fm**	**2.57**	**190**	P*	Pn	07 40 16.1	-1.7
HIZ	**Hauiti**	**2.57**	**223**	PN	Pn	07 40 16.7	-1.1
HIZ				AML	AML	07 41 00.3	
HIZ				AML	AML	07 41 05.7	
HIZ	**Hauiti**	**2.57**	**223**	Pn	Pn	07 40 16.7	-1.1
WNVZ	**Wahianoa**	**2.93**	**203**	P*	Pn	07 40 23.9	+0.9
WNVZ	**Wahianoa**	**2.93**	**203**	P*	Pn	07 40 25.4	+2.4
VRZ	**Vera Road**	**3.09**	**216**	P*	Pn	07 40 24.2	-0.7
VRZ				AML	AML	07 41 25.2	
VRZ	**Vera Road**	**3.09**	**216**	P*	Pn	07 40 24.2	-0.7
OUZ	**Omahuta**	**3.15**	**296**	PN	Pn	07 40 26.1	+0.3
OUZ	**Omahuta**	**3.15**	**296**	Pn	Pn	07 40 23.6	-2.2
PREZ	**Palmer Road**	**3.55**	**220**	PN	Pn	07 40 31.9	+0.6
MRZ	**Mangatainoka R**	**4.19**	**196**	PN	Pn	07 40 38.4	-1.6
MRZ	**Mangatainoka R**	**4.19**	**196**	Pn	Pn	07 40 38.4	-1.6

WEL 17 07:41:24.8±0.4, 36.64S×176.84E, h12km, ML3.6/4, Error ellipse: s-maj=2.7km s-min=2.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYRZ	**Mayor Island**	**0.81**	**216**	P*	Pg	07 41 38.6	-1.8
MYRZ				S*	Sg	07 41 50.5	-0.5
KUZ	**Kuaotunu**	**0.91**	**263**	P*	Pg	07 41 41.3	-1.0
KUZ				S*	Sg	07 41 53.9	-0.2
KUZ				AML	AML	07 41 56.1	
GRZ	**Great Barrier**	**1.18**	**289**	P*	Pn	07 41 46.3	-0.8
GRZ				S*	Sn	07 42 03.7	+0.6
TGRZ	**Tauranga**	**1.19**	**203**	P*	Pn	07 41 44.2	-3.0
TGRZ				AML	AML	07 42 06.7	
OPRZ	**Ohinepanea**	**1.23**	**191**	P*	Pn	07 41 45.5	-2.3
HAZ	**Te Kaha**	**1.35**	**146**	P*	Pn	07 41 47.7	-1.7
MKAZ	**Moumakai**	**1.43**	**250**	PN	Pn	07 41 49.2	-1.2
MKAZ				SN	Sn	07 42 09.2	+0.1
MKAZ				AML	AML	07 42 11.0	
OMRZ	**Omania**	**1.52**	**194**	P*	Pn	07 41 51.4	-0.5
TOZ	**Tahuroa Road**	**1.53**	**224**	P*	Pn	07 41 50.1	-1.8

*NEIC **17**07:45:21.3,36.74S×177.11E,h10km,ML4.2(WEL), After WEL.*
WEL 17 07:45:19.9±0.2, 36.66S×177.09E, h5km, ML4.3/10, 1C-5D, Error ellipse: s-maj=1.7km s-min=1.5km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.87**	**175**	P*	Pg	07 45 35.6	-1.1
WIZ				S*	Sg	07 45 46.9	-1.0
WIZ	**White Island**	**0.87**	**175**	P*	Pg	07 45 35.6	-1.1
MYRZ	**Mayor Island**	**0.92**	**227**	P*	Pg	07 45 36.9	-0.7
MYRZ				S*	Sg	07 45 49.6	0.0
KUZ	**Kuaotunu**	**1.10**	**265**	AML	AML	07 45 54.2	
KUZ				AML	AML	07 45 55.0	
HAZ	**Te Kaha**	**1.23**	**153**	⇓P*	Pg	07 45 40.8	-2.6
HAZ				S*	Sg	07 45 57.0	-2.4
TGRZ	**Tauranga**	**1.25**	**211**	P*	Pg	07 45 41.6	-2.4
TGRZ				AML	AML	07 46 11.3	
TGRZ				AML	AML	07 46 19.6	
TGRZ	**Tauranga**	**1.25**	**211**	P*	Pg	07 45 41.6	-2.4
OPRZ	**Ohinepanea**	**1.26**	**200**	P*	Pg	07 45 41.3	-2.8
OPRZ	**Ohinepanea**	**1.26**	**200**	P*	Pn	07 45 41.3	-2.8
MXZ	**Matakaoa Point**	**1.33**	**133**	P*	Pn	07 45 43.0	-2.2
MXZ				S*	Sg	07 45 59.8	-2.8
MXZ				AML	AML	07 46 03.5	
MXZ	**Matakaoa Point**	**1.33**	**133**	P*	Pn	07 45 43.0	-2.2
MARZ	**Manawahe**	**1.36**	**194**	⇓P*	Pn	07 45 43.0	-2.7
MARZ	**Manawahe**	**1.36**	**194**	P*	Pn	07 45 43.0	-2.7
GRZ	**Great Barrier**	**1.38**	**287**	PN	Pn	07 45 45.1	-0.7
GRZ				S*	Sb	07 46 02.9	-1.2
LIRZ	**Lichensteins R**	**1.45**	**202**	P*	Pn	07 45 45.0	-1.9
LIRZ	**Lichensteins R**	**1.45**	**202**	P*	Pn	07 45 45.0	-1.9
KARZ	**Kaharoa**	**1.52**	**206**	P*	Pn	07 45 45.5	-2.3
KARZ	**Kaharoa**	**1.52**	**206**	P*	Pn	07 45 45.5	-2.3
OMRZ	**Omania**	**1.55**	**201**	P*	Pn	07 45 46.2	-2.1
OMRZ	**Omania**	**1.55**	**201**	P*	Pn	07 45 46.2	-2.1
MKRZ	**Makatiti**	**1.56**	**198**	P*	Pn	07 45 47.7	-0.7
MKRZ				AML	AML	07 45 59.0	
MKRZ				AML	AML	07 46 05.8	
MKRZ	**Makatiti**	**1.56**	**198**	P*	Pn	07 45 47.7	-0.7
URZ	**Urewera**	**1.60**	**179**	P*	Pn	07 45 46.5	-2.4
URZ				AML	AML	07 46 16.5	
URZ				AML	AML	07 46 21.1	
URZ	**Urewera**	**1.60**	**179**	P*	Pn	07 45 46.5	-2.4
MKAZ	**Moumakai**	**1.60**	**253**	PN	Pn	07 45 48.4	-0.6
MKAZ

BNSI	**Bone**	**3.07 179**	P	Pn	07 55 21.1	+0.7
BNSI	**Bone**	**3.07 179**	P	Pn	07 55 21.5	+1.1
KDI	**Kendari**	**3.68 136**	P	Pn	07 55 25.1	-3.7
BKSI	**Bulukumba**	**3.99 179**	P	Pn	07 55 32.9	-0.1
BKSI	**Bulukumba**	**3.99 179**	P	Pn	07 55 33.5	+0.5
KBKI	**Kotabaru**	**4.34 243**	P	Pn	07 55 37.2	-0.8
KMSI	**Cibinong**	**4.36 65**	P	Pb	07 55 45.1	-3.5

JMA 17 07:58:32.1±0.3, 28.7°N×128.5°E, h7$^{km}_{\pm 5}$, M3.0, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.67**	**55**	P			Pg	07 58 45.2	+0.1
JTAJ				*e*S			Sg	07 58 54.4	+0.5
JAMN	**Amaminishikomi**	**0.75**	**134**	P			Pg	07 58 46.7	+0.2
JAM	**Amami Oshima**	**0.98**	**111**	P			Pg	07 58 50.8	-0.1
JAM				*e*S			Sg	07 59 03.2	-0.4
JTK	**Tokunoshima**	**1.04**	**161**	P			Pg	07 58 51.7	-0.3
JTK				*e*S			Sb	07 59 06.3	+0.1
JZK	**Kikaishima**	**1.31**	**110**	P			Pn	07 58 56.9	0.0
JOKE	**Okinoerabujima**	**1.40**	**180**	P			Pn	07 58 57.9	-0.2
JOW	**Kunigami**	**1.95**	**188**	P			Pn	07 59 06.1	+0.5

NIED ***17*** *07:58:00, 28.8°N×128.6°E, h5km, Mw4.7 Best double couple: M0 1.33000×10^16 NP1:φs 204.00000°, δ54.00000°, λ -152.00000°. NP2:φs 97.00000°, δ68.00000°, λ -40.00000°.*

IDC ***17*** *07:58:54.6±0.6, 28.1°N×128.7°E, h0km, mb4.0/20, mb1 4.1/24, mb1mx4.1/36, mbtmp4.0/24, ML3.8/2, MS4.0/28, Ms1 4.1/28, ms1mx4.0/43, Error ellipse: s-maj=20.3km s-min=13.2km az=87.0*

JMA ***17*** *07:58:55.3±0.2, 28.7°N×128.5°E, h9km±3km, M4.7 JMA Felt II J1.*

MOS ***17*** *07:58:56.3±1.6, 28.0°N×128.9°E, h22km, mb4.3/27, MS4.0/15, Error ellipse: s-maj=10.6km s-min=5.9km az=85.9*

ISCJB ***17*** *07:58:58.8±0.4, 28.2°N±0.0°×128.8°E±0.0°, h37km±4km, mb4.3/42, MS4.2/32, Error ellipse: s-maj=5.0km s-min=3.6km az=29.0*

NEIC ***17*** *07:58:59.2±1.9, 28.0°N×128.9°E, h26km±14km, mb4.6/14, MW4.7(NIED), Error ellipse: s-maj=10.2km s-min=6.3km az=123.0*

NEIC Recorded [2 JMA] on Amami-oshima.

BJI ***17*** *07:59:00.5, 28.7°N×128.8°E, h45km, mb4.5/44, mB4.7/36, Ms4.8/53, Ms7 4.4/47*

ISC 17 07:59:00.8±0.5, 28.7°N±0.0°×128.8°E±0.0°, h41km±3km, n146, σ2°13/172, mb4.2/42, MS4.1/32, 1C-2D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.51**	**36**	P			Pn	07 59 08.4	-3.3
JTAJ				*e*S			**Sn**	**07 59 17.3**	**-2.2**
JAMN	**Amaminishikomi**	**0.57**	**150**	P			**Pn**	**07 59 10.1**	**-2.4**
JAMN				*e*S			**Sn**	**07 59 20.1**	**-0.6**
JAM	**Amami Oshima**	**0.73**	**116**	P			**Pn**	**07 59 13.8**	**-0.9**
JAM				*e*S			**Sn**	**07 59 26.9**	**+2.2**
JTK	**Tokunoshima**	**0.95**	**175**	P			Pn	07 59 14.7	-3.0
JTK				*e*S			**Sn**	**07 59 28.9**	**-1.2**
JZK	**Kikaishima**	**1.07**	**113**	P			**Pn**	**07 59 20.5**	**+1.2**
JZK				*e*S			**Sn**	**07 59 38.7**	**+5.8**
JOKE	**Okinoerabujima**	**1.40**	**191**	P			Pn	07 59 21.1	-2.7
JOKE				*e*S			**Sn**	**07 59 39.4**	**-1.6**
JNN	**Nakanoshima**	**1.41**	**39**	P			**Pn**	**07 59 23.8**	**-0.3**
JIH	**Iheya**	**1.87**	**205**	P			Pn	07 59 26.6	-3.7
JOW	**Kunigami**	**1.97**	**195**	P			**Pn**	**07 59 29.8**	**-1.9**
JOW				*e*S			**Sn**	**07 59 53.5**	**-1.6**
JOW	**Kunigami** baz=6.7,slow=19	**1.97**	**195**	Pn			**Pn**	**07 59 30.1**	**-1.6**
JOW				LR			LR	08 00 04.0	
	comp=Z,168nm,20.2s,baz=38,slow=34								
JOW	**Kunigami**	**1.97**	**195**	*e*Pn			**Pn**	**07 59 30.3**	**-1.4**
JOW				*e*Sn			Sn	08 00 01.4	+6.3
JKC	**Kuchinoerabu**	**2.08**	**34**	P			**Pn**	**07 59 32.1**	**-1.0**
JYAK	**Yakushimahirau**	**2.08**	**44**	P			**Pn**	**07 59 33.1**	**0.0**
JTN	**Tanegashima 3**	**2.66**	**44**	P			**Pn**	**07 59 41.1**	**0.0**
JTSR	**Tashiro 2**	**3.01**	**36**	P			**Pn**	**07 59 46.3**	**+0.3**
JKE	**Kume jima 2**	**3.03**	**218**	P			Pn	07 59 42.7	-3.5
JNU	**Nakatsue** 4.5nm,0.3s,baz=194,slow=8.3,SNR=31	**4.70**	**21**	Pn			**Pn**	**08 00 11.2**	**+1.9**
JNU	**Nakatsue**	**4.70**	**21**	*e*Pn			**Pn**	**08 00 06.6**	**-2.6**
JNU				*e*Sn			**Sn**	**08 00 59.2**	**-3.3**
YOJ	**Yonaguni jima**	**6.75**	**232**	*e*P			**Pn**	**08 00 37.8**	**+0.5**
YOJ	comp=Z,111nm,1.3s			pmax			pmax		
YOJ	**Yonaguni jima** comp=Z,111nm,1.3s	**6.75**	**232**	*e*Pn			**Pn**	**08 00 37.8**	**+0.5**
TJN	**Taejon**	**7.72**	**351**	*e*P			**Pn**	**08 00 51.3**	**+0.7**
YHNB	**Yeheng** comp=Z,65nm,0.9s	**7.82**	**241**	*e*Pn			**Pn**	**08 00 53.5**	**+1.4**
NACB	**Ninganchiao** comp=Z,96nm,1.3s	**7.94**	**237**	*e*Pn			**Pn**	**08 00 56.7**	**+3.0**
YULB	**Yu-li** comp=Z,23nm,1.0s	**8.63**	**234**	*e*Pn			**Pn**	**08 01 03.6**	**+0.4**
SSLB	**Suanglung** comp=Z,168nm,1.4s	**8.64**	**237**	*e*Pn			**Pn**	**08 01 02.9**	**-0.4**
SSLB				*e*Sn			**Sn**	**08 02 37.2**	**-2.3**
KSAR	**Wonju Array Be**	**8.72**	**355**	P			Pn	08 01 00.8	-3.5
KSAR	**Wonju Array Be**	**8.72**	**355**	Pn			Pn	08 01 00.8	-3.5
KSAR				Lg			Lg	08 03 28.7	
KSRS	**Korea Array** comp=Z,0.3nm,0.3s,baz=177,slow=14,SNR=3.3	**8.73**	**355**	Pn			Pn	08 01 00.8	-3.6
KSRS				Lg			Lg	08 03 28.7	
	comp=Z,0.4nm,0.3s,baz=194,slow=29,SNR=4.3								
KSRS				LR			LR	08 04 31.3	
	comp=Z,1μm,21.2s,baz=174,slow=39								
NJ2	**Nanjing**	**9.25**	**293**	*e*P			**Pn**	**08 01 12.8**	**+1.2**
NJ2				S			**Sn**	**08 02 56.0**	**+1.7**
NJ2				sS				08 03 06.0	
NJ2	comp=Z,40nm,0.5s			PMZ					
NJ2	comp=Z,310nm,4.8s			PMZ					
NJ2	comp=Z,4μm,9.2s			LN					
NJ2	comp=Z,3μm,8.2s			LE					
NJ2	comp=Z,3μm,8.2s			LZ					
QZH	**Quanzhou**	**9.92**	**250**	↓*i*P			Pn	08 01 27.0	+6.2
QZH				S			Sn	08 03 19.0	+8.2
QZH	comp=Z,3μm,10.1s			LN					
QZH	comp=Z,2μm,9.5s			LE					
QZH	comp=Z,2μm,9.8s			LZ					
MAJO	**Matsushiro**	**11.07**	**43**	*e*P			**Pn**	**08 01 36.8**	**+0.3**
MAJO	**Matsushiro** comp=Z,19nm,1.1s	**11.07**	**43**	*e*Pn			**Pn**	**08 01 35.4**	**-1.2**
MAT	**Matsushiro**	**11.07**	**43**	P			**Pn**	**08 01 38.2**	**+1.7**
MAT				S			**Sn**	**08 03 42.2**	**+3.2**
MJAR	**Matsushiro Arr** baz=238,slow=14,SNR=3.0	**11.07**	**43**	Pn			**Pn**	**08 01 34.2**	**-2.4**
MJAR				LR			LR	08 05 51.8	
	comp=Z,460nm,21.2s,baz=230,slow=38								
JCJ	**Chichijima** comp=Z,330nm,18.2s,baz=129,slow=39	**11.90**	**95**	LR			LR	08 06 36.4	
WHN	**Wuhan**	**12.75**	**282**	P			P	08 02 04.5	-5.3
WHN				S			Sn	08 04 30.3	+10
WHN	comp=Z,7μm,13.5s			LN					
WHN	comp=Z,2μm,10.6s			LE					
WHN	comp=Z,3μm,9.3s			LZ					
CN2	**Changchun**	**15.28**	**351**	*e*P			**P**	**08 02 40.0**	**+2.2**
CN2				*e*S			S	08 05 29.4	-7.4
CN2	comp=Z,30nm,1.2s			PMZ					
CN2	comp=Z,200nm,3.0s			PMZ					
CN2	comp=Z,3μm,12.0s			LN					
CN2	comp=Z,3μm,12.0s			LE					
CN2	comp=Z,2μm,12.0s			LZ					
BJI	**Beijing**	**15.37**	**321**	P			**Pn**	**08 02 36.0**	**+1.3**
BJI				S			**Sn**	**08 05 25.8**	**+2.1**
BJI	comp=Z,39nm,1.3s			PMZ					
BJI	comp=Z,180nm,5.7s			PMZ					
BJI	comp=Z,1μm,21.6s			LN					
BJI	comp=Z,760nm,15.6s			LE					
BJI	comp=Z,570nm,22.7s			LZ					
USRK	**Ussuriysk Ar.** comp=Z,0.2nm,0.3s,baz=198,slow=7.4,SNR=2.4	**15.63**	**8**	Pn			**Pn**	**08 02 35.7**	**-2.4**
USRK				LR			LR	08 08 16.0	
	comp=Z,427nm,18.2s,baz=175,slow=36								
MDJ	**Mudanjiang**	**15.86**	**2**	P			**Pn**	**08 02 42.1**	**+1.0**
MDJ				S			**Sn**	**08 05 38.3**	**+2.6**
MDJ				PcP			**PcP**	**08 07 37.3**	**-0.6**
MDJ				ScP			**ScP**	**08 11 08.9**	**-0.1**
MDJ				PcS			**PcS**	**08 11 14.1**	**+0.8**
MDJ				ScS			**ScS**	**08 14 47.5**	**0.0**
MDJ	comp=Z,11nm,0.4s			PMZ					
MDJ	comp=Z,210nm,5.4s			PMZ					
MDJ	comp=Z,450nm,16.3s			LN					
MDJ	comp=Z,900nm,10.9s			LE					
MDJ	comp=Z,1μm,12.7s			LZ					
MDJ	**Mudanjiang** comp=Z,76nm,1.3s	**15.86**	**2**	*e*P			**Pn**	**08 02 42.0**	**+1.0**
ERM	**Erimo**	**17.61**	**37**	*e*P			**Pn**	**08 03 02.0**	**-1.1**
XAN	**Xi'an**	**17.82**	**292**	P			**Pn**	**08 03 04.6**	**-1.1**
XAN				pP			**pP**	**08 03 14.6**	**-1.5**
XAN				S			Sn	08 06 15.3	-8.0
XAN	comp=Z,4.0nm,1.2s			PMZ					
XAN	comp=Z,44nm,5.4s			PMZ					
XAN	comp=Z,1μm,11.1s			LN					
XAN	comp=Z,290nm,10.3s			LE					
XAN	comp=Z,310nm,11.4s			LZ					
HHC	**Hu-ho-hao-te**	**18.61**	**315**	*e*P			**Pn**	**08 03 17.8**	**+2.5**
HHC				PP			PnPn	08 03 34.3	+6.4
HHC				sS			S	08 06 55.3	+11
HHC				SS			**SnSn**	**08 07 05.6**	**+9.0**
HHC	comp=Z,20nm,0.9s			PMZ					
HHC	comp=Z,270nm,7.4s			PMZ					
HHC	comp=Z,970nm,15.9s			LN					
HHC	comp=Z,870nm,13.0s			LE					
HHC	comp=Z,860nm,14.1s			LZ					
ASAJ	**Asahikawa** comp=Z,1.0nm,0.3s,baz=277,slow=16,SNR=4.7	**18.87**	**32**	P			**P**	**08 03 16.0**	**-1.5**
ASAJ	**Asahikawa**	**18.87**	**32**	P			**P**	**08 03 16.0**	**-1.5**
ASAJ	comp=Z,1.0nm,0.3s			pmax			pmax		
GYA	**Guiyang**	**19.80**	**269**	↑*i*P			**Pn**	**08 03 29.6**	**-0.1**
GYA				PP			PnPn	08 03 51.0	+6.7
GYA				S			**Sn**	**08 07 11.3**	**-0.1**
GYA				sS			**sS**	**08 07 22.8**	**-2.3**
GYA				SS			**SnSn**	**08 07 35.3**	**+9.4**
GYA				ScP			**ScP**	**08 11 18.0**	**+0.2**
GYA	comp=Z,20nm,1.0s			PMZ					
GYA	comp=Z,90nm,5.6s			PMZ					
GYA	comp=Z,2μm,12.2s			LN					
GYA	comp=Z,570nm,11.2s			LE					
GYA	comp=Z,830nm,12.2s			LZ					
QIZ	**Qiongzhong**	**19.87**	**245**	P			**Pn**	**08 03 30.1**	**-0.4**
QIZ				pP			**pP**	**08 03 39.4**	**+0.7**
QIZ				S			**Sn**	**08 07 12.4**	**-0.6**
QIZ	comp=Z,7.0nm,1.6s			PMZ					
QIZ	comp=Z,680nm,12.9s			LN					
QIZ	comp=Z,850nm,13.0s			LZ					
HABR	**Khabarovsk**	**20.28**	**12**	P			**P**	**08 03 30.8**	**-2.0**
HABR				*e*SP				08 03 48.7	
HABR				*e*S			**S**	**08 07 15.1**	**-2.7**
HABR				*e*SS			**SnSn**	**08 07 36.7**	**-0.7**
HABR				*e*				08 14 57.6	
HABR	comp=Z,64nm,2.6s			pmax			pmax		
HABR	comp=N,32nm,1.3s			pmax			pmax		
HABR	comp=E,12nm,1.3s			pmax			pmax		
HABR	comp=Z,525nm,15.0s			MLR			MLR		
YUK	**Yuzh-Kuril'sk**	**20.44**	**37**	P			**P**	**08 03 30.7**	**-3.9**
YUK				S			**S**	**08 07 14.9**	**-6.3**
YUK	comp=N,430nm,20.0s			MLR			MLR		
YUK	comp=E,318nm,20.0s			MLR			MLR		
YUK	comp=Z,471nm,20.0s			MLR			MLR		
KLR	**Kul'dur**	**20.58**	**5**	*e*P			P	08 03 30.2	-5.9
KLR				MLR			MLR		
KLR	comp=E,600nm,12.0s			MLR			MLR		
KLR	comp=Z,4μm,12.0s			MLR			MLR		
YSS	**Yuzh-Sakhalins**	**21.18**	**27**	*e*P			**P**	**08 03 44.0**	**+1.4**
YSS				*e*				08 07 52.0	
YSS				MLR			MLR		
YSS	comp=E,500nm,13.0s			MLR			MLR		
YSS	comp=Z,500nm,13.0s			MLR			MLR		
HIA	**Hailar**	**21.66**	**344**	*e*P			**P**	**08 03 48.1**	**+0.4**
HIA	comp=Z,7.0nm,1.1s			pmax			pmax		
CD2	**Chengdu**	**21.87**	**282**	*e*P			**P**	**08 03 51.8**	**+1.6**
CD2				pP			**pP**	**08 04 02.3**	**+1.9**
CD2				PP			PnPn	08 04 19.3	+6.7
CD2				S			**S**	**08 07 46.3**	**-3.5**
CD2	comp=Z,90nm,4.8s			PMZ					
LZH	**Lanzhou**	**22.32**	**296**	*e*P			**P**	**08 03 55.1**	**0.0**
LZH				pP			**pP**	**08 04 03.5**	**-1.8**
LZH				sP			sP	08 04 14.0	+3.6
LZH				S			**S**	**08 07 53.5**	**-4.6**
LZH				sS			Sn	08 08 09.3	-2.5
LZH				SS			**SnSn**	**08 08 31.5**	**+3.9**
LZH	comp=Z,23nm,1.1s			PMZ					
LZH	comp=Z,170nm,4.2s			PMZ					
LZH	comp=Z,1μm,13.7s			LN					
LZH	comp=Z,1μm,13.0s			LE					
LZH	comp=Z,2μm,14.4s			LZ					
KMI	**Kunming**	**23.55**	**267**	P			**P**	**08 04 08.3**	**+0.5**
KMI				pP			**pP**	**08 04 17.5**	**-1.0**
KMI				sP			**sP**	**08 04 21.8**	**-1.7**
KMI				S			**S**	**08 08 17.3**	**-1.9**
KMI				sS			**sS**	**08 08 33.5**	**-4.2**
KMI				SS			**SnSn**	**08 09 06.5**	**+8.5**
KMI	comp=Z,19nm,0.8s			PMZ					
KMI	comp=Z,83nm,5.8s			PMZ					
KMI	comp=Z,1μm,11.0s			LN					
KMI	comp=Z,640nm,10.1s			LE					
KMI	comp=Z,670nm,11.3s			LZ					
ULN	**Ulaanbaatar**	**25.49**	**324**	*e*P			**P**	**08 04 26.7**	**+1.4**
ULN	comp=Z,5.0nm,1.1s			pmax			pmax		
ULN	**Ulaanbaatar** comp=Z,29nm,1.6s	**25.49**	**324**	*e*P			**P**	**08 04 25.1**	**-0.2**
SONM	**Songino Array** comp=Z,2.3nm,1.0s,baz=111,slow=7.9,SNR=3.2	**25.81**	**324**	P			**P**	**08 04 26.4**	**-1.8**
SONM				LR			LR	08 15 32.0	
	comp=Z,419nm,19.9s,baz=110,slow=39								
SONM	**Songino Array**	**25.81**	**324**	P			**P**	**08 04 26.4**	**-1.8**
SONM	comp=Z,2.0nm,1.0s			pmax			pmax		
SONM	comp=Z,419nm,20.0s			MLR			MLR		
GTA	**Gaotai**	**26.20**	**302**	*e*P			**P**	**08 04 31.4**	**-0.4**
GTA				pP			**pP**	**08 04 43.0**	**+0.1**
GTA				sP			**sP**	**08 04 48.6**	**+0.8**
GTA				S			**S**	**08 08 57.3**	**-4.0**
GTA				sS			**sS**	**08 09 17.0**	**-2.8**
GTA				SS			**SnSn**	**08 10 04.5**	**+1.9**
GTA	comp=Z,10.0nm,1.1s			PMZ					
GTA	comp=Z,160nm,5.2s			PMZ					
GTA	comp=Z,2μm,13.8s			LN					
GTA	comp=Z,1μm,15.2s			LE					
GTA	comp=Z,1μm,13.3s			LZ					
ZAK	**Zakamensk**	**29.01**	**325**	*e*P			P	08 04 52.1	-4.7
ZAK	comp=Z,3.0nm,1.2s			pmax			pmax		
CMAR	**Chiang Mai Arr** comp=Z,341nm,18.4s,baz=66,slow=39	**29.19**	**256**	LR			LR	08 17 46.3	
SIJI	**Sorong** comp=Z,278nm,20.4s,baz=32,slow=35	**29.53**	**175**	LR			LR	08 16 15.7	
TLY	**Talaya** comp=Z,1.3nm,0.7s,baz=142,slow=10,SNR=2.5	**29.66**	**328**	P			**P**	**08 05 01.8**	**-0.6**
TLY	**Talaya**	**29.66**	**328**	*e*P			**P**	**08 05 02.4**	**-0.1**
TLY				*e*S			S	08 09 47.4	-7.8
TLY	comp=Z,9.0nm,1.2s			pmax			pmax		
TLY	comp=Z,725nm,14.0s			MLR			MLR		
TLY	**Talaya**	**29.66**	**328**	*e*P			**P**	**08 05 03.2**	**+0.7**
PETK	**Petropavlovsk-** comp=Z,107nm,19.4s,baz=219,slow=37	**32.29**	**33**	LR			LR	08 18 54.7	
PET	**Petropavlovsk**	**32.70**	**34**	*e*P			**P**	**08 05 27.3**	**-1.8**
PET				*e*S			**S**	**08 10 46.6**	**+4.1**
PET	comp=Z,19nm,1.8s			pmax			pmax		
PET	comp=Z,300nm,19.0s			MLR			MLR		
JAY	**Jayapura** comp=Z,124nm,20.6s,baz=321,slow=32	**33.09**	**158**	LR			LR	08 16 36.7	
WMQ	**Urumqi**	**36.04**	**306**	P			P	08 06 01.3	+3.0
WMQ				pP			pP	08 06 13.4	+3.8
WMQ				sP			sP	08 06 18.8	+4.3
WMQ				PP			**PP**	**08 07 24.3**	**+3.7**
WMQ				PcP			**PcP**	**08 08 26.3**	**+2.4**
WMQ				S			**S**	**08 11 37.6**	**+3.0**
WMQ				sS			sS	08 11 57.9	+4.5
WMQ				ScP			**ScP**	**08 12 08.1**	**+1.1**
WMQ				PcS			**PcS**	**08 12 12.8**	**+1.4**
WMQ				SS			**SnSn**	**08 14 03.1**	**+1.5**
WMQ				ScS			**ScS**	**08 16 11.6**	**-1.0**
WMQ	comp=Z,20nm,0.5s			PMZ					
WMQ	comp=Z,1μm,17.2s			LN					
WMQ	comp=Z,640nm,12.6s			LE					
WMQ	comp=Z,410nm,20.8s			LZ					
SEY	**Seymchan** comp=Z,0.8nm,0.6s,baz=163,slow=19,SNR=3.7	**37.47**	**17**	P			**P**	**08 06 08.8**	**-1.2**
SEY	**Seymchan**	**37.47**	**17**	*e*P			**P**	**08 06 09.3**	**-0.8**
MK31	**Makanchi Array**	**40.33**	**310**	*e*P			**P**	**08 06 34.2**	**-0.1**
MK31	**Makanchi Array**	**40.33**	**310**	*e*P			**P**	**08 06 34.1**	**-0.1**
MKAR	**Makanchi Array** comp=Z,3.0nm,0.8s,baz=108,slow=6.8,SNR=11	**40.33**	**310**	P			**P**	**08 06 33.5**	**-0.8**
MKAR				PcP			**PcP**	**08 08 38.4**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=96,slow=4.3,SNR=2.8								
MKAR				LR			LR	08 24 50.2	
	comp=Z,190nm,18.6s,baz=96,slow=39								
MKAR	**Makanchi Array**	**40.33**	**310**	P			**P**	**08 06 33.5**	**-0.8**
MKAR								08 08 38.4	
MKAR	comp=Z,3.0nm,0.8s			pmax			pmax		
MKAR	comp=Z,1.0nm,0.6s			pmax			pmax		
MKAR	comp=Z,190nm,18.6s			MLR			MLR		
MKAR	**Makanchi Array**	**40.33**	**310**	*e*P			**P**	**08 06 36.8**	**+2.6**
MKAR				PcP			**PcP**	**08 08 38.4**	**+1.3**
ZALV	**Zalesovo Beam** comp=Z,1.6nm,0.6s,baz=106,slow=10.0,SNR=3.2	**40.63**	**321**	P			**P**	**08 06 34.7**	**-1.9**
ZALV				LR			LR	08 24 54.7	
	comp=Z,131nm,20.5s,baz=250,slow=38								
ZALV	**Zalesovo Beam**	**40.63**	**321**	P			**P**	**08 06 34.7**	**-1.9**
ZALV	comp=Z,2.0nm,0.6s			pmax			pmax		
ZALV	comp=Z,131nm,20.5s			MLR			MLR		
TIXI	**Tiksi**	**42.96**	**0**	*e*P			**P**	**08 06 55.6**	**+0.2**
TIXI	comp=Z,1.0nm,1.1s			pmax			pmax		
KURK	**Kurchatov**	**43.42**	**315**	P			**P**	**08 06 58.0**	**-1.4**
KURK	comp=Z,1.0nm,0.6s			pmax			pmax		
KURK	**Kurchatov**	**43.42**	**315**	*e*P			**P**	**08 07 00.1**	**+0.6**
KURBB	**Kurchatov Arra** comp=Z,1.4nm,0.6s,baz=99,slow=8.1,SNR=8.5	**43.46**	**315**	P			**P**	**08 06 58.0**	**-1.8**
KSH	**Kashi**	**44.52**	**298**	P			P	08 07 15.5	+6.9
KSH				pP			pP	08 07 27.9	+7.8
KSH				PP			PP	08 09 01.6	+8.8
KSH				PcS			**PcS**	**08 12 48.6**	**+3.7**
KSH				S			S	08 13 50.3	+9.0
KSH				sS			sS	08 14 11.3	+11
KSH	comp=Z,62nm,4.5s			PMZ					
KSH	comp=Z,580nm,12.1s			LN					
KSH	comp=Z,330nm,10.9s			LE					
KSH	comp=Z,510nm,13.4s			LZ					
TKM2	**Tokmak 2**	**44.73**	**303**	*e*P			**P**	**08 07 10.0**	**-0.4**
TKM2	comp=Z,3.0nm,0.6s			pmax			pmax		
TKM2	**Tokmak 2** comp=Z,3.2nm,0.6s	**44.73**	**303**	*e*P			**P**	**08 07 09.9**	**-0.4**
AAK	**Ala-Archa**	**45.54**	**303**	*e*P			**P**	**08 07 18.1**	**+1.4**
AAK	comp=Z,3.0nm,1.6s			pmax			pmax		
KKAR	**Karatay Array**	**48.45**	**304**	*e*P			**P**	**08 07 40.0**	**+0.7**
KKAR	comp=Z,2.0nm,0.5s			pmax			pmax		
KKAR	**Karatay Array** comp=Z,1.5nm,0.5s	**48.45**	**304**	*e*P			**P**	**08 07 40.0**	**+0.7**
WRAB	**Tennant Creek**	**48.68**	**173**	*e*P			**P**	**08 07 40.8**	**-0.3**
WRAB	comp=Z,17nm,1.2s			pmax			pmax		
WRAB	**Tennant Creek** comp=Z,4.8nm,0.9s	**48.68**	**173**	*e*P			**P**	**08 07 41.1**	**0.0**
WRA	**Warramunga Arr** comp=Z,2.8nm,0.9s,baz=351,slow=8.2,SNR=13	**48.68**	**173**	P			**P**	**08 07 40.3**	**-0.8**
WRA	**Warramunga Arr**	**48.68**	**173**	P			**P**	**08 07 40.3**	**-0.8**
WRA	comp=Z,3.0nm,0.9s			pmax			pmax		
BVAR	**Borovoye Array** comp=Z,684nm,18.5s,baz=92,slow=38	**48.81**	**317**	LR			LR	08 30 01.4	
BRVK	**Borovoye** comp=Z,17nm,1.4s	**48.87**	**317**	*e*P			**P**	**08 07 41.4**	**-0.9**
BRVK				pmax			pmax		
BRVK	**Borovoye** comp=Z,17nm,1.4s	**48.87**	**317**	*e*P			**P**	**08 07 41.4**	**-0.9**
ASAR	**Alice Springs** comp=Z,0.7nm,0.6s,baz=13,slow=9.9,SNR=9.0	**52.33**	**174**	P			**P**	**08 08 09.0**	**+0.4**
ASAR				PcP			**PcP**	**08 09 21.4**	**+2.0**
	comp=Z,0.5nm,0.5s,baz=337,slow=2.4,SNR=2.4								
ASAR				LR			LR	08 31 36.4	
	comp=Z,67nm,19.1s,baz=348,slow=37								
ASAR	**Alice Springs**	**52.33**	**174**	P			**P**	**08 08 09.0**	**+0.4**
ASAR								08 09 21.4	

ASAR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
ASAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
ASAR					MLR	MLR			
	comp=Z,67nm,19.1s								
ABKAR	**Akbulak array**	**55.37**	**312**	*eP*	**P**		**08 08 30.5**	**-0.1**	
	comp=Z,2.1nm,0.8s								
ARU	**Arti**	**55.79**	**321**	*d iP*	**P**		**08 08 35.8**	**+2.3**	
ARU							08 10 35.0		
ARU				S	S		08 16 23.6	+6.1	
ARU				pmax	pmax				
	comp=Z,7.0nm,1.2s								
ARU				MLR	MLR				
	comp=Z,471nm,18.0s								
AKTO	**Aktyubinsk**	**56.49**	**314**	LR	LR		08 34 25.0		
	comp=Z,209nm,19.1s,baz=89,slow=38								
KTH	**Kantishna Hill**	**60.36**	**31**	*eP*	**P**		**08 09 06.2**	**+0.7**	
	comp=Z,28nm,1.7s								
MCK	**McKinley**	**61.23**	**30**	*eP*	**P**		**08 09 11.4**	**+0.1**	
MCK				pmax	pmax				
	comp=Z,103nm,2.7s								
MCK	**McKinley**	**61.23**	**30**	*eP*	**P**		**08 09 11.4**	**+0.1**	
	comp=Z,103nm,2.7s								
STKA	**Stephens Creek**	**61.49**	**168**	P	**P**		**08 09 13.0**	**-0.3**	
	comp=Z,1.0nm,0.9s,baz=329,slow=5.9,SNR=2.8								
STKA				LR	LR		08 34 57.6		
	comp=Z,63nm,21.9s,baz=17,slow=35								
ILAR	**Eielson Array**	**61.98**	**29**	P	**P**		**08 09 15.5**	**-0.8**	
	comp=Z,1.2nm,0.8s,baz=294,slow=8.1,SNR=13								
ILAR				LR	LR		08 38 48.1		
	comp=Z,99nm,18.8s,baz=294,slow=39								
ILAR	**Eielson Array**	**61.98**	**29**	P	**P**		**08 09 15.5**	**-0.8**	
ILAR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
ILAR				MLR	MLR				
	comp=Z,99nm,18.8s								
DAWY	**Dawson**	**65.31**	**29**	*eP*	**P**		**08 09 39.0**	**+0.7**	
INK	**Inuvik**	**66.38**	**24**	P	**P**		**08 09 44.9**	**-0.1**	
	comp=Z,2.7nm,0.9s,baz=290,slow=6.7,SNR=6.0								
INK	**Inuvik**	**66.38**	**24**	P	**P**		**08 09 44.9**	**-0.1**	
INK				pmax	pmax				
	comp=Z,3.0nm,1.0s								
INK	**Inuvik**	**66.38**	**24**	*eP*	**P**		**08 09 45.5**	**+0.4**	
ARCES	**ARCESS Array B**	**67.89**	**338**	LR	LR		08 43 46.3		
	comp=Z,183nm,18.9s,baz=64,slow=40								
KIV	**Kislovodsk**	**68.09**	**309**	*eP*	P		08 09 59.8	+3.3	
KIV				pmax	pmax				
	comp=Z,5.0nm,1.0s								
KIV				MLR	MLR				
	comp=Z,142nm,17.0s								
FINES	**FINESS Array B**	**70.97**	**330**	P	**P**		**08 10 12.1**	**-1.6**	
	comp=Z,1.1nm,0.6s,baz=61,slow=12,SNR=4.9								
FINES				LR	LR		08 43 52.1		
	comp=Z,211nm,21.8s,baz=278,slow=38								
FINES	**FINESS Array B**	**70.97**	**330**	P	**P**		**08 10 12.1**	**-1.6**	
FINES				pmax	pmax				
	comp=Z,1.0nm,0.6s								
FINES				MLR	MLR				
	comp=Z,211nm,21.8s								
RES	**Resolute Bay**	**72.99**	**11**	P	**P**		**08 10 25.4**	**-0.3**	
	comp=Z,1.5nm,0.7s,baz=320,slow=9.7,SNR=2.6								
RES	**Resolute Bay**	**72.99**	**11**	P	**P**		**08 10 25.4**	**-0.3**	
RES				pmax	pmax				
	comp=Z,2.0nm,0.7s								
AKASG	**Malin Array Be**	**74.00**	**319**	LR	LR		08 45 51.2		
	comp=Z,300nm,18.4s,baz=45,slow=38								
BRTR	**Keskin Array B**	**75.94**	**308**	P	**P**		**08 10 42.9**	**-0.8**	
	comp=Z,0.7nm,0.7s,baz=101,slow=6.4,SNR=3.9								
BRTR				LR	LR		08 49 18.3		
	comp=Z,85nm,19.6s,baz=51,slow=40								
BRTR	**Keskin Array B**	**75.94**	**308**	P	**P**		**08 10 42.9**	**-0.8**	
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
BRTR				MLR	MLR				
	comp=Z,85nm,19.6s								
YKA	**Yellowknife Ar**	**76.03**	**25**	P	**P**		**08 10 43.5**	**0.0**	
	comp=Z,2.1nm,0.9s,baz=298,slow=5.3,SNR=13								
YKA	**Yellowknife Ar**	**76.03**	**25**	P	**P**		**08 10 43.5**	**0.0**	
YKA				pmax	pmax				
	comp=Z,2.0nm,0.9s								
NOA	**NORSAR Array B**	**77.32**	**334**	P	**P**		**08 10 49.4**	**-1.5**	
	comp=Z,1.0nm,0.9s,baz=53,slow=5.9,SNR=2.8								
NOA				LR	LR		08 47 52.3		
	comp=Z,151nm,19.2s,baz=60,slow=38								
NOA	**NORSAR Array B**	**77.32**	**334**	P	**P**		**08 10 49.4**	**-1.5**	
NOA				pmax	pmax				
	comp=Z,1.0nm,0.9s								
NOA				MLR	MLR				
	comp=Z,151nm,19.3s								
URZ	**Urewera**	**80.48**	**143**	LR	LR		08 43 55.3		
	comp=Z,105nm,18.0s,baz=318,slow=34								
NEW	**Newport**	**83.28**	**38**	P	**P**		**08 11 23.2**	**0.0**	
	comp=Z,1.7nm,1.0s,baz=288,slow=8.6,SNR=3.0								
NEW	**Newport**	**83.28**	**38**	P	**P**		**08 11 23.2**	**0.0**	
NEW				pmax	pmax				
	comp=Z,2.0nm,1.0s								
GERES	**GERESS Array B**	**83.54**	**323**	LR	LR		08 52 11.8		
	comp=Z,282nm,18.3s,baz=67,slow=38								
WDC	**Whiskeytown Da**	**84.46**	**46**	*eP*	**P**		**08 11 31.3**	**+2.0**	
WDC				pmax	pmax				
	comp=Z,3.0nm,1.1s								
WDC	**Whiskeytown Da**	**84.46**	**46**	*eP*	**P**		**08 11 31.3**	**+2.0**	
	comp=Z,3.1nm,1.1s								
SLMT	**Seeley Lake**	**85.85**	**37**	*eP*	**P**		**08 11 37.2**	**+0.8**	
	comp=Z,4.4nm,1.0s								
FFC	**Flin Flon**	**86.11**	**27**	*eP*	**P**		**08 11 37.6**	**+0.3**	
FFC	**Flin Flon**	**86.11**	**27**	*eP*	**P**		**08 11 37.6**	**+0.3**	
EKA	**Eskdalemuir Ar**	**86.75**	**335**	LR	LR		08 55 19.4		
	comp=Z,211nm,18.3s,baz=25,slow=39								
LRM	**Limekiln Ridge**	**87.30**	**38**	*eP*	**P**		**08 11 45.5**	**+1.9**	
	comp=Z,16nm,1.1s								
HLID	**Hailey**	**87.63**	**41**	*eP*	**P**		**08 11 46.8**	**+1.6**	
	comp=Z,4.0nm,1.0s								
NVAR	**Mina Array Bea**	**88.37**	**46**	P	**P**		**08 11 49.8**	**+0.9**	
	comp=Z,0.2nm,0.5s,baz=282,slow=4.2,SNR=3.3								
H17A	**Grant Village**	**89.24**	**38**	*eP*	**P**		**08 11 53.0**	**+0.1**	
	comp=Z,3nm,1.0s								
PDAR	**Pinedale Array**	**90.86**	**39**	P	**P**		**08 12 00.6**	**+0.1**	
	comp=Z,0.7nm,0.8s,baz=316,slow=2.5,SNR=5.3								
PDAR				LR	LR		08 54 51.8		
	comp=Z,27nm,19.7s,baz=344,slow=37								
ULM	**Lac du Bonnet**	**91.94**	**27**	P	**P**		**08 12 02.8**	**-2.2**	
	comp=Z,1.9nm,0.9s,baz=311,slow=4.7,SNR=3.8								
ULM				LR	LR		08 57 21.6		
	comp=Z,57nm,18.6s,baz=349,slow=38								
MSU	**Marysvale**	**92.12**	**43**	*eP*	**P**		**08 12 08.5**	**+2.2**	
MSU				pmax	pmax				
	comp=Z,5.0nm,1.4s								
MSU	**Marysvale**	**92.12**	**43**	*eP*	**P**		**08 12 08.5**	**+2.2**	
	comp=Z,4.6nm,1.4s								
BAR	**Barrett**	**92.85**	**50**	*eP*	**P**		**08 12 08.8**	**-0.8**	
	comp=Z,8.1nm,0.3s								
SCHQ	**Schefferville**	**95.68**	**9**	LR	LR		08 56 25.9		
	comp=Z,64nm,21.9s,baz=163,slow=36								
ESDC	**Sonseca Array**	**99.01**	**325**	LR	LR		09 01 29.1		
	comp=Z,144nm,19.8s,baz=125,slow=38								

IDC 17 08:19:48.3±3.6, 5°26S×151°91E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.3/37, mbtmp3.5/2, Error ellipse: s-maj=146.4km s-min=48.5km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.48**	**228**	P	P	08 24 49.1	-0.3
	0.9nm,0.7s,baz=53,slow=10.0,SNR=9.9						
ASAR	**Alice Springs**	**25.22**	**222**	P	P	08 25 16.0	0.0
	1.1nm,0.6s,baz=61,slow=8.5,SNR=16						
TORD	**Torodi Ar. Bea**	**149.60**	**287**	PKPbc	PKPbc	08 39 40.6	-0.3
	0.3nm,0.4s,baz=86,slow=2.8,SNR=5.2						

IDC 17 08:25:32.8±5.2, 36°77N×71°20E, h58km±46km, mb3.2/4, mb1 3.3/10, mb1mx3.2/32, mbtmp3.4/10, ML3.3/5, MS3.0/1, Ms1 3.2/1, ms1mx2.5/25, Error ellipse: s-maj=34.6km s-min=26.9km az=11.0
ISCJB 17 08:25:34.6±0.8, 36°85N±0°06×71°0E±0°1, h88km, mb3.2/4, Error ellipse: s-maj=14.5km s-min=8.0km az=15.7
NNC 17 08:25:38.1±3.2, 37°24N×70°73E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=25.9km s-min=18.1km az=163.0
ISC 17 08:25:36.3±1.1, 36°85N±0°09×70°90E±0°10, h88km, n18, σ1s79/22, mb3.3/4, 8C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**3.76**	**32**	⇓Pn	**Pn**	**08 26 35.0**	**+2.8**
	4.8nm,0.3s						
SFK				⇑Sn	**Sn**	**08 27 19.0**	**+3.5**
	53nm,0.5s						
MNAS	**Manas**	**5.76**	**12**	⇑Pn	**Pn**	**08 27 00.0**	**+0.6**
	3.6nm,0.5s						
MNAS				⇓Sn	**Sn**	**08 28 05.2**	**+1.0**
	7.6nm,0.4s						
KK31	**Karatay Array**	**6.25**	**357**	Pn	**Pn**	**08 27 07.2**	**+1.2**
	8.2nm,0.5s,baz=181,slow=13,SNR=56						
KK31				⇑Sn	**Sn**	**08 28 15.4**	**-0.5**
	3.4nm,0.3s,baz=178,slow=24,SNR=5.4						
AAK	**Ala-Archa**	**6.40**	**25**	⇓Pn	**Pn**	**08 27 09.3**	**+1.1**
	2.1nm,0.5s						
AAK				⇑Sn	**Sn**	**08 28 20.7**	**+0.9**
	5.3nm,0.6s						
AAK	**Ala-Archa**	**6.40**	**25**	P	**Pn**	**08 27 06.1**	**-2.0**
	1.3nm,0.3s,baz=196,slow=9.3,SNR=12						
AAK				S	**Sn**	**08 28 17.4**	**-2.4**
	1.1nm,0.3s,baz=147,slow=22,SNR=7.2						
TKM2	**Tokmak 2**	**7.05**	**29**	⇑Pn	**Pn**	**08 27 18.3**	**+1.3**
	1.8nm,0.5s						
TKM2				⇑Sn	**Sn**	**08 28 34.7**	**-1.1**
	3.3nm,0.6s						
MKAR	**Makanchi Array**	**13.05**	**37**	P	Pn	08 28 33.2	-5.1
	0.1nm,0.3s,baz=219,slow=11,SNR=2.3						
AB31	**Akbulak array**	**14.74**	**331**	⇓P	**Pn**	**08 28 59.3**	**-0.8**
	1.2nm,0.5s,baz=126,slow=10,SNR=32						
KURBB	**Kurchatov Arra**	**14.81**	**19**	P	Pn	08 28 57.1	-4.0
	baz=206,slow=10,SNR=2.4						
BVAR	**Borovoye Array**	**16.18**	**359**	P	**Pn**	**08 29 16.7**	**-1.5**
	0.1nm,0.3s,baz=181,slow=8.2,SNR=4.0						
AKTO	**Aktyubinsk**	**16.43**	**330**	⇑P	**P**	**08 29 24.7**	**+2.0**
	1.3nm,0.5s						
AKTO				⇑S	**S**	**08 32 28.1**	**-1.9**
	0.9nm,0.6s						
AKTO	**Aktyubinsk**	**16.43**	**330**	P	**Pn**	**08 29 21.8**	**+0.3**
	0.1nm,0.3s,baz=170,slow=12,SNR=3.3						
ZALV	**Zalesovo Beam**	**19.63**	**25**	P	**P**	**08 29 55.0**	**-2.6**
	0.3nm,0.3s,baz=208,slow=11,SNR=3.2						
CMAR	**Chiang Mai Arr**	**30.70**	**119**	LR	LR	08 47 14.4	
	comp=Z,24nm,19.6s,baz=320,slow=43						
TORD	**Torodi Ar. Bea**	**65.65**	**268**	P	**P**	**08 36 12.7**	**+1.2**
	0.2nm,0.7s,baz=34,slow=3.8,SNR=2.8						
YKA	**Yellowknife Ar**	**80.90**	**3**	P	**P**	**08 37 41.0**	**+0.6**
	0.2nm,0.5s,baz=349,slow=5.8,SNR=3.5						
WRA	**Warramunga Arr**	**82.25**	**122**	P	**P**	**08 37 46.7**	**-1.4**
	0.2nm,0.3s,baz=324,slow=4.8,SNR=11						
ASAR	**Alice Springs**	**84.52**	**125**	P	**P**	**08 37 58.5**	**-1.3**
	0.3nm,0.6s,baz=319,slow=5.2,SNR=5.8						

IDC 17 08:31:46.0±1.2, 18°59S×64°48W, h608km±35km, mb3.6/2, mb1 3.5/4, mb1mx3.0/22, mbtmp4.3/4, Error ellipse: s-maj=55.7km s-min=20.9km az=116.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.17**	**303**	P	P	08 33 14.2	+0.1
	0.8nm,0.3s,baz=108,slow=3.0,SNR=25						
LPAZ				S	S	08 34 26.0	+0.2
	0.6nm,0.3s,baz=53,slow=21,SNR=13						
BDFB	**Brasilia**	**16.01**	**82**	P	P	08 35 03.6	+0.2
	1.1nm,0.3s,baz=253,slow=9.9,SNR=19						
PLCA	**Paso Flores**	**22.68**	**192**	P	P	08 36 03.2	0.0
	9.3nm,0.5s,baz=13,slow=9.4,SNR=79						
TORD	**Torodi Ar. Bea**	**72.45**	**69**	P	P	08 42 12.7	0.0
	1.8nm,0.5s,baz=253,slow=5.5,SNR=23						
WRA	**Warramunga Arr**	**137.49**	**207**	PKP	PKPdf	08 50 02.6	0.0
	0.5nm,1.0s,baz=163,slow=1.6,SNR=5.8						

HEL 17 08:59:12.7±0.5, 60°92N×29°04E, h0km, ML1.9, Explosion
CSEM 17 08:59:12.7, 60°92N×29°04E, h0km, ML1.9, Mining explosion.
IDC 17 08:59:14.2±1.8, 60°84N×28°88E, h0km, mb1 3.1/3, mb1mx2.9/36, mbtmp3.0/3, ML2.8/3, Error ellipse: s-maj=17.3km s-min=12.7km az=2.0
ISC 17 08:59:10.8±2.2, 60°89N±0°05×29°1E±0°1, h0km, n20, σ0s66/32, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VJF	**Virojoki**	**0.85**	**246**	PB	**Pg**	**08 59 28.3**	**+1.1**
VJF				SB	**Sb**	**08 59 40.0**	**-0.5**
VJF	**Virojoki**	**0.85**	**246**	Pb	**Pg**	**08 59 28.3**	**+1.1**
VJF				Sb	**Sb**	**08 59 40.0**	**-0.5**
FIA0	**FINESS Array S**	**1.59**	**292**	PG	**Pn**	**08 59 40.0**	**-0.1**
FIA0	**FINESS Array S**	**1.59**	**292**	Pg	**Pn**	**08 59 40.0**	**-0.1**
FINES	**FINESS Array B**	**1.59**	**292**	Pg	**Pn**	**08 59 40.0**	**-0.1**
	1.3nm,0.3s,baz=117,slow=17,SNR=30						
FINES				Lg	Lg	09 00 01.0	
	1.9nm,0.3s,baz=110,slow=27,SNR=20						
PVF	**Pernaja**	**1.65**	**259**	PG	**Pn**	**08 59 41.4**	**+0.3**
	baz=71						
PVF				MSG		09 00 00.7	
	comp=Z,16nm,0.2s						
PVF				SN	**Sg**	**09 00 04.1**	**+0.4**
PVF	**Pernaja**	**1.65**	**259**	Pg	**Pn**	**08 59 41.3**	**+0.3**
PVF				Sn	**Sg**	**09 00 04.1**	**+0.4**
KAF	**Kangasniemi**	**1.83**	**313**	PG	**Pb**	**08 59 44.9**	**-0.3**
KAF				MSG		09 00 05.6	
	comp=Z,4.4nm,0.2s						
KAF				SN	**Sg**	**09 00 10.4**	**+0.8**
KAF	**Kangasniemi**	**1.83**	**313**	Pg	**Pb**	**08 59 44.9**	**-0.3**
KAF				Sn	**Sg**	**09 00 10.4**	**+0.8**
SUF	**Sumiainen**	**2.32**	**324**	PG	**Pb**	**08 59 53.1**	**-0.4**
SUF				MSG		09 00 19.8	
	comp=Z,4.2nm,0.2s						
SUF				SG	**Sb**	**09 00 22.2**	**-0.5**
SUF	**Sumiainen**	**2.32**	**324**	Pg	**Pb**	**08 59 53.1**	**-0.4**
SUF				Sg	**Sb**	**09 00 22.2**	**-0.5**
KEF	**Keuruu**	**2.41**	**304**	PB	**Pb**	**08 59 54.1**	**-1.0**
KEF				MSG		09 00 22.4	
	comp=Z,4.4nm,0.2s						
KEF				SG	**Sb**	**09 00 24.8**	**-0.6**
KEF	**Keuruu**	**2.41**	**304**	Pb	**Pb**	**08 59 54.1**	**-1.0**
KEF				Sg	**Sb**	**09 00 24.8**	**-0.6**
MEF	**Metsahovi**	**2.44**	**256**	PG	**Pb**	**08 59 55.7**	**+0.1**
MEF				SG	**Sb**	**09 00 25.2**	**-0.8**
MEF	**Metsahovi**	**2.44**	**256**	Pg	**Pb**	**08 59 55.6**	**+0.1**
MEF				Sg	**Sb**	**09 00 25.2**	**-0.8**
MTSE	**Matsula**	**3.46**	**233**	PG	**Pg**	**09 00 16.7**	**-0.4**
MTSE	**Matsula**	**3.46**	**233**	Pg	**Pg**	**09 00 16.7**	**-0.4**
HFS	**Hagfors**	**7.66**	**271**	Pn	**Pn**	**09 01 03.6**	**0.0**
	comp=Z,0.1nm,0.3s,baz=78,slow=14,SNR=3.0						
NOA	**NORSAR Array B**	**8.72**	**279**	Pn	**Pn**	**09 01 17.7**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=84,slow=14,SNR=2.5						
ARCES	**ARCESS Array B**	**8.81**	**352**	Pn	**Pn**	**09 01 20.8**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=168,slow=11,SNR=9.3						

NNC 17 09:08:29.3±8.5, 54°25N×89°33E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=67.1km s-min=53.2km az=27.0
IDC 17 09:08:47.9±2.6, 53°82N×86°70E, h0km, mb1 3.0/2, mb1mx2.9/29, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=22.8km s-min=13.5km az=59.0
ISC 17 09:08:40.7±5.9, 54°4N±0°2×87°5E±0°3, h10km, n7, σ0s38/7, 2C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.61**	**256**	*i*		09 16 43.1	
	baz=97,slow=330,SNR=0.5						
ZALV	**Zalesovo Beam**	**1.61**	**256**	Pg	**Pn**	**09 09 09.0**	**-0.2**
	1.5nm,0.3s,baz=95,slow=16,SNR=16						
ZALV				Lg	Lg	09 09 25.1	
	3.0nm,0.3s,baz=93,slow=31,SNR=19						
ZALV				Rg	Rg	09 09 31.1	
	2.7nm,0.4s,baz=87,slow=31,SNR=7.5						
KURK	**Kurchatov**	**6.52**	**239**	⇓Pn	**Pn**	**09 10 17.2**	**+0.7**
	0.2nm,0.3s						
KURK				⇓Sn	Sb	09 11 47.6	-4.4
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**6.62**	**239**	⇓Pn	**Pn**	**09 10 17.8**	**-0.1**
	0.9nm,0.2s,baz=61,slow=13						
KURBB				⇑Sn	Sn	09 11 47.9	+14
	2.1nm,0.8s						
KURBB	**Kurchatov Arra**	**6.62**	**239**	Pn	**Pn**	**09 10 17.9**	**-0.1**
	0.1nm,0.3s,baz=57,slow=14,SNR=8.3						
KURBB				Lg	Lg	09 11 55.3	
	0.0nm,0.3s,baz=61,slow=34,SNR=3.5						
MK31	**Makanchi Array**	**8.27**	**205**	⇑Pn	**Pn**	**09 10 40.5**	**-0.2**
	0.1nm,0.3s,baz=44,slow=15,SNR=11						
MK31				⇓Sn	**Sn**	**09 12 14.0**	**-0.1**
	0.1nm,0.4s,baz=29,slow=27						
MK31				⇓Lg	Lg	09 13 02.1	
	0.2nm,0.4s,baz=27,slow=31,SNR=3.9						
MKAR	**Makanchi Array**	**8.27**	**205**	Pn	**Pn**	**09 10 40.8**	**+0.2**
	0.2nm,0.3s,baz=23,slow=14,SNR=9.8						
MKAR				Lg	Lg	09 12 47.7	
	0.1nm,0.3s,baz=31,slow=34,SNR=3.4						

ISCJB 17 09:17:58.1±0.7, 59°34N±0°03×27°07E±0°09, h0km, Error ellipse: s-maj=6.6km s-min=3.9km az=21.3
CSEM 17 09:17:58.7±0.4, 59°31N×27°12E, h2km, ML2.4, Error ellipse: s-maj=9.1km s-min=5.0km az=100.0, Mining explosion.
BER 17 09:17:59.7±1.8, 59°31N×27°11E, h0km, ML2.4(NAO), Suspected explosion
HEL 17 09:17:59.2±0.2, 59°31N×27°14E, h0km, ML1.9, Explosion
NAO 17 09:17:59.0±1.0, 59°29N×26°88E, ML2.4
ISC 17 09:17:58.8±1.0, 59°33N±0°03×27°11E±0°05, h0km, n40, σ1s02/53, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VSU	**Vasula**	**0.89**	**193**	Pg	**Pg**	**09 18 15.8**	**+0.1**
VSU				Lg	Lg	09 18 26.2	
VSU	**Vasula**	**0.89**	**193**	Pg	**Pg**	**09 18 15.8**	**+0.1**
VSU				Lg	Lg	09 18 26.2	
VSU	**Vasula**	**0.89**	**193**	*eP*	**Pg**	**09 18 14.9**	**-0.9**
VSU				*e*SB	**Sg**	**09 18 26.4**	**-0.8**
VSU	**Vasula**	**0.89**	**193**	P	**Pg**	**09 18 14.9**	**-0.9**
VSU	**Vasula**	**0.89**	**193**	Pg	**Pg**	**09 18 15.8**	**+0.1**
VSU				Lg	Lg	09 18 26.2	
	SNR=94						
VJF	**Virojoki**	**1.24**	**10**	*eP*	**Pg**	**09 18 21.5**	**-1.0**
VJF				*e*SB	**Sg**	**09 18 38.5**	**0.0**
VJF	**Virojoki**	**1.24**	**10**	P	**Pg**	**09 18 21.4**	**-1.1**
PVF	**Pernaja**	**1.37**	**333**	*eP*	**Pg**	**09 18 24.3**	**-0.8**
PVF				*e*S	**Sg**	**09 18 42.3**	**-0.5**
PVF				MSG		09 18 42.9	
	comp=Z,11nm,0.3s						
PVF	**Pernaja**	**1.37**	**333**	P	**Pg**	**09 18 24.3**	**-0.8**
SRPE	**Suurupi**	**1.40**	**277**	*eP*	**Pn**	**09 18 24.8**	**-0.8**
SRPE				*e*SB	**Sg**	**09 18 43.8**	**+0.1**
SRPE	**Suurupi**	**1.40**	**277**	P	**Pn**	**09 18 24.7**	**-0.8**
SRPE				Sb	**Sg**	**09 18 43.8**	**0.0**
MEF	**Metsahovi**	**1.64**	**304**	*e*PG	**Pn**	**09 18 29.3**	**+0.6**
MEF				*e*SG	**Sn**	**09 18 50.7**	**+0.2**
MEF				MSG		09 18 51.2	
	comp=Z,8.3nm,0.3s						
MEF	**Metsahovi**	**1.64**	**304**	Pg	**Pn**	**09 18 29.3**	**+0.5**
MEF				Sg	**Sn**	**09 18 50.7**	**+0.2**
MTSE	**Matsula**	**1.81**	**252**	*e*PN	**Pn**	**09 18 31.6**	**+0.5**
MTSE				*e*S	**Sn**	**09 18 54.5**	**-0.2**
MTSE	**Matsula**	**1.81**	**252**	Pn	**Pn**	**09 18 31.6**	**+0.5**
MTSE				S	**Sn**	**09 18 54.5**	**-0.3**
FIA0	**FINESS Array S**	**2.19**	**347**	Pn	**Pn**	**09 18 36.5**	**+0.2**
	baz=164,slow=18						
FIA0				Lg	Lg	09 19 07.6	
	baz=170,slow=37						
FIA0				Rg	Rg	09 19 20.8	
	baz=165,slow=37						
FIA0	**FINESS Array S**	**2.19**	**347**	Pn	**Pn**	**09 18 36.5**	**+0.2**
	baz=164,slow=18						
FIA0				Lg	Lg	09 19 07.6	
	baz=170,slow=37						
FIA0				Rg	Rg	09 19 20.8	
	baz=165,slow=37						
FIA0	**FINESS Array S**	**2.19**	**347**	*e*P	**Pn**	**09 18 36.8**	**+0.5**
FIA0				*e*SG	**Sb**	**09 19 07.5**	**+0.7**
FIA0				MSG		09 19 08.2	
	comp=Z,8.5nm,0.3s						
FIA0	**FINESS Array S**	**2.19**	**347**	Pn	**Pn**	**09 18 36.5**	**+0.2**
	SNR=7.5						
FIA0	**FINESS Array S**	**2.19**	**347**	P	**Pn**	**09 18 36.8**	**+0.5**
FIA0				Sg	**Sb**	**09 19 07.4**	**+0.7**
KAF	**Kangasniemi**	**2.82**	**352**	*e*P	**Pn**	**09 18 46.4**	**+1.3**
KAF				*e*S	**Sn**	**09 19 20.4**	**+0.6**
KAF				*e*SG	**Sb**	**09 19 26.4**	**+1.3**
KAF				MSG		09 19 26.8	
	comp=Z,4.4nm,0.3s						
KAF	**Kangasniemi**	**2.82**	**352**	P	**Pn**	**09 18 46.3**	**+1.2**
KAF				S	**Sn**	**09 19 20.4**	**+0.6**
KAF				Sg	**Sb**	**09 19 26.3**	**+1.2**
SLIT	**Slitere, Latvi**	**3.05**	**238**	*e*SB	**Sb**	**09 19 31.0**	**-0.5**
SLIT	**Slitere, Latvi**	**3.05**	**238**	Sb	**Sb**	**09 19 31.0**	**-0.5**
KEF	**Keuruu**	**3.06**	**340**	*e*P	**Pn**	**09 18 49.9**	**+1.6**
KEF				*e*SG	**Sb**	**09 19 33.3**	**+1.6**
KEF				MSG		09 19 34.4	
	comp=Z,6.0nm,0.4s						
KEF	**Keuruu**	**3.06**	**340**	P	**Pn**	**09 18 49.8**	**+1.5**
RAF	**Rauma**	**3.17**	**305**	*e*P	**Pn**	**09 18 51.9**	**+2.1**
RAF	**Rauma**	**3.17**	**305**	P	**Pn**	**09 18 51.8**	**+2.0**
SUF	**Sumiainen**	**3.44**	**353**	*e*P	**Pn**	**09 18 53.6**	**+0.1**
SUF				*e*SG	**Sb**	**

TAPN	**Taplejung**	**14.12**	**340**	*e*P		Pn	09 22 28.5	-3.2
	comp=E,7.5nm,0.4s							
RAMN	**Ramite**	**14.16**	**336**	*e*P		**Pn**	**09 22 31.9**	**-0.3**
	comp=E,7.3nm,0.3s							
JIRN	**Jiri**	**14.96**	**336**	*e*P		**Pn**	**09 22 41.8**	**-1.3**
	comp=E,6.2nm,0.2s							
PKI	**Pulchoki**	**15.20**	**333**	*e*P		**Pn**	**09 22 45.2**	**-1.1**
	comp=E,4.5nm,0.2s							
PKIN	**Phulchoki**	**15.21**	**333**	*e*P		**Pn**	**09 22 45.2**	**-1.2**
	comp=E,8.6nm,0.4s							
DMN	**Daman**	**15.37**	**333**	*e*P		**Pn**	**09 22 48.2**	**-0.2**
GKN	**Gorkha**	**15.92**	**332**	*e*P		**Pn**	**09 22 54.9**	**-0.6**
KOLN	**Koldanda**	**16.22**	**329**	*e*P		**Pn**	**09 22 59.4**	**0.0**
	comp=E,4.7nm,0.2s							
POO	**Poona**	**18.93**	**286**	*e*P		**S**	**09 27 00.0**	**-5.4**
SMLA	**Simla**	**22.38**	**322**	*e*P		**P**	**09 24 08.4**	**-0.7**
H08S3	**Diego Garcia H**	**29.66**	**225**	T		T	09 56 11.5	
	baz=42,slow=75,SNR=21							
H08S2	**Diego Garcia H**	**29.66**	**225**	T		T	09 56 11.2	
	baz=42,slow=75,SNR=26							
H08S1	**Diego Garcia H**	**29.67**	**225**	T		T	09 56 11.2	
	baz=42,slow=75,SNR=23							
AAK	**Ala-Archa**	**32.66**	**334**	P		**P**	**09 25 43.6**	**+0.7**
	comp=E,0.6nm,0.3s,baz=156,slow=12,SNR=2.9							
MK31	**Makanchi Array**	**33.85**	**347**	*e*P		**P**	**09 25 53.7**	**+0.6**
MKAR	**Makanchi Array**	**33.85**	**347**	P		**P**	**09 25 53.5**	**+0.4**
	comp=E,1.6nm,0.7s,baz=180,slow=8.1,SNR=16							
KKAR	**Karatay Array**	**34.82**	**331**	*e*P		**P**	**09 26 02.5**	**+1.0**
	comp=E,0.8nm,0.5s							
SONM	**Songino Array**	**35.47**	**16**	P		**P**	**09 26 09.6**	**+2.5**
	comp=E,0.6nm,0.6s,baz=202,slow=11,SNR=2.3							
KURBB	**Kurchatov Arra**	**38.32**	**345**	P		**P**	**09 26 31.8**	**+0.6**
	comp=E,2.0nm,0.7s,baz=164,slow=8.1,SNR=21							
KURK	**Kurchatov**	**38.38**	**345**	*e*P		**P**	**09 26 31.8**	**0.0**
	comp=E,5.3nm,1.1s							
ZALV	**Zalesovo Beam**	**40.32**	**353**	P		**P**	**09 26 48.4**	**+0.6**
	comp=E,1.3nm,0.5s,baz=186,slow=7.7,SNR=4.0							
BVAR	**Borovoye Array**	**42.83**	**340**	P		**P**	**09 27 09.1**	**+0.7**
	comp=E,0.4nm,0.4s,baz=138,slow=9.1,SNR=4.2							
ABKAR	**Akbulak array**	**44.35**	**329**	*e*P		**P**	**09 27 21.9**	**+1.1**
	comp=E,3.3nm,0.7s							
ABKAR					*e*pP	**pP**	**09 27 31.0**	**+0.8**
AKTO	**Aktyubinsk**	**46.06**	**329**	P		**P**	**09 27 35.2**	**+0.9**
	comp=E,1.1nm,0.5s,baz=105,slow=11,SNR=4.4							
MJAR	**Matsushiro Arr**	**46.06**	**53**	LR		LR	09 48 44.1	
	comp=E,37nm,18.4s,baz=260,slow=38							
NWAO	**Narrogin (SRO)**	**52.14**	**154**	P		**P**	**09 28 19.1**	**-1.9**
	comp=E,5.1nm,0.6s,baz=328,slow=7.0,SNR=4.0							
WRA	**Warramunga Arr**	**52.86**	**129**	P		**P**	**09 28 25.3**	**-1.3**
	comp=E,2.3nm,0.6s,baz=293,slow=9.6,SNR=35							
WRA					PcP	**PcP**	**09 29 35.3**	**-0.3**
	comp=E,1.8nm,0.6s,baz=318,slow=3.0,SNR=16							
KMBO	**Kilima Mbogo**	**57.24**	**259**	LR		LR	09 51 27.4	
	comp=E,34nm,20.0s,baz=96,slow=34							
BR131	**Keskin Array S**	**57.67**	**308**	*e*P		**P**	**09 29 01.3**	**+0.1**
	comp=E,3.8nm,1.0s							
BRTR	**Keskin Array B**	**57.67**	**308**	P		**P**	**09 29 01.5**	**+0.3**
	comp=E,2.9nm,0.9s,baz=112,slow=7.9,SNR=15							
BRTR					LR	LR	09 57 01.9	
	comp=E,30nm,19.4s,baz=110,slow=39							
STKA	**Stephens Creek**	**65.20**	**135**	P		**P**	**09 29 51.3**	**-0.7**
	comp=E,1.6nm,0.6s,baz=306,slow=5.9,SNR=9.9							
FINES	**FINESS Array B**	**66.78**	**331**	P		**P**	**09 30 01.8**	**+0.1**
	comp=E,1.7nm,0.6s,baz=104,slow=8.0,SNR=7.1							
FINES					LR	LR	10 02 32.4	
	comp=E,46nm,18.1s,baz=272,slow=39							
ARCES	**ARCESS Array B**	**69.12**	**340**	P		**P**	**09 30 16.9**	**+0.6**
	comp=E,1.0nm,0.7s,baz=69,slow=6.6,SNR=6.0							
ARCES					LR	LR	10 03 41.7	
	comp=E,36nm,19.3s,baz=164,slow=39							
GERES	**GERESS Array B**	**72.54**	**317**	P		**P**	**09 30 38.0**	**+0.4**
	comp=E,1.2nm,0.6s,baz=98,slow=5.8,SNR=5.5							
NB2	**NORSAR Subarra**	**73.85**	**330**	P		**P**	**09 30 44.7**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=90,slow=5.9							
NOA	**NORSAR Array B**	**73.85**	**330**	P		**P**	**09 30 45.0**	**0.0**
	comp=Z,0.6nm,0.6s,baz=88,slow=5.9,SNR=3.8							
NOA					LR	LR	10 08 23.0	
	comp=Z,16nm,18.1s,baz=10.0,slow=40							
TORD	**Torodi Ar. Bea**	**88.12**	**283**	P		**P**	**09 32 01.8**	**0.0**
	comp=Z,2.1nm,0.8s,baz=84,slow=4.8,SNR=12							
ILAR	**Eielson Array**	**89.45**	**22**	P		**P**	**09 32 07.4**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=298,slow=4.4,SNR=3.1							
SML	**Sawmill**	**90.49**	**25**	P		**P**	**09 32 11.6**	**-0.4**
NVAR	**Mina Array Bea**	**120.11**	**28**	PKP		**PKPdf**	**09 38 03.1**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=345,slow=3.1,SNR=2.5							
TXAR	**Lajitas Array**	**133.95**	**20**	PKP		**PKPdf**	**09 38 30.0**	**+1.7**
	comp=Z,0.1nm,0.4s,baz=5.7,slow=0.9,SNR=2.6							

*ISCJB **17** 09:27:23.4±0.4, 32°.2N×0°.03×115°.22W±0°.03, h20km±4km, Error ellipse: s-maj=5.0km s-min=4.4km az=31.2*
*MEX **17** 09:27:25.6±0.4, 32°.27N×115°.21W, h15km±757km, MD3.7*
*NEIC **17** 09:27:25.0, 32°.23N×115°.28W, h7km, ML2.8(PAS), ML3.1(ECX), After ECX.*
*ECX **17** 09:27:25.0±0.6, 32°.2N×115°.28W, h7km, MD2.9, ML3.1*

ISC 17 09:27:23.2±0.9, 32°.18N±0°.03×115°.26W±0°.03, h11km±9km, n28, σ0°84/39, 4C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.24**	**13**	*e*P	**Pb**	**09 27 28.9**	**-0.7**
MBIG				*e*S	**Sg**	**09 27 31.0**	**-0.5**
CPBX	**Cerro Prieto**	**0.24**	**352**	*e*P	**Pg**	**09 27 28.6**	**+0.3**
CPBX	**Cerro Prieto**	**0.24**	**352**	*e*P9	**Pg**	**09 27 28.7**	**+0.3**
CPBX				*e*S	**Sg**	**09 27 31.4**	**-0.3**
CPBX				⇑*e*		09 27 36.1	
	comp=N,18μm,0.2s						
EMSC	**East Mesa**	**0.61**	**23**	⇓*i*P	**Pg**	**09 27 35.2**	**+0.2**
SGL	**Mount Signal**	**0.61**	**320**	⇓*i*P	**Pg**	**09 27 35.1**	**0.0**
RDX	**Rancho Dawling**	**0.63**	**247**	*e*P	**Pb**	**09 27 36.4**	**0.0**
RDX				*e*S	**Sg**	**09 27 44.8**	**+1.0**
RDX				⇑*e*		09 27 47.0	
	comp=N,800nm,0.5s						
ERPC	**Ernies Place**	**0.66**	**329**	⇓*i*P	**Pg**	**09 27 36.2**	**+0.2**
COA	**Coachella**	**0.69**	**10**	⇓*i*P	**Pg**	**09 27 36.3**	**-0.4**
WESC	**Westside Schoo**	**0.70**	**326**	*e*P	**Pg**	**09 27 36.6**	**-0.3**
YMD	**Yuma Desert**	**0.71**	**58**	⇑*i*P	**Pg**	**09 27 36.7**	**-0.4**
ECBX	**El Chinero**	**0.72**	**166**	*e*P9	**Pg**	**09 27 36.5**	**-0.8**
ECBX				*e*S	**Sg**	**09 27 47.2**	**+0.4**
ECBX				⇓*e*		09 27 48.2	
	comp=N,458nm,0.3s						
YUH	**Yuha Desert**	**0.73**	**310**	⇓*i*P	**Pg**	**09 27 37.0**	**-0.4**
COK	**Cook Ranch**	**0.78**	**330**	*e*P2	**Pg**	**09 27 38.0**	**-0.3**
RMX	**La Rumorosa**	**0.81**	**302**	*e*P	**Pg**	**09 27 38.7**	**-0.2**
RMX				*e*S	**Sg**	**09 27 49.2**	**-0.4**
RMX				*e*		09 27 50.7	
	comp=N,450nm,0.2s						
ZAX	**El Zacaton**	**1.08**	**233**	*e*P	**Pb**	**09 27 43.9**	**-0.2**
ZAX				*e*S	**Sg**	**09 27 59.0**	**+0.8**
SPIG	**San Pedro Mart**	**1.14**	**189**	*e*P	**Pb**	**09 27 44.7**	**-0.5**
SPIG	**San Pedro Mart**	**1.14**	**189**	*e*P	**Pb**	**09 27 44.7**	**-0.5**
SPX	**San Pedro Mart**	**1.14**	**189**	*e*P	**Pb**	**09 27 44.9**	**-0.3**
SPX	**San Pedro Mart**	**1.14**	**189**	*e*P	**Pb**	**09 27 45.6**	**+0.4**
SPX				*e*S	**Sn**	**09 28 02.1**	**+0.8**
SPX				⇑*e*		09 28 02.6	
	comp=E,207nm,0.5s						
CBX	**Cerro Bola**	**1.20**	**277**	*e*P	**Pn**	**09 27 45.8**	**-0.2**
CBX				*e*S	**Sb**	**09 28 01.2**	**-0.2**
ECNX	**Esteban Cantu**	**1.25**	**246**	*e*P	**Pn**	**09 27 46.8**	**+0.1**
ECNX				*e*S	**Sg**	**09 28 03.9**	**+0.4**
BAR	**Barrett**	**1.29**	**293**	*e*Pn	**Pn**	**09 27 47.0**	**-0.2**
BAR				*e*Sn	**Sb**	**09 28 03.2**	**-1.0**
PBX	**Punta Banda**	**1.32**	**251**	*e*P	**Pn**	**09 27 47.4**	**-0.2**
PBX				*e*S	**Sg**	**09 28 05.8**	**+0.1**
PFO	**Pinyon Flats O**	**1.75**	**325**	*e*Pn	**Pn**	**09 27 51.6**	**-2.0**
214A	**Organ Pipe Nat**	**2.09**	**95**	*e*Pn	**Pn**	**09 27 56.4**	**-1.9**
GSC	**Goldstone, Bar**	**3.37**	**338**	Pn	**Pn**	**09 28 18.2**	**+2.3**
TUC	**Tucson**	**3.80**	**87**	*e*Pn	**Pb**	**09 28 32.5**	**+2.2**
121A	**Cookes Peak, D**	**6.34**	**85**	*e*Pn	**Pn**	**09 28 56.9**	**+0.1**

*NIED **17** 09:29:00, 28°.80N×128°.50E, h5km, Mw3.7 Best double couple: M0 4.42000×10^14 NP1:φs124.00000°, δ32.00000°, λ14.00000°. NP2:φs23.00000°, δ83.00000°, λ122.00000°.*

JMA 17 09:29:07.2±0.3, 28.77N×128.52E, h9km±5km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.71**	**57**	P	Pg	09 29 20.9	0.0
JTAJ				S	Sg	09 29 30.0	-0.2
JAMN	**Amaminishikomi**	**0.78**	**132**	P	Pg	09 29 22.3	+0.1
JAM	**Amami Oshima**	**1.02**	**110**	P	Pg	09 29 26.4	-0.4
JAM				*e*S	Sg	09 29 39.8	-0.2
JTK	**Tokunoshima**	**1.05**	**159**	P	Pg	09 29 27.0	-0.4
JTK				*e*S	Sg	09 29 41.2	+0.1
JZK	**Kikaishima**	**1.36**	**109**	P	Pg	09 29 33.1	-0.1
JZK				*e*S	Sg	09 29 50.9	0.0
JOKE	**Okinoerabujima**	**1.40**	**178**	P	Pn	09 29 32.4	-0.6
JOKE				*e*S	Sb	09 29 51.1	-0.6
JOW	**Kunigami**	**1.94**	**186**	P	Pn	09 29 41.0	+0.6

*IDC **17** 09:35:52.0±2.7, 51°.25N×179°.78W, h0km, mb3.3/5, mb1 3.7/5, mb1mx3.3/52, mbtmp3.3/5, Error ellipse: s-maj=62.8km s-min=51.7km az=130.0*
*ISCJB **17** 09:35:58.2±1.3, 51°.10N±0°.09×179°.17W±0°.04, h24km±7km, mb3.3/5, Error ellipse: s-maj=15.5km s-min=4.2km az=179.4*
*NEIC **17** 09:35:59.9, 51°.21N×179°.17W, h26km, ML3.5(AEIC), After AEIC.*

ISC 17 09:36:00.6±1.6, 51°.2N±0°.1×179°.20W±0°.03, h46km±14km, n37, σ1s00/37, mb3.4/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**0.58**	**27**	P	**Pn**	**09 36 12.1**	**-0.6**
GAEA	**Gareloi East**	**0.61**	**27**	P	**Pn**	**09 36 12.3**	**-0.7**
TASE	**Tanaga Southea**	**0.94**	**50**	P	**Pn**	**09 36 16.8**	**-0.6**
TANO	**Tanaga North**	**0.95**	**44**	P	**Pn**	**09 36 17.2**	**-0.3**
AMKA	**Amchitka**	**0.95**	**279**	P	**Pn**	**09 36 16.5**	**-1.1**
AMKA				S	**Sn**	**09 36 29.4**	**-0.7**
TAFL	**Tanaga Flats**	**0.96**	**57**	P	**Pn**	**09 36 17.1**	**-0.6**
TAFP	**Tanaga Falls P**	**1.00**	**49**	P	**Pn**	**09 36 17.8**	**-0.5**
TAFP				S	**Sn**	**09 36 30.7**	**-0.6**
CERB	**Semis' Cerberu**	**1.01**	**314**	P	**Pn**	**09 36 18.4**	**+0.1**
CERB				S	**Sn**	**09 36 32.7**	**+1.4**
CESW	**Semis' Southwe**	**1.02**	**311**	P	**Pn**	**09 36 18.4**	**0.0**
CEAP	**Semis' Anvil P**	**1.08**	**315**	P	**Pn**	**09 36 19.5**	**+0.3**
CETU	**Semis' Tuman**	**1.09**	**312**	P	**Pn**	**09 36 19.7**	**+0.2**
KIKV	**Kanaga Island**	**1.42**	**62**	P	**Pn**	**09 36 24.2**	**+0.3**
KIRH	**Kanaga Island**	**1.47**	**63**	P	**Pn**	**09 36 24.7**	**+0.1**
LSSE	**Little Sitkin**	**1.56**	**297**	P	**Pn**	**09 36 26.2**	**+0.4**
LSPA	**Little Sitkin**	**1.56**	**298**	P	**Pn**	**09 36 26.2**	**+0.3**
LSPA				S	**Sn**	**09 36 47.6**	**+2.6**
LSSA	**Little Sitkin**	**1.59**	**297**	P	**Pn**	**09 36 27.3**	**+1.0**
LSNW	**Little Sitkin**	**1.60**	**298**	P	**Pn**	**09 36 27.0**	**+0.6**
ADK	**Adak**	**1.69**	**67**	P	**Pn**	**09 36 27.3**	**-0.4**
ADK				S	**Sn**	**09 36 48.3**	**+0.2**
ETKA	**Kagalaska Isla**	**1.85**	**69**	P	**Pn**	**09 36 29.9**	**+0.1**
GSCK	**Great Sitkin C**	**2.04**	**67**	P	**Pn**	**09 36 32.8**	**+0.4**
GSTD	**Great Sitkin T**	**2.07**	**66**	P	**Pn**	**09 36 33.0**	**+0.1**
GSTD				S	**Sn**	**09 37 00.1**	**+2.7**
GSMY	**Great Sitkin M**	**2.11**	**66**	P	**Pn**	**09 36 33.6**	**+0.2**
GSTR	**Great Sitkin T**	**2.13**	**65**	P	**Pn**	**09 36 34.4**	**+0.7**
ATKA	**Atka Island**	**3.25**	**71**	P	**Pn**	**09 36 50.8**	**+1.7**
KOFP	**Korovin Flat P**	**3.33**	**70**	P	**Pn**	**09 36 52.0**	**+1.7**
ILAR	**Eielson Array**	**21.51**	**39**	P	**P**	**09 40 44.9**	**-0.2**
	0.2nm,0.6s,baz=261,slow=12,SNR=5.1						
INK	**Inuvik**	**27.71**	**35**	P	**P**	**09 41 43.3**	**-0.7**
	0.2nm,0.4s,baz=250,slow=9.8,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**33.30**	**204**	T	T	10 18 00.2	
	baz=16,slow=76,SNR=25						
H11N3	**WAKE ISLAND Hy**	**33.31**	**204**	T	T	10 17 59.8	
	baz=16,slow=76,SNR=19						
H11N1	**WAKE ISLAND Hy**	**33.32**	**204**	T	T	10 17 58.2	
	baz=16,slow=76,SNR=24						
H11S1	**WAKE ISLAND Hy**	**34.52**	**204**	T	T	10 19 28.2	
	baz=15,slow=76,SNR=32						
H11S2	**WAKE ISLAND Hy**	**34.54**	**204**	T	T	10 19 30.6	
	baz=15,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**34.54**	**204**	T	T	10 19 28.4	
	baz=15,slow=76,SNR=21						
YKA	**Yellowknife Ar**	**35.51**	**46**	P	**P**	**09 42 51.6**	**-0.8**
	0.2nm,0.4s,baz=285,slow=7.4,SNR=3.1						
PDAR	**Pinedale Array**	**46.59**	**72**	P	**P**	**09 44 23.9**	**-0.1**
	0.8nm,0.6s,baz=323,slow=5.9,SNR=9.0						
TXAR	**Lajitas Array**	**58.92**	**81**	P	**P**	**09 45 55.8**	**+0.8**
	0.2nm,0.6s,baz=300,slow=4.1,SNR=4.1						
TORD	**Torodi Ar. Bea**	**115.88**	**359**	PKP	**PKPdf**	**09 54 36.5**	**-1.7**
	0.1nm,0.4s,baz=6.5,slow=3.5,SNR=3.5						

*IDC **17** 09:40:46.4±2.8, 53°.49N×87°.91E, h0km, mb1 3.0/2, mb1mx2.9/47, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=22.6km s-min=15.1km az=68.0*
*NNC **17** 09:40:47.3±5.7, 53°.44N×87°.86E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=44.5km s-min=32.3km az=23.0*

ISC 17 09:40:48.7±3.9, 53°.6N±0°.1×88°.1E±0°.2, h35km, n7, σ1s63/11, 4C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.01**	**282**	*i*		09 52 20.0	
	baz=99,slow=327,SNR=8.2						
ZALV	**Zalesovo Beam**	**2.01**	**282**	Pn	**Pn**	**09 41 20.2**	**+0.2**
	3.4nm,0.3s,baz=100,slow=16,SNR=20						
ZALV				Lg	Lg	09 41 46.7	
	7.6nm,0.3s,baz=101,slow=25,SNR=19						
KURK	**Kurchatov**	**6.51**	**248**	⇓Pn	**Pn**	**09 42 22.2**	**+0.3**
	0.9nm,0.8s						
KURK				⇑Sn	**Sn**	**09 43 34.8**	**-0.1**
	1.9nm,1.0s						
KURK				⇑Lg	Lg	09 44 07.8	
	4.8nm,1.2s						
KURBB	**Kurchatov Arra**	**6.61**	**247**	⇓Pn	**Pn**	**09 42 24.1**	**+0.8**
	1.7nm,0.5s						
KURBB				⇓Sn	**Sn**	**09 43 36.7**	**-0.6**
	2.8nm,0.6s						
KURBB				⇑Lg	Lg	09 44 09.4	
	5.6nm,0.7s						
KURBB	**Kurchatov Arra**	**6.61**	**247**	Pn	**Pn**	**09 42 23.9**	**+0.6**
	0.2nm,0.3s,baz=62,slow=14,SNR=7.6						
KURBB				Sn	**Sn**	**09 43 35.5**	**-1.9**
	0.1nm,0.3s,baz=60,slow=28,SNR=4.4						
KURBB				Lg	Lg	09 44 10.0	
	0.1nm,0.3s,baz=64,slow=34,SNR=5.1						
MK31	**Makanchi Array**	**7.74**	**211**	⇓Pn	**Pn**	**09 42 36.4**	**-2.5**
	0.2nm,0.5s,baz=35,slow=15						
MK31				⇓Sn	**Sn**	**09 44 08.4**	**+3.1**
	0.3nm,0.4s,baz=27,slow=23						
MK31				⇑Lg	Lg	09 44 48.2	
	2.7nm,0.8s,baz=26,slow=30,SNR=4.9						
MKAR	**Makanchi Array**	**7.74**	**211**	Pn	**Pn**	**09 42 39.2**	**+0.3**
	0.1nm,0.3s,baz=24,slow=12,SNR=4.8						
MKAR				Sn	**Sn**	**09 44 05.3**	**0.0**
	0.0nm,0.3s,baz=20,slow=26,SNR=4.4						
MKAR				Lg	Lg	09 44 46.9	
	0.1nm,0.3s,baz=26,slow=34,SNR=3.8						

*ISCJB **17** 09:44:42.5±0.5, 32°.21N±0°.03×115°.22W±0°.03, h16km±7km, Error ellipse: s-maj=5.1km s-min=4.0km az=23.5*
*NEIC **17** 09:44:43.6, 32°.21N×115°.25W, h9km, ML3.4(PAS), ML3.6(ECX), After ECX.*
*ECX **17** 09:44:43.6±0.5, 32°.21N×115°.26W, h9km, MD3.4, ML3.6*
*MEX **17** 09:44:44.0±0.4, 32°.28N×115°.11W, h21km±15km, MD3.9*

ISC 17 09:44:41.7±1.0, 32°.18N±0°.03×115°.25W±0°.03, h12km±8km, n27, σ0s74/39, 9C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.23**	**10**	*e*P	**Pb**	**09 44 47.6**	**-0.3**
MBIG				*e*S	**Sg**	**09 44 50.1**	**0.0**
CPBX	**Cerro Prieto**	**0.24**	**348**	*e*P	**Pg**	**09 44 47.8**	**-0.3**
CPBX				*i* S	**Sg**	**09 44 50.8**	**+0.4**
CPBX	**Cerro Prieto**	**0.24**	**348**	⇓*e*P	**Pb**	**09 44 47.8**	**-0.3**
CPBX				*e*S	**Sg**	**09 44 51.2**	**+0.8**
CPBX				⇓*e*		09 44 53.3	
	comp=E,37μm,0.2s						
EMSC	**East Mesa**	**0.60**	**21**	⇑*e*P	**Pb**	**09 44 53.9**	**-0.2**
SGL	**Mount Signal**	**0.62**	**319**	⇑*e*P	**Pg**	**09 44 54.1**	**+0.2**
RDX	**Rancho Dawling**	**0.64**	**247**	⇑*e*P	**Pb**	**09 44 55.6**	**+0.7**
RDX				*e*S	**Sg**	**09 45 04.1**	**+1.4**
RDX				⇑*e*		09 45 06.2	
	comp=N,4μm,0.3s						
YMD	**Yuma Desert**	**0.70**	**57**	⇑*e*P	**Pg**	**09 44 55.3**	**0.0**
ECBX	**El Chinero**	**0.72**	**167**	*e*P9	**Pg**	**09 44 54.4**	**-1.3**
ECBX				*e*S	**Sg**	**09 45 04.8**	**-0.3**
ECBX				⇑*e*		09 45 05.5	
	comp=E,3μm,0.2s						
YUH	**Yuha Desert**	**0.74**	**310**	⇑*e*P	**Pg**	**09 44 56.0**	**-0.1**
COK	**Cook Ranch**	**0.78**	**329**	⇓*e*P	**Pb**	**09 44 57.1**	**-0.2**
RMX	**La Rumorosa**	**0.82**	**301**	⇑*e*P	**Pb**	**09 44 57.8**	**-0.2**
RMX				*e*S	**Sb**	**09 45 08.6**	**-0.5**
RMX				*e*		09 45 09.8	
	comp=N,1μm,0.3s						
ZAX	**El Zacaton**	**1.10**	**233**	*e*P	**Pb**	**09 45 03.0**	**+0.4**
ZAX				*e*S	**Sn**	**09 45 17.9**	**-0.1**
SPIG	**San Pedro Mart**	**1.14**	**190**	*e*P	**Pn**	**09 45 03.7**	**-0.1**
SPIG	**San Pedro Mart**	**1.14**	**190**	*e*P	**Pn**	**09 45 03.7**	**-0.1**
SPX	**San Pedro Mart**	**1.14**	**189**	*e*P	**Pn**	**09 45 03.7**	**-0.1**
SPX	**San Pedro Mart**	**1.14**	**189**	*e*P	**Pn**	**09 45 03.7**	**-0.1**
SPX				*e*S	**Sn**	**09 45 20.4**	**+0.9**
SPX				⇑*e*		09 45 21.7	
	comp=N,718nm,0.5s						
CBX	**Cerro Bola**	**1.21**	**277**	*e*P	**Pn**	**09 45 04.2**	**-0.3**
CBX	**Cerro Bola**	**1.21**	**277**	*e*P	**Pn**	**09 45 04.2**	**-0.3**
CBX	**Cerro Bola**	**1.21**	**277**	*e*P	**Pn**	**09 45 04.1**	**-0.3**
CBX				*e*S	**Sn**	**09 45 20.5**	**-0.4**
CBX				⇓*e*		09 45 25.7	
	comp=E,819nm,0.7s						
ECNX	**Esteban Cantu**	**1.26**	**246**	*e*P	**Pn**	**09 45 05.6**	**+0.4**
ECNX				*e*S	**Sg**	**09 45 22.9**	**+0.5**
BAR	**Barrett**	**1.31**	**293**	*e*Pn	**Pb**	**09 45 06.2**	**0.0**
BAR				*e*Sn	**Sn**	**09 45 22.8**	**-0.3**
PBX	**Punta Banda**	**1.33**	**251**	*e*P	**Pn**	**09 45 06.3**	**+0.3**
PBX				*e*S	**Sb**	**09 45 24.3**	**+0.7**
PFO	**Pinyon Flats O**	**1.75**	**325**	*e*Pn	**Pn**	**09 45 11.6**	**-0.4**
214A	**Organ Pipe Nat**	**2.08**	**95**	*e*Pn	**Pn**	**09 45 18.0**	**+1.6**
PASC	**Pasadena Art C**	**3.17**	**310**	*e*Pn	**Pb**	**09 45 35.8**	**-2.1**
TUC	**Tucson**	**3.78**	**87**	Pn	**Pb**	**09 45 47.2**	**-1.2**
WUAZ	**Wupatki**	**4.63**	**43**	*e*Pn	**Pn**	**09 45 53.1**	**+1.5**

*MOS **17** 09:51:17.6±0.9, 7°.43S×119°.67E, h33km, mb5.2/39, Error ellipse: s-maj=10.5km s-min=6.4km az=112.4*
*ISCJB **17** 09:51:18.3±0.3, 7°.55S±0°.02×119°.66E±0°.02, h40km±3km, mb5.0/87, MS3.7/10, Error ellipse: s-maj=3.7km s-min=3.0km az=151.1*
*DJA **17** 09:51:18.9±0.4, 8°.5S±1°×12°.0E±°, h18km±4km, M5.1/56, mb5.1/56, mB5.5/14, MLv5.2/36, Mw(mB)5.0/14, Mwp5.9/1*
*BJI **17** 09:51:18.5, 7°.60S×119°.80E, h35km, mb5.0/44, mB5.0/30, Ms4.8/29, Ms7 4.4/29*
*IDC **17** 09:51:19.7±0.4, 7°.48S×119°.63E, h40km±3km, mb4.6/25, mb1 4.7/29, mb1mx4.6/31, mbtmp4.8/29, ML4.4/4, MS3.7/11, Ms1 3.7/11, ms1mx3.4/40, Error ellipse: s-maj=13.7km s-min=9.2km az=85.0*
*KLM **17** 09:51:20.5, 7°.57S×119°.87E, h55km, mb5.1, ML4.9, MS6.0*
*NEIC **17** 09:51:20.6±0.6, 7°.53S×119°.72E, h49km±5km, mb5.0/34, Error ellipse: s-maj=6.2km s-min=3.9km az=55.0*

ISC 17 09:51:19.7±0.2, 7°.60S±0°.03×119°.66E±0°.03, h38km±1km, h38km:pP-P, n360, σ1s45/417, mb4.9/87, MS3.7/10, 7C-8D, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSSI	**Bau Bau, Buton**	**1.66**	**30**	P	**Pn**	**09 51 45.4**	**-0.9**
BSSI				S	**Sn**	**09 52 06.4**	**-0.1**
WSI	**Waingapu**	**2.15**	**163**	P	**Pn**	**09 51 53.1**	**+0.1**
WSI				S	**Sn**	**09 52 21.8**	**+3.3**
WSI	**Waingapu**	**2.15**	**163**	P	**Pn**	**09 51 53.4**	**+0.3**
	baz=2.0,SNR=7.5						
BKSI	**Bulukumba**	**2.31**	**11**	P	**Pn**	**09 51 54.1**	**-1.1**
BKSI				S	**Sn**	**09 52 19.5**	**-2.8**
EDFI	**Ende, Flores**	**2.31**	**120**	P	**Pn**	**09 51 54.8**	**-0.5**
EDFI				S	**Sn**	**09 52 22.3**	**-0.3**
KAPI	**Kappang**	**2.57**	**2**	Pn	**Pn**	**09 51 57.0**	**-1.8**

LHSI Lahat 16.49 282 P **P** 09 55 12.5 +1.9
56nm,1.3s,5µm
SRPI Serui, Papua 17.47 72 P **P** 09 55 25.6 +4.2
MYKOM **Kota Tinggi 18.33 300** ⇓P Pn 09 55 36.6 +5.5
MYKOM **Kota Tinggi 18.33 300** *e*Pn Pn 09 55 36.6 +5.5
32nm,0.8s
WRA Warramunga Arr 18.79 132 P **P** **09 55 33.8 -2.1**
4.0nm,0.3s,baz=308,slow=12,SNR=144
WRA S Sn 09 58 50.1 -16
0.3nm,0.3s,baz=305,slow=24,SNR=6.2
WRAB Tennant Creek 18.79 132 P **P** **09 55 35.6 -0.3**
338nm,0.5s,SNR=14
WRAB Tennant Creek 18.79 132 *e*P **P** **09 55 34.1 -1.9**
WRAB pmax pmax
comp=Z,65nm,1.1s
WRAB Tennant Creek 18.79 132 *e*P **P** **09 55 34.0 -1.9**
comp=Z,65nm,1.1s
KGM Kluang 18.90 300 ⇓P **Pn** **09 55 38.5 +0.4**
MEEK Meekatharra 18.96 183 P **Pn** **09 55 38.8 +0.1**
baz=19,SNR=41
MEEK S Sn 09 58 54.5 -16
baz=19,SNR=7.8
WRKA Warakurna 19.20 156 P **P** **09 55 41.1 +0.6**
baz=19,SNR=159
SMPI Sarmi 19.77 75 P **Pn** **09 55 49.4 +0.9**
comp=Z,100nm,1.2s
GENI Genyem 21.01 77 P **P** **09 56 01.7 +1.5**
comp=Z,145nm,1.2s
AS31 Alice Springs 21.02 141 *e*P **P** **09 56 00.4 +0.1**
JAY Jayapura 21.55 78 P **P** **09 56 05.7 -0.3**
comp=Z,26nm,0.9s,baz=248,slow=11,SNR=6.5
JAY LR LR 10 06 16.6
comp=Z,124nm,21.1s,baz=300,slow=42
TGY Tagaytay City 21.60 3 P **P** **09 56 04.7 -1.8**
comp=Z,133nm,0.5s,baz=180,slow=5.1,SNR=2.3
MNSI Mandailing Nat 21.70 292 P P 09 56 13.4 +5.9
comp=Z,69nm,0.9s
IPM Ipoh 22.13 302 *e*P **P** **09 56 14.8 +2.5**
comp=Z,36nm,1.1s
DLV T Lat 22.37 330 *e*P **P** **09 56 14.6 -0.4**
KULM Kulim 22.89 303 ⇓P **P** **09 56 23.4 +3.1**
KULM Kulim 22.89 303 *e*P **P** **09 56 23.0 +2.8**
comp=Z,47nm,1.0s
BLDU Ballidu 23.06 187 P **P** **09 56 21.7 -0.2**
baz=23,SNR=10
PSI Prapat 23.13 296 P **P** **09 56 22.0 -0.8**
comp=Z,21nm,0.8s,baz=126,slow=8.1,SNR=18
PSI LR LR 10 04 31.9
comp=Z,381nm,21.2s,baz=146,slow=34
QIS Mount Isa 23.20 126 P **P** **09 56 23.2 -0.2**
baz=23,SNR=29
QIS S **S** **10 00 33.6 +0.9**
baz=23,SNR=9.7
KMBL Kambalda 23.74 175 P **P** **09 56 28.6 +0.2**
baz=24,SNR=18
COEN Coen 23.93 107 P **P** **09 56 29.7 -0.8**
baz=24,SNR=44
COEN Coen 23.93 107 *e*P **P** **09 56 29.6 -0.8**
comp=Z,6.8nm,0.6s
KLBR Kellerberrin 23.94 184 P **P** **09 56 30.5 +0.2**
baz=24,SNR=11
SKLT Songkhla 24.00 307 P pP 09 56 44.0 +2.3
FORT Forrest 24.36 162 P **P** **09 56 34.5 +0.2**
baz=24,SNR=40
FORT S S 10 00 58.4 +7.1
baz=24,SNR=6.1
FORT Forrest 24.36 162 *e*P **P** **09 56 33.6 -0.6**
comp=Z,83nm,0.8s
NWAO Narrogin (SRO) 25.30 185 P **P** **09 56 44.2 +1.5**
comp=Z,17nm,0.5s,baz=329,slow=9.1,SNR=13
NWAO Narrogin (SRO) 25.30 185 P **P** **09 56 44.7 +2.0**
baz=25,SNR=8.2
RKGY Rocky Gully 27.00 185 P **P** **09 57 01.8 +3.8**
baz=27,SNR=6.0
QIZ Qiongzhong 28.18 340 P P 09 57 11.8 +3.1
QIZ S **S** **10 01 56.8 +5.0**
CTA Charters Tower 28.59 118 P **P** **09 57 13.1 +0.6**
comp=Z,11nm,0.7s,baz=308,slow=9.0,SNR=8.6
CTAO Charters Tower 28.59 118 *e*P **P** **09 57 12.6 +0.1**
CTAO pmax pmax
comp=Z,20nm,1.0s
CTAO Charters Tower 28.59 118 *e*P **P** **09 57 12.6 +0.1**
comp=Z,20nm,1.0s
BBOO Buckleboo 29.34 151 P **P** **09 57 18.8 -0.2**
baz=29,SNR=88
BBOO Buckleboo 29.34 151 *e*P **P** **09 57 19.0 0.0**
comp=Z,2.1nm,0.6s
QLP Quilpie 30.02 132 P **P** **09 57 26.4 +1.3**
baz=30,SNR=4.4
PBKT Sadao Pong 30.31 322 P **P** **09 57 29.7 +2.0**
comp=Z,14nm,0.7s
LOEI Loei 30.87 324 P P 09 57 41.8 +9.2
HTT Hallett 31.28 148 P **P** **09 57 36.6 +0.4**
baz=31,SNR=27
UTTA Uttaradit 31.47 323 P pP 09 57 50.0 +1.3
STKA Stephens Creek 31.64 143 P **P** **09 57 39.9 +0.6**
comp=Z,20nm,0.6s,baz=315,slow=8.8,SNR=125
STKA LR LR 10 10 14.1
comp=Z,123nm,21.3s,baz=318,slow=36
STKA Stephens Creek 31.64 143 *e*P **P** **09 57 40.0 +0.7**
STKA pmax pmax
comp=Z,8.0nm,0.8s
STKA Stephens Creek 31.64 143 P **P** **09 57 39.9 +0.7**
baz=32,SNR=77
STKA Stephens Creek 31.64 143 *e*P **P** **09 57 40.0 +0.7**
comp=Z,7.6nm,0.8s
CMAR Chiang Mai Arr 32.99 322 P **P** **09 57 50.3 -1.0**
comp=Z,5.1nm,0.9s,baz=146,slow=6.8,SNR=14
CMAR pP **pP** **09 58 01.9 -0.2**
comp=Z,4.9nm,0.6s,baz=155,slow=7.3,SNR=5.1
CMAR PcP **PcP** **10 00 34.2 -0.6**
comp=Z,2.0nm,0.6s,baz=172,slow=2.4,SNR=6.3
CMAR LR LR 10 13 14.9
comp=Z,145nm,18.6s,baz=177,slow=40
CMMT Chiang Mai 33.26 322 P **P** **09 57 55.4 +1.8**
comp=Z,18nm,0.7s
CHTO Chiang Mai 33.26 322 P **P** **09 57 55.4 +1.8**
comp=Z,37nm,1.1s
CHTO Chiang Mai 33.26 322 *e*P **P** **09 57 54.9 +1.3**
CHTO *e**PP **pP** **09 58 04.9 +0.5**
CHTO pmax pmax
comp=Z,8.0nm,0.6s
CHTO Chiang Mai 33.26 322 *e*P **P** **09 57 54.9 +1.3**
comp=Z,7.7nm,0.6s
CHTO *e*pP **pP** **09 58 04.9 +0.5**
RMQ Roma 33.42 128 P **P** **09 57 56.6 +1.6**
baz=33,SNR=6.9
CRAI Chiangrai 33.54 326 P **P** **09 57 55.6 -0.4**
comp=Z,11nm,1.1s,comp=Z,1µm
CMSA Cobar Meteorol 34.01 138 P **P** **09 58 01.2 +1.2**
baz=34,SNR=12
ARPS Mount Arapiles 35.37 148 P **P** **09 58 13.1 +1.4**
baz=35,SNR=12
GYA Guiyang 36.13 340 P P 09 58 22.0 +3.5
GYA pP pP 09 58 32.4 +3.1
GYA PP **PP** **09 59 46.8 +5.6**
GYA S **S** **10 04 00.3 +4.6**
GYA sS sS 10 04 17.0 +3.2
GYA ScP **ScP** **10 04 29.8 +2.4**
GYA SS **SnSn** **10 06 25.4 +1.8**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,130nm,4.9s
GYA LN
comp=Z,560nm,18.4s
GYA LE
comp=Z,520nm,19.0s
GYA LZ
comp=Z,610nm,17.8s
KMI Kunming 36.46 334 P **P** **09 58 21.8 +0.4**
KMI pP **pP** **09 58 31.0 -1.3**
KMI sP **sP** **09 58 35.0 -1.9**
KMI PMZ
comp=Z,11nm,0.8s
KMI PMZ
comp=Z,37nm,4.7s
KMI LN
comp=Z,140nm,15.1s
KMI LE
comp=Z,230nm,16.4s
KMI LZ
comp=Z,210nm,13.6s
YNG Young 37.50 139 P **P** **09 58 31.6 +1.6**
baz=38,SNR=6.6
ARMA Armidale 37.56 131 P **P** **09 58 33.1 +2.4**
baz=38,SNR=5.2

ARMA Armidale 37.56 131 *e*P **P** **09 58 30.3 -0.3**
comp=Z,13nm,0.7s
TOO Toolangi 37.93 146 P **P** **09 58 35.5 +2.0**
baz=38,SNR=8.7
WHN Wuhan 38.27 353 ⇓P P 09 58 40.3 +4.0
WHN pP pP 09 58 49.0 +1.7
WHN S S 10 04 35.8 +8.0
WHN PMZ
comp=Z,28nm,0.8s
WHN LZ
comp=Z,340nm,13.5s
MGCD Mangrove Creek 38.68 136 P **P** **09 58 42.5 +2.6**
baz=39,SNR=6.6
NJ2 Nanjing 39.44 359 *e*P **P** **09 58 47.0 +0.9**
NJ2 pP **pP** **09 58 56.1 -1.0**
NJ2 S **S** **10 04 46.0 +0.6**
NJ2 sS **sS** **10 05 02.5 -1.1**
NJ2 PMZ
comp=Z,40nm,0.7s
NJ2 PMZ
comp=Z,400nm,4.8s
NJ2 LN
comp=Z,570nm,22.4s
NJ2 LE
comp=Z,640nm,27.6s
NJ2 LZ
comp=Z,660nm,22.9s
CD2 Chengdu 41.21 339 P **P** **09 59 02.3 +1.3**
CD2 pP **pP** **09 59 14.0 +2.0**
CD2 PP **PnPn** **10 00 43.4 +2.1**
CD2 PcP **PcP** **10 01 01.1 +1.5**
CD2 S **S** **10 05 08.6 -3.6**
CD2 sS **sS** **10 05 33.4 +3.0**
CD2 ScS **ScS** **10 08 59.6 -2.9**
CD2 PMZ
comp=Z,20nm,0.9s
CD2 PMZ
comp=Z,90nm,6.1s
CD2 LN
comp=Z,570nm,14.3s
CD2 LE
comp=Z,320nm,11.9s
CD2 LZ
comp=Z,190nm,11.8s
JNU Nakatsue 41.88 14 P **P** **09 59 03.7 -2.7**
comp=Z,18nm,1.1s,baz=212,slow=9.2,SNR=2.5
JNU Nakatsue 41.88 14 *e*P **P** **09 59 04.8 -1.6**
XAN Xi'an 42.64 347 P P 09 59 22.1 +10
XAN pP pP 09 59 29.5 +5.9
XAN pmax pmax
comp=Z,3.0nm,1.1s
CHLP Challavanipeta 43.67 307 *e*P **P** **09 59 22.4 +1.3**
CHLP epP **pP** **09 59 33.1 +1.0**
SKHT Srikalahasti 44.97 298 *e*P **P** **09 59 31.3 -0.2**
SKHT epP **pP** **09 59 42.6 -0.1**
KSAR Wonju Array Be 45.46 9 P **P** **09 59 35.3 +0.2**
KSAR *PP **pP** **09 59 46.3 +0.1**
KSAR 10 01 14.2
KSAR Wonju Array Be 45.46 9 P **P** **09 59 35.3 +0.2**
KSAR pP **pP** **09 59 46.2 +0.1**
KSAR PcP **PcP** **10 01 14.2 +0.6**
KSRS Korea Array 45.48 9 P **P** **09 59 35.3 +0.1**
comp=Z,12nm,1.1s,baz=184,slow=8.4,SNR=27
KSRS pP **pP** **09 59 46.3 0.0**
comp=Z,36nm,1.0s,baz=185,slow=9.0,SNR=24
KSRS PcP **PcP** **10 01 14.2 +0.5**
comp=Z,5.2nm,0.8s,baz=195,slow=3.3,SNR=6.8
LZH Lanzhou 45.93 342 *e*P P 09 59 43.3 +4.3
LZH pP pP 09 59 53.8 +3.7
LZH sP sP 09 59 57.1 +2.4
LZH PP **PP** **10 01 31.3 +4.0**
LZH *e*S **S** **10 06 25.4 +4.2**
LZH sS sS 10 06 40.3 +0.7
LZH SS **ScS** **10 09 37.1 +5.0**
LZH PMZ
comp=Z,68nm,1.2s
LZH PMZ
comp=Z,190nm,4.5s
LZH LN
comp=Z,640nm,12.2s
LZH LE
comp=Z,490nm,14.8s
LZH LZ
comp=Z,710nm,15.3s
LSA Lhasa 46.12 325 *e*P **P** **09 59 41.3 +0.3**
LSA pmax pmax
comp=Z,27nm,0.8s
LSA Lhasa 46.12 325 *e*P **P** **09 59 41.3 +0.3**
comp=Z,27nm,0.8s
ODAN Odare 46.39 319 *e*P **P** **09 59 43.5 +0.6**
comp=Z,46nm,0.9s
TAPN Taplejung 46.52 320 *e*P **P** **09 59 44.7 +0.7**
comp=Z,85nm,0.9s
NJS Nagarjunasagar 46.58 301 *e*P **P** **09 59 43.9 -0.3**
NJS *e*pP **pP** **09 59 54.5 -0.9**
RAMN Ramite 46.97 318 *e*P **P** **09 59 48.2 +0.8**
MAJO Matsushiro 47.23 20 *e*P **P** **09 59 48.2 -0.8**
MAJO pmax pmax
comp=Z,39nm,1.4s
MAJO Matsushiro 47.23 20 *e*P **P** **09 59 48.0 -1.1**
comp=Z,17nm,1.0s
MAT Matsushiro 47.23 20 P **P** **09 59 47.9 -1.1**
MJAR Matsushiro Arr 47.23 20 P **P** **09 59 47.7 -1.3**
comp=Z,5.4nm,0.8s,baz=201,slow=8.7,SNR=8.0
MJAR PcP **PcP** **10 01 19.9 -0.1**
comp=Z,3.7nm,1.0s,baz=211,slow=4.5,SNR=5.0
BJT Baijiatuau 47.49 356 *e*P **P** **09 59 50.4 -0.5**
BJT pmax pmax
comp=Z,30nm,0.5s
BJT Baijiatuau 47.49 356 *e*P **P** **09 59 50.4 -0.5**
comp=Z,30nm,0.5s
HYB Hyderabad 47.62 302 *i* P **P** **09 59 50.0 -2.4**
HYBB Hyderabad (bro 47.62 302 *e*P **P** **09 59 52.0 -0.4**
HYBB *e*pP **pP** **10 00 02.5 -1.1**
HYBB *e*S **S** **10 06 44.6 -1.1**
RPR Rampur 47.70 304 *e*P **P** **09 59 53.0 +0.1**
RPR *e*pP **pP** **10 00 03.9 -0.2**
JIRN Jiri 47.72 319 *e*P **P** **09 59 54.0 +0.6**
comp=Z,57nm,0.7s
GUN Gumba 48.09 319 *e*P **P** **09 59 56.6 +0.4**
comp=Z,69nm,0.7s
PKI Pulchoki 48.17 318 *e*P **P** **09 59 56.9 0.0**
comp=Z,29nm,0.5s
PKIN Phulchoki 48.19 318 *e*P **P** **09 59 56.6 -0.3**
comp=Z,25nm,0.6s
DMN Daman 48.40 318 *e*P **P** **09 59 58.7 +0.2**
comp=Z,87nm,0.9s
KKN Kakani 48.40 318 *e*P **P** **09 59 58.6 +0.1**
comp=Z,34nm,0.9s
HHC Hu-ho-hao-te 48.78 352 *e*P P 10 00 04.4 +3.4
HHC PP **PP** **10 01 58.0 +3.4**
HHC S **S** **10 07 05.4 +3.9**
HHC sS sS 10 07 22.0 +2.0
HHC SS **SS** **10 10 32.0 -0.6**
HHC PMZ
comp=Z,12nm,0.6s
HHC PMZ
comp=Z,100nm,8.6s
HHC LN
comp=Z,410nm,18.5s
HHC LE
comp=Z,460nm,18.5s
HHC LZ
comp=Z,380nm,19.7s
GKN Gorkha 48.97 318 *e*P **P** **10 00 02.9 +0.1**
KOLN Koldanda 49.52 317 *e*P **P** **10 00 07.1 0.0**
comp=Z,57nm,0.7s
GTA Gaotai 50.26 340 *e*P P 10 00 15.5 +3.1
GTA pP pP 10 00 25.6 +2.0
GTA sP sP 10 00 29.4 +1.3
GTA PcP **PcP** **10 01 31.9 +0.9**
GTA S **S** **10 07 26.3 +3.9**
GTA sS sS 10 07 42.8 +1.9
GTA SS **SS** **10 10 58.9 +2.4**
GTA PMZ
comp=Z,5.0nm,0.9s
GTA PMZ
comp=Z,67nm,5.9s
GTA LN
comp=Z,510nm,19.0s
GTA LE
comp=Z,610nm,17.6s
GTA LZ
comp=Z,93nm,17.6s
CN2 Changchun 51.43 5 *e*P P 10 00 25.3 +4.4

CN2 *es*P sP 10 00 39.1 +2.4
CN2 *e*S **S** **10 07 42.4 +4.4**
CN2 PMZ
comp=Z,20nm,0.5s
CN2 LN
comp=Z,400nm,11.0s
CN2 LE
comp=Z,400nm,11.0s
CN2 LZ
comp=Z,400nm,13.0s
MDJ Mudanjiang 52.74 9 P **P** **10 00 31.1 +0.4**
MDJ PMZ
comp=Z,21nm,0.8s
MDJ PMZ
comp=Z,45nm,3.8s
MDJ Mudanjiang 52.74 9 *e*P **P** **10 00 29.6 -1.1**
comp=Z,77nm,0.9s
USRK Ussuriysk Ar. 52.75 11 P **P** **10 00 30.2 -0.5**
comp=Z,3.9nm,0.6s,baz=210,slow=8.2,SNR=10.0
USRK pP **pP** **10 00 41.7 -0.3**
comp=Z,30nm,1.0s,baz=192,slow=7.8,SNR=16
NDI New Delhi 54.55 313 *ex* **P** **10 00 42.5 -1.7**
ASAJ Asahikawa 55.50 20 P **P** **10 00 49.9 -0.9**
comp=Z,4.2nm,0.7s,baz=212,slow=9.9
ASAJ Asahikawa 55.50 20 P **P** **10 00 49.9 -0.9**
ASAJ *e*pP **pP** **10 01 02.8 +0.7**
ULN Ulaanbaatar 56.34 350 *ce*P **P** **10 00 57.1 +0.2**
ULN pmax pmax
comp=Z,4.0nm,1.0s
ULN Ulaanbaatar 56.34 350 *e*P **P** **10 00 57.1 +0.2**
SONM Songino Array 56.43 349 P **P** **10 00 56.3 -1.3**
comp=Z,3.4nm,0.7s,baz=157,slow=8.0,SNR=4.2
HIA Hailar 56.62 0 *e*P **P** **10 00 58.7 -0.1**
HIA pmax pmax
comp=Z,4.0nm,0.8s
RPZ Rata Peaks 57.38 138 *e*P **P** **10 01 05.3 +0.9**
comp=Z,701nm,2.8s
HABR Khabarovsk 57.45 12 *e*P P 10 01 15.7 +11
HABR 10 01 54.9
HABR *e* 10 03 09.1
HABR *e*S **S** **10 08 56.5 -2.5**
HABR *e* 10 09 08.8
HABR *e* 10 10 47.7
HABR *e*SS **SS** **10 12 48.1 -1.3**
HABR pmax pmax
comp=Z,85nm,1.6s
HABR MLR MLR
comp=Z,38nm,17.0s
KLR Kul'dur 57.57 9 *e*P P 10 01 10.7 +5.3
KLR pmax pmax
comp=Z,42nm,1.8s
WMQ Urumqi 58.80 333 P **P** **10 01 16.4 +2.2**
WMQ pP **pP** **10 01 26.5 +0.9**
WMQ sP **sP** **10 01 30.4 +0.3**
WMQ PcP **PcP** **10 02 05.5 +2.0**
WMQ ScP **ScP** **10 06 02.4 +1.2**
WMQ S **S** **10 09 17.0 +0.1**
WMQ sS **sS** **10 09 33.5 -2.3**
WMQ ScS **ScS** **10 11 01.6 +0.4**
WMQ PMZ
comp=Z,21nm,0.6s
WMQ PMZ
comp=Z,98nm,4.6s
WMQ LN
comp=Z,84nm,21.6s
WMQ LE
comp=Z,160nm,22.6s
WMQ LZ
comp=Z,50nm,23.0s
CASY Casey 58.93 184 *e*P **P** **10 01 15.4 +0.7**
comp=Z,19nm,1.0s
ZAK Zakamensk 59.47 348 *e*P **P** **10 01 18.2 -0.6**
ZAK *e* 10 02 05.6
ZAK pmax pmax
comp=Z,4.0nm,1.3s
BKZ Black Stump Fm 59.72 131 *e*P **P** **10 01 21.4 +0.6**
comp=Z,23nm,1.0s
URZ Urewera 59.94 130 LR LR 10 29 44.1
comp=Z,112nm,18.6s,baz=176,slow=38
TLY Talaya 60.63 349 *e*P **P** **10 01 24.1 -2.5**
TLY pmax pmax
comp=Z,5.0nm,0.5s
TLY MLR MLR
comp=Z,52nm,14.0s
MOY Mondy 61.17 347 *e*P **P** **10 01 31.6 +1.2**
KSH Kashi 61.89 323 P **P** **10 01 35.4 -0.1**
KSH sP **sP** **10 01 49.5 -2.0**
KSH PP **PP** **10 03 52.8 +0.6**
KSH PcS **PcS** **10 06 18.8 -0.5**
KSH S **S** **10 09 52.4 -4.4**
KSH ScS **SKSac** **10 11 20.4 -4.2**
KSH PMZ
comp=Z,27nm,0.9s
KSH PMZ
comp=Z,75nm,4.1s
KSH LN
comp=Z,240nm,9.3s
KSH LE
comp=Z,190nm,10.4s
KSH LZ
comp=Z,150nm,6.0s
MK31 Makanchi Array 63.52 332 *i* P **P** **10 01 46.2 0.0**
MK31 pmax pmax
comp=Z,15nm,0.7s
MK31 Makanchi Array 63.52 332 P P 10 01 50.0 +3.9
baz=64,SNR=6.2
MK31 Makanchi Array 63.52 332 *e*P **P** **10 01 45.9 -0.3**
MKAR Makanchi Array 63.52 332 P **P** **10 01 45.4 -0.7**
comp=Z,16nm,0.7s,baz=188,slow=7.4,SNR=101
MKAR pP **pP** **10 01 57.8 +0.1**
comp=Z,18nm,0.9s,baz=167,slow=6.1,SNR=14
KBL Kabul 63.57 315 *e*P **P** **10 01 46.7 -0.3**
KBL *e**PP **pP** **10 01 57.2 -1.3**
KBL pmax pmax
comp=Z,16nm,0.8s
KBL Kabul 63.57 315 *e*P **P** **10 01 46.7 -0.3**
comp=Z,16nm,0.8s
KBL *ep*P **pP** **10 01 57.2 -1.3**
KZA Kyzart 63.93 325 P **P** **10 01 49.9 +0.5**
SNR=16
TKM2 Tokmak 2 64.27 325 P **P** **10 01 51.3 -0.1**
SNR=8.5
TKM2 Tokmak 2 64.27 325 *e*P **P** **10 01 50.9 -0.5**
TKM2 pmax pmax
comp=Z,9.0nm,0.8s
TKM2 Tokmak 2 64.27 325 *e*P **P** **10 01 50.9 -0.5**
comp=Z,9.0nm,0.8s
CLNS Chul'man 64.35 3 *e*P **P** **10 01 51.2 -0.2**
CLNS pmax pmax
comp=Z,12nm,1.4s
CLNS pmax pmax
comp=E,3.0nm,1.3s
CLNS pmax pmax
comp=N,6.0nm,1.4s
UCH Uchtor 64.45 324 P **P** **10 01 53.1 +0.2**
SNR=6.3
KBK Karagaybulak 64.47 325 P **P** **10 01 53.5 +0.8**
SNR=8.0
AAK Ala-Archa 64.72 325 P **P** **10 01 54.2 0.0**
comp=N,91nm,0.7s,SNR=8.3
AAK Ala-Archa 64.72 325 P **P** **10 01 54.9 +0.7**
SNR=13
AAK Ala-Archa 64.72 325 *c i*P **P** **10 01 54.5 +0.3**
AAK pmax pmax
comp=Z,26nm,0.8s
AAK Ala-Archa 64.72 325 *e*P **P** **10 01 53.8 -0.5**
AML Almayashu 64.87 324 P **P** **10 01 55.8 +0.3**
SNR=19
USP Ospenovka 65.11 325 P **P** **10 01 56.5 -0.1**
SNR=9.2
EKS2 Erkin-Say 65.15 324 P **P** **10 01 57.6 +0.7**
SNR=7.1
EKS2 Erkin-Say 65.15 324 *e*P **P** **10 01 57.3 +0.3**
EKS2 pmax pmax
comp=Z,18nm,1.0s
EKS2 Erkin-Say 65.15 324 *e*P **P** **10 01 57.3 +0.3**
comp=Z,18nm,1.0s
BOD Bodaibo 65.36 357 *e*P **P** **10 01 57.6 -0.2**
BOD pmax pmax
comp=Z,9.0nm,1.5s
KK31 Karatay Array 67.33 323 *i* P **P** **10 02 10.6 -0.2**
KK31 pmax pmax
comp=Z,5.0nm,0.7s
KKAR Karatay Array 67.33 323 *e*P **P** **10 02 10.3 -0.6**
KKAR Karatay Array 67.33 323 *e*P **P** **10 02 10.2 -0.6**
ZAA0 Zalesovo Array 67.98 339 P **P** **10 02 15.7 +1.0**

baz=68,SNR=3.9
ZAA0 Zalesovo Array 67.98 339 *e*P **P 10 02 12.9 -1.7**
ZALV Zalesovo Beam 67.98 339 P **P 10 02 13.7 -0.9**
comp=Z,10nm,0.6s,baz=148,slow=4.6,SNR=32
ZALV pP **pP 10 02 25.5 -0.8**
comp=Z,12nm,0.7s,baz=142,slow=4.4,SNR=10
ZALV LR LR 10 33 15.2
comp=Z,36nm,21.8s,baz=250,slow=37
KURK Kurchatov 68.04 333 P **P 10 02 15.8 +0.7**
comp=Z,54nm,0.9s,SNR=6.0
KURK Kurchatov 68.04 333 P **P 10 02 14.7 -0.4**
KURK pmax pmax
comp=Z,8.0nm,0.9s
KURK Kurchatov 68.04 333 *e*P **P 10 02 14.5 -0.6**
comp=Z,17nm,0.9s
PEA0B Petropavlovsk- 68.53 24 *e*P **P 10 02 17.5 -0.7**
PETK Petropavlovsk- 68.53 24 P **P 10 02 17.1 -1.0**
comp=Z,10nm,0.8s,baz=198,slow=6.4,SNR=10
PET Petropavlovsk 68.85 24 *e*P **P 10 02 19.5 -0.6**
PET pmax pmax
comp=Z,15nm,1.1s
NVS Novosibirsk 69.25 338 *e*P **P 10 02 21.8 -0.8**
NVS pmax pmax
comp=Z,18nm,1.3s
NVS pmax pmax
comp=N,7.0nm,0.9s
NVS pmax pmax
comp=E,10.0nm,1.1s
YAK Yakutsk 69.86 5 *e*P **P 10 02 24.4 -1.7**
YAK *e* 10 02 34.5
YAK *e* 10 02 37.7
YAK pmax pmax
comp=Z,14nm,1.0s
YAK pmax pmax
comp=N,3.0nm,0.9s
MAW Mawson 70.77 200 P **P 10 02 32.8 +1.1**
comp=N,24nm,0.8s,baz=66,slow=7.4,SNR=31
MAW pP **pP 10 02 44.6 +1.3**
comp=N,33nm,0.9s,baz=93,slow=5.7,SNR=13
MAW Mawson 70.77 200 P **P 10 02 33.6 +1.9**
baz=71,SNR=20
IMYA Miami 70.85 313 *e*P **P 10 02 32.1 -0.9**
ISRO Mashad 71.30 312 *e*P **P 10 02 35.0 -0.8**
IAKL Akhelmad 71.95 312 *e*P **P 10 02 39.0 -0.8**
ISHV Shirvan 73.10 313 *e*P **P 10 02 46.5 0.0**
VNDA Vanda 73.26 171 P **P 10 02 47.1 +0.6**
comp=N,5.9nm,0.6s,baz=317,slow=6.2,SNR=63
BRVK Borovoye 73.45 331 *e*P **P 10 02 48.1 +0.1**
BRVK pmax pmax
comp=Z,6.0nm,0.7s
BRVK Borovoye 73.45 331 *e*P **P 10 02 48.1 +0.1**
comp=Z,5.5nm,0.7s
SBA Scott Base 74.25 171 *e*P **P 10 02 54.8 +2.4**
SBA pmax pmax
comp=Z,16nm,0.9s
SBA Scott Base 74.25 171 *e*P **P 10 02 54.8 +2.4**
comp=Z,16nm,0.9s
SEY Seymchan 74.65 15 *e*P **P 10 02 53.7 -1.1**
IANJ Anjilo 75.14 310 *e*P **P 10 02 57.5 -1.1**
AB31 Akbulak array 76.81 324 P **P 10 03 06.5 -0.9**
AB31 pmax pmax
comp=Z,5.0nm,0.6s
ABKAR Akbulak array 76.81 324 *e*P **P 10 03 06.7 -0.7**
comp=Z,10nm,0.9s
ABKAR *e*PcP **PcP 10 03 17.7 -0.8**
AKTO Aktyubinsk 78.46 325 P **P 10 03 15.8 -0.8**
AKTO pmax pmax
comp=Z,17nm,1.3s
RAYN Ar Rayn 78.68 296 *e*P **P 10 03 17.3 -1.2**
comp=Z,6.4nm,1.3s
TIXI Tiksi 79.32 3⇑ *i*P **P 10 03 19.1 -1.8**
TIXI pmax pmax
comp=Z,7.0nm,0.8s
TIXI Tiksi 79.32 3 *e*P **P 10 03 19.5 -1.3**
comp=Z,11nm,0.9s
SYO Syowa Base 79.39 201⇓ *e*P **P 10 03 21.4 0.0**
SYO Syowa Base 79.39 201⇓ *i*PcP **PcP 10 03 31.0 +1.6**
KMBO Kilima Mbogo 82.33 270 P **P 10 03 37.9 -0.6**
comp=Z,3.5nm,0.7s,baz=44,slow=6.9,SNR=5.6
KMBO LR LR 10 36 38.8
comp=Z,38nm,18.8s,baz=94,slow=33
KMBO Kilima Mbogo 82.33 270 *e*P **P 10 03 38.2 -0.3**
KMBO Kilima Mbogo 82.33 270 *e*P **P 10 03 38.2 -0.3**
QSPA South Pole Qui 82.39 180 *e*P **P 10 03 38.4 +0.7**
DGRG David-gareji 83.39 313 P **P 10 03 44.3 +1.1**
GNI Garni 83.50 312 *i*P **P 10 03 43.5 -0.4**
GNI pmax pmax
comp=Z,10.0nm,1.2s
TBLG Delisi 83.92 313 P **P 10 03 46.4 +0.5**
ZEI Tsey 84.80 314 *e*P **P 10 03 48.6 -2.0**
ZEI pmax pmax
comp=Z,22nm,1.3s
KBZ Khabaz 85.75 315 P **P 10 03 54.7 -0.3**
comp=Z,3.8nm,0.8s,baz=233,slow=20,SNR=8.7
NEY Neytrino 85.76 314 *e*P **P 10 03 53.9 -1.4**
NEY pmax pmax
comp=Z,2.0nm,1.6s
GOF Gofitskoye 85.99 316 *e*P **P 10 03 55.8 -0.4**
GOF pmax pmax
comp=Z,40nm,1.3s
NVL N'lazarevskaya 88.66 198 *e*P P 10 04 13.7 +5.1
NVL pmax pmax
comp=Z,10.0nm,0.6s
LSZ Lusaka 89.44 255 *e*P **P 10 04 12.9 -0.6**
LSZ pmax pmax
comp=Z,12nm,1.1s
LSZ Lusaka 89.44 255 *e*P **P 10 04 12.9 -0.6**
comp=Z,12nm,1.1s
ANN Anapa 89.82 315 *e*P P 10 04 23.3 +8.9
ANN *e* 10 04 39.3
ANN pmax pmax
comp=Z,42nm,1.5s
VORD Divnogorie 89.82 321 *e*P **P 10 04 13.0 -1.3**
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD pmax pmax
comp=Z,9.0nm,0.6s
VSR Storozhevoye 89.95 322 *e*P **P 10 04 13.8 -1.1**
VSR pmax pmax
comp=N,5.0nm,0.7s
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR pmax pmax
comp=E,4.0nm,0.5s
BOSA Boshof 90.25 241 P **P 10 04 17.3 +0.2**
comp=E,14nm,0.7s,baz=180,slow=20,SNR=24
BOSA pP **pP 10 04 28.4 -0.7**
comp=E,12nm,0.8s,baz=180,slow=22,SNR=8.4
BOSA Boshof 90.25 241 P **P 10 04 17.3 +0.2**
BOSA *PP **pP 10 04 28.4 -0.7**
BOSA *e*PP **pwP 10 04 28.6 -0.5**
BOSA pmax pmax
comp=Z,10.0nm,0.8s
BOSA Boshof 90.25 241 P **P 10 04 17.5 +0.4**
baz=90,SNR=5.7
BOSA Boshof 90.25 241 P **P 10 04 17.3 +0.2**
comp=Z,9.8nm,0.8s
BOSA pP **pP 10 04 28.4 -0.7**
BOSA *e*pP **pwP 10 04 28.6 -0.5**
LBTB Lobatse 90.49 245 *e*P **P 10 04 18.8 +0.5**
LBTB pmax pmax
comp=Z,43nm,1.8s
LBTB Lobatse 90.49 245 *e*P **P 10 04 18.8 +0.5**
comp=Z,42nm,1.8s
BRTR Keskin Array B 91.75 310 P **P 10 04 21.8 -2.0**
comp=Z,0.9nm,0.8s,baz=138,slow=5.8,SNR=4.8
BRTR pP **pP 10 04 34.5 -1.2**
comp=Z,1.4nm,0.9s,baz=114,slow=5.0,SNR=5.5
BRTR LR LR 10 51 02.9
comp=Z,21nm,18.3s,baz=100,slow=39
KLMR Klimovskoe 91.81 331 *e*P **P 10 04 22.4 -0.9**
KLMR pmax pmax
comp=Z,16nm,1.1s
OBN Obninsk 92.24 325⇑ *e*P **P 10 04 24.6 -0.8**
OBN *i* 10 08 06.0
OBN pmax pmax
comp=Z,10.0nm,1.4s
SNAA Sanae 92.52 195 P **P 10 04 25.6 -1.0**
SNAA Sanae 92.52 195 *e*P **P 10 04 25.7 -1.0**
SNAA pmax pmax
comp=Z,10.0nm,0.8s
SNAA Sanae 92.52 195 *e*P **P 10 04 25.7 -0.9**
comp=Z,9.6nm,0.8s
SVW2 Sparrevohn 94.06 29 *e*P **P 10 04 34.5 +0.7**
comp=Z,16nm,1.0s
VNA2 Neumayer--Watz 94.15 195 P **P 10 04 35.1 +1.0**
baz=111,slow=3.7
VNA3 Neumayer Olymp 94.53 195 P **P 10 04 36.8 +0.9**
VNA1 Neumayer--Stat 94.55 195 P **P 10 04 37.2 +1.4**
OHAK Old Harbor 94.73 33 *e*P **P 10 04 35.4 -1.5**
comp=Z,665nm,2.4s
RSO Redoubt South 95.36 30 P **P 10 04 39.1 -0.9**
comp=Z,32nm,0.9s
IM04 Indian Mountai 95.48 24 *e*P **P 10 04 39.7 -0.5**
IM04 epP **pP 10 04 51.1 -1.0**
CAST Castle Rocks 95.95 27 *e*P **P 10 04 42.4 0.0**
CAST epP **pP 10 04 53.2 -1.2**
AKASG Malin Array Be 96.10 320 P **P 10 04 41.3 -2.0**
comp=Z,0.9nm,0.5s,baz=82,slow=3.9,SNR=7.1
KTH Kantishna Hill 96.48 27 *e*P **P 10 04 45.1 +0.3**
BPAW Bear Paw Mtn. 96.49 26 *e*P **P 10 04 45.3 +0.5**
TRF Thorofare Moun 96.76 27 *e*P **P 10 04 45.8 -0.5**
RC01 Rabbit Creek A 96.88 29 *e*P **P 10 04 45.5 -1.1**
COLD Coldfoot 97.00 23 *e*P Pdif 10 04 48.0 +0.8
MCK McKinley 97.38 27 *e*P **P 10 04 48.5 -0.4**
MCK pmax pmax
comp=Z,17nm,1.0s
MCK McKinley 97.38 27 *e*P **P 10 04 48.5 -0.4**
comp=Z,17nm,1.0s
COLA College 97.88 26 *e*P **P 10 04 50.2 -0.8**
COLA pmax pmax
comp=Z,10.0nm,1.0s
ILAR Eielson Array 98.29 26 P **P 10 04 51.7 -1.2**
comp=Z,1.0nm,0.6s,baz=276,slow=4.3,SNR=20
FINES FINESS Array B 98.34 331 P **P 10 04 52.1 -1.1**
comp=Z,1.8nm,0.8s,baz=90,slow=2.9,SNR=5.0
DIV Divide 98.81 29 *e*P Pdif 10 04 56.0 +0.6
PAX Paxson 98.93 27 *e*P Pdif 10 04 56.4 +0.4
PAX pmax pmax
comp=Z,17nm,1.2s
PAX Paxson 98.93 27 *e*P Pdif 10 04 56.4 +0.5
comp=Z,17nm,1.2s
DAWY Dawson 101.58 26 *e*Pdif **Pdif 10 05 08.6 +0.9**
EKA Eskdalemuir Ar 114.51 328 PKKPbc PKKPbc 10 20 34.6 -1.7
comp=Z,1.3nm,0.8s,baz=222,slow=1.0,SNR=4.1
TORD Torodi Ar. Bea 118.86 281 PKP **PKPdf 10 10 03.7 -1.3**
comp=Z,4.6nm,0.6s,baz=61,slow=1.8,SNR=50
TORD pPKP **pPKPdf 10 10 14.8 -2.6**
comp=Z,4.3nm,0.6s,baz=65,slow=1.8,SNR=15
NVAR Mina Array Bea 119.62 50 PKP **PKPdf 10 10 04.1 -2.1**
comp=Z,0.9nm,0.8s,baz=241,slow=2.5,SNR=7.8
NVAR PKKPbc **PKKPbc 10 20 14.8 -3.2**
comp=Z,0.5nm,0.8s,baz=138,slow=4.3,SNR=3.2
MSO Missoula 119.96 40 P **PKPdf 10 10 05.6 -0.8**
baz=120
ESDC Sonseca Array 120.48 312 PKP **PKPdf 10 10 07.0 -0.6**
comp=Z,0.3nm,0.3s,baz=132,slow=1.0,SNR=4.0
ESDC pPKP **pPKPdf 10 10 18.3 -1.6**
comp=Z,0.3nm,0.4s,baz=356,slow=1.9,SNR=1.9
EDW2 Edwards Air Fo 120.72 54 P **PKPdf 10 10 07.8 -0.4**
baz=121
MPMC Manual Prospec 120.84 52 P **PKPdf 10 10 08.2 -0.4**
baz=121
HLID Hailey 120.86 43 *e*PKPdf **PKPdf 10 10 08.0 -0.4**
HLID Hailey 120.86 43 P **PKPdf 10 10 08.3 -0.1**
baz=121
TPNV Topopah Spring 121.58 51 P **PKPdf 10 10 09.2 -0.7**
baz=122
EGMT Eagleton 122.02 37 *e*PKPdf **PKPdf 10 10 09.3 -1.0**
EGMT Eagleton 122.02 37 P **PKPdf 10 10 09.6 -0.7**
baz=122
A19A Klindworth Far 122.19 36 P **PKPdf 10 10 09.9 -0.7**
baz=122
C19A Slack Wire Ran 122.58 37 P **PKPdf 10 10 10.9 -0.5**
baz=122
GMRC Granite Mounta 122.61 53 P **PKPdf 10 10 11.5 -0.4**
baz=122
C20A Veseth Ranch, 123.21 37 P **PKPdf 10 10 12.2 -0.4**
baz=123
C21A Desert Coulee 123.69 36 P **PKPdf 10 10 13.3 -0.3**
baz=124
D21A La Casta Ranch 124.13 37 P **PKPdf 10 10 13.6 -0.8**
baz=124
E21A Keefer Ranch, 124.33 37 P **PKPdf 10 10 14.5 -0.2**
baz=124
PDAR Pinedale Array 124.45 43 PKP **PKPdf 10 10 14.7 -0.7**
comp=Z,1.1nm,1.2s,baz=147,slow=1.8,SNR=2.9
PDAR pPKP **pPKPdf 10 10 27.1 -0.6**
comp=Z,0.9nm,1.1s,baz=318,slow=2.0,SNR=3.5
D22A Cohagen 124.57 36 P **PKPdf 10 10 15.0 -0.2**
baz=124
U15A North Rim 124.78 51 P **PKPdf 10 10 16.3 +0.1**
baz=125
KIC Kon Boka 124.83 272 *e*PKP1 **PKPdf 10 10 15.0 -1.6**
comp=Z,20nm,1.0s
I20A Worland 124.88 41 P **PKPdf 10 10 15.6 -0.4**
baz=125
DBIC Dimbokro 124.97 273 PKP **PKPdf 10 10 15.7 -1.1**
comp=Z,4.5nm,0.9s,baz=114,slow=1.8,SNR=5.8
DBIC pPKP **pPKPdf 10 10 27.1 -2.1**
comp=Z,6.9nm,0.9s,baz=68,slow=6.3,SNR=3.0
LIC Lamto 125.11 272 *e*PKP1 **PKPdf 10 10 14.7 -2.4**
comp=Z,108nm,2.0s
TIC Toumodi 125.13 273 *e*PKP1 **PKPdf 10 10 15.8 -1.4**
comp=Z,6.0nm,0.2s
C24A Savage 125.39 35 P **PKPdf 10 10 17.0 +0.3**
baz=125
F23A Volborg 125.75 38 P **PKPdf 10 10 16.6 -1.0**
baz=126
J22A Midwest 126.19 41 P **PKPdf 10 10 17.9 -0.7**
baz=126
A29A Manning Farm, 127.42 31 P **PKPdf 10 10 20.1 -0.4**
baz=127
G27A Dupree 128.00 36 P **PKPdf 10 10 20.8 -1.1**
baz=128
PLCA Paso Flores 131.00 170 PKP **PKPdf 10 10 27.6 -0.2**
comp=Z,1.8nm,0.7s,baz=355,slow=2.6,SNR=6.3
TXAR Lajitas Array 133.92 56 PKP **PKPdf 10 10 33.1 -0.5**
comp=Z,0.9nm,0.8s,baz=185,slow=1.4,SNR=11
TXAR pPKP **pPKPdf 10 10 45.4 -0.5**
comp=Z,0.6nm,0.8s,baz=218,slow=1.3,SNR=4.1
JCT Junction City 136.63 53 *e*PKIKP **PKPdf 10 10 37.7 -0.9**
JCT Junction City 136.63 53 *e*PKPdf **PKPdf 10 10 37.7 -0.9**
SSPA Standing Stone 143.56 23 *e*PKPdf **PKPab** 10 10 46.6 -0.5
HRV Adam Dziewonsk 143.85 14 *e*PKIKP PKPab 10 10 48.4 +0.2
HRV Adam Dziewonsk 143.85 14 *e*PKPdf PKPab 10 10 48.4 +0.2
BRYW Bryant College 144.41 14 *e*PKPdf PKPbc 10 10 50.7 +0.1
LRAL Lakeview Retre 144.63 41 *e*PKPdf **PKPab 10 10 50.8 -0.6**
TKL Tuckaleechee C 144.78 34 *e*PKIKP **PKPab 10 10 51.3 -0.6**
TKL Tuckaleechee C 144.78 34 *e*PKPdf **PKPab 10 10 51.2 -0.6**
CPNY Central Park 144.78 18 *e*PKPdf PKPbc 10 10 52.0 +0.2
SDMD Soldier's Deli 145.03 23 *e*PKPdf **PKPbc 10 10 52.5 -0.2**
BLA Blacksburg 145.33 29 *e*PKIKP **PKPbc 10 10 53.9 +0.1**
BLA Blacksburg 145.33 29 *e*PKPbc **PKPbc 10 10 53.9 +0.1**
AHML Horco Molle 145.48 172 *e*P **PKPab 10 10 55.4 +0.6**
AHML AML AML 10 11 08.2
comp=Z,30nm,0.7s
CBN Corbin Frederi 145.86 24 *e*PKPdf **PKPbc 10 10 55.5 +0.2**
JSRW J. Sargeant Re 146.08 25 *e*PKPdf **PKPdf 10 10 54.7 -0.4**
CPUP Villa Florida 146.15 185 *e*PKP2 **PKPdf 10 10 55.8 +0.2**
CPUP Villa Florida 146.15 185 *e*PKPdf **PKPdf 10 10 55.8 +0.2**
KMSC Kings Mountain 146.49 32 *e*PKPdf **PKPdf 10 10 56.4 +0.5**
GOGA Godfrey 146.57 37 *e*PKP2 **PKPdf 10 10 56.8 +0.7**
GOGA Godfrey 146.57 37 *e*PKPbc **PKPdf 10 10 56.8 +0.7**
SLA San Lorenzo 147.48 171 *e*P **PKPdf 10 10 57.7 -0.5**
SLA AML AML 10 11 17.1
comp=Z,30nm,0.6s
AZAP Zapla 148.03 172 *e*P **PKPdf 10 11 00.3 +1.1**
ASTB Santa Barbara 148.38 173 *e*P **PKPbc 10 11 03.3 +0.2**
ALOL LOMAS DE OLMED 148.58 174 *e*P **PKPbc 10 11 04.1 +0.6**
LVC Limon Verde 148.82 165 PKPbc **PKPbc 10 11 05.2 +0.8**
comp=Z,48nm,0.8s,baz=262,slow=2.3,SNR=13
LVC Limon Verde 148.82 165 *e*PKPdf **PKPdf 10 11 00.3 -0.2**
LVC *e*PKPbc **PKPbc 10 11 04.7 +0.3**
LVC PKPbc **PKPbc 10 11 05.2 +0.8**
HJA Humahuaca 148.98 171 *e*P **PKPbc 10 11 06.9 +2.0**
BDFB Brasilia 153.88 208 PKP **PKPdf 10 11 07.5 -0.7**
comp=Z,3.8nm,0.7s,baz=225,slow=4.3,SNR=4.4
LPAZ La Paz 155.04 162 PKPab **PKPab 10 11 34.9 +0.2**
comp=Z,25nm,0.7s,baz=209,slow=5.3,SNR=71
LPAZ La Paz 155.04 162 *e*PKIKP **PKPdf 10 11 09.9 -0.5**
LPAZ 10 11 34.9
LPAZ La Paz 155.04 162 *e*PKPdf **PKPdf 10 11 09.9 -0.5**
LPAZ PKPab **PKPab 10 11 34.9 +0.2**

WEL 17 09:54:56.9±0.4, 36°.82S×177°.10E, h157km±4km, ML3.5/1Hz, 1C-3D, Error ellipse: s-maj=4.5km s-min=4.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**1.08**	**150**	PN	Pn	09 55 23.1	+0.2
HAZ				SN	Sn	09 55 42.2	-0.8
MXZ	**Matakaoa Point**	**1.22**	**128**	PN	Pn	09 55 24.2	+0.1
MXZ				SN	Sn	09 55 45.4	+0.3
URZ	**Urewera**	**1.43**	**180**	⇓PN	Pn	09 55 26.6	+0.3
URZ				SN	Sn	09 55 48.7	-0.2
WMGZ	**Waiomatatini S**	**1.45**	**134**	PN	Pn	09 55 26.3	-0.1
WMGZ				SN	Sn	09 55 48.5	-0.6
TWGZ	**Tauwhareparae**	**1.52**	**153**	PN	Pn	09 55 27.6	+0.4
TWGZ				SN	Sn	09 55 50.8	+0.1
MWZ	**Matawai**	**1.55**	**167**	⇓PN	Pn	09 55 27.5	0.0
MWZ				AML	AML	09 55 50.9	
MWZ				AML	AML	09 55 51.9	
PUZ	**Puketiti**	**1.55**	**144**	⇑PN	Pn	09 55 27.1	-0.4
PUZ				AML	AML	09 55 51.4	
RAGZ	**Rawiri**	**1.69**	**172**	PN	Pn	09 55 29.4	+0.3
TKGZ	**Te Karaka**	**1.72**	**160**	PN	Pn	09 55 28.9	-0.3
CNGZ	**Carnagh Statio**	**1.88**	**152**	PN	Pn	09 55 30.8	-0.2
RIGZ	**Rimuhau**	**1.95**	**165**	PN	Pn	09 55 31.4	-0.5
SNGZ	**Shannon Statio**	**1.96**	**174**	PN	Pn	09 55 31.7	-0.3
RAHZ	**Arahi**	**2.09**	**180**	PN	Pn	09 55 33.3	-0.1
KNZ	**Kokohu**	**2.24**	**168**	PN	Pn	09 55 34.2	-1.0
WHHZ	**Waihua**	**2.25**	**177**	PN	Pn	09 55 34.8	-0.6
NMHZ	**Naumai**	**2.28**	**186**	PN	Pn	09 55 35.6	-0.1
BKZ	**Black Stump Fm**	**2.39**	**191**	PN	Pn	09 55 36.1	-0.9
MHGZ	**Mahia Peninsul**	**2.41**	**165**	PN	Pn	09 55 36.2	-1.0
ARHZ	**Aropaoanui**	**2.44**	**182**	PN	Pn	09 55 37.0	-0.5
MCHZ	**McNeill Hill**	**2.64**	**187**	PN	Pn	09 55 39.1	-0.8
FWVZ	**Far West T-bar**	**2.72**	**206**	PN	Pn	09 55 40.7	-0.5
WNVZ	**Wahianoa**	**2.77**	**205**	PN	Pn	09 55 41.2	-0.6
BHHZ	**Black Hill Sta**	**2.78**	**197**	PN	Pn	09 55 40.5	-1.4
KRHZ	**Kereru**	**2.88**	**191**	PN	Pn	09 55 41.3	-1.7
KAHZ	**Kahuranaki**	**2.97**	**183**	PN	Pn	09 55 42.6	-1.5
PNHZ	**Pukenui**	**3.17**	**193**	PN	Pn	09 55 44.5	-2.1
TSZ	**Takapari Road**	**3.35**	**195**	PN	Pn	09 55 46.7	-2.3
WAZ	**Wanganui**	**3.37**	**209**	PN	Pn	09 55 48.5	-0.7
PRHZ	**Porangahau**	**3.46**	**186**	PN	Pn	09 55 47.8	-2.5
DVHZ	**Dannevirke**	**3.55**	**192**	PN	Pn	09 55 48.5	-3.0
ANWZ	**Angora Road**	**3.67**	**187**	PN	Pn	09 55 50.2	-2.7
POWZ	**Post Office Ro**	**3.71**	**196**	PN	Pn	09 55 50.7	-2.8
PRWZ	**Pori Road**	**3.83**	**193**	PN	Pn	09 55 52.3	-2.7
BFZ	**Birch Farm**	**3.91**	**190**	⇓PN	Pn	09 55 52.9	-3.2
MRZ	**Mangatainoka R**	**4.01**	**197**	PN	Pn	09 55 54.1	-3.3
TIWZ	**Tintock**	**4.06**	**193**	PN	Pn	09 55 54.8	-3.3
HOWZ	**Holdsworth Sta**	**4.25**	**196**	PN	Pn	09 55 56.6	-3.9
OGWZ	**Otaki Gorge**	**4.26**	**200**	PN	Pn	09 55 57.3	-3.3
KIW	**Kapiti Island**	**4.38**	**202**	PN	Pn	09 55 58.4	-3.8
TMWZ	**Te Maipa**	**4.38**	**192**	PN	Pn	09 55 58.5	-3.7
MTW	**Mount Morrison**	**4.50**	**196**	PN	Pn	09 55 59.6	-4.3
CAW	**Cannon Point**	**4.56**	**200**	AML	AML	09 57 03.3	
TUWZ	**Tuamarina**	**5.21**	**207**	AML	AML	09 57 07.0	

IDC ***17*** *09:58:48.9±1.2, 29°.01N×128°.99E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/24, mbtmp3.6/5, MS3.1/1, Ms1 3.1/1, ms1mx2.5/36, Error ellipse: s-maj=40.7km s-min=23.4km az=89.0*

ISCJB ***17*** *09:58:50.0±1.2, 28°.84N±0°.04×128°.50E±0°.07, h16km±9km, mb3.6/5, Error ellipse: s-maj=10.5km s-min=7.2km az=12.7*

JMA ***17*** *09:58:50.0±0.2, 28°.78N×128°.52E, h5km±4km, M3.2*

ISC 17 09:58:52.2±1.5, 28°.80N±0°.04×128°.63E±0°.07, h25km±12km, n16, σ1§18/20, mb3.7/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTAJ	**Takarajima**	**0.61**	**55**	P	**Pb**	**09 59 03.7**	**-0.6**
JTAJ				*e*S	**Sb**	**09 59 12.8**	**+0.3**
JAMN	**Amaminishikomi**	**0.73**	**139**	P	**Pb**	**09 59 05.3**	**-1.0**
JAMN				*e*S	**Sb**	**09 59 15.9**	**0.0**
JAM	**Amami Oshima**	**0.94**	**114**	P	**Pn**	**09 59 09.5**	**-0.3**
JAM				*e*S	**Sn**	**09 59 22.8**	**+0.4**
JTK	**Tokunoshima**	**1.05**	**164**	P	**Pb**	**09 59 09.8**	**-1.9**
JTK				*e*S	**Sn**	**09 59 24.9**	**-0.2**
JZK	**Kikaishima**	**1.27**	**112**	P	**Pb**	**09 59 15.7**	**+0.2**
JZK				*e*S	**Sb**	**09 59 34.1**	**+2.6**
JOKE	**Okinoerabujima**	**1.44**	**182**	P	**Pn**	**09 59 16.1**	**-0.5**
JIH	**Iheya**	**1.86**	**199**	P	**Pn**	**09 59 21.9**	**-0.5**
JOW	**Kunigami**	**1.99**	**189**	P	**Pn**	**09 59 24.6**	**+0.4**
JOW	**Kunigami** baz=29,slow=13	**1.99**	**189**	Pn	**Pb**	**09 59 28.9**	**+1.2**
JNU	**Nakatsue** 0.2nm,0.3s,baz=162,slow=19,SNR=2.1	**4.72**	**24**	Pn	**Pn**	**10 00 01.9**	**+0.2**
KSRS	**Korea Array** comp=Z,118nm,18.0s,baz=161,slow=41	**8.65**	**356**	LR	LR	10 04 34.1	
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=98,slow=7.4,SNR=4.5	**40.13**	**310**	P	**P**	**10 06 27.1**	**+1.2**
ZALV	**Zalesovo Beam** 0.8nm,0.5s,baz=112,slow=11,SNR=3.2	**40.45**	**321**	P	**P**	**10 06 29.1**	**+0.6**
WRA	**Warramunga Arr** 0.7nm,0.7s,baz=350,slow=8.5,SNR=4.1	**48.77**	**173**	P	**P**	**10 07 35.9**	**+0.8**
ILAR	**Eielson Array** 0.3nm,0.9s,baz=272,slow=9.5,SNR=2.8	**62.02**	**29**	P	**P**	**10 09 10.0**	**0.0**
YKA	**Yellowknife Ar** 0.7nm,0.9s,baz=301,slow=6.0,SNR=3.1	**76.05**	**25**	P	**P**	**10 10 34.8**	**-2.3**

WEL 17 09:59:19.3±0.5, 36°.71S×177°.12E, h33km, ML3.6/4, Error ellipse: s-maj=4.4km s-min=3.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MYRZ	**Mayor Island**	**0.91**	**230**	P*	Pn	09 59 34.6	-1.2
MYRZ				S*	Sn	09 59 46.8	-0.9
KUZ	**Kuaotunu**	**1.12**	**267**	PN	Pn	09 59 37.4	-1.3
KUZ				SN	Sn	09 59 51.6	-1.4
KUZ				AML	AML	09 59 51.9	
KUZ				AML	AML	09 59 52.0	
HAZ	**Te Kaha**	**1.18**	**153**	P*	Pn	09 59 38.7	-0.7
HAZ				S*	Sn	09 59 53.8	-0.5
OPRZ	**Ohinepanea**	**1.23**	**201**	P*	Pn	09 59 38.9	-1.2
TGRZ	**Tauranga**	**1.23**	**213**	P*	Pn	09 59 40.2	0.0
TGRZ				AML	AML	10 00 09.0	
TGRZ				AML	AML	10 00 17.3	
GRZ	**Great Barrier**	**1.41**	**288**	PN	Pn	09 59 42.6	0.0
GRZ				SN	Sn	09 59 58.6	-1.5
MKAZ	**Moumakai**	**1.62**	**255**	AML	AML	09 59 46.2	
MKAZ				SN	Sn	10 00 04.5	-0.7
MKAZ				AML	AML	10 00 07.9	
ETAZ	**East Tamaki Re**	**1.77**	**261**	PN	Pn	09 59 47.4	-0.3
ETAZ				SN	Sn	10 00 08.6	-0.5
MTAZ	**Motutapu**	**1.77**	**267**	PN	Pn	09 59 47.5	-0.1
TLZ	**Tolley Road**	**2.05**	**217**	*e*P*	Pn	09 59 50.9	-0.6
WCZ	**Waipu Caves**	**2.37**	**288**	*e*PN	Pn	09 59 55.8	0.0

ISCJB ***17*** *10:06:27.9±0.7, 27°.85S±0°.1×113°.3W±0°.3, h10km, mb4.4/24, MS3.9/14, Error ellipse: s-maj=34.7km s-min=13.0km az=164.8*

IDC ***17*** *10:06:32.9±1.3, 27°.12S×112°.83W, h0km, mb4.0/6, mb1 4.4/6, mb1mx4.1/16, mbtmp4.0/6, MS3.9/14, Ms1 3.9/14, ms1mx3.8/19, Error ellipse: s-maj=42.9km s-min=40.2km az=59.0*

NEIC ***17*** *10:06:33.8±0.8, 27°.22S×112°.82W, h10km, mb4.6/18, Error ellipse: s-maj=20.5km s-min=13.7km az=177.0*

ISC 17 10:06:31.1±0.7, 27°.85±0°.2×113°.1W±0°.2, h10km, n57, σ1§48/37, mb4.5/24, MS3.9/14, Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTCN	**Pitcairn Islan** 3µm,0.5s	**15.50**	**276**	*e*Pn	**P**	**10 10 14.5**	**+0.2**
RKT	**Rikitea** 701nm,29.0s	**20.32**	**278**	*e*LR	LR	10 15 39.5	
RKT	**Rikitea** 4.5nm,0.2s	**20.32**	**278**	*e*T	T	10 31 14.1	
TBI	**Tubuai** 496nm,30.5s	**33.05**	**269**	*e*LR	LR	10 21 26.0	
TBI	**Tubuai** 12nm,0.3s	**33.05**	**269**	*e*T	T	10 47 14.4	
PPT2	**Papeete2** 646nm,25.0s	**35.08**	**279**	*e*LR	LR	10 22 26.3	
PPT	**Papeete** comp=Z,152nm,20.5s,baz=105,slow=28	**35.08**	**279**	LR	LR	10 22 42.0	
PLCA	**Paso Flores** comp=Z,278nm,20.0s,baz=296,slow=30	**37.06**	**122**	LR	LR	10 25 05.2	
LPAZ	**La Paz** 3.4nm,0.8s,baz=232,slow=3.6,SNR=4.4	**42.98**	**84**	P	**P**	**10 14 32.6**	**+1.1**

LPAZ				LR	LR	10 28 28.6		
	comp=Z,302nm,21.1s,baz=274,slow=31							
LPAZ	**La Paz**	**42.98**	**84**	*eP*	**P**	**10 14 32.5**	**+1.0**	
	14nm,1.4s							
ROSC	**El Rosal**	**49.51**	**55**	LR	LR	10 31 46.2		
	comp=Z,74nm,18.9s,baz=22,slow=31							
SAML	**Samuel**	**50.54**	**78**	*eP*	**P**	**10 15 29.4**	**-0.6**	
	17nm,1.8s							
TXAR	**Lajitas Array**	**57.56**	**10**	P	**P**	**10 16 20.0**	**-1.0**	
	1.9nm,1.2s,baz=178,slow=9.6,SNR=6.8							
TXAR				LR	LR	10 36 31.3		
	comp=Z,82nm,18.9s,baz=0.0,slow=32							
JCT	**Junction City**	**59.36**	**13**	*eP*	**P**	**10 16 32.2**	**-1.4**	
	6.7nm,0.8s							
BDFB	**Brasilia**	**61.03**	**93**	LR	LR	10 40 42.8		
	comp=Z,144nm,18.9s,baz=241,slow=34							
PFO	**Pinyon Flats O**	**61.20**	**357**	LR	LR	10 36 46.3		
	comp=Z,96nm,21.9s,baz=146,slow=30							
RPZ	**Rata Peaks**	**61.54**	**233**	LR	LR	10 39 17.6		
	comp=Z,60nm,18.3s,baz=66,slow=32							
VNDA	**Vanda**	**61.97**	**194**	LR	LR	10 37 32.6		
	comp=Z,111nm,19.2s,baz=71,slow=30							
LDFC	**Landfair**	**62.61**	**358**	P	**P**	**10 16 54.6**	**-1.1**	
	7.4nm,0.5s							
GSC	**Goldstone, Bar**	**62.90**	**357**	*eP*	**P**	**10 16 57.2**	**-0.3**	
SHPR	**Sheep Range**	**64.03**	**358**	*eP*	**P**	**10 17 04.3**	**-0.8**	
	8.1nm,1.2s							
SDCO	**Great Sand Dun**	**65.63**	**7**	*eP*	**P**	**10 17 13.9**	**-1.7**	
	4.8nm,1.3s							
TPH	**Tonopah**	**65.69**	**356**	*eP*	**P**	**10 17 15.0**	**-0.9**	
	20nm,1.6s							
MSU	**Marysvale**	**66.01**	**1**	*eP*	**P**	**10 17 17.5**	**-0.5**	
	4.8nm,1.5s							
NVAR	**Mina Array Bea**	**66.11**	**355**	P	**P**	**10 17 18.0**	**-0.6**	
	3.0nm,1.0s,baz=184,slow=9.0,SNR=11							
SMCO	**Snowmass**	**66.91**	**5**	*eP*	**P**	**10 17 22.8**	**-1.2**	
	4.1nm,1.1s							
VNA3	**Neumayer Olymp**	**68.09**	**160**	P	**P**	**10 17 29.7**	**-0.9**	
BGU	**Big Grassy Mou**	**68.42**	**0**	*eP*	**P**	**10 17 31.6**	**-1.6**	
VNA1	**Neumayer--Stat**	**68.74**	**160**	P	**P**	**10 17 33.8**	**-0.9**	
VNA2	**Neumayer--Watz**	**68.89**	**160**	P	**P**	**10 17 34.8**	**-0.8**	
	baz=287,slow=3.6							
YBH	**Yreka Blue Hor**	**69.80**	**352**	LR	LR	10 41 04.3		
	comp=Z,74nm,21.9s,baz=180,slow=30							
SNAA	**Sanae**	**69.89**	**162**	P	P	10 17 37.1	-4.8	
WVOR	**Wild Horse Val**	**70.11**	**356**	*eP*	**P**	**10 17 42.1**	**-1.5**	
	11nm,1.3s							
BW06	**Boulder Array**	**70.33**	**3**	*eP*	**P**	**10 17 42.4**	**-2.6**	
	4.7nm,1.1s							
PDAR	**Pinedale Array**	**70.33**	**3**	P	**P**	**10 17 42.1**	**-2.9**	
	1.0nm,0.6s,baz=165,slow=3.7,SNR=9.2							
PDAR				LR	LR	10 43 14.2		
	comp=Z,59nm,18.9s,baz=232,slow=32							
K22A	**Casper**	**70.40**	**5**	*eP*	**P**	**10 17 44.4**	**-1.0**	
	9.6nm,1.1s							
HLID	**Hailey**	**71.06**	**359**	*eP*	**P**	**10 17 46.9**	**-2.5**	
	5.4nm,0.9s							
IMW	**Indian Meadow**	**71.41**	**2**	*eP*	**P**	**10 17 49.6**	**-2.0**	
	7.5nm,1.2s							
FLWY	**Flagg Ranch**	**71.61**	**2**	*eP*	**P**	**10 17 51.3**	**-1.4**	
	3.7nm,0.7s							
MCMT	**McKenzie Canyo**	**72.32**	**0**	*eP*	**P**	**10 17 55.7**	**-1.3**	
	3.9nm,1.5s							
HRY	**Holter Researc**	**74.21**	**1**	*eP*	**P**	**10 18 06.4**	**-1.6**	
	5.4nm,1.1s							
CHMT	**Chamberlain Mo**	**74.40**	**360**	*eP*	**P**	**10 18 07.1**	**-2.2**	
	5.9nm,1.5s							
AGMN	**Agassiz Nation**	**77.35**	**12**	*eP*	**P**	**10 18 26.5**	**+0.8**	
	3.8nm,0.9s							
ULM	**Lac du Bonnet**	**79.23**	**11**	LR	LR	10 49 00.4		
	comp=Z,43nm,18.1s,baz=295,slow=32							
MAW	**Mawson**	**84.80**	**178**	LR	LR	10 53 00.3		
	comp=Z,164nm,20.6s,baz=236,slow=33							
YKA	**Yellowknife Ar**	**90.03**	**359**	P	**P**	**10 19 31.6**	**+1.3**	
	0.4nm,0.8s,baz=173,slow=4.5,SNR=3.9							
H11S2	**WAKE ISLAND Hy**	**90.22**	**291**	T	T	11 59 09.4		
	baz=119,slow=75,SNR=12							
H11S1	**WAKE ISLAND Hy**	**90.23**	**291**	T	T	11 59 10.6		
	baz=119,slow=75,SNR=11							
H11S3	**WAKE ISLAND Hy**	**90.24**	**291**	T	T	11 59 09.5		
	baz=119,slow=75,SNR=8.2							
H11N3	**WAKE ISLAND Hy**	**90.65**	**292**	T	T	11 59 39.0		
	baz=121,slow=76,SNR=5.5							
H11N1	**WAKE ISLAND Hy**	**90.66**	**292**	T	T	11 59 40.8		
	baz=121,slow=76,SNR=9.7							
H11N2	**WAKE ISLAND Hy**	**90.67**	**292**	T	T	11 59 40.8		
	baz=121,slow=76,SNR=5.3							
SCHQ	**Schefferville**	**91.40**	**25**	LR	LR	10 57 07.3		
	comp=Z,34nm,19.9s,baz=331,slow=34							
ILAR	**Eielson Array**	**96.00**	**346**	P	**P**	**10 19 59.5**	**+1.7**	
	0.3nm,0.9s,baz=192,slow=4.3,SNR=4.7							
CMAR	**Chiang Mai Arr**	**149.20**	**259**	PKP	**PKPbc**	**10 26 19.3**	**-1.3**	
	0.6nm,0.3s,baz=129,slow=1.3,SNR=4.1							
CMAR				PKPbc	**PKPab**	**10 26 24.6**	**-0.4**	
	1.0nm,0.7s,baz=131,slow=4.9,SNR=4.6							
ZALV	**Zalesovo Beam**	**150.79**	**338**	PKP	**PKPdf**	**10 26 18.9**	**+1.1**	
	1.0nm,0.6s,baz=1.9,slow=4.3,SNR=3.4							
ZALV				PKPbc	**PKiKP**	**10 26 25.0**	**+1.0**	
	1.8nm,0.6s,baz=27,slow=3.0,SNR=5.0							
BVAR	**Borovoye Array**	**154.71**	**355**	PKPbc	**PKPbc**	**10 26 34.7**	**+2.6**	
	0.4nm,0.4s,baz=347,slow=5.9,SNR=2.8							
BVAR				PKPab	**PKPab**	**10 26 46.1**	**-0.8**	
	1.8nm,0.8s,baz=15,slow=6.2,SNR=4.9							

IDC ***17*** *10:20:28.9±1.1,28°.81N×128°.77E,h0km,mb3.6/6, mb1 3.8/6,mb1mx3.6/25,mbtmp3.6/6,MS3.3/10, Ms1 3.4/10,ms1mx3.1/34,Error ellipse: s-maj=35.0km s-min=20.5km az=79.0*

JMA ***17*** *10:20:29.8±0.2,28°.79N×128°.50E,h16km,M3.4*

ISCJB ***17*** *10:20:30.5±1.5,28°.80N±0°.05×128°.53E±0°.09, h19km±13km,mb3.6/6,MS3.4/8,Error ellipse: s-maj=13.1km s-min=7.0km az=15.9*

ISC 17 10:20:30.6±1.6,28°.74N±0°.05×128°.60E±0°.07,h13km±11km, n26,σ0°76/20,mb3.5/6,MS3.4/8,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.67**	**52**	P	**Pg**		**10 20 43.4**	**-0.4**
JTAJ				*eS*	**Sg**		**10 20 52.3**	**-0.4**
JAMN	**Amaminishikomi**	**0.71**	**134**	P	**Pb**		**10 20 45.1**	**+0.3**
JAMN				*eS*	**Sn**		**10 20 56.5**	**-0.6**
JAM	**Amami Oshima**	**0.95**	**110**	P	**Pg**		**10 20 48.9**	**0.0**
JAM				*eS*	**Sn**		**10 21 02.3**	**-0.6**
JTK	**Tokunoshima**	**1.00**	**162**	P	**Pb**		**10 20 49.4**	**-0.4**
JTK				*eS*	**Sn**		**10 21 03.8**	**-0.5**
JZK	**Kikaishima**	**1.28**	**109**	P	**Pg**		**10 20 55.1**	**-0.2**
JZK				*eS*	**Sg**		**10 21 13.3**	**+1.3**
JOKE	**Okinoerabujima**	**1.37**	**181**	P	**Pn**		**10 20 55.0**	**-0.5**
JIH	**Iheya**	**1.79**	**198**	P	**Pn**		**10 21 01.3**	**+0.2**
JOW	**Kunigami**	**1.92**	**189**	Pn	**Pb**		**10 21 05.2**	**-0.3**
	baz=93,slow=19							
JNU	**Nakatsue**	**4.79**	**24**	Pn	Pn		10 21 46.4	+3.9
	1.9nm,0.3s,baz=197,slow=16,SNR=8.1							
KSRS	**Korea Array**	**8.71**	**356**	LR	LR		10 26 05.2	
	comp=Z,207nm,20.1s,baz=170,slow=39							
MJAR	**Matsushiro Arr**	**11.23**	**44**	LR	LR		10 27 50.3	
	comp=Z,42nm,20.4s,baz=170,slow=40							
GUMO	**Guam**	**21.35**	**132**	LR	LR		10 31 51.6	
	comp=Z,72nm,21.6s,baz=336,slow=32							
CMAR	**Chiang Mai Arr**	**28.96**	**256**	LR	LR		10 39 19.9	
	comp=Z,84nm,18.6s,baz=128,slow=39							
TLY	**Talaya**	**29.54**	**328**	LR	LR		10 39 04.6	
	comp=Z,80nm,21.4s,baz=150,slow=38							
SIJI	**Sorong**	**29.55**	**175**	LR	LR		10 39 33.0	
	comp=Z,39nm,18.2s,baz=52,slow=39							
PETK	**Petropavlovsk-**	**32.41**	**33**	LR	LR		10 39 14.5	
	comp=Z,33nm,21.4s,baz=211,slow=35							
MKAR	**Makanchi Array**	**40.15**	**310**	P	**P**		**10 28 08.0**	**+1.8**
	0.4nm,0.6s,baz=93,slow=8.7,SNR=2.4							
ZALV	**Zalesovo Beam**	**40.48**	**321**	P	**P**		**10 28 09.5**	**+0.7**
	0.4nm,0.4s,baz=90,slow=4.3,SNR=2.0							
KURBB	**Kurchatov Arra**	**43.30**	**315**	P	**P**		**10 28 31.0**	**-0.9**
	baz=101,slow=8.6,SNR=2.7							
BVAR	**Borovoye Array**	**48.65**	**317**	P	**P**		**10 29 15.0**	**+0.9**
	1.2nm,0.7s,baz=102,slow=13,SNR=5.2							
WRA	**Warramunga Arr**	**48.71**	**173**	P	**P**		**10 29 15.0**	**+0.1**
	1.1nm,0.8s,baz=353,slow=8.2,SNR=7.7							
AKTO	**Aktyubinsk**	**56.33**	**314**	LR	LR		10 55 59.0	
	comp=Z,34nm,18.7s,slow=38							
ILAR	**Eielson Array**	**62.09**	**29**	P	**P**		**10 30 50.0**	**-0.7**
	0.3nm,0.9s,baz=286,slow=9.0,SNR=4.8							
OBN	**Obninsk**	**68.06**	**322**	LR	LR		11 03 34.6	
	comp=Z,54nm,21.2s,baz=92,slow=38							
AKASG	**Malin Array Be**	**73.84**	**319**	LR	LR		11 07 24.7	
	comp=Z,45nm,18.3s,baz=70,slow=38							
YKA	**Yellowknife Ar**	**76.12**	**25**	P	**P**		**10 32 18.3**	**+0.5**
	0.3nm,0.6s,baz=295,slow=5.5,SNR=3.3							

IDC 17 10:21:00.4±3.0,53°.59N×87°.86E,h0km,mb1 2.8/2, mb1mx2.8/47,mbtmp2.8/2,ML2.6/2,Error ellipse: s-maj=29.0km s-min=17.5km az=51.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.84**	**283**	*i*			10 33 04.9	
	baz=98,slow=330,SNR=2.6							
ZALV	**Zalesovo Beam**	**1.84**	**283**	Pn	Pn		10 21 32.8	-0.5
	1.9nm,0.3s,baz=104,slow=12,SNR=16							
ZALV				Lg	Lg		10 21 58.9	
	2.3nm,0.3s,baz=102,slow=24,SNR=12							
KURBB	**Kurchatov Arra**	**6.47**	**246**	Pn	Pn		10 22 37.4	+0.6
	0.1nm,0.3s,baz=62,slow=14,SNR=4.6							
KURBB				Lg	Lg		10 24 24.3	
	0.0nm,0.3s,baz=63,slow=32,SNR=4.8							
MKAR	**Makanchi Array**	**7.68**	**210**	Pn	Pn		10 22 54.7	+1.2
	0.2nm,0.3s,baz=359,slow=9.8,SNR=3.3							

IDC 17 10:22:23.6±1.6,27°.70N×55°.11E,h0km,mb3.6/5, mb1 3.8/5,mb1mx3.5/26,mbtmp3.7/5,Error ellipse: s-maj=40.2km s-min=31.6km az=170.0,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**21.46**	**309**	P	P		10 27 15.0	+1.3
	0.6nm,0.6s,baz=127,slow=13,SNR=2.1							
ZALV	**Zalesovo Beam**	**34.09**	**32**	P	P		10 29 10.6	+0.9
	0.7nm,0.6s,baz=224,slow=12,SNR=3.2							
FINES	**FINESS Array B**	**38.92**	**338**	P	P		10 29 49.2	-1.6
	0.9nm,0.6s,baz=139,slow=13,SNR=4.9							
TORD	**Torodi Ar. Bea**	**51.73**	**265**	P	P		10 31 33.1	0.0
	0.8nm,0.4s,baz=63,slow=7.5,SNR=18							
WRA	**Warramunga Arr**	**90.05**	**112**	P	P		10 35 25.4	-0.3
	0.4nm,0.9s,baz=299,slow=5.6,SNR=2.3							

NIED ***17*** *10:31:00,28°.80N×128°.50E,h5km,Mw4.0 Best double couple: M0 1.30000×10^15 NP1:φs278.00000°,δ52.00000°, λ-37.00000°. NP2:φs33.00000°,δ62.00000°, λ-136.00000°.*

IDC ***17*** *10:31:25.5±1.1,28°.71N×128°.73E,h0km,mb3.6/5, mb1 3.8/6,mb1mx3.6/25,mbtmp3.6/6,ML3.0/1,MS3.1/8, Ms1 3.2/8,ms1mx3.0/36,Error ellipse: s-maj=40.6km s-min=19.6km az=88.0*

JMA ***17*** *10:31:26.2±0.2,28°.78N×128°.52E,h10km±3km,M3.5*

ISCJB ***17*** *10:31:27.7±1.2,28°.78N±0°.04×128°.57E±0°.08, h22km±11km,mb3.6/5,MS3.1/4,Error ellipse: s-maj=11.7km s-min=5.5km az=20.1*

ISC 17 10:31:25.7±1.7,28°.74N±0°.04×128°.50E±0°.06,h2km±12km, n28,σ1°02/26,mb3.6/5,MS3.1/4,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.74**	**56**	P	**Pg**		**10 31 39.8**	**-0.1**
JTAJ				S	**Sg**		**10 31 48.9**	**-0.7**
JAMN	**Amaminishikomi**	**0.78**	**130**	P	**Pg**		**10 31 41.2**	**+0.6**
JAMN				*eS*	**Sb**		**10 31 52.1**	**-0.8**
JAM	**Amami Oshima**	**1.03**	**108**	P	**Pg**		**10 31 45.2**	**-0.2**
JAM				S	**Sg**		**10 31 58.0**	**-0.8**
JTK	**Tokunoshima**	**1.03**	**157**	P	**Pg**		**10 31 45.9**	**+0.4**
JTK				S	**Sg**		**10 32 00.1**	**+1.2**
JZK	**Kikaishima**	**1.37**	**108**	P	**Pb**		**10 31 51.8**	**-0.2**
JZK				*eS*	**Sg**		**10 32 10.6**	**+1.0**
JOKE	**Okinoerabujima**	**1.38**	**177**	P	**Pn**		**10 31 51.7**	**-0.2**
JNN	**Nakanoshima**	**1.63**	**47**	P	**Pn**		**10 31 54.0**	**-1.4**
JIH	**Iheya**	**1.76**	**196**	P	**Pn**		**10 31 57.7**	**+0.5**
JOW	**Kunigami**	**1.91**	**186**	P	**Pn**		**10 31 59.5**	**+0.2**
JOW	**Kunigami**	**1.91**	**186**	Pn	**Pn**		**10 31 58.8**	**-0.5**
	baz=232,slow=20							
JNTH	**Nagotoyohara**	**2.25**	**191**	P	**Pn**		**10 32 05.5**	**+1.5**
JYAK	**Yakushimahirau**	**2.30**	**49**	P	**Pn**		**10 32 04.3**	**-0.4**
JAGN	**Aguni-jima**	**2.42**	**208**	P	**Pb**		**10 32 08.9**	**-1.0**
JKE	**Kume jima 2**	**2.85**	**213**	P	**Pb**		**10 32 15.8**	**-1.4**
JTN	**Tanegashima 3**	**2.88**	**48**	P	**Pn**		**10 32 12.8**	**+0.2**
JNU	**Nakatsue**	**4.82**	**25**	Pn	Pn		10 32 42.3	+2.9
	1.0nm,0.3s,baz=186,slow=9.2,SNR=9.6							
JNU				LR	LR		10 34 43.6	
	comp=Z,183nm,18.4s,baz=220,slow=42							
KSRS	**Korea Array**	**8.70**	**357**	Pn	**Pn**		**10 33 35.0**	**+2.4**
	0.2nm,0.3s,baz=174,slow=14,SNR=7.4							
KSRS				LR	LR		10 37 02.1	
	comp=Z,148nm,19.7s,baz=164,slow=38							
USRK	**Ussuriysk Ar.**	**15.68**	**9**	LR	LR		10 40 46.8	
	comp=Z,44nm,18.9s,baz=177,slow=36							
ASAJ	**Asahikawa**	**19.04**	**33**	LR	LR		10 43 55.0	
	comp=Z,44nm,18.9s,baz=64,slow=40							
GUMO	**Guam**	**21.42**	**131**	LR	LR		10 42 49.0	
	comp=Z,58nm,20.7s,baz=358,slow=32							
CMAR	**Chiang Mai Arr**	**28.88**	**256**	LR	LR		10 49 43.3	
	comp=Z,32nm,18.5s,baz=155,slow=38							
TLY	**Talaya**	**29.49**	**328**	LR	LR		10 50 23.9	
	comp=Z,48nm,18.5s,baz=147,slow=38							
YAK	**Yakutsk**	**33.30**	**1**	LR	LR		10 51 43.2	
	comp=Z,68nm,18.1s,baz=204,slow=36							
MKAR	**Makanchi Array**	**40.08**	**310**	P	**P**		**10 39 04.3**	**+1.8**
	0.4nm,0.8s,baz=114,slow=7.3,SNR=2.4							
ZALV	**Zalesovo Beam**	**40.42**	**321**	P	**P**		**10 39 05.8**	**+0.6**
	0.7nm,0.4s,baz=79,slow=7.6,SNR=4.5							
WRA	**Warramunga Arr**	**48.73**	**173**	P	**P**		**10 40 11.9**	**0.0**
	1.4nm,0.7s,baz=353,slow=8.2,SNR=15							
ILAR	**Eielson Array**	**62.13**	**29**	P	**P**		**10 41 47.0**	**-0.9**
	0.3nm,0.7s,baz=261,slow=6.0,SNR=4.5							
YKA	**Yellowknife Ar**	**76.16**	**25**	P	**P**		**10 43 14.7**	**-0.2**
	0.3nm,0.7s,baz=292,slow=5.1,SNR=3.4							

IDC ***17*** *10:45:00.0±1.5,27°.55S×113°.36W,h0km,mb3.7/4, mb1 4.1/4,mb1mx3.8/16,mbtmp3.7/4,MS3.6/5,Ms1 3.6/5, ms1mx3.3/16,Error ellipse: s-maj=47.7km s-min=40.8km az=34.0*

ISC 17 10:44:59.5±1.6,27°.9S±0°.3×113°.7W±0°.3,h10km,n19, σ0°45/7,mb3.7/4,MS3.8/5,Easter Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**19.82**	**279**	*e*LR	LR		10 54 11.9	
	159nm,29.2s							
RKT	**Rikitea**	**19.82**	**279**	*e*T	T		11 09 45.1	
	3.4nm,0.3s							
TBI	**Tubuai**	**32.53**	**270**	*e*LR	LR		11 00 03.4	
	227nm,27.2s							
TBI	**Tubuai**	**32.53**	**270**	*e*T	T		11 25 43.7	
	9.3nm,0.3s							
PPT2	**Papeete2**	**34.57**	**280**	*e*LR	LR		11 00 55.7	
	182nm,25.5s							
PPT	**Papeete**	**34.58**	**280**	LR	LR		11 01 13.9	
	comp=Z,155nm,18.6s,baz=69,slow=28							
LPAZ	**La Paz**	**43.51**	**84**	P	**P**		**10 53 04.2**	**0.0**
	1.1nm,0.9s,baz=281,slow=6.7,SNR=4.6							
LPAZ				LR	LR		11 06 59.3	
	comp=Z,115nm,20.9s,baz=249,slow=30							
TXAR	**Lajitas Array**	**57.72**	**10**	P	**P**		**10 54 50.6**	**+0.1**
	0.6nm,1.0s,baz=186,slow=8.0,SNR=3.6							
BDFB	**Brasilia**	**61.55**	**93**	LR	LR		11 19 05.5	
	comp=Z,59nm,19.1s,baz=244,slow=33							
QSPA	**South Pole Qui**	**62.26**	**180**	LR	LR		11 18 30.6	
	comp=Z,78nm,20.6s,baz=124,slow=32							
NVAR	**Mina Array Bea**	**66.14**	**356**	P	**P**		**10 55 47.6**	**+0.4**
	0.6nm,0.7s,baz=187,slow=7.0,SNR=5.9							
SNAA	**Sanae**	**69.99**	**162**	LR	LR		11 23 25.4	
	comp=Z,7.7nm,18.1s,baz=226,slow=33							
PDAR	**Pinedale Array**	**70.43**	**3**	P	**P**		**10 56 13.3**	**-0.7**
	0.4nm,0.6s,baz=156,slow=5.5,SNR=4.8							
H11S2	**WAKE ISLAND Hy**	**89.76**	**291**	T	T		12 37 36.9	
	baz=126,slow=74,SNR=6.5							
H11S1	**WAKE ISLAND Hy**	**89.77**	**291**	T	T		12 37 36.4	
	baz=126,slow=74,SNR=7.9							
H11S3	**WAKE ISLAND Hy**	**89.77**	**291**	T	T		12 37 39.7	
	baz=126							
CMAR	**Chiang Mai Arr**	**148.67**	**260**	PKPbc	**PKPab**		**11 04 51.1**	**-0.2**
	0.5nm,0.3s,baz=192,slow=0.8,SNR=3.6							
BRTR	**Keskin Array B**	**150.54**	**58**	PKPbc	**PKPbc**		**11 04 52.0**	**+0.3**
	0.5nm,0.7s,baz=219,slow=3.7,SNR=2.3							
ZALV	**Zalesovo Beam**	**150.66**	**338**	PKPbc	**PKPbc**		**11 04 51.5**	**+0.1**
	0.9nm,0.3s,baz=42,slow=2.3,SNR=4.2							

NNC ***17*** *10:45:39.6±4.5,54°.25N×86°.43E,h0km,mb3.9,mpv3.5, Error ellipse: s-maj=39.3km s-min=33.8km az=68.0*

IDC ***17*** *10:45:42.5±2.0,54°.25N×86°.01E,h0km,mb1 3.4/3, mb1mx3.2/30,mbtmp3.4/3,ML3.3/3,Error ellipse: s-maj=15.6km s-min=9.6km az=57.0*

ISC 17 10:45:44.5±4.7,54°.4N±0°.2×86°.0E±0°.2,h35km,n8, σ1°37/10,4C-2D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.83**	**236**	*i*			10 50 06.9	
	baz=67,slow=316,SNR=1.7							
ZALV	**Zalesovo Beam**	**0.83**	**236**	Pg	Pn		10 45 55.5	-4.2
	1.7nm,0.3s,baz=62,slow=18,SNR=21							
ZALV				Lg	Lg		10 46 09.1	
	9.8nm,0.3s,baz=67,slow=27,SNR=45							
ZALV				Rg	Rg		10 46 12.8	
	122nm,1.0s,baz=59,slow=27,SNR=15							
KURK	**Kurchatov**	**5.82**	**233**	⇑Pn	**Pn**		**10 47 07.5**	**-0.7**
	2.5nm,0.9s							
KURK				⇓Lg	Lg		10 48 48.6	
	3.9nm,0.7s							
KURBB	**Kurchatov Arra**	**5.92**	**233**	⇓Pn	**Pn**		**10 47 09.8**	**+0.1**
	8.4nm,0.9s							
KURBB				⇑Lg	Lg		10 48 52.5	
	12nm,0.8s							
KURBB	**Kurchatov Arra**	**5.92**	**233**	Pn	**Pn**		**10 47 11.0**	**+1.3**
	0.3nm,0.3s,baz=52,slow=14,SNR=38							
KURBB				Sn	**Sn**		**10 48 17.2**	**+0.9**
	baz=55,slow=19,SNR=4.2							
KURBB				Lg	Lg		10 48 47.5	
	0.0nm,0.3s,baz=56,slow=34,SNR=6.5							
MK31	**Makanchi Array**	**7.98**	**199**	Pn	**Pn**		**10 47 38.1**	**+0.1**
	1.8nm,0.7s,baz=18,slow=12,SNR=30							
MK31				⇑Sn	**Sn**		**10 49 07.1**	**+0.1**
	1.1nm,0.7s,baz=20,slow=24,SNR=5.4							
MK31				⇑Lg	Lg		10 49 48.4	
	2.4nm,0.8s,baz=33,slow=32,SNR=5.2							
MKAR	**Makanchi Array**	**7.98**	**199**	Pn	**Pn**		**10 47 38.0**	**0.0**
	0.8nm,0.3s,baz=9.0,slow=12,SNR=18							
MKAR				Sn	**Sn**		**10 49 07.1**	**+0.1**
	0.2nm,0.3s,baz=23,slow=28,SNR=7.7							
MKAR				Lg	Lg		10 49 49.1	
	0.2nm,0.3s,baz=14,slow=24,SNR=7.1							
BVAR	**Borovoye Array**	**9.35**	**268**	Pn	**Pn**		**10 47 59.0**	**+2.3**
	0.5nm,0.3s,baz=67,slow=13,SNR=3.1							
BVAR				Sn	**Sn**		**10 49 38.3**	**-2.2**
	baz=74,slow=22,SNR=4.0							

NIED ***17*** *10:45:00,24°.00N×126°.40E,h11km,Mw4.1 Best double couple: M0 1.67000×10^15 NP1:φs34.00000°,δ50.00000°, λ53.00000°. NP2:φs264.00000°,δ52.00000°,λ126.00000°.*

ISCJB ***17*** *10:45:56.5±1.5,23°.97N±0°.05×126°.38E±0°.03, h11km±10km,mb3.9/16,MS3.2/1,Error ellipse: s-maj=7.9km s-min=5.0km az=170.7*

IDC ***17*** *10:45:57.9±1.0,24°.06N×126°.21E,h0km,mb4.0/15, mb1 4.1/17,mb1mx4.0/28,mbtmp3.9/17,ML3.3/2,MS3.2/2, Ms1 3.4/2,ms1mx2.7/27,Error ellipse: s-maj=23.3km s-min=22.2km az=81.0*

JMA ***17*** *10:45:58.6±0.3,24°.02N×126°.39E,h74km,M4.2*

NEIC ***17*** *10:46:02.8±0.9,24°.03N×126°.05E,h35km,mb4.4/2,Error ellipse: s-maj=19.5km s-min=8.9km az=151.0*

ISC 17 10:45:57.3±3.4,24°.07N±0°.08×126°.33E±0°.05,h0km±21km, n51,σ1°45/54,mb4.1/16,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.09**	**309**	P	**Pn**		**10 46 19.7**	**-0.1**
JOGS				*eS*	**Sn**		**10 46 34.4**	**-1.1**
JMJ	**Miyako jima 2**	**1.20**	**308**	P	**Pn**		**10 46 21.3**	**0.0**
JMJ				*eS*	**Sn**		**10 46 39.1**	**+0.8**
JIRB	**Irabujima**	**1.30**	**306**	P	**Pn**		**10 46 22.0**	**-0.6**
JIRB				*eS*	**Sn**		**10 46 40.6**	**-0.1**
JIKM	**Ikemajima**	**1.30**	**311**	P	**Pb**		**10 46 22.3**	**-0.3**
JIKM				*eS*	**Sn**		**10 46 40.3**	**-0.5**
JTJ	**Tarama**	**1.59**	**291**	P	**Pn**		**10 46 26.2**	**-0.5**
JISG	**Ishigakijimahi**	**1.92**	**286**

ZALV				Lg	Lg	11 12 27.4		
	0.8nm,0.3s,baz=84,slow=26,SNR=4.3							
ZALV				Rg	Rg	11 12 31.4		
	2.9nm,0.3s,baz=80,slow=25,SNR=6.4							
KURBB	**Kurchatov Arra**	**6.47**	**240**	Pn	Pn	11 13 16.0	+0.7	
	0.1nm,0.3s,baz=53,slow=14,SNR=6.5							
MKAR	**Makanchi Array**	**8.06**	**206**	Pn	Pn	11 13 38.6	+1.4	
	0.1nm,0.3s,baz=23,slow=16,SNR=2.9							
MKAR				Lg	Lg	11 15 55.0		
	0.1nm,0.3s,baz=35,slow=30,SNR=5.0							

ISCJB ***17*** *11:11:40.7±0.7,60.°71S±0.°10×****14.0E****±0.°2,***h10***km,***mb3.8/7, *MS3.9/2, Error ellipse: s-maj=20.9km s-min=8.8km az=29.2*

IDC ***17*** *11:11:41.2±1.1,60.°63S×14.°50E,h0km,mb3.9/7, mb1 4.0/8,mb1mx3.9/17,mbtmp3.9/8,ML3.5/1,MS3.9/2, Ms1 3.8/2,ms1mx3.0/20,Error ellipse: s-maj=45.6km s-min=19.8km az=83.0*

ISC 17 11:11:42.3±0.8,60.75S±0.°10×14.0E±0.°2,h10km,n14, σ2s30/15,mb3.9/7,Southeastern Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**12.82**	**204**	P	**Pn**	**11 14 45.1**	**+0.7**
SNAA				S	Sn	11 17 00.8	-6.3
SNAA	**Sanae**	**12.82**	**204**	Pn	**Pn**	**11 14 45.9**	**+1.5**
	0.2nm,0.3s,baz=46,slow=16,SNR=21						
SNAA				Sn	**Sn**	**11 17 03.8**	**-3.3**
	0.4nm,0.3s,baz=322,slow=16,SNR=5.7						
VNA2	**Neumayer--Watz**	**13.35**	**211**	P	**Pn**	**11 14 53.3**	**+1.8**
	baz=33,slow=15						
VNA2				S	**Sn**	**11 17 15.8**	**-3.9**
	baz=50,slow=23						
VNA1	**Neumayer--Stat**	**13.40**	**213**	P	Pn	11 14 56.1	+3.9
VNA1				S	**Sn**	**11 17 22.3**	**+1.3**
VNA3	**Neumayer Olymp**	**14.13**	**212**	P	**Pn**	**11 15 05.1**	**+2.9**
VNA3				S	**Sn**	**11 17 35.1**	**-3.6**
MAW	**Mawson**	**21.81**	**129**	P	**P**	**11 16 33.7**	**-0.3**
	4.1nm,0.7s,baz=267,slow=13,SNR=4.7						
QSPA	**South Pole Qui**	**29.46**	**180**	P	**P**	**11 17 48.2**	**+2.2**
	0.6nm,0.8s,baz=238,slow=7.5,SNR=7.7						
VNDA	**Vanda**	**40.56**	**170**	LR	LR	11 35 27.1	
	comp=Z,47nm,19.5s,baz=238,slow=35						
TSUM	**Tsumeb**	**41.58**	**5**	P	**P**	**11 19 29.3**	**-0.9**
	2.7nm,1.0s,baz=241,slow=22,SNR=6.1						
LSZ	**Lusaka**	**46.55**	**19**	P	**P**	**11 20 09.0**	**-1.1**
	2.3nm,0.8s,baz=174,slow=10,SNR=4.2						
TORD	**Torodi Ar. Bea**	**74.30**	**348**	P	**P**	**11 23 20.2**	**+0.7**
	0.5nm,0.9s,baz=173,slow=5.6,SNR=2.4						
STKA	**Stephens Creek**	**78.29**	**136**	P	**P**	**11 23 42.4**	**+0.2**
	1.7nm,0.8s,baz=195,slow=5.2,SNR=6.5						
WRA	**Warramunga Arr**	**86.44**	**126**	P	**P**	**11 24 24.1**	**-0.8**
	0.5nm,0.6s,baz=209,slow=4.7,SNR=7.4						
PSI	**Prapat**	**89.93**	**84**	LR	LR	11 58 08.5	
	comp=Z,172nm,21.1s,baz=10,slow=31						

IDC ***17*** *11:38:29.8±5.7,24.°33N×93.°49E,h75km±46km,mb3.1/2, mb1 3.4/3,mb1mx3.0/53,mbtmp3.4/3,ML3.6/1,Error ellipse: s-maj=175.0km s-min=27.5km az=59.0*

ISC 17 11:38:27.9±1.0,24.°2N±0.°2×93.°1E±0.°1,h55km,n15, σ1s52/27,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**1.79**	**321**	*e*Pn	**Pn**	**11 38 57.0**	**+0.4**
SHL				*e*Sn	**Sn**	**11 39 18.5**	**+0.2**
TAPN	**Taplejung**	**5.81**	**304**	*e*Pn	**Pn**	**11 39 53.7**	**+1.9**
TAPN				*e*Sn	**Sn**	**11 40 56.8**	**-0.5**
	82nm,0.4s						
ODAN	**Odare**	**5.83**	**299**	*e*Pn	**Pn**	**11 39 54.1**	**+2.2**
ODAN				*e*Sn	**Sn**	**11 40 57.1**	**-0.4**
	167nm,0.4s						
RAMN	**Ramite**	**6.50**	**297**	*e*Pn	**Pn**	**11 40 03.6**	**+2.4**
RAMN				*e*Sn	**Sn**	**11 41 13.9**	**-0.3**
	56nm,0.3s						
JIRN	**Jiri**	**7.14**	**301**	*e*Pn	**Pn**	**11 40 12.1**	**+2.0**
JIRN				*e*Sn	**Sn**	**11 41 29.2**	**-0.8**
	79nm,0.3s						
GUN	**Gumba**	**7.50**	**301**	*e*Pn	**Pn**	**11 40 16.7**	**+1.7**
GUN				*e*Sn	**Sn**	**11 41 37.3**	**-1.5**
	118nm,0.5s						
PKI	**Pulchoki**	**7.72**	**298**	*e*Pn	**Pn**	**11 40 19.7**	**+1.7**
PKI				*e*Sn	**Sn**	**11 41 43.7**	**-0.6**
	23nm,0.3s						
PKIN	**Phulchoki**	**7.74**	**298**	*e*Pn	**Pn**	**11 40 19.8**	**+1.6**
PKIN				*e*Sn	**Sn**	**11 41 43.1**	**-1.4**
	46nm,0.3s						
CMAR	**Chiang Mai Arr**	**7.86**	**135**	P	**Pn**	**11 40 20.1**	**+0.4**
	0.2nm,0.3s,baz=313,slow=14,SNR=4.7						
KKN	**Kakani**	**7.92**	**299**	*e*Pn	**Pn**	**11 40 22.0**	**+1.4**
KKN				*e*Sn	**Sn**	**11 41 48.0**	**-0.9**
	24nm,0.2s						
DMN	**Daman**	**7.99**	**297**	*e*Pn	**Pn**	**11 40 23.4**	**+1.9**
DMN				*e*Sn	**Sn**	**11 41 49.4**	**-1.2**
	34nm,0.4s						
GKN	**Gorkha**	**8.53**	**298**	*e*Pn	**Pn**	**11 40 30.2**	**+1.4**
GKN				*e*Sn	**Sn**	**11 42 01.6**	**-2.1**
	42nm,0.2s						
KOLN	**Koldanda**	**9.28**	**295**	*e*Pn	**Pn**	**11 40 40.1**	**+0.8**
KOLN				*e*Sn	**Sn**	**11 42 19.8**	**-2.6**
	32nm,0.4s						
MKAR	**Makanchi Array**	**24.19**	**342**	P	**P**	**11 43 38.8**	**-0.4**
	0.3nm,0.5s,baz=151,slow=9.2,SNR=3.5						
WRA	**Warramunga Arr**	**59.45**	**134**	P	**P**	**11 48 24.1**	**-1.3**
	0.5nm,0.6s,baz=322,slow=7.5,SNR=16						

BJI 17 12:02:14.1,38.°38N×120.°52E,h11km,ML4.1/14,Ms3.8/2, Ms7 3.7/1,1D,Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DL2	**Dalian**	**1.01**	**58**	Pg	Pg	12 02 32.6	-1.0
DL2				Sg	Sg	12 02 45.3	-1.6
DL2				SMN			
	6μm,0.6s						
DL2				SME			
	6μm,0.5s						
TIA	**Tai'an**	**3.47**	**232**	Pn	Pn	12 03 08.0	0.0
TIA				Sg	Sg	12 04 02.4	-3.1
TIA				SMN			
	190nm,0.5s						
TIA				SME			
	250nm,0.6s						
SNY	**Shenyang**	**4.17**	**33**	⇓Pg	Pb	12 03 29.4	+2.0
SNY				Sg	Sb	12 04 22.5	+4.8
SNY				SMN			
	320nm,0.8s						
SNY				SME			
	210nm,0.5s						
NJ2	**Nanjing**	**6.46**	**193**	*e*Pn	Pn	12 03 47.1	-2.0
NJ2				SMN			
	240nm,0.6s						
NJ2				SME			
	400nm,0.5s						
NJ2				LN			
	750nm,6.4s						
NJ2				LE			
	620nm,6.6s						
NJ2				LZ			
	560nm,9.3s						
CN2	**Changchun**	**6.57**	**33**	*e*Pg	Pg	12 04 15.0	-4.9
CN2				*e*Sg	Sg	12 05 37.8	-7.2
CN2				SMN			
	100nm,0.7s						
CN2				SME			
	100nm,0.7s						
WMQ	**Urumqi**	**25.22**	**293**	*e*P	P	12 07 38.6	-1.3
WMQ				pP	pP	12 07 42.8	-0.4
WMQ				sP	sP	12 07 45.6	+1.0
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WMQ				pmax	pmax		
	comp=Z,75nm,5.2s						
WMQ				LR	LR		
	comp=N,29nm,22.2s						
WMQ				LR	LR		
	comp=E,41nm,20.0s						
WMQ				LR	LR		
	comp=Z,32nm,18.0s						

IDC ***17*** *12:37:15.3±1.0,31.°45N×49.°66E,h0km,mb4.0/20, mb1 4.2/24,mb1mx4.1/34,mbtmp4.1/24,ML3.7/4,MS3.1/4, Ms1 3.1/4,ms1mx2.8/40,Error ellipse: s-maj=24.7km s-min=12.8km az=172.0*

ISCJB ***17*** *12:37:16.8±0.3,31.°26N±0.°03×49.°58E±0.°03,h25km, mb4.2/35,MS3.2/2,Error ellipse: s-maj=5.0km s-min=3.8km az=12.7*

MOS ***17*** *12:37:17.8±1.0,31.°48N×49.°63E,h28km,mb4.3/14,Error ellipse: s-maj=9.6km s-min=6.2km az=124.3*

CSEM ***17*** *12:37:17.7±0.1,31.°38N×49.°58E,h15km,mb4.2/27,Ms3.5, Error ellipse: s-maj=5.7km s-min=4.2km az=19.0*

TEH ***17*** *12:37:18.6,31.°38N×49.°66E,h4km,ML4.1*

THR ***17*** *12:37:19.5±0.3,31.°33N×49.°55E,h38km±4km,ML4.1*

DSN ***17*** *12:37:19.4±99.0,31.°64N×50.°37E,h5km,mb4.0/6,Ms4.2/6, Error ellipse: s-maj=451.2km s-min=11.4km az=321.0*

NEIC ***17*** *12:37:20.2±0.3,31.°38N×49.°59E,h35km,mb3.9/3, ML4.1(THR),MN4.1(TEH),Error ellipse: s-maj=5.1km s-min=3.4km az=183.0*

ISN ***17*** *12:37:39.7±2.0,31.°83N×48.°30E,h0km±5km,ML4.1*

ISC 17 12:37:18.6±0.5,31.°33N±0.°05×49.°64E±0.°04,h25km,n231, σ1s24/233,mb4.3/35,19C-9D,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**1.05**	**317**	*e*Pg	**Pb**	**12 37 38.5**	**+0.3**
SHGR				AML	AML	12 38 22.2	
	comp=E,7μm,1.0s						
SHGR				AML	AML	12 38 28.7	
	comp=N,6μm,1.2s						
SHGR	**Shooshtar-Gavs**	**1.05**	**317**	*e*Pg	**Pb**	**12 37 38.0**	**-0.1**
SHGR	**Shooshtar-Gavs**	**1.05**	**317**	*e*Pg	**Pb**	**12 37 38.0**	**-0.1**
IPIR	**Pirpir**	**1.72**	**38**	*e*Pn	**Pn**	**12 37 46.2**	**-1.0**
IPIR				*e*		12 37 49.1	
	comp=Z,16μm,0.2s						
IPIR				*e*Sg	**Sb**	**12 38 11.0**	**0.0**
IPIR	**Pirpir**	**1.72**	**38**	*e*Pn	**Pn**	**12 37 46.2**	**-1.0**
IPIR				*i* Sg	**Sb**	**12 38 10.9**	**0.0**
IPIR	**Pirpir**	**1.72**	**38**	Pn	**Pn**	**12 37 46.1**	**-1.0**
IPIR				*i* Sg	**Sb**	**12 38 10.9**	**0.0**
IKAZ	**Kazeroun**	**2.45**	**129**	*e*Pn	**Pn**	**12 37 59.8**	**+2.5**
IKAZ				*e*		12 38 45.8	
	comp=Z,17μm,0.3s						
IKAZ	**Kazeroun**	**2.45**	**129**	*e*Pn	**Pn**	**12 37 59.8**	**+2.5**
IKAZ	**Kazeroun**	**2.45**	**129**	Pn	**Pn**	**12 37 59.8**	**+2.5**
IKLH	**Kolahrood**	**2.57**	**39**	*e*Pn	**Pn**	**12 38 00.8**	**+1.9**
IKLH				*e*		12 38 44.2	
	comp=Z,12μm,0.4s						
IKLH	**Kolahrood**	**2.57**	**39**	*e*Pn	**Pn**	**12 38 00.8**	**+1.9**
IKLH	**Kolahrood**	**2.57**	**39**	Pn	**Pn**	**12 38 00.8**	**+1.9**
IKFM	**Kafar-mosalman**	**2.66**	**326**	*e*Pn	**Pn**	**12 38 02.2**	**+2.4**
IKFM				*e*		12 38 51.3	
	comp=Z,99nm,0.3s						
IKFM	**Kafar-mosalman**	**2.66**	**326**	*e*Pn	**Pn**	**12 38 02.2**	**+2.4**
IZEF	**Zefreh**	**2.76**	**55**	*e*Pn	**Pn**	**12 38 03.2**	**+1.6**
IZEF				*e*Sg	**Sb**	**12 38 43.4**	**+2.4**
IZEF				*e*		12 38 52.9	
	comp=Z,2μm,0.3s						
IZEF	**Zefreh**	**2.76**	**55**	Pn	**Pn**	**12 38 03.1**	**+1.6**
IZEF				*e*Sg	**Sb**	**12 38 43.4**	**+2.4**
IZEF	**Zefreh**	**2.76**	**55**	Pn	**Pn**	**12 38 03.1**	**+1.6**
IZEF				Sg	**Sb**	**12 38 43.3**	**+2.4**
NSR	**Nassriya**	**3.02**	**265**	*e*PN	x	12 38 12.7	
NSR				*e*SN	x	12 38 38.0	
NSR				*e*SG	x	12 38 53.9	
ASAO	**Ashtian**	**3.22**	**6**	*e*Pn	**Pn**	**12 38 09.8**	**+2.0**
ASAO				*e*Sg	**Sb**	**12 38 58.1**	**+3.9**
ASAO				AML	AML	12 39 08.6	
	comp=E,405nm,0.9s						
ASAO				AML	AML	12 39 09.3	
	comp=N,529nm,0.2s						
ASAO	**Ashtian**	**3.22**	**6**	*e*Pn	**Pn**	**12 38 09.9**	**+2.0**
ASAO				*e*Sg	**Sb**	**12 38 58.0**	**+3.9**
ASAO	**Ashtian**	**3.22**	**6**	*e*Pn	**Pn**	**12 38 09.0**	**+1.2**
ASAO				*e*Sg	**Sb**	**12 38 58.0**	**+3.9**
IPAR	**Pars**	**3.29**	**116**	*e*Pn	**Pn**	**12 38 10.8**	**+1.9**
IPAR	**Pars**	**3.29**	**116**	*e*Pn	**Pn**	**12 38 10.8**	**+1.9**
IPAR	**Pars**	**3.29**	**116**	Pn	**Pn**	**12 38 10.7**	**+1.9**
GHVR	**GHOM**	**3.43**	**23**	*e*Pn	**Pn**	**12 38 12.7**	**+2.1**
GHVR				AML	AML	12 39 15.2	
	comp=E,340nm,0.8s						
GHVR	**GHOM**	**3.43**	**23**	*e*Pn	**Pn**	**12 38 12.7**	**+2.1**
	comp=E,340nm,0.8s						
GHVR	**GHOM**	**3.43**	**23**	*e*Pn	**Pn**	**12 38 12.0**	**+1.4**
IBZA	**Bozab**	**3.47**	**335**	*e*Pn	**Pn**	**12 38 12.3**	**+1.1**
IBZA				*e*		12 39 24.1	
	comp=Z,4μm,0.6s						
IBZA	**Bozab**	**3.47**	**335**	*e*Pn	**Pn**	**12 38 12.3**	**+1.1**
ISAD	**Sadrabad**	**3.50**	**79**	*e*Pn	**Pn**	**12 38 13.1**	**+1.4**
ISAD				*e*		12 39 15.8	
	comp=Z,4μm,0.4s						
ISAD	**Sadrabad**	**3.50**	**79**	Pn	**Pn**	**12 38 13.0**	**+1.4**
ISAD	**Sadrabad**	**3.50**	**79**	Pn	**Pn**	**12 38 13.0**	**+1.4**
ISRV	**Sarvestan**	**3.58**	**122**	*e*Pn	**Pn**	**12 38 14.8**	**+2.0**
ISRV				*e*		12 39 39.0	
	comp=Z,5μm,0.4s						
ISRV	**Sarvestan**	**3.58**	**122**	*e*Pn	**Pn**	**12 38 14.8**	**+2.0**
ISRV	**Sarvestan**	**3.58**	**122**	Pn	**Pn**	**12 38 14.7**	**+2.0**
IBDR	**Badra**	**3.61**	**300**	*e*PN	x	12 38 20.1	
IBDR				*e*SN	x	12 38 48.5	
IBDR				*e*SG	x	12 39 10.1	
IVRN	**Varamin**	**4.05**	**25**	*e*Pn	**Pn**	**12 38 20.2**	**+1.1**
IVRN				*e*		12 39 38.6	
	comp=Z,2μm,0.5s						
IVRN	**Varamin**	**4.05**	**25**	Pn	**Pn**	**12 38 20.1**	**+1.1**
IVRN	**Varamin**	**4.05**	**25**	Pn	**Pn**	**12 38 20.1**	**+1.1**
IRAZ	**Razeghan**	**4.07**	**3**	*e*Pn	**Pn**	**12 38 20.9**	**+1.5**
IRAZ				*e*		12 39 32.8	
	comp=Z,4μm,0.3s						
IRAZ	**Razeghan**	**4.07**	**3**	*e*Pn	**Pn**	**12 38 20.9**	**+1.5**
IRAZ	**Razeghan**	**4.07**	**3**	Pn	**Pn**	**12 38 20.7**	**+1.3**
ICHK	**Chekchek**	**4.16**	**76**	*e*Pn	**Pn**	**12 38 22.1**	**+1.4**
ICHK				*e*		12 39 13.8	
	comp=Z,2μm,0.2s						
ICHK	**Chekchek**	**4.16**	**76**	*e*Pn	**Pn**	**12 38 22.1**	**+1.4**
SNGE	**Sanandaj**	**4.21**	**333**	*e*Pn	**Pn**	**12 38 22.9**	**+1.5**
SNGE	**Sanandaj**	**4.21**	**333**	*e*Pn	**Pn**	**12 38 22.0**	**+0.6**
SNGE	**Sanandaj**	**4.21**	**333**	*e*Pn	**Pn**	**12 38 22.0**	**+0.6**
IMEH	**Mehriz**	**4.25**	**88**	*e*Pn	**Pn**	**12 38 23.7**	**+1.6**
IMEH				*e*		12 39 18.7	
	comp=Z,1μm,0.3s						
IMEH	**Mehriz**	**4.25**	**88**	Pn	**Pn**	**12 38 23.6**	**+1.6**
IMEH	**Mehriz**	**4.25**	**88**	Pn	**Pn**	**12 38 23.6**	**+1.6**
BHD	**Baghdad**	**4.85**	**295**	*e*PN	x	12 38 37.0	
BHD				*e*PG	x	12 38 59.9	
BHD				*e*SN	x	12 39 17.4	
BHD				*e*SG	x	12 39 56.0	
ILAS	**Lasjerd**	**4.90**	**34**	*e*Pn	**Pn**	**12 38 31.3**	**+0.4**
ILAS				*e*		12 38 33.7	
	comp=Z,1μm,0.1s						
ILAS	**Lasjerd**	**4.90**	**34**	*e*Pn	**Pn**	**12 38 31.3**	**+0.4**
IFIR	**Firoozkooh**	**5.02**	**30**	*e*Pn	**Pn**	**12 38 34.0**	**+1.4**
IFIR	**Firoozkooh**	**5.02**	**30**	Pn	**Pn**	**12 38 34.0**	**+1.4**
IFIR	**Firoozkooh**	**5.02**	**30**	Pn	**Pn**	**12 38 34.0**	**+1.4**
ISHM	**Shahmirzad**	**5.40**	**33**	*e*Pn	**Pn**	**12 38 38.5**	**+0.7**
IKRK	**Kirkuk**	**6.01**	**314**	*e*PN	x	12 38 55.7	
IKRK				*e*SN	x	12 39 49.2	
IKRK				*e*SG	x	12 40 43.0	
BANOM	**Banah**	**7.95**	**131**	P	**Pn**	**12 39 12.4**	**-0.3**
	SNR=6.7						
BANOM	**Banah**	**7.95**	**131**	⇓*i*P	**Pn**	**12 39 12.4**	**-0.3**
	SNR=6.7						
RTB	**Rutbah**	**8.09**	**285**	*e*PN	x	12 39 23.0	
RTB				*e*SN	x	12 40 36.1	
RTB				*e*SG	x	12 41 57.6	
NAZ	**Nazwa, Dubai**	**8.26**	**138**	P	**Pn**	**12 39 18.4**	**+1.6**
	SNR=11						
NAZ	**Nazwa, Dubai**	**8.26**	**138**	⇑*i*P	**Pn**	**12 39 18.4**	**+1.6**
	SNR=11						
ASUD	**Al Ashush, Dub**	**8.36**	**142**	P	**Pn**	**12 39 20.1**	**+1.9**
	SNR=18						
ASUD	**Al Ashush, Dub**	**8.36**	**142**	⇓*i*P	**Pn**	**12 39 20.1**	**+1.9**
	SNR=18						
RAYN	**Ar Rayn**	**8.60**	**206**	*e*Pn	**Pn**	**12 39 21.4**	**-0.2**
RAYN	**Ar Rayn**	**8.60**	**206**	*e*Pn	**Pn**	**12 39 21.4**	**-0.2**
HATD	**Hatta, Dubai**	**8.65**	**137**	P	**Pn**	**12 39 22.7**	**+0.5**
HATD	**Hatta, Dubai**	**8.65**	**137**	⇑P	**Pn**	**12 39 22.7**	**+0.5**
ASHO	**Ashiyiah**	**8.72**	**138**	P	**Pn**	**12 39 23.6**	**+0.5**
	SNR=7.2						
ASHO	**Ashiyiah**	**8.72**	**138**	⇑*i*P	**Pn**	**12 39 23.6**	**+0.5**
	SNR=7.2						
GNI	**Garni**	**9.65**	**337**	LR	LR	12 43 46.9	
	comp=Z,201nm,21.3s,baz=150,slow=41						

ASF	**Jabal al Asfar**	**10.88**	**278**	Pn	**Pn**	**12 39 52.2**	**-0.6**	
	comp=Z,1.3nm,0.3s,baz=57,slow=9.9,SNR=9.8							
ASF	**Jabal al Asfar**	**10.88**	**278**	P	**Pn**	**12 39 52.2**	**-0.6**	
ASF				pmax	pmax			
	comp=Z,1.0nm,0.3s							
EIL	**Elat**	**12.78**	**266**	Pn	**Pn**	**12 40 18.4**	**-0.2**	
	comp=Z,1.0nm,0.3s,baz=40,slow=9.7,SNR=5.5							
KBZ	**Khabaz**	**13.47**	**339**	Pn	**Pn**	**12 40 25.7**	**-2.3**	
	comp=Z,0.1nm,0.3s,baz=53,slow=20,SNR=3.3							
KBZ				LR	LR	12 46 40.6		
	comp=Z,42nm,21.1s,baz=140,slow=42							
BR131	**Keskin Array S**	**15.47**	**307**	P	**Pn**	**12 40 56.4**	**+1.2**	
	comp=Z,10nm,1.0s							
BR131	**Keskin Array S**	**15.47**	**307**	P	**Pn**	**12 40 56.4**	**+1.2**	
	comp=Z,10nm,1.0s							
BRTR	**Keskin Array B**	**15.47**	**307**	Pn	**Pn**	**12 40 55.1**	**-0.1**	
	comp=Z,0.1nm,0.3s,baz=121,slow=14,SNR=4.5							
ABKAR	**Akbulak array**	**19.52**	**21**	*e*P	**P**	**12 41 43.8**	**-0.1**	
ABKAR	**Akbulak array**	**19.52**	**21**	*e*P	**P**	**12 41 43.8**	**-0.1**	
AKTK	**Aktyubinsk**	**20.08**	**16**	P	**P**	**12 41 49.1**	**-1.0**	
AKTO	**Aktyubinsk**	**20.08**	**16**	P	**P**	**12 41 49.1**	**-0.9**	
	comp=Z,0.2nm,0.3s,baz=205,slow=13,SNR=6.7							
KKAR	**Karatay Array**	**20.30**	**49**	*e*P	**P**	**12 41 51.8**	**-0.7**	
KKAR				pmax	pmax			
	comp=Z,2.0nm,0.5s							
KKAR	**Karatay Array**	**20.30**	**49**	*e*P	**P**	**12 41 51.8**	**-0.7**	
	comp=Z,2.0nm,0.5s							
KKAR	**Karatay Array**	**20.30**	**49**	*e*P	**P**	**12 41 51.8**	**-0.7**	
	comp=Z,2.4nm,0.5s							
IDI	**Anoyia**	**21.04**	**287**	P	**P**	**12 42 01.6**	**+0.9**	
	comp=Z,23nm,0.7s,baz=60,slow=12,SNR=9.1							
VORD	**Divnogorie**	**21.07**	**342**	*e*P	**P**	**12 41 59.1**	**-1.6**	
VORD				pmax	pmax			
	comp=N,10.0nm,0.9s							
VORD				pmax	pmax			
	comp=E,10.0nm,0.9s							
VORD				pmax	pmax			
	comp=Z,10.0nm,0.9s							
VORD	**Divnogorie**	**21.07**	**342**	*e*P	**P**	**12 41 59.1**	**-1.6**	
TIRR	**Tirgusor**	**21.19**	**314**	⇑P	**P**	**12 42 03.6**	**+1.5**	
TIRR	**Tirgusor**	**21.19**	**314**	⇑*i*P	**P**	**12 42 03.6**	**+1.5**	
TIRR	**Tirgusor**	**21.19**	**314**	P	**P**	**12 42 03.6**	**+1.5**	
VSR	**Storozhevoye**	**21.33**	**342**	*e*P	**P**	**12 42 02.8**	**-0.7**	
VSR				pmax	pmax			
	comp=N,9.0nm,0.6s							
VSR				pmax	pmax			
	comp=E,9.0nm,0.6s							
VSR				pmax	pmax			
	comp=Z,9.0nm,0.6s							
VSR	**Storozhevoye**	**21.33**	**342**	*e*P	**P**	**12 42 02.8**	**-0.7**	
TLB	**Topalu**	**21.48**	**314**	⇑P	**P**	**12 42 06.4**	**+1.2**	
TLB	**Topalu**	**21.48**	**314**	⇑*i*P	**P**	**12 42 06.4**	**+1.2**	
TLB	**Topalu**	**21.48**	**314**	P	**P**	**12 42 06.4**	**+1.2**	
HARR	**Harsova**	**21.60**	**314**	⇑P	**P**	**12 42 06.7**	**+0.2**	
HARR	**Harsova**	**21.60**	**314**	⇑*i*P	**P**	**12 42 06.7**	**+0.2**	
HARR	**Harsova**	**21.60**	**314**	P	**P**	**12 42 06.7**	**+0.2**	
CFR	**Carcaliu**	**21.73**	**316**	⇑P	**P**	**12 42 08.5**	**+0.6**	
CFR	**Carcaliu**	**21.73**	**316**	⇑*i*P	**P**	**12 42 08.4**	**+0.6**	
CFR	**Carcaliu**	**21.73**	**316**	P	**P**	**12 42 08.5**	**+0.6**	
AAK	**Ala-Archa**	**22.75**	**53**	P	**P**	**12 42 19.5**	**+0.4**	
	comp=Z,3.5nm,0.3s,baz=294,slow=6.2,SNR=4.3							
AAK	**Ala-Archa**	**22.75**	**53**	P	**P**	**12 42 19.5**	**+0.4**	
AAK				pmax	pmax			
	comp=Z,4.0nm,0.3s							
MLR	**Muntele Rosu**	**23.22**	**314**	P	**P**	**12 42 25.2**	**+1.4**	
	comp=Z,3.0nm,1.0s,baz=59,slow=6.5,SNR=7.7							
MLR	**Muntele Rosu**	**23.22**	**314**	P	**P**	**12 42 25.2**	**+1.4**	
MLR				pmax	pmax			
	comp=Z,3.0nm,1.0s							
MLR	**Muntele Rosu**	**23.22**	**314**	⇓*i*P	**P**	**12 42 25.7**	**+1.9**	
TESR	**Tescani**	**23.33**	**317**	⇑*i*P	**P**	**12 42 24.8**	**+0.1**	
TESR	**Tescani**	**23.33**	**317**	⇑*i*P	**P**	**12 42 24.8**	**+0.1**	
TKM2	**Tokmak 2**	**23.61**	**53**	*e*P	**P**	**12 42 28.2**	**+0.4**	
TKM2				pmax	pmax			
	comp=Z,3.0nm,0.8s							
TKM2	**Tokmak 2**	**23.61**	**53**	*e*P	**P**	**12 42 28.2**	**+0.4**	
	comp=Z,3.0nm,0.8s							
TKM2	**Tokmak 2**	**23.61**	**53**	*e*P	**P**	**12 42 28.1**	**+0.4**	
	comp=Z,3.1nm,0.8s							
VOIR		**23.75**	**313**	⇑P	**P**	**12 42 27.0**	**-1.9**	
VOIR		**23.75**	**313**	⇑*i*P	**P**	**12 42 27.0**	**-1.9**	
VOIR		**23.75**	**313**	P	**P**	**12 42 27.0**	**-1.9**	
VTS	**Vitosha**	**23.83**	**306**	⇓P	**P**	**12 42 30.0**	**+0.2**	
VTS	**Vitosha**	**23.83**	**306**	⇓*i*P	**P**	**12 42 30.0**	**+0.2**	
VTS	**Vitosha**	**23.83**	**306**	P	**P**	**12 42 30.0**	**+0.2**	
ARR	**Arges**	**23.98**	**313**	⇓*i*P	**P**	**12 42 31.3**	**+0.2**	
ARR	**Arges**	**23.98**	**313**	⇓*i*P	**P**	**12 42 31.3**	**+0.2**	
AKASG	**Malin Array Be**	**24.59**	**328**	P	**P**	**12 42 35.9**	**-0.6**	
	comp=Z

CABF				pmax	pmax			
	comp=Z,23nm,0.9s							
CABF	**La Chapelle**	**36.64**	**307**	*eP*	**P**	**12**	**44**	**23.4 +0.3**
	comp=Z,12nm,0.9s							
CABF	**La Chapelle**	**36.64**	**307**	*eP*	**P**	**12**	**44**	**23.4 +0.3**
	comp=Z,23nm,0.9s							
HFS	**Hagfors**	**37.37**	**331**	LR	LR	13	01	16.3
	comp=Z,43nm,18.3s,baz=124,slow=39							
SFTF	**Sexfontaines**	**37.61**	**310**	*eP*	**P**	**12**	**44**	**31.0 -0.1**
	comp=Z,12nm,0.6s							
SFTF	**Sexfontaines**	**37.61**	**310**	*eP*	**P**	**12**	**44**	**31.0 -0.1**
	comp=Z,5.8nm,0.6s							
SFTF	**Sexfontaines**	**37.61**	**310**	*eP*	**P**	**12**	**44**	**31.0 -0.1**
	comp=Z,12nm,0.6s							
SMF	**Signal de Mont**	**38.18**	**307**	*eP*	**P**	**12**	**44**	**35.7 -0.3**
	comp=Z,24nm,0.9s							
SMF	**Signal de Mont**	**38.18**	**307**	*eP*	**P**	**12**	**44**	**35.7 -0.3**
SMF				pmax	pmax			
	comp=Z,24nm,0.9s							
SMF	**Signal de Mont**	**38.18**	**307**	*eP*	**P**	**12**	**44**	**35.7 -0.3**
	comp=Z,12nm,0.9s							
SMF	**Signal de Mont**	**38.18**	**307**	*eP*	**P**	**12**	**44**	**35.7 -0.3**
	comp=Z,24nm,0.9s							
LOR	**Lormes**	**38.25**	**308**	*eP*	**P**	**12**	**44**	**36.0 -0.6**
	comp=Z,11nm,0.9s							
LOR				*eR*				
	comp=Z,44nm,18.8s							
LOR	**Lormes**	**38.25**	**308**	*eP*	**P**	**12**	**44**	**36.0 -0.6**
LOR				pmax	pmax			
	comp=Z,11nm,0.9s							
LOR	**Lormes**	**38.25**	**308**	*eP*	**P**	**12**	**44**	**36.0 -0.6**
	comp=Z,5.6nm,0.9s							
LOR	**Lormes**	**38.25**	**308**	*eP*	**P**	**12**	**44**	**36.0 -0.6**
	comp=Z,11nm,0.9s							
SSF	**Saint Saulge**	**38.46**	**308**	*eP*	**P**	**12**	**44**	**38.1 -0.2**
	comp=Z,7.1nm,0.8s							
SSF	**Saint Saulge**	**38.46**	**308**	*eP*	**P**	**12**	**44**	**38.1 -0.2**
SSF				pmax	pmax			
	comp=Z,7.0nm,0.8s							
SSF	**Saint Saulge**	**38.46**	**308**	*eP*	**P**	**12**	**44**	**38.1 -0.2**
	comp=Z,3.5nm,0.8s							
SSF	**Saint Saulge**	**38.46**	**308**	*eP*	**P**	**12**	**44**	**38.1 -0.2**
	comp=Z,7.1nm,0.8s							
NB2	**NORSAR Subarra**	**38.89**	**331**	P	**P**	**12**	**44**	**40.3 -1.5**
	comp=Z,0.9nm,0.7s,baz=121,slow=8.6							
NB2	**NORSAR Subarra**	**38.89**	**331**	P	**P**	**12**	**44**	**40.3 -1.5**
	comp=Z,0.9nm,0.7s,SNR=5.0							
NOA	**NORSAR Array B**	**38.89**	**331**	P	**P**	**12**	**44**	**40.9 -0.9**
	comp=Z,1.2nm,0.8s,baz=122,slow=8.4,SNR=5.2							
NOA				LR	LR	13	02	02.5
	comp=Z,30nm,20.8s,baz=160,slow=38							
NOA	**NORSAR Array B**	**38.89**	**331**	P	**P**	**12**	**44**	**40.9 -0.9**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
NOA				MLR	MLR			
	comp=Z,30nm,20.8s							
TCF	**Toulx Ste Croi**	**39.26**	**306**	*eP*	**P**	**12**	**44**	**45.0 -0.1**
TCF	**Toulx Ste Croi**	**39.26**	**306**	*eP*	**P**	**12**	**44**	**45.0 -0.1**
TCF	**Toulx Ste Croi**	**39.26**	**306**	*eP*	**P**	**12**	**44**	**45.0 -0.1**
TCF	**Toulx Ste Croi**	**39.26**	**306**	*eP*	**P**	**12**	**44**	**45.0 -0.1**
ARCES	**ARCESS Array B**	**40.62**	**347**	P	**P**	**12**	**44**	**55.8 -0.2**
	comp=Z,2.7nm,0.9s,baz=155,slow=11,SNR=6.5							
ARCES	**ARCESS Array B**	**40.62**	**347**	P	**P**	**12**	**44**	**55.8 -0.2**
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.9s							
GRR	**Gorron**	**41.53**	**309**	*eP*	**P**	**12**	**45**	**03.3 -0.5**
	comp=Z,37nm,1.1s							
GRR	**Gorron**	**41.53**	**309**	*eP*	**P**	**12**	**45**	**03.3 -0.5**
GRR				pmax	pmax			
	comp=Z,37nm,1.1s							
GRR	**Gorron**	**41.53**	**309**	*eP*	**P**	**12**	**45**	**03.3 -0.5**
	comp=Z,18nm,1.1s							
GRR	**Gorron**	**41.53**	**309**	*eP*	**P**	**12**	**45**	**03.3 -0.5**
	comp=Z,37nm,1.1s							
SGMF	**Saint Gilles**	**42.65**	**309**	*eP*	**P**	**12**	**45**	**12.6 -0.3**
	comp=Z,11nm,0.8s							
SGMF	**Saint Gilles**	**42.65**	**309**	*eP*	**P**	**12**	**45**	**12.6 -0.3**
SGMF				pmax	pmax			
	comp=Z,11nm,0.8s							
SGMF	**Saint Gilles**	**42.65**	**309**	*eP*	**P**	**12**	**45**	**12.6 -0.3**
	comp=Z,5.6nm,0.8s							
SGMF	**Saint Gilles**	**42.65**	**309**	*eP*	**P**	**12**	**45**	**12.6 -0.3**
	comp=Z,11nm,0.8s							
QUIF	**Quistinic**	**43.04**	**308**	*eP*	**P**	**12**	**45**	**15.5 -0.6**
	comp=Z,13nm,0.7s							
QUIF	**Quistinic**	**43.04**	**308**	*eP*	**P**	**12**	**45**	**15.5 -0.6**
QUIF				pmax	pmax			
	comp=Z,13nm,0.7s							
QUIF	**Quistinic**	**43.04**	**308**	*eP*	**P**	**12**	**45**	**15.5 -0.6**
	comp=Z,6.3nm,0.7s							
QUIF	**Quistinic**	**43.04**	**308**	*eP*	**P**	**12**	**45**	**15.5 -0.6**
	comp=Z,13nm,0.7s							
ROSF	**Rostrenen**	**43.14**	**309**	*eP*	**P**	**12**	**45**	**16.4 -0.5**
	comp=Z,8.3nm,0.7s							
ROSF	**Rostrenen**	**43.14**	**309**	*eP*	**P**	**12**	**45**	**16.4 -0.5**
ROSF				pmax	pmax			
	comp=Z,8.0nm,0.7s							
ROSF	**Rostrenen**	**43.14**	**309**	*eP*	**P**	**12**	**45**	**16.4 -0.5**
	comp=Z,4.2nm,0.7s							
ROSF	**Rostrenen**	**43.14**	**309**	*eP*	**P**	**12**	**45**	**16.4 -0.5**
	comp=Z,8.3nm,0.7s							
ESDC	**Sonseca Array**	**43.87**	**296**	P	**P**	**12**	**45**	**23.9 +0.9**
	comp=Z,0.9nm,0.6s,baz=81,slow=8.3,SNR=7.2							
CMAR	**Chiang Mai Arr**	**46.17**	**94**	P	**P**	**12**	**45**	**42.4 +0.9**
	comp=Z,2.1nm,0.8s,baz=297,slow=8.3,SNR=11							
CMAR	**Chiang Mai Arr**	**46.17**	**94**	P	**P**	**12**	**45**	**42.4 +0.9**
CMAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**47.52**	**259**	P	**P**	**12**	**45**	**53.1 +1.0**
	comp=Z,4.1nm,0.9s,baz=56,slow=6.8,SNR=25							
DBIC	**Dimbokro**	**56.40**	**256**	P	**P**	**12**	**46**	**59.0 +0.8**
	comp=Z,4.7nm,0.9s,baz=97,slow=8.1,SNR=2.6							
DBIC	**Dimbokro**	**56.40**	**256**	P	**P**	**12**	**46**	**59.0 +0.8**
DBIC				pmax	pmax			
	comp=Z,5.0nm,0.9s							
DBIC	**Dimbokro**	**56.40**	**256**	P	**P**	**12**	**46**	**59.0 +0.8**
	comp=Z,5.0nm,0.9s							
DBIC	**Dimbokro**	**56.40**	**256**	P	**P**	**12**	**46**	**59.0 +0.8**
KSAR	**Wonju Array Be**	**63.13**	**61**	P	**P**	**12**	**47**	**44.1 -0.1**
KSAR	**Wonju Array Be**	**63.13**	**61**	P	**P**	**12**	**47**	**44.1 -0.1**
KSAR	**Wonju Array Be**	**63.13**	**61**	P	**P**	**12**	**47**	**44.1 -0.1**
KSRS	**Korea Array**	**63.15**	**61**	P	**P**	**12**	**47**	**44.1 -0.3**
	comp=Z,2.2nm,0.8s,baz=288,slow=6.6,SNR=8.8							
KSRS	**Korea Array**	**63.15**	**61**	P	**P**	**12**	**47**	**44.1 -0.3**
KSRS				pmax	pmax			
	comp=Z,2.0nm,0.8s							
PETK	**Petropavlovsk-**	**75.35**	**36**	P	**P**	**12**	**48**	**59.2 -0.4**
	comp=Z,0.4nm,0.3s,baz=303,slow=8.4,SNR=4.2							
ILAR	**Eielson Array**	**83.34**	**7**	P	**P**	**12**	**49**	**41.6 -1.5**
	comp=Z,0.5nm,0.7s,baz=337,slow=4.0,SNR=7.6							
ILAR	**Eielson Array**	**83.34**	**7**	P	**P**	**12**	**49**	**41.6 -1.5**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**85.65**	**353**	P	**P**	**12**	**49**	**53.0 -1.7**
	comp=Z,0.8nm,0.7s,baz=6.8,slow=5.7,SNR=7.2							
YKA	**Yellowknife Ar**	**85.65**	**353**	P	**P**	**12**	**49**	**53.0 -1.7**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**85.65**	**353**	P	**P**	**12**	**49**	**53.0 -1.7**
	comp=Z,1.0nm,0.7s							

ISCJB ***17*** *12:59:52.5±0.8, 21°.2S±0°.1×67°.8W±0°.1, h136km, mb4.1/2, Error ellipse: s-maj=22.0km s-min=7.6km az=39.8*
IDC ***17*** *12:59:53.0±1.1, 21°.12S×67°.87W, h124km±13km, mb4.2/2, mb1 3.7/6, mb1mx3.5/19, mbtmp4.2/6, Error ellipse: s-maj=38.6km s-min=12.6km az=123.0*

ISC 17 12:59:53.1±0.9, 21°.2S±0°.1×67°.9W±0°.1, h136km, n8, σ1§11/10, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.75**	**214**	P	**Pn**	**13**	**00**	**24.8 +0.1**
	1μm,0.3s,baz=21,slow=12,SNR=306							
LVC				S	**Sn**	**13**	**00**	**48.0 -0.9**
	2μm,0.3s,baz=107,slow=22,SNR=35							
LPAZ	**La Paz**	**4.85**	**357**	P	**Pn**	**13**	**01**	**04.8 -0.2**
	1.2nm,0.3s,baz=185,slow=8.9,SNR=14							
SIV	**San Ignacio**	**8.23**	**52**	P	**Pn**	**13**	**01**	**49.9 +0.2**
	3.0nm,0.3s,baz=254,slow=14,SNR=34							
SIV				S	**Sn**	**13**	**03**	**19.3 -1.9**
	0.1nm,0.3s,baz=131,slow=20,SNR=4.1							
BDFB	**Brasilia**	**19.60**	**77**	P	**Pn**	**13**	**04**	**13.0 -0.7**
	1.3nm,0.3s,baz=236,slow=9.9,SNR=6.2							
PLCA	**Paso Flores**	**19.65**	**186**	P	**Pn**	**13**	**04**	**13.3 -0.7**
	0.1nm,0.3s,baz=1.4,slow=10,SNR=5.7							
DBIC	**Dimbokro**	**67.69**	**73**	P	**P**	**13**	**10**	**37.5 +1.4**
	1.8nm,0.8s,baz=224,slow=10,SNR=4.0							
TORD	**Torodi Ar. Bea**	**76.31**	**70**	P	**P**	**13**	**11**	**28.6 +1.1**
	3.7nm,0.4s,baz=254,slow=5.5,SNR=66							
MKAR	**Makanchi Array**	**144.78**	**36**	PKP	**PKPdf**	**13**	**19**	**13.5 -0.3**
	0.6nm,0.9s,baz=255,slow=5.5,SNR=2.9							

ISCJB ***17*** *13:00:04.7±0.4, 59°.79N±0°.02×24°.51E±0°.06, h0km, Error ellipse: s-maj=4.8km s-min=3.1km az=23.7*
IDC ***17*** *13:00:05.6±2.1, 59°.75N×24°.72E, h0km, mb1 3.8/4, mb1mx3.2/51, mbtmp3.8/4, ML3.7/4, Error ellipse: s-maj=22.8km s-min=6.8km az=140.0*
NAO ***17*** *13:00:05.8±1.0, 59°.78N×24°.58E, ML2.6*
CSEM ***17*** *13:00:05.7±0.3, 59°.76N×24°.53E, h2km, ML2.7, Error ellipse: s-maj=6.7km s-min=5.2km az=110.0, Mining explosion.*
BER ***17*** *13:00:06.2±2.8, 59°.80N×24°.54E, h0km, ML2.6(NAO), Suspected explosion*
HEL ***17*** *13:00:06.4±0.1, 59°.78N×24°.48E, h0km, ML2.7, Explosion*

ISC 17 13:00:05.3±0.7, 59°.79N±0°.02×24°.46E±0°.03, h0km, n49, σ1§00/75, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRPE	**Suurupi**	**0.33**	**187**	*eP*	**Pg**	**13**	**00**	**11.6 -0.1**
SRPE				*eS*	**Sg**	**13**	**00**	**15.6 -0.3**
SRPE	**Suurupi**	**0.33**	**187**	P	**Pg**	**13**	**00**	**11.5 -0.1**
SRPE				S	**Sg**	**13**	**00**	**15.6 -0.3**
MEF	**Metsahovi**	**0.43**	**356**	*eP*	**Pg**	**13**	**00**	**13.8 +0.2**
MEF				*eS*	**Sg**	**13**	**00**	**19.4 +0.3**
MEF	**Metsahovi**	**0.43**	**356**	P	**Pg**	**13**	**00**	**13.7 +0.2**
MEF				S	**Sg**	**13**	**00**	**19.3 +0.3**
PVF	**Pernaja**	**1.03**	**42**	*eP*	**Pg**	**13**	**00**	**24.6 -0.4**
PVF				*eS*	**Sg**	**13**	**00**	**38.2 -0.2**
PVF	**Pernaja**	**1.03**	**42**	P	**Pg**	**13**	**00**	**24.6 -0.4**
PVF				S	**Sg**	**13**	**00**	**38.1 -0.2**
VJF	**Virojoki**	**1.72**	**63**	*eP*	**Pn**	**13**	**00**	**36.6 +0.2**
VJF				*eS*	**Sn**	**13**	**00**	**58.4 -0.7**
VJF				MSG		13	01	02.5
	comp=Z,118nm,0.2s							
VJF	**Virojoki**	**1.72**	**63**	P	**Pn**	**13**	**00**	**36.6 +0.2**
VJF				S	**Sn**	**13**	**00**	**58.3 -0.7**
VSU	**Vasula**	**1.77**	**138**	Pg	**Pn**	**13**	**00**	**37.5 +0.4**
VSU				Lg	Lg	13	01	00.2
VSU	**Vasula**	**1.77**	**138**	Pg	**Pn**	**13**	**00**	**37.5 +0.4**
VSU				Lg	Lg	13	01	00.2
VSU	**Vasula**	**1.77**	**138**	Pg	**Pn**	**13**	**00**	**37.5 +0.4**
	SNR=90							
VSU				Lg	Lg	13	01	00.2
	SNR=94							
RAF	**Rauma**	**1.82**	**314**	*eP*	**Pb**	**13**	**00**	**39.0 -0.5**
RAF				*eS*	**Sn**	**13**	**01**	**01.7 +0.1**
RAF				MSG		13	01	07.1
	comp=Z,60nm,0.2s							
RAF	**Rauma**	**1.82**	**314**	P	**Pb**	**13**	**00**	**38.9 -0.5**
RAF				S	**Sn**	**13**	**01**	**01.7 +0.1**
FIA0	**FINESS Array S**	**1.84**	**25**	Pg	**Pn**	**13**	**00**	**39.1 +1.0**
	baz=200,slow=18							
FIA0				Lg	Lg	13	01	02.6
	baz=207,slow=28							
FIA0				Rg	Rg	13	01	12.0
	baz=198,slow=37							
FIA0	**FINESS Array S**	**1.84**	**25**	Pg	**Pn**	**13**	**00**	**39.1 +1.0**
	baz=200,slow=18							
FIA0				Lg	Lg	13	01	02.6
	baz=207,slow=28							
FIA0				Rg	Rg	13	01	12.0
	baz=198,slow=37							
FIA0	**FINESS Array S**	**1.84**	**25**	*eP*	**Pb**	**13**	**00**	**39.3 -0.4**
FIA0				*eS*	**Sn**	**13**	**01**	**02.3 +0.2**
FIA0	**FINESS Array S**	**1.84**	**25**	P	**Pb**	**13**	**00**	**39.3 -0.4**
FIA0				S	**Sn**	**13**	**01**	**02.2 +0.2**
FINES	**FINESS Array B**	**1.84**	**25**	Pg	**Pn**	**13**	**00**	**39.0 +1.0**
	comp=Z,10.0nm,0.3s,baz=200,slow=16,SNR=515							
FINES				Lg	Lg	13	01	02.6
	comp=Z,18nm,0.3s,baz=200,slow=25,SNR=23							
AAL	**Aland**	**2.28**	**282**	*eP*	**Pn**	**13**	**00**	**44.9 +0.8**
AAL				*eS*	**Sn**	**13**	**01**	**13.9 +1.0**
AAL	**Aland**	**2.28**	**282**	P	**Pn**	**13**	**00**	**44.9 +0.8**
AAL				S	**Sn**	**13**	**01**	**13.8 +1.0**
KEF	**Keuruu**	**2.39**	**5**	*eP*	**Pn**	**13**	**00**	**47.5 +1.8**
KEF				*eS*	**Sn**	**13**	**01**	**16.3 +0.6**
KEF				MSG		13	01	21.0
	comp=Z,24nm,0.2s							
KEF	**Keuruu**	**2.39**	**5**	P	**Pn**	**13**	**00**	**47.5 +1.8**
KEF				S	**Sn**	**13**	**01**	**16.3 +0.6**
SLIT	**Slitere, Latvi**	**2.45**	**209**	*eP*	**Pn**	**13**	**00**	**48.3 +1.9**
SLIT				*eSB*	**Sb**	**13**	**01**	**20.5 -0.2**
SLIT	**Slitere, Latvi**	**2.45**	**209**	P	**Pn**	**13**	**00**	**48.3 +1.9**
KAF	**Kangasniemi**	**2.50**	**20**	*eP*	**Pn**	**13**	**00**	**49.1 +2.0**
KAF				*eSB*	**Sb**	**13**	**01**	**21.3 -1.0**
KAF	**Kangasniemi**	**2.50**	**20**	P	**Pn**	**13**	**00**	**49.1 +2.0**
SUF	**Sumiainen**	**3.05**	**15**	*eP*	**Pn**	**13**	**00**	**56.7 +2.0**
SUF				*eS*	**Sn**	**13**	**01**	**32.4 +0.5**
SUF	**Sumiainen**	**3.05**	**15**	P	**Pn**	**13**	**00**	**56.7 +2.0**
SUF				S	**Sn**	**13**	**01**	**32.4 +0.5**
VAF	**Ylistaro**	**3.38**	**346**	*eP*	**Pn**	**13**	**01**	**01.4 +2.2**
VAF				*eS*	**Sn**	**13**	**01**	**40.4 +0.5**
VAF	**Ylistaro**	**3.38**	**346**	P	**Pn**	**13**	**01**	**01.3 +2.2**
VAF				S	**Sn**	**13**	**01**	**40.3 +0.5**
HFS	**Hagfors**	**5.42**	**278**	Pn	**Pn**	**13**	**01**	**27.6 +0.3**
	baz=102,slow=12							
HFS				Sn	**Sn**	**13**	**02**	**28.5 -1.9**
	baz=86,slow=28							
HFS				Lg	Lg	13	02	52.1
	baz=86,slow=37							
HFS	**Hagfors**	**5.42**	**278**	Pn	**Pn**	**13**	**01**	**27.5 +0.2**
	comp=Z,1.4nm,0.3s,baz=93,slow=12,SNR=32							
HFS				Sn	**Sn**	**13**	**02**	**29.2 -1.2**
	comp=Z,1.1nm,0.3s,baz=91,slow=26,SNR=7.2							
HFS				Lg	Lg	13	02	49.4
	comp=Z,1.4nm,0.3s,baz=79,slow=31,SNR=4.3							
HFS	**Hagfors**	**5.42**	**278**	Pn	**Pn**	**13**	**01**	**27.6 +0.3**
	SNR=50							
HFS				Lg	Lg	13	02	52.2
	SNR=50							
NB2	**NORSAR Subarra**	**6.68**	**287**	Pn	**Pn**	**13**	**01**	**43.9 -0.7**
	baz=95,slow=14							
NB2	**NORSAR Subarra**	**6.68**	**287**	Pn	**Pn**	**13**	**01**	**43.9 -0.7**
	baz=95,slow=14							
NB2	**NORSAR Subarra**	**6.68**	**287**	Pn	**Pn**	**13**	**01**	**43.9 -0.7**
	SNR=50							
NOA	**NORSAR Array B**	**6.68**	**287**	Pn	**Pn**	**13**	**01**	**44.0 -0.7**
	comp=Z,1.4nm,0.3s,baz=94,slow=13,SNR=46							
NOA				Sn	**Sn**	**13**	**03**	**00.5 -0.8**
	comp=Z,0.8nm,0.3s,baz=112,slow=15,SNR=4.5							
NOA				Lg	Lg	13	03	31.8
	comp=Z,1.2nm,0.3s,baz=90,slow=12,SNR=5.8							
APA0	**Apatity Array**	**8.70**	**22**	Pn	**Pn**	**13**	**02**	**12.8 +0.6**
	baz=212,slow=12							
APA0	**Apatity Array**	**8.70**	**22**	Pn	**Pn**	**13**	**02**	**12.8 +0.6**
	baz=212,slow=12							
APA0	**Apatity Array**	**8.70**	**22**	Pn	**Pn**	**13**	**02**	**12.8 +0.6**
	SNR=50							
ARA0	**ARCESS Array S**	**9.79**	**2**	Pn	**Pn**	**13**	**02**	**25.8 -1.4**
	baz=175,slow=16							
ARA0	**ARCESS Array S**	**9.79**	**2**	Pn	**Pn**	**13**	**02**	**25.8 -1.4**
	baz=175,slow=16							
ARA0	**ARCESS Array S**	**9.79**	**2**	Pn	**Pn**	**13**	**02**	**25.8 -1.4**
	SNR=50							
ARCES	**ARCESS Array B**	**9.79**	**2**	Pn	**Pn**	**13**	**02**	**25.9 -1.3**
	comp=Z,0.9nm,0.3s,baz=181,slow=12,SNR=54							
ARCES				Sn	Sn	13	04	11.6 -6.2
	comp=Z,0.3nm,0.3s,baz=187,slow=22,SNR=3.3							
SPA0	**Spitsbergen Ar**	**18.66**	**355**	P	**Pn**	**13**	**04**	**24.9 +0.3**
	baz=160,slow=10							
SPA0	**Spitsbergen Ar**	**18.66**	**355**	P	**Pn**	**13**	**04**	**24.9 +0.3**
	baz=160,slow=10							
SPA0	**Spitsbergen Ar**	**18.66**	**355**	P	**Pn**	**13**	**04**	**24.9 +0.3**
	SNR=47							
SPITS	**Spitsbergen Ar**	**18.66**	**355**	P	**Pn**	**13**	**04**	**24.8 +0.2**
	baz=170,slow=12,SNR=3.5							

LJU 17 13:00:30.5, 46°.02N×14°.27E, h0km Artificial, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRNS	**Crni Vrh**	**0.06**	**354**	*i*	Pg	Pg	13	00	31.8	0.0
JAVS	**Javornik**	**0.19**	**228**	*i*	Pg	Pg	13	00	34.4	0.0

ISCJB ***17*** *13:04:42.8±0.2, 54°.97N±0°.02×165°.58E±0°.02, h20km, mb4.5/90, MS3.5/13, Error ellipse: s-maj=3.3km s-min=1.8km az=169.1*
BJI ***17*** *13:04:43.4, 55°.45N×165°.91E, h33km, mb4.6/18, mB4.7/10, Ms4.2/6, Ms7 3.9/6*
KRSC ***17*** *13:04:43.6±2.1, 54°.96N×165°.47E, h53km±18km, ML4.8, FELT [IV-V] at Nikolskoe.*
MOS ***17*** *13:04:45.2±0.8, 55°.02N×165°.51E, h42km, mb4.7/45, Error ellipse: s-maj=7.5km s-min=5.8km az=89.2*
NEIC ***17*** *13:04:46.9±0.2, 55°.17N×165°.49E, mb4.5/41, Error ellipse: s-maj=5.3km s-min=2.5km az=167.0*
IDC ***17*** *13:04:49.6±0.7, 55°.14N×165°.42E, h60km±7km, mb4.0/32, mb1 4.2/35, mb1mx4.2/37, mbtmp4.3/35, MS3.4/16, Ms1 3.4/16, ms1mx3.3/35, Error ellipse: s-maj=14.3km s-min=8.3km az=162.0*

ISC 17 13:04:44.7±0.4, 55°.00N±0°.04×165°.57E±0°.03, h20km, n275, σ1§44/333, mb4.5/90, MS3.4/13, 10C-2D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.31**	**49**	*eP*	**Pn**	**13**	**04**	**53.9 -0.1**
BKI				*eS*	**Sn**	**13**	**04**	**59.6 -0.3**
BKI	**Bering**	**0.31**	**49**	PN	**Pn**	**13**	**04**	**53.9 -0.1**
BKI				S	**Sn**	**13**	**04**	**59.6 -0.3**
KBTR	**Krutoberegovo**	**1.97**	**309**	*eP*	**Pn**	**13**	**05**	**15.6 -1.3**
KBTR				*eS*	**Sn**	**13**	**05**	**37.2 -3.8**
KBTR	**Krutoberegovo**	**1.97**	**309**	PN	**Pn**	**13**	**05**	**15.6 -1.3**
KBTR				S	**Sn**	**13**	**05**	**37.2 -3.8**
KBG	**Krutoberegovo**	**2.05**	**309**	*eP*	**Pn**	**13**	**05**	**16.8 -1.1**
KBG				*eS*	**Sn**	**13**	**05**	**40.1 -2.8**
KBG	**Krutoberegovo**	**2.05**	**309**	PN	**Pn**	**13**	**05**	**16.8 -1.1**
KBG				S	**Sn**	**13**	**05**	**40.1 -2.8**
MKZ	**Mys Kozlova**	**2.27**	**260**	*eP*	**Pn**	**13**	**05**	**21.2 +0.3**
MKZ				*eS*	**Sn**	**13**	**05**	**46.4 -1.8**
MKZ	**Mys Kozlova**	**2.27**	**260**	PN	**Pn**	**13**	**05**	**21.2 +0.3**
MKZ				S	**Sn**	**13**	**05**	**46.4 -1.8**
SMKR	**Semkarok**	**2.80**	**306**	*eP*	**Pn**	**13**	**05**	**29.1 +0.7**
SMKR				*eS*	**Sn**	**13**	**06**	**00.6 -1.0**
ZLN	**Zelenaya**	**2.89**	**292**	*eP*	**Pn**	**13**	**05**	**31.5 +1.9**
ZLN				*eS*	**Sn**	**13**	**06**	**05.9 +2.1**
BDR	**Baidarnaya**	**2.92**	**304**	*eP*	**Pn**	**13**	**05**	**31.0 +1.0**
BDR				*eS*	**Sn**	**13**	**06**	**03.9 -0.5**
BZGR	**Bezymyannyi-Gr**	**2.93**	**291**	*eP*	**Pn**	**13**	**05**	**32.0 +1.9**
BZGR				*eS*	**Sn**	**13**	**06**	**05.5 +0.8**
LGNR	**Loginova**	**2.97**	**293**	*eP*	**Pn**	**13**	**05**	**32.7 +1.8**
LGNR				*eS*	**Sn**	**13**	**06**	**07.3 +1.2**
SRKR	**Sorokina**	**2.98**	**305**	*eP*	**Pn**	**13**	**05**	**32.3 +1.5**
SRKR				*eS*	**Sn**	**13**	**06**	**06.7 +0.7**
KZV	**Kizimen**	**3.03**	**274**	*eP*	**Pn**	**13**	**05**	**32.6 +1.0**
KZV				*eS*	**Sn**	**13**	**06**	**05.9 -1.5**
BZMR	**Bezymyannaya**	**3.04**	**290**	*eP*	**Pn**	**13**	**05**	**33.5 +1.9**
BZMR				*eS*	**Sn**	**13**	**06**	**07.8 +0.3**
BZWR	**Bezymyannyi-We**	**3.04**	**291**	*eP*	**Pn**	**13**	**05**	**33.8 +2.1**
BZWR				*eS*	**Sn**	**13**	**06**	**08.3 +0.7**
KLY	**Klyuchi**	**3.08**	**297**	*eP*	**Pn**	**13**	**05**	**32.2 +0.2**
KLY				*eS*	**Sn**	**13**	**06**	**05.7 -2.5**
KLY	**Klyuchi**	**3.08**	**297**	PN	**Pn**	**13**	**05**	**32.2 +0.2**
KLY				S	**Sn**	**13**	**06**	**05.7 -2.5**
KIRR	**Kirishev**	**3.12**	**290**	*eP*	**Pn**	**13**	**05**	**34.6 +1.8**
KIRR				*eS*	**Sn**	**13**	**06**	**09.8 +0.2**
TUMR	**Tumrok**	**3.12**	**277**	*eP*	**Pn**	**13**	**05**	**34.3 +1.5**
TUMR				*eS*	**Sn**	**13**	**06**	**10.1 +0.5**
KMNR	**Kamenistaya**	**3.13**	**286**	*eP*	**Pn**	**13**	**05**	**34.8 +1.9**
KMNR				*eS*	**Sn**	**13**	**06**	**10.9 +1.1**
KPT	**Kopyto**	**3.19**	**290**	*eP*	**Pn**	**13**	**05**	**35.9 +2.2**
KPT				*eS*	**Sn**	**13**	**06**	**12.3 +1.1**
KOZR	**Kozyr**	**3.39**	**291**	PN	**Pn**	**13**	**05**	**38.8 +2.4**
KOZR			

OSSR eS Sn 13 06 40.5 -2.0
PET Petropavlovsk 4.53 247 eP Pn 13 05 53.0 +0.9
PET eS Sn 13 06 41.2 -2.9
PET Petropavlovsk 4.53 247 ⇓ i PN Pn 13 05 52.6 +0.6
PET pmax pmax
comp=Z,200nm,1.4s
PET pmax pmax
comp=Z,100nm,4.8s
PET pmax pmax
comp=Z,301nm,0.4s
PET MLR MLR
comp=Z,300nm,12.0s
PET MLR MLR
comp=Z,200nm,18.0s
PET Petropavlovsk 4.53 247 ePn Pn 13 05 52.7 +0.6
PET eSn Sn 13 06 41.0 -3.1
GNL Ganaly 4.65 257 eP Pn 13 05 55.5 +1.7
RUS Russkaya 4.92 241 eP Pn 13 05 57.6 +0.3
RUS eS Sn 13 06 49.5 -4.0
RUS Russkaya 4.92 241 PN Pn 13 05 57.6 +0.3
PEA0B Petropavlovsk- 5.01 251 ePn Pn 13 06 00.1 +1.5
PETK Petropavlovsk- 5.01 251 P Pn 13 06 00.1 +1.5
comp=Z,59nm,0.3s,baz=77,slow=16,SNR=489
PETK S Sn 13 06 55.6 -0.2
comp=Z,9.7nm,0.3s,baz=214,slow=28,SNR=3.0
PETK Petropavlovsk- 5.01 251 PN Pn 13 06 00.1 +1.5
PETK S Sn 13 06 55.6 -0.2
PETK pmax pmax
comp=Z,59nm,0.3s
PETK smax smax
comp=N,10.0nm,0.3s
MTVR Mutnovka 5.06 243 eP Pn 13 06 00.3 +0.9
MTVR eS Sn 13 06 53.6 -3.6
GRL Gorelyy 5.08 244 eP Pn 13 06 01.2 +1.6
GRL eS Sn 13 06 55.8 -1.9
PALN Palana 5.11 326 eP Pn 13 06 01.9 +2.0
PALN eS Sn 13 06 56.5 -1.7
ASAK Asacha 5.26 243 eP Pn 13 06 03.6 +1.5
ASAK eS Sn 13 07 00.2 -1.9
APC Apacha 5.38 251 eP Pn 13 06 06.0 +2.3
APC eS Sn 13 07 04.6 -0.4
TILK Tilichiki 5.47 3 eP Pn 13 06 07.3 +2.5
TILK eS Sn 13 07 07.3 +0.3
SMY Shemya 5.54 111 ePN Pn 13 06 07.8 +1.9
SMY Shemya 5.54 111 ePn Pn 13 06 07.8 +1.9
PAU Pauzhetka 6.34 240 eP Pn 13 06 18.1 +1.3
PAU Pauzhetka 6.34 240 PN Pn 13 06 18.1 +1.3
SKR Severo-Kuril's 7.17 237 eP Pn 13 06 28.5 +0.2
SKR eS Sn 13 07 42.1 -7.0
SKR Severo-Kuril's 7.17 237 ⇓ i PN Pn 13 06 25.1 -3.2
SKR pmax pmax
comp=E,40nm,0.5s
SKR pmax pmax
comp=Z,120nm,0.5s
SEY Seymchan 10.44 325 P Pn 13 07 15.2 +2.1
comp=Z,0.3nm,0.3s,baz=143,slow=21,SNR=6.1
SEY LR LR 13 11 30.2
comp=Z,200nm,19.4s,baz=67,slow=39
SEY Seymchan 10.44 325 i PN Pn 13 07 14.8 +1.8
UNV Unalaska Valle 16.25 83 P P 13 08 34.2 -0.2
YSS Yuzh-Sakhalins 16.41 250 eP P 13 08 36.4 +0.1
YSS pmax pmax
comp=Z,3.0nm,0.4s
YSS Yuzh-Sakhalins 16.41 250 eP P 13 08 36.4 +0.1
comp=Z,3.2nm,0.4s
TNA Tin City 16.71 40 eP P 13 08 41.4 +2.0
YUK Yuzh-Kuril'sk 16.79 237 c i P Pn 13 08 36.7 -1.7
YUK S Sn 13 11 42.1 -2.1
YUK pmax pmax
comp=N,8.0nm,0.4s
YUK pmax pmax
comp=E,10.0nm,0.4s
YUK pmax pmax
comp=Z,48nm,0.4s
YUK MLR MLR
comp=Z,127nm,20.0s
ASAJ Asahikawa 18.37 243 P Pn 13 08 58.4 +0.5
comp=Z,1.7nm,0.3s,baz=74,slow=16,SNR=15
ASAJ LR LR 13 17 18.3
comp=Z,82nm,18.7s,baz=358,slow=41
ASAJ Asahikawa 18.37 243 P Pn 13 08 58.4 +0.5
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ASAJ MLR MLR
comp=Z,82nm,18.7s
ASAJ Asahikawa 18.37 243 eP Pn 13 08 58.6 +0.7
ERM Erimo 19.62 238 eP P 13 09 11.6 0.0
ERM Erimo 19.62 238 eP P 13 09 11.6 0.0
YAK Yakutsk 19.80 305 P P 13 09 03.9 -9.5
comp=Z,0.0nm,0.3s,baz=53,slow=0.6,SNR=1.8
YAK LR LR 13 17 26.8
comp=Z,87nm,19.1s,baz=89,slow=38
YAK Yakutsk 19.80 305 eP P 13 09 12.5 -0.9
YAK eS S 13 12 49.9 -5.4
YAK pmax pmax
comp=Z,13nm,1.0s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK pmax pmax
comp=N,3.0nm,1.2s
YAK smax smax
comp=N,39nm,3.3s
YAK smax smax
comp=E,29nm,3.3s
YAK MLR MLR
comp=Z,94nm,18.0s
YAK MLR MLR
comp=E,41nm,13.0s
YAK Yakutsk 19.80 305 eP P 13 09 13.0 -0.4
IM04 Indian Mountai 22.38 44 eP P 13 09 40.8 -0.4
TIXI Tiksi 22.84 331 c i P P 13 09 45.7 -0.3
TIXI pmax pmax
comp=Z,7.0nm,1.0s
TIXI Tiksi 22.84 331 eP P 13 09 45.4 -0.7
comp=Z,3.7nm,0.7s
KDAK Kodiak Island 23.06 66 i P P 13 09 48.6 +0.2
BPAW Bear Paw Mtn. 23.36 50 eP P 13 09 51.4 -0.1
comp=Z,4.2nm,1.3s
KTH Kantishna Hill 23.37 51 eP P 13 09 51.5 -0.1
comp=Z,62nm,1.7s
TRF Thorofare Moun 23.66 51 eP P 13 09 54.1 -0.4
comp=Z,18nm,0.9s
COLD Coldfoot 23.99 42 eP P 13 09 57.0 -0.5
comp=Z,25nm,0.9s
COLD e 13 10 06.8
USRK Ussuriysk Ar. 24.06 257 P P 13 09 58.8 +0.5
comp=Z,1.9nm,0.6s,baz=51,slow=14,SNR=4.6
USRK LR LR 13 19 20.3
comp=Z,58nm,18.7s,baz=30,slow=36
MCK McKinley 24.26 51 eP P 13 09 58.9 -1.1
MCK pmax pmax
comp=Z,11nm,1.0s
MCK McKinley 24.26 51 eP P 13 09 58.9 -1.1
comp=Z,11nm,1.0s
COLA College 24.74 48 c i P P 13 10 03.9 -0.4
COLA pmax pmax
comp=Z,33nm,1.0s
COLA College 24.74 48 eP P 13 10 03.9 -0.4
comp=Z,24nm,0.9s
COLA e 13 10 14.5
ILAR Eielson Array 25.16 48 P P 13 10 07.2 -0.9
comp=Z,7.7nm,0.9s,baz=257,slow=8.8,SNR=85
ILAR LR LR 13 20 56.3
comp=Z,68nm,18.9s,baz=292,slow=38
ILAR Eielson Array 25.16 48 P P 13 10 07.2 -0.9
ILAR pmax pmax
comp=Z,8.0nm,0.9s
ILAR MLR MLR
comp=Z,68nm,18.9s
PAX Paxson 25.86 52 eP P 13 10 14.3 -0.3
PAX pmax pmax
comp=Z,8.0nm,0.9s
PAX Paxson 25.86 52 eP P 13 10 14.3 -0.3
comp=Z,8.1nm,0.9s
MAJO Matsushiro 26.28 237 eP P 13 10 17.6 -0.9
MAJO pmax pmax
comp=Z,36nm,1.1s
MAT Matsushiro 26.28 237 P P 13 10 16.2 -2.3
MJAR Matsushiro Arr 26.28 237 P P 13 10 19.4 +0.9
comp=Z,2.1nm,0.8s,baz=32,slow=8.8,SNR=7.6
MJAR Matsushiro Arr 26.28 237 P P 13 10 19.4 +0.9
MJAR pmax pmax
comp=Z,2.0nm,0.9s
DOT Dot Lake 26.43 51 eP P 13 10 18.4 -1.3
comp=Z,14nm,1.1s

BMRM Bremner River 26.52 57 eP P 13 10 20.1 -0.4
comp=Z,15nm,0.8s
BMRM e 13 10 30.5
EGAK Eagle 27.61 48 eP P 13 10 28.4 -1.7
comp=Z,9.1nm,0.8s
BOD Bodaibo 28.10 297 eP P 13 10 32.2 -2.4
BOD pmax pmax
comp=Z,5.0nm,1.7s
INK Inuvik 30.36 40 P P 13 10 54.1 -0.4
comp=Z,8.6nm,0.7s,baz=285,slow=6.7,SNR=36
INK LR LR 13 23 31.1
comp=Z,33nm,18.3s,baz=317,slow=37
INK Inuvik 30.36 40 P P 13 10 54.1 -0.4
INK pmax pmax
comp=Z,9.0nm,0.7s
INK MLR MLR
comp=Z,33nm,18.3s
INK Inuvik 30.36 40 eP P 13 10 54.4 -0.1
KSRS Korea Array 30.91 251 P P 13 11 00.3 +0.7
comp=Z,1.8nm,0.8s,baz=42,slow=9.4,SNR=5.9
KSRS Korea Array 30.91 251 P P 13 11 00.4 +0.7
KSRS pmax pmax
comp=Z,2.0nm,0.9s
KSAR Wonju Array Be 30.94 251 P P 13 11 00.4 +0.4
KSAR Wonju Array Be 30.94 251 P P 13 11 00.3 +0.4
DLBC Dease Lake 34.30 57 P P 13 11 29.8 +0.5
comp=Z,4.2nm,0.7s,baz=322,slow=8.0,SNR=13
DLBC Dease Lake 34.30 57 eP P 13 11 30.7 +1.4
H11N2 WAKE ISLAND Hy 35.23 178 T T 13 49 13.6
baz=359,slow=76,SNR=200
H11N3 WAKE ISLAND Hy 35.24 178 T T 13 49 18.4
baz=359,slow=76,SNR=184
H11N1 WAKE ISLAND Hy 35.25 178 T T 13 49 16.1
baz=359,slow=76,SNR=171
TLY Talaya 36.05 291 LR LR 13 27 39.9
comp=Z,136nm,20.6s,baz=46,slow=38
TLY Talaya 36.05 291 eP P 13 11 46.3 +1.9
TLY pmax pmax
comp=Z,3.0nm,0.6s
TLY MLR MLR
comp=Z,101nm,16.0s
ULN Ulaanbaatar 36.20 284 c iP P 13 11 45.2 -0.7
ULN pmax pmax
comp=Z,5.0nm,1.0s
ULN Ulaanbaatar 36.20 284 eP P 13 11 46.9 +1.0
comp=Z,4.7nm,1.2s
H11S1 WAKE ISLAND Hy 36.44 178 T T 13 50 42.3
baz=359,slow=76,SNR=22
H11S3 WAKE ISLAND Hy 36.45 178 T T 13 50 49.3
baz=359,slow=76,SNR=15
H11S2 WAKE ISLAND Hy 36.46 178 T T 13 50 38.0
baz=359,slow=76,SNR=35
SONM Songino Array 36.59 284 P P 13 11 49.6 +0.4
comp=Z,3.1nm,0.6s,baz=60,slow=8.1,SNR=11
SONM PcP PcP 13 14 11.6 -0.3
comp=Z,1.3nm,0.8s,baz=42,slow=2.3,SNR=3.5
SONM Songino Array 36.59 284 P P 13 11 49.6 +0.4
SONM 13 14 11.6
SONM pmax pmax
comp=Z,3.0nm,0.6s
SONM pmax pmax
comp=Z,1.0nm,0.8s
ZAK Zakamensk 36.92 289 eP P 13 11 52.0 +0.1
ZAK pmax pmax
comp=Z,2.0nm,1.8s
HHC Hu-ho-hao-te 37.87 271 eP P 13 12 01.0 +1.0
HHC PP PnPn 13 13 30.3 +2.6
HHC S S 13 17 48.5 -1.7
HHC sS ScP 13 18 05.4 +3.4
HHC SS SnSn 13 20 24.6 -6.7
HHC PMZ
comp=Z,9.0nm,0.7s
HHC PMZ
comp=Z,79nm,7.4s
HHC LN
comp=Z,220nm,17.3s
HHC LE
comp=Z,200nm,17.3s
HHC LZ
comp=Z,270nm,18.5s
YKA Yellowknife Ar 39.54 46 P P 13 12 13.5 -0.1
comp=Z,3.4nm,0.7s,baz=298,slow=8.1,SNR=20
YKA Yellowknife Ar 39.54 46 P P 13 12 13.5 -0.1
YKA pmax pmax
comp=Z,3.0nm,0.7s
RES Resolute Bay 40.30 24 P P 13 12 19.3 -0.5
comp=Z,3.3nm,0.8s,baz=319,slow=5.8,SNR=8.0
RES Resolute Bay 40.30 24 P P 13 12 19.3 -0.5
RES pmax pmax
comp=Z,3.0nm,0.8s
ZALV Zalesovo Beam 44.44 304 P P 13 12 51.7 -2.0
comp=Z,1.5nm,0.7s,baz=46,slow=6.9,SNR=6.8
ZALV LR LR 13 33 47.1
comp=Z,45nm,18.1s,baz=68,slow=39
ZALV Zalesovo Beam 44.44 304 P P 13 12 51.7 -2.0
ZALV pmax pmax
comp=Z,2.0nm,0.7s
ZALV MLR MLR
comp=Z,45nm,18.1s
NVS Novosibirsk 44.67 305 ⇑ i P P 13 12 55.2 -0.3
NVS pmax pmax
comp=Z,18nm,1.3s
NVS pmax pmax
comp=N,8.0nm,1.4s
NVS pmax pmax
comp=E,11nm,1.4s
EDM Edmonton 45.02 57 eP P 13 12 58.2 -0.3
EDM Edmonton 45.02 57 eP P 13 12 58.2 -0.3
LZH Lanzhou 45.54 272 eP P 13 13 04.8 +1.9
LZH pP pP 13 13 14.0 +4.8
LZH sP sP 13 13 18.6 +7.0
LZH PMZ
comp=E,16nm,1.0s
GTA Gaotai 45.56 278 eP P 13 13 04.3 +1.3
GTA pP pP 13 13 14.1 +4.8
GTA sP sP 13 13 18.1 +6.4
GTA S S 13 19 43.1 -1.0
GTA sS sS 13 19 59.3 +4.9
GTA PMZ
comp=E,6.0nm,0.8s
GTA PMZ
comp=E,65nm,5.7s
GTA LN
comp=E,110nm,15.2s
GTA LE
comp=E,100nm,15.7s
GTA LZ
comp=E,91nm,17.1s
SPITS Spitsbergen Ar 45.75 352 P P 13 13 03.1 -0.8
comp=E,23nm,0.6s,baz=63,slow=7.6,SNR=50
SPITS Spitsbergen Ar 45.75 352 P P 13 13 03.1 -0.8
SPITS pmax pmax
comp=Z,23nm,0.6s
NEW Newport 46.16 65 P P 13 13 07.4 -0.1
comp=Z,1.8nm,0.8s,baz=314,slow=8.8,SNR=3.0
NEW Newport 46.16 65 P P 13 13 07.4 -0.1
NEW pmax pmax
comp=Z,2.0nm,0.8s
WALA Waterton Lakes 47.31 62 eP P 13 13 16.3 -0.3
comp=Z,7.4nm,1.0s
YBH Yreka Blue Hor 47.37 75 P P 13 13 18.1 +1.0
comp=Z,1.9nm,0.7s,baz=24,slow=3.0,SNR=8.9
YBH Yreka Blue Hor 47.37 75 P P 13 13 18.1 +1.0
YBH pmax pmax
comp=Z,2.0nm,0.7s
BSMT Bassoo Peak 47.63 64 eP P 13 13 19.0 -0.2
comp=Z,6.4nm,0.9s
JTMT Jette 47.96 64 eP P 13 13 21.8 +0.1
comp=Z,4.5nm,0.7s
YBMT Yellow Bay 48.02 63 eP P 13 13 21.8 -0.4
comp=Z,2.2nm,0.7s
SWMT Swartz Lake 48.26 64 eP P 13 13 23.7 -0.2
comp=Z,4.5nm,1.0s
CHMT Chamberlain Mo 49.03 64 P P 13 13 29.0 -1.1
comp=Z,2.0nm,1.3s
CD2 Chengdu 49.33 267 eP P 13 13 33.4 +1.1
CD2 PMZ
comp=Z,20nm,0.7s
WMQ Urumqi 49.34 291 eP P 13 13 33.9 +1.7
WMQ pP pP 13 13 43.8 +5.2
WMQ sP sP 13 13 47.8 +6.8
WMQ PcP PcP 13 14 57.1 +2.5
WMQ PP PP 13 15 28.0 +2.0
WMQ PcS PcS 13 18 52.1 +1.0
WMQ S S 13 20 34.6 -2.9
WMQ sS sS 13 20 52.8 +4.9

WMQ SS SS 13 24 05.8 -2.9
WMQ PMZ
comp=Z,12nm,0.4s
WMQ PMZ
comp=Z,74nm,4.6s
WMQ LN
comp=Z,150nm,23.2s
WMQ LE
comp=Z,130nm,22.8s
WMQ LZ
comp=Z,54nm,21.0s
KURK Kurchatov 49.42 303 eP P 13 13 31.9 -0.8
KURK pmax pmax
comp=Z,9.0nm,0.7s
KURK Kurchatov 49.42 303 eP P 13 13 31.9 -0.8
comp=Z,8.8nm,0.7s
FCC Fort Churchill 49.93 42 eP P 13 13 36.0 -0.4
FCC pmax pmax
comp=Z,17nm,1.0s
FCC Fort Churchill 49.93 42 eP P 13 13 36.0 -0.4
comp=Z,17nm,1.0s
MK31 Makanchi Array 50.19 297 eP P 13 13 37.4 -1.3
MK31 Makanchi Array 50.19 297 eP P 13 13 37.4 -1.3
MKAR Makanchi Array 50.19 297 P P 13 13 37.5 -1.1
comp=Z,3.5nm,0.7s,baz=31,slow=5.0,SNR=38
MKAR pP pP 13 13 54.6 +10
comp=Z,1.2nm,0.7s,baz=29,slow=5.5,SNR=4.1
MKAR LR LR 13 35 45.4
comp=Z,38nm,21.1s,baz=38,slow=37
MKAR Makanchi Array 50.19 297 P P 13 13 37.5 -1.1
MKAR *PP pP 13 13 54.6 +10
MKAR pmax pmax
comp=Z,4.0nm,0.7s
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR MLR MLR
comp=Z,38nm,21.1s
MCMT McKenzie Canyo 50.63 66 eP P 13 13 41.4 -0.9
comp=Z,0.4nm,0.6s
WAKR Walker 51.41 76 eP P 13 13 49.0 +0.8
comp=Z,1.5nm,0.4s
BVAR Borovoye Array 51.68 310 P P 13 13 49.4 -0.4
comp=Z,8.5nm,0.8s,baz=50,slow=8.0,SNR=37
BVAR Borovoye Array 51.68 310 P P 13 13 49.4 -0.4
BVAR pmax pmax
comp=Z,9.0nm,0.8s
BRVK Borovoye 51.71 310 c iP P 13 13 49.3 -0.6
BRVK pmax pmax
comp=Z,32nm,1.7s
NVAR Mina Array Bea 52.09 75 P P 13 13 54.0 +0.8
comp=Z,1.3nm,0.6s,baz=303,slow=7.9,SNR=17
H17A Grant Village 52.12 65 eP P 13 13 55.0 +1.6
comp=Z,3.6nm,0.8s
FLWY Flagg Ranch 52.27 65 eP P 13 13 55.1 +0.6
comp=Z,3.3nm,0.6s
IMW Indian Meadow 52.27 65 eP P 13 13 54.9 +0.3
comp=Z,5.3nm,1.1s
RLMT Red Lodge 52.29 63 eP P 13 13 55.1 +0.4
comp=Z,9.1nm,0.9s
RLMT e 13 14 03.4
ARCES ARCESS Array B 52.42 343 P P 13 13 53.7 -1.3
comp=Z,5.0nm,0.6s,baz=26,slow=11,SNR=29
ARCES ARCESS Array B 52.42 343 P P 13 13 53.7 -1.3
ARCES pmax pmax
comp=Z,5.0nm,0.6s
TPH Tonopah 52.94 75 eP P 13 13 59.9 +0.3
TPH pmax pmax
comp=Z,8.0nm,1.2s
TPH Tonopah 52.94 75 eP P 13 13 59.9 +0.3
comp=Z,8.2nm,1.2s
BW06 Boulder Array 53.78 65 eP P 13 14 05.5 -0.1
comp=Z,3.8nm,1.4s
PDAR Pinedale Array 53.78 65 P P 13 14 06.0 +0.3
comp=Z,2.8nm,0.8s,baz=344,slow=4.5,SNR=22
ARU Arti 54.12 319 c iP P 13 14 06.9 -0.8
ARU 13 16 05.0
ARU S S 13 21 41.3 -1.5
ARU pmax pmax
comp=Z,20nm,1.7s
ARU Arti 54.12 319 eP P 13 14 06.8 -0.8
comp=Z,18nm,1.3s
TMCR Tamitsa 54.48 335 eP P 13 14 09.3 -0.8
PRGR Permogore 54.49 329 eP P 13 14 10.5 +0.3
PRGR pmax pmax
comp=Z,15nm,0.5s
ULM Lac du Bonnet 55.13 51 P P 13 14 14.6 -0.5
comp=Z,6.5nm,0.9s,baz=304,slow=8.0,SNR=9.1
ULM LR LR 13 39 15.8
comp=Z,83nm,18.3s,baz=314,slow=38
ULM Lac du Bonnet 55.13 51 P P 13 14 14.6 -0.5
ULM pmax pmax
comp=Z,7.0nm,0.9s
ULM MLR MLR
comp=Z,83nm,18.3s
MVU Marysvale 55.39 71 P P 13 14 18.4 +0.9
MSU Marysvale 55.41 71 eP P 13 14 18.1 +0.6
MSU pmax pmax
comp=Z,4.0nm,0.8s
MSU Marysvale 55.41 71 eP P 13 14 18.1 +0.6
comp=Z,3.6nm,0.8s
SRU San Rafael Swe 55.87 69 eP P 13 14 20.7 -0.1
SRU e 13 14 29.9
SRU pmax pmax
comp=Z,12nm,0.8s
SRU San Rafael Swe 55.87 69 eP P 13 14 20.7 -0.1
comp=Z,12nm,0.8s
SRU e 13 14 29.9
AGMN Agassiz Nation 56.56 52 eP P 13 14 24.6 -0.7
comp=Z,3.8nm,0.8s
KLMR Klimovskoe 56.85 332 eP P 13 14 26.4 -0.8
KLMR pmax pmax
comp=Z,8.0nm,0.9s
AAK Ala-Archa 57.07 298 LR LR 13 41 51.0
comp=Z,24nm,21.0s,baz=46,slow=39
AAK Ala-Archa 57.07 298 c iP P 13 14 28.8 -0.5
AAK pmax pmax
comp=Z,19nm,1.2s
AAK Ala-Archa 57.07 298 eP P 13 14 28.7 -0.6
comp=Z,6.4nm,0.9s
EKS2 Erkin-Say 57.41 299 eP P 13 14 31.0 -0.6
EKS2 pmax pmax
comp=Z,5.0nm,0.9s
EKS2 Erkin-Say 57.41 299 eP P 13 14 31.0 -0.6
comp=Z,4.6nm,0.9s
PV01 Paradox Valley 57.63 69 eP P 13 14 33.8 +0.4
comp=Z,140nm,0.6s
SMCO Snowmass 57.72 67 eP P 13 14 34.3 +0.1
comp=Z,1.9nm,0.8s
KSH Kashi 58.59 295 P P 13 14 43.3 +3.4
KSH sP sP 13 14 57.4 +8.6
KSH PP PP 13 16 54.8 +5.6
KSH PcS PcS 13 19 33.4 +1.6
KSH S S 13 22 43.1 +0.3
KSH PMZ
comp=Z,64nm,4.2s
KSH LN
comp=Z,58nm,5.2s
KSH LE
comp=Z,78nm,6.4s
KSH LZ
comp=Z,140nm,6.1s
KKAR Karatay Array 58.71 301 eP P 13 14 39.6 -1.0
KKAR pmax pmax
comp=Z,6.0nm,0.7s
KKAR Karatay Array 58.71 301 eP P 13 14 39.6 -1.0
comp=Z,6.3nm,0.7s
AKTO Aktyubinsk 58.85 315 P P 13 14 40.8 -0.6
comp=Z,4.9nm,0.8s,baz=51,slow=7.5,SNR=15
AKTO Aktyubinsk 58.85 315 P P 13 14 40.8 -0.6
AKTO pmax pmax
comp=Z,5.0nm,0.8s
ABKAR Akbulak array 58.95 313 eP P 13 14 41.2 -0.8
comp=Z,3.0nm,0.6s
FINES FINESS Array B 59.58 339 P P 13 14 45.2 -1.0
comp=Z,5.9nm,0.7s,baz=36,slow=7.5,SNR=26
FINES FINESS Array B 59.58 339 P P 13 14 45.2 -1.0
FINES pmax pmax
comp=Z,6.0nm,0.7s
ANMO Albuquerque 61.13 70 i P P 13 14 56.7 -0.8
ANMO pmax pmax
comp=Z,21nm,2.5s
CMAR Chiang Mai Arr 61.69 262 P P 13 15 01.4 +0.1
comp=Z,0.7nm,0.6s,baz=23,slow=7.2,SNR=5.0
CMAR LR LR 13 45 56.9
comp=Z,81nm,18.2s,baz=210,slow=40
CMAR Chiang Mai Arr 61.69 262 P P 13 15 01.4 +0.1

CMAR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
CMAR					MLR	MLR			
	comp=Z,81nm,18.3s								
VSU	**Vasula**	**62.13**	**337**	*eP*	**P**		**13**	**15**	**03.1**	**-0.5**
VSU					pmax	pmax				
	comp=Z,28nm,1.2s									
SCHQ	**Schefferville**	**62.40**	**31**	P	**P**		**13**	**15**	**04.5**	**-1.1**
	comp=Z,5.2nm,0.6s,baz=348,slow=5.9,SNR=11									
NB2	**NORSAR Subarra**	**62.53**	**346**	P	**P**		**13**	**15**	**05.0**	**-1.4**
	comp=Z,7.4nm,0.7s,baz=17,slow=6.9									
NOA	**NORSAR Array B**	**62.53**	**346**	P	**P**		**13**	**15**	**05.4**	**-1.0**
	comp=Z,6.8nm,0.7s,baz=17,slow=6.7,SNR=34									
NOA					LR	LR	13	42	42.2	
	comp=Z,8.3nm,21.2s,baz=295,slow=36									
NOA	**NORSAR Array B**	**62.53**	**346**	P	**P**		**13**	**15**	**05.4**	**-1.0**
NOA					pmax	pmax				
	comp=Z,7.0nm,0.7s									
NOA					MLR	MLR				
	comp=Z,8.0nm,21.2s									
MNTX	**Cornudas Mount**	**64.18**	**71**	P	**P**		**13**	**15**	**17.9**	**+0.2**
	comp=Z,3.7nm,1.0s									
VSR	**Storozhevoye**	**65.14**	**326**	*eP*	**P**		**13**	**15**	**22.1**	**-1.5**
VSR					pmax	pmax				
	comp=N,2.0nm,0.6s									
VSR					pmax	pmax				
	comp=Z,5.0nm,0.6s									
VSR					pmax	pmax				
	comp=E,2.0nm,0.4s									
WMOK	**Wichita Mounta**	**65.36**	**64**	*eP*	**P**		**13**	**15**	**24.9**	**-0.5**
WMOK					pmax	pmax				
	comp=Z,3.0nm,0.8s									
WMOK	**Wichita Mounta**	**65.36**	**64**	*eP*	**P**		**13**	**15**	**24.9**	**-0.5**
	comp=Z,3.2nm,0.8s									
TXAR	**Lajitas Array**	**66.94**	**72**	P	**P**		**13**	**15**	**35.9**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=298,slow=4.3,SNR=31									
TXAR	**Lajitas Array**	**66.94**	**72**	P	**P**		**13**	**15**	**35.9**	**+0.2**
TXAR					pmax	pmax				
	comp=Z,2.0nm,0.6s									
AKASG	**Malin Array Be**	**68.55**	**332**	P	**P**		**13**	**15**	**44.2**	**-1.1**
	comp=Z,1.6nm,0.5s,baz=29,slow=6.3,SNR=8.4									
AKASG	**Malin Array Be**	**68.55**	**332**	P	**P**		**13**	**15**	**44.2**	**-1.1**
AKASG					pmax	pmax				
	comp=Z,2.0nm,0.5s									
KBZ	**Khabaz**	**70.27**	**320**	P	**P**		**13**	**15**	**54.8**	**-1.3**
	comp=Z,4.9nm,0.9s,baz=236,slow=24,SNR=7.5									
KBZ	**Khabaz**	**70.27**	**320**	P	**P**		**13**	**15**	**54.8**	**-1.3**
KBZ					pmax	pmax				
	comp=Z,5.0nm,0.9s									
CLL	**Collm**	**71.62**	**342**	*eP*	**P**		**13**	**16**	**04.0**	**-0.1**
	comp=Z,12nm,1.5s									
CLL	**Collm**	**71.62**	**342**	*eP*	**P**		**13**	**16**	**04.0**	**-0.1**
CLL					pmax	pmax				
	comp=Z,12nm,1.5s									
STHS	**Stebnicka Huta**	**71.74**	**336**	*eP*	**P**		**13**	**16**	**05.6**	**+0.7**
STHS	**Stebnicka Huta**	**71.74**	**336**	*eP*	**P**		**13**	**16**	**05.6**	**+0.7**
BRG	**Berggiesshubel**	**71.87**	**342**	*eP*	P		13	15	56.5	-9.2
	comp=Z,1.4nm,0.8s									
DPC	**Dobruska-Polom**	**71.91**	**340**	*eP*	**P**		**13**	**16**	**05.9**	**-0.1**
DPC				*es*P	sP		13	16	20.4	+5.5
DPC	**Dobruska-Polom**	**71.91**	**340**	*eP*	**P**		**13**	**16**	**05.9**	**-0.1**
DPC				*e*			13	16	20.4	
DPC				*e*			13	16	22.2	
PRU	**Pruhonice**	**72.60**	**341**	*eP*	**P**		**13**	**16**	**10.1**	**0.0**
PRU	**Pruhonice**	**72.60**	**341**	*eP*	**P**		**13**	**16**	**10.1**	**0.0**
GOPC	**GO Pecny, Ondr**	**72.63**	**341**	*eP*	**P**		**13**	**16**	**09.4**	**-0.9**
VYHS	**Vyhne**	**73.15**	**338**	*eP*	**P**		**13**	**16**	**13.0**	**-0.3**
VYHS	**Vyhne**	**73.15**	**338**	*eP*	**P**		**13**	**16**	**13.0**	**-0.3**
KHC	**Kasperske Hory**	**73.61**	**341**	*eP*	**P**		**13**	**16**	**15.8**	**-0.3**
KHC	**Kasperske Hory**	**73.61**	**341**	*eP*	**P**		**13**	**16**	**15.8**	**-0.3**
GERES	**GERESS Array B**	**73.86**	**341**	P	**P**		**13**	**16**	**16.7**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=45,slow=4.3,SNR=5.1									
GERES					LR	LR	13	53	33.5	
	comp=Z,25nm,18.6s,baz=296,slow=40									
GERES	**GERESS Array B**	**73.86**	**341**	P	**P**		**13**	**16**	**16.7**	**-0.9**
GERES					pmax	pmax				
	comp=Z,1.0nm,0.5s									
GERES					MLR	MLR				
	comp=Z,25nm,18.6s									
KBA	**Koelnbreinsper**	**75.62**	**341**	⇑*iP*	**P**		**13**	**16**	**26.0**	**-2.0**
	comp=Z,4.9nm,0.7s									
WTTA	**Wattenberg**	**75.76**	**342**	⇑*eP*	**P**		**13**	**16**	**28.5**	**-0.3**
	comp=Z,4.4nm,0.6s									
FLN	**La Foliniere**	**75.94**	**351**	*eP*	**P**		**13**	**16**	**28.6**	**-0.9**
	comp=Z,19nm,0.8s									
FLN				*e*R						
	comp=Z,34nm,22.5s									
FLN	**La Foliniere**	**75.94**	**351**	*eP*	**P**		**13**	**16**	**28.6**	**-0.9**
FLN					pmax	pmax				
	comp=Z,19nm,0.8s									
FLN	**La Foliniere**	**75.94**	**351**	*eP*	**P**		**13**	**16**	**28.6**	**-0.9**
	comp=Z,19nm,0.8s									
LDF	**La Druitiere**	**76.08**	**350**	*eP*	**P**		**13**	**16**	**29.3**	**-1.0**
LDF	**La Druitiere**	**76.08**	**350**	*eP*	**P**		**13**	**16**	**29.3**	**-1.0**
LDF	**La Druitiere**	**76.08**	**350**	*eP*	**P**		**13**	**16**	**29.3**	**-1.0**
GRR	**Gorron**	**76.35**	**351**	*eP*	**P**		**13**	**16**	**31.2**	**-0.6**
GRR	**Gorron**	**76.35**	**351**	*eP*	**P**		**13**	**16**	**31.2**	**-0.6**
GRR	**Gorron**	**76.35**	**351**	*eP*	**P**		**13**	**16**	**31.2**	**-0.6**
SGMF	**Saint Gilles**	**76.63**	**352**	*eP*	**P**		**13**	**16**	**32.8**	**-0.6**
	comp=Z,7.2nm,0.7s									
SGMF	**Saint Gilles**	**76.63**	**352**	*eP*	**P**		**13**	**16**	**32.8**	**-0.6**
SGMF					pmax	pmax				
	comp=Z,7.0nm,0.7s									
SGMF	**Saint Gilles**	**76.63**	**352**	*eP*	**P**		**13**	**16**	**32.8**	**-0.6**
	comp=Z,7.2nm,0.7s									
BRTR	**Keskin Array B**	**77.09**	**324**	P	**P**		**13**	**16**	**35.8**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=48,slow=3.1,SNR=8.9									
BRTR					LR	LR	13	53	21.3	
	comp=Z,27nm,19.9s,baz=32,slow=38									
BRTR	**Keskin Array B**	**77.09**	**324**	P	**P**		**13**	**16**	**35.8**	**-0.6**
BRTR					pmax	pmax				
	comp=Z,2.0nm,0.8s									
BRTR					MLR	MLR				
	comp=Z,27nm,19.9s									
AVF	**Avril sur Loir**	**77.47**	**348**	*eP*	**P**		**13**	**16**	**37.5**	**-0.7**
AVF	**Avril sur Loir**	**77.47**	**348**	*eP*	**P**		**13**	**16**	**37.5**	**-0.7**
AVF	**Avril sur Loir**	**77.47**	**348**	*eP*	**P**		**13**	**16**	**37.5**	**-0.7**
SMF	**Signal de Mont**	**77.55**	**347**	*eP*	**P**		**13**	**16**	**37.9**	**-0.8**
SMF	**Signal de Mont**	**77.55**	**347**	*eP*	**P**		**13**	**16**	**37.9**	**-0.8**
SMF	**Signal de Mont**	**77.55**	**347**	*eP*	**P**		**13**	**16**	**37.9**	**-0.8**
TCF	**Toulx Ste Croi**	**78.10**	**348**	*eP*	**P**		**13**	**16**	**41.3**	**-0.5**
TCF	**Toulx Ste Croi**	**78.10**	**348**	*eP*	**P**		**13**	**16**	**41.3**	**-0.5**
TCF	**Toulx Ste Croi**	**78.10**	**348**	*eP*	**P**		**13**	**16**	**41.3**	**-0.5**
LPL	**La Plagne**	**78.26**	**345**	*eP*	**P**		**13**	**16**	**42.5**	**-0.4**
	comp=Z,5.8nm,0.7s									
LPL	**La Plagne**	**78.26**	**345**	*eP*	**P**		**13**	**16**	**42.5**	**-0.4**
LPL					pmax	pmax				
	comp=Z,6.0nm,0.7s									
LPL	**La Plagne**	**78.26**	**345**	*eP*	**P**		**13**	**16**	**42.5**	**-0.4**
	comp=Z,5.8nm,0.7s									
LPG	**La Plagne**	**78.27**	**345**	*eP*	**P**		**13**	**16**	**42.7**	**-0.4**
LPG	**La Plagne**	**78.27**	**345**	*eP*	**P**		**13**	**16**	**42.7**	**-0.4**
LPG	**La Plagne**	**78.27**	**345**	*eP*	**P**		**13**	**16**	**42.7**	**-0.4**
WRA	**Warramunga Arr**	**79.26**	**210**	P	**P**		**13**	**16**	**47.5**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=24,slow=6.2,SNR=6.2									
WRA					pP	PcP	13	17	05.4	+8.9
	comp=Z,1.7nm,0.7s,baz=27,slow=6.3,SNR=8.5									
WRA	**Warramunga Arr**	**79.26**	**210**	P	**P**		**13**	**16**	**47.5**	**-0.8**
WRA				*PP	PcP		13	17	05.4	+8.9
WRA					pmax	pmax				
	comp=Z,1.0nm,0.8s									
WRA					pmax	pmax				
	comp=Z,2.0nm,0.7s									
ETSF	**Etsaut**	**81.76**	**350**	*eP*	**P**		**13**	**17**	**01.9**	**+0.2**
	comp=Z,11nm,0.7s									
ETSF	**Etsaut**	**81.76**	**350**	*eP*	**P**		**13**	**17**	**01.9**	**+0.2**
ETSF					pmax	pmax				
	comp=Z,11nm,0.7s									
ETSF	**Etsaut**	**81.76**	**350**	*eP*	**P**		**13**	**17**	**01.9**	**+0.2**
	comp=Z,11nm,0.7s									
ESDC	**Sonseca Array**	**85.27**	**352**	P	**P**		**13**	**17**	**19.6**	**-0.1**
	comp=Z,3.0nm,0.6s,baz=1.6,slow=4.9,SNR=17									
STKA	**Stephens Creek**	**88.95**	**200**	P	**P**		**13**	**17**	**39.2**	**+1.9**
	comp=Z,1.0nm,0.9s,baz=343,slow=15,SNR=1.7									
STKA					pP	pP	13	17	54.7	+11
	comp=Z,1.9nm,0.8s,baz=352,slow=8.1,SNR=3.5									
STKA					LR	LR	13	59	21.8	
	comp=Z,51nm,18.1s,baz=210,slow=37									
STKA	**Stephens Creek**	**88.95**	**200**	P	**P**		**13**	**17**	**39.2**	**+1.9**
STKA				*PP	pP		13	17	54.7	+11
STKA					pmax	pmax				
	comp=Z,1.0nm,0.9s									
STKA					pmax	pmax				
	comp=Z,2.0nm,0.8s									
STKA					MLR	MLR				
	comp=Z,51nm,18.1s									

*IDC **17** 13:10:34.1±9.8,22.˚60S×179.˚48W,h452km±117km, mb3.3/4,mb1 3.4/5,mb1mx3.1/19,mbtmp4.1/5,Error ellipse: s-maj=59.8km s-min=32.5km az=8.0*
*ISCJB **17** 13:10:40.7±1.4,23.˚05S±0.˚1×179.˚5W±0.˚2,h550km,mb3.9/4, Error ellipse: s-maj=25.2km s-min=18.8km az=162.1*
ISC 17 13:10:41.2±1.4,23.˚1S±0.˚2×179.˚3W±0.˚2,h550km,n16, σ1s02/16,mb3.9/4,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.43**	**191**	P	**P**		**13 13 54.3**	**-0.6**
	0.4nm,0.3s,baz=8.1,slow=7.1,SNR=3.7							
RPZ	**Rata Peaks**	**22.05**	**199**	P	**P**		**13 14 57.3**	**+1.8**
	5.3nm,0.6s,baz=323,slow=1.4,SNR=5.6							
CMSA	**Cobar Meteorol**	**32.08**	**247**	P	**P**		**13 16 23.8**	**+0.4**
	baz=29,SNR=8.3							
QLP	**Quilpie**	**33.17**	**256**	P	**P**		**13 16 32.5**	**-0.2**
	baz=30,SNR=5.1							
TOO	**Toolangi**	**33.40**	**236**	P	**P**		**13 16 35.7**	**+1.2**
	baz=30,SNR=5.2							
STKA	**Stephens Creek**	**35.59**	**247**	P	**P**		**13 16 53.2**	**+0.3**
	2.0nm,0.5s,baz=92,slow=9.6,SNR=15							
STKA	**Stephens Creek**	**35.59**	**247**	P	**P**		**13 16 53.4**	**+0.5**
	baz=33,SNR=8.5							
MANU	**Manus Island**	**38.46**	**298**	S	**S**		**13 22 34.5**	**+1.5**
	baz=37,SNR=3.3							
BBOO	**Buckleboo**	**40.32**	**246**	P	**P**		**13 17 31.0**	**-0.4**
	baz=37,SNR=14							
WRA	**Warramunga Arr**	**43.07**	**265**	P	**P**		**13 17 51.9**	**-1.4**
	0.9nm,0.2s,baz=96,slow=8.5,SNR=122							
KDU	**Kakadu**	**46.82**	**274**	P	**P**		**13 18 20.6**	**-1.4**
	baz=44,SNR=4.1							
FORT	**Forrest**	**47.16**	**249**	P	**P**		**13 18 23.9**	**-0.5**
	baz=44,SNR=7.1							
WRKA	**Warakurna**	**47.61**	**257**	P	**P**		**13 18 27.4**	**-0.5**
	baz=45,SNR=5.9							
KNRA	**Kununurra**	**49.30**	**269**	P	**P**		**13 18 39.6**	**-0.8**
	baz=46,SNR=4.3							
ILAR	**Eielson Array**	**91.10**	**13**	P	**P**		**13 22 47.4**	**+0.6**
	0.3nm,0.7s,baz=209,slow=7.2,SNR=3.6							
ARCES	**ARCESS Array B**	**131.21**	**349**	PKP	**PKPdf**		**13 28 49.4**	**-0.7**
	6.3nm,1.2s,baz=6.8,slow=3.8,SNR=3.9							

*MEX **17** 13:13:01.0±0.7,33.˚18N×115.˚89W,h16km±43km,MD3.7*
*ISCJB **17** 13:13:02.3±0.4,32.˚79N±0.˚02×115.˚94W±0.˚03,h13km±3km, Error ellipse: s-maj=4.2km s-min=3.3km az=38.9*
*NEIC **17** 13:13:04.1,32.˚69N×115.˚92W,h8km,ML3.6(PAS), ML3.7(ECX),After PAS.*
NEIC Felt at Boulevard, Encinitas, La Jolla and San Diego.
*ECX **17** 13:13:04.5±0.6,32.˚68N×115.˚92W,h4km,MD3.4,ML3.6*
ISC 17 13:13:03.4±0.8,32.71N±0.˚02×115.92W±0.˚02,h15km±5km, n33,σ1s00/50,10C-5D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.06**	**184**	⇓*eP*	**Pg**		**13 13 05.6**	**-0.6**
WESC	**Westside Schoo**	**0.17**	**71**	⇑*iP*	**Pg**		**13 13 07.6**	**+0.1**
WESC				*eS*	**Sg**		**13 13 10.9**	**+0.6**
RMX	**La Rumorosa**	**0.17**	**233**	⇑*iP*	**Pg**		**13 13 07.6**	**-0.1**
RMX				*eS*	**Sg**		**13 13 10.1**	**-0.5**
RMX				*e*			13 13 10.5	
	comp=E,11μm,0.2s							
CPBX	**Cerro Prieto**	**0.59**	**119**	*eP*	**Pg**		**13 13 15.1**	**+0.2**
CPBX	**Cerro Prieto**	**0.59**	**119**	*eP*9	**Pg**		**13 13 15.2**	**+0.2**
CPBX				*eS*	**Sb**		**13 13 23.6**	**0.0**
CPBX				IAML			13 13 25.4	
	comp=E,14μm,0.2s							
CPBX				⇑*e*			13 13 25.4	
CPBX				*e*			13 13 26.0	
CPBX				IAML			13 13 26.0	
	comp=N,13μm,0.2s							
BAR	**Barrett**	**0.64**	**268**	*eP*g	**Pg**		**13 13 15.9**	**+0.1**
BAR				*eS*g	**Sg**		**13 13 24.2**	**-0.1**
BAR	**Barrett**	**0.64**	**268**	⇑*iP*	**Pg**		**13 13 15.9**	**+0.1**
BAR				*eS*	**Sg**		**13 13 24.3**	**-0.1**
MBIG	**Mexicali**	**0.68**	**116**	*eP*	**Pg**		**13 13 16.8**	**+0.2**
MBIG				*eS*	**Sn**		**13 13 27.6**	**-1.0**
COA	**Coachella**	**0.69**	**77**	⇑*eP*	**Pg**		**13 13 16.9**	**0.0**
CBX	**Cerro Bola**	**0.74**	**238**	*eP*	**Pg**		**13 13 17.5**	**-0.4**
CBX	**Cerro Bola**	**0.74**	**238**	*eP*	**Pg**		**13 13 17.5**	**-0.4**
CBX	**Cerro Bola**	**0.74**	**238**	⇑*iP*	**Pg**		**13 13 17.9**	**0.0**
RDX	**Rancho Dawling**	**0.78**	**181**	⇓*eP*	**Pg**		**13 13 17.9**	**-0.6**
RDX				*eS*	**Sg**		**13 13 27.6**	**-1.2**
RDX				⇑*e*			13 13 29.1	
	comp=N,2μm,0.3s							
EMSC	**East Mesa**	**0.79**	**87**	⇑*eP*	**Pg**		**13 13 18.4**	**-0.2**
SDRC	**San Diego Road**	**0.86**	**272**	⇑*eP*	**Pb**		**13 13 19.7**	**-0.3**
PFO	**Pinyon Flats O**	**1.01**	**334**	*eP*g	**Pb**		**13 13 21.8**	**-0.8**
PFO				*eS*g	**Sb**		**13 13 36.3**	**+0.6**
ECNX	**Esteban Cantu**	**1.19**	**209**	⇓*eP*	**Pn**		**13 13 25.5**	**-0.1**
ZAX	**El Zacaton**	**1.23**	**194**	⇓*eP*	**Pn**		**13 13 26.1**	**+0.1**
ECBX	**El Chinero**	**1.43**	**149**	*eP*9	**Pn**		**13 13 27.1**	**-1.6**
ECBX				*eS*	**Sn**		**13 13 46.1**	**-1.2**
ECBX				⇑*e*			13 13 49.9	
ECBX				IAML			13 13 49.9	
	comp=N,926nm,0.7s							
ECBX				IAML			13 13 52.1	
	comp=E,1μm,0.5s							
ECBX				⇓*e*			13 13 52.2	
	comp=E,373nm,0.5s							
SPIG	**San Pedro Mart**	**1.70**	**167**	*eP*	**Pn**		**13 13 33.3**	**+0.6**
SPIG	**San Pedro Mart**	**1.70**	**167**	*eP*	**Pn**		**13 13 33.3**	**+0.6**
SPX	**San Pedro Mart**	**1.70**	**167**	*eP*	**Pn**		**13 13 33.2**	**+0.5**
MWC	**Mount Wilson**	**2.34**	**311**	*eP*n	**Pb**		**13 13 45.6**	**+0.2**
MWC				*eS*g	**Sb**		**13 14 15.8**	**+1.6**
PASC	**Pasadena Art C**	**2.39**	**308**	*eP*g	**Pb**		**13 13 45.8**	**-0.3**
PASC				*eS*g	**Sb**		**13 14 17.4**	**+1.9**
GSC	**Goldstone, Bar**	**2.69**	**344**	*eP*n	**Pn**		**13 13 46.0**	**-0.2**
GSC				*eP*g	**Pg**		**13 13 53.8**	**-1.2**
GSC				*eS*g	**Sg**		**13 14 29.6**	**-0.3**
214A	**Organ Pipe Nat**	**2.73**	**105**	*eP*n	**Pn**		**13 13 45.6**	**-1.1**
214A				*eP*g	**Pg**		**13 13 56.8**	**+1.0**
OSI	**Osito Audit: C**	**3.02**	**310**	Pg	**Pb**		**13 13 57.8**	**+1.0**
OSI				*eS*g	**Sb**		**13 14 36.3**	**+2.9**
ISA	**Isabella, Lake**	**3.63**	**325**	*eP*n	**Pn**		**13 13 59.4**	**+0.3**
ISA				*eP*g	**Pb**		**13 14 09.7**	**+2.5**
DAC	**Darwin (Calif)**	**3.82**	**339**	*eP*n	**Pn**		**13 13 59.6**	**-2.2**
SHPR	**Sheep Range**	**3.84**	**9**	*eP*n	**Pn**		**13 14 02.6**	**+0.5**
SHPR				*eP*g	**Pg**		**13 14 15.1**	**-1.9**
TUC	**Tucson**	**4.36**	**94**	*eP*n	**Pn**		**13 14 09.5**	**+0.5**
R11A	**Troy Canyon, C**	**5.64**	**3**	*eP*g	**Pg**		**13 14 50.6**	**-0.7**
	comp=E,2.6nm,0.7s							
121A	**Cookes Peak, D**	**6.87**	**89**	*eP*	**Pn**		**13 14 44.0**	**+0.3**
	comp=E,4.0nm,0.4s							

*CSEM **17** 13:14:22.0,57.˚78N×12.˚00E,h0km,ML0.9,Mining explosion.*
UPP 17 13:14:22.0,57.˚78N×12.˚00E,h0km,ML0.9,Mining explosion.,Sweden

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TJOU	**Tjoern**	**0.32**	**322**	P	P	g	13 14 28.2	+0.1
TJOU				S	S	g	13 14 32.4	+0.1
BORU	**Boraas**	**0.44**	**109**	P	P	g	13 14 30.4	0.0
FABU	**Falkenberg**	**0.88**	**153**	P	P	g	13 14 38.3	-0.4
NASU	**Vaermlandsnaes**	**1.31**	**28**	P	P	g	13 14 45.8	-1.3
LNKU	**Linkoeping**	**1.92**	**75**	P	P	n	13 14 56.8	+0.9

*IDC **17** 13:15:56.2±1.4,7.˚84S×118.˚79E,h0km,mb3.7/3, mb1 3.9/5,mb1mx3.6/23,mbtmp3.8/5,ML3.7/2,Error ellipse: s-maj=46.1km s-min=21.1km az=67.0*
*ISCJB **17** 13:15:59.9±0.6,7.˚73S±0.˚04×118.˚94E±0.˚05,h33km, mb3.8/3,Error ellipse: s-maj=7.7km s-min=5.3km az=144.3*
*DJA **17** 13:16:00.9±0.9,8˚S±2˚×11˚9E±˚,h36km±12km,M4.0/14, mb4.1/2,mB5.1/1,MLv3.9/14,Mw(mB)4.4/1*
ISC 17 13:16:01.7±0.9,7.75S±0.˚06×118.96E±0.˚05,h35km,n16, σ0s80/18,mb3.9/3,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.93**	**167**	S	**Sn**		**13 16 55.2**	**+0.1**
BSSI	**Bau Bau, Buton**	**2.20**	**44**	P	**Pn**		**13 16 35.2**	**-0.5**
WSI	**Waingapu**	**2.32**	**145**	P	Pn		13 16 44.7	+7.3
WSI				S	**Sn**		**13 17 06.8**	**+2.0**
BKSI	**Bulukumba**	**2.67**	**26**	P	**Pn**		**13 16 41.7**	**-0.5**
KAPI	**Kappang**	**2.83**	**16**	Pn	**Pn**		**13 16 44.0**	**-0.4**
	5.1nm,0.3s,baz=201,slow=11,SNR=40							
KAPI				Sn	Sn		13 17 23.3	+6.1
	23nm,0.3s,baz=130,slow=23,SNR=8.9							
EDFI	**Ende, Flores**	**2.88**	**110**	P	**Pn**		**13 16 45.0**	**-0.2**
EDFI				S	**Sn**		**13 17 19.0**	**+0.4**
MMRI	**Maumere**	**3.36**	**105**	P	**Pn**		**13 16 51.3**	**-0.4**
MMRI				S	**Sn**		**13 17 30.0**	**-0.4**
BNSI	**Bone**	**3.51**	**19**	P	**Pn**		**13 16 54.9**	**+1.1**
SRBI	**Singaraja**	**3.73**	**265**	P	**Pn**		**13 16 55.7**	**-1.1**
SPSI	**Sidrap Palu**	**3.84**	**12**	P	**Pn**		**13 16 58.7**	**+0.4**
TTSI	**Tana Toraja**	**4.75**	**10**	P	**Pn**		**13 17 10.6**	**-0.2**
KMMI	**Kalianget**	**5.00**	**278**	P	**Pn**		**13 17 14.9**	**+0.6**
WRA	**Warramunga Arr**	**19.21**	**131**	P	**P**		**13 20 21.8**	**-1.0**
	0.4nm,0.3s,baz=303,slow=13,SNR=24							
STKA	**Stephens Creek**	**31.95**	**142**	P	**P**		**13 22 24.8**	**+0.5**
	1.3nm,0.4s,baz=321,slow=8.5,SNR=9.1							
MKAR	**Makanchi Array**	**63.33**	**333**	P	**P**		**13 26 27.0**	**-0.2**
	0.4nm,0.4s,baz=152,slow=6.4,SNR=7.4							
KURBB	**Kurchatov Arra**	**67.84**	**334**	P	**P**		**13 26 56.2**	**0.0**
	0.1nm,0.3s,baz=140,slow=5.6,SNR=2.3							

*IDC **17** 13:20:02.3±1.5,25.˚86N×128.˚57E,h0km,mb3.6/4, mb1 3.8/5,mb1mx3.4/36,mbtmp3.7/5,ML3.6/1,Error ellipse: s-maj=50.9km s-min=21.2km az=77.0*
*JMA **17** 13:20:04.7±0.3,25.˚88N×128.˚72E,h49km,M3.6*
ISC 17 13:20:03.8±1.7,25.81N±0.˚05×128.72E±0.˚04,h29km±14km, n23,σ1s31/35,mb3.6/4,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.94**	**291**	P	**Pb**		**13 20 21.6**	**+0.1**
JJT2				S	**Sn**		**13 20 33.7**	**+0.2**
JNTH	**Nagotoyohara**	**0.95**	**318**	P	**Pn**		**13 20 20.8**	**-0.4**
JNTH				*eS*	**Sb**		**13 20 33.2**	**-0.6**
JOW	**Kunigami**	**1.09**	**339**	P	**Pn**		**13 20 23.2**	**-0.1**
JOW				*eS*	**Sn**		**13 20 36.5**	**-1.0**
JOW	**Kunigami**	**1.09**	**339**	Pn	**Pn**		**13 20 23.0**	**-0.3**
	baz=170,slow=13							
JIH	**Iheya**	**1.40**	**331**	P	**Pn**		**13 20 27.7**	**+0.3**
JIH				S	**Sn**		**13 20 44.0**	**-0.9**
JAGN	**Aguni-jima**	**1.54**	**301**	P	**Pn**		**13 20 30.0**	**+0.6**
JAGN				S	**Sn**		**13 20 48.0**	**-0.4**
JOKE	**Okinoerabujima**	**1.55**	**355**	P	**Pn**		**13 20 29.9**	**+0.3**
JOKE				S	**Sn**		**13 20 46.9**	**-1.9**
JKE	**Kume jima 2**	**1.82**	**287**	P	**Pn**		**13 20 33.6**	**+0.4**
JKE				*eS*	**Sn**		**13 20 54.5**	**-0.7**
JTK	**Tokunoshima**	**1.98**	**6**	P	**Pn**		**13 20 35.7**	**+0.3**
JTK				S	**Sn**		**13 20 57.0**	**-2.3**
JMZ	**Minamidaito 2**	**2.25**	**89**	P	**Pn**		**13 20 39.7**	**+0.5**
JMZ				S	**Sn**		**13 21 04.0**	**-2.0**
JOGS	**Gusukube**	**3.18**	**252**	P	**Pn**		**13 20 53.4**	**+1.5**
JOGS				*eS*	**Sn**		**13 21 29.1**	**+0.2**
JIKM	**Ikemajima**	**3.27**	**255**	P	**Pn**		**13 20 54.5**	**+1.4**
JIKM				*eS*	**Sn**		**13 21 30.0**	**-1.0**
JIRB	**Irabujima**	**3.36**	**254**	P	**Pn**		**13 20 55.4**	**+1.0**
JTJ	**Tarama**	**3.82**	**253**	P	**Pn**		**13 21 01.0**	**+0.2**
JTJ				S	**Sn**		**13 21 41.8**	**-3.0**
JISG	**Ishigakijimahi**	**4.18**	**254**	P	**Pn**		**13 21 05.5**	**-0.1**
JISG				*eS*

0.9nm,0.9s,baz=140,slow=9.1,SNR=4.7
TLY Talaya 29.57 328 LR LR 14 09 36.7
comp=Z,46nm,18.1s,baz=167,slow=40
MKAR Makanchi Array 40.19 310 P **P 13 57 31.0 +0.6**
0.3nm,0.6s,baz=101,slow=7.5,SNR=4.2
MKAR LR LR 14 15 04.4
comp=Z,22nm,18.9s,baz=114,slow=38
WRA Warramunga Arr 48.69 173 P **P 13 58 37.9 -0.6**
1.0nm,0.9s,baz=354,slow=8.3,SNR=9.0
ILAR Eielson Array 62.09 29 P **P 14 00 13.6 -1.1**
0.2nm,0.8s,baz=278,slow=6.3,SNR=3.3

DJA 17 13:53:16.8±1.3, 10°S±4°×11°4E±°, h19km±16km, M4.0/16, mb4.5/2, MLv3.8/16, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.62**	**346**	P	Pn	13 53 43.7	-0.6
GMJI				S	Sn	13 54 04.1	-0.6
IGBI	**Denpasar**	**1.64**	**51**	P	Pn	13 53 43.4	-1.2
DNP	**Denpasar**	**1.78**	**49**	P	Pg	13 53 53.3	+2.2
ABJI	**Asem Bagus**	**2.08**	**11**	P	Pn	13 53 52.1	+1.5
BLJI	**Banyuglugur**	**2.11**	**353**	P	Pn	13 53 52.0	+0.9
SRBI	**Singaraja**	**2.21**	**38**	P	Pn	13 53 52.3	-0.2
SRBI				S	Sn	13 54 19.8	+0.5
PWJI	**Pagerwojo**	**2.72**	**312**	P	Pn	13 53 58.9	-0.6
PWJI				S	Sn	13 54 30.1	-1.7
KMMI	**Kalianget**	**2.78**	**2**	P	Pn	13 54 01.5	+1.1
PCJI	**Pacitan**	**3.11**	**302**	P	Pn	13 54 04.3	-0.6
UGM	**Wanagama**	**3.81**	**300**	P	Pn	13 54 14.1	-0.5
CMJI	**Cimerak**	**5.72**	**291**	P	Pn	13 54 39.8	-1.0
	60nm,1.6s,0.3nm						
CISI	**Cisompet, Garu**	**6.39**	**290**	P	Pn	13 54 48.8	-1.2

*BJI **17** 14:04:15.4,51.20N×179.10W,h32km,mb4.5/11,mB4.9/6, Ms4.0/2,Ms7 3.6/2*
*MOS **17** 14:04:17.9±1.4,51.50N×178.42W,h33km,mb4.3/15, Error ellipse: s-maj=14.8km s-min=11.1km az=55.1*
*ISCJB **17** 14:04:19.0±0.3,51.22N±0.05×178.36W±0.03,h45km, mb4.2/42,MS3.2/11,Error ellipse: s-maj=7.8km s-min=3.0km az=173.0*
*NEIC **17** 14:04:19.5,51.23N×178.34W,h26km,mb4.1/24, ML4.1(AEIC),After AEIC.*
*IDC **17** 14:04:21.7±4.7,51.55N×178.36W,h55km±42km,mb3.7/19, mb1 3.8/21,mb1mx3.7/34,mbtmp4.0/21,ML2.9/2,MS3.2/12, Ms1 3.2/12,ms1mx3.1/27,Error ellipse: s-maj=23.2km s-min=11.7km az=167.0*
ISC 17 14:04:20.3±0.5, 51°42N±0°09×178°41W±0°03, h45km, n133,σ1§38/124, mb4.1/41, MS3.1/11, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAEA	**Gareloi East**	**0.42**	**331**	P	**Pn**	**14 04 31.8**	**+1.5**
TAFL	**Tanaga Flats**	**0.47**	**43**	P	**Pn**	**14 04 31.2**	**+0.4**
TASE	**Tanaga Southea**	**0.48**	**29**	P	**Pn**	**14 04 31.9**	**+0.8**
TANO	**Tanaga North**	**0.53**	**20**	P	**Pn**	**14 04 32.7**	**+1.1**
TAFP	**Tanaga Falls P**	**0.56**	**29**	P	**Pn**	**14 04 32.6**	**+0.7**
KIKV	**Kanaga Island**	**0.90**	**59**	P	**Pn**	**14 04 36.7**	**+0.1**
KICM	**Kanaga Island**	**0.91**	**56**	P	**Pn**	**14 04 37.3**	**+0.6**
KIRH	**Kanaga Island**	**0.95**	**59**	P	**Pn**	**14 04 37.6**	**+0.3**
CERB	**Semis' Cerberu**	**1.32**	**294**	P	**Pn**	**14 04 44.2**	**+1.9**
CERB				S	**Sn**	**14 05 01.9**	**+3.1**
ETKA	**Kagalaska Isla**	**1.33**	**70**	P	**Pn**	**14 04 42.2**	**-0.1**
CESW	**Semis' Southwe**	**1.35**	**292**	P	**Pn**	**14 04 43.9**	**+1.3**
CEAP	**Semis' Anvil P**	**1.38**	**296**	P	**Pn**	**14 04 44.9**	**+1.8**
CETU	**Semis' Tuman**	**1.41**	**294**	P	**Pn**	**14 04 45.3**	**+1.8**
AMKA	**Amchitka**	**1.43**	**269**	P	**Pn**	**14 04 43.9**	**+0.1**
AMKA				S	**Sn**	**14 05 02.2**	**+0.9**
GSCK	**Great Sitkin C**	**1.52**	**66**	P	**Pn**	**14 04 45.6**	**+0.6**
GSTD	**Great Sitkin T**	**1.55**	**65**	P	**Pn**	**14 04 46.3**	**+0.9**
GSTD				S	**Sn**	**14 05 07.3**	**+2.9**
GSMY	**Great Sitkin M**	**1.59**	**66**	P	**Pn**	**14 04 46.6**	**+0.6**
GSTR	**Great Sitkin T**	**1.61**	**64**	P	**Pn**	**14 04 47.7**	**+1.4**
LSPA	**Little Sitkin**	**1.95**	**287**	P	**Pn**	**14 04 52.8**	**+1.9**
LSSA	**Little Sitkin**	**1.99**	**287**	P	**Pn**	**14 04 52.7**	**+1.3**
LSNW	**Little Sitkin**	**1.99**	**287**	P	**Pn**	**14 04 53.0**	**+1.6**
ATKA	**Atka Island**	**2.73**	**72**	P	**Pn**	**14 05 02.8**	**+1.2**
ATKA				S	**Sn**	**14 05 35.4**	**+2.0**
KOKL	**Mount Kliuchef**	**2.77**	**69**	P	**Pn**	**14 05 04.6**	**+2.5**
KOFP	**Korovin Flat P**	**2.81**	**70**	P	**Pn**	**14 05 05.4**	**+2.7**
MSOM	**Makushin Julie**	**7.38**	**67**	P	**Pn**	**14 06 08.2**	**+2.9**
MSOM	**Makushin Julie**	**7.38**	**67**	P	**Pn**	**14 06 08.2**	**+2.9**
SPIA	**Saint Paul Isl**	**7.49**	**36**	P	Pn	14 06 10.6	+3.8
MREP	**Makushin Rep't**	**7.50**	**67**	P	**Pn**	**14 06 10.1**	**+3.1**
MSW	**Makushin Switc**	**7.50**	**66**	P	Pn	14 06 10.3	+3.3
UNV	**Unalaska Valle**	**7.65**	**67**	P	**Pn**	**14 06 11.4**	**+2.5**
PETK	**Petropavlovsk-**	**14.71**	**286**	P	**Pn**	**14 07 47.7**	**+2.5**
	0.1nm,0.3s,baz=90,slow=20,SNR=4.1						
PETK				LR	LR	14 13 13.2	
	comp=Z,101nm,21.5s,baz=93,slow=36						
PPLA	**Purkeypile**	**18.13**	**41**	*e*Pn	Pn	14 08 34.5	+6.0
SEW	**Seward**	**18.34**	**50**	*e*P	**P**	**14 08 30.4**	**-0.2**
KTH	**Kantishna Hill**	**18.94**	**40**	*e*P	**Pn**	**14 08 38.0**	**-0.2**
TRF	**Thorofare Moun**	**19.15**	**40**	*e*P	**Pn**	**14 08 42.6**	**+1.8**
BPAW	**Bear Paw Mtn.**	**19.17**	**38**	*e*P	**Pn**	**14 08 40.8**	**-0.2**
IM04	**Indian Mountai**	**19.20**	**31**	*e*P	**Pn**	**14 08 41.0**	**-0.3**
SEY	**Seymchan**	**19.38**	**318**	P	**P**	**14 08 41.9**	**-0.1**
	0.1nm,0.3s,baz=75,slow=11,SNR=3.6						
MCK	**McKinley**	**19.82**	**40**	*e*P	**Pn**	**14 08 50.2**	**+1.6**
MCK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MCK	**McKinley**	**19.82**	**40**	*e*P	**Pn**	**14 08 50.1**	**+1.6**
	comp=Z,5.1nm,0.7s						
COLA	**College**	**20.73**	**38**	P	Pn	14 08 58.5	-0.9
COLA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
COLA	**College**	**20.73**	**38**	P	Pn	14 08 58.5	-0.8
	comp=Z,7.2nm,1.0s						
PAX	**Paxson**	**21.00**	**44**	*e*P	**P**	**14 09 01.4**	**+1.8**
PAX				pmax	pmax		
	comp=Z,5.0nm,0.7s						
PAX	**Paxson**	**21.00**	**44**	*e*P	**P**	**14 09 01.4**	**+1.8**
	comp=Z,4.6nm,0.7s						
ILAR	**Eielson Array**	**21.06**	**39**	P	**P**	**14 08 59.2**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=239,slow=10,SNR=6.0						
ILAR				LR	LR	14 17 14.5	
	comp=Z,65nm,18.4s,baz=252,slow=37						
COLD	**Coldfoot**	**21.10**	**31**	*e*P	**P**	**14 09 02.3**	**+1.8**
	comp=Z,4.9nm,1.1s						
DOT	**Dot Lake**	**21.81**	**43**	*e*P	**P**	**14 09 09.2**	**+1.0**
	comp=Z,3.7nm,0.7s						
EGAK	**Eagle**	**23.36**	**41**	*e*P	**P**	**14 09 24.3**	**0.0**
	comp=Z,5.7nm,1.0s						
YSS	**Yuzh-Sakhalins**	**25.56**	**275**	*e*P	**P**	**14 09 46.0**	**+1.4**
ASAJ	**Asahikawa**	**26.95**	**270**	P	**P**	**14 09 58.2**	**+1.0**
	comp=Z,8.2nm,0.9s,baz=6.9,slow=2.7,SNR=4.5						
ASAJ	**Asahikawa**	**26.95**	**270**	P	**P**	**14 09 58.2**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BBB	**Bella Bella**	**30.61**	**68**	LR	LR	14 22 45.8	
	comp=Z,55nm,18.1s,baz=264,slow=36						
KLR	**Kul'dur**	**31.40**	**286**	*e*P	P	14 10 32.0	-4.7
USRK	**Ussuriysk Ar.**	**33.53**	**277**	P	**P**	**14 10 55.4**	**0.0**
	comp=Z,3.3nm,0.8s,baz=46,slow=6.5,SNR=5.8						
USRK				LR	LR	14 23 38.3	
	comp=Z,19nm,21.0s,baz=322,slow=34						
H11N2	**WAKE ISLAND Hy**	**33.67**	**206**	T	T	14 47 41.9	
	baz=18,slow=76,SNR=254						
H11N3	**WAKE ISLAND Hy**	**33.68**	**205**	T	T	14 47 42.5	
	baz=18,slow=76,SNR=347						
H11N1	**WAKE ISLAND Hy**	**33.69**	**206**	T	T	14 47 44.4	
	baz=18,slow=76,SNR=302						
MJAR	**Matsushiro Arr**	**34.03**	**261**	P	**P**	**14 11 00.8**	**+1.0**
	comp=Z,1.7nm,0.7s,baz=51,slow=7.2,SNR=6.5						
MJAR				LR	LR	14 22 58.2	
	comp=Z,42nm,21.3s,baz=85,slow=33						
H11S1	**WAKE ISLAND Hy**	**34.89**	**205**	T	T	14 48 15.6	
	baz=17,slow=76,SNR=386						
H11S2	**WAKE ISLAND Hy**	**34.90**	**205**	T	T	14 48 23.1	
	baz=17,slow=76,SNR=288						
H11S3	**WAKE ISLAND Hy**	**34.90**	**205**	T	T	14 48 23.6	
	baz=17,slow=76,SNR=283						
YKA	**Yellowknife Ar**	**35.03**	**47**	P	**P**	**14 11 06.6**	**-1.5**
	comp=Z,0.6nm,0.8s,baz=192,slow=32,SNR=3.3						
YKA				PcP	**PcP**	**14 13 39.4**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=291,slow=3.3,SNR=5.4						
YKA	**Yellowknife Ar**	**35.03**	**47**	P	**P**	**14 11 06.6**	**-1.5**
YKA						14 13 39.4	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NEW	**Newport**	**38.64**	**70**	P	**P**	**14 11 39.1**	**+0.1**
	comp=Z,3.8nm,0.8s,baz=285,slow=10,SNR=6.4						
NEW				LR	LR	14 25 43.1	
	comp=Z,29nm,19.0s,baz=294,slow=33						
NEW	**Newport**	**38.64**	**70**	*e*P	**P**	**14 11 38.7**	**-0.4**
	comp=Z,2.5nm,0.6s						
KSRS	**Korea Array**	**39.88**	**271**	P	**P**	**14 11 50.7**	**+1.3**
	comp=Z,2.4nm,0.9s,baz=51,slow=8.4,SNR=8.8						
KSRS				LR	LR	14 31 34.9	
	comp=Z,18nm,18.1s,baz=74,slow=41						
KSRS	**Korea Array**	**39.88**	**271**	P	**P**	**14 11 50.7**	**+1.3**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KSRS				MLR	MLR		
	comp=Z,18nm,18.2s						
BSMT	**Bassoo Peak**	**40.21**	**69**	*e*P	**P**	**14 11 52.5**	**+0.1**
	comp=Z,4.5nm,0.8s						
BSMT				*e*		14 12 02.1	
BLMT	**Blacktail Moun**	**40.38**	**69**	*e*P	**P**	**14 11 54.0**	**+0.2**
	comp=Z,7.5nm,0.8s						
BLMT				*e*		14 12 03.4	
HLID	**Hailey**	**42.70**	**74**	*e*P	**P**	**14 12 13.9**	**+1.2**
	comp=Z,2.3nm,1.0s						
MCMT	**McKenzie Canyo**	**42.94**	**72**	*e*P	**P**	**14 12 14.8**	**+0.1**
	comp=Z,1.9nm,0.7s						
MCMT				*e*		14 12 24.4	
GCMT	**Greycliff**	**44.29**	**69**	*e*P	**P**	**14 12 26.0**	**+0.5**
	comp=Z,1.3nm,0.9s						
H17A	**Grant Village**	**44.53**	**71**	*e*P	**P**	**14 12 29.3**	**+1.8**
	comp=Z,7.1nm,1.1s						
IMW	**Indian Meadow**	**44.59**	**72**	*e*P	**P**	**14 12 28.1**	**0.0**
	comp=Z,1.3nm,0.7s						
HVU	**Hansel Valley**	**44.71**	**76**	*e*P	**P**	**14 12 29.3**	**+0.4**
HVU	**Hansel Valley**	**44.71**	**76**	*e*P	**P**	**14 12 29.3**	**+0.4**
RLMT	**Red Lodge**	**44.89**	**70**	*e*P	**P**	**14 12 31.3**	**+0.9**
	comp=Z,4.6nm,0.8s						
RLMT				*e*		14 12 40.3	
R11A	**Troy Canyon, C**	**45.04**	**81**	*e*P	**P**	**14 12 31.3**	**-0.3**
	comp=Z,6.2nm,1.3s						
R11A				*e*		14 12 41.3	
DUG	**Dugway, Tooele**	**45.62**	**77**	*e*P	**P**	**14 12 36.7**	**+0.6**
DUG				pmax	pmax		
	comp=Z,12nm,1.3s						
DUG	**Dugway, Tooele**	**45.62**	**77**	*e*P	**P**	**14 12 36.7**	**+0.6**
	comp=Z,12nm,1.3s						
BW06	**Boulder Array**	**46.07**	**72**	*e*P	**P**	**14 12 40.4**	**+0.7**
	comp=Z,6.5nm,0.8s						
PDAR	**Pinedale Array**	**46.07**	**72**	P	**P**	**14 12 39.9**	**+0.2**
	comp=Z,4.9nm,1.1s,baz=319,slow=5.9,SNR=20						
PDAR				LR	LR	14 30 43.2	
	comp=Z,13nm,18.0s,baz=282,slow=34						
SONM	**Songino Array**	**46.85**	**297**	P	**P**	**14 12 46.1**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=55,slow=7.6,SNR=3.7						
SONM	**Songino Array**	**46.85**	**297**	P	**P**	**14 12 46.1**	**+0.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SRU	**San Rafael Swe**	**47.69**	**77**	*e*P	**P**	**14 12 53.3**	**+1.0**
SRU				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SRU	**San Rafael Swe**	**47.69**	**77**	*e*P	**P**	**14 12 53.3**	**+1.0**
	comp=Z,4.2nm,0.8s						
HHC	**Hu-ho-hao-te**	**47.91**	**286**	*e*P	P	14 12 48.0	-5.9
HHC				PP	PP	14 14 38.6	-7.3
HHC				S	S	14 19 38.9	-9.2
HHC				sS	sS	14 19 55.5	-13
HHC				SS	SS	14 23 00.3	-16
HHC				PMZ			
	comp=Z,6.0nm,0.9s						
HHC				PMZ			
	comp=Z,78nm,8.6s						
HHC				LN			
	comp=Z,90nm,18.5s						
HHC				LE			
	comp=Z,82nm,14.8s						
HHC				LZ			
	comp=Z,54nm,19.7s						
PV01	**Paradox Valley**	**49.49**	**77**	*e*P	**P**	**14 13 06.3**	**0.0**
	comp=Z,416nm,0.8s						
SPITS	**Spitsbergen Ar**	**50.35**	**356**	P	**P**	**14 13 11.4**	**-0.6**
	comp=Z,1.6nm,0.5s,baz=37,slow=5.6,SNR=6.2						
SPITS	**Spitsbergen Ar**	**50.35**	**356**	P	**P**	**14 13 11.4**	**-0.6**
SPITS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SDCO	**Great Sand Dun**	**51.60**	**75**	*e*P	**P**	**14 13 22.8**	**+0.6**
	comp=Z,2.2nm,1.1s						
LAZ	**Ladron**	**52.79**	**79**	*e*P	**P**	**14 13 32.2**	**+1.2**
	comp=Z,1.2nm,1.1s						
ZALV	**Zalesovo Beam**	**54.18**	**314**	LR	LR	14 39 09.3	
	comp=Z,39nm,18.5s,baz=70,slow=39						
LZH	**Lanzhou**	**55.60**	**286**	*e*P	P	14 13 44.4	-7.0
LZH				pP	pP	14 13 53.3	-11
LZH				sP	sP	14 13 58.9	-10
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
MNTX	**Cornudas Mount**	**55.70**	**81**	*e*P	**P**	**14 13 51.9**	**-0.1**
	comp=Z,1.9nm,0.9s						
MNTX				*e*		14 14 01.9	
GTA	**Gaotai**	**55.78**	**292**	*e*P	**P**	**14 13 53.3**	**+0.7**
GTA				pP	**pP**	**14 14 03.4**	**-1.9**
GTA				sP	**sP**	**14 14 07.3**	**-3.2**
GTA				PMZ			
	comp=Z,8.0nm,1.1s						
ARCES	**ARCESS Array B**	**58.10**	**350**	P	**P**	**14 14 07.3**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=28,slow=7.8,SNR=7.3						
ARCES	**ARCESS Array B**	**58.10**	**350**	P	**P**	**14 14 07.3**	**-1.1**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	**Lajitas Array**	**58.41**	**81**	P	**P**	**14 14 11.2**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=292,slow=4.0,SNR=8.9						
TXAR	**Lajitas Array**	**58.41**	**81**	P	**P**	**14 14 11.2**	**-0.1**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WMQ	**Urumqi**	**59.52**	**303**	*e*P	**P**	**14 14 15.9**	**-2.9**
WMQ				pP	pP	14 14 26.0	-5.5
WMQ				sP	sP	14 14 29.9	-6.8
WMQ				PcP	**PcP**	**14 15 03.5**	**-2.3**
WMQ				S	**S**	**14 22 20.1**	**-4.9**
WMQ				PMZ			
	comp=Z,11nm,0.4s						
WMQ				PMZ			
	comp=Z,88nm,4.0s						
WMQ				LN			
	comp=Z,49nm,20.8s						
WMQ				LE			
	comp=Z,47nm,20.0s						
WMQ				LZ			
	comp=Z,54nm,22.2s						
MKAR	**Makanchi Array**	**60.20**	**309**	LR	LR	14 40 50.7	
	comp=Z,47nm,21.2s,baz=27,slow=36						
SFIN	**Lafayette**	**60.52**	**61**	*e*P	**P**	**14 14 22.9**	**-2.6**
	comp=Z,5.4nm,0.8s						
MIAR	**Mount Ida**	**60.88**	**70**	P	**P**	**14 14 27.2**	**-0.9**
MIAR				pmax	pmax		
	comp=Z,8.0nm,1.4s						
MIAR	**Mount Ida**	**60.88**	**70**	P	**P**	**14 14 27.2**	**-0.9**
	comp=Z,8.1nm,1.4s						
BVAR	**Borovoye Array**	**61.02**	**320**	P	**P**	**14 14 28.6**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=66,slow=5.9,SNR=4.7						
BVAR	**Borovoye Array**	**61.02**	**320**	P	**P**	**14 14 28.6**	**-0.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TKL	**Tuckaleechee C**	**65.72**	**63**	P	**P**	**14 14 59.8**	**-0.3**
	comp=Z,5.5nm,0.8s,baz=277,slow=5.3,SNR=8.4						
TKL	**Tuckaleechee C**	**65.72**	**63**	P	**P**	**14 14 59.8**	**-0.3**
TKL				pmax	pmax		
	comp=Z,6.0nm,0.8s						
NOA	**NORSAR Array B**	**67.63**	**355**	LR	LR	14 43 08.3	
	comp=Z,11nm,21.8s,baz=5.0,slow=34						
AKTO	**Aktyubinsk**	**67.79**	**325**	P	**P**	**14 15 12.9**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=8.4,slow=8.6,SNR=3.6						
AKTO	**Aktyubinsk**	**67.79**	**325**	P	**P**	**14 15 12.9**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s						
HFS	**Hagfors**	**68.38**	**354**	P	**P**	**14 15 15.0**	**-1.5**
	comp=Z,0.4nm,0.4s,baz=120,slow=2.4,SNR=4.0						
CMAR	**Chiang Mai Arr**	**71.25**	**276**	P	**P**	**14 15 34.9**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=19,slow=7.2,SNR=5.4						
TAPN	**Taplejung**	**71.42**	**291**	*e*P	**P**	**14 15 37.1**	**+1.0**
	comp=Z,59nm,1.0s						
ODAN	**Odare**	**71.97**	**290**	*e*P	**P**	**14 15 40.1**	**+0.7**
GUN	**Gumba**	**72.07**	**292**	*e*P	**P**	**14 15 41.0**	**+0.9**
JIRN	**Jiri**	**72.07**	**292**	*e*P	**P**	**14 15 41.3**	**+1.2**
	comp=Z,41nm,0.7s						
RAMN	**Ramite**	**72.37**	**291**	*e*P	**P**	**14 15 42.6**	**+0.8**
	comp=Z,37nm,0.5s						
KKN	**Kakani**	**72.50**	**293**	*e*P	**P**	**14 15 43.4**	**+0.9**
PKI	**Pulchoki**	**72.59**	**292**	*e*P	**P**	**14 15 43.8**	**+0.6**
PKIN	**Phulchoki**	**72.60**	**292**	*e*P	**P**	**14 15 44.4**	**+1.3**
GKN	**Gorkha**	**72.71**	**293**	*e*P	**P**	**14 15 44.5**	**+0.8**
DMN	**Daman**	**72.74**	**293**	*e*P	**P**	**14 15 44.8**	**+0.8**
KOLN	**Koldanda**	**73.49**	**294**	*e*P	**P**	**14 15 48.8**	**+0.5**
	comp=Z,13nm,0.9s						
GERES	**GERESS Array B**	**79.58**	**352**	LR	LR	14 54 01.3	
	comp=Z,16nm,19.7s,baz=286,slow=38						
WRA	**Warramunga Arr**	**82.21**	**224**	P	**P**	**14 16 35.8**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=35,slow=6.3,SNR=4.6						
STKA	**Stephens Creek**	**90.09**	**213**	P	**P**	**14 17 16.2**	**+1.3**
	comp=Z,1.6nm,0.7s,baz=327,slow=6.6,SNR=6.3						
STKA	**Stephens Creek**	**90.09**	**213**	P	**P**	**14 17 16.2**	**+1.3**
STKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MAW	**Mawson**	**146.66**	**218**	PKPbc	**PKPbc**	**14 23 55.0**	**-0.5**
	comp=Z,2.6nm,0.8s,baz=26,slow=7.6,SNR=4.4						
MAW	**Mawson**	**146.66**	**218**	PKP2	**PKPbc**	**14 23 55.0**	**-0.5**
MAW				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BOSA	**Boshof**	**151.13**	**313**	PKPbc	**PKPbc**	**14 24 08.2**	**-0.1**
	comp=Z,4.0nm,0.8s,baz=16,slow=1.3,SNR=5.3						
BOSA				PKPab	**PKPab**	**14 24 17.6**	**+1.4**
	comp=Z,3.5nm,0.6s,baz=40,slow=2.7,SNR=7.2						
BOSA	**Boshof**	**151.13**	**313**	PKIKP	**PKPbc**	**14 24 08.2**	**-0.1**
BOSA						14 24 17.6	
BOSA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BOSA				pmax	pmax		
	comp=Z,4.0nm,0.6s						

*CSEM **17** 14:08:08.9±0.1,46.48N×14.47E,h10km,ML3.1/15,Error ellipse: s-maj=1.0km s-min=0.8km az=108.0*
*VIE **17** 14:08:08.6±0.2,46.48N×14.48E,h11km±2km,mb2.6/1, ML2.9/4,Error ellipse: s-maj=1.9km s-min=0.9km az=173.0 7 km ENE of Zell Pfarre felt 4 ems98 at Zell/Carinthia*
*PRU **17** 14:08:09.4,46.46N×14.49E,h2km*
*LJU **17** 14:08:09.0,46.47N×14.45E,h7km,ML2.3*
ISC 17 14:08:09.1±1.2, 46.48N±0.02×14.47E±0.02, h10km±6km, n41,σ0§26/50, 2C-7D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBKA	**Obir**	**0.06**	**62**	⇓*i*Pg	**Pg**	**14 08 11.3**	**+0.1**
	278nm,0.1s						
OBKA				⇑*i*Sg	**Sg**	**14 08 12.8**	**0.0**
	3μm,0.1s						
OBKA	**Obir**	**0.06**	**62**	Pg	**Pg**	**14 08 11.3**	**+0.1**
	278nm,0.1s						
OBKA				Sg	**Sg**	**14 08 12.8**	**0.0**
	3μm,0.1s						
MOZS	**Mozjanca**	**0.19**	**186**	⇓*i*Pg	**Pg**	**14 08 12.9**	**-0.1**
MOZS				*i* Sg	**Sg**	**14 08 15.3**	**-0.5**
	comp=Z,448nm,0.1s						
MOZS	**Mozjanca**	**0.19**	**186**	⇓*i*Pg	**Pg**	**14 08 12.9**	**-0.1**
MOZS				*i* Sg	**Sg**	**14 08 15.3**	**-0.5**
	comp=Z,448nm,0.1s						
GORS	**Gorjuse**	**0.37**	**244**	*i* Sg	**Sg**	**14 08 21.5**	**+0.2**
	comp=Z,105nm,0.1s						
GORS	**Gorjuse**	**0.37**	**244**	*i* Sg	**Sg**	**14 08 21.5**	**+0.2**
	comp=Z,105nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.41**	**157**	⇓*i*Pg	**Pg**	**14 08 17.2**	**+0.1**
VNDS				*i* Sg	**Sg**	**14 08 22.9**	**+0.3**
	comp=Z,142nm,0.1s						
CRNS	**Crni Vrh**	**0.43**	**200**	*i* Pg	**Pg**	**14 08 17.5**	**+0.1**
CRNS				*i* Sg	**Sg**	**14 08 23.3**	**+0.2**
	comp=Z,149nm,0.1s						
SOKA	**Soboth**	**0.43**	**63**	⇑*i*Sg	**Sg**	**14 08 23.4**	**+0.1**
	comp=Z,52nm,0.1s						
SOKA	**Soboth**	**0.43**	**63**	Sg	**Sg**	**14 08 23.4**	**+0.1**
	comp=Z,52nm,0.1s						
LJU	**Ljubljana**	**0.44**	**175**	*i* Pg	**Pg**	**14 08 17.7**	**+0.1**
LJU				*e*Sg	**Sg**	**14 08 23.1**	**-0.3**
	comp=Z,76nm,0.1s						
LJU	**Ljubljana**	**0.44**	**175**	*i* Pg	**Pg**	**14 08 17.7**	**+0.1**
	comp=Z,76nm,0.1s						
PERS	**Pernice**	**0.47**	**71**	*i* Pg	**Pg**	**14 08 18.5**	**+0.3**
PERS	**Pernice**	**0.47**	**71**	*i* Pg	**Pg**	**14 08 18.5**	**+0.3**
PDKS	**Podkum**	**0.56**	**139**	*i* Sg	**Sg**	**14 08 27.4**	**+0.3**
	comp=Z,34nm,0.1s						
PDKS	**Podkum**	**0.56**	**139**	*i* Sg	**Sg**	**14 08 27.4**	**+0.3**
	comp=Z,34nm,0.1s						
CADS	**Cadrg**	**0.57**	**244**	*i* Sg	**Sg**	**14 08 27.7**	**+0.1**
	comp=Z,87nm,0.2s						
CADS	**Cadrg**	**0.57**	**244**	*i* Sg	**Sg**	**14 08 27.7**	**+0.1**
	comp=Z,87nm,0.2s						
MYKA	**Terra Mystica**	**0.59**	**285**	⇓*i*Pg	**Pg**	**14 08 20.5**	**-0.1**
	comp=Z,15nm,0.1s						
MYKA				⇓*i*Sg	**Sg**

DABV	**Dabajuro**	4.17	33⇑	*iP*		**Pn**		14 09 56.1	+1.5	
SIQV	**Siquisique**	4.47	44⇑	*iP*		**Pn**		14 09 59.5	+0.8	
TEPV	**Terepaima**	4.50	56	*eP*		**Pn**		14 10 00.3	+1.2	
MAPV	**Macapo**	5.06	61⇑	*iP*		**Pn**		14 10 06.9	+0.5	
BAUV	**El Baul**	5.10	72	*eP*		**Pn**		14 10 06.6	-0.3	
MONV	**Montecano**	5.38	33	*eP*		**Pn**		14 10 11.1	+0.5	
TURV	**Turiamo**	5.89	59	*eP*		**Pn**		14 10 17.3	0.0	
BIRV	**Birongo**	7.28	65	*eP*		**Pn**		14 10 34.9	-0.9	
LPAZ	**La Paz**	24.04	169	P		**P**		14 13 52.3	-0.8	
	0.9nm,0.6s,baz=9.5,slow=6.1,SNR=3.0									
TXAR	**Lajitas Array**	36.18	311	P		**P**		14 15 40.0	+0.6	
	0.3nm,0.4s,baz=124,slow=9.2,SNR=9.4									
TXAR				PcP		**PcP**		14 18 02.0	+0.4	
	0.4nm,0.7s,baz=128,slow=5.8,SNR=3.9									
PDAR	**Pinedale Array**	47.69	324	P		**P**		14 17 12.2	-0.4	
	0.3nm,0.5s,baz=130,slow=11,SNR=3.7									
NVAR	**Mina Array Bea**	51.17	314	P		**P**		14 17 40.1	+0.9	
	0.2nm,0.5s,baz=128,slow=5.9,SNR=2.8									
NVAR				PcP		**PcP**		14 18 50.9	-1.5	
	0.2nm,0.5s,baz=126,slow=5.7,SNR=3.1									
YKA	**Yellowknife Ar**	62.76	340	P		**P**		14 18 59.7	-0.2	
	1.6nm,0.6s,baz=131,slow=6.6,SNR=14									
DLBC	**Dease Lake**	66.87	331	P		**P**		14 19 27.4	+0.7	
	1.1nm,0.8s,baz=135,slow=5.7,SNR=3.3									
TORD	**Torodi Ar. Bea**	73.47	79	P		P		14 20 04.2	-3.4	
	0.5nm,0.9s,baz=262,slow=7.0,SNR=4.6									
ILAR	**Eielson Array**	76.49	335	P		**P**		14 20 23.9	-0.1	
	0.4nm,0.5s,baz=110,slow=4.3,SNR=6.9									
ARCES	**ARCESS Array B**	86.06	20	P		**P**		14 21 13.7	-0.6	
	0.4nm,0.3s,baz=284,slow=3.6,SNR=6.6									
MKAR	**Makanchi Array**	121.71	20	PKP		**PKPdf**		14 27 25.4	-1.6	
	0.1nm,0.4s,baz=316,slow=4.0,SNR=2.8									
WRA	**Warramunga Arr**	150.76	242	PKPbc		**PKPbc**		14 28 24.7	-1.6	
	1.1nm,0.3s,baz=106,slow=3.1,SNR=7.8									

MOS ***17*** *14:17:06.1±2.5,20.86S×178.18W,h302km,mb4.8/19, Error ellipse: s-maj=11.6km s-min=10.5km az=108.8*
ISCJB ***17*** *14:17:08.4±0.7,21.58S±0.04×177.89W±0.03, h356km±7km,mb4.6/92, Error ellipse: s-maj=6.3km s-min=3.7km az=150.2*
WEL ***17*** *14:17:10.6,21.50S×177.94W,h400km*
BJI ***17*** *14:17:11.3,21.60S×177.90W,h388km,mb4.6/29, mB4.9/15*
IDC ***17*** *14:17:12.7±3.4,21.56S×177.85W,h390km±34km, mb4.0/15,mb1 4.2/17,mb1mx4.2/20,mbtmp4.7/17,Error ellipse: s-maj=17.5km s-min=13.0km az=74.0*
NEIC ***17*** *14:17:13.7±0.9,21.50S×177.94W,h400km±9km,mb4.6/58, Error ellipse: s-maj=8.4km s-min=5.4km az=143.0*

ISC 17 14:17:12.4±0.5,21.58S±0.05×177.82W±0.06, h391km±4km,h392km;pP-P,n469,σ1§29/494,mb4.6/92, 100C-80D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	5.46	314	*eP*n		**Pn**	14 18 37.8	**-1.3**
	245nm,0.8s							
RAO	**Raoul Island**	7.64	181	S		S	14 20 26.2	-7.4
	250nm,0.3s,baz=279,slow=23,SNR=7.1							
NIUE	**Niue**	7.81	73	P		**Pn**	14 19 03.0	**-2.2**
	baz=7.6,SNR=12							
NIUE				S		S	14 20 29.6	-7.8
	baz=7.6,SNR=10							
AFI	**Afiamalu**	9.55	38	*eP*		Pn	14 19 18.7	-6.8
AFI	**Afiamalu**	9.55	38	*e*Pn		Pn	14 19 18.7	-6.8
	19nm,0.4s							
DZM	**Mont Dzumac**	14.63	265	P		**P**	14 20 22.5	**+1.1**
	2.0nm,0.3s,baz=270,slow=24,SNR=31							
WMGZ	**Waiomatatini S**	16.51	191	PN		**P**	14 20 41.4	**0.0**
WMGZ				SN		Pn	14 20 51.5	+6.2
WMGZ	**Waiomatatini S**	16.51	191	PN		**P**	14 20 41.4	**0.0**
HAZ	**Te Kaha**	16.56	192	P*		**P**	14 20 41.0	**-1.0**
HAZ				S*		**Pn**	14 20 48.0	**+2.1**
HAZ	**Te Kaha**	16.56	192	PN		**P**	14 20 40.9	**-1.0**
HAZ				SN		**S**	14 23 30.2	**-5.2**
MWZ	**Matawai**	17.17	192	P*		**P**	14 20 46.8	**-1.7**
MWZ				S*		Pn	14 20 58.8	+6.3
MWZ	**Matawai**	17.17	192	PN		**P**	14 20 44.8	**-3.7**
MWZ				SN		**S**	14 23 41.9	**-5.6**
URZ	**Urewera**	17.19	194	P*		**P**	14 20 48.0	**-0.6**
URZ				S*		Pn	14 20 59.6	+7.0
URZ	**Urewera**	17.19	194	P		**P**	14 20 47.6	**-1.1**
	3.7nm,0.3s,baz=293,slow=1.5,SNR=18							
URZ				S		**S**	14 23 43.3	**-4.3**
	1.5nm,0.3s,baz=82,slow=19,SNR=8.7							
URZ	**Urewera**	17.19	194	P		**P**	14 20 47.5	**-1.1**
	12nm,0.3s							
URZ				S		**S**	14 23 43.3	**-4.3**
URZ	**Urewera**	17.19	194	PN		**P**	14 20 46.0	**-2.6**
URZ				SN		**S**	14 23 42.3	**-5.3**
CNGZ	**Carnagh Statio**	17.19	191	PN		**P**	14 20 48.1	**-0.5**
CNGZ	**Carnagh Statio**	17.19	191	PN		**P**	14 20 48.1	**-0.5**
RAGZ	**Rawiri**	17.35	193	P*		**P**	14 20 49.0	**-1.5**
RAGZ	**Rawiri**	17.35	193	PN		**P**	14 20 49.0	**-1.5**
RIGZ	**Rimuhau**	17.49	192	PN		**P**	14 20 50.8	**-1.0**
RIGZ	**Rimuhau**	17.49	192	PN		**P**	14 20 50.8	**-1.0**
SNGZ	**Shannon Statio**	17.64	193	PN		**P**	14 20 53.0	**-0.4**
SNGZ	**Shannon Statio**	17.64	193	PN		**P**	14 20 53.0	**-0.4**
KNZ	**Kokohu**	17.81	192	PN		**P**	14 20 54.2	**-0.9**
KNZ				SN		**S**	14 24 02.1	**+2.5**
BKZ	**Black Stump Fm**	18.20	194	AML		AML	14 21 03.4	
BKZ	**Black Stump Fm**	18.20	194	PN		**P**	14 20 55.0	**-4.3**
KHZ	**Kahutara**	22.01	197	*eP*		**P**	14 21 35.0	**-0.6**
	17nm,0.5s							
RPZ	**Rata Peaks**	23.94	200	P		**P**	14 21 53.0	**0.0**
	18nm,0.6s,baz=353,slow=1.8,SNR=19							
RPZ	**Rata Peaks**	23.94	200	*eP*		**P**	14 21 53.2	**+0.2**
EIDS	**Eidsvold**	28.74	256	P		**P**	14 22 36.3	**+0.4**
	baz=29,SNR=8.7							
EIDS	**Eidsvold**	28.74	256	*eP*		**P**	14 22 36.4	**+0.4**
	20nm,0.9s							
ARMA	**Armidale**	28.77	246	P		**P**	14 22 37.6	**+1.4**
	baz=29,SNR=36							
ARMA	**Armidale**	28.77	246	*eP*		**P**	14 22 37.3	**+1.1**
	21nm,0.6s							
MGCD	**Mangrove Creek**	29.81	241	P		**P**	14 22 46.8	**+1.6**
	baz=30,SNR=22							
RMQ	**Roma**	30.86	254	P		**P**	14 22 56.0	**+1.5**
	baz=31,SNR=7.4							
CNB	**Canberra Magne**	31.78	237	P		**P**	14 23 03.7	**+1.4**
	baz=32,SNR=19							
YNG	**Young**	32.27	240	P		**P**	14 23 07.8	**+1.2**
	baz=32,SNR=5.8							
MILA	**Mila**	32.47	234	P		**P**	14 23 09.2	**+1.0**
	baz=33,SNR=17							
CTAO	**Charters Tower**	33.57	266	*eP*		**P**	14 23 18.1	**+0.3**
CTAO					pmax	pmax		
	comp=Z,33nm,0.6s							
CTAO	**Charters Tower**	33.57	266	*eP*		**P**	14 23 18.1	**+0.3**
	comp=Z,33nm,0.6s							
RABL	**Rabaul**	33.87	296	P		**P**	14 23 19.5	**-1.0**
	baz=34,SNR=4.7							
CMSA	**Cobar Meteorol**	33.98	245	P		**P**	14 23 21.7	**+0.5**
	baz=34,SNR=81							
QLP	**Quilpie**	34.91	254	P		**P**	14 23 29.4	**+0.2**
	baz=35,SNR=50							
TOO	**Toolangi**	35.41	235	P		**P**	14 23 33.6	**+0.4**
	baz=36,SNR=63							
PMG	**Port Moresby**	35.76	284	*eP*		**P**	14 23 34.9	**-1.5**
PMG					pmax	pmax		
	comp=Z,245nm,1.0s							
PMG	**Port Moresby**	35.76	284	P		**P**	14 23 36.5	**+0.1**
	baz=36,SNR=11							
PMG	**Port Moresby**	35.76	284	*eP*		**P**	14 23 36.1	**-0.3**
	comp=Z,57nm,0.8s							
MOO	**Moorlands**	35.88	226	P		**P**	14 23 40.0	**+3.0**
	baz=36,SNR=3.3							
STKA	**Stephens Creek**	37.48	245	P		**P**	14 23 51.2	**+0.6**
	comp=Z,36nm,0.5s,baz=93,slow=9.9,SNR=233							
STKA	**Stephens Creek**	37.48	245	P		**P**	14 23 51.2	**+0.6**
STKA					pmax	pmax		
	comp=Z,37nm,0.5s							
STKA	**Stephens Creek**	37.48	245	P		**P**	14 23 51.2	**+0.6**
	baz=38,SNR=105							
STKA	**Stephens Creek**	37.48	245	*eP*		**P**	14 23 50.8	**+0.2**
	comp=Z,7.8nm,0.6s							
COEN	**Coen**	37.83	275	P		**P**	14 23 54.3	**+0.6**
	baz=38,SNR=41							
COEN	**Coen**	37.83	275	*eP*		**P**	14 23 54.1	**+0.4**
	comp=Z,12nm,0.4s							
ARPS	**Mount Arapiles**	38.04	238	P		**P**	14 23 55.2	**+0.1**
	baz=38,SNR=14							
QIS	**Mount Isa**	39.66	263	P		**P**	14 24 08.0	**-0.6**
	baz=40,SNR=5.4							
HTT	**Hallett**	39.88	243	P		**P**	14 24 10.3	**0.0**
	baz=40,SNR=29							
BBOO	**Buckleboo**	42.23	245	P		**P**	14 24 28.7	**-0.5**
	baz=42,SNR=57							
BBOO	**Buckleboo**	42.23	245	*eP*		**P**	14 24 28.7	**-0.5**
	comp=Z,24nm,0.8s							
AS31	**Alice Springs**	44.45	258	*eP*		**P**	14 24 46.3	**-0.5**
JAY	**Jayapura**	44.55	289	P		**P**	14 24 47.5	**-0.2**
	comp=Z,123nm,0.6s							
JAY	**Jayapura**	44.55	289	P		**P**	14 24 47.7	**0.0**
	comp=Z,98nm,0.6s,baz=142,slow=3.8,SNR=76							
WRAB	**Tennant Creek**	44.62	263	*dP*		**P**	14 24 47.1	**-1.1**
WRAB					pmax	pmax		
	comp=Z,69nm,0.8s							
WRAB	**Tennant Creek**	44.62	263	*eP*		**P**	14 24 47.2	**-0.9**
	comp=Z,33nm,0.8s							
WRA	**Warramunga Arr**	44.63	263	P		**P**	14 24 47.3	**-0.9**
	comp=Z,21nm,0.7s,baz=94,slow=8.0,SNR=214							
WRA				PKiKP		**PKiKP**	14 33 19.7	**-1.9**
	comp=Z,0.4nm,0.7s,baz=111,slow=0.3,SNR=5.0							
GENI	**Genyem**	44.99	289	P		**P**	14 24 50.9	**-0.2**
	comp=Z,90nm,0.6s							
KDU	**Kakadu**	48.15	272	P		**P**	14 25 14.7	**-0.6**
	baz=48,SNR=42							
FORT	**Forrest**	49.03	247	P		**P**	14 25 21.2	**-0.5**
	baz=49,SNR=38							
FORT	**Forrest**	49.03	247	*eP*		**P**	14 25 21.0	**-0.8**
	comp=Z,57nm,0.7s							
WRKA	**Warakurna**	49.34	255	P		**P**	14 25 23.7	**-0.5**
	baz=50,SNR=391							
WRKA				S		**S**	14 32 00.1	**-0.6**
	baz=50,SNR=4.3							
KNRA	**Kununurra**	50.77	267	P		**P**	14 25 34.5	**-0.3**
	baz=51,SNR=86							
FAKI	**Fak Fak**	51.92	284	P		**P**	14 25 42.8	**-0.5**
	baz=52,SNR=5.2							
BNDI	**Bandaira**	53.39	281	P		**P**	14 25 53.0	**-0.9**
	comp=Z,130nm,0.6s							
MSAI	**Masohi**	54.75	282	P		**P**	14 26 01.8	**-1.8**
	comp=Z,18nm,0.6s,comp=Z,544nm							
NLAI	**Namlea**	56.47	281	P		**P**	14 26 15.6	**-0.1**
	comp=Z,82nm,0.7s,comp=Z,800nm							
SOEI	**Soe**	56.71	272	*eP*		**P**	14 26 18.3	**+0.8**
	comp=Z,74nm,0.8s							
SBA	**Scott Base**	56.81	184	*eP*		**P**	14 26 20.1	**+3.1**
SBA					pmax	pmax		
	comp=Z,6.0nm,1.0s							
SBA	**Scott Base**	56.81	184	*eP*		**P**	14 26 20.1	**+3.1**
	comp=Z,5.9nm,1.0s							
VNDA	**Vanda**	56.85	185	P		**P**	14 26 18.9	**+1.6**
	comp=Z,1.2nm,0.7s,baz=347,slow=6.7,SNR=6.0							
VNDA	**Vanda**	56.85	185	*eP*		**P**	14 26 19.2	**+1.9**
VNDA	**Vanda**	56.85	185	*eP*		**P**	14 26 19.2	**+1.9**
BATI	**Baumata**	57.12	272	P		**P**	14 26 21.9	**+1.6**
	comp=Z,42nm,0.8s							
MEEK	**Meekatharra**	57.73	251	P		**P**	14 26 23.4	**-1.0**
	baz=58,SNR=38							
KLBR	**Kellerberrin**	57.76	246	P		**P**	14 26 24.0	**-0.4**
	baz=58,SNR=46							
MBWA	**Marble Bar**	57.79	258	*eP*		**P**	14 26 24.2	**-0.6**
	comp=Z,47nm,0.6s							
TNTI	**Ternate**	57.90	285	P		**P**	14 26 25.9	**+0.3**
	comp=Z,109nm,1.1s							
TNTI	**Ternate**	57.90	285	*eP*		**P**	14 26 25.4	**-0.2**
	comp=Z,90nm,1.1s							
SANI	**Sanana**	57.96	282	P		**P**	14 26 25.5	**-0.5**
	comp=Z,53nm,0.9s,comp=Z,550nm							
NWAO	**Narrogin (SRO)**	58.04	244	P		**P**	14 26 26.0	**-0.3**
	baz=58,SNR=11							
BLDU	**Ballidu**	58.78	247	P		**P**	14 26 30.7	**-0.7**
	baz=59,SNR=82							
MMRI	**Maumere**	58.97	273	P		**P**	14 26 33.7	**+0.8**
	comp=Z,46nm,0.9s							
MMRI	**Maumere**	58.97	273	*eP*		**P**	14 26 32.3	**-0.6**
	comp=Z,26nm,0.6s							
EDFI	**Ende, Flores**	59.44	272	P		**P**	14 26 36.5	**+0.3**
	comp=Z,45nm,0.9s							
WSI	**Waingapu**	60.43	271	P		P	14 26 51.9	+9.2
	baz=61,SNR=3.2							
GIRL	**Giralia**	62.43	255	P		**P**	14 26 56.9	**+1.1**
	baz=63,SNR=3.7							
CASY	**Casey**	63.06	206	*eP*		**P**	14 26 59.2	**0.0**
	comp=Z,16nm,0.9s							
PCI	**Palu**	64.05	280	P		**P**	14 27 07.9	**+1.4**
	comp=Z,64nm,1.1s							
MPSI	**Mapaga**	64.49	281	P		**P**	14 27 08.5	**-0.8**
	comp=Z,30nm,0.8s							
SRBI	**Singaraja**	65.69	271	P		**P**	14 27 17.1	**+0.2**
QSPA	**South Pole Qui**	68.49	180	*eP*		**P**	14 27 35.4	**+1.7**
	comp=Z,13nm,0.6s							
UGM	**Wanagama**	70.12	269	P		**P**	14 27 44.0	**-0.3**
	baz=70,SNR=5.2							
MJAR	**Matsushiro Arr**	71.18	324	P		**P**	14 27 49.9	**-0.1**
	comp=Z,3.5nm,0.8s,baz=160,slow=6.4,SNR=9.8							
MAJO	**Matsushiro**	71.18	324	*eP*		**P**	14 27 48.9	**-1.2**
MAJO					pmax	pmax		
	comp=Z,42nm,1.4s							
MAT	**Matsushiro**	71.18	324	P		**P**	14 27 50.1	**0.0**
TWG	**Pinlang**	74.11	303	*eP*		**P**	14 28 05.8	**-1.6**
	comp=Z,116nm,0.6s							
YULB	**Yu-li**	74.23	303	*eP*		**P**	14 28 07.4	**-0.7**
	comp=Z,12nm,0.6s							
NACB	**Ninganchiao**	74.42	304	*eP*		**P**	14 28 08.7	**-0.5**
	comp=Z,56nm,1.0s							
TPUB	**Ta-pu**	74.70	303	*eP*		**P**	14 28 09.7	**-1.1**
	comp=Z,93nm,0.8s							
SSLB	**Suanglung**	74.71	304	*eP*		**P**	14 28 09.9	**-0.9**
	comp=Z,35nm,0.8s							
ASAJ	**Asahikawa**	74.75	332	*eP*		**P**	14 28 11.7	**+1.2**
	comp=Z,33nm,1.8s							
YHNB	**Yeheng**	74.86	305	*eP*		**P**	14 28 11.2	**-0.6**
	comp=Z,22nm,0.8s							
YSS	**Yuzh-Sakhalins**	76.93	333	*eP*		**P**	14 28 23.0	**+0.3**
YSS					pmax	pmax		
	comp=Z,20nm,1.0s							
YSS	**Yuzh-Sakhalins**	76.93	333	*eP*		**P**	14 28 23.8	**+1.1**
	comp=Z,12nm,1.0s							
PETK	**Petropavlovsk-**	77.35	345	P		**P**	14 28 24.8	**-0.1**
	comp=Z,7.9nm,0.8s,baz=141,slow=9.6,SNR=11							
KSRS	**Korea Array**	77.81	319	P		**P**	14 28 28.8	**+1.1**
	comp=Z,3.4nm,0.7s,baz=125,slow=5.8,SNR=15							
KSRS	**Korea Array**	77.81	319	P		**P**	14 28 28.8	**+1.1**
KSRS					pmax	pmax		
	comp=Z,3.0nm,0.7s							
KSAR	**Wonju Array Be**	77.82	319	P		**P**	14 28 28.8	**+1.0**
KSAR	**Wonju Array Be**	77.82	319	P		**P**	14 28 28.8	**+1.0**
VLA	**Vladivostok**	79.26	325	*eP*		**P**	14 28 35.3	**-0.1**
VLA					pmax	pmax		
	comp=Z,15nm,1.2s							
BFSC	**Mount Baldy Ra**	79.69	47	⇑P		**P**	14 28 39.0	**+0.8**
	baz=80							
MONP	**Monument Peak,**	79.79	49	⇑P		**P**	14 28 39.6	**+0.8**
	baz=80							
EDW2	**Edwards Air Fo**	79.84	46	⇑P		**P**	14 28 39.2	**+0.4**
	baz=80							
USRK	**Ussuriysk Ar.**	79.95	326	P		**P**	14 28 40.7	**+1.7**
	comp=Z,2.8nm,0.6s,baz=157,slow=3.5,SNR=7.1							
ISA	**Isabella, Lake**	79.97	45	*eP*		**P**	14 28 39.7	**+0.2**
ISA					pmax	pmax		
	comp=Z,6.0nm,0.9s							
ISA	**Isabella, Lake**	79.97	45	*eP*		**P**	14 28 39.7	**+0.2**
	comp=Z,5.6nm,0.9s							
ISA	**Isabella, Lake**	79.97	45	⇓P		**P**	14 28 40.8	**+1.3**
	baz=80							
WDC	**Whiskeytown Da**	80.39	39	*eP*		**P**	14 28 42.3	**+0.8**
WDC					pmax	pmax		
	comp=Z,7.0nm,0.9s							
WDC	**Whiskeytown Da**	80.39	39	*eP*		**P**	14 28 42.3	**+0.8**
	comp=Z,6.8nm,0.9s							
N02D	**Trinity Center**	80.55	39	⇑P		**P**	14 28 43.6	**+1.2**
	baz=81							
MAW	**Mawson**	80.61	200	P		**P**	14 28 43.5	**+1.2**
	comp=Z,11nm,0.6s,baz=140,slow=6.6,SNR=28							
MAW	**Mawson**	80.61	200	P		**P**	14 28 43.2	**+1.0**
	baz=81,SNR=10							
NJ2	**Nanjing**	80.70	310	*eP*		**P**	14 28 43.3	**0.0**
NJ2					PMZ			
	comp=Z,20nm,0.7s							
BELC	**Belle Mtn. Jos**	80.70	48	⇑P		**P**	14 28 44.6	**+1.2**
	baz=81							
M02C	**Callahan**	80.72	39	⇓P		**P**	14 28 44.9	**+1.5**
	baz=81,SNR=14							
L02D	**Cave Junction,**	80.78	38	⇑P		**P**	14 28 44.6	**+1.1**
	baz=81							
MPMC	**Manual Prospec**	80.85	45	⇑P		**P**	14 28 45.6	**+1.3**
	baz=81							
GSC	**Goldstone, Bar**	80.88	46	⇑P		**P**	14 28 44.9	**+0.6**
	baz=81							
BC3	**Big Chuckawall**	80.89	48	⇓P		**P**	14 28 45.5	**+1.1**
	baz=81							
HEC	**Hector,Ludlow**	80.93	47	⇑P		**P**	14 28 45.5	**+0.9**
	baz=81							
LAMM	**Antelope Mount**	81.00	39	P		**P**	14 28 46.1	**+1.2**
YBH	**Yreka Blue Hor**	81.02	38	*eP*		**P**	14 28 46.2	**+1.3**
YBH					pmax	pmax		
	comp=Z,10.0nm,0.8s							
YBH	**Yreka Blue Hor**	81.02	38	*eP*		**P**	14 28 46.2	**+1.3**
	comp=Z,10nm,0.8s							
LBCM	**Butte Creek Ri**	81.26	40	P		**P**	14 28 47.3	**+1.1**
GMRC	**Granite Mounta**	81.36	47	⇑P		**P**	14 28 47.8	**+0.9**
	baz=82							
IRM	**Iron Mountain**	81.37	48	⇓P		**P**	14 28 47.8	**+1.0**
	baz=82							
HUMO	**Hull Mountain**	81.44	38	*eP*		**P**	14 28 47.7	**+0.7**
	comp=Z,14nm,1.1s							
HABR	**Khabarovsk**	81.47	330	*cP*		**P**	14 28 44.2	**-2.7**
HABR				*e*			14 33 48.2	
HABR				*eS*		**S**	14 38 20.4	**-4.4**
HABR				*e*			14 38 34.6	
HABR				*eSS*		**SS**	14 43 47.8	**-4.4**
HABR				SSS		SSS	14 47 17.0	
HABR					pmax	pmax		
	comp=N,8.0nm,1.6s							
HABR					pmax	pmax		
	comp=E,17nm,1.6s							
HABR					pmax	pmax		
	comp=Z,17nm,1.6s							
HABR					MLR	MLR		
	comp=Z,42nm,22.0s							
FURC	**Furnace Creek,**	81.50	45	⇓P		**P**	14 28 48.3	**+0.9**
	baz=82							
TUQ	**Turquoise Moun**	81.55	47	⇑P		**P**	14 28 48.8	**+1.0**
	baz=82							
M04C	**Macdoel**	81.56	39	⇓P		**P**	14 28 48.6	**+0.8**
	baz=82,SNR=6.1							
SHOC	**Shoshone, Teco**	81.57	46	⇓P		**P**	14 28 48.4	**+0.6**
	baz=82							
Y12C	**Blythe**	81.59	49	⇑P		**P**	14 28 48.9	**+1.0**
	baz=82							
113A	**Mohawk Valley,**	81.60	50	⇓P		**P**	14 28 48.9	**+0.9**
	baz=82							
NVAR	**Mina Array Bea**	81.69	43	P		**P**	14 28 49.7	**+1.1**
	comp=Z,5.7nm,0.9s,baz=225,slow=8.4,SNR=31							
BKNI	**Bangkinang**	81.88	274	P		**P**	14 28 52.6	**+2.7**
	baz=82,SNR=4.3							
LDFC	**Landfair**	81.90	47	*eP*		**P**	14 28 50.7	**+1.0**
	comp=Z,22nm,1.1s							
I03D	**Drain, OR**	81.92	37	⇑P		**P**	14 28 50.6	**+1.3**
	baz=82							
K04D	**Chiloquin, OR**	82.14	38	⇓P		**P**	14 28 51.5	**+0.7**
	baz=82							
PDMCI	**Parker Dam,Lak**	82.15	49	⇑P		**P**	14 28 51.8	**+1.0**
	baz=82							
TPNV	**Topopah Spring**	82.17	45	⇑P		**P**	14 28 51.6	**+0.5**
	baz=82							
J04D	**Umpqua Nationa**	82.32	38	⇓P		**P**	14 28 52.7	**+1.0**
	baz=82,SNR=12							
Z14A	**Wintersburg**	82.49	50	⇓P		**P**	14 28 53.9	**+1.3**
	baz=83							
I04A	**Tendick Farm,**	82.50	37	⇓P		**P**	14 28 53.1	**+0.6**
	baz=83,SNR=7.9							
HBO	**Huckleberry Mo**	82.58	37	P		**P**	14 28 53.9	**+0.9**
W13A	**Hualapai Mount**	82.76	48	⇓P		**P**	14 28 55.1	**+0.9**
	baz=83							
J05D	**Fort Rock, OR**	82.85	38	⇓P		**P**	14 28 55.4	**+1.0**
	baz=83,SNR=15							
G03D	**McMinnville, O**	82.94	35	⇓P		**P**	14 28 56.0	**+1.5**
	baz=83							
WHN	**Wuhan**	83.22	306	⇓P		**P**	14 28 57.8	**+1.5**
R11A	**Troy Canyon, C**	83.40	44	*eP*		**P**	14 28 57.7	**+0.4**
	comp=Z,1.6nm,0.9s							
R11A	**Troy Canyon, C**	83.40	44	⇑P		**P**	14 28 57.9	**+0.6**
	baz=84							
IPM	**Ipoh**	83.44	277	*eP*		**P**	14 28 58.3	**+0.4**
	comp=Z,14nm,0.6s							
I05D	**Terrebonne, OR**	83.44	37	⇓P		**P**	14 28 58.1	**+0.9**
	baz=84							
WVOR	**Wild Horse Val**	83.85	40	*eP*		**P**	14 28 59.7	**+0.4**
WVOR					pmax	pmax		

XAN PMZ
comp=Z,5.0nm,0.9s
S22A 4UR Ranch, Cre 89.00 49 ⇓P P 14 29 25.3 +0.8
baz=89
DLMT Dillon 89.10 40 *e*P P 14 29 25.5 +0.9
comp=Z,2.5nm,0.7s
MSO Missoula 89.11 38 ⇑P P 14 29 25.0 +0.5
baz=89
REDW Red Top Meadow 89.12 42 *e*P P 14 29 25.5 +0.7
comp=Z,12nm,1.2s
IM04 Indian Mountai 89.17 10 *e*P P 14 29 23.2 -1.0
O20A White River Ci 89.18 46 ⇓P P 14 29 25.4 +0.2
baz=89
COLA College 89.22 12 *d i*P P 14 29 23.1 -1.3
COLA pmax pmax
comp=Z,24nm,0.7s
COLA College 89.22 12 *e*P P 14 29 23.0 -1.4
comp=Z,8.5nm,0.8s
ILAR Eielson Array 89.33 13 P P 14 29 23.8 -1.2
comp=Z,2.6nm,0.6s,baz=216,slow=5.6,SNR=48
IMW Indian Meadow 89.34 42 *e*P P 14 29 26.6 +0.8
comp=Z,11nm,1.1s
LOHW Long Hollow 89.40 42 *e*P P 14 29 26.6 +0.6
comp=Z,1.8nm,0.6s
429A Davenport Ranc 89.44 57 ⇓P P 14 29 27.3 +0.9
baz=90
N20A Spence Gulch, 89.51 45 ⇑P P 14 29 27.5 +0.8
baz=90
QLMT Earthquake Lak 89.52 41 *e*P P 14 29 28.0 +1.4
comp=Z,1.6nm,0.9s
CHMT Chamberlain Mo 89.55 38 P P 14 29 27.0 +0.3
I17A Pilgrim Ck. 89.57 42 ⇑P P 14 29 28.2 +1.3
baz=90
SMCO Snowmass 89.58 47 *e*P P 14 29 27.7 +0.4
comp=Z,2.0nm,0.9s
BW06 Boulder Array 89.63 43 *e*P P 14 29 27.1 0.0
comp=Z,5.7nm,1.3s
PDAR Pinedale Array 89.63 43 P P 14 29 27.4 +0.3
comp=Z,3.7nm,0.9s,baz=205,slow=1.0,SNR=27
530A J-C Ranch, Com 89.67 57 ⇓P P 14 29 28.2 +0.8
baz=90
H17A Grant Village 89.82 41 *e*P P 14 29 30.0 +1.9
comp=Z,5.4nm,0.8s
H17A Grant Village 89.82 41 ⇑P P 14 29 30.2 +2.2
baz=90
BOZ Bozeman (W) 89.83 40 *e*P P 14 29 28.7 +0.8
BOZ pmax pmax
comp=Z,5.0nm,0.8s
BOZ Bozeman (W) 89.83 40 *e*P P 14 29 28.7 +0.8
comp=Z,5.1nm,0.8s
128A Castleberry Fa 89.84 55 ⇓P P 14 29 28.9 +0.7
baz=90
SDCO Great Sand Dun 89.93 49 ⇑P P 14 29 29.7 +0.9
baz=90
631A Perdido Creek 89.96 58 ⇓P P 14 29 29.9 +1.1
baz=90
832A Faith Ranch, C 89.97 60 ⇑P P 14 29 29.5 +0.7
baz=90
KMI Kunming 89.99 297 P P 14 29 30.9 +1.7
KMI PMZ
comp=Z,10.0nm,0.8s
LAMP Lampang 90.06 290 P P 14 29 31.7 +2.3
comp=Z,6.8nm,0.8s
CRAI Chiangrai 90.07 292 P P 14 29 27.4 -2.0
comp=Z,5.0nm,0.9s
J19A Crowheart 90.20 43 ⇓P P 14 29 30.7 +0.9
baz=90
MSTX Muleshoe 90.22 53 ⇓P P 14 29 30.7 +0.8
baz=90
HHC Hu-ho-hao-te 90.23 314 *e*P P 14 29 31.5 +1.7
HHC PP PP 14 33 13.9 +3.5
HHC S S 14 39 50.4 +0.8
HHC SS SS 14 46 04.6 +4.2
HHC PMZ
comp=Z,9.0nm,0.6s
HHC PMZ
comp=Z,67nm,7.4s
531A Rocksprings 90.30 58 ⇑P P 14 29 31.3 +0.9
baz=90
O22A Kremmling 90.34 47 ⇑P P 14 29 31.6 +1.0
baz=90
H18A Shoshone NF, C 90.52 41 ⇑P P 14 29 32.6 +1.3
baz=91
EGAK Eagle 90.60 15 *e*P P 14 29 30.3 -0.5
comp=Z,8.0nm,0.9s
I19A Meeteetse 90.62 42 ⇑P P 14 29 32.6 +0.9
baz=91
632A Uvalde 90.63 59 ⇑P P 14 29 33.2 +1.4
baz=91
CM31 Chiang Mai Arr 90.64 289 *e*P P 14 29 33.7 +1.6
comp=Z,10nm,0.9s
CMAR Chiang Mai Arr 90.64 289 P P 14 29 33.9 +1.8
comp=Z,8.4nm,0.8s,baz=130,slow=3.0,SNR=46
N22A Wattenberg Ran 90.70 46 ⇑P P 14 29 33.7 +1.4
baz=91
CMMT Chiang Mai 90.77 290 P P 14 29 34.3 +1.6
CHTO Chiang Mai 90.77 290 P P 14 29 34.4 +1.7
comp=Z,69nm,0.7s
CHTO Chiang Mai 90.77 290 *e*P P 14 29 33.0 +0.3
CHTO pmax pmax
comp=Z,9.0nm,0.8s
CHTO Chiang Mai 90.77 290 *e*P P 14 29 33.0 +0.3
comp=Z,9.4nm,0.8s
532A Rocksprings 90.79 58 ⇑P P 14 29 33.6 +1.0
baz=91
J20A Shoshoni 90.86 43 ⇑P P 14 29 33.9 +1.2
baz=91
X28A Dimmitt 90.88 53 ⇑P P 14 29 33.7 +0.7
baz=91
H19A Powell 90.94 42 ⇑P P 14 29 34.3 +1.2
baz=91
633A Saathoff Ranch 91.09 59 ⇑P P 14 29 35.4 +1.4
baz=91
I20A Worland 91.12 43 ⇑P P 14 29 34.4 +0.5
baz=91
Z30A Sanderson Ranc 91.16 55 ⇓P P 14 29 34.8 +0.5
baz=91
432A Menard 91.18 57 ⇑P P 14 29 35.0 +0.6
baz=91
231A Bronte 91.22 56 ⇓P P 14 29 35.2 +0.7
baz=91
J21A Lysite 91.26 43 ⇑P P 14 29 35.7 +1.0
baz=92
S26A Kim 91.31 50 ⇑P P 14 29 35.4 +0.4
baz=92
AMTX Amarillo 91.42 53 ⇑P P 14 29 36.5 +1.1
baz=92
131A Roby 91.47 55 ⇓P P 14 29 36.2 +0.5
baz=92
CD2 Chengdu 91.51 303 *e*P P 14 29 35.8 -0.1
CD2 PMZ
comp=Z,10.0nm,1.1s
K22A Casper 91.53 44 ⇑P P 14 29 36.5 +0.6
baz=92
F19A Roth Farm, Mol 91.55 41 ⇓P P 14 29 36.7 +0.8
baz=92
I21A Big Trails, Te 91.58 43 ⇓P P 14 29 36.5 +0.4
baz=92
R26A Arlington 91.63 49 ⇓P P 14 29 37.3 +0.9
baz=92
433A Art 91.69 58 ⇑P P 14 29 37.3 +0.6
baz=92
G20A Bridger 91.69 42 ⇓P P 14 29 37.3 +0.8
baz=92
232A Coleman 91.71 56 ⇓P P 14 29 37.5 +0.7
baz=92
534A Blanco 91.88 59 ⇓P P 14 29 38.4 +0.8
baz=92
J22A Midwest 91.91 44 ⇑P P 14 29 38.0 +0.4
baz=92
Z31A Sharp Cattle R 91.92 55 ⇓P P 14 29 38.5 +0.8
baz=92
333A Richland Sprin 92.00 57 ⇓P P 14 29 38.4 +0.2
baz=92
H21A Big Horn, Sher 92.13 42 ⇓P P 14 29 39.7 +1.1
baz=92
I22A 9 Mile Ranch, 92.14 43 ⇑P P 14 29 38.9 +0.3
baz=92
K23A Bowen Ranch, D 92.16 45 ⇑P P 14 29 39.4 +0.6
baz=92
434A Burnet 92.36 58 ⇓P P 14 29 40.4 +0.6
baz=92
C19A Slack Wire Ran 92.42 39 ⇑P P 14 29 40.9 +1.1
baz=93
Z32A Haskell 92.42 55 ⇑P P 14 29 41.0 +0.9
baz=93
334A Lometa 92.59 57 ⇓P P 14 29 41.6 +0.7
baz=93

B19A Brinkman Farms 92.84 38 ⇑P P 14 29 42.4 +0.7
baz=93
W31A Holland Ranch, 92.84 53 ⇓P P 14 29 42.7 +0.7
baz=93
Z33A Whitaker Ranch 92.96 55 ⇓P P 14 29 42.8 +0.2
baz=93
C20A Veseth Ranch, 93.03 39 ⇑P P 14 29 42.7 +0.2
baz=93
Q28A Sharon Springs 93.10 49 ⇑P P 14 29 43.3 +0.1
baz=93
YAK Yakutsk 93.17 338 *e*P P 14 29 40.9 -1.8
YAK pmax pmax
comp=Z,11nm,0.9s
YAK pmax pmax
comp=N,2.0nm,1.0s
B20A Solberg Farm, 93.37 39 ⇑P P 14 29 44.8 +0.7
baz=94
LZH Lanzhou 93.56 307 *e*P P 14 29 47.3 +1.9
LZH pP pP 14 31 16.6 +0.4
LZH sP sP 14 31 54.3 -2.2
LZH PMZ
comp=N,17nm,1.0s
A20A Cobblestone Ra 93.64 38 ⇓P P 14 29 45.6 +0.3
baz=94
F23A Volborg 93.66 42 ⇓P P 14 29 46.1 +0.6
baz=94
K26A Motz Farm, Whi 93.75 45 ⇑P P 14 29 46.8 +0.8
baz=94
H24A Dirks Ranch, A 93.76 43 ⇓P P 14 29 46.6 +0.5
baz=94
D22A Cohagen 93.85 40 ⇓P P 14 29 47.1 +0.8
baz=94
B21A Ellsworth Farm 93.95 39 ⇑P P 14 29 47.5 +0.8
baz=94
I25A Rochford 93.96 44 ⇑P P 14 29 47.7 +0.7
baz=94
Q30A Quinter 94.20 50 ⇓P P 14 29 49.3 +1.2
baz=94
A21A Bergtoll Ranch 94.27 39 ⇓P P 14 29 49.1 +1.0
baz=94
C23A Lambert 94.75 40 ⇓P P 14 29 51.3 +0.9
baz=95
B23A Brockton 95.16 40 ⇓P P 14 29 53.4 +1.2
baz=95
D26A Manning 96.09 42 ⇓P P 14 29 57.0 +0.5
baz=96
ULN Ulaanbaatar 96.29 319 *e*P P 14 29 56.3 -1.2
ULN pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 97.42 25 P P 14 30 01.3 -0.7
comp=Z,0.4nm,0.6s,baz=244,slow=4.4,SNR=3.6
GTA Gaotai 97.79 309 *e*P Pdif 14 30 07.0 +2.6
GTA pP pP 14 31 36.5 +1.0
GTA sP sP 14 32 14.8 -1.0
GTA PMZ
comp=Z,4.0nm,1.0s
TIXI Tiksi 99.83 345 *e*P **Pdif** 14 30 11.8 -0.7
TIXI pmax pmax
comp=Z,1.0nm,1.1s
ZAA0 Zalesovo Array 111.44 321 *e*PKiKP **PKiKP** 14 35 00.9 +0.5
ZALV Zalesovo Beam 111.44 321 PKiKP **PKiKP** 14 34 58.8 -1.6
comp=Z,3.8nm,0.6s,baz=116,slow=1.8,SNR=18
MK31 Makanchi Array 112.06 313 *e*PKiKP **PKiKP** 14 35 00.5 -1.4
MKAR Makanchi Array 112.06 313 Pdiff **Pdif** 14 31 08.5 +0.9
comp=Z,0.4nm,0.7s,baz=96,slow=2.9,SNR=3.4
MKAR PKiKP **PKiKP** 14 35 00.4 -1.5
comp=Z,1.3nm,0.4s,baz=30,slow=1.4,SNR=25
KURK Kurchatov 114.90 317 *e*PKiKP PKPdf 14 35 05.6 -1.5
KURK Kurchatov 114.90 317 *e*PKiKP PKPdf 14 35 05.6 -1.5
KSH Kashi 115.64 305 *e*PKP **PKPdf** 14 35 06.6 -2.5
KSH PP **PP** 14 36 22.6 +3.9
KSH SKS **SKSdf** 14 41 37.9 -5.6
KSH SKKS **SKKSac** 14 42 31.5 -6.9
KSH PPMZ
comp=Z,40nm,4.5s
KSH LN
comp=Z,56nm,5.1s
KSH LE
comp=Z,76nm,5.4s
KSH LZ
comp=Z,150nm,6.1s
TKM2 Tokmak 2 116.31 308 PKiKP **PKPdf** 14 35 10.6 +0.2
TKM2 Tokmak 2 116.31 308 PKPdf **PKPdf** 14 35 10.6 +0.2
BVAR Borovoye Array 120.01 320 PKP **PKPdf** 14 35 15.9 -1.1
comp=Z,12nm,0.4s,baz=133,slow=1.9,SNR=68
KKAR Karatay Array 120.05 308 *e*PKiKP **PKPdf** 14 35 16.3 -1.1
KKAR Karatay Array 120.05 308 *e*PKPdf **PKPdf** 14 35 16.2 -1.1
BRVK Borovoye 120.07 320 *e*PKiKP **PKPdf** 14 35 16.1 -0.9
BRVK Borovoye 120.07 320 *e*PKPdf **PKPdf** 14 35 16.1 -0.9
KBL Kabul 120.55 298 *e*PKiKP **PKPdf** 14 35 18.4 -0.5
KBL Kabul 120.55 298 *e*PKPdf **PKPdf** 14 35 18.4 -0.5
KBS Kingsbay 122.42 358 *e*PKiKP **PKPdf** 14 35 20.7 -0.2
KBS Kingsbay 122.42 358 *e*PKPdf **PKPdf** 14 35 20.7 -0.2
SVE Sverdlovsk 124.97 325 *e*PKiKP **PKPdf** 14 35 26.2 -0.1
SVE pmax pmax
comp=Z,11nm,0.6s
BOSA Boshof 125.36 205 PKP **PKPdf** 14 35 28.4 +0.2
comp=Z,1.8nm,0.5s,baz=174,slow=3.0,SNR=5.6
ARU Arti 126.18 325 *i* PKiKP **PKPdf** 14 35 27.4 -1.3
ARU 14 37 22.9
ARU Arti 126.18 325 *e*PKPdf **PKPdf** 14 35 28.3 -0.4
ABKAR Akbulak array 126.98 316 *e*PKPdf **PKPdf** 14 35 29.9 -0.6
ARCES ARCESS Array B 130.01 350 PKhKP PKPpre 14 35 24.2
comp=Z,1.2nm,0.8s,baz=300,slow=2.7,SNR=4.9
ARCES PKP **PKPdf** 14 35 34.8 -0.8
comp=Z,3.7nm,0.4s,baz=48,slow=1.3,SNR=35
ARE0 ARCESS Array S 130.01 350 *e*PKPdf **PKPdf** 14 35 34.9 -0.7
FINES FINESS Array B 136.85 343 PKhKP PKPpre 14 35 37.9
comp=Z,0.7nm,0.5s,baz=48,slow=2.1,SNR=6.7
FINES PKP **PKPdf** 14 35 49.3 +0.7
comp=Z,2.5nm,0.5s,baz=64,slow=4.4,SNR=7.4
OBN Obninsk 137.78 331 *i* PKiKP **PKPdf** 14 35 51.8 +1.3
OBN *e* 14 38 38.1
OBN pmax pmax
comp=Z,11nm,0.6s
VSR Storozhevoye 138.76 325 *e*PKiKP **PKPdf** 14 35 51.8 -0.6
VSR pmax pmax
comp=N,4.0nm,0.6s
VSR pmax pmax
comp=E,5.0nm,0.6s
VSR pmax pmax
comp=Z,6.0nm,0.6s
VORD Divnogorie 138.82 325 *e*PKiKP **PKPdf** 14 35 53.6 +1.1
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,5.0nm,0.6s
VORD pmax pmax
comp=Z,7.0nm,0.6s
KIV Kislovodsk 139.82 313 *e*PKiKP **PKPdf** 14 35 56.2 +1.4
KIV pmax pmax
comp=Z,6.0nm,0.8s
NB2 NORSAR Subarra 140.07 353 PKP PKPpre 14 35 47.3
comp=Z,1.3nm,0.5s,baz=16,slow=3.2
NOA NORSAR Array B 140.07 353 PKhKP PKPpre 14 35 46.2
comp=Z,1.6nm,0.6s,baz=32,slow=0.9,SNR=8.9
NOA PKP **PKiKP** 14 35 56.2 -1.0
comp=Z,1.6nm,0.7s,baz=232,slow=17,SNR=3.5
ANN Anapa 142.93 317 *i* PKHKP PKPpre 14 35 54.1
ANN pmax pmax
comp=Z,30nm,1.5s
SUW Suwalki 143.90 339 *e*PKP PKPab 14 35 59.8 -0.3
SUW Suwalki 143.90 339 *e*PKHKP PKPab 14 35 59.8 -0.3
KIEV Kiev 144.05 331 *e*PKHKP PKPpre 14 35 59.1
KIEV Kiev 144.05 331 *e*PKPpre PKPpre 14 35 59.1
MALT Malatya 144.71 306 ⇓PKiKP **PKPab** 14 36 05.7 +1.8
MALT Malatya 144.71 306 ⇓*i*P **PKPab** 14 36 05.7 +1.8
SIM Simferopol' 144.92 319 *e*PKHKP **PKPdf** 14 36 03.5 -0.1
SIM pmax pmax
comp=Z,47nm,0.8s
ESK Eskdalemuir 146.07 6 *i* PKP2 **PKPab** 14 36 09.8 +1.5
GKP Gorka Klasztor 146.33 344 *e*PKP **PKPbc** 14 36 07.3 -0.3
GKP *e* 14 36 09.2
GKP Gorka Klasztor 146.33 344 *e*PKiKP **PKPbc** 14 36 07.3 -0.3
GKP *e* 14 36 09.2
LVV L'vov 146.95 334 *i* PKiKP **PKPbc** 14 36 10.3 +0.8
BSEG Bad Segeberg 147.11 351 *e*PKP **PKPbc** 14 36 09.7 -0.1
KWP Kalwaria Pacla 147.63 335 *e*PKP **PKPbc** 14 36 11.5 +0.1
KWP Kalwaria Pacla 147.63 335 *e*PKiKP **PKPbc** 14 36 11.3 -0.1
KWP Kalwaria Pacla 147.63 335 ⇑*i*P **PKPbc** 14 36 11.5 +0.1
KWP Kalwaria Pacla 147.63 335 *e*PKPbc **PKPbc** 14 36 11.3 -0.1
BR131 Keskin Array S 147.68 311 PKPdf **PKPdf** 14 36 08.9 +0.3
BR131 *e*PKPbc **PKPbc** 14 36 11.3 -0.7
TLCR 147.88 323 ⇓PKiKP **PKPbc** 14 36 12.3 +0.2
TLCR 147.88 323 ⇓*i*P **PKPbc** 14 36 12.3 +0.2

TESR Tescani 148.16 327 ⇓*i*P **PKPbc** 14 36 12.0 -0.8
ANTO Ankara 148.21 312 *e*PKiKP **PKPbc** 14 36 13.2 -0.1
ANTO Ankara 148.21 312 ⇓*i*P **PKPbc** 14 36 13.1 -0.1
ANTO Ankara 148.21 312 *e*PKPbc **PKPbc** 14 36 13.2 -0.1
OJC Ojcow 148.22 338 *e*PKP **PKPbc** 14 36 12.5 -0.4
OJC Ojcow 148.22 338 *e*PKiKP **PKPbc** 14 36 12.5 -0.4
CFR Carcaliu 148.26 324 ⇑PKiKP **PKPbc** 14 36 12.6 -0.5
CFR Carcaliu 148.26 324 ⇑*i*P **PKPbc** 14 36 12.6 -0.5
KOLS Kolonicke sedl 148.36 334 *e*PKP2 **PKPbc** 14 36 15.5 +2.3
KOLS Kolonicke sedl 148.36 334 *e*PKP **PKPbc** 14 36 15.5 +2.3
STHS Stebnicka Huta 148.37 336 *e*PKP2 **PKPbc** 14 36 15.5 +2.2
STHS Stebnicka Huta 148.37 336 *e*PKP **PKPbc** 14 36 15.5 +2.2
NRDL Niedersach Rie 148.54 351 *e*PKP **PKPbc** 14 36 13.3 -0.1
TIRR Tirgusor 148.55 323 ⇑PKiKP **PKPbc** 14 36 13.7 -0.1
TIRR Tirgusor 148.55 323 ⇑*i*P **PKPbc** 14 36 13.7 -0.1
VRI Vrincioaia 148.56 326 ⇑PKiKP **PKPbc** 14 36 13.7 -0.2
VRI Vrincioaia 148.56 326 ⇑*i*P **PKPbc** 14 36 13.6 -0.3
UZH Uzhgorod 148.59 334 ⇓*i*PKiKP **PKPbc** 14 36 13.4 -0.4
UZH *e* 14 36 18.0
PLOR Plostina 148.61 326 ⇓PKiKP **PKPbc** 14 36 13.7 -0.3
PLOR Plostina 148.61 326 ⇓*i*P **PKPbc** 14 36 13.7 -0.3
TLB Topalu 148.68 323 ⇑PKiKP **PKPbc** 14 36 14.2 +0.1
TLB Topalu 148.68 323 ⇑*i*P **PKPbc** 14 36 14.2 +0.1
NIE Niedzica 148.71 337 *e*PKP **PKPbc** 14 36 14.5 +0.4
NIE Niedzica 148.71 337 *e*PKiKP **PKPbc** 14 36 14.5 +0.4
KSP Ksiaz 148.77 343 *e*PKP **PKPbc** 14 36 14.4 +0.2
KSP *e* 14 36 16.1
KSP Ksiaz 148.77 343 *e*PKiKP **PKPbc** 14 36 14.4 +0.2
KSP *e* 14 36 16.2
MANR Mangalia 148.84 322 ⇑*i*P **PKPbc** 14 36 15.0 +0.4
TRPA Tarpa 148.88 333 ⇑*i*P **PKPbc** 14 36 15.2 +0.7
TRPA Tarpa 148.88 333 ⇑*e* **PKPbc** 14 36 14.9 +0.4
OKC Ostrava-Krasne 149.10 340 ⇑*e*PKP **PKPbc** 14 36 15.0 0.0
OKC *ex* x 14 36 16.9
OKC *e*PKPab **PKPab** 14 36 21.9 +1.2
OKC Ostrava-Krasne 149.10 340 *e*PKiKP **PKPbc** 14 36 15.0 0.0
OKC *e* 14 36 21.9
MSAB Monastry St. A 149.11 323 ⇑*i*P **PKPbc** 14 36 15.2 0.0
CLL Collm 149.15 347 *e*PKP **PKPbc** 14 36 15.0 -0.1
CLL Collm 149.15 347 ⇓*i*PKPbc **PKPbc** 14 36 15.0 -0.1
comp=Z,23nm,1.0s
CLL *i* PKiKP **PKiKP** 14 36 16.9 +0.8
comp=Z,33nm,0.7s
CLL ⇑*i*PKPab **PKPab** 14 36 21.5 +0.6
comp=Z,19nm,0.7s
CLL *ep*PKPab **pPKPab** 14 37 56.0 +2.9
CLL Collm 149.15 347 ⇓*i*PKiKP **PKPbc** 14 36 15.0 -0.1
CLL *i* 14 36 16.9
CLL *i* 14 36 21.5
CLL pmax pmax
comp=Z,23nm,1.0s
CLL pmax pmax
comp=Z,33nm,0.7s
CLL pmax pmax
comp=Z,19nm,0.7s
PSN Preselentsi 149.16 322 ⇑PKP2 **PKPbc** 14 36 17.3 +1.9
PSN Preselentsi 149.16 322 ⇑*i*P **PKPbc** 14 36 17.3 +1.9
DPC Dobruska-Polom 149.20 342 ⇑*e*PKP **PKPbc** 14 36 15.0 -0.3
DPC *ex* x 14 36 17.5
DPC *e*PKPab **PKPab** 14 36 22.0 +0.8
DPC *ep*PKP pPKPdf 14 37 54.7 +8.0
MLR Muntele Rosu 149.22 326 ⇑*i*P **PKPbc** 14 36 15.1 -0.5
KRLC Kraliky 149.31 341 ⇑*e*PKP **PKPbc** 14 36 15.7 +0.1
KRLC *ex* x 14 36 17.8
KRLC *e*PKPab **PKPab** 14 36 22.2 +0.5
BRG Berggiesshubel 149.34 345 *i* PKP **PKPbc** 14 36 15.6 0.0
comp=Z,12nm,0.6s
BRG *i* 14 36 17.6
comp=Z,17nm,0.8s
BRG *i* 14 36 22.6
comp=Z,14nm,0.7s
BRG Berggiesshubel 149.34 345 *e*PKP **PKPbc** 14 36 15.6 0.0
BRG Berggiesshubel 149.34 345 *i* PKHKP **PKPbc** 14 36 15.6 0.0
BRG *i* 14 36 22.6
BRG pmax pmax
comp=Z,12nm,0.6s
BRG pmax pmax
comp=Z,17nm,0.8s
BRG pmax pmax
comp=Z,14nm,0.7s
MORC Moravsky Berou 149.35 340 ⇓*i*P **PKPbc** 14 36 15.9 +0.2
MORC Moravsky Berou 149.35 340 *e*PKPbc **PKPbc** 14 36 15.6 -0.1
SECR 149.46 326 ⇑*i*P **PKPbc** 14 36 16.2 +0.1
PVCC Panska Ves 149.51 344 ⇑*e*PKP **PKPbc** 14 36 16.4 +0.4
PVCC *ex* x 14 36 18.1
PVCC *e*PKPab **PKPab** 14 36 23.3 +0.9
CSS Prodhromos 149.64 303 *e*PKPbc **PKPbc** 14 36 18.1 +1.2
VOIR 149.71 327 ⇑*i*P **PKPbc** 14 36 16.8 0.0
DRGR 149.84 331 ⇓*i*P **PKPbc** 14 36 15.7 -1.3
ARR Arges 149.97 327 ⇓*i*P **PKPbc** 14 36 18.3 +0.9
PRU Pruhonice 150.01 344 ⇑*e*PKP **PKPbc** 14 36 16.6 -0.6
PRU *ex* x 14 36 19.1
PRU *e*PKPab **PKPab** 14 36 25.6 +1.1
GOPC GO Pecny, Ondr 150.02 344 ⇑*e*PKP **PKPbc** 14 36 17.2 -0.1
GOPC *ex* x 14 36 19.3
GOPC *e*PKPab **PKPab** 14 36 25.5 +0.9
VYHS Vyhne 150.02 338 *e*PKHKP **PKPbc** 14 36 17.2 -0.1
VYHS *e* 14 36 25.7
VYHS Vyhne 150.02 338 *e*PKP **PKPbc** 14 36 17.2 -0.1
VYHS *e* 14 36 25.7
SZAC Souni-Zanaja 150.05 303 P **PKPbc** 14 36 19.4 +1.5
VRAC Vranov 150.05 341 ⇑*i*P **PKPbc** 14 36 17.7 +0.3
TANN Tannenbergstha 150.11 347 *e*PKP **PKPbc** 14 36 17.5 0.0
PSZ Piszkesteto 150.11 336 ⇓*e* **PKPbc** 14 36 16.9 -0.7
ALFC Alevga 150.15 304 P **PKPbc** 14 36 19.2 +1.1
NKC Novy Kostel 150.28 347 ⇑*e*PKP **PKPbc** 14 36 17.6 -0.3
NKC *ex* x 14 36 20.0
NKC *e*PKPab **PKPab** 14 36 25.6 -0.1
NKC Novy Kostel 150.28 347 *e*PKHKP **PKPbc** 14 36 17.6 -0.3
NKC *e* 14 36 25.6
SIRR Siria 150.70 332 ⇑*i*P **PKPbc** 14 36 19.0 0.0
ROTZ Rotzenmuhle 150.77 347 *e*PKP **PKPbc** 14 36 19.1 +0.1
GZR Gura Zlata 150.85 329 ⇓PKiKP **PKPbc** 14 36 18.8 -0.6
GZR Gura Zlata 150.85 329 ⇓*i*P **PKPbc** 14 36 18.8 -0.6
MEM Membach 150.87 355 PKPbc **PKPbc** 14 36 19.2 0.0
TNS Taunus Mts 150.99 352 *e*PKP **PKPbc** 14 36 19.5 -0.1
KHC Kasperske Hory 151.05 344 ⇑*e*PKP **PKPbc** 14 36 19.7 0.0
KHC *ex* x 14 36 21.7
KHC *e*PKPab **PKPab** 14 36 29.3 +0.4
KHC Kasperske Hory 151.05 344 *e*PKiKP **PKPbc** 14 36 19.7 0.0
KHC *e* 14 36 21.7
KHC *e* 14 36 29.3
BZS Buzias 151.22 331 ⇓PKiKP **PKPbc** 14 36 19.8 -0.4
BZS Buzias 151.22 331 ⇓*i*P **PKPbc** 14 36 19.8 -0.4
GEC2 GERESS Array S 151.28 344 *e*PKP **PKPbc** 14 36 20.0 -0.3
GERES GERESS Array B 151.28 344 PKPbc **PKPbc** 14 36 20.1 -0.3
comp=Z,6.1nm,0.6s,baz=357,slow=2.7,SNR=23
GERES PKPab **PKPab** 14 36 29.4 -0.6
comp=Z,3.0nm,0.7s,baz=14,slow=1.7,SNR=5.2
DOU Dourbes 151.48 357 PKPbc **PKPbc** 14 36 20.8 +0.2
SOP Sopron 151.50 339 ⇓*e* **PKPbc** 14 36 20.8 +0.1
CONA Conrad Observa 151.50 341 ⇓*i*PKiKP **PKPbc** 14 36 20.9 0.0
comp=Z,12nm,0.6s
PKSM Moragy 152.00 335 ⇑PKiKP **PKPbc** 14 36 21.2 -0.7
PKSM Moragy 152.00 335 ⇑*i*P **PKPbc** 14 36 21.2 -0.7
PKSM Moragy 152.00 335 ⇓*e* **PKPbc** 14 36 21.6 -0.3
KDZ Kurdzhali 152.01 321 ⇑PKiKP **PKPbc** 14 36 21.9 -0.2
KDZ Kurdzhali 152.01 321 ⇑*i*P **PKPbc** 14 36 21.9 -0.2
FUR Furstenfeldbru 152.49 347 *e*PKP **PKPbc** 14 36 22.7 -0.3
VTS Vitosha 152.64 325 ⇑PKiKP **PKPbc** 14 36 23.4 -0.2
VTS Vitosha 152.64 325 ⇑*i*P **PKPbc** 14 36 23.4 -0.2
BFO Black Forest 152.86 351 *e*PKP **PKPbc** 14 36 23.5 -0.3
PERS Pernice 152.88 340 *i* PKPbc **PKPbc** 14 36 22.9 -1.0
PERS *i* 14 36 24.9
KBA Koelnbreinsper 153.00 343 ⇓*i*PKPbc **PKPbc** 14 36 23.6 -0.7
comp=Z,4.6nm,0.5s
MMB Musomiste 153.03 323 ⇑PKiKP **PKPbc** 14 36 23.9 -0.5
MMB Musomiste 153.03 323 ⇑*i*P **PKPbc** 14 36 23.9 -0.5
DIVS Divibare 153.13 331 ⇓*i*P **PKPbc** 14 36 24.9 +0.3
WTTA Wattenberg 153.26 346 ⇓*i*PKPbc **PKPbc** 14 36 24.4 -0.5
comp=Z,9.1nm,0.4s
VNDS Vrh nad Dolski 153.49 340 *i* PKPbc **PKPbc** 14 36 24.5 -0.7
VNDS *i* 14 36 26.6
ABTA Abfaltersbach 153.53 344 ⇑*i*PKPbc **PKPbc** 14 36 24.6 -0.7
comp=Z,13nm,0.6s
FETA Feichten 153.69 347 ⇑*i*PKPbc **PKPbc** 14 36 25.5 -0.2
comp=Z,5.7nm,0.6s
BOJS Bojanci 153.84 339 *i* PKPbc **PKPbc** 14 36 25.7 -0.3
DBIC Dimbokro 163.69 154 PKP **PKPdf** 14 36 29.7 -0.4
comp=Z,4.8nm,0.8s,baz=90,slow=2.8,SNR=4.0
KEST Kesra 164.57 338 PKPab **PKPab** 14 37 28.1 +0.3

comp=Z,1.5nm,0.8s,baz=340,slow=9.4,SNR=2.7
TORD Torodi Ar. Bea 171.60 177 PKP **PKPdf 14 36 34.6 -1.0**
comp=Z,3.2nm,0.9s,baz=353,slow=0.7,SNR=14
TORD PKPab **PKPab 14 38 00.1 +0.9**
comp=Z,2.2nm,0.6s,baz=179,slow=3.7,SNR=6.6

GUC 17 14:26:51.6±0.4, 35°64S × 73°57W, h29km ± 16km, ML4.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.80**	**128**	*e*P	Pn	14 27 05.8	-1.1
COCH				*i* S	Sb	14 27 16.2	-1.3
CCSP	**San Pedro de C**	**1.26**	**163**	*e*P	Pn	14 27 12.5	-0.6
CCSP				*e*S	Sn	14 27 29.0	-0.1
CCSP				IAML		14 27 35.0	
	comp=E,3μm,0.5s						
TALC	**Talca**	**1.60**	**82**	*e*P	Pn	14 27 18.2	+0.4
TALC				*e*S	Sn	14 27 38.3	+0.8
LNCH	**Linares**	**1.61**	**98**	*e*P	Pn	14 27 18.3	+0.2
LNCH				*e*S	Sn	14 27 38.6	+0.6
CLCH	**Cerro Calan**	**3.36**	**49**	IAML		14 28 53.0	
	comp=N,397nm,0.6s						
PEL	**Peldehue**	**3.45**	**45**	IAML		14 29 00.6	
	comp=E,347nm,0.5s						

MEX 17 14:37:52.4±0.6, 14°59N × 94°60W, h10km, MD3.6, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.73**	**50**	*i* P	Pn	14 38 18.5	-4.1
PCIG				*i* S	Sn	14 38 40.3	-4.6
HUIG	**Huatulco**	**1.87**	**309**	*e*P	Pn	14 38 21.4	-3.1
HUIG				*i* S	Sn	14 38 43.4	-4.8
CCIG	**Comitan**	**2.91**	**54**	*e*P	Pn	14 38 36.8	-2.3
CCIG				*e*S	Sn	14 39 10.6	-3.7

MEX 17 14:38:28.3±0.6, 14°47N × 94°60W, h10km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.81**	**47**	*e*P	Pn	14 38 55.5	-4.1
PCIG				*i* S	Sn	14 39 17.9	-4.8
HUIG	**Huatulco**	**1.95**	**312**	*e*P	Pn	14 38 58.7	-2.8
HUIG				*i* S	Sn	14 39 20.3	-5.7
CCIG	**Comitan**	**2.98**	**52**	*e*P	Pn	14 39 13.2	-2.7
CCIG				*e*S	Sn	14 39 50.3	-1.6

MEX 17 14:43:48.8±0.7, 32°64N × 115°29W, h10km, MD3.5
ISCJB 17 14:43:49.1±0.7, 32°42N±0°05 × 115°53W±0°04, h9km ± 6km, Error ellipse: s-maj=8.5km s-min=5.1km az=21.5
ECX 17 14:43:50.6±0.5, 32°42N × 115°54W, h7km, MD2.3, ML2.5
ISC 17 14:43:48.9±1.0, 32°42N±0°06 × 115°51W±0°04, h16km ± 9km, n12, σ0°47/21, 3C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.17**	**91**	⇑*e*P	**Pg**	**14 43 53.3**	**0.0**
CPBX				*e*S	**Sg**	**14 43 56.6**	**+0.4**
CPBX				IAML		14 43 59.0	
	comp=E,4μm,0.2s						
CPBX				*e*		14 43 59.0	
CPBX				IAML		14 43 59.5	
	comp=N,3μm,0.1s						
CPBX				⇓*e*		14 43 59.5	
CPBX				⇑*e*		14 44 00.8	
	comp=N,3μm,0.2s						
RMX	**La Rumorosa**	**0.52**	**291**	*e*P	**Pg**	**14 43 59.1**	**-0.2**
RMX				*e*S	**Sg**	**14 44 06.1**	**-0.1**
RDX	**Rancho Dawling**	**0.61**	**217**	*e*P	**Pg**	**14 44 00.8**	**-0.3**
RDX				*e*S	**Sg**	**14 44 09.2**	**-0.1**
RDX				⇓*e*		14 44 09.5	
	comp=N,128nm,0.3s						
CBX	**Cerro Bola**	**0.98**	**264**	*e*P	**Pb**	**14 44 07.4**	**-0.2**
CBX	**Cerro Bola**	**0.98**	**264**	⇑*e*P	**Pb**	**14 44 07.6**	**-0.1**
CBX				*e*S	**Sb**	**14 44 20.4**	**0.0**
BAR	**Barrett**	**1.02**	**285**	*e*P	**Pb**	**14 44 07.9**	**-0.2**
ECBX	**El Chinero**	**1.02**	**158**	*e*P9	**Pb**	**14 44 07.4**	**-0.8**
ECBX				*e*S	**Sb**	**14 44 21.1**	**-0.3**
ECBX				⇓*e*		14 44 22.2	
ECBX				IAML		14 44 22.2	
	comp=E,74nm,0.4s						
ZAX	**El Zacaton**	**1.11**	**216**	*e*P	**Pb**	**14 44 09.8**	**-0.1**
ZAX				*e*S	**Sb**	**14 44 24.6**	**+0.5**
ECNX	**Esteban Cantu**	**1.20**	**231**	*e*P	**Pn**	**14 44 11.3**	**+0.2**
ECNX				*e*S	**Sb**	**14 44 26.8**	**+0.3**
PBX	**Punta Banda**	**1.23**	**237**	*e*P	**Pn**	**14 44 11.5**	**0.0**
PBX				*e*S	**Sn**	**14 44 28.0**	**+0.2**
SPIG	**San Pedro Mart**	**1.37**	**178**	*e*P	**Pn**	**14 44 14.3**	**+0.6**
SPX	**San Pedro Mart**	**1.37**	**178**	*e*P4	**Pn**	**14 44 13.2**	**-0.5**
SPX				*e*S	**Sb**	**14 44 33.1**	**+1.3**

DJA 17 14:52:12.1±1.1, 8°S±8° × 107°E±°, h29km ± 9km, M3.5/7, MLv3.5/7, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.69**	**43**	P	Pn	14 52 25.9	-0.1
CISI				S	Sn	14 52 35.6	-0.2
CNJI	**Cibinong**	**0.78**	**344**	P	Pb	14 52 26.9	-0.2
CNJI				S	Sn	14 52 37.6	-0.2
CMJI	**Cimerak**	**1.13**	**76**	P	Pn	14 52 31.5	-0.5
CMJI				S	Sn	14 52 46.1	-0.5
LEM	**Lembang**	**1.26**	**13**	P	Pb	14 52 36.2	-0.2
SKJI	**Sukabumi**	**1.30**	**323**	P	Pn	14 52 34.6	+0.2
SKJI				S	Sn	14 52 51.3	+0.4
CGJI	**Cibinong**	**2.18**	**311**	P	Pn	14 52 46.0	-0.4
UGM	**Wanagama**	**3.16**	**88**	P	Pn	14 53 00.0	+0.1

ISCJB 17 15:25:04.8±0.4, 56°85N±0°04 × 155°18W±0°06, h57km, mb3.7/12, Error ellipse: s-maj=6.6km s-min=4.0km az=150.7
NEIC 17 15:25:08.3, 56°94N × 155°33W, h47km, ML3.4(AEIC), After AEIC.
IDC 17 15:25:09.8±4.8, 57°33N × 155°45W, h68km ± 43km, mb3.4/13, mb1 3.5/14, mb1mx3.4/30, mbtmp3.7/14, ML2.5/1, Error ellipse: s-maj=33.7km s-min=18.5km az=16.0
ISC 17 15:25:07.1±0.8, 56°96N±0°07 × 155°37W±0°05, h57km, n53, σ0°88/57, mb3.8/12, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLK4	**Peulik 4**	**0.86**	**322**	P	**Pn**	**15 25 23.5**	**+0.3**
PLK3	**Peulik 3**	**0.88**	**327**	P	**Pn**	**15 25 23.8**	**+0.4**
PLK3				S	**Sn**	**15 25 36.2**	**+0.9**
PLK1	**Peulik 1**	**1.07**	**322**	P	**Pn**	**15 25 26.8**	**+0.9**
OHAK	**Old Harbor**	**1.17**	**76**	P	**Pn**	**15 25 27.1**	**-0.1**
OHAK				S	**Sn**	**15 25 43.9**	**+1.8**
KABR	**Katmai Barrier**	**1.19**	**10**	P	**Pn**	**15 25 27.9**	**+0.3**
PLWL	**Peulik Whale M**	**1.20**	**335**	P	**Pn**	**15 25 28.1**	**+0.4**
PLWL				S	**Sn**	**15 25 44.0**	**+1.0**
KCE	**Katmai Mt Cerb**	**1.29**	**4**	P	**Pn**	**15 25 30.3**	**+1.4**
KAKN	**Katmai Knife C**	**1.35**	**7**	P	**Pn**	**15 25 30.7**	**+0.9**
KAKN				S	**Sn**	**15 25 47.6**	**+1.0**
KVTA	**Katmai Vly 10**	**1.42**	**2**	P	**Pn**	**15 25 31.4**	**+0.8**
KELA	**Mount Kelaz**	**1.50**	**353**	P	**Pn**	**15 25 32.2**	**+0.5**
CHGN	**Chignik**	**1.81**	**250**	P	**Pn**	**15 25 36.0**	**+0.3**
VNSG	**Veniaminof 6**	**2.22**	**249**	P	**Pn**	**15 25 42.8**	**+1.3**
VNHG	**Veniaminof 1**	**2.22**	**252**	P	**Pn**	**15 25 43.2**	**+1.6**
AUH	**Augustine H**	**2.62**	**22**	P	**Pn**	**15 25 47.8**	**+0.9**
SDPT	**Sand Point**	**3.28**	**243**	P	**Pn**	**15 25 56.5**	**+0.6**
BRLK	**Bradley Lake**	**3.67**	**38**	P	**Pn**	**15 26 01.4**	**+0.1**
RSO	**Redoubt South**	**3.77**	**20**	P	**Pn**	**15 26 03.8**	**+1.0**
NCT	**North Crescent**	**3.83**	**18**	P	**Pn**	**15 26 05.3**	**+1.8**
SVW2	**Sparrevohn**	**4.15**	**359**	P	**Pn**	**15 26 08.8**	**+0.9**
DT1	**Dutton Round H**	**4.30**	**247**	P	**Pn**	**15 26 10.1**	**+0.3**
SEW	**Seward**	**4.42**	**42**	P	**Pn**	**15 26 10.8**	**-0.7**
FALS	**False Pass**	**4.99**	**248**	P	**Pn**	**15 26 19.5**	**+0.2**
RC01	**Rabbit Creek A**	**5.06**	**33**	P	**Pn**	**15 26 20.5**	**+0.2**
SUA	**Susitna One**	**5.10**	**26**	P	**Pn**	**15 26 21.7**	**+0.7**
PTE	**Portage**	**5.11**	**37**	P	**Pn**	**15 26 20.4**	**-0.5**
SSLW	**Shishaldin Wes**	**5.39**	**250**	P	**Pn**	**15 26 25.1**	**+0.2**
TT01	**Tatalina**	**5.97**	**357**	P	**Pn**	**15 26 34.4**	**+1.6**
EYAK	**Cordova Ski Ar**	**6.16**	**50**	P	**Pn**	**15 26 34.6**	**-0.8**
SCM	**Sheep Creek Mo**	**6.38**	**37**	P	**Pn**	**15 26 38.2**	**-0.3**
RAGM	**Ragged Mountai**	**6.55**	**54**	P	**Pn**	**15 26 40.3**	**-0.4**
GOAT	**Goat Mountain**	**6.62**	**52**	P	**Pn**	**15 26 41.5**	**-0.2**
KLU	**Klutina**	**6.64**	**43**	P	**Pn**	**15 26 41.6**	**-0.4**
BMRM	**Bremner River**	**6.86**	**50**	P	**Pn**	**15 26 44.3**	**-0.7**
UNV	**Unalaska Valle**	**7.06**	**248**	P	**Pn**	**15 26 47.4**	**-0.3**
BARK	**Barkley Ridge**	**7.54**	**57**	P	**Pn**	**15 26 54.1**	**-0.2**
ISLE	**Juniper Island**	**7.69**	**56**	P	**Pn**	**15 26 56.7**	**+0.3**
KIAG	**Kiagna River**	**7.81**	**54**	P	**Pn**	**15 26 58.1**	**+0.1**
PTPK	**Patty Peak**	**7.88**	**52**	P	**Pn**	**15 26 59.3**	**+0.3**
GRNC	**Granite Creek**	**8.01**	**56**	P	**Pn**	**15 27 00.4**	**-0.4**
ILAR	**Eielson Array**	**8.85**	**24**	P	**Pn**	**15 27 10.8**	**-1.4**
	0.0nm,0.3s,baz=214,slow=13,SNR=2.9						
YKA	**Yellowknife Ar**	**21.00**	**58**	P	**P**	**15 29 44.6**	**-0.7**
	0.6nm,0.6s,baz=272,slow=11,SNR=4.2						
PETK	**Petropavlovsk-**	**26.75**	**282**	P	**P**	**15 30 41.8**	**+0.8**
	1.5nm,0.4s,baz=82,slow=10,SNR=18						
PDAR	**Pinedale Array**	**32.10**	**96**	P	**P**	**15 31 31.1**	**+2.3**
	0.5nm,0.5s,baz=324,slow=6.5,SNR=5.8						
TXAR	**Lajitas Array**	**45.24**	**105**	P	P	15 33 21.6	+2.9
	0.2nm,0.6s,baz=324,slow=4.5,SNR=3.1						
ARCES	**ARCESS Array B**	**53.80**	**360**	P	**P**	**15 34 21.7**	**-1.5**
	1.9nm,0.9s,baz=356,slow=9.9,SNR=3.4						
SONM	**Songino Array**	**55.57**	**306**	P	**P**	**15 34 35.3**	**-1.2**
	0.3nm,0.5s,baz=39,slow=5.5,SNR=2.9						
FINES	**FINESS Array B**	**61.93**	**359**	P	**P**	**15 35 19.7**	**-0.5**
	0.8nm,0.6s,baz=22,slow=9.2,SNR=4.2						
KURBB	**Kurchatov Arra**	**63.94**	**325**	P	**P**	**15 35 32.7**	**-1.0**
	0.2nm,0.4s,baz=26,slow=6.6,SNR=3.9						
KURBB				PcP	**PcP**	**15 36 08.2**	**-0.6**
	0.1nm,0.5s,baz=37,slow=4.2,SNR=5.0						
BVAR	**Borovoye Array**	**64.16**	**331**	P	**P**	**15 35 34.6**	**-0.5**
	1.4nm,0.6s,baz=31,slow=6.6,SNR=10						
MKAR	**Makanchi Array**	**66.01**	**321**	P	**P**	**15 35 46.5**	**-0.7**
	0.2nm,0.6s,baz=40,slow=7.5,SNR=3.1						
AKTO	**Aktyubinsk**	**69.47**	**338**	P	**P**	**15 36 08.0**	**-0.9**
	0.4nm,0.3s,baz=39,slow=9.3,SNR=4.0						
AAK	**Ala-Archa**	**72.30**	**324**	P	**P**	**15 36 26.7**	**+0.3**
	0.4nm,0.3s,baz=236,slow=3.6,SNR=4.4						
CMAR	**Chiang Mai Arr**	**82.95**	**290**	P	**P**	**15 37 25.9**	**+0.1**
	1.0nm,0.7s,baz=16,slow=5.5,SNR=6.4						

IDC 17 15:35:46.0±5.6, 36°08N × 71°01E, h149km ± 51km, mb3.1/5, mb1 3.1/9, mb1mx3.0/29, mbtmp3.5/9, MS3.0/1, Ms1 3.2/1, ms1mx2.3/21, Error ellipse: s-maj=38.9km s-min=27.8km az=28.0
ISCJB 17 15:35:53.0±1.2, 36°54N±0°09 × 71°11E±0°09, h188km, mb3.3/4, Error ellipse: s-maj=12.7km s-min=9.2km az=154.2
NNC 17 15:35:57.0±0.9, 36°75N × 71°08E, h187km ± 9km, mb2.8, mpv4.0, Error ellipse: s-maj=9.6km s-min=4.4km az=157.0
ISC 17 15:35:52.4±1.3, 36°42N±0°08 × 71°15E±0°07, h188km, n27, σ1°34/31, mb3.3/4, 7C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**3.01**	**323**	⇑P	**Pn**	**15 36 42.9**	**+1.3**
	28nm,0.2s						
DZET				⇑S	**Sn**	**15 37 18.6**	**-1.5**
	53nm,0.3s						
SFK	**Sufi-Kurgan**	**4.04**	**27**	⇓P	**Pn**	**15 36 55.5**	**+1.1**
	7.8nm,0.5s						
SFK				⇓S	**Sn**	**15 37 42.4**	**-0.7**
	18nm,0.4s						
DLH	**Dalhousie**	**5.55**	**133**	*e*P	**Sn**	**15 38 17.0**	**-1.0**
AML	**Almayashu**	**6.04**	**18**	P	**Pn**	**15 37 20.6**	**+0.3**
	SNR=55						
MNAS	**Manas**	**6.15**	**9**	⇓P	**Pn**	**15 37 21.8**	**+0.3**
MNAS	7.1nm,0.4s			⇑S	**Sn**	**15 38 29.6**	**-2.2**
	9.5nm,0.6s						
UCH	**Uchtor**	**6.36**	**23**	P	**Pn**	**15 37 24.9**	**+0.4**
	SNR=15						
KZA	**Kyzart**	**6.48**	**28**	P	**Pn**	**15 37 26.6**	**+0.5**
	SNR=5.3						
EKS2	**Erkin-Say**	**6.56**	**17**	P	**Pn**	**15 37 27.7**	**+0.9**
	SNR=12						
KK31	**Karatay Array**	**6.69**	**356**	⇑P	**Pn**	**15 37 28.5**	**+0.1**
	2.9nm,0.3s,baz=177,slow=12,SNR=79						
KK31				⇓S	**Sn**	**15 38 41.5**	**-2.9**
	2.9nm,0.5s,baz=178,slow=22,SNR=4.3						
AAK	**Ala-Archa**	**6.72**	**22**	P	**Pn**	**15 37 29.6**	**+0.7**
	SNR=14						
AAK	**Ala-Archa**	**6.72**	**22**	⇑P	**Pn**	**15 37 29.6**	**+0.7**
	5.1nm,0.4s						
AAK				⇑S	**Sn**	**15 38 44.2**	**-1.1**
	6.2nm,0.6s						
AAK	**Ala-Archa**	**6.72**	**22**	P	**Pn**	**15 37 29.1**	**+0.2**
	3.9nm,0.3s,baz=192,slow=6.0,SNR=41						
AAK				S	**Sn**	**15 38 44.7**	**-0.6**
	0.6nm,0.3s,baz=308,slow=23,SNR=17						
KBK	**Karagaybulak**	**6.88**	**24**	P	**Pn**	**15 37 32.1**	**+1.0**
	SNR=12						
CHMS	**Chumysh**	**7.13**	**22**	P	**Pn**	**15 37 34.7**	**+0.5**
	SNR=5.6						
USP	**Ospenovka**	**7.31**	**20**	P	Pn	15 37 32.2	-4.3
	SNR=6.7						
TKM2	**Tokmak 2**	**7.34**	**26**	P	**Pn**	**15 37 37.4**	**+0.2**
	SNR=11						
TKM2	**Tokmak 2**	**7.34**	**26**	⇓P	**Pn**	**15 37 37.5**	**+0.4**
	3.2nm,0.5s						
TKM2				⇓S	**Sn**	**15 38 57.6**	**-2.5**
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**13.29**	**35**	P	**Pn**	**15 38 53.2**	**-0.6**
	0.1nm,0.3s,baz=212,slow=11,SNR=4.6						
MKAR				S	**S**	**15 41 27.5**	**+3.6**
	0.1nm,0.3s,baz=207,slow=18,SNR=5.4						
KURBB	**Kurchatov Arra**	**15.16**	**18**	P	**Pn**	**15 39 15.4**	**-1.4**
	0.0nm,0.3s,baz=207,slow=11,SNR=4.2						
AB31	**Akbulak array**	**15.21**	**331**	⇑P	**P**	**15 39 19.7**	**+1.5**
	0.8nm,0.5s,baz=136,slow=9.6,SNR=12						
BVAR	**Borovoye Array**	**16.61**	**358**	P	**P**	**15 39 33.5**	**0.0**
	0.2nm,0.3s,baz=172,slow=12,SNR=4.2						
ZALV	**Zalesovo Beam**	**19.94**	**24**	P	**P**	**15 40 08.9**	**-0.8**
	0.4nm,0.3s,baz=243,slow=9.5,SNR=2.2						
CMAR	**Chiang Mai Arr**	**30.31**	**119**	LR	LR	15 57 48.8	
	comp=Z,26nm,18.3s,baz=315,slow=44						
FINES	**FINESS Array B**	**37.62**	**326**	P	**P**	**15 42 48.5**	**-0.1**
	1.2nm,0.8s,baz=133,slow=16,SNR=3.8						
ARCES	**ARCESS Array B**	**41.26**	**338**	P	**P**	**15 43 18.5**	**-0.1**
	1.0nm,0.8s,baz=108,slow=8.0,SNR=7.0						
TORD	**Torodi Ar. Bea**	**65.83**	**269**	P	P	15 46 14.0	-3.9
	0.2nm,0.5s,baz=56,slow=2.6,SNR=5.5						
WRA	**Warramunga Arr**	**81.85**	**122**	P	P	15 47 48.4	-2.3
	0.4nm,1.0s,baz=327,slow=4.9,SNR=4.2						

IDC 17 15:48:11.8±1.9, 28°04N × 95°03E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.2/25, mbtmp3.2/3, Error ellipse: s-maj=72.7km s-min=26.4km az=62.0, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**21.23**	**335**	P	P	15 52 58.5	-0.8
	0.5nm,0.6s,baz=163,slow=10,SNR=9.1						
SONM	**Songino Array**	**21.65**	**21**	P	P	15 53 03.5	-0.5
	0.4nm,0.4s,baz=198,slow=9.3,SNR=3.7						
KURBB	**Kurchatov Arra**	**25.80**	**335**	P	P	15 53 45.0	+0.6
	baz=146,slow=10						
WRA	**Warramunga Arr**	**60.99**	**137**	P	P	15 58 27.3	0.0
	0.2nm,0.6s,baz=323,slow=7.8,SNR=4.8						

CSEM 17 15:52:30.0, 35°91N × 4°11E, h0km, ML3.8
CRAAG 17 15:52:30.0, 35°90N × 4°10E, MI3.8, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAF	**Djebel Tarf**	**0.15**	**100**	P	Pg	15 52 33.5	+0.5
ATAF	**Djebel Tarf**	**0.15**	**100**	P	Pg	15 52 33.5	+0.5
ADJB	**Djebel Djouab**	**0.59**	**296**	P	Pb	15 52 43.7	+0.2
ADJB	**Djebel Djouab**	**0.59**	**296**	P	Pb	15 52 43.7	+0.2
EMHD	**Djebel Mahouad**	**0.98**	**288**	P	Pn	15 52 50.7	-0.5
EMHD	**Djebel Mahouad**	**0.98**	**288**	P	Pn	15 52 50.7	-0.5
SET	**Setif**	**1.09**	**74**	P	Pn	15 52 53.0	+0.2
SET	**Setif**	**1.09**	**74**	P	Pn	15 52 53.0	+0.2
DFRA	**Djebel Bou Aff**	**1.57**	**65**	P	Pg	15 53 03.2	+2.8
DFRA	**Djebel Bou Aff**	**1.57**	**65**	P	Pg	15 53 03.2	+2.8
CTEI	**Djebel Teioual**	**1.88**	**84**	P	Pb	15 53 05.7	+0.3
CTEI	**Djebel Teioual**	**1.88**	**84**	P	Pb	15 53 05.7	+0.3
EBNR	**Beni Rached**	**2.12**	**281**	P	Pg	15 53 17.4	+6.7
EBNR	**Beni Rached**	**2.12**	**281**	P	Pg	15 53 17.4	+6.7
ETRT	**Tiaret**	**2.34**	**258**	P	Pn	15 53 10.9	+1.0
ETRT	**Tiaret**	**2.34**	**258**	P	Pn	15 53 10.9	+1.0
EANR	**'Ain N'Sour**	**2.44**	**272**	P	Pb	15 53 13.4	-1.4
EANR	**'Ain N'Sour**	**2.44**	**272**	P	Pb	15 53 13.4	-1.4

ISCJB 17 15:58:28.3±2.2, 34°27S±0°05 × 72°1W±0°2, h7km ± 15km, Error ellipse: s-maj=24.5km s-min=5.3km az=14.5
GUC 17 15:58:29.9±0.7, 34°30S × 71°95W, h6km ± 2km, ML3.5
SJA 17 15:58:32.0±0.6, 34°11S × 72°25W, h40km ± 37km, ML3.4
ISC 17 15:58:30.1±2.1, 34°26S±0°06 × 72°1W±0°1, h25km ± 16km, n18, σ0°81/24, 8C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.61**	**61**	⇑*i* P	**Pb**	**15 58 41.7**	**-0.5**
LNV				*i* S	**Sb**	**15 58 50.1**	**-0.3**
NICH	**Los Niches**	**1.01**	**138**	⇑*i* P	**Pn**	**15 58 47.6**	**-1.1**
TACH	**Talagante**	**1.10**	**57**	⇓*i* P	**Pn**	**15 58 49.5**	**-0.5**
TACH				*i* S	**Sn**	**15 59 04.3**	**-0.2**
TALC	**Talca**	**1.19**	**163**	⇑*i* P	**Pn**	**15 58 50.7**	**-0.5**
TALC				*e*S	**Sn**	**15 59 06.0**	**-0.6**
CHCH	**Chadas Angostu**	**1.21**	**75**	⇑*i* P	**Pn**	**15 58 51.2**	**-0.3**
CHCH				*e*S	**Sn**	**15 59 06.5**	**-0.6**
RCDM	**Rinconada Maip**	**1.29**	**54**	*e*P	**Pn**	**15 58 52.3**	**-0.3**
CLCH	**Cerro Calan**	**1.53**	**56**	⇑*i* P	**Pn**	**15 58 56.4**	**+0.5**
CLCH				*e*S	**Sb**	**15 59 16.6**	**-0.1**
CLCH				AML	AML	15 59 20.2	
	comp=N,947nm,0.6s						
ROCH	**El Roble**	**1.55**	**35**	⇑*i* P	**Pn**	**15 58 56.0**	**-0.3**
ROCH				*i* S	**Sb**	**15 59 17.5**	**+0.1**
ROCH				AML	AML	15 59 51.8	
	comp=N,850nm,0.7s						
PEL	**Peldehue**	**1.59**	**46**	⇑*i* P	**Pn**	**15 58 57.3**	**+0.6**
PEL				*i* S	**Sb**	**15 59 18.8**	**+0.3**
PEL				AML	AML	15 59 22.0	
	comp=N,2μm,0.5s						
LNCH	**Linares**	**1.63**	**167**	⇑*i* P	**Pn**	**15 58 57.9**	**+0.6**
LNCH				*e*S	**Sn**	**15 59 18.4**	**+0.9**
AAGR	**Agrelo**	**2.93**	**67**	*e*P	**Pb**	**15 59 22.9**	**+1.2**
ARCO	**CERRO ARCO**	**2.96**	**62**	*e*P	**Pb**	**15 59 23.2**	**+0.9**
ARCO				AML	AML	16 00 08.1	
	comp=Z,76nm,0.7s						
AUSP	**Uspallata**	**3.02**	**49**	*e*P	**Pb**	**15 59 23.4**	**+0.2**
AUSP				*e*S	**Sb**	**16 00 01.8**	**+2.0**
ASAL	**Salagasta**	**3.16**	**59**	*e*P	**Pb**	**15 59 24.9**	**-0.7**
RTLS	**Leoncito**	**3.37**	**44**	*e*P	**Pb**	**15 59 28.0**	**-1.3**
RTCV	**Cerro Valdivia**	**3.79**	**52**	*e*P	Pb	15 59 32.7	-3.7
CFAA	**Coronel Fontan**	**4.16**	**52**	*e*P	Pb	15 59 37.4	-5.2
AMOG	**MOGNA**	**4.47**	**43**	*e*P4	Pn	15 59 40.0	+3.7

IDC 17 15:59:03.5±1.3, 1°79N × 96°90E, h0km, mb4.0/11, mb1 4.0/12, mb1mx3.9/25, mbtmp4.0/12, ML3.6/1, MS3.2/3, Ms1 3.3/3, ms1mx2.8/29, Error ellipse: s-maj=32.9km s-min=19.8km az=53.0
ISCJB 17 15:59:06.2±0.5, 1°81N±0°05 × 96°89E±0°05, h28km, mb4.0/13, MS3.2/2, Error ellipse: s-maj=9.1km s-min=5.1km az=136.6
DJA 17 15:59:08.3±0.4, 2°N±6° × 97°E±°, h17km ± 11km, M4.2/7, MLv4.2/7
NEIC 17 15:59:09.0±2.3, 1°86N × 96°97E, h34km ± 15km, mb4.1/2, Error ellipse: s-maj=12.2km s-min=4.8km az=66.0
ISC 17 15:59:08.0±0.7, 1°83N±0°07 × 96°91E±0°07, h28km, n33, σ0°55/34, mb4.0/13, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.82**	**315**	P	**Pb**	**15 59 23.5**	**-0.2**
SNSI				S	**Sn**	**15 59 35.2**	**+0.3**
GSI	**Gunungsitoli**	**0.84**	**128**	P	**Pb**	**15 59 24.2**	**+0.1**
GSI				S	**Sb**	**15 59 34.2**	**-0.9**
GSI	**Gunungsitoli**	**0.84**	**128**	*e*Pg	**Pb**	**15 59 24.1**	**-0.1**
PSI	**Prapat**	**2.23**	**64**	Pn	**Pn**	**15 59 42.4**	**-0.8**
	baz=0.0,slow=0.0						
TSI	**Tuntungan**	**2.34**	**45**	P	**Pn**	**15 59 46.1**	**+1.5**
TSI				S	**Sn**	**16 00 13.2**	**+0.7**
MNSI	**Mandailing Nat**	**2.86**	**111**	P	**Pn**	**15 59 52.7**	**+0.9**
LHMI	**Lhok Sumawe**	**3.38**	**1**	P	**Pn**	**15 59 58.9**	**0.0**
LHMI	**Lhok Sumawe**	**3.38**	**1**	*e*Pn	**Pn**	**15 59 58.7**	**-0.2**
IPM	**Ipoh**	**4.88**	**57**	*e*P	**Pn**	**16 00 19.2**	**-0.4**
KULM	**Kulim**	**5.07**	**47**	*e*P	**Pn**	**16 00 22.2**	**-0.1**
	729nm,0.9s						
KULM				*e*		16 00 29.2	
MNAI	**Manna**	**8.62**	**136**	*e*P	**Pn**	**16 01 11.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**16.64**	**7**	Pn	**Pn**	**16 02 59.7**	**+0.3**
	0.1nm,0.3s,baz=200,slow=12,SNR=11						
CMAR				LR	LR	16 10 10.2

TORD	**Torodi Ar. Bea**	**150.92**	**289**	PKPbc	**PKPbc**	**16**	**25**	**55.9**	**-0.5**
	1.4nm,0.7s,baz=61,slow=2.5,SNR=8.3									

DJA 17 16:19:06.3±0.2, 1°S±2°×12°0E±°, h10km, M3.8/12, MLv3.8/12, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.42**	**334**	P	Pg	16 19 14.5	-0.2
PCI				S	Sb	16 19 21.6	-0.8
MPSI	**Mapaga**	**1.62**	**356**	P	Pn	16 19 32.8	-2.2
APSI	**Ampana**	**1.67**	**77**	P	Pn	16 19 34.4	-1.2
APSI				S	Sn	16 19 56.9	-0.3
TTSI	**Tana Toraja**	**1.75**	**187**	P	Pn	16 19 35.0	-1.8
TTSI				S	Sn	16 19 57.5	-1.7
MRSI	**Marisa**	**2.60**	**48**	P	Pn	16 19 48.1	-0.4
MRSI				S	Sn	16 20 20.8	+0.7
SPSI	**Sidrap Palu**	**2.67**	**185**	P	Pn	16 19 49.7	+0.3
LUWI	**Luwuk**	**2.76**	**85**	P	Pn	16 19 51.2	+0.5
LUWI				S	Sn	16 20 26.4	+2.3
BKB	**Balikpapan**	**3.12**	**271**	P	Pn	16 19 57.2	+1.6

MEX 17 16:26:50.8±0.7, 16°40N×99°06W, h7km±15km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.89**	**90**	*eP*	Pg	16 27 06.1	-2.0
PNIG				*eS*	Sg	16 27 17.4	-2.3
TLIG	**Tlapa**	**1.25**	**22**	*eP*	Pn	16 27 10.9	-4.0
TLIG				*eS*	Sb	16 27 25.2	-6.2
CAIG	**El Cayaco**	**1.33**	**299**	*eP*	Pn	16 27 12.2	-3.5
CAIG				*eS*	Sb	16 27 25.5	-7.8
HUIG	**Huatulco**	**2.91**	**102**	*eP*	Pb	16 27 42.4	-0.6

DJA 17 16:58:01.3±0.5, 1°S±3°×12°0E±°, h19km±8km, M3.6/8, MLv3.6/8, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.36**	**340**	P	Pb	16 58 09.6	+0.3
MPSI	**Mapaga**	**1.58**	**358**	P	Pn	16 58 28.8	+0.5
APSI	**Ampana**	**1.72**	**79**	P	Pn	16 58 29.9	-0.4
APSI				S	Sb	16 58 53.4	-0.2
TTSI	**Tana Toraja**	**1.79**	**185**	P	Pn	16 58 30.3	-0.9
TTSI				S	Sn	16 58 53.9	+0.5
MRSI	**Marisa**	**2.62**	**49**	P	Pn	16 58 40.5	-2.1
MRSI				S	Sn	16 59 15.7	+1.8
SPSI	**Sidrap Palu**	**2.70**	**184**	P	Pn	16 58 44.2	+0.4
SPSI				S	Sb	16 59 24.8	+2.9
LUWI	**Luwuk**	**2.82**	**86**	P	Pn	16 58 44.6	-0.8

*IDC **17** 17:09:06.8±2.9, 4°75N×96°35E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/24, mbtmp3.4/5, Error ellipse: s-maj=105.9km s-min=26.8km az=61.0*
*ISCJB **17** 17:09:25.2±0.7, 4°6N±0°1×96°0E±0°2, h200km, mb3.0/4, Error ellipse: s-maj=36.8km s-min=7.9km az=151.5*
*DJA **17** 17:09:27.5±0.7, 5°N±5°×9°7E±°, h152km±8km, M3.5/6, MLv3.5/6*
ISC 17 17:09:26.3±1.1, 4°5N±0°2×96°0E±0°3, h200km, n13, σ1s51/9, mb3.1/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**1.13**	**53**	P	Pn	17 09 51.3	-5.7
LHMI				S	Sn	17 10 09.5	-11
BSI	**Banda Aceh**	**1.20**	**322**	P	**Pn**	**17 09 57.3**	**-0.3**
BSI				S	**Sn**	**17 10 19.6**	**-2.3**
SNSI	**Sinabang, Aceh**	**2.14**	**172**	P	Sn	17 10 30.8	-6.8
GSI	**Gunungsitoli**	**3.56**	**154**	P	**Pn**	**17 10 23.1**	**+0.3**
GSI				S	**Sn**	**17 11 05.9**	**-1.2**
MNSI	**Mandailing Nat**	**5.13**	**136**	P	**Pn**	**17 10 41.2**	**-1.3**
CMAR	**Chiang Mai Arr**	**14.12**	**11**	Pn	Pn	17 12 25.9	-12
	baz=205,slow=12,SNR=2.3						
H08S2	**Diego Garcia H**	**26.43**	**243**	T	T	17 41 16.3	
	baz=58,slow=74,SNR=2.4						
H08S3	**Diego Garcia H**	**26.43**	**243**	T	T	17 41 14.1	
	baz=58,slow=74,SNR=3.8						
H08S1	**Diego Garcia H**	**26.45**	**243**	T	T	17 41 14.3	
	baz=58						
MKAR	**Makanchi Array**	**43.74**	**346**	P	**P**	**17 17 13.4**	**+1.5**
	0.2nm,0.4s,baz=162,slow=8.5,SNR=9.3						
SONM	**Songimo Array**	**44.04**	**10**	P	**P**	**17 17 13.7**	**-0.7**
	0.5nm,0.6s,baz=186,slow=8.6,SNR=5.0						
WRA	**Warramunga Arr**	**44.82**	**124**	P	**P**	**17 17 21.9**	**+1.1**
	0.6nm,1.0s,baz=303,slow=9.8,SNR=4.3						
ZALV	**Zalesovo Beam**	**50.10**	**351**	P	**P**	**17 18 01.9**	**+1.0**
	0.4nm,0.3s,baz=161,slow=7.3,SNR=3.3						

IDC 17 17:14:20.8±0.9, 53°21N×116°64W, h0km, mb3.1/1, mb1 3.6/4, mb1mx3.3/26, mbtmp3.2/4, ML3.2/3, Error ellipse: s-maj=19.9km s-min=8.0km az=94.0, Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I56US	**NEWPORT INFRAS**	**4.96**	**184**	*i*		17 48 18.0	
	baz=359,slow=314,SNR=1.4						
NEW	**Newport**	**4.96**	**184**	Pn	Pn	17 15 36.9	+0.2
	0.3nm,0.3s,baz=9.3,slow=13,SNR=2.6						
NEW				Pg	Pb	17 15 50.0	+1.5
	1.6nm,0.3s,baz=7.7,slow=16,SNR=19						
NEW				Lg	Lg	17 16 56.4	
	2.7nm,0.3s,baz=238,slow=15,SNR=10						
BBB	**Bella Bella**	**7.05**	**266**	Pg	Pb	17 16 19.3	-4.8
	0.1nm,0.3s,baz=90,slow=13,SNR=2.8						
BBB				Lg	Lg	17 17 58.6	
	0.6nm,0.3s,baz=150,slow=13,SNR=4.6						
DLBC	**Dease Lake**	**9.17**	**310**	Lg	Lg	17 19 05.7	
	0.2nm,0.3s,baz=12,slow=20,SNR=3.5						
YKA	**Yellowknife Ar**	**9.37**	**6**	Pn	Pn	17 16 34.6	-2.3
	0.4nm,0.3s,baz=186,slow=12,SNR=12						
YKA				Pg		17 17 12.7	
	0.4nm,0.3s,baz=189,slow=16,SNR=8.6						
YKA				Sn	Sn	17 18 17.5	-5.5
	0.3nm,0.3s,baz=182,slow=22,SNR=5.2						
YKA				Lg	Lg	17 19 09.4	
	0.3nm,0.3s,baz=185,slow=9.0,SNR=5.4						
ILAR	**Eielson Array**	**19.18**	**319**	P	Pn	17 18 46.2	-0.3
	0.0nm,0.3s,baz=111,slow=9.9,SNR=6.2						
TXAR	**Lajitas Array**	**25.69**	**153**	P	P	17 19 51.8	-0.7
	0.3nm,0.8s,baz=356,slow=11,SNR=3.6						

*NNC **17** 17:14:38.2±3.9, 37°14N×70°57E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=30.4km s-min=27.2km az=149.0*
ISC 17 17:14:35.3±4.6, 36°8N±0°2×70°8E±0°2, h10km, n12, σ1s57/16, 4C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**3.82**	**33**	⇓P	**Pn**	**17 15 36.5**	**+2.1**
	7.0nm,0.2s						
SFK				⇓Sn	**Sn**	**17 16 22.9**	**+3.5**
	16nm,0.4s						
AML	**Almayashu**	**5.75**	**22**	P	**Pn**	**17 16 01.0**	**-0.1**
	SNR=34						
MNAS	**Manas**	**5.80**	**12**	⇓Pn	**Pn**	**17 16 01.9**	**+0.4**
	2.2nm,0.4s						
MNAS				⇑Sn	**Sn**	**17 17 07.6**	**-0.6**
	12nm,0.5s						
UCH	**Uchtor**	**6.11**	**27**	P	**Pn**	**17 16 05.5**	**-0.5**
	SNR=14						
EKS2	**Erkin-Say**	**6.26**	**20**	P	**Pn**	**17 16 07.7**	**-0.1**
	SNR=5.8						
KZA	**Kyzart**	**6.27**	**32**	P	**Pn**	**17 16 06.6**	**-1.5**
	SNR=5.8						
KK31	**Karatay Array**	**6.28**	**358**	⇑Pn	**Pn**	**17 16 09.3**	**+1.4**
	0.3nm,0.2s,baz=170,slow=11,SNR=3.8						
KK31				⇑Sn	**Sn**	**17 17 17.8**	**-1.8**
	4.0nm,0.5s,baz=178,slow=28,SNR=4.2						
AAK	**Ala-Archa**	**6.46**	**25**	P	**Pn**	**17 16 10.2**	**-0.3**
	SNR=10						
AAK	**Ala-Archa**	**6.46**	**25**	⇑Pn	**Pn**	**17 16 10.1**	**-0.4**
	2.9nm,0.3s						
AAK				⇓Sn	**Sn**	**17 17 23.3**	**-1.0**
	3.5nm,0.6s						
KBK	**Karagaybulak**	**6.64**	**27**	P	**Pn**	**17 16 12.9**	**-0.2**
	SNR=5.2						
ULHL	**Ulahol**	**6.85**	**36**	P	**Pn**	**17 16 14.2**	**-1.8**
	SNR=5.4						

TKM2	**Tokmak 2**	**7.11**	**30**	P	**Pn**	**17**	**16**	**18.0**	**-1.5**
	SNR=12									

GUC 17 17:40:22.5±0.6, 34°37S×72°54W, h2km±2km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.25**	**121**	*eP*	Pg	17 40 45.3	-1.1
NICH				*eS*	Sg	17 41 02.9	+0.3
TALC	**Talca**	**1.26**	**144**	*eP*	Pg	17 40 46.2	-0.5
TALC				*eS*	Sb	17 41 03.6	-0.1
ROCH	**El Roble**	**1.89**	**43**	*eP*	Pn	17 40 56.1	0.0
ROCH				*eS*	Sb	17 41 21.8	-0.5
CLCH	**Cerro Calan**	**1.93**	**60**	*eP*	Pn	17 40 54.6	-1.7
CLCH				*eS*	Sn	17 41 20.9	-0.3
CLCH				AML	AML	17 41 31.6	
	comp=E,381nm,0.4s						
PEL	**Peldehue**	**1.97**	**52**	*eP*	Pn	17 40 56.1	-0.9
PEL				*eS*	Sn	17 41 22.3	+0.1
PEL				AML	AML	17 41 34.1	
	comp=N,810nm,0.5s						

*ISCJB **17** 17:45:32.2±0.9, 12°50S±0°07×166°9E±0°2, h220km, mb3.7/9, Error ellipse: s-maj=27.0km s-min=9.4km az=1.2*
*IDC **17** 17:45:35.2±4.3, 12°54S×166°85E, h235km±46km, mb3.5/9, mb1 3.5/10, mb1mx3.4/20, mbtmp4.0/10, Error ellipse: s-maj=35.8km s-min=23.7km az=131.0*
ISC 17 17:45:32.9±1.1, 12°6S±0°1×167°0E±0°2, h220km, n12, σ0s68/12, mb4.0/9, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.40**	**183**	P	Pn	17 47 47.6	+3.3
	0.4nm,0.3s,baz=90,slow=24,SNR=57						
DZM				S	**S**	**17 49 29.7**	**-0.4**
	baz=90,slow=20,SNR=2.5						
CTA	**Charters Tower**	**21.22**	**247**	P	**P**	**17 50 02.2**	**+0.3**
	4.0nm,0.7s,baz=89,slow=12,SNR=6.7						
STKA	**Stephens Creek**	**30.19**	**227**	P	**P**	**17 51 23.9**	**+1.0**
	0.4nm,0.3s,baz=47,slow=12,SNR=3.8						
WRA	**Warramunga Arr**	**32.13**	**253**	P	**P**	**17 51 39.1**	**-0.9**
	0.2nm,0.5s,baz=83,slow=8.7,SNR=4.8						
MJAR	**Matsushiro Arr**	**55.93**	**332**	P	**P**	**17 54 47.3**	**-1.0**
	0.9nm,0.6s,baz=166,slow=7.4,SNR=3.7						
ASAJ	**Asahikawa**	**60.69**	**340**	P	**P**	**17 55 21.4**	**+0.5**
	2.5nm,0.6s,baz=153,slow=6.8,SNR=5.8						
PETK	**Petropavlovsk-**	**65.96**	**354**	P	**P**	**17 55 55.7**	**+0.4**
	4.0nm,0.9s,baz=147,slow=8.6,SNR=4.3						
ILAR	**Eielson Array**	**84.62**	**18**	P	**P**	**17 57 40.8**	**-0.5**
	2.0nm,0.6s,baz=232,slow=5.3,SNR=29						
MKAR	**Makanchi Array**	**95.50**	**317**	P	**P**	**17 58 32.9**	**+0.1**
	0.6nm,0.6s,baz=89,slow=3.2,SNR=8.7						
ZALV	**Zalesovo Beam**	**95.55**	**324**	P	**P**	**17 58 33.0**	**+0.2**
	0.3nm,0.5s,baz=90,slow=2.9,SNR=2.6						
ARCES	**ARCESS Array B**	**118.16**	**346**	PKP	**PKPdf**	**18 03 52.9**	**-0.3**
	0.8nm,0.6s,baz=62,slow=2.1,SNR=7.4						
ESDC	**Sonseca Array**	**151.90**	**345**	PKPab	**PKPab**	**18 05 12.6**	**+0.5**
	0.6nm,0.6s,baz=8.5,slow=4.6,SNR=6.0						

*IDC **17** 17:47:06.9±1.3, 37°72S×73°68W, h0km, mb3.9/7, mb1 3.9/9, mb1mx3.8/18, mbtmp3.8/9, ML3.5/2, Error ellipse: s-maj=33.2km s-min=17.8km az=78.0*
*ISCJB **17** 17:47:09.4±0.6, 37°72S±0°03×73°87W±0°08, h33km, mb3.9/7, Error ellipse: s-maj=9.7km s-min=4.7km az=6.8*
*GUC **17** 17:47:09.2±0.3, 37°76S×73°94W, h40km±2km, ML4.2*
*NEIC **17** 17:47:09.5±2.5, 37°65S×73°84W, h20km±30km, mb4.4/3, Error ellipse: s-maj=23.9km s-min=8.9km az=79.0*
*SJA **17** 17:47:27.7±0.9, 35°45S×73°89W, h10km, ML3.1*
ISC 17 17:47:10.9±1.0, 37°76S±0°05×73°9W±0°1, h35km, n30, σ1s06/30, mb3.8/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGCH	**Angol**	**0.96**	**93**	*eP*	**Pn**	**17 47 26.4**	**-1.4**
AGCH				*eS*	**Sn**	**17 47 39.3**	**-1.0**
CCSP	**San Pedro de C**	**1.11**	**35**	*eP*	**Pn**	**17 47 28.5**	**-1.4**
CCSP				*eS*	**Sn**	**17 47 43.4**	**-0.6**
CCSP				AML	AML	17 47 51.8	
	comp=N,10μm,0.5s						
PSCH	**Puerto Saavedr**	**1.11**	**159**	*eP*	**Pn**	**17 47 28.4**	**-1.6**
PSCH				*eS*	**Sn**	**17 47 43.3**	**-0.8**
COCH	**Cobquecura**	**1.85**	**29**	*eP*	**Pn**	**17 47 39.2**	**-0.9**
COCH				*eS*	**Sn**	**17 48 02.0**	**-0.3**
PLCA	**Paso Flores**	**3.95**	**140**	Pn	**Pn**	**17 48 09.7**	**+0.6**
	comp=N,1.3nm,0.3s,baz=312,slow=9.3,SNR=20						
PLCA				Lg	Lg	17 49 10.4	
	comp=N,4.1nm,0.3s,baz=309,slow=11,SNR=5.8						
ARCO	**CERRO ARCO**	**6.37**	**41**	AML	AML	17 50 34.4	
	comp=Z,15nm,0.5s						
ASAL	**Salagasta**	**6.62**	**40**	*eP*	Pn	17 48 48.0	+2.2
AUSP	**Uspallata**	**6.65**	**35**	*eP*	**Pn**	**17 48 46.5**	**+0.1**
AUSP				*eS*	Sn	17 49 44.3	-17
RTLS	**Leoncito**	**7.05**	**34**	*eP*	**Pn**	**17 48 51.5**	**-0.3**
RTCV	**Cerro Valdivia**	**7.35**	**38**	*eP4*	**Pn**	**17 48 54.7**	**-1.1**
CFAA	**Coronel Fontan**	**7.77**	**39**	Pn	**Pn**	**17 48 59.9**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=205,slow=7.6,SNR=12						
CFAA				Sn	**Sn**	**17 50 27.1**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=204,slow=18,SNR=2.3						
CFAA	**Coronel Fontan**	**7.71**	**39**	*eP*	**Pn**	**17 49 00.1**	**-0.6**
RTLL	**Cerro Villicun**	**7.82**	**37**	*eP*	**Pn**	**17 49 00.6**	**-1.7**
AMOG	**MOGNA**	**8.14**	**35**	*eP*	**Pn**	**17 49 05.5**	**-1.1**
LCO	**Las Campanas**	**9.13**	**18**	*eP*	**Pn**	**17 49 18.7**	**-1.6**
	comp=Z,10nm,0.6s						
TRQA	**Tornquist**	**9.43**	**95**	*eP*	**Pn**	**17 49 25.1**	**+0.8**
	comp=Z,10nm,1.0s						
LVC	**Limon Verde**	**15.70**	**17**	*eP*	**Pn**	**17 50 47.6**	**-2.0**
	comp=Z,6.1nm,0.4s						
LPAZ	**La Paz**	**21.99**	**15**	P	**P**	**17 52 02.6**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=216,slow=8.7,SNR=2.5						
SIV	**San Ignacio**	**24.47**	**31**	P	**P**	**17 52 27.2**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=215,slow=9.0,SNR=3.9						
VNA3	**Neumayer Olymp**	**46.50**	**156**	P	**P**	**17 55 35.4**	**+1.2**
VNA2	**Neumayer--Watz**	**47.18**	**156**	P	**P**	**17 55 40.8**	**+1.3**
	baz=279,slow=8.0						
SNAA	**Sanae**	**48.72**	**157**	P	**P**	**17 55 51.3**	**-0.2**
QSPA	**South Pole Qui**	**52.48**	**180**	P	P	17 56 22.2	+2.1
	comp=Z,2.3nm,1.1s,baz=149,slow=3.8,SNR=3.6						
QSPA	**South Pole Qui**	**52.48**	**180**	P	P	17 56 22.3	+2.1
	comp=Z,7.3nm,1.4s						
DBIC	**Dimbokro**	**77.81**	**72**	P	**P**	**17 59 05.1**	**+0.2**
	comp=Z,3.6nm,0.9s,baz=222,slow=15,SNR=1.9						
BOSA	**Boshof**	**79.66**	**118**	P	**P**	**17 59 14.6**	**-0.5**
	comp=Z,3.3nm,1.0s,baz=244,slow=7.4,SNR=3.2						
BOSA	**Boshof**	**79.66**	**118**	*eP*	**P**	**17 59 16.5**	**+1.4**
	comp=Z,5.7nm,1.1s						
PDAR	**Pinedale Array**	**86.46**	**335**	P	P	17 59 51.9	+2.1
	comp=Z,0.2nm,0.4s,baz=118,slow=5.3,SNR=2.0						
TORD	**Torodi Ar. Bea**	**86.90**	**71**	P	**P**	**17 59 52.2**	**-0.1**
	comp=Z,0.6nm,0.9s,baz=253,slow=4.4,SNR=3.1						
ABKAR	**Akbulak array**	**145.13**	**56**	*e*PKPdf	**PKPdf**	**18 06 44.9**	**+0.9**

*IDC **17** 17:54:19.7±1.3, 14°35N×94°39W, h0km, mb3.7/4, mb1 4.1/7, mb1mx3.8/24, mbtmp3.8/7, ML3.5/3, MS3.0/4, Ms1 3.1/4, ms1mx2.7/30, Error ellipse: s-maj=39.5km s-min=24.0km az=65.0*
*ISCJB **17** 17:54:22.1±1.0, 14°49N±0°08×94°41W±0°07, h23km, mb3.7/4, MS3.2/3, Error ellipse: s-maj=11.2km s-min=9.3km az=17.3*
*MEX **17** 17:54:27.4±0.9, 14°92N×94°57W, h5km, MD4.0*
ISC 17 17:54:22.8±1.0, 14°46N±0°09×94°50W±0°06, h23km, n15, σ2s10/17, mb3.7/4, MS3.3/3, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.75**	**45**	*i* P	**Pn**	**17 54 50.8**	**-1.0**
PCIG				*eS*	**Sn**	**17 55 10.4**	**-3.0**
HUIG	**Huatulco**	**2.03**	**310**	*eP*	**Pn**	**17 54 54.2**	**-1.5**
HUIG				*eS*	**Sn**	**17 55 15.8**	**-4.6**
THIG		**2.21**	**78**	*eP*	**Pn**	**17 54 57.1**	**-0.9**
CMIG	**Matias Romero**	**2.65**	**352**	Pn	**Pn**	**17 55 04.6**	**+0.4**
	5.6nm,0.3s,baz=165,slow=15,SNR=73						
CMIG				Sn	**Sn**	**17 55 35.4**	**-0.2**
	21nm,0.3s,baz=50,slow=22,SNR=17						
CMIG				LR	LR	17 55 44.1	
	comp=Z,74nm,20.9s,baz=182,slow=30						
CCIG	**Comitan**	**2.91**	**51**	*i* P	**Pn**	**17 55 09.9**	**+1.9**
TEIG	**Tepich**	**8.26**	**45**	Pn	**Pn**	**17 56 20.4**	**-0.9**
	2.1nm,0.3s,baz=287,slow=1.9,SNR=7.4						

TEIG				Sn	**Sn**	**17**	**57**	**50.3**	**-3.6**
	0.9nm,0.3s,baz=324,slow=19,SNR=3.3									
TXAR	**Lajitas Array**	**17.06**	**332**	P	**P**	**17**	**58**	**22.8**	**+1.1**
	0.0nm,0.3s,baz=154,slow=12,SNR=7.9									
TKL	**Tuckaleechee C**	**23.21**	**23**	P	**P**	**17**	**59**	**29.5**	**+1.3**
	1.9nm,0.6s,baz=210,slow=8.1,SNR=3.1									
TKL				LR	LR	18 11 06.7				
	comp=Z,42nm,18.5s,baz=126,slow=43									
NVAR	**Mina Array Bea**	**31.83**	**323**	P	**P**	**18**	**00**	**48.5**	**+2.3**
	0.3nm,0.3s,baz=138,slow=11,SNR=4.8									
LPAZ	**La Paz**	**40.14**	**139**	P	**P**	**18**	**01**	**57.4**	**-0.7**
	0.4nm,0.4s,baz=320,slow=6.8,SNR=3.8									
SCHQ	**Schefferville**	**45.67**	**22**	LR	LR	18 23 48.8				
	comp=Z,39nm,18.7s,baz=100,slow=39									
ILAR	**Eielson Array**	**61.48**	**337**	P	**P**	**18**	**04**	**38.4**	**+1.0**
	1.0nm,0.9s,baz=135,slow=5.3,SNR=6.6									
NOA	**NORSAR Array B**	**84.89**	**28**	LR	LR	18 44 38.3				
	comp=Z,13nm,19.2s,baz=275,slow=36									
WRA	**Warramunga Arr**	**133.16**	**256**	PKP	**PKPdf**	**18**	**13**	**37.4**	**-0.2**
	0.4nm,0.6s,baz=89,slow=3.3,SNR=5.4									
CMAR	**Chiang Mai Arr**	**144.72**	**338**	PKP	**PKPdf**	**18**	**13**	**58.8**	**0.0**
	1.0nm,0.8s,baz=332,slow=3.7,SNR=8.7									

IGQ 17 17:59:04±0.4, 2°65S×79°07W, h8km±157km, Mb4.0, 2C-5D, Error ellipse: s-maj=5.2km s-min=2.4km az=76.3, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACE	**Macas**	**0.96**	**66**	P	Pg	17 59 22.4	-0.3
MACE	**Macas**	**0.96**	**66**	S	Sb	17 59 36.7	+0.5
RIOE	**Riobamba**	**0.99**	**26**	⇓P	Pn	17 59 24.6	-0.2
RIOE	**Riobamba**	**0.99**	**26**	⇓S	Sb	17 59 38.0	+0.4
BMAS	**Trigal station**	**1.28**	**28**	⇑P	Pn	17 59 27.1	-1.7
BMAS	**Trigal station**	**1.28**	**28**	⇑S	Sb	17 59 44.0	-2.0
BPAT	**Tungurahua Vol**	**1.30**	**29**	⇓P	Pn	17 59 27.2	-2.0
BPAT	**Tungurahua Vol**	**1.30**	**29**	⇓S	Sb	17 59 45.1	-1.7
BMOR	**Cotopaxi Volca**	**2.00**	**18**	⇓P	Pn	17 59 37.2	-1.7
BREF	**Cotopaxi Volca**	**2.06**	**18**	P	Pn	17 59 38.4	-1.4
BTAM	**Cotopaxi Volca**	**2.07**	**19**	P	Pn	17 59 38.7	-1.2
BVC2	**Cotopaxi Volca**	**2.08**	**18**	P	Pn	17 59 38.1	-2.0

MAN 17 18:05:25, 18°01N×120°65E, h29km, mb4.7, ML3.6, MS3.6, 1C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**0.21**	**244**	⇓*eP*	Pn	18 05 33.0	+0.8
SIPP				*eS*	Sb	18 05 39.8	+4.5
PIP	**Pasuquin**	**0.31**	**354**	⇓*iP*	Pn	18 05 34.1	+0.4
PIP				*eS*	Sn	18 05 41.7	+2.5
ABRA	**Dolores**	**0.37**	**171**	*eP*	Pn	18 05 35.0	+0.6
ABRA				*eS*	Sn	18 05 42.9	+2.3
APYP	**Conner**	**0.58**	**105**	*eP*	Pn	18 05 37.5	+0.2
APYP				*eS*	Sb	18 05 44.6	-0.2
CVP	**Callao Caves**	**1.16**	**105**	⇓*eP*	Pn	18 05 45.4	+0.2
CVP				*eS*	Sb	18 06 12.3	+11
SGCP	**Mt. Cagua**	**1.34**	**80**	*eP*	Pn	18 05 48.4	+0.6
SGCP				*eS*	Sn	18 06 01.5	-3.2
CAUP	**Cauayan**	**1.54**	**133**	*eP*	Pb	18 05 52.0	-1.0
BCPH	**Baguio City Da**	**1.62**	**182**	*i*P	Pn	18 05 50.1	-1.8
BCPH				*i* S	Sn	18 06 11.0	-1.1
BOLP	**Bolinao**	**1.77**	**204**	*eP*	Pn	18 05 52.6	-1.1
SCZP	**Santa Cruz**	**2.34**	**198**	*eP*	Pn	18 05 59.4	-2.1
BALP	**Baler**	**2.43**	**158**	*eP*	Pn	18 06 03.0	+0.3

*SJA **17** 18:24:51.5±0.7, 37°20S×74°17W, h10km, ML4.3*
*GUC **17** 18:24:55.6±0.6, 36°99S×74°12W, h21km±4km, ML4.9*
*IDC **17** 18:24:57.0±0.6, 37°26S×73°43W, h0km, mb4.5/13, mb1 4.6/15, mb1mx4.5/19, mbtmp4.5/15, ML3.4/2, MS3.9/15, Ms1 3.9/15, ms1mx3.8/25, Error ellipse: s-maj=23.3km s-min=14.2km az=95.0*
*ISCJB **17** 18:24:58.1±0.3, 37°21S±0°04×73°49W±0°06, h14km, mb4.7/35, MS4.0/14, Error ellipse: s-maj=7.7km s-min=4.6km az=20.9*
*NEIC **17** 18:25:02.2±0.3, 37°25S×73°43W, h35km, mb4.6/21, ML4.9(GUC), Error ellipse: s-maj=12.3km s-min=8.2km az=73.0*
NEIC Felt [III] at Concepcion and [II] at Cobquecura, Coelemu, La Laja and San Rosendo.
ISC 17 18:24:59.0±0.4, 37°17S±0°04×73°67W±0°07, h14km, n94, σ1s25/90, mb4.7/35, MS4.0/14, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.56**	**54**	*eP*	**Pb**	**18 25 12.0**	**+1.4**
CCSP				*eS*	**Sn**	**18 25 23.2**	**+1.6**
CCSP				AML	AML	18 25 25.7	
	comp=E,80μm,0.6s						
LNCH	**Linares**	**2.13**	**52**	*eP*	**Pn**	**18 25 35.1**	**+0.9**
TALC	**Talca**	**2.42**	**44**	*eP*	**Pn**	**18 25 38.9**	**+0.7**
TALC				*eS*	**Sb**	**18 26 11.2**	**-0.8**
VLCH	**Valdivia**	**2.65**	**173**	*eP*	**Pn**	**18 25 43.0**	**+1.7**
VLCH				*eS*	**Sb**	**18 26 19.5**	**+0.

ROSC	**El Rosal**	**41.82**	**359**	*e*P		**P**	**18 32 51.2**	**+2.3**	
SDV	**Santo Domingo**	**45.91**	**4**	*e*P		**P**	**18 33 20.0**	**-1.5**	
VNA3	**Neumayer Olymp**	**46.95**	**157**	P		**P**	**18 33 29.1**	**+0.1**	
VNA1	**Neumayer--Stat**	**47.31**	**156**	P		**P**	**18 33 32.7**	**+1.1**	
VNA2	**Neumayer--Watz**	**47.63**	**156**	P		**P**	**18 33 34.4**	**+0.2**	
	baz=273,slow=7.9								
PCRV	**Puerto La Cruz**	**47.86**	**12**	LR		LR	18 55 01.2		
	comp=Z,137nm,20.9s,baz=170,slow=38								
SNAA	**Sanae**	**49.18**	**157**	P		**P**	**18 33 44.3**	**-1.9**	
SNAA	**Sanae**	**49.18**	**157**	*e*P		**P**	**18 33 44.0**	**-2.2**	
	comp=Z,29nm,1.0s								
QSPA	**South Pole Qui**	**53.07**	**180**	P		**P**	**18 34 15.3**	**-0.2**	
	comp=Z,8.5nm,1.0s,baz=150,slow=6.8,SNR=18								
QSPA	**South Pole Qui**	**53.07**	**180**	*e*P		**P**	**18 34 15.4**	**-0.1**	
	comp=Z,14nm,0.9s								
TEIG	**Tepich**	**58.73**	**344**	P		**P**	**18 34 59.1**	**+2.7**	
	comp=Z,12nm,0.8s,baz=172,slow=7.9,SNR=3.5								
SBA	**Scott Base**	**59.70**	**192**	*e*P		**P**	**18 35 03.7**	**+1.2**	
VNDA	**Vanda**	**60.73**	**192**	P		**P**	**18 35 10.3**	**+0.7**	
	comp=Z,1.1nm,0.9s,baz=94,slow=4.9,SNR=4.2								
VNDA	**Vanda**	**60.73**	**192**	*e*P		**P**	**18 35 09.9**	**+0.3**	
MAW	**Mawson**	**70.52**	**164**	P		**P**	**18 36 11.7**	**-1.1**	
	comp=Z,5.3nm,0.9s,baz=230,slow=7.9,SNR=4.9								
MAW				LR		LR	19 07 15.5		
	comp=Z,173nm,18.6s,baz=238,slow=36								
JCT	**Junction City**	**71.61**	**336**	*e*P		**P**	**18 36 20.5**	**+0.6**	
	comp=Z,10nm,1.0s								
TXAR	**Lajitas Array**	**71.89**	**333**	P		**P**	**18 36 21.7**	**0.0**	
	comp=Z,1.2nm,0.9s,baz=154,slow=9.3,SNR=9.6								
TXAR				LR		LR	19 02 40.7		
	comp=Z,75nm,19.4s,baz=0.0,slow=31								
MNTX	**Cornudas Mount**	**74.66**	**332**	*e*P		**P**	**18 36 37.2**	**-0.6**	
	comp=Z,1.3nm,1.0s								
AMTX	**Amarillo**	**76.28**	**337**	P		**P**	**18 36 50.0**	**+2.8**	
	comp=Z,12nm,0.9s								
LIC	**Lamto**	**77.03**	**72**	*e*P		**P**	**18 36 51.5**	**-0.4**	
	comp=Z,37nm,1.0s,baz=229								
TIC	**Toumodi**	**77.31**	**72**	*e*P		**P**	**18 36 53.7**	**+0.2**	
	comp=Z,43nm,0.2s								
KIC	**Kosan Boka**	**77.34**	**72**	*e*P		**P**	**18 36 53.8**	**+0.2**	
	comp=Z,39nm,0.9s								
DBIC	**Dimbokro**	**77.45**	**72**	P		**P**	**18 36 54.1**	**-0.1**	
	comp=Z,12nm,0.8s,baz=219,slow=6.1,SNR=9.5								
DBIC				LR		LR	19 09 22.1		
	comp=Z,103nm,18.2s,baz=175,slow=34								
ANMO	**Albuquerque**	**77.96**	**333**	*e*P		**P**	18 37 00.1	+3.3	
	comp=Z,5.6nm,1.0s								
BOSA	**Boshof**	**79.77**	**118**	P		**P**	**18 37 07.2**	**+0.1**	
	comp=Z,8.5nm,0.9s,baz=248,slow=5.4,SNR=7.7								
BOSA				LR		LR	19 08 39.3		
	comp=Z,62nm,18.1s,baz=252,slow=33								
SDCO	**Great Sand Dun**	**80.14**	**335**	*e*P		P	18 37 12.4	+3.6	
	comp=Z,3.4nm,1.0s								
RPZ	**Rata Peaks**	**80.38**	**222**	LR		LR	19 06 11.7		
	comp=Z,126nm,18.2s,baz=358,slow=31								
PV01	**Paradox Valley**	**81.57**	**333**	P		**P**	**18 37 17.1**	**+0.8**	
	comp=Z,522nm,0.7s								
SMCO	**Snowmass**	**81.93**	**334**	*e*P		**P**	**18 37 20.4**	**+1.9**	
	comp=Z,9.6nm,1.2s								
ISCO	**Idaho Springs**	**82.03**	**336**	P		**P**	**18 37 20.5**	**+1.6**	
	comp=Z,3.6nm,1.2s								
LBTB	**Lobatse**	**82.17**	**115**	*e*P		**P**	**18 37 19.4**	**-0.5**	
	comp=Z,8.8nm,0.9s								
ECSD	**EROS Data Cent**	**83.18**	**343**	*e*P		**P**	**18 37 23.9**	**-0.4**	
	comp=Z,13nm,0.9s								
PHWY	**Pilot Hill**	**83.34**	**336**	P		**P**	**18 37 26.6**	**+1.0**	
	comp=Z,2.3nm,0.7s								
NVAR	**Mina Array Bea**	**85.75**	**326**	P		**P**	**18 37 40.4**	**+2.6**	
	comp=Z,1.1nm,0.8s,baz=168,slow=6.2,SNR=5.6								
BW06	**Boulder Array**	**86.02**	**334**	P		P	18 37 42.4	+3.4	
	comp=Z,4.0nm,1.1s								
PDAR	**Pinedale Array**	**86.02**	**334**	P		**P**	**18 37 41.4**	**+2.4**	
	comp=Z,1.9nm,1.0s,baz=125,slow=4.5,SNR=9.7								
HVU	**Hansel Valley**	**86.32**	**332**	*e*P		**P**	**18 37 41.4**	**+1.0**	
	comp=Z,4.7nm,1.2s								
TORD	**Torodi Ar. Bea**	**86.53**	**71**	P		**P**	**18 37 41.2**	**-0.7**	
	comp=Z,3.5nm,0.9s,baz=229,slow=4.6,SNR=13								
TORD				LR		LR	19 14 56.1		
	comp=Z,68nm,18.1s,baz=220,slow=35								
AGMN	**Agassiz Nation**	**87.36**	**345**	*e*P		**P**	**18 37 44.6**	**-0.6**	
	comp=Z,4.9nm,0.6s								
HLID	**Hailey**	**88.47**	**332**	P		**P**	**18 37 51.6**	**+0.8**	
	comp=Z,1.6nm,0.5s								
ULM	**Lac du Bonnet**	**89.23**	**346**	P		**P**	**18 37 52.6**	**-1.3**	
	comp=Z,3.0nm,0.7s,baz=172,slow=7.2,SNR=3.0								
DZM	**Mont Dzumac**	**98.30**	**234**	LR		LR	19 13 11.4		
	comp=Z,153nm,20.8s,baz=359,slow=29								
GERES	**GERESS Array B**	**115.31**	**47**	PKP		**PKPdf**	**18 43 39.2**	**-0.5**	
	comp=Z,0.3nm,0.5s,baz=237,slow=3.0,SNR=3.9								
WRA	**Warramunga Arr**	**117.35**	**210**	PKP		**PKPdf**	**18 43 42.9**	**-1.7**	
	comp=Z,0.5nm,0.6s,baz=164,slow=1.6,SNR=6.4								
TIXI	**Tiksi**	**143.55**	**348**	*e*PKPpre	PKPpre		18 44 27.3		
KSM	**Kuching**	**144.28**	**187**	*e*PKPpre	PKPpre		18 44 32.2		
ABKAR	**Akbulak array**	**144.64**	**55**	*e*PKPdf	**PKPab**		**18 44 32.9**	**-0.5**	
IPM	**Ipoh**	**147.10**	**170**	*e*PKPdf	**PKPdf**		**18 44 39.4**	**-0.7**	
KULM	**Kulim**	**147.84**	**169**	*e*PKPbc	**PKPdf**		**18 44 42.9**	**+1.6**	
KBL	**Kabul**	**149.79**	**84**	*e*PKPbc	**PKPbc**		**18 44 47.4**	**-1.5**	
BRVK	**Borovoye**	**150.40**	**46**	*e*PKPbc	**PKPbc**		**18 44 49.1**	**-0.3**	
YAK	**Yakutsk**	**151.20**	**337**	*e*PKPbc	**PKPbc**		**18 44 49.6**	**-1.4**	
KKAR	**Karatay Array**	**152.13**	**66**	*e*PKPbc	**PKPbc**		**18 44 52.6**	**-1.2**	
EKS2	**Erkin-Say**	**154.54**	**67**	*e*PKPdf	**PKPdf**		**18 44 51.0**	**+0.2**	
AAK	**Ala-Archa**	**155.07**	**67**	*e*PKPbc	PKPdf		18 44 57.6	+6.1	
ZALV	**Zalesovo Beam**	**157.60**	**35**	PKP	**PKPdf**		**18 44 52.5**	**-1.7**	
	comp=Z,3.3nm,0.9s,baz=300,slow=3.2,SNR=10								
ZALV				PKPab	**PKPab**		**18 45 26.2**	**-0.2**	
	comp=Z,1.6nm,0.6s,baz=298,slow=4.1,SNR=4.6								
MKAR	**Makanchi Array**	**159.78**	**54**	PKP	**PKPdf**		**18 44 56.2**	**-0.9**	
	comp=Z,1.0nm,0.9s,baz=270,slow=4.3,SNR=8.1								
MKAR				PKPab	**PKPab**		**18 45 35.8**	**-0.4**	
	comp=Z,1.6nm,0.8s,baz=298,slow=3.1,SNR=11								
MKAR				PP	**PP**		**18 49 17.5**	**-0.7**	
	comp=Z,0.7nm,0.9s,baz=283,slow=7.1,SNR=4.8								
CMAR	**Chiang Mai Arr**	**160.26**	**159**	PKPab	**PKPab**		**18 45 37.0**	**-1.8**	
	comp=Z,0.8nm,1.0s,baz=207,slow=3.0,SNR=3.0								
SONM	**Songino Array**	**169.35**	**360**	PKPab	**PKPab**		**18 46 17.4**	**-0.8**	
	comp=Z,0.4nm,0.8s,baz=347,slow=3.1,SNR=3.5								

*IDC **17** 18:38:32.3±1.7, 13°.77N×88°.14W, h0km, mb3.7/5, mb1 4.1/7, mb1mx3.7/35, mbtmp3.7/7, ML3.4/2, MS3.3/4, Ms1 3.3/4, ms1mx2.8/38, Error ellipse: s-maj=79.0km s-min=23.1km az=47.0*

*ISCJB **17** 18:38:34.0±0.8, 13°.3N±0°.2×88°.7W±0°.2, h33km, mb3.7/5, MS3.8/2, Error ellipse: s-maj=43.8km s-min=6.8km az=38.2*

ISC 17 18:38:36.6±0.9, 13°.5N±0°.3×88°.5W±0°.2, h35km, n9, σ1§27/9, mb3.6/5, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JTS	**JuntasAbangare**	**4.69**	**132**	Pn		**Pn**	**18 39 45.6**	**+0.6**
	2.2nm,0.3s,baz=303,slow=23,SNR=8.8							
JTS				Sn		**Sn**	**18 40 37.6**	**-0.6**
	baz=302,slow=19,SNR=2.6							
JTS				Lg		Lg	18 40 56.2	
	4.6nm,0.3s,baz=311,slow=19,SNR=12							
JTS				LR		LR	18 41 54.5	
	comp=Z,86nm,18.2s,baz=249,slow=43							
CMIG	**Matias Romero**	**7.13**	**301**	Pn		**Pn**	**18 40 18.7**	**+0.2**
	0.5nm,0.3s,baz=121,slow=12,SNR=4.5							
CMIG				Sn		**Sn**	**18 41 37.7**	**-0.8**
	0.4nm,0.3s,baz=54,slow=19,SNR=2.5							
CMIG				LR		LR	18 43 20.6	
	comp=Z,78nm,18.3s,baz=164,slow=40							
TXAR	**Lajitas Array**	**21.15**	**321**	P		**P**	**18 43 20.2**	**+1.4**
	1.6nm,0.5s,baz=143,slow=11,SNR=28							
PDAR	**Pinedale Array**	**34.40**	**332**	P		**P**	**18 45 22.3**	**+1.4**
	0.5nm,0.7s,baz=134,slow=8.5,SNR=4.1							
NVAR	**Mina Array Bea**	**36.27**	**319**	P		**P**	**18 45 37.6**	**+0.6**
	0.5nm,0.6s,baz=106,slow=6.7,SNR=3.9							
YBH	**Yreka Blue Hor**	**40.92**	**320**	LR		LR	19 04 55.0	
	comp=Z,33nm,19.1s,baz=148,slow=39							
YKA	**Yellowknife Ar**	**52.38**	**345**	P		**P**	**18 47 44.3**	**-0.7**
	3.7nm,1.0s,baz=141,slow=7.5,SNR=22							
ILAR	**Eielson Array**	**64.69**	**336**	P		**P**	**18 49 09.0**	**-1.8**
	0.6nm,0.9s,baz=122,slow=4.4,SNR=4.6							
KEST	**Kesra**	**88.49**	**54**	LR		LR	19 29 46.7	
	comp=Z,124nm,18.1s,baz=219,slow=35							

*IDC **17** 18:54:00.6±4.9, 52°.01N×176°.46E, h0km, mb3.8/10, mb1 3.9/10, mb1mx3.7/31, mbtmp3.8/10, Error ellipse: s-maj=121.2km s-min=23.7km az=166.0*

*NEIC **17** 18:54:08.7, 51°.67N×176°.60E, h52km, ML3.3(AEIC), After AEIC.*

ISC 17 18:54:06.4±1.3, 52°.0N±0°.2×176°.33E±0°.08, h40km, n27, σ1§21/22, mb4.0/11, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LSSA	**Little Sitkin**	**1.35**	**89**	P		**Pn**	**18 54 30.0**	**+1.1**
LSSA				S		**Sn**	**18 54 44.7**	**-0.9**
LSNW	**Little Sitkin**	**1.36**	**89**	P		**Pn**	**18 54 30.0**	**+1.2**
LSPA	**Little Sitkin**	**1.39**	**89**	P		**Pn**	**18 54 31.0**	**+1.7**
LSPA				S		**Sn**	**18 54 46.0**	**-0.5**
AMKA	**Amchitka**	**1.94**	**106**	*e*Pn		**Pn**	**18 54 37.1**	**+0.2**
CETU	**Semis' Tuman**	**1.96**	**88**	P		**Pn**	**18 54 38.5**	**+1.4**
CESW	**Semis' Southwe**	**2.01**	**90**	P		**Pn**	**18 54 38.3**	**+0.6**
CEAP	**Semis' Anvil P**	**2.01**	**87**	P		**Pn**	**18 54 39.1**	**+1.3**
CERAA	**Semis' Rag'd T**	**2.08**	**90**	P		**Pn**	**18 54 39.4**	**+0.6**
KTH	**Kantishna Hill**	**20.70**	**43**	*e*P		Pn	18 58 43.7	-1.8
COLD	**Coldfoot**	**22.41**	**34**	P		**P**	**18 59 03.2**	**+2.1**
	3.9nm,0.5s							
ILAR	**Eielson Array**	**22.76**	**42**	P		**P**	**18 59 02.0**	**-2.9**
	0.5nm,0.7s,baz=243,slow=9.0,SNR=6.4							
H11N2	**WAKE ISLAND Hy**	**33.00**	**196**	T		T	19 35 59.0	
	baz=11,slow=76,SNR=75							
H11N3	**WAKE ISLAND Hy**	**33.01**	**196**	T		T	19 35 59.8	
	baz=11,slow=76,SNR=76							
H11N1	**WAKE ISLAND Hy**	**33.02**	**196**	T		T	19 36 00.4	
	baz=11,slow=76,SNR=51							
H11S1	**WAKE ISLAND Hy**	**34.23**	**196**	T		T	19 37 32.3	
	baz=10,slow=76,SNR=17							
H11S3	**WAKE ISLAND Hy**	**34.24**	**196**	T		T	19 37 32.6	
	baz=10,slow=76,SNR=15							
H11S2	**WAKE ISLAND Hy**	**34.24**	**196**	T		T	19 37 33.7	
	baz=10,slow=76,SNR=8.1							
YKA	**Yellowknife Ar**	**37.03**	**46**	P		**P**	**19 01 11.6**	**-0.2**
	0.2nm,0.4s,baz=284,slow=7.1,SNR=5.8							
SONM	**Songino Array**	**43.65**	**294**	P		**P**	**19 02 07.0**	**0.0**
	0.7nm,0.5s,baz=61,slow=9.1,SNR=6.6							
SPITS	**Spitsbergen Ar**	**49.55**	**355**	P		**P**	**19 02 52.0**	**-0.6**
	7.0nm,1.0s,baz=351,slow=7.3,SNR=4.1							
KURK	**Kurchatov**	**56.38**	**311**	P		**P**	**19 03 43.1**	**-0.1**
KURBB	**Kurchatov Arra**	**56.49**	**311**	P		**P**	**19 03 43.1**	**-0.9**
	0.9nm,0.4s,baz=45,slow=6.4,SNR=18							
MKAR	**Makanchi Array**	**57.26**	**305**	P		**P**	**19 03 49.3**	**-0.2**
	0.4nm,0.4s,baz=52,slow=6.7,SNR=10							
BVAR	**Borovoye Array**	**58.44**	**307**	P		**P**	**19 03 58.6**	**+0.9**
	2.1nm,0.5s,baz=53,slow=6.8,SNR=17							
AAK	**Ala-Archa**	**64.12**	**307**	P		**P**	**19 04 37.8**	**+1.3**
	0.3nm,0.3s,baz=149,slow=7.2,SNR=3.9							
FINES	**FINESS Array B**	**64.49**	**345**	P		**P**	**19 04 37.8**	**-0.5**
	0.9nm,0.7s,baz=35,slow=7.0,SNR=6.2							
AKTO	**Aktyubinsk**	**65.40**	**322**	P		**P**	**19 04 44.6**	**+0.2**
	0.9nm,0.7s,baz=0.0,slow=5.1,SNR=7.3							

*ISCJB **17** 18:57:47.4±0.3, 34°.96S±0°.03×179°.12E±0°.06, h100km, mb4.7/14, Error ellipse: s-maj=7.1km s-min=3.7km az=19.4*

*IDC **17** 18:57:51.1±2.5, 34°.95S×179°.04E, h136km±21km, mb4.2/8, mb1 4.4/9, mb1mx4.1/16, mbtmp4.6/9, MS3.6/7, Ms1 3.6/7, ms1mx3.3/20, Error ellipse: s-maj=20.5km s-min=15.4km az=23.0*

*NEIC **17** 18:57:52.0±1.6, 34°.99S×178°.88E, h143km±14km, mb5.0/6, Error ellipse: s-maj=18.0km s-min=12.8km az=82.0*

ISC 17 18:57:49.4±0.6, 35°.10S±0°.06×179°.31E±0°.08, h100km, n168, σ1§61/118, mb4.7/14, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.58**	**198**	PN		**Pn**	**18 58 31.2**	**+1.6**
MXZ				SN		Sn	18 59 10.2	+10
WMGZ	**Waiomatatini S**	**2.80**	**195**	PN		**Pn**	**18 58 34.9**	**+2.4**
WMGZ				SN		Sn	18 59 15.3	+10
HAZ	**Te Kaha**	**2.92**	**204**	PN		**Pn**	**18 58 35.0**	**+1.0**
HAZ				SN		Sn	18 59 16.3	+7.9
WIZ	**White Island**	**2.96**	**215**	PN		**Pn**	**18 58 36.4**	**+1.8**
WIZ				SN		Sn	18 59 19.0	+10
PUZ	**Puketiti**	**3.08**	**196**	PN		**Pn**	**18 58 37.6**	**+1.4**
PUZ				SN		Sn	18 59 17.9	+5.5
TWGZ	**Tauwhareparae**	**3.25**	**199**	PN		**Pn**	**18 58 39.8**	**+1.4**
MYRZ	**Mayor Island**	**3.30**	**228**	PN		**Pn**	**18 58 41.1**	**+2.0**
GRZ	**Great Barrier**	**3.33**	**249**	PN		**Pn**	**18 58 39.7**	**+0.1**
KUZ	**Kuaotunu**	**3.34**	**240**	PN		**Pn**	**18 58 40.1**	**+0.5**
CNGZ	**Carnagh Statio**	**3.49**	**194**	PN		**Pn**	**18 58 42.7**	**+1.1**
OPRZ	**Ohinepanea**	**3.52**	**218**	PN		**Pn**	**18 58 43.5**	**+1.4**
MWZ	**Matawai**	**3.53**	**203**	PN		**Pn**	**18 58 42.8**	**+0.6**
TKGZ	**Te Karaka**	**3.53**	**199**	PN		**Pn**	**18 58 42.8**	**+0.6**
TGRZ	**Tauranga**	**3.59**	**222**	*e*PN		**Pn**	**18 58 44.7**	**+1.6**
URZ	**Urewera**	**3.61**	**209**	P		**Pn**	**18 58 44.6**	**+1.3**
	186nm,0.3s,baz=275,slow=1.2,SNR=467							
URZ				S		**Sn**	**18 59 25.5**	**+0.5**
	198nm,0.3s,baz=163,slow=19,SNR=3.1							
URZ	**Urewera**	**3.61**	**209**	PN		**Pn**	**18 58 43.5**	**+0.3**
EDRZ	**Edgecumbe**	**3.64**	**214**	PN		**Pn**	**18 58 45.2**	**+1.4**
RAGZ	**Rawiri**	**3.71**	**204**	PN		**Pn**	**18 58 45.2**	**+0.5**
LIRZ	**Lichensteins R**	**3.73**	**218**	PN		**Pn**	**18 58 46.8**	**+1.9**
RIGZ	**Rimuhau**	**3.80**	**199**	PN		**Pn**	**18 58 46.0**	**+0.1**
KARZ	**Kaharoa**	**3.81**	**219**	PN		**Pn**	**18 58 47.6**	**+1.5**
OMRZ	**Omania**	**3.81**	**217**	PN		**Pn**	**18 58 47.5**	**+1.4**
TARZ	**Mount Tarawera**	**3.85**	**215**	PN		**Pn**	**18 58 48.1**	**+1.5**
MKAZ	**Moumataki**	**3.90**	**221**	PN		**Pn**	**18 58 48.4**	**+0.9**
RRRZ	**Republican Roa**	**3.93**	**214**	PN		**Pn**	**18 58 48.9**	**+1.3**
HLRZ	**Highlands Stat**	**3.94**	**216**	PN		**Pn**	**18 58 49.1**	**+1.4**
PRGZ	**Paritu Road**	**3.98**	**196**	PN		**Pn**	**18 58 48.4**	**+0.1**
SNGZ	**Shannon Statio**	**3.99**	**203**	PN		**Pn**	**18 58 48.8**	**+0.3**
TOZ	**Tahuroa Road**	**4.03**	**228**	PN		**Pn**	**18 58 50.3**	**+1.4**
HSRZ	**Hossack Road**	**4.04**	**217**	*e*PN		**Pn**	**18 58 50.3**	**+1.2**
HRRZ	**Handcock Road**	**4.08**	**216**	PN		**Pn**	**18 58 51.0**	**+1.3**
PRRZ	**Plateau Road**	**4.12**	**214**	PN		**Pn**	**18 58 50.6**	**+0.4**
KNZ	**Kokohu**	**4.12**	**198**	PN		**Pn**	**18 58 49.6**	**-0.5**
GRRZ	**Galatos Road**	**4.13**	**217**	*e*PN		**Pn**	**18 58 51.5**	**+1.2**
WCZ	**Waipu Caves**	**4.13**	**257**	PN		**Pn**	**18 58 49.7**	**-0.6**
ALRZ	**Allen Road**	**4.19**	**214**	PN		**Pn**	**18 58 51.4**	**+0.3**
MHGZ	**Mahia Peninsul**	**4.19**	**195**	PN		**Pn**	**18 58 50.9**	**-0.3**
RAHZ	**Arahi**	**4.20**	**204**	PN		**Pn**	**18 58 51.1**	**-0.2**
WHHZ	**Waihua**	**4.30**	**202**	PN		**Pn**	**18 58 52.4**	**-0.1**
KUTZ	**Kaahu Road**	**4.38**	**219**	PN		**Pn**	**18 58 54.8**	**+1.0**
TLZ	**Tolley Road**	**4.42**	**222**	PN		**Pn**	**18 58 55.0**	**+0.8**
NMHZ	**Naumai**	**4.46**	**206**	PN		**Pn**	**18 58 54.4**	**-0.5**
ARHZ	**Aropaoanui**	**4.54**	**203**	PN		**Pn**	**18 58 55.3**	**-0.6**
HATZ	**Hinemaiaia**	**4.57**	**213**	PN		**Pn**	**18 58 55.5**	**-0.8**
WATZ	**Wairara**	**4.60**	**217**	PN		**Pn**	**18 58 57.0**	**+0.3**
BKZ	**Black Stump Fm**	**4.64**	**208**	PN		**Pn**	**18 58 56.3**	**-0.9**
OUZ	**Omahuta**	**4.68**	**267**	*e*Pn		**Pn**	**18 58 56.9**	**-0.8**
RATZ	**Rangitukua**	**4.70**	**216**	PN		**Pn**	**18 58 58.3**	**+0.2**
RITZ	**Rihia Road**	**4.75**	**214**	PN		**Pn**	**18 58 58.5**	**-0.2**
MCHZ	**McNeill Hill**	**4.80**	**205**	PN		**Pn**	**18 58 58.5**	**-1.0**
KATZ	**Kakaramea**	**4.82**	**216**	PN		**Pn**	**18 59 01.3**	**+1.5**
CKHZ	**Cape Kidnapper**	**4.88**	**201**	PN		**Pn**	**18 58 59.7**	**-0.7**
KRVZ	**Karewarewa**	**4.94**	**215**	PN		**Pn**	**18 59 00.8**	**-0.6**
WTVZ	**West Tongariro**	**4.99**	**215**	PN		**Pn**	**18 59 01.2**	**-0.7**
OTVZ	**Oturere**	**4.99**	**215**	PN		**Pn**	**18 59 01.2**	**-0.8**
TWVZ	**Taurewa**	**5.02**	**217**	PN		**Pn**	**18 59 02.0**	**-0.5**
NGZ	**Ngauruhoe**	**5.03**	**215**	PN		**Pn**	**18 59 01.8**	**-0.8**
KAHZ	**Kahuranaki**	**5.07**	**202**	PN		**Pn**	**18 59 01.1**	**-1.9**
COVZ	**Chateau Observ**	**5.07**	**215**	PN		**Pn**	**18 59 02.6**	**-0.6**
WPVZ	**Whakapapa**	**5.08**	**215**	PN		**Pn**	**18 59 02.5**	**-0.7**
TUVZ	**Tukino**	**5.08**	**214**	PN		**Pn**	**18 59 02.7**	**-0.6**
BHHZ	**Black Hill Sta**	**5.08**	**210**	PN		**Pn**	**18 59 01.5**	**-1.8**
KRHZ	**Kereru**	**5.10**	**206**	PN		**Pn**	**18 59 01.1**	**-2.4**
WHVZ	**Whangaehu Hut**	**5.12**	**214**	PN		**Pn**	**18 59 03.0**	**-0.9**
DRZ	**Dome Shelter**	**5.12**	**215**	PN		**Pn**	**18 59 03.5**	**-0.5**
MOVZ	**Moawhango**	**5.15**	**212**	PN		**Pn**	**18 59 01.9**	**-2.2**
TRVZ	**Turoa**	**5.15**	**214**	PN		**Pn**	**18 59 03.1**	**-1.2**
WNVZ	**Wahianoa**	**5.15**	**214**	PN		**Pn**	**18 59 02.7**	**-1.5**
PKVZ	**Pokaka**	**5.24**	**216**	PN		**Pn**	**18 59 04.2**	**-1.2**
MTVZ	**Mangateitei**	**5.26**	**214**	PN		**Pn**	**18 59 04.3**	**-1.3**
PXZ	**Pawanui**	**5.29**	**201**	PN		**Pn**	**18 59 03.4**	**-2.6**
PNHZ	**Pukenui**	**5.40**	**206**	PN		**Pn**	**18 59 04.5**	**-3.0**
VRZ	**Vera Road**	**5.41**	**221**	PN		**Pn**	**18 59 07.2**	**-0.4**
PRHZ	**Porangahau**	**5.57**	**202**	PN		**Pn**	**18 59 07.0**	**-2.8**
TSZ	**Takapari Road**	**5.62**	**207**	PN		Pn	18 59 07.0	-3.5
DVHZ	**Dannevirke**	**5.75**	**205**	PN		**Pn**	18 59 08.6	-3.7
WAZ	**Wanganui**	**5.78**	**215**	PN		**Pn**	**18 59 10.6**	**-2.0**
ANWZ	**Angora Road**	**5.80**	**202**	PN		**Pn**	**18 59 09.8**	**-3.1**
PREZ	**Palmer Road**	**5.89**	**223**	PN		**Pn**	**18 59 16.5**	**+2.2**
POWZ	**Post Office Ro**	**5.98**	**207**	PN		Pn	18 59 12.0	-3.3
PRWZ	**Pori Road**	**6.05**	**205**	PN		Pn	18 59 13.0	-3.2
BFZ	**Birch Farm**	**6.07**	**203**	PN		Pn	18 59 12.5	-4.1
TIWZ	**Tintock**	**6.28**	**204**	PN		Pn	18 59 15.4	-4.0
MRZ	**Mangatainoka R**	**6.28**	**207**	PN		Pn	18 59 14.8	-4.6
CPWZ	**Castlepoint**	**6.29**	**202**	PN		Pn	18 59 16.4	-3.2
RAO	**Raoul Island**	**6.29**	**23**	S		Sn	19 00 22.8	-7.4
	77nm,0.3s,baz=270,slow=20,SNR=2.6							
RAO				LR		LR	19 01 11.4	
	comp=Z,296nm,19.9s,baz=330,slow=32							
HOWZ	**Holdsworth Sta**	**6.51**	**206**	PN		Pn	18 59 17.7	-4.9
TMWZ	**Te Maipa**	**6.57**	**203**	PN		Pn	18 59 18.9	-4.5
OGWZ	**Otaki Gorge**	**6.57**	**209**	PN		Pn	18 59 18.8	-4.6
KIW	**Kapiti Island**	**6.71**	**210**	PN		Pn	18 59 20.9	-4.4
MTW	**Mount Morrison**	**6.75**	**205**	PN		Pn	18 59 20.9	-4.8
CAW	**Cannon Point**	**6.86**	**208**	PN		Pn	18 59 22.6	-4.7
TRWZ	**Traveller**	**6.90**	**203**	PN		Pn	18 59 23.4	-4.5
PAWZ	**Paruwai Farm**	**6.97**	**205**	PN		Pn	18 59 23.9	-4.9
MSWZ	**Moikau Station**	**7.06**	**206**	PN		Pn	18 59 25.0	-5.1
DUWZ	**D'Urville Isla**	**7.10**	**215**	PN		Pn	18 59 26.4	-4.2
WEL	**Wellington**	**7.13**	**209**	PN		Pn	18 59 25.8	-5.2
BHW	**Baring Head**	**7.20**	**208**	PN		Pn	18 59 26.6	-5.2
PLWZ	**Palliser**	**7.20**	**205**	PN		Pn	18 59 26.3	-5.6
TCW	**Tory Channel**	**7.27**	**212**	PN		Pn	18 59 27.5	-5.3
TUWZ	**Tuamarina**	**7.59**	**212**	PN		Pn	18 59 31.4	-5.9
QRZ	**Quartz Range**	**7.83**	**221**	PN		Pn	18 59 35.6	-4.8
BSWZ	**Blackbirch Sta**	**7.86**	**211**	PN		Pn	18 59 35.5	-5.3
THZ	**Tophouse**	**8.33**	**215**	PN		Pn	18 59 41.4	-6.0
KHZ	**Kahutara**	**8.58**	**210**	PN		Pn	18 59 43.9	-6.7
RPZ	**Rata Peaks**	**10.70**	**214**	P		Pn	19 00 12.5	-7.1
	13nm,0.3s,baz=39,slow=1.1,SNR=46							
RPZ				S		Sn	19 02 05.1	-12
	30nm,0.3s,baz=133,slow=19,SNR=13							
MSVF	**Nonsavu**	**17.34**	**356**	*e*P		**P**	**19 01 42.9**	**-2.2**
	46nm,0.8s							
NIUE	**Niue**	**18.60**	**34**	S		S	19 05 14.5	-11
	baz=19,SNR=3.9							
AFI	**Afiamalu**	**22.59**	**23**	*

IDC ***17*** *19:24:32.8±1.6, 7.°08S×102.°60E, h0km, mb4.0/11, mb1 4.1/12, mb1mx4.0/25, mbtmp4.1/12, ML4.1/1, MS3.8/1, Ms1 3.8/1, ms1mx2.8/34, Error ellipse: s-maj=48.4km s-min=16.9km az=46.0*

ISCJB ***17*** *19:24:36.1±0.5, 7.°09S±0.°05×102.°75E±0.°04, h33km, mb4.2/22, MS3.6/1, Error ellipse: s-maj=8.1km s-min=4.7km az=26.5*

DJA ***17*** *19:24:36.1±3.3, 7.°5S×10.°3E±.°, h25km±46km, M4.6/15, mb4.8/6, mB5.3/2, MLv4.5/15, Mw(mB)4.7/2*

NEIC ***17*** *19:24:37.6±0.4, 7.°14S×102.°67E, h35km, mb4.3/9, Error ellipse: s-maj=11.0km s-min=6.4km az=33.0*

ISC 17 19:24:38.5±0.8, 7.°03S±0.°09×102.°74E±0.°09, h35km, n80, σ1§26/71, mb4.3/22, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**2.30**	**50**	P	**Pn**	**19 25 12.6**	**-1.3**
LWLI	**Liwa**	**2.39**	**33**	P	**Pn**	**19 25 14.0**	**-1.3**
MNAI	**Manna**	**2.66**	**5**	P	**Pn**	**19 25 17.4**	**-1.4**
MNAI	**Manna**	**2.66**	**5**	P	**Pn**	**19 25 17.1**	**-1.8**
	baz=2.2,SNR=10						
MDSI	**Maura Dua**	**2.90**	**30**	P	**Pn**	**19 25 21.2**	**-1.0**
MDSI				S	**Sn**	**19 25 57.3**	**+1.4**
CGJI	**Cibinong**	**2.96**	**82**	P	**Pn**	**19 25 21.5**	**-1.5**
BLSI	**Bandar Lampung**	**2.99**	**57**	P	**Pn**	**19 25 24.7**	**+1.3**
KLI	**Kotabumi**	**3.01**	**45**	P	**Pn**	**19 25 23.8**	**+0.1**
LHSI	**Lahat**	**3.27**	**14**	P	**Pn**	**19 25 26.2**	**-1.1**
CBJI	**Citeko**	**4.13**	**82**	P	**Pn**	**19 25 39.8**	**+0.7**
CNJI	**Cibinong**	**4.37**	**94**	P	Pn	19 25 35.5	-6.8
LEM	**Lembang**	**4.85**	**88**	P	**Pn**	**19 25 51.3**	**+2.2**
LEM	**Lembang**	**4.85**	**88**	Pn	**Pn**	**19 25 50.1**	**+1.0**
	6.9nm,0.3s,baz=297,slow=16,SNR=13						
LEM				Sn	**Sn**	**19 26 42.4**	**-1.8**
	1.1nm,0.3s,baz=180,slow=19,SNR=3.2						
LEM	**Lembang**	**4.85**	**88**	P	**Pn**	**19 25 50.1**	**+1.0**
	baz=4.4,SNR=6.4						
CISI	**Cisompet, Garu**	**5.07**	**96**	P	**Pn**	**19 25 50.5**	**-1.5**
	172nm,0.6s,2µm1.0nm						
CISI	**Cisompet, Garu**	**5.07**	**96**	P	**Pn**	**19 25 50.0**	**-2.0**
	baz=4.7,SNR=4.8						
CISI	**Cisompet, Garu**	**5.07**	**96**	*eP*	**Pn**	**19 25 49.6**	**-2.4**
	152nm,0.6s						
JMBI	**JAMBI**	**5.43**	**10**	P	**Pn**	**19 25 58.2**	**+1.2**
CMJI	**Cimerak**	**5.71**	**98**	P	**Pn**	**19 25 59.7**	**-1.2**
	151nm,0.6s,0.7nm						
PPBI	**Pangkal Pinang**	**5.90**	**35**	P	**Pn**	**19 26 01.7**	**-1.8**
	18nm,0.3s,3µm0.3nm						
PPI	**Padang Panjang**	**6.93**	**340**	P	**Pn**	**19 26 15.2**	**-2.4**
	27nm,0.8s,0.2nm						
COCO	**West Island**	**7.76**	**228**	*eP*	Pn	19 26 25.4	-3.6
	148nm,0.8s						
UGM	**Wanagama**	**7.77**	**97**	P	**Pn**	**19 26 27.4**	**-1.8**
	baz=7.4,SNR=8.0						
PWJI	**Pagerwojo**	**9.04**	**97**	P	**Pn**	**19 26 47.8**	**+1.2**
ABJI	**Asem Bagus**	**11.43**	**95**	P	Pn	19 27 22.7	+3.4
MMRI	**Maumere**	**19.39**	**96**	*eP*	**P**	**19 29 00.7**	**-0.9**
	17nm,0.8s						
BATI	**Baumata**	**20.93**	**100**	P	**P**	**19 29 18.4**	**0.0**
	16nm,0.5s,baz=193,slow=4.4,SNR=8.8						
BATI				LR	LR	19 38 20.5	
	comp=Z,251nm,19.4s,baz=289,slow=39						
SOEI	**Soe**	**21.47**	**99**	P	**P**	**19 29 23.5**	**-0.8**
	baz=21,SNR=8.0						
SOEI	**Soe**	**21.47**	**99**	*eP*	**P**	**19 29 23.1**	**-1.2**
	67nm,0.8s						
KHON	**Khomkaen**	**23.21**	**0**	P	**P**	**19 29 43.4**	**+0.9**
	7.3nm,0.9s						
PBKT	**Sadao Pong**	**23.51**	**356**	P	**P**	**19 29 46.9**	**+1.5**
	8.3nm,0.9s,2µm						
CM31	**Chiang Mai Arr**	**25.60**	**352**	P	**P**	**19 30 06.0**	**+1.4**
	baz=25,SNR=3.6						
CM31	**Chiang Mai Arr**	**25.60**	**352**	*eP*	**P**	**19 30 04.8**	**+0.2**
	3.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**25.60**	**352**	P	**P**	**19 30 04.7**	**0.0**
	5.2nm,0.9s,baz=183,slow=8.9,SNR=27						
TNTI	**Ternate**	**25.77**	**73**	*eP*	**P**	**19 30 05.1**	**-1.2**
	53nm,1.1s						
CMMT	**Chiang Mai**	**25.95**	**352**	P	**P**	**19 30 09.8**	**+2.0**
	9.6nm,0.8s						
CHTO	**Chiang Mai**	**25.95**	**352**	P	**P**	**19 30 10.1**	**+2.3**
	31nm,1.3s						
CHTO	**Chiang Mai**	**25.95**	**352**	*eP*	**P**	**19 30 07.4**	**-0.4**
	5.5nm,0.9s						
KNRA	**Kununurra**	**26.90**	**111**	P	**P**	**19 30 20.6**	**+4.2**
	baz=27,SNR=3.9						
CRAI	**Chiangrai**	**27.18**	**355**	P	**P**	**19 30 17.5**	**-1.4**
	11nm,1.2s						
H01W3	**Cape Leeuwin H**	**29.64**	**161**	T	T	20 02 00.7	
	baz=332,slow=75						
H01W2	**Cape Leeuwin H**	**29.66**	**161**	T	T	20 01 59.7	
	baz=332,slow=75						
H01W1	**Cape Leeuwin H**	**29.66**	**161**	T	T	20 01 57.1	
	baz=332,slow=75						
H08S2	**Diego Garcia H**	**30.00**	**267**	T	T	20 03 09.8	
	baz=89,slow=74						
H08S3	**Diego Garcia H**	**30.01**	**267**	T	T	20 03 20.7	
	baz=89,slow=74						
H08S1	**Diego Carcia H**	**30.02**	**267**	T	T	20 03 10.1	
	baz=88,slow=74,SNR=22						
WRKA	**Warakurna**	**30.30**	**129**	P	P	19 30 54.2	+7.5
	baz=30,SNR=3.3						
WRA	**Warramunga Arr**	**33.23**	**116**	P	**P**	**19 31 12.3**	**-0.2**
	0.9nm,0.5s,baz=285,slow=11,SNR=6.9						
WRAB	**Tennant Creek**	**33.23**	**116**	*eP*	**P**	**19 31 13.5**	**+1.0**
ODAN	**Odare**	**36.83**	**337**	*eP*	**P**	**19 31 44.1**	**+0.5**
	19nm,0.7s						
TAPN	**Taplejung**	**37.14**	**338**	*eP*	**P**	**19 31 47.3**	**+0.9**
	22nm,0.8s						
RAMN	**Ramite**	**37.22**	**336**	*eP*	**P**	**19 31 48.0**	**+1.0**
	15nm,0.6s						
JIRN	**Jiri**	**38.02**	**336**	*eP*	**P**	**19 31 54.8**	**+0.9**
	33nm,0.6s						
LSA	**Lhasa**	**38.18**	**344**	*eP*	**P**	**19 31 55.6**	**+0.3**
PKI	**Pulchoki**	**38.26**	**335**	*eP*	**P**	**19 31 56.1**	**+0.2**
PKIN	**Phulchoki**	**38.27**	**335**	*eP*	**P**	**19 31 56.2**	**+0.3**
	3.2nm,0.4s						
GUN	**Gumba**	**38.36**	**336**	*eP*	**P**	**19 31 57.6**	**+0.8**
	27nm,0.6s						
DMN	**Daman**	**38.42**	**334**	*eP*	**P**	**19 31 58.0**	**+0.8**
KKN	**Kakani**	**38.51**	**335**	*eP*	**P**	**19 31 58.2**	**+0.4**
	14nm,0.8s						
GKN	**Gorkha**	**38.97**	**334**	*eP*	**P**	**19 32 02.2**	**+0.6**
	13nm,0.7s						
KOLN	**Koldanda**	**39.23**	**333**	*eP*	**P**	**19 32 04.5**	**+0.6**
	12nm,0.7s						
STKA	**Stephens Creek**	**43.83**	**130**	P	**P**	**19 32 42.2**	**+0.8**
	1.4nm,0.8s,baz=294,slow=10,SNR=5.2						
STKA	**Stephens Creek**	**43.83**	**130**	P	**P**	**19 32 43.1**	**+1.8**
	baz=44,SNR=4.7						
QLP	**Quilpie**	**43.96**	**121**	P	P	19 32 52.1	+10
	baz=44,SNR=3.6						
KSAR	**Wonju Array Be**	**50.09**	**26**	P	**P**	**19 33 30.3**	**+0.2**
KSRS	**Korea Array**	**50.12**	**26**	P	**P**	**19 33 30.3**	**0.0**
	2.4nm,0.7s,baz=225,slow=6.8,SNR=8.9						
SONM	**Songino Array**	**54.72**	**3**	P	**P**	**19 34 05.2**	**+0.8**
	3.8nm,0.7s,baz=180,slow=8.5,SNR=28						
ULN	**Ulaanbaatar**	**54.79**	**4**	*eP*	**P**	**19 34 05.4**	**+0.5**
	2.8nm,0.9s						
TKM2	**Tokmak 2**	**55.50**	**336**	*eP*	**P**	**19 34 09.6**	**-0.7**
	2.7nm,0.8s						
AAK	**Ala-Archa**	**55.72**	**335**	P	**P**	**19 34 11.1**	**-0.7**
	0.5nm,0.4s,baz=164,slow=5.3,SNR=3.6						
EKS2	**Erkin-Say**	**56.04**	**334**	*eP*	**P**	**19 34 13.7**	**-0.4**
	2.3nm,0.8s						
MK31	**Makanchi Array**	**56.58**	**343**	*eP*	**P**	**19 34 17.1**	**-0.6**
MKAR	**Makanchi Array**	**56.58**	**343**	P	**P**	**19 34 17.4**	**-0.3**
	0.9nm,0.7s,baz=142,slow=7.8,SNR=15						
USRK	**Ussuriysk Ar.**	**57.42**	**25**	P	**P**	**19 34 23.0**	**-0.6**
	2.6nm,0.8s,baz=210,slow=8.3,SNR=4.8						
KURBB	**Kurchatov Arra**	**61.12**	**343**	P	**P**	**19 34 48.5**	**-0.6**
	0.6nm,0.6s,baz=164,slow=6.3,SNR=10.0						
KURK	**Kurchatov**	**61.18**	**343**	*eP*	**P**	**19 34 48.9**	**-0.5**
ZAA0	**Zalesovo Array**	**62.60**	**348**	*eP*	**P**	**19 34 59.1**	**+0.2**
ZALV	**Zalesovo Beam**	**62.60**	**348**	P	**P**	**19 34 58.8**	**-0.2**
	0.9nm,0.4s,baz=163,slow=5.4,SNR=8.5						
ABKAR	**Akbulak array**	**67.33**	**331**	*eP*	**P**	**19 35 29.2**	**-0.7**
	2.0nm,0.6s						
TXAR	**Lajitas Array**	**146.67**	**45**	PKPbc	**PKPdf**	**19 44 16.2**	**+0.4**
	0.3nm,0.6s,baz=290,slow=2.7,SNR=3.2						

MEX 17 19:39:06.8±0.7, 15.°37N×95.°79W, h20km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.50**	**323**	*eP*	Pb	19 39 15.0	-2.0
HUIG				*eS*	Sb	19 39 21.6	-2.3
VHO	**Vista Hermosa**	**1.92**	**332**	*eP*	Pn	19 39 37.1	-1.6
VHO				*eS*	Sn	19 39 59.1	-3.4
PCIG		**2.50**	**82**	*eP*	Pn	19 39 42.6	-3.8

IDC ***17*** *20:00:39.8±0.9, 29.°70S×178.°69W, h200km±13km, mb3.4/2, mb1 3.5/3, mb1mx3.2/17, mbtmp3.9/3, Error ellipse: s-maj=36.4km s-min=23.4km az=109.0*

ISC 17 20:00:39.5±1.2, 29.°69S±0.°10×178.°6W±0.°2, h204km, n14, σ1§36/19, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.76**	**55**	P	**Pn**	**20 01 08.5**	**+0.3**
	408nm,0.3s,baz=107,slow=21,SNR=29						
WMGZ	**Waiomatatini S**	**8.47**	**196**	PN	**Pn**	**20 02 38.9**	**+0.1**
WMGZ				SN	**S**	**20 04 17.0**	**+2.8**
PUZ	**Puketiti**	**8.76**	**196**	PN	**Pn**	**20 02 40.8**	**-1.7**
PUZ				SN	**S**	**20 04 21.6**	**+0.7**
CNGZ	**Carnagh Statio**	**9.16**	**196**	PN	**Pn**	**20 02 45.9**	**-1.8**
MWZ	**Matawai**	**9.20**	**199**	PN	**Pn**	**20 02 47.0**	**-1.2**
MWZ				SN	**S**	**20 04 31.7**	**+0.2**
URZ	**Urewera**	**9.25**	**201**	P	**Pn**	**20 02 48.2**	**-0.8**
	0.5nm,0.3s,baz=279,slow=5.9,SNR=6.4						
URZ				S	**S**	**20 04 32.1**	**-0.6**
	2.6nm,0.3s,baz=90,slow=20,SNR=9.1						
URZ	**Urewera**	**9.25**	**201**	PN	**Pn**	**20 02 48.0**	**-1.0**
URZ				SN	**S**	**20 04 34.0**	**+1.3**
RIGZ	**Rimuhau**	**9.48**	**197**	PN	**Pn**	**20 02 49.6**	**-2.3**
SNGZ	**Shannon Statio**	**9.66**	**199**	PN	**Pn**	**20 02 52.9**	**-1.4**
SNGZ				SN	**S**	**20 04 42.1**	**-0.5**
MRZ	**Mangatainoka R**	**11.93**	**202**	PN	Pn	20 03 17.8	-5.5
MRZ				SN	S	20 05 27.8	-8.0
STKA	**Stephens Creek**	**34.12**	**256**	P	**P**	**20 07 05.4**	**+0.4**
	0.5nm,0.5s,baz=107,slow=12,SNR=3.6						
WRA	**Warramunga Arr**	**43.53**	**272**	P	**P**	**20 08 23.5**	**+0.2**
	0.9nm,0.3s,baz=110,slow=8.1,SNR=40						
FINES	**FINESS Array B**	**144.29**	**340**	PKP	**PKPab**	**20 19 48.2**	**-0.8**
	0.6nm,0.5s,baz=54,slow=3.6,SNR=5.7						
TORD	**Torodi Ar. Bea**	**163.54**	**181**	PKPab	**PKPab**	**20 21 12.2**	**+1.4**
	0.3nm,0.7s,baz=178,slow=5.1,SNR=3.3						

ISCJB ***17*** *20:04:56.0±0.4, 8.°54N±0.°04×126.°92E±0.°04, h39km, mb4.0/9, MS2.9/1, Error ellipse: s-maj=6.7km s-min=5.2km az=43.4*

IDC ***17*** *20:05:04.7±6.3, 8.°48N×126.°72E, h107km±59km, mb3.7/9, mb1 3.8/10, mb1mx3.6/34, mbtmp4.1/10, MS2.8/2, Ms1 3.0/2, ms1mx2.6/18, Error ellipse: s-maj=37.3km s-min=16.0km az=71.0*

ISC 17 20:04:57.9±0.7, 8.°44N±0.°05×126.°83E±0.°08, h39km, n47, σ1§52/44, mb4.1/9, 4C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.53**	**242**	*iP*	**Pn**	**20 05 09.8**	**+0.7**
BIPH				*i S*	**Sn**	**20 05 15.6**	**-1.4**
MATI	**Mati**	**1.59**	**201**	*eP*	**Pn**	**20 05 24.2**	**+0.6**
BUKP	**Musuan**	**1.84**	**253**	*eP*	**Pn**	**20 05 28.2**	**+1.1**
BUKP				*eS*	**Sn**	**20 05 50.7**	**+1.5**
CGP	**Cagayan de Oro**	**2.12**	**271**	*eP*	**Pn**	**20 05 31.0**	**+0.2**
CGP				*i S*	**Sn**	**20 05 57.3**	**+1.3**
MSLP	**Maasin**	**2.58**	**311**	*eP*	**Pn**	**20 05 38.2**	**+1.0**
MSLP				*eS*	**Sn**	**20 06 07.4**	**+0.1**
TBP	**Tagbilaran**	**3.19**	**293**	*eP*	**Pn**	**20 05 46.3**	**+0.7**
TBP				*eS*	**Sn**	**20 06 22.6**	**+0.2**
PLP	**Palo**	**3.27**	**326**	*eP*	**Pn**	**20 05 47.6**	**+0.9**
PLP				*eS*	**Sn**	**20 06 27.3**	**+3.0**
OCLP	**Ormoc**	**3.40**	**320**	*eP*	**Pn**	**20 05 50.8**	**+2.3**
DCPH	**Dipolog City**	**3.45**	**273**	*eP*	**Pn**	**20 05 49.9**	**+0.8**
PAGZ	**Pagadian**	**3.47**	**260**	*eP*	**Pn**	**20 05 52.1**	**+2.7**
GUIM	**Jordan**	**4.72**	**298**	*eP*	**Pn**	**20 06 07.6**	**+1.0**
RCP	**Roxas**	**5.08**	**308**	*eP*	**Pn**	**20 06 14.3**	**+2.7**
SOEI	**Soe**	**18.25**	**188**	P	Pn	20 09 14.2	+5.7
	baz=17,SNR=3.7						
GUMO	**Guam**	**18.42**	**72**	LR	LR	20 16 22.3	
	comp=Z,20nm,18.2s,baz=246,slow=37						
BATI	**Baumata**	**18.79**	**190**	P	**Pn**	**20 09 17.9**	**+2.9**
	0.8nm,0.3s,baz=138,slow=12,SNR=3.3						
KNRA	**Kununurra**	**24.04**	**175**	P	**P**	**20 10 10.6**	**+1.1**
	baz=27,SNR=6.8						
CMAR	**Chiang Mai Arr**	**28.85**	**293**	P	**P**	**20 10 53.0**	**0.0**
	2.8nm,0.8s,baz=100,slow=7.4,SNR=16						
CMAR				LR	LR	20 22 41.0	
	comp=Z,28nm,18.8s,baz=205,slow=37						
WRA	**Warramunga Arr**	**29.16**	**165**	P	**P**	**20 10 55.3**	**-0.4**
	0.5nm,0.9s,baz=347,slow=9.1,SNR=5.0						
QIS	**Mount Isa**	**31.43**	**157**	P	**P**	**20 11 17.1**	**+1.3**
	baz=32,SNR=7.3						
WRKA	**Warakurna**	**33.30**	**178**	P	**P**	**20 11 32.9**	**+0.8**
	baz=33,SNR=6.7						
USRK	**Ussuriysk Ar.**	**35.91**	**6**	P	**P**	**20 11 55.6**	**+1.2**
	2.7nm,0.7s,baz=177,slow=12,SNR=6.9						
H11S3	**WAKE ISLAND Hy**	**39.94**	**71**	T	T	20 55 41.9	
	baz=262,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**39.95**	**71**	T	T	20 55 39.5	
	baz=262,slow=75,SNR=9.7						
H11S2	**WAKE ISLAND Hy**	**39.96**	**71**	T	T	20 55 42.9	
	baz=262,slow=75,SNR=6.5						
H11N1	**WAKE ISLAND Hy**	**40.33**	**70**	T	T	20 56 20.6	
	baz=263,slow=74						
H11N2	**WAKE ISLAND Hy**	**40.34**	**69**	T	T	20 56 32.1	
	baz=263,slow=74						
H11N3	**WAKE ISLAND Hy**	**40.35**	**70**	T	T	20 56 20.7	
	baz=263,slow=74						
TAPN	**Taplejung**	**41.47**	**302**	*eP*	**P**	**20 12 41.2**	**-0.5**
	6.6nm,0.4s						
ODAN	**Odare**	**41.58**	**301**	*eP*	**P**	**20 12 41.0**	**-1.5**
	11nm,0.6s						
BBOO	**Buckleboo**	**41.95**	**168**	P	**P**	**20 12 46.1**	**+1.0**
	baz=42,SNR=20						
RAMN	**Ramite**	**42.28**	**301**	*eP*	**P**	**20 12 47.0**	**-1.2**
STKA	**Stephens Creek**	**42.50**	**161**	P	**P**	**20 12 50.1**	**+0.6**
	0.5nm,0.4s,baz=337,slow=9.2,SNR=4.4						
JIRN	**Jiri**	**42.85**	**302**	*eP*	**P**	**20 12 51.8**	**-1.2**
	10nm,0.4s						
SONM	**Songino Array**	**42.92**	**340**	P	**P**	**20 12 51.3**	**-1.7**
	0.4nm,0.5s,baz=154,slow=8.6,SNR=4.0						
SONM				PcP	**PcP**	**20 14 42.1**	**-1.2**
	0.6nm,0.8s,baz=148,slow=4.9,SNR=4.0						
GUN	**Gumba**	**43.19**	**302**	*eP*	**P**	**20 12 54.6**	**-1.1**
	9.3nm,0.4s						
HTT	**Hallett**	**43.20**	**165**	P	**P**	**20 12 57.0**	**+1.7**
	baz=43,SNR=3.2						
PKI	**Pulchoki**	**43.48**	**301**	*eP*	**P**	**20 12 56.3**	**-1.8**
PKIN	**Phulchoki**	**43.49**	**301**	*eP*	**P**	**20 12 56.1**	**-2.0**
KKN	**Kakani**	**43.65**	**302**	*eP*	**P**	**20 12 58.0**	**-1.3**
DMN	**Daman**	**43.75**	**301**	*eP*	**P**	**20 12 58.3**	**-1.8**
	13nm,1.0s						
KOLN	**Koldanda**	**45.07**	**301**	*eP*	**P**	**20 13 08.7**	**-1.9**
	13nm,0.6s						
ARMA	**Armidale**	**45.38**	**149**	P	P	20 13 20.1	+7.2
	baz=46,SNR=6.7						
MKAR	**Makanchi Array**	**53.81**	**323**	P	**P**	**20 14 15.3**	**-1.6**
	1.0nm,0.5s,baz=116,slow=7.4,SNR=22						
ZALV	**Zalesovo Beam**	**56.49**	**332**	P	P	20 14 33.5	-2.4
	2.9nm,1.0s,baz=113,slow=6.3,SNR=6.5						
ARCES	**ARCESS Array B**	**86.09**	**340**	P	**P**	**20 17 33.4**	**-1.0**
	2.2nm,0.6s,baz=88,slow=6.3,SNR=12						
FINES	**FINESS Array B**	**87.76**	**332**	P	**P**	**20 17 41.0**	**-1.6**
	1.2nm,0.4s,baz=92,slow=4.6,SNR=19						
TORD	**Torodi Ar. Bea**	**121.45**	**291**	PKP	**PKPdf**	**20 23 46.4**	**-1.8**
	0.3nm,0.4s,baz=68,slow=1.9,SNR=7.2						

IDC ***17*** *20:05:39.8±0.5, 16.°39S×14.°21W, h0km, mb4.3/21, mb1 4.4/21, mb1mx4.3/32, mbtmp4.3/21, MS4.3/22, Ms1 4.3/22, ms1mx4.3/22, Error ellipse: s-maj=17.2km s-min=13.8km az=170.0*

ISCJB ***17*** *20:05:40.1±0.3, 16.°32S±0.°05×14.°15W±0.°05, h10km, mb4.8/91, MS4.7/311, Error ellipse: s-maj=8.7km s-min=5.4km az=147.6*

MOS ***17*** *20:05:40.1±1.1, 16.°20S×14.°17W, h10km, mb5.3/38, MS4.5/20, Error ellipse: s-maj=11.8km s-min=6.7km az=72.5*

NEIC ***17*** *20:05:41.6±0.3, 16.°31S×14.°19W, h10km, mb5.2/42, MS4.7/281, Error ellipse: s-maj=9.4km s-min=6.6km az=151.0*

GCMT ***17*** *20:05:41.6±0.2, 16.°36S×14.°19W, h16km±1km, MW5.2/109, Moment Tensor Solution. s54,c68; s109,c173; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-1.42±.16; Mθθ-1.19±.15; Mφφ2.61±.17; Mrθ-2.03±.42; Mrφ5.80±.12; Mθφ-4.15±.55; Best double couple: Mo7.24000×1016 NP1:φs172.00000°, δ85.00000°, λ150.00000°. NP2: φs265.00000°, δ60.00000°, λ5.00000°. Principal axes: T 8.8410, Plg24.0000°, Azm125.0000°; N -3.2020, Plg60.0000°, Azm344.0000°; P -5.6390, Plg17.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***17*** *20:05:41.8, 16.°40S×14.°20W, h10km, mB5.4/6, Ms5.0/7, Ms7 4.6/7*

ISC 17 20:05:42.0±0.6, 16.°47S±0.°08×14.°24W±0.°07, h11km±2km, h11km:pP-P, n565, σ1§42/297, mb5.0/92, MS4.7/312, 18C-7D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**7.47**	**357**	T	T	20 14 49.7	
	baz=177,slow=74,SNR=166						
H10S3	**ASCENSION HYDR**	**7.48**	**357**	T	T	20 14 58.2	
	baz=177,slow=74,SNR=159						
H10S1	**ASCENSION HYDR**	**7.49**	**357**	T	T	20 14 51.4	
	baz=177,slow=74,SNR=150						
H10N1	**ASCENSION HYDR**	**8.57**	**358**	T	T	20 16 14.2	
	baz=179,slow=80,SNR=11						
H10N3	**ASCENSION HYDR**	**8.58**	**358**	T	T	20 16 14.7	
	baz=179,slow=80,SNR=42						
H10N2	**ASCENSION HYDR**	**8.59**	**358**	T	T	20 16 16.1	
	baz=179,slow=80,SNR=15						
RCBR	**Riachuelo**	**23.71**	**294**	P	**P**	**20 10 52.7**	**-1.4**
	84nm,0.8s,baz=104,slow=11,SNR=31						
RCBR				LR	LR	20 17 38.7	
	comp=Z,1µm,21.3s,baz=106,slow=30						
RCBR	**Riachuelo**	**23.71**	**294**	*eP*	**P**	**20 10 52.8**	**-1.4**
	72nm,0.8s						
LIC	**Lamto**	**24.32**	**23**	*eP*	**P**	**20 11 04.3**	**+4.5**
	158nm,2.2s						
KIC	**Kosan Boka**	**24.55**	**23**	*eP*	**P**	**20 11 02.0**	**+0.1**
	93nm,1.2s						
TIC	**Toumodi**	**24.71**	**22**	*eP*	**P**	**20 11 02.3**	**-1.1**
	32nm,0.8s						
DBIC	**Dimbokro**	**24.79**	**23**	P	**P**	**20 11 02.3**	**-1.8**
	12nm,0.9s,baz=176,slow=11,SNR=8.4						
DBIC				LR	LR	20 18 19.9	
	comp=Z,673nm,19.4s,baz=184,slow=31						
DBIC	**Dimbokro**	**24.79**	**23**	*eP*	**P**	**20 11 05.3**	**+1.2**
DBIC				pmax	pmax		
	comp=Z,46nm,1.3s						
DBIC	**Dimbokro**	**24.79**	**23**	*eP*	**P**	**20 11 05.3**	**+1.2**
	comp=Z,46nm,1.3s						
MSKU	**Masuku**	**31.12**	**65**	PFAKE		20 12 10.0	+9.2
MSKU				LR	LR		
	comp=Z,700nm,19.0s						
BDFB	**Brasilia**	**32.45**	**267**	P	**P**	**20 12 12.5**	**-0.1**
	comp=Z,1.6nm,0.4s,baz=90,slow=9.1,SNR=3.3						
BDFB				LR	LR	20 22 39.2	
	comp=Z,750nm,21.0s,baz=88,slow=31						
SACV	**Santiago Islan**	**32.58**	**343**	PFAKE		20 12 20.0	+6.5
SACV				LR	LR		
	comp=Z,900nm,19.0s						
TOA0	**Torodi Ar. Sit**	**33.38**	**29**	*eP*	**P**	**20 12 19.4**	**-1.1**
TORD	**Torodi Ar. Bea**	**33.38**	**29**	P	**P**	**20 12 18.7**	**-1.8**
	comp=Z,13nm,0.8s,baz=212,slow=8.4,SNR=85						
TORD				LR	LR	20 23 30.1	
	comp=Z,1µm,20.4s,baz=205,slow=32						
SUR	**Sutherland**	**35.44**	**123**	PFAKE		20 12 50.0	+11
SUR				LR	LR		
	comp=Z,900nm,18.1s						
LBTB	**Lobatse**	**38.10**	**110**	P	**P**	**20 12 59.9**	**-1.4**
	comp=Z,3.9nm,0.8s,baz=282,slow=8.9,SNR=6.4						
LBTB	**Lobatse**	**38.10**	**110**	P	**P**	**20 12 59.9**	**-1.4**
LBTB				MLR	MLR		
	comp=Z,1µm,19.0s						
LBTB	**Lobatse**	**38.10**	**110**	P	**P**	**20 12 59.9**	**-1.4**
LBTB				LR	LR		
	comp=Z,1µm,19.0s						
BOSA	**Boshof**	**38.26**	**115**	P	**P**	**20 13 01.0**	**-1.6**
	comp=Z,5.2nm,0.9s,baz=288,slow=7.4,SNR=6.3						
BOSA				LR	LR	20 26 23.3	
	comp=Z,977nm,18.9s,baz=286,slow=32						
BOSA	**Boshof**	**38.26**	**115**	*eP*	**P**	**20 13 01.4**	**-1.2**
BOSA	**Boshof**	**38.26**	**115**	*eP*	**P**	**20 13 01.4**	**-1.2**
LSZ	**Lusaka**	**40.77**	**94**	P	**P**	**20 13 24.0**	**+0.3**
	comp=Z,5.0nm,0.9s,baz=275,slow=2.3,SNR=8.0						
LSZ	**Lusaka**	**40.77**	**94**	P	**P**	**20 13 24.0**	**+0.3**
CPUP	**Villa Florida**	**41.14**	**249**	P	**P**	**20 13 27.5**	**+1.1**
CPUP	**Villa Florida**	**41.14**	**249**	P

comp=Z,21nm,1.6s
PMAFR Mafra 55.32 5 *e*LR LR 20 31 58.3
comp=Z,247nm,18.0s
PESTR Estremoz 55.39 6 *e*P **P 20 15 16.9 +0.7**
comp=Z,28nm,1.5s
PESTR Estremoz 55.39 6 *e*LQ LQ 20 28 39.8
PESTR *e*LR LR 20 32 56.4
comp=Z,241nm,22.0s
PMTG Montargil 55.53 6 eLR LR 20 33 13.3
comp=Z,353nm,20.0s
SNAA Sanae 55.61 176 P **P 20 15 15.5 -1.9**
SNAA Sanae 55.61 176 P **P 20 15 17.4 0.0**
comp=Z,1.2nm,1.0s,baz=348,slow=8.4,SNR=5.2
SNAA Sanae 55.61 176 P **P 20 15 17.4 0.0**
SNAA LR LR
comp=Z,400nm,18.1s
PMRV Marv??o 55.97 6 *e*P **P 20 15 20.6 +0.3**
comp=Z,21nm,1.7s
PMRV *e*S **S 20 23 10.1 +1.9**
PMRV *e*LQ LQ 20 28 58.6
PMRV *e*LR LR 20 32 32.0
comp=Z,282nm,20.0s
PTOM Tomar 56.06 5 *e*P **P 20 15 20.5 -0.4**
comp=Z,17nm,0.8s
PCAS Casmilo, Conde 56.48 5 eLQ LQ 20 29 12.4
PCAS *e*LR LR 20 33 43.6
comp=Z,205nm,18.0s
PAB San Pablo 56.48 9 PFAKE 20 15 30.0 +6.0
PAB LR LR
comp=Z,300nm,18.0s
KEST Kesra 56.52 23 P **P 20 15 25.2 +0.8**
comp=Z,7.3nm,0.9s,baz=179,slow=8.1,SNR=9.7
KEST LR LR 20 40 28.4
comp=Z,109nm,18.2s,baz=181,slow=37
ESDC Sonseca Array 56.66 9 P **P 20 15 24.6 -0.8**
comp=Z,0.9nm,0.6s,baz=182,slow=7.5,SNR=8.1
ESDC LR LR 20 39 05.3
comp=Z,178nm,18.2s,baz=175,slow=35
PVIS Viseu 57.19 6 *e*P **P 20 15 29.0 0.0**
comp=Z,20nm,1.3s
MVO Moncorvo 57.72 6 *e*P **P 20 15 32.7 -0.1**
comp=Z,22nm,1.8s
MVO Moncorvo 57.72 6 eLQ LQ 20 27 34.5
MVO *e*LR LR 20 30 00.1
comp=Z,271nm,20.0s
PVRL Vila Real 57.76 6 *e*P **P 20 15 33.5 +0.5**
comp=Z,22nm,1.2s
ANWB Willy Bob 57.82 304 PFAKE 20 15 50.0 +16
ANWB LR LR
comp=Z,500nm,19.1s
POLO Lamas de Olo 57.85 6 *e*P **P 20 15 34.3 +0.6**
comp=Z,14nm,1.5s
POLO Lamas de Olo 57.85 6 eLR LR 20 29 53.5
comp=Z,115nm,18.0s
FURI Furi 58.10 68 PFAKE 20 15 50.0 +14
FURI LR LR
comp=Z,600nm,18.3s
PCAB Cabril 58.17 5 *e*P **P 20 15 35.6 -0.2**
comp=Z,24nm,1.3s
ABPO Ambohimpanom 58.34 102 PFAKE 20 15 50.0 +12
ABPO LR LR
comp=Z,700nm,20.0s
PBRG Braganca 58.39 7 eLR LR 20 30 08.1
comp=Z,264nm,22.0s
PGAV Gavieira, Arco 58.40 5 eLR LR 20 34 26.4
comp=Z,266nm,18.0s
WDD Wield Dalam 58.74 27 PFAKE 20 15 50.0 +10
WDD LR LR
comp=Z,1µm,18.8s
SABA Saba 58.97 303 PFAKE 20 15 50.0 +8.2
SABA LR LR
comp=Z,400nm,20.5s
CLTB Caltabellotta 59.64 25 PFAKE 20 16 00.0 +14
CLTB LR LR
comp=Z,200nm,19.1s
ETSF Etsaut 60.40 12 *e*P **P 20 15 48.3 -3.0**
comp=Z,60nm,1.6s
ETSF Etsaut 60.40 12 *e*P **P 20 15 48.3 -3.0**
ETSF pmax pmax
comp=Z,60nm,1.6s
ETSF Etsaut 60.40 12 *e*P **P 20 15 48.3 -3.0**
comp=Z,60nm,1.6s
SJPF Ste Jean 60.48 11 *e*P **P 20 15 48.7 -3.1**
comp=Z,21nm,1.0s
SJPF Ste Jean 60.48 11 *e*P **P 20 15 48.7 -3.1**
SJPF pmax pmax
comp=Z,21nm,1.0s
SJPF Ste Jean 60.48 11 *e*P **P 20 15 48.7 -3.1**
comp=Z,21nm,1.0s
NNA Nana 60.65 265 PFAKE 20 16 10.0 +16
NNA LR LR
comp=Z,500nm,19.3s
STVI Saint Thomas 60.73 303 *e*P **P 20 15 54.0 +0.1**
comp=Z,68nm,0.3s
STVI LR LR
comp=Z,400nm,19.0s
SDV Santo Domingo 61.21 290 *e*P **P 20 15 58.0 +0.4**
comp=Z,28nm,1.0s
SDV LR LR
comp=Z,400nm,21.0s
CEL Celeste 61.34 27 PFAKE 20 16 10.0 +12
CEL LR LR
comp=Z,800nm,19.4s
HUMP Col San Antoni 61.35 302 PFAKE 20 16 10.0 +12
HUMP LR LR
comp=Z,300nm,19.8s
SJG San Juan 61.58 302 PFAKE 20 16 10.0 +10
SJG LR LR
comp=Z,400nm,22.0s
CELP Cerrillos 61.91 301 *e*P **P 20 16 00.9 -1.1**
CRPR Cabo Rojo, PR 62.31 301 PFAKE 20 16 20.0 +15
CRPR LR LR
comp=Z,400nm,20.5s
MPR Mayaguez 62.44 301 PFAKE 20 16 20.0 +14
MPR LR LR
comp=Z,600nm,19.7s
TIP Timpagrande 62.48 27 PFAKE 20 16 20.0 +15
TIP LR LR
comp=Z,400nm,20.4s
AGP Aguadilla 62.54 301 PFAKE 20 16 20.0 +14
AGP LR LR
comp=Z,500nm,21.7s
LFF La Frestale 62.61 12 *e*P P 20 16 02.6 -3.5
comp=Z,25nm,0.9s
LFF La Frestale 62.61 12 *e*P P 20 16 02.6 -3.5
LFF pmax pmax
comp=Z,25nm,0.9s
LFF La Frestale 62.61 12 *e*P P 20 16 02.6 -3.5
comp=Z,25nm,0.9s
GVD Gavdhos 62.68 35 PFAKE 20 16 20.0 +13
GVD LR LR
comp=Z,1µm,21.6s
CUC Castrocucco 62.76 26 PFAKE 20 16 20.0 +13
CUC LR LR
comp=Z,200nm,21.9s
CAF Calviac 62.87 13 *e*P **P 20 16 05.9 -2.0**
CAF Calviac 62.87 13 *e*P **P 20 16 05.9 -2.0**
CAF Calviac 62.87 13 *e*P **P 20 16 05.9 -2.0**
ROSC El Rosal 63.06 284 LR LR 20 42 22.4
comp=Z,562nm,19.9s,baz=192,slow=35
RJF Les Rejaudoux 63.12 12 *e*P **P 20 16 07.6 -1.9**
RJF *e*R
comp=Z,622nm,23.0s
RJF Les Rejaudoux 63.12 12 *e*P **P 20 16 07.6 -1.9**
RJF Les Rejaudoux 63.12 12 *e*P **P 20 16 07.6 -1.9**
MBDF Montbardon 63.84 17 *e*P **P 20 16 12.4 -2.1**
comp=Z,25nm,1.2s
MBDF Montbardon 63.84 17 *e*P **P 20 16 12.4 -2.1**
MBDF pmax pmax
comp=Z,25nm,1.2s
MBDF Montbardon 63.84 17 *e*P **P 20 16 12.4 -2.1**
comp=Z,25nm,1.2s
MFF Saint Martin d 64.05 11 *e*P **P 20 16 13.5 -2.1**
comp=Z,46nm,1.5s
MFF Saint Martin d 64.05 11 *e*P **P 20 16 13.5 -2.1**
MFF pmax pmax
comp=Z,47nm,1.5s
MFF Saint Martin d 64.05 11 *e*P **P 20 16 13.5 -2.1**
comp=Z,46nm,1.5s
BNI Bardonecchia 64.11 16 PFAKE 20 16 30.0 +14
BNI LR LR
comp=Z,500nm,20.0s
TCF Toulx Ste Croi 64.20 13 *e*P **P 20 16 15.1 -1.6**
comp=Z,36nm,1.5s
TCF Toulx Ste Croi 64.20 13 *e*P **P 20 16 15.1 -1.6**
TCF pmax pmax
comp=Z,36nm,1.5s
TCF Toulx Ste Croi 64.20 13 *e*P **P 20 16 15.1 -1.6**
comp=Z,36nm,1.5s
VLC Villacollemand 64.39 19 PFAKE 20 16 30.0 +12
VLC LR LR
comp=Z,200nm,18.9s
LPG La Plagne 64.54 16 *e*P **P 20 16 16.9 -2.4**
comp=Z,27nm,1.3s
LPG La Plagne 64.54 16 *e*P **P 20 16 16.9 -2.4**
LPG pmax pmax
comp=Z,27nm,1.3s
LPG La Plagne 64.54 16 *e*P **P 20 16 16.9 -2.4**
comp=Z,27nm,1.3s
LPL La Plagne 64.56 16 *e*P **P 20 16 16.8 -2.5**
LPL La Plagne 64.56 16 *e*P **P 20 16 16.8 -2.5**
LPL La Plagne 64.56 16 *e*P **P 20 16 16.8 -2.5**
SANT Santorini 64.56 35 PFAKE 20 16 30.0 +11
SANT LR LR
comp=Z,500nm,18.7s
SMF Signal de Mont 64.90 14 *e*P **P 20 16 20.0 -1.2**
SMF Signal de Mont 64.90 14 *e*P **P 20 16 20.0 -1.2**
SMF Signal de Mont 64.90 14 *e*P **P 20 16 20.0 -1.2**
AVF Avril sur Loir 64.93 13 *e*P **P 20 16 20.9 -0.4**
comp=Z,12nm,1.0s
AVF Avril sur Loir 64.93 13 *e*P **P 20 16 20.9 -0.4**
AVF pmax pmax
comp=Z,12nm,1.0s
AVF Avril sur Loir 64.93 13 *e*P **P 20 16 20.9 -0.4**
comp=Z,12nm,1.0s
SSF Saint Saulge 65.22 13 *e*P **P 20 16 20.9 -2.4**
comp=Z,19nm,1.1s
SSF Saint Saulge 65.22 13 *e*P **P 20 16 20.9 -2.4**
SSF pmax pmax
comp=Z,19nm,1.1s
SSF Saint Saulge 65.22 13 *e*P **P 20 16 20.9 -2.4**
comp=Z,19nm,1.1s
OTAV Otavalo 65.40 278 PFAKE 20 16 40.0 +14
OTAV LR LR
comp=Z,500nm,19.1s
CABF La Chapelle 65.41 15 *e*P **P 20 16 23.5 -1.1**
comp=Z,16nm,0.9s
CABF La Chapelle 65.41 15 *e*P **P 20 16 23.5 -1.1**
CABF pmax pmax
comp=Z,16nm,0.9s
CABF La Chapelle 65.41 15 *e*P **P 20 16 23.5 -1.1**
comp=Z,16nm,0.9s
LOR Lormes 65.49 13 *e*P **P 20 16 23.6 -1.4**
LOR *e*R
comp=Z,311nm,20.0s
LOR Lormes 65.49 13 *e*P **P 20 16 23.6 -1.4**
LOR Lormes 65.49 13 *e*P **P 20 16 23.6 -1.4**
DAMY Dhamar 65.60 65 PFAKE 20 16 40.0 +13
DAMY LR LR
comp=Z,400nm,20.7s
TIR Tirane 65.62 28 PFAKE 20 16 40.0 +14
TIR LR LR
comp=Z,600nm,19.5s
GRR Gorron 65.66 10 *e*P **P 20 16 23.8 -2.2**
comp=Z,78nm,1.6s
GRR Gorron 65.66 10 *e*P **P 20 16 23.8 -2.2**
GRR pmax pmax
comp=Z,78nm,1.6s
GRR Gorron 65.66 10 *e*P **P 20 16 23.8 -2.2**
comp=Z,78nm,1.6s
LDF La Druitiere 65.98 10 *e*P **P 20 16 25.4 -2.7**
comp=Z,84nm,1.7s
LDF La Druitiere 65.98 10 *e*P **P 20 16 25.4 -2.7**
LDF pmax pmax
comp=Z,84nm,1.7s
LDF La Druitiere 65.98 10 *e*P **P 20 16 25.4 -2.7**
comp=Z,84nm,1.7s
TUE Stuetta 66.16 18 PFAKE 20 16 40.0 +10
TUE LR LR
comp=Z,800nm,18.0s
SDDR Presa de Saban 66.25 300 PFAKE 20 16 40.0 +9.5
SDDR LR LR
comp=Z,300nm,19.9s
FUORN Ofenpass-Fuorn 66.57 18 PFAKE 20 16 40.0 +7.7
FUORN LR LR
comp=Z,400nm,20.9s
SFTF Sexfontaines 66.64 14 *e*P **P 20 16 29.8 -2.6**
SFTF Sexfontaines 66.64 14 *e*P **P 20 16 29.8 -2.6**
HAU Haudompre 66.77 15 *e*P **P 20 16 31.5 -1.7**
comp=Z,18nm,1.1s
HAU *e*R
comp=Z,375nm,22.8s
HAU Haudompre 66.77 15 *e*P **P 20 16 31.5 -1.7**
HAU pmax pmax
comp=Z,18nm,1.1s
HAU Haudompre 66.77 15 *e*P **P 20 16 31.5 -1.7**
comp=Z,18nm,1.1s
TRI Trieste 66.88 21 PFAKE 20 16 40.0 +6.0
TRI LR LR
comp=Z,300nm,19.3s
MEZF Maizieres J'vi 66.92 14 *e*P **P 20 16 31.8 -2.4**
MEZF Maizieres J'vi 66.92 14 *e*P **P 20 16 31.8 -2.4**
DAVA Damuels 67.06 18⇑*i*P **P 20 16 32.9 -2.3**
comp=Z,9.2nm,0.9s
FETA Feichten 67.07 18⇑*i*P **P 20 16 34.0 -1.4**
comp=Z,7.1nm,0.9s
PAGF Fort de Pagny 67.13 14 *e*P **P 20 16 33.1 -2.4**
PAGF Fort de Pagny 67.13 14 *e*P **P 20 16 33.1 -2.4**
DYA Yadsworthy 67.22 7 PFAKE 20 16 50.0 +14
DYA LR LR
comp=Z,300nm,20.6s
GORS Gorjuse 67.49 21 *i*P **P 20 16 37.5 -0.5**
KKB Krupnik 67.50 29 P **P 20 16 37.6 -0.5**
WTTA Wattenberg 67.56 19⇓*i*P **P 20 16 37.4 -1.1**
comp=Z,6.9nm,1.0s
BFO Black Forest 67.58 16 *i*P **P 20 16 38.0 -0.4**
BFO Black Forest 67.58 16 PFAKE 20 16 50.0 +12
BFO LR LR
comp=Z,200nm,20.5s
MMB Musomiste 67.60 30⇑*i*P **P 20 16 38.8 +0.1**
MMB Musomiste 67.60 30 P **P 20 16 38.1 -0.6**
GOLS Golise 67.80 22 *i*P **P 20 16 39.9 +0.1**
DIVS Divibare 67.90 26⇑*i*P **P 20 16 41.3 +0.7**
VTS Vitosha 68.13 29⇑*i*P **P 20 16 42.5 +0.4**
VTS Vitosha 68.13 29 P **P 20 16 41.6 -0.5**
SOKA Sotokh 68.16 21⇑*i*P **P 20 16 42.2 0.0**
comp=Z,8.1nm,1.0s
STU Stuttgart 68.21 16 PFAKE 20 16 50.0 +7.7
STU LR LR
comp=Z,300nm,20.5s
CSS Prodhromos 68.22 41 PFAKE 20 16 50.0 +7.3
CSS LR LR
comp=Z,100nm,22.0s
WLF Walferdange 68.27 14 PFAKE 20 16 50.0 +7.3
WLF LR LR
comp=Z,200nm,19.4s
ISP Isparta 68.44 37 PFAKE 20 17 00.0 +16
ISP LR LR
comp=Z,200nm,19.5s
BBSR BB Station 68.48 315 PFAKE 20 17 00.0 +16
BBSR LR LR
comp=Z,300nm,18.0s
ARSA Arzberg 68.83 21⇑*i*P **P 20 16 46.1 -0.2**
comp=Z,8.8nm,1.1s
UCC Uccle 68.94 13 PFAKE 20 17 00.0 +13
UCC LR LR
comp=Z,400nm,21.1s
PKSM Moragy 69.09 24⇓*i*P **P 20 16 47.7 -0.2**
MEM Membach 69.12 14 PFAKE 20 17 00.0 +12
MEM LR LR
comp=Z,300nm,20.7s
MSEY Mahe Island 69.25 89 PFAKE 20 17 00.0 +10
MSEY LR LR
comp=Z,200nm,18.0s
CONA Conrad Observa 69.53 21⇓*i*P **P 20 16 50.4 -0.3**
comp=Z,10nm,1.3s
GEC2 GERESS Array S 69.61 19 *e*pP **PcP 20 17 13.1 -1.0**
GERES GERESS Array B 69.61 19 P **P 20 16 49.9 -1.2**
comp=Z,1.0nm,0.7s,baz=200,slow=5.2,SNR=8.2
GERES LR LR 20 47 07.1
comp=Z,236nm,19.6s,baz=220,slow=36
GRFO Grafenberg 69.61 17 PFAKE 20 17 00.0 +9.0
GRFO LR LR
comp=Z,200nm,19.6s
BCIP Isla Barro Col 69.71 287 PFAKE 20 17 00.0 +7.6
BCIP LR LR
comp=Z,700nm,20.3s
DSB Dublin 69.75 5 PFAKE 20 17 00.0 +8.2
DSB LR LR
comp=Z,200nm,18.0s
BZS Buzias 69.81 26⇑*i*P **P 20 16 50.4 -1.9**
KHC Kasperske Hory 69.82 19 *e*P **P 20 16 51.4 -1.0**
KHC *e*pP **pP 20 16 53.9 -2.2**
KHC *e*sP **sP 20 16 57.6 +0.1**
KHC *e*S **S 20 26 01.1 -0.5**
KHC AMS AMS 20 46 40.0
comp=Z,300nm,18.8s
KHC Kasperske Hory 69.82 19 *e*P **P 20 16 51.4 -1.0**
KHC *e* 20 16 53.9
KHC *e* 20 16 57.6
KHC *e*S **S 20 26 01.1 -0.5**
KHC MLR MLR
comp=Z,300nm,18.8s
GTBY Guantanamo Bay 69.88 299 PFAKE 20 17 00.0 +6.7
GTBY LR LR
comp=Z,300nm,19.5s
MAW Mawson 69.99 157 LR LR 20 41 19.6
comp=Z,461nm,18.6s,baz=248,slow=30
SIRR Siria 70.35 26⇑*i*P **P 20 16 55.4 -0.3**
NKC Novy Kostel 70.45 18 *e*P **P 20 16 58.1 +1.9**
NKC *ex* x 20 17 02.1
NKC *e*S **S 20 26 08.9 0.0**
NKC Novy Kostel 70.45 18 *e*P **P 20 16 58.1 +1.9**
NKC *e* 20 17 02.1
NKC *e*S **S 20 26 08.9 0.0**
NKC smax smax
comp=N,9.0nm,0.2s
TREC Trest 70.58 20 AMS AMS 20 48 10.0
comp=N,200nm,15.4s
LOT Lotru 70.60 27⇑*i*P **P 20 16 57.9 +0.5**
RAYN Ar Rayn 70.61 57 *e*pP pP 20 17 09.5 +7.9
RAYN LR LR
comp=Z,215nm,21.8s
PRU Pruhonice 70.87 19 *e*P **P 20 16 58.0 -0.7**
PRU *e*pP **pP 20 17 01.1 -1.4**
PRU *e*sP **sP 20 17 03.7 -0.2**
PRU *e*S **S 20 26 15.3 +1.5**
PRU AMS AMS 20 47 30.0
comp=Z,200nm,19.0s
PRU Pruhonice 70.87 19 *e*P **P 20 16 58.0 -0.7**
PRU *e* 20 17 01.1
PRU *e* 20 17 03.7
PRU *e*S **S 20 26 15.3 +1.5**
PRU MLR MLR
comp=Z,200nm,19.0s
GOPC GO Pecny, Ondr 70.89 19 *e*P **P 20 16 57.7 -1.2**
GOPC *e*pP **pP 20 17 00.9 -1.7**
GOPC *e*S **S 20 26 13.3 -0.7**
GOPC AMS AMS 20 47 50.0
comp=Z,300nm,22.2s
ARR Arges 70.93 28⇑*i*P **P 20 16 58.5 -0.8**
VRAC Vranov 70.96 21⇓*i*P **P 20 16 58.4 -0.9**
PSZ Piszkesteto 70.99 24 *e*P **P 20 16 59.2 -0.4**
PSZ pmax pmax
comp=Z,10.0nm,1.0s
PSZ MLR MLR
comp=Z,200nm,19.8s
PSZ Piszkesteto 70.99 24⇑*i*P **P 20 16 59.7 +0.1**
PSZ Piszkesteto 70.99 24 *e*P **P 20 16 59.2 -0.4**
comp=Z,9.9nm,1.0s
PSZ LR LR
comp=Z,200nm,19.8s
PSZ Piszkesteto 70.99 24⇑*e*P **P 20 16 59.4 -0.2**
VYHS Vyhne 71.07 23 *e*P **P 20 16 59.4 -0.6**
VYHS pmax pmax
comp=Z,5.0nm,1.1s
VYHS Vyhne 71.07 23 *e*P **P 20 16 59.4 -0.6**
ANTO Ankara 71.13 37 PFAKE 20 17 10.0 +9.4
ANTO LR LR
comp=Z,200nm,20.9s
VOIR 71.17 28⇓*i*P **P 20 17 00.3 -0.4**
MTDJ Mount Denham 71.20 296 PFAKE 20 17 10.0 +8.5
MTDJ LR LR
comp=Z,300nm,19.0s
PVCC Panska Ves 71.35 19 *e*P **P 20 17 00.9 -0.7**
PVCC AMS AMS 20 48 50.0
comp=Z,500nm,17.1s
PVCC Panska Ves 71.35 19 *e*P **P 20 17 00.9 -0.7**
PVCC MLR MLR
comp=Z,500nm,17.1s
BRG Berggiesshubel 71.46 18 *e*(P) **P 20 17 01.9 -0.4**
comp=Z,7.0nm,1.3s
comp=N,189nm,17.9s
comp=E,215nm,25.0s
comp=Z,223nm,27.4s
BRG Berggiesshubel 71.46 18 *e*P **P 20 17 01.9 -0.4**
BRG pmax pmax
comp=Z,7.0nm,1.3s
BRG MLR MLR
comp=N,189nm,17.9s
BRG MLR MLR
comp=E,215nm,25.0s
BRG MLR MLR
comp=Z,223nm,27.4s
BR131 Keskin Array S 71.52 37 *e*P **P 20 17 02.9 -0.2**
comp=Z,2.4nm,0.6s
CLL Collm 71.57 18 *e*S **S 20 26 24.0 +2.2**
CLL *e*PPS PPS 20 26 59.0
CLL Lm MLR 20 45 00.0
comp=Z,200nm,22.0s
CLL Collm 71.57 18 *e*P P 20 17 09.0 +6.1
CLL *e*S **S 20 26 24.0 +2.2**
CLL pmax pmax
comp=Z,76nm,3.0s
CLL MLR MLR
comp=Z,200nm,22.0s
CLL Collm 71.57 18 PFAKE 20 17 10.0 +7.1
CLL LR LR
comp=Z,200nm,20.4s
MLR Muntele Rosu 71.61 29⇑*i*P **P 20 17 02.5 -1.0**
MORC Moravsky Berou 71.68 21 *e*P **P 20 17 03.5 -0.2**
MORC pmax pmax
comp=Z,75nm,2.7s
MORC MLR MLR
comp=Z,300nm,21.9s
MORC Moravsky Berou 71.68 21⇑*i*P **P 20 17 03.1 -0.6**
MORC Moravsky Berou 71.68 21 *e*P **P 20 17 03.5 -0.2**
comp=Z,75nm,2.7s
MORC LR LR
comp=Z,300nm,21.9s
DOPR Dopca 71.73 28⇑*i*P **P 20 17 03.2 -0.8**
DPC Dobruska-Polom 71.76 20 *e*P **P 20 17 03.1 -1.1**
DPC *e*pP **pP 20 17 06.6 -1.3**
DPC *e*sP **sP 20 17 10.4 +1.1**
DPC Dobruska-Polom 71.76 20 *e*P **P 20 17 03.1 -1.1**
DPC *e* 20 17 06.6
DPC *e* 20 17 10.4
OKC Ostrava-Krasne 71.94 21 *e*P **P 20 17 04.6 -0.6**
OKC *e*pP **pP 20 17 07.7 -1.3**
OKC AMS AMS 20 47 20.0
comp=Z,300nm,21.5s
OKC Ostrava-Krasne 71.94 21 *e*P **P 20 17 04.6 -0.6**
OKC *e* 20 17 07.7
OKC MLR MLR
comp=Z,300nm,21.5s
TIRR Tirgusor 72.02 31 PFAKE 20 17 20.0 +14
TIRR LR LR
comp=Z,100nm,22.0s
ESK Eskdalemuir 72.11 7 PFAKE 20 17 20.0 +14
ESK LR LR
comp=Z,200nm,18.0s
TRPA Tarpa 72.20 25⇓*i*P P 20 17 00.2 -6.6
VRI Vrincioaia 72.26 29⇑*i*P **P 20 17 06.3 -0.9**
UZH Uzhgorod 72.50 24 *e*P P 20 17 01.1 -7.5
UZH *e* 20 17 07.1
UZH *i* 20 17 24.9
EDI Edinburgh 72.71 6 PFAKE 20 17 20.0 +10
EDI LR LR
comp=Z,100nm,18.7s
STHS Stebnicka Huta 72.73 23 *e*P **P 20 17 11.2 +1.3**
STHS Stebnicka Huta 72.73 23 *e*P **P 20 17 11.2 +1.3**
KOLS Kolonicke sedl 72.74 24 *e*P **P 20 17 10.4 +0.4**
KOLS pmax pmax
comp=Z,30nm,2.2s
KOLS Kolonicke sedl 72.74 24 *e*P **P 20 17 10.4 +0.4**
RUE Ruedersdorf 72.83 18 PFAKE 20 17 20.0 +10
RUE LR LR
comp=Z,200nm,21.8s
OJC Ojcow 72.85 22 *e*P **P 20 17 10.3 -0.3**
OJC pmax pmax
comp=Z,8.0nm,0.9s
OJC MLR MLR
comp=Z,200nm,20.0s
OJC Ojcow 72.85 22 *e*P **P 20 17 10.3 -0.3**
comp=Z,7.9nm,0.9s

OJC LR LR
comp=Z,200nm,20.0s
KWP Kalwaria Pacla 73.47 24 PFAKE 20 17 30.0 +16
KWP LR LR
comp=Z,400nm,19.0s
LVV L'vov 74.14 25 *e*P **P 20 17 16.3 -1.9**
RGN Rugen 74.54 16 PFAKE 20 17 30.0 +10
RGN LR LR
comp=Z,300nm,18.8s
JTS JuntasAbangare 74.82 286 P **P 20 17 22.1 -0.9**
JTS MLR MLR
comp=Z,800nm,21.9s
JTS JuntasAbangare 74.82 286 P **P 20 17 22.1 -0.9**
JTS LR LR
comp=Z,800nm,21.9s
AK02 Malin Array Si 76.93 27 *e*P **P 20 17 33.3 -0.9**
AK01 Malin Array Si 76.96 27 P **P 20 17 33.3 -1.1**
KIEV Kiev 76.96 27 *e*P **P 20 17 33.2 -1.2**
KIEV pmax pmax
comp=Z,9.0nm,0.7s
KIEV MLR MLR
comp=Z,200nm,19.9s
KIEV Kiev 76.96 27 *e*P **P 20 17 33.1 -1.2**
comp=Z,8.5nm,0.7s
KIEV LR LR
comp=Z,200nm,19.9s
AKASG Malin Array Be 76.97 27 P **P 20 17 33.3 -1.1**
comp=Z,3.8nm,0.6s,baz=220,slow=4.8,SNR=16
AKASG LR LR 20 50 34.8
comp=Z,107nm,21.8s,baz=235,slow=35
AKBB Malin Array Si 76.97 27 *e*P **P 20 17 33.0 -1.4**
AKBB Malin Array Si 76.97 27 *e*P **P 20 17 33.0 -1.4**
SUW Suwalki 77.15 22 PFAKE 20 17 50.0 +15
SUW LR LR
comp=Z,200nm,18.5s
EMMW East Machias 77.75 324 PFAKE 20 17 50.0 +11
EMMW LR LR
comp=Z,3μm,21.6s
KONO Kongsberg 78.29 12 PFAKE 20 17 50.0 +8.4
KONO LR LR
comp=Z,300nm,20.1s
HRV Adam Dziewonsk 78.84 321 *e*P **P 20 17 45.5 +0.5**
HRV pmax pmax
comp=Z,20nm,1.1s
HRV MLR MLR
comp=Z,400nm,18.5s
HRV Adam Dziewonsk 78.84 321 *e*P **P 20 17 45.5 +0.5**
comp=Z,20nm,1.1s
HRV LR LR
comp=Z,400nm,18.5s
WVL Waterville 78.91 323 PFAKE 20 18 00.0 +15
WVL LR LR
comp=Z,600nm,18.1s
YLE Yale 79.03 319 PFAKE 20 18 00.0 +14
YLE LR LR
comp=Z,400nm,20.4s
NEY Neytrino 79.05 39 *e*P **P 20 17 45.5 -0.9**
NEY pmax pmax
comp=Z,2.0nm,1.4s
PKME Peaks-Kenny Pk 79.12 324 PFAKE 20 18 00.0 +14
PKME LR LR
comp=Z,400nm,18.4s
QUA2 Belchertown 79.20 320 PFAKE 20 18 00.0 +13
QUA2 LR LR
comp=Z,400nm,19.5s
CNNC Cliffs of the 79.23 312 PFAKE 20 18 00.0 +13
CNNC LR LR
comp=Z,1μm,18.9s
PQI Presque Isle 79.27 326 PFAKE 20 18 00.0 +13
PQI LR LR
comp=Z,701nm,21.5s
KBZ Khabaz 79.43 38 P **P 20 17 48.0 -0.2**
comp=Z,3.6nm,0.8s,baz=56,slow=23,SNR=7.8
KBZ LR LR 20 52 51.0
comp=Z,49nm,20.0s,baz=134,slow=36
KBZ Khabaz 79.43 38 P **P 20 17 48.0 -0.2**
KIV Kislovodsk 79.44 38 *e*P **P 20 17 46.8 -1.6**
KIV pmax pmax
comp=Z,11nm,1.0s
KIV Kislovodsk 79.44 38 *e*P **P 20 17 50.3 +1.8**
comp=Z,16nm,0.9s
KIV LR LR
comp=Z,100nm,18.8s
FFD Franklin Falls 79.45 321 PFAKE 20 18 00.0 +12
FFD LR LR
comp=Z,600nm,20.6s
PAL Palisades 79.48 318 PFAKE 20 18 00.0 +11
PAL LR LR
comp=Z,500nm,18.0s
NCK Nalchik 79.72 39 *e*P **P 20 17 48.4 -1.5**
NB2 NORSAR Subarra 79.89 12 P **P 20 17 50.2 -0.2**
comp=Z,5.1nm,1.2s,baz=205,slow=5.6
NOA NORSAR Array B 79.89 12 P **P 20 17 49.2 -1.2**
comp=Z,1.4nm,0.9s,baz=206,slow=6.0,SNR=3.9
NOA LR LR 20 51 19.5
comp=Z,83nm,21.3s,baz=200,slow=34
NHSC New Hope 79.91 309 PFAKE 20 18 00.0 +8.9
NHSC LR LR
comp=Z,200nm,21.1s
ODNJ Ogdensburg 79.97 318 *e*P **P 20 17 51.6 +0.4**
comp=Z,20nm,1.3s
ODNJ LR LR
comp=Z,500nm,19.5s
LUPA Lehigh Univers 80.20 317 PFAKE 20 18 00.0 +7.5
LUPA LR LR
comp=Z,100nm,20.8s
TRY Troy 80.26 320 PFAKE 20 18 00.0 +7.2
TRY LR LR
comp=Z,700nm,19.5s
CBN Corbin Frederi 80.32 315 PFAKE 20 18 00.0 +6.8
CBN LR LR
comp=Z,300nm,20.0s
MVL Millersville 80.54 317 PFAKE 20 18 10.0 +16
MVL LR LR
comp=Z,500nm,18.7s
ACCN Adirondack Com 80.62 320 PFAKE 20 18 10.0 +15
ACCN LR LR
comp=Z,300nm,21.7s
KSPA Keystone Colle 80.96 318 *e*P **P 20 17 57.1 +0.5**
comp=Z,18nm,1.3s
KSPA LR LR
comp=Z,500nm,19.9s
BORG Borgarnes 81.14 357 PFAKE 20 18 10.0 +13
BORG LR LR
comp=Z,700nm,18.6s
NCB Newcomb 81.28 321 PFAKE 20 18 10.0 +12
NCB LR LR
comp=Z,500nm,18.3s
TEIG Tepich 81.31 294 PFAKE 20 18 10.0 +11
TEIG LR LR
comp=Z,300nm,20.0s
BINY Binghamton 81.43 319 *e*P **P 20 17 58.8 -0.3**
BINY LR LR
comp=Z,400nm,19.8s
KMSC Kings Mountain 81.68 310 *e*P **P 20 18 01.3 +0.7**
comp=Z,19nm,1.1s
KMSC LR LR
comp=Z,300nm,19.1s
KMSC Kings Mountain 81.68 310 P **P 20 18 00.8 +0.2**
baz=82
TIGA Tifton 81.78 306 *e*pP **pP 20 18 09.6 +4.6**
TIGA LR LR
comp=Z,300nm,20.0s
VORD Divnogorie 81.81 31 *e*P **P 20 18 00.1 -0.7**
VORD pmax pmax
comp=N,7.0nm,1.0s
VORD pmax pmax
comp=Z,8.0nm,1.0s
VORD pmax pmax
comp=E,10.0nm,0.9s
LONY Lake Ozonia 81.84 321 PFAKE 20 18 10.0 +8.8
LONY LR LR
comp=Z,400nm,20.0s
SSPA Standing Stone 81.87 316 *e*P **P 20 18 01.4 0.0**
comp=Z,11nm,1.1s
SSPA LR LR
comp=Z,400nm,20.2s
VSU Vasula 81.89 20 *e*P **P 20 17 59.9 -1.1**
VSU pmax pmax
comp=Z,12nm,0.9s
VSR Storozhevoye 81.91 31 *e*P **P 20 17 59.8 -1.5**
VSR pmax pmax
comp=Z,10.0nm,1.2s
VSR pmax pmax
comp=N,10.0nm,1.1s
VSR pmax pmax
comp=E,20nm,1.2s
BLA Blacksburg 81.97 312 *e*P **P 20 18 03.0 +0.9**
BLA pmax pmax
comp=Z,30nm,0.6s
BLA MLR MLR
comp=Z,200nm,18.0s
BLA Blacksburg 81.97 312 *e*P **P 20 18 03.0 +0.9**
comp=Z,30nm,0.6s
BLA *e*pP PcP 20 18 17.5 +10
BLA LR LR
comp=Z,200nm,18.0s
PTN Potsdam (NY) 82.06 321 *e*P **P 20 18 02.6 +0.3**
PTN pmax pmax
comp=Z,24nm,1.0s
PTN MLR MLR
comp=Z,700nm,19.5s
PTN Potsdam (NY) 82.06 321 *e*P **P 20 18 02.5 +0.3**
comp=Z,24nm,1.0s
PTN LR LR
comp=Z,700nm,19.5s
GOGA Godfrey 82.52 308 PFAKE 20 18 20.0 +15
GOGA LR LR
comp=Z,100nm,21.0s
MMNY Mt. Morris Dam 82.93 318 PFAKE 20 18 20.0 +13
MMNY LR LR
comp=Z,800nm,18.3s
OBN Obninsk 83.24 27 *c*e*i*P **P 20 18 05.8 -2.3**
OBN *e* 20 21 20.7
OBN *i* SS SS 20 33 53.3 -0.1
OBN pmax pmax
comp=Z,7.0nm,1.4s
OBN MLR MLR
comp=Z,136nm,18.0s
OBN Obninsk 83.24 27 PFAKE 20 18 20.0 +12
OBN LR LR
comp=Z,200nm,21.2s
TKL Tuckaleechee C 83.70 310 *e*P **P 20 18 10.9 -0.1**
TKL Tuckaleechee C 83.70 310 *e*P **P 20 18 10.9 -0.1**
SCHQ Schefferville 83.83 332 LR LR 20 47 38.1
comp=Z,159nm,20.6s,baz=116,slow=30
ALLY Alegheny Colle 83.85 317 PFAKE 20 18 20.0 +8.3
ALLY LR LR
comp=Z,400nm,19.7s
FINES FINESS Array B 84.00 18 P **P 20 18 11.6 -0.4**
comp=Z,1.3nm,0.5s,baz=197,slow=4.7,SNR=6.5
FINES LR LR 20 56 23.7
comp=Z,158nm,18.9s,baz=267,slow=36
BRAL Brewton 84.32 304 PFAKE 20 18 30.0 +16
BRAL LR LR
comp=Z,300nm,18.6s
LRAL Lakeview Retre 85.06 306 PFAKE 20 18 30.0 +12
LRAL LR LR
comp=Z,300nm,21.8s
ACSO Alum Creek Sta 85.12 314 *e*P **P 20 18 18.3 +0.2**
comp=Z,18nm,0.8s
ACSO LR LR
comp=Z,300nm,18.5s
SBA Scott Base 85.87 180 *e*P **P 20 18 23.0 +1.7**
SBA pmax pmax
comp=Z,26nm,1.5s
SBA Scott Base 85.87 180 *e*P **P 20 18 23.0 +1.7**
comp=Z,26nm,1.5s
VNDA Vanda 86.17 179 P **P 20 18 23.2 +0.4**
comp=Z,1.2nm,0.9s,baz=184,slow=5.4,SNR=4.5
VNDA LR LR 20 53 37.7
comp=Z,76nm,20.2s,baz=175,slow=33
VNDA Vanda 86.17 179 *e*P **P 20 18 23.5 +0.7**
VNDA Vanda 86.17 179 *e*P **P 20 18 23.4 +0.7**
AAM Ann Arbor 86.48 316 PFAKE 20 18 40.0 +15
AAM LR LR
comp=Z,600nm,21.9s
WCI Wyandotte Cave 86.60 311 *e*P **P 20 18 24.6 -1.0**
WCI pmax pmax
comp=Z,10.0nm,0.7s
WCI Wyandotte Cave 86.60 311 *e*P **P 20 18 24.6 -1.0**
comp=Z,9.9nm,0.7s
WCI *e*PKKPbc PKKPdf 20 36 10.5 -6.0
WVT Waverly 86.90 309 *e*P **P 20 18 26.1 -0.9**
WVT pmax pmax
comp=Z,19nm,1.0s
WVT MLR MLR
comp=Z,200nm,21.5s
WVT Waverly 86.90 309 *e*P **P 20 18 26.1 -0.9**
comp=Z,19nm,1.0s
WVT LR LR
comp=Z,200nm,21.5s
BLO Bloomington 87.15 312 PFAKE 20 18 40.0 +12
BLO LR LR
comp=Z,300nm,21.6s
SFJD Kangerlussuaq 87.44 347 PFAKE 20 18 40.0 +11
SFJD LR LR
comp=Z,100nm,22.0s
OXF Oxford 87.48 307 PFAKE 20 18 40.0 +10
OXF LR LR
comp=Z,200nm,19.9s
USIN University of 87.49 311 PFAKE 20 18 40.0 +10
USIN LR LR
comp=Z,300nm,21.8s
VBMS Vicksburg 87.51 304 PFAKE 20 18 40.0 +10
VBMS LR LR
comp=Z,300nm,19.6s
UTMT University of 87.75 309 PFAKE 20 18 40.0 +8.9
UTMT LR LR
comp=Z,300nm,21.0s
CASY Casey 87.92 161 PFAKE 20 18 40.0 +8.5
CASY LR LR
comp=Z,500nm,20.5s
OLIL Olney 88.10 311 *e*P **P 20 18 32.4 -0.4**
comp=Z,35nm,1.3s
OLIL LR LR
comp=Z,200nm,22.0s
KLMR Klimovskoe 88.16 23 *e*P **P 20 18 32.7 +0.2**
KLMR pmax pmax
comp=Z,19nm,2.0s
GLMI Grayling 88.20 318 PFAKE 20 18 40.0 +6.9
GLMI LR LR
comp=Z,400nm,18.1s
PVMO Portageville 88.41 309 PFAKE 20 18 50.0 +16
PVMO LR LR
comp=Z,100nm,20.6s
SLM Saint Louis 89.62 311 PFAKE 20 18 50.0 +10
SLM LR LR
comp=Z,400nm,18.5s
UALR University of 89.83 306 PFAKE 20 18 50.0 +9.0
UALR LR LR
comp=Z,200nm,18.2s
ARCES ARCESS Array B 90.24 13 LR LR 21 01 10.4
comp=Z,119nm,19.4s,baz=205,slow=37
NATX Nacogdoches 90.66 303 PFAKE 20 19 00.0 +15
NATX LR LR
comp=Z,200nm,21.0s
MIAR Mount Ida 90.71 306 *e*P **P 20 18 45.2 +0.1**
MIAR pmax pmax
comp=Z,31nm,1.9s
MIAR MLR MLR
comp=Z,200nm,18.1s
MIAR Mount Ida 90.71 306 *e*P **P 20 18 45.1 +0.1**
comp=Z,31nm,1.9s
MIAR LR LR
comp=Z,200nm,18.1s
KEV Kevo 90.74 13 PFAKE 20 18 50.0 +5.6
KEV LR LR
comp=Z,200nm,21.2s
PRGR Permogore 91.00 24 *e*P P 20 18 52.9 +7.1
PRGR pmax pmax
comp=Z,8.0nm,1.0s
HKT Hockley 91.04 301 *e*P **P 20 18 47.0 +0.3**
HKT pmax pmax
comp=Z,7.0nm,1.1s
HKT MLR MLR
comp=Z,200nm,18.0s
HKT Hockley 91.04 301 *e*P **P 20 18 47.0 +0.3**
comp=Z,7.0nm,1.1s
HKT LR LR
comp=Z,200nm,18.0s
JFWS Jewell Farm 91.19 315 PFAKE 20 19 00.0 +13
JFWS LR LR
comp=Z,300nm,18.7s
W38A Poteau 91.62 306 P **P 20 18 49.5 +0.2**
baz=92
COWI Conover 91.62 318 PFAKE 20 19 00.0 +11
COWI LR LR
comp=Z,500nm,20.5s
Z37A Pogue Cattle C 91.89 304 P **P 20 18 50.8 +0.2**
baz=92
KVTX Kingsville 92.03 298 PFAKE 20 19 00.0 +8.6
KVTX LR LR
comp=Z,200nm,19.1s
X37A Clayton 92.13 305 P **P 20 18 51.7 0.0**
baz=92
W37A Quinton 92.34 306 P **P 20 18 52.9 +0.2**
baz=92
ABKAR Akbulak array 92.38 39 *e*P **P 20 18 51.8 -0.7**
comp=Z,1.8nm,1.0s
335A Moody 92.76 302 P **P 20 18 54.6 -0.1**
baz=93
TUL1 Leonard 92.87 306 PFAKE 20 19 10.0 +15
TUL1 LR LR
comp=Z,200nm,18.5s
SCIA State Center 92.89 313 PFAKE 20 19 10.0 +15
SCIA LR LR
comp=Z,200nm,20.9s
R37A Teagarden Farm 92.89 309 P **P 20 18 54.4 -0.7**
baz=93
W36A Wetumka 92.97 306 P **P 20 18 55.1 -0.5**
baz=93
WHTX Lake Whitney, 92.99 302 PFAKE 20 19 10.0 +14
WHTX LR LR
comp=Z,200nm,20.3s
534A Blanco 93.25 300 P P 20 18 52.0 -5.1
baz=93
S36A Lake Cedric, C 93.28 308 P **P 20 18 56.4 -0.6**
baz=93
T36A Boggs Farm, Ca 93.29 308 P **P 20 18 56.5 -0.5**
baz=93
434A Burnet 93.31 301 P **P 20 18 57.1 -0.2**
baz=93
R36A Gordon, Harris 93.40 309 P **P 20 18 56.4 -1.1**
baz=94
334A Lometa 93.43 302 P **P 20 18 57.1 -0.7**
baz=94
W35A Tecumseh 93.48 305 P **P 20 18 57.1 -0.8**
baz=94
SPMN Marine on St. 93.72 316 PFAKE 20 19 10.0 +11
SPMN LR LR
comp=Z,300nm,19.5s
T35A Sooner Cattle 93.73 307 P **P 20 18 58.2 -0.9**
baz=94
EYMN Ely 93.80 319 PFAKE 20 19 10.0 +11
EYMN LR LR
comp=Z,300nm,20.4s
KBL Kabul 93.81 55 PFAKE 20 19 10.0 +10
KBL LR LR
comp=Z,100nm,19.5s
Y34A Reagan Ranch, 93.82 304 P **P 20 18 58.8 -0.7**
baz=94
433A Art 93.97 301 P P 20 18 56.0 -4.3
baz=94
333A Richland Sprin 94.04 301 P **P 20 19 00.1 -0.6**
baz=94
732A Laxson Ranch, 94.13 299 P **P 20 19 01.3 +0.2**
baz=94
632A Uvalde 94.19 299 P **P 20 19 01.6 +0.2**
baz=94
W34A Bridge Creek, 94.20 305 PFAKE 20 19 10.0 +8.7
W34A LR LR
comp=Z,300nm,18.2s
U34A Anderson Ranch 94.37 307 PFAKE 20 19 10.0 +8.0
U34A LR LR
comp=Z,300nm,18.0s
ARU Arti 94.39 32 *d*i*P* **P 20 19 00.4 -1.2**
ARU 20 22 48.0
ARU S **SKSac 20 29 35.4 -1.1**
ARU pmax pmax
comp=Z,5.0nm,1.2s
ARU Arti 94.39 32 PFAKE 20 19 10.0 +8.4
ARU LR LR
comp=Z,100nm,19.3s
KSU1 Kansas State U 94.46 309 PFAKE 20 19 10.0 +7.6
KSU1 LR LR
comp=Z,200nm,18.6s
532A Rocksprings 94.46 300 P **P 20 19 01.8 -0.9**
baz=94
JCT Junction City 94.48 300 *e*P **P 20 19 03.2 +0.5**
JCT pmax pmax
comp=Z,18nm,1.3s
JCT MLR MLR
comp=Z,100nm,21.1s
JCT Junction City 94.48 300 *e*P **P 20 19 03.2 +0.5**
comp=Z,18nm,1.3s
JCT LR LR
comp=Z,100nm,21.1s
JCT Junction City 94.48 300 P **P 20 19 02.8 +0.1**
baz=94
232A Coleman 94.75 302 P **P 20 19 04.1 +0.3**
baz=95
ABTX Abilene, Hawle 94.95 302 PFAKE 20 19 20.0 +15
ABTX LR LR
comp=Z,300nm,19.7s
Z32A Haskell 95.01 303 P **P 20 19 05.3 +0.2**
baz=95
431A Sonora 95.20 300 P **P 20 19 06.0 0.0**
baz=95
231A Bronte 95.31 302 P **P 20 19 06.1 -0.3**
baz=95
W32A Sentinel 95.33 305 P P 20 18 59.7 -6.7
baz=95
530A J-C Ranch, Com 95.66 300 P **P 20 19 08.0 -0.1**
baz=96
ECSD EROS Data Cent 95.84 314 PFAKE 20 19 20.0 +11
ECSD LR LR
comp=Z,100nm,20.0s
ECSD EROS Data Cent 95.84 314 P **P 20 19 07.8 -0.8**
baz=96
429A Davenport Ranc 96.25 300 P **P 20 19 10.2 -0.6**
baz=96
BGNE Belgrade 96.26 311 PFAKE 20 19 20.0 +9.4
BGNE LR LR
comp=Z,400nm,21.3s
KBS Kingsbay 96.31 5 PFAKE 20 19 20.0 +10
KBS LR LR
comp=Z,100nm,19.0s
AGMN Agassiz Nation 96.68 318 PFAKE 20 19 20.0 +7.8
AGMN LR LR
comp=Z,300nm,21.0s
PALK Pallekele 96.74 84 PFAKE 20 19 20.0 +6.6
PALK LR LR
comp=Z,200nm,19.4s
AMTX Amarillo 97.19 304 PFAKE 20 19 30.0 +15
AMTX LR LR
comp=Z,200nm,20.0s
ULM Lac du Bonnet 97.26 320 LR LR 20 55 28.5
comp=Z,231nm,21.1s,baz=64,slow=31
TXAR Lajitas Array 97.41 298 P **P 20 19 15.6 -0.5**
comp=Z,2.0nm,1.0s,baz=116,slow=5.8,SNR=10.0
TXAR LR LR 21 08 33.7
comp=Z,20nm,18.0s,baz=0.0,slow=39
BRSD Miller 97.66 314 PFAKE 20 19 30.0 +13
BRSD LR LR
comp=Z,300nm,19.2s
MSTX Muleshoe 97.83 303 PFAKE 20 19 30.0 +12
MSTX LR LR
comp=Z,300nm,18.5s
U27A Thompson Grove 98.48 305 P **P 20 19 20.7 -0.1**
baz=98
KSCO Kaye Shedlock' 98.95 308 PFAKE 20 19 30.0 +7.1
KSCO LR LR
comp=Z,300nm,19.0s
MDND Maddock 98.97 317 PFAKE 20 19 30.0 +7.4
MDND LR LR
comp=Z,300nm,18.0s
MNTX Cornudas Mount 99.42 300 PFAKE 20 19 40.0 +15
MNTX LR LR
comp=Z,200nm,20.0s
EKS2 Erkin-Say 99.54 48 PFAKE 20 19 40.0 +15
EKS2 LR LR
comp=Z,200nm,22.0s
BRVK Borovoye 99.75 38 PFAKE 20 19 40.0 +14
BRVK LR LR
comp=Z,101nm,20.1s
T25A Trinidad 99.88 306 PFAKE 20 19 40.0 +13
T25A LR LR
comp=Z,100nm,20.0s
AAK Ala-Archa 100.05 49 PFAKE 20 19 40.0 +12
AAK LR LR
comp=Z,200nm,19.0s
KSH Kashi 100.44 52 *e*P **Pdif 20 19 30.3 +0.8**
KSH pP pP 20 19 35.0 +1.6
KSH PP **PP 20 23 39.3 +2.9**
KSH S **Sdif 20 31 02.0 -4.1**
KSH sS **sS 20 31 10.6 -2.0**
KSH SS **SS 20 38 01.4 -0.7**

KSH LN
comp=Z,120nm,8.3s
KSH LE
comp=Z,67nm,8.6s
KSH LZ
comp=Z,190nm,21.4s
SDCO Great Sand Dun 100.86 306 PFAKE 20 19 40.0 +8.4
SDCO LR LR
comp=Z,200nm,19.1s
TKM2 Tokmak 2 100.90 48 PFAKE 20 19 40.0 +8.4
TKM2 LR LR
comp=Z,200nm,20.5s
ANMO Albuquerque 101.02 303 PFAKE 20 19 40.0 +7.7
ANMO LR LR
comp=Z,200nm,20.0s
RSSD Black Hills 101.13 313 PFAKE 20 19 40.0 +7.4
RSSD LR LR
comp=Z,200nm,19.0s
ISCO Idaho Springs 101.38 308 PFAKE 20 19 40.0 +6.1
ISCO LR LR
comp=Z,200nm,19.6s
PHWY Pilot Hill 101.57 310 PFAKE 20 19 50.0 +15
PHWY LR LR
comp=Z,300nm,18.9s
N23A Red Feather La 101.85 309 PFAKE 20 19 50.0 +14
N23A LR LR
comp=Z,200nm,21.0s
S22A 4UR Ranch, Cre 101.89 306 PFAKE 20 19 50.0 +14
S22A LR LR
comp=Z,200nm,18.0s
FFC Flin Flon 101.97 324 PFAKE 20 19 50.0 +14
FFC LR LR
comp=Z,400nm,20.2s
DGMT Dagmar 102.11 317 PFAKE 20 19 50.0 +13
DGMT LR LR
comp=Z,400nm,20.2s
SMCO Snowmass 102.29 307 PFAKE 20 19 50.0 +12
SMCO LR LR
comp=Z,200nm,21.8s
K22A Casper 102.61 311 PFAKE 20 19 50.0 +11
K22A LR LR
comp=Z,300nm,21.4s
RWWY Rawlins 102.94 310 PFAKE 20 19 50.0 +9.3
RWWY LR LR
comp=Z,700nm,20.9s
MVCO Mesa Verde 103.09 305 PFAKE 20 19 50.0 +8.5
MVCO LR LR
comp=Z,200nm,21.2s
LAO LASA Array 103.13 315 PFAKE 20 19 50.0 +8.8
LAO LR LR
comp=Z,400nm,19.8s
RES Resolute Bay 103.31 344 PFAKE 20 19 50.0 +8.8
RES LR LR
comp=Z,169nm,19.0s
O20A White River Ci 103.43 308 PFAKE 20 19 50.0 +7.1
O20A LR LR
comp=Z,200nm,20.7s
W18A Petrified Fore 103.69 303 PFAKE 20 20 00.0 +16
W18A LR LR
comp=Z,100nm,20.3s
TUC Tucson 104.03 300 PFAKE 20 20 00.0 +14
TUC LR LR
comp=Z,200nm,21.1s
KURK Kurchatov 104.35 41 PFAKE 20 20 00.0 +14
KURK LR LR
comp=Z,100nm,18.0s
BW06 Boulder Array 104.84 311 PFAKE 20 20 00.0 +11
BW06 LR LR
comp=Z,301nm,19.4s
RLMT Red Lodge 104.98 313 PFAKE 20 20 00.0 +10
RLMT LR LR
comp=Z,200nm,18.5s
SRU San Rafael Swe 104.99 307 PFAKE 20 20 00.0 +10
SRU LR LR
comp=Z,102nm,19.3s
WUAZ Wupatki 105.08 303 PFAKE 20 24 20.0
WUAZ LR LR
comp=Z,200nm,20.1s
TMUT Trail Mountain 105.55 307 PFAKE 20 24 20.0
TMUT LR LR
comp=Z,3μm,19.7s
LKWY Lake 105.70 312 PFAKE 20 24 20.0
LKWY LR LR
comp=Z,400nm,19.5s
EGMT Eagleton 105.70 316 PFAKE 20 24 20.0
EGMT LR LR
comp=Z,300nm,20.5s
LOHW Long Hollow 105.72 311 PFAKE 20 24 20.0
LOHW LR LR
comp=Z,100nm,19.3s
SNOW Snow King Moun 105.80 311 PFAKE 20 24 20.0
SNOW LR LR
comp=Z,300nm,21.6s
MOOW Moose Ponds 105.84 312 PFAKE 20 24 20.0
MOOW LR LR
comp=Z,299nm,19.6s
FLWY Flagg Ranch 105.85 312 PFAKE 20 24 20.0
FLWY LR LR
comp=Z,200nm,19.9s
REDW Red Top Meadow 105.86 311 PFAKE 20 24 20.0
REDW LR LR
comp=Z,200nm,19.1s
TPAW Teton Pass 105.95 311 PFAKE 20 24 20.0
TPAW LR LR
comp=Z,200nm,19.0s
AHID Auburn Hatcher 105.96 310 PFAKE 20 24 20.0
AHID LR LR
comp=Z,400nm,20.9s
TCUT Toone Canyon 105.96 309 PFAKE 20 24 20.0
TCUT LR LR
comp=Z,199nm,20.6s
MPU Maple Canyon 105.98 308 PFAKE 20 24 20.0
MPU LR LR
comp=Z,800nm,18.3s
YFT Old Faithful 105.99 312 PFAKE 20 24 20.0
YFT LR LR
comp=Z,800nm,21.4s
IMW Indian Meadow 106.00 312 PFAKE 20 24 20.0
IMW LR LR
comp=Z,200nm,20.5s
FXWY Fox Creek 106.02 311 PFAKE 20 24 20.0
FXWY LR LR
comp=Z,300nm,20.7s
HWUT Hardware Ranch 106.15 309 PFAKE 20 24 20.0
HWUT LR LR
comp=Z,299nm,20.2s
CTU Camp Tracy 106.16 308 PFAKE 20 24 20.0
CTU LR LR
comp=Z,13μm,20.0s
MVU Marysvale 106.20 306 PFAKE 20 24 20.0
MVU LR LR
comp=Z,200nm,21.6s
NLU North Lily Min 106.30 307 PFAKE 20 24 20.0
NLU LR LR
comp=Z,247nm,20.1s
KNB Kanab 106.47 304 PFAKE 20 24 20.0
KNB LR LR
comp=Z,200nm,18.5s
BOZ Bozeman (W) 106.70 313 PFAKE 20 24 20.0
BOZ LR LR
comp=Z,152nm,18.2s
DUG Dugway, Tooele 106.90 308 PFAKE 20 24 20.0
DUG LR LR
comp=Z,198nm,20.6s
DLMT Dillon 107.34 313 PFAKE 20 24 20.0
DLMT LR LR
comp=Z,200nm,21.9s
MSO Missoula 108.41 314 PFAKE 20 24 20.0
MSO LR LR
comp=Z,400nm,21.6s
HLID Hailey 108.46 311 PFAKE 20 24 20.0
HLID LR LR
comp=Z,200nm,18.3s
ELK Elko 108.80 308 PFAKE 20 24 20.0
ELK LR LR
comp=Z,100nm,18.6s
R11A Troy Canyon, C 108.81 305 PFAKE 20 24 20.0
R11A LR LR
comp=Z,200nm,20.1s
PFO Pinyon Flats O 108.94 300 PFAKE 20 24 20.0
PFO LR LR
comp=Z,100nm,18.1s
BAR Barrett 109.00 299 PFAKE 20 24 20.0
BAR LR LR
comp=Z,48nm,18.6s

TPNV Topopah Spring 109.18 304 PFAKE 20 24 20.0
TPNV LR LR
comp=Z,200nm,19.4s
GSC Goldstone, Bar 109.44 302 PFAKE 20 24 20.0
GSC LR LR
comp=Z,100nm,20.9s
MFID Camas Ranch 109.47 311 PFAKE 20 24 20.0
MFID LR LR
comp=Z,200nm,19.4s
TPH Tonopah 110.07 305 PFAKE 20 24 30.0
TPH LR LR
comp=Z,199nm,20.9s
DAC Darwin (Calif) 110.18 303 PFAKE 20 24 30.0
DAC LR LR
comp=Z,200nm,20.4s
BMN Battle Mountai 110.27 308 PFAKE 20 24 30.0
BMN LR LR
comp=Z,200nm,21.0s
PASC Pasadena Art C 110.44 301 PFAKE 20 24 30.0
PASC LR LR
comp=Z,200nm,18.0s
BMO Blue Mountains 110.63 312 PFAKE 20 24 30.0
BMO LR LR
comp=Z,200nm,21.0s
NEW Newport 110.64 316 PFAKE 20 24 30.0
NEW LR LR
comp=Z,300nm,19.5s
OSI Osito Audit: C 110.93 301 PFAKE 20 24 30.0
OSI LR LR
comp=Z,100nm,19.4s
GSI Gunungsitoli 111.28 95 PFAKE 20 24 30.0
GSI LR LR
comp=Z,900nm,18.5s
C09A Chrisman Ranch 111.40 315 PFAKE 20 24 30.0
C09A LR LR
comp=Z,300nm,19.2s
WVOR Wild Horse Val 111.47 310 PFAKE 20 24 30.0
WVOR LR LR
comp=Z,300nm,18.0s
LHMI Lhok Sumawe 111.77 91 PFAKE 20 24 30.0
LHMI LR LR
comp=Z,400nm,18.3s
B08A Colville Reser 112.12 316 PFAKE 20 24 30.0
B08A LR LR
comp=Z,300nm,18.9s
HAWA Hanford 112.24 314 PFAKE 20 24 30.0
HAWA LR LR
comp=Z,200nm,18.4s
CMB Columbia Colle 112.55 305 PFAKE 20 24 30.0
CMB LR LR
comp=Z,98nm,20.6s
LTY Liberty 113.02 315 PFAKE 20 24 30.0
LTY LR LR
comp=Z,300nm,20.9s
SAO San Andreas Ge 113.32 303 PFAKE 20 24 30.0
SAO LR LR
comp=Z,200nm,20.1s
B06A Marblemount 113.55 316 PFAKE 20 24 30.0
B06A LR LR
comp=Z,300nm,20.4s
BKNI Bangkinang 114.29 97 PFAKE 20 24 30.0 +7.3
BKNI LR LR
comp=Z,400nm,19.3s
NSHM Saint Helena R 114.32 305 *e*PKKPbc PKKPbc 20 34 57.2 -5.2
WDC Whiskeytown Da 114.33 307 PFAKE 20 24 30.0 +8.0
WDC LR LR
comp=Z,200nm,19.8s
YBH Yreka Blue Hor 114.48 309 PFAKE 20 24 30.0 +7.6
YBH LR LR
comp=Z,100nm,18.5s
HUMO Hull Mountain 114.67 310 PFAKE 20 24 30.0 +7.4
HUMO LR LR
comp=Z,200nm,18.4s
HOPS Hopland Field 114.70 306 PFAKE 20 24 30.0 +7.3
HOPS LR LR
comp=Z,200nm,19.0s
F03A Seaside 115.04 313 PFAKE 20 24 30.0 +6.8
F03A LR LR
comp=Z,500nm,19.8s
KCPM Cahto Peak 115.11 306 PFAKE 20 24 40.0 +16
KCPM LR LR
comp=Z,200nm,18.5s
NLWA Neilton Lookou 115.19 315 PFAKE 20 24 30.0 +6.5
NLWA LR LR
comp=Z,300nm,20.0s
KMRM Mail Ridge 115.22 307 PFAKE 20 24 40.0 +16
KMRM LR LR
comp=Z,100nm,20.9s
KHMM Horse Mountain 115.24 308 PFAKE 20 24 40.0 +16
KHMM LR LR
comp=Z,500nm,20.5s
KULM Kulim 115.34 92 PFAKE 20 24 40.0 +15
KULM LR LR
comp=Z,100nm,18.1s
IPM Ipoh 115.48 93 PFAKE 20 24 40.0 +15
IPM LR LR
comp=Z,400nm,22.0s
KBO Bosley Butte 115.61 309 PFAKE 20 24 40.0 +15
KBO LR LR
comp=Z,400nm,21.5s
KEBM Edson Butte 115.68 310 PFAKE 20 24 40.0 +15
KEBM LR LR
comp=Z,300nm,20.3s
CHTO Chiang Mai 116.62 77 PFAKE 20 24 40.0 +13
CHTO LR LR
comp=Z,200nm,19.1s
PMBI Palembang 116.77 102 PFAKE 20 24 40.0 +13
PMBI LR LR
comp=Z,300nm,19.6s
MYKOM Kota Tinggi 117.41 97 PFAKE 20 24 40.0 +11
MYKOM LR LR
comp=Z,400nm,19.5s
TAU Tasmania Unive 118.53 165 PFAKE 20 24 40.0 +10
TAU LR LR
comp=Z,1μm,18.1s
WRAK Wrangell Islan 119.04 326 PFAKE 20 24 40.0 +10
WRAK LR LR
comp=Z,301nm,18.9s
TLY Talaya 119.99 39 *i* PKIKP **PKPdf 20 24 33.0 +0.4**
TLY pmax pmax
comp=Z,4.0nm,0.9s
TLY Talaya 119.99 39 PFAKE 20 24 40.0 +7.4
TLY LR LR
comp=Z,101nm,21.1s
EGAK Eagle 120.10 337 PFAKE 20 24 40.0 +7.7
EGAK LR LR
comp=Z,102nm,20.1s
FORT Forrest 120.66 142 PFAKE 20 24 50.0 +15
FORT LR LR
comp=Z,1μm,20.3s
TIXI Tiksi 120.68 13 PFAKE 20 24 40.0 +6.8
TIXI LR LR
comp=Z,100nm,20.2s
KMI Kunming 120.90 70 PKP **PKPdf 20 24 36.3 +0.9**
KMI sPKP 20 24 40.0
KMI LN
comp=Z,97nm,18.5s
KMI LE
comp=Z,130nm,16.1s
KMI LZ
comp=Z,110nm,15.0s
MBWA Marble Bar 121.38 128 PFAKE 20 24 50.0 +14
MBWA LR LR
comp=Z,300nm,18.0s
DOT Dot Lake 121.76 336 PFAKE 20 24 50.0 +14
DOT LR LR
comp=Z,1μm,21.8s
COLD Coldfoot 121.87 341 PFAKE 20 24 50.0 +14
COLD LR LR
comp=Z,200nm,19.8s
LZH Lanzhou 122.08 58 *e*PKP **PKPdf 20 24 34.1 -3.2**
LZH *e*PP PP 20 26 18.4 +6.4
LZH PPMZ
comp=Z,86nm,6.6s
LZH LN
comp=Z,300nm,18.2s
LZH LE
comp=Z,300nm,17.7s
LZH LZ
comp=Z,370nm,19.8s
CD2 Chengdu 122.08 64 *e*PKP **PKPdf 20 24 36.3 -1.0**
CD2 PP **PP 20 26 16.3 +4.2**
CD2 PKS PKSdf 20 28 06.8 -7.2
CD2 SKS **SKSdf 20 31 48.3 -1.2**
CD2 SKKS SKKSac 20 33 02.0 -9.5

CD2 PPMZ
comp=Z,90nm,10.6s
CD2 LN
comp=Z,170nm,17.8s
CD2 LZ
comp=Z,140nm,14.3s
ILAR Eielson Array 122.22 338 PKP **PKPdf 20 24 35.1 -1.4**
comp=Z,0.4nm,0.8s,baz=21,slow=1.3,SNR=3.7
BFZ Birch Farm 122.32 189 PFAKE 20 24 50.0 +13
BFZ LR LR
comp=Z,1μm,18.4s
COLA College 122.50 338 PFAKE 20 24 50.0 +13
COLA LR LR
comp=Z,200nm,20.4s
SONM Songino Array 122.52 43 PKP **PKPdf 20 24 37.0 -0.7**
comp=Z,0.5nm,0.9s,baz=270,slow=1.4,SNR=3.2
PAX Paxson 122.65 336 PFAKE 20 24 50.0 +13
PAX LR LR
comp=Z,198nm,19.1s
ULN Ulaanbaatar 122.95 43 PFAKE 20 24 50.0 +11
ULN LR LR
comp=Z,100nm,20.4s
BMRM Bremner River 123.30 334 PFAKE 20 24 50.0 +11
BMRM LR LR
comp=Z,400nm,19.7s
KSM Kuching 123.45 99 PFAKE 20 24 50.0 +10
KSM LR LR
comp=Z,300nm,19.0s
RAGM Ragged Mountai 123.61 333 PFAKE 20 24 50.0 +11
RAGM LR LR
comp=Z,600nm,20.0s
DIV Divide 123.71 334 PFAKE 20 24 50.0 +11
DIV LR LR
comp=Z,200nm,20.9s
BKZ Black Stump Fm 123.75 190 PFAKE 20 24 50.0 +10
BKZ LR LR
comp=Z,600nm,19.0s
EYAK Cordova Ski Ar 124.00 333 PFAKE 20 24 50.0 +10
EYAK LR LR
comp=Z,900nm,21.2s
TRF Thorofare Moun 124.20 338 PFAKE 20 24 50.0 +10
TRF LR LR
comp=Z,200nm,18.6s
SML Sawmill 124.40 336 PFAKE 20 24 50.0 +9.3
SML LR LR
comp=Z,100nm,18.5s
PPT2 Papeete2 124.49 234 *e*LR LR 21 03 29.2
comp=Z,188nm,23.8s
GYA Guiyang 124.51 69 *e*Pdif **Pdif 20 21 17.0 +0.2**
GYA PKP **PKPdf 20 24 41.0 -1.1**
GYA PP **PP 20 26 32.8 +4.1**
GYA PKS **PKSdf 20 28 17.4 -1.6**
GYA SKKS 20 33 23.5
GYA SS **SS 20 43 21.4 -1.1**
GYA PPMZ
comp=Z,130nm,7.8s
GYA LN
comp=Z,160nm,22.4s
GYA LE
comp=Z,140nm,23.0s
GYA LZ
comp=Z,150nm,21.6s
CAST Castle Rocks 124.86 338 PFAKE 20 24 50.0 +8.4
CAST LR LR
comp=Z,100nm,19.8s
PPLA Purkeypile 125.22 338 PFAKE 20 24 50.0 +7.6
PPLA LR LR
comp=Z,201nm,20.3s
RC01 Rabbit Creek A 125.36 335 PFAKE 20 24 50.0 +7.5
RC01 LR LR
comp=Z,300nm,20.1s
SBUM Sibu 125.57 99 PFAKE 20 25 00.0 +16
SBUM LR LR
comp=Z,300nm,20.5s
SEW Seward 125.80 334 PFAKE 20 24 50.0 +6.6
SEW LR LR
comp=Z,500nm,18.5s
HHC Hu-ho-hao-te 127.54 51 *e*PKP **PKPdf 20 24 48.3 +0.8**
HHC PP **PP 20 26 52.4 +4.1**
HHC SKS **SKSdf 20 31 58.6 -0.8**
HHC SS **SS 20 44 01.0 +1.6**
HHC PPMZ
comp=Z,27nm,8.6s
HHC LN
comp=Z,120nm,19.7s
HHC LE
comp=Z,110nm,18.5s
HHC LZ
comp=Z,61nm,19.7s
TNA Tin City 127.88 346 PFAKE 20 25 00.0 +13
TNA LR LR
comp=Z,200nm,21.7s
YAK Yakutsk 127.88 21 PFAKE 20 25 00.0 +13
YAK LR LR
comp=Z,100nm,19.1s
OUZ Omahuta 128.06 188 PFAKE 20 25 00.0 +11
OUZ LR LR
comp=Z,1μm,19.9s
KDAK Kodiak Island 128.46 333 PFAKE 20 25 00.0 +11
KDAK LR LR
comp=Z,400nm,18.4s
KAPI Kappang 129.75 111 PFAKE 20 25 00.0 +7.7
KAPI LR LR
comp=Z,200nm,22.0s
MMRI Maumere 130.24 117 PFAKE 20 25 00.0 +6.7
MMRI LR LR
comp=Z,100nm,19.0s
KKM Kota Kinabalu 130.44 96 PFAKE 20 25 10.0 +16
KKM LR LR
comp=Z,300nm,19.6s
WHN Wuhan 131.21 64 PKPbc PKPdf 20 25 02.8 +8.2
SOEI Soe 131.38 120 PFAKE 20 25 10.0 +14
SOEI LR LR
comp=Z,400nm,19.8s
ARMA Armidale 131.44 164 PFAKE 20 25 10.0 +15
ARMA LR LR
comp=Z,200nm,20.4s
WRA Warramunga Arr 132.44 138 PKP **PKPdf 20 24 57.7 +0.4**
comp=Z,0.6nm,1.1s,baz=205,slow=4.0,SNR=2.9
WRAB Tennant Creek 132.45 138 PFAKE 20 25 10.0 +13
WRAB LR LR
comp=Z,500nm,19.4s
TOLI Toli-Toli 133.18 104 PFAKE 20 25 10.0 +11
TOLI LR LR
comp=Z,200nm,21.9s
MJAR Matsushiro Arr 148.44 45 PKPbc **PKPbc 20 25 28.4 -0.7**
comp=Z,1.1nm,0.9s,baz=325,slow=2.0,SNR=6.5

ROM 17 20:14:35.7±0.2, 42.73N×13.25E, h10km±1km, Md1.3/3, Ml1.1/2, Error ellipse: s-maj=0.8km s-min=0.5km az=55.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.12**	**146**	Pg	Pg	20 14 39.2	+0.5
SMA1				Sg	Sg	20 14 41.5	+0.6
NRCA	**Norcia**	**0.14**	**317**	Pg	Pg	20 14 39.6	+0.5
NRCA				Sg	Sg	20 14 42.2	+0.8
	84nm,0.1s						
LNSS	**Leonessa**	**0.20**	**230**	Pg	Pg	20 14 40.5	+0.5
LNSS				Sg	Sg	20 14 44.2	+1.2
	16nm,0.3s						

*IDC **17** 21:16:38.4±0.5, 36.63S×73.07W, h0km, mb4.4/15, mb1 4.5/17, mb1mx4.4/29, mbtmp4.4/17, ML3.8/3, MS3.8/9, Ms1 3.8/9, ms1mx3.6/17, Error ellipse: s-maj=21.5km s-min=12.3km az=94.0*
*GUC **17** 21:16:39.4±0.4, 36.69S×73.27W, h35km±1km, ML5.1*
*ISCJB **17** 21:16:41.0±0.2, 36.63S±0.02×73.05W±0.04, h25km, mb4.9/52, MS4.0/7, Error ellipse: s-maj=5.0km s-min=3.4km az=171.8*
*BJI **17** 21:16:43.0, 36.70S×73.30W, h35km, mB5.0/3, Ms5.0/3, Ms7 4.7/3*
*NEIC **17** 21:16:43.9±0.2, 36.63S×72.90W, h35km, mb4.9/44, ML5.1(GUC), Error ellipse: s-maj=8.6km s-min=5.3km az=77.0*
NEIC Felt [IV] at Cobquecura, Concepcion and Tome; [III] at Curanilahue, La Laja, Los Angeles, Renaico and San Rosendo; [II] at Angol and Temuco. Also felt at Chiguayante, Coronel, Curico and Talcahuano.

ISC 17 21:16:42.1±0.3,36°62S±0°04×73°15W±0°06,h25km,n227,
σ1°23/246,mb4.9/52,MS4.0/7,4C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.23**	**172**	⇑	*i*	P	**Pb**	**21 16 47.9**	**-0.2**
CCSP					*i*	S	**Sb**	**21 16 51.5**	**-0.7**
CCSP					AML		AML	21 16 52.6	
	comp=E,351μm,0.4s								
LNCH	**Linares**	**1.47**	**59**	⇑	*i*	P	**Pn**	**21 17 07.3**	**+0.3**
LNCH					*i*	S	**Sb**	**21 17 28.2**	**+1.2**
TALC	**Talca**	**1.73**	**46**		*e*	P	**Pn**	**21 17 11.0**	**+0.4**
TALC					*i*	S	**Sb**	**21 17 34.8**	**+0.3**
NICH	**Los Niches**	**2.24**	**45**	⇑	*i*	P	**Pb**	**21 17 20.3**	**-1.7**
NICH					*e*	S	**Sb**	**21 17 49.8**	**+0.5**
LNV	**Longovilo**	**3.01**	**29**		*e*	P	**Pn**	**21 17 28.8**	**+0.6**
VLCH	**Valdivia**	**3.18**	**181**		*e*	P	**Pn**	**21 17 28.8**	**-1.8**
VLCH					*i*	S	**Sn**	**21 18 06.3**	**-1.4**
CHCH	**Chadas Angostu**	**3.37**	**38**		*e*	P	**Pn**	**21 17 34.3**	**+1.1**
CLCH	**Cerro Calan**	**3.86**	**34**		*e*	P	**Pn**	**21 17 40.9**	**+0.9**
PLCA	**Paso Flores**	**4.58**	**154**	Pn			**Pn**	**21 17 50.5**	**+0.6**
	comp=E,1.6nm,0.3s,baz=327,slow=12,SNR=35								
PLCA				Lg			Lg	21 19 00.6	
	comp=E,19nm,0.3s,baz=256,slow=23,SNR=5.0								
PLCA				LR			LR	21 19 55.3	
	comp=E,928nm,19.6s,baz=324,slow=43								
PLCA	**Paso Flores**	**4.58**	**154**	*e*Pn			**Pn**	**21 17 51.1**	**+1.2**
PLCA				*e*Sn			**Sn**	**21 18 42.7**	**+0.3**
CFAA	**Coronel Fontan**	**6.45**	**41**	Pn			**Pn**	**21 18 15.6**	**+0.1**
	comp=E,0.5nm,0.3s,baz=216,slow=11,SNR=19								
CFAA				Sn			**Sn**	**21 19 28.1**	**-0.2**
	comp=E,0.2nm,0.3s,baz=248,slow=19,SNR=2.6								
CFAA				LR			LR	21 21 01.6	
	comp=E,133nm,20.0s,baz=228,slow=41								
LCO	**Las Campanas**	**7.86**	**16**	*e*Pn			**Pn**	**21 18 34.3**	**-0.9**
LCO				*e*Sn			**Sn**	**21 20 03.7**	**+0.2**
TRQA	**Tornquist**	**9.01**	**103**	*e*Pn			**Pn**	**21 18 52.6**	**+1.9**
TRQA				*e*Sn			**Sn**	**21 20 32.8**	**+1.5**
CPUP	**Villa Florida**	**16.93**	**57**	*e*Pn			**Pn**	**21 20 36.6**	**-0.6**
EFI	**East Falkland**	**18.48**	**149**	*e*P			**Pn**	**21 20 56.4**	**+0.1**
	comp=E,96nm,1.4s								
USHA	**Ushuaia**	**18.50**	**171**	P			**Pn**	**21 20 57.0**	**+0.5**
	comp=E,0.6nm,0.3s,baz=346,slow=11,SNR=5.2								
LPAZ	**La Paz**	**20.73**	**14**	P			Pn	21 21 23.1	-1.0
	comp=E,4.1nm,0.8s,baz=169,slow=4.3,SNR=9.8								
LPAZ	**La Paz**	**20.73**	**14**	*e*P			Pn	21 21 23.7	-0.4
	comp=E,12nm,1.0s								
SIV	**San Ignacio**	**23.18**	**31**	P			**P**	**21 21 46.7**	**-0.3**
	comp=E,5.9nm,0.9s,baz=224,slow=11,SNR=12								
BDFB	**Brasilia**	**30.59**	**54**	P			**P**	**21 22 55.1**	**+0.9**
	comp=E,2.0nm,0.4s,baz=191,slow=10,SNR=2.9								
BDFB				LR			LR	21 36 51.0	
	comp=E,328nm,19.2s,baz=225,slow=40								
BDFB	**Brasilia**	**30.59**	**54**	*e*P			**P**	**21 22 53.6**	**-0.6**
OTAV	**Otavalo**	**37.00**	**351**	*e*P			**P**	**21 23 51.5**	**+1.3**
	comp=E,22nm,1.5s								
PTGA	**Pitinga**	**37.74**	**22**	P			**P**	**21 23 55.3**	**-0.7**
	comp=E,3.7nm,0.7s,baz=226,slow=7.7,SNR=5.5								
PTGA	**Pitinga**	**37.74**	**22**	*e*P			**P**	**21 23 55.3**	**-0.7**
	comp=E,9.3nm,0.8s								
VNA3	**Neumayer Olymp**	**47.30**	**157**	P			**P**	**21 25 13.4**	**+0.3**
VNA1	**Neumayer--Stat**	**47.64**	**156**	P			**P**	**21 25 16.5**	**+0.7**
VNA2	**Neumayer--Watz**	**47.97**	**156**	P			**P**	**21 25 18.7**	**+0.4**
	baz=291,slow=9.6								
SNAA	**Sanae**	**49.52**	**157**	P			**P**	**21 25 28.7**	**-1.6**
SNAA	**Sanae**	**49.52**	**157**	P			**P**	**21 25 29.9**	**-0.4**
	comp=E,3.2nm,0.8s,baz=287,slow=5.7,SNR=25								
SNAA	**Sanae**	**49.52**	**157**	*e*P			**P**	**21 25 28.5**	**-1.8**
	comp=E,13nm,1.0s								
QSPA	**South Pole Qui**	**53.62**	**180**	P			**P**	**21 26 01.7**	**+0.6**
	comp=E,16nm,0.9s,baz=144,slow=3.3,SNR=39								
QSPA				LR			LR	21 47 34.7	
	comp=E,109nm,20.0s,baz=139,slow=35								
CRPR	**Cabo Rojo, PR**	**54.63**	**7**	*e*P			**P**	**21 26 08.3**	**-0.4**
	comp=E,25nm,1.0s								
GTBY	**Guantanamo Bay**	**56.27**	**358**	*e*P			**P**	**21 26 19.2**	**-1.2**
	comp=E,166nm,2.0s								
VNDA	**Vanda**	**61.36**	**192**	P			**P**	**21 26 56.3**	**+1.1**
	comp=E,1.6nm,0.8s,baz=143,slow=6.4,SNR=8.4								
VNDA				LR			LR	21 48 44.4	
	comp=E,60nm,20.6s,baz=162,slow=31								
VNDA	**Vanda**	**61.36**	**192**	*e*P			**P**	**21 26 57.3**	**+2.0**
	comp=E,5.5nm,1.2s								
SYO	**Syowa Base**	**63.77**	**158**	⇑	*e*	X	**P**	**21 27 09.6**	**-1.8**
PPT	**Papeete**	**69.01**	**263**	LR			LR	21 52 16.7	
	comp=E,91nm,18.5s,baz=134,slow=31								
833A	**Chaparral WMA,**	**69.16**	**335**	P			**P**	**21 27 47.5**	**+1.2**
	baz=70								
832A	**Faith Ranch, C**	**69.32**	**335**	P			**P**	**21 27 48.4**	**+1.1**
	baz=70								
732A	**Laxson Ranch,**	**69.72**	**335**	P			**P**	**21 27 50.6**	**+0.8**
	baz=70								
632A	**Uvalde**	**70.38**	**335**	P			**P**	**21 27 55.2**	**+1.4**
	baz=71								
533A	**Kerrville**	**70.65**	**336**	P			**P**	**21 27 56.5**	**+1.0**
	baz=71								
MAW	**Mawson**	**70.93**	**164**	P			**P**	**21 27 56.8**	**0.0**
	comp=E,12nm,1.0s,baz=214,slow=7.7,SNR=10								
MAW				LR			LR	21 57 50.3	
	comp=E,185nm,21.8s,baz=240,slow=35								
532A	**Rocksprings**	**70.99**	**336**	P			**P**	**21 27 58.9**	**+1.3**
	baz=71								
434A	**Burnet**	**71.10**	**337**	P			**P**	**21 27 58.9**	**+0.7**
	baz=72								
531A	**Rocksprings**	**71.24**	**335**	P			**P**	**21 28 00.3**	**+1.2**
	baz=72								
335A	**Moody**	**71.28**	**338**	P			**P**	**21 28 00.3**	**+1.1**
	baz=72								
JCT	**Junction City**	**71.28**	**336**	*e*P			**P**	**21 28 00.6**	**+1.3**
	comp=E,13nm,1.0s								
JCT	**Junction City**	**71.28**	**336**	P			**P**	**21 28 00.3**	**+0.9**
	baz=72								
433A	**Art**	**71.30**	**337**	P			**P**	**21 27 60.0**	**+0.6**
	baz=72								
530A	**J-C Ranch, Com**	**71.49**	**334**	P			**P**	**21 28 01.9**	**+1.3**
	baz=72								
334A	**Lometa**	**71.57**	**338**	P			**P**	**21 28 01.6**	**+0.6**
	baz=72								
LTX	**Lajitas**	**71.60**	**332**	*e*P			**P**	**21 28 02.8**	**+1.4**
TX31	**Lajitas Ar. Si**	**71.60**	**332**	*e*P			**P**	**21 28 02.1**	**+0.8**
TXAR	**Lajitas Array**	**71.60**	**332**	P			**P**	**21 28 02.8**	**+1.4**
	comp=E,3.3nm,0.7s,baz=151,slow=8.8,SNR=45								
TXAR				LR			LR	21 54 28.7	
	comp=E,82nm,20.0s,baz=0.0,slow=32								
431A	**Sonora**	**71.73**	**335**	P			**P**	**21 28 02.3**	**+0.2**
	baz=72								
529A	**Stev Forest Ra**	**71.78**	**334**	P			**P**	**21 28 03.3**	**+0.9**
	baz=72								
333A	**Richland Sprin**	**71.80**	**337**	P			**P**	**21 28 02.8**	**+0.4**
	baz=72								
WHTX	**Lake Whitney,**	**71.95**	**338**	P			**P**	**21 28 04.0**	**+0.8**
	baz=72								
430A	**Baggett Ranch,**	**72.04**	**335**	P			**P**	**21 28 04.7**	**+0.8**
	baz=72								
332A	**Millersview**	**72.09**	**336**	P			**P**	**21 28 04.6**	**+0.4**
	baz=72								
429A	**Davenport Ranc**	**72.12**	**334**	P			**P**	**21 28 05.2**	**+0.8**
	baz=72								
331A	**San Angelo**	**72.25**	**336**	P			**P**	**21 28 05.8**	**+0.7**
	baz=73								
233A	**Rising Star**	**72.41**	**337**	P			**P**	**21 28 06.5**	**+0.5**
	baz=73								
SWET	**Sewanee**	**72.45**	**349**	*e*P			**P**	**21 28 05.5**	**-0.7**
232A	**Coleman**	**72.53**	**337**	P			**P**	**21 28 07.1**	**+0.3**
	baz=73								
330A	**Mertzon**	**72.59**	**335**	P			**P**	**21 28 07.4**	**+0.3**
	baz=73								
231A	**Bronte**	**72.79**	**336**	P			**P**	**21 28 08.7**	**+0.4**
	baz=73								
329A	**Wagon Wheel Ra**	**72.94**	**334**	P			**P**	**21 28 10.0**	**+0.7**
	baz=73								
133A	**Hamilton Ranch**	**72.96**	**337**	P			**P**	**21 28 09.6**	**+0.3**
	baz=73								
Z35A	**Perchaven, San**	**73.14**	**339**	P			**P**	**21 28 10.7**	**+0.4**
	baz=74								
ABTX	**Abilene, Hawle**	**73.20**	**337**	P			**P**	**21 28 11.2**	**+0.4**
	baz=74								
229A	**Bryant Ranch,**	**73.32**	**335**	P			**P**	**21 28 12.2**	**+0.7**
	baz=74								
TZTN	**Tazewell**	**73.43**	**351**	*e*P			**P**	**21 28 12.5**	**+0.5**
	comp=E,16nm,0.8s								
131A	**Roby**	**73.49**	**336**	P			**P**	**21 28 12.9**	**+0.4**
	baz=74								
Z33A	**Whitaker Ranch**	**73.55**	**338**	P			**P**	**21 28 13.3**	**+0.6**
	baz=74								
WVT	**Waverly**	**73.66**	**348**	*e*P			**P**	**21 28 13.6**	**+0.3**
	comp=E,15nm,1.1s								
228A	**UT Block 9, Go**	**73.72**	**334**	P			**P**	**21 28 14.5**	**+0.5**
	baz=74								
Z32A	**Haskell**	**73.78**	**337**	P			**P**	**21 28 14.5**	**+0.3**
	baz=74								
Z31A	**Sharp Cattle R**	**74.00**	**337**	P			**P**	**21 28 16.0**	**+0.5**
	baz=74								
X36A	**Centrahoma**	**74.05**	**340**	P			**P**	**21 28 15.6**	**-0.1**
	baz=74								
X35A	**Drake**	**74.06**	**340**	P			**P**	**21 28 15.4**	**-0.4**
	baz=74								
128A	**Castleberry Fa**	**74.14**	**335**	P			**P**	**21 28 16.9**	**+0.6**
	baz=74								
Z30A	**Sanderson Ranc**	**74.29**	**336**	P			**P**	**21 28 17.8**	**+0.6**
	baz=75								
MNTX	**Cornudas Mount**	**74.36**	**332**	*e*P			**P**	**21 28 17.7**	**+0.1**
	comp=E,4.9nm,0.8s								
MNTX	**Cornudas Mount**	**74.36**	**332**	P			**P**	**21 28 17.3**	**-0.3**
	baz=75								
SUR	**Sutherland**	**74.36**	**119**	*e*P			**P**	**21 28 17.1**	**-1.0**
	comp=E,365nm,2.5s								
Y32A	**R-V Farms, Ver**	**74.42**	**338**	P			**P**	**21 28 18.3**	**+0.5**
	baz=75								
X34A	**Smith Ranch, M**	**74.50**	**339**	P			**P**	**21 28 18.9**	**+0.6**
	baz=75								
W35A	**Tecumseh**	**74.75**	**340**	P			**P**	**21 28 19.3**	**-0.4**
	baz=75								
WMOK	**Wichita Mounta**	**74.90**	**338**	*e*P			**P**	**21 28 21.1**	**+0.5**
	comp=E,56nm,2.8s								
X31A	**McDonald Ranch**	**75.17**	**337**	P			**P**	**21 28 23.0**	**+0.8**
	baz=76								
W32A	**Sentinel**	**75.40**	**338**	P			**P**	**21 28 23.7**	**+0.2**
	baz=76								
W31A	**Holland Ranch,**	**75.67**	**338**	P			**P**	**21 28 26.1**	**+1.0**
	baz=76								
V33A	**Lossen Ranch,**	**75.77**	**339**	P			**P**	**21 28 26.2**	**+0.6**
	baz=76								
X28A	**Dimmitt**	**75.78**	**336**	P			**P**	**21 28 26.6**	**+0.9**
	baz=76								
AMTX	**Amarillo**	**75.94**	**336**	*e*P			**P**	**21 28 27.9**	**+1.2**
	comp=E,17nm,1.3s								
AMTX	**Amarillo**	**75.94**	**336**	P			**P**	**21 28 27.2**	**+0.6**
	baz=76								
W29A	**Amarillo**	**76.15**	**336**	P			**P**	**21 28 28.2**	**+0.3**
	baz=76								
OLIL	**Olney**	**76.24**	**348**	*e*P			**P**	**21 28 30.2**	**+2.1**
	comp=E,44nm,0.7s								
T35A	**Sooner Cattle**	**76.31**	**341**	P			**P**	**21 28 29.5**	**+0.8**
	baz=77								
T34A	**McClaskey Farm**	**76.59**	**340**	P			**P**	**21 28 29.8**	**-0.4**
	baz=77								
DBIC	**Dimbokro**	**76.88**	**71**	P			**P**	**21 28 32.4**	**0.0**
	comp=E,5.8nm,0.8s,baz=175,slow=5.6,SNR=5.4								
DBIC				LR			LR	22 01 16.1	
	comp=E,79nm,18.2s,baz=201,slow=35								
DBIC	**Dimbokro**	**76.88**	**71**	*e*P			**P**	**21 28 32.3**	**0.0**
	comp=E,58nm,1.7s								
CASY	**Casey**	**77.39**	**182**	*e*P			**P**	**21 28 35.4**	**+0.9**
	comp=E,143nm,2.5s								
ANMO	**Albuquerque**	**77.66**	**332**	*e*P			**P**	**21 28 37.4**	**+0.8**
	comp=E,9.5nm,1.1s								
ALLY	**Alegheny Colle**	**78.16**	**355**	*e*P			**P**	**21 28 38.1**	**-0.8**
	comp=E,172nm,2.3s								
T25A	**Trinidad**	**78.90**	**335**	*e*P			**P**	**21 28 45.5**	**+2.1**
	comp=E,25nm,1.4s								
T25A	**Trinidad**	**78.90**	**335**	P			**P**	**21 28 45.0**	**+1.6**
	baz=79								
S26A	**Kim**	**79.02**	**336**	P			**P**	**21 28 45.5**	**+1.5**
	baz=79								
W18A	**Petrified Fore**	**79.08**	**330**	P			**P**	**21 28 46.4**	**+2.0**
	baz=79								
X16A	**Lo Mia Camp, P**	**79.17**	**329**	P			**P**	**21 28 46.7**	**+1.9**
	baz=80								
TSUM	**Tsumeb**	**79.37**	**106**	*e*P			**P**	**21 28 46.2**	**-0.2**
	comp=E,86nm,2.6s								
R27A	**Eads**	**79.41**	**337**	P			**P**	**21 28 47.0**	**+1.0**
	baz=80								
P31A	**Stockton**	**79.53**	**340**	P			**P**	**21 28 47.0**	**+0.5**
	baz=80								
BOSA	**Boshof**	**79.66**	**118**	P			**P**	**21 28 47.3**	**-0.6**
	comp=E,7.0nm,0.8s,baz=259,slow=11,SNR=8.7								
BOSA	**Boshof**	**79.66**	**118**	*e*P			**P**	**21 28 47.2**	**-0.7**
YUH	**Yuha Desert**	**79.67**	**324**	*e*P			P	21 28 51.7	+4.3
LTC	**Little Chuckwa**	**79.97**	**325**	*e*P			**P**	**21 28 51.2**	**+2.2**
BC3	**Big Chuckawall**	**80.29**	**325**	P			**P**	**21 28 52.9**	**+2.0**
	baz=81								
ODZ	**Otahua Downs**	**80.39**	**220**	*e*P			**P**	**21 28 52.0**	**+0.7**
	comp=E,305nm,2.5s								
MVCO	**Mesa Verde**	**80.43**	**332**	P			**P**	**21 28 53.6**	**+1.9**
	baz=81								
W13A	**Hualapai Mount**	**80.80**	**327**	P			**P**	**21 28 55.9**	**+2.2**
	baz=81								
PTN	**Potsdam (NY)**	**80.83**	**359**	*e*PKiKP			**PKiKP**	**21 34 15.9**	**-4.3**
LONY	**Lake Ozonia**	**80.87**	**359**	*e*P			**P**	**21 28 54.9**	**+1.3**
	comp=E,58nm,2.2s								
U15A	**North Rim**	**81.25**	**329**	P			**P**	**21 28 58.5**	**+2.3**
	baz=82								
GMRC	**Granite Mounta**	**81.32**	**326**	P			**P**	**21 28 58.8**	**+2.4**
	baz=82								
SMCO	**Snowmass**	**81.62**	**334**	*e*P			**P**	**21 29 00.2**	**+2.0**
	comp=E,15nm,1.4s								
BFSC	**Mount Baldy Ra**	**81.80**	**324**	P			**P**	**21 29 00.8**	**+1.8**
	baz=82								
KNB	**Kanab**	**81.97**	**329**	*e*P			**P**	**21 28 60.0**	**+0.1**
	comp=E,16nm,1.2s								
LBTB	**Lobatse**	**82.02**	**115**	*e*P			**P**	**21 29 00.1**	**-0.4**
	comp=E,16nm,0.7s								
O23A	**Lake Granby, G**	**82.18**	**335**	P			**P**	**21 29 02.2**	**+1.2**
	baz=82								
GSC	**Goldstone, Bar**	**82.28**	**325**	P			**P**	**21 29 03.5**	**+2.2**
	baz=83								
O22A	**Kremmling**	**82.35**	**335**	P			**P**	**21 29 03.2**	**+1.3**
	baz=83								
SHPR	**Sheep Range**	**82.54**	**327**	*e*P			**P**	**21 29 04.9**	**+2.1**
ECSD	**EROS Data Cent**	**82.77**	**343**	*e*P			**P**	**21 29 04.3**	**+0.7**
	comp=E,9.4nm,0.8s								
ECSD	**EROS Data Cent**	**82.77**	**343**	P			**P**	**21 29 03.8**	**+0.1**
	baz=83								
SRU	**San Rafael Swe**	**82.86**	**332**	*e*P			**P**	**21 29 05.9**	**+1.5**
	comp=E,7.2nm,0.9s								
N22A	**Wattenberg Ran**	**82.89**	**335**	P			**P**	**21 29 05.9**	**+1.3**
	baz=83								
J29A	**Okreek**	**83.40**	**340**	P			**P**	**21 29 08.0**	**+1.1**
	baz=84								
I28A	**Midland**	**84.18**	**340**	P			**P**	**21 29 11.5**	**+0.6**
	baz=85								
R11A	**Troy Canyon, C**	**84.27**	**328**	*e*P			**P**	**21 29 08.9**	**-2.7**
	comp=E,5.2nm,0.9s								
R11A	**Troy Canyon, C**	**84.27**	**328**	P			**P**	**21 29 13.6**	**+2.0**
	baz=85								
J25A	**Sunshine Ranch**	**84.38**	**338**	P			**P**	**21 29 13.0**	**+1.0**
	baz=85								
K22A	**Casper**	**84.56**	**336**	*e*P			**P**	**21 29 14.5**	**+1.5**
	comp=E,9.7nm,0.9s								
J24A	**Dixon Ranch, L**	**84.58**	**337**	P			**P**	**21 29 13.9**	**+0.8**
	baz=85								
DUG	**Dugway, Tooele**	**84.69**	**331**	*e*P			**P**	**21 29 15.5**	**+1.8**
	comp=E,13nm,1.3s								
DUG	**Dugway, Tooele**	**84.69**	**331**	P			**P**	**21 29 14.9**	**+1.2**
	baz=85								
TPH	**Tonopah**	**84.75**	**327**	*e*P			**P**	**21 29 16.3**	**+2.2**
	comp=E,9.7nm,0.9s								
I25A	**Rochford**	**84.93**	**338**	P			**P**	**21 29 15.6**	**+0.8**
	baz=85								
H27A	**Howes**	**85.02**	**340**	P			**P**	**21 29 15.5**	**+0.3**
	baz=85								
I24A	**Kuemmerle Ranc**	**85.05**	**338**	P			**P**	**21 29 16.2**	**+0.8**
	baz=85								
RSSD	**Black Hills**	**85.11**	**338**	*e*P			**P**	**21 29 17.1**	**+1.3**
	comp=E,5.8nm,0.9s								
J22A	**Midwest**	**85.23**	**336**	P			**P**	**21 29 16.6**	**+0.2**
	baz=86								
BGU	**Big Grassy Mou**	**85.40**	**331**	*e*P			**P**	**21 29 17.5**	**+0.2**
	comp=E,16nm,1.8s								
HWUT	**Hardware Ranch**	**85.42**	**332**	*e*P			**P**	**21 29 18.6**	**+1.2**
	comp=E,17nm,1.1s								
J21A	**Lysite**	**85.49**	**336**	P			**P**	**21 29 18.5**	**+0.8**
	baz=86								
NV01	**Mina Array Sit**	**85.53**	**326**	*e*P			**P**	**21 29 19.5**	**+1.4**
NVAR	**Mina Array Bea**	**85.53**	**326**	P			**P**	**21 29 18.8**	**+0.8**
	comp=E,2.7nm,0.8s,baz=158,slow=6.1,SNR=12								
G27A	**Dupree**	**85.66**	**340**	P			**P**	**21 29 18.9**	**+0.6**
	baz=86								
I22A	**9 Mile Ranch,**	**85.66**	**337**	P			**P**	**21 29 18.8**	**+0.3**
	baz=86								
BW06	**Boulder Array**	**85.70**	**334**	*e*P			**P**	**21 29 18.4**	**-0.4**
PD31	**Pinedale Array**	**85.70**	**334**	*e*P			**P**	**21 29 19.4**	**+0.6**
PDAR	**Pinedale Array**	**85.70**	**334**	P			**P**	**21 29 19.4**	**+0.6**
	comp=E,2.0nm,0.9s,baz=130,slow=4.6,SNR=12								
J20A	**Shoshoni**	**85.71**	**335**	P			**P**	**21 29 19.7**	**+1.0**
	baz=86								
I21A	**Big Trails, Te**	**85.85**	**336**	P			**P**	**21 29 19.3**	**-0.2**
	baz=86								
TOA0	**Torodi Ar. Sit**	**85.95**	**70**	*e*P			**P**	**21 29 19.6**	**-0.8**
TORD	**Torodi Ar. Bea**	**85.95**	**70**	P			**P**	**21 29 19.6**	**-0.8**
	comp=E,1.4nm,0.9s,baz=267,slow=4.1,SNR=6.5								
J19A	**Crowheart**	**85.96**	**335**	P			**P**	**21 29 20.5**	**+0.5**
	baz=86								
HVU	**Hansel Valley**	**86.03**	**331**	*e*P			**P**	**21 29 21.4**	**+1.1**
	comp=E,6.6nm,0.9s								
ELK	**Elko**	**86.13**	**329**	*e*P			**P**	**21 29 22.7**	**+1.6**
	comp=E,3.9nm,1.0s								
I20A	**Worland**	**86.25**	**335**	P			**P**	**21 29 22.0**	**+0.6**
	baz=87								
LOHW	**Long Hollow**	**86.81**	**334**	*e*P			**P**	**21 29 25.3**	**+1.0**
	comp=E,3.9nm,1.0s								
TPAW	**Teton Pass**	**86.83**	**333**	*e*P			**P**	**21 29 26.0**	**+1.6**
	comp=E,5.1nm,0.9s								
C30A	**Mose, Pekin**	**86.95**	**343**	P			**P**	**21 29 25.6**	**+1.1**
	baz=87								
MOOW	**Moose Ponds**	**86.98**	**334**	*e*P			**P**	**21 29 25.8**	**+0.8**
	comp=E,17nm,2.2s								
FXWY	**Fox Creek**	**86.98**	**333**	*e*P			**P**	**21 29 26.1**	**+1.0**
	comp=E,41nm,2.8s								
E25A	**Miller Ranch,**	**87.10**	**340**	P			**P**	**21 29 25.8**	**+0.4**
	baz=88								
IMW	**Indian Meadow**	**87.18**	**334**	*e*P			**P**	**21 29 27.2**	**+1.1**
	comp=E,4.9nm,0.9s								
FLWY	**Flagg Ranch**	**87.25**	**334**	*e*P			**P**	**21 29 27.8**	**+1.4**
	comp=E,10.0nm,1.0s								
F22A	**Rosebud**	**87.28**	**337**	P			**P**	**21 29 26.2**	**-0.1**
	baz=88								
D26A	**Manning**	**87.32**	**340**	P			**P**	**21 29 27.3**	**+0.9**
	baz=88								
G20A	**Bridger**	**87.41**	**336**	P			**P**	**21 29 26.8**	**-0.2**
	baz=88								
H18A	**Shoshone NF, C**	**87.41**	**335**	P			**P**	**21 29 27.1**	**-0.1**
	baz=88								
E20A	**Meyer Farm, Mu**	**88.52**	**337**	P			**P**	**21 29 32.4**	**+0.3**
	baz=89								
MCMT	**McKenzie Canyo**	**88.67**	**333**	*e*P			**P**	**21 29 35.0**	**+1.9**
ULM	**Lac du Bonnet**	**88.80**	**346**	P			**P**	**21 29 32.8**	**-0.5**
	comp=E,2.7nm,0.8s,baz=250,slow=1.4,SNR=4.5								
DBO	**Dodson Butte**	**91.52**	**326**	*e*P			**P**	**21 29 47.5**	**+1.2**
GEC2	**GERESS Array S**	**114.62**	**47**	*e*PKiKP			PKPdf	21 35 19.0	-0.7
GERES	**GERESS Array B**	**114.62**	**47**	PKP			PKPdf	21 35 19.0	-0.7
	comp=E,1.0nm,0.8s,baz=208,slow=2.6,SNR=6.6								
VYHS	**Vyhne**	**117.52**	**49**	*e*PKP			**PKPdf**	**21 35 25.1**	**-0.1**
WRA	**Warramunga Arr**	**118.04**	**209**	PKP			**PKPdf**	**21 35 25.9**	**-1.4**
	comp=E,0.8nm,0.9s,baz=159,slow=1.5,SNR=11								
BR231	**Keskin MP Arra**	**123.29**	**62**	*e*PKPdf			**PKPdf**	**21 35 36.4**	**-0.4**
AKASG	**Malin Array Be**	**124.61**	**49**	PKP			**PKPdf**	**21 35 37.4**	**-1.4**
	comp=E,0.3nm,0.3s,baz=257,slow=2.9,SNR=5.6								
AKBB	**Malin Array Si**	**124.61**	**49**	*e*PKPdf			**PKPdf**	**21 35 37.4**	**-1.4**
H11S2	**WAKE ISLAND Hyl**	**124.80**	**268**	T			T	23 53 08.4	
	baz=118,slow=74								
H11S1	**WAKE ISLAND Hyl**	**124.81**	**268**	T			T	23 53 10.1	
	baz=118,slow=74								
H11S3	**WAKE ISLAND Hyl**	**124.81**	**268**	T			T	23 53 19.2	
	baz=118								
RAYN	**Ar Rayn**	**126.14**	**86**	*e*PKPdf			**PKPdf**	**21 35 43.2**	**+0.6**
TIXI	**Tiksi**	**143.09**	**349**	*e*PKPpre			PKPpre	21 36 08.0	
ABKAR	**Akbulak array**	**143.98**	**54**	*e*PKPpre			PKPpre	21 36 12

QLP	**Quilpie**	**23.93**	**202**	P	**P**	**21**	**25**	**38.3 +1.1**
	baz=26,SNR=3.3							
QLP				S	Sn	21	30	32.7 +17
	baz=26,SNR=3.3							
WRA	**Warramunga Arr**	**24.52**	**229**	P	**P**	**21**	**25**	**42.8 +0.2**
	3.2nm,0.5s,baz=54,slow=10.0,SNR=35							
STKA	**Stephens Creek**	**29.69**	**201**	P	**P**	**21**	**26**	**29.2 +0.3**
	1.6nm,0.6s,baz=37,slow=10,SNR=11							
STKA	**Stephens Creek**	**29.69**	**201**	P	**P**	**21**	**26**	**29.6 +0.6**
	baz=32,SNR=7.4							
WRKA	**Warakurna**	**32.02**	**228**	P	**P**	**21**	**26**	**48.8 -0.9**
	baz=34,SNR=5.3							
HTT	**Hallett**	**32.10**	**204**	P	**P**	**21**	**26**	**51.1 +0.8**
	baz=34,SNR=3.7							
WSI	**Waingapu**	**33.69**	**259**	S	S	21	32	33.2 +7.7
	baz=35,SNR=5.0							
MEEK	**Meekatharra**	**40.30**	**233**	P	**P**	**21**	**27**	**59.5 -0.9**
	baz=42,SNR=3.1							
SONM	**Songino Array**	**66.51**	**327**	P	**P**	**21**	**31**	**13.3 +0.6**
	0.2nm,0.5s,baz=120,slow=5.7,SNR=4.7							
TORD	**Torodi Ar. Bea**	**151.15**	**289**	PKPbc	**PKPbc**	**21**	**40**	**15.6 -1.3**
	1.0nm,0.7s,baz=75,slow=2.7,SNR=7.2							

OTT 17 21:20:35.0±0.2, 46°.99N×68°.52W, h0km, MN2.3/10, Blast, Maine, Us. 46km south from Edmundston, Nb Mining explosion., Maine

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PQI	**Presque Isle**	**0.47**	**132**	SG	Sg	21 20 49.0	-1.2
A16	**Riviere Ouelle**	**1.12**	**296**	PG	Pg	21 20 56.3	-0.1
A16				SG	Sg	21 21 10.0	-0.8
A16				Trac		21 21 14.2	
	comp=Z,2.7nm,0.1s						
A16	**Riviere Ouelle**	**1.12**	**296**	PG	Pg	21 20 56.0	-0.4
A16				SG	Sg	21 21 10.1	-0.8
A16				Trac		21 21 14.0	
	comp=Z,4.5nm,0.1s						
A11	**Saint Roch-des**	**1.17**	**283**	SG	Sg	21 21 12.6	+0.1
A64	**Saint Simeon**	**1.25**	**312**	SG	Sg	21 21 12.4	-2.7
A64	**Saint Simeon**	**1.25**	**312**	SG	Sg	21 21 12.4	-2.7
A64				Trac		21 21 16.1	
	comp=Z,4.7nm,0.1s						
A61	**Sainte Mathild**	**1.28**	**304**	PG	Pg	21 20 58.1	-1.4
A61				SG	Sg	21 21 13.4	-2.6
A61				Trac		21 21 13.9	
	comp=Z,14nm,0.2s						
A61	**Sainte Mathild**	**1.28**	**304**	PG	Pg	21 20 58.1	-1.4
A61				SG	Sg	21 21 13.3	-2.7
A61				Trac		21 21 13.9	
	comp=Z,14nm,0.2s						
LMQ	**La Malbaie**	**1.35**	**295**	PG	Pg	21 20 59.5	-1.3
LMQ				SG	Sg	21 21 16.3	-2.0
LMQ				Trac		21 21 20.8	
	comp=Z,8.1nm,0.1s						
LMQ	**La Malbaie**	**1.35**	**295**	PG	Pg	21 20 59.6	-1.3
LMQ				SG	Sg	21 21 16.3	-2.1
LMQ				Trac		21 21 16.4	
	comp=Z,11nm,0.1s						
A54	**Misere**	**1.37**	**291**	PG	Pg	21 20 60.0	-1.3
A54				SG	Sg	21 21 14.7	-4.3
A54				Trac		21 21 22.7	
	comp=Z,2.8nm,0.0s						
A54	**Misere**	**1.37**	**291**	PG	Pg	21 21 00.0	-1.2
A54				SG	Sg	21 21 14.7	-4.3
A54				Trac		21 21 22.7	
	comp=Z,2.8nm,0.0s						
BATG	**Bathurst New B**	**1.71**	**79**	PN	Pn	21 21 06.5	+0.5
BATG				PG	Pg	21 21 08.3	+0.6
BATG				SN	Sn	21 21 28.2	-0.3
BATG				SG	Sg	21 21 31.1	+1.3
BATG				Trac		21 21 33.5	
	comp=Z,5.5nm,0.1s						
BATG	**Bathurst New B**	**1.71**	**79**	PN	Pn	21 21 06.2	+0.3
BATG				SN	Sn	21 21 28.0	-0.5
BATG				Trac		21 21 33.5	
	comp=Z,5.5nm,0.1s						
BCLQ	**Boischatel**	**1.82**	**269**	SN	Sn	21 21 31.1	0.0
BCLQ				Trac		21 21 34.2	
	comp=Z,6.4nm,0.2s						
BCLQ	**Boischatel**	**1.82**	**269**	SG	Sn	21 21 31.4	+0.2
BCLQ				Trac		21 21 34.3	
	comp=Z,6.4nm,0.2s						
DAQ	**Lac Daran**	**2.08**	**299**	PG	Pn	21 21 11.4	+0.1
DAQ				SG	Sn	21 21 37.3	-0.8
DAQ				Trac		21 21 39.7	
	comp=Z,12nm,0.3s						
DAQ	**Lac Daran**	**2.08**	**299**	PN	Pn	21 21 11.0	-0.3
DAQ				SN	Sn	21 21 37.0	-1.0
DAQ				Trac		21 21 39.7	
	comp=Z,12nm,0.3s						
GSQ	**Grosses Roches**	**2.14**	**26**	PG	Pn	21 21 13.2	+1.2
GSQ				SG	Sn	21 21 38.9	-0.4
GSQ				Trac		21 21 45.1	
	comp=Z,2.9nm,0.2s						
GSQ	**Grosses Roches**	**2.14**	**26**	PN	Pn	21 21 13.0	+1.1
GSQ				SN	Sn	21 21 39.4	+0.1
GSQ				Trac		21 21 45.2	
	comp=Z,2.9nm,0.2s						
CNQ	**Baie Comeau**	**2.33**	**7**	PG	Pn	21 21 12.9	-1.7
CNQ				SG	Sn	21 21 41.8	-2.2
CNQ				Trac		21 21 44.2	
	comp=Z,2.2nm,0.2s						
CNQ	**Baie Comeau**	**2.33**	**7**	PN	Pn	21 21 12.9	-1.6
CNQ				SN	Sn	21 21 41.6	-2.3
CNQ				Trac		21 21 44.1	
	comp=Z,2.2nm,0.2s						
ICQ	**Pointe Anglais**	**2.67**	**18**	PN	Pn	21 21 17.9	-1.2
ICQ				SN	Sn	21 21 47.4	-4.7
DPQ	**Saint Jean**	**2.94**	**265**	PN	Pn	21 21 22.9	+0.1
DPQ				SN	Sn	21 21 58.9	+0.1
DPQ				Trac		21 22 05.8	
	comp=Z,2.1nm,0.2s						

*IDC **17** 21:20:32.0±1.2, 15°.65N×121°.62E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.5/40, mbtmp3.9/5, Error ellipse: s-maj=40.2km s-min=12.7km az=100.0*
*MAN **17** 21:20:38, 15°.12N×119°.78E, h31km, mb4.7, ML3.6, MS3.5*
*ISCJB **17** 21:20:39.0±0.7, 15°.09N±0°.04×119°.73E±0°.09, h33km, mb3.9/5, Error ellipse: s-maj=12.4km s-min=5.3km az=0.7*

ISC 17 21:20:39.7±0.9, 15°.16N±0°.05×119°.9E±0°.2, h35km, n16, σ2s 05/14, mb4.0/5, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCZP	**Santa Cruz**	**0.62**	**1**	*e*P	**Pn**	**21 20 52.6**	**+0.7**
SCZP				*e*S	**Sn**	**21 21 02.0**	**+1.3**
BOLP	**Bolinao**	**1.22**	**1**	*e*P	**Pn**	**21 21 02.0**	**+1.8**
BOLP				*e*S	**Sn**	**21 21 10.1**	**-5.4**
PCPH	**Palayan**	**1.23**	**71**↓	*i*P	Pn	21 21 01.4	+1.0
PCPH				*i* S	Sn	21 21 15.8	+0.2
BCPH	**Baguio City Da**	**1.38**	**28**↑	*i*P	Pn	21 21 05.2	+2.5
BCPH				*i* S	Sn	21 21 23.9	+4.0
TGY	**Tagaytay City**	**1.45**	**136**	Pg	**Pn**	**21 21 04.3**	**+0.8**
	219nm,0.3s,baz=323,slow=7.6,SNR=9.0						
TGY				Lg	Lg	21 21 23.6	
	321nm,0.3s,baz=13,slow=16,SNR=7.8						
TGY				LR	LR	21 21 48.0	
	comp=Z,19nm,21.9s,baz=76,slow=45						
TGY	**Tagaytay City**	**1.45**	**136**↑	*e*P	Pn	21 21 12.5	+9.0
LUBP	**Lubang**	**1.45**	**167**	*e*P	**Pn**	**21 21 02.3**	**-1.2**
LUBP				*e*S	**Sn**	**21 21 21.8**	**+0.4**
BALP	**Baler**	**1.72**	**70**	*e*P	Pn	21 21 09.2	+2.0
SJMP	**San Jose**	**2.93**	**156**	*e*P	**Pn**	**21 21 24.6**	**+0.7**
BUSP	**Coron**	**3.15**	**175**	*e*P	**Pn**	**21 21 27.4**	**+0.6**
WRA	**Warramunga Arr**	**37.66**	**157**	P	P	21 27 47.6	-4.1
	1.8nm,0.7s,baz=335,slow=9.6,SNR=10						
KURBB	**Kurchatov Arra**	**48.55**	**326**	P	**P**	**21 29 21.4**	**+1.9**
	0.2nm,0.2s,baz=120,slow=8.6,SNR=8.4						
ARCES	**ARCESS Array B**	**77.45**	**339**	P	**P**	**21 32 29.1**	**-2.1**
	2.5nm,1.1s,baz=69,slow=5.9,SNR=5.7						
FINES	**FINESS Array B**	**78.64**	**331**	P	**P**	**21 32 37.8**	**-0.1**
	0.7nm,0.6s,baz=67,slow=3.6,SNR=9.2						
NB2	**NORSAR Subarra**	**85.62**	**332**	P	**P**	**21 33 14.4**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=65,slow=5.6						
NOA	**NORSAR Array B**	**85.62**	**332**	P	**P**	**21 33 14.2**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=66,slow=5.1,SNR=4.4						

IDC 17 21:33:50.7±14.0, 19°.20S×177°.84W, h654km±158km, mb3.1/5, mb1 3.2/5, mb1mx2.9/30, mbtmp4.1/5, Error ellipse: s-maj=99.2km s-min=24.3km az=70.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.50**	**243**	P	P	21 40 20.1	+0.1
	1.5nm,0.5s,baz=90,slow=9.6,SNR=11						
BBOO	**Buckleboo**	**43.27**	**242**	P	P	21 40 57.9	+0.4
	baz=28,SNR=13						
JAY	**Jayapura**	**43.79**	**287**	P	P	21 41 02.0	+0.2
	7.9nm,0.7s,baz=107,slow=19,SNR=4.8						
WRA	**Warramunga Arr**	**44.94**	**261**	P	P	21 41 10.4	-0.1
	0.9nm,0.3s,baz=96,slow=7.5,SNR=20						
MJAR	**Matsushiro Arr**	**69.26**	**323**	P	P	21 43 54.5	-0.1
	0.9nm,0.5s,baz=146,slow=6.5,SNR=5.5						
QSPA	**South Pole Qui**	**70.86**	**180**	P	P	21 44 03.9	+0.2
	0.7nm,0.8s,baz=45,slow=1.4,SNR=3.1						
MKAR	**Makanchi Array**	**110.41**	**314**	PKiKP	PKiKP	21 51 10.3	-0.1
	0.1nm,0.4s,baz=111,slow=2.8,SNR=3.6						
ARCES	**ARCESS Array B**	**127.67**	**350**	PKP	PKPdf	21 51 43.0	+0.1
	0.4nm,0.4s,baz=34,slow=3.5,SNR=7.4						
GERES	**GERESS Array B**	**148.99**	**345**	PKPbc	PKPbc	21 52 26.4	-0.5
	0.4nm,0.5s,baz=11,slow=1.0,SNR=5.1						

*NIED **17** 22:03:00, 46°.00N×152°.30E, h59km, Mw5.3 Best double couple: M0 1.09000×10^17 NP1:φs148.00000°, δ25.00000°, λ-2.00000°. NP2:φs240.00000°, δ89.00000°, λ-115.00000°.*
*MOS **17** 22:03:42.2±1.6, 46°.12N×152°.42E, h49km, mb6.0/98, MS4.7/36, Error ellipse: s-maj=5.1km s-min=3.6km az=100.9*
*ISCJB **17** 22:03:43.8±0.3, 46°.23N±0°.02×152°.12E±0°.01, h53km±3km, mb5.8/489, MS4.7/48, Error ellipse: s-maj=3.2km s-min=1.6km az=166.9*
*JMA **17** 22:03:44.7±0.8, 46°.02N×152°.34E, h30km, M5.1*
*BJI **17** 22:03:45.0, 46°.37N×152°.00E, h64km, mb5.8/76, mB5.2/41, Ms4.8/86, Ms7 4.7/73*
*SKHL **17** 22:03:46.1±1.0, 46°.15N×152°.49E, h88km±5km, mb6.2/8, mbh6.2/3, Ms4.8/7*
*NEIC **17** 22:03:47.6±0.1, 46°.29N×152°.02E, mb5.7/298, MW5.3, Error ellipse: s-maj=3.3km s-min=2.0km az=155.0, Moment Tensor Solution. s60 Moment tensor: Scale 10^17Nm; Mrr0.30; Mθθ-0.11; Mφφ-0.19; Mrθ1.09; Mφφ-0.06; Mθr0.37; Best double couple: M0 1.20000×10^17 NP1: φs219.00000°, δ7.00000°, λ59.00000°. NP2:φs70.00000°, δ84.00000°, λ93.00000°. Principal axes: T 1.2500, Plg50.0000°, Azm343.0000°; N -0.1400, Plg3.0000°, Azm249.0000°; P -1.1100, Plg39.0000°, Azm157.0000°;*
*GCMT **17** 22:03:47.6±0.1, 46°.22N×152°.35E, h66km±1km, MW5.3/116, Moment Tensor Solution. s82,c152; s116,c214; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr0.20±.02; Mθθ0.20±.02; Mφφ-0.39±.02; Mrθ1.07±.01; Mθφ-0.37±.02; Mφr0.48±.01; Best double couple: M0 1.27800×10^17 NP1:φs64.00000°, δ85.00000°, λ111.00000°. NP2:φs167.00000°, δ22.00000°, λ13.00000°. Principal axes: T 1.2740, Plg46.0000°, Azm356.0000°; N 0.0090, Plg21.0000°, Azm242.0000°; P -1.2820, Plg37.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*IDC **17** 22:03:47.2±0.7, 46°.28N×152°.02E, h73km±5km, mb5.4/24, mb1 5.5/28, mb1mx5.5/29, mbtmp5.7/28, MS4.4/27, Ms1 4.4/27, ms1mx4.3/31 Error ellipse: s-maj=12.6km s-min=9.6km az=146.0*
*SZGRF **17** 22:03:50.9, 47°.32N×151°.80E, h33km, mb6.2, MS4.8, Kuril Islands, Russia*

ISC 17 22:03:46.9±0.2, 46°.22N±0°.03×152°.10E±0°.03, h69km±1km, h69km:pP-P, n2076, σ1s 22/2290, mb5.8/505, 512C-264D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.12**	**253**↓	*i*PN	**Pn**	**22 04 35.4**	**+1.8**
KUR				*i* S	**Sn**	**22 05 11.5**	**+1.7**
KUR				pmax	pmax		
	comp=E,246nm,0.7s						
KUR				pmax	pmax		
	comp=Z,2μm,0.7s						
KUR				pmax	pmax		
	comp=N,381nm,0.2s						
KUR				smax	smax		
	comp=N,6μm,0.6s						
KUR				smax	smax		
	comp=E,5μm,0.6s						
KUR	**Kuril'sk**	**3.12**	**253**	*i* P	**Pn**	**22 04 35.5**	**+1.8**
KUR				AMB	AMB	22 04 36.8	
	comp=E,8μm,1.0s						
KUR				AMB	AMB	22 04 36.9	
	comp=E,4μm,0.7s						
KUR				*i* S	**Sn**	**22 05 11.8**	**+2.0**
KUR				A	A	22 05 13.7	
	comp=E,6μm,0.6s						
KUR				A	A	22 05 13.7	
	comp=E,4μm,0.6s						
KUR				A	A	22 05 28.0	
	comp=E,70μm,1.6s						
KUR				A	A	22 05 28.0	
	comp=E,22μm,1.6s						
KUR				A	A	22 05 28.0	
	comp=E,45μm,1.0s						
KUR				A	A	22 05 28.0	
	comp=E,82μm,1.0s						
SHO	**Shikotan**	**4.41**	**240**	*e*P	**Pn**	**22 04 51.0**	**-0.3**
SHO				AMB	AMB	22 04 55.9	
	comp=E,770nm,0.5s						
SHO				*e*S	**Sn**	**22 05 40.4**	**-0.9**
SHO				A	A	22 05 45.8	
	comp=E,5μm,0.9s						
YUK	**Yuzh-Kuril'sk**	**4.93**	**246**	*d i*PN	**Pn**	**22 04 59.4**	**+1.1**
YUK				*i* S	**Sn**	**22 05 55.0**	**+1.1**
YUK				pmax	pmax		
	comp=N,61nm,0.2s						
YUK				pmax	pmax		
	comp=E,60nm,0.2s						
YUK				pmax	pmax		
	comp=Z,459nm,0.2s						
YUK				smax	smax		
	comp=E,856nm,0.3s						
YUK				smax	smax		
	comp=N,3μm,0.7s						
YUK				smax	smax		
	comp=N,6μm,3.2s						
YUK				smax	smax		
	comp=E,5μm,1.1s						
YUK	**Yuzh-Kuril'sk**	**4.93**	**246**	*i* P	**Pn**	**22 04 59.4**	**+1.1**
YUK				AMB	AMB	22 04 59.7	
	comp=E,60nm,0.2s						
YUK				AMB	AMB	22 04 59.7	
	comp=E,460nm,0.2s						
YUK				*i* S	**Sn**	**22 05 55.0**	**+1.1**
YUK				A	A	22 06 06.0	
	comp=E,860nm,0.3s						
YUK				AMS	AMS	22 06 11.9	
	comp=E,6μm,3.0s						
YUK				AMS	AMS	22 06 11.9	
	comp=E,6μm,3.0s						
SKR	**Severo-Kuril's**	**5.20**	**29**α	*i*PN	Pn	22 04 57.0	-5.0
SKR				pmax	pmax		
	comp=E,550nm,0.5s						
SKR				pmax	pmax		
	comp=Z,2μm,0.5s						
SKR				pmax	pmax		
	comp=N,1μm,0.4s						
SKR				pmax	pmax		
	comp=N,3μm,2.0s						
SKR				pmax	pmax		
	comp=E,6μm,2.0s						
SKR				pmax	pmax		
	comp=Z,10μm,2.0s						
SKR				MLR	MLR		
	comp=N,3μm,16.0s						
SKR				MLR	MLR		
	comp=E,6μm,16.0s						
SKR				MLR	MLR		
	comp=Z,3μm,16.0s						
SKR	**Severo-Kuril's**	**5.20**	**29**	*i* P	Pn	22 04 57.0	-5.0
SKR				*i* P	Pn	22 04 57.0	-5.0
SKR				AMB	AMB	22 04 59.3	
	comp=Z,1μm,0.5s						
SKR				AMB	AMB	22 04 59.3	
	comp=Z,600nm,0.5s						
SKR				AMB	AMB	22 04 59.3	
	comp=Z,2μm,0.5s						
SKR				AMB	AMB	22 05 00.0	
	comp=Z,3μm,2.0s						
SKR				AMB	AMB	22 05 00.0	
	comp=Z,6μm,2.0s						
SKR				AMB	AMB	22 05 00.0	
	comp=Z,10μm,2.0s						
SKR				*i* S	Sn	22 05 52.5	-8.1
SKR				A	A	22 05 57.0	
	comp=Z,2μm,0.5s						
SKR				A	A	22 05 57.0	
	comp=Z,3μm,0.5s						
SKR				A	A	22 06 01.2	
	comp=Z,10μm,9.0s						
SKR				A	A	22 06 01.2	
	comp=Z,4μm,9.0s						
SKR				A	A	22 06 01.2	
	comp=Z,11μm,9.0s						
SKR				AMS	AMS	22 07 36.0	
	comp=Z,3μm,16.0s						
SKR				AMS	AMS	22 07 36.0	
	comp=Z,6μm,16.0s						
SKR				AMS	AMS	22 07 36.0	
	comp=Z,3μm,16.0s						
SKR				AMS	AMS	22 07 36.0	
	comp=Z,6μm,16.0s						
SKR				AMS	AMS	22 07 36.0	
	comp=Z,3μm,16.0s						
NEM2	**Nemuro 2**	**5.35**	**240**	P	**Pn**	**22 05 02.6**	**-1.5**
NEM2				*e*S	**Sn**	**22 06 00.2**	**-4.1**
JRA	**Rausu**	**5.44**	**248**	P	**Pn**	**22 05 06.6**	**+1.3**
JNK	**Nakash**	**5.87**	**246**	P	**Pn**	**22 05 11.8**	**+0.6**
JNK				*e*S	**Sn**	**22 06 15.5**	**-1.5**
JAK	**Akkeshi**	**6.19**	**241**	P	**Pn**	**22 05 14.1**	**-1.5**
JAK				*e*S	**Sn**	**22 06 20.4**	**-4.5**
JTKR	**Abashiri--Toko**	**6.22**	**252**	P	**Pn**	**22 05 17.5**	**+1.5**
YSS	**Yuzh-Sakhalins**	**6.48**	**280**κ	*i*PN	Pn	22 05 23.8	+4.2
YSS				pmax	pmax		
	comp=Z,810nm,0.9s						
YSS				MLR	MLR		
	comp=E,4μm,17.0s						
YSS				MLR	MLR		
	comp=Z,4μm,17.0s						
YSS				MLR	MLR		
	comp=N,3μm,16.0s						
YSS	**Yuzh-Sakhalins**	**6.48**	**280**	*i* P	Pn	22 05 23.6	+4.1
YSS				AMB	AMB	22 05 24.9	
	comp=N,810nm,0.9s						
YSS				*e*S	**Sn**	**22 06 36.5**	**+4.5**
YSS				A	A	22 06 40.5	
	comp=N,810nm,0.9s						
YSS				A	A	22 06 40.5	
	comp=N,1μm,0.9s						
YSS				AMS	AMS	22 07 42.0	
	comp=N,3μm,17.0s						
YSS				AMS	AMS	22 07 42.0	
	comp=N,4μm,17.0s						
YSS				AMS	AMS	22 07 42.0	
	comp=N,4μm,17.0s						
YSS	**Yuzh-Sakhalins**	**6.48**	**280**	*e*Pn	Pn	22 05 23.8	+4.2
YSS				*e*Sn	**Sn**	**22 06 28.6**	**-3.4**
JMP	**Maruseppu**	**6.57**	**253**	P	**Pn**	**22 05 22.3**	**+1.5**
JAR	**Ashorobuto**	**6.61**	**247**	P	**Pn**	**22 05 21.7**	**+0.4**
JAR				*e*S	**Sn**	**22 06 34.6**	**-0.6**
JOB	**Onbets**	**6.77**	**244**	P	**Pn**	**22 05 22.9**	**-0.6**
JOB				*e*S	**Sn**	**22 06 35.6**	**-3.5**
JSE	**Soyaes**	**6.80**	**263**	P	Pn	22 05 27.3	+3.5
JKK2	**Kamakawa 2**	**7.03**	**254**	P	**Pn**	**22 05 28.8**	**+1.8**
JKA	**Kamikawa-asahi**	**7.04**	**256**	*e*P	**Pn**	**22 05 29.6**	**+2.4**
ASAJ	**Asahikawa**	**7.04**	**256**	P	**Pn**	**22 05 29.9**	**+2.7**
ASAJ	**Asahikawa**	**7.04**	**256**	P	**Pn**	**22 05 29.6**	**+2.4**
	comp=N,12nm,0.3s,baz=26,slow=5.5,SNR=50						
ASAJ				LR	LR	22 08 12.8	
	comp=N,4μm,21.9s,baz=82,slow=38						
ASAJ	**Asahikawa**	**7.04**	**256**	PN	**Pn**	**22 05 29.6**	**+2.4**
ASAJ				pmax	pmax		
	comp=Z,12nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,4μm,21.9s						
ASAJ	**Asahikawa**	**7.04**	**256**	*e*Pn	**Pn**	**22 05 30.1**	**+2.9**
NEVR	**Nevel'sk**	**7.09**	**277**	*e*P	Pn	22 05 33.3	+5.4
NEVR				AMB	AMB	22 05 33.9	
	comp=Z,940nm,0.5s						
JWK2	**Keihoku**	**7.19**	**266**	P	Pn	22 05 34.0	+4.7
JCH	**Churui**	**7.22**	**243**	P	**Pn**	**22 05 28.7**	**-0.9**
JCH				*e*S	**Sn**	**22 06 45.8**	**-4.3**
UGL	**Uglegorsk**	**7.36**	**297**κ	*i*PN	Pn	22 05 36.7	+5.3
UGL				*e*S	Sn	22 07 00.5	+7.2
UGL				pmax	pmax		
	comp=E,600nm,0.8s						
UGL				pmax	pmax		
	comp=Z,2μm,0.8s						
UGL				pmax	pmax		
	comp=N,370nm,0.7s						
UGL				pmax	pmax		
	comp=Z,3μm,1.5s						
UGL				smax	smax		
	comp=N,790nm,0.6s						
UGL				smax	smax		
	comp=E,2μm,0.6s						
UGL				smax	smax		
	comp=Z,710nm,0.6s						
UGL				MLR	MLR		
	comp=Z,3μm,14.0s						
UGL				MLR	MLR		
	comp=N,4μm,18.0s						
UGL				MLR	MLR		
	comp=E,3μm,20.0s						
UGL	**Uglegorsk**	**7.36**	**297**	*i* P	Pn	22 05 36.7	+5.3
UGL				*i* P	Pn	22 05 36.7	+5.3
UGL				AMB	AMB	22 05 38.0	
	comp=E,370nm,0.8s						
UGL				AMB	AMB	22 05 38.0	
	comp=E,600nm,0.8s						
UGL				AMB	AMB	22 05 38.0	
	comp=E,2μm,0.8s						
UGL				AMB	AMB	22 05 38.0	
	comp=E,3μm,1.5s						
UGL				*e*S	Sn	22 06 59.6	+6.3
UGL				A	A	22 07 03.0	
	comp=E,790nm,0.6s						
UGL				A	A	22 07 03.0	
	comp=E,2μm,0.6s						
UGL				A	A	22 07 15.0	
	comp=E,3μm,4.0s						
UGL				AMS	AMS	22 08 36.0	
	comp=E,4μm,19.0s						
UGL				AMS	AMS	22 08 36.0	
	comp=E,3μm,19.0s						
UGL				AMS	AMS	22 08 36.0	
	comp=E,3μm,14.0s						
JSS	**Shosan**	**7.45**	**260**	P	Pn	22 05 38.3	+5.5
JAB	**Ashibetsu**	**7.52**	**252**	P	**Pn**	**22 05 36.7**	**+2.9**
ERM	**Erimo**	**7.68**	**240**	*e*PN	**Pn**	**22 05 36.0**	**0.0**
ERM	**Erimo**	**7.68**	**240**	*e*P	**Pn**	**22 05 36.4**	**+0.4**
ERM	**Erimo**	**7.68**	**240**	*e*Pn	**Pn**	**22 05 36.0**	**0.0**
ERM				*e*Sn	**Sn**	**22 06 57.6**	**-3.8**
JEM	**Erimo**	**7.68**	**240**	P	**Pn**	**22 05 35.8**	**-0.2**
JBT2	**Biratori 2**	**7.76**	**247**	P	**Pn**	**22 05 37.0**	**-0.1**
JNBK	**Urakawa-nobuka**	**7.78**	**243**	P	**Pn**	**22 05 36.5**	**-0.8**
JNBK				*e*S	**Sn**	**22 06 58.5**	**-5.3**
PEA0	**Petropavlovsk-**	**7.79**	**26**	*e*Pn	**Pn**	**22 05 36.1**	**-1.3**
PETK	**Petropavlovsk-**	**7.79**	**26**	P	**Pn**	**22 05 36.5**	**-0.9**
	comp=E,51nm,0.3s,baz=182,slow=14,SNR=346						
PETK				S	**Sn**	**22 07 02.2**	**-1.8**
	baz=182,slow=19,SNR=1.9						
PETK				LR	LR	22 08 46.6	
	comp=E,2μm,19.5s,baz=214,slow=39						
PETK	**Petropavlovsk-**	**7.79**	**26**	PN	**Pn**	**22 05 36.5**	**-0.9**
PETK				pmax	pmax		
	comp=Z,51nm,0.3s						
PETK				MLR	MLR		
	comp=Z,2μm,19.5s						
PEA2	**Petropavlovsk-**	**7.79**	**26**	*e*Pn	**Pn**	**22 05 36.5**	**-0.9**
PEA2				*e*Sn	**Sn**	**22 07 02.2**	**-1.9**
TYV	**Tymovskoe**	**7.80**	**310**	*i* P	Pn	22 05 41.9	+4.4
TYV				AMB	AMB	22 05 44.0	
	comp=Z,4μm,2.0s						
TYV				AMB	AMB	22 05 44.0	
	comp=Z,250nm,0.8s						
TYV				AMB	AMB	22 05 44.0	
	comp=Z,360nm,0.8

comp=Z,280nm,0.6s
TYV A A 22 07 26.0
comp=Z,5μm,7.0s
TYV AMS AMS 22 10 32.0
comp=Z,2μm,22.0s
TYV AMS AMS 22 10 32.0
comp=Z,2μm,15.0s
PET Petropavlovsk 8.03 30α *i*PN **Pn 22 05 38.0 -2.6**
PET pmax pmax
comp=Z,500nm,8.9s
PET pmax pmax
comp=Z,400nm,15.2s
PET pmax pmax
comp=Z,435nm,0.8s
PET MLR MLR
comp=Z,2μm,18.0s
PET MLR MLR
comp=Z,1μm,12.0s
PET Petropavlovsk 8.03 30 *i*P **Pn 22 05 38.0 -2.6**
PET AMB AMB 22 05 39.0
comp=Z,600nm,9.0s
PET AMB AMB 22 05 56.8
comp=Z,430nm,0.8s
PET *e*S **Sn 22 07 05.0 -4.7**
PET A A 22 07 06.9
comp=Z,2μm,0.5s
PET AMS AMS 22 09 44.0
comp=Z,1μm,12.0s
PET Petropavlovsk 8.03 30 *e*Pn **Pn 22 05 38.6 -1.9**
PET *e*Sn Sn 22 07 00.5 -9.3
JEW Eniwo 8.32 250 P **Pn 22 05 46.4 +1.7**
JNB Noboribetsu 8.77 249 P **Pn 22 05 49.9 -0.9**
JNB *e*S **Sn 22 07 24.3 -3.7**
JKB Kayabe 9.07 245 P **Pn 22 05 53.4 -1.5**
JKB *e*S Sn 22 07 26.4 -8.9
JSH Shimam 9.34 252 P **Pn 22 05 59.9 +1.4**
JYM2 Yakumo 2 9.37 248 P **Pn 22 05 58.3 -0.8**
OKH Okha 9.42 324⇑ *i*PN Pn 22 06 03.2 +3.6
OKH pmax pmax
comp=Z,4μm,4.4s
OKH Okha 9.42 324 *i* P Pn 22 06 03.2 +3.6
OKH AMB AMB 22 06 04.0
comp=Z,2μm,4.5s
OKH AMB AMB 22 06 04.0
comp=Z,4μm,4.5s
OKH AMB AMB 22 06 04.0
comp=Z,800nm,1.0s
OKH *e*S **Sn 22 07 47.0 +3.3**
OKH A A 22 07 49.8
comp=Z,1μm,3.0s
OKH AMS AMS 22 10 48.0
comp=Z,4μm,15.0s
OKH AMS AMS 22 10 48.0
comp=Z,2μm,15.0s
OKH AMS AMS 22 10 48.0
comp=Z,3μm,15.0s
JSR Shiriuchi 9.65 245 P **Pn 22 06 01.1 -1.7**
JSR *e*S Sn 22 07 42.7 -6.8
JANG Nango 9.68 237 P Pn 22 05 58.9 -4.3
JANG *e*S Sn 22 07 38.0 -12
JTM Tenmabayashi 9.68 240 P Pn 22 06 00.0 -3.2
JTM *e*S Sn 22 07 41.1 -9.2
JTH Tanohata 9.77 234 P Pn 22 06 00.0 -4.5
JTH *e*S Sn 22 07 38.6 -14
JOSM Okushiri--Mats 9.97 250 P **Pn 22 06 06.1 -1.1**
NKL Nikolayevsk 10.13 317 *i* P **Pn 22 06 12.0 +2.7**
NKL AMB AMB 22 06 14.0
comp=Z,1μm,2.0s
NKL AMB AMB 22 06 14.0
comp=Z,2μm,2.0s
NKL AMB AMB 22 06 14.0
comp=Z,2μm,2.0s
NKL AMB AMB 22 06 14.0
comp=Z,1μm,1.6s
NKL *e*S **Sn 22 08 01.0 -0.2**
NKL A A 22 08 19.0
comp=Z,1μm,8.0s
NKL A A 22 08 19.0
comp=Z,2μm,8.0s
NKL AMS AMS 22 10 38.0
comp=Z,3μm,15.0s
NKL AMS AMS 22 10 38.0
comp=Z,1μm,15.0s
NKL AMS AMS 22 10 38.0
comp=Z,3μm,15.0s
OFUJ Ofunato 10.48 231 P Pn 22 06 10.0 -4.2
OFUJ *e*S Sn 22 07 57.8 -12
JRG Rokugo 10.83 235 P Pn 22 06 15.4 -3.6
JRG *e*S Sn 22 08 07.0 -11
TEY Ternei 10.92 269 *e*P Pn 22 06 24.0 +3.9
TEY AMB AMB 22 06 24.5
comp=Z,10.0nm,0.7s
TEY AMB AMB 22 06 24.5
comp=Z,20nm,0.7s
TEY AMS AMS 22 10 09.0
comp=Z,6μm,20.0s
JIO Ouri 11.11 229 *e*S Sn 22 08 12.6 -13
GRNR Gornyy 11.35 299 *i* P Pn 22 06 29.5 +3.5
GRNR AMB AMB 22 06 30.5
comp=Z,80nm,1.0s
GRNR AMB AMB 22 06 30.5
comp=Z,180nm,1.0s
GRNR AMB AMB 22 06 30.5
comp=Z,380nm,1.0s
HABR Khabarovsk 11.79 287 *e*PN **Pn 22 06 31.6 -0.3**
HABR pmax pmax
comp=N,22nm,1.9s
HABR pmax pmax
comp=E,114nm,1.9s
HABR pmax pmax
comp=Z,115nm,1.9s
HABR MLR MLR
comp=Z,2μm,19.0s
HABR Khabarovsk 11.79 287 *i* P **Pn 22 06 31.6 -0.3**
HABR AMB AMB 22 06 36.5
comp=Z,120nm,1.9s
HABR AMS AMS 22 11 18.5
comp=Z,2μm,19.0s
JFY Yanaizu 12.76 231 P Pn 22 06 42.0 -3.2
KLR Kul'dur 14.02 290 *e*P **Pn 22 07 00.0 -2.0**
KLR *e*S **Sn 22 09 40.0 +4.1**
KLR pmax pmax
comp=E,460nm,1.6s
KLR pmax pmax
comp=Z,420nm,1.6s
KLR pmax pmax
comp=Z,1μm,8.5s
KLR MLR MLR
comp=Z,2μm,13.0s
KLR Kul'dur 14.02 290 *e*P **Pn 22 07 00.0 -2.0**
KLR AMB AMB 22 07 02.7
comp=Z,460nm,1.6s
KLR AMB AMB 22 07 02.7
comp=Z,420nm,1.6s
KLR AMB AMB 22 07 09.0
comp=Z,1μm,8.5s
KLR AMS AMS 22 14 13.5
comp=Z,2μm,13.0s
EKMR Ekimchan 14.15 306 *i* P **Pn 22 07 05.9 +2.2**
EKMR AMB AMB 22 07 11.5
comp=Z,60nm,0.5s
EKMR AMB AMB 22 07 11.5
comp=Z,80nm,0.5s
EKMR AMB AMB 22 07 11.5
comp=Z,170nm,0.5s
MAJO Matsushiro 14.20 232 *e*P **Pn 22 07 01.7 -2.8**
MAJO *e* 22 09 36.0
MAJO Matsushiro 14.20 232 *e*P **Pn 22 07 01.4 -3.1**
MAJO Matsushiro 14.20 232 *e*Pn **Pn 22 07 01.7 -2.8**
MAJO *e*Sn **Sn 22 09 36.0 -4.5**
MJAR Matsushiro Arr 14.20 232 P **Pn 22 07 01.6 -2.9**
comp=Z,0.9nm,0.3s,baz=29,slow=13,SNR=24
MJAR S **Sn 22 09 36.0 -4.5**
comp=Z,1.4nm,0.3s,baz=39,slow=14,SNR=3.8
MJAR ScP **ScP 22 15 43.9 -1.5**
comp=Z,0.1nm,0.3s,baz=336,slow=0.5,SNR=7.2
MJAR Matsushiro Arr 14.20 232 P **Pn 22 07 01.6 -2.9**
MJAR S **Sn 22 09 36.0 -4.5**
MJAR pmax pmax
comp=Z,1.0nm,0.3s
MJAR smax smax
comp=N,1.0nm,0.3s
USRK Ussuriysk Ar. 14.32 269 P **Pn 22 07 05.9 -0.1**
comp=N,6.8nm,0.3s,baz=83,slow=13,SNR=74
USRK LR LR 22 12 18.3
comp=N,2μm,21.4s,baz=67,slow=36

VLA Vladivostok 14.71 265 *i*P **Pn 22 07 11.0 0.0**
VLA Vladivostok 14.71 265 *e*P **Pn 22 07 11.0 0.0**
SMY Shemya 15.68 57 *e*P **Pn 22 07 22.7 -0.6**
SMY *e* 22 10 04.4
SMY Shemya 15.68 57 *e*Pn **Pn 22 07 22.7 -0.6**
SMY *e*Sn Sn 22 10 04.4 -12
MDJ Mudanjiang 15.88 272 P **Pn 22 07 25.8 -0.2**
MDJ S **Sn 22 10 18.5 -2.6**
MDJ PcP **PcP 22 12 21.6 +1.4**
MDJ ScP **ScP 22 15 51.1 +2.9**
MDJ PcS **PcS 22 15 57.3 +1.7**
MDJ ScS **ScS 22 19 29.4 +2.6**
MDJ PMZ
comp=N,280nm,0.9s
MDJ PMZ
comp=N,230nm,9.4s
MDJ LN
comp=N,790nm,15.8s
MDJ LE
comp=N,1μm,26.2s
MDJ LZ
comp=N,2μm,25.6s
MDJ Mudanjiang 15.88 272 *e*Pn **Pn 22 07 27.0 +1.0**
comp=N,270nm,0.9s
JHJ2 Mitsune 16.12 220 *e*Pn **P 22 07 32.0 +0.8**
comp=N,416nm,0.8s
SEY Seymchan 16.75 0 P **Pn 22 07 35.6 -1.0**
comp=N,16nm,0.3s,baz=173,slow=9.3,SNR=163
SEY LR LR 22 13 51.9
comp=N,2μm,21.6s,baz=178,slow=36
SEY Seymchan 16.75 0 *i*P **Pn 22 07 35.5 -1.2**
SEY Seymchan 16.75 0 *i*P **Pn 22 07 35.5 -1.2**
BMKR Bomnak 17.01 308 *i*P **P 22 07 41.0 +0.2**
BMKR AMB AMB 22 07 45.3
comp=N,50nm,0.9s
BMKR AMB AMB 22 07 45.3
comp=N,100nm,0.9s
BMKR AMB AMB 22 07 45.3
comp=N,180nm,0.9s
YASR Yasnyy 17.06 303 *e*P **Pn 22 07 36.0 -4.6**
YASR AMB AMB 22 07 41.6
comp=N,30nm,0.6s
YASR AMB AMB 22 07 41.6
comp=N,80nm,0.6s
ZEA Zeya 17.60 304 *i*P **Pn 22 07 46.7 -0.5**
ZEA AMB AMB 22 07 49.8
comp=N,280nm,1.1s
ZEA AMB AMB 22 07 49.8
comp=N,390nm,1.1s
ZEA AMB AMB 22 07 49.8
comp=N,580nm,1.1s
ZEA AMB AMB 22 07 50.0
comp=N,1μm,6.5s
ZEA AMB AMB 22 07 50.0
comp=N,2μm,6.5s
ZEA *e*S **Sn 22 11 04.0 +1.6**
ZEA A A 22 11 16.0
comp=N,2μm,9.0s
ZEA A A 22 11 16.0
comp=N,400nm,9.0s
ZEA AMS AMS 22 16 30.0
comp=N,1μm,17.0s
ZEA AMS AMS 22 16 30.0
comp=N,1μm,17.0s
KROS Kirovskiy 17.95 306 *i*P **Pn 22 07 51.5 0.0**
KROS AMB AMB 22 07 54.3
comp=N,180nm,0.9s
KROS AMB AMB 22 07 54.3
comp=N,480nm,0.9s
KROS AMB AMB 22 07 54.3
comp=N,620nm,0.9s
CN2 Changchun 18.97 272 ⇑P **P 22 08 00.3 -2.1**
CN2 *e*pP **pP 22 08 13.9 -2.8**
CN2 *e*S S 22 11 23.8 -10
CN2 LN
comp=N,900nm,15.0s
CN2 LE
comp=N,1μm,15.0s
CN2 LZ
comp=N,600nm,19.0s
CLNS Chul'man 19.85 312 *e*P **P 22 08 11.8 -0.1**
CLNS *e* 22 08 27.3
CLNS *e*S **S 22 11 52.9 +1.4**
CLNS *e*SS **SnSn 22 12 21.5 +10**
CLNS *e* 22 12 35.9
CLNS *e* 22 19 47.0
CLNS pmax pmax
comp=Z,104nm,0.8s
CLNS pmax pmax
comp=E,58nm,0.9s
CLNS smax smax
comp=N,154nm,1.4s
CLNS smax smax
comp=E,83nm,1.2s
CLNS MLR MLR
comp=Z,1μm,17.0s
CLNS MLR MLR
comp=N,737nm,13.0s
CLNS MLR MLR
comp=E,819nm,16.0s
KSRS Korea Array 19.97 253 P **P 22 08 14.2 +0.8**
comp=E,2.3nm,0.3s,baz=61,slow=11,SNR=88
KSRS LR LR 22 15 55.6
comp=E,570nm,19.3s,baz=62,slow=36
KSRS ScP **ScP 22 15 56.9 -0.2**
comp=E,0.2nm,0.3s,baz=270,slow=1.3,SNR=4.2
KSRS Korea Array 19.97 253 P **P 22 08 14.2 +0.8**
KSRS MLR MLR
comp=Z,570nm,19.3s
KSRS Korea Array 19.97 253 *e*P **P 22 08 14.2 +0.8**
KS01 Wonju Array Si 19.98 253 *e*P **P 22 08 12.8 -0.7**
KS15 Wonju Array Si 20.00 253 *e*P **P 22 08 14.2 +0.5**
KS15 *e*ScP **ScP 22 15 56.9 -0.3**
YAK Yakutsk 20.40 329 P **P 22 08 16.9 -0.8**
comp=Z,903nm,0.6s,baz=323,slow=0.9,SNR=119
YAK LR LR 22 16 04.7
comp=Z,1μm,21.4s,baz=130,slow=36
YAK Yakutsk 20.40 329 *e*P **P 22 08 17.0 -0.8**
YAK *e**PP **pP 22 08 33.6 +1.4**
YAK *e*S **S 22 12 01.5 -0.7**
YAK *e* 22 12 23.6
YAK *e**SS sS 22 12 32.1 +6.2
YAK *e* 22 19 37.8
YAK pmax pmax
comp=E,113nm,0.9s
YAK pmax pmax
comp=N,100nm,1.1s
YAK pmax pmax
comp=Z,444nm,0.8s
YAK smax smax
comp=E,1μm,2.0s
YAK smax smax
comp=N,720nm,1.8s
YAK Yakutsk 20.40 329 *e*P **P 22 08 17.0 -0.8**
YAK Yakutsk 20.40 329 *e*P **P 22 08 16.8 -1.0**
comp=N,1μm,0.6s
CBIJ Chichi jima 20.65 206 *e*P **P 22 08 20.9 +0.1**
comp=N,509nm,0.8s
CBIJ *e*S S 22 11 59.5 -8.0
JCJ Chichijima 20.65 206 P **P 22 08 20.8 +0.1**
comp=N,481nm,0.8s,baz=11,slow=9.1,SNR=14
JCJ S S 22 11 56.8 -11
comp=N,251nm,0.7s,baz=276,slow=23,SNR=11
JCJ LR LR 22 15 15.1
comp=N,523nm,21.4s,baz=355,slow=33
CBI Chichi jima 20.65 206 *e*P **P 22 08 20.8 0.0**
INCN Inchon 20.81 254 *e*P **P 22 08 21.1 -1.4**
INCN Inchon 20.81 254 *e*P Pn 22 08 24.5 -1.1
comp=N,177nm,0.8s
JNU Nakatsue 20.85 239 P **P 22 08 23.6 +0.6**
comp=N,31nm,0.8s,baz=54,slow=7.1,SNR=16
JNU LR LR 22 17 41.0
comp=N,687nm,19.8s,baz=40,slow=40
JNU Nakatsue 20.85 239 *e*P Pn 22 08 26.8 +0.8
comp=N,110nm,0.9s
SNY Shenyang 20.92 268 ⇑P **P 22 08 23.5 -0.1**
SNY S S 22 11 59.3 -13
SNY PMZ
comp=N,200nm,0.7s
SNY PMZ
comp=N,590nm,11.0s
SNY LN
comp=N,620nm,12.7s
SNY LE
comp=N,1μm,16.3s
SNY LZ

comp=N,1μm,28.4s
TJN Taejon 20.95 251 *e*P **P 22 08 25.3 +1.4**
ADK Adak 21.12 63 *e*P **P 22 08 23.6 -2.1**
ADK pmax pmax
comp=Z,162nm,1.3s
ADK Adak 21.12 63 *e*P **P 22 08 23.6 -2.1**
comp=Z,162nm,1.3s
HIA Hailar 21.88 290 *d*P **P 22 08 31.0 -2.8**
HIA MLR MLR
comp=Z,2μm,21.0s
HIA Hailar 21.88 290 *e*P **P 22 08 31.2 -2.6**
comp=Z,338nm,1.3s
DL2 Dalian 23.50 263⇑ *i*P **P 22 08 51.1 +0.6**
DL2 S **S 22 12 58.5 -0.3**
DL2 PMZ
comp=Z,210nm,1.4s
DL2 PMZ
comp=Z,390nm,5.7s
SPIA Saint Paul Isl 25.45 51 *e*P **P 22 09 09.2 +1.2**
comp=Z,526nm,1.3s
CIT Chita 25.66 297 *e*P **P 22 09 08.5 -1.5**
CIT *e* 22 09 19.2
CIT *e* 22 10 07.5
CIT *e* 22 13 37.1
CIT pmax pmax
comp=Z,171nm,1.4s
BOD Bodaibo 25.79 311 *e*P **P 22 09 08.3 -2.8**
BOD pmax pmax
comp=Z,93nm,1.4s
BJI Beijing 26.77 270 P **P 22 09 19.8 -0.2**
BJI S **S 22 13 50.4 -0.5**
BJI PMZ
comp=Z,310nm,0.9s
BJI PMZ
comp=Z,330nm,3.7s
BJI LN
comp=Z,570nm,12.6s
BJI LE
comp=Z,1μm,19.1s
BJI LZ
comp=Z,1μm,25.3s
BJT Baijiatuao 26.79 270 *e*P **P 22 09 20.6 +0.4**
BJT pmax pmax
comp=Z,272nm,0.9s
BJT Baijiatuao 26.79 270 *e*P **P 22 09 20.6 +0.4**
BJT Baijiatuao 26.79 270 *e*P **P 22 09 20.6 +0.4**
comp=Z,272nm,0.9s
JOW Kunigami 27.05 233 *e*P **P 22 09 24.5 +1.9**
comp=Z,137nm,1.1s
TIXI Tiksi 27.79 344 *c i*P **P 22 09 26.2 -2.5**
TIXI pmax pmax
comp=Z,138nm,1.7s
TIXI Tiksi 27.79 344 *i* P **P 22 09 26.2 -2.5**
TIXI Tiksi 27.79 344 *e*P **P 22 09 26.2 -2.5**
comp=Z,86nm,1.1s
TIA Tai'an 27.95 262 ⇑P **P 22 09 33.0 +2.4**
TIA PMZ
comp=Z,60nm,1.2s
TIA PMZ
comp=Z,410nm,3.3s
TIA LN
comp=Z,540nm,17.0s
TIA LE
comp=Z,580nm,16.0s
TIA LZ
comp=Z,870nm,20.0s
SSE Sheshan 28.25 249 *e*P **P 22 09 32.9 -0.4**
SSE pP **pP 22 09 51.6 +1.8**
SSE S **S 22 14 13.3 -1.0**
SSE sS **sS 22 14 42.3 -0.3**
SSE PMZ
comp=Z,130nm,5.0s
SSE LN
comp=Z,520nm,18.2s
SSE LE
comp=Z,510nm,18.4s
SSE LZ
comp=Z,560nm,17.5s
TNA Tin City 28.86 34 *e*P **P 22 09 37.1 -1.2**
comp=Z,71nm,1.1s
H11N2 WAKE ISLAND Hy 29.09 150 T T 22 40 05.0
baz=339,slow=75,SNR=5328
H11N1 WAKE ISLAND Hy 29.10 150 T T 22 40 08.7
baz=339,slow=75,SNR=3143
H11N3 WAKE ISLAND Hy 29.10 150 T T 22 40 09.0
baz=339,slow=75,SNR=2905
NJ2 Nanjing 29.17 253 *e*P **P 22 09 42.3 +0.8**
NJ2 pP **pP 22 09 55.1 -2.9**
NJ2 sP sP 22 10 00.6 -5.5
NJ2 S **S 22 14 30.5 +1.8**
NJ2 sS **sS 22 14 53.5 -3.6**
NJ2 PMZ
comp=Z,40nm,0.9s
NJ2 PMZ
comp=Z,360nm,10.5s
NJ2 LN
comp=Z,2μm,28.0s
NJ2 LE
comp=Z,2μm,27.4s
NJ2 LZ
comp=Z,2μm,27.4s
HHC Hu-ho-hao-te 29.63 274 *e*P **P 22 09 46.5 +0.8**
HHC PP **PnPn 22 10 44.9 +1.5**
HHC S **S 22 14 33.8 -2.3**
HHC sS **sS 22 15 04.8 +0.3**
HHC SS **SnSn 22 16 12.0 +1.1**
HHC PMZ
comp=Z,230nm,1.0s
HHC PMZ
comp=Z,220nm,7.4s
HHC LN
comp=Z,1μm,16.4s
HHC LE
comp=Z,1μm,17.2s
HHC LZ
comp=Z,2μm,19.2s
H11S1 WAKE ISLAND Hy 30.16 152 T T 22 41 25.6
baz=339,slow=76,SNR=1188
H11S3 WAKE ISLAND Hy 30.17 152 T T 22 41 34.4
baz=339,slow=76,SNR=1123
H11S2 WAKE ISLAND Hy 30.18 152 T T 22 41 29.7
baz=339,slow=76,SNR=1474
ULN Ulaanbaatar 30.41 290 *c i*P **P 22 09 51.6 -1.0**
ULN pmax pmax
comp=Z,39nm,0.8s
ULN Ulaanbaatar 30.41 290 *e*P **P 22 09 51.3 -1.2**
comp=Z,36nm,0.8s
TIY Taiyuan 30.43 268 *e*P **P 22 09 54.6 +1.9**
TIY pP **pP 22 10 12.3 +3.1**
TIY PP **PnPn 22 10 56.4 +2.6**
TIY S **S 22 14 50.3 +1.7**
TIY SS **SnSn 22 16 35.3 +5.0**
TIY PMZ
comp=Z,220nm,0.7s
TIY LN
comp=Z,200nm,10.2s
TIY LE
comp=Z,570nm,14.8s
TIY LZ
comp=Z,920nm,26.0s
SONA1 Songino Array 30.84 290 *e*P **P 22 09 55.2 -1.1**
SONA0 Songino Array 30.85 290 *e*P **P 22 09 55.2 -1.2**
SONA0 *e*PcP **PcP 22 12 51.7 +0.1**
SONA0 *e*ScP **ScP 22 16 27.0 -1.1**
SONM Songino Array 30.85 290 P **P 22 09 55.2 -1.2**
comp=Z,22nm,0.6s,baz=72,slow=8.0,SNR=148
SONM PcP **PcP 22 12 51.7 +0.1**
comp=Z,8.2nm,0.7s,baz=179,slow=2.0,SNR=4.4
SONM ScP **ScP 22 16 27.0 -1.1**
comp=Z,4.6nm,1.0s,baz=100,slow=1.8,SNR=6.3
SONM LR LR 22 23 11.4
comp=Z,1μm,21.0s,baz=82,slow=38
SONM Songino Array 30.85 290 P **P 22 09 55.2 -1.2**
SONM 22 12 51.7
SONM pmax pmax
comp=Z,22nm,0.6s
SONM MLR MLR
comp=Z,1μm,21.0s
IRK Irkutsk 31.33 299 *e*P **P 22 09 58.3 -2.1**
IRK pmax pmax
comp=Z,83nm,1.8s
IRK Irkutsk 31.33 299 *e*P **P 22 09 58.3 -2.1**
TLY Talaya 31.80 298 *e*P **P 22 10 03.4 -1.2**
TLY *e* 22 11 17.8
TLY *e* 22 12 54.4
TLY *e*S **S 22 15 05.3 -4.4**

TLY pmax pmax
comp=Z,117nm,1.0s
TLY MLR MLR
comp=Z,2µm,19.0s
TLY Talaya 31.80 298 *e*P **P 22 10 03.4 -1.2**
TLY Talaya 31.80 298 P **P 22 10 03.5 -1.0**
SNR=26
TLY Talaya 31.80 298 *e*P **P 22 10 03.7 -0.9**
comp=Z,82nm,0.8s
ZAK Zakamensk 32.27 296 *e*P **P 22 10 07.5 -1.3**
ZAK *e* 22 12 54.7
ZAK pmax pmax
comp=Z,70nm,1.1s
WHN Wuhan 33.12 255⇑*i*P **P 22 10 16.5 +0.3**
WHN pP **pP 22 10 35.6 +2.7**
WHN PcP PcP 22 13 03.8 +5.9
WHN S **S 22 15 29.4 -1.0**
WHN PMZ
comp=Z,120nm,0.6s
WHN LN
comp=Z,640nm,13.4s
WHN LE
comp=Z,760nm,11.4s
WHN LZ
comp=Z,800nm,12.6s
SVW2 Sparrevohn 33.36 44 *e*P **P 22 10 18.7 +0.6**
comp=Z,66nm,0.8s
MOY Mondy 33.43 298 *e*P **P 22 10 18.2 -0.7**
MOY pmax pmax
comp=Z,54nm,2.0s
SSLB Suanglung 33.59 239 *e*P **P 22 10 20.9 +0.4**
comp=Z,36nm,0.9s
YULB Yu-li 33.69 238 *e*P **P 22 10 22.0 +0.7**
comp=Z,28nm,0.9s
TPUB Ta-pu 34.16 239 *e*P **P 22 10 25.4 +0.1**
comp=Z,146nm,0.9s
QZH Quanzhou 34.17 243⇓*i*P **pP 22 10 46.8 +4.7**
QZH S **S 22 15 48.6 +1.9**
QZH pmax pmax
comp=Z,580nm,6.2s
QZH LR LR
comp=Z,880nm,23.2s
TWG Pinlang 34.26 238 *e*P **P 22 10 26.3 +0.1**
comp=Z,423nm,1.1s
IM04 Indian Mountai 34.59 36 *e*P **P 22 10 28.5 -0.1**
IM04 *e*ScP **ScP 22 16 40.3 -0.2**
OHAK Old Harbor 34.65 51 *e*P **P 22 10 28.5 -0.8**
comp=Z,235nm,1.4s
RSO Redoubt South 34.74 46 *e*P **P 22 10 30.2 0.0**
XAN Xi'an 34.77 265 P **P 22 10 31.1 +0.5**
XAN pP **pP 22 10 45.1 -2.2**
XAN sP **sP 22 10 52.0 -3.4**
XAN S **S 22 15 52.6 -3.5**
XAN PMZ
comp=Z,30nm,0.7s
XAN PMZ
comp=Z,58nm,6.1s
XAN LN
comp=Z,390nm,25.5s
KDAK Kodiak Island 34.98 50 *e*P **P 22 10 32.3 +0.3**
KDAK pmax pmax
comp=Z,95nm,1.0s
KDAK Kodiak Island 34.98 50 *e*P **P 22 10 32.3 +0.3**
comp=Z,95nm,1.0s
PPLA Purkeypile 35.02 41 *e*P **P 22 10 33.5 +0.9**
comp=Z,371nm,1.5s
SPU Mount Spurr 35.07 44 *e*P **P 22 10 29.9 -2.9**
CAST Castle Rocks 35.09 40 *e*P **P 22 10 33.6 +0.5**
comp=Z,74nm,1.0s
BPAW Bear Paw Mtn. 35.61 39 *e*P **P 22 10 37.8 +0.4**
KTH Kantishna Hill 35.62 40 *e*P **P 22 10 38.2 +0.6**
comp=Z,298nm,1.0s
BRLK Bradley Lake 35.71 47 *e*P **P 22 10 37.8 -0.5**
comp=Z,53nm,0.8s
MLY Manley 35.76 38 *e*P **P 22 10 39.2 +0.5**
comp=Z,80nm,0.8s
TRF Thorofare Moun 35.90 40 *e*P **P 22 10 39.1 -1.0**
comp=Z,95nm,0.9s
TRF *e*pP **pP 22 10 59.0 +2.1**
TRF *e*PP **PnPn 22 11 59.8 -2.4**
COLD Coldfoot 36.16 34 *e*P **P 22 10 42.4 +0.3**
comp=Z,72nm,0.7s
RC01 Rabbit Creek A 36.20 44 *e*P **P 22 10 41.6 -0.9**
comp=Z,85nm,0.8s
BWN Browne 36.28 39 *e*P **P 22 10 44.4 +1.3**
comp=Z,615nm,1.0s
BWN *e*pP **pP 22 11 03.0 +3.1**
SEW Seward 36.40 46 *e*P **P 22 10 43.6 -0.5**
comp=Z,55nm,0.9s
PMR Palmer 36.47 43 *e*P **P 22 10 43.4 -1.3**
PMR pmax pmax
comp=Z,65nm,0.8s
PMR Palmer 36.47 43 *e*P **P 22 10 43.4 -1.3**
PMR Palmer 36.47 43 *e*P **P 22 10 43.4 -1.3**
comp=Z,65nm,0.8s
MCK McKinley 36.51 40 *e*P **P 22 10 44.8 -0.3**
MCK *e* 22 12 04.1
MCK pmax pmax
comp=Z,121nm,0.9s
MCK McKinley 36.51 40 *e*P **P 22 10 44.8 -0.3**
MCK McKinley 36.51 40 *e*P **P 22 10 44.8 -0.3**
comp=Z,121nm,0.9s
MCK *e*PP **PP 22 12 04.1 -5.0**
RND Reindeer 36.55 40 *e*P **P 22 10 45.0 -0.5**
RND pmax pmax
comp=Z,139nm,0.9s
RND Reindeer 36.55 40 *e*P **P 22 10 45.0 -0.5**
comp=Z,139nm,0.9s
ENH Enshi 36.58 259 *e*P **P 22 10 46.2 +0.1**
comp=Z,35nm,0.9s
ENH *e*S **S 22 16 22.2 -1.5**
MDM Murphy Dome 36.83 38 *e*P **P 22 10 48.0 +0.2**
comp=Z,132nm,0.8s
WRH Wood River Hil 36.88 39 *e*P **P 22 10 48.2 0.0**
comp=Z,88nm,0.8s
WRH *e*PP **PP 22 12 13.3 +0.2**
WRH *e*ScP **ScP 22 16 48.8 -0.1**
COLA College 36.99 38 *e*P **P 22 10 49.5 +0.4**
COLA pmax pmax
comp=Z,225nm,0.8s
COLA College 36.99 38 *e*P **P 22 10 49.5 +0.4**
COLA College 36.99 38 *e*P **P 22 10 49.5 +0.4**
comp=Z,225nm,0.8s
CCB Clear Creek Bu 37.00 38 *e*P **P 22 10 49.1 -0.2**
comp=Z,40nm,0.9s
CCB *e*PP **PP 22 12 14.3 -0.2**
CCB *e*ScP **ScP 22 16 49.0 -0.4**
LZH Lanzhou 37.20 272⇑P **P 22 10 53.3 +1.8**
LZH pP **pP 22 11 07.5 -0.9**
LZH sP **sP 22 11 12.0 -4.4**
LZH S **S 22 16 28.3 -5.1**
LZH SS **SnSn 22 19 10.0 -4.4**
LZH PMZ
comp=Z,110nm,1.0s
LZH PMZ
comp=Z,200nm,4.5s
LZH LN
comp=Z,830nm,12.1s
LZH LE
comp=Z,950nm,11.2s
LZH LZ
comp=Z,1µm,14.4s
SCM Sheep Creek Mo 37.31 43 *e*P **P 22 10 51.9 -0.1**
SCM pmax pmax
comp=Z,94nm,0.8s
SCM Sheep Creek Mo 37.31 43 *e*P **P 22 10 51.9 -0.1**
comp=Z,94nm,0.8s
KRAR Krasnoyarsk 37.35 307 *e*P **P 22 10 50.7 -1.6**
KRAR pmax pmax
comp=Z,83nm,1.0s
IL1 Eielson Array 37.40 38 *e*P **P 22 10 50.8 -1.8**
ILAR Eielson Array 37.40 38 P **P 22 10 52.0 -0.5**
comp=Z,52nm,0.9s,baz=261,slow=7.4,SNR=248
ILAR LR LR 22 28 11.9
comp=Z,349nm,19.2s,baz=278,slow=39
ILAR Eielson Array 37.40 38 P **P 22 10 52.1 -0.5**
ILAR pmax pmax
comp=Z,52nm,0.9s
ILAR MLR MLR
comp=Z,349nm,19.2s
ILAR Eielson Array 37.40 38 *e*P **P 22 10 52.1 -0.5**
ILB Eielson Array 37.40 38 *e*P **P 22 10 52.0 -0.5**
DDM Donnelly Dome 37.87 40 *e*P **P 22 10 56.2 -0.5**
comp=Z,209nm,0.8s
HVS Khovu-Aksy 37.99 299 *e*P **P 22 10 56.6 -1.3**
KLU Klutina 38.01 43 *e*P **P 22 10 57.9 +0.1**
comp=Z,132nm,1.0s
FYU Fort Yukon 38.08 35 *e*P **P 22 10 59.5 +1.2**
comp=Z,479nm,1.4s
PAX Paxson 38.09 41 *e*P **P 22 10 59.3 +0.7**
PAX pmax pmax
comp=Z,65nm,1.2s
PAX Paxson 38.09 41 *e*P **P 22 10 59.3 +0.7**
comp=Z,65nm,1.2s
DIV Divide 38.12 44 *e*P **P 22 10 59.0 +0.2**
comp=Z,112nm,0.7s
GTA Gaotai 38.36 279⇑P **P 22 11 02.3 +1.1**
GTA pP **pP 22 11 16.8 -1.3**
GTA sP **sP 22 11 23.3 -2.8**
GTA PcP **PcP 22 13 14.8 +1.3**
GTA S **S 22 16 49.3 -1.5**
GTA ScP **ScP 22 16 55.5 +0.4**
GTA PcS **PcS 22 17 04.1 +1.3**
GTA sS **sS 22 17 16.3 -3.3**
GTA SS SS 22 19 30.3 -12
GTA ScS **ScS 22 21 04.9 -0.4**
GTA PMZ
comp=Z,210nm,1.2s
GTA PMZ
comp=Z,690nm,4.3s
GTA LN
comp=Z,670nm,14.7s
GTA LE
comp=Z,520nm,16.2s
GTA LZ
comp=Z,620nm,16.6s
DOT Dot Lake 38.68 40 *e*P **P 22 11 02.7 -0.8**
comp=Z,58nm,0.8s
DOT *e*S **S 22 16 56.8 +1.9**
SCRK Sand Creek 38.69 39 *e*P **P 22 11 02.9 -0.7**
comp=Z,49nm,0.8s
BMRM Bremner River 38.70 44 *e*P **P 22 11 04.0 +0.3**
comp=Z,120nm,0.9s
RAGM Ragged Mountai 38.74 45 *e*P **P 22 11 04.7 +0.7**
comp=Z,223nm,1.4s
SZP Santa 38.77 233 *e*P **P 22 11 03.2 -1.4**
SZP *e*pP **pP 22 11 26.2 +4.7**
GZH Guangzhou 38.81 247 P **P 22 11 01.8 -3.1**
GZH pP **pP 22 11 20.6 -1.3**
GZH S S 22 16 49.8 -7.8
GZH SS SS 22 19 40.0 -11
GZH LN
comp=Z,1µm,21.4s
GZH LE
comp=Z,720nm,21.6s
EGAK Eagle 39.85 38 *e*P **P 22 11 12.6 -0.5**
comp=Z,207nm,1.1s
EGAK *e*PP **PnPn 22 12 50.5 +1.1**
CD2 Chengdu 40.14 265⇑*i*P **P 22 11 16.8 +0.8**
CD2 pP **pP 22 11 34.3 +1.3**
CD2 sP **sP 22 11 43.6 +2.7**
CD2 PP **PnPn 22 12 57.8 +4.4**
CD2 PcP **PcP 22 13 18.5 -0.6**
CD2 S **S 22 17 16.4 -1.0**
CD2 sS **sS 22 17 45.0 -1.4**
CD2 SS **SS 22 20 15.5 -1.8**
CD2 PMZ
comp=Z,410nm,0.9s
CD2 PMZ
comp=Z,310nm,9.3s
CD2 LN
comp=Z,470nm,20.2s
CD2 LE
comp=Z,380nm,21.4s
CD2 LZ
comp=Z,540nm,21.4s
DAWY Dawson 40.69 39 *e*P **P 22 11 20.3 +0.1**
DAWY *e*PP **PP 22 12 51.8 -3.0**
GYA Guiyang 40.91 257 P **P 22 11 23.0 +0.5**
GYA pP **pP 22 11 38.4 -1.2**
GYA sP **sP 22 11 43.8 -3.7**
GYA PP **PnPn 22 13 02.6 -0.1**
GYA ScP **ScP 22 17 08.0 +2.8**
GYA S **S 22 17 30.6 +1.4**
GYA sS **sS 22 17 55.5 -2.8**
GYA SS **SS 22 20 27.3 -5.7**
GYA PMZ
comp=Z,30nm,1.0s
GYA PMZ
comp=Z,140nm,5.2s
GYA LN
comp=Z,780nm,18.8s
GYA LE
comp=Z,590nm,19.0s
GYA LZ
comp=Z,630nm,18.4s
HYT Haines Junctio 42.14 43 *e*P **P 22 11 33.3 +1.2**
ZAA1 Zalesovo Array 42.35 306 *e*P **P 22 11 31.5 -2.3**
ZAA1 *e*PcP **PcP 22 13 25.4 -0.5**
ZAA0 Zalesovo Array 42.35 306 *e*P **P 22 11 31.2 -2.6**
ZALV Zalesovo Beam 42.35 306 P **P 22 11 31.5 -2.3**
comp=Z,23nm,0.5s,baz=66,slow=6.7,SNR=113
ZALV PcP **PcP 22 13 25.4 -0.5**
comp=Z,47nm,0.8s,baz=80,slow=2.5,SNR=15
ZALV LR LR 22 30 25.8
comp=Z,2µm,19.4s,baz=70,slow=38
ZALV Zalesovo Beam 42.35 306 P **P 22 11 31.5 -2.3**
ZALV 22 13 25.4
ZALV pmax pmax
comp=Z,23nm,0.5s
ZALV MLR MLR
comp=Z,2µm,19.4s
INK Inuvik 42.47 32 *e*P **P 22 11 35.2 +0.7**
INK pmax pmax
comp=Z,213nm,1.2s
INK Inuvik 42.47 32 *e*P **P 22 11 35.2 +0.7**
INK Inuvik 42.47 32 *e*P **P 22 11 35.2 +0.7**
comp=Z,213nm,1.2s
NVS Novosibirsk 42.96 308⇑*i*P **P 22 11 37.2 -1.4**
NVS *i* 22 13 22.1
NVS *e* 22 21 30.9
NVS pmax pmax
comp=Z,168nm,1.9s
NVS pmax pmax
comp=N,45nm,1.7s
NVS pmax pmax
comp=E,82nm,1.5s
NVS Novosibirsk 42.96 308 *e*P **P 22 11 37.2 -1.4**
SKAG Skagway 43.53 45 *e*P **P 22 11 44.8 +1.5**
comp=E,30nm,1.0s
QIZ Qiongzhong 44.00 246 P **P 22 11 48.0 +0.6**
QIZ S **S 22 18 16.8 +2.4**
QIZ LE
comp=E,280nm,21.0s
QIZ LZ
comp=E,500nm,22.0s
BESE Bessie Mountai 44.02 46 *e*P **P 22 11 48.8 +1.6**
comp=E,56nm,1.6s
SIT Sitka 44.24 48 *e*P **P 22 11 50.9 +2.0**
SIT pmax pmax
comp=Z,40nm,0.9s
SIT Sitka 44.24 48 *e*P **P 22 11 50.9 +2.0**
comp=Z,40nm,0.9s
KMI Kunming 44.46 259⇑P **P 22 11 52.0 +0.7**
KMI pP **pP 22 12 09.6 +1.0**
KMI sP **sP 22 12 16.6 +0.1**
KMI PP **PP 22 13 35.3 -0.7**
KMI S **S 22 18 20.4 -1.0**
KMI sS **sS 22 18 49.6 -1.1**
KMI PMZ
comp=Z,81nm,1.1s
KMI PMZ
comp=Z,220nm,3.1s
KMI LN
comp=Z,380nm,18.2s
KMI LE
comp=Z,200nm,19.2s
KMI LZ
comp=Z,360nm,20.6s
WMQ Urumqi 44.47 291 P **P 22 11 51.4 +0.4**
WMQ pP **pP 22 12 09.9 +1.7**
WMQ sP **sP 22 12 18.8 +2.6**
WMQ PcP **PcP 22 13 34.5 +1.1**
WMQ ScP **ScP 22 17 18.9 -0.3**
WMQ PcS **PcS 22 17 25.8 -1.0**
WMQ S **S 22 18 19.8 -1.1**
WMQ sS **sS 22 18 50.5 +0.3**
WMQ ScS **SS 22 21 39.5 -2.4**
WMQ PMZ
comp=Z,170nm,0.6s
WMQ PMZ
comp=Z,1µm,4.6s
WMQ LN
comp=Z,910nm,15.6s
WMQ LE
comp=Z,580nm,17.2s
WMQ LZ
comp=Z,900nm,24.8s
WRAK Wrangell Islan 46.01 48 *e*P **P 22 12 04.7 +1.8**
comp=Z,47nm,0.9s
WRAK *e*PP PP 22 13 57.1 +5.5
DLBC Dease Lake 46.47 45 *e*P **P 22 12 08.3 +1.7**
MK32 Makanchi Array 46.56 297 *e*P **P 22 12 06.5 -1.0**
MK32 *e*PcP **PcP 22 13 39.9 -0.7**
MK32 *e*ScP **ScP 22 17 27.1 -0.7**
MK32 *e*ScS **ScS 22 22 02.1 +6.6**
MKAR Makanchi Array 46.56 297 P **P 22 12 06.5 -1.0**
comp=Z,123nm,0.9s,baz=53,slow=4.7,SNR=688
MKAR PcP **PcP 22 13 39.9 -0.7**
comp=Z,25nm,0.7s,baz=337,slow=1.6,SNR=6.4
MKAR ScP **ScP 22 17 27.1 -0.7**
comp=Z,3.0nm,0.9s,baz=352,slow=2.9,SNR=3.6
MKAR ScS **ScS 22 22 02.1 +6.6**
comp=Z,2.0nm,1.0s,baz=70,slow=7.0,SNR=3.8
MKAR LR LR 22 32 48.6
comp=Z,2µm,19.9s,baz=64,slow=38
MKAR Makanchi Array 46.56 297 P **P 22 12 06.5 -1.0**
MKAR 22 13 39.9
MKAR 22 22 02.1
MKAR pmax pmax
comp=Z,123nm,0.9s
MKAR MLR MLR
comp=Z,2µm,19.9s
MKAR Makanchi Array 46.56 297 *e*P **P 22 12 06.5 -1.0**
MKAR Makanchi Array 46.56 297 *e*P **P 22 12 06.7 -0.8**
MKAR *e*PcP **PcP 22 13 39.2 -1.4**
MK01 Makanchi Array 46.57 297 *e*P **P 22 12 05.5 -2.0**
MK01 *e*PcP **PcP 22 13 41.2 +0.6**
KURK Kurchatov 47.08 304 *e*P **P 22 12 09.8 -1.5**
KURK *e* 22 13 42.4
KURK pmax pmax
comp=Z,190nm,0.8s
KURK Kurchatov 47.08 304 *e*P **P 22 12 09.8 -1.5**
KURK Kurchatov 47.08 304 P **P 22 12 10.1 -1.3**
SNR=74
KURK Kurchatov 47.08 304 *e*P **P 22 12 09.8 -1.5**
comp=Z,190nm,0.8s
KURK *e*PcP **PcP 22 13 42.4 +0.2**
OPA Opana 47.12 104 *e*P **P 22 12 13.1 +1.0**
OPA Opana 47.12 104 *e*P **P 22 12 13.1 +1.0**
KIP Kipapa 47.30 104 *i*P **P 22 12 14.0 +0.6**
KIP pmax pmax
comp=Z,461nm,2.5s
KIP Kipapa 47.30 104 *e*P **P 22 12 13.2 -0.3**
comp=Z,145nm,0.8s
SKNT Sakolnakorn 49.28 250 P **P 22 12 29.6 +0.9**
comp=Z,192nm,1.1s,comp=Z,2µm
CRAI Chiangrai 49.37 256 P **P 22 12 26.6 -2.8**
comp=Z,73nm,1.1s,comp=Z,2µm
SMPI Sarmi 49.44 198 P **P 22 12 30.4 +0.5**
comp=Z,61nm,1.0s,comp=Z,3µm
LSA Lhasa 49.60 273 P **P 22 12 33.6 +1.9**
LSA PMZ
comp=Z,100nm,0.8s
LSA PMZ
comp=Z,160nm,3.6s
LSA LN
comp=Z,170nm,15.0s
LSA LE
comp=Z,490nm,20.0s
LSA LZ
comp=Z,670nm,24.0s
LSA Lhasa 49.60 273 *e*P **P 22 12 33.6 +1.9**
LSA pmax pmax
comp=Z,115nm,0.6s
LSA Lhasa 49.60 273 *e*P **P 22 12 33.6 +1.9**
comp=Z,115nm,0.6s
GENI Genyem 49.74 196 P **P 22 12 32.6 +0.4**
comp=Z,101nm,0.8s
POHA Pohakuloa 50.12 104 *e*P **P 22 12 36.1 +0.7**
comp=Z,363nm,0.8s
TNTI Ternate 50.19 213 *e*P **P 22 12 35.1 -0.6**
comp=Z,102nm,1.5s
DLV T Lat 50.21 241 *e*P **P 22 12 37.4 +1.3**
DLV *e*pP **pP 22 12 57.8 +4.2**
ALE Alert 50.34 6 P **P 22 12 35.0 -1.0**
comp=Z,2µm,0.7s,SNR=100
SDKM Sandakan 50.44 228⇑P **P 22 12 37.9 +0.4**
CMAI Chiengmai2 50.47 257 P **P 22 12 39.3 +1.4**
comp=Z,82nm,1.2s
KHON Khomkaen 50.50 251 P **P 22 12 39.2 +1.2**
comp=Z,34nm,0.9s
KKM Kota Kinabalu 50.60 229⇑P **P 22 12 38.3 -0.6**
BVAR Borovoye Array 50.65 309 P **P 22 12 37.3 -1.4**
comp=Z,53nm,0.6s,baz=60,slow=8.8,SNR=433
BVAR PcP **PcP 22 13 54.9 -0.3**
comp=Z,20nm,0.7s,baz=92,slow=4.5,SNR=4.8
BVAR pScP 22 18 00.5
comp=Z,3.0nm,0.5s,baz=54,slow=3.2,SNR=4.6
BVAR LR LR 22 35 45.5
comp=Z,1µm,20.6s,baz=60,slow=38
BVAR Borovoye Array 50.65 309 P **P 22 12 37.3 -1.4**
BVAR 22 13 54.9
BVAR pmax pmax
comp=Z,53nm,0.6s
BVAR MLR MLR
comp=Z,1µm,20.6s
BRVK Borovoye 50.70 309*c i*P **P 22 12 37.8 -1.2**
BRVK pmax pmax
comp=Z,154nm,0.8s
BRVK Borovoye 50.70 309 P **P 22 12 38.3 -0.7**
SNR=92
BRVK Borovoye 50.70 309 *e*P **P 22 12 37.4 -1.6**
comp=Z,175nm,1.0s
IMP Imphal 50.74 266 *ex* P **P 22 12 39.0 -0.8**
IMP *ex* x 22 12 56.5
IMP *ex* x 22 14 18.0
UTTA Uttaradit 50.99 254 P **P 22 12 42.7 +1.1**
comp=Z,26nm,0.8s,comp=Z,290nm
LAMP Lampang 51.05 255 P **P 22 12 43.5 +1.4**
comp=Z,48nm,0.8s,comp=Z,345nm
TSM Tawau 51.24 226⇑P **P 22 12 43.5 -0.1**
CMMT Chiang Mai 51.31 256 P **P 22 12 44.9 +0.8**
comp=Z,183nm,0.9s,comp=Z,2µm
CHTO Chiang Mai 51.31 256 P **P 22 12 45.0 +0.9**
comp=Z,631nm,1.0s,comp=Z,5µm
CHTO Chiang Mai 51.31 256 *e*P **P 22 12 45.3 +1.2**
CHTO *e**PP **pP 22 13 04.0 +2.3**
CHTO pmax pmax
comp=Z,104nm,0.8s
CHTO Chiang Mai 51.31 256 *e*P **P 22 12 45.3 +1.2**
comp=Z,104nm,0.8s
CHTO *e*pP **pP 22 13 04.0 +2.3**
PBKT Sadao Pong 51.55 252 P **P 22 12 46.8 +1.0**
comp=Z,69nm,1.1s,comp=Z,1µm
RES Resolute Bay 51.56 18 *e*P **P 22 12 45.2 0.0**
RES pmax pmax
comp=Z,290nm,0.9s
RES Resolute Bay 51.56 18 *e*P **P 22 12 45.2 0.0**
comp=Z,290nm,0.9s
CM31 Chiang Mai Arr 51.56 256 *e*P **P 22 12 47.1 +1.2**
CM31 *e*pP **pP 22 13 04.3 +0.8**
CM31 *e*ScP **ScP 22 17 50.1 +0.6**
CMAR Chiang Mai Arr 51.56 256 P **P 22 12 47.1 +1.1**
comp=Z,38nm,0.7s,baz=37,slow=7.4,SNR=264
CMAR pP **pP 22 13 04.3 +0.8**
comp=Z,40nm,0.8s,baz=37,slow=6.7,SNR=14
CMAR ScP **ScP 22 17 50.1 +0.6**
comp=Z,1.7nm,0.9s,baz=14,slow=4.7,SNR=5.0
CMAR LR LR 22 35 24.6
comp=Z,196nm,18.0s,baz=54,slow=37
CMAR Chiang Mai Arr 51.56 256 P **P 22 12 47.1 +1.1**
CMAR *PP **pP 22 13 04.4 +0.8**
CMAR pmax pmax
comp=Z,38nm,0.7s
CMAR MLR MLR
comp=Z,196nm,18.0s
CMAR Chiang Mai Arr 51.56 256 *e*P **P 22 12 47.1 +1.1**
AAA Alma-Ata 51.58 296 *e*P **P 22 12 46.6 +0.8**
AAA pmax pmax
comp=Z,400nm,0.8s
AAA MLR MLR
comp=Z,800nm,18.0s
AAA Alma-Ata 51.58 296 *e*P **P 22 12 46.6 +0.8**
CM01 Chiang Mai Arr 51.58 256 *e*P **P 22 12 45.5 -0.5**
CM01 *e*pP **pP 22 13 06.3 +2.6**
CM01 *e*ScP **ScP 22 17 52.2 +2.7**

SHL Shillong 51.66 268 *e*P P 22 12 46.0 -0.8
SHL *ex* x 22 13 08.0
SHL *ex* x 22 20 03.5
YKA Yellowknife Ar 51.77 36 P P 22 12 47.1 +0.2
comp=Z,75nm,0.8s,baz=298,slow=7.1,SNR=389
YKA Yellowknife Ar 51.77 36 P P 22 12 47.1 +0.2
YKA pmax pmax
comp=Z,75nm,0.8s
YKA Yellowknife Ar 51.77 36 *e*P P 22 12 47.1 +0.2
YKB5 Yellowknife Ar 51.77 36 *e*P P 22 12 45.5 -1.3
FAKI Fak Fak 51.99 205 P P 22 12 48.5 -0.6
comp=Z,102nm,1.1s,comp=Z,1µm
FAKI Fak Fak 51.99 205 *e*P P 22 12 48.9 -0.2
comp=Z,88nm,1.0s
ULHL Ulahol 52.55 295 P P 22 12 53.7 +0.3
SNR=55
ULHL Ulahol 52.55 295 *i* P P 22 12 53.6 +0.3
TKM2 Tokmak 2 52.60 296 P P 22 12 53.7 +0.1
SNR=93
TKM2 Tokmak 2 52.60 296 *e*P P 22 12 53.8 +0.1
TKM2 pmax pmax
comp=Z,82nm,0.8s
TKM2 Tokmak 2 52.60 296 *e*P P 22 12 53.8 +0.1
comp=Z,82nm,0.8s
KBS Kingsbay 52.91 351⇑ *i*P P 22 12 54.2 -0.9
KBS IAMs_20 IAMs_20 22 32 50.4
comp=Z,457nm,22.3s
KBS Kingsbay 52.91 351 *e*P P 22 12 54.3 -0.9
KBS pmax pmax
comp=Z,32nm,0.7s
KBS Kingsbay 52.91 351 *e*P P 22 12 54.3 -0.9
comp=Z,32nm,0.7s
SPA0 Spitsbergen Ar 53.01 350 *e*P P 22 12 54.5 -1.4
SPA0 IAmb IAmb 22 12 57.3
comp=Z,258nm,1.5s
CHMS Chumysh 53.09 296 P P 22 12 57.0 -0.1
SNR=84
CHMS Chumysh 53.09 296 *i* P P 22 12 56.9 -0.1
USP Ospenovka 53.10 297 P P 22 12 57.4 +0.3
SNR=432
USP Ospenovka 53.10 297 *i* P P 22 12 57.4 +0.3
KBK Karagaybulak 53.15 296 P P 22 12 58.0 +0.3
SNR=190
KBK Karagaybulak 53.15 296 *i* P P 22 12 57.9 +0.3
FRU Bishkek 53.26 296⇑ *i*P P 22 12 58.0 -0.3
FRU pmax pmax
comp=Z,200nm,1.4s
FRU pmax pmax
comp=Z,2µm,14.0s
FRU Bishkek 53.26 296 *i* P P 22 12 58.0 -0.3
KZA Kyzart 53.27 295 P P 22 12 59.8 +0.9
SNR=264
KZA Kyzart 53.27 295 *i* P P 22 12 59.7 +0.9
TAPN Taplejung 53.43 273 *e*P P 22 13 01.2 +1.2
comp=Z,128nm,0.7s
AAK Ala-Archa 53.44 296 P P 22 12 59.9 +0.1
SNR=194
AAK Ala-Archa 53.44 296*c i*P P 22 12 59.9 +0.1
AAK pmax pmax
comp=Z,360nm,0.9s
AAK Ala-Archa 53.44 296 *e*P P 22 12 59.9 +0.1
AAK Ala-Archa 53.44 296 P P 22 13 00.1 +0.3
SNR=70
AAK Ala-Archa 53.44 296 *e*P P 22 12 59.6 -0.2
comp=Z,158nm,0.8s
UCH Uchtor 53.65 296 P P 22 13 01.9 +0.2
SNR=18
UCH Uchtor 53.65 296 *i* P P 22 13 01.8 +0.2
SVE Sverdlovsk 53.74 317*d i*P P 22 13 00.9 -0.6
SVE *e*S S 22 20 27.7 -2.6
SVE pmax pmax
comp=Z,350nm,0.9s
SVE MLR MLR
comp=Z,680nm,17.0s
SVE Sverdlovsk 53.74 317 *i* P P 22 13 00.9 -0.6
EKS2 Erkin-Say 53.87 297 P P 22 13 03.2 +0.3
SNR=19
EKS2 Erkin-Say 53.87 297 *i* P P 22 13 03.2 +0.3
EKS2 Erkin-Say 53.87 297 *e*P P 22 13 03.2 +0.3
comp=Z,182nm,0.7s
ODAN Odare 53.96 273 *e*P P 22 13 04.7 +0.9
comp=Z,163nm,0.6s
HSPB Hornsund (broa 54.06 349 *e*P P 22 13 02.8 -0.8
KSH Kashi 54.21 292⇑ *i*P P 22 13 09.6 +4.2
KSH pP pP 22 13 28.5 +5.4
KSH sP sP 22 13 37.3 +6.4
KSH PP PP 22 15 13.9 +6.5
KSH PcS **PcS** **22 18 10.3 +1.7**
KSH S **S** **22 20 40.4 +3.1**
KSH sS sS 22 21 13.3 +5.9
KSH ScS **ScS** **22 22 48.3 +0.1**
KSH PMZ
comp=Z,800nm,2.4s
KSH LN
comp=Z,1µm,20.2s
KSH LE
comp=Z,970nm,17.5s
KSH LZ
comp=Z,2µm,21.8s
AML Almayashu 54.21 296 P P 22 13 06.1 +0.4
SNR=8.7
AML Almayashu 54.21 296 *i* P P 22 13 06.1 +0.4
JIRN Jiri 54.29 274 *e*P P 22 13 07.6 +1.2
comp=Z,310nm,0.6s
PGC Sidney 54.32 54 *e*P P 22 13 06.5 +0.6
comp=Z,246nm,0.8s
GUN Gumba 54.35 275 *e*P P 22 13 07.8 +1.0
comp=Z,174nm,0.5s
SRDT SRDT 54.38 252 P P 22 13 08.3 +1.6
comp=Z,110nm,1.0s
RAMN Ramite 54.45 273 *e*P P 22 13 08.3 +0.9
BTM Bintulu 54.65 230⇑P P 22 13 08.5 -0.2
NLWA Neilton Lookou 54.75 56 *e*P P 22 13 10.0 +0.9
comp=Z,40nm,0.9s
NLWA *e*pP pP 22 13 30.0 +3.2
KKN Kakani 54.84 275 *e*P P 22 13 11.2 +1.0
comp=Z,186nm,0.6s
PKI Pulchoki 54.88 275 *e*P P 22 13 11.4 +0.7
comp=Z,122nm,0.7s
PKIN Phulchoki 54.89 275 *e*P P 22 13 11.3 +0.7
A05A Maple Falls 54.91 53 *e*P P 22 13 09.2 -0.9
ARU Arti 54.93 317 P P 22 13 09.7 -0.5
comp=Z,3µm,0.5s
ARU Arti 54.93 317*d i*P P 22 13 08.9 -1.2
ARU *PP pP 22 13 27.2 -0.7
ARU 22 14 10.6
ARU *e*S S 22 20 43.3 -3.0
ARU *SS sS 22 21 13.3 -3.1
ARU 22 22 52.2
ARU SS SS 22 24 32.4 +2.5
ARU pmax pmax
comp=Z,646nm,1.2s
ARU MLR MLR
comp=Z,597nm,17.0s
ARU Arti 54.93 317 *e*P P 22 13 08.9 -1.2
comp=Z,582nm,1.1s
DMN Daman 55.07 275 *e*P P 22 13 13.1 +1.2
comp=Z,208nm,0.7s
GKN Gorkha 55.15 276 *e*P P 22 13 13.4 +1.0
comp=Z,275nm,0.5s
E03A Lebam 55.38 57 *e*P P 22 13 14.8 +1.3
B06A Marblemount 55.50 54 *e*P P 22 13 14.6 +0.3
B06A *e*pP pP 22 13 34.1 +2.0
BJO Bjornoya 55.52 346 *e*P P 22 13 13.4 -0.7
PMG Port Moresby 55.55 186*d i*P P 22 13 14.8 -0.2
PMG pmax pmax
comp=Z,480nm,1.2s
PMG Port Moresby 55.55 186 *e*P P 22 13 12.9 -2.1
comp=Z,81nm,0.9s
KKAR Karatay Array 55.64 299 *e*P P 22 13 15.2 -0.3
KKAR Karatay Array 55.64 299 *e*P P 22 13 15.2 -0.3
SBUM Sibu 55.74 231⇑P P 22 13 17.1 +0.6
D05A Enumclaw 55.94 55 *e*P P 22 13 18.8 +1.2
comp=Z,39nm,0.8s
F04D Rainier, OR 55.96 57⇑P P 22 13 18.6 +0.8
baz=56
KOLN Koldanda 56.01 276 *e*P P 22 13 19.8 +1.2
comp=Z,310nm,0.7s
LON Longmire 56.28 56 *e*P P 22 13 19.0 -1.1
LON Longmire 56.28 56 *e*P P 22 13 19.0 -1.1
G03D McMinnville, O 56.29 58⇑P P 22 13 21.0 +0.9
baz=56
NLW Nelson Butte 56.38 54 *e*P P 22 13 21.3 +0.4
F04A Amboy 56.39 57 *e*P P 22 13 21.4 +0.7
comp=Z,34nm,0.8s

COR Corvallis 56.62 58 *e*P P 22 13 24.2 +1.8
COR pmax pmax
comp=Z,70nm,0.8s
COR Corvallis 56.62 58 *e*P P 22 13 24.2 +1.8
comp=Z,70nm,0.8s
ETW Entiat 56.65 54 *e*P P 22 13 23.1 +0.3
LTY Liberty 56.65 55 *e*P P 22 13 22.8 +0.1
comp=Z,18nm,0.7s
RNO Roman Nose 56.74 59 *e*P P 22 13 25.1 +1.7
B08A Colville Reser 56.78 53 *e*P P 22 13 23.9 +0.3
comp=Z,29nm,0.8s
WTV Waterville 56.81 54 *e*P P 22 13 23.8 0.0
KEBM Edson Butte 56.97 61 *e*P P 22 13 27.0 +2.0
comp=Z,48nm,0.9s
LVZ Lovozero 56.97 336*c i*P P 22 13 23.0 -1.6
LVZ pmax pmax
comp=Z,77nm,0.6s
LVZ Lovozero 56.97 336 *e*P P 22 13 23.1 -1.6
comp=Z,97nm,0.9s
I03D Drain, OR 57.09 59⇓P P 22 13 27.4 +1.6
baz=57,SNR=16
EDM Edmonton 57.19 45 *e*P P 22 13 26.5 +0.1
EDM *e**PP pP 22 13 45.2 +0.9
EDM Edmonton 57.19 45 *e*P P 22 13 26.5 +0.1
EDM Edmonton 57.19 45 *e*P P 22 13 26.5 +0.1
EDM *e*pP pP 22 13 45.1 +0.9
H04A Detroit Lake 57.22 58 *e*P P 22 13 27.8 +1.0
LGTI Lohaghat 57.27 280 *e*P P 22 13 30.5 +3.3
KBO Bosley Butte 57.41 61 *e*P P 22 13 30.2 +2.0
comp=Z,60nm,1.0s
G05D Wamic, OR 57.41 57⇓P P 22 13 29.3 +1.2
baz=57,SNR=31
PRGR Permogore 57.43 327⇑ *i*P P 22 13 27.1 -0.8
PRGR *e*S S 22 21 18.6 -0.6
PRGR pmax pmax
comp=Z,270nm,0.7s
E07A Sunnyside 57.51 55 *e*P P 22 13 29.9 +1.2
comp=Z,29nm,0.8s
APA Apatity 57.55 336⇓ *i*P P 22 13 27.0 -1.6
APA *i* 22 14 20.4
APA *i* 22 15 39.2
APA *i* S S 22 21 16.0 -4.6
APA *i* SS SS 22 25 16.0 +5.5
APA pmax pmax
comp=Z,81nm,0.6s
I04A Tendick Farm, 57.60 59⇓P P 22 13 30.4 +1.0
baz=57,SNR=33
KSM Kuching 57.60 232 *e*P P 22 13 26.6 -3.0
KSM *e*pP pP 22 13 49.4 +1.8
KEV Kevo 57.61 340 *e*P P 22 13 28.1 -0.9
KEV pmax pmax
comp=Z,58nm,0.7s
KEV Kevo 57.61 340 *e*P P 22 13 28.1 -0.9
comp=Z,58nm,0.7s
C09A Chrisman Ranch 57.68 53 *e*P P 22 13 30.1 +0.2
comp=Z,33nm,0.8s
D08A Wollman Farm, 57.75 54 *e*P P 22 13 30.6 +0.2
comp=Z,22nm,0.8s
HAWA Hanford 57.78 55 *e*P P 22 13 31.7 +1.1
comp=Z,69nm,1.4s
G06A Carlson Farm, 57.81 57 *e*P P 22 13 31.8 +0.8
comp=Z,82nm,1.6s
L02D Cave Junction, 57.82 61⇑P P 22 13 32.3 +1.3
baz=58,SNR=9.9
KULLO Kullorsuaq 57.90 9⇑ *i*P P 22 13 30.1 -0.8
comp=Z,667nm,0.7s
comp=Z,700nm,20.0s
I05D Terrebonne, OR 57.92 58⇑P P 22 13 32.6 +0.9
baz=58,SNR=10
HUMO Hull Mountain 57.95 60 *e*P P 22 13 33.3 +1.4
comp=Z,30nm,1.4s
NEW Newport 58.05 52 *e*P P 22 13 32.8 +0.2
NEW *e**PP pP 22 13 51.6 +1.1
NEW pmax pmax
comp=Z,38nm,1.1s
NEW Newport 58.05 52 *e*P P 22 13 32.8 +0.2
comp=Z,38nm,1.1s
NEW *e*pP pP 22 13 51.5 +1.1
NEW Newport 58.05 52⇑P P 22 13 32.7 +0.2
baz=58,SNR=27
J04D Umpqua Nationa 58.09 59⇓P P 22 13 34.4 +1.3
baz=58,SNR=20
ARA0 ARCESS Array S 58.12 341 *e*P P 22 13 31.6 -1.0
ARA0 *e*PcP PcP 22 14 21.6 -1.9
ARCES ARCESS Array B 58.12 341 P P 22 13 31.6 -1.0
comp=Z,51nm,0.7s,baz=30,slow=3.2,SNR=181
ARCES PcP PcP 22 14 23.0 -0.5
comp=Z,37nm,0.9s,baz=56,slow=4.8,SNR=6.0
ARCES LR LR 22 41 59.0
comp=Z,358nm,20.1s,baz=30,slow=40
ARCES ARCESS Array B 58.12 341 P P 22 13 31.6 -1.0
ARCES 22 14 23.0
ARCES pmax pmax
comp=Z,51nm,0.7s
ARCES MLR MLR
comp=Z,358nm,20.1s
ARE0 ARCESS Array S 58.12 341⇑ *i*P P 22 13 31.4 -1.2
ARE0 *e*S S 22 21 27.7 -0.5
STKI Sintang 58.14 230 P P 22 13 35.5 +2.0
comp=Z,35nm,0.8s
ABKAR Akbulak array 58.23 310 *e*P P 22 13 33.0 -0.7
DLH Dalhousie 58.28 285 *e*P P 22 13 34.0 -0.5
SMLA Simla 58.33 283 *i* x S 22 21 29.7 -2.2
TMCR Tamitsa 58.48 332 *e*P P 22 13 34.3 -0.8
TMCR *e* 22 15 44.1
TMCR pmax pmax
comp=Z,138nm,0.6s
KHMM Horse Mountain 58.49 62 *e*P P 22 13 37.6 +1.8
comp=Z,28nm,0.8s
KHMM *e*pP pP 22 13 55.6 +1.9
E09A Wood Farm, Sta 58.50 54 *e*P P 22 13 36.1 +0.6
comp=Z,50nm,0.9s
E09A *e*pP pP 22 13 53.0 -0.5
KAPI Kappang 58.54 219 P P 22 13 36.7 +0.5
SNR=10.0
KAPI Kappang 58.54 219 *e*P P 22 13 36.5 +0.3
comp=Z,11nm,1.3s
J05D Fort Rock, OR 58.59 59⇑P P 22 13 37.9 +1.4
baz=58,SNR=18
YBH Yreka Blue Hor 58.61 61 *e*P P 22 13 38.0 +1.4
YBH *e**PP pP 22 13 54.7 +0.2
YBH pmax pmax
comp=Z,17nm,0.8s
YBH Yreka Blue Hor 58.61 61 *e*P P 22 13 38.0 +1.4
comp=Z,17nm,0.8s
YBH *e*pP pP 22 13 54.7 +0.2
KTGM Kuala Trenggan 58.65 242⇑P P 22 13 38.4 +1.3
BHK Bhakra 58.66 284 *e*P P 22 13 37.1 +0.1
K04D Chiloquin, OR 58.67 60⇓P P 22 13 38.0 +1.0
baz=58
M02C Callahan 58.72 61⇑P P 22 13 38.9 +1.5
baz=58,SNR=16
G08A Pilot Rock 58.75 56 *e*P P 22 13 38.3 +0.8
SKLT Songkhla 58.78 245 P P 22 13 39.9 +2.0
comp=Z,54nm,1.2s,comp=Z,632nm
KMRM Mail Ridge 58.89 63 *e*P P 22 13 39.2 +0.7
comp=Z,28nm,1.0s
KTK1 Kautokeino 59.04 341 *e*P P 22 13 38.5 -0.6
N02D Trinity Center 59.06 62⇓P P 22 13 41.1 +1.4
baz=59,SNR=12
M04C Macdoel 59.11 60⇑P P 22 13 41.2 +1.1
baz=59,SNR=13
K05A Summer Lake 59.12 59 *e*P P 22 13 41.8 +1.6
comp=Z,73nm,0.8s
I07A Izee 59.14 57 *e*P P 22 13 41.2 +1.0
comp=Z,20nm,1.0s
KIPM Iron Peak 59.27 63 *e*P P 22 13 42.5 +1.3
KCPM Cahto Peak 59.28 63 *e*P P 22 13 43.0 +1.7
comp=Z,16nm,0.8s
WALA Waterton Lakes 59.32 50 *e*P P 22 13 42.0 +0.6
comp=Z,7µm,1.6s
F10A Beach Ranch, E 59.33 54 *e*P P 22 13 42.0 +0.5
comp=Z,25nm,0.8s
WDC Whiskeytown Da 59.39 62 *e*P P 22 13 42.6 +0.7
WDC pmax pmax
comp=Z,27nm,1.0s
WDC Whiskeytown Da 59.39 62 *e*P P 22 13 42.6 +0.7
comp=Z,27nm,1.0s
TRO Tromso 59.48 343⇑ *i*P P 22 13 40.0 -2.0
TRO IAmb IAmb 22 13 42.8
comp=Z,1µm,1.8s
TRO *e*S S 22 21 45.0 -0.6
BSMT Bassoo Peak 59.56 51 *e*P P 22 13 44.0 +0.8
BSMT *e*pP pP 22 14 02.9 +1.6
BLMT Blacktail Moun 59.70 51 *e*P P 22 13 45.0 +0.8
BLMT *e*pP pP 22 14 02.7 +0.5
NDI New Delhi 59.82 281 *e*P P 22 13 45.0 0.0
NDI *ex* x 22 21 49.0
JTMT Jette 59.90 51 *e*P P 22 13 46.2 +0.7
JTMT *e*pP pP 22 14 04.6 +1.1
BMO Blue Mountains 59.95 55 *e*P P 22 13 46.5 +0.7
comp=Z,253nm,2.2s
YBMT Yellow Bay 59.98 51 *e*P P 22 13 46.6 +0.6
HOPS Hopland Field 60.01 64 *e*P P 22 13 47.5 +1.3
comp=Z,57nm,1.2s
KLMR Klimovskoe 60.20 329*c i*P P 22 13 46.1 -0.9
KLMR S S 22 21 59.6 +4.5
KLMR pmax pmax
comp=Z,193nm,0.7s
KLMR MLR MLR
comp=Z,512nm,19.0s
SWMT Swartz Lake 60.20 51 *e*P P 22 13 48.1 +0.6
KULM Kulim 60.21 244 *e*P P 22 13 49.0 +1.3
KULM *e*pP pP 22 14 07.5 +1.7
COEN Coen 60.43 190 *e*P P 22 13 49.3 +0.2
comp=Z,13nm,0.8s
COEN *e*pP pP 22 14 11.2 +4.0
IPM Ipoh 60.61 243⇑P P 22 13 51.1 +0.5
IPM Ipoh 60.61 243 *e*P P 22 13 51.0 +0.5
IPM *e*pP pP 22 14 11.6 +3.0
WVOR Wild Horse Val 60.63 58 *e*P P 22 13 51.5 +1.0
WVOR pmax pmax
comp=Z,54nm,0.9s
WVOR Wild Horse Val 60.63 58 *e*P P 22 13 51.5 +1.0
comp=Z,54nm,0.9s
SLMT Seeley Lake 60.63 51 *e*P P 22 13 51.0 +0.5
SLMT *e*pP pP 22 14 10.8 +2.3
MSO Missoula 60.64 52 *e*P P 22 13 50.3 -0.2
comp=Z,96nm,1.0s
MSO *e*pP pP 22 14 08.9 +0.4
MSO Missoula 60.64 52⇓P P 22 13 51.1 +0.7
baz=60,SNR=38
MMRI Maumere 60.79 214 *e*P P 22 13 51.0 -0.6
comp=Z,61nm,1.1s
CHMT Chamberlain Mo 60.96 51 *e*P P 22 13 53.0 +0.2
MYKOM Kota Tinggi 61.02 238⇑P P 22 13 53.2 -0.1
MYKOM Kota Tinggi 61.02 238 *e*P P 22 13 53.3 +0.1
MYKOM *e*pP pP 22 14 15.4 +4.1
SOEI Soe 61.05 212 *e*P P 22 13 52.7 -0.8
comp=Z,101nm,1.0s
KGM Kluang 61.16 239⇑P P 22 13 54.6 +0.4
FFC Flin Flon 61.59 39 *e*P P 22 13 57.0 +0.3
FFC pmax pmax
comp=Z,127nm,1.1s
FFC Flin Flon 61.59 39 *e*P P 22 13 57.0 +0.3
FFC Flin Flon 61.59 39 *e*P P 22 13 57.0 +0.3
comp=Z,127nm,1.1s
KBL Kabul 61.61 291 *e*P P 22 13 57.0 -0.4
KBL *e*S S 22 22 12.4 -1.9
KBL pmax pmax
comp=Z,324nm,0.8s
KBL Kabul 61.61 291 *e*P P 22 13 57.0 -0.4
comp=Z,324nm,0.8s
KBL *e*S S 22 22 12.4 -1.9
STEI Steigen 61.65 343 *e*P P 22 13 56.2 -0.6
MFID Camas Ranch 61.67 56 *e*P P 22 13 58.1 +0.6
comp=Z,29nm,0.9s
CHLP Challavanipeta 61.74 268⇑ *e*P P 22 13 59.1 +1.0
CHLP IAmb IAmb 22 14 00.0
comp=Z,79nm,1.1s
CHLP *e*pP pP 22 14 18.4 +2.2
CHLP *e*S S 22 22 18.1 +2.2
LOF Lofoten 61.82 344 *e*P P 22 13 57.2 -0.8
HRY Holter Researc 61.86 51 *e*P P 22 13 59.5 +0.8
FCC Fort Churchill 62.09 33 *e*P P 22 13 59.5 -0.3
FCC Fort Churchill 62.09 33 *e*P P 22 13 59.5 -0.3
comp=Z,3µm,0.8s
A19A Klindworth Far 62.09 47⇓P P 22 14 00.6 +0.4
baz=62,SNR=46
EGMT Eagleton 62.14 49 *e*P P 22 14 00.9 +0.4
comp=Z,160nm,1.2s
EGMT Eagleton 62.14 49⇓P P 22 14 00.9 +0.4
baz=62,SNR=29
CMB Columbia Colle 62.27 63 *e*P P 22 14 02.3 +0.8
CMB pmax pmax
comp=Z,37nm,0.8s
CMB Columbia Colle 62.27 63 *e*P P 22 14 02.3 +0.8
comp=Z,37nm,0.8s
DLMT Dillon 62.28 52 *e*P P 22 14 02.3 +0.7
comp=Z,138nm,1.8s
B19A Brinkman Farms 62.28 48⇑P P 22 14 02.1 +0.7
baz=62,SNR=57
HLID Hailey 62.39 55 *e*P P 22 14 03.2 +0.8
comp=Z,34nm,1.0s
HLID Hailey 62.39 55⇓P P 22 14 03.2 +0.8
baz=62,SNR=42
SAO San Andreas Ge 62.40 65 *e*P P 22 14 03.3 +1.0
SAO San Andreas Ge 62.40 65 *e*P P 22 14 03.2 +1.0
comp=Z,7,0nm,1.0s
MCMT McKenzie Canyo 62.48 53 *e*P P 22 14 03.3 +0.2
A20A Cobblestone Ra 62.54 47⇓P P 22 14 03.8 +0.6
baz=62,SNR=60
WAKR Walker 62.56 62 *e*P P 22 14 04.7 +1.0
BOZ Bozeman (W) 62.63 52 *e*P P 22 14 05.0 +1.1
BOZ *e**PP pP 22 14 25.0 +2.9
BOZ pmax pmax
comp=Z,354nm,1.8s
BOZ Bozeman (W) 62.63 52 *e*P P 22 14 05.0 +1.1
comp=Z,354nm,1.8s
BOZ *e*pP pP 22 14 24.9 +2.9
C19A Slack Wire Ran 62.69 49⇓P P 22 14 05.1 +1.0
baz=62,SNR=97
BMN Battle Mountai 62.70 59 *e*P P 22 14 05.7 +1.2
BMN pmax pmax
comp=Z,58nm,0.7s
BMN Battle Mountai 62.70 59 *e*P P 22 14 05.7 +1.2
comp=Z,58nm,0.7s
B20A Solberg Farm, 62.77 48⇓P P 22 14 05.2 +0.5
baz=62,SNR=40
PPBI Pangkal Pinang 62.91 234 P P 22 14 08.0 +2.1
comp=Z,49nm,1.0s
A21A Bergtoll Ranch 62.97 47⇑P P 22 14 06.9 +0.9
baz=63,SNR=101
D19A Cripps Ranch, 63.14 49⇓P P 22 14 07.9 +0.7
baz=63,SNR=14
PSI Prapat 63.22 244 *e*P P 22 14 09.0 +0.9
PSI pmax pmax
comp=Z,35nm,1.1s
PSI Prapat 63.22 244 *e*P P 22 14 09.0 +0.9
comp=Z,35nm,1.1s
C20A Veseth Ranch, 63.24 48⇑P P 22 14 08.8 +1.0
baz=63,SNR=134
QLMT Earthquake Lak 63.26 52 *e*P P 22 14 09.0 +0.9
QLMT *e*pP pP 22 14 27.2 +0.9
B21A Ellsworth Farm 63.29 47⇑P P 22 14 08.6 +0.4
baz=63
NV01 Mina Array Sit 63.30 62 *e*P P 22 14 08.8 +0.2
NV01 *e*pP pP 22 14 27.5 +0.7
NVAR Mina Array Bea 63.30 62 P P 22 14 09.5 +0.9
comp=Z,35nm,0.7s,baz=290,slow=7.1,SNR=138
NVAR PKP2ab 22 43 19.2
comp=Z,0.6nm,0.8s,baz=157,slow=4.8,SNR=3.4
SRBI Singaraja 63.30 222 P P 22 14 08.5 +0.1
comp=Z,66nm,1.1s
KONS Konsvik 63.31 343 *e*P P 22 14 07.0 -0.8
MOR8 Moi Rana 63.31 342⇑ *i*P P 22 14 06.1 -1.8
MOR8 IAmb IAmb 22 14 07.2
comp=Z,199nm,0.8s
MOR8 *e*pP pP 22 14 26.2 +0.1
FLOS Flostrand 63.40 343 *e*P P 22 14 08.2 -0.3
FLOS IAmb IAmb 22 14 09.9
comp=Z,226nm,1.2s
NGP Nagpur 63.44 273 *e*P P 22 14 09.7 +0.2
NGP AMB AMB 22 14 12.3
comp=Z,60nm,0.6s
NGP *ex* x 22 14 14.0
STOK Stokkvaagen 63.47 343⇑ *i*P P 22 14 08.0 -1.0
A22A Carney Farms, 63.48 46⇑P P 22 14 09.8 +0.4
baz=63,SNR=36
MLAC Mammoth, Mammo 63.48 63⇑P P 22 14 10.9 +1.1
baz=63
ABJI Asem Bagus 63.50 223 P P 22 14 10.1 +0.3
comp=Z,69nm,0.9s
D20A Manuel Ranch, 63.58 49⇓P P 22 14 11.1 +1.1
baz=63,SNR=89
GCMT Greycliff 63.60 51 *e*P P 22 14 11.4 +1.0
ILULI Ilulissat 63.61 9⇑ *i*P P 22 14 09.3 -0.5
comp=Z,389nm,0.7s
comp=Z,780nm,28.0s
C21A Desert Coulee 63.64 48⇓P P 22 14 11.3 +0.8

baz=63,SNR=32
E19A Rath Farm, Rou 63.64 50 ⇓P P 22 14 11.4 +0.9
baz=63,SNR=51
ELK Elko 63.68 58 *e*P P 22 14 12.0 +1.0
ELK pmax pmax
comp=Z,22nm,0.9s
ELK Elko 63.68 58 *e*P P 22 14 12.0 +1.0
comp=Z,22nm,0.9s
YNR Norris Junctio 63.74 52 *e*P P 22 14 13.4 +2.0
comp=Z,83nm,1.3s
YFT Old Faithful 63.83 52 *e*P P 22 14 14.6 +2.6
comp=Z,58nm,0.8s
YFT *e*pP pP 22 14 34.4 +4.3
BKNI Bangkinang 63.87 240 P P 22 14 13.7 +1.4
BKNI Bangkinang 63.87 240 *e*P P 22 14 14.1 +1.8
comp=Z,86nm,0.8s
PTRM Twissleman Ran 63.87 65 *e*P P 22 14 13.6 +1.4
B22A Reddig Ranch S 63.89 47 ⇑P P 22 14 12.6 +0.5
baz=64,SNR=7.9
F19A Roth Farm, Mol 63.95 50 ⇓P P 22 14 13.6 +1.0
baz=64,SNR=61
E20A Meyer Farm, Mu 63.96 49 ⇓P P 22 14 13.6 +1.0
baz=64,SNR=24
LKWY Lake 63.99 52 *e*P P 22 14 15.3 +2.2
LKWY pmax pmax
comp=Z,50nm,0.8s
LKWY Lake 63.99 52 *e*P P 22 14 15.3 +2.2
comp=Z,50nm,0.8s
H17A Grant Village 64.00 52 *e*P P 22 14 15.6 +2.4
comp=Z,85nm,1.0s
A23A Redstone 64.02 46 ⇓P P 22 14 13.3 +0.4
baz=64
RCTC Rector, Farmer 64.06 64 ⇓P P 22 14 13.8 +0.5
baz=64
IMW Indian Meadow 64.12 53 *e*P P 22 14 15.5 +1.5
comp=Z,90nm,1.2s
PUL Pulkovo 64.17 331 *i* P P 22 14 12.6 -1.0
PUL pmax pmax
comp=Z,679nm,0.7s
PUL Pulkovo 64.17 331 *e*P P 22 14 12.6 -1.0
TPH Tonopah 64.18 61 *e*P P 22 14 15.3 +0.9
TPH pmax pmax
comp=Z,57nm,0.9s
TPH Tonopah 64.18 61 *e*P P 22 14 15.2 +0.9
comp=Z,57nm,0.9s
D21A La Casta Ranch 64.19 48 ⇑P P 22 14 14.8 +0.7
baz=64,SNR=29
TIN Tinemaha, Big 64.22 63 ⇑P P 22 14 15.8 +1.3
baz=64
FIA0 FINESS Array S 64.22 334 *e*P P 22 14 13.1 -0.8
FIA0 *e*S S 22 22 43.2 -2.4
FIA0 FINESS Array S 64.22 334 *e*P P 22 14 13.1 -0.8
FIA0 *e*S S 22 22 43.2 -2.4
FINES FINESS Array B 64.22 334 P P 22 14 13.1 -0.8
comp=Z,287nm,0.6s,baz=36,slow=7.5,SNR=1691
FINES S S 22 22 43.2 -2.4
comp=Z,5.1nm,0.9s,baz=74,slow=16,SNR=5.8
FINES LR LR 22 44 59.9
comp=Z,534nm,20.6s,baz=89,slow=39
FINES FINESS Array B 64.22 334 P P 22 14 13.1 -0.8
FINES S S 22 22 43.2 -2.4
FINES pmax pmax
comp=Z,287nm,0.6s
FINES smax smax
comp=N,5.0nm,0.9s
FINES MLR MLR
comp=Z,534nm,20.6s
FINES FINESS Array B 64.22 334 *e*P P 22 14 13.1 -0.8
SMMC Simmler 64.22 65 ⇑P P 22 14 15.4 +1.0
baz=64,SNR=6.9
FXWY Fox Creek 64.24 53 *e*P P 22 14 16.1 +1.3
comp=Z,196nm,1.8s
RLMT Red Lodge 64.25 51 *e*P P 22 14 15.7 +1.0
comp=Z,53nm,0.8s
B23A Brockton 64.29 46 ⇑P P 22 14 15.2 +0.5
baz=64,SNR=33
I17A Pilgrim Ck. 64.31 53 ⇑P P 22 14 17.1 +1.9
baz=64,SNR=12
H18A Shoshone NF, C 64.32 52 ⇑P P 22 14 16.0 +0.8
baz=64,SNR=42
MOOW Moose Ponds 64.33 53 *e*P P 22 14 16.5 +1.3
comp=Z,124nm,1.4s
TPAW Teton Pass 64.38 53 *e*P P 22 14 17.1 +1.5
comp=Z,130nm,0.8s
F20A Billings 64.41 50 ⇓P P 22 14 16.2 +0.6
baz=64,SNR=13
HVU Hansel Valley 64.45 56 *e*P P 22 14 16.9 +0.9
HVU pmax pmax
comp=Z,41nm,0.9s
HVU Hansel Valley 64.45 56 *e*P P 22 14 16.9 +0.9
comp=Z,41nm,0.9s
VES Vestal, Richgr 64.46 64 ⇓P P 22 14 16.1 +0.2
baz=64,SNR=13
A24A Westby 64.47 45 ⇓P P 22 14 16.2 +0.3
baz=64,SNR=23
MOS Moscow 64.48 325 *e*P P 22 14 13.3 -2.4
MOS *e**PP pP 22 14 31.9 -2.0
MOS *e* 22 14 48.2
MOS *e* 22 16 35.6
MOS *e*S S 22 22 49.3 +0.3
MOS *e* 22 24 02.0
MOS pmax pmax
comp=Z,300nm,0.8s
MOS pmax pmax
comp=Z,223nm,0.7s
MOS Moscow 64.48 325 *e*P P 22 14 13.3 -2.4
E21A Keefer Ranch, 64.49 49 ⇑P P 22 14 17.1 +1.0
baz=64,SNR=9.6
LOHW Long Hollow 64.49 53 *e*P P 22 14 17.6 +1.3
comp=Z,163nm,1.5s
SNOW Snow King Moun 64.51 53 *e*P P 22 14 17.9 +1.5
comp=Z,93nm,0.9s
REDW Red Top Meadow 64.52 53 *e*P P 22 14 17.8 +1.2
comp=Z,105nm,0.9s
D22A Cohagen 64.55 48 ⇑P P 22 14 17.1 +0.7
baz=64,SNR=50
C23A Lambert 64.63 47 ⇓P P 22 14 17.2 +0.3
baz=64,SNR=11
DGMT Dagmar 64.68 46 *e*P P 22 14 17.6 +0.3
comp=Z,131nm,0.8s
DGMT Dagmar 64.68 46 ⇑P P 22 14 17.5 +0.3
baz=64,SNR=12
H19A Powell 64.69 51 ⇓P P 22 14 18.5 +1.0
baz=64,SNR=16
G20A Bridger 64.75 50 ⇑P P 22 14 18.0 +0.1
baz=64,SNR=47
AHID Auburn Hatcher 64.76 54 *e*P P 22 14 18.8 +0.7
comp=Z,67nm,1.0s
GRAC Grapevine Rang 64.78 62 ⇑P P 22 14 19.1 +1.0
baz=64,SNR=5.6
RPR Rampur 64.81 271 *e*P P 22 14 18.9 +0.4
RPR IAmb IAmb 22 14 19.7
comp=Z,74nm,0.8s
RPR *e*pP pP 22 14 39.4 +2.8
RPR *e*S S 22 22 53.7 -0.4
LAO LASA Array 64.83 48 *e*P P 22 14 19.2 +1.0
comp=Z,151nm,1.0s
BGU Big Grassy Mou 64.85 57 *e*P P 22 14 19.4 +0.7
comp=Z,33nm,0.9s
A25A Svangstu Ranch 64.90 45 ⇑P P 22 14 19.3 +0.7
baz=65,SNR=14
F21A Absaloka Mine, 64.93 49 ⇑P P 22 14 19.5 +0.5
baz=65,SNR=12
ISA Isabella, Lake 64.95 64 *e*P P 22 14 19.1 -0.2
ISA pmax pmax
comp=Z,24nm,0.8s
ISA Isabella, Lake 64.95 64 *e*P P 22 14 19.1 -0.2
comp=Z,24nm,0.8s
ISA Isabella, Lake 64.95 64 ⇑P P 22 14 19.0 -0.3
baz=65,SNR=24
SBC Santa Barbara 64.95 66 ⇑P P 22 14 20.0 +0.8
baz=65
R11A Troy Canyon, C 65.00 60 *e*P P 22 14 20.3 +0.6
comp=Z,50nm,1.0s
R11A Troy Canyon, C 65.00 60 ⇓P P 22 14 20.2 +0.6
baz=65,SNR=102
D23A Lindsay 65.03 47 ⇓P P 22 14 20.3 +0.8
baz=65
ARVC Arvin 65.07 65 ⇑P P 22 14 19.9 -0.1
baz=65
I19A Meeteetse 65.10 52 ⇑P P 22 14 21.3 +1.0
baz=65,SNR=13
DAC Darwin (Calif) 65.10 63 *e*P P 22 14 20.8 +0.4
DAC pmax pmax
comp=Z,23nm,0.9s
DAC Darwin (Calif) 65.10 63 *e*P P 22 14 20.8 +0.4
comp=Z,23nm,0.9s

E22A Miles City 65.14 48 ⇑P P 22 14 20.9 +0.6
baz=65,SNR=8.2
C24A Savage 65.19 47 ⇑P P 22 14 21.1 +0.5
baz=65,SNR=16
GSI Gunungsitoli 65.22 244 *e*P P 22 14 22.1 +1.0
comp=Z,37nm,0.6s
HWUT Hardware Ranch 65.25 55 *e*P P 22 14 21.9 +0.6
comp=Z,111nm,1.3s
NSS Namsos 65.26 342 ⇑*i*P P 22 14 19.9 -0.7
G21A Lodge Grass 65.28 50 ⇓P P 22 14 21.2 0.0
baz=65
BSC Santa Cruz Isl 65.29 66 ⇑P P 22 14 21.9 +0.5
baz=65,SNR=5.7
MPMC Manual Prospec 65.31 63 ⇓P P 22 14 22.3 +0.6
baz=65,SNR=60
B25A Knox Farm, Ray 65.32 45 ⇓P P 22 14 22.0 +0.6
baz=65,SNR=7.9
H20A Greybull 65.35 51 ⇑P P 22 14 21.8 +0.1
baz=65,SNR=5.3
OBN Obninsk 65.35 325 *c i*P P 22 14 20.1 -1.2
OBN *i* 22 14 52.3
OBN *i* 22 16 46.4
OBN *e*PPP PPP 22 18 19.9
OBN *i* S S 22 23 11.0 +11
OBN *e*SS SS 22 27 11.7 -1.1
OBN pmax pmax
comp=Z,395nm,1.0s
OBN MLR MLR
comp=Z,553nm,22.0s
OBN Obninsk 65.35 325 *i* P P 22 14 20.1 -1.2
OBN Obninsk 65.35 325 *e*P P 22 14 18.1 -3.2
comp=Z,312nm,0.8s
F22A Rosebud 65.42 49 ⇓P P 22 14 22.7 +0.6
baz=65,SNR=31
FSU Fish Springs 65.42 58 *e*P P 22 14 23.4 +1.1
E23A Ismay 65.43 48 ⇓P P 22 14 22.9 +0.8
baz=65,SNR=15
FURC Furnace Creek, 65.43 62 ⇑P P 22 14 23.1 +0.9
baz=65,SNR=19
A26A Wade Farm, Ken 65.45 44 ⇓P P 22 14 22.4 +0.2
baz=65
DUG Dugway, Tooele 65.45 57 *e*P P 22 14 23.5 +1.0
DUG Dugway, Tooele 65.45 57 *e*P P 22 14 23.5 +1.0
DUG Dugway, Tooele 65.45 57 ⇑P P 22 14 23.5 +1.0
baz=65,SNR=72
OSI Osito Audit: C 65.47 65 *e*P P 22 14 23.9 +1.3
comp=Z,16nm,0.8s
OSI Osito Audit: C 65.47 65 ⇓P P 22 14 23.4 +0.8
baz=65,SNR=6.6
TPNV Topopah Spring 65.50 62 *e*P P 22 14 23.6 +0.7
TPNV pmax pmax
comp=Z,53nm,0.9s
TPNV Topopah Spring 65.50 62 *e*P P 22 14 23.6 +0.7
comp=Z,53nm,0.9s
TPNV Topopah Spring 65.50 62 ⇑P P 22 14 23.6 +0.7
baz=65,SNR=36
D24A Glendive 65.52 47 ⇑P P 22 14 23.6 +0.9
baz=65,SNR=53
LRMC Laurel Mtn Rad 65.56 64 ⇑P P 22 14 23.6 +0.3
baz=65,SNR=8.1
J19A Crowheart 65.58 52 ⇓P P 22 14 24.3 +1.0
baz=65,SNR=61
BLG Laguna Peak, P 65.58 66 ⇓P P 22 14 23.5 +0.2
baz=65
BW06 Boulder Array 65.62 53 *e*P P 22 14 24.1 +0.4
PD31 Pinedale Array 65.62 53 *e*P P 22 14 24.1 +0.4
PDAR Pinedale Array 65.62 53 P P 22 14 24.1 +0.4
comp=Z,59nm,0.8s,baz=339,slow=2.1,SNR=402
PDAR pP pP 22 14 43.3 +1.4
comp=Z,26nm,0.9s,baz=340,slow=3.9,SNR=5.2
I20A Worland 65.63 51 ⇓P P 22 14 24.5 +0.9
baz=65,SNR=28
C25A Freed Ranch, W 65.66 46 ⇓P P 22 14 24.2 +0.6
baz=65,SNR=7.8
B26A Jensen Ranch, 65.71 45 ⇑P P 22 14 24.4 +0.5
baz=65
EDW2 Edwards Air Fo 65.76 64 ⇑P P 22 14 25.2 +0.7
baz=66,SNR=24
H21A Big Horn, Sher 65.77 50 ⇑P P 22 14 25.1 +0.6
baz=66,SNR=40
G22A Birney 65.77 49 ⇓P P 22 14 24.7 +0.3
baz=66,SNR=28
SFJD Kangerlussuaq 65.79 10 ⇑*i*P P 22 14 23.7 -0.3
comp=Z,182nm,0.9s
comp=Z,550nm,29.0s
SFJD Kangerlussuaq 65.79 10 *e*P P 22 14 23.7 -0.3
SFJD pmax pmax
comp=Z,142nm,0.8s
SFJD Kangerlussuaq 65.79 10 *e*P P 22 14 23.7 -0.3
comp=Z,142nm,0.8s
A27A Ledoux Ranch, 65.80 44 ⇑P P 22 14 25.0 +0.6
baz=66
F23A Volborg 65.90 49 ⇑P P 22 14 25.7 +0.5
baz=66,SNR=86
E24A Baker 65.90 47 ⇑P P 22 14 25.6 +0.4
baz=66,SNR=13
DECC Green Verdugo 65.95 65 ⇑P P 22 14 26.3 +0.6
baz=66
JLU Jordanelle 65.97 56 *e*P P 22 14 26.7 +0.7
comp=Z,70nm,1.3s
D25A Fairfield 66.00 46 ⇓P P 22 14 26.3 +0.5
baz=66,SNR=5.5
NLU North Lily Min 66.03 57 *e*P P 22 14 27.2 +0.9
comp=Z,56nm,0.9s
J20A Shoshoni 66.05 52 ⇓P P 22 14 27.2 +0.9
baz=66,SNR=89
PASC Pasadena Art C 66.09 65 *e*P P 22 14 27.3 +0.7
comp=Z,37nm,1.1s
MWC Mount Wilson 66.14 65 *e*P P 22 14 27.6 +0.5
MWC pmax pmax
comp=Z,58nm,1.2s
MWC Mount Wilson 66.14 65 *e*P P 22 14 27.6 +0.5
comp=Z,58nm,1.2s
C26A Wahner Farm, P 66.15 45 ⇑P P 22 14 27.3 +0.5
baz=66,SNR=12
H22A Clearmont 66.16 50 ⇓P P 22 14 27.2 +0.2
baz=66,SNR=13
SHOC Shoshone, Teco 66.16 63 ⇑P P 22 14 27.4 +0.4
baz=66
B27A Peters Farms, 66.16 44 ⇑P P 22 14 27.3 +0.5
baz=66,SNR=7.0
I21A Big Trails, Te 66.17 51 ⇓P P 22 14 27.6 +0.5
baz=66,SNR=102
LPSR Galich'ya Gora 66.19 322 *e*P P 22 14 25.5 -1.3
LPSR pmax pmax
comp=N,60nm,0.7s
LPSR pmax pmax
comp=Z,490nm,0.7s
LPSR pmax pmax
comp=E,170nm,1.0s
LPSR MLR MLR
comp=Z,320nm,18.0s
LPSR MLR MLR
comp=N,910nm,25.0s
LPSR MLR MLR
comp=E,390nm,16.0s
CTAO Charters Tower 66.20 186 *e*P P 22 14 26.4 -0.8
CTAO pmax pmax
comp=Z,115nm,1.2s
CTAO Charters Tower 66.20 186 *e*P P 22 14 26.4 -0.8
comp=Z,115nm,1.2s
GSC Goldstone, Bar 66.22 63 *e*P P 22 14 27.9 +0.4
GSC pmax pmax
comp=Z,36nm,0.9s
GSC Goldstone, Bar 66.22 63 *e*P P 22 14 27.9 +0.4
comp=Z,36nm,0.9s
GSC Goldstone, Bar 66.22 63 ⇓P P 22 14 27.8 +0.4
baz=66,SNR=26
MPU Maple Canyon 66.25 57 *e*P P 22 14 29.0 +1.2
comp=Z,75nm,0.8s
G23A Biddle 66.26 49 ⇑P P 22 14 27.8 +0.3
baz=66,SNR=42
A28A Rude Farm, Bot 66.29 43 ⇑P P 22 14 28.2 +0.5
baz=66,SNR=24
HYB Hyderabad 66.31 271 *i* P P 22 14 27.0 -1.1
comp=Z,77nm,0.8s
HYB *e*pP pP 22 14 48.5 +2.1
HYB *e*S S 22 23 14.0 +1.5
HYBB Hyderabad (bro 66.31 271 *e*P P 22 14 28.2 0.0
HYBB IAmb IAmb 22 14 28.9
comp=Z,75nm,0.8s
HYBB *e*pP pP 22 14 48.4 +2.0
HYBB *e*PP PP 22 16 54.8 +0.1
HYBB *e*S S 22 23 12.3 -0.1
F24A Ekalaka 66.31 48 ⇓P P 22 14 28.3 +0.4
baz=66,SNR=12
FMP Fort Macarthur 66.32 66 ⇓P P 22 14 28.2 +0.2
baz=66
VSU Vasula 66.36 332 *c i*P P 22 14 26.9 -0.9
VSU pmax pmax
comp=Z,434nm,1.0s
NJS Nagarjunasagar 66.37 270 *e*P P 22 14 28.6 +0.1
NJS IAmb IAmb 22 14 29.5
comp=Z,70nm,0.9s
NJS *e*pP pP 22 14 49.3 +2.5
RRX Edison Barstow 66.38 64 ⇓P P 22 14 29.2 +0.8
baz=66
BFSC Mount Baldy Ra 66.38 65 ⇓P P 22 14 28.9 +0.3
baz=66,SNR=19
J21A Lysite 66.40 52 ⇓P P 22 14 28.9 +0.3
baz=66,SNR=64
E25A Miller Ranch, 66.40 47 ⇑P P 22 14 28.9 +0.5
baz=66,SNR=19
SHPR Sheep Range 66.45 61 *e*P P 22 14 29.9 +0.9
CIS Catalina Islan 66.45 66 ⇑P P 22 14 29.2 +0.3
baz=66,SNR=5.3
C27A Sayler Ranch, 66.52 45 ⇓P P 22 14 29.7 +0.6
baz=66
D26A Manning 66.53 46 ⇑P P 22 14 29.5 +0.4
baz=66
I22A 9 Mile Ranch, 66.56 51 ⇑P P 22 14 30.3 +0.8
baz=66,SNR=55
B28A Dugan Ranch, T 66.57 44 ⇓P P 22 14 29.8 +0.4
baz=66,SNR=17
SCI San Clemente I 66.64 66 ⇑P P 22 14 30.4 +0.3
baz=66
G24A Alzada 66.68 48 ⇑P P 22 14 30.2 0.0
baz=66,SNR=9.7
TUQ Turquoise Moun 66.68 63 ⇓P P 22 14 31.2 +0.7
baz=66,SNR=10
H23A Clabaugh Cattl 66.68 49 ⇓P P 22 14 30.2 -0.1
baz=66
VOR Voronezh 66.70 321 *e*P P 22 14 27.0 -3.1
VOR pmax pmax
comp=Z,500nm,1.0s
TBLU Trondheim 66.75 342 *e*P P 22 14 29.1 -1.1
IAKL Akhelmad 66.75 299 *e*P P 22 14 32.1 +1.0
F25A Bowman 66.77 47 ⇓P P 22 14 31.2 +0.4
baz=66,SNR=20
A29A Manning Farm, 66.78 43 ⇑P P 22 14 31.1 +0.4
baz=66,SNR=9.5
ISHV Shirvan 66.78 300 *e*P P 22 14 32.5 +1.4
HEC Hector,Ludlow 66.83 63 ⇑P P 22 14 31.9 +0.6
baz=67,SNR=40
BBRC Big Bear Solar 66.83 64 ⇑P P 22 14 32.0 +0.5
baz=67
J22A Midwest 66.88 51 ⇓P P 22 14 31.9 +0.3
baz=67,SNR=80
E26A Carlson Angus 66.90 46 ⇑P P 22 14 31.7 +0.2
baz=67,SNR=5.8
MVU Marysvale 66.91 58 *e*P P 22 14 33.1 +1.1
comp=Z,33nm,1.0s
ISFR Sfrayin 66.92 300 *e*P P 22 14 33.4 +1.3
MSU Marysvale 66.92 58 *e*P P 22 14 33.0 +0.9
MSU Marysvale 66.92 58 *e*P P 22 14 33.0 +0.9
D27A Center 66.93 45 ⇓P P 22 14 32.1 +0.4
baz=67,SNR=8.0
TMUT Trail Mountain 66.97 57 *e*P P 22 14 33.5 +1.1
comp=Z,60nm,0.9s
H24A Dirks Ranch, A 67.00 49 ⇓P P 22 14 32.1 -0.2
baz=67,SNR=43
B29A Wagenman Farm, 67.04 43 ⇓P P 22 14 32.5 +0.2
baz=67,SNR=9.5
I23A Meade Ranch, G 67.06 50 ⇑P P 22 14 32.8 +0.1
baz=67
C28A Hausauer Farms 67.06 44 ⇓P P 22 14 33.2 +0.7
baz=67
VSR Storozhevoye 67.08 321 *c i*P P 22 14 32.0 -0.6
VSR pmax pmax
comp=N,170nm,0.9s
VSR pmax pmax
comp=E,140nm,0.9s
VSR pmax pmax
comp=Z,410nm,0.9s
MURC Murrieta 67.09 65 ⇓P P 22 14 33.3 +0.3
baz=67,SNR=11
A30A Hoffart Farm, 67.20 42 ⇑P P 22 14 33.8 +0.5
baz=67
VORD Divnogorie 67.21 321 *e*P P 22 14 32.6 -0.7
VORD pmax pmax
comp=N,500nm,1.1s
VORD pmax pmax
comp=E,300nm,1.1s
VORD pmax pmax
comp=Z,520nm,1.1s
F26A Lodgepole 67.22 47 ⇑P P 22 14 33.9 +0.3
baz=67,SNR=14
ROA Roan Cliffs 67.22 56 *e*P P 22 14 36.4 +2.3
GMRC Granite Mounta 67.27 63 ⇓P P 22 14 34.7 +0.5
baz=67,SNR=35
G25A Newell 67.29 48 ⇑P P 22 14 34.0 0.0
baz=67,SNR=6.2
D28A Regan 67.34 45 ⇑P P 22 14 34.7 +0.4
baz=67,SNR=8.8
MDND Maddock 67.35 44 *e*P P 22 14 35.2 +0.9
comp=Z,761nm,0.8s
MDND Maddock 67.35 44 ⇑P P 22 14 34.6 +0.3
baz=67,SNR=7.8
K22A Casper 67.37 52 *e*P P 22 14 35.0 +0.3
comp=Z,302nm,1.6s
K22A Casper 67.37 52 ⇓P P 22 14 34.8 +0.1
baz=67,SNR=42
E27A Carson 67.38 46 ⇓P P 22 14 34.9 +0.4
baz=67,SNR=16
ULM Lac du Bonnet 67.38 40 P P 22 14 34.0 -0.4
comp=Z,38nm,0.7s,baz=313,slow=6.8,SNR=81
ULM LR LR 22 46 39.0
comp=Z,115nm,19.7s,baz=10,slow=38
ULM Lac du Bonnet 67.38 40 P P 22 14 34.0 -0.4
ULM pmax pmax
comp=Z,38nm,0.7s
ULM MLR MLR
comp=Z,115nm,19.7s
ULM Lac du Bonnet 67.38 40 *e*P P 22 14 34.0 -0.4
ULM Lac du Bonnet 67.38 40 *e*P P 22 14 33.9 -0.5
comp=Z,45nm,0.8s
J23A Dilts Ranch, B 67.38 50 ⇓P P 22 14 34.9 +0.1
baz=67,SNR=8.4
LDFC Landfair 67.42 63 *e*P P 22 14 36.1 +1.0
comp=Z,109nm,0.8s
SNDA J Saunders Pla 67.49 65 *e*P P 22 14 35.1 -0.4
SRU San Rafael Swe 67.49 57 *e*P P 22 14 36.2 +0.6
SRU pmax pmax
comp=Z,127nm,0.8s
SRU San Rafael Swe 67.49 57 *e*P P 22 14 36.2 +0.6
comp=Z,127nm,0.8s
KNB Kanab 67.53 60 *e*P P 22 14 37.1 +1.2
KNB pmax pmax
comp=Z,94nm,1.0s
KNB Kanab 67.53 60 *e*P P 22 14 37.1 +1.2
comp=Z,94nm,1.0s
F27A Lemmon 67.53 47 ⇑P P 22 14 35.6 +0.1
baz=67,SNR=17
B30A Myrvik Farm, E 67.53 43 ⇓P P 22 14 36.0 +0.5
baz=67,SNR=28
PFO Pinyon Flats O 67.55 65 *e*P P 22 14 36.1 +0.1
PFO pmax pmax
comp=Z,25nm,1.1s
PFO Pinyon Flats O 67.55 65 *e*P P 22 14 36.1 +0.1
comp=Z,25nm,1.1s
PFO Pinyon Flats O 67.55 65 ⇓P P 22 14 36.3 +0.3
baz=67
I24A Kuemmerle Ranc 67.57 50 ⇑P P 22 14 35.6 -0.3
baz=67,SNR=16
BELC Belle Mtn. Jos 67.58 64 ⇓P P 22 14 36.1 0.0
baz=67,SNR=9.2
H25A Fruitdale 67.58 48 ⇓P P 22 14 36.1 +0.1
baz=67,SNR=9.5
109C Camp Elliot, M 67.61 65 ⇑P P 22 14 36.7 +0.5
baz=67
HWB Hans Werner Br 67.62 65 *e*P P 22 14 32.8 -3.4
N20A Spence Gulch, 67.63 54 ⇑P P 22 14 37.3 +0.8
baz=67,SNR=91
G26A Maurine 67.64 47 ⇓P P 22 14 36.4 +0.1
baz=67,SNR=41
MMU Miners Mountai 67.65 58 *e*P P 22 14 37.3 +0.6
RSSD Black Hills 67.70 49 *e*P P 22 14 36.9 0.0
RSSD pmax pmax
comp=Z,120nm,0.9s
RSSD Black Hills 67.70 49 *e*P P 22 14 36.9 0.0
comp=Z,120nm,0.9s
E28A Huff 67.71 45 ⇓P P 22 14 36.5 -0.1
baz=67,SNR=7.3
WRAB Tennant Creek 67.78 198 *ce*P P 22 14 36.5 -0.7

WRAB pmax pmax
comp=Z,271nm,1.7s
WRAB Tennant Creek 67.78 198 *eP* **P 22 14 36.3 -0.9**
comp=Z,52nm,0.8s
K23A Bowen Ranch, D 67.79 51 ⇓P **P 22 14 37.0 -0.4**
baz=68,SNR=21
WRA Warramunga Arr 67.79 198 P **P 22 14 36.2 -1.1**
comp=Z,39nm,0.8s,baz=18,slow=6.7,SNR=150
WRA LR LR 22 41 35.7
comp=Z,140nm,20.9s,baz=10.0,slow=33
WRA PKPPKP **P'P'df 22 42 53.5 -0.9**
comp=Z,1.4nm,1.0s,baz=206,slow=2.4,SNR=5.3
WRA Warramunga Arr 67.79 198 *eP* **P 22 14 36.2 -1.1**
WRA Warramunga Arr 67.79 198 *eP* **P 22 14 36.2 -1.1**
MSVF Nonsavu 67.84 153 *eP* **P 22 14 37.7 0.0**
MSVF pmax pmax
comp=Z,37nm,1.0s
MSVF Nonsavu 67.84 153 *eP* **P 22 14 37.7 0.0**
comp=Z,37nm,1.0s
D29A Pettibone, Tap 67.91 44 ⇑P **P 22 14 37.6 -0.2**
baz=68
J24A Dixon Ranch, L 67.91 50 ⇓P **P 22 14 37.9 -0.2**
baz=68,SNR=15
G27A Dupree 67.92 47 ⇓P **P 22 14 37.9 -0.1**
baz=68,SNR=14
MOL Molde 67.92 343 *eP* **P 22 14 37.8 +0.2**
NEE2 Needles Airpor 67.92 62 ⇓P **P 22 14 38.8 +0.6**
baz=68
I25A Rochford 67.93 49 ⇑P **P 22 14 38.1 -0.1**
baz=68,SNR=58
C30A Mose, Pekin 67.99 43 ⇓P **P 22 14 38.1 -0.3**
baz=68,SNR=8.8
IRM Iron Mountain 68.00 63 ⇑P **P 22 14 39.2 +0.6**
baz=68,SNR=24
H26A Fairpoint 68.02 48 ⇑P **P 22 14 38.6 -0.1**
baz=68,SNR=5.7
SKHT Srikalahasti 68.04 267 *eP* **P 22 14 40.0 +1.0**
SKHT IAmb IAmb 22 14 40.8
comp=Z,84nm,1.0s
SKHT *epP* **pP 22 14 58.2 +0.8**
SKHT *esP* **sP 22 15 05.9 +0.8**
SKHT *eS* **S 22 23 35.5 +2.3**
MONP Monument Peak, 68.05 65 ⇑P **P 22 14 39.4 +0.2**
baz=68,SNR=9.9
O20A White River Ci 68.11 55 *eP* **P 22 14 39.8 +0.3**
comp=Z,103nm,1.3s
O20A White River Ci 68.11 55 ⇓P **P 22 14 39.7 +0.3**
baz=68,SNR=21
BC3 Big Chuckawall 68.14 64 ⇓P **P 22 14 39.8 +0.2**
baz=68,SNR=24
W13A Hualapai Mount 68.16 62 ⇑P **P 22 14 40.5 +0.6**
baz=68
F28A McLaughlin 68.16 46 ⇑P **P 22 14 39.6 +0.1**
baz=68
E29A Napoleon 68.23 45 ⇑P **P 22 14 39.7 -0.2**
baz=68
U15A North Rim 68.24 60 ⇑P **P 22 14 41.4 +0.9**
baz=68,SNR=57
K24A Anderson Ranch 68.24 51 ⇑P **P 22 14 39.6 -0.6**
baz=68
D30A Buchanan 68.28 44 ⇓P **P 22 14 40.0 -0.2**
baz=68,SNR=13
J25A Sunshine Ranch 68.32 50 ⇑P **P 22 14 40.1 -0.5**
baz=68,SNR=22
H27A Howes 68.36 48 ⇑P **P 22 14 40.6 -0.2**
baz=68,SNR=15
I26A New Underwood 68.38 49 ⇓P **P 22 14 41.2 +0.3**
baz=68,SNR=20
IBP Imperial Bould 68.40 65 ⇓P **P 22 14 41.9 +0.6**
baz=68
NB201 NORSAR Array S 68.47 341 *eP* **P 22 14 41.6 +0.4**
NB2 NORSAR Subarra 68.50 341 P **P 22 14 41.3 -0.1**
comp=Z,411nm,0.8s,baz=26,slow=6.5
NB2 NORSAR Subarra 68.50 341 P **P 22 14 41.3 -0.1**
baz=26,slow=6.5
NB200 NORSAR Array S 68.50 341 *eP* **P 22 14 41.1 -0.2**
NOA NORSAR Array B 68.50 341 P **P 22 14 41.1 -0.2**
comp=Z,243nm,0.7s,baz=27,slow=6.3,SNR=954
NOA LR LR 22 48 25.1
comp=Z,297nm,19.7s,baz=15,slow=39
NOA NORSAR Array B 68.50 341 P **P 22 14 41.1 -0.2**
NOA pmax pmax
comp=Z,243nm,0.7s
NOA MLR MLR
comp=Z,297nm,19.7s
PDMCI Parker Dam,Lak 68.53 63 ⇓P **P 22 14 42.4 +0.5**
baz=68,SNR=39
NBO02 NORSAR Array S 68.57 341 *eP* **P 22 14 40.9 -0.9**
IDAH Dahanechah 68.62 295 *eP* **P 22 14 43.6 +0.8**
E30A Jud 68.63 45 ⇑P **P 22 14 42.1 -0.3**
baz=68,SNR=17
G28A Parade 68.64 47 ⇓P **P 22 14 42.6 +0.1**
baz=68,SNR=12
F29A Eureka 68.66 46 ⇓P **P 22 14 42.6 0.0**
baz=68
Y12C Blythe 68.66 63 ⇓P **P 22 14 43.5 +0.7**
baz=68,SNR=21
N22A Wattenberg Ran 68.66 53 ⇓P **P 22 14 43.7 +0.7**
baz=68,SNR=52
NC602 NORSAR Array S 68.69 340 *eP* **P 22 14 42.2 -0.3**
PV09 Paradox Valley 68.71 56 *eP* **P 22 14 43.3 +0.9**
J26A Sides Ranch, S 68.76 49 ⇑P **P 22 14 43.4 0.0**
baz=68,SNR=28
I27A Quinn 68.77 48 ⇑P **P 22 14 43.5 +0.1**
baz=68,SNR=8.2
AGMN Agassiz Nation 68.79 42 *eP* **P 22 14 42.9 -0.5**
comp=Z,112nm,1.0s
AGMN Agassiz Nation 68.79 42 ⇓P **P 22 14 42.9 -0.5**
baz=68,SNR=33
POO Poona 68.81 275 ⇑*iP* **P 22 14 43.0 -0.9**
comp=Z,280nm,1.0s
K25A Mack Ranch, Ha 68.83 50 ⇓P **P 22 14 43.9 +0.1**
baz=68
PV10 Paradox Valley 68.84 56 *eP* **P 22 14 45.4 +1.2**
PHWY Pilot Hill 68.87 52 *eP* **P 22 14 44.4 0.0**
comp=Z,49nm,1.4s
H28A Mission Ridge 68.87 47 ⇑P **P 22 14 44.2 +0.3**
baz=69,SNR=17
N23A Red Feather La 68.88 53 *eP* **P 22 14 45.2 +0.8**
comp=Z,181nm,1.4s
N23A Red Feather La 68.88 53 ⇓P **P 22 14 45.1 +0.8**
baz=69,SNR=63
MAK Makhachkala 68.88 310 *eP* **P 22 14 44.0 0.0**
MAK *e**PP **pP 22 14 59.0 -3.3**
MAK *e**SP **sP 22 15 05.6 -4.4**
MAK *e* 22 17 18.9
MAK *e*PPP PPP 22 18 55.2
MAK *eS* **S 22 23 42.2 -0.4**
MAK *e* 22 24 10.7
MAK *e* 22 24 34.5
MAK *e*SS **SS 22 28 13.6 +5.5**
MAK pmax pmax
comp=Z,115nm,0.7s
MAK MLR MLR
comp=Z,1μm,22.0s
URV Uravakonda 68.90 270 *eP* **P 22 14 44.6 +0.1**
URV IAmb IAmb 22 14 45.3
comp=Z,80nm,0.9s
URV *epP* **pP 22 15 03.9 +1.0**
URV *eS* **S 22 23 47.7 +4.1**
PV05 Paradox Valley 69.01 57 *eP* **P 22 14 45.8 +0.7**
O22A Kremmling 69.05 54 ⇑P **P 22 14 45.6 +0.2**
baz=69,SNR=38
F30A Leola 69.05 45 ⇑P **P 22 14 44.5 -0.5**
baz=69
G29A Hoven 69.06 46 ⇑P **P 22 14 44.9 -0.2**
baz=69
L25A Engebretsen Ra 69.09 51 ⇓P **P 22 14 45.6 +0.1**
baz=69,SNR=16
MICGM Minsk 69.09 329 ⇑*iP* **P 22 14 42.0 -3.1**
MNK Minsk 69.11 329 ⇑*iP* P 22 14 42.0 -3.2
MNK pmax pmax
comp=Z,510nm,0.8s
MNK pmax pmax
comp=E,330nm,1.6s
MNK pmax pmax
comp=N,480nm,1.2s
K26A Motz Farm, Whi 69.13 50 ⇓P **P 22 14 45.4 -0.2**
baz=69,SNR=12
NACGM Naroch 69.16 330 *eP* P 22 14 41.0 -4.5
BORG Borgarnes 69.25 357 *eP* **P 22 14 47.5 +1.6**
BORG pmax pmax
comp=Z,240nm,0.7s
BORG Borgarnes 69.25 357 *eP* **P 22 14 47.5 +1.6**
comp=Z,240nm,0.7s
I28A Midland 69.27 48 ⇓P **P 22 14 46.3 -0.1**
baz=69,SNR=39

PV01 Paradox Valley 69.28 56 *eP* **P 22 14 47.3 +0.4**
H29A Onida 69.32 47 ⇓P **P 22 14 46.5 -0.2**
baz=69,SNR=20
P22A Eagle 69.32 54 ⇓P **P 22 14 47.5 +0.4**
baz=69,SNR=41
J27A Elkhorn Farm, 69.36 49 ⇓P **P 22 14 47.5 +0.5**
baz=69,SNR=7.5
O23A Lake Granby, G 69.36 53 ⇑P **P 22 14 48.5 +1.1**
baz=69,SNR=71
IKOO Kooshah 69.37 296 *eP* **P 22 14 48.4 +0.9**
WUAZ Wupatki 69.40 60 *eP* **P 22 14 48.5 +1.0**
comp=Z,52nm,0.9s
WUAZ Wupatki 69.40 60 ⇓P **P 22 14 48.7 +1.2**
baz=69
HYA Hoyanger 69.47 343 ⇑*iP* **P 22 14 47.4 +0.2**
HYA IAmb IAmb 22 14 48.1
comp=Z,568nm,0.7s
SMCO Snowmass 69.48 55 *eP* **P 22 14 48.8 +0.5**
comp=Z,80nm,0.8s
G30A Faulkton 69.49 46 ⇑P **P 22 14 47.4 -0.3**
baz=69,SNR=34
N24A Carr 69.51 52 ⇑P **P 22 14 48.9 +0.8**
baz=69,SNR=23
M25A Palm-Egli Farm 69.54 51 ⇓P **P 22 14 49.1 +0.8**
baz=69,SNR=8.4
OSL Oslo 69.59 340 *eP* **P 22 14 48.2 +0.2**
K27A Flueckinger Fa 69.63 49 ⇑P **P 22 14 48.6 -0.1**
baz=69
J28A Allard Ranch, 69.64 48 ⇑P **P 22 14 49.1 +0.4**
baz=69,SNR=45
L26A Underwood Farm 69.65 50 ⇓P **P 22 14 49.1 +0.2**
baz=69
GOF Gofitskoye 69.69 314 ⇑*iP* **P 22 14 49.3 +0.3**
GOF *eS* SKiKP 22 24 44.8 +15
I29A Vivian Onida 69.70 47 ⇓P **P 22 14 48.9 -0.2**
baz=69,SNR=18
IGLO Ghaloghah 69.77 302 *eP* **P 22 14 50.9 +1.0**
113A Mohawk Valley, 69.79 64 ⇑P **P 22 14 50.0 +0.3**
baz=70,SNR=8.1
ISCO Idaho Springs 69.82 53 *eP* **P 22 14 51.1 +0.9**
ISCO pmax pmax
comp=Z,75nm,0.8s
ISCO Idaho Springs 69.82 53 *eP* **P 22 14 51.1 +0.9**
comp=Z,76nm,0.8s
ISCO Idaho Springs 69.82 53 ⇓P **P 22 14 51.1 +0.9**
baz=70
SUE Sulen 69.85 344 ⇑*iP* **P 22 14 49.3 -0.3**
SUE IAmb IAmb 22 14 50.5
comp=Z,861nm,0.3s
Z14A Wintersburg 69.89 63 ⇓P **P 22 14 51.0 +0.6**
baz=70,SNR=12
MVCO Mesa Verde 69.95 57 *eP* **P 22 14 51.5 +0.6**
comp=Z,76nm,0.8s
MVCO Mesa Verde 69.95 57 ⇓P **P 22 14 51.3 +0.3**
baz=70,SNR=41
N25A Grover 69.96 52 ⇑P **P 22 14 51.9 +1.1**
baz=70
P23A Jefferson 69.98 54 ⇑P **P 22 14 52.3 +1.0**
baz=70,SNR=30
M26A McRoberts Ranc 70.01 51 ⇓P **P 22 14 52.0 +0.8**
baz=70,SNR=13
L27A T5 Ranch, Ells 70.02 50 ⇑P **P 22 14 51.1 -0.1**
baz=70
BRSD Miller 70.08 46 *eP* **P 22 14 51.0 -0.3**
comp=Z,157nm,1.0s
BRSD Miller 70.08 46 ⇓P **P 22 14 51.0 -0.3**
baz=70,SNR=15
X16A Lo Mia Camp, P 70.10 61 ⇓P **P 22 14 53.0 +1.1**
baz=70,SNR=60
KONO Kongsberg 70.11 341 ⇑*iP* **P 22 14 51.3 +0.1**
KONO IAmb IAmb 22 14 51.8
comp=Z,440nm,1.1s
KONO Kongsberg 70.11 341 *eP* **P 22 14 51.3 +0.1**
KONO pmax pmax
comp=Z,312nm,0.8s
KONO Kongsberg 70.11 341 *eP* **P 22 14 51.3 +0.1**
comp=Z,312nm,0.8s
J29A Okreek 70.12 48 ⇑P **P 22 14 51.7 0.0**
baz=70,SNR=27
I30A Oacoma 70.22 47 ⇓P **P 22 14 52.1 -0.2**
baz=70,SNR=21
ASK Askoy 70.29 343 ⇑*iP* **P 22 14 52.7 +0.4**
Q23A Hartsel 70.31 54 ⇓P **P 22 14 54.1 +0.8**
baz=70,SNR=40
RUND Rundenannen 70.32 343 *eP* **P 22 14 52.0 -0.6**
BER Bergen 70.36 343 ⇑*iP* **P 22 14 53.1 +0.4**
BER IAmb IAmb 22 14 53.7
comp=Z,609nm,0.8s
M27A Reverse DX Ran 70.37 50 ⇓P **P 22 14 53.7 +0.4**
baz=70,SNR=6.7
N26A Koester Ranch, 70.41 51 ⇑P **P 22 14 54.1 +0.5**
baz=70,SNR=5.7
IANJ Anjilo 70.43 301 *eP* **P 22 14 55.3 +1.4**
L28A Connealy Angus 70.49 49 ⇑P **P 22 14 54.2 +0.2**
baz=70
ODD1 Odda 70.52 342 ⇑*iP* **P 22 14 54.2 +0.4**
ODD1 IAmb IAmb 22 14 54.9
comp=Z,461nm,0.9s
NCK Nalchik 70.53 313*c* *iP* **P 22 14 54.8 +0.6**
S22A 4UR Ranch, Cre 70.55 56 *eP* **P 22 14 55.7 +1.0**
comp=Z,71nm,0.9s
S22A 4UR Ranch, Cre 70.55 56 ⇓P **P 22 14 55.7 +1.0**
baz=70,SNR=70
ISHM Shahmirzad 70.56 302 *eP* **P 22 14 56.6 +1.8**
K29A Lazy Trails An 70.59 48 ⇓P **P 22 14 54.9 +0.4**
baz=70,SNR=52
J30A Dallas 70.61 47 ⇑P **P 22 14 54.5 -0.2**
baz=70,SNR=18
W18A Petrified Fore 70.65 59 *eP* **P 22 14 56.5 +1.3**
comp=Z,29nm,0.9s
W18A Petrified Fore 70.65 59 ⇑P **P 22 14 56.0 +0.8**
baz=70
Q24A Divide 70.66 54 *eP* **P 22 14 55.8 +0.4**
comp=Z,39nm,0.8s
Q24A Divide 70.66 54 ⇑P **P 22 14 55.6 +0.3**
baz=70,SNR=21
IALA Alasht 70.66 302 *eP* **P 22 14 56.7 +1.4**
KIV Kislovodsk 70.66 314 P **P 22 14 55.6 +0.6**
comp=Z,3μm,0.8s,SNR=82
KIV Kislovodsk 70.66 314 *eP* **P 22 14 55.6 +0.6**
KIV pmax pmax
comp=Z,342nm,0.8s
KIV Kislovodsk 70.66 314 *eP* **P 22 14 55.6 +0.6**
KIV Kislovodsk 70.66 314 P **P 22 14 56.0 +1.0**
SNR=74
KIV Kislovodsk 70.66 314 *eP* **P 22 14 55.6 +0.6**
comp=Z,342nm,0.8s
KBZ Khabaz 70.72 314 P **P 22 14 56.0 +0.8**
comp=Z,244nm,0.7s,baz=53,slow=20
KBZ LR LR 22 49 30.1
comp=Z,598nm,21.0s,baz=80,slow=39
KBZ Khabaz 70.72 314 *eP* **P 22 14 56.0 +0.8**
SOFL Sornfelli, Far 70.76 350 *eP* **P 22 14 54.9 -0.4**
SOFL AMB AMB 22 14 57.0
comp=Z,335nm,0.9s
O26A Horse Wrangler 70.78 52 ⇑P **P 22 14 56.2 +0.3**
baz=70,SNR=11
N27A Anderson Farm, 70.80 51 ⇑P **P 22 14 56.5 +0.6**
baz=70,SNR=35
R23A Moffat 70.81 55 ⇑P **P 22 14 57.2 +0.9**
baz=70,SNR=18
IPRN Peran 70.83 302 *eP* **P 22 14 56.8 +0.6**
ZEI Tsey 70.89 312 *eP* **P 22 14 55.3 -1.2**
ZEI pmax pmax
comp=Z,100nm,0.5s
X18A Snowflake 70.93 60 ⇓P **P 22 14 57.6 +0.7**
baz=71,SNR=14
214A Organ Pipe Nat 70.93 64 ⇑P **P 22 14 57.3 +0.5**
baz=71,SNR=15
DUS Dusheti 70.97 311 P **P 22 14 58.5 +1.6**
OGNE Ogallala 70.97 50 ⇓P **P 22 14 57.4 +0.5**
baz=71
IFIR Firoozkooh 70.99 302 *eP* **P 22 14 58.8 +1.4**
L29A Maesberg Ranch 71.00 49 ⇓P **P 22 14 57.0 -0.1**
baz=71
BLS5 Blasjo 71.00 342 ⇑*iP* **P 22 14 57.1 +0.4**
BLS5 IAmb IAmb 22 14 57.7
comp=Z,166nm,0.6s
M28A Bar X Bar Ranc 71.00 50 ⇑P **P 22 14 57.2 +0.1**
baz=71,SNR=22
K30A Basset 71.01 48 ⇑P **P 22 14 57.2 +0.1**
baz=71,SNR=15
EYMN Ely 71.02 40 *eP* **P 22 14 56.6 -0.5**
comp=Z,143nm,1.1s
S23A Nye Farm, Mont 71.05 55 ⇓P **P 22 14 58.8 +1.1**
baz=71
ILAS Lasjerd 71.05 301 *eP* **P 22 14 59.4 +1.6**

SUW Suwalki 71.12 331 *i* P **P 22 14 56.8 -0.7**
SUW *e*PcP **PcP 22 15 19.2 +2.0**
SUW LMZ LR 22 42 50.4
SUW Suwalki 71.12 331 ⇑*iP* **P 22 14 56.8 -0.7**
SUW *e* 22 15 19.2
SUW pmax pmax
comp=Z,400nm,1.1s
SUW Suwalki 71.12 331 *eP* **P 22 14 56.4 -1.1**
comp=Z,337nm,1.0s
SEAG Tbilisi Sea 71.15 311 P **P 22 14 58.3 +0.4**
NEY Neytrino 71.16 313 *i* P **P 22 14 59.1 +1.0**
NEY pmax pmax
comp=Z,27nm,1.3s
TBLG Delisi 71.21 311 P **P 22 14 59.1 +0.9**
P26A Davis Ranch, A 71.24 52 ⇓P **P 22 14 59.0 +0.4**
baz=71
EIDS Eidsvold 71.25 181 *eP* **P 22 14 58.8 +0.4**
comp=Z,35nm,0.8s
ONI Oni 71.26 312 P **P 22 15 00.8 +2.2**
O27A Beecher Island 71.27 51 ⇓P **P 22 14 58.7 -0.1**
baz=71,SNR=24
SDCO Great Sand Dun 71.31 55 *eP* **P 22 14 59.8 +0.5**
comp=Z,25nm,0.8s
SDCO Great Sand Dun 71.31 55 ⇑P **P 22 14 59.9 +0.7**
baz=71
M29A Burnside Ranch 71.33 49 ⇓P **P 22 14 58.9 -0.2**
baz=71
N28A Pribbeno Ranch 71.42 50 ⇑P **P 22 14 59.4 -0.3**
baz=71,SNR=5.7
KMY Karmoy 71.45 343 ⇑*iP* **P 22 14 59.9 +0.5**
IDMV Damavand 71.46 302 *eP* **P 22 15 01.6 +1.3**
AS01 Alice Springs 71.48 198 *eP* **P 22 15 00.2 +0.3**
L30A Spencer Herefo 71.48 48 ⇓P **P 22 14 59.3 -0.6**
baz=71,SNR=5.8
Q26A Hugo 71.59 53 ⇑P **P 22 15 01.0 +0.2**
baz=71
AKASG Malin Array Be 71.59 326 P **P 22 14 59.8 -0.6**
comp=Z,88nm,0.4s,baz=34,slow=6.2,SNR=427
AKASG S **S 22 24 10.2 -3.8**
comp=Z,0.4nm,0.5s,baz=36,slow=13,SNR=6.2
AKASG LR LR 22 48 44.9
comp=Z,695nm,20.8s,baz=45,slow=38
AKASG Malin Array Be 71.59 326 P **P 22 14 59.8 -0.6**
AKASG S **S 22 24 10.2 -3.8**
AKASG pmax pmax
comp=Z,88nm,0.4s
AKASG MLR MLR
comp=Z,695nm,20.8s
AKBB Malin Array Si 71.59 326 *eP* **P 22 14 59.8 -0.6**
AKBB *eS* **S 22 24 10.2 -3.8**
AKBB Malin Array Si 71.59 326 *eP* **P 22 14 59.8 -0.6**
AKBB *eS* **S 22 24 10.2 -3.8**
HOMB Homborsund 71.60 341 *eP* **P 22 15 00.4 +0.1**
KIEV Kiev 71.61 326 *eP* **P 22 14 59.8 -0.6**
KIEV *e* 22 15 17.9
KIEV pmax pmax
comp=Z,873nm,1.7s
KIEV Kiev 71.61 326 *eP* **P 22 14 59.8 -0.6**
comp=Z,873nm,1.7s
KIEV *e*PcP **pP 22 15 17.9 -1.0**
STAV Stavanger 71.61 342 *eP* **P 22 15 01.2 +0.9**
KZR Kazreti 71.62 311 P **P 22 14 59.9 -1.0**
AK11 Malin Array Si 71.63 326 *eP* **P 22 14 59.6 -1.0**
AK11 *e*PcP **PcP 22 15 19.5 0.0**
P27A Ficken Ranch, 71.66 52 ⇓P **P 22 15 01.0 -0.2**
baz=71,SNR=8.2
O28A Krutsinger Ran 71.69 51 ⇑P **P 22 15 01.4 0.0**
baz=71
M30A Dale-Ortello V 71.69 49 ⇑P **P 22 15 00.8 -0.5**
baz=71
ECSD EROS Data Cent 71.76 45 *eP* **P 22 15 01.3 -0.3**
comp=Z,211nm,1.1s
ECSD EROS Data Cent 71.76 45 ⇑P **P 22 15 01.2 -0.4**
baz=71,SNR=82
L31A Butterfield Fa 71.77 48 ⇓P **P 22 15 01.6 -0.1**
baz=72,SNR=30
LRW Lerwick 71.78 346 ⇑*eP* **P 22 15 01.2 -0.1**
LRW AMB AMB 22 15 02.7
comp=Z,176nm,1.6s
N29A Votaw Ranch, W 71.81 50 ⇓P **P 22 15 01.6 -0.4**
baz=72,SNR=12
SNART Snartemo 71.83 341 ⇑*iP* **P 22 15 02.1 +0.4**
SNART IAmb IAmb 22 15 02.6
comp=Z,391nm,0.9s
PALK Pallekele 71.93 262 *eP* **P 22 15 03.8 +0.8**
PALK pmax pmax
comp=Z,45nm,0.9s
PALK Pallekele 71.93 262 *eP* **P 22 15 03.8 +0.8**
comp=Z,45nm,0.9s
TUC Tucson 71.94 62 *eP* **P 22 15 03.5 +0.6**
TUC pmax pmax
comp=Z,34nm,1.0s
TUC Tucson 71.94 62 *eP* **P 22 15 03.5 +0.6**
comp=Z,34nm,1.0s
KSCO Kaye Shedlock' 72.02 52 *eP* **P 22 15 03.8 +0.4**
comp=Z,79nm,0.9s
KSCO Kaye Shedlock' 72.02 52 ⇓P **P 22 15 03.5 +0.1**
baz=72
IVRN Varamin 72.05 302 *eP* **P 22 15 04.9 +1.4**
R26A Arlington 72.07 53 ⇓P **P 22 15 04.0 +0.4**
baz=72
AKH Akhalkalaki 72.09 311 *eP* **P 22 15 03.5 -0.2**
AKH Akhalkalaki 72.09 311 P **P 22 15 05.2 +1.4**
P28A Saint Francis 72.10 51 ⇑P **P 22 15 03.6 -0.2**
baz=72
N30A Hueftle Ranch, 72.11 49 ⇓P **P 22 15 03.4 -0.4**
baz=72
IMHD Mahdasht 72.19 303 *eP* **P 22 15 05.8 +1.5**
O29A 4D Ranch, Culb 72.22 50 ⇓P **P 22 15 04.3 -0.1**
baz=72,SNR=33
M31A Lambtecht Ranc 72.30 48 ⇓P **P 22 15 04.0 -0.8**
baz=72,SNR=7.2
ICHK Chekchek 72.34 298 *eP* **P 22 15 06.4 +0.9**
T25A Trinidad 72.35 55 *eP* **P 22 15 05.8 +0.4**
comp=Z,84nm,0.9s
T25A Trinidad 72.35 55 ⇑P **P 22 15 05.8 +0.4**
baz=72,SNR=42
IHRS Heris 72.39 307 *eP* **P 22 15 06.8 +1.1**
ISRB Sarab 72.39 306 *eP* **P 22 15 06.8 +1.0**
SOC Sochi 72.41 315*c* *iP* **P 22 15 05.6 +0.2**
SOC *e* 22 17 44.6
SOC *e*PPP PPP 22 19 26.9
SOC *eS* **S 22 24 27.4 +3.9**
SOC *e*SS SS 22 29 15.2 +13
SOC pmax pmax
comp=Z,189nm,0.7s
SOC MLR MLR
comp=Z,458nm,18.0s
Q28A Sharon Springs 72.42 52 ⇑P **P 22 15 05.4 -0.3**
baz=72,SNR=10.0
R27A Eads 72.44 53 ⇓P **P 22 15 05.8 0.0**
baz=72
SPMN Marine on St. 72.48 42 *eP* **P 22 15 05.4 -0.4**
comp=Z,125nm,1.0s
SPMN Marine on St. 72.48 42 ⇑P **P 22 15 05.5 -0.3**
baz=72
P29A Atwood 72.52 51 ⇓P **P 22 15 06.0 -0.3**
baz=72
S26A Kim 72.54 54 ⇑P **P 22 15 06.2 -0.2**
baz=72
O30A MW Ranch, Wils 72.57 50 ⇑P **P 22 15 05.9 -0.6**
baz=72,SNR=6.8
ANN Anapa 72.60 317 *i* P **P 22 15 06.0 -0.5**
ANN *e**PP **pP 22 15 24.6 -0.4**
ANN *e* 22 17 48.4
ANN *eS* **S 22 24 26.7 +1.1**
ANN *e*SS **SS 22 29 09.2 +4.4**
ANN pmax pmax
comp=E,46nm,0.6s
ANN pmax pmax
comp=N,71nm,0.6s
ANN pmax pmax
comp=Z,238nm,0.6s
BGNE Belgrade 72.68 48 *eP* **P 22 15 06.7 -0.4**
comp=Z,225nm,1.2s
BGNE Belgrade 72.68 48 ⇓P **P 22 15 06.6 -0.4**
baz=72
N31A Bailey Ranch, 72.69 49 ⇓P **P 22 15 06.8 -0.4**
baz=72,SNR=7.7
LAZ Ladron 72.69 58 *eP* **P 22 15 08.5 +1.0**
ANMO Albuquerque 72.71 57*c* *iP* **P 22 15 08.2 +0.6**
ANMO pmax pmax
comp=Z,131nm,0.8s
ANMO Albuquerque 72.71 57 *eP* **P 22 15 08.4 +0.8**
comp=Z,34nm,0.8s
BSD Bornholm Skovb 72.76 336 ⇑*iP* **P 22 15 06.8 -0.4**

comp=Z,413nm,0.8s
comp=Z,860nm,25.0s
BSD Bornholm Skovb 72.76 336⇑ *i*P P 22 15 06.8 -0.4
BSD pmax pmax
comp=Z,410nm,0.8s
BSD MLR MLR
comp=Z,870nm,25.0s
T26A Comanche Natio 72.78 54 ⇓P P 22 15 07.9 -0.1
baz=72
IMEH Mehriz 72.80 297 *e*P P 22 15 07.9 -0.4
IRAZ Razeghan 72.81 303 *e*P P 22 15 09.6 +1.3
S27A Las Animas 72.81 53 ⇑P P 22 15 08.0 -0.1
baz=72
IMRD Marand 72.85 308 *e*P P 22 15 09.0 +0.7
DIGO Kars 72.87 311 *i* P P 22 15 09.5 +1.0
KARS Kars 72.87 311 *e*P P 22 15 10.6 +2.3
P30A Selden 72.93 50 ⇓P P 22 15 08.1 -0.5
baz=73,SNR=46
COP Copenhagen 72.94 337⇑ *i*P P 22 15 08.5 +0.2
comp=Z,325nm,0.8s
comp=Z,340nm,25.0s
COP Copenhagen 72.94 337⇑ *i*P P 22 15 08.5 +0.2
COP pmax pmax
comp=Z,320nm,0.8s
COP MLR MLR
comp=Z,350nm,25.0s
R28A Tribune 72.94 52 ⇑P P 22 15 08.5 -0.4
baz=73,SNR=6.9
ITBZ Tabriz 72.95 308 *e*P P 22 15 09.9 +1.0
LENM Lemitar 72.95 58 *e*P P 22 15 10.2 +1.2
O31A Woolen Ranch, 72.98 49 ⇑P P 22 15 08.1 -0.8
baz=73,SNR=20
Q29A Oakley 73.00 51 ⇑P P 22 15 09.0 -0.1
baz=73,SNR=30
BCA Borcka 73.03 313 *e*P P 22 15 09.5 +0.4
Y22D IRIS PASSCAL I 73.05 58 ⇓P P 22 15 10.8 +1.3
baz=73
LPM Los Pinos Moun 73.05 58 *e*P P 22 15 10.5 +0.9
ARTV Artvin 73.06 312 *i* P P 22 15 10.2 +0.6
N32A Stulken Farm, 73.07 48 ⇓P P 22 15 08.8 -0.6
baz=73
MUD Monsted U'grnd 73.08 340⇑ *i*P P 22 15 09.4 +0.3
comp=Z,243nm,0.8s
comp=Z,670nm,23.0s
MUD Monsted U'grnd 73.08 340⇑ *i*P P 22 15 09.4 +0.3
MUD pmax pmax
comp=Z,240nm,0.8s
MUD MLR MLR
comp=Z,680nm,23.0s
DAGI Agillar 73.14 312 *i* P P 22 15 10.8 +0.8
IZEF Zefreh 73.15 300 *e*P P 22 15 11.6 +1.2
BNM Barren Site 73.17 58 *e*P P 22 15 11.1 +0.7
MBWA Marble Bar 73.19 211 *e*P P 22 15 10.1 -0.1
comp=Z,25nm,0.8s
MBWA *e*pP **pP 22 15 29.4 +0.7**
R29A Marienthal 73.25 52 ⇑P P 22 15 10.5 -0.1
baz=73
DBAD Bademkaya 73.30 312 *i* P P 22 15 11.9 +1.0
IKLH Kolahrood 73.30 301 *e*P P 22 15 12.6 +1.4
LLD Lille Linde 73.31 337 *i* P P 22 15 10.6 +0.1
LLD Lille Linde 73.31 337 *i* P P 22 15 10.6 +0.1
Q30A Quinter 73.35 51 ⇓P P 22 15 10.7 -0.5
baz=73,SNR=34
T27A Campo 73.35 54 ⇓P P 22 15 11.3 0.0
baz=73
DDEM Demirkent 73.36 312 *i* P P 22 15 12.1 +0.8
P31A Stockton 73.41 50 ⇓P P 22 15 11.1 -0.4
baz=73
S28A Manter 73.44 53 ⇑P P 22 15 11.7 0.0
baz=73
IAZR Azarshahr 73.44 307 *e*P P 22 15 13.1 +1.2
O32A Brockman Farm, 73.45 49 ⇑P P 22 15 10.6 -1.1
baz=73
COWI Conover 73.48 40 *e*P P 22 15 11.1 -0.6
comp=Z,97nm,1.2s
CLDR Caldiran 73.50 310 *e*P P 22 15 12.0 -0.3
319A Douglas 73.51 62 ⇓P P 22 15 13.3 +1.1
baz=73
121A Cookes Peak, D 73.61 60 ⇓P P 22 15 14.2 +1.3
baz=73
T28A Walsh 73.65 53 ⇑P P 22 15 12.7 -0.3
baz=73
GKP Gorka Klasztor 73.67 334 *i* P P 22 15 12.6 0.0
GKP LMZ LR 22 47 39.6
GKP Gorka Klasztor 73.67 334⇑ *i*P P 22 15 12.7 +0.1
GKP pmax pmax
comp=Z,700nm,0.7s
AGRB Hanur-Agry 73.68 310 *e*P P 22 15 15.4 +2.1
RGN Rugen 73.70 336 *e*P P 22 15 13.1 +0.4
comp=Z,704nm,0.9s
EATA Eleskirt 73.73 311 *i* P P 22 15 15.5 +1.8
BEL Belsk 73.74 331 *i* P P 22 15 13.7 +0.7
BEL LMZ LR 22 49 02.6
BEL Belsk 73.74 331⇑ *i*P P 22 15 13.8 +0.7
BEL MLR MLR
comp=Z,800nm,25.0s
P32A Huiting Farm, 73.75 49 ⇑P P 22 15 12.5 -0.9
baz=73
U27A Thompson Grove 73.75 54 ⇓P P 22 15 13.6 0.0
baz=74
Q31A Ellis 73.78 50 ⇓P P 22 15 12.8 -0.8
baz=74
BIGH Upper Bighouse 73.78 347⇑ *i*P P 22 15 13.0 -0.2
BIGH AMB AMB 22 15 14.9
comp=Z,443nm,0.9s
R30A Dighton 73.82 51 ⇓P P 22 15 13.5 -0.4
baz=74
S29A Ulysses 73.84 52 ⇓P P 22 15 14.0 -0.1
baz=74
MLA1 Latheron 73.87 347⇑ *i*P P 22 15 13.7 -0.1
SIM Simferopol' 74.02 319*d* *i*P P 22 15 16.2 +1.4
SIM *e* 22 15 26.0
SIM *e*PPP PPP 22 19 44.0
SIM *e*S **S 22 24 43.0 +1.3**
SIM *e*PS PnS 22 25 46.0 +23
SIM *e*SSS SSS 22 32 51.0
SIM pmax pmax
comp=Z,224nm,0.9s
SIM MLR MLR
comp=N,410nm,21.0s
SCHQ Schefferville 74.07 22 P P 22 15 14.7 -0.3
comp=N,65nm,0.7s,baz=352,slow=5.9,SNR=89
SCHQ LR LR 22 51 39.9
comp=N,202nm,19.8s,baz=336,slow=39
SCHQ Schefferville 74.07 22 *e*P P 22 15 14.9 0.0
comp=N,78nm,0.8s
U28A Mallet 74.12 54 ⇑P P 22 15 15.5 -0.3
baz=74
IPIR Pirpir 74.16 301 *e*P P 22 15 16.1 -0.2
VANB Van 74.18 310 *e*P P 22 15 17.4 +1.3
S30A Montezuma 74.19 52 ⇑P P 22 15 15.8 -0.3
baz=74
TVAN Van 74.22 309 *i* P P 22 15 17.2 +0.8
V27A Dan Oppiter Fa 74.22 55 ⇓P P 22 15 16.3 0.0
baz=74
R31A Burdett 74.22 51 ⇑P P 22 15 15.3 -0.9
baz=74
Q32A Meitler Ranch, 74.23 50 ⇓P P 22 15 15.5 -0.8
baz=74
LVV L'vov 74.28 328 *i* P P 22 15 16.5 +0.2
LVV *e* 22 18 02.5
LVV *e*S **S 22 24 42.9 -1.6**
ERZM Erzurum 74.29 312 *i* P P 22 15 18.6 +1.7
EZM Erzurum 74.29 312 P P 22 15 18.4 +1.5
IBND Bandar-abas 74.32 293 *e*P P 22 15 17.9 +1.0
P33A Williams Farm, 74.36 49 ⇑P P 22 15 16.0 -1.0
baz=74
MVH1 Achvaich 74.37 347⇑ *i*P P 22 15 16.5 -0.1
EKAR Karacoban 74.40 311 *i* P P 22 15 19.5 +2.0
MCD Coleburn Disti 74.55 347⇑ *i*P P 22 15 17.5 -0.2
BAYT Ayd¯–ntepe-Bay 74.56 313 *e*P P 22 15 19.9 +1.6
R32A Long Quarter, 74.56 50 ⇓P P 22 15 17.2 -1.0
baz=74
GEVA Gevas 74.57 310 *i* P P 22 15 19.7 +1.3
V28A Channing 74.57 54 ⇓P P 22 15 18.2 -0.2
baz=74
T30A Plains 74.58 52 ⇑P P 22 15 17.8 -0.5
baz=74
U29A Oasis Ranch, S 74.60 53 ⇓P P 22 15 18.0 -0.5
baz=74
Q33A Connelly Farm, 74.61 49 ⇓P P 22 15 17.6 -0.9
baz=74
KOPT Kop Dagi 74.66 312 *i* P P 22 15 20.5 +1.5
IBZA Bozab 74.67 304 *e*P P 22 15 19.9 +0.7
KIS Kishinev 74.70 324⇑ *i*P P 22 15 18.0 -0.8
comp=N,1µm,1.0s
KIS *e*pP **PcP 22 15 34.0 +1.3**
KIS *e*S **S 22 24 44.0 -5.2**
KIS LRM MLR 22 49 00.0
comp=N,500nm,20.0s
KIS Kishinev 74.70 324⇑ *i*P P 22 15 18.0 -0.8
KIS *e**PP **PcP 22 15 34.0 +1.3**
KIS *e*S **S 22 24 44.0 -5.2**
KIS *e* 22 25 50.0
KIS pmax pmax
comp=N,500nm,1.5s
KIS pmax pmax
comp=E,500nm,1.0s
KIS MLR MLR
comp=Z,500nm,20.0s
KIS Kishinev 74.70 324⇑ *i*P P 22 15 18.6 -0.2
S31A Mullinville 74.73 51 ⇑P P 22 15 18.4 -0.9
baz=74
MME1 Meikle Cairn 74.76 346⇑ *e*P P 22 15 18.3 -0.6
HAKT HAKKARI 74.77 309 *i* P P 22 15 21.0 +1.4
SCIA State Center 74.78 45 *e*P P 22 15 19.4 0.0
comp=Z,216nm,0.7s
SCIA *e*pP **pP 22 15 39.4 +1.5**
GUMT Gumushane 74.84 313 P P 22 15 20.8 +0.9
MDO Dochfour 74.86 347⇑ *i*P P 22 15 19.4 -0.2
V29A Stinnett 74.88 54 ⇑P P 22 15 19.9 -0.2
baz=75
ESPY Espiye-Giresun 74.88 314 P P 22 15 19.6 -0.4
U30A WK&E Inc. Balk 74.89 53 ⇓P P 22 15 19.8 -0.4
baz=75
KWP Kalwaria Pacla 74.92 329 *i* P P 22 15 20.7 +0.8
KWP LMZ LR 22 47 20.4
KWP Kalwaria Pacla 74.92 329⇑ *i*P P 22 15 20.8 +0.8
KWP MLR MLR
comp=Z,800nm,28.1s
KWP Kalwaria Pacla 74.92 329⇑ *i*P P 22 15 20.8 +0.8
KWP Kalwaria Pacla 74.92 329 *e*P P 22 15 20.9 +0.9
comp=Z,1µm,1.0s
W28A Vega 74.94 55 ⇑P P 22 15 21.0 +0.5
baz=75
KAC Achnashellach 74.94 348⇑ *i*P P 22 15 20.0 0.0
S32A Newby Ranch, P 74.97 51 ⇓P P 22 15 19.7 -0.9
baz=75
R33A Olander Ranch, 75.04 50 ⇓P P 22 15 19.9 -1.0
baz=75
CUKT Cukurca 75.05 308 *e*P P 22 15 21.7 +0.6
IAS Iasi 75.06 324⇑ *i*P P 22 15 20.9 +0.1
BSEG Bad Segeberg 75.06 338 *e*P P 22 15 21.2 +0.5
comp=Z,293nm,1.0s
DRUM Mains of Drumt 75.06 346⇑ *i*P P 22 15 20.2 -0.4
IKOM Komasi 75.08 304 *e*P P 22 15 22.1 +0.7
GRSN GIRESUNGRSN 75.11 314 *i* P P 22 15 21.5 +0.2
BNGL BINGOL 75.11 311 *i* P P 22 15 23.1 +1.5
ISRV Sarvestan 75.13 297 *e*P P 22 15 22.5 +0.6
KPL Plockton 75.15 348⇑ *i*P P 22 15 21.3 +0.1
KPL AMB AMB 22 15 23.4
comp=Z,316nm,0.9s
KSU1 Kansas State U 75.17 49 *e*P P 22 15 20.5 -1.2
comp=Z,106nm,0.7s
KELT Kelkit 75.19 313 *i* P P 22 15 22.9 +0.9
KSB Sheil Bridge 75.24 348⇑ *i*P P 22 15 21.8 +0.1
EUZM Uzumlu 75.30 312 *i* P P 22 15 24.0 +1.5
SHI Shiraz 75.32 297 *e*P P 22 15 22.9 0.0
BNGB Bing¶l 75.32 311 P P 22 15 24.4 +1.7
IDHR Dehrash 75.35 305 *e*P P 22 15 23.3 +0.3
W29A Amarillo 75.35 54 ⇑P P 22 15 23.0 +0.1
baz=75
LEOM Leova 75.36 324⇑ *i*P P 22 15 22.9 +0.4
T32A Huddler Ranch, 75.36 51 ⇑P P 22 15 22.2 -0.6
baz=75
ERZN Erzincan 75.37 312 *e*P P 22 15 23.3 +0.4
RUE Ruedersdorf 75.39 335 *e*P P 22 15 22.5 -0.1
comp=Z,435nm,0.8s
V30A Spur Ranch, Mi 75.42 53 ⇓P P 22 15 23.0 -0.2
baz=75
JFWS Jewell Farm 75.43 42 *e*P P 22 15 22.0 -1.1
JFWS pmax pmax
comp=Z,95nm,1.5s
JFWS Jewell Farm 75.43 42 *e*P P 22 15 22.0 -1.1
comp=Z,95nm,1.5s
OJC Ojcow 75.44 331 *i* P P 22 15 23.5 +0.5
OJC LMZ LR 22 45 12.7
OJC Ojcow 75.44 331 *e*P P 22 15 23.4 +0.5
OJC pmax pmax
comp=Z,490nm,0.9s
OJC Ojcow 75.44 331 *e*P P 22 15 23.4 +0.4
comp=Z,490nm,0.9s
U31A Nine Bar Ranch 75.45 52 ⇓P P 22 15 23.5 +0.1
baz=75
X28A Dimmitt 75.47 55 ⇑P P 22 15 24.0 +0.4
baz=75
BTMT Batman 75.49 310 *e*P P 22 15 19.4 -4.2
SIRT Sirnak 75.49 309 *e*P P 22 15 25.0 +1.3
EDU Dundee 75.50 346⇑ *e*P P 22 15 22.5 -0.7
AMTX Amarillo 75.50 55 *e*P P 22 15 24.3 +0.5
comp=Z,152nm,0.8s
AMTX Amarillo 75.50 55 ⇓P P 22 15 24.4 +0.7
baz=75
SIRN S¯–rnak 75.51 309 *i* P P 22 15 24.9 +1.1
BANOM Banah 75.54 292 P P 22 15 24.6 +0.6
SNR=64
BANOM P P 22 15 24.9 +0.9
SNR=21
BANOM Banah 75.54 292⇓ *i*P P 22 15 24.6 +0.6
SNR=64
MSTX Muleshoe 75.54 56 *e*P P 22 15 24.0 0.0
comp=Z,92nm,1.0s
MSTX Muleshoe 75.54 56 ⇑P P 22 15 24.1 +0.1
baz=75
S33A Kaszmaul Farm, 75.55 50 ⇑P P 22 15 23.3 -0.6
baz=75
STHS Stebnicka Huta 75.62 329 *e*P P 22 15 25.2 +1.2
STHS pmax pmax
comp=Z,395nm,0.8s
STHS Stebnicka Huta 75.62 329 *e*P P 22 15 25.2 +1.2
IKAZ Kazeroun 75.63 298 *e*P P 22 15 25.0 +0.1
MNTX Cornudas Mount 75.64 59 *e*P P 22 15 24.8 +0.3
comp=Z,54nm,1.1s
MNTX Cornudas Mount 75.64 59 ⇓P P 22 15 25.1 +0.6
baz=75
BUR04 Bucovina Ar. S 75.64 326 *e*P P 22 15 23.4 -0.9
KOLS Kolonicke sedl 75.65 328 *e*P P 22 15 24.8 +0.6
KOLS pmax pmax
comp=Z,364nm,0.9s
KOLS Kolonicke sedl 75.65 328 *e*P P 22 15 24.8 +0.6
SVAN Silvan-Diyarba 75.67 311 *e*P P 22 15 25.4 +0.8
SUSE Susehri 75.68 314 *i* P P 22 15 24.6 -0.2
T33A Patterson Ranc 75.80 51 ⇓P P 22 15 24.7 -0.6
baz=76
X29A Tulia 75.81 55 ⇑P P 22 15 26.2 +0.7
baz=76
BEST Besiri 75.83 310 *i* P P 22 15 27.4 +1.8
V31A Spring Creek L 75.89 53 ⇑P P 22 15 26.5 +0.6
baz=76
Y28A McKinney Farm, 75.89 56 ⇑P P 22 15 26.2 +0.2
baz=76
UZH Uzhgorod 75.90 328⇓ *i*P P 22 15 25.0 -0.6
UZH *i* 22 15 38.9
UZH Uzhgorod 75.90 328 *i* P P 22 15 25.0 -0.6
U32A Winter Ranch, 75.91 52 ⇑P P 22 15 25.9 0.0
baz=76
W30A Crocket Farms 75.91 54 ⇓P P 22 15 26.6 +0.6
baz=76
NIE Niedzica 75.94 330 *i* P P 22 15 26.9 +1.0
NIE LMZ LR 22 45 55.7
NIE Niedzica 75.94 330⇑ *i*P P 22 15 26.9 +1.0
NIE pmax pmax
comp=Z,300nm,1.0s
S34A Willow Spring 75.95 50 ⇓P P 22 15 25.2 -0.9
baz=76
RSDY Resadiye-TOKAT 75.97 314 P P 22 15 27.2 +1.0
TESR Tescani 75.97 325⇑ *i*P P 22 15 26.5 +0.4
DIKM Dikmen 76.02 316 P P 22 15 27.2 +0.7
ESY Stoneypath 76.03 346⇑ *i*P P 22 15 26.0 -0.3
KSP Ksiaz 76.06 333 *i* P P 22 15 26.8 +0.3
KSP LMZ LR 22 49 29.6
KSP Ksiaz 76.06 333⇑ *i*P P 22 15 26.9 +0.4
KSP pmax pmax
comp=Z,400nm,0.9s
KSP MLR MLR
comp=Z,800nm,24.3s
EAB Aberfoyle 76.06 347⇑ *i*P P 22 15 26.3 -0.1
PTK Pertek 76.06 312 *e*P P 22 15 27.8 +0.8
ILIC ilic-Erzincan 76.06 313 *e*P P 22 15 27.5 +0.6
KVT Kavak 76.08 316 P P 22 15 27.9 +1.0
RAC Raciborz 76.10 331 *e*P P 22 15 27.6 +0.9
WBK Wadi Bani Khal 76.11 288 P P 22 15 28.9 +1.6
SNR=31
WBK P P 22 15 29.0 +1.7
SNR=19
TLCR 76.15 322⇓ *i*P P 22 15 27.5 +0.4
GIUM Giurgiulesti 76.17 323⇑ *i*P P 22 15 27.8 +0.6
TRPA Tarpa 76.23 328⇑ *i*P P 22 15 28.4 +0.9
TRPA Tarpa 76.23 328⇓ *e*P P 22 15 28.4 +0.9
EBL Broad Law 76.24 346⇑ *i*P P 22 15 27.3 -0.1
HAVZ Havza 76.24 316 *i* P P 22 15 29.1 +1.4
BMR Baia Mare 76.25 327⇑ *i*P P 22 15 28.5 +0.9
Y29A Porterfield Fa 76.25 55 ⇑P P 22 15 28.4 +0.4
baz=76
Z28A Tucker Farm, M 76.25 56 ⇑P P 22 15 28.2 +0.1
baz=76
W31A Holland Ranch, 76.26 53 ⇓P P 22 15 28.5 +0.5
baz=76
X30A Coker Ranch, T 76.28 54 ⇓P P 22 15 28.2 +0.1
baz=76
ARMA Armidale 76.28 180 *e*P P 22 15 28.8 +0.8
comp=Z,63nm,0.9s
OKC Ostrava-Krasne 76.32 331⇑ *i*P P 22 15 28.6 +0.6
OKC *ex* x 22 15 32.9
OKC AMS AMS 22 55 10.0
comp=Z,400nm,17.6s
OKC Ostrava-Krasne 76.32 331⇑ *i*P P 22 15 28.6 +0.6
OKC MLR MLR
comp=Z,400nm,17.6s
R36A Gordon, Harris 76.33 48 ⇑P P 22 15 27.7 -0.6
baz=76
U33A Lingo Farm, Me 76.35 51 ⇑P P 22 15 28.3 -0.1
baz=76
V32A Arapaho 76.37 52 ⇓P P 22 15 29.0 +0.5
baz=76
BOYT Boyabat 76.37 317 *i* P P 22 15 30.0 +1.5
BZK Bozkurt 76.38 317 *e*P P 22 15 29.5 +1.1
DYBB Diyarbakir 76.38 311 *e*P P 22 15 29.7 +1.1
PETR Petresti 76.38 324⇑ *i*P P 22 15 30.0 +1.6
S35A Otter Creek Ra 76.38 49 ⇓P P 22 15 28.1 -0.5
baz=76
BYBT Boyabat 76.40 317 P P 22 15 30.2 +1.7
SMDO Samad 76.40 289 P P 22 15 30.1 +1.1
SNR=30
SMDO P P 22 15 30.3 +1.3
SNR=20
NRDL Niedersach Rie 76.41 337 *e*P P 22 15 28.8 +0.5
comp=Z,233nm,1.0s
DIYA Diyarbakir 76.41 311 *i* P P 22 15 29.9 +1.1
T34A McClaskey Farm 76.41 50 ⇓P P 22 15 28.3 -0.5
baz=76
HATD Hatta, Dubai 76.41 292 *i* P P 22 15 29.6 +0.6
SNR=90
ODBI Odobesti 76.42 324⇑ *i*P P 22 15 33.2 +4.6
TOKT Tokat 76.42 315 P P 22 15 32.7 +3.9
GLMI Grayling 76.44 38 *e*P P 22 15 28.7 -0.1
comp=Z,264nm,0.8s
CFR Carcaliu 76.44 323⇑ *i*P P 22 15 29.0 +0.3
PGBU Glenifferbraes 76.44 347⇑ *i*P P 22 15 28.8 +0.2
PGBU AMB AMB 22 15 30.7
comp=Z,360nm,0.9s
TOKA Tokat 76.45 315 *i* P P 22 15 29.9 +1.0
LANS Liptovska Anna 76.46 330 *e*P P 22 15 30.6 +1.7
VRI Vrincioaia 76.47 324⇑ *i*P P 22 15 29.5 +0.6
DPC Dobruska-Polom 76.48 333⇑ *i*P P 22 15 29.7 +0.8
DPC *e*PCP **PcP 22 15 42.7 +2.3**
DPC AMS AMS 22 53 50.0
DPC Dobruska-Polom 76.48 333⇑ *i*P P 22 15 29.7 +0.8
DPC *e* 22 15 42.7
SVRC Sivrice-ELAZID 76.49 312 *e*P P 22 15 30.4 +1.0
SVSK Karacayir 76.50 314 *e*P P 22 15 30.3 +1.2
PLOR Plostina 76.51 324⇑ *i*P P 22 15 29.9 +0.7
HOQ Hoqain 76.52 290 P P 22 15 30.1 +0.5
SNR=47
HOQ P P 22 15 30.4 +0.9
SNR=60
MARD Mardin 76.52 310 *i* P P 22 15 30.7 +1.2
ASHO Ashiyiah 76.56 292 P P 22 15 30.4 +0.6
SNR=33
ASHO Ashiyiah 76.56 292⇓ *i*P P 22 15 30.1 +0.3
SNR=75
KRLC Kraliky 76.57 332⇑ *i*P P 22 15 30.0 +0.5
KRLC *ex* x 22 15 34.5
KRLC *e*PCP **PcP 22 15 43.5 +2.7**
KRLC Kraliky 76.57 332⇑ *i*P P 22 15 30.0 +0.5
KRLC *e* 22 15 43.5
ELZG Elazig 76.57 312 *i* P P 22 15 31.5 +1.7
MORC Moravsky Berou 76.58 332 *e*P P 22 15 30.2 +0.7
MORC pmax pmax
comp=Z,436nm,0.9s
MORC Moravsky Berou 76.58 332⇑ *i*P P 22 15 30.2 +0.7
MORC Moravsky Berou 76.58 332 *e*P P 22 15 30.2 +0.7
comp=Z,436nm,0.9s
MAZI Mazidag 76.59 311 *e*P P 22 15 30.7 +0.8
NAZ Nazwa, Dubai 76.60 292⇑ *i*P P 22 15 30.3 +0.3
SNR=52
X31A McDonald Ranch 76.65 54 ⇑P P 22 15 30.4 +0.2
baz=76
CLL Collm 76.65 335 *e*P P 22 15 29.9 +0.1
comp=Z,545nm,0.8s
CLL Collm 76.65 335⇑ *i*P P 22 15 29.9 +0.1
comp=Z,547nm,0.8s
CLL *e*(PP) 22 18 19.0
CLL *e*S **S 22 25 15.0 +4.4**
CLL *e*PS **PnS 22 25 48.0 -8.7**
CLL *e* 22 31 06.0
CLL *e* 22 33 00.0
CLL LmV 22 52 00.0
comp=Z,500nm,20.9s
CLL Collm 76.65 335⇑ *i*P P 22 15 29.9 +0.1
CLL *e*S **S 22 25 15.0 +4.4**
CLL pmax pmax
comp=Z,547nm,0.8s
CLL MLR MLR
comp=Z,500nm,20.9s
CLL Collm 76.65 335 *i* P P 22 15 29.9 +0.1
CLL Collm 76.65 335 *e*P P 22 15 29.6 -0.2
comp=Z,539nm,0.7s
U34A Anderson Ranch 76.66 51 *e*P P 22 15 30.0 -0.1
comp=Z,167nm,0.9s
U34A Anderson Ranch 76.66 51 ⇓P P 22 15 30.1 -0.1
baz=76
Z29A Hungry Hill Ra 76.67 56 ⇓P P 22 15 30.8 +0.4
baz=76
Y30A Stafford Cattl 76.68 55 ⇓P P 22 15 30.8 +0.4
baz=76
128A Castleberry Fa 76.68 57 ⇓P P 22 15 30.9 +0.4
baz=76
R37A Teagarden Farm 76.69 48 ⇑P P 22 15 29.3 -0.9
baz=76
W32A Sentinel 76.69 53 ⇑P P 22 15 31.0 +0.6
baz=76
ESK Eskdalemuir 76.71 346⇑ *e*P P 22 15 30.0 -0.1
ESK Eskdalemuir 76.71 346 *e*P P 22 15 30.2 +0.1
ESK pmax pmax
comp=Z,24nm,0.7s
ESK Eskdalemuir 76.71 346 *e*P P 22 15 30.2 +0.1
comp=Z,24nm,0.7s
V33A Lossen Ranch, 76.71 52 ⇑P P 22 15 30.3 -0.2
baz=76
S36A Lake Cedric, C 76.73 49 ⇑P P 22 15 30.2 -0.4
baz=76
BRG Berggiesshubel 76.76 334⇑ *i*P P 22 15 30.5 +0.1
comp=Z,238nm,1.2s
BRG *i* PP **PP 22 18 20.4 -2.7**
comp=Z,31nm,1.2s
comp=N,493nm,17.7s
comp=E,351nm,17.4s
comp=Z,511nm,22.4s
BRG Berggiesshubel 76.76 334 *e*P P 22 15 30.6 +0.1
comp=Z,238nm,1.2s
BRG Berggiesshubel 76.76 334⇑ *i*P P 22 15 30.5 +0.1
BRG *i* 22 18 20.4
BRG pmax pmax
comp=Z,238nm,1.2s
BRG pmax pmax
comp=Z,31nm,1.2s
BRG MLR MLR
comp=N,493nm,17.7s
BRG MLR MLR
comp=E,351nm,17.4s
BRG MLR MLR
comp=Z,511nm,22.4s
GRER 76.76 324⇑ *i*P P 22 15 32.6 +2.0
FAQ Al Faqa, Dubai 76.82 292⇓ *i*P P 22 15 31.4 +0.2

SNR=7.7
ECK Cauldkaine Hil 76.82 346⇑ *i*P P 22 15 30.6 -0.1
JMDO Jabal Madar 76.85 289 P P 22 15 32.4 +1.0
SNR=35
T35A Sooner Cattle 76.85 50 ⇑P P 22 15 31.1 -0.2
baz=76
PVCC Panska Ves 76.87 334⇑ *i*P P 22 15 31.7 +0.6
PVCC *ex* x 22 15 45.4
PVCC *e*PP **PP** 22 18 29.0
PVCC AMS AMS 22 51 50.0
comp=Z,500nm,19.7s
PVCC Panska Ves 76.87 334⇑ *i*P P 22 15 31.7 +0.6
PVCC *e* 22 15 45.4
PVCC *e* 22 18 29.0
PVCC MLR MLR
comp=Z,500nm,19.7s
TIRR Tirgusor 76.91 322 *e*P P 22 15 31.8 +0.4
TIRR pmax pmax
comp=Z,273nm,1.0s
TIRR Tirgusor 76.91 322⇑ *i*P P 22 15 31.8 +0.4
TIRR Tirgusor 76.91 322 *e*P P 22 15 31.8 +0.4
comp=Z,273nm,1.0s
HARR Harsova 76.92 323⇓ *i*P P 22 15 32.1 +0.6
DOPR Dopca 76.92 325⇑ *i*P P 22 15 32.8 +1.3
LCP Cassop 76.95 345⇑ *i*P P 22 15 31.4 -0.1
TLB Topalu 76.96 323⇑ *i*P P 22 15 32.3 +0.6
Y31A Rekieta Farm, 76.98 54 ⇓P P 22 15 32.1 0.0
baz=77
Z30A Sanderson Ranc 76.98 55 ⇑P P 22 15 32.4 +0.3
baz=77
228A UT Block 9, Go 76.98 57 ⇓P P 22 15 32.6 +0.5
baz=77
MALT Malatya 77.00 312 *e*P P 22 15 33.1 +0.9
MALT Malatya 77.00 312⇑ *i*P P 22 15 33.9 +1.7
CJR Cluj-Napoca 77.01 326⇓ *i*P P 22 15 33.0 +1.0
129A Stewart Farms, 77.03 56 ⇑P P 22 15 32.6 +0.2
baz=77
CTKT Corum 77.04 316 *i* P P 22 15 33.6 +1.2
ASUD Al Ashush, Dub 77.07 292⇓ *i*P P 22 15 33.4 +0.7
SNR=23
T36A Boggs Farm, Ca 77.08 50 ⇓P P 22 15 32.2 -0.3
baz=77
TOS Tosya 77.09 317 P P 22 15 32.7 +0.1
MLR Muntele Rosu 77.09 324⇑ *i*P P 22 15 33.2 +0.6
W33A Caddo, Fort Co 77.10 52 ⇑P P 22 15 33.3 +0.6
baz=77
V34A Guthrie 77.12 51 *e*P P 22 15 32.7 0.0
comp=Z,108nm,0.9s
V34A *e*pP **pP** 22 15 51.2 -0.2
V34A Guthrie 77.12 51 ⇑P P 22 15 32.8 +0.1
baz=77
EFOR EFORIE 77.12 322⇓ *i*P P 22 15 33.4 +0.9
PGOR Pogoanele 77.14 323⇓ *i*P P 22 15 33.9 +1.2
ISR Istrita 77.15 324⇑ *i*P P 22 15 34.0 +1.2
MDB Medias 77.18 326⇑ *i*P P 22 15 34.5 +1.6
CVD Cernavoda 77.18 322⇓ *i*P P 22 15 33.8 +0.9
X32A Elmer 77.19 53 ⇓P P 22 15 33.1 -0.1
baz=77
IBBN Ibbenburen 77.19 338 *e*P P 22 15 33.3 +0.5
comp=Z,327nm,1.0s
ARQ Araqi 77.21 290 P P 22 15 34.5 +1.1
SNR=25
ILGA Ilgaz 77.22 317 *i* P P 22 15 34.8 +1.3
WMOK Wichita Mounta 77.23 53 *e*P P 22 15 33.4 -0.1
WMOK *e*PP **pP** 22 15 53.6 +1.5
WMOK pmax pmax
comp=Z,50nm,0.8s
WMOK Wichita Mounta 77.23 53 *e*P P 22 15 33.4 -0.1
comp=Z,50nm,0.8s
WMOK *e*pP **pP** 22 15 53.6 +1.5
VYHS Vyhne 77.24 330 *e*P P 22 15 34.1 +0.9
VYHS pmax pmax
comp=Z,195nm,1.1s
VYHS Vyhne 77.24 330 *e*P P 22 15 34.1 +0.9
GCD Castle Douglas 77.27 346⇑ *i*P P 22 15 33.0 -0.2
AKCD Akcadag 77.27 313 *i* P P 22 15 35.2 +1.5
DRGR 77.28 327⇑ *i*P P 22 15 33.9 +0.3
DARE Darende-Malaty 77.28 313 *e*P P 22 15 34.9 +1.1
VRAC Vranov 77.29 332⇑ *i*P P 22 15 34.4 +0.9
PRA Prague 77.31 334⇑ *i*P P 22 15 34.3 +0.7
PRA *ex* x 22 37.9
PRA *ex* x 22 15 50.7
PRA *e*PP **PP** 22 18 28.2 +0.5
PRA AMS AMS 22 54 00.0
comp=Z,500nm,18.1s
PRA Prague 77.31 334⇑ *i*P P 22 15 34.3 +0.7
PRA *e* 22 15 50.7
PRA *e* 22 18 28.2
PRA MLR MLR
comp=Z,500nm,18.1s
GOPC GO Pecny, Ondr 77.34 333⇑ *e*P P 22 15 34.4 +0.6
GOPC *e*PP **PP** 22 18 28.1 +0.1
GOPC AMS AMS 22 53 00.0
comp=Z,700nm,20.0s
MANR Mangalia 77.35 322⇓ *i*P P 22 15 34.3 +0.4
PRU Pruhonice 77.35 333⇑ *i*P P 22 15 34.3 +0.5
PRU *e*PP **PP** 22 18 28.0 -0.1
PRU AMS AMS 22 51 10.0
comp=Z,600nm,19.7s
PRU Pruhonice 77.35 333⇑ *i*P P 22 15 34.3 +0.5
PRU *e* 22 18 28.0
PRU MLR MLR
comp=Z,600nm,19.7s
PRU Pruhonice 77.35 333 *i* P P 22 15 34.3 +0.5
PSZ Piszkesteto 77.36 329 *e*P P 22 15 34.6 +0.6
PSZ pmax pmax
comp=Z,327nm,0.9s
PSZ Piszkesteto 77.36 329⇑ *i*P P 22 15 34.8 +0.8
PSZ Piszkesteto 77.36 329 *e*P P 22 15 34.6 +0.6
comp=Z,326nm,0.9s
PSZ Piszkesteto 77.36 329⇑ *e*P P 22 15 34.9 +0.9
KESW Keswick, Cumbr 77.39 346⇑ *i*P P 22 15 34.1 +0.2
KESW AMB AMB 22 15 36.3
comp=Z,330nm,0.9s
GAL1 Galloway 77.39 347⇑ *i*P P 22 15 33.5 -0.4
GAL1 AMB AMB 22 15 35.8
comp=Z,153nm,0.9s
Y32A R-V Farms, Ver 77.41 54 ⇓P P 22 15 34.6 +0.1
baz=77
SECR 77.41 324⇑ *i*P P 22 15 34.8 +0.5
W34A Bridge Creek, 77.42 52 *e*P P 22 15 34.8 +0.3
comp=Z,72nm,1.0s
W34A Bridge Creek, 77.42 52 ⇓P P 22 15 34.8 +0.3
baz=77
MSAB Monastry St. A 77.45 322⇑ *i*P P 22 15 35.5 +1.1
CORM Corum 77.46 316 P P 22 15 35.1 +0.4
VOIR 77.50 325⇓ *i*P P 22 15 35.8 +1.0
Z31A Sharp Cattle R 77.52 55 ⇑P P 22 15 35.1 0.0
baz=77
X33A Lawton 77.54 53 ⇑P P 22 15 35.1 0.0
baz=77
V35A Meyer Ranch, C 77.54 51 ⇓P P 22 15 35.0 -0.1
baz=77
229A Bryant Ranch, 77.55 57 ⇑P P 22 15 35.8 +0.5
baz=77
SAFT Safranbolu 77.56 318 *e*P P 22 15 34.7 -0.5
130A Snyder 77.58 56 ⇓P P 22 15 35.7 +0.2
baz=77
TANN Tannenbergstha 77.60 335 *e*P P 22 15 35.6 +0.3
comp=Z,270nm,1.7s
CANT Cankiri 77.61 317 *e*P P 22 15 37.2 +1.7
PSN Preselentsi 77.63 322⇑ *i*P P 22 15 36.5 +1.1
PSN Preselentsi 77.63 322 P P 22 15 36.6 +1.1
SULR 77.63 324⇑ *i*P P 22 15 36.0 +0.6
TREC Trest 77.66 333⇑ *e*P P 22 15 36.1 +0.5
TREC AMS AMS 22 53 30.0
comp=Z,700nm,24.7s
TREC Trest 77.66 333 *e*P P 22 15 36.1 +0.5
TREC MLR MLR
comp=Z,700nm,24.7s
ATAB Bozova 77.70 312 *i* P P 22 15 38.0 +1.9
SMOL Smolenice 77.70 331 *e*P P 22 15 37.1 +1.3
SMOL Smolenice 77.70 331 *e*P P 22 15 37.1 +1.3
HDIL Hopedale 77.71 43 *e*P P 22 15 35.6 -0.4
comp=Z,180nm,0.7s
ARR Arges 77.72 325⇑ *i*P P 22 15 37.4 +1.4
HPK Haverah Park 77.72 344⇑ *i*P P 22 15 36.2 +0.4
HPK AMB AMB 22 15 38.0
comp=Z,301nm,1.0s
PINB Pinarbasi 77.75 314 *i* P P 22 15 37.7 +1.1
WTSB Winterswijk 77.75 339 *e*P P 22 15 36.2 +0.3
NKC Novy Kostel 77.77 335⇑ *i*P P 22 15 36.5 +0.3
NKC Novy Kostel 77.77 335⇑ *i*P P 22 15 36.5 +0.3
ELDT Eldivan 77.80 317 *i* P P 22 15 37.7 +1.0

329A Wagon Wheel Ra 77.80 57 ⇓P P 22 15 37.2 +0.5
baz=78
131A Roby 77.85 55 ⇑P P 22 15 37.1 +0.2
baz=78
X34A Smith Ranch, M 77.86 52 ⇑P P 22 15 37.5 +0.6
baz=78
Y33A Hilltop Ranch, 77.86 53 ⇑P P 22 15 36.9 -0.1
baz=78
BTMR Bucharest-Geot 77.89 324⇑ *i*P P 22 15 37.5 +0.6
BVCR Bucharest-Old 77.89 324⇑ *i*P P 22 15 37.6 +0.7
Z32A Haskell 77.90 54 ⇑P P 22 15 37.1 -0.1
baz=78
BAPR Bucharest-Chil 77.91 324⇓ *i*P P 22 15 38.1 +1.1
BUC Bucharest 77.91 324⇓ *i*P P 22 15 37.9 +0.9
UBBA Unterbreizbach 77.95 337 *e*P P 22 15 37.2 +0.3
comp=Z,294nm,1.5s
LMK Market Rasen 77.95 344 *e*P P 22 15 36.6 -0.4
DEV Deva 77.97 326⇓ *i*P P 22 15 37.8 +0.5
CIOR Ciorogarla 77.97 324⇓ *i*P P 22 15 37.9 +0.6
W35A Tecumseh 77.97 51 ⇓P P 22 15 37.5 0.0
baz=78
TUL1 Leonard 77.99 50 ⇑P P 22 15 37.5 -0.1
baz=78
LOT Lotru 77.99 326⇑ *i*P P 22 15 37.4 -0.2
230A Sterling City 78.01 56 ⇑P P 22 15 38.2 +0.4
baz=78
CDAG Cicekdag 78.02 316 *i* P P 22 15 38.8 +0.9
GOLR 78.02 325⇑ *i*P P 22 15 38.0 +0.4
BUD Budapest 78.04 330⇑ *e*P P 22 15 38.7 +1.0
BUG Bochum--Univer 78.11 338 *e*P P 22 15 38.2 +0.3
comp=Z,274nm,1.0s
SIRR Siria 78.12 327⇑ *i*P P 22 15 38.6 +0.5
RMVG GOVORA 78.13 325⇓ *i*P P 22 15 38.8 +0.6
LHO Holmfirth 78.16 344⇑ *i*P P 22 15 38.1 -0.1
GZT Gaziantep 78.17 312 *i* P P 22 15 40.1 +1.3
BCAM Yenicaga 78.18 318 *i* P P 22 15 40.0 +1.2
GMM Mts of Mourne 78.19 347⇑ *i*P P 22 15 38.0 -0.4
ROTZ Rotzenmuhle 78.26 335 *e*P P 22 15 39.6 +0.8
comp=Z,259nm,1.2s
HUMR Humele 78.27 324⇑ *i*P P 22 15 38.3 -0.7
ABTX Abilene, Hawle 78.31 55 *e*P P 22 15 39.5 0.0
comp=Z,53nm,1.0s
ABTX *e*pP pP 22 16 04.8 +6.5
ABTX Abilene, Hawle 78.31 55 ⇑P P 22 15 39.6 +0.1
baz=78
STKA Stephens Creek 78.31 189 P P 22 15 38.9 -0.2
comp=Z,23nm,0.9s,baz=350,slow=6.5,SNR=58
STKA LR LR 22 50 06.7
comp=Z,97nm,20.7s,baz=21,slow=36
STKA Stephens Creek 78.31 189 P P 22 15 38.9 -0.2
STKA pmax pmax
comp=Z,23nm,0.9s
STKA MLR MLR
comp=Z,97nm,20.7s
STKA Stephens Creek 78.31 189 *e*P P 22 15 39.2 +0.1
comp=Z,9.3nm,1.2s
Z33A Whitaker Ranch 78.32 54 ⇑P P 22 15 39.4 -0.1
baz=78
330A Mertzon 78.33 57 ⇑P P 22 15 39.8 +0.2
baz=78
W36A Wetumka 78.33 51 ⇓P P 22 15 39.7 +0.1
baz=78
PKSG 78.34 330⇑ *e*P P 22 15 40.2 +0.9
PRD Provadia 78.35 322 P P 22 15 40.3 +0.9
TX31 Lajitas Ar. Si 78.36 60 *e*P P 22 15 39.5 -0.4
TX31 *e*pP **pP** 22 16 00.7 +2.0
LTX Lajitas 78.36 60 *e*P P 22 15 39.8 -0.1
LTX Lajitas 78.36 60 *e*P P 22 15 39.8 -0.1
TXAR Lajitas Array 78.36 60 P P 22 15 39.8 -0.1
comp=Z,19nm,0.7s,baz=298,slow=3.8,SNR=31
TXAR PKKPbc **PKKPbc** 22 34 36.4 +2.0
comp=Z,0.3nm,0.8s,baz=128,slow=5.8,SNR=3.8
TXAR Lajitas Array 78.36 60 P P 22 15 39.8 -0.1
TXAR pmax pmax
comp=Z,19nm,0.7s
TXAR Lajitas Array 78.36 60 *e*P P 22 15 39.8 -0.1
Y34A Reagan Ranch, 78.38 53 ⇓P P 22 15 39.9 +0.1
baz=78
KMRS Kahramanmaras 78.39 313 *e*P P 22 15 38.1 -1.7
KHC Kasperske Hory 78.41 334⇑ *i*P P 22 15 40.4 +0.7
KHC *e*PP **PP** 22 18 37.2 +0.3
KHC AMS AMS 22 52 10.0
comp=Z,600nm,22.8s
KHC Kasperske Hory 78.41 334⇑ *i*P P 22 15 40.4 +0.7
KHC *e* 22 18 37.2
KHC MLR MLR
comp=Z,600nm,22.8s
KHC Kasperske Hory 78.41 334 *i* P P 22 15 40.4 +0.7
CSKK Cs˘ˇkako 78.41 330⇓ *e*P P 22 15 40.5 +0.8
GZR Gura Zlata 78.42 326⇑ *i*P P 22 15 40.1 +0.2
231A Bronte 78.43 56 ⇓P P 22 15 40.2 0.0
baz=78
429A Davenport Ranc 78.48 58 ⇓P P 22 15 40.6 +0.1
baz=78
X35A Drake 78.48 52 ⇓P P 22 15 40.0 -0.3
baz=78
SLBS Sierra La Lagu 78.50 68 *e*P P 22 15 42.1 +1.4
SLBS *e*pP **pP** 22 16 01.4 +1.9
HCB Kahramanmara˘ 78.51 313 *i* P P 22 15 41.4 +0.9
KAMT Kaman 78.53 316 *e*P P 22 15 40.9 +0.2
LOD Lodumlu 78.58 317 *e*P P 22 15 40.1 -0.8
ANTO Ankara 78.58 317 *e*P P 22 15 40.6 -0.3
ANTO Ankara 78.58 317 *e*P P 22 15 42.1 +1.2
ANTO pmax pmax
comp=Z,238nm,0.9s
ANTO Ankara 78.58 317⇑ *i*P P 22 15 42.1 +1.2
ANTO Ankara 78.58 317 *e*P P 22 15 42.1 +1.2
comp=Z,238nm,0.9s
WET Wettzell 78.61 334 *e*P P 22 15 41.6 +0.8
comp=Z,281nm,1.1s
BR231 Keskin MP Arra 78.61 317 *e*P P 22 15 40.5 -0.6
GRF Grafenberg Arr 78.61 335 *e*P P 22 15 41.8 +1.0
comp=Z,104nm,1.4s
GRF *e*L L 22 56 03.0
comp=Z,273nm,20.3s
GRFO Grafenberg 78.61 335 *e*P P 22 15 41.2 +0.4
GRFO pmax pmax
comp=Z,640nm,1.4s
GRFO Grafenberg 78.61 335 *e*P P 22 15 41.2 +0.4
comp=Z,640nm,1.4s
ANDN Andirin 78.62 313 *i* P P 22 15 42.4 +1.3
GEC2 GERESS Array S 78.62 333 *e*P P 22 15 41.3 +0.3
comp=Z,90nm,0.9s
GEC2 *e*L L 22 53 00.9
comp=Z,480nm,21.9s
GEC2 GERESS Array S 78.62 333 *e*P P 22 15 41.2 +0.3
GEC2 *e**PP **pP** 22 15 59.9 +0.2
GEC2 *e* 22 18 39.3
GEC2 GERESS Array S 78.62 333 *e*P P 22 15 41.2 +0.3
GEC2 *e*pP **pP** 22 15 59.9 +0.2
GEC2 *e*PP **PP** 22 18 39.3 +0.5
GERES GERESS Array B 78.62 333 P P 22 15 40.3 -0.7
comp=Z,29nm,0.5s,baz=36,slow=5.7,SNR=298
GERES *e*pP **pP** 22 15 59.9 +0.2
comp=Z,13nm,0.8s,baz=26,slow=6.5,SNR=3.9
GERES PP **PP** 22 18 39.3 +0.5
comp=Z,5.9nm,0.8s,baz=46,slow=9.5,SNR=3.8
GERES LR LR 22 53 22.8
comp=Z,450nm,21.7s,baz=26,slow=38
GERES GERESS Array B 78.62 333 P P 22 15 40.3 -0.7
GERES *PP **pP** 22 15 59.9 +0.2
GERES 22 18 39.3
GERES pmax pmax
comp=Z,29nm,0.5s
GERES pmax pmax
comp=Z,6.0nm,0.9s
GERES MLR MLR
comp=Z,450nm,21.7s
GERES GERESS Array B 78.62 333 *e*P P 22 15 40.3 -0.7
GEB3 GERESS Array S 78.63 333 *e*P P 22 15 41.4 +0.4
BZS Buzias 78.68 327⇓ *i*P P 22 15 41.1 -0.1
BBAL Bala 78.68 316 *i* P P 22 15 42.1 +0.6
X36A Centrahoma 78.69 52 ⇓P P 22 15 41.5 0.0
baz=78
SOP Sopron 78.72 331⇑ *e*P P 22 15 42.5 +1.1
TIM Timisoara 78.73 327⇓ *i*P P 22 15 41.9 +0.4
Z34A Collier Ranch, 78.73 53 ⇓P P 22 15 41.7 -0.1
baz=78
CONA Conrad Observa 78.73 332⇓ *i*P P 22 15 42.5 +0.9
comp=Z,309nm,1.2s,SNR=197
133A Hamilton Ranch 78.73 54 ⇓P P 22 15 41.8 0.0
baz=78
WME Myndd Eilian 78.74 346⇑ *i*P P 22 15 41.1 -0.3
430A Baggett Ranch, 78.74 57 ⇑P P 22 15 42.1 +0.2
baz=78

SLM Saint Louis 78.75 45 *e*P P 22 15 41.5 -0.2
SLM pmax pmax
comp=Z,195nm,1.3s
SLM Saint Louis 78.75 45 *e*P P 22 15 41.5 -0.2
comp=Z,195nm,1.3s
KAMA Osmaniye 78.75 313 *i* P P 22 15 42.7 +0.8
W37A Quinton 78.77 51 ⇓P P 22 15 42.1 +0.2
baz=78
AFSR Afar-Bala (A 78.78 316 *e*P P 22 15 43.1 +1.1
WPM1 Pennaenmawr 78.80 346⇑ *i*P P 22 15 41.6 -0.2
PKS2 Kecel 78.82 329⇑ *e*P P 22 15 42.3 +0.3
331A San Angelo 78.83 56 ⇓P P 22 15 42.4 +0.1
baz=79
232A Coleman 78.85 55 ⇑P P 22 15 42.7 +0.2
baz=79
WLF1 Llynfaes 78.85 346⇑ *i*P P 22 15 41.7 -0.3
KUZU Kuzuini 78.86 312 *i* P P 22 15 43.8 +1.4
BTAS Taskesti 78.87 318 *i* P P 22 15 42.6 +0.2
SRE Strehaia 78.87 326⇑ *i*P P 22 15 43.0 +0.7
SFIN Lafayette 78.88 42 *e*P P 22 15 41.9 -0.5
comp=Z,161nm,1.4s
SFIN Lafayette 78.88 42 ⇓P P 22 15 42.1 -0.3
baz=78
TNS Taunus Mts 78.91 337 *e*P P 22 15 43.0 +0.5
comp=Z,351nm,1.5s
TNS *e*L L 22 54 04.4
comp=Z,461nm,21.2s
CRAR CRAIOVA 78.91 325⇑ *i*P P 22 15 43.0 +0.5
SZH Strazhica 78.92 323 P P 22 15 43.1 +0.5
YLL Llanberis 78.96 346⇑ *e*P P 22 15 42.6 0.0
FOEL Foel Wylfa 79.03 345⇑ *i*P P 22 15 43.4 +0.4
FOEL AMB AMB 22 15 45.9
comp=Z,163nm,0.9s
BANR Banloc 79.06 327⇓ *i*P P 22 15 44.0 +0.7
HGN Heimansgroeve 79.07 339 *e*P P 22 15 43.5 +0.3
comp=Z,175nm,0.8s
HGN Heimansgroeve 79.07 339 *e*S S 22 25 48.8 +12
HGN *e*SS SS 22 31 47.5 +65
PKS9 Tamasi 79.07 330⇑ *e*P P 22 15 43.4 0.0
NIG Nigde 79.08 315 P P 22 15 44.7 +0.8
BEBN Eben Emael 79.10 339 P P 22 15 43.8 +0.3
Z35A Percha ven, San 79.13 53 ⇓P P 22 15 43.5 -0.4
baz=79
530A J-C Ranch, Com 79.15 58 ⇓P P 22 15 44.7 +0.6
baz=79
YRE Yr Eifl 79.16 346⇑ *i*P P 22 15 43.4 -0.3
233A Rising Star 79.18 55 ⇓P P 22 15 44.5 +0.2
baz=79
431A Sonora 79.19 57 ⇓P P 22 15 44.4 0.0
baz=79
MEM Membach 79.19 339 P P 22 15 44.1 +0.2
comp=Z,153nm,1.2s
MEM Membach 79.19 339 *e*P P 22 15 44.3 +0.4
MEM pmax pmax
comp=Z,338nm,1.2s
MEM Membach 79.19 339 *e*P P 22 15 44.3 +0.4
comp=Z,338nm,1.2s
X37A Clayton 79.21 51 ⇓P P 22 15 44.3 0.0
baz=79
DSB Dublin 79.22 347 *e*P P 22 15 44.2 +0.2
comp=Z,112nm,0.7s
134A White-Moore Ra 79.23 54 ⇑P P 22 15 44.7 +0.2
baz=79
PKSM Moragy 79.27 329⇑ *i*P P 22 15 44.1 -0.3
PKSM Moragy 79.27 329⇑ *e*P P 22 15 44.1 -0.3
W38A Poteau 79.30 50 ⇓P P 22 15 44.9 +0.1
baz=79
MOA Molln 79.32 333⇑ *i*P P 22 15 45.1 +0.4
comp=Z,66nm,0.9s,SNR=59
HLM1 Long Mynd 79.33 345⇑ *i*P P 22 15 44.9 +0.2
HLM1 AMB AMB 22 15 47.0
comp=Z,121nm,0.9s
ISK Istanbul-Kandi 79.36 320 P P 22 15 45.1 +0.1
CEYT Ceyhan 79.36 313 *e*P P 22 15 40.6 -4.5
UCC Uccle 79.42 340 P P 22 15 45.3 +0.2
UCC Uccle 79.42 340 *e*P P 22 15 45.3 +0.2
UCC pmax pmax
comp=Z,61nm,0.8s
UCC Uccle 79.42 340 *e*P P 22 15 45.3 +0.2
comp=Z,61nm,0.8s
ARSA Arzberg 79.44 332⇑ *i*P P 22 15 46.0 +0.6
comp=Z,196nm,1.7s,SNR=84
BUY Buyukada 79.50 320 *i* P P 22 15 46.3 +0.5
KARA Karaisali 79.51 314 *e*P P 22 15 46.0 0.0
432A Menard 79.52 56 ⇓P P 22 15 46.2 +0.1
baz=79
BCLA Clavier 79.54 339 P P 22 15 46.1 +0.3
comp=Z,112nm,1.5s
SULT Sultanhani-AKS 79.55 315 *e*P P 22 15 46.0 -0.2
YURE YUREGIR 79.56 313 *i* P P 22 15 47.7 +1.5
ELBA Catalca 79.57 320 *i* P pP 22 16 04.3 -0.7
531A Rocksprings 79.60 57 ⇓P P 22 15 46.7 +0.1
baz=79
135A Vickery Place, 79.62 54 ⇑P P 22 15 46.9 +0.3
baz=79
234A Clairette 79.62 54 ⇑P P 22 15 46.6 0.0
baz=79
333A Richland Sprin 79.65 55 ⇓P P 22 15 47.0 +0.2
baz=79
SSW Stow on the Wo 79.66 344⇑ *i*P P 22 15 46.6 +0.2
BORA Eskisehir 79.67 318 *i* P P 22 15 47.0 +0.2
FORT Forrest 79.67 201 *e*P P 22 15 46.9 +0.4
comp=Z,99nm,0.9s
SKP1 Kophill 79.69 343⇑ *i*P P 22 15 46.1 -0.5
BEHE Becsehely 79.70 330⇓ *e*P P 22 15 47.4 +0.6
SNF Seneffe 79.71 340 P P 22 15 47.1 +0.4
OLIL Olney 79.71 44 *e*P P 22 15 46.8 -0.2
comp=Z,417nm,1.8s
EDRB Edirne 79.74 322 P P 22 15 47.3 +0.2
MPEP Malo Peshtene 79.75 324 P P 22 15 47.8 +0.7
SEYT Eskypehyr 79.77 318 *i* P P 22 15 47.3 -0.2
JCT Junction City 79.80 56 *e*P P 22 15 47.7 0.0
JCT pmax pmax
comp=Z,72nm,1.0s
JCT Junction City 79.80 56 *e*P P 22 15 47.7 0.0
comp=Z,72nm,1.0s
JCT Junction City 79.80 56 ⇓P P 22 15 47.7 0.0
baz=80
ELSH Elham, Standar 79.83 342⇑ *e*P P 22 15 47.4 0.0
ELSH AMB AMB 22 15 49.7
comp=Z,284nm,1.0s
MCH1 Michaelchurch 79.85 345⇑ *e*P P 22 15 47.6 +0.1
MCH1 AMB AMB 22 15 48.3
comp=Z,134nm,0.9s
RAO Raoul Island 79.88 154 *e*P P 22 15 48.3 +0.6
RAO pmax pmax
comp=Z,312nm,0.8s
RAO Raoul Island 79.88 154 *e*P P 22 15 48.3 +0.6
comp=Z,312nm,0.8s
RJOB Jochberg 79.88 333 *e*P P 22 15 48.6 +0.8
comp=Z,464nm,2.1s
KRTS Karatas 79.89 313 *e*P P 22 15 48.5 +0.5
KOGS Kog 79.89 331 *e*P P 22 15 47.7 -0.2
STRD Stroud 79.90 344⇑ *i*P P 22 15 48.1 +0.4
STRD AMB AMB 22 15 48.8
comp=Z,283nm,1.0s
LPW Lampeter 79.93 345⇑ *e*P P 22 15 47.6 -0.3
YAYL Yayladag 79.93 312 *i* P P 22 15 47.0 -1.4
GIVF Givet 79.95 339⇑ *i*P P 22 15 48.3 +0.2
comp=Z,322nm,1.1s
GIVF Givet 79.95 339 *e*P P 22 15 48.3 +0.2
GIVF Givet 79.95 339 *e*P P 22 15 48.3 +0.2
MONM Monmouth 79.96 345⇑ *i*P P 22 15 48.3 +0.2
MONM AMB AMB 22 15 50.6
comp=Z,240nm,0.8s
FUR Furstenfeldbru 79.96 335 *e*P P 22 15 48.8 +0.6
comp=Z,806nm,2.0s
BBOO Buckleboo 79.99 194 *e*P P 22 15 48.1 -0.2
comp=Z,3.9nm,1.3s
532A Rocksprings 80.00 57 ⇑P P 22 15 48.8 0.0
baz=80
433A Art 80.01 56 ⇑P P 22 15 48.7 -0.1
baz=80
DOU Dourbes 80.02 339 P P 22 15 48.5 +0.1
comp=Z,72nm,1.7s
WHTX Lake Whitney, 80.02 54 *e*P P 22 15 47.9 -0.9
comp=Z,101nm,1.0s
WHTX Lake Whitney, 80.02 54 ⇓P P 22 15 49.0 +0.2
baz=80
STU Stuttgart 80.02 336 *e*P P 22 15 48.9 +0.4
comp=Z,406nm,1.8s
STU Stuttgart 80.02 336 *e*P P 22 15 48.7 +0.2
STU pmax pmax
comp=Z,193nm,1.3s
STU Stuttgart 80.02 336 *e*P P 22 15 48.7 +0.2

comp=Z,193nm,1.3s
WLF Walferdange 80.02 338 P P 22 15 49.0 +0.5
comp=Z,112nm,1.9s
WLF Walferdange 80.02 338 eP P 22 15 49.0 +0.5
comp=Z,499nm,2.0s
WLF Walferdange 80.02 338 eP P 22 15 48.6 +0.2
WLF pmax pmax
comp=Z,474nm,1.9s
WLF Walferdange 80.02 338 eP P 22 15 48.6 +0.2
comp=Z,474nm,1.9s
334A Lometa 80.07 55 ⇑P P 22 15 49.2 +0.1
baz=80
SWN1 Swindon 80.08 344⇑iP P 22 15 49.3 +0.6
SWN1 AMB AMB 22 15 51.5
comp=Z,656nm,0.9s
OLDB Oldbury-Upon-S 80.08 344⇑iP P 22 15 48.8 +0.1
OLDB AMB AMB 22 15 51.3
comp=Z,115nm,0.8s
MERS Mersin 80.09 314 eP P 22 15 47.9 -1.2
LADK Ladik-KONYA 80.10 316 eP P 22 15 48.9 -0.4
PBMO Poplar Bluff 80.10 46 eP P 22 15 49.0 -0.1
comp=Z,102nm,0.9s
SOKA Soboth 80.10 332⇓iP P 22 15 49.4 +0.3
comp=Z,249nm,1.0s,SNR=166
BLO Bloomington 80.11 42 eP P 22 15 48.8 -0.3
BLO Bloomington 80.11 42 eP P 22 15 48.8 -0.3
PERS Pernice 80.11 331 iP P 22 15 49.4 +0.3
Z37A Pogue Cattle C 80.12 52 ⇑P P 22 15 49.3 0.0
baz=80
GROS Grobnik 80.14 331 eP P 22 15 49.3 +0.1
631A Perdido Creek 80.14 58 ⇓P P 22 15 49.6 +0.1
baz=80
BAIF Baives 80.14 340⇑iP P 22 15 49.4 +0.3
comp=Z,97nm,0.7s
BAIF Baives 80.14 340 eP P 22 15 49.4 +0.3
BAIF Baives 80.14 340 eP P 22 15 49.4 +0.3
MENF Mencas 80.16 341⇑eP P 22 15 49.4 +0.3
WOL Wolverton 80.16 343⇑iP P 22 15 49.2 +0.1
WOL AMB AMB 22 15 49.9
comp=Z,177nm,0.7s
MIAR Mount Ida 80.20 50 eP P 22 15 49.6 -0.1
MIAR e*PP pP 22 16 10.3 +1.8
MIAR pmax pmax
comp=Z,84nm,0.9s
MIAR Mount Ida 80.20 50 eP P 22 15 49.6 -0.1
comp=Z,84nm,0.9s
MIAR epP pP 22 16 10.3 +1.8
LANF Langenberg 80.21 337⇑eP P 22 15 50.1 +0.6
PGB Panagyurishte 80.24 324 P P 22 15 50.8 +0.9
BATH Bath 80.25 344⇑eP P 22 15 49.6 0.0
BATH AMB AMB 22 15 51.9
comp=Z,272nm,1.0s
HMNX Herstmonceux 80.26 342⇑iP P 22 15 50.5 +0.8
HMNX AMB AMB 22 15 52.8
comp=Z,652nm,0.9s
KBA Koelnbreinsper 80.30 333 iP P 22 15 50.8 +0.6
comp=Z,450nm,1.1s,SNR=152
KONT Konya--Tatoy 80.31 316 eP P 22 15 49.5 -0.8
BOLV Bolvadin 80.37 317 iP P 22 15 51.2 +0.5
PLD Plovdiv 80.39 323 P P 22 15 50.5 -0.1
OBKA Obir 80.41 332⇑iP P 22 15 50.8 0.0
comp=Z,62nm,0.7s,SNR=44
Z38A Mt. Pleasant 80.43 52 ⇓P P 22 15 50.9 0.0
baz=80
434A Burnet 80.44 55 ⇓P P 22 15 50.9 -0.2
baz=80
KDZ Kurdzhali 80.47 322⇑iP P 22 15 52.0 +1.0
KDZ Kurdzhali 80.47 322 P P 22 15 52.7 +1.7
PTN Potsdam (NY) 80.48 32 eP P 22 15 49.8 -1.2
PTN pmax pmax
comp=Z,55nm,0.8s
PTN Potsdam (NY) 80.48 32 eP P 22 15 49.8 -1.2
comp=Z,55nm,0.8s
ALT Altintas 80.49 318 P P 22 15 51.6 +0.3
137A Heron Place, G 80.51 52 ⇓P P 22 15 51.5 +0.1
baz=80
236A Katherine and 80.53 53 ⇓P P 22 15 51.5 0.0
baz=80
USIN University of 80.53 44 eP P 22 15 51.4 +0.1
comp=Z,155nm,0.9s
PARMO Parma 80.53 46 eP P 22 15 51.6 +0.2
632A Uvalde 80.53 57 ⇓P P 22 15 52.1 +0.5
baz=80
533A Kerrville 80.55 56 ⇓P P 22 15 51.8 +0.1
baz=80
335A Moody 80.56 54 ⇑P P 22 15 51.8 +0.1
baz=80
KIZK Mersin 80.58 314 iP P 22 15 51.7 0.0
DIVS Divibare 80.58 327 P P 22 15 50.9 -0.8
DIVS Divibare 80.58 327⇑iP P 22 15 51.5 -0.2
LONY Lake Ozonia 80.58 32 eP P 22 15 50.3 -1.3
comp=Z,22nm,0.9s
STR Strasbourg 80.59 337⇑eP P 22 15 52.4 +0.9
VTS Vitosha 80.60 324 P P 22 15 52.1 +0.2
VTS Vitosha 80.60 324⇑iP P 22 15 52.3 +0.4
VTS Vitosha 80.60 324 P P 22 15 52.6 +0.7
MYKA Terra Mystica 80.60 332⇑iP P 22 15 51.4 -0.3
comp=Z,107nm,0.8s,SNR=59
WATA Walderalm 80.62 334⇑iP P 22 15 52.5 +0.6
comp=Z,122nm,0.6s,SNR=73
WTTA Wattenberg 80.66 334 iP P 22 15 53.0 +0.8
comp=Z,197nm,0.6s,SNR=143
BFO Black Forest 80.66 336 eP P 22 15 52.3 +0.3
comp=Z,667nm,2.3s
BFO eL L 22 54 05.9
comp=Z,477nm,21.3s
BFO Black Forest 80.66 336 eP P 22 15 52.1 +0.1
BFO pmax pmax
comp=Z,105nm,1.0s
BFO Black Forest 80.66 336 eP P 22 15 52.1 +0.1
comp=Z,105nm,1.0s
UALR University of 80.67 49 eP P 22 15 51.9 -0.4
RETA Reutte 80.72 335⇑iP P 22 15 52.8 +0.4
comp=Z,111nm,0.9s,SNR=81
RZN Rozhen 80.73 323 P P 22 15 53.5 +0.9
MOTA Moosalm 80.75 334 iP P 22 15 53.1 +0.5
comp=Z,113nm,0.6s,SNR=184
GDZ Gediz 80.75 318 iP P 22 15 53.1 +0.3
DURS Dursunbey 80.80 319 iP P 22 15 52.8 -0.2
336A Riesel 80.81 54 ⇓P P 22 15 53.0 0.0
baz=80
ALN Alexandroupoli 80.82 322 P P 22 15 53.0 +0.1
138A Matatall Enter 80.82 52 ⇑P P 22 15 53.6 +0.6
baz=80
LJU Ljubljana 80.83 332 iP P 22 15 52.5 -0.4
435B Jarrell 80.85 55 ⇑P P 22 15 53.3 0.0
baz=81
ABTA Abfaltersbach 80.85 333⇑iP P 22 15 52.8 -0.3
comp=Z,130nm,1.4s,SNR=52
ACSO Alum Creek Sta 80.87 39 eP P 22 15 52.9 -0.2
comp=Z,176nm,1.3s
Z39A Irene McRaven, 80.87 51 ⇑P P 22 15 53.5 +0.2
baz=81
CDF Champ du Feu 80.88 337⇑iP P 22 15 53.4 +0.2
comp=Z,485nm,1.1s
CDF Champ du Feu 80.88 337 eP P 22 15 53.4 +0.2
CDF Champ du Feu 80.88 337 eP P 22 15 53.4 +0.2
HEX Exmoor 80.88 345⇑iP P 22 15 53.4 +0.4
534A Blanco 80.90 56 ⇓P P 22 15 53.6 0.0
baz=81
ALLY Alegheny Colle 80.92 37 eP P 22 15 50.3 -3.1
MMNY Mt. Morris Dam 80.92 35 eP P 22 15 52.7 -0.7
comp=Z,186nm,0.9s
633A Saathoff Ranch 80.92 57 ⇑P P 22 15 54.1 +0.4
baz=81
237A Washetta, Mont 80.93 53 ⇓P P 22 15 53.7 +0.1
baz=81
GNAR Gosnell 80.94 47 eP P 22 15 54.5 +0.9
WCI Wyandotte Cave 80.97 43 eP P 22 15 53.7 -0.1
WCI pmax pmax
comp=Z,155nm,1.2s
WCI Wyandotte Cave 80.97 43 eP P 22 15 53.7 -0.1
comp=Z,155nm,1.2s
732A Laxson Ranch, 81.00 58 ⇓P P 22 15 54.8 +0.7
baz=81
PQI Presque Isle 81.01 27 eP P 22 15 53.4 -0.4
comp=Z,55nm,0.6s
VAL Valentia 81.05 349⇑iP P 22 15 54.2 +0.4
BOJS Bojanci 81.06 331 iP P 22 15 54.0 -0.1
ERMK Ermenek 81.06 315 iP P 22 15 54.5 -0.1
BALY Balya 81.07 320 iP P 22 15 54.8 +0.4
GLAT Glass 81.07 46 eP P 22 15 55.2 +0.9
HTL Hartland 81.08 345⇑iP P 22 15 54.4 +0.3
HTL AMB AMB 22 15 55.1
comp=Z,141nm,0.9s

ECH Echery 81.09 337⇑eP P 22 15 54.6 +0.4
DEMI Demirci 81.14 319 iP P 22 15 54.8 0.0
FKH Fakeheh 81.15 311 eP P 22 15 56.0 +1.1
FETA Feichten 81.15 334⇑iP P 22 15 55.3 +0.5
comp=Z,159nm,1.0s,SNR=96
PAGF Fort de Pagny 81.16 338⇑iP P 22 15 55.3 +0.8
comp=Z,131nm,0.7s
PAGF Fort de Pagny 81.16 338 eP P 22 15 55.3 +0.8
DAVA Damuels 81.17 335⇑iP P 22 15 55.2 +0.4
comp=Z,155nm,0.9s,SNR=68
139A Bunkhouse Ranc 81.19 51 ⇓P P 22 15 55.3 +0.4
baz=81
MMB Musomiste 81.22 323⇑iP P 22 15 55.7 +0.6
MMB Musomiste 81.22 323 P P 22 15 56.1 +1.0
UTMT University of 81.22 46 eP P 22 15 55.8 +0.7
comp=Z,195nm,0.9s
AYK Aydincik 81.24 314 iP P 22 15 41.8 -13
KKB Krupnik 81.25 324 P P 22 15 56.2 +1.0
ISP Isparta 81.28 317 P P 22 15 55.4 -0.1
ISP Isparta 81.28 317 eP P 22 15 55.5 -0.1
ISP pmax pmax
comp=Z,63nm,0.7s
ISP Isparta 81.28 317⇑iP P 22 15 55.3 -0.3
ISP Isparta 81.28 317 eP P 22 15 55.5 -0.1
comp=Z,63nm,0.7s
436A Wall Ranch, Ga 81.31 54 ⇑P P 22 15 56.2 +0.5
baz=81
238A Jacksonville 81.31 52 ⇑P P 22 15 56.3 +0.6
baz=81
832A Faith Ranch, C 81.33 58 ⇑P P 22 15 56.4 +0.6
baz=81
KHAL Karahalli 81.33 318 iP pP 22 16 18.1 +3.5
NVR Nevrokopi 81.37 323 P P 22 15 56.3 +0.5
TRI Trieste 81.37 332 eP P 22 15 54.8 -0.9
TRI pmax pmax
comp=Z,71nm,0.7s
TRI Trieste 81.37 332 eP P 22 15 54.8 -0.9
comp=Z,71nm,0.7s
MEZF Maizieres J'vi 81.38 339⇑iP P 22 15 56.3 +0.6
comp=Z,335nm,0.8s
MEZF Maizieres J'vi 81.38 339 eP P 22 15 56.3 +0.6
KAVA Kavala 81.39 323 P P 22 15 56.3 +0.4
SMTH Samothraki Isl 81.39 322 P P 22 15 55.5 -0.4
THEF They Montfort 81.39 338⇑eP P 22 15 56.3 +0.5
337A Ceterville 81.40 53 ⇓P P 22 15 56.9 +0.8
baz=81
733A Divot King Ran 81.41 57 ⇑P P 22 15 56.9 +0.7
baz=81
535A Dale 81.42 55 ⇑P P 22 15 56.5 +0.3
baz=81
MOF Molkenrain 81.43 337⇑eP P 22 15 56.3 +0.2
SKDS Skadanscina 81.43 332 eP P 22 15 55.3 -0.9
634A China Grove, S 81.46 56 ⇓P P 22 15 56.9 +0.4
baz=81
PLE Pijevlja 81.46 327⇑iP P 22 15 56.2 -0.2
DRLN Deer Lake 81.48 19 eP P 22 15 56.8 +0.6
comp=Z,104nm,1.2s
HAU Haudompre 81.50 338⇑iP P 22 15 56.5 +0.1
comp=Z,118nm,0.7s
HAU eR
comp=Z,568nm,21.2s
HAU Haudompre 81.50 338 eP P 22 15 56.5 +0.1
HAU Haudompre 81.50 338 eP P 22 15 56.5 +0.1
DYA Yadsworthy 81.51 345⇑iP P 22 15 56.3 -0.1
DYA AMB AMB 22 15 58.8
comp=Z,274nm,0.9s
DYA Yadsworthy 81.51 345 eP P 22 15 56.6 +0.2
comp=Z,284nm,0.9s
HINF Hinteralfeld 81.54 337⇑iP P 22 15 56.5 -0.1
comp=Z,173nm,1.0s
HINF Hinteralfeld 81.54 337 eP P 22 15 56.5 -0.1
HINF Hinteralfeld 81.54 337 eP P 22 15 56.5 -0.1
KULA Kula-Manisa 81.59 319 P P 22 15 57.5 +0.3
MDV Middlebury 81.63 31 eP P 22 15 56.5 -0.6
437A Phantom Ranch, 81.63 54 ⇓P P 22 15 58.1 +0.7
baz=81
833A Chaparral WMA, 81.64 58 ⇓P P 22 15 58.2 +0.7
baz=81
239A Gary 81.65 52 ⇓P P 22 15 58.0 +0.5
baz=81
FUORN Ofenpass-Fuorn 81.65 335 eP P 22 15 58.3 +0.8
comp=Z,231nm,1.0s
SFTF Sexfontaines 81.66 338⇑iP P 22 15 57.6 +0.4
comp=Z,502nm,0.8s
SFTF Sexfontaines 81.66 338 eP P 22 15 57.6 +0.4
IVA Berane 81.67 327⇑iP P 22 15 57.2 -0.3
SRS Serrai 81.67 323 P P 22 15 57.1 -0.3
536A Bastrop 81.67 55 ⇓P P 22 15 58.0 +0.4
baz=81
GAZI Gazipasa 81.68 315 iP P 22 15 56.7 -0.8
AKHS Akhisar 81.69 319 iP P 22 15 57.9 +0.4
338A Crockett 81.69 53 ⇑P P 22 15 58.4 +0.7
baz=81
734A La Parita Cree 81.74 57 ⇑P P 22 15 58.8 +0.8
baz=82
UDBI Udbina 81.74 330 P P 22 15 57.4 -0.4
UPM Unac-Piva 81.75 327⇑iP P 22 15 57.4 -0.7
635A Leesville 81.79 56 ⇓P P 22 15 58.7 +0.5
baz=82
BHL Bhannes 81.81 311 eP P 22 15 58.8 +0.4
SKO Skopje 81.83 325 P P 22 15 57.6 -0.6
SKO Skopje 81.83 325 iP P 22 15 58.0 -0.2
LFK Lefkose 81.83 313 eP P 22 15 52.9 -5.5
AYVA Ayvalik 81.84 320 iP P 22 15 57.7 -0.6
PKME Peaks-Kenny Pk 81.86 28 eP P 22 15 58.2 -0.1
comp=Z,50nm,1.3s
PVY Plav 81.88 326⇑iP P 22 15 58.3 -0.3
WVT Waverly 81.90 45 eP P 22 15 58.6 -0.1
WVT pmax pmax
comp=Z,51nm,0.8s
WVT Waverly 81.90 45 eP P 22 15 58.6 -0.1
comp=Z,51nm,0.8s
KNT Kendrikon 81.92 324 P P 22 15 58.7 0.0
VAY Valandovo 81.92 324 P P 22 15 59.2 +0.5
VAY Valandovo 81.92 324 iP P 22 15 59.2 +0.5
LOMF Lomont 81.97 337⇑eP P 22 15 59.5 +0.5
ACCN Adirondack Com 81.98 32 eP P 22 15 58.3 -0.7
comp=Z,58nm,1.2s
CCA1 Carnmenellis 81.98 346⇑eP P 22 15 58.4 -0.5
CCA1 AMB AMB 22 15 59.7
comp=Z,156nm,1.1s
DQRL Deir Qamar 82.01 311 eP P 22 16 00.3 +0.9
LIA Limnos Island 82.01 322 P P 22 15 58.8 -0.4
NVLJ Novalja 82.01 331 P P 22 15 58.4 -0.7
SOH Sokhos 82.02 323 P P 22 15 58.8 -0.5
KORT Korkueli 82.02 317 iP P 22 15 59.9 +0.4
BCI Bajram Curri 82.03 326 iP P 22 15 58.9 -0.5
RCY Rachaya 82.03 311 eP P 22 16 00.4 +0.7
NKY Niksic 82.06 327⇑iP P 22 15 59.1 -0.4
438A Sam Houston St 82.06 53 ⇓P P 22 16 00.5 +0.9
baz=82
MAMC Mammari 82.07 314 P P 22 16 00.8 +1.2
PRK Paraskevi 82.08 321 P P 22 15 59.7 +0.2
537A Green Hill Far 82.10 54 ⇓P P 22 16 00.7 +0.9
baz=82
NKME Niksic 82.11 327⇑iP P 22 15 59.0 -0.8
339A Huntington 82.13 52 ⇑P P 22 16 00.4 +0.5
baz=82
BINY Binghamton 82.13 34 eP P 22 15 59.1 -0.8
comp=Z,45nm,1.2s
BRY Bratogost 82.15 327⇑iP P 22 15 59.2 -0.9
OUR Ouranopolis 82.16 323 P P 22 15 59.7 -0.3
735A Kenedy 82.17 56 ⇑P P 22 16 01.4 +1.2
baz=82
CSS Prodhromos 82.18 313 P P 22 16 00.9 +0.7
CSS Prodhromos 82.18 313 P P 22 16 00.5 +0.3
CSS Prodhromos 82.18 313 eP P 22 16 00.7 +0.5
comp=Z,48nm,0.7s
HNH Hanover 82.20 31 eP P 22 15 60.0 -0.1
comp=Z,21nm,0.9s
GOLH Golhisar 82.21 317 iP P 22 16 00.5 +0.1
933A Laredo 82.24 58 ⇑P P 22 16 01.7 +1.1
baz=82
LEF Lefka 82.28 314 eP P 22 15 58.3 -2.3
834A Tilden 82.28 57 ⇓P P 22 16 02.1 +1.3
baz=82
PDG Podgorica 82.29 327 P P 22 16 00.0 -0.6
TTG Podgorica 82.29 327⇑iP P 22 16 00.2 -0.4
SIGR SIGRI 82.29 321 P P 22 16 00.5 -0.1
GRG Griva 82.30 324 P P 22 16 00.6 -0.1
THE Thessaloniki 82.34 323 P P 22 16 00.0 -0.9
PLG Polygyros 82.35 323 P P 22 16 00.5 -0.6
WVL Waterville 82.35 29 eP P 22 16 00.7 -0.2
comp=Z,46nm,0.9s

JSA Saint Aubin 82.37 343⇑iP P 22 16 00.8 -0.1
JSA AMB AMB 22 16 03.5
comp=Z,208nm,0.9s
PUK Puka 82.37 326 iP P 22 16 01.1 -0.1
ALFC Alevga 82.39 314 P P 22 16 01.1 -0.2
OXF Oxford 82.39 47 eP P 22 16 01.1 -0.2
OXF pmax pmax
comp=Z,155nm,0.9s
OXF Oxford 82.39 47 eP P 22 16 01.1 -0.2
comp=Z,155nm,0.9s
PPT Papeete 82.42 125 LR LR 22 44 40.3
comp=Z,266nm,20.6s,baz=1.0,slow=30
439A Center Grove, 82.42 53 ⇑P P 22 16 02.2 +0.7
baz=82
FLN La Foliniere 82.43 342⇑iP P 22 16 01.3 +0.1
comp=Z,252nm,0.8s
FLN eR
comp=Z,540nm,22.0s
FLN La Foliniere 82.43 342 eP P 22 16 01.3 +0.1
FLN La Foliniere 82.43 342 eP P 22 16 01.3 +0.1
340A Bronson 82.43 52 ⇑P P 22 16 01.8 +0.3
baz=82
PPT2 Papeete2 82.44 125 eLR LR 22 41 41.4
comp=Z,1µm,25.5s,baz=327
538A Harpers Horsep 82.45 54 ⇑P P 22 16 03.0 +1.3
baz=82
PHP Peshkopia 82.47 326 iP P 22 16 01.2 -0.5
PHP Peshkopia 82.47 326 P P 22 16 01.1 -0.5
HKT Hockley 82.47 54 eP P 22 16 01.8 +0.2
HKT pmax pmax
comp=Z,54nm,1.8s
HKT Hockley 82.47 54 eP P 22 16 01.8 +0.2
comp=Z,54nm,1.8s
STON Ston 82.49 328 P P 22 16 00.4 -1.2
LDF La Druitiere 82.51 342⇑iP P 22 16 01.7 +0.1
comp=Z,135nm,0.9s
LDF La Druitiere 82.51 342 eP P 22 16 01.7 +0.1
LDF La Druitiere 82.51 342 eP P 22 16 01.7 +0.1
736A Circle Diamond 82.52 56 ⇑P P 22 16 03.6 +1.6
baz=82
DRME Dracevica, Mon 82.52 327⇑iP P 22 16 01.6 -0.2
BUM Brajici-Budva 82.53 327⇑iP P 22 16 01.5 -0.5
TRY Troy 82.55 32 eP P 22 16 01.7 -0.3
comp=Z,86nm,1.5s
HCY Herceg Novi 82.56 327⇑iP P 22 16 01.2 -0.8
SZAC Souni-Zanaja 82.57 314 P P 22 16 02.6 +0.3
835A Beeville 82.58 57 ⇓P P 22 16 03.8 +1.5
baz=82
AKMC Akamas 82.63 314 P P 22 16 02.4 -0.2
PAIG Paliouri 82.63 323 P P 22 16 02.0 -0.4
FFD Franklin Falls 82.63 31 eP P 22 16 02.5 +0.2
comp=Z,177nm,1.8s
AYDN Tasoluk 82.65 319 iP P 22 16 05.4 +2.7
ULC Ulcinj 82.69 327⇑iP P 22 16 02.1 -0.7
934A Benavides 82.69 58 ⇓P P 22 16 04.5 +1.5
baz=82
SSPA Standing Stone 82.69 36 eP P 22 16 02.5 -0.3
comp=Z,397nm,2.3s
PPCY Paphos 82.73 314 P P 22 16 03.1 +0.1
SENIN Lac Senin/Sane 82.75 336 eP P 22 16 03.4 +0.2
KSPA Keystone Colle 82.76 34 eP P 22 16 02.4 -0.7
comp=Z,28nm,0.7s
ZEY ˙zmir 82.80 320 iP P 22 16 03.2 -0.1
OHR Ohrid 82.81 325 iP P 22 16 02.5 -0.9
LOR Lormes 82.82 339⇑iP P 22 16 03.6 +0.3
comp=Z,271nm,0.8s
LOR eR
comp=Z,1µm,22.5s
LOR Lormes 82.82 339 eP P 22 16 03.6 +0.3
LOR Lormes 82.82 339 eP P 22 16 03.6 +0.3
CABF La Chapelle 82.85 337⇑iP P 22 16 04.0 +0.4
comp=Z,227nm,1.1s
CABF La Chapelle 82.85 337 eP P 22 16 04.0 +0.4
CABF La Chapelle 82.85 337 eP P 22 16 04.0 +0.4
FNA Florina 82.86 325 P P 22 16 03.2 -0.5
GRR Gorron 82.86 342⇑iP P 22 16 03.8 +0.3
comp=Z,389nm,0.8s
GRR Gorron 82.86 342 eP P 22 16 03.8 +0.3
GRR Gorron 82.86 342 eP P 22 16 03.8 +0.3
RBK Rabkut 82.87 288 P P 22 16 04.5 +0.4
SNR=8.4
CHOS Chios island 82.88 320 P P 22 16 03.6 -0.3
EMMW East Machias 82.94 27 eP P 22 16 03.7 -0.3
comp=Z,52nm,0.9s
TURN Turunc 82.95 318 iP P 22 16 05.7 +1.5
539A Cross D Ranch, 82.97 53 ⇓P P 22 16 05.7 +1.3
baz=83
TIR Tirane 82.98 326 iP P 22 16 04.2 -0.1
TIR Tirane 82.98 326 P P 22 16 04.1 -0.1
TIR Tirane 82.98 326 eP P 22 16 04.2 -0.1
TIR pmax pmax
comp=Z,180nm,0.8s
TIR Tirane 82.98 326 eP P 22 16 04.2 -0.1
comp=Z,180nm,0.8s
LIT Litokhoron 82.98 323 P P 22 16 03.3 -1.0
AKAS Kas 83.00 317 iP P 22 16 02.9 -1.7
034A Hebbronville 83.00 58 ⇑P P 22 16 05.9 +1.4
baz=83
SMG Samos 83.08 319 P P 22 16 04.2 -0.6
KZN Kozani 83.10 324 P P 22 16 04.1 -0.9
SSF Saint Saulge 83.10 339⇑iP P 22 16 05.1 +0.3
comp=Z,271nm,0.9s
SSF Saint Saulge 83.10 339 eP P 22 16 05.1 +0.3
SSF Saint Saulge 83.10 339 eP P 22 16 05.1 +0.3
HYF Humbligny 83.12 340⇑iP P 22 16 05.6 +0.7
HYF Humbligny 83.12 340 eP P 22 16 05.6 +0.7
AOS Alonnisos 83.18 322 P P 22 16 05.1 -0.2
KBN Korca 83.23 325 iP P 22 16 05.1 -0.6
KBN Korca 83.23 325 P P 22 16 05.2 -0.4
NEST Nestorio 83.30 325 P P 22 16 05.7 -0.3
BDRM Kayabasi 83.33 319 iP P 22 16 06.2 0.0
SGMF Saint Gilles 83.34 343⇑iP P 22 16 06.1 +0.2
comp=Z,307nm,0.8s
SGMF Saint Gilles 83.34 343 eP P 22 16 06.1 +0.2
SGMF Saint Gilles 83.34 343 eP P 22 16 06.1 +0.2
OUZ Omahuta 83.36 162 eP P 22 16 07.2 +1.3
comp=Z,377nm,2.8s
AVF Avril sur Loir 83.39 339⇑iP P 22 16 06.7 +0.5
comp=Z,300nm,0.9s
AVF Avril sur Loir 83.39 339 eP P 22 16 06.7 +0.5
AVF Avril sur Loir 83.39 339 eP P 22 16 06.7 +0.5
ROSF Rostrenen 83.40 344⇑iP P 22 16 06.7 +0.4
comp=Z,420nm,0.9s
ROSF Rostrenen 83.40 344 eP P 22 16 06.7 +0.4
ROSF Rostrenen 83.40 344 eP P 22 16 06.7 +0.4
SMF Signal de Mont 83.41 339⇑iP P 22 16 06.8 +0.5
comp=Z,616nm,1.0s
SMF Signal de Mont 83.41 339 eP P 22 16 06.8 +0.5
SMF Signal de Mont 83.41 339 eP P 22 16 06.8 +0.5
738A Farr-Stevens R 83.41 55 ⇑P P 22 16 07.1 +0.4
baz=83
QUA2 Belchertown 83.42 32 eP P 22 16 06.2 -0.2
comp=Z,29nm,1.2s
035A Encino 83.43 58 ⇑P P 22 16 08.0 +1.2
baz=83
HRV Adam Dziewonsk 83.51 31 eP P 22 16 06.8 -0.1
HRV pmax pmax
comp=Z,60nm,1.1s
HRV Adam Dziewonsk 83.51 31 eP P 22 16 06.8 -0.1
comp=Z,60nm,1.1s
936A North Padre Is 83.53 57 ⇑P P 22 16 08.4 +1.2
baz=83
SWET Sewanee 83.56 44 eP P 22 16 06.9 -0.5
ABTO Aybut 83.58 288 P P 22 16 08.1 +0.4
SNR=20
ODNJ Ogdensburg 83.61 34 eP P 22 16 06.7 -0.8
comp=Z,19nm,0.8s
TZTN Tazewell 83.62 42 eP P 22 16 07.6 0.0
comp=Z,41nm,0.9s
THL Klokotos Trika 83.63 323 P P 22 16 05.8 -1.8
LPL La Plagne 83.68 336⇑iP P 22 16 08.9 +0.9
comp=Z,330nm,0.9s
LPL La Plagne 83.68 336 eP P 22 16 08.9 +0.9
LPL La Plagne 83.68 336 eP P 22 16 08.9 +0.9
MRKA Markates 83.69 322 P P 22 16 07.1 -0.9
LPG La Plagne 83.69 336⇑iP P 22 16 09.1 +0.9
comp=Z,514nm,0.9s
LPG La Plagne 83.69 336 eP P 22 16 09.1 +0.9
LPG La Plagne 83.69 336 eP P 22 16 09.1 +0.9
SMIA Simia 83.70 322 P P 22 16 07.3 -0.7
ARG Arkhangelos 83.71 318 P P 22 16 08.0 -0.1
LUPA Lehigh Univers 83.73 34 eP P 22 16 07.9 -0.2
comp=Z,33nm,1.8s
BGF Bois d'Agland 83.74 339⇑iP P 22 16 08.5 +0.5
comp=Z,99nm,0.7s

BGF	**Bois d'Agland**	**83.74**	**339**	*e*P	**P**	**22**	**16**	**08.5**	**+0.5**
BGF	**Bois d'Agland**	**83.74**	**339**	*e*P	**P**	**22**	**16**	**08.5**	**+0.5**
QUIF	**Quistinic**	**83.78**	**344**	⇑*i*P	**P**	**22**	**16**	**07.9**	**-0.3**
	comp=Z,144nm,0.8s								
QUIF	**Quistinic**	**83.78**	**344**	*e*P	**P**	**22**	**16**	**07.9**	**-0.3**
QUIF	**Quistinic**	**83.78**	**344**	*e*P	**P**	**22**	**16**	**07.9**	**-0.3**
035Z	**Hargill**	**83.81**	**58**	⇑P	**P**	**22**	**16**	**09.8**	**+1.1**
	baz=84								
VLC	**Villacollemand**	**83.83**	**333**	*e*P	**P**	**22**	**16**	**09.7**	**+1.1**
	comp=Z,124nm,0.9s								
MVL	**Millersville**	**83.86**	**35**	*e*P	**P**	**22**	**16**	**08.2**	**-0.5**
	comp=Z,182nm,2.0s								
PAL	**Palisades**	**83.95**	**33**	*e*P	**P**	**22**	**16**	**08.6**	**-0.6**
PAL				pmax	pmax				
	comp=Z,294nm,2.0s								
PAL	**Palisades**	**83.95**	**33**	*e*P	**P**	**22**	**16**	**08.6**	**-0.6**
	comp=Z,294nm,2.0s								
AGG	**Agios Georgios**	**83.95**	**323**	P	**P**	**22**	**16**	**06.9**	**-2.4**
AGG	**Agios Georgios**	**83.95**	**323**	*e*P	**P**	**22**	**16**	**08.2**	**-1.1**
AGG				pmax	pmax				
	comp=Z,49nm,0.8s								
AGG	**Agios Georgios**	**83.95**	**323**	*e*P	**P**	**22**	**16**	**08.2**	**-1.1**
	comp=Z,49nm,0.8s								
BRNJ	**Basking Ridge**	**83.97**	**34**	*e*P	**P**	**22**	**16**	**08.6**	**-0.7**
	comp=Z,15nm,0.7s								
LKR	**Lokris**	**83.99**	**322**	P	**P**	**22**	**16**	**08.1**	**-1.3**
JAN	**Janina**	**84.03**	**324**	P	**P**	**22**	**16**	**09.2**	**-0.5**
BRYW	**Bryant College**	**84.03**	**31**	*e*P	**P**	**22**	**16**	**09.4**	**-0.2**
	comp=Z,42nm,0.8s								
AXAR	**Agios Charalam**	**84.03**	**323**	P	**P**	**22**	**16**	**08.6**	**-1.1**
MAKR	**Makrakomi, Fth**	**84.05**	**323**	P	P	22	16	06.1	-3.7
RAYN	**Ar Rayn**	**84.06**	**298**	*e*P	**P**	**22**	**16**	**10.7**	**+0.6**
	comp=Z,56nm,0.8s								
PLDF	**La Plantade**	**84.09**	**338**	*e*P	**P**	**22**	**16**	**09.7**	**-0.2**
CPNY	**Central Park**	**84.11**	**33**	*e*P	**P**	**22**	**16**	**09.6**	**-0.4**
	comp=Z,67nm,1.1s								
PTL	**Penteli**	**84.12**	**321**	P	**P**	**22**	**16**	**08.9**	**-1.3**
AGO	**Saint Agoulin**	**84.14**	**339**	⇑*e*P	**P**	**22**	**16**	**09.6**	**-0.5**
GDM	**Grand'Maison**	**84.14**	**337**	⇑*e*P	**P**	**22**	**16**	**11.4**	**+1.1**
TCF	**Toulx Ste Croi**	**84.14**	**340**	⇑*i*P	**P**	**22**	**16**	**10.7**	**+0.6**
	comp=Z,257nm,1.0s								
TCF	**Toulx Ste Croi**	**84.14**	**340**	*e*P	**P**	**22**	**16**	**10.7**	**+0.6**
TCF	**Toulx Ste Croi**	**84.14**	**340**	*e*P	**P**	**22**	**16**	**10.7**	**+0.6**
SDMD	**Soldier's Deli**	**84.15**	**36**	*e*P	**P**	**22**	**16**	**10.2**	**-0.1**
APE	**Apeiranthos**	**84.20**	**320**	*e*P	**P**	**22**	**16**	**09.7**	**-0.9**
APE				pmax	pmax				
	comp=Z,81nm,1.1s								
APE	**Apeiranthos**	**84.20**	**320**	⇑*i*P	**P**	**22**	**16**	**09.7**	**-0.9**
GRN	**Grenoble**	**84.20**	**337**	⇑*e*P	**P**	**22**	**16**	**11.8**	**+1.3**
TKL	**Tuckaleechee C**	**84.23**	**43**	*e*P	**P**	**22**	**16**	**10.6**	**-0.2**
TKL	**Tuckaleechee C**	**84.23**	**43**	*e*P	**P**	**22**	**16**	**10.6**	**-0.2**
ATH	**Athens Observa**	**84.25**	**321**	P	**P**	**22**	**16**	**09.2**	**-1.6**
EVR	**Evrytania**	**84.26**	**323**	P	**P**	**22**	**16**	**10.2**	**-0.8**
IGT	**Igoumenitsa**	**84.34**	**325**	P	**P**	**22**	**16**	**10.4**	**-0.8**
DSL	**Palaion Diasel**	**84.37**	**324**	P	**P**	**22**	**16**	**10.8**	**-0.6**
DSF	**Desfina**	**84.39**	**323**	P	**P**	**22**	**16**	**09.4**	**-2.2**
MBDF	**Montbardon**	**84.39**	**336**	⇑*i*P	**P**	**22**	**16**	**11.8**	**+0.2**
	comp=Z,218nm,0.9s								
MBDF	**Montbardon**	**84.39**	**336**	*e*P	**P**	**22**	**16**	**11.8**	**+0.2**
MBDF	**Montbardon**	**84.39**	**336**	*e*P	**P**	**22**	**16**	**11.8**	**+0.2**
MFF	**Saint Martin d**	**84.40**	**341**	⇑*i*P	**P**	**22**	**16**	**11.2**	**-0.2**
	comp=Z,442nm,0.8s								
MFF	**Saint Martin d**	**84.40**	**341**	*e*P	**P**	**22**	**16**	**11.2**	**-0.2**
MFF	**Saint Martin d**	**84.40**	**341**	*e*P	**P**	**22**	**16**	**11.2**	**-0.2**
KEK	**Kerkira**	**84.40**	**325**	P	**P**	**22**	**16**	**10.9**	**-0.6**
PYM	**Petit Puy Mans**	**84.45**	**339**	⇑*e*P	**P**	**22**	**16**	**11.0**	**-0.8**
ORIF	**Oris-en-Rattie**	**84.47**	**337**	⇑*i*P	**P**	**22**	**16**	**12.8**	**+0.9**
	comp=Z,316nm,0.8s								
ORIF				*e*R					
	comp=Z,622nm,21.5s								
ORIF	**Oris-en-Rattie**	**84.47**	**337**	*e*P	**P**	**22**	**16**	**12.8**	**+0.9**
ORIF	**Oris-en-Rattie**	**84.47**	**337**	*e*P	**P**	**22**	**16**	**12.8**	**+0.9**
BLA	**Blacksburg**	**84.49**	**40**	*e*P	**P**	**22**	**16**	**11.7**	**-0.4**
BLA				pmax	pmax				
	comp=Z,68nm,0.9s								
BLA	**Blacksburg**	**84.49**	**40**	*e*P	**P**	**22**	**16**	**11.7**	**-0.4**
	comp=Z,68nm,0.9s								
COLF	**Collangettes**	**84.49**	**338**	⇑*e*P	**P**	**22**	**16**	**12.8**	**+0.8**
SSB	**Saint Sauveur**	**84.49**	**338**	⇑*e*P	**P**	**22**	**16**	**12.8**	**+0.8**
LTK	**Loutraki**	**84.53**	**322**	P	**P**	**22**	**16**	**10.1**	**-2.1**
SURF	**Saint Ours**	**84.61**	**336**	⇑*e*P	**P**	**22**	**16**	**13.3**	**+0.6**
SURF	**Saint Ours**	**84.61**	**336**	⇑*e*P	**P**	**22**	**16**	**13.4**	**+0.7**
KARP	**Karpathos**	**84.70**	**318**	P	**P**	**22**	**16**	**12.5**	**-0.7**
LRAL	**Lakeview Retre**	**84.78**	**46**	*e*P	**P**	**22**	**16**	**13.0**	**-0.5**
	comp=Z,30nm,0.9s								
PDO	**Prodromos**	**84.79**	**324**	P	**P**	**22**	**16**	**13.0**	**-0.5**
DID	**Didima**	**84.84**	**322**	P	**P**	**22**	**16**	**11.2**	**-2.6**
SAOF	**Saorge**	**84.85**	**335**	⇑*e*P	**P**	**22**	**16**	**13.7**	**0.0**
VIVF	**Saint-Julien-l**	**84.85**	**337**	⇑*i*P	**P**	**22**	**16**	**14.6**	**+0.9**
	comp=Z,293nm,1.0s								
VIVF	**Saint-Julien-l**	**84.85**	**337**	*e*P	**P**	**22**	**16**	**14.6**	**+0.9**
VIVF	**Saint-Julien-l**	**84.85**	**337**	*e*P	**P**	**22**	**16**	**14.6**	**+0.9**
KLV	**Kalavryta, Ach**	**84.86**	**323**	P	**P**	**22**	**16**	**12.8**	**-1.1**
LBL	**Lubilhac**	**84.87**	**338**	*e*P	**P**	**22**	**16**	**13.7**	**-0.2**
AUTN	**L'Aution**	**84.88**	**335**	⇑*e*P	**P**	**22**	**16**	**14.6**	**+0.5**
TOUF	**Mont Tournerai**	**84.91**	**335**	⇑*e*P	**P**	**22**	**16**	**14.4**	**+0.1**
OG26	**St.-Nazaire-De**	**84.94**	**337**	⇑*e*P	**P**	**22**	**16**	**15.4**	**+1.2**
CBN	**Corbin Frederi**	**84.96**	**37**	*e*P	**P**	**22**	**16**	**13.8**	**-0.5**
	comp=Z,107nm,1.2s								
SBF	**Sospel**	**84.99**	**335**	⇑*i*P	**P**	**22**	**16**	**14.5**	**0.0**
	comp=Z,357nm,0.8s								
SBF	**Sospel**	**84.99**	**335**	*e*P	**P**	**22**	**16**	**14.5**	**0.0**
SBF	**Sospel**	**84.99**	**335**	*e*P	**P**	**22**	**16**	**14.5**	**0.0**
MVIF	**Mont Vial**	**85.05**	**335**	⇑*e*P	**P**	**22**	**16**	**14.8**	**-0.1**
DRO	**Drossia**	**85.12**	**323**	P	**P**	**22**	**16**	**14.7**	**-0.5**
REVF	**Revere**	**85.13**	**335**	⇑*e*P	**P**	**22**	**16**	**15.2**	**0.0**
RLS	**Riolos of Patr**	**85.13**	**323**	P	**P**	**22**	**16**	**14.9**	**-0.3**
JSRW	**J. Sargeant Re**	**85.18**	**38**	*e*P	**P**	**22**	**16**	**15.2**	**-0.3**
RJF	**Les Rejaudoux**	**85.23**	**340**	⇑*i*P	**P**	**22**	**16**	**15.5**	**-0.1**
	comp=Z,312nm,1.0s								
RJF				*e*R					
	comp=Z,552nm,22.8s								
RJF	**Les Rejaudoux**	**85.23**	**340**	*e*P	**P**	**22**	**16**	**15.5**	**-0.1**
RJF	**Les Rejaudoux**	**85.23**	**340**	*e*P	**P**	**22**	**16**	**15.5**	**-0.1**
CALN	**Calern**	**85.25**	**335**	⇑*e*P	**P**	**22**	**16**	**16.2**	**+0.3**
VLX	**Vlachokerasia**	**85.33**	**322**	P	**P**	**22**	**16**	**14.9**	**-1.4**
KFL	**Anninata**	**85.37**	**324**	P	**P**	**22**	**16**	**15.7**	**-0.7**
VLS	**Valsamata**	**85.39**	**324**	P	**P**	**22**	**16**	**15.8**	**-0.7**
SMRF	**Simiane la Rot**	**85.42**	**336**	*e*P	**P**	**22**	**16**	**16.7**	**+0.1**
	comp=Z,104nm,0.8s								
SMRF	**Simiane la Rot**	**85.42**	**336**	*e*P	**P**	**22**	**16**	**16.7**	**+0.1**
URVA	**University of**	**85.43**	**37**	*e*P	**P**	**22**	**16**	**16.8**	**+0.1**
URVA				*e*pP	**pP**	**22**	**16**	**33.8**	**-1.9**
CAF	**Calviac**	**85.46**	**339**	⇑*i*P	**P**	**22**	**16**	**17.1**	**+0.3**
	comp=Z,323nm,0.8s								
CAF	**Calviac**	**85.46**	**339**	*e*P	**P**	**22**	**16**	**17.1**	**+0.3**
CAF	**Calviac**	**85.46**	**339**	*e*P	**P**	**22**	**16**	**17.1**	**+0.3**
AMT	**Artemida-Makis**	**85.47**	**323**	P	**P**	**22**	**16**	**15.6**	**-1.4**
ZKR	**Zakros**	**85.50**	**318**	P	**P**	**22**	**16**	**16.9**	**-0.2**
FRF	**La Foret Royal**	**85.50**	**336**	⇑*i*P	**P**	**22**	**16**	**17.0**	**0.0**
	comp=Z,211nm,1.3s								
FRF	**La Foret Royal**	**85.50**	**336**	*e*P	**P**	**22**	**16**	**17.0**	**0.0**
FRF	**La Foret Royal**	**85.50**	**336**	*e*P	**P**	**22**	**16**	**17.0**	**0.0**
VLI	**Veliai**	**85.64**	**321**	P	**P**	**22**	**16**	**15.4**	**-2.4**
ITM	**Ithomi**	**85.68**	**322**	P	**P**	**22**	**16**	**19.3**	**+1.3**
CUC	**Castrocucco**	**85.69**	**328**	*e*P	**P**	**22**	**16**	**16.8**	**-1.3**
	comp=Z,68nm,1.2s								
PGF	**Pioggiola**	**85.72**	**334**	⇑*i*P	**P**	**22**	**16**	**18.2**	**0.0**
	comp=Z,155nm,0.9s								
PGF	**Pioggiola**	**85.72**	**334**	*e*P	**P**	**22**	**16**	**18.2**	**0.0**
PGF	**Pioggiola**	**85.72**	**334**	*e*P	**P**	**22**	**16**	**18.2**	**0.0**
LMR	**La Mourre**	**85.75**	**336**	⇑*i*P	**P**	**22**	**16**	**18.6**	**+0.4**
	comp=Z,372nm,1.1s								
LMR	**La Mourre**	**85.75**	**336**	*e*P	**P**	**22**	**16**	**18.6**	**+0.4**
LMR	**La Mourre**	**85.75**	**336**	*e*P	**P**	**22**	**16**	**18.6**	**+0.4**
LFF	**La Frestale**	**85.76**	**340**	⇑*i*P	**P**	**22**	**16**	**18.2**	**0.0**
	comp=Z,303nm,0.8s								
LFF	**La Frestale**	**85.76**	**340**	*e*P	**P**	**22**	**16**	**18.2**	**0.0**
LFF	**La Frestale**	**85.76**	**340**	*e*P	**P**	**22**	**16**	**18.2**	**0.0**
KMSC	**Kings Mountain**	**85.79**	**41**	*e*P	**P**	**22**	**16**	**18.3**	**-0.3**
	comp=Z,82nm,1.2s								
KMSC	**Kings Mountain**	**85.79**	**41**	⇑P	**P**	**22**	**16**	**18.2**	**-0.3**
	baz=85								
LASF	**Ste Croix**	**85.79**	**338**	⇑*i*P	**P**	**22**	**16**	**19.6**	**+1.2**
	comp=Z,248nm,1.2s								
LASF	**Ste Croix**	**85.79**	**338**	*e*P	**P**	**22**	**16**	**19.6**	**+1.2**
LAST	**Lasithi**	**85.80**	**319**	P	**P**	**22**	**16**	**18.6**	**-0.1**
LEPF	**PUYLOUBIER**	**85.80**	**336**	⇑*e*P	**P**	**22**	**16**	**19.4**	**+0.9**
PYL	**PYLOS**	**86.00**	**322**	P	P	22	16	15.8	-3.8
TIP	**Timpagrande**	**86.05**	**327**	P	**P**	**22**	**16**	**19.5**	**-0.3**
TIP	**Timpagrande**	**86.05**	**327**	*e*P	**P**	**22**	**16**	**19.7**	**-0.1**
	comp=Z,164nm,1.2s								
VAM	**Vamos**	**86.18**	**320**	P	**P**	**22**	**16**	**18.8**	**-1.6**

GOGA	**Godfrey**	**86.21**	**44**	*e*P	**P**	**22**	**16**	**20.6**	**-0.1**
GOGA				*e**PP	**pP**	**22**	**16**	**40.3**	**+0.6**
GOGA				pmax	pmax				
	comp=Z,26nm,0.8s								
GOGA	**Godfrey**	**86.21**	**44**	*e*P	**P**	**22**	**16**	**20.6**	**-0.1**
	comp=Z,26nm,0.8s								
GOGA				*e*pP	**pP**	**22**	**16**	**40.3**	**+0.6**
SIVA	**Sivas**	**86.22**	**319**	P	**P**	**22**	**16**	**20.4**	**-0.3**
KARN	**Karanos**	**86.31**	**320**	P	**P**	**22**	**16**	**20.3**	**-0.8**
BRAL	**Brewton**	**86.37**	**48**	*e*P	**P**	**22**	**16**	**21.4**	**-0.1**
	comp=Z,124nm,0.8s								
JSC	**Jenkinsville**	**86.54**	**42**	*e*P	**P**	**22**	**16**	**22.5**	**+0.3**
JSC	**Jenkinsville**	**86.54**	**42**	*e*P	**P**	**22**	**16**	**22.4**	**+0.3**
GVD	**Gavdhos**	**86.70**	**320**	*e*P	**P**	**22**	**16**	**25.2**	**+2.2**
	comp=Z,361nm,0.7s								
MTLF	**Montolieu**	**86.90**	**338**	⇑*i*P	**P**	**22**	**16**	**23.7**	**-0.2**
	comp=Z,157nm,0.8s								
MTLF	**Montolieu**	**86.90**	**338**	*e*P	**P**	**22**	**16**	**23.7**	**-0.2**
MTLF	**Montolieu**	**86.90**	**338**	*e*P	**P**	**22**	**16**	**23.7**	**-0.2**
URZ	**Urewera**	**87.05**	**161**	*e*P	**P**	**22**	**16**	**21.8**	**-2.4**
	comp=Z,31nm,0.9s								
TBI	**Tubuai**	**87.11**	**128**	*e*LR	LR	22	43	39.9	
	comp=Z,958nm,30.0s,baz=328								
TBI	**Tubuai**	**87.11**	**128**	*e*T	T	23	52	29.2	
	comp=Z,29nm,0.3s								
CEL	**Celeste**	**87.18**	**327**	*e*P	**P**	**22**	**16**	**25.6**	**+0.3**
	comp=Z,92nm,0.8s								
CEL				*e*PP	**PP**	**22**	**19**	**50.0**	**+0.9**
LRDF	**Laroque-de-Fa**	**87.20**	**338**	⇑*e*P	**P**	**22**	**16**	**25.6**	**+0.3**
CARF	**Carcanieres**	**87.52**	**338**	⇑*e*P	**P**	**22**	**16**	**26.7**	**-0.3**
MLS	**Moulis**	**87.55**	**339**	⇑*e*P	**P**	**22**	**16**	**26.7**	**-0.3**
FILF	**Fillols**	**87.55**	**338**	⇑*e*P	**P**	**22**	**16**	**27.0**	**-0.1**
EPF	**Esparros**	**87.66**	**340**	⇑*i*P	**P**	**22**	**16**	**26.5**	**-1.1**
	comp=Z,101nm,0.8s								
EPF	**Esparros**	**87.66**	**340**	*e*P	**P**	**22**	**16**	**26.5**	**-1.1**
EPF	**Esparros**	**87.66**	**340**	*e*P	**P**	**22**	**16**	**26.5**	**-1.1**
SALF	**Salau**	**87.71**	**339**	⇑*e*P	**P**	**22**	**16**	**29.3**	**+1.4**
LABF	**Labassere**	**87.71**	**340**	⇑*e*P	**P**	**22**	**16**	**26.5**	**-1.3**
TIGA	**Tifton**	**87.76**	**45**	*e*P	**P**	**22**	**16**	**26.7**	**-1.5**
	comp=Z,176nm,0.9s								
TIGA				*e*pP	**pP**	**22**	**16**	**44.8**	**-2.5**
TIGA	**Tifton**	**87.76**	**45**	⇓P	**P**	**22**	**16**	**28.8**	**+0.6**
	baz=87								
BKZ	**Black Stump Fm**	**87.77**	**161**	*e*P	**P**	**22**	**16**	**25.9**	**-1.9**
	comp=Z,36nm,1.0s								
REYF	**Montagne du Re**	**87.80**	**340**	⇑*e*P	**P**	**22**	**16**	**28.3**	**0.0**
VALF	**Valcebollere**	**87.83**	**338**	⇑*e*P	**P**	**22**	**16**	**28.7**	**+0.1**
VIEF	**Viey**	**87.88**	**340**	⇑*e*P	**P**	**22**	**16**	**28.7**	**0.0**
SJPF	**Ste Jean**	**87.95**	**341**	⇑*i*P	**P**	**22**	**16**	**28.6**	**-0.3**
	comp=Z,61nm,0.9s								
SJPF	**Ste Jean**	**87.95**	**341**	*e*P	**P**	**22**	**16**	**28.6**	**-0.3**
SJPF	**Ste Jean**	**87.95**	**341**	*e*P	**P**	**22**	**16**	**28.6**	**-0.3**
LARF	**Larrau**	**87.97**	**341**	⇑*e*P	**P**	**22**	**16**	**28.9**	**-0.1**
ETSF	**Etsaut**	**88.00**	**340**	⇑*i*P	**P**	**22**	**16**	**28.9**	**-0.3**
	comp=Z,92nm,0.6s								
ETSF	**Etsaut**	**88.00**	**340**	*e*P	**P**	**22**	**16**	**28.9**	**-0.3**
ETSF	**Etsaut**	**88.00**	**340**	*e*P	**P**	**22**	**16**	**28.9**	**-0.3**
MUKL	**Al Mukalla**	**88.47**	**289**	*e*P	**P**	**22**	**16**	**31.2**	**-0.5**
CLTB	**Caltabellotta**	**88.77**	**328**	*e*P	**P**	**22**	**16**	**35.1**	**+2.1**
	comp=Z,66nm,1.6s								
TAU	**Tasmania Unive**	**88.85**	**184**	*e*P	**P**	**22**	**16**	**33.6**	**+0.9**
TAU				pmax	pmax				
	comp=Z,82nm,1.5s								
TAU	**Tasmania Unive**	**88.85**	**184**	*e*P	**P**	**22**	**16**	**33.6**	**+0.9**
	comp=Z,82nm,1.5s								
PBRG	**Braganca**	**90.35**	**344**	*e*P	**P**	**22**	**16**	**39.1**	**-1.2**
	comp=Z,59nm,1.5s								
PBRG				*e*pP	**pP**	**22**	**17**	**00.1**	**+0.7**
PBRG	**Braganca**	**90.35**	**344**	*e*LR	LR	22	47	38.0	
	comp=Z,144nm,22.0s								
PGAV	**Gavieira, Arco**	**90.47**	**345**	*e*P	**P**	**22**	**16**	**39.9**	**-1.0**
	comp=Z,96nm,1.6s								
PGAV				*e*pP	**pP**	**22**	**17**	**00.8**	**+0.8**
PGAV	**Gavieira, Arco**	**90.47**	**345**	*e*LR	LR	22	48	01.9	
	comp=Z,134nm,22.0s								
PCAB	**Cabril**	**90.68**	**345**	*e*P	**P**	**22**	**16**	**40.9**	**-0.9**
	comp=Z,70nm,1.8s								
POLO	**Lamas de Olo**	**90.96**	**345**	*e*P	**P**	**22**	**16**	**42.1**	**-1.1**
	comp=Z,36nm,1.2s								
POLO				*e*pP	**pP**	**22**	**17**	**02.3**	**0.0**
POLO	**Lamas de Olo**	**90.96**	**345**	*e*LR	LR	22	48	11.9	
	comp=Z,87nm,20.0s								
MVO	**Moncorvo**	**91.03**	**344**	*e*P	**P**	**22**	**16**	**42.1**	**-1.3**
	comp=Z,69nm,1.3s								
MVO	**Moncorvo**	**91.03**	**344**	*e*LR	LR	22	48	12.9	
	comp=Z,220nm,20.0s								
PVRL	**Vila Real**	**91.05**	**345**	*e*P	**P**	**22**	**16**	**42.4**	**-1.1**
	comp=Z,101nm,2.4s								
PVRL				*e*pP	**pP**	**22**	**17**	**03.1**	**+0.5**
RPZ	**Rata Peaks**	**91.12**	**166**	*e*P	**P**	**22**	**16**	**45.0**	**+1.7**
	comp=Z,32nm,0.8s								
PTO	**Porto**	**91.33**	**346**	*e*P	**P**	**22**	**16**	**43.6**	**-1.1**
	comp=Z,74nm,1.9s								
DAMY	**Dhamar**	**91.41**	**293**	*e*P	**P**	**22**	**16**	**47.3**	**+1.4**
	comp=Z,105nm,1.7s								
CMAH	**Djebel Manchou**	**91.62**	**332**	P	**P**	**22**	**16**	**45.0**	**-1.3**
PVIS	**Viseu**	**91.62**	**345**	*e*P	**P**	**22**	**16**	**45.1**	**-1.1**
	comp=Z,41nm,1.3s								
PVIS				*e*pP	**pP**	**22**	**17**	**05.5**	**+0.2**
PVIS	**Viseu**	**91.62**	**345**	*e*PP	PP	22	20	26.2	+2.0
CAEH	**'Ain El Ouahch**	**91.66**	**333**	P	**P**	**22**	**16**	**47.0**	**+0.6**
KEST	**Kesra**	**91.79**	**330**	P	**P**	**22**	**16**	**46.9**	**-0.2**
	comp=Z,64nm,0.8s,baz=312,slow=0.9,SNR=90								
KEST				LR	LR	23	04	15.5	
	comp=Z,64nm,18.7s,baz=355,slow=40								
KEST	**Kesra**	**91.79**	**330**	*e*P	**P**	**22**	**16**	**47.1**	**0.0**
KEST				*e*PP	**PP**	**22**	**20**	**26.3**	**+0.5**
ES19	**SONSECA Array**	**91.80**	**342**	*e*P	**P**	**22**	**16**	**45.7**	**-1.4**
ESDC	**Sonseca Array**	**91.84**	**342**	P	**P**	**22**	**16**	**45.9**	**-1.3**
	comp=Z,8.5nm,0.7s,baz=9.7,slow=4.1,SNR=36								
ESDC				LR	LR	23	01	55.8	
	comp=Z,229nm,21.6s,baz=0.0,slow=38								
ABSA	**Djebel Ababsia**	**91.92**	**332**	P	**P**	**22**	**16**	**48.0**	**+0.3**
PAB	**San Pablo**	**92.05**	**342**	*e*P	**P**	**22**	**16**	**47.0**	**-1.2**
PAB				pmax	pmax				
	comp=Z,13nm,0.8s								
PAB	**San Pablo**	**92.05**	**342**	*e*P	**P**	**22**	**16**	**47.0**	**-1.2**
	comp=Z,13nm,0.8s								
DFRA	**Djebel Bou Aff**	**92.18**	**333**	P	**P**	**22**	**16**	**50.0**	**+1.1**
CASM	**Ain Smara**	**92.25**	**333**	P	**P**	**22**	**16**	**48.2**	**-1.0**
DCZ	**Deep Cove**	**92.28**	**169**	*e*P	**P**	**22**	**16**	**47.0**	**-1.5**
	comp=Z,315nm,2.7s								
PCAS	**Casmilo, Conde**	**92.37**	**345**	*e*P	**P**	**22**	**16**	**48.1**	**-1.5**
	comp=Z,92nm,1.7s								
PCAS				*e*pP	**pP**	**22**	**17**	**09.3**	**+0.6**
PCAS	**Casmilo, Conde**	**92.37**	**345**	*e*LR	LR	22	48	45.8	
	comp=Z,71nm,20.0s								
PCBR	**Castelo Branco**	**92.39**	**344**	*e*P	**P**	**22**	**16**	**48.5**	**-1.2**
	comp=Z,43nm,1.6s								
PCBR	**Castelo Branco**	**92.39**	**344**	*e*PP	PP	22	20	30.7	+0.5
SET	**Setif**	**92.65**	**334**	P	**P**	**22**	**16**	**53.0**	**+2.0**
PMRV	**Marv??o**	**92.78**	**344**	*e*P	**P**	**22**	**16**	**50.1**	**-1.4**
	comp=Z,31nm,1.5s								
PMRV	**Marv??o**	**92.78**	**344**	*e*LR	LR	22	49	29.6	
	comp=Z,329nm,20.0s								
PTOM	**Tomar**	**92.78**	**345**	*e*P	**P**	**22**	**16**	**50.2**	**-1.3**
	comp=Z,40nm,1.4s								
PMTG	**Montargil**	**93.28**	**345**	*e*P	**P**	**22**	**16**	**52.3**	**-1.5**
	comp=Z,42nm,1.5s								
PMTG	**Montargil**	**93.28**	**345**	*e*LR	LR	22	48	59.4	
	comp=Z,226nm,20.0s								
PESTR	**Estremoz**	**93.36**	**344**	*e*LR	LR	22	49	12.9	
EMHD	**Djebel Mahouad**	**93.38**	**335**	P	**P**	**22**	**16**	**55.0**	**+0.5**
PMAFR	**Mafra**	**93.58**	**346**	*e*P	**P**	**22**	**16**	**54.3**	**-0.9**
	comp=Z,80nm,1.4s								
PMAFR	**Mafra**	**93.58**	**346**	*e*LR	LR	22	49	12.9	
	comp=Z,61nm,20.0s								
EVO	**Evora**	**93.76**	**344**	*e*P	**P**	**22**	**16**	**53.5**	**-2.5**
	comp=Z,66nm,1.4s								
EVO				*e*R					
	comp=Z,413nm,21.0s								
EVO	**Evora**	**93.76**	**344**	*e*P	**P**	**22**	**16**	**54.3**	**-1.7**
	comp=Z,32nm,1.8s								
EVO				*e*pP	**pP**	**22**	**17**	**16.3**	**+1.2**
EVOP	**Sao Brissos**	**93.78**	**345**	*e*P	**P**	**22**	**16**	**53.5**	**-2.6**
EVOP	**Sao Brissos**	**93.78**	**345**	*e*P	**P**	**22**	**16**	**53.5**	**-2.6**
PBAR	**Barrancos**	**93.92**	**344**	*e*P	**P**	**22**	**16**	**55.5**	**-1.2**
	comp=Z,89nm,1.8s								
PBAR	**Barrancos**	**93.92**	**344**	*e*LR	LR	22	48	59.4	
	comp=Z,343nm,20.0s								
PNCL	**Nicolau / Gran**	**94.26**	**345**	*e*P	**P**	**22**	**16**	**57.4**	**-0.9**
	comp=Z,31nm,1.7s								
PNCL	**Nicolau / Gran**	**94.26**	**345**	*e*LR	LR	22	49	26.5	
	comp=Z,312nm,22.0s								
MESJ	**Messejana**	**94.47**	**344**	*e*P	**P**	**22**	**16**	**58.6**	**-0.7**

MESJ				AMb	AMB	22	17	02.7	
	comp=Z,42nm,1.7s								
MESJ	**Messejana**	**94.47**	**344**	*e*P	**P**	**22**	**16**	**58.3**	**-1.0**
	comp=Z,43nm,1.6s								
MESJ				*e*pP	**pP**	**22**	**17**	**18.8**	**+0.4**
MESJ	**Messejana**	**94.47**	**344**	*e*P	**P**	**22**	**16**	**58.6**	**-0.7**
MESJ				pmax	pmax				
	comp=Z,42nm,1.7s								
PCVE	**Castro Verde**	**94.64**	**344**	*e*P	**P**	**22**	**16**	**59.8**	**-0.2**
	comp=Z,22nm,1.7s								
PCVE				*e*pP	**pP**	**22**	**17**	**19.3**	**+0.1**
PCVE	**Castro Verde**	**94.64**	**344**	*e*LR	LR	22	49	19.7	
	comp=Z,533nm,24.0s								
PVAQ	**Vaqueiros**	**94.80**	**344**	*e*P	**P**	**22**	**16**	**59.7**	**-1.1**
	comp=Z,44nm

SKJI	**Sukabumi**	**1.76**	**311**	P		**Pn**	**22 59 12.9**	**+1.5**
SKJI				S		**Sn**	**22 59 33.9**	**+1.1**
UGM	**Wanagama**	**2.60**	**85**	P		**Pn**	**22 59 23.9**	**+1.0**
UGM				S		**Sn**	**22 59 52.8**	**-0.6**
CGJI	**Cibinong**	**2.68**	**305**	P		**Pn**	**22 59 25.6**	**+1.7**
SBJI	**Serang**	**2.69**	**319**	P		**Pn**	**22 59 26.6**	**+2.6**
XMIS	**Christmas Isla**	**3.20**	**224**	P		**Pn**	**22 59 31.8**	**+0.8**
PCJI	**Pacitan**	**3.24**	**91**	P		**Pn**	**22 59 33.0**	**+1.5**
PCJI				S		**Sn**	**23 00 08.1**	**-0.8**
UWJI	**Ujung Watu**	**3.48**	**60**	P		**Pn**	**22 59 36.2**	**+1.4**
PWJI	**Pagerwojo**	**3.86**	**88**	P		**Pn**	**22 59 41.5**	**+1.4**
PWJI				S		**Sn**	**23 00 23.8**	**-0.4**
TBJI	**Tambak Boyo**	**4.13**	**71**	P		**Pn**	**22 59 44.8**	**+1.0**
KASI	**Kota Agung**	**4.28**	**308**	P		Pn	22 59 49.9	+4.1
TPI	**Tanjungpandan**	**5.38**	**357**	P		Pn	23 00 04.9	+4.0
GMJI	**Gumukmas** 36nm,1.6s,0.3nm	**5.49**	**92**	P		**Pn**	**23 00 04.6**	**+2.3**
MNAI	**Manna**	**6.20**	**307**	Pn		Pn	**23 00 14.6**	**+2.4**
PPBI	**Pangkal Pinang** 20nm,0.8s,0.7nm	**6.22**	**343**	P		**Pn**	**23 00 14.5**	**+2.1**
SRBI	**Singaraja** 26nm,0.7s,2µm0.2nm	**7.24**	**90**	P		**Pn**	**23 00 28.2**	**+1.9**
KAPI	**Kappang** comp=Z,62nm,21.3s,baz=311,slow=40	**12.18**	**76**	LR		LR	23 06 57.6	
BATI	**Baumata** 1.6nm,0.3s,baz=275,slow=11,SNR=2.2	**15.69**	**99**	P		**P**	**23 02 22.8**	**-1.0**
SOEI	**Soe** 15nm,0.6s	**16.24**	**97**	*e*Pn		**Pn**	**23 02 28.5**	**+0.7**
CMAR	**Chiang Mai Arr** comp=Z,37nm,19.1s,baz=70,slow=40	**27.89**	**342**	LR		LR	23 17 08.3	
WRA	**Warramunga Arr** 0.9nm,1.1s,baz=291,slow=12,SNR=3.0	**28.14**	**117**	P		**P**	**23 04 31.7**	**+1.6**
SZP	**Santa**	**28.40**	**26**	Pn		**P**	**23 04 34.3**	**+2.0**
AS01	**Alice Springs**	**29.33**	**125**	Pn		**P**	**23 04 41.8**	**+1.1**
H08S2	**Diego Garcia H** baz=93,slow=75,SNR=65	**35.07**	**268**	T		T	23 42 44.0	
H08S3	**Diego Garcia H** baz=93,slow=75,SNR=85	**35.08**	**268**	T		T	23 42 44.8	
H08S1	**Diego Carcia H** baz=93,slow=75,SNR=85	**35.09**	**268**	T		T	23 42 45.5	
STKA	**Stephens Creek** 2.0nm,0.5s,baz=312,slow=8.4,SNR=9.5	**39.20**	**132**	P		**P**	**23 06 08.1**	**+2.2**
SONM	**Songino Array** 0.5nm,0.5s,baz=176,slow=7.1,SNR=7.5	**55.77**	**359**	P		**P**	**23 08 12.6**	**-1.6**
SONM				PcP		**PcP**	**23 09 12.2**	**-0.6**
MK31	**Makanchi Array**	**59.28**	**340**	*e*P		**P**	**23 08 36.3**	**-2.5**
MKAR	**Makanchi Array** 2.0nm,0.6s,baz=167,slow=6.8,SNR=28	**59.28**	**340**	P		**P**	**23 08 36.5**	**-2.3**
ZALV	**Zalesovo Beam** 0.5nm,0.4s,baz=159,slow=4.3,SNR=2.6	**64.88**	**345**	P		**P**	**23 09 13.7**	**-2.5**
ABKAR	**Akbulak array** 3.0nm,0.4s	**70.87**	**329**	*e*P		**P**	**23 09 52.8**	**-1.2**
FINES	**FINESS Array B** 2.7nm,0.9s,baz=128,slow=9.0,SNR=5.3	**93.22**	**332**	P		**P**	**23 11 50.1**	**-0.9**
ARCES	**ARCESS Array B** 1.0nm,1.0s,baz=123,slow=6.6,SNR=2.7	**94.93**	**340**	P		**P**	**23 11 57.6**	**-1.2**
TXAR	**Lajitas Array** 0.3nm,0.6s,baz=241,slow=2.1,SNR=5.2	**143.63**	**50**	PKP		PKPbc	23 18 11.0	+1.1

IDC 17 23:05:53.1±2.0, 16.73S×176.61W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.6/32, mbtmp3.9/3, Error ellipse: s-maj=53.9km s-min=47.5km az=12.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 1.7nm,0.7s,baz=94,slow=14,SNR=6.9	**40.71**	**240**	P	P	23 13 35.9	+0.3
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=95,slow=7.3,SNR=4.6	**46.55**	**258**	P	P	23 14 22.4	-0.6
QSPA	**South Pole Qui** 0.8nm,0.8s,baz=19,slow=1.0,SNR=2.6	**73.32**	**180**	P	P	23 17 26.4	0.0
GERES	**GERESS Array B** 0.3nm,0.5s,baz=18,slow=3.5,SNR=3.6	**146.88**	**348**	PKPbc	PKPbc	23 25 36.8	-0.7

*ISCJB **17** 23:06:32.5±0.9, 49.°3S±0.°1×121.°3E±0.°4, h10km, mb3.9/6, MS4.0/4, Error ellipse: s-maj=35.9km s-min=15.1km az=11.4*

*IDC **17** 23:06:32.9±0.9, 49.°29S×121.°24E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.9/30, mbtmp4.0/6, MS4.0/4, Ms1 3.9/4, ms1mx3.4/16, Error ellipse: s-maj=45.6km s-min=19.1km az=103.0*

ISC 17 23:06:34.5±0.8, 49.°3S±0.°1×121.°4E±0.°3, h10km, n18, σ0.°69/10, mb3.9/6, MS3.8/4, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H** baz=160,slow=74,SNR=67	**15.38**	**337**	T	T	23 25 57.2	
H01W2	**Cape Leeuwin H** baz=160,slow=74,SNR=91	**15.38**	**337**	T	T	23 25 55.9	
H01W3	**Cape Leeuwin H** baz=160,slow=74,SNR=74	**15.40**	**337**	T	T	23 25 58.5	
NWAO	**Narrogin (SRO)** 1.2nm,0.3s,baz=147,slow=12,SNR=7.5	**16.68**	**348**	Pn	**P**	**23 10 31.6**	**+1.0**
STKA	**Stephens Creek** 2.9nm,0.8s,baz=190,slow=13,SNR=8.5	**23.09**	**48**	P	**P**	**23 11 40.5**	**+0.3**
STKA				LR	LR	23 19 48.8	
WRA	**Warramunga Arr** 1.4nm,0.8s,baz=197,slow=8.0,SNR=4.1	**31.09**	**24**	P	**P**	**23 12 52.4**	**-0.6**
VNDA	**Vanda** 1.5nm,0.8s,baz=315,slow=8.1,SNR=5.2	**32.17**	**165**	P	**P**	**23 13 01.6**	**-0.3**
VNDA				LR	LR	23 24 58.5	
QSPA	**South Pole Qui** 1.6nm,0.8s,baz=352,slow=5.2,SNR=4.4	**40.80**	**180**	P	**P**	**23 14 16.8**	**+1.1**
SNAA	**Sanae** 2.1nm,1.0s,baz=151,slow=8.2,SNR=10	**53.06**	**199**	P	**P**	**23 15 50.7**	**-0.6**
H08S2	**Diego Garcia H** baz=144,slow=76	**58.25**	**299**	T	T	00 19 30.9	
H08S1	**Diego Carcia H** baz=144	**58.26**	**299**	T	T	00 19 34.2	
H08S3	**Diego Garcia H** baz=144,slow=76	**58.27**	**299**	T	T	00 19 33.1	
CMAR	**Chiang Mai Arr** 0.9nm,0.3s,baz=196,slow=6.0,SNR=5.8	**70.37**	**337**	P	**P**	**23 17 47.9**	**-0.5**
JNU	**Nakatsue** comp=Z,313nm,20.8s,baz=218,slow=36	**82.52**	**8**	LR	LR	23 55 32.0	
SONM	**Songino Array** comp=Z,32nm,18.9s,baz=140,slow=36	**97.65**	**350**	LR	LR	00 05 45.1	
TXAR	**Lajitas Array** 0.1nm,0.6s,baz=191,slow=4.4,SNR=2.6	**140.54**	**103**	PKP	**PKPdf**	**23 26 03.9**	**0.0**
PDAR	**Pinedale Array** 0.9nm,0.9s,baz=163,slow=1.5,SNR=4.3	**144.60**	**81**	PKP	**PKPdf**	**23 26 10.9**	**0.0**
YKA	**Yellowknife Ar** 1.0nm,0.6s,baz=268,slow=2.8,SNR=18	**147.10**	**45**	PKPbc	**PKPbc**	**23 26 16.5**	**+0.2**

*ISCJB **17** 23:13:25.4±0.3, 0.°23S±0.°03×124.°54E±0.°03, h60km, mb4.3/17, MS2.9/1, Error ellipse: s-maj=4.9km s-min=3.9km az=1.0*

*BJI **17** 23:13:26.8, 0.°30S×124.°60E, h66km, mb4.5/7, mB4.7/4, Ms4.5/1, Ms7 4.2/1*

*DJA **17** 23:13:26.3±1.1, 0.°5±8.°×12.°5E±.°, h25km±18km, M4.6/12, mb4.8/4, mB4.9/4, MLv4.7/12, Mw(mB)4.2/4*

*NEIC **17** 23:13:27.6±0.7, 0.°25S×124.°64E, h70km±9km, mb4.6/5, Error ellipse: s-maj=8.7km s-min=8.0km az=212.0*

*IDC **17** 23:13:29.6±2.5, 0.°32S×124.°51E, h92km±26km, mb3.9/12, mb1 4.0/14, mb1mx3.9/29, mbtmp4.2/14, MS2.9/2, Ms1 3.0/2, ms1mx2.6/28, Error ellipse: s-maj=21.9km s-min=16.1km az=75.0*

ISC 17 23:13:26.6±0.5, 0.°24S±0.°05×124.°60E±0.°05, h60km, n51, σ1.°84/63, mb4.3/17, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.02**	**323**	P	**Pn**	**23 13 44.9**	**0.0**
LUWI	**Luwuk**	**1.99**	**246**	P	**Pn**	**23 13 59.8**	**+1.8**
LUWI	**Luwuk** baz=2.0,SNR=44	**1.99**	**246**	P	**Pn**	**23 13 59.5**	**+1.5**
LUWI				S	**Sn**	**23 14 25.4**	**+3.5**
LUWI	**Luwuk** baz=2.0,SNR=10	**1.99**	**246**	*e*Pn	**Pn**	**23 14 00.0**	**+2.0**
LUWI				*e*Sn	**Sn**	**23 14 22.9**	**+0.9**
SANI	**Sanana**	**2.27**	**142**	P	**Pn**	**23 14 01.1**	**-0.7**
MRSI	**Marisa**	**2.75**	**285**	P	**Pn**	**23 14 06.5**	**-1.9**
MRSI				S	**Sn**	**23 14 36.4**	**-4.1**
TNTI	**Ternate**	**2.94**	**70**	*e*Pn	**Pn**	**23 14 12.1**	**+1.1**
TNTI				*e*Sn	**Sn**	**23 14 46.8**	**+1.6**
APSI	**Ampana**	**3.02**	**257**	P	**Pn**	**23 14 13.0**	**+0.9**
NLAI	**Namlea**	**3.89**	**140**	P	**Pn**	**23 14 24.8**	**+0.8**
TOLI	**Toli-Toli**	**4.04**	**290**	*e*Pn	**Pn**	**23 14 27.3**	**+1.3**
TOLI				*e*Sn	**Sn**	**23 15 11.1**	**-0.9**
MPSI	**Mapaga**	**4.74**	**277**	P	**Pn**	**23 14 38.3**	**+2.8**
TTSI	**Tana Toraja** 84nm,0.4s,2µm0.5nm	**5.53**	**240**	P	**Pn**	**23 14 47.1**	**+0.6**
SPSI	**Sidrap Palu** 53nm,0.6s,949nm0.3nm	**6.08**	**232**	P	**Pn**	**23 14 54.8**	**+0.8**
SPSI				S	**Sn**	**23 16 01.4**	**-0.9**
SIJI	**Sorong** 1.8nm,0.3s,baz=288,slow=20,SNR=4.0	**6.70**	**95**	P	Pn	23 15 06.5	+4.1
SIJI				S	**Sn**	**23 16 22.8**	**+5.4**
BKSI	**Bulukumba**	**6.75**	**221**	P	**Pn**	**23 15 04.2**	**+1.1**
KAPI	**Kappang** 3.0nm,0.3s,baz=33,slow=7.0,SNR=17	**6.78**	**225**	P	**Pn**	**23 15 04.1**	**+0.5**
KAPI				S	**Sn**	**23 16 17.3**	**-2.0**
KAPI	3.7nm,0.3s,baz=241,slow=21,SNR=5.7			LR	LR	23 17 27.3	
KAPI	comp=Z,78nm,20.6s,baz=45,slow=36 **Kappang**	**6.78**	**225**	*e*Pn	**Pn**	**23 15 04.3**	**+0.8**
KAPI				*e*Sn	**Sn**	**23 16 17.7**	**-1.7**
FAKI	**Fak Fak** baz=8.1,SNR=15	**8.10**	**109**	P	**Pn**	**23 15 22.3**	**+0.7**
FAKI				S	**Sn**	**23 16 49.2**	**-2.6**
FAKI	**Fak Fak** baz=8.1,SNR=3.7	**8.10**	**109**	*e*Pn	**Pn**	**23 15 21.8**	**+0.2**
FAKI				*e*Sn	**Sn**	**23 16 49.3**	**-2.5**
MMRI	**Maumere**	**8.67**	**196**	*e*Pn	**Pn**	**23 15 31.4**	**+1.9**
BATI	**Baumata** 2.9nm,0.3s,baz=335,slow=14,SNR=3.5	**9.95**	**185**	P	Pn	23 15 51.3	+4.3
KKM	**Kota Kinabalu**	**10.44**	**307**	*e*Pn	**Pn**	**23 15 54.0**	**+0.2**
KNRA	**Kununurra** baz=16,SNR=5.1	**15.88**	**165**	P	**P**	**23 17 10.9**	**+1.7**
MBWA	**Marble Bar** 58nm,1.7s	**21.33**	**193**	*e*P	**P**	**23 18 08.9**	**+0.1**
WRA	**Warramunga Arr** 5.3nm,0.6s,baz=330,slow=12,SNR=17	**21.78**	**155**	P	**P**	**23 18 12.8**	**-0.9**
COEN	**Coen** 6.9nm,1.8s	**22.89**	**127**	*e*P	**P**	**23 18 23.2**	**-2.3**
WRKA	**Warakurna** baz=25,SNR=19	**24.91**	**172**	P	**P**	**23 18 44.6**	**+0.4**
QIS	**Mount Isa** baz=25,SNR=26	**24.96**	**145**	P	**P**	**23 18 46.5**	**+1.8**
AS01	**Alice Springs**	**25.00**	**159**	*e*P	**P**	**23 18 45.4**	**+0.4**
FORT	**Forrest** 10nm,0.9s	**30.55**	**174**	*e*P	**P**	**23 19 33.5**	**-1.0**
CM31	**Chiang Mai Arr**	**31.32**	**308**	*e*P	**P**	**23 19 42.2**	**+0.7**
CMAR	**Chiang Mai Arr** 1.5nm,0.3s,baz=134,slow=7.7,SNR=4.3	**31.32**	**308**	P	**P**	**23 19 42.2**	**+0.7**
CMAR	comp=Z,24nm,18.1s,baz=280,slow=40			LR	LR	23 34 08.0	
BBOO	**Buckleboo** 26nm,1.8s	**34.15**	**163**	*e*P	**P**	**23 20 06.4**	**+0.3**
STKA	**Stephens Creek** 1.2nm,0.4s,baz=329,slow=8.3,SNR=7.8	**35.34**	**155**	P	**P**	**23 20 17.1**	**+0.8**
STKA	**Stephens Creek** baz=36,SNR=5.5	**35.34**	**155**	P	**P**	**23 20 17.4**	**+1.0**
CMSA	**Cobar Meteorol** baz=37,SNR=10.0	**36.98**	**149**	P	**P**	**23 20 32.6**	**+2.2**
XAN	**Xi'an**	**37.14**	**338**	P	**P**	**23 20 32.5**	**+0.8**
XAN	2.0nm,0.8s			PMZ			
KS15	**Wonju Array Si**	**37.62**	**4**	*e*P	**P**	**23 20 37.0**	**+1.4**
KSRS	**Korea Array** 0.8nm,0.5s,baz=169,slow=8.1,SNR=4.1	**37.63**	**4**	P	**P**	**23 20 37.0**	**+1.3**
MAJO	**Matsushiro** 6.0nm,0.8s	**38.72**	**18**	*e*P	**P**	**23 20 44.9**	**-0.1**
MJAR	**Matsushiro Arr** 4.1nm,0.8s,baz=195,slow=8.9,SNR=15	**38.72**	**18**	P	**P**	**23 20 44.9**	**-0.1**
HHC	**Hu-ho-hao-te**	**42.58**	**345**	*e*P	P	23 21 21.3	+4.4
HHC				PP	**PcP**	**23 23 03.9**	**-4.4**
HHC				S	**S**	**23 27 40.5**	**+5.1**
HHC				sS	sS	23 28 06.9	+5.6
HHC				SS	**SS**	**23 30 46.6**	**-0.7**
HHC	18nm,1.0s			PMZ			
HHC	42nm,6.2s			PMZ			
HHC	260nm,19.2s			LN			
HHC	380nm,17.3s			LE			
HHC	280nm,19.7s			LZ			
USRK	**Ussuriysk Ar.** 2.0nm,0.4s,baz=188,slow=7.2,SNR=8.4	**44.73**	**8**	P	**P**	**23 21 34.7**	**+0.7**
SONM	**Songino Array** 2.5nm,0.8s,baz=157,slow=9.1,SNR=21	**50.43**	**344**	P	**P**	**23 22 19.3**	**+1.0**
MK31	**Makanchi Array** baz=60,SNR=4.5	**59.66**	**328**	P	**P**	**23 23 25.4**	**+0.6**
MKAR	**Makanchi Array** 1.7nm,0.5s,baz=139,slow=5.2,SNR=24	**59.66**	**328**	P	**P**	**23 23 23.4**	**-1.4**
MKAR	0.7nm,0.7s,baz=151,slow=2.8,SNR=4.8			PcP	**PcP**	**23 24 10.4**	**-0.9**
PETK	**Petropavlovsk-** 2.8nm,0.6s,baz=223,slow=9.8,SNR=3.8	**59.88**	**22**	P	**P**	**23 23 25.4**	**-0.8**
ZALV	**Zalesovo Beam** 0.6nm,0.4s,baz=152,slow=6.7,SNR=4.7	**63.20**	**335**	P	**P**	**23 23 48.0**	**-0.5**
ARCES	**ARCESS Array B** 0.6nm,0.8s,baz=101,slow=6.3,SNR=5.3	**93.41**	**340**	P	**P**	**23 26 34.1**	**-1.0**
FINES	**FINESS Array B** 1.2nm,0.9s,baz=104,slow=8.0,SNR=3.7	**94.29**	**332**	P	**P**	**23 26 36.5**	**-2.7**
TORD	**Torodi Ar. Bea** 0.5nm,0.9s,baz=121,slow=1.4,SNR=3.1	**122.01**	**285**	PKP	**PKPdf**	**23 32 14.2**	**-1.3**

*CSEM **17** 23:26:27.1±0.7, 46.°49N×15.°05E, h1km, ML0.8, Error ellipse: s-maj=13.7km s-min=10.3km az=130.0, Suspected Mining induced.*

VIE 17 23:26:25.4±0.4, 46.°39N×15.°11E, h0km, mb0.8/2, ML0.8/3, 5C-1D, Error ellipse: s-maj=2.6km s-min=1.6km az=0.0 21 km NNW of Celje Suspected Mining induced., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOKA	**Soboth**	**0.29**	**349**	⇑*i*Pg	Pg	23 26 30.9	-0.3
SOKA				⇓*i*Sg	Sg	23 26 35.7	+0.4
SOKA	6.9nm,0.5s **Soboth**	**0.29**	**349**	Pg	Pg	23 26 30.9	-0.4
SOKA				Sg	Sg	23 26 35.7	+0.5
OBKA	6.9nm,0.5s **Obir**	**0.41**	**287**	⇑*i*Pg	Pg	23 26 33.5	+0.1
OBKA				⇑*i*Sg	Sg	23 26 39.2	+0.3
OBKA	8.3nm,0.5s **Obir**	**0.41**	**287**	Pg	Pg	23 26 33.5	0.0
OBKA				Sg	Sg	23 26 39.2	+0.3
ARSA	8.3nm,0.5s **Arzberg**	**0.91**	**18**	⇑*i*Pg	Pg	23 26 42.1	-0.9
ARSA				⇑*i*Sg	Sg	23 26 55.3	+0.6
ARSA	1.7nm,0.4s **Arzberg**	**0.91**	**18**	Pg	Pg	23 26 42.1	-0.8
ARSA	1.7nm,0.4s			Sg	Sg	23 26 55.3	+0.6

JMA 17 23:36:12.3±0.2, 28.°79N×128.°53E, h24km±4km, M2.0, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.69**	**58**	P	Pb	23 36 25.4	-0.3
JTAJ				S	Sb	23 36 34.3	-0.6
JAMN	**Amaminishikomi**	**0.79**	**134**	P	Pb	23 36 27.1	-0.2
JAMN				S	Sb	23 36 37.5	-0.1
JAM	**Amami Oshima**	**1.02**	**111**	P	Pn	23 36 31.0	-0.1
JAM				S	Sb	23 36 44.0	-0.2
JTK	**Tokunoshima**	**1.07**	**160**	P	Pn	23 36 31.3	-0.5
JTK				*e*S	Sb	23 36 45.3	-0.3

*NIED **17** 23:36:00, 28.°80N×128.°50E, h5km, Mw4.1 Best double couple: M0 1.49000×10^15 NP1:φs126.00000°, δ89.00000°, λ0.00000°. NP2:φs216.00000°, δ90.00000°, λ-179.00000°.*

*IDC **17** 23:36:43.8±1.1, 28.°70N×128.°67E, h0km, mb3.6/8, mb1 3.8/9, mb1mx3.7/34, mbtmp3.6/9, ML2.6/1, MS3.2/10, Ms1 3.2/10, ms1mx3.0/30, Error ellipse: s-maj=35.4km s-min=24.0km az=64.0*

*ISCJB **17** 23:36:44.3±1.5, 28.°77N±0.°03×128.°52E±0.°05, h9km±10km, mb3.6/8, MS3.3/5, Error ellipse: s-maj=8.3km s-min=5.2km az=164.5*

*JMA **17** 23:36:44.8±0.3, 28.°76N×128.°53E, h10km±4km, M4.0*

JMA Felt I J1.

ISC 17 23:36:45.2±1.8, 28.°72N±0.°04×128.°59E±0.°08, h8km±12km, n28, σ0.°49/24, mb3.6/8, MS3.3/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.69**	**51**	P	**Pg**	**23 36 58.4**	**-0.1**
JTAJ				*e*S	**Sg**	**23 37 07.5**	**0.0**
JAMN	**Amaminishikomi**	**0.70**	**133**	P	**Pb**	**23 36 59.7**	**+0.1**
JAMN				*e*S	**Sb**	**23 37 09.6**	**+0.2**
JAM	**Amami Oshima**	**0.94**	**109**	P	**Pb**	**23 37 03.6**	**-0.2**
JAM				*e*S	**Sb**	**23 37 16.8**	**+0.4**
JTK	**Tokunoshima**	**0.98**	**161**	P	**Pg**	**23 37 04.0**	**-0.1**
JTK				*e*S	**Sb**	**23 37 18.4**	**+0.8**
JZK	**Kikaishima**	**1.28**	**108**	P	**Pg**	**23 37 10.2**	**+0.4**
JOKE	**Okinoerabujima**	**1.35**	**181**	P	**Pn**	**23 37 09.7**	**-0.7**
JOKE				*e*S	**Sn**	**23 37 28.8**	**+0.3**
JNN	**Nakanoshima**	**1.58**	**45**	P	**Pn**	**23 37 13.6**	**0.0**
JIH	**Iheya**	**1.77**	**198**	P	**Pn**	**23 37 15.9**	**-0.2**
JOW	**Kunigami**	**1.90**	**189**	P	**Pn**	**23 37 17.3**	**-0.7**
JYAK	**Yakushimahirau**	**2.26**	**47**	P	**Pn**	**23 37 22.1**	**-0.8**
JNU	**Nakatsue** 1.7nm,0.3s,baz=170,slow=5.9,SNR=11	**4.81**	**24**	Pn	Pn	23 38 01.4	+3.3
JNU				LR	LR	23 40 01.4	
KSRS	comp=Z,251nm,18.8s,baz=211,slow=41 **Korea Array** 0.1nm,0.3s,baz=178,slow=15,SNR=6.4	**8.73**	**356**	Pn	**Pn**	**23 38 52.4**	**+0.6**
KSRS				Lg	Lg	23 41 24.5	
KSRS	0.3nm,0.3s,baz=188,slow=30,SNR=2.8			LR	LR	23 42 19.7	
MJAR	comp=Z,148nm,19.9s,baz=175,slow=38 **Matsushiro Arr** 0.4nm,0.3s,baz=241,slow=15,SNR=2.6	**11.24**	**44**	Pn	Pn	23 39 31.3	+5.0
MJAR				LR	LR	23 43 40.6	
JCJ	comp=Z,74nm,19.4s,baz=235,slow=37 **Chichijima** comp=Z,58nm,18.3s,baz=106,slow=38	**12.13**	**94**	LR	LR	23 44 17.0	
USRK	**Ussuriysk Ar.** comp=Z,60nm,20.4s,baz=151,slow=36	**15.69**	**9**	LR	LR	23 46 15.7	
SONM	**Songino Array** 0.3nm,0.6s,baz=139,slow=9.2,SNR=3.3	**25.69**	**324**	P	**P**	**23 42 16.6**	**+0.7**
PETK	**Petropavlovsk-** comp=Z,16nm,18.4s,baz=225,slow=40	**32.43**	**33**	LR	LR	23 58 25.7	
YAK	**Yakutsk** comp=Z,38nm,18.4s,baz=260,slow=37	**33.32**	**1**	LR	LR	23 57 04.9	
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=95,slow=6.6,SNR=6.8	**40.16**	**310**	P	**P**	**23 44 21.6**	**-0.2**
ZALV	**Zalesovo Beam** 0.7nm,0.5s,baz=109,slow=9.6,SNR=3.9	**40.50**	**321**	P	**P**	**23 44 24.0**	**-0.5**
BVAR	**Borovoye Array** 1.7nm,0.6s,baz=99,slow=9.1,SNR=5.6	**48.66**	**317**	P	**P**	**23 45 30.4**	**+0.7**
WRA	**Warramunga Arr** 1.4nm,0.7s,baz=351,slow=8.2,SNR=6.9	**48.69**	**173**	P	**P**	**23 45 29.8**	**-0.4**
ILAR	**Eielson Array** 0.3nm,0.6s,baz=287,slow=8.3,SNR=4.8	**62.11**	**29**	P	**P**	**23 47 06.0**	**-0.4**
ARCES	**ARCESS Array B** comp=Z,32nm,18.0s,baz=156,slow=40	**67.82**	**338**	LR	LR	00 21 38.0	
FINES	**FINESS Array B** 1.5nm,1.0s,baz=134,slow=11,SNR=3.8	**70.87**	**330**	P	**P**	**23 48 02.4**	**-0.1**
YKA	**Yellowknife Ar** 0.1nm,0.4s,baz=306,slow=6.2,SNR=2.7	**76.14**	**25**	P	**P**	**23 48 33.2**	**-0.3**
NOA	**NORSAR Array B** comp=Z,13nm,19.4s,baz=100,slow=40	**77.23**	**334**	LR	LR	00 27 34.8	
SCHQ	**Schefferville** comp=Z,23nm,20.6s,baz=128,slow=37	**95.74**	**9**	LR	LR	00 35 50.5	

*UPP **17** 23:39:42.9, 67.°84N×20.°20E, h0km, ML1.8, Mining explosion.*

*HEL **17** 23:39:43.5±0.1, 67.°85N×20.°18E, h0km, ML1.7, ML1.8(UPP), Explosion*

CSEM 17 23:39:42.9, 67.°84N×20.°20E, h0km, ML1.8, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**23**	*i*P	Pg	23 39 45.7	+0.2
KUA				*i*S	Sg	23 39 47.5	+0.4
KUA	**Kurravaara**	**0.13**	**23**	P	Pg	23 39 45.7	+0.3
KUA				S	Sg	23 39 47.5	+0.4
KUA	**Kurravaara**	**0.13**	**23**	P	Pg	23 39 45.6	+0.2
KUA				S	Sg	23 39 47.5	+0.4
KUA	**Kurravaara**	**0.13**	**23**	P	Pg	23 39 45.7	+0.2
KUA				S	Sg	23 39 47.5	+0.4
NIKU	**Nikkaluokta**	**0.44**	**275**	P	Pg	23 39 48.9	-2.5
LANU	**Lannavaara** baz=257	**0.71**	**72**	*e*P	Pg	23 39 56.2	-0.3
LANU				*e*S	Sg	23 40 06.1	+0.4
LANU	**Lannavaara**	**0.71**	**72**	P	Pg	23 39 56.3	-0.2
LANU	**Lannavaara**	**0.71**	**72**	P	Pg	23 39 54.0	-2.5
LANU				S	Sg	23 40 06.1	+0.4
LANU	**Lannavaara**	**0.71**	**72**	P	Pg	23 39 56.3	-0.2
SALU	**Saltoluokta**	**0.79**	**236**	*i*P	Pg	23 39 57.9	-0.3
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	23 39 57.9	-0.3
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	23 39 55.5	-2.7
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	23 39 57.9	-0.3
KIF	**Kilpisjarvi** baz=193	**1.20**	**10**	*e*P	Pg	23 40 04.7	-1.1
KIF				*e*SB	Sb	23 40 22.0	-0.3
KIF	**Kilpisjarvi**	**1.20**	**10**	P	Pg	23 40 04.7	-1.1
KIF				Sb	Sb	23 40 22.0	-0.3
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pn	23 40 08.2	-1.4
PAJU				*e*S	Sg	23 40 26.3	-1.3
PAJU	**Pajala**	**1.39**	**125**	P	Pn	23 40 08.2	-1.3
PAJU				S	Sg	23 40 26.3	-1.3
PAJU	**Pajala**	**1.39**	**125**	P	Pn	23 40 08.1	-1.4
PAJU				S	Sg	23 40 26.2	-1.4
PAJU	**Pajala**	**1.39**	**125**	P	Pn	23 40 08.2	-1.4
PAJU				S	Sg	23 40 26.3	-1.3
HEF	**Hetta** baz=245	**1.42**	**64**	*e*P	Pn	23 40 06.4	-3.5
HEF				MSG		23 40 26.9	
HEF	comp=Z,5.3nm,0.2s			*e*SB	Sg	23 40 27.6	-0.9
HEF	**Hetta**	**1.42**	**64**	P	Pn	23 40 06.4	-3.5
HEF				Sb	Sg	23 40 27.6	-0.9
ERTU	**Ertsjaerv** baz=331	**1.50**	**148**	*e*PG	Pn	23 40 10.8	-0.2
ERTU				*e*SB	Sg	23 40 30.9	-0.2
ERTU	**Ertsjaerv**	**1.50**	**148**	P	Pn	23 40 10.3	-0.8
ERTU				S	Sg	23 40 30.8	-0.4
ERTU	**Ertsjaerv**	**1.50**	**148**	Pg	Pn	23 40 10.8	-0.3
ERTU				Sb	Sg	23 40 30.9	-0.3

λ-7.00000°. NP2:φ₅217.00000°, δ84.00000°, λ-169.00000°.

JMA 17 23:46:12.3±0.3, 28.77N×128.53E, h12km±4km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.70**	**57**	P	Pg	23 46 25.8	-0.1
JTAJ				eS	Sg	23 46 34.8	-0.4
JAMN	**Amaminishikomi**	**0.77**	**133**	P	Pg	23 46 27.2	-0.1
JAMN				eS	Sg	23 46 37.6	+0.2
JAM	**Amami Oshima**	**1.01**	**110**	P	Pb	23 46 31.1	-0.6
JAM				eS	Sg	23 46 43.7	-1.3
JTK	**Tokunoshima**	**1.05**	**159**	P	Pb	23 46 31.5	-0.9
JTK				eS	Sb	23 46 45.6	-0.5
JZK	**Kikaishima**	**1.35**	**109**	P	Pb	23 46 37.5	0.0
JOKE	**Okinoerabujima**	**1.40**	**179**	P	Pn	23 46 37.0	-0.7
JNN	**Nakanoshima**	**1.59**	**47**	P	Pb	23 46 41.3	-0.3
JIH	**Iheya**	**1.80**	**196**	P	Pn	23 46 43.5	+0.4
JOW	**Kunigami**	**1.94**	**187**	P	Pn	23 46 45.0	-0.2

SKHL ***17*** *23:54:25.4±4.9, 48.37N×154.45E, h130km±5km, mb4.5/3, msh5.2/1*

ISCJB ***17*** *23:54:28.7±0.7, 48.65N±0.10×154.1E±0.2, h150km, mb3.5/9, Error ellipse: s-maj=19.3km s-min=4.3km az=44.7*

KRSC ***17*** *23:54:29.3±2.0, 48.30N×155.49E, h160km±40km, ML4.4*

MOS ***17*** *23:54:29.0±1.1, 48.98N×153.62E, h154km, mb3.9/4, Error ellipse: s-maj=25.4km s-min=8.8km az=60.2*

IDC ***17*** *23:54:32.1±2.4, 49.01N×153.56E, h164km±22km, mb3.3/9, mb1 3.4/11, mb1mx3.2/33, mbtmp3.7/11, MS3.0/1, Ms1 3.0/1, ms1mx2.3/19, Error ellipse: s-maj=31.6km s-min=13.4km az=157.0*

ISC 17 23:54:29.3±0.8, 48.7N±0.1×153.96E±0.09, h150km, n67, σ2s05/69, mb3.5/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.42**	**35**	*e*P	**Pn**	**23 55 11.0**	**+1.7**
SKR				eS	**Sn**	**23 55 42.4**	**+2.2**
SKR	**Severo-Kuril's**	**2.42**	**35**	*e*PN	**Pn**	**23 55 06.9**	**-2.4**
SKR				eS	**Sn**	**23 55 38.0**	**-2.2**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax	smax		
	comp=N,190nm,0.5s						
SKR				smax	smax		
	comp=E,230nm,0.5s						
SKR	**Severo-Kuril's**	**2.42**	**35**	*e*P	**Pn**	**23 55 06.9**	**-2.4**
SKR				AMB	AMB	23 55 07.5	
	comp=E,80nm,0.5s						
SKR				eS	**Sn**	**23 55 38.0**	**-2.2**
SKR				A	A	23 55 43.5	
	comp=E,190nm,0.5s						
SKR				A	A	23 55 43.5	
	comp=E,230nm,0.5s						
PAU	**Pauzhetka**	**3.31**	**33**	*e*P	**Pn**	**23 55 21.8**	**+1.3**
PAU				eS	**Sn**	**23 56 01.2**	**+1.0**
PAU	**Pauzhetka**	**3.31**	**33**	PN	**Pn**	**23 55 21.8**	**+1.3**
PAU				S	**Sn**	**23 56 01.2**	**+1.0**
MIPR	**Malaya Ipel'ka**	**3.99**	**26**	*e*P	**Pn**	**23 55 30.8**	**+1.5**
ASAK	**Asacha**	**4.45**	**33**	*e*P	**Pn**	**23 55 36.7**	**+1.3**
ASAK				eS	**Sn**	**23 56 26.1**	**-0.8**
MTVR	**Mutnovka**	**4.63**	**34**	*e*P	**Pn**	**23 55 39.4**	**+1.5**
MTVR				eS	**Sn**	**23 56 30.9**	**-0.4**
APC	**Apacha**	**4.68**	**24**	*e*P	**Pn**	**23 55 40.3**	**+2.0**
RUS	**Russkaya**	**4.72**	**36**	*e*P	**Pn**	**23 55 38.8**	**0.0**
RUS				eS	**Sn**	**23 56 29.7**	**-3.4**
RUS	**Russkaya**	**4.72**	**36**	PN	**Pn**	**23 55 38.8**	**0.0**
RUS				S	**Sn**	**23 56 29.7**	**-3.4**
RUS	**Russkaya**	**4.72**	**36**	*e*P	**Pn**	**23 55 38.8**	**0.0**
RUS				eS	**Sn**	**23 56 29.7**	**-3.4**
PETK	**Petropavlovsk-** comp=E,0.5nm,0.3s,baz=176,slow=13,SNR=12	**4.99**	**27**	P	**Pn**	**23 55 44.2**	**+1.7**
PETK				S	Sn	23 56 52.0	+12
	baz=239,slow=13,SNR=2.7						
PET	**Petropavlovsk**	**5.24**	**33**	*e*S	**Sn**	**23 56 45.1**	**-0.3**
KUR	**Kuril'sk**	**5.43**	**232**	*e*S	**Sn**	**23 56 46.0**	**-4.1**
UGLR	**Uglovaya**	**5.45**	**32**	*e*P	**Pn**	**23 55 50.2**	**+1.6**
KOK	**Koryaka**	**5.45**	**31**	*e*P	**Pn**	**23 55 50.5**	**+1.9**
AVH	**Avacha**	**5.46**	**32**	*e*P	**Pn**	**23 55 50.8**	**+2.0**
AVH				eS	**Sn**	**23 56 51.2**	**+0.3**
SMAR	**Somma**	**5.48**	**32**	*e*P	**Pn**	**23 55 50.6**	**+1.4**
KRER	**Koryakskii**	**5.50**	**32**	*e*P	**Pn**	**23 55 51.1**	**+1.7**
KRER				eS	**Sn**	**23 56 51.6**	**-0.3**
KRX	**Arik**	**5.51**	**31**	*e*P	**Pn**	**23 55 51.5**	**+2.0**
SDLR	**Sedlovina**	**5.53**	**32**	*e*P	**Pn**	**23 55 50.7**	**+1.1**
GNL	**Ganaly**	**5.58**	**25**	*e*P	**Pn**	**23 55 52.2**	**+1.8**
NLC	**Nalytchevo**	**5.61**	**35**	*e*P	**Pn**	**23 55 50.1**	**-0.5**
NLC				eS	**Sn**	**23 56 49.3**	**-4.9**
NLC	**Nalytchevo**	**5.61**	**35**	PN	**Pn**	**23 55 50.1**	**-0.5**
NLC				S	**Sn**	**23 56 49.3**	**-4.9**
NLC	**Nalytchevo**	**5.61**	**35**	*e*P	**Pn**	**23 55 50.1**	**-0.5**
SPN	**Mys Shipunski**	**5.83**	**39**	*e*P	**Pn**	**23 55 53.3**	**-0.2**
SPN				eS	**Sn**	**23 56 53.6**	**-5.8**
SPN	**Mys Shipunski**	**5.83**	**39**	PN	**Pn**	**23 55 53.3**	**-0.2**
SPN				S	**Sn**	**23 56 53.6**	**-5.8**
SPN	**Mys Shipunski**	**5.83**	**39**	*e*P	**Pn**	**23 55 53.3**	**-0.2**
MKZ	**Mys Kozlova**	**7.58**	**37**	*e*P	**Pn**	**23 56 15.6**	**-1.3**
MKZ	**Mys Kozlova**	**7.58**	**37**	PN	**Pn**	**23 56 15.6**	**-1.3**
MKZ	**Mys Kozlova**	**7.58**	**37**	*e*P	**Pn**	**23 56 15.6**	**-1.3**
TUMR	**Tumrok**	**7.60**	**28**	*e*P	**Pn**	**23 56 19.3**	**+2.0**
TYV	**Tymovskoe**	**7.63**	**291**	*e*P	Pn	23 56 21.0	+3.4
TYV				AMB	AMB	23 56 21.6	
	comp=E,10.0nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.75**	**261**	*e*P	Pn	23 56 24.3	+5.1
YSS				AMB	AMB	23 56 25.0	
	comp=E,20nm,0.4s						
JKA	**Kamikawa-asahi**	**9.10**	**244**	*e*P	**Pn**	**23 56 37.7**	**+0.5**
ASAJ	**Asahikawa** comp=E,0.8nm,0.3s,baz=72,slow=13,SNR=7.2	**9.10**	**244**	P	**Pn**	**23 56 37.7**	**+0.5**
ASAJ	**Asahikawa**	**9.10**	**244**	PN	**Pn**	**23 56 37.7**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KBTR	**Krutoberegovo**	**9.24**	**32**	*e*P	**Pn**	**23 56 37.6**	**-1.4**
KBTR	**Krutoberegovo**	**9.24**	**32**	PN	**Pn**	**23 56 37.6**	**-1.4**
BKI	**Bering**	**9.85**	**44**	eS	Sn	23 58 24.4	-12
EKMR	**Ekimchan**	**13.95**	**296**	*e*P	**P**	**23 57 45.6**	**+2.0**
EKMR				AMB	AMB	23 57 46.0	
	comp=Z,3.0nm,0.6s						
MJAR	**Matsushiro Arr** comp=Z,0.3nm,0.3s,baz=23,slow=13,SNR=4.0	**16.76**	**229**	P	**P**	**23 58 14.0**	**-0.9**
MJAR	**Matsushiro Arr**	**16.76**	**229**	P	**P**	**23 58 14.0**	**-0.9**
MJAR	**Matsushiro Arr**	**16.76**	**229**	*e*P	**P**	**23 58 14.0**	**-0.9**
YAK	**Yakutsk** comp=Z,43nm,18.1s,baz=23,slow=40	**19.03**	**324**	LR	LR	00 07 03.9	
KSRS	**Korea Array** comp=Z,0.9nm,0.5s,baz=52,slow=9.1,SNR=3.6	**21.99**	**249**	P	**P**	**23 59 12.2**	**+1.0**
H11N2	**WAKE ISLAND Hy 30.74** baz=344,slow=76,SNR=3.6	**156**		T	T	00 32 47.6	
H11N1	**WAKE ISLAND Hy 30.75** baz=344,slow=76,SNR=14	**156**		T	T	00 32 50.1	
H11N3	**WAKE ISLAND Hy 30.75** baz=344,slow=76,SNR=4.3	**156**		T	T	00 32 48.8	
SONM	**Songino Array** comp=Z,0.2nm,0.4s,baz=97,slow=7.4,SNR=2.9	**31.27**	**287**	P	**P**	**00 00 33.4**	**-1.5**
H11S1	**WAKE ISLAND Hy 31.85** baz=344,slow=76,SNR=45	**157**		T	T	00 34 14.2	
H11S3	**WAKE ISLAND Hy 31.86** baz=344,slow=76,SNR=74	**157**		T	T	00 34 10.6	
H11S2	**WAKE ISLAND Hy 31.87** baz=344,slow=76,SNR=42	**157**		T	T	00 34 12.3	
ZALV	**Zalesovo Beam** comp=Z,1.0nm,0.5s,baz=62,slow=6.9,SNR=5.2	**41.95**	**304**	P	P	00 02 02.1	-2.8
ZALV	**Zalesovo Beam**	**41.95**	**304**	P	P	00 02 02.1	-2.8
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array** comp=Z,2.1nm,0.7s,baz=50,slow=4.5,SNR=26	**46.57**	**296**	P	**P**	**00 02 40.4**	**-1.4**
MKAR	**Makanchi Array**	**46.57**	**296**	P	**P**	**00 02 40.4**	**-1.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.6s,baz=300,slow=7.8,SNR=3.1	**49.01**	**38**	P	**P**	**00 03 01.3**	**+1.1**
CMAR	**Chiang Mai Arr** comp=Z,0.6nm,0.3s,baz=32,slow=6.9,SNR=4.6	**53.40**	**256**	P	**P**	**00 03 34.1**	**+0.6**
CMAR	**Chiang Mai Arr**	**53.40**	**256**	P	**P**	**00 03 34.1**	**+0.6**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES	**FINESS Array B** comp=Z,0.9nm,0.9s,baz=50,slow=4.3,SNR=6.8	**62.51**	**335**	P	**P**	**00 04 35.1**	**-1.2**
FINES	**FINESS Array B**	**62.51**	**335**	P	**P**	**00 04 35.1**	**-1.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
PDAR	**Pinedale Array** comp=Z,0.4nm,0.6s,baz=358,slow=2.8,SNR=3.5	**63.14**	**55**	P	**P**	**00 04 42.9**	**+1.7**
MOS	**Moscow**	**63.15**	**325**	*e*P	P	00 04 47.9	+7.3
MOS	**Moscow**	**63.15**	**325**	*e*P	P	00 04 47.9	+7.3
TXAR	**Lajitas Array** comp=Z,0.4nm,0.6s,baz=303,slow=5.0,SNR=3.0	**76.04**	**62**	P	**P**	**00 06 01.5**	**+1.3**

DJA 18 00:11:55.2±0.8, 8.8S±5.5×107.7E±, h16km±7km, M3.7/2, MLv3.7/2, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.75**	**36**	P	Pg	00 12 09.7	-0.3
CISI				S	Sg	00 12 19.3	-0.8
CNJI	**Cibinong**	**0.89**	**344**	P	Pb	00 12 11.5	-0.8
CNJI				S	Sb	00 12 22.8	-1.1
CMJI	**Cimerak**	**1.14**	**70**	P	Pn	00 12 15.1	-1.3
CMJI				S	Sb	00 12 29.7	-1.3
LEM	**Lembang**	**1.36**	**10**	P	Pn	00 12 19.0	-0.7
LEM				S	Sn	00 12 37.6	0.0
SKJI	**Sukabumi**	**1.41**	**325**	P	Pn	00 12 19.2	-1.1
CGJI	**Cibinong**	**2.27**	**313**	P	Pn	00 12 30.8	-1.3
SBJI	**Serang**	**2.38**	**329**	P	Pn	00 12 33.7	+0.1
UGM	**Wanagama**	**3.13**	**86**	P	Pn	00 12 43.8	-0.2
PCJI	**Pacitan**	**3.77**	**91**	P	Pn	00 12 53.0	+0.3

TRN 18 00:32:56.8, 16.89N×61.15W, h26km, MD3.4, M3.6(FDF), 2C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEG	**La Desirade**	**0.58**	**172**	*e*P	Pn	00 33 09.1	-0.4
DEG				eS	Sn	00 33 17.7	-0.5
SEG	**Port Louis**	**0.59**	**215**	*i*P	Pn	00 33 10.8	+1.2
BPA	**Boggy Peak**	**0.70**	**283**	*e*P	Pn	00 33 12.4	+1.3
BPA				eS	Sn	00 33 24.1	+3.0
SSG	**Sans Toucher**	**0.94**	**213**	*e*P	Pb	00 33 16.0	+1.3
LZG	**Guadaloupe-1**	**0.96**	**219**	*e*P	Pb	00 33 16.0	+1.3
CRG	**Carmichael**	**0.96**	**211**	*e*P	Pb	00 33 16.3	+1.2
DOG	**Dongo Capester**	**0.96**	**208**	*e*P	Pb	00 33 16.3	+1.3
ECG	**Echelle**	**0.97**	**210**	*e*P	Pb	00 33 16.4	+1.2
FNG	**Fond-Bernard**	**0.97**	**212**	*e*P	Pb	00 33 16.2	+1.1
LKG	**Breislack**	**0.97**	**210**	*e*P	Pb	00 33 16.5	+1.3
LKG				eS	Sn	00 33 30.0	+1.8
TAG	**Tarade**	**0.98**	**211**	*e*P	Pb	00 33 16.6	+1.3
MGG	**Marie-Galante**	**0.98**	**190**	*e*P	Pb	00 33 15.9	+0.8
MLG	**Mont-d'or**	**0.98**	**213**	*e*P	Pb	00 33 16.7	+1.4
ANWB	**Willy Bob**	**0.99**	**322**	*e*P	Pb	00 33 16.6	+1.3
ANWB				eS	Sn	00 33 30.4	+2.3
PHG	**Guadaloupe-2**	**0.99**	**209**	*e*P	Pb	00 33 16.8	+1.3
SCG	**Saint Claude**	**1.00**	**211**	*e*P	Pb	00 33 16.8	+1.3
HMG	**Houelmont**	**1.04**	**211**	*e*P	Pb	00 33 17.7	+1.4
TBG	**Guadaloupe-3**	**1.14**	**205**	*i*P	Pb	00 33 18.9	+1.1
BBL	**Barber's Block**	**1.39**	**193**	*e*P	Pb	00 33 22.1	-0.1

SJA ***18*** *00:32:37.2±0.5, 37.20S×75.90W, h40km, ML3.9*

GUC ***18*** *00:33:05.2±0.4, 36.20S×73.55W, h36km±3km, ML4.2*

ISC 18 00:33:06.3±2.2, 36.28S±0.07×73.6W±0.1, h27km, n16, σ0s85/21, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.66**	**78**	*e*P	**Pb**	**00 33 17.8**	**-1.4**
COCH				eS	**Sb**	**00 33 27.3**	**-0.6**
CCSP	**San Pedro de C**	**0.68**	**146**	*e*P	**Pb**	**00 33 19.4**	**-0.3**
CCSP				eS	**Sn**	**00 33 30.7**	**+0.7**
LNCH	**Linares**	**1.66**	**76**	*e*P	**Pn**	**00 33 33.4**	**-0.3**
LNCH				eS	**Sn**	**00 33 55.1**	**+1.0**
LNCH				AML	AML	00 34 03.7	
	comp=N,4μm,0.6s						
TALC	**Talca**	**1.81**	**62**	*e*P	**Pn**	**00 33 35.3**	**-0.4**
TALC				eS	**Sn**	**00 33 58.6**	**+0.8**
LNV	**Longovilo**	**2.92**	**38**	*e*P	**Pn**	**00 33 50.8**	**-0.1**
CHCH	**Chadas Angostu**	**3.35**	**47**	*e*P	**Pn**	**00 33 56.9**	**-0.1**
CLCH	**Cerro Calan**	**3.81**	**42**	*e*P	**Pn**	**00 34 03.0**	**-0.3**
CLCH				AML	AML	00 35 08.7	
	comp=N,369nm,0.9s						
AAGR	**Agrelo**	**5.05**	**52**	*e*P	**Pn**	**00 34 20.8**	**+0.5**
ARCO	**CERRO ARCO**	**5.14**	**50**	*e*P	**Pn**	**00 34 22.6**	**+1.0**
ARCO				AML	AML	00 35 55.4	
	comp=Z,20nm,0.8s						
AUSP	**Uspallata**	**5.33**	**42**	*e*P	**Pn**	**00 34 24.7**	**+0.3**
AUSP				eS	**Sb**	**00 35 44.1**	**+1.6**
ASAL	**Salagasta**	**5.38**	**48**	*e*P	**Pn**	**00 34 26.1**	**+1.3**
RTLS	**Leoncito**	**5.71**	**40**	*e*P	**Pn**	**00 34 29.9**	**+0.3**
RTCV	**Cerro Valdivia**	**6.07**	**45**	*e*P	**Pn**	**00 34 34.2**	**-0.1**
CFAA	**Coronel Fontan**	**6.44**	**45**	*e*P	**Pn**	**00 34 39.0**	**-0.4**
RTLL	**Cerro Villicun**	**6.51**	**42**	*e*P	**Pn**	**00 34 39.5**	**-0.8**
AMOG	**MOGNA**	**6.81**	**40**	*e*P	**Pn**	**00 34 43.2**	**-1.3**

NIED ***18*** *00:36:00, 38.90N×141.60E, h77km, Mw3.7 Best double couple: M₀4.25000×10¹⁴ NP1:φ₅67.00000°, δ37.00000°, λ153.00000°. NP2:φ₅179.00000°, δ74.00000°, λ56.00000°.*

ISCJB ***18*** *00:36:37.9±0.5, 38.85N±0.03×141.66E±0.07, h78km±3km, mb3.7/9, Error ellipse: s-maj=9.2km s-min=4.8km az=17.9*

IDC ***18*** *00:36:39.8±2.6, 38.85N×141.55E, h80km±25km, mb3.5/9, mb1 3.6/11, mb1mx3.5/37, mbtmp3.8/11, MS1.9/1, Ms1 1.9/1, ms1mx1.8/24, Error ellipse: s-maj=22.1km s-min=17.7km az=139.0*

JMA ***18*** *00:36:39.1, 38.85N×141.61E, h73km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φ₅342.00000°, δ84.00000°, λ-44.00000°. NP2:φ₅78.00000°, δ46.00000°, λ-172.00000°. Principal axes: T Plg25.0000°, Azm38.0000°; N Plg46.0000°, Azm156.0000°; P Plg34.0000°, Azm290.0000°;*

JMA Felt I J1.

ISC 18 00:36:38.5±0.7, 38.86N±0.04×141.70E±0.06, h71km±5km, n31, σ0s85/41, mb3.8/9, 9C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.23**	**355**	↑P	**Pn**	**00 36 50.2**	**+0.8**
OFUJ				S	**Sn**	**00 36 58.4**	**+1.0**
JMK	**Ichinoseki**	**0.38**	**285**	↑P	**Pn**	**00 36 50.6**	**+0.2**
JMK				S	**Sn**	**00 36 58.9**	**-0.3**
JIO	**Ouri**	**0.48**	**214**	↑P	**Pn**	**00 36 51.7**	**+0.4**
JIO				S	**Sn**	**00 37 00.7**	**0.0**
JOM	**Ohasama**	**0.69**	**333**	↑P	**Pn**	**00 36 53.9**	**+0.5**
JOM				S	**Sn**	**00 37 04.7**	**+0.2**
JOU	**Okura**	**0.94**	**239**	↑P	**Pn**	**00 36 56.5**	**+0.1**
JOU				S	**Sn**	**00 37 09.7**	**0.0**
JRG	**Rokugo**	**0.99**	**303**	↓P	**Pn**	**00 36 57.1**	**+0.2**
JRG				eS	**Sn**	**00 37 10.4**	**-0.2**
JYK	**Kaneyama**	**1.04**	**274**	↑P	**Pn**	**00 36 57.6**	**0.0**
JYK				eS	**Sn**	**00 37 11.6**	**-0.3**
JMM	**Marumori**	**1.22**	**216**	↑P	**Pn**	**00 36 59.5**	**-0.3**
JMM				S	**Sn**	**00 37 15.1**	**-0.7**
JANG	**Nango**	**1.52**	**355**	↑P	**Pn**	**00 37 03.9**	**+0.1**
JANG				S	**Sn**	**00 37 22.8**	**-0.1**
JAH	**Hinai**	**1.56**	**329**	↓P	**Pn**	**00 37 05.1**	**+0.8**
JAH				eS	**Sn**	**00 37 24.6**	**+0.7**
JYA	**Atsumi**	**1.57**	**261**	P	**Pn**	**00 37 04.3**	**-0.2**
JYA				S	**Sn**	**00 37 23.9**	**-0.2**
JFK	**Kawauchi**	**1.62**	**204**	↑P	**Pn**	**00 37 05.2**	**0.0**
JFK				S	**Sn**	**00 37 25.0**	**-0.3**
MJAR	**Matsushiro Arr** 3.4nm,0.3s,baz=37,slow=11,SNR=40	**3.60**	**231**	P	**Pn**	**00 37 33.5**	**+1.6**
MJAR				LR	LR	00 38 59.1	
	comp=Z,18nm,20.7s,baz=260,slow=40						
MAT	**Matsushiro**	**3.60**	**231**	P	**Pn**	**00 37 33.0**	**+1.0**
MAT				S	**Sn**	**00 38 14.3**	**+1.0**
ASAJ	**Asahikawa** 2.7nm,0.3s,baz=236,slow=8.5,SNR=11	**5.30**	**7**	P	**Pn**	**00 37 54.8**	**-0.3**
ASAJ				S	**Sn**	**00 38 52.4**	**-2.3**
	1.2nm,0.3s,baz=34,slow=26,SNR=3.8						
KSRS	**Korea Array** 0.3nm,0.3s,baz=82,slow=14,SNR=4.2	**10.94**	**267**	P	Pn	00 39 16.2	+4.1
SONM	**Songino Array** 0.5nm,0.7s,baz=111,slow=7.6,SNR=4.6	**27.00**	**301**	P	**P**	**00 42 13.1**	**-0.6**
H11N2	**WAKE ISLAND Hy 28.93** baz=317,slow=75,SNR=468	**124**		T	T	01 12 54.4	
H11N1	**WAKE ISLAND Hy 28.94** baz=317,slow=75,SNR=530	**124**		T	T	01 12 55.1	
H11N3	**WAKE ISLAND Hy 28.95** baz=317,slow=75,SNR=352	**124**		T	T	01 12 57.7	
H11S1	**WAKE ISLAND Hy 29.70** baz=318,slow=76,SNR=82	**126**		T	T	01 13 58.5	
H11S3	**WAKE ISLAND Hy 29.70** baz=318,slow=76,SNR=95	**126**		T	T	01 13 58.3	
H11S2	**WAKE ISLAND Hy 29.72** baz=318,slow=76,SNR=84	**126**		T	T	01 13 59.4	
ZALV	**Zalesovo Beam** 1.2nm,0.4s,baz=82,slow=7.9,SNR=8.0	**40.87**	**311**	P	**P**	**00 44 12.6**	**-0.6**
MKAR	**Makanchi Array** 2.8nm,0.7s,baz=84,slow=6.0,SNR=37	**43.36**	**301**	P	**P**	**00 44 33.2**	**-0.4**
ILAR	**Eielson Array** 0.8nm,0.7s,baz=268,slow=6.2,SNR=7.8	**47.84**	**33**	P	**P**	**00 45 09.8**	**+1.1**
ILAR				pP	**pP**	**00 45 25.8**	**-0.8**
	0.2nm,0.9s,baz=278,slow=8.1,SNR=4.1						
ILAR				sP	**sP**	**00 45 35.6**	**+0.9**
	0.4nm,0.7s,baz=262,slow=5.7,SNR=4.2						
AAK	**Ala-Archa** 0.6nm,0.3s,baz=147,slow=6.5,SNR=3.8	**49.84**	**297**	P	**P**	**00 45 24.0**	**-0.5**
INK	**Inuvik** 0.8nm,0.5s,baz=290,slow=6.5,SNR=5.2	**52.67**	**28**	P	**P**	**00 45 46.4**	**+1.4**
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=6.8,slow=4.8,SNR=3.1	**58.89**	**188**	P	**P**	**00 46 29.4**	**-0.7**
WRA				pP	**pP**	**00 46 46.4**	**-2.1**
	0.5nm,0.3s,baz=6.5,slow=7.4,SNR=4.0						
NVAR	**Mina Array Bea** 0.4nm,0.7s,baz=264,slow=7.2,SNR=3.6	**73.72**	**54**	P	**P**	**00 48 05.7**	**+0.6**
PDAR	**Pinedale Array** 0.4nm,0.6s,baz=320,slow=0.8,SNR=3.8	**76.23**	**46**	P	**P**	**00 48 20.8**	**+1.3**

IDC ***18*** *00:41:00.2±1.9, 1.96N×96.51E, h0km, mb4.0/6, mb1 4.0/8, mb1mx3.7/34, mbtmp3.9/8, ML3.8/2, MS3.2/3, Ms1 3.2/3, ms1mx2.8/28, Error ellipse: s-maj=46.4km s-min=24.8km az=45.0*

ISCJB ***18*** *00:41:03.7±1.0, 2.0N±0.1×96.7E±0.1, h28km, mb3.9/6, MS3.4/2, Error ellipse: s-maj=22.7km s-min=5.9km az=42.7*

DJA ***18*** *00:41:04.5±0.6, 2°N±8°×9°7E±°, h10km, M4.3/3, mb4.5/1, MLv4.2/3*

ISC 18 00:41:04.4±1.2, 2.0N±0.1×96.6E±0.1, h28km, n23, σ0s81/14, mb3.9/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.51**	**328**	P	**Pn**	**00 41 15.6**	**-0.2**
SNSI				S	**Sn**	**00 41 24.1**	**+0.6**
GSI	**Gunungsitoli**	**1.19**	**124**	P	**Pb**	**00 41 25.8**	**-0.5**
GSI				S	**Sn**	**00 41 38.5**	**-1.9**
PSI	**Prapat**	**2.46**	**71**	Pn	**Pn**	**00 41 42.9**	**0.0**
	3.4nm,0.3s,baz=247,slow=5.0,SNR=6.2						
MNSI	**Mandailing Nat**	**3.21**	**112**	P	**Pn**	**00 41 54.2**	**+1.3**
MNSI				S	**Sn**	**00 42 31.0**	**+0.8**
LEM	**Lembang** comp=Z,70nm,18.5s,baz=226,slow=40	**14.05**	**129**	LR	LR	00 50 21.9	
CMAR	**Chiang Mai Arr** 0.4nm,0.3s,baz=197,slow=12,SNR=18	**16.54**	**8**	Pn	**Pn**	**00 44 54.0**	**-0.4**
H08S2	**Diego Garcia H** baz=69,slow=75,SNR=579	**25.88**	**248**	T	T	01 13 21.8	
H08S3	**Diego Garcia H** baz=69,slow=75,SNR=365	**25.88**	**248**	T	T	01 13 21.5	
H08S1	**Diego Carcia H** baz=69,slow=75,SNR=330	**25.90**	**248**	T	T	01 13 24.4	
H08N1	**Diego Carcia H** baz=325,slow=75,SNR=5.2	**26.85**	**252**	T	T	01 14 39.8	
H08N2	**Diego Garcia H** baz=325,slow=75,SNR=5.4	**26.86**	**252**	T	T	01 14 42.8	
H08N3	**Diego Garcia H** baz=325,slow=75,SNR=6.1	**26.87**	**252**	T	T	01 14 36.4	
H01W3	**Cape Leeuwin H** baz=334,slow=76,SNR=9.1	**40.19**	**157**	T	T	01 31 16.6	
H01W2	**Cape Leeuwin H** baz=334,slow=76,SNR=9.4	**40.20**	**157**	T	T	01 31 18.1	
H01W1	**Cape Leeuwin H** baz=334,slow=76,SNR=8.9	**40.21**	**157**	T	T	01 31 20.0	
WRA	**Warramunga Arr** 1.1nm,0.7s,baz=300,slow=9.2,SNR=6.9	**42.96**	**122**	P	**P**	**00 49 01.9**	**+0.5**
KSRS	**Korea Array** 0.9nm,0.6s,baz=227,slow=8.1,SNR=3.7	**45.56**	**35**	P	**P**	**00 49 21.5**	**-0.5**
MKAR	**Makanchi Array** 2.3nm,0.7s,baz=188,slow=7.4,SNR=28	**46.35**	**346**	P	**P**	**00 49 28.3**	**+0.3**
SONM	**Songino Array** 1.2nm,0.7s,baz=188,slow=10,SNR=9.9	**46.46**	**9**	P	**P**	**00 49 29.4**	**+0.4**
ZALV	**Zalesovo Beam** 3.3nm,0.6s,baz=184,slow=7.1,SNR=12	**52.70**	**351**	P	**P**	**00 50 16.4**	**+0.1**
AKASG	**Malin Array Be** comp=Z,14nm,18.5s,baz=280,slow=39	**74.28**	**322**	LR	LR	01 29 26.0	
ARCES	**ARCESS Array B** 0.5nm,0.7s,baz=80,slow=2.7,SNR=5.4	**81.60**	**340**	P	**P**	**00 53 19.2**	**-0.3**
GERES	**GERESS Array B** comp=Z,18nm,18.0s,baz=275,slow=40	**83.83**	**319**	LR	LR	01 37 09.3	

IDC ***18*** *00:53:10.6±1.7, 5.82N×124.05E, h549km±21km, mb2.9/8, mb1 3.2/12, mb1mx3.0/31, mbtmp4.1/12, Error ellipse: s-maj=29.0km s-min=13.5km az=58.0*

*DJA

COCH					*e*S		Sn	00 55 43.5	+1.2
CLCH	**Cerro Calan**	**4.64**	**38**	*e*P			Pn	00 56 11.3	+0.5
CLCH					*e*S		Sn	00 57 03.5	0.0
CLCH					AML	AML		00 57 38.6	
	comp=N,241nm,0.5s								

WEL 18 01:27:37.7±0.8, 35°45S×179°10E, h217km±12km, ML3.8/8, Error ellipse: s-maj=30.5km s-min=12.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.21**	**197**	PN	Pn	01 28 19.1	-0.4
MXZ				SN	S	01 28 49.5	-2.6
WMGZ	**Waiomatatini S**	**2.43**	**193**	PN	Pn	01 28 22.3	+0.4
HAZ	**Te Kaha**	**2.54**	**204**	PN	Pn	01 28 23.1	+0.1
PUZ	**Puketiti**	**2.71**	**194**	PN	Pn	01 28 24.9	-0.1
PUZ				SN	S	01 29 00.1	-1.7
TWGZ	**Tauwhareparae**	**2.87**	**198**	PN	Pn	01 28 27.7	+0.9
TWGZ				SN	S	01 29 06.6	+1.5
MWZ	**Matawai**	**3.15**	**203**	PN	Pn	01 28 30.1	+0.1
MWZ				AML	AML	01 29 26.6	
URZ	**Urewera**	**3.23**	**209**	PN	Pn	01 28 30.3	-0.6
URZ				AML	AML	01 29 25.2	
RAGZ	**Rawiri**	**3.33**	**203**	PN	Pn	01 28 32.6	+0.4
RIGZ	**Rimuhau**	**3.42**	**198**	PN	Pn	01 28 33.9	+0.7
SNGZ	**Shannon Statio**	**3.61**	**202**	PN	Pn	01 28 35.6	+0.2
KNZ	**Kokohu**	**3.75**	**197**	PN	Pn	01 28 36.6	-0.3
RAHZ	**Arahi**	**3.82**	**204**	PN	Pn	01 28 38.2	+0.3
MHGZ	**Mahia Peninsul**	**3.82**	**194**	PN	Pn	01 28 38.0	+0.1
WHHZ	**Waihua**	**3.92**	**202**	PN	Pn	01 28 39.1	+0.1
NMHZ	**Naumai**	**4.08**	**206**	PN	Pn	01 28 41.5	+0.4
ARHZ	**Aropaoanui**	**4.16**	**203**	PN	Pn	01 28 42.0	-0.1
BKZ	**Black Stump Fm**	**4.26**	**208**	PN	Pn	01 28 43.3	+0.1
MCHZ	**McNeill Hill**	**4.42**	**205**	PN	Pn	01 28 45.5	+0.1
KAHZ	**Kahuranaki**	**4.69**	**201**	PN	Pn	01 28 48.5	-0.1
BHHZ	**Black Hill Sta**	**4.70**	**210**	PN	Pn	01 28 48.4	-0.5
KRHZ	**Kereru**	**4.72**	**207**	PN	Pn	01 28 48.1	-0.8
PNHZ	**Pukenui**	**5.02**	**206**	PN	Pn	01 28 51.7	-1.0
PNHZ				SN	S	01 29 49.9	-2.1
PRHZ	**Porangahau**	**5.19**	**201**	PN	Pn	01 28 53.9	-1.0
BFZ	**Birch Farm**	**5.69**	**202**	PN	Pn	01 29 00.1	-1.1
TIWZ	**Tintock**	**5.89**	**204**	PN	Pn	01 29 02.6	-1.2
MRZ	**Mangatainoka R**	**5.90**	**207**	PN	Pn	01 29 02.1	-1.8
MRZ				SN	S	01 30 07.9	-4.4
HOWZ	**Holdsworth Sta**	**6.13**	**206**	PN	Pn	01 29 04.8	-2.1
HOWZ				SN	S	01 30 13.0	-4.6
OGWZ	**Otaki Gorge**	**6.19**	**209**	PN	Pn	01 29 05.6	-2.0
KIW	**Kapiti Island**	**6.33**	**210**	PN	Pn	01 29 07.1	-2.3
MTW	**Mount Morrison**	**6.37**	**205**	PN	Pn	01 29 07.4	-2.4

*NIED **18** 01:37:00.26°.00N×128°.70E, h11km, Mw4.1 Best double couple: M₀1.49000×10¹⁵ NP1:φs=279.00000°, δ78.00000°, λ-8.00000°. NP2:φs=11.00000°, δ82.00000°, λ-167.00000°.*
*ISCJB **18** 01:37:16.1±0.8, 25°95N±0°.03×128°.63E±0°.04, h27km±5km, mb4.0/17, MS3.2/6, Error ellipse: s-maj=6.7km s-min=3.5km az=44.2*
*JMA **18** 01:37:17.7±0.3, 26°.03N×128°.67E, h41km±5km, M4.2*
*IDC **18** 01:37:18.7±1.0, 26°.00N×128°.42E, h27km±4km, mb3.7/11, mb1 3.9/12, mb1mx3.7/37, mbtmp3.9/12, ML4.2/1, MS3.1/10, Ms1 3.2/10, ms1mx3.0/27, Error ellipse: s-maj=26.3km s-min=19.4km az=76.0*
*NEIC **18** 01:37:19.9±0.7, 25°.93N×128°.35E, h35km, mb4.4/5, Error ellipse: s-maj=16.4km s-min=8.6km az=136.0*

ISC 18 01:37:18.4±1.0, 26°.05N±0°.05×128°.58E±0°.05, h24km±5km, n66, σ1°73/84, mb4.1/17, MS3.2/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.68**	**313**	P	Pn	**01 37 31.9**	**-0.6**
JNTH				*e*S	Sn	**01 37 41.9**	**-0.4**
JJT2	**Tamagusuku 2**	**0.75**	**277**	P	Pn	**01 37 33.3**	**-0.1**
JJT2				*e*S	Sn	**01 37 45.1**	**+1.1**
JOW	**Kunigami**	**0.82**	**341**	P	Pb	**01 37 33.9**	**-0.1**
JOW				S	Sn	**01 37 45.3**	**-0.6**
JOW	**Kunigami**	**0.82**	**341**	Pn	Pb	**01 37 34.0**	**0.0**
	89nm,0.3s,baz=140,slow=17,SNR=569						
JIH	**Iheya**	**1.12**	**331**	P	Pb	**01 37 38.7**	**-0.4**
JIH				S	Sb	**01 37 53.7**	**+0.5**
JOKE	**Okinoerabujima**	**1.30**	**360**	P	Pn	**01 37 40.7**	**-0.4**
JOKE				S	Sn	**01 37 57.1**	**-0.6**
JAGN	**Aguni-jima**	**1.31**	**294**	P	Pb	**01 37 41.7**	**-0.6**
JAGN				S	Sb	**01 37 59.4**	**+0.7**
JKE	**Kume jima 2**	**1.63**	**280**	P	Pn	**01 37 45.2**	**-0.4**
JKE				S	Sb	**01 38 06.0**	**-1.9**
JTK	**Tokunoshima**	**1.76**	**11**	P	Pn	**01 37 46.6**	**-0.7**
JTK				S	Sn	**01 38 07.0**	**-1.9**
JAMN	**Amaminishikomi**	**2.25**	**14**	P	Pn	**01 37 53.3**	**-0.7**
JAMN				S	Sn	**01 38 19.7**	**-1.3**
JMZ	**Minamidaito 2**	**2.39**	**95**	P	Pn	01 37 51.7	-4.3
JMZ				S	Sn	01 38 16.3	-8.2
JAM	**Amami Oshima**	**2.52**	**21**	P	Pn	**01 37 56.0**	**-1.8**
JAM				S	Sn	**01 38 25.1**	**-2.7**
JZK	**Kikaishima**	**2.57**	**29**	P	Pn	**01 37 57.6**	**-0.9**
JZK				S	Sn	**01 38 27.4**	**-1.6**
JTAJ	**Takarajima**	**3.14**	**10**	P	Pn	**01 38 05.4**	**-0.9**
JTAJ				S	Sn	**01 38 40.8**	**-2.2**
JOGS	**Gusukube**	**3.14**	**247**	P	Pn	**01 38 06.0**	**-0.3**
JOGS				S	Sn	**01 38 40.5**	**-2.6**
JIKM	**Ikemajima**	**3.21**	**250**	P	Pn	**01 38 06.6**	**-0.7**
JIKM				S	Sn	**01 38 42.3**	**-2.5**
JMJ	**Miyako jima 2**	**3.21**	**248**	P	Pn	**01 38 06.6**	**-0.7**
JMJ				S	Sn	**01 38 43.9**	**-1.0**
JIRB	**Irabujima**	**3.31**	**249**	P	Pn	**01 38 07.5**	**-1.1**
JIRB				S	Sn	**01 38 45.3**	**-1.9**
JTJ	**Tarama**	**3.78**	**249**	P	Pn	**01 38 13.8**	**-1.3**
JTJ				S	Sn	**01 38 55.5**	**-3.2**
JISG	**Ishigakijimahi**	**4.13**	**250**	P	Pn	**01 38 17.9**	**-2.0**
JISG				S	Sn	**01 39 04.5**	**-2.9**
JIJ	**Ishigaki jima**	**4.35**	**248**	P	Pn	**01 38 20.7**	**-2.3**
JIJ				S	Sn	**01 39 07.4**	**-5.6**
JKRS	**Kuro-shima**	**4.52**	**247**	P	Pn	**01 38 23.7**	**-1.5**
IRIF	**Iriomote-Funau**	**4.71**	**250**	P	Pn	**01 38 27.0**	**-0.9**
IRIF				*e*S	Sn	**01 39 21.1**	**-0.7**
YOJ	**Yonaguni jima**	**5.28**	**254**	Pn	Pn	**01 38 33.8**	**-2.0**
JYNG	**Yonagunijimaku**	**5.34**	**254**	P	Pn	**01 38 34.6**	**-2.0**
JYNG				S	Sn	**01 39 31.7**	**-5.7**
NACB	**Ninganchiao**	**6.60**	**255**	*e*Pn	Pn	**01 38 51.4**	**-2.5**
YHNB	**Yeheng**	**6.66**	**260**	*e*Pn	Pn	**01 38 54.8**	**0.0**
	24nm,0.6s						
YULB	**Yu-li**	**7.13**	**250**	*e*Pn	Pn	01 38 56.6	-4.6
	13nm,0.3s						
YULB				*e*S	Sn	01 40 11.7	-10
SSLB	**Suanglung**	**7.28**	**254**	*e*Pn	Pn	**01 39 00.5**	**-2.7**
	25nm,0.6s						
SSLB				*e*S	Sn	01 40 18.2	-6.9
JNU	**Nakatsue**	**7.32**	**15**	Pn	Pn	**01 39 04.4**	**+0.5**
	3.7nm,0.3s,baz=187,slow=11,SNR=40						
JNU					Sn		
	1.9nm,0.3s,baz=326,slow=9.6,SNR=6.9						
JNU				LR	LR	01 42 19.6	
	comp=Z,128nm,20.3s,baz=215,slow=41						
TWG	**Pinlang**	**7.56**	**246**	*e*Pn	Pn	01 39 02.5	-4.6
	105nm,0.3s						
KSRS	**Korea Array**	**11.38**	**357**	LR	LR	01 44 41.7	
	comp=Z,74nm,18.7s,baz=172,slow=39						
MJAR	**Matsushiro Arr**	**13.30**	**36**	Pn	P	**01 40 32.2**	**-3.0**
	0.3nm,0.3s,baz=210,slow=7.6,SNR=2.9						
MJAR				LR	LR	01 45 19.6	
	comp=Z,35nm,21.0s,baz=215,slow=36						
GUMO	**Guam**	**19.69**	**126**	LR	LR	01 48 28.1	
	comp=Z,28nm,20.8s,baz=72,slow=34						
ASAJ	**Asahikawa**	**21.31**	**29**	LR	LR	01 50 42.6	
	comp=Z,70nm,18.3s,baz=21,slow=38						
YSS	**Yuzh-Sakhalins**	**23.70**	**25**	*e*P	P	**01 42 29.7**	**+1.5**
	22nm,1.3s						
ULN	**Ulaanbaatar**	**27.57**	**328**	*e*P	P	**01 43 05.9**	**+2.2**
	7.6nm,0.9s						
SONM	**Songino Array**	**27.87**	**327**	P	P	**01 43 08.6**	**+2.3**
	3.9nm,0.4s,baz=143,slow=11,SNR=53						
SONM				LR	LR	01 55 40.8	
	comp=Z,58nm,18.5s,baz=118,slow=40						
CMAR	**Chiang Mai Arr**	**28.40**	**261**	LR	LR	01 55 31.0	
	comp=Z,28nm,18.1s,baz=70,slow=39						
TAPN	**Taplejung**	**36.42**	**281**	*e*P	P	**01 44 23.4**	**+1.8**
ODAN	**Odare**	**36.77**	**281**	*e*P	P	**01 44 25.6**	**+1.1**
	16nm,0.4s						
RAMN	**Ramite**	**37.45**	**281**	*e*P	P	**01 44 31.7**	**+1.4**
	9.1nm,0.6s						

JIRN	**Jiri**	**37.72**	**282**	*e*P	P	**01 44 34.1**	**+1.4**
GUN	**Gumba**	**37.96**	**283**	*e*P	P	**01 44 36.0**	**+1.3**
PKI	**Pulchoki**	**38.41**	**282**	*e*P	P	**01 44 39.6**	**+1.1**
	5.5nm,0.3s						
PKIN	**Phulchoki**	**38.43**	**282**	*e*P	P	**01 44 40.0**	**+1.5**
	8.0nm,0.6s						
GKN	**Gorkha**	**39.03**	**283**	*e*P	P	**01 44 44.1**	**+0.6**
	11nm,0.4s						
KOLN	**Koldanda**	**39.98**	**283**	*e*P	P	**01 44 52.6**	**+1.2**
MK31	**Makanchi Array**	**41.88**	**312**	*e*P	P	**01 45 06.4**	**-0.3**
MKAR	**Makanchi Array**	**41.88**	**312**	P	P	**01 45 06.0**	**-0.7**
	1.5nm,0.6s,baz=100,slow=7.2,SNR=26						
ZALV	**Zalesovo Beam**	**42.58**	**323**	P	P	**01 45 11.4**	**-0.7**
	1.1nm,0.3s,baz=110,slow=8.3,SNR=5.5						
ZALV				LR	LR	02 04 39.3	
	comp=Z,34nm,20.7s,baz=70,slow=39						
KURK	**Kurchatov**	**45.16**	**317**	P	P	**01 45 32.3**	**-0.7**
KURBB	**Kurchatov Arra**	**45.20**	**317**	P	P	**01 45 32.3**	**-0.9**
	0.6nm,0.4s,baz=104,slow=8.6,SNR=5.9						
WRAB	**Tennant Creek**	**46.05**	**172**	*e*P	P	**01 45 40.1**	**-0.2**
	6.3nm,1.3s						
WRA	**Warramunga Arr**	**46.06**	**172**	P	P	**01 45 39.4**	**-1.0**
	2.1nm,0.7s,baz=354,slow=8.6,SNR=9.5						
ABKAR	**Akbulak array**	**56.99**	**313**	*e*P	P	**01 47 02.7**	**+0.8**
	2.2nm,0.6s						
ILAR	**Eielson Array**	**64.45**	**28**	P	P	**01 47 54.0**	**+1.6**
	0.4nm,0.8s,baz=278,slow=6.3,SNR=3.0						
INK	**Inuvik**	**68.93**	**23**	P	P	**01 48 22.0**	**+1.1**
	0.5nm,0.5s,baz=354,slow=2.1,SNR=3.6						
ARCES	**ARCESS Array B**	**70.28**	**339**	P	P	**01 48 28.1**	**-1.2**
	1.4nm,0.9s,baz=64,slow=7.1,SNR=4.5						
FINES	**FINESS Array B**	**73.17**	**331**	P	P	**01 48 47.0**	**+0.2**
	1.1nm,0.5s,baz=73,slow=4.4,SNR=11						
FINES				pP	pP	**01 48 56.1**	**+1.6**
	1.9nm,0.7s,baz=90,slow=5.2,SNR=4.1						
AKASG	**Malin Array Be**	**75.87**	**320**	P	P	**01 49 02.7**	**0.0**
	1.2nm,0.5s,baz=55,slow=6.4,SNR=9.6						
AKASG				pP	pP	**01 49 11.8**	**+1.3**
	1.2nm,0.4s,baz=56,slow=6.5,SNR=5.1						
BR131	**Keskin Array S**	**77.39**	**308**	*e*P	P	**01 49 12.6**	**+0.9**
	1.2nm,0.7s						
YKA	**Yellowknife Ar**	**78.55**	**25**	P	P	**01 49 17.9**	**+0.4**
	0.1nm,0.5s,baz=300,slow=5.2,SNR=2.7						
YKA				pP	PcP	**01 49 26.0**	**-0.4**
	0.5nm,0.6s,baz=298,slow=5.4,SNR=6.7						
NB2	**NORSAR Subarra**	**79.61**	**334**	P	P	**01 49 22.8**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=54,slow=5.9						
NOA	**NORSAR Array B**	**79.61**	**334**	P	P	**01 49 22.7**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=50,slow=5.4,SNR=3.2						
NOA				pP	pP	**01 49 31.3**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=51,slow=5.6,SNR=3.9						
NOA				LR	LR	02 28 09.7	
	comp=Z,12nm,18.2s,baz=250,slow=38						
GERES	**GERESS Array B**	**85.53**	**323**	LR	LR	02 31 41.0	
	comp=Z,41nm,20.0s,baz=74,slow=38						

*NIED **18** 02:29:00.28°.80N×128°.50E, h5km, Mw4.1 Best double couple: M₀1.73000×10¹⁵ NP1:φs=199.00000°, δ55.00000°, λ-175.00000°. NP2:φs=106.00000°, δ86.00000°, λ-35.00000°.*
*ISCJB **18** 02:29:36.7±1.2, 28°.77N±0°.03×128°.52E±0°.05, h6km±8km, mb3.5/5, MS3.3/10, Error ellipse: s-maj=7.1km s-min=4.7km az=5.3*
*IDC **18** 02:29:37.0±1.2, 28°.66N×128°.77E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.6/27, mbtmp3.5/6, ML3.0/1, MS3.3/12, Ms1 3.3/12, ms1mx3.1/29, Error ellipse: s-maj=42.1km s-min=17.4km az=85.0*
*JMA **18** 02:29:37.0±0.2, 28°.79N×128°.51E, h12km±3km, M4.0*
JMA Felt I J1.

ISC 18 02:29:37.1±2.3, 28°.72N±0°.04×128°.62E±0°.05, h1km±16km, n27, σ1°04/27, mb3.5/5, MS3.3/10, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.67**	**50**	P	Pb	**02 29 50.6**	**-0.9**
JTAJ				*e*S	Sb	**02 29 59.7**	**-1.6**
JAMN	**Amaminishikomi**	**0.68**	**134**	P	Pb	**02 29 52.2**	**+0.5**
JAMN				*e*S	Sn	**02 30 03.2**	**-1.9**
JAM	**Amami Oshima**	**0.92**	**109**	P	Pn	**02 29 56.2**	**-0.9**
JAM				*e*S	Sb	**02 30 08.9**	**+0.4**
JTK	**Tokunoshima**	**0.98**	**163**	P	Pb	**02 29 56.7**	**-0.1**
JTK				*e*S	Sn	**02 30 11.6**	**-0.8**
JZK	**Kikaishima**	**1.25**	**109**	P	Pn	**02 30 02.8**	**+1.0**
JZK				*e*S	Sn	**02 30 20.9**	**+1.6**
JOKE	**Okinoerabujima**	**1.36**	**182**	P	Pn	**02 30 02.4**	**-0.7**
JOKE				*e*S	Sg	**02 30 20.9**	**+0.3**
JNN	**Nakanoshima**	**1.56**	**44**	P	Pn	**02 30 05.1**	**-0.9**
JNN				*e*S	Sn	**02 30 26.0**	**-0.9**
JIH	**Iheya**	**1.78**	**199**	P	Pn	**02 30 08.3**	**-0.6**
JIH				*e*S	Sn	**02 30 31.1**	**-1.1**
JOW	**Kunigami**	**1.91**	**189**	P	Pn	**02 30 10.3**	**-0.4**
JOW				*e*S	Sn	**02 30 34.3**	**-1.1**
JOW	**Kunigami**	**1.91**	**189**	Pn	Pn	**02 30 10.6**	**-0.1**
	baz=20,slow=12						
JOW				Sn	Sn	**02 30 35.1**	**-0.2**
	baz=0.0,slow=20						
JYAK	**Yakushimahirau**	**2.23**	**47**	P	Pn	**02 30 14.6**	**-0.6**
JNU	**Nakatsue**	**4.80**	**23**	Pn	Pn	02 30 55.6	+5.1
	4.0nm,0.3s,baz=188,slow=8.3,SNR=16						
KSRS	**Korea Array**	**8.73**	**356**	Pn	Pn	**02 31 45.1**	**+0.7**
	0.2nm,0.3s,baz=179,slow=13,SNR=4.3						
KSRS				LR	LR	02 35 12.3	
	comp=Z,177nm,20.4s,baz=168,slow=38						
MJAR	**Matsushiro Arr**	**11.22**	**44**	LR	LR	02 37 10.7	
	comp=Z,46nm,19.2s,baz=185,slow=40						
GUMO	**Guam**	**21.32**	**132**	LR	LR	02 41 50.8	
	comp=Z,70nm,18.9s,baz=87,slow=35						
SONM	**Songino Array**	**25.70**	**324**	P	P	**02 35 10.9**	**+2.1**
	0.4nm,0.6s,baz=150,slow=10,SNR=4.0						
SONM				LR	LR	02 46 12.4	
	comp=Z,56nm,20.8s,baz=122,slow=38						
CMAR	**Chiang Mai Arr**	**28.98**	**256**	LR	LR	02 47 57.3	
	comp=Z,44nm,19.7s,baz=55,slow=38						
PETK	**Petropavlovsk-**	**32.41**	**33**	LR	LR	02 49 36.6	
	comp=Z,21nm,19.1s,baz=96,slow=37						
MKAR	**Makanchi Array**	**40.18**	**310**	P	P	**02 37 15.3**	**+0.4**
	0.5nm,0.8s,baz=111,slow=6.6,SNR=5.5						
ZALV	**Zalesovo Beam**	**40.51**	**321**	P	P	**02 37 18.6**	**+1.2**
	0.4nm,0.4s,baz=102,slow=14,SNR=3.1						
ZALV				LR	LR	02 55 37.4	
	comp=Z,30nm,20.8s,baz=60,slow=38						
WRA	**Warramunga Arr**	**48.69**	**173**	P	P	**02 38 22.5**	**-0.6**
	0.7nm,0.7s,baz=353,slow=8.3,SNR=7.0						
ARCES	**ARCESS Array B**	**67.83**	**338**	LR	LR	03 14 37.7	
	comp=Z,23nm,19.0s,baz=3.0,slow=40						
FINES	**FINESS Array B**	**70.88**	**330**	LR	LR	03 15 43.5	
	comp=Z,36nm,21.5s,baz=270,slow=39						
AKASG	**Malin Array Be**	**73.87**	**319**	LR	LR	03 16 14.2	
	comp=Z,47nm,18.1s,baz=70,slow=38						
YKA	**Yellowknife Ar**	**76.13**	**25**	P	P	**02 41 26.4**	**+0.1**
	0.6nm,0.8s,baz=298,slow=5.3,SNR=5.2						
NOA	**NORSAR Array B**	**77.24**	**334**	LR	LR	03 18 13.5	
	comp=Z,20nm,18.8s,baz=20,slow=38						
GERES	**GERESS Array B**	**83.43**	**323**	LR	LR	03 23 01.3	
	comp=Z,43nm,19.0s,baz=350,slow=38						

*SJA **18** 02:47:41.0±1.0, 35°.04S×73°.12W, h40km, ML3.4*
*ISCJB **18** 02:47:54.7±1.2, 34°.71S±0°.05×71°.9W±0°.1, h23km±11km, Error ellipse: s-maj=14.5km s-min=7.7km az=11.2*
*GUC **18** 02:47:55.4±0.6, 34°.74S×71°.77W, h40km±1km, ML3.7*

ISC 18 02:47:54.5±1.7, 34°.75S±0°.03×71°.94W±0°.09, h24km±15km, n22, σ0°92/32, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.64**	**114**	*i*P	Pb	**02 48 06.7**	**-0.3**
NICH				*e*S	Sb	**02 48 14.8**	**-0.7**
TALC	**Talca**	**0.69**	**159**	*e*P	Pn	**02 48 08.6**	**-0.2**
TALC				*e*S	Sn	**02 48 18.0**	**-0.8**
LNV	**Longovilo**	**0.91**	**29**	*e*P	Pb	**02 48 10.9**	**-0.6**
LNV				*i*S	Sb	**02 48 22.8**	**-0.3**
LNCH	**Linares**	**1.13**	**166**	*e*P	Pb	**02 48 15.6**	**+0.2**
LNCH				*e*S	Sb	**02 48 30.4**	**+0.7**
CHCH	**Chadas Angostu**	**1.34**	**53**	*e*P	Pn	**02 48 17.0**	**-0.8**
TACH	**Talagante**	**1.37**	**38**	*e*P	Pn	**02 48 18.0**	**-0.2**
TACH				*i*S	Sn	**02 48 35.1**	**-0.5**
PCH	**Pirque**	**1.63**	**47**	*e*P	Pn	**02 48 21.4**	**-0.4**
SAN	**Santiago**	**1.67**	**40**	*e*P	Pn	**02 48 21.9**	**-0.5**
IHA	**Instituto Hidr**	**1.74**	**8**	*e*P	Pn	**02 48 23.3**	**+0.1**
CLCH	**Cerro Calan**	**1.78**	**41**	*e*P	Pn	**02 48 23.6**	**-0.2**
CLCH				*e*S	Sn	**02 48 45.4**	**-0.5**

CLCH					AML	AML		02 48 49.7	
	comp=N,1μm,0.6s								
YECH	**El Yeso**	**1.88**	**55**	*e*P			Pn	**02 48 25.2**	**-0.2**
YECH				*e*S			Sn	**02 48 47.8**	**-0.8**
PEL	**Peldehue**	**1.91**	**33**	*e*P			Pn	**02 48 25.8**	**+0.2**
PEL				*e*S			Sn	**02 48 48.8**	**-0.2**
PEL					AML	AML		02 48 59.6	
	comp=N,1μm,0.4s								
ROCH	**El Roble**	**1.93**	**24**	*e*P			Pn	**02 48 26.2**	**+0.1**
ROCH				*e*S			Sn	**02 48 49.2**	**-0.5**
ROCH					AML	AML		02 48 59.2	
	comp=N,1μm,0.4s								
AAGR	**Agrelo**	**3.07**	**58**	*e*P			Pn	**02 48 43.8**	**+2.1**
ARCO	**CERRO ARCO**	**3.15**	**54**	*e*P			Pn	**02 48 44.4**	**+1.7**
ARCO					AML	AML		02 49 38.5	
	comp=Z,45nm,0.6s								
AUSP	**Uspallata**	**3.30**	**41**	*e*P			Pn	**02 48 46.5**	**+1.6**
AUSP				*e*S			Sb	**02 49 33.9**	**+1.5**
ASAL	**Salagasta**	**3.37**	**51**	*e*P			Pn	**02 48 47.5**	**+1.8**
RTLS	**Leoncito**	**3.68**	**38**	*e*P			Pn	**02 48 51.9**	**+1.8**
RTCV	**Cerro Valdivia**	**4.05**	**46**	*e*P			Pn	**02 48 55.4**	**+0.3**
CFAA	**Coronel Fontan**	**4.41**	**46**	*e*P			Pn	**02 49 00.2**	**+0.2**
RTLL	**Cerro Villicun**	**4.48**	**41**	*e*P			Pn	**02 49 01.3**	**+0.3**
AMOG	**MOGNA**	**4.78**	**38**	*e*P			Pn	**02 49 05.2**	**0.0**

SKHL 18 03:08:53.6±0.8, 48°.78N×142°.29E, h10km, mb4.0/5, 1D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGL	**Uglegorsk**	**0.33**	**334**	*e*Pg	Pg	03 09 00.5	+0.3
UGL				AMB	AMB	03 09 03.5	
	578nm,0.5s						
UGL				*e*Sg	Sg	03 09 05.3	+0.6
UGL				A	A	03 09 06.5	
	11μm,0.4s						
YSS	**Yuzh-Sakhalins**	**1.85**	**170**	*i*Pg	Pg	03 09 30.5	+1.4
YSS				AMB	AMB	03 09 32.8	
	50nm,0.7s						
YSS				*i* pPg	Pb	03 09 34.2	+6.7
YSS				*e*sPg	Sn	03 09 38.2	-11
YSS				*e*Sg	Sg	03 09 56.0	+2.8
YSS				A	A	03 09 58.0	
	110nm,0.5s						
YSS				A	A	03 09 58.0	
	90nm,0.5s						
TYV	**Tymovskoe**	**2.10**	**6**	*e*P	Pn	03 09 29.2	+0.4
TYV				AMB	AMB	03 09 30.5	
	6.0nm,0.6s						
TYV				*e*Pg	Pg	03 09 35.3	+1.5
TYV				AMB	AMB	03 09 37.0	
	40nm,0.4s						
TYV				*e*Sg	Sg	03 10 04.8	+3.7
TYV				A	A	03 10 09.5	
	30nm,0.6s						
GRNR	**Gornyy**	**4.29**	**300**	*e*Pg	Pg	03 10 18.4	+2.6
EKMR	**Ekimchan**	**7.30**	**310**	*e*Pg	Pg	03 11 11.3	-2.0
EKMR				AMB	AMB	03 11 12.8	
	2.0nm,0.5s						
EKMR				*e*Sg	Sg	03 12 49.5	+1.7
EKMR				A	A	03 12 52.5	
	9.0nm,0.7s						
EKMR				A	A	03 12 52.5	
	5.0nm,0.7s						
YASR	**Yasnyy**	**10.08**	**302**	*e*Sg	Sn	03 14 03.5	+52
YASR				A	A	03 14 04.0	
	4.0nm,0.7s						

IDC 18 03:10:28.9±1.1, 4°.30S×153°.73E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/30, mbtmp4.0/5, MS3.1/1, Ms1 3.0/1, ms1mx2.5/20, Error ellipse: s-maj=53.8km s-min=25.4km az=105.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.48**	**229**	P	P	03 15 50.0	+0.1
	5.5nm,0.5s,baz=54,slow=10.0,SNR=50						
STKA	**Stephens Creek**	**29.71**	**201**	P	P	03 16 37.5	+0.7
	2.9nm,0.6s,baz=22,slow=13,SNR=12						
STKA				LR	LR	03 27 37.9	
	comp=Z,36nm,18.6s,baz=199,slow=35						
VNDA	**Vanda**	**73.30**	**178**	P	P	03 22 01.5	-0.3
	1.0nm,0.6s,baz=356,slow=4.0,SNR=7.1						
MKAR	**Makanchi Array**	**80.56**	**319**	P	P	03 22 43.9	+0.5
	0.2nm,0.6s,baz=111,slow=3.2,SNR=3.7						
ILAR	**Eielson Array**	**81.35**	**22**	P	P	03 22 47.6	+0.6
	0.3nm,0.7s,baz=242,slow=5.4,SNR=6.2						
TORD	**Torodi

HUIG				*i* S	Sb	03 25 20.5	-4.3
HUIG	**Huatulco**	**1.00**	**262**	*i* P	Pb	03 25 08.3	-3.5
HUIG				*i* S	Sb	03 25 20.5	-4.3
CMIG	**Matias Romero**	**1.19**	**9**	*i* P	Pn	03 25 10.4	-4.5
CMIG	**Matias Romero**	**1.19**	**9**	*i* P	Pn	03 25 10.4	-4.5
PCIG		**1.80**	**96**	*i* P	Pn	03 25 20.2	-3.0
PCIG				*e*S	Sn	03 25 41.2	-4.8
PCIG		**1.80**	**96**	*i* P	Pn	03 25 20.2	-3.0
PCIG				*e*S	Sn	03 25 41.2	-4.8
VHO	**Vista Hermosa**	**1.96**	**306**	*i* P	Pn	03 25 23.0	-2.8
VHO				*i* S	Sn	03 25 46.1	-4.4
VHO	**Vista Hermosa**	**1.96**	**306**	*i* P	Pn	03 25 23.0	-2.8
VHO				*i* S	Sn	03 25 46.1	-4.4
CCIG	**Comitan**	**2.85**	**82**	*e*P	Pn	03 25 34.8	-3.2
CCIG				*e*S	Sn	03 26 08.5	-3.8
CCIG	**Comitan**	**2.85**	**82**	*e*P	Pn	03 25 34.8	-3.2
CCIG				*e*S	Sn	03 26 08.5	-3.8
TEIG	**Tepich**	**7.76**	**55**	*e*Pn	Pn	03 26 40.8	-4.4
TEIG				*e*S	Sn	03 28 02.9	-10
JTS	**JuntasAbangare**	**11.33**	**118**	*e*Pn	Pn	03 27 36.1	+1.8

NIED ***18*** *03:36:00,23.7°70N×126.2°20E,h17km,Mw4.2 Best double couple: M₀2.23000×10¹⁵ NP1:φ=31.00000°,δ50.00000°, λ53.00000°. NP2:φ=261.00000°,δ52.00000°,λ126.00000°.*
JMA ***18*** *03:36:35.3±0.4,23.6°66N×126.2°20E,h22km,M4.4*
IDC ***18*** *03:36:37.4±1.0,23.9°94N×125.7°9E,h0km,mb3.9/12, mb1 4.0/14,mb1mx3.9/34,mbtmp3.9/14,ML3.0/3,MS3.1/4, Ms1 3.2/4,ms1mx2.9/35,Error ellipse: s-maj=23.8km s-min=21.7km az=95.0*
NEIC ***18*** *03:36:42.3±0.8,23.9°97N×125.8°7E,h35km,mb4.3/1,Error ellipse: s-maj=17.5km s-min=8.1km az=153.0*

ISC 18 03:36:40.9±0.8,23°86N±0.06×125°96E±0.04,h34km,n52, σ1ᵍ67/64,mb3.9/12,MS3.2/3,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**1.03**	**331**	P	**Pb**	**03 36 58.9**	**-1.5**
JOGS				*e*S	**Sb**	**03 37 15.6**	**+2.0**
JMJ	**Miyako jima 2**	**1.13**	**327**	P	**Pn**	**03 37 00.2**	**-0.2**
JMJ				*e*S	**Sb**	**03 37 18.8**	**+2.3**
JIRB	**Irabujima**	**1.21**	**323**	P	**Pn**	**03 37 01.1**	**-0.3**
JIRB				*e*S	**Sb**	**03 37 20.5**	**+1.9**
JIKM	**Ikemajima**	**1.25**	**329**	P	**Pn**	**03 37 01.6**	**-0.3**
JIKM				*e*S	**Sb**	**03 37 20.4**	**+0.7**
JTJ	**Tarama**	**1.39**	**304**	P	**Pn**	**03 37 03.1**	**-0.8**
JTJ				*e*S	**Sb**	**03 37 24.1**	**+0.3**
JISG	**Ishigakijimahi**	**1.68**	**296**	P	**Pn**	**03 37 07.7**	**-0.1**
JISG				*e*S	**Sb**	**03 37 32.1**	**+0.2**
JIJ	**Ishigaki jima**	**1.74**	**287**	P	**Pn**	**03 37 09.3**	**+0.6**
JIJ				*e*S	**Sb**	**03 37 33.4**	**-0.3**
JKRS	**Kuro-shima**	**1.83**	**282**	P	**Pn**	**03 37 10.6**	**+0.7**
JKRS				*e*S	**Sb**	**03 37 33.0**	**-3.3**
HATJ	**Hateruma jima**	**1.98**	**276**	P	**Pn**	**03 37 12.7**	**+0.6**
HATJ				*e*S	**Sb**	**03 37 38.9**	**-1.9**
IRIF	**Iriomote-Funau**	**2.10**	**284**	P	**Pn**	**03 37 14.1**	**+0.5**
IRIF				*e*S	**Sb**	**03 37 41.6**	**-2.4**
JKE	**Kume jima 2**	**2.57**	**17**	P	**Pn**	**03 37 18.7**	**-1.4**
JKE				*e*S	**Sn**	**03 37 51.5**	**+1.3**
YOJ	**Yonaguni jima**	**2.76**	**283**	P	**Pn**	**03 37 23.6**	**+0.8**
YOJ				*e*S	**Sb**	**03 37 58.4**	**-4.7**
YOJ	**Yonaguni jima**	**2.76**	**283**	*e*Pn	**Pn**	**03 37 23.4**	**+0.6**
YOJ				*e*S	**Sb**	**03 38 01.8**	**-1.3**
JJT2	**Tamagusuku 2**	**2.79**	**35**	*e*S	**Sn**	**03 37 55.6**	**0.0**
JYNG	**Yonagunijimaku**	**2.82**	**283**	P	**Pn**	**03 37 24.2**	**+0.6**
JNTH	**Nagotoyohara**	**3.24**	**35**	P	**Pn**	**03 37 28.0**	**-1.4**
JOW	**Kunigami**	**3.62**	**35**	P	**Pn**	**03 37 33.6**	**-1.1**
JOW	**Kunigami**	**3.62**	**35**	Pn	**Pn**	**03 37 33.8**	**-0.9**
	0.7nm,0.3s,baz=170,slow=13,SNR=17						
JOW				Sn	**Sn**	**03 38 11.9**	**-4.3**
	0.7nm,0.3s,baz=174,slow=20,SNR=4.1						
JIH	**Iheya**	**3.64**	**29**	P	**Pn**	**03 37 33.6**	**-1.3**
NACB	**Ninganchiao**	**4.01**	**275**	*e*Pn	**Pn**	**03 37 39.6**	**-0.3**
NACB				*e*S	**Sn**	**03 38 23.0**	**-2.8**
JOKE	**Okinoerabujima**	**4.21**	**33**	P	**Pn**	**03 37 41.1**	**-1.6**
YHNB	**Yeheng**	**4.26**	**282**	*e*Pn	**Pn**	**03 37 45.1**	**+1.5**
YULB	**Yu-li**	**4.30**	**265**	*e*Pn	**Pn**	**03 37 43.0**	**-1.0**
YULB				*e*S	**Sn**	**03 38 30.8**	**-2.4**
SSLB	**Suanglung**	**4.59**	**270**	*e*Pn	**Pn**	**03 37 46.8**	**-1.2**
SSLB				*e*S	**Sn**	**03 38 41.0**	**+0.9**
TWG	**Pinlang**	**4.61**	**258**	*e*Pn	**Pn**	**03 37 47.5**	**-0.8**
TWG				*e*S	**Sn**	**03 38 38.0**	**-2.7**
JTK	**Tokunoshima**	**4.75**	**34**	P	**Pn**	**03 37 48.0**	**-2.1**
JTK				*e*S	Sn	03 38 37.5	-6.5
JMZ	**Minamidaito 2**	**5.16**	**67**	P	Pn	03 37 52.1	-3.7
JAMN	**Amaminishikomi**	**5.24**	**33**	P	**Pn**	**03 37 54.0**	**-2.8**
JAM	**Amami Oshima**	**5.59**	**35**	P	**Pn**	**03 37 58.8**	**-2.9**
JAM				*e*S	Sn	03 38 57.8	-7.0
JNU	**Nakatsue**	**10.19**	**24**	LR	LR	03 43 28.7	
	comp=Z,62nm,20.1s,baz=220,slow=40						
KSAR	**Wonju Array Be**	**13.64**	**6**	Pn	**Pn**	**03 39 50.2**	**-1.7**
KSRS	**Korea Array**	**13.66**	**7**	Pn	**Pn**	**03 39 50.2**	**-1.9**
	0.2nm,0.3s,baz=197,slow=15,SNR=4.1						
MJAR	**Matsushiro Arr**	**16.47**	**37**	Pn	**Pn**	**03 40 29.6**	**+0.2**
	0.3nm,0.3s,baz=226,slow=10,SNR=3.0						
USRK	**Ussuriysk Ar.**	**20.88**	**12**	P	Pn	03 41 20.9	-1.9
	1.1nm,0.5s,baz=195,slow=10,SNR=3.3						
ASAJ	**Asahikawa**	**24.38**	**30**	P	**P**	**03 41 57.0**	**+1.2**
	1.7nm,0.5s,baz=270,slow=19,SNR=3.9						
CMAR	**Chiang Mai Arr**	**25.71**	**263**	LR	LR	03 53 48.9	
	comp=Z,60nm,19.0s,baz=65,slow=40						
SONM	**Songino Array**	**28.55**	**332**	P	**P**	**03 42 32.9**	**-0.7**
	0.4nm,0.5s,baz=142,slow=10,SNR=3.3						
YAK	**Yakutsk**	**38.24**	**3**	LR	LR	03 59 51.8	
	comp=Z,35nm,18.2s,baz=87,slow=36						
MK31	**Makanchi Array**	**41.65**	**314**	*e*P	**P**	**03 44 27.0**	**+1.0**
MKAR	**Makanchi Array**	**41.65**	**314**	P	**P**	**03 44 26.2**	**+0.2**
	1.2nm,0.4s,baz=103,slow=7.9,SNR=23						
ZALV	**Zalesovo Beam**	**42.95**	**325**	P	**P**	**03 44 36.0**	**-0.5**
	1.0nm,0.4s,baz=119,slow=7.9,SNR=4.7						
ZALV				LR	LR	04 04 08.9	
	comp=Z,29nm,19.5s,baz=70,slow=39						
WRA	**Warramunga Arr**	**44.30**	**169**	P	**P**	**03 44 49.2**	**+1.6**
	2.5nm,0.9s,baz=351,slow=8.7,SNR=9.8						
KURK	**Kurchatov**	**45.18**	**319**	P	**P**	**03 44 53.6**	**-0.8**
KURBB	**Kurchatov Arra**	**45.21**	**319**	P	**P**	**03 44 53.6**	**-1.0**
	1.1nm,0.5s,baz=109,slow=8.2,SNR=7.5						
ABKAR	**Akbulak array**	**56.80**	**314**	*e*P	**P**	**03 46 23.6**	**+1.8**
	1.8nm,0.6s						
ILAR	**Eielson Array**	**67.49**	**28**	P	P	03 47 36.4	+3.2
	0.2nm,0.8s,baz=250,slow=5.1,SNR=2.7						
KBZ	**Khabaz**	**69.07**	**310**	P	**P**	**03 47 44.9**	**+1.4**
	1.5nm,0.6s,baz=56,slow=24,SNR=5.6						
FINES	**FINESS Array B**	**73.91**	**330**	P	**P**	**03 48 13.7**	**+1.4**
	1.8nm,0.6s,baz=97,slow=5.2,SNR=11						
NB2	**NORSAR Subarra**	**80.51**	**333**	P	**P**	**03 48 50.6**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=62,slow=5.9						
NOA	**NORSAR Array B**	**80.51**	**333**	P	**P**	**03 48 50.9**	**+1.5**
	comp=Z,1.5nm,0.8s,baz=58,slow=5.3,SNR=5.1						
YKA	**Yellowknife Ar**	**81.53**	**24**	P	**P**	**03 48 56.0**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=296,slow=4.9,SNR=3.7						
YKA	**Yellowknife Ar**	**81.53**	**24**	P	**P**	**03 48 56.0**	**+1.3**

WEL 18 03:53:28.2±0.2,36°89S×177°37E,h150km±2km,ML2.8/2, Error ellipse: s-maj=2.6km s-min=2.0km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**0.93**	**159**	PN	Pn	03 53 52.4	+0.1
WMGZ	**Waiomatatini S**	**1.25**	**138**	PN	Pn	03 53 55.2	0.0
WMGZ				SN	Sn	03 54 15.3	-0.5
URZ	**Urewera**	**1.38**	**189**	PN	Pn	03 53 56.9	+0.4
URZ				SN	Sn	03 54 18.3	0.0
MWZ	**Matawai**	**1.45**	**175**	PN	Pn	03 53 57.2	-0.1
MWZ				SN	Sn	03 54 19.3	-0.3
RIGZ	**Rimuhau**	**1.84**	**170**	PN	Pn	03 54 01.9	+0.4
RIGZ				SN	Sn	03 54 26.6	-0.6
KNZ	**Kokohu**	**2.14**	**174**	PN	Pn	03 54 04.8	-0.1
MHGZ	**Mahia Peninsul**	**2.30**	**170**	PN	Pn	03 54 06.8	0.0

IDC ***18*** *03:59:35.8±2.5,33°29N×56°69E,h0km,mb3.5/5, mb1 3.6/6,mb1mx3.4/41,mbtmp3.6/6,ML3.5/1,Error ellipse: s-maj=85.2km s-min=24.6km az=144.0*
THR ***18*** *03:59:36.6±0.8,33°72N×56°86E,h7km±9km,ML3.6*
CSEM ***18*** *03:59:37.9±0.1,33°67N×56°87E,h2km,ML3.6,Error ellipse: s-maj=2.4km s-min=2.0km az=12.0*

ISCJB ***18*** *03:59:39.0±0.3,33°68N±0°03×56°82E±0°03,h16km, mb3.4/5,Error ellipse: s-maj=4.8km s-min=4.1km az=22.0*
TEH ***18*** *03:59:39.4,33°67N×56°89E,h10km,ML3.8*

ISC 18 03:59:39.1±0.7,33°68N±0°03×56°88E±0°03,h16km,n71, σ1ᵍ20/77,mb3.5/5,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABS	**Tabas**	**0.20**	**98**	*e*Pg	**Pg**	**03 59 41.4**	**-2.6**
TABS				AML	AML	03 59 45.2	
	comp=N,13μm,0.2s						
TABS	**Tabas**	**0.20**	**98**	*e*Pg	**Pg**	**03 59 41.4**	**-2.6**
	comp=N,13μm,0.2s						
ITEG	**Tejag**	**1.75**	**116**	*e*Sg	**Sb**	**04 00 33.6**	**+0.9**
ITEG				*e*Pn	**Pn**	**04 00 09.2**	**+0.2**
ITEG				*e*		04 00 36.7	
	comp=Z,9μm,0.1s						
ITEG	**Tejag**	**1.75**	**116**	*e*Pn	**Pn**	**04 00 09.2**	**+0.2**
ITEG				*e*Sg	**Sb**	**04 00 33.7**	**+0.9**
IKOO	**Kooshah**	**2.18**	**124**	*e*Pn	**Pn**	**04 00 15.0**	**0.0**
IKOO				*e*		04 00 50.0	
	comp=Z,7μm,0.1s						
IKOO	**Kooshah**	**2.18**	**124**	*e*Pn	**Pn**	**04 00 15.0**	**0.0**
SHRO	**Shahrood**	**2.41**	**343**	*e*Pn	**Pn**	**04 00 18.0**	**-0.1**
SHRO	**Shahrood**	**2.41**	**343**	*e*Pn	**Pn**	**04 00 18.0**	**-0.1**
ICHK	**Chekchek**	**2.52**	**236**	*e*Pn	**Pn**	**04 00 20.1**	**+0.4**
ICHK				*e*Sg	**Sb**	**04 00 57.4**	**+2.3**
ICHK				*e*		04 01 00.5	
	comp=Z,13μm,0.1s						
ICHK	**Chekchek**	**2.52**	**236**	*e*Pn	**Pn**	**04 00 20.1**	**+0.4**
ICHK				*e*Sg	**Sb**	**04 00 57.4**	**+2.3**
IDAH	**Dahanechah**	**2.68**	**110**	*e*Pn	**Pn**	**04 00 22.3**	**+0.5**
IDAH				*e*		04 00 33.4	
	comp=Z,2μm,0.1s						
IDAH	**Dahanechah**	**2.68**	**110**	*e*Pn	**Pn**	**04 00 22.3**	**+0.5**
SHRT	**Shahrakht**	**2.85**	**90**	*e*Pn	**Pn**	**04 00 24.6**	**+0.6**
SHRT	**Shahrakht**	**2.85**	**90**	*e*Pn	**Pn**	**04 00 24.5**	**+0.6**
IMEH	**Mehriz**	**2.98**	**221**	*e*Pn	**Pn**	**04 00 26.5**	**+0.6**
IMEH				*e*Sg	**Sg**	**04 01 13.0**	**-1.8**
IMEH				*e*		04 01 17.4	
	comp=Z,3μm,0.1s						
IMEH	**Mehriz**	**2.98**	**221**	*e*Pn	**Pn**	**04 00 26.5**	**+0.6**
IMEH				*e*Sg	**Sg**	**04 01 13.0**	**-1.8**
IANJ	**Anjilo**	**3.03**	**307**	*e*Pn	**Pn**	**04 00 26.4**	**-0.2**
IANJ				*e*		04 01 26.6	
	comp=Z,2μm,0.2s						
IANJ	**Anjilo**	**3.03**	**307**	*e*Pn	**Pn**	**04 00 26.4**	**-0.2**
ISAD	**Sadrabad**	**3.21**	**238**	*e*Pn	**Pn**	**04 00 30.0**	**+0.8**
ISAD				*e*		04 01 22.8	
	comp=Z,8μm,0.1s						
ISAD	**Sadrabad**	**3.21**	**238**	*e*Pn	**Pn**	**04 00 30.0**	**+0.8**
IPAY	**Payeh**	**3.27**	**32**	*e*Pn	**Pn**	**04 00 30.8**	**+0.9**
IPAY				*e*		04 00 42.5	
	comp=Z,1μm,0.1s						
IPAY	**Payeh**	**3.27**	**32**	*e*Pn	**Pn**	**04 00 30.8**	**+0.9**
IAKL	**Akhelmad**	**3.30**	**27**	*e*Pn	**Pn**	**04 00 31.3**	**+0.9**
IAKL				*e*		04 01 25.2	
	comp=Z,1μm,0.2s						
KHGB	**Koh Gabri**	**3.31**	**186**	*e*Pn	**Pn**	**04 00 31.5**	**+1.0**
IKRD	**Kardeh**	**3.37**	**23**	*e*Pn	**Pb**	**04 00 38.2**	**-0.4**
IKRD				*e*		04 00 50.5	
	comp=Z,1μm,0.3s						
ISFR	**Sfrayin**	**3.49**	**15**	*e*Pn	**Pn**	**04 00 33.7**	**+0.7**
ISFR				*e*		04 01 17.6	
	comp=Z,1μm,0.4s						
ISFR	**Sfrayin**	**3.49**	**15**	*e*Pn	**Pn**	**04 00 33.7**	**+0.7**
NASN	**Na'in**	**3.52**	**257**	*e*Pn	**Pn**	**04 00 33.4**	**-0.1**
NASN				AML	AML	04 01 37.9	
	comp=E,95nm,0.5s						
NASN	**Na'in**	**3.52**	**257**	*e*Pn	**Pn**	**04 00 33.4**	**-0.1**
ISHM	**Shahmirzad**	**3.64**	**307**	*e*Pn	**Pn**	**04 00 35.1**	**+0.1**
ISHM				*e*		04 01 44.2	
	comp=Z,2μm,0.3s						
IKIA	**Kiasar**	**3.64**	**315**	*e*Pn	**Pn**	**04 00 35.7**	**+0.7**
IKIA				*e*		04 01 42.2	
	comp=Z,738nm,0.3s						
IKIA	**Kiasar**	**3.64**	**315**	*e*Pn	**Pn**	**04 00 35.7**	**+0.7**
ILAS	**Lasjerd**	**3.65**	**299**	*e*Pn	**Pn**	**04 00 36.3**	**+1.1**
ILAS				*e*		04 01 46.3	
	comp=Z,849nm,0.2s						
ILAS	**Lasjerd**	**3.65**	**299**	*e*Pn	**Pn**	**04 00 36.3**	**+1.1**
KRBR	**Kerman**	**3.69**	**182**	*e*Pn	**Pn**	**04 00 37.1**	**+1.4**
KRBR	**Kerman**	**3.69**	**182**	*e*Pn	**Pn**	**04 00 37.1**	**+1.4**
IMYA	**Miami**	**3.75**	**44**	*e*Pn	**Pn**	**04 00 37.5**	**+1.0**
IMYA				*e*		04 00 51.5	
	comp=Z,794nm,0.2s						
IMYA	**Miami**	**3.75**	**44**	*e*Pn	**Pn**	**04 00 37.5**	**+1.0**
IGLO	**Ghaloghah**	**3.77**	**319**	*e*Pn	**Pn**	**04 00 38.0**	**+1.2**
IGLO				*e*Sg	**Sg**	**04 01 37.1**	**-3.0**
IGLO				*e*		04 01 54.6	
	comp=Z,2μm,0.3s						
CHMN	**Cheshme madani**	**3.85**	**171**	*e*Pn	**Pn**	**04 00 38.6**	**+0.6**
CHMN	**Cheshme madani**	**3.85**	**171**	*e*Pn	**Pn**	**04 00 38.6**	**+0.6**
IZEF	**Zefreh**	**3.89**	**260**	*e*Pn	**Pn**	**04 00 39.0**	**+0.5**
IZEF				*e*		04 01 49.6	
	comp=Z,1μm,0.2s						
IZEF	**Zefreh**	**3.89**	**260**	*e*Pn	**Pn**	**04 00 39.0**	**+0.5**
ISHV	**Shirvan**	**3.91**	**10**	*e*Pn	**Pn**	**04 00 39.7**	**+1.0**
ISHV				*e*		04 01 38.2	
	comp=Z,862nm,0.3s						
IFIR	**Firoozkooh**	**3.92**	**301**	*e*Pn	**Pn**	**04 00 39.2**	**+0.3**
IFIR				*e*		04 00 40.6	
	comp=Z,2μm,0.1s						
IFIR	**Firoozkooh**	**3.92**	**301**	*e*Pn	**Pn**	**04 00 39.2**	**+0.3**
MRVT	**Maraveh tapeh**	**4.02**	**351**	*e*Pn	**Pn**	**04 00 40.3**	**+0.1**
MRVT	**Maraveh tapeh**	**4.02**	**351**	*e*Pn	**Pn**	**04 00 40.3**	**+0.1**
NGRK	**Negar Kerman**	**4.02**	**182**	*e*Pn	**Pn**	**04 00 41.2**	**+0.7**
NGRK	**Negar Kerman**	**4.02**	**182**	*e*Pn	**Pn**	**04 00 41.2**	**+0.7**
IALA	**Alasht**	**4.12**	**307**	*e*Pn	**Pn**	**04 00 42.6**	**+1.0**
IALA				*e*		04 00 44.6	
	comp=Z,889nm,0.1s						
IALA	**Alasht**	**4.12**	**307**	*e*Pn	**Pn**	**04 00 42.6**	**+1.0**
IDMV	**Damavand**	**4.42**	**297**	*e*Pn	**Pn**	**04 00 46.2**	**+0.4**
IDMV				*e*		04 00 48.0	
	comp=Z,1μm,0.1s						
IDMV	**Damavand**	**4.42**	**297**	*e*Pn	**Pn**	**04 00 46.2**	**+0.4**
IKLH	**Kolahrood**	**4.44**	**267**	*e*Pn	**Pn**	**04 00 47.0**	**+0.9**
IKLH				*e*		04 02 13.3	
	comp=Z,627nm,0.2s						
IKLH	**Kolahrood**	**4.44**	**267**	*e*Pn	**Pn**	**04 00 47.0**	**+0.9**
IVRN	**Varamin**	**4.46**	**289**	*e*Pn	**Pn**	**04 00 46.5**	**+0.4**
IVRN				*e*		04 00 47.8	
	comp=Z,1μm,0.1s						
IVRN	**Varamin**	**4.46**	**289**	*e*Pn	**Pn**	**04 00 46.5**	**+0.4**
IPRN	**Peran**	**4.52**	**306**	*e*Pn	**Pn**	**04 00 47.9**	**+0.9**
IPRN				*e*		04 00 50.2	
	comp=Z,1μm,0.2s						
IPIR	**Pirpir**	**5.12**	**260**	*e*Pn	**Pn**	**04 00 56.0**	**+0.6**
IPIR				*e*		04 00 56.8	
	comp=Z,554nm,0.1s						
IPIR	**Pirpir**	**5.12**	**260**	*e*Pn	**Pn**	**04 00 56.0**	**+0.6**
CHTH	**Charan**	**5.23**	**297**	*e*Pn	**Pn**	**04 00 57.6**	**+0.7**
CHTH	**Charan**	**5.23**	**297**	*e*Pn	**Pn**	**04 00 57.6**	**+0.7**
IRAZ	**Razeghan**	**5.99**	**289**	*e*Pn	**Pn**	**04 01 07.7**	**+0.4**
IRAZ	**Razeghan**	**5.99**	**289**	*e*Pn	**Pn**	**04 01 07.7**	**+0.4**
AKTO	**Aktyubinsk**	**16.77**	**3**	P	**P**	**04 03 37.6**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=212,slow=8.7,SNR=3.7						
BVAR	**Borovoye Array**	**21.62**	**23**	P	**P**	**04 04 31.5**	**+3.1**
	comp=Z,1.4nm,0.6s,baz=212,slow=14,SNR=6.6						
KURBB	**Kurchatov Arra**	**23.20**	**37**	P	**P**	**04 04 47.6**	**+2.6**
	comp=Z,1.0nm,0.8s,baz=237,slow=10,SNR=8.9						
MKAR	**Makanchi Array**	**23.29**	**48**	P	**P**	**04 04 48.8**	**+2.8**
	comp=Z,0.4nm,0.6s,baz=243,slow=9.5,SNR=4.9						
ZALV	**Zalesovo Beam**	**28.28**	**36**	P	P	04 05 34.9	+3.4
	comp=Z,0.4nm,0.4s,baz=250,slow=7.1,SNR=2.5						
TORD	**Torodi Ar. Bea**	**53.95**	**262**	P	**P**	**04 08 60.0**	**-2.4**
	comp=Z,0.8nm,1.0s,baz=59,slow=6.6,SNR=6.8						

IDC ***18*** *03:59:54.9±1.2,1°57N×126°43E,h0km,mb3.8/5, mb1 3.9/5,mb1mx3.7/31,mbtmp3.8/5,MS3.2/3,Ms1 3.2/3, ms1mx2.7/24,Error ellipse: s-maj=136.0km s-min=20.1km az=66.0*
ISCJB ***18*** *03:59:58.3±0.9,1°89N±0°08×126°9E±0°1,h35km,mb3.9/5, MS3.2/3,Error ellipse: s-maj=22.5km s-min=9.1km az=158.1*
DJA ***18*** *04:00:03.3±0.9,2°N±8°×12°7E±°,h29km±17km,M3.9/4, MLv3.9/4*

ISC 18 04:00:00.3±1.0,1°8N±0°1×126°8E±0°1,h35km,n11, σ1ᵍ30/9,mb4.0/5,MS3.7/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC

TNTI	**Ternate**	**1.16**	**153**	P	**Pn**	**04 00 21.3**	**+1.3**
LBMI	**Labuha**	**2.52**	**165**	P	**Pn**	**04 00 39.8**	**+1.0**
LBMI				S	**Sn**	**04 01 08.6**	**+0.4**
KMSI	**Cibinong**	**3.11**	**247**	P	**Pn**	**04 00 47.7**	**+0.8**
WRA	**Warramunga Arr**	**22.83**	**162**	P	**P**	**04 04 58.4**	**-2.1**
	7.8nm,0.8s,baz=340,slow=11,SNR=19						
CMAR	**Chiang Mai Arr**	**31.97**	**303**	LR	LR	04 18 10.3	
	comp=Z,4.6nm,21.3s,baz=65,slow=34						
STKA	**Stephens Creek**	**36.31**	**159**	P	**P**	**04 07 00.2**	**-0.6**
	0.5nm,0.4s,baz=342,slow=9.6,SNR=3.1						
SONM	**Songino Array**	**49.15**	**342**	P	**P**	**04 08 45.7**	**+0.9**
	0.2nm,0.4s,baz=162,slow=6.1,SNR=2.4						
MKAR	**Makanchi Array**	**59.19**	**326**	P	**P**	**04 09 58.0**	**0.0**
	0.5nm,0.5s,baz=120,slow=6.8,SNR=11						
KURBB	**Kurchatov Arra**	**63.41**	**328**	P	**P**	**04 10 25.4**	**-0.9**
	0.7nm,0.5s,baz=126,slow=6.1,SNR=8.5						
KMBO	**Kilima Mbogo**	**89.62**	**269**	LR	LR	04 52 56.6	
	comp=Z,28nm,18.1s,baz=78,slow=36						
DLBC	**Dease Lake**	**95.33**	**31**	LR	LR	04 54 06.3	
	comp=Z,30nm,19.8s,baz=257,slow=34						

ISCJB ***18*** *04:08:05.7±1.1,42°68N±0°05×126°00E±0°09,h10km, Error ellipse: s-maj=9.9km s-min=7.0km az=156.0*
IDC ***18*** *04:08:09.5±6.4,42°82N×126°00E,h0km,mb1 3.4/2, mb1mx3.1/33,mbtmp3.2/2,ML2.6/2,Error ellipse: s-maj=61.1km s-min=22.4km az=115.0*
BJI ***18*** *04:08:10.1,42°83N×125°95E,h8km,ML3.5/11*

ISC 18 04:08:08.7±1.9,42°8N±0°1×125°98E±0°09,h10km,n5, σ1ᵍ87/7,Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CN2	**Changchun**	**1.12**	**340**	*e*Pg	**Pn**	**04 08 30.9**	**+0.5**
CN2				*e*Sg	**Sb**	**04 08 44.5**	**-0.2**
CN2				smax	smax		
	comp=N,100nm,0.5s						
CN2				smax	smax		
	comp=E,100nm,0.5s						
MDJ	**Mudanjiang**	**3.22**	**53**	Pg	**Pg**	**04 09 09.6**	**-0.7**
MDJ				Sg	**Sg**	**04 09 53.3**	**+1.3**
MDJ				SMN			
	comp=E,330nm,0.9s						
MDJ				SME			
	comp=E,310nm,0.6s						
USRK	**Ussuriysk Ar.**	**4.61**	**70**	Pn	**Pn**	**04 09 19.9**	**+1.5**
	comp=E,0.5nm,0.3s,baz=262,slow=13,SNR=6.0						
USRK				Pg	**Pg**	**04 09 34.0**	**-3.0**
	comp=E,1.2nm,0.3s,baz=255,slow=13,SNR=5.3						
USRK				Lg	Lg	04 10 35.1	
	comp=E,9.8nm,0.3s,baz=260,slow=32,SNR=23						
KSRS	**Korea Array**	**5.50**	**164**	Pg	Pg	04 09 52.2	-1.8
	comp=E,1.3nm,0.3s,baz=345,slow=18,SNR=8.3						
KSRS				Lg	Lg	04 11 05.7	
	comp=E,7.5nm,0.3s,baz=348,slow=28,SNR=19						
MJAR	**Matsushiro Arr**	**11.28**	**119**	Pn	**Pn**	**04 10 50.5**	**+0.5**
	comp=E,0.2nm,0.3s,baz=316,slow=14,SNR=2.6						

SKHL ***18*** *04:16:04.1±0.5,48°78N×154°83E,h45km±4km,mb4.1/1*
MOS ***18*** *04:16:04.8±2.9,48°63N×156°58E,h6km,mb4.2/1,Error ellipse: s-maj=99.9km s-min=19.4km az=78.8*

KRSC 18 04:16:04.9±2.7,48°63N×156°58E,h6km±2km,ML4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.07**	**352**	*e*P	Pn	04 16 39.2	-1.0
SKR				*e*S	Sn	04 17 04.0	-2.3
SKR

MORF					*e*Sn	Sn	04 27 30.8	-3.0	
	8.7nm,0.5s								
PNCL	**Nicolau / Gran**	**2.21**	**59**	*e*Pn	Pn	04 27 14.7	-1.6		
PNCL				*e*Sn	Sn	04 27 40.0	-2.6		
PNCL				A	A	04 27 44.1			
	4.2nm,0.4s								
PNCL	**Nicolau / Gran**	**2.21**	**59**	*e*Pn	Pn	04 27 14.7	-1.6		
PNCL				*e*Sn	Sn	04 27 40.0	-2.6		
	4.2nm,0.4s								
PNCL	**Nicolau / Gran**	**2.21**	**59**	*e*Pn	Pn	04 27 14.7	-1.6		
MESJ	**Messejana**	**2.32**	**68**	*e*Pn	Pn	04 27 16.1	-1.7		
MESJ				*e*Sn	Sn	04 27 42.0	-3.2		
MESJ				A	A	04 27 46.4			
	4.0nm,0.9s								
MESJ	**Messejana**	**2.32**	**68**	P	Pn	04 27 16.1	-1.7		
MESJ				S	Sn	04 27 42.0	-3.2		
	4.0nm,0.9s								
MESJ	**Messejana**	**2.32**	**68**	*e*Pn	Pn	04 27 16.1	-1.7		
MESJ				*e*Sn	Sn	04 27 42.0	-3.2		
	4.0nm,0.9s								
MESJ	**Messejana**	**2.32**	**68**	*e*Pn	Pn	04 27 15.6	-2.2		
PMAFR	**Mafra**	**2.35**	**33**	*e*Pn	Pn	04 27 15.9	-2.4		
PMAFR				*e*Sn	Sn	04 27 42.9	-3.3		
PMAFR				A	A	04 27 54.6			
	11nm,0.6s								
PMAFR	**Mafra**	**2.35**	**33**	P	Pn	04 27 15.9	-2.4		
	1.4nm,0.1s,SNR=7.4								
PMAFR				S	Sn	04 27 42.2	-4.0		
	4.4nm,0.1s,SNR=5.8								
PMAFR	**Mafra**	**2.35**	**33**	*e*Pn	Pn	04 27 15.9	-2.4		
PMAFR				S	Sn	04 27 42.2	-4.0		
	4.4nm,0.1s,SNR=5.8								
PMAFR				*e*Sn	Sb	04 27 42.9	-9.3		
	11nm,0.6s								
PCVE	**Castro Verde**	**2.39**	**74**	*e*Pn	Pn	04 27 17.8	-1.0		
PCVE				*e*Sn	Sn	04 27 43.4	-3.7		
PCVE				A	A	04 27 51.9			
	0.2nm,0.7s								
PCVE	**Castro Verde**	**2.39**	**74**	P	Pn	04 27 17.8	-1.0		
PCVE				S	Sn	04 27 43.4	-3.7		
	0.2nm,0.7s								
PCVE	**Castro Verde**	**2.39**	**74**	*e*Pn	Pn	04 27 17.8	-1.0		
PCVE				*e*Sn	Sn	04 27 43.4	-3.7		
	0.2nm,0.7s								
PBDV	**Barranco-do-Ve**	**2.41**	**83**	*e*Pn	Pn	04 27 17.8	-1.3		
PBDV				*e*Sn	Sn	04 27 44.6	-3.0		
PBDV				A	A	04 27 50.1			
	2.2nm,0.3s								
PBDV	**Barranco-do-Ve**	**2.41**	**83**	P	Pn	04 27 17.8	-1.3		
PBDV				S	Sn	04 27 44.6	-3.0		
	2.2nm,0.3s								
PBDV	**Barranco-do-Ve**	**2.41**	**83**	*e*Pn	Pn	04 27 17.8	-1.3		
PBDV				*e*Sn	Sn	04 27 44.6	-3.0		
	2.2nm,0.3s								
PACT	**Alcochete**	**2.43**	**42**	*e*Pn	Pn	04 27 18.1	-1.2		
PACT				*e*Sn	Sn	04 27 47.3	-0.7		
PACT				A	A	04 27 50.2			
	17nm,0.5s								
PACT	**Alcochete**	**2.43**	**42**	*e*Pn	Pn	04 27 18.1	-1.2		
PACT				*e*Sn	Sn	04 27 47.3	-0.7		
	17nm,0.5s								
PVAQ	**Vaqueiros**	**2.60**	**80**	*e*Pn	Pn	04 27 20.7	-1.0		
PVAQ				*e*Sn	Sn	04 27 48.7	-3.5		
PVAQ				A	A	04 27 50.3			
	4.0nm,0.2s								
PVAQ	**Vaqueiros**	**2.60**	**80**	P	Pn	04 27 20.7	-1.0		
PVAQ				S	Sn	04 27 48.7	-3.5		
	4.0nm,0.2s								
PVAQ	**Vaqueiros**	**2.60**	**80**	*e*Pn	Pn	04 27 20.7	-1.0		
PVAQ				*e*Sn	Sn	04 27 48.7	-3.5		
	4.0nm,0.2s								
EVO	**Evora**	**2.78**	**55**	*e*Sn	Sn	04 27 51.1	-5.5		
EVO				A	A	04 27 56.6			
	6.5nm,0.1s								
EVO	**Evora**	**2.78**	**55**	S	Sn	04 27 51.1	-5.5		
	6.5nm,0.1s								
EVO	**Evora**	**2.78**	**55**	*e*Sn	Sn	04 27 51.1	-5.5		
	6.5nm,0.1s								
EGRO	**El Granado**	**2.80**	**78**	P	Pn	04 27 23.8	-0.6		
	0.4nm,0.1s,SNR=7.9								
EGRO				S	Sn	04 27 53.7	-3.5		
	2.0nm,0.1s,SNR=6.0								
EGRO	**El Granado**	**2.80**	**78**	P	Pn	04 27 23.8	-0.7		
	0.4nm,0.1s,SNR=7.9								
EGRO				S	Sn	04 27 53.7	-3.5		
	2.0nm,0.1s,SNR=6.0								
PMTG	**Montargil**	**2.98**	**45**	*e*Pn	Pn	04 27 24.4	-2.5		
PMTG				*e*Sn	Sn	04 27 58.2	-3.3		
PMTG				A	A	04 28 03.1			
	2.9nm,0.6s								
PMTG	**Montargil**	**2.98**	**45**	*e*Pn	Pn	04 27 24.4	-2.5		
PMTG				*e*Sn	Sn	04 27 58.2	-3.3		
	2.9nm,0.6s								
PESTR	**Estremoz**	**3.24**	**54**	*e*Pn	Pn	04 27 29.3	-1.2		
PESTR				*e*Sn	Sn	04 28 03.6	-4.4		
PESTR				A	A	04 28 21.3			
	1.6nm,0.8s								
PESTR	**Estremoz**	**3.24**	**54**	*e*Pn	Pn	04 27 29.3	-1.2		
PESTR				*e*Sn	Sn	04 28 03.6	-4.4		
	1.6nm,0.8s								
PBAR	**Barrancos**	**3.31**	**68**	*e*Pn	Pn	04 27 30.5	-0.9		
PBAR				*e*Sn	Sn	04 28 05.4	-4.3		
PBAR				A	A	04 28 08.6			
	3.9nm,1.1s								
PBAR	**Barrancos**	**3.31**	**68**	P	Pn	04 27 30.5	-0.9		
PBAR				S	Sn	04 28 05.4	-4.3		
	3.9nm,1.1s								
PBAR	**Barrancos**	**3.31**	**68**	*e*Pn	Pn	04 27 30.5	-0.9		
PBAR				*e*Sn	Sn	04 28 05.4	-4.3		
	3.9nm,1.1s								
EMIN	**Mina Concepcio**	**3.48**	**76**	P	Pn	04 27 32.1	-1.7		
	0.2nm,0.1s,SNR=7.9								
EMIN				S	Sn	04 28 10.0	-3.9		
	1.4nm,0.1s,SNR=5.8								
EMIN	**Mina Concepcio**	**3.48**	**76**	P	Pn	04 27 32.1	-1.7		
	0.2nm,0.1s,SNR=7.9								
EMIN				S	Sn	04 28 10.0	-3.9		
	1.4nm,0.1s,SNR=5.8								
EBAD	**Badajoz**	**3.56**	**59**	P	Pn	04 27 32.5	-2.5		
	0.4nm,0.2s,SNR=9.3								
EBAD				S	Sn	04 28 08.1	-7.9		
	1.2nm,0.1s,SNR=7.9								
EBAD	**Badajoz**	**3.56**	**59**	P	Pn	04 27 32.5	-2.5		
	0.4nm,0.2s,SNR=9.3								
EBAD				S	Sn	04 28 08.1	-7.9		
	1.2nm,0.1s,SNR=7.9								
PMRV	**Marv??o**	**3.70**	**48**	*e*Pn	Pn	04 27 34.7	-2.2		
PMRV				*e*Sn	Sn	04 28 14.5	-4.9		
PMRV				A	A	04 28 18.0			
	1.9nm,0.2s								
PMRV	**Marv??o**	**3.70**	**48**	P	Pn	04 27 34.7	-2.2		
PMRV				S	Sn	04 28 14.5	-4.9		
	1.9nm,0.2s								
PMRV	**Marv??o**	**3.70**	**48**	*e*Pn	Pn	04 27 34.7	-2.2		
PMRV				*e*Sn	Sn	04 28 14.5	-4.9		
	1.9nm,0.2s								
PCBR	**Castelo Branco**	**3.93**	**43**	*e*Pn	Pn	04 27 37.9	-2.1		
PCBR				*e*Sn	Sn	04 28 20.7	-4.3		
PCBR				A	A	04 28 21.0			
	1.0nm,0.3s								
PCBR	**Castelo Branco**	**3.93**	**43**	P	Pn	04 27 37.9	-2.1		
PCBR				S	Sn	04 28 20.7	-4.3		
	0.5nm,0.3s								
PCBR	**Castelo Branco**	**3.93**	**43**	*e*Pn	Pn	04 27 37.9	-2.1		
PCBR				*e*Sn	Sn	04 28 20.7	-4.3		
	1.0nm,0.3s								
PVIS	**Viseu**	**4.41**	**32**	*e*Pn	Pn	04 27 44.4	-2.3		
PVIS				*e*Sn	Sn	04 28 31.9	-5.1		
PVIS				A	A	04 28 42.2			
	2.3nm,0.5s								
PVIS	**Viseu**	**4.41**	**32**	P	Pn	04 27 44.4	-2.3		
PVIS				S	Sn	04 28 31.9	-5.1		
	1.2nm,0.5s								
PVIS	**Viseu**	**4.41**	**32**	*e*Pn	Pn	04 27 44.4	-2.3		
PVIS				*e*Sn	Sn	04 28 31.9	-5.1		
	2.3nm,0.5s								
ECAB	**El Cabril**	**4.51**	**74**	P	Pn	04 27 46.7	-1.4		
	0.2nm,0.1s,SNR=6.1								
ECAB				S	Sn	04 28 35.1	-4.3		
	0.5nm,0.1s,SNR=5.7								
ECAB	**El Cabril**	**4.51**	**74**	P	Pn	04 27 46.7	-1.3		
	0.2nm,0.1s,SNR=6.1								
ECAB				S	Sn	04 28 35.2	-4.3		
	0.5nm,0.1s,SNR=5.7								
EPLA	**Plasencia**	**4.88**	**50**	P	Pn	04 27 51.0	-2.2		
	0.2nm,0.1s,SNR=7.9								
EPLA				S	Sn	04 28 43.2	-5.5		
	0.3nm,0.1s,SNR=7.9								
EPLA	**Plasencia**	**4.88**	**50**	P	Pn	04 27 51.0	-2.2		
	0.2nm,0.1s,SNR=7.9								
EPLA				S	Sn	04 28 43.2	-5.5		
	0.3nm,0.1s,SNR=7.9								
POLO	**Lamas de Olo**	**5.01**	**28**	*e*Sn	Sn	04 28 45.2	-6.7		
POLO				A	A	04 28 50.1			
	1.1nm,0.6s								
POLO	**Lamas de Olo**	**5.01**	**28**	*e*Sn	Sn	04 28 45.2	-6.7		
	1.1nm,0.6s								
MVO	**Moncorvo**	**5.16**	**35**	P	Pn	04 27 54.8	-2.1		
	0.4nm,0.2s,SNR=4.0								
MVO				S	Sn	04 28 48.2	-7.2		
	0.2nm,0.1s,SNR=4.0								
MVO	**Moncorvo**	**5.16**	**35**	P	Pn	04 27 54.8	-2.1		
	0.4nm,0.2s,SNR=4.0								
MVO				S	Sn	04 28 48.2	-7.2		
	0.2nm,0.1s,SNR=4.0								
EADA	**Adamuz**	**5.18**	**75**	P	Pn	04 27 55.9	-1.4		
	0.0nm,0.2s,SNR=7.9								
EADA				S	Sn	04 28 51.0	-5.0		
	0.5nm,0.1s,SNR=7.9								
EADA	**Adamuz**	**5.18**	**75**	P	Pn	04 27 55.9	-1.3		
	SNR=7.9								
EADA				S	Sn	04 28 51.0	-5.0		
	0.5nm,0.1s,SNR=7.9								
ELOB	**Lobios**	**5.35**	**24**	P	Pn	04 27 57.0	-2.7		
	0.3nm,0.2s,SNR=7.9								
ELOB				S	Sn	04 28 53.4	-6.9		
	0.5nm,0.1s,SNR=7.9								
ELOB	**Lobios**	**5.35**	**24**	P	Pn	04 27 57.0	-2.7		
	0.3nm,0.2s,SNR=7.9								
ELOB				S	Sn	04 28 53.4	-6.9		
	0.5nm,0.1s,SNR=7.9								
PGAV	**Gavieira, Arco**	**5.38**	**22**	*e*Pn	Pn	04 27 57.2	-2.8		
PGAV				*e*Sn	Sn	04 28 55.2	-5.8		
PGAV				A	A	04 29 03.3			
	3.0nm,0.8s								
PGAV	**Gavieira, Arco**	**5.38**	**22**	*e*Pn	Pn	04 27 57.2	-2.8		
PGAV				*e*Sn	Sn	04 28 55.2	-5.8		
	3.0nm,0.8s								
ECAL	**Calabor**	**5.91**	**32**	P	Pn	04 28 05.3	-2.1		
	0.4nm,0.2s,SNR=7.9								
ECAL				S	Sn	04 29 07.5	-6.6		
	0.3nm,0.1s,SNR=7.9								
ECAL	**Calabor**	**5.91**	**32**	P	Pn	04 28 05.3	-2.0		
	0.4nm,0.2s,SNR=7.9								
ECAL				S	Sn	04 29 07.5	-6.6		
	0.3nm,0.1s,SNR=7.9								
EMAZ	**Mazaricos**	**6.14**	**14**	S	Sn	04 29 11.0	-8.5		
	1.0nm,0.1s,SNR=7.9								
EMAZ	**Mazaricos**	**6.14**	**14**	S	Sn	04 29 11.0	-8.5		
	1.0nm,0.1s,SNR=7.9								

INMG 18 04:26:48.3±0.8, 36°57'N×9°66'W, h19km±3km, ML1.5, Error ellipse: s-maj=6.8km s-min=4.6km az=117.0, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**0.88**	**49**	*e*P	Pb	04 27 03.9	-1.0
PFVI				*e*S	Sb	04 27 16.3	0.0
PFVI				A	A	04 27 16.9	
	3.7nm,0.2s						
MORF	**Marmelete**	**1.10**	**47**	*e*Pn	Pn	04 27 07.1	-1.6
MORF				*e*Sn	Sb	04 27 21.4	-1.3
MORF				A	A	04 27 22.1	
	8.0nm,0.2s						
PTEO	**Sao Teotonio**	**1.23**	**37**	*e*Sn	Sb	04 27 24.8	-1.7
PBDV	**Barranco-do-Ve**	**1.54**	**63**	*e*Pn	Pn	04 27 13.4	-1.4
PBDV				*e*Sn	Sn	04 27 31.7	-2.7
PCVE	**Castro Verde**	**1.68**	**50**	*e*Pn	Pn	04 27 15.2	-1.4
PCVE				*e*Sn	Sn	04 27 35.8	-1.8
MESJ	**Messejana**	**1.72**	**42**	*e*Sn	Sn	04 27 36.1	-2.5
PVAQ	**Vaqueiros**	**1.77**	**61**	*e*Pn	Pn	04 27 16.4	-1.5
PVAQ				*e*Sn	Sn	04 27 37.5	-2.3
PNCL	**Nicolau / Gran**	**1.79**	**30**	*e*Sn	Sn	04 27 37.7	-2.6
PBAR	**Barrancos**	**2.63**	**52**	*e*Pn	Pn	04 27 28.1	-1.7
PBAR				*e*Sn	Sn	04 27 58.1	-3.2

IDC 18 05:14:10.0±2.5, 55°52N×86°31E, h0km, mb1 3.1/3, mb1mx3.0/36, mbtmp3.1/3, ML2.9/3, Error ellipse: s-maj=23.3km s-min=16.2km az=74.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.79**	**209**	*i*		05 26 10.0	
	baz=25,slow=328,SNR=9.5						
ZALV	**Zalesovo Beam**	**1.79**	**209**	Pn	Pn	05 14 41.9	-0.3
	4.9nm,0.3s,baz=28,slow=14,SNR=34						
ZALV				Lg	Lg	05 15 07.8	
	6.3nm,0.3s,baz=27,slow=23,SNR=14						
KURBB	**Kurchatov Arra**	**6.78**	**227**	Pn	Pn	05 15 50.2	-0.5
	0.1nm,0.3s,baz=46,slow=13,SNR=4.2						
KURBB				Sn	Sn	05 17 07.5	-1.0
	0.0nm,0.3s,baz=43,slow=18,SNR=5.0						
KURBB				Lg	Lg	05 17 45.4	
	0.1nm,0.3s,baz=44,slow=28,SNR=5.1						
MKAR	**Makanchi Array**	**9.09**	**198**	Pn	Pn	05 16 22.6	+0.2
	0.1nm,0.3s,baz=13,slow=11,SNR=5.2						
MKAR				Sn	Sn	05 18 03.2	-2.2
	0.1nm,0.3s,baz=18,slow=26,SNR=4.0						
MKAR				Lg	Lg	05 18 55.4	
	0.1nm,0.3s,baz=22,slow=26,SNR=5.0						
BVAR	**Borovoye Array**	**9.64**	**262**	Pn	Pn	05 16 29.1	-0.8
	0.3nm,0.3s,baz=78,slow=12,SNR=3.5						

*IDC **18** 05:29:05.9±2.0, 20°.29N×98°.36W, h0km, mb3.2/3, mb1 3.5/7, mb1mx3.4/29, mbtmp3.2/7, ML3.0/4, MS2.7/2, Ms1 2.7/2, ms1mx2.5/14, Error ellipse: s-maj=67.6km s-min=17.9km az=48.0*

*ISCJB **18** 05:29:06.2±0.9, 20°.42N±0°.03×98°.86W±0°.05, h14km±5km, mb3.1/3, Error ellipse: s-maj=8.5km s-min=4.7km az=164.5*

*MEX **18** 05:29:09.1±1.3, 20°.35N×98°.92W, h5km, MD4.0*

ISC 18 05:29:06.4±1.3, 20°.37N±0°.04×98°.81W±0°.04, h5km±10km, n29, σ1°43/37, mb3.3/3, 1C-1D, Veracruz

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEIG	**Demacu**	**0.22**	**253**	*i*	P	**05 29 10.7**	**0.0**
DEIG				*e*	S	**05 29 13.2**	**-0.5**
ZUVM	**ZUMPANGO**	**0.59**	**205**	*i*	P	**05 29 18.2**	**+0.4**
ZUVM				*i*	S	**05 29 26.6**	**+1.0**
VTVM	**Tizayuca**	**0.59**	**177**	*e*	P	**05 29 19.6**	**+0.1**
VTVM				*i*	S	**05 29 28.8**	**+0.5**
IIO	**Organos**	**0.78**	**174**	*i*	P	**05 29 22.5**	**-1.8**
IIO				*i*	S	**05 29 33.4**	**-0.2**
PTVM	**Pico Tres Padr**	**0.82**	**200**	*e*	P	**05 29 22.2**	**+0.1**
PTVM				*i*	S	**05 29 34.1**	**-0.7**
AZVM	**Cuida Lopez Ma**	**0.90**	**210**	*i*	P	**05 29 23.5**	**-0.1**
PBIG	**Penon de los B**	**0.96**	**196**	*e*	P	**05 29 24.1**	**-0.6**
PBIG				*e*	S	**05 29 35.8**	**-1.4**
UNM	**Universidad Na**	**1.09**	**199**	*e*	P	**05 29 27.0**	**-0.3**
UNM				*e*	S	**05 29 40.6**	**-0.8**
AMVM	**AMECAMECA**	**1.23**	**179**	*e*	P	**05 29 31.0**	**+1.0**
MZVM		**1.24**	**199**	*e*	P	**05 29 28.4**	**-1.9**
PPM	**Popocatepetl**	**1.30**	**172**	*e*	P	**05 29 32.2**	**+0.8**
PPM				*e*	S	**05 29 46.8**	**-2.2**
TOVM	**TOLUCA**	**1.35**	**217**	*e*	P	**05 29 31.4**	**-0.9**
YAIG	**Yautepec**	**1.52**	**189**	*e*	P	**05 29 33.8**	**-0.5**
MAVM	**Malinalco, Edo**	**1.54**	**205**	*e*	P	**05 29 34.2**	**-0.6**
PLIG	**Platanillo**	**2.07**	**199**	*e*	P	**05 29 41.2**	**-0.7**
LVIG	**Laguna Verde**	**2.34**	**105**	*i*	P	**05 29 51.0**	**-0.2**
LVIG				*e*	S	**05 30 21.5**	**0.0**
MOIG	**Morelia**	**2.34**	**253**	*e*	P	**05 29 46.0**	**+0.2**
TPIG	**Tehuac#an**	**2.37**	**145**	*i*	P	**05 29 46.3**	**+0.2**
TPIG				*i*	S	**05 30 15.0**	**-0.7**
IGIG	**Irapuato, Guan**	**2.39**	**280**	*e*	P	**05 29 46.0**	**-0.4**
IGIG				*e*	S	**05 30 12.9**	**-3.4**
ARIG	**Puente Sto Nin**	**2.53**	**215**	*e*	P	**05 29 49.1**	**+0.9**
LNIG	**Linares**	**4.55**	**352**	*i*	P	**05 30 14.1**	**-1.8**
LNIG				*i*	S	**05 31 07.0**	**-2.3**
CMIG	**Matias Romero**	**4.95**	**131**	Pn	Pn	05 30 16.2	-5.1
	0.3nm,0.3s,baz=280,slow=18,SNR=4.3						
CMIG				Pg	Pb	05 30 29.0	-4.5
	0.9nm,0.3s,baz=302,slow=11,SNR=9.7						
CMIG				Lg	Lg	05 31 42.5	
	0.5nm,0.3s,baz=215,slow=18,SNR=1.6						
TEIG	**Tepich**	**9.89**	**89**	Pn	Pn	05 31 25.0	-4.2
	0.3nm,0.3s,baz=279,slow=13,SNR=2.0						
TXAR	**Lajitas Array**	**9.96**	**335**	Pn	Pn	05 31 36.3	+6.0
	0.0nm,0.3s,baz=140,slow=15,SNR=2.6						
TXAR				Lg	Lg	05 34 28.4	
	0.1nm,0.3s,baz=164,slow=23,SNR=4.1						
TXAR				LR	LR	05 35 54.2	
	comp=Z,39nm,20.2s,baz=0.0,slow=40						
ANMO	**Albuquerque**	**16.02**	**337**	Pn	**P**	**05 32 57.8**	**+1.6**
	0.1nm,0.3s,baz=156,slow=10,SNR=4.7						
JTS	**JuntasAbangare**	**16.69**	**125**	LR	LR	05 40 13.5	
	comp=Z,29nm,18.4s,baz=280,slow=41						
PDAR	**Pinedale Array**	**24.09**	**340**	P	**P**	**05 34 25.8**	**+2.6**
	0.5nm,0.7s,baz=157,slow=7.9,SNR=3.9						
NVAR	**Mina Array Bea**	**24.66**	**321**	P	**P**	**05 34 32.4**	**+4.0**
	0.2nm,0.5s,baz=131,slow=11,SNR=2.6						
YKA	**Yellowknife Ar**	**43.48**	**349**	P	**P**	**05 37 10.3**	**0.0**
	0.5nm,0.7s,baz=154,slow=6.2,SNR=3.3						

MEX 18 05:52:39.7±0.3, 16°19N×93°80W, h15km±7km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.73**	**131**	*e*P	Pg	05 52 51.4	-2.6
PCIG				*i* S	Sg	05 53 00.8	-2.9
CCIG	**Comitan**	**1.60**	**86**	*e*P	Pn	05 53 04.2	-3.4
CCIG				*i* S	Sn	05 53 22.4	-5.8
HUIG	**Huatulco**	**2.26**	**260**	*i* P	Pn	05 53 12.9	-3.7
HUIG				*i* S	Sn	05 53 40.1	-4.1
VHO	**Vista Hermosa**	**2.95**	**288**	*i* P	Pn	05 53 23.6	-2.7
VHO				*i* S	Sn	05 53 57.6	-4.1

*SKHL **18** 06:19:52.4±0.8, 45°.14N×150°.24E, h46km±4km, mb4.7/3*
*JMA **18** 06:19:52.2±0.8, 45°.19N×150°.30E, h30km, M4.3*

ISC 18 06:19:53.9±4.2, 45°.1N±0°.1×150°.2E±0°.2, h51km, n18, σ1°54/28, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.62**	**277**	*e*P	**Pn**	**06 20 18.8**	**-1.2**
KUR				AMB	AMB	06 20 19.6	
	60nm,0.3s						
KUR				AMB	AMB	06 20 19.6	
	120nm,0.3s						
KUR				*e*S	**Sn**	**06 20 38.0**	**-1.8**
KUR				A	A	06 20 41.5	
	530nm,0.5s						
KUR				A	A	06 20 41.5	
	300nm,0.5s						
SHO	**Shikotan**	**2.66**	**244**	*e*P	**Pn**	**06 20 33.6**	**-0.6**
SHO				AMB	AMB	06 20 37.4	
	130nm,0.3s						
SHO				*e*S	**Sn**	**06 21 04.6**	**-0.6**
SHO				A	A	06 21 16.0	
	210nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.23**	**253**	*i* P	**Pn**	**06 20 43.5**	**+1.4**
YUK				AMB	AMB	06 20 45.2	
	90nm,0.2s						
YUK				*i* S	**Sn**	**06 21 22.4**	**+3.1**
YUK				A	A	06 21 30.0	
	110nm,0.5s						
YUK				A	A	06 21 30.0	
	70nm,0.5s						
NEM2	**Nemuro 2**	**3.59**	**243**	P	**Pn**	**06 20 47.0**	**0.0**
NEM2				*e*S	**Sn**	**06 21 27.2**	**-1.0**
JNK	**Nakash**	**4.17**	**251**	P	**Pn**	**06 20 56.2**	**+1.3**
JAK	**Akkeshi**	**4.44**	**244**	P	**Pn**	**06 20 58.5**	**-0.1**
JAK				*e*S	**Sn**	**06 21 47.7**	**-1.3**
JTKR	**Abashiri--Toko**	**4.59**	**258**	P	**Pn**	**06 21 02.3**	**+1.6**
JAR	**Ashorobuto**	**4.92**	**251**	P	**Pn**	**06 21 06.8**	**+1.6**
JAR				*e*S	**Sn**	**06 22 03.6**	**+2.9**
JMP	**Maruseppu**	**4.97**	**260**	P	**Pn**	**06 21 07.7**	**+1.8**
JOB	**Onbets**	**5.04**	**247**	P	**Pn**	**06 21 07.8**	**+0.9**
JOB				*e*S	**Sn**	**06 22 04.1**	**+0.3**
JCH	**Churui**	**5.48**	**246**	P	**Pn**	**06 21 13.7**	**+0.8**
JCH				*e*S	**Sn**	**06 22 14.2**	**-0.5**
YSS	**Yuzh-Sakhalins**	**5.49**	**293**	*e*P	**Pn**	**06 21 13.4**	**+0.5**
MYR	**Moyori**	**5.70**	**243**	*e*P	**Pn**	**06 21 16.6**	**+0.7**
MYR				*e*S	**Sn**	**06 22 19.4**	**-0.5**
JEM	**Erimo**	**5.92**	**241**	*e*S	**Sn**	**06 22 25.0**	**-0.5**
JNBK	**Urakawa-nobuka**	**6.04**	**245**	P	**Pn**	**06 21 20.6**	**0.0**
JNBK				*e*S	**Sn**	**06 22 27.5**	**-0.9**
JBT2	**Biratori 2**	**6.07**	**251**	P	**Pn**	**06 21 21.8**	**+0.8**
JKB	**Kayabe**	**7.35**	**248**	P	**Pn**	**06 21 38.4**	**-0.1**
JKB				*e*S	**Sn**	**06 22 56.4**	**-4.1**
JTH	**Tanohata**	**7.98**	**233**	*e*S	Sn	06 23 09.1	-6.9

*ISCJB **18** 06:49:50.4±1.1, 60°.17N±0°.05×26°.64E±0°.07, h0km, Error ellipse: s-maj=7.9km s-min=4.8km az=157.5*

*HEL **18** 06:49:50.8±0.2, 60°.09N×26°.71E, h0km, ML1.9, Explosion*

*CSEM **18** 06:49:50.8, 60°.09N×26°.71E, h0km, ML1.9, Mining explosion.*

*IDC **18** 06:49:51.9±2.0, 60°.17N×26°.71E, h0km, mb1 3.1/2, mb1mx2.9/24, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=18.6km s-min=12.1km az=113.0*

**ISC 18 06:49:50.3±1.4, 60°.14N±0°.06×26°.67E±0°.04, h0km, n19

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.07**	**310**	PN	Pn	07 16 29.5	-0.8
VRZ				SN	S	07 16 50.7	-1.2
MHEZ	**Mangahewa**	**0.40**	**283** ⇓	PN	Pn	07 16 30.8	-0.1
PKVZ	**Pokaka**	**0.42**	**107** ⇑	PN	Pn	07 16 30.8	-0.3
PKVZ				SN	S	07 16 52.0	-1.1
TWVZ	**Taurewa**	**0.49**	**79**	PN	Pn	07 16 30.7	-0.6
MTVZ	**Mangateitei**	**0.55**	**114**	PN	Pn	07 16 31.3	-0.2
MTVZ				SN	S	07 16 52.8	-1.1
WPVZ	**Whakapapa**	**0.56**	**94** ⇑	PN	Pn	07 16 31.4	-0.2
FWVZ	**Far West T-bar**	**0.57**	**99** ⇑	PN	Pn	07 16 31.5	-0.2
FWVZ				SN	S	07 16 53.0	-1.3
TRVZ	**Turoa**	**0.58**	**103** ⇑	PN	Pn	07 16 31.6	-0.2
TRVZ				SN	S	07 16 53.3	-1.2
WAZ	**Wanganui**	**0.60**	**168** ⇑	PN	Pn	07 16 32.0	+0.4
WNVZ	**Wahianoa**	**0.62**	**105**	PN	Pn	07 16 31.8	-0.1
KHEZ	**Kahui Hut**	**0.64**	**259**	PN	Pn	07 16 31.7	-0.2
PKE	**Pukeiti**	**0.65**	**267**	PN	Pn	07 16 31.5	-0.3
TUVZ	**Tukino**	**0.65**	**99**	PN	Pn	07 16 32.0	0.0
NWEZ	**Newall Road**	**0.75**	**262**	*e*PN	Pn	07 16 32.0	-0.2
MOVZ	**Moawhango**	**0.76**	**109**	PN	Pn	07 16 32.0	-0.4
MOVZ				SN	S	07 16 53.2	-2.3
BHHZ	**Black Hill Sta**	**1.01**	**109**	PN	Pn	07 16 33.5	-0.4
TSZ	**Takapari Road**	**1.25**	**136**	PN	Pn	07 16 35.7	+0.2
TSZ				AML	AML	07 17 01.0	
TSZ				AML	AML	07 17 01.6	
MRHZ	**Matea Rd**	**1.29**	**75**	PN	Pn	07 16 34.6	-1.2
KRHZ	**Kereru**	**1.29**	**112** ⇑	PN	Pn	07 16 35.8	+0.1
BKZ	**Black Stump Fm**	**1.30**	**90**	PN	Pn	07 16 35.2	-0.7
BKZ				AML	AML	07 17 01.6	
BKZ				AML	AML	07 17 02.1	
PNHZ	**Pukenui**	**1.30**	**125**	PN	Pn	07 16 36.1	+0.2
POWZ	**Post Office Ro**	**1.42**	**150**	PN	Pn	07 16 36.7	-0.1
MCHZ	**McNeill Hill**	**1.48**	**101**	PN	Pn	07 16 37.8	+0.5
DVHZ	**Dannevirke**	**1.53**	**138**	PN	Pn	07 16 37.8	0.0
DVHZ				SN	S	07 17 03.4	-1.5
WPHZ	**Waipukurau**	**1.54**	**126**	PN	Pn	07 16 38.0	+0.2
MRZ	**Mangatainoka R**	**1.60**	**159** ⇑	PN	Pn	07 16 38.0	-0.3
MRZ				AML	AML	07 17 06.6	
MRZ				AML	AML	07 17 06.7	
PRWZ	**Pori Road**	**1.64**	**148**	PN	Pn	07 16 38.9	+0.2
OGWZ	**Otaki Gorge**	**1.67**	**171** ⇑	PN	Pn	07 16 38.9	0.0
ARHZ	**Aropaoanui**	**1.69**	**94**	PN	Pn	07 16 39.1	0.0
KIW	**Kapiti Island**	**1.69**	**178** ⇑	PN	Pn	07 16 38.8	-0.3
KIW				AML	AML	07 17 08.3	
KAHZ	**Kahuranaki**	**1.71**	**112**	PN	Pn	07 16 39.7	+0.3
KAHZ				SN	S	07 17 07.4	-0.2
DUWZ	**D'Urville Isla**	**1.77**	**203**	PN	Pn	07 16 39.4	-0.5
PRHZ	**Porangahau**	**1.78**	**129**	PN	Pn	07 16 40.0	+0.1
RAHZ	**Arahi**	**1.78**	**83**	PN	Pn	07 16 39.6	-0.4
PXZ	**Pawanui**	**1.79**	**119**	PN	Pn	07 16 40.1	0.0
PXZ				AML	AML	07 17 11.2	
TIWZ	**Tintock**	**1.80**	**153**	PN	Pn	07 16 39.9	-0.3
TIWZ				AML	AML	07 17 10.6	
TIWZ				AML	AML	07 17 10.9	
HOWZ	**Holdsworth Sta**	**1.81**	**163**	PN	Pn	07 16 39.7	-0.5
ANWZ	**Angora Road**	**1.81**	**136**	PN	Pn	07 16 40.4	+0.2
ANWZ				SN	S	07 17 08.5	-0.8
BFZ	**Birch Farm**	**1.86**	**145**	PN	Pn	07 16 40.4	-0.3
WHHZ	**Waihua**	**1.88**	**88**	PN	Pn	07 16 40.5	-0.4
CAW	**Cannon Point**	**1.95**	**175**	PN	Pn	07 16 41.1	-0.4
CAW				AML	AML	07 17 11.1	
CAW				AML	AML	07 17 12.3	
SNGZ	**Shannon Statio**	**2.00**	**80**	PN	Pn	07 16 41.4	-0.8
URZ	**Urewera**	**2.01**	**64**	PN	Pn	07 16 40.4	-1.8
CPWZ	**Castlepoint**	**2.04**	**145**	PN	Pn	07 16 42.6	+0.2
MTW	**Mount Morrison**	**2.06**	**166**	PN	Pn	07 16 42.0	-0.6
MTW				AML	AML	07 17 13.8	
MTW				AML	AML	07 17 13.9	
TCW	**Tory Channel**	**2.08**	**191**	AML	AML	07 17 13.3	
TCW				AML	AML	07 17 14.1	
TMWZ	**Te Maipa**	**2.10**	**157**	PN	Pn	07 16 42.6	-0.6
RAGZ	**Rawiri**	**2.13**	**72**	PN	Pn	07 16 42.0	-1.6
KNZ	**Kokohu**	**2.22**	**87**	PN	Pn	07 16 43.6	-0.7
PAWZ	**Paruwai Farm**	**2.26**	**168**	PN	Pn	07 16 44.0	-0.7
PAWZ				AML	AML	07 17 17.6	
PAWZ				AML	AML	07 17 17.7	
MSWZ	**Moikau Station**	**2.27**	**172** ⇑	PN	Pn	07 16 44.0	-0.8
MSWZ				AML	AML	07 17 17.4	
MSWZ				AML	AML	07 17 17.9	
MWZ	**Matawai**	**2.27**	**69**	PN	Pn	07 16 43.4	-1.6
TRWZ	**Traveller**	**2.32**	**164**	PN	Pn	07 16 44.8	-0.6
RIGZ	**Rimuhau**	**2.34**	**80**	PN	Pn	07 16 44.8	-0.9
TUWZ	**Tuamarina**	**2.36**	**196**	PN	Pn	07 16 45.1	-0.7
TUWZ				AML	AML	07 16 45.8	
MHGZ	**Mahia Peninsul**	**2.40**	**91**	PN	Pn	07 16 45.7	-0.5
QRZ	**Quartz Range**	**2.42**	**226** ⇑	PN	Pn	07 16 44.6	-1.8
PLWZ	**Palliser**	**2.42**	**172**	PN	Pn	07 16 45.5	-1.0
TKGZ	**Te Karaka**	**2.47**	**74**	PN	Pn	07 16 46.0	-1.0
BSWZ	**Blackbirch Sta**	**2.64**	**196**	PN	Pn	07 16 48.5	-0.4
HAZ	**Te Kaha**	**2.72**	**60** ⇑	PN	Pn	07 16 47.0	-2.8
PUZ	**Puketiti**	**2.90**	**69**	PN	Pn	07 16 49.9	-2.0
THZ	**Tophouse**	**2.98**	**209** ⇓	PN	Pn	07 16 51.1	-1.6
WMGZ	**Waiomatatini S**	**3.12**	**66**	PN	Pn	07 16 52.0	-2.4
KHZ	**Kahutara**	**3.39**	**196**	PN	Pn	07 16 56.1	-1.3
LTZ	**Lake Taylor**	**4.09**	**207**	PN	Pn	07 17 03.9	-2.1
OXZ	**Oxford**	**4.65**	**206**	PN	Pn	07 17 10.0	-2.9
MQZ	**McQueen's Vall**	**4.82**	**199** ⇓	PN	Pn	07 17 11.8	-3.2
WVZ	**Waitaha Valley**	**4.98**	**217**	PN	Pn	07 17 14.3	-2.7
RPZ	**Rata Peaks**	**5.35**	**211** ⇓	PN	Pn	07 17 18.7	-3.1

*IDC **18** 07:20:53.0±4.2, 4°.00S×11°.97W, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.7/48, mbtmp4.0/7, MS3.4/8, Ms1 3.4/8, ms1mx3.1/35, Error ellipse: s-maj=124.2km s-min=76.9km az=145.0*

ISC 18 07:20:54.6±3.9, 3°.9S±0°.7×12°.0W±0°.6, h10km, n21, σ0°.62/7, mb4.1/7, MS3.4/7, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**4.57**	**212**	T	T	07 26 41.3	
	baz=29,slow=75,SNR=119						
H10N1	**ASCENSION HYDR**	**4.58**	**212**	T	T	07 26 40.5	
	baz=29,slow=75,SNR=106						
H10N3	**ASCENSION HYDR**	**4.59**	**212**	T	T	07 26 42.6	
	baz=29,slow=75,SNR=116						
H10S1	**ASCENSION HYDR**	**5.61**	**208**	T	T	07 28 04.1	
	baz=27,slow=74,SNR=107						
H10S2	**ASCENSION HYDR**	**5.62**	**207**	T	T	07 28 02.2	
	baz=27,slow=74,SNR=94						
H10S3	**ASCENSION HYDR**	**5.62**	**208**	T	T	07 28 02.9	
	baz=27,slow=74,SNR=90						
DBIC	**Dimbokro**	**12.74**	**34**	LR	LR	07 27 20.5	
	comp=Z,85nm,19.1s,baz=186,slow=30						
TORD	**Torodi Ar. Bea**	**21.77**	**39**	P	**P**	**07 25 46.6**	**-0.2**
	3.5nm,0.7s,baz=224,slow=10,SNR=18						
TORD				LR	LR	07 32 56.3	
	comp=Z,93nm,18.9s,baz=150,slow=33						
RCBR	**Riachuelo**	**23.86**	**265**	LR	LR	07 32 53.5	
	comp=Z,95nm,20.4s,baz=86,slow=30						
MSKU	**Masuku**	**25.71**	**86**	LR	LR	07 34 22.4	
	comp=Z,124nm,18.7s,baz=288,slow=32						
H09W1	**TRISTAN DA CUN**	**33.00**	**180**	T	T	08 02 53.4	
	SNR=19						
KMBO	**Kilima Mbogo**	**49.30**	**88**	LR	LR	07 48 51.9	
	comp=Z,90nm,20.2s,baz=274,slow=34						
LPAZ	**La Paz**	**56.40**	**253**	LR	LR	07 54 08.5	
	comp=Z,32nm,19.2s,baz=118,slow=35						
GERES	**GERESS Array B**	**57.15**	**20**	P	**P**	**07 30 42.2**	**+0.5**
	1.9nm,0.9s,baz=198,slow=6.8,SNR=9.1						
AKASG	**Malin Array Be**	**64.90**	**28**	P	**P**	**07 31 33.9**	**-0.3**
	1.1nm,0.8s,baz=229,slow=7.4,SNR=5.0						
HFS	**Hagfors**	**67.00**	**14**	P	**P**	**07 31 47.1**	**-0.4**
	1.2nm,0.6s,baz=204,slow=5.7,SNR=4.2						
NOA	**NORSAR Array B**	**67.26**	**12**	LR	LR	08 02 22.1	
	comp=Z,7.1nm,18.7s,baz=215,slow=37						
SNAA	**Sanae**	**67.89**	**177**	LR	LR	07 57 55.7	
	comp=Z,24nm,18.3s,baz=211,slow=33						
FINES	**FINESS Array B**	**71.50**	**18**	P	**P**	**07 32 16.3**	**+1.0**
	2.1nm,0.8s,baz=207,slow=7.9,SNR=6.2						
ARCES	**ARCESS Array B**	**77.62**	**13**	P	**P**	**07 32 51.1**	**+0.2**
	1.1nm,0.6s,baz=234,slow=4.2,SNR=7.4						
MKAR	**Makanchi Array**	**95.81**	**44**	P	**P**	**07 34 21.3**	**-0.1**
	0.2nm,0.7s,baz=258,slow=7.2,SNR=3.4						

*IDC **18** 07:30:28.6±0.8, 49°.51N×28°.50W, h0km, mb3.7/14, mb1 3.9/16, mb1mx3.8/34, mbtmp3.7/16, ML4.3/2, MS3.4/18, Ms1 3.5/18, ms1mx3.3/41, Error ellipse: s-maj=25.6km*

s-min=14.5km az=16.0
*ISCJB **18** 07:30:29.5±0.6, 49°.5N±0°.1×28°.51W±0°.09, h17km, mb3.8/19, MS3.4/17, Error ellipse: s-maj=17.3km s-min=7.7km az=14.9*

ISC 18 07:30:31.2±0.8, 49°.5N±0°.2×28°.53W±0°.09, h17km, n40, σ0°.91/26, mb3.8/19, MS3.5/17, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**16.49**	**60**	Pn	**Pn**	**07 34 21.0**	**-0.5**
	baz=240,slow=8.4,SNR=4.5						
GRR	**Gorron**	**18.18**	**83**	*e*P	**P**	**07 34 42.9**	**+0.1**
	30nm,1.1s						
FLN	**La Foliniere**	**18.33**	**82**	*e*P	**P**	**07 34 45.1**	**+0.6**
	13nm,0.8s						
ESDC	**Sonseca Array**	**19.99**	**110**	P	**P**	**07 35 02.8**	**+0.1**
	0.5nm,0.3s,baz=307,slow=11,SNR=6.6						
ESDC				LR	LR	07 41 34.0	
	comp=Z,82nm,18.7s,baz=195,slow=33						
ETSF	**Etsaut**	**20.38**	**98**	*e*P	Pn	07 35 12.8	+3.6
	11nm,0.6s						
TCF	**Toulx Ste Croi**	**20.79**	**87**	*e*P	**P**	**07 35 11.6**	**+0.2**
	26nm,1.1s						
BGF	**Bois d'Agland**	**21.11**	**86**	*e*P	**P**	**07 35 15.0**	**+0.2**
	24nm,0.7s						
AVF	**Avril sur Loir**	**21.36**	**85**	*e*P	**P**	**07 35 17.3**	**-0.2**
	15nm,0.8s						
SSF	**Saint Saulge**	**21.38**	**84**	*e*P	**P**	**07 35 17.6**	**-0.1**
	15nm,0.7s						
SMF	**Signal de Mont**	**21.73**	**85**	*e*P	**P**	**07 35 21.4**	**-0.1**
MTLF	**Montolieu**	**21.97**	**95**	*e*P	**P**	**07 35 26.1**	**+2.0**
	13nm,0.9s						
SCHQ	**Schefferville**	**23.87**	**298**	P	**P**	**07 35 43.3**	**-0.2**
	2.0nm,0.8s,baz=95,slow=11,SNR=3.2						
SCHQ				LR	LR	07 43 21.5	
	comp=Z,111nm,18.8s,baz=82,slow=32						
MDT	**Midelt**	**24.38**	**124**	P	**P**	**07 35 48.6**	**+0.1**
	2.3nm,0.9s,baz=318,slow=14,SNR=3.3						
MDT				LR	LR	07 42 57.4	
	comp=Z,30nm,19.4s,baz=330,slow=31						
NOA	**NORSAR Array B**	**24.99**	**47**	LR	LR	07 44 47.9	
	comp=Z,54nm,18.7s,baz=235,slow=34						
DAVOX	**Davos/Dischmat**	**25.59**	**81**	LR	LR	07 45 42.9	
	comp=Z,97nm,18.0s,baz=261,slow=36						
GERES	**GERESS Array B**	**27.36**	**75**	LR	LR	07 47 00.2	
	comp=Z,82nm,18.7s,baz=280,slow=36						
VRAC	**Vranov**	**29.03**	**73**	LR	LR	07 47 33.9	
	comp=Z,100nm,19.2s,baz=272,slow=35						
FINES	**FINESS Array B**	**32.17**	**47**	P	**P**	**07 36 59.1**	**+1.4**
	0.9nm,0.7s,baz=239,slow=16,SNR=3.0						
FINES				LR	LR	07 48 49.9	
	comp=Z,51nm,19.8s,baz=88,slow=34						
ARCES	**ARCESS Array B**	**32.38**	**32**	P	**P**	**07 36 58.8**	**-0.6**
	1.0nm,0.6s,baz=246,slow=9.1,SNR=5.8						
AKASG	**Malin Array Be**	**36.25**	**65**	P	**P**	**07 37 31.6**	**-1.5**
	0.2nm,0.3s,baz=300,slow=7.3,SNR=2.6						
AKASG				LR	LR	07 52 04.3	
	comp=Z,50nm,19.4s,baz=50,slow=36						
ULM	**Lac du Bonnet**	**42.05**	**298**	P	**P**	**07 38 20.7**	**-0.9**
	2.0nm,0.7s,baz=44,slow=9.6,SNR=3.8						
ULM				LR	LR	07 54 00.2	
	comp=Z,74nm,19.8s,baz=30,slow=34						
TORD	**Torodi Ar. Bea**	**43.94**	**135**	P	**P**	**07 38 36.8**	**-0.4**
	0.6nm,0.5s,baz=337,slow=7.7,SNR=6.8						
TORD				LR	LR	07 55 53.4	
	comp=Z,75nm,19.1s,baz=5.0,slow=35						
YKA	**Yellowknife Ar**	**46.19**	**320**	P	**P**	**07 38 54.5**	**-0.1**
	0.7nm,0.9s,baz=65,slow=7.9,SNR=4.1						
DBIC	**Dimbokro**	**47.11**	**147**	LR	LR	07 56 55.5	
	comp=Z,51nm,19.7s,baz=328,slow=34						
INK	**Inuvik**	**50.11**	**332**	P	**P**	**07 39 25.1**	**+0.3**
	0.4nm,0.6s,baz=58,slow=8.2,SNR=3.6						
PDAR	**Pinedale Array**	**53.99**	**296**	P	**P**	**07 39 54.0**	**-0.4**
	1.0nm,0.8s,baz=61,slow=10,SNR=8.4						
PDAR				LR	LR	08 00 03.3	
	comp=Z,45nm,20.7s,baz=186,slow=33						
ILAR	**Eielson Array**	**56.47**	**333**	P	**P**	**07 40 12.6**	**+1.0**
	0.6nm,0.9s,baz=42,slow=5.3,SNR=7.8						
ILAR				LR	LR	08 02 28.9	
	comp=Z,38nm,20.0s,baz=98,slow=34						
BVAR	**Borovoye Array**	**57.09**	**45**	P	**P**	**07 40 15.3**	**-1.0**
	0.4nm,0.3s,baz=300,slow=6.5,SNR=3.8						
H10N2	**ASCENSION HYDR**	**58.40**	**164**	T	T	08 43 14.7	
	baz=345,slow=74						
H10N3	**ASCENSION HYDR**	**58.41**	**164**	T	T	08 43 14.2	
	baz=345						
H10N1	**ASCENSION HYDR**	**58.42**	**164**	T	T	08 43 15.9	
	baz=345,slow=74						
TXAR	**Lajitas Array**	**58.96**	**280**	P	**P**	**07 40 30.4**	**+0.7**
	0.4nm,0.7s,baz=59,slow=7.5,SNR=6.9						
TXAR				LR	LR	08 04 17.6	
	comp=Z,75nm,21.3s,baz=0.0,slow=34						
H10S1	**ASCENSION HYDR**	**59.46**	**164**	T	T	08 44 35.3	
	baz=350,slow=74,SNR=4.9						
H10S3	**ASCENSION HYDR**	**59.47**	**164**	T	T	08 44 33.2	
	baz=350,slow=74,SNR=6.3						
H10S2	**ASCENSION HYDR**	**59.48**	**164**	T	T	08 44 34.0	
	baz=350,slow=74,SNR=6.0						
YBH	**Yreka Blue Hor**	**62.14**	**302**	LR	LR	08 06 16.8	
	comp=Z,57nm,18.5s,baz=103,slow=35						
MKAR	**Makanchi Array**	**66.94**	**44**	P	**P**	**07 41 22.4**	**0.0**
	0.6nm,0.6s,baz=304,slow=8.6,SNR=11						
MKAR				LR	LR	08 09 31.8	
	comp=Z,19nm,19.3s,baz=0.5,slow=35						
SONM	**Songino Array**	**75.51**	**30**	P	**P**	**07 42 16.9**	**+2.4**
	0.3nm,0.6s,baz=330,slow=8.3,SNR=2.8						
BOSA	**Boshof**	**91.30**	**135**	LR	LR	08 23 14.4	
	comp=Z,26nm,19.8s,baz=200,slow=35						
WRA	**Warramunga Arr**	**147.48**	**31**	PKPbc	**PKPbc**	**07 50 13.8**	**-0.4**
	0.3nm,0.6s,baz=343,slow=3.0,SNR=6.5						

IDC 18 07:35:03.7±1.5, 33°.87S×11°.87W, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.7/33, mbtmp4.1/5, MS3.4/4, Ms1 3.4/4, ms1mx2.9/40, Error ellipse: s-maj=114.3km s-min=30.6km az=107.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**4.71**	**213**	T	T	07 40 57.9	
	baz=30,slow=75,SNR=142						
H10N1	**ASCENSION HYDR**	**4.72**	**213**	T	T	07 40 55.1	
	baz=30,slow=75,SNR=171						
H10N3	**ASCENSION HYDR**	**4.73**	**213**	T	T	07 40 57.9	
	baz=30,slow=75,SNR=129						
H10S1	**ASCENSION HYDR**	**5.74**	**209**	T	T	07 42 14.4	
	baz=27,slow=74,SNR=52						
H10S2	**ASCENSION HYDR**	**5.76**	**208**	T	T	07 42 15.0	
	baz=27,slow=74,SNR=43						
H10S3	**ASCENSION HYDR**	**5.76**	**209**	T	T	07 42 16.1	
	baz=27,slow=74,SNR=52						
DBIC	**Dimbokro**	**12.60**	**34**	LR	LR	07 41 54.7	
	comp=Z,74nm,20.1s,baz=160,slow=33						
TORD	**Torodi Ar. Bea**	**21.62**	**38**	P	P	07 39 55.6	0.0
	3.1nm,0.7s,baz=224,slow=11,SNR=14						
H09W1	**TRISTAN DA CUN**	**33.07**	**181**	T	T	08 16 42.6	
	SNR=7.8						
GERES	**GERESS Array B**	**57.03**	**20**	P	P	07 44 51.3	-0.2
	1.7nm,0.8s,baz=209,slow=7.6,SNR=7.7						
NNA	**Nana**	**64.73**	**259**	LR	LR	08 12 50.2	
	comp=Z,13nm,19.1s,baz=84,slow=35						
PMSA	**Palmer Station**	**71.17**	**201**	LR	LR	08 11 17.6	
	comp=Z,157nm,18.1s,baz=6.5,slow=30						
FINES	**FINESS Array B**	**71.38**	**18**	P	P	07 46 25.5	+0.2
	1.3nm,0.6s,baz=204,slow=4.2,SNR=4.8						
ARCES	**ARCESS Array B**	**77.52**	**13**	P	P	07 47 01.1	+0.1
	1.0nm,0.7s,baz=226,slow=4.9,SNR=4.8						
TKL	**Tuckaleechee C**	**77.67**	**308**	LR	LR	08 13 21.1	
	comp=Z,20nm,19.8s,slow=30						
QSPA	**South Pole Qui**	**86.22**	**180**	P	P	07 47 47.0	0.0
	2.7nm,1.0s,baz=217,slow=3.4,SNR=5.8						

*IDC **18** 07:58:56.0±1.5, 53°.97N×163°.36W, h0km, mb3.5/8, mb1 3.7/9, mb1mx3.5/29, mbtmp3.5/9, ML3.1/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/38, Error ellipse: s-maj=34.7km s-min=22.1km az=4.0*
*ISCJB **18** 07:58:56.3±0.9, 53°.41N±0°.08×162°.87W±0°.07, h32km, mb3.5/7, MS3.1/1, Error ellipse: s-maj=11.8km s-min=5.0km az=165.7*
*NEIC **18** 07:58:56.8, 53°.43N×162°.91W, h25km, ML3.1(AEIC), After AEIC.*

ISC 18 07:58:57.1±1.3, 53°.5N±0°.1×162°.99W±0°.05, h32km, n34, σ2°.96/28, mb3.6/7, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.36**	**317**	P	**Pb**	**07 59 20.8**	**-1.2**
FALS	**False Pass**	**1.39**	**350**	P	**Pb**	**07 59 21.4**	**-1.0**
ISNN	**Isanotski Nort**	**1.42**	**341**	P	**Pb**	**07 59 22.6**	**-0.3**
WESP	**Westdahl Peak**	**1.43**	**315**	P	**Pb**	**07 59 22.0**	**-1.2**
WESP				S	**Sb**	**07 59 41.5**	**+0.5**
SSLW	**Shishaldin Wes**	**1.44**	**333**	P	**Pb**	**07 59 22.2**	**-1.2**
SSLN	**Shishaldin Nor**	**1.44**	**336**	P	**Pb**	**07 59 22.9**	**-0.5**
DT1	**Dutton Round H**	**1.67**	**14**	P	**Pb**	**07 59 24.6**	**-2.6**
DTNA	**Dutton South F**	**1.71**	**14**	P	**Pb**	**07 59 25.4**	**-2.6**
AKSA	**Akutan Strait**	**1.73**	**293**	P	**Pb**	**07 59 25.9**	**-2.2**
AKSA				S	**Sb**	**07 59 47.7**	**-1.8**
ZRO	**Akutan Zero**	**1.87**	**290**	P	**Pb**	**07 59 28.5**	**-2.1**
AKGG	**Akutan Green G**	**1.91**	**293**	P	**Pb**	**07 59 28.9**	**-2.4**
UNV	**Unalaska Valle**	**2.12**	**281**	P	**Pn**	**07 59 30.8**	**+0.5**
UNV				S	**Sb**	**07 59 57.8**	**-2.9**
MTBL	**Makushin Table**	**2.24**	**284**	P	**Pn**	**07 59 33.7**	**+1.7**
MREP	**Makushin Rep't**	**2.26**	**280**	P	**Pn**	**07 59 34.2**	**+2.0**
MSW	**Makushin Switc**	**2.29**	**282**	P	**Pb**	**07 59 35.2**	**-2.6**
MSW				S	**Sb**	**08 00 03.2**	**-2.5**
MCIR	**Makushin Cirqu**	**2.36**	**283**	P	**Pn**	**07 59 35.6**	**+1.9**
SDPT	**Sand Point**	**2.37**	**37**	P	**Pn**	**07 59 35.0**	**+1.3**
SDPT				S	**Sb**	**08 00 03.2**	**-4.6**
MSOM	**Makushin Julie**	**2.38**	**279**	P	**Pn**	**07 59 35.3**	**+1.5**
ILAR	**Eielson Array**	**13.94**	**30**	Pn	Pn	08 02 07.1	-5.1
	0.0nm,0.3s,baz=219,slow=12,SNR=3.5						
INK	**Inuvik**	**20.31**	**32**	P	Pn	08 03 30.5	-1.7
	0.6nm,0.7s,baz=238,slow=12,SNR=2.7						
PETK	**Petropavlovsk-**	**23.30**	**285**	P	**P**	**08 03 59.8**	**-2.1**
	1.2nm,0.5s,baz=67,slow=12,SNR=2.6						
YKA	**Yellowknife Ar**	**26.56**	**51**	P	**P**	**08 04 32.4**	**+0.7**
	0.3nm,0.6s,baz=274,slow=9.6,SNR=3.0						
NVAR	**Mina Array Bea**	**33.90**	**98**	P	P	08 05 44.9	+7.8
	0.4nm,0.7s,baz=299,slow=8.1,SNR=2.3						
H11N2	**WAKE ISLAND Hy**	**40.89**	**226**	T	T	08 50 38.8	
	baz=26,slow=76,SNR=4.9						
H11N3	**WAKE ISLAND Hy**	**40.90**	**226**	T	T	08 50 43.3	
	baz=26,slow=76,SNR=5.2						
H11N1	**WAKE ISLAND Hy**	**40.91**	**226**	T	T	08 50 36.7	
	baz=26,slow=76,SNR=4.7						
H11S1	**WAKE ISLAND Hy**	**42.06**	**226**	T	T	08 51 59.9	
	baz=28						
H11S2	**WAKE ISLAND Hy**	**42.07**	**226**	T	T	08 52 15.8	
	baz=28						
H11S3	**WAKE ISLAND Hy**	**42.08**	**226**	T	T	08 51 53.0	
	baz=28						
USRK	**Ussuriysk Ar.**	**42.39**	**285**	LR	LR	08 26 23.7	
	comp=Z,26nm,18.6s,baz=339,slow=39						
TXAR	**Lajitas Array**	**48.93**	**95**	P	P	08 07 44.2	+4.0
	0.1nm,0.4s,baz=317,slow=7.3,SNR=3.6						
FINES	**FINESS Array B**	**65.18**	**355**	P	**P**	**08 09 35.5**	**+1.1**
	1.2nm,0.8s,baz=359,slow=7.5,SNR=3.9						
AKTO	**Aktyubinsk**	**70.84**	**334**	P	**P**	**08 10 12.2**	**+1.9**
	0.8nm,0.5s,baz=12,slow=5.9,SNR=5.5						
AKASG	**Malin Array Be**	**75.67**	**352**	P	**P**	**08 10 40.2**	**+1.5**
	0.5nm,0.4s,baz=4.6,slow=5.4,SNR=2.6						

*IDC **18** 08:09:58.7±0.9, 33°.78N×115°.54W, h0km, mb1 3.6/3, mb1mx3.3/26, mbtmp3.1/3, ML3.6/2, Error ellipse: s-maj=11.8km s-min=8.0km az=172.0*
*NEIC **18** 08:10:00.3, 33°.83N×115°.57W, h2km, ML3.5(PAS), After PAS.*

ISC 18 08:09:59.0±0.7, 33°.82N±0°.02×115°.56W±0°.02, h5km±8km, n44, σ1°.03/69, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BC3	**Big Chuckawall**	**0.18**	**152**	P	**Pg**	**08 10 03.9**	**+1.2**
	baz=0.2						
BC3				S	**Sg**	**08 10 07.2**	**+2.0**
	baz=0.2						
BELC	**Belle Mtn. Jos**	**0.41**	**296**	P	**Pg**	**08 10 08.1**	**+1.1**
	baz=0.4						
BELC				S	**Sg

DAC					*e*Pg	**Pg**	**08 10 55.9**	**0.0**
DAC					*e*Sg	**Sg**	**08 11 36.0**	**+1.6**
TPNV	**Topopah Spring**	**3.17**	**350**	Sb		**Sg**	**08 11 39.7**	**-1.3**
	baz=3.2							
WUAZ	**Wupatki**	**3.84**	**63**	*e*Pn	Pn		08 11 02.3	+3.3
TUC	**Tucson**	**4.28**	**109**	*e*Pn	**Pn**		**08 11 03.6**	**-1.3**
TUC				*e*Sg	**Sg**		**08 12 17.5**	**+1.0**
R11A	**Troy Canyon, C**	**4.52**	**360**	*e*Pn	Pn		08 11 11.9	+3.6
R11A				*e*Pg	**Pg**		**08 11 25.0**	**-0.7**
R11A				*e*Sg	**Sg**		**08 12 23.6**	**-0.7**
NVAR	**Mina Array Bea**	**5.11**	**335**	Pn	**Pn**		**08 11 17.6**	**+1.1**
	baz=162,slow=14,SNR=0.6							
NVAR				Pg	Pg		08 11 34.0	-2.9
	baz=165,slow=18,SNR=1.9							
NVAR				Lg	Lg		08 12 40.6	
	0.6nm,0.3s,baz=144,slow=25,SNR=3.4							
121A	**Cookes Peak, D**	**6.64**	**99**	*e*Pn	**Pn**		**08 11 37.9**	**+0.4**
	4.1nm,0.5s							
121A				*e*Sg	**Sg**		**08 13 30.2**	**-2.1**
ELK	**Elko**	**6.92**	**2**	Pg	**Pg**		**08 12 11.4**	**-0.1**
	0.3nm,0.3s,baz=199,slow=17,SNR=6.4							
ELK				Lg	Lg		08 13 36.4	
	0.3nm,0.3s,baz=240,slow=7.4,SNR=11							
ANMO	**Albuquerque**	**7.61**	**79**	Pg	Pg		08 12 20.4	-4.3
	0.1nm,0.3s,baz=258,slow=16,SNR=5.7							
ANMO				Lg	Lg		08 13 56.3	
	0.2nm,0.3s,baz=59,slow=16,SNR=3.9							
PDAR	**Pinedale Array**	**10.10**	**26**	Pn	Pn		08 12 29.3	+4.4
	0.0nm,0.3s,baz=206,slow=16,SNR=3.3							
TXAR	**Lajitas Array**	**11.08**	**111**	Pn	**Pn**		**08 12 39.6**	**+1.4**
	0.3nm,0.3s,baz=288,slow=13,SNR=18							
TXAR				Lg	Lg		08 15 46.1	
	0.0nm,0.3s,baz=295,slow=33,SNR=2.1							

SJA ***18*** *08:10:12.4±1.2,33.˚39S×73.˚34W,h20km,ML3.4*
GUC ***18*** *08:10:18.6±0.8,34.˚08S×72.˚16W,h17km±3km,ML3.6*
ISC 18 08:10:17.5±2.3,34.˚12S±0.˚05×72.˚2W±0.˚1,h2km±12km,n22,
σ1s16/31,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LNV	**Longovilo**	**0.69**	**77**	*e*P		**Pb**	**08 10 32.5**	**+0.2**
LNV				*e*S		**Sb**	**08 10 42.8**	**+0.6**
TACH	**Talagante**	**1.16**	**67**	*e*P		**Pg**	**08 10 39.5**	**-0.2**
TACH				*e*S		**Sg**	**08 10 54.8**	**0.0**
NICH	**Los Niches**	**1.20**	**138**	*e*P		**Pb**	**08 10 41.0**	**0.0**
NICH				*e*S		**Sb**	**08 10 57.8**	**+0.7**
CHCH	**Chadas Angostu**	**1.31**	**82**	*e*P		**Pg**	**08 10 42.2**	**-0.4**
TALC	**Talca**	**1.37**	**160**	*e*P		**Pn**	**08 10 43.5**	**-0.1**
TALC				*e*S		**Sg**	**08 11 01.6**	**+0.2**
SAN	**Santiago**	**1.46**	**63**	*e*P		**Pn**	**08 10 44.1**	**-0.7**
SAN				*e*S		**Sb**	**08 11 03.1**	**-1.2**
PCH	**Pirque**	**1.50**	**71**	*e*P		**Pn**	**08 10 44.9**	**-0.6**
ROCH	**El Roble**	**1.52**	**42**	*e*P		**Pn**	**08 10 45.1**	**-0.8**
ROCH				AML		AML	08 11 15.4	
	comp=N,968nm,0.3s							
LACH	**Col Las Americ**	**1.55**	**65**	*e*P		**Pn**	**08 10 45.4**	**-0.8**
LACH				*e*S		**Sn**	**08 11 05.8**	**-1.2**
CLCH	**Cerro Calan**	**1.57**	**63**	*e*P		**Pn**	**08 10 45.8**	**-0.7**
CLCH				*e*S		**Sn**	**08 11 06.6**	**-1.0**
CLCH				AML		AML	08 11 14.1	
	comp=E,1μm,0.3s							
PEL	**Peldehue**	**1.61**	**53**	*e*P		**Pn**	**08 10 46.4**	**-0.6**
PEL				*e*S		**Sn**	**08 11 07.6**	**-0.7**
PEL				AML		AML	08 11 13.4	
	comp=N,2μm,0.6s							
SJCH	**San Jose de Ma**	**1.62**	**74**	*e*S		**Sn**	**08 11 08.1**	**-0.6**
LNCH	**Linares**	**1.80**	**164**	*e*P		**Pb**	**08 10 50.6**	**-0.6**
LNCH				*e*S		**Sb**	**08 11 15.1**	**+0.9**
AAGR	**Agrelo**	**3.01**	**71**	*e*P		**Pb**	**08 11 12.8**	**+0.9**
ARCO	**CERRO ARCO**	**3.03**	**66**	*e*P		**Pb**	**08 11 12.4**	**+0.2**
ARCO				AML		AML	08 12 01.2	
	comp=Z,60nm,0.6s							
AUSP	**Uspallata**	**3.03**	**52**	*e*P		**Pb**	**08 11 10.8**	**-1.5**
AUSP				*e*S		**Sb**	**08 11 52.3**	**+2.3**
ASAL	**Salagasta**	**3.21**	**63**	*e*P		**Pb**	**08 11 14.6**	**-0.8**
RTLS	**Leoncito**	**3.37**	**48**	*e*P		**Pn**	**08 11 13.9**	**+2.5**
RTCV	**Cerro Valdivia**	**3.82**	**55**	*e*P		**Pn**	**08 11 20.0**	**+2.6**
CFAA	**Coronel Fontan**	**4.18**	**54**	*e*P		**Pn**	**08 11 24.3**	**+2.0**
AMOG	**MOGNA**	**4.46**	**46**	*e*P		**Pn**	**08 11 26.8**	**+0.5**
ACAN	**Cantantal**	**4.60**	**68**	*e*P4		Pn	08 11 32.5	+4.4

NEIC 18 08:19:59.0,19.˚32N×155.˚22W,h10km,ML3.5(HVO),
After HVO., Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
UWE	**Uwekahuna**	**0.13**	**325**	*e*Pg		Pg	08 20 02.5	+0.3
POHA	**Pohakuloa**	**0.53**	**326**	*e*Pg		Pg	08 20 09.1	-0.6
POHA				*e*Sg		Sg	08 20 16.7	-0.2
HON	**Honolulu**	**3.29**	**308**	*e*Pn		Pn	08 20 49.0	-0.8
HON				*e*Sn		Sn	08 21 23.0	-6.9
KIP	**Kipapa**	**3.36**	**309**	*e*Pn		Pn	08 20 49.1	-2.5
KIP				*e*Sn		Sn	08 21 27.6	-4.0

SJA ***18*** *08:26:40.8±1.1,34.˚06S×73.˚19W,h40km,ML3.4*
GUC ***18*** *08:26:47.9±0.6,34.˚07S×72.˚23W,h9km±2km,ML3.5*
ISC 18 08:26:46.2±3.7,34.˚13S±0.˚06×72.˚3W±0.˚1,h1km±26km,n18,
σ1s72/26,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NICH	**Los Niches**	**1.24**	**135**	*e*P		**Pn**	**08 27 10.3**	**-0.3**
NICH				*e*S		**Sb**	**08 27 27.0**	**+0.1**
TALC	**Talca**	**1.38**	**157**	*e*P		**Pn**	**08 27 12.8**	**+0.2**
TALC				*e*S		**Sn**	**08 27 31.4**	**-0.1**
SAN	**Santiago**	**1.52**	**64**	*e*P		**Pn**	**08 27 13.7**	**-0.8**
SAN				*e*S		**Sn**	**08 27 32.5**	**-2.5**
STL	**Santa Lucia**	**1.54**	**64**	*e*P		**Pn**	**08 27 13.2**	**-1.7**
STL				*e*S		**Sn**	**08 27 33.1**	**-2.5**
ROCH	**El Roble**	**1.58**	**43**	*e*P		**Pn**	**08 27 14.4**	**-1.1**
ROCH				*e*S		**Sn**	**08 27 34.6**	**-2.0**
ROCH				AML		AML	08 27 45.1	
	comp=N,843nm,0.8s							
LACH	**Col Las Americ**	**1.62**	**66**	*e*P		**Pn**	**08 27 14.8**	**-1.2**
LACH				*e*S		**Sn**	**08 27 35.3**	**-2.2**
CLCH	**Cerro Calan**	**1.64**	**64**	*e*P		**Pn**	**08 27 15.5**	**-0.7**
CLCH				*e*S		**Sn**	**08 27 36.0**	**-2.0**
CLCH				AML		AML	08 27 43.9	
	comp=E,988nm,0.5s							
PEL	**Peldehue**	**1.67**	**54**	*e*P		**Pn**	**08 27 15.9**	**-0.6**
PEL				*e*S		**Sn**	**08 27 36.6**	**-2.0**
PEL				AML		AML	08 27 46.1	
	comp=E,2μm,1.4s							
SJCH	**San Jose de Ma**	**1.69**	**74**	*e*P		**Pn**	**08 27 15.6**	**-1.4**
SJCH				*e*S		**Sn**	**08 27 37.5**	**-1.8**
AAGR	**Agrelo**	**3.08**	**71**	*e*P		**Pb**	**08 27 39.9**	**-1.9**
ARCO	**CERRO ARCO**	**3.09**	**66**	*e*P		**Pb**	**08 27 39.3**	**-2.8**
ARCO				AML		AML	08 28 29.9	
	comp=Z,54nm,0.5s							
AUSP	**Uspallata**	**3.09**	**53**	*e*P		Pn	08 27 38.9	+2.4
AUSP				*e*S		**Sb**	**08 28 21.1**	**+0.5**
RTLS	**Leoncito**	**3.43**	**48**	*e*P		Pn	08 27 43.6	+2.6
RTCV	**Cerro Valdivia**	**3.88**	**55**	*e*P		**Pn**	**08 27 49.1**	**+2.0**
CFAA	**Coronel Fontan**	**4.24**	**55**	*e*P		**Pn**	**08 27 53.4**	**+1.4**
RTLL	**Cerro Villicun**	**4.26**	**50**	*e*P4		**Pn**	**08 27 52.7**	**+0.4**
AMOG	**MOGNA**	**4.52**	**46**	*e*P		**Pn**	**08 27 56.7**	**+0.8**
ACAN	**Cantantal**	**4.67**	**68**	*e*P		**Pn**	**08 27 60.0**	**+2.1**

NIED ***18*** *08:33:00,43.˚60N×147.˚80E,h35km,Mw4.2 Best double couple: M₀2.05000×10¹⁵ NP1:φs203.00000°,δ15.00000°, λ65.00000°. NP2:φs49.00000°,δ77.00000°,λ96.00000°.*
IDC ***18*** *08:33:41.5±0.7,43.˚92N×147.˚94E,h0km,mb4.1/22, mb1 4.3/27,mb1mx4.3/31,mbtmp4.1/27,ML3.6/5,MS3.2/13, Ms1 3.2/13,ms1mx3.0/44,Error ellipse: s-maj=21.3km s-min=12.9km az=155.0*
MOS ***18*** *08:33:43.5±1.0,43.˚89N×147.˚99E,h23km,mb4.7/17,Error ellipse: s-maj=8.1km s-min=6.3km az=103.6*
JMA ***18*** *08:33:44.8±0.2,43.˚65N×147.˚75E,h0km,M4.7*
SKHL ***18*** *08:33:45.8±0.8,43.˚79N×148.˚06E,h55km±5km,mb4.6/8*
ISCJB ***18*** *08:33:46.3±0.6,43.˚88N±0.˚04×147.˚94E±0.˚05,h42km±4km, mb4.3/55,MS3.3/9,Error ellipse: s-maj=7.7km s-min=4.1km az=144.6*
BJI ***18*** *08:33:47.9,44.˚14N×148.˚07E,h62km,mb4.7/30,mB4.9/16, Ms4.3/9,Ms7 4.1/8*
NEIC ***18*** *08:33:48.9±0.7,43.˚93N×147.˚90E,h50km±6km,mb4.5/31,*

Error ellipse: s-maj=9.3km s-min=4.8km az=150.0
ISC 18 08:33:48.7±0.6,43.˚89N±0.˚05×147.˚94E±0.˚05,h49km±4km,
n207,σ1s10/229,mb4.3/55,MS3.3/9,2C-5D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SHO	**Shikotan**	**0.80**	**269**	*e*P		**Pn**	**08 34 01.2**	**-2.5**
SHO				AMB		AMB	08 34 01.8	
	1μm,0.4s							
SHO				*e*S		**Sn**	**08 34 12.3**	**-2.3**
SHO				A		A	08 34 16.9	
	3μm,0.3s							
SHO				A		A	08 34 16.9	
	820nm,0.3s							
KUR	**Kuril'sk**	**1.34**	**358**	*i*P		**Pn**	**08 34 08.9**	**-2.1**
KUR				*i* S		**Sn**	**08 34 25.8**	**-1.9**
KUR				pmax		pmax		
	comp=Z,753nm,0.8s							
KUR				smax		smax		
	comp=N,1μm,0.6s							
KUR				smax		smax		
	comp=E,2μm,0.6s							
KUR	**Kuril'sk**	**1.34**	**358**	*i* P		**Pn**	**08 34 08.9**	**-2.1**
KUR				AMB		AMB	08 34 14.5	
	comp=E,750nm,0.8s							
KUR				A		A	08 34 26.4	
	comp=E,1μm,0.6s							
KUR				A		A	08 34 26.4	
	comp=E,2μm,0.6s							
YUK	**Yuzh-Kuril'sk**	**1.50**	**276**	*i* PN		**Pn**	**08 34 11.4**	**-1.8**
YUK				*i* S		**Sn**	**08 34 30.5**	**-1.2**
YUK	**Yuzh-Kuril'sk**	**1.50**	**276**	*i* P		**Pn**	**08 34 11.4**	**-1.8**
YUK				AMB		AMB	08 34 14.8	
	comp=E,300nm,0.4s							
YUK				AMB		AMB	08 34 14.8	
	comp=E,500nm,0.4s							
YUK				AMB		AMB	08 34 14.8	
	comp=E,740nm,0.4s							
YUK				*i* S		**Sn**	**08 34 31.6**	**-0.1**
YUK				A		A	08 34 35.7	
	comp=E,2μm,0.6s							
YUK				A		A	08 34 35.7	
	comp=E,2μm,0.6s							
NEM2	**Nemuro 2**	**1.68**	**252**	P		**Pn**	**08 34 12.8**	**-2.8**
NEM2				*e*S		**Sn**	**08 34 33.1**	**-2.8**
JRA	**Rausu**	**2.03**	**272**	P		**Pn**	**08 34 19.2**	**-1.3**
JRA				*e*S		**Sn**	**08 34 45.2**	**+0.5**
JNK	**Nakash**	**2.35**	**264**	P		**Pn**	**08 34 23.2**	**-1.7**
JNK				*e*S		**Sn**	**08 34 51.4**	**-1.1**
JAK	**Akkeshi**	**2.52**	**250**	P		**Pn**	**08 34 25.1**	**-2.1**
JAK				*e*S		**Sn**	**08 34 54.7**	**-2.0**
JTKR	**Abashiri--Toko**	**2.91**	**273**	P		**Pn**	**08 34 32.2**	**-0.3**
JAR	**Ashorobuto**	**3.08**	**260**	P		**Pn**	**08 34 34.1**	**-0.8**
JAR				*e*S		**Sn**	**08 35 10.9**	**+0.4**
JOB	**Onbets**	**3.15**	**253**	P		**Pn**	**08 34 34.3**	**-1.5**
JOB				*e*S		**Sn**	**08 35 10.4**	**-1.7**
JMP	**Maruseppu**	**3.31**	**274**	P		**Pn**	**08 34 37.9**	**-0.1**
JCH	**Churui**	**3.58**	**251**	P		**Pn**	**08 34 40.2**	**-1.4**
JCH				*e*S		**Sn**	**08 35 21.1**	**-1.5**
JKA	**Kamikawa-asahi**	**3.86**	**275**	*e*P		**Pn**	**08 34 46.4**	**+0.9**
ASAJ	**Asahikawa**	**3.86**	**275**	Pn		**Pn**	**08 34 46.4**	**+0.9**
	comp=E,6.7nm,0.3s,baz=65,slow=11,SNR=19							
ASAJ				LR		LR	08 35 24.0	
	comp=E,63nm,21.7s,baz=143,slow=26							
ASAJ				Sn		Sn	08 35 39.9	+10
	baz=192,slow=20,SNR=2.5							
ASAJ	**Asahikawa**	**3.86**	**275**	PN		**Pn**	**08 34 46.4**	**+0.9**
ASAJ							08 35 39.9	
ASAJ				pmax		pmax		
	comp=Z,7.0nm,0.3s							
ASAJ				MLR		MLR		
	comp=Z,63nm,21.7s							
ASAJ	**Asahikawa**	**3.86**	**275**	*e*P		**Pn**	**08 34 46.8**	**+1.3**
ASAJ	**Asahikawa**	**3.86**	**275**	*e*Pn		**Pn**	**08 34 46.9**	**+1.3**
ASAJ				Sn		Sn	08 35 39.9	+10
JFR	**Furan**	**3.95**	**261**	P		**Pn**	**08 34 46.9**	**+0.1**
ERM	**Erimo**	**3.98**	**244**	*c i*PN		**Pn**	**08 34 48.1**	**+1.0**
ERM	**Erimo**	**3.98**	**244**	*i* P		**Pn**	**08 34 48.1**	**+1.0**
ERM	**Erimo**	**3.98**	**244**	*e*Pn		**Pn**	**08 34 48.2**	**+1.0**
JSE	**Soyaes**	**3.98**	**287**	P		**Pn**	**08 34 47.2**	**+0.1**
JNBK	**Urakawa-nobuka**	**4.12**	**249**	P		**Pn**	**08 34 48.0**	**-1.2**
YSS	**Yuzh-Sakhalins**	**4.76**	**312**	*e*PN		**Pn**	**08 34 58.0**	**+0.1**
YSS				pmax		pmax		
	comp=Z,40nm,0.5s							
YSS	**Yuzh-Sakhalins**	**4.76**	**312**	*e*P		**Pn**	**08 34 58.0**	**+0.1**
YSS				AMB		AMB	08 34 59.8	
	comp=Z,40nm,0.5s							
YSS				*e*S		**Sn**	**08 35 50.3**	**-1.4**
YSS				A		A	08 35 55.0	
	comp=Z,50nm,0.8s							
YSS	**Yuzh-Sakhalins**	**4.76**	**312**	*e*Pn		**Pn**	**08 34 57.9**	**+0.1**
TYV	**Tymovskoe**	**7.84**	**335**	*e*P		**Pn**	**08 35 40.7**	**+0.7**
TYV				AMB		AMB	08 35 43.0	
	comp=Z,10.0nm,0.5s							
TYV				*e*S		**Sn**	**08 37 05.8**	**-1.5**
HABR	**Khabarovsk**	**10.04**	**302**	*e*PN		**Pn**	**08 36 07.8**	**-2.4**
HABR				pmax		pmax		
	comp=Z,14nm,2.2s							
HABR				MLR		MLR		
	comp=Z,185nm,17.0s							
HABR	**Khabarovsk**	**10.04**	**302**	*e*P		**Pn**	**08 36 07.8**	**-2.4**
HABR				AMB		AMB	08 36 09.2	
	comp=Z,10.0nm,2.2s							
HABR				AMS		AMS	08 40 39.5	
	comp=Z,200nm,17.0s							
OKH	**Okha**	**10.21**	**343**	*e*P		**Pn**	**08 36 14.0**	**+1.5**
NKL	**Nikolayevsk**	**10.43**	**335**	*e*P		**Pn**	**08 36 15.5**	**0.0**
NKL				AMB		AMB	08 36 18.6	
	comp=Z,10.0nm,0.8s							
MAJO	**Matsushiro**	**10.44**	**229**	*e*PN		**Pn**	**08 36 16.1**	**+0.3**
MAJO	**Matsushiro**	**10.44**	**229**	*e*P		**Pn**	**08 36 16.1**	**+0.3**
MAJO	**Matsushiro**	**10.44**	**229**	*e*Pn		**Pn**	**08 36 16.1**	**+0.3**
MJAR	**Matsushiro Arr**	**10.44**	**229**	Pn		**Pn**	**08 36 14.0**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=24,slow=14,SNR=6.4							
MJAR				LR		LR	08 40 40.6	
	comp=Z,34nm,18.8s,baz=40,slow=40							
MJAR	**Matsushiro Arr**	**10.44**	**229**	PN		**Pn**	**08 36 14.0**	**-1.8**
PETK	**Petropavlovsk-**	**11.26**	**32**	Pn		**Pn**	**08 36 24.6**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=185,slow=14,SNR=2.3							
USRK	**Ussuriysk Ar.**	**11.49**	**277**	Pn		**Pn**	**08 36 31.3**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=88,slow=13,SNR=3.9							
USRK				LR		LR	08 41 09.5	
	comp=Z,150nm,18.5s,baz=98,slow=39							
PET	**Petropavlovsk**	**11.57**	**34**	AMS		AMS	08 40 40.5	
	comp=Z,100nm,16.0s							
KLR	**Kul'dur**	**12.35**	**301**	*e*PN		**Pn**	**08 36 41.7**	**0.0**
KLR				MLR		MLR		
	comp=Z,900nm,13.0s							
KLR	**Kul'dur**	**12.35**	**301**	*e*P		**Pn**	**08 36 41.7**	**0.0**
KLR				AMS		AMS	08 42 43.0	
	comp=Z,900nm,13.0s							
MDJ	**Mudanjiang**	**13.17**	**280**	P		**Pn**	**08 36 53.3**	**+0.3**
MDJ				PMZ				
	comp=Z,8.0nm,0.5s							
MDJ	**Mudanjiang**	**13.17**	**280**	*e*P		**Pn**	**08 36 53.3**	**+0.3**
EKMR	**Ekimchan**	**13.51**	**318**	*e*P		**Pn**	**08 36 57.5**	**0.0**
EKMR				AMB		AMB	08 37 09.0	
	comp=Z,3.0nm,0.6s							
CN2	**Changchun**	**16.22**	**278**	*e*P		**Pn**	**08 37 33.9**	**+0.8**
BMKR	**Bomnak**	**16.44**	**318**	*e*P		**P**	**08 37 37.6**	**-0.3**
KSRS	**Korea Array**	**16.47**	**254**	Pn		**Pn**	**08 37 34.7**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=65,slow=10,SNR=3.0							
KSAR	**Wonju Array Be**	**16.50**	**254**	P		**Pn**	**08 37 34.8**	**-2.0**
KSAR	**Wonju Array Be**	**16.50**	**254**	Pn		**Pn**	**08 37 34.8**	**-2.0**
JNU	**Nakatsue**	**17.11**	**237**	P		**Pn**	**08 37 44.1**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=123,slow=8.3,SNR=4.9							
JNU				LR		LR	08 44 29.3	
	comp=Z,64nm,19.9s,baz=46,slow=38							
JNU	**Nakatsue**	**17.11**	**237**	*e*P		**P**	**08 37 47.2**	**+1.7**
	comp=Z,10nm,1.1s							
JCJ	**Chichijima**	**17.39**	**197**	LR		LR	08 43 13.8	
	comp=Z,82nm,20.3s,baz=120,slow=33							
SEY	**Seymchan**	**19.25**	**6**	P		**P**	**08 38 06.7**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=217,slow=13,SNR=5.0							
SEY				LR		LR	08 45 50.8	
	comp=Z,81nm,21.6s,baz=33,slow=38							
YAK	**Yakutsk**	**21.10**	**336**	LR		LR	08 46 58.8	
	comp=Z,87nm,20.0s,baz=168,slow=38							
BJI	**Beijing**	**23.85**	**272**	P		**P**	**08 38 58.3**	**+1.0**
BJI				PMZ				
	comp=Z,24nm,0.8s							
BJT	**Baijiatuan**	**23.86**	**272**	*e*P		**P**	**08 38 57.9**	**+0.5**
NJ2	**Nanjing**	**25.66**	**252**	*e*P		**P**	**08 39 15.8**	**+2.0**
NJ2				PMZ				
	comp=Z,50nm,0.6s							
BILL	**Bilibino**	**26.07**	**16**	*e*P		**P**	**08 39 18.0**	**+0.8**
BILL				*e*			08 39 56.9	
BILL				*e*S		**S**	**08 43 46.8**	**+2.1**
BILL				pmax		pmax		
	comp=Z,5.0nm,1.7s							
BILL				MLR		MLR		
	comp=Z,63nm,20.0s							
BILL	**Bilibino**	**26.07**	**16**	*e*P		**P**	**08 39 18.0**	**+0.8**
BILL	**Bilibino**	**26.07**	**16**	*e*P		**P**	**08 39 17.6**	**+0.4**
	comp=Z,1.7nm,0.3s							
HHC	**Hu-ho-hao-te**	**26.91**	**276**	*e*P		**P**	**08 39 23.6**	**-1.6**
HHC				S		**S**	**08 43 55.4**	**-3.3**
HHC				SS		**SnSn**	**08 45 10.0**	**+2.9**
HHC				PMZ				
	comp=Z,22nm,0.8s							
HHC				PMZ				
	comp=Z,120nm,4.2s							
HHC				LN				
	comp=Z,210nm,11.9s							
HHC				LE				
	comp=Z,230nm,11.9s							
HHC				LZ				
	comp=Z,280nm,11.2s							
ULN	**Ulaanbaatar**	**28.50**	**293**	*i*P		**P**	**08 39 39.8**	**+0.4**
ULN				pmax		pmax		
	comp=Z,2.0nm,1.1s							
ULN	**Ulaanbaatar**	**28.50**	**293**	*i* P		**P**	**08 39 39.8**	**+0.4**
H11N2	**WAKE ISLAND Hy**	**28.84**	**141**	T		T	09 10 19.8	
	baz=331,slow=75,SNR=177							
H11N1	**WAKE ISLAND Hy**	**28.86**	**141**	T		T	09 10 21.4	
	baz=331,slow=75,SNR=163							
H11N3	**WAKE ISLAND Hy**	**28.86**	**141**	T		T	09 10 21.5	
	baz=331,slow=75,SNR=192							
SONM	**Songino Array**	**28.94**	**293**	P		**P**	**08 39 42.5**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=83,slow=8.1,SNR=8.4							
SONM				LR		LR	08 51 50.7	
	comp=Z,64nm,20.1s,baz=108,slow=38							
H11S1	**WAKE ISLAND Hy**	**29.82**	**142**	T		T	09 11 29.7	
	baz=332,slow=76,SNR=802							
H11S3	**WAKE ISLAND Hy**	**29.83**	**142**	T		T	09 11 30.6	
	baz=332,slow=76,SNR=742							
H11S2	**WAKE ISLAND Hy**	**29.84**	**142**	T		T	09 11 30.8	
	baz=332,slow=76,SNR=532							
YULB	**Yu-li**	**29.95**	**236**	*e*P		**P**	**08 39 52.9**	**+0.6**
	comp=Z,12nm,1.1s							
GUMO	**Guam**	**30.31**	**186**	LR		LR	08 49 34.5	
	comp=Z,23nm,21.9s,baz=94,slow=31							
LZH	**Lanzhou**	**34.34**	**272**	*e*P		**P**	**08 40 32.0**	**+1.2**
LZH				pP		**pP**	**08 40 44.9**	**+1.3**
LZH				sP		**sP**	**08 40 51.4**	**+2.0**
LZH				PMZ				
	comp=Z,13nm,1.0s							
GTA	**Gaotai**	**35.83**	**280**	*e*P		**P**	**08 40 44.1**	**+0.5**
GTA				pP		**pP**	**08 40 57.4**	**+1.0**
GTA				sP		**sP**	**08 41 03.0**	**+0.8**
GTA				PMZ				
	comp=Z,4.0nm,1.1s							
CD2	**Chengdu**	**36.98**	**265**	*e*P		**P**	**08 40 53.6**	**+0.1**
CD2				S		**S**	**08 46 34.6**	**-0.9**
CD2				SS		**SnSn**	**08 49 09.1**	**-2.8**
CD2				PMZ				
	comp=Z,20nm,0.6s							
CD2				PMZ				
	comp=Z,70nm,11.8s							
CD2				LN				
	comp=Z,90nm,10.7s							
CD2				LZ				
	comp=Z,160nm,8.3s							
GYA	**Guiyang**	**37.51**	**256**	*e*P		**P**	**08 41 00.3**	**+2.3**
GYA				PMZ				
	comp=Z,10.0nm,0.8s							
IM04	**Indian Mountai**	**38.19**	**34**	*e*P		**P**	**08 41 03.2**	**0.0**
PPLA	**Purkeypile**	**38.71**	**39**	*e*P		**P**	**08 41 08.7**	**+0.9**
	comp=Z,23nm,1.6s							
CAST	**Castle Rocks**	**38.77**	**38**	*e*P		**P**	**08 41 09.0**	**+0.9**
	comp=Z,16nm,1.9s							
BPAW	**Bear Paw Mtn.**	**39.27**	**37**	*e*P		**P**	**08 41 12.6**	**+0.4**
	comp=Z,0.9nm,1.1s							
KTH	**Kantishna Hill**	**39.29**	**38**	*e*P		**P**	**08 41 13.0**	**+0.5**
	comp=Z,35nm,2.0s							
TRF	**Thorofare Moun**	**39.57**	**38**	*e*P		**P**	**08 41 17.0**	**+2.0**
	comp=Z,1.6nm,0.8s							
COLD	**Coldfoot**	**39.73**	**32**	*e*P		**P**	**08 41 16.1**	**+0.1**
	comp=Z,4.1nm,0.8s							
MCK	**McKinley**	**40.17**	**38**	*e*P		**P**	**08 41 19.8**	**0.0**
MCK				pmax		pmax		
	comp=Z,8.0nm,1.1s							
MCK	**McKinley**	**40.17**	**38**	*

TKM2 pmax pmax
comp=Z,4.0nm,0.5s
TKM2 Tokmak 2 50.96 296 *e*P **P 08 42 45.9 +0.4**
comp=Z,4.0nm,0.5s
AAK Ala-Archa 51.81 296 *e*P **P 08 42 51.6 -0.2**
AAK pmax pmax
comp=Z,2.0nm,0.6s
AAK Ala-Archa 51.81 296 *e*P **P 08 42 51.6 -0.2**
AAK Ala-Archa 51.81 296 *e*P **P 08 42 51.6 -0.2**
comp=Z,1.6nm,0.6s
EKS2 Erkin-Say 52.26 296 *e*P **P 08 42 55.4 +0.3**
EKS2 pmax pmax
comp=Z,4.0nm,1.1s
EKS2 Erkin-Say 52.26 296 *e*P **P 08 42 55.4 +0.3**
comp=Z,4.2nm,1.1s
KSH Kashi 52.34 292 *e*P P 08 42 59.8 +4.1
KSH pP pP 08 43 12.3 +3.2
KSH PcS **PcS 08 48 07.0 +2.2**
KSH S **S 08 50 20.8 +3.1**
KSH ScS **ScS 08 52 42.5 +1.1**
KSH PMZ
comp=Z,99nm,6.6s
KSH LN
comp=Z,110nm,8.0s
KSH LE
comp=Z,61nm,5.0s
KSH LZ
comp=Z,190nm,6.4s
KKAR Karatay Array 54.15 298 *e*P **P 08 43 08.7 -0.1**
KKAR pmax pmax
comp=Z,5.0nm,0.7s
KKAR Karatay Array 54.15 298 *e*P **P 08 43 08.7 -0.1**
comp=Z,5.0nm,0.7s
RES Resolute Bay 54.67 17 P **P 08 43 11.7 -0.3**
comp=Z,1.7nm,0.5s,baz=337,slow=6.2,SNR=8.2
YKA Yellowknife Ar 55.37 34 P **P 08 43 17.1 -0.2**
comp=Z,1.0nm,0.7s,baz=298,slow=6.9,SNR=8.7
ABKAR Akbulak array 57.42 309 *e*P **P 08 43 32.1 0.0**
comp=Z,6.9nm,0.8s
AKTO Aktyubinsk 57.87 311 LR LR 09 08 00.5
comp=Z,22nm,18.2s,baz=45,slow=36
ARCES ARCESS Array B 59.31 340 P **P 08 43 42.5 -2.5**
comp=Z,0.7nm,0.7s,baz=37,slow=6.2,SNR=3.2
YBH Yreka Blue Hor 62.34 58 P **P 08 44 06.4 +0.3**
comp=Z,1.3nm,0.9s,baz=234,slow=13,SNR=4.0
WRA Warramunga Arr 64.73 194 P **P 08 44 20.8 -1.1**
comp=Z,0.7nm,0.8s,baz=12,slow=7.0,SNR=5.4
FINES FINESS Array B 65.01 333 P **P 08 44 21.5 -1.7**
comp=Z,2.5nm,0.5s,baz=44,slow=7.5,SNR=16
BOZ Bozeman (W) 66.39 49 *e*P **P 08 44 32.6 0.0**
BOZ pmax pmax
comp=Z,1.0nm,0.6s
BOZ Bozeman (W) 66.39 49 *e*P **P 08 44 32.6 0.0**
BOZ Bozeman (W) 66.39 49 *e*P **P 08 44 32.6 0.0**
comp=Z,1.2nm,0.6s
NVAR Mina Array Bea 67.02 58 P **P 08 44 35.8 -1.0**
comp=Z,1.0nm,0.6s,baz=289,slow=7.2,SNR=12
TPH Tonopah 67.91 58 *e*P **P 08 44 42.7 +0.3**
TPH pmax pmax
comp=Z,1.0nm,0.6s
TPH Tonopah 67.91 58 *e*P **P 08 44 42.7 +0.3**
comp=Z,1.5nm,0.6s
BW06 Boulder Array 69.38 50 *e*P **P 08 44 51.1 -0.5**
comp=Z,0.9nm,0.7s
PDAR Pinedale Array 69.38 50 P **P 08 44 51.0 -0.6**
comp=Z,0.5nm,0.5s,baz=81,slow=0.5,SNR=8.1
NB2 NORSAR Subarra 69.67 339 P **P 08 44 51.9 -0.9**
comp=Z,1.3nm,0.6s,baz=31,slow=6.2
NOA NORSAR Array B 69.67 339 P **P 08 44 52.0 -0.8**
comp=Z,1.5nm,0.6s,baz=33,slow=5.9,SNR=7.7
NCK Nalchik 69.91 311 ⇑P **P 08 44 55.3 +0.8**
KIV Kislovodsk 70.09 312 *e*P **P 08 44 56.5 +0.8**
KIV pmax pmax
comp=Z,18nm,0.9s
KIV MLR MLR
comp=Z,33nm,17.0s
KIV Kislovodsk 70.09 312 *e*P **P 08 44 56.5 +0.8**
KIV Kislovodsk 70.09 312 *e*P **P 08 44 56.9 +1.1**
comp=Z,7.1nm,0.4s
KBZ Khabaz 70.13 312 P **P 08 44 56.5 +0.7**
comp=Z,9.1nm,0.8s,baz=53,slow=20,SNR=23
KBZ LR LR 09 18 43.4
comp=Z,35nm,18.8s,baz=148,slow=38
ZEI Tsey 70.21 311 *e*P **P 08 44 55.6 -1.0**
ZEI pmax pmax
comp=Z,12nm,0.8s
NEY Neytrino 70.55 312 *e*P **P 08 44 59.4 +0.8**
NEY pmax pmax
comp=Z,1.0nm,0.8s
ULM Lac du Bonnet 71.04 38 P **P 08 45 00.4 -0.9**
comp=Z,0.7nm,0.4s,baz=330,slow=8.1,SNR=3.2
AKASG Malin Array Be 71.80 324 P **P 08 45 04.8 -1.0**
comp=Z,5.5nm,0.7s,baz=39,slow=6.0,SNR=10
DPC Dobruska-Polom 77.12 331 *e*P **P 08 45 36.1 -0.7**
DPC *ex* x 08 45 37.3
DPC Dobruska-Polom 77.12 331 *e*P **P 08 45 36.1 -0.7**
SCHQ Schefferville 77.30 20 P **P 08 45 36.9 -0.8**
comp=Z,1.4nm,0.5s,baz=346,slow=4.8,SNR=5.1
CLL Collm 77.45 333 *i* P **P 08 45 38.2 -0.3**
comp=Z,12nm,1.0s
CLL Collm 77.45 333 *i* P **P 08 45 38.2 -0.3**
CLL pmax pmax
comp=Z,12nm,1.0s
CLL Collm 77.45 333 *i* P **P 08 45 38.2 -0.3**
VRAC Vranov 77.89 330 P **P 08 45 40.8 -0.3**
comp=Z,3.0nm,0.5s,baz=27,slow=4.5
PRU Pruhonice 78.05 331 *e*P **P 08 45 41.8 -0.1**
PRU Pruhonice 78.05 331 *e*P **P 08 45 41.8 -0.1**
PRU Pruhonice 78.05 331 *e*P **P 08 45 41.8 -0.1**
KHC Kasperske Hory 79.11 331 *e*P **P 08 45 47.5 -0.3**
KHC Kasperske Hory 79.11 331 *e*P **P 08 45 47.5 -0.3**
KHC Kasperske Hory 79.11 331 *e*P **P 08 45 47.5 -0.3**
GERES GERESS Array B 79.31 331 P **P 08 45 48.6 -0.4**
comp=Z,0.6nm,0.5s,baz=25,slow=6.6,SNR=5.6
CDF Champ du Feu 81.80 335 *e*P **P 08 46 01.8 -0.5**
CDF Champ du Feu 81.80 335 *e*P **P 08 46 01.8 -0.5**
CDF Champ du Feu 81.80 335 *e*P **P 08 46 01.8 -0.5**
TXAR Lajitas Array 82.10 57 P **P 08 46 04.2 0.0**
comp=Z,1.1nm,0.6s,baz=296,slow=3.9,SNR=20
PAGF Fort de Pagny 82.14 336 *e*P **P 08 46 03.9 -0.1**
comp=Z,3.1nm,0.6s
PAGF Fort de Pagny 82.14 336 *e*P **P 08 46 03.9 -0.1**
comp=Z,3.1nm,0.6s
MEZF Maizieres J'vi 82.39 336 *e*P **P 08 46 05.1 -0.2**
MEZF Maizieres J'vi 82.39 336 *e*P **P 08 46 05.1 -0.2**
LOR Lormes 83.85 336 *e*P **P 08 46 13.1 +0.2**
comp=Z,5.8nm,0.7s
LOR Lormes 83.85 336 *e*P **P 08 46 13.1 +0.2**
LOR pmax pmax
comp=Z,6.0nm,0.7s
LOR Lormes 83.85 336 *e*P **P 08 46 13.1 +0.2**
comp=Z,5.8nm,0.7s
SSF Saint Saulge 84.14 336 *e*P **P 08 46 13.9 -0.4**
SSF Saint Saulge 84.14 336 *e*P **P 08 46 13.9 -0.4**
SSF Saint Saulge 84.14 336 *e*P **P 08 46 13.9 -0.4**
SMF Signal de Mont 84.42 336 *e*P **P 08 46 15.4 -0.4**
comp=Z,5.5nm,0.6s
SMF Signal de Mont 84.42 336 *e*P **P 08 46 15.4 -0.4**
SMF pmax pmax
comp=Z,6.0nm,0.6s
SMF Signal de Mont 84.42 336 *e*P **P 08 46 15.4 -0.4**
comp=Z,5.5nm,0.6s
AVF Avril sur Loir 84.43 336 *e*P **P 08 46 15.5 -0.3**
AVF Avril sur Loir 84.43 336 *e*P **P 08 46 15.5 -0.3**
AVF Avril sur Loir 84.43 336 *e*P **P 08 46 15.5 -0.3**
LPL La Plagne 84.54 334 *e*P **P 08 46 16.6 -0.1**
LPL La Plagne 84.54 334 *e*P **P 08 46 16.6 -0.1**
LPL La Plagne 84.54 334 *e*P **P 08 46 16.6 -0.1**
LPG La Plagne 84.55 334 *e*P **P 08 46 16.8 0.0**
LPG La Plagne 84.55 334 *e*P **P 08 46 16.8 0.0**
LPG La Plagne 84.55 334 *e*P **P 08 46 16.8 0.0**
SGMF Saint Gilles 84.64 341 *e*P **P 08 46 16.8 0.0**
comp=Z,14nm,0.8s
SGMF Saint Gilles 84.64 341 *e*P **P 08 46 16.8 0.0**
SGMF pmax pmax
comp=Z,14nm,0.8s
SGMF Saint Gilles 84.64 341 *e*P **P 08 46 16.8 0.0**
comp=Z,14nm,0.8s
ROSF Rostrenen 84.73 341 *e*P **P 08 46 17.4 +0.1**
comp=Z,19nm,1.0s
ROSF Rostrenen 84.73 341 *e*P **P 08 46 17.4 +0.1**
ROSF pmax pmax
comp=Z,19nm,1.0s
ROSF Rostrenen 84.73 341 *e*P **P 08 46 17.4 +0.1**
comp=Z,19nm,1.0s
MBDF Montbardon 85.23 333 *e*P **P 08 46 20.2 +0.1**
MBDF Montbardon 85.23 333 *e*P **P 08 46 20.2 +0.1**
MFF Saint Martin d 85.57 339 *e*P **P 08 46 21.1 -0.4**
comp=Z,9.8nm,0.9s
MFF Saint Martin d 85.57 339 *e*P **P 08 46 21.1 -0.4**
MFF pmax pmax
comp=Z,10.0nm,0.9s
MFF Saint Martin d 85.57 339 *e*P **P 08 46 21.1 -0.4**
comp=Z,9.8nm,0.9s
CAF Calviac 86.50 336 *e*P **P 08 46 25.9 -0.3**
CAF Calviac 86.50 336 *e*P **P 08 46 25.9 -0.3**
CAF Calviac 86.50 336 *e*P **P 08 46 25.9 -0.3**
TORD Torodi Ar. Bea 115.43 323 PKP **PKPdf 08 52 24.1 -1.4**
comp=Z,0.1nm,0.3s,baz=46,slow=3.0,SNR=3.3

*IDC **18** 09:08:28.2±1.3, 34.°11S×72.°38W, h0km, mb3.8/4, mb1 3.8/6, mb1mx3.7/19, mbtmp3.8/6, ML3.2/3, MS2.4/2, Ms1 2.4/2, ms1mx2.4/22, Error ellipse: s-maj=56.3km s-min=20.9km az=104.0*
*ISCJB **18** 09:08:31.0±1.9, 34.°07S±0.°03×72.°34W±0.°06, h28km±15km, mb4.0/7, MS2.6/1, Error ellipse: s-maj=8.2km s-min=5.0km az=14.2*
*GUC **18** 09:08:31.2±0.6, 34.°07S×72.°22W, h9km±2km, ML3.7*
*NEIC **18** 09:08:33.8±1.6, 34.°12S×72.°29W, h36km±14km, mb4.0/5, Error ellipse: s-maj=20.8km s-min=8.9km az=92.0*

ISC 18 09:08:30.7±4.8, 34.°07S±0.°04×72.°27W±0.°07, h13km±29km, n29, σ0°89/40, mb4.1/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
NICH	**Los Niches**	**1.27**	**137**	*e*P	**Pn**		**09 08 53.6**	**-0.5**
NICH				*e*S	**Sb**		**09 09 10.2**	**-0.4**
TALC	**Talca**	**1.42**	**158**	*e*P	**Pn**		**09 08 55.9**	**-0.3**
TALC				*e*S	**Sn**		**09 09 14.6**	**-0.1**
STL	**Santa Lucia**	**1.50**	**65**	*e*P	**Pn**		**09 08 56.5**	**-0.8**
STL				*e*S	**Sn**		**09 09 16.4**	**-0.3**
ROCH	**El Roble**	**1.52**	**44**	*e*P	**Pn**		**09 08 57.7**	**0.0**
ROCH				*e*S	**Sn**		**09 09 18.1**	**+0.6**
ROCH				AML	AML		09 09 28.6	
	comp=N,1μm,0.8s							
LACH	**Col Las Americ**	**1.58**	**67**	*e*P	**Pn**		**09 08 58.0**	**-0.3**
LACH				*e*S	**Sn**		**09 09 18.8**	**+0.2**
CLCH	**Cerro Calan**	**1.60**	**66**	*e*P	**Pn**		**09 08 58.9**	**+0.2**
CLCH				*e*S	**Sn**		**09 09 19.4**	**+0.3**
CLCH				AML	AML		09 09 28.2	
	comp=E,2μm,0.9s							
PEL	**Peldehue**	**1.62**	**56**	*e*P	**Pn**		**09 08 59.4**	**+0.4**
PEL				*e*S	**Sn**		**09 09 19.9**	**+0.3**
PEL				AML	AML		09 09 31.4	
	comp=N,3μm,0.5s							
LNCH	**Linares**	**1.86**	**163**	*e*P	**Pn**		**09 09 02.9**	**+0.7**
LNCH				*e*S	**Sb**		**09 09 27.2**	**-0.3**
CFAA	**Coronel Fontan**	**4.19**	**55**	Pn	**Pn**		**09 09 35.6**	**+1.3**
	comp=N,0.2nm,0.3s,baz=229,slow=14,SNR=26							
CFAA				Lg	Lg		09 10 30.9	
	comp=N,0.1nm,0.3s,baz=229,slow=15,SNR=2.1							
CFAA				LR	LR		09 11 14.8	
	comp=N,22nm,20.3s,baz=218,slow=39							
PLCA	**Paso Flores**	**6.79**	**169**	Pn	**Pn**		**09 10 10.5**	**+0.5**
	comp=N,0.2nm,0.3s,baz=355,slow=14,SNR=4.7							
PLCA				Lg	Lg		09 11 58.8	
	comp=N,0.2nm,0.3s,baz=92,slow=16,SNR=3.4							
PLCA	**Paso Flores**	**6.79**	**169**	*e*Pn	**Pn**		**09 10 09.6**	**-0.4**
PLCA				*e*Sn	**Sn**		**09 11 29.5**	**+2.4**
PLCA				Lg	Lg		09 11 58.8	
TRQA	**Tornquist**	**9.23**	**118**	*e*Pn	**Pn**		**09 10 44.7**	**+1.2**
TRQA				*e*Sn	**Sn**		**09 12 28.1**	**+0.9**
LPAZ	**La Paz**	**18.10**	**13**	P	**P**		**09 12 44.0**	**+1.2**
	comp=N,0.1nm,0.3s,baz=173,slow=6.1,SNR=10							
LPAZ	**La Paz**	**18.10**	**13**	*e*Pn	**P**		**09 12 45.5**	**+2.7**
LPAZ				*e*Sn	**Sn**		**09 16 06.1**	**+1.6**
SIV	**San Ignacio**	**20.64**	**32**	P	**P**		**09 13 09.3**	**-0.7**
	comp=N,1.9nm,0.7s,baz=237,slow=12,SNR=6.9							
SIV				LR	LR		09 21 59.1	
	comp=N,26nm,20.8s,baz=288,slow=39							
OTAV	**Otavalo**	**34.62**	**349**	*e*P	**P**		**09 15 19.3**	**-0.8**
	comp=N,0.5nm,0.3s							
SNAA	**Sanae**	**51.59**	**158**	P	**P**		**09 17 35.4**	**-0.9**
	comp=N,1.2nm,1.2s,baz=274,slow=8.6,SNR=3.7							
QSPA	**South Pole Qui**	**56.16**	**180**	P	**P**		**09 18 09.3**	**-0.6**
	comp=N,1.5nm,0.9s,baz=153,slow=9.0,SNR=3.7							
QSPA	**South Pole Qui**	**56.16**	**180**	*e*P	**P**		**09 18 10.4**	**+0.5**
	comp=N,1.8nm,0.9s							
WVT	**Waverly**	**71.34**	**347**	*e*P	**P**		**09 19 49.5**	**-0.4**
	comp=N,3.7nm,0.8s							
ECSD	**EROS Data Cent**	**80.56**	**342**	*e*P	**P**		**09 20 42.3**	**-0.1**
	comp=N,1.3nm,0.7s							
HWUT	**Hardware Ranch**	**83.52**	**331**	*e*P	**P**		**09 20 58.7**	**+0.5**
	comp=N,0.5nm,0.4s							
TORD	**Torodi Ar. Bea**	**84.42**	**70**	P	**P**		**09 21 02.7**	**-0.5**
	comp=N,1.0nm,0.8s,baz=260,slow=4.2,SNR=4.7							
WRA	**Warramunga Arr**	**120.60**	**209**	PKP	**PKPdf**		**09 27 21.7**	**-1.0**
	comp=N,0.3nm,0.8s,baz=153,slow=1.5,SNR=2.8							
BVAR	**Borovoye Array**	**147.47**	**43**	PKPbc	**PKPbc**		**09 28 14.3**	**+0.4**
	comp=N,0.6nm,0.5s,baz=294,slow=4.6,SNR=3.3							
KURBB	**Kurchatov Arra**	**153.06**	**43**	PKPbc	**PKPbc**		**09 28 27.1**	**-0.3**
	comp=N,0.3nm,0.4s,baz=302,slow=2.6,SNR=4.4							
KURK	**Kurchatov**	**153.06**	**43**	PKPbc	**PKPbc**		**09 28 27.1**	**-0.3**
ZALV	**Zalesovo Beam**	**154.39**	**32**	PKPbc	**PKPbc**		**09 28 30.1**	**-0.1**
	comp=N,0.5nm,0.4s,baz=235,slow=5.2,SNR=4.2							
MKAR	**Makanchi Array**	**156.96**	**49**	PKPab	**PKPab**		**09 28 55.5**	**-0.3**
	comp=N,0.2nm,0.5s,baz=0.0,slow=0.4,SNR=2.6							

*ISCJB **18** 09:08:34.4±0.7, 59.°31N±0.°03×27.°05E±0.°10, h0km, Error ellipse: s-maj=7.4km s-min=3.8km az=12.3*
*NAO **18** 09:08:35.7±1.3, 59.°29N×26.°95E, ML2.3*
*CSEM **18** 09:08:35.8±0.5, 59.°31N×27.°08E, h2km, ML2.3, Error ellipse: s-maj=13.8km s-min=6.5km az=98.0, Mining explosion.*
*BER **18** 09:08:36.0±2.4, 59.°32N×27.°11E, h0km, ML2.3(NAO), Suspected explosion*
*IDC **18** 09:08:37.3±3.1, 59.°38N×27.°19E, h0km, mb1 3.0/4, mb1mx2.9/27, mbtmp2.9/4, ML2.6/4, Error ellipse: s-maj=31.6km s-min=13.6km az=135.0*
*UPP **18** 09:09:08.5±3.7, 61.°40N×25.°05E, h0km, ML1.8, Suspected explosion*

ISC 18 09:08:35.5±0.9, 59.°30N±0.°03×26.°99E±0.°05, h0km, n40, σ1°47/60, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
VSU	**Vasula**	**0.85**	**189**	*e*P	**Pg**		**09 08 51.5**	**-0.2**
VSU				*e*S	**Sg**		**09 09 02.9**	**+0.1**
VSU	**Vasula**	**0.85**	**189**	P	**Pg**		**09 08 51.5**	**-0.2**
VSU				S	**Sg**		**09 09 02.8**	**+0.1**
VJF	**Virojoki**	**1.27**	**13**	P	**Pg**		**09 08 58.8**	**-1.1**
VJF				eSB	**Sg**		**09 09 15.9**	**-0.5**
PVF	**Pernaja**	**1.37**	**336**	*e*P	**Pg**		**09 09 01.7**	**-0.1**
PVF				*e*S	**Sg**		**09 09 19.1**	**-0.4**
PVF				MSG			09 09 20.1	
	comp=Z,3.6nm,0.1s							
PVF	**Pernaja**	**1.37**	**336**	P	**Pg**		**09 09 01.7**	**-0.1**
PVF				S	**Sg**		**09 09 19.1**	**-0.4**
MEF	**Metsahovi**	**1.60**	**306**	*e*PG	**Pb**		**09 09 05.8**	**-0.1**
MEF				*e*S	**Sg**		**09 09 26.8**	**-0.1**
MEF				MSG			09 09 27.6	
	comp=Z,8.1nm,0.1s							
MEF	**Metsahovi**	**1.60**	**306**	Pg	**Pb**		**09 09 05.8**	**-0.1**
MEF				S	**Sg**		**09 09 26.8**	**-0.1**
MTSE	**Matsula**	**1.75**	**252**	*e*P	**Pb**		**09 09 08.2**	**-0.2**
MTSE				*e*S	**Sg**		**09 09 31.5**	**0.0**
MTSE	**Matsula**	**1.75**	**252**	P	**Pb**		**09 09 08.1**	**-0.2**
MTSE				S	**Sg**		**09 09 31.5**	**0.0**
FIA0	**FINESS Array S**	**2.20**	**348**	Pn	**Pn**		**09 09 13.9**	**+0.7**
	baz=162,slow=18							
FIA0				Lg	Lg		09 09 44.3	
	baz=172,slow=37							
FIA0				Rg	Rg		09 09 56.0	
	baz=169,slow=37							
FIA0	**FINESS Array S**	**2.20**	**348**	Pn	**Pn**		**09 09 13.9**	**+0.7**
	baz=162,slow=18							
FIA0				Lg	Lg		09 09 44.3	
	baz=172,slow=37							
FIA0				Rg	Rg		09 09 56.0	
	baz=169,slow=37							
FIA0	**FINESS Array S**	**2.20**	**348**	*e*P	**Pn**		**09 09 13.8**	**+0.7**
FIA0				*e*PB	**Pb**		**09 09 15.2**	**-0.9**
FIA0				*e*SG	**Sb**		**09 09 44.5**	**+0.7**
FIA0				MSG			09 09 44.8	
	comp=Z,3.8nm,0.3s							
FIA0	**FINESS Array S**	**2.20**	**348**	P	**Pn**		**09 09 13.8**	**+0.6**
FIA0	**FINESS Array S**	**2.20**	**348**	Pb	**Pb**		**09 09 15.1**	**-0.9**
FIA0				Lg	Lg		09 09 44.3	
FINES	**FINESS Array B**	**2.20**	**348**	Pn	**Pn**		**09 09 13.9**	**+0.7**
	comp=Z,1.7nm,0.3s,baz=163,slow=16,SNR=41							
FINES				Sn	**Sb**		**09 09 44.4**	**+0.6**
	comp=Z,2.6nm,0.3s,baz=163,slow=29,SNR=17							
KAF	**Kangasniemi**	**2.84**	**353**	*e*P	**Pn**		**09 09 23.4**	**+1.4**
KAF				*e*S	**Sn**		**09 09 57.4**	**+0.4**
KAF				*e*SG	**Sb**		**09 10 03.9**	**+1.6**
KAF				MSG			09 10 04.6	
	comp=Z,3.3nm,0.3s							
KAF	**Kangasniemi**	**2.84**	**353**	P	**Pn**		**09 09 23.4**	**+1.4**
KAF				S	**Sn**		**09 09 57.3**	**+0.4**
KEF	**Keuruu**	**3.06**	**341**	*e*P	**Pn**		**09 09 27.0**	**+2.0**
KEF				*e*SG	**Sb**		**09 10 10.4**	**+1.8**
KEF				MSG			09 10 11.4	
	comp=Z,2.9nm,0.3s							
KEF	**Keuruu**	**3.06**	**341**	P	**Pn**		**09 09 27.0**	**+2.0**
RAF	**Rauma**	**3.13**	**306**	*e*P	**Pn**		**09 09 28.5**	**+2.5**
RAF	**Rauma**	**3.13**	**306**	P	**Pn**		**09 09 28.5**	**+2.5**
SUF	**Sumiainen**	**3.46**	**354**	*e*P	**Pn**		**09 09 32.0**	**+1.5**
SUF				*e*S	**Sn**		**09 10 12.2**	**+0.1**
SUF				*e*SG	**Sb**		**09 10 22.0**	**+2.1**
SUF				MSG			09 10 22.4	
	comp=Z,1.1nm,0.2s							
SUF	**Sumiainen**	**3.46**	**354**	P	**Pn**		**09 09 31.9**	**+1.5**
SUF				S	**Sn**		**09 10 12.1**	**+0.1**
AAL	**Aland**	**3.65**	**287**	*e*S	**Sn**		**09 10 17.6**	**+0.7**
AAL	**Aland**	**3.65**	**287**	S	**Sn**		**09 10 17.5**	**+0.7**
BURU	**Burvik**	**5.92**	**336**	P	**Pn**		**09 10 05.2**	**+0.9**
SVAU	**Svanoeiden**	**6.28**	**329**	P	**Pn**		**09 10 10.3**	**+1.1**
SJUU	**Sjulsmark**	**6.71**	**340**	P	**Pn**		**09 10 16.3**	**+1.2**
HFS	**Hagfors**	**6.78**	**283**	Sn	**Sn**		**09 11 29.0**	**-4.9**
	baz=100,slow=28							
HFS				Lg	Lg		09 12 07.6	
	baz=94,slow=37							
HFS	**Hagfors**	**6.78**	**283**	Sn	**Sn**		**09 11 29.0**	**-4.9**
	baz=100,slow=28							
HFS				Lg	Lg		09 12 07.6	
	baz=94,slow=37							
HFS	**Hagfors**	**6.78**	**283**	Pn	**Pn**		**09 10 16.5**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=89,slow=12,SNR=2.2							
HFS				Sn	**Sn**		**09 11 30.7**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=87,slow=29,SNR=2.9							
HFS				Lg	Lg		09 12 05.1	
	comp=Z,0.3nm,0.3s,baz=92,slow=31,SNR=4.1							
LILU	**Lilltraesk**	**6.86**	**334**	P	**Pn**		**09 10 18.1**	**+0.9**
HARU	**Harads**	**7.42**	**341**	P	**Pn**		**09 10 26.1**	**+1.3**
ERTU	**Ertsjaerv**	**7.60**	**345**	P	**Pn**		**09 10 27.6**	**+0.3**
PAJU	**Pajala**	**7.95**	**349**	P	**Pn**		**09 10 32.9**	**+0.8**
NOA	**NORSAR Array B**	**8.06**	**289**	Pn	**Pn**		**09 10 33.6**	**0.0**
	comp=Z,2.0nm,0.3s,baz=92,slow=11,SNR=3.1							
NOA				Lg	Lg		09 12 43.6	
	comp=Z,0.3nm,0.3s,baz=130,slow=25,SNR=2.5							
ARA0	**ARCESS Array S**	**10.30**	**357**	Pn	**Pn**		**09 11 02.6**	**-1.6**
	baz=176,slow=14							
ARA0				Sn	Sn		09 12 51.2	-9.0
	baz=180,slow=28							
ARA0	**ARCESS Array S**	**10.30**	**357**	Pn	**Pn**		**09 11 02.6**	**-1.6**
	baz=176,slow=14							
ARA0				Sn	Sn		09 12 51.2	-9.0
	baz=180,slow=28							
ARA0	**ARCESS Array S**	**10.30**	**357**	Pn	**Pn**		**09 11 02.6**	**-1.6**
	SNR=8.6							
ARCES	**ARCESS Array B**	**10.30**	**357**	Pn	**Pn**		**09 11 02.4**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=172,slow=14,SNR=4.2							
ARCES				Sn	Sn		09 12 52.3	-7.9
	comp=Z,0.1nm,0.3s,baz=178,slow=26,SNR=3.8							

*THR **18** 09:14:11.3±1.4, 34.°14N×53.°69E, h15km, ML3.7*
*TEH **18** 09:14:13.2, 34.°14N×53.°60E, h4km, ML3.8*
*CSEM **18** 09:14:14.2±0.2, 34.°14N×53.°70E, h20km, ML3.8, Error ellipse: s-maj=5.3km s-min=4.0km az=101.0*

ISC 18 09:14:12.8±1.6, 34.°12N±0.°03×53.°70E±0.°04, h11km±14km, n43, σ0°68/54, 4D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
IANJ	**Anjilo**	**1.36**	**7**	*e*Pg	**Pn**		**09 14 37.3**	**-0.6**
IANJ				*e*			09 15 00.2	
	comp=Z,18μm,0.1s							
IANJ	**Anjilo**	**1.36**	**7**	*e*Pg	**Pn**		**09 14 37.3**	**-0.6**
ILAS	**Lasjerd**	**1.40**	**334**	*e*Pg	**Pn**		**09 14 37.9**	**-0.6**
ILAS				*e*			09 15 03.6	
	comp=Z,9μm,0.1s							
ILAS	**Lasjerd**	**1.40**	**334**	*e*Pg	**Pn**		**09 14 37.9**	**-0.6**
NASN	**Na'in**	**1.51**	**210**	*e*Pg	**Pn**		**09 14 39.6**	**-0.6**
NASN				*e*Sg	**Sn**		**09 15 00.1**	**+0.1**
NASN	**Na'in**	**1.51**	**210**	*e*Pg	**Pn**		**09 14 39.6**	**-0.6**
NASN				*e*Sg	**Sn**		**09 15 00.1**	**+0.1**
IZEF	**Zefreh**	**1.67**	**224**	*e*Pn	**Pn**		**09 14 42.0**	**-0.3**
IZEF				*e*Sg	**Sn**		**09 15 03.8**	**-0.1**
IZEF				*e*			09 15 07.5	
	comp=Z,13μm,0.1s							
IZEF	**Zefreh**	**1.67**	**224**	*e*Pn	**Pn**		**09 14 42.0**	**-0.3**
IZEF				*e*Sg	**Sn**		**09 15 03.8**	**-0.1**
IFIR	**Firoozkooh**	**1.71**	**333**	*e*Pn	**Pn**		**09 14 42.4**	**-0.4**
IFIR				*e*	**Sg**		**09 15 08.3**	**+0.5**
	comp=Z,17μm,0.1s							
IFIR	**Firoozkooh**	**1.71**	**333**	*e*Pn	**Pn**		**09 14 42.4**	**-0.4**
ISHM	**Shahmirzad**	**1.72**	**349**	*e*Pn	**Pn**		**09 14 42.5**	**-0.4**
ISHM				*e*	**Sg**		**09 15 08.8**	**+0.7**
	comp=Z,23μm,0.2s							
IVRN	**Varamin**	**1.85**	**299**	*e*Pn	**Pn**		**09 14 44.4**	**-0.1**
IVRN				*e*	**Sg**		**09 15 13.4**	**+1.2**
	comp=Z,5μm,0.1s							
IVRN	**Varamin**	**1.85**	**299**	*e*Pn	**Pn**		**09 14 44.4**	**-0.1**
IKLH	**Kolahrood**	**1.94**	**246**	*e*Pn	**Pn**		**09 14 46.9**	**+1.0**
IKLH				*e*			09 15 21.3	
	comp=Z,13μm,0.2s							
IKLH	**Kolahrood**	**1.94**	**246**	*e*Pn	**Pn**		**09 14 46.9**	**+1.0**
ICHK	**Chekchek**	**1.96**	**162**	*e*Pn	**Pb**		**09 14 48.0**	**-0.7**
ICHK				*e*	**Sg**		**09 15 16.3**	**+0.4**
	comp=Z,12μm,0.2s							
ICHK	**Chekchek**	**1.96**	**162**	*e*Pn	**Pb**		**09 14 48.0**	**-0.7**
IDMV	**Damavand**	**2.00**	**317**	*e*Pn	**Pn**		**09 14 46.9**	**+0.1**
IDMV				*e*			09 15 25.0	
	comp=Z,5μm,0.4s							
IDMV	**Damavand**	**2.00**	**317**	*e*Pn	**Pn**		**09 14 46.9**	**+0.1**
GHVR	**GHOM**	**2.02**	**281**	*e*Pg	**Pb**		**09 14 48.3**

IRAZ				*e*			09 16 23.7		
	comp=Z,2μm,0.3s								
IRAZ	**Razeghan**	**3.36**	**294**	*e*Pn	**Pb**		**09 15 11.7**	**-0.8**	
MRVT	**Maraveh tapeh**	**4.03**	**28**	*e*Pn	**Pn**		**09 15 14.8**	**+0.3**	
MRVT	**Maraveh tapeh**	**4.03**	**28**	*e*Pn	**Pn**		**09 15 14.8**	**+0.3**	

ISCJB ***18*** *09:31:05.1±1.0, 18°.8S±0°.2×177°.3W±0°.2, h570km, mb3.7/5, Error ellipse: s-maj=27.9km s-min=19.7km az=141.0*

IDC ***18*** *09:31:08.5±4.9, 18°.9S×177°.39W, h603km±59km, mb3.2/5, mb1 3.3/7, mb1mx3.0/21, mbtmp4.1/7, Error ellipse: s-maj=36.7km s-min=25.8km az=22.0*

ISC 18 09:31:06.0±1.0**, 18°.8S**±0°.2**×177°.4W**±0°.2**, h570km, n10, σ0.82/10, mb3.9/5, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**15.54**	**255**	P	**P**	**09 34 21.5**	**+1.1**
	0.3nm,0.3s,baz=90,slow=20,SNR=5.5						
URZ	**Urewera**	**20.00**	**193**	P	**P**	**09 35 00.3**	**-0.6**
	1.3nm,0.3s,baz=354,slow=9.2,SNR=11						
STKA	**Stephens Creek**	**39.10**	**242**	P	**P**	**09 37 45.9**	**+0.7**
	1.4nm,0.4s,baz=80,slow=8.3,SNR=7.9						
JAY	**Jayapura**	**44.11**	**286**	P	**P**	**09 38 24.8**	**-0.1**
	7.6nm,0.6s,baz=117,slow=6.8,SNR=3.7						
WRA	**Warramunga Arr**	**45.47**	**260**	P	**P**	**09 38 34.5**	**-0.7**
	2.8nm,0.4s,baz=96,slow=7.6,SNR=32						
WRA				PcP	**PcP**	**09 40 01.4**	**-0.7**
	0.3nm,0.3s,baz=96,slow=2.9,SNR=4.7						
TXAR	**Lajitas Array**	**85.62**	**57**	P	**P**	**09 42 46.1**	**+0.9**
	0.4nm,0.8s,baz=225,slow=5.1,SNR=3.7						
ILAR	**Eielson Array**	**86.52**	**13**	P	**P**	**09 42 48.3**	**-0.2**
	0.1nm,0.4s,baz=227,slow=4.6,SNR=6.2						
EKA	**Eskdalemuir Ar**	**143.25**	**6**	PKP	PKPab	09 49 32.9	-0.7
	0.5nm,0.4s,baz=317,slow=2.9,SNR=4.1						
GERES	**GERESS Array B**	**148.71**	**346**	PKPbc	**PKPbc**	**09 49 49.1**	**-0.5**
	0.3nm,0.4s,baz=57,slow=3.6,SNR=3.5						
DAVOX	**Davos/Dischmat**	**151.45**	**350**	PKPbc	**PKPbc**	**09 49 55.6**	**-0.6**
	2.5nm,0.4s,baz=3.5,slow=19,SNR=3.5						

IDC ***18*** *09:32:18.2±1.0, 12°.50N×95°.01E, h0km, mb4.1/14, mb1 4.2/15, mb1mx4.0/30, mbtmp4.1/15, ML4.0/1, MS3.0/3, Ms1 3.1/3, ms1mx2.8/28, Error ellipse: s-maj=35.6km s-min=17.5km az=56.0*

ISCJB ***18*** *09:32:19.7±0.6, 12°.50N±0°.07×95°.19E±0°.08, h19km, mb4.0/16, MS2.5/1, Error ellipse: s-maj=11.3km s-min=9.4km az=145.7*

NEIC ***18*** *09:32:23.9±2.7, 12°.56N×95°.11E, h36km±21km, mb4.0/3, Error ellipse: s-maj=24.5km s-min=8.7km az=50.0*

ISC 18 09:32:21.5±0.8**, 12°.52N**±0°.10**×95°.1E**±0°.1**, h19**km**, n32, σ0.75/32, mb4.0/16, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**6.99**	**32**	Pn	**Pn**	**09 34 02.7**	**-0.2**
	0.7nm,0.3s,baz=218,slow=15,SNR=3.4						
CMAR				Sn	**Sn**	**09 35 22.2**	**+0.3**
	0.3nm,0.3s,baz=214,slow=18,SNR=3.6						
CMAR				LR	LR	09 37 04.2	
	comp=Z,164nm,18.1s,baz=224,slow=41						
PSI	**Prapat**		**10.38 158**	LR	LR	09 39 33.2	
	comp=Z,173nm,18.5s,baz=306,slow=42						
TAPN	**Taplejung**	**16.29**	**336**	*e*P	**P**	**09 36 13.0**	**+0.5**
RAMN	**Ramite**	**16.41**	**332**	*e*P	**P**	**09 36 15.8**	**+2.0**
JIRN	**Jiri**	**17.21**	**332**	*e*P	**P**	**09 36 22.6**	**-0.2**
	18nm,0.6s						
PKI	**Pulchoki**	**17.50**	**330**	*e*P	**P**	**09 36 26.3**	**+0.4**
	20nm,0.7s						
GUN	**Gumba**	**17.56**	**332**	*e*P	**P**	**09 36 26.7**	**0.0**
DMN	**Daman**	**17.68**	**330**	*e*P	**P**	**09 36 28.9**	**+1.1**
GKN	**Gorkha**	**18.23**	**329**	*e*P	**P**	**09 36 34.4**	**+0.5**
KOLN	**Koldanda**	**18.59**	**326**	*e*P	**Pn**	**09 36 38.6**	**+0.5**
	27nm,0.7s						
TKM2	**Tokmak 2**	**34.67**	**335**	*e*P	**P**	**09 39 11.1**	**+1.0**
AAK	**Ala-Archa**	**34.91**	**333**	P	**P**	**09 39 13.1**	**+0.9**
	1.1nm,0.6s,baz=168,slow=9.7,SNR=3.6						
MK31	**Makanchi Array**	**35.83**	**345**	*e*P	**P**	**09 39 20.2**	**+0.4**
MKAR	**Makanchi Array**	**35.83**	**345**	P	**P**	**09 39 19.9**	**+0.1**
	3.4nm,0.9s,baz=181,slow=8.5,SNR=22						
MKAR				LR	LR	09 57 53.8	
	comp=Z,8.5nm,21.1s,baz=158,slow=43						
SONM	**Songino Array**	**36.46**	**13**	P	**P**	**09 39 25.1**	**-0.2**
	3.0nm,1.0s,baz=197,slow=9.5,SNR=14						
KURBB	**Kurchatov Arra**	**40.33**	**344**	P	**P**	**09 39 57.9**	**+0.2**
	4.7nm,0.9s,baz=161,slow=7.7,SNR=26						
KURK	**Kurchatov**	**40.39**	**344**	*e*P	**P**	**09 39 58.4**	**+0.2**
ZALV	**Zalesovo Beam**	**42.12**	**351**	P	**P**	**09 40 12.2**	**-0.1**
	2.2nm,0.6s,baz=177,slow=8.9,SNR=11						
BVAR	**Borovoye Array**	**44.96**	**339**	P	**P**	**09 40 35.1**	**-0.1**
	0.9nm,0.7s,baz=148,slow=8.7,SNR=6.0						
MJAR	**Matsushiro Arr**	**45.45**	**51**	P	**P**	**09 40 39.9**	**+0.4**
	0.7nm,0.8s,baz=255,slow=13,SNR=3.9						
ABKAR	**Akbulak array**	**46.69**	**329**	*e*P	**P**	**09 40 49.5**	**+0.5**
	0.6nm,0.4s						
AKTO	**Aktyubinsk**	**48.40**	**329**	P	**P**	**09 41 00.4**	**-1.9**
	1.5nm,0.5s,baz=165,slow=7.9,SNR=4.7						
WRA	**Warramunga Arr**	**50.34**	**129**	P	**P**	**09 41 17.2**	**-0.3**
	0.9nm,0.6s,baz=308,slow=8.2,SNR=9.6						
WRAB	**Tennant Creek**	**50.34**	**129**	*e*P	**P**	**09 41 17.9**	**+0.4**
	3.6nm,0.7s						
STKA	**Stephens Creek**	**62.71**	**136**	P	**P**	**09 42 46.4**	**+0.9**
	1.2nm,0.7s,baz=313,slow=7.7,SNR=4.3						
STKA	**Stephens Creek**	**62.71**	**136**	*e*P	**P**	**09 42 46.2**	**+0.7**
	0.9nm,0.9s						
ARCES	**ARCESS Array B**	**71.25**	**340**	P	**P**	**09 43 38.8**	**-0.3**
	1.0nm,0.7s,baz=72,slow=5.8,SNR=4.1						
GERES	**GERESS Array B**	**75.02**	**317**	P	**P**	**09 44 01.6**	**-0.3**
	1.2nm,0.7s,baz=87,slow=6.8,SNR=7.0						
SPITS	**Spitsbergen Ar**	**75.51**	**348**	P	**P**	**09 44 04.0**	**-0.1**
	7.0nm,1.0s,baz=38,slow=7.3,SNR=2.3						
ILAR	**Eielson Array**	**90.13**	**22**	P	**P**	**09 45 18.9**	**-1.3**
	0.4nm,0.8s,baz=285,slow=3.4,SNR=6.8						
NVAR	**Mina Array Bea**	**120.48**	**30**	PKP	**PKPdf**	**09 51 12.6**	**0.0**
	0.4nm,0.7s,baz=5.7,slow=1.5,SNR=4.1						
TXAR	**Lajitas Array**	**134.63**	**23**	PKP	**PKPdf**	**09 51 38.9**	**-0.7**
	0.3nm,0.7s,baz=252,slow=1.8,SNR=3.3						

IDC ***18*** *09:45:20.3±0.6, 62°.70S×166°.62E, h0km, mb4.6/10, mb1 4.7/12, mb1mx4.6/16, mbtmp4.6/12, ML4.0/2, MS4.7/16, Ms1 4.7/16, ms1mx4.6/22, Error ellipse: s-maj=26.8km s-min=15.2km az=80.0*

ISCJB ***18*** *09:45:20.3±0.3, 62°.87S±0°.03×166°.0E±0°.2, h10km, mb4.6/16, MS4.7/14, Error ellipse: s-maj=13.4km s-min=4.8km az=3.3*

BJI ***18*** *09:45:22.7, 62°.80S×166°.20E, h10km, mb5.5/3, mB5.4/10, Ms5.2/12, Ms7 4.8/10*

AWI ***18*** *09:45:22.2, 62°.70S×167°.33E*

GCMT ***18*** *09:45:22.2±0.1, 62°.72S×166°.44E, h12km, MW5.3/90, Moment Tensor Solution. s74,c103; s90,c152; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr-0.32±.02; Mθθ1.19±.02; Mφφ-0.87±.02; Mrθ-0.77±.04; Mθφ0.30±.02; Mφr-0.12±.05; Best double couple: Mo1.23500×10^17 NP1:φs215.00000°, δ76.00000°, λ162.00000°. NP2:φs309.00000°, δ72.00000°, λ15.00000°. Principal axes: T 1.5560, Plg23.0000°, Azm172.0000°; N -0.6430, Plg67.0000°, Azm359.0000°; P -0.9150, Plg3.0000°, Azm263.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***18*** *09:45:22.2±0.3, 62°.84S×166°.09E, h10km, mb4.9/10 Error ellipse: s-maj=15.6km s-min=7.2km az=92.0*

ISC 18 09:45:22.1±0.4**, 62°.89S**±0°.05**×166°.81E**±0°.0**, h10**km**, n124, σ1.977/123, mb4.6/16, MS4.8/14, 8C, Balleny Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**14.79**	**184**	Pn	**Pn**	**09 48 51.2**	**+0.3**
	0.8nm,0.3s,baz=358,slow=14,SNR=38						
VNDA				LR	LR	09 53 34.2	
	comp=Z,10μm,19.6s,baz=9.5,slow=33						
VNDA	**Vanda**	**14.79**	**184**	*e*Pn	**Pn**	**09 48 50.4**	**-0.5**
VNDA				*e*Sn	**Sn**	**09 51 30.7**	**-3.8**
SBA	**Scott Base**	**15.04**	**180**	*e*Pn	**Pn**	**09 48 54.8**	**+0.5**
SBA				*e*Sn	**Sn**	**09 51 40.6**	**0.0**
WHZ	**Wether Hill Ro**	**17.04**	**3**	*e*Pn	**Pn**	**09 49 18.7**	**-1.6**
	418nm,1.6s						
WHZ				*e*Sn	**Sn**	**09 52 29.4**	**-0.2**
DCZ	**Deep Cove**	**17.45**	**1**	*e*Pn	**Pn**	**09 49 24.5**	**-0.8**
	264nm,1.5s						
ODZ	**Otahua Downs**	**18.02**	**9**	*e*Pn	**Pn**	**09 49 32.4**	**+0.1**
	96nm,1.5s						
RPZ	**Rata Peaks**	**19.37**	**9**	P	**P**	**09 49 45.7**	**-2.0**
	0.3nm,0.3s,baz=169,slow=10,SNR=13						
RPZ				LR	LR	09 56 04.6	
	comp=Z,5μm,20.5s,baz=194,slow=34						
RPZ	**Rata Peaks**	**19.37**	**9**	*e*P	**Pn**	**09 49 48.4**	**-0.4**
RPZ				*e*S	**Sn**	**09 53 24.9**	**-0.9**
KHZ	**Kahutara**	**20.89**	**14**	*e*P	**P**	**09 50 04.2**	**0.0**
	193nm,1.4s						
KHZ				*e*S	**S**	**09 53 58.1**	**+1.3**
BFZ	**Birch Farm**	**22.95**	**19**	*e*P	**P**	**09 50 29.4**	**+3.2**
	523nm,1.9s						
CASY	**Casey**	**23.68**	**237**	*e*P	**P**	**09 50 34.6**	**+1.2**
BKZ	**Black Stump Fm**	**24.47**	**18**	*e*P	**P**	**09 50 41.0**	**-0.1**
	230nm,2.2s						
URZ	**Urewera**	**25.45**	**19**	P	**P**	**09 50 47.5**	**-2.4**
	52nm,1.2s,baz=181,slow=3.7,SNR=14						
URZ				LR	LR	10 01 01.0	
	comp=Z,3μm,18.1s,baz=198,slow=37						
URZ	**Urewera**	**25.45**	**19**	*e*P	**P**	**09 50 49.3**	**-0.5**
URZ				*e*S	**S**	**09 55 13.4**	**-3.1**
QSPA	**South Pole Qui**	**27.20**	**180**	P	**P**	**09 51 06.4**	**+0.7**
	14nm,0.9s,baz=8.5,slow=1.6,SNR=37						
QSPA				LR	LR	10 00 54.0	
	comp=Z,4μm,18.4s,baz=27,slow=34						
QSPA	**South Pole Qui**	**27.20**	**180**	*e*P	**P**	**09 51 05.4**	**-0.3**
	3.5nm,0.5s						
STKA	**Stephens Creek**	**34.94**	**321**	P	**P**	**09 52 11.2**	**-2.7**
	3.8nm,0.9s,baz=162,slow=9.1,SNR=9.4						
STKA				LR	LR	10 04 32.7	
	comp=Z,2μm,18.2s,baz=154,slow=33						
STKA	**Stephens Creek**	**34.94**	**321**	*e*P	**P**	**09 52 11.7**	**-2.2**
MAW	**Mawson**	**38.85**	**216**	P	**P**	**09 52 48.5**	**+1.7**
	5.9nm,1.0s,baz=138,slow=18,SNR=5.5						
MAW				LR	LR	10 08 43.2	
	comp=Z,1μm,20.3s,baz=126,slow=36						
MAW	**Mawson**	**38.85**	**216**	*e*P	**P**	**09 52 47.7**	**+0.9**
	2.7nm,1.4s						
EIDS	**Eidsvold**	**38.95**	**337**	*e*P	**P**	**09 52 46.5**	**-1.6**
	22nm,1.1s						
DZM	**Mont Dzumac**	**40.80**	**359**	P	**P**	**09 53 02.5**	**-1.0**
	16nm,1.1s,baz=92,slow=22,SNR=6.5						
H01W1	**Cape Leeuwin H**	**42.72**	**286**	T	T	10 38 48.2	
	baz=146,slow=76,SNR=81						
H01W2	**Cape Leeuwin H**	**42.73**	**286**	T	T	10 38 48.2	
	baz=146,slow=76,SNR=109						
H01W3	**Cape Leeuwin H**	**42.74**	**286**	T	T	10 38 48.1	
	baz=146,slow=76,SNR=7.0						
AS31	**Alice Springs**	**44.97**	**315**	*e*P	**P**	**09 53 34.5**	**-2.8**
CTA	**Charters Tower**	**45.03**	**332**	P	**P**	**09 53 36.0**	**-1.8**
	9.5nm,1.0s,baz=166,slow=6.5,SNR=5.6						
SNAA	**Sanae**	**45.52**	**185**	P	**P**	**09 53 38.3**	**-2.9**
SNAA	**Sanae**	**45.52**	**185**	*e*P	P	09 53 37.8	-3.4
	13nm,1.3s						
VNA3	**Neumayer Olymp**	**46.12**	**182**	P	**P**	**09 53 45.9**	**0.0**
VNA2	**Neumayer--Watz**	**46.40**	**183**	P	**P**	**09 53 47.9**	**-0.1**
	baz=174,slow=37						
VNA1	**Neumayer--Stat**	**46.69**	**182**	P	**P**	**09 53 51.4**	**+1.2**
PMSA	**Palmer Station**	**47.22**	**153**	LR	LR	10 12 56.8	
	comp=Z,430nm,18.1s,baz=218,slow=35						
WRA	**Warramunga Arr**	**48.32**	**317**	P	P	09 53 59.6	-3.9
	4.6nm,1.2s,baz=158,slow=5.0,SNR=7.4						
WRA				PcP	**PcP**	**09 55 29.0**	**-1.1**
	1.5nm,0.9s,baz=161,slow=2.8,SNR=5.0						
WRA				LR	LR	10 12 04.4	
	comp=Z,965nm,20.8s,baz=155,slow=33						
WRAB	**Tennant Creek**	**48.32**	**317**	*e*P	**P**	**09 54 02.1**	**-1.5**
	3.2nm,1.0s						
TBI	**Tubuai**	**49.11**	**57**	*e*S	**S**	**10 01 18.8**	**+4.4**
	372nm,26.8s						
TBI				*e*LQ	LQ	10 05 29.8	
	2μm,27.5s						
TBI				*e*LR	LR	10 07 51.4	
	704nm,28.2s,baz=204						
TBI	**Tubuai**	**49.11**	**57**	*e*T	T	10 46 40.1	
	24nm,0.3s						
PAE	**Paea**	**54.25**	**54**	*e*T	T	10 53 06.1	
	8.6nm,0.3s						
TVO	**Taravao**	**54.26**	**55**	*e*T	T	10 53 06.3	
	2.5nm,0.3s						
PPT2	**Papeete2**	**54.31**	**54**	*e*S	**S**	**10 02 28.7**	**+2.4**
	167nm,25.0s						
PPT2				*e*LQ	LQ	10 07 40.0	
	1μm,23.8s						
PPT2				*e*LR	LR	10 10 26.7	
	402nm,22.2s,baz=195						
PPT2	**Papeete2**	**54.31**	**54**	*e*T	T	10 53 07.8	
	11nm,0.3s						
PPT	**Papeete**	**54.33**	**54**	LR	LR	10 14 10.0	
	comp=Z,335nm,19.1s,baz=210,slow=32						
USHA	**Ushuaia**	**54.98**	**145**	LR	LR	10 15 08.7	
	comp=Z,623nm,18.0s,baz=184,slow=32						
RKT	**Rikitea**	**55.31**	**72**	*e*S	S	10 02 46.9	+7.5
	271nm,25.2s						
RKT				*e*LR	LR	10 10 50.0	
	1μm,28.0s,baz=205						
RKT	**Rikitea**	**55.31**	**72**	*e*T	T	10 54 33.5	
	10nm,0.3s						
RPN	**Rapa Nui**	**63.46**	**98**	LR	LR	10 17 10.9	
	comp=Z,171nm,20.1s,baz=240,slow=30						
PLCA	**Paso Flores**	**67.05**	**136**	LR	LR	10 18 47.4	
	comp=Z,521nm,20.3s,baz=112,slow=30						
CFAA	**Coronel Fontan**	**76.14**	**134**	P	**P**	**09 57 10.1**	**+0.1**
	comp=Z,452nm,21.0s,baz=186,slow=33						
H08S2	**Diego Garcia H**	**85.22**	**263**	T	T	11 32 11.8	
	baz=152,slow=76,SNR=148						
H08S1	**Diego Carcia H**	**85.23**	**263**	T	T	11 32 11.8	
	baz=152,slow=76,SNR=71						
H08S3	**Diego Garcia H**	**85.24**	**263**	T	T	11 32 12.4	
	baz=152,slow=76,SNR=171						
LPAZ	**La Paz**	**90.29**	**128**	P	**P**	**09 58 25.0**	**+1.2**
	1.7nm,1.0s,baz=192,slow=4.8,SNR=4.3						
LPAZ	**La Paz**	**90.29**	**128**	*e*P	**P**	**09 58 24.8**	**+1.0**
	15nm,1.6s						
JCJ	**Chichijima**	**91.80**	**338**	LR	LR	10 34 17.0	
	comp=Z,66nm,21.6s,baz=114,slow=32						
QIZ	**Qiongzhong**	**92.97**	**307**	P	**P**	**09 58 35.6**	**+0.4**
QIZ				S	**S**	**10 09 41.8**	**+0.8**
QIZ				PMZ			
	8.0nm,1.1s						
QIZ				LZ			
	150nm,3.8s						
SIV	**San Ignacio**	**92.99**	**134**	P	**P**	**09 58 37.2**	**+1.6**
	0.8nm,0.6s,baz=211,slow=7.3,SNR=1.7						
CMAR	**Chiang Mai Arr**	**96.65**	**298**	P	**P**	**09 58 51.7**	**-0.5**
	1.8nm,0.3s,baz=164,slow=4.0,SNR=5.7						
CMAR				LR	LR	10 42 01.1	
	comp=Z,163nm,18.1s,baz=166,slow=35						
BDFB	**Brasilia**	**97.13**	**146**	LR	LR	10 42 17.5	
	comp=Z,309nm,18.4s,baz=195,slow=35						
GYA	**Guiyang**	**100.92**	**308**	P	**Pdif**	**09 59 12.8**	**+1.6**
GYA				PP	**PP**	**10 03 22.6**	**+2.9**
GYA				SKS	**SKSac**	**10 09 50.3**	**+0.2**
GYA				S	**Sdif**	**10 10 47.0**	**-2.2**
GYA				SS	**SS**	**10 17 50.5**	**+2.4**
GYA				PMZ			
	20nm,1.0s						
GYA				PMZ			
	120nm,5.4s						
GYA				LN			
	680nm,20.8s						
GYA				LE			
	590nm,21.0s						
GYA				LZ			
	620nm,20.4s						
KMI	**Kunming**	**101.17**	**304**	P	**Pdif**	**09 59 13.9**	**+1.4**
KMI				PMZ			
	7.0nm,0.8s						
KMI				LN			
	170nm,31.2s						
KMI				LE			
	180nm,26.3s						
KMI				LZ			
	210nm,19.2s						
NJ2	**Nanjing**	**102.06**	**320**	*e*P	**Pdif**	**09 59 15.3**	**-0.6**
NJ2				S	**Sdif**	**10 10 56.0**	**-2.1**
NJ2				LN			
	550nm,29.7s						
NJ2				LE			
	550nm,14.4s						
NJ2				LZ			
	640nm,23.8s						
H06S1	**SOCORRO T**	**103.01**	**75**	T	T	11 54 29.9	
	SNR=7.4						
H06E1	**SOCORRO T-PHAS**	**103.06**	**75**	T	T	11 54 32.5	
	SNR=11						
CD2	**Chengdu**	**106.02**	**307**	*e*Pdif	**Pdif**	**09 59 36.3**	**+2.6**
CD2				PP	**PP**	**10 04 02.8**	**+5.2**
CD2				S	**Sdif**	**10 11 29.8**	**-1.5**
CD2				SS	**SS**	**10 18 59.3**	**+1.3**
CD2				PPMZ			
	80nm,8.3s						
CD2				LN			
	240nm,16.7s						
CD2				LE			
	150nm,15.5s						
CD2				LZ			
	240nm,21.4s						
LZH	**Lanzhou**	**110.65**	**310**	*e*PKP	**PKiKP**	**10 03 53.1**	**-1.2**
LZH				*e*PP	**PP**	**10 04 36.1**	**+4.6**
LZH				*e*SS	SS	10 19 57.6	-3.2
LZH				PPMZ			
	74nm,7.6s						
LZH				LN			
	240nm,16.8s						
LZH				LE			
	200nm,14.8s						
LZH				LZ			
	350nm,18.3s						
HHC	**Hu-ho-hao-te**	**112.40**	**318**	*e*PKP	**PKiKP**	**10 03 55.9**	**-1.5**
HHC				PP	**PP**	**10 04 48.4**	**+4.4**
HHC				SKS	**SKSdf**	**10 11 03.3**	**-5.8**
HHC				PPMZ			
	45nm,8.1s						
HHC				LN			
	92nm,17.3s						
HHC				LE			
	220nm,16.0s						
SMMC	**Simmler**	**113.77**	**59**	P	**PKiKP**	**10 03 59.6**	**-0.5**
	baz=114						
NVAR	**Mina Array Bea**	**117.16**	**58**	PKP	**PKPdf**	**10 04 06.7**	**-0.1**
	0.5nm,0.8s,baz=261,slow=5.4,SNR=3.4						
GDL2	**Guadalupe Moun**	**117.61**	**73**	*e*PKPdf	**PKPdf**	**10 04 08.4**	**+0.7**
MSU	**Marysvale**	**119.67**	**63**	*e*PKPdf	**PKPdf**	**10 04 12.9**	**+1.3**
SONM	**Songino Array**	**120.30**	**317**	PKP	**PKPdf**	**10 04 12.7**	**+0.4**
	0.3nm,0.4s,baz=132,slow=2.1,SNR=4.0						
WMQ	**Urumqi**	**123.41**	**302**	*e*PKP	**PKPdf**	**10 04 19.3**	**+0.9**
WMQ				PP	**PP**	**10 06 04.5**	**+4.1**
WMQ				PKS	**PKSdf**	**10 07 54.5**	**-0.5**
WMQ				SKS	**SKSdf**	**10 11 28.8**	**-1.1**
WMQ				SKKS	**SKKSac**	**10 12 53.5**	**-4.6**
WMQ				SS	**SS**	**10 22 49.8**	**+3.0**
WMQ				PPMZ			
	15nm,9.0s						
WMQ				LN			
	80nm,19.2s						
WMQ				LE			
	170nm,23.2s						
PDAR	**Pinedale Array**	**124.33**	**62**	PKP	**PKPdf**	**10 04 20.9**	**+0.4**
	2.1nm,1.2s,baz=204,slow=3.3,SNR=5.0						
KSH	**Kashi**	**124.65**	**290**	PKP	**PKPdf**	**10 04 22.0**	**+1.0**
KSH				PP	**PP**	**10 06 09.6**	**+0.8**
KSH				PKS	**PKSdf**	**10 07 57.5**	**-0.2**
KSH				SKS	**SKSdf**	**10 11 32.9**	**+0.3**
KSH				PPMZ			
	120nm,4.4s						
KSH				LN			
	250nm,10.7s						
KSH				LE			
	260nm,14.2s						
KSH				LZ			
	160nm,8.8s						
MCMT	**McKenzie Canyo**	**124.74**	**59**	*e*PKPdf	**PKPdf**	**10 04 23.3**	**+2.1**
J19A	**Crowheart**	**124.95**	**62**	P	**PKPdf**	**10 04 21.8**	**+0.3**
	baz=125						
H02S1	**DAWSON INLET TI**	**125.12**	**40**	T	T	12 21 56.5	
	SNR=13						
H02N1	**VAN INLET T-PH**	**125.14**	**40**	T	T	12 21 58.7	
	SNR=7.0						
DLMT	**Dillon**	**125.28**	**58**	*e*PKPdf	**PKPdf**	**10 04 22.9**	**+0.8**
I19A	**Meeteetse**	**125.61**	**62**	P	**PKPdf**	**10 04 22.6**	**-0.2**
	baz=126						
LRM	**Limekiln Ridge**	**125.72**	**58**	*e*PKPdf	**PKPdf**	**10 04 24.0**	**+1.0**
H18A	**Shoshone NF, C**	**125.87**	**61**	P	**PKPdf**	**10 04 24.0**	**+0.7**
	baz=126						
BOZ	**Bozeman (W)**	**125.90**	**59**	*e*PKPdf	**PKPdf**	**10 04 23.7**	**+0.4**
MSO	**Missoula**	**125.98**	**56**	P	**PKPdf**	**10 04 23.6**	**+0.3**
	baz=126						
I21A	**Big Trails, Te**	**126.12**	**63**	P	**PKPdf**	**10 04 23.6**	**-0.2**
	baz=127						
J22A	**Midwest**	**126.13**	**64**	P	**PKPdf**	**10 04 23.2**	**-0.5**
	baz=127						
CHMT	**Chamberlain Mo**	**126.32**	**57**	*e*PKPdf	**PKPdf**	**10 04 25.9**	**+1.8**
BSMT	**Bassoo Peak**	**126.51**	**55**	*e*PKPdf	**PKPdf**	**10 04 26.4**	**+2.0**
JTMT	**Jette**	**126.62**	**56**	*e*PKPdf	**PKPdf**	**10 04 25.7**	**+1.2**
G20A	**Bridger**	**126.91**	**62**	P	**PKPdf**	**10 04 25.5**	**+0.3**
	baz=127						
E19A	**Rath Farm, Rou**	**127.69**	**60**	P	**PKPdf**	**10 04 27.3**	**+0.7**
	baz=128						
MK31	**Makanchi Array**	**128.01**	**300**	*e*PKPdf	**PKPdf**	**10 04 27.6**	**+0.5**
MKAR	**Makanchi Array**	**128.01**	**300**	PKP	**PKPdf**	**10 04 26.2**	**-0.9**
	2.1nm,1.1s,baz=186,slow=1.2,SNR=11						
H24A	**Dirks Ranch, A**	**128.02**	**65**	P	**PKPdf**	**10 04 26.6**	**-0.6**
	baz=128						
H25A	**Fruitdale**	**128.31**	**66**	P	**PKPdf**	**10 04 28.0**	**+0.2**
	baz=129						
C19A	**Slack Wire Ran**	**128.63**	**59**	P	**PKPdf**	**10 04 27.3**	**-1.0**
	baz=129						
J29A	**Okreek**	**128.71**	**69**	P	**PKPdf**	**10 04 27.1**	**-1.4**
	baz=129						
J30A	**Dallas**	**129.00**	**70**	P	**PKPdf**	**10 04 28.2**	**-0.9**
	baz=130						
TORD	**Torodi Ar. Bea**	**129.21**	**199**	PKhKP	PKPpre	10 04 27.5	
	0.8nm,0.8s,baz=305,slow=0.4,SNR=4.6						
KKAR	**Karatay Array**	**129.94**	**288**	*e*PKPdf	**PKPdf**	**10 04 31.9**	**+1.0**
ECSD	**ERO

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.64**	**35**	Pn	**Pn**	**09 46 35.8**	**+0.6**
	20nm,0.3s,baz=199,slow=12,SNR=26						
GUMO				Sn	**Sb**	**09 46 56.7**	**-1.1**
	76nm,0.3s,baz=3.7,slow=23,SNR=25						
GUMO	**Guam**	**1.64**	**35**	*e*Pn	**Pn**	**09 46 35.1**	**-0.2**
GUMO				*e*Sn	**Sb**	**09 46 57.5**	**-0.3**
H11N1	**WAKE ISLAND Hy**	**23.30**	**68**	T	T	10 15 32.8	
	baz=255,slow=75						
H11N2	**WAKE ISLAND Hy**	**23.31**	**68**	T	T	10 15 33.1	
	baz=255						
H11N3	**WAKE ISLAND Hy**	**23.32**	**68**	T	T	10 15 32.5	
	baz=255,slow=75						
WRAB	**Tennant Creek**	**33.33**	**197**	*e*P	**P**	**09 52 43.7**	**-0.5**
	2.3nm,0.8s						
WRA	**Warramunga Arr**	**33.34**	**197**	P	**P**	**09 52 43.3**	**-1.0**
	0.9nm,0.8s,baz=20,slow=9.6,SNR=6.1						
MKAR	**Makanchi Array**	**61.80**	**317**	P	**P**	**09 56 25.6**	**+0.7**
	0.1nm,0.4s,baz=158,slow=1.6,SNR=2.8						
ILAR	**Eielson Array**	**70.18**	**25**	P	**P**	**09 57 17.6**	**-0.7**
	0.4nm,0.5s,baz=247,slow=6.1,SNR=11						
BVAR	**Borovoye Array**	**70.39**	**322**	P	**P**	**09 57 19.8**	**-0.1**
	0.9nm,0.5s,baz=110,slow=6.5,SNR=4.9						
YKA	**Yellowknife Ar**	**84.48**	**27**	P	**P**	**09 58 39.2**	**+0.8**
	1.1nm,0.6s,baz=287,slow=5.2,SNR=10						
ARCES	**ARCESS Array B**	**88.06**	**342**	P	**P**	**09 58 55.7**	**-0.3**
	0.6nm,0.6s,baz=79,slow=6.3,SNR=7.1						
NVAR	**Mina Array Bea**	**88.49**	**51**	P	**P**	**09 59 00.6**	**+1.6**
	0.7nm,0.6s,baz=267,slow=5.8,SNR=9.2						
FINES	**FINESS Array B**	**91.97**	**335**	P	**P**	**09 59 13.2**	**-1.2**
	0.6nm,0.4s,baz=82,slow=4.0,SNR=4.8						

NEIC 18 10:01:46.0,12.15S×76.49W,h102km,MG3.9(ARE), **After ARE., Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**0.38**	**295**	*e*Pg	Pn	10 02 02.4	+1.0
NNA				*e*Sg	Sn	10 02 13.8	+1.1
LPAZ	**La Paz**	**9.09**	**118**	*e*Pn	Pn	10 03 54.3	-0.9
LPAZ				*e*Sn	Sn	10 05 31.3	-4.9
OTAV	**Otavalo**	**12.46**	**351**	*e*Pn	Pn	10 04 39.3	-1.1
SAML	**Samuel**	**13.46**	**78**	P	Pn	10 04 50.4	-2.6
LCO	**Las Campanas**	**17.62**	**163**	P	P	10 05 45.0	0.0

*SJA **18** 10:10:56.5±0.4,35.90S×74.80W,h13km±36km,ML5.1*
*IDC **18** 10:11:19.3±0.6,34.84S×72.66W,h0km,mb4.4/14, mb1 4.5/18,mb1mx4.4/21,mbtmp4.3/18,ML4.5/4,MS4.2/2, Ms1 4.2/2,ms1mx3.7/17,Error ellipse: s-maj=23.1km s-min=14.0km az=87.0*
*GUC **18** 10:11:20.9±0.7,34.84S×72.83W,h32km±3km,ML4.8*
*ISCJB **18** 10:11:22.8±0.2,34.85S±0.03×72.75W±0.03,h33km, mb4.5/40,Error ellipse: s-maj=4.1km s-min=3.4km az=175.8*
*NEIC **18** 10:11:24.9±0.9,34.86S×72.64W,h36km±8km,mb4.7/29, Error ellipse: s-maj=10.2km s-min=5.2km az=80.0*
*BJI **18** 10:11:25.4,34.80S×72.60W,h35km,mB4.9/2,Ms5.0/3, Ms7 4.5/3*

ISC 18 10:11:24.4±1.0,**34.87S**±0.04×**72.72W**±0.06,**h34**km±4km, **n305,**σ**0675**/325,**mb4.7**/41,**98C-102D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**1.04**	**121**	⇓*i*P	**Pn**	**10 11 41.1**	**-1.3**
TALC				*i*S	**Sn**	**10 11 55.7**	**0.0**
NICH	**Los Niches**	**1.23**	**97**	*e*P	**Pn**	**10 11 44.0**	**-1.1**
NICH				*i*S	**Sn**	**10 12 01.8**	**+1.1**
LNCH	**Linares**	**1.34**	**137**	⇑*i*P	**Pn**	**10 11 45.1**	**-1.5**
LNCH				*i*S	**Sb**	**10 12 05.0**	**-0.8**
TACH	**Talagante**	**1.91**	**51**	⇓*i*P	**Pn**	**10 11 53.2**	**-1.4**
CCSP	**San Pedro de C**	**1.99**	**189**	*e*P	**Pn**	**10 11 54.1**	**-1.4**
CCSP				AML	AML	10 12 29.8	
	comp=N,20μm,0.6s						
IHA	**Instituto Hidr**	**2.05**	**26**	*e*P	**Pn**	**10 11 54.3**	**-2.1**
PCH	**Pirque**	**2.21**	**56**	*e*P	**Pn**	**10 11 57.7**	**-1.0**
SAN	**Santiago**	**2.22**	**51**	⇑*i*P	**Pn**	**10 11 57.7**	**-1.1**
SAN				*e*S	**Sn**	**10 12 25.4**	**+0.4**
CLCH	**Cerro Calan**	**2.33**	**52**	⇑*i*P	**Pn**	**10 11 59.3**	**-1.1**
CLCH				*e*S	**Sn**	**10 12 28.8**	**+0.9**
CLCH				AML	AML	10 12 46.3	
	comp=E,6μm,0.6s						
ROCH	**El Roble**	**2.37**	**37**	⇓*i*P	**Pn**	**10 11 59.1**	**-1.9**
ROCH				*e*S	**Sn**	**10 12 28.3**	**-0.7**
ROCH				AML	AML	10 12 53.2	
	comp=N,3μm,1.0s						
PEL	**Peldehue**	**2.42**	**45**	⇓*i*P	**Pn**	**10 12 00.4**	**-1.1**
PEL				AML	AML	10 12 45.0	
	comp=E,6μm,0.3s						
YECH	**El Yeso**	**2.50**	**62**	*e*P	**Pn**	**10 12 02.7**	**-0.1**
AAGR	**Agrelo**	**3.69**	**62**	*e*P	**Pn**	**10 12 19.5**	**+0.3**
ARCO	**CERRO ARCO**	**3.75**	**58**	*e*P	**Pn**	**10 12 20.8**	**+0.9**
ARCO				AML	AML	10 12 33.2	
	comp=Z,745nm,0.6s						
AUSP	**Uspallata**	**3.84**	**47**	*e*P	**Pn**	**10 12 21.9**	**+0.6**
AUSP				*e*S	Sb	10 13 25.0	+7.3
ASAL	**Salagasta**	**3.96**	**56**	*e*P	**Pn**	**10 12 23.6**	**+0.9**
RTLS	**Leoncito**	**4.20**	**44**	*e*P	**Pn**	**10 12 26.4**	**+0.2**
RTCV	**Cerro Valdivia**	**4.61**	**51**	*e*P	**Pn**	**10 12 32.4**	**+0.7**
CFAA	**Coronel Fontan**	**4.97**	**50**	Pn	**Pn**	**10 12 36.2**	**-0.5**
	comp=Z,3.0nm,0.3s,baz=235,slow=12,SNR=7.8						
CFAA				Lg	Lg	10 13 47.5	
	comp=Z,1.8nm,0.3s,baz=38,slow=11,SNR=4.1						
CFAA	**Coronel Fontan**	**4.97**	**50**		**Pn**	**10 12 36.3**	**-0.3**
RTLL	**Cerro Villicun**	**5.02**	**46**	*e*P	**Pn**	**10 12 36.9**	**-0.3**
AMOG	**MOGNA**	**5.29**	**43**	*e*P	**Pn**	**10 12 40.1**	**-1.0**
ACAN	**Cantantal**	**5.30**	**62**	*e*P	**Pn**	**10 12 40.8**	**-0.3**
LCO	**Las Campanas**	**6.09**	**17**	*e*Pn	**Pn**	**10 12 51.0**	**-1.2**
LCO				*e*Sn	**Sn**	**10 14 01.9**	**+1.1**
PLCA	**Paso Flores**	**6.10**	**164**	Pn	**Pn**	**10 12 52.2**	**+0.1**
	comp=Z,3.2nm,0.3s,baz=331,slow=11,SNR=44						
PLCA				Lg	Lg	10 14 27.8	
	comp=Z,4.7nm,0.3s,baz=36,slow=17,SNR=5.3						
TRQA	**Tornquist**	**9.22**	**113**	*e*Pn	**Pn**	**10 13 36.2**	**+1.3**
LVC	**Limon Verde**	**12.66**	**16**	Pn	**Pn**	**10 14 19.6**	**-2.7**
	comp=Z,18nm,0.3s,baz=207,slow=14,SNR=3.7						
LVC				Sn	Sn	10 16 55.2	+13
	baz=170,slow=19,SNR=1.7						
LVC	**Limon Verde**	**12.66**	**16**	*e*Pn	**Pn**	**10 14 21.1**	**-1.1**
LVC				Sn	Sn	10 16 55.2	+13
CPUP	**Villa Florida**	**15.74**	**61**	*e*P	**P**	**10 15 05.8**	**-1.3**
LPAZ	**La Paz**	**18.96**	**14**	P	**P**	**10 15 43.5**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=193,slow=7.8,SNR=22						
LPAZ	**La Paz**	**18.96**	**14**	*e*P	**Pn**	**10 15 44.5**	**+0.4**
USHA	**Ushuaia**	**20.18**	**173**	P	**P**	**10 15 55.2**	**-0.5**
	comp=Z,13nm,0.9s,baz=0.7,slow=17,SNR=3.6						
SIV	**San Ignacio**	**21.51**	**32**	P	**P**	**10 16 08.9**	**-1.5**
	comp=Z,9.2nm,0.7s,baz=217,slow=9.2,SNR=27						
SAML	**Samuel**	**27.24**	**21**	*e*P	**P**	**10 17 04.8**	**-0.5**
	comp=Z,9.8nm,1.3s						
BDFB	**Brasilia**	**29.29**	**55**	P	**P**	**10 17 22.3**	**-1.4**
	comp=Z,2.0nm,0.5s,baz=210,slow=7.4,SNR=3.1						
OTAV	**Otavalo**	**35.34**	**350**	*e*P	**P**	**10 18 17.8**	**+0.8**
	comp=Z,16nm,1.5s						
PTGA	**Pitinga**	**35.99**	**22**	LR	LR	10 34 20.3	
	comp=Z,294nm,18.4s,baz=194,slow=38						
VNA3	**Neumayer Olymp**	**48.77**	**157**	P	**P**	**10 20 06.1**	**+0.7**
VNA1	**Neumayer--Stat**	**49.10**	**157**	P	**P**	**10 20 09.4**	**+1.5**
VNA2	**Neumayer--Watz**	**49.43**	**157**	P	**P**	**10 20 10.3**	**-0.2**
	baz=282,slow=8.4						
SNAA	**Sanae**	**51.00**	**158**	P	**P**	**10 20 20.1**	**-2.3**
SNAA	**Sanae**	**51.00**	**158**	P	**P**	**10 20 22.7**	**+0.3**
	comp=Z,2.9nm,1.0s,baz=288,slow=5.0,SNR=13						
SNAA	**Sanae**	**51.00**	**158**	*e*P	**P**	**10 20 20.1**	**-2.3**
	comp=Z,30nm,1.2s						
QSPA	**South Pole Qui**	**55.37**	**180**	*e*P	**P**	**10 20 55.5**	**+0.8**
	comp=Z,11nm,1.0s						
VNDA	**Vanda**	**63.14**	**191**	P	**P**	**10 21 49.8**	**+1.8**
	comp=Z,1.6nm,0.7s,baz=138,slow=6.1,SNR=5.6						
736A	**Circle Diamond**	**67.52**	**337**	⇑P	**P**	**10 22 18.3**	**+1.4**
	baz=68						
732A	**Laxson Ranch,**	**68.29**	**334**	⇓P	**P**	**10 22 22.3**	**+0.5**
	baz=69						
633A	**Saathoff Ranch**	**68.68**	**335**	⇓P	**P**	**10 22 24.8**	**+0.5**
	baz=69						
632A	**Uvalde**	**68.94**	**335**	⇑P	**P**	**10 22 26.6**	**+0.7**
	baz=69						
533A	**Kerrville**	**69.20**	**336**	⇓P	**P**	**10 22 27.8**	**+0.3**
	baz=70						
532A	**Rocksprings**	**69.55**	**335**	⇓P	**P**	**10 22 29.9**	**+0.2**
	baz=70,SNR=8.6						
434A	**Burnet**	**69.63**	**337**	⇑P	**P**	**10 22 29.9**	**-0.2**
	baz=70,SNR=5.8						
336A	**Riesel**	**69.71**	**338**	⇑P	**P**	**10 22 30.5**	**0.0**
	baz=70						
531A	**Rocksprings**	**69.81**	**334**	⇓P	**P**	**10 22 31.3**	**+0.1**
	baz=70,SNR=5.7						
JCT	**Junction City**	**69.83**	**335**	*e*P	**P**	**10 22 31.9**	**+0.4**
	comp=Z,7.2nm,0.9s						
JCT	**Junction City**	**69.83**	**335**	⇑P	**P**	**10 22 31.4**	**0.0**
	baz=70						
433A	**Art**	**69.84**	**336**	⇑P	**P**	**10 22 31.2**	**-0.2**
	baz=70,SNR=6.4						
530A	**J-C Ranch, Com**	**70.08**	**334**	⇑P	**P**	**10 22 32.6**	**-0.3**
	baz=70						
334A	**Lometa**	**70.09**	**337**	⇓P	**P**	**10 22 32.8**	**-0.2**
	baz=70,SNR=8.1						
432A	**Menard**	**70.19**	**335**	⇑P	**P**	**10 22 33.5**	**-0.2**
	baz=70						
TXAR	**Lajitas Array**	**70.22**	**332**	P	**P**	**10 22 34.2**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=151,slow=8.8,SNR=19						
431A	**Sonora**	**70.30**	**335**	⇓P	**P**	**10 22 34.0**	**-0.3**
	baz=71						
333A	**Richland Sprin**	**70.33**	**336**	⇓P	**P**	**10 22 34.3**	**-0.1**
	baz=71,SNR=6.1						
529A	**Stev Forest Ra**	**70.38**	**333**	⇑P	**P**	**10 22 34.9**	**+0.1**
	baz=71,SNR=5.9						
138A	**Matatall Enter**	**70.38**	**340**	⇓P	**P**	**10 22 34.9**	**+0.3**
	baz=71						
430A	**Baggett Ranch,**	**70.62**	**334**	⇓P	**P**	**10 22 36.0**	**-0.2**
	baz=71,SNR=5.7						
332A	**Millersview**	**70.64**	**336**	⇑P	**P**	**10 22 35.9**	**-0.4**
	baz=71,SNR=6.1						
234A	**Clairette**	**70.68**	**337**	⇓P	**P**	**10 22 36.5**	**-0.1**
	baz=71						
429A	**Davenport Ranc**	**70.71**	**334**	⇓P	**P**	**10 22 36.5**	**-0.4**
	baz=71						
331A	**San Angelo**	**70.81**	**335**	⇑P	**P**	**10 22 37.1**	**-0.3**
	baz=71,SNR=5.8						
233A	**Rising Star**	**70.94**	**337**	⇓P	**P**	**10 22 37.9**	**-0.2**
	baz=71						
135A	**Vickery Place,**	**70.97**	**338**	⇑P	**P**	**10 22 38.2**	**0.0**
	baz=71						
232A	**Coleman**	**71.07**	**336**	⇓P	**P**	**10 22 38.6**	**-0.4**
	baz=71						
330A	**Mertzon**	**71.16**	**335**	⇑P	**P**	**10 22 38.9**	**-0.6**
	baz=72						
231A	**Bronte**	**71.34**	**335**	⇓P	**P**	**10 22 39.9**	**-0.6**
	baz=72,SNR=10						
133A	**Hamilton Ranch**	**71.49**	**337**	⇑P	**P**	**10 22 41.2**	**-0.2**
	baz=72,SNR=5.3						
329A	**Wagon Wheel Ra**	**71.52**	**334**	⇑P	**P**	**10 22 41.9**	**+0.2**
	baz=72,SNR=5.5						
Z35A	**Perchaven, San**	**71.64**	**339**	⇑P	**P**	**10 22 42.4**	**+0.1**
	baz=72						
ABTX	**Abilene, Hawle**	**71.74**	**336**	*e*P	**P**	**10 22 43.3**	**+0.3**
ABTX	**Abilene, Hawle**	**71.74**	**336**	⇑P	**P**	**10 22 42.9**	**-0.1**
	baz=72						
229A	**Bryant Ranch,**	**71.89**	**334**	⇓P	**P**	**10 22 43.6**	**-0.3**
	baz=72						
WVT	**Waverly**	**72.03**	**347**	*e*P	**P**	**10 22 44.3**	**-0.2**
	comp=Z,5.3nm,0.9s						
131A	**Roby**	**72.04**	**336**	⇓P	**P**	**10 22 44.8**	**0.0**
	baz=72,SNR=5.4						
Z33A	**Whitaker Ranch**	**72.07**	**337**	⇑P	**P**	**10 22 44.7**	**-0.2**
	baz=72,SNR=7.1						
130A	**Snyder**	**72.16**	**335**	⇓P	**P**	**10 22 45.3**	**-0.3**
	baz=72						
228A	**UT Block 9, Go**	**72.31**	**334**	⇓P	**P**	**10 22 46.3**	**-0.1**
	baz=73						
Z32A	**Haskell**	**72.31**	**337**	⇑P	**P**	**10 22 46.3**	**-0.1**
	baz=73,SNR=7.6						
Y34A	**Reagan Ranch,**	**72.38**	**338**	⇓P	**P**	**10 22 46.4**	**-0.3**
	baz=73						
MAW	**Mawson**	**72.50**	**164**	P	**P**	**10 22 46.8**	**-0.3**
	comp=Z,7.4nm,1.1s,baz=234,slow=10.0,SNR=6.3						
MAW				LR	LR	10 53 18.4	
	comp=Z,207nm,20.5s,baz=240,slow=35						
MAW	**Mawson**	**72.50**	**164**	*e*P	**P**	**10 22 48.2**	**+1.1**
X36A	**Centrahoma**	**72.53**	**340**	⇑P	**P**	**10 22 47.4**	**-0.2**
	baz=73						
Z31A	**Sharp Cattle R**	**72.55**	**336**	⇓P	**P**	**10 22 47.4**	**-0.3**
	baz=73						
X35A	**Drake**	**72.55**	**339**	⇑P	**P**	**10 22 47.7**	**0.0**
	baz=73						
Y33A	**Hilltop Ranch,**	**72.69**	**338**	⇑P	**P**	**10 22 48.2**	**-0.4**
	baz=73						
128A	**Castleberry Fa**	**72.72**	**334**	⇑P	**P**	**10 22 48.8**	**-0.1**
	baz=73,SNR=8.7						
Y32A	**R-V Farms, Ver**	**72.94**	**337**	⇓P	**P**	**10 22 49.9**	**-0.2**
	baz=73,SNR=5.2						
MNTX	**Cornudas Mount**	**73.00**	**331**	⇓P	**P**	**10 22 49.8**	**-0.7**
	baz=73						
X34A	**Smith Ranch, M**	**73.00**	**339**	⇓P	**P**	**10 22 50.2**	**-0.1**
	baz=73						
Z29A	**Hungry Hill Ra**	**73.02**	**335**	⇓P	**P**	**10 22 50.1**	**-0.6**
	baz=73,SNR=8.6						
X33A	**Lawton**	**73.14**	**338**	⇓P	**P**	**10 22 50.5**	**-0.8**
	baz=74						
Y31A	**Rekieta Farm,**	**73.17**	**336**	⇓P	**P**	**10 22 50.8**	**-0.7**
	baz=74						
W35A	**Tecumseh**	**73.23**	**340**	⇓P	**P**	**10 22 51.1**	**-0.6**
	baz=74						
X32A	**Elmer**	**73.28**	**337**	⇓P	**P**	**10 22 51.9**	**-0.2**
	baz=74						
Y30A	**Stafford Cattl**	**73.31**	**336**	⇓P	**P**	**10 22 51.5**	**-0.8**
	baz=74						
Y29A	**Porterfield Fa**	**73.56**	**335**	⇑P	**P**	**10 22 53.6**	**-0.2**
	baz=74,SNR=5.2						
TUL1	**Leonard**	**73.64**	**341**	*e*P	**P**	**10 22 53.8**	**-0.3**
	comp=Z,4.2nm,0.6s						
TUL1	**Leonard**	**73.64**	**341**	⇓P	**P**	**10 22 53.6**	**-0.4**
	baz=74						
X31A	**McDonald Ranch**	**73.69**	**337**	⇑P	**P**	**10 22 54.2**	**-0.3**
	baz=74						
W33A	**Caddo, Fort Co**	**73.70**	**338**	⇓P	**P**	**10 22 54.7**	**+0.2**
	baz=74						
V35A	**Meyer Ranch, C**	**73.79**	**340**	⇓P	**P**	**10 22 54.3**	**-0.7**
	baz=74						
Y28A	**McKinney Farm,**	**73.80**	**335**	⇓P	**P**	**10 22 54.9**	**-0.3**
	baz=74						
X30A	**Coker Ranch, T**	**73.82**	**336**	⇓P	**P**	**10 22 55.0**	**-0.2**
	baz=74						
W32A	**Sentinel**	**73.91**	**338**	⇓P	**P**	**10 22 55.7**	**0.0**
	baz=74,SNR=8.3						
MSTX	**Muleshoe**	**74.04**	**334**	*e*P	**P**	**10 22 56.9**	**+0.2**
	comp=Z,5.7nm,0.7s						
MSTX	**Muleshoe**	**74.04**	**334**	⇓P	**P**	**10 22 56.6**	**-0.1**
	baz=74						
X29A	**Tulia**	**74.10**	**335**	⇑P	**P**	**10 22 57.2**	**+0.2**
	baz=74						
X28A	**Dimmitt**	**74.33**	**335**	⇓P	**P**	**10 22 58.2**	**-0.2**
	baz=75						
AMTX	**Amarillo**	**74.49**	**336**	*e*P	**P**	**10 22 59.6**	**+0.4**
	comp=Z,4.3nm,0.9s						
AMTX	**Amarillo**	**74.49**	**336**	⇑P	**P**	**10 22 59.1**	**-0.2**
	baz=75						
U34A	**Anderson Ranch**	**74.62**	**339**	⇑P	**P**	**10 23 00.1**	**+0.3**
	baz=75						
W29A	**Amarillo**	**74.69**	**336**	⇑P	**P**	**10 23 00.5**	**+0.1**
	baz=75						
121A	**Cookes Peak, D**	**74.70**	**330**	⇓P	**P**	**10 23 00.7**	**+0.1**
	baz=75						
V31A	**Spring Creek L**	**74.70**	**337**	⇑P	**P**	**10 23 00.8**	**+0.4**
	baz=75						
T36A	**Boggs Farm, Ca**	**74.74**	**341**	⇓P	**P**	**10 23 00.4**	**-0.1**
	baz=75						
T35A	**Sooner Cattle**	**74.78**	**340**	⇑P	**P**	**10 23 00.8**	**0.0**
	baz=75						
T34A	**McClaskey Farm**	**75.06**	**340**	⇓P	**P**	**10 23 02.3**	**-0.1**
	baz=75						
S36A	**Lake Cedric, C**	**75.29**	**341**	⇓P	**P**	**10 23 03.1**	**-0.6**
	baz=76						
ACSO	**Alum Creek Sta**	**75.33**	**352**	*e*P	**P**	**10 23 02.5**	**-1.3**
	comp=Z,6.3nm,0.5s						
V29A	**Stinnett**	**75.34**	**336**	⇑P	**P**	**10 23 03.3**	**-0.8**
	baz=76						
T33A	**Patterson Ranc**	**75.42**	**339**	⇑P	**P**	**10 23 04.0**	**-0.5**
	baz=76						
S35A	**Otter Creek Ra**	**75.44**	**341**	⇑P	**P**	**10 23 04.0**	**-0.6**
	baz=76						
V27A	**Dan Oppiter Fa**	**75.68**	**335**	⇓P	**P**	**10 23 05.5**	**-0.6**
	baz=76						
T32A	**Huddler Ranch,**	**75.72**	**339**	⇓P	**P**	**10 23 06.4**	**+0.2**
	baz=76						
DBIC	**Dimbokro**	**75.99**	**72**	P	**P**	**10 23 08.2**	**-0.1**
	comp=Z,6.2nm,0.8s,baz=202,slow=4.6,SNR=5.6						
DBIC	**Dimbokro**	**75.99**	**72**	*e*P	**P**	**10 23 08.5**	**+0.2**
LAZ	**Ladron**	**76.07**	**331**	*e*P	**P**	**10 23 09.7**	**+1.2**
	comp=Z,2.1nm,1.4s						
S32A	**Newby Ranch, P**	**76.20**	**339**	⇓P	**P**	**10 23 09.8**	**+0.9**
	baz=76						
U27A	**Thompson Grove**	**76.27**	**335**	⇑P	**P**	**10 23 09.7**	**+0.2**
	baz=77						
ANMO	**Albuquerque**	**76.28**	**332**	*e*P	**P**	**10 23 10.4**	**+0.8**
	comp=Z,3.6nm,1.0s						
T28A	**Walsh**	**76.67**	**336**	⇓P	**P**	**10 23 11.8**	**+0.1**
	baz=77,SNR=8.4						
Q34A	**Chapman**	**76.77**	**341**	⇓P	**P**	**10 23 11.8**	**-0.3**
	baz=77						
S29A	**Ulysses**	**76.80**	**337**	⇑P	**P**	**10 23 12.6**	**+0.3**
	baz=77						
R32A	**Long Quarter,**	**76.80**	**339**	⇑P	**P**	**10 23 12.3**	**0.0**
	baz=77						
T27A	**Campo**	**76.82**	**336**	⇑P	**P**	**10 23 12.7**	**+0.2**
	baz=77						
R31A	**Burdett**	**76.92**	**339**	⇓P	**P**	**10 23 13.0**	**0.0**
	baz=77						
S28A	**Manter**	**77.02**	**337**	⇓P	**P**	**10 23 13.6**	**0.0**
	baz=77,SNR=5.9						
Q32A	**Meitler Ranch,**	**77.29**	**340**	⇑P	**P**	**10 23 15.0**	**0.0**
	baz=78,SNR=5.2						
X18A	**Snowflake**	**77.33**	**329**	⇑P	**P**	**10 23 15.4**	**-0.2**
	baz=78						
T25A	**Trinidad**	**77.47**	**335**	⇓P	**P**	**10 23 16.2**	**-0.1**
	baz=78						
R29A	**Marienthal**	**77.54**	**337**	⇑P	**P**	**10 23 16.9**	**+0.4**
	baz=78						
Q31A	**Ellis**	**77.54**	**339**	⇓P	**P**	**10 23 16.4**	**0.0**
	baz=78						
S26A	**Kim**	**77.58**	**335**	⇑P	**P**	**10 23 17.2**	**+0.4**
	baz=78,SNR=9.2						
R28A	**Tribune**	**77.68**	**337**	⇑P	**P**	**10 23 17.4**	**+0.1**
	baz=78,SNR=5.8						
Q30A	**Quinter**	**77.76**	**338**	⇓P	**P**	**10 23 17.8**	**+0.1**
	baz=78,SNR=7.0						
X16A	**Lo Mia Camp, P**	**77.87**	**328**	⇓P	**P**	**10 23 18.7**	**+0.1**
	baz=78						
P32A	**Huiting Farm,**	**77.89**	**340**	⇓P	**P**	**10 23 18.6**	**+0.3**
	baz=78						
Q29A	**Oakley**	**77.92**	**338**	⇓P	**P**	**10 23 18.3**	**-0.3**
	baz=78						
R27A	**Eads**	**77.95**	**336**	⇑P	**P**	**10 23 18.9**	**+0.1**
	baz=78						
P31A	**Stockton**	**78.02**	**339**	⇑P	**P**	**10 23 19.6**	**+0.5**
	baz=78						
R26A	**Arlington**	**78.18**	**336**	⇑P	**P**	**10 23 20.0**	**-0.2**
	baz=78,SNR=5.9						
Q28A	**Sharon Springs**	**78.34**	**337**	⇑P	**P**	**10 23 21.3**	**+0.4**
	baz=79						
O32A	**Brockman Farm,**	**78.39**	**340**	⇓P	**P**	**10 23 21.8**	**+0.6**
	baz=79						
SDCO	**Great Sand Dun**	**78.40**	**334**	⇑P	**P**	**10 23 21.6**	**0.0**
	baz=79						
KSCO	**Kaye Shedlock'**	**78.55**	**337**	⇑P	**P**	**10 23 22.7**	**+0.6**
	baz=79						
P29A	**Atwood**	**78.55**	**338**	⇑P	**P**	**10 23 22.7**	**+0.5**
	baz=79,SNR=5.4						
O31A	**Woolen Ranch,**	**78.58**	**340**	⇑P	**P**	**10 23 22.7**	**+0.5**
	baz=79						
Q26A	**Hugo**	**78.77**	**336**	⇑P	**P**	**10 23 24.2**	**+0.8**
	baz=79						
P28A	**Saint Francis**	**78.78**	**338**	⇓P	**P**	**10 23 24.0**	**+0.6**
	baz=79						
S22A	**4UR Ranch, Cre**	**78.89**	**333**	⇓P	**P**	**10 23 24.8**	**+0.5**
	baz=79						
R23A	**Moffat**	**78.91**	**334**	⇓P	**P**	**10 23 24.6**	**+0.2**
	baz=79						
MVCO	**Mesa Verde**	**79.06**	**332**	*e*P	**P**	**10 23 25.0**	**-0.1**
	comp=Z,20nm,1.5s						
MVCO	**Mesa Verde**	**79.06**	**332**	⇑P	**P**	**10 23 25.7**	**+0.5**
	baz=79						
BC3	**Big Chuckawall**	**79.06**	**325**	⇑P	**P**	**10 23 25.7**	**+0.6**
	baz=79						
CASY	**Casey**	**79.14**	**181**	*e*P	**P**	**10 23 26.2**	**+1.2**
	comp=Z,163nm,2.8s						
O28A	**Krutsinger Ran**	**79.29**	**338**	⇓P	**P**	**10 23 26.8**	**+0.6**
	baz=80						
Q24A	**Divide**	**79.36**	**335**	⇑P	**P**	**10 23 27.3**	**+0.4**
	baz=80						
W13A	**Hualapai Mount**	**79.53**	**327**	⇑P	**P**	**10 23 28.0**	**+0.3**
	baz=80						
M31A	**Lambtecht Ranc**	**79.59**	**340**	⇑P	**P**	**10 23 28.7**	**+1.0**
	baz=80						
N28A	**Pribbeno Ranch**	**79.73**	**338**	⇑P	**P**	**10 23 29.3**	**+0.8**
	baz=80						
U15A	**North Rim**	**79.94**	**329**	⇑P	**P**

baz=84
I25A **Rochford** 83.44 338 ⇓P P 10 23 48.3 +0.1
baz=84
TPH **Tonopah** 83.49 326 *e*P P 10 23 49.7 +1.1
comp=Z,2.1nm,0.3s
H27A **Howes** 83.50 339 ⇑P P 10 23 48.5 +0.2
baz=84
G28A **Parade** 83.58 340 ⇑P P 10 23 49.1 +0.4
baz=84
RSSD **Black Hills** 83.62 338 *e*P P 10 23 50.0 +0.8
comp=Z,5.3nm,1.3s
J22A **Midwest** 83.78 336 ⇑P P 10 23 50.2 +0.3
baz=84
HWUT **Hardware Ranch** 84.04 332 *e*P P 10 23 51.7 +0.3
comp=Z,10nm,1.2s
G27A **Dupree** 84.14 340 ⇑P P 10 23 51.9 +0.3
baz=84
I22A **9 Mile Ranch,** 84.20 336 ⇓P P 10 23 51.9 -0.1
baz=85
G26A **Maurine** 84.26 339 ⇓P P 10 23 52.2 0.0
baz=85
F28A **McLaughlin** 84.26 341 ⇑P P 10 23 52.4 +0.3
baz=85
J20A **Shoshoni** 84.27 335 ⇓P P 10 23 52.5 +0.1
baz=85
NVAR **Mina Array Bea** 84.28 326 P P 10 23 53.6 +0.9
comp=Z,0.7nm,0.6s,baz=150,slow=5.7,SNR=8.3
PDAR **Pinedale Array** 84.29 334 P P 10 23 52.5 -0.1
comp=Z,0.7nm,0.8s,baz=123,slow=5.5,SNR=6.5
I21A **Big Trails, Te** 84.41 336 ⇓P P 10 23 52.6 -0.4
baz=85
J19A **Crowheart** 84.54 334 ⇑P P 10 23 53.9 +0.1
baz=85
F27A **Lemmon** 84.62 340 ⇓P P 10 23 54.0 0.0
baz=85
HVU **Hansel Valley** 84.67 331 *e*P P 10 23 54.5 0.0
comp=Z,3.4nm,0.8s
I20A **Worland** 84.81 335 ⇑P P 10 23 54.7 -0.4
baz=85
D30A **Buchanan** 84.90 342 ⇓P P 10 23 55.0 -0.3
baz=85
TORD **Torodi Ar. Bea** 85.04 70 P P 10 23 56.3 -0.4
comp=Z,3.1nm,0.6s,baz=289,slow=6.0,SNR=39
I19A **Meeteetse** 85.19 335 ⇓P P 10 23 56.8 -0.3
baz=86
H20A **Greybull** 85.24 335 ⇓P P 10 23 56.8 -0.4
baz=86
F24A **Ekalaka** 85.30 338 ⇓P P 10 23 57.3 -0.2
baz=86
G22A **Birney** 85.32 337 ⇑P P 10 23 56.9 -0.7
baz=86
AGMN **Agassiz Nation** 85.34 345 ⇑P P 10 23 57.0 -0.5
baz=86
C30A **Mose, Pekin** 85.38 343 ⇓P P 10 23 57.1 -0.6
baz=86
TPAW **Teton Pass** 85.42 333 *e*P P 10 23 58.5 +0.2
comp=Z,3.8nm,1.2s
F23A **Volborg** 85.49 338 ⇑P P 10 23 58.1 -0.3
baz=86
G21A **Lodge Grass** 85.62 336 ⇓P P 10 23 58.4 -0.7
baz=86
IMW **Indian Meadow** 85.77 333 *e*P P 10 24 00.8 +0.7
F22A **Rosebud** 85.81 337 ⇑P P 10 23 59.5 -0.4
baz=86
FLWY **Flagg Ranch** 85.84 334 *e*P P 10 24 01.0 +0.7
comp=Z,16nm,1.6s
G20A **Bridger** 85.96 336 ⇑P P 10 24 00.2 -0.6
baz=86
H18A **Shoshone NF, C** 85.98 335 ⇓P P 10 24 00.6 -0.5
baz=86
B30A **Myrvik Farm, E** 86.05 343 ⇓P P 10 24 00.2 -0.8
baz=86
A29A **Manning Farm,** 86.70 343 ⇑P P 10 24 04.2 0.0
baz=87
D23A **Lindsay** 86.73 338 ⇓P P 10 24 04.5 +0.1
baz=87
E21A **Keefer Ranch,** 86.75 337 ⇓P P 10 24 04.5 -0.1
baz=87
C24A **Savage** 86.82 339 ⇓P P 10 24 05.2 +0.4
baz=87
HLID **Hailey** 86.82 331 *e*P P 10 24 06.2 +1.1
comp=Z,6.2nm,1.4s
HLID **Hailey** 86.82 331 ⇓P P 10 24 05.4 +0.3
baz=87
E20A **Meyer Farm, Mu** 87.06 336 ⇑P P 10 24 05.8 -0.2
baz=87
D21A **La Casta Ranch** 87.19 337 ⇓P P 10 24 06.6 -0.1
baz=88
ULM **Lac du Bonnet** 87.19 345 P P 10 24 06.2 -0.3
comp=Z,0.9nm,0.4s,baz=196,slow=5.9,SNR=4.2
ULM **Lac du Bonnet** 87.19 345 *e*P P 10 24 06.6 +0.1
E19A **Rath Farm, Rou** 87.24 336 ⇑P P 10 24 06.3 -0.6
baz=88
MCMT **McKenzie Canyo** 87.28 333 *e*P P 10 24 08.6 +1.2
C23A **Lambert** 87.29 339 ⇑P P 10 24 06.6 -0.5
baz=88
D20A **Manuel Ranch,** 87.58 337 ⇓P P 10 24 07.9 -0.6
baz=88
DGMT **Dagmar** 87.60 340 ⇑P P 10 24 08.6 0.0
baz=88
A25A **Svangstu Ranch** 87.72 340 ⇑P P 10 24 08.8 -0.4
baz=88
B23A **Brockton** 87.82 339 ⇓P P 10 24 09.6 0.0
baz=88
D19A **Cripps Ranch,** 87.88 336 ⇑P P 10 24 09.1 -0.9
baz=88
C21A **Desert Coulee** 87.89 338 ⇓P P 10 24 09.3 -0.7
baz=88
C20A **Veseth Ranch,** 88.08 337 ⇓P P 10 24 11.1 +0.1
baz=88
A22A **Carney Farms,** 88.57 339 ⇑P P 10 24 13.4 +0.2
baz=89
B20A **Solberg Farm,** 88.72 337 ⇓P P 10 24 14.1 +0.1
baz=89
I07A **Izee** 89.36 328 *e*P P 10 24 18.4 +1.2
comp=Z,8.8nm,1.4s
SCHQ **Schefferville** 89.49 3 P P 10 24 16.9 -0.3
comp=Z,4.2nm,1.0s,baz=204,slow=10.0,SNR=3.3
J05D **Fort Rock, OR** 89.49 327 ⇓P P 10 24 18.4 +0.6
baz=90
WRA **Warramunga Arr** 119.73 210 PKP PKPdf 10 30 10.4 -0.9
comp=Z,0.6nm,0.6s,baz=158,slow=1.6,SNR=24
WRAB **Tennant Creek** 119.73 210 *e*PKPdf PKPdf 10 30 11.0 -0.3
H11S2 **WAKE ISLAND Hyl** 25.19 269 T T 12 48 08.1
baz=118,slow=74,SNR=6.1
H11S1 **WAKE ISLAND Hyl** 25.20 269 T T 12 48 09.0
baz=118,slow=74,SNR=3.5
H11S3 **WAKE ISLAND Hyl** 25.21 269 T T 12 48 13.0
baz=118,slow=74,SNR=4.3
ABKAR **Akbulak array** 142.66 53 PKPdf PKPdf 10 30 55.1 +1.7
BRVK **Borovoye** 148.23 44 *e*PKPdf PKPdf 10 31 03.8 +1.0
BRVK *e*PKPbc PKPbc 10 31 05.8 -0.4
BRVK *e*PKPab PKiKP 10 31 08.5 +0.7
KKAR **Karatay Array** 150.45 63 *e*PKPbc PKPbc 10 31 12.1 0.0
ASAJ **Asahikawa** 151.41 300 *e*PKPdf PKPdf 10 31 08.4 +0.2
ASAJ *e*PKPbc PKiKP 10 31 14.5 -0.2
ASAJ *e*PKPab PKPab 10 31 23.7 +1.1
EKS2 **Erkin-Say** 152.88 63 *e*PKPdf PKPdf 10 31 09.7 -0.9
EKS2 *e*PKPbc PKPbc 10 31 17.5 -0.3
AAK **Ala-Archa** 153.41 63 *e*PKPbc PKPbc 10 31 19.1 +0.1
AAK *e*PKPab PKPab 10 31 31.2 -0.2
KURK **Kurchatov** 153.90 44 *e*PKPdf PKPdf 10 31 11.8 +0.3
KURK *e*PKPbc PKiKP 10 31 20.1 +0.5
KSH **Kashi** 154.71 70 *e*PKPbc PKPdf 10 31 15.9 +2.6
KSH *es*PKP 10 31 30.3
KSH PKS PKSdf 10 34 48.8 +1.3
KSH SKS SKSdf 10 38 16.8 -0.5
KSH PPMZ
comp=Z,85nm,4.0s
KSH LN
comp=Z,90nm,8.1s
KSH LE
comp=Z,71nm,4.5s
KSH LZ
comp=Z,150nm,8.5s
ZAA0 **Zalesovo Array** 155.26 33 *e*PKPdf PKPdf 10 31 13.1 -0.2
ZAA0 *e*PKPbc PKPbc 10 31 22.2
ZALV **Zalesovo Beam** 155.26 33 PKP PKPdf 10 31 13.4 0.0
comp=Z,0.5nm,0.3s,baz=305,slow=3.1,SNR=3.7
ZALV PKPab PKPab 10 31 39.0 +0.5
comp=Z,1.6nm,0.5s,baz=317,slow=6.0,SNR=4.9
MKAR **Makanchi Array** 157.76 50 PKP PKPdf 10 31 16.8 -0.1
MKAR PKPab PKPab 10 31 51.1 +1.5
comp=Z,0.2nm,0.5s,baz=295,slow=4.1,SNR=3.4
WMQ **Urumqi** 162.45 54 *e*PKP PKPdf 10 31 22.8 +0.5
WMQ LN
comp=Z,99nm,20.0s
WMQ LE
comp=Z,110nm,24.8s
WMQ LZ
comp=Z,62nm,20.2s
CN2 **Changchun** 163.38 308 *e*PKP PKPdf 10 31 21.6 -1.5
SONM **Songino Array** 167.03 3 PKPab PKPab 10 32 30.6 +0.5
comp=Z,0.3nm,0.3s,baz=336,slow=3.3,SNR=3.7
NJ2 **Nanjing** 169.93 257 *e*PKP PKPdf 10 31 28.1 -0.3
HHC **Hu-ho-hao-te** 173.14 332 *e*PKP PKPdf 10 31 29.3 -0.6
HHC pPKP pPKPdf 10 31 39.3 -1.9
HHC sPKP 10 31 43.8
HHC PKS PKSdf 10 35 02.3 +0.1
HHC PP PP 10 36 50.6 +1.9
HHC SKS SKSdf 10 38 26.1 -4.4
HHC SS SS 10 58 00.3 -0.2
HHC PPMZ
comp=Z,55nm,9.6s
HHC LN
comp=Z,140nm,21.5s
HHC LE
comp=Z,170nm,21.2s
HHC LZ
comp=Z,70nm,22.0s
CD2 **Chengdu** 175.06 142 *e*PKP PKPdf 10 31 31.5 +0.7
LZH **Lanzhou** 176.95 66 *e*PKP PKPdf 10 31 31.6 +0.4
LZH pPKP pPKPdf 10 31 42.8 +0.2
LZH sPKP 10 31 46.3

*ISCJB **18** 10:21:42.0±0.5, 3°.88S±0°.09×12°.1W±0°.1, h10km, mb4.2/17, MS3.8/9, Error ellipse: s-maj=17.3km s-min=10.2km az=34.7*
*IDC **18** 10:21:42.1±0.7, 3°.96S×12°.10W, h0km, mb4.2/14, mb1 4.3/14, mb1mx4.1/26, mbtmp4.2/14, MS3.8/11, Ms1 3.8/11, ms1mx3.5/34, Error ellipse: s-maj=24.8km s-min=17.5km az=124.0*
*NEIC **18** 10:21:43.5±0.5, 3°.99S×12°.08W, h10km, mb4.8/5, Error ellipse: s-maj=17.9km s-min=10.5km az=130.0*
ISC 18 10:21:43.7±0.6, **4°.0S**±0°.1×**12°.1W**±0°.1, **h10**km, **n38**, σ1**§15/26, mb4.2/17, MS3.9/9, North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	4.53	212	T	T	10 27 34.2	
	baz=30,slow=74,SNR=954						
H10N1	**ASCENSION HYDR**	4.54	211	T	T	10 27 36.3	
	baz=30,slow=74,SNR=1555						
H10N3	**ASCENSION HYDR**	4.54	212	T	T	10 27 36.9	
	baz=30,slow=74,SNR=1175						
H10S1	**ASCENSION HYDR**	5.57	207	T	T	10 28 53.8	
	baz=27,slow=74,SNR=329						
H10S2	**ASCENSION HYDR**	5.58	207	T	T	10 28 53.5	
	baz=27,slow=74,SNR=431						
H10S3	**ASCENSION HYDR**	5.58	207	T	T	10 28 52.7	
	baz=27,slow=74,SNR=389						
DBIC	**Dimbokro**	12.79	34	LR	LR	10 28 46.4	
	comp=Z,268nm,20.7s,baz=203,slow=33						
DBIC	**Dimbokro**	12.79	34	*e*Pn	Pn	10 24 45.7	-0.1
BBTS	**Babate**	19.01	347	LR	LR	10 32 03.1	
	comp=Z,152nm,21.5s,baz=162,slow=33						
TORD	**Torodi Ar. Bea**	21.82	39	P	P	10 26 35.0	-1.3
	6.3nm,0.7s,baz=227,slow=10,SNR=16						
TORD				LR	LR	10 34 09.3	
	comp=Z,111nm,18.1s,baz=190,slow=34						
MSKU	**Masuku**	25.77	86	P	P	10 27 15.2	+0.1
	9.4nm,0.7s,baz=245,slow=10,SNR=7.2						
MSKU				LR	LR	10 35 12.7	
	comp=Z,318nm,19.2s,baz=244,slow=31						
MSKU	**Masuku**	25.77	86	*e*P	P	10 27 14.5	-0.6
	0.3nm,0.3s						
BDFB	**Brasilia**	37.18	249	P	P	10 28 55.8	+0.3
	1.4nm,0.4s,baz=90,slow=11,SNR=3.1						
BOSA	**Boshof**	43.12	129	P	P	10 29 45.3	+0.7
	1.3nm,0.6s,baz=281,slow=10,SNR=2.6						
BOSA				LR	LR	10 44 31.8	
	comp=Z,159nm,20.7s,baz=212,slow=32						
KEST	**Kesra**	44.30	25	P	P	10 29 55.3	+1.3
	1.8nm,0.9s,baz=252,slow=6.4,SNR=3.5						
KEST	**Kesra**	44.30	25	*e*P	P	10 29 56.1	+2.2
DAVOX	**Davos/Dischmat**	54.12	19	LR	LR	10 55 01.5	
	comp=Z,54nm,18.8s,baz=260,slow=37						
LPAZ	**La Paz**	56.34	253	P	P	10 31 26.9	+0.7
	2.8nm,1.1s,baz=169,slow=2.0,SNR=4.0						
LPAZ				LR	LR	10 54 27.4	
	comp=Z,98nm,20.9s,baz=94,slow=35						
LPAZ	**La Paz**	56.34	253	*e*P	P	10 31 26.1	0.0
	5.6nm,1.3s						
GERES	**GERESS Array B**	57.18	20	P	P	10 31 31.7	+0.7
	4.5nm,0.9s,baz=191,slow=6.1,SNR=19						
LCO	**Las Campanas**	60.78	239	*e*P	P	10 31 56.7	+0.2
	5.1nm,0.5s						
ROSC	**El Rosal**	62.79	277	LR	LR	10 56 44.3	
	comp=Z,105nm,21.0s,baz=126,slow=34						
PLCA	**Paso Flores**	63.82	226	LR	LR	10 55 49.6	
	comp=Z,47nm,20.6s,baz=122,slow=32						
KIEV	**Kiev**	64.92	28	*e*P	P	10 32 23.6	+0.3
	5.7nm,0.9s						
AKASG	**Malin Array Be**	64.94	28	P	P	10 32 22.9	-0.6
	3.5nm,0.9s,baz=227,slow=8.3,SNR=5.1						
VNA2	**Neumayer--Watz**	66.95	178	P	P	10 32 36.9	+0.8
	baz=348,slow=7.5						
VNA3	**Neumayer Olymp**	67.22	179	P	P	10 32 38.6	+0.8
NOA	**NORSAR Array B**	67.29	12	P	P	10 32 38.1	-0.3
	0.6nm,0.7s,baz=208,slow=6.6,SNR=2.5						
SNAA	**Sanae**	67.88	177	P	P	10 32 39.4	-2.7
SNAA	**Sanae**	67.88	177	P	P	10 32 41.6	-0.5
	1.6nm,0.9s,baz=345,slow=3.3,SNR=11						
SNAA	**Sanae**	67.88	177	*e*P	P	10 32 39.5	-2.5
	4.8nm,0.9s						
FINES	**FINESS Array B**	71.53	18	P	P	10 33 04.7	+0.2
	2.3nm,0.5s,baz=202,slow=5.5,SNR=10						
ARCES	**ARCESS Array B**	77.65	13	P	P	10 33 40.4	+0.4
	2.2nm,0.9s,baz=227,slow=3.6,SNR=8.8						
QSPA	**South Pole Qui**	86.14	180	*e*P	P	10 34 25.6	+0.7
	12nm,1.1s						
TXAR	**Lajitas Array**	93.29	299	P	P	10 34 57.8	-1.7
	0.3nm,0.7s,baz=131,slow=5.1,SNR=3.4						
TXAR				LR	LR	11 13 31.7	
	comp=Z,49nm,20.4s,baz=0.0,slow=33						
MKAR	**Makanchi Array**	95.86	44	P	P	10 35 09.6	-1.1
	0.2nm,0.3s,baz=300,slow=3.2,SNR=3.9						
VNDA	**Vanda**	98.57	179	LR	LR	11 16 17.2	
	comp=Z,73nm,18.5s,baz=250,slow=33						
WRA	**Warramunga Arr**	139.36	127	PKhKP	PKPpre	10 41 04.1	
	0.4nm,0.8s,baz=232,slow=2.5,SNR=4.3						
WRA				PKP	PKPdf	10 41 12.1	-0.1
	0.3nm,0.6s,baz=241,slow=2.4,SNR=4.7						

*ISCJB **18** 10:52:24.4±0.5, 36°.36N±0°.03×8°.32W±0°.03, h10km, Error ellipse: s-maj=4.4km s-min=2.5km az=43.5*
*MDD **18** 10:52:26.8±0.6, 36°.25N×8°.59W, h42km±27km, mb4.8/23, Error ellipse: s-maj=7.0km s-min=4.4km az=65.0, PRXIMO*
*LDG **18** 10:52:26.9±0.2, 36°.41N×8°.44W, h2km, Ml3.8/4, Error ellipse: s-maj=3.9km s-min=2.0km az=32.0*
*IGIL **18** 10:52:27.5, 36°.34N×8°.45W, h11km, ML3.2*
*INMG **18** 10:52:27.8±1.2, 36°.36N×8°.45W, h14km±3km, MD2.9, ML3.0, Error ellipse: s-maj=4.0km s-min=2.1km az=53.0*
*CSEM **18** 10:52:27.5±0.2, 36°.36N×8°.43W, h30km, ML3.0, Error ellipse: s-maj=5.0km s-min=2.8km az=47.0*
*SFS **18** 10:52:27.0, 36°.37N×8°.58W, h57km, ML4.1*
*CNRM **18** 10:52:28.7, 36°.11N×8°.43W, h30km, MD3.3*
ISC 18 10:52:25.4±1.3, **36°.36N**±0°.05×**8°.44W**±0°.04, **h10**km, **n154**, σ1**§44/248, 2C-10D, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	0.83	338	*i* P	Pg	10 52 42.7	+1.3
PFVI				*e*S	Sb	10 52 54.3	+1.1
PFVI				A	A	10 52 58.9	
	153nm,0.1s						
PFVI	**Vila Bisbo**	0.83	338	⇓P	Pg	10 52 42.7	+1.3
	344nm,0.2s,SNR=18						
PFVI				S	Sg	10 52 53.8	+1.5
	281nm,0.1s,SNR=8.2						
PFVI	**Vila Bisbo**	0.83	338	P	Pg	10 52 42.7	+1.3
	344nm,0.2s,SNR=18						
PFVI				*e*S	Sb	10 52 54.3	+1.1
	153nm,0.1s						
MORF	**Marmelete**	0.96	350	*e*P	Pg	10 52 44.7	+0.8
MORF				*e*S	Sg	10 52 57.4	+1.0
MORF				AML	AML	10 52 59.2	
	comp=N,410nm,0.1s						
MORF	**Marmelete**	0.96	350	*i* P	Pg	10 52 44.7	+0.8
MORF				*e*S	Sg	10 52 57.7	+1.3
MORF				A	A	10 52 58.5	
	comp=N,296nm,0.1s						
MORF	**Marmelete**	0.96	350	P	Pg	10 52 44.7	+0.8
MORF				S	Sg	10 52 57.4	+1.0
	comp=N,410nm,0.1s						
MORF	**Marmelete**	0.96	350	P	Pg	10 52 44.7	+0.8
MORF				*e*S	Sg	10 52 57.7	+1.3
	comp=N,296nm,0.1s						
PBDV	**Barranco-do-Ve**	0.97	25	*i* P	Pg	10 52 45.6	+1.5
PBDV				*e*S	Sg	10 52 58.5	+1.8
PBDV				A	A	10 53 05.3	
	comp=N,80nm,0.4s						
PBDV	**Barranco-do-Ve**	0.97	25	⇓P	Pg	10 52 45.6	+1.5
PBDV				S	Sg	10 52 58.5	+1.8
	comp=N,80nm,0.4s						
PBDV	**Barranco-do-Ve**	0.97	25	P	Pg	10 52 45.6	+1.5
PBDV				S	Sg	10 52 58.5	+1.8
	comp=N,80nm,0.4s						
PVAQ	**Vaqueiros**	1.19	29	*i* P	Pn	10 52 48.5	+0.4
PVAQ				*e*S	Sb	10 53 04.4	+0.9
PVAQ				A	A	10 53 11.0	
	comp=N,94nm,0.1s						
PVAQ	**Vaqueiros**	1.19	29	⇓P	Pn	10 52 48.5	+0.4
PVAQ				S	Sb	10 53 04.4	+0.9
	comp=N,94nm,0.1s						
PVAQ	**Vaqueiros**	1.19	29	P	Pn	10 52 48.5	+0.4
PVAQ				S	Sb	10 53 04.4	+0.9
	comp=N,94nm,0.1s						
PTEO	**Sao Teotonio**	1.21	349	*i* P	Pn	10 52 48.2	-0.1
PTEO				*e*S	Sb	10 53 04.0	+0.1
PTEO				A	A	10 53 05.8	
	comp=N,94nm,0.3s						
PTEO	**Sao Teotonio**	1.21	349	⇓P	Pn	10 52 48.2	-0.1
PTEO				S	Sb	10 53 04.0	+0.1
	comp=N,47nm,0.3s						
PTEO	**Sao Teotonio**	1.21	349	P	Pn	10 52 48.2	-0.1
PTEO				S	Sb	10 53 04.0	+0.1
	comp=N,47nm,0.3s						
PCVE	**Castro Verde**	1.31	14	*i* P	Pn	10 52 50.3	+0.6
PCVE				*e*S	Sb	10 53 06.8	-0.1
PCVE				A	A	10 53 08.1	
	comp=N,5.9nm,0.3s						
PCVE	**Castro Verde**	1.31	14	⇓P	Pn	10 52 50.3	+0.6
PCVE				S	Sb	10 53 06.8	-0.1
	comp=N,5.9nm,0.3s						
PCVE	**Castro Verde**	1.31	14	P	Pn	10 52 50.3	+0.6
PCVE				S	Sb	10 53 06.8	-0.1
	comp=N,5.9nm,0.3s						
EGRO	**El Granado**	1.40	33	⇓P	Pn	10 52 51.6	+0.6
	comp=N,45nm,0.1s,SNR=18						
EGRO				S	Sn	10 53 09.1	-0.4
	comp=N,219nm,0.2s,SNR=22						
EGRO	**El Granado**	1.40	33	P	Pn	10 52 51.6	+0.6
	comp=N,45nm,0.1s,SNR=18						
EGRO				S	Sn	10 53 09.1	-0.4
	comp=N,219nm,0.2s,SNR=22						
MESJ	**Messejana**	1.49	7	*e*P	Pn	10 52 52.5	+0.3
MESJ				*e*S	Sn	10 53 10.9	-0.7
MESJ				AML	AML	10 53 11.7	
	comp=N,250nm,0.2s						
MESJ	**Messejana**	1.49	7	*i* P	Pn	10 52 52.5	+0.3
MESJ				*e*S	Sn	10 53 11.1	-0.6
MESJ				A	A	10 53 11.8	
	comp=N,125nm,0.5s						
MESJ	**Messejana**	1.49	7	P	Pn	10 52 52.5	+0.3
MESJ				S	Sn	10 53 10.9	-0.7
	comp=N,250nm,0.2s						
MESJ	**Messejana**	1.49	7	P	Pn	10 52 52.5	+0.3
MESJ				S	Sn	10 53 10.9	-0.7
	comp=N,250nm,0.2s						
PNCL	**Nicolau / Gran**	1.75	358	*e*P	Pn	10 52 55.8	0.0
PNCL				*e*S	Sn	10 53 17.4	-0.7
PNCL				A	A	10 53 20.1	
	comp=N,70nm,0.4s						
EMIN	**Mina Concepcio**	1.99	45	P	Pn	10 52 59.2	+0.1
	comp=N,11nm,0.1s,SNR=83						
EMIN				S	Sn	10 53 22.5	-1.6
	comp=N,63nm,0.2s,SNR=24						
EMIN	**Mina Concepcio**	1.99	45	P	Pn	10 52 59.2	+0.1
	comp=N,11nm,0.1s,SNR=83						
EMIN				S	Sn	10 53 22.5	-1.6
	comp=N,63nm,0.2s,SNR=24						
PBAR	**Barrancos**	2.13	31	*e*P	Pn	10 53 01.2	+0.2
PBAR				*e*S	Sn	10 53 26.8	-0.7
PBAR				A	A	10 53 29.1	
	comp=N,156nm,0.3s						
PBAR	**Barrancos**	2.13	31	P	Pn	10 53 01.2	+0.2
PBAR				S	Sn	10 53 26.8	-0.7
	comp=N,156nm,0.3s						
PBAR	**Barrancos**	2.13	31	*e*P	Pn	10 53 01.2	+0.2
PBAR				S	Sn	10 53 26.8	-0.7
	comp=N,156nm,0.3s						
ESPR	**Espera**	2.14	76	P	Pn	10 53 01.4	+0.3
	comp=N,17nm,0.1s,SNR=18						
ESPR				S	Sn	10 53 26.8	-0.9
	comp=N,144nm,0.3s,SNR=5.7						
ESPR	**Espera**	2.14	76	P	Pn	10 53 01.4	+0.3
	comp=N,17nm,0.1s,SNR=18						
ESPR				S	Sn	10 53 26.8	-0.9
	comp=N,144nm,0.3s,SNR=5.7						
EVOP	**Sao Brissos**	2.18	6	*e*Pn	Pn	10 53 01.5	-0.2
EVOP				*e*Sn	Sn	10 53 26.9	-1.8
	comp=N,50nm,0.2s						
EVO	**Evora**	2.19	9	*e*Pn	Pn	10 53 01.5	-0.4
EVO				*e*Sn	Sn	10 53 26.9	-2.2
	comp=N,100nm,0.2s						
EVO	**Evora**	2.19	9	*i* P	Pn	10 53 02.0	+0.1
EVO				*e*S	Sn	10 53 27.3	-1.8
EVO				A	A	10 53 28.6	
	comp=N,109nm,0.1s						
EVO	**Evora**	2.19	9	⇓P	Pn	10 53 02.0	+0.1
EVO				S	Sn	10 53 27.3	-1.8
	comp=N,109nm,0.1s						
EVO	**Evora**	2.19	9	P	Pn	10 53 02.0	+0.1
EVO				S	Sn	10 53 27.3	-1.8
	comp=N,109nm,0.1s						
PACT	**Alcochete**	2.42	353	*e*Pn	Pn	10 53 06.1	+1.1
PACT				*e*Sn	Sn	10 53 36.0	+1.2
PACT				A	A	10 53 40.7	
	comp=N,51nm,0.2s						
PACT	**Alcochete**	2.42	353	*e*Pn	Pn	10 53 06.1	+1.1
PMST	**Lisbon--Monsan**	2.44	346	*e*P	Pn	10 53 05.3	-0.1
PMST				*e*S	Sn	10 53 34.6	-0.7
PMST				A	A	10 53 36.1	
	comp=N,55nm,0.2s						
PMST	**Lisbon--Monsan**	2.44	346	*e*P	Pn	10 53 05.3	-0.1
PMST				*e*S	Sn	10 53 34.6	-0.7
	comp=N,55nm,0.2s						
LIJA	**Lijar**	2.50	77	P	Pn	10 53 07.7	+1.5
LIJA				S	Sn	10 53 36.4	-0.4
LIJA	**Lijar**	2.50	77	*e*P	Pn	10 53 07.7	+1.5
LIJA				*i* S	Sn	10 53 36.4	-0.4
PESTR	**Estremoz**	2.59	15	*e*P	Pn	10 53 07.3	-0.1
PESTR				*e*S	Sn	10 53 37.2	-1.8
PESTR				A	A	10 53 41.6	
	comp=N,22nm,0.3s						
PESTR	**Estremoz**	2.59	15	*e*P	Pn	10 53 07.3	-0.1
PESTR				*e*S	Sn	10 53 37.2	-1.8
	comp=N,22nm,0.3s						
EBAD	**Badajoz**	2.65	25	⇓P	Pn	10 53 08.0	-0.1
	comp=N,18nm,0.1s,SNR=18						
EBAD				S	Sn	10 53 38.5	-1.8
	comp=N,108nm,0.2s,SNR=4.7						
EBAD	**Badajoz**	2.65	25	P	Pn	10 53 08.0	-0.1
	comp=N,18nm,0.1s,SNR=18						
EBAD				S	Sn	10 53 38.5	-1.8
	comp=N,108nm,0.2s,SNR=4.7						
PMAFR	**Mafra**	2.68	346	*e*P	Pn	10 53 08.5	-0.1
PMAFR				*e*S	Sn	10 53 39.5	-1.5
PMAFR	**Mafra**	2.68	346	⇓P	Pn	10 53 08.4	-0.1
	comp=N,63nm,0.1s,SNR=18						
PMAFR				S	Sn	10 53 39.1	-2.0
	comp=N,97nm,0.3s						
PMAFR	**Mafra**	2.68	346	*e*P	Pn	10 53 08.5	-0.1
PMAFR				*e*S	Sn	10 53 39.5	-1.5
PMTG	**Montargil**	2.71	3	*e*P	Pn	10 53 08.9	-0.1
PMTG				*e*S	Sn	10 53 40.2	-1.6
PMTG				A	A	10 53 42.3	
	comp=N,51nm,0.2s						
PMTG	**Montargil**	2.71	3	*e*P	Pn	10 53 08.9	-0.1
PMTG				*e*S	Sn	10 53 40.2	-1.6
	comp=N,51nm,0.2s						
ECAB	**El Cabril**	2.96	54	P	Pn	10 53 12.5	+0.1

comp=N,8.4nm,0.1s,SNR=82
ECAB S Sn 10 53 45.1 -2.9
comp=N,24nm,0.3s,SNR=13
ECAB El Cabril 2.96 54 P Pn 10 53 12.5 +0.1
comp=N,8.4nm,0.1s,SNR=82
ECAB S Sn 10 53 45.1 -2.9
comp=N,24nm,0.3s,SNR=13
EMIJ Mijas 2.96 85 P Pn 10 53 12.6 +0.1
comp=N,2.1nm,0.1s,SNR=7.9
EMIJ S Sn 10 53 47.1 -1.0
comp=N,11nm,0.2s,SNR=5.3
EMIJ Mijas 2.96 85 P Pn 10 53 12.6 +0.1
comp=N,2.1nm,0.1s,SNR=7.9
PMRV Marv??o 3.17 15 *i* P Pn 10 53 15.5 +0.1
PMRV *e*S Sn 10 53 51.6 -1.7
PMRV A A 10 53 53.2
comp=N,40nm,0.3s
PMRV Marv??o 3.17 15 ⇓P Pn 10 53 15.5 +0.1
PMRV S Sn 10 53 51.6 -1.7
comp=N,40nm,0.3s
PMRV Marv??o 3.17 15 P Pn 10 53 15.5 +0.1
PMRV S Sn 10 53 51.6 -1.7
comp=N,40nm,0.3s
PTOM Tomar 3.25 0 *i* P Pn 10 53 16.6 +0.1
PTOM *e*S Sn 10 53 52.8 -2.4
PTOM A A 10 53 54.8
comp=N,92nm,0.3s
PTOM Tomar 3.25 0 P Pn 10 53 16.6 +0.1
PTOM S Sn 10 53 52.8 -2.4
comp=N,46nm,0.3s
PTOM Tomar 3.25 0 *i* P Pn 10 53 16.6 +0.1
PTOM *e*S Sn 10 53 52.8 -2.4
comp=N,92nm,0.3s
ELUQ Luque 3.55 69 P Pn 10 53 20.7 +0.1
comp=N,4.9nm,0.1s,SNR=7.9
ELUQ S Sn 10 54 00.3 -2.3
comp=N,11nm,0.1s,SNR=7.9
ELUQ Luque 3.55 69 P Pn 10 53 20.7 +0.1
comp=N,4.9nm,0.1s,SNR=7.9
ELUQ S Sn 10 54 00.3 -2.3
comp=N,11nm,0.1s,SNR=7.9
PCBR Castelo Branco 3.56 12 *e*P Pn 10 53 20.8 +0.2
PCBR *e*S Sn 10 54 00.7 -2.0
PCBR A A 10 54 03.0
comp=N,54nm,0.3s
PCBR Castelo Branco 3.56 12 P Pn 10 53 20.8 +0.2
PCBR S Sn 10 54 00.7 -2.0
comp=N,27nm,0.3s
PCBR Castelo Branco 3.56 12 *e*P Pn 10 53 20.8 +0.2
PCBR S Sn 10 54 00.7 -2.0
comp=N,27nm,0.3s
EADA Adamuz 3.57 58 ⇑P Pn 10 53 21.0 +0.1
comp=N,5.6nm,0.1s,SNR=18
EADA S Sn 10 54 00.4 -2.7
comp=N,28nm,0.1s,SNR=9.9
EADA Adamuz 3.57 58 P Pn 10 53 21.0 +0.1
comp=N,5.6nm,0.1s,SNR=18
EADA S Sn 10 54 00.4 -2.7
comp=N,28nm,0.1s,SNR=9.9
TGT Taghat 3.59 129 P Pn 10 53 19.0 -2.2
TGT S Sn 10 53 56.0 -7.7
TGT Taghat 3.59 129 *i* P Pn 10 53 19.0 -2.2
PCAS Casmilo, Conde 3.69 359 *e*Pn Pn 10 53 22.6 +0.2
PCAS *e*Sn Sn 10 54 03.8 -2.2
PCAS A A 10 54 06.2
comp=N,18nm,0.3s
PCAS Casmilo, Conde 3.69 359 *e*Pn Pn 10 53 22.6 +0.2
PCAS *e*Sn Sn 10 54 03.8 -2.2
comp=N,18nm,0.3s
SELV Sierra Elvira 3.88 76 P Pn 10 53 26.6 +1.5
comp=N,1.5nm,0.2s,SNR=7.9
SELV S Sn 10 54 09.8 -1.0
comp=N,8.4nm,0.3s,SNR=7.9
SELV Sierra Elvira 3.88 76 P Pn 10 53 26.6 +1.5
comp=N,1.5nm,0.2s,SNR=7.9
SELV S Sn 10 54 09.8 -1.0
comp=N,8.4nm,0.3s,SNR=7.9
MIF Mishlifen 3.95 137 P Pn 10 53 25.0 -1.3
MIF S Sn 10 54 05.0 -7.9
MIF Mishlifen 3.95 137 *i* P Pn 10 53 25.0 -1.3
EQUE Quentar 4.10 77 P Pn 10 53 29.1 +0.9
comp=N,2.4nm,0.1s,SNR=5.5
EQUE S Sn 10 54 15.0 -1.3
comp=N,9.9nm,0.3s,SNR=5.6
EQUE Quentar 4.10 77 P Pn 10 53 29.1 +0.9
comp=N,2.4nm,0.1s,SNR=5.5
EQUE S Sn 10 54 15.0 -1.3
comp=N,9.9nm,0.3s,SNR=5.6
EBAN Banos Encina 4.12 63 P Pn 10 53 28.4 -0.1
comp=N,6.0nm,0.1s,SNR=7.9
EBAN S Sn 10 54 13.7 -3.1
comp=N,15nm,0.5s,SNR=7.9
EBAN Banos Encina 4.12 63 P Pn 10 53 28.4 -0.1
comp=N,6.0nm,0.1s,SNR=7.9
EBAN S Sn 10 54 13.7 -3.1
comp=N,15nm,0.5s,SNR=7.9
EPLA Plasencia 4.14 26 P Pn 10 53 28.6 0.0
comp=N,7.7nm,0.2s,SNR=21
EPLA S Sn 10 54 14.9 -2.2
comp=N,43nm,0.3s,SNR=20
EPLA Plasencia 4.14 26 P Pn 10 53 28.6 0.0
comp=N,7.7nm,0.2s,SNR=21
EPLA S Sn 10 54 14.9 -2.2
comp=N,43nm,0.3s,SNR=20
KIB El Ksiba 4.26 152 P Pn 10 53 27.0 -3.5
KIB S Sn 10 54 12.0 -8.3
KIB El Ksiba 4.26 152 *i* P Pn 10 53 27.0 -3.5
CZD Col de Zad 4.34 139 P Pn 10 53 30.0 -1.7
CZD S Sn 10 54 15.0 -7.5
CZD Col de Zad 4.34 139 *i* P Pn 10 53 30.0 -1.7
PVIS Viseu 4.37 5 *e*P Pn 10 53 31.8 -0.1
PVIS *e*S Sn 10 54 19.4 -3.5
PVIS A A 10 54 23.6
comp=N,10nm,0.5s
PVIS Viseu 4.37 5 P Pn 10 53 31.8 -0.1
PVIS S Sn 10 54 19.4 -3.5
comp=N,5.2nm,0.5s
PVIS Viseu 4.37 5 *e*P Pn 10 53 31.8 -0.1
PVIS S Sn 10 54 19.4 -3.5
comp=N,5.2nm,0.5s
EBER Berja 4.49 82 P Pn 10 53 34.4 +0.7
comp=N,1.5nm,0.2s,SNR=5.6
EBER S Sn 10 54 22.9 -3.3
comp=N,13nm,0.4s
EBER Berja 4.49 82 P Pn 10 53 34.4 +0.7
comp=N,1.5nm,0.2s,SNR=5.6
EBER S Sn 10 54 22.9 -3.3
comp=N,13nm,0.4s
TZC Tazercounte 4.50 158 P Pn 10 53 31.0 -2.8
TZC S Sn 10 54 16.5 -10
TZC Tazercounte 4.50 158 *i* P Pn 10 53 31.0 -2.8
EQES Quesada 4.53 70 P Pn 10 53 34.9 +0.8
comp=N,1.6nm,0.1s,SNR=7.9
EQES S Sn 10 54 25.4 -1.4
comp=N,7.5nm,0.3s,SNR=5.3
EQES Quesada 4.53 70 P Pn 10 53 34.9 +0.8
comp=N,1.6nm,0.1s,SNR=7.9
EQES S Sn 10 54 25.4 -1.4
comp=N,7.5nm,0.3s,SNR=5.3
ESDC Sonseca Array 4.84 46 P Pn 10 53 38.7 +0.3
comp=N,1.1nm,0.2s,baz=233,slow=13,SNR=10.0
ESDC S Sn 10 54 31.0 -3.5
comp=N,4.0nm,0.3s,baz=230,slow=24,SNR=14
ESDC Sonseca Array 4.84 46 P Pn 10 53 38.7 +0.3
comp=N,1.1nm,0.2s,SNR=10.0
ESDC S Sn 10 54 31.0 -3.5
comp=N,4.0nm,0.3s,SNR=14
EHUE Huescar 4.89 71 P Pn 10 53 39.8 +0.7
comp=N,4.4nm,0.1s,SNR=7.9
EHUE S Sn 10 54 33.4 -2.4
comp=N,4.6nm,0.2s,SNR=7.9
EHUE Huescar 4.89 71 P Pn 10 53 39.8 +0.7
comp=N,4.4nm,0.1s,SNR=7.9
EHUE S Sn 10 54 33.4 -2.4
comp=N,4.6nm,0.2s,SNR=7.9
MVO Moncorvo 4.92 12 *e*P Pn 10 53 39.3 -0.2
MVO *e*S Sn 10 54 32.3 -4.2
MVO A A 10 54 34.5
comp=N,10nm,0.2s
MVO Moncorvo 4.92 12 P Pn 10 53 39.3 -0.2
comp=N,9.8nm,0.1s,SNR=17
MVO S Sn 10 54 32.3 -4.2
comp=N,21nm,0.3s
MVO Moncorvo 4.92 12 *e*P Pn 10 53 39.3 -0.2
MVO S Sn 10 54 32.3 -4.2
comp=N,21nm,0.3s

PVRL Vila Real 4.94 6 *e*P Pn 10 53 40.1 +0.4
PVRL *e*S Sn 10 54 33.2 -3.7
PVRL A A 10 54 37.6
comp=N,12nm,0.3s
PVRL Vila Real 4.94 6 P Pn 10 53 40.1 +0.4
PVRL S Sn 10 54 33.2 -3.7
comp=N,5.8nm,0.3s
PVRL Vila Real 4.94 6 *e*P Pn 10 53 40.1 +0.4
PVRL S Sn 10 54 33.2 -3.7
comp=N,5.8nm,0.3s
SESP Santiago Espad 5.02 68 P Pn 10 53 40.9 0.0
comp=N,1.5nm,0.1s,SNR=7.9
SESP S Sn 10 54 35.9 -3.1
comp=N,16nm,0.4s,SNR=7.9
SESP Santiago Espad 5.02 68 P Pn 10 53 40.9 0.0
comp=N,1.5nm,0.1s,SNR=7.9
SESP S Sn 10 54 35.9 -3.1
comp=N,16nm,0.4s,SNR=7.9
POLO Lamas de Olo 5.03 6 *e*Pn Pn 10 53 40.9 -0.1
POLO *e*S Sn 10 54 34.5 -4.7
POLO A A 10 54 37.7
comp=N,5.8nm,0.3s
POLO Lamas de Olo 5.03 6 *e*Pn Pn 10 53 40.9 -0.1
EVIA Vianos 5.24 62 P Pn 10 53 43.2 -0.6
comp=N,5.5nm,0.1s,SNR=6.8
EVIA S Sn 10 54 39.7 -4.7
comp=N,12nm,0.4s
EVIA Vianos 5.24 62 P Pn 10 53 43.2 -0.6
comp=N,5.5nm,0.1s,SNR=6.8
EVIA S Sn 10 54 39.7 -4.7
comp=N,12nm,0.4s
PCAB Cabril 5.35 3 *e*P Pn 10 53 45.3 0.0
PCAB *e*S Sn 10 54 42.7 -4.3
PCAB A A 10 54 45.6
comp=N,8.6nm,0.2s
PCAB Cabril 5.35 3 P Pn 10 53 45.3 0.0
PCAB S Sn 10 54 42.7 -4.3
comp=N,4.3nm,0.2s
PCAB Cabril 5.35 3 *e*P Pn 10 53 45.3 0.0
PCAB S Sn 10 54 42.7 -4.3
comp=N,4.3nm,0.2s
GUD Guadarrama 5.44 37 ⇑P Pn 10 53 47.0 +0.4
comp=N,6.2nm,0.2s,SNR=18
GUD S Sn 10 54 45.4 -3.9
comp=N,14nm,0.3s
GUD Guadarrama 5.44 37 P Pn 10 53 47.0 +0.4
comp=N,6.2nm,0.2s,SNR=18
GUD S Sn 10 54 45.4 -3.9
comp=N,14nm,0.3s
ZFT Errachidia 5.48 141 P Pn 10 53 45.0 -2.3
ZFT S Sn 10 54 42.0 -8.6
ELOB Lobios 5.51 3 P Pn 10 53 47.3 -0.2
comp=N,14nm,0.1s,SNR=51
ELOB S Sn 10 54 44.8 -6.1
comp=N,12nm,0.1s,SNR=12
PBRG Braganca 5.59 13 *e*P Pn 10 53 49.1 +0.4
PBRG *e*S Sn 10 54 49.5 -3.5
PBRG A A 10 54 51.3
comp=N,14nm,0.3s
PBRG Braganca 5.59 13 P Pn 10 53 49.1 +0.4
PBRG S Sn 10 54 49.5 -3.5
comp=N,7.2nm,0.3s
PBRG Braganca 5.59 13 *e*P Pn 10 53 49.1 +0.4
PBRG S Sn 10 54 49.5 -3.5
comp=N,7.2nm,0.3s
PGAV Gavieira, Arco 5.60 1 *e*Pn Pn 10 53 48.5 -0.3
PGAV *e*S Sn 10 54 48.6 -4.6
PGAV A A 10 54 54.9
comp=N,5.7nm,0.3s
PGAV Gavieira, Arco 5.60 1 *e*Pn Pn 10 53 48.5 -0.3
ECAL Calabor 5.73 13 P Pn 10 53 50.4 -0.2
comp=N,5.1nm,0.1s,SNR=19
ECAL S Sn 10 54 51.9 -4.5
comp=N,24nm,0.3s,SNR=4.9
ECAL Calabor 5.73 13 P Pn 10 53 50.4 -0.2
comp=N,5.1nm,0.1s,SNR=19
ETOB Tobarra 5.93 65 P Pn 10 53 52.5 -0.9
comp=N,3.8nm,0.2s,SNR=9.8
ETOB S Sn 10 54 56.5 -4.9
comp=N,5.5nm,0.2s,SNR=7.9
ETOB Tobarra 5.93 65 P Pn 10 53 52.5 -0.9
comp=N,3.8nm,0.2s,SNR=9.8
STS Santiago 6.52 359 P Pn 10 54 00.6 -0.7
comp=N,7.7nm,0.1s,SNR=7.9
STS Santiago 6.52 359 P Pn 10 54 00.6 -0.7
comp=N,7.7nm,0.1s,SNR=7.9
EMAZ Mazaricos 6.59 357 P Pn 10 54 02.0 -0.4
comp=N,5.5nm,0.1s,SNR=11
EMAZ S Sn 10 55 11.1 -6.5
comp=N,6.3nm,0.4s,SNR=7.9
EMAZ Mazaricos 6.59 357 P Pn 10 54 02.0 -0.4
comp=N,5.5nm,0.1s,SNR=11
ETOR Torete 6.69 46 P Pn 10 54 04.3 +0.5
comp=N,10nm,0.2s,SNR=10
ETOR S Sn 10 55 15.0 -5.2
comp=N,46nm,0.3s,SNR=5.7
ETOR Torete 6.69 46 P Pn 10 54 04.3 +0.5
comp=N,10nm,0.2s,SNR=10
EBEN Beniarda 6.93 68 S Sn 10 55 21.3 -4.8
comp=N,3.1nm,0.4s,SNR=7.9
EPON Pontenova 7.03 8 P Pn 10 54 08.8 +0.5
comp=N,0.4nm,0.1s,SNR=7.9
EPON Pontenova 7.03 8 P Pn 10 54 08.8 +0.5
comp=N,0.4nm,0.1s,SNR=7.9
EARI Arriondas 7.36 19 P Pn 10 54 14.3 +1.3
comp=N,0.5nm,0.2s,SNR=5.6
EARI S Sn 10 55 31.7 -4.9
comp=N,1.8nm,0.4s,SNR=7.9
EARI Arriondas 7.36 19 P Pn 10 54 14.3 +1.3
comp=N,0.5nm,0.2s,SNR=5.6
EMOS Mosqueruela 7.42 55 P Pn 10 54 14.4 +0.5
comp=N,0.1nm,0.1s,SNR=7.9
EMOS S Sn 10 55 33.1 -5.2
comp=N,4.2nm,0.2s,SNR=7.9
EMOS Mosqueruela 7.42 55 P Pn 10 54 14.4 +0.5
comp=N,0.1nm,0.1s,SNR=7.9
IELO Elcoad 8.53 38 P Pn 10 54 30.1 +1.1
comp=N,2.0nm,0.3s,SNR=7.9
IELO S Sn 10 56 01.3 -4.0
comp=N,7.8nm,0.3s,SNR=7.9
IELO Elcoad 8.53 38 P Pn 10 54 30.1 +1.1
comp=N,2.0nm,0.3s,SNR=7.9
IELO S Sn 10 56 01.3 -4.0
comp=N,7.8nm,0.3s,SNR=7.9
SJPF Ste Jean 8.73 37 *e*Pn Pn 10 54 32.1 +0.3
SJPF *e*Sn Sn 10 56 04.3 -6.0
comp=N,4.9nm,0.3s
SJPF Ste Jean 8.73 37 *e*Pn Pn 10 54 32.1 +0.3
ETSF Etsaut 8.92 41 *e*Pn Pn 10 54 35.2 +0.9
ETSF *e*Sn Sn 10 56 08.6 -6.2
comp=N,4.6nm,0.4s
ETSF Etsaut 8.92 41 *e*Pn Pn 10 54 35.2 +0.9
EPF Esparros 9.49 43 *e*Pn Pn 10 54 41.5 -0.6
EPF *e*Sn Sn 10 56 22.4 -6.5
comp=N,5.2nm,0.3s
EPF Esparros 9.49 43 *e*Pn Pn 10 54 41.5 -0.6
RJF Les Rejaudoux 11.68 37 *e*Pn Pn 10 55 11.0 -1.1
RJF Les Rejaudoux 11.68 37 *e*Pn Pn 10 55 11.0 -1.1
ROSF Rostrenen 12.56 16 *e*Pn Pn 10 55 23.3 -0.7
ROSF Rostrenen 12.56 16 *e*Pn Pn 10 55 23.3 -0.7

WEL 18 11:33:36.3±0.5, 35°11S×177°77E, h33km, ML4.1/6, Error ellipse: s-maj=7.9km s-min=3.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.49**	**170**	PN	Pn	11 34 14.5	0.0
MXZ				SN	Sn	11 34 42.4	-1.4
HAZ	**Te Kaha**	**2.65**	**180**	PN	Pn	11 34 17.2	+0.6
HAZ				SN	Sn	11 34 48.0	+0.4
WMGZ	**Waiomatatini S**	**2.76**	**169**	PN	Pn	11 34 17.7	-0.5
PUZ	**Puketiti**	**2.99**	**173**	PN	Pn	11 34 19.9	-1.5
PUZ				SN	Sn	11 34 52.5	-3.7
TWGZ	**Tauwhareparae**	**3.07**	**177**	PN	Pn	11 34 22.7	+0.1
TWGZ				SN	Sn	11 34 56.9	-1.4
URZ	**Urewera**	**3.19**	**189**	PN	Pn	11 34 24.6	+0.4
MWZ	**Matawai**	**3.23**	**183**	PN	Pn	11 34 24.7	0.0
MWZ				SN	Sn	11 35 00.7	-1.4
TKGZ	**Te Karaka**	**3.33**	**179**	PN	Pn	11 34 24.8	-1.3
TKGZ				SN	Sn	11 35 01.2	-3.3
CNGZ	**Carnagh Statio**	**3.39**	**174**	PN	Pn	11 34 25.6	-1.3
RAGZ	**Rawiri**	**3.40**	**185**	PN	Pn	11 34 26.3	-0.9
RIGZ	**Rimuhau**	**3.59**	**180**	PN	Pn	11 34 27.8	-2.0
SNGZ	**Shannon Statio**	**3.69**	**185**	SN	Sn	11 35 11.0	-2.3
KNZ	**Kokohu**	**3.91**	**181**	PN	Pn	11 34 31.0	-3.1
BKZ	**Black Stump Fm**	**4.18**	**194**	PN	Pn	11 34 36.8	-1.1
MRZ	**Mangatainoka R**	**5.81**	**197**	AML	AML	11 35 51.0	

*ISCJB **18** 11:40:17.5±0.6, 32°.28N±0°.06×115°.38W±0°.05, h7km±12km, Error ellipse: s-maj=9.9km s-min=5.8km az=19.8*
*ECX **18** 11:40:18.8±0.5, 32°.31N×115°.38W, h6km, MD2.6, ML2.8*
*MEX **18** 11:40:19.7±0.9, 32°.38N×115°.25W, h15km±999km, MD3.5*

ISC 18 11:40:17.4±1.0, 32°.28N±0°.04×115°.38W±0°.04, h12km±9km, n16, σ0.9 39/24, 6C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.15**	**23**	*e*P	**Pg**	**11 40 21.1**	**+0.1**
CPBX				*e*S	**Sg**	**11 40 23.2**	**-0.4**
CPBX				IAML		11 40 30.6	
	comp=N,9μm,0.5s						
CPBX				⇑*e*		11 40 30.6	
MBIG	**Mexicali**	**0.20**	**49**	*e*P	**Pg**	**11 40 22.3**	**+0.6**
SGL	**Mount Signal**	**0.48**	**322**	⇑*i*P	**Pg**	**11 40 26.9**	**+0.2**
EMSC	**East Mesa**	**0.57**	**35**	⇑*i*P	**Pg**	**11 40 28.8**	**+0.3**
WESC	**Westside Schoo**	**0.57**	**328**	*e*P	**Pg**	**11 40 28.7**	**+0.2**
RDX	**Rancho Dawling**	**0.59**	**234**	*e*P	**Pg**	**11 40 29.5**	**+0.5**
RDX				⇓*e*		11 40 38.3	
	comp=N,326nm,0.4s						
YUH	**Yuha Desert**	**0.59**	**309**	*e*P2	**Pg**	**11 40 28.8**	**-0.2**
COA	**Coachella**	**0.62**	**20**	⇑*i*P	**Pg**	**11 40 29.8**	**+0.3**
RMX	**La Rumorosa**	**0.68**	**299**	*e*P	**Pg**	**11 40 30.5**	**-0.1**
RMX				*e*S	**Sg**	**11 40 39.4**	**-0.1**
ECBX	**El Chinero**	**0.85**	**161**	*e*P9		11 40 31.9	
ECBX				*e*S	**Sg**	**11 40 43.9**	**-0.9**
ECBX				⇑*e*		11 40 45.1	
	comp=N,245nm,0.5s						
ZAX	**El Zacaton**	**1.08**	**225**	*e*P	**Pb**	**11 40 37.9**	**-0.1**
ZAX				*e*S	**Sn**	**11 40 53.1**	**-0.2**
CBX	**Cerro Bola**	**1.09**	**272**	*e*P	**Pb**	**11 40 38.3**	**0.0**
CBX				*i* S	**Sb**	**11 40 52.6**	**+0.1**
CBX	**Cerro Bola**	**1.09**	**272**	*e*P2	**Pb**	**11 40 38.2**	**-0.1**
CBX				*e*S	**Sb**	**11 40 52.5**	**-0.1**
CBX				⇑*e*		11 40 55.2	
CBX				IAML		11 40 55.2	
	comp=N,203nm,0.4s						
ECNX	**Esteban Cantu**	**1.21**	**240**	*e*P	**Pn**	**11 40 40.1**	**-0.1**
ECNX				*e*S	**Sg**	**11 40 56.5**	**+0.1**
SPX	**San Pedro Mart**	**1.23**	**184**	*e*P	**Pn**	**11 40 40.2**	**-0.5**
SPX				*e*S	**Sn**	**11 40 58.2**	**+0.8**
PBX	**Punta Banda**	**1.27**	**245**	*e*P	**Pn**	**11 40 41.0**	**+0.1**
PBX				*e*S	**Sg**	**11 40 58.3**	**+0.1**

MAN 18 11:47:32, 7°.37N×125°.18E, h18km, mb4.7, ML3.6, MS3.5, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.52**	**347**	*e*P	Pb	11 47 43.7	+0.9
BUKP				*e*S	Sn	11 47 53.0	-0.1
CTBH	**Cotabato--PC H**	**0.94**	**261**	⇑*i*P	Pb	11 47 49.3	-0.5
CTBH				*i* S	Sg	11 48 02.4	-0.3
MATI	**Mati**	**1.15**	**111**	*e*P	Pn	11 47 52.8	-0.4
CGP	**Cagayan de Oro**	**1.19**	**336**	⇑*e*P	Pn	11 47 53.7	-0.1
CGP				*i* S	Sg	11 48 10.2	-0.3
PAGZ	**Pagadian**	**1.85**	**285**	*e*P	Pb	11 48 04.1	-1.2
PAGZ				*e*S	Sb	11 48 27.1	-1.0
MSLP	**Maasin**	**2.77**	**353**	*e*P	Sb	11 48 56.5	+1.9

KRSC 18 11:56:20.8±2.2, 50°.33N×157°.25E, h49km±18km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.80**	**297**	*e*P	Pn	11 56 36.2	+0.4
SKR				*e*S	Sn	11 56 46.0	-0.8
PAU	**Pauzhetka**	**1.17**	**347**	*e*P	Pn	11 56 42.8	+2.0
PAU				*e*S	Sn	11 56 57.2	+1.5
MIPR	**Malaya Ipel'ka**	**1.98**	**351**	*e*P	Pn	11 56 54.2	+2.4
ASAK	**Asacha**	**2.10**	**11**	*e*P	Pn	11 56 56.1	+2.5
MTVR	**Mutnovka**	**2.24**	**15**	*e*P	Pn	11 56 58.6	+3.0
MTVR				*e*S	Sn	11 57 25.4	+3.3
RUS	**Russkaya**	**2.25**	**20**	*e*P	Pn	11 56 57.8	+2.2
RUS				*e*S	Sn	11 57 24.0	+1.9
UGLR	**Uglovaya**	**3.05**	**18**	*e*P	Pn	11 57 11.3	+4.7
AVH	**Avacha**	**3.08**	**17**	*e*P	Pn	11 57 11.6	+4.5
KOK	**Koryaka**	**3.09**	**16**	*e*P	Pn	11 57 11.8	+4.6
SMAR	**Somma**	**3.09**	**18**	*e*P	Pn	11 57 11.2	+3.8
KRER	**Koryakskii**	**3.12**	**17**	*e*P	Pn	11 57 11.5	+3.7
SDLR	**Sedlovina**	**3.12**	**18**	*e*P	Pn	11 57 11.1	+3.4
KRX	**Arik**	**3.16**	**15**	*e*P	Pn	11 57 12.6	+4.4
SPN	**Mys Shipunski**	**3.27**	**31**	*e*P	Pn	11 57 11.3	+1.8
MKZ	**Mys Kozlova**	**5.04**	**31**	*e*P	Pn	11 57 36.8	+3.0
KBTR	**Krutoberegovo**	**6.77**	**27**	*e*P	Pn	11 58 00.4	+2.9

*MOS **18** 11:59:55.6±0.9, 7°.61S×107°.42E, h27km, mb5.6/37, MS4.3/8, Error ellipse: s-maj=8.4km s-min=4.7km az=123.3*
*NEIC **18** 11:59:57.8±0.1, 7°.85S×107°.22E, mb5.4/36, MW5.1, Error ellipse: s-maj=5.3km s-min=4.5km az=213.0, Moment Tensor Solution. s17 Moment tensor: Scale 10^{16}Nm; M_{rr}5.49; $M_{\theta\theta}$-0.44; $M_{\phi\phi}$-5.05; $M_{r\theta}$-1.24; $M_{\theta\phi}$-2.99; $M_{\phi r}$1.02; Best double couple: $M_0$6.30000×10^{16} NP1:ϕ_s10.00000°, δ49.00000°, λ67.00000°. NP2:ϕ_s223.00000°, δ46.00000°, λ115.00000°. Principal axes: T 5.9900, Plg72.0000°, Azm211.0000°; N 0.5400, Plg17.0000°, Azm25.0000°; P -6.5300, Plg1.0000°, Azm115.0000°;*
NEIC Felt [IV] at Ciamis and Sukabumi; [III] at Bandung, Bogor, Garut and Jakarta; [II] at Cimahi. Also felt at Cianjur, Cikarang, Cilacap, Padalarang, Pameungpeuk and Tasikmalaya.
*GCMT **18** 11:59:57.8±0.2, 8°.13S×107°.38E, h47km, MW5.3/91, Moment Tensor Solution. s74,c102; s91,c146; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.66±.02; $M_{\theta\theta}$0.21±.02; $M_{\phi\phi}$-0.86±.02; $M_{r\theta}$-0.23±.02; $M_{\theta\phi}$-0.35±.01; $M_{\phi r}$0.41±.02; Best double couple: $M_0$0.97100×10^{17} NP1:ϕ_s351.00000°, δ62.00000°, λ58.00000°. NP2:ϕ_s225.00000°, δ42.00000°, λ135.00000°. Principal axes: T 0.9090, Plg59.0000°, Azm214.0000°; N 0.1250, Plg28.0000°, Azm7.0000°; P -1.0340, Plg11.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **18** 11:59:59.5, 7°.90S×107°.20E, h71km, mb5.0/59, mB5.0/46, Ms4.8/56, Ms7 4.5/60*
*IDC **18** 11:59:59.9±1.3, 7°.70S×107°.41E, h52km±10km, mb4.9/36, mb1 4.9/37, mb1mx4.9/38, mbtmp5.2/37, MS4.2/21, Ms1 4.2/21, ms1mx4.2/24, Error ellipse: s-maj=11.0km s-min=9.1km az=54.0*
*DJA **18** 12:00:00.1±0.2, 8°.5S×2°×10°7E±°, h49km±3km, Ms5.5/88, mB5.9/73, mb5.8/88, MLv6.0/39, Mw(mB)5.5/73*
*KLM **18** 12:00:00.9, 7°.99S×107°.12E, h70km, mb5.2, MS6.0*
*ISCJB **18** 12:00:01.1±0.3, 7°.82S±0°.03×107°.38E±0°.02, h76km±2km, mb5.2/119, Error ellipse: s-maj=4.6km s-min=2.7km az=20.0*

ISC 18 12:00:01.7±0.3, 7°.85S±0°.03×107°36E±0°.03, h71km±1km, h71km:pP-P, n1163, σ1.9 54/1238, mb5.3/124, 50C-45D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.54**	**57**	P		**12 00 14.4**	**-0.7**
CISI				S	**Sn**	**12 00 24.3**	**-0.6**
CISI	**Cisompet, Garu**	**0.54**	**57**	*e*Pn	**Pn**	**12 00 14.1**	**-0.9**
CISI				*e*Sn	**Sn**	**12 00 24.2**	**-0.6**
CNJI	**Cibinong**	**0.59**	**337**	P	**Pn**	**12 00 14.8**	**-0.7**
CNJI				S	**Sn**	**12 00 25.2**	**-0.4**
LEM	**Lembang**	**1.05**	**14**	P	**Pn**	**12 00 22.9**	**+1.8**
LEM				S	Sn	12 00 43.7	+8.3
LEM	**Lembang**	**1.05**	**14**	P	**Pn**	**12 00 22.2**	**+1.1**
	5μm,0.3s,baz=284,slow=12,SNR=1162						
LEM				S	Sn	12 00 41.5	+6.1
	14μm,0.3s,baz=336,slow=20,SNR=25						
CMJI	**Cimerak**	**1.08**	**86**	P	**Pn**	**12 00 20.3**	**-0.9**
CMJI				S	**Sn**	**12 00 34.0**	**-1.8**
SKJI	**Sukabumi**	**1.16**	**316**	P	**Pn**	**12 00 22.1**	**-0.2**
SKJI				S	**Sn**	**12 00 38.3**	**+0.6**

TNG	**Tangerang**	**1.81**	**337**	P		**Pn**	**12 00 33.0**	**+2.1**
TNG				S		**Sn**	**12 00 57.1**	**+4.0**
CGJI	**Cibinong**	**2.06**	**306**	P		**Pn**	**12 00 33.6**	**-0.7**
SBJI	**Serang**	**2.11**	**324**	P		**Pn**	**12 00 36.5**	**+1.6**
XMIS	**Christmas Isla**	**3.11**	**213**	*e*Pn		Pn	12 00 42.2	-6.3
XMIS				*e*Sn		Sn	12 01 12.2	-12
UGM	**Wanagama**	**3.13**	**91**	P		**Pn**	**12 00 48.3**	**-0.5**
UGM	**Wanagama**	**3.13**	**91**	*e*Pn		**Pn**	**12 00 48.5**	**-0.3**
UGM				*e*Sn		**Sn**	**12 01 24.1**	**-1.0**
BLSI	**Bandar Lampung**	**3.24**	**319**	P		**Pn**	**12 00 51.7**	**+1.4**
KASI	**Kota Agung**	**3.67**	**309**	P		**Pn**	**12 00 56.0**	**-0.1**
UWJI	**Ujung Watu**	**3.83**	**68**	P		**Pn**	**12 01 00.2**	**+1.9**
KLJ	**Kotabumi**	**3.88**	**320**	P		**Pn**	**12 01 00.6**	**+1.7**
LWLI	**Liwa**	**4.33**	**310**	P		**Pn**	**12 01 06.2**	**+1.0**
PWJI	**Pagerwojo**	**4.40**	**93**	P		**Pn**	**12 01 06.0**	**-0.1**
TBJI	**Tambak Boyo**	**4.56**	**77**	P		**Pn**	**12 01 09.7**	**+1.4**
MDSI	**Maura Dua**	**4.61**	**316**	P		**Pn**	**12 01 09.9**	**+1.0**
LHSI	**Lahat**	**5.53**	**316**	P		**Pn**	**12 01 22.7**	**+1.2**
	1µm,1.1s,14µm4.6nm							
PMBI	**Palembang**	**5.53**	**332**	P		**Pn**	**12 01 24.2**	**+2.7**
	2µm,1.1s,7.4nm							
PMBI	**Palembang**	**5.53**	**332**	*e*Pn		Pn	12 01 26.2	+4.6
MNAI	**Manna**	**5.59**	**308**	P		**Pn**	**12 01 22.2**	**-0.2**
	2µm,0.7s,60µm15nm							
MNAI	**Manna**	**5.59**	**308**	*e*Pn		**Pn**	**12 01 22.1**	**-0.2**
MNAI				*e*Sn		**Sn**	**12 02 20.9**	**-4.3**
BWJI	**Bawean**	**5.62**	**70**	P		**Pn**	**12 01 24.6**	**+1.9**
	910nm,0.8s,7µm3.2nm							
PPBI	**Pangkal Pinang**	**5.78**	**348**	P		**Pn**	**12 01 27.8**	**+2.8**
	453nm,0.8s,15µm2.1nm							
GMJI	**Gumukmas**	**6.04**	**94**	P		**Pn**	**12 01 28.4**	**0.0**
	1µm,0.6s,19µm5.6nm							
BLJI	**Banyuglugur**	**6.17**	**89**	P		**Pn**	**12 01 31.0**	**+0.7**
	1µm,0.5s,22µm6.0nm							
KMMI	**Kalianget**	**6.60**	**84**	P		**Pn**	**12 01 36.4**	**+0.3**
	506nm,0.9s,6µm1.8nm							
PBKI	**Pangkalan Bun**	**6.67**	**40**	P		Pn	12 01 41.3	+4.1
	736nm,1.1s,10µm4.7nm							
JAGI	**Jajag, Banyuwa**	**6.75**	**96**	P		**Pn**	**12 01 38.4**	**+0.2**
	2µm,0.6s,35µm7.9nm							
ABJI	**Asem Bagus**	**6.81**	**90**	P		**Pn**	**12 01 40.4**	**+1.4**
	8µm,0.6s,64µm26nm							
MASI	**Maura Aman, Be**	**6.92**	**312**	P		**Pn**	**12 01 41.9**	**+1.3**
	2µm,0.9s,18µm5.3nm							
JMBI	**JAMBI**	**7.20**	**329**	P		Pn	12 01 50.8	+6.4
IGBI	**Denpasar**	**7.76**	**98**	P		**Pn**	**12 01 52.3**	**+0.3**
	1µm,0.7s,23µm5.5nm							
SRBI	**Singaraja**	**7.78**	**92**	P		**Pn**	**12 01 53.5**	**+1.2**
	2µm,0.7s,17µm5.3nm							
DNP	**Denpasar**	**7.81**	**97**	P		**Pn**	**12 01 54.4**	**+1.7**
	2µm,0.7s,58µm12nm							
DSRI	**Dabo**	**7.83**	**339**	P		Pn	12 01 56.7	+3.7
	811nm,0.8s,9µm2.5nm							
STKI	**Sintang**	**8.87**	**28**	P		Pn	12 02 12.2	+5.0
	150nm,0.9s							
SDSI	**Sungai Dareh**	**9.07**	**319**	P		**Pn**	**12 02 12.0**	**+2.1**
	121nm,0.8s,29µm							
TPRI	**Tanjung Pinang**	**9.16**	**342**	P		Pn	12 02 15.9	+4.7
	263nm,1.0s,6µm							
KSM	**Kuching**	**9.72**	**18**	⇑P		**Pn**	**12 02 21.5**	**+2.7**
KSM	**Kuching**	**9.72**	**18**	*e*Pn		**Pn**	**12 02 20.1**	**+1.3**
KSM				*e*Sn		**Sn**	**12 04 04.4**	**-2.0**
PDSI	**Padang**	**9.74**	**315**	P		**Pn**	**12 02 16.6**	**-2.5**
	181nm,0.5s,4µm							
KBKI	**Kotabaru**	**9.86**	**63**	P		Pn	12 02 24.5	+3.8
	199nm,1.1s,2µm							
PPI	**Padang Panjang**	**10.11**	**316**	P		**Pn**	**12 02 23.1**	**-1.0**
	226nm,0.5s,3µm							
MTKI	**Muara Teweh, K**	**10.17**	**48**	P		Pn	12 02 30.7	+5.7
	110nm,0.9s,5µm							
MYKOM	**Kota Tinggi**	**10.20**	**340**	⇓P		**Pn**	**12 02 25.9**	**+0.6**
MYKOM	**Kota Tinggi**	**10.20**	**340**	*e*Pn		**Pn**	**12 02 26.9**	**+1.6**
BKNI	**Bangkinang**	**10.28**	**322**	P		**Pn**	**12 02 25.6**	**-0.9**
	230nm,0.7s,9µm							
BKNI	**Bangkinang**	**10.28**	**322**	*e*Pn		**Pn**	**12 02 25.8**	**-0.7**
BKNI				*e*Sn		Sn	12 04 13.4	-6.9
KGM	**Kluang**	**10.60**	**337**	⇓P		**Pn**	**12 02 31.6**	**+0.7**
COCO	**West Island**	**11.23**	**247**	Pn		Pn	12 02 32.3	-7.1
	2µm,0.5s,SNR=5.3							
COCO	**West Island**	**11.23**	**247**	*i* P		**Pn**	**12 02 37.8**	**-1.6**
COCO	**West Island**	**11.23**	**247**	*e*Pn		Pn	12 02 31.6	-7.8
COCO				*e*Sn		Sn	12 04 29.7	-14
SBUM	**Sibu**	**11.32**	**26**	*e*Pn		Pn	12 02 45.4	+4.7
BKB	**Balikpapan**	**11.54**	**56**	P		Pn	12 02 49.5	+5.9
	369nm,1.0s,4µm							
MNSI	**Mandailing Nat**	**11.58**	**318**	P		**Pn**	**12 02 41.2**	**-3.0**
	147nm,0.6s,9µm							
WBSI	**Waikabubak, Su**	**12.02**	**99**	P		Pn	12 02 44.9	-5.4
BTM	**Bintulu**	**12.37**	**28**	⇓P		P	12 03 01.0	-3.5
FRIM	**Kepong**	**12.41**	**332**	⇓P		**Pn**	**12 02 55.3**	**-0.3**
KAPI	**Kappang**	**12.63**	**78**	Pn		**Pn**	**12 03 00.0**	**+1.5**
	1µm,1.1s,SNR=53							
KAPI	**Kappang**	**12.63**	**78**	P		**Pn**	**12 02 59.7**	**+1.2**
	2.8nm,0.3s,baz=268,slow=10,SNR=56							
KAPI					LR	LR	12 08 16.6	
	comp=Z,2µm,20.4s,baz=264,slow=40							
KAPI	**Kappang**	**12.63**	**78**	Pn		**Pn**	**12 03 00.7**	**+2.1**
	SNR=65							
KAPI	**Kappang**	**12.63**	**78**	*e*Pn		**Pn**	**12 03 00.2**	**+1.7**
KAPI				*e*Sn		**Sn**	**12 05 18.2**	**+0.8**
WSI	**Waingapu**	**12.91**	**99**	P		Pn	12 02 58.5	-3.8
	1µm,0.6s,13µm							
BKSI	**Bulukumba**	**12.92**	**80**	P		**Pn**	**12 03 04.0**	**+1.5**
	475nm,1.0s,4µm							
SPSI	**Sidrap Palu**	**12.93**	**73**	P		**Pn**	**12 03 03.6**	**+1.0**
	123nm,0.9s,2µm							
BSSI	**Bau Bau, Buton**	**13.14**	**83**	P		**Pn**	**12 03 05.9**	**+0.5**
	1µm,0.9s,9µm							
BASI	**Baing, Sumba**	**13.26**	**101**	P		Pn	12 03 03.0	-4.0
	756nm,0.7s,7µm							
TTSI	**Tana Toraja**	**13.28**	**70**	P		P	12 03 11.4	-3.2
	359nm,1.2s,3µm							
GSI	**Gunungsitoli**	**13.34**	**313**	P		Pn	12 03 01.5	-6.6
PSI	**Prapat**	**13.52**	**321**	P		Pn	12 03 05.0	-5.7
	2.6nm,0.3s,baz=112,slow=15,SNR=7.2							
PSI	**Prapat**	**13.52**	**321**	P		Pn	12 03 05.0	-5.7
KTGM	**Kuala Trenggan**	**13.76**	**342**	⇓P		**Pn**	**12 03 14.2**	**+0.6**
IPM	**Ipoh**	**13.79**	**332**	⇑P		**Pn**	**12 03 14.8**	**+0.7**
IPM	**Ipoh**	**13.79**	**332**	*e*Pn		**Pn**	**12 03 13.4**	**-0.7**
EDFI	**Ende, Flores**	**14.21**	**95**	P		Pn	12 03 15.6	-4.0
	351nm,0.9s,4µm							
PCI	**Palu**	**14.22**	**62**	P		**P**	**12 03 23.9**	**-1.0**
	391nm,0.8s,4µm							
KULM	**Kulim**	**14.67**	**333**	⇓P		**Pn**	**12 03 23.9**	**-1.7**
KULM	**Kulim**	**14.67**	**333**	*e*Pn		**Pn**	**12 03 22.6**	**-3.0**
MMRI	**Maumere**	**14.74**	**94**	P		Pn	12 03 22.3	-4.2
	1µm,0.6s,11µm							
MPSI	**Mapaga**	**14.91**	**57**	P		**P**	**12 03 32.0**	**-0.7**
	294nm,1.2s,3µm							
APSI	**Ampana**	**15.82**	**65**	P		**P**	**12 03 41.8**	**-0.9**
	848nm,1.3s,7µm							
TSM	**Tawau**	**15.98**	**41**	⇓P		**P**	**12 03 45.5**	**+0.9**
KKM	**Kota Kinabalu**	**16.39**	**33**	⇑P		**P**	**12 03 50.3**	**+1.2**
KKM	**Kota Kinabalu**	**16.39**	**33**	*e*P		**P**	**12 03 50.1**	**+1.0**
	521nm,1.7s							
SDKM	**Sandakan**	**16.61**	**36**	⇓P		**P**	**12 03 52.8**	**+1.3**
LHMI	**Lhok Sumawe**	**16.64**	**321**	P		Pn	12 03 44.8	-5.7
MRSI	**Marisa**	**16.72**	**61**	P		**P**	**12 03 52.7**	**-0.1**
	297nm,0.9s,2µm							
LUWI	**Luwuk**	**16.78**	**67**	P		**P**	**12 03 54.3**	**+0.9**
	619nm,1.1s,5µm							
LUWI	**Luwuk**	**16.78**	**67**	*e*P		**P**	**12 03 54.1**	**+0.7**
	460nm,0.9s							
SOEI	**Soe**	**16.81**	**98**	P		Pn	**12 03 48.7**	**-4.1**
	968nm,1.1s,9µm							
SOEI	**Soe**	**16.81**	**98**	*e*Pn		Pn	**12 03 48.6**	**-4.2**
	648nm,0.7s							
SOEI				*e*Sn		**Sn**	**12 06 59.5**	**+0.4**
MYLDM	**Lahad Datu**	**17.06**	**41**	⇓P		**P**	**12 03 58.6**	**+2.1**
MYLDM	**Lahad Datu**	**17.06**	**41**	*e*Pn		**P**	**12 03 57.9**	**+1.4**
	345nm,1.1s							
KDM	**Kudat**	**17.45**	**33**	⇓P		**P**	**12 04 03.2**	**+2.5**
MBWA	**Marble Bar**	**17.82**	**139**	*e*P		**P**	**12 04 01.7**	**-3.2**
	75nm,1.1s							
PKDT	**Phuket**	**18.04**	**330**	P		**Pn**	**12 04 11.7**	**+3.9**
	44nm,0.6s,4µm							
SURT	**Suratani**	**18.75**	**333**	P		**Pn**	**12 04 16.1**	**-0.2**
	28nm,0.6s							
SANI	**Sanana**	**19.42**	**74**	P		**P**	**12 04 22.8**	**+0.3**
	509nm,1.1s,5µm							
DLV	**T Lat**	**19.70**	**3**	*e*P		**P**	**12 04 24.5**	**-1.1**
CMBY	**CAMPBELL BAY**	**19.94**	**317**	*e*P		**P**	**12 04 25.6**	**-2.5**
NLAI	**Namlea**	**20.17**	**78**	P		Pn	12 04 32.5	-0.5
	705nm,0.7s,7µm							
PATY	**Pattaya**	**21.62**	**343**	P		sP	12 05 06.0	-4.0

TNTI	**Ternate**	**21.71**	**68**	P		**P**	**12 04 46.6**	**-0.5**
	453nm,0.7s,5µm							
TNTI	**Ternate**	**21.71**	**68**	*e*P		**P**	**12 04 45.6**	**-1.5**
	671nm,1.3s							
TNTI				*e*S		**S**	**12 08 45.7**	**+2.0**
PAGZ	**Pagadian**	**22.32**	**46**	*e*P		**P**	**12 04 55.8**	**+2.1**
PAGZ				*e*S		**sP**	**12 05 21.5**	**+4.0**
CTBH	**Cotabato--PC H**	**22.53**	**49**	*i* P		**P**	**12 04 58.3**	**+2.3**
BNDI	**Bandanaira**	**22.65**	**83**	P		**P**	**12 04 55.3**	**-1.9**
	509nm,1.0s,4µm							
DAV	**Davao City (W)**	**23.44**	**51**	P		**P**	**12 05 08.3**	**+3.2**
	SNR=18							
DAV	**Davao City (W)**	**23.44**	**51**	*e*P		**P**	**12 05 08.2**	**+3.2**
	399nm,0.8s							
BUKP	**Musuan**	**23.57**	**49**	*e*P		**P**	**12 05 07.3**	**+1.1**
MATI	**Mati**	**23.90**	**53**	*e*P		**P**	**12 05 10.8**	**+1.7**
KHON	**Khomkaen**	**24.45**	**349**	P		**P**	**12 05 15.8**	**+1.8**
	12nm,0.7s,1µm							
RCP	**Roxas**	**24.62**	**39**	⇑*e*P		**P**	**12 05 18.2**	**+2.6**
SIJI	**Sorong**	**24.81**	**75**	P		**P**	**12 05 16.2**	**-1.2**
	97nm,0.9s,baz=283,slow=8.2,SNR=31							
SIJI				S		**S**	**12 09 32.7**	**-2.6**
	7.7nm,0.8s,baz=146,slow=23,SNR=10							
SIJI				LR	LR		12 16 41.5	
	comp=Z,421nm,20.3s,baz=290,slow=40							
MSLP	**Maasin**	**24.95**	**45**	*e*P		**P**	**12 05 19.7**	**+1.0**
FAKI	**Fak Fak**	**25.25**	**80**	P		**P**	**12 05 20.1**	**-1.3**
	202nm,0.6s,2µm							
FAKI	**Fak Fak**	**25.25**	**80**	*e*P		**P**	**12 05 18.9**	**-2.5**
	148nm,0.6s							
FAKI				*e*S		**S**	**12 09 45.6**	**+3.4**
DGPR	**DIGLIPUR**	**25.34**	**325**	*e*P		**P**	**12 05 18.3**	**-3.9**
DGPR				AMB	AMB		12 05 46.6	
	comp=Z,105nm,4.4s							
NWAO	**Narrogin (SRO)**	**26.58**	**161**	P		**P**	**12 05 32.1**	**-1.1**
	comp=Z,12nm,0.5s,baz=329,slow=11,SNR=11							
NWAO				S		S	12 10 17.8	+15
	comp=Z,2.8nm,0.3s,baz=330,slow=16,SNR=1.9							
NWAO				LR	LR		12 16 28.9	
	comp=Z,5.5nm,21.6s,baz=330,slow=37							
QIZ	**Qiongzhong**	**26.82**	**5**	P		**P**	**12 05 38.6**	**+3.1**
QIZ				pP		**pP**	**12 05 53.1**	**+0.8**
QIZ				sP		**sP**	**12 06 00.8**	**+0.1**
QIZ				S		**S**	**12 10 12.0**	**+5.2**
QIZ				LZ				
	comp=Z,780nm,20.0s							
LAMP	**Lampang**	**27.29**	**344**	P		**PcS**	**12 12 44.1**	**+4.2**
CM01	**Chiang Mai Arr**	**27.39**	**342**	*e*P		**P**	**12 05 38.3**	**-2.4**
CM01				*e*PcP		**PcP**	**12 09 00.1**	**+1.9**
CM01				*e*ScP		**ScP**	**12 12 37.1**	**+4.4**
CM31	**Chiang Mai Arr**	**27.43**	**342**	*e*P		**P**	**12 05 38.6**	**-2.4**
	comp=Z,7.9nm,0.4s							
CM31				*e*PcP		**PcP**	**12 08 59.7**	**+1.3**
CMAR	**Chiang Mai Arr**	**27.43**	**342**	P		**P**	**12 05 39.1**	**-1.9**
	comp=Z,12nm,0.5s,baz=178,slow=8.8,SNR=75							
CMAR				PcP	PcP		12 08 59.7	+1.4
	comp=Z,6.9nm,0.7s,baz=203,slow=3.0,SNR=8.7							
CMAR				LR	LR		12 16 12.7	
	comp=Z,385nm,21.5s,baz=168,slow=36							
RKPI	**Ransiki, Papua**	**27.44**	**78**	P		**P**	**12 05 40.7**	**-0.5**
	comp=Z,271nm,0.8s,comp=Z,5µm							
MHMT	**Maesarieng**	**27.49**	**340**	P		**ScP**	**12 12 28.3**	**-4.7**
H01W3	**Cape Leeuwin H**	**27.61**	**168**	T		T	12 35 21.5	
	baz=347,slow=76,SNR=11							
H01W1	**Cape Leeuwin H**	**27.63**	**168**	T		T	12 35 20.4	
	baz=347,slow=76,SNR=7.9							
H01W2	**Cape Leeuwin H**	**27.63**	**168**	T		T	12 35 19.9	
	baz=347,slow=76,SNR=12							
CMMT	**Chiang Mai**	**27.77**	**343**	P		**ScP**	**12 12 34.3**	**+0.5**
CHTO	**Chiang Mai**	**27.77**	**343**	P		**ScP**	**12 12 34.3**	**+0.5**
CHTO	**Chiang Mai**	**27.77**	**343**	*e*P		**P**	**12 05 42.1**	**-1.9**
CHTO				pmax	pmax			
	comp=Z,12nm,0.9s							
CHTO	**Chiang Mai**	**27.77**	**343**	*e*P		**P**	**12 05 42.1**	**-1.9**
	comp=Z,12nm,0.9s							
CRAI	**Chiangrai**	**28.74**	**346**	P		PcS	12 12 49.6	+5.2
WRA	**Warramunga Arr**	**28.76**	**118**	P		**P**	**12 05 52.9**	**0.0**
	comp=Z,21nm,0.6s,baz=284,slow=13,SNR=228							
WRA				PcP		**PcP**	**12 09 01.4**	**-0.2**
	comp=Z,6.8nm,0.6s,baz=302,slow=2.0,SNR=6.1							
WRA				pScP			12 12 50.0	
	comp=Z,3.9nm,0.5s,baz=310,slow=2.6,SNR=6.8							
WRA				PKiKP		**PKiKP**	**12 16 35.7**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=300,slow=1.3,SNR=4.8							
WRA				LR	LR		12 17 05.0	
	comp=Z,699nm,21.4s,baz=285,slow=36							
WRA				P3KPbc			12 38 02.9	
	comp=Z,0.2nm,1.0s,baz=102,slow=4.1,SNR=2.7							
WRAB	**Tennant Creek**	**28.76**	**117**	P		**P**	**12 05 53.0**	**+0.1**
	comp=Z,361nm,0.5s,SNR=82							
WRAB	**Tennant Creek**	**28.76**	**117**	*e*P		**P**	**12 05 53.3**	**+0.3**
WRAB				pmax	pmax			
	comp=Z,39nm,0.8s							
WRAB	**Tennant Creek**	**28.76**	**117**	*e*P		**P**	**12 05 53.2**	**+0.3**
	comp=Z,39nm,0.8s							
CMAI	**Chiengmai2**	**28.80**	**344**	P		**ScP**	**12 12 36.3**	**-0.9**
FORT	**Forrest**	**29.91**	**142**	*e*P		**P**	**12 06 02.8**	**-0.2**
	comp=Z,92nm,0.6s							
AS01	**Alice Springs**	**29.94**	**125**	*e*P		**P**	**12 06 03.1**	**-0.3**
PALK	**Pallekele**	**30.54**	**299**	P		**P**	**12 06 11.3**	**+2.6**
	comp=Z,217nm,0.6s,SNR=6.9							
PALK	**Pallekele**	**30.54**	**299**	*e*P		**P**	**12 06 10.6**	**+1.9**
PALK				pmax	pmax			
	comp=Z,96nm,1.7s							
PALK	**Pallekele**	**30.54**	**299**	*e*P		**P**	**12 06 10.6**	**+1.9**
	comp=Z,96nm,1.7s							
KMI	**Kunming**	**33.08**	**352**	P		**P**	**12 06 33.8**	**+2.7**
KMI				pP		**pP**	**12 06 48.5**	**+0.3**
KMI				sP		**sP**	**12 06 55.8**	**-0.7**
KMI				S		**S**	**12 11 47.3**	**+2.0**
KMI				sS		**sS**	**12 12 09.5**	**-5.1**
KMI				PMZ				
	comp=Z,7.0nm,1.3s							
KMI				PMZ				
	comp=Z,83nm,5.1s							
KMI				LN				
	comp=Z,650nm,17.1s							
KMI				LE				
	comp=Z,1µm,15.0s							
KMI				LZ				
	comp=Z,730nm,16.7s							
JAY	**Jayapura**	**33.61**	**83**	P		**P**	**12 06 34.5**	**-1.2**
	comp=Z,35nm,0.7s,baz=271,slow=3.6,SNR=10							
GYA	**Guiyang**	**34.11**	**359**	*i* P		**P**	**12 06 39.4**	**-0.5**
GYA				pP		**pP**	**12 07 00.3**	**+3.3**
GYA				sP		sP	12 07 10.3	+5.0
GYA				S		**S**	**12 12 05.0**	**+4.0**
GYA				sS		sS	12 12 35.5	+5.2
GYA				ScP		**ScP**	**12 12 55.6**	**+0.7**
GYA				PMZ				
	comp=Z,20nm,0.8s							
GYA				PMZ				
	comp=Z,130nm,4.9s							
GYA				LN				
	comp=Z,880nm,17.6s							
GYA				LE				
	comp=Z,690nm,18.8s							
GYA				LZ				
	comp=Z,760nm,17.5s							
SSLB	**Suanglung**	**34.13**	**23**	*e*P		**P**	**12 06 42.5**	**+2.4**
	comp=Z,28nm,0.7s							
QZH	**Quanzhou**	**34.38**	**18**	*e*P		P	12 06 46.0	+3.9
QZH				S		**S**	**12 12 06.0**	**+1.0**
QZH				LZ				
	comp=Z,1µm,27.1s							
TRD	**Trivandrum**	**34.38**	**298**	*e*P		**P**	**12 06 43.0**	**+0.7**
TRD				AMB	AMB		12 06 46.7	
	comp=Z,61nm,1.0s							
H08S2	**Diego Garcia H**	**34.55**	**268**	T		T	12 42 31.1	
	baz=91,slow=75,SNR=125							
H08S3	**Diego Garcia H**	**34.56**	**268**	T		T	12 42 35.1	
	baz=91,slow=75,SNR=92							
H08S1	**Diego Carcia H**	**34.57**	**268**	T		T	12 42 35.8	
	baz=91,slow=75,SNR=14							
VIS	**Vishakhapatnam**	**34.78**	**317**	*e*P		**P**	**12 06 44.3**	**-1.3**
SKHT	**Srikalahasti**	**34.84**	**308**	⇑*e*P		**P**	**12 06 47.1**	**+0.9**
SKHT				IAmb	IAmb		12 06 47.8	
	comp=Z,57nm,0.6s							
SKHT				*e*pP		pP	12 06 55.0	-8.4
CHLP	**Challavanipeta**	**34.85**	**319**	*e*P		**P**	**12 06 44.9**	**-1.4**
CHLP				*e*			12 06 47.3	
CHLP				IAmb	IAmb		12 06 48.3	
	comp=Z,38nm,0.6s							
CHLP				*e*pP		pP	12 06 54.3	-9.1
CHLP				*e*sP		sP	12 06 58.2	-14
CHLP				*e*S		**S**	**12 12 11.0**	**-1.3**

IMP	**Imphal**	**34.98**	**338**	*ex*		P	12 06 41.0	-6.4
IMP				*ex*		**PcP**	**12 09 20.0**	**+1.5**
COEN	**Coen**	**35.65**	**103**	*e*P		**P**	**12 06 53.3**	**0.0**
	comp=Z,13nm,0.8s							
BBOO	**Buckleboo**	**36.38**	**137**	*e*P		**P**	**12 06 59.5**	**+0.1**
	comp=Z,4.0nm,1.4s							
BBOO				*e*pP		**pP**	**12 07 15.6**	**-1.0**
SHL	**Shillong**	**36.47**	**336**	*e*P		**P**	**12 06 57.8**	**-2.5**
NJS	**Nagarjunasagar**	**36.86**	**311**	⇑*e*P		**P**	**12 07 03.6**	**+0.1**
NJS				IAmb	IAmb		12 07 04.3	
	comp=Z,36nm,0.6s							
NJS				*e*pP		pP	12 07 12.1	-8.7
URV	**Uravakonda**	**37.47**	**307**	⇑*e*P		**P**	**12 07 09.2**	**+0.5**
URV				IAmb	IAmb		12 07 10.1	
	comp=Z,144nm,0.6s							
BOK	**Bokaro**	**37.81**	**327**	*e*P		**P**	**12 07 09.6**	**-1.9**
BOK				AMB	AMB		12 07 10.6	
	comp=Z,24nm,0.6s							
HYB	**Hyderabad**	**37.96**	**312**	*i* P		**P**	**12 07 12.0**	**-0.9**
HYB				*e*S		**S**	**12 13 00.0**	**0.0**
HYB	**Hyderabad**	**37.96**	**312**	*e*P		**P**	**12 07 12.9**	**0.0**
HYB				AMB	AMB		12 07 13.8	
	comp=Z,40nm,0.4s							
HYBB	**Hyderabad (bro**	**37.96**	**312**	*e*P		**P**	**12 07 13.0**	**+0.1**
HYBB				IAmb	IAmb		12 07 13.4	
	comp=Z,63nm,0.6s							
HYBB				*e*pP		pP	12 07 21.5	-8.7
HYBB				*e*S		**S**	**12 13 00.3**	**+0.4**
RPR	**Rampur**	**38.35**	**314**	*e*P		**P**	**12 07 15.3**	**-0.7**
RPR				IAmb	IAmb		12 07 16.7	
	comp=Z,34nm,0.7s							
RPR				*e*S		**S**	**12 13 05.8**	**+0.1**
CD2	**Chengdu**	**38.70**	**355**	*e*P		**P**	**12 07 19.3**	**+0.5**
CD2				sP		**sP**	**12 07 49.3**	**+4.9**
CD2				PP		**PP**	**12 08 48.8**	**0.0**
CD2				PcP		**PcP**	**12 09 30.4**	**+0.8**
CD2				S		**S**	**12 13 10.4**	**-0.3**
CD2				SS		**SS**	**12 15 54.6**	**-9.5**
CD2				ScS		**ScS**	**12 17 16.3**	**-6.1**
CD2				PMZ				
	comp=Z,10.0nm,0.7s							
CD2				PMZ				
	comp=Z,100nm,10.7s							
CD2				LN				
	comp=Z,830nm,17.8s							
CD2				LE				
	comp=Z,730nm,11.9s							
CD2				LZ				
	comp=Z,880nm,17.8s							
PMG	**Port Moresby**	**39.36**	**95**	*ce*P		**P**	**12 07 25.0**	**+0.4**
PMG				pmax	pmax			
	comp=Z,298nm,1.0s							
PMG	**Port Moresby**	**39.36**	**95**	*e*P		**P**	**12 07 25.5**	**+0.8**
	comp=Z,58nm,0.7s							
CTA	**Charters Tower**	**39.54**	**112**	P		**P**	**12 07 26.5**	**+0.4**
	comp=Z,62nm,0.9s,baz=274,slow=12,SNR=43							
CTA				PcP		**PcP**	**12 09 33.2**	**+0.8**
	comp=Z,8.4nm,0.6s,baz=261,slow=3.9,SNR=4.8							
ODAN	**Odare**	**39.57**	**331**	*e*P		**P**	**12 07 23.8**	**-2.6**
	comp=Z,110nm,0.5s							
STKA	**Stephens Creek**	**39.81**	**132**	P		**P**	**12 07 29.2**	**+1.1**
	comp=Z,90nm,0.5s,baz=303,slow=8.1,SNR=264							
STKA				PcP		**PcP**	**12 09 33.4**	**+0.3**
	comp=Z,16nm,0.5s,baz=309,slow=3.6,SNR=4.2							
STKA				LR	LR		12 24 38.1	
	comp=Z,836nm,19.5s,baz=291,slow=37							
STKA	**Stephens Creek**	**39.81**	**132**	*e*P		**P**	**12 07 29.5**	**+1.4**
STKA							12 09 33.4	

GTA SS **SS** **12 18 45.4 -3.8**
GTA PMZ
comp=Z,9.0nm,1.0s
GTA PMZ
comp=Z,100nm,8.1s
GTA LN
comp=Z,420nm,21.8s
GTA LE
comp=Z,940nm,21.4s
GTA LZ
comp=Z,410nm,20.9s
BHJ **Bhuj** **48.12 311** *e*P **P** **12 08 34.5 -0.3**
BHJ AMB AMB 12 08 36.5
comp=Z,44nm,1.0s
BJI **Beijing** **48.34 9** P **P** **12 08 36.5 +0.3**
BJI S **S** **12 15 36.8 +5.7**
BJI PMZ
comp=Z,32nm,0.6s
BJI PMZ
comp=Z,80nm,5.2s
BJI LN
comp=Z,240nm,30.3s
BJI LE
comp=Z,350nm,25.6s
BJI LZ
comp=Z,290nm,36.9s
SMLA **Simla** **48.35 325** *i* P **P** **12 08 34.4 -2.0**
SMLA AMB AMB 12 08 38.6
comp=Z,707nm,0.3s
SMLA *i* x **S** **12 15 26.8 -4.8**
CBI **Chichi jima** **48.42 43** *e*P **P** **12 08 34.1 -2.9**
CBIJ **Chichi jima** **48.42 43** P **P** **12 08 34.1 -2.9**
JCJ **Chichijima** **48.42 43** P **P** **12 08 34.1 -2.9**
comp=Z,84nm,0.9s,baz=245,slow=19,SNR=5.5
HHC **Hu-ho-hao-te** **48.61 4** *e*P **P** **12 08 40.0 +1.6**
HHC pP **pP** **12 09 00.0 +3.7**
HHC PP **PP** **12 10 36.3 +4.3**
HHC S **S** **12 15 37.3 +2.1**
HHC sS **sS** **12 16 07.8 +2.2**
HHC SS **SS** **12 19 05.6 -0.8**
HHC PMZ
comp=Z,23nm,1.1s
HHC PMZ
comp=Z,120nm,6.9s
HHC LN
comp=Z,420nm,14.4s
HHC LE
comp=Z,570nm,14.6s
HHC LZ
comp=Z,480nm,14.7s
SDNR **Sundarnagar** **48.74 325** *e*P **P** **12 08 38.0 -1.5**
KS15 **Wonju Array Si** **48.98 22** *e*P **P** **12 08 41.0 -0.1**
KS15 *e*PcP **PcP** **12 10 05.2 +1.0**
KS15 *e*ScP **ScP** **12 13 54.0 +0.8**
KSAR **Wonju Array Be** **48.98 22** P **P** **12 08 41.0 -0.1**
KSAR 12 10 05.3
KSAR **Wonju Array Be** **48.98 22** P **P** **12 08 41.0 -0.1**
KSAR PcP **PcP** **12 10 05.2 +1.0**
KSAR ScP **ScP** **12 13 54.0 +0.8**
KSRS **Korea Array** **49.00 22** P **P** **12 08 41.0 -0.3**
comp=Z,4.8nm,0.7s,baz=202,slow=8.1,SNR=15
KSRS PcP **PcP** **12 10 05.2 +0.9**
comp=Z,3.3nm,0.7s,baz=211,slow=3.3,SNR=5.5
KSRS ScP **ScP** **12 13 54.0 +0.7**
comp=Z,2.1nm,0.9s,baz=203,slow=4.6,SNR=2.8
KSRS LR LR 12 30 27.8
comp=Z,150nm,21.4s,baz=212,slow=37
KS01 **Wonju Array Si** **49.01 22** *e*P **P** **12 08 41.4 +0.1**
TAU **Tasmania Unive** **49.46 142** *e*P **P** **12 08 46.6 +1.9**
TAU pmax pmax
comp=Z,144nm,1.7s
TAU **Tasmania Unive** **49.46 142** *e*P **P** **12 08 46.6 +1.9**
comp=Z,144nm,1.7s
DHRM **DHARAMSHALA** **49.68 325** *e*P **P** **12 08 46.0 -0.9**
DHRM AMB AMB 12 09 00.3
comp=Z,46nm,0.7s
PAF **Port-aux-Franc** **51.75 210** P P 12 08 48.0 -14
PAF R 12 23 00.0
MAJO **Matsushiro** **52.80 31** *e*P **P** **12 09 09.6 -0.3**
MAJO *e* 12 10 19.1
MAJO pmax pmax
comp=Z,21nm,1.2s
MAJO **Matsushiro** **52.80 31** *e*P **P** **12 09 09.6 -0.3**
comp=Z,21nm,1.2s
MAJO *e*PcP **PcP** **12 10 19.1 +0.6**
MAJO *e*ScP **ScP** **12 14 12.2 +2.4**
MAT **Matsushiro** **52.80 31** P **P** **12 09 08.1 -1.8**
MAT S **S** **12 16 31.2 -2.0**
MJAR **Matsushiro Arr** **52.80 31** P **P** **12 09 08.3 -1.6**
comp=Z,4.2nm,0.5s,baz=208,slow=8.0,SNR=22
MJAR PcP **PcP** **12 10 19.1 +0.6**
comp=Z,6.3nm,0.6s,baz=198,slow=4.7,SNR=9.8
MJAR ScP **ScP** **12 14 10.3 +0.6**
comp=Z,6.9nm,1.1s,baz=214,slow=5.3,SNR=3.1
MJAR LR LR 12 32 11.3
comp=Z,193nm,22.0s,baz=230,slow=37
CN2 **Changchun** **53.96 16** *e*P P 12 09 12.6 -5.6
CN2 *e*pP pP 12 09 31.3 -5.1
CN2 *e*S **S** **12 16 42.8 -5.8**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 LR LR
comp=N,700nm,20.0s
CN2 LR LR
comp=E,400nm,20.0s
CN2 LR LR
comp=Z,600nm,20.0s
WMQ **Urumqi** **54.43 343** *e*P **P** **12 09 24.1 +2.3**
WMQ pP **pP** **12 09 43.3 +3.3**
WMQ sP **sP** **12 09 51.9 +3.9**
WMQ PcP **PcP** **12 10 26.1 +1.5**
WMQ PcS **PcS** **12 14 24.4 +0.2**
WMQ S **S** **12 16 56.5 +1.4**
WMQ sS **sS** **12 17 29.1 +3.0**
WMQ ScS **ScS** **12 19 02.6 -1.9**
WMQ SS **SS** **12 20 40.6 +1.9**
WMQ PMZ
comp=Z,17nm,0.7s
WMQ PMZ
comp=Z,120nm,5.4s
WMQ LN
comp=Z,360nm,14.6s
WMQ LE
comp=Z,310nm,14.0s
WMQ LZ
comp=Z,290nm,23.8s
KSH **Kashi** **55.38 331** P **P** **12 09 27.0 -1.7**
KSH pP **pP** **12 09 46.1 -0.9**
KSH sP **sP** **12 09 54.8 -0.2**
KSH PcS **PcS** **12 14 26.9 -1.7**
KSH S S 12 17 00.3 -7.7
KSH sS sS 12 17 33.3 -5.7
KSH PMZ
comp=Z,18nm,0.6s
KSH PMZ
comp=Z,110nm,6.4s
KSH LN
comp=Z,940nm,19.5s
KSH LE
comp=Z,960nm,19.9s
KSH LZ
comp=Z,240nm,13.3s
SONA0 **Songino Array** **55.45 359** *e*P **P** **12 09 28.4 -0.7**
SONA0 *e*PcP **PcP** **12 10 28.3 -0.2**
SONA0 *e*ScP **ScP** **12 14 22.3 +1.0**
SONM **Songino Array** **55.45 359** P **P** **12 09 28.4 -0.7**
comp=Z,7.1nm,0.7s,baz=174,slow=8.0,SNR=37
SONM PcP **PcP** **12 10 28.3 -0.2**
comp=Z,12nm,0.4s,baz=179,slow=4.0,SNR=21
SONM ScP **ScP** **12 14 22.3 +1.0**
comp=Z,5.2nm,0.6s,baz=175,slow=4.0,SNR=10.0
SONM LR LR 12 35 16.7
comp=Z,367nm,19.8s,baz=176,slow=38
SONA1 **Songino Array** **55.46 359** *e*P **P** **12 09 28.4 -0.8**
SONA1 *e*ScP **ScP** **12 14 22.3 +1.0**
ULN **Ulaanbaatar** **55.47 360** *e*P **P** **12 09 29.1 -0.2**
ULN *e**PP pP 12 09 38.8 -8.8
ULN *e**SP sP 12 09 44.2 -11
ULN pmax pmax
comp=Z,17nm,0.7s
ULN **Ulaanbaatar** **55.47 360** P **P** **12 09 29.2 0.0**
SNR=7.1
ULN **Ulaanbaatar** **55.47 360** *e*P **P** **12 09 29.1 -0.2**
comp=Z,17nm,0.7s
ULN *e*pP pP 12 09 38.8 -8.8
ULN *e*sP sP 12 09 44.2 -11
KBL **Kabul** **55.59 322** *e*P **P** **12 09 28.8 -1.7**
KBL **Kabul** **55.59 322** *e*P **P** **12 09 28.8 -1.7**
MDJ **Mudanjiang** **55.94 19** P P 12 09 36.0 +3.5
MDJ pP pP 12 09 51.9 +1.1
MDJ sP sP 12 09 59.0 +0.2
MDJ PP **PP** **12 11 41.8 +3.7**
MDJ S S 12 17 21.9 +6.8
MDJ sS sS 12 17 49.3 +3.1
MDJ PMZ
comp=Z,3.0nm,0.4s
MDJ LN
comp=Z,210nm,19.0s
MDJ LE
comp=Z,140nm,18.1s
MDJ LZ
comp=Z,230nm,15.5s
WBK **Wadi Bani Khal** **56.22 304** P **P** **12 09 36.2 +1.2**
SNR=7.2
USRK **Ussuriysk Ar.** **56.39 21** P **P** **12 09 35.2 -0.5**
comp=Z,8.1nm,0.5s,baz=193,slow=6.6,SNR=29
JMDO **Jabal Madar** **56.83 303** P **P** **12 09 40.2 +1.0**
SNR=10
PDGK **Podgornoye** **56.89 336** P **P** **12 09 37.7 -1.5**
PDGK pmax pmax
comp=Z,60nm,0.6s
SMDO **Samad** **57.18 304** P **P** **12 09 43.1 +1.3**
SNR=11
KZA **Kyzart** **57.72 332** P **P** **12 09 46.3 +0.7**
SNR=31
KZA **Kyzart** **57.72 332** *i* P **P** **12 09 46.3 +0.7**
HOQ **Hoqan** **58.02 304** P **P** **12 09 49.3 +1.7**
SNR=5.2
ZAK **Zakamensk** **58.10 357** *e*P **P** **12 09 47.0 -0.8**
ZAK *e* 12 10 38.7
ZAK pmax pmax
comp=Z,3.0nm,1.1s
UCH **Uchtor** **58.18 332** P **P** **12 09 48.9 -0.1**
SNR=14
UCH **Uchtor** **58.18 332** *i* P **P** **12 09 48.8 -0.1**
TKM2 **Tokmak 2** **58.22 333** P **P** **12 09 46.8 -2.1**
SNR=119
TKM2 **Tokmak 2** **58.22 333** *i* P **P** **12 09 46.8 -2.1**
RBK **Rabkut** **58.24 296** P **P** **12 09 50.5 +1.1**
SNR=11
KBK **Karagaybulak** **58.31 332** P **P** **12 09 50.0 +0.5**
SNR=49
KBK **Karagaybulak** **58.31 332** *i* P **P** **12 09 49.9 +0.5**
CASY **Casey** **58.38 178** *e*P **P** **12 09 49.2 -0.2**
comp=Z,22nm,0.7s
DZM **Mont Dzumac** **58.47 111** P **P** **12 09 51.9 +0.9**
comp=Z,10nm,0.9s,baz=90,slow=20,SNR=7.0
AML **Almayashu** **58.49 331** P **P** **12 09 50.9 -0.1**
SNR=7.1
AML **Almayashu** **58.49 331** *i* P **P** **12 09 50.9 -0.1**
AAK **Ala-Archa** **58.50 332** P **P** **12 09 51.9 +1.1**
comp=Z,70nm,0.5s,SNR=7.0
AAK **Ala-Archa** **58.50 332** P **P** **12 09 51.0 +0.2**
SNR=8.4
AAK **Ala-Archa** **58.50 332** P **P** **12 09 50.9 +0.2**
comp=Z,6.7nm,0.6s,baz=138,slow=8.3,SNR=20
AAK PcP **PcP** **12 10 41.7 +1.0**
comp=Z,17nm,0.6s,baz=127,slow=5.6,SNR=7.6
AAK **Ala-Archa** **58.50 332** *d* *i* P **P** **12 09 50.9 +0.1**
AAK pmax pmax
comp=Z,9.0nm,0.7s
ARQ **Araqi** **58.56 303** P **P** **12 09 52.2 +0.7**
SNR=9.4
FRU **Bishkek** **58.60 332** *e*P **P** **12 09 51.0 -0.3**
FRU *e* 12 13 32.0
DZET **Dzherino** **58.61 325** P **P** **12 09 48.5 -3.1**
DZET pmax pmax
comp=Z,31nm,0.6s
MK01 **Makanchi Array** **58.78 340** *e*P **P** **12 09 50.4 -2.1**
MK31 **Makanchi Array** **58.80 340** *e*P **P** **12 09 50.5 -2.2**
MK31 pmax pmax
comp=Z,11nm,0.5s
MK32 **Makanchi Array** **58.80 340** *e*P **P** **12 09 50.9 -1.8**
MK32 *e*ScP **ScP** **12 14 38.2 +2.2**
MKAR **Makanchi Array** **58.80 340** P **P** **12 09 50.9 -1.8**
comp=Z,13nm,0.5s,baz=162,slow=7.4,SNR=68
MKAR ScP **ScP** **12 14 38.2 +2.2**
comp=Z,0.7nm,0.6s,baz=174,slow=6.7,SNR=3.1
EKS2 **Erkin-Say** **58.86 332** P **P** **12 09 52.5 -0.8**
SNR=34
EKS2 **Erkin-Say** **58.86 332** *i* P **P** **12 09 52.4 -0.8**
USP **Ospenovka** **58.99 332** P **P** **12 09 53.8 -0.2**
SNR=9.2
USP **Ospenovka** **58.99 332** *i* P **P** **12 09 53.8 -0.2**
ABTO **Aybut** **59.00 296** P **P** **12 09 55.6 +1.0**
SNR=12
ABPO **Ambohimpanom** **59.29 253** *e*P **P** **12 09 58.2 +1.4**
ABPO pmax pmax
comp=Z,27nm,0.9s
ABPO **Ambohimpanom** **59.29 253** *e*P **P** **12 09 58.2 +1.4**
comp=Z,27nm,0.9s
TLY **Talaya** **59.38 357** P **P** **12 09 55.9 -0.6**
comp=Z,2.4nm,0.4s,baz=208,slow=11
TLY **Talaya** **59.38 357** *e*P **P** **12 09 57.3 +0.8**
TLY *e*S **S** **12 17 56.2 -3.7**
TLY pmax pmax
comp=Z,6.0nm,1.1s
TLY MLR MLR
comp=Z,265nm,16.0s
TLY **Talaya** **59.38 357** *e*P **P** **12 09 57.4 +0.9**
comp=Z,5.5nm,0.7s
TLY *e* 12 10 06.0
MIR **Mirnyy** **59.44 187** *e*P P 12 10 07.0 +10
MIR pmax pmax
comp=Z,8.0nm,1.5s
ERM **Erimo** **59.45 30** P **P** **12 09 56.7 -0.4**
comp=Z,97nm,1.1s,SNR=12
ERM **Erimo** **59.45 30** *e*P **P** **12 09 57.0 -0.1**
ERM pmax pmax
comp=Z,19nm,1.0s
ERM **Erimo** **59.45 30** *e*P **P** **12 09 57.0 -0.1**
comp=Z,19nm,1.0s
UOSS **Wadi Hilu** **59.53 305** P **P** **12 09 58.0 -0.1**
comp=Z,439nm,0.6s,SNR=16
ASHO **Ashiyiah** **59.53 305** P **P** **12 09 59.2 +1.0**
SNR=9.0
ASHO **Ashiyiah** **59.53 305** ⇓ *i* P **P** **12 09 59.0 +0.8**
SNR=38
HATD **Hatta, Dubai** **59.53 305** ⇓ *i* P **P** **12 09 59.0 +0.9**
SNR=25
MOY **Mondy** **59.53 355** *e*P **P** **12 09 59.5 +1.8**
BANOM **Banah** **59.89 306** ⇑ *i* P **P** **12 10 01.2 +0.7**
SNR=11
FAQ **Al Faqa, Dubai** **59.94 304** ⇑ *i* P **P** **12 10 01.7 +0.8**
SNR=20
NAZ **Nazwa, Dubai** **59.99 305** ⇓ *i* P **P** **12 10 01.8 +0.6**
SNR=54
ASUD **Al Ashush, Dub** **60.10 304** ⇑ *i* P **P** **12 10 03.1 +1.1**
SNR=21
IDAH **Dahanechah** **60.59 314** *e*P **P** **12 10 05.4 -0.1**
KLR **Kul'dur** **60.72 18** *e*P P 12 10 01.7 -4.0
ASAJ **Asahikawa** **60.74 28** *e*P **P** **12 10 05.4 -0.6**
comp=Z,6.2nm,0.5s
KK31 **Karatay Array** **60.77 330** *e*P **P** **12 10 03.7 -2.6**
KK31 pmax pmax
comp=Z,2.0nm,0.3s
KKAR **Karatay Array** **60.77 330** *e*P **P** **12 10 04.9 -1.4**
KKAR **Karatay Array** **60.77 330** *e*P **P** **12 10 04.9 -1.4**
CRZF **Crozet Islands** **60.91 221** P **P** **12 10 05.0 -2.2**
CRZF S **S** **12 18 21.0 +1.2**
CRZF R 12 27 00.0
HABR **Khabarovsk** **61.15 21** P **P** **12 10 06.8 -1.8**
HABR *e**PP **pP** **12 10 22.9 -4.3**
HABR *e* 12 10 49.0
HABR 12 12 22.2
HABR S **S** **12 18 21.8 -0.8**
HABR *e*SS **PnS** **12 18 48.7 +2.1**
HABR *e* 12 19 52.2
HABR pmax pmax
comp=N,37nm,2.3s
HABR pmax pmax
comp=E,15nm,2.3s
HABR pmax pmax
comp=Z,47nm,2.3s
HABR MLR MLR
comp=Z,125nm,22.0s
YUK **Yuzh-Kuril'sk** **62.27 30** *e*P P 12 10 09.9 -6.4
YUK *i* S **S** **12 18 33.1 -3.8**
YUK *e* 12 19 59.1
YUK MLR MLR
comp=E,205nm,20.0s
YUK MLR MLR
comp=Z,137nm,20.0s
IMYA **Miami** **62.43 318** *e*P **P** **12 10 16.8 -1.0**
DRV **Dumont d'Urvil** **62.82 166** S S 12 18 10.0 -33
DRV SS SS 12 22 24.0 -25
DRV L L 12 25 00.0
DRV R 12 28 00.0
YSS **Yuzh-Sakhalins** **62.97 26** ⇑ *e*P **P** **12 10 20.0 -0.9**
YSS *e* 12 10 29.8
YSS pmax pmax
comp=Z,50nm,0.8s
YSS **Yuzh-Sakhalins** **62.97 26** *e*P **P** **12 10 21.3 +0.5**
comp=Z,43nm,0.6s
YSS *e*pP pP 12 10 30.5 -9.0
KURK **Kurchatov** **63.42 340** P **P** **12 10 22.1 -1.6**
comp=Z,153nm,0.5s,SNR=14
KURK **Kurchatov** **63.42 340** *e*P **P** **12 10 22.3 -1.4**
KURK *e**PP pP 12 10 34.5 -7.9
KURK **Kurchatov** **63.42 340** P **P** **12 10 24.2 +0.5**
SNR=9.4
KURK **Kurchatov** **63.42 340** *e*P **P** **12 10 22.3 -1.4**
KURK *e*pP pP 12 10 34.5 -7.9
DCZ **Deep Cove** **63.44 137** *e*P P 12 10 27.4 +3.3
comp=Z,68nm,1.3s
IAKL **Akhelmad** **63.47 318** *e*P **P** **12 10 23.4 -1.4**
IKRD **Kardeh** **63.73 318** *e*P P 12 10 21.9 -4.5
ISRV **Sarvestan** **63.96 308** *e*P **P** **12 10 28.5 +0.3**
WHZ **Wether Hill Ro** **64.09 137** *e*P **P** **12 10 29.2 +0.9**
WHZ *e*pP **pP** **12 10 44.9 -2.1**
IPAR **Pars** **64.22 308** *e*P **P** **12 10 30.0 +0.2**
ZALV **Zalesovo Beam** **64.44 345** P **P** **12 10 28.5 -1.9**
comp=Z,13nm,0.4s,baz=163,slow=5.5,SNR=31
ZALV ScS **ScS** **12 20 14.0 -4.1**
comp=Z,3.0nm,0.7s,baz=191,slow=5.9,SNR=9.3
ZALV PKPPKP **P'P'df** **12 39 18.4 +1.3**
comp=Z,0.6nm,0.4s,baz=320,slow=3.8,SNR=3.1
ZALV LR LR 12 43 20.6
comp=Z,142nm,18.1s,baz=250,slow=40
ZAA1 **Zalesovo Array** **64.45 345** *e*P **P** **12 10 28.5 -1.9**
ZAA1 *e*SKSac **SKSac** **12 20 14.0 -4.1**
ISAD **Sadrabad** **64.68 311** *e*P **P** **12 10 32.5 -0.3**
BDHA **Al Bayda'** **65.04 289** *e*P **P** **12 10 36.6 +1.3**
IKAZ **Kazeroun** **65.13 308** *e*P **P** **12 10 35.2 -0.6**
NVS **Novosibirsk** **65.65 345** *e*P **P** **12 10 36.7 -1.5**
NVS *i* S **SKSac** **12 20 21.6 -5.6**
NVS pmax pmax
comp=N,3.0nm,0.5s
NVS pmax pmax
comp=Z,4.0nm,0.5s
NVS smax smax
comp=N,53nm,2.1s
NVS smax smax
comp=E,80nm,2.1s
BOD **Bodaibo** **65.67 4** *e*P **P** **12 10 36.9 -1.4**
BOD pmax pmax
comp=Z,12nm,0.6s
RPZ **Rata Peaks** **65.68 134** *e*P **P** **12 10 40.5 +1.7**
comp=Z,51nm,1.2s
TRBA **At Turbah** **66.21 288** *e*P **P** **12 10 44.2 +1.3**
IANJ **Anjilo** **66.22 314** *e*P **P** **12 10 42.1 -0.5**
DAMY **Dhamar** **66.30 290** *e*P **P** **12 10 45.1 +1.6**
MAW **Mawson** **66.66 197** P **P** **12 10 45.5 +1.0**
comp=Z,51nm,0.5s,baz=58,slow=5.6,SNR=193
MAW LR LR 12 32 54.7
comp=Z,232nm,21.7s,baz=60,slow=30
MAW **Mawson** **66.66 197** *e*P **P** **12 10 45.5 +1.0**
MAW pmax pmax
comp=Z,53nm,1.5s
MAW **Mawson** **66.66 197** *e*P **P** **12 10 45.5 +1.0**
comp=Z,53nm,1.5s
IKIA **Kiasar** **66.75 315** *e*P **P** **12 10 46.4 +0.4**
ISHM **Shahmirzad** **66.83 314** *e*P **P** **12 10 47.1 +0.6**
IFIR **Firoozkooh** **67.13 314** *e*P **P** **12 10 48.7 +0.2**
IPIR **Pirpir** **67.14 310** *e*P **P** **12 10 47.8 -0.8**
IALA **Alasht** **67.30 314** *e*P **P** **12 10 50.0 +0.4**
IVRN **Varamin** **67.56 313** *e*P **P** **12 10 51.5 +0.5**
RAYN **Ar Rayn** **67.97 299** P **P** **12 10 53.0 -0.7**
comp=Z,240nm,0.5s,SNR=12
RAYN **Ar Rayn** **67.97 299** *e*P **P** **12 10 53.9 +0.1**
comp=Z,39nm,1.4s
RAYN *e*PcP **PcP** **12 11 21.1 +1.4**
BVA0 **Borovoye Array** **68.29 337** *i* P **P** **12 10 54.1 -0.9**
BVA0 pmax pmax
comp=Z,26nm,0.5s
BRVK **Borovoye** **68.35 337** P **P** **12 10 54.9 -0.5**
comp=Z,450nm,0.5s,SNR=17
BRVK **Borovoye** **68.35 337** ⇓ *i* P **P** **12 10 55.4 0.0**
BRVK pmax pmax
comp=Z,11nm,0.6s
BRVK **Borovoye** **68.35 337** P **P** **12 10 55.0 -0.4**
SNR=10
BKZ **Black Stump Fm** **68.91 129** *e*P **P** **12 11 00.3 +0.9**
IRAZ **Razeghan** **69.06 313** *e*P **P** **12 11 00.9 +0.4**
URZ **Urewera** **69.29 128** P **P** **12 11 02.3 +0.6**
comp=Z,7.9nm,0.7s,baz=280,slow=4.2,SNR=11
KMBO **Kilima Mbogo** **70.15 272** *e*P **P** **12 11 08.7 +1.0**
KMBO **Kilima Mbogo** **70.15 272** P **P** **12 11 08.3 +0.6**
comp=Z,14nm,0.6s,baz=67,slow=8.1,SNR=25
KMBO LR LR 12 36 27.7
comp=Z,333nm,21.2s,baz=94,slow=31
KMBO **Kilima Mbogo** **70.15 272** P **P** **12 11 09.4 +1.8**
SNR=7.0
IBZA **Bozab** **70.19 311** *e*P **P** **12 11 06.4 -1.1**
ABKAR **Akbulak array** **70.33 329** *e*P **P** **12 11 07.0 -0.7**
YAK **Yakutsk** **71.80 11** *e*P **P** **12 11 14.7 -1.6**
YAK *e* 12 11 30.5
YAK *e**PP **pP** **12 11 40.1 +4.8**
YAK *e* 12 13 51.9
YAK *e*S **S** **12 20 25.6 -5.3**
YAK *e**SS **SKSac** **12 21 08.7 -4.7**
YAK *e* 12 21 10.2
YAK pmax pmax
comp=E,9.0nm,1.5s
YAK pmax pmax
comp=Z,34nm,0.8s
YAK pmax pmax
comp=N,12nm,1.4s
YAK pmax pmax
comp=Z,17nm,1.5s
YAK smax smax
comp=E,56nm,1.8s
YAK smax smax
comp=N,31nm,2.0s
AKTO **Aktyubinsk** **72.03 329** P **P** **12 11 17.7 -0.3**
comp=N,38nm,0.5s,baz=103,slow=5.5,SNR=78
PEA0 **Petropavlovsk-** **74.16 29** *e*P **P** **12 11 30.6 +0.2**
PETK **Petropavlovsk-** **74.16 29** P **P** **12 11 30.0 -0.5**
comp=N,10nm,0.5s,baz=190,slow=3.8,SNR=57
PETK LR LR 12 47 04.8
comp=N,60nm,18.9s,baz=214,slow=38
PEA2 **Petropavlovsk-** **74.16 29** *e*P **P** **12 11 30.0 -0.5**
PET **Petropavlovsk** **74.57 29** *e*P **P** **12 11 33.1 +0.3**
PET pmax pmax
comp=Z,29nm,0.6s
PET MLR MLR
comp=Z,200nm,17.0s
GNI **Garni** **74.81 315** P **P** **12 11 35.1 +0.3**
comp=Z,6.4nm,0.5s,baz=354,slow=13,SNR=3.4
GNI **Garni** **74.81 315** *e*P **P** **12 11 34.5 -0.3**
GNI *e* 12 11 49.6
GNI pmax pmax
comp=Z,15nm,0.6s
GNI **Garni** **74.81 315** *e*P **P** **12 11 34.5 -0.3**
comp=Z,15nm,0.6s
GNI *e*PcP **PcP** **12 11 49.6 +1.1**
SYO **Syowa Base** **74.83 200** ⇓ *i* P **P** **12 11 33.2 -0.9**
DGRG **David-gareji** **74.91 317** P **P** **12 11 36.3 +1.1**
SVE **Sverdlovsk** **74.93 336** *de*P **P** **12 11 35.2 +0.4**
SVE pmax pmax
comp=Z,96nm,1.4s
VNDA **Vanda** **75.07 169** P **P** **12 11 36.0 +0.6**
comp=Z,8.8nm,0.5s,baz=309,slow=5.8,SNR=46
VNDA LR LR 12 42 31.5
comp=Z,112nm,20.4s,baz=322,slow=34
TBLG **Delisi** **75.46 317** P **P** **12 11 38.8 +0.5**
ARU **Arti** **75.54 334** P **P** **12 11 38.6 +0.2**
comp=Z,377nm,0.4s,SNR=19
ARU **Arti** **75.54 334** *c* *i* P **P** **12 11 38.4 0.0**
ARU *e**PP **pP** **12 11 56.1 -1.4**
ARU 12 14 22.3
ARU PPP PPP 12 16 09.9
ARU S **S** **12 21 16.0 +2.7**
ARU pmax pmax
comp=Z,65nm,1.7s

ARU MLR MLR
comp=Z,254nm,21.0s
ZEI Tsey 76.47 317 *e*P **P 12 11 43.6 -0.6**
ZEI pmax pmax
comp=Z,37nm,0.7s
MBAR Mbarara 76.67 271 *e*P **P 12 11 44.5 -1.5**
MBAR Mbarara 76.67 271 *e*P **P 12 11 46.0 +0.1**
MBAR pmax pmax
comp=Z,37nm,0.7s
MBAR Mbarara 76.67 271 *e*P **P 12 11 46.0 +0.1**
comp=Z,37nm,0.7s
ONI Oni 76.69 317 P **P 12 11 46.0 +0.7**
SLR Silverton 76.83 245 *e*P **P 12 11 47.6 +1.0**
SLR AMB AMB 12 11 48.2
comp=Z,70nm,1.0s
SLR AMS AMS 12 37 13.4
comp=Z,691nm,26.4s
SLR Silverton 76.83 245 *e*P **P 12 11 47.6 +1.0**
SLR Silverton 76.83 245 *e*P **P 12 11 47.6 +1.0**
ERPM east rand prop 76.84 245 *e*P **P 12 11 47.5 +0.8**
ERPM AMB AMB 12 11 48.9
comp=Z,49nm,3.9s
ERPM east rand prop 76.84 245 *e*P **P 12 11 47.5 +0.8**
SEK Senekal 77.31 243 *e*P **P 12 11 50.4 +1.1**
SEK AMB AMB 12 11 51.0
comp=Z,64nm,0.7s
SEK Senekal 77.31 243 *e*P **P 12 11 50.4 +1.1**
NEY Neytrino 77.44 317 *i* P **P 12 11 50.8 +1.1**
NEY pmax pmax
comp=Z,5.0nm,0.7s
KBZ Khabaz 77.52 318 P **P 12 11 50.0 +0.2**
comp=Z,18nm,0.6s,baz=236,slow=24,SNR=46
KBZ LR LR 12 49 19.1
comp=Z,80nm,21.6s,baz=142,slow=38
PRYS Parys 77.60 244 *e*P **P 12 11 50.1 -0.8**
PRYS AMB AMB 12 11 52.3
comp=Z,43nm,1.0s
PRYS Parys 77.60 244 *e*P **P 12 11 50.1 -0.8**
KIV Kislovodsk 77.75 318 P **P 12 11 51.9 +0.7**
comp=Z,361nm,0.7s,SNR=6.6
KIV Kislovodsk 77.75 318 *e*P **P 12 11 51.4 +0.2**
KIV *e*S **S 12 21 38.0 -0.2**
KIV pmax pmax
comp=Z,39nm,0.8s
KIV MLR MLR
comp=Z,72nm,18.0s
KIV Kislovodsk 77.75 318 P **P 12 11 51.8 +0.5**
SNR=9.2
KIV Kislovodsk 77.75 318⇓ *i*P **P 12 11 51.5 +0.2**
SNR=8.9
GOF Gofitskoye 77.96 319 *e*P **P 12 11 53.0 +0.7**
GOF pmax pmax
comp=Z,40nm,1.2s
SVRC Sivrice-ELAZID 78.05 312 *e*P **P 12 11 53.4 +0.3**
PTK Pertek 78.16 312 *e*P **P 12 11 54.2 +0.5**
SEY Seymchan 78.48 19 *i* P **P 12 11 54.6 -0.1**
MALT Malatya 78.68 312 *e*P **P 12 11 58.0 +1.5**
EIL Elat 78.83 302 P **P 12 11 57.9 +0.5**
comp=Z,45nm,0.6s,baz=314,slow=1.1,SNR=24
LBTB Lobatse 79.29 246 *e*P **P 12 12 01.1 +0.8**
LBTB AMB AMB 12 12 01.8
comp=Z,40nm,4.5s
LBTB AMS AMS 12 47 28.2
comp=Z,726nm,6.0s
AFI Afiamalu 79.32 103 *e*P **P 12 12 02.9 +2.4**
AFI pmax pmax
comp=Z,82nm,1.1s
AFI Afiamalu 79.32 103 *e*P **P 12 12 02.9 +2.4**
comp=Z,82nm,1.1s
BOSA Boshof 79.38 242 *e*P **P 12 11 58.2 -2.4**
BOSA AMB AMB 12 12 02.8
comp=Z,36nm,1.7s
BOSA AMS AMS 12 30 48.6
comp=Z,693nm,6.0s
BOSA Boshof 79.38 242 P **P 12 12 01.6 +1.0**
comp=Z,12nm,0.4s,baz=126,slow=6.2,SNR=15
BOSA LR LR 12 38 58.5
comp=Z,258nm,21.1s,baz=111,slow=29
MMAI Mount Meron Ar 79.39 306 P **P 12 12 01.5 +1.0**
comp=Z,52nm,0.5s,baz=92,slow=8.3,SNR=77
SOC Sochi 79.60 317 *e*P P 12 11 55.8 -5.5
SOC *e**PP pP 12 12 15.4 -5.1
SOC *e* 12 14 57.8
SOC *e*PPP PPP 12 16 47.8
SOC *e*S S 12 21 50.3 -7.4
SOC *e**SS **ScS 12 22 17.2 -1.8**
SOC *e*SSS SSS 12 30 36.6
SOC pmax pmax
comp=Z,37nm,0.8s
SVSK Karacayir 80.25 313 *e*P **P 12 12 05.4 +0.5**
TIXI Tiksi 80.60 7*c i*P **P 12 12 04.9 -1.2**
TIXI pmax pmax
comp=Z,14nm,0.7s
MERS Mersin 81.18 309 *e*P **P 12 12 10.2 +0.2**
LFK Lefkose 81.51 307 *e*P **P 12 12 13.2 +1.4**
CSS Prodhromos 81.58 307 *e*P **P 12 12 13.9 +1.8**
CSS Prodhromos 81.58 307⇑P **P 12 12 13.3 +1.2**
CSS Prodhromos 81.58 307 P **P 12 12 11.8 -0.3**
SZAC Souni-Zanaja 81.88 307 P **P 12 12 14.9 +1.2**
QSPA South Pole Qui 82.14 180 PKKPbc PKKPbc 12 30 43.0 -3.2
comp=Z,2.2nm,0.6s,baz=208,slow=0.7,SNR=21
AKMC Akamas 82.39 307⇑P **P 12 12 17.1 +0.7**
VORD Divnogorie 82.60 324 *e*P **P 12 12 16.7 -0.3**
VORD pmax pmax
comp=Z,70nm,0.6s
VORD pmax pmax
comp=N,50nm,0.5s
VORD pmax pmax
comp=E,20nm,0.4s
VSR Storozhevoye 82.77 324 *e*P **P 12 12 17.9 0.0**
VSR pmax pmax
comp=Z,200nm,0.5s
VSR pmax pmax
comp=N,40nm,0.8s
VSR pmax pmax
comp=E,60nm,0.6s
UPI Upington 82.92 242 *e*P **P 12 12 20.5 +1.2**
UPI AMB AMB 12 12 21.9
comp=Z,46nm,1.3s
UPI Upington 82.92 242 *e*P **P 12 12 20.5 +1.2**
SUR Sutherland 82.95 238 *e*P **P 12 12 21.8 +2.1**
SUR AMB AMB 12 12 22.3
comp=Z,51nm,1.0s
SUR AMS AMS 12 35 29.7
comp=Z,625nm,5.2s
SUR Sutherland 82.95 238 P **P 12 12 21.5 +1.9**
comp=Z,489nm,0.6s,SNR=26
BZK Bozkurt 83.04 314 *e*P **P 12 12 20.5 +1.0**
KONT Konya--Tatoy 83.13 310 *e*P **P 12 12 20.6 +0.4**
LADK Ladik-KONYA 83.20 310 *e*P **P 12 12 20.0 -0.6**
ANTO Ankara 83.33 312⇑P **P 12 12 21.6 +0.4**
ANTO Ankara 83.33 312⇑ *i*P **P 12 12 21.6 +0.4**
ANTO Ankara 83.33 312 P **P 12 12 22.0 +0.8**
SNR=6.8
LPSR Galich'ya Gora 83.42 325 *e*P **P 12 12 21.4 +0.2**
LPSR pmax pmax
comp=N,3.0nm,0.7s
LPSR pmax pmax
comp=Z,40nm,0.7s
LPSR pmax pmax
comp=E,4.0nm,0.6s
KIZT Kizilcal 83.74 311 *e*P **P 12 12 23.3 -0.1**
SAFT Safranbolu 83.78 313 *e*P **P 12 12 24.3 +0.9**
SIM Simferopol' 83.84 317 *i* P **P 12 12 24.9 +1.3**
SIM *e* 12 15 41.0
SIM *e*SS SS 12 28 18.0 +7.4
SIM pmax pmax
comp=Z,65nm,0.6s
PRGR Permogore 83.98 335 *e*P **P 12 12 23.9 0.0**
PRGR pmax pmax
comp=Z,92nm,0.6s
SVRH Sivrihisar-ESK 84.16 311 *e*P **P 12 12 25.2 -0.2**
ANTB Antalya 84.18 308 *e*P **P 12 12 25.4 -0.1**
NVL N'lazarevskaya 84.47 199 *e*P P 12 12 19.9 -6.4
NVL pmax pmax
comp=Z,21nm,0.8s
ISP Isparta 84.51 309 P **P 12 12 26.9 -0.4**
ISP Isparta 84.51 309 P **P 12 12 26.9 -0.4**
ISP Isparta 84.51 309⇓ *i*P **P 12 12 26.9 -0.4**
ISP Isparta 84.51 309 P **P 12 12 26.9 -0.4**
ELL Elmali 84.72 308 *e*P **P 12 12 29.0 +0.6**
ALT Altintas 85.12 310 P **P 12 12 30.9 +0.6**
ALT Altintas 85.12 310 P **P 12 12 30.9 +0.6**
GULT Gulveren 85.16 312 *e*P **P 12 12 30.9 +0.4**

MOS Moscow 85.29 328 *e*P **P 12 12 29.9 -0.7**
MOS *e* 12 12 38.8
MOS *e*S **S 12 22 52.9 -2.4**
MOS pmax pmax
comp=Z,38nm,0.6s
CAVI Cavuskoy 85.60 311 *e*P **P 12 12 33.0 +0.5**
OBN Obninsk 85.63 327 P **P 12 12 31.9 -0.4**
comp=Z,45nm,0.5s,baz=95,slow=4.4,SNR=8.9
OBN Obninsk 85.63 327*c i*P **P 12 12 32.5 +0.2**
OBN *e* 12 15 52.1
OBN pmax pmax
comp=Z,138nm,1.5s
DALY Dalyan (Mu˙la 85.72 308 *e*P **P 12 12 33.5 +0.3**
HRT Hereke 85.88 312 *e*P **P 12 12 31.1 -2.9**
IZI Iznik 85.91 311 *e*P **P 12 12 34.6 +0.5**
ARG Arkhangelos 86.00 307 *e*P P 12 12 45.0 +10
YER Yerkesik 86.08 308 *e*P **P 12 12 35.3 +0.2**
KULA Kula-Manisa 86.09 310 *e*P **P 12 12 35.7 +0.6**
KULA Kula-Manisa 86.09 310 P **P 12 12 36.0 +0.8**
KULA Kula-Manisa 86.09 310 P **P 12 12 36.0 +0.8**
BILL Bilibino 86.17 19*c i*P **P 12 12 34.2 -0.6**
BILL pmax pmax
comp=Z,7.0nm,0.8s
KLMR Klimovskoe 86.30 333*c i*P **P 12 12 35.2 -0.3**
KLMR *e*S S 12 22 55.9 -9.1
KLMR pmax pmax
comp=Z,66nm,1.2s
DST Dursunbey 86.38 311 *e*P P 12 12 27.4 -9.1
ISK Istanbul-Kandi 86.39 312 P **P 12 12 37.0 +0.6**
ISK Istanbul-Kandi 86.39 312 P **P 12 12 37.0 +0.6**
ISK Istanbul-Kandi 86.39 312 P **P 12 12 37.0 +0.6**
ARMT Armutlu 86.42 312 *e*P **P 12 12 36.4 -0.2**
AYDB Zeytinkoy-Aydi 86.56 309 *e*P **P 12 12 38.6 +1.1**
KARP Karpathos 86.62 306 P **P 12 12 38.9 +1.2**
KARP Karpathos 86.62 306 *e*P **P 12 12 39.0 +1.2**
KARP Karpathos 86.62 306 P **P 12 12 38.9 +1.2**
BODT Bodrum 86.82 308 *e*P **P 12 12 39.2 +0.6**
IZM Izmir 87.14 309 *e*P **P 12 12 41.0 +0.8**
TSUM Tsumeb 87.25 251 *e*P **P 12 12 41.8 +0.5**
SMG Samos 87.33 308 P **P 12 12 41.9 +0.9**
SMG Samos 87.33 308 *e*P **P 12 12 42.4 +1.3**
SMG Samos 87.33 308 *e*P **P 12 12 42.0 +0.9**
SMG Samos 87.33 308 P **P 12 12 41.9 +0.9**
EFOR EFORIE 87.39 315⇑ *i*P **P 12 12 42.5 +1.3**
TLCR 87.53 316⇑P **P 12 12 42.7 +0.9**
TLCR 87.53 316⇑ *i*P **P 12 12 42.7 +0.9**
KRBG Karabiga-Canak 87.54 311 *e*P **P 12 12 42.5 +0.5**
PSN Preselentsi 87.62 315⇓P **P 12 12 43.1 +0.8**
PSN Preselentsi 87.62 315⇓ *i*P **P 12 12 43.1 +0.8**
TIRR Tirgusor 87.64 315⇑P **P 12 12 43.0 +0.6**
TIRR Tirgusor 87.64 315⇑ *i*P **P 12 12 43.0 +0.6**
RKY Sarkoy-Tekirda 87.69 311 *e*P **P 12 12 43.0 +0.2**
NPS Neapolis 87.80 306 P **P 12 12 44.5 +1.1**
NPS Neapolis 87.80 306 *e*P **P 12 12 44.9 +1.5**
NPS Neapolis 87.80 306 *e*P **P 12 12 45.0 +1.5**
NPS Neapolis 87.80 306 P **P 12 12 44.5 +1.1**
NPS Neapolis 87.80 306 P **P 12 12 44.5 +1.1**
LAST Lasithi 87.89 306 P **P 12 12 45.0 +1.1**
LAST Lasithi 87.89 306 *e*P **P 12 12 45.1 +1.1**
LAST Lasithi 87.89 306 *e*P **P 12 12 45.5 +1.6**
LAST Lasithi 87.89 306 P **P 12 12 45.0 +1.1**
TLB Topalu 87.92 315⇑P **P 12 12 44.5 +0.8**
TLB Topalu 87.92 315⇑ *i*P **P 12 12 44.5 +0.8**
LPK Lapseki 87.94 311 *e*P **P 12 12 44.5 +0.6**
KIS Kishinev 87.95 318 *e*P **P 12 12 44.0 +0.2**
KIS Kishinev 87.95 318 *e*P **P 12 12 44.0 +0.2**
KIS *e* 12 13 00.0
MSAB Monastry St. A 87.96 315⇑ *i*P **P 12 12 45.0 +1.1**
CFR Carcaliu 87.99 316⇓P **P 12 12 44.7 +0.7**
CFR Carcaliu 87.99 316⇓ *i*P **P 12 12 44.7 +0.7**
GIUM Giurgiulesti 88.01 316⇑ *i*P **P 12 12 45.0 +0.9**
HARR Harsova 88.02 315⇓P **P 12 12 45.4 +1.2**
HARR Harsova 88.02 315⇓ *i*P **P 12 12 45.4 +1.2**
CHOS Chios island 88.07 309 P **P 12 12 45.2 +0.5**
CHOS Chios island 88.07 309 *e*P **P 12 12 45.8 +1.1**
CHOS Chios island 88.07 309 *e*P **P 12 12 46.0 +1.3**
CHOS Chios island 88.07 309 P **P 12 12 45.2 +0.5**
PRD Provadia 88.07 314 *e*P **P 12 12 45.0 +0.6**
PRK Paraskevi 88.07 310 P **P 12 12 45.1 +0.5**
PRK Paraskevi 88.07 310 *e*P **P 12 12 45.5 +0.9**
PRK Paraskevi 88.07 310 *e*P **P 12 12 46.0 +1.4**
PRK Paraskevi 88.07 310 P **P 12 12 45.1 +0.5**
PRK Paraskevi 88.07 310 P **P 12 12 45.1 +0.5**
SANT Santorini 88.14 307 *e*P **P 12 12 45.5 +0.5**
GELI Tayfur-Gelibol 88.16 311 *e*P **P 12 12 45.4 +0.5**
ERIK Erikli-Kesan 88.18 311 *e*P **P 12 12 45.6 +0.5**
LEOM Leova 88.21 317⇓P **P 12 12 45.9 +0.9**
LEOM Leova 88.21 317⇓ *i*P **P 12 12 45.9 +0.9**
APE Apeiranthos 88.22 308 *e*P **P 12 12 44.7 -0.7**
APE Apeiranthos 88.22 308 P **P 12 12 44.9 -0.5**
APE Apeiranthos 88.22 308 *e*P **P 12 12 45.5 +0.1**
APE Apeiranthos 88.22 308⇓ *e*P **P 12 12 45.7 +0.3**
APE pmax pmax
comp=Z,24nm,0.9s
APE Apeiranthos 88.22 308⇓ *i*P **P 12 12 45.2 -0.2**
APE Apeiranthos 88.22 308 P **P 12 12 44.9 -0.5**
EDRB Edirne 88.25 312 P **P 12 12 46.4 +1.0**
EDRB Edirne 88.25 312 P **P 12 12 46.4 +1.0**
SIGR SIGRI 88.38 310 P **P 12 12 45.5 -0.5**
SIGR SIGRI 88.38 310 *e*P **P 12 12 46.8 +0.8**
SIGR SIGRI 88.38 310 *e*P **P 12 12 47.0 +1.0**
SIGR SIGRI 88.38 310 P **P 12 12 45.5 -0.5**
SIVA Sivas 88.40 305 P **P 12 12 47.3 +1.1**
SIVA Sivas 88.40 305 *e*P **P 12 12 47.5 +1.3**
SIVA Sivas 88.40 305 P **P 12 12 47.3 +1.1**
ALN Alexandroupoli 88.58 311 P **P 12 12 47.2 +0.3**
ALN Alexandroupoli 88.58 311 *e*P **P 12 12 47.7 +0.8**
ALN Alexandroupoli 88.58 311 *e*P **P 12 12 47.5 +0.6**
ALN Alexandroupoli 88.58 311 P **P 12 12 47.2 +0.3**
ALN Alexandroupoli 88.58 311 P **P 12 12 47.2 +0.3**
AKASG Malin Array Be 88.58 321 P **P 12 12 45.8 -0.9**
comp=Z,12nm,0.6s,baz=83,slow=5.0,SNR=38
AKASG PP **PP 12 16 11.9 -4.1**
comp=Z,0.5nm,0.4s,baz=91,slow=6.6,SNR=4.7
AKASG LR LR 12 59 31.1
comp=Z,56nm,18.9s,baz=165,slow=40
AKBB Malin Array Si 88.58 321 *e*P **P 12 12 46.1 -0.6**
AKBB *e* 12 16 11.9
AKBB Malin Array Si 88.58 321 *e*P **P 12 12 46.0 -0.6**
AKBB *e*PP **PP 12 16 11.9 -4.1**
KIEV Kiev 88.59 321*c i*P **P 12 12 46.1 -0.6**
AK11 Malin Array Si 88.61 321 *e*P **P 12 12 46.2 -0.6**
SNAA Sanae 88.83 197 P **P 12 12 46.2 -1.4**
SNAA Sanae 88.83 197 P **PKKPdf 12 30 23.3 -0.5**
SNAA Sanae 88.83 197⇑ *i*P **P 12 12 46.3 -1.4**
SNAA Sanae 88.83 197*c i*P **P 12 12 46.3 -1.4**
SNAA pmax pmax
comp=Z,54nm,1.1s
GRER 88.84 316⇑ *i*P **P 12 12 50.1 +2.0**
SMTH Samothraki Isl 88.88 311 P **P 12 12 48.4 0.0**
SMTH Samothraki Isl 88.88 311 *e*P **P 12 12 48.6 +0.2**
SMTH Samothraki Isl 88.88 311 *e*P **P 12 12 49.0 +0.6**
SMTH Samothraki Isl 88.88 311 P **P 12 12 48.4 0.0**
VAM Vamos 88.97 306 P **P 12 12 48.5 -0.4**
VAM Vamos 88.97 306 *e*P **P 12 12 48.5 -0.4**
VAM Vamos 88.97 306 *e*P **P 12 12 48.5 -0.4**
VAM Vamos 88.97 306 P **P 12 12 48.5 -0.4**
VAM Vamos 88.97 306 P **P 12 12 48.5 -0.4**
LIA Limnos Island 89.03 310 P **P 12 12 49.6 +0.6**
LIA Limnos Island 89.03 310 *e*P **P 12 12 50.0 +1.0**
LIA Limnos Island 89.03 310 P **P 12 12 49.6 +0.6**
ISR Istrita 89.08 316⇑P **P 12 12 50.9 +1.6**
ISR Istrita 89.08 316⇑ *i*P **P 12 12 50.9 +1.6**
VRI Vrincioaia 89.11 316⇑P **P 12 12 50.5 +1.1**
VRI Vrincioaia 89.11 316⇑ *i*P **P 12 12 50.5 +1.1**
SZH Strazhica 89.13 314 *e*P **P 12 12 49.6 +0.1**
PLOR Plostina 89.16 316⇑P **P 12 12 51.5 +1.9**
PLOR Plostina 89.16 316⇑ *i*P **P 12 12 51.5 +1.9**
KDZ Kurdzhali 89.19 312⇓P **P 12 12 50.5 +0.7**
KDZ Kurdzhali 89.19 312⇓ *i*P **P 12 12 50.5 +0.7**
KARN Karanos 89.19 306 P **P 12 12 50.7 +0.7**
KARN Karanos 89.19 306 *e*P **P 12 12 51.3 +1.3**
KARN Karanos 89.19 306 *e*P **P 12 12 51.5 +1.5**
KARN Karanos 89.19 306 P **P 12 12 50.7 +0.7**
TESR Tescani 89.30 317⇑ *i*P **P 12 12 51.0 +0.8**
SECR 89.39 316⇓ *i*P **P 12 12 52.6 +1.9**
MLR Muntele Rosu 89.57 316⇓P **P 12 12 52.5 +0.8**
MLR Muntele Rosu 89.57 316⇓ *i*P **P 12 12 52.5 +0.8**
PTL Penteli 89.70 308 P **P 12 12 51.7 -0.6**
PTL Penteli 89.70 308 *e*P **P 12 12 52.5 +0.2**

PTL Penteli 89.70 308 P **P 12 12 51.7 -0.6**
RZN Rozhen 89.71 312 *e*P **P 12 12 53.2 +0.7**
KAVA Kavala 89.73 311 P **P 12 12 52.5 +0.2**
KAVA Kavala 89.73 311 *e*P **P 12 12 52.9 +0.6**
KAVA Kavala 89.73 311 *e*P **P 12 12 53.5 +1.2**
KAVA Kavala 89.73 311 P **P 12 12 52.5 +0.2**
ATHU Athens Univers 89.75 308 P **P 12 12 52.5 0.0**
ATHU Athens Univers 89.75 308 P **P 12 12 52.5 0.0**
ANKY Antikythira Is 89.77 306 P **P 12 12 54.2 +1.6**
ANKY Antikythira Is 89.77 306 *e*P **P 12 12 54.5 +1.9**
ANKY Antikythira Is 89.77 306 P **P 12 12 54.2 +1.6**
ATH Athens Observa 89.80 308 *e*P **P 12 12 51.0 -1.7**
AOS Alonnisos 89.88 309 *e*P **P 12 12 54.5 +1.4**
NAIG Nisos Aigina 89.94 308 *e*P **P 12 12 53.1 -0.3**
NAIG Nisos Aigina 89.94 308 *e*P **P 12 12 53.5 +0.1**
OUR Ouranopolis 90.01 311 P **P 12 12 53.9 +0.3**
OUR Ouranopolis 90.01 311 *e*P **P 12 12 54.4 +0.8**
OUR Ouranopolis 90.01 311 *e*P **P 12 12 54.5 +0.8**
OUR Ouranopolis 90.01 311 P **P 12 12 53.9 +0.3**
OUR Ouranopolis 90.01 311 P **P 12 12 53.9 +0.3**
MRKA Markates 90.03 309 P **P 12 12 52.2 -1.6**
MRKA Markates 90.03 309 *e*P **P 12 12 53.8 0.0**
MRKA Markates 90.03 309 *e*P **P 12 12 53.5 -0.3**
DOPR Dopca 90.05 316⇓ *i*P **P 12 12 54.3 +0.6**
DID Didima 90.09 308 P **P 12 12 53.7 -0.5**
DID Didima 90.09 308 *e*P **P 12 12 54.0 -0.2**
DID Didima 90.09 308 *e*P **P 12 12 54.0 -0.2**
DID Didima 90.09 308 P **P 12 12 53.7 -0.5**
PAIG Paliouri 90.17 310 *e*P **P 12 12 54.0 -0.4**
VOIR 90.18 316⇓P **P 12 12 54.8 +0.4**
VOIR 90.18 316⇓ *i*P **P 12 12 54.8 +0.4**
VLI Veliai 90.20 307 P **P 12 12 54.7 +0.1**
VLI Veliai 90.20 307 *e*P **P 12 12 54.6 +0.1**
VLI Veliai 90.20 307 *e*P **P 12 12 54.5 -0.1**
VLI Veliai 90.20 307 P **P 12 12 54.7 +0.1**
NVR Nevrokopi 90.28 312 P **P 12 12 54.8 -0.2**
NVR Nevrokopi 90.28 312 *e*P **P 12 12 55.0 0.0**
NVR Nevrokopi 90.28 312 *e*P **P 12 12 55.0 0.0**
NVR Nevrokopi 90.28 312 P **P 12 12 54.8 -0.2**
SMIA Simia 90.35 309 P **P 12 12 55.1 -0.2**
SMIA Simia 90.35 309 *e*P **P 12 12 55.5 +0.2**
SMIA Simia 90.35 309 *e*P **P 12 12 55.5 +0.2**
LTK Loutraki 90.39 308 *e*P **P 12 12 55.5 0.0**
NEO Neokhori 90.41 309 *e*P **P 12 12 55.5 -0.1**
PLG Polygyros 90.42 311 *e*P **P 12 12 58.0 +2.4**
SRS Serrai 90.44 311 *e*P **P 12 12 55.5 -0.2**
XOR Xorichti 90.44 310 *e*P P 12 12 52.0 -3.8
ARR Arges 90.45 316⇓ *i*P **P 12 12 56.4 +0.7**
LKR Lokris 90.47 309 *e*P **P 12 12 55.7 -0.2**
LKR Lokris 90.47 309 *e*P **P 12 12 55.5 -0.4**
VNA2 Neumayer--Watz 90.47 197 P **P 12 12 56.9 +1.6**
baz=90,slow=3.4
VNA2 Neumayer--Watz 90.47 197 P **PKKPbc 12 30 20.9 -4.7**
baz=322,slow=4.9
BUR04 Bucovina Ar. S 90.48 318 *e*P **P 12 12 56.5 +0.6**
SOH Sokhos 90.57 311 P **P 12 12 56.3 0.0**
SOH Sokhos 90.57 311 *e*P **P 12 12 56.5 +0.2**
SOH Sokhos 90.57 311 P **P 12 12 56.3 0.0**
SOH Sokhos 90.57 311 P **P 12 12 56.3 0.0**
HORT Hortiatis 90.72 311 *e*P **P 12 12 59.0 +1.9**
MPEP Malo Peshtene 90.72 314 *e*P **P 12 12 56.8 -0.1**
VLX Vlachokerasia 90.75 307 P **P 12 12 57.9 +0.6**
VLX Vlachokerasia 90.75 307 *e*P **P 12 12 58.3 +0.6**
VLX Vlachokerasia 90.75 307 P **P 12 12 57.9 +0.6**
AXAR Agios Charalam 90.75 309 P **P 12 12 57.2 0.0**
AXAR Agios Charalam 90.75 309 *e*P **P 12 12 57.5 +0.3**
AXAR Agios Charalam 90.75 309 *e*P **P 12 12 57.5 +0.3**
AXAR Agios Charalam 90.75 309 P **P 12 12 57.2 0.0**
DSF Desfina 90.80 309 P **P 12 12 57.4 0.0**
DSF Desfina 90.80 309 *e*P **P 12 12 57.4 0.0**
DSF Desfina 90.80 309 *e*P **P 12 12 57.5 0.0**
DSF Desfina 90.80 309 P **P 12 12 57.4 0.0**
LVZ Lovozero 90.81 339*c i*P **P 12 12 56.0 -0.8**
LVZ pmax pmax
comp=Z,8.0nm,1.0s
THE Thessaloniki 90.83 311 *e*P P 12 12 51.5 -5.9
VNA1 Neumayer--Stat 90.85 197 P **P 12 12 59.0 +2.1**
GUR Goura 90.86 308 P **P 12 12 57.9 +0.1**
GUR Goura 90.86 308 *e*P **P 12 12 58.1 +0.2**
GUR Goura 90.86 308 *e*P **P 12 12 58.0 +0.1**
GUR Goura 90.86 308 P **P 12 12 57.9 +0.1**
KNT Kendrikon 90.97 311 *e*P P 12 12 51.0 -7.1
VTS Vitosha 90.97 313⇓P **P 12 12 58.4 +0.1**
VTS Vitosha 90.97 313⇓ *i*P **P 12 12 58.4 +0.1**
VTS Vitosha 90.97 313 *e*P **P 12 12 57.8 -0.5**
VNA3 Neumayer Olymp 90.99 197 P **P 12 12 59.0 +1.3**
VNA3 Neumayer Olymp 90.99 197 P **PKKPbc 12 30 21.2 -3.1**
KLV Kalavryta, Ach 91.03 308 P **P 12 12 58.8 +0.2**
KLV Kalavryta, Ach 91.03 308 *e*P **P 12 12 59.0 +0.4**
KLV Kalavryta, Ach 91.03 308 *e*P **P 12 12 59.0 +0.4**
KLV Kalavryta, Ach 91.03 308 P **P 12 12 58.8 +0.2**
AGG Agios Georgios 91.05 309 P **P 12 12 58.1 -0.5**
AGG Agios Georgios 91.05 309 *e*P **P 12 12 58.3 -0.3**
AGG Agios Georgios 91.05 309 *e*P **P 12 12 58.0 -0.5**
AGG Agios Georgios 91.05 309 P **P 12 12 58.1 -0.5**
AGG Agios Georgios 91.05 309 P **P 12 12 58.1 -0.5**
ITM Ithomi 91.07 307 P **P 12 12 59.6 +0.1**
ITM Ithomi 91.07 307 *e*P **P 12 12 59.0 +0.3**
ITM Ithomi 91.07 307 P **P 12 12 58.6 -0.1**
KALE Kalithea 91.09 308 P **P 12 12 59.0 +0.1**
KALE Kalithea 91.09 308 *e*P **P 12 12 59.2 +0.3**
KALE Kalithea 91.09 308 *e*P **P 12 12 59.0 +0.1**
KALE Kalithea 91.09 308 P **P 12 12 59.0 +0.1**
LIT Litokhoron 91.10 310 P **P 12 12 58.1 -0.7**
LIT Litokhoron 91.10 310 *e*P **P 12 12 58.4 -0.4**
LIT Litokhoron 91.10 310 *e*P **P 12 12 59.0 +0.2**
LIT Litokhoron 91.10 310 P **P 12 12 58.1 -0.7**
LIT Litokhoron 91.10 310 P **P 12 12 58.1 -0.7**
APA Apatity 91.16 338⇑ *i*P P 12 13 02.4 +4.0
PYL PYLOS 91.17 307 *e*P **P 12 12 59.0 -0.2**
MAKR Makrakomi, Fth 91.20 309 P **P 12 12 58.7 -0.6**
MAKR Makrakomi, Fth 91.20 309 *e*P **P 12 12 59.7 +0.4**
MAKR Makrakomi, Fth 91.20 309 *e*P **P 12 12 59.5 +0.2**
MAKR Makrakomi, Fth 91.20 309 P **P 12 12 58.7 -0.6**
EFP Efpalio 91.28 308 *e*P **P 12 13 00.4 +0.8**
EFP Efpalio 91.28 308 *e*P **P 12 13 00.5 +0.8**
AMT Artemida-Makis 91.30 308 *e*P **P 12 13 01.0 +1.2**
GRG Griva 91.30 311 P **P 12 12 59.4 -0.3**
GRG Griva 91.30 311 *e*P **P 12 12 59.7 0.0**
GRG Griva 91.30 311 *e*P **P 12 12 59.5 -0.3**
GRG Griva 91.30 311 P **P 12 12 59.4 -0.3**
GRG Griva 91.30 311 P **P 12 12 59.4 -0.3**
DRO Drossia 91.36 308 P **P 12 13 01.3 +1.3**
DRO Drossia 91.36 308 *e*P **P 12 13 01.6 +1.6**
DRO Drossia 91.36 308 *e*P **P 12 13 02.0 +2.0**
THL Klokotos Trika 91.38 310 P **P 12 12 59.7 -0.3**
THL Klokotos Trika 91.38 310 *e*P **P 12 12 59.8 -0.3**
THL Klokotos Trika 91.38 310 *e*P **P 12 12 59.5 -0.5**
EVR Evrytania 91.43 309 P **P 12 13 01.1 +0.6**
EVR Evrytania 91.43 309 *e*P **P 12 13 01.1 +0.6**
EVR Evrytania 91.43 309 *e*P **P 12 13 01.0 +0.6**
EVR Evrytania 91.43 309 P **P 12 13 01.1 +0.6**
RLS Riolos of Patr 91.57 308 *e*P **P 12 13 02.5 +1.6**
KZN Kozani 91.67 310 *e*P **P 12 13 03.0 +1.5**
GZR Gura Zlata 91.74 315⇓P **P 12 13 02.6 +0.9**
GZR Gura Zlata 91.74 315⇓ *i*P **P 12 13 02.6 +0.9**
VSU Vasula 91.76 329⇑ *i*P **P 12 13 01.3 0.0**
VSU pmax pmax
comp=Z,26nm,0.7s
PDO Prodromos 91.87 309 P **P 12 13 03.2 +0.9**
PDO Prodromos 91.87 309 *e*P **P 12 13 03.5 +1.2**
PDO Prodromos 91.87 309 *e*P **P 12 13 03.5 +1.2**
DSL Palaion Diasel 92.01 309 P **P 12 13 03.9 +0.9**
DSL Palaion Diasel 92.01 309 *e*P **P 12 13 04.3 +1.2**
DSL Palaion Diasel 92.01 309 *e*P **P 12 13 04.0 +0.9**
DSL Palaion Diasel 92.01 309 P **P 12 13 03.9 +0.9**
DRGR 92.02 317⇑P **P 12 13 03.4 +0.5**
DRGR 92.02 317⇑ *i*P **P 12 13 03.4 +0.5**
NEST Nestorio 92.24 310 *e*P **P 12 13 02.5 -1.6**
VLS Valsamata 92.27 308 P **P 12 13 03.4 -0.8**
VLS Valsamata 92.27 308 *e*P **P 12 13 04.8 +0.6**
VLS Valsamata 92.27 308 *e*P **P 12 13 05.0 +0.8**
VLS Valsamata 92.27 308 P **P 12 13 03.4 -0.8**
VLS Valsamata 92.27 308 P **P 12 13 03.4 -0.8**
JAN Janina 92.28 310 *e*P **P 12 13 05.5 +1.2**
LKD2 Lefkada island 92.30 309 P **P 12 13 05.4 +1.0**
LKD2 Lefkada island 92.30 309 *e*P **P 12 13 05.6 +1.2**
LKD2 Lefkada island 92.30 309 *e*P **P 12 13 05.5 +1.0**
LKD2 Lefkada island 92.30 309 P **P 12 13 05.4 +1.0**
TRPA Tarpa 92.34 318⇓ *i*P **P 12 13 04.9 +0.6**

BZS **Buzias** **92.58 316** ⇓*i*P **P** **12 13 06.1 +0.6**
BZS **Buzias** **92.58 316** ⇓*i*P **P** **12 13 06.1 +0.6**
IGT **Igoumenitsa** **92.66 309** P **P** **12 13 06.9 +0.9**
IGT **Igoumenitsa** **92.66 309** *e*P **P** **12 13 07.0 +0.9**
IGT **Igoumenitsa** **92.66 309** P **P** **12 13 06.9 +0.9**
IGT **Igoumenitsa** **92.66 309** P **P** **12 13 06.9 +0.9**
FIA0 **FINESS Array S** **92.69 332** *e*P **P** **12 13 05.1 -0.5**
FIA0 **FINESS Array S** **92.69 332** *e*P **P** **12 13 05.1 -0.5**
FIA0 *e*PKiKP **PKiKP** **12 17 53.5 0.0**
FINES **FINESS Array B** **92.69 332** P **P** **12 13 05.1 -0.5**
comp=Z,4.8nm,0.4s,baz=120,slow=5.6,SNR=45
FINES PKiKP **PKiKP** **12 17 53.5 0.0**
comp=Z,1.3nm,0.5s,baz=103,slow=4.1,SNR=5.6
FINES LR LR 13 02 10.4
comp=Z,106nm,18.9s,baz=91,slow=40
SUW **Suwalki** **92.88 324** *e*P **P** **12 13 06.4 -0.2**
SUW **Suwalki** **92.88 324** *e*P **P** **12 13 06.5 -0.2**
KEK **Kerkira** **93.09 309** *e*P **P** **12 13 09.0 +1.0**
MSKU **Masuku** **93.49 268** P **P** **12 13 10.4 0.0**
comp=Z,14nm,0.6s,baz=86,slow=3.5,SNR=12
DIVS **Divibare** **93.52 314** ⇑*i*P **P** **12 13 10.4 +0.4**
ARA0 **ARCESS Array S** **94.46 340** *e*P **P** **12 13 13.0 -0.6**
ARA0 *e*PKiKP **PKiKP** **12 17 56.7 +0.4**
ARCES **ARCESS Array B** **94.46 340** P **P** **12 13 12.8 -0.8**
comp=Z,5.4nm,0.5s,baz=92,slow=5.4,SNR=50
ARCES PKiKP **PKiKP** **12 17 56.7 +0.4**
comp=Z,0.8nm,0.6s,baz=132,slow=1.8,SNR=3.7
ARCES LR LR 13 00 01.5
comp=Z,203nm,21.8s,baz=110,slow=38
PKSM **Moragy** **94.72 316** ⇑P **P** **12 13 15.2 -0.1**
PKSM **Moragy** **94.72 316** ⇑*i*P **P** **12 13 15.2 -0.1**
OKC **Ostrava-Krasne** **95.43 319** *e*P **P** **12 13 18.9 +0.4**
OKC **Ostrava-Krasne** **95.43 319** *e*P **P** **12 13 18.9 +0.4**
KRLC **Kraliky** **96.33 320** *e*P **P** **12 13 23.3 +0.7**
KRLC **Kraliky** **96.33 320** *e*P **P** **12 13 23.3 +0.7**
KSP **Ksiaz** **96.70 320** *e*P **P** **12 13 25.0 +0.8**
KSP **Ksiaz** **96.70 320** *e*P **P** **12 13 25.1 +0.8**
BOJS **Bojanci** **97.02 315** *i*P Pdif **P** 12 13 25.9 0.0
PERS **Pernice** **97.19 316** *i*P Pdif **P** 12 13 29.2 +2.6
VISS **Visnje** **97.33 315** *e*P Pdif **P** 12 13 30.5 +3.3
GOPC **GO Pecny, Ondr** **97.60 319** *e*P Pdif **P** 12 13 28.9 +0.5
PRU **Pruhonice** **97.77 319** *e*P Pdif **P** 12 13 29.6 +0.5
PRU *ep*P pP 12 13 41.2 -7.5
PRU AMS AMS 13 07 20.0
comp=Z,200nm,17.4s
PRU **Pruhonice** **97.77 319** *e*P Pdif 12 13 29.6 +0.5
PRU *e* 12 13 41.2
PRU MLR MLR
comp=Z,200nm,17.4s
JAVS **Javornik** **97.87 315** *i*P **P** **12 13 28.2 -1.5**
BRG **Berggiesshubel** **98.19 320** *e*P **P** **12 13 30.9 0.0**
comp=Z,3.3nm,0.9s
BRG **Berggiesshubel** **98.19 320** *e*P **P** **12 13 30.9 0.0**
BRG pmax pmax
comp=Z,3.0nm,0.9s
GEC2 **GERESS Array S** **98.26 318** *e*P **P** **12 13 31.3 -0.1**
GEC2 **GERESS Array S** **98.26 318** *e*P **P** **12 13 31.3 -0.1**
GERES **GERESS Array B** **98.26 318** P **P** **12 13 31.3 -0.1**
comp=Z,1.4nm,0.4s,baz=108,slow=3.0,SNR=13
GERES LR LR 13 03 09.0
comp=Z,110nm,20.9s,baz=85,slow=39
KHC **Kasperske Hory** **98.35 319** *e*P Pdif 12 13 32.1 +0.3
KHC *ep*P pP 12 13 43.3 -8.2
KHC AMS AMS 12 58 40.0
comp=Z,200nm,18.7s
KHC **Kasperske Hory** **98.35 319** *e*P Pdif 12 13 32.1 +0.3
KHC *e* 12 13 43.3
KHC MLR MLR
comp=Z,200nm,18.7s
HFS **Hagfors** **98.58 330** P **P** **12 13 32.4 0.0**
baz=87,slow=3.2
TBI **Tubuai** **98.86 115** *e*SS SS 12 31 54.1 +6.6
comp=Z,219nm,28.0s
TBI **Tubuai** **98.86 115** *e*LR LR 12 46 02.2
comp=Z,518nm,24.5s
NKC **Novy Kostel** **99.12 320** AMS AMS 13 04 30.0
comp=Z,100nm,17.3s
NB2 **NORSAR Subarra** **99.80 331** P **Pdif** **12 13 37.8 -0.1**
comp=Z,0.7nm,0.5s,baz=91,slow=5.1
NB200 **NORSAR Array S** **99.80 331** *e*Pdif **Pdif** **12 13 37.5 -0.4**
NOA **NORSAR Array B** **99.80 331** P **Pdif** **12 13 37.5 -0.4**
comp=Z,1.0nm,0.6s,baz=90,slow=4.7,SNR=4.0
NOA LR LR 13 03 32.2
comp=Z,54nm,21.6s,baz=20,slow=38
PPT2 **Papeete2** **99.95 109** *e*SS SS 12 32 16.9 +14
comp=Z,176nm,23.5s
PPT2 **Papeete2** **99.95 109** *e*LR LR 12 46 33.5
comp=Z,250nm,21.5s
PPT **Papeete** **99.95 109** LR LR 12 55 08.0
comp=Z,169nm,22.0s,baz=258,slow=33
CAST **Castle Rocks** **101.70 27** *e*Pdif **Pdif** **12 13 48.0 +1.6**
MLY **Manley** **102.10 25** *e*Pdif **Pdif** **12 13 49.4 +1.3**
CDF **Champ du Feu** **102.52 318** *e*P **Pdif** **12 13 50.0 -0.4**
comp=Z,3.8nm,0.6s
CDF **Champ du Feu** **102.52 318** *e*P **Pdif** **12 13 50.0 -0.4**
CDF pmax pmax
comp=Z,4.0nm,0.6s
CDF **Champ du Feu** **102.52 318** *e*P **Pdif** **12 13 50.0 -0.4**
comp=Z,3.8nm,0.6s
HINF **Hinteralfeld** **102.83 317** *e*P **Pdif** **12 13 51.6 -0.1**
HINF **Hinteralfeld** **102.83 317** *e*P **Pdif** **12 13 51.6 -0.1**
HINF **Hinteralfeld** **102.83 317** *e*P **Pdif** **12 13 51.6 -0.1**
LPG **La Plagne** **102.99 315** *e*P **Pdif** **12 13 52.3 -0.5**
LPG **La Plagne** **102.99 315** *e*P **Pdif** **12 13 52.3 -0.5**
LPG **La Plagne** **102.99 315** *e*P **Pdif** **12 13 52.3 -0.5**
LPL **La Plagne** **103.00 315** *e*P **Pdif** **12 13 52.3 -0.5**
LPL **La Plagne** **103.00 315** *e*P **Pdif** **12 13 52.3 -0.5**
LPL **La Plagne** **103.00 315** *e*P **Pdif** **12 13 52.3 -0.5**
HAU **Haudompre** **103.16 317** *e*P **Pdif** **12 13 52.9 -0.3**
HAU **Haudompre** **103.16 317** *e*P **Pdif** **12 13 52.9 -0.3**
HAU **Haudompre** **103.16 317** *e*P **Pdif** **12 13 52.9 -0.3**
ILAR **Eielson Array** **103.76 25** Pdiff **Pdif** **12 13 54.5 -1.0**
comp=Z,0.5nm,0.7s,baz=285,slow=3.9,SNR=7.5
ILAR PKiKP **PP** **12 18 12.6 -0.2**
comp=Z,0.4nm,0.7s,baz=280,slow=3.0,SNR=5.3
ILAR PKKPbc **PKKPbc** **12 29 47.7 -1.5**
comp=Z,1.0nm,0.7s,baz=122,slow=1.5,SNR=10
ILB **Eielson Array** **103.76 25** *e*Pdif **Pdif** **12 13 54.5 -1.0**
ILB *e*PKiKP **PP** **12 18 12.6 -0.2**
ILB *e*PKKPbc **PKKPbc** **12 29 47.7 -1.5**
VIVF **Saint-Julien-l** **104.49 314** *e*P **Pdif** **12 13 58.8 -0.4**
VIVF **Saint-Julien-l** **104.49 314** *e*P **Pdif** **12 13 58.8 -0.4**
VIVF **Saint-Julien-l** **104.49 314** *e*P **Pdif** **12 13 58.8 -0.4**
TOA0 **Torodi Ar. Sit** **106.94 281** *e*Pdif **Pdif** **12 14 10.6 -0.1**
TOA0 *e*PKiKP **PKiKP** **12 18 20.2 -0.2**
TOA0 *e*PKiKP **PKiKP** **12 18 20.5 +0.2**
TORD **Torodi Ar. Bea** **106.94 281** Pdiff **Pdif** **12 14 10.6 -0.1**
comp=Z,0.3nm,0.6s,baz=81,slow=5.0,SNR=5.3
TORD PKiKP **PKiKP** **12 18 20.2 -0.2**
comp=Z,1.4nm,0.5s,baz=56,slow=1.5,SNR=23
INK **Inuvik** **107.77 20** Pdiff **Pdif** **12 14 12.8 -0.3**
comp=Z,1.1nm,0.8s,baz=315,slow=5.9,SNR=5.8
INK PKiKP **PKiKP** **12 18 20.3 0.0**
comp=Z,1.1nm,0.7s,baz=196,slow=1.1,SNR=7.1
ESDC **Sonseca Array** **111.37 309** PKiKP **PKiKP** **12 18 27.5 -0.6**
comp=Z,0.3nm,0.3s,baz=94,slow=1.1,SNR=3.5
ESDC PP **PP** **12 19 07.2 -2.1**
comp=Z,0.8nm,0.5s,baz=83,slow=7.8,SNR=6.3
RKT **Rikitea** **111.75 119** *e*LR LR 12 51 57.2
comp=Z,425nm,33.5s
DBIC **Dimbokro** **112.82 274** PKiKP **PKiKP** **12 18 31.3 -0.2**
comp=Z,14nm,1.2s,baz=56,slow=1.3,SNR=5.8
DLBC **Dease Lake** **113.34 29** *e*Pdif **Pdif** **12 14 39.7 +1.5**
DLBC *e* 12 18 49.4
YKA **Yellowknife Ar** **117.53 20** PKP **PKPdf** **12 18 38.9 -0.2**
comp=Z,4.8nm,0.5s,baz=332,slow=1.6,SNR=88
YKA PKKPbc **PKKPbc** **12 29 01.5 -2.6**
comp=Z,1.7nm,0.5s,baz=120,slow=4.4,SNR=19
YKB5 **Yellowknife Ar** **117.53 20** *e*PKPdf **PKPdf** **12 18 39.0 -0.1**
YKB5 *ep*PKPdf **pPKPdf** **12 18 56.3 -3.2**
YKB5 *e*PKKPbc **PKKPbc** **12 29 01.0 -3.1**
E03A **Lebam** **121.95 39** *e*PKPdf **PKPdf** **12 18 49.5 +1.5**
E03A *ep*PKPdf **pPKPdf** **12 19 07.1 -1.3**
F04A **Amboy** **122.93 39** *e*PKPdf **PKPdf** **12 18 51.6 +1.6**
F04A *ep*PKPdf **pPKPdf** **12 19 08.3 -2.1**
LON **Longmire** **122.95 38** *ep*PKPdf pPKPdf 12 19 08.3 -2.2
I03D **Drain, OR** **123.26 42** P **PKPdf** **12 18 52.4 +1.7**
baz=123
LTY **Liberty** **123.41 37** *e*PKPdf **PKPdf** **12 18 52.1 +1.1**
LTY *ep*PKPdf **pPKPdf** **12 19 08.3 -3.1**
H04A **Detroit Lake** **123.62 41** *e*PKPdf **PKPdf** **12 18 51.8 +0.4**
H04A *ep*PKPdf **pPKPdf** **12 19 09.3 -2.5**
B08A **Colville Reser** **123.66 36** *e*PKPdf **PKPdf** **12 18 52.5 +1.1**
B08A *ep*PKPdf **pPKPdf** **12 19 09.5 -2.3**

I04A **Tendick Farm,** **123.84 42** P **PKPdf** **12 18 53.3 +1.4**
baz=124
HUMO **Hull Mountain** **123.96 43** *ep*PKPdf pPKPdf 12 19 10.6 -1.9
EDM **Edmonton** **124.06 28** *ep*PKPdf pPKPdf 12 19 10.0 -2.4
KHMM **Horse Mountain** **124.08 45** *ep*PKPdf pPKPdf 12 19 11.2 -1.7
J04D **Umpqua Nationa** **124.27 42** P **PKPdf** **12 18 54.5 +1.5**
baz=124
I05D **Terrebonne, OR** **124.31 41** P **PKPdf** **12 18 54.3 +1.5**
baz=124
M02C **Callahan** **124.50 45** P **PKPdf** **12 18 54.9 +1.6**
baz=124
D08A **Wollman Farm,** **124.55 37** *e*PKPdf **PKPdf** **12 18 54.8 +1.7**
D08A *ep*PKPdf **pPKPdf** **12 19 11.4 -2.0**
C09A **Chrisman Ranch** **124.56 36** *e*PKPdf **PKPdf** **12 18 54.5 +1.4**
C09A *ep*PKPdf **pPKPdf** **12 19 11.2 -2.3**
N02D **Trinity Center** **124.76 45** P **PKPdf** **12 18 55.7 +2.0**
baz=125
J05D **Fort Rock, OR** **124.83 42** P **PKPdf** **12 18 55.7 +1.8**
baz=125
NEW **Newport** **124.98 35** *ep*PKPdf pPKPdf 12 19 12.4 -1.9
WDC **Whiskeytown Da** **125.03 45** *ep*PKPdf pPKPdf 12 19 12.5 -2.1
K05A **Summer Lake** **125.30 42** *e*PKPdf **PKPdf** **12 18 56.9 +2.0**
K05A *ep*PKPdf **pPKPdf** **12 19 14.1 -1.2**
G08A **Pilot Rock** **125.39 39** *e*PKPdf **PKPdf** **12 18 57.3 +2.4**
F10A **Beach Ranch, E** **126.11 37** *e*PKPdf **PKPdf** **12 18 57.7 +1.5**
F10A *ep*PKPdf **pPKPdf** **12 19 14.7 -2.0**
WALA **Waterton Lakes** **126.30 33** *e*PKPdf **PKPdf** **12 18 58.4 +1.8**
WALA *ep*PKPdf **pPKPdf** **12 19 15.0 -1.9**
BSMT **Bassoo Peak** **126.52 34** P **PKPdf** **12 18 58.1 +1.0**
BSMT *ep*PKPdf **pPKPdf** **12 19 15.2 -2.3**
FCC **Fort Churchill** **126.61 14** *ep*PKPdf pPKPdf 12 19 14.2 -2.9
BMO **Blue Mountains** **126.62 39** *ep*PKPdf pPKPdf 12 19 14.9 -2.7
WVOR **Wild Horse Val** **126.92 42** *e*PKIKP **PKPdf** **12 18 55.6 -2.4**
WVOR **Wild Horse Val** **126.92 42** *e*PKPdf **PKPdf** **12 18 55.5 -2.4**
WVOR *ep*PKPdf **pPKPdf** **12 19 17.1 -1.3**
SWMT **Swartz Lake** **127.15 34** *ep*PKPdf pPKPdf 12 19 14.9 -3.7
MSO **Missoula** **127.57 35** *e*PKPdf **PKPdf** **12 19 00.1 +1.1**
MSO *ep*PKPdf **pPKPdf** **12 19 17.0 -2.4**
MSO **Missoula** **127.57 35** P **PKPdf** **12 19 00.1 +1.1**
baz=128
SLMT **Seeley Lake** **127.58 34** *ep*PKPdf pPKPdf 12 19 16.5 -3.0
FFC **Flin Flon** **127.70 21** *ep*PKPdf pPKPdf 12 19 17.0 -2.2
CHMT **Chamberlain Mo** **127.91 34** P **PKPdf** **12 19 00.8 +1.0**
CHMT *ep*PKPdf **pPKPdf** **12 19 17.4 -2.8**
MFID **Camas Ranch** **128.26 39** *ep*PKPdf pPKPdf 12 19 19.4 -1.5
HRY **Holter Researc** **128.82 34** *ep*PKPdf pPKPdf 12 19 21.1 -0.7
NVAR **Mina Array Bea** **128.89 46** PKhKP PKPpre 12 18 49.1
comp=Z,0.3nm,0.5s,baz=256,slow=2.4,SNR=3.6
NVAR PKP **PKiKP** **12 19 02.8 +0.2**
comp=Z,1.7nm,0.6s,baz=272,slow=1.8,SNR=13
NVAR SKPbc SKiKP 12 22 17.9 -15
comp=Z,3.0nm,0.7s,baz=270,slow=4.4,SNR=10
NVAR PKKPbc PKKPdf 12 28 19.1 -51
comp=Z,0.4nm,0.7s,baz=114,slow=4.0,SNR=2.4
NV01 **Mina Array Sit** **128.89 46** *e*PKPdf **PKPdf** **12 18 58.9 -3.1**
NV01 *ep*PKPdf **pPKPdf** **12 19 21.1 -1.2**
LRM **Limekiln Ridge** **128.99 35** *ep*PKPdf pPKPdf 12 19 20.8 -1.5
HLID **Hailey** **129.07 39** *ep*PKPdf pPKPdf 12 19 21.2 -1.3
HLID **Hailey** **129.07 39** P **PKPdf** **12 19 03.9 +1.9**
baz=129
EGMT **Eagleton** **129.12 31** *ep*PKPdf pPKPdf 12 19 20.2 -2.1
EGMT **Eagleton** **129.12 31** P **PKPdf** **12 19 03.3 +1.4**
baz=129
DLMT **Dillon** **129.17 36** *ep*PKPdf pPKPdf 12 19 21.3 -1.3
B19A **Brinkman Farms** **129.25 31** P **PKPdf** **12 19 03.5 +1.4**
baz=129
LCCM **Lewis and Clar** **129.31 35** P **PKPdf** **12 19 04.0 +1.6**
MCMT **McKenzie Canyo** **129.33 36** P **PKPdf** **12 19 04.7 +2.1**
MCMT *ep*PKPdf **pPKPdf** **12 19 21.6 -1.4**
BOZ **Bozeman (W)** **129.56 35** *e*PKIKP **PKPdf** **12 19 04.6 +1.7**
BOZ **Bozeman (W)** **129.56 35** *e*PKPdf **PKPdf** **12 19 04.6 +1.7**
BOZ *ep*PKPdf **pPKPdf** **12 19 21.6 -1.7**
C19A **Slack Wire Ran** **129.67 31** P **PKPdf** **12 19 04.5 +1.5**
baz=130
B20A **Solberg Farm,** **129.73 30** P **PKPdf** **12 19 04.5 +1.4**
baz=130
A21A **Bergtoll Ranch** **129.89 29** P **PKPdf** **12 19 04.5 +1.2**
baz=130
ELK **Elko** **129.96 42** *ep*PKPdf pPKPdf 12 19 23.0 -1.3
D19A **Cripps Ranch,** **130.12 32** P **PKPdf** **12 19 05.3 +1.5**
baz=130
GRAC **Grapevine Rang** **130.15 47** P **PKPdf** **12 19 05.3 +1.2**
baz=130
C20A **Veseth Ranch,** **130.22 31** P **PKPdf** **12 19 05.8 +1.8**
baz=130
DAC **Darwin (Calif)** **130.28 48** *e*PKIKP **PKPdf** **12 19 07.2 +2.6**
DAC **Darwin (Calif)** **130.28 48** *e*PKPdf **PKPdf** **12 19 07.2 +2.6**
DAC *ep*PKPdf **pPKPdf** **12 19 23.9 -1.1**
DAC *e*SKPbc **SKPbc** **12 22 24.2 +2.5**
A22A **Carney Farms,** **130.37 28** P **PKPdf** **12 19 05.8 +1.6**
baz=130
MPMC **Manual Prospec** **130.44 49** P **PKPdf** **12 19 07.4 +2.4**
baz=130
EDW2 **Edwards Air Fo** **130.52 50** P **PKPdf** **12 19 07.7 +2.7**
baz=130
D20A **Manuel Ranch,** **130.56 31** P **PKPdf** **12 19 06.5 +1.8**
baz=130
GCMT **Greycliff** **130.57 34** *e*PKPdf **PKPdf** **12 19 06.8 +2.0**
GCMT *e*SKPbc **SKPab** **12 22 24.7 +2.3**
C21A **Desert Coulee** **130.60 30** P **PKPdf** **12 19 06.4 +1.8**
baz=130
R11A **Troy Canyon, C** **130.85 45** *ep*PKPdf **pPKPdf** **12 19 24.8 -1.2**
R11A *e*SKPbc **SKPab** **12 22 25.7 +1.8**
LKWY **Lake** **130.90 35** *e*PKIKP **PKPdf** **12 19 09.9 +4.3**
LKWY **Lake** **130.90 35** *e*PKPdf **PKPdf** **12 19 09.9 +4.3**
LKWY *ep*PKPdf **pPKPdf** **12 19 25.8 -0.3**
IMW **Indian Meadow** **130.98 36** *e*SKPbc **SKPab** **12 22 26.8 +2.4**
TPNV **Topopah Spring** **130.99 47** *e*SKPbc **SKPab** **12 22 26.4 +1.9**
TPNV **Topopah Spring** **130.99 47** P **PKPdf** **12 19 07.9 +2.0**
baz=131
BFSC **Mount Baldy Ra** **131.01 51** P **PKPdf** **12 19 07.7 +1.7**
baz=131
HVU **Hansel Valley** **131.04 40** *ep*PKPdf **pPKPdf** **12 19 25.0 -1.2**
HVU *e*SKPbc **SKPab** **12 22 27.1 +2.6**
FXWY **Fox Creek** **131.08 37** *e*PKPdf **PKPdf** **12 19 08.1 +2.1**
FXWY *ep*PKPdf **pPKPdf** **12 19 24.3 -2.0**
B23A **Brockton** **131.17 28** P **PKPdf** **12 19 07.3 +1.5**
baz=131
MOOW **Moose Ponds** **131.18 36** *e*PKPdf **PKPdf** **12 19 08.4 +2.2**
MOOW *ep*PKPdf **pPKPdf** **12 19 24.9 -1.7**
MOOW *e*SKPbc **SKPab** **12 22 27.6 +2.5**
RLMT **Red Lodge** **131.20 34** *ep*PKPdf **pPKPdf** **12 19 25.3 -1.2**
RLMT *e*SKPbc **SKPab** **12 22 27.2 +2.0**
TPAW **Teton Pass** **131.21 37** *ep*PKPdf **pPKPdf** **12 19 25.8 -0.9**
TPAW *e*SKPbc **SKPab** **12 22 28.1 +2.7**
GSC **Goldstone, Bar** **131.25 49** *ep*PKPdf **pPKPdf** **12 19 26.6 -0.1**
GSC *e*SKPbc **SKPab** **12 22 27.9 +2.3**
GSC **Goldstone, Bar** **131.25 49** P **PKPdf** **12 19 08.7 +2.3**
baz=131
A24A **Westby** **131.30 27** P **PKPdf** **12 19 08.2 +2.2**
baz=131
BGU **Big Grassy Mou** **131.32 41** *e*PKPdf **PKPdf** **12 19 08.8 +2.4**
BGU *ep*PKPdf **pPKPdf** **12 19 25.5 -1.3**
REDW **Red Top Meadow** **131.34 37** *ep*PKPdf **pPKPdf** **12 19 25.6 -1.2**
REDW *e*SKPbc **SKPab** **12 22 28.3 +2.4**
SNOW **Snow King Moun** **131.34 37** *ep*PKPdf pPKPdf 12 19 25.8 -1.1
LOHW **Long Hollow** **131.34 37** *ep*PKPdf **pPKPdf** **12 19 25.4 -1.5**
LOHW *e*SKPbc **SKPab** **12 22 28.3 +2.4**
E21A **Keefer Ranch,** **131.47 31** P **PKPdf** **12 19 08.7 +2.3**
baz=131
DGMT **Dagmar** **131.54 28** *e*SKPbc **SKPab** **12 22 28.2 +1.9**
DGMT **Dagmar** **131.54 28** P **PKPdf** **12 19 08.3 +1.9**
baz=131
PLCA **Paso Flores** **131.62 182** PKP **PKPdf** **12 19 08.3 +1.4**
comp=Z,3.1nm,0.6s,baz=279,slow=1.7,SNR=6.7
PLCA SKPbc **SKPab** **12 22 27.8 +0.8**
comp=Z,3.6nm,0.9s,baz=180,slow=3.0,SNR=3.5
G20A **Bridger** **131.72 33** P **PKPdf** **12 19 08.9 +1.9**
baz=132
LAO **LASA Array** **131.81 31** *ep*PKPdf **pPKPdf** **12 19 25.9 -1.5**
LAO *e*SKPbc **SKPab** **12 22 30.0 +2.5**
DUG **Dugway, Tooele** **131.84 42** *ep*PKPdf **pPKPdf** **12 19 26.8 -1.0**
DUG *e*SKPbc **SKPab** **12 22 29.8 +1.8**
DUG **Dugway, Tooele** **131.84 42** P **PKPdf** **12 19 09.0 +1.6**
baz=132
HWUT **Hardware Ranch** **131.90 39** *ep*PKPdf **pPKPdf** **12 19 26.8 -1.1**
HWUT *e*SKPbc **SKPab** **12 22 30.7 +2.4**
F21A **Absaloka Mine,** **131.92 32** P **PKPdf** **12 19 09.3 +2.0**
baz=132
SHPR **Sheep Range** **131.97 47** *ep*PKPdf **pPKPdf** **12 19 27.6 -0.6**
SHPR *e*SKPbc **SKPab** **12 22 30.7 +2.0**
C24A **Savage** **132.10 29** P **PKPdf** **12 19 09.0 +1.5**
baz=132

E22A **Miles City** **132.11 31** P **PKPdf** **12 19 09.0 +1.4**
baz=132
PFO **Pinyon Flats O** **132.17 51** *e*PKIKP **PKPdf** **12 19 06.2 -2.0**
PFO **Pinyon Flats O** **132.17 51** *e*PKPdf **PKPdf** **12 19 06.2 -2.0**
PFO *ep*PKPdf **pPKPdf** **12 19 27.9 -0.7**
PFO *e*SKPbc **SKPab** **12 22 31.0 +1.4**
A26A **Wade Farm, Ken** **132.19 26** P **PKPdf** **12 19 09.3 +1.7**
baz=132
H20A **Greybull** **132.31 34** P **PKPdf** **12 19 09.9 +1.8**
baz=132
GMRC **Granite Mounta** **132.32 49** P **PKPdf** **12 19 11.4 +3.0**
baz=132
BAR **Barrett** **132.34 52** *e*SKPbc **SKPab** **12 22 33.8 +3.6**
BELC **Belle Mtn. Jos** **132.37 51** P **PKPdf** **12 19 11.2 +2.6**
baz=132
F22A **Rosebud** **132.40 32** P **PKPdf** **12 19 10.0 +1.8**
baz=132
BW06 **Boulder Array** **132.46 37** *ep*PKPdf pPKPdf 12 19 27.6 -1.4
J19A **Crowheart** **132.46 36** P **PKPdf** **12 19 10.6 +2.1**
baz=132
PD31 **Pinedale Array** **132.46 37** *e*PKPdf **PKPdf** **12 19 08.6 0.0**
PD31 *ep*PKPdf **pPKPdf** **12 19 28.3 -0.7**
PD31 *e*SKPbc **SKPab** **12 22 31.5 +0.8**
PDAR **Pinedale Array** **132.46 37** PKP **PKPdf** **12 19 08.6 0.0**
comp=Z,2.3nm,0.6s,baz=59,slow=1.5,SNR=17
PDAR SKPab **SKPab** **12 22 31.5 +0.8**
comp=Z,2.4nm,0.7s,baz=7.4,slow=2.1,SNR=8.5
JLU **Jordanelle** **132.51 40** *e*PKPpre PKPpre 12 19 01.2
JLU *ep*PKPdf pPKPdf 12 19 28.0 -1.2
I20A **Worland** **132.57 35** P **PKPdf** **12 19 10.7 +2.1**
baz=132
CBKC **Canebrake** **132.59 52** *e*PKPpre PKPpre 12 19 02.5
FLU **Fool Peak** **132.69 42** *e*PKPpre PKPpre 12 19 01.3
MPU **Maple Canyon** **132.71 41** *e*PKPpre PKPpre 12 19 04.3
MPU *e*PKPdf **PKiKP** **12 19 11.8 +1.5**
MPU *ep*PKPdf pPKPdf 12 19 28.2 -1.3
MPU *e*SKPbc **SKiKP** **12 22 36.2 -4.0**
G22A **Birney** **132.75 32** P **PKPdf** **12 19 10.8 +1.9**
baz=133
E24A **Baker** **132.85 30** P **PKPdf** **12 19 11.4 +2.4**
baz=133
D25A **Fairfield** **132.90 28** P **PKPdf** **12 19 11.9 +2.9**
baz=133
SCHQ **Schefferville** **132.92 355** PKP **PKPdf** **12 19 09.4 +0.6**
comp=Z,11nm,0.5s,baz=337,slow=1.3,SNR=44
SCHQ SKPab **SKPab** **12 22 32.3 +0.4**
comp=Z,5.0nm,0.6s,baz=43,slow=4.9,SNR=6.3
YUH **Yuha Desert** **132.94 52** *e*PKPdf **PKPdf** **12 19 11.3 +1.8**
J20A **Shoshoni** **132.97 35** P **PKPdf** **12 19 11.5 +2.0**
baz=133
C26A **Wahner Farm, P** **132.97 27** P **PKPdf** **12 19 10.5 +1.3**
baz=133
MVU **Marysvale** **133.10 43** *ep*PKPdf **pPKPdf** **12 19 30.4 +0.1**
MVU *e*SKPbc **SKPab** **12 22 35.0 +1.4**
MSU **Marysvale** **133.12 43** *e*SKPbc **SKPab** **12 22 35.2 +1.5**
I21A **Big Trails, Te** **133.13 34** P **PKPdf** **12 19 11.1 +1.4**
baz=133
G23A **Biddle** **133.24 32** P **PKPdf** **12 19 11.1 +1.3**
baz=133
KNB **Kanab** **133.41 45** *e*PKIKP **PKPdf** **12 19 14.1 +3.6**
KNB **Kanab** **133.41 45** *e*PKPdf **PKPdf** **12 19 14.1 +3.6**
KNB *ep*PKPdf **pPKPdf** **12 19 30.9 0.0**
KNB *e*SKPbc **SKPab** **12 22 35.8 +0.9**
ULM **Lac du Bonnet** **133.51 20** PKP **PKPdf** **12 19 10.0 0.0**
comp=Z,5.1nm,0.6s,baz=49,slow=1.0,SNR=13
ULM SKPbc **SKPbc** **12 22 33.0 +0.6**
comp=Z,11nm,0.6s,baz=333,slow=4.2,SNR=17
ULM **Lac du Bonnet** **133.51 20** PKP **PKPdf** **12 19 10.0 0.0**
ULM *ep*PKPdf **pPKPdf** **12 19 28.3 -2.1**
ULM SKPbc **SKPbc** **12 22 33.0 +0.6**
E26A **Carlson Angus** **133.80 28** P **PKPdf** **12 19 12.4 +1.6**
baz=134
J22A **Midwest** **133.84 34** P **PKPdf** **12 19 11.0 -0.1**
baz=134
H24A **Dirks Ranch, A** **133.99 32** P **PKPdf** **12 19 11.6 +0.4**
baz=134
K22A **Casper** **134.30 35** *e*PKPdf **PKPdf** **12 19 12.8 +0.8**
N20A **Spence Gulch,** **134.38 38** P **PKPdf** **12 19 13.7 +1.4**
baz=134
RSSD **Black Hills** **134.68 32** *ep*PKPdf **pPKPdf** **12 19 30.7 -2.4**
RSSD *e*SKPbc **SKPab** **12 22 38.7 -1.5**
K23A **Bowen Ranch, D** **134.74 34** P **PKPdf** **12 19 13.8 +1.0**
baz=135
O20A **White River Ci** **134.81 39** *ep*PKPdf pPKPdf 12 19 33.3 -0.1
O20A **White River Ci** **134.81 39** P **PKPdf** **12 19 14.2 +1.2**
baz=135
G27A **Dupree** **134.85 29** P **PKPdf** **12 19 14.2 +1.4**
baz=135
I25A **Rochford** **134.91 32** P **PKPdf** **12 19 13.4 +0.3**
baz=135
WUAZ **Wupatki** **135.15 46** *ep*PKPdf pPKPdf 12 19 34.0 -0.2
PV09 **Paradox Valley** **135.16 41** *e*PKPdf **PKPdf** **12 19 13.4 -0.4**
PV10 **Paradox Valley** **135.29 42** *e*PKPdf **PKPdf** **12 19 15.9 +1.9**
PV10 *ep*PKPdf **pPKPdf** **12 19 33.4 -1.1**
PV05 **Paradox Valley** **135.41 42** *e*PKPdf **PKPdf** **12 19 16.0 +1.7**
PV05 *ep*PKPdf **pPKPdf** **12 19 33.3 -1.4**
PV05 *e*SKPbc **SKiKP** **12 22 46.3 +0.5**
F29A **Eureka** **135.49 27** P **PKPdf** **12 19 15.1 +1.2**
baz=135
G28A **Parade** **135.56 29** P **PKPdf** **12 19 14.8 +0.7**
baz=135
PV01 **Paradox Valley** **135.73 42** *e*PKPdf **PKPdf** **12 19 15.9 +1.0**
PV01 *ep*PKPdf **pPKPdf** **12 19 35.1 -0.2**
N23A **Red Feather La** **135.74 37** *e*PKPdf **PKPdf** **12 19 16.6 +1.7**
N23A *ep*PKPdf **pPKPdf** **12 19 34.5 -0.7**
N23A *e*SKPbc **SKPab** **12 22 45.3 +0.2**
PHWY **Pilot Hill** **135.77 36** *e*PKPdf **PKPdf** **12 19 12.6 -2.3**
PHWY *ep*PKPdf **pPKPdf** **12 19 36.5 +1.1**
PHWY *e*SKPbc **SKiKP** **12 22 50.7 +4.1**
SMCO **Snowmass** **136.16 39** *ep*PKPdf **pPKPdf** **12 19 34.1 -2.1**
SMCO *e*SKPbc **SKPbc** **12 22 44.6 +2.8**
I28A **Midland** **136.23 30** P **PKPdf** **12 19 16.1 +0.8**
baz=136
MVCO **Mesa Verde** **136.28 43** *ep*PKPdf **pPKPdf** **12 19 34.6 -1.7**
MVCO *e*SKPbc **SKiKP** **12 22 52.9 +5.2**
G30A **Faulkton** **136.34 27** P **PKPdf** **12 19 16.7 +1.2**
baz=136
W18A **Petrified Fore** **136.51 46** *e*PKPdf **PKPdf** **12 19 19.4 +3.0**
ISCO **Idaho Springs** **136.62 38** *e*PKIKP **PKPdf** **12 19 18.9 +2.3**
ISCO **Idaho Springs** **136.62 38** *e*PKPdf **PKPdf** **12 19 18.9 +2.3**
ISCO *e*SKPbc **SKPab** **12 22 49.3 +0.3**
BRSD **Miller** **136.95 28** *e*PKPdf **PKPdf** **12 19 19.0 +2.3**
BRSD *ep*PKPdf **pPKPdf** **12 19 36.2 -0.9**
BRSD *e*SKPbc **SKPbc** **12 22 45.8 +2.2**
EYMN **Ely** **136.95 19** *ep*PKPdf **pPKPdf** **12 19 35.8 -1.2**
EYMN *e*SKPbc **SKPbc** **12 22 44

MNTX	Cornudas Mount	141.38	48	ePKPdf	PKPdf	12 19 25.9	+0.8	
MNTX				epPKPdf	pPKPdf	12 19 43.7	-1.8	
R32A	Long Quarter, baz=141	141.53	34	P	PKPpre	12 19 20.8		
U30A	WK&E Inc. Balk baz=142	141.71	38	P	PKPpre	12 19 21.8		
JFWS	Jewell Farm	141.79	21	epPKPdf	pPKPdf	12 19 45.1	-0.8	
MSTX	Muleshoe	141.96	43	epPKPdf	pPKPdf	12 19 44.0	-2.6	
X28A	Dimmitt baz=142	142.01	41	P	PKPpre	12 19 22.9		
R33A	Olander Ranch, baz=142	142.01	33	P	PKPpre	12 19 22.3		
Q34A	Chapman baz=142	142.12	32	P	PKPpre	12 19 22.8		
AMTX	Amarillo	142.12	41	epPKPdf	pPKPdf	12 19 44.8	-2.1	
KSU1	Kansas State U	142.15	31	ePKPpre	PKPpre	12 19 22.8		
KSU1				epPKPdf	pPKPdf	12 19 44.2	-2.5	
KSU1	Kansas State U baz=142	142.15	31	P	PKPpre	12 19 21.8		
T32A	Huddler Ranch, baz=142	142.29	35	P	PKPpre	12 19 23.1		
R34A	Isabella, Hill baz=142	142.42	32	P	PKPpre	12 19 23.7		
S33A	Kaszmaul Farm, baz=142	142.52	34	P	PKPpre	12 19 23.8		
PKME	Peaks-Kenny Pk	142.62	356	epPKPdf	pPKPdf	12 19 44.9	-2.4	
Q35A	Mercer Eighty, baz=142	142.63	31	P	PKPpre	12 19 23.4		
T33A	Patterson Ranc baz=143	142.75	35	P	PKPpre	12 19 24.1		
Q36A	Arnold C. Orve baz=143	142.84	30	P	PKPpre	12 19 24.6		
CPUP	Villa Florida	142.91	203	ePKIKP	PKPdf	12 19 25.5	-2.5	
CPUP	Villa Florida	142.91	203	ePKPdf	PKPdf	12 19 25.5	-2.5	
S34A	Willow Spring baz=143	142.93	33	P	PKPpre	12 19 25.0		
128A	Castleberry Fa baz=143	142.94	44	P	PKPdf	12 19 27.0	-1.0	
W31A	Holland Ranch, baz=143	143.03	39	P	PKPbc	12 19 26.0	+1.0	
Z29A	Hungry Hill Ra baz=143	143.09	43	P	PKPbc	12 19 26.8	+1.6	
228A	UT Block 9, Go baz=143	143.15	45	P	PKPbc	12 19 26.9	+1.5	
V32A	Arapaho baz=143	143.22	37	P	PKPdf	12 19 27.1	-1.2	
U33A	Lingo Farm, Me baz=143	143.28	35	P	PKPbc	12 19 26.4	+0.9	
R36A	Gordon, Harris baz=143	143.30	31	P	PKPbc	12 19 25.7	+0.2	
129A	Stewart Farms, baz=143	143.36	44	P	PKPbc	12 19 27.3	+1.4	
S35A	Otter Creek Ra baz=143	143.37	32	P	PKPbc	12 19 26.0	+0.3	
X31A	McDonald Ranch baz=143	143.37	39	P	PKPbc	12 19 27.1	+1.2	
T34A	McClaskey Farm baz=143	143.38	34	P	PKPbc	12 19 26.0	+0.2	
Q37A	Longview Farm, baz=143	143.40	29	P	PKPbc	12 19 26.1	+0.4	
Z30A	Sanderson Ranc baz=143	143.47	42	P	PKPbc	12 19 27.4	+1.1	
W32A	Sentinel baz=143	143.50	38	P	PKPbc	12 19 27.4	+1.1	
V33A	Lossen Ranch, baz=144	143.60	36	P	PKPbc	12 19 27.1	+0.7	
U34A	Anderson Ranch baz=144	143.60	35	P	PKPbc	12 19 27.3	+0.8	
Y31A	Rekieta Farm, baz=144	143.61	41	P	PKPdf	12 19 28.0	-1.0	
R37A	Teagarden Farm baz=144	143.65	30	P	PKPbc	12 19 26.4	-0.2	
S36A	Lake Cedric, C baz=144	143.72	32	P	PKPbc	12 19 27.0	+0.3	
229A	Bryant Ranch, baz=144	143.78	45	P	PKPdf	12 19 28.9	-0.5	
T35A	Sooner Cattle baz=144	143.83	33	P	PKPbc	12 19 27.5	+0.4	
TX31	Lajitas Ar. Si	143.85	50	ePKPdf	PKPbc	12 19 28.6	+1.1	
LTX	Lajitas	143.85	50	ePKIKP	PKPdf	12 19 29.1	-0.6	
LTX	Lajitas	143.85	50	ePKPdf	PKPdf	12 19 29.1	-0.6	
LTX				eSKPbc	SKiKP	12 23 03.8	+0.5	
TXAR	Lajitas Array comp=Z,7.2nm,0.6s,baz=262,slow=1.3,SNR=25	143.85	50	PKP	PKPdf	12 19 29.1	-0.6	
TXAR	comp=Z,1.9nm,0.7s,baz=232,slow=1.0,SNR=2.3			SKPbc	SKiKP	12 23 03.8	+0.5	
329A	Wagon Wheel Ra baz=144	143.93	45	P	PKPdf	12 19 29.2	-0.6	
X32A	Elmer baz=144	143.94	39	P	PKPdf	12 19 28.7	-0.9	
W33A	Caddo, Fort Co baz=144	143.95	37	P	PKPdf	12 19 29.1	-0.5	
130A	Snyder baz=144	143.99	43	P	PKPdf	12 19 29.1	-0.7	
V34A	Guthrie baz=144	144.04	36	P	PKPdf	12 19 28.9	-0.8	
T36A	Boggs Farm, Ca baz=144	144.06	33	P	PKPbc	12 19 28.4	+0.6	
Z31A	Sharp Cattle R baz=144	144.09	41	P	PKPdf	12 19 29.4	-0.5	
Y32A	R-V Farms, Ver baz=144	144.11	40	P	PKPdf	12 19 29.3	-0.6	
230A	Sterling City baz=144	144.31	44	P	PKPdf	12 19 30.4	0.0	
W34A	Bridge Creek, baz=144	144.31	37	P	PKPdf	12 19 29.7	-0.5	
131A	Roby baz=144	144.33	42	P	PKPdf	12 19 30.3	-0.1	
X33A	Lawton baz=144	144.34	38	P	PKPbc	12 19 29.5	+0.7	
429A	Davenport Ranc baz=144	144.48	46	P	PKPdf	12 19 30.9	+0.2	
V35A	Meyer Ranch, C baz=144	144.48	35	P	PKPdf	12 19 30.0	-0.4	
529A	Stev Forest Ra baz=144	144.51	47	P	PKPdf	12 19 30.8	0.0	
Z32A	Haskell baz=144	144.53	41	P	PKPdf	12 19 31.0	+0.3	
330A	Mertzon baz=144	144.54	45	P	PKPdf	12 19 30.5	-0.3	
Y33A	Hilltop Ranch, baz=144	144.62	39	P	PKPdf	12 19 30.4	-0.3	
X34A	Smith Ranch, M baz=145	144.71	37	P	PKPdf	12 19 31.1	+0.2	
231A	Bronte baz=145	144.82	43	P	PKPdf	12 19 31.7	+0.4	
430A	Baggett Ranch, baz=145	144.86	46	P	PKPdf	12 19 31.9	+0.5	
ABTX	Abilene, Hawle baz=145	144.86	42	P	PKPdf	12 19 31.9	+0.6	
W35A	Tecumseh baz=145	144.89	36	P	PKPdf	12 19 31.3	+0.1	
MMNY	Mt. Morris Dam	144.95	7	ePKPbc	PKPab	12 19 30.4	0.0	
TUL1	Leonard baz=145	144.96	34	P	PKPdf	12 19 31.5	+0.2	
Z33A	Whitaker Ranch baz=145	145.00	40	P	PKPdf	12 19 32.2	+0.8	
331A	San Angelo baz=145	145.12	44	P	PKPdf	12 19 32.5	+0.7	
SFIN	Lafayette baz=145	145.13	19	P	PKPdf	12 19 31.6	+0.2	
530A	J-C Ranch, Com baz=145	145.14	47	P	PKPdf	12 19 33.5	+1.7	
Y34A	Reagan Ranch, baz=145	145.19	38	P	PKPdf	12 19 32.7	+0.9	
W36A	Wetumka baz=145	145.27	35	P	PKPdf	12 19 32.4	+0.6	
232A	Coleman baz=145	145.31	43	P	PKPab	12 19 33.4	+1.3	
133A	Hamilton Ranch baz=145	145.34	41	P	PKPab	12 19 33.7	+1.5	
431A	Sonora baz=145	145.36	45	P	PKPab	12 19 33.6	+1.2	
X35A	Drake baz=145	145.36	37	P	PKPab	12 19 32.7	+0.5	
HRV	Adam Dziewonsk	145.47	359	epPKPdf	pPKPdf	12 19 48.6	-3.7	
Z34A	Collier Ranch, baz=145	145.49	39	P	PKPab	12 19 33.6	+0.9	
332A	Millersview baz=146	145.55	44	P	PKPab	12 19 34.5	+1.4	
X36A	Centrahoma baz=146	145.61	36	P	PKPab	12 19 33.7	+0.6	
BINY	Binghamton	145.66	4	epPKPdf	pPKPdf	12 19 49.5	-3.3	
531A	Rocksprings baz=146	145.70	46	P	PKPab	12 19 34.9	+1.3	
233A	Rising Star baz=146	145.72	42	P	PKPab	12 19 34.9	+1.2	
W37A	Quinton baz=146	145.73	34	P	PKPab	12 19 34.0	+0.4	
432A	Menard baz=146	145.81	44	P	PKPab	12 19 34.7	+0.7	
134A	White-Moore Ra baz=146	145.91	40	P	PKPab	12 19 35.4	+1.2	
Z35A	Perchaven, San baz=146	145.92	38	P	PKPab	12 19 34.9	+0.6	
JCT	Junction City	146.04	45	epPKPdf	pPKPdf	12 19 52.3	-1.5	
JCT	Junction City baz=146	146.04	45	P	PKPab	12 19 35.8	+0.9	
BRYW	Bryant College	146.06	359	epPKPdf	pPKPdf	12 19 50.2	-3.2	
333A	Richland Sprin baz=146	146.10	43	P	PKPab	12 19 35.7	+0.6	
631A	Perdido Creek baz=146	146.10	47	P	PKPab	12 19 35.8	+0.6	
X37A	Clayton baz=146	146.16	35	P	PKPab	12 19 35.3	+0.2	
532A	Rocksprings baz=146	146.17	45	P	PKPab	12 19 36.0	+0.6	
234A	Clairette baz=146	146.23	41	P	PKPab	12 19 36.2	+0.7	
BDFB	Brasilia comp=Z,55nm,0.5s,baz=123,slow=2.9,SNR=73	146.24	226	PKPbc	PKPbc	12 19 35.8	+0.5	
OLIL	Olney	146.24	22	epPKPdf	pPKPdf	12 19 51.5	-2.3	
W38A	Poteau baz=146	146.28	33	P	PKPab	12 19 35.6	0.0	
135A	Vickery Place, baz=146	146.34	40	P	PKPab	12 19 36.6	+0.7	
433A	Art baz=146	146.37	44	P	PKPab	12 19 36.2	+0.1	
ACSO	Alum Creek Sta	146.46	14	epPKPdf	pPKPdf	12 19 51.9	-2.3	
334A	Lometa baz=146	146.59	42	P	PKPab	12 19 37.6	+0.6	
632A	Uvalde baz=147	146.61	46	P	PKPab	12 19 37.7	+0.6	
WHTX	Lake Whitney,	146.68	40	epPKPdf	pPKPdf	12 19 54.0	-0.7	
WHTX	Lake Whitney, baz=147	146.68	40	P	PKPab	12 19 38.2	+1.0	
533A	Kerrville baz=147	146.82	45	P	PKPab	12 19 37.8	-0.1	
ODNJ	Ogdensburg	146.86	3	ePKPdf	PKPbc	12 19 36.5	+0.3	
ODNJ				epPKPdf	pPKPdf	12 19 54.3	-0.5	
732A	Laxson Ranch, baz=147	146.92	48	P	PKPab	12 19 38.6	+0.3	
PBMO	Poplar Bluff	146.96	27	ePKPbc	PKPbc	12 19 37.1	+0.4	
PBMO				epPKPdf	pPKPdf	12 19 53.3	-1.8	
PAL	Palisades	146.97	2	ePKP2	PKPbc	12 19 36.6	+0.1	
PAL	Palisades	146.97	2	ePKPbc	PKPbc	12 19 36.6	+0.1	
Z37A	Pogue Cattle C baz=147	147.00	37	P	PKPab	12 19 38.0	-0.4	
633A	Saathoff Ranch baz=147	147.08	46	P	PKPab	12 19 38.7	-0.2	
USIN	University of	147.08	22	epPKPdf	pPKPdf	12 19 54.1	-1.1	
832A	Faith Ranch, C baz=147	147.16	48	P	PKPab	12 19 39.3	0.0	
335A	Moody baz=147	147.16	41	P	PKPab	12 19 38.5	-0.7	
MIAR	Mount Ida	147.18	33	epPKPdf	pPKPdf	12 19 54.7	-0.8	
534A	Blanco baz=147	147.23	44	P	PKPbc	12 19 38.7	+1.0	
BRNJ	Basking Ridge	147.26	3	ePKPbc	PKPbc	12 19 38.3	+0.9	
236A	Katherine and baz=147	147.27	40	P	PKPab	12 19 39.2	-0.4	
LUPA	Lehigh Univers	147.30	4	ePKPbc	PKPbc	12 19 38.1	+0.7	
137A	Heron Place, G baz=147	147.34	38	P	PKPab	12 19 39.8	0.0	
733A	Divot King Ran baz=147	147.41	47	P	PKPab	12 19 39.8	-0.4	
336A	Riesel baz=147	147.47	41	P	PKPab	12 19 39.8	-0.6	
833A	Chaparral WMA, baz=148	147.56	48	P	PKPab	12 19 40.6	-0.3	
UALR	University of	147.66	31	ePKPbc	PKPbc	12 19 39.5	+0.9	
UALR				epPKPdf	pPKPdf	12 19 55.8	-0.5	
138A	Matatall Enter baz=148	147.70	37	P	PKPab	12 19 41.1	-0.1	
237A	Washetta, Mont baz=148	147.72	39	P	PKPab	12 19 40.8	-0.5	
MVL	Millersville	147.82	5	ePKPbc	PKPbc	12 19 39.5	+0.6	
GNAR	Gosnell	147.82	27	ePKPbc	PKPab	12 19 40.5	-1.1	
535A	Dale baz=148	147.85	43	P	PKPbc	12 19 40.7	+1.4	
734A	La Parita Cree baz=148	147.87	46	P	PKPab	12 19 41.3	-0.7	
436A	Wall Ranch, Ga baz=148	147.90	42	P	PKPab	12 19 41.2	-0.9	
UTMT	University of	148.01	25	ePKPbc	PKPbc	12 19 40.8	+1.3	
UTMT				epPKPdf	pPKPdf	12 19 57.2	+0.4	
933A	Laredo baz=148	148.04	49	P	PKPab	12 19 42.1	-0.7	
139A	Bunkhouse Ranc baz=148	148.10	36	P	PKPab	12 19 41.5	-1.3	
635A	Leesville baz=148	148.10	45	P	PKPab	12 19 41.9	-1.1	
337A	Centerville baz=148	148.13	40	P	PKPab	12 19 42.2	-0.8	
238A	Jacksonville baz=148	148.14	38	P	PKPab	12 19 41.9	-1.1	
HALT	Halls	148.17	26	epPKPdf	pPKPdf	12 19 57.0	-0.1	
834A	Tilden baz=148	148.29	47	P	PKPab	12 19 42.8	-1.0	
437A	Phantom Ranch, baz=148	148.29	41	P	PKPab	12 19 42.7	-1.0	
SDMD	Soldier's Deli	148.35	6	ePKPbc	PKPbc	12 19 40.5	+0.2	
735A	Kenedy baz=148	148.40	45	P	PKPab	12 19 43.1	-1.1	
338A	Crockett baz=148	148.47	39	P	PKPab	12 19 42.8	-1.5	
239A	Gary baz=148	148.52	37	P	PKPbc	12 19 42.7	+1.7	
636A	Smothers Creek baz=148	148.54	44	P	PKPab	12 19 43.6	-1.1	
934A	Benavides baz=149	148.60	48	P	PKPab	12 19 44.0	-1.1	
WVT	Waverly	148.62	24	epPKPdf	pPKPdf	12 19 58.5	+0.7	
537A	Green Hill Far baz=149	148.66	42	P	PKPab	12 19 43.6	-1.6	
835A	Beeville baz=149	148.72	46	P	PKPab	12 19 44.3	-1.2	
438A	Sam Houston St baz=149	148.77	40	P	PKPbc	12 19 43.5	+1.8	
736A	Circle Diamond baz=149	148.86	44	P	PKPab	12 19 44.8	-1.2	
339A	Huntington baz=149	148.95	38	P	PKPab	12 19 44.5	-1.8	
HKT	Hockley	149.07	42	epPKPdf	pPKPdf	12 20 01.0	+2.3	
538A	Harpers Horsep baz=149	149.11	41	P	PKPab	12 19 45.0	-2.0	
439A	Center Grove, baz=149	149.19	39	P	PKPbc	12 19 44.8	+2.1	
340A	Bronson baz=149	149.30	37	P	PKPbc	12 19 44.6	+1.6	
OXF	Oxford	149.30	28	epPKPdf	pPKPdf	12 20 00.6	+1.6	
TZTN	Tazewell	149.76	18	ePKPbc	PKPbc	12 19 44.7	+0.6	
URVA	University of	150.08	8	ePKPbc	PKPbc	12 19 45.8	+1.1	
SWET	Sewanee	150.16	22	ePKPbc	PKPbc	12 19 45.3	+0.2	
SWET				epPKPab	pPKPab	12 20 02.0	-9.0	
TKL	Tuckaleechee C	150.50	19	ePKIKP	PKPbc	12 19 46.0	+0.2	
TKL	Tuckaleechee C	150.50	19	ePKPbc	PKPbc	12 19 46.0	+0.2	
VBMS	Vicksburg	150.60	32	ePKPbc	PKPbc	12 19 47.5	+1.4	
VBMS				epPKPab	pPKPab	12 20 04.4	-8.4	
KMSC	Kings Mountain baz=152	151.69	15	P	PKPbc	12 19 49.0	+0.4	
JSC	Jenkinsville	152.52	16	ePKIKP	PKPbc	12 19 51.3	+0.8	
JSC				e		12 20 00.9		
JSC	Jenkinsville	152.52	16	ePKPbc	PKPbc	12 19 51.2	+0.8	
JSC				ePKPab	PKPab	12 20 00.8	0.0	
JSC				e		12 20 08.4		
GOGA	Godfrey	152.66	20	ePKPab	PKPab	12 20 02.0	+0.5	
GOGA				e		12 20 08.5		
SIV	San Ignacio baz=186,slow=2.2	153.69	206	PKP	PKPdf	12 19 45.6	-0.1	
SIV	baz=151,slow=4.4			PKPbc	PKiKP	12 19 54.3	+0.7	
LPAZ	La Paz comp=Z,2.0nm,0.9s,baz=83,slow=1.0,SNR=6.3	155.60	191	PKP	PKPdf	12 19 49.0	-0.1	
LPAZ				PKPbc	PKPbc	12 19 59.1		
LPAZ	comp=Z,4.4nm,0.6s,baz=208,slow=5.4,SNR=15			PKPab	PKPab	12 20 16.2	+1.1	
LPAZ	comp=Z,13nm,0.6s,baz=156,slow=4.1,SNR=15			PP	PP	12 23 52.0	+1.7	
CMIG	comp=Z,3.4nm,0.9s,baz=158,slow=4.3,SNR=7.8 Matias Romero	156.44	65	PKP	PKPdf	12 19 48.8	-0.6	
TEIG	comp=Z,2.8nm,0.6s,baz=270,slow=3.0,SNR=7.8 Tepich	160.49	49	PKPab	PKPab	12 20 34.7	-0.9	
	comp=Z,9.7nm,1.0s,baz=214,slow=3.0,SNR=3.1							
SAML	Samuel	160.84	210	ePKPab	PKPab	12 20 37.9	+0.8	
PTGA	Pitinga comp=Z,22nm,0.6s,baz=122,slow=5.5,SNR=28	164.76	237	PKPab	PKPab	12 20 55.1	+0.6	
PTGA	Pitinga	164.76	237	ePKPdf	PKPdf	12 20 00.5	+1.9	
PTGA				PKPab	PKPab	12 20 55.1	+0.6	
SDV	Santo Domingo	177.77	298	ePKPdf	PKPdf	12 20 05.6	+0.3	
SDV				epPKPdf	pPKPdf	12 20 24.6	-1.4	
SDV				ePKPab	PKPab	12 21 53.5	+1.0	

IDC ***18*** *12:03:23.5±1.0,36°.34N×22°.25E, h0km, mb4.0/15, mb1 4.1/21,mb1mx4.0/35,mbtmp3.9/21, ML3.5/6, MS2.6/2, Ms1 2.6/2,ms1mx2.3/39, Error ellipse: s-maj=20.1km s-min=17.2km az=29.0*

ISCJB ***18*** *12:03:23.0±0.6,36°.03N±0°.03×22°.22E±0°.03, h15km±4km, mb4.0/14, Error ellipse: s-maj=5.6km s-min=3.4km az=137.9*

PDG ***18*** *12:03:24.1±0.5,36°.17N×22°.08E, h6km±1km, ML4.0/10, Error ellipse: s-maj=9.0km s-min=3.0km az=90.0*

THE ***18*** *12:03:24.3,36°.14N×22°.41E, h0km±2km, ML4.2/6, Error ellipse: s-maj=2.5km s-min=0.8km az=213.0*

CSEM ***18*** *12:03:24.2±0.4,36°.08N×22°.27E, h10km, MD3.7, Error ellipse: s-maj=10.9km s-min=4.8km az=42.0*

ATH ***18*** *12:03:25.4,36°.15N×22°.46E, h20km, MD3.7/24, ML3.8*

ISC 18 12:03:23.8±1.2, 36°.11N±0°.04×22°.30E±0°.03, h8km±8km, n174,σ1°38/223, mb4.0/15, 6C-10D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	Kithira	0.62	74	P	Pg	12 03 34.3	-1.4
KYTH	Kithira	0.62	74	ePB	Pg	12 03 35.3	-0.4
VLI	Veliai	0.79	40	P	Pg	12 03 38.2	-0.9
VLI				S	Sg	12 03 48.3	-1.1
VLI	Veliai	0.79	40	ePN	Pg	12 03 38.6	-0.5
VLI	Veliai	0.79	40	P	Pg	12 03 38.2	-0.9
ANKY	Antikythira Is	0.85	107	P	Pg	12 03 39.0	-1.1
ANKY				S	Sg	12 03 50.5	-0.6
ANKY	Antikythira Is	0.85	107	ePN	Pg	12 03 40.1	0.0
ANKY	Antikythira Is	0.85	107	P	Pg	12 03 39.0	-1.1
PYL	PYLOS	0.90	330	P	Pg	12 03 41.1	-0.1
PYL				S	Sn	12 03 55.9	-0.1
PYL	PYLOS	0.90	330	ePB	Pn	12 03 42.7	-0.1
PYL	PYLOS	0.90	330	P	Pg	12 03 41.1	-0.1
PYL	PYLOS	0.90	330	ePb	Pn	12 03 42.7	-0.1
PYL				S	Sn	12 03 55.9	-0.1
ITM	Ithomi	1.11	344	P	Pg	12 03 44.8	-0.3
ITM				S	Sn	12 04 01.5	+0.4
ITM	Ithomi	1.11	344	ePN	Pn	12 03 46.1	+0.5
ITM				eSN	Sn	12 04 02.5	+1.4
ITM	Ithomi	1.11	344	P	Pg	12 03 44.8	-0.3
ITM	Ithomi	1.11	344	ePn	Pn	12 03 46.1	+0.5
ITM				S	Sn	12 04 01.5	+0.4
ITM				eSn	Sn	12 04 02.5	+1.4
VLX	Vlachokerasia	1.26	3	P	Pg	12 03 46.8	-1.1
VLX				S	Sn	12 04 05.0	+0.1
VLX	Vlachokerasia	1.26	3	ePB	Pg	12 03 47.4	-0.5
VLX	Vlachokerasia	1.26	3	P	Pg	12 03 46.8	-1.1
VLX	Vlachokerasia	1.26	3	ePb	Pg	12 03 47.4	-0.5
VLX				S	Sn	12 04 05.0	+0.1
KARN	Karanos	1.49	118	ePN	Pn	12 03 51.6	+0.7
KARN	Karanos	1.49	118	ePn	Pn	12 03 51.6	+0.7
AMT	Artemida-Makis	1.49	342	P	Pn	12 03 51.5	+0.5
AMT				S	Sg	12 04 13.5	+1.6
AMT	Artemida-Makis	1.49	342	ePN	Sg	12 03 52.9	+0.4
AMT				eSN	Sg	12 04 14.5	+2.6
AMT	Artemida-Makis	1.49	342	P	Pn	12 03 51.5	+0.5
AMT	Artemida-Makis	1.49	342	ePn	Pg	12 03 52.9	+0.4
AMT				S	Sg	12 04 13.5	+1.6
DID	Didima	1.58	28	P	Pn	12 03 52.1	0.0
DID				S	Sb	12 04 14.4	+1.0
DID	Didima	1.58	28	ePN	Pn	12 03 52.5	+0.4
DID				eSN	Sn	12 04 13.2	+0.5
DID	Didima	1.58	28	ePn	Pn	12 03 52.5	+0.4
DID				eSn	Sn	12 04 13.2	+0.5
DID				S	Sb	12 04 14.4	+1.0
VAM	Vamos	1.70	114	P	Pn	12 03 53.3	-0.4
VAM	Vamos	1.70	114	ePN	Pn	12 03 54.8	+1.1
VAM	Vamos	1.70	114	P	Pn	12 03 53.3	-0.4
VAM	Vamos	1.70	114	ePn	Pn	12 03 54.8	+1.1
GUR	Goura	1.82	1	P	Pn	12 03 56.0	+0.5
GUR	Goura	1.82	1	ePB	Pn	12 03 56.8	+1.3
GUR	Goura	1.82	1	P	Pn	12 03 56.0	+0.5
GUR	Goura	1.82	1	ePb	Pn	12 03 56.8	+1.3
DRO	Drossia	1.90	346	ePN	Pb	12 03 59.3	+0.6
DRO	Drossia	1.90	346	ePn	Pb	12 03 59.3	+0.6
NAIG	Nisos Aigina	1.90	30	ePN	Pb	12 03 58.7	0.0
NAIG	Nisos Aigina	1.90	30	ePn	Pb	12 03 58.7	0.0
KLV	Kalavryta, Ach	1.93	356	P	Pn	12 03 57.6	+0.6
KLV	Kalavryta, Ach	1.93	356	ePB	Pb	12 03 58.5	-0.8
KLV	Kalavryta, Ach	1.93	356	P	Pn	12 03 57.6	+0.6
KLV	Kalavryta, Ach	1.93	356	ePb	Pb	12 03 58.5	-0.8
LTK	Loutraki	1.98	15	ePN	Pb	12 04 00.0	-0.1
LTK				eSN	Sn	12 04 23.5	+0.9
LTK	Loutraki	1.98	15	ePn	Pb	12 04 00.0	-0.1
LTK				eSn	Sn	12 04 23.5	+0.9
RLS	Riolos of Patr	2.05	341	ePN	Pg	12 04 02.5	-0.7
ATH	Athens Observa	2.17	31	ePB	Pb	12 04 09.9	+0.7
ATH				eSN	Sn	12 04 27.6	+0.3
ATH	Athens Observa	2.17	31	ePb	Pn	12 04 00.9	+0.7
ATH				eSn	Sn	12 04 27.6	+0.3
IDI	Anoyia 14nm,0.3s,baz=294,slow=13,SNR=26	2.26	111	Pn	Pn	12 04 03.5	+2.0
IDI				LR	LR	12 05 11.6	
	comp=Z,161nm,19.0s,baz=284,slow=45						
KALE	Kalithea	2.28	357	ePN	Pb	12 04 04.7	-0.5
KALE	Kalithea	2.28	357	ePn	Pb	12 04 04.7	-0.5
DSF	Desfina	2.30	4	ePN	Pb	12 04 04.4	-1.2
DSF	Desfina	2.30	4	ePn	Pb	12 04 04.4	-1.2
PTL	Penteli	2.30	32	ePB	Pn	12 04 03.1	+1.1
PTL				eSN	Sn	12 04 30.7	+0.2
PTL	Penteli	2.30	32	ePn	Pn	12 04 03.1	+1.1
PTL				eSn	Sn	12 04 30.7	+0.2
SIVA	Sivas	2.32	117	ePB	Pn	12 04 03.1	+0.9
SIVA	Sivas	2.32	117	ePb	Pn	12 04 03.1	+0.9
EFP	Efpalio	2.33	352	ePB	Pb	12 04 06.1	0.0
VLS	Valsamata	2.47	327	ePN	Pb	12 04 07.9	-0.6
SANT	Santorini	2.56	83	ePN	Pn	12 04 06.3	+0.6
SANT	Santorini	2.56	83	ePn	Pn	12 04 06.3	+0.6
LKR	Lokris	2.59	12	ePN	Pn	12 04 07.7	+1.7
LKR				eSN	Sn	12 04 39.6	+1.9
LKR	Lokris	2.59	12	ePn	Pn	12 04 07.7	+1.7
LKR				eSn	Sn	12 04 39.6	+1.9
PDO	Prodromos	2.64	341	ePB	Pb	12 04 10.8	-0.5
AXAR	Agios Charalam	2.66	6	ePN	Pn	12 04 09.4	+2.4
AXAR	Agios Charalam	2.66	6	ePn	Pn	12 04 09.4	+2.4
APE	Apeiranthos	2.77	69	ePN	Pn	12 04 09.5	+1.0
APE	Apeiranthos	2.77	69	ePn	Pn	12 04 09.5	+1.0
MRKA	Markates	2.78	21	ePN	Pn	12 04 10.2	+1.6
MRKA				eSN	Sn	12 04 43.0	+0.6
MRKA	Markates	2.78	21	ePn	Pn	12 04 10.2	+1.6
MRKA				eSn	Sn	12 04 43.0	+0.6
NPS	Neapolis	2.82	107	ePN	Pn	12 04 09.8	+0.6
NPS	Neapolis	2.82	107	ePn	Pn	12 04 09.8	+0.6
EVR	Evrytania	2.83	352	ePN	Pn	12 04 12.1	+2.8
EVR				eSN	Sn	12 04 45.7	+2.1

KARP	Karpathos	3.99	97	*e*PN	Pn	12 04 27.4	+2.2
KARP				*e*SN	Sn	12 05 11.2	-1.0
KARP	Karpathos	3.99	97	*e*PN	Pn	12 04 27.4	+2.2
KARP				*e*Sn	Sn	12 05 11.2	-1.0
SIGR	SIGRI	4.18	41	*e*PN	Pn	12 04 28.9	+1.0
SIGR	SIGRI	4.18	41	*e*PN	Pn	12 04 28.9	+1.0
KZN	Kozani	4.21	354	*e*PN	Pn	12 04 30.7	+2.4
KZN				*e*SN	Sn	12 05 19.9	+2.3
KZN	Kozani	4.21	354	*e*PN	Pn	12 04 30.7	+2.4
PLG	Polygyros	4.35	12	*e*PN	Pn	12 04 32.1	+1.9
PLG	Polygyros	4.35	12	*e*PN	Pn	12 04 32.1	+1.9
NEST	Nestorio	4.41	347	*e*PN	Pn	12 04 34.3	+3.3
OUR	Ouranopolis	4.42	17	*e*PN	Pn	12 04 33.1	+2.0
OUR	Ouranopolis	4.42	17	*e*PN	Pn	12 04 33.1	+2.0
PRK	Paraskevi	4.44	44	*e*PN	Pn	12 04 32.4	+1.1
PRK	Paraskevi	4.44	44	*e*PN	Pn	12 04 32.4	+1.1
HORT	Hortiatis	4.52	8	*e*PN	Pn	12 04 35.6	+3.0
HORT	Hortiatis	4.52	8	*e*PN	Pn	12 04 35.6	+3.0
ARG	Arkhangelos	4.71	87	*e*PN	Pn	12 04 36.9	+1.8
ARG	Arkhangelos	4.71	87	*e*PN	Pn	12 04 36.9	+1.8
SOH	Sokhos	4.77	10	*e*PN	Pn	12 04 39.4	+3.4
GRG	Griva	4.84	1	*e*PN	Pn	12 04 39.3	+2.4
GRG	Griva	4.84	1	*e*PN	Pn	12 04 39.3	+2.4
KNT	Kendrikon	5.06	5	*e*PN	Pn	12 04 42.5	+2.5
KNT	Kendrikon	5.06	5	*e*PN	Pn	12 04 42.5	+2.5
NVR	Nevrokopi	5.37	13	*e*PN	Pn	12 04 46.9	+2.7
NVR	Nevrokopi	5.37	13	*e*PN	Pn	12 04 46.9	+2.7
ULC	Ulcinj	6.31	339	*e*PN	Pn	12 04 57.4	+0.3
ULC				*e*Sn	Sn	12 06 07.9	-1.4
ULC	Ulcinj	6.31	339	*e*PN	Pn	12 04 57.4	+0.3
ULC				*e*Sn	Sn	12 06 07.9	-1.4
DRME	Dracevica, Mon	6.53	339	⇑*i*PN	Pn	12 05 00.3	+0.2
DRME				*e*Sn	Sn	12 06 13.8	-1.0
DRME	Dracevica, Mon	6.53	339	⇑*i*PN	Pn	12 05 00.3	+0.2
DRME				*e*Sn	Sn	12 06 13.8	-1.0
BARS	Barje	6.71	357	*e*PN	Pn	12 05 03.0	+0.5
BUM	Brajici-Budva	6.72	338	⇓*i*PN	Pn	12 05 02.7	-0.1
BUM				*e*Sn	Sn	12 06 17.5	-2.0
BUM	Brajici-Budva	6.72	338	⇓*i*PN	Pn	12 05 02.7	-0.1
BUM				*e*Sn	Sn	12 06 17.5	-2.0
PDG	Podgorica	6.74	340	⇓*i*PN	Pn	12 05 03.9	+1.0
PDG				*e*Sn	Sn	12 06 18.1	-1.7
TTG	Podgorica	6.74	340	⇓*i*PN	Pn	12 05 03.9	+1.0
TTG				*e*Sn	Sn	12 06 18.1	-1.7
HCY	Herceg Novi	6.98	336	⇓*i*PN	Pn	12 05 05.6	-0.7
HCY				*e*Sn	Sn	12 06 23.6	-2.2
HCY	Herceg Novi	6.98	336	⇓*i*PN	Pn	12 05 05.6	-0.7
HCY				*e*Sn	Sn	12 06 23.6	-2.2
BEY	Berane	7.00	345	⇓*i*PN	Pn	12 05 07.2	+0.5
BEY				*e*Sn	Sn	12 06 25.6	-0.9
IVA	Berane	7.00	345	⇓*i*PN	Pn	12 05 07.2	+0.5
IVA				*e*Sn	Sn	12 06 25.6	-0.9
NKME	Niksic	7.13	340	⇑*i*PN	Pn	12 05 08.8	+0.4
NKME				*e*Sn	Sn	12 06 27.8	-1.8
NKME	Niksic	7.13	340	⇑*i*PN	Pn	12 05 08.8	+0.4
NKME				*e*Sn	Sn	12 06 27.8	-1.8
BRY	Bratogost	7.38	338	*e*PN	Pn	12 05 11.6	-0.3
BRY				*e*Sn	Sn	12 06 34.3	-1.5
BRY	Bratogost	7.38	338	*e*PN	Pn	12 05 11.6	-0.3
BRY				*e*Sn	Sn	12 06 34.3	-1.5
PLE	Pljevlja	7.55	344	⇓*i*PN	Pn	12 05 14.6	+0.4
PLE				*e*Sn	Sn	12 06 38.5	-1.5
PLE	Pljevlja	7.55	344	⇓*i*PN	Pn	12 05 14.6	+0.4
PLE				*e*Sn	Sn	12 06 38.5	-1.5
UPM	Unac-Piva	7.55	341	⇑*i*PN	Pn	12 05 15.0	+0.7
UPM				*e*Sn	Sn	12 06 38.1	-2.0
UPM	Unac-Piva	7.55	341	⇑*i*PN	Pn	12 05 15.0	+0.7
UPM				*e*Sn	Sn	12 06 38.1	-2.0
STON	Ston	7.63	334	*e*PN	Pn	12 05 14.4	-0.7
STON				Sn	Sn	12 06 34.3	-7.4
STON	Ston	7.63	334	*e*PN	Pn	12 05 14.4	-0.7
GRUS	Gruza	7.86	352	*e*PN	Pn	12 05 17.1	-1.3
DIVS	Divibare	8.17	348	*e*PN	Pn	12 05 20.9	-1.8
TEKS	Tekeris	8.69	347	*e*PN	Pn	12 05 28.5	-1.2
MLR	Muntele Rosu	9.76	15	Pn	Pn	12 05 43.3	-1.3
	0.0nm,0.3s,baz=198,slow=20,SNR=1.7						
MLR				LR	LR	12 10 20.0	
	comp=Z,24nm,20.1s,baz=161,slow=44						
UDBI	Udbina	9.77	331	*e*Pn	Pn	12 05 45.5	+0.8
UDBI	Udbina	9.77	331	*e*Pn	Pn	12 05 45.4	+0.8
NVLJ	Novalja	10.16	328	*e*Pn	Pn	12 05 50.1	+0.2
NVLJ				Sn	Sn	12 07 36.5	-7.5
NVLJ	Novalja	10.16	328	*e*Pn	Pn	12 05 50.1	+0.2
EIL	Elat	12.41	118	Pn	Pn	12 06 23.6	+2.8
	0.5nm,0.3s,baz=263,slow=8.1,SNR=3.4						
GERES	GERESS Array B	14.20	336	Pn	Pn	12 06 43.9	-1.4
	0.2nm,0.3s,baz=148,slow=15,SNR=3.6						
AKASG	Malin Array Be	15.41	17	Pn	Pn	12 06 59.0	-2.4
	0.5nm,0.3s,baz=209,slow=12,SNR=5.4						
BRG	Berggiesshubel	15.94	340	*e*(P)	P	12 07 17.5	+5.6
	3.7nm,1.0s						
KBZ	Khabaz	17.50	58	P	Pn	12 07 29.0	+0.9
	0.2nm,0.3s,baz=236,slow=24,SNR=8.4						
ESDC	Sonseca Array	21.00	288	P	P	12 08 07.3	-0.5
	0.4nm,0.4s,baz=84,slow=11,SNR=2.9						
HFS	Hagfors	24.67	350	P	P	12 08 43.4	-1.4
	3.6nm,0.6s,baz=155,slow=11,SNR=12						
FINES	FINESS Array B	25.46	4	P	P	12 08 50.5	-1.5
	7.3nm,0.6s,baz=159,slow=12,SNR=26						
NB2	NORSAR Subarra	25.93	348	P	P	12 08 55.5	-0.7
	comp=Z,2.3nm,0.8s,baz=161,slow=10						
NB2	NORSAR Subarra	25.93	348	P	P	12 08 55.5	-0.7
	comp=Z,2.3nm,0.8s,SNR=5.0						
NOA	NORSAR Array B	25.93	348	P	P	12 08 55.1	-1.2
	comp=Z,0.9nm,0.6s,baz=156,slow=10.0,SNR=8.0						
EKA	Eskdalemuir Ar	25.93	326	P	P	12 08 55.8	-0.5
	comp=Z,2.9nm,0.7s,baz=125,slow=8.7,SNR=14						
TORD	Torodi Ar. Bea	29.43	224	P	P	12 09 30.0	+2.0
	comp=Z,0.6nm,0.9s,baz=32,slow=8.6,SNR=3.8						
ARCES	ARCESS Array B	33.52	2	P	P	12 10 01.6	-1.9
	comp=Z,2.8nm,0.6s,baz=188,slow=8.3,SNR=19						
MKAR	Makanchi Array	45.20	57	P	P	12 11 41.9	+0.7
	comp=Z,2.1nm,0.5s,baz=266,slow=9.5,SNR=3.3						
ZALV	Zalesovo Beam	46.04	47	P	P	12 11 47.8	+0.2
	comp=Z,4.3nm,0.3s,baz=267,slow=9.2,SNR=5.8						
SCHQ	Schefferville	60.94	319	P	P	12 13 37.2	+0.1
	comp=Z,1.4nm,0.7s,baz=53,slow=4.6,SNR=4.3						
INK	Inuvik	74.33	351	P	P	12 15 00.9	-0.3
	comp=Z,1.0nm,0.6s,baz=18,slow=6.4,SNR=6.9						
YKA	Yellowknife Ar	75.81	341	P	P	12 15 09.9	0.0
	comp=Z,0.6nm,0.6s,baz=31,slow=5.5,SNR=5.9						
ILAR	Eielson Array	79.09	355	P	P	12 15 27.9	-0.4
	comp=Z,0.7nm,0.8s,baz=353,slow=5.1,SNR=8.7						
KSRS	Korea Array	79.52	51	P	P	12 15 31.5	+0.4
	comp=Z,0.5nm,0.4s,baz=306,slow=4.6,SNR=3.8						
PDAR	Pinedale Array	90.05	327	P	P	12 16 24.8	+0.4
	comp=Z,0.2nm,0.3s,baz=50,slow=7.5,SNR=3.1						

DDA 18 12:06:18.9, 40.76N×34.87E, h3km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTKT	Corum	0.15	206	*i* P	Pg	12 06 22.3	+0.2
CTKT				*i* S	Sg	12 06 24.4	+0.1
HAVZ	Havza	0.71	63	*i* P	Pg	12 06 32.9	+0.2
HAVZ				*i* S	Sb	12 06 43.5	-0.8
CDAG	Cicekdag	1.20	199	*i* P	Pn	12 06 42.7	0.0
CDAG				*i* S	Sn	12 06 59.4	-0.2

IDC 18 12:19:20.8±4.1, 2.86S×102.03E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/24, mbtmp3.6/4, Error ellipse: s-maj=163.9km s-min=27.2km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	35.81	121	P	P	12 26 22.0	-0.3
	0.3nm,0.5s,baz=303,slow=9.0,SNR=8.6						
SONM	Songino Array	50.63	4	P	P	12 28 23.0	+1.2
	0.3nm,0.5s,baz=187,slow=8.8,SNR=2.9						
MKAR	Makanchi Array	52.42	343	P	P	12 28 34.5	-0.6
	0.3nm,0.7s,baz=147,slow=8.4,SNR=5.2						
ZALV	Zalesovo Beam	58.40	348	P	P	12 29 17.4	-0.6
	1.3nm,0.5s,baz=153,slow=6.3,SNR=2.8						

WEL 18 12:29:40.3±0.5, 36.59S×177.14E, h5km, ML3.6/4, 1C, Error ellipse: s-maj=3.5km s-min=3.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYRZ	Mayor Island	1.00	226	⇑P*	Pg	12 29 58.6	-1.0
MYRZ				S*	Sg	12 30 11.3	-1.4
KUZ	Kuaotunu	1.16	262	P*	Pg	12 30 01.3	-1.2
KUZ				S*	Sg	12 30 15.6	-1.9
KUZ				AML	AML	12 30 16.6	
HAZ	Te Kaha	1.28	157	P*	Pg	12 30 02.3	-2.5
OPRZ	Ohinepanea	1.34	200	P*	Pn	12 30 03.1	-2.6
TGRZ	Tauranga	1.34	211	P*	Pn	12 30 03.6	-2.1
GRZ	Great Barrier	1.40	283	PN	Pn	12 30 06.1	-0.4
GRZ				SN	Sb	12 30 24.2	-0.9
MKAZ	Moumakai	1.67	251	PN	Pn	12 30 09.7	-0.5
MKAZ				SN	Sn	12 30 30.5	-1.6
MKAZ				AML	AML	12 30 30.8	
ABAZ	Army Bay	1.86	269	PN	Pb	12 30 14.2	-0.6
ABAZ				SN	Sb	12 30 38.5	+0.2

GUC 18 12:35:06.5±0.7, 34.69S×72.08W, h12km±2km, ML3.8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.77	114	*e*P	Pg	12 35 20.9	-0.5
NICH				*e*S	Sg	12 35 31.4	-0.1
TALC	Talca	0.79	152	*e*P	Pg	12 35 21.1	-0.8
LNV	Longovilo	0.92	37	*e*P	Pg	12 35 23.6	-0.8
LNCH	Linares	1.22	161	*e*P	Pn	12 35 28.3	-1.0
LNCH				*e*S	Sb	12 35 44.0	-1.1
CHCH	Chadas Angostu	1.41	58	*e*P	Pn	12 35 31.5	-0.5
COCH	Cobquecura	1.55	202	*e*P	Pn	12 35 32.5	-1.3
COCH				*e*S	Sn	12 35 53.2	-0.6
SJCH	San Jose de Ma	1.78	54	*e*P	Pn	12 35 36.8	-0.3
SJCH				*e*S	Sn	12 35 59.9	+0.1
CLCH	Cerro Calan	1.82	45	*e*P	Pn	12 35 37.6	-0.2
CLCH				*e*S	Sn	12 36 01.2	+0.3
CLCH				AML	AML	12 36 08.6	
	comp=E,2μm,0.9s						
PEL	Peldehue	1.93	37	*e*P	Pn	12 35 39.6	+0.4
PEL				*e*S	Sn	12 36 04.2	+0.7
PEL				AML	AML	12 36 13.0	
	comp=N,2μm,0.2s						
ROCH	El Roble	1.94	28	*e*P	Pn	12 35 40.1	+0.6
ROCH				AML	AML	12 36 15.3	
	comp=E,1μm,0.5s						

*MOS **18** 12:49:18.8±0.9, 56.32N×157.95W, h58km, mb4.8/20, Error ellipse: s-maj=11.5km s-min=5.7km az=78.6*
*ISCJB **18** 12:49:19.2±0.3, 56.26N±0.02×157.85W±0.03, h63km±2km, mb4.3/68, Error ellipse: s-maj=4.0km s-min=2.6km az=154.8*
*IDC **18** 12:49:19.4±0.7, 56.33N×157.95W, h51km±4km, mb3.9/27, mb1 4.1/30, mb1mx4.0/36, mbtmp4.2/30, MS3.4/3, Ms1 3.4/3, ms1mx2.8/35, Error ellipse: s-maj=18.5km s-min=8.8km az=16.0*
*BJI **18** 12:49:19.1, 56.40N×157.80W, h60km, mb4.6/6, mB4.7/3, Ms4.6/1, Ms7 4.2/1*
*NEIC **18** 12:49:19.1, 55.97N×157.64W, h16km, mb4.4/36, ML4.3(AEIC), After AEIC.*

ISC 18 12:49:19.7±0.5, 56.16N±0.05×157.81W±0.04, h56km±4km, h55km:pP-P, n407, σ1°28/434, mb4.3/68, MS3.2/3, 86C-68D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	Chignik	0.36	293	P	Pn	12 49 29.7	-0.2
PLBL	Peulik Blue Cr	1.64	19	P	Pn	12 49 47.7	+1.6
SDPT	Sand Point	1.71	243	P	Pn	12 49 46.7	-0.5
SDPT				S	Sn	12 50 10.1	+2.2
PLK3	Peulik 3	1.75	28	P	Pn	12 49 49.8	+2.1
PLK3				S	Sn	12 50 12.4	+3.5
PLK5	Peulik 5	1.91	15	P	Pn	12 49 51.5	+1.6
PLWL	Peulik Whale M	2.05	22	P	Pn	12 49 53.0	+1.2
KABR	Katmai Barrier	2.51	37	P	Pn	12 49 59.2	+1.0
KCE	Katmai Mt Cerb	2.53	33	P	Pn	12 50 00.5	+2.1
KELA	Mount Kelaz	2.55	25	P	Pn	12 49 59.8	+1.1
KAKN	Katmai Knife C	2.61	34	P	Pn	12 50 01.2	+1.7
KAKN				S	Sn	12 50 35.4	+5.3
KVTA	Katmai Vly 10	2.61	30	P	Pn	12 50 01.2	+1.7
OHAK	Old Harbor	2.71	65	P	Pn	12 50 00.5	-0.3
OHAK				S	Sn	12 50 33.0	+0.7
DT1	Dutton Round H	2.75	249	P	Pn	12 50 00.8	-0.4
KDAK	Kodiak Island	3.29	58	P	Pn	12 50 08.6	-0.1
KDAK				S	Sn	12 50 47.9	+1.4
KDAK	Kodiak Island	3.29	58	P	Pn	12 50 08.6	-0.1
KDAK				S	Sn	12 50 47.9	+1.4
FALS	False Pass	3.44	250	P	Pn	12 50 14.6	+0.8
FALS				S	Sn	12 50 54.0	+3.6
MCNL	McNeil River	3.56	30	P	Pn	12 50 13.9	+1.4
ISNN	Isanotski Nort	3.65	251	P	Pn	12 50 14.7	+1.1
SSLN	Shishaldin Nor	3.77	252	P	Pn	12 50 15.9	+0.6
SSLW	Shishaldin Wes	3.85	251	P	Pn	12 50 16.6	+0.2
AUI	Augustine Isla	3.96	35	P	Pn	12 50 19.9	+2.1
AUP	Augustine Pinn	3.98	34	P	Pn	12 50 20.8	+2.6
AUP	Augustine Pinn	3.98	34	P	Pn	12 50 20.8	+2.6
PDB	Pedro Bay	4.12	26	P	Pn	12 50 22.4	+2.4
PDB	Pedro Bay	4.12	26	P	Pn	12 50 22.4	+2.4
WESE	West Dahl East	4.22	249	P	Pn	12 50 22.0	+0.4
OPT	Oil Point	4.27	33	P	Pn	12 50 24.2	+2.1
WESP	Westdahl Peak	4.29	250	P	Pn	12 50 23.3	+0.9
WESP				S	Sn	12 51 14.8	+3.6
ILS	Iliamna Low So	4.56	32	P	Pn	12 50 28.6	+2.4
IVE	Iliamna Volcan	4.63	31	P	Pn	12 50 29.1	+2.0
ILW	Iliamna West	4.63	30	P	Pn	12 50 29.1	+1.9
HOM	Homer	4.81	41	P	Pn	12 50 30.7	+1.2
RSO	Redoubt South	5.07	30	*e*Pn	Pn	12 50 35.2	+1.9
	612nm,0.9s						
RSO				*e*Sn	Sn	12 51 36.3	+5.8
AKGG	Akutan Green G	5.08	251	P	Pn	12 50 34.8	+1.5
SVW2	Sparrevohn	5.09	12	P	Pn	12 50 34.5	+1.2
NCT	North Crescent	5.11	28	P	Pn	12 50 35.7	+2.0
RDN	Redoubt North	5.11	29	P	Pn	12 50 36.3	+2.5
ZRO	Akutan Zero	5.12	250	P	Pn	12 50 34.0	+0.1
BRLK	Bradley Lake	5.16	43	P	Pn	12 50 34.3	-0.1
DFR	Drift River	5.20	29	P	Pn	12 50 37.5	+2.6
UNV	Unalaska Valle	5.51	249	P	Pn	12 50 39.0	-0.1
MSW	Makushin Switc	5.63	250	P	Pn	12 50 41.7	+0.9
CKL	Chakachamna La	5.80	27	P	Pn	12 50 45.7	+2.5
BGL	Barrier Glacie	5.84	27	P	Pn	12 50 46.3	+2.5
SPBG	Spurr Blockage	5.84	27	P	Pn	12 50 46.3	+2.5
CKN	Chakachatna No	5.86	28	P	Pn	12 50 46.0	+2.1
SLKM	Skilak Lake	5.91	39	P	Pn	12 50 44.8	+0.1
SLKM	Skilak Lake	5.91	39	P	Pn	12 50 44.8	+0.1
SEW	Seward	5.94	45	P	Pn	12 50 45.3	+0.4
STLK	Strandline Lak	6.19	28	P	Pn	12 50 50.5	+2.0
SUA	Susitna One	6.46	32	P	Pn	12 50 53.3	+1.1
RC01	Rabbit Creek A	6.49	37	P	Pn	12 50 53.7	+1.1
SKT	Skwentna	6.67	26	P	Pn	12 50 56.5	+1.5
TT01	Tatalina	6.83	7	P	Pn	12 50 58.2	+1.1
SPIA	Saint Paul Isl	6.93	284	P	Pn	12 51 00.2	+1.7
PMR	Palmer	7.06	36	P	Pn	12 51 00.8	+0.5
PMR	Palmer	7.06	36	P	Pn	12 51 00.8	+0.5
PPLA	Purkeypile	7.33	21	P	Pn	12 51 07.0	+2.8
GLI	Glacier Island	7.33	45	P	Pn	12 51 03.1	-1.0
JPK	Jack Peak	7.63	45	P	Pn	12 51 09.0	+0.8
EYAK	Cordova Ski Ar	7.72	50	P	Pn	12 51 08.9	-0.4
VLZ	Valdez	7.78	45	P	Pn	12 51 10.3	+0.1
CAST	Castle Rocks	7.83	19	P	Pn	12 51 12.5	+1.7
SCM	Sheep Creek Mo	7.84	39	P	Pn	12 51 11.1	0.0
SCM	Sheep Creek Mo	7.84	39	P	Pn	12 51 11.1	0.0
DIV	Divide	8.01	47	P	Pn	12 51 13.3	-0.1
RAGM	Ragged Mountai	8.11	53	P	Pn	12 51 14.5	-0.3
KLU	Klutina	8.15	44	P	Pn	12 51 14.8	-0.5
GOAT	Goat Mountain	8.18	52	P	Pn	12 51 15.1	-0.5
KTH	Kantishna Hill	8.18	22	P	Pn	12 51 16.2	+0.5
TRF	Thorofare Moun	8.23	24	P	Pn	12 51 17.0	+0.5
NICHA	Nichawak Mount	8.37	55	P	Pn	12 51 17.1	-1.1
BMRM	Bremner River	8.41	50	P	Pn	12 51 17.9	-0.9
RND	Reindeer	8.55	28	P	Pn	12 51 20.3	-0.4
RND	Reindeer	8.55	28	P	Pn	12 51 20.3	-0.4
BERG	Berg Lake	8.55	54	P	Pn	12 51 20.6	-0.1
BPAW	Bear Paw Mtn.	8.66	20	P	Pn	12 51 22.4	+0.3
PS11	TAPS Pump St11	8.68	42	P	Pn	12 51 23.3	+0.9
GRIN	Grindle Hills	8.69	56	P	Pn	12 51 21.2	-1.3
DHY	Denali Highway	8.71	33	P	Pn	12 51 22.8	-0.3
KHIT	Khitrov Hills	8.78	55	P	Pn	12 51 22.6	-1.3
MCK	McKinley	8.79	27	P	Pn	12 51 24.3	+0.3
MCK	McKinley	8.79	27	P	Pn	12 51 24.3	+0.3
KULT	Kultieth River	8.95	57	P	Pn	12 51 26.2	0.0
GLB	Gilahina Butte	8.98	48	P	Pn	12 51 26.2	-0.4
HARP	HAARP	9.00	41	P	Pn	12 51 27.1	+0.3
VRDI	Verde Repeater	9.03	50	P	Pn	12 51 27.6	+0.2
BWN	Browne	9.04	24	P	Pn	12 51 28.5	+1.2
WASW	Wrangell South	9.09	45	P	Pn	12 51 28.1	-0.2
BARK	Barkley Ridge	9.11	56	P	Pn	12 51 28.5	0.0
PAX	Paxson	9.25	37	P	Pn	12 51 30.1	-0.2
PAX	Paxson	9.25	37	P	Pn	12 51 30.1	-0.2
ISLE	Juniper Island	9.26	55	P	Pn	12 51 30.1	-0.4
MCARA	McCarthy VSAT	9.28	50	P	Pn	12 51 30.6	-0.1
MESA	MESA	9.29	58	P	Pn	12 51 30.2	-0.8
BAGL	Bagley Icefiel	9.33	56	P	Pn	12 51 31.2	-0.1
KIAG	Kiagna River	9.37	53	P	Pn	12 51 31.6	-0.5
PTPK	Patty Peak	9.44	51	P	Pn	12 51 32.4	-0.6
PS10	TAPS Pump St10	9.46	35	P	Pn	12 51 34.1	+0.9
MLY	Manley	9.55	18	P	Pn	12 51 33.9	-0.4
GRNC	Granite Creek	9.57	55	P	Pn	12 51 34.5	-0.4
RKAV	Rock Avalanche	9.62	58	P	Pn	12 51 34.9	-0.5
WRH	Wood River Hil	9.62	26	P	Pn	12 51 33.9	-1.4
CHX	Chaix Hills	9.65	59	P	Pn	12 51 36.4	+0.5
DDM	Donnelly Dome	9.70	33	P	Pn	12 51 37.1	+0.7
BARN	Barnard Glacie	9.74	53	P	Pn	12 51 37.2	+0.1
TABL	Table Mountain	9.76	57	P	Pn	12 51 36.5	-0.9
CCB	Clear Creek Bu	9.83	26	P	Pn	12 51 36.8	-1.3
SAMH	Samovar Hills	9.83	59	P	Pn	12 51 38.2	-0.2
COLA	College	10.01	25	*e*P	Pn	12 51 38.5	-2.1
COLA				pmax	pmax		
	comp=Z,66nm,0.6s						
COLA	College	10.01	25	*e*Pn	Pn	12 51 38.5	-2.1
	comp=Z,66nm,0.6s						
COLA				*e*Sn	Sn	12 53 20.0	-11
IM04	Indian Mountai	10.04	9	*e*Pn	Pn	12 51 42.0	+1.0
IM04				*e*Sn	Sn	12 53 32.7	+0.7
ILAR	Eielson Array	10.16	27	P	Pn	12 51 40.0	-2.7
	comp=Z,5.7nm,0.3s,baz=215,slow=13,SNR=566						
ILAR				S	Sn	12 53 28.8	-6.2
	comp=Z,1.5nm,0.3s,baz=210,slow=22,SNR=4.9						
ILAR				ScP	ScP	13 01 13.6	-0.9
	comp=Z,0.0nm,0.3s,baz=259,slow=3.1,SNR=11						
DOT	Dot Lake	10.18	37	*e*Pn	Pn	12 51 43.7	+0.8
	comp=Z,10nm,0.4s						
DOT				*e*Sn	Sn	12 53 38.3	+2.9
HYT	Haines Junctio	11.58	58	*e*Pn	Pn	12 52 03.9	+1.6
COLD	Coldfoot	11.66	15	*e*Pn	Pn	12 52 01.5	-1.7
	comp=Z,17nm,0.9s						
COLD				*e*Sn	Sn	12 54 17.6	+5.9
EGAK	Eagle	11.88	37	*e*Pn	Pn	12 52 04.3	-1.8
	comp=Z,13nm,0.6s						
EGAK				*e*Sn	Sn	12 54 19.4	+2.5
DAWY	Dawson	12.09	42	*e*Pn	Pn	12 52 08.9	-0.1
SKAG	Skagway	12.41	65	*e*Pn	Pn	12 52 16.1	+2.6
	comp=Z,7.5nm,0.6s						
SKAG				*e*Sn	Sn	12 54 29.0	-0.9
WRAK	Wrangell Islan	14.12	78	*e*Pn	Pn	12 52 39.6	+3.1
	comp=Z,13nm,0.9s						
WRAK				*e*Sn	Sn	12 55 18.6	+7.1
DLBC	Dease Lake	15.14	70	P	Pn	12 52 50.1	+0.1
	comp=Z,0.4nm,0.3s,baz=273,slow=11,SNR=9.4						
DLBC				S	Sn	12 55 31.7	-4.7
	comp=Z,0.1nm,0.3s,baz=217,slow=18,SNR=2.2						
INK	Inuvik	16.46	33	P	Pn	12 53 03.6	-2.9
	comp=Z,1.3nm,0.3s,baz=228,slow=9.7,SNR=42						
INK				S	Sn	12 56 09.8	+1.9
	comp=Z,0.1nm,0.3s,baz=190,slow=18,SNR=1.6						
INK				ScP	ScP	13 01 23.9	-0.6
	comp=Z,0.1nm,0.3s,baz=171,slow=1.9,SNR=9.3						
BBB	Bella Bella	17.76	90	P	Pn	12 53 22.8	+0.1
	comp=Z,0.2nm,0.3s,baz=278,slow=12,SNR=3.3						
BILL	Bilibino	20.21	320	*de*P	P	12 53 50.6	+1.0
BILL				pmax	pmax

baz=32
G20A Bridger 32.58 88 ⇓P P 12 55 47.1 +1.5
baz=32
I19A Meeteetse 32.88 91 ⇓P P 12 55 50.0 +1.7
baz=33
HWUT Hardware Ranch 33.02 96 eP P 12 55 51.4 +1.8
comp=Z,7.7nm,1.1s
R11A Troy Canyon, C 33.08 105 eP P 12 55 51.6 +1.4
comp=Z,7.6nm,0.8s
R11A Troy Canyon, C 33.08 105 ⇓P P 12 55 51.4 +1.3
baz=33,SNR=25
TIXI Tiksi 33.17 326 ⇑iP P 12 55 50.6 +0.3
TIXI pmax pmax
comp=Z,2.0nm,0.7s
DUG Dugway, Tooele 33.29 99 eP P 12 55 53.4 +1.5
DUG pmax pmax
comp=Z,4.0nm,0.9s
DUG Dugway, Tooele 33.29 99 eP P 12 55 53.4 +1.5
comp=Z,3.6nm,0.9s
DUG Dugway, Tooele 33.29 99 ⇑P P 12 55 53.0 +1.1
baz=33
J19A Crowheart 33.34 92 ⇑P P 12 55 52.7 +0.3
baz=33
PDAR Pinedale Array 33.38 93 P P 12 55 53.7 +1.0
comp=Z,1.9nm,0.7s,baz=329,slow=5.5,SNR=20
ISA Isabella, Lake 33.55 111 ⇓P P 12 55 54.9 +0.8
baz=33
TPNV Topopah Spring 33.75 107 ⇑P P 12 55 57.4 +1.4
baz=34,SNR=16
MPMC Manual Prospec 33.76 109 ⇑P P 12 55 57.7 +1.6
baz=34,SNR=7.5
FURC Furnace Creek, 33.78 108 ⇓P P 12 55 57.6 +1.6
baz=34
J20A Shoshoni 33.82 91 ⇑P P 12 55 57.5 +1.0
baz=34
F23A Volborg 33.84 85 ⇑P P 12 55 57.7 +1.1
baz=34
F24A Ekalaka 34.30 84 ⇓P P 12 56 01.5 +1.0
baz=34
I22A 9 Mile Ranch, 34.37 89 ⇑P P 12 56 02.2 +0.9
baz=34
EDW2 Edwards Air Fo 34.40 111 ⇓P P 12 56 02.6 +1.1
baz=34
KIP Kipapa 34.69 180 ⇓eP P 12 56 07.0 +3.0
KIP pmax pmax
comp=Z,37nm,1.4s
GSC Goldstone, Bar 34.70 109 ⇓P P 12 56 05.4 +1.3
baz=34
MVU Marysvale 34.81 101 eP P 12 56 07.1 +1.9
comp=Z,6.2nm,1.0s
BFSC Mount Baldy Ra 35.07 112 ⇓P P 12 56 08.3 +0.9
baz=35
N20A Spence Gulch, 35.38 94 ⇑P P 12 56 11.3 +1.2
baz=35,SNR=5.4
K23A Bowen Ranch, D 35.58 90 ⇑P P 12 56 12.8 +1.1
baz=35
SCI San Clemente I 35.60 114 ⇑P P 12 56 12.6 +0.9
baz=35
GMRC Granite Mounta 35.70 109 ⇑P P 12 56 13.8 +1.1
baz=36,SNR=5.1
I25A Rochford 35.83 86 ⇑P P 12 56 13.8 -0.1
baz=36
O20A White River Ci 35.87 95 eP P 12 56 15.2 +1.0
comp=Z,18nm,0.9s
O20A White River Ci 35.87 95 ⇓P P 12 56 15.0 +0.8
baz=36,SNR=9.8
YAK Yakutsk 35.88 310 eP P 12 56 13.3 -0.5
YAK pmax pmax
comp=Z,15nm,0.8s
G27A Dupree 35.98 83 ⇓P P 12 56 15.3 +0.3
baz=36
BELC Belle Mtn. Jos 36.12 110 ⇑P P 12 56 17.2 +0.9
baz=36,SNR=5.8
U15A North Rim 36.27 103 ⇑P P 12 56 19.3 +1.4
baz=36,SNR=5.6
W13A Hualapai Mount 36.41 107 ⇑P P 12 56 20.1 +1.2
baz=36,SNR=5.2
N22A Wattenberg Ran 36.41 93 ⇓P P 12 56 20.3 +1.4
baz=36
ULM Lac du Bonnet 36.44 73 P P 12 56 18.6 -0.1
comp=Z,1.8nm,0.4s,baz=312,slow=8.6,SNR=4.2
ULM pP pP 12 56 33.1 +0.2
comp=Z,1.8nm,0.3s,baz=280,slow=7.2,SNR=3.9
IRM Iron Mountain 36.45 109 ⇑P P 12 56 20.3 +1.3
baz=36,SNR=11
N23A Red Feather La 36.64 92 ⇑P P 12 56 21.7 +0.9
baz=36
BC3 Big Chuckawall 36.67 110 ⇓P P 12 56 22.2 +1.2
baz=36
MONP Monument Peak, 36.77 112 ⇓P P 12 56 22.5 +0.6
baz=36
PDMCI Parker Dam,Lak 36.88 108 ⇑P P 12 56 23.8 +1.2
baz=37
P22A Eagle 37.07 95 ⇑P P 12 56 25.9 +1.4
baz=37
Y12C Blythe 37.09 109 ⇑P P 12 56 26.0 +1.5
baz=37,SNR=5.4
O23A Lake Granby, G 37.12 93 ⇑P P 12 56 26.2 +1.2
baz=37
SMCO Snowmass 37.24 95 eP P 12 56 25.9 -0.3
comp=Z,2.7nm,1.0s
M25A Palm-Egli Farm 37.33 90 ⇑P P 12 56 27.7 +1.1
baz=37
WUAZ Wupatki 37.45 104 ⇑P P 12 56 29.0 +1.3
baz=37
L26A Underwood Farm 37.48 88 ⇑P P 12 56 28.8 +1.0
baz=37
P23A Jefferson 37.74 94 ⇑P P 12 56 32.0 +1.8
baz=38,SNR=6.6
MVCO Mesa Verde 37.79 99 eP P 12 56 31.2 +0.6
comp=Z,7.7nm,0.8s
MVCO Mesa Verde 37.79 99 ⇓P P 12 56 31.2 +0.6
baz=38,SNR=5.3
Q23A Hartsel 38.06 95 ⇑P P 12 56 34.6 +1.6
baz=38
Z14A Wintersburg 38.23 107 ⇓P P 12 56 35.3 +1.2
baz=38
X16A Lo Mia Camp, P 38.23 105 ⇑P P 12 56 36.0 +1.7
baz=38,SNR=16
113A Mohawk Valley, 38.25 109 ⇑P P 12 56 35.6 +1.4
baz=38
S22A 4UR Ranch, Cre 38.33 97 ⇑P P 12 56 36.5 +1.2
baz=38
Q24A Divide 38.41 94 ⇓P P 12 56 37.2 +1.3
baz=38
O26A Horse Wrangler 38.55 91 ⇑P P 12 56 38.0 +1.1
baz=38
R23A Moffat 38.57 95 ⇓P P 12 56 38.0 +0.7
baz=38
ASAJ Asahikawa 38.84 278 P P 12 56 38.2 -0.8
comp=Z,2.2nm,0.8s,baz=81,slow=13
ASAJ Asahikawa 38.84 278 P P 12 56 38.2 -0.8
ASAJ pmax pmax
comp=Z,2.0nm,0.8s
X18A Snowflake 38.96 103 ⇑P P 12 56 41.5 +1.1
baz=39,SNR=8.1
O27A Beecher Island 39.05 90 ⇑P P 12 56 42.4 +1.4
baz=39
SDCO Great Sand Dun 39.07 96 eP P 12 56 42.8 +1.4
comp=Z,4.5nm,1.2s
SDCO Great Sand Dun 39.07 96 ⇓P P 12 56 42.7 +1.4
baz=39,SNR=5.5
Q26A Hugo 39.34 92 ⇓P P 12 56 45.1 +1.6
baz=39
214A Organ Pipe Nat 39.39 109 ⇑P P 12 56 45.4 +1.6
baz=39
R26A Arlington 39.82 93 ⇑P P 12 56 48.6 +1.1
baz=40,SNR=6.0
ERM Erimo 39.89 275 ⇓eP P 12 56 48.4 +0.6
ERM pmax pmax
comp=Z,14nm,1.3s
T25A Trinidad 40.11 95 ⇑P P 12 56 51.1 +1.2
baz=40
EYMN Ely 40.12 73 eP P 12 56 49.8 +0.1
comp=Z,9.4nm,0.9s
TUC Tucson 40.20 106 eP P 12 56 52.0 +1.4
TUC pmax pmax
comp=Z,7.0nm,1.1s
TUC Tucson 40.20 106 eP P 12 56 52.0 +1.4
comp=Z,6.8nm,1.1s
S26A Kim 40.29 94 ⇓P P 12 56 52.2 +0.9
baz=40,SNR=6.2
ANMO Albuquerque 40.57 99 P P 12 56 54.0 +0.3
comp=Z,1.5nm,0.6s,baz=323,slow=9.2,SNR=6.4
ANMO Albuquerque 40.57 99 ⇑iP P 12 56 55.0 +1.2
ANMO pmax pmax
comp=Z,30nm,2.5s
R28A Tribune 40.71 92 ⇑P P 12 56 55.6 +0.9
baz=40
T27A Campo 41.10 94 ⇑P P 12 56 58.8 +0.7
baz=41
S28A Manter 41.19 93 ⇑P P 12 56 59.7 +1.0
baz=41
T28A Walsh 41.40 93 ⇓P P 12 57 01.5 +1.0
baz=41
U27A Thompson Grove 41.51 95 ⇓P P 12 57 02.4 +1.0
baz=41
121A Cookes Peak, D 41.65 103 eP P 12 57 04.2 +1.6
comp=Z,7.9nm,1.1s
121A Cookes Peak, D 41.65 103 ⇓P P 12 57 03.9 +1.2
baz=41,SNR=6.5
FRB Frobisher Bay 41.79 42 P P 12 57 02.9 -0.2
comp=Z,4.9nm,0.3s,baz=309,slow=9.1,SNR=17
V27A Dan Oppiter Fa 41.98 95 ⇑P P 12 57 05.8 +0.5
baz=42
Q32A Meitler Ranch, 42.07 88 ⇓P P 12 57 06.2 +0.4
baz=42
P33A Williams Farm, 42.25 87 ⇓P P 12 57 07.6 +0.4
baz=42
Q33A Connelly Farm, 42.47 88 ⇓P P 12 57 09.3 +0.3
baz=42
U30A WK&E Inc. Balk 42.64 93 ⇓P P 12 57 11.3 +0.8
baz=42
P35A Duane Minner, 43.12 86 ⇓P P 12 57 13.9 -0.4
baz=43
X28A Dimmitt 43.24 96 ⇑P P 12 57 15.6 +0.1
baz=43
AMTX Amarillo 43.26 95 ⇓P P 12 57 16.1 +0.5
baz=43
MSTX Muleshoe 43.33 97 ⇓P P 12 57 16.6 +0.4
baz=43
MNTX Cornudas Mount 43.60 102 eP P 12 57 19.8 +1.5
comp=Z,5.6nm,0.8s
MNTX Cornudas Mount 43.60 102 ⇑P P 12 57 19.4 +1.1
baz=43,SNR=12
V31A Spring Creek L 43.64 93 ⇑P P 12 57 19.2 +0.7
baz=43
Y28A McKinney Farm, 43.67 97 ⇑P P 12 57 19.2 +0.3
baz=43
W31A Holland Ranch, 44.01 93 ⇑P P 12 57 22.5 +0.9
baz=44
Y29A Porterfield Fa 44.02 96 ⇑P P 12 57 22.4 +0.7
baz=44
X30A Coker Ranch, T 44.03 95 ⇑P P 12 57 22.6 +0.8
baz=44
S35A Otter Creek Ra 44.24 88 ⇓P P 12 57 23.0 -0.4
baz=44
X31A McDonald Ranch 44.40 94 ⇑P P 12 57 24.6 0.0
baz=44
Z29A Hungry Hill Ra 44.45 97 ⇑P P 12 57 25.2 +0.1
baz=44
U34A Andeson Ranch 44.45 90 ⇑P P 12 57 25.1 0.0
baz=44
128A Castleberry Fa 44.50 98 ⇓P P 12 57 26.2 +0.7
baz=44,SNR=10
Z30A Sanderson Ranc 44.75 96 ⇑P P 12 57 27.6 +0.1
baz=44
228A UT Block 9, Go 44.82 99 ⇓P P 12 57 28.6 +0.5
baz=45
X32A Elmer 44.94 93 ⇑P P 12 57 28.9 0.0
baz=45
WMOK Wichita Mounta 44.99 93 eP P 12 57 30.0 +0.7
WMOK pmax pmax
comp=Z,4.0nm,0.8s
WMOK Wichita Mounta 44.99 93 eP P 12 57 30.0 +0.7
comp=Z,3.8nm,0.8s
Y32A R-V Farms, Ver 45.16 94 ⇑P P 12 57 31.3 +0.6
baz=45
Z31A Sharp Cattle R 45.28 95 ⇓P P 12 57 32.0 +0.3
baz=45
130A Snyder 45.36 97 ⇓P P 12 57 32.4 +0.1
baz=45
131A Roby 45.62 96 ⇓P P 12 57 34.9 +0.5
baz=45,SNR=7.0
329A Wagon Wheel Ra 45.63 99 ⇓P P 12 57 35.0 +0.5
baz=45
Z32A Haskell 45.66 95 ⇑P P 12 57 34.6 0.0
baz=45,SNR=6.8
230A Sterling City 45.81 97 ⇑P P 12 57 36.1 +0.2
baz=46,SNR=13
Z33A Whitaker Ranch 46.07 94 ⇓P P 12 57 38.3 +0.5
baz=46
ABTX Abilene, Hawle 46.07 95 eP P 12 57 38.6 +0.7
comp=Z,3.9nm,0.6s
ABTX Abilene, Hawle 46.07 95 ⇓P P 12 57 38.3 +0.4
baz=46
Y34A Reagan Ranch, 46.13 93 ⇑P P 12 57 38.8 +0.5
baz=46
330A Mertzon 46.14 98 ⇓P P 12 57 38.6 +0.1
baz=46,SNR=9.3
231A Bronte 46.22 97 ⇑P P 12 57 39.4 +0.4
baz=46
429A Davenport Ranc 46.34 99 ⇓P P 12 57 40.2 +0.1
baz=46,SNR=5.2
TXAR Lajitas Array 46.36 102 P P 12 57 41.0 +0.7
comp=Z,2.6nm,0.7s,baz=309,slow=5.9,SNR=37
TXAR pP pP 12 57 55.2 +0.4
comp=Z,0.8nm,0.6s,baz=309,slow=5.7,SNR=5.1
TXAR PcP PcP 12 59 14.3 -0.2
comp=Z,0.4nm,0.7s,baz=336,slow=2.0,SNR=2.3
133A Hamilton Ranch 46.49 95 ⇓P P 12 57 40.9 -0.3
baz=46,SNR=5.7
529A Stev Forest Ra 46.54 100 ⇑P P 12 57 41.4 -0.3
baz=46,SNR=7.0
W37A Quinton 46.57 90 ⇑P P 12 57 41.7 -0.1
baz=46
430A Baggett Ranch, 46.58 99 ⇑P P 12 57 41.8 -0.1
baz=46
232A Coleman 46.62 96 ⇑P P 12 57 42.3 0.0
baz=46
331A San Angelo 46.63 97 ⇑P P 12 57 42.5 +0.1
baz=46
233A Rising Star 46.94 95 ⇑P P 12 57 44.7 0.0
baz=47,SNR=8.4
332A Millersview 46.95 97 ⇓P P 12 57 44.7 -0.1
baz=47
134A White-Moore Ra 46.98 94 ⇑P P 12 57 45.4 +0.4
baz=47
X37A Clayton 47.00 90 ⇓P P 12 57 45.3 +0.2
baz=47
431A Sonora 47.01 98 ⇓P P 12 57 45.2 -0.1
baz=47,SNR=7.4
530A J-C Ranch, Com 47.01 99 ⇑P P 12 57 45.6 +0.3
baz=47,SNR=10
432A Menard 47.31 97 ⇓P P 12 57 47.5 -0.1
baz=47,SNR=5.3
234A Clairette 47.38 95 ⇓P P 12 57 48.2 +0.1
baz=47
333A Richland Sprin 47.42 96 ⇓P P 12 57 48.5 0.0
baz=47,SNR=6.9
531A Rocksprings 47.44 98 ⇓P P 12 57 48.8 +0.1
baz=47,SNR=14
JCT Junction City 47.61 98 ⇑P P 12 57 50.2 +0.3
baz=47,SNR=6.2
433A Art 47.79 97 ⇑P P 12 57 51.2 -0.1
baz=48,SNR=12
532A Rocksprings 47.82 98 ⇓P P 12 57 51.9 +0.2
baz=48
334A Lometa 47.83 95 ⇑P P 12 57 51.5 -0.1
baz=48,SNR=9.7
SCHQ Schefferville 47.89 51 P P 12 57 51.4 -0.4
comp=Z,1.3nm,0.4s,baz=318,slow=11,SNR=2.9
631A Perdido Creek 48.00 99 ⇓P P 12 57 52.5 -0.4
baz=48,SNR=5.9
434A Burnet 48.20 96 ⇓P P 12 57 54.5 0.0
baz=48,SNR=6.2
CN2 Changchun 48.35 289 eP P 12 57 56.5 +1.1
632A Uvalde 48.36 98 ⇑P P 12 57 55.4 -0.3
baz=48
336A Riesel 48.56 94 ⇑P P 12 57 57.6 +0.4
baz=48
534A Blanco 48.69 97 ⇑P P 12 57 58.3 0.0
baz=48,SNR=5.2
732A Lake Ranch, 48.86 99 ⇑P P 12 57 59.7 +0.1
baz=49
733A Divot King Ran 49.24 99 ⇑P P 12 58 02.5 0.0
baz=49
833A Chaparral WMA, 49.49 99 ⇓P P 12 58 04.8 +0.4
baz=49
635A Leesville 49.57 97 ⇓P P 12 58 06.1 +1.2
baz=49
438A Sam Houston St 49.81 94 ⇓P P 12 58 08.1 +1.4
baz=50
636A Smothers Creek 49.90 96 ⇑P P 12 58 08.5 +1.1
baz=50
WVT Waverly 50.09 83 eP P 12 58 08.6 -0.2
WVT pmax pmax
comp=Z,7.0nm,1.1s
WVT Waverly 50.09 83 eP P 12 58 08.6 -0.2
comp=Z,7.1nm,1.1s
933A Laredo 50.11 99 ⇓P P 12 58 10.0 +0.9
baz=50
KSRS Korea Array 51.49 282 P P 12 58 18.9 -0.3
comp=Z,1.9nm,0.7s,baz=52,slow=7.9,SNR=6.9
KSRS Korea Array 51.49 282 P P 12 58 19.0 -0.3
KSRS pmax pmax
comp=Z,2.0nm,0.7s
KSAR Wonju Array Be 51.52 282 P P 12 58 19.0 -0.6
KSAR Wonju Array Be 51.52 282 P P 12 58 18.9 -0.6
TKL Tuckaleechee C 52.67 80 P P 12 58 26.9 -1.3
comp=Z,2.1nm,0.6s,baz=321,slow=14,SNR=3.3
ARCES ARCESS Array B 54.59 359 P P 12 58 39.9 -1.8
comp=Z,1.0nm,0.5s,baz=15,slow=7.5,SNR=15
ULN Ulaanbaatar 54.62 305 ⇑P P 12 58 42.7 +0.3
ULN pmax pmax
comp=Z,3.0nm,1.9s
SONM Songino Array 54.94 305 P P 12 58 44.1 -0.6
comp=Z,1.9nm,0.6s,baz=42,slow=6.8,SNR=17
HHC Hu-ho-hao-te 57.63 296 eP P 12 59 05.1 +1.2
HHC PP PP 13 01 14.4 +2.6
HHC S S 13 06 54.9 -2.9
HHC sS sS 13 07 22.3 -0.8
HHC SS SS 13 10 46.3 -1.7
HHC PMZ
comp=Z,9.0nm,1.0s
HHC PMZ
comp=Z,75nm,7.4s
HHC LN
comp=Z,180nm,18.5s
HHC LE
comp=Z,280nm,18.5s
HHC LZ
comp=Z,160nm,18.5s
ZALV Zalesovo Beam 58.90 322 P P 12 59 11.8 -0.6
comp=Z,0.5nm,0.4s,baz=35,slow=5.3,SNR=2.9
FINES FINESS Array B 62.70 358 P P 12 59 36.9 -1.2
comp=Z,1.2nm,0.5s,baz=15,slow=8.4,SNR=10
NOA NORSAR Array B 62.82 6 P P 12 59 38.5 -0.5
comp=Z,0.9nm,0.6s,baz=355,slow=6.7,SNR=4.8
GTA Gaotai 64.45 303 eP P 12 59 50.8 +0.6
GTA PMZ
comp=Z,3.0nm,1.0s
MKAR Makanchi Array 65.75 319 P P 12 59 57.1 -1.3
comp=Z,0.6nm,0.5s,baz=44,slow=5.9,SNR=5.7
MKAR pP pP 13 00 11.1 -2.6
comp=Z,0.9nm,0.6s,baz=32,slow=6.9,SNR=6.0
ABKAR Akbulak array 70.34 335 eP P 13 00 26.5 -0.6
comp=Z,2.6nm,0.6s
CLL Collm 72.63 6 eP P 13 00 41.0 +0.2
CLL pmax pmax
comp=Z,4.0nm,0.7s
BAIF Baives 73.10 12 eP P 13 00 43.8 +0.2
BAIF Baives 73.10 12 eP P 13 00 43.8 +0.2
BAIF Baives 73.10 12 eP P 13 00 43.8 +0.2
AKASG Malin Array Be 73.34 355 P P 13 00 43.7 -1.3
comp=Z,2.0nm,0.4s,baz=8.9,slow=6.0,SNR=7.7
AKASG pP PcP 13 00 58.4 -2.6
comp=Z,0.8nm,0.3s,baz=4.8,slow=5.7,SNR=3.5
NKC Novy Kostel 73.66 7 ePCP PcP 13 01 06.0 +3.5
ROSF Rostrenen 73.72 17 eP P 13 00 47.6 +0.3
ROSF Rostrenen 73.72 17 eP P 13 00 47.6 +0.3
ROSF Rostrenen 73.72 17 eP P 13 00 47.6 +0.3
DPC Dobruska-Polom 73.74 4 epP pP 13 01 01.1 -1.9
DPC ePCP pwP 13 01 08.4 +5.4
SGMF Saint Gilles 73.92 17 eP P 13 00 48.6 +0.2
SGMF Saint Gilles 73.92 17 eP P 13 00 48.6 +0.2
SGMF Saint Gilles 73.92 17 eP P 13 00 48.6 +0.2
GRR Gorron 74.05 16 eP P 13 00 49.3 +0.1
comp=Z,5.6nm,0.5s
GRR Gorron 74.05 16 eP P 13 00 49.3 +0.1
GRR pmax pmax
comp=Z,6.0nm,0.5s
GRR Gorron 74.05 16 eP P 13 00 49.3 +0.1
comp=Z,5.6nm,0.5s
QUIF Quistinic 74.14 17 eP P 13 00 50.0 +0.3
QUIF Quistinic 74.14 17 eP P 13 00 50.0 +0.3
QUIF Quistinic 74.14 17 eP P 13 00 50.0 +0.3
KHC Kasperske Hory 74.83 6 ePCP PcP 13 01 09.8 +2.2
CDF Champ du Feu 75.05 10 eP P 13 00 55.0 -0.1
CDF Champ du Feu 75.05 10 eP P 13 00 55.0 -0.1
CDF Champ du Feu 75.05 10 eP P 13 00 55.0 -0.1
GERES GERESS Array B 75.12 6 P P 13 00 55.2 -0.3
comp=Z,0.6nm,0.6s,baz=343,slow=4.2,SNR=4.3
GERES pP PcP 13 01 10.0 +1.1
comp=Z,0.2nm,0.3s,baz=350,slow=6.8,SNR=2.9
LOR Lormes 75.80 13 eP P 13 00 59.4 0.0
LOR Lormes 75.80 13 eP P 13 00 59.4 0.0
LOR Lormes 75.80 13 eP P 13 00 59.4 0.0
MFF Saint Martin d 75.90 16 eP P 13 01 00.2 +0.3
comp=Z,5.0nm,0.6s
MFF Saint Martin d 75.90 16 eP P 13 01 00.2 +0.3
MFF pmax pmax
comp=Z,5.0nm,0.6s
MFF Saint Martin d 75.90 16 eP P 13 01 00.2 +0.3
comp=Z,5.0nm,0.6s
SSF Saint Saulge 75.96 13 eP P 13 01 00.4 +0.2
SSF Saint Saulge 75.96 13 eP P 13 01 00.4 +0.2
SSF Saint Saulge 75.96 13 eP P 13 01 00.4 +0.2
AVF Avril sur Loir 76.21 13 eP P 13 01 01.6 0.0
comp=Z,4.3nm,0.5s
AVF Avril sur Loir 76.21 13 eP P 13 01 01.6 0.0
AVF pmax pmax
comp=Z,4.0nm,0.5s
AVF Avril sur Loir 76.21 13 eP P 13 01 01.6 0.0
comp=Z,4.3nm,0.5s
SMF Signal de Mont 76.41 13 eP P 13 01 02.0 -0.8
comp=Z,4.3nm,0.5s
SMF Signal de Mont 76.41 13 eP P 13 01 02.0 -0.8
SMF pmax pmax
comp=Z,4.0nm,0.5s
SMF Signal de Mont 76.41 13 eP P 13 01 02.0 -0.8
comp=Z,4.3nm,0.5s
CABF La Chapelle 76.71 11 eP P 13 01 04.8 +0.2
CABF La Chapelle 76.71 11 eP P 13 01 04.8 +0.2
CABF La Chapelle 76.71 11 eP P 13 01 04.8 +0.2
LFF La Frestale 77.66 15 eP P 13 01 10.2 +0.4
LFF La Frestale 77.66 15 eP P 13 01 10.2 +0.4
LFF La Frestale 77.66 15 eP P 13 01 10.2 +0.4
LPL La Plagne 77.86 11 eP P 13 01 11.2 0.0
LPL La Plagne 77.86 11 eP P 13 01 11.2 0.0
LPL La Plagne 77.86 11 eP P 13 01 11.2 0.0
CAF Calviac 77.86 14 eP P 13 01 10.3 -0.7
comp=Z,4.5nm,0.5s
CAF Calviac 77.86 14 eP P 13 01 10.3 -0.7
CAF pmax pmax
comp=Z,5.0nm,0.5s
CAF Calviac 77.86 14 eP P 13 01 10.3 -0.7
comp=Z,4.5nm,0.5s
LPG La Plagne 77.88 11 eP P 13 01 11.6 +0.2
LPG La Plagne 77.88 11 eP P 13 01 11.6 +0.2
LPG La Plagne 77.88 11 eP P 13 01 11.6 +0.2
KBZ Khabaz 78.95 345 P P 13 01 16.9 -0.1
comp=Z,1.6nm,0.8s,baz=53,slow=20,SNR=4.2
MTLF Montolieu 79.44 15 eP P 13 01 20.0 +0.3
comp=Z,4.8nm,0.6s
MTLF Montolieu 79.44 15 eP P 13 01 20.0 +0.3
MTLF pmax pmax
comp=Z,5.0nm,0.6s
MTLF Montolieu 79.44 15 eP P 13 01 20.0 +0.3
comp=Z,4.8nm,0.6s
ETSF Etsaut 79.45 17 eP P 13 01 20.6 +0.8
comp=Z,6.5nm,0.6s
ETSF Etsaut 79.45 17 eP P 13 01 20.6 +0.8
ETSF pmax pmax
comp=Z,7.0nm,0.6s
ETSF Etsaut 79.45 17 eP P 13 01 20.6 +0.8
comp=Z,6.5nm,0.6s
ESDC Sonseca Array 81.98 20 P P 13 01 33.7 +0.3
comp=Z,0.6nm,0.4s,baz=340,slow=4.9,SNR=5.6
CMAR Chiang Mai Arr 82.00 291 P P 13 01 33.2 -0.5
comp=Z,2.1nm,0.7s,baz=14,slow=5.1,SNR=15
CMAR pP pP 13 01 47.3 -2.1
comp=Z,2.7nm,0.8s,baz=11,slow=5.8,SNR=8.2
QSPA South Pole Qui 145.94 180 ePKPdf PKPdf 13 08 50.7 0.0

DJA 18 13:02:13.6±0.8, 8°S±10″×10°7E±°, h43km±9km, M3.5/12, MLv3.5/12, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC

CISI	**Cisompet, Garu**	**0.62**	**54**	P		Pn	13 02 26.5	+0.4	
CISI				S		Sn	13 02 36.6	+1.6	
CNJI	**Cibinong**	**0.63**	**344**	P		Pn	13 02 26.7	+0.5	
CNJI				S		Sn	13 02 37.8	+2.6	
LEM	**Lembang**	**1.13**	**16**	P		Pn	13 02 33.1	-0.1	
CMJI	**Cimerak**	**1.14**	**83**	P		Pn	13 02 32.7	-0.4	
CMJI				S		Sn	13 02 47.4	-0.1	
SKJI	**Sukabumi**	**1.18**	**321**	P		Pn	13 02 33.4	-0.2	
TNG	**Tangerang**	**1.86**	**339**	P		Pn	13 02 43.0	0.0	
CGJI	**Cibinong**	**2.06**	**309**	P		Pn	13 02 45.9	+0.1	
CGJI				S		Sn	13 03 10.7	+0.4	
SBJI	**Serang**	**2.14**	**327**	P		Pn	13 02 46.6	-0.2	
UGM	**Wanagama**	**3.18**	**90**	P		Pn	13 03 01.7	+0.5	
PCJI	**Pacitan**	**3.84**	**94**	P		Pn	13 03 09.8	-0.4	

DJA 18 13:05:55.3±1.0, 8°S±8″×10°7E±°, h24km±7km, M3.6/13, MLv3.6/13, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
CISI	**Cisompet, Garu**	**0.62**	**48**	P		Pb	13	06	07.8	+0.1
CISI				S		Sn	13	06	17.8	-0.3
CNJI	**Cibinong**	**0.70**	**342**	P		Pb	13	06	08.3	-0.6
CNJI				S		Sb	13	06	18.7	+0.5
CMJI	**Cimerak**	**1.11**	**80**	P		Pn	13	06	14.2	-1.1
CMJI				S		Sb	13	06	28.9	-0.8
LEM	**Lembang**	**1.18**	**13**	P		Pn	13	06	16.3	-0.2
SKJI	**Sukabumi**	**1.25**	**321**	P		Pn	13	06	17.3	0.0
CGJI	**Cibinong**	**2.13**	**309**	P		Pn	13	06	27.2	-2.2
UGM	**Wanagama**	**3.14**	**89**	P		Pn	13	06	43.6	+0.2
KASI	**Kota Agung**	**3.74**	**311**	P		Pn	13	06	52.1	+0.5
PCJI	**Pacitan**	**3.80**	**93**	P		Pn	13	06	52.5	+0.2
UWJI	**Ujung Watu**	**3.89**	**67**	P		Pn	13	06	54.2	+0.5
KLI	**Kotabumi**	**3.97**	**321**	P		Pn	13	06	53.6	-1.1
TBJI	**Tambak Boyo**	**4.61**	**76**	P		Pn	13	07	03.8	+0.3

*KRSC **18** 13:14:17.5±3.2, 55.47N×154.63E, h7km±40km, ML5.0*
*IDC **18** 13:14:21.2±0.5, 55.65N×154.81E, h0km, mb4.2/21, mb1 4.5/24, mb1mx4.4/28, mbtmp4.3/24, ML3.7/3, MS3.7/24, Ms1 3.7/24, ms1mx3.6/38, Error ellipse: s-maj=14.7km s-min=11.3km az=153.0*
*ISCJB **18** 13:14:21.2±0.1, 55.55N±0.02×154.92E±0.03, h12km, mb4.5/81, MS3.8/27, Error ellipse: s-maj=3.2km s-min=2.3km az=172.4*
*BJI **18** 13:14:21.1, 55.71N×154.78E, h6km, mb4.6/47, mB4.8/35, Ms4.5/38, Ms7 4.4/39*
*MOS **18** 13:14:21.0±0.9, 55.53N×154.94E, h14km, mb5.0/35, Error ellipse: s-maj=8.3km s-min=5.4km az=95.2*
*NEIC **18** 13:14:22.5±0.2, 55.56N×154.87E, h10km, mb4.7/46, Error ellipse: s-maj=5.3km s-min=4.1km az=163.0*

ISC 18 13:14:23.6±0.4, 55.55N±0.03×154.97E±0.03, h16km±2km, h15km:pP-P, n402, σ1§20/447, mb4.7/81, MS3.8/27, 87C-99D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
ESO	**Esso**	**2.14**	**78**	*e*P		**Pn**	**13**	**14**	**58.1**	**-0.6**
ESO				*e*S		**Sb**	**13**	**15**	**27.0**	**-1.4**
ESO	**Esso**	**2.14**	**78**	PN		**Pn**	**13**	**14**	**58.1**	**-0.6**
ESO				S		**Sb**	**13**	**15**	**27.0**	**-1.4**
GNL	**Ganaly**	**2.54**	**136**	*e*P		**Pn**	**13**	**15**	**02.9**	**-1.3**
SRDR	**Sredinnyy**	**2.78**	**72**	*e*P		**Pn**	**13**	**15**	**07.4**	**-0.1**
KOZ	**Kozyrevsk**	**2.81**	**78**	*e*P		**Pn**	**13**	**15**	**09.2**	**+1.3**
KOZR	**Kozyr**	**2.83**	**77**	PN		**Pn**	**13**	**15**	**09.2**	**+1.1**
PEA0B	**Petropavlovsk-**	**2.92**	**146**	*e*Pn		**Pn**	**13**	**15**	**08.1**	**-1.3**
PEA0B				*e*Pg		**Pb**	**13**	**15**	**16.9**	**+1.6**
PEA0B				*e*Sg		**Sg**	**13**	**15**	**56.6**	**-0.9**
PETK	**Petropavlovsk-**	**2.92**	**146**	Pn		**Pn**	**13**	**15**	**08.1**	**-1.3**
	33nm,0.3s,baz=331,slow=12,SNR=480									
PETK				Lg		Lg	13	15	54.5	
	76nm,0.3s,baz=347,slow=26,SNR=6.0									
APC	**Apacha**	**2.93**	**153**	*e*P		**Pn**	**13**	**15**	**06.8**	**-2.6**
APC				*e*S		**Sn**	**13**	**15**	**44.5**	**+0.2**
KMNR	**Kamenistaya**	**2.99**	**84**	*e*P		**Pn**	**13**	**15**	**11.8**	**+1.4**
KRX	**Arik**	**3.07**	**134**	*e*P		**Pn**	**13**	**15**	**11.0**	**-0.6**
KZV	**Kizimen**	**3.08**	**96**	*e*P		**Pn**	**13**	**15**	**12.6**	**+1.0**
KOK	**Koryaka**	**3.12**	**135**	*e*P		**Pn**	**13**	**15**	**11.7**	**-0.4**
KRER	**Koryakskii**	**3.15**	**134**	*e*P		**Pn**	**13**	**15**	**12.3**	**-0.4**
AVH	**Avacha**	**3.18**	**135**	*e*P		**Pn**	**13**	**15**	**13.3**	**+0.3**
SMAR	**Somma**	**3.21**	**134**	*e*P		**Pn**	**13**	**15**	**13.5**	**0.0**
SDLR	**Sedlovina**	**3.23**	**133**	*e*P		**Pn**	**13**	**15**	**13.4**	**-0.3**
UGLR	**Uglovaya**	**3.25**	**135**	*e*P		**Pn**	**13**	**15**	**14.0**	**0.0**
PET	**Petropavlovsk**	**3.33**	**138**	*e*PN		**Pn**	**13**	**15**	**13.2**	**-1.7**
PET					pmax	pmax				
	comp=Z,200nm,5.2s									
PET					pmax	pmax				
	comp=Z,100nm,9.1s									
PET					pmax	pmax				
	comp=Z,352nm,0.7s									
PET					MLR	MLR				
	comp=Z,6μm,9.0s									
PET					MLR	MLR				
	comp=Z,3μm,7.0s									
PET	**Petropavlovsk**	**3.33**	**138**	*e*Pn		**Pn**	**13**	**15**	**12.8**	**-2.1**
PET				*e*Pg		**Pb**	**13**	**15**	**23.4**	**+1.2**
MIPR	**Malaya Ipel'ka**	**3.45**	**161**	*e*P		**Pn**	**13**	**15**	**13.8**	**-2.8**
ASAK	**Asacha**	**3.62**	**150**	*e*P		**Pn**	**13**	**15**	**17.4**	**-1.6**
RUS	**Russkaya**	**3.76**	**145**	*e*P		**Pn**	**13**	**15**	**19.5**	**-1.4**
RUS	**Russkaya**	**3.76**	**145**	PN		**Pn**	**13**	**15**	**19.5**	**-1.4**
SMKR	**Semkarok**	**3.79**	**72**	*e*P		**Pn**	**13**	**15**	**24.3**	**+3.0**
MKZ	**Mys Kozlova**	**4.01**	**102**	*e*P		**Pn**	**13**	**15**	**23.7**	**-0.6**
MKZ	**Mys Kozlova**	**4.01**	**102**	PN		**Pn**	**13**	**15**	**23.7**	**-0.6**
PAU	**Pauzhetka**	**4.24**	**164**	*e*P		**Pn**	**13**	**15**	**24.3**	**-3.1**
PAU	**Pauzhetka**	**4.24**	**164**	PN		**Pn**	**13**	**15**	**24.3**	**-3.1**
PALN	**Palana**	**4.46**	**35**	*e*P		**Pn**	**13**	**15**	**29.6**	**-0.9**
SKR	**Severo-Kuril's**	**4.93**	**171**	*e*P		**Pn**	**13**	**15**	**34.9**	**-2.0**
SKR	**Severo-Kuril's**	**4.93**	**171**	*e*PN		Pn	13	15	31.0	-5.9
SKR				*e*S		**Sb**	**13**	**16**	**45.0**	**-3.3**
SKR					smax	smax				
	comp=N,1μm,8.0s									
SKR					smax	smax				
	comp=N,340nm,0.5s									
SKR					smax	smax				
	comp=E,760nm,0.6s									
SKR					MLR	MLR				
	comp=E,3μm,10.0s									
SKR					MLR	MLR				
	comp=Z,2μm,10.0s									
SKR					MLR	MLR				
	comp=N,2μm,8.0s									
OKH	**Okha**	**7.28**	**259**	*e*PN		**Pn**	**13**	**16**	**06.9**	**-2.3**
OKH					MLR	MLR				
	comp=Z,2μm,13.0s									
SEY	**Seymchan**	**7.52**	**351**	Pn		**Pn**	**13**	**16**	**10.1**	**-2.3**
	comp=Z,4.5nm,0.3s,baz=159,slow=14,SNR=161									
SEY					Sn	**Sn**	**13**	**17**	**32.9**	**-4.4**
	comp=Z,2.4nm,0.3s,baz=0.0,slow=20,SNR=4.6									
SEY					Lg	Lg	13	18	22.1	
	comp=Z,1.2nm,0.3s,baz=30,slow=20,SNR=4.7									
SEY					LR	LR	13	19	30.0	
	comp=Z,168nm,19.9s,baz=124,slow=42									
SEY	**Seymchan**	**7.52**	**351**	*i* PN		**Pn**	**13**	**16**	**10.5**	**-1.9**
YSS	**Yuzh-Sakhalins**	**11.50**	**227**	PN		Pn	13	17	10.3	+3.3
YSS					MLR	MLR				
	comp=N,1μm,15.0s									
YSS					MLR	MLR				
	comp=Z,900nm,15.0s									
YUK	**Yuzh-Kuril'sk**	**12.93**	**211**	*e*PN		P	13	17	32.1	-5.0
YUK					pmax	pmax				
	comp=Z,119nm,5.1s									
BILL	**Bilibino**	**13.58**	**18**	*de*P		**Pn**	**13**	**17**	**35.5**	**+0.2**
BILL					pmax	pmax				
	comp=Z,9.0nm,2.5s									
BILL					MLR	MLR				
	comp=Z,411nm,19.0s									
BILL	**Bilibino**	**13.58**	**18**	*e*Pn		**Pn**	**13**	**17**	**32.5**	**-2.8**
	comp=Z,12nm,1.1s									
ASAJ	**Asahikawa**	**13.93**	**220**	Pn		**Pn**	**13**	**17**	**41.5**	**+1.4**
	comp=Z,0.9nm,0.3s,baz=33,slow=15,SNR=8.6									
ASAJ					LR	LR	13	23	05.9	
	comp=Z,483nm,18.3s,baz=28,slow=38									
ASAJ	**Asahikawa**	**13.93**	**220**	P		**Pn**	**13**	**17**	**41.5**	**+1.4**
ASAJ					pmax	pmax				
	comp=Z,1.0nm,0.3s									
ASAJ					MLR	MLR				
	comp=Z,483nm,18.3s									
ASAJ	**Asahikawa**	**13.93**	**220**	*e*Pn		**Pn**	**13**	**17**	**40.5**	**+0.4**
	comp=Z,35nm,1.3s									
HABR	**Khabarovsk**	**14.13**	**248**	*e*P		**Pn**	**13**	**17**	**42.5**	**-0.4**
HABR				*e*S		**Sn**	**13**	**20**	**20.9**	**+1.7**
HABR					pmax	pmax				
	comp=E,25nm,1.8s									
HABR					pmax	pmax				
	comp=N,22nm,1.8s									
HABR					pmax	pmax				
	comp=Z,7.0nm,1.1s									
HABR					MLR	MLR				
	comp=Z,819nm,18.0s									
YAK	**Yakutsk**	**14.55**	**307**	Pn		**Pn**	**13**	**17**	**49.8**	**+1.2**
	comp=Z,0.0nm,0.3s,baz=120,slow=20,SNR=4.0									
YAK					LR	LR	13	23	39.7	
	comp=Z,398nm,19.4s,baz=110,slow=39									
YAK	**Yakutsk**	**14.55**	**307**	*d* iP		**Pn**	**13**	**17**	**49.6**	**+1.0**
YAK				*e*S		Sn	13	20	22.8	-6.6
YAK					pmax	pmax				
	comp=Z,12nm,1.1s									
YAK					pmax	pmax				
	comp=N,6.0nm,1.0s									
YAK					pmax	pmax				
	comp=E,13nm,1.4s									
YAK					pmax	pmax				
	comp=N,28nm,2.5s									
YAK					smax	smax				
	comp=N,24nm,1.9s									
YAK					smax	smax				
	comp=E,27nm,1.6s									
YAK					MLR	MLR				
	comp=E,250nm,11.0s									
YAK					MLR	MLR				
	comp=Z,187nm,8.0s									
YAK					MLR	MLR				
	comp=N,116nm,8.0s									
YAK	**Yakutsk**	**14.55**	**307**	*e*Pn		**Pn**	**13**	**17**	**49.4**	**+0.8**
	comp=N,16nm,0.8s									
KLR	**Kul'dur**	**15.48**	**256**	*e*P		**Pn**	**13**	**17**	**59.3**	**-1.7**
KLR					MLR	MLR				
	comp=Z,3μm,12.5s									
ERM	**Erimo**	**15.59**	**215**	P		**Pn**	**13**	**18**	**01.4**	**-1.1**
ERM	**Erimo**	**15.59**	**215**	Pn		**Pn**	**13**	**18**	**01.4**	**-1.1**
USRK	**Ussuriysk Ar.**	**18.57**	**242**	P		**Pn**	**13**	**18**	**42.3**	**+2.5**
	comp=Z,1.0nm,0.3s,baz=53,slow=12,SNR=31									
USRK					LR	LR	13	26	33.7	
	comp=Z,384nm,18.1s,baz=42,slow=40									
VLA	**Vladivostok**	**19.41**	**240**	*e*P		**P**	**13**	**18**	**48.2**	**-0.5**
VLA				S		**S**	**13**	**22**	**28.1**	**+0.6**
VLA					pmax	pmax				
	comp=Z,31nm,0.6s									
MDJ	**Mudanjiang**	**19.50**	**246**	P		**P**	**13**	**18**	**49.6**	**-0.2**
MDJ				S		**S**	**13**	**22**	**29.3**	**-0.1**
MDJ				PcP		**PcP**	**13**	**23**	**06.9**	**-3.0**
MDJ				ScP		**ScP**	**13**	**26**	**46.4**	**+1.5**
MDJ				ScS		**ScS**	**13**	**30**	**27.5**	**+0.7**
MDJ				PMZ						
	comp=Z,8.0nm,0.9s									
MDJ				PMZ						
	comp=Z,180nm,6.1s									
MDJ				LN						
	comp=Z,320nm,17.0s									
MDJ				LE						
	comp=Z,330nm,17.7s									
MDJ				LZ						
	comp=Z,510nm,15.7s									
MDJ	**Mudanjiang**	**19.50**	**246**	*e*P		**Pn**	**13**	**18**	**52.2**	**+1.2**
	comp=Z,15nm,1.0s									
TIXI	**Tiksi**	**19.59**	**335**	⇓ *e*P		**Pn**	**13**	**18**	**51.5**	**-0.4**
TIXI					pmax	pmax				
	comp=Z,47nm,1.7s									
TIXI	**Tiksi**	**19.59**	**335**	*e*P		**P**	**13**	**18**	**50.8**	**+0.2**
	comp=Z,22nm,0.9s									
TNA	**Tin City**	**20.48**	**46**	*e*P		Pn	13	19	01.8	-0.6
	comp=Z,95nm,1.3s									
MAJO	**Matsushiro**	**22.18**	**218**	*e*P		**P**	**13**	**19**	**17.7**	**-1.1**
MAJO					pmax	pmax				
	comp=Z,115nm,1.7s									
MAJO	**Matsushiro**	**22.18**	**218**	*e*P		**P**	**13**	**19**	**17.7**	**-1.1**
	comp=Z,115nm,1.7s									
MAT	**Matsushiro**	**22.18**	**218**	P		**P**	**13**	**19**	**17.9**	**-0.9**
MAT				S		**S**	**13**	**23**	**21.0**	**-1.4**
MJAR	**Matsushiro Arr**	**22.18**	**218**	P		**P**	**13**	**19**	**18.7**	**-0.2**
	comp=Z,11nm,0.9s,baz=8.7,slow=11,SNR=21									
CN2	**Changchun**	**22.24**	**250**	*e*P		**P**	**13**	**19**	**21.3**	**+1.9**
CN2				*e*S		**S**	**13**	**23**	**19.5**	**-4.0**
CN2				PMZ						
	comp=Z,10.0nm,1.0s									
CN2				LN						
	comp=Z,500nm,18.0s									
CN2				LE						
	comp=Z,600nm,18.0s									
CN2				LZ						
	comp=Z,600nm,18.0s									
BOD	**Bodaibo**	**22.37**	**293**	*e*P		**P**	**13**	**19**	**21.4**	**+0.7**
BOD					pmax	pmax				
	comp=Z,20nm,1.3s									
KSRS	**Korea Array**	**25.70**	**237**	P		**P**	**13**	**19**	**53.0**	**+0.2**
	comp=Z,5.4nm,0.8s,baz=30,slow=9.0,SNR=11									
KSRS					LR	LR	13	29	19.6	
	comp=Z,186nm,19.9s,baz=24,slow=35									
KSRS	**Korea Array**	**25.70**	**237**	P		**P**	**13**	**19**	**53.0**	**+0.2**
KSRS					pmax	pmax				
	comp=Z,5.0nm,0.9s									
KSRS					MLR	MLR				
	comp=Z,186nm,19.9s									
KSAR	**Wonju Array Be**	**25.73**	**237**	P		**P**	**13**	**19**	**53.0**	**0.0**
KSAR	**Wonju Array Be**	**25.73**	**237**	P		**P**	**13**	**19**	**53.0**	**0.0**
IM04	**Indian Mountai**	**26.32**	**46**	*e*P		**P**	**13**	**19**	**57.8**	**-0.4**
BPAW	**Bear Paw Mtn.**	**27.65**	**50**	*e*P		**P**	**13**	**20**	**09.9**	**-0.2**
	comp=Z,3.4nm,1.5s									
COLD	**Coldfoot**	**27.70**	**43**	*e*P		**P**	**13**	**20**	**10.6**	**0.0**
	comp=Z,6.2nm,0.9s									
TRF	**Thorofare Moun**	**28.06**	**51**	*e*P		**P**	**13**	**20**	**14.2**	**+0.2**
	comp=Z,21nm,1.6s									
MCK	**McKinley**	**28.61**	**50**	*e*P		**P**	**13**	**20**	**18.6**	**-0.1**
MCK	**McKinley**	**28.61**	**50**	*e*P		**P**	**13**	**20**	**18.6**	**-0.1**
COLA	**College**	**28.89**	**48**	*de*P		**P**	**13**	**20**	**21.2**	**+0.1**
COLA					pmax	pmax				
	comp=Z,22nm,1.8s									
COLA	**College**	**28.89**	**48**	*e*P		**P**	**13**	**20**	**22.2**	**+1.1**
	comp=Z,4.6nm,1.0s									
ILAR	**Eielson Array**	**29.31**	**48**	P		**P**	**13**	**20**	**24.8**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=263,slow=7.3,SNR=45									
ILAR					PcP	**PcP**	**13**	**23**	**30.1**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=288,slow=2.8,SNR=4.6									
ILAR					LR	LR	13	31	51.7	
	comp=Z,184nm,20.9s,baz=286,slow=36									
BJI	**Beijing**	**29.85**	**255**	P		**P**	**13**	**20**	**30.0**	**+0.1**
BJI				S		**S**	**13**	**25**	**28.4**	**+2.4**
BJI				PMZ						
	comp=Z,11nm,0.7s									
BJI				PMZ						
	comp=Z,41nm,3.6s									
BJI				LN						
	comp=Z,450nm,16.6s									
BJI				LE						
	comp=Z,500nm,15.3s									
BJI				LZ						
	comp=Z,310nm,18.8s									
TLY	**Talaya**	**30.12**	**284**	*e*P		**P**	**13**	**20**	**33.5**	**+1.3**
TLY				*e*S		S	13	25	36.9	+6.8
TLY					pmax	pmax				
	comp=Z,3.0nm,0.8s									
TLY					MLR	MLR				
	comp=Z,416nm,18.0s									
TLY	**Talaya**	**30.12**	**284**	*e*P		**P**	**13**	**20**	**34.9**	**+2.7**
	comp=Z,5.5nm,1.1s									
ULN	**Ulaanbaatar**	**30.14**	**276**	⇓ *i*P		**P**	**13**	**20**	**34.6**	**+2.0**
ULN					pmax	pmax				
	comp=Z,2.0nm,1.0s									
SONM	**Songino Array**	**30.53**	**276**	P		**P**	**13**	**20**	**35.7**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=53,slow=7.7,SNR=7.9									
SONM					PcP	**PcP**	**13**	**23**	**33.9**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=69,slow=0.8,SNR=10.0									
SONM					LR	LR	13	33	18.7	
	comp=Z,260nm,21.6s,baz=48,slow=37									
DOT	**Dot Lake**	**30.75**	**50**	*e*P		**P**	**13**	**20**	**36.7**	**-1.0**
	comp=Z,3.1nm,0.6s									
ZAK	**Zakamensk**	**30.95**	**282**	*e*P		**P**	**13**	**20**	**41.9**	**+2.3**
ZAK					pmax	pmax				
	comp=Z,3.0nm,1.5s									
EGAK	**Eagle**	**31.71**	**47**	*e*P		**P**	**13**	**20**	**45.0**	**-1.1**
	comp=Z,6.2nm,1.0s									
HHC	**Hu-ho-hao-te**	**31.86**	**261**	*e*P		**P**	**13**	**20**	**45.3**	**-2.5**
HHC					PP	**PnPn**	**13**	**21**	**48.9**	**-3.4**
HHC					PcP	**PcP**	**13**	**23**	**34.4**	**-3.7**
HHC					S	**S**	**13**	**25**	**55.8**	**-1.9**
HHC					SS	**SnSn**	**13**	**27**	**46.4**	**+0.8**
HHC					PMZ					
	comp=Z,25nm,0.8s									
HHC					PMZ					
	comp=Z,82nm,5.4s									
HHC					LN					
	comp=Z,420nm,12.1s									
HHC					LE					
	comp=Z,400nm,12.4s									
HHC					LZ					
	comp=Z,540nm,12.5s									
INK	**Inuvik**	**33.81**	**39**	P		**P**	**13**	**21**	**04.8**	**+0.4**
	comp=Z,3.3nm,0.5s,baz=306,slow=7.3,SNR=31									
INK				PcP		**PcP**	**13**	**23**	**42.8**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=284,slow=4.4,SNR=7.3									
NJ2	**Nanjing**	**34.47**	**242**	*e*P		**P**	**13**	**21**	**10.8**	**+0.3**
NJ2				S		**S**	**13**	**26**	**37.0**	**-1.1**
NJ2				PMZ						
	comp=Z,20nm,0.6s									
NJ2				LN						
	comp=Z,2μm,17.0s									
NJ2				LE						
	comp=Z,450nm,19.8s									
NJ2				LZ						
	comp=Z,810nm,18.9s									
WRAK	**Wrangell Islan**	**38.91**	**58**	*e*P		**P**	**13**	**21**	**49.7**	**+1.7**
	comp=Z,5.7nm,0.8s									
ZALV	**Zalesovo Beam**	**38.94**	**298**	P		**P**	**13**	**21**	**47.1**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=76,slow=6.1,SNR=2.1									
ZALV				PcP		**PcP**	**13**	**23**	**57.2**	**-1.3**
	comp=Z,2.9nm,0.5s,baz=56,slow=3.6,SNR=6.5									
ZALV					LR	LR	13	38	49.8	
	comp=Z,228nm,21.3s,baz=70,slow=38									
DLBC	**Dease Lake**	**39.00**	**54**	*e*P		**P**	**13**	**21**	**50.4**	**+1.6**
NVS	**Novosibirsk**	**39.26**	**300**	⇑ *i*P		**P**	**13**	**21**	**49.8**	**-1.2**
NVS					pmax	pmax				
	comp=E,26nm,1.5s									
NVS					pmax	pmax				
	comp=N,46nm,1.5s									
NVS					pmax	pmax				
	comp=N,8.0nm,1.1s									
GTA	**Gaotai**	**39.48**	**270**	*e*P		**P**	**13**	**21**	**53.8**	**+0.6**
GTA				pP		**pP**	**13**	**21**	**58.3**	**+0.3**
GTA				sP		**sP**	**13**	**22**	**00.9**	**+0.9**
GTA				PP		**PnPn**	**13**	**23**	**27.6**	**+1.1**
GTA				PcP		**PcP**	**13**	**24**	**03.8**	**+3.1**
GTA				S		**S**	**13**	**27**	**55.3**	**+0.8**
GTA				sS		**sS**	**13**	**28**	**02.3**	**-0.3**
GTA				SS		**SS**	**13**	**30**	**41.8**	**-6.9**
GTA				PMZ						
	comp=N,4.0nm,1.5s									
GTA				PMZ						
	comp=N,75nm,4.5s									
GTA				LN						
	comp=N,340nm,15.7s									
GTA				LE						
	comp=N,340nm,16.2s									
GTA				LZ						
	comp=N,490nm,15.2s									
LZH	**Lanzhou**	**39.52**	**262**	P		**P**	**13**	**21**	**56.3**	**+2.8**
LZH				pP		**pP**	**13**	**21**	**59.8**	**+1.4**
LZH				sP		**sP**	**13**	**22**	**03.0**	**+2.6**
LZH				PP		**PnPn**	**13**	**23**	**26.0**	**-1.1**
LZH				*e*S		**S**	**13**	**27**	**58.1**	**+2.9**
LZH				SS		SS	13	30	38.0	-12
LZH				PMZ						
	comp=N,27nm,1.0s									
LZH				PMZ						
	comp=N,110nm,4.2s									
LZH				LN						
	comp=N,470nm,14.3s									
LZH				LE						
	comp=N,790nm,13.4s									
LZH				LZ						
	comp=N,990nm,15.0s									
GUMO	**Guam**	**42.60**	**195**	LR		LR	13	39	00.5	
	comp=N,68nm,19.4s,baz=21,slow=35									
YKA	**Yellowknife Ar**	**43.38**	**43**	P		**P**	**13**	**22**	**24.4**	**-0.2**
	comp=N,1.0nm,0.5s,baz=307,slow=7.8,SNR=14									
YKA				PcP		**PcP**	**13**	**24**	**12.6**	**-0.2**
	comp=N,0.7nm,0.5s,baz=315,slow=3.6,SNR=12									
WMQ	**Urumqi**	**43.39**	**284**	P		**P**	**13**	**22**	**26.1**	**+1.0**
WMQ				pP		**pP**	**13**	**22**	**30.6**	**+0.6**
WMQ				sP		**sP**	**13**	**22**	**33.1**	**+1.1**
WMQ				PcP		**PcP**	**13**	**24**	**15.3**	**+2.0**
WMQ				PcS		**PcS**	**13**	**28**	**06.6**	**+0.7**
WMQ				S		**S**	**13**	**28**	**54.9**	**+2.6**
WMQ				sS		**sS**	**13**	**29**	**00.1**	**-0.3**
WMQ				ScS		**ScS**	**13**	**32**	**25.3**	**+1.2**
WMQ				PMZ						
	comp=N,24nm,0.8s									
WMQ				PMZ						
	comp=N,150nm,4.8s									
WMQ				LN						
	comp=N,440nm,21.0s									
WMQ				LE						
	comp=N,250nm,24.0s									
WMQ				LZ						
	comp=N,280nm,19.0s									
CD2	**Chengdu**	**43.40**	**257**	*e*P		**P**	**13**	**22**	**27.1**	**+1.8**
CD2				PP		**P

comp=Z,260nm,14.6s
ARCES **ARCESS Array B 49.96 339** P **P** **13 23 14.4 -1.7**
comp=Z,1.1nm,0.5s,baz=33,slow=8.6,SNR=10
ARCES PcP **PcP** **13 24 34.9 -1.1**
comp=Z,1.0nm,0.8s,baz=347,slow=3.7,SNR=4.0
ARCES LR LR 13 48 00.5
comp=Z,32nm,18.8s,baz=12,slow=40
TKM2 Tokmak 2 50.55 291 *e*P **P** **13 23 20.7 -0.6**
TKM2 pmax pmax
comp=Z,3.0nm,0.7s
TKM2 Tokmak 2 50.55 291 *e*P **P** **13 23 20.7 -0.6**
comp=Z,3.1nm,0.7s
PRGR Permogore 50.72 324 *e*P **P** **13 23 22.7 +0.8**
PRGR pmax pmax
comp=Z,9.0nm,0.6s
TMCR Tamitsa 51.18 330 *e*P **P** **13 23 25.3 0.0**
TMCR pmax pmax
comp=Z,17nm,1.1s
AAK Ala-Archa 51.34 291 ⇓*i*P **P** **13 23 27.6 +0.5**
AAK pmax pmax
comp=Z,27nm,1.3s
AAK Ala-Archa 51.34 291 *e*P **P** **13 23 26.9 -0.2**
comp=Z,11nm,0.9s
LSA Lhasa 51.41 267 *e*P **P** **13 23 29.1 +1.0**
LSA pmax pmax
comp=Z,16nm,1.0s
LSA Lhasa 51.41 267 *e*P **P** **13 23 29.1 +1.0**
comp=Z,16nm,1.0s
I04A Tendick Farm, 51.66 66 ⇓P **P** **13 23 30.3 +1.0**
baz=52
EKS2 Erkin-Say 51.70 292 *e*P **P** **13 23 29.6 -0.1**
EKS2 pmax pmax
comp=Z,10.0nm,0.9s
EKS2 Erkin-Say 51.70 292 *e*P **P** **13 23 29.6 -0.1**
comp=Z,10nm,0.9s
L02D Cave Junction, 52.18 69 ⇓P **P** **13 23 33.4 +0.2**
baz=52
J05D Fort Rock, OR 52.63 66 ⇓P **P** **13 23 37.5 +0.8**
baz=52
BSMT Bassoo Peak 52.66 58 *e*P **P** **13 23 37.2 +0.4**
comp=Z,4.1nm,0.8s
KSH Kashi 52.74 287 P P 13 23 41.6 +4.1
KSH PP PP 13 25 42.3 +5.8
KSH PcS **PcS** **13 28 48.1 +2.4**
KSH S **S** **13 31 09.4 +4.6**
KSH ScS **ScS** **13 33 29.3 +2.8**
KSH PMZ
comp=Z,8.0nm,1.0s
KSH LN
comp=Z,400nm,14.2s
KSH LE
comp=Z,120nm,6.7s
KSH LZ
comp=Z,220nm,6.7s
JTMT Jette 52.97 58 *e*P **P** **13 23 39.5 +0.4**
comp=Z,1.6nm,0.6s
KKAR Karatay Array 53.10 294 *e*P **P** **13 23 39.7 -0.3**
KKAR pmax pmax
comp=Z,9.0nm,0.8s
KKAR Karatay Array 53.10 294 *e*P **P** **13 23 39.7 -0.3**
comp=Z,8.6nm,0.8s
M02C Callahan 53.12 69 ⇓P **P** **13 23 40.8 +0.6**
baz=53
KLMR Klimovskoe 53.27 327 *e*P **P** **13 23 40.9 -0.1**
KLMR pmax pmax
comp=Z,32nm,1.6s
M04C Macdoel 53.37 68 ⇑P **P** **13 23 43.0 +0.9**
baz=53
N02D Trinity Center 53.49 69 ⇑P **P** **13 23 43.6 +0.6**
baz=53
SLMT Seeley Lake 53.71 58 *e*P **P** **13 23 44.2 -0.4**
comp=Z,6.8nm,1.2s
MSO Missoula 53.79 58 ⇑P **P** **13 23 45.5 +0.4**
baz=54
ABKAR Akbulak array 53.91 306 *e*P **P** **13 23 45.6 -0.2**
comp=Z,7.1nm,0.9s
EGMT Eagleton 54.91 55 ⇑P **P** **13 23 53.6 +0.3**
baz=55
A20A Cobblestone Ra 55.13 53 ⇓P **P** **13 23 55.0 +0.2**
baz=55
TAPN Taplejung 55.15 268 *e*P **P** **13 23 55.3 -0.2**
comp=Z,34nm,1.0s
B20A Solberg Farm, 55.41 53 ⇓P **P** **13 23 57.2 +0.4**
baz=55
C19A Slack Wire Ran 55.45 55 ⇓P **P** **13 23 57.7 +0.6**
baz=55,SNR=7.4
A21A Bergtoll Ranch 55.50 52 ⇑P **P** **13 23 57.9 +0.5**
baz=55,SNR=6.4
CHTO Chiang Mai 55.63 252 *e*P **P** **13 23 58.5 -0.1**
CHTO pmax pmax
comp=Z,7.0nm,0.8s
CHTO Chiang Mai 55.63 252 *e*P **P** **13 23 58.5 -0.1**
comp=Z,7.2nm,0.8s
ODAN Odare 55.71 268 *e*P **P** **13 23 58.9 -0.5**
comp=Z,13nm,0.6s
MCMT McKenzie Canyo 55.76 59 *e*P **P** **13 23 59.5 -0.1**
GUN Gumba 55.76 270 *e*P **P** **13 23 59.5 -0.4**
comp=Z,55nm,1.6s
JIRN Jiri 55.78 270 *e*P **P** **13 23 59.6 -0.4**
HLID Hailey 55.90 61 *e*P **P** **13 24 00.8 +0.3**
HLID Hailey 55.90 61 ⇑P **P** **13 24 00.9 +0.3**
baz=56
CMAR Chiang Mai Arr 55.92 252 P **P** **13 24 00.8 +0.1**
comp=Z,3.6nm,0.9s,baz=20,slow=6.0,SNR=16
CMAR LR LR 13 48 55.4
comp=Z,113nm,18.3s,baz=22,slow=37
D19A Cripps Ranch, 55.95 55 ⇓P **P** **13 24 01.3 +0.6**
baz=56
C20A Veseth Ranch, 55.95 54 ⇓P **P** **13 24 01.2 +0.6**
baz=56,SNR=6.1
A22A Carney Farms, 55.95 52 ⇑P **P** **13 24 01.2 +0.5**
baz=56
RAMN Ramite 56.09 269 *e*P **P** **13 24 01.7 -0.4**
comp=Z,33nm,0.9s
KKN Kakani 56.19 271 *e*P **P** **13 24 02.7 -0.2**
C21A Desert Coulee 56.28 53 ⇑P **P** **13 24 03.6 +0.6**
baz=56
PKI Pulchoki 56.29 270 *e*P **P** **13 24 03.1 -0.6**
comp=Z,32nm,1.1s
PKIN Phulchoki 56.29 270 *e*P **P** **13 24 03.1 -0.5**
D20A Manuel Ranch, 56.34 55 ⇑P **P** **13 24 03.8 +0.3**
baz=56
GKN Gorkha 56.40 271 *e*P **P** **13 24 04.0 -0.2**
comp=Z,49nm,1.0s
DMN Daman 56.43 271 *e*P **P** **13 24 04.3 -0.3**
comp=Z,42nm,1.1s
E19A Rath Farm, Rou 56.51 55 ⇑P **P** **13 24 05.4 +0.7**
baz=56
FINES FINESS Array B 56.62 333 P **P** **13 24 04.5 -0.7**
comp=Z,3.4nm,0.7s,baz=42,slow=8.2,SNR=12
FINES LR LR 13 49 55.8
comp=Z,40nm,21.8s,baz=272,slow=38
B23A Brockton 56.76 52 ⇓P **P** **13 24 06.7 +0.3**
baz=56
E20A Meyer Farm, Mu 56.78 55 ⇓P **P** **13 24 07.4 +0.8**
baz=57
F19A Roth Farm, Mol 56.88 56 ⇓P **P** **13 24 07.9 +0.6**
baz=57
WAKR Walker 57.02 69 *e*P **P** **13 24 09.8 +1.3**
comp=Z,18nm,1.6s
DGMT Dagmar 57.11 51 ⇓P **P** **13 24 08.9 +0.1**
baz=57
KOLN Koldanda 57.16 272 *e*P **P** **13 24 09.5 -0.2**
C23A Lambert 57.16 52 ⇑P **P** **13 24 09.8 +0.5**
baz=57
H17A Grant Village 57.18 58 *e*P **P** **13 24 11.9 +2.2**
comp=Z,4.8nm,1.0s
H17A Grant Village 57.18 58 ⇓P **P** **13 24 11.6 +1.9**
baz=57
D22A Cohagen 57.20 53 ⇓P **P** **13 24 10.0 +0.4**
baz=57
IMW Indian Meadow 57.37 59 *e*P **P** **13 24 12.3 +1.2**
comp=Z,5.2nm,1.2s
H18A Shoshone NF, C 57.41 57 ⇓P **P** **13 24 11.4 +0.1**
baz=57
ELK Elko 57.55 64 *e*P **P** **13 24 13.9 +1.5**
ELK pmax pmax
comp=Z,9.0nm,1.4s
ELK Elko 57.55 64 *e*P **P** **13 24 13.9 +1.5**
comp=Z,9.1nm,1.4s
NVAR Mina Array Bea 57.67 68 P **P** **13 24 14.6 +1.4**
comp=Z,3.1nm,0.8s,baz=303,slow=7.1,SNR=24
G20A Bridger 57.69 56 ⇑P **P** **13 24 13.0 -0.1**
baz=58
LOHW Long Hollow 57.74 59 *e*P **P** **13 24 14.9 +1.3**
comp=Z,7.7nm,1.4s
E22A Miles City 57.84 54 ⇑P **P** **13 24 13.8 -0.3**
baz=58
F23A Volborg 58.63 54 ⇑P **P** **13 24 20.2 +0.6**
baz=58
I20A Worland 58.68 57 ⇓P **P** **13 24 20.0 -0.1**
baz=58
H21A Big Horn, Sher 58.69 56 ⇑P **P** **13 24 21.3 +1.2**
baz=58
J19A Crowheart 58.75 58 ⇓P **P** **13 24 21.5 +0.8**
baz=59
HWUT Hardware Ranch 58.76 61 *e*P **P** **13 24 22.4 +1.7**
comp=Z,7.8nm,1.0s
OBN Obninsk 58.79 324 ⇑*i*P **P** **13 24 20.8 +0.4**
OBN *e* 13 26 28.9
OBN pmax pmax
comp=Z,37nm,1.7s
OBN MLR MLR
comp=Z,108nm,17.0s
C27A Sayler Ranch, 58.86 50 ⇓P **P** **13 24 22.1 +0.9**
baz=59
BW06 Boulder Array 58.88 59 *e*P **P** **13 24 22.4 +0.8**
comp=Z,10nm,1.3s
PDAR Pinedale Array 58.88 59 P **P** **13 24 22.4 +0.8**
comp=Z,3.5nm,0.9s,baz=355,slow=4.2,SNR=24
PDAR LR LR 13 50 14.1
comp=Z,61nm,20.0s,baz=50,slow=36
H22A Clearmont 59.04 55 ⇓P **P** **13 24 22.5 0.0**
baz=59
R11A Troy Canyon, C 59.15 66 ⇓P **P** **13 24 24.4 +0.9**
baz=59,SNR=6.4
J20A Shoshoni 59.15 57 ⇓P **P** **13 24 23.5 +0.1**
baz=59
VES Vestal, Richgr 59.18 71 ⇑P **P** **13 24 24.5 +1.0**
baz=59
I21A Big Trails, Te 59.19 57 ⇑P **P** **13 24 24.3 +0.6**
baz=59
DUG Dugway, Tooele 59.19 63 *e*P **P** **13 24 25.3 +1.6**
DUG pmax pmax
comp=Z,8.0nm,1.1s
DUG Dugway, Tooele 59.19 63 *e*P **P** **13 24 25.3 +1.6**
comp=Z,7.8nm,1.1s
DUG Dugway, Tooele 59.19 63 ⇓P **P** **13 24 24.3 +0.5**
baz=59,SNR=7.2
ULM Lac du Bonnet 59.26 45 P **P** **13 24 23.3 -0.5**
comp=Z,2.8nm,0.8s,baz=344,slow=5.6,SNR=4.3
ULM LR LR 13 50 54.4
comp=Z,138nm,19.6s,baz=64,slow=37
J21A Lysite 59.47 57 ⇓P **P** **13 24 26.3 +0.7**
baz=59
I22A 9 Mile Ranch, 59.51 56 ⇓P **P** **13 24 26.0 +0.1**
baz=59
ISA Isabella, Lake 59.64 70 ⇓P **P** **13 24 26.8 0.0**
baz=60
H24A Dirks Ranch, A 59.76 54 ⇓P **P** **13 24 27.8 +0.4**
baz=60
E27A Carson 59.82 51 ⇓P **P** **13 24 28.5 +0.6**
baz=60
TPNV Topopah Spring 59.86 68 ⇑P **P** **13 24 28.7 +0.3**
baz=60,SNR=6.6
MPMC Manual Prospec 59.87 69 ⇓P **P** **13 24 28.8 +0.3**
baz=60,SNR=5.1
J22A Midwest 59.87 56 ⇓P **P** **13 24 29.2 +0.9**
baz=60
LPSR Galich'ya Gora 60.01 321 *e*P **P** **13 24 28.4 -0.5**
LPSR pmax pmax
comp=N,3.0nm,0.8s
LPSR pmax pmax
comp=Z,10.0nm,0.8s
LPSR pmax pmax
comp=E,4.0nm,0.7s
KBL Kabul 60.15 288 *e*P **P** **13 24 29.0 -1.4**
KBL Kabul 60.15 288 *e*P **P** **13 24 29.0 -1.4**
G26A Maurine 60.23 53 ⇑P **P** **13 24 31.2 +0.5**
baz=60
NB2 NORSAR Subarra 60.28 341 P **P** **13 24 30.0 -0.7**
comp=Z,10.0nm,0.9s,baz=23,slow=6.9
NOA NORSAR Array B 60.28 341 P **P** **13 24 30.1 -0.6**
comp=Z,5.7nm,0.8s,baz=23,slow=6.8,SNR=15
NOA LR LR 13 56 50.1
comp=Z,24nm,18.5s,baz=105,slow=42
K22A Casper 60.43 57 ⇑P **P** **13 24 32.9 +0.6**
baz=60
G27A Dupree 60.47 52 ⇑P **P** **13 24 32.7 +0.5**
baz=60
RSSD Black Hills 60.48 54 *e*P **P** **13 24 33.0 +0.4**
RSSD pmax pmax
comp=Z,7.0nm,1.1s
RSSD Black Hills 60.48 54 *e*P **P** **13 24 33.0 +0.4**
comp=Z,7.5nm,1.1s
EDW2 Edwards Air Fo 60.49 71 ⇓P **P** **13 24 33.3 +0.7**
baz=60,SNR=7.0
I25A Rochford 60.69 54 ⇑P **P** **13 24 34.1 +0.1**
baz=60
GSC Goldstone, Bar 60.81 69 *e*P **P** **13 24 35.4 +0.6**
GSC pmax pmax
comp=Z,9.0nm,1.1s
GSC Goldstone, Bar 60.81 69 *e*P **P** **13 24 35.4 +0.6**
comp=Z,9.5nm,1.1s
GSC Goldstone, Bar 60.81 69 ⇓P **P** **13 24 35.4 +0.6**
baz=61
H27A Howes 60.98 53 ⇑P **P** **13 24 36.7 +1.0**
baz=61
N20A Spence Gulch, 60.98 60 ⇑P **P** **13 24 37.2 +1.2**
baz=61,SNR=8.5
VSR Storozhevoye 61.04 320 *e*P **P** **13 24 35.3 -0.7**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=N,20nm,1.1s
VSR pmax pmax
comp=E,10.0nm,0.9s
J25A Sunshine Ranch 61.15 55 ⇓P **P** **13 24 36.9 -0.1**
baz=61
BFSC Mount Baldy Ra 61.16 71 ⇑P **P** **13 24 37.1 -0.1**
baz=61
TUQ Turquoise Moun 61.17 69 ⇓P **P** **13 24 38.1 +0.8**
baz=61
VORD Divnogorie 61.20 319 *e*P **P** **13 24 36.5 -0.5**
VORD pmax pmax
comp=Z,5.0nm,0.7s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.8s
CIS Catalina Islan 61.39 72 ⇑P **P** **13 24 39.2 +0.5**
baz=61
O20A White River Ci 61.52 60 ⇓P **P** **13 24 40.7 +1.0**
baz=61
J26A Sides Ranch, S 61.54 54 ⇓P **P** **13 24 40.2 +0.6**
baz=61
GMRC Granite Mounta 61.81 69 ⇑P **P** **13 24 42.3 +0.6**
baz=62,SNR=5.6
N22A Wattenberg Ran 61.88 58 ⇑P **P** **13 24 43.3 +1.1**
baz=62,SNR=7.9
MURC Murrieta 61.89 71 ⇑P **P** **13 24 42.7 +0.6**
baz=62
N23A Red Feather La 62.06 58 ⇓P **P** **13 24 43.9 +0.5**
baz=62
BELC Belle Mtn. Jos 62.23 70 ⇓P **P** **13 24 44.8 +0.3**
baz=62
J28A Allard Ranch, 62.30 53 ⇓P **P** **13 24 45.1 +0.4**
baz=62
U15A North Rim 62.32 65 ⇓P **P** **13 24 46.0 +0.8**
baz=62,SNR=5.4
O22A Kremmling 62.33 59 ⇓P **P** **13 24 46.7 +1.4**
baz=62
W13A Hualapai Mount 62.50 68 ⇓P **P** **13 24 47.2 +0.8**
baz=62
IRM Iron Mountain 62.56 69 ⇑P **P** **13 24 47.6 +1.0**
baz=62
O23A Lake Granby, G 62.60 58 ⇑P **P** **13 24 48.4 +1.4**
baz=62
N24A Carr 62.62 57 ⇓P **P** **13 24 47.2 +0.2**
baz=62
P22A Eagle 62.67 59 ⇓P **P** **13 24 48.4 +0.9**
baz=62
BC3 Big Chuckawall 62.78 70 ⇑P **P** **13 24 48.9 +0.8**
baz=63
SMCO Snowmass 62.88 60 *e*P **P** **13 24 49.6 +0.6**
comp=E,7.0nm,1.0s
PDMCI Parker Dam,Lak 62.98 68 ⇑P **P** **13 24 50.2 +0.9**
baz=63
ISCO Idaho Springs 63.06 58 *e*P **P** **13 24 51.2 +1.0**
ISCO pmax pmax
comp=Z,13nm,1.3s
ISCO Idaho Springs 63.06 58 *e*P **P** **13 24 51.2 +1.0**
comp=Z,14nm,1.3s
ISCO Idaho Springs 63.06 58 ⇓P **P** **13 24 51.5 +1.3**
baz=63,SNR=8.5
Y12C Blythe 63.20 69 ⇑P **P** **13 24 52.2 +1.4**
baz=63
P23A Jefferson 63.29 59 ⇓P **P** **13 24 53.1 +1.4**
baz=63
WUAZ Wupatki 63.49 65 *e*P **P** **13 24 53.9 +1.0**
comp=Z,15nm,1.1s
WUAZ Wupatki 63.49 65 ⇓P **P** **13 24 54.1 +1.2**
baz=63,SNR=5.6
MVCO Mesa Verde 63.65 62 ⇓P **P** **13 24 54.2 +0.2**
baz=64
Q23A Hartsel 63.65 59 ⇓P **P** **13 24 54.7 +0.6**
baz=64
M28A Bar X Bar Ranc 63.83 55 ⇑P **P** **13 24 55.5 +0.6**
baz=64
Q24A Divide 63.94 59 ⇓P **P** **13 24 56.6 +0.6**
baz=64
S22A 4UR Ranch, Cre 64.07 61 ⇑P **P** **13 24 57.9 +1.1**
baz=64,SNR=6.7
ECSD EROS Data Cent 64.11 50 ⇓P **P** **13 24 56.5 -0.2**
baz=64
R23A Moffat 64.21 60 ⇓P **P** **13 24 57.9 +0.1**
baz=64
X16A Lo Mia Camp, P 64.31 66 ⇑P **P** **13 24 59.6 +1.3**
baz=64,SNR=7.4
P26A Davis Ranch, A 64.34 57 ⇑P **P** **13 24 59.1 +0.7**
baz=64
113A Mohawk Valley, 64.36 69 ⇓P **P** **13 24 58.8 +0.3**
baz=64
GOF Gofitskoye 64.53 313 *e*P **P** **13 24 58.9 -0.4**
SDCO Great Sand Dun 64.72 60 *e*P **P** **13 25 00.9 -0.1**
comp=Z,6.1nm,1.2s
SDCO Great Sand Dun 64.72 60 ⇓P **P** **13 25 01.5 +0.4**
baz=64,SNR=6.2
Q26A Hugo 64.76 58 ⇑P **P** **13 25 01.8 +0.7**
baz=65
SCHQ Schefferville 64.78 25 LR LR 13 56 32.0
comp=Z,134nm,18.9s,baz=54,slow=39
AKASG Malin Array Be 64.92 325 P **P** **13 25 00.7 -1.1**
comp=Z,1.6nm,0.5s,baz=31,slow=6.7,SNR=11
AKASG LR LR 13 55 58.2
comp=Z,37nm,19.6s,baz=30,slow=38
AK02 Malin Array Si 64.96 325 P **P** **13 24 59.1 -2.9**
X18A Snowflake 64.99 65 ⇑P **P** **13 25 03.6 +0.8**
baz=65,SNR=7.4
R26A Arlington 65.28 58 ⇑P **P** **13 25 05.1 +0.5**
baz=65
O30A MW Ranch, Wils 65.40 54 ⇑P **P** **13 25 05.6 +0.5**
baz=65
214A Organ Pipe Nat 65.50 69 ⇓P **P** **13 25 07.2 +1.3**
baz=65
KIV Kislovodsk 65.57 313 *e*P **P** **13 25 07.0 +0.7**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,85nm,17.0s
R27A Eads 65.61 58 ⇑P **P** **13 25 07.1 +0.5**
baz=65
KBZ Khabaz 65.67 312 P **P** **13 25 07.1 +0.4**
comp=Z,7.6nm,1.1s,baz=237,slow=24,SNR=9.3
T25A Trinidad 65.73 59 ⇑P **P** **13 25 08.0 +0.4**
baz=66
P30A Selden 65.82 55 ⇑P **P** **13 25 07.8 -0.1**
baz=66
Q29A Oakley 65.99 56 ⇑P **P** **13 25 08.7 -0.4**
baz=66
ZEI Tsey 66.01 311 *e*P **P** **13 25 08.1 -1.1**
ZEI pmax pmax
comp=Z,11nm,1.2s
P31A Stockton 66.24 54 ⇓P **P** **13 25 10.3 -0.3**
baz=66
Q30A Quinter 66.28 55 ⇓P **P** **13 25 11.3 +0.4**
baz=66
ANMO Albuquerque 66.45 62 ⇑*i*P **P** **13 25 12.3 +0.1**
ANMO pmax pmax
comp=Z,14nm,1.3s
LAZ Ladron 66.53 63 *e*P **P** **13 25 13.8 +1.1**
comp=Z,5.5nm,1.3s
Q32A Meitler Ranch, 67.04 54 ⇓P **P** **13 25 15.3 -0.4**
baz=67
U27A Thompson Grove 67.08 59 ⇑P **P** **13 25 16.3 +0.2**
baz=67
R31A Burdett 67.16 55 ⇑P **P** **13 25 16.4 0.0**
baz=67
Q33A Connelly Farm, 67.37 54 ⇑P **P** **13 25 17.5 -0.2**
baz=67
U28A Mallet 67.40 58 ⇓P **P** **13 25 18.5 +0.4**
baz=67
R32A Long Quarter, 67.43 55 ⇑P **P** **13 25 18.5 +0.4**
baz=67
V27A Dan Oppiter Fa 67.60 59 ⇑P **P** **13 25 19.5 +0.1**
baz=67
121A Cookes Peak, D 67.68 65 ⇑P **P** **13 25 20.2 +0.2**
baz=68
GNI Garni 67.80 309 ⇓*i*P **P** **13 25 21.8 +1.2**
GNI pmax pmax
comp=Z,11nm,1.9s
319A Douglas 67.81 67 ⇑P **P** **13 25 21.9 +1.1**
baz=68
U30A WK&E Inc. Balk 68.04 57 ⇑P **P** **13 25 22.2 +0.1**
baz=68
AMTX Amarillo 68.86 59 ⇑P **P** **13 25 26.9 -0.3**
baz=69
CLL Collm 68.92 336 *e*P **P** **13 25 27.0 -0.2**
CLL *i* pP **pP** **13 25 29.6 -2.8**
comp=Z,9.0nm,1.2s
comp=Z,13nm,1.0s
CLL Collm 68.92 336 *e*P **P** **13 25 27.0 -0.2**
CLL *i* 13 25 29.6
CLL pmax pmax
comp=Z,9.0nm,1.2s
MSTX Muleshoe 69.06 60 *e*P **P** **13 25 28.4 -0.2**
comp=Z,4.3nm,0.6s
X29A Tulia 69.21 59 ⇑P **P** **13 25 29.7 +0.3**
baz=69
T34A McClaskey Farm 69.27 55 ⇑P **P** **13 25 30.0 +0.4**
baz=69
W31A Holland Ranch, 69.46 58 ⇑P **P** **13 25 30.1 -0.8**
baz=69
MNTX Cornudas Mount 69.57 64 *e*P **P** **13 25 32.3 +0.7**
comp=Z,20nm,1.5s
MNTX Cornudas Mount 69.57 64 ⇓P **P** **13 25 32.6 +1.0**
baz=69
X30A Coker Ranch, T 69.61 59 ⇓P **P** **13 25 31.7 -0.2**
baz=69
PRU Pruhonice 69.77 334 AMS AMS 14 00 40.0
comp=Z,100nm,14.2s
GOPC GO Pecny, Ondr 69.78 334 AMS AMS 14 00 30.0
comp=Z,100nm,13.9s
W32A Sentinel 69.84 57 ⇑P **P** **13 25 33.6 +0.3**
baz=70
X31A McDonald Ranch 69.89 58 ⇑P **P** **13 25 33.7 +0.2**
baz=70
Z29A Hungry Hill Ra 70.16 60 ⇑P **P** **13 25 35.3 0.0**
baz=70
128A Castleberry Fa 70.29 61 ⇓P **P** **13 25 36.2 +0.1**
baz=70
Y31A Rekieta Farm, 70.30 59 ⇓P **P** **13 25 35.7 -0.4**
baz=70
WMOK Wichita Mounta 70.38 57 *e*P **P** **13 25 36.2 -0.3**
WMOK pmax pmax
comp=Z,11nm,1.2s
WMOK Wichita Mounta 70.38 57 *e*P **P** **13 25 36.2 -0.3**
comp=Z,11nm,1.2s
X32A Elmer 70.39 58 ⇑P **P** **13 25 36.2 -0.4**
baz=70
Z30A Sanderson Ranc 70.42 60 ⇓P **P** **13 25 36.7 -0.1**
baz=70
V35A Meyer Ranch, C 70.46 55 ⇓P **P** **13 25 37.6 +0.6**
baz=70
MLR Muntele Rosu 70.54 325 LR LR 13 59 44.3
comp=Z,20nm,18.6s,baz=36,slow=39
228A UT Block 9, Go 70.64 61 ⇓P **P** **13 25 37.7 -0.6**
baz=70
Y32A R-V Farms, Ver 70.66 58 ⇓P **P** **13 25 37.9 -0.3**
baz=70
KHC Kasperske Hory 70.80 334 *e*P **P** **13 25 38.7 -0.2**
KHC *e*pP **pP** **13 25 42.0 -2.1**
KHC AMS AMS 14 01 20.0
comp=Z,200nm,15.0s
KHC Kasperske Hory 70.80 334 *e*P **P** **13 25 38.7 -0.2**
KHC *e* 13 25 42.0
KHC MLR MLR
comp=Z,200nm,15.0s
TUL1 Leonard 70.82 54 ⇑P **P** **13 25 39.4 +0.2**
baz=71
Z31A Sharp Cattle R 70.88 59 ⇑P **P** **13 25 39.6 0.0**
baz=71
W35A Tecumseh 70.94 55 ⇑P **P** **13 25 40.2 +0.3**

baz=71
GERES **GERESS Array B** 71.04 334 P P 13 25 40.3 -0.1
comp=Z,0.4nm,0.4s,baz=42,slow=6.0,SNR=4.8
Z32A **Haskell** 71.21 58 ⇓P P 13 25 41.2 -0.4
baz=71
W36A **Wetumka** 71.25 55 ⇓P P 13 25 41.7 -0.1
baz=71
131A **Roby** 71.28 59 ⇑P P 13 25 42.1 0.0
baz=71
Y34A **Reagan Ranch,** 71.50 57 ⇑P P 13 25 43.4 0.0
baz=71
X35A **Drake** 71.51 56 ⇑P P 13 25 43.3 -0.1
baz=71
Z33A **Whitaker Ranch** 71.57 58 ⇓P P 13 25 43.1 -0.6
baz=71
W37A **Quinton** 71.63 54 ⇓P P 13 25 44.4 +0.3
baz=71
X36A **Centrahoma** 71.66 55 ⇑P P 13 25 44.6 +0.3
baz=72
ABTX **Abilene, Hawle** 71.68 59 ⇓P P 13 25 44.4 -0.1
baz=72
330A **Mertzon** 71.92 61 ⇑P P 13 25 46.0 0.0
baz=72
133A **Hamilton Ranch** 72.05 58 ⇓P P 13 25 46.3 -0.3
baz=72
W38A **Poteau** 72.10 54 ⇓P P 13 25 46.6 -0.3
baz=72
X37A **Clayton** 72.11 55 ⇓P P 13 25 46.1 -0.9
baz=72
429A **Davenport Ranc** 72.20 62 ⇑P P 13 25 46.9 -0.8
baz=72
232A **Coleman** 72.28 59 ⇓P P 13 25 47.9 -0.2
baz=72
TXAR **Lajitas Array** 72.34 64 P P 13 25 49.4 +0.8
comp=Z,2.8nm,0.8s,baz=301,slow=4.4,SNR=26
TXAR LR LR 13 54 07.1
comp=Z,53nm,21.9s,baz=0.0,slow=33
331A **San Angelo** 72.37 60 ⇓P P 13 25 48.4 -0.2
baz=72
430A **Baggett Ranch,** 72.39 61 ⇑P P 13 25 48.8 -0.1
baz=72
529A **Stev Forest Ra** 72.44 62 ⇓P P 13 25 49.1 0.0
baz=72
134A **White-Moore Ra** 72.48 58 ⇓P P 13 25 48.5 -0.7
baz=72
233A **Rising Star** 72.54 59 ⇓P P 13 25 49.5 -0.1
baz=72
332A **Millersview** 72.65 60 ⇑P P 13 25 50.1 -0.2
baz=72
KBA **Koelnbreinsper** 72.77 334 ⇑*i*P P 13 25 50.5 -0.5
comp=Z,11nm,1.1s
431A **Sonora** 72.79 61 ⇑P P 13 25 51.2 0.0
baz=73
530A **J-C Ranch, Com** 72.86 62 ⇑P P 13 25 51.6 0.0
baz=73
CDF **Champ du Feu** 72.92 338 *e*P P 13 25 51.2 -0.5
CDF **Champ du Feu** 72.92 338 *e*P P 13 25 51.2 -0.5
CDF **Champ du Feu** 72.92 338 *e*P P 13 25 51.2 -0.5
432A **Menard** 73.04 60 ⇓P P 13 25 52.4 -0.2
baz=73
333A **Richland Sprin** 73.07 59 ⇓P P 13 25 52.8 0.0
baz=73
Z37A **Pogue Cattle C** 73.14 56 ⇓P P 13 25 53.5 +0.5
baz=73
531A **Rocksprings** 73.24 61 ⇓P P 13 25 53.6 -0.2
baz=73
JCT **Junction City** 73.36 60 ⇑P P 13 25 54.4 -0.1
baz=73
Z38A **Mt. Pleasant** 73.39 55 ⇑P P 13 25 54.9 +0.3
baz=73
334A **Lometa** 73.42 59 ⇓P P 13 25 54.6 -0.2
baz=73
433A **Art** 73.48 60 ⇓P P 13 25 54.7 -0.5
baz=73
532A **Rocksprings** 73.59 61 ⇓P P 13 25 55.2 -0.7
baz=73
434A **Burnet** 73.83 59 ⇓P P 13 25 56.7 -0.6
baz=74
631A **Perdido Creek** 73.84 62 ⇓P P 13 25 57.3 0.0
baz=74
533A **Kerrville** 74.07 60 ⇓P P 13 25 58.3 -0.3
baz=74
632A **Uvalde** 74.16 61 ⇑P P 13 25 58.9 -0.3
baz=74
534A **Blanco** 74.38 60 ⇓P P 13 26 00.4 -0.1
baz=74
GRR **Gorron** 74.46 344 *e*P P 13 26 00.0 -0.6
comp=Z,19nm,1.0s
GRR **Gorron** 74.46 344 *e*P P 13 26 00.0 -0.6
GRR pmax pmax
comp=Z,19nm,1.0s
GRR **Gorron** 74.46 344 *e*P P 13 26 00.0 -0.6
comp=Z,19nm,1.0s
732A **Laxson Ranch,** 74.70 62 ⇓P P 13 26 02.2 -0.1
baz=74
LOR **Lormes** 74.71 340 *e*P P 13 26 00.7 -1.4
LOR **Lormes** 74.71 340 *e*P P 13 26 00.7 -1.4
LOR **Lormes** 74.71 340 *e*P P 13 26 00.7 -1.4
CABF **La Chapelle** 74.89 338 *e*P P 13 26 01.8 -1.4
comp=Z,13nm,1.0s
CABF **La Chapelle** 74.89 338 *e*P P 13 26 01.8 -1.4
CABF pmax pmax
comp=Z,13nm,1.0s
CABF **La Chapelle** 74.89 338 *e*P P 13 26 01.8 -1.4
comp=Z,13nm,1.0s
AVF **Avril sur Loir** 75.27 340 *e*P P 13 26 04.4 -0.9
AVF **Avril sur Loir** 75.27 340 *e*P P 13 26 04.4 -0.9
AVF **Avril sur Loir** 75.27 340 *e*P P 13 26 04.4 -0.9
SMF **Signal de Mont** 75.31 340 *e*P P 13 26 04.5 -1.1
SMF **Signal de Mont** 75.31 340 *e*P P 13 26 04.5 -1.1
SMF **Signal de Mont** 75.31 340 *e*P P 13 26 04.5 -1.1
LPL **La Plagne** 75.79 338 *e*P P 13 26 07.3 -1.3
comp=Z,5.0nm,0.6s
LPL **La Plagne** 75.79 338 *e*P P 13 26 07.3 -1.3
LPL pmax pmax
comp=Z,5.0nm,0.6s
LPL **La Plagne** 75.79 338 *e*P P 13 26 07.3 -1.3
comp=Z,5.0nm,0.6s
LPG **La Plagne** 75.81 338 *e*P P 13 26 07.4 -1.4
LPG **La Plagne** 75.81 338 *e*P P 13 26 07.4 -1.4
LPG **La Plagne** 75.81 338 *e*P P 13 26 07.4 -1.4
WRA **Warramunga Arr** 77.21 200 P P 13 26 16.1 -0.4
comp=Z,3.3nm,0.7s,baz=14,slow=5.9,SNR=23
MMAI **Mount Meron Ar** 77.84 312 LR LR 14 06 00.7
comp=Z,36nm,19.5s,baz=230,slow=40
IDI **Anoyia** 79.98 321 LR LR 14 04 33.3
comp=Z,23nm,19.8s,baz=14,slow=38
AS31 **Alice Springs** 80.92 199 *e*P P 13 26 36.4 -0.4
ESDC **Sonseca Array** 83.45 344 P P 13 26 50.5 +0.4
comp=Z,4.4nm,0.8s,baz=2.8,slow=5.1,SNR=15
PPT **Papeete** 86.53 128 LR LR 13 58 50.0
comp=Z,90nm,21.8s,baz=101,slow=31
STKA **Stephens Creek** 87.83 191 LR LR 14 10 53.0
comp=Z,19nm,18.0s,baz=15,slow=39
PLCA **Paso Flores** 146.87 83 PKPbc PKPbc 13 34 03.9 -0.5
comp=Z,3.7nm,0.8s,baz=274,slow=5.7,SNR=3.5

*ISCJB **18** 13:16:13.8±0.5, 32°.33N±0°.03×115°.37W±0°.04, h14km±4km, Error ellipse: s-maj=5.3km s-min=4.8km az=135.6*
*NEIC **18** 13:16:15.7, 32°.31N×115°.40W, h8km, ML3.1(PAS), ML3.2(ECX), After ECX.*
NEIC Felt at Calexico, California.
*MEX **18** 13:16:15.2±1.0, 32°.46N×115°.18W, h21km±8km, MD3.7*
*ECX **18** 13:16:15.7±0.6, 32°.32N×115°.40W, h6km, MD3.0, ML3.2*

ISC 18 13:16:13.5±1.0, 32°.33N±0°.03×115°.34W±0°.04, h18km±3km, n26, σ0°962/36, 9C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.10**	**19**	*e*P		**Pg**	**13 16 17.6**	**+0.3**
CPBX				*i* S		**Sg**	**13 16 19.6**	**-0.1**
CPBX	**Cerro Prieto**	**0.10**	**19**	⇑*e*P		**Pg**	**13 16 16.6**	**-0.7**
CPBX				*e*S		**Sg**	**13 16 18.4**	**-1.4**
CPBX				⇑*e*			13 16 21.3	
CPBX				IAML			13 16 21.3	
	comp=N,21μm,0.4s							
CPBX				IAML			13 16 22.4	
	comp=E,19μm,0.3s							
CPBX				*e*			13 16 22.4	
MBIG	**Mexicali**	**0.15**	**56**	*e*P		**Pg**	**13 16 19.0**	**+1.3**
MBIG				*e*S		**Sg**	**13 16 21.5**	**+0.8**
SGL	**Mount Signal**	**0.46**	**315**	⇓*i*P		**Pb**	**13 16 23.1**	**+0.1**
EMSC	**East Mesa**	**0.51**	**36**	⇑*i*P		**Pn**	**13 16 25.8**	**-0.1**
WESC	**Westside Schoo**	**0.54**	**323**	*e*P		**Pb**	**13 16 25.2**	**+0.7**
COA	**Coachella**	**0.57**	**19**	⇑*i*P		**Pn**	**13 16 26.4**	**-0.3**
RDX	**Rancho Dawling**	**0.65**	**232**	*e*P		**Pb**	**13 16 26.1**	**-0.2**
RDX				⇑*e*			13 16 37.0	
	comp=N,764nm,0.5s							
RMX	**La Rumorosa**	**0.68**	**294**	*e*P		**Pb**	**13 16 26.6**	**-0.3**
RMX				*e*S		**Sb**	**13 16 36.0**	**0.0**
ECBX	**El Chinero**	**0.89**	**164**	⇑*e*P		**Pb**	**13 16 29.2**	**-1.1**
ECBX				*e*S		**Sb**	**13 16 41.5**	**-0.3**
ECBX				⇑*e*			13 16 42.8	
	comp=E,436nm,0.5s							
ECBX				⇑*e*			13 16 44.7	
ECBX				IAML			13 16 44.7	
	comp=N,1μm,0.8s							
CBX	**Cerro Bola**	**1.12**	**270**	*i* P		**Pb**	**13 16 34.6**	**+0.2**
CBX	**Cerro Bola**	**1.12**	**270**	*i* P		**Pb**	**13 16 34.6**	**+0.2**
CBX	**Cerro Bola**	**1.12**	**270**	*e*P		**Pb**	**13 16 34.5**	**+0.2**
CBX				*e*S		**Sb**	**13 16 48.4**	**-0.3**
CBX				⇑*e*			13 16 51.3	
	comp=E,698nm,0.5s							
ZAX	**El Zacaton**	**1.13**	**225**	*e*P		**Pb**	**13 16 34.9**	**+0.3**
ZAX				*e*S		**Sb**	**13 16 49.4**	**+0.3**
BAR	**Barrett**	**1.18**	**288**	*e*Pg		**Pn**	**13 16 35.2**	**+0.1**
BAR				*e*Sg		**Sb**	**13 16 50.2**	**-0.1**
BAR	**Barrett**	**1.18**	**288**	*e*P		**Pb**	**13 16 35.5**	**+0.2**
ECNX	**Esteban Cantu**	**1.26**	**238**	*e*S		**Sn**	**13 16 53.3**	**+0.5**
SPIG	**San Pedro Mart**	**1.28**	**185**	*e*P		**Pn**	**13 16 36.8**	**0.0**
SPIG	**San Pedro Mart**	**1.28**	**185**	*e*P		**Pn**	**13 16 36.8**	**0.0**
SPX	**San Pedro Mart**	**1.28**	**185**	*e*P		**Pb**	**13 16 37.3**	**0.0**
SPX	**San Pedro Mart**	**1.28**	**185**	*e*P		**Pb**	**13 16 37.3**	**0.0**
PBX	**Punta Banda**	**1.31**	**244**	*e*P2		**Pb**	**13 16 37.8**	**+0.2**
PBX				*e*S		**Sb**	**13 16 54.7**	**+0.7**
PFO	**Pinyon Flats O**	**1.59**	**324**	*e*Pn		**Pn**	**13 16 40.6**	**-0.2**
PFO				*e*Sn		**Sn**	**13 16 59.9**	**-1.0**
214A	**Organ Pipe Nat**	**2.18**	**99**	*e*Pn		**Pn**	**13 16 49.4**	**+0.5**
MWC	**Mount Wilson**	**2.96**	**310**	*e*Pg		**Pb**	**13 17 06.8**	**+1.0**
GSC	**Goldstone, Bar**	**3.21**	**338**	*e*Pn		**Pn**	**13 17 01.7**	**-1.4**

*DDA **18** 13:28:18.4, 36°.50N×40°.51E, h22km, MD3.5*
*ISK **18** 13:28:22.0, 36°.77N×40°.57E, h5km, ML3.5*
*CSEM **18** 13:28:23.0±0.5, 36°.73N×40°.57E, h10km, ML3.5, Error ellipse: s-maj=12.6km s-min=8.0km az=7.0*

ISC 18 13:28:20.1±1.7, 36°.59N±0°.05×40°.47E±0°.03, h19km±3km, n31, σ1°948/38, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MARD	**Mardin**	**0.77**	**19**	*i* P		**Pb**	**13 28 34.7**	**-0.2**
MAZI	**Mazidag**	**0.87**	**359**	*e*PG		**Pb**	**13 28 35.8**	**-0.9**
MAZI				*e*SG		**Sb**	**13 28 46.1**	**-1.9**
MAZI	**Mazidag**	**0.87**	**359**	*e*Pg		**Pb**	**13 28 35.8**	**-0.9**
MAZI				*e*Sg		**Sb**	**13 28 46.1**	**-1.9**
DIY	**Diyarbakir**	**1.32**	**352**	*e*Pn		**Pg**	**13 28 45.6**	**0.0**
DIY				*e*Sn		**Sg**	**13 29 02.4**	**-0.5**
DIYA	**Diyarbakir**	**1.36**	**348**	*i* S		**Sn**	**13 29 01.1**	**-0.6**
DIYA	**Diyarbakir**	**1.36**	**348**	*i* P		Pn	13 28 40.1	-4.0
DIYA				*i* S		**Sn**	**13 29 01.1**	**-0.6**
DYBB	**Diyarbakir**	**1.39**	**349**	*e*PN		**Pb**	**13 28 45.6**	**+0.1**
DYBB				*e*SN		**Sn**	**13 29 02.4**	**0.0**
BEST	**Besiri**	**1.45**	**26**	*i* P		**Pb**	**13 28 46.4**	**-0.1**
BEST				*i* S		**Sn**	**13 29 03.5**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.67**	**20**	*e*PN		**Pb**	**13 28 50.0**	**-0.2**
BTMT	**Batman**	**1.80**	**27**	*e*PN		**Pb**	**13 28 51.5**	**-0.9**
BTMT	**Batman**	**1.80**	**27**	*e*Pn		**Pb**	**13 28 51.5**	**-0.9**
SIRN	**S¨¨–rnak**	**1.80**	**59**	*i* P		**Pn**	**13 28 51.3**	**+1.1**
SIRN				*i* S		**Sb**	**13 29 15.9**	**+1.1**
SIRN	**S¨¨–rnak**	**1.80**	**59**	*i* P		**Pn**	**13 28 51.3**	**+1.1**
SIRN				*i* S		**Sb**	**13 29 15.9**	**+1.1**
SIRT	**Sirnak**	**1.82**	**59**	*e*PN		**Pb**	**13 28 52.1**	**-0.8**
SIRT	**Sirnak**	**1.82**	**59**	*e*Pn		**Pb**	**13 28 52.1**	**-0.8**
ELZG	**Elazig**	**2.24**	**329**	*i* P		**Pb**	**13 29 00.3**	**+0.2**
ELZG				*i* S		**Sb**	**13 29 26.8**	**-0.7**
ELZG	**Elazig**	**2.24**	**329**	*i* P		**Pb**	**13 29 00.3**	**+0.2**
ELZG				*i* S		**Sb**	**13 29 26.8**	**-0.7**
BINT	**Bingol**	**2.29**	**0**	*e*Pn		**Pb**	**13 29 00.4**	**-0.4**
BNGB	**Bing¶ll**	**2.41**	**4**	*e*PN		**Pn**	**13 29 00.4**	**+1.9**
BNGL	**BINGOL**	**2.42**	**13**	*i* P		**Pn**	**13 29 00.3**	**+1.4**
BNGL				*i* S		**Sb**	**13 29 33.4**	**+0.7**
CUKT	**Cukurca**	**2.60**	**74**	*e*PN		**Pb**	**13 29 04.0**	**-2.2**
CUKT	**Cukurca**	**2.60**	**74**	*e*Pn		**Pb**	**13 29 04.0**	**-2.2**
KUZU	**Kuzuini**	**2.73**	**275**	*i* P		**Pb**	**13 29 06.3**	**-2.0**
KUZU				*i* S		**Sb**	**13 29 44.4**	**+2.9**
KUZU	**Kuzuini**	**2.73**	**275**	*i* P		**Pb**	**13 29 06.3**	**-2.0**
KUZU				*i* S		**Sb**	**13 29 44.4**	**+2.9**
ERZN	**Erzincan**	**3.05**	**349**	*e*PN		Pn	13 29 10.2	+2.7
DARE	**Darende-Malaty**	**3.09**	**311**	*e*PN		**Pb**	**13 29 11.8**	**-2.7**
DARE	**Darende-Malaty**	**3.09**	**311**	*e*Pn		**Pb**	**13 29 11.8**	**-2.7**
ILIC	**ilic-Erzincan**	**3.23**	**333**	*e*PN		Pb	13 29 13.7	-3.2
ILIC	**ilic-Erzincan**	**3.23**	**333**	*e*Pn		Pb	13 29 13.7	-3.2
AGRB	**Hanur-Agry**	**3.59**	**33**	*e*PN		Pn	13 29 17.2	+2.4
AGRB	**Hanur-Agry**	**3.59**	**33**	*e*Pn		Pn	13 29 17.3	+2.4

*NIED **18** 13:43:00, 46°.10N×142°.70E, h380km, Mw4.0 Best double couple: M0 1.23000×10^15 NP1:φs301.00000°, δ17.00000°, λ62.00000°. NP2:φs149.00000°, δ75.00000°, λ98.00000°.*
*MOS **18** 13:43:18.5±1.0, 46°.21N×142°.49E, h353km, mb3.9/9, Error ellipse: s-maj=15.1km s-min=8.8km az=90.2*
*IDC **18** 13:43:18.9±0.6, 46°.26N×142°.52E, h336km±8km, mb3.4/14, mb1 3.6/20, mb1mx3.4/29, mbtmp4.1/20, Error ellipse: s-maj=15.3km s-min=11.1km az=164.0*
*ISCJB **18** 13:43:18.2±0.3, 46°.11N±0°.03×142°.65E±0°.06, h350km±2km, mb3.7/16, Error ellipse: s-maj=7.2km s-min=4.7km az=173.0*
*SKHL **18** 13:43:19.8±0.6, 46°.10N×142°.64E, h339km±34km, mb4.0/6, msh4.8/2*
*JMA **18** 13:43:19.3±0.2, 46°.06N×142°.71E, h348km±2km, M4.1*

ISC 18 13:43:19.0±0.6, 46°.10N±0°.04×142°.63E±0°.06, h343km±5km, n71, σ1°929/93, mb3.7/16, 5C-2D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**0.86**	**6**	⇑*i*P		**Pn**	**13 44 03.5**	**+0.2**
YSS				AMB		AMB	13 44 04.2	
	180nm,0.3s							
YSS				AMB		AMB	13 44 04.2	
	340nm,0.3s							
YSS				*e*S		**S**	**13 44 37.5**	**-1.5**
YSS				A		A	13 44 38.1	
	370nm,0.8s							
YSS				A		A	13 44 38.1	
	420nm,0.8s							
YSS	**Yuzh-Sakhalins**	**0.86**	**6**	⇑*i*PN		**Pn**	**13 44 03.5**	**+0.2**
YSS				*e*S		**S**	**13 44 37.2**	**-1.8**
YSS				pmax	pmax			
	comp=Z,340nm,0.5s							
YSS				pmax	pmax			
	comp=N,180nm,0.3s							
YSS				smax	smax			
	comp=N,370nm,0.8s							
YSS				smax	smax			
	comp=E,420nm,0.8s							
JWK2	**Keihoku**	**0.94**	**214**	P		**Pn**	**13 44 04.7**	**+0.9**
JWK2				*e*S		**S**	**13 44 39.8**	**+0.1**
JSE	**Soyaes**	**1.14**	**182**	P		**Pn**	**13 44 05.2**	**+0.5**
JSE				*e*S		**S**	**13 44 40.5**	**-0.7**
JRR	**Rishiri**	**1.34**	**224**	P		**Pn**	**13 44 06.5**	**+0.9**
JRR				*e*S		**S**	**13 44 44.3**	**+1.4**
JSS	**Shosan**	**1.79**	**198**	P		**Pn**	**13 44 09.4**	**+1.1**
JSS				*e*S		**S**	**13 44 47.2**	**-0.6**
JYG	**Yagishiri**	**1.88**	**207**	P		**Pn**	**13 44 09.8**	**+1.0**
JYG				*e*S		**S**	**13 44 49.0**	**+0.2**
ASAJ	**Asahikawa**	**1.98**	**181**	P		**Pn**	**13 44 10.5**	**+0.9**
ASAJ				*e*S		**S**	**13 44 52.3**	**+2.1**
ASAJ	**Asahikawa**	**1.98**	**181**	P		**Pn**	**13 44 10.6**	**+0.9**
	comp=E,8.0nm,0.3s,baz=359,slow=5.5,SNR=140							
ASAJ				S		**S**	**13 44 51.0**	**+0.8**
	comp=E,0.9nm,0.3s,baz=233,slow=20,SNR=12							
ASAJ	**Asahikawa**	**1.98**	**181**	PN		**Pn**	**13 44 10.6**	**+0.9**
ASAJ				S		**S**	**13 44 51.0**	**+0.8**
ASAJ				pmax	pmax			
	comp=Z,8.0nm,0.3s							
ASAJ				smax	smax			
	comp=N,1.0nm,0.3s							
JMP	**Maruseppu**	**2.16**	**166**	P		**Pn**	**13 44 11.5**	**+0.6**
JMP				*e*S		**S**	**13 44 52.8**	**+0.3**
JKK2	**Kamakawa 2**	**2.23**	**178**	P		**Pn**	**13 44 12.3**	**+0.9**
JTKR	**Abashiri--Toko**	**2.31**	**157**	P		**Pn**	**13 44 12.8**	**+0.8**
JTKR				*e*S		**S**	**13 44 54.2**	**-0.4**
JRA	**Rausu**	**2.79**	**140**	P		**Pn**	**13 44 16.7**	**+0.7**
JAR	**Ashorobuto**	**2.92**	**163**	P		**Pn**	**13 44 18.0**	**+0.8**
JFR	**Furan**	**2.94**	**181**	P		**Pn**	**13 44 17.9**	**+0.5**
UGL	**Uglegorsk**	**3.00**	**353**	*e*P		**Pn**	**13 44 18.2**	**+0.5**
UGL				AMB		AMB	13 44 19.0	
	comp=N,57nm,0.7s							
UGL				*e*S		**S**	**13 45 04.3**	**-0.6**
UGL				A		A	13 45 05.0	
	comp=N,120nm,0.8s							
YUK	**Yuzh-Kuril'sk**	**3.08**	**131**	*i* PN		Pn	13 44 23.0	+4.4
YUK				*i* S		**S**	**13 45 11.2**	**+4.7**
YUK				pmax	pmax			
	comp=N,6.0nm,0.5s							
YUK				pmax	pmax			
	comp=E,12nm,0.5s							
YUK				pmax	pmax			
	comp=Z,14nm,0.5s							
YUK				smax	smax			
	comp=N,49nm,0.6s							
YUK				smax	smax			
	comp=E,75nm,0.6s							
JSK	**Shakotan**	**3.15**	**210**	P		**Pn**	**13 44 20.3**	**+1.1**
JEW	**Eniwo**	**3.37**	**195**	P		**Pn**	**13 44 22.7**	**+1.4**
JEW				*e*S		**S**	**13 45 10.8**	**-0.7**
JAK	**Akkeshi**	**3.44**	**154**	P		**Pn**	**13 44 21.7**	**-0.3**
JAK				*e*S		**S**	**13 45 09.9**	**-2.7**
NEM2	**Nemuro 2**	**3.52**	**140**	*e*S		**S**	**13 45 10.5**	**-3.6**
JCH	**Churui**	**3.52**	**171**	P		**Pn**	**13 44 21.9**	**-0.9**
JCH				*e*S		**S**	**13 45 10.0**	**-4.2**
JNBK	**Urakawa-nobuka**	**3.82**	**179**	P		**Pn**	**13 44 25.2**	**-0.6**
JNBK				*e*S		**S**	**13 45 17.3**	**-2.3**
ERM	**Erimo**	**4.10**	**175**	*c i* PN		**Pn**	**13 44 28.7**	**0.0**
TEY	**Ternei**	**4.37**	**258**	*e*P		**Pn**	**13 44 32.8**	**+1.5**
TEY				AMB		AMB	13 44 33.5	
	comp=E,21nm,0.8s							
JKB	**Kayabe**	**4.37**	**196**	P		**Pn**	**13 44 31.2**	**-0.3**
JKB				*e*S		**S**	**13 45 28.1**	**-1.8**
JOSM	**Okushiri--Mats**	**4.62**	**211**	P		**Pn**	**13 44 34.5**	**+0.4**
TYV	**Tymovskoe**	**4.77**	**0**	*e*P		**Pn**	**13 44 35.8**	**+0.3**
TYV				AMB		AMB	13 44 36.5	
	comp=E,6.0nm,0.6s							
TYV				*e*S		**S**	**13 45 37.0**	**-0.4**
TYV				A		A	13 45 40.0	
	comp=E,15nm,0.8s							
JOT	**Ohata**	**4.86**	**194**	P		**Pn**	**13 44 36.0**	**-0.7**
JOT				*e*S		**S**	**13 45 35.6**	**-3.9**
HABR	**Khabarovsk**	**5.68**	**297**	*e*P		**Pn**	**13 44 46.4**	**+0.7**
HABR	**Khabarovsk**	**5.68**	**297**	PN		**Pn**	**13 44 46.4**	**+0.7**
HABR				*e*S		**S**	**13 45 54.3**	**-1.7**
GRNR	**Gornyy**	**6.24**	**321**	*e*P		**Pn**	**13 44 52.0**	**-0.1**
GRNR				AMB		AMB	13 44 53.0	
	comp=E,5.0nm,0.6s							
USRK	**Ussuriysk Ar.**	**7.76**	**260**	P		**Pn**	**13 45 11.1**	**+1.0**
	comp=E,2.6nm,0.3s,baz=67,slow=13,SNR=40							
EKMR	**Ekimchan**	**9.38**	**322**	*e*P		**Pn**	**13 45 29.7**	**+0.3**
EKMR				AMB		AMB	13 45 31.0	
	comp=E,5.0nm,0.7s							
MJA0	**Matsu Arr-Jizo**	**10.10**	**201**	*e*PN		**Pn**	**13 45 38.8**	**+0.6**
MJA0				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MAT	**Matsushiro**	**10.11**	**201**	P		**Pn**	**13 45 38.7**	**+0.4**
MJAR	**Matsushiro Arr**	**10.11**	**201**	P		**Pn**	**13 45 38.8**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=9.3,slow=12,SNR=8.0							
MJAR	**Matsushiro Arr**	**10.11**	**201**	PN		**Pn**	**13 45 38.8**	**+0.5**
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
YASR	**Yasnyy**	**11.89**	**313**	*e*P		Pn	13 45 54.0	-5.3
YASR				AMB		AMB	13 45 54.8	
	comp=Z,4.0nm,0.6s							
PETK	**Petropavlovsk-**	**12.02**	**49**	P		**P**	**13 46 01.1**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=213,slow=9.5,SNR=4.2							
ZEA	**Zeya**	**12.50**	**313**	*e*P		**Pn**	**13 46 07.2**	**+0.7**
ZEA				AMB		AMB	13 46 07.7	
	comp=Z,25nm,0.7s							
KSRS	**Korea Array**	**13.95**	**237**	P		**Pn**	**13 46 25.0**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=54,slow=10,SNR=10							
HIA	**Hailar**	**15.72**	**290**	⇑*e*P		**P**	**13 46 40.8**	**-0.8**
YAK	**Yakutsk**	**17.62**	**340**	*e*P		**P**	**13 47 00.6**	**-1.2**
YAK				*e*S		**S**	**13 50 05.7**	**-0.8**
YAK				pmax	pmax			
	comp=Z,3.0nm,0.8s							
YAK				smax	smax			
	comp=E,25nm,1.1s							
YAK				smax	smax			
	comp=N,27nm,1.0s							
SEY	**Seymchan**	**17.75**	**15**	P		**P**	**13 47 03.1**	**-0.1**
	comp=N,1.5nm,0.3s,baz=193,slow=10,SNR=44							
ULN	**Ulaanbaatar**	**24.21**	**287**	⇓*i*P		**P**	**13 48 04.3**	**-1.3**
ULN				pmax	pmax			
	comp=Z,2.0nm,0.6s							
SONM	**Songino Array**	**24.65**	**287**	P		**P**	**13 48 09.6**	**0.0**
	comp=Z,2.4nm,0.7s,baz=81,slow=9.0,SNR=18							
SONM	**Songino Array**	**24.65**	**287**	*e*P		**P**	**13 48 09.7**	**+0.1**
SONM				pmax	pmax			
	comp=Z,2.0nm,0.7s							
MKAR	**Makanchi Array**	**40.67**	**294**	P		**P**	**13 50 26.5**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=71,slow=6.2,SNR=17							
COLA	**College**	**41.11**	**37**	⇑*e*P		**P**	**13 50 29.3**	**-0.7**
COLA				pmax	pmax			
	comp=Z,13nm,1.1s							
ILAR	**Eielson Array**	**41.53**	**38**	P		**P**	**13 50 32.9**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=275,slow=9.4,SNR=25							
AAK	**Ala-Archa**	**47.48**	**292**	‖*e*P		**P**	**13 51 20.1**	**-0.4**
YKA	**Yellowknife Ar**	**55.62**	**33**	P		**P**	**13 52 19.2**	**-0.4**
	comp=Z,2.1nm,0.6s,baz=306,slow=6.9,SNR=19							
YKA	**Yellowknife Ar**	**55.62**	**33**	P		**P**	**13 52 19.2**	**-0.4**
YKA				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ARCES	**ARCESS Array B**	**55.89**	**338**	P		**P**	**13 52 20.9**	**-0.6**
	comp=Z,1.2nm,0.9s,baz=52,slow=5.8,SNR=4.1							
FINES	**FINESS Array B**	**61.29**	**331**	P		**P**	**13 52 57.5**	**-0.9**
	comp=Z,1.8nm,0.4s,baz=46,slow=6.5,SNR=15							
FINES	**FINESS Array B**	**61.29**	**331**	P		**P**	**13 52 57.5**	**-0.9**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.4s							
WRA	**Warramunga Arr**	**66.16**	**189**	P		**P**	**13 53 31.8**	**+1.4**
	comp=Z,0.5nm,1.0s,baz=4.2,slow=5.9,SNR=3.8							
WRA				PcP		**PcP**	**13 53 58.8**	**+1.2**
	comp=Z,0.2nm,0.7s,baz=5.5,slow=4.7,SNR=5.1							
NB2	**NORSAR Subarra**	**66.21**	**336**	P		**P**	**13 53 29.4**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=34,slow=6.5							
NOA	**NORSAR Array B**	**66.21**	**336**	P		**P**	**13 53 29.1**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=34,slow=6.5,SNR=4.2							
NOA	**NORSAR Array B**	**66.21**	**336

SDLR				*e*S	Sn	13 47 09.6	+0.2	
SMAR	**Somma**	**0.98**	**320**	*e*P	Pn	13 46 58.3	+1.3	
AVH	**Avacha**	**1.01**	**318**	*e*P	Pn	13 46 58.9	+1.7	
AVH				*e*S	Sn	13 47 11.9	+1.4	
MTVR	**Mutnovka**	**1.03**	**269**	*e*P	Pn	13 46 58.7	+1.2	
MTVR				*e*S	Sn	13 47 11.1	+0.1	
KRER	**Koryakskii**	**1.04**	**320**	*e*P	Pn	13 46 59.3	+1.6	
KRER				*e*S	Sn	13 47 12.2	+0.9	
KOK	**Koryaka**	**1.07**	**317**	*e*P	Pn	13 46 59.8	+1.7	
KOK				*e*S	Sn	13 47 12.8	+0.8	
GRL	**Gorelyy**	**1.09**	**272**	*e*P	Pn	13 47 00.2	+1.8	
GRL				*e*S	Sn	13 47 14.2	+1.7	
KRX	**Arik**	**1.12**	**319**	*e*P	Pn	13 47 00.2	+1.5	
KRX				*e*S	Sn	13 47 13.4	+0.2	
ASAK	**Asacha**	**1.21**	**264**	*e*P	Pn	13 47 01.7	+1.8	
ASAK				*e*S	Sn	13 47 16.7	+1.5	
KII	**Karymskiy**	**1.54**	**351**	*e*P	Pn	13 47 07.0	+2.6	
KII				*e*S	Sn	13 47 25.5	+2.2	
GNL	**Ganaly**	**1.65**	**316**	*e*P	Pn	13 47 08.4	+2.4	
GNL				*e*S	Sn	13 47 27.7	+1.6	
APC	**Apacha**	**1.69**	**285**	*e*P	Pn	13 47 08.9	+2.5	
APC				*e*S	Sn	13 47 29.2	+2.3	
MIPR	**Malaya Ipel'ka**	**1.92**	**264**	*e*P	Pn	13 47 13.4	+4.0	
MIPR				*e*S	Sn	13 47 36.2	+3.8	
PAU	**Pauzhetka**	**2.16**	**242**	*e*P	Pn	13 47 14.9	+2.2	
PAU				*e*S	Sn	13 47 42.5	+4.2	
MKZ	**Mys Kozlova**	**2.33**	**28**	*e*P	Pn	13 47 18.9	+4.0	
MKZ				*e*S	Sn	13 47 45.1	+2.8	
KZV	**Kizimen**	**2.61**	**5**	*e*P	Pn	13 47 22.8	+3.7	
KZV				*e*S	Sn	13 47 52.9	+3.2	
TUMR	**Tumrok**	**2.77**	**3**	*e*P	Pn	13 47 25.6	+4.3	
TUMR				*e*S	Sn	13 47 57.9	+4.2	
SKR	**Severo-Kuril's**	**2.97**	**233**	*e*S	Sn	13 48 00.8	+2.6	
ESO	**Esso**	**3.48**	**349**	*e*P	Pn	13 47 34.8	+3.9	
KBTR	**Krutoberegovo**	**4.08**	**24**	*e*P	Pn	13 47 43.6	+4.6	
KBTR				*e*S	Sn	13 48 29.5	+4.0	
BKI	**Bering**	**4.51**	**51**	*e*P	Pn	13 47 48.2	+3.4	
BKI				*e*S	Sn	13 48 34.6	-1.3	

JMA ***18*** *14:11:13.9±0.2,28.°78N×128.°53E, h7km±3km, M3.4*
IDC ***18*** *14:11:14.6±1.6,28.°51N×128.°38E, h0km, mb3.2/3, mb1 3.5/4,mb1mx3.3/24,mbtmp3.3/4,ML3.0/1,MS2.8/2, Ms1 2.8/2,ms1mx2.5/12,Error ellipse: s-maj=51.9km s-min=25.8km az=73.0*

ISC 18 14:11:14.6±2.1,28.°74N±0.°05×128.°57E±0.°09, h5km±15km, n14,σ0≧98/16, mb3.2/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.69**	**53**	P		**Pg**	**14 11 27.4**	**-0.5**
JTAJ				S		**Sg**	**14 11 36.4**	**-0.4**
JAMN	**Amaminishikomi**	**0.73**	**133**	P		**Pg**	**14 11 29.0**	**+0.4**
JAM	**Amami Oshima**	**0.97**	**110**	P		**Pg**	**14 11 32.9**	**-0.3**
JAM				S		**Sg**	**14 11 46.3**	**+0.6**
JTK	**Tokunoshima**	**1.01**	**161**	P		**Pg**	**14 11 33.6**	**-0.4**
JTK				*e*S		**Sg**	**14 11 47.4**	**+0.3**
JZK	**Kikaishima**	**1.30**	**109**	P		**Pb**	**14 11 39.4**	**-0.2**
JZK				*e*S		**Sg**	**14 11 57.8**	**+1.3**
JOKE	**Okinoerabujima**	**1.38**	**180**	P		**Pn**	**14 11 39.6**	**-0.9**
JOKE				*e*S		**Sn**	**14 11 59.0**	**-0.1**
JIH	**Iheya**	**1.78**	**198**	P		**Pn**	**14 11 46.0**	**-0.1**
JOW	**Kunigami**	**1.92**	**188**	P		**Pn**	**14 11 47.6**	**-0.4**
JNU	**Nakatsue**	**4.79**	**24**	Pn		Pn	14 12 31.6	+4.0
	0.7nm,0.3s,baz=201,slow=8.6,SNR=8.0							
KSRS	**Korea Array**	**8.71**	**357**	LR		LR	14 16 49.2	
	comp=Z,81nm,18.7s,baz=152,slow=38							
MJAR	**Matsushiro Arr**	**11.24**	**44**	LR		LR	14 19 16.7	
	comp=Z,27nm,18.3s,baz=225,slow=42							
SONM	**Songino Array**	**25.66**	**324**	P		**P**	**14 16 48.0**	**+2.6**
	0.2nm,0.3s,baz=134,slow=8.4,SNR=2.3							
MKAR	**Makanchi Array**	**40.13**	**310**	P		**P**	**14 18 51.3**	**-0.1**
	0.1nm,0.4s,baz=111,slow=6.9,SNR=2.1							
WRA	**Warramunga Arr**	**48.72**	**173**	P		**P**	**14 19 59.3**	**-0.9**
	0.5nm,0.8s,baz=353,slow=8.2,SNR=3.5							

NNC 18 14:41:25.2±8.8,37.°45N×70.°75E, h0km, mb3.9, mpv3.5, 7C-3D, Error ellipse: s-maj=74.9km s-min=50.3km az=165.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.04**	**312**	⇑P	n	Pn	14 42 02.0	+1.1
	19nm,0.3s							
DZET				⇓L	g	Lg	14 42 35.9	
	51nm,0.5s							
SFK	**Sufi-Kurgan**	**3.35**	**39**	⇑P	n	Pn	14 42 21.5	+2.4
	3.2nm,0.3s							
SFK				⇑L	g	Lg	14 43 12.2	
	18nm,0.3s							
MNAS	**Manas**	**5.21**	**14**	⇓P	n	Pn	14 42 44.7	+0.1
	5.9nm,0.6s							
MNAS				⇑S	n	Sn	14 43 52.4	+6.8
	14nm,1.1s							
KK31	**Karatay Array**	**5.65**	**358**	⇓P	n	Pn	14 42 49.1	-1.4
	1.3nm,0.3s,baz=174,slow=13,SNR=4.2							
KK31				⇑S	n	Sn	14 43 59.3	+3.2
	2.8nm,0.6s							
AAK	**Ala-Archa**	**5.92**	**28**	⇑P	n	Pn	14 42 53.9	-0.5
	2.7nm,0.7s							
AAK				⇑S	n	Sn	14 44 09.2	+6.1
	5.2nm,0.6s							

SJA ***18*** *15:01:21.5±1.2,34.°22S×72.°87W, h25km, ML3.6*
GUC ***18*** *15:01:27.3±0.6,34.°46S×72.°10W, h28km±2km, ML3.9*

ISC 18 15:01:26.1±2.4,34.°52S±0.°05×72.°1W±0.°1, h13km±13km, n22,σ1≧09/30, 3C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.78**	**44**	⇑*i*P		**Pg**	**15 01 41.8**	**+0.5**
LNV				*i*S		**Sb**	**15 01 52.3**	**+0.3**
NICH	**Los Niches**	**0.83**	**125**	*e*P		**Pn**	**15 01 43.6**	**+0.1**
NICH				*i*S		**Sn**	**15 01 56.1**	**+0.3**
TALC	**Talca**	**0.94**	**158**	⇑*i*P		**Pn**	**15 01 45.2**	**+0.2**
TALC				*i*S		**Sn**	**15 01 58.7**	**+0.3**
TACH	**Talagante**	**1.27**	**47**	⇓*i*P		**Pn**	**15 01 49.0**	**-0.6**
TACH				*i*S		**Sb**	**15 02 04.9**	**-1.4**
CHCH	**Chadas Angostu**	**1.31**	**64**	⇓*i*P		**Pb**	**15 01 50.5**	**0.0**
RCDM	**Rinconada Maip**	**1.47**	**46**	*e*P		**Pn**	**15 01 52.0**	**-0.3**
PCH	**Pirque**	**1.57**	**55**	*e*P		**Pn**	**15 01 54.3**	**+0.6**
PCH				*i*S		**Sb**	**15 02 14.6**	**-0.3**
SAN	**Santiago**	**1.58**	**48**	⇓*i*P		**Pn**	**15 01 54.4**	**+0.6**
SAN				*i*S		**Sn**	**15 02 14.3**	**+0.1**
CLCH	**Cerro Calan**	**1.69**	**49**	⇓*i*P		**Pn**	**15 01 55.9**	**+0.4**
CLCH				*i*S		**Sb**	**15 02 18.0**	**-0.5**
CLCH					AML	AML	15 02 29.3	
	comp=E,2μm,0.5s							
ROCH	**El Roble**	**1.78**	**30**	*e*P		**Pn**	**15 01 56.3**	**-0.5**
ROCH				*e*S		**Sn**	**15 02 19.5**	**+0.1**
ROCH					AML	AML	15 02 28.5	
	comp=N,1μm,0.4s							
PEL	**Peldehue**	**1.79**	**40**	⇑*i*P		**Pn**	**15 01 57.2**	**+0.4**
PEL				*i*S		**Sn**	**15 02 19.8**	**+0.4**
PEL					AML	AML	15 02 28.2	
	comp=N,3μm,0.5s							
YECH	**El Yeso**	**1.85**	**63**	*e*P		**Pb**	**15 01 59.8**	**-0.2**
YECH				*e*S		**Sb**	**15 02 23.3**	**+0.1**
YECH					AML	AML	15 02 27.3	
	comp=N,2μm,0.6s							
AAGR	**Agrelo**	**3.05**	**63**	*e*P		**Pb**	**15 02 18.5**	**-1.8**
ARCO	**CERRO ARCO**	**3.10**	**58**	*e*P		**Pb**	**15 02 19.3**	**-1.9**
ARCO					AML	AML	15 03 12.1	
	comp=Z,104nm,0.5s							
AUSP	**Uspallata**	**3.20**	**45**	*e*P		**Pn**	**15 02 18.7**	**+2.3**
AUSP				*e*S		**Sb**	**15 03 00.6**	**-1.6**
ASAL	**Salagasta**	**3.31**	**55**	*e*P		Pn	15 02 20.9	+3.2
RTLS	**Leoncito**	**3.57**	**41**	*e*P		Pn	15 02 24.1	+2.6
RTCV	**Cerro Valdivia**	**3.97**	**49**	*e*P		**Pn**	**15 02 28.9**	**+2.2**
CFAA	**Coronel Fontan**	**4.33**	**49**	*e*P		**Pn**	**15 02 33.4**	**+1.6**
RTLL	**Cerro Villicun**	**4.39**	**44**	*e*P		**Pn**	**15 02 34.1**	**+1.7**
ACAN	**Cantantal**	**4.65**	**63**	*e*P		Pn	15 02 39.4	+3.3
AMOG	**MOGNA**	**4.67**	**41**	*e*P		**Pn**	**15 02 37.3**	**+0.9**

IDC ***18*** *15:10:22.8±1.0,0.°37S×124.°91E, h0km, mb3.7/6, mb1 3.8/6,mb1mx3.5/30,mbtmp3.7/6,MS3.2/1,Ms1 3.2/1, ms1mx2.4/28,Error ellipse: s-maj=136.4km s-min=19.6km az=65.0*

ISCJB ***18*** *15:10:27.4±0.5,0.°05S±0.°05×125.°33E±0.°04, h53km, mb3.8/6,MS2.5/1,Error ellipse: s-maj=7.9km s-min=5.1km az=31.4*
DJA ***18*** *15:10:27.3±1.3,0.°3S×12.°5E±°, h19km±16km, M4.3/16, mb4.6/6,mB5.7/2,MLv4.2/16,Mw(mB)5.2/2,Mwp7.4/1*

ISC 18 15:10:29.5±0.9,0.°09S±0.°07×125.°30E±0.°06, h53km, n22, σ1≧54/23, mb3.8/6, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.48**	**297**	P		**Pn**	**15 10 51.4**	**-2.4**
KMSI				S		**Sn**	**15 11 11.1**	**-1.0**
SANI	**Sanana**	**2.06**	**161**	P		**Pn**	**15 11 00.8**	**-0.9**
SANI				S		**Sn**	**15 11 27.2**	**+1.0**
LUWI	**Luwuk**	**2.70**	**250**	P		**Pn**	**15 11 10.6**	**+0.1**
LUWI				S		**Sn**	**15 11 43.2**	**+1.2**
MRSI	**Marisa**	**3.41**	**280**	P		**Pn**	**15 11 18.9**	**-1.3**
NLAI	**Namlea**	**3.60**	**150**	P		**Pn**	**15 11 21.5**	**-1.4**
APSI	**Ampana**	**3.74**	**257**	P		**Pn**	**15 11 24.3**	**-0.5**
APSI				S		**Sn**	**15 12 08.9**	**+1.2**
SGSI	**Sangihe**	**3.76**	**3**	P		**Pn**	**15 11 23.0**	**-2.1**
MSAI	**Masohi**	**4.85**	**132**	P		**Pn**	**15 11 41.0**	**+1.0**
MPSI	**Mapaga**	**5.42**	**275**	P		**Pn**	**15 11 47.9**	**+0.1**
	21nm,0.7s,438nm0.1nm							
PCI	**Palu**	**5.53**	**262**	P		**Pn**	**15 11 48.2**	**-1.1**
	50nm,0.8s,0.2nm							
TTSI	**Tana Toraja**	**6.22**	**242**	P		**Pn**	**15 11 55.8**	**-2.9**
	26nm,0.8s,0.1nm							
BNDI	**Bandanaira**	**6.36**	**134**	P		**Pn**	**15 12 00.4**	**-0.3**
	137nm,1.2s,0.6nm							
SPSI	**Sidrap Palu**	**6.74**	**235**	P		**Pn**	**15 12 03.4**	**-2.5**
	14nm,0.6s,0.1nm							
BATI	**Baumata**	**10.18**	**189**	LR		LR	15 17 21.1	
	comp=Z,136nm,18.5s,baz=250,slow=42							
DSRI	**Dabo**	**20.73**	**269**	P		Pn	15 15 05.8	-2.9
WRA	**Warramunga Arr**	**21.62**	**156**	P		**P**	**15 15 13.0**	**-2.4**
	0.5nm,0.4s,baz=334,slow=11,SNR=18							
CMAR	**Chiang Mai Arr**	**31.79**	**307**	LR		LR	15 29 58.5	
	comp=Z,10nm,19.1s,baz=185,slow=37							
STKA	**Stephens Creek**	**35.17**	**156**	P		**P**	**15 17 18.5**	**+0.1**
	0.5nm,0.3s,baz=342,slow=7.6,SNR=4.7							
SONM	**Songino Array**	**50.49**	**344**	P		**P**	**15 19 24.2**	**+1.8**
	0.3nm,0.4s,baz=151,slow=6.6							
MKAR	**Makanchi Array**	**59.92**	**327**	P		**P**	**15 20 30.6**	**+0.4**
	0.8nm,0.5s,baz=126,slow=7.0,SNR=10							
ZALV	**Zalesovo Beam**	**63.37**	**335**	P		**P**	**15 20 54.5**	**+1.3**
	0.5nm,0.4s,baz=134,slow=8.3,SNR=3.3							
KURBB	**Kurchatov Arra**	**64.22**	**329**	P		**P**	**15 20 59.6**	**+0.7**
	0.7nm,0.8s,baz=130,slow=4.9,SNR=6.6							

IDC ***18*** *15:17:48.4±2.5,3.°94N×95.°99E, h0km, mb3.5/5, mb1 3.5/7, mb1mx3.3/41,mbtmp3.4/7,ML2.9/1, Error ellipse: s-maj=81.6km s-min=21.7km az=53.0*
ISCJB ***18*** *15:17:50.5±1.1,3.°75N±0.°09×95.°9E±0.°1, h35km, mb3.5/5, Error ellipse: s-maj=16.2km s-min=12.4km az=165.1*
DJA ***18*** *15:17:59.6±2.5,4.°N±33.°×9.°6E±1.°1, h84km±61km, M3.9/4, mb4.2/1,MLv3.8/4*

ISC 18 15:17:53.2±1.3,3.°7N±0.°1×96.°0E±0.°1, h35km, n9, σ2≧40/10, mb3.5/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**1.80**	**30**	P		**Pn**	**15 18 24.6**	**+2.9**
LHMI				S		**Sn**	**15 18 42.1**	**-1.2**
BSI	**Banda Aceh**	**1.96**	**338**	P		**Pn**	**15 18 26.8**	**+2.8**
BSI				S		**Sn**	**15 18 47.5**	**0.0**
PSI	**Prapat**	**3.00**	**107**	Pn		**Pn**	**15 18 39.6**	**+1.2**
	1.5nm,0.3s,baz=324,slow=14,SNR=2.9							
PSI				Sn		Sn	15 19 23.5	+10
	13nm,0.3s,baz=6.0,slow=19,SNR=12							
CMAR	**Chiang Mai Arr**	**14.97**	**11**	Pn		Pn	15 21 19.2	-3.1
	baz=195,slow=14,SNR=3.0							
WRA	**Warramunga Arr**	**44.33**	**123**	P		**P**	**15 26 02.3**	**+2.0**
	0.3nm,0.7s,baz=302,slow=9.2,SNR=7.6							
MKAR	**Makanchi Array**	**44.59**	**347**	P		**P**	**15 25 59.8**	**-2.1**
	0.3nm,0.4s,baz=166,slow=8.3,SNR=11							
SONM	**Songino Array**	**44.90**	**10**	P		**P**	**15 26 02.6**	**-1.9**
	0.6nm,0.7s,baz=194,slow=8.1,SNR=4.7							
KURBB	**Kurchatov Arra**	**49.07**	**345**	P		**P**	**15 26 34.0**	**-2.8**
	0.2nm,0.6s,baz=169,slow=7.0,SNR=4.5							
ZALV	**Zalesovo Beam**	**50.96**	**351**	P		**P**	**15 26 50.1**	**-1.0**
	0.6nm,0.5s,baz=164,slow=5.7,SNR=3.3							

KRSC 18 15:31:47.1±2.1,49.°98N×157.°18E, h49km±26km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.98**	**316**	*e*P		Pn	15 32 04.1	-0.5
SKR				*e*S		Sn	15 32 16.4	-1.0
PAU	**Pauzhetka**	**1.51**	**351**	*e*P		Pn	15 32 14.3	+2.6
PAU				*e*S		Sn	15 32 32.9	+2.7
MIPR	**Malaya Ipel'ka**	**2.32**	**354**	*e*P		Pn	15 32 26.5	+3.7
ASAK	**Asacha**	**2.45**	**10**	*e*P		Pn	15 32 27.6	+2.9
MTVR	**Mutnovka**	**2.59**	**14**	*e*P		Pn	15 32 30.0	+3.3
MTVR				*e*S		Sn	15 33 00.8	+3.8
RUS	**Russkaya**	**2.60**	**18**	*e*P		Pn	15 32 29.4	+2.8
RUS				*e*S		Sn	15 32 59.9	+3.0
UGLR	**Uglovaya**	**3.40**	**17**	*e*P		Pn	15 32 41.6	+3.9
AVH	**Avacha**	**3.43**	**16**	*e*P		Pn	15 32 42.4	+4.2
KOK	**Koryaka**	**3.44**	**15**	*e*P		Pn	15 32 42.8	+4.5
SMAR	**Somma**	**3.44**	**16**	*e*P		Pn	15 32 42.3	+3.8
KRER	**Koryakskii**	**3.47**	**16**	*e*P		Pn	15 32 42.8	+3.9
SDLR	**Sedlovina**	**3.47**	**17**	*e*P		Pn	15 32 42.1	+3.3
KRX	**Arik**	**3.51**	**15**	*e*P		Pn	15 32 43.3	+4.0
SPN	**Mys Shipunski**	**3.59**	**28**	*e*P		Pn	15 32 43.7	+3.4
GNL	**Ganaly**	**3.75**	**7**	*e*P		Pn	15 32 46.2	+3.6
MKZ	**Mys Kozlova**	**5.37**	**30**	*e*P		Pn	15 33 07.0	+2.4

BJI ***18*** *15:32:28.4,12.°81N×50.°80E, h10km, mb4.6/33, mB4.9/24, Ms4.5/23,Ms7 4.3/24*
ISCJB ***18*** *15:32:29.8±1.0,13.°14N±0.°03×51.°05E±0.°03, h0km±6km, mb4.7/89,MS4.1/29,Error ellipse: s-maj=5.8km s-min=4.6km az=2.7*
MOS ***18*** *15:32:31.4±0.9,13.°14N×51.°01E, h10km, mb5.0/31, MS4.2/11,Error ellipse: s-maj=7.7km s-min=4.6km az=99.2*
IDC ***18*** *15:32:31.6±0.5,13.°15N×51.°12E, h0km, mb4.3/27, mb1 4.4/28,mb1mx4.4/32,mbtmp4.3/28,ML3.8/1,MS4.1/19, Ms1 4.1/19,ms1mx4.0/25,Error ellipse: s-maj=14.4km s-min=11.0km az=106.0*
NEIC ***18*** *15:32:33.0±0.2,13.°14N×51.°11E, h10km, mb4.9/32,Error ellipse: s-maj=4.8km s-min=4.5km az=21.0*
CSEM ***18*** *15:32:32.6±0.1,13.°14N×51.°04E, h5km, mb4.8/45,Ms3.7, Error ellipse: s-maj=6.5km s-min=5.1km az=162.0*
GCMT ***18*** *15:32:33.0±0.2,13.°22N×50.°84E, h12km, MW5.0/79, Moment Tensor Solution. s45,c54; s79,c131; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-3.16±.09; Mθθ2.89±.07; Mφφ0.26±.10; Mrθ0.50±.25; Mrφ-1.34±.07; Mθφ0.42±.33; Best double couple: M0 3.37700×10^16 NP1:ϕ1=282.00000°, δ49.00000°, λ-105.00000°. NP2: ϕ2=124.00000°, δ44.00000°, λ-74.00000°. Principal axes: T 3.4670, Plg3.0000°, Azm22.0000°; N -0.1830, Plg11.0000°, Azm292.0000°; P -3.2870, Plg79.0000°, Azm125.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
DHMR ***18*** *15:32:37.6±1.3,13.°32N×50.°39E, h2km, 999km, ML4.1*
OMAN ***18*** *15:32:42.4±72.0,14.°03N×51.°32E, h10km, Error ellipse: s-maj=19.5km s-min=6.7km az=346.0*

ISC 18 15:32:34.2±0.4,13.°24N±0.°05×51.°02E±0.°04, h17km±2km, h16km:pP-P, n392,σ1≧41/428, mb4.7/87, MS4.1/30, 13C-8D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**2.29**	**303**	*e*P		**Pn**	**15 33 08.7**	**-2.5**
MUKL				*i*S		**Sn**	**15 33 34.5**	**-4.5**
MUKL					AML	AML	15 33 39.1	
	comp=N,3μm,0.6s							
ABTO	**Aybut**	**4.65**	**28**	P		**Pn**	**15 33 41.1**	**-2.6**
	SNR=33							
RBK	**Rabkut**	**5.24**	**36**	P		**Pn**	**15 33 49.9**	**-2.0**
RBK	**Rabkut**	**5.24**	**36**	⇓P		**Pn**	**15 33 49.9**	**-2.0**
RBK				P		**Pn**	**15 33 50.5**	**-1.5**
	SNR=84							
BDHA	**Al Bayda'**	**5.35**	**279**	*e*P		**Pn**	**15 33 52.8**	**-0.8**
BDHA					AML	AML	15 34 00.5	
	comp=E,522nm,0.5s							
BDHA				*i*S		**Sn**	**15 34 50.4**	**-4.6**
BDHA	**Al Bayda'**	**5.35**	**279**	*e*P		**Pn**	**15 33 52.8**	**-0.8**
BDHA				*i*S		**Sn**	**15 34 50.4**	**-4.6**
LBOS		**5.64**	**277**	*e*P		**Pn**	**15 33 56.8**	**-0.9**
DAMY	**Dhamar**	**6.57**	**282**	*e*P		**Pn**	**15 34 11.1**	**+0.7**
	comp=E,33nm,0.8s							
DAMY	**Dhamar**	**6.57**	**282**	*e*P		**Pn**	**15 34 11.1**	**+0.7**
	comp=E,33nm,0.8s							
TRBA	**At Turbah**	**6.72**	**271**	*i*P		**Pn**	**15 34 10.7**	**-1.7**
RAYN	**Ar Rayn**	**11.49**	**334**	*e*P		Pn	15 35 14.1	-3.6
	comp=E,11nm,0.9s							
WBK	**Wadi Bani Khal**	**12.00**	**38**	⇓P		Pn	15 35 21.3	-3.4
ASUD	**Al Ashush, Dub**	**12.04**	**19**	⇓Pn		**Pn**	**15 35 23.9**	**-1.2**
ASHO	**Ashiyiah**	**12.34**	**22**	⇑P		**Pn**	**15 35 27.3**	**-2.0**
ASHO	**Ashiyiah**	**12.34**	**22**	⇓Pn		**Pn**	**15 35 26.3**	**-3.1**
HATD	**Hatta, Dubai**	**12.50**	**22**	⇑Pn		**Pn**	**15 35 32.3**	**+0.8**
BANOM	**Banah**	**13.56**	**21**	P		**Pn**	**15 35 44.0**	**-2.0**
	SNR=12							
BANOM	**Banah**	**13.56**	**21**	⇑Pn		**Pn**	**15 35 44.0**	**-2.0**
ISRV	**Sarvestan**	**16.18**	**7**	*e*P		**Pn**	**15 36 20.2**	**-1.1**
IPAR	**Pars**	**16.63**	**6**	*e*P		**Pn**	**15 36 26.7**	**-0.3**
IMEH	**Mehriz**	**18.37**	**10**	*e*P		**P**	**15 36 46.9**	**-1.6**
ISAD	**Sadrabad**	**18.75**	**7**	*e*P		**Pn**	**15 36 53.4**	**+0.2**
IPIR	**Pirpir**	**19.36**	**360**	*e*P		**P**	**15 36 57.9**	**-1.6**
IZEF	**Zefreh**	**19.61**	**3**	*e*P		**P**	**15 37 01.5**	**-0.6**
KMBO	**Kilima Mbogo**	**19.75**	**225**	P		**P**	**15 37 04.5**	**+0.7**
	comp=E,0.2nm,0.3s,baz=42,slow=19,SNR=5.1							
KMBO					LR	LR	15 44 32.2	
	comp=E,1μm,18.4s,baz=64,slow=36							
KMBO	**Kilima Mbogo**	**19.75**	**225**	*e*P		**Pn**	**15 37 05.0**	**-0.3**
KMBO	**Kilima Mbogo**	**19.75**	**225**	*e*P		**Pn**	**15 37 05.0**	**-0.3**
IKLH	**Kolahrood**	**20.00**	**1**	*e*P		**P**	**15 37 06.9**	**+0.5**
IKOO	**Kooshah**	**20.45**	**20**	*e*P		Pn	15 37 12.9	-0.6
ITEG	**Tejag**	**20.81**	**19**	*e*P		Pn	15 37 16.7	-0.9
IDAH	**Dahanechah**	**21.03**	**21**	*e*P		**P**	**15 37 19.3**	**+1.7**
IBZA	**Bozah**	**21.33**	**353**	*e*P		**P**	**15 37 20.9**	**+0.1**
IDHR	**Dehrash**	**21.78**	**350**	*e*P		**P**	**15 37 25.1**	**-0.4**
EIL	**Elat**	**22.11**	**320**	P		**P**	**15 37 29.7**	**+0.8**
	comp=E,6.2nm,1.0s,baz=153,slow=14,SNR=5.0							
EIL					LR	LR	15 45 30.4	
	comp=E,683nm,18.9s,baz=82,slow=35							
IR3	**Iran Long-Peri**	**22.14**	**0**	*e*P		**P**	**15 37 30.1**	**+0.8**
IANJ	**Anjilo**	**22.29**	**6**	*e*P		**P**	**15 37 29.9**	**-1.1**
IFIR	**Firoozkooh**	**22.36**	**4**	*e*P		**P**	**15 37 34.8**	**+2.9**
ISHM	**Shahmirzad**	**22.57**	**5**	*e*P		**P**	**15 37 35.4**	**+1.4**
ASF	**Jabal al Asfar**	**22.86**	**328**	P		**P**	**15 37 38.5**	**+1.4**
	comp=E,9.2nm,1.0s,baz=137,slow=3.8,SNR=7.1							
IGLO	**Ghaloghah**	**23.31**	**6**	*e*P		**P**	**15 37 42.6**	**+1.0**
ISRO	**Mashad**	**24.20**	**17**	*e*P		**P**	**15 37 51.8**	**+1.7**
ISRO	**Mashad**	**24.20**	**17**	*e*P		**P**	**15 37 51.8**	**+1.7**
MMAI	**Mount Meron Ar**	**24.31**	**327**	P		**P**	**15 37 54.2**	**+3.0**
	comp=E,10nm,1.2s,baz=130,slow=16,SNR=3.7							
IKRD	**Kardeh**	**24.39**	**15**	*e*P		**P**	**15 37 54.9**	**+2.9**
IKRD	**Kardeh**	**24.39**	**15**	*e*P		**P**	**15 37 54.9**	**+2.9**
IMYA	**Miami**	**24.41**	**18**	*e*P		**P**	**15 37 52.8**	**+0.6**
IMYA	**Miami**	**24.41**	**18**	*e*P		**P**	**15 37 52.8**	**+0.6**
ISFR	**Sfrayin**	**24.53**	**14**	*e*P		**P**	**15 37 54.8**	**+1.5**
KBL	**Kabul**	**26.77**	**35**	*e*P		**P**	**15 38 13.9**	**+0.3**
KBL					pmax	pmax		
	comp=Z,14nm,1.0s							
KBL	**Kabul**	**26.77**	**35**	*e*P		**P**	**15 38 13.9**	**+0.3**
	comp=Z,14nm,1.0s							
KBL	**Kabul**	**26.77**	**35**	*e*P		**P**	**15 38 13.9**	**+0.3**
	comp=Z,14nm,1.0s							
CSS	**Prodhromos**	**26.90**	**327**	P		**P**	**15 38 15.8**	**+1.3**
CSS	**Prodhromos**	**26.90**	**327**	P		**P**	**15 38 15.8**	**+1.3**
GNI	**Garni**	**27.37**	**350**	P		**P**	**15 38 21.1**	**+2.2**
	comp=Z,5.9nm,0.5s,baz=166,slow=12,SNR=12							
GNI	**Garni**	**27.37**	**

comp=Z,490nm,15.3s
GKN Gorkha 34.59 60 *e*P **P 15 39 22.6 0.0**
comp=Z,39nm,1.1s
GKN Gorkha 34.59 60 *e*P **P 15 39 23.1 +0.5**
comp=Z,39nm,1.1s
SIM Simferopol' 34.73 339 *e*P P 15 39 26.8 +3.3
SIM *e* 15 40 39.0
SIM *e*S **S 15 44 56.0 +3.0**
SIM pmax pmax
comp=Z,14nm,1.2s
SIM MLR MLR
comp=N,230nm,18.3s
SIM Simferopol' 34.73 339 *e*P P 15 39 26.8 +3.3
comp=N,14nm,1.2s
DMN Daman 34.86 60 *e*P **P 15 39 26.0 +0.9**
comp=N,32nm,1.0s
DMN Daman 34.86 60 *e*P **P 15 39 26.1 +0.9**
comp=N,32nm,1.0s
AML Almayashu 34.88 30 P **P 15 39 26.7 +1.5**
SNR=5.4
AML Almayashu 34.88 30 *i* P **P 15 39 26.7 +1.5**
AML Almayashu 34.88 30 *i* P **P 15 39 26.7 +1.5**
KKN Kakani 35.06 60 *e*P **P 15 39 27.1 +0.3**
comp=N,25nm,0.7s
KKN Kakani 35.06 60 *e*P **P 15 39 27.1 +0.3**
comp=N,25nm,0.7s
PKIN Phulchoki 35.10 61 *e*P **P 15 39 28.0 +0.8**
PKIN Phulchoki 35.10 61 *e*P **P 15 39 28.0 +0.8**
PKI Pulchoki 35.11 61 *e*P **P 15 39 28.0 +0.6**
comp=N,16nm,0.7s
PKI Pulchoki 35.11 61 *e*P **P 15 39 27.9 +0.6**
comp=N,16nm,0.7s
UCH Uchtor 35.35 31 P **P 15 39 31.5 +2.0**
SNR=8.9
UCH Uchtor 35.35 31 *i* P **P 15 39 31.4 +2.0**
UCH Uchtor 35.35 31 *i* P **P 15 39 31.4 +2.0**
GUN Gumba 35.61 60 *e*P **P 15 39 31.7 0.0**
comp=N,71nm,1.1s
GUN Gumba 35.61 60 *e*P **P 15 39 31.6 -0.1**
comp=N,71nm,1.1s
KZA Kyzart 35.61 32 P **P 15 39 33.7 +2.0**
SNR=7.7
KZA Kyzart 35.61 32 *i* P **P 15 39 33.6 +2.0**
KZA Kyzart 35.61 32 *i* P **P 15 39 33.6 +2.0**
AAK Ala-Archa 35.64 30 P **P 15 39 33.7 +2.2**
SNR=5.1
AAK Ala-Archa 35.64 30 ⇓ *i*P **P 15 39 33.3 +1.7**
AAK pmax pmax
comp=Z,31nm,1.7s
AAK Ala-Archa 35.64 30 *e*P **P 15 39 32.1 +0.5**
comp=Z,5.7nm,0.9s
AAK Ala-Archa 35.64 30 P **P 15 39 33.8 +2.2**
SNR=6.9
AAK Ala-Archa 35.64 30 *e*P **P 15 39 32.1 +0.5**
comp=Z,5.7nm,0.9s
JIRN Jiri 35.80 61 *e*P **P 15 39 33.6 +0.3**
comp=Z,25nm,0.9s
JIRN Jiri 35.80 61 *e*P **P 15 39 33.6 +0.3**
comp=Z,25nm,0.9s
FRU Bishkek 35.85 30 *e*P **P 15 39 35.0 +1.8**
FRU Bishkek 35.85 30 *e*P **P 15 39 35.0 +1.8**
KBK Karagaybulak 35.88 31 P **P 15 39 35.9 +2.2**
SNR=7.5
KBK Karagaybulak 35.88 31 *i* P **P 15 39 35.9 +2.2**
KBK Karagaybulak 35.88 31 *i* P **P 15 39 35.9 +2.2**
CHMS Chumysh 36.04 30 P **P 15 39 36.2 +1.4**
SNR=5.0
CHMS Chumysh 36.04 30 *i* P **P 15 39 36.2 +1.4**
CHMS Chumysh 36.04 30 *i* P **P 15 39 36.2 +1.4**
LSZ Lusaka 36.23 219 P **P 15 39 36.0 -0.8**
comp=Z,5.7nm,0.8s,baz=39,slow=11,SNR=7.9
TKM2 Tokmak 2 36.40 31 *e*P **P 15 39 39.1 +1.0**
TKM2 pmax pmax
comp=Z,4.0nm,1.0s
TKM2 Tokmak 2 36.40 31 *e*P **P 15 39 39.1 +1.0**
comp=Z,4.0nm,1.0s
TKM2 Tokmak 2 36.40 31 *e*P **P 15 39 39.0 +1.0**
comp=Z,4.0nm,1.0s
ODAN Odare 36.62 63 *e*P **P 15 39 42.5 +2.3**
comp=Z,7.1nm,0.6s
ODAN Odare 36.62 63 *e*P **P 15 39 40.8 +0.6**
comp=Z,7.1nm,0.6s
TIRR Tirgusor 36.62 333 *e*P **P 15 39 40.3 +0.6**
TIRR pmax pmax
comp=Z,14nm,1.0s
TIRR Tirgusor 36.62 333 *e*P **P 15 39 40.3 +0.6**
comp=Z,14nm,1.0s
TIRR Tirgusor 36.62 333 *e*P **P 15 39 40.3 +0.6**
comp=Z,14nm,1.0s
ABKAR Akbulak array 36.66 10 *e*P **P 15 39 40.6 +0.6**
comp=Z,13nm,1.0s
ABKAR Akbulak array 36.66 10 *e*P **P 15 39 40.6 +0.6**
comp=Z,13nm,1.0s
TAPN Taplejung 37.02 62 *e*P **P 15 39 43.8 +0.1**
comp=Z,26nm,1.0s
TAPN Taplejung 37.02 62 *e*P **P 15 39 43.7 +0.1**
comp=Z,26nm,1.0s
KIS Kishinev 38.47 335 *e*P **P 15 39 57.0 +1.7**
KIS *e*L L 15 52 00.0
KIS LRM MLR 16 00 28.0
comp=Z,300nm,16.0s
KIS Kishinev 38.47 335 *e*P **P 15 39 57.0 +1.7**
KIS *e* 15 40 01.0
KIS MLR MLR
comp=Z,300nm,16.0s
KIS MLR MLR
comp=Z,300nm,16.0s
KIS Kishinev 38.47 335 *e*P **P 15 39 57.0 +1.7**
VORD Divnogorie 38.82 348 *e*P **P 15 39 56.9 -1.2**
VORD pmax pmax
comp=Z,6.0nm,1.1s
VORD pmax pmax
comp=N,30nm,0.6s
VORD pmax pmax
comp=E,20nm,0.6s
VSR Storozhevoye 39.08 348 *e*P **P 15 40 00.2 -0.1**
VSR pmax pmax
comp=Z,20nm,1.4s
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,9.0nm,1.2s
VSR Storozhevoye 39.08 348 *e*P **P 15 40 00.2 -0.1**
comp=E,10.0nm,1.0s
MATP Matopo 40.12 214 P **P 15 40 09.1 -0.4**
comp=E,5.5nm,0.9s,baz=24,slow=9.7,SNR=9.0
LPSR Galich'ya Gora 40.44 349 *e*P **P 15 40 12.5 +0.8**
LPSR *e* 15 41 44.3
LPSR pmax pmax
comp=N,3.0nm,0.9s
LPSR pmax pmax
comp=Z,10.0nm,0.9s
LPSR pmax pmax
comp=E,4.0nm,0.8s
LPSR pmax pmax
comp=N,40nm,2.3s
LPSR pmax pmax
comp=E,40nm,2.3s
LPSR pmax pmax
comp=Z,50nm,2.3s
AK02 Malin Array Si 41.33 339 *e*P **P 15 40 19.5 +0.5**
AK02 Malin Array Si 41.33 339 *e*P **P 15 40 19.5 +0.5**
AK01 Malin Array Si 41.36 339 *e*P **P 15 40 19.7 +0.5**
AK01 Malin Array Si 41.36 339 *e*P **P 15 40 19.7 +0.5**
AKASG Malin Array Be 41.36 339 P **P 15 40 20.0 +0.7**
comp=Z,2.1nm,0.7s,baz=148,slow=7.4,SNR=29
AKASG PP **PP 15 41 56.5 +1.7**
comp=Z,0.4nm,0.4s,baz=141,slow=9.5,SNR=5.0
AKASG LR LR 16 00 53.6
comp=Z,128nm,18.4s,baz=125,slow=41
AKBB Malin Array Si 41.36 339 *e*P **P 15 40 20.3 +1.0**
AKBB Malin Array Si 41.36 339 *e*P **P 15 40 20.3 +1.0**
AKBB Malin Array Si 41.36 339 *e*P **P 15 40 20.3 +1.0**
KIEV Kiev 41.36 339 *e*P **P 15 40 20.2 +0.9**
KIEV pmax pmax
comp=Z,14nm,1.1s
KIEV Kiev 41.36 339 *e*P **P 15 40 20.2 +0.9**
comp=Z,14nm,1.1s
KIEV Kiev 41.36 339 *e*P **P 15 40 20.2 +0.9**
comp=Z,14nm,1.1s
MK31 Makanchi Array 42.51 32 *e*P **P 15 40 29.1 +0.2**
MK31 Makanchi Array 42.51 32 *e*P **P 15 40 29.0 +0.2**
MK31 Makanchi Array 42.51 32 *e*P **P 15 40 29.1 +0.2**
MKAR Makanchi Array 42.51 32 P **P 15 40 29.2 +0.4**
comp=Z,2.3nm,0.5s,baz=237,slow=11,SNR=27
MKAR LR LR 16 00 33.5
comp=Z,248nm,21.1s,baz=234,slow=40
BRVK Borovoye 42.59 17 ⇑ *i*P **P 15 40 30.9 +1.6**
BRVK pmax pmax
comp=Z,10.0nm,1.0s
BRVK Borovoye 42.59 17 *e*P **P 15 40 29.9 +0.6**
comp=Z,8.2nm,0.8s
BRVK Borovoye 42.59 17 *e*P **P 15 40 29.9 +0.6**
comp=Z,8.2nm,0.8s
OBN Obninsk 43.28 348 ⇑ *i*P **P 15 40 36.3 +1.5**
OBN *e* 15 42 15.2
OBN *e*S **S 15 46 58.3 -3.0**
OBN *e*SS **SS 15 50 10.8 -4.0**
OBN pmax pmax
comp=Z,14nm,1.4s
OBN MLR MLR
comp=Z,527nm,22.0s
ARU Arti 43.49 6 *c i*P **P 15 40 37.9 +1.4**
ARU 15 42 20.6
ARU S **S 15 47 05.7 +1.3**
ARU SS **SS 15 50 19.4 +0.4**
ARU pmax pmax
comp=Z,10.0nm,1.7s
ARU MLR MLR
comp=Z,407nm,18.0s
ARU Arti 43.49 6 *e*P **P 15 40 37.0 +0.4**
comp=Z,6.7nm,1.0s
ARU S **S 15 47 05.7 +1.3**
comp=Z,407nm,18.0s
ARU Arti 43.49 6 *e*P **P 15 40 37.0 +0.4**
comp=Z,6.7nm,1.0s
KEST Kesra 43.61 308 P **P 15 40 39.7 +1.8**
comp=Z,1.9nm,0.9s,baz=84,slow=7.7,SNR=4.1
KEST LR LR 16 00 48.9
comp=Z,67nm,18.3s,baz=320,slow=39
WMQ Urumqi 43.76 39 P **P 15 40 40.8 +1.8**
WMQ pP **pP 15 40 45.3 +1.1**
WMQ sP **sP 15 40 47.8 +1.6**
WMQ PcP **PcP 15 42 26.9 +1.2**
WMQ ScP **ScP 15 46 16.6 -0.2**
WMQ PcS **PcS 15 46 20.0 +1.5**
WMQ S **S 15 47 09.8 +0.9**
WMQ ScS **ScS 15 50 37.1 -0.8**
WMQ PMZ
comp=Z,15nm,0.9s
WMQ PMZ
comp=Z,170nm,4.4s
WMQ LN
comp=Z,200nm,24.2s
WMQ LE
comp=Z,270nm,24.8s
WMQ LZ
comp=Z,260nm,23.4s
VYHS Vyhne 44.10 329 *e*P **P 15 40 42.5 +0.9**
VYHS Vyhne 44.10 329 *e*P **P 15 40 42.5 +0.9**
VYHS Vyhne 44.10 329 *e*P **P 15 40 42.5 +0.9**
SVE Sverdlovsk 44.12 8 *e*P **P 15 40 42.5 +0.9**
SVE pmax pmax
comp=Z,14nm,1.4s
SVE MLR MLR
comp=Z,513nm,15.0s
TAM Tamanrasset 44.15 289 *e*P **P 15 40 43.0 +0.5**
TAM pmax pmax
comp=Z,12nm,0.9s
TAM Tamanrasset 44.15 289 *e*P **P 15 40 43.0 +0.5**
comp=Z,12nm,0.9s
TAM Tamanrasset 44.15 289 *e*P **P 15 40 43.0 +0.5**
comp=Z,12nm,0.9s
SOKA Soboth 44.97 325 ⇑ *i*pP pP 15 40 51.4 -2.4
comp=Z,6.1nm,1.5s
SOKA Soboth 44.97 325 P pP 15 40 51.4 -2.4
comp=Z,6.1nm,1.5s
CONA Conrad Observa 45.27 327 ⇑ *i*P **P 15 40 52.5 +1.5**
comp=Z,16nm,1.6s
CONA Conrad Observa 45.27 327 P **P 15 40 52.5 +1.5**
comp=Z,16nm,1.6s
OKC Ostrava-Krasne 45.34 330 *e*P **P 15 40 52.3 +0.9**
OKC AMS AMS 16 04 30.0
comp=Z,100nm,13.7s
OKC Ostrava-Krasne 45.34 330 *e*P **P 15 40 52.3 +0.9**
OKC MLR MLR
comp=Z,100nm,13.7s
OKC Ostrava-Krasne 45.34 330 P **P 15 40 52.3 +0.9**
MHMT Maesarieng 45.34 77 P P 15 40 57.6 +5.7
comp=Z,9.2nm,0.8s,comp=Z,918nm
LBTB Lobatse 45.39 213 P **P 15 40 52.8 +0.5**
comp=Z,7.0nm,0.9s,baz=46,slow=8.6,SNR=9.3
MORC Moravsky Berou 45.59 330 *e*P **P 15 40 54.3 +0.8**
MYKA Terra Mystica 45.72 324 ⇑ *i*pP pP 15 40 57.3 -2.5
comp=Z,16nm,1.4s
MYKA Terra Mystica 45.72 324 P pP 15 40 57.3 -2.5
comp=Z,16nm,1.4s
VRAC Vranov 45.75 329 *e*P **P 15 40 55.6 +0.8**
MOA Molln 46.08 326 ⇑ *i*P **P 15 40 58.7 +1.3**
comp=Z,12nm,1.4s
MOA Molln 46.08 326 P **P 15 40 58.7 +1.3**
comp=Z,12nm,1.4s
SUW Suwalki 46.22 338 *e*P **P 15 40 59.5 +1.2**
SUW Suwalki 46.22 338 *e*P **P 15 40 59.5 +1.2**
SUW Suwalki 46.22 338 *e*P **P 15 40 59.5 +1.2**
CHTO Chiang Mai 46.29 77 *e*P **P 15 40 58.8 -0.6**
CHTO pmax pmax
comp=Z,2.0nm,0.8s
CHTO Chiang Mai 46.29 77 *e*P **P 15 40 58.8 -0.6**
comp=Z,2.3nm,0.8s
CHTO Chiang Mai 46.29 77 *e*P **P 15 40 58.8 -0.6**
comp=Z,2.3nm,0.8s
CM31 Chiang Mai Arr 46.29 77 *e*P **P 15 40 59.0 -0.5**
comp=Z,9.1nm,0.7s
CM31 Chiang Mai Arr 46.29 77 *e*P **P 15 40 59.0 -0.5**
comp=Z,9.1nm,0.7s
CM31 *e* 15 41 03.9
CMAR Chiang Mai Arr 46.29 77 P **P 15 40 59.0 -0.5**
comp=Z,7.6nm,0.6s,baz=273,slow=8.9,SNR=73
CMAR LR LR 16 01 01.0
comp=Z,43nm,18.0s,baz=260,slow=37
CMAR Chiang Mai Arr 46.29 77 P **P 15 40 59.0 -0.5**
CMAR Chiang Mai Arr 46.29 77 P **P 15 40 59.0 -0.5**
TREC Trest 46.31 328 AMS AMS 16 06 10.0
comp=Z,200nm,17.0s
CMAI Chiengmai2 46.39 75 P **P 15 41 01.2 +0.8**
comp=Z,94nm,0.8s
DPC Dobruska-Polom 46.56 330 *e*P **P 15 41 02.2 +1.1**
DPC *e*pP **pP 15 41 08.3 +2.0**
DPC *ex* x 15 41 21.4
DPC Dobruska-Polom 46.56 330 *e*P **P 15 41 02.2 +1.1**
DPC *e* 15 41 08.3
DPC Dobruska-Polom 46.56 330 P **P 15 41 02.2 +1.1**
LAMP Lampang 46.95 77 P **P 15 41 05.1 +0.5**
comp=Z,7.1nm,0.8s,comp=Z,66nm
GERES GERESS Array B 46.97 327 P **P 15 41 04.7 +0.3**
comp=Z,0.3nm,0.2s,baz=129,slow=7.7,SNR=4.6
GERES PcP **PcP 15 42 35.2 -1.6**
comp=Z,0.3nm,0.3s,baz=105,slow=3.4,SNR=3.0
GERES LR LR 16 03 30.2
comp=Z,106nm,18.9s,baz=96,slow=40
GOPC GO Pecny, Ondr 47.05 329 *e*P **P 15 41 05.5 +0.6**
GOPC *e*pP **pP 15 41 12.0 +1.9**
GOPC *ex* x 15 41 24.3
GOPC AMS AMS 16 05 10.0
comp=Z,100nm,15.8s
GOPC GO Pecny, Ondr 47.05 329 P **P 15 41 05.5 +0.6**
KHC Kasperske Hory 47.20 327 *e*P **P 15 41 06.3 +0.1**
KHC *e*pP **pP 15 41 12.2 +0.8**
KHC *ex* x 15 41 25.3
KHC AMS AMS 16 07 20.0
comp=Z,200nm,16.0s
KHC Kasperske Hory 47.20 327 *e*P **P 15 41 06.3 +0.1**
KHC *e* 15 41 12.2
KHC MLR MLR
comp=Z,200nm,16.0s
KHC Kasperske Hory 47.20 327 P **P 15 41 06.3 +0.1**
WTTA Wattenberg 47.22 324 ⇑ *i*pP **P 15 41 08.8 +2.3**
comp=Z,15nm,1.6s
WTTA Wattenberg 47.22 324 P **P 15 41 08.8 +2.3**
comp=Z,15nm,1.6s
PRU Pruhonice 47.22 328 *e*P **P 15 41 07.0 +0.8**
PRU AMS AMS 16 04 30.0
comp=Z,200nm,20.1s
PRU Pruhonice 47.22 328 *e*P **P 15 41 07.0 +0.8**
PRU MLR MLR
comp=Z,200nm,20.1s
PRU Pruhonice 47.22 328 P **P 15 41 07.0 +0.8**
CRAI Chiangrai 47.64 75 P P 15 41 06.4 -3.6
TOA0 Torodi Ar. Sit 47.95 276 *e*P **P 15 41 12.6 +0.1**
TOA0 Torodi Ar. Sit 47.95 276 *e*P **P 15 41 12.6 +0.1**
TORD Torodi Ar. Bea 47.95 276 P **P 15 41 12.9 +0.5**
comp=Z,10.0nm,0.8s,baz=90,slow=7.1,SNR=62
BRG Berggiesshubel 48.07 329 *e*P **P 15 41 13.5 +0.7**
comp=Z,12nm,1.6s
BRG Berggiesshubel 48.07 329 *e*P **P 15 41 13.5 +0.7**
BRG pmax pmax
comp=Z,12nm,1.6s
KLMR Klimovskoe 48.28 352 *e*P **P 15 41 14.7 +0.5**
KLMR pmax pmax
comp=Z,38nm,1.6s
PBKT Sadao Pong 48.29 80 P P 15 41 20.1 +5.1
comp=Z,9.4nm,1.3s
NKC Novy Kostel 48.45 328 *e*P **P 15 41 15.7 -0.1**
NKC *e*pP **pP 15 41 22.7 +1.7**
NKC Novy Kostel 48.45 328 *e*P **P 15 41 15.7 -0.1**
NKC *e* 15 41 22.7
NKC Novy Kostel 48.45 328 P **P 15 41 15.7 -0.1**
PRGR Permogore 48.48 357 *e*P **P 15 41 16.5 +0.7**
PRGR pmax pmax
comp=Z,9.0nm,0.6s
BOSA Boshof 48.49 211 P **P 15 41 15.9 -0.6**
comp=Z,2.6nm,0.7s,baz=68,slow=6.2,SNR=4.3
LMR La Mourre 48.52 317 *e*P **P 15 41 16.6 +0.2**
comp=Z,98nm,1.6s
LMR La Mourre 48.52 317 *e*P **P 15 41 16.6 +0.2**
LMR pmax pmax
comp=Z,98nm,1.6s
LMR La Mourre 48.52 317 *e*P **P 15 41 16.6 +0.2**
comp=Z,49nm,1.6s
LMR La Mourre 48.52 317 *e*P **P 15 41 16.6 +0.2**
comp=Z,98nm,1.6s
FRF La Foret Royal 48.53 317 *e*P **P 15 41 16.5 0.0**
comp=Z,60nm,1.3s
FRF La Foret Royal 48.53 317 *e*P **P 15 41 16.5 0.0**
FRF pmax pmax
comp=Z,60nm,1.3s
FRF La Foret Royal 48.53 317 *e*P **P 15 41 16.5 0.0**
comp=Z,30nm,1.3s
FRF La Foret Royal 48.53 317 *e*P **P 15 41 16.5 0.0**
comp=Z,60nm,1.3s
LOEI Loei 48.53 78 P **P 15 41 19.1 +2.2**
comp=Z,77nm,1.8s
NVS Novosibirsk 48.54 24 *e*P **P 15 41 16.3 0.0**
NVS pmax pmax
comp=N,13nm,1.1s
NVS pmax pmax
comp=E,4.0nm,1.1s
NVS pmax pmax
comp=Z,13nm,1.1s
ZAA0 Zalesovo Array 48.56 26 *e*P **P 15 41 15.8 -0.7**
ZAA0 Zalesovo Array 48.56 26 *e*P **P 15 41 15.8 -0.7**
ZALV Zalesovo Beam 48.56 26 P **P 15 41 15.8 -0.7**
comp=Z,2.1nm,0.6s,baz=233,slow=8.2,SNR=12
ZALV LR LR 16 04 27.4
comp=Z,229nm,18.8s,baz=252,slow=39
CLL Collm 48.80 329 *i* P **P 15 41 19.3 +0.9**
comp=Z,75nm,2.5s
CLL *i* sP **sP 15 41 24.3 -1.4**
CLL Collm 48.80 329 *i* P **P 15 41 19.3 +0.9**
CLL *i* 15 41 24.3
CLL pmax pmax
comp=Z,75nm,2.5s
MBDF Montbardon 48.94 319 *e*P **P 15 41 20.7 +0.9**
MBDF Montbardon 48.94 319 *e*P **P 15 41 20.7 +0.9**
MBDF Montbardon 48.94 319 *e*P **P 15 41 20.7 +0.9**
MBDF Montbardon 48.94 319 *e*P **P 15 41 20.7 +0.9**
LPG La Plagne 49.29 320 *e*P **P 15 41 22.9 +0.2**
LPG La Plagne 49.29 320 *e*P **P 15 41 22.9 +0.2**
LPG La Plagne 49.29 320 *e*P **P 15 41 22.9 +0.2**
LPG La Plagne 49.29 320 *e*P **P 15 41 22.9 +0.2**
LPL La Plagne 49.31 320 *e*P **P 15 41 23.0 +0.2**
comp=Z,47nm,1.6s
LPL La Plagne 49.31 320 *e*P **P 15 41 23.0 +0.2**
LPL pmax pmax
comp=Z,47nm,1.6s
LPL La Plagne 49.31 320 *e*P **P 15 41 23.0 +0.2**
comp=Z,24nm,1.6s
LPL La Plagne 49.31 320 *e*P **P 15 41 23.0 +0.2**
comp=Z,47nm,1.6s
BFO Black Forest 49.68 324 *e*P **P 15 41 26.7 +1.5**
BFO pmax pmax
comp=Z,13nm,1.1s
BFO Black Forest 49.68 324 *e*P **P 15 41 26.7 +1.5**
comp=Z,13nm,1.1s
BFO Black Forest 49.68 324 *e*P **P 15 41 26.7 +1.5**
comp=Z,13nm,1.1s
KMI Kunming 49.99 68 P **P 15 41 29.1 +0.8**
KMI pP **pP 15 41 33.5 0.0**
KMI PP **PP 15 43 26.8 +3.5**
KMI S **S 15 48 37.3 -1.5**
KMI SS **SS 15 52 10.8 -1.1**
KMI PMZ
comp=Z,9.0nm,0.6s
KMI LN
comp=Z,150nm,28.4s
KMI LE
comp=Z,180nm,23.2s
KMI LZ
comp=Z,270nm,23.9s
GTA Gaotai 50.15 49 *e*P **P 15 41 30.1 +1.0**
GTA pP **pP 15 41 34.6 +0.2**
GTA sP **sP 15 41 37.3 +0.9**
GTA PcP **PcP 15 42 49.4 +0.9**
GTA PP **PP 15 43 27.3 +2.9**
GTA ScP **ScP 15 46 43.3 -0.5**
GTA S **S 15 48 40.8 +0.4**
GTA SS **SS 15 52 10.6 -3.2**
GTA PMZ
comp=Z,2.0nm,1.2s
GTA PMZ
comp=Z,72nm,5.2s
GTA LN
comp=Z,140nm,19.0s
GTA LE
comp=Z,260nm,18.5s
GTA LZ
comp=Z,320nm,19.5s
CABF La Chapelle 50.20 321 *e*P **P 15 41 30.4 +1.1**
CABF La Chapelle 50.20 321 *e*P **P 15 41 30.4 +1.1**
CABF La Chapelle 50.20 321 *e*P **P 15 41 30.4 +1.1**
CABF La Chapelle 50.20 321 *e*P **P 15 41 30.4 +1.1**
HINF Hinteralfeld 50.29 322 *e*P **P 15 41 31.2 +1.3**
HINF Hinteralfeld 50.29 322 *e*P **P 15 41 31.2 +1.3**
HINF Hinteralfeld 50.29 322 *e*P **P 15 41 31.2 +1.3**
HINF Hinteralfeld 50.29 322 *e*P **P 15 41 31.2 +1.3**
CDF Champ du Feu 50.33 323 *e*P **P 15 41 30.6 +0.3**
CDF Champ du Feu 50.33 323 *e*P **P 15 41 30.6 +0.3**
CDF Champ du Feu 50.33 323 *e*P **P 15 41 30.6 +0.3**
CDF Champ du Feu 50.33 323 *e*P **P 15 41 30.6 +0.3**
FINES FINESS Array B 51.41 345 P **P 15 41 38.8 +0.8**
comp=Z,3.8nm,0.6s,baz=149,slow=10,SNR=22
CD2 Chengdu 51.47 61 *e*P **P 15 41 39.4 +0.3**
CD2 sP **sP 15 41 49.4 +3.0**
CD2 PP **PP 15 43 34.0 -2.4**
CD2 S **S 15 48 59.3 +0.6**
CD2 PMZ
comp=Z,10.0nm,0.6s
CD2 PMZ
comp=Z,100nm,4.8s
CD2 LN
comp=Z,200nm,19.0s
CD2 LZ
comp=Z,270nm,20.2s
SFTF Sexfontaines 51.55 322 *e*P **P 15 41 40.2 +0.8**
SFTF Sexfontaines 51.55 322 *e*P **P 15 41 40.2 +0.8**
SFTF Sexfontaines 51.55 322 *e*P **P 15 41 40.2 +0.8**
MEZF Maizieres J'vi 51.68 322 *e*P **P 15 41 42.3 +2.0**
MEZF Maizieres J'vi 51.68 322 *e*P **P 15 41 42.3 +2.0**
MEZF Maizieres J'vi 51.68 322 *e*P **P 15 41 42.3 +2.0**
LOR Lormes 51.86 321 *e*P **P 15 41 43.1 +1.4**
LOR *e*R
comp=Z,115nm,22.8s
LOR Lormes 51.86 321 *e*P **P 15 41 43.1 +1.4**
LOR Lormes 51.86 321 *e*P **P 15 41 43.1 +1.4**
LOR Lormes 51.86 321 *e*P **P 15 41 43.1 +1.4**
BGF Bois d'Agland 52.21 319 *e*P **P 15 41 46.0 +1.7**
BGF Bois d'Agland 52.21 319 *e*P **P 15 41 46.0 +1.7**
BGF Bois d'Agland 52.21 319 *e*P **P 15 41 46.0 +1.7**
BGF Bois d'Agland 52.21 319 *e*P **P 15 41 46.0 +1.7**
LZH Lanzhou 52.41 55 *e*P **P 15 41 46.1 -0.1**
LZH pP **pP 15 41 51.8 +0.4**
LZH sP **sP 15 41 53.8 +0.3**
LZH PMZ
comp=Z,14nm,1.0s

BCLA	Clavier	52.42	325	P		P	15 41 47.0	+1.1		
	comp=Z,17nm,2.4s									
BCLA	Clavier	52.42	325	P		P	15 41 46.9	+1.1		
	comp=Z,17nm,2.4s									
GIVF	Givet	52.55	324	*e*P		P	15 41 48.0	+1.3		
GIVF	Givet	52.55	324	*e*P		P	15 41 48.0	+1.3		
GIVF	Givet	52.55	324	*e*P		P	15 41 48.0	+1.3		
GIVF	Givet	52.55	324	*e*P		P	15 41 48.0	+1.3		
DOU	Dourbes	52.67	324	P		P	15 41 48.6	+1.0		
	comp=Z,13nm,1.9s									
DOU	Dourbes	52.67	324	P		P	15 41 48.6	+1.0		
	comp=Z,13nm,1.9s									
BAIF	Baives	52.88	324	*e*P		P	15 41 50.1	+0.9		
BAIF	Baives	52.88	324	*e*P		P	15 41 50.1	+0.9		
BAIF	Baives	52.88	324	*e*P		P	15 41 50.1	+0.9		
BAIF	Baives	52.88	324	*e*P		P	15 41 50.1	+0.9		
ETSF	Etsaut	53.20	314	*e*P		P	15 41 52.6	+0.8		
	comp=Z,10nm,0.7s									
ETSF	Etsaut	53.20	314	*e*P		P	15 41 52.6	+0.8		
ETSF				pmax	pmax					
	comp=Z,10.0nm,0.7s									
ETSF	Etsaut	53.20	314	*e*P		P	15 41 52.6	+0.8		
	comp=Z,5.1nm,0.7s									
ETSF	Etsaut	53.20	314	*e*P		P	15 41 52.6	+0.8		
	comp=Z,10nm,0.7s									
GYA	Guiyang	53.60	67	*e*P		P	15 41 56.0	+0.9		
GYA				PP		PP	15 43 56.8	+1.0		
GYA				S		S	15 49 27.0	-1.2		
GYA				SS		SS	15 53 07.5	-1.3		
GYA				PMZ						
	comp=Z,10.0nm,1.0s									
GYA				PMZ						
	comp=Z,90nm,5.4s									
GYA				LN						
	comp=Z,480nm,20.2s									
GYA				LE						
	comp=Z,390nm,21.0s									
GYA				LZ						
	comp=Z,460nm,20.8s									
SJPF	Ste Jean	53.73	314	*e*P		P	15 41 55.3	-0.3		
	comp=Z,49nm,1.3s									
SJPF	Ste Jean	53.73	314	*e*P		P	15 41 55.3	-0.3		
SJPF				pmax	pmax					
	comp=Z,49nm,1.3s									
SJPF	Ste Jean	53.73	314	*e*P		P	15 41 55.3	-0.3		
	comp=Z,25nm,1.3s									
SJPF	Ste Jean	53.73	314	*e*P		P	15 41 55.3	-0.3		
	comp=Z,49nm,1.3s									
MFF	Saint Martin d	54.14	318	*e*P		P	15 41 58.9	+0.4		
MFF	Saint Martin d	54.14	318	*e*P		P	15 41 58.9	+0.4		
MFF	Saint Martin d	54.14	318	*e*P		P	15 41 58.9	+0.4		
MFF	Saint Martin d	54.14	318	*e*P		P	15 41 58.9	+0.4		
ESDC	Sonseca Array	54.83	309	P		P	15 42 04.4	+0.6		
	comp=Z,4.4nm,0.6s,baz=88,slow=6.6,SNR=22									
ESDC				LR		LR	16 06 48.8			
	comp=Z,51nm,19.0s,baz=345,slow=37									
ESLA	Sonseca Array	54.83	309	*e*P		P	15 42 03.9	+0.2		
	comp=Z,20nm,1.5s									
ESLA	Sonseca Array	54.83	309	*e*P		P	15 42 03.9	+0.2		
	comp=Z,20nm,1.5s									
LDF	La Druitiere	54.85	321	*e*P		P	15 42 03.6	0.0		
	comp=Z,58nm,1.5s									
LDF	La Druitiere	54.85	321	*e*P		P	15 42 03.6	0.0		
LDF				pmax	pmax					
	comp=Z,58nm,1.5s									
LDF	La Druitiere	54.85	321	*e*P		P	15 42 03.6	0.0		
	comp=Z,29nm,1.5s									
LDF	La Druitiere	54.85	321	*e*P		P	15 42 03.6	0.0		
	comp=Z,58nm,1.5s									
PAB	San Pablo	55.10	309	*e*P		P	15 42 05.9	+0.2		
PAB				pmax	pmax					
	comp=Z,54nm,1.5s									
PAB	San Pablo	55.10	309	*e*P		P	15 42 05.9	+0.2		
	comp=Z,54nm,1.5s									
PAB	San Pablo	55.10	309	*e*P		P	15 42 05.9	+0.2		
	comp=Z,54nm,1.5s									
FLN	La Foliniere	55.13	321	*e*P		P	15 42 05.7	0.0		
FLN				*e*R						
	comp=Z,123nm,20.2s									
FLN	La Foliniere	55.13	321	*e*P		P	15 42 05.7	0.0		
FLN	La Foliniere	55.13	321	*e*P		P	15 42 05.7	0.0		
FLN	La Foliniere	55.13	321	*e*P		P	15 42 05.7	0.0		
GRR	Gorron	55.23	320	*e*P		P	15 42 06.5	+0.1		
GRR	Gorron	55.23	320	*e*P		P	15 42 06.5	+0.1		
GRR	Gorron	55.23	320	*e*P		P	15 42 06.5	+0.1		
GRR	Gorron	55.23	320	*e*P		P	15 42 06.5	+0.1		
DBIC	Dimbokro	55.33	269	P		P	15 42 07.7	+0.1		
	comp=Z,5.8nm,0.9s,baz=50,slow=7.9,SNR=2.8									
DBIC				LR		LR	16 04 10.0			
	comp=Z,162nm,21.2s,baz=69,slow=34									
MOY	Mondy	55.39	35	*e*P		P	15 42 09.1	+1.5		
NB2	NORSAR Subarra	55.75	338	P		P	15 42 10.0	+0.1		
	comp=Z,9.6nm,1.2s,baz=129,slow=7.4									
NB2	NORSAR Subarra	55.75	338	P		P	15 42 10.0	+0.1		
	comp=Z,9.6nm,1.2s,SNR=4.3									
NOA	NORSAR Array B	55.75	338	P		P	15 42 09.7	-0.3		
	comp=Z,0.8nm,0.8s,baz=129,slow=7.1,SNR=3.2									
NOA				LR		LR	16 09 48.6			
	comp=Z,210nm,18.1s,baz=120,slow=40									
XAN	Xi'an	56.19	58	P		P	15 42 13.4	-0.2		
XAN				pP		pP	15 42 18.1	-0.8		
XAN				PMZ						
	comp=Z,2.0nm,1.0s									
ZAK	Zakamensk	56.20	38	*e*P		P	15 42 13.9	+0.5		
ZAK				pmax	pmax					
	comp=Z,2.0nm,1.8s									
QIZ	Qiongzhong	56.59	76	P		P	15 42 15.3	-1.3		
QIZ				pP		pP	15 42 18.3	-3.6		
QIZ				S		S	15 50 07.8	-0.5		
QIZ				PMZ						
	comp=Z,11nm,1.7s									
QIZ				LZ						
	comp=Z,200nm,17.4s									
SONM	Songino Array	57.26	41	P		P	15 42 21.9	+0.9		
	comp=Z,5.4nm,1.0s,baz=245,slow=7.2,SNR=32									
SONM				LR		LR	16 10 12.2			
	comp=Z,165nm,21.6s,baz=258,slow=40									
SONM	Songino Array	57.26	41	P		P	15 42 22.0	+0.9		
SONM	Songino Array	57.26	41	P		P	15 42 22.0	+0.9		
ULN	Ulaanbaatar	57.69	41	*d* *i*P		P	15 42 25.1	+1.0		
ULN				pmax	pmax					
	comp=Z,9.0nm,1.7s									
ULN	Ulaanbaatar	57.69	41	*e*P		P	15 42 24.5	+0.4		
	comp=Z,5.4nm,1.0s									
ULN	Ulaanbaatar	57.69	41	*e*P		P	15 42 24.5	+0.4		
	comp=Z,5.4nm,1.0s									
ARCES	ARCESS Array B	58.53	350	P		P	15 42 29.8	+0.3		
	comp=Z,2.3nm,0.7s,baz=163,slow=8.6,SNR=8.6									
ARCES				LR		LR	16 10 51.8			
	comp=Z,451nm,19.3s,baz=169,slow=39									
HHC	Hu-ho-hao-te	59.24	50	*e*P		P	15 42 33.1	-1.9		
HHC				sP		sP	15 42 40.4	-2.0		
HHC				PcP		PcP	15 43 20.8	-2.5		
HHC				PP		PP	15 44 48.4	+2.5		
HHC				S		S	15 50 38.8	-3.8		
HHC				PMZ						
	comp=Z,21nm,1.2s									
HHC				PMZ						
	comp=Z,130nm,8.1s									
HHC				LN						
	comp=Z,280nm,16.8s									
HHC				LE						
	comp=Z,240nm,16.5s									
HHC				LZ						
	comp=Z,260nm,17.1s									
BJI	Beijing	62.62	52	P		P	15 42 57.3	-0.6		
BJI				S		S	15 51 25.4	-0.1		
BJI				PMZ						
	comp=Z,4.0nm,0.6s									
BJI				PMZ						
	comp=Z,88nm,4.0s									
BJI				LN						
	comp=Z,280nm,22.0s									
BJI				LE						
	comp=Z,110nm,17.6s									
BJI				LZ						
	comp=Z,230nm,23.4s									
NJ2	Nanjing	64.40	61	*e*P		P	15 43 08.9	-0.9		
NJ2				PMZ						
	comp=Z,30nm,0.9s									
BOD	Bodaibo	64.60	32	*e*P		P	15 43 10.6	0.0		
KMMI	Kalianget	65.68	104	P		P	15 43 16.8	-1.6		
	comp=Z,20nm,1.4s									
MPSI	Mapaga	69.38	95	P		P	15 43 42.3	+0.5		
	comp=Z,10nm,0.9s									
CN2	Changchun	69.75	48	*e*P		P	15 43 43.1	-0.5		
KAPI	Kappang	70.61	100	*e*P		P	15 43 48.0	-1.3		
	comp=Z,20nm,1.2s									
KAPI	Kappang	70.61	100	*e*P		P	15 43 48.0	-1.3		
	comp=Z,20nm,1.2s									
MRSI	Marisa	71.33	94	P		P	15 43 52.6	-1.1		
	comp=Z,15nm,1.2s,comp=Z,404nm									
WBSI	Waikabubak, Su	71.58	105	P		P	15 43 53.0	-2.3		
KSAR	Wonju Array Be	71.71	55	P		P	15 43 54.4	-1.2		
KSAR	Wonju Array Be	71.71	55	P		P	15 43 54.4	-1.2		
KSAR	Wonju Array Be	71.71	55	P		P	15 43 54.4	-1.2		
KSRS	Korea Array	71.74	55	P		P	15 43 54.4	-1.4		
	comp=Z,0.9nm,0.6s,baz=264,slow=7.7,SNR=4.7									
KSRS	Korea Array	71.74	55	P		P	15 43 54.4	-1.4		
KSRS				pmax	pmax					
	comp=Z,1.0nm,0.6s									
YAK	Yakutsk	73.09	29	*e*P		P	15 44 02.6	-0.8		
YAK				pmax	pmax					
	comp=Z,11nm,0.9s									
YAK	Yakutsk	73.09	29	*e*P		P	15 44 03.1	-0.3		
	comp=Z,9.7nm,0.8s									
YAK	Yakutsk	73.09	29	*e*P		P	15 44 03.1	-0.3		
	comp=Z,9.7nm,0.8s									
TIXI	Tiksi	73.70	19	⇓ *i*P		P	15 44 07.4	+0.6		
TIXI				pmax	pmax					
	comp=Z,15nm,1.7s									
TIXI	Tiksi	73.70	19	*e*P		P	15 44 06.3	-0.5		
	comp=Z,20nm,1.4s									
TIXI	Tiksi	73.70	19	*e*P		P	15 44 06.3	-0.5		
	comp=Z,20nm,1.4s									
MMRI	Maumere	73.98	103	*e*P		P	15 44 06.2	-3.3		
	comp=Z,11nm,0.6s									
KLR	Kul'dur	74.06	42	*e*P		P	15 44 06.0	-3.4		
USRK	Ussuriysk Ar.	74.46	48	LR		LR	16 18 41.1			
	comp=Z,128nm,21.6s,baz=276,slow=37									
SOEI	Soe	76.21	104	P		P	15 44 21.0	-1.5		
	comp=Z,34nm,1.0s									
SOEI	Soe	76.21	104	P		P	15 44 21.0	-1.5		
	comp=Z,34nm,1.0s									
MJAR	Matsushiro Arr	80.02	55	P		P	15 44 43.3	0.0		
	comp=Z,0.8nm,0.6s,baz=272,slow=5.4,SNR=3.3									
MJAR				LR		LR	16 22 42.4			
	comp=Z,66nm,20.3s,baz=290,slow=38									
MAW	Mawson	81.08	175	P		P	15 44 48.6	+0.7		
	comp=Z,4.9nm,0.9s,baz=347,slow=6.9,SNR=5.3									
MAW				LR		LR	16 14 38.8			
	comp=Z,186nm,20.8s,baz=54,slow=31									
SEY	Seymchan	83.42	27	*i* P		P	15 45 00.9	+0.3		
BILL	Bilibino	86.87	20	⇓ *i*P		P	15 45 18.6	+0.8		
BILL				*e*			15 48 39.0			
BILL				*e*SS		SS	16 01 40.4	+3.9		
BILL				pmax	pmax					
	comp=Z,10.0nm,1.7s									
BILL	Bilibino	86.87	20	*e*P		P	15 45 18.1	+0.3		
	comp=Z,15nm,1.5s									
BILL	Bilibino	86.87	20	*e*P		P	15 45 18.1	+0.3		
	comp=Z,15nm,1.5s									
WRA	Warramunga Arr	88.32	111	P		P	15 45 25.0	-0.6		
	comp=Z,6.6nm,0.5s,baz=298,slow=4.1,SNR=117									
WRAB	Tennant Creek	88.32	111	⇑ *i*P		P	15 45 25.1	-0.6		
WRAB				pmax	pmax					
	comp=Z,28nm,1.1s									
WRAB	Tennant Creek	88.32	111	*e*P		P	15 45 25.0	-0.6		
	comp=Z,8.6nm,0.6s									
WRAB	Tennant Creek	88.32	111	*e*P		P	15 45 25.0	-0.7		
	comp=Z,8.6nm,0.6s									
AS31	Alice Springs	88.87	114	*e*P		P	15 45 27.5	-0.7		
AS31	Alice Springs	88.87	114	*e*P		P	15 45 27.5	-0.7		
PETK	Petropavlovsk-	89.26	35	LR		LR	16 29 42.2			
	comp=Z,72nm,20.6s,baz=284,slow=38									
STKA	Stephens Creek	97.35	121	LR		LR	16 26 41.3			
	comp=Z,104nm,19.5s,baz=216,slow=33									
PDAR	Pinedale Array	121.49	343	PKP		PKPdf	15 51 26.7	-0.8		
	comp=Z,0.4nm,0.7s,baz=65,slow=3.2,SNR=3.2									
NVAR	Mina Array Bea	127.64	349	PKP		PKPdf	15 51 39.7	+0.3		
	comp=Z,1.2nm,0.7s,baz=22,slow=1.0,SNR=8.9									
TXAR	Lajitas Array	131.13	330	PKP		PKPdf	15 51 46.6	+0.5		
	comp=Z,0.4nm,0.6s,baz=169,slow=1.8,SNR=6.2									

*ISCJB **18** 15:48:12.2±0.7, 19.°82S±0.°04×69.°4W±0.°1, h112km±7km, mb3.8/2, Error ellipse: s-maj=18.7km s-min=6.3km az=175.2*

*GUC **18** 15:48:12.4±0.5, 19.°84S×69.°32W, h102km±3km, ML4.0*

*IDC **18** 15:48:14.0±1.6, 19.°88S×68.°85W, h118km±15km, mb3.7/2, mb1 3.7/5, mb1mx3.3/40, mbtmp3.9/5, Error ellipse: s-maj=37.9km s-min=14.5km az=103.0*

ISC 18 15:48:12.6±0.9, 19.°83S±0.°04×69.°4W±0.°1, h107km±8km, n16, σ1°15/23, 3C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB11	IPOC Station P	0.26	285	⇓ *i*P		Pn		15 48 27.6	-0.4
PB11				*i* S		Sn		15 48 39.3	-0.3
MNMC	Minimini	0.72	344	⇓ *i*P		Pn		15 48 31.3	+0.1
MNMC				*i* S		Sn		15 48 45.5	+0.3
MNMC				AML		AML		15 48 46.6	
	comp=E,11μm,0.2s								
PSGC	Pisagua	0.73	288	⇓ *i*P		Pn		15 48 31.4	+0.3
PSGC				*i* S		Sn		15 48 45.6	+0.7
PB01	IPOC Station P	1.21	185	⇑ *i*P		Pn		15 48 35.9	-0.1
PB01				*i* S		Sn		15 48 53.8	+0.2
PB01				AML		AML		15 48 55.1	
	comp=E,7μm,0.4s								
PATCX	Punta Patache	1.22	216	⇑ *i*P		Pn		15 48 36.1	+0.1
PATCX				*i* S		Sn		15 48 54.8	+1.0
PB07	IPOC Station P	1.95	194	*e*P		Pn		15 48 44.9	-0.1
PB07				*i* S		Sn		15 49 09.7	+0.1
PB07				AML		AML		15 49 13.5	
	comp=N,690nm,0.1s								
PB09	IPOC Station P	1.96	176	⇑ *i*P		Pn		15 48 45.3	+0.1
PB09				*i* S		Sn		15 49 10.8	+0.8
PB09				AML		AML		15 49 16.2	
	comp=E,2μm,0.4s								
PB04	IPOC Station P	2.43	182	*e*P		Pn		15 48 54.0	+3.0
PB04				AML		AML		15 49 39.9	
	comp=E,349nm,0.5s								
LVC	Limon Verde	2.81	171	P		Pn		15 48 56.6	+0.4
	comp=E,445nm,0.3s,baz=37,slow=4.1,SNR=78								
LVC				S		Sn		15 49 30.3	+0.6
	comp=E,1μm,0.3s,baz=25,slow=24,SNR=29								
PB06	IPOC Station P	2.87	183	*e*S		Sn		15 49 28.7	-2.3
PB06				AML		AML		15 49 38.6	
	comp=N,329nm,0.6s								
LPAZ	La Paz	3.72	19	P		Pn		15 49 09.9	+1.2
	comp=N,2.2nm,0.3s,baz=188,slow=8.2,SNR=50								
SIV	San Ignacio	8.78	66	P		Pn		15 50 11.9	-4.9
	comp=N,0.7nm,0.3s,baz=272,slow=8.8,SNR=13								
TORD	Torodi Ar. Bea	77.22	71	P		P		15 59 53.2	-2.2
	comp=N,0.6nm,0.4s,baz=253,slow=5.4,SNR=11								
YKA	Yellowknife Ar	89.47	341	P		P		16 00 57.5	+0.5
	comp=N,0.9nm,0.7s,baz=130,slow=4.6,SNR=9.3								
WRA	Warramunga Arr	134.15	212	PKP		PKPdf		16 07 19.0	+0.6
	comp=N,0.3nm,0.7s,baz=146,slow=1.6,SNR=4.4								
SONM	Songino Array	151.85	6	PKPbc		PKPbc		16 07 55.5	+0.5
	comp=N,0.5nm,0.6s,baz=41,slow=1.0,SNR=4.7								

*IDC **18** 15:58:50.0±0.8, 14.°40N×94.°46W, h0km, mb4.0/12, mb1 4.3/16, mb1mx4.2/34, mbtmp4.1/16, ML4.1/3, MS3.4/7, Ms1 3.5/7, ms1mx3.2/22, Error ellipse: s-maj=28.1km s-min=15.3km az=51.0*

*ISCJB **18** 15:58:53.8±0.4, 14.°54N±0.°04×94.°37W±0.°04, h23km, mb4.4/40, MS3.6/5, Error ellipse: s-maj=7.4km s-min=4.7km az=44.9*

*MEX **18** 15:58:54.0±0.8, 14.°48N×94.°61W, h20km, MD4.2*

*BJI **18** 15:58:55.7, 14.°60N×94.°30W, h26km, mB4.6/1, Ms5.2/2, Ms7 4.8/2*

*NEIC **18** 15:58:55.0±0.5, 14.°50N×94.°39W, mb4.5/35, MD4.2(MEX), Error ellipse: s-maj=11.6km s-min=5.9km az=42.0*

ISC 18 15:58:54.2±0.6, 14.°45N±0.°07×94.°35W±0.°06, h23km, n277, σ0°95/279, mb4.4/40, MS3.6/5, 107C-78D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		1.66	41	*i* P		Pn		15 59 20.7	-1.2
PCIG				*i* S		Sn		15 59 42.8	+0.2
PCIG		1.66	41	*i* P		Pn		15 59 20.7	-1.2
PCIG				*i* S		Sn		15 59 42.8	+0.2
HUIG	Huatulco	2.15	308	*i* P		Pn		15 59 23.4	-5.2
HUIG				*i* S		Sn		15 59 45.3	-9.2
HUIG	Huatulco	2.15	308	*i* P		Pn		15 59 23.4	-5.2
HUIG				*i* S		Sn		15 59 45.3	-9.2

CMIG	Matias Romero	2.68	349	Pn		Pn	15 59 34.0	-1.9		
	baz=0.0,slow=0.0									
CMIG				Sn		Sn	16 00 04.8	-2.8		
	baz=238,slow=19									
CMIG				LR		LR	16 00 12.4			
	comp=Z,172nm,19.7s,baz=154,slow=30									
CCIG	Comitan	2.81	49	*e*P		Pn	15 59 38.9	+1.0		
CCIG	Comitan	2.81	49	*e*P		Pn	15 59 38.9	+1.0		
TEIG	Tepich	8.17	44	Pn		Pn	16 00 50.6	-0.8		
	10nm,0.3s,baz=224,slow=0.7,SNR=29									
TEIG				Sn		Sn	16 02 20.3	-2.6		
	5.0nm,0.3s,baz=307,slow=20,SNR=5.2									
TEIG				LR		LR	16 04 34.3			
	comp=Z,706nm,18.4s,slow=42									
TEIG	Tepich	8.17	44	*e*P		Pn	16 00 50.3	-1.0		
	40nm,0.4s									
TEIG				Sn		Sn	16 02 20.3	-2.6		
JTS	JuntasAbangare	10.07	113	Pn		Pn	16 01 17.5	0.0		
	0.7nm,0.3s,baz=292,slow=16,SNR=3.1									
JTS				Sn		Sn	16 03 09.3	-0.5		
	0.7nm,0.3s,baz=320,slow=18,SNR=2.2									
JTS	JuntasAbangare	10.07	113	*e*P		Pn	16 01 21.6	+4.1		
	37nm,1.3s									
JTS				Sn		Sn	16 03 09.3	-0.5		
034A	Hebbronville	13.19	343	⇑P		Pn	16 02 03.6	+3.5		
	baz=13									
934A	Benavides	13.65	344	⇑P		Pn	16 02 09.5	+3.1		
	baz=14									
834A	Tilden	14.16	345	⇑P		Pn	16 02 15.3	+1.9		
	baz=14									
833A	Chaparral WMA,	14.58	342	⇑P		Pn	16 02 20.4	+1.3		
	baz=15									
832A	Faith Ranch, C	14.73	340	⇑P		Pn	16 02 21.1	-0.1		
	baz=15									
733A	Divot King Ran	14.92	343	⇓P		Pn	16 02 23.6	-0.2		
	baz=15									
732A	Laxson Ranch,	15.14	341	⇑P		Pn	16 02 26.5	-0.2		
	baz=15									
537A	Green Hill Far	15.66	354	⇓P		Pn	16 02 34.1	+0.6		
	baz=16									
632A	Uvalde	15.81	342	⇑P		Pn	16 02 34.9	-0.5		
	baz=16									
631A	Perdido Creek	15.97	340	⇑P		Pn	16 02 37.1	-0.3		
	baz=16									
534A	Blanco	15.97	347	⇓P		Pn	16 02 36.9	-0.5		
	baz=16									
531A	Rocksprings	16.65	341	⇑P		Pn	16 02 46.1	-0.1		
	baz=17									
434A	Burnet	16.68	348	⇑P		Pn	16 02 46.4	-0.1		
	baz=17									
JCT	Junction City	16.73	343	*e*P		Pn	16 02 47.7	+0.5		
	15nm,1.1s									
JCT	Junction City	16.73	343	⇑P		Pn	16 02 47.0	-0.2		
	baz=17									
433A	Art	16.81	346	⇑P		Pn	16 02 47.9	-0.2		
	baz=17									
530A	J-C Ranch, Com	16.90	339	⇑P		Pn	16 02 49.7	+0.3		
	baz=17									
336A	Riesel	17.02	353	⇑P		Pn	16 02 51.4	+0.7		
	baz=17									
432A	Menard	17.10	344	⇓P		Pn	16 02 52.0	+0.2		
	baz=17									
TXAR	Lajitas Array	17.14	331	P		Pn	16 02 50.0	-2.4		
	0.1nm,0.3s,baz=152,slow=11,SNR=13									
431A	Sonora	17.15	341	⇓P		Pn	16 02 52.7	+0.2		
	baz=17,SNR=6.4									
334A	Lometa	17.18	349	⇓P		Pn	16 02 52.6	-0.2		
	baz=17									
529A	Stev Forest Ra	17.21	336	⇑P		Pn	16 02 53.5	+0.4		
	baz=17									
333A	Richland Sprin	17.33	347	⇓P		Pn	16 02 55.3	+0.6		
	baz=17									
430A	Baggett Ranch,	17.45	340	⇑P		Pn	16 02 56.8	+0.6		
	baz=18,SNR=5.3									
429A	Davenport Ranc	17.53	338	⇓P		Pn	16 02 57.9	+0.6		
	baz=18,SNR=5.9									
332A	Millersview	17.57	345	⇑P		Pn	16 02 57.9	+0.3		
	baz=18									
236A	Katherine and	17.59	354	⇓P		Pn	16 02 57.9	+0.1		
	baz=18									
331A	San Angelo	17.68	343	⇓P		Pn	16 02 59.2	+0.2		
	baz=18									
WHTX	Lake Whitney,	17.69	351	⇓P		Pn	16 02 59.2	+0.1		
	baz=18									
234A	Clairette	17.82	349	⇑P		Pn	16 03 00.6	-0.1		
	baz=18									
233A	Rising Star	17.98	347	⇑P		Pn	16 03 02.3	-0.4		
	baz=18									
330A	Mertzon	18.00	341	⇑P		Pn	16 03 03.1	0.0		
	baz=18									
232A	Coleman	18.02	345	⇑P		Pn	16 03 02.8	-0.4		
	baz=18									
137A	Heron Place, G	18.11	356	⇓P		Pn	16 03 04.2	-0.1		
	baz=18									
230A	Sterling City	18.43	342	⇑P		P	16 03 08.2	+0.1		
	baz=18									
133A	Hamilton Ranch	18.55	348	⇑P		P	16 03 09.3	-0.1		
	baz=19									
ABTX	Abilene, Hawle	18.73	346	*e*P		Pn	16 03 12.1	+0.3		
	7.4nm,0.6s

W34A	Bridge Creek, baz=21	20.93	352	⇓P	P 16 03 36.0 +0.7
W33A	Caddo, Fort Co baz=21	20.95	351	⇑P	P 16 03 36.4 +0.9
X29A	Tulia baz=21	20.99	343	⇓P	P 16 03 36.8 +0.7
W32A	Sentinel baz=21	21.06	349	⇑P	P 16 03 37.3 +0.6
OTAV	Otavalo	21.14	131	eP	P 16 03 39.9 +1.7
X28A	Dimmitt baz=21	21.20	342	⇓P	P 16 03 38.8 +0.4
W31A	Holland Ranch, baz=21,SNR=5.8	21.26	347	⇓P	P 16 03 39.3 +0.5
AMTX	Amarillo 40nm,1.0s	21.40	343	eP	P 16 03 40.6 +0.2
AMTX	Amarillo baz=21	21.40	343	⇑P	P 16 03 41.4 +1.0
TUL1	Leonard baz=22	21.41	357	⇑P	P 16 03 41.0 +0.5
V34A	Guthrie baz=22	21.49	353	⇑P	P 16 03 41.6 +0.3
V33A	Lossen Ranch, baz=22	21.58	351	⇑P	P 16 03 42.3 +0.1
V32A	Arapaho baz=22	21.60	350	⇓P	P 16 03 42.9 +0.4
W29A	Amarillo baz=22	21.61	344	⇓P	P 16 03 43.0 +0.3
121A	Cookes Peak, D 33nm,1.2s	21.77	328	eP	P 16 03 46.3 +1.7
121A	Cookes Peak, D baz=22,SNR=11	21.77	328	⇓P	P 16 03 45.8 +1.2
V31A	Spring Creek L baz=22	21.80	348	⇓P	P 16 03 45.8 +1.1
ROSC	El Rosal 6.9nm,0.6s,baz=102,slow=20,SNR=5.3	21.90	114	P	P 16 03 48.1 +1.8
ROSC	El Rosal	21.90	114	eP	P 16 03 50.2 +3.9
V30A	Spur Ranch, Mi baz=22	21.98	346	⇑P	P 16 03 47.3 +0.7
U34A	Anderson Ranch 13nm,0.6s	22.08	353	eP	P 16 03 47.3 -0.3
U34A	Anderson Ranch baz=22	22.08	353	⇓P	P 16 03 49.0 +1.3
U33A	Lingo Farm, Me baz=22	22.15	352	⇓P	P 16 03 49.5 +1.1
T35A	Sooner Cattle baz=22	22.46	355	⇓P	P 16 03 50.9 -0.9
V27A	Dan Oppiter Fa baz=23	22.55	342	⇓P	P 16 03 53.2 +0.4
T36A	Boggs Farm, Ca baz=23	22.56	357	⇓P	P 16 03 53.6 +0.8
T34A	McClaskey Farm baz=23	22.63	354	⇓P	P 16 03 54.0 +0.5
U30A	WK&E Inc. Balk baz=23	22.70	347	⇑P	P 16 03 55.2 +0.8
ANMO	Albuquerque 1.9nm,0.8s,baz=164,slow=13,SNR=4.8	23.14	334	P	P 16 03 59.6 +0.5
U27A	Thompson Grove baz=23	23.16	342	⇑P	P 16 04 00.0 +0.8
TKL	Tuckaleechee C 4.6nm,0.6s,baz=196,slow=12,SNR=2.2	23.16	22	P	P 16 03 59.1 +0.1
T30A	Plains baz=23	23.18	347	⇓P	P 16 03 59.9 +0.7
S35A	Otter Creek Ra baz=23	23.21	356	⇓P	P 16 04 00.2 +0.7
S36A	Lake Cedric, C baz=23	23.21	358	⇑P	P 16 04 00.3 +0.8
TUC	Tucson 9.3nm,1.0s	23.26	323	eP	P 16 03 59.1 -1.1
S32A	Newby Ranch, P baz=24	23.52	351	⇑P	P 16 04 02.9 +0.3
S31A	Mullinville baz=24	23.53	350	⇑P	P 16 04 02.9 +0.2
T28A	Walsh baz=24	23.62	344	⇑P	P 16 04 03.7 0.0
T27A	Campo baz=24	23.73	343	⇓P	P 16 04 05.3 +0.6
S30A	Montezuma baz=24	23.73	348	⇑P	P 16 04 05.2 +0.4
R36A	Gordon, Harris baz=24	23.80	358	⇓P	P 16 04 05.0 -0.3
S29A	Ulysses baz=24	23.85	347	⇑P	P 16 04 05.8 0.0
SDV	Santo Domingo 8.9nm,0.7s	23.87	101	eP	P 16 04 06.1 -0.3
R33A	Olander Ranch, baz=24	23.98	353	⇓P	P 16 04 07.1 0.0
T26A	Comanche Natio baz=24	24.09	342	⇑P	P 16 04 08.1 -0.2
R31A	Burdett baz=24	24.19	350	⇑P	P 16 04 09.2 +0.3
R32A	Long Quarter, baz=24	24.19	352	⇑P	P 16 04 09.4 +0.4
214A	Organ Pipe Nat baz=24	24.26	319	⇓P	P 16 04 10.3 +0.7
T25A	Trinidad baz=24,SNR=7.5	24.31	340	⇓P	P 16 04 11.2 +0.9
R30A	Dighton baz=24,SNR=5.3	24.32	349	⇑P	P 16 04 11.4 +1.2
Q35A	Mercer Eighty, baz=24	24.36	357	⇑P	P 16 04 11.6 +1.0
X18A	Snowflake baz=24,SNR=5.4	24.46	328	⇓P	P 16 04 13.1 +1.4
S26A	Kim baz=24,SNR=6.9	24.46	342	⇑P	P 16 04 13.0 +1.4
R28A	Tribune baz=25	24.70	346	⇓P	P 16 04 14.0 +0.3
Q32A	Meitler Ranch, baz=25,SNR=5.5	24.73	352	⇓P	P 16 04 14.3 +0.4
R27A	Eads baz=25	24.89	344	⇓P	P 16 04 16.3 +0.8
Q30A	Quinter baz=25	24.98	349	⇑P	P 16 04 16.9 +0.8
Q29A	Oakley baz=25	25.04	348	⇓P	P 16 04 17.6 +0.9
R26A	Arlington baz=25,SNR=5.9	25.09	343	⇓P	P 16 04 18.4 +1.2
X16A	Lo Mia Camp, P baz=25,SNR=8.3	25.17	325	⇓P	P 16 04 19.1 +1.0
SDCO	Great Sand Dun 6.8nm,1.0s	25.23	339	eP	P 16 04 19.0 +0.2
SDCO	Great Sand Dun baz=25,SNR=8.5	25.23	339	⇓P	P 16 04 19.8 +1.1
Z14A	Wintersburg baz=25	25.29	321	⇑P	P 16 04 20.3 +1.3
P32A	Huiting Farm, baz=25	25.36	352	⇓P	P 16 04 20.8 +1.3
P31A	Stockton baz=25	25.37	351	⇑P	P 16 04 20.7 +1.1
P30A	Selden baz=26	25.53	349	⇑P	P 16 04 21.8 +0.7
Q26A	Hugo baz=26,SNR=5.2	25.69	343	⇓P	P 16 04 23.5 +0.8
S22A	4UR Ranch, Cre baz=26	25.72	337	⇑P	P 16 04 24.2 +1.1
R23A	Moffat baz=26	25.74	339	⇑P	P 16 04 24.7 +1.4
MVCO	Mesa Verde baz=26	25.94	334	⇓P	P 16 04 26.1 +1.0
O32A	Brockman Farm, baz=26	25.95	353	⇑P	P 16 04 26.3 +1.4
WUAZ	Wupatki 14nm,1.0s	25.96	327	P	P 16 04 27.1 +1.9
WUAZ	Wupatki baz=26,SNR=6.1	25.96	327	⇑P	P 16 04 26.4 +1.1
O31A	Woolen Ranch, baz=26	25.98	351	⇑P	P 16 04 26.6 +1.4
PDMCI	Parker Dam,Lak baz=27	26.66	321	⇑P	P 16 04 31.4 +0.1
SMCO	Snowmass 8.9nm,1.2s	27.03	338	eP	P 16 04 36.0 +0.9
BC3	Big Chuckawall baz=27	27.05	319	⇑P	P 16 04 35.7 +0.7
W13A	Hualapai Mount baz=27	27.06	323	⇑P	P 16 04 35.9 +0.6
ISCO	Idaho Springs baz=27	27.12	341	⇑P	P 16 04 36.1 +0.2
SCIA	State Center 17nm,0.6s	27.38	2	eP	P 16 04 36.7 -1.0
L30A	Spencer Herefo baz=28	27.80	351	⇓P	P 16 04 42.0 +0.4
N23A	Red Feather La baz=28	28.22	341	⇑P	P 16 04 46.3 +0.6
N22A	Wattenberg Ran baz=28	28.30	340	⇑P	P 16 04 46.7 +0.4
TUQ	Turquoise Moun baz=28	28.50	321	⇑P	P 16 04 48.9 +0.8
N20A	Spence Gulch, baz=29	28.95	338	⇑P	P 16 04 53.2 +1.1
ECSD	EROS Data Cent baz=29	29.25	357	⇑P	P 16 04 55.4 +1.0
TPNV	Topopah Spring baz=30	29.72	323	⇓P	P 16 04 59.3 +0.5
MPMC	Manual Prospec baz=30	29.87	320	⇑P	P 16 05 00.7 +0.4
I27A	Quinn baz=30	30.25	349	⇑P	P 16 05 04.8 +1.4
DUG	Dugway, Tooele baz=30	30.32	331	⇑P	P 16 05 05.1 +1.0
R11A	Troy Canyon, C baz=30,SNR=5.4	30.32	326	⇓P	P 16 05 05.1 +0.9
TCUT	Toone Canyon 25nm,1.1s	30.44	334	eP	P 16 05 05.8 +0.5
J21A	Lysite baz=31	30.91	341	⇑P	P 16 05 10.6 +1.2
PDAR	Pinedale Array 0.7nm,0.9s,baz=139,slow=7.5,SNR=4.7	31.11	338	P	P 16 05 11.6 +0.4
J20A	Shoshoni baz=31	31.12	340	⇓P	P 16 05 12.2 +1.0
I22A	9 Mile Ranch, baz=31	31.13	343	⇓P	P 16 05 11.9 +0.7
I21A	Big Trails, Te baz=31	31.29	342	⇑P	P 16 05 13.6 +1.0
J19A	Crowheart baz=31	31.37	339	⇑P	P 16 05 13.9 +0.5
H24A	Dirks Ranch, A baz=32	31.42	346	⇓P	P 16 05 14.6 +0.9
HVU	Hansel Valley 7.5nm,0.9s	31.57	333	eP	P 16 05 16.0 +0.8
HVU				e	16 05 23.2
I20A	Worland baz=32	31.67	341	⇓P	P 16 05 16.7 +0.7
H22A	Clearmont baz=32	31.74	344	⇑P	P 16 05 18.1 +1.6
NVAR	Mina Array Bea 3.3nm,1.0s,baz=141,slow=8.7,SNR=22	31.92	323	P	P 16 05 18.5 +0.2
NVAR				PcP	PcP 16 08 09.0 +0.5
G23A	0.6nm,0.7s,baz=165,slow=4.7,SNR=4.6 Biddle baz=32	32.05	345	⇑P	P 16 05 20.8 +1.5
REDW	Red Top Meadow 22nm,1.4s	32.10	337	eP	P 16 05 19.8 -0.1
REDW				e	16 05 28.1
LOHW	Long Hollow 8.6nm,1.2s	32.23	338	eP	P 16 05 21.7 +0.7
LOHW				e	16 05 29.4
G22A	Birney baz=32	32.30	344	⇑P	P 16 05 22.7 +1.3
E28A	Huff baz=32	32.47	352	⇑P	P 16 05 24.0 +1.2
I17A	Pilgrim Ck. baz=32	32.48	338	⇑P	P 16 05 24.4 +1.2
F23A	Volborg baz=33	32.54	346	⇓P	P 16 05 24.8 +1.3
G21A	Lodge Grass baz=33	32.55	343	⇓P	P 16 05 25.1 +1.4
H19A	Powell baz=33	32.59	340	⇑P	P 16 05 24.8 +0.8
E26A	Carlson Angus baz=33	32.64	350	⇑P	P 16 05 25.3 +0.9
D30A	Buchanan baz=33	32.77	354	⇑P	P 16 05 27.0 +1.6
H18A	Shoshone NF, C baz=33,SNR=5.4	32.82	340	⇑P	P 16 05 26.6 +0.4
G20A	Bridger baz=33	32.84	342	⇑P	P 16 05 27.0 +0.8
D27A	Center baz=33	33.11	351	⇑P	P 16 05 30.0 +1.5
D26A	Manning baz=33	33.18	350	⇑P	P 16 05 30.6 +1.5
C30A	Mose, Pekin baz=33	33.34	355	⇓P	P 16 05 31.0 +0.6
E22A	Miles City baz=33	33.35	345	⇑P	P 16 05 31.3 +0.8
F19A	Roth Farm, Mol baz=34	33.64	341	⇑P	P 16 05 34.1 +0.9
HLID	Hailey 4.7nm,1.0s	33.72	333	eP	P 16 05 34.8 +0.8
HLID				e	16 05 42.5
HLID	Hailey baz=34,SNR=8.4	33.72	333	⇓P	P 16 05 34.6 +0.6
GCMT	Greycliff 1.2nm,0.9s	33.81	341	P	P 16 05 36.2 +1.5
GCMT				e	16 05 43.9
E20A	Meyer Farm, Mu baz=34	33.98	343	⇑P	P 16 05 37.1 +0.9
D22A	Cohagen baz=34	34.07	346	⇑P	P 16 05 38.0 +1.2
MCMT	McKenzie Canyo 4.6nm,1.1s	34.11	336	eP	P 16 05 39.3 +1.8
MCMT				e	16 05 46.3
E19A	Rath Farm, Rou baz=34,SNR=7.2	34.14	342	⇑P	P 16 05 38.5 +1.1
C23A	Lambert baz=34	34.45	347	⇑P	P 16 05 41.6 +1.5
D20A	Manuel Ranch, baz=35	34.52	343	⇑P	P 16 05 41.5 +0.7
A28A	Rude Farm, Bot baz=35	34.71	353	⇑P	P 16 05 43.7 +1.4
WVOR	Wild Horse Val 17nm,1.4s	34.88	328	eP	P 16 05 44.3 +0.4
C21A	Desert Coulee baz=35	34.92	345	⇓P	P 16 05 45.8 +1.6
A26A	Wade Farm, Ken baz=35	34.93	351	⇑P	P 16 05 45.2 +1.0
B23A	Brockton baz=35	35.04	348	⇓P	P 16 05 46.5 +1.3
C20A	Veseth Ranch, baz=35	35.06	344	⇓P	P 16 05 46.7 +1.4
C19A	Slack Wire Ran baz=35	35.37	343	⇑P	P 16 05 49.5 +1.5
B20A	Solberg Farm, baz=36	35.73	344	⇓P	P 16 05 52.3 +1.2
EGMT	Eagleton baz=36	35.83	342	⇑P	P 16 05 53.5 +1.5
A21A	Bergtoll Ranch baz=36	35.97	346	⇑P	P 16 05 54.1 +1.0
B19A	Brinkman Farms baz=36	35.99	343	⇓P	P 16 05 54.5 +1.1
CHMT	Chamberlain Mo 3.4nm,1.4s	36.02	338	eP	P 16 05 54.1 +0.3
CHMT				e	16 06 01.8
A20A	Cobblestone Ra baz=36	36.11	345	⇓P	P 16 05 55.4 +1.0
MSO	Missoula baz=36	36.20	337	⇑P	P 16 05 56.2 +0.9
SWMT	Swartz Lake 3.1nm,0.9s	36.80	338	eP	P 16 06 00.7 +0.4
YBMT	Yellow Bay 4.4nm,1.1s	37.10	338	eP	P 16 06 03.3 +0.4
YBMT				e	16 06 10.8
JTMT	Jette 0.6nm,0.5s	37.10	338	eP	P 16 06 03.1 +0.2
JTMT				e	16 06 10.8
J04D	Umpqua Nationa baz=37	37.28	326	⇓P	P 16 06 04.8 +0.2
LPAZ	La Paz 1.6nm,0.7s,baz=331,slow=5.5,SNR=7.1	40.05	139	P	P 16 06 27.9 -0.6
LPAZ	La Paz 3.1nm,1.0s	40.05	139	eP	P 16 06 28.0 -0.5
YKA	Yellowknife Ar 0.6nm,0.7s,baz=149,slow=7.9,SNR=12	50.09	348	P	P 16 07 46.7 -0.4
YKA				PcP	PcP 16 09 05.9 -0.6
INK	0.3nm,0.6s,baz=146,slow=4.2,SNR=2.5 Inuvik 3.7nm,1.0s,baz=130,slow=7.1,SNR=7.8	59.38	344	P	P 16 08 52.1 -2.2
ILAR	Eielson Array 3.5nm,1.0s,baz=142,slow=4.6,SNR=26	61.54	337	P	P 16 09 09.1 -0.1
BILL	Bilibino 11nm,1.3s	80.19	338	eP	P 16 11 02.4 0.0
QUIF	Quistinic 54nm,1.5s	80.22	43	eP	P 16 11 03.9 +1.0
QUIF	Quistinic 54nm,1.5s	80.22	43	eP	P 16 11 03.9 +1.0
ESDC	Sonseca Array 4.0nm,0.9s,baz=293,slow=5.1,SNR=16	81.23	51	P	P 16 11 08.3 -0.3
GRR	Gorron	81.64	42	eP	P 16 11 11.2 +0.7
GRR	Gorron	81.64	42	eP	P 16 11 11.2 +0.7
FLN	La Foliniere	81.80	42	eP	P 16 11 12.2 +0.8
FLN	101nm,20.5s			eR	
FLN	La Foliniere	81.80	42	eP	P 16 11 12.2 +0.8
LDF	La Druitiere 69nm,1.7s	82.07	42	eP	P 16 11 13.5 +0.7
LDF	La Druitiere 69nm,1.7s	82.07	42	eP	P 16 11 13.5 +0.7
SJPF	Ste Jean 49nm,1.5s	82.53	48	eP	P 16 11 16.3 +1.0
RJF	Les Rejaudoux	83.93	45	eP	P 16 11 23.2 +0.7
RJF	103nm,19.0s			eR	
RJF	Les Rejaudoux	83.93	45	eP	P 16 11 23.2 +0.7
TCF	Toulx Ste Croi 42nm,1.6s	84.16	44	eP	P 16 11 24.2 +0.5
TCF	Toulx Ste Croi 42nm,1.6s	84.16	44	eP	P 16 11 24.2 +0.5
SSF	Saint Saulge	84.82	43	eP	P 16 11 27.5 +0.5
SSF	Saint Saulge	84.82	43	eP	P 16 11 27.5 +0.5
NOA	NORSAR Array B 1.3nm,0.9s,baz=291,slow=4.4,SNR=2.5	84.84	28	P	P 16 11 27.3 +0.5
NOA				LR	LR 16 49 16.4
LOR	comp=Z,16nm,18.3s,baz=295,slow=36 Lormes	84.99	43	eP	P 16 11 28.4 +0.5
LOR	59nm,19.8s			eR	
LOR	Lormes	84.99	43	eP	P 16 11 28.4 +0.5
CABF	La Chapelle	86.64	43	eP	P 16 11 36.7 +0.5
CABF	La Chapelle	86.64	43	eP	P 16 11 36.7 +0.5
HINF	Hinteralfeld	86.78	41	eP	P 16 11 37.0 +0.3
HINF	Hinteralfeld	86.78	41	eP	P 16 11 37.0 +0.3
LPL	La Plagne 20nm,1.3s	87.40	44	eP	P 16 11 39.9 -0.2
LPL	La Plagne 20nm,1.3s	87.40	44	eP	P 16 11 39.9 -0.2
LPG	La Plagne 23nm,1.4s	87.42	44	eP	P 16 11 40.0 -0.2
LPG	La Plagne 23nm,1.4s	87.42	44	eP	P 16 11 40.0 -0.2
GERES	GERESS Array B 0.5nm,0.8s,baz=310,slow=5.0,SNR=4.2	90.70	39	P	P 16 11 55.5 +0.2
GERES				LR	LR 16 53 10.7
FINES	comp=Z,36nm,19.0s,baz=282,slow=36 FINESS Array B	91.05	24	LR	LR 16 52 28.9
TORD	comp=Z,24nm,21.6s,baz=271,slow=35 Torodi Ar. Bea	92.49	76	LR	LR 16 55 28.2
AKASG	comp=Z,14nm,19.2s,baz=160,slow=37 Malin Array Be	98.59	32	LR	LR 16 57 12.9
MKAR	comp=Z,25nm,20.1s,baz=50,slow=36 Makanchi Array	118.97	3	PKP	PKPdf 16 17 39.9 -1.2
HHC	0.3nm,0.7s,baz=298,slow=3.1,SNR=3.3 Hu-ho-hao-te	119.97	337	ePKP	PKPdf 16 17 41.0 -2.4
HHC				PP	PP 16 19 08.1 +1.7
HHC				PPMZ	
HHC	24nm,8.8s			LN	
HHC	180nm,18.5s			LE	
HHC	280nm,18.5s			LZ	
WMQ	160nm,18.5s Urumqi	121.99	358	ePKP	PKPdf 16 17 46.3 -0.8
STKA	Stephens Creek 1.5nm,0.7s,baz=75,slow=2.5,SNR=6.1	126.28	241	PKP	PKPdf 16 17 53.7 -1.8
LZH	Lanzhou	126.88	342	ePKP	PKPdf 16 17 55.3 -1.5
LZH				sPKP	16 18 09.6
LZH				LN	
LZH	190nm,18.8s			LE	
LZH	160nm,16.4s			LZ	
WRA	220nm,20.0s Warramunga Arr 1.3nm,0.6s,baz=87,slow=2.4,SNR=19	133.29	256	PKP	PKPdf 16 18 08.3 -0.8
CM31	Chiang Mai Arr	144.78	338	ePKPdf	PKPab 16 18 28.7 -0.2
CMAR	Chiang Mai Arr 3.6nm,1.0s,baz=348,slow=4.5,SNR=23	144.78	338	PKP	PKPab 16 18 27.9 -1.0

KRSC 18 16:10:41.5±1.7, 55.51N×154.48E, h46km±42km, ML3.9, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ESO	Esso	2.42	78	eP		Pn	16 11 20.9	+2.3
ESO				eS		Sn	16 11 49.7	+2.6
GNL	Ganaly	2.71	131	eP		Pn	16 11 25.9	+3.2
APC	Apacha	3.03	148	eP		Pn	16 11 29.7	+2.8
APC				eS		Sn	16 12 06.6	+4.7
SRDR	Sredinnyy	3.06	73	eP		Pn	16 11 30.4	+3.0
KRX	Arik	3.25	130	eP		Pn	16 11 33.9	+3.8
KOK	Koryaka	3.29	131	eP		Pn	16 11 34.5	+3.9
AVH	Avacha	3.36	130	eP		Pn	16 11 36.2	+4.7
SMAR	Somma	3.38	130	eP		Pn	16 11 36.9	+4.8
SDLR	Sedlovina	3.41	129	eP		Pn	16 11 36.0	+3.7
UGLR	Uglovaya	3.43	130	eP		Pn	16 11 36.6	+4.0
MIPR	Malaya Ipel'ka	3.51	156	eP		Pn	16 11 36.5	+3.0
ASAK	Asacha	3.73	146	eP		Pn	16 11 40.4	+3.8
RUS	Russkaya	3.90	141	eP		Pn	16 11 42.5	+3.8

IDC 18 16:36:21.9±2.4, 11.35N×92.08E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/31, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=67.4km s-min=27.3km az=67.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr 0.1nm,0.3s,baz=236,slow=15,SNR=3.4	9.69	42	Pn		Pn	16 38 42.0	-0.7
H08S3	Diego Garcia H baz=46,slow=76,SNR=23	27.12	227	T		T	17 10 41.7	
H08S2	Diego Garcia H baz=46,slow=76,SNR=28	27.13	227	T		T	17 10 42.4	
H08S1	Diego Carcia H baz=46,slow=76,SNR=16	27.14	227	T		T	17 10 42.9	
MKAR	Makanchi Array 0.5nm,0.8s,baz=176,slow=8.9,SNR=5.0	36.29	349	P		P	16 43 27.1	+0.1
SONM	Songino Array 0.2nm,0.4s,baz=202,slow=7.2,SNR=3.2	38.30	16	P		P	16 43 44.4	+0.1
WRA	Warramunga Arr 0.7nm,0.4s,baz=306,slow=8.3,SNR=18	51.94	127	P		P	16 45 32.7	-0.2

MAN 18 16:42:57, 8.12N×125.00E, h5km, mb4.4, ML3.2, MS3.0, 5C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BUKP	Musuan	0.25	165	eP		Pg	16 43 02.5	+0.6
CGP	Cagayan de Oro	0.45	318	⇑iP		Pb	16 43 07.1	-0.3
CGP				iS		Sb	16 43 15.1	+0.7
BUTP	Butuan	1.05	36	eP		Pb	16 43 17.5	-0.1
BUTP				eS		Sn	16 43 34.6	+1.3
CTBH	Cotabato--PC H	1.16	220	⇑eP		Pg	16 43 19.3	0.0
CTBH				iS		Sn	16 43 37.2	+1.0
BIPH	Bislig	1.35	87	⇑iP		Pg	16 43 23.9	+1.0
BIPH				iS		Sn	16 43 41.3	+0.4
PAGZ	Pagadian	1.62	261	eP		Pg	16 43 28.6	+0.5
DCPH	Dipolog City	1.69	286	⇓eP		Pn	16 43 27.8	+0.5
MATI	Mati	1.71	133	eP		Pn	16 43 18.1	-9.4
SCPH	Surigao	1.72	16	eP		Pn	16 43 27.2	-0.4
TBP	Tagbilaran	1.92	324	⇑eP		Pn	16 43 30.2	-0.2
TBP				eS		Sb	16 43 57.7	+0.7
MSLP	Maasin	2.01	356	eP		Pn	16 43 31.3	-0.3
OCLP	Ormoc	2.94	353	eP		Pn	16 43 46.0	+1.6
GUIM	Jordan	3.44	317	eP		Pn	16 43 52.3	+1.0
RCP	Roxas	4.08	327	⇑eP		Pn	16 44 01.8	+1.8

KRSC 18 16:50:45.7±2.5, 55.72N×155.07E, h3km±14km, ML3.9, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ESO	Esso	2.06	83	eP		Pn	16 51 22.4	+1.2
ESO				eS		Sb	16 51 49.1	-0.6
GNL	Ganaly	2.63	140	eP		Pn	16 51 30.2	+1.0
SRDR	Sredinnyy	2.67	75	eP		Pn	16 51 32.0	+2.3
APC	Apacha	3.06	156	eP		Pn	16 51 37.1	+2.2
APC				eS		Sb	16 52 15.9	-2.5
MIPR	Malaya Ipel'ka	3.59	163	eP		Pb	16 51 46.3	-3.6
RUS	Russkaya	3.87	147	eP		Pn	16 51 49.0	+3.0

KRSC 18 17:02:04.9±2.1, 49.94N×156.72E, h48km±19km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.84	333	eP		Pn	17 02 20.5	+0.1
SKR				eS		Sn	17 02 31.8	+0.1

PAU	**Pauzhetka**	**1.53**	**2**	*eP*	Pn	17 02 31.7	+1.9	
PAU				*eS*	Sn	17 02 50.3	+1.8	
MIPR	**Malaya Ipel'ka**	**2.34**	**1**	*eP*	Pn	17 02 41.5	+0.6	
ASAK	**Asacha**	**2.56**	**16**	*eP*	Pn	17 02 47.1	+3.2	
ASAK				*eS*	Sn	17 03 18.1	+4.2	
MTVR	**Mutnovka**	**2.71**	**19**	*eP*	Pn	17 02 49.8	+3.7	
MTVR				*eS*	Sn	17 03 22.0	+4.2	
RUS	**Russkaya**	**2.74**	**24**	*eP*	Pn	17 02 49.2	+2.9	
RUS				*eS*	Sn	17 03 21.4	+3.2	
PET	**Petropavlovsk**	**3.32**	**21**	*eS*	Sn	17 03 36.1	+3.8	
UGLR	**Uglovaya**	**3.53**	**21**	*eP*	Pn	17 03 01.6	+4.3	
AVH	**Avacha**	**3.56**	**20**	*eP*	Pn	17 03 02.2	+4.5	
KOK	**Koryaka**	**3.56**	**19**	*eP*	Pn	17 03 02.7	+4.9	
KRER	**Koryakskii**	**3.60**	**20**	*eP*	Pn	17 03 02.7	+4.3	
KRER				*eS*	Sn	17 03 45.0	+5.2	
SDLR	**Sedlovina**	**3.61**	**21**	*eP*	Pn	17 03 01.9	+3.5	
SDLR				*eS*	Sn	17 03 43.2	+3.4	
NLC	**Nalytchevo**	**3.63**	**26**	*eS*	Sn	17 03 43.4	+3.5	
KRX	**Arik**	**3.63**	**19**	*eP*	Pn	17 03 02.9	+4.2	
SPN	**Mys Shipunski**	**3.78**	**32**	*eP*	Pn	17 03 03.9	+3.4	
SPN				*eS*	Sn	17 03 48.8	+5.2	
GNL	**Ganaly**	**3.84**	**11**	*eP*	Pn	17 03 04.0	+2.5	
MKZ	**Mys Kozlova**	**5.55**	**32**	*eP*	Pn	17 03 27.1	+2.3	
TUMR	**Tumrok**	**5.75**	**20**	*eP*	Pn	17 03 32.4	+4.7	

GUC 18 17:03:28.1±0.6,**35°08S**×**72°83W**,**h12**km±4km,**ML4.1,**
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**1.03**	**109**	*eP*	Pg	17 03 48.0	0.0
TALC				*eS*	Sn	17 04 03.2	+0.6
LNCH	**Linares**	**1.26**	**128**	*eP*	Pb	17 03 51.8	0.0
LNCH				*eS*	Sg	17 04 09.6	+0.7
NICH	**Los Niches**	**1.31**	**87**	*eP*	Pb	17 03 52.6	-0.1
NICH				*eS*	Sg	17 04 11.2	+0.7
CLCH	**Cerro Calan**	**2.53**	**49**	*eP*	Pb	17 04 11.8	-1.8
CLCH				*eS*	Sb	17 04 45.2	+0.4
CLCH				AML	AML	17 04 55.5	
	comp=N,1μm,0.4s						
ROCH	**El Roble**	**2.58**	**36**	*eS*	Sb	17 04 46.7	+0.1
ROCH				AML	AML	17 04 56.7	
	comp=N,685nm,0.2s						
PEL	**Peldehue**	**2.62**	**43**	*eP*	Pn	17 04 12.6	+2.3
PEL				AML	AML	17 04 56.4	
	comp=E,1μm,0.4s						

*ISCJB **18** 17:09:22.5±0.9, 19°.46S±0°.07×66°.9W±0°.1, h266km, mb3.2/2, Error ellipse: s-maj=17.2km s-min=9.5km az=15.0*
*IDC **18** 17:09:22.9±1.0, 19°.46S×66°.78W, h232km±11km, mb3.1/2, mb1 3.3/5, mb1mx3.1/28, mbtmp3.7/5, Error ellipse: s-maj=25.3km s-min=10.6km az=99.0*
ISC 18 17:09:23.9±1.0,**19°44S**±0°.07×**66°.9W**±0°.1,**h266**km,**n7,**
σ3$23/8,**Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.33**	**340**	P	**Pn**	**17 10 21.2**	**-0.4**
	0.8nm,0.3s,baz=170,slow=4.6,SNR=17						
LPAZ				S	**S**	**17 11 04.0**	**-3.4**
	0.2nm,0.3s,baz=156,slow=20,SNR=8.0						
LVC	**Limon Verde**	**3.65**	**210**	P	**Pn**	**17 10 24.6**	**-0.1**
	63nm,0.3s,baz=41,slow=11,SNR=19						
LVC				S	**S**	**17 11 09.7**	**-3.5**
	117nm,0.3s,baz=255,slow=18,SNR=17						
SIV	**San Ignacio**	**6.56**	**59**	P	**Pn**	**17 10 57.4**	**-2.0**
	2.6nm,0.3s,baz=241,slow=13,SNR=23						
TORD	**Torodi Ar. Bea**	**74.92**	**70**	P	**P**	**17 20 36.9**	**+0.6**
	0.4nm,0.4s,baz=250,slow=5.4,SNR=6.4						
YKA	**Yellowknife Ar**	**89.88**	**340**	P	P	17 21 55.4	+3.2
	0.1nm,0.4s,baz=132,slow=4.7,SNR=2.8						
WRA	**Warramunga Arr**	**135.65**	**209**	PKP	**PKPdf**	**17 28 16.9**	**+3.5**
	0.3nm,0.9s,baz=151,slow=1.9,SNR=6.7						
SONM	**Songino Array**	**151.16**	**9**	PKPbc	**PKPbc**	**17 28 49.2**	**+3.4**
	0.5nm,0.5s,baz=308,slow=1.7,SNR=4.6						

*ISCJB **18** 17:51:55.2±0.6, 29°.49N±0°.06×141°.0E±0°.2, h35km, mb3.6/3, Error ellipse: s-maj=25.3km s-min=5.0km az=161.8*
*JMA **18** 17:51:56.4±0.1, 29°.72N×141°.59E, h46km, M3.9*
*IDC **18** 17:51:59.8±2.2, 29°.29N×141°.02E, h72km±21km, mb3.3/3, mb1 3.6/5, mb1mx3.2/39, mbtmp3.6/5, MS2.5/1, Ms1 2.5/1, ms1mx2.1/19, Error ellipse: s-maj=30.0km s-min=17.1km az=69.0*
ISC 18 17:51:57.0±0.7,**29°51N**±0°.07×**141°1E**±0°.2,**h35**km,**n14,**
σ1$67/13,**mb3.6/3,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.60**	**157**	P	**Pn**	**17 52 38.2**	**+1.6**
CBIJ				*eS*	**Sn**	**17 53 05.7**	**-1.2**
JCJ	**Chichijima**	**2.60**	**157**	P	**Pn**	**17 52 38.2**	**+1.6**
	16nm,0.3s,baz=301,slow=18,SNR=23						
JCJ				S	**Sn**	**17 53 06.1**	**-0.9**
	71nm,0.3s,baz=307,slow=20,SNR=15						
JHHJ	**Haha-jima-NKT**	**3.03**	**161**	*eS*	**Sn**	**17 53 17.6**	**0.0**
BSO3	**Boso 3**	**5.30**	**355**	P	**Pn**	**17 53 13.0**	**-0.4**
JOD2	**Odawara 2**	**5.98**	**344**	P	Pn	17 53 26.4	+3.4
JHU	**Hanno**	**6.50**	**347**	P	**Pn**	**17 53 31.9**	**+1.7**
JRY	**Ryogami san**	**6.74**	**345**	P	**Pn**	**17 53 35.7**	**+2.2**
JAG	**Ashikaga**	**7.03**	**349**	P	**Pn**	**17 53 38.1**	**+0.7**
JHO	**Hitachi**	**7.09**	**357**	P	**Pn**	**17 53 37.1**	**-1.2**
JHO				*eS*	Sn	17 54 51.1	-6.6
MJAR	**Matsushiro Arr**	**7.41**	**342**	P	Pn	17 53 47.5	+4.8
	0.6nm,0.3s,baz=170,slow=1.5,SNR=6.7						
JNU	**Nakatsue**	**9.43**	**295**	LR	LR	17 57 15.0	
	comp=Z,29nm,21.2s,baz=42,slow=33						
CMAR	**Chiang Mai Arr**	**39.83**	**264**	P	**P**	**17 59 25.8**	**-1.4**
	0.4nm,0.7s,baz=66,slow=5.8,SNR=4.9						
WRA	**Warramunga Arr**	**49.59**	**188**	P	**P**	**18 00 42.1**	**-2.8**
	0.9nm,0.6s,baz=3.4,slow=7.6,SNR=17						
NVAR	**Mina Array Bea**	**79.80**	**52**	P	**P**	**18 04 01.4**	**-0.8**
	0.3nm,0.5s,baz=286,slow=3.7,SNR=3.3						

*IDC **18** 17:59:52.8±1.0, 5°.73S×152°.75E, h0km, mb4.0/10, mb1 4.1/10, mb1mx3.9/28, mbtmp4.0/10, Error ellipse: s-maj=30.9km s-min=19.3km az=123.0*
*ISCJB **18** 17:59:56.4±0.8, 5°.8S±0°.1×152°.8E±0°.1, h33km, mb4.0/17, Error ellipse: s-maj=21.2km s-min=8.4km az=39.4*
*NEIC **18** 17:59:58.8±2.5, 5°.88S×152°.83E, h46km±21km, mb4.0/8, Error ellipse: s-maj=19.4km s-min=12.5km az=97.0*
ISC 18 17:59:57.3±0.8,**5°.8S**±0°.1×**152°.9E**±0°.1,**h33**km,**n33,**
σ0$76/35,**mb4.1/17,New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.68**	**237**	*eP*	**Pn**	**18 01 33.8**	**+0.7**
	33nm,0.6s						
PMG				*eS*	**Sn**	**18 02 48.8**	**+0.6**
SIJI	**Sorong**	**22.10**	**282**	P	**P**	**18 04 48.5**	**-1.5**
	4.4nm,0.8s,baz=82,slow=15,SNR=4.2						
WRAB	**Tennant Creek**	**22.82**	**230**	*eP*	**P**	**18 04 58.5**	**+0.9**
	4.9nm,0.9s						
WRA	**Warramunga Arr**	**22.83**	**230**	P	**P**	**18 04 57.2**	**-0.5**
	1.5nm,0.6s,baz=55,slow=9.7,SNR=18						
STKA	**Stephens Creek**	**27.99**	**201**	P	**P**	**18 05 45.9**	**+0.7**
	1.3nm,0.6s,baz=4.2,slow=9.5,SNR=6.0						
STKA	**Stephens Creek**	**27.99**	**201**	*eP*	**P**	**18 05 42.7**	**-2.5**
	1.4nm,1.3s						
BATI	**Baumata**	**29.23**	**260**	P	**P**	**18 05 55.9**	**-0.5**
	5.6nm,0.5s,baz=100,slow=17,SNR=3.0						
CMAR	**Chiang Mai Arr**	**58.36**	**296**	P	**P**	**18 09 49.4**	**-0.4**
	0.6nm,0.8s,baz=120,slow=5.3,SNR=4.0						
PETK	**Petropavlovsk-**	**58.84**	**3**	P	**P**	**18 09 53.0**	**+0.5**
	0.7nm,0.4s,baz=167,slow=9.3,SNR=8.8						
SONM	**Songino Array**	**67.21**	**328**	P	**P**	**18 10 48.9**	**+0.5**
	0.5nm,0.6s,baz=149,slow=6.4,SNR=4.7						
SEY	**Seymchan**	**68.55**	**360**	P	**P**	**18 10 56.4**	**+0.1**
	baz=180,slow=20						
LSA	**Lhasa**	**68.85**	**305**	*eP*	**P**	**18 11 00.0**	**+0.5**
	1.2nm,0.6s						
ODAN	**Odare**	**71.10**	**301**	*eP*	**P**	**18 11 13.1**	**0.0**
JIRN	**Jiri**	**72.36**	**301**	*eP*	**P**	**18 11 21.6**	**+0.8**
GUN	**Gumba**	**72.69**	**301**	*eP*	**P**	**18 11 23.0**	**+0.2**
PKIN	**Phulchoki**	**73.01**	**301**	*eP*	**P**	**18 11 25.3**	**+0.7**
KKN	**Kakani**	**73.17**	**301**	*eP*	**P**	**18 11 25.8**	**+0.3**
DMN	**Daman**	**73.27**	**301**	*eP*	**P**	**18 11 26.4**	**+0.3**
GKN	**Gorkha**	**73.77**	**301**	*eP*	**P**	**18 11 29.5**	**+0.6**
BILL	**Bilibino**	**74.29**	**5**	P	**P**	**18 11 31.6**	**+0.7**
KOLN	**Koldanda**	**74.59**	**301**	*eP*	**P**	**18 11 33.7**	**-0.1**
	5.8nm,0.5s						
MK31	**Makanchi Array**	**81.12**	**319**	*eP*	**P**	**18 12 09.7**	**+0.2**
MKAR	**Makanchi Array**	**81.12**	**319**	P	**P**	**18 12 10.1**	**+0.6**
	1.9nm,0.9s,baz=124,slow=2.2,SNR=12						
ZAA0	**Zalesovo Array**	**82.02**	**326**	*eP*	**P**	**18 12 13.3**	**-0.7**
ZALV	**Zalesovo Beam**	**82.02**	**326**	P	**P**	**18 12 13.2**	**-0.8**
	0.6nm,0.3s,baz=105,slow=5.2,SNR=5.4						
ILAR	**Eielson Array**	**83.07**	**22**	P	**P**	**18 12 18.8**	**-0.5**
	0.6nm,0.9s,baz=289,slow=5.6,SNR=3.4						
QSPA	**South Pole Qui**	**84.15**	**180**	*eP*	**P**	**18 12 25.3**	**+0.3**
	1.1nm,0.7s						
KURK	**Kurchatov**	**84.59**	**322**	*eP*	**P**	**18 12 26.7**	**-0.6**
	1.6nm,1.0s						
TKM2	**Tokmak 2**	**84.67**	**314**	P	**P**	**18 12 28.7**	**+0.5**
	2.1nm,0.8s						
AAK	**Ala-Archa**	**85.40**	**314**	*eP*	**P**	**18 12 32.1**	**+0.3**
	1.1nm,0.7s						
EKS2	**Erkin-Say**	**85.92**	**313**	*eP*	**P**	**18 12 35.6**	**+1.2**
	6.3nm,1.1s						
PTGA	**Pitinga**	**146.59**	**100**	PKPbc	**PKPab**	**18 19 37.7**	**0.0**
	1.3nm,0.5s,baz=276,slow=10,SNR=6.9						
TORD	**Torodi Ar. Bea**	**150.66**	**286**	PKPbc	**PKPbc**	**18 19 46.9**	**-0.2**
	1.8nm,0.7s,baz=74,slow=2.4,SNR=11						
TORD				PKPab	**PKPab**	**18 19 53.8**	**-0.2**
	1.3nm,0.6s,baz=48,slow=2.8,SNR=8.9						

*NEIC **18** 18:03:09.6±0.8, 43°.87N×105°.50W, h0km, ML3.0, Error ellipse: s-maj=13.9km s-min=10.0km az=183.0, Suspected Mining explosion.*
NEIC 45 km [30 miles] S of Gillette.
*ISCJB **18** 18:03:12.0±0.2, 43°.65N±0°.02×105°.32W±0°.02, h0km, Error ellipse: s-maj=2.4km s-min=1.9km az=19.8*
*IDC **18** 18:03:12.8±1.4, 44°.09N×105°.79W, h0km, mb1 3.5/4, mb1mx3.2/29, mbtmp3.2/4, ML3.1/4, Error ellipse: s-maj=39.5km s-min=8.3km az=145.0*
ISC 18 18:03:11.1±0.7,**43°70N**±0°.02×**105°36W**±0°.02,**h0**km,**n83,**
σ1$44/91,**45C-25D,Wyoming**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I23A	**Meade Ranch, G**	**0.27**	**344**	⇑P	Pg	18 03 19.3	+2.9
	baz=0.1,SNR=54						
I23A				⇓S	**Sg**	**18 03 23.2**	**+3.2**
	baz=0.1						
J23A	**Dilts Ranch, B**	**0.33**	**206**	⇓P	**Pg**	**18 03 18.9**	**+1.6**
	baz=0.5,SNR=668						
I24A	**Kuemmerle Ranc**	**0.55**	**73**	P	**Pg**	**18 03 22.6**	**+0.9**
	baz=0.6,SNR=62						
I24A				⇓S	**Sg**	**18 03 29.5**	**+0.6**
	baz=0.6						
J24A	**Dixon Ranch, L**	**0.62**	**126**	⇑P	**Pg**	**18 03 23.2**	**+0.1**
	baz=0.8,SNR=82						
J24A				⇑S	**Sg**	**18 03 30.7**	**-0.5**
	baz=0.8						
I22A	**9 Mile Ranch,**	**0.84**	**284**	P	**Pn**	**18 03 29.2**	**-1.1**
	baz=0.7,SNR=174						
J22A	**Midwest**	**0.86**	**251**	⇓P	**Pb**	**18 03 29.0**	**-0.1**
	baz=0.8,SNR=19						
H23A	**Clabaugh Cattl**	**0.86**	**358**	⇓P	**Pn**	**18 03 29.2**	**-1.5**
	baz=0.7,SNR=8.3						
K23A	**Bowen Ranch, D**	**0.96**	**192**	⇑P	**Pg**	**18 03 29.7**	**+0.2**
	baz=1.1						
RSSD	**Black Hills**	**1.04**	**66**	*e*Pg	**Pg**	**18 03 31.2**	**0.0**
K24A	**Andeson Ranch**	**1.05**	**158**	⇑P	**Pg**	**18 03 31.1**	**-0.1**
	baz=1.2,SNR=21						
K24A				⇑S	**Sg**	**18 03 45.1**	**+0.2**
	baz=1.2						
H22A	**Clearmont**	**1.15**	**322**	⇑P	**Pn**	**18 03 35.0**	**+0.4**
	baz=0.9,SNR=42						
J25A	**Sunshine Ranch**	**1.17**	**105**	⇑P	**Pg**	**18 03 33.0**	**-0.6**
	baz=1.3,SNR=59						
J25A				⇑S	**Sg**	**18 03 48.8**	**+0.1**
	baz=1.3						
H24A	**Dirks Ranch, A**	**1.20**	**29**	⇑P	**Pb**	**18 03 34.4**	**-0.4**
	baz=1.1,SNR=137						
I25A	**Rochford**	**1.22**	**74**	⇓P	**Pg**	**18 03 34.3**	**-0.2**
	baz=1.3,SNR=111						
I25A				⇑S	**Sb**	**18 03 51.6**	**0.0**
	baz=1.3						
K22A	**Casper**	**1.35**	**220**	*e*Pn	**Pg**	**18 03 36.6**	**-0.3**
K22A	**Casper**	**1.35**	**220**	⇑P	**Pg**	**18 03 37.0**	**0.0**
	baz=1.4,SNR=60						
K22A				⇓S	**Sb**	**18 03 55.9**	**+0.6**
	baz=1.4						
I21A	**Big Trails, Te**	**1.41**	**275**	⇓P	**Pb**	**18 03 38.6**	**+0.3**
	baz=1.3,SNR=60						
I21A				⇓S	**Sn**	**18 03 58.3**	**+0.8**
	baz=1.3						
G23A	**Biddle**	**1.50**	**359**	⇓Pb	**Pb**	**18 03 41.5**	**+1.5**
	baz=1.3,SNR=30						
H21A	**Big Horn, Sher**	**1.53**	**308**	⇑P	**Pg**	**18 03 41.3**	**+0.9**
	baz=1.3,SNR=8.9						
H21A				⇑S	**Sn**	**18 04 03.4**	**+3.0**
	baz=1.3						
K25A	**Mack Ranch, Ha**	**1.54**	**134**	⇓Pb	**Pn**	**18 03 40.3**	**+0.3**
	baz=1.7,SNR=30						
K25A				⇑S	**Sn**	**18 04 01.6**	**+0.9**
	baz=1.7						
J21A	**Lysite**	**1.56**	**258**	⇑P	**Pg**	**18 03 41.1**	**+0.1**
	baz=1.5,SNR=58						
J21A				⇑S	**Sg**	**18 04 02.8**	**+1.6**
	baz=1.5						
H25A	**Fruitdale**	**1.57**	**53**	⇑P	**Pb**	**18 03 40.9**	**-0.2**
	baz=1.6,SNR=9.0						
G22A	**Birney**	**1.66**	**337**	⇑P	**Pg**	**18 03 43.6**	**+0.6**
	baz=1.5,SNR=20						
J26A	**Sides Ranch, S**	**1.70**	**102**	⇑Pb	**Pn**	**18 03 43.2**	**+1.0**
	baz=1.8						
J26A				⇑S	**Sn**	**18 04 04.2**	**-0.5**
	baz=1.8						
G24A	**Alzada**	**1.76**	**22**	⇑P	**Pg**	**18 03 44.7**	**-0.2**
	baz=1.6,SNR=10						
I26A	**New Underwood**	**1.84**	**79**	⇓P	**Pb**	**18 03 45.2**	**-0.4**
	baz=1.9,SNR=6.4						
L25A	**Engebretsen Ra**	**1.85**	**146**	⇑Pb	**Pn**	**18 03 45.6**	**+1.4**
	baz=2.0,SNR=19						
L25A				⇓Sb	**Sb**	**18 04 10.7**	**+1.1**
	baz=2.0						
J20A	**Shoshoni**	**2.01**	**261**	⇑Pb	**Pg**	**18 03 49.8**	**+0.1**
	baz=1.9,SNR=68						
G21A	**Lodge Grass**	**2.02**	**320**	⇓P	**Pg**	**18 03 48.7**	**-1.2**
	baz=1.8,SNR=17						
G21A				⇑Sb	**Sg**	**18 04 18.9**	**+2.8**
	baz=1.8						
I20A	**Worland**	**2.02**	**278**	⇑P	**Pg**	**18 03 48.9**	**-1.0**
	baz=1.9,SNR=68						
I20A				⇓Sb	**Sg**	**18 04 17.7**	**+1.7**
	baz=1.9						
F23A	**Volborg**	**2.02**	**359**	⇓P	**Pb**	**18 03 48.4**	**-0.5**
	baz=1.9,SNR=42						
F23A				⇑S	**Sg**	**18 04 16.1**	**0.0**
	baz=1.9						
H20A	**Greybull**	**2.06**	**293**	⇓P	**Pb**	**18 03 48.8**	**-0.7**
	baz=1.9,SNR=6.9						
H20A				⇓S	**Sg**	**18 04 16.4**	**-0.9**
	baz=1.9						
H26A	**Fairpoint**	**2.07**	**63**	⇓P	**Pb**	**18 03 49.4**	**-0.3**
	baz=2.1,SNR=7.1						
H26A				⇑Sb	**Sg**	**18 04 18.5**	**+0.8**
	baz=2.1						
F22A	**Rosebud**	**2.18**	**343**	⇑P	**Pb**	**18 03 50.1**	**-1.4**
	baz=2.0,SNR=69						
F22A				⇑Sb	**Sg**	**18 04 22.5**	**+1.4**
	baz=2.0						
PHWY	**Pilot Hill**	**2.40**	**182**	*eP*	**Pn**	**18 03 52.8**	**+0.9**
I27A	**Quinn**	**2.42**	**80**	⇓Sb	**Sg**	**18 04 28.0**	**-0.8**
	baz=2.5						
M25A	**Palm-Egli Farm**	**2.46**	**157**	⇑Sb	**Sb**	**18 04 28.3**	**+1.2**
	baz=2.7						
J27A	**Elkhorn Farm,**	**2.48**	**99**	⇑Sb	**Sb**	**18 04 28.7**	**+1.0**
	baz=2.6						
G26A	**Maurine**	**2.54**	**50**	⇓P	**Pb**	**18 03 55.6**	**-2.0**
	baz=2.5,SNR=6.8						
G20A	**Bridger**	**2.55**	**308**	⇑P	**Pb**	**18 03 55.4**	**-2.4**
	baz=2.4,SNR=61						
G20A				⇓S	**Sb**	**18 04 29.2**	**-0.6**
	baz=2.4						
F25A	**Bowman**	**2.61**	**31**	⇑P	**Pb**	**18 03 56.9**	**-1.8**
	baz=2.5						
I19A	**Meeteetse**	**2.65**	**279**	⇓P	**Pb**	**18 03 57.8**	**-1.8**
	baz=2.5,SNR=14						
J19A	**Crowheart**	**2.73**	**262**	⇑P	**Pb**	**18 03 59.1**	**-1.8**
	baz=2.6,SNR=102						
H19A	**Powell**	**2.79**	**292**	⇓P	**Pb**	**18 03 59.3**	**-2.5**
	baz=2.6,SNR=21						
E23A	**Ismay**	**2.80**	**1**	⇑P	**Pb**	**18 03 58.7**	**+1.5**
	baz=2.6						
N23A	**Red Feather La**	**2.83**	**189**	⇓P	**Pn**	**18 03 59.4**	**+1.6**
	baz=3.0,SNR=30						
F20A	**Billings**	**2.90**	**318**	⇑P	**Pn**	**18 03 59.9**	**+1.3**
	baz=2.7,SNR=23						
E24A	**Baker**	**2.96**	**14**	⇑P	**Pb**	**18 04 01.6**	**-3.1**
	baz=2.8,SNR=9.1						
G27A	**Dupree**	**2.97**	**54**	⇑P	**Pn**	**18 04 01.0**	**+1.4**
	baz=3.0						
I28A	**Midland**	**3.04**	**83**	⇑Pb	**Pb**	**18 04 06.4**	**+0.2**
	baz=3.1						
RLMT	**Red Lodge**	**3.14**	**298**	Pn	Pn	18 03 56.8	-5.3
BW06	**Boulder Array**	**3.21**	**255**	*e*Pn	**Pn**	**18 04 04.5**	**+1.5**
PDAR	**Pinedale Array**	**3.21**	**255**	Pn	**Pn**	**18 04 04.7**	**+1.7**
	1.8nm,0.3s,baz=71,slow=16,SNR=32						
PDAR				Pg	**Pg**	**18 04 10.9**	**-1.7**
	7.0nm,0.3s,baz=67,slow=19,SNR=56						
PDAR				Lg	Lg	18 04 48.5	
	13nm,0.3s,baz=63,slow=34,SNR=16						
F19A	**Roth Farm, Mol**	**3.34**	**311**	⇑P	**Pn**	**18 04 07.0**	**+2.2**
	baz=3.1,SNR=50						
D23A	**Lindsay**	**3.48**	**2**	⇑P	**Pn**	**18 04 08.6**	**+2.1**
	baz=3.3,SNR=8.2						
O22A	**Kremmling**	**3.64**	**195**	⇑P	**Pn**	**18 04 10.8**	**+1.7**
	baz=3.8,SNR=7.3						
E19A	**Rath Farm, Rou**	**3.68**	**320**	⇑P	**Pn**	**18 04 10.8**	**+1.4**
	baz=3.5,SNR=7.8						
OGNE	**Ogallala**	**3.69**	**137**	*e*Pn	**Pn**	**18 04 08.6**	**-0.9**
GCMT	**Greycliff**	**3.72**	**306**	*e*P	**Pn**	**18 04 11.8**	**+1.9**
LKWY	**Lake**	**3.73**	**285**	Pn	**Pn**	**18 04 08.8**	**-1.4**
LOHW	**Long Hollow**	**3.81**	**271**	*e*Pn	Pn	18 04 08.0	-3.3
H17A	**Grant Village**	**3.83**	**282**	*e*Pn	Pb	18 04 15.3	-4.3
FLWY	**Flagg Ranch**	**3.88**	**278**	*e*Pn	**Pn**	**18 04 14.5**	**+2.3**
ISCO	**Idaho Springs**	**3.90**	**183**	*e*Pn	**Pn**	**18 04 13.2**	**+0.7**
MOOW	**Moose Ponds**	**3.91**	**273**	Pn	**Pn**	**18 04 13.2**	**+0.6**
SNOW	**Snow King Moun**	**3.93**	**268**	Pn	Pn	18 04 08.3	-4.6
REDW	**Red Top Meadow**	**4.01**	**267**	*e*Pn	**Pn**	**18 04 11.0**	**-3.0**
YFT	**Old Faithful**	**4.02**	**283**	*e*Pn	Pn	18 04 08.6	-5.6
IMW	**Indian Meadow**	**4.05**	**275**	*e*Pn	Pn	18 04 17.6	+3.0
TPAW	**Teton Pass**	**4.07**	**269**	*e*Pn	Pn	18 04 17.6	+2.7
AHID	**Auburn Hatcher**	**4.30**	**259**	*e*Pn	**Pn**	**18 04 20.6**	**+2.7**
QLMT	**Earthquake Lak**	**4.51**	**287**	Pn	**Pn**	**18 04 22.9**	**+2.0**
BOZ	**Bozeman (W)**	**4.88**	**296**	*e*Pn	Pn	18 04 19.3	-6.6
HWUT	**Hardware Ranch**	**5.03**	**248**	Pn	**Pn**	**18 04 25.9**	**-2.1**
	6.1nm,0.4s						
DLMT	**Dillon**	**5.44**	**290**	*e*Pn	Pn	18 04 22.4	-11
	3.4nm,0.3s						
HRY	**Holter Researc**	**5.48**	**306**	Pn	Pn	18 04 26.8	-7.2
	7.7nm,0.5s						
MCMT	**McKenzie Canyo**	**5.50**	**284**	Pn	Pn	18 04 37.6	+3.2
	1.1nm,0.4s						
R26A	**Arlington**	**5.58**	**164**	⇑P	**Pn**	**18 04 35.8**	**+0.3**
	baz=5.8,SNR=6.0						
HVU	**Hansel Valley**	**5.79**	**253**	Pn	**Pn**	**18 04 35.3**	**-3.1**
	2.4nm,0.4s						
TMUT	**Trail Mountain**	**6.21**	**227**	*e*Pn	**Pn**	**18 04 43.8**	**-0.6**
	3.7nm,0.4s						
ULM	**Lac du Bonnet**	**9.21**	**41**	Pn	**Pn**	**18 05 23.6**	**-1.6**
	1.3nm,0.3s,baz=237,slow=13,SNR=6.5						
ULM				Lg	Lg	18 07 55.5	
	0.3nm,0.3s,baz=342,slow=16,SNR=2.8						
NVAR	**Mina Array Bea**	**11.10**	**246**	Pn	Pn	18 05 54.6	+3.3
	0.1nm,0.3s,baz=66,slow=34,SNR=2.7						
YKA	**Yellowknife Ar**	**19.59**	**347**	P	**P**	**18 07 38.9**	**-1.6**
	0.0nm,0.3s,baz=158,slow=11,SNR=3.0						

*SJA **18** 18:14:16.5±0.8, 38°.27S×74°.57W, h40km, ML4.5*
*IDC **18** 18:14:22.4±0.9, 38°.04S×73°.80W, h0km, mb4.1/7, mb1 4.2/10, mb1mx4.1/28, mbtmp4.1/10, ML3.8/3, MS3.3/5, Ms1 3.3/5, ms1mx3.1/26, Error ellipse: s-maj=32.6km s-min=19.3km az=78.0*
*ISCJB **18** 18:14:23.2±0.6, 37°.97S±0°.03×73°.92W±0°.09, h18km, mb4.2/11, MS3.5/4, Error ellipse: s-maj=10.1km s-min=3.8km az=7.5*
*GUC **18** 18:14:24.5±0.6, 38°.06S×74°.00W, h62km±21km, ML5.0*
*NEIC **18** 18:14:27.1±0.6, 37°.98S×73°.74W, h35km, mb4.5/5, Error ellipse: s-maj=17.4km s-min=10.2km az=87.0*
ISC 18 18:14:24.7±0.6,**38°02S**±0°.04×**73°.88W**±0°.09,**h18**km,**n47,**

BOSA				LR	LR	18 54 56.7		
	comp=Z,20nm,21.2s,baz=209,slow=31							
TSUM	**Tsumeb**	**79.55**	**106**	P	**P**	**18 26 31.5**	**+0.5**	
	comp=Z,5.1nm,1.1s							
LBTB	**Lobatse**	**81.96**	**115**	*e*P	**P**	**18 26 43.9**	**+0.2**	
	comp=Z,7.7nm,1.1s							
PDAR	**Pinedale Array**	**86.70**	**335**	P	**P**	**18 27 07.7**	**+0.4**	
	comp=Z,0.2nm,0.3s,baz=128,slow=5.8,SNR=2.4							
TORD	**Torodi Ar. Bea**	**86.96**	**71**	P	**P**	**18 27 08.9**	**0.0**	
	comp=Z,1.0nm,0.8s,baz=219,slow=3.8,SNR=6.6							
TIXI	**Tiksi**	**144.34**	**348**	*e*PKPdf	**PKPab**	**18 33 55.5**	**-1.0**	
ABKAR	**Akbulak array**	**145.25**	**56**	*e*PKPdf	**PKPab**	**18 34 00.6**	**0.0**	
BRVK	**Borovoye**	**151.10**	**47**	*e*PKPbc	**PKPbc**	**18 34 15.5**	**-0.5**	
AAK	**Ala-Archa**	**155.53**	**69**	*e*PKPab	**PKPab**	**18 34 42.7**	**-0.4**	
ZALV	**Zalesovo Beam**	**158.38**	**36**	PKPab	**PKPab**	**18 34 55.4**	**+0.7**	
	comp=Z,1.0nm,0.5s,baz=308,slow=5.3,SNR=5.1							
MK31	**Makanchi Array**	**160.40**	**56**	*e*PKPab	**PKPab**	**18 35 03.7**	**-0.1**	
MKAR	**Makanchi Array**	**160.40**	**56**	PKPab	**PKPab**	**18 35 03.4**	**-0.4**	
	comp=Z,0.8nm,0.7s,baz=282,slow=7.3,SNR=9.1							
SONM	**Songino Array**	**170.19**	**359**	PKPab	**PKPab**	**18 35 46.9**	**+0.1**	
	comp=Z,0.6nm,1.0s,baz=309,slow=3.0,SNR=2.3							

IDC 18 19:11:50.9±4.9, 4°60S×149°13E, h0km, mb3.2/2, mb1 3.6/2, mb1mx3.3/21, mbtmp3.3/2, Error ellipse: s-maj=167.0km s-min=42.3km az=106.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.98**	**222**	P	P	19 16 35.3	-0.7
	1.1nm,0.8s,baz=51,slow=10,SNR=8.9						
MKAR	**Makanchi Array**	**77.79**	**320**	P	P	19 23 49.2	-1.0
	0.1nm,0.5s,baz=101,slow=6.0,SNR=2.8						
TORD	**Torodi Ar. Bea**	**146.76**	**287**	PKPbc	PKPab	19 31 37.1	-0.2
	0.2nm,0.6s,baz=64,slow=3.4,SNR=2.5						

*IDC **18** 19:18:44.4±4.8, 28°.94N×129°.61E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/32, mbtmp3.4/3, MS2.6/2, Ms1 2.6/2, ms1mx2.5/14, Error ellipse: s-maj=250.0km s-min=27.9km az=65.0*

*JMA **18** 19:18:45.5±0.2, 28°.76N×128°.52E, h4km, M3.1*

*ISCJB **18** 19:18:46.6±0.8, 28°.74N±0°.05×128°.59E±0°.06, h10km, mb3.3/3, Error ellipse: s-maj=7.7km s-min=6.3km az=31.3*

ISC 18 19:18:46.5±1.1, 28°.73N±0°.05×128°.56E±0°.07, h10km, n13, σ1s22/14, mb3.0/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTAJ	**Takarajima**	**0.70**	**53**	P	**Pg**	**19 18 59.3**	**-0.8**
JTAJ				S	**Sg**	**19 19 08.5**	**-0.8**
JAMN	**Amaminishikomi**	**0.72**	**132**	P	**Pg**	**19 19 00.6**	**+0.1**
JAM	**Amami Oshima**	**0.97**	**109**	P	**Pg**	19 19 04.7	-0.4
JAM				*e*S	**Sg**	**19 19 17.5**	**-0.3**
JTK	**Tokunoshima**	**1.00**	**160**	P	**Pg**	19 19 05.1	-0.6
JTK				S	**Sb**	**19 19 19.4**	**+0.3**
JZK	**Kikaishima**	**1.31**	**108**	P	**Pg**	19 19 11.3	-0.3
JZK				*e*S	**Sg**	**19 19 30.5**	**+2.0**
JOKE	**Okinoerabujima**	**1.36**	**180**	P	**Pn**	19 19 11.1	-0.5
JIH	**Iheya**	**1.77**	**198**	P	**Pn**	**19 19 17.2**	**+0.1**
JOW	**Kunigami**	**1.90**	**189**	P	**Pb**	**19 19 19.7**	**-1.6**
KSRS	**Korea Array**	**8.72**	**357**	LR	LR	19 24 21.2	
	comp=Z,44nm,20.0s,baz=142,slow=39						
MJAR	**Matsushiro Arr**	**11.26**	**44**	LR	LR	19 25 48.2	
	comp=Z,33nm,19.9s,baz=205,slow=40						
SONM	**Songino Array**	**25.67**	**324**	P	**P**	**19 24 19.3**	**+2.7**
	0.3nm,0.8s,baz=133,slow=8.1,SNR=2.7						
MKAR	**Makanchi Array**	**40.13**	**310**	P	P	19 26 26.8	+4.3
	0.3nm,0.8s,baz=95,slow=7.7,SNR=4.1						
WRA	**Warramunga Arr**	**48.70**	**173**	P	**P**	**19 27 31.4**	**+0.2**
	0.7nm,0.6s,baz=354,slow=8.5,SNR=6.7						

*ISCJB **18** 19:22:23.3±0.6, 5°.44N±0°.07×125°.8E±0°.1, h116km, mb3.7/4, Error ellipse: s-maj=16.3km s-min=6.4km az=149.2*

*IDC **18** 19:22:23.1±4.6, 6°.07N×126°.57E, h101km±45km, mb3.5/4, mb1 3.6/6, mb1mx3.3/29, mbtmp3.9/6, MS2.8/1, Ms1 2.8/1, ms1mx2.4/19, Error ellipse: s-maj=77.2km s-min=22.9km az=65.0*

*MAN **18** 19:22:25, 5°.60N×126°.13E, h93km, mb4.9, ML3.9, MS4.0*

ISC 18 19:22:24.3±0.9, 5°.46N±0°.07×125°.85E±0°.09, h116km, n14, σ2s22/15, mb3.7/4, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.09**	**305**	⇓*e*P	**Pn**	**19 22 46.2**	**-0.8**
GSPH				*e*S	**Sn**	**19 23 02.3**	**-2.0**
MATI	**Mati**	**1.53**	**15**	*e*P	**Pn**	19 22 50.1	-1.7
MATI				*e*S	**Sn**	**19 23 08.0**	**-4.8**
BUKP	**Musuan**	**2.53**	**342**	*e*P	**Pn**	**19 23 04.9**	**+0.6**
BUKP				*e*S	**Sn**	**19 23 34.8**	**-0.3**
BIPH	**Bislig**	**2.75**	**11**	⇑*i*P	Pn	19 23 12.4	+5.1
BIPH				*i* S	**Sn**	**19 23 44.2**	**+3.8**
PAGZ	**Pagadian**	**3.41**	**314**	*e*P	**Pn**	**19 23 16.7**	**+0.7**
BUTP	**Butuan**	**3.50**	**356**	*e*P	**Pn**	**19 23 18.6**	**+1.6**
MSLP	**Maasin**	**4.75**	**348**	*e*P	**Pn**	**19 23 34.5**	**+0.7**
SIJI	**Sorong**	**8.29**	**139**	P	**Pn**	**19 24 22.6**	**+0.8**
	0.6nm,0.3s,baz=313,slow=19,SNR=4.5						
SIJI				S	**Sn**	**19 25 52.7**	**-1.1**
	0.3nm,0.3s,baz=15,slow=20,SNR=2.5						
BATI	**Baumata**	**15.71**	**188**	P	P	19 26 06.8	+5.9
	1.3nm,0.3s,baz=14,slow=4.6,SNR=4.5						
GUMO	**Guam**	**20.41**	**65**	LR	LR	19 33 45.5	
	comp=Z,26nm,19.1s,baz=192,slow=35						
WRA	**Warramunga Arr**	**26.59**	**162**	P	**P**	**19 27 54.3**	**+2.5**
	0.5nm,0.9s,baz=350,slow=10,SNR=7.0						
STKA	**Stephens Creek**	**40.05**	**159**	P	P	19 29 52.1	+3.9
	2.9nm,0.6s,baz=336,slow=11,SNR=11						
MKAR	**Makanchi Array**	**55.65**	**325**	P	**P**	**19 31 48.2**	**-0.1**
	0.4nm,0.6s,baz=107,slow=6.8,SNR=6.2						
FINES	**FINESS Array B**	**89.90**	**332**	P	**P**	**19 35 09.0**	**-1.1**
	0.8nm,0.9s,baz=72,slow=8.9,SNR=3.0						

*BYKL **18** 19:25:59.2±0.2, 56°.39N×114°.39E*

*MOS **18** 19:25:59.3±1.4, 56°.39N×114°.37E, h10km, mb4.3/1, Error ellipse: s-maj=22.4km s-min=13.8km az=71.5*

ISC 18 19:25:58.2±1.1, 56°.44N±0°.03×114°.33E±0°.02, h4km±10km, n33, σ1s81/64, 2C-3D, East of Lake Baikal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVKR	**Severomuysk**	**0.54**	**234**	⇓*i*Pg	**Pg**	**19 26 08.8**	**+0.3**
SVKR				*e*Sg	**Sg**	**19 26 16.1**	**+0.7**
SVKR				Pmax			
	283nm,0.3s						
SVKR				Smax			
	2μm,0.5s						
NLYR	**Nelyaty**	**0.76**	**85**	⇑*i*Pg	**Pg**	**19 26 13.1**	**+0.2**
NLYR				*e*		19 26 13.8	
NLYR				*e*Sg	**Sg**	**19 26 23.3**	**+0.5**
NLYR				*e*Sb	**Sn**	**19 26 27.5**	**-0.4**
NLYR				max			
	87nm,0.2s						
NLYR				max			
	680nm,0.7s						
NLYR	**Nelyaty**	**0.76**	**85**	*e*PG	**Pg**	**19 26 13.1**	**+0.2**
NLYR				*e*		19 26 23.3	
NLYR				pmax	pmax		
	comp=Z,148nm,0.3s						
NLYR				smax	smax		
	comp=N,681nm,0.8s						
UKT	**Uakit**	**1.03**	**203**	⇑*i*Pg	**Pg**	**19 26 17.2**	**-0.7**
UKT				*e*Sg	**Sg**	**19 26 31.1**	**-0.1**
UKT				Pmax			
	comp=N,42nm,0.5s						
UKT				Smax			
	comp=N,360nm,0.7s						
UKT	**Uakit**	**1.03**	**203**	*e*PG	**Pg**	**19 26 17.1**	**-0.8**
UKT				*e*		19 26 28.1	
UKT				pmax	pmax		
	comp=Z,20nm,0.2s						
UKT				smax	smax		
	comp=E,358nm,0.5s						
BOD	**Bodaibo**	**1.40**	**353**	*e*Pg	**Pn**	**19 26 25.0**	**+0.4**
BOD				*e*Sg	**Sb**	**19 26 43.6**	**+0.5**
BOD				Pmax			
	comp=E,169nm,0.5s						
BOD				Smax			
	comp=E,675nm,0.4s						
BOD	**Bodaibo**	**1.40**	**353**	*e*PG	**Pn**	**19 26 24.4**	**-0.2**
BOD				*e*		19 26 43.4	
BOD				pmax	pmax		
	comp=Z,157nm,0.2s						
BOD				smax	smax		
	comp=E,673nm,0.4s						
YOA	**Uoyan**	**1.48**	**259**	*e*Pg	**Pn**	**19 26 26.0**	**+0.2**
YOA				*e*Sg	**Sg**	**19 26 46.5**	**+0.6**
YOA				Pmax			
	comp=E,58nm,0.3s						
YOA				Smax			
	comp=E,1μm,0.9s						
YOA	**Uoyan**	**1.48**	**259**	*e*PG	**Pn**	**19 26 25.9**	**+0.2**
YOA				*i*		19 26 47.1	
YOA				pmax	pmax		
	comp=Z,58nm,0.3s						
YOA				smax	smax		
	comp=E,1μm,0.5s						
KMO	**Kumora**	**1.83**	**254**	*e*Pn	**Pn**	**19 26 30.7**	**+0.1**
KMO				⇓*i*Pg	**Pb**	**19 26 32.2**	**-0.2**
KMO				*e*		19 26 35.4	
KMO				*e*Sg	**Sb**	**19 26 56.5**	**+0.8**
KMO				max			
	comp=E,46nm,0.6s						
KMO				Smax			
	comp=E,383nm,1.0s						
KMO	**Kumora**	**1.83**	**254**	*e*PN	**Pn**	**19 26 31.4**	**+0.8**
KMO				*e*		19 26 55.7	
KMO				pmax	pmax		
	comp=Z,22nm,0.3s						
KMO				smax	smax		
	comp=N,383nm,1.0s						
CRS	**Chara**	**2.22**	**76**	⇓*i*Pn	**Pn**	**19 26 36.1**	**+0.2**
CRS				*e*Pg	**Pb**	**19 26 39.4**	**+0.4**
CRS				*e*		19 26 46.7	
CRS				*e*Sg	**Sb**	**19 27 08.0**	**+1.1**
CRS				max			
	comp=N,51nm,0.7s						
CRS				Smax			
	comp=N,260nm,0.8s						
CRS	**Chara**	**2.22**	**76**	*e*PN	**Pn**	**19 26 36.1**	**+0.2**
CRS				*e*		19 26 39.7	
CRS				*e*		19 27 07.9	
CRS				pmax	pmax		
	comp=Z,38nm,0.6s						
CRS				smax	smax		
	comp=E,259nm,0.8s						
YLYR	**Ulyunkhan**	**2.38**	**230**	*e*Pn	**Pn**	**19 26 37.9**	**-0.1**
YLYR				*e*Pg	**Pb**	**19 26 42.7**	**+1.0**
YLYR				*e*		19 26 48.1	
YLYR				*e*Sg	**Sb**	**19 27 12.9**	**+1.5**
YLYR				Pmax			
	comp=E,18nm,0.3s						
YLYR				Smax			
	comp=E,96nm,1.1s						
YLYR	**Ulyunkhan**	**2.38**	**230**	*e*PN	**Pn**	**19 26 38.0**	**-0.1**
YLYR				*e*		19 26 41.3	
YLYR				*e*		19 27 12.9	
YLYR				pmax	pmax		
	comp=Z,18nm,0.3s						
YLYR				smax	smax		
	comp=E,95nm,0.7s						
NIZ	**Nizh Angarsk**	**2.76**	**258**	*e*Pn	**Pn**	**19 26 44.6**	**+1.3**
NIZ				*e*Pg	**Pb**	**19 26 48.7**	**+0.5**
NIZ				*e*PgPg	**PbPb**	**19 26 51.8**	**+0.5**
NIZ				*e*Sn	**Sn**	**19 27 18.8**	**+1.7**
NIZ				*i* Sg	**Sg**	**19 27 25.8**	**-1.1**
NIZ				max			
	comp=E,17nm,0.4s						
NIZ				Smax			
	comp=E,82nm,0.9s						
KHNR	**Khani**	**3.15**	**79**	*e*Pn	**Pn**	**19 26 49.0**	**+0.3**
KHNR				*e*Pg	**Pb**	**19 26 55.9**	**+1.0**
KHNR				*e*Sg	**Sb**	**19 27 35.6**	**+1.9**
VTMR	**Vitim**	**3.16**	**343**	*e*Pn	**Pn**	**19 26 47.3**	**-1.4**
VTMR				*e*Pg	**Pg**	**19 26 57.6**	**-1.1**
VTMR				*e*Sn	**Sn**	**19 27 24.9**	**-1.9**
VTMR				*e*Sg	**Sg**	**19 27 39.0**	**-0.6**
SYVR	**Suvo**	**3.73**	**224**	*e*Pn	**Pn**	**19 26 58.2**	**+1.5**
SYVR				*e*Pg	**Pb**	**19 27 05.8**	**+1.1**
SYVR				*e*Sg	**Sb**	**19 27 53.9**	**+3.5**
SYVR				Pmax			
	comp=E,8.0nm,0.7s						
SYVR				Smax			
	comp=E,62nm,1.0s						
TUP	**Tupik**	**3.79**	**120**	*i* Pn	**Pn**	**19 26 56.3**	**-1.1**
TUP				*e*Pg	**Pb**	**19 27 05.2**	**-0.4**
TUP				*e*Sn	**Sn**	**19 27 37.9**	**-4.5**
TUP				*e*Sg	**Sb**	**19 27 54.8**	**+3.0**
TUP				Pmax			
	comp=E,24nm,1.0s						
TUP				Smax			
	comp=E,125nm,0.9s						
TUP	**Tupik**	**3.79**	**120**	*e*PN	**Pn**	**19 26 56.2**	**-1.1**
TUP				*e*		19 27 05.3	
TUP				*e*S	**Sn**	**19 27 39.8**	**-2.6**
TUP				*e*		19 27 54.9	
TUP				pmax	pmax		
	comp=Z,22nm,0.5s						
TUP				smax	smax		
	comp=N,113nm,0.7s						
YKLR	**Yuktali**	**4.06**	**85**	*e*Pn	**Pn**	**19 27 01.0**	**-0.1**
YKLR				*e*Pg	**Pb**	**19 27 11.3**	**+1.0**
YKLR				*e*Sg	**Sb**	**19 28 02.7**	**+3.0**
CIT	**Chita**	**4.45**	**186**	*e*	**Sn**	**19 27 56.8**	**-1.9**
CIT				*e*Sg	**Sg**	**19 28 16.7**	**-4.3**
CIT				Smax			
	comp=N,130nm,0.3s						
CIT	**Chita**	**4.45**	**186**	*e*PN	**Pb**	**19 27 19.7**	**+2.8**
CIT				*e*S	**Sn**	**19 27 57.3**	**-1.4**
CIT				*e*		19 28 16.3	
CIT				pmax	pmax		
	comp=Z,26nm,0.3s						
CIT				smax	smax		
	comp=E,131nm,0.6s						
MXMB	**Maximikha**	**4.53**	**228**	*e*Pg	**Pb**	**19 27 20.6**	**+2.3**
MXMB				*e*Sg	**Sg**	**19 28 19.6**	**-4.0**
MXMB				Pmax			
	comp=E,9.0nm,0.8s						
MXMB				Smax			
	comp=E,78nm,0.8s						
OGRR	**Ongureny**	**4.78**	**237**	*e*Pn	**Pn**	**19 27 12.0**	**+1.0**
OGRR				*e*Pg	**Pb**	**19 27 25.5**	**+3.0**
OGRR				*e*Sn	**Sn**	**19 28 03.9**	**-2.9**
OGRR				*e*Sg	**Sg**	**19 28 26.5**	**-5.1**
OGRR				Pmax			
	comp=E,4.0nm,1.0s						
OGRR				Smax			
	comp=E,29nm,1.3s						
IENR	**Iengra**	**5.86**	**88**	*e*Pn	**Pn**	**19 27 25.1**	**-0.8**
IENR				*e*Pg	**Pb**	**19 27 43.7**	**+2.7**
IENR				*e*Sg	Sg	19 28 59.5	-6.8
TRG	**Tyrgan**	**5.92**	**235**	*e*Pg	Pb	19 27 45.8	+3.8
TRG				*e*Sn	**Sn**	**19 28 34.4**	**-0.6**
TRG				*e*Sg	Sg	19 29 02.0	-6.3
TRG				Pmax			
	comp=E,1.0nm,0.6s						
TRG				Smax			
	comp=E,12nm,1.3s						
LSTR	**Listvyanka**	**7.21**	**235**	*e*Sg	Sg	19 29 41.6	-8.0
LSTR				Smax			
	comp=E,31nm,1.4s						
ARS	**Arshan**	**8.32**	**242**	*e*Sg	Sg	19 30 16.5	-8.5
ARS				Smax			
	comp=E,33nm,0.9s						
ZAK	**Zakamensk**	**8.96**	**232**	*e*Sg	Sg	19 30 36.7	-8.8
MOY	**Mondy**	**9.18**	**244**	*e*Sg	Sn	19 30 41.8	+46
MOY				Smax			
	comp=E,6.0nm,0.9s						
ORL	**Orlik**	**9.30**	**251**	*e*Sg	Sn	19 30 47.8	+49
ORL				Smax			
	comp=E,15nm,1.2s						

*IDC **18** 20:27:39.6±7.7, 37°.05N×142°.07E, h0km, mb3.3/2, mb1 3.3/3, mb1mx3.1/36, mbtmp3.2/3, ML3.2/1, Error ellipse: s-maj=136.2km s-min=47.6km az=143.0*

*JMA **18** 20:27:44.8±0.2, 36°.99N×141°.73E, h51km±3km, M3.2*

ISC 18 20:27:45.5±2.1, 36°.98N±0°.08×141°.8E±0°.1, h35km, n21, σ0s90/20, 5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.78**	**279**	⇓P	**Pn**	**20 27 59.2**	**-0.8**
JFK	**Kawauchi**	**0.81**	**299**	⇓P	**Pn**	**20 27 59.4**	**-1.0**
JHO	**Hitachi**	**1.02**	**249**	P	**Pn**	**20 28 02.4**	**-1.0**
JHO				S	**Sn**	**20 28 15.6**	**-0.9**
JMM	**Marumori**	**1.17**	**319**	⇓P	**Pn**	**20 28 04.7**	**-0.7**
JMM				*e*S	**Sn**	**20 28 19.2**	**-0.9**
JFT	**Otama**	**1.26**	**296**	⇓P	**Pn**	**20 28 06.9**	**+0.4**
JFT				*e*S	**Sn**	**20 28 22.0**	**-0.2**
JIO	**Ouri**	**1.51**	**348**	⇓P	**Pn**	**20 28 09.2**	**-0.8**
JIO				*e*S	**Sn**	**20 28 27.1**	**-1.3**
JOU	**Okura**	**1.63**	**328**	P	**Pn**	**20 28 11.9**	**+0.2**
JOU				S	**Sn**	**20 28 32.2**	**+0.7**
JFY	**Yanaizu**	**1.69**	**285**	P	**Pn**	**20 28 13.2**	**+0.6**
JYS	**Shirataka**	**1.83**	**313**	P	**Pn**	**20 28 15.3**	**+0.9**
JAG	**Ashikaga**	**1.94**	**254**	P	**Pn**	**20 28 16.2**	**+0.3**
JMK	**Ichinoseki**	**2.01**	**348**	P	**Pn**	**20 28 17.1**	**+0.2**
MJAR	**Matsushiro Arr**	**2.88**	**262**	Pn	**Pn**	**20 28 30.4**	**+1.5**
	2.9nm,0.3s,baz=89,slow=16,SNR=20						
MJAR				Sn	Sn	20 29 08.2	+5.8
	1.6nm,0.3s,baz=80,slow=16,SNR=7.3						
MAT	**Matsushiro**	**2.89**	**262**	P	Pn	20 28 30.7	+1.7
MAT				S	**Sn**	**20 29 01.0**	**-1.5**
H11N2	**WAKE ISLAND Hy**	**27.88**	**121**	T	T	21 02 54.3	
	baz=314,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**27.89**	**121**	T	T	21 02 54.3	
	baz=314,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**27.90**	**121**	T	T	21 02 56.3	
	baz=314,slow=75,SNR=10						
SONM	**Songino Array**	**28.04**	**304**	P	**P**	**20 33 34.3**	**+0.8**
	0.3nm,0.6s,baz=99,slow=7.7,SNR=3.6						
H11S1	**WAKE ISLAND Hy**	**28.60**	**123**	T	T	21 03 51.5	
	baz=316,slow=76,SNR=9.2						
H11S3	**WAKE ISLAND Hy**	**28.60**	**123**	T	T	21 03 52.3	
	baz=316,slow=76,SNR=8.3						
H11S2	**WAKE ISLAND Hy**	**28.61**	**123**	T	T	21 03 47.8	
	baz=316,slow=76,SNR=5.4						
MKAR	**Makanchi Array**	**44.38**	**302**	P	**P**	**20 35 52.7**	**+0.3**
	0.2nm,0.7s,baz=96,slow=8.1,SNR=3.2						

IDC 18 20:28:48.6±4.2, 18°.45S×176°.84W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.5/36, mbtmp3.9/2, Error ellipse: s-maj=187.2km s-min=51.8km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.69**	**242**	P	P	20 36 22.4	-0.3
	1.0nm,0.7s,baz=80,slow=8.9,SNR=3.8						
WRA	**Warramunga Arr**	**46.00**	**260**	P	P	20 37 14.2	0.0
	0.8nm,0.3s,baz=96,slow=7.6,SNR=71						
GERES	**GERESS Array B**	**148.50**	**347**	PKPbc	PKPbc	20 48 36.8	-0.7
	0.1nm,0.3s,baz=356,slow=2.9,SNR=3.9						

WEL 18 20:44:17.9±0.3, 39°.36S×174°.54E, h188km±2km, ML3.7/12, 9C-18D, Error ellipse: s-maj=1.6km s-min=1.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LREZ	**Lake Rotokare**	**0.14**	**226**	PN	Pn	20 44 42.5	-0.1
LREZ				SN	Sn	20 45 01.6	-0.2
VRZ	**Vera Road**	**0.29**	**36**	PN	Pn	20 44 42.1	-0.8
VRZ				SN	Sn	20 45 00.8	-1.3
PREZ	**Palmer Road**	**0.29**	**274**	PN	Pn	20 44 42.8	-0.1
NEZ	**North Egmont**	**0.35**	**285**	PN	Pn	20 44 43.1	-0.1
KHEZ	**Kahui Hut**	**0.41**	**279**	PN	Pn	20 44 43.1	-0.2
KHEZ				SN	Sn	20 45 02.4	-0.5
PKE	**Pukeiti**	**0.46**	**291**	PN	Pn	20 44 43.1	-0.3
NMEZ	**Namu Road**	**0.51**	**264**	PN	Pn	20 44 43.5	0.0
WAZ	**Wanganui**	**0.53**	**139**	PN	Pn	20 44 44.1	+0.4
WAZ				SN	Sn	20 45 03.1	-0.6
NWEZ	**Newall Road**	**0.53**	**279**	PN	Pn	20 44 43.6	-0.1
PKVZ	**Pokaka**	**0.63**	**84**	PN	Pn	20 44 43.8	-0.5
MTVZ	**Mangateitei**	**0.72**	**92**	PN	Pn	20 44 44.5	-0.3
MTVZ				SN	Sn	20 45 04.1	-1.3
TWVZ	**Taurewa**	**0.76**	**68**	⇓PN	Pn	20 44 44.4	-0.6
TRVZ	**Turoa**	**0.79**	**86**	⇓PN	Pn	20 44 44.9	-0.3
FWVZ	**Far West T-bar**	**0.80**	**83**	PN	Pn	20 44 45.0	-0.4
COVZ	**Chateau Observ**	**0.80**	**79**	PN	Pn	20 44 44.7	-0.5
WPVZ	**Whakapapa**	**0.80**	**79**	⇓PN	Pn	20 44 44.9	-0.3
DRZ	**Dome Shelter**	**0.80**	**84**	PN	Pn	20 44 45.5	0.0
WHVZ	**Whangaehu Hut**	**0.82**	**85**	⇑PN	Pn	20 44 45.5	0.0
WNVZ	**Wahianoa**	**0.82**	**88**	PN	Pn	20 44 45.2	-0.2
NGZ	**Ngauruhoe**	**0.85**	**78**	PN	Pn	20 44 45.2	-0.3
WTVZ	**West Tongariro**	**0.85**	**74**	⇓PN	Pn	20 44 45.3	-0.3
TUVZ	**Tukino**	**0.87**	**84**	PN	Pn	20 44 45.8	+0.1
KRVZ	**Karewarewa**	**0.90**	**73**	PN	Pn	20 44 45.5	-0.4
OTVZ	**Oturere**	**0.90**	**78**	⇓PN	Pn	20 44 45.8	-0.1
MOVZ	**Moawhango**	**0.94**	**93**	PN	Pn	20 44 45.6	-0.4
MOVZ				SN	Sn	20 45 04.8	-3.0
KATZ	**Kakaramea**	**0.98**	**67**	⇓PN	Pn	20 44 46.3	-0.1
BHHZ	**Black Hill Sta**	**1.19**	**97**	PN	Pn	20 44 47.4	-0.4
TLZ	**Tolley Road**	**1.29**	**38**	⇓PN	Pn	20 44 47.9	-0.9
TSZ	**Takapari Road**	**1.30**	**123**	⇓PN	Pn	20 44 48.9	+0.1
TSZ				AML	AML	20 45 12.6	
TSZ				AML	AML	20 45 14.6	
KRHZ	**Kereru**	**1.45**	**102**	⇓PN	Pn	20 44 50.0	-0.1
DUWZ	**D'Urville Isla**	**1.52**	**198**	⇑PN	Pn	20 44 50.2	-0.5
KIW	**Kapiti Island**	**1.53**	**169**	PN	Pn	20 44 50.4	-0.3
KIW				AML	AML	20 45 14.7	
KIW				AML	AML	20 45 15.2	
MRZ	**Mangatainoka R**	**1.53**	**149**	PN	Pn	20 44 50.0	-0.1
MRZ				AML	AML	20 45 14.2	
MRZ				AML	AML	20 45 15.0	
BKZ	**Black Stump Fm**	**1.53**	**83**	⇓PN	Pn	20 44 50.4	-0.5
BKZ				AML	AML	20 45 15.0	
OGWZ	**Otaki Gorge**	**1.53**	**162**	⇑PN	Pn	20 44 50.7	0.0
DVHZ	**Dannevirke**	**1.57**	**127**	⇓PN	Pn	20 44 51.6	+0.5
PRWZ	**Pori Road**	**1.62**	**138**	PN	Pn	20 44 51.9	+0.2
WPHZ	**Waipukurau**	**1.63**	**116**	⇓PN	Pn	20 44 51.8	+0.1
WPHZ				SN	Sn	20 45 16.0	-2.0
MCHZ	**McNeill Hill**	**1.68**	**94**	⇓PN	Pn	20 44 52.8	+0.6
HOWZ	**Holdsworth Sta**	**1.71**	**154**	⇑PN	Pn	20 44 52.2	-0.3
TIWZ	**Tintock**	**1.75**	**144**	PN	Pn	20 44 52.9	-0.1
TIWZ				AML	AML	20 45 18

KHZ	Kahutara	3.15	194	PN	Pn	20 45 07.3 -1.2
PUZ	Puketiti	3.18	67	PN	Pn	20 45 07.5 -1.6
WMGZ	Waiomatatini S	3.41	64	PN	Pn	20 45 10.0 -1.8
MXZ	Matakaoa Point	3.46	60 ⇑	PN	Pn	20 45 11.0 -1.5
LTZ	Lake Taylor	3.82	206	PN	Pn	20 45 15.2 -1.8
OXZ	Oxford	4.38	205	PN	Pn	20 45 21.3 -2.8
MQZ	McQueen's Vall	4.57	197	PN	Pn	20 45 23.1 -3.3

MAN **18** *20:44:28, 14.˝16N× 124.˝93E, h1km, mb5.0, ML4.0, MS4.1*
ISCJB **18** *20:44:32.7±2.1, 14.˝01N±0.˝04× 124.˝86E±0.˝05, h15km±14km, mb3.9/9, MS2.7/1, Error ellipse: s-maj=8.3km s-min=7.1km az=170.5*
IDC **18** *20:44:32.2±1.3, 13.˝74N× 124.˝61E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/32, mbtmp3.5/5, ML4.7/1, MS2.8/1, Ms1 3.0/1, ms1mx2.2/21, Error ellipse: s-maj=38.9km s-min=20.4km az=52.0*
NEIC **18** *20:44:33.1±0.6, 13.˝72N× 124.˝69E, h10km, mb4.1/5, Error ellipse: s-maj=18.3km s-min=10.2km az=54.0*

ISC 18 20:44:33.9±4.0, 13°92N±0.˝07× 124°80E±0.˝07, h13km±25km, n29, σ1§35/25, mb3.7/9, 3C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	Virac	0.70	243	⇓*i*P	Pb	20 44 46.5	-1.5
PVCP				*i* S	Sb	20 44 55.9	-1.7
CNP	Catarman	1.41	185	*e*P	Pn	20 45 00.2	+1.0
CNP				*e*S	Sb	20 45 19.3	+1.5
AUQP	San Andres	2.15	254	*e*P	Pb	20 45 11.9	-0.8
AUQP				*e*S	Sn	20 45 37.9	+2.0
GQP	Guinayangan	2.28	270 ⇑	*e*P	Pn	20 45 11.2	-0.1
GQP				*e*S	Sn	20 45 41.5	+2.2
PLP	Palo	2.74	176 ⇑	*e*P	Pn	20 45 18.9	+1.3
PLP				*e*S	Sn	20 45 49.4	-1.3
RCP	Roxas	3.08	221 ⇑	*e*P	Pn	20 45 23.6	+1.3
BALP	Baler	3.60	301	*e*P	Pn	20 45 27.1	-2.3
TGY	Tagaytay City	3.75	273	Pn	Pn	20 45 29.8	-1.8
	68nm,0.3s,baz=117,slow=14,SNR=3.1						
TGY				Sn	Sn	20 46 14.0	-1.7
	48nm,0.3s,baz=142,slow=19,SNR=2.3						
MSLP	Maasin	3.76	179	*e*P	Pn	20 45 32.9	+1.3
SJMP	San Jose	3.86	248	*e*P	Pn	20 45 35.5	+2.4
CUYO	Cuyo Island	4.79	231	*e*P	Pn	20 45 46.6	+0.8
BUSP	Coron	4.87	248	*e*P	Pn	20 45 48.8	+1.9
CMAR	Chiang Mai Arr	25.22	284	P	P	20 49 58.6	-1.1
	0.6nm,0.5s,baz=101,slow=7.6,SNR=6.2						
CMAR				LR	LR	21 00 00.4	
	comp=Z,21nm,18.8s,baz=210,slow=37						
LSA	Lhasa	34.80	302	P	P	20 51 25.5	+0.4
WRA	Warramunga Arr	34.93	164	P	P	20 51 24.5	-1.3
	0.3nm,0.5s,baz=341,slow=8.8,SNR=5.5						
SONM	Songino Array	37.12	339	P	P	20 51 45.3	+1.0
	0.3nm,0.5s,baz=157,slow=9.5,SNR=3.6						
H11S3	WAKE ISLAND Hy 40.42	78		T	T	21 35 35.4	
	baz=270,slow=75,SNR=42						
H11S1	WAKE ISLAND Hy 40.43	78		T	T	21 35 35.7	
	baz=270,slow=75,SNR=23						
H11S2	WAKE ISLAND Hy 40.44	78		T	T	21 35 39.5	
	baz=270,slow=75,SNR=37						
H11N1	WAKE ISLAND Hy 40.63	76		T	T	21 35 52.3	
	baz=267,slow=74,SNR=46						
H11N2	WAKE ISLAND Hy 40.63	76		T	T	21 35 53.3	
	baz=267,slow=74,SNR=46						
H11N3	WAKE ISLAND Hy 40.65	76		T	T	21 35 55.0	
	baz=267,slow=74,SNR=41						
MKAR	Makanchi Array	48.28	322	P	P	20 53 15.3	+0.5
	0.5nm,0.7s,baz=128,slow=6.3,SNR=7.6						
STKA	Stephens Creek	48.30	161	P	P	20 53 14.9	-0.1
	0.8nm,0.6s,baz=352,slow=9.7,SNR=3.6						
STKA	Stephens Creek	48.30	161	*e*P	P	20 53 13.0	-2.0
	2.0nm,1.5s						
KURK	Kurchatov	52.27	325	*e*P	P	20 53 45.5	+0.5
	2.7nm,0.8s						
BRVK	Borovoye	57.94	325	*e*P	P	20 54 26.7	+0.8
	5.0nm,1.0s						
ABKAR	Akbulak array	63.20	318	*e*P	P	20 55 01.6	-0.2
	0.3nm,0.5s						
ARU	Arti	65.41	326	*e*P	P	20 55 15.9	-0.3
	2.0nm,0.6s						

ISCJB **18** *20:52:30.5±0.5, 7.˝34S±0.˝05× 126.˝62E±0.˝05, h300km, mb3.5/7, Error ellipse: s-maj=7.7km s-min=5.9km az=39.7*
IDC **18** *20:52:32.3±1.4, 7.˝32S× 126.˝58E, h306km±16km, mb3.3/7, mb1 3.4/12, mb1mx3.3/29, mbtmp4.1/12, Error ellipse: s-maj=20.5km s-min=15.2km az=57.0*
DJA **18** *20:52:40.4±1.0, 7.˝5S±7.˝×12.˝6E±.˝, h203km±16km, M4.4/9, mb4.3/5, mB4.7/2, MLv4.4/9, Mw(mB)3.9/2*

ISC 18 20:52:31.2±0.6, 7°38S±0.˝06× 126°62E±0.˝07, h300km, n19, σ1§29/22, mb3.7/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	3.31	224	P	Pn	20 53 30.9	+0.6
SOEI				S	S	20 54 15.9	-1.6
BATI	Baumata	4.05	226	P	Pn	20 53 39.1	+1.1
	28nm,0.3s,baz=116,slow=4.8,SNR=57						
BATI				S	S	20 54 30.6	-1.1
	69nm,0.3s,baz=35,slow=4.8,SNR=14						
MMRI	Maumere	4.51	254	P	Pn	20 53 42.8	-0.4
MMRI				S	S	20 54 33.3	-7.7
EDFI	Ende, Flores	5.07	254	P	Pn	20 53 49.2	-0.5
BSSI	Bau Bau, Buton	6.21	281	P	Pn	20 54 02.7	-0.4
	22nm,0.9s,0.1nm						
WSI	Waingapu	6.65	250	P	Pn	20 54 12.5	+4.1
	170nm,0.5s,5µm2.3nm						
WSI				S	S	20 55 19.2	-7.7
	170nm,0.5s,5µm2.3nm						
BKSI	Bulukumba	6.77	287	P	Pn	20 54 10.4	+0.5
	28nm,0.6s,305nm0.1nm						
KAPI	Kappang	7.22	289	P	Pn	20 54 16.4	+1.1
	2.0nm,0.3s,baz=151,slow=4.4,SNR=14						
WBSI	Waikabubak, Su	7.49	252	P	Pn	20 54 23.5	+4.8
SIJI	Sorong	7.96	36	P	Pn	20 54 24.9	+0.6
	6.0nm,0.3s,baz=288,slow=18,SNR=22						
SIJI				S	S	20 55 52.6	-3.5
	1.0nm,0.3s,baz=120,slow=21,SNR=6.5						
WRA	Warramunga Arr	14.56	150	P	Pn	20 55 44.5	-0.1
	0.7nm,0.3s,baz=327,slow=12,SNR=28						
WRA				S	S	20 58 21.1	-2.3
	0.4nm,0.3s,baz=323,slow=20,SNR=5.3						
JAY	Jayapura	14.84	72	P	Pn	20 55 49.3	+1.3
	0.5nm,0.3s,baz=269,slow=4.2,SNR=4.0						
STKA	Stephens Creek	28.09	152	P	P	20 57 57.2	+1.3
	1.4nm,0.5s,baz=3.4,slow=10.0,SNR=9.7						
STKA				pP	pP	20 58 53.6	+0.3
	1.3nm,0.9s,baz=325,slow=12,SNR=1.9						
CMAR	Chiang Mai Arr	37.48	314	P	P	20 59 17.6	+0.7
	1.0nm,0.8s,baz=143,slow=6.3,SNR=10.0						
MJAR	Matsushiro Arr	45.02	13	P	P	21 00 16.9	-0.8
	1.0nm,0.8s,baz=186,slow=9.4,SNR=4.5						
SONM	Songino Array	57.80	344	P	P	21 01 52.1	+0.2
	0.3nm,0.5s,baz=175,slow=7.2,SNR=4.6						
MKAR	Makanchi Array	66.75	328	P	P	21 02 50.6	-0.1
	0.8nm,0.5s,baz=133,slow=5.5,SNR=18						
ZALV	Zalesovo Beam	70.48	335	P	P	21 03 12.4	-1.0
	1.3nm,0.5s,baz=153,slow=5.7,SNR=8.3						
SEY	Seymchan	72.83	12	P	P	21 03 28.2	+1.0
	0.7nm,0.3s,baz=180,slow=20,SNR=5.2						

IDC **18** *20:56:53.7±3.2, 6.˝96S× 105.˝19E, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.5/22, mbtmp3.9/3, ML3.8/1, MS3.0/3, Ms1 3.1/3, ms1mx2.8/21, Error ellipse: s-maj=73.5km s-min=41.7km az=170.0*
DJA **18** *20:56:57.8±0.5, 7.˝5S±4.˝×10.˝5E±.˝, h10km, M3.9/13, MLv3.9/13*

ISC 18 20:56:56.9±2.4, 7°18S±0.˝09× 105°40E±0.˝06, h8km±14km, n24, σ1§02/22, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	Cibinong	0.63	27	P	Pg	20 57 08.5	-0.6
CGJI				S	Sg	20 57 16.8	-0.5
SKJI	Sukabumi	1.16	82	P	Pb	20 57 19.5	+0.3
SKJI				S	Sg	20 57 35.7	+1.5
SBJI	Serang	1.27	35	P	Pn	20 57 20.2	-0.8
TNG	Tangerang	1.59	51	P	Pn	20 57 25.4	0.0
TNG				S	Sb	20 57 47.1	+0.3
CBJI	Citeko	1.62	62	P	Pn	20 57 25.7	-0.1
CNJI	Cibinong	1.72	95	P	Pn	20 57 25.7	-1.5
CNJI				S	Sn	20 57 49.3	0.0
BLSI	Bandar Lampung	1.80	355	P	Pn	20 57 27.6	-0.8
KASI	Kota Agung	1.87	331	P	Pn	20 57 29.2	-0.1
LEM	Lembang	2.22	81	P	Pn	20 57 36.4	+2.1
LEM	Lembang	2.22	81	Pn	Pn	20 57 34.6	+0.3
	24nm,0.3s,baz=270,slow=15,SNR=24						
LEM				Sn	Sb	20 58 05.4	+0.1
	15nm,0.3s,baz=180,slow=17,SNR=4.0						
LEM				LR	LR	20 58 31.6	
	comp=Z,212nm,21.5s,baz=329,slow=41						
KLI	Kotabumi	2.36	347	P	Pn	20 57 36.6	+0.6
CISI	Cisompet, Garu	2.42	99	P	Pn	20 57 35.4	-1.5
LWLI	Liwa	2.53	328	P	Pn	20 57 39.8	+1.4
MDSI	Maura Dua	2.94	335	P	Pn	20 57 43.4	-0.6
CMAR	Chiang Mai Arr	26.26	346	LR	LR	21 14 23.1	
	comp=Z,38nm,18.0s,baz=185,slow=40						
H01W3	Cape Leeuwin H	28.72	165	T	T	21 32 59.7	
	baz=345						
H01W1	Cape Leeuwin H	28.74	165	T	T	21 32 59.8	
	baz=345						
H01W2	Cape Leeuwin H	28.74	165	T	T	21 33 00.8	
	baz=345						
WRA	Warramunga Arr	30.79	117	P	P	21 03 14.2	+0.8
	0.6nm,0.4s,baz=293,slow=9.2,SNR=6.1						
H08S2	Diego Garcia H	32.64	267	T	T	21 37 38.7	
	baz=89						
H08S3	Diego Garcia H	32.65	267	T	T	21 37 39.4	
	baz=89						
H08S1	Diego Carcia H	32.65	267	T	T	21 37 40.1	
	baz=89						
STKA	Stephens Creek	41.71	131	P	P	21 04 46.6	0.0
	1.2nm,0.5s,baz=307,slow=9.3,SNR=6.6						
STKA				LR	LR	21 22 42.2	
	comp=Z,31nm,21.5s,baz=214,slow=37						
TXAR	Lajitas Array	144.86	47	PKP	PKPab	21 16 33.0	-1.5
	0.3nm,0.6s,baz=222,slow=1.2,SNR=4.2						

IDC 18 21:00:28.6±11.0, 11.˝15N× 85.˝13W, h95km±76km, mb3.6/2, mb1 3.8/3, mb1mx3.2/31, mbtmp4.0/3, ML4.0/1, MS3.1/1, Ms1 3.0/1, ms1mx2.5/23, Error ellipse: s-maj=127.2km s-min=57.2km az=165.0, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	11.15	303	P	Pn	21 03 05.1	0.0
	1.0nm,0.3s,baz=135,slow=13,SNR=4.6						
TXAR	Lajitas Array	25.03	319	P	P	21 05 44.1	0.0
	0.7nm,0.5s,baz=142,slow=10,SNR=11						
TXAR				LR	LR	21 17 37.4	
	comp=Z,36nm,18.6s,baz=0.0,slow=41						
SCHQ	Schefferville	45.91	15	P	P	21 08 41.5	-0.2
	3.2nm,1.0s,baz=225,slow=8.6,SNR=3.9						
WRA	Warramunga Arr	141.06	252	PKP	PKPdf	21 19 48.5	-0.4
	0.1nm,0.4s,baz=96,slow=2.7,SNR=5.9						

ISCJB **18** *21:15:40.8±1.3, 48.˝51N±0.˝08× 128.˝7W±0.˝1, h10km, mb3.5/3, Error ellipse: s-maj=14.3km s-min=8.0km az=40.6*
PGC **18** *21:15:41.2±4.5, 48.˝38N× 128.˝80W, h10km, ML3.0/10, Mw3.6, 228km Wsw of Tofino, Bc Vancouver Island Region*
NEIC **18** *21:15:41.2, 48.˝38N× 128.˝80W, h10km, mb4.0/2, After OTT.*
IDC **18** *21:15:43.0±2.0, 48.˝62N× 129.˝63W, h0km, mb3.5/2, mb1 3.7/5, mb1mx3.4/25, mbtmp3.5/5, ML2.9/3, Error ellipse: s-maj=42.0km s-min=25.8km az=74.0*

ISC 18 21:15:43.3±1.4, 48°6N±0.˝1× 128°59W±0.˝10, h10km, n36, σ1§03/31, mb3.5/3, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	Eliza Dome	1.61	36	Pn	Pn	21 16 10.9	-0.9
EDB	Eliza Dome	1.61	36	Pn	Pn	21 16 10.9	-0.9
MAYB	Maynard	2.04	26	Pn	Pn	21 16 17.8	0.0
MAYB	Maynard	2.04	26	Pn	Pn	21 16 17.8	0.0
WOSB	Woss	2.06	39	Pn	Pn	21 16 17.4	-0.6
WOSB	Woss	2.06	39	Pn	Pn	21 16 17.4	-0.6
OZB	Mount Ozzard	2.08	78	Pn	Pn	21 16 17.4	-0.9
OZB	Mount Ozzard	2.08	78	Pn	Pn	21 16 17.4	-0.9
BTB	Buttle Lake	2.20	65	Pn	Pn	21 16 20.1	0.0
BTB	Buttle Lake	2.20	65	Pn	Pn	21 16 20.1	0.0
PHC	Port Hardy	2.26	19	Pn	Pn	21 16 20.4	-0.3
PHC	Port Hardy	2.26	19	Pn	Pn	21 16 20.4	-0.3
TLCB	Telegraph Cove	2.27	29	Pn	Pn	21 16 19.8	-1.0
NCRB	Newcastle Ridg	2.46	41	Pn	Pn	21 16 23.6	0.0
MGB	Mount Grey	2.61	79	Pn	Pn	21 16 24.5	-1.1
MGB				Sn	Sn	21 16 56.2	-1.2
MGB	Mount Grey	2.61	79	Pn	Pn	21 16 24.5	-1.1
MGB				Sn	Sn	21 16 56.2	-1.2
PFB	Port Renfrew	2.75	89	Pn	Pn	21 16 25.9	-1.6
TXB	Texada	2.94	66	Pn	Pn	21 16 30.5	+0.4
SHB	Sechelt	3.26	70	Pn	Pn	21 16 34.7	+0.1
BBB	Bella Bella	3.62	5	Pn	Pn	21 16 39.2	-0.1
BBB				Sn	Sn	21 17 22.8	+0.7
BBB	Bella Bella	3.62	5	Pn	Pn	21 16 39.2	-0.1
	2.2nm,0.3s,baz=195,slow=12,SNR=16						
BMW	Boistfort Moun	4.20	118	*e*Pg	Pg	21 17 17.4	+14
B08A	Colville Reser	6.16	89	*e*Pn	Pb	21 17 26.8	-3.8
HAWA	Hanford	6.51	106	*e*Pn	Pb	21 17 32.1	-4.5
TPAW	Teton Pass	13.26	106	*e*Pn	P	21 19 04.2	+2.5
MOOW	Moose Ponds	13.27	105	*e*Pn	P	21 19 04.0	+2.2
REDW	Red Top Meadow	13.38	106	P	Pn	21 18 54.3	+0.9
	12nm,1.4s						
YKA	Yellowknife Ar	15.97	24	Pn	P	21 19 30.4	-1.0
	0.0nm,0.3s,baz=217,slow=12,SNR=8.2						
FFC	Flin Flon	17.55	59	*e*P	P	21 19 49.5	+0.5
	14nm,1.1s						
ILAR	Eielson Array	18.96	336	P	P	21 20 03.4	-0.9
	0.0nm,0.3s,baz=147,slow=12,SNR=6.8						
COLD	Coldfoot	21.72	337	P	P	21 20 29.3	-4.9
	13nm,1.7s						
TXAR	Lajitas Array	27.09	126	P	P	21 21 32.5	+6.3
	1.0nm,1.1s,baz=9.5,slow=1.5,SNR=4.2						
H11N2	WAKE ISLAND Hy 58.66		265	T	T	22 28 48.9	
	baz=44						
H11N3	WAKE ISLAND Hy 58.66		265	T	T	22 28 49.2	
	baz=44						
H11N1	WAKE ISLAND Hy 58.68		265	T	T	22 28 50.3	
	baz=44						
SONM	Songino Array	72.80	325	P	P	21 27 10.3	-1.5
	0.4nm,1.0s,baz=72,slow=4.7,SNR=2.4						

ISCJB **18** *21:16:49.8±0.7, 6.˝91N±0.˝07× 73.˝12W±0.˝10, h161km, mb3.3/1, Error ellipse: s-maj=15.6km s-min=6.3km az=30.4*
FUNV **18** *21:16:50.2, 6.˝77N× 73.˝21W, h165km, MW3.8*
IDC **18** *21:16:53.2±3.0, 5.˝97N× 72.˝66W, h186km±27km, mb3.0/1, mb1 3.0/1, mb1mx2.7/33, mbtmp3.5/1, Error ellipse: s-maj=136.2km s-min=33.9km az=162.0*

ISC 18 21:16:50.2±1.0, 6°88N±0.˝07× 73°08W±0.˝09, h161km, n17, σ1§03/21, 2C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.24	38 ⇑	*i*P	Pn	21 17 19.9	+1.5
CAPV				*e*S	Sn	21 17 40.9	+0.9
ROSC	El Rosal	2.36	212	P	Pn	21 17 31.4	+0.8
	48nm,0.3s,baz=107,slow=19,SNR=36						
ROSC				S	Sn	21 18 00.6	-1.2
	38nm,0.3s,baz=92,slow=19,SNR=4.4						
VIGV	El Vigia	2.59	41	*e*P	Pn	21 17 33.9	+0.9
SOCV	Socops	2.61	58 ⇑	*e*P	Pn	21 17 34.7	+1.4
ELOV	Elorza	3.58	88	*e*P	Pn	21 17 46.1	+0.8
VIRV	Villa del Rosa	3.66	10	*e*P	Pn	21 17 46.8	+0.4
VIRV				*e*S	Sn	21 18 28.5	-1.8
QARV	Quebrada Arrib	4.17	37	*e*P	Pn	21 17 54.1	+1.1
QARV				*e*S	Sn	21 18 41.1	-0.8
SANV	Sanarito	4.37	53	*e*P	Pn	21 17 55.9	+0.1
CURV	Curarigua	4.39	45	*e*P	Pn	21 17 56.8	+0.9
DABV	Dabajuro	4.69	31	*e*P	Pn	21 18 00.6	+0.8
BAUV	El Baul	5.40	67	*e*P	Pn	21 18 08.8	-0.3
MAPV	Macapo	5.44	57	*e*P	Pn	21 18 10.0	+0.4
MONV	Montecano	5.91	31	*e*P	Pn	21 18 16.1	+0.3
TURV	Turiamo	6.28	55	*e*P	Pn	21 18 20.5	-0.3
TORD	Torodi Ar. Bea	73.69	78	P	P	21 28 06.0	-1.0
	0.7nm,1.2s,baz=273,slow=6.4,SNR=3.1						
SONM	Songino Array	125.52	0	PKP	PKPdf	21 35 34.1	+1.5
	0.1nm,0.4s,baz=24,slow=1.7,SNR=2.6						
WRA	Warramunga Arr	150.40	241	PKPbc	PKPbc	21 36 23.2	-0.4
	0.8nm,0.4s,baz=109,slow=2.7,SNR=22						

PGC **18** *21:16:53.5±1.1, 48.˝33N× 128.˝96W, h10km, ML3.0/15, Mw3.6, 241km Wsw of Tofino, Bc Vancouver Island Region*
NEIC **18** *21:16:53.5, 48.˝33N× 128.˝96W, h10km, mb4.4/25, After OTT.*
IDC **18** *21:16:54.2±1.0, 48.˝45N× 129.˝12W, h0km, mb3.6/9, mb1 3.9/17, mb1mx3.8/32, mbtmp3.7/17, ML3.4/7, MS3.8/12, Ms1 3.8/12, ms1mx3.6/20, Error ellipse: s-maj=22.1km s-min=11.8km az=57.0*
ISCJB **18** *21:16:55.9±1.0, 48.˝59N±0.˝03× 128.˝61W±0.˝04, h7km±7km, mb4.3/25, MS3.7/5, Error ellipse: s-maj=5.0km s-min=4.0km az=138.7*

ISC 18 21:16:58.6±0.9, 48°58N±0.˝05× 128°67W±0.˝05, h18km±5km, n116, σ1§66/113, mb4.6/26, MS3.8/5, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	Eliza Dome	1.65	38	Pn	Pn	21 17 24.6	-2.1
EDB				Sn	Sn	21 17 47.3	-0.2
EDB	Eliza Dome	1.65	38	Pn	Pn	21 17 24.6	-2.1
EDB				Sn	Sn	21 17 47.3	-0.2
TOFB	Tofino	1.92	71	Sn	Sn	21 17 52.5	-1.4
MAYB	Maynard	2.08	28	Pn	Pn	21 17 31.0	-1.7
MAYB				Sn	Sn	21 17 58.8	+0.6
WOSB	Woss	2.10	40	Pn	Pn	21 17 31.2	-1.7
OZB	Mount Ozzard	2.14	78	Pn	Pn	21 17 30.7	-2.8
OZB				Sn	Sn	21 17 58.5	-1.1
BTB	Buttle Lake	2.26	66	Pn	Pn	21 17 33.3	-1.9
BTB				Sn	Sn	21 18 02.5	-0.2
PHC	Port Hardy	2.28	20	Pn	Pn	21 17 34.3	-1.1
PHC				Sn	Sn	21 18 03.5	+0.5
TLCB	Telegraph Cove	2.31	31	Pn	Pn	21 17 34.5	-1.2
NCRB	Newcastle Ridg	2.50	42	Pn	Pn	21 17 37.9	-0.6
MGB	Mount Grey	2.67	79	Pn	Pn	21 17 38.0	-2.8
MGB				Sn	Sn	21 18 11.3	-1.5
PFB	Port Renfrew	2.81	88	Pn	Pn	21 17 39.5	-3.2
PFB				Sn	Sn	21 18 14.4	-1.7
YOUB	Youbou, Lake C	2.94	82	Sn	Sn	21 18 18.0	-1.4
TXB	Texada	3.00	66	Pn	Pn	21 17 43.7	-1.6
LZB	Mount Lazard	3.22	88	Pn	Pn	21 17 45.3	-3.0
LZB				Sn	Sn	21 18 25.1	-1.2
SHB	Sechelt	3.32	70	Pn	Pn	21 17 48.7	-1.0
SHB				Sn	Sn	21 18 29.1	+0.4
BBB	Bella Bella	3.63	5	Pn	Pn	21 17 52.9	-1.0
BBB				Sn	Sn	21 18 36.0	-0.2
BBB	Bella Bella	3.63	5	Pn	Pn	21 17 52.8	-1.0
	9.6nm,0.3s,baz=195,slow=14,SNR=7.8						
BBB				Sn	Sn	21 18 36.4	+0.1
	4.5nm,0.3s,baz=135,slow=7.6,SNR=4.9						
PIER	Pier 30 Seattl	4.36	101	*e*Pn	Pn	21 18 05.5	+1.6
PIER				*e*Sg	Sg	21 19 20.1	+1.6
PIER				*e*Lg	Lg	21 19 33.2	
LON	Longmire	4.98	109	Pn	Pn	21 18 09.6	-3.0
LTY	Liberty	5.54	101	*e*Pn	Pn	21 18 18.6	-1.7
DBO	Dodson Butte	6.64	143	*e*Pn	Pn	21 18 37.2	+1.8
DBO				*e*Sn	Sn	21 19 46.9	-3.8
NEW	Newport	7.69	88	Pn	Pn	21 18 51.6	+1.9
	0.2nm,0.3s,baz=317,slow=5.4,SNR=4.3						
NEW				LR	LR	21 21 54.5	
	comp=Z,1µm,18.9s,baz=271,slow=38						
NEW	Newport	7.69	88	*e*Pn	Pn	21 18 54.3	+4.5
YBH	Yreka Blue Hor	8.03	146	Pn	Pn	21 18 55.3	+0.8
	0.1nm,0.3s,baz=334,slow=17,SNR=3.5						
YBH				LR	LR	21 21 41.5	
	comp=Z,794nm,19.9s,baz=330,slow=36						
WDC	Whiskeytown Da	9.11	149	*e*Pn	Pn	21 19 10.8	+1.6
WVOR	Wild Horse Val	9.34	127	*e*Pn	Pn	21 19 08.5	-4.0
DLBC	Dease Lake	9.91	356	LR	LR	21 23 00.2	
	comp=Z,362nm,18.6s,baz=183,slow=36						
LRM	Limekiln Ridge	11.38	98	Pn	Pn	21 19 41.2	+0.8
	95nm,1.5s						
ELK	Elko	12.35	124	LR	LR	21 24 42.1	
	comp=Z,638nm,18.6s,baz=332,slow=37						
NV01	Mina Array Sit	12.62	140	*e*Pn	Pn	21 19 58.4	+1.1
NVAR	Mina Array Bea	12.62	140	Pn	Pn	21 19 58.2	+0.8
	0.0nm,0.3s,baz=305,slow=11,SNR=4.1						
YNR	Norris Junctio	12.95	101	Pn	Pn	21 20 00.1	-1.7
	35nm,1.4s						
HVU	Hansel Valley	13.10	115	Pn	Pn	21 20 03.5	-0.3
IMW	Indian Meadow	13.13	104	*e*Pn	Pn	21 20 06.8	+2.3
	35nm,1.3s						
H17A	Grant Village	13.15	102	*e*Pn	Pn	21 20 01.3	-3.3
	37nm,1.4s						
REDW	Red Top Meadow	13.44	106	*e*Pn	Pn	21 20 08.4	-0.1
LOHW	Long Hollow	13.48	105	*e*Pn	Pn	21 20 05.7	-3.3
RLMT	Red Lodge	13.72	97	*e*Pn	Pn	21 20 12.3	0.0
R11A	Troy Canyon, C	13.94	132	*e*Pn	Pn	21 20 15.0	-0.3
PDAR	Pinedale Array	14.56	106	Pn	P	21 20 29.8	-0.5
	baz=307,slow=11,SNR=3.4						
DAC	Darwin (Calif)	14.74	142	*e*Pn	Pn	21 20 27.0	+0.6
TPNV	Topopah Spring	14.75	137	*e*Pn	Pn	21 20 29.0	+2.5
BMRM	Bremner River	15.39	330	*e*Pn	P	21 20 38.1	-1.1
	26nm,1.6s						
MVU	Marysvale	15.58	124	*e*Pn	P	21 20 42.7	+1.0
	15nm,1.4s						
SHPR	Sheep Range	15.61	136	*e*Pn	Pn	21 20 39.1	+1.3
GSC	Goldstone, Bar	15.91	142	*e*

	12nm,1.4s								
LPM	**Los Pinos Moun**	**21.71**	**123**	*e*P		**P**		**21 21 49.7**	**+0.9**
IM04	**Indian Mountai**	**21.83**	**332**	*e*P		**P**		**21 21 49.7**	**+0.1**
BNM	**Barren Site**	**21.84**	**123**	*e*P		**P**		**21 21 49.4**	**-0.9**
FCC	**Fort Churchill**	**22.63**	**50**	*e*P		**P**		**21 21 59.0**	**+0.7**
	24nm,1.1s								
BGNE	**Belgrade**	**22.64**	**97**	*e*P		**P**		**21 21 57.7**	**-0.9**
	127nm,0.4s								
UNV	**Unalaska Valle**	**24.07**	**297**	*e*P		**P**		**21 22 09.4**	**-3.2**
	155nm,1.8s								
MSTX	**Muleshoe**	**24.18**	**118**	*e*P		**P**		**21 22 12.4**	**-1.5**
	100nm,2.8s								
AMTX	**Amarillo**	**24.20**	**114**	*e*P		**P**		**21 22 14.4**	**+0.3**
	17nm,1.2s								
EYMN	**Ely**	**24.61**	**77**	*e*P		**P**		**21 22 20.4**	**+2.7**
	67nm,2.1s								
KSU1	**Kansas State U**	**24.83**	**100**	*e*P		**P**		**21 22 20.4**	**+0.6**
	19nm,0.4s								
TXAR	**Lajitas Array**	**27.14**	**126**	P		**P**		**21 22 40.5**	**-0.3**
	0.2nm,0.5s,baz=324,slow=4.5,SNR=3.0								
LPIG	**La Paz**	**28.41**	**143**	LR		LR		21 32 46.8	
	comp=Z,94nm,18.1s,baz=18,slow=33								
BLO	**Bloomington**	**31.45**	**91**	*e*P		**P**		**21 23 19.8**	**+0.9**
	26nm,0.4s								
TIXI	**Tiksi**	**48.41**	**336**	*e*P		**P**		**21 25 38.8**	**-0.3**
	8.9nm,1.4s								
H11N2	**WAKE ISLAND Hy**	**58.60**	**265**	T		T		22 30 03.9	
	baz=44,slow=76,SNR=12								
H11N3	**WAKE ISLAND Hy**	**58.61**	**265**	T		T		22 30 04.0	
	baz=44,slow=76,SNR=10								
H11N1	**WAKE ISLAND Hy**	**58.62**	**265**	T		T		22 30 04.4	
	baz=44,slow=76,SNR=12								
H11S1	**WAKE ISLAND Hy**	**59.60**	**264**	T		T		22 31 16.4	
	baz=44,slow=74,SNR=18								
H11S2	**WAKE ISLAND Hy**	**59.61**	**264**	T		T		22 31 16.0	
	baz=44,slow=74,SNR=18								
H11S3	**WAKE ISLAND Hy**	**59.62**	**264**	T		T		22 31 18.1	
	baz=44,slow=74,SNR=10								
USRK	**Ussuriysk Ar.**	**63.77**	**308**	LR		LR		21 56 02.9	
	comp=Z,40nm,18.1s,baz=69,slow=37								
SONM	**Songino Array**	**72.77**	**325**	P		**P**		**21 28 24.5**	**-1.2**
	1.7nm,1.2s,baz=60,slow=6.0,SNR=4.6								
SGMF	**Saint Gilles**	**72.87**	**34**	*e*P		P		21 28 31.4	+5.3
	31nm,1.4s								
GRR	**Gorron**	**73.39**	**33**	*e*P		P		21 28 34.9	+5.7
LDF	**La Druitiere**	**73.48**	**33**	*e*P		P		21 28 33.6	+3.9
ZALV	**Zalesovo Beam**	**74.00**	**340**	P		**P**		**21 28 31.1**	**-1.5**
	0.2nm,0.4s,baz=12,slow=7.4,SNR=2.3								
BRG	**Berggiesshubel**	**75.88**	**23**	*e*P		**P**		**21 28 44.0**	**+0.4**
	13nm,1.7s								
LOR	**Lormes**	**76.01**	**31**	*e*P		P		21 28 48.4	+3.9
	30nm,1.6s								
NKC	**Novy Kostel**	**76.05**	**25**	*e*P		P		21 28 48.9	+4.3
NKC				*e*PCP		**PcP**		**21 28 55.6**	**-1.3**
SSF	**Saint Saulge**	**76.07**	**31**	*e*P		P		21 28 48.6	+3.8
CDF	**Champ du Feu**	**76.14**	**28**	*e*P		P		21 28 49.2	+3.9
	5.7nm,0.8s								
PRU	**Pruhonice**	**76.84**	**23**	*e*P		**P**		**21 28 48.8**	**-0.3**
PRU				*e*pP		**pP**		**21 28 53.3**	**-1.5**
DPC	**Dobruska-Polom**	**76.97**	**22**	*e*P		**P**		**21 28 49.4**	**-0.4**
DPC				*e*pP		**pP**		**21 28 53.9**	**-1.7**
DPC				*e*PCP		**pwP**		**21 28 58.0**	**+2.4**
CABF	**La Chapelle**	**77.34**	**30**	*e*P		P		21 28 56.1	+4.0
KHC	**Kasperske Hory**	**77.36**	**24**	*e*P		**P**		**21 28 51.5**	**-0.6**
KHC				*e*pP		**pP**		**21 28 56.6**	**-1.2**
GERES	**GERESS Array B**	**77.66**	**24**	P		**P**		**21 28 53.8**	**0.0**
	0.8nm,0.8s,baz=335,slow=6.0,SNR=6.6								
GERES				LR		LR		22 06 21.0	
	comp=Z,40nm,18.1s,baz=278,slow=38								
AKASG	**Malin Array Be**	**79.30**	**14**	P		**P**		**21 29 01.9**	**-0.8**
	0.1nm,0.3s,baz=1.2,slow=6.5,SNR=3.5								
MKAR	**Makanchi Array**	**81.26**	**339**	P		**P**		**21 29 11.2**	**-2.2**
	0.5nm,1.0s,baz=318,slow=1.9,SNR=4.1								
MKAR				LR		LR		22 08 18.2	
	comp=Z,44nm,19.0s,baz=12,slow=38								
LPAZ	**La Paz**	**83.96**	**123**	LR		LR		22 09 15.8	
	comp=Z,47nm,20.1s,baz=316,slow=37								

DJA 18 22:01:00.8±0.5,**7°S**±9°×**10°7E**±°,**h80**km±5km,**M3.5**/16,
MLv3.5/16,**Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKJI	**Sukabumi**	**0.19**	**337**	P	Pn	22 01 14.6	+2.0
CNJI	**Cibinong**	**0.51**	**105**	P	Pn	22 01 16.2	+1.6
CNJI				S	Sn	22 01 27.6	+2.7
LEM	**Lembang**	**1.04**	**70**	P	Pn	22 01 20.4	-0.2
CGJI	**Cibinong**	**1.09**	**301**	P	Pn	22 01 22.2	+1.3
CGJI				S	Sn	22 01 36.4	+0.4
SBJI	**Serang**	**1.16**	**335**	P	Pn	22 01 21.9	0.0
CISI	**Cisompet, Garu**	**1.23**	**108**	P	Pn	22 01 23.8	+1.0
CISI				S	Sn	22 01 39.8	+0.5
CMJI	**Cimerak**	**1.90**	**109**	P	Pn	22 01 32.2	+0.8
CMJI				S	Sn	22 01 55.2	+0.6
KASI	**Kota Agung**	**2.68**	**308**	P	Pn	22 01 41.7	-0.2
KASI				S	Sn	22 02 13.9	+0.4
KLI	**Kotabumi**	**2.90**	**322**	P	Pn	22 01 44.5	-0.3
LWLI	**Liwa**	**3.34**	**310**	P	Pn	22 01 50.8	-0.1
LWLI				S	Sn	22 02 31.4	+1.8
MDSI	**Maura Dua**	**3.62**	**318**	P	Pn	22 01 54.4	-0.2
UGM	**Wanagama**	**3.93**	**101**	P	Pn	22 01 58.7	-0.1
MNAI	**Manna**	**4.61**	**307**	P	Pn	22 02 07.4	-0.6
PCJI	**Pacitan**	**4.62**	**103**	P	Pn	22 02 08.1	-0.1

IDC ***18*** *22:08:12.9±5.0, 17°93S×178°52W, h547km±62km, mb3.5/11,mb1 3.8/11,mb1mx3.4/39,mbtmp4.4/11,Error ellipse: s-maj=29.1km s-min=18.3km az=2.0*
ISCJB ***18*** *22:08:14.3±0.7, 18°05S×178°6W±0°1, h579km, mb3.9/10,Error ellipse: s-maj=24.7km s-min=15.1km az=147.7*
ISC 18 22:08:15.3±0.8,**18°0S**±0°2×**178°6W**±0°2,**h579**km,**n12,**
σ1**9**04/13,**mb3.9**/10,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**20.55**	**190**	P	**P**	**22 12 13.8**	**-1.0**
	3.0nm,0.5s,baz=5.7,slow=10,SNR=3.1						
STKA	**Stephens Creek**	**38.46**	**241**	P	**P**	**22 14 50.0**	**+1.2**
	10.0nm,0.5s,baz=90,slow=9.0,SNR=32						
JAY	**Jayapura**	**42.79**	**286**	P	**P**	**22 15 23.1**	**-0.3**
	7.8nm,0.4s,baz=188,slow=10,SNR=6.7						
WRA	**Warramunga Arr**	**44.47**	**260**	P	**P**	**22 15 35.4**	**-1.0**
	6.4nm,0.6s,baz=96,slow=7.0,SNR=146						
WRA				PcP	**PcP**	**22 17 07.2**	**+0.1**
	0.8nm,0.5s,baz=94,slow=3.6,SNR=4.7						
SIJI	**Sorong**	**52.11**	**283**	P	**P**	**22 16 33.1**	**0.0**
	14nm,0.5s,baz=80,slow=7.0,SNR=11						
YBH	**Yreka Blue Hor**	**78.68**	**39**	P	**P**	**22 19 19.0**	**+0.6**
	1.1nm,0.7s,baz=216,slow=8.7,SNR=3.6						
NVAR	**Mina Array Bea**	**79.58**	**44**	P	**P**	**22 19 23.8**	**+0.3**
	1.7nm,0.8s,baz=221,slow=9.1,SNR=7.5						
ILAR	**Eielson Array**	**86.00**	**13**	P	**P**	**22 19 52.9**	**-1.8**
	0.4nm,0.5s,baz=219,slow=5.1,SNR=4.4						
TXAR	**Lajitas Array**	**86.16**	**58**	P	**P**	**22 19 57.5**	**+1.1**
	1.4nm,0.8s,baz=224,slow=5.2,SNR=7.9						
PDAR	**Pinedale Array**	**87.51**	**43**	P	**P**	**22 20 02.1**	**-0.5**
	0.9nm,0.5s,baz=199,slow=2.1,SNR=8.0						
CMAR	**Chiang Mai Arr**	**88.78**	**290**	P	**P**	**22 20 10.2**	**+1.5**
	0.6nm,0.3s,baz=136,slow=3.1,SNR=6.7						
GERES	**GERESS Array B**	**147.65**	**345**	PKPbc	**PKPbc**	**22 26 55.1**	**-0.4**
	0.4nm,0.5s,baz=349,slow=2.1,SNR=4.0						

KRSC ***18*** *22:12:36.8±1.3, 53°56N×170°32E, h40km±25km, ML4.3*
ISCJB ***18*** *22:12:37.6±0.3, 53°72N±0°06×170°36E±0°03, h24km, mb4.0/29,MS3.2/2,Error ellipse: s-maj=9.1km s-min=2.9km az=176.1*
MOS ***18*** *22:12:38.9±1.3, 53°78N×170°47E, h32km,mb4.4/13,Error ellipse: s-maj=15.3km s-min=12.3km az=179.0*
NEIC ***18*** *22:12:39.8±2.1, 53°79N×170°56E, h29km±14km, mb4.2/13, Error ellipse: s-maj=42.9km s-min=9.4km az=190.0*
IDC ***18*** *22:12:40.7±0.8, 53°82N×170°53E, h26km±4km, mb3.8/18, mb1 4.0/19,mb1mx3.9/28,mbtmp3.9/19,ML3.2/1,MS3.2/2, Ms1 3.2/2,ms1mx2.5/33,Error ellipse: s-maj=22.6km s-min=12.3km az=169.0*
ISC 18 22:12:39.9±0.5,**53.70N**±0°09×**170°47E**±0°04,**h24**km,**n86,**
σ1**9**41/98,**mb4.2**/29,**Near Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMY	**Shemya**	**2.39**	**113**	*e*S	**Sn**	**22 13 43.7**	**-2.2**
SMY	**Shemya**	**2.39**	**113**	*e*P	**Pn**	**22 13 17.3**	**-0.2**
SMY	**Shemya**	**2.39**	**113**	*e*Pn	**Pn**	**22 13 17.2**	**-0.2**
BKI	**Bering**	**3.03**	**302**	*e*S	**Sn**	**22 13 59.4**	**-2.3**
MKZ	**Mys Kozlova**	**5.21**	**283**	*e*P	**Pn**	**22 13 56.0**	**-0.3**
MKZ				*e*S	**Sn**	**22 14 53.6**	**-1.9**
MKZ	**Mys Kozlova**	**5.21**	**283**	P	**Pn**	**22 13 56.0**	**-0.3**
MKZ				S	**Sn**	**22 14 53.6**	**-1.9**
KZV	**Kizimen**	**6.11**	**287**	*e*P	**Pn**	**22 14 08.9**	**+0.1**
KZV				*e*S	**Sn**	**22 15 14.9**	**-3.0**
TUMR	**Tumrok**	**6.22**	**289**	*e*P	**Pn**	**22 14 11.7**	**+1.4**
SPN	**Mys Shipunski**	**6.28**	**269**	*e*P	**Pn**	**22 14 10.4**	**-0.5**
SPN				*e*S	**Sn**	**22 15 18.7**	**-3.2**
SPN	**Mys Shipunski**	**6.28**	**269**	P	**Pn**	**22 14 10.4**	**-0.5**
SPN				S	**Sn**	**22 15 18.7**	**-3.2**
NLC	**Nalytchevo**	**6.67**	**270**	*e*P	**Pn**	**22 14 15.8**	**-0.5**
NLC				*e*S	Sn	22 15 26.6	-4.9
NLC	**Nalytchevo**	**6.67**	**270**	P	**Pn**	**22 14 15.8**	**-0.5**
NLC				S	Sn	22 15 26.6	-4.9
SDLR	**Sedlovina**	**6.93**	**271**	*e*P	**Pn**	**22 14 19.9**	**-0.1**
UGLR	**Uglovaya**	**6.98**	**271**	*e*P	**Pn**	**22 14 20.7**	**+0.1**
UGLR				*e*S	**Sn**	**22 15 38.0**	**-1.1**
SMAR	**Somma**	**6.98**	**271**	*e*P	**Pn**	**22 14 21.2**	**+0.4**
KRER	**Koryakskii**	**7.01**	**271**	*e*P	**Pn**	**22 14 21.1**	**0.0**
KRER				*e*S	**Sn**	**22 15 37.6**	**-2.4**
AVH	**Avacha**	**7.02**	**271**	*e*P	**Pn**	**22 14 21.8**	**+0.7**
AVH				*e*S	**Sn**	**22 15 37.8**	**-2.3**
KRX	**Arik**	**7.06**	**272**	*e*P	**Pn**	**22 14 21.8**	**0.0**
KOK	**Koryaka**	**7.08**	**271**	*e*P	**Pn**	**22 14 22.2**	**+0.3**
TILK	**Tilichiki**	**7.16**	**343**	*e*P	**Pn**	**22 14 25.9**	**+3.0**
RUS	**Russkaya**	**7.32**	**265**	*e*P	**Pn**	**22 14 24.6**	**-0.6**
RUS	**Russkaya**	**7.32**	**265**	P	**Pn**	**22 14 24.6**	**-0.6**
GNL	**Ganaly**	**7.44**	**275**	*e*P	**Pn**	**22 14 27.9**	**+0.9**
MTVR	**Mutnovka**	**7.50**	**266**	*e*P	**Pn**	**22 14 28.1**	**+0.3**
MTVR				*e*S	**Sn**	**22 15 48.6**	**-3.5**
PEA2	**Petropavlovsk-**	**7.66**	**271**	*e*Pn	**Pn**	**22 14 31.9**	**+2.1**
PEA2				*e*Sn	**Sn**	**22 15 53.9**	**-1.8**
PEA0	**Petropavlovsk-**	**7.66**	**271**	*e*Pn	**Pn**	**22 14 29.7**	**-0.2**
PEA0				*e*Sn	**Sn**	**22 15 54.1**	**-1.8**
PETK	**Petropavlovsk-**	**7.66**	**271**	Pn	**Pn**	**22 14 31.9**	**+2.0**
	1.8nm,0.3s,baz=94,slow=20,SNR=30						
PETK				Sn	**Sn**	**22 15 53.9**	**-1.9**
	1.1nm,0.3s,baz=58,slow=42,SNR=2.5						
PETK	**Petropavlovsk-**	**7.66**	**271**	P	**Pn**	**22 14 31.9**	**+2.0**
PETK						22 15 53.9	
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK				smax	smax		
	comp=N,1.0nm,0.3s						
ASAK	**Asacha**	**7.70**	**265**	*e*P	**Pn**	**22 14 30.7**	**+0.3**
ADK	**Adak**	**8.00**	**98**	*e*P	**Pn**	**22 14 33.6**	**-0.9**
ADK				*e*		22 15 57.0	
ADK	**Adak**	**8.00**	**98**	*e*Pn	**Pn**	**22 14 33.5**	**-0.9**
ADK				*e*Sn	Sn	22 15 57.0	-7.1
SVW2	**Sparrevohn**	**19.54**	**54**	*e*P	**P**	**22 17 02.9**	**-2.5**
	comp=N,21nm,1.7s						
OHAK	**Old Harbor**	**20.68**	**66**	*e*P	**P**	**22 17 17.5**	**-0.4**
KDAK	**Kodiak Island**	**21.01**	**64**	*e*P	**P**	**22 17 19.7**	**-1.7**
KDAK				pmax	pmax		
	comp=Z,80nm,1.8s						
KDAK	**Kodiak Island**	**21.01**	**64**	*e*P	**P**	**22 17 19.7**	**-1.7**
	comp=Z,80nm,1.8s						
PPLA	**Purkeypile**	**21.37**	**50**	*e*P	**P**	**22 17 23.5**	**-1.8**
	comp=Z,31nm,1.7s						
IM04	**Indian Mountai**	**21.39**	**41**	*e*P	**P**	**22 17 23.2**	**-2.2**
TRF	**Thorofare Moun**	**22.30**	**49**	*e*P	**P**	**22 17 34.7**	**-0.7**
	comp=Z,68nm,2.6s						
COLD	**Coldfoot**	**23.12**	**39**	*e*P	**P**	**22 17 43.6**	**-0.2**
	comp=Z,2.3nm,0.9s						
WRH	**Wood River Hil**	**23.40**	**46**	*e*P	**P**	**22 17 44.7**	**-1.8**
	comp=Z,7.1nm,1.0s						
MDM	**Murphy Dome**	**23.41**	**45**	*e*P	**P**	**22 17 45.2**	**-1.4**
	comp=Z,3.2nm,1.0s						
SCM	**Sheep Creek Mo**	**23.54**	**53**	*e*P	**P**	**22 17 46.8**	**-1.3**
SCM				pmax	pmax		
	comp=Z,67nm,2.3s						
SCM	**Sheep Creek Mo**	**23.54**	**53**	*e*P	**P**	**22 17 46.8**	**-1.3**
	comp=Z,67nm,2.3s						
ILAR	**Eielson Array**	**23.95**	**46**	P	**P**	**22 17 50.6**	**-1.2**
	comp=Z,1.3nm,0.6s,baz=252,slow=8.6,SNR=15						
ILAR				pP	**pP**	**22 17 58.7**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=244,slow=7.9,SNR=2.7						
ILAR	**Eielson Array**	**23.95**	**46**	P	**P**	**22 17 50.6**	**-1.2**
ILAR				*PP	**pP**	**22 17 58.7**	**-0.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BMRM	**Bremner River**	**24.87**	**55**	*e*P	**P**	**22 17 57.1**	**-3.3**
	comp=Z,4.6nm,0.8s						
RAGM	**Ragged Mountai**	**24.88**	**56**	*e*P	**P**	**22 18 01.0**	**+0.6**
	comp=Z,8.5nm,0.9s						
DOT	**Dot Lake**	**25.09**	**49**	*e*P	**P**	**22 18 02.3**	**0.0**
	comp=Z,5.1nm,0.7s						
DAWY	**Dawson**	**27.16**	**48**	*e*P	P	22 18 15.5	-5.5
	comp=Z,12nm,1.8s						
KSRS	**Korea Array**	**33.34**	**258**	P	**P**	**22 19 18.3**	**+2.6**
	comp=Z,0.5nm,0.3s,baz=53,slow=8.3,SNR=3.4						
KSRS	**Korea Array**	**33.34**	**258**	P	**P**	**22 19 18.3**	**+2.6**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**34.02**	**186**	T	T	22 55 16.6	
	baz=4.4,slow=76,SNR=110						
H11N3	**WAKE ISLAND Hy**	**34.03**	**186**	T	T	22 55 16.1	
	baz=4.4,slow=76,SNR=123						
H11N1	**WAKE ISLAND Hy**	**34.04**	**186**	T	T	22 55 17.2	
	baz=4.4,slow=76,SNR=148						
H11S1	**WAKE ISLAND Hy**	**35.25**	**186**	T	T	22 56 23.9	
	baz=4.5,slow=76,SNR=192						
H11S3	**WAKE ISLAND Hy**	**35.26**	**186**	T	T	22 56 25.8	
	baz=4.5,slow=76,SNR=139						
H11S2	**WAKE ISLAND Hy**	**35.26**	**186**	T	T	22 56 23.5	
	baz=4.5,slow=76,SNR=162						
YKA	**Yellowknife Ar**	**38.38**	**46**	P	**P**	**22 19 58.2**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=291,slow=8.0,SNR=6.1						
YKA	**Yellowknife Ar**	**38.38**	**46**	P	**P**	**22 19 58.2**	**-0.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM	**Songino Array**	**39.71**	**288**	P	**P**	**22 20 11.5**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=44,slow=6.4,SNR=4.4						
SONM				PcP	**PcP**	**22 22 16.9**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=70,slow=1.7,SNR=4.1						
SONM	**Songino Array**	**39.71**	**288**	P	**P**	**22 20 11.5**	**+1.3**
SONM						22 22 16.9	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YBH	**Yreka Blue Hor**	**44.90**	**77**	P	**P**	**22 20 53.7**	**+1.3**
	comp=Z,1.4nm,0.4s,baz=286,slow=10,SNR=4.0						
YBH	**Yreka Blue Hor**	**44.90**	**77**	P	**P**	**22 20 53.7**	**+1.3**
YBH				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NVAR	**Mina Array Bea**	**49.61**	**78**	P	**P**	**22 21 29.5**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=298,slow=7.9,SNR=7.5						
NVAR				pP	**pP**	**22 21 37.4**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=306,slow=7.7,SNR=1.9						
PDAR	**Pinedale Array**	**51.67**	**68**	P	**P**	**22 21 44.8**	**0.0**
	comp=Z,2.0nm,0.9s,baz=320,slow=3.9,SNR=10						
MKAR	**Makanchi Array**	**53.33**	**301**	P	**P**	**22 21 55.9**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=315,slow=1.6,SNR=5.6						
ULM	**Lac du Bonnet**	**53.69**	**53**	LR	LR	22 44 38.7	
	comp=Z,26nm,21.7s,baz=356,slow=36						
ARCES	**ARCESS Array B**	**54.45**	**346**	P	**P**	**22 22 04.0**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=15,slow=10.0,SNR=8.9						
ARCES	**ARCESS Array B**	**54.45**	**346**	P	**P**	**22 22 04.0**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKTO	**Aktyubinsk**	**61.78**	**318**	P	**P**	**22 22 55.4**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=39,slow=9.3,SNR=4.7						
AKTO				LR	LR	22 52 30.1	
	comp=Z,16nm,18.6s,baz=50,slow=39						
AKTO	**Aktyubinsk**	**61.78**	**318**	P	**P**	**22 22 55.4**	**-0.7**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKTO				MLR	MLR		
	comp=Z,16nm,18.6s						
FINES	**FINESS Array B**	**61.78**	**341**	P	**P**	**22 22 56.0**	**0.0**
	comp=Z,1.4nm,0.8s,baz=49,slow=13,SNR=3.7						
FINES	**FINESS Array B**	**61.78**	**341**	P	**P**	**22 22 56.0**	**0.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**64.42**	**267**	P	**P**	**22 23 15.4**	**+1.4**
	comp=Z,1.7nm,0.3s,baz=17,slow=7.5,SNR=4.1						
CMAR				pP	**pP**	**22 23 23.1**	**+1.4**
	comp=Z,0.8nm,0.4s,baz=28,slow=7.2,SNR=2.0						
CMAR	**Chiang Mai Arr**	**64.42**	**267**	P	**P**	**22 23 15.5**	**+1.4**
CMAR				*PP	**pP**	**22 23 23.1**	**+1.4**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	**NORSAR Subarra**	**64.42**	**349**	P	**P**	**22 23 13.2**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=14,slow=6.9						
NOA	**NORSAR Array B**	**64.42**	**349**	P	**P**	**22 23 13.6**	**0.0**
	comp=Z,1.2nm,0.6s,baz=16,slow=6.6,SNR=7.1						
NOA	**NORSAR Array B**	**64.42**	**349**	P	**P**	**22 23 13.6**	**0.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**64.57**	**75**	P	**P**	**22 23 15.2**	**+0.1**
	comp=Z,2.9nm,0.6s,baz=302,slow=4.7,SNR=33						
TXAR				pP	**pP**	**22 23 23.3**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=305,slow=4.9,SNR=8.5						
TXAR	**Lajitas Array**	**64.57**	**75**	P	**P**	**22 23 15.2**	**+0.1**
TXAR				*PP	**pP**	**22 23 23.3**	**+0.6**
TXAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	**GERESS Array B**	**75.95**	**344**	P	**P**	**22 24 24.9**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=22,slow=4.3,SNR=4.9						
WRA	**Warramunga Arr**	**79.68**	**214**	P	**P**	**22 24 45.1**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=27,slow=6.2,SNR=4.6						
WRA	**Warramunga Arr**	**79.68**	**214**	P	**P**	**22 24 45.2**	**-0.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ESDC	**Sonseca Array**	**86.87**	**356**	P	**P**	**22 25 21.3**	**-1.1**
	comp=Z,0.1nm,0.4s,baz=344,slow=5.8,SNR=3.6						
STKA	**Stephens Creek**	**88.83**	**204**	P	**P**	**22 25 31.6**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=45,slow=1.4,SNR=3.2						
STKA	**Stephens Creek**	**88.83**	**204**	P	**P**	**22 25 31.6**	**+0.2**
STKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						

DJA 18 22:13:35.5±0.4,**7°S**±3°×**10°5E**±°,**h10**km,**M3.8**/16,
MLv3.8/16,**Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGJI	**Cibinong**	**0.70**	**25**	P	Pg	22 13 47.4	-1.6
CGJI				S	Sg	22 13 56.1	-2.0
SKJI	**Sukabumi**	**1.17**	**78**	P	Pb	22 13 57.3	-0.6
SKJI				S	Sn	22 14 13.9	-0.2
SBJI	**Serang**	**1.34**	**33**	P	Pn	22 13 59.4	-0.8
SBJI				S	Sb	22 14 17.0	-0.9
TNG	**Tangerang**	**1.64**	**49**	P	Pn	22 14 03.9	-0.5
TNG				S	Sn	22 14 25.8	+0.3
CBJI	**Citeko**	**1.66**	**60**	P	Pn	22 14 05.3	+0.6
CBJI				S	Sn	22 14 25.3	-0.8
CNJI	**Cibinong**	**1.72**	**92**	P	Pn	22 14 04.9	-0.6
CNJI				S	Sn	22 14 27.6	+0.1
BLSI	**Bandar Lampung**	**1.88**	**355**	P	Pn	22 14 06.8	-0.9
KASI	**Kota Agung**	**1.94**	**332**	P	Pn	22 14 08.7	+0.2
LEM	**Lembang**	**2.24**	**79**	P	Pn	22 14 12.3	-0.6
CISI	**Cisompet, Garu**	**2.42**	**97**	P	Pn	22 14 14.2	-1.0
CISI				S	Sn	22 14 44.8	-0.1
KLI	**Kotabumi**	**2.43**	**347**	P	Pn	22 14 15.7	+0.4
KLI				S	Sn	22 14 46.8	+1.6
LWLI	**Liwa**	**2.59**	**329**	P	Pn	22 14 18.2	+0.6
LWLI				S	Sn	22 14 50.2	+0.9
MDSI	**Maura Dua**	**3.00**	**336**	P	Pn	22 14 23.1	-0.1
CMJI	**Cimerak**	**3.07**	**100**	P	Pn	22 14 22.3	-1.8
CMJI				S	Sn	22 15 00.0	-0.9
MNAI	**Manna**	**3.76**	**320**	P	Pn	22 14 32.7	+1.0
LHSI	**Lahat**	**3.88**	**331**	P	Pn	22 14 35.4	+0.2
ABJI	**Asem Bagus**	**8.78**	**94**	P	Pn	22 15 53.5	+11

DJA 18 22:17:01.8±1.3,**1°S**±6°×**13°6

SKHL ***18*** *23:31:12.2±1.0, 44.57N×148.65E, h40km±1km, mb4.2/3*
ISC 18 23:31:10.7±4.1, 44.52N±0.09×148.7E±0.3, h55km, n9, σ1$51/13, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.94**	**320**	*i* P	**Pn**	**23 31 27.3**	**-0.4**
KUR				AMB	AMB	23 31 28.0	
	90nm,0.6s						
KUR				*i* S	**Sn**	**23 31 38.3**	**-1.9**
KUR				A	A	23 31 38.9	
	420nm,0.3s						
KUR				A	A	23 31 38.9	
	810nm,0.3s						
SHO	**Shikotan**	**1.51**	**245**	*e*P	**Pn**	**23 31 36.0**	**+0.6**
SHO				AMB	AMB	23 31 38.9	
	119nm,1.0s						
SHO				*e*S	**Sn**	**23 31 53.3**	**-0.7**
SHO				A	A	23 31 57.0	
	793nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.11**	**258**	*i* P	**Pn**	**23 31 44.3**	**+0.7**
YUK				AMB	AMB	23 31 44.4	
	20nm,0.1s						
YUK				AMB	AMB	23 31 44.4	
	10.0nm,0.1s						
YUK				AMB	AMB	23 31 44.4	
	50nm,0.1s						
YUK				*i* S	**Sn**	**23 32 09.2**	**+0.5**
YUK				A	A	23 32 10.7	
	50nm,0.4s						
YUK				A	A	23 32 10.7	
	460nm,0.4s						
NEM2	**Nemuro 2**	**2.45**	**243**	*e*S	**Sn**	**23 32 15.0**	**-1.8**
JAK	**Akkeshi**	**3.29**	**244**	P	**Pn**	**23 31 59.9**	**+0.2**
JAK				*e*S	**Sn**	**23 32 35.7**	**-1.9**
JAR	**Ashorobuto**	**3.79**	**253**	*e*S	**Sn**	**23 32 49.9**	**+0.2**
JCH	**Churui**	**4.34**	**246**	*e*S	**Sn**	**23 33 01.4**	**-1.9**
YSS	**Yuzh-Sakhalins**	**4.83**	**302**	*e*P	**Pn**	**23 32 23.1**	**+2.3**
JNBK	**Urakawa-nobuka**	**4.89**	**245**	P	**Pn**	**23 32 23.0**	**+1.3**

IDC 18 23:36:08.5±2.5, 7.64S×124.79E, h540km±37km, mb2.8/2, mb1 3.0/4, mb1mx2.7/25, mbtmp3.8/4, Error ellipse: s-maj=115.5km s-min=23.1km az=53.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**2.78**	**204**	P	P	23 37 21.5	0.0
	27nm,0.3s,baz=13,slow=1.7,SNR=24						
BATI				S	S	23 38 18.2	-2.6
	9.9nm,0.3s,baz=67,slow=2.6,SNR=2.5						
WRA	**Warramunga Arr**	**15.33**	**144**	P	P	23 39 19.6	-2.1
	0.7nm,0.3s,baz=338,slow=8.9,SNR=40						
STKA	**Stephens Creek**	**28.75**	**149**	P	P	23 41 24.4	+1.7
	1.8nm,0.6s,baz=342,slow=9.6,SNR=5.8						
MKAR	**Makanchi Array**	**66.04**	**329**	P	P	23 46 02.1	+0.2
	0.2nm,0.5s,baz=121,slow=6.6,SNR=5.3						

GUC 18 23:39:16.5±0.5, 35.06S×73.02W, h15km±5km, ML4.0, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**1.09**	**170**	*e*P	Pb	23 39 34.0	-2.9
COCH				*e*S	Sb	23 39 47.5	-3.4
TALC	**Talca**	**1.19**	**107**	*e*P	Pn	23 39 35.8	-2.7
TALC				*e*S	Sb	23 39 50.5	-3.3
LNCH	**Linares**	**1.40**	**125**	*e*P	Pn	23 39 39.4	-2.1
LNCH				*e*S	Sn	23 39 56.0	-3.7
NICH	**Los Niches**	**1.47**	**88**	*e*P	Pn	23 39 40.1	-2.4
NICH				*e*S	Sn	23 39 58.4	-3.1
CLCH	**Cerro Calan**	**2.64**	**52**	AML	AML	23 40 43.9	
	comp=N,693nm,1.9s						
ROCH	**El Roble**	**2.67**	**39**	AML	AML	23 40 47.4	
	comp=N,660nm,0.4s						
PEL	**Peldehue**	**2.72**	**46**	AML	AML	23 40 46.6	
	comp=E,670nm,0.6s						

WEL 18 23:53:45.9±0.1, 39.77S×177.15E, h61km±1km, ML3.6/15, 9C-20D, Error ellipse: s-maj=1.3km s-min=0.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CKHZ	**Cape Kidnapper**	**0.12**	**334**	↑P	Pn	23 39 55.1	-0.1
CKHZ				*e*S	Sn	23 40 11.6	-0.3
KAHZ	**Kahuranaki**	**0.21**	**262**	↑P	Pn	23 53 55.6	-0.1
KAHZ				*e*S	Sn	23 54 02.7	0.0
PXZ	**Pawanui**	**0.34**	**219**	↓P	Pn	23 53 56.7	+0.1
PXZ				*e*S	Sn	23 54 04.4	+0.2
PXZ				AML	AML	23 54 05.0	
PXZ				AML	AML	23 54 05.5	
PXZ				AML	AML	23 54 05.6	
MCHZ	**McNeill Hill**	**0.47**	**313**	↑P	Pn	23 53 57.3	-0.4
MCHZ				*e*S	Sn	23 54 05.5	-0.8
ARHZ	**Aropaoanui**	**0.52**	**347**	↓P	Pn	23 53 58.0	-0.2
KRHZ	**Kereru**	**0.61**	**281**	↑P	Pn	23 53 58.4	-0.8
WPHZ	**Waipukurau**	**0.62**	**241**	↑P	Pn	23 53 59.3	0.0
PRHZ	**Porangahau**	**0.64**	**218**	P	Pn	23 53 59.7	+0.2
WHHZ	**Waihua**	**0.69**	**6**	↓P	Pn	23 54 00.1	-0.1
NMHZ	**Naumai**	**0.72**	**338**	↓P	Pn	23 54 00.3	-0.3
BKZ	**Black Stump Fm**	**0.78**	**320**	↓P	Pn	23 54 00.6	-0.8
BKZ				AML	AML	23 54 11.2	
BKZ				AML	AML	23 54 11.6	
KNZ	**Kokohu**	**0.85**	**29**	PN	Pn	23 54 02.1	0.0
MHGZ	**Mahia Peninsul**	**0.85**	**44**	PN	Pn	23 54 02.7	+0.6
RAHZ	**Arahi**	**0.85**	**357**	↓P	Pn	23 54 01.9	-0.2
ANWZ	**Angora Road**	**0.86**	**216**	PN	Pn	23 54 02.4	+0.1
BHHZ	**Black Hill Sta**	**0.88**	**288**	↑P	Pn	23 54 01.8	-0.8
DVHZ	**Dannevirke**	**0.92**	**234**	↓P	Pn	23 54 02.8	-0.2
TSZ	**Takapari Road**	**0.96**	**252**	PN	Pn	23 54 02.8	-0.7
TSZ				AML	AML	23 54 16.2	
TSZ				AML	AML	23 54 16.3	
SNGZ	**Shannon Statio**	**0.99**	**9**	PN	Pn	23 54 03.9	-0.2
PRGZ	**Paritu Road**	**1.02**	**34**	↓P	Pn	23 54 04.5	+0.2
MRHZ	**Matea Rd**	**1.09**	**329**	↓P	Pn	23 54 04.9	-0.4
MOVZ	**Moawhango**	**1.13**	**288**	↑P	Pn	23 54 05.7	-0.2
BFZ	**Birch Farm**	**1.15**	**217**	PN	Pn	23 54 05.7	-0.2
RIGZ	**Rimuhau**	**1.16**	**25**	PN	Pn	23 54 06.0	-0.2
HATZ	**Hinemaiaia**	**1.20**	**317**	PN	Pn	23 54 06.3	-0.3
HATZ				SN	Sn	23 54 19.8	-2.3
PRWZ	**Pori Road**	**1.20**	**228**	PN	Pn	23 54 06.6	0.0
POWZ	**Post Office Ro**	**1.23**	**239**	PN	Pn	23 54 07.0	0.0
TUVZ	**Tukino**	**1.26**	**293**	PN	Pn	23 54 07.6	0.0
RITZ	**Rihia Road**	**1.27**	**308**	PN	Pn	23 54 07.6	0.0
WNVZ	**Wahianoa**	**1.27**	**290**	PN	Pn	23 54 07.8	-0.1
RAGZ	**Rawiri**	**1.29**	**9**	↓P	Pn	23 54 07.6	-0.4
OTVZ	**Oturere**	**1.29**	**297**	↓P	Pn	23 54 08.0	-0.1
WHVZ	**Whangaehu Hut**	**1.30**	**291**	PN	Pn	23 54 08.0	-0.2
DRZ	**Dome Shelter**	**1.32**	**291**	PN	Pn	23 54 08.8	+0.2
NGZ	**Ngauruhoe**	**1.33**	**296**	PN	Pn	23 54 08.4	-0.2
KRVZ	**Karewarewa**	**1.34**	**299**	PN	Pn	23 54 08.5	-0.2
MTVZ	**Mangateitei**	**1.35**	**286**	PN	Pn	23 54 08.8	+0.1
CPWZ	**Castlepoint**	**1.35**	**212**	↓P	Pn	23 54 08.7	0.0
WPVZ	**Whakapapa**	**1.36**	**294**	PN	Pn	23 54 08.8	-0.2
WTVZ	**West Tongariro**	**1.37**	**298**	PN	Pn	23 54 08.8	-0.2
KATZ	**Kakaramea**	**1.37**	**305**	PN	Pn	23 54 09.0	-0.2
RATZ	**Rangitukua**	**1.39**	**310**	PN	Pn	23 54 08.7	-0.6
PRRZ	**Plateau Road**	**1.40**	**335**	↓P	Pn	23 54 08.8	-0.4
TIWZ	**Tintock**	**1.40**	**223**	↓P	Pn	23 54 08.9	-0.4
TIWZ				AML	AML	23 54 28.6	
TIWZ				AML	AML	23 54 29.3	
TKGZ	**Te Karaka**	**1.43**	**23**	↓P	Pn	23 54 09.4	-0.4
WHTZ	**Whakaora**	**1.43**	**320**	PN	Pn	23 54 09.3	-0.5
MWZ	**Matawai**	**1.46**	**12**	↓P	Pn	23 54 09.5	-0.7
MWZ				AML	AML	23 54 29.0	
MWZ				AML	AML	23 54 29.5	
MWZ				AML	AML	23 54 31.9	
WPRZ	**Whakapapatarin**	**1.46**	**328**	PN	Pn	23 54 09.5	-0.6
PKVZ	**Pokaka**	**1.47**	**288**	PN	Pn	23 54 10.2	-0.1
TWVZ	**Taurewa**	**1.49**	**297**	PN	Pn	23 54 10.0	-0.7
MRZ	**Mangatainoka R**	**1.50**	**233**	PN	Pn	23 54 10.0	-0.6
MRZ				AML	AML	23 54 29.1	
MRZ				AML	AML	23 54 29.6	
URZ	**Urewera**	**1.50**	**359**	↓P	Pn	23 54 10.0	-0.7
URZ				AML	AML	23 54 28.2	
URZ				AML	AML	23 54 28.5	
RRRZ	**Republican Roa**	**1.51**	**341**	PN	Pn	23 54 10.2	-0.6
CNGZ	**Carnagh Statio**	**1.52**	**33**	↑P	Pn	23 54 11.0	+0.1
HRRZ	**Handcock Road**	**1.53**	**334**	PN	Pn	23 54 10.7	-0.4
TARZ	**Mount Tarawera**	**1.61**	**342**	↑P	Pn	23 54 11.9	-0.4
HLRZ	**Highlands Stat**	**1.63**	**337**	PN	Pn	23 54 12.5	0.0
KUTZ	**Kaahu Road**	**1.64**	**321**	↓P	Pn	23 54 11.9	-0.7
TMWZ	**Te Maipa**	**1.65**	**215**	PN	Pn	23 54 11.9	-0.8
WAZ	**Wanganui**	**1.67**	**270**	PN	Pn	23 54 13.7	+0.8
HOWZ	**Holdsworth Sta**	**1.68**	**227**	PN	Pn	23 54 12.2	-0.9
TWGZ	**Tauwhareparae**	**1.72**	**23**	PN	Pn	23 54 13.3	-0.4
OGWZ	**Otaki Gorge**	**1.84**	**235**	PN	Pn	23 54 14.4	-0.8
MTW	**Mount Morrison**	**1.87**	**221**	PN	Pn	23 54 14.4	-1.3
MTW				AML	AML	23 54 37.3	
MTW				AML	AML	23 54 38.4	
TLZ	**Tolley Road**	**1.90**	**318**	↓P	Pn	23 54 15.2	-1.0
OPRZ	**Ohinepanea**	**1.97**	**346**	PN	Pn	23 54 16.1	-1.0
TRWZ	**Traveller**	**1.97**	**214**	PN	Pn	23 54 15.5	-1.5
TRWZ				AML	AML	23 54 40.4	
TRWZ				AML	AML	23 54 40.7	
KIW	**Kapiti Island**	**2.03**	**237**	PN	Pn	23 54 17.1	-0.8
KIW				AML	AML	23 54 41.4	
KIW				AML	AML	23 54 41.6	
HAZ	**Te Kaha**	**2.07**	**14**	PN	Pn	23 54 17.6	-0.8
CAW	**Cannon Point**	**2.08**	**229**	PN	Pn	23 54 17.3	-1.2
CAW				AML	AML	23 54 42.0	
CAW				AML	AML	23 54 42.1	
PAWZ	**Paruwai Farm**	**2.08**	**218**	PN	Pn	23 54 17.2	-1.3
PAWZ				AML	AML	23 54 42.4	
PAWZ				AML	AML	23 54 43.8	
HIZ	**Hauiti**	**2.18**	**304**	PN	Pn	23 54 19.2	-0.6
WMGZ	**Waiomatatini S**	**2.18**	**27**	PN	Pn	23 54 19.2	-0.7
MSWZ	**Moikau Station**	**2.19**	**221**	PN	Pn	23 54 18.2	-1.8
MSWZ				AML	AML	23 54 44.4	
MSWZ				AML	AML	23 54 45.4	
PLWZ	**Palliser**	**2.31**	**218**	PN	Pn	23 54 19.7	-2.0
MXZ	**Matakaoa Point**	**2.38**	**23**	↓P	Pn	23 54 22.1	-0.5
NEZ	**North Egmont**	**2.41**	**281**	PN	Pn	23 54 24.8	+1.7
KHEZ	**Kahui Hut**	**2.47**	**280**	PN	Pn	23 54 25.4	+1.5
TCW	**Tory Channel**	**2.62**	**236**	PN	Pn	23 54 24.5	-1.4
TCW				AML	AML	23 54 57.1	
TCW				AML	AML	23 54 57.9	
TUWZ	**Tuamarina**	**2.95**	**235**	AML	AML	23 55 02.5	
TUWZ				AML	AML	23 55 04.1	
BSWZ	**Blackbirch Sta**	**3.16**	**231**	PN	Pn	23 54 31.6	-1.6
QRZ	**Quartz Range**	**3.69**	**252**	PN	Pn	23 54 38.4	-2.0
THZ	**Tophouse**	**3.79**	**237**	PN	Pn	23 54 39.9	-2.0
MQZ	**McQueen's Vall**	**5.18**	**219**	PN	Pn	23 54 57.6	-3.2
CTZ	**Chatham Island**	**6.12**	**132**	PN	Pn	23 55 14.8	+1.1
LBZ	**Lake Benmore**	**6.94**	**226**	PN	Pn	23 55 23.1	-1.9

IDC 19 00:12:05.1±3.7, 3.45N×128.67E, h148km±47km, mb3.2/5, mb1 3.3/6, mb1mx3.2/23, mbtmp3.7/6, Error ellipse: s-maj=140.7km s-min=19.6km az=69.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.01**	**149**	P	Pn	00 13 19.3	+0.5
	baz=314,slow=19						
SIJI				S	Sn	00 14 16.4	+0.2
	6.6nm,0.3s,baz=168,slow=21,SNR=10						
WRA	**Warramunga Arr**	**23.90**	**167**	P	P	00 17 05.7	+0.3
	0.8nm,0.6s,baz=344,slow=10.0,SNR=6.8						
STKA	**Stephens Creek**	**37.22**	**162**	P	P	00 19 01.8	-0.5
	1.2nm,0.8s,baz=337,slow=14,SNR=3.1						
SONM	**Songino Array**	**48.20**	**340**	P	P	00 20 29.3	-1.5
	0.3nm,0.8s,baz=152,slow=6.5,SNR=2.5						
MKAR	**Makanchi Array**	**58.90**	**324**	P	P	00 21 48.9	+0.3
	1.0nm,0.5s,baz=122,slow=5.7,SNR=23						
KURBB	**Kurchatov Arra**	**63.03**	**327**	P	P	00 22 16.5	+0.2
	0.8nm,0.7s,baz=128,slow=6.5,SNR=12						

IDC ***19*** *00:13:15.1±0.4, 6.55S×105.10E, h0km, mb4.5/37, mb1 4.6/41, mb1mx4.5/43, mbtmp4.5/41, ML4.3/4, MS4.7/27, Ms1 4.7/27, ms1mx4.5/45, Error ellipse: s-maj=11.7km s-min=8.9km az=33.0*
ISCJB ***19*** *00:13:16.8±0.2, 6.89S±0.03×105.01E±0.02, h23km, mb4.8/90, MS4.8/48, Error ellipse: s-maj=3.9km s-min=2.1km az=22.4*
DJA ***19*** *00:13:18.7±0.4, 7.5±2.2×10.5E±, h11km±3km, M5.2/47, mB5.6/40, mb5.2/47, MLv5.6/31, Mw(mB)5.2/40, Mwp5.5/1*
MOS ***19*** *00:13:19.0±1.4, 6.53S×105.20E, h33km, mb5.3/37, MS5.0/12, Error ellipse: s-maj=11.4km s-min=6.3km az=120.0*
KLM ***19*** *00:13:20.6, 6.97S×104.97E, h76km, mb5.2, MS6.1*
BJI ***19*** *00:13:20.7, 6.60S×105.20E, h34km, mb4.9/45, mB4.9/40, Ms5.4/54, Ms7 5.0/50*
GCMT ***19*** *00:13:21.1±0.1, 6.86S×105.21E, h19km, MW5.4/108, Moment Tensor Solution. s77,c122; s108,c205; Duration: 1$2 Moment tensor: Scale 10^{17}Nm; M_{rr}~0.09±.02; $M_{\theta\theta}$-1.54±.02; $M_{\phi\phi}$1.63±.03; $M_{r\theta}$0.53±.05; $M_{\theta\phi}$0.13±.02; $M_{\phi r}$-0.06±.04; Best double couple: M_{o}1.67800×10^{17} NP1:ϕ_s319.00000°, δ78.00000°, λ-166.00000°. NP2:ϕ_s226.00000°, δ76.00000°, λ-12.00000°. Principal axes: T 1.6360, Plg1.0000°, Azm92.0000°; N 0.0880, Plg72.0000°, Azm358.0000°; P -1.7190, Plg18.0000°, Azm183.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***19*** *00:13:21.1±0.8, 6.64S×105.16E, h39km±6km, mb5.0/36 Error ellipse: s-maj=9.1km s-min=5.0km az=221.0*
NEIC Felt [III] at Tangerang and [II] at Jakarta, Java. Also felt at Bogor and Depok.
ISC 19 00:13:19.4±0.2, 6.84S±0.03×105.06E±0.03, h23km, h23km:pP-P, n416, σ1$72/383, mb5.0/92, MS5.0/54, 19C-21D, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGJI	**Cibinong**	**0.66**	**71**	P	Pb	00 13 29.9	-2.4
CGJI				S	**Sb**	**00 13 38.8**	**-2.3**
SBJI	**Serang**	**1.28**	**56**	P	**Pn**	**00 13 40.5**	**-1.3**
SBJI				S	**Sb**	**00 13 59.0**	**+0.3**
KASI	**Kota Agung**	**1.42**	**337**	P	**Pn**	**00 13 42.4**	**-1.4**
KASI				S	**Sb**	**00 14 03.6**	**+0.7**
BLSI	**Bandar Lampung**	**1.47**	**7**	P	**Pn**	**00 13 43.3**	**-1.2**
BLSI				S	**Sb**	**00 14 06.4**	**+2.1**
SKJI	**Sukabumi**	**1.49**	**97**	P	Pn	00 13 42.4	-2.4
SKJI				S	**Sn**	**00 14 05.2**	**+1.6**
TNG	**Tangerang**	**1.71**	**67**	P	**Pn**	**00 13 47.6**	**-0.1**
TNG				S	**Sb**	**00 14 11.4**	**+0.3**
CBJI	**Citeko**	**1.82**	**77**	P	**Pn**	**00 13 49.4**	**+0.1**
CBJI				S	**Sb**	**00 14 14.8**	**+0.3**
KLI	**Kotabumi**	**1.97**	**354**	P	**Pn**	**00 13 51.2**	**-0.2**
LWLI	**Liwa**	**2.06**	**331**	P	**Pn**	**00 13 53.2**	**+0.4**
LWLI				S	**Sb**	**00 14 21.5**	**-0.1**
CNJI	**Cibinong**	**2.10**	**103**	P	Pn	00 13 50.8	-2.4
CNJI				S	**Sn**	**00 14 16.9**	**-1.8**
KLSI		**2.16**	**351**	P	**Pn**	**00 13 54.3**	**+0.3**
KLSI				S	**Sb**	**00 14 24.0**	**-0.1**
MDSI	**Maura Dua**	**2.49**	**339**	P	**Pn**	**00 13 58.6**	**0.0**
MDSI				S	**Sb**	**00 14 33.5**	**-0.3**
LEM	**Lembang**	**2.54**	**90**	P	**Pn**	**00 13 59.6**	**+0.3**
LEM				S	**Sb**	**00 14 34.1**	**-1.1**
LEM	**Lembang**	**2.54**	**90**	Pn	**Pn**	**00 13 58.6**	**-0.8**
	64nm,0.3s,baz=198,slow=4.7,SNR=50						
LEM				Sn	**Sn**	**00 14 30.8**	**+1.2**
	434nm,0.3s,baz=96,slow=11,SNR=5.3						
LEM				LR	LR	00 14 59.0	
	comp=Z,21µm,20.7s,baz=92,slow=41						
CISI	**Cisompet, Garu**	**2.82**	**105**	P	**Pn**	**00 14 01.5**	**-1.7**
CISI				S	**Sn**	**00 14 35.5**	**-1.1**
CISI	**Cisompet, Garu**	**2.82**	**105**	*e*Pn	**Pn**	**00 14 02.6**	**-0.5**
CISI				*e*Sn	**Sn**	**00 14 34.3**	**-2.3**
MNAI	**Manna**	**3.23**	**319**	P	**Pn**	**00 14 09.3**	**+0.5**
MNAI	**Manna**	**3.23**	**319**	*e*Pn	**Pn**	**00 14 08.7**	**-0.1**
MNAI				*e*Sn	**Sn**	**00 14 44.7**	**-1.9**
LHSI	**Lahat**	**3.36**	**333**	P	**Pn**	**00 14 12.6**	**+2.1**
CMJI	**Cimerak**	**3.49**	**106**	P	**Pn**	**00 14 11.1**	**-1.2**
CMJI				S	**Sn**	**00 14 54.2**	**+1.3**
XMIS	**Christmas Isla**	**3.67**	**171**	*e*Pn	Pn	00 14 11.0	-3.8
XMIS				*e*Sn	Sn	00 14 49.2	-8.1
PMBI	**Palembang**	**3.89**	**356**	P	**Pn**	**00 14 19.9**	**+2.0**
PMBI	**Palembang**	**3.89**	**356**	*e*Pn	**Pn**	**00 14 18.7**	**+0.9**
PMBI				*e*Sn	**Sn**	**00 15 06.3**	**+3.4**
MASI	**Maura Aman, Be**	**4.62**	**322**	P	**Pn**	**00 14 29.5**	**+1.6**
PPBI	**Pangkal Pinang**	**4.76**	**13**	P	**Pn**	**00 14 30.1**	**+0.3**
JMBI	**JAMBI**	**5.36**	**345**	P	**Pn**	**00 14 40.2**	**+2.2**
	1µm,0.9s,17µm6.0nm						
UGM	**Wanagama**	**5.52**	**102**	P	**Pn**	**00 14 40.0**	**-0.3**
	774nm,0.9s,11µm5.2nm						
UGM				S	**Sn**	**00 15 46.0**	**+2.9**
	774nm,0.9s,11µm5.2nm						
UGM	**Wanagama**	**5.52**	**102**	*e*Pn	**Pn**	**00 14 40.4**	**+0.1**
UGM				*e*Sn	**Sn**	**00 15 39.6**	**-3.5**
UWJI	**Ujung Watu**	**5.86**	**86**	P	**Pn**	**00 14 48.1**	**+3.2**
	790nm,1.3s,10µm6.4nm						
UWJI				S	**Sn**	**00 15 54.1**	**+2.7**
	790nm,1.3s,10µm6.4nm						
PCJI	**Pacitan**	**6.21**	**103**	P	**Pn**	**00 14 49.6**	**-0.1**
DSRI	**Dabo**	**6.33**	**356**	P	**Pn**	**00 14 53.5**	**+2.1**
	34nm,0.6s,3.5nm						
TBJI	**Tambak Boyo**	**6.74**	**90**	P	**Pn**	**00 14 59.1**	**+2.1**
	219nm,1.1s,7µm3.7nm						
PWJI	**Pagerwojo**	**6.79**	**100**	P	**Pn**	**00 14 59.2**	**+1.5**
	458nm,1.0s,6µm2.9nm						
PWJI				S	**Sn**	**00 16 16.6**	**+2.3**
	458nm,1.0s,6µm2.9nm						
SDSI	**Sungai Dareh**	**6.89**	**328**	P	Pn	00 15 05.0	+5.9
TPRI	**Tanjung Pinang**	**7.72**	**356**	P	Pn	00 15 14.9	+4.4
	142nm,1.4s,1.5nm						
PPI	**Padang Panjang**	**7.86**	**324**	P	**Pn**	**00 15 13.2**	**+0.8**
	85nm,0.9s,1µm0.6nm						
BKNI	**Bangkinang**	**8.17**	**330**	P	**Pn**	**00 15 19.2**	**+2.6**
	158nm,0.8s,9µm10µm						
BKNI	**Bangkinang**	**8.17**	**330**	*e*Pn	**Pn**	**00 15 16.2**	**-0.4**
GMJI	**Gumukmas**	**8.43**	**100**	P	**Pn**	**00 15 21.8**	**+1.6**
	314nm,1.1s,3µm						
GMJI				S	**Sn**	**00 16 56.7**	**+1.9**
	314nm,1.1s,3µm						
BLJI	**Banyuglugur**	**8.51**	**97**	P	Pn	00 15 26.5	+5.2
MYKOM	**Kota Tinggi**	**8.65**	**352**	↓P	Pn	00 15 29.5	+6.2
MYKOM	**Kota Tinggi**	**8.65**	**352**	*e*Pn	**Pn**	**00 15 25.1**	**+1.8**
KGM	**Kluang**	**8.96**	**349**	↓P	**Pn**	**00 15 29.5**	**+1.9**
ABJI	**Asem Bagus**	**9.15**	**97**	P	Pn	00 15 33.4	+3.3
	1µm,0.8s,12µm						
KSM	**Kuching**	**9.77**	**33**	↓P	Pn	00 15 43.3	+4.6
SRBI	**Singaraja**	**10.14**	**98**	P	**Pn**	**00 15 44.7**	**+1.0**
	275nm,1.0s,4µm						
IGBI	**Denpasar**	**10.18**	**102**	P	**Pn**	**00 15 43.2**	**-1.0**
	299nm,1.2s,4µm						
GSI	**Gunungsitoli**	**11.01**	**317**	P	Pn	00 15 52.0	-3.6
PSI	**Prapat**	**11.37**	**327**	Pn	Pn	00 15 55.3	-5.3
	0.6nm,0.3s,baz=144,slow=17,SNR=2.3						
PSI	**Prapat**	**11.37**	**327**	*e*P	**Pn**	**00 15 59.7**	**-0.9**
PSI	**Prapat**	**11.37**	**327**	*e*Pn	**Pn**	**00 15 59.7**	**-0.9**
SBUM	**Sibu**	**11.67**	**38**	↑P	Pn	00 16 08.1	+3.5
BKB	**Balikpapan**	**13.03**	**65**	P	**Pn**	**00 16 24.3**	**+1.0**
	90nm,1.4s,2µm						
LHMI	**Lhok Sumawe**	**14.46**	**326**	*e*Pn	Pn	00 16 40.2	-2.7
KAPI	**Kappang**	**14.72**	**84**	Pn	**Pn**	**00 16 47.9**	**+1.5**
	128nm,1.2s,SNR=9.5						
KAPI	**Kappang**	**14.72**	**84**	Pn	**Pn**	**00 16 45.4**	**-0.9**
	0.7nm,0.3s,baz=268,slow=12,SNR=10						
KAPI				LR	LR	00 22 57.5	
	comp=Z,5µm,19.8s,baz=266,slow=40						
KAPI	**Kappang**	**14.72**	**84**	*e*Pn	**Pn**	**00 16 47.6**	**+1.2**
SPSI	**Sidrap Palu**	**14.91**	**80**	P	**Pn**	**00 16 47.6**	**-1.4**
	50nm,1.3s,1µm						
BKSI	**Bulukumba**	**15.05**	**85**	P	**Pn**	**00 16 48.2**	**-2.6**
	115nm,1.1s,1µm						
TTSI	**Tana Toraja**	**15.17**	**76**	P	**Pn**	**00 16 53.3**	**+0.9**
	76nm,1.6s,2µm						
BSSI	**Bau Bau, Buton**	**15.34**	**88**	P	**Pn**	**00 16 53.6**	**-1.1**
	201nm,1.7s,3µm						
PCI	**Palu**	**15.87**	**69**	P	**Pn**	**00 17 02.4**	**+0.9**
	143nm,1.3s,3µm						
MPSI	**Mapaga**	**16.43**	**65**	P	**Pn**	**00 17 09.8**	**+1.2**
	59nm,1.1s,1µm						
EDFI	**Ende, Flores**	**16.58**	**98**	P	**Pn**	**00 17 10.3**	**-0.4**
	89nm,0.9s,2µm						
MMRI	**Maumere**	**17.11**	**97**	P	**Pn**	**00 17 15.9**	**-1.4**
	256nm,1.0s,4µm						
MMRI	**Maumere**	**17.11**	**97**	*e*Pn	**Pn**	**00 17 14.8**	**-2.5**
	185nm,0.9s						
SDKM	**Sandakan**	**17.33**	**45**	↑P	**P**	**00 17 21.5**	**+0.3**
APSI	**Ampana**	**17.56**	**71**	P	**Pn**	**00 17 24.1**	**+1.3**
	141nm,1.2s,3µm						
MRSI	**Marisa**	**18.34**	**67**	P	**P**	**00 17 30.4**	**-2.0**
	91nm,0.8s,2µm						
LUWI	**Luwuk**	**18.57**	**73**	P	**P**	**00 17 33.2**	**-1.8**
	137nm,1.1s,3µm						
LUWI	**Luwuk**	**18.57**	**73**	*e*P	**P**	**00 17 33.4**	**-1.6**

KMI LE
comp=Z,5μm,14.2s
KMI LZ
comp=Z,5μm,15.8s
H08S2 Diego Garcia H 32.32 267 T T 00 53 56.6
baz=90,slow=76,SNR=2967
H08S3 Diego Garcia H 32.33 267 T T 00 53 55.2
baz=90,slow=76,SNR=3106
H08S1 Diego Garcia H 32.34 267 T T 00 53 54.6
baz=90,slow=76,SNR=2854
AS01 Alice Springs 32.40 124 *e*P **P** **00 19 47.5 -0.3**
SKHT Srikalahasti 32.43 309 *e*P **P** **00 19 48.2 +0.2**
SKHT *e*S **S** **00 25 06.5 +5.0**
SKHT IAMs_20 IAMs_20 00 31 36.8
comp=Z,4μm,21.9s
CHLP Challavanipeta 32.61 321 *e*P **P** **00 19 49.9 +0.3**
CHLP *e*S S 00 24 55.9 -8.4
CHLP IAMs_20 IAMs_20 00 31 14.0
comp=Z,3μm,22.8s
GYA Guiyang 33.13 3 P **P** **00 19 55.8 +1.6**
GYA pP **pP** **00 20 03.8 +2.7**
GYA PP **PnPn** **00 21 07.3 +3.0**
GYA PcP **PcP** **00 22 38.0 +0.9**
GYA ScP **ScP** **00 26 19.0 -1.2**
GYA SS **SnSn** **00 27 12.3 -0.2**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,130nm,4.9s
GYA LN
comp=Z,640nm,17.8s
GYA LE
comp=Z,560nm,18.2s
GYA LZ
comp=Z,610nm,17.0s
H08N1 Diego Garcia H 33.82 269 T T 00 56 18.0
baz=136,slow=74,SNR=191
H08N2 Diego Garcia H 33.84 269 T T 00 56 13.0
baz=136,slow=74,SNR=206
H08N3 Diego Garcia H 33.85 269 T T 00 56 10.9
baz=136,slow=74,SNR=303
QZH Quanzhou 34.22 22⇑ *i*P P 00 20 10.0 +6.5
QZH S S 00 25 37.8 +8.7
QZH LR LR
comp=N,3μm,11.6s
QZH LR LR
comp=E,1μm,11.6s
QZH LR LR
comp=Z,3μm,18.2s
NJS Nagarjunasagar 34.49 313 *e*P **P** **00 20 05.4 -0.5**
NJS IAmb IAmb 00 20 10.8
comp=Z,576nm,3.3s
NJS *e*S **S** **00 25 33.0 -0.4**
NJS IAMs_20 IAMs_20 00 31 43.3
comp=Z,3μm,23.4s
URV Uravakonda 35.05 308 *e*P **P** **00 20 10.6 -0.2**
URV *e*S **S** **00 25 42.9 +0.8**
URV IAMs_20 IAMs_20 00 32 53.8
comp=Z,3μm,22.3s
HYB Hyderabad 35.59 313 *i* P **P** **00 20 14.0 -1.5**
HYB *e* 00 26 00.0
HYBB Hyderabad (bro 35.59 313 *e*P **P** **00 20 14.7 -0.9**
HYBB IAmb IAmb 00 20 20.0
comp=Z,32nm,1.1s
HYBB *e*S **S** **00 25 53.6 +3.1**
HYBB IAMs_20 IAMs_20 00 32 30.4
comp=Z,2μm,20.3s
RPR Rampur 36.02 316 *e*P **P** **00 20 18.1 -1.0**
RPR IAmb IAmb 00 20 18.9
comp=Z,22nm,0.7s
RPR *e*S S 00 25 51.4 -5.5
RPR IAMs_20 IAMs_20 00 32 46.3
comp=Z,4μm,28.7s
CD2 Chengdu 37.55 358 *e*P **P** **00 20 31.1 -1.0**
CD2 sP **sP** **00 20 44.8 +2.9**
CD2 S S 00 26 14.3 -5.8
CD2 sS **ScP** **00 26 36.8 +0.7**
CD2 ScS ScS 00 30 36.5 -8.0
CD2 PMZ
comp=Z,10.0nm,0.7s
CD2 PMZ
comp=Z,130nm,7.1s
CD2 LN
comp=Z,4μm,16.6s
CD2 LE
comp=Z,6μm,16.7s
CD2 LZ
comp=Z,4μm,13.1s
ODAN Odare 37.62 334 *e*P P 00 20 30.8 -2.1
comp=Z,36nm,0.4s
TAPN Taplejung 37.91 334 *e*P **P** **00 20 33.4 -2.0**
comp=Z,84nm,0.9s
RAMN Ramite 38.05 333 *e*P **P** **00 20 35.6 -1.0**
comp=Z,26nm,0.5s
COEN Coen 38.11 104 *e*P P 00 20 34.9 -2.1
comp=Z,24nm,0.8s
WHN Wuhan 38.22 13⇑ P **P** **00 20 40.3 +2.7**
WHN S **S** **00 26 34.1 +4.0**
WHN LN
comp=Z,3μm,12.2s
WHN LE
comp=Z,4μm,12.3s
WHN LZ
comp=Z,4μm,14.8s
LSA Lhasa 38.71 340 *e*P P 00 20 37.9 -4.5
LSA pmax pmax
comp=Z,17nm,0.6s
LSA Lhasa 38.71 340 *e*P P 00 20 37.9 -4.5
comp=Z,17nm,0.6s
JIRN Jiri 38.85 333 *e*P P 00 20 41.1 -2.3
comp=Z,97nm,0.8s
PKI Pulchoki 39.13 332 *e*P P 00 20 43.6 -2.2
comp=Z,23nm,0.6s
PKIN Phulchoki 39.14 332 *e*P **P** **00 20 44.0 -1.8**
comp=Z,18nm,0.5s
GUN Gumba 39.20 333 *e*P P 00 20 43.7 -2.7
comp=Z,82nm,0.7s
DMN Daman 39.31 331 *e*P **P** **00 20 45.3 -1.8**
comp=Z,12nm,0.3s
KKN Kakani 39.38 332 *e*P **P** **00 20 45.9 -1.8**
comp=Z,44nm,0.7s
POO Poona 39.79 310 *e*P P 00 20 58.0 +7.0
GKN Gorkha 39.86 331 *e*P P 00 20 49.3 -2.3
comp=Z,46nm,0.3s
KOLN Koldanda 40.17 330 *e*P **P** **00 20 52.6 -1.7**
comp=Z,92nm,0.6s
JOW Kunigami 40.33 33 LR LR 00 37 19.1
comp=Z,67nm,21.8s,baz=166,slow=36
SSE Sheshan 40.75 21 P **P** **00 20 57.1 -1.6**
SSE S **S** **00 27 06.8 -1.3**
SSE PMZ
comp=Z,15nm,0.7s
SSE PMZ
comp=Z,59nm,4.1s
SSE LN
comp=Z,1μm,13.6s
SSE LE
comp=Z,1μm,13.6s
SSE LZ
comp=Z,1μm,13.4s
XAN Xi'an 40.81 5 P **P** **00 21 00.4 +1.1**
XAN pP **pP** **00 21 08.3 +2.0**
XAN sP **sP** **00 21 12.3 +3.1**
XAN S S 00 27 03.3 -5.9
XAN PMZ
comp=Z,2.0nm,0.8s
XAN PMZ
comp=Z,35nm,10.3s
XAN LN
comp=Z,620nm,25.7s
XAN LE
comp=Z,2μm,23.6s
XAN LZ
comp=Z,970nm,18.5s
NJ2 Nanjing 40.85 18 *e*P **P** **00 20 57.8 -1.7**
NJ2 pP **pP** **00 21 06.6 0.0**
NJ2 sP **sP** **00 21 11.4 +2.0**
NJ2 S **S** **00 27 05.5 -4.0**
NJ2 sS **sS** **00 27 22.0 +0.9**
NJ2 PMZ
comp=Z,20nm,0.6s
NJ2 PMZ
comp=Z,90nm,5.7s
NJ2 LN
comp=Z,3μm,13.0s
NJ2 LE
comp=Z,3μm,14.0s
NJ2 LZ
comp=Z,3μm,12.8s
PMG Port Moresby 41.73 96⇑ *i*P **P** **00 21 05.7 -1.4**
PMG pmax pmax
comp=Z,102nm,0.9s
PMG Port Moresby 41.73 96 *e*P **P** **00 21 05.9 -1.2**
comp=Z,173nm,1.0s
CTA Charters Tower 42.04 112 LR LR 00 39 18.5
comp=Z,2μm,21.8s,baz=284,slow=37
CTAO Charters Tower 42.04 112 *e*P P 00 21 13.2 +3.6
CTAO pmax pmax
comp=Z,57nm,1.3s
CTAO Charters Tower 42.04 112 *e*P P 00 21 13.2 +3.6
comp=Z,57nm,1.3s
STKA Stephens Creek 42.19 131 P **P** **00 21 11.0 +0.3**
comp=Z,20nm,0.5s,baz=304,slow=7.3,SNR=74
STKA LR LR 00 38 27.3
comp=Z,2μm,21.9s,baz=298,slow=36
STKA Stephens Creek 42.19 131 *e*P **P** **00 21 10.5 -0.1**
STKA pmax pmax
comp=Z,15nm,0.7s
STKA Stephens Creek 42.19 131 *e*P **P** **00 21 10.5 -0.1**
comp=Z,15nm,0.7s
LZH Lanzhou 42.71 359 *e*P **P** **00 21 14.8 -0.1**
LZH pP **pP** **00 21 24.5 +2.5**
LZH sP **sP** **00 21 28.1 +3.3**
LZH PP PP 00 23 00.1 +5.8
LZH *e*S S 00 27 25.0 -12
LZH sS **sS** **00 27 52.0 +3.0**
LZH PMZ
comp=Z,29nm,1.0s
LZH PMZ
comp=Z,130nm,5.0s
LZH LN
comp=Z,2μm,13.6s
LZH LE
comp=Z,3μm,14.4s
LZH LZ
comp=Z,4μm,15.6s
LGTI Lohaghat 43.26 328 *ex* **P** **00 21 19.9 +0.6**
GTA Gaotai 46.27 354 P **P** **00 21 43.0 -0.3**
GTA pP **pP** **00 21 54.8 +4.4**
GTA sP sP 00 21 58.5 +5.3
GTA S **S** **00 28 30.5 +1.5**
GTA sS sS 00 28 47.1 +6.4
GTA PMZ
comp=Z,4.0nm,1.0s
GTA PMZ
comp=Z,77nm,6.8s
GTA LN
comp=Z,2μm,17.6s
GTA LE
comp=Z,4μm,18.2s
GTA LZ
comp=Z,2μm,17.6s
SDNR Sundarnagar 46.62 326 *ex* P 00 21 44.0 -2.1
EIDS Eidsvold 47.61 118 *e*P **P** **00 21 53.5 -0.4**
comp=Z,284nm,2.9s
BJI Beijing 47.76 12 P **P** **00 21 54.6 -0.1**
BJI S **S** **00 28 48.9 -1.0**
BJI sS sS 00 29 08.5 +6.9
BJI PMZ
comp=Z,8.0nm,1.0s
BJI LN
comp=Z,2μm,16.2s
HHC Hu-ho-hao-te 47.82 7 *e*P **P** **00 21 56.1 +0.7**
HHC sP **sP** **00 22 10.4 +5.1**
HHC PP **PP** **00 23 43.5 -4.0**
HHC S **S** **00 28 46.6 -4.5**
HHC sS sS 00 29 10.0 +7.2
HHC SS SS 00 32 10.0 -10
HHC PMZ
comp=Z,23nm,1.0s
HHC PMZ
comp=Z,87nm,7.0s
HHC LN
comp=Z,2μm,14.7s
HHC LE
comp=Z,2μm,14.3s
HHC LZ
comp=Z,2μm,15.3s
DL2 Dalian 48.04 17 *e*P P 00 21 47.3 -10
DL2 *e*S S 00 28 33.9 -20
DL2 pmax pmax
comp=Z,79nm,2.8s
DL2 LR LR
comp=E,760nm,16.7s
DL2 LR LR
comp=Z,750nm,14.7s
KS15 Wonju Array Si 48.94 24 *e*P P 00 22 01.3 -2.6
KSRS Korea Array 48.96 24 P P 00 22 01.3 -2.8
comp=Z,0.5nm,0.3s,baz=214,slow=9.0,SNR=3.1
KS01 Wonju Array Si 48.97 24 *e*P **P** **00 22 06.9 +2.8**
WMQ Urumqi 52.81 344 P **P** **00 22 31.8 -1.3**
WMQ pP **pP** **00 22 41.8 +1.5**
WMQ sP **sP** **00 22 45.8 +2.7**
WMQ PcP **PcP** **00 23 41.3 -1.0**
WMQ PP **PP** **00 24 32.3 -0.5**
WMQ PcS **PcS** **00 27 38.5 -2.4**
WMQ S **S** **00 29 55.8 -4.6**
WMQ ScS **ScS** **00 32 15.6 -6.0**
WMQ SS SS 00 33 30.4 -9.2
WMQ PMZ
comp=Z,9.0nm,0.5s
WMQ PMZ
comp=Z,130nm,5.4s
MAJO Matsushiro 53.17 33⇓ *e*P **P** **00 22 36.0 +0.2**
MAJO pmax pmax
comp=Z,38nm,1.3s
MAJO Matsushiro 53.17 33 *e*P P 00 22 32.6 -3.2
MAJO *e*PcP **PcP** **00 23 44.9 +1.2**
MJAR Matsushiro Arr 53.17 33 P P 00 22 32.6 -3.2
comp=Z,1.1nm,0.4s,baz=263,slow=6.8,SNR=4.1
MJAR PcP **PcP** **00 23 44.9 +1.2**
comp=Z,2.5nm,0.8s,baz=214,slow=5.4,SNR=3.1
KSH Kashi 53.40 332 P P 00 22 34.3 -3.2
KSH sP sP 00 22 48.3 +0.8
KSH PP **PP** **00 24 34.6 -3.6**
KSH PcS **PcS** **00 27 41.4 -2.3**
KSH S S 00 29 57.8 -11
KSH ScS ScS 00 32 18.1 -7.9
KSH PMZ
comp=Z,14nm,0.9s
KSH PMZ
comp=Z,61nm,2.8s
KSH LN
comp=Z,540nm,11.6s
KSH LE
comp=Z,800nm,15.7s
KSH LZ
comp=Z,910nm,15.9s
KBL Kabul 53.40 323 *e*P **P** **00 22 38.0 +0.3**
KBL pmax pmax
comp=Z,10.0nm,0.8s
KBL Kabul 53.40 323 *e*P **P** **00 22 38.0 +0.3**
comp=Z,10nm,0.8s
CN2 Changchun 53.67 18 *e*P **P** **00 22 41.4 +2.1**
CN2 *e*S **S** **00 30 10.8 -1.1**
CN2 PMZ
comp=Z,10.0nm,0.6s
CN2 PMZ
comp=Z,200nm,4.0s
CN2 LN
comp=Z,800nm,18.0s
CN2 LE
comp=Z,1μm,18.0s
CN2 LZ
comp=Z,500nm,19.0s
SONA0 Songino Array 54.45 1 *e*P **P** **00 22 42.9 -2.2**
SONA0 *e*PcP **PcP** **00 23 47.5 -1.0**
SONM Songino Array 54.45 1 P **P** **00 22 42.9 -2.2**
comp=Z,1.4nm,0.5s,baz=178,slow=8.6,SNR=14
SONM PcP **PcP** **00 23 47.5 -1.0**
comp=Z,3.6nm,0.9s,baz=182,slow=4.2,SNR=3.4
SONM LR LR 00 48 27.0
comp=Z,2μm,18.1s,baz=178,slow=39
SONA1 Songino Array 54.46 1 *e*P **P** **00 22 43.0 -2.1**
ULN Ulaanbaatar 54.49 2⇓ *i*P **P** **00 22 45.1 -0.3**
ULN pmax pmax
comp=Z,5.0nm,1.3s
ULN Ulaanbaatar 54.49 2 *e*P **P** **00 22 45.0 -0.3**
comp=Z,6.6nm,1.1s
MDJ Mudanjiang 55.78 21 P P 00 22 57.8 +3.3
MDJ pP pP 00 23 06.6 +4.8
MDJ sP sP 00 23 10.4 +5.8
MDJ S **S** **00 30 39.9 -0.3**
MDJ PMZ
comp=Z,12nm,0.9s
MDJ PMZ
comp=Z,130nm,5.8s
MDJ LN
comp=Z,830nm,16.7s
MDJ LE
comp=Z,920nm,17.7s
MDJ LZ
comp=Z,690nm,22.9s
TKM2 Tokmak 2 56.30 334 *e*P P 00 22 55.9 -2.7
TKM2 pmax pmax
comp=Z,12nm,0.5s
TKM2 Tokmak 2 56.30 334 *e*P P 00 22 55.9 -2.7
comp=Z,12nm,0.5s
USRK Ussuriysk Ar. 56.31 23 P P 00 22 55.6 -2.8
comp=Z,14nm,0.8s,baz=209,slow=9.6,SNR=17
AAK Ala-Archa 56.55 333 P P 00 22 57.3 -3.0
comp=Z,1.6nm,0.5s,baz=156,slow=4.1,SNR=6.2
AAK Ala-Archa 56.55 333 *e*P **P** **00 22 58.9 -1.4**
AAK pmax pmax
comp=Z,6.0nm,0.8s
AAK Ala-Archa 56.55 333 *e*P **P** **00 22 58.9 -1.4**
comp=Z,5.8nm,0.8s
FRU Bishkek 56.66 334 *e*P P 00 23 06.0 +5.1
FRU MLR MLR
comp=Z,1μm,22.0s
EKS2 Erkin-Say 56.90 333 *e*P **P** **00 23 01.4 -1.3**
EKS2 pmax pmax
comp=Z,12nm,0.8s
EKS2 Erkin-Say 56.90 333 *e*P **P** **00 23 01.4 -1.3**
comp=Z,12nm,0.8s
ZAK Zakamensk 57.00 359 *e*P P 00 23 00.8 -2.5
ZAK pmax pmax
comp=Z,2.0nm,1.1s
ZAK pmax pmax
comp=Z,3.0nm,1.3s
MK01 Makanchi Array 57.08 342 *e*P P 00 23 00.8 -3.0
MK31 Makanchi Array 57.10 342 P P 00 23 00.9 -3.1
MK31 pmax pmax
comp=Z,3.0nm,0.5s
MK32 Makanchi Array 57.10 342 *e*P P 00 23 01.0 -3.0
MKAR Makanchi Array 57.10 342 P P 00 23 01.0 -3.0
comp=Z,2.4nm,0.5s,baz=162,slow=8.4,SNR=30
MKAR LR LR 00 52 29.1
comp=Z,656nm,18.0s,baz=158,slow=41
MKAR Makanchi Array 57.10 342 *e*P P 00 23 01.3 -2.7
MKAR Makanchi Array 57.10 342 *e*P P 00 23 01.2 -2.7
OPO Ambohidratompo 57.43 252 P **P** **00 23 07.6 +0.6**
comp=Z,7.1nm,1.1s,baz=117,slow=4.5,SNR=2.9
IDAH Dahanechah 58.26 315 *e*P **P** **00 23 12.0 -0.7**
TLY Talaya 58.30 359 P **P** **00 23 10.8 -1.4**
comp=Z,1.6nm,0.5s,baz=220,slow=14,SNR=3.4
TLY Talaya 58.30 359 *e*P **P** **00 23 11.9 -0.4**
TLY *e*S S 00 31 02.0 -11
TLY *e*SS **SS** **00 35 04.4 -1.2**
TLY pmax pmax
comp=Z,6.0nm,1.3s
TLY MLR MLR
comp=Z,2μm,15.0s
KK31 Karatay Array 58.77 331 P P 00 23 12.2 -3.6
KK31 pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 58.77 331 *e*P P 00 23 13.6 -2.2
KKAR Karatay Array 58.77 331 *e*P P 00 23 13.6 -2.2
ITEG Tejag 59.13 315 *e*P **P** **00 23 17.7 -1.0**
KLR Kul'dur 60.51 20 *e*P **P** **00 23 26.7 -0.9**
DZM Mont Dzumac 60.96 111 LR LR 00 49 51.4
comp=Z,1μm,21.1s,baz=0.0,slow=36
ASAJ Asahikawa 60.98 30 LR LR 00 50 57.1
comp=Z,269nm,20.1s,baz=190,slow=37
KURBB Kurchatov Arra 61.66 341 P P 00 23 31.9 -3.4
comp=Z,3.3nm,0.9s,baz=160,slow=6.2,SNR=16
KURK Kurchatov 61.71 341 P **P** **00 23 33.8 -1.9**
comp=Z,26nm,0.7s,SNR=7.2
KURK Kurchatov 61.71 341 *e*P P 00 23 32.2 -3.5
KURK Kurchatov 61.71 341 *e*P P 00 23 32.2 -3.5
YUK Yuzh-Kuril'sk 62.59 32 P P 00 23 38.2 -3.6
YUK *i* 00 24 12.7
YUK *i* 00 25 52.3
YUK *e*S S 00 31 58.0 -10
YUK *i* SS **SS** **00 36 10.2 -3.1**
ZAA0 Zalesovo Array 62.91 347 *e*P P 00 23 40.4 -3.3
ZALV Zalesovo Beam 62.91 347 P P 00 23 39.8 -3.9
comp=Z,4.3nm,0.5s,baz=168,slow=5.3,SNR=13
ZALV LR LR 00 53 23.6
comp=Z,2μm,18.6s,baz=239,slow=38
ZAA1 Zalesovo Array 62.92 347 *e*P P 00 23 39.8 -3.9
YSS Yuzh-Sakhalins 63.12 28 *e*P **P** **00 23 48.1 +2.9**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS MLR MLR
comp=Z,500nm,18.0s
YSS MLR MLR
comp=E,500nm,19.0s
NVS Novosibirsk 64.10 346 *e*P sP 00 24 08.8 +7.2
NVS pmax pmax
comp=Z,4.0nm,0.7s
NVS pmax pmax
comp=N,2.0nm,0.5s
NVS pmax pmax
comp=E,6.0nm,0.8s
BOD Bodaibo 64.84 5 *e*P P 00 23 52.9 -3.4
BOD pmax pmax
comp=Z,5.0nm,1.6s
RAYN Ar Rayn 65.49 300 P **P** **00 24 00.3 -1.0**
comp=Z,51nm,1.0s,SNR=6.1
RAYN Ar Rayn 65.49 300 *e*P **P** **00 24 00.8 -0.6**
comp=Z,5.6nm,0.9s
BVA0 Borovoye Array 66.48 338 *i* P P 00 24 04.6 -2.4
BVA0 pmax pmax
comp=Z,7.0nm,0.7s
BVAR Borovoye Array 66.48 338 P **P** **00 24 05.2 -1.9**
comp=Z,6.9nm,0.5s,baz=148,slow=8.8,SNR=23
BVAR LR LR 00 55 06.9
comp=Z,1μm,21.5s,baz=139,slow=38
BRVK Borovoye 66.55 338 P **P** **00 24 05.7 -1.7**
comp=Z,105nm,0.5s,SNR=5.4
BRVK Borovoye 66.55 338 *e*P **P** **00 24 05.8 -1.7**
BRVK pmax pmax
comp=Z,9.0nm,0.6s
BRVK Borovoye 66.55 338 *e*P **P** **00 24 05.8 -1.7**
comp=Z,9.2nm,0.6s
IGZV Ghazvin 66.95 314 *e*P **P** **00 24 09.8 -0.9**
MAW Mawson 66.98 196 P **P** **00 24 10.5 +0.5**
comp=Z,3.7nm,0.7s,baz=44,slow=6.0,SNR=6.4
MAW LR LR 00 49 13.1
comp=Z,464nm,21.8s,baz=46,slow=32
MAW Mawson 66.98 196 *e*P **P** **00 24 10.5 +0.5**
MAW pmax pmax
comp=Z,3.0nm,0.9s
MAW Mawson 66.98 196 *e*P **P** **00 24 10.5 +0.5**
comp=Z,3.9nm,0.9s
KMBO Kilima Mbogo 67.84 272 P **P** **00 24 16.2 -0.5**
comp=Z,2.2nm,0.5s,baz=51,slow=9.2,SNR=4.9
KMBO LR LR 00 48 36.5
comp=Z,717nm,21.5s,baz=84,slow=31
KMBO Kilima Mbogo 67.84 272 *e*P **P** **00 24 17.7 +1.0**
KMBO pmax pmax
comp=Z,13nm,1.1s
KMBO Kilima Mbogo 67.84 272 *e*P **P** **00 24 17.7 +1.0**
comp=Z,13nm,1.1s
RPZ Rata Peaks 68.01 134 LR LR 00 52 29.8
comp=Z,1μm,20.1s,baz=274,slow=34
AB31 Akbulak array 68.30 330 *i* P P 00 24 16.0 -2.6
AB31 pmax pmax
comp=Z,25nm,0.5s
ABKAR Akbulak array 68.30 330 *e*P P 00 24 16.0 -2.6
AKTO Aktyubinsk 70.01 330 P P 00 24 26.2 -3.0
comp=Z,5.7nm,0.7s,baz=147,slow=9.0,SNR=17
AKTO Aktyubinsk 70.01 330 P P 00 24 27.1 -2.1
AKTO pmax pmax
comp=Z,16nm,1.0s
YAK Yakutsk 71.26 12 P P 00 24 34.1 -2.4
comp=Z,7.5nm,0.4s,baz=74,slow=4.1,SNR=4.7
YAK Yakutsk 71.26 12 *e*P P 00 24 27.7 -8.8
YAK *e**PP pP 00 24 39.3 -4.6
YAK *e* 00 24 55.8
YAK *e* 00 34 25.6
YAK pmax pmax
comp=Z,9.0nm,0.8s
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax

comp=E,5.0nm,1.4s
YAK pmax pmax
comp=Z,9.0nm,0.6s
YAK pmax pmax
comp=N,11nm,1.0s
YAK pmax pmax
comp=E,3.0nm,0.8s
YAK MLR MLR
comp=Z,799nm,16.0s
YAK MLR MLR
comp=N,608nm,15.0s
YAK MLR MLR
comp=E,436nm,16.0s
BKZ Black Stump Fm 71.32 129 *eP* **P 00 24 37.3 -0.3**
comp=E,37nm,0.9s
URZ Urewera 71.71 128 LR LR 00 56 39.1
comp=E,210nm,21.8s,baz=292,slow=36
MAK Makhachkala 71.89 319 *eP* **P 00 24 40.7 -0.1**
MAK *e* 00 24 57.8
MAK *e* 00 27 16.4
MAK *e*PPP PPP 00 29 06.1
MAK *e*S **S 00 33 56.3 -4.2**
MAK *e* 00 34 42.0
MAK *e*SS SS 00 38 29.8 -7.6
MAK pmax pmax
comp=Z,85nm,1.3s
GNI Garni 72.49 316 P **P 00 24 43.4 -1.2**
comp=Z,3.7nm,0.6s,baz=336,slow=13,SNR=5.1
GNI Garni 72.49 316 *eP* **P 00 24 46.8 +2.2**
GNI Garni 72.49 316 *eP* **P 00 24 46.8 +2.2**
SVE Sverdlovsk 73.08 336⇓ *eP* **P 00 24 46.5 -1.0**
SVE *e* 00 27 24.9
SVE *e*S **S 00 34 13.1 -0.4**
SVE *e* 00 35 06.4
SVE pmax pmax
comp=Z,48nm,1.5s
SVE MLR MLR
comp=Z,1μm,25.0s
ARU Arti 73.66 335 P **P 00 24 49.5 -1.5**
comp=Z,136nm,0.7s,SNR=12
ARU Arti 73.66 335*c i*P **P 00 24 49.5 -1.5**
ARU 00 27 31.6
ARU S **SKiKP 00 34 18.4 -1.3**
ARU pmax pmax
comp=Z,20nm,1.0s
ARU MLR MLR
comp=Z,1μm,23.0s
ARU Arti 73.66 335 *eP* P 00 24 48.6 -2.3
comp=Z,16nm,0.7s
ZEI Tsey 74.18 318 *eP* **P 00 24 53.7 -0.9**
ZEI pmax pmax
comp=Z,11nm,0.6s
MBAR Mbarara 74.36 271 *eP* **P 00 24 56.4 +0.1**
MBAR pmax pmax
comp=Z,21nm,1.1s
MBAR Mbarara 74.36 271 *eP* **P 00 24 56.4 +0.1**
comp=Z,21nm,1.1s
PEA0 Petropavlovsk- 74.40 30 *eP* **P 00 24 56.2 +0.8**
PETK Petropavlovsk- 74.40 30 P **P 00 24 53.3 -2.1**
comp=Z,4.8nm,0.7s,baz=213,slow=5.1,SNR=8.9
PETK LR LR 01 00 56.6
comp=Z,162nm,18.2s,baz=235,slow=39
PEA2 Petropavlovsk- 74.40 30 *eP* **P 00 24 53.3 -2.1**
PET Petropavlovsk 74.82 30 *eP* **P 00 24 57.0 -0.8**
PET *e*S **SKiKP 00 34 28.3 +6.7**
PET pmax pmax
comp=Z,33nm,0.6s
PET MLR MLR
comp=Z,400nm,21.0s
PET MLR MLR
comp=Z,300nm,20.0s
PET Petropavlovsk 74.82 30 *eP* **P 00 24 58.4 +0.6**
comp=Z,39nm,1.0s
KBZ Khabaz 75.25 318 P **P 00 24 59.6 -0.9**
comp=Z,7.3nm,0.8s,baz=56,slow=24,SNR=11
KBZ LR LR 01 01 45.0
comp=Z,422nm,21.2s,baz=143,slow=39
KIV Kislovodsk 75.48 319 *eP* **P 00 25 01.2 -0.8**
KIV *e*S **S 00 34 39.5 -1.7**
KIV pmax pmax
comp=Z,15nm,1.1s
KIV MLR MLR
comp=Z,343nm,18.0s
KIV Kislovodsk 75.48 319 *eP* **P 00 25 05.0 +3.0**
comp=Z,22nm,1.1s
ASF Jabal al Asfar 75.49 306 P **P 00 25 00.9 -1.4**
comp=Z,4.1nm,0.7s,baz=64,slow=6.9,SNR=2.8
LSZ Lusaka 75.61 256 *eP* **P 00 25 04.2 +0.9**
LSZ pmax pmax
comp=Z,20nm,1.4s
LSZ Lusaka 75.61 256 *eP* **P 00 25 04.2 +0.9**
comp=Z,20nm,1.4s
VNDA Vanda 76.48 169 P **P 00 25 07.5 +0.5**
comp=Z,2.6nm,0.8s,baz=335,slow=9.7,SNR=5.8
VNDA LR LR 00 56 03.1
comp=Z,667nm,18.2s,baz=320,slow=34
VNDA Vanda 76.48 169 *eP* **P 00 25 08.0 +1.0**
VNDA pmax pmax
comp=Z,28nm,1.4s
VNDA Vanda 76.48 169 *eP* **P 00 25 08.0 +1.0**
comp=Z,28nm,1.4s
MMAI Mount Meron Ar 76.94 306 P **P 00 25 09.5 -1.1**
comp=Z,10nm,0.9s,baz=99,slow=8.9,SNR=3.3
SBA Scott Base 77.57 169 *eP* **P 00 25 14.9 +1.8**
SBA pmax pmax
comp=Z,86nm,2.1s
SBA Scott Base 77.57 169 *eP* **P 00 25 14.9 +1.8**
comp=Z,86nm,2.1s
LBTB Lobatse 77.62 246 P **P 00 25 14.8 +0.3**
comp=Z,3.6nm,0.8s,baz=138,slow=6.5,SNR=6.7
LBTB Lobatse 77.62 246 *eP* **P 00 25 15.3 +0.8**
LBTB pmax pmax
comp=Z,12nm,0.9s
LBTB Lobatse 77.62 246 *eP* **P 00 25 15.3 +0.8**
comp=Z,12nm,0.9s
BOSA Boshof 77.83 242 P **P 00 25 16.0 +0.3**
comp=Z,2.0nm,0.6s,baz=97,slow=5.4,SNR=6.8
BOSA LR LR 00 54 23.5
comp=Z,213nm,18.9s,baz=113,slow=32
SEY Seymchan 78.30 20 P **P 00 25 15.3 -2.0**
comp=Z,0.9nm,0.2s,baz=357,slow=23,SNR=1.6
CSS Prodhromos 79.15 307 *eP* **P 00 25 22.9 +0.3**
comp=Z,8.6nm,1.0s
TIXI Tiksi 79.89 7⇑ *eP* **P 00 25 24.9 -0.9**
TIXI pmax pmax
comp=Z,14nm,1.0s
TIXI Tiksi 79.89 7 *eP* **P 00 25 24.7 -1.1**
comp=Z,14nm,1.0s
VORD Divnogorie 80.44 324 *eP* P 00 25 26.1 -3.1
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=Z,4.0nm,0.9s
VORD pmax pmax
comp=E,20nm,1.3s
VSR Storozhevoye 80.61 324 *eP* P 00 25 28.1 -2.1
VSR pmax pmax
comp=Z,20nm,0.7s
VSR pmax pmax
comp=N,8.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,1.0s
BR231 Keskin MP Arra 80.96 312 *eP* P 00 25 28.2 -4.2
LPSR Galich'ya Gora 81.30 326 *eP* **P 00 25 33.4 -0.4**
LPSR *e*S **S 00 35 39.6 -3.4**
LPSR pmax pmax
comp=N,6.0nm,0.9s
LPSR pmax pmax
comp=E,10.0nm,0.9s
LPSR pmax pmax
comp=Z,20nm,0.9s
LPSR smax smax
comp=N,40nm,3.0s
LPSR smax smax
comp=E,60nm,3.0s
LPSR smax smax
comp=Z,30nm,3.0s
LPSR MLR MLR
comp=N,640nm,27.0s
LPSR MLR MLR
comp=E,430nm,27.0s
LPSR MLR MLR
comp=Z,620nm,27.0s
SUR Sutherland 81.54 238 P **P 00 25 36.8 +0.9**
comp=Z,5.3nm,0.8s,baz=136,slow=6.6,SNR=3.3
SUR Sutherland 81.54 238 *eP* **P 00 25 36.0 +0.2**
comp=Z,307nm,2.5s
SIM Simferopol' 81.55 317 *eP* P 00 25 40.8 +5.5
SIM pmax pmax
comp=Z,19nm,1.0s
PRGR Permogore 82.11 335 *eP* **P 00 25 36.6 -1.3**
PRGR *e*S **S 00 35 50.5 -0.6**
PRGR pmax pmax
comp=Z,18nm,0.6s
QSPA South Pole Qui 83.16 180 P **P 00 25 43.7 +0.2**
comp=Z,5.2nm,0.6s,baz=273,slow=1.0,SNR=10
QSPA LR LR 00 57 55.8
comp=Z,314nm,18.5s,baz=312,slow=32
MOS Moscow 83.22 328 *eP* P 00 25 48.9 +5.1
MOS pmax pmax
comp=Z,31nm,0.9s
MOS MLR MLR
comp=E,2μm,21.0s
MOS MLR MLR
comp=Z,2μm,25.0s
OBN Obninsk 83.55 327*d iP* **P 00 25 45.1 -0.3**
OBN *i* 00 25 58.5
OBN pmax pmax
comp=Z,11nm,1.0s
OBN MLR MLR
comp=Z,865nm,20.0s
KLMR Klimovskoe 84.37 333 *eP* **P 00 25 48.6 -0.9**
KLMR S **S 00 36 11.5 -2.5**
KLMR pmax pmax
comp=Z,36nm,1.3s
NVL N'lazarevskaya 84.66 199 *eP* **P 00 25 50.9 0.0**
NVL pmax pmax
comp=Z,10.0nm,0.8s
TSUM Tsumeb 85.42 251 P **P 00 25 55.5 -0.4**
comp=Z,2.3nm,0.8s,baz=57,slow=3.5,SNR=4.0
KIS Kishinev 85.67 318 *eP* P 00 26 06.0 +10
KIS *e*S **S 00 36 28.0 +0.5**
KIS Kishinev 85.67 318 *e*PS 00 37 22.0
KIS *e*L L 00 56 12.0
KIS LRM MLR 01 08 42.0
comp=Z,200nm,19.0s
KIS Kishinev 85.67 318 *eP* P 00 26 06.0 +10
KIS *e* 00 26 20.0
KIS *e*S **S 00 36 28.0 +0.5**
CFR Carcaliu 85.68 316⇑ *iP* P 00 26 01.3 +4.8
CFR Carcaliu 85.68 316⇑ *iP* P 00 26 01.3 +4.8
LEOM Leova 85.92 318⇓ *iP* **P 00 25 57.1 -0.5**
LEOM Leova 85.92 318⇓ *iP* **P 00 25 57.1 -0.5**
BILL Bilibino 85.97 19⇓ *eP* **P 00 25 59.0 +1.6**
BILL *e**SP **sP 00 26 10.6 +2.9**
BILL *e* 00 36 32.6
BILL pmax pmax
comp=Z,4.0nm,0.8s
BILL Bilibino 85.97 19 *eP* **P 00 25 59.1 +1.7**
comp=Z,5.0nm,0.9s
TMCR Tamitsa 86.36 336 *eP* P 00 26 03.0 +3.6
TMCR *e* 00 29 25.7
TMCR pmax pmax
comp=Z,25nm,1.3s
AKASG Malin Array Be 86.37 322 P P 00 25 56.6 -3.1
comp=Z,2.4nm,0.7s,baz=82,slow=5.3,SNR=5.8
AKBB Malin Array Si 86.37 322 *eP* P 00 25 56.6 -3.2
AKBB Malin Array Si 86.37 322 *eP* P 00 25 56.6 -3.2
VRI Vrincioaia 86.81 317⇑ *iP* **P 00 26 02.4 +0.3**
VRI Vrincioaia 86.81 317⇑ *iP* **P 00 26 02.4 +0.3**
PLOR Plostina 86.86 317⇓ *iP* **P 00 26 02.8 +0.4**
PLOR Plostina 86.86 317⇓ *iP* **P 00 26 02.8 +0.4**
TESR Tescani 87.01 317⇑ *iP* **P 00 26 02.9 -0.1**
MLR Muntele Rosu 87.26 316⇓ *iP* **P 00 26 04.8 +0.4**
MLR Muntele Rosu 87.26 316⇓ *iP* **P 00 26 04.8 +0.4**
DOPR Dopca 87.74 317⇓ *iP* **P 00 26 06.3 -0.3**
ARR Arges 88.14 316⇓ *iP* **P 00 26 08.0 -0.6**
BUR04 Bucovina Ar. S 88.21 318 *eP* **P 00 26 09.1 +0.2**
VTS Vitosha 88.61 313⇑ *iP* **P 00 26 09.8 -1.2**
VTS Vitosha 88.61 313⇑ *iP* **P 00 26 09.8 -1.2**
LOT Lotru 88.75 316⇑ *iP* **P 00 26 10.5 -1.0**
SNAA Sanae 89.11 198 P **P 00 26 12.0 -0.6**
SNAA Sanae 89.11 198 P **P 00 26 14.3 +1.7**
comp=Z,2.5nm,1.0s,baz=91,slow=6.9,SNR=6.3
SNAA LR LR 01 01 09.2
comp=Z,97nm,20.0s,baz=88,slow=32
SNAA Sanae 89.11 198⇓ *eP* **P 00 26 14.7 +2.0**
SNAA pmax pmax
comp=Z,32nm,2.0s
SNAA Sanae 89.11 198 *eP* **P 00 26 11.8 -0.8**
comp=Z,34nm,1.2s
APA Apatity 89.38 339⇓ *iP* **P 00 26 15.6 +1.8**
APA MLR MLR
comp=Z,1μm,21.0s
LVV L'vov 89.42 320 *eP* P 00 26 19.5 +5.1
GZR Gura Zlata 89.43 316⇑ *iP* **P 00 26 13.2 -1.4**
GZR Gura Zlata 89.43 316⇑ *iP* **P 00 26 13.2 -1.4**
BZS Buzias 90.27 316⇑ *iP* P 00 26 12.6 -5.9
BZS Buzias 90.27 316⇑ *iP* P 00 26 12.6 -5.9
FIA0 FINESS Array S 90.72 332 *eP* **P 00 26 19.1 -1.1**
FIA0 FINESS Array S 90.72 332 *eP* **P 00 26 19.1 -1.1**
FINES FINESS Array B 90.72 332 P **P 00 26 19.1 -1.1**
comp=Z,1.1nm,0.5s,baz=97,slow=7.4,SNR=10
FINES LR LR 01 11 37.4
comp=Z,542nm,19.3s,baz=90,slow=39
VNA2 Neumayer--Watz 90.75 198 P **P 00 26 23.3 +3.1**
baz=91,slow=3.8
VNA1 Neumayer--Stat 91.12 198 P P 00 26 28.7 +6.7
VNA3 Neumayer Olymp 91.29 197 P P 00 26 26.2 +3.4
PKSM Moragy 92.41 316⇓ *iP* **P 00 26 29.4 +1.0**
PKSM Moragy 92.41 316⇓ *iP* **P 00 26 29.4 +1.0**
VYHS Vyhne 92.57 318 *eP* **P 00 26 29.8 +0.7**
VYHS Vyhne 92.57 318 *eP* **P 00 26 29.8 +0.7**
ARA0 ARCESS Array S 92.72 340 *eP* **P 00 26 27.8 -1.5**
ARCES ARCESS Array B 92.72 340 P **P 00 26 27.8 -1.5**
comp=Z,1.1nm,0.5s,baz=97,slow=7.4,SNR=10
ARCES LR LR 01 13 07.2
comp=Z,316nm,19.1s,baz=113,slow=39
OKC Ostrava-Krasne 93.18 320 *e*SKS **SKSac 00 37 07.1 +2.4**
OKC AMS AMS 01 17 50.0
comp=Z,400nm,18.3s
DPC Dobruska-Polom 94.41 320 AMS AMS 01 13 50.0
TREC Trest 94.85 319 AMS AMS 01 18 30.0
comp=Z,400nm,17.4s
GOPC GO Pecny, Ondr 95.35 320 *e*SKS **SKSac 00 37 12.5 -4.0**
GOPC AMS AMS 01 14 40.0
comp=Z,500nm,19.2s
PRU Pruhonice 95.52 320 *e*SKS **SKSac 00 37 16.3 -1.0**
PRU AMS AMS 01 14 40.0
comp=Z,500nm,21.6s
PRA Prague 95.59 320 AMS AMS 01 14 40.0
comp=Z,500nm,21.4s
GEC2 GERESS Array S 95.99 318 *eP* **P 00 26 44.6 -0.3**
GEC2 GERESS Array S 95.99 318 *eP* **P 00 26 44.6 -0.3**
GERES GERESS Array B 95.99 318 P **P 00 26 44.6 -0.3**
comp=Z,0.3nm,0.5s,baz=153,slow=6.6,SNR=3.5
GERES LR LR 01 17 05.4
comp=Z,253nm,18.8s,baz=88,slow=40
KHC Kasperske Hory 96.09 319 *e*SKS **SKSac 00 37 15.9 -4.6**
KHC AMS AMS 01 23 00.0
comp=Z,500nm,20.6s
CLL Collm 96.57 321 *e*S **S 00 38 07.0 0.0**
CLL *e*PPS PPS 00 40 06.0
CLL *e*SSSS 00 52 00.0
NKC Novy Kostel 96.88 320 *e*SKS **SKSac 00 37 27.7 +3.2**
NKC AMS AMS 01 14 50.0
comp=Z,400nm,22.6s
KEST Kesra 98.58 305 LR LR 01 15 36.3
comp=Z,53nm,19.1s,baz=25,slow=38
TBI Tubuai 101.36 115 *e*SP SP 00 40 21.5 +1.8
comp=Z,187nm,31.0s
TBI *e*SS **SS 00 45 53.4 +4.0**
comp=Z,278nm,26.2s
TBI Tubuai 101.36 115 *e*LQ LQ 00 56 00.5
comp=Z,870nm,35.2s
TBI *e*LR LR 01 00 28.2
comp=Z,829nm,23.2s
PPT2 Papeete2 102.44 110 *e*SS SS 00 46 02.2 -2.7
comp=Z,209nm,29.2s
PPT2 Papeete2 102.44 110 *e*LQ LQ 00 56 35.7
comp=Z,947nm,36.0s
PPT2 *e*LR LR 01 00 55.8
comp=Z,785nm,24.0s
RKT Rikitea 114.23 119 *e*SS SS 00 48 42.2 -1.3
comp=Z,387nm,32.2s
RKT Rikitea 114.23 119 *e*LQ LQ 01 01 26.5
comp=Z,562nm,34.5s
RKT *e*LR LR 01 06 24.6
comp=Z,1μm,27.0s
YKA Yellowknife Ar 117.36 19 PKP **PKPdf 00 32 00.3 -2.4**
comp=Z,0.3nm,0.7s,baz=349,slow=2.8,SNR=2.0
YKB5 Yellowknife Ar 117.36 19 *e*PKPdf **PKPdf 00 32 00.3 -2.4**
NV01 Mina Array Sit 129.80 45 *e*PKPdf **PKPdf 00 32 28.4 +0.7**
NVAR Mina Array Bea 129.80 45 PKP **PKPdf 00 32 28.4 +0.7**
comp=Z,0.6nm,0.6s,baz=328,slow=3.2,SNR=2.7
PDAR Pinedale Array 132.98 35 SKPbc **SKPbc 00 36 00.2 +0.2**
comp=Z,0.6nm,0.7s,baz=274,slow=3.5,SNR=5.4
DNR Dunn Ranch,Anz 133.17 50 *e*PKPpre PKPpre 00 32 23.2
ULM Lac du Bonnet 133.32 18 SKPbc **SKPbc 00 36 00.8 +0.3**
comp=Z,2.4nm,0.7s,baz=29,slow=4.3,SNR=4.2
R36A Gordon, Harris 143.54 28 P PKPbc 00 32 51.2 +1.2
baz=143
U33A Lingo Farm, Me 143.71 32 P PKPbc 00 32 52.4 +1.8
baz=144
S36A Lake Cedric, C 143.98 28 P PKPbc 00 32 52.6 +1.2
baz=144
U34A Anderson Ranch 144.02 32 *e*PKPdf PKPbc 00 32 53.4 +1.9
U34A Anderson Ranch 144.02 32 P PKPbc 00 32 53.1 +1.5
baz=144
T35A Sooner Cattle 144.17 30 P **PKPab 00 32 52.7 +1.1**
baz=144
W33A Caddo, Fort Co 144.47 34 P PKPbc 00 32 55.0 +2.0
baz=144
V34A Guthrie 144.48 32 *e*PKPdf PKPbc 00 32 54.7 +1.7
V34A Guthrie 144.48 32 P PKPbc 00 32 54.7 +1.7
baz=144
SFIN Lafayette 144.87 16 *e*PKPdf **PKPab 00 32 54.8 +0.8**
TX31 Lajitas Ar. Si 144.88 47 *e*PKPdf **PKPab 00 32 53.5 -1.1**
LTX Lajitas 144.88 47 *e*PKIKP **PKPab 00 32 53.7 -0.8**
LTX Lajitas 144.88 47 *e*PKPdf **PKPab 00 32 53.7 -0.8**
TXAR Lajitas Array 144.88 47 PKP **PKPab 00 32 53.7 -0.8**
comp=Z,5.5nm,0.8s,baz=285,slow=1.1,SNR=47
Z32A Haskell 145.19 38 P **PKPbc 00 32 53.9 -1.5**
baz=145
BDFB Brasilia 145.22 230 PKPbc **PKPbc 00 32 56.5 +0.5**
comp=Z,5.9nm,0.8s,baz=171,slow=6.4,SNR=7.7
BDFB Brasilia 145.22 230 *e*PKP2 **PKPbc 00 32 57.4 +1.4**
BDFB Brasilia 145.22 230 *e*PKPbc **PKPbc 00 32 57.4 +1.4**
TUL1 Leonard 145.32 31 *e*PKPbc **PKPdf 00 32 57.6 +1.7**
TUL1 Leonard 145.32 31 P **PKPbc 00 32 54.2 -1.5**
baz=145
330A Mertzon 145.37 42 P **PKPbc 00 32 55.5 -0.6**
baz=145
429A Davenport Ranc 145.38 43 P **PKPbc 00 32 55.8 -0.3**
baz=145
KSPA Keystone Colle 145.42 1 *e*PKPbc **PKPbc 00 32 55.2 -0.6**
529A Stev Forest Ra 145.45 44 P **PKPbc 00 32 56.7 +0.4**
baz=145
ABTX Abilene, Hawle 145.56 39 *e*PKPbc **PKPdf 00 32 56.6 +0.1**
ABTX Abilene, Hawle 145.56 39 P **PKPdf 00 32 56.2 -0.3**
baz=145
W36A Wetumka 145.69 32 P **PKPdf 00 32 55.8 -0.8**
baz=146
Y34A Reagan Ranch, 145.74 35 P **PKPdf 00 32 56.6 -0.1**
baz=146
331A San Angelo 145.93 41 P **PKPdf 00 32 58.0 +0.8**
baz=146
ACSO Alum Creek Sta 145.97 11 *e*PKPdf **PKPdf 00 32 55.8 -1.1**
133A Hamilton Ranch 146.01 38 P **PKPdf 00 32 58.2 +1.0**
baz=146
530A J-C Ranch, Com 146.05 44 P **PKPdf 00 32 58.1 +0.7**
baz=146
232A Coleman 146.05 40 P **PKPdf 00 32 58.1 +0.8**
baz=146
X36A Centrahoma 146.06 33 P **PKPdf 00 32 58.1 +0.9**
baz=146
OLIL Olney 146.09 19 *e*PKPdf **PKPab 00 32 59.6 +1.1**
W37A Quinton 146.11 31 P **PKPdf 00 32 58.3 +1.0**
baz=146
SSPA Standing Stone 146.24 4 *e*PKPdf **PKPdf 00 32 58.1 +0.8**
332A Millersview 146.32 40 P **PKPdf 00 32 59.0 +1.2**
baz=146
233A Rising Star 146.43 39 P **PKPdf 00 32 58.7 +0.7**
baz=146
Z35A Perchaven, San 146.48 35 P **PKPdf 00 32 59.0 +1.0**
baz=146
JCT Junction City 146.87 42 *e*PKP2 **PKPdf 00 32 58.5 -0.3**
JCT Junction City 146.87 42 *e*PKPdf **PKPdf 00 32 58.5 -0.3**
MVL Millersville 146.96 2 *e*PKPbc **PKPdf 00 32 59.5 +1.0**
WCI Wyandotte Cave 147.10 17 *e*PKP2 **PKPbc 00 33 02.3 +1.3**
WCI Wyandotte Cave 147.10 17 *e*PKPdf **PKPbc 00 33 02.3 +1.3**
WHTX Lake Whitney, 147.33 37 *e*PKPdf **PKPdf 00 32 57.2 -2.2**
MIAR Mount Ida 147.50 29 *e*PKP2 **PKPbc 00 33 02.6 +0.4**
MIAR Mount Ida 147.50 29 *e*PKPbc **PKPbc 00 33 02.6 +0.4**
WVT Waverly 148.54 20 *e*PKP2 **PKPdf 00 33 04.1 +2.8**
WVT Waverly 148.54 20 *e*PKPbc **PKPdf 00 33 04.1 +2.8**
TZTN Tazewell 149.40 14 *e*PKPbc **PKPbc 00 33 07.6 +0.5**
HKT Hockley 149.75 38 *e*PKPdf **PKPdf 00 33 02.1 -1.2**
SWET Sewanee 150.00 18 *e*PKPbc **PKPbc 00 33 09.4 +0.7**
LVC Limon Verde 150.15 191 *e*PKPbc **PKPbc 00 33 12.9 +3.3**
TKL Tuckaleechee C 150.19 15 *e*PKP2 **PKPbc 00 33 10.0 +0.9**
TKL Tuckaleechee C 150.19 15 *e*PKPbc **PKPbc 00 33 10.0 +0.9**
CPCT Cooper Cave 150.19 16 *e*PKPbc **PKPbc 00 33 10.4 +1.3**
KMSC Kings Mountain 151.22 11 *e*PKPbc **PKPbc 00 33 13.8 +2.3**
LRAL Lakeview Retre 151.62 22 *e*PKPdf **PKPdf 00 33 08.0 +1.8**
LPAZ La Paz 156.06 196 PKP **PKPdf 00 33 15.0 +1.2**
comp=Z,1.5nm,0.8s,baz=85,slow=5.9,SNR=5.1
LPAZ La Paz 156.06 196 *e*PKIKP **PKPdf 00 33 13.6 -0.2**
LPAZ La Paz 156.06 196 *e*PKPdf **PKPdf 00 33 13.6 -0.2**

ISCJB ***19*** *00:14:21.5±0.5, 58°.33S±0'.06×14°.7W±0°.2, h10km, mb4.6/13, MS3.8/4, Error ellipse: s-maj=12.2km s-min=8.2km az=152.8*

IDC ***19*** *00:14:22.2±0.8, 58°.25S×14°.69W, h0km, mb4.3/8, mb1 4.3/9, mb1mx4.1/20, mbtmp4.3/9, ML4.7/1, MS3.7/5, Ms1 3.7/5, ms1mx3.4/23, Error ellipse: s-maj=23.4km s-min=20.0km az=24.0*

NEIC ***19*** *00:14:27.5±1.9, 58°.18S×14°.69W, h37km±18km, mb4.9/7, Error ellipse: s-maj=11.9km s-min=9.3km az=217.0*

AWI ***19*** *00:14:37.8, 59°.41S×14°.11W*

ISC 19 00:14:23.6±0.6, 58°.24S±0°.09×14°.6W±0°.1, h10km, n39, σ1s 04/25, mb4.8/13, MS3.7/4, East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.74**	**170**	P		**Pn**	**00 17 23.9**	**-0.6**
VNA1	**Neumayer--Stat**	**12.74**	**170**	S		Sn	00 19 35.2	-11
HOPE	**Hope Point**	**12.76**	**279**	*e*Pn		**Pn**	**00 17 25.6**	**+0.7**
VNA2	**Neumayer--Watz** baz=338,slow=16	**13.09**	**169**	P		**Pn**	**00 17 28.0**	**-1.2**
VNA2	**Neumayer--Watz** baz=344,slow=26	**13.09**	**169**	S		Sn	00 19 39.1	-16
VNA3	**Neumayer Olymp**	**13.22**	**173**	P		**Pn**	**00 17 29.7**	**-1.3**
VNA3	**Neumayer Olymp**	**13.22**	**173**	S		Sn	00 19 43.2	-15
SNAA	**Sanae**	**14.33**	**165**	P		**Pn**	**00 17 43.4**	**-2.8**
SNAA	**Sanae**	**14.33**	**165**	S		Sn	00 20 06.8	-18
SNAA	**Sanae** 3.2nm,0.3s,baz=338,slow=15,SNR=134	**14.33**	**165**	Pn		**Pn**	**00 17 45.2**	**-1.0**
SNAA	0.1nm,0.3s,baz=232,slow=18,SNR=3.4					Sn	Sn	00 20 09.8	-15
SNAA	comp=Z,105nm,21.4s,baz=354,slow=30				LR	LR	00 21 24.3	
SNAA	**Sanae**	**14.33**	**165**	*e*Pn		Pn	00 17 41.8	-4.4
SNAA						Sn	Sn	00 20 09.8	-15
PMSA	**Palmer Station** comp=Z,246nm,18.9s,baz=77,slow=33	**23.90**	**233**	LR		LR	00 27 28.6	
QSPA	**South Pole Qui** 3.0nm,0.6s,baz=221,slow=3.6,SNR=17	**32.00**	**180**	P		**P**	**00 20 49.8**	**+0.1**
MAW	**Mawson** 4.3nm,0.9s,baz=240,slow=9.1,SNR=3.9	**34.13**	**138**	P		**P**	**00 21 08.9**	**+1.0**
MAW	**Mawson** 18nm,2.3s	**34.13**	**138**	*e*P		**P**	**00 21 08.9**	**+1.0**
TRQA	**Tornquist** 172nm,2.9s	**36.50**	**283**	*e*P		**P**	**00 21 28.3**	**-0.5**
PLCA	**Paso Flores** comp=Z,128nm,19.3s,baz=124,slow=34	**39.03**	**272**	LR		LR	00 36 16.3	
BOSA	**Boshof** 3.8nm,0.9s,baz=220,slow=9.6,SNR=3.7	**40.43**	**60**	P		**P**	**00 22 02.1**	**+0.1**
SHEL	**Horse Pasture** 2μm,2.8s	**42.73**	**13**	*e*P		**P**	**00 22 19.7**	**-1.1**
LBTB	**Lobatse** 3.9nm,0.9s,baz=248,slow=10,SNR=4.4	**43.67**	**58**	P		**P**	**00 22 28.6**	**+0.1**
LBTB	**Lobatse** 178nm,3.0s	**43.67**	**58**	*e*P		**P**	**00 22 28.6**	**+0.1**
CPUP	**Villa Florida**	**43.68**	**298**	*e*P		**P**	**00 22 27.6**	**-0.8**
SBA	**Scott Base** 25nm,1.8s	**44.16**	**180**	*e*P		**P**	**00 22 33.5**	**+1.9**
CFAA	**Coronel Fontan** 0.6nm,0.6s,baz=168,slow=6.9,SNR=8.6	**44.74**	**283**	P		**P**	**00 22 36.5**	**-0.4**
H10S2	**ASCENSION HYDR** baz=180,slow=75,SNR=2.8	**49.17**	**360**	T		T	01 16 36.4	
H10S3	**ASCENSION HYDR** baz=180,slow=75,SNR=4.1	**49.18**	**360**	T		T	01 16 32.7	

H10S1	**ASCENSION HYDR**	**49.19**	**360**	T	T	01 16 36.4		
	baz=180,slow=75,SNR=4.0							
CASY	**Casey**	**49.24**	**154**	*eP*	**P**	**00 23 11.4**	**-0.1**	
	30nm,1.1s							
BDFB	**Brasilia**	**49.24**	**316**	LR	LR	00 40 41.3		
	comp=Z,133nm,19.0s,baz=170,slow=32							
LVC	**Limon Verde**	**52.43**	**289**	P	**P**	**00 23 36.0**	**-0.4**	
	15nm,0.6s,baz=190,slow=7.7,SNR=5.8							
LVC	**Limon Verde**	**52.43**	**289**	*eP*	**P**	**00 23 35.9**	**-0.6**	
	108nm,2.6s							
LPAZ	**La Paz**	**57.41**	**294**	P	**P**	**00 24 13.3**	**+0.4**	
	2.7nm,0.8s,baz=162,slow=6.2,SNR=14							
LPAZ				LR	LR	00 47 51.7		
	comp=Z,51nm,21.0s,baz=131,slow=35							
LPAZ	**La Paz**	**57.41**	**294**	*eP*	**P**	**00 24 12.0**	**-1.0**	
	3.9nm,0.9s							
SAML	**Samuel**	**61.51**	**303**	*eP*	**P**	**00 24 41.1**	**+0.6**	
	5.1nm,0.7s							
TOA0	**Torodi Ar. Sit**	**72.38**	**17**	*eP*	**P**	**00 25 50.1**	**+0.6**	
TORD	**Torodi Ar. Bea**	**72.38**	**17**	P	**P**	**00 25 50.1**	**+0.6**	
	1.4nm,0.8s,baz=180,slow=6.3,SNR=6.6							
BKZ	**Black Stump Fm**	**82.51**	**189**	*eP*	PP	00 29 57.7	+3.2	
SONA0	**Songino Array**	**144.17**	**81**	*eP*	PKPbc	00 33 57.7	+0.9	
SONM	**Songino Array**	**144.17**	**81**	PKP	PKPbc	00 33 57.7	+0.9	
	0.6nm,0.7s,baz=215,slow=3.7,SNR=5.5							

IDC ***19*** *00:25:30.9±1.3,56.˚19N×157.˚39W,h0km,mb3.6/11, mb1 3.9/13,mb1mx3.8/28,mbtmp3.7/13,ML3.7/2, Error ellipse: s-maj=30.2km s-min=18.7km az=15.0*

ISCJB ***19*** *00:25:36.9±0.4,56.˚31N±0.˚04×156.˚57W±0.˚05,h70km±5km, mb3.7/14, Error ellipse: s-maj=8.3km s-min=2.8km az=147.7*

NEIC ***19*** *00:25:38.7,56.˚29N×156.˚59W,h19km,mb4.1/3, ML3.9(AEIC), After AEIC.*

ISC 19 00:25:38.4±1.0,56.˚32N±0.˚06×156.˚66W±0.˚04, h56km±11km,n101,σ1ᵗ17/103,mb3.7/14,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHGN	**Chignik**	**0.98**	**270**	*ePn*	**Pn**	**00 25 56.0**	**+0.2**
CHGN				*eSn*	**Sn**	**00 26 07.2**	**-1.6**
PLK4	**Peulik 4**	**1.33**	**7**	P	**Pn**	**00 26 01.2**	**+0.5**
PLK3	**Peulik 3**	**1.39**	**9**	P	**Pn**	**00 26 02.0**	**+0.5**
PLK3				S	**Sn**	**00 26 19.6**	**+0.8**
PLK1	**Peulik 1**	**1.49**	**1**	P	**Pn**	**00 26 03.1**	**+0.4**
KABR	**Katmai Barrier**	**2.04**	**26**	*ePn*	**Pn**	**00 26 10.7**	**+0.4**
OHAK	**Old Harbor**	**2.07**	**63**	*ePn*	**Pn**	**00 26 10.4**	**-0.2**
OHAK				*eSn*	**Sn**	**00 26 34.4**	**-0.8**
KCE	**Katmai Mt Cerb**	**2.09**	**22**	P	**Pn**	**00 26 11.7**	**+0.7**
KAKN	**Katmai Knife C**	**2.17**	**23**	P	**Pn**	**00 26 12.5**	**+0.4**
KELA	**Mount Kelaz**	**2.18**	**13**	P	**Pn**	**00 26 12.2**	**-0.1**
KVLA	**Katmai Vly 10**	**2.20**	**19**	P	**Pn**	**00 26 12.9**	**+0.5**
SDPT	**Sand Point**	**2.36**	**247**	*ePn*	**Pn**	**00 26 15.6**	**+1.0**
SDPT				*eSn*	**Sn**	**00 26 43.4**	**+1.0**
KDAK	**Kodiak Island**	**2.67**	**55**	*ePn*	**Pn**	**00 26 18.9**	**+0.1**
KDAK				*eSn*	**Sn**	**00 26 51.4**	**+1.5**
MCNL	**McNeil River**	**3.13**	**22**	*ePn*	**Pn**	**00 26 25.5**	**+0.3**
DT1	**Dutton Round H**	**3.40**	**251**	*ePn*	**Pn**	**00 26 29.7**	**+0.8**
AUI	**Augustine Isla**	**3.48**	**28**	*ePn*	**Pn**	**00 26 31.2**	**+1.2**
AUI				*eSn*	**Sn**	**00 27 09.6**	**-0.4**
AUW	**Augustine West**	**3.50**	**28**	P	**Pn**	**00 26 31.8**	**+1.6**
AUP	**Augustine Pinn**	**3.51**	**28**	*ePn*	**Pn**	**00 26 31.4**	**+0.9**
OPT	**Oil Point**	**3.81**	**27**	*ePn*	**Pn**	**00 26 36.1**	**+1.6**
FALS	**False Pass**	**4.10**	**252**	*ePn*	**Pn**	**00 26 39.5**	**+1.0**
FALS				*eSn*	**Sn**	**00 27 28.6**	**+3.5**
ILW	**Iliamna West**	**4.19**	**25**	*ePn*	**Pn**	**00 26 41.3**	**+1.5**
SSLN	**Shishaldin Nor**	**4.43**	**253**	P	**Pn**	**00 26 44.5**	**+1.5**
SSLW	**Shishaldin Wes**	**4.51**	**253**	P	**Pn**	**00 26 45.0**	**+0.9**
RSO	**Redoubt South**	**4.63**	**25**	*ePn*	**Pn**	**00 26 47.8**	**+1.8**
RSO				*eSn*	Sn	00 27 49.6	+10
NCT	**North Crescent**	**4.68**	**23**	*ePn*	**Pn**	**00 26 47.1**	**+0.6**
SVW2	**Sparrevohn**	**4.83**	**6**	*ePn*	**Pn**	**00 26 48.4**	**0.0**
WESE	**West Dahl East**	**4.88**	**251**	*ePn*	**Pn**	**00 26 50.8**	**+1.6**
WESP	**Westdahl Peak**	**4.94**	**252**	P	**Pn**	**00 26 51.7**	**+1.6**
SEW	**Seward**	**5.38**	**42**	*ePn*	**Pn**	**00 26 55.3**	**-0.6**
SEW				*eSn*	**Sn**	**00 27 57.1**	**+0.7**
AKSA	**Akutan Strait**	**5.61**	**251**	*ePn*	**Pn**	**00 27 00.2**	**+1.0**
AKUT	**Akutan**	**5.65**	**251**	*ePn*	**Pn**	**00 27 00.8**	**+1.1**
AKUT				*eSn*	**Sn**	**00 28 03.2**	**0.0**
STLK	**Strandline Lak**	**5.76**	**24**	*ePn*	**Pn**	**00 27 02.2**	**+0.9**
LTI	**Latouche**	**5.97**	**48**	*ePn*	**Pn**	**00 27 03.5**	**-0.5**
RC01	**Rabbit Creek A**	**5.99**	**34**	*ePn*	**Pn**	**00 27 04.0**	**-0.3**
RC01				*eSn*	**Sn**	**00 28 11.6**	**+0.1**
SUA	**Susitna One**	**6.00**	**28**	*ePn*	**Pn**	**00 27 04.5**	**-0.1**
UNV	**Unalaska Valle**	**6.17**	**250**	*ePn*	**Pn**	**00 27 06.3**	**-0.5**
UNV				*eSn*	**Sn**	**00 28 16.7**	**+0.8**
MSW	**Makushin Switc**	**6.29**	**252**	*ePn*	**Pn**	**00 27 09.8**	**+1.4**
MID	**Middleton Isla**	**6.33**	**56**	*ePn*	**Pn**	**00 27 09.1**	**+0.2**
TT01	**Tatalina**	**6.62**	**3**	*ePn*	**Pn**	**00 27 12.8**	**0.0**
TTA	**Tatalina**	**6.64**	**3**	*ePn*	**Pn**	**00 27 13.0**	**-0.2**
GLI	**Glacier Island**	**6.77**	**44**	*ePn*	**Pn**	**00 27 13.6**	**-1.4**
PPLA	**Purkeypile**	**6.98**	**17**	*ePn*	Pn	00 27 21.6	+3.7
JPK	**Jack Peak**	**7.07**	**44**	*ePn*	**Pn**	**00 27 18.9**	**-0.3**
VLZ	**Valdez**	**7.22**	**44**	*ePn*	**Pn**	**00 27 20.7**	**-0.4**
SCM	**Sheep Creek Mo**	**7.32**	**37**	*ePn*	**Pn**	**00 27 21.9**	**-0.7**
DIV	**Divide**	**7.44**	**45**	*ePn*	**Pn**	**00 27 22.7**	**-1.5**
CAST	**Castle Rocks**	**7.48**	**16**	*ePn*	**Pn**	**00 27 25.7**	**+0.9**
RAGM	**Ragged Mountai**	**7.51**	**52**	*ePn*	**Pn**	**00 27 25.6**	**+0.6**
GOAT	**Goat Mountain**	**7.58**	**51**	*ePn*	**Pn**	**00 27 25.5**	**-0.5**
KLU	**Klutina**	**7.60**	**43**	*ePn*	**Pn**	**00 27 26.8**	**+0.5**
KLU				*eSn*	**Sn**	**00 28 45.6**	**-5.4**
NICHA	**Nichawak Mount**	**7.75**	**54**	*ePn*	**Pn**	**00 27 27.9**	**-0.5**
KTH	**Kantishna Hill**	**7.80**	**19**	*ePn*	**Pn**	**00 27 29.2**	**+0.1**
KTH				*eSn*	**Sn**	**00 28 55.6**	**-0.4**
BMRM	**Bremner River**	**7.82**	**48**	*ePn*	**Pn**	**00 27 28.3**	**-1.1**
BMRM				*eSn*	Sn	00 28 49.1	-7.4
TRF	**Thorofare Moun**	**7.83**	**21**	*ePn*	**Pn**	**00 27 29.7**	**+0.1**
BERG	**Berg Lake**	**7.94**	**54**	*ePn*	**Pn**	**00 27 31.2**	**+0.3**
RND	**Reindeer**	**8.12**	**26**	*ePn*	Pn	00 27 29.8	-3.7
KHIT	**Khitrov Hills**	**8.17**	**54**	*ePn*	**Pn**	**00 27 33.7**	**-0.4**
BPAW	**Bear Paw Mtn.**	**8.30**	**18**	*ePn*	Pn	00 27 31.6	-4.3
KULT	**Kultieth River**	**8.33**	**56**	*ePn*	**Pn**	**00 27 36.3**	**-0.1**
MCK	**McKinley**	**8.38**	**24**	*ePn*	**Pn**	**00 27 36.8**	**-0.2**
VRDI	**Verde Repeater**	**8.44**	**49**	*ePn*	**Pn**	**00 27 37.8**	**-0.1**
BARK	**Barkley Ridge**	**8.49**	**55**	*ePn*	**Pn**	**00 27 38.3**	**-0.4**
ISLE	**Juniper Island**	**8.64**	**54**	*ePn*	**Pn**	**00 27 40.7**	**0.0**
MESA	**MESA**	**8.66**	**57**	*ePn*	**Pn**	**00 27 40.9**	**-0.2**
BAGL	**Bagley Icefiel**	**8.71**	**55**	*ePn*	**Pn**	**00 27 40.6**	**-0.9**
PAX	**Paxson**	**8.74**	**36**	*ePn*	**Pn**	**00 27 39.4**	**-2.6**
KIAG	**Kiagna River**	**8.77**	**52**	*ePn*	**Pn**	**00 27 42.5**	**+0.1**
PTPK	**Patty Peak**	**8.84**	**51**	*ePn*	**Pn**	**00 27 42.9**	**-0.5**
GRNC	**Granite Creek**	**8.96**	**54**	*ePn*	**Pn**	**00 27 44.4**	**-0.7**
TABL	**Table Mountain**	**9.13**	**57**	*ePn*	**Pn**	**00 27 46.1**	**-0.3**
BARN	**Barnard Glacie**	**9.13**	**52**	*ePn*	**Pn**	**00 27 45.7**	**-1.7**
WRH	**Wood River Hil**	**9.20**	**24**	*ePn*	**Pn**	**00 27 48.1**	**-0.1**
DDM	**Donnelly Dome**	**9.22**	**31**	*ePn*	**Pn**	**00 27 47.8**	**-0.7**
CCB	**Clear Creek Bu**	**9.42**	**24**	*ePn*	**Pn**	**00 27 48.9**	**-2.2**
MDM	**Murphy Dome**	**9.60**	**22**	*ePn*	Pn	00 27 50.5	-3.1
IL1	**Eielson Array**	**9.74**	**25**	*ePn*	**Pn**	**00 27 53.7**	**-1.8**
ILAR	**Eielson Array**	**9.74**	**25**	Pn	Pn	00 27 51.5	-4.0
	0.2nm,0.3s,baz=217,slow=14,SNR=7.1							
ILAR					Sn	Sn	00 29 33.8	-9.4
	0.2nm,0.3s,baz=202,slow=14,SNR=2.7							
IM04	**Indian Mountai**	**9.79**	**7**	*ePn*	**Pn**	**00 27 57.4**	**+1.2**
SCRK	**Sand Creek**	**9.93**	**34**	*ePn*	**Pn**	**00 27 57.5**	**-0.7**
TNA	**Tin City**	**10.74**	**334**	*ePn*	Pn	**00 28 10.4**	**+1.2**
HYT	**Haines Junctio**	**10.96**	**58**	*ePn*	Pn	00 28 07.8	-4.5
ADK	**Adak**	**12.55**	**258**	*ePn*	Pn	**00 28 32.4**	**-1.4**
AMKA	**Amchitka**	**14.98**	**261**	*ePn*	Pn	00 29 02.9	-3.6
INK	**Inuvik**	**15.98**	**32**	Pn	**P**	**00 29 20.4**	**-1.3**
	0.3nm,0.3s,baz=214,slow=10,SNR=6.7							
INK	**Inuvik**	**15.98**	**32**	*ePn*	Pn	00 29 14.1	-5.0
	4.2nm,1.0s							
YKA	**Yellowknife Ar**	**21.94**	**56**	P	**P**	**00 30 28.1**	**+1.3**
	0.6nm,0.5s,baz=271,slow=9.2,SNR=5.6							
YKB5	**Yellowknife Ar**	**21.94**	**56**	*eP*	**P**	**00 30 28.3**	**+1.5**
PEA0	**Petropavlovsk-**	**26.18**	**282**	*eP*	**P**	**00 31 08.3**	**+1.0**
PETK	**Petropavlovsk-**	**26.18**	**282**	P	**P**	**00 31 06.9**	**-0.4**
	1.1nm,0.4s,baz=84,slow=12,SNR=7.4							
NVAR	**Mina Array Bea**	**31.00**	**109**	P	P	00 31 53.8	+3.3	
	1.3nm,0.7s,baz=313,slow=7.8,SNR=6.5							
PDAR	**Pinedale Array**	**32.75**	**94**	P	**P**	**00 32 08.4**	**+2.6**	
	0.3nm,0.6s,baz=316,slow=4.1,SNR=4.5							
SRU	**San Rafael Swe**	**34.71**	**100**	*eP*	P	00 32 27.2	+4.3	
	3.7nm,0.6s							
ULM	**Lac du Bonnet**	**35.78**	**73**	P	P	00 32 35.5	+3.8	
	1.6nm,0.6s,baz=36,slow=8.7,SNR=2.6							
CTCC	**Cactus City**	**35.85**	**112**	*eP*	**P**	**00 32 31.9**	**-0.7**	
SDCO	**Great Sand Dun**	**38.45**	**97**	*eP*	**P**	**00 32 55.6**	**+0.8**	
	6.0nm,1.3s							
ARCES	**ARCESS Array B**	**54.44**	**359**	P	**P**	**00 34 59.6**	**+0.3**	
	1.8nm,0.8s,baz=37,slow=6.1,SNR=2.8							
SONM	**Songino Array**	**55.37**	**306**	P	**P**	**00 35 06.1**	**-0.3**	
	0.6nm,0.5s,baz=39,slow=5.8,SNR=5.1							
FINES	**FINESS Array B**	**62.56**	**359**	P	**P**	**00 35 55.8**	**+0.1**	
	1.0nm,0.8s,baz=27,slow=2.1,SNR=4.1							
KURBB	**Kurchatov Arra**	**64.05**	**324**	P	**P**	**00 36 04.8**	**-1.0**	
	0.2nm,0.4s,baz=30,slow=6.0,SNR=3.3							
BVAR	**Borovoye Array**	**64.37**	**331**	P	**P**	**00 36 06.9**	**-1.0**	
	0.4nm,0.5s,baz=46,slow=6.2,SNR=3.3							
MKAR	**Makanchi Array**	**66.05**	**320**	P	**P**	**00 36 17.9**	**-1.0**	
	0.2nm,0.6s,baz=23,slow=7.8,SNR=2.7							
GERES	**GERESS Array B**	**74.90**	**7**	P	**P**	**00 37 13.3**	**+0.5**	
	0.7nm,0.9s,baz=7.8,slow=7.9,SNR=3.9							

IDC 19 00:26:48.2±1.8,6.˚18S×154.˚75E,h0km,mb3.5/4, mb1 3.8/4,mb1mx3.6/17,mbtmp3.5/4,Error ellipse: s-maj=69.5km s-min=33.9km az=120.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.09**	**233**	P	P	00 32 06.1	+0.3
	0.6nm,0.5s,baz=58,slow=9.7,SNR=8.2						
WRA				PcP	PcP	00 35 47.4	0.0
	0.7nm,0.5s,baz=61,slow=2.5,SNR=11						
SONM	**Songino Array**	**68.52**	**327**	P	P	00 37 53.2	+0.4
	0.4nm,0.5s,baz=120,slow=5.2,SNR=5.0						
MKAR	**Makanchi Array**	**82.64**	**319**	P	P	00 39 13.7	+0.1
	0.4nm,0.8s,baz=106,slow=4.7,SNR=3.6						
ILAR	**Eielson Array**	**82.71**	**22**	P	P	00 39 13.5	0.0
	0.4nm,0.8s,baz=232,slow=4.4,SNR=2.6						
TORD	**Torodi Ar. Bea**	**152.57**	**287**	PKPbc	PKPbc	00 46 47.1	-0.8
	0.6nm,0.7s,baz=57,slow=2.3,SNR=7.7						
TORD				PKPab	PKPab	00 46 57.4	-0.8
	0.8nm,0.6s,baz=57,slow=2.5,SNR=6.3						

IASPEI ***19*** *00:38:59.0±0.8,32.˚67N±0.˚02×115.˚84W±0.˚02,h17km±5km, mb4.4/38,MS3.9/3,Error ellipse: s-maj=3.2km s-min=2.9km az=133.9*

ISCJB ***19*** *00:38:58.2±0.3,32.˚66N±0.˚01×115.˚80W±0.˚01,h7km±2km, mb4.3/38,MS3.8/3, Error ellipse: s-maj=2.2km s-min=1.5km az=14.7*

MEX ***19*** *00:39:00.0±0.4,32.˚83N×115.˚81W,h14km±15km,MD4.8*

ECX ***19*** *00:39:00.5±0.7,32.˚65N×115.˚84W,h6km,ML4.8*

IDC ***19*** *00:39:00.0±0.9,32.˚77N×115.˚59W,h0km,mb4.1/16, mb1 4.2/23,mb1mx4.1/36,mbtmp4.1/23,ML4.0/7,MS3.7/10, Ms1 3.7/10,ms1mx3.6/35,Error ellipse: s-maj=16.8km s-min=9.2km az=45.0*

NEIC ***19*** *00:39:00.0,32.˚65N×115.˚84W,h8km,mb4.6/34, MD4.8(MEX),ML4.9(ECX),ML5.1(PAS),After PAS.*

NEIC Felt [IV] at Boulevard, Brawley, Calexico, El Centro, Holtville, Imperial and Ocotillo; [III] at Alpine, Borrego Springs, Calipatria, Campo, Cardiff-by-the-Sea, Chula Vista, El Cajon, Escondido, Julian, Lakeside, National City, Pauma Valley, San Diego, Santa Ana and Temecula. Felt in much of Southern California from Los Angeles and Blythe to the U.S.-Mexico border. Felt [IV] at Mexicali, [III] at Ensenada and [II] at Tijuana, Baja California. Also felt at Maneadero and Tecate. Felt [II] at Yuma, Arizona. Also felt at Phoenix.

ISC 19 00:39:00.0±0.7,32.˚68N±0.˚02×115.˚85W±0.˚02,h12km±4km, n481,σ1ᵗ33/451,mb4.4/38,MS3.9/3,118C-123D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUH	**Yuha Desert**	**0.07**	**244**	*ePg*	**Pg**	**00 39 02.0**	**-0.6**
YUH	**Yuha Desert**	**0.07**	**244**	↑*iP*	**Pg**	**00 39 02.0**	**-0.6**
SGL	**Mount Signal**	**0.11**	**106**	*i P*	**Pg**	**00 39 02.1**	**-0.8**
SGL	**Mount Signal**	**0.11**	**106**	↑*iP*	**Pg**	**00 39 02.1**	**-0.8**
WESC	**Westside Schoo**	**0.12**	**51**	*ePg*	**Pg**	**00 39 02.9**	**-0.3**
WESC	**Westside Schoo**	**0.12**	**51**	*eP*	**Pg**	**00 39 02.9**	**-0.3**
WESC				*eS*	**Sg**	**00 39 05.5**	**+0.1**
ERPC	**Ernies Place**	**0.17**	**68**	*ePg*	**Pg**	**00 39 03.8**	**-0.1**
COK	**Cook Ranch**	**0.20**	**31**	*i P*	**Pb**	**00 39 04.3**	**-1.3**
COK	**Cook Ranch**	**0.20**	**31**	↓*iP*	**Pb**	**00 39 04.3**	**-1.3**
IBP	**Imperial Bould**	**0.21**	**265**	*i P*	**Pg**	**00 39 04.5**	**-0.1**
IBP				*eS*	**Sg**	**00 39 07.9**	**+0.2**
IBP	**Imperial Bould**	**0.21**	**265**	↑P	**Pg**	**00 39 04.4**	**-0.1**
	baz=0.2						
IBP				↓S	**Sg**	**00 39 07.7**	**0.0**
	baz=0.2						
RMX	**La Rumorosa**	**0.21**	**249**	*eP*	**Pg**	**00 39 04.4**	**-0.3**
RMX				*eS*	**Sg**	**00 39 07.5**	**-0.3**
RMX	**La Rumorosa**	**0.21**	**249**	↑*eP*	**Pg**	**00 39 04.4**	**-0.3**
RMX				*eS*	**Sg**	**00 39 07.5**	**-0.3**
CRR	**Carrizo Plain**	**0.23**	**334**	*ePg*	**Pb**	**00 39 04.9**	**-1.3**
CBKC	**Canebrake**	**0.41**	**303**	*ePg*	**Pb**	**00 39 08.4**	**-0.8**
CBKC	**Canebrake**	**0.41**	**303**	↑*iP*	**Pb**	**00 39 08.3**	**-0.8**
ERRC	**Elmore Ranch**	**0.44**	**3**	*ePg*	**Pb**	**00 39 09.0**	**-0.7**
ERRC	**Elmore Ranch**	**0.44**	**3**	↓*iP*	**Pb**	**00 39 09.0**	**-0.7**
MONP	**Monument Peak,**	**0.53**	**294**	↑P	**Pg**	**00 39 10.2**	**-0.2**
	baz=0.5						
MONP				↓S	**Sg**	**00 39 17.5**	**+0.1**
	baz=0.5						
CPBX	**Cerro Prieto**	**0.53**	**120**	*i P*	**Pg**	**00 39 09.8**	**-0.5**
CPBX	**Cerro Prieto**	**0.53**	**120**	↑*iP*	**Pg**	**00 39 09.7**	**-0.7**
CLIC	**Calipatria**	**0.53**	**30**	*ePg*	**Pb**	**00 39 10.6**	**-0.7**
CLIC	**Calipatria**	**0.53**	**30**	↓*iP*	**Pb**	**00 39 10.6**	**-0.7**
MBIG	**Mexicali**	**0.61**	**116**	*i P*	**Pg**	**00 39 11.3**	**-0.6**
BTCC	**Brunts Corner**	**0.62**	**58**	*ePg*	**Pg**	**00 39 11.4**	**-0.8**
COA	**Coachella**	**0.64**	**73**	*ePg*	**Pg**	**00 39 11.7**	**-0.7**
BAR	**Barrett**	**0.70**	**270**	*ePg*	**Pg**	**00 39 12.9**	**-0.7**
BAR				*eS*	**Sg**	**00 39 22.0**	**-0.7**
BAR	**Barrett**	**0.70**	**270**	↑*eP*	**Pg**	**00 39 13.1**	**-0.5**
BAR				*eS*	**Sg**	**00 39 22.2**	**-0.5**
EMSC	**East Mesa**	**0.73**	**85**	*ePg*	**Pg**	**00 39 13.2**	**-1.0**
FRK	**Frink**	**0.74**	**14**	*ePg*	**Pg**	**00 39 13.2**	**-1.3**
RDX	**Rancho Dawling**	**0.75**	**186**	*i P*	**Pg**	**00 39 13.2**	**-1.4**
RDX				*eS*	**Sg**	**00 39 23.2**	**-1.4**
RDX	**Rancho Dawling**	**0.75**	**186**	↓*iP*	**Pg**	**00 39 13.2**	**-1.4**
RDX				*eS*	**Sg**	**00 39 23.2**	**-1.4**
BORC	**Borrego Spring**	**0.76**	**321**	*ePg*	**Pg**	**00 39 14.0**	**-0.7**
CBX	**Cerro Bola**	**0.78**	**242**	*i P*	**Pg**	**00 39 14.3**	**-0.8**
CBX				*eS*	**Sg**	**00 39 24.5**	**-0.9**
CBX	**Cerro Bola**	**0.78**	**242**	*i P*	**Pg**	**00 39 14.6**	**-0.6**
CBX				*eS*	**Sg**	**00 39 24.8**	**-0.7**
CBX	**Cerro Bola**	**0.78**	**242**	↑*iP*	**Pg**	**00 39 14.6**	**-0.6**
CBX				*eS*	**Sg**	**00 39 24.8**	**-0.7**
EML	**El Monte Cty P**	**0.87**	**284**	*ePg*	**Pg**	**00 39 15.8**	**-1.0**
SDRC	**San Diego Road**	**0.93**	**274**	↑*iP*	**Pg**	**00 39 16.9**	**-1.0**
SDRC				*eS*	**Sg**	**00 39 29.3**	**-0.6**
DPP	**Dos Picos Cty**	**0.97**	**289**	*ePg*	**Pg**	**00 39 17.8**	**-1.1**
CTCC	**Cactus City**	**0.98**	**353**	*ePg*	**Pg**	**00 39 16.9**	**-2.0**
CTW	**Cottonwood Mou**	**0.99**	**359**	*ePg*	**Pg**	**00 39 18.0**	**-1.2**
HWB	**Hans Werner Br**	**1.00**	**291**	*ePg*	**Pg**	**00 39 18.2**	**-1.1**
BC3	**Big Chuckawall**	**1.03**	**19**	↑P	**Pg**	**00 39 17.9**	**-2.0**
	baz=1.1						
FRD	**Ford Ranch, An**	**1.03**	**322**	*ePg*	**Pg**	**00 39 18.2**	**-1.7**
HAY	**Hayfield**	**1.03**	**8**	*ePg*	**Pg**	**00 39 18.0**	**-2.0**
PFO	**Pinyon Flats O**	**1.06**	**331**	Pg	**Pg**	**00 39 18.4**	**-2.1**
	2μm,0.3s,baz=151,slow=12,SNR=4417						
PFO				Lg	Lg	00 39 34.3	
	6μm,0.3s,baz=239,slow=8.8,SNR=44						
PFO	**Pinyon Flats O**	**1.06**	**331**	↑P	**Pg**	**00 39 18.5**	**-2.0**
	baz=1.1						
PFO				↓S	**Sb**	**00 39 33.3**	**-1.0**
	baz=1.1						
109C	**Camp Elliot, M**	**1.08**	**281**	↓P	**Pb**	**00 39 19.6**	**-1.1**
	baz=1.1						
109C				↓S	**Sb**	**00 39 33.6**	**-1.2**
	baz=1.1						
CPE	**Camp Elliot**	**1.08**	**281**	*ePg*	**Pb**	**00 39 19.6**	**-1.1**
SNDA	**J Saunders Pla**	**1.08**	**324**	*ePg*	**Pb**	**00 39 19.1**	**-1.7**
PLM	**Palomar**	**1.09**	**309**	*ePg*	**Pb**	**00 39 19.4**	**-1.5**
DNR	**Dunn Ranch,Anz**	**1.10**	**324**	*ePg*	**Pb**	**00 39 19.6**	**-1.5**
CRY	**Cary Ranch**	**1.16**	**320**	*ePg*	**Pb**	**00 39 20.2**	**-1.8**
PBX	**Punta Banda**	**1.20**	**219**	*eP*	**Pn**	**00 39 21.5**	**-1.1**
PBX				*eS*	**Sb**	**00 39 36.7**	**-1.3**
PBX	**Punta Banda**	**1.20**	**219**	↑*eP*	**Pn**	**00 39 21.5**	**-1.1**
PBX				*eS*	**Sb**	**00 39 36.7**	**-1.3**
ECNX	**Esteban Cantu**	**1.20**	**212**	*eP*	**Pn**	**00 39 21.5**	**-1.3**
ECNX				*eS*	**Sb**	**00 39 36.6**	**-1.8**
ZAX	**El Zacaton**	**1.22**	**197**	*eP*	**Pn**	**00 39 21.8**	**-1.2**
ZAX				*eS*	**Sb**	**00 39 37.4**	**-1.4**
BELC	**Belle Mtn. Jos**	**1.32**	**355**	*ePn*	**Pn**	**00 39 22.3**	**-2.2**
	baz=1.4						
BACC	**Bachelor Mtn.**	**1.37**	**313**	*ePn*	**Pn**	**00 39 23.0**	**-2.0**
DGR	**Domenigoni Val**	**1.37**	**315**	*ePn*	**Pn**	**00 39 23.3**	**-1.8**
HMTC	**Hemet**	**1.41**	**317**	*ePn*	**Pn**	**00 39 23.8**	**-1.8**
TPC	**Twentynine Pal**	**1.43**	**353**	*ePn*	**Pn**	**00 39 24.0**	**-2.0**
MURC	**Murrieta**	**1.46**	**309**	↑P	**Pn**	**00 39 24.5**	**-1.8**
	baz=1.5						
MURC				↓Sb	**Sg**	**00 39 45.4**	**-1.6**
	baz=1.5						
BLYC	**Blythe**	**1.54**	**46**	*ePn*	**Pn**	**00 39 25.2**	**-2.1**
Y12C	**Blythe**	**1.54**	**46**	↓P	**Pn**	**00 39 25.2**	**-2.2**
	baz=1.6						
IRM	**Iron Mountain**	**1.59**	**21**	*ePn*	**Pn**	**00 39 26.1**	**-1.9**
IRM	**Iron Mountain**	**1.59**	**21**	↓P	**Pn**	**00 39 26.1**	**-1.9**
	baz=1.6						
SPIG	**San Pedro Mart**	**1.66**	**169**	*i P*	**Pn**	**00 39 27.2**	**-2.1**
SPIG				*eS*	**Sn**	**00 39 49.0**	**-1.8**
SPIG	**San Pedro Mart**	**1.66**	**169**	*i P*	**Pn**	**00 39 27.2**	**-2.1**
SPIG				*eS*	**Sn**	**00 39 49.0**	**-1.8**
SPX	**San Pedro Mart**	**1.66**	**169**	*i P*	**Pn**	**00 39 27.2**	**-2.1**
SPX				*eS*	**Sn**	**00 39 49.7**	**-1.1**
SPX	**San Pedro Mart**	**1.66**	**169**	*eP4*	**Pn**	**00 39 26.8**	**-2.5**
SPX				*e*		00 39 53.4	
SPX				IAML		00 39 53.4	
	comp=N,6μm,0.5s						
SPX				IAML		00 39 55.6	
	comp=E,6μm,0.4s						
HDB	**Hidalgo Marine**	**1.75**	**348**	*ePn*	**Pn**	**00 39 29.0**	**-1.4**
113A	**Mohawk Valley,**	**1.76**	**87**	↓P	**Pn**	**00 39 27.9**	**-2.4**
	baz=1.7						
SVD	**Seven Oaks Dam**	**1.77**	**324**	*ePn*	**Pn**	**00 39 29.4**	**-1.1**
BBRC	**Big Bear Solar**	**1.82**	**331**	↓P	**Pn**	**00 39 30.1**	**-1.2**
	baz=1.8						
RVR	**Riverside**	**1.83**	**316**	*ePn*	**Pb**	**00 39 33.2**	**

W18A **Petrified Fore** 5.63 63 ⇑P Pn 00 40 24.1 +0.3
baz=5.6
R11A **Troy Canyon, C** 5.66 2 ePn Pn 00 40 24.4 +0.2
R11A **Troy Canyon, C** 5.66 2 ⇓P Pn 00 40 23.8 -0.4
baz=5.7
319A **Douglas** 5.73 101 ⇑P Pn 00 40 23.1 -2.0
baz=5.7
DWU **Dry Willow Pea** 5.89 22 ePn Pn 00 40 28.0 +0.6
BTU **Barney Top** 6.02 32 ePn Pn 00 40 30.9 +1.7
NV01 **Mina Array Sit** 6.08 341 ePn Pn 00 40 29.7 -0.2
NV01 ePg Pg 00 40 51.0 -5.4
NV01 eLg Lg 00 42 12.1
NVAR **Mina Array Bea** 6.08 341 Pn Pn 00 40 30.1 +0.2
comp=E,2.2nm,0.3s,baz=169,slow=16,SNR=17
NVAR Pg Pg 00 40 51.0 -5.4
comp=E,21nm,0.3s,baz=155,slow=18,SNR=30
NVAR Lg Lg 00 42 12.1
baz=166,slow=34,SNR=2.1
SAO **San Andreas Ge** 6.15 313 ePn Pn 00 40 34.0 +3.2
CMB **Columbia Colle** 6.50 327 ePn Pn 00 40 35.9 +0.3
WAKR **Walker** 6.50 334 ePn Pn 00 40 40.9 +5.1
MVU **Marysvale** 6.52 26 ePn Pn 00 40 37.5 +1.5
MSU **Marysvale** 6.54 26 ePn Pn 00 40 38.7 +2.4
MMU **Miners Mountai** 6.64 33 ePn Pn 00 40 38.8 +1.0
121A **Cookes Peak, D** 6.80 89 ⇑P Pn 00 40 38.7 -1.2
baz=6.8
FSU **Fish Springs** 7.30 15 ePn Pn 00 40 47.2 +0.5
LAZ **Ladron** 7.47 74 ePn Pn 00 40 48.7 -0.4
MVCO **Mesa Verde** 7.54 51 ePn Pn 00 40 51.8 +1.8
MVCO **Mesa Verde** 7.54 51 ⇑P Pn 00 40 51.1 +1.1
baz=7.5
LENM **Lemitar** 7.56 76 ePn Pn 00 40 49.9 -0.5
Y22D **IRIS PASSCAL I** 7.59 77 ⇓P Pn 00 40 50.5 -0.2
baz=7.6
DBD **Des Bee Dove** 7.66 29 ePn Pn 00 40 52.4 +0.8
PV05 **Paradox Valley** 7.70 44 ePn Pn 00 40 56.3 +4.0
SRU **San Rafael Swe** 7.73 32 ePn Pn 00 40 54.5 +1.9
BMN **Battle Mountai** 7.81 352 ePn Pn 00 40 55.2 +1.5
BNM **Barren Site** 7.85 77 ePn Pn 00 40 53.7 -0.6
LPM **Los Pinos Moun** 7.87 76 ePn Pn 00 40 54.0 -0.5
DUG **Dugway, Tooele** 7.89 17 ePn Pn 00 41 03.1 +8.4
PV10 **Paradox Valley** 7.94 42 ePn Pn 00 40 56.9 +1.3
PV09 **Paradox Valley** 7.97 41 ePn Pn 00 40 57.9 +1.9
PV01 **Paradox Valley** 8.05 45 ePn Pn 00 40 58.8 +1.7
ELK **Elko** 8.06 3 Pn Pn 00 40 59.2 +2.0
comp=E,0.4nm,0.3s,baz=188,slow=13,SNR=4.5
ELK Lg Lg 00 43 11.5
baz=248,slow=19,SNR=1.4
ELK LR LR 00 43 59.8
comp=E,535nm,19.3s,baz=180,slow=38
ELK **Elko** 8.06 3 ePn Pn 00 40 58.0 +0.8
ELK eLg Lg 00 43 11.5
MPU **Maple Canyon** 8.07 24 ePn Pn 00 41 01.7 +4.4
ANMO **Albuquerque** 8.13 71 Pn Pn 00 40 57.8 -0.3
comp=E,2.2nm,0.3s,baz=265,slow=12,SNR=108
ANMO Lg Lg 00 43 13.0
comp=E,0.8nm,0.3s,baz=168,slow=20,SNR=2.3
ANMO LR LR 00 44 11.7
comp=E,848nm,20.3s,baz=260,slow=40
ROA **Roan Cliffs** 8.26 31 ePn Pn 00 41 02.7 +2.7
ARGU **Argyle Ridge** 8.31 29 ePn Pn 00 41 04.1 +3.3
BGU **Big Grassy Mou** 8.53 15 ePn Pn 00 41 08.0 +4.4
MNTX **Cornudas Mount** 8.92 93 ePn Pn 00 41 07.8 -1.0
MNTX **Cornudas Mount** 8.92 93 ⇑P Pn 00 41 07.7 -1.1
baz=8.9
S22A **4UR Ranch, Cre** 8.94 53 ePn Pn 00 41 11.0 +1.7
S22A **4UR Ranch, Cre** 8.94 53 ⇑P Pn 00 41 10.3 +1.0
baz=8.9
HVU **Hansel Valley** 9.41 14 ePn Pn 00 41 19.5 +4.0
S23A **Nye Farm, Mont** 9.49 55 ⇑P Pn 00 41 17.2 +0.4
baz=9.5
HWUT **Hardware Ranch** 9.54 20 ePn Pn 00 41 21.8 +4.3
O20A **White River Ci** 9.63 37 ePn Pn 00 41 20.7 +2.0
O20A **White River Ci** 9.63 37 ⇑P Pn 00 41 19.5 +0.8
baz=9.7
SMCO **Snowmass** 9.68 45 ePn Pn 00 41 21.8 +2.2
LPIG **La Paz** 9.84 149 LR LR 00 45 09.2
comp=E,455nm,20.8s,baz=344,slow=38
R23A **Moffat** 9.85 53 ⇑P Pn 00 41 22.5 +0.8
baz=9.8
SDCO **Great Sand Dun** 9.86 56 ePn Pn 00 41 22.7 +0.8
SDCO **Great Sand Dun** 9.86 56 ⇑P Pn 00 41 22.6 +0.8
baz=9.9
WVOR **Wild Horse Val** 9.98 348 ePn Pn 00 41 29.8 +6.3
SLBS **Sierra La Lagu** 10.36 148 ePn Pn 00 41 32.9 +4.3
T25A **Trinidad** 10.39 61 ePn Pn 00 41 30.8 +1.7
T25A **Trinidad** 10.39 61 ⇑P Pn 00 41 29.9 +0.8
baz=10
P23A **Jefferson** 10.50 48 ⇓P Pn 00 41 31.9 +1.2
baz=10
YBH **Yreka Blue Hor** 10.56 331 Pn Pn 00 41 35.2 +3.9
comp=E,0.1nm,0.3s,baz=126,slow=8.4,SNR=3.9
YBH Lg Lg 00 44 32.0
comp=E,0.1nm,0.3s,baz=265,slow=23,SNR=3.0
YBH LR LR 00 46 09.4
comp=E,488nm,19.7s,baz=242,slow=41
O22A **Kremmling** 10.57 42 ⇓P Pn 00 41 32.8 +1.1
baz=11
Q24A **Divide** 10.71 51 ePn Pn 00 41 35.2 +1.7
Q24A **Divide** 10.71 51 ⇓P Pn 00 41 34.5 +0.9
baz=11
MFID **Camas Ranch** 10.72 0 ePn Pn 00 41 40.7 +7.2
K05A **Summer Lake** 10.79 340 ePn Pn 00 41 43.3 +8.7
ISCO **Idaho Springs** 10.89 46 ePn Pn 00 41 38.8 +2.8
ISCO **Idaho Springs** 10.89 46 ⇑P Pn 00 41 37.8 +1.8
baz=11
HLID **Hailey** 10.92 6 ePn Pn 00 41 41.0 +4.7
O23A **Lake Granby, G** 10.97 44 ⇑P Pn 00 41 39.2 +2.2
baz=11
TX31 **Lajitas Ar. Si** 10.97 104 ePn Pn 00 41 37.1 +0.2
LTX **Lajitas** 10.97 104 ePn Pn 00 41 37.0 0.0
TXAR **Lajitas Array** 10.97 104 Pn Pn 00 41 37.0 0.0
comp=E,0.9nm,0.3s,baz=287,slow=13,SNR=45
TXAR Lg Lg 00 44 38.3
comp=E,0.2nm,0.3s,baz=284,slow=26,SNR=2.9
TXAR LR LR 00 45 38.0
comp=E,349nm,21.6s,baz=0.0,slow=37
MSTX **Muleshoe** 11.02 80 ePn Pn 00 41 38.4 +0.9
228A **UT Block 9, Go** 11.22 89 ⇑P Pn 00 41 40.4 0.0
baz=11
BW06 **Boulder Array** 11.23 24 ePn Pn 00 41 43.5 +2.9
PD31 **Pinedale Array** 11.23 24 ePn Pn 00 41 42.6 +2.0
PDAR **Pinedale Array** 11.23 24 Pn Pn 00 41 42.6 +2.0
comp=E,0.2nm,0.3s,baz=199,slow=9.3,SNR=23
PDAR Lg Lg 00 44 50.8
comp=E,0.0nm,0.3s,baz=191,slow=34,SNR=2.3
PDAR LR LR 00 45 32.4
comp=E,90nm,20.8s,baz=210,slow=36
128A **Castleberry Fa** 11.27 87 ⇑P Pn 00 41 41.4 +0.4
baz=11
Z28A **Tucker Farm, M** 11.32 83 ⇓P Pn 00 41 42.2 +0.5
baz=11
REDW **Red Top Meadow** 11.37 19 ePn Pn 00 41 47.4 +5.0
J05D **Fort Rock, OR** 11.40 340 ⇑P Pn 00 41 44.9 +2.0
baz=11
N23A **Red Feather La** 11.40 41 ePn Pn 00 41 47.8 +4.7
N23A **Red Feather La** 11.40 41 ⇑P Pn 00 41 46.6 +3.6
baz=11
Y28A **McKinney Farm,** 11.45 80 ⇑P Pn 00 41 45.2 +1.8
baz=11
TPAW **Teton Pass** 11.46 18 ePn Pn 00 41 49.8 +6.1
X28A **Dimmitt** 11.53 77 ⇑P Pn 00 41 45.5 +0.9
baz=12
R26A **Arlington** 11.55 58 ⇓P Pn 00 41 42.9 -2.0
baz=12
T27A **Campo** 11.63 64 ⇑P Pn 00 41 47.4 +1.4
baz=12
LOHW **Long Hollow** 11.66 19 ePn Pn 00 41 51.0 +4.5
V28A **Channing** 11.69 71 ⇓P Pn 00 41 47.7 +0.9
baz=12
MOOW **Moose Ponds** 11.75 18 ePn Pn 00 41 51.5 +3.8
Q26A **Hugo** 11.78 55 ⇓P Pn 00 41 46.1 -2.0
baz=12
129A **Stewart Farms,** 11.79 86 ⇓P Pn 00 41 48.9 +0.8
baz=12
329A **Wagon Wheel Ra** 11.82 92 ⇑P Pn 00 41 47.1 -1.5
baz=12
U28A **Mallet** 11.82 68 ⇓P Pn 00 41 48.1 -0.6
baz=12
IMW **Indian Meadow** 11.84 18 ePn Pn 00 41 53.9 +5.0
J19A **Crowheart** 11.84 25 ⇓P Pn 00 41 48.2 -0.7
baz=12
Z29A **Hungry Hill Ra** 11.89 83 ⇑P Pn 00 41 49.0 -0.6
baz=12
229A **Bryant Ranch,** 11.90 90 ⇓P Pn 00 41 49.1 -0.5
baz=12
529A **Stev Forest Ra** 11.92 99 ⇓P Pn 00 41 48.4 -1.5
baz=12
Y29A **Porterfield Fa** 11.93 80 ⇓P Pn 00 41 51.9 +2.0
baz=12
X29A **Tulia** 11.93 78 ⇓P Pn 00 41 50.5 +0.4
baz=12
I17A **Pilgrim Ck.** 11.96 19 ⇓P Pn 00 41 49.8 -0.7
baz=12
AMTX **Amarillo** 11.99 76 ePn Pn 00 41 55.1 +4.2
AMTX **Amarillo** 11.99 76 ⇓P Pn 00 41 49.8 -1.1
baz=12
R27A **Eads** 12.01 59 ⇑P Pn 00 41 53.7 +2.5
baz=12
W29A **Amarillo** 12.05 74 ⇓P Pn 00 41 51.6 -0.1
baz=12
429A **Davenport Ranc** 12.06 96 ⇓P Pn 00 41 52.9 +1.0
baz=12
T28A **Walsh** 12.11 65 ⇓P Pn 00 41 54.0 +1.5
baz=12
BMO **Blue Mountains** 12.21 355 ePn P 00 42 00.0 -6.4
P26A **Davis Ranch, A** 12.21 52 ⇑P Pn 00 41 56.0 +2.0
baz=12
I04A **Tendick Farm,** 12.23 337 ⇑P Pn 00 41 57.6 +3.5
baz=12
J20A **Shoshoni** 12.28 28 ⇑P Pn 00 41 56.7 +1.8
baz=12
MCMT **McKenzie Canyo** 12.35 10 ePn P 00 42 02.4 -5.8
Z30A **Sanderson Ranc** 12.38 83 ⇑P Pn 00 41 56.6 +0.5
baz=12
K22A **Casper** 12.38 34 ePn Pn 00 41 58.0 +1.7
K22A **Casper** 12.38 34 ⇓P Pn 00 41 56.5 +0.2
baz=12
I05D **Terrebonne, OR** 12.40 341 ⇓P Pn 00 41 58.5 +2.0
baz=12
S28A **Manter** 12.42 63 ⇓P Pn 00 41 57.2 +0.5
baz=12
330A **Mertzon** 12.51 92 ⇑P Pn 00 41 58.0 0.0
baz=12
J21A **Lysite** 12.53 29 ⇓P Pn 00 42 00.1 +1.7
baz=13
130A **Snyder** 12.55 86 ⇓P Pn 00 41 58.4 0.0
baz=12
Y30A **Stafford Cattl** 12.57 80 ⇓P Pn 00 42 00.2 +1.4
baz=12
430A **Baggett Ranch,** 12.58 95 ⇓P Pn 00 42 02.0 +3.0
baz=12
X30A **Coker Ranch, T** 12.61 78 ⇑P Pn 00 41 58.8 -0.6
baz=13
530A **J-C Ranch, Com** 12.65 98 ⇓P Pn 00 41 59.9 0.0
baz=13
I20A **Worland** 12.77 26 ⇑P Pn 00 42 02.4 +0.8
baz=13
G08A **Pilot Rock** 12.82 350 ePn P 00 42 07.8 -5.4
K23A **Bowen Ranch, D** 12.90 36 ⇓P Pn 00 42 02.5 -0.8
baz=13
I21A **Big Trails, Te** 12.98 29 ⇑P Pn 00 42 04.2 -0.2
baz=13
J22A **Midwest** 13.00 32 ⇓P Pn 00 42 05.5 +0.7
baz=13
U30A **WK&E Inc. Balk** 13.09 69 ⇑P Pn 00 42 06.4 +0.4
baz=13
Y31A **Rekieta Farm,** 13.10 80 ⇑P Pn 00 42 04.9 -1.1
baz=13
431A **Sonora** 13.13 95 ⇑P Pn 00 42 07.5 +1.0
baz=13
231A **Bronte** 13.16 89 ⇓P Pn 00 42 06.8 0.0
baz=13
331A **San Angelo** 13.16 92 ⇓P Pn 00 42 06.8 0.0
baz=13
Z31A **Sharp Cattle R** 13.20 83 ⇑P Pn 00 42 07.3 0.0
baz=13
R29A **Marienthal** 13.27 60 ⇓P Pn 00 42 08.9 +0.5
baz=13
H20A **Greybull** 13.28 25 ⇑P Pn 00 42 09.3 +0.9
baz=13
531A **Rocksprings** 13.31 97 ⇑P Pn 00 42 09.9 +1.0
baz=13
T30A **Plains** 13.31 67 ⇓P Pn 00 42 08.9 0.0
baz=13
L25A **Engebretsen Ra** 13.35 42 ⇓P Pn 00 42 09.6 +0.1
baz=13
X31A **McDonald Ranch** 13.36 77 ⇑P Pn 00 42 09.0 -0.6
baz=13
I22A **9 Mile Ranch,** 13.38 31 ⇓P Pn 00 42 12.2 +2.3
baz=13
LRM **Limekiln Ridge** 13.38 10 ePn P 00 42 15.1 -4.5
N27A **Anderson Farm,** 13.39 49 ⇓P Pn 00 42 11.1 +1.1
baz=13
RLMT **Red Lodge** 13.43 20 ePn P 00 42 17.2 -2.9
W31A **Holland Ranch,** 13.44 75 ⇓P Pn 00 42 10.1 -0.6
baz=13
Q29A **Oakley** 13.56 59 ⇓P Pn 00 42 12.8 +0.5
baz=14
V31A **Spring Creek L** 13.60 72 ⇓P Pn 00 42 15.3 +2.5
baz=14
ABTX **Abilene, Hawle** 13.66 86 ePn Pn 00 42 15.7 +2.1
ABTX **Abilene, Hawle** 13.66 86 ⇓P Pn 00 42 14.1 +0.5
baz=14
K25A **Mack Ranch, Ha** 13.71 40 ⇑P Pn 00 42 16.5 +2.2
baz=14
332A **Millersview** 13.73 91 ⇓P Pn 00 42 14.5 0.0
baz=14
232A **Coleman** 13.73 89 ⇑P Pn 00 42 13.1 -1.6
baz=14
Z32A **Haskell** 13.76 83 ⇑P Pn 00 42 15.4 +0.5
baz=14
432A **Menard** 13.78 93 ⇑P Pn 00 42 14.7 -0.5
baz=14
Y32A **R-V Farms, Ver** 13.78 80 ⇑P Pn 00 42 17.8 +2.5
baz=14
G20A **Bridger** 13.85 23 ⇓P Pn 00 42 18.6 +2.4
baz=14
532A **Rocksprings** 13.85 96 ⇓P Pn 00 42 18.8 +2.5
baz=14
JCT **Junction City** 13.86 95 ePn Pn 00 42 18.7 +2.4
JCT **Junction City** 13.86 95 ⇓P Pn 00 42 16.8 +0.5
baz=14
E09A **Wood Farm, Sta** 13.93 353 ePn P 00 42 22.1 -3.2
HAWA **Hanford** 13.98 349 ePn P 00 42 23.0 -3.0
632A **Uvalde** 14.12 99 ⇑P Pn 00 42 22.5 +2.6
baz=14
F04A **Arroyo** 14.17 341 ePn P 00 42 24.1 -4.0
F19A **Roth Farm, Mol** 14.19 20 ⇑P Pn 00 42 23.8 +2.9
baz=14
MSO **Missoula** 14.21 5 ePn P 00 42 25.4 -3.2
MSO **Missoula** 14.21 5 ⇓P P 00 42 25.1 -3.4
baz=14
732A **Laxson Ranch,** 14.21 102 ⇓P Pn 00 42 21.3 +0.1
baz=14
133A **Hamilton Ranch** 14.27 86 ⇑P Pn 00 42 21.4 -0.6
baz=14
P30A **Selden** 14.34 57 ⇓P Pn 00 42 22.9 0.0
baz=14
233A **Rising Star** 14.35 88 ⇓P Pn 00 42 22.4 -0.6
baz=14
Z33A **Whitaker Ranch** 14.35 83 ⇓P Pn 00 42 24.0 +0.9
baz=14
CHMT **Chamberlain Mo** 14.36 7 ePn P 00 42 27.5 -2.9
WMOK **Wichita Mounta** 14.36 77 ePn Pn 00 42 23.6 +0.5
333A **Richland Sprin** 14.38 91 ⇑P Pn 00 42 24.3 +0.9
baz=14
433A **Art** 14.39 93 ⇑P Pn 00 42 24.8 +1.2
baz=14
R31A **Burdett** 14.42 63 ⇓P Pn 00 42 24.9 +0.9
baz=14
Y33A **Hilltop Ranch,** 14.46 80 ⇓P Pn 00 42 25.7 +1.1
baz=14
D08A **Wollman Farm,** 14.55 352 ePn P 00 42 29.2 -3.1
533A **Kerrville** 14.60 96 ⇓P Pn 00 42 25.8 -0.7
baz=15
SLMT **Seeley Lake** 14.65 6 ePn P 00 42 31.1 -2.5
RSSD **Black Hills** 14.69 36 ePn Pn 00 42 28.5 +0.7
LON **Longmire** 14.78 344 ePn P 00 42 33.0 -1.8
SWMT **Swartz Lake** 14.88 5 ePn P 00 42 37.0 +1.0
G23A **Biddle** 14.90 30 ⇑P Pn 00 42 28.7 -1.9
baz=15
134A **White-Moore Ra** 14.98 86 ⇑P Pn 00 42 31.4 -0.2
baz=15
234A **Clairette** 14.99 88 ⇑P Pn 00 42 30.6 -1.2
baz=15
334A **Lometa** 15.00 90 ⇓P Pn 00 42 32.3 +0.4
baz=15
F22A **Rosebud** 15.03 27 ⇑P Pn 00 42 32.5 +0.3
baz=15
Z34A **Collier Ranch,** 15.06 83 ⇓P Pn 00 42 31.5 -1.2
baz=15
434A **Burnet** 15.07 92 ⇓P Pn 00 42 32.8 -0.1
baz=15
R32A **Long Quarter,** 15.07 63 ⇓P Pn 00 42 32.7 -0.1
baz=15
534A **Blanco** 15.08 95 ⇑P Pn 00 42 32.3 -0.6
baz=15
U33A **Lingo Farm, Me** 15.08 71 ⇑P Pn 00 42 33.1 +0.1
baz=15
JTMT **Jette** 15.10 4 ePn P 00 42 41.6 +3.2
T33A **Patterson Ranc** 15.10 68 ⇓P Pn 00 42 31.7 -1.4
baz=15
X34A **Smith Ranch, M** 15.13 78 ⇓P Pn 00 42 33.7 +0.1
baz=15
BSMT **Bassoo Peak** 15.18 3 ePn Pn 00 42 35.9 +1.6
Y34A **Reagan Ranch,** 15.18 80 ⇓P Pn 00 42 34.9 +0.6
baz=15
933A **Laredo** 15.20 105 ⇓P Pn 00 42 35.4 +0.8
baz=15
W34A **Bridge Creek,** 15.21 75 ePn Pn 00 42 36.1 +1.4
comp=E,54nm,1.4s
C09A **Chrisman Ranch** 15.22 354 ePn P 00 42 38.4 -1.3
comp=E,13nm,0.9s
H25A **Fruitdale** 15.27 35 ⇓P Pn 00 42 36.9 +1.4
baz=15
V34A **Guthrie** 15.48 73 ePn Pn 00 42 39.1 +0.9
comp=E,30nm,1.0s
V34A **Guthrie** 15.48 73 ⇑P Pn 00 42 38.6 +0.3
baz=15
135A **Vickery Place,** 15.54 85 ⇑P Pn 00 42 39.6 +0.6
baz=16
U34A **Anderson Ranch** 15.54 71 ePn Pn 00 42 39.6 +0.5
comp=E,45nm,1.0s
U34A **Anderson Ranch** 15.54 71 ⇑P Pn 00 42 38.4 -0.7
baz=16
WHTX **Lake Whitney,** 15.56 88 ePn Pn 00 42 39.8 +0.5
comp=E,163nm,1.6s
WHTX **Lake Whitney,** 15.56 88 ⇓P Pn 00 42 39.7 +0.4
baz=16
R33A **Olander Ranch,** 15.59 64 ⇓P Pn 00 42 39.5 -0.2
baz=16
834A **Tilden** 15.60 102 ⇑P Pn 00 42 41.3 +1.6
baz=16
NEW **Newport** 15.60 357 Pn P 00 42 42.4 -1.6
comp=E,0.1nm,0.3s,baz=175,slow=12,SNR=14
NEW Lg Lg 00 47 09.0
baz=72,slow=16,SNR=2.0
NEW LR LR 00 48 49.9
comp=E,328nm,18.5s,baz=182,slow=38
NEW **Newport** 15.60 357 ePn P 00 42 43.0 -0.9
comp=E,14nm,0.8s
NEW Lg Lg 00 47 09.0
NEW **Newport** 15.60 357 ⇓P P 00 42 42.0 -2.0
baz=16
335A **Moody** 15.70 90 ⇑P Pn 00 42 41.4 +0.4
baz=16
X35A **Drake** 15.83 79 ⇑P Pn 00 42 42.4 -0.5
baz=16
K29A **Lazy Trails An** 15.86 46 ⇓P Pn 00 42 42.6 -0.5
baz=16
B08A **Colville Reser** 15.88 351 ePn P 00 42 46.1 -1.0
comp=E,12nm,1.1s
C19A **Slack Wire Ran** 15.90 17 ⇓P P 00 42 46.3 -1.0
baz=16
034A **Hebbronville** 15.90 106 ⇑P Pn 00 42 44.5 +0.8
baz=16
W35A **Tecumseh** 15.94 76 ⇓P Pn 00 42 44.3 +0.1
baz=16
EGMT **Eagleton** 16.01 15 ePn P 00 42 50.6 +2.1
comp=E,33nm,1.4s
EGMT **Eagleton** 16.01 15 ⇑P P 00 42 46.9 -1.6
baz=16
V35A **Meyer Ranch, C** 16.02 74 ⇑P Pn 00 42 45.0 -0.2
baz=16
H27A **Howes** 16.04 38 ⇑P P 00 42 47.4 -1.5
baz=16
I28A **Midland** 16.11 41 ⇑P P 00 42 48.0 -1.7
baz=16
S34A **Willow Spring** 16.11 67 ⇑P P 00 42 47.8 -1.9
baz=16
336A **Riesel** 16.17 89 ⇑P Pn 00 42 48.3 +1.2
baz=16
J29A **Okreek** 16.23 44 ⇓P Pn 00 42 48.7 +0.8
baz=16
G26A **Maurine** 16.24 35 ⇓P P 00 42 50.0 -1.1
baz=16
K30A **Basset** 16.24 47 ⇑P P 00 42 49.6 -1.5
baz=16
236A **Katherine and** 16.34 87 ⇑P Pn 00 42 48.9 -0.4
baz=16
X36A **Centrahoma** 16.35 78 ⇓P Pn 00 42 50.3 +0.9
baz=16
636A **Smothers Creek** 16.41 96 ⇑P Pn 00 42 50.7 +0.4
baz=16
WALA **Waterton Lakes** 16.43 5 ePn P 00 42 54.1 +0.9
comp=E,713nm,0.9s
T35A **Sooner Cattle** 16.43 70 ⇑P P 00 42 51.6 -1.6
baz=16
E24A **Baker** 16.44 29 ⇓P Pn 00 42 51.1 +0.5
baz=16
Q34A **Chapman** 16.54 63 ⇑P Pn 00 42 52.3 +0.4
baz=16
736A **Circle Diamond** 16.55 98 ⇓P Pn 00 42 52.8 +0.7
baz=16
S35A **Otter Creek Ra** 16.72 67 ⇓P Pn 00 42 52.7 -1.5
baz=17
E25A **Miller Ranch,** 16.78 31 ⇓P P 00 42 55.3 -1.8
baz=17
KSU1 **Kansas State U** 16.84 62 ePn P 00 42 57.8 +0.1
comp=E,37nm,0.9s
KSU1 **Kansas State U** 16.84 62 ⇓P Pn 00 42 55.2 -0.4
baz=17
TUL1 **Leonard** 16.88 73 ePn P 00 42 57.5 -0.7
comp=E,42nm,1.2s
TUL1 **Leonard** 16.88 73 ⇑P P 00 42 56.8 -1.5
baz=17
A19A **Klindworth Far** 17.09 16 ⇑P Pn 00 42 58.5 -0.2
baz=17
W37A **Quinton** 17.13 76 ⇑P Pn 00 42 57.2 -2.1
baz=17
X37A **Clayton** 17.16 78 ⇑P Pn 00 42 56.8 -2.8
baz=17
Q35A **Mercer Eighty,** 17.21 63 ⇓P Pn 00 42 59.3 -1.0
baz=17
S36A **Lake Cedric, C** 17.29 67 ⇓P Pn 00 43 01.4 +0.1
baz=17
HKT **Hockley** 17.32 94 ePn P 00 43 03.3 +0.3
comp=E,51nm,1.5s
438A **Sam Houston St** 17.44 91 ⇑P Pn 00 43 02.0 -1.2
baz=17
338A **Crockett** 17.47 89 ⇓P Pn 00 43 01.8 -1.8
baz=17
R36A **Gordon, Harris** 17.48 66 ⇓P Pn 00 43 02.7 -1.0
baz=18
Z38A **Mt. Pleasant** 17.52 82 ⇑P Pn 00 43 03.4 -0.7
baz=18
238A **Jacksonville** 17.53 87 ⇓P P 00 43 05.9 +0.5
baz=18
W38A **Poteau** 17.87 76 ⇑P P 00 43 09.3 +0.2
baz=18
A22A **Carney Farms,** 17.92 22 ⇑P P 00 43 09.6 -0.1
baz=18
R37A **Teagarden Farm** 18.00 66 ⇑P P 00 43 09.9 -0.7
baz=18
Q37A **Longview Farm,** 18.41 64 ⇑P Pn 00 43 14.6 -0.5
baz=18
MIAR **Mount Ida** 18.64 78 eP Pn 00 43 18.7 +0.7
comp=E,51nm,1.1s
340A **Bronson** 18.66 88 ⇑P P 00 43 17.1 -0.7
baz=19
ECSD **EROS Data Cent** 18.67 48 eP Pn 00 43 19.3 +1.1
comp=E,18nm,1.3s
ECSD **EROS Data Cent** 18.67 48 ⇓P Pn 00 43 17.8 -0.4
baz=19
EDM **Edmonton** 20.61 4 eP Pn 00 43 41.9 +0.6
PBMO **Poplar Bluff** 21.27 72 eP P 00 43 46.9 +0.7
comp=E,20nm,1.1s
VBMS **Vicksburg** 21.37 84 eP P 00 43 50.1 +2.8
comp=E,107nm,1.1s
AGMN **Agassiz Nation** 21.68 38 eP P 00 43 52.3 +1.7
comp=E,34nm,1.0s
AGMN **Agassiz Nation** 21.68 38 ⇓P P 00 43 50.1 -0.5
baz=22
SPMN **Marine on St.** 21.78 48 eP P 00 43 53.7 +2.1
comp=E,12nm,0.8s
SPMN **Marine on St.** 21.78 48 ⇑P P 00 43 52.1 +0.4
baz=22
OXF **Oxford** 22.08 78 eP P 00 43 56.9 +1.9
comp=E,32nm,0.9s

JFWS	**Jewell Farm**	**22.58**	**56**	*e*P	**P**	**00 44 02.0**	**+1.7**
	comp=E,24nm,1.0s						
HDIL	**Hopedale**	**22.66**	**62**	*e*P	**P**	**00 44 02.0**	**+0.9**
	comp=E,25nm,0.9s						
HDIL				*e*S	**S**	**00 48 08.4**	**-0.6**
ULM	**Lac du Bonnet**	**22.95**	**34**	P	**P**	**00 44 04.6**	**+0.6**
	comp=E,18nm,1.0s,baz=226,slow=9.8,SNR=17						
ULM				LR	LR	00 52 59.6	
	comp=E,173nm,21.4s,baz=268,slow=37						
ULM	**Lac du Bonnet**	**22.95**	**34**	*e*P	**P**	**00 44 04.8**	**+0.7**
	comp=E,17nm,0.9s						
OLIL	**Olney**	**23.28**	**67**	*e*P	**P**	**00 44 08.8**	**+1.2**
	comp=E,29nm,1.2s						
WVT	**Waverly**	**23.34**	**74**	*e*P	**P**	**00 44 08.8**	**+0.7**
	comp=E,61nm,2.2s						
EYMN	**Ely**	**23.89**	**43**	*e*P	P	00 44 17.7	+4.3
	comp=E,8.2nm,1.0s						
FFC	**Flin Flon**	**24.12**	**20**	*e*P	**P**	**00 44 18.9**	**+3.3**
	comp=E,39nm,1.9s						
CMIG	**Matias Romero**	**24.48**	**124**	P	**P**	**00 44 18.7**	**-0.4**
	comp=E,1.4nm,0.3s,baz=343,slow=15,SNR=2.8						
BLO	**Bloomington**	**24.55**	**66**	*e*P	**P**	**00 44 21.2**	**+1.5**
	comp=E,89nm,1.8s						
TKL	**Tuckaleechee C**	**26.64**	**75**	LR	LR	00 55 43.2	
	comp=E,322nm,21.0s,baz=269,slow=38						
ACSO	**Alum Creek Sta**	**27.37**	**65**	*e*P	**P**	**00 44 46.7**	**+1.5**
	comp=E,31nm,0.8s						
DLBC	**Dease Lake**	**27.49**	**344**	P	**P**	**00 44 47.8**	**+1.7**
	comp=E,1.6nm,0.7s,baz=172,slow=9.7,SNR=4.3						
DLBC	**Dease Lake**	**27.49**	**344**	*e*P	**P**	**00 44 47.8**	**+1.7**
	comp=E,19nm,1.6s						
YKA	**Yellowknife Ar**	**29.84**	**1**	P	**P**	**00 45 08.1**	**+1.2**
	comp=E,0.9nm,0.8s,baz=185,slow=8.7,SNR=3.6						
YKB5	**Yellowknife Ar**	**29.84**	**1**	*e*P	**P**	**00 45 08.1**	**+1.2**
DAWY	**Dawson**	**34.65**	**342**	*e*P	P	00 45 55.0	+5.9
INK	**Inuvik**	**37.10**	**349**	P	**P**	**00 46 11.3**	**+1.4**
	comp=E,3.4nm,0.8s,baz=98,slow=12,SNR=3.4						
INK				LR	LR	01 01 46.3	
	comp=E,364nm,19.2s,baz=202,slow=37						
INK	**Inuvik**	**37.10**	**349**	*e*P	P	00 46 16.1	+6.2
	comp=E,6.1nm,1.0s						
IL1	**Eielson Array**	**37.33**	**339**	*e*P	**P**	**00 46 13.6**	**+1.7**
ILAR	**Eielson Array**	**37.33**	**339**	P	**P**	**00 46 13.9**	**+2.0**
	comp=E,2.2nm,0.8s,baz=156,slow=7.7,SNR=14						
ILB	**Eielson Array**	**37.33**	**339**	*e*P	**P**	**00 46 13.9**	**+2.0**
KTH	**Kantishna Hill**	**37.86**	**335**	*e*P	P	00 46 19.2	+2.7
	comp=E,4.0nm,0.8s						
BPAW	**Bear Paw Mtn.**	**38.22**	**336**	*e*P	**P**	**00 46 21.4**	**+1.9**
	comp=E,1.0nm,0.9s						
MLY	**Manley**	**38.72**	**337**	*e*P	**P**	**00 46 26.0**	**+2.2**
	comp=E,3.6nm,0.8s						
IM04	**Indian Mountai**	**40.31**	**337**	*e*P	**P**	**00 46 38.7**	**+1.8**
SCHQ	**Schefferville**	**40.68**	**42**	P	**P**	**00 46 39.7**	**-0.5**
	comp=E,4.8nm,1.1s,baz=265,slow=11,SNR=2.4						
SCHQ	**Schefferville**	**40.68**	**42**	*e*P	**P**	**00 46 39.7**	**-0.5**
	comp=E,236nm,3.0s						
SDV	**Santo Domingo**	**47.97**	**109**	*e*P	**P**	**00 47 40.7**	**+1.5**
	comp=E,6.2nm,0.9s						
SUMG	**Summit**	**55.40**	**21**	*i* P	P	00 48 39.6	+5.4
	comp=E,4.8nm,0.8s						
SEY	**Seymchan**	**62.23**	**329**	P	**P**	**00 49 21.7**	**+0.4**
	comp=E,0.6nm,0.4s,baz=17,slow=20,SNR=2.8						
PEA2	**Petropavlovsk-**	**62.60**	**317**	*e*P	P	00 49 27.1	+3.2
PETK	**Petropavlovsk-**	**62.60**	**317**	P	P	00 49 27.2	+3.2
	comp=E,1.8nm,0.7s,baz=81,slow=13,SNR=3.1						
ARA0	**ARCESS Array S**	**74.25**	**13**	*e*P	**P**	**00 50 37.8**	**+1.2**
ARCES	**ARCESS Array B**	**74.25**	**13**	P	**P**	**00 50 37.8**	**+1.2**
	comp=E,1.4nm,0.7s,baz=31,slow=7.4,SNR=3.3						
QUIF	**Quistinic**	**79.70**	**39**	*e*P	P	00 51 12.9	+5.3
	comp=E,13nm,1.1s						
LDF	**La Druitiere**	**80.86**	**37**	*e*P	P	00 51 18.6	+4.8
	comp=E,5.3nm,0.8s						
FIA0	**FINESS Array S**	**81.24**	**17**	*e*P	**P**	**00 51 16.7**	**+1.1**
FINES	**FINESS Array B**	**81.24**	**17**	P	**P**	**00 51 16.7**	**+1.1**
	comp=E,1.6nm,0.7s,baz=324,slow=6.9,SNR=3.4						
MFF	**Saint Martin d**	**82.12**	**39**	*e*P	P	00 51 25.4	+4.8
BGF	**Bois d'Agland**	**83.71**	**38**	*e*P	P	00 51 33.4	+4.6
LOR	**Lormes**	**83.75**	**37**	*e*P	P	00 51 34.0	+5.0
	comp=E,11nm,1.0s						
RJF	**Les Rejaudoux**	**83.85**	**39**	*e*P	P	00 51 34.1	+4.5
SMF	**Signal de Mont**	**84.16**	**37**	*e*P	P	00 51 35.5	+4.4
ESDC	**Sonseca Array**	**84.31**	**46**	P	**P**	**00 51 32.7**	**+0.6**
	comp=E,0.2nm,0.3s,baz=306,slow=4.7,SNR=4.3						
HAU	**Haudompre**	**84.47**	**35**	*e*P	P	00 51 37.4	+4.7
	comp=E,6.0nm,0.8s						
SONA0	**Songino Array**	**91.35**	**333**	*e*P	P	00 52 09.5	+3.6
SONM	**Songino Array**	**91.35**	**333**	P	P	00 52 09.5	+3.6
	comp=E,0.3nm,0.5s,baz=29,slow=3.3,SNR=3.5						
ZAA1	**Zalesovo Array**	**91.89**	**348**	*e*P	P	00 52 11.3	+3.2
ZAA0	**Zalesovo Array**	**91.89**	**348**	*e*P	P	00 52 12.8	+4.7
ZALV	**Zalesovo Beam**	**91.89**	**348**	P	P	00 52 11.3	+3.2
	comp=E,1.3nm,0.6s,baz=2.1,slow=3.4,SNR=7.1						
BVAR	**Borovoye Array**	**94.48**	**356**	P	**P**	**00 52 21.5**	**+1.5**
	comp=E,0.8nm,0.8s,baz=14,slow=1.8,SNR=1.9						
KURK	**Kurchatov**	**95.99**	**351**	*e*P	P	00 52 29.7	+2.8
KURBB	**Kurchatov Arra**	**96.09**	**351**	P	**P**	**00 52 29.7**	**+2.3**
	comp=E,0.6nm,0.7s,baz=16,slow=4.7,SNR=7.0						
WRA	**Warramunga Arr**	**116.82**	**263**	PKP	**PKPdf**	**00 57 47.8**	**+2.8**
	comp=E,0.6nm,0.7s,baz=68,slow=2.2,SNR=4.3						

*ISCJB **19** 00:43:08.5±0.3,27.07S±0.03×178.16W±0.09,h300km, mb4.5/28, Error ellipse: s-maj=10.8km s-min=3.3km az=11.1*
*NEIC **19** 00:43:09.5±0.9,26.73S×178.36W,h280km±10km, mb4.9/21, Error ellipse: s-maj=12.9km s-min=8.6km az=130.0*
*IDC **19** 00:43:10.1±1.8,26.67S×178.29W,h282km±17km, mb4.0/14,mb1 4.0/15,mb1mx3.9/21,mbtmp4.6/15, Error ellipse: s-maj=19.3km s-min=18.0km az=65.0*

ISC 19 00:43:10.3±0.5,27.12S±0.05×178.26W±0.09,h300km, n122,σ1§53/121,mb4.6/28,8C-9D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.15**	**172**	P	**Pn**	**00 44 00.2**	**+2.0**
	5μm,0.3s,baz=330,slow=2.6,SNR=93						
RAO				S	**S**	**00 44 39.1**	**+2.8**
	244nm,0.3s,baz=287,slow=19,SNR=3.1						
RAO	**Raoul Island**	**2.15**	**172**	*e*Pn	**Pn**	**00 43 59.3**	**+1.1**
RAO				*e*S	**S**	**00 44 39.9**	**+3.5**
MSVF	**Nonsavu**	**9.94**	**339**	*e*Pn	Pn	00 45 23.1	-4.8
OUZ	**Omahuta**	**10.67**	**219**	*e*Pn	**P**	**00 45 40.8**	**+1.5**
MXZ	**Matakaoa Point**	**10.81**	**195**	*e*PN	Pn	00 45 35.4	-2.8
MXZ				*e*SN	**S**	**00 47 38.8**	**-0.5**
WMGZ	**Waiomatatini S**	**11.03**	**194**	*e*PN	**Pn**	**00 45 38.5**	**-2.4**
HAZ	**Te Kaha**	**11.12**	**196**	*e*PN	Pn	00 45 40.3	-1.7
HAZ				*e*SN	**S**	**00 47 44.2**	**-2.1**
PUZ	**Puketiti**	**11.31**	**194**	*e*PN	Pn	00 45 40.8	-3.6
PUZ				*e*SN	S	00 47 44.5	-6.2
MWZ	**Matawai**	**11.73**	**197**	*e*PN	Pn	00 45 46.0	-3.5
MWZ				*e*SN	**S**	**00 47 57.2**	**-3.1**
URZ	**Urewera**	**11.77**	**198**	P	**P**	**00 45 51.5**	**0.0**
	4.9nm,0.3s,baz=274,slow=4.7,SNR=16						
URZ				S	**S**	**00 48 00.4**	**-0.7**
	21nm,0.3s,baz=264,slow=3.9,SNR=13						
URZ	**Urewera**	**11.77**	**198**	*e*PN	**Pn**	**00 45 47.4**	**-2.5**
URZ				*e*SN	**S**	**00 48 00.2**	**-0.8**
RIGZ	**Rimuhau**	**12.03**	**195**	*e*PN	**P**	**00 45 54.7**	**+0.2**
KNZ	**Kokohu**	**12.35**	**195**	*e*PN	**P**	**00 45 57.6**	**-0.3**
KNZ				*e*SN	**S**	**00 48 10.2**	**-3.7**
RAHZ	**Arahi**	**12.40**	**197**	*e*PN	**Pn**	**00 45 57.9**	**+0.4**
WHHZ	**Waihua**	**12.51**	**196**	*e*SN	**S**	**00 48 15.4**	**-2.2**
BKZ	**Black Stump Fm**	**12.79**	**199**	*e*PN	**Pn**	**00 46 01.8**	**-0.5**
BKZ				*e*SN	**S**	**00 48 21.4**	**-2.7**
BKZ	**Black Stump Fm**	**12.79**	**199**	*e*Pn	**Pn**	**00 46 02.5**	**+0.1**
WNVZ	**Wahianoa**	**13.21**	**201**	*e*PN	**P**	**00 46 08.3**	**+0.6**
BHHZ	**Black Hill Sta**	**13.21**	**200**	*e*PN	**Pn**	**00 46 07.3**	**-0.2**
KRHZ	**Kereru**	**13.27**	**198**	*e*PN	**Pn**	**00 46 06.9**	**-1.2**
BFZ	**Birch Farm**	**14.27**	**197**	*e*PN	P	00 46 16.4	-2.8
BFZ				*e*SN	S	00 48 50.8	-5.3
BFZ	**Birch Farm**	**14.27**	**197**	*e*PN	**P**	**00 46 19.4**	**+0.2**
MRZ	**Mangatainoka R**	**14.44**	**199**	*e*PN	P	00 46 17.7	-3.4
MRZ				*e*SN	S	00 48 53.2	-6.3
TIWZ	**Tintock**	**14.46**	**198**	*e*PN	**P**	**00 46 19.8**	**-1.5**
AFI	**Afiamalu**	**14.47**	**26**	*e*P	P	00 46 14.9	-6.8
OGWZ	**Otaki Gorge**	**14.71**	**200**	*e*PN	**P**	**00 46 23.5**	**-0.4**
DZM	**Mont Dzumac**	**14.79**	**287**	P	**Pn**	**00 46 26.3**	**-0.1**
	1.2nm,0.3s,baz=90,slow=24,SNR=25						
KIW	**Kapiti Island**	**14.83**	**201**	*e*PN	**P**	**00 46 24.9**	**-0.5**
TCW	**Tory Channel**	**15.35**	**202**	*e*SN	**S**	**00 49 14.6**	**-3.0**
QRZ	**Quartz Range**	**15.65**	**207**	*e*PN	**Pn**	**00 46 36.3**	**+0.1**
TUWZ	**Tuamarina**	**15.65**	**202**	*e*PN	**P**	**00 46 34.9**	**+0.5**

THZ	**Tophouse**	**16.31**	**204**	PN	**P**	**00 46 41.8**	**+0.2**
THZ				*e*SN	**S**	**00 49 36.5**	**-0.6**
CTZ	**Chatham Island**	**16.63**	**176**	*e*PN	Pn	00 47 00.3	+13
CTZ				*e*SN	S	00 49 56.5	+13
KHZ	**Kahutara**	**16.67**	**202**	*e*P	**P**	**00 46 46.0**	**+0.6**
	212nm,2.1s						
KHZ				*e*S	**S**	**00 49 45.8**	**+1.7**
OXZ	**Oxford**	**17.99**	**203**	*e*SN	**S**	**00 50 10.4**	**+0.3**
RPZ	**Rata Peaks**	**18.68**	**205**	P	P	00 47 14.8	+7.7
	1.0nm,0.3s,baz=31,slow=5.9,SNR=5.0						
RPZ				S	**S**	**00 50 28.1**	**+4.4**
	2.8nm,0.3s,baz=234,slow=2.4,SNR=13						
RPZ	**Rata Peaks**	**18.68**	**205**	*e*P	P	00 47 11.9	+4.8
	242nm,2.8s						
RPZ				*e*S	**S**	**00 50 28.1**	**+4.4**
ODZ	**Otahua Downs**	**19.98**	**204**	*e*P	**P**	**00 47 25.4**	**+4.6**
	107nm,2.1s						
KNTN	**Kanton**	**25.00**	**16**	*e*P	**P**	**00 48 05.2**	**-2.4**
	128nm,0.7s						
CTA	**Charters Tower**	**33.18**	**274**	P	**P**	**00 49 20.5**	**+0.9**
	2.0nm,0.4s,baz=91,slow=12,SNR=6.1						
CTAO	**Charters Tower**	**33.18**	**274**	*e*P	**P**	**00 49 19.0**	**-0.6**
	20nm,1.4s						
STKA	**Stephens Creek**	**35.12**	**252**	P	P	00 49 39.9	+3.9
	1.2nm,0.8s,baz=94,slow=16,SNR=3.1						
STKA	**Stephens Creek**	**35.12**	**252**	*e*P	**P**	**00 49 36.9**	**+0.9**
	5.7nm,1.9s						
PMG	**Port Moresby**	**37.09**	**292**	*e*P	**P**	**00 49 50.3**	**-2.5**
	113nm,1.1s						
AS01	**Alice Springs**	**43.11**	**264**	*e*P	**P**	**00 50 42.3**	**+0.3**
WRAB	**Tennant Creek**	**43.83**	**269**	*e*P	**P**	**00 50 47.3**	**-0.3**
	28nm,1.5s						
WRAB				*e*S	**S**	**00 56 57.0**	**+1.4**
WRA	**Warramunga Arr**	**43.84**	**269**	P	**P**	**00 50 47.8**	**+0.1**
	2.6nm,0.6s,baz=104,slow=7.8,SNR=22						
FORT	**Forrest**	**46.75**	**252**	*e*P	**P**	**00 51 10.6**	**+0.4**
	297nm,2.5s						
CASY	**Casey**	**57.94**	**207**	*e*P	**P**	**00 52 34.3**	**+3.0**
	5.2nm,0.6s						
MAW	**Mawson**	**75.29**	**200**	P	P	00 54 24.2	+3.9
	1.7nm,0.7s,baz=203,slow=7.7,SNR=2.3						
MAW	**Mawson**	**75.29**	**200**	*e*P	P	00 54 24.2	+3.9
	33nm,3.0s						
MJAR	**Matsushiro Arr**	**75.43**	**325**	P	**P**	**00 54 20.6**	**-0.9**
	13nm,0.5s,baz=160,slow=5.8,SNR=45						
MAJO	**Matsushiro**	**75.43**	**325**	*e*P	**P**	**00 54 20.8**	**-0.7**
	20nm,0.7s						
MAT	**Matsushiro**	**75.43**	**325**	P	**P**	**00 54 20.2**	**-1.3**
MAT				S	x	00 54 40.0	
JNU	**Nakatsue**	**76.97**	**318**	P	**P**	**00 54 29.2**	**-1.0**
	6.7nm,0.7s,baz=20,slow=4.7,SNR=4.6						
JNU	**Nakatsue**	**76.97**	**318**	*e*P	**P**	**00 54 29.2**	**-1.0**
	106nm,1.7s						
ADK	**Adak**	**78.67**	**1**	*e*P	**P**	**00 54 37.5**	**-1.5**
	96nm,1.3s						
ASAJ	**Asahikawa**	**79.44**	**332**	P	**P**	**00 54 43.0**	**-0.4**
	10nm,0.7s,baz=200,slow=15,SNR=8.0						
ASAJ	**Asahikawa**	**79.44**	**332**	*e*P	**P**	**00 54 43.0**	**-0.4**
	16nm,0.9s						
SNAA	**Sanae**	**81.43**	**179**	P	P	00 54 58.2	+4.5
	0.3nm,0.8s,baz=335,slow=17,SNR=6.1						
SNAA	**Sanae**	**81.43**	**179**	*e*P	**P**	**00 54 54.8**	**+1.0**
	92nm,2.9s						
KSRS	**Korea Array**	**81.71**	**320**	P	**P**	**00 54 56.1**	**+0.6**
	7.7nm,0.7s,baz=132,slow=6.0,SNR=28						
KS15	**Wonju Array Si**	**81.72**	**319**	*e*P	**P**	**00 54 56.1**	**+0.5**
KS01	**Wonju Array Si**	**81.74**	**320**	*e*P	**P**	**00 54 55.9**	**+0.2**
PEA2	**Petropavlovsk-**	**82.59**	**346**	*e*P	**P**	**00 54 59.2**	**-0.5**
PEA0	**Petropavlovsk-**	**82.59**	**346**	*e*P	**P**	**00 54 59.1**	**-0.6**
PETK	**Petropavlovsk-**	**82.59**	**346**	P	**P**	**00 54 59.2**	**-0.5**
	13nm,0.9s,baz=134,slow=8.5,SNR=16						
TJR	**Tejon Ranch**	**83.57**	**45**	*e*P	**P**	**00 55 02.8**	**-2.4**
YUH	**Yuha Desert**	**83.93**	**49**	*e*P	**P**	**00 55 09.9**	**+2.8**
USRK	**Ussuriysk Ar.**	**84.31**	**327**	P	**P**	**00 55 09.0**	**+0.4**
	5.7nm,0.6s,baz=132,slow=4.0,SNR=11						
BMN	**Battle Mountai**	**87.91**	**42**	*e*P	P	00 55 20.6	-5.8
	4.7nm,0.6s						
BMN				*e*PP	**PP**	**00 58 56.5**	**-1.2**
RC01	**Rabbit Creek A**	**90.90**	**13**	*e*P	**P**	**00 55 40.4**	**+0.7**
	8.6nm,1.2s						
DBD	**Des Bee Dove**	**91.02**	**46**	*e*P	**P**	**00 55 39.0**	**-2.1**
SRU	**San Rafael Swe**	**91.27**	**46**	*e*P	P	00 55 38.9	-3.2
CM01	**Chiang Mai Arr**	**92.07**	**290**	*e*P	**P**	**00 55 48.1**	**+2.0**
CM31	**Chiang Mai Arr**	**92.10**	**290**	*e*P	**P**	**00 55 47.3**	**+1.1**
CMAR	**Chiang Mai Arr**	**92.10**	**290**	P	**P**	**00 55 47.3**	**+1.1**
	1.0nm,0.7s,baz=131,slow=2.4,SNR=6.1						
SEY	**Seymchan**	**92.74**	**347**	P	**P**	**00 55 47.9**	**-0.1**
	5.1nm,0.8s,baz=146,slow=5.8,SNR=20						
KTH	**Kantishna Hill**	**92.92**	**12**	*e*P	**P**	**00 55 47.9**	**-1.1**
	4.5nm,0.8s						
TRF	**Thorofare Moun**	**92.94**	**12**	*e*P	**P**	**00 55 48.6**	**-0.6**
	8.1nm,0.7s						
RND	**Reindeer**	**93.18**	**13**	*e*P	**P**	**00 55 50.1**	**-0.1**
	6.9nm,0.9s						
PD31	**Pinedale Array**	**93.92**	**43**	*e*P	**P**	**00 55 55.5**	**+1.2**
PDAR	**Pinedale Array**	**93.92**	**43**	P	**P**	**00 55 55.5**	**+1.2**
	0.4nm,0.7s,baz=207,slow=3.0,SNR=4.0						
CCB	**Clear Creek Bu**	**94.50**	**13**	*e*P	**P**	**00 55 55.2**	**-0.9**
	30nm,2.4s						
IL1	**Eielson Array**	**94.79**	**13**	*e*P	**P**	**00 55 56.4**	**-1.0**
ILAR	**Eielson Array**	**94.79**	**13**	P	**P**	**00 55 56.5**	**-0.9**
	1.0nm,0.9s,baz=220,slow=6.4,SNR=7.7						
ILB	**Eielson Array**	**94.79**	**13**	*e*P	**P**	**00 55 56.5**	**-0.9**
SONM	**Songino Array**	**100.55**	**318**	P	**Pdif**	**00 56 23.7**	**-0.2**
	0.2nm,0.5s,baz=90,slow=2.9,SNR=3.2						
KURBB	**Kurchatov Arra**	**118.64**	**315**	PKP	**PKPdf**	**01 01 22.0**	**-0.3**
	1.4nm,0.8s,baz=105,slow=2.1,SNR=5.5						
BVAR	**Borovoye Array**	**123.87**	**317**	PKP	**PKPdf**	**01 01 32.1**	**-0.2**
	2.0nm,0.7s,baz=128,slow=2.4,SNR=13						
AKTO	**Aktyubinsk**	**131.69**	**315**	PKP	**PKPdf**	**01 01 48.2**	**+0.9**
	1.0nm,0.5s,baz=68,slow=4.7,SNR=6.4						
ARCES	**ARCESS Array B**	**135.34**	**348**	PKP	**PKPdf**	**01 01 54.4**	**+0.8**
	1.1nm,0.5s,baz=90,slow=0.9,SNR=4.9						
FINES	**FINESS Array B**	**141.99**	**341**	PKhKP	PKPpre	01 02 00.7	
	3.9nm,0.6s,baz=64,slow=3.2,SNR=26						
NB2	**NORSAR Subarra**	**145.48**	**352**	PKP	**PKPbc**	**01 02 12.4**	**-0.4**
	comp=Z,15nm,0.8s,baz=16,slow=2.5						
NOA	**NORSAR Array B**	**145.48**	**352**	PKPbc	**PKPbc**	**01 02 13.0**	**+0.2**
	comp=Z,12nm,0.8s,baz=17,slow=2.7,SNR=37						
MALT	**Malatya**		**147.37**	**299**	*i* P	**PKPbc**	**01 02 20.0**	**+1.0**
AKASG	**Malin Array Be**		**148.51**	**326**	PKPbc	**PKPbc**	**01 02 21.4**	**0.0**
	comp=Z,4.3nm,0.4s,baz=43,slow=4.3,SNR=26						
LEOM	**Leova**		**151.51**	**320**	*i* P	**PKPbc**	**01 02 28.9**	**+0.2**
CFR	**Carcaliu**		**152.28**	**317**	*i* P	**PKPbc**	**01 02 31.3**	**+0.9**
KWP	**Kalwaria Pacla**		**152.33**	**330**	*i* P	**PKPbc**	**01 02 32.2**	**+1.7**
TESR	**Tescani**		**152.40**	**321**	*i* P	**PKPab**	**01 02 40.6**	**-1.6**
TLB	**Topalu**		**152.64**	**316**	*i* P	**PKPbc**	**01 02 32.4**	**+1.1**
VRI	**Vrincioaia**		**152.73**	**320**	*i* P	**PKPab**	**01 02 44.0**	**+0.4**
PLOR	**Plostina**		**152.78**	**320**	*i* P	**PKPab**	**01 02 44.5**	**+0.6**
MSAB	**Monastry St. A**		**153.03**	**316**	*i* P	**PKPab**	**01 02 44.4**	**-0.5**
DOPR	**Dopca**		**153.43**	**321**	*i* P	**PKPab**	**01 02 45.9**	**-0.7**
SECR			**153.58**	**319**	*i* P	**PKPab**	**01 02 46.2**	**-1.1**
ARR	**Arges**		**154.21**	**321**	*i* P	**PKPbc**	**01 02 36.7**	**+1.9**
DPC	**Dobruska-Polom**		**154.26**	**338**	*e*PKPAB	**PKPab**	**01 02 50.6**	**+0.7**
DRGR			**154.33**	**325**	*i* P	**PKPbc**	**01 02 36.0**	**+1.0**
CLL	**Collm**		**154.38**	**344**	*i* PKPab	**PKPab**	**01 02 49.7**	**-0.6**
	comp=Z,6.0nm,0.8s						
LOT	**Lotru**		**154.64**	**322**	*i* P	**PKPab**	**01 02 49.3**	**-2.6**
VRAC	**Vranov**		**155.05**	**337**	*i* P	**PKPab**	**01 02 53.7**	**+0.4**
PRA	**Prague**		**155.10**	**340**	*e*PKPAB	**PKPab**	**01 02 53.6**	**+0.1**
GOPC	**GO Pecny, Ondr**		**155.13**	**340**	*e*PKPAB	**PKPab**	**01 02 53.8**	**+0.2**
PRU	**Pruhonice**		**155.14**	**340**	*e*PKPAB	**PKPab**	**01 02 53.8**	**+0.2**
TREC	**Trest**		**155.44**	**338**	*e*PKPAB	**PKPab**	**01 02 55.1**	**+0.1**
NKC	**Novy Kostel**		**155.50**	**343**	*e*PKPAB	**PKPab**	**01 02 55.3**	**+0.1**
BZS	**Buzias**		**155.68**	**325**	*i* P	**PKPab**	**01 02 55.6**	**-0.6**
KHC	**Kasperske Hory**		**156.19**	**341**	*e*PKPAB	**PKPab**	**01 02 58.4**	**+0.1**
KHC					*ex*	x	01 03 07.4	
GERES	**GERESS Array B**		**156.41**	**340**	PKPbc	PKPdf	01 02 39.6	+10
	comp=Z,0.2nm,0.5s,baz=345,slow=4.7,SNR=3.8							
GERES					PKPab	**PKPab**	**01 02 59.0**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=4.6,slow=4.9,SNR=5.5							
TORD	**Torodi Ar. Bea**		**166.10**	**180**	PKP	**PKPdf**	**01 02 41.3**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=38,slow=2.6,SNR=4.1							
TORD					PKPab	**PKPab**	**01 03 46.1**	**+3.9**
	comp=Z,0.2nm,0.7s,baz=166,slow=3.6,SNR=3.5							

*UPA **19** 00:50:44.5,8.96N×82.97W,h0km*
*UCR **19** 00:50:45.7,8.95N×83.01W,h2km,MD3.6*

CASC 19 00:50:45.6±2.5,8.93N×82.95W,h10km±15km,MD3.6,1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRU2	**Volcan**	**0.29**	**119**	*e*P	Pg	00 50 51.8	+0.1
BRU2				*e*S	Sb	00 50 57.4	-0.8
TBS2		**0.32**	**116**	*e*S	Sb	00 50 59.0	-0.1
ACR	**Cerro Adams**	**0.35**	**218**	*i* P	Pg	00 50 53.0	+0.3
ACR				*e*S	Sb	00 50 59.2	-0.6
BUS	**Buena Vista**	**1.01**	**308**	*e*P	Pg	00 51 04.2	-1.4
BUS				*e*S	Sg	00 51 18.7	-0.5
URSC	**Urasca**	**1.21**	**318**	*e*P	Pn	00 51 08.4	-0.5
URSC				*e*S	Sg	00 51 25.1	0.0
QCR	**Quepos**	**1.30**	**292**	*e*P	Pn	00 51 08.0	-1.8
QCR				*e*S	Sb	00 51 25.3	-1.6
CGA2	**Cerro Gallo 2**	**1.84**	**306**	*e*P	Pn	00 51 17.3	-0.3
CGA2				*e*S	Sn	00 51 40.9	-0.2
CGA2				*e*S	Sb	00 51 41.3	-1.7
JTS	**JuntasAbangare**	**2.39**	**304**	*e*P	Pn	00 51 26.2	+1.3
JTS				*e*S	Sn	00 51 56.2	+1.8
AZU	**Azuero**	**2.88**	**113**	*e*P	Pb	00 51 35.4	-1.7
AZU				*e*S	Sn	00 52 09.0	+2.7

*KRNET **19** 00:54:48.4±0.1,40.38N×79.95E,h2km,mb4.6*
*NNC **19** 00:54:56.3±1.5,40.96N×79.87E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=13.3km s-min=6.6km az=146.0*

ISC 19 00:54:52.3±2.6,40.6N±0.1×79.9E±0.1,h10km,n9, σ1§57/12,4C-9D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay**	**2.56**	**307**	*e*P	**Pn**	**00 55 34.6**	**+0.6**
	baz=311						
KDJ				*e*S	**Sb**	**00 56 09.1**	**-0.9**
	baz=311						
PDGK	**Podgornoye**	**2.73**	**353**	⇓Pn	**Pn**	**00 55 37.3**	**+1.2**
	16nm,0.4s						
PDGK				⇓Lg	Lg	00 56 12.5	
	106nm,0.5s						
NRN	**Naryn**	**3.08**	**287**	*e*P	**Pn**	**00 55 41.0**	**-0.3**
	baz=290						
NRN				*e*S	**Sb**	**00 56 24.9**	**-0.2**
	baz=290						
BOOM	**Boomskoye usch**	**3.53**	**303**	*e*P	**Pn**	**00 55 47.0**	**-0.3**
	baz=306						
BOOM				*e*S	**Sb**	**00 56 36.4**	**-1.4**
	baz=306						
TKM2	**Tokmak 2**	**3.97**	**307**	⇓Pn	Pn	00 55 56.4	+3.0

	baz=226									
WGK					*e*S		Sb	01 14 13.2	+1.4	
	baz=226									
TYC	**Yuchr**	**0.18**	**53**	⇓	*i*P		Pb	01 14 09.1	+0.4	
	baz=54									
TYC					*e*S		Sb	01 14 13.3	+1.1	
	baz=54									
CHN5	**Tsauling**	**0.20**	**185**		P		Pb	01 14 09.1	+0.1	
	baz=185									
CHN5					S		Sb	01 14 13.3	+0.6	
	baz=185									
SMLT	**Sun Moon Lake**	**0.20**	**64**	⇑	*i*P		Pb	01 14 09.5	+0.3	
	baz=65									
SMLT					*e*S		Sb	01 14 13.8	+0.9	
	baz=65									
ALS	**Alishan**	**0.30**	**161**	⇓	P		Pb	01 14 10.9	+0.2	
	baz=159									
ALS					S		Sb	01 14 16.2	+0.6	
	baz=159									
CHN2	**Minshiung**	**0.33**	**218**		*e*P		Pb	01 14 11.4	+0.6	
	baz=218									
CHN2					*e*S		Sn	01 14 17.4	-1.4	
	baz=218									
YUS	**Yu-Shan**	**0.38**	**142**	⇑	P		Pb	01 14 12.5	+0.2	
	baz=141									
YUS					S		Sb	01 14 18.7	+0.4	
	baz=141									
CHY	**Chiayi**	**0.39**	**220**		*e*S		Sb	01 14 18.5	+1.2	
	baz=219									
WDT	**Danda**	**0.40**	**95**	⇑	*i*P		Pb	01 14 12.7	+0.3	
	baz=95									
WDT					S		Sb	01 14 19.6	+1.2	
	baz=95									
CHN4	**Tsaushan**	**0.45**	**192**		P		Pb	01 14 13.2	+0.4	
	baz=192									
CHN4					*e*S		Sn	01 14 20.8	-1.1	
	baz=192									
WTP	**Ta-pu**	**0.55**	**188**		*e*P		Pb	01 14 14.4	-0.1	
	baz=187									
WTP					*e*S		Sb	01 14 22.9	+0.8	
	baz=187									
TWQ1	**Liyutan**	**0.56**	**7**		*e*P		Pb	01 14 15.2	+0.6	
	baz=7.0									
TWQ1					*e*S		Sn	01 14 23.8	-0.8	
	baz=7.0									
TWK	**Hsinying**	**0.56**	**200**		*e*P		Pb	01 14 15.0	+0.3	
	baz=198									
TWK					*e*S		Sb	01 14 23.5	+1.1	
	baz=198									
NSY	**Sanyi**	**0.62**	**5**		*e*P		Pn	01 14 16.7	-0.2	
	baz=6.0									
NSY					*e*S		Sn	01 14 26.4	+0.2	
	baz=6.0									
WHF	**Hehuan Shan**	**0.62**	**56**	⇑	P		Pb	01 14 16.5	+0.2	
	baz=56									
WHF					S		Sb	01 14 25.7	+0.6	
	baz=56									
CHN1	**Nanshi**	**0.63**	**194**		*e*P		Pb	01 14 15.8	0.0	
	baz=194									
CHN1					*e*S		Sn	01 14 25.5	-0.7	
	baz=194									
TWT	**Tachien**	**0.63**	**44**		P		Pb	01 14 16.0	-0.1	
	baz=43									
TWT					S		Sb	01 14 24.4	-0.3	
	baz=43									
EHY	**Hungye**	**0.64**	**116**		*e*P		Pb	01 14 16.5	+0.5	
	baz=116									
EHY					*e*S		Sb	01 14 25.2	+0.7	
	baz=116									
ELDTW	**Lidau**	**0.67**	**154**		P		Pn	01 14 17.6	0.0	
	baz=153									
ELDTW					*e*S		Sn	01 14 26.9	-0.6	
	baz=153									
TWF1	**Yuli**	**0.70**	**129**		*e*P		Pb	01 14 17.5	+0.4	
	baz=128									
TWF1					*e*S		Sn	01 14 27.9	-0.2	
	baz=128									
TWG	**Pinlang**	**1.03**	**160**		*e*P		Pb	01 14 23.4	+0.9	
	baz=160									
TWG					*e*S		Sn	01 14 38.1	+1.9	
	baz=160									
NSK	**Sanguang**	**1.06**	**34**		*e*P		Pb	01 14 23.2	-0.1	
	baz=34									
NSK					*e*S		Sn	01 14 37.7	+0.4	
	baz=34									
ENTT	**Nioudou**	**1.16**	**43**		*e*P		Pb	01 14 25.7	+0.9	
	baz=43									

*ISK **19** 01:26:07.7, 37.39N×35.82E, h20km, MD2.4*
*ISCJB **19** 01:26:08.9±0.6, 37.38N±0.05×35.79E±0.04, h27km±6km, Error ellipse: s-maj=8.8km s-min=5.4km az=172.2*
*DDA **19** 01:26:08.4, 37.29N×35.84E, h7km, MD2.7*
*CSEM **19** 01:26:08.4±0.1, 37.39N×35.80E, h20km, MD2.4, Error ellipse: s-maj=4.4km s-min=3.0km az=163.0*

ISC 19 01:26:09.0±1.0,**37.35N**±0.04×**35.81E**±0.03,**h23**km±12km, **n17**,σ1**§06**/27,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.34**	**188**			*e*PG	**Pb**	**01 26 16.1**	**-0.4**
CEYT						*e*SG	**Sb**	**01 26 22.5**	**+0.9**
CEYT	**Ceyhan**	**0.34**	**188**			*e*Pg	**Pb**	**01 26 16.1**	**-0.4**
CEYT						*e*Sg	**Sb**	**01 26 22.5**	**+0.9**
ANDN	**Andirin**	**0.49**	**62**			*i* P	**Pb**	**01 26 18.1**	**-0.9**
ANDN						*i* S	**Sb**	**01 26 25.8**	**0.0**
ANDN	**Andirin**	**0.49**	**62**			*i* P	**Pb**	**01 26 18.1**	**-0.9**
ANDN						*i* S	**Sb**	**01 26 25.9**	**0.0**
KARA	**Karaisali**	**0.60**	**262**			*e*PG	**Pb**	**01 26 20.3**	**-0.6**
KARA						*e*SG	**Sb**	**01 26 30.0**	**+1.0**
KARA	**Karaisali**	**0.60**	**262**			*e*Pg	**Pb**	**01 26 20.3**	**-0.6**
KARA						*e*Sg	**Sb**	**01 26 30.0**	**+1.0**
KAMA	**Osmaniye**	**0.71**	**103**			*i* P	**Pb**	**01 26 23.1**	**+0.4**
KAMA						*i* S	**Sn**	**01 26 33.8**	**0.0**
KMRS	**Kahramanmaras**	**0.89**	**80**			*e*PG	**Pb**	**01 26 25.4**	**-0.3**
KMRS	**Kahramanmaras**	**0.89**	**80**			*e*Pg	**Pb**	**01 26 25.4**	**-0.3**
MERS	**Mersin**	**1.13**	**245**			*e*PN	**Pn**	**01 26 29.4**	**0.0**
MERS	**Mersin**	**1.13**	**245**			*e*Pn	**Pn**	**01 26 29.5**	**0.0**
KUZU	**Kuzuini**	**1.17**	**119**			*i* P	**Pn**	**01 26 29.6**	**-0.3**
KUZU						*i* S	**Sb**	**01 26 45.5**	**+0.3**
KUZU	**Kuzuini**	**1.17**	**119**			*i* P	**Pn**	**01 26 29.6**	**-0.3**
KUZU						*i* S	**Sb**	**01 26 45.5**	**+0.3**
NIG	**Nigde**	**1.21**	**309**			*e*PN	**Pn**	**01 26 29.7**	**-1.0**
NIG	**Nigde**	**1.21**	**309**			*e*Pn	**Pn**	**01 26 29.7**	**-1.0**
PINB	**Pinarbasi**	**1.41**	**19**			*i* P	**Pn**	**01 26 32.8**	**-0.6**
PINB	**Pinarbasi**	**1.41**	**19**			*i* P	**Pn**	**01 26 32.8**	**-0.6**
PINB						*i* S	**Sb**	**01 26 56.3**	**+4.0**

*GCMT **19** 01:36:32.9±0.1, 13.12S×166.91E, h202km, MW5.4/112, Moment Tensor Solution. s108,c170; s112,c207; Duration: 1§3 Moment tensor: Scale 10^17^Nm; Mrr1.60±.02; Mθθ-0.06±.03; Mϕϕ-1.54±.03; Mrθ-0.39±.02; Mθϕ0.50±.03; Mϕr-0.24±.02; Best double couple: M0 1.71000×10^17^ NP1:ϕs178.00000°, δ49.00000°, λ110.00000°. NP2:ϕs328.00000°, δ45.00000°, λ68.00000°. Principal axes: T 1.7240, Plg75.0000°, Azm156.0000°; N -0.0260, Plg15.0000°, Azm344.0000°; P -1.6970, Plg2.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **19** 01:36:32.7±0.5, 13.15S×167.15E, h198km±4km, mb4.7/27, mb1 4.8/28, mb1mx4.8/29, mbtmp5.2/28, MS4.2/4, Ms1 4.2/4, ms1mx3.7/17 Error ellipse: s-maj=10.7km s-min=7.6km az=91.0*
*MOS **19** 01:36:32.9±0.9, 12.96S×167.01E, h205km, mb5.2/34, Error ellipse: s-maj=8.0km s-min=6.8km az=128.4*
*NEIC **19** 01:36:32.9±0.1, 13.10S×167.12E, mb5.2/100, Error ellipse: s-maj=3.7km s-min=3.0km az=141.0*
*BJI **19** 01:36:32.0, 12.78S×167.15E, h198km, mb5.2/64, mB5.2/40*
*ISCJB **19** 01:36:33.7±0.8, 13.16S±0.02×167.02E±0.03, h223km±7km, mb4.9/137, Error ellipse: s-maj=4.5km s-min=3.5km az=136.7*

ISC 19 01:36:33.2±0.3,**13.10S**±0.04×**167.16E**±0.04,**h209**km±1km, **h209**km:**pP-P**,**n887**,σ1**§20**/1077,**mb5.1**/142,**91C-76D**, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.96**	**297**			*e*P	**Pn**	**01 38 24.9**	**-1.1**
HNR						pmax	pmax		
	comp=Z,420nm,0.6s								

HNR	**Honiara**	**7.96**	**297**			*e*P	**Pn**	**01 38 26.0**	**0.0**	
HNR	**Honiara**	**7.96**	**297**			*e*Pn	**Pn**	**01 38 24.9**	**-1.1**	
	comp=Z,420nm,0.6s									
DZM	**Mont Dzumac**	**8.94**	**184**			P	**Pn**	**01 38 38.9**	**+0.1**	
	comp=Z,8.9nm,0.3s,baz=268,slow=23,SNR=66									
DZM						S	**S**	**01 40 21.2**	**+1.8**	
	comp=Z,8.4nm,0.3s,baz=287,slow=20,SNR=3.6									
DZM						LR	LR	01 41 31.9		
	comp=Z,2μm,21.1s,baz=170,slow=34									
DZM	**Mont Dzumac**	**8.94**	**184**			*e*P	**Pn**	**01 38 39.4**	**+0.6**	
DZM						*e*S	**S**	**01 40 21.3**	**+1.8**	
BAYA	**Yate Dam**	**9.01**	**182**			*e*P	Pn	01 38 43.4	+3.9	
BAYA						*e*S	**S**	**01 40 20.1**	**-0.6**	
MSVF	**Nonsavu**	**11.46**	**115**			Pn	**P**	**01 39 16.6**	**+0.1**	
	comp=Z,837nm,1.2s,SNR=20									
MSVF	**Nonsavu**	**11.46**	**115**			*e*P	**P**	**01 39 16.1**	**-0.3**	
MSVF	**Nonsavu**	**11.46**	**115**			*e*Pn	**P**	**01 39 16.1**	**-0.3**	
EIDS	**Eidsvold**	**19.45**	**229**			*e*P	**P**	**01 40 45.1**	**+0.9**	
	comp=Z,225nm,1.5s									
EIDS						*e*S	**S**	**01 44 13.5**	**+0.8**	
PMG	**Port Moresby**	**19.95**	**279**		*d*	*i*P	**P**	**01 40 49.8**	**+0.1**	
PMG						pmax	pmax			
	comp=Z,258nm,0.6s									
PMG	**Port Moresby**	**19.95**	**279**			*e*P	**P**	**01 40 49.7**	**0.0**	
	comp=Z,79nm,0.6s									
AFI	**Afiamalu**	**20.50**	**95**			*e*P	**P**	**01 40 56.3**	**+0.7**	
AFI						pmax	pmax			
	comp=Z,25nm,0.9s									
AFI	**Afiamalu**	**20.50**	**95**			*e*P	**P**	**01 40 56.2**	**+0.7**	
	comp=Z,25nm,0.9s									
CTA	**Charters Tower**	**21.19**	**248**			P	**P**	**01 41 03.0**	**+0.3**	
	comp=Z,30nm,0.5s,baz=77,slow=12,SNR=30									
CTA						S	**S**	**01 44 45.0**	**-0.5**	
	comp=Z,6.8nm,1.0s,baz=56,slow=24,SNR=4.2									
CTA						PcP	**PcP**	**01 45 00.2**	**+0.7**	
	comp=Z,6.3nm,0.6s,baz=96,slow=6.2,SNR=3.7									
CTAO	**Charters Tower**	**21.19**	**248**			*e*P	**P**	**01 41 02.7**	**0.0**	
CTAO						pmax	pmax			
	comp=Z,180nm,1.3s									
CTAO	**Charters Tower**	**21.19**	**248**			*e*P	**P**	**01 41 02.7**	**0.0**	
	comp=Z,180nm,1.3s									
ARMA	**Armidale**	**22.42**	**217**			*e*P	**P**	**01 41 15.8**	**+1.0**	
	comp=Z,286nm,1.3s									
OUZ	**Omahuta**	**22.78**	**166**			*e*P	**P**	**01 41 19.4**	**+1.6**	
	comp=Z,85nm,1.4s									
OUZ						*e*PcP	**PcP**	**01 45 04.2**	**+1.9**	
COEN	**Coen**	**23.33**	**265**			*e*P	**P**	**01 41 23.6**	**+0.5**	
MXZ	**Matakaoa Point**	**26.32**	**160**			*e*PN	**P**	**01 41 49.1**	**-0.6**	
HAZ	**Te Kaha**	**26.32**	**161**			*e*PN	**P**	**01 41 50.5**	**+0.8**	
URZ	**Urewera**	**26.57**	**162**			P	**P**	**01 41 52.5**	**+0.5**	
	comp=Z,22nm,0.3s,baz=294,slow=1.0,SNR=26									
URZ						PcP	**PcP**	**01 45 09.2**	**-1.6**	
	comp=Z,9.2nm,0.6s,baz=318,slow=6.7,SNR=4.0									
URZ						S	**S**	**01 46 09.4**	**-1.5**	
	comp=Z,3.1nm,0.4s,baz=288,slow=20,SNR=2.2									
URZ	**Urewera**	**26.57**	**162**			*e*P	**P**	**01 41 52.4**	**+0.5**	
	comp=Z,43nm,0.9s									
URZ						*e*PcP	**PcP**	**01 45 09.1**	**-1.6**	
URZ						S	**S**	**01 46 09.4**	**-1.5**	
WMGZ	**Waiomatatini S**	**26.58**	**160**			*e*PN	**P**	**01 41 50.8**	**-1.3**	
PUZ	**Puketiti**	**26.76**	**160**			*e*PN	**P**	**01 41 52.7**	**-1.0**	
MWZ	**Matawai**	**26.77**	**162**			*e*PN	**P**	**01 41 54.0**	**+0.2**	
MWZ						*e*SN	**S**	**01 46 11.6**	**-2.5**	
WPVZ	**Whakapapa**	**27.04**	**166**			PN	**P**	**01 41 59.2**	**+2.9**	
FWVZ	**Far West T-bar**	**27.09**	**166**			*e*PN	**P**	**01 41 58.9**	**+2.1**	
TRVZ	**Turoa**	**27.13**	**166**			*e*PN	**P**	**01 41 59.4**	**+2.1**	
WNVZ	**Wahianoa**	**27.17**	**166**			*e*PN	**P**	**01 41 59.6**	**+2.2**	
RIGZ	**Rimuhau**	**27.18**	**162**			*e*PN	**P**	**01 41 58.0**	**+0.5**	
BKZ	**Black Stump Fm**	**27.24**	**164**			*e*PN	**P**	**01 41 58.7**	**+0.6**	
BKZ						*e*SN	**S**	**01 46 20.3**	**-1.3**	
BKZ	**Black Stump Fm**	**27.24**	**164**			*e*P	**P**	**01 41 58.8**	**+0.8**	
NMHZ	**Naumai**	**27.27**	**163**			*e*PN	**P**	**01 41 59.0**	**+0.8**	
BHHZ	**Black Hill Sta**	**27.43**	**165**			*e*PN	**P**	**01 42 00.4**	**+0.7**	
KNZ	**Kokohu**	**27.44**	**162**			*e*PN	**P**	**01 42 00.1**	**+0.3**	
CAN	**Canberra**	**27.54**	**213**			*e*P	**P**	**01 42 00.9**	**+0.2**	
CAN						*e*		01 45 13.5		
CAN						pmax	pmax			
	comp=Z,32nm,0.7s									
CAN	**Canberra**	**27.54**	**213**			*e*P	**P**	**01 42 00.9**	**+0.2**	
	comp=Z,32nm,0.7s									
CAN						*e*PcP	**PcP**	**01 45 13.5**	**+0.2**	
KRHZ	**Kereru**	**27.66**	**165**			*e*PN	**P**	**01 42 02.0**	**+0.3**	
TSZ	**Takapari Road**	**27.95**	**165**			*e*PN	**P**	**01 42 04.6**	**+0.3**	
QRZ	**Quartz Range**	**28.02**	**171**			*e*PN	**P**	**01 42 06.8**	**+2.0**	
JAY	**Jayapura**	**28.20**	**290**			P	**P**	**01 42 06.2**	**-0.7**	
	comp=Z,16nm,0.7s,baz=115,slow=4.7,SNR=9.0									
MRZ	**Mangatainoka R**	**28.43**	**166**			*e*PN	**P**	**01 42 09.0**	**+0.5**	
MRZ						*e*SN	**S**	**01 46 39.7**	**-0.4**	
KIW	**Kapiti Island**	**28.48**	**168**			*e*PN	**P**	**01 42 09.0**	**+0.1**	
BFZ	**Birch Farm**	**28.61**	**165**			*e*PN	**P**	**01 42 09.7**	**-0.4**	
BFZ	**Birch Farm**	**28.61**	**165**			*e*P	**P**	**01 42 10.3**	**+0.2**	
HOWZ	**Holdsworth Sta**	**28.64**	**167**			*e*PN	**P**	**01 42 10.1**	**-0.3**	
TUWZ	**Tuamarina**	**28.84**	**169**			*e*PN	**P**	**01 42 12.5**	**+0.5**	
SNZO	**South Karori**	**28.86**	**168**			*e*P	**P**	**01 42 12.7**	**+0.4**	
	comp=Z,91nm,0.6s									
THZ	**Tophouse**	**28.99**	**171**			PN	**P**	**01 42 14.3**	**+0.9**	
KHZ	**Kahutara**	**29.73**	**170**			*e*P	**P**	**01 42 19.6**	**-0.3**	
	comp=Z,65nm,0.8s									
LTZ	**Lake Taylor**	**29.90**	**172**			PN	**P**	**01 42 22.3**	**+0.8**	
STKA	**Stephens Creek**	**29.98**	**227**			P	**P**	**01 42 22.9**	**+0.5**	
	comp=Z,63nm,0.5s,baz=48,slow=8.3,SNR=376									
STKA						PcP	**PcP**	**01 45 20.0**	**+0.6**	
	comp=Z,33nm,0.6s,baz=57,slow=2.9,SNR=15									
STKA						ScP	**ScP**	**01 48 44.4**	**+2.6**	
	comp=Z,2.4nm,0.7s,baz=28,slow=4.3,SNR=4.0									
STKA						LR	LR	01 54 04.2		
	comp=Z,566nm,18.8s,baz=168,slow=35									
STKA	**Stephens Creek**	**29.98**	**227**			*e*P	**P**	**01 42 22.9**	**+0.5**	
STKA								01 45 20.0		
STKA						pmax	pmax			
	comp=Z,14nm,0.6s									
STKA	**Stephens Creek**	**29.98**	**227**			*e*P	**P**	**01 42 22.9**	**+0.5**	
	comp=Z,14nm,0.6s									
STKA						*e*PcP	**PcP**	**01 45 19.4**	**0.0**	
STKA						PcP	PcP	01 45 20.0	+0.6	
STKA						ScP	**ScP**	**01 48 44.4**	**+2.6**	
SMPI	**Sarmi**	**30.24**	**289**			P	**P**	**01 42 25.2**	**+0.4**	
	comp=Z,138nm,0.8s,comp=Z,7μm									
OXZ	**Oxford**	**30.41**	**173**			PN	**P**	**01 42 26.4**	**+0.5**	
FOZ	**Fox Glacier**	**30.43**	**176**			*e*PN	**P**	**01 42 27.0**	**+1.0**	
RPZ	**Rata Peaks**	**30.69**	**174**			P	**P**	**01 42 29.0**	**+0.6**	
	comp=Z,63nm,0.7s,baz=317,slow=2.5,SNR=61									
RPZ						PcP	**PcP**	**01 45 21.2**	**+0.1**	
	comp=Z,11nm,0.8s,baz=300,slow=5.9,SNR=5.0									
RPZ	**Rata Peaks**	**30.69**	**174**			PN	**P**	**01 42 28.5**	**+0.1**	
RPZ	**Rata Peaks**	**30.69**	**174**			*e*P	**P**	**01 42 29.0**	**+0.6**	
	comp=Z,75nm,0.7s									
RPZ						PcP	**PcP**	**01 45 21.2**	**+0.1**	
MQZ	**McQueen's Vall**	**30.86**	**172**			PN	**P**	**01 42 30.0**	**+0.2**	
JCZ	**Jackson Bay**	**30.89**	**178**			PN	**P**	**01 42 31.6**	**+1.3**	
LBZ	**Lake Benmore**	**31.28**	**176**			PN	**P**	**01 42 34.3**	**+0.7**	
ODZ	**Otahua Downs**	**31.97**	**175**			*e*P	**P**	**01 42 39.2**	**-0.3**	
	comp=Z,46nm,1.1s									
WRAB	**Tennant Creek**	**32.14**	**253**			P	**P**	**01 42 40.6**	**-0.8**	
	comp=Z,242nm,0.5s,SNR=54									
WRAB	**Tennant Creek**	**32.14**	**253**			*e*P	**P**	**01 42 40.3**	**-1.1**	
WRAB						pmax	pmax			
	comp=Z,26nm,0.6s									
WRAB	**Tennant Creek**	**32.14**	**253**			*e*P	**P**	**01 42 40.2**	**-1.1**	
	comp=Z,26nm,0.6s									
WRA	**Warramunga Arr**	**32.15**	**253**			P	**P**	**01 42 40.5**	**-1.0**	
	comp=Z,23nm,0.5s,baz=85,slow=9.1,SNR=84									
WRA						pP	**pP**	**01 43 21.1**	**-3.0**	
	comp=Z,9.2nm,0.8s,baz=84,slow=9.1,SNR=3.2									
WRA						PcP	**PcP**	**01 45 25.8**	**+0.3**	
	comp=Z,5.5nm,0.5s,baz=82,slow=3.2,SNR=6.3									
WRA						S	**S**	**01 47 34.9**	**-3.9**	
	comp=Z,1.6nm,0.6s,baz=81,slow=16,SNR=5.9									
WRA						ScP	**ScP**	**01 48 51.6**	**+2.3**	
	comp=Z,3.7nm,0.8s,baz=79,slow=3.6,SNR=7.6									
AS31	**Alice Springs**	**33.18**	**247**			*e*P	**P**	**01 42 49.4**	**-1.1**	
AS31						*e*PcP	**PcP**	**01 45 28.3**	**0.0**	
BBOO	**Buckleboo**	**34.51**	**230**			*e*P	**P**	**01 43 01.5**	**-0.2**	
	comp=Z,57nm,0.6s									
BBOO						*e*PcP	**PcP**	**01 45 31.5**	**-0.4**	
RKPI	**Ransiki, Papua**	**34.62**	**287**			P	**P**	**01 43 01.8**	**-1.1**	
	comp=Z,78nm,1.0s,comp=Z,12μm									
FAKI	**Fak Fak**	**35.97**	**283**			P	**P**	**01 43 12.9**	**-1.5**	
	comp=Z,28nm,1.4s									
BNDI	**Bandanaira**	**37.74**	**280**			P	**P**	**01 43 27.7**	**-1.6**	
	comp=Z,449nm,0.7s,comp=Z,4μm									
FORT	**Forrest**	**40.05**	**238**			*e*P	**P**	**01 43 48.1**	**-0.2**	
FORT						*e*PcP	**PcP**	**01 45 48.7**	**-0.3**	
PPT2	**Papeete2**	**41.90**	**102**			*e*S	**S**	**01 50 01.0**	**-5.2**	
	comp=Z,322nm,26.2s									
PPT2						*e*LQ	LQ	01 54 15.7		
	comp=Z,1μm,26.2s									
PPT2						*e*LR	LR	01 55 59.1		
	comp=Z,516nm,26.5s									
SOEI	**Soe**	**42.14**	**270**			*e*P	**P**	**01 44 05.6**	**-0.1**	
	comp=Z,69nm,0.7s									
TBI	**Tubuai**	**42.30**	**110**			*e*S	**S**	**01 50 09.3**	**-2.6**	
	comp=Z,354nm,28.0s									
TBI						*e*LQ	LQ	01 54 26.0		
	comp=Z,2μm,29.5s									
MMRI	**Maumere**	**44.29**	**271**			*e*P	**P**	**01 44 21.9**	**-0.9**	
	comp=Z,91nm,0.6s									
LUWI	**Luwuk**	**45.55**	**282**			*e*P	**P**	**01 44 32.5**	**-0.2**	
	comp=Z,30nm,0.5s									
MBWA	**Marble Bar**	**45.89**	**253**			*e*P	**P**	**01 44 35.6**	**+0.4**	
	comp=Z,83nm,0.7s									
MBWA						*e*PcP	**PcP**	**01 46 07.9**	**-0.9**	
KAPI	**Kappang**	**47.43**	**275**			P	**P**	**01 44 47.9**	**+0.6**	
	comp=Z,495nm,0.5s,SNR=16									
KAPI	**Kappang**	**47.43**	**275**			*e*P	**P**	**01 44 47.3**	**0.0**	
	comp=Z,58nm,0.7s									
KAPI						*e*PcP	**PcP**	**01 46 14.9**	**+0.5**	
TSM	**Tawau**	**51.90**	**286**	⇓		P	**P**	**01 45 21.2**	**+0.2**	
SDKM	**Sandakan**	**53.00**	**287**	⇓		P	**P**	**01 45 29.1**	**0.0**	
KDM	**Kudat**	**53.80**	**289**	⇓		P	**P**	**01 45 35.6**	**+0.8**	
KKM	**Kota Kinabalu**	**54.06**	**287**	⇑		P	**P**	**01 45 37.2**	**+0.4**	
KKM	**Kota Kinabalu**	**54.06**	**287**			*e*P	**P**	**01 45 36.6**	**-0.2**	
	comp=Z,48nm,0.6s									
JOW	**Kunigami**	**54.79**	**317**			P	**P**	**01 45 42.8**	**+1.0**	
JOW	**Kunigami**	**54.79**	**317**			*e*P	**P**	**01 45 42.6**	**+0.8**	
	comp=Z,31nm,0.7s									
JOD2	**Odawara 2**	**54.97**	**332**			P	**P**	**01 45 42.6**	**-0.3**	
JYT	**Yasato**	**55.28**	**334**			P	**P**	**01 45 45.9**	**+0.9**	
RKT	**Rikitea**	**55.60**	**109**			*e*S	**S**	**01 53 14.3**	**-2.9**	
	comp=Z,437nm,27.0s									
JGF	**Kuroka**	**56.05**	**331**			P	**P**	**01 45 50.7**	**+0.1**	
JMN	**Monobe**	**56.34**	**327**			P	**P**	**01 45 53.6**	**+0.9**	
JMM	**Marumori**	**56.41**	**335**			P	**P**	**01 45 53.7**	**+0.7**	
MJAR	**Matsushiro Arr**	**56.42**	**332**			P	**P**	**01 45 53.0**	**-0.2**	
	comp=Z,20nm,0.7s,baz=168,slow=9.0,SNR=68									
MJAR						PcP	**PcP**	**01 46 49.0**	**+1.3**	
	comp=Z,4.6nm,0.6s,baz=155,slow=3.9,SNR=3.1									
MJAR						ScP	**ScP**	**01 50 30.1**	**+3.1**	
	comp=Z,0.4nm,0.3s,baz=142,slow=5.2,SNR=4.3									
MAJO	**Matsushiro**	**56.43**	**332**			*e*P	**P**	**01 45 52.7**	**-0.5**	
MAJO						*e*		01 46 48.5		
MAJO						pmax	pmax			
	comp=Z,35nm,0.7s									
MAJO	**Matsushiro**	**56.43**	**332**			*e*P	**P**	**01 45 52.7**	**-0.5**	
	comp=Z,34nm,0.7s									
MAJO						*e*PcP	**PcP**	**01 46 48.5**	**+0.9**	
MAT	**Matsushiro**	**56.43**	**332**			P	**P**	**01 45 53.1**	**-0.1**	
MAT						S	**S**	**01 53 25.8**	**-1.8**	
MAT	**Matsushiro**	**56.43**	**332**			P	**P**	**01 45 53.2**	**0.0**	
SBUM	**Sibu**	**56.66**	**282**	⇓		P	**P**	**01 45 55.9**	**+0.6**	
JWT	**Wachi**	**56.75**	**329**			P	**P**	**01 45 56.1**	**+0.6**	
JAD	**Aida**	**57.12**	**328**			P	**P**	**01 45 58.8**	**+0.7**	
JYA	**Atsumi**	**57.48**	**335**			P	**P**	**01 46 02.0**	**+1.5**	
JNU	**Nakatsue**	**57.55**	**324**			P	**P**	**01 46 01.6**	**+0.4**	
JOM	**Ohasama**	**57.59**	**336**			P	**P**	**01 46 01.9**	**+0.6**	
JSD	**Sado**	**57.64**	**333**			P	**P**	**01 46 02.4**	**+0.8**	
YULB	**Yu-li**	**57.69**	**309**			*e*P	**P**	**01 46 01.5**	**-0.9**	
	comp=Z,20nm,0.6s								

comp=Z,21nm,0.8s,baz=134,slow=7.3,SNR=61
KSAR Wonju Array Be 62.36 325 P **P** **01 46 34.5 +0.8**
KSAR Wonju Array Be 62.36 325 P **P** **01 46 34.5 +0.8**
KSICN Icheon 62.51 325 P **P** **01 46 35.6 +0.9**
SNR=9.6
KSSKC Sokcho 62.62 326 P **P** **01 46 36.7 +1.3**
SNR=8.7
KSIJA INJE 62.62 326 P **P** **01 46 36.7 +1.2**
SNR=12
KSCHC Chuncheon 62.64 326 P **P** **01 46 36.9 +1.3**
SNR=8.7
SEHB SEOHWA 62.75 326 P **P** **01 46 37.6 +1.2**
SNR=6.8
KSCWO Cheorwon 63.02 326 P **P** **01 46 39.5 +1.4**
SNR=13
INCN Inchon 63.09 325 *e*P **P** **01 46 39.1 +0.6**
comp=Z,44nm,0.6s
KSMUS Musan 63.30 325 P **P** **01 46 41.0 +1.1**
SNR=10
YNCB YEONCHEON 63.32 325 P **P** **01 46 41.1 +1.1**
SNR=6.4
KSGAH Ganghwa 63.35 325 P **P** **01 46 41.1 +0.9**
SNR=11
YSS Yuzh-Sakhalins 63.66 342 *α e*P **P** **01 46 43.6 +1.5**
YSS *e*AP **pP** **01 47 31.8 +1.6**
YSS *e*PP **PP** **01 49 03.0 -2.1**
YSS *e*S **S** **01 55 00.0 +0.7**
YSS *e* 01 56 19.0
YSS pmax pmax
comp=Z,60nm,0.9s
YSS Yuzh-Sakhalins 63.66 342 *e*P **P** **01 46 43.6 +1.5**
comp=Z,61nm,0.7s
SKR Severo-Kuril's 64.25 352 *e*P P 01 46 40.4 -5.4
SKR pmax pmax
comp=Z,40nm,0.6s
NJ2 Nanjing 64.45 315 *e*P **P** **01 46 47.8 +0.3**
NJ2 PMZ
comp=Z,20nm,0.7s
VNDA Vanda 64.47 181 P **P** **01 46 48.0 +1.0**
comp=Z,9.2nm,0.6s,baz=353,slow=7.4,SNR=41
VNDA Vanda 64.47 181 *e*P **P** **01 46 47.8 +0.8**
VNDA pmax pmax
comp=Z,133nm,1.6s
VNDA Vanda 64.47 181 *e*P **P** **01 46 47.8 +0.8**
comp=Z,133nm,1.6s
SBA Scott Base 64.75 180 *e*P **P** **01 46 50.4 +1.6**
SBA pmax pmax
comp=Z,214nm,1.5s
SBA Scott Base 64.75 180 *e*P **P** **01 46 50.4 +1.6**
comp=Z,214nm,1.5s
QIZ Qiongzhong 64.87 298 P **P** **01 46 51.5 +1.0**
QIZ pP **pP** **01 47 36.8 -2.0**
QIZ sP **sP** **01 47 59.6 -1.7**
QIZ S **S** **01 55 17.6 +2.4**
QIZ PMZ
comp=Z,17nm,0.9s
CASY Casey 64.98 202 *e*P **P** **01 46 50.3 -0.2**
comp=Z,48nm,0.6s
CASY *e*PcP **PcP** **01 47 21.9 +0.2**
USRK Ussuriysk Ar. 65.40 333 P **P** **01 46 54.8 +1.4**
comp=Z,23nm,0.6s,baz=122,slow=6.5,SNR=56
PET Petropavlovsk 66.26 354 *e*P **P** **01 46 58.8 +0.1**
PET *e**PP **pP** **01 47 45.7 -1.5**
PET *e*S **S** **01 55 32.0 +1.2**
PET pmax pmax
comp=Z,300nm,4.9s
PET pmax pmax
comp=Z,59nm,0.9s
PET pmax pmax
comp=Z,200nm,11.1s
PET Petropavlovsk 66.26 354 *e*P **P** **01 46 58.7 0.0**
comp=Z,30nm,0.5s
PEA0B Petropavlovsk- 66.44 354 *e*P **P** **01 47 01.1 +1.3**
PETK Petropavlovsk- 66.44 354 P **P** **01 47 01.2 +1.4**
comp=Z,58nm,0.7s,baz=154,slow=9.7,SNR=95
WHN Wuhan 66.78 312 ⇓P **P** **01 47 03.1 +0.6**
WHN S **S** **01 55 39.9 +1.9**
WHN LZ
comp=Z,480nm,19.6s
MDJ Mudanjiang 66.81 332 P **P** **01 47 03.8 +1.5**
MDJ PcP **PcP** **01 47 31.3 +1.8**
MDJ pP **pP** **01 47 50.8 -0.1**
MDJ sP **sP** **01 48 12.8 -0.6**
MDJ S **S** **01 55 41.5 +3.8**
MDJ sS **sS** **01 57 01.8 -0.7**
MDJ PMZ
comp=Z,41nm,1.6s
MDJ PMZ
comp=Z,220nm,5.1s
MDJ LN
comp=Z,68nm,25.4s
MDJ LE
comp=Z,130nm,21.2s
MDJ LZ
comp=Z,92nm,19.1s
MDJ Mudanjiang 66.81 332 *e*P **P** **01 47 03.3 +0.9**
comp=Z,35nm,1.1s
BKNI Bangkinang 66.85 276 *e*P **P** **01 47 03.5 +0.2**
comp=Z,74nm,0.6s
HABR Khabarovsk 67.60 338 *e*P **P** **01 47 06.7 -0.5**
HABR *e* 01 47 31.7
HABR *e**PP **pP** **01 47 59.3 +3.4**
HABR 01 51 19.5
HABR *e*S **S** **01 55 45.0 -2.0**
HABR *e* 01 56 41.6
HABR *e*SS **SS** **02 00 09.9 -2.6**
HABR pmax pmax
comp=Z,103nm,1.4s
HABR MLR MLR
comp=Z,113nm,18.0s
IPM Ipoh 67.94 280 *e*P **P** **01 47 10.2 +0.1**
comp=Z,60nm,0.8s
TIA Tai'an 68.06 318 ⇑P **P** **01 47 10.4 0.0**
TIA PMZ
comp=Z,50nm,0.8s
CN2 Changchun 68.21 329 *e*P **P** **01 47 12.1 +1.0**
CN2 *e*pP **pP** **01 48 00.4 +0.5**
CN2 *e*sP **sP** **01 48 22.5 +0.2**
CN2 *e*S **S** **01 55 57.9 +3.5**
CN2 PMZ
comp=Z,70nm,0.6s
CN2 PMZ
comp=Z,200nm,3.0s
CN2 LN
comp=Z,2μm,22.0s
CN2 LE
comp=Z,1μm,22.0s
CN2 LZ
comp=Z,300nm,17.0s
KULM Kulim 68.52 281 *e*P **P** **01 47 13.7 0.0**
comp=Z,16nm,0.6s
SKNT Sakolnakorn 69.18 294 P **P** **01 47 17.9 +0.2**
comp=Z,45nm,1.1s,comp=Z,4μm
KLR Kul'dur 69.49 336 *e*P **P** **01 47 16.4 -2.5**
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,85nm,1.8s
TRTT Trang 70.16 283 P **P** **01 47 24.3 +0.5**
comp=Z,46nm,1.7s
ENH Enshi 70.26 309 *e*P **P** **01 47 24.0 -0.1**
comp=Z,20nm,0.9s
GSI Gunungsitoli 70.44 276 *e*P **P** **01 47 25.7 +0.1**
comp=Z,96nm,0.7s
GYA Guiyang 70.71 304 ⇑ *i*P **P** **01 47 27.4 +0.4**
GYA PcP **PcP** **01 47 48.3 +1.7**
GYA pP **pP** **01 48 17.0 +0.9**
GYA sP **sP** **01 48 38.5 0.0**
GYA PP **PP** **01 50 10.8 +4.0**
GYA S **S** **01 56 25.5 +0.9**
GYA SKS **SKSac** **01 57 04.3 -5.1**
GYA PMZ
comp=Z,20nm,0.7s
GYA PMZ
comp=Z,130nm,5.2s
BJT Baijiatuau 70.93 321 *e*P **P** **01 47 28.7 +0.8**
BJT pmax pmax
comp=Z,43nm,0.6s
BJT Baijiatuau 70.93 321 *e*P **P** **01 47 28.7 +0.8**
comp=Z,43nm,0.6s
BJI Beijing 70.94 321 P **P** **01 47 28.8 +0.9**
BJI S **S** **01 56 23.4 -3.0**
BJI sS **sS** **01 57 49.4 -2.8**
BJI PMZ
comp=Z,64nm,0.7s
BJI PMZ
comp=Z,240nm,4.1s
BJI LN
comp=Z,130nm,19.7s
BJI LE
comp=Z,200nm,19.7s
BJI LZ
comp=Z,110nm,25.7s
SURT Suratani 71.33 284 P **P** **01 47 31.7 +0.9**
comp=Z,25nm,0.8s
PBKT Sadao Pong 71.74 292 P **P** **01 47 33.9 +0.8**
comp=Z,18nm,1.6s,comp=Z,1μm
MIR Mirnyy 71.76 204 *e*P P 01 47 42.0 +10
MIR pmax pmax
comp=Z,10.0nm,1.5s
XAN Xi'an 72.52 312 P **P** **01 47 38.3 +0.7**
XAN S **S** **01 56 40.1 -4.8**
XAN SKS **SKKSac** **01 57 23.3 +0.5**
XAN sS sS 01 58 04.4 -6.6
XAN PMZ
comp=Z,11nm,0.8s
XAN PMZ
comp=Z,52nm,6.7s
XAN LN
comp=Z,100nm,23.6s
XAN LE
comp=Z,45nm,19.5s
XAN LZ
comp=Z,47nm,20.5s
SRDT SRDT 72.68 290 P P 01 47 42.1 +3.3
comp=Z,82nm,1.3s
KMI Kunming 73.37 301 P **P** **01 47 44.4 +1.5**
KMI pP **pP** **01 48 35.4 +3.0**
KMI S **S** **01 56 56.8 +1.7**
KMI SKS **SKSac** **01 57 29.3 -0.4**
KMI PMZ
comp=Z,46nm,1.0s
KMI PMZ
comp=Z,310nm,4.9s
CRAI Chiangrai 73.55 296 P P 01 47 40.5 -3.3
comp=Z,25nm,0.9s
LAMP Lampang 73.61 294 P **P** **01 47 45.1 +0.9**
comp=Z,22nm,0.7s,comp=Z,198nm
CM31 Chiang Mai Arr 74.20 294 *e*P **P** **01 47 48.8 +1.2**
comp=Z,14nm,0.6s
CMAR Chiang Mai Arr 74.20 294 P **P** **01 47 48.7 +1.1**
comp=Z,18nm,0.7s,baz=129,slow=4.5,SNR=63
HHC Hu-ho-hao-te 74.28 319 *e*P **P** **01 47 49.1 +1.3**
HHC pP pP 01 48 31.8 -5.6
HHC S **S** **01 57 03.5 -1.0**
HHC SS **SS** **02 01 54.5 -0.9**
HHC PMZ
comp=Z,32nm,0.8s
HHC PMZ
comp=Z,180nm,4.8s
CMMT Chiang Mai 74.31 294 P **P** **01 47 48.9 +0.6**
comp=Z,38nm,1.5s,comp=Z,811nm
CHTO Chiang Mai 74.32 294 P **P** **01 47 49.0 +0.7**
comp=Z,128nm,1.5s,comp=Z,3μm
CHTO Chiang Mai 74.32 294 *e*P **P** **01 47 48.8 +0.5**
CHTO *e**PP **pP** **01 48 40.5 +2.6**
CHTO pmax pmax
comp=Z,24nm,1.1s
CHTO Chiang Mai 74.32 294 *e*P **P** **01 47 48.8 +0.5**
comp=Z,24nm,1.1s
CHTO *e*pP **pP** **01 48 40.5 +2.6**
CMAI Chiengmai2 74.61 295 P **P** **01 47 51.2 +1.0**
comp=Z,35nm,1.0s,comp=Z,1μm
HIA Hailar 74.83 330 *e*P **P** **01 47 51.5 +0.9**
HIA pmax pmax
comp=Z,35nm,0.7s
HIA Hailar 74.83 330 *e*P **P** **01 47 51.5 +0.9**
comp=Z,35nm,0.7s
CD2 Chengdu 74.94 307 P **P** **01 47 52.3 +0.6**
CD2 pP **pP** **01 48 38.9 -2.5**
CD2 sP **sP** **01 48 59.1 -4.5**
CD2 PP **PP** **01 50 45.0 +2.4**
CD2 S **S** **01 57 09.1 -3.0**
CD2 ScS **SKKSac** **01 57 42.0 +0.7**
CD2 sS sS 01 58 30.9 -7.9
CD2 SS **SS** **02 02 06.6 +1.0**
CD2 PMZ
comp=Z,50nm,1.4s
CD2 PMZ
comp=Z,270nm,7.1s
SEY Seymchan 76.67 353 P **P** **01 48 01.9 +1.3**
comp=Z,118nm,0.6s,baz=165,slow=5.1,SNR=482
QSPA South Pole Qui 76.91 180 *e*P **P** **01 48 02.9 +0.6**
comp=Z,126nm,0.8s
LZH Lanzhou 77.16 312 ⇑P **P** **01 48 05.9 +1.7**
LZH pP **pP** **01 48 55.4 +1.2**
LZH sP **sP** **01 49 17.4 +1.1**
LZH PP **PP** **01 51 01.0 -0.2**
LZH S **S** **01 57 32.0 -4.3**
LZH SS **SS** **02 02 36.8 -2.3**
LZH PMZ
comp=Z,67nm,1.0s
LZH PMZ
comp=Z,270nm,5.4s
LZH LN
comp=Z,170nm,15.0s
LZH LE
comp=Z,190nm,15.4s
LZH LZ
comp=Z,230nm,16.8s
OHAK Old Harbor 77.31 21 *e*P **P** **01 48 05.0 +0.7**
comp=Z,50nm,0.7s
CLNS Chul'man 77.99 338 *e*P **P** **01 48 09.4 +1.2**
CLNS pmax pmax
comp=Z,48nm,0.8s
CLNS pmax pmax
comp=N,19nm,0.8s
CLNS pmax pmax
comp=E,10.0nm,0.6s
KDAK Kodiak Island 77.99 21 P P 01 48 03.7 -4.4
comp=E,157nm,0.7s,SNR=6.9
KDAK Kodiak Island 77.99 21 *e*P **P** **01 48 08.5 +0.4**
KDAK pmax pmax
comp=Z,11nm,0.6s
KDAK Kodiak Island 77.99 21 *e*P **P** **01 48 08.5 +0.4**
comp=Z,11nm,0.6s
RSO Redoubt South 80.00 19 *e*P **P** **01 48 19.3 0.0**
comp=Z,39nm,0.8s
YAK Yakutsk 80.45 343 P **P** **01 48 22.4 +1.1**
comp=Z,15nm,0.6s,baz=336,slow=21,SNR=8.8
YAK Yakutsk 80.45 343 *e*P **P** **01 48 21.7 +0.4**
YAK *e* 01 51 26.0
YAK *e*S **S** **01 58 08.0 -1.7**
YAK *e**SS sS 01 59 29.3 -8.3
YAK pmax pmax
comp=Z,98nm,0.9s
YAK pmax pmax
comp=N,16nm,1.0s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK pmax pmax
comp=E,4.0nm,0.6s
YAK pmax pmax
comp=Z,8.0nm,0.6s
YAK pmax pmax
comp=N,2.0nm,0.6s
YAK smax smax
comp=N,46nm,2.7s
YAK smax smax
comp=E,49nm,2.8s
YAK Yakutsk 80.45 343 *e*P **P** **01 48 22.0 +0.7**
comp=E,166nm,0.6s
ULN Ulaanbaatar 80.77 324 *e*P **P** **01 48 24.4 +0.8**
ULN pmax pmax
comp=Z,45nm,0.8s
ULN Ulaanbaatar 80.77 324 *e*P **P** **01 48 24.4 +0.8**
comp=Z,45nm,0.8s
SEW Seward 80.81 20 *e*P **P** **01 48 24.1 +0.8**
comp=Z,25nm,0.8s
BILL Bilibino 80.93 360 *i* P **P** **01 48 24.7 +0.9**
BILL *e*AP **pP** **01 49 16.5 +2.3**
BILL *i* 01 49 37.8
BILL *e* 01 58 12.3
BILL pmax pmax
comp=Z,49nm,0.9s
BILL Bilibino 80.93 360 *e*P **P** **01 48 24.7 +0.9**
comp=Z,62nm,0.6s
RC01 Rabbit Creek A 81.44 20 *e*P **P** **01 48 27.1 +0.5**
comp=Z,22nm,0.6s
RC01 *e*pP **pP** **01 49 16.8 -0.3**
GTA Gaotai 81.47 314 ⇑P **P** **01 48 28.8 +1.4**
GTA pP **pP** **01 49 19.4 +1.5**
GTA sP **sP** **01 49 40.3 +0.4**
GTA PP **PP** **01 51 39.9 +3.0**
GTA S **S** **01 58 24.3 +2.8**
GTA PMZ
comp=Z,33nm,1.4s
GTA PMZ
comp=Z,290nm,5.1s
GTA LN
comp=Z,77nm,17.6s
GTA LE
comp=Z,78nm,19.0s
GTA LZ
comp=Z,110nm,18.0s
PPLA Purkeypile 82.05 18 *e*P **P** **01 48 30.1 +0.1**
comp=Z,9.2nm,0.7s
DIV Divide 82.81 21 *e*P **P** **01 48 34.5 +0.6**
comp=Z,29nm,0.6s
DIV *e*pP **pP** **01 49 23.7 -0.8**
KTH Kantishna Hill 82.92 18 *e*P **P** **01 48 34.0 -0.3**
comp=Z,21nm,0.7s
KCPM Cahto Peak 82.94 47 *e*P **P** **01 48 35.9 +0.9**
comp=Z,83nm,1.8s
BOD Bodaibo 82.97 334 *e*P **P** **01 48 34.5 -0.1**
BOD pmax pmax
comp=Z,25nm,1.9s
TRF Thorofare Moun 83.03 18 *e*P **P** **01 48 34.7 -0.4**
comp=Z,16nm,0.6s
KIPM Iron Peak 83.06 47 *e*P **P** **01 48 36.7 +1.0**
KIPM *e*pP **pP** **01 49 29.4 +3.1**
BMRM Bremner River 83.11 22 *e*P **P** **01 48 35.9 +0.6**
comp=Z,116nm,1.4s
BMRM *e*pP **pP** **01 49 25.3 -0.8**
BPAW Bear Paw Mtn. 83.32 17 *e*P **P** **01 48 35.9 -0.4**
comp=Z,1.4nm,0.5s
MAW Mawson 83.34 202 P **P** **01 48 37.2 +0.8**
comp=Z,16nm,0.6s,baz=112,slow=5.7,SNR=24
MCK McKinley 83.65 18 *e*P **P** **01 48 38.0 0.0**
MCK pmax pmax
comp=Z,101nm,1.3s
MCK McKinley 83.65 18 *e*P **P** **01 48 38.0 0.0**
comp=Z,101nm,1.3s
BSC Santa Cruz Isl 83.77 53 ⇓P **P** **01 48 40.7 +1.4**
baz=84
SBC Santa Barbara 83.86 53 ⇓P **P** **01 48 41.2 +1.5**
baz=84
L02D Cave Junction, 83.91 44 ⇓P **P** **01 48 41.1 +1.4**
baz=84
SMMC Simmler 83.95 52 ⇑P **P** **01 48 41.5 +1.4**
baz=84
IM04 Indian Mountai 84.02 15 *e*P **P** **01 48 40.8 +1.0**
WDC Whiskeytown Da 84.02 46 *e*P **P** **01 48 41.4 +1.0**
WDC *e**PP **pP** **01 49 30.2 -0.9**
WDC pmax pmax
comp=Z,31nm,1.8s
WDC Whiskeytown Da 84.02 46 *e*P **P** **01 48 41.4 +1.0**
comp=Z,31nm,1.8s
WDC *e*pP **pP** **01 49 30.2 -0.9**
N02D Trinity Center 84.06 46 ⇓P **P** **01 48 42.0 +1.4**
baz=84,SNR=6.1
M02C Callahan 84.12 45 ⇓P **P** **01 48 42.3 +1.4**
baz=84
ZAK Zakamensk 84.17 325 ⇓ *i*P **P** **01 48 40.8 -0.2**
ZAK pmax pmax
comp=Z,28nm,1.0s
PAX Paxson 84.20 20 *e*P **P** **01 48 41.5 +0.6**
PAX Paxson 84.20 20 *e*P **P** **01 48 41.5 +0.6**
BLG Laguna Peak, P 84.26 53 ⇑P **P** **01 48 42.9 +1.2**
baz=84
SCI San Clemente I 84.28 54 ⇑P **P** **01 48 43.3 +1.4**
baz=84
YBH Yreka Blue Hor 84.35 45 P **P** **01 48 43.3 +1.1**
comp=Z,5.9nm,0.8s,baz=220,slow=3.5,SNR=11
YBH Yreka Blue Hor 84.35 45 *e*P **P** **01 48 43.2 +1.1**
YBH *e**PP **pP** **01 49 32.8 -0.1**
YBH pmax pmax
comp=Z,11nm,1.1s
YBH Yreka Blue Hor 84.35 45 *e*P **P** **01 48 43.2 +1.0**
comp=Z,11nm,1.1s
YBH *e*pP **pP** **01 49 32.8 -0.1**
HUMO Hull Mountain 84.53 44 *e*P **P** **01 48 44.0 +1.1**
comp=Z,11nm,0.9s
HUMO *e*pP **pP** **01 49 36.7 +3.0**
IRK Irkutsk 84.53 327 *e*P **P** **01 48 41.8 -0.8**
IRK pmax pmax
comp=Z,67nm,1.9s
CIS Catalina Islan 84.54 54 ⇑P **P** **01 48 44.4 +1.2**
baz=85
TLY Talaya 84.59 326 P **P** **01 48 43.3 +0.3**
comp=Z,391nm,0.7s,SNR=19
TLY Talaya 84.59 326 P **P** **01 48 43.5 +0.6**
comp=Z,39nm,0.7s,baz=213,slow=2.8,SNR=44
TLY Talaya 84.59 326 *e*P **P** **01 48 43.6 +0.6**
TLY *e*S SKSac 01 58 37.6 -9.3
TLY pmax pmax
comp=Z,45nm,0.8s
TLY MLR MLR
comp=Z,79nm,20.0s
TLY Talaya 84.59 326 *e*P **P** **01 48 43.2 +0.2**
comp=Z,40nm,0.7s
LSA Lhasa 84.61 302 *e*P **P** **01 48 45.0 +0.8**
LSA pmax pmax
comp=Z,27nm,0.6s
LSA Lhasa 84.61 302 *e*P **P** **01 48 45.0 +0.8**
comp=Z,27nm,0.6s
CMB Columbia Colle 84.62 49 *e*P **P** **01 48 43.4 -0.1**
CMB *e**PP **pP** **01 49 32.8 -1.6**
CMB pmax pmax
comp=Z,6.0nm,0.9s
CMB Columbia Colle 84.62 49 *e*P **P** **01 48 43.4 -0.1**
comp=Z,5.5nm,0.9s
CMB *e*pP **pP** **01 49 32.8 -1.6**
OSI Osito Audit: C 84.69 53 ⇑P **P** **01 48 44.8 +0.9**
baz=85
I03D Drain, OR 84.69 43 ⇓P **P** **01 48 44.8 +1.2**
baz=85
FMP Fort Macarthur 84.73 54 ⇓P **P** **01 48 45.2 +1.2**
baz=85
ARVC Arvin 84.78 52 ⇑P **P** **01 48 45.4 +1.1**
baz=85
COLA College 84.81 18 *c i*P **P** **01 48 43.9 +0.2**
COLA pmax pmax
comp=Z,123nm,0.9s
COLA College 84.81 18 *e*P **P** **01 48 43.5 -0.2**
comp=Z,34nm,0.8s
VES Vestal, Richgr 84.83 52 ⇓P **P** **01 48 45.4 +0.9**
baz=85
RCTC Rector, Farmer 84.87 51 ⇓P **P** **01 48 45.6 +0.9**
baz=85
M04C Macdoel 84.97 45 ⇓P **P** **01 48 46.3 +1.0**
baz=85,SNR=5.8
ILAR Eielson Array 85.02 18 P **P** **01 48 45.0 +0.2**
comp=Z,35nm,0.7s,baz=240,slow=5.0,SNR=350
ILAR pP **pP** **01 49 33.7 -2.0**
comp=Z,11nm,0.6s,baz=239,slow=5.8,SNR=5.1
ILAR PKiKP **PKiKP** **01 53 54.9 -0.3**
comp=Z,0.8nm,0.6s,baz=260,slow=3.2,SNR=5.2
ILAR LR LR 02 24 39.2
comp=Z,92nm,18.5s,baz=185,slow=34
MWC Mount Wilson 85.08 53 *e*P **P** **01 48 46.3 +0.2**
MWC *e**PP **pP** **01 49 37.6 +0.7**
MWC Mount Wilson 85.08 53 *e*P **P** **01 48 46.3 +0.2**
MWC *e*pP **pP** **01 49 37.6 +0.7**
DOT Dot Lake 85.13 20 *e*P **P** **01 48 45.4 -0.1**
comp=Z,24nm,0.7s
DOT *e*pP **pP** **01 49 35.2 -1.1**
ISA Isabella, Lake 85.24 52 ⇓P **P** **01 48 47.8 +1.1**
baz=85
J04D Umpqua Nationa 85.34 44 ⇓P **P** **01 48 48.5 +1.3**
baz=86
EDW2 Edwards Air Fo 85.35 53 ⇑P **P** **01 48 48.1 +0.8**
baz=86,SNR=5.5
K04D Chiloquin, OR 85.35 44 ⇓P **P** **01 48 48.4 +1.3**
baz=86
G03D McMinnville, O 85.36 42 ⇓P **P** **01 48 48.2 +1.3**
baz=86
I04A Tendick Farm, 85.36 43 ⇓P **P** **01 48 47.7 +0.7**
baz=86
BFSC Mount Baldy Ra 85.40 53 ⇑P **P** **01 48 48.1 +0.5**
baz=86,SNR=5.3
109C Camp Elliot, M 85.40 55 ⇓P **P** **01 48 48.2 +0.8**
baz=86
WRAK Wrangell Islan 85.45 29 *e*P **P** **01 48 47.7 +0.7**
comp=Z,9.6nm,0.6s
WAKR Walker 85.49 49 *e*P **P** **01 48 48.8 +0.8**
comp=Z,4.0nm,0.9s

WAKR ep P pP 01 49 36.7 -2.2
MURC Murrieta 85.55 54 ⇓P P 01 48 48.8 +0.6
baz=86
HYT Haines Junctio 85.69 24 eP P 01 48 48.1 -0.3
LRMC Laurel Mtn Rad 85.78 52 ⇑P P 01 48 50.4 +0.9
baz=86
CWC Cottonwood Cre 85.80 51 ⇓P P 01 48 50.3 +0.8
baz=86,SNR=5.8
F04D Rainier, OR 85.87 41 ⇑P P 01 48 51.1 +1.7
baz=86
TIN Tinemaha, Big 85.89 51 ⇑P P 01 48 51.0 +1.1
baz=86
COLD Coldfoot 85.90 15 eP P 01 48 50.3 +1.2
comp=Z,63nm,1.4s
MONP Monument Peak, 85.95 55 ⇓P P 01 48 51.5 +1.1
baz=86,SNR=5.2
J05D Fort Rock, OR 85.95 44 ⇓P P 01 48 51.1 +1.0
baz=86
BBRC Big Bear Solar 85.98 54 ⇑P P 01 48 51.3 +0.7
baz=86
DAC Darwin (Calif) 86.11 52 eP P 01 48 51.5 +0.3
DAC e*PP pP 01 49 40.6 -1.5
DAC pmax pmax
comp=Z,2.0nm,0.5s
DAC Darwin (Calif) 86.11 52 eP P 01 48 51.5 +0.3
comp=Z,1.8nm,0.5s
DAC epP pP 01 49 40.6 -1.5
RRX Edison Barstow 86.12 53 ⇓P P 01 48 52.1 +1.1
baz=86
MPMC Manual Prospec 86.12 52 ⇓P P 01 48 52.1 +1.0
baz=86,SNR=7.7
IBP Imperial Bould 86.14 55 ⇓P P 01 48 51.2 0.0
baz=86
PFO Pinyon Flats O 86.14 54 eP P 01 48 51.8 +0.5
PFO e*PP pP 01 49 42.4 +0.2
PFO pmax pmax
comp=Z,4.0nm,0.8s
PFO Pinyon Flats O 86.14 54 eP P 01 48 51.8 +0.5
comp=Z,4.1nm,0.8s
PFO epP pP 01 49 42.4 +0.2
PFO Pinyon Flats O 86.14 54 ⇓P P 01 48 52.2 +0.9
baz=86
I05D Terrebonne, OR 86.28 43 ⇓P P 01 48 52.5 +0.9
baz=86
NVAR Mina Array Bea 86.30 49 P P 01 48 53.0 +1.0
comp=Z,3.2nm,0.8s,baz=231,slow=7.4,SNR=14
NVAR pP pP 01 49 42.6 -0.4
comp=Z,18nm,1.2s,baz=238,slow=6.2,SNR=6.3
NVAR PKKPbc PKKPbc 02 06 50.1 -0.1
comp=Z,1.3nm,0.6s,baz=85,slow=4.1,SNR=9.6
GSC Goldstone, Bar 86.41 53 eP P 01 48 53.1 +0.7
GSC e*PP pP 01 49 42.2 -1.2
GSC pmax pmax
comp=Z,2.0nm,0.9s
GSC Goldstone, Bar 86.41 53 eP P 01 48 53.1 +0.7
comp=Z,2.5nm,0.9s
GSC epP pP 01 49 42.2 -1.2
GSC Goldstone, Bar 86.41 53 ⇑P P 01 48 53.5 +1.1
baz=86,SNR=5.3
GRAC Grapevine Rang 86.52 51 ⇓P P 01 48 53.7 +0.8
baz=87,SNR=6.8
HEC Hector,Ludlow 86.63 53 ⇑P P 01 48 54.1 +0.6
baz=87
BELC Belle Mtn. Jos 86.63 54 ⇑P P 01 48 54.4 +0.8
baz=87,SNR=5.7
G05D Wamic, OR 86.64 42 ⇑P P 01 48 54.7 +1.5
baz=87
FURC Furnace Creek, 86.74 52 ⇑P P 01 48 54.8 +1.0
baz=87,SNR=7.4
TAPN Taplejung 86.80 299 eP P 01 48 54.8 0.0
comp=Z,45nm,0.9s
EGAK Eagle 86.83 20 eP P 01 48 53.6 -0.1
comp=Z,17nm,0.6s
ODAN Odare 86.94 298 eP P 01 48 55.5 +0.1
comp=Z,116nm,0.7s
BC3 Big Chuckawall 86.95 55 ⇑P P 01 48 56.0 +0.8
baz=87,SNR=11
TPH Tonopah 86.98 50 eP P 01 48 56.2 +0.9
TPH e*PP pP 01 49 45.9 -0.5
TPH pmax pmax
comp=Z,2.0nm,0.8s
TPH Tonopah 86.98 50 eP P 01 48 56.2 +0.9
comp=Z,2.3nm,0.8s
TPH epP pP 01 49 45.9 -0.5
SHOC Shoshone, Teco 87.00 52 ⇓P P 01 48 55.7 +0.5
baz=87
TUQ Turquoise Moun 87.13 53 ⇑P P 01 48 56.7 +0.7
baz=87,SNR=7.6
GMRC Granite Mounta 87.13 53 ⇓P P 01 48 56.6 +0.6
baz=87,SNR=5.4
IRM Iron Mountain 87.35 54 ⇓P P 01 48 58.3 +1.4
baz=88,SNR=14
TPNV Topopah Spring 87.36 51 ⇑P P 01 48 57.8 +0.7
baz=88
WVOR Wild Horse Val 87.43 45 eP P 01 48 57.3 +0.1
WVOR e*PP pP 01 49 47.1 -1.3
WVOR pmax pmax
comp=Z,91nm,2.3s
WVOR Wild Horse Val 87.43 45 eP P 01 48 57.3 +0.1
comp=Z,91nm,2.3s
WVOR epP pP 01 49 47.1 -1.3
DLBC Dease Lake 87.56 28 P P 01 48 57.5 +0.1
comp=Z,4.0nm,1.1s,baz=229,slow=12,SNR=4.6
RAMN Ramite 87.64 298 eP P 01 48 58.7 -0.1
comp=Z,46nm,0.5s
CHLP Challavanipeta 87.71 289 eP P 01 48 57.9 -1.0
CHLP IAmb IAmb 01 49 03.7
comp=Z,92nm,1.5s
Y12C Blythe 87.72 55 ⇑P P 01 48 60.0 +1.3
baz=88,SNR=5.3
NEE2 Needles Airpor 87.95 54 ⇓P P 01 49 00.5 +0.8
baz=88
113A Mohawk Valley, 88.04 56 ⇑P P 01 49 01.3 +1.2
baz=88
SHPR Sheep Range 88.05 52 eP P 01 49 01.2 +0.8
comp=Z,53nm,2.0s
SHPR epP pP 01 49 50.5 -1.1
PDMCI Parker Dam,Lak 88.19 54 ⇓P P 01 49 02.0 +1.2
baz=88,SNR=14
JIRN Jiri 88.19 299 eP P 01 49 01.5 0.0
comp=Z,59nm,0.7s
PALK Pallekele 88.20 278 eP P 01 49 02.4 +1.0
PALK Pallekele 88.20 278 eP P 01 49 02.4 +1.0
HAWA Hanford 88.22 42 eP P 01 49 01.9 +1.2
comp=Z,15nm,1.4s
HAWA epP pP 01 49 50.5 -1.4
R11A Troy Canyon, C 88.29 50 eP P 01 49 01.9 +0.4
comp=Z,6.6nm,1.5s
R11A epP pP 01 49 51.9 -0.9
R11A Troy Canyon, C 88.29 50 ⇓P P 01 49 02.2 +0.7
baz=88
TIXI Tiksi 88.36 349 ⇓iP P 01 49 00.7 -0.1
TIXI pmax pmax
comp=Z,13nm,0.9s
TIXI Tiksi 88.36 349 eP P 01 49 00.5 -0.2
comp=Z,13nm,0.7s
GUN Gumba 88.52 299 eP P 01 49 03.1 +0.1
comp=Z,57nm,0.7s
214A Organ Pipe Nat 88.58 57 eP P 01 49 02.8 0.0
214A epP pP 01 49 53.5 -0.6
214A Organ Pipe Nat 88.58 57 ⇑P P 01 49 04.0 +1.2
baz=89
W13A Hualapai Mount 88.62 54 ⇑P P 01 49 04.1 +0.9
baz=89,SNR=31
PKI Pulchoki 88.83 299 eP P 01 49 04.2 -0.2
comp=Z,58nm,0.6s
PKIN Phulchoki 88.84 299 eP P 01 49 04.5 +0.1
comp=Z,41nm,0.8s
Z14A Wintersburg 88.87 55 ⇑P P 01 49 05.5 +1.4
baz=89
Y14A Wickenburg 88.98 55 ⇓P P 01 49 06.0 +1.3
baz=89
KKN Kakani 89.00 299 eP P 01 49 04.9 -0.2
comp=Z,66nm,0.7s
DMN Daman 89.10 298 eP P 01 49 05.7 +0.1
comp=Z,93nm,0.7s
BMO Blue Mountains 89.16 44 eP P 01 49 05.5 +0.2
BMO e*PP pP 01 49 55.6 -1.0
BMO pmax pmax
comp=Z,19nm,1.6s
BMO Blue Mountains 89.16 44 eP P 01 49 05.5 +0.2
comp=Z,19nm,1.6s
BMO epP pP 01 49 55.6 -1.0
ELK Elko 89.29 48 P P 01 49 07.2 +1.0
comp=Z,1.8nm,0.5s,baz=266,slow=6.3,SNR=12
ELK Elko 89.29 48 eP P 01 49 07.0 +0.8
ELK e*PP pP 01 49 57.5 0.0
ELK pmax pmax
comp=Z,6.0nm,1.2s
ELK Elko 89.29 48 eP P 01 49 07.0 +0.8
comp=Z,6.5nm,1.2s
ELK epP pP 01 49 57.5 0.0
GKN Gorkha 89.60 299 eP P 01 49 07.1 -0.7
comp=Z,38nm,0.7s
MFID Camas Ranch 89.70 45 eP P 01 49 08.2 +0.4
comp=Z,5.0nm,0.8s
MFID epP pP 01 49 58.8 -0.5
U15A North Rim 90.24 53 ⇓P P 01 49 12.2 +1.5
baz=90
TUC Tucson 90.33 57 eP P 01 49 11.1 +0.1
TUC e*PP pP 01 50 01.4 -1.0
TUC Tucson 90.33 57 eP P 01 49 11.1 +0.1
TUC epP pP 01 50 01.4 -1.0
X16A Lo Mia Camp, P 90.36 55 ⇓P P 01 49 12.3 +1.0
baz=90
NEW Newport 90.40 40 P P 01 49 11.0 +0.1
comp=Z,3.1nm,0.8s,baz=262,slow=6.1,SNR=7.4
NEW pP pP 01 50 01.1 -1.2
comp=Z,11nm,1.1s,baz=261,slow=3.7,SNR=7.2
NEW Newport 90.40 40 eP P 01 49 11.2 +0.3
NEW e*PP pP 01 50 01.5 -0.8
NEW pmax pmax
comp=Z,3.0nm,0.8s
NEW Newport 90.40 40 eP P 01 49 11.2 +0.3
comp=Z,3.2nm,0.8s
NEW pP pP 01 50 01.1 -1.2
NEW epP pP 01 50 01.4 -0.8
NEW Newport 90.40 40 ⇓P P 01 49 12.2 +1.3
baz=90
KOLN Koldanda 90.43 298 eP P 01 49 10.8 -0.9
comp=Z,14nm,0.5s
SKHT Srikalahasti 90.63 284 eP P 01 49 12.7 +0.1
WUAZ Wupatki 90.71 54 eP P 01 49 12.1 -0.7
WUAZ Wupatki 90.71 54 ⇑P P 01 49 13.8 +0.9
baz=91
HLID Hailey 90.72 45 eP P 01 49 12.8 +0.1
comp=Z,1.9nm,0.7s
HLID epP pP 01 50 03.6 -0.5
HLID Hailey 90.72 45 ⇑P P 01 49 13.9 +1.2
baz=91
MVU Marysvale 90.87 51 eP P 01 49 14.3 +0.7
comp=Z,12nm,1.9s
MVU epP pP 01 50 04.4 -0.6
DUG Dugway, Tooele 90.89 49 eP P 01 49 13.9 +0.3
DUG e*PP pP 01 50 04.9 0.0
DUG pmax pmax
comp=Z,8.0nm,1.5s
DUG Dugway, Tooele 90.89 49 eP P 01 49 13.9 +0.3
comp=Z,8.2nm,1.5s
DUG epP pP 01 50 04.9 0.0
DUG Dugway, Tooele 90.89 49 ⇑P P 01 49 14.5 +1.0
baz=91
BGU Big Grassy Mou 90.94 48 eP P 01 49 13.3 -0.4
comp=Z,6.9nm,1.4s
BGU epP pP 01 50 04.9 -0.2
319A Douglas 91.33 58 ⇑P P 01 49 16.8 +1.1
baz=91
HVU Hansel Valley 91.37 47 eP P 01 49 16.4 +0.7
HVU e*PP pP 01 50 05.7 -1.4
HVU pmax pmax
comp=Z,28nm,1.8s
HVU Hansel Valley 91.37 47 eP P 01 49 16.4 +0.7
comp=Z,28nm,1.8s
HVU epP pP 01 50 05.7 -1.4
NLU North Lily Min 91.37 49 eP P 01 49 17.4 +1.6
NLU epP pP 01 50 07.1 -0.1
INK Inuvik 91.39 19 P P 01 49 14.6 -0.3
comp=Z,1.8nm,0.6s,baz=269,slow=4.5,SNR=4.9
INK PKiKP PKiKP 01 54 05.6 -0.1
comp=Z,1.2nm,0.6s,baz=265,slow=11,SNR=5.3
INK Inuvik 91.39 19 eP P 01 49 17.2 +2.3
INK pmax pmax
comp=Z,3.0nm,0.8s
INK Inuvik 91.39 19 eP P 01 49 17.2 +2.3
comp=Z,2.9nm,0.8s
INK PKiKP PKiKP 01 54 05.6 -0.1
WMQ Urumqi 91.52 315 P P 01 49 16.4 +0.2
WMQ pP pP 01 50 11.3 +3.7
WMQ PP PP 01 53 00.6 +3.1
WMQ SKS SKSac 01 59 25.5 -3.3
WMQ S S 01 59 53.3 -4.6
WMQ SS SS 02 06 03.6 -6.2
WMQ PMZ
comp=Z,22nm,1.8s
WMQ PMZ
comp=Z,280nm,3.6s
WMQ LN
comp=Z,78nm,20.2s
WMQ LE
comp=Z,56nm,22.2s
WMQ LZ
comp=Z,54nm,23.4s
X18A Snowflake 91.58 55 ⇓P P 01 49 17.5 +0.6
baz=92
NJS Nagarjunasagar 91.65 287 eP P 01 49 16.4 -0.9
NJS IAmb IAmb 01 49 17.5
comp=Z,26nm,0.9s
MPU Maple Canyon 91.72 49 eP P 01 49 17.5 +0.1
MPU epP pP 01 50 08.8 0.0
BSMT Bassoo Peak 91.76 41 eP P 01 49 17.9 +0.5
comp=Z,2.5nm,0.6s
BSMT epP pP 01 50 07.9 -0.9
W18A Petrified Fore 91.90 55 ⇓P P 01 49 19.4 +1.0
baz=92
JLU Jordanelle 92.01 49 eP P 01 49 18.9 +0.1
JLU epP pP 01 50 10.0 -0.2
JTMT Jette 92.05 41 eP P 01 49 18.8 +0.1
JTMT epP pP 01 50 10.0 -0.1
MCMT McKenzie Canyo 92.17 45 eP P 01 49 20.6 +1.1
MCMT epP pP 01 50 10.8 -0.1
TCUT Toone Canyon 92.17 48 eP P 01 49 19.3 -0.3
TCUT epP pP 01 50 11.0 0.0
RPR Rampur 92.18 289 eP P 01 49 19.4 -0.3
RPR IAmb IAmb 01 49 20.1
comp=Z,102nm,0.6s
YBMT Yellow Bay 92.26 41 eP P 01 49 21.5 +1.8
YBMT epP pP 01 50 11.1 0.0
SLMT Seeley Lake 92.42 42 eP P 01 49 21.0 +0.6
SLMT epP pP 01 50 11.3 -0.6
CHMT Chamberlain Mo 92.48 42 eP P 01 49 20.3 -0.5
comp=Z,0.6nm,0.6s
CHMT epP pP 01 50 11.2 -1.0
HYB Hyderabad 92.54 287 iP P 01 49 20.0 -1.5
HYBB Hyderabad (bro 92.54 287 eP P 01 49 20.9 -0.6
HYBB IAmb IAmb 01 49 22.0
comp=Z,16nm,0.8s
WALA Waterton Lakes 92.67 40 eP P 01 49 22.7 +1.2
WALA epP pP 01 50 12.7 -0.2
LRM Limekiln Ridge 92.71 44 eP P 01 49 19.5 -2.4
LRM epP pP 01 50 12.8 -0.5
121A Cookes Peak, D 92.85 57 eP P 01 49 23.2 +0.5
121A epP pP 01 50 13.9 -0.3
121A Cookes Peak, D 92.85 57 ⇓P P 01 49 23.8 +1.0
baz=93
TPAW Teton Pass 93.12 46 eP P 01 49 25.5 +1.6
TPAW epP pP 01 50 15.3 0.0
REDW Red Top Meadow 93.16 46 eP P 01 49 23.0 -1.1
REDW epP pP 01 50 15.2 -0.3
URV Uravakonda 93.21 285 eP P 01 49 24.0 -0.6
URV IAmb IAmb 01 49 25.0
comp=Z,23nm,1.0s
BOZ Bozeman (W) 93.22 44 eP P 01 49 25.1 +0.9
BOZ e*PP pP 01 50 15.1 -0.5
BOZ Bozeman (W) 93.22 44 eP P 01 49 25.1 +0.9
BOZ epP pP 01 50 15.1 -0.5
IMW Indian Meadow 93.24 46 eP P 01 49 23.3 -1.2
IMW epP pP 01 50 15.7 -0.2
HRY Holter Researc 93.37 43 eP P 01 49 25.6 +0.9
HRY epP pP 01 50 15.8 -0.4
MVCO Mesa Verde 93.38 53 ⇑P P 01 49 26.2 +0.9
baz=94
I17A Pilgrim Ck. 93.50 46 ⇓P P 01 49 26.5 +0.9
baz=94
PDAR Pinedale Array 93.93 47 P P 01 49 27.8 +0.2
comp=Z,0.6nm,0.7s,baz=136,slow=0.4,SNR=4.4
PDAR pP pP 01 50 18.7 -0.4
comp=Z,2.3nm,1.1s,baz=270,slow=2.4,SNR=4.9
PDAR PKKPbc PKKPdf 02 06 28.3 -1.9
comp=Z,1.7nm,0.7s,baz=78,slow=5.4,SNR=14
PDAR LR LR 02 27 27.8
comp=Z,112nm,19.4s,baz=243,slow=32
EDM Edmonton 94.19 36 eP P 01 49 28.5 +0.2
EDM e*PP pP 01 50 19.6 -0.2
EDM Edmonton 94.19 36 eP P 01 49 28.4 +0.2
EDM epP pP 01 50 19.6 -0.2
H18A Shoshone NF, C 94.32 45 ⇑P P 01 49 30.3 +1.0
baz=94
J19A Crowheart 94.41 47 ⇓P P 01 49 30.2 +0.5
baz=94
N20A Spence Gulch, 94.41 49 ⇓P P 01 49 30.9 +1.0
baz=94
I19A Meeteetse 94.63 46 ⇑P P 01 49 31.6 +0.9
baz=95
J20A Shoshoni 95.12 47 ⇓P P 01 49 33.8 +0.9
baz=95
SNAA Sanae 95.16 183 P P 01 49 29.3 -3.2
SNAA Sanae 95.16 183 ⇑iP P 01 49 29.1 -3.4
SNAA pmax pmax
comp=Z,24nm,1.6s
SNAA Sanae 95.16 183 eP P 01 49 29.0 -3.4
comp=Z,34nm,1.4s
D19A Cripps Ranch, 95.44 43 ⇑P P 01 49 35.9 +1.7
baz=96
TXAR Lajitas Array 95.60 61 P P 01 49 36.1 +0.7
comp=Z,0.3nm,0.8s,baz=224,slow=6.9,SNR=5.3
TXAR pP pP 01 50 25.9 -1.0
comp=Z,0.6nm,0.7s,baz=249,slow=2.5,SNR=4.9
TXAR PKiKP PKiKP 01 54 15.1 +0.9
comp=Z,0.4nm,0.8s,baz=246,slow=6.8,SNR=4.1
TXAR PKKPbc PKKPbc 02 06 23.6 -2.4
comp=Z,0.9nm,0.5s,baz=97,slow=4.5,SNR=17
I21A Big Trails, Te 95.78 47 ⇑P P 01 49 36.7 +0.8
baz=96
VNA3 Neumayer Olymp 95.83 181 P P 01 49 35.0 -0.5
MK31 Makanchi Array 95.96 317 eP P 01 49 36.6 +0.1
MK31 Makanchi Array 95.96 317 eP P 01 49 36.6 +0.1
MKAR Makanchi Array 95.96 317 P P 01 49 36.9 +0.4
comp=Z,17nm,0.6s,baz=89,slow=3.4,SNR=234
MKAR PKiKP PKiKP 01 54 14.0 -0.3
comp=Z,2.0nm,0.6s,baz=255,slow=4.8,SNR=20
MKAR PKKPbc PKKPbc 02 06 22.6 -3.1
comp=Z,2.1nm,0.6s,baz=272,slow=7.5,SNR=23
ZAA0 Zalesovo Array 96.02 324 eP P 01 49 35.8 -0.7
ZALV Zalesovo Beam 96.02 324 P P 01 49 36.2 -0.3
comp=Z,15nm,0.7s,baz=116,slow=4.5,SNR=71
ZALV PKiKP PKiKP 01 54 14.6 +0.5
comp=Z,2.9nm,0.6s,baz=142,slow=1.5,SNR=9.4
ZALV PKKPbc PKKPbc 02 06 23.1 -2.7
comp=Z,1.3nm,0.4s,baz=278,slow=3.1,SNR=6.7
VNA2 Neumayer--Watz 96.09 182 P P 01 49 36.3 -0.4
baz=182,slow=4.7
YKA Yellowknife Ar 96.16 27 P P 01 49 36.6 -0.3
comp=Z,4.3nm,0.7s,baz=255,slow=4.6,SNR=33
YKA pP pP 01 50 26.0 -2.4
comp=Z,2.2nm,0.6s,baz=258,slow=4.5,SNR=6.6
YKA PKiKP PKiKP 01 54 14.0 0.0
comp=Z,0.4nm,0.5s,baz=251,slow=1.1,SNR=5.0
YKA PKKPbc PKKPbc 02 06 19.9 -5.9
comp=Z,1.3nm,0.6s,baz=75,slow=2.6,SNR=12
VNA1 Neumayer--Stat 96.39 182 P P 01 49 37.9 -0.1
NVS Novosibirsk 97.13 325 iP P 01 49 39.9 -1.6
KURK Kurchatov 99.10 320 eP Pdif 01 49 49.3 -1.1
KURK pmax pmax
comp=Z,6.0nm,1.2s
KURK Kurchatov 99.10 320 ePdif Pdif 01 49 49.3 -1.1
comp=Z,6.2nm,1.2s
KSH Kashi 99.11 308 eP Pdif 01 49 53.3 +2.3
KSH sP sP 01 51 05.8 +1.5
KSH ePP PP 01 54 01.1 +4.8
KSH SKS SKSac 02 00 10.3 +1.0
KSH S ScS 02 01 03.3 -0.6
KSH sS sS 02 02 33.0 -2.0
KSH PMZ
comp=Z,130nm,4.8s
KSH LN
comp=Z,96nm,4.9s
KSH LE
comp=Z,92nm,5.0s
KSH LZ
comp=Z,200nm,5.9s
TKM2 Tokmak 2 99.92 312 eP Pdif 01 49 54.2 -0.4
TKM2 pmax pmax
comp=Z,2.0nm,0.6s
TKM2 Tokmak 2 99.92 312 ePdif Pdif 01 49 54.2 -0.4
comp=Z,2.2nm,0.6s
AAK Ala-Archa 100.69 311 eP Pdif 01 49 57.8 -0.2
AAK Ala-Archa 100.69 311 ePdif Pdif 01 49 57.8 -0.2
EKS2 Erkin-Say 101.22 311 eP Pdif 01 50 00.1 -0.2
EKS2 Erkin-Say 101.22 311 ePdif Pdif 01 50 00.1 -0.2
KKAR Karatay Array 103.65 312 eP Pdif 01 50 10.2 -0.7
KKAR pmax pmax
comp=Z,1.0nm,0.6s
KKAR Karatay Array 103.65 312 ePdif Pdif 01 50 10.2 -0.7
comp=Z,1.3nm,0.6s
ULM Lac du Bonnet 104.39 41 PKiKP PKiKP 01 54 28.3 -0.9
comp=Z,2.5nm,0.7s,baz=295,slow=2.0,SNR=5.5
ULM PKKPbc PKKPbc 02 05 59.1 -2.6
comp=Z,2.6nm,0.6s,baz=85,slow=3.9,SNR=7.6
BRVK Borovoye 104.48 322 eP Pdif 01 50 14.1 -0.2
BRVK Borovoye 104.48 322 ePdif Pdif 01 50 14.1 -0.2
FCC Fort Churchill 105.64 32 ePKP PKiKP 01 54 30.9 -0.4
ABKAR Akbulak array 111.05 318 ePKP PKiKP 01 54 41.8 +0.1
ARU Arti 111.09 326 PKiKP PKiKP 01 54 41.5 -0.1
ARU PP PP 01 55 21.8 -2.1
ARU SKS SKSac 02 00 58.6 -3.6
ARU Arti 111.09 326 ePKP PKiKP 01 54 41.5 -0.1
TRQA Tornquist 111.40 140 ePKP PKiKP 01 54 42.5 -0.4
SPA0 Spitsbergen Ar 113.31 354 eP PKiKP 01 54 45.7 +0.4
OTAV Otavalo 113.78 96 ePKP PKiKP 01 54 47.5 -1.1
HATD Hatta, Dubai 114.31 291 iPKiKP PKPdf 01 54 48.5 -0.3
SNR=11
ASHO Ashiyiah 114.37 291 iPKiKP PKPdf 01 54 48.5 -0.3
SNR=6.5
LVC Limon Verde 114.61 123 ePKP PKPdf 01 54 50.7 +1.0
PRGR Permogore 116.18 333 ePKIKP PKPdf 01 54 51.1 0.0
PRGR pmax pmax
comp=Z,14nm,0.6s
LVZ Lovozero 117.23 342 diPKIKP PKPdf 01 54 53.2 +0.1
LVZ pmax pmax
comp=Z,19nm,0.7s
LVZ Lovozero 117.23 342 ePKPdf PKPdf 01 54 52.8 -0.3
LPAZ La Paz 118.04 117 PKP PKPdf 01 54 57.0 +0.1
comp=Z,1.5nm,0.6s,baz=249,slow=2.0,SNR=12
LPAZ PKKPbc PKKPbc 02 05 14.7 -2.2
comp=Z,1.5nm,0.6s,baz=320,slow=2.9,SNR=8.0
KEV Kevo 118.14 345 ePKIKP PKPdf 01 54 54.8 +0.1
KEV Kevo 118.14 345 ePKPdf PKPdf 01 54 54.8 +0.1
SUMG Summit 118.65 9 iPKIKP PKPdf 01 54 55.5 -0.7
SUMG pmax pmax
comp=Z,9.0nm,0.6s
SUMG Summit 118.65 9 ePKPdf PKPdf 01 54 56.3 +0.1
ARCES ARCESS Array B 118.66 346 PKP PKPdf 01 54 56.3 +0.5
comp=Z,59nm,0.5s,baz=70,slow=1.4,SNR=504
ARCES PKKPbc PKKPab 02 05 12.2 -2.9
comp=Z,6.3nm,0.6s,baz=185,slow=1.5,SNR=30
ARE0 ARCESS Array S 118.66 346 eP PKPdf 01 54 55.7 -0.1
ARE0 IAmb IAmb 01 54 56.6
comp=Z,66nm,0.5s
ARE0 ARCESS Array S 118.66 346 ePKPdf PKPdf 01 54 55.6 -0.2
KLMR Klimovskoe 119.19 334 ciPKIKP PKPdf 01 54 56.8 -0.2
KLMR pmax pmax
comp=Z,26nm,0.7s
KTK1 Kautokeino 119.59 346 eP PKPdf 01 54 57.6 0.0
TRO Tromso 120.07 348 eP PKPdf 01 54 57.1 -1.3
TRO IAmb IAmb 01 54 57.8
comp=Z,58nm,0.6s
SFJD Kangerlussuaq 120.65 16 ⇑iPKIKP PKPdf 01 54 59.3 -0.3
SFJD pmax pmax
comp=Z,7.0nm,0.6s
SFJD Kangerlussuaq 120.65 16 ePKPdf PKPdf 01 54 59.3 -0.3
SCHQ Schefferville 121.01 33 PKP PKPdf 01 55 00.7 -0.1
comp=Z,3.3nm,0.6s,baz=279,slow=2.6,SNR=11
SCHQ PKKPbc PKKPab 02 05 02.9 -2.3
comp=Z,4.1nm,0.7s,baz=98,slow=4.0,SNR=12
CPUP Villa Florida 121.63 132 ePKIKP PKPdf 01 55 02.5 -0.2
CPUP Villa Florida 121.63 132 ePKPdf PKPdf 01 55 02.5 -0.2
STEI Steigen 122.24 348 eP PKPdf 01 55 02.8 +0.1
STEI IAmb IAmb 01 55 03.3
comp=Z,72nm,0.6s
MOS Moscow 122.45 329 ePKIKP PKPdf 01 55 02.5 -0.9
MOS e 01 55 50.8
MOS e 01 56 49.9
GNI Garni 123.03 309 ePKIKP PKPdf 01 55 06.3 +1.1
GNI Garni 123.03 309 ⇑iPKIKP PKPdf 01 55 06.3 +1.1
SNR=12
GNI Garni 123.03 309 ePKPdf PKPdf 01 55 06.3 +1.1

ZEI Tsey 123.08 313 *i* PKIKP **PKPdf** 01 55 04.9 -0.4
ZEI pmax pmax
comp=Z,20nm,0.9s
LPSR Galich'ya Gora 123.11 325 *e*PKIKP **PKPdf** 01 55 05.2 +0.4
LPSR pmax pmax
comp=Z,40nm,1.0s
LPSR pmax pmax
comp=N,10.0nm,0.8s
LPSR pmax pmax
comp=E,10.0nm,0.7s
PQI Presque Isle 123.13 42 *e*PKPdf **PKPdf** 01 55 04.0 -0.9
SDV Santo Domingo 123.21 88 *e*PKPdf **PKPdf** 01 55 05.4 -0.9
OBN Obninsk 123.27 329 *d i*PKIKP **PKPdf** 01 55 05.6 +0.6
OBN pmax pmax
comp=Z,27nm,0.6s
OBN Obninsk 123.27 329 *e*PKPdf **PKPdf** 01 55 05.4 +0.4
VSR Storozhevoye 123.53 324 *e*PKIKP **PKPdf** 01 55 05.7 +0.1
VSR pmax pmax
comp=N,5.0nm,0.6s
VSR pmax pmax
comp=Z,50nm,0.6s
VSR pmax pmax
comp=E,10.0nm,1.0s
VORD Divnogorie 123.55 323 *e*PKIKP **PKPdf** 01 55 05.5 -0.1
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD pmax pmax
comp=Z,20nm,0.6s
KBZ Khabaz 123.56 314 PKP **PKPdf** 01 55 06.4 +0.5
comp=Z,10nm,0.8s,baz=236,slow=24,SNR=20
PUL Pulkovo 123.64 335 ⇑*i*PKIKP **PKPdf** 01 55 07.0 +1.5
PUL pmax pmax
comp=Z,57nm,0.4s
KIV Kislovodsk 123.65 314 *i* PKIKP **PKPdf** 01 55 06.4 +0.2
KIV *e* 01 56 50.2
KIV *e*PS **PS** 02 06 52.3 +0.5
KIV *e*SS SS 02 13 20.0 -2.7
KIV pmax pmax
comp=Z,10.0nm,0.9s
KIV Kislovodsk 123.65 314 ⇑PKIKP **PKiKP** 01 55 07.1 +0.6
KIV Kislovodsk 123.65 314 *e*PKPdf **PKPdf** 01 55 06.7 +0.5
NEY Neytrino 123.81 314 *i* PKIKP **PKPdf** 01 55 08.5 +1.8
KONS Konsvik 123.89 348 *e*P **PKPdf** 01 55 06.4 +0.5
RAYN Ar Rayn 123.97 290 *e*PKPdf **PKPdf** 01 55 07.6 +0.2
FLOS Flostrand 123.98 348 *e*P **PKPdf** 01 55 04.2 -1.8
STOK Stokkvaagen 124.06 348 *e*P **PKPdf** 01 55 06.2 0.0
STOK IAmb IAmb 01 55 07.0
comp=Z,76nm,0.6s
FIA1 FINESS Array S 124.18 339 *e*PKPdf **PKPdf** 01 55 06.5 0.0
FINES FINESS Array B 124.18 339 PKP **PKPdf** 01 55 06.7 +0.2
comp=Z,24nm,0.6s,baz=160,slow=6.1,SNR=3.7
FINES PKKPbc **PKKPab** 02 04 52.2 +1.0
comp=Z,2.0nm,0.8s,baz=207,slow=3.8,SNR=5.6
SIV San Ignacio 124.23 120 PKP **PKPdf** 01 55 07.2 -0.8
comp=Z,4.0nm,0.8s,baz=187,slow=1.1,SNR=11
SUR Sutherland 124.48 215 *e*PKPdf **PKPdf** 01 55 08.9 +0.5
BOSA Boshof 124.53 221 PKP **PKPdf** 01 55 08.9 +0.4
comp=Z,18nm,0.7s,baz=139,slow=2.1,SNR=42
BOSA Boshof 124.53 221 *e*PKIKP **PKPdf** 01 55 08.5 0.0
BOSA Boshof 124.53 221 *e*PKPdf **PKPdf** 01 55 08.5 0.0
SAML Samuel 125.42 111 *e*PKPdf **PKPdf** 01 55 09.9 -0.5
NSS Namsos 125.84 347 *e*P **PKPdf** 01 55 09.8 +0.1
NSS IAmb IAmb 01 55 10.4
comp=Z,36nm,0.6s
VSU Vasula 125.90 336 ⇑*e*PKIKP **PKPdf** 01 55 10.6 +0.7
LBTB Lobatse 126.70 225 *e*PKIKP **PKPdf** 01 55 12.5 -0.2
LBTB Lobatse 126.70 225 *e*PKPdf **PKPdf** 01 55 12.5 -0.2
TBLU Trondheim 127.33 347 *e*P **PKPdf** 01 55 13.2 +0.7
BORG Borgarnes 128.09 5 *e*PKIKP **PKPdf** 01 55 14.1 +0.2
BORG Borgarnes 128.09 5 *e*PKPdf **PKPdf** 01 55 14.1 +0.2
MALT Malatya 128.21 309 ⇑PKIKP **PKPdf** 01 55 15.7 +0.5
KMBO Kilima Mbogo 128.35 258 PKP **PKPdf** 01 55 17.4 +1.1
comp=Z,3.0nm,0.5s,baz=60,slow=5.7,SNR=7.3
MOL Molde 128.50 348 *e*P **PKPdf** 01 55 15.8 +1.0
AKN Aaknes 128.97 348 *e*P **PKPdf** 01 55 16.6 +0.8
NB2 NORSAR Subarra 129.03 345 PKPdf **PKPdf** 01 55 15.9 0.0
comp=Z,9.9nm,0.5s,baz=31,slow=1.9
NB2 NORSAR Subarra 129.03 345 PKPdf **PKPdf** 01 55 15.9 0.0
baz=31,slow=1.9
NOA NORSAR Array B 129.03 345 PKP **PKPdf** 01 55 16.6 +0.7
comp=Z,22nm,0.6s,baz=34,slow=2.0,SNR=132
NOA SKPbc SKPbc 01 58 20.9 +3.8
comp=Z,8.2nm,0.9s,baz=26,slow=4.0,SNR=8.5
NC602 NORSAR Array S 129.21 345 *e*P **PKPdf** 01 55 15.5 -0.7
NAO01 NORSAR Array S 129.28 345 *e*PKPdf **PKPdf** 01 55 16.4 +0.1
AKASG Malin Array Be 129.33 327 PKP **PKPdf** 01 55 16.7 0.0
comp=Z,5.1nm,0.5s,baz=56,slow=2.4,SNR=36
AKASG SKPbc SKPbc 01 58 19.8 +1.4
comp=Z,0.3nm,0.4s,baz=45,slow=4.5,SNR=5.1
AKBB Malin Array Si 129.33 327 *e*PKIKP **PKPdf** 01 55 17.5 +0.8
AKBB Malin Array Si 129.33 327 *e*PKPdf **PKPdf** 01 55 17.5 +0.8
AK01 Malin Array Si 129.34 327 *e*PKPdf **PKPdf** 01 55 16.7 0.0
KIEV Kiev 129.34 327 ⇑*e*PKIKP **PKPdf** 01 55 17.1 +0.4
KIEV Kiev 129.34 327 *e*PKPdf **PKPdf** 01 55 16.6 -0.1
AK02 Malin Array Si 129.37 327 *e*PKPdf **PKPdf** 01 55 16.8 0.0
FOO Floro 129.88 349 *e*P **PKPdf** 01 55 18.2 +0.8
HYA Hoyanger 130.06 348 *e*P **PKPdf** 01 55 19.1 +1.3
SUW Suwalki 130.31 333 *e*PKIKP **PKPdf** 01 55 18.5 0.0
SUW Suwalki 130.31 333 *e*PKPdf **PKPdf** 01 55 18.5 0.0
SUW *e*SKP 01 58 24.6
LSZ Lusaka 130.57 237 *e*PKIKP **PKPdf** 01 55 20.4 +0.1
LSZ Lusaka 130.57 237 *e*PKPdf **PKPdf** 01 55 20.4 +0.1
ASK Askoy 130.88 348 *e*P **PKPdf** 01 55 21.6 +2.2
RUND Rundenannen 130.91 348 *e*P **PKPdf** 01 55 19.5 0.0
BER Bergen 130.94 348 *e*P **PKPdf** 01 55 20.1 +0.7
ODD1 Odda 131.10 347 *e*P **PKPdf** 01 55 21.1 +1.2
BR131 Keskin Array S 131.36 312 *e*PKPdf **PKPdf** 01 55 20.9 -0.3
BR131 *e*SKP 01 58 28.9
KIS Kishinev 131.49 323 *e*PKIKP **PKPdf** 01 55 21.0 +0.1
BLS5 Blasjo 131.58 347 *e*P **PKPdf** 01 55 22.3 +1.5
BLS5 IAmb IAmb 01 55 23.8
comp=Z,17nm,0.8s
ANTO Ankara 131.92 312 *e*PKIKP **PKPdf** 01 55 22.5 +0.4
ANTO Ankara 131.92 312 *e*PKPdf **PKPdf** 01 55 22.5 +0.4
KMY Karmoy 132.04 348 *e*P **PKPdf** 01 55 23.6 +2.0
KMY IAmb IAmb 01 55 24.4
comp=Z,38nm,0.7s
LEOM Leova 132.09 322 ⇑PKIKP **PKPdf** 01 55 22.4 +0.3
HOMB Homborsund 132.13 345 *e*P **PKPdf** 01 55 22.6 +0.9
TLCR 132.38 320 ⇑PKIKP **PKPdf** 01 55 23.7 +1.0
SNART Snartemo 132.39 346 *e*P **PKPdf** 01 55 23.8 +1.6
SNART IAmb IAmb 01 55 25.0
comp=Z,23nm,0.6s
LVV L'vov 132.57 328 *e*PKIKP **PKPdf** 01 55 24.5 +1.6
CFR Carcaliu 132.80 321 ⇑PKIKP **PKPdf** 01 55 23.8 +0.3
BSD Bornholm Skovb 132.82 339 *i* PKIKP **PKPdf** 01 55 24.0 +0.8
BSD pmax pmax
comp=Z,36nm,0.8s
BEL Belsk 132.84 332 *e*PKIKP **PKPdf** 01 55 24.4 +1.1
TIRR Tirgusor 132.98 320 ⇓PKIKP **PKPdf** 01 55 24.4 +0.6
TIRR Tirgusor 132.98 320 *e*PKPdf **PKPdf** 01 55 24.1 +0.3
CSS Prodhromos 133.05 306 *e*PKPdf **PKPdf** 01 55 25.0 +0.7
TLB Topalu 133.15 320 ⇓PKIKP **PKPdf** 01 55 24.9 +0.8
COP Copenhagen 133.21 341 *i* PKIKP **PKPdf** 01 55 24.1 +0.2
COP pmax pmax
comp=Z,27nm,0.7s
VRI Vrincioaia 133.31 322 ⇑PKIKP **PKPdf** 01 55 25.1 +0.7
GKP Gorka Klasztor 133.35 336 *e*PKIKP **PKPdf** 01 55 25.0 +0.8
KWP Kalwaria Pacla 133.36 329 *e*PKP **PKPdf** 01 55 25.2 +0.9
KWP Kalwaria Pacla 133.36 329 *e*PKIKP **PKPdf** 01 55 25.3 +0.9
KWP Kalwaria Pacla 133.36 329 ⇑*i*P **PKPdf** 01 55 25.3 +0.9
KWP Kalwaria Pacla 133.36 329 *e*PKPdf **PKPdf** 01 55 25.3 +0.9
PLOR Plostina 133.36 322 ⇑PKIKP **PKPdf** 01 55 25.9 +1.3
PSN Preselentsi 133.50 319 ⇑PKIKP **PKPdf** 01 55 25.4 +0.6
MUD Monsted U'grnd 133.54 343 *i* PKIKP **PKPdf** 01 55 26.1 +1.6
MUD pmax pmax
comp=Z,23nm,0.7s
LLD Lille Linde 133.57 340 *i* PKIKP **PKPdf** 01 55 26.9 +2.4
ISR Istrita 133.81 321 ⇓PKIKP **PKPdf** 01 55 25.4 -0.1
MLR Muntele Rosu 133.97 322 ⇑PKIKP **PKPdf** 01 55 25.8 -0.1
MLR Muntele Rosu 133.97 322 ⇑*i*P **PKPdf** 01 55 25.8 -0.1
DOPR Dopca 134.05 323 ⇑*i*P **PKPdf** 01 55 27.2 +1.4
SECR 134.14 322 ⇓*i*P **PKPdf** 01 55 26.9 +0.9
UZH Uzhgorod 134.20 328 *e*PKIKP **PKPdf** 01 55 24.7 -1.3
TRPA Tarpa 134.38 327 ⇑*i*P **PKPdf** 01 55 26.3 0.0
TRPA Tarpa 134.38 327 *e*PKPdf **PKPdf** 01 55 27.0 +0.7
OJC Ojcow 134.40 331 *e*PKP **PKPdf** 01 55 27.1 +0.8
OJC Ojcow 134.40 331 *e*PKIKP **PKPdf** 01 55 27.2 +0.9
VOIR 134.53 323 ⇓PKIKP **PKPdf** 01 55 27.1 +0.3
VOIR 134.53 323 ⇓*i*P **PKPdf** 01 55 27.1 +0.3
CJR Cluj-Napoca 134.65 325 ⇓PKIKP **PKPdf** 01 55 28.0 +1.0
CJR Cluj-Napoca 134.65 325 ⇓*i*P **PKPdf** 01 55 28.0 +1.0
NIE Niedzica 134.69 330 *e*PKP **PKPdf** 01 55 28.3 +1.3
NIE Niedzica 134.69 330 *e*PKIKP **PKPdf** 01 55 28.3 +1.3
ARR Arges 134.82 323 ⇓*i*P **PKPdf** 01 55 28.0 +0.6
BDFB Brasilia 134.99 128 PKhKP PKPpre 01 55 20.9
comp=Z,2.7nm,0.6s,baz=191,slow=1.6,SNR=5.4
BDFB PKP **PKPdf** 01 55 29.0 +0.4
comp=Z,8.5nm,0.6s,baz=249,slow=1.2,SNR=14
HUMR Humele 135.06 322 ⇓*i*P **PKPdf** 01 55 26.7 -1.0
DRGR 135.10 326 ⇑PKIKP PKPdf 01 55 21.1 -6.7
DRGR 135.10 326 ⇑*i*P PKPdf 01 55 21.1 -6.7
LOT Lotru 135.28 323 ⇑*i*P **PKPdf** 01 55 28.3 0.0
BSEG Bad Segeberg 135.34 341 *e*PKPdf **PKPdf** 01 55 28.5 +0.6
BSEG *e*SKPbc **SKPab** 01 58 42.9 -0.9
OKC Ostrava-Krasne 135.44 332 *e*PKPdf **PKPdf** 01 55 29.5 +1.2
OKC *e*SKP 01 58 41.9
OKC Ostrava-Krasne 135.44 332 *e*PKIKP **PKPdf** 01 55 29.5 +1.2
KSP Ksiaz 135.54 334 *e*PKP **PKPdf** 01 55 29.5 +1.1
KSP Ksiaz 135.54 334 *e*PKIKP **PKPdf** 01 55 29.5 +1.1
GZR Gura Zlata 135.88 324 ⇑PKHKP PKPpre 01 55 24.3
GZR Gura Zlata 135.88 324 ⇑*i*P PKPpre 01 55 24.3
PSZ Piszkesteto 135.89 328 *e*PKIKP **PKPdf** 01 55 29.8 +0.5
PSZ Piszkesteto 135.89 328 ⇑*i*P **PKPdf** 01 55 29.6 +0.3
PSZ Piszkesteto 135.89 328 *e*PKPdf **PKPdf** 01 55 29.8 +0.5
PSZ Piszkesteto 135.89 328 ⇑*e*PKPdf **PKPdf** 01 55 29.8 +0.5
DPC Dobruska-Polom 135.89 333 *e*PKPpre PKPpre 01 55 21.4
DPC *e*PKPdf **PKiKP** 01 55 30.1 -0.7
DPC *e*SKP 01 58 44.6
DPC Dobruska-Polom 135.89 333 *e*PKHKP PKPpre 01 55 21.4
DPC *e* 01 55 30.1
SIRR Siria 135.99 326 ⇑*i*P **PKPdf** 01 55 30.2 +0.7
VYHS Vyhne 136.03 330 *e*PKIKP **PKPdf** 01 55 29.7 +0.2
VYHS Vyhne 136.03 330 *e*PKP **PKPdf** 01 55 29.7 +0.2
TSUM Tsumeb 136.08 224 *e*PKPpre PKPpre 01 55 22.8
TSUM *e*PKPdf **PKPdf** 01 55 30.9 +0.3
ALN Alexandroupoli 136.20 317 PKIKP **PKPdf** 01 55 29.5 -0.5
ALN Alexandroupoli 136.20 317 P **PKPdf** 01 55 29.5 -0.5
KDZ Kurdzhali 136.26 318 ⇑PKIKP **PKPdf** 01 55 30.4 +0.3
KDZ Kurdzhali 136.26 318 ⇑*i*P **PKPdf** 01 55 30.4 +0.3
BZS Buzias 136.41 325 ⇑PKIKP **PKPdf** 01 55 30.6 +0.4
BZS Buzias 136.41 325 ⇑*i*P **PKPdf** 01 55 30.6 +0.4
BRG Berggiesshubel 136.50 335 *e*PKP **PKPdf** 01 55 30.9 +0.7
comp=Z,9.0nm,0.9s
BRG *i* 01 55 32.8
comp=Z,18nm,0.7s
BRG *e*pPKP **SKPdf** 01 58 46.2 +0.8
comp=Z,12nm,1.0s
BRG Berggiesshubel 136.50 335 *e*PKPdf **PKPdf** 01 55 31.1 +0.9
BRG *e*SKPbc **SKPdf** 01 58 46.2 +0.8
BRG Berggiesshubel 136.50 335 *e*PKIKP **PKPdf** 01 55 30.9 +0.7
BRG pmax pmax
comp=Z,9.0nm,0.9s
BRG pmax pmax
comp=Z,19nm,0.7s
BRG pmax pmax
comp=Z,12nm,1.0s
PVCC Panska Ves 136.51 335 *e*PKPpre PKPpre 01 55 24.3
PVCC *e*PKPdf **PKiKP** 01 55 31.2 -0.8
PVCC *e*pPKP pPKPdf 01 56 27.7 +3.5
PVCC *e*SKP 01 58 46.5
PVCC Panska Ves 136.51 335 *e*PKIKP PKPpre 01 55 24.3
VRAC Vranov 136.53 332 ⇓PKIKP **PKPdf** 01 55 31.5 +1.2
VRAC Vranov 136.53 332 ⇓*i*P **PKPdf** 01 55 31.5 +1.2
CLL Collm 136.53 337 *e*PKPdf **PKPdf** 01 55 30.8 +0.5
CLL *e*SKPbc **SKPdf** 01 58 46.0 +0.5
CLL Collm 136.53 337 *e*PKPpre PKPpre 01 55 21.0
CLL ⇑*i*PKPdf **PKPdf** 01 55 30.9 +0.6
comp=Z,10.0nm,0.8s
CLL *i* PKiKP **PKiKP** 01 55 32.2 +0.2
comp=Z,19nm,0.6s
CLL *e* 01 56 29.0
CLL *e*SKPbc **SKPbc** 01 58 41.0 -2.0
CLL *e*SKPdf **SKPdf** 01 58 46.0 +0.5
comp=Z,9.0nm,0.8s
CLL *i* SKPab **SKPab** 01 58 52.2 +3.0
CLL *e*PKSbc **PKSbc** 01 59 05.0 +0.9
CLL Collm 136.53 337 ⇑*e*PKHKP PKPpre 01 55 21.0
CLL *i* 01 55 30.9
CLL pmax pmax
comp=Z,10.0nm,0.8s
NRDL Niedersach Rie 136.62 340 *e*PKPdf **PKPdf** 01 55 31.3 +1.0
NRDL *e*SKPbc **SKiKP** 01 58 46.6 -1.8
GOPC GO Pecny, Ondr 136.88 334 *e*PKPdf **PKPdf** 01 55 31.1 +0.1
GOPC *e*SKP 01 58 47.7
PRA Prague 136.91 334 *e*PKPdf **PKPdf** 01 55 31.5 +0.5
PRA *e*SKP 01 58 48.2
PRA Prague 136.91 334 *e*PKIKP **PKPdf** 01 55 31.5 +0.5
PRU Pruhonice 136.93 334 *e*PKPdf **PKPdf** 01 55 31.1 +0.1
PRU *e*SKP 01 58 47.6
PRU Pruhonice 136.93 334 *e*PKIKP **PKPdf** 01 55 31.1 +0.1
PKSG 137.00 329 ⇓*e*PKPdf **PKPdf** 01 55 32.3 +1.1
PKSG ⇑*e*PKPdf **PKiKP** 01 55 34.1 +1.0
TREC Trest 137.03 333 *e*PKPdf **PKPdf** 01 55 31.1 -0.2
TREC *e*SKP 01 58 47.9
TREC Trest 137.03 333 *e*PKIKP **PKPdf** 01 55 31.1 -0.2
CLZ Clausthal 137.07 339 *e*PKPdf **PKPdf** 01 55 32.5 +1.2
CLZ *e*SKPbc **SKPbc** 01 58 46.8 +2.1
PKZ Kecel 137.17 327 ⇓*e*PKPdf **PKPdf** 01 55 32.1 +1.5
VTS Vitosha 137.19 320 ⇓*e*PKIKP **PKPdf** 01 55 32.6 +0.6
VTS Vitosha 137.19 320 ⇓*i*P **PKPdf** 01 55 32.6 +0.6
ESK Eskdalemuir 137.22 352 *i* PKIKP **PKPdf** 01 55 33.2 +1.8
ESK Eskdalemuir 137.22 352 *e*PKPdf **PKPdf** 01 55 30.9 -0.5
MMB Musomiste 137.39 319 ⇑PKHKP PKPpre 01 55 20.0
MMB Musomiste 137.39 319 ⇑*i*P PKPpre 01 55 20.0
NVR Nevrokopi 137.42 318 P **PKPdf** 01 55 31.8 -0.5
NVR Nevrokopi 137.42 318 P **PKPdf** 01 55 31.8 -0.5
TANN Tannenbergstha 137.45 336 *e*PKPdf **PKPdf** 01 55 32.9 +0.8
TANN *e*SKPbc **SKiKP** 01 58 48.8 -1.5
IBBN Ibbenburen 137.54 341 *e*PKPdf **PKPdf** 01 55 33.1 +1.0
IBBN *e*SKPbc **SKiKP** 01 58 49.1 -1.2
PKS9 Tamasi 137.59 328 ⇓*e*PKPdf **PKPdf** 01 55 33.3 +0.9
NKC Novy Kostel 137.60 336 *e*PKPpre PKPpre 01 55 25.0
NKC *e*PKPdf **PKPdf** 01 55 32.8 +0.5
NKC *e*pPKP pPKPdf 01 56 29.5 +3.2
NKC *e*SKP 01 58 49.9
NKC Novy Kostel 137.60 336 *e*PKHKP PKPpre 01 55 25.0
NKC *e* 01 55 32.8
NKC *e* 01 56 29.5
PKSM Moragy 137.65 327 ⇑PKIKP **PKPdf** 01 55 32.6 +0.1
PKSM Moragy 137.65 327 ⇑*i*P **PKPdf** 01 55 32.5 +0.1
PKSM Moragy 137.65 327 ⇑*e*PKPdf **PKPdf** 01 55 32.9 +0.4
SOP Sopron 137.70 330 *e*PKPdf **PKPdf** 01 55 32.6 +0.1
CONA Conrad Observa 137.85 331 *i* PKiKP **PKPdf** 01 55 33.7 +0.8
comp=Z,24nm,0.6s,SNR=16
KHC Kasperske Hory 137.99 334 *e*PKPpre PKPpre 01 55 26.2
KHC *e*PKPdf **PKPdf** 01 55 33.7 +0.6
KHC *ex* x 01 56 33.0
KHC *e*SKP 01 58 50.9
KHC Kasperske Hory 137.99 334 *e*PKHKP PKPpre 01 55 26.2
KHC *e* 01 55 33.7
UBBA Unterbreizbach 138.05 338 *e*PKPdf **PKPdf** 01 55 33.8 +0.9
ROTZ Rotzenmuhle 138.06 336 *e*PKPdf **PKPdf** 01 55 34.1 +0.9
ROTZ *e*SKPbc **SKiKP** 01 58 50.7 -0.8
WTSB Winterswijk 138.13 342 *e*P **PKPdf** 01 55 33.7 +0.6
comp=Z,31nm,0.8s
GEC2 GERESS Array S 138.15 334 *e*PKPdf **PKPdf** 01 55 34.2 +0.7
GEC2 *e*SKPbc **SKiKP** 01 58 51.0 -0.9
GERES GERESS Array B 138.15 334 PKhKP PKPpre 01 55 23.5
comp=Z,2.4nm,0.7s,baz=54,slow=3.4,SNR=16
GERES PKP **PKiKP** 01 55 34.8 -0.8
comp=Z,11nm,0.8s,baz=45,slow=1.5,SNR=26
GERES SKPbc **SKiKP** 01 58 51.1 -0.8
comp=Z,8.6nm,0.9s,baz=41,slow=2.6,SNR=20
DIVS Divibare 138.25 324 ⇓*i*P PKPpre 01 55 28.5
APE Apeiranthos 138.26 312 ⇓PKIKP **PKPdf** 01 55 34.7 +0.7
WET Wettzell 138.27 335 *e*PKPdf **PKPdf** 01 55 34.7 +1.1
WET *e*SKPbc **SKiKP** 01 58 51.1 -0.9
BEHE Becsehely 138.44 329 *e*PKPdf **PKPdf** 01 55 35.1 +1.2
BUG Bochum--Univer 138.44 341 *e*PKPdf **PKPdf** 01 55 34.7 +1.0
BUG *e*SKPbc **SKiKP** 01 58 52.1 -0.1
GRF Grafenberg Arr 138.51 336 *e*PKPdf **PKPdf** 01 55 34.8 +0.8
GRF *e*SKPbc **SKiKP** 01 58 52.3 -0.2
GRFO Grafenberg 138.51 336 *e*PKIKP **PKPdf** 01 55 34.6 +0.6
GRFO Grafenberg 138.51 336 *e*PKPdf **PKPdf** 01 55 34.6 +0.6
MOA Molln 138.65 332 ⇑PKPdf PKPpre 01 55 26.4
comp=Z,9.3nm,0.6s
KOGS Kog 138.71 329 *e*PKPdf **PKPdf** 01 55 33.9 -0.5
LIT Litokhoron 138.96 318 P **PKPdf** 01 55 34.4 -0.7
LIT Litokhoron 138.96 318 PKIKP **PKPdf** 01 55 34.4 -0.7
LIT Litokhoron 138.96 318 P **PKPdf** 01 55 34.4 -0.7
PTL Penteli 139.02 314 P **PKPdf** 01 55 34.2 -1.1
PTL Penteli 139.02 314 P **PKPdf** 01 55 34.2 -1.1
TNS Taunus Mts 139.09 339 *e*PKPdf **PKPdf** 01 55 36.0 +0.9
TNS *e*SKPbc **SKiKP** 01 58 53.9 +0.2
SOKA Soboth 139.15 331 ⇑*i*PKPdf PKPpre 01 55 27.6
comp=Z,19nm,1.2s
FNA Florina 139.32 319 P **PKPdf** 01 55 33.2 -2.6
FNA Florina 139.32 319 PKIKP **PKPdf** 01 55 33.2 -2.6
FNA Florina 139.32 319 P **PKPdf** 01 55 33.2 -2.6
LKR Lokris 139.34 315 P **PKPdf** 01 55 35.1 -0.7
LKR Lokris 139.34 315 P **PKPdf** 01 55 35.1 -0.7
RJOB Jochberg 139.39 333 *e*PKPdf **PKPdf** 01 55 36.4 +0.7
RJOB *e*SKPbc **SKiKP** 01 58 54.4 0.0
PHP Peshkopia 139.41 321 P **PKPdf** 01 55 32.7 -3.2
PHP Peshkopia 139.41 321 PKIKP **PKPdf** 01 55 32.7 -3.2
PHP Peshkopia 139.41 321 P **PKPdf** 01 55 32.7 -3.2
HGN Heimansgroeve 139.45 342 *e*P **PKPdf** 01 55 36.0 +0.3
comp=Z,15nm,1.1s
AXAR Agios Charalam 139.51 316 P **PKPdf** 01 55 35.6 -0.6
AXAR Agios Charalam 139.51 316 P **PKPdf** 01 55 35.6 -0.6
MEM Membach 139.56 341 PKP **PKPdf** 01 55 36.7 +0.9
KBA Koelnbreinsper 139.64 332 ⇑*i*PKPdf **PKPdf** 01 55 32.1 -4.2
comp=Z,11nm,0.6s
PDG Podgorica 139.69 323 P **PKPdf** 01 55 36.2 -0.1
TTG Podgorica 139.69 323 PKIKP **PKPdf** 01 55 36.2 -0.1
TTG Podgorica 139.69 323 P **PKPdf** 01 55 36.2 -0.1
FUR Furstenfeldbru 139.70 335 *e*PKPdf **PKPdf** 01 55 37.0 +0.8
FUR *e*SKPbc **SKiKP** 01 58 55.6 +0.6
MAKR Makrakomi, Fth 139.75 316 P **PKPdf** 01 55 36.6 0.0
MAKR Makrakomi, Fth 139.75 316 P **PKPdf** 01 55 36.6 0.0
DSF Desfina 139.78 315 P **PKPdf** 01 55 37.1 +0.4
DSF Desfina 139.78 315 P **PKPdf** 01 55 37.1 +0.4
LJU Ljubljana 139.84 330 *e*PKPdf **PKPdf** 01 55 36.6 0.0
LJU *e*PP **PP** 01 58 30.5 -3.9
LJU *i* 01 58 56.0
BOJS Bojanci 139.87 329 *e*PKPdf **PKPdf** 01 55 37.2 +0.6
BCLA Clavier 139.94 342 PKP **PKPdf** 01 55 37.0 +0.5
STU Stuttgart 140.03 337 *e*PKPdf **PKPdf** 01 55 37.6 +0.8
STU *e*SKPbc **SKiKP** 01 58 56.3 +0.7
STU Stuttgart 140.03 337 *e*PKIKP **PKPdf** 01 55 37.9 +1.1
STU Stuttgart 140.03 337 *e*PKPdf **PKPdf** 01 55 37.9 +1.1
GUR Goura 140.13 315 P PKPpre 01 55 29.2
GUR Goura 140.13 315 P PKPpre 01 55 29.2
WTTA Wattenberg 140.25 334 ⇓*i*PKPdf PKPpre 01 55 31.1
comp=Z,26nm,0.6s
JAN Janina 140.26 318 P PKPpre 01 55 31.5
JAN Janina 140.26 318 PKHKP PKPpre 01 55 31.5
JAN Janina 140.26 318 P PKPpre 01 55 31.5
ABTA Abfaltersbach 140.26 333 ⇑*i*PKPdf PKPpre 01 55 30.0
comp=Z,7.5nm,0.5s
WLF Walferdange 140.34 341 PKP **PKPdf** 01 55 38.0 +0.8
WLF Walferdange 140.34 341 *e*PKPdf **PKPdf** 01 55 38.7 +1.4
WLF *e*SKPbc **SKiKP** 01 58 56.7 +0.5
WLF Walferdange 140.34 341 *e*PKIKP **PKPdf** 01 55 38.2 +0.9
WLF Walferdange 140.34 341 *e*PKPdf **PKPdf** 01 55 38.2 +0.9
LANF Langenberg 140.37 339 PKP PKPpre 01 55 32.1
MOTA Moosalm 140.42 334 ⇑*i*PKPdf PKPpre 01 55 31.0
comp=Z,12nm,0.5s,SNR=6.1
DOU Dourbes 140.44 342 PKP **PKPdf** 01 55 38.2 +0.8
RETA Reutte 140.45 335 ⇓*i*PKPdf **PKPdf** 01 55 33.6 -4.1
comp=Z,5.2nm,0.5s
PDO Prodromos 140.60 316 P PKPpre 01 55 30.9
SGD Sagiada 140.69 318 P PKPpre 01 55 31.7
MENF Mencas 140.69 345 PKP **PKPdf** 01 55 38.7 +0.8
BFO Black Forest 140.72 338 *e*SKPbc **SKiKP** 01 58 57.3 +0.2
BFO Black Forest 140.72 338 *e*PKHKP PKPpre 01 55 30.5
BFO Black Forest 140.72 338 *e*PKPpre PKPpre 01 55 30.5
BFO *e*SKP 01 58 57.1
FETA Feichten 140.83 334 ⇓*i*PKPdf PKPpre 01 55 33.2
comp=Z,19nm,0.9s,SNR=7.8
FETA ⇓*i*PKPdf **PKPdf** 01 55 37.7 -0.8
DAVA Damuels 140.97 335 ⇑*i*PKPdf PKPpre 01 55 32.5
comp=Z,12nm,0.5s
ECH Echery 141.24 339 PKP PKPpre 01 55 32.8
ECH Echery 141.24 339 *e*PKHKP PKPpre 01 55 32.3
ECH *e* 01 55 38.9
ECH Echery 141.24 339 *e*PKPpre PKPpre 01 55 32.2
ECH *e*PKPdf **PKPdf** 01 55 38.9 -0.1
MOF Molkenrain 141.56 338 PKP PKPpre 01 55 33.8
THEF They Montfort 141.64 340 PKP PKPpre 01 55 34.5
TUE Stuetta 141.84 335 *e*PKPpre PKPpre 01 55 35.3
LOMF Lomont 142.09 338 PKP PKPpre 01 55 33.1
TIP Timpagrande 143.15 320 *e*PKPdf PKPbc 01 55 40.3 0.0
GDM Grand'Maison 144.17 337 PKP **PKPdf** 01 55 44.1 -0.4
CEL Celeste 144.24 320 *e*PKPdf **PKPab** 01 55 43.0 -0.1
GRN Grenoble 144.28 337 PKP **PKPdf** 01 55 44.8 +0.2
PLDF La Plantade 144.40 340 PKP **PKPdf** 01 55 45.0 +1.1
AGO Saint Agoulin 144.49 341 PKP **PKPdf** 01 55 45.7 +0.9
SURF Saint Ours 144.50 336 PKP **PKPdf** 01 55 45.2 +0.1
SAOF Saorge 144.60 334 PKP **PKPdf** 01 55 44.8 -0.3
AUTN L'Aution 144.64 334 PKP **PKPdf** 01 55 45.1 -0.3
SSB Saint Sauveur 144.69 339 PKP **PKPdf** 01 55 45.7 +0.5
SSB Saint Sauveur 144.69 339 *e*PKIKP **PKPdf** 01 55 45.5 +0.3
SSB *e* 01 59 06.5
SSB Saint Sauveur 144.69 339 *e*PKPdf **PKPdf** 01 55 45.5 +0.3
SSB *e*SKPbc **SKiKP** 01 59 06.5 +1.1
TOUF Mont Tournerai 144.70 335 PKP **PKPdf** 01 55 45.2 -0.3
CFF Clermont-Ferra 144.75 341 PKP **PKPdf** 01 55 47.1 +1.8
COLF Collangettes 144.77 340 PKP **PKPdf** 01 55 46.0 +0.6
PYM Petit Puy Mans 144.79 341 PKP **PKPdf** 01 55 47.0 +1.6
MVIF Mont Vial 144.84 335 PKP **PKPdf** 01 55 45.8 +0.1
REVF Revere 144.88 334 PKP **PKPdf** 01 55 45.6 0.0
OG26 St.-Nazaire-De 145.01 337 PKP **PKPdf** 01 55 46.9 +1.1
CALN Calern 145.07 335 PKP **PKPab** 01 55 46.4 +0.3
LBL Lubilhac 145.17 340 PKP **PKPab** 01 55 48.6 +2.2
LEPF PUYLOUBIER 145.74 336 PKP **PKPdf** 01 55 47.4 +0.4
CLTB Caltabellotta 146.32 321 *e*PKPbc **PKPbc** 01 55 50.0 +0.2
VSL Villasalto 147.20 327 *e*PKPdf **PKPdf** 01 55 50.0 +0.4
VSL *e*PKPbc **PKPbc** 01 55 52.8 +0.6
LRDF Laroque-de-Fa 147.43 339 PKP **PKPdf** 01 55 50.4 +0.5
FILF Fillols 147.76 338 PKP **PKPdf** 01 55 51.2 +0.7
CARF Carcanieres 147.78 339 PKP **PKPbc** 01 55 52.5 -1.2
MLS Moulis 147.91 341 PKP **PKPbc** 01 55 53.3 -0.6
SALF Salau 148.05 340 PKP **PKPdf** 01 55 52.0 +1.0
VALF Valcebollere

ESLA				*e*PKPbc	**PKiKP**	**01 56 05.6**	**+0.5**	
ESLA				*e*PKPab	**PKPab**	**01 56 15.3**	**-0.4**	
MTE	**Manteigas**	**152.41**	**351**	*e*PKPdf	**PKPdf**	**01 55 58.6**	**+0.7**	
MTE	**Manteigas**	**152.41**	**351**	*e*PKPdf	**PKPdf**	**01 55 58.2**	**+0.3**	
MTE				*e*PKPbc	**PKiKP**	**01 56 05.6**	**+0.5**	
PAB	**San Pablo**	**152.61**	**346**	*e*PKIKP	**PKPdf**	**01 55 58.4**	**+0.2**	
PAB	**San Pablo**	**152.61**	**346**	*e*PKPdf	**PKPdf**	**01 55 58.4**	**+0.2**	
PAB				*e*PKPbc	**PKiKP**	**01 56 06.0**	**+0.4**	
PCAS	**Casmilo, Conde**	**152.88**	**353**	PKPbc	**PKPbc**	**01 56 06.5**	**+0.6**	
PCAS	**Casmilo, Conde**	**152.88**	**353**	*e*PKPab	**PKPab**	**01 56 17.6**	**0.0**	
PCBR	**Castelo Branco**	**152.95**	**351**	PKPdf	**PKPdf**	**01 55 59.7**	**+1.1**	
PCBR	**Castelo Branco**	**152.95**	**351**	PKPbc	**PKPbc**	**01 56 07.0**	**+1.0**	
PCBR	**Castelo Branco**	**152.95**	**351**	PKPab	**PKPab**	**01 56 19.2**	**+1.3**	
PTOM	**Tomar**	**153.30**	**352**	PKPdf	**PKPdf**	**01 56 00.3**	**+1.2**	
PTOM	**Tomar**	**153.30**	**352**	PKPbc	**PKPbc**	**01 56 07.9**	**+1.1**	
PMRV	**Marv??o**	**153.34**	**351**	*e*PKPdf	**PKPdf**	**01 55 58.9**	**-0.3**	
PMRV	**Marv??o**	**153.34**	**351**	PKPbc	**PKPbc**	**01 56 08.0**	**+1.1**	
PMRV	**Marv??o**	**153.34**	**351**	*e*PKPab	**PKPab**	**01 56 22.7**	**+3.1**	
PMTG	**Montargil**	**153.82**	**352**	PKPbc	**PKPbc**	**01 56 08.6**	**+0.7**	
PMTG	**Montargil**	**153.82**	**352**	*e*PKPab	**PKPab**	**01 56 23.9**	**+2.3**	
PESTR	**Estremoz**	**153.92**	**351**	*e*PKPdf	**PKPdf**	**01 56 00.4**	**+0.4**	
PESTR	**Estremoz**	**153.92**	**351**	PKPbc	**PKPbc**	**01 56 08.9**	**+0.7**	
PESTR	**Estremoz**	**153.92**	**351**	*e*PKPab	**PKPab**	**01 56 21.9**	**-0.2**	
PMAFR	**Mafra**	**154.06**	**354**	PKPbc	**PKPbc**	**01 56 08.3**	**-0.1**	
PMAFR	**Mafra**	**154.06**	**354**	*e*PKPab	**PKPab**	**01 56 24.9**	**+2.3**	
PACT	**Alcochete**	**154.19**	**353**	*e*PKPdf	**PKPdf**	**01 56 02.5**	**+2.2**	
PACT	**Alcochete**	**154.19**	**353**	PKPbc	**PKPbc**	**01 56 10.5**	**+1.8**	
EVO	**Evora**	**154.31**	**351**	PKPdf	**PKPdf**	**01 56 01.6**	**+1.0**	
EVO	**Evora**	**154.31**	**351**	PKPbc	**PKPbc**	**01 56 09.9**	**+0.9**	
EVO	**Evora**	**154.31**	**351**	PKPab	**PKPab**	**01 56 25.4**	**+1.7**	
PBAR	**Barrancos**	**154.50**	**349**	*e*PKPdf	**PKPdf**	**01 56 01.9**	**+1.1**	
PBAR	**Barrancos**	**154.50**	**349**	PKPbc	**PKPbc**	**01 56 10.2**	**+0.8**	
PBAR	**Barrancos**	**154.50**	**349**	*e*PKPab	**PKPab**	**01 56 26.1**	**+1.6**	
PNCL	**Nicolau / Gran**	**154.80**	**352**	*e*PKPdf	**PKPdf**	**01 56 02.4**	**+1.2**	
PNCL	**Nicolau / Gran**	**154.80**	**352**	PKPbc	**PKPbc**	**01 56 11.1**	**+1.1**	
PNCL	**Nicolau / Gran**	**154.80**	**352**	*e*PKPab	**PKPab**	**01 56 28.2**	**+2.4**	
MESJ	**Messejana**	**155.02**	**351**	*e*P	**PKPdf**	**01 56 02.5**	**+1.0**	
MESJ	**Messejana**	**155.02**	**351**	*e*PKPdf	**PKPdf**	**01 56 02.6**	**+1.0**	
MESJ	**Messejana**	**155.02**	**351**	PKPbc	PKPbc	01 56 11.6		
MESJ	**Messejana**	**155.02**	**351**	*e*PKPab	**PKPab**	**01 56 28.7**	**+1.9**	
PVAQ	**Vaqueiros**	**155.37**	**350**	*e*PKPab	**PKPab**	**01 56 30.0**	**+1.7**	
PTEO	**Sao Teotonio**	**155.38**	**352**	PKPdf	**PKPdf**	**01 56 04.0**	**+2.0**	
PTEO	**Sao Teotonio**	**155.38**	**352**	PKPab	**PKPab**	**01 56 31.0**	**+2.7**	
PBDV	**Barranco-do-Ve**	**155.56**	**350**	PKPdf	**PKPdf**	**01 56 04.5**	**+2.2**	
PBDV	**Barranco-do-Ve**	**155.56**	**350**	PKPab	**PKPab**	**01 56 30.6**	**+1.5**	
MORF	**Marmelete**	**155.61**	**352**	*e*P	**PKPdf**	**01 56 03.3**	**+0.8**	
MORF	**Marmelete**	**155.61**	**352**	PKPdf	**PKPdf**	**01 56 03.6**	**+1.2**	
MORF	**Marmelete**	**155.61**	**352**	*e*PKPab	**PKPab**	**01 56 31.2**	**+1.8**	
PFVI	**Vila Bisbo**	**155.80**	**352**	*e*PKPab	**PKPab**	**01 56 32.1**	**+2.0**	
TAM	**Tamanrasset**	**160.07**	**301**	*e*PKIKP	**PKPdf**	**01 56 08.5**	**+0.1**	
TAM				*e*		01 56 49.1		
TAM	**Tamanrasset**	**160.07**	**301**	*e*PKPdf	**PKPdf**	**01 56 08.5**	**+0.1**	
TAM				*e*PKPab	**PKPab**	**01 56 49.1**	**-0.3**	
TOA0	**Torodi Ar. Sit**	**165.84**	**272**	*e*PKIKP	**PKPdf**	**01 56 12.6**	**-1.4**	
TOA0	**Torodi Ar. Sit**	**165.84**	**272**	*e*PKPdf	**PKPdf**	**01 56 13.7**	**-0.3**	
TOA0				*e*PKPab	**PKPab**	**01 57 14.4**	**-0.5**	
TORD	**Torodi Ar. Bea**	**165.84**	**272**	PKP	**PKPdf**	**01 56 13.8**	**-0.2**	
	comp=Z,9.9nm,0.8s,baz=338,slow=1.1,SNR=61							
TORD				PKPab	**PKPab**	**01 57 14.8**	**0.0**	
	comp=Z,8.6nm,0.7s,baz=87,slow=4.9,SNR=16							
TORD				PP	PP	02 00 57.6	-5.3	
	comp=Z,1.0nm,0.8s,baz=83,slow=3.1,SNR=3.6							
KIC	**Kosan Boka**	**169.58**	**231**	*e*PKIKP	**PKPdf**	**01 56 16.1**	**-0.6**	
	comp=Z,45nm,1.1s							
LIC	**Lamto**	**169.70**	**229**	*e*PKIKP	**PKPdf**	**01 56 16.1**	**-0.6**	
	comp=Z,120nm,1.9s							
DBIC	**Dimbokro**	**169.87**	**232**	PKP	**PKPdf**	**01 56 16.5**	**-0.3**	
	comp=Z,11nm,0.7s,baz=145,slow=2.0,SNR=17							
DBIC				PKPab	**PKPab**	**01 57 32.7**	**+0.2**	
	comp=Z,7.7nm,0.6s,baz=118,slow=5.0,SNR=14							
DBIC	**Dimbokro**	**169.87**	**232**	*e*PKIKP	**PKPdf**	**01 56 16.3**	**-0.5**	
DBIC				*e*		01 57 32.6		
DBIC	**Dimbokro**	**169.87**	**232**	*e*PKPdf	**PKPdf**	**01 56 16.3**	**-0.5**	
DBIC				*e*PKPab	**PKPab**	**01 57 32.6**	**+0.1**	
TIC	**Toumodi**	**169.97**	**231**	*e*PKIKP	**PKPdf**	**01 56 16.1**	**-0.8**	
	comp=Z,19nm,0.6s							

*CSEM **19** 01:38:55.9, 42.82N×12.69E, h10km, MD1.8/5*
ROM 19 01:38:55.9±0.3, 42.82N×12.69E, h10km, Md1.8/5, MI0.7/2, 2D, Error ellipse: s-maj=3.3km s-min=1.5km az=85.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESI	**CESI - Serrava**	**0.24**	**41**	Pg	Pg	01 39 01.8	+0.8
CESI				Sg	Sg	01 39 05.7	+1.3
	5.0nm,0.2s						
CESI	**CESI - Serrava**	**0.24**	**41**	Pg	Pg	01 39 01.8	+0.8
CESI				Sg	Sg	01 39 05.7	+1.3
	5.0nm,0.2s						
NRCA	**Norcia**	**0.31**	**88**	*i*Pg	Pg	01 39 02.7	+0.4
NRCA				Sg	Sb	01 39 07.8	-1.1
	1.0nm,0.4s						
NRCA	**Norcia**	**0.31**	**88**	*i*Pg	Pg	01 39 02.7	+0.4
NRCA				Sg	Sb	01 39 07.8	-1.1
	1.0nm,0.4s						
LNSS	**Leonessa**	**0.34**	**131**	Pg	Pg	01 39 03.0	+0.2
LNSS				Sg	Sg	01 39 08.4	+0.9
	12nm,0.1s						
LNSS	**Leonessa**	**0.34**	**131**	Pg	Pg	01 39 03.0	+0.2
LNSS				Sg	Sg	01 39 08.4	+0.9
	12nm,0.1s						
FDMO	**Fiordimonte**	**0.36**	**54**	Pg	Pg	01 39 03.7	+0.6
FDMO				Sg	Sg	01 39 09.0	+1.0
FDMO	**Fiordimonte**	**0.36**	**54**	Pg	Pg	01 39 03.7	+0.6
FDMO				Sg	Sg	01 39 09.0	+1.0
SMA1	**SAN MARTINO**	**0.51**	**112**	Pg	Pg	01 39 06.4	+0.3
SMA1				Sg	Sb	01 39 14.3	-0.5

*ISCJB **19** 01:39:08.9±0.5, 6.88N±0.05×73.06W±0.05, h166km, mb3.4/6, Error ellipse: s-maj=8.4km s-min=5.4km az=139.6*
*IDC **19** 01:39:09.3±1.2, 6.70N×72.97W, h163km±15km, mb3.2/6, mb1 3.5/8, mb1mx3.2/22, mbtmp3.7/8, Error ellipse: s-maj=25.4km s-min=15.4km az=151.0*
*FUNV **19** 01:39:09.5, 6.78N×73.17W, h166km, MW3.5*
ISC 19 01:39:10.0±0.7, 6.86N±0.06×73.03W±0.06, h166km, n23, σ1§10/32, mb3.4/6, 2C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.23**	**35**	*i*P	**Pn**	**01 39 38.9**	**+0.4**
CAPV				*e*S	**Sn**	**01 40 00.0**	**-0.5**
ROSC	**El Rosal**	**2.37**	**213**	P	**Pn**	**01 39 50.6**	**-0.3**
	65nm,0.3s,baz=271,slow=18,SNR=101						
ROSC				S	**Sn**	**01 40 19.8**	**-2.6**
	42nm,0.3s,baz=86,slow=17,SNR=12						
VIGV	**El Vigia**	**2.57**	**40**	*e*P	**Pn**	**01 39 53.2**	**+0.3**
VIGV				*e*S	**Sn**	**01 40 25.4**	**-0.7**
SOCV	**Socops**	**2.58**	**57**	*e*P	**Pn**	**01 39 53.5**	**+0.5**
SOCV				*e*S	**Sn**	**01 40 25.0**	**-1.3**
ELOV	**Elorza**	**3.52**	**87**	*e*P	**Pn**	**01 40 04.9**	**+0.2**
ELOV				*e*S	**Sn**	**01 40 46.2**	**-0.9**
VIRV	**Villa del Rosa**	**3.68**	**10**	*e*P	**Pn**	**01 40 05.7**	**-0.9**
VIRV				*e*S	**Sn**	**01 40 48.2**	**-2.5**
QARV	**Quebrada Arrib**	**4.15**	**36**	*e*P	**Pn**	**01 40 13.2**	**+0.4**
SANV	**Sanarito**	**4.34**	**53**	*e*P	**Pn**	**01 40 15.2**	**-0.2**
CURV	**Curarigua**	**4.37**	**44**	*e*P	**Pn**	**01 40 15.6**	**0.0**
DABV	**Dabajuro**	**4.68**	**30**	*e*P	**Pn**	**01 40 19.7**	**+0.1**
DABV				*e*S	**Sn**	**01 41 11.3**	**-2.7**
SIQV	**Siquisique**	**4.94**	**40**	*e*P	**Pn**	**01 40 22.4**	**-0.5**
BAUV	**El Baul**	**5.36**	**67**	*e*P	**Pn**	**01 40 27.3**	**-1.2**
MAPV	**Macapo**	**5.41**	**57**	*e*P	**Pn**	**01 40 28.9**	**-0.3**
MONV	**Montecano**	**5.90**	**31**	*e*P	**Pn**	**01 40 34.8**	**-0.8**
PCRV	**Puerto La Cruz**	**8.93**	**68**	P	**Pn**	**01 41 16.2**	**+0.4**
	0.4nm,0.3s,baz=170,slow=11,SNR=3.1						
PCRV				S	**Sn**	**01 42 55.7**	**+0.3**
	0.6nm,0.3s,baz=336,slow=20,SNR=2.6						
JTS	**JuntasAbangare**	**12.27**	**287**	P	**P**	**01 42 05.7**	**+0.8**
	0.8nm,0.3s,baz=216,slow=16,SNR=4.0						
TXAR	**Lajitas Array**	**36.51**	**312**	P	**P**	**01 46 00.4**	**+0.7**
	0.2nm,0.4s,baz=122,slow=9.3,SNR=6.6						
TXAR				PcP	**PcP**	**01 48 21.4**	**+1.4**
	0.3nm,0.6s,baz=131,slow=5.2,SNR=5.0						
ULM	**Lac du Bonnet**	**47.28**	**340**	P	**P**	**01 47 27.2**	**+0.6**
	0.6nm,0.3s,baz=157,slow=7.7,SNR=3.6						
SCHQ	**Schefferville**	**48.10**	**5**	P	**P**	**01 47 33.8**	**+0.9**
	1.2nm,0.6s,baz=220,slow=7.9,SNR=2.6						
PDAR	**Pinedale Array**	**48.10**	**324**	P	**P**	**01 47 33.3**	**-0.1**
	0.2nm,0.4s,baz=116,slow=10,SNR=2.8						
YKA	**Yellowknife Ar**	**63.26**	**340**	P	**P**	**01 49 21.0**	**+0.4**
	0.9nm,0.6s,baz=130,slow=7.0,SNR=8.9						
TORD	**Torodi Ar. Bea**	**73.64**	**78**	P	**P**	**01 50 24.8**	**-1.2**
	0.1nm,0.3s,baz=285,slow=6.8,SNR=4.3						
WRA	**Warramunga Arr**	**150.43**	**241**	PKPbc	**PKPbc**	**01 58 42.0**	**-0.9**
	1.2nm,0.4s,baz=110,slow=2.2,SNR=7.6						

JMA 19 01:45:23.2, 33.47N×135.76E, h22km, M0.7, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWZ	**Kozaga**	**0.07**	**328**	P	Pb	01 45 27.1	-0.2
JWZ				S	Sb	01 45 29.9	-0.1
JWM	**Minabe**	**0.51**	**318**	P	Pb	01 45 33.3	-0.2
JWM				S	Sb	01 45 40.4	-0.1

MEX 19 02:19:45.4±1.1, 15.98N×98.14W, h5km, MD4.2, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.41**	**2**	*i*P	Pg	02 19 52.4	-1.1
PNIG				*i*S	Sg	02 19 59.3	+0.3
TLIG	**Tlapa**	**1.63**	**346**	*e*P	Pn	02 20 12.9	-2.1
VHO	**Vista Hermosa**	**1.74**	**51**	*e*P	Pn	02 20 13.2	-3.4

*ISCJB **19** 02:27:49.7±1.0, 34.94S±0.05×71.29W±0.2, h57km±10km, mb3.4/2, Error ellipse: s-maj=24.5km s-min=6.3km az=12.4*
*IDC **19** 02:27:49.5±1.4, 34.97S×69.79W, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.6/18, mbtmp3.5/4, ML3.8/2, Error ellipse: s-maj=57.6km s-min=21.8km az=93.0*
*GUC **19** 02:27:49.7±0.4, 34.91S×71.89W, h41km±1km, ML3.8*
ISC 19 02:27:50.3±1.4, 34.92S±0.04×71.9W±0.1, h46km±15km, n21, σ0§86/28, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.52**	**156**	*e*P	**Pn**	**02 28 01.1**	**-0.4**
TALC				*e*S	**Sn**	**02 28 09.6**	**+0.1**
NICH	**Los Niches**	**0.56**	**98**	*i*P	**Pn**	**02 28 01.5**	**-0.5**
NICH				*e*S	**Sn**	**02 28 09.9**	**-0.4**
LNCH	**Linares**	**0.95**	**165**	*e*P	**Pn**	**02 28 02.4**	**+0.1**
LNCH				*e*S	**Sn**	**02 28 20.7**	**+0.9**
LNV	**Longovilo**	**1.05**	**23**	*e*P	**Pn**	**02 28 08.1**	**-0.4**
LNV				*i*S	**Sn**	**02 28 22.4**	**+0.4**
CHCH	**Chadas Angostu**	**1.43**	**47**	*e*P	**Pn**	**02 28 14.0**	**+0.3**
TACH	**Talagante**	**1.50**	**32**	*e*P	**Pn**	**02 28 14.8**	**+0.1**
RCDM	**Rinconada Maip**	**1.69**	**33**	*e*P	**Pn**	**02 28 17.2**	**-0.2**
RCDM				*e*S	**Sn**	**02 28 38.7**	**+0.9**
RCDM				AML	AML	02 28 46.7	
	comp=E,2μm,0.1s						
PCH	**Pirque**	**1.73**	**42**	*e*P	**Pn**	**02 28 18.4**	**+0.4**
PCH				*i*S	**Sn**	**02 28 39.8**	**+0.8**
SAN	**Santiago**	**1.79**	**35**	*e*P	**Pn**	**02 28 19.0**	**+0.3**
SJCH	**San Jose de Ma**	**1.81**	**45**	*e*P	**Pn**	**02 28 19.0**	**0.0**
FSR	**Penalolen**	**1.83**	**39**	*e*P	**Pn**	**02 28 20.3**	**+0.9**
LACH	**Col Las Americ**	**1.85**	**38**	*e*P	**Pn**	**02 28 19.7**	**+0.1**
CLCH	**Cerro Calan**	**1.90**	**37**	*e*P	**Pn**	**02 28 20.5**	**+0.2**
CLCH				*e*S	**Sn**	**02 28 44.1**	**+1.1**
CLCH				AML	AML	02 28 50.6	
	comp=E,1μm,0.5s						
IHA	**Instituto Hidr**	**1.90**	**7**	*e*P	**Pn**	**02 28 19.7**	**-0.6**
YECH	**El Yeso**	**1.96**	**51**	*e*P	**Pn**	**02 28 22.1**	**+0.8**
YECH				AML	AML	02 28 54.7	
	comp=N,1μm,0.3s						
PEL	**Peldehue**	**2.04**	**30**	*e*P	**Pn**	**02 28 22.4**	**+0.2**
PEL				*e*S	**Sn**	**02 28 48.4**	**+1.9**
PEL				AML	AML	02 28 55.7	
	comp=N,2μm,0.3s						
ROCH	**El Roble**	**2.08**	**21**	*e*P	**Pn**	**02 28 23.2**	**+0.3**
ROCH				AML	AML	02 28 55.5	
	comp=N,878nm,0.5s						
PLCA	**Paso Flores**	**5.90**	**170**	Pn	**Pn**	**02 29 16.9**	**+1.8**
	comp=N,0.8nm,0.3s,baz=349,slow=13,SNR=13						
PLCA				Lg	Lg	02 30 52.0	
	baz=93,slow=11,SNR=1.8						
LPAZ	**La Paz**	**18.86**	**11**	P	**P**	**02 32 07.8**	**+0.5**
	comp=N,0.1nm,0.3s,baz=197,slow=11,SNR=5.3						
TXAR	**Lajitas Array**	**70.59**	**331**	P	P	02 39 12.6	+12
	comp=N,0.1nm,0.4s,baz=152,slow=7.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**84.42**	**70**	P	**P**	**02 40 16.3**	**-1.9**
	comp=N,0.5nm,0.7s,baz=249,slow=4.4,SNR=5.8						

*ISCJB **19** 02:39:21.0±1.0, 18.7N±0.1×63.89W±0.04, h54km, Error ellipse: s-maj=15.8km s-min=3.7km az=14.4*
*TRN **19** 02:39:20.6, 18.38N×63.84W, h3km, M3.5(FDF)*
*RSPR **19** 02:39:21.9, 18.74N×63.90W, h59km±1km, MD3.4/11*
ISC 19 02:39:21.3±2.0, 18.8N±0.2×63.87W±0.06, h54km, n25, σ0§73/28, 10C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.44**	**262**	*i*P	**Pn**	**02 39 32.3**	**+0.1**
ABV	**Anegada**	**0.44**	**262**	*e*S	**Sn**	**02 39 40.3**	**+0.3**
TBVI	**Tortola**	**0.80**	**243**	*i*P	**Pn**	**02 39 35.7**	**-0.8**
SMRT	**St. Maarten**	**1.05**	**134**	*i*P	**Pn**	**02 39 40.0**	**+0.1**
SMRT				*e*S	**Sn**	**02 39 54.0**	**+0.3**
SMRT	**St. Maarten**	**1.05**	**134**	*i*P	**Pn**	**02 39 39.6**	**-0.2**
STVI	**Saint Thomas**	**1.12**	**247**	*i*P	**Pn**	**02 39 40.4**	**-0.3**
STVI	**Saint Thomas**	**1.12**	**247**	*e*S	**Sn**	**02 39 54.6**	**-0.5**
SABA	**Saba**	**1.31**	**153**	*e*P	**Pn**	**02 39 43.5**	**+0.1**
SABA				*e*S	**Sn**	**02 39 58.8**	**-0.9**
SABA	**Saba**	**1.31**	**153**	*i*P	**Pn**	**02 39 42.6**	**-0.7**
HUMP	**Col San Antoni**	**1.99**	**251**	*i*P	**Pn**	**02 39 52.8**	**+0.3**
HUMP	**Col San Antoni**	**1.99**	**251**	*e*S	**Sn**	**02 40 16.4**	**+0.2**
ANWB	**Willy Bob**	**2.27**	**119**	*e*P	**Pn**	**02 39 55.1**	**-1.4**
CELP	**Cerrillos**	**2.67**	**255**	*i*P	**Pn**	**02 40 01.6**	**-0.3**
CELP				*e*S	**Sn**	**02 40 32.3**	**-0.7**
OBIP	**Obispado Ponce**	**2.70**	**254**	*i*P	**Pn**	**02 40 01.9**	**-0.4**
OBIP	**Obispado Ponce**	**2.70**	**254**	*e*S	**Sn**	**02 40 32.8**	**-1.0**
AOPR	**Arecibo Observ**	**2.77**	**261**	*i*P	**Pn**	**02 40 03.7**	**+0.4**
AOPR	**Arecibo Observ**	**2.77**	**261**	*e*S	**Sn**	**02 40 37.0**	**+1.4**
LRS	**Lares**	**2.87**	**261**	*i*P	**Pn**	**02 40 04.1**	**-0.5**
CRPR	**Cabo Rojo, PR**	**3.17**	**256**	*e*S	**Sn**	**02 40 45.1**	**-0.3**
CRPR	**Cabo Rojo, PR**	**3.17**	**256**	*i*P	**Pn**	**02 40 09.9**	**+1.1**
SEG	**Port Louis**	**3.27**	**136**	*e*P	**Pn**	**02 40 10.4**	**+0.2**
MLG	**Mont-d'or**	**3.41**	**142**	*e*P	**Pn**	**02 40 13.4**	**+1.3**
HMG	**Houelmont**	**3.48**	**143**	*e*P	**Pn**	**02 40 13.7**	**+0.7**
MGG	**Marie-Galante**	**3.75**	**139**	*e*P	**Pn**	**02 40 17.5**	**+0.7**
BBL	**Barber's Block**	**3.97**	**144**	*i*P	**Pn**	**02 40 20.5**	**+0.7**

*ISCJB **19** 02:55:59.5±0.9, 18.3S±0.2×176.5W±0.2, h323km, mb3.4/5, Error ellipse: s-maj=32.9km s-min=16.1km az=31.1*
*IDC **19** 02:55:59.8±4.6, 18.55S×176.29W, h316km±44km, mb3.2/6, mb1 3.5/6, mb1mx3.2/19, mbtmp3.9/6, Error ellipse: s-maj=31.2km s-min=15.3km az=121.0*
ISC 19 02:56:00.5±0.9, 18.5S±0.2×176.3W±0.2, h323km, n7, σ0§80/8, mb3.5/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.50**	**195**	P	**P**	**03 00 13.8**	**-1.1**
	2.4nm,0.3s,baz=25,slow=13,SNR=3.8						
URZ				S	**S**	**03 03 43.9**	**+0.4**
	1.5nm,0.4s,baz=99,slow=18,SNR=2.1						
STKA	**Stephens Creek**	**40.09**	**242**	P	**P**	**03 03 06.4**	**+0.8**
	0.9nm,0.3s,baz=75,slow=10,SNR=6.9						
WRA	**Warramunga Arr**	**46.47**	**260**	P	**P**	**03 03 56.1**	**-0.3**
	0.5nm,0.3s,baz=96,slow=6.3,SNR=20						
NVAR	**Mina Array Bea**	**78.50**	**43**	P	**P**	**03 07 26.7**	**0.0**
	0.4nm,0.5s,baz=213,slow=7.1,SNR=3.7						
TXAR	**Lajitas Array**	**84.66**	**57**	P	**P**	**03 07 59.5**	**+0.8**
	0.7nm,0.9s,baz=205,slow=5.5,SNR=6.3						
ILAR	**Eielson Array**	**86.03**	**12**	P	**P**	**03 08 03.8**	**-0.8**
	0.3nm,0.4s,baz=226,slow=6.1,SNR=8.6						
GERES	**GERESS Array B**	**148.66**	**347**	PKPbc	**PKPbc**	**03 15 10.0**	**+0.2**
	0.5nm,0.5s,baz=17,slow=2.6,SNR=5.4						

*ISCJB **19** 03:04:06.8±0.3, 22.62S±0.04×68.73W±0.04, h113km±2km, mb4.4/36, Error ellipse: s-maj=6.9km s-min=4.7km az=135.3*
*BJI **19** 03:04:07.3, 22.70S×68.50W, h105km, mB4.9/1*
*IDC **19** 03:04:07.6±0.4, 22.62S×68.65W, h106km±3km, mb4.0/14, mb1 4.1/18, mb1mx4.0/25, mbtmp4.4/18, MS2.9/2,*
Ms1 2.8/2, ms1mx2.6/19, Error ellipse: s-maj=14.5km s-min=11.6km az=60.0
*NEIC **19** 03:04:07.0, 22.63S×68.83W, h114km, mb4.4/23, After GUC.*
NEIC Felt [III] at Calama, Oficina Maria Elena and Tocopilla and [II] at Sierra Gorda.
*GUC **19** 03:04:07.1±0.8, 22.63S×68.83W, h114km±5km, ML5.1*
*SJA **19** 03:04:08.6±0.5, 22.57S×68.30W, h209km±36km, ML3.2*
ISC 19 03:04:07.4±0.3, 22.62S±0.03×68.69W±0.04, h109km±3km, h109km:pP-pn,99,σ1§50/138, mb4.3/36, 9C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.20**	**271**	P	**Pn**	**03 04 22.6**	**-0.4**
	192μm,0.3s,baz=70,slow=4.8						
LVC				S	**Sn**	**03 04 33.3**	**-1.4**
	425μm,0.3s,baz=315,slow=20,SNR=335						
LVC	**Limon Verde**	**0.20**	**271**	*e*Pn	**Pn**	**03 04 22.7**	**-0.3**
LVC				*e*Sn	**Sn**	**03 04 34.0**	**-0.6**
SPCH	**San Pedro de A**	**0.54**	**122**	*e*P	Pn	03 04 37.8	+13
SPCH				*e*S	Sn	03 04 51.9	+14
PB04	**IPOC Station P**	**0.81**	**295**	*i*P	Pn	03 04 32.4	+5.8
PB04				*e*S	Sn	03 04 51.1	+10
PB06	**IPOC Station P**	**0.81**	**264**	*i*P	**Pn**	**03 04 26.3**	**-0.5**
PB06				*e*S	**Sn**	**03 04 41.1**	**-0.4**
PB09	**IPOC Station P**	**0.96**	**328**	*i*P	**Pn**	**03 04 28.7**	**+0.4**
PB09				*e*S	**Sn**	**03 04 44.8**	**+0.7**
PB07	**IPOC Station P**	**1.42**	**309**	*i*P	**Pn**	**03 04 33.2**	**-0.1**
PB07				*e*S	**Sn**	**03 04 52.4**	**-0.6**
PB07				AML	AML	03 04 54.5	
	comp=E,28μm,0.9s						
CEN1	**Los Morros**	**1.59**	**241**	*e*P	**Pn**	**03 04 37.3**	**+2.0**
CEN1				*e*S	**Sn**	**03 04 59.0**	**+2.5**
PB01	**IPOC Station P**	**1.73**	**335**	*i*P	**Pn**	**03 04 37.0**	**-0.1**
PB01				*e*S	**Sn**	**03 04 59.8**	**+0.1**
PB01				AML	AML	03 05 00.9	
	comp=E,40μm,0.3s						
ANCH	**Antofagasta**	**1.90**	**236**	*e*P	**Pn**	**03 04 38.1**	**-0.9**
ANCH				*e*S	**Sn**	**03 05 00.5**	**-2.7**
PB10	**IPOC Station P**	**1.93**	**242**	*i*P	**Pn**	**03 04 38.3**	**-1.2**
PB10				*e*S	**Sn**	**03 05 01.4**	**-2.5**
PB10				AML	AML	03 05 03.2	
	comp=E,22μm,0.5s						
PATCX	**Punta Patache**	**2.24**	**323**	*i*P	**Pn**	**03 04 42.6**	**-1.0**
PATCX				*e*S	**Sn**	**03 05 10.0**	**-1.2**
PATCX				AML	AML	03 05 17.4	
	comp=E,14μm,0.3s						
YJA	**Yavi**	**2.98**	**82**	*e*P	**Pn**	**03 04 55.9**	**+2.4**
YJA				*e*S	**Sn**	**03 05 30.8**	**+1.9**
YJA				AML	AML	03 05 32.6	
	comp=Z,60nm,0.6s						
HJA	**Humahuaca**	**3.08**	**102**	*e*P	**Pn**	**03 04 57.1**	**+2.3**
PSGC	**Pisagua**	**3.29**	**336**	*i*P	**Pn**	**03 04 54.9**	**-2.4**
MNMC	**Minimini**	**3.57**	**346**	*i*P	**Pn**	**03 05 00.1**	**-1.2**
SLA	**San Lorenzo**	**3.60**	**126**	*e*P	**Pn**	**03 05 04.0**	**+2.5**
AZAP	**Zapla**	**3.70**	**116**	*e*P	**Pn**	**03 05 04.3**	**+1.5**
ASTB	**Santa Barbara**	**4.09**	**110**	*e*P	**Pn**	**03 05 09.2**	**+1.2**
**CPC

comp=Z,0.7nm,0.7s,baz=110,slow=5.7,SNR=3.6
HWUT Hardware Ranch 75.23 328 *e*P **P 03 15 39.2 +0.8**
comp=Z,2.9nm,0.7s
MDND Maddock 75.44 339 *e*P **P 03 15 40.4 +1.2**
comp=Z,97nm,1.1s
VNDA Vanda 75.79 190 P **P 03 15 42.2 +1.4**
comp=Z,2.6nm,1.0s,baz=117,slow=3.3,SNR=5.7
REDW Red Top Meadow 76.23 330 *e*P **P 03 15 45.8 +1.7**
comp=Z,3.8nm,0.8s
ULM Lac du Bonnet 76.44 342 P **P 03 15 44.8 +0.1**
comp=Z,2.6nm,0.6s,baz=150,slow=7.1,SNR=12
ULM pP **pP 03 16 11.9 -0.6**
comp=Z,1.4nm,0.4s,baz=144,slow=5.1,SNR=2.8
MOOW Moose Ponds 76.48 330 *e*P **P 03 15 46.7 +1.3**
comp=Z,19nm,2.3s
NVAR Mina Array Bea 76.49 322 P **P 03 15 45.8 +0.1**
comp=Z,1.0nm,0.8s,baz=159,slow=6.4,SNR=6.3
NVAR pP **pP 03 16 14.8 +1.5**
comp=Z,0.6nm,0.6s,baz=134,slow=7.6,SNR=3.4
IMW Indian Meadow 76.69 330 *e*P **P 03 15 48.1 +1.5**
comp=Z,3.5nm,0.8s
SCHQ Schefferville 77.15 1 P **P 03 15 48.7 0.0**
comp=Z,2.3nm,0.8s,baz=207,slow=6.8,SNR=3.3
SCHQ pP **pP 03 16 16.8 +0.3**
comp=Z,3.5nm,0.9s,baz=182,slow=5.7,SNR=3.5
TOA0 Torodi Ar. Sit 77.55 70 *e*P **P 03 15 51.3 -0.4**
TOA0 *e*pP **pP 03 16 19.1 -0.4**
TORD Torodi Ar. Bea 77.55 70 P **P 03 15 51.4 -0.4**
comp=Z,8.8nm,0.5s,baz=256,slow=5.2,SNR=83
TORD pP **pP 03 16 19.4 -0.1**
comp=Z,15nm,0.8s,baz=251,slow=5.5,SNR=9.9
HLID Hailey 78.09 328 *e*P **P 03 15 56.4 +2.1**
comp=Z,4.5nm,0.8s
HLID *e*pP **pP 03 16 24.7 +2.5**
MCMT McKenzie Canyo 78.28 330 *e*P **P 03 15 57.1 +1.6**
MCMT *e*pP **pP 03 16 23.4 0.0**
TSUM Tsumeb 79.53 106 *e*P **P 03 16 02.8 -0.1**
comp=Z,4.6nm,0.8s
BMO Blue Mountains 80.46 327 *e*P **P 03 16 08.5 +1.4**
comp=Z,5.2nm,1.1s
BOSA Boshof 82.75 118 P **P 03 16 20.1 +0.4**
comp=Z,1.5nm,0.4s,baz=288,slow=3.6,SNR=7.6
MAW Mawson 83.21 163 P **P 03 16 22.1 +1.0**
comp=Z,3.4nm,0.5s,baz=200,slow=4.8,SNR=11
MAW pP **pP 03 16 49.8 +0.5**
comp=Z,3.3nm,0.6s,baz=159,slow=8.6,SNR=2.3
MAW Mawson 83.21 163 *e*P **P 03 16 21.9 +0.7**
comp=Z,0.8nm,0.6s
MAW pP **pP 03 16 49.8 +0.5**
YKA Yellowknife Ar 92.30 341 P **P 03 17 05.1 +0.4**
comp=Z,2.6nm,0.7s,baz=135,slow=4.5,SNR=24
YKA pP **pP 03 17 34.9 +1.7**
comp=Z,1.2nm,0.6s,baz=137,slow=4.3,SNR=5.1
YKA sP **sP 03 17 44.7 0.0**
comp=Z,1.0nm,0.6s,baz=136,slow=4.5,SNR=3.7
WRA Warramunga Arr 132.09 210 PKP **PKPdf 03 23 09.7 +0.6**
comp=Z,2.9nm,0.6s,baz=156,slow=1.7,SNR=36
ZALV Zalesovo Beam 142.87 26 PKP **PKPdf 03 23 25.3 -2.5**
comp=Z,1.3nm,0.3s,baz=313,slow=4.6,SNR=7.3
ZALV pPKP **pPKPdf 03 23 57.5 0.0**
comp=Z,1.3nm,0.6s,baz=290,slow=1.2,SNR=2.3
ZALV SKPbc **SKiKP 03 26 58.4 +1.2**
comp=Z,0.8nm,0.6s,baz=345,slow=5.2,SNR=3.7
SOEI Soe 145.41 203 *e*PKPdf **PKPab 03 23 34.0 +0.1**
KSH Kashi 145.63 52 PKPbc **PKPab 03 23 34.4 +0.3**
KSH pPKP **pPKPdf 03 24 01.0 -2.0**
KSH sPKP 03 24 11.8
KSH PP PP 03 27 01.4 +6.2
KSH SKKS 03 33 40.1
KSH PPMZ
comp=Z,50nm,5.7s
KSH LN
comp=Z,44nm,3.7s
KSH LE
comp=Z,68nm,5.3s
KSH LZ
comp=Z,140nm,6.2s
MK31 Makanchi Array 146.41 37 *e*PKPbc **PKPbc 03 23 35.4 -0.2**
MKAR Makanchi Array 146.41 37 PKPbc **PKPbc 03 23 35.3 -0.3**
comp=Z,3.3nm,0.8s,baz=288,slow=5.8,SNR=24
MKAR pPKPbc pPKPbc 03 24 04.4 -0.6
comp=Z,1.7nm,0.7s,baz=299,slow=5.0,SNR=5.0
SIJI Sorong 149.61 222 PKPbc **PKPbc 03 23 46.2 +1.1**
comp=Z,8.3nm,0.5s,baz=49,slow=8.3,SNR=5.0
WMQ Urumqi 151.24 37 *e*PKPbc **PKPdf 03 23 42.8 +0.7**
KAPI Kappang 151.32 198 *e*PKPdf **PKPdf 03 23 43.2 +0.2**
KAPI *e*PKPbc **PKiKP 03 23 50.4 +0.8**
KAPI *e*PKPab **PKPab 03 23 58.0 +0.7**
MJAR Matsushiro Arr 152.91 307 PKPbc **PKPbc 03 23 50.4 -1.7**
comp=Z,2.1nm,0.9s,baz=99,slow=6.5,SNR=4.9
MJAR PKPab **PKPab 03 24 04.5 +0.9**
comp=Z,1.5nm,0.9s,baz=112,slow=2.1,SNR=4.2
SONM Songino Array 154.53 8 PKP **PKPdf 03 23 48.3 +1.5**
comp=Z,0.9nm,0.7s,baz=197,slow=3.1,SNR=7.2
SONM PKPbc **PKiKP 03 23 56.1 +0.7**
comp=Z,0.6nm,0.5s,baz=284,slow=2.6,SNR=4.3
SONM PKPab **PKPab 03 24 10.9 +0.7**
comp=Z,0.8nm,0.6s,baz=316,slow=5.5,SNR=5.1
KSRS Korea Array 159.42 320 PKPab **PKPab 03 24 31.5 +0.1**
comp=Z,1.1nm,0.8s,baz=46,slow=3.8,SNR=4.1
KSAR Wonju Array Be 159.45 320 PKPab **PKPab 03 24 31.5 -0.1**
HHC Hu-ho-hao-te 161.82 359 *e*PKP **PKPdf 03 23 54.8 -1.1**
LZH Lanzhou 165.09 24 *e*PKP **PKPdf 03 23 59.3 +0.1**
LZH pPKP **pPKPdf 03 24 26.6 -2.5**
LZH sPKP 03 24 37.3

IDC 19 03:23:59.3±2.3, 4°28S×151°26E, h0km, mb3.6/2, mb1 4.0/2, mb1mx3.4/21, mbtmp3.6/2, Error ellipse: s-maj=146.8km s-min=31.9km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.68**	**225**	P	P	03 29 01.8	-0.8
	0.4nm,0.3s,baz=50,slow=10,SNR=12						
ILAR	**Eielson Array**	**82.26**	**22**	P	P	03 36 21.8	-0.6
	0.7nm,0.7s,baz=248,slow=4.9,SNR=9.4						
TORD	**Torodi Ar. Bea**	**148.68**	**288**	PKPbc	PKPbc	03 43 50.2	+0.5
	1.3nm,0.7s,baz=65,slow=2.6,SNR=17						

IDC ***19*** *03:24:54.4±1.5, 0.°25N×126.°12E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/24, mbtmp3.7/3, Error ellipse: s-maj=137.9km s-min=27.0km az=67.0*

ISCJB ***19*** *03:25:02.3±0.7, 0.°40N±0.°07×126.°59E±0.°04, h47km, mb3.7/3, Error ellipse: s-maj=10.4km s-min=6.1km az=176.8*

DJA ***19*** *03:25:02.9±0.3, 0.°N±3.°×12.°7E±.°, h48km±13km, M4.1/7, mb4.4/3, mB4.8/1, MLv4.0/7, Mw(mB)4.0/1*

ISC 19 03:25:02.0±0.9, 0.°43N±0.°08×126.°63E±0.°05, h47km, n11, σ1°79/13, mb3.8/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.81**	**66**	P	**Pn**	**03 25 18.2**	**+1.1**
TNTI				S	**Sn**	**03 25 29.9**	**+1.7**
LBMI	**Labuha**	**1.38**	**141**	P	**Pn**	**03 25 26.2**	**+1.4**
LBMI				S	**Sn**	**03 25 44.1**	**+2.2**
SANI	**Sanana**	**2.55**	**194**	P	**Pn**	**03 25 41.1**	**+0.3**
KMSI	**Cibinong**	**2.65**	**273**	P	**Pn**	**03 25 43.9**	**+1.7**
KMSI				S	**Sn**	**03 26 15.3**	**+2.2**
LUWI	**Luwuk**	**4.12**	**249**	P	Pn	03 26 08.0	+5.6
APSI	**Ampana**	**5.15**	**255**	P	**Pn**	**03 26 17.8**	**+1.2**
	34nm,0.5s,1μm0.3nm						
BNSI	**Bone**	**8.09**	**234**	P	**Pn**	**03 26 58.9**	**+2.0**
	14nm,0.6s						
BKSI	**Bulukumba**	**8.65**	**229**	P	**Pn**	**03 27 04.5**	**-0.1**
WRA	**Warramunga Arr**	**21.61**	**160**	P	**P**	**03 29 46.4**	**-1.8**
	1.8nm,0.4s,baz=337,slow=10,SNR=34						
SONM	**Songino Array**	**50.38**	**342**	P	**P**	**03 33 53.3**	**-1.2**
	0.3nm,0.4s,baz=161,slow=8.3,SNR=3.6						
MKAR	**Makanchi Array**	**60.21**	**326**	P	**P**	**03 35 03.6**	**-1.7**
	0.3nm,0.4s,baz=119,slow=7.7,SNR=9.1						

CSEM ***19*** *04:10:54.3±1.1, 49.°98N×18.°50E, h2km, Error ellipse: s-maj=19.3km s-min=12.4km az=86.0*

PRU 19 04:10:55.0, 49.°87N×18.°48E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.22**	**262**	*e*PG	Pg	04 10 59.5	+0.3
OKC				*e*SG	Sg	04 11 02.4	+0.3
	comp=Z,11nm,0.2s						
OKC	**Ostrava-Krasne**	**0.22**	**262**	Pg	Pg	04 10 59.5	+0.3
OKC				Sg	Sg	04 11 02.4	+0.3
	11nm,0.2s						
MORC	**Moravsky Berou**	**0.61**	**262**	*e*Pg	Pg	04 11 07.4	+0.5
MORC				*e*Sg	Sg	04 11 14.9	0.0
DPC	**Dobruska-Polom**	**1.47**	**290**	*e*PG	Pn	04 11 21.7	-1.1
DPC				*e*SG	Sg	04 11 41.8	-0.6
DPC	**Dobruska-Polom**	**1.47**	**290**	Pg	Pn	04 11 21.7	-1.1
DPC				Sg	Sg	04 11 41.8	-0.6

WEL 19 04:11:29.5±0.2, 45.°11S×167.°23E, h40km±3km, ML3.7/15, 4C-5D, Error ellipse: s-maj=2.1km s-min=0.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.37**	**188**	PN	Pn	04 11 38.1	-0.4
DCZ				SN	Sn	04 11 45.2	+0.3
DCZ				AML	AML	04 11 45.7	
DCZ				AML	AML	04 11 45.7	
DCZ				AML	AML	04 11 45.9	
MSZ	**Milford Sound**	**0.66**	**49**	PN	Pn	04 11 42.0	-0.4
MSZ				SN	Sn	04 11 51.8	+0.2
MSZ				AML	AML	04 11 52.6	
MSZ				AML	AML	04 11 53.9	
MSZ				AML	AML	04 11 53.9	
MLZ	**Mavora Lakes**	**0.71**	**110**	⇓PN	Pn	04 11 42.2	-0.9
MLZ				SN	Sn	04 11 51.9	-1.1
MLZ				AML	AML	04 11 52.3	
WHZ	**Wether Hill Ro**	**0.93**	**147**	PN	Pn	04 11 46.0	-0.2
WHZ				SN	Sn	04 11 58.3	0.0
WHZ				AML	AML	04 11 58.6	
WKZ	**Wanaka**	**1.30**	**78**	⇓PN	Pn	04 11 51.0	-0.2
WKZ				AML	AML	04 12 07.7	
WKZ				AML	AML	04 12 07.7	
WKZ				AML	AML	04 12 14.1	
WKZ				AML	AML	04 12 14.2	
EAZ	**Earnscleugh**	**1.48**	**95**	PN	Pn	04 11 53.4	-0.2
EAZ				AML	AML	04 12 11.8	
EAZ				AML	AML	04 12 11.8	
EAZ				AML	AML	04 12 11.8	
EAZ				AML	AML	04 12 12.7	
JCZ	**Jackson Bay**	**1.51**	**47**	⇑PN	Pn	04 11 54.0	-0.1
JCZ				AML	AML	04 12 16.6	
JCZ				AML	AML	04 12 17.7	
APZ	**The Paps**	**1.80**	**163**	PN	Pn	04 11 58.0	-0.1
APZ				AML	AML	04 12 25.8	
APZ				AML	AML	04 12 27.1	
TUZ	**Tuapeka**	**1.89**	**117**	PN	Pn	04 11 58.5	-0.8
SYZ	**Scrubby Hill**	**1.96**	**138**	⇓PN	Pn	04 11 59.6	-0.5
SYZ				AML	AML	04 12 23.0	
SYZ				AML	AML	04 12 23.0	
SYZ				AML	AML	04 12 23.3	
SYZ				AML	AML	04 12 23.3	
LBZ	**Lake Benmore**	**2.23**	**72**	⇓PN	Pn	04 12 02.9	-1.0
LBZ				AML	AML	04 12 32.3	
LBZ				AML	AML	04 12 32.3	
LBZ				AML	AML	04 12 43.4	
LBZ				AML	AML	04 12 43.4	
FOZ	**Fox Glacier**	**2.35**	**50**	PN	Pn	04 12 05.5	0.0
FOZ				AML	AML	04 12 45.2	
FOZ				AML	AML	04 12 45.3	
FOZ				AML	AML	04 12 46.4	
FOZ				AML	AML	04 12 46.4	
ODZ	**Otahua Downs**	**2.42**	**90**	⇑PN	Pn	04 12 05.5	-1.1
HHSZ	**Highcliff Hill**	**2.50**	**109**	⇓PN	Pn	04 12 07.0	-0.6
RPZ	**Rata Peaks**	**3.08**	**64**	⇑PN	Pn	04 12 14.0	-1.6
RPZ				AML	AML	04 12 51.8	
RPZ				AML	AML	04 13 11.6	
WVZ	**Waitaha Valley**	**3.25**	**52**	PN	Pn	04 12 16.3	-1.5
WVZ				AML	AML	04 12 59.1	
OXZ	**Oxford**	**3.89**	**64**	*e*PN	Pn	04 12 23.8	-2.9
MQZ	**McQueen's Vall**	**4.13**	**72**	⇑PN	Pn	04 12 27.6	-2.4
LTZ	**Lake Taylor**	**4.32**	**59**	*e*PN	Pn	04 12 31.4	-1.4
LTZ				AML	AML	04 13 29.7	
THZ	**Tophouse**	**5.32**	**53**	*e*PN	Pn	04 12 44.2	-2.2
THZ				AML	AML	04 13 48.0	
THZ				AML	AML	04 13 53.8	
QRZ	**Quartz Range**	**5.78**	**44**	PN	Pn	04 12 51.4	-1.3

CASC ***19*** *04:15:22.7±2.4, 6.°22S×77.°17W, h20km±937km*

IGQ ***19*** *04:15:38.0±0.8, 5.°39S×77.°60W, h20km±63km, Mb6.0, Error ellipse: s-maj=8.4km s-min=6.7km az=121.1*

MOS ***19*** *04:15:39.2±0.9, 4.°94S×77.°59W, h102km, mb6.1/85, MS5.0/17, Error ellipse: s-maj=7.5km s-min=4.3km az=102.3*

NEIC ***19*** *04:15:42.0±0.0, 5.°07S×77.°56W, h125km, Moment Tensor Solution. s35 Moment tensor: Scale 10¹⁸Nm; Mrr=1.16; Mθθ=0.16; Mθφ=1.01; Mrθ=-0.09; Mθφ=0.67; Mφφ=0.42; Best double couple: M₀=1.30000×10¹⁸ NP1:φ₁=157.00000°, δ=54.00000°, λ=-81.00000°. NP2:φ₂=324.00000°, δ=36.00000°, λ=-99.00000°. Principal axes: T 1.4400, Plg8.0000°, Azm241.0000°; N -0.2000, Plg6.0000°, Azm332.0000°; P -1.2400, Plg78.0000°, Azm98.0000°;*

BJI ***19*** *04:15:42.2, 5.°00S×77.°50W, h138km, mB5.9/60*

IDC ***19*** *04:15:42.5±0.4, 5.°01S×77.°61W, h122km±4km, mb5.4/31, mb1 5.6/38, mb1mx5.5/39, mbtmp5.8/38, MS4.9/12, Ms1 4.9/12, ms1mx4.6/26, Error ellipse: s-maj=8.8km s-min=5.9km az=83.0*

ISCJB ***19*** *04:15:43.6±0.3, 5.°04S±0.°02×77.°60W±0.°02, h147km±2km, mb5.8/412, Error ellipse: s-maj=3.7km s-min=2.3km az=38.2*

NEIC ***19*** *04:15:43.2±0.1, 5.°08S×77.°54W, h132km, mb6.0/261, ME5.7, MW6.0, MW6.0, MD6.0(IGQ), Error ellipse: s-maj=3.1km s-min=2.1km az=61.0, Moment Tensor Solution. s109 Moment tensor: Scale 10¹⁸Nm; Mrr=1.19; Mθθ=0.03; Mφφ 1.16; Mrθ=-0.08; Mθφ=0.45; Mrφ=0.23; Best double couple: M₀=1.30000×10¹⁸ NP1:φ₁=341.00000°, δ=40.00000°, λ=-90.00000°. NP2:φ₂=160.00000°, δ=50.00000°, λ=-90.00000°. Principal axes: T 1.3400, Plg5.0000°, Azm250.0000°; N -0.1300, Plg0.0000°, Azm160.0000°; P -1.2100, Plg84.0000°, Azm68.0000°; Broadband fault plane solution: P waves. NP1:φ₁=347.00000°, δ=40.00000°, λ=-64.00000°. NP2:φ₂=135.00000°, δ=55.00000°, λ=-110.00000°. Principal axes: T Plg8.0000°, Azm239.0000°; N Plg0.0000°, Azm0.0000°; P Plg72.0000°, Azm354.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [V] at Bagua Grande, Chachapoyas, Chota, Jaen, La Peca and Lamas; [IV] at Cajamarca, Iquitos, Juanjui, Moyobamba, Rioja, Soritor and Tarapoto; [III] at Chiclayo, Piura and Trujillo; [II] at Lima. Felt [IV] at Guayaquil and [III] at Loja, Ecuador. Felt in much of northern Peru and southern Ecuador.

SZGRF ***19*** *04:15:44.7, 4.°79S×75.°20W, h80km, mb5.9, Northern Peru*

GCMT ***19*** *04:15:44.0±0.1, 5.°13S×77.°55W, h132km, MW6.0/134, Moment Tensor Solution. s134,c296; s128,c398; Duration: 25 Moment tensor: Scale 10¹⁸Nm; Mrr=1.20±.01; Mθθ 0.11±.01; Mφφ 1.08±.01; Mrθ=-0.15±.01; Mθφ=-0.61±.01; Mrφ 0.27±.01; Best double couple: M₀=1.32500×10¹⁸ NP1:φ₁=153.00000°, δ52.00000°, λ=-91.00000°. NP2:φ₂=335.00000°, δ38.00000°, λ=-88.00000°. Principal axes: T 1.4140, Plg7.0000°, Azm244.0000°; N -0.1840, Plg1.0000°, Azm154.0000°; P -1.2370, Plg83.0000°, Azm55.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 19 04:15:42.6±0.2, 5.°13S±0.°03×77.°50W±0.°03, h129km±1km, h129km:pP-P, n1869, σ1°20/2121, mb6.0/423, 249C-370D, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.19**	**204**	P	**Pn**	**04 16 20.9**	**+1.6**
	3μm,0.3s,baz=20,slow=8.8,SNR=7499						
ATAH				S	**Sn**	**04 16 46.9**	**-0.5**
	5μm,0.3s,baz=108,slow=20,SNR=6.2						
MACE	**Macas**	**2.94**	**346**	⇓P	**Pn**	**04 16 27.0**	**-1.6**
MACE	**Macas**	**2.94**	**346**	⇓S	**Sn**	**04 17 01.4**	**-2.6**
RIOE	**Riobamba**	**3.54**	**341**	⇓P	**Pn**	**04 16 37.0**	**+0.4**
RIOE	**Riobamba**	**3.54**	**341**	⇓S	**Sn**	**04 17 20.0**	**+1.7**
PAT1	**Patacocha**	**3.71**	**345**	P	**Pn**	**04 16 39.0**	**-0.1**
BPAT	**Tungurahua Vol**	**3.72**	**345**	⇓S	**Sn**	**04 17 22.1**	**-0.6**
BPAT	**Tungurahua Vol**	**3.72**	**345**	⇓P	**Pn**	**04 16 39.1**	**-0.1**
ARRY	**Arrayan**	**3.72**	**345**	P	**Pn**	**04 16 39.7**	**+0.6**
BMAS	**Trigal station**	**3.73**	**345**	⇓S	**Sn**	**04 17 22.2**	**-0.7**
BMAS	**Trigal station**	**3.73**	**345**	⇓P	**Pn**	**04 16 39.1**	**-0.1**
ULBA	**Ulba**	**3.76**	**346**	P	**Pn**	**04 16 40.9**	**+1.2**
RETU	**Refugio**	**3.77**	**345**	P	**Pn**	**04 16 40.4**	**+0.5**
BIL2	**Estacion Bilba**	**3.78**	**345**	P	**Pn**	**04 16 41.8**	**+2.0**
IGUA	**Igualata**	**3.79**	**342**	P	**Pn**	**04 16 42.0**	**+1.8**
RUN5	**Runtun**	**3.80**	**346**	P	**Pn**	**04 16 40.4**	**+0.3**
JUI6	**Juive**	**3.80**	**345**	P	**Pn**	**04 16 40.4**	**+0.4**
PISA	**Pisayambo**	**4.14**	**348**	P	**Pn**	**04 16 46.0**	**+1.3**
BMOR	**Cotopaxi Volca**	**4.47**	**348**	⇑P	**Pn**	**04 16 50.9**	**+1.7**
MOV1	**Cotopaxi Vol s**	**4.48**	**348**	P	**Pn**	**04 16 50.1**	**+0.7**
TAMB	**Tambo**	**4.49**	**349**	P	**Pn**	**04 16 50.9**	**+1.5**
BTAM	**Cotopaxi Volca**	**4.51**	**348**	⇑P	**Pn**	**04 16 50.3**	**+0.6**
COV1	**Cotopaxi Volc**	**4.51**	**349**	P	**Pn**	**04 16 51.0**	**+1.1**
BREF	**Cotopaxi Volca**	**4.53**	**348**	⇑P	**Pn**	**04 16 51.9**	**+1.9**
BVC2	**Cotopaxi Volca**	**4.53**	**348**	⇑P	**Pn**	**04 16 51.8**	**+1.7**
CAMI	**Rancho Maria**	**4.53**	**347**	P	**Pn**	**04 16 51.9**	**+2.0**
VC1	**Cotopaxi 1**	**4.54**	**348**	P	**Pn**	**04 16 51.1**	**+0.9**
PAST	**Pastocalle**	**4.55**	**345**	P	**Pn**	**04 16 51.0**	**+0.9**
NAS2	**Nasa**	**4.55**	**348**	P	Pn	04 16 53.8	+3.5
PITA	**Cotopaxi Volc**	**4.63**	**348**	P	**Pn**	**04 16 52.1**	**+0.9**
ANTI	**Antisana**	**4.69**	**352**	⇑P	**Pn**	**04 16 51.4**	**-0.8**
LAV4	**Lava4-Reventad**	**5.00**	**358**	P	**Pn**	**04 16 55.6**	**-0.4**
JUA2	**San Juan 2**	**5.00**	**347**	P	**Pn**	**04 16 57.7**	**+1.5**
PECV	**Mancha de Ca P**	**5.01**	**329**	P	**Pn**	**04 16 57.7**	**+1.7**
CONE	**Cono NE Rev Vo**	**5.02**	**358**	P	**Pn**	**04 16 55.1**	**-1.3**
GGP	**Refugio Guagua**	**5.04**	**347**	P	**Pn**	**04 16 57.1**	**+0.2**
TERV	**Terraza Guagua**	**5.04**	**347**	P	**Pn**	**04 16 57.4**	**+0.6**
PINO	**Pino**	**5.06**	**347**	P	**Pn**	**04 16 57.4**	**+0.3**
YANA	**Yana**	**5.09**	**348**	P	**Pn**	**04 16 57.4**	**0.0**
ELAGU	**Cayambe Volc**	**5.09**	**354**	P	**Pn**	**04 16 58.2**	**+0.7**
CAYR	**Refugio Cayamb**	**5.13**	**354**	P	**Pn**	**04 16 58.2**	**0.0**
CHIS	**Cerro-Chispas-**	**5.18**	**321**	P	**Pn**	**04 16 56.9**	**-1.2**
CAYA	**Cayambe**	**5.19**	**355**	P	**Pn**	**04 16 59.7**	**+1.0**
OTAV	**Otavalo**	**5.41**	**350**	⇓P	**Pn**	**04 17 02.7**	**+1.0**
OTAV	**Otavalo**	**5.41**	**350**	*e*Pn	**Pn**	**04 17 01.6**	**-0.1**
OTAV				*e*Sn	Sn	04 17 41.9	-22
COTA	**Cotacachi**	**5.49**	**351**	P	**Pn**	**04 17 03.2**	**+0.4**
MAG1	**Magdalena**	**5.51**	**336**	P	**Pn**	**04 17 01.5**	**-1.2**
JAMA	**Jama**	**5.54**	**331**	P	**Pn**	**04 17 01.6**	**-1.4**
GOLV	**Golondrinas**	**5.55**	**343**	P	**Pn**	**04 17 02.1**	**-1.0**
URCU	**Urcuqui**	**5.58**	**352**	⇑P	**Pn**	**04 17 04.4**	**+0.5**
LITE	**Lita**	**5.96**	**352**	P	**Pn**	**04 17 09.0**	**+0.2**
NNA	**Nana**	**6.85**	**175**	Pn	**Pn**	**04 17 21.4**	**+0.8**
	16μm,0.4s						
NNA	**Nana**	**6.85**	**175**	P	**Pn**	**04 17 21.5**	**+0.8**
	347nm,0.3s,baz=359,slow=7.5,SNR=398						
NNA				S	**Sn**	**04 18 32.4**	**-4.9**
	3μm,0.3s,baz=254,slow=20,SNR=27						
NNA	**Nana**	**6.85**	**175**	P	**Pn**	**04 17 21.5**	**+0.8**
NNA				S	**Sn**	**04 18 32.4**	**-4.9**
NNA				pmax	pmax		
	comp=Z,347nm,0.3s						
NNA	**Nana**	**6.85**	**175**	*e*Pn	**Pn**	**04 17 21.3**	**+0.6**
NNA				*e*Sn	Sn	04 18 16.2	-21
ROSC	**El Rosal**	**10.41**	**18**	P	**Pn**	**04 18 07.9**	**-1.0**
	comp=Z,16nm,0.3s,baz=130,slow=7.9,SNR=4.6						
ROSC	**El Rosal**	**10.41**	**18**	*e*Pn	**Pn**	**04 18 09.4**	**+0.5**
ARE	**Arequipa**	**12.71**	**153**	*e*P	**Pn**	**04 18 42.0**	**+2.8**
ARE	**Arequipa**	**12.71**	**153**	*e*P	**Pn**	**04 18 42.0**	**+2.8**
AZU	**Azuero**	**13.13**	**348**	*i* P	**Pn**	**04 18 44.4**	**+0.1**
PAYG	**Puerto Ayora**	**13.51**	**289**	*e*Pn	**Pn**	**04 18 48.0**	**-1.4**
PAYG				*e*Sn	**Sn**	**04 21 16.6**	**-2.0**
I08BO	**LAS PENAS INFR**	**14.15**	**142**	P	P	04 19 06.1	+4.6
I08BO				*i*		05 38 10.0	
	baz=316,slow=327,SNR=0.4						
UPA	**Univ. de Panam**	**14.16**	**352**	⇓*i* P	**Pn**	**04 18 56.8**	**-0.7**
BCIP	**Isla Barro Col**	**14.39**	**351**	⇓*i* P	**Pn**	**04 19 00.1**	**-0.4**
BCIP	**Isla Barro Col**	**14.39**	**351**	*e*Pn	**Pn**	**04 18 59.9**	**-0.6**
BCIP				*e*Sn	**Sn**	**04 21 36.4**	**-3.2**
LPAZ	**La Paz**	**14.40**	**141**	P	**Pn**	**04 19 00.7**	**-0.5**
	comp=Z,2.5nm,0.3s,baz=314,slow=7.0,SNR=126						
LPAZ				S	**S**	**04 21 52.5**	**+0.6**
	comp=Z,8.3nm,0.3s,baz=286,slow=7.4,SNR=2.0						
LPAZ				P3KPbc		04 54 25.2	
	comp=Z,0.0nm,0.3s,baz=207,slow=2.3,SNR=2.5						
LPAZ	**La Paz**	**14.40**	**141**	*e*Pn	**Pn**	**04 19 00.1**	**-1.2**
LPAZ				*e*S	**S**	**04 21 54.3**	**+2.4**
SAML	**Samuel**	**14.70**	**106**	*e*Pn	Pn	04 19 00.4	-4.0
SAML				*e*Sn	**Sn**	**04 21 42.5**	**-4.7**
MNMC	**Minimini**	**15.91**	**152**	⇓*i* P	**Pn**	**04 19 20.7**	**-0.1**
PSGC	**Pisagua**	**16.08**	**154**	⇓*i* P	**Pn**	**04 19 20.4**	**-1.2**
JTS	**JuntasAbangare**	**17.02**	**334**	Pn	**Pn**	**04 19 34.6**	**+1.6**
	comp=Z,2μm,1.2s,SNR=39						
JTS	**JuntasAbangare**	**17.02**	**334**	⇓*i* P	**Pn**	**04 19 33.6**	**+0.5**
JTS	**JuntasAbangare**	**17.02**	**334**	P	**Pn**	**04 19 33.2**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=148,slow=2.9,SNR=59						
JTS				S	**Sn**	**04 22 42.7**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=262,slow=15,SNR=1.7						
JTS				LR	LR	04 25 02.5	
	comp=Z,8μm,20.1s,baz=155,slow=33						
JTS	**JuntasAbangare**	**17.02**	**334**	*e*P	**Pn**	**04 19 34.1**	**+1.0**
JTS				pmax	pmax		
	comp=Z,594nm,1.4s						
JTS	**JuntasAbangare**	**17.02**	**334**	*e*P	**Pn**	**04 19 34.1**	**+1.0**
	comp=Z,594nm,1.4s						
JTS				*e*S	**S**	**04 22 47.0**	**+3.3**
PATCX	**Punta Patache**	**17.16**	**156**	⇓*i* P	**Pn**	**04 19 36.2**	**+1.5**
PB01	**IPOC Station P**	**17.63**	**155**	*i* P	**Pn**	**04 19 41.9**	**+1.5**
PTGA	**Pitinga**	**18.04**	**77**	P	**P**	**04 19 41.6**	**-2.4**
	comp=Z,32nm,0.3s,baz=257,slow=13,SNR=128						
PTGA				S	**S**	**04 22 58.7**	**-5.8**
	comp=Z,20nm,0.3s,baz=342,slow=20,SNR=2.8						
PTGA	**Pitinga**	**18.04**	**77**	*e*P	**P**	**04 19 41.5**	**-2.5**
	comp=Z,1μm,0.9s						
PTGA				*e*S	**S**	**04 23 00.5**	**-4.0**
PB09	**IPOC Station P**	**18.40**

comp=Z,548nm,0.7s
CVJ Coleyville 23.20 360 *i* P **P** 04 20 40.4 +2.0
CVJ Coleyville 23.20 360 *i* P **P** 04 20 40.5 +2.1
TPR Prospect 23.23 46 *e* **P** 04 20 40.3 +1.7
BOT Bacolet 23.26 46 *e* **P** 04 20 37.4 -1.4
BOT Bacolet 23.26 46 *e* **P** 04 20 40.1 +1.2
GRGR Grenville 23.28 42 *eP* **P** 04 20 38.9 -0.2
GRGR Grenville 23.28 42 *eP* **P** 04 20 38.4 -0.7
comp=Z,2µm,1.1s
GRW Mount Saint Ca 23.30 42 *e* **P** 04 20 40.0 +0.7
BBJ Bamboo Saint A 23.36 1 *i* P **P** 04 20 41.7 +1.9
BBJ Bamboo Saint A 23.36 1 *i* P **P** 04 20 41.8 +1.9
MRL Marmol 23.42 329 *eP* **P** 04 20 41.4 +0.8
TOSP Speyside 23.48 46 *eP* **P** 04 20 42.3 +1.5
LGNH LÖogne 23.98 11 *eP* **P** 04 20 46.7 +1.3
comp=Z,552nm,1.2s
WSYH La Gonave Hosp 24.24 11 *eP* **P** 04 20 49.1 +1.4
SVB Belmont 24.38 41 *eP* **P** 04 20 48.6 -0.5
AHML Horco Molle 24.47 153 *eP* **P** 04 20 51.8 +1.9
SDD Santo Domingo 24.60 18 *eP* **P** 04 20 51.6 +0.7
comp=Z,3µm,1.4s
LCO Las Campanas 24.61 166 *eP* **P** 04 20 52.1 +0.7
comp=Z,315nm,0.9s
SDDR Presa de Saban 24.72 14 *eP* **P** 04 20 53.1 +0.9
comp=Z,316nm,0.8s
MCLT Moule a Chique 24.91 41 *eP* **P** 04 20 55.3 +1.5
GTBY Guantanamo Bay 25.01 5 *eP* **P** 04 20 55.4 +0.8
comp=Z,2µm,0.9s
RCC Rio Carpintero 25.02 4 *eP* **P** 04 20 55.4 +0.6
LMGC Las Mercedes 25.04 1 *eP* **P** 04 20 56.7 +1.8
PCDR Punta Cana, DR 25.15 21 *eP* **P** 04 20 56.3 +0.3
CRPR Cabo Rojo, PR 25.17 24 *eP* **P** 04 20 55.9 -0.2
comp=Z,152nm,0.7s
ICMP Isla Caja de M 25.30 25 *eP* **P** 04 20 57.5 +0.2
LSP Las Mesas 25.33 24 *eP* **P** 04 20 58.5 +0.8
MPR Mayaguez 25.34 24 *eP* **P** 04 20 58.0 +0.3
comp=Z,307nm,0.9s
MASC Masc 25.35 7 *eP* **P** 04 20 59.9 +2.1
OBIP Obispado Ponce 25.41 25 *eP* **P** 04 20 58.5 +0.1
comp=Z,313nm,0.8s
BIM Bigot 25.42 40 *eP* pP 04 21 20.2 -5.9
CELP Cerrillos 25.45 25 *eP* **P** 04 20 59.2 +0.5
TRMF Trois Ilets 25.45 40 *eP* pP 04 21 18.6 -7.6
SMN1 Samana, DR 25.48 18 *eP* **P** 04 20 59.6 +0.6
ZAM Aeronautique 25.49 40 *eP* pP 04 21 22.9 -3.7
AGP Aguadilla 25.52 23 *eP* **P** 04 21 00.2 +0.8
comp=Z,2µm,1.6s
LPMF Morne Lapointe 25.53 40 *eP* pP 04 21 25.6 -1.4
LRS Lares 25.53 24 *eP* **P** 04 21 00.1 +0.6
FDF Fort de France 25.53 39 *eP* **P** 04 20 59.8 +0.2
FDF Fort de France 25.53 39 *eP* pP 04 21 22.0 -5.1
MVM Montagne Vaucl 25.56 40 *eP* pP 04 21 19.2 -8.1
BVM Bellevue 25.59 39 *eP* pP 04 21 25.0 -2.6
SVN Savane Anatole 25.60 39 *eP* pP 04 21 19.5 -8.2
AOPR Arecibo Observ 25.62 24 *eP* **P** 04 21 00.5 +0.2
comp=Z,614nm,0.7s
SJG San Juan 25.66 26 *eP* **P** 04 21 00.7 +0.1
SJG pmax pmax
comp=Z,366nm,0.6s
SJG San Juan 25.66 26 *eP* **P** 04 21 00.7 +0.1
comp=Z,366nm,0.6s
MOAC Moa 25.75 5 *eP* **P** 04 21 03.0 +1.7
HUMP Col San Antoni 25.82 26 *eP* **P** 04 21 01.6 -0.4
comp=Z,197nm,0.7s
BBL Barber's Block 25.94 37 *eP* **P** 04 21 02.6 -0.6
CDVI St. Croix 25.98 29 *eP* **P** 04 21 03.1 -0.3
comp=Z,535nm,1.0s
TBG Guadaloupe-3 26.09 37 *eP* **P** 04 21 03.5 -1.0
HMG Houelmont 26.16 36 *eP* **P** 04 21 05.3 +0.2
MLG Mont-d'or 26.21 36 *eP* **P** 04 21 05.2 -0.6
PHG Guadaloupe-2 26.22 36 *eP* **P** 04 21 06.3 +0.5
FNG Fond-Bernard 26.23 36 *eP* **P** 04 21 05.9 +0.1
ECG Echelle 26.23 36 *eP* **P** 04 21 06.1 +0.1
LKG Breislack 26.23 36 *eP* **P** 04 21 06.0 0.0
CRG Carmichael 26.24 36 *eP* **P** 04 21 05.4 -0.6
DOG Dongo Capester 26.25 37 *eP* **P** 04 21 05.7 -0.3
MGG Marie-Galante 26.34 37 *eP* **P** 04 21 06.4 -0.4
STVI Saint Thomas 26.41 28 *eP* **P** 04 21 06.2 -1.1
comp=Z,174nm,0.6s
SEG Port Louis 26.60 36 *eP* **P** 04 21 10.3 +1.2
SABA Saba 26.62 32 *eP* **P** 04 21 07.9 -1.4
comp=Z,466nm,0.8s
DEG La Desirade 26.80 37 *eP* **P** 04 21 09.5 -1.5
H05N1 Guadeloupe/Mar 26.80 37 P **P** 04 21 09.8 -1.2
SMRT St. Maarten 27.07 31 *eP* **P** 04 21 12.7 -0.7
comp=Z,457nm,0.8s
MGV Manicaragua 27.18 355 *eP* P 04 21 05.1 -9.1
MGV *eS* S 04 25 28.9 -15
GRTK Grand Turk 27.20 13 *eP* **P** 04 21 14.6 +0.2
comp=Z,456nm,0.9s
TEIG Tepich 27.33 338 P **P** 04 21 15.3 -0.3
comp=Z,307nm,1.0s,baz=156,slow=9.6,SNR=63
TEIG pP **pP** 04 21 42.8 -0.5
comp=Z,83nm,0.9s,baz=112,slow=5.7,SNR=2.7
TEIG PcP **PcP** 04 24 32.3 +0.4
comp=Z,32nm,0.7s,baz=79,slow=5.2,SNR=3.9
TEIG Tepich 27.33 338 *eP* **P** 04 21 15.0 -0.5
comp=Z,431nm,1.1s
TEIG *eP*cP **PcP** 04 24 31.8 -0.1
ANWB Willy Bob 27.45 34 *eP* **P** 04 21 15.2 -1.5
ANWB Willy Bob 27.45 34 *eP* **P** 04 21 15.2 -1.5
comp=Z,511nm,0.8s
CFAA Coronel Fontan 27.74 163 P **P** 04 21 20.9 +1.7
comp=Z,11nm,0.8s,baz=337,slow=8.0,SNR=124
CFAA PcP **PcP** 04 24 33.8 +1.0
comp=Z,4.2nm,0.8s,baz=311,slow=4.9,SNR=3.3
CFAA S **S** 04 25 51.6 -0.7
comp=Z,1.5nm,0.9s,baz=338,slow=19,SNR=1.6
CMIG Matias Romero 27.97 322 P **P** 04 21 21.5 +0.2
comp=Z,56nm,0.8s,baz=119,slow=6.4,SNR=57
CMIG PcP **PcP** 04 24 33.8 +0.3
comp=Z,35nm,0.8s,baz=92,slow=1.9,SNR=5.5
CMIG S **S** 04 25 53.8 -2.4
comp=Z,5.4nm,1.0s,baz=181,slow=18,SNR=1.5
CPUP Villa Florida 28.57 140 *eP* **P** 04 21 27.3 +0.7
CPUP Villa Florida 28.57 140 *eP* **P** 04 21 27.3 +0.7
I09BR BRASILIA INFRA 30.78 112 *i* 07 19 50.0
baz=283,slow=319,SNR=1.1
BDFB Brasilia 30.78 112 P **P** 04 21 48.0 +1.6
comp=Z,133nm,0.9s,baz=273,slow=11,SNR=147
BDFB pP **pP** 04 22 13.8 -0.5
comp=Z,73nm,0.9s,baz=269,slow=15,SNR=4.1
BDFB S S 04 26 34.0 -6.5
comp=Z,33nm,0.7s,baz=180,slow=20,SNR=2.6
BDFB LR LR 04 34 00.6
comp=Z,2µm,19.4s,baz=236,slow=36
BDFB P3KPbc 04 53 32.2
comp=Z,3.1nm,0.8s,baz=90,slow=4.0,SNR=3.5
BDFB Brasilia 30.78 112 P **P** 04 21 48.0 +1.6
BDFB *PP **pP** 04 22 13.8 -0.5
BDFB pmax pmax
comp=Z,133nm,0.9s
BDFB pmax pmax
comp=Z,73nm,0.9s
BDFB MLR MLR
comp=Z,2µm,19.4s
BDFB pmax pmax
comp=Z,3.0nm,0.8s
TRQA Tornquist 35.70 159 *eP* **P** 04 22 30.0 +1.2
comp=Z,206nm,1.1s
TRQA *eP*cP **PcP** 04 24 55.6 +1.4
PLCA Paso Flores 36.00 171 P **P** 04 22 32.6 +1.3
comp=Z,91nm,0.8s,baz=347,slow=9.2,SNR=116
PLCA PcP **PcP** 04 24 56.3 +1.2
comp=Z,85nm,0.7s,baz=350,slow=3.7,SNR=10
PLCA P3KPbc 04 53 06.9
comp=Z,1.8nm,0.8s,baz=260,slow=5.6,SNR=3.4
PLCA Paso Flores 36.00 171 *eP* **P** 04 22 32.9 +1.6
PLCA *e* 04 24 56.6
PLCA pmax pmax
comp=Z,205nm,1.0s
PLCA Paso Flores 36.00 171 *eP* **P** 04 22 32.9 +1.6
comp=Z,205nm,1.0s
PLCA *eP*cP **PcP** 04 24 56.6 +1.5
TIGA Tifton 36.82 351 *eP* **P** 04 22 37.7 -0.6
comp=Z,205nm,0.9s
TIGA *eP*cP **PcP** 04 24 57.2 -0.4
TIGA Tifton 36.82 351 ⇓P **P** 04 22 37.6 -0.6
baz=37,SNR=44
BRAL Brewton 37.08 346 *eP* **P** 04 22 41.8 +1.3
comp=Z,513nm,1.1s
BRAL *eP*cP **PcP** 04 24 58.9 +0.5
035Z Hargill 37.19 329 ⇓P **P** 04 22 42.1 +0.6
baz=37,SNR=25
936A North Padre Is 37.59 330 ⇓P **P** 04 22 45.4 +0.6
baz=38
035A Encino 37.60 329 ⇓P **P** 04 22 45.6 +0.8
baz=38,SNR=27
RGRS Roger Stewart 37.91 356 *eP* **P** 04 22 47.9 +0.5
RGRS *eP*cP **PcP** 04 25 01.6 +0.6
CSU Charleston Sou 37.98 356 *eP* **P** 04 22 48.7 +0.7
KVTX Kingsville 37.99 330 *eP* **P** 04 22 49.9 +1.7
comp=Z,810nm,1.3s
034A Hebbronville 38.00 328 ⇑P **P** 04 22 49.3 +1.0
baz=38,SNR=45
034A ⇑S **S** 04 28 33.2 +2.2
baz=38
034A ⇑S **S** 04 28 33.2 +2.2
baz=38
738A Farr-Stevens R 38.02 334 ⇑P **P** 04 22 49.1 +0.7
baz=38
934A Benavides 38.35 329 ⇑P **P** 04 22 52.2 +1.0
baz=38,SNR=98
835A Beeville 38.57 331 ⇑P **P** 04 22 53.7 +0.7
baz=39,SNR=26
539A Cross D Ranch, 38.73 336 ⇑P **P** 04 22 54.7 +0.4
baz=39
GOGA Godfrey 38.74 352 *eP* **P** 04 22 54.0 -0.4
GOGA *e* 04 25 03.0
GOGA pmax pmax
comp=Z,305nm,1.0s
GOGA Godfrey 38.74 352 *eP* **P** 04 22 54.0 -0.4
comp=Z,304nm,1.0s
GOGA *eP*cP **PcP** 04 25 03.0 -0.6
933A Laredo 38.75 328 ⇓P **P** 04 22 55.2 +0.6
baz=39,SNR=109
736A Circle Diamond 38.76 332 ⇑P **P** 04 22 55.9 +1.2
baz=39,SNR=100
834A Tilden 38.80 330 ⇓P **P** 04 22 55.4 +0.5
baz=39,SNR=17
LRAL Lakeview Retre 39.01 347 *eP* **P** 04 22 55.9 -0.8
comp=Z,470nm,1.0s
LRAL *eP*cP **PcP** 04 25 04.0 -0.3
735A Kenedy 39.03 331 ⇑P **P** 04 22 57.6 +0.7
baz=39,SNR=69
HKT Hockley 39.06 334 *eP* **P** 04 22 57.1 +0.1
HKT pmax pmax
comp=Z,581nm,2.0s
HKT Hockley 39.06 334 *eP* **P** 04 22 57.1 +0.1
comp=Z,580nm,2.0s
538A Harpers Horsep 39.15 335 ⇑P **P** 04 22 58.4 +0.6
baz=39,SNR=6.1
VBMS Vicksburg 39.15 342 *eP* **P** 04 22 57.3 -0.5
comp=Z,772nm,1.7s
636A Smothers Creek 39.20 332 ⇓P **P** 04 22 59.2 +0.9
baz=39,SNR=170
BBSR BB Station 39.23 17 *eP* **P** 04 22 58.8 +0.4
comp=Z,78nm,0.8s
439A Center Grove, 39.35 336 ⇑P **P** 04 22 59.9 +0.4
baz=39,SNR=29
537A Green Hill Far 39.38 334 ⇓P **P** 04 23 00.4 +0.7
baz=40,SNR=88
833A Chaparral WMA, 39.39 329 ⇑P **P** 04 22 60.0 +0.1
baz=40,SNR=66
734A La Parita Cree 39.39 330 ⇓P **P** 04 22 59.9 +0.1
baz=40,SNR=56
635A Leesville 39.46 332 ⇑P **P** 04 23 00.5 +0.1
baz=40,SNR=44
340A Bronson 39.56 338 ⇓P **P** 04 23 01.1 -0.2
baz=40,SNR=11
438A Sam Houston St 39.60 335 ⇓P **P** 04 23 02.1 +0.5
baz=40,SNR=30
733A Divot King Ran 39.66 329 ⇓P **P** 04 23 02.1 0.0
baz=40,SNR=13
832A Faith Ranch, C 39.66 328 P **P** 04 23 01.9 -0.2
baz=40
536A Bastrop 39.71 333 ⇑P **P** 04 23 03.2 +0.7
baz=40,SNR=43
634A China Grove, S 39.73 331 ⇑P **P** 04 23 03.0 +0.3
baz=40,SNR=38
339A Huntington 39.74 337 ⇓P **P** 04 23 02.7 -0.1
baz=40,SNR=26
535A Dale 39.90 332 ⇓P **P** 04 23 04.2 +0.1
baz=40,SNR=55
437A Phantom Ranch, 39.95 335 ⇑P **P** 04 23 04.6 +0.1
baz=40
732A Laxson Ranch, 40.01 329 ⇑P **P** 04 23 05.1 +0.1
baz=40,SNR=88
338A Crockett 40.06 336 ⇑P **P** 04 23 06.0 +0.6
baz=40,SNR=57
CNNC Cliffs of the 40.15 360 *eP* **P** 04 23 06.2 +0.2
comp=Z,154nm,0.9s
436A Wall Ranch, Ga 40.18 334 ⇑P **P** 04 23 07.1 +0.7
baz=40,SNR=26
633A Saathoff Ranch 40.20 330 ⇑P **P** 04 23 06.7 +0.2
baz=40,SNR=143
KMSC Kings Mountain 40.22 355 *eP* **P** 04 23 06.6 0.0
comp=Z,550nm,0.9s
KMSC Kings Mountain 40.22 355 ⇑P **P** 04 23 06.5 0.0
baz=40,SNR=156
239A Gary 40.32 337 ⇓P **P** 04 23 07.9 +0.4
baz=40,SNR=21
534A Blanco 40.33 331 ⇓P **P** 04 23 07.3 -0.3
baz=40,SNR=88
632A Uvalde 40.54 329 ⇑P **P** 04 23 10.2 +0.7
baz=41,SNR=235
435B Jarrell 40.55 333 ⇑P **P** 04 23 10.0 +0.6
baz=41,SNR=60
238A Jacksonville 40.56 337 ⇓P **P** 04 23 10.1 +0.7
baz=41,SNR=33
H06E1 SOCORRO T-PHAS 40.61 307 P **P** 04 23 11.1 +1.0
H06S1 SOCORRO T 40.61 307 P **P** 04 23 11.3 +1.2
533A Kerrville 40.63 331 ⇓P **P** 04 23 10.3 +0.1
baz=41,SNR=117
336A Riesel 40.73 334 ⇓P **P** 04 23 11.3 +0.3
baz=41,SNR=156
237A Washetta, Mont 40.83 336 ⇑P **P** 04 23 12.5 +0.8
baz=41,SNR=72
631A Perdido Creek 40.87 328 ⇓P **P** 04 23 12.0 -0.1
baz=41,SNR=417
139A Bunkhouse Ranc 40.88 338 ⇓P **P** 04 23 12.7 +0.6
baz=41,SNR=20
434A Burnet 40.89 332 ⇑P **P** 04 23 12.3 +0.1
baz=41,SNR=169
CPCT Cooper Cave 40.90 351 *eP* **P** 04 23 11.7 -0.5
335A Moody 40.90 334 ⇑P **P** 04 23 12.6 +0.3
baz=41,SNR=198
SWET Sewanee 40.91 349 *eP* **P** 04 23 10.9 -1.4
TKL Tuckaleechee C 40.99 352 P **P** 04 23 12.2 -0.7
comp=Z,138nm,0.9s,baz=166,slow=9.2,SNR=109
TKL PcP **PcP** 04 25 11.4 +0.7
comp=Z,38nm,0.7s,baz=125,slow=6.4,SNR=3.0
TKL Tuckaleechee C 40.99 352 P **P** 04 23 12.3 -0.7
TKL 04 25 11.4
TKL pmax pmax
comp=Z,138nm,0.9s
TKL pmax pmax
comp=Z,38nm,0.7s
TKL Tuckaleechee C 40.99 352 *eP* **P** 04 23 12.2 -0.7
TKL *eP*cP **PcP** 04 25 10.9 +0.2
OXF Oxford 41.00 345 *eP* **P** 04 23 10.9 -2.1
OXF pmax pmax
comp=Z,392nm,1.2s
OXF Oxford 41.00 345 *eP* **P** 04 23 10.8 -2.1
comp=Z,392nm,1.2s
532A Rocksprings 41.11 330 ⇓P **P** 04 23 14.6 +0.5
baz=41,SNR=355
138A Matatall Enter 41.13 337 ⇑P **P** 04 23 14.9 +0.8
baz=41,SNR=140
236A Katherine and 41.13 335 ⇑P **P** 04 23 14.6 +0.5
baz=41,SNR=141
433A Art 41.22 331 ⇑P **P** 04 23 15.3 +0.3
baz=41,SNR=287
334A Lometa 41.31 333 ⇑P **P** 04 23 15.7 0.0
baz=41,SNR=195
Z39A Irene McRaven, 41.31 339 ⇓P **P** 04 23 15.8 +0.2
baz=41,SNR=19
137A Heron Place, G 41.33 336 ⇓P **P** 04 23 16.6 +0.8
baz=41,SNR=61
JCT Junction City 41.34 330 *eP* **P** 04 23 16.0 0.0
JCT pmax pmax
comp=Z,574nm,1.9s
JCT Junction City 41.34 330 *eP* **P** 04 23 16.0 0.0
comp=Z,574nm,1.9s
JCT Junction City 41.34 330 ⇓P **P** 04 23 16.1 +0.1
baz=41,SNR=44
RCBR Riachuelo 41.41 93 P **P** 04 23 18.3 +1.5
comp=Z,77nm,0.8s,baz=262,slow=9.1,SNR=40
RCBR pP **pP** 04 23 44.5 -1.2
comp=Z,68nm,0.8s,baz=255,slow=11,SNR=5.2
RCBR S **S** 04 29 17.4 -5.1
comp=Z,11nm,0.7s,baz=164,slow=20,SNR=2.4
RCBR Riachuelo 41.41 93 *eP* **P** 04 23 18.0 +1.2
comp=Z,197nm,1.1s
RCBR *ep*P **pP** 04 23 44.5 -1.2
RCBR *eS* **S** 04 29 17.4 -5.1
531A Rocksprings 41.46 329 ⇓P **P** 04 23 17.7 +0.7
baz=42,SNR=344
WHTX Lake Whitney, 41.52 334 *eP* **P** 04 23 17.8 +0.5
comp=Z,1µm,1.3s
WHTX Lake Whitney, 41.52 334 ⇓P **P** 04 23 17.7 +0.3
baz=42,SNR=104
Z38A Mt. Pleasant 41.61 338 ⇑P **P** 04 23 18.3 +0.2
baz=42,SNR=47
333A Richland Sprin 41.65 332 ⇓P **P** 04 23 18.5 +0.1
baz=42,SNR=166
432A Menard 41.66 331 ⇓P **P** 04 23 18.6 0.0
baz=42,SNR=137
MET Memphis--Engin 41.71 345 *eP* **P** 04 23 17.8 -1.1
comp=Z,2µm,1.5s
Z37A Pogue Cattle C 41.81 337 ⇑P **P** 04 23 19.9 +0.2
baz=42,SNR=56
234A Clairette 41.83 333 ⇓P **P** 04 23 20.1 +0.2
baz=42,SNR=162
TZTN Tazewell 41.84 353 *eP* **P** 04 23 19.2 -0.7
comp=Z,299nm,0.9s
530A J-C Ranch, Com 41.86 328 ⇓P **P** 04 23 20.5 +0.3
baz=42,SNR=108
431A Sonora 41.91 330 ⇓P **P** 04 23 20.7 +0.1
baz=42,SNR=247
135A Vickery Place, 41.98 335 ⇓P **P** 04 23 21.3 +0.2
baz=42,SNR=70
332A Millersview 42.06 331 ⇑P **P** 04 23 21.8 +0.1
baz=42,SNR=237
UALR University of 42.08 342 *eP* **P** 04 23 21.1 -0.8
comp=Z,324nm,1.0s
WVT Waverly 42.17 348 *eP* **P** 04 23 20.6 -1.9
WVT pmax pmax
comp=Z,239nm,1.1s
WVT Waverly 42.17 348 *eP* **P** 04 23 20.6 -1.9
comp=Z,239nm,1.1s
233A Rising Star 42.19 333 ⇑P **P** 04 23 22.9 +0.1
baz=42,SNR=86
BLA Blacksburg 42.21 357 *eP* **P** 04 23 22.9 0.0
BLA pmax pmax
comp=Z,721nm,1.6s
BLA Blacksburg 42.21 357 *eP* **P** 04 23 22.9 0.0
comp=Z,721nm,1.6s
VWCC Virginia Weste 42.22 357 *eP* **P** 04 23 23.3 +0.4
MIAR Mount Ida 42.27 340 *eP* **P** 04 23 22.8 -0.6
MIAR pmax pmax
comp=Z,212nm,1.2s
MIAR Mount Ida 42.27 340 *eP* **P** 04 23 22.8 -0.6
comp=Z,212nm,1.2s
134A White-Moore Ra 42.29 334 ⇑P **P** 04 23 23.8 +0.2
baz=42,SNR=276
529A Stev Forest Ra 42.31 327 ⇑P **P** 04 23 24.1 +0.3
baz=42,SNR=69
430A Baggett Ranch, 42.31 329 ⇓P **P** 04 23 23.7 -0.2
baz=42,SNR=65
331A San Angelo 42.33 330 ⇓P **P** 04 23 23.9 -0.1
baz=42,SNR=66
232A Coleman 42.43 332 ⇓P **P** 04 23 24.9 +0.1
baz=42,SNR=178
URVA University of 42.48 360 *eP* **P** 04 23 24.8 -0.2
LTX Lajitas 42.50 325 *eP* **P** 04 23 25.1 -0.4
LTX *e* 04 25 16.7
LTX Lajitas 42.50 325 *eP* **P** 04 23 25.1 -0.4
LTX *eP*cP **PcP** 04 25 16.7 +0.7
TXAR Lajitas Array 42.50 325 P **P** 04 23 25.1 -0.4
comp=Z,34nm,0.8s,baz=147,slow=9.4,SNR=263
TXAR PcP **PcP** 04 25 16.7 +0.7
comp=Z,32nm,0.8s,baz=153,slow=5.1,SNR=8.1
TXAR PKiKP **PKiKP** 04 32 20.7 0.0
comp=Z,1.4nm,0.8s,baz=159,slow=2.7,SNR=4.0
TXAR PKPPKP P'P'df 04 55 13.8 -10
comp=Z,0.6nm,0.7s,baz=194,slow=0.5,SNR=4.6
TXAR P4KPbc 05 01 24.2
comp=Z,0.2nm,0.8s,baz=118,slow=5.2,SNR=2.7
TX31 Lajitas Ar. Si 42.50 325 *eP* **P** 04 23 25.3 -0.2
429A Davenport Ranc 42.53 328 ⇑P **P** 04 23 25.7 0.0
baz=43,SNR=120
GNAR Gosnell 42.53 345 *eP* **P** 04 23 24.6 -0.8
Z35A Perchaven, San 42.58 335 ⇓P **P** 04 23 26.6 +0.6
baz=43,SNR=219
JSRW J. Sargeant Re 42.60 360 *eP* **P** 04 23 26.4 +0.4
UTMT University of 42.60 346 *eP* **P** 04 23 24.3 -1.7
comp=Z,902nm,1.2s
GLAT Glass 42.63 346 *eP* **P** 04 23 25.0 -1.3
SLBS Sierra La Lagu 42.68 313 *eP* **P** 04 23 27.9 +0.8
comp=Z,156nm,0.9s
133A Hamilton Ranch 42.69 333 ⇑P **P** 04 23 27.1 +0.3
baz=43,SNR=170
330A Mertzon 42.78 330 ⇓P **P** 04 23 27.3 -0.4
baz=43,SNR=87
231A Bronte 42.79 331 ⇑P **P** 04 23 27.4 -0.3
baz=43,SNR=58
Z34A Collier Ranch, 42.90 335 ⇓P **P** 04 23 28.7 +0.2
baz=43,SNR=30
X37A Clayton 42.95 338 ⇓P **P** 04 23 29.3 +0.4
baz=43,SNR=170
ABTX Abilene, Hawle 43.04 332 *eP* **P** 04 23 29.9 +0.2
comp=Z,379nm,1.0s
ABTX Abilene, Hawle 43.04 332 ⇓P **P** 04 23 29.9 +0.2
baz=43,SNR=122
W38A Poteau 43.07 339 ⇑P **P** 04 23 30.2 +0.3
baz=43,SNR=116
CBN Corbin Frederi 43.11 0 *eP* **P** 04 23 30.6 +0.5
comp=Z,279nm,0.8s
PARMO Parma 43.12 346 *eP* **P** 04 23 29.4 -0.8
230A Sterling City 43.14 330 ⇓P **P** 04 23 30.5 0.0
baz=43,SNR=83
Z33A Whitaker Ranch 43.20 334 ⇓P **P** 04 23 31.4 +0.4
baz=43,SNR=390
329A Wagon Wheel Ra 43.26 329 ⇓P **P** 04 23 31.6 +0.1
baz=43,SNR=156
X36A Centrahoma 43.30 337 ⇓P **P** 04 23 31.8 +0.1
baz=43,SNR=188
Y34A Reagan Ranch, 43.34 335 ⇓P **P** 04 23 32.4 +0.4
baz=43,SNR=143
X35A Drake 43.40 336 ⇓P **P** 04 23 32.6 0.0
baz=44,SNR=86
PBMO Poplar Bluff 43.41 345 *eP* **P** 04 23 31.0 -1.5
comp=Z,329nm,1.0s
131A Roby 43.43 331 ⇓P **P** 04 23 32.9 +0.1
baz=44,SNR=24
W37A Quinton 43.46 338 ⇑P **P** 04 23 33.1 +0.1
baz=44,SNR=143
Z32A Haskell 43.53 333 ⇑P **P** 04 23 33.9 +0.3
baz=44,SNR=186
229A Bryant Ranch, 43.55 329 ⇓P **P** 04 23 33.6 -0.3
baz=44,SNR=37
130A Snyder 43.64 331 ⇑P **P** 04 23 34.7 +0.2
baz=44,SNR=47
Y33A Hilltop Ranch, 43.75 334 ⇑P **P** 04 23 35.7 +0.3
baz=44,SNR=116
W36A Wetumka 43.76 338 ⇓P **P** 04 23 35.0 -0.4
baz=44,SNR=188
Z31A Sharp Cattle R 43.85 332 ⇓P **P** 04 23 36.7 +0.5
baz=44,SNR=304
WCI Wyandotte Cave 43.90 350 *eP* **P** 04 23 34.7 -1.8
WCI pmax pmax
comp=Z,193nm,0.9s
WCI Wyandotte Cave 43.90 350 *eP* **P** 04 23 34.7 -1.8
comp=Z,193nm,0.9s
USIN University of 43.90 348 *eP* **P** 04 23 34.5 -1.9
comp=Z,562nm,1.0s
X34A Smith Ranch, M 43.92 336 ⇓P **P** 04 23 37.7 +1.0
baz=44,SNR=495
W35A Tecumseh 44.02 337 ⇓P **P** 04 23 37.0 -0.4
baz=44,SNR=343
228A UT Block 9, Go 44.07 329 ⇑P **P** 04 23 37.7 -0.3
baz=44,SNR=39
Y32A R-V Farms, Ver 44.10 334 ⇓P **P** 04 23 38.5 +0.3
baz=44,SNR=308
129A Stewart Farms, 44.11 330 ⇑P **P** 04 23 38.0 -0.4
baz=44,SNR=52
X33A Lawton 44.15 335 ⇓P **P** 04 23 38.4 -0.1
baz=44,SNR=433
TUL1 Leonard 44.28 339 *eP* **P** 04 23 39.3 -0.2
comp=Z,754nm,1.1s
TUL1 Leonard 44.28 339 ⇑P **P** 04 23 39.3 -0.2
baz=44,SNR=237
Z30A Sanderson Ranc 44.28 331 ⇑P **P** 04 23 39.6 -0.1
baz=44,SNR=175
SDMD Soldier's Deli 44.32 1 *eP* **P** 04 23 40.2 +0.5
X32A Elmer 44.39 334 ⇑P **P** 04 23 40.8 +0.3
baz=44,SNR=391
128A Castleberry Fa 44.42 329 ⇓P **P** 04 23 40.6 -0.2

baz=44,SNR=61
Y31A Rekieta Farm, 44.44 333 ⇑P P 04 23 41.4 +0.5
baz=44,SNR=264
WMOK Wichita Mounta 44.44 335 *e*P P 04 23 40.5 -0.3
WMOK Wichita Mounta 44.44 335 *e*P P 04 23 40.5 -0.3
W34A Bridge Creek, 44.45 336 *e*P P 04 23 41.1 +0.1
comp=Z,416nm,0.8s
W34A Bridge Creek, 44.45 336 ⇓P P 04 23 40.7 -0.2
baz=44,SNR=156
V35A Meyer Ranch, C 44.54 337 ⇓P P 04 23 41.0 -0.7
baz=45,SNR=176
Z29A Hungry Hill Ra 44.54 331 ⇓P P 04 23 41.4 -0.4
baz=45,SNR=138
Y30A Stafford Cattl 44.66 332 ⇑P P 04 23 43.0 +0.3
baz=45,SNR=166
W33A Caddo, Fort Co 44.66 335 ⇑P P 04 23 43.1 +0.5
baz=45,SNR=270
OLIL Olney 44.73 348 *e*P P 04 23 41.3 -1.7
comp=Z,247nm,0.8s
BLO Bloomington 44.86 350 *e*P P 04 23 42.7 -1.4
BLO pmax pmax
comp=Z,474nm,1.5s
BLO Bloomington 44.86 350 *e*P P 04 23 42.6 -1.4
comp=Z,474nm,1.5s
V34A Guthrie 44.87 337 *e*P P 04 23 44.0 -0.2
comp=Z,919nm,1.0s
V34A Guthrie 44.87 337 ⇓P P 04 23 43.8 -0.4
baz=45,SNR=234
X31A McDonald Ranch 44.87 333 ⇓P P 04 23 44.6 +0.3
baz=45,SNR=266
Z28A Tucker Farm, M 44.90 330 ⇑P P 04 23 44.0 -0.7
baz=45,SNR=75
MVL Millersville 44.91 1 *e*P P 04 23 45.2 +0.8
comp=Z,618nm,1.0s
W32A Sentinel 44.97 335 ⇓P P 04 23 45.2 +0.2
baz=45,SNR=585
Y29A Porterfield Fa 45.01 331 ⇓P P 04 23 45.7 +0.1
baz=45,SNR=138
SLM Saint Louis 45.11 346 *e*P P 04 23 44.6 -1.5
SLM pmax pmax
comp=Z,275nm,1.0s
SLM Saint Louis 45.11 346 *e*P P 04 23 44.6 -1.5
comp=Z,275nm,1.0s
X30A Coker Ranch, T 45.12 332 ⇑P P 04 23 46.5 +0.2
baz=45,SNR=230
V33A Lossen Ranch, 45.16 336 ⇓P P 04 23 46.5 -0.1
baz=45,SNR=216
MNTX Cornudas Mount 45.25 326 *e*P P 04 23 46.7 -0.6
comp=Z,399nm,1.5s
MNTX Cornudas Mount 45.25 326 ⇑P P 04 23 46.9 -0.5
baz=45,SNR=244
W31A Holland Ranch, 45.32 334 ⇓P P 04 23 47.9 +0.1
baz=45,SNR=76
Y28A McKinney Farm, 45.33 331 ⇓P P 04 23 48.0 0.0
baz=45,SNR=232
T36A Boggs Farm, Ca 45.34 339 ⇑P P 04 23 47.6 -0.3
baz=45,SNR=54
V32A Arapaho 45.39 335 ⇑P P 04 23 48.8 +0.5
baz=46,SNR=195
U34A Anderson Ranch 45.40 337 *e*P P 04 23 48.3 -0.1
comp=Z,790nm,0.9s
U34A Anderson Ranch 45.40 337 ⇓P P 04 23 48.3 -0.1
baz=46,SNR=199
ACSO Alum Creek Sta 45.41 354 *e*P P 04 23 47.3 -1.2
comp=Z,321nm,0.9s
T35A Sooner Cattle 45.44 339 ⇓P P 04 23 48.6 -0.1
baz=46,SNR=106
X29A Tulia 45.51 332 ⇓P P 04 23 49.4 0.0
baz=46,SNR=156
SSPA Standing Stone 45.54 360 *e*P P 04 23 49.5 +0.2
comp=Z,215nm,0.9s
LUPA Lehigh Univers 45.54 2 *e*P P 04 23 50.4 +0.9
comp=Z,101nm,0.9s
W30A Crocket Farms 45.60 333 ⇓P P 04 23 50.2 +0.1
baz=46,SNR=51
U33A Lingo Farm, Me 45.62 337 ⇓P P 04 23 50.0 -0.2
baz=46,SNR=45
MSTX Muleshoe 45.64 330 *e*P P 04 23 50.3 -0.1
comp=Z,529nm,1.1s
MSTX Muleshoe 45.64 330 ⇑P P 04 23 50.4 -0.1
baz=46,SNR=236
BRNJ Basking Ridge 45.66 3 *e*P P 04 23 51.3 +0.9
comp=Z,68nm,0.9s
V31A Spring Creek L 45.77 334 ⇓P P 04 23 52.1 +0.7
baz=46,SNR=73
T34A McClaskey Farm 45.78 338 ⇑P P 04 23 51.7 +0.2
baz=46,SNR=49
X28A Dimmitt 45.80 331 ⇓P P 04 23 51.5 -0.2
baz=46,SNR=84
CPNY Central Park 45.81 4 *e*P P 04 23 52.0 +0.5
comp=Z,105nm,1.0s
S36A Lake Cedric, C 45.84 340 ⇓P P 04 23 51.3 -0.6
baz=46,SNR=152
AMTX Amarillo 45.85 332 *e*P P 04 23 52.0 -0.1
comp=Z,345nm,0.9s
AMTX Amarillo 45.85 332 ⇓P P 04 23 52.1 -0.1
baz=46
U32A Winter Ranch, 45.94 336 ⇑P P 04 23 52.8 +0.1
baz=46,SNR=286
PAL Palisades 46.02 4 *e*P P 04 23 53.6 +0.4
PAL pmax pmax
comp=Z,291nm,1.1s
PAL Palisades 46.02 4 *e*P P 04 23 53.6 +0.4
comp=Z,291nm,1.1s
W29A Amarillo 46.03 332 ⇑P P 04 23 53.1 -0.4
baz=46,SNR=108
S35A Otter Creek Ra 46.05 339 ⇑P P 04 23 53.3 -0.2
baz=46,SNR=159
ODNJ Ogdensburg 46.06 3 *e*P P 04 23 54.0 +0.5
ODNJ *e*PcP PcP 04 25 27.4 -0.4
R37A Teagarden Farm 46.12 341 ⇓P P 04 23 53.1 -0.9
baz=46,SNR=68
V30A Spur Ranch, Mi 46.13 334 ⇑P P 04 23 55.0 +0.8
baz=46,SNR=67
SFIN Lafayette 46.13 350 *e*P P 04 23 51.9 -2.2
comp=Z,114nm,0.7s
SFIN *e*PcP PcP 04 25 27.5 -0.5
SFIN Lafayette 46.13 350 ⇓P P 04 23 51.8 -2.2
baz=46,SNR=26
T33A Patterson Ranc 46.24 337 ⇓P P 04 23 55.1 +0.1
baz=46,SNR=42
U31A Nine Bar Ranch 46.28 335 ⇑P P 04 23 55.7 +0.3
baz=46,SNR=28
R36A Gordon, Harris 46.35 340 ⇓P P 04 23 55.0 -0.8
baz=46,SNR=83
S34A Willow Spring 46.36 338 ⇓P P 04 23 55.8 -0.1
baz=46,SNR=147
YLE Yale 46.40 5 *e*P P 04 23 56.9 +0.8
comp=Z,258nm,0.9s
W28A Vega 46.41 332 ⇑P P 04 23 56.5 0.0
baz=46,SNR=16
KSPA Keystone Colle 46.48 2 *e*P P 04 23 57.4 +0.6
comp=Z,322nm,1.0s
Q37A Longview Farm, 46.51 342 ⇓P P 04 23 55.9 -1.1
baz=47,SNR=20
R35A Emporia Munici 46.59 340 P P 04 23 57.6 -0.1
baz=47
S33A Kaszmaul Farm, 46.59 337 ⇓P P 04 23 57.9 +0.1
baz=47,SNR=88
T32A Huddler Ranch, 46.59 336 ⇑P P 04 23 58.1 +0.3
baz=47,SNR=144
V29A Stinnett 46.60 333 ⇓P P 04 23 58.0 +0.1
baz=47,SNR=38
ALLY Alegheny Colle 46.61 357 *e*P P 04 23 57.4 -0.5
comp=Z,610nm,1.5s
HDIL Hopedale 46.73 348 *e*P P 04 23 56.7 -2.0
comp=Z,557nm,1.1s
U30A WK&E Inc. Balk 46.76 334 ⇓P P 04 23 59.6 +0.4
baz=47,SNR=65
V28A Channing 46.82 332 ⇑P P 04 23 59.5 -0.2
baz=47,SNR=59
Q36A Arnold C. Orve 46.91 341 ⇑P P 04 23 59.3 -0.9
baz=47,SNR=48
R34A Isabella, Hill 46.94 339 P P 04 24 00.4 0.0
baz=47
U29A Oasis Ranch, S 46.97 334 ⇑P P 04 24 01.3 +0.5
baz=47,SNR=44
Q35A Mercer Eighty, 47.01 340 ⇑P P 04 24 00.7 -0.3
baz=47,SNR=161
S32A Newby Ranch, P 47.05 337 ⇓P P 04 24 01.6 +0.3
baz=47,SNR=240
V27A Dan Oppiter Fa 47.11 332 ⇓P P 04 24 02.0 0.0
baz=47,SNR=76
BINY Binghamton 47.12 2 *e*P P 04 24 02.1 +0.3
comp=Z,652nm,1.0s
BINY *e*PcP PcP 04 25 31.8 +0.3
BRYW Bryant College 47.13 6 *e*P P 04 24 02.9 +1.1
comp=Z,250nm,1.0s

T30A Plains 47.15 335 ⇓P P 04 24 02.6 +0.5
baz=47,SNR=13
S31A Mullinville 47.20 336 ⇑P P 04 24 03.0 +0.5
baz=47,SNR=196
R33A Olander Ranch, 47.21 338 ⇓P P 04 24 02.8 +0.2
baz=47,SNR=200
121A Cookes Peak, D 47.23 325 ⇑P P 04 24 03.7 +0.7
baz=47,SNR=169
319A Douglas 47.30 322 ⇓P P 04 24 04.1 +0.7
baz=47,SNR=130
U28A Mallet 47.34 333 ⇓P P 04 24 03.4 -0.3
baz=47,SNR=79
Q34A Chapman 47.38 339 ⇑P P 04 24 03.7 -0.1
baz=48,SNR=218
QUA2 Belchertown 47.41 5 *e*P P 04 24 04.4 +0.5
comp=Z,147nm,0.9s
KSU1 Kansas State U 47.42 340 *e*P P 04 24 03.5 -0.7
comp=Z,658nm,1.0s
KSU1 Kansas State U 47.42 340 ⇓P P 04 24 03.7 -0.4
baz=48,SNR=47
AAM Ann Arbor 47.53 354 *e*P P 04 24 03.5 -1.4
AAM *e* 04 25 32.3
AAM pmax pmax
comp=Z,212nm,1.0s
AAM Ann Arbor 47.53 354 *e*P P 04 24 03.5 -1.4
comp=Z,212nm,1.0s
AAM *e*PcP PcP 04 25 32.2 -0.7
T29A Hugoton 47.56 334 ⇓P P 04 24 05.8 +0.4
baz=48,SNR=275
R32A Long Quarter, 47.59 337 ⇓P P 04 24 06.0 +0.5
baz=48,SNR=304
P35A Duane Minner, 47.61 341 ⇑P P 04 24 04.8 -0.8
baz=48,SNR=147
S30A Montezuma 47.62 335 ⇓P P 04 24 06.0 +0.2
baz=48,SNR=35
MMNY Mt. Morris Dam 47.63 360 *e*P P 04 24 05.4 -0.3
MMNY *e*PcP PcP 04 25 33.7 +0.4
U27A Thompson Grove 47.65 332 ⇓P P 04 24 06.1 0.0
baz=48,SNR=187
HRV Adam Dziewonsk 47.71 6 *e*P P 04 24 07.1 +0.8
HRV pmax pmax
comp=Z,181nm,0.9s
HRV Adam Dziewonsk 47.71 6 *e*P P 04 24 07.1 +0.8
comp=Z,181nm,0.9s
TRY Troy 47.76 4 *e*P P 04 24 07.8 +1.2
comp=Z,394nm,1.1s
Q33A Connelly Farm, 47.77 339 ⇓P P 04 24 06.7 -0.1
baz=48,SNR=108
BNM Barren Site 47.78 327 *e*P P 04 24 07.9 +0.6
BNM *e*PcP PcP 04 25 33.5 -0.9
R31A Burdett 47.79 337 ⇓P P 04 24 07.5 +0.4
baz=48,SNR=209
O36A Bolckow 47.82 342 P P 04 24 05.4 -1.7
baz=48
S29A Ulysses 47.88 335 ⇓P P 04 24 08.3 +0.6
baz=48,SNR=113
Y22D IRIS PASSCAL I 47.88 327 ⇑P P 04 24 08.5 +0.6
baz=48
T28A Walsh 47.90 333 ⇓P P 04 24 07.7 -0.3
baz=48,SNR=168
LPM Los Pinos Moun 47.91 327 *e*P P 04 24 08.0 -0.2
LPM *e*PcP PcP 04 25 37.0 +2.2
LENM Lemitar 47.98 327 *e*P P 04 24 09.6 +0.8
LENM *e*PcP PcP 04 25 36.1 +1.1
Q32A Meitler Ranch, 48.03 338 ⇓P P 04 24 08.7 -0.1
baz=48,SNR=135
R30A Dighton 48.09 336 ⇓P P 04 24 09.8 +0.4
baz=48,SNR=118
P33A Williams Farm, 48.10 339 ⇓P P 04 24 09.3 -0.1
baz=48,SNR=19
T27A Campo 48.12 333 ⇑P P 04 24 09.6 -0.2
baz=48,SNR=320
S28A Manter 48.19 334 ⇑P P 04 24 10.2 0.0
baz=48,SNR=375
O35A Humboldt 48.24 341 P P 04 24 08.8 -1.7
baz=48
LAZ Ladron 48.25 327 *e*P P 04 24 11.2 +0.4
ANMO Albuquerque 48.29 328 *e*P P 04 24 11.3 +0.1
ANMO pmax pmax
comp=Z,388nm,1.1s
ANMO Albuquerque 48.29 328 *e*P P 04 24 11.3 +0.1
comp=Z,388nm,1.1s
Q31A Ellis 48.36 337 ⇑P P 04 24 12.0 +0.6
baz=48,SNR=138
ACCN Adirondack Com 48.41 4 *e*P P 04 24 12.1 +0.5
comp=Z,658nm,1.4s
R29A Marienthal 48.56 335 ⇓P P 04 24 13.4 +0.3
baz=49,SNR=123
P32A Huiting Farm, 48.60 338 ⇑P P 04 24 12.8 -0.4
baz=49,SNR=72
T26A Comanche Natio 48.62 332 ⇑P P 04 24 13.7 +0.1
baz=49,SNR=92
FFD Franklin Falls 48.66 6 *e*P P 04 24 14.5 +1.0
comp=Z,204nm,0.8s
Q30A Quinter 48.66 336 ⇓P P 04 24 14.0 +0.3
baz=49,SNR=268
N35A Tabor 48.70 342 P P 04 24 12.5 -1.4
baz=49
S27A Las Animas 48.71 333 ⇓P P 04 24 14.2 -0.1
baz=49,SNR=12
R28A Tribune 48.78 335 ⇓P P 04 24 14.8 0.0
baz=49,SNR=15
P31A Stockton 48.80 337 ⇑P P 04 24 15.0 +0.2
baz=49,SNR=135
HNH Hanover 48.83 5 *e*P P 04 24 15.8 +0.9
comp=Z,190nm,0.9s
TUC Tucson 48.86 322 *e*P P 04 24 15.5 0.0
TUC pmax pmax
comp=Z,75nm,0.9s
TUC Tucson 48.86 322 *e*P P 04 24 15.5 0.0
comp=Z,75nm,0.9s
Q29A Oakley 48.89 336 ⇓P P 04 24 15.8 +0.2
baz=49,SNR=25
S26A Kim 48.92 333 ⇓P P 04 24 16.7 +0.8
baz=49,SNR=413
N34A Lincoln 48.95 341 P P 04 24 14.4 -1.4
baz=49
SCIA State Center 48.95 344 *e*P P 04 24 14.9 -1.0
comp=Z,755nm,1.1s
T25A Trinidad 48.97 331 *e*P P 04 24 17.2 +0.9
comp=Z,939nm,1.5s
T25A Trinidad 48.97 331 ⇑P P 04 24 16.9 +0.5
baz=49,SNR=316
O32A Brockman Farm, 49.04 339 ⇓P P 04 24 16.4 -0.2
baz=49,SNR=31
MDV Middlebury 49.05 4 *e*P P 04 24 17.2 +0.7
EFI East Falkland 49.13 164 P P 04 24 19.2 +2.2
comp=Z,2μm,1.0s,SNR=18
EFI East Falkland 49.13 164 *e*P P 04 24 19.0 +2.0
EFI pmax pmax
comp=Z,377nm,0.9s
EFI East Falkland 49.13 164 *e*P P 04 24 19.0 +2.0
comp=Z,377nm,0.9s
P30A Selden 49.16 337 ⇑P P 04 24 17.8 +0.3
baz=49,SNR=122
R27A Eads 49.16 334 ⇑P P 04 24 17.5 -0.1
baz=49,SNR=258
JFWS Jewell Farm 49.19 348 *e*P P 04 24 16.1 -1.6
JFWS *e* 04 25 39.0
JFWS pmax pmax
comp=Z,1μm,1.8s
JFWS Jewell Farm 49.19 348 *e*P P 04 24 16.1 -1.6
comp=Z,1μm,1.8s
JFWS *e*PcP PcP 04 25 39.0 0.0
O31A Woolen Ranch, 49.33 338 ⇓P P 04 24 18.7 -0.1
baz=49,SNR=44
Q28A Sharon Springs 49.39 335 ⇓P P 04 24 19.3 -0.1
baz=50,SNR=85
R26A Arlington 49.47 333 ⇑P P 04 24 20.3 +0.3
baz=50,SNR=169
P29A Atwood 49.48 336 ⇑P P 04 24 20.1 +0.1
baz=50,SNR=95
N32A Stulken Farm, 49.49 339 ⇑P P 04 24 19.8 -0.2
baz=50,SNR=14
PTN Potsdam (NY) 49.52 2 *e*P P 04 24 19.9 -0.2
PTN *e* 04 25 40.9
PTN pmax pmax
comp=Z,799nm,0.9s
PTN Potsdam (NY) 49.52 2 *e*P P 04 24 19.9 -0.2
comp=Z,799nm,0.9s
PTN *e*PcP PcP 04 25 40.9 +0.8
LONY Lake Ozonia 49.59 3 *e*P P 04 24 20.4 -0.3
comp=Z,393nm,1.1s
O30A MW Ranch, Wils 49.63 337 ⇑P P 04 24 21.3 +0.2
baz=50,SNR=111
KSCO Kaye Shedlock' 49.69 334 *e*P P 04 24 21.8 +0.1
comp=Z,827nm,1.0s

KSCO Kaye Shedlock' 49.69 334 ⇑P P 04 24 22.0 +0.4
baz=50,SNR=106
N31A Bailey Ranch, 49.78 339 ⇑P P 04 24 22.2 0.0
baz=50,SNR=22
P28A Saint Francis 49.79 335 ⇓P P 04 24 22.6 +0.2
baz=50,SNR=109
O29A 4D Ranch, Culb 49.87 337 ⇓P P 04 24 23.6 +0.7
baz=50,SNR=93
214A Organ Pipe Nat 49.90 320 ⇑P P 04 24 23.8 +0.6
baz=50,SNR=102
X18A Snowflake 49.92 325 ⇑P P 04 24 24.0 +0.4
baz=50,SNR=82
WVL Waterville 49.96 7 *e*P P 04 24 24.2 +0.8
comp=Z,236nm,0.9s
SDCO Great Sand Dun 49.98 331 *e*P P 04 24 24.6 +0.5
comp=Z,406nm,1.1s
SDCO Great Sand Dun 49.98 331 ⇑P P 04 24 24.5 +0.5
baz=50,SNR=718
Q26A Hugo 50.01 333 ⇑P P 04 24 24.4 +0.3
baz=50,SNR=120
BGNE Belgrade 50.01 340 *e*P P 04 24 23.2 -0.7
comp=Z,1μm,1.4s
BGNE Belgrade 50.01 340 ⇑P P 04 24 23.4 -0.6
baz=50,SNR=60
USHA Ushuaia 50.10 173 P P 04 24 26.3 +2.0
comp=Z,253nm,0.7s,baz=337,slow=5.0,SNR=138
P27A Ficken Ranch, 50.12 335 ⇓P P 04 24 25.2 +0.3
baz=50,SNR=119
GLMI Grayling 50.13 353 *e*P P 04 24 22.8 -2.0
GLMI *e*PcP PcP 04 25 42.8 +0.4
N30A Hueftle Ranch, 50.18 338 ⇑P P 04 24 25.2 -0.1
baz=50,SNR=28
S23A Nye Farm, Mont 50.19 330 ⇑P P 04 24 26.1 +0.5
baz=50,SNR=21
W18A Petrified Fore 50.22 325 *e*P P 04 24 26.4 +0.6
comp=Z,536nm,1.1s
W18A Petrified Fore 50.22 325 ⇓P P 04 24 26.1 +0.2
baz=50,SNR=70
M31A Lambtecht Ranc 50.25 339 ⇓P P 04 24 25.9 +0.1
baz=50,SNR=42
O28A Krutsinger Ran 50.27 336 ⇓P P 04 24 26.3 +0.4
baz=50,SNR=39
N29A Votaw Ranch, W 50.40 337 ⇓P P 04 24 27.1 +0.2
baz=50,SNR=95
EMMW East Machias 50.42 9 *e*P P 04 24 27.6 +0.8
comp=Z,493nm,1.5s
P26A Davis Ranch, A 50.46 334 ⇓P P 04 24 27.8 +0.3
baz=51,SNR=144
R23A Moffat 50.49 331 ⇑P P 04 24 28.2 +0.3
baz=51,SNR=215
O27A Beecher Island 50.61 335 ⇑P P 04 24 29.0 +0.4
baz=51,SNR=79
S22A 4UR Ranch, Cre 50.63 330 *e*P P 04 24 29.1 0.0
comp=Z,265nm,1.3s
S22A 4UR Ranch, Cre 50.63 330 ⇑P P 04 24 29.2 +0.1
baz=51,SNR=268
N28A Pribbeno Ranch 50.65 336 ⇑P P 04 24 29.2 +0.4
baz=51,SNR=40
PKME Peaks-Kenny Pk 50.70 7 *e*P P 04 24 29.7 +0.8
comp=Z,132nm,1.0s
X16A Lo Mia Camp, P 50.72 323 ⇓P P 04 24 30.2 +0.6
baz=51,SNR=302
M30A Dale-Ortello V 50.74 338 ⇓P P 04 24 28.9 -0.5
baz=51,SNR=13
Q24A Divide 50.78 332 *e*P P 04 24 30.3 +0.1
comp=Z,245nm,1.1s
Q24A Divide 50.78 332 ⇓P P 04 24 30.1 0.0
baz=51,SNR=91
Z14A Wintersburg 50.91 321 ⇑P P 04 24 31.3 +0.4
baz=51,SNR=37
L31A Butterfield Fa 50.93 340 ⇓P P 04 24 30.6 -0.2
baz=51,SNR=254
M29A Burnside Ranch 50.96 338 ⇓P P 04 24 31.5 +0.3
baz=51,SNR=69
O26A Horse Wrangler 51.01 335 ⇑P P 04 24 31.7 +0.1
baz=51,SNR=65
113A Mohawk Valley, 51.04 320 ⇓P P 04 24 32.0 +0.3
baz=51,SNR=108
L30A Spencer Herefo 51.04 339 ⇑P P 04 24 31.5 -0.3
baz=51,SNR=64
Q23A Hartsel 51.06 332 ⇓P P 04 24 32.3 +0.1
baz=51
OGNE Ogallala 51.06 336 ⇑P P 04 24 32.0 +0.1
baz=51,SNR=56
MVCO Mesa Verde 51.08 328 *e*P P 04 24 32.4 0.0
comp=Z,322nm,1.6s
MVCO Mesa Verde 51.08 328 ⇑P P 04 24 32.1 -0.2
baz=51,SNR=54
N27A Anderson Farm, 51.15 336 ⇓P P 04 24 32.6 0.0
baz=51,SNR=13
M28A Bar X Bar Ranc 51.19 337 ⇓P P 04 24 33.0 +0.1
baz=51,SNR=42
Y14A Wickenburg 51.33 322 ⇑P P 04 24 34.4 +0.4
baz=51,SNR=85
L29A Maesberg Ranch 51.42 338 ⇑P P 04 24 34.9 +0.3
baz=52,SNR=66
P23A Jefferson 51.43 332 ⇑P P 04 24 35.7 +0.7
baz=52,SNR=214
WUAZ Wupatki 51.44 324 *e*P P 04 24 35.5 +0.5
WUAZ Wupatki 51.44 324 ⇓P P 04 24 35.7 +0.7
baz=52,SNR=333
N26A Koester Ranch, 51.45 335 ⇓P P 04 24 35.3 +0.4
baz=52,SNR=23
ECSD EROS Data Cent 51.61 342 *e*P P 04 24 34.4 -1.4
comp=Z,291nm,0.9s
ECSD EROS Data Cent 51.61 342 ⇓P P 04 24 34.6 -1.2
baz=52,SNR=361
K30A Basset 51.64 339 ⇓P P 04 24 36.0 -0.1
baz=52,SNR=82
ISCO Idaho Springs 51.67 332 *e*P P 04 24 36.8 +0.1
ISCO *e* 04 25 48.7
ISCO pmax pmax
comp=Z,392nm,1.8s
ISCO Idaho Springs 51.67 332 *e*P P 04 24 36.8 +0.1
comp=Z,392nm,1.8s
ISCO *e*PcP PcP 04 25 48.7 +0.1
ISCO Idaho Springs 51.67 332 ⇑P P 04 24 36.9 +0.2
baz=52,SNR=111
M27A Reverse DX Ran 51.70 336 ⇑P P 04 24 36.9 +0.2
baz=52,SNR=31
L28A Connealy Angus 51.77 337 ⇑P P 04 24 37.4 +0.3
baz=52
PV01 Paradox Valley 51.82 329 *e*P P 04 24 38.0 +0.2
PV01 *e*PcP PcP 04 25 46.3 -2.8
SMCO Snowmass 51.82 331 *e*P P 04 24 38.1 +0.2
comp=Z,427nm,1.7s
M26A McRoberts Ranc 51.95 336 ⇓P P 04 24 38.9 +0.3
baz=52,SNR=36
SPMN Marine on St. 51.96 346 *e*P P 04 24 36.5 -1.9
comp=Z,287nm,0.9s
SPMN Marine on St. 51.96 346 ⇑P P 04 24 36.6 -1.9
baz=52,SNR=111
K29A Lazy Trails An 51.97 339 ⇓P P 04 24 38.5 -0.1
baz=52,SNR=64
COWI Conover 52.04 350 *e*P P 04 24 37.3 -1.7
COWI *e*PcP PcP 04 25 49.8 +0.4
P22A Eagle 52.04 331 ⇓P P 04 24 39.7 +0.3
baz=52,SNR=106
PV05 Paradox Valley 52.05 328 *e*P P 04 24 39.2 -0.3
O23A Lake Granby, G 52.14 333 ⇑P P 04 24 40.7 +0.5
baz=52,SNR=162
L27A T5 Ranch, Ells 52.14 337 ⇓P P 04 24 40.1 +0.1
baz=52,SNR=13
Y12C Blythe 52.16 321 ⇑P P 04 24 40.6 +0.5
baz=52,SNR=68
J30A Dallas 52.17 340 ⇓P P 04 24 39.5 -0.6
baz=52,SNR=440
PV10 Paradox Valley 52.24 329 *e*P P 04 24 40.7 -0.2
PQI Presque Isle 52.25 8 *e*P P 04 24 40.7 +0.2
comp=Z,503nm,1.3s
PDMCI Parker Dam,Lak 52.28 321 ⇑P P 04 24 41.2 +0.2
baz=52,SNR=38
M25A Palm-Egli Farm 52.31 335 ⇑P P 04 24 41.5 +0.2
baz=52,SNR=86
K28A Ten Mile Ranch 52.31 338 ⇑P P 04 24 41.9 +0.7
baz=52,SNR=261
PV09 Paradox Valley 52.38 329 *e*P P 04 24 41.7 -0.3
O22A Kremmling 52.39 332 ⇑P P 04 24 41.9 -0.2
baz=52,SNR=179
L26A Underwood Farm 52.41 336 ⇓P P 04 24 42.2 +0.3
baz=52,SNR=34
IBP Imperial Bould 52.48 318 ⇓P P 04 24 43.0 +0.3
baz=52
J29A Okreek 52.53 339 ⇓P P 04 24 42.5 -0.2
baz=53,SNR=349
U15A North Rim 52.61 325 ⇓P P 04 24 44.2 +0.5
baz=53,SNR=88
K27A Flueckinger Fa 52.64 337 ⇓P P 04 24 43.8 +0.3

baz=53,SNR=73
W13A **Hualapai Mount** 52.65 322 ⇓P P 04 24 44.5 +0.6
baz=53
I30A **Oacoma** 52.67 340 ⇓P P 04 24 42.7 -1.0
baz=53,SNR=54
BC3 **Big Chuckawall** 52.69 320 ⇑P P 04 24 44.4 +0.2
baz=53,SNR=64
N23A **Red Feather La** 52.70 333 eP P 04 24 44.1 -0.2
comp=Z,186nm,1.4s
N23A **Red Feather La** 52.70 333 ⇑P P 04 24 44.1 -0.2
baz=53,SNR=81
PHWY **Pilot Hill** 52.81 334 eP P 04 24 44.8 -0.3
comp=Z,129nm,1.0s
PHWY ePcP PcP 04 25 53.5 +0.6
IRM **Iron Mountain** 52.82 321 ⇑P P 04 24 45.3 +0.3
baz=53,SNR=102
MONP **Monument Peak,** 52.84 318 ⇓P P 04 24 45.6 +0.2
baz=53,SNR=25
N22A **Wattenberg Ran** 52.85 333 ⇑P P 04 24 45.6 +0.2
baz=53,SNR=29
L25A **Engebretsen Ra** 52.87 335 ⇑P P 04 24 45.6 +0.3
baz=53,SNR=86
J28A **Allard Ranch,** 52.88 338 ⇓P P 04 24 45.1 -0.1
baz=53,SNR=153
BAR **Barrett** 52.88 318 eP P 04 24 45.4 -0.1
comp=Z,11nm,0.9s
NEE2 **Needles Airpor** 52.88 321 ⇑P P 04 24 45.6 +0.2
baz=53,SNR=13
BRSD **Miller** 52.98 341 eP P 04 24 45.2 -0.8
comp=Z,890nm,0.9s
BRSD **Miller** 52.98 341 ⇓P P 04 24 45.1 -0.8
baz=53,SNR=112
K26A **Motz Farm, Whi** 53.00 336 ⇓P P 04 24 46.5 +0.3
baz=53,SNR=15
J27A **Elkhorn Farm,** 53.02 338 ⇓P P 04 24 46.6 +0.3
baz=53,SNR=135
I29A **Vivian Onida** 53.06 340 ⇓P P 04 24 45.8 -0.8
baz=53,SNR=125
O20A **White River Ci** 53.18 331 eP P 04 24 47.8 0.0
comp=Z,199nm,0.9s
O20A **White River Ci** 53.18 331 ⇓P P 04 24 47.9 +0.2
baz=53,SNR=97
EKU **East Kanab** 53.18 325 eP P 04 24 48.2 +0.4
K25A **Mack Ranch, Ha** 53.21 336 ⇑P P 04 24 48.3 +0.4
baz=53,SNR=9.0
BELC **Belle Mtn. Jos** 53.26 320 ⇑P P 04 24 48.9 +0.6
baz=53,SNR=67
109C **Camp Elliot, M** 53.30 318 ⇑P P 04 24 48.5 +0.1
baz=53,SNR=7.3
MMU **Miners Mountai** 53.31 327 eP P 04 24 48.9 +0.1
PFO **Pinyon Flats O** 53.31 319 P P 04 24 49.1 +0.4
comp=Z,360nm,0.9s,SNR=24
PFO **Pinyon Flats O** 53.31 319 eP P 04 24 49.1 +0.4
PFO pmax pmax
comp=Z,61nm,0.9s
PFO **Pinyon Flats O** 53.31 319 eP P 04 24 49.0 +0.4
comp=Z,61nm,0.9s
PFO **Pinyon Flats O** 53.31 319 ⇑P P 04 24 49.0 +0.2
baz=53,SNR=49
KNB **Kanab** 53.33 325 eP P 04 24 49.4 +0.6
KNB pmax pmax
comp=Z,340nm,1.5s
KNB **Kanab** 53.33 325 eP P 04 24 49.4 +0.6
comp=Z,340nm,1.5s
I28A **Midland** 53.35 339 ⇑P P 04 24 48.6 -0.1
baz=54,SNR=181
LDFC **Landfair** 53.39 321 eP P 04 24 50.2 +1.0
comp=Z,178nm,0.9s
J26A **Sides Ranch, S** 53.48 337 ⇓P P 04 24 50.4 +0.7
baz=54,SNR=141
GMRC **Granite Mounta** 53.54 321 ⇓P P 04 24 50.9 +0.5
baz=54,SNR=113
H29A **Onida** 53.56 340 ⇓P P 04 24 49.2 -1.0
baz=54,SNR=46
SRU **San Rafael Swe** 53.56 328 eP P 04 24 50.3 -0.3
SRU pmax pmax
comp=Z,280nm,1.3s
SRU **San Rafael Swe** 53.56 328 eP P 04 24 50.3 -0.3
comp=Z,280nm,1.3s
G30A **Faulkton** 53.65 341 ⇓P P 04 24 50.2 -0.6
baz=54,SNR=210
K24A **Anderson Ranch** 53.69 335 ⇑P P 04 24 51.6 +0.3
baz=54,SNR=21
N20A **Spence Gulch,** 53.73 331 ⇑P P 04 24 51.7 -0.1
baz=54,SNR=296
I27A **Quinn** 53.73 338 ⇑P P 04 24 51.6 +0.1
baz=54,SNR=322
MURC **Murrieta** 53.79 319 ⇑P P 04 24 52.3 +0.1
baz=54,SNR=20
J25A **Sunshine Ranch** 53.83 336 ⇑P P 04 24 52.6 +0.2
baz=54,SNR=77
H28A **Mission Ridge** 53.88 339 ⇓P P 04 24 52.1 -0.4
baz=54,SNR=10
ROA **Roan Cliffs** 53.89 329 eP P 04 24 53.2 +0.1
G29A **Hoven** 53.96 341 ⇓P P 04 24 52.2 -0.9
baz=54,SNR=68
HEC **Hector,Ludlow** 54.00 320 ⇓P P 04 24 54.5 +0.8
baz=54,SNR=135
I26A **New Underwood** 54.00 338 ⇓P P 04 24 53.6 +0.1
baz=54,SNR=103
BBRC **Big Bear Solar** 54.02 319 ⇓P P 04 24 54.8 +0.8
baz=54,SNR=48
MVU **Marysvale** 54.03 326 eP P 04 24 54.4 +0.4
comp=Z,107nm,0.9s
MVU ePcP PcP 04 25 57.8 +0.3
K23A **Bowen Ranch, D** 54.06 335 ⇓P P 04 24 54.0 0.0
baz=54,SNR=120
TMUT **Trail Mountain** 54.06 328 eP P 04 24 54.6 +0.3
comp=Z,86nm,0.8s
ARGU **Argyle Ridge** 54.10 329 eP P 04 24 54.9 +0.3
J24A **Dixon Ranch, L** 54.13 336 ⇓P P 04 24 54.8 +0.3
baz=54,SNR=39
TUQ **Turquoise Moun** 54.13 321 ⇑P P 04 24 54.9 +0.3
baz=54,SNR=87
DWU **Dry Willow Pea** 54.19 326 eP P 04 24 55.3 +0.1
G28A **Parade** 54.20 340 ⇓P P 04 24 54.2 -0.7
baz=54,SNR=43
SGU **Sterling** 54.21 327 eP P 04 24 55.8 +0.5
H27A **Howes** 54.23 339 ⇓P P 04 24 54.9 -0.2
baz=54,SNR=122
F30A **Leola** 54.24 342 ⇓P P 04 24 54.3 -0.9
baz=54,SNR=45
SNO **Snow College** 54.25 328 eP P 04 24 56.0 +0.4
EYMN **Ely** 54.26 348 eP P 04 24 53.4 -1.9
comp=Z,289nm,0.9s
WCU **Willow Creek** 54.29 327 eP P 04 24 56.4 +0.4
SCI **San Clemente I** 54.32 317 ⇑P P 04 24 55.6 -0.3
baz=54
I25A **Rochford** 54.33 337 ⇓P P 04 24 56.8 +0.8
baz=54,SNR=214
SHPR **Sheep Range** 54.36 323 eP P 04 24 56.7 +0.4
SHPR ePcP PcP 04 25 59.7 +1.0
K22A **Casper** 54.36 334 eP P 04 24 56.1 -0.1
comp=Z,255nm,1.0s
K22A **Casper** 54.36 334 ⇓P P 04 24 56.1 -0.1
baz=54,SNR=144
RRX **Edison Barstow** 54.45 320 ⇑P P 04 24 57.5 +0.6
baz=54,SNR=19
H26A **Fairpoint** 54.47 338 ⇓P P 04 24 56.7 -0.1
baz=55,SNR=39
CIS **Catalina Islan** 54.47 318 ⇑P P 04 24 56.9 -0.2
baz=54
BFSC **Mount Baldy Ra** 54.48 319 ⇑P P 04 24 57.5 +0.2
baz=54,SNR=46
F29A **Eureka** 54.50 341 ⇓P P 04 24 56.4 -0.6
baz=55,SNR=127
LEVU **Levan** 54.53 328 eP P 04 24 57.8 +0.1
RSSD **Black Hills** 54.53 337 eP P 04 24 57.7 +0.1
RSSD pmax pmax
comp=Z,248nm,0.9s
RSSD **Black Hills** 54.53 337 eP P 04 24 57.7 +0.1
comp=Z,248nm,0.9s
I24A **Kuemmerle Ranc** 54.55 336 ⇓P P 04 24 57.9 +0.3
baz=55,SNR=29
J23A **Dilts Ranch, B** 54.56 335 ⇓P P 04 24 57.8 +0.2
baz=55,SNR=39
FMP **Fort Macarthur** 54.58 318 ⇑P P 04 24 58.0 +0.2
baz=55
GSC **Goldstone, Bar** 54.60 321 eP P 04 24 58.5 +0.5
GSC pmax pmax
comp=Z,169nm,0.9s
GSC **Goldstone, Bar** 54.60 321 eP P 04 24 58.5 +0.5
comp=Z,169nm,0.9s
GSC **Goldstone, Bar** 54.60 321 ⇓P P 04 24 58.4 +0.5
baz=55,SNR=136
FLU **Fool Peak** 54.63 327 eP P 04 24 58.6 +0.3
SHOC **Shoshone, Teco** 54.65 321 ⇓P P 04 24 58.6 +0.3
baz=55,SNR=98
BLKC **Black Mountain** 54.73 320 eP P 04 24 59.8 +0.9
MWC **Mount Wilson** 54.74 319 eP P 04 24 59.8 +0.6
MWC pmax pmax
comp=Z,425nm,1.8s
MWC **Mount Wilson** 54.74 319 eP P 04 24 59.8 +0.6
comp=Z,425nm,1.8s
MWC eScS ScS 04 34 42.9 +6.9
H25A **Fruitdale** 54.79 337 ⇓P P 04 24 59.5 +0.3
baz=55,SNR=128
PASC **Pasadena Art C** 54.79 319 eP P 04 24 59.4 +0.1
comp=Z,159nm,1.2s
E30A **Jud** 54.80 342 ⇑P P 04 24 58.7 -0.5
baz=55,SNR=70
MPU **Maple Canyon** 54.81 328 eP P 04 24 59.6 0.0
comp=Z,108nm,1.0s
MPU ePcP PcP 04 26 00.9 +0.5
G27A **Dupree** 54.82 339 ⇓P P 04 24 58.8 -0.6
baz=55,SNR=76
F28A **McLaughlin** 54.83 340 ⇑P P 04 24 59.3 -0.2
baz=55,SNR=48
DAU **Daniels Canyon** 54.90 329 eP P 04 25 00.6 +0.2
DAU **Daniels Canyon** 54.90 329 eP P 04 25 00.6 +0.2
DECC **Green Verdugo** 54.93 319 ⇑P P 04 25 00.8 +0.5
baz=55,SNR=12
J22A **Midwest** 54.96 334 ⇓P P 04 25 00.4 -0.1
baz=55,SNR=663
I23A **Meade Ranch, G** 54.98 336 ⇓P P 04 25 00.3 -0.3
baz=55
G26A **Maurine** 54.98 339 ⇓P P 04 24 59.7 -0.9
baz=55,SNR=72
NLU **North Lily Min** 55.00 328 eP P 04 25 01.2 +0.2
comp=Z,108nm,1.2s
HTU **Hoyt Peak** 55.08 329 eP P 04 25 01.7 +0.1
E29A **Napoleon** 55.09 342 ⇓P P 04 25 00.8 -0.5
baz=55,SNR=48
EDW2 **Edwards Air Fo** 55.09 319 ⇓P P 04 25 01.6 +0.1
baz=55,SNR=90
HLJ **Hailstone** 55.12 329 eP P 04 25 02.0 +0.2
KLJ **Keetly** 55.14 329 eP P 04 25 01.8 -0.2
JLU **Jordanelle** 55.14 329 eP P 04 25 02.0 0.0
comp=Z,112nm,0.9s
G25A **Newell** 55.20 338 ⇑P P 04 25 02.0 -0.2
baz=55,SNR=20
H24A **Dirks Ranch, A** 55.26 337 ⇑P P 04 25 02.4 -0.2
baz=55,SNR=139
LRMC **Laurel Mtn Rad** 55.27 320 ⇑P P 04 25 03.2 +0.3
baz=55,SNR=28
F27A **Lemmon** 55.27 339 ⇑P P 04 25 02.3 -0.3
baz=55,SNR=55
GMU **Granite Mounta** 55.28 329 eP P 04 25 02.9 -0.1
D30A **Buchanan** 55.30 342 ⇑P P 04 25 02.5 -0.2
baz=55,SNR=528
TPNV **Topopah Spring** 55.31 322 eP P 04 25 03.8 +0.6
TPNV pmax pmax
comp=Z,98nm,0.9s
TPNV **Topopah Spring** 55.31 322 eP P 04 25 03.8 +0.6
comp=Z,98nm,0.9s
TPNV **Topopah Spring** 55.31 322 ⇑P P 04 25 03.6 +0.4
baz=55,SNR=131
J21A **Lysite** 55.33 334 ⇓P P 04 25 03.3 0.0
baz=55,SNR=152
BLG **Laguna Peak, P** 55.33 318 ⇑P P 04 25 03.7 +0.4
baz=55,SNR=11
I22A **9 Mile Ranch,** 55.35 335 ⇑P P 04 25 03.2 -0.1
baz=55,SNR=322
FURC **Furnace Creek,** 55.37 322 ⇑P P 04 25 03.8 +0.4
baz=55,SNR=112
OSI **Osito Audit: C** 55.41 319 ⇑P P 04 25 03.6 -0.2
baz=56
E28A **Huff** 55.44 341 ⇓P P 04 25 03.7 0.0
baz=56,SNR=80
H23A **Clabaugh Cattl** 55.45 336 ⇑P P 04 25 03.6 -0.4
baz=56,SNR=14
RBU **Red Butte Cany** 55.46 329 eP P 04 25 03.9 -0.3
F26A **Lodgepole** 55.49 339 ⇓P P 04 25 03.5 -0.6
baz=56,SNR=176
MPMC **Manual Prospec** 55.51 321 ⇑P P 04 25 04.7 0.0
baz=56,SNR=96
D29A **Pettibone, Tap** 55.52 342 ⇑P P 04 25 03.8 -0.5
baz=56,SNR=51
FSU **Fish Springs** 55.54 327 eP P 04 25 05.5 +0.7
DUG **Dugway, Tooele** 55.56 328 eP P 04 25 05.2 +0.3
DUG pmax pmax
comp=Z,378nm,1.3s
DUG **Dugway, Tooele** 55.56 328 eP P 04 25 05.2 +0.3
comp=Z,378nm,1.3s
DUG **Dugway, Tooele** 55.56 328 ⇓P P 04 25 05.4 +0.5
baz=56,SNR=304
AGMN **Agassiz Nation** 55.59 345 eP P 04 25 03.7 -1.0
comp=Z,519nm,0.9s
AGMN **Agassiz Nation** 55.59 345 ⇑P P 04 25 03.8 -1.0
baz=56,SNR=453
E27A **Carson** 55.60 340 ⇑P P 04 25 05.0 +0.1
baz=56,SNR=103
J20A **Shoshoni** 55.62 333 ⇓P P 04 25 05.3 +0.1
baz=56,SNR=195
I21A **Big Trails, Te** 55.63 334 ⇓P P 04 25 05.0 -0.4
baz=56,SNR=190
BSC **Santa Cruz Isl** 55.65 318 ⇑P P 04 25 05.4 -0.1
baz=56,SNR=8.2
FPU **Francis Peak** 55.65 329 eP P 04 25 05.7 -0.1
G24A **Alzada** 55.69 337 ⇓P P 04 25 05.5 -0.2
baz=56,SNR=55
SAIU **Southern Antel** 55.70 329 eP P 04 25 05.6 -0.3
DAC **Darwin (Calif)** 55.71 321 eP P 04 25 06.0 -0.1
DAC pmax pmax
comp=Z,213nm,1.8s
DAC **Darwin (Calif)** 55.71 321 eP P 04 25 06.0 -0.1
comp=Z,213nm,1.8s
C30A **Mose, Pekin** 55.76 343 ⇓P P 04 25 05.5 -0.4
baz=56,SNR=262
ARVC **Arvin** 55.79 319 ⇑P P 04 25 06.8 +0.4
baz=56,SNR=28
MCU **Monte Cristo P** 55.80 329 eP P 04 25 06.5 -0.3
BW06 **Boulder Array** 55.84 332 eP P 04 25 06.2 -0.7
BW06 ePcP PcP 04 26 04.6 +0.3
PD31 **Pinedale Array** 55.84 332 eP P 04 25 06.1 -0.9
PD31 ePcP PcP 04 26 03.7 -0.7
PDAR **Pinedale Array** 55.84 332 P P 04 25 06.0 -0.9
comp=Z,67nm,0.8s,baz=122,slow=6.3,SNR=375
PDAR PcP PcP 04 26 03.8 -0.5
comp=Z,35nm,0.8s,baz=116,slow=6.8,SNR=7.0
PDAR LR LR 04 49 45.2
comp=Z,894nm,19.0s,baz=154,slow=37
PDAR PKPPKP P'P'df 04 55 07.3 +1.2
comp=Z,1.1nm,0.8s,baz=35,slow=5.4,SNR=5.4
PDAR P4KPbc 05 02 21.2
comp=Z,2.8nm,0.9s,baz=128,slow=5.8,SNR=19
R11A **Troy Canyon, C** 55.84 324 eP P 04 25 07.4 +0.4
comp=Z,180nm,1.4s
R11A **Troy Canyon, C** 55.84 324 ⇑P P 04 25 07.3 +0.3
baz=56,SNR=176
F25A **Bowman** 55.84 338 ⇓P P 04 25 06.4 -0.3
baz=56,SNR=72
NAIU **Northern Antel** 55.85 329 eP P 04 25 06.6 -0.3
H22A **Clearmont** 55.86 335 ⇑P P 04 25 06.4 -0.5
baz=56,SNR=57
ISA **Isabella, Lake** 55.89 320 eP P 04 25 07.7 +0.5
ISA pmax pmax
comp=Z,85nm,1.0s
ISA **Isabella, Lake** 55.89 320 eP P 04 25 07.7 +0.5
comp=Z,85nm,1.0s
ISA **Isabella, Lake** 55.89 320 ⇓P P 04 25 07.4 +0.2
baz=56,SNR=56
SNUT **Stansbury Nort** 55.90 328 eP P 04 25 07.1 -0.2
D28A **Regan** 55.94 341 ⇓P P 04 25 07.1 -0.3
baz=56,SNR=15
HWUT **Hardware Ranch** 55.94 330 eP P 04 25 07.3 -0.4
comp=Z,506nm,1.5s
E26A **Carlson Angus** 55.95 339 ⇑P P 04 25 07.3 -0.1
baz=56,SNR=167
SBC **Santa Barbara** 55.96 318 ⇓P P 04 25 07.7 0.0
baz=56
G23A **Biddle** 55.97 336 ⇑P P 04 25 07.4 -0.2
baz=56,SNR=84
J19A **Crowheart** 55.98 333 ⇑P P 04 25 07.4 -0.5
baz=56,SNR=138
GZU **Grizzly Peak** 56.02 329 eP P 04 25 07.9 -0.4
GRAC **Grapevine Rang** 56.03 322 ⇑P P 04 25 08.7 +0.5
baz=56,SNR=54
I20A **Worland** 56.11 334 ⇑P P 04 25 08.3 -0.4
baz=56,SNR=182
CWC **Cottonwood Cre** 56.12 321 ⇓P P 04 25 09.1 +0.1
baz=56,SNR=45
F24A **Ekalaka** 56.14 338 ⇓P P 04 25 08.4 -0.4
baz=56,SNR=165
H21A **Big Horn, Sher** 56.18 335 ⇓P P 04 25 08.4 -0.8
baz=56,SNR=77
D27A **Center** 56.18 340 ⇓P P 04 25 08.9 -0.2
baz=56,SNR=19
BGU **Big Grassy Mou** 56.20 328 eP P 04 25 09.3 -0.2
comp=Z,490nm,1.2s
EPU **East Promontor** 56.21 329 eP P 04 25 09.3 -0.2
MDND **Maddock** 56.22 342 eP P 04 25 09.3 0.0
comp=Z,9µm,1.3s
MDND **Maddock** 56.22 342 ⇓P P 04 25 09.2 0.0
baz=56,SNR=439
LTU **Little Mountai** 56.28 329 eP P 04 25 09.6 -0.4
E25A **Miller Ranch,** 56.31 339 ⇑P P 04 25 09.9 -0.1
baz=56,SNR=166
C28A **Hausauer Farms** 56.34 342 ⇓P P 04 25 10.1 -0.1
baz=56,SNR=56
G22A **Birney** 56.35 336 ⇑P P 04 25 09.8 -0.5
baz=56,SNR=72
VES **Vestal, Richgr** 56.39 320 ⇑P P 04 25 10.7 0.0
baz=56,SNR=44
B30A **Myrvik Farm, E** 56.39 343 ⇓P P 04 25 10.0 -0.4
baz=56,SNR=276
F23A **Volborg** 56.41 337 ⇓P P 04 25 10.3 -0.4
baz=56,SNR=140
D26A **Manning** 56.42 340 ⇓P P 04 25 10.4 -0.3
baz=56,SNR=108
MTUT **Morton Thiokol** 56.47 329 eP P 04 25 10.6 -0.7
H20A **Greybull** 56.48 334 ⇑P P 04 25 10.5 -0.8
baz=57,SNR=184
I19A **Meeteetse** 56.56 333 ⇓P P 04 25 11.8 -0.2
baz=57,SNR=66
TIN **Tinemaha, Big** 56.59 321 ⇑P P 04 25 12.7 +0.4
baz=57,SNR=32
TPH **Tonopah** 56.63 323 eP P 04 25 12.7 +0.1
TPH pmax pmax
comp=Z,188nm,1.4s
TPH **Tonopah** 56.63 323 eP P 04 25 12.7 +0.1
comp=Z,188nm,1.4s
SMMC **Simmler** 56.67 319 ⇓P P 04 25 13.0 +0.3
baz=57,SNR=45
HVU **Hansel Valley** 56.68 329 eP P 04 25 12.4 -0.5
HVU pmax pmax
comp=Z,161nm,1.2s
HVU **Hansel Valley** 56.68 329 eP P 04 25 12.4 -0.5
comp=Z,161nm,1.2s
E24A **Baker** 56.69 338 ⇓P P 04 25 12.6 -0.1
baz=57,SNR=75
B29A **Wagenman Farm,** 56.70 343 ⇓P P 04 25 12.7 +0.1
baz=57,SNR=468
C27A **Sayler Ranch,** 56.70 341 ⇑P P 04 25 12.5 -0.3
baz=57,SNR=32
G21A **Lodge Grass** 56.73 335 ⇓P P 04 25 12.2 -0.9
baz=57,SNR=85
RCTC **Rector, Farmer** 56.77 320 ⇓P P 04 25 13.3 -0.1
baz=57,SNR=22
F22A **Rosebud** 56.79 336 ⇓P P 04 25 12.7 -0.7
baz=57,SNR=70
A30A **Hoffart Farm,** 56.82 344 ⇑P P 04 25 12.9 -0.7
baz=57,SNR=110
D25A **Fairfield** 56.83 339 ⇑P P 04 25 13.8 +0.2
baz=57,SNR=126
DRLN **Deer Lake** 56.89 16 eP P 04 25 14.1 +0.2
comp=Z,326nm,0.9s
REDW **Red Top Meadow** 56.90 331 eP P 04 25 14.0 -0.5
comp=Z,388nm,1.8s
SNOW **Snow King Moun** 56.93 332 eP P 04 25 14.3 -0.4
comp=Z,154nm,1.3s
LOHW **Long Hollow** 56.97 332 eP P 04 25 14.5 -0.5
comp=Z,216nm,1.4s
B28A **Dugan Ranch, T** 56.99 342 ⇑P P 04 25 14.4 -0.3
baz=57,SNR=42
C26A **Wahner Farm, P** 56.99 340 ⇓P P 04 25 14.6 -0.2
baz=57,SNR=52
SACV **Santiago Islan** 57.00 69 eP P 04 25 14.9 -0.5
comp=Z,127nm,1.0s
PTRM **Twissleman Ran** 57.01 319 eP P 04 25 15.7 +0.6
E23A **Ismay** 57.01 337 ⇓P P 04 25 14.4 -0.5
baz=57,SNR=29
TPAW **Teton Pass** 57.05 331 eP P 04 25 15.2 -0.3
comp=Z,262nm,1.4s
H19A **Powell** 57.05 334 ⇓P P 04 25 14.6 -0.8
baz=57,SNR=28
A29A **Manning Farm,** 57.07 343 ⇓P P 04 25 14.7 -0.5
baz=57,SNR=40
MOOW **Moose Ponds** 57.14 332 eP P 04 25 15.5 -0.7
comp=Z,47nm,0.9s
G20A **Bridger** 57.15 335 ⇑P P 04 25 15.1 -1.0
baz=57,SNR=204
D24A **Glendive** 57.16 338 ⇑P P 04 25 16.2 +0.1
baz=57,SNR=28
F21A **Absaloka Mine,** 57.18 336 ⇑P P 04 25 15.5 -0.7
baz=57,SNR=11
FXWY **Fox Creek** 57.19 332 eP P 04 25 16.0 -0.5
comp=Z,59nm,0.9s
I17A **Pilgrim Ck.** 57.20 332 ⇑P P 04 25 16.6 +0.1
baz=57,SNR=53
E22A **Miles City** 57.21 337 ⇓P P 04 25 15.7 -0.7
baz=57
B27A **Peters Farms,** 57.23 341 ⇓P P 04 25 16.5 +0.1
baz=57,SNR=30
ELK **Elko** 57.27 326 eP P 04 25 16.9 -0.2
ELK pmax pmax
comp=Z,182nm,1.3s
ELK **Elko** 57.27 326 eP P 04 25 16.9 -0.2
comp=Z,182nm,1.3s
C25A **Freed Ranch, W** 57.29 340 ⇑P P 04 25 16.8 -0.1
baz=57,SNR=60
MLAC **Mammoth, Mammo** 57.33 321 ⇑P P 04 25 17.8 +0.2
baz=57,SNR=13
IMW **Indian Meadow** 57.35 332 eP P 04 25 17.2 -0.5
IMW ePcP PcP 04 26 09.6 -0.7
H18A **Shoshone NF, C** 57.36 333 ⇑P P 04 25 16.9 -0.8
baz=57,SNR=103
A28A **Rude Farm, Bot** 57.37 342 ⇓P P 04 25 17.0 -0.4
baz=58,SNR=39
FLWY **Flagg Ranch** 57.38 332 eP P 04 25 17.8 0.0
comp=Z,133nm,0.8s
ULM **Lac du Bonnet** 57.40 346 P P 04 25 16.7 -0.8
comp=Z,389nm,0.9s,baz=158,slow=7.4,SNR=653
ULM PcP PcP 04 26 09.2 -0.7
comp=Z,106nm,0.9s,baz=152,slow=5.9,SNR=4.3
ULM LR LR 04 49 46.9
comp=Z,1µm,21.5s,baz=148,slow=36
ULM PKPPKP P'P'df 04 55 01.2 -1.5
comp=Z,1.4nm,0.8s,baz=229,slow=3.8,SNR=3.0
ULM PKP2bc 04 55 12.8
comp=Z,7.1nm,0.9s,baz=333,slow=3.2,SNR=9.9
ULM P4KPbc 05 02 26.9
comp=Z,4.9nm,0.8s,baz=177,slow=2.9,SNR=13
ULM **Lac du Bonnet** 57.40 346 P P 04 25 16.7 -0.8
ULM 04 26 09.3
ULM pmax pmax
comp=Z,389nm,0.9s
ULM pmax pmax
comp=Z,106nm,0.9s
ULM MLR MLR
comp=Z,1µm,21.5s
ULM pmax pmax
comp=Z,1.0nm,0.8s
ULM pmax pmax
comp=Z,7.0nm,0.9s
ULM **Lac du Bonnet** 57.40 346 eP P 04 25 16.1 -1.4
comp=Z,522nm,1.0s
ULM ePcP PcP 04 26 09.2 -0.7
YTP **The Promontory** 57.42 333 eP P 04 25 18.1 -0.1
NV01 **Mina Array Sit** 57.51 323 eP P 04 25 19.1 +0.3
NV01 ePcP PcP 04 26 11.2 +0.3
NVAR **Mina Array Bea** 57.51 323 P P 04 25 19.1 +0.2
comp=Z,101nm,0.9s,baz=141,slow=6.6,SNR=391
NVAR PcP PcP 04 26 11.0 0.0
comp=Z,21nm,0.6s,baz=128,slow=6.7,SNR=5.8
NVAR PKP2bc 04 55 14.8
comp=Z,2.1nm,0.7s,baz=72,slow=0.4,SNR=7.3
NVAR P4KPbc 05 02 29.8
comp=Z,1.4nm,0.8s,baz=133,slow=5.3,SNR=9.0
B26A **Jensen Ranch,** 57.52 341 ⇑P P 04 25 18.3 -0.2
baz=58,SNR=71
LAO **LASA Array** 57.52 337 eP P 04 25 18.2 -0.4
comp=Z,324nm,1.4s
RLMT **Red Lodge** 57.53 334 eP P 04 25 18.5 -0.3
comp=Z,186nm,1.3s
D23A **Lindsay** 57.54 338 ⇑P P 04 25 18.5 -0.1
baz=58,SNR=210
C24A **Savage** 57.55 339 ⇓P P 04 25 18.7 0.0
baz=58,SNR=110
H17A **Grant Village** 57.56 332 eP P 04 25 19.3 +0.2
comp=Z,103nm,1.3s
H17A **Grant Village** 57.56 332 ⇓P P 04 25 19.6 +0.5

baz=58
F20A Billings 57.59 335 ⇓P P 04 25 18.5 -0.5
baz=58,SNR=57
YLT Little Thumb C 57.60 332 eP P 04 25 20.4 +1.1
LKWY Lake 57.61 333 eP P 04 25 20.2 +0.8
LKWY pmax pmax
comp=Z,110nm,0.9s
LKWY Lake 57.61 333 eP P 04 25 20.2 +0.8
comp=Z,110nm,0.9s
MCID Moose Creek 57.69 332 eP P 04 25 20.1 +0.1
A27A Ledoux Ranch, 57.71 342 ⇑P P 04 25 20.0 +0.3
baz=58,SNR=71
YFT Old Faithful 57.72 332 eP P 04 25 21.8 +1.5
comp=Z,314nm,1.5s
B25A Knox Farm, Ray 57.74 340 ⇑P P 04 25 20.2 +0.2
baz=58,SNR=18
E21A Keefer Ranch, 57.74 336 ⇓P P 04 25 19.7 -0.4
baz=58,SNR=30
YNR Norris Junctio 57.85 333 eP P 04 25 21.3 +0.2
comp=Z,109nm,1.3s
D22A Cohagen 57.89 337 ⇓P P 04 25 21.3 +0.2
baz=58,SNR=353
YPM Purple Mountai 57.89 332 eP P 04 25 22.0 +0.6
A26A Wade Farm, Ken 57.91 341 ⇓P P 04 25 21.0 -0.1
baz=58,SNR=126
F19A Roth Farm, Mol 57.97 335 ⇓P P 04 25 21.3 -0.4
baz=58,SNR=258
YHH Holmes Hill 57.98 333 eP P 04 25 22.5 +0.3
YMC Maple Creek 58.03 332 eP P 04 25 22.8 +0.5
C23A Lambert 58.06 338 ⇑P P 04 25 22.3 0.0
baz=58,SNR=202
YHB Horse Butte 58.12 332 eP P 04 25 23.7 +0.7
D21A La Casta Ranch 58.14 337 ⇓P P 04 25 23.0 +0.2
baz=58,SNR=104
E20A Meyer Farm, Mu 58.14 336 ⇑P P 04 25 22.9 0.0
baz=58,SNR=193
RKT Rikitea 58.15 246 eS S 04 33 13.5 -1.5
comp=Z,6μm,25.8s
RKT eSS SS 04 37 08.9 +0.1
comp=Z,2μm,27.5s
RKT eLQ LQ 04 40 10.6
comp=Z,1μm,26.8s
RKT eLR LR 04 42 37.0
comp=Z,4μm,38.5s
BMN Battle Mountai 58.17 325 eP P 04 25 23.7 +0.4
BMN pmax pmax
comp=Z,253nm,1.3s
BMN Battle Mountai 58.17 325 eP P 04 25 23.7 +0.4
comp=Z,254nm,1.3s
CRMT Chrome Mountai 58.18 333 eP P 04 25 23.3 -0.2
WAKR Walker 58.24 322 eP P 04 25 24.8 +0.9
DGMT Dagmar 58.27 339 eP P 04 25 23.9 +0.3
comp=Z,253nm,0.9s
DGMT Dagmar 58.27 339 ⇑P P 04 25 23.6 -0.1
baz=58,SNR=32
QLMT Earthquake Lak 58.28 332 eP P 04 25 25.0 +0.9
A25A Svangstu Ranch 58.30 340 ⇓P P 04 25 24.1 +0.2
baz=58,SNR=85
TPMT Tepee Creek 58.32 332 eP P 04 25 25.9 +1.5
E19A Rath Farm, Rou 58.38 335 ⇓P P 04 25 24.3 -0.3
baz=58,SNR=305
SAO San Andreas Ge 58.47 319 eP P 04 25 25.2 -0.1
SAO pmax pmax
comp=Z,199nm,2.8s
SAO San Andreas Ge 58.47 319 eP P 04 25 25.2 -0.1
comp=Z,198nm,2.8s
B23A Brockton 58.54 339 ⇓P P 04 25 26.0 +0.4
baz=59,SNR=402
CMB Columbia Colle 58.55 321 eP P 04 25 25.5 -0.3
CMB pmax pmax
comp=Z,47nm,0.9s
CMB Columbia Colle 58.55 321 eP P 04 25 25.5 -0.3
comp=Z,47nm,0.9s
A24A Westby 58.59 340 ⇑P P 04 25 26.5 +0.6
baz=59,SNR=173
D20A Manuel Ranch, 58.62 336 ⇓P P 04 25 26.3 +0.2
baz=59,SNR=179
B22A Reddig Ranch S 58.77 338 ⇓P P 04 25 27.2 0.0
baz=59,SNR=15
C21A Desert Coulee 58.80 337 ⇑P P 04 25 27.4 0.0
baz=59,SNR=114
HLID Hailey 58.80 329 eP P 04 25 27.8 +0.1
comp=Z,159nm,0.9s
HLID Hailey 58.80 329 ⇓P P 04 25 27.6 -0.1
baz=59,SNR=373
BGMT Barton Gulch 58.87 332 eP P 04 25 28.3 +0.1
A23A Redstone 58.92 339 ⇑P P 04 25 28.4 +0.2
baz=59,SNR=10
MCMT McKenzie Canyo 58.95 331 eP P 04 25 29.3 +0.5
D19A Cripps Ranch, 58.98 336 ⇑P P 04 25 28.6 -0.1
baz=59,SNR=184
BOZ Bozeman (W) 59.00 333 eP P 04 25 28.4 -0.5
BOZ pmax pmax
comp=Z,213nm,0.9s
BOZ Bozeman (W) 59.00 333 eP P 04 25 28.4 -0.5
comp=Z,213nm,0.9s
C20A Veseth Ranch, 59.06 336 ⇓P P 04 25 29.2 0.0
baz=59,SNR=5.1
HOPE Hope Point 59.16 153 P P 04 25 32.4 +2.7
comp=Z,3μm,0.7s,SNR=16
HOPE Hope Point 59.16 153 eP P 04 25 31.4 +1.7
comp=Z,689nm,0.8s
B21A Ellsworth Farm 59.26 338 ⇑P P 04 25 31.1 +0.5
baz=59,SNR=65
A22A Carney Farms, 59.32 339 ⇑P P 04 25 31.4 +0.4
baz=59,SNR=228
MFID Camas Ranch 59.43 328 eP P 04 25 31.8 -0.1
comp=Z,594nm,0.9s
C19A Slack Wire Ran 59.50 336 ⇑P P 04 25 32.4 +0.2
baz=60,SNR=117
LRM Limekiln Ridge 59.51 332 eP P 04 25 32.2 -0.4
SAC San Andreas 59.57 319 eP P 04 25 33.0 +0.1
SAC San Andreas 59.57 319 eP P 04 25 33.0 +0.1
B20A Solberg Farm, 59.66 337 ⇑P P 04 25 33.0 -0.3
baz=60,SNR=89
A21A Bergtoll Ranch 59.69 338 ⇑P P 04 25 33.5 0.0
baz=60,SNR=198
HRY Holter Researc 59.90 333 eP P 04 25 35.1 0.0
A20A Cobblestone Ra 59.98 337 ⇑P P 04 25 35.2 -0.3
baz=60,SNR=12
EGMT Eagleton 60.02 336 eP P 04 25 35.5 -0.4
EGMT Eagleton 60.02 336 ⇓P P 04 25 35.5 -0.4
baz=60,SNR=184
B19A Brinkman Farms 60.04 336 ⇑P P 04 25 35.6 -0.3
baz=60,SNR=175
MCCM Marconi Confer 60.20 320 eP P 04 25 37.3 +0.2
comp=Z,140nm,0.9s
WVOR Wild Horse Val 60.29 326 eP P 04 25 37.3 -0.5
WVOR pmax pmax
comp=Z,219nm,1.2s
WVOR Wild Horse Val 60.29 326 eP P 04 25 37.3 -0.5
comp=Z,219nm,1.2s
PMSA Palmer Station 60.31 173 P P 04 25 40.1 +2.7
comp=Z,46nm,0.6s,baz=332,slow=5.6,SNR=7.4
A19A Klindworth Far 60.34 337 ⇑P P 04 25 37.9 -0.1
baz=60,SNR=259
SCHQ Schefferville 60.40 7 P P 04 25 37.6 -0.6
comp=Z,145nm,0.9s,baz=190,slow=5.1,SNR=122
SCHQ PcP PcP 04 26 22.1 +0.3
comp=Z,93nm,0.9s,baz=188,slow=4.6,SNR=7.2
SCHQ PKPPKP P'P'df 04 54 54.6 -3.3
comp=Z,3.4nm,0.8s,baz=5.9,slow=6.6,SNR=4.8
SCHQ Schefferville 60.40 7 eP P 04 25 37.6 -0.6
comp=Z,579nm,1.5s
CHMT Chamberlain Mo 60.69 333 eP P 04 25 40.3 -0.3
HOPS Hopland Field 60.81 320 eP P 04 25 41.6 +0.3
comp=Z,41nm,1.5s
MOD Modoc Plateau 60.89 325 eP P 04 25 41.6 -0.3
MSO Missoula 60.95 332 eP P 04 25 42.0 -0.1
comp=Z,760nm,1.4s
MSO Missoula 60.95 332 ⇑P P 04 25 42.3 +0.1
baz=61,SNR=305
SLMT Seeley Lake 61.05 333 eP P 04 25 42.8 -0.1
BMO Blue Mountains 61.19 329 eP P 04 25 42.6 -1.2
comp=Z,65nm,0.9s
WDC Whiskeytown Da 61.41 322 eP P 04 25 43.5 -1.8
WDC pmax pmax
comp=Z,62nm,1.0s
WDC Whiskeytown Da 61.41 322 eP P 04 25 43.5 -1.8
comp=Z,62nm,1.0s
SWMT Swartz Lake 61.47 333 eP P 04 25 45.4 -0.3
KCPM Cahto Peak 61.53 321 eP P 04 25 47.1 +0.8
comp=Z,178nm,1.2s
KIPM Iron Peak 61.54 321 eP P 04 25 46.7 +0.4
M04C Macdoel 61.72 324 ⇓P P 04 25 47.1 -0.4
baz=62,SNR=132
YBMT Yellow Bay 61.74 333 eP P 04 25 47.8 +0.3

N02D Trinity Center 61.75 322 ⇑P P 04 25 46.3 -1.3
baz=62,SNR=37
K05A Summer Lake 61.75 325 eP P 04 25 48.2 +0.5
comp=Z,623nm,1.4s
JTMT Jette 61.78 333 eP P 04 25 47.7 -0.1
I07A Izee 61.84 327 eP P 04 25 48.3 0.0
comp=Z,364nm,1.0s
KMRM Mail Ridge 61.92 321 eP P 04 25 49.2 +0.4
comp=Z,363nm,1.4s
F10A Beach Ranch, E 61.92 330 eP P 04 25 48.6 -0.2
BLMT Blacktail Moun 62.01 333 eP P 04 25 50.0 +0.6
M02C Callahan 62.09 323 ⇑P P 04 25 49.1 -0.8
baz=62,SNR=53
BSMT Bassoo Peak 62.09 332 eP P 04 25 50.1 +0.2
K04D Chiloquin, OR 62.18 324 ⇓P P 04 25 50.4 -0.2
baz=62,SNR=26
YBH Yreka Blue Hor 62.20 323 eP P 04 25 49.4 -1.3
YBH pmax pmax
comp=Z,123nm,0.9s
YBH Yreka Blue Hor 62.20 323 eP P 04 25 49.4 -1.3
comp=Z,123nm,0.9s
J05D Fort Rock, OR 62.30 325 ⇑P P 04 25 51.3 -0.1
baz=62,SNR=91
KHMM Horse Mountain 62.31 322 eP P 04 25 51.8 +0.2
comp=Z,447nm,1.5s
G08A Pilot Rock 62.35 328 eP P 04 25 51.8 +0.2
H10S3 ASCENSION HYDR 62.42 97 P P 04 25 54.4 +2.1
H10S1 ASCENSION HYDR 62.43 97 P P 04 25 54.3 +1.9
H10S2 ASCENSION HYDR 62.44 97 P P 04 25 54.5 +2.1
WALA Waterton Lakes 62.59 334 eP P 04 25 53.2 +0.1
comp=Z,7μm,0.9s
H10N3 ASCENSION HYDR 62.60 96 P P 04 25 56.2 +2.7
baz=264,slow=5.5,SNR=16
H10N2 ASCENSION HYDR 62.62 96 P P 04 25 56.5 +3.0
baz=264,slow=5.5,SNR=14
H10N1 ASCENSION HYDR 62.63 96 P P 04 25 56.2 +2.6
baz=264,slow=5.5,SNR=16
ASCN Ascension 62.74 96 P P 04 25 57.6 +2.9
comp=Z,4μm,0.8s,SNR=13
ASCN Ascension 62.74 96 eP P 04 25 56.4 +1.7
comp=Z,713nm,0.8s
J04D Umpqua Nationa 62.77 325 ⇑P P 04 25 54.5 0.0
baz=63,SNR=77
HUMO Hull Mountain 62.88 324 eP P 04 25 54.3 -0.8
comp=Z,46nm,1.1s
L02D Cave Junction, 62.99 323 ⇑P P 04 25 55.9 0.0
baz=63,SNR=33
I05D Terrebonne, OR 63.02 326 ⇑P P 04 25 56.1 +0.1
baz=63,SNR=115
FFC Flin Flon 63.03 344 P P 04 25 55.9 +0.1
comp=Z,1μm,1.1s
FFC Flin Flon 63.03 344 eP P 04 25 55.1 -0.7
FFC pmax pmax
comp=Z,259nm,1.1s
FFC Flin Flon 63.03 344 eP P 04 25 55.1 -0.7
comp=Z,259nm,1.1s
ROSA Rosais 63.05 42 eP P 04 26 00.1 +3.9
G06A Carlson Farm, 63.21 327 eP P 04 25 58.1 +0.8
comp=Z,336nm,1.4s
I04A Tendick Farm, 63.28 325 ⇓P P 04 25 57.5 -0.3
baz=63,SNR=26
PGRA Graciosa 63.38 42 eP P 04 26 00.7 +2.3
HAWA Hanford 63.38 329 eP P 04 25 58.4 +0.1
comp=Z,300nm,1.7s
KBO Bosley Butte 63.40 323 eP P 04 25 59.6 +1.0
comp=Z,622nm,1.3s
NEW Newport 63.47 332 eP P 04 25 58.6 -0.3
NEW pmax pmax
comp=Z,210nm,0.9s
NEW Newport 63.47 332 eP P 04 25 58.6 -0.3
comp=Z,210nm,0.9s
NEW Newport 63.47 332 ⇑P P 04 25 58.6 -0.3
baz=64,SNR=167
D08A Wollman Farm, 63.52 330 eP P 04 25 59.2 0.0
comp=Z,1μm,3.0s
BBTS Babate 63.54 71 P P 04 26 01.3 +1.4
comp=Z,128nm,0.8s,baz=279,slow=2.2,SNR=17
G05D Wamic, OR 63.58 327 ⇑P P 04 26 00.3 +0.7
baz=64,SNR=46
OD2 Odessa Site #2 63.64 330 eP P 04 26 00.0 0.0
E07A Sunnyside 63.66 329 eP P 04 26 00.6 +0.4
comp=Z,236nm,0.9s
C09A Chrisman Ranch 63.71 331 eP P 04 26 01.0 +0.6
comp=Z,182nm,1.3s
H04A Detroit Lake 63.71 326 eP P 04 26 00.0 -0.5
comp=Z,175nm,1.0s
I03D Drain, OR 63.76 325 ⇓P P 04 26 00.8 0.0
baz=64,SNR=18
KEBM Edson Butte 63.85 323 eP P 04 26 02.2 +0.7
comp=Z,430nm,1.1s
YA2 Yakima 63.99 328 eP P 04 26 03.6 +1.2
RNO Roman Nose 64.12 325 eP P 04 26 03.5 +0.2
G04A Mulino 64.19 326 eP P 04 26 03.7 0.0
COR Corvallis 64.28 325 eP P 04 26 05.0 +0.8
COR pmax pmax
comp=Z,593nm,1.4s
COR Corvallis 64.28 325 eP P 04 26 05.0 +0.8
comp=Z,592nm,1.4s
PSET Sete Cidades 64.29 44 eP P 04 26 07.5 +3.1
PSMN Pico do Norte, 64.34 45 eP P 04 26 08.8 +4.0
WTV Waterville 64.47 330 eP P 04 26 05.7 +0.2
LTY Liberty 64.54 329 eP P 04 26 06.2 +0.3
comp=Z,329nm,1.6s
ETW Entiat 64.60 329 eP P 04 26 06.6 +0.2
B08A Colville Reser 64.61 330 eP P 04 26 06.3 0.0
comp=Z,140nm,0.9s
F04A Amboy 64.62 327 eP P 04 26 06.5 +0.1
comp=Z,211nm,1.0s
G03D McMinnville, O 64.64 326 ⇓P P 04 26 07.0 +0.5
baz=65,SNR=5.4
LON Longmire 64.81 328 eP P 04 26 07.6 -0.1
LON pmax pmax
comp=Z,104nm,1.0s
LON Longmire 64.81 328 eP P 04 26 07.6 -0.1
comp=Z,104nm,1.0s
F04D Rainier, OR 65.03 327 ⇑P P 04 26 09.8 +0.7
baz=65,SNR=12
FCC Fort Churchill 65.06 351 eP P 04 26 07.8 -1.1
FCC pmax pmax
comp=Z,9μm,0.9s
FCC Fort Churchill 65.06 351 eP P 04 26 07.8 -1.1
comp=Z,9μm,0.9s
D05A Enumclaw 65.18 328 eP P 04 26 10.0 0.0
comp=Z,391nm,0.9s
F03A Seaside 65.24 326 eP P 04 26 10.9 +0.5
PNT Penticton 65.39 331 eP P 04 26 12.0 +0.6
PNT Penticton 65.39 331 eP P 04 26 12.0 +0.6
EDM Edmonton 65.51 337 eP P 04 26 11.1 -1.0
EDM Edmonton 65.51 337 eP P 04 26 11.1 -1.0
E03A Lebam 65.62 327 eP P 04 26 13.2 +0.4
comp=Z,412nm,1.1s
B06A Marblemount 65.78 330 eP P 04 26 13.4 -0.4
comp=Z,170nm,0.9s
JCW Jim Creek 65.80 329 eP P 04 26 13.3 -0.7
NLWA Neilton Lookou 66.31 328 eP P 04 26 17.7 +0.5
comp=Z,234nm,1.0s
PGC Sidney 66.87 329 eP P 04 26 21.2 +0.5
comp=Z,4μm,0.9s
PMOZ Porto Moniz, M 68.43 52 *i* P P 04 26 31.6 +0.6
comp=Z,311nm,0.8s
PMOZ eS S 04 35 26.8 +4.1
PMOZ eSS SS 04 39 47.1 -2.0
FUL Funchal 68.60 52 eP P 04 26 33.1 +1.1
PMAR Madeira 68.61 52 eP P 04 26 35.6 +3.3
comp=Z,165nm,1.0s
PMPS Porto Santo 69.19 52 eP P 04 26 38.1 +2.5
comp=Z,349nm,1.6s
MEH Mehetia 69.96 253 eP P 04 26 42.6 +1.9
comp=Z,31nm,1.0s
SHEL Horse Pasture 71.08 105 P P 04 26 50.1 +2.6
comp=Z,2μm,0.7s,SNR=6.9
SHEL Horse Pasture 71.08 105 eP P 04 26 49.6 +2.1
SHEL pmax pmax
comp=Z,303nm,0.8s
SHEL Horse Pasture 71.08 105 eP P 04 26 49.6 +2.1
comp=Z,302nm,0.8s
TVO Taravao 71.09 253 epP pP 04 27 21.4 +2.0
comp=Z,39nm,1.1s
TIAR Tiarei 71.18 253 eP P 04 26 50.0 +1.9
comp=Z,14nm,0.9s
TIAR epP pP 04 27 21.6 +1.7
comp=Z,23nm,1.0s
PPT Papeete 71.40 253 LR LR 04 50 35.4
comp=Z,2μm,18.8s,baz=92,slow=29
PPT2 Papeete2 71.40 253 eP P 04 26 51.8 +2.4
comp=Z,84nm,1.5s

PPT2 epP pP 04 27 22.9 +1.6
comp=Z,165nm,1.5s
PPT2 eS S 04 35 55.4 -2.4
comp=Z,5μm,27.2s
PPT2 Papeete2 71.40 253 eLR LR 04 48 47.2
comp=Z,8μm,38.8s
PAE Paea 71.40 253 eP P 04 26 51.5 +2.1
comp=Z,21nm,0.9s
PAE epP pP 04 27 23.2 +2.0
comp=Z,31nm,1.0s
TBI Tubuai 71.43 247 eS S 04 35 58.4 +0.5
comp=Z,4μm,28.0s
TBI Tubuai 71.43 247 eLR LR 04 48 53.9
comp=Z,2μm,38.0s
YKA Yellowknife Ar 73.13 343 P P 04 26 57.7 -0.9
comp=Z,32nm,0.6s,baz=139,slow=5.9,SNR=377
YKA P4KPbc 05 03 37.2
comp=Z,0.6nm,0.8s,baz=137,slow=4.4,SNR=6.9
YKB5 Yellowknife Ar 73.13 343 eP P 04 26 57.7 -1.0
LIC Lamto 73.22 82 ⇓*i*P P 04 27 00.8 +0.5
comp=Z,196nm,0.9s,baz=262
LIC eR
comp=Z,2μm,19.5s
LIC Lamto 73.22 82 eP P 04 27 00.6 +0.3
comp=Z,285nm,0.9s
LIC Lamto 73.22 82 eP P 04 27 00.8 +0.5
TIC Toumodi 73.28 82 eP P 04 27 00.9 +0.3
comp=Z,439nm,0.8s
DBIC Dimbokro 73.44 82 P P 04 27 02.5 +0.9
comp=Z,296nm,0.7s,baz=244,slow=5.4,SNR=256
DBIC Dimbokro 73.44 82 P P 04 27 02.5 +0.9
DBIC pmax pmax
comp=Z,297nm,0.7s
DBIC Dimbokro 73.44 82 eP P 04 27 02.1 +0.6
comp=Z,288nm,0.7s
KIC Kosan Boka 73.52 82 eP P 04 27 02.4 +0.4
comp=Z,685nm,0.8s
H02S1 DAWSON INLET T 74.16 329 P P 04 27 06.0 +1.1
H02N1 VAN INLET T-PH 74.22 329 P P 04 27 06.1 +0.7
SFJD Kangerlussuaq 74.48 11 ⇓*i*P P 04 27 05.5 -1.0
comp=Z,39nm,0.8s
comp=Z,760nm,17.0s
SFJD Kangerlussuaq 74.48 11 ⇓*i*P P 04 27 05.5 -1.0
SFJD pmax pmax
comp=Z,39nm,0.8s
SFJD MLR MLR
comp=Z,760nm,17.0s
SFJD Kangerlussuaq 74.48 11 eP P 04 27 05.7 -0.8
comp=Z,320nm,1.6s
CRAG Craig 75.68 331 eP P 04 27 14.2 +0.6
WRAK Wrangell Islan 75.83 332 eP P 04 27 14.7 +0.3
comp=Z,105nm,1.3s
DLBC Dease Lake 75.92 335 eP P 04 27 15.3 +0.3
PFVI Vila Bisbo 76.34 50 *i* P P 04 27 19.1 +1.3
comp=Z,335nm,1.1s
ILULI Ilulissat 76.37 9 ⇓*i*P P 04 27 16.6 -0.6
comp=Z,133nm,0.9s
ILULI *i* pP pP 04 27 47.4 -2.1
ILULI *i* S S 04 36 48.1 -3.3
comp=Z,850nm,16.0s
MORF Marmelete 76.52 50 eP P 04 27 19.4 +0.5
MORF AMb AMB 04 27 38.9
comp=Z,387nm,1.4s
MORF eS S 04 36 55.3 +0.7
MORF Marmelete 76.52 50 *i* P P 04 27 20.5 +1.6
comp=Z,384nm,0.9s
MORF epP pP 04 27 54.2 +3.1
MORF Marmelete 76.52 50 eP P 04 27 19.4 +0.5
MORF eS S 04 36 55.2 +0.7
MORF pmax pmax
comp=Z,387nm,1.4s
PTEO Sao Teotonio 76.54 50 *i* P P 04 27 20.4 +1.5
comp=Z,258nm,1.1s
PMAFR Mafra 76.55 48 *i* P P 04 27 19.7 +0.8
comp=Z,180nm,1.4s
PMST Lisbon--Monsan 76.55 48 *i* P P 04 27 20.1 +1.2
comp=Z,242nm,1.0s
LIS Lisbon 76.57 48 eP P 04 27 19.7 +0.6
LIS AMb AMB 04 27 37.9
comp=Z,226nm,0.9s
LIS eS S 04 36 55.8 +0.9
LIS Lisbon 76.57 48 *i* P P 04 27 20.2 +1.2
comp=Z,227nm,0.8s
LIS Lisbon 76.57 48 eP P 04 27 19.6 +0.6
LIS eS S 04 36 55.7 +0.9
LIS pmax pmax
comp=Z,226nm,0.9s
PACT Alcochete 76.82 48 *i* P P 04 27 21.8 +1.4
comp=Z,332nm,1.3s
PNCL Nicolau / Gran 76.85 49 *i* P P 04 27 21.6 +1.0
comp=Z,167nm,1.0s
PNCL epP pP 04 27 54.5 +1.6
MESJ Messejana 77.01 49 eP P 04 27 21.6 0.0
MESJ eS S 04 37 00.4 +0.7
MESJ Messejana 77.01 49 *i* P P 04 27 21.8 +0.3
comp=Z,92nm,1.4s
MESJ Messejana 77.01 49 eP P 04 27 21.5 0.0
MESJ eS S 04 37 00.3 +0.7
PBDV Barranco-do-Ve 77.05 50 *i* P P 04 27 22.2 +0.4
comp=Z,195nm,0.8s
PCVE Castro Verde 77.08 50 *i* P P 04 27 23.2 +1.3
comp=Z,37nm,0.9s
PCVE epP pP 04 27 56.1 +1.9
PVAQ Vaqueiros 77.26 50 *i* P P 04 27 24.1 +1.2
comp=Z,93nm,1.0s
PVAQ epP pP 04 27 57.7 +2.5
PVAQ Vaqueiros 77.26 50 ePP PP 04 30 25.9 +7.0
PVAQ eS S 04 37 02.6 +0.2
PVAQ eSS SS 04 42 11.3 +7.8
EVOP Sao Brissos 77.28 49 ePcP PcP 04 27 41.1 +8.0
PMTG Montargil 77.36 48 *i* P P 04 27 23.0 -0.5
comp=Z,140nm,0.8s
PMTG epP pP 04 27 56.9 +1.1
EVO Evora 77.37 49 ⇓*i*P P 04 27 24.0 +0.5
comp=Z,177nm,0.9s
EVO epP PcP 04 27 41.1 +7.6
EVO eR
comp=Z,2μm,18.8s
EVO Evora 77.37 49 *i* P P 04 27 24.0 +0.5
comp=Z,105nm,1.5s
PTOM Tomar 77.39 48 *i* P P 04 27 24.2 +0.6
comp=Z,212nm,0.9s
PCAS Casmilo, Conde 77.46 47 *i* P P 04 27 24.7 +0.7
comp=Z,190nm,1.1s
PCAS epP pP 04 27 57.8 +1.5
SIT Sitka 77.56 332 eP P 04 27 24.2 +0.1
SIT Sitka 77.56 332 eP P 04 27 24.2 +0.1
PTO Porto 77.72 46 eP P 04 27 26.1 +0.7
comp=Z,314nm,0.8s
PESTR Estremoz 77.78 49 *i* P P 04 27 26.4 +0.6
comp=Z,194nm,1.3s
PESTR epP pP 04 28 00.3 +2.1
PBAR Barrancos 78.00 49 *i* P P 04 27 28.0 +1.0
comp=Z,186nm,1.2s
PMRV Marv??o 78.09 48 *i* P P 04 27 27.7 +0.2
comp=Z,75nm,1.8s
PMRV epP pP 04 28 01.7 +1.8
PMRV eS S 04 37 13.8 +2.5
PMRV eSS SS 04 42 18.1 +2.2
PVIS Viseu 78.10 47 *i* P P 04 27 28.2 +0.6
comp=Z,216nm,0.8s
BESE Bessie Mountai 78.12 333 eP P 04 27 27.7 +0.4
comp=Z,330nm,1.8s
VNA3 Neumayer Olymp 78.14 162 P P 04 27 28.7 +1.5
PCBR Castelo Branco 78.15 48 *i* P P 04 27 27.9 +0.1
comp=Z,100nm,1.5s
PCBR epP pP 04 28 02.3 +2.2
PGAV Gavieira, Arco 78.21 45 *i* P P 04 27 28.3 +0.1
comp=Z,104nm,1.1s
PGAV eS S 04 37 15.5 +2.8
PGAV eSS SS 04 42 22.8 +5.1
MTE Manteigas 78.26 47 *i* P P 04 27 29.0 +0.5
comp=Z,112nm,0.8s
MTE epP pP 04 28 03.4 +2.5
MTE Manteigas 78.26 47 ePP PP 04 30 29.4 +2.2
MTE eS S 04 37 12.8 -0.4
MTE eSS SS 04 42 26.0 +7.5
PCAB Cabril 78.30 46 *i* P P 04 27 29.0 +0.3
comp=Z,130nm,2.3s
POLO Lamas de Olo 78.37 46 *i* P P 04 27 29.4 +0.3
comp=Z,86nm,0.9s
POLO epP pP 04 28 03.6 +2.1
VNA1 Neumayer--Stat 78.38 161 P P 04 27 29.8 +1.3
PVRL Vila Real 78.40 46 *i* P P 04 27 29.7 +0.5
comp=Z,157nm,0.8s
PVRL epP pP 04 28 03.2 +1.6

MDT Midelt 78.52 55 P **P** **04 27 31.6 +1.4**
comp=Z,65nm,0.8s,baz=266,slow=5.1,SNR=87
VNA2 Neumayer--Watz 78.74 162 P **P** **04 27 31.5 +1.0**
baz=292,slow=5.2
SKAG Skagway 78.78 334 *eP* **P** **04 27 30.7 -0.1**
MVO Moncorvo 78.86 46 *i* P **P** **04 27 32.1 +0.3**
comp=Z,226nm,0.9s
MVO *eS* **S** **04 37 21.2 +1.7**
MVO *eSS* **SS** **04 42 33.8 +6.3**
PBRG Braganca 79.25 46 *i* P **P** **04 27 33.8 -0.1**
comp=Z,145nm,2.1s
STCH Steam Cracks 80.08 291 *eP* **P** **04 27 39.1 +0.3**
VAL Valentia 80.29 35⇓*iP* **P** **04 27 39.4 +0.3**
VAL Valentia 80.29 35⇓*iS* **S** **04 37 34.8 +0.9**
SNAA Sanae 80.35 162 P **P** **04 27 37.9 -1.4**
SNAA Sanae 80.35 162 P **P** **04 27 40.2 +0.9**
comp=Z,141nm,0.8s,baz=277,slow=5.6,SNR=696
SNAA Sanae 80.35 162 P **P** **04 27 40.2 +0.9**
SNAA pmax pmax
comp=Z,141nm,0.8s
SNAA Sanae 80.35 162 *eP* **P** **04 27 36.9 -2.3**
comp=Z,374nm,0.8s
RES Resolute Bay 80.39 355 *eP* **P** **04 27 38.6 -0.6**
RES pmax pmax
comp=Z,113nm,0.9s
RES Resolute Bay 80.39 355 *eP* **P** **04 27 38.6 -0.6**
comp=Z,113nm,0.9s
PAB San Pablo 80.39 49 *eP* **P** **04 27 40.8 +0.7**
PAB pmax pmax
comp=Z,335nm,1.7s
PAB San Pablo 80.39 49 *eP* **P** **04 27 40.8 +0.7**
comp=Z,335nm,1.7s
HYT Haines Junctio 80.41 335 *eP* **P** **04 27 40.2 +0.4**
KULLO Kullorsuaq 80.53 5⇓*iP* **P** **04 27 39.7 -0.3**
comp=Z,152nm,0.9s
KULLO *i* pP **pP** **04 28 10.2 -2.3**
KULLO *i* S **S** **04 37 33.8 -1.9**
comp=Z,1μm,20.0s
TOA0 Torodi Ar. Sit 80.68 76 *eP* **P** **04 27 41.5 -0.5**
TOA0 *eP'P'df* P'P'df 04 54 11.4 -15
TORD Torodi Ar. Bea 80.68 76 P **P** **04 27 42.3 +0.2**
comp=Z,155nm,0.8s,baz=282,slow=4.2,SNR=521
TORD S **S** **04 37 38.4 -1.1**
comp=Z,8.6nm,1.3s,baz=274,slow=7.1,SNR=7.6
TORD PKPPKP P'P'df 04 54 11.4 -15
comp=Z,1.2nm,1.0s,baz=63,slow=2.1,SNR=3.7
TORD LR LR 05 03 29.8
comp=Z,2μm,20.1s,baz=260,slow=36
ESDC Sonseca Array 80.71 49 P **P** **04 27 42.7 +0.9**
comp=Z,73nm,0.9s,baz=260,slow=5.7,SNR=184
ESDC PKKPbc **PKKPbc** **04 46 21.3 -0.8**
comp=Z,1.8nm,0.7s,baz=15,slow=3.7,SNR=9.6
ESDC PKPPKP **P'P'df** **04 54 23.4 -1.8**
comp=Z,0.4nm,0.5s,baz=48,slow=3.0,SNR=5.1
ESDC LR LR 05 00 59.1
comp=Z,364nm,20.6s,baz=240,slow=34
ES19 SONSECA Array 80.76 49 *eP* **P** **04 27 41.9 -0.2**
BORG Borgarnes 80.93 21 P **P** **04 27 44.8 +2.5**
comp=Z,1μm,1.0s,SNR=7.5
BORG Borgarnes 80.93 21 *eP* **P** **04 27 43.2 +0.9**
BORG pmax pmax
comp=Z,210nm,1.0s
BORG Borgarnes 80.93 21 *eP* **P** **04 27 43.1 +0.9**
comp=Z,210nm,1.0s
HLK Haleakala 81.34 292 *eP* **P** **04 27 45.6 -0.1**
SUMG Summit 81.46 11⇓*iP* **P** **04 27 45.7 +0.2**
comp=Z,229nm,0.9s
SUMG *i* pP **pP** **04 28 15.8 -2.3**
SUMG *i* S **S** **04 37 45.7 -0.6**
SUMG Summit 81.46 11⇓*iP* **P** **04 27 45.7 +0.2**
SUMG *i* *PP **pP** **04 28 15.8 -2.3**
SUMG *i* S **S** **04 37 45.7 -0.6**
SUMG pmax pmax
comp=Z,230nm,0.9s
SUMG Summit 81.46 11 *eP* **P** **04 27 45.5 0.0**
comp=Z,340nm,0.9s
CCA1 Carnmenellis 82.70 38 *eP* **P** **04 27 52.2 +0.3**
CCA1 AMB AMB 04 27 54.4
comp=Z,380nm,1.0s
DAWY Dawson 82.72 337 *eP* **P** **04 27 51.3 -0.5**
INK Inuvik 82.84 342 S **S** **04 37 58.3 -1.3**
comp=Z,1.3nm,0.8s,baz=298,slow=30,SNR=8.1
INK Inuvik 82.84 342 *eP* **P** **04 27 52.1 -0.1**
INK *eS* **S** **04 37 58.3 -1.3**
INK pmax pmax
comp=Z,504nm,1.1s
INK Inuvik 82.84 342 *eP* **P** **04 27 52.1 -0.1**
comp=Z,504nm,1.1s
INK *eS* **S** **04 37 58.3 -1.3**
DSB Dublin 82.95 35 *eP* **P** **04 27 53.6 +0.5**
comp=Z,221nm,1.4s
KIP Kipapa 83.07 292⇑*eP* **P** **04 27 56.1 +1.7**
KIP pmax pmax
comp=Z,72nm,1.4s
QUIF Quistinic 83.38 41⇓*iP* **P** **04 27 56.0 +0.6**
comp=Z,372nm,0.9s
HTL Hartland 83.39 37 *eP* **P** **04 27 55.5 +0.1**
HTL AMB AMB 04 27 57.8
comp=Z,228nm,1.0s
RAGM Ragged Mountai 83.41 333 *eP* **P** **04 27 55.7 +0.3**
comp=Z,304nm,1.1s
ROSF Rostrenen 83.42 40⇓*iP* **P** **04 27 56.2 +0.6**
comp=Z,386nm,0.9s
GMM Mts of Mourne 83.50 34 *eP* **P** **04 27 55.8 -0.1**
SJPF Ste Jean 83.53 46⇓*iP* **P** **04 27 57.5 +1.1**
comp=Z,550nm,0.9s
SJPF *ep*P pP 04 28 16.4 -13
DYA Yadsworthy 83.57 38 *eP* **P** **04 27 56.4 0.0**
DYA Yadsworthy 83.57 38 *eP* **P** **04 27 57.0 +0.6**
comp=Z,280nm,1.5s
BMRM Bremner River 83.60 333 *eP* **P** **04 27 56.2 -0.1**
comp=Z,199nm,1.0s
EGAK Eagle 83.73 337 *eP* **P** **04 27 56.6 -0.3**
comp=Z,470nm,1.1s
EANR 'Ain N'Sour 83.81 53 P **P** **04 27 59.5 +1.5**
HEX Exmoor 83.82 38 *eP* **P** **04 27 58.3 +0.6**
ETRT Tiaret 83.86 54 P **P** **04 28 00.0 +1.6**
SGMF Saint Gilles 83.86 40⇓*iP* **P** **04 27 58.3 +0.4**
comp=Z,455nm,0.9s
SGMF Saint Gilles 83.86 40 *eP* **P** **04 27 58.3 +0.4**
SGMF Saint Gilles 83.86 40 *eP* **P** **04 27 58.3 +0.4**
LPW Lampeter 83.95 36 *eP* **P** **04 27 58.5 +0.2**
LPW AMB AMB 04 28 00.4
comp=Z,413nm,0.9s
ETSF Etsaut 83.96 46⇓*iP* **P** **04 27 59.7 +1.1**
comp=Z,262nm,0.9s
YRE Yr Eifi 83.99 36 *eP* **P** **04 27 58.6 +0.2**
ECHA Ech Chlef 84.05 53 P **P** **04 28 01.0 +1.9**
WLF1 Llynfaes 84.10 35 *eP* **P** **04 27 57.8 -1.1**
DIV Divide 84.18 333 *eP* **P** **04 27 59.3 -0.1**
comp=Z,118nm,0.9s
YLL Llanberis 84.18 35 *eP* **P** **04 27 59.9 +0.5**
EBNR Beni Rached 84.21 53 P **P** **04 28 01.7 +1.7**
JSA Saint Aubin 84.34 40 *eP* **P** **04 28 00.9 +0.6**
JSA AMB AMB 04 28 02.5
comp=Z,236nm,1.0s
WPM1 Penmaenmawr 84.37 35 *eP* **P** **04 28 00.3 0.0**
GAL1 Galloway 84.38 34 *eP* **P** **04 28 00.0 -0.3**
KLU Klutina 84.38 333 *eP* **P** **04 27 59.8 -0.6**
comp=Z,212nm,0.9s
KLU *ePP* **PP** **04 31 14.8 -2.4**
DOT Dot Lake 84.41 336 *eP* **P** **04 28 00.1 -0.3**
comp=Z,263nm,1.0s
DOT *ePP* **PP** **04 31 19.9 +2.6**
SCRK Sand Creek 84.51 336 *eP* **P** **04 28 00.8 -0.2**
comp=Z,193nm,1.0s
MCH1 Michaelchurch 84.56 37 *eP* **P** **04 28 01.3 0.0**
MCH1 AMB AMB 04 28 03.1
comp=Z,152nm,1.0s
KPL Plockton 84.62 31 *eP* **P** **04 28 01.6 +0.1**
KPL AMB AMB 04 28 04.0
comp=Z,187nm,1.0s
EPF Esparros 84.63 46⇓*iP* **P** **04 28 03.0 +1.0**
comp=Z,386nm,0.9s
EPF *ep*P pP 04 28 22.2 -13
MONM Monmouth 84.63 37 *eP* **P** **04 28 01.4 -0.2**
MONM AMB AMB 04 28 03.7
comp=Z,281nm,1.1s
FOEL Foel Wylfa 84.68 36 *eP* **P** **04 28 01.8 -0.1**
FOEL AMB AMB 04 28 03.8
comp=Z,175nm,1.1s
KSB Sheil Bridge 84.70 31 *eP* **P** **04 28 01.4 -0.5**
HLM1 Long Mynd 84.77 36 *eP* **P** **04 28 02.4 0.0**
HLM1 AMB AMB 04 28 04.3
comp=Z,216nm,1.1s

PGBU Glenifferbraes 84.78 33 *eP* **P** **04 28 01.9 -0.5**
PGBU AMB AMB 04 28 05.2
comp=Z,189nm,2.1s
KAC Achnashellach 84.85 31 *eP* **P** **04 28 02.1 -0.6**
QSPA South Pole Qui 84.96 180 PKKP PKKPbc 04 46 07.3 -6.5
comp=Z,4.7nm,0.8s,baz=288,slow=1.3,SNR=11
EAB Aberfoyle 84.97 32 *eP* **P** **04 28 02.8 -0.4**
NVL N'lazarevskaya 84.97 161⇑*iP* P 04 27 56.4 -6.7
NVL pmax pmax
comp=Z,283nm,0.6s
GRR Gorron 84.99 41⇓*iP* **P** **04 28 03.9 +0.3**
comp=Z,352nm,1.0s
STRD Stroud 85.00 37 *eP* **P** **04 28 03.9 +0.3**
STRD AMB AMB 04 28 06.8
comp=Z,262nm,0.9s
MFF Saint Martin d 85.06 42⇓*iP* **P** **04 28 04.4 +0.4**
comp=Z,212nm,0.8s
MFF *ep*P pP 04 28 24.4 -12
SCM Sheep Creek Mo 85.13 333 *eP* **P** **04 28 03.9 -0.2**
SCM *e* 04 31 18.9
SCM pmax pmax
comp=Z,127nm,0.9s
SCM Sheep Creek Mo 85.13 333 *eP* **P** **04 28 03.9 -0.2**
comp=Z,127nm,0.9s
SCM *ePP* **PP** **04 31 18.9 -4.3**
SWN1 Swindon 85.15 37 *eP* **P** **04 28 04.6 +0.3**
SWN1 AMB AMB 04 28 06.4
comp=Z,376nm,1.1s
KESW Keswick, Cumbr 85.19 34 *eP* **P** **04 28 04.2 -0.2**
KESW AMB AMB 04 28 06.6
comp=Z,195nm,1.1s
DDM Donnelly Dome 85.21 336 *eP* **P** **04 28 03.8 -0.6**
comp=Z,109nm,1.0s
DDM *ePP* **PP** **04 31 21.6 -2.2**
LFF La Frestale 85.31 44⇓*iP* **P** **04 28 05.8 +0.5**
comp=Z,587nm,1.1s
LFF *ep*P pP 04 28 25.4 -13
LFF La Frestale 85.31 44 *eP* **P** **04 28 05.8 +0.5**
LFF La Frestale 85.31 44 *eP* **P** **04 28 05.8 +0.5**
MDO Dochfour 85.32 31 *eP* **P** **04 28 04.5 -0.5**
FLN La Foliniere 85.32 40⇓*iP* **P** **04 28 05.6 +0.4**
comp=Z,408nm,0.9s
FLN *eR*
comp=Z,776nm,20.5s
EMHD Djebel Mahouad 85.33 53 P **P** **04 28 07.0 +1.3**
ESK Eskdalemuir 85.33 34 P **P** **04 28 05.9 +0.8**
comp=Z,475nm,0.8s,SNR=12
ESK Eskdalemuir 85.33 34 *eP* **P** **04 28 04.6 -0.6**
ESK AMB AMB 04 28 07.8
comp=Z,177nm,1.8s
ESK Eskdalemuir 85.33 34 *eP* **P** **04 28 05.3 +0.2**
ESK pmax pmax
comp=Z,264nm,2.3s
ESK Eskdalemuir 85.33 34 *eP* **P** **04 28 05.3 +0.2**
comp=Z,264nm,2.3s
ECK Cauldkaine Hil 85.34 34 *eP* **P** **04 28 04.7 -0.4**
WOL Wolverton 85.45 38 *eP* **P** **04 28 05.9 +0.1**
WOL AMB AMB 04 28 08.4
comp=Z,214nm,2.1s
LDF La Druitiere 85.52 41⇓*iP* **P** **04 28 06.5 +0.3**
comp=Z,347nm,1.0s
SEW Seward 85.54 331 *eP* **P** **04 28 05.3 -0.7**
comp=Z,151nm,1.1s
EBL Broad Law 85.55 33 *eP* **P** **04 28 06.0 -0.2**
MVH1 Achvaich 85.55 31 *eP* **P** **04 28 05.7 -0.4**
LHO Holmfirth 85.63 35 *eP* **P** **04 28 06.8 +0.2**
EDU Dundee 85.77 32 *eP* **P** **04 28 07.5 +0.2**
SKP1 Kophill 85.80 37 *eP* **P** **04 28 06.9 -0.6**
ESY Stoneypath 85.82 33 *eP* **P** **04 28 07.6 +0.1**
BIGH Upper Bighouse 85.86 30 *eP* **P** **04 28 07.1 -0.5**
PMR Palmer 85.86 333 *eP* **P** **04 28 06.9 -0.7**
PMR *e* 04 31 29.0
PMR pmax pmax
comp=Z,126nm,1.2s
PMR Palmer 85.86 333 *eP* **P** **04 28 06.9 -0.7**
comp=Z,126nm,1.2s
PMR *ePP* **PP** **04 31 29.0 0.0**
HPK Haverah Park 85.87 35 *eP* **P** **04 28 07.9 +0.1**
HPK AMB AMB 04 28 10.7
comp=Z,185nm,1.7s
RJF Les Rejaudoux 85.92 44⇓*iP* **P** **04 28 08.3 0.0**
comp=Z,220nm,1.0s
RJF *eR*
comp=Z,1μm,19.8s
RJF Les Rejaudoux 85.92 44 *eP* **P** **04 28 08.3 0.0**
RJF Les Rejaudoux 85.92 44 *eP* **P** **04 28 08.3 0.0**
MCD Coleburn Disti 85.93 31 *eP* **P** **04 28 07.7 -0.3**
MCD *eP* **PcP** **04 28 07.9 -2.7**
IL1 Eielson Array 85.98 336 *eP* **P** **04 28 07.6 -0.5**
IL1 *ePP* **PP** **04 31 28.6 -1.3**
ILAR Eielson Array 85.98 336 P **P** **04 28 07.3 -0.9**
comp=Z,85nm,0.9s,baz=132,slow=3.2,SNR=338
ILAR pP **pP** **04 28 38.9 -2.2**
comp=Z,32nm,0.8s,baz=141,slow=3.5,SNR=6.2
ILAR PP **PP** **04 31 27.4 -2.4**
comp=Z,19nm,1.0s,baz=109,slow=6.9,SNR=7.2
ILAR PKKP **PKKPbc** **04 46 07.4 -3.5**
comp=Z,1.6nm,0.8s,baz=304,slow=2.7,SNR=7.6
ILAR LR LR 05 08 45.6
comp=Z,1μm,19.3s,baz=117,slow=37
ILAR Eielson Array 85.98 336 P **P** **04 28 07.3 -0.9**
ILAR *PP **pP** **04 28 38.9 -2.2**
ILAR 04 31 27.5
ILAR pmax pmax
comp=Z,85nm,0.9s
ILAR pmax pmax
comp=Z,32nm,0.8s
ILAR pmax pmax
comp=Z,19nm,1.0s
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILAR MLR MLR
comp=Z,1μm,19.3s
ILB Eielson Array 85.98 336 *eP* **P** **04 28 07.3 -0.9**
ILB *epP* **pP** **04 28 38.9 -2.2**
ILB *ePP* **PP** **04 31 27.4 -2.4**
RC01 Rabbit Creek A 85.98 332 *eP* **P** **04 28 07.8 -0.5**
comp=Z,218nm,1.2s
RC01 *ePP* **PP** **04 31 33.6 +3.6**
FYU Fort Yukon 86.01 338 *eP* **P** **04 28 08.6 +0.3**
comp=Z,652nm,1.7s
MME1 Meikle Cairn 86.01 32 *eP* **P** **04 28 07.9 -0.5**
MTLF Montolieu 86.04 46⇓*iP* **P** **04 28 09.3 +0.4**
comp=Z,186nm,1.0s
MTLF *epP* pP 04 28 28.9 -13
MTLF Montolieu 86.04 46 *eP* **P** **04 28 09.3 +0.4**
MTLF Montolieu 86.04 46 *eP* **P** **04 28 09.3 +0.4**
MLA1 Latheron 86.08 31 *eP* **P** **04 28 09.3 +0.6**
LCP Cassop 86.15 34 *eP* **P** **04 28 09.5 +0.4**
DRUM Mains of Drumt 86.15 32 *eP* **P** **04 28 09.1 0.0**
CAF Calviac 86.23 44⇓*iP* **P** **04 28 09.8 -0.1**
comp=Z,79nm,0.8s
CAF Calviac 86.23 44 *eP* **P** **04 28 09.8 -0.1**
CAF Calviac 86.23 44 *eP* **P** **04 28 09.8 -0.1**
CCB Clear Creek Bu 86.31 336 *eP* **P** **04 28 08.8 -0.9**
comp=Z,1μm,2.6s
CCB *ePP* **PP** **04 31 31.8 -0.7**
HMNX Herstmonceux 86.31 38 *eP* **P** **04 28 10.4 +0.4**
HMNX AMB AMB 04 28 13.0
comp=Z,414nm,1.6s
RND Reindeer 86.33 335 *eP* **P** **04 28 09.8 -0.2**
RND *e* 04 31 31.9
RND pmax pmax
comp=Z,433nm,1.4s
RND Reindeer 86.33 335 *eP* **P** **04 28 09.8 -0.2**
comp=Z,432nm,1.4s
RND *ePP* **PP** **04 31 31.9 -0.9**
WRH Wood River Hil 86.36 336 *eP* **P** **04 28 09.8 -0.3**
comp=Z,93nm,1.0s
COLA College 86.40 336 *eP* **P** **04 28 10.1 -0.1**
COLA *e* 04 31 32.6
COLA pmax pmax
comp=Z,228nm,1.2s
COLA College 86.40 336 *eP* **P** **04 28 10.1 -0.1**
comp=Z,228nm,1.2s
COLA *ePP* **PP** **04 31 32.6 -0.7**
KDAK Kodiak Island 86.42 329 P **P** **04 28 10.6 +0.2**
comp=Z,256nm,1.1s,SNR=6.5
KDAK Kodiak Island 86.42 329 *eP* **P** **04 28 10.0 -0.4**
KDAK pmax pmax
comp=Z,296nm,2.0s
KDAK Kodiak Island 86.42 329 *eP* **P** **04 28 10.0 -0.4**
comp=Z,296nm,2.0s
MCK McKinley 86.47 335 *eP* **P** **04 28 10.2 -0.4**
MCK pmax pmax
comp=Z,169nm,1.0s
MCK McKinley 86.47 335 *eP* **P** **04 28 10.2 -0.4**
comp=Z,169nm,1.0s
LMK Market Rasen 86.50 36 *eP* **P** **04 28 11.3 +0.5**
LMK AMB AMB 04 28 14.0
comp=Z,633nm,1.1s
MDM Murphy Dome 86.58 336 *eP* **P** **04 28 10.8 -0.4**
comp=Z,668nm,1.5s
MDM *ePP* **PP** **04 31 36.2 +1.4**
TCF Toulx Ste Croi 86.59 43⇓*iP* **P** **04 28 11.2 -0.4**
comp=Z,60nm,0.7s
OHAK Old Harbor 86.64 328 *eP* **P** **04 28 11.3 -0.2**
BWN Browne 86.83 335 *eP* **P** **04 28 12.3 0.0**
comp=Z,472nm,0.9s
ELSH Elham, Standar 86.86 38 *eP* **P** **04 28 13.1 +0.3**
ELSH AMB AMB 04 28 14.9
comp=Z,427nm,0.9s
TRF Thorofare Moun 86.95 335 *eP* **P** **04 28 12.4 -0.8**
comp=Z,753nm,1.9s
TRF *ePP* **PP** **04 31 39.9 +1.9**
PYM Petit Puy Mans 87.04 44⇓*eP* **P** **04 28 12.6 -1.2**
HYF Humbligny 87.06 42⇓*iP* **P** **04 28 13.9 +0.1**
HYF *epP* pP 04 28 34.8 -12
BGF Bois d'Agland 87.07 43⇓*iP* **P** **04 28 13.7 -0.2**
comp=Z,252nm,0.8s
SPU Mount Spurr 87.08 332 *eP* **P** **04 28 13.3 -0.3**
LBL Lubilhac 87.11 44 *eP* **P** **04 28 13.4 -0.8**
AGO Saint Agoulin 87.18 43⇓*eP* **P** **04 28 12.9 -1.5**
RSO Redoubt South 87.22 331 *eP* **P** **04 28 14.2 -0.3**
KTH Kantishna Hill 87.26 335 *eP* **P** **04 28 14.0 -0.5**
comp=Z,330nm,0.9s
KTH *ePP* **PP** **04 31 43.8 +3.6**
SET Setif 87.28 53 P **P** **04 28 18.0 +2.8**
LASF Ste Croix 87.34 46⇓*iP* **P** **04 28 15.6 +0.3**
comp=Z,122nm,0.9s
LASF *epP* pP 04 28 36.3 -12
LASF Ste Croix 87.34 46 *eP* **P** **04 28 15.6 +0.3**
MENF Mencas 87.38 39⇓*eP* **P** **04 28 14.9 -0.3**
BPAW Bear Paw Mtn. 87.44 335 *eP* **P** **04 28 14.8 -0.5**
AVF Avril sur Loir 87.46 43⇓*iP* **P** **04 28 15.2 -0.5**
comp=Z,145nm,0.8s
WAL1 Walls 87.46 29 *eP* **P** **04 28 15.3 -0.1**
COLF Collangettes 87.47 44⇓*eP* **P** **04 28 16.2 +0.3**
PLDF La Plantade 87.50 44⇓*eP* **P** **04 28 14.1 -1.9**
SSF Saint Saulge 87.61 43⇓*iP* **P** **04 28 15.8 -0.6**
comp=Z,107nm,0.9s
SSF *epP* pP 04 28 36.9 -13
SSF Saint Saulge 87.61 43 *eP* **P** **04 28 15.8 -0.6**
SSF Saint Saulge 87.61 43 *eP* **P** **04 28 15.8 -0.6**
PPLA Purkeypile 87.62 334 *eP* **P** **04 28 15.9 -0.4**
comp=Z,1μm,1.6s
PPLA *ePP* **PP** **04 31 44.3 +1.1**
MLY Manley 87.62 336 *eP* **P** **04 28 15.5 -0.6**
comp=Z,252nm,0.9s
MLY *ePP* **PP** **04 31 44.2 +1.1**
LRW Lerwick 87.65 29 *eP* **P** **04 28 16.4 +0.1**
LRW AMB AMB 04 28 18.1
comp=Z,120nm,1.5s
CAST Castle Rocks 87.72 334 *eP* **P** **04 28 16.0 -0.6**
comp=Z,369nm,0.9s
CAST *ePP* **PP** **04 31 45.0 +1.1**
SMF Signal de Mont 87.76 43⇓*iP* **P** **04 28 16.9 -0.3**
comp=Z,209nm,0.9s
SMF *epP* pP 04 28 38.0 -12
ALE Alert 87.81 2 P **P** **04 28 16.6 -0.1**
comp=Z,905nm,1.0s,SNR=26
LOR Lormes 87.88 42⇓*iP* **P** **04 28 17.2 -0.6**
comp=Z,120nm,0.8s
LOR *eR*
comp=Z,572nm,20.5s
SSB Saint Sauveur 88.02 44⇓*eP* **P** **04 28 18.5 0.0**
VIVF Saint-Julien-l 88.04 45⇓*iP* **P** **04 28 19.0 +0.4**
comp=Z,140nm,0.9s
VIVF *epP* pP 04 28 40.0 -12
COLD Coldfoot 88.08 338 *eP* **P** **04 28 18.8 +0.6**
comp=Z,189nm,0.9s
JMIC Jan Mayen 88.10 18 *eP* **P** **04 28 21.0 +2.8**
OG26 St.-Nazaire-De 88.44 45⇓*eP* **P** **04 28 18.4 -2.1**
SMRF Simiane la Rot 88.55 46⇓*iP* **P** **04 28 21.6 +0.6**
comp=Z,145nm,0.9s
SMRF Simiane la Rot 88.55 46 *eP* **P** **04 28 21.6 +0.6**
BAIF Baives 88.58 40⇓*iP* **P** **04 28 20.9 0.0**
comp=Z,66nm,0.8s
SNF Seneffe 88.70 39 P **P** **04 28 21.9 +0.4**
SVW2 Sparrevohn 88.72 332 *eP* **P** **04 28 20.5 -0.9**
comp=Z,292nm,1.3s
SVW2 *ePP* **PP** **04 31 54.0 +2.0**
UCC Uccle 88.80 39 P **P** **04 28 22.0 +0.1**
SFTF Sexfontaines 88.82 42⇓*iP* **P** **04 28 21.9 -0.2**
comp=Z,240nm,0.9s
SFTF *epP* pP 04 28 43.3 -12
DOU Dourbes 88.83 40 P **P** **04 28 22.1 -0.1**
comp=Z,60nm,1.0s
GRN Grenoble 88.85 45⇓*eP* **P** **04 28 22.9 +0.4**
MEZF Maizieres J'vi 88.88 41⇓*iP* **P** **04 28 22.4 0.0**
comp=Z,176nm,0.9s
MEZF *epP* pP 04 28 43.7 -12
ORIF Oris-en-Rattie 88.90 45⇓*iP* **P** **04 28 23.4 +0.7**
comp=Z,309nm,0.9s
ORIF *epP* pP 04 28 44.5 -11
ORIF *eR*
comp=Z,866nm,21.0s
GIVF Givet 88.98 40⇓*iP* **P** **04 28 23.2 +0.4**
comp=Z,365nm,0.9s
IM04 Indian Mountai 89.10 337 *eP* **P** **04 28 23.1 0.0**
GDM Grand'Maison 89.11 45⇓*eP* **P** **04 28 23.9 +0.1**
LMR La Mourre 89.13 47⇓*iP* **P** **04 28 23.8 +0.1**
comp=Z,184nm,0.9s
LMR *epP* pP 04 28 44.9 -12
CHGN Chignik 89.20 327 *eP* **P** **04 28 23.5 -0.1**
FRF La Foret Royal 89.26 46⇓*iP* **P** **04 28 24.4 +0.1**
comp=Z,400nm,0.9s
CABF La Chalelle 89.29 43⇓*iP* **P** **04 28 24.6 +0.1**
comp=Z,323nm,0.9s
CABF *epP* pP 04 28 45.8 -12
CABF La Chapelle 89.29 43 *eP* **P** **04 28 24.6 +0.1**
CABF La Chapelle 89.29 43 *eP* **P** **04 28 24.6 +0.1**
PAGF Fort de Pagny 89.33 41⇓*iP* **P** **04 28 24.8 +0.3**
comp=Z,118nm,1.1s
BCLA Clavier 89.33 39 P **P** **04 28 24.9 +0.4**
comp=Z,34nm,0.9s
THEF They Montfort 89.45 42⇓*eP* **P** **04 28 25.0 -0.1**
CALN Calern 89.46 46⇓*eP* **P** **04 28 25.6 +0.2**
SURF Saint Ours 89.50 45⇓*eP* **P** **04 28 26.2 +0.5**
MBDF Montbardon 89.50 45⇓*iP* **P** **04 28 25.9 +0.3**
comp=Z,74nm,0.8s
LPL La Plagne 89.58 44⇓*iP* **P** **04 28 26.7 +0.7**
comp=Z,176nm,0.9s
LPG La Plagne 89.59 44⇓*iP* **P** **04 28 26.9 +0.7**
comp=Z,236nm,0.9s
LPG *epP* pP 04 28 48.3 -11
BEBN Eben Emael 89.62 39 P **P** **04 28 26.2 +0.4**
comp=Z,60nm,1.0s
OG01 Vacheresse 89.66 44⇓*eP* **P** **04 28 26.2 0.0**
HAU Haudompre 89.66 42⇓*iP* **P** **04 28 25.8 -0.3**
comp=Z,74nm,0.9s
HAU *eR*
comp=Z,674nm,19.8s
MVIF Mont Vial 89.67 46 *eP* **P** **04 28 25.5 -0.9**
TOUF Mont Tournerai 89.75 46 *eP* **P** **04 28 26.6 -0.2**
WLF Walferdange 89.76 40 P **P** **04 28 27.2 +0.7**
comp=Z,119nm,1.0s
WLF Walferdange 89.76 40 *eP* **P** **04 28 27.2 +0.7**
comp=Z,216nm,0.9s
WLF Walferdange 89.76 40 *eP* **P** **04 28 27.1 +0.6**
WLF pmax pmax
comp=Z,197nm,0.9s
WLF Walferdange 89.76 40 *eP* **P** **04 28 27.1 +0.6**
comp=Z,197nm,0.9s
HGN Heimansgroeve 89.78 39 *eP* **P** **04 28 26.3 -0.2**
comp=Z,221nm,0.9s
HGN Heimansgroeve 89.78 39 *eSKS* **SKSac** **04 38 49.0 +3.9**
HGN *eSKSP* 04 40 06.2
HGN *eSS* SS 04 45 19.4 +12
HGN *eSSSS* 04 52 24.6
REVF Revere 89.80 46 *eP* **P** **04 28 26.1 -0.8**
MEM Membach 89.81 39 P **P** **04 28 26.9 +0.3**
comp=Z,58nm,1.7s
MEM Membach 89.81 39 *eP* **P** **04 28 27.3 +0.6**
MEM pmax pmax
comp=Z,232nm,1.6s
MEM Membach 89.81 39 *eP* **P** **04 28 27.3 +0.6**
comp=Z,232nm,1.6s
SBF Sospel 89.86 46⇓*iP* **P** **04 28 27.2 0.0**
comp=Z,267nm,0.9s

AUTN **L'Aution** 89.88 46 *e*P P 04 28 27.3 -0.2
LOMF **Lomont** 89.89 43⇓*e*P P 04 28 27.2 -0.1
SAOF **Saorge** 89.97 46 *e*P P 04 28 27.5 -0.1
HINF **Hinteralfeld** 89.97 42⇓*i*P P 04 28 27.2 -0.4
comp=Z,88nm,1.1s
SENIN **Lac Senin/Sane** 90.08 44 *e*P P 04 28 28.7 +0.3
MOF **Molkenrain** 90.16 42⇓*e*P P 04 28 27.9 -0.6
SDPT **Sand Point** 90.19 325 *e*P P 04 28 28.7 +0.4
comp=Z,382nm,0.9s
ECH **Echery** 90.22 42⇓*e*P P 04 28 28.3 -0.4
SBA **Scott Base** 90.28 191 *e*P P 04 28 29.3 +0.9
SBA pmax pmax
comp=Z,84nm,1.3s
SBA **Scott Base** 90.28 191 *e*P P 04 28 29.3 +0.9
comp=Z,84nm,1.3s
CDF **Champ du Feu** 90.33 42⇓*i*P P 04 28 29.1 -0.2
comp=Z,229nm,0.9s
CDF **Champ du Feu** 90.33 42 *e*P P 04 28 29.1 -0.2
CDF **Champ du Feu** 90.33 42 *e*P P 04 28 29.1 -0.2
KEST **Kesra** 90.40 54 P P 04 28 30.7 +0.8
comp=Z,35nm,0.9s,baz=185,slow=1.0,SNR=36
KEST LR LR 05 09 43.8
comp=Z,286nm,18.8s,baz=198,slow=36
KEST **Kesra** 90.40 54 *e*P P 04 28 31.1 +1.2
WTSB **Winterswijk** 90.48 38 *e*P P 04 28 30.3 +0.5
comp=Z,184nm,0.9s
SUE **Sulen** 90.70 29⇓*i*P P 04 28 30.2 -0.3
SUE *e*SKSac SKSac 04 38 48.6 -1.4
BUG **Bochum--Univer** 90.71 39 *e*P P 04 28 31.4 +0.6
comp=Z,100nm,0.9s
BUG *e*pP pP 04 28 53.0 -11
LANF **Langenberg** 90.75 41⇓*e*P P 04 28 31.4 +0.3
VSL **Villasalto** 90.81 51 *e*P P 04 28 31.8 +0.1
comp=Z,117nm,0.9s
PGF **Pioggiola** 90.85 48⇓*i*P P 04 28 31.8 -0.1
comp=Z,127nm,0.9s
BER **Bergen** 90.88 30 *e*P P 04 28 32.8 +1.5
FOO **Floro** 90.92 28 *e*P P 04 28 31.8 +0.2
FOO *e*SKSac SKSac 04 38 51.6 +0.4
FOO *e*SS SS 04 45 22.9 -0.7
MSKU **Masuku** 90.96 92 P P 04 28 33.8 +0.9
comp=Z,57nm,0.9s,baz=280,slow=3.2,SNR=28
MSKU **Masuku** 90.96 92 *e*P P 04 28 33.6 +0.7
comp=Z,61nm,0.8s
BFO **Black Forest** 91.02 42 P P 04 28 32.7 +0.3
comp=Z,222nm,1.1s,SNR=16
BFO **Black Forest** 91.02 42 *e*P P 04 28 32.2 -0.2
comp=Z,66nm,1.3s
BFO **Black Forest** 91.02 42 *e*P P 04 28 32.3 -0.2
BFO pmax pmax
comp=Z,62nm,1.2s
BFO **Black Forest** 91.02 42 *e*P P 04 28 32.2 -0.2
comp=Z,62nm,1.2s
IBBN **Ibbenburen** 91.11 38 *e*P P 04 28 33.4 +0.7
comp=Z,89nm,0.9s
IBBN *e*pP pP 04 28 55.4 -10
IBBN *e* 04 29 07.6
BLS5 **Blasjo** 91.30 31 *e*P P 04 28 34.4 +1.0
TNS **Taunus Mts** 91.30 40 *e*P P 04 28 34.2 +0.5
comp=Z,64nm,0.9s
VNDA **Vanda** 91.37 191 P P 04 28 34.7 +1.2
comp=Z,24nm,0.9s,baz=121,slow=3.6,SNR=66
VNDA PKKP PKKPdf 04 45 53.1 -0.2
comp=Z,0.9nm,0.7s,baz=278,slow=3.7,SNR=8.1
VNDA LR LR 05 04 33.0
comp=Z,312nm,18.3s,baz=106,slow=32
VNDA **Vanda** 91.37 191 *e*P P 04 28 34.7 +1.2
VNDA pmax pmax
comp=Z,56nm,1.1s
VNDA **Vanda** 91.37 191 *e*P P 04 28 34.7 +1.2
comp=Z,56nm,1.1s
VNDA *e*PKKPdf PKKPdf 04 45 53.1 -0.2
STU **Stuttgart** 91.64 41 *e*P P 04 28 35.5 +0.3
comp=Z,104nm,1.2s
STU **Stuttgart** 91.64 41 *e*P P 04 28 35.7 +0.5
STU pmax pmax
comp=Z,142nm,1.3s
STU **Stuttgart** 91.64 41 *e*P P 04 28 35.7 +0.5
comp=Z,142nm,1.3s
DAVOX **Davos/Dischmat** 91.90 43 P P 04 28 37.4 +0.7
comp=Z,46nm,1.0s,baz=286,slow=5.3,SNR=32
DAVOX **Davos/Dischmat** 91.90 43 P P 04 28 37.4 +0.7
DAVOX pmax pmax
comp=Z,46nm,1.0s
AKN **Aaknes** 91.92 28 *e*P P 04 28 37.2 +1.0
AKN *e*SKSac SKSac 04 38 55.7 -1.3
AKN *e*SS SS 04 45 36.8 -1.1
DAVA **Damuels** 91.95 43 *i* PcP P 04 28 37.4 +0.4
comp=Z,269nm,1.8s,SNR=33
FUORN **Ofenpass-Fuorn** 92.15 44 *e*P P 04 28 38.5 +0.5
comp=Z,37nm,0.8s
HOMB **Homborsund** 92.21 32⇓*i*P P 04 28 37.5 -0.1
UBBA **Unterbreizbach** 92.35 39 *e*P P 04 28 39.3 +1.0
comp=Z,107nm,1.9s
UBBA *e*pP pP 04 29 00.7 -11
UBBA *e* 04 29 13.5
MUD **Monsted U'grnd** 92.39 34⇓*i*P P 04 28 39.6 +1.1
comp=Z,250nm,1.9s
MUD *i* pP pP 04 29 11.6 0.0
MUD **Monsted U'grnd** 92.39 34⇓*i*P P 04 28 39.6 +1.1
MUD *i* *PP pP 04 29 11.6 0.0
MUD pmax pmax
comp=Z,250nm,1.9s
FETA **Feichten** 92.50 43 *i* PcP P 04 28 39.8 +0.3
comp=Z,201nm,1.6s,SNR=28
RETA **Reutte** 92.56 43⇓*i*P P 04 28 39.8 +0.2
comp=Z,278nm,2.4s,SNR=13
NRDL **Niedersach Rie** 92.57 38 *e*P P 04 28 40.5 +1.2
comp=Z,247nm,2.0s
NRDL *e* 04 29 14.8
CLZ **Clausthal** 92.67 38 *e*P P 04 28 41.0 +1.0
comp=Z,142nm,1.5s
CLZ *e*pP pP 04 29 02.4 -11
MOTA **Moosalm** 92.78 43⇓*i*P P 04 28 40.8 0.0
comp=Z,155nm,1.7s,SNR=29
BSEG **Bad Segeberg** 92.81 36 *e*P P 04 28 41.4 +0.9
comp=Z,79nm,0.9s
KONO **Kongsberg** 92.91 31 *e*P P 04 28 40.7 -0.2
KONO *e*SKSac SKSac 04 39 03.1 +0.6
FUR **Furstenfeldbru** 92.96 42 *e*P P 04 28 41.7 +0.3
comp=Z,61nm,1.0s
GRFO **Grafenberg** 93.04 41 *e*P P 04 28 42.2 +0.5
GRFO pmax pmax
comp=Z,106nm,1.6s
GRFO **Grafenberg** 93.04 41 *e*P P 04 28 42.1 +0.5
comp=Z,106nm,1.6s
GRF **Grafenberg Arr** 93.04 41 *e*P P 04 28 42.6 +0.9
comp=Z,111nm,1.7s
GRF *e*pP pP 04 29 03.7 -11
WATA **Walderalm** 93.10 43⇑*i*PcP P 04 28 42.4 +0.1
comp=Z,47nm,1.1s,SNR=8.6
TSUM **Tsumeb** 93.12 109 *e*P P 04 28 44.1 +1.2
comp=Z,157nm,1.3s
WTTA **Wattenberg** 93.14 43 *i* PcP P 04 28 42.8 +0.4
comp=Z,404nm,2.2s,SNR=30
UNV **Unalaska Valle** 93.51 324 *e*P P 04 28 43.6 -0.1
comp=Z,109nm,1.0s
NBO02 **NORSAR Array S** 93.65 29 *e*P P 04 28 43.9 -0.4
ROTZ **Rotzenmuhle** 93.68 41 *e*P P 04 28 45.6 +0.9
comp=Z,54nm,0.9s
ROTZ *e* 04 29 20.0
ABTA **Abfaltersbach** 93.70 44⇑*i*PcP P 04 28 45.2 +0.2
comp=Z,300nm,2.2s,SNR=11
NB2 **NORSAR Subarra** 93.82 29 P P 04 28 44.9 -0.2
comp=Z,0.5nm,0.8s,baz=260,slow=4.6
NB2 **NORSAR Subarra** 93.82 29 P P 04 28 44.9 -0.2
baz=260,slow=4.6
NB200 **NORSAR Array S** 93.82 29 *e*P P 04 28 45.8 +0.7
NB200 *e*PKKPdf PKKPdf 04 45 48.3 -1.2
NOA **NORSAR Array B** 93.82 29 P P 04 28 45.8 +0.7
comp=Z,6.0nm,0.9s,baz=268,slow=4.9,SNR=13
NOA PKKP PKKPdf 04 45 48.3 -1.2
comp=Z,2.3nm,0.8s,baz=257,slow=2.9,SNR=9.0
NOA **NORSAR Array B** 93.82 29 P P 04 28 45.8 +0.7
NOA pmax pmax
comp=Z,6.0nm,0.9s
NOA pmax pmax
comp=Z,2.0nm,0.8s
NKC **Novy Kostel** 93.86 40 *e*P P 04 28 46.3 +0.8
NKC *ex* x 04 29 08.3
NKC *e*pP pP 04 29 19.6 +0.9
NKC *e*PP PP 04 32 38.5 +5.7
NKC *ex* x 04 33 16.3
NKC *e*SKS SKSac 04 39 12.6 +4.3
NKC *ex* x 04 40 20.4
NKC *e*SP SP 04 40 53.5 -5.3
NKC *e*SS SS 04 46 03.0 -3.4
NKC AMS AMS 05 10 00.0
comp=Z,500nm,18.0s
NKC **Novy Kostel** 93.86 40 *e*P P 04 28 46.3 +0.8
NKC *e* 04 29 19.6
NKC *e* 04 32 38.5
NKC *e* 04 39 12.6
NKC *e*SS SS 04 46 03.0 -3.4
NKC MLR MLR
comp=Z,500nm,18.0s
TANN **Tannenbergstha** 93.88 40 *e*P P 04 28 46.3 +0.7
comp=Z,107nm,1.2s
TANN *e*pP pP 04 29 08.2 -11
RJOB **Jochberg** 93.95 43 *e*P P 04 28 46.1 +0.1
comp=Z,32nm,0.9s
NC602 **NORSAR Array S** 93.96 30⇓*i*P P 04 28 45.6 0.0
WET **Wettzell** 94.08 41 *e*P P 04 28 46.8 +0.2
comp=Z,38nm,1.0s
WET *e* 04 29 21.7
COP **Copenhagen** 94.16 35 *i* P P 04 28 46.9 +0.3
comp=Z,35nm,0.7s
COP **Copenhagen** 94.16 35 *i* S S 04 39 49.9 +3.4
comp=Z,350nm,19.0s
COP **Copenhagen** 94.16 35 *i* P P 04 28 46.9 +0.3
COP *i* S S 04 39 49.9 +3.4
COP pmax pmax
comp=Z,35nm,0.7s
COP MLR MLR
comp=Z,350nm,19.0s
SUR **Sutherland** 94.27 123 *e*P P 04 28 49.1 +1.0
comp=Z,45nm,1.0s
CLL **Collm** 94.28 39 *e*P P 04 28 48.0 +0.6
comp=Z,39nm,0.9s
CLL **Collm** 94.28 39⇓*i*P P 04 28 47.9 +0.6
comp=Z,195nm,2.1s
CLL *e*pP pP 04 29 22.0 +1.5
CLL *e*sP sP 04 29 34.0 -0.1
CLL *e*PP PP 04 32 37.0 +1.1
CLL *e*sPP 04 33 22.0
CLL *e*SKSac SKSac 04 39 14.0 +3.7
CLL *e*SKKSac SKKSac 04 39 30.0 -1.9
CLL *e*S ScS 04 39 51.0 +2.1
CLL *e* 04 40 55.0
CLL *e*PPS PPS 04 41 48.0
CLL *e* 04 42 54.0
CLL *i* PKKPbc PKKPdf 04 45 48.4 0.0
comp=Z,5.0nm,0.9s
CLL *e*SS SS 04 46 00.0 -12
CLL *e*SSS SSS 04 50 00.0
CLL *e*SSS 04 51 12.0
CLL **Collm** 94.28 39 *i* (P) pP 04 29 10.3 -10
comp=Z,29nm,0.8s
CLL **Collm** 94.28 39⇓*i*P P 04 28 47.9 +0.6
CLL *i* 04 29 10.3
CLL *e* 04 39 14.0
CLL *e*S ScS 04 39 51.0 +2.1
CLL pmax pmax
comp=Z,195nm,2.1s
CLL pmax pmax
comp=Z,5.0nm,0.9s
CLL **Collm** 94.28 39 *e*P P 04 28 47.8 +0.5
comp=Z,41nm,0.9s
KBA **Koelnbreinsper** 94.29 43⇓*i*PcP P 04 28 47.7 -0.1
comp=Z,315nm,2.9s,SNR=18
NSS **Namsos** 94.36 26⇓*i*P P 04 28 47.0 -0.3
NSS IAmb IAmb 04 28 49.4
comp=Z,26nm,1.2s
MYKA **Terra Mystica** 94.47 44⇓*i*PcP P 04 28 48.6 +0.2
comp=Z,184nm,2.0s,SNR=16
CADS **Cadrg** 94.52 44 *i* P P 04 28 48.5 -0.1
CADS *e*SKSac SKSac 04 39 13.4 +1.4
KHC **Kasperske Hory** 94.54 41 *e*P P 04 28 48.9 +0.2
KHC *ex* x 04 29 10.7
KHC *e*pP pP 04 29 21.5 -0.4
KHC *e*PP PP 04 32 33.2 -5.0
KHC *ex* x 04 33 18.0
KHC *e*SKS SKSac 04 39 14.4 +2.4
KHC *ex* x 04 40 23.0
KHC *ex* x 04 40 57.1
KHC *ex* x 04 46 01.3
KHC AMS AMS 05 09 10.0
comp=Z,600nm,15.3s
KHC **Kasperske Hory** 94.54 41 *e*P P 04 28 48.9 +0.2
KHC *e* 04 32 33.2
KHC *e* 04 39 14.4
KHC MLR MLR
comp=Z,600nm,15.3s
GEC2 **GERESS Array S** 94.61 41 *e*P P 04 28 49.2 +0.1
comp=Z,27nm,0.9s
GEC2 *e*pP pP 04 29 11.0 -11
GEC2 *e* 04 29 24.2
GEC2 **GERESS Array S** 94.61 41 *e*P P 04 28 48.9 -0.1
GEC2 **GERESS Array S** 94.61 41 *e*P P 04 28 48.9 -0.1
GEC2 *e*PKKPdf PKKPdf 04 45 45.3 -2.6
GEC2 *e*P'P'df P'P'df 04 53 57.4 -1.5
GERES **GERESS Array B** 94.61 41 P P 04 28 49.6 +0.5
comp=Z,14nm,0.8s,baz=255,slow=3.6,SNR=80
GERES PKKP PKKPdf 04 45 45.3 -2.6
comp=Z,1.8nm,0.8s,baz=112,slow=1.4,SNR=9.0
GERES PKPPKP P'P'df 04 53 57.4 -1.5
comp=Z,1.0nm,0.7s,baz=90,slow=1.3,SNR=6.3
GERES **GERESS Array B** 94.61 41 P P 04 28 49.6 +0.5
GERES pmax pmax
comp=Z,14nm,0.8s
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES pmax pmax
comp=Z,1.0nm,0.7s
RGN **Rugen** 94.61 36 *e*P P 04 28 49.6 +0.9
comp=Z,149nm,0.8s
SYO **Syowa Base** 94.63 161⇓*i*X pP 04 29 16.0 -5.8
RUE **Ruedersdorf** 94.81 38 *e*P P 04 28 49.8 +0.1
comp=Z,55nm,0.6s
BRG **Berggiesshubel** 94.85 39 *i* P P 04 28 50.6 +0.7
comp=Z,56nm,0.9s
BRG *i* 04 29 12.5
comp=Z,24nm,0.8s
BRG *i* sP sP 04 29 37.3 +0.6
comp=Z,28nm,1.0s
BRG PP PP 04 32 52.0 +12
BRG SKS SKSac 04 39 19.0 +5.5
BRG S ScS 04 40 22.0 +28
BRG SS SS 04 46 29.0 +8.7
comp=N,400nm,16.5s
comp=E,440nm,15.4s
comp=Z,777nm,17.2s
BRG **Berggiesshubel** 94.85 39 *e*P P 04 28 50.8 +0.8
comp=Z,56nm,0.9s
BRG *e*pP pP 04 29 12.3 -11
BRG *e* 04 29 25.4
BRG **Berggiesshubel** 94.85 39 *i* P P 04 28 50.7 +0.7
BRG 04 39 19.0
BRG SS SS 04 46 29.0 +8.7
BRG pmax pmax
comp=Z,56nm,1.0s
BRG pmax pmax
comp=Z,24nm,0.8s
BRG pmax pmax
comp=N,28nm,1.0s
BRG MLR MLR
comp=N,400nm,16.5s
BRG MLR MLR
comp=E,440nm,15.4s
BRG MLR MLR
comp=Z,777nm,17.2s
NIKH **Nikolski High** 94.87 323 *e*P P 04 28 50.2 +0.2
comp=Z,243nm,1.1s
KBS **Kingsbay** 94.89 11 *e*P P 04 28 50.1 +0.5
KBS IAmb IAmb 04 28 51.4
comp=Z,82nm,1.3s
KBS **Kingsbay** 94.89 11 *e*P P 04 28 50.3 +0.7
KBS pmax pmax
comp=Z,38nm,0.9s
KBS **Kingsbay** 94.89 11 *e*P P 04 28 50.3 +0.7
comp=Z,38nm,0.9s
MOA **Molln** 94.95 43 *i* PcP P 04 28 50.7 +0.2
comp=Z,228nm,2.0s,SNR=22
HFS **Hagfors** 95.00 30 P P 04 28 50.5 +0.1
comp=Z,15nm,1.0s,baz=307,slow=0.7,SNR=15
HFS **Hagfors** 95.00 30 P P 04 28 50.5 +0.1
HFS pmax pmax
comp=Z,15nm,1.0s
LJU **Ljubljana** 95.06 44 *i* P P 04 28 51.6 +0.6
LJU *e* 04 29 13.6
LJU *e*pP pP 04 29 24.5 +0.2
LJU *e*PP PP 04 32 40.0 -2.2
LJU *e*SKSac SKSac 04 39 17.0 +2.1
LJU *e*S S 04 39 53.5 -1.4
OBKA **Obir** 95.09 44⇑*i*PcP P 04 28 51.5 +0.2
comp=Z,394nm,2.9s,SNR=8.3
PRA **Prague** 95.13 40 *e*P P 04 28 52.4 +1.1
PRA *ex* x 04 29 14.1
PRA *e*SKS SKSac 04 39 20.1 +5.1
PRA *e*XS sS 04 41 02.3 +9.2
PRA *ex* x 04 46 05.0
PRA **Prague** 95.13 40 *e*P P 04 28 52.4 +1.1
PRA *e* 04 39 20.1
PRU **Pruhonice** 95.20 40 *e*P P 04 28 52.2 +0.6
PRU *ex* x 04 28 57.9
PRU *ex* x 04 29 14.1
PRU *e*PP PP 04 32 37.7 -5.5
PRU *e*SKS SKSac 04 39 19.0 +3.6
PRU *e*XS sS 04 41 03.0 +9.3
PRU *ex* x 04 46 07.9
PRU AMS AMS 05 11 00.0
comp=Z,400nm,18.0s
PRU **Pruhonice** 95.20 40 *e*P P 04 28 52.2 +0.6
PRU *e* 04 32 37.7
PRU *e* 04 39 19.0
PRU MLR MLR
comp=Z,400nm,18.0s
PVCC **Panska Ves** 95.23 40 *e*P P 04 28 52.7 +1.0
PVCC *ex* x 04 28 56.9
PVCC *ex* x 04 29 14.5
PVCC *e*PP PP 04 32 43.5 +0.1
PVCC *ex* x 04 33 26.5
PVCC *e*SKS SKSac 04 39 19.2 +3.7
PVCC AMS AMS 05 11 00.0
comp=Z,700nm,18.3s
PVCC **Panska Ves** 95.23 40 *e*P P 04 28 52.7 +1.0
PVCC *e* 04 32 43.5
PVCC *e* 04 39 19.2
PVCC MLR MLR
comp=Z,700nm,18.3s
GOPC **GO Pecny, Ondr** 95.36 40 *e*P P 04 28 53.5 +1.2
GOPC *ex* x 04 29 15.5
GOPC *e*PP PP 04 32 38.5 -5.9
GOPC *ex* x 04 33 24.4
GOPC *e*SKS SKSac 04 39 20.3 +4.0
GOPC *e*XS sS 04 40 59.5 +4.4
GOPC *ex* x 04 46 09.3
GOPC AMS AMS 05 13 20.0
comp=Z,600nm,17.4s
SOKA **Soboth** 95.43 44⇓*i*P P 04 28 52.7 -0.1
comp=Z,235nm,3.0s,SNR=9.9
BSD **Bornholm Skovb** 95.55 35⇓*i*P P 04 28 54.7 +1.7
comp=Z,740nm,18.0s
BSD **Bornholm Skovb** 95.55 35⇓*i*P P 04 28 54.7 +1.7
BSD MLR MLR
comp=Z,750nm,18.0s
HSPB **Hornsund (broa** 95.64 13 *e*P P 04 28 53.7 +0.7
HSPB *e*PP PP 04 32 43.3 -2.6
SPA0 **Spitsbergen Ar** 95.78 12 *e*P P 04 28 54.6 +0.9
SPITS **Spitsbergen Ar** 95.78 12 PKKP PKKPbc 04 45 43.5 -2.8
comp=Z,6.0nm,0.7s,baz=105,slow=9.0,SNR=5.9
ARSA **Arzberg** 95.78 43⇓*i*PcP P 04 28 54.4 +0.1
comp=Z,278nm,2.4s,SNR=14
TREC **Trest** 95.80 41 *e*P P 04 28 55.0 +0.6
TREC *ex* x 04 29 04.2
TREC *ex* x 04 29 16.9
TREC *e*PP PP 04 32 47.8 -0.1
TREC *ex* x 04 33 31.4
TREC *e*SKS SKSac 04 39 22.9 +4.3
TREC *e*XS sS 04 41 04.0 +5.0
TREC *ex* x 04 46 11.6
TREC AMS AMS 05 13 50.0
comp=Z,500nm,16.9s
TREC **Trest** 95.80 41 *e*P P 04 28 55.0 +0.6
TREC *e* 04 32 47.8
TREC *e* 04 39 22.9
TREC MLR MLR
comp=Z,500nm,16.9s
GCIS **Gornji Cirnik** 95.82 45⇓*i*P P 04 28 54.7 +0.2
CONA **Conrad Observa** 96.02 42 *i* PcP P 04 28 55.9 +0.4
comp=Z,275nm,2.1s,SNR=24
KOGS **Kog** 96.27 44 *i* P P 04 28 57.0 +0.5
KOGS *e* 04 29 18.7
KOGS *e* 04 29 30.3
KOGS *e*SKSac SKSac 04 39 23.0 +1.8
KSP **Ksiaz** 96.34 40 *e*P P 04 28 57.9 +1.2
KSP *e* 04 29 19.7
KSP *e*pP pP 04 29 31.4 +1.4
KSP *e*S S 04 40 07.4 +1.7
KSP *e*SP SP 04 41 22.5 -3.4
KSP **Ksiaz** 96.34 40 *e*P P 04 28 58.0 +1.2
KSP *e**PP pP 04 29 31.4 +1.4
KSP *e*S S 04 40 07.4 +1.7
KSP *e*SP SP 04 41 22.5 -3.4
DPC **Dobruska-Polom** 96.35 40 *e*P P 04 28 57.7 +0.8
DPC *ex* x 04 29 04.8
DPC *ex* x 04 29 19.7
DPC *e*pP pP 04 29 32.5 +2.4
DPC *e*PP PP 04 32 50.3 -1.8
DPC *ex* x 04 33 32.0
DPC *e*SKS SKSac 04 39 24.2 +2.6
DPC *ex* x 04 41 14.2
DPC AMS AMS 05 10 00.0
DPC **Dobruska-Polom** 96.35 40 *e*P P 04 28 57.7 +0.8
DPC *e* 04 29 32.5
DPC *e* 04 32 50.3
DPC *e* 04 39 24.2
SOP **Sopron** 96.49 43⇓*e*P P 04 28 57.7 +0.2
VRAC **Vranov** 96.52 41 P P 04 28 58.4 +0.7
comp=Z,30nm,0.8s,baz=270,slow=4.9,SNR=26
VRAC **Vranov** 96.52 41 ⇓P P 04 28 57.5 -0.1
VRAC **Vranov** 96.52 41 ⇓*i*P P 04 28 57.5 -0.1
BEHE **Becsehely** 96.63 44⇓*e*P P 04 28 59.5 +1.3
GKP **Gorka Klasztor** 96.91 37 *e*P P 04 29 00.7 +1.5
GKP *e*S S 04 40 13.5 +3.1
GKP **Gorka Klasztor** 96.91 37 *e*P P 04 29 00.8 +1.5
GKP *e*S S 04 40 13.5 +3.1
TRO **Tromso** 97.02 21 *e*P P 04 28 58.0 -1.4
TRO IAmb IAmb 04 28 59.4
comp=Z,21nm,0.8s
TRO *e*pP pP 04 29 28.4 -4.2
TRO *e*PP PP 04 32 53.9 -2.7
TRO *e*SS SS 04 46 50.2 +0.4
PKST **T"s** 97.49 43⇑*e*P Pdif 04 29 02.8 +0.7
OKC **Ostrava-Krasne** 97.53 41 *e*P Pdif 04 29 02.9 +0.7
OKC *ex* x 04 29 09.2
OKC *ex* x 04 29 25.2
OKC *e*PP PP 04 32 58.9 -2.2
OKC *e*SKS SKSac 04 39 30.1 +2.6
OKC *e*S ScS 04 40 20.2 +4.1
OKC *e*SP SP 04 41 35.1 -3.8
OKC *ex* x 04 46 47.3
OKC AMS AMS 05 14 40.0
comp=Z,400nm,16.8s
OKC **Ostrava-Krasne** 97.53 41 *e*P Pdif 04 29 02.9 +0.7
OKC *e* 04 29 25.2
OKC *e* 04 32 58.9
OKC *e* 04 39 30.1
OKC *e* 04 40 20.2
OKC MLR MLR
comp=Z,400nm,16.8s
RAC **Raciborz** 97.56 40 *e*P Pdif 04 29 03.9 +1.6
RAC MLR MLR
comp=Z,1μm,18.7s
PKS9 **Tamasi** 97.67 44 *e*P Pdif 04 29 03.7 +0.8
PKSG 97.73 43 *e*P Pdif 04 29 03.8 +0.7
HOPEN **Hopen** 97.87 13 *e*P Pdif 04 29 03.6 +0.5
PKSM **Moragy** 97.92 44 ⇑P Pdif 04 29 05.1 +1.1
PKSM **Moragy** 97.92 44⇑*i*P Pdif 04 29 05.1 +1.1
PKSM **Moragy** 97.92 44⇓*e*P Pdif 04 29 04.5 +0.5
VYHS **Vyhne** 98.01 42 *e*P Pdif 04 29 05.3 +0.9
VYHS pmax pmax
comp=Z,39nm,1.6s
VYHS **Vyhne** 98.01 42 *e*P Pdif 04 29 05.3 +0.9
VYHS *e* 04 29 26.9
BUD **Budapest** 98.16 43⇓*e*P Pdif 04 29 05.7 +0.7
PKS2 **Kecel** 98.31 44 *e*P Pdif 04 29 06.6 +0.9
OJC **Ojcow** 98.58 40 *e*P Pdif 04 29 07.8 +0.9
OJC *e* 04 29 29.9
OJC *e*pP pP 04 29 42.0 +1.9
OJC *e*PP PP 04 33 08.2 -1.0

OJC eS S 04 40 31.6 +6.7
OJC eSP **SP** **04 41 45.6 -4.7**
OJC Ojcow 98.58 40 eP Pdif 04 29 07.9 +1.0
OJC e*PP pP 04 29 42.1 +1.9
OJC e 04 33 08.3
OJC eS S 04 40 31.6 +6.7
OJC Ojcow 98.58 40 eP Pdif 04 29 07.3 +0.4
comp=Z,22nm,0.9s
BOSA Boshof 98.69 120 P Pdif 04 29 08.8 +0.8
comp=Z,21nm,1.1s,baz=267,slow=4.2,SNR=16
BOSA PKKPbc **PKKPbc** **04 45 36.0 -0.7**
comp=Z,1.6nm,0.8s,baz=147,slow=5.5,SNR=3.1
BOSA LR LR 05 10 00.3
comp=Z,484nm,21.2s,baz=283,slow=33
BOSA Boshof 98.69 120 eP Pdif 04 29 08.4 +0.3
BOSA ePKKPbc **PKKPbc** **04 45 36.0 -0.7**
PSZ Piszkesteto 98.73 42 eP Pdif 04 29 08.1 +0.4
PSZ pmax pmax
comp=Z,32nm,1.3s
PSZ Piszkesteto 98.73 42⇓ *i*P Pdif 04 29 08.9 +1.2
PSZ Piszkesteto 98.73 42 eP Pdif 04 29 08.1 +0.4
comp=Z,32nm,1.3s
PSZ Piszkesteto 98.73 42⇓ *e*Pdiff Pdif 04 29 08.2 +0.5
NIE Niedzica 98.95 41 eP Pdif 04 29 10.4 +1.8
NIE e 04 29 32.4
NIE eSP SP 04 41 49.1 -5.2
NIE Niedzica 98.95 41 eP Pdif 04 29 10.5 +1.9
BEL Belsk 99.13 38 eP **Pdif** **04 29 10.9 +1.6**
BEL Belsk 99.13 38 eP **Pdif** **04 29 10.9 +1.6**
ARA0 ARCESS Array S 99.32 20 eP **Pdif** **04 29 08.7 -1.0**
ARA0 ePP **PP** **04 33 11.6 -2.6**
ARA0 ePKKPbc **PKKPbc** **04 45 31.8 -4.5**
ARCES ARCESS Array B 99.32 20 P **Pdif** **04 29 09.2 -0.5**
comp=Z,11nm,0.6s,baz=278,slow=3.7,SNR=48
ARCES PP **PP** **04 33 11.6 -2.6**
comp=Z,11nm,1.0s,baz=293,slow=6.5,SNR=4.9
ARCES PKKPbc **PKKPbc** **04 45 31.8 -4.5**
comp=Z,4.8nm,0.7s,baz=46,slow=3.5,SNR=10
ARCES LR LR 05 11 30.6
comp=Z,214nm,21.3s,baz=284,slow=34
ARCES ARCESS Array B 99.32 20 P **Pdif** **04 29 09.2 -0.5**
ARCES 04 33 11.6
ARCES pmax pmax
comp=Z,11nm,0.6s
ARCES pmax pmax
comp=Z,11nm,1.0s
ARCES pmax pmax
comp=Z,5.0nm,0.7s
ARE0 ARCESS Array S 99.32 20⇓ *i*P **Pdif** **04 29 09.8 0.0**
LBTB Lobatse 99.64 116 eP **Pdif** **04 29 13.0 +0.7**
LBTB pmax pmax
comp=Z,26nm,0.8s
LBTB Lobatse 99.64 116 *e*Pdif **Pdif** **04 29 13.0 +0.7**
comp=Z,26nm,0.8s
SIRR Siria 100.01 44⇑ *i*P **Pdif** **04 29 14.4 +1.0**
BZS Buzias 100.02 45⇑ P **Pdif** **04 29 14.6 +1.2**
BZS Buzias 100.02 45⇑ *i*P **Pdif** **04 29 14.6 +1.2**
SUW Suwalki 100.40 36 eP **Pdif** **04 29 15.3 +0.5**
SUW eS **Sdif** **04 40 35.7 -4.2**
SUW eSP **SP** **04 42 05.1 -4.4**
SUW Suwalki 100.40 36 eP **Pdif** **04 29 15.3 +0.5**
SUW eS **Sdif** **04 40 35.7 -4.2**
SUW eSP **SP** **04 42 05.2 -4.3**
KWP Kalwaria Pacla 100.50 41 eP **Pdif** **04 29 16.8 +1.4**
KWP e 04 29 38.8
KWP epP pP 04 29 50.8 +2.0
KWP Kalwaria Pacla 100.50 41 eP **Pdif** **04 29 16.9 +1.5**
KWP Kalwaria Pacla 100.50 41⇑ *i*P **Pdif** **04 29 16.2 +0.8**
TRPA Tarpa 100.50 42⇓ *i*P **Pdif** **04 29 16.6 +1.2**
TRPA Tarpa 100.50 42⇓ *e*Pdiff **Pdif** **04 29 16.6 +1.2**
DRGR 100.71 43⇓ P **Pdif** **04 29 16.0 -0.5**
DRGR 100.71 43⇓ *i*P **Pdif** **04 29 16.0 -0.5**
GZR Gura Zlata 100.84 45⇓ P **Pdif** **04 29 18.3 +1.1**
GZR Gura Zlata 100.84 45⇓ *i*P **Pdif** **04 29 18.3 +1.1**
FIA0 FINESS Array S 100.96 28 eP **Pdif** **04 29 17.2 0.0**
FIA0 FINESS Array S 100.96 28 ePdif **Pdif** **04 29 17.1 0.0**
FIA0 ePKKPbc PKKPbc 04 45 26.0 -5.4
FIA0 eP'P'df **P'P'df** **04 53 45.0 -0.8**
FINES FINESS Array B 100.96 28 P **Pdif** **04 29 17.1 0.0**
comp=Z,11nm,0.9s,baz=270,slow=1.5,SNR=24
FINES PKKPbc PKKPbc 04 45 26.0 -5.4
comp=Z,4.5nm,0.8s,baz=72,slow=6.2,SNR=12
FINES PKPPKP **P'P'df** **04 53 45.0 -0.8**
comp=Z,1.3nm,0.8s,baz=108,slow=4.5,SNR=4.7
FINES FINESS Array B 100.96 28 P **Pdif** **04 29 17.2 0.0**
FINES pmax pmax
comp=Z,11nm,0.9s
FINES pmax pmax
comp=Z,5.0nm,0.8s
FINES pmax pmax
comp=Z,1.0nm,0.9s
LVV L'vov 101.33 40 eP **Pdif** **04 29 19.5 +0.4**
LVV e 04 39 42.5
LVV e 04 40 41.7
LVV e 04 42 21.9
LOT Lotru 101.54 45⇑ *i*P **Pdif** **04 29 20.8 +0.5**
ARR Arges 102.15 45⇓ *i*P **Pdif** **04 29 24.0 +1.0**
MAW Mawson 102.24 166 P **Pdif** **04 29 24.5 +1.7**
comp=Z,8.3nm,0.9s,baz=267,slow=6.1,SNR=7.2
MAW Mawson 102.24 166 P **Pdif** **04 29 24.5 +1.7**
MAW pmax pmax
comp=Z,8.0nm,0.9s
MAW Mawson 102.24 166 *e*Pdif **Pdif** **04 29 26.4 +3.7**
BUR04 Bucovina Ar. S 102.33 42 *e*Pdif **Pdif** **04 29 23.6 -0.2**
VOIR 102.44 45⇑ P **Pdif** **04 29 26.0 +1.7**
VOIR 102.44 45⇑ *i*P **Pdif** **04 29 26.0 +1.7**
APA Apatity 102.61 22⇓ *i*P **Pdif** **04 29 23.8 -0.6**
APA *i* 04 39 57.0
APA *i* PS PS 04 42 34.0 -15
DOPR Dopca 102.62 44⇓ *i*P **Pdif** **04 29 27.2 +2.2**
LVZ Lovozero 102.96 21 eP **Pdif** **04 29 25.0 -1.0**
LVZ Lovozero 102.96 21 *e*Pdif **Pdif** **04 29 25.0 -1.0**
MLR Muntele Rosu 103.06 45⇓ P **Pdif** **04 29 27.1 0.0**
MLR Muntele Rosu 103.06 45⇓ *i*P **Pdif** **04 29 27.1 0.0**
MATP Matopo 103.10 112 PKKPbc PKKPbc 04 45 22.6 -1.2
comp=Z,0.7nm,0.6s,baz=244,slow=4.7,SNR=3.5
DRV Dumont d'Urvil 103.50 194 Pdif Pdif 04 29 13.0 -15
DRV PP PP 04 33 36.0 -9.2
DRV SKKS 04 39 45.0
DRV SS SS 04 48 05.0 -14
DRV L L 04 57 00.0
DRV R 05 03 00.0
PLOR Plostina 103.51 44⇑ P **Pdif** **04 29 32.0 +3.0**
PLOR Plostina 103.51 44⇑ *i*P **Pdif** **04 29 32.0 +3.0**
VRI Vrincioaia 103.56 44⇑ P **Pdif** **04 29 32.6 +3.4**
VRI Vrincioaia 103.56 44⇑ *i*P **Pdif** **04 29 32.6 +3.4**
BILL Bilibino 104.35 340⇓ *e*P **Pdif** **04 29 32.0 -0.1**
BILL *i* 04 33 51.5
BILL eSKS 04 39 55.4
BILL 04 40 47.0
BILL *e* 04 42 48.3
BILL pmax pmax
comp=Z,21nm,1.4s
BILL Bilibino 104.35 340 *e*Pdif **Pdif** **04 29 31.7 -0.4**
BILL ePKiKP **PP** **04 33 50.4 -1.4**
AK11 Malin Array Si 104.49 39 *e*Pdif **Pdif** **04 29 32.5 -0.6**
AKASG Malin Array Be 104.52 39 Pdiff **Pdif** **04 29 33.7 +0.4**
comp=Z,0.3nm,0.4s,baz=274,slow=3.5,SNR=5.7
AKASG PKiKP **PKiKP** **04 33 48.4 -0.3**
comp=Z,0.4nm,0.4s,baz=277,slow=2.4,SNR=5.8
AKASG PKKPbc **PKKPbc** **04 45 18.1 -2.4**
comp=Z,0.2nm,0.3s,baz=79,slow=3.5,SNR=6.4
AKASG PKKP **PKKPab** **04 45 36.6 -1.0**
comp=Z,0.4nm,0.3s,baz=75,slow=4.4,SNR=5.6
AKBB Malin Array Si 104.52 39 eP **Pdif** **04 29 33.7 +0.4**
AKBB Malin Array Si 104.52 39 *e*Pdif **Pdif** **04 29 33.7 +0.4**
AKBB ePKiKP **PKiKP** **04 33 48.4 -0.3**
AKBB ePKKPbc **PKKPbc** **04 45 18.1 -2.4**
AKBB ePKKPab **PKKPab** **04 45 36.6 -1.0**
TLB Topalu 104.64 45⇑ P **Pdif** **04 29 33.8 -0.1**
TLB Topalu 104.64 45⇑ *i*P **Pdif** **04 29 33.8 -0.1**
KIS Kishinev 104.85 43 eP **Pdif** **04 29 34.0 -0.8**
KIS Kishinev 104.85 43 ePP PP 04 33 50.0 -6.2
KIS Kishinev 104.85 43 ePKP **PP** **04 33 54.0 -2.2**
KIS epPKP **pPKiKP** **04 34 26.0 +2.0**
KIS Kishinev 104.85 43 eP**S** **SP** **04 42 50.0 -6.7**
KIS Kishinev 104.85 43 ePPS PPS 04 43 50.0
KIS eSS SS 04 48 29.0 -11
KIS eL L 04 59 10.0
KIS LRM MLR 05 11 40.0
comp=Z,600nm,20.0s
KIS Kishinev 104.85 43 eP **Pdif** **04 29 34.0 -0.8**
KIS *e* 04 33 54.0
KIS *e* 04 40 03.0
KIS *e* 04 40 43.0
KIS eS **Sdif** **04 41 12.0 -5.3**
KIS ePPS PPS 04 43 50.0
TMCR Tamitsa 105.54 24 eP **Pdif** **04 29 38.2 +0.8**
TMCR *e* 04 34 06.2
TMCR pmax pmax
comp=Z,12nm,0.6s
KLMR Klimovskoe 107.39 27 *de*P **Pdif** **04 29 43.8 -2.0**
KLMR 04 40 51.1
KLMR pmax pmax
comp=Z,20nm,1.8s
OBN Obninsk 107.82 33⇑ eP **Pdif** **04 29 48.9 +1.1**
OBN *e* 04 40 17.4
OBN *i* PPS PPS 04 44 38.7
OBN *i* SS SS 04 49 22.9 +3.7
OBN pmax pmax
comp=Z,10.0nm,0.5s
OBN pmax pmax
comp=Z,67nm,2.5s
OBN MLR MLR
comp=Z,546nm,19.0s
BR231 Keskin MP Arra 108.81 50 ePdif **Pdif** **04 29 53.7 +0.9**
BR231 ePKiKP **PKiKP** **04 33 58.9 +1.7**
PRGR Permogore 109.75 25 eP **Pdif** **04 30 01.9 +5.7**
PRGR pmax pmax
comp=Z,5.0nm,0.7s
CSS Prodhromos 109.97 55 ePKiKP **PKiKP** **04 33 59.5 +0.1**
TIXI Tiksi 111.52 351⇓ *i*PKIKP **PKiKP** **04 34 00.4 -0.8**
TIXI pmax pmax
comp=Z,6.0nm,1.2s
TIXI Tiksi 111.52 351 ePdif **Pdif** **04 30 03.9 0.0**
TIXI ePKiKP **PKiKP** **04 34 00.2 -0.9**
SEY Seymchan 111.87 338 PKiKP **PKiKP** **04 34 01.5 -0.5**
comp=Z,6.3nm,0.8s,baz=45,slow=5.7,SNR=13
CRZF Crozet Islands 111.89 145 SS SS 04 49 56.0 -18
CRZF R 05 08 00.0
EIL Elat 112.01 60 PKiKP **PKiKP** **04 34 03.9 +0.6**
comp=Z,13nm,0.8s,baz=314,slow=6.3,SNR=1.7
ASF Jabal al Asfar 113.32 57 PKiKP **PKiKP** **04 34 06.6 +0.7**
comp=Z,12nm,0.9s,baz=251,slow=1.5,SNR=13
PET Petropavlovsk 113.95 327 eP **Pdif** **04 30 18.7 +3.6**
PET 04 40 48.1
PET eSP SP 04 44 24.2 -0.6
PET eSS SS 04 50 56.7 +16
PET pmax pmax
comp=Z,400nm,13.9s
PET MLR MLR
comp=Z,500nm,19.0s
PET MLR MLR
comp=Z,400nm,18.0s
PEA2 Petropavlovsk- 114.42 327 ePKiKP PKPdf 04 34 06.6 -0.7
PEA2 ePP **PP** **04 35 04.7 -0.4**
PEA2 ePKKPbc **PKKPab** **04 44 52.6 -1.0**
PEA0 Petropavlovsk- 114.43 327 ePKiKP PKPdf 04 34 06.5 -0.8
PETK Petropavlovsk- 114.43 327 PKP PKPdf 04 34 06.6 -0.7
comp=Z,9.1nm,0.9s,baz=116,slow=6.8,SNR=12
PETK PP **PP** **04 35 04.7 -0.4**
comp=Z,6.0nm,1.0s,baz=116,slow=6.8,SNR=4.1
PETK PKKPab **PKKPab** **04 44 52.6 -1.0**
comp=Z,3.5nm,0.8s,baz=194,slow=3.1,SNR=6.3
PETK PKKP PKKPdf 04 45 22.6 +11
comp=Z,1.6nm,0.7s,baz=321,slow=4.2,SNR=3.5
PETK Petropavlovsk- 114.43 327 PKIKP PKPdf 04 34 06.6 -0.7
PETK 04 35 04.7
PETK pmax pmax
comp=Z,9.0nm,0.9s
PETK pmax pmax
comp=Z,6.0nm,1.0s
PETK pmax pmax
comp=Z,4.0nm,0.8s
PETK pmax pmax
comp=Z,2.0nm,0.7s
KMBO Kilima Mbogo 114.53 94 PKP PKPdf 04 34 10.4 +1.5
comp=Z,3.1nm,0.5s,baz=254,slow=3.6,SNR=6.7
KMBO PKKPbc **PKKPbc** **04 44 49.2 +1.8**
comp=Z,2.1nm,0.6s,baz=64,slow=3.0,SNR=4.1
KMBO Kilima Mbogo 114.53 94 PKIKP PKPdf 04 34 10.5 +1.6
KMBO 04 44 49.2
KMBO pmax pmax
comp=Z,3.0nm,0.5s
KMBO pmax pmax
comp=Z,2.0nm,0.6s
KMBO Kilima Mbogo 114.53 94 ePKiKP **PKiKP** **04 34 09.3 +0.4**
KMBO ePKKPbc **PKKPbc** **04 44 49.2 +1.8**
KIV Kislovodsk 115.03 44 eP **Pdif** **04 30 21.0 +0.7**
KIV *i* 04 34 09.2
KIV *e* 04 35 09.8
KIV ePS **PS** **04 44 51.9 +0.6**
KIV eSS SS 04 50 59.5 +3.4
KIV eSSS SSS 04 55 13.6
KIV pmax pmax
comp=Z,8.0nm,0.8s
KBZ Khabaz 115.24 44 PKP **PKPdf** **04 34 09.7 +0.6**
comp=Z,25nm,0.8s,baz=236,slow=24,SNR=33
ZEI Tsey 116.24 44 *i* PKIKP **PKPdf** **04 34 11.6 +0.3**
ZEI pmax pmax
comp=Z,9.0nm,0.8s
GNI Garni 117.66 47 PKP **PKPdf** **04 34 15.0 +0.9**
comp=Z,18nm,0.6s,baz=302,slow=2.2,SNR=7.2
GNI Garni 117.66 47⇑ *i*PKIKP **PKPdf** **04 34 16.1 +2.0**
GNI pmax pmax
comp=Z,19nm,0.8s
GNI Garni 117.66 47 ePKPdf **PKPdf** **04 34 13.8 -0.3**
ARU Arti 118.18 26 *i* PKIKP **PKPdf** **04 34 15.0 +0.6**
ARU 04 35 32.0
ARU 04 40 58.2
ARU PS PKKPdf 04 45 10.2 +6.2
ARU Arti 118.18 26 ePKPdf **PKPdf** **04 34 14.8 +0.4**
MAK Makhachkala 118.67 43 *i* PKIKP **PKPdf** **04 34 13.1 -2.6**
MAK *e* 04 34 43.8
MAK *e* 04 40 54.4
MAK ePS PKKPdf 04 45 08.8 +5.9
MAK eSS SS 04 51 45.3 +2.2
MAK pmax pmax
comp=Z,212nm,1.0s
PAF Port-aux-Franc 118.91 156 PP PP 04 35 15.0 -21
PAF SP SP 04 45 07.0 -2.6
PAF R 05 11 00.0
YAK Yakutsk 119.74 346 PKP **PKPdf** **04 34 16.3 -0.9**
comp=Z,2.1nm,0.3s,baz=9.5,slow=18,SNR=1.6
YAK Yakutsk 119.74 346 ePKIKP **PKPdf** **04 34 16.3 -0.9**
YAK pmax pmax
comp=Z,48nm,0.9s
IHRS Heris 119.94 48 eP **PKPdf** **04 34 18.2 -0.4**
IHRS Heris 119.94 48 eP **PKPdf** **04 34 18.2 -0.4**
IBST Bostanabad 120.02 49 eP **PKPdf** **04 34 18.2 -0.6**
IBST Bostanabad 120.02 49 eP **PKPdf** **04 34 18.2 -0.6**
IDHR Dehrash 120.52 53 eP **PKPdf** **04 34 19.9 +0.1**
IDHR Dehrash 120.52 53 eP **PKPdf** **04 34 19.9 +0.1**
ABPO Ambohimpanom 120.53 115 ePKIKP **PKPdf** **04 34 19.9 -0.3**
ABPO Ambohimpanom 120.53 115 ePKPdf **PKPdf** **04 34 19.9 -0.3**
AKTO Aktyubinsk 121.51 32 PKP **PKPdf** **04 34 21.9 +0.9**
comp=Z,22nm,0.8s,baz=318,slow=2.2,SNR=37
AKTO pPKP **pPKPdf** **04 34 54.2 -1.4**
comp=Z,11nm,0.7s,baz=319,slow=3.8,SNR=4.1
AKTO PKKPab **PKKPab** **04 44 21.8 -0.7**
comp=Z,10nm,0.8s,baz=119,slow=3.5,SNR=22
AKTO Aktyubinsk 121.51 32 PKIKP **PKPdf** **04 34 21.2 +0.2**
AKTO pmax pmax
comp=Z,26nm,0.8s
IBZA Bozab 121.75 52 eP **PKPdf** **04 34 21.9 -0.3**
IBZA Bozab 121.75 52 eP **PKPdf** **04 34 22.0 -0.3**
RAYN Ar Rayn 122.22 65 ePKPdf **PKPdf** **04 34 23.1 -0.1**
AB31 Akbulak array 123.21 32 *i* PKIKP **PKPdf** **04 34 25.1 +0.8**
AB31 pmax pmax
comp=Z,83nm,0.8s
ABKAR Akbulak array 123.21 32 ePKPdf **PKPdf** **04 34 24.9 +0.7**
EIDS Eidsvold 123.94 235 ePKPdf **PKPdf** **04 34 26.8 +0.3**
IPRN Peran 124.61 49 eP **PKPdf** **04 34 28.1 +0.5**
IPIR Pirpir 124.70 54 eP **PKPdf** **04 34 26.5 -1.5**
IPIR Pirpir 124.70 54 eP **PKPdf** **04 34 26.5 -1.5**
IALA Alasht 125.03 49 eP **PKPdf** **04 34 29.3 +0.7**
IALA Alasht 125.03 49 eP **PKPdf** **04 34 29.3 +0.7**
BRVK Borovoye 125.41 23⇑ *i*PKIKP **PKPdf** **04 34 29.5 +1.1**
BRVK pmax pmax
comp=Z,56nm,1.2s
BRVK Borovoye 125.41 23 P **PKPdf** **04 34 29.0 +0.7**
SNR=23
BRVK Borovoye 125.41 23 ePKPdf **PKPdf** **04 34 28.7 +0.3**
CLNS Chul'man 125.47 345 ePKIKP **PKPdf** **04 34 28.3 -0.1**
CLNS pmax pmax
comp=Z,58nm,0.9s
CLNS pmax pmax
comp=N,16nm,0.8s
CLNS pmax pmax
comp=E,6.0nm,0.8s
BVA0 Borovoye Array 125.47 23 PKIKP **PKPdf** **04 34 28.9 +0.4**
BVA0 pmax pmax
comp=Z,74nm,0.9s
BVAR Borovoye Array 125.47 23 PKKPab PKKPab 04 44 05.6 +0.2
comp=Z,3.3nm,0.8s,baz=144,slow=5.3,SNR=9.4
IKIA Kiasar 125.64 48 eP **PKPdf** **04 34 29.9 +0.2**
IKIA Kiasar 125.64 48 eP **PKPdf** **04 34 29.9 +0.2**
YUK Yuzh-Kuril'sk 125.72 322 *d*iPKIKP **PKPdf** **04 34 28.4 -0.8**
YUK *i* 04 35 00.2
YUK *i* 04 36 20.0
YUK *i* 04 46 04.7
YUK MLR MLR
comp=N,290nm,20.0s
YUK MLR MLR
comp=E,215nm,20.0s
YUK MLR MLR
comp=Z,301nm,20.0s
IZEF Zefreh 125.78 53 eP **PKPdf** **04 34 29.3 -0.7**
IZEF Zefreh 125.78 53 eP **PKPdf** **04 34 29.3 -0.7**
YSS Yuzh-Sakhalins 125.83 327⇓ *i*PKIKP **PKPdf** **04 34 28.0 -1.3**
YSS *e* 04 35 04.3
YSS *e* 04 36 24.0
YSS ePPP PPP 04 39 14.0
YSS ePS PS 04 46 14.0 -13
YSS pmax pmax
comp=Z,80nm,0.9s
YSS Yuzh-Sakhalins 125.83 327 *e*PKPdf **PKPdf** **04 34 28.8 -0.6**
IKAZ Kazeroun 126.35 57 eP **PKPdf** **04 34 31.6 +0.3**
IKAZ Kazeroun 126.35 57 eP **PKPdf** **04 34 31.6 +0.3**
BOD Bodaibo 126.68 352 ePKIKP **PKPdf** **04 34 29.4 -1.2**
BOD pmax pmax
comp=Z,27nm,1.1s
JMP Maruseppu 127.23 324 P **PKPdf** **04 34 31.9 -0.3**
IPAR Pars 127.34 56 eP **PKPdf** **04 34 32.9 -0.3**
IPAR Pars 127.34 56 eP **PKPdf** **04 34 32.9 -0.3**
ASAJ Asahikawa 127.62 324 P **PKPdf** **04 34 33.0 +0.2**
ASAJ Asahikawa 127.62 324 PKP **PKPdf** **04 34 33.0 +0.2**
comp=Z,81nm,0.9s,baz=271,slow=5.3,SNR=37
ASAJ Asahikawa 127.62 324 PKIKP **PKPdf** **04 34 33.1 +0.2**
ASAJ pmax pmax
comp=Z,81nm,0.9s
ASAJ Asahikawa 127.62 324 *e*PKPdf **PKPdf** **04 34 32.6 -0.3**
STKA Stephens Creek 127.67 223 PKP **PKPdf** **04 34 34.0 +0.6**
comp=Z,59nm,0.8s,baz=109,slow=1.9,SNR=114
STKA Stephens Creek 127.67 223 PKIKP **PKPdf** **04 34 34.0 +0.6**
STKA pmax pmax
comp=Z,59nm,0.8s
STKA Stephens Creek 127.67 223 *e*PKPdf **PKPdf** **04 34 33.3 -0.1**
ERM Erimo 128.48 322 *c*iPKIKP **PKPdf** **04 34 36.2 +1.6**
ERM pmax pmax
comp=Z,113nm,1.2s
ERM Erimo 128.48 322 *e*PKPdf **PKPdf** **04 34 35.2 +0.6**
JEM Erimo 128.48 322 P **PKPdf** **04 34 35.3 +0.7**
HABR Khabarovsk 128.68 333 *de*PKIKP **PKPdf** **04 34 34.6 -0.1**
HABR *e* 04 35 04.6
HABR *e* 04 36 41.8
HABR *e* 04 39 27.9
HABR *e* 04 41 35.9
HABR *e* 04 48 19.0
HABR eSS SS 04 53 51.7 +3.3
HABR eSSS SSS 04 58 37.2
HABR pmax pmax
comp=N,13nm,0.9s
HABR pmax pmax
comp=E,21nm,0.9s
HABR pmax pmax
comp=Z,60nm,0.9s
HABR MLR MLR
comp=Z,439nm,24.0s
IKRD Kardeh 128.93 46 eP **PKPdf** **04 34 38.4 +2.5**
IKRD Kardeh 128.93 46 eP **PKPdf** **04 34 38.4 +2.5**
ZAA1 Zalesovo Array 129.23 13 ePKPpre PKPpre 04 34 21.6
ZAA1 ePKPdf **PKPdf** **04 34 36.0 +0.3**
ZALV Zalesovo Beam 129.24 13 PKhKP PKPpre 04 34 21.6
comp=Z,2.3nm,0.7s,baz=311,slow=2.9,SNR=6.7
ZALV PKP **PKPdf** **04 34 36.0 +0.3**
comp=Z,228nm,0.9s,baz=325,slow=2.2,SNR=202
ZALV Zalesovo Beam 129.24 13 PKHKP PKPpre 04 34 21.7
ZALV 04 34 36.0
ZALV pmax pmax
comp=Z,2.0nm,0.7s
ZALV pmax pmax
comp=Z,228nm,0.9s
IPAY Payeh 129.42 46 eP **PKPdf** **04 34 36.7 -0.2**
IPAY Payeh 129.42 46 eP **PKPdf** **04 34 36.7 -0.2**
KLR Kul'dur 129.55 335 ePKIKP PKPdf 04 34 30.0 -6.4
KLR *e* 04 35 06.8
KLR pmax pmax
comp=Z,85nm,1.8s
CTA Charters Tower 130.24 238 PKhKP PKPpre 04 34 25.7
comp=Z,3.6nm,0.7s,baz=58,slow=2.3,SNR=4.5
CTA PKP **PKPdf** **04 34 38.9 +0.3**
comp=Z,50nm,0.9s,baz=269,slow=1.3,SNR=34
CTA SKPab **SKPbc** **04 37 50.1 +0.1**
comp=Z,10nm,0.9s,baz=138,slow=3.7,SNR=4.1
CTAO Charters Tower 130.24 238 ePKIKP **PKPdf** **04 34 38.5 -0.1**
CTAO Charters Tower 130.24 238 ePKPdf **PKPdf** **04 34 38.5 -0.1**
IMYA Miami 130.26 46 eP **PKPdf** **04 34 39.3 +0.9**
IMYA Miami 130.26 46 eP **PKPdf** **04 34 39.3 +0.9**
KURK Kurchatov 130.35 20 PKIKP **PKPdf** **04 34 38.0 +0.2**
KURK pmax pmax
comp=Z,166nm,1.0s
KURK Kurchatov 130.35 20 P **PKPdf** **04 34 38.6 +0.7**
SNR=80
KURK Kurchatov 130.35 20 ePKPpre PKPpre 04 34 23.3
KURK ePKPdf **PKPdf** **04 34 38.0 +0.2**
KURK ePKPdf **PKiKP** **04 34 38.4 -0.3**
ABTO Aybut 130.38 72 P **PKPdf** **04 34 39.9 +1.0**
SNR=16
ABTO P **PKiKP** **04 34 40.1 +0.3**
SNR=42
KURBB Kurchatov Arra 130.40 20 PKhKP PKPpre 04 34 23.3
comp=Z,2.6nm,0.9s,baz=319,slow=2.9,SNR=12
KURBB PKP **PKiKP** **04 34 38.4 -0.4**
comp=Z,151nm,0.8s,baz=326,slow=2.3,SNR=174
KURBB PKKP **PKKPdf** **04 44 37.8 -2.6**
comp=Z,1.1nm,0.8s,baz=143,slow=2.0,SNR=5.2
BBOO Buckleboo 130.63 218 ePKPdf **PKPdf** **04 34 38.5 -0.5**
ASUD Al Ashush, Dub 130.77 62⇓ *i*PKiKP **PKiKP** **04 34 40.1 -0.2**
SNR=13
NAZ Nazwa, Dubai 130.96 61⇓ *i*PKiKP **PKPdf** **04 34 40.2 +0.4**
SNR=14
FAQ Al Faqa, Dubai 130.97 62⇑ *i*PKiKP **PKPdf** **04 34 40.1 +0.3**
SNR=9.6
JOM Ohasama 131.08 320 P **PKPdf** **04 34 39.2 -0.4**
IKOO Kooshah 131.18 51 eP **PKPdf** **04 34 40.7 +0.3**
IKOO Kooshah 131.18 51 eP **PKPdf** **04 34 40.7 +0.3**
RBK Rabkut 131.21 71 P **PKPdf** **04 34 42.3 +1.8**
SNR=9.4
BANOM Banah 131.25 60 P **PKPdf** **04 34 41.1 +0.7**
SNR=5.9
BANOM Banah 131.25 60⇓ *i*PKiKP **PKPdf** **04 34 40.5 +0.1**
SNR=14
ASHO Ashiyiah 131.39 61 P **PKPdf** **04 34 40.7 0.0**
SNR=11
ASHO Ashiyiah 131.39 61 *i* PKiKP **PKPdf** **04 34 40.6 -0.1**
SNR=8.5
HATD Hatta, Dubai 131.42 61⇑ *i*PKiKP **PKPdf** **04 34 40.8 +0.1**
SNR=17
IDAH Dahanechah 131.71 50 eP **PKPdf** **04 34 41.1 -0.2**
IDAH Dahanechah 131.71 50 eP **PKPdf** **04 34 41.1 -0.2**
ARQ Araqi 132.16 63 P **PKPdf** **04 34 44.1 +2.0**
SNR=5.6
JMM Marumori 132.30 318 P **PKPdf** **04 34 41.4 -0.5**
CIT Chita 132.37 351 ePKIKP **PKPdf** **04 34 42.6 +0.9**
CIT *e* 04 35 13.0
CIT pmax pmax
comp=Z,198nm,2.6s
JYA Atsumi 132.59 320 P **PKPdf** **04 34 42.8 +0.3**
KKAR Karatay Array 132.78 32 ePKIKP **PKPdf** **04 34 42.8 0.0**
KKAR Karatay Array 132.78 32 ePKPdf **PKPdf** **04 34 42.8 0.0**
HOQ Hoqain 132.79 62 P **PKPdf** **04 34 43.1 -0.2**
SNR=9.6
IRK Irkutsk 133.01 359 ePKIKP **PKPdf** **04 34 42.6 -0.3**
IRK *e* 04 35 16.8
IRK pmax pmax
comp=Z,202nm,2.3s
PMG Port Moresby 133.21 252⇑ *i*PKiKP **PKPdf** **04 34 45.6 +1.3**
PMG pmax pmax
comp=Z,305nm,2.5s

USRK Ussuriysk Ar. 133.26 331 PKhKP PKPpre 04 34 29.4
comp=Z,4.5nm,0.9s,baz=166,slow=2.7,SNR=5.5
USRK PKP **PKPdf 04 34 43.5 -0.1**
comp=Z,21nm,0.7s,baz=283,slow=0.7,SNR=20
SMDO Samad 133.59 63 P **PKPdf 04 34 45.1 +0.2**
SNR=36
SMDO P **PKiKP 04 34 45.4 -0.8**
SNR=41
TLY Talaya 133.59 359 PKP **PKPdf 04 34 42.3 -1.7**
comp=Z,17nm,0.7s,baz=81,slow=12,SNR=3.6
TLY Talaya 133.59 359 *e*PKIKP **PKPdf 04 34 44.2 +0.2**
TLY *i* 04 35 17.9
TLY *e*SS SS 04 54 54.6 +7.2
TLY pmax pmax
comp=Z,38nm,0.7s
TLY Talaya 133.59 359 P **PKPdf 04 34 47.1 +3.1**
SNR=7.7
TLY Talaya 133.59 359 *e*PKPdf **PKPdf 04 34 44.5 +0.5**
TLY *e*PP **PP 04 37 12.2 -0.6**
MOY Mondy 133.59 1 *e*PKIKP **PKPdf 04 34 44.8 +0.7**
MOY pmax pmax
comp=Z,259nm,3.0s
JMDO Jabal Madar 133.81 64 P **PKPdf 04 34 45.5 +0.2**
SNR=5.6
JSD Sado 133.84 320 P **PKPdf 04 34 44.5 -0.3**
MDJ Mudanjiang 134.06 333 PKP **PKPdf 04 34 44.5 -0.6**
MDJ sPKP 04 35 33.9
MDJ PP **PP 04 37 16.8 +0.6**
MDJ PKS PKSdf 04 38 13.6 -7.7
MDJ SS SS 04 54 50.1 -3.9
MDJ PPMZ
comp=Z,420nm,11.2s
MDJ LN
comp=Z,410nm,28.1s
MDJ LE
comp=Z,300nm,26.1s
MDJ LZ
comp=Z,470nm,22.1s
MNAS Manas 134.25 31 PKIKP **PKPdf 04 34 46.6 +0.9**
MNAS pmax pmax
comp=Z,137nm,1.8s
WBK Wadi Bani Khal 134.52 63 P **PKPdf 04 34 47.0 +0.3**
SNR=8.1
JRY Ryogami san 134.58 318 P **PKPdf 04 34 46.0 -0.3**
USP Ospenovka 134.67 29 P **PKPdf 04 34 45.8 -0.6**
SNR=34
USP Ospenovka 134.67 29 *i* PKIKP **PKPdf 04 34 45.7 -0.6**
DZET Dzherino 134.67 38 PKIKP **PKPdf 04 34 47.2 +0.6**
DZET pmax pmax
comp=Z,54nm,0.7s
MJAR Matsushiro Arr 134.75 319 PKhKP PKPpre 04 34 36.6
comp=Z,5.1nm,0.8s,baz=42,slow=1.6,SNR=12
MJAR PKP **PKPdf 04 34 46.4 -0.3**
comp=Z,32nm,0.8s,baz=96,slow=1.4,SNR=32
MJAR Matsushiro Arr 134.75 319 PKHKP PKPpre 04 34 36.6
MJAR 04 34 46.4
MJAR pmax pmax
comp=Z,5.0nm,0.8s
MJAR pmax pmax
comp=Z,32nm,0.8s
MAJO Matsushiro 134.75 319 *i* PKIKP **PKPdf 04 34 48.1 +1.5**
MAJO Matsushiro 134.75 319 *e*PKPpre PKPpre 04 34 36.5
MAJO *e*PKPdf **PKPdf 04 34 45.8 -0.9**
MAT Matsushiro 134.75 319 PKP **PKPdf 04 34 45.9 -0.7**
MAT Matsushiro 134.75 319 P **PKPdf 04 34 46.3 -0.3**
EKS2 Erkin-Say 134.77 30 P **PKPdf 04 34 48.7 +2.0**
SNR=16
JOD2 Odawara 2 134.87 317 P **PKPdf 04 34 45.9 -1.0**
ZAK Zakamensk 134.89 359 *e*PKHKP PKPpre 04 34 30.6
ZAK *e* 04 34 45.1
ZAK *e* 04 35 19.3
ZAK pmax pmax
comp=Z,34nm,2.1s
MK31 Makanchi Array 134.97 20 *i* PKIKP **PKPdf 04 34 46.4 -0.3**
MK31 pmax pmax
comp=Z,83nm,0.9s
MK32 Makanchi Array 134.97 20 *e*PKPpre PKPpre 04 34 35.3
MK32 *e*PKPdf **PKPdf 04 34 46.8 +0.1**
MKAR Makanchi Array 134.97 20 PKhKP PKPpre 04 34 35.3
comp=Z,1.4nm,0.6s,baz=297,slow=5.8,SNR=8.7
MKAR PKP **PKPdf 04 34 46.8 +0.1**
comp=Z,48nm,0.8s,baz=305,slow=4.3,SNR=116
MKAR Makanchi Array 134.97 20 PKHKP PKPpre 04 34 35.3
MKAR 04 34 46.8
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR pmax pmax
comp=Z,48nm,0.8s
MKAR Makanchi Array 134.97 20 *e*PKPdf **PKPdf 04 34 46.7 -0.1**
MK01 Makanchi Array 134.99 20 *e*PKPdf **PKPdf 04 34 46.4 -0.4**
CHMS Chumysh 134.99 29 P **PKPdf 04 34 48.6 +1.7**
SNR=10.0
FRU Bishkek 135.05 29 *i* PKIKP **PKPdf 04 34 47.0 0.0**
FRU *i* 04 35 18.0
FRU pmax pmax
comp=Z,460nm,2.4s
AML Almayashu 135.12 31 P **PKPdf 04 34 49.7 +2.0**
SNR=15
AAK Ala-Archa 135.14 29 P **PKPdf 04 34 49.3 +1.9**
SNR=19
AAK Ala-Archa 135.14 29 PKhKP PKPpre 04 34 42.3
comp=Z,7.2nm,0.8s,baz=252,slow=6.4,SNR=7.1
AAK PKP **PKPdf 04 34 49.3 +1.9**
comp=Z,52nm,0.8s,baz=324,slow=1.0,SNR=64
AAK Ala-Archa 135.14 29 PKIKP **PKPdf 04 34 48.0 +0.6**
AAK pmax pmax
comp=Z,72nm,1.0s
AAK Ala-Archa 135.14 29 P **PKPdf 04 34 48.9 +1.5**
SNR=38
AAK Ala-Archa 135.14 29 *e*PKPpre PKPpre 04 34 42.3
AAK *e*PKPdf **PKPdf 04 34 47.5 +0.1**
KBK Karagaybulak 135.34 29 P **PKPdf 04 34 50.2 +2.4**
SNR=9.7
COEN Coen 135.41 244 *e*PKPdf **PKPdf 04 34 47.6 -0.8**
TKM2 Tokmak 2 135.45 28 P **PKPdf 04 34 49.2 +1.2**
SNR=22
TKM2 Tokmak 2 135.45 28 PKIKP **PKPdf 04 34 45.3 -2.7**
TKM2 pmax pmax
comp=Z,75nm,1.1s
TKM2 Tokmak 2 135.45 28 *e*PKPdf **PKPdf 04 34 48.7 +0.7**
UCH Uchtor 135.45 30 P **PKPdf 04 34 48.0 -0.3**
SNR=40
UCH Uchtor 135.45 30 *i* PKIKP **PKPdf 04 34 48.0 -0.3**
JGF Kuroka 135.85 318 P **PKPdf 04 34 48.5 -0.2**
KZA Kyzart 135.93 29 P **PKPdf 04 34 49.4 +0.1**
SNR=21
KZA Kyzart 135.93 29 *i* PKIKP **PKPdf 04 34 49.3 +0.1**
ULHL Ulahol 136.28 28 P **PKPdf 04 34 51.8 +2.2**
SNR=27
ULHL Ulahol 136.28 28 *i* PKIKP **PKPdf 04 34 51.8 +2.2**
CN2 Changchun 136.50 336 *e*PKP **PKPdf 04 34 48.4 -1.2**
CN2 PP PP 04 37 36.8 +5.3
CN2 PPMZ
comp=Z,200nm,4.0s
CN2 LN
comp=Z,1μm,24.0s
CN2 LE
comp=Z,1μm,24.0s
CN2 LZ
comp=Z,300nm,16.0s
SFK Sufi-Kurgan 136.54 33 PKIKP **PKPdf 04 34 50.9 +0.7**
SFK pmax pmax
comp=Z,161nm,1.2s
FORT Forrest 136.74 213 *e*PKPdf **PKPdf 04 34 49.9 -0.6**
PDGK Podgornoye 136.86 25 PKIKP **PKPdf 04 34 49.4 -0.9**
PDGK pmax pmax
comp=Z,75nm,1.2s
ULN Ulaanbaatar 137.24 355 *e*PKIKP **PKPdf 04 34 51.5 +0.4**
ULN Ulaanbaatar 137.24 355 P **PKPdf 04 34 51.4 +0.4**
SNR=22
ULN Ulaanbaatar 137.24 355 *e*PKPdf **PKPdf 04 34 51.5 +0.4**
SONA1 Songino Array 137.31 356 *e*PKPdf **PKPdf 04 34 51.5 +0.3**
SONA0 Songino Array 137.32 356 *e*PKPpre PKPpre 04 34 40.0
SONA0 *e*PKPdf **PKPdf 04 34 51.8 +0.6**
SONA0 *e*PP **PP 04 37 38.4 +2.1**
SONM Songino Array 137.32 356 PKhKP PKPpre 04 34 40.0
comp=Z,7.6nm,0.8s,baz=316,slow=2.1,SNR=34
SONM PKP **PKPdf 04 34 51.8 +0.6**
comp=Z,67nm,0.9s,baz=33,slow=0.0,SNR=50
SONM PP **PP 04 37 38.4 +2.1**
comp=Z,9.4nm,1.0s,baz=360,slow=5.8,SNR=4.2
SONM Songino Array 137.32 356 PKHKP PKPpre 04 34 40.0
SONM 04 34 51.8
SONM 04 37 38.4
SONM pmax pmax
comp=Z,8.0nm,0.8s
SONM pmax pmax
comp=Z,67nm,0.9s
SONM pmax pmax
comp=Z,9.0nm,1.0s
JWT Wachi 137.33 319 P **PKPdf 04 34 51.6 +0.2**
KBL Kabul 137.40 42 *e*PKIKP **PKPdf 04 34 52.0 +0.1**
KBL Kabul 137.40 42 *e*PKPdf **PKPdf 04 34 52.0 +0.1**
GUMO Guam 137.42 284 PKP **PKPdf 04 34 51.7 -0.4**
comp=Z,227nm,1.1s,baz=174,slow=11,SNR=4.4
AS01 Alice Springs 138.05 226 *e*PKPdf **PKPdf 04 34 53.4 +0.3**
JAD Aida 138.34 320 P **PKPdf 04 34 53.3 0.0**
JHS Saijyo 138.97 320 P **PKPdf 04 34 54.4 -0.1**
JMN Monobe 139.27 318 P **PKPdf 04 34 55.6 +0.5**
WMQ Urumqi 139.31 16 PKP **PKPdf 04 34 54.4 -0.5**
WMQ sPKP 04 35 49.6
WMQ PP **PP 04 37 52.4 +3.6**
WMQ PKS **PKSdf 04 38 30.1 -0.9**
WMQ SKKS 04 44 30.9
WMQ PPMZ
comp=Z,140nm,9.4s
WMQ LN
comp=Z,960nm,23.5s
WMQ LE
comp=Z,1μm,24.8s
WMQ LZ
comp=Z,1μm,22.3s
WRAB Tennant Creek 139.99 231 *e*PKIKP **PKPdf 04 34 55.7 -1.1**
WRAB Tennant Creek 139.99 231 *e*PKPdf **PKPdf 04 34 55.7 -1.1**
WRA Warramunga Arr 140.00 231 PKhKP PKPpre 04 34 48.2
comp=Z,11nm,0.8s,baz=122,slow=3.3,SNR=50
WRA PKP **PKPdf 04 34 56.8 0.0**
comp=Z,84nm,0.8s,baz=124,slow=1.7,SNR=71
WRA PKKP **PKKPdf 04 44 20.0 -1.6**
comp=Z,0.9nm,0.8s,baz=314,slow=1.5,SNR=6.1
KSTBA Taebaek 140.01 326 P **PKPdf 04 34 57.3 +1.0**
SNR=6.8
KSCWO Cheorwon 140.07 329 P **PKPdf 04 34 56.7 +0.3**
SNR=10
KS01 Wonju Array Si 140.32 328 *e*PKPdf **PKPdf 04 34 55.5 -1.4**
KSRS Korea Array 140.32 328 PKhKP PKPpre 04 34 48.9
comp=Z,11nm,0.8s,baz=39,slow=3.7,SNR=24
KSRS PKP **PKPdf 04 34 56.0 -0.8**
comp=Z,64nm,0.8s,baz=0.7,slow=1.2,SNR=49
KSRS Korea Array 140.32 328 PKHKP PKPpre 04 34 48.9
KSRS 04 34 56.0
KSRS pmax pmax
comp=Z,11nm,0.8s
KSRS pmax pmax
comp=Z,64nm,0.8s
KS15 Wonju Array Si 140.35 328 *e*PKPpre PKPpre 04 34 48.9
KS15 *e*PKPdf **PKPdf 04 34 56.0 -0.9**
YNCB YEONCHEON 140.40 329 P **PKPdf 04 34 56.8 -0.1**
SNR=6.9
INCN Inchon 140.98 329 *e*PKPdf **PKPdf 04 34 57.6 -0.4**
KSDAG Daegu 141.01 325 P **PKPdf 04 34 58.6 +0.5**
SNR=8.5
JAY Jayapura 141.09 260 PKP **PKPdf 04 34 57.8 -1.2**
comp=Z,13nm,0.9s,baz=233,slow=20,SNR=4.0
KSCPR CHUPUNGNYEONG 141.20 326 P **PKPdf 04 34 58.2 -0.3**
SNR=6.2
JNU Nakatsue 141.60 320 P PKPpre 04 34 52.3
JNU Nakatsue 141.60 320 PKP **PKPdf 04 34 58.1 -1.2**
comp=Z,23nm,0.9s,baz=353,slow=7.9,SNR=7.3
JNU Nakatsue 141.60 320 *e*PKPdf **PKPdf 04 34 58.4 -1.0**
DL2 Dalian 142.16 335 ⇑PKP PKPdf 04 34 54.5 -5.6
DL2 PP **PP 04 38 04.3 -2.0**
DL2 SS SS 04 56 26.8 -2.6
DL2 PPMZ
comp=Z,530nm,7.1s
DL2 LN
comp=Z,430nm,14.7s
DL2 LZ
comp=Z,200nm,20.6s
JSU Suzuyama 142.91 318 P **PKPdf 04 34 56.8 -4.9**
BJI Beijing 143.12 342 PKP PKPab 04 34 57.6 +0.2
BJI pPKP pPKPdf 04 35 32.3 -4.1
BJI sPKP 04 35 45.8
BJI SS SS 04 56 33.8 -6.2
BJI PPMZ
comp=Z,630nm,6.5s
BJI LN
comp=Z,460nm,23.6s
BJI LE
comp=Z,400nm,23.0s
BJI LZ
comp=Z,460nm,30.3s
JFU Fukue jima 2 143.25 321 P PKPab 04 34 58.6 +0.4
HHC Hu-ho-hao-te 143.51 348 *e*PKP PKPab 04 34 59.0 -0.2
HHC PP **PP 04 38 12.0 -2.3**
HHC PKS **PKSdf 04 38 37.9 -0.5**
HHC SKKS 04 44 52.8
HHC PPMZ
comp=Z,330nm,5.9s
HHC LN
comp=Z,580nm,19.6s
HHC LE
comp=Z,720nm,21.1s
HHC LZ
comp=Z,680nm,22.6s
DHRM DHARAMSHALA 143.55 39 *e*P PKPbc 04 35 01.7 +1.0
DHRM AMS AMS 05 30 24.3
comp=Z,189nm,9.6s
BHJ Bhuj 143.56 57 *e*P **PKPdf 04 35 02.1 -0.9**
BHJ AMS AMS 05 36 19.7
comp=Z,183nm,7.3s
KSHUK Heuksando 143.72 327 P PKPab 04 34 59.9 -0.1
SNR=6.5
KSJJU Jeju 144.03 325 P PKPbc 04 35 01.8 0.0
SNR=8.9
BTO Baotou 144.03 350 *e*PKP PKPbc 04 35 01.8 +0.1
KSGOS Gosan 144.35 325 P PKPbc 04 35 02.7 -0.1
SNR=6.2
SMLA Simla 144.85 40 *i* P **PKPdf 04 35 05.0 0.0**
SMLA AMS AMS 05 29 37.7
comp=Z,308nm,13.1s
JAM Amami Oshima 145.39 315 P **PKPbc 04 35 06.2 0.0**
JMZ Minamidaito 2 145.67 310 P **PKPdf 04 35 06.6 0.0**
GTA Gaotai 145.78 4 ⇓PKPbc **PKPdf 04 35 06.9 +0.3**
GTA pPKP **pPKPdf 04 35 37.3 -4.0**
GTA sPKP 04 35 51.3
GTA PP **PP 04 38 30.3 +2.6**
GTA SKKS 04 45 09.1
GTA SS **SS 04 57 12.0 +1.5**
GTA PPMZ
comp=Z,620nm,8.8s
GTA LN
comp=Z,420nm,21.8s
GTA LE
comp=Z,230nm,22.8s
GTA LZ
comp=Z,820nm,24.2s
DDI Dehra Dun 145.96 40 *e*P **PKPdf 04 35 07.5 +0.4**
DDI AMS AMS 04 38 52.6
comp=Z,362nm,5.1s
TIA Tai'an 146.27 338 PKPbc **PKPdf 04 35 07.3 0.0**
TIA pPKP **pPKPdf 04 35 37.0 -5.0**
TIA PP **PP 04 38 28.0 -2.8**
TIA PPMZ
comp=Z,940nm,6.0s
TIA LN
comp=Z,410nm,29.0s
TIA LE
comp=Z,470nm,24.0s
TIA LZ
comp=Z,550nm,30.0s
TIY Taiyuan 146.32 346 *e*PKPbc **PKPdf 04 35 07.3 -0.2**
TIY pPKP **pPKPdf 04 35 39.4 -2.8**
TIY sPKP 04 35 59.1
TIY PP **PP 04 38 29.8 -1.2**
TIY PPMZ
comp=Z,600nm,5.2s
NDI New Delhi 146.48 43 *e*P **PKPdf 04 35 08.0 +0.1**
JOW Kunigami 147.28 314 P **PKPdf 04 35 10.0 +0.7**
JOW Kunigami 147.28 314 PKPbc **PKPdf 04 35 09.8 +0.4**
comp=Z,29nm,0.9s,baz=20,slow=3.0,SNR=29
JOW Kunigami 147.28 314 *e*PKPdf **PKPbc 04 35 10.7 -1.1**
LGTI Lohaghat 147.93 38 *ex* **PKPbc 04 35 13.2 -0.2**
BOM Bombay 147.97 62 *e*P **PKPdf 04 35 09.9 -0.7**
SSE Sheshan 148.76 328 PKPbc **PKPdf 04 35 12.6 +1.0**
SSE PP **PP 04 38 49.4 +3.7**
SSE PPMZ
comp=Z,500nm,6.7s
SSE LN
comp=Z,540nm,29.4s
SSE LE
comp=Z,230nm,29.4s
SSE LZ
comp=Z,340nm,28.2s
MBWA Marble Bar 148.89 212 P **PKPdf 04 35 12.9 +0.8**
SNR=9.6
MBWA Marble Bar 148.89 212 *e*PKPdf **PKPdf 04 35 12.7 +0.6**
MBWA *e*PKPbc **PKPbc 04 35 15.9 -0.3**
POO Poona 149.02 62 *e*P **PKPdf 04 35 10.8 -1.6**
POO AMS AMS 05 26 14.7
comp=Z,256nm,6.2s
POO AMS AMS 05 36 35.2
comp=N,320nm,6.4s
POO AMS AMS 05 37 11.8
comp=E,934nm,20.2s
NJ2 Nanjing 149.15 332 *e*PKPbc **PKPdf 04 35 12.3 +0.1**
NJ2 PP **PP 04 38 48.5 +0.8**
NJ2 SKKS 04 45 27.5
NJ2 PPMZ
comp=E,3μm,8.5s
NJ2 LN
comp=E,5μm,19.8s
NJ2 LE
comp=E,6μm,18.6s
NJ2 LZ
comp=E,7μm,19.4s
LZH Lanzhou 149.16 358 ⇑PKPbc **PKPdf 04 35 13.5 +1.2**
LZH pPKP **pPKPdf 04 35 49.3 +2.2**
LZH PP **PP 04 38 50.3 +2.8**
LZH SKKS 04 45 28.3
LZH SS **SS 04 57 47.4 -1.2**
LZH PPMZ
comp=E,980nm,4.8s
LZH LN
comp=E,560nm,17.4s
LZH LE
comp=E,780nm,16.2s
LZH LZ
comp=E,810nm,19.8s
FAKI Fak Fak 149.23 256 *e*PKPdf **PKPdf 04 35 12.9 +0.1**
FAKI *e*PKPbc **PKPbc 04 35 15.4 -1.8**
BHPL Bhopal 149.84 51 *e*P **PKPdf 04 35 14.8 +1.2**
BHPL AMS AMS 05 28 04.5
comp=N,658nm,16.2s
BHPL AMS AMS 05 28 10.1
comp=Z,259nm,5.1s
GOA Goa 150.01 68 *e*P **PKPdf 04 35 13.2 -0.7**
GOA AMS AMS 05 27 32.8
comp=Z,320nm,4.4s
XAN Xi'an 150.62 349 PKPbc **PKPdf 04 35 14.4 -0.1**
XAN pPKP **pPKPdf 04 35 48.3 -1.0**
XAN PPMZ
comp=Z,190nm,8.4s
XAN LN
comp=Z,420nm,30.8s
XAN LZ
comp=Z,200nm,30.8s
SIJI Sorong 150.66 259 PKP **PKPdf 04 35 15.0 -0.1**
comp=Z,36nm,0.9s,baz=52,slow=3.3,SNR=28
SIJI PKPbc **PKPbc 04 35 20.9 +0.2**
comp=Z,99nm,1.1s,baz=72,slow=3.9,SNR=27
SIJI pPKP **pPKPdf 04 35 49.4 -0.5**
comp=Z,32nm,0.7s,baz=36,slow=4.2,SNR=3.2
AKL Akola 150.80 56 *e*P **PKPdf 04 35 15.2 +0.1**
KOLN Koldanda 151.18 37 *e*P **PKPdf 04 35 15.8 0.0**
comp=Z,74nm,0.9s
GKN Gorkha 151.61 35 *e*P **PKPdf 04 35 16.7 +0.3**
comp=Z,532nm,1.2s
KKN Kakani 152.13 34 *e*P **PKPdf 04 35 17.5 +0.3**
DMN Daman 152.18 35 *e*P **PKPdf 04 35 17.4 0.0**
NGP Nagpur 152.23 53 *e*P **PKPdf 04 35 15.9 -1.4**
NGP *ex* x 04 46 22.8
WHN Wuhan 152.36 338 PKPbc **PKPdf 04 35 17.1 -0.1**
WHN PKPab **PKPab 04 35 35.3 +0.9**
WHN PP **PP 04 39 06.3 +0.3**
WHN PPMZ
comp=Z,1μm,7.7s
WHN LZ
comp=Z,2μm,26.4s
PKIN Phulchoki 152.36 34 *e*P **PKPdf 04 35 18.3 +0.6**
GUN Gumba 152.37 33 *e*P **PKPdf 04 35 17.7 -0.1**
comp=Z,211nm,1.1s
PKI Pulchoki 152.38 34 *e*P **PKPdf 04 35 17.5 -0.3**
YOJ Yonaguni jima 152.46 316 *e*PKIKP **PKPdf 04 35 17.3 -0.2**
YOJ Yonaguni jima 152.46 316 *e*PKPdf **PKPdf 04 35 17.3 -0.2**
JIRN Jiri 152.74 33 *e*P **PKPdf 04 35 18.1 -0.2**
LSA Lhasa 153.31 22 PKPbc **PKPdf 04 35 20.3 +1.1**
URV Uravakonda 153.33 67 *e*PKPdf **PKPdf 04 35 18.9 -0.1**
URV *e*PKiKP **PKPbc 04 35 26.3 -0.4**
URV *e*PKPab **PKPab 04 35 38.1 -1.0**
URV *ep*PKPdf **pPKPdf 04 35 54.4 +0.6**
URV *es*PKPdf **sPKPdf 04 36 10.2 +3.2**
URV *ep*PKPab **pPKPab 04 36 13.5 +0.9**
URV *es*PKiKP **sPKiKP 04 36 17.9 +3.3**
YHNB Yeheng 153.42 319 *e*PKPdf **PKPdf 04 35 18.4 -0.6**
YHNB *e*PKPbc **PKPbc 04 35 25.5 -1.2**
RAMN Ramite 153.52 33 *e*P **PKPdf 04 35 19.4 +0.1**
RPR Rampur 153.56 57 *e*PKPdf **PKPdf 04 35 19.2 -0.1**
RPR *e*PKiKP **PKPbc 04 35 26.5 -0.6**
RPR *e*PKPab **PKPab 04 35 39.3 -0.6**
RPR *ep*PKPdf **pPKPdf 04 35 55.1 +1.1**
RPR *e*PP **PP 04 39 15.5 +1.2**
RPR *e*SS SS 04 58 40.3 +0.3
HYBB Hyderabad (bro 153.57 61 *e*PKPdf **PKPdf 04 35 18.4 -0.9**
HYBB *e*PKiKP **PKPbc 04 35 26.8 -0.3**
HYBB *e*PKPab **PKPab 04 35 39.2 -0.9**
HYBB *ep*PKPdf **pPKPdf 04 35 55.2 +1.1**
HYBB *e* 04 36 01.7
HYBB *e*PP **PP 04 39 16.4 +2.0**
HYBB *e*SS SS 04 58 44.7 +4.3
HYB Hyderabad 153.57 61 *i* PKP **PKPdf 04 35 19.0 -0.3**
HYB *es*PKP 04 37 04.0
HYB *e*SKP 04 38 32.0
HYB *e*PP **PP 04 39 14.0 -0.5**
HYB Hyderabad 153.57 61 *e*P **PKPdf 04 35 19.2 -0.1**
HYB AMS AMS 05 32 00.2
comp=Z,305nm,1.1s
NACB Ninganchiao 153.62 318 *e*PKPdf **PKPdf 04 35 19.3 +0.1**
NACB *e*PKPbc **PKPbc 04 35 25.9 -1.2**
SOEI Soe 153.75 236 *e*PKPdf **PKPdf 04 35 20.7 +0.9**
TAPN Taplejung 153.79 31 *e*P **PKPdf 04 35 19.9 +0.1**
comp=Z,75nm,0.9s
BATI Baumata 154.00 234 PKP **PKPdf 04 35 20.4 +0.3**
comp=Z,89nm,0.9s,baz=285,slow=2.8,SNR=11
BATI PKPbc **PKiKP 04 35 28.9 +0.7**
comp=Z,109nm,0.9s,baz=86,slow=9.1,SNR=4.3
ODAN Odare 154.01 32 *e*P **PKPdf 04 35 20.0 0.0**
comp=Z,116nm,1.0s
SSLB Suanglung 154.31 318 *e*PKPdf **PKPdf 04 35 19.7 -0.5**
CD2 Chengdu 154.32 358 PKPbc **PKPdf 04 35 20.3 +0.2**
CD2 pPKP **pPKPdf 04 35 51.1 -3.8**
CD2 sPKP 04 36 07.6
CD2 PKS **PKSdf 04 38 53.8 -0.7**
CD2 PP **PP 04 39 14.1 -2.7**
CD2 SKKS 04 45 47.5
CD2 PPMZ
comp=Z,1μm,8.9s
CD2 LN
comp=Z,480nm,22.6s
CD2 LE
comp=Z,420nm,21.4s
CD2 LZ
comp=Z,530nm,35.2s
YULB Yu-li 154.34 317 *e*PKPdf **PKPdf 04 35 18.4 -1.9**
NJS Nagarjunasagar 154.58 62 *e*PKPdf **PKPdf 04 35 20.4 -0.3**
NJS *e*PKiKP **PKPbc 04 35 28.5 -0.8**
NJS *e*PKPab **PKPab 04 35 44.2 -0.1**
NJS *ep*PKPdf **pPKPdf 04 35 57.4 +1.9**
NJS *ep*PKPbc **pPKPbc 04 36 05.2 +1.4**
NJS *e*PP **PP 04 39 22.1 +2.0**
NJS *e*SS SS 04 58 54.3 +2.9
TPUB Ta-pu 154.85 318 *e*PKPdf **PKPdf 04 35 20.8 -0.2**
TWG Pinlang 154.88 316 *e*PKPdf **PKPdf 04 35 19.2 -1.8**
SKHT Srikalahasti 155.96 68 *e*PKPdf **PKPdf 04 35 22.9 +0.3**
SKHT *e*PKPab **PKPab 04 35 50.1 -0.2**
SKHT *ep*PKPdf **pPKPdf 04 35 57.1 -0.3**
SKHT *e* 04 36 07.1
SKHT *ep*PKPab **pPKPab 04 36 24.8 +1.1**
SKHT *e*PP **PP 04 39 27.5 -0.5**
MMRI Maumere 156.04 235 *e*PKPdf **PKPdf 04 35 22.0 -0.8**
MDRS Chennai 156.67 69 AMS AMS 05 13 29.1
comp=E,181μm,24.6s
SHL Shillong 157.27 26 *e*P **PKPdf 04 35 24.1 -0.2**

SHL					AMS	AMS	05 35 27.3	
	comp=Z,306nm,21.3s							
VIS	**Vishakhapatnam**	**157.45**	**55**	*e*P		**PKPdf**	**04 35 22.8**	**-1.7**
VIS					AMS	AMS	05 34 01.8	
	comp=Z,395nm,6.2s							
CHLP	**Challavanipeta**	**157.61**	**52**	*e*PKPdf		**PKPdf**	**04 35 24.4**	**-0.2**
CHLP				*ep*PKPdf		**PKPab**	**04 35 58.3**	**+1.0**
CHLP				*e*PP		**PP**	**04 39 31.4**	**-5.1**
CHLP				*e*PP		PP	04 39 38.9	+2.4
CHLP				*e*SKSdf		SKSdf	04 42 07.1	-12
GYA	**Guiyang**	**158.42**	**350**	*i* PKP		**PKPdf**	**04 35 25.0**	**-0.6**
GYA				pPKP		**pPKPdf**	**04 35 58.4**	**-2.0**
GYA				PKPab		**PKPab**	**04 36 00.3**	**-0.2**
GYA				sPKP			04 36 12.0	
GYA				PKS		**PKSdf**	**04 38 57.8**	**-1.7**
GYA				PP		**PP**	**04 39 42.9**	**+3.3**
GYA				SKKS			04 46 16.3	
GYA				SS		**SS**	**04 59 29.5**	**+0.2**
GYA				PPMZ				
	comp=Z,810nm,8.7s							
GYA				LN				
	comp=Z,430nm,23.2s							
GYA				LE				
	comp=Z,340nm,25.1s							
GYA				LZ				
	comp=Z,590nm,25.7s							
SZP	**Santa**	**158.53**	**307**	*e*PKPdf		**PKPdf**	**04 35 26.4**	**+0.7**
SZP				*e*PKPab		**PKPab**	**04 36 01.8**	**+0.6**
IMP	**Imphal**	**158.79**	**22**	*ex*		**PKPdf**	**04 35 26.0**	**-0.1**
IMP				*ex*		**PKPab**	**04 36 02.0**	**-0.2**
LUWI	**Luwuk**	**158.85**	**254**	*e*PKPdf		**PKPdf**	**04 35 26.6**	**+0.3**
LUWI				*e*PKPab		**PKPab**	**04 36 00.4**	**-2.4**
GZH	**Guangzhou**	**159.30**	**331**	PKP		**PKPdf**	**04 35 26.8**	**+0.2**
GZH				LN				
	comp=Z,510nm,19.3s							
GZH				LE				
	comp=Z,400nm,20.3s							
KAPI	**Kappang**	**160.04**	**240**	PKP		**PKPdf**	**04 35 27.8**	**+0.1**
	comp=Z,65nm,0.9s,baz=133,slow=0.3,SNR=41							
KAPI				pPKP		**pPKPdf**	**04 36 02.3**	**-0.2**
	comp=Z,12nm,0.5s,baz=232,slow=2.1,SNR=2.0							
KAPI	**Kappang**	**160.04**	**240**	*e*PKPdf		**PKPdf**	**04 35 27.8**	**+0.1**
	SNR=19							
KAPI	**Kappang**	**160.04**	**240**	*e*PKPdf		**PKPdf**	**04 35 28.3**	**+0.6**
KAPI				*ep*PKPdf		**pPKPdf**	**04 36 02.3**	**-0.2**
KMI	**Kunming**	**160.11**	**359**	PKP		**PKPdf**	**04 35 27.9**	**+0.1**
JAGI	**Jajag, Banyuwa**	**162.19**	**221**	*e*PKPdf		**PKPdf**	**04 35 28.8**	**-1.2**
QIZ	**Qiongzhong**	**164.44**	**333**	PKP		**PKPdf**	**04 35 32.8**	**+0.9**
QIZ				pPKP		**pPKPdf**	**04 36 04.0**	**-2.8**
QIZ				sPKP			04 36 17.8	
QIZ				PP		**PP**	**04 40 11.3**	**-0.7**
QIZ				PPMZ				
	comp=Z,770nm,9.8s							
QIZ				LN				
	comp=Z,340nm,28.8s							
QIZ				LZ				
	comp=Z,730nm,43.7s							
UGM	**Wanagama**	**164.78**	**212**	*e*PKPdf		**PKPdf**	**04 35 32.6**	**+0.2**
CRAI	**Chiangrai**	**164.84**	**8**	PKP		**PKPdf**	**04 35 28.4**	**-3.9**
CRAI	**Chiangrai**	**164.84**	**8**	P		**PKPab**	**04 36 24.3**	**-4.3**
	comp=Z,45nm,1.1s,comp=Z,2μm							
CMAI	**Chiengmai2**	**164.90**	**13**	P		**PKPab**	**04 36 28.8**	**-0.3**
	comp=Z,44nm,1.2s							
CHTO	**Chiang Mai**	**165.96**	**14**	PKP		**PKPdf**	**04 35 32.9**	**-0.3**
CHTO	**Chiang Mai**	**165.96**	**14**	P		**PKPab**	**04 36 32.8**	**-0.7**
	comp=Z,296nm,1.5s							
CHTO	**Chiang Mai**	**165.96**	**14**	*e*PKIKP		**PKPdf**	**04 35 32.5**	**-0.7**
CHTO				*e*			04 36 32.2	
CHTO	**Chiang Mai**	**165.96**	**14**	P		**PKPdf**	**04 35 33.0**	**-0.2**
	SNR=17							
CHTO	**Chiang Mai**	**165.96**	**14**	*e*PKPdf		**PKPdf**	**04 35 32.5**	**-0.7**
CHTO				*e*PKPab		**PKPab**	**04 36 32.2**	**-1.3**
CMMT	**Chiang Mai**	**165.96**	**14**	P		**PKPab**	**04 36 32.8**	**-0.8**
	comp=Z,85nm,1.5s							
CM31	**Chiang Mai Arr**	**166.30**	**14**	*e*PKPdf		**PKPdf**	**04 35 33.4**	**-0.1**
CM31				*ep*PKPdf		**pPKPdf**	**04 36 08.0**	**-0.4**
CM31				*e*PKPab		**PKPab**	**04 36 35.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**166.30**	**14**	PKP		**PKPdf**	**04 35 33.4**	**-0.1**
	comp=Z,40nm,1.0s,baz=290,slow=1.8,SNR=121							
CMAR				pPKP		**pPKPdf**	**04 36 08.0**	**-0.4**
	comp=Z,7.1nm,0.8s,baz=305,slow=1.7,SNR=2.4							
CMAR				PKPab		**PKPab**	**04 36 35.0**	**-0.1**
	comp=Z,81nm,1.1s,baz=325,slow=5.5,SNR=23							
CMAR	**Chiang Mai Arr**	**166.30**	**14**	PKIKP		**PKPdf**	**04 35 33.4**	**-0.1**
CMAR							04 36 08.0	
CMAR							04 36 35.0	
CMAR				pmax	pmax			
	comp=Z,41nm,1.0s							
CMAR				pmax	pmax			
	comp=Z,7.0nm,0.8s							
CMAR				pmax	pmax			
	comp=Z,81nm,1.1s							
KKM	**Kota Kinabalu**	**166.32**	**274**	*e*PKPdf		**PKPdf**	**04 35 33.3**	**-0.5**
CISI	**Cisompet, Garu**	**166.33**	**203**	*e*PKPdf		**PKPdf**	**04 35 32.4**	**-1.3**
CM01	**Chiang Mai Arr**	**166.34**	**14**	*e*PKPdf		**PKPdf**	**04 35 33.0**	**-0.5**
CM01				*e*PKPab		**PKPab**	**04 36 35.0**	**-0.3**
LEM	**Lembang**	**167.08**	**203**	PKP		**PKPdf**	**04 35 34.6**	**+0.2**
	comp=Z,90nm,0.7s,baz=126,slow=7.9,SNR=17							
LEM				pPKP		**pPKPdf**	**04 36 08.3**	**-1.0**
	comp=Z,18nm,0.7s,baz=31,slow=0.3,SNR=1.0							
LEM				PKPab		**PKPab**	**04 36 39.1**	**+0.3**
	comp=Z,30nm,0.6s,baz=116,slow=4.5,SNR=4.0							
UTTA	**Uttaradit**	**167.31**	**8**	P		**PKPab**	**04 36 40.0**	**+0.5**
	comp=Z,14nm,1.1s							
DGPR	**DIGLIPUR**	**167.62**	**49**	*e*P		**PKPdf**	**04 35 34.6**	**+0.1**
DGPR					AMS	AMS	05 29 27.0	
	comp=Z,448nm,5.2s							
SKNT	**Sakolnakorn**	**168.14**	**353**	PKP		**PKPdf**	**04 35 35.1**	**+0.2**
SKNT	**Sakolnakorn**	**168.14**	**353**	P		**PKPab**	**04 36 43.0**	**-0.2**
	comp=Z,239nm,0.8s,comp=Z,3μm							
PBA	**Port Blair**	**168.37**	**55**	*e*P		PKPdf	04 35 33.0	-2.1
PBKT	**Sadao Pong**	**168.53**	**7**	P		**PKPab**	**04 36 45.3**	**+0.5**
	comp=Z,72nm,1.1s							
KHON	**Khomkaen**	**168.85**	**358**	PKP		**PKPdf**	**04 35 36.5**	**+1.2**
KHON	**Khomkaen**	**168.85**	**358**	P		**PKPab**	**04 36 46.9**	**+0.6**
	comp=Z,54nm,1.1s							
SBUM	**Sibu**	**169.95**	**255**	*e*PKPdf		**PKPdf**	**04 35 36.0**	**-0.2**
KSM	**Kuching**	**171.41**	**245**	*e*PKPdf		**PKPdf**	**04 35 36.5**	**-0.4**
PATY	**Pattaya**	**172.09**	**12**	PKP		**PKPdf**	**04 35 39.3**	**+2.2**
GSI	**Gunungsitoli**	**173.79**	**127**	*e*PKPdf		**PKPdf**	**04 35 37.5**	**-0.4**
SURT	**Suratani**	**174.71**	**44**	PKP		**PKPdf**	**04 35 37.7**	**-0.5**
BKNI	**Bangkinang**	**175.01**	**163**	*e*PKPdf		**PKPdf**	**04 35 36.7**	**-1.6**
BKNI				*e*PKPab		**PKPab**	**04 37 14.0**	**+0.2**
PKDT	**Phuket**	**175.03**	**56**	PKP		**PKPdf**	**04 35 38.6**	**+0.3**
PSI	**Prapat**	**175.75**	**123**	PKP		**PKPdf**	**04 35 37.1**	**-1.5**
	comp=Z,32nm,0.9s,baz=61,slow=1.5,SNR=18							
PSI				pPKP		**pPKPdf**	**04 36 11.5**	**-2.1**
	comp=Z,16nm,1.0s,baz=214,slow=3.5,SNR=2.7							
PSI				PP		**PP**	**04 41 09.6**	**-0.5**
	comp=Z,6.6nm,0.8s,baz=219,slow=4.0,SNR=4.0							
PSI	**Prapat**	**175.75**	**123**	PKIKP		**PKPdf**	**04 35 37.2**	**-1.5**
PSI							04 36 11.5	
PSI							04 41 09.6	
PSI				pmax	pmax			
	comp=Z,32nm,1.0s							
PSI				pmax	pmax			
	comp=Z,16nm,1.0s							
PSI				pmax	pmax			
	comp=Z,7.0nm,0.9s							
TRTT	**Trang**	**176.12**	**46**	PKP		**PKPdf**	**04 35 37.9**	**-0.7**
MYKOM	**Kota Tinggi**	**176.42**	**202**	*e*PKPdf		**PKPdf**	**04 35 38.1**	**-0.6**
MYKOM				*e*PKPab		**PKPab**	**04 37 20.7**	**+0.7**
KULM	**Kulim**	**178.15**	**85**	*e*PKPdf		**PKPdf**	**04 35 38.0**	**-0.9**
IPM	**Ipoh**	**178.39**	**113**	*e*PKPdf		**PKPdf**	**04 35 37.9**	**-1.1**

ISCJB ***19*** *04:15:43.2±0.8, 6.°95N±0.°08×73.°03W±0.°07, h166km, mb3.4/3, Error ellipse: s-maj=11.8km s-min=8.4km az=142.0*

IDC ***19*** *04:15:44.1±2.7, 6.°80N×73.°07W, h163km±115km, mb3.2/3, mb1 3.5/5, mb1mx3.2/41, mbtmp3.8/5, Error ellipse: s-maj=190.0km s-min=28.6km az=155.0*

FUNV ***19*** *04:15:44.2, 6.°85N×73.°08W, h167km, MW3.4*

ISC 19 04:15:44.4±1.3, 6.°9N±0.°1×73.°00W±0.°09, h166km, n18, σ1§17/22, mb3.6/3, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.15**	**36**	*e*P	**Pn**	**04 16 12.2**	**+0.1**
CAPV				*e*S	**Sn**	**04 16 33.1**	**-0.5**
ROSC	**El Rosal**	**2.46**	**213**	P	**Pn**	**04 16 24.0**	**-2.2**
	27nm,0.3s,baz=320,slow=1.2,SNR=174						
VIGV	**El Vigia**	**2.49**	**40**	*e*P	**Pn**	**04 16 25.8**	**-0.4**
VIGV				*e*S	**Sn**	**04 16 58.1**	**-0.6**
SOCV	**Socops**	**2.51**	**58**	*e*P	**Pn**	**04 16 27.0**	**+0.6**
SOCV				*e*S	**Sn**	**04 16 57.8**	**-1.3**
ELOV	**Elorza**	**3.49**	**89**	*e*P	**Pn**	**04 16 38.4**	**-0.2**
VIRV	**Villa del Rosa**	**3.59**	**9**	*e*P	**Pn**	**04 16 39.5**	**-0.4**
VIRV				*e*S	**Sn**	**04 17 20.3**	**-2.8**
QARV	**Quebrada Arrib**	**4.07**	**37**	*e*P	**Pn**	**04 16 45.9**	**-0.1**
SANV	**Sanarito**	**4.27**	**53**	*e*P	**Pn**	**04 16 48.5**	**-0.2**
CURV	**Curarigua**	**4.29**	**44**	*e*P	**Pn**	**04 16 49.0**	**+0.1**
DABV	**Dabajuro**	**4.60**	**30**	*e*P	**Pn**	**04 16 53.1**	**+0.3**
SIQV	**Siquisique**	**4.85**	**40**	*e*P	**Pn**	**04 16 56.1**	**-0.1**
BAUV	**El Baul**	**5.30**	**68**	*e*P	**Pn**	**04 17 00.9**	**-1.1**
MAPV	**Macapo**	**5.33**	**57**	*e*P	**Pn**	**04 17 01.1**	**-1.4**
CUPV	**Ciepira**	**7.78**	**66**	*e*P	**Pn**	**04 17 33.8**	**-1.0**
PCRV	**Puerto La Cruz**	**8.87**	**68**	P	**Pn**	**04 17 51.4**	**+2.0**
	0.8nm,0.3s,baz=193,slow=0.6,SNR=7.6						
ULM	**Lac du Bonnet**	**47.22**	**340**	P	**P**	**04 24 00.9**	**+0.4**
	1.0nm,0.4s,baz=152,slow=7.2,SNR=4.2						
PDAR	**Pinedale Array**	**48.06**	**324**	P	**P**	**04 24 08.2**	**+0.9**
	0.2nm,0.5s,baz=123,slow=7.8,SNR=3.0						
YKA	**Yellowknife Ar**	**63.20**	**340**	P	**P**	**04 25 55.3**	**+0.7**
	0.5nm,0.6s,baz=131,slow=6.9,SNR=8.2						

JMA 19 04:18:29.3, 37.°07N×139.°40E, h9km±1km, M0.9, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKT	**Katashina**	**0.33**	**202**	S	Sg	04 18 40.1	-0.2
JHK	**Hiroka**	**0.35**	**300**	P	Pg	04 18 36.6	+0.3
JHK				S	Sg	04 18 41.1	+0.1
JFY	**Yanaizu**	**0.41**	**36**	S	Sg	04 18 42.9	-0.1

IDC ***19*** *04:27:22.6±2.1, 37.°35N×22.°22E, h0km, mb4.2/5, mb1 4.2/6, mb1mx3.9/53, mbtmp4.0/6, ML2.5/2, MS3.1/2, Ms1 3.1/2, ms1mx2.6/44, Error ellipse: s-maj=46.3km s-min=26.5km az=56.0*

THE ***19*** *04:27:23.8, 36.°60N×21.°55E, h22km±1km, ML4.1/4, Error ellipse: s-maj=2.0km s-min=1.2km az=22.0*

PDG ***19*** *04:27:24.2±0.5, 36.°93N×21.°23E, h11km±4km, ML4.0/12, Error ellipse: s-maj=5.3km s-min=2.0km az=90.0*

ATH ***19*** *04:27:24.6, 36.°72N×21.°61E, h37km±1km, MD3.7/39, ML3.8*

CSEM ***19*** *04:27:24.1±0.2, 36.°65N×21.°50E, h30km, MD3.7, Error ellipse: s-maj=5.1km s-min=3.1km az=33.0*

NEIC ***19*** *04:27:24.5, 36.°72N×21.°61E, h38km, mb4.2/1, After ATH.*

ISC 19 04:27:23.4±1.0, 36.°68N±0.°03×21.°50E±0.°02, h33km±3km, n293, σ1§66/367, mb4.2/7, 19C-15D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.29**	**42**	P	**Pb**	**04 27 31.1**	**0.0**
PYL				S	**Sb**	**04 27 36.7**	**+0.4**
PYL	**PYLOS**	**0.29**	**42**	*e*PB	**Pb**	**04 27 31.2**	**+0.1**
PYL				*e*SB	**Sb**	**04 27 36.9**	**+0.6**
PYL	**PYLOS**	**0.29**	**42**	*e*Pb	**Pb**	**04 27 31.2**	**+0.1**
PYL				*e*Sb	**Sb**	**04 27 36.9**	**+0.6**
PYL	**PYLOS**	**0.29**	**42**	P	**Pb**	**04 27 31.1**	**0.0**
PYL				S	**Sb**	**04 27 36.7**	**+0.4**
ITM	**Ithomi**	**0.61**	**34**	P	**Pn**	**04 27 36.0**	**+0.4**
ITM				S	**Sn**	**04 27 45.9**	**+1.6**
ITM	**Ithomi**	**0.61**	**34**	*e*PN	**Pn**	**04 27 36.1**	**+0.4**
ITM				*e*SN	**Sb**	**04 27 44.2**	**0.0**
ITM	**Ithomi**	**0.61**	**34**	P	**Pn**	**04 27 36.0**	**+0.4**
ITM				*e*Sn	**Sb**	**04 27 44.2**	**0.0**
ITM	**Ithomi**	**0.61**	**34**	P	**Pn**	**04 27 36.0**	**+0.4**
ITM				S	**Sn**	**04 27 45.9**	**+1.6**
SFD	**Strofades**	**0.69**	**326**	P	**Pb**	**04 27 38.9**	**+1.9**
SFD				S	**Sb**	**04 27 49.7**	**+3.3**
SFD	**Strofades**	**0.69**	**326**	*e*PN	**Pb**	**04 27 39.0**	**+1.9**
SFD				*e*SN	**Sb**	**04 27 49.4**	**+3.0**
SFD	**Strofades**	**0.69**	**326**	*e*Pn	**Pb**	**04 27 39.0**	**+1.9**
SFD				*e*Sn	**Sb**	**04 27 49.4**	**+3.0**
AMT	**Artemida-Makis**	**0.87**	**11**	P	**Pb**	**04 27 40.5**	**+0.5**
AMT				S	**Sb**	**04 27 53.9**	**+2.4**
AMT	**Artemida-Makis**	**0.87**	**11**	*e*PN	**Pb**	**04 27 40.9**	**+0.8**
AMT				*e*SN	**Sb**	**04 27 52.5**	**+1.0**
AMT	**Artemida-Makis**	**0.87**	**11**	P	**Pb**	**04 27 40.6**	**+0.5**
AMT	**Artemida-Makis**	**0.87**	**11**	*e*Pn	**Pb**	**04 27 40.9**	**+0.8**
AMT				*e*Sn	**Sb**	**04 27 52.5**	**+1.0**
AMT				S	**Sn**	**04 27 53.0**	**+2.1**
VLX	**Vlachokerasia**	**0.99**	**45**	P	**Pb**	**04 27 42.0**	**+1.0**
VLX				S	**Sb**	**04 27 56.8**	**+1.9**
VLX	**Vlachokerasia**	**0.99**	**45**	*e*PN	**Pb**	**04 27 42.4**	**+0.3**
VLX				*e*SN	**Sn**	**04 27 54.5**	**+0.6**
VLX	**Vlachokerasia**	**0.99**	**45**	P	**Pb**	**04 27 42.2**	**+0.1**
VLX				*e*Sn	**Sn**	**04 27 54.5**	**+0.6**
VLX				S	**Sb**	**04 27 56.8**	**+1.9**
VLX	**Vlachokerasia**	**0.99**	**45**	P	**Pn**	**04 27 42.0**	**+1.0**
VLX				S	**Sb**	**04 27 56.8**	**+1.9**
VLI	**Veliai**	**1.16**	**88**	P	**Pb**	**04 27 45.2**	**+0.4**
VLI	**Veliai**	**1.16**	**88**	*e*PN	**Pb**	**04 27 45.2**	**+0.4**
VLI				*e*SN	**Sb**	**04 27 59.2**	**-0.3**
VLI	**Veliai**	**1.16**	**88**	P	**Pb**	**04 27 45.2**	**+0.4**
VLI				*e*Sn	**Sb**	**04 27 59.2**	**-0.3**
VLI	**Veliai**	**1.16**	**88**	P	**Pb**	**04 27 45.2**	**+0.4**
ZKS	**Zakynthos**	**1.17**	**331**	*e*PN	**Pb**	**04 27 46.4**	**+1.4**
ZKS	**Zakynthos**	**1.17**	**331**	*e*Pn	**Pb**	**04 27 46.4**	**+1.4**
KYTH	**Kithira**	**1.30**	**107**	P	**Pb**	**04 27 47.6**	**+0.3**
KYTH	**Kithira**	**1.30**	**107**	*e*PN	**Pb**	**04 27 47.9**	**+0.6**
KYTH	**Kithira**	**1.30**	**107**	P	**Pb**	**04 27 47.6**	**+0.3**
KYTH	**Kithira**	**1.30**	**107**	*e*Pn	**Pb**	**04 27 47.9**	**+0.6**
KYTH	**Kithira**	**1.30**	**107**	P	**Pb**	**04 27 47.6**	**+0.3**
RLS	**Riolos of Patr**	**1.38**	**359**	P	**Pb**	**04 27 49.0**	**+0.4**
RLS	**Riolos of Patr**	**1.38**	**359**	*e*PN	**Pb**	**04 27 49.2**	**+0.6**
RLS				*e*SN	**Sb**	**04 28 06.2**	**+0.3**
RLS	**Riolos of Patr**	**1.38**	**359**	P	**Pb**	**04 27 49.0**	**+0.4**
RLS				*e*Sn	**Sb**	**04 28 06.2**	**+0.3**
RLS	**Riolos of Patr**	**1.38**	**359**	P	**Pb**	**04 27 49.0**	**+0.4**
GUR	**Goura**	**1.43**	**28**	P	**Pb**	**04 27 49.0**	**-0.4**
GUR	**Goura**	**1.43**	**28**	*e*PN	**Pb**	**04 27 49.3**	**-0.1**
GUR				*e*SN	**Sn**	**04 28 06.0**	**+1.3**
GUR	**Goura**	**1.43**	**28**	P	**Pb**	**04 27 49.0**	**-0.4**
GUR	**Goura**	**1.43**	**28**	*e*Pn	**Pb**	**04 27 49.3**	**-0.1**
GUR				*e*Sn	**Sn**	**04 28 06.0**	**+1.3**
GUR	**Goura**	**1.43**	**28**	P	**Pb**	**04 27 49.0**	**-0.4**
KLV	**Kalavryta, Ach**	**1.46**	**21**	P	**Pb**	**04 27 49.5**	**-0.5**
KLV				S	**Sb**	**04 28 09.1**	**+0.9**
KLV	**Kalavryta, Ach**	**1.46**	**21**	*e*PN	**Pb**	**04 27 50.0**	**0.0**
KLV				*e*SN	**Sn**	**04 28 06.7**	**+1.2**
KLV	**Kalavryta, Ach**	**1.46**	**21**	P	**Pb**	**04 27 49.5**	**-0.5**
KLV	**Kalavryta, Ach**	**1.46**	**21**	*e*Pn	**Pb**	**04 27 50.0**	**0.0**
KLV				*e*Sn	**Sn**	**04 28 06.7**	**+1.2**
KLV				S	**Sb**	**04 28 09.1**	**+0.9**
KLV	**Kalavryta, Ach**	**1.46**	**21**	P	**Pb**	**04 27 49.5**	**-0.5**
KFL	**Anninata**	**1.54**	**339**	P	**Pb**	**04 27 50.4**	**-0.9**
KFL	**Anninata**	**1.54**	**339**	P	**Pb**	**04 27 50.4**	**-0.9**
DID	**Didima**	**1.62**	**59**	P	**Pn**	**04 27 50.9**	**+1.3**
VLS	**Valsamata**	**1.66**	**334**	P	**Pb**	**04 27 52.2**	**-1.2**
VLS	**Valsamata**	**1.66**	**334**	*e*PN	**Pn**	**04 27 52.1**	**+1.9**
VLS				*e*SN	**Sb**	**04 28 13.8**	**-0.2**
VLS	**Valsamata**	**1.66**	**334**	P	**Pn**	**04 27 52.2**	**-1.2**
VLS				*e*Sn	**Sb**	**04 28 13.8**	**-0.2**
VLS	**Valsamata**	**1.66**	**334**	P	**Pn**	**04 27 52.2**	**-1.2**
ANKY	**Antikythira Is**	**1.67**	**119**	P	**Pn**	**04 27 50.9**	**+0.7**
ANKY	**Antikythira Is**	**1.67**	**119**	*e*PN	**Pn**	**04 27 52.1**	**+1.9**
ANKY				*e*SN	**Sn**	**04 28 12.5**	**+2.1**
ANKY	**Antikythira Is**	**1.67**	**119**	P	**Pn**	**04 27 50.9**	**+0.7**
ANKY	**Antikythira Is**	**1.67**	**119**	*e*Pn	**Pn**	**04 27 52.1**	**+1.9**
ANKY				*e*Sn	**Sn**	**04 28 12.5**	**+2.1**
ANKY	**Antikythira Is**	**1.67**	**119**	P	**Pn**	**04 27 50.9**	**+0.7**
EFP	**Efpalio**	**1.78**	**10**	P	**Pb**	**04 27 55.1**	**-0.3**
EFP	**Efpalio**	**1.78**	**10**	*e*PB	**Pb**	**04 27 55.0**	**-0.3**
EFP	**Efpalio**	**1.78**	**10**	*e*Pb	**Pb**	**04 27 55.0**	**-0.3**
LTK	**Loutraki**	**1.78**	**41**	P	**Pn**	**04 27 53.4**	**+1.6**
LTK	**Loutraki**	**1.78**	**41**	*e*PN	**Pn**	**04 27 53.4**	**+1.6**
LTK	**Loutraki**	**1.78**	**41**	P	**Pn**	**04 27 53.4**	**+1.6**
LTK	**Loutraki**	**1.78**	**41**	P	**Pn**	**04 27 53.4**	**+1.6**
KALE	**Kalithea**	**1.79**	**16**	P	**Pb**	**04 27 55.4**	**-0.1**
KALE	**Kalithea**	**1.79**	**16**	*e*PB	**Pb**	**04 27 55.5**	**-0.1**
KALE	**Kalithea**	**1.79**	**16**	P	**Pb**	**04 27 55.4**	**-0.1**
KALE				S	**Sb**	**04 28 19.8**	**+2.3**
KALE	**Kalithea**	**1.79**	**16**	P	**Pb**	**04 27 55.4**	**-0.1**
DSF	**Desfina**	**1.91**	**25**	P	**Pn**	**04 27 55.5**	**+1.8**
DSF	**Desfina**	**1.91**	**25**	*e*PN	**Pn**	**04 27 55.7**	**+2.0**
DSF	**Desfina**	**1.91**	**25**	P	**Pn**	**04 27 55.5**	**+1.8**
DSF	**Desfina**	**1.91**	**25**	P	**Pn**	**04 27 55.5**	**+1.8**
NAIG	**Nisos Aigina**	**1.92**	**55**	*e*PN	**Pn**	**04 27 55.1**	**+1.4**
NAIG	**Nisos Aigina**	**1.92**	**55**	*e*Pn	**Pn**	**04 27 55.1**	**+1.4**
ATH	**Athens Observa**	**2.19**	**53**	P	**Pn**	**04 27 58.4**	**+1.0**
ATH	**Athens Observa**	**2.19**	**53**	*e*PN	**Pn**	**04 27 58.6**	**+1.2**
ATH				*e*SN	**Sn**	**04 28 24.1**	**+0.7**
ATH	**Athens Observa**	**2.19**	**53**	*e*Pn	**Pn**	**04 27 58.6**	**+1.2**
ATH				*e*Sn	**Sn**	**04 28 24.1**	**+0.7**
ATH	**Athens Observa**	**2.19**	**53**	P	**Pn**	**04 27 58.4**	**+1.0**
LKD2	**Lefkada island**	**2.21**	**343**	P	**Pb**	**04 28 00.9**	**-1.8**
LKD2	**Lefkada island**	**2.21**	**343**	*e*PN	**Pn**	**04 28 00.4**	**+2.6**
LKD2	**Lefkada island**	**2.21**	**343**	*e*Pn	**Pn**	**04 28 00.4**	**+2.6**
LKD2	**Lefkada island**	**2.21**	**343**	P	**Pb**	**04 28 00.9**	**-1.8**
LKD2	**Lefkada island**	**2.21**	**343**	P	**Pb**	**04 28 00.9**	**-1.8**
ATHU	**Athens Univers**	**2.23**	**54**	P	**Pn**	**04 27 58.8**	**+0.8**
ATHU	**Athens Univers**	**2.23**	**54**	P	**Pn**	**04 27 58.8**	**+0.8**
ATHU	**Athens Univers**	**2.23**	**54**	P	**Pn**	**04 27 58.8**	**+0.8**
EVR	**Evrytania**	**2.25**	**6**	P	**Pn**	**04 28 02.5**	**-0.9**
EVR	**Evrytania**	**2.25**	**6**	*e*PB	**Pb**	**04 28 02.7**	**-0.7**
EVR				*e*SN	**Sn**	**04 28 26.9**	**+1.9**
EVR	**Evrytania**	**2.25**	**6**	P	**Pb**	**04 28 02.5**	**-0.9**
AXAR	**Agios Charalam**	**2.28**	**23**	P	**Pn**	**04 28 00.9**	**+2.2**
AXAR	**Agios Charalam**	**2.28**	**23**	*e*PN	**Pn**	**04 28 01.3**	**+2.6**
AXAR	**Agios Charalam**	**2.28**	**23**	P	**Pn**	**04 28 00.9**	**+2.2**
AXAR	**Agios Charalam**	**2.28**	**23**	*e*Pn	**Pn**	**04 28 01.3**	**+2.6**
AXAR	**Agios Charalam**	**2.28**	**23**	P	**Pn**	**04 28 00.9**	**+2.2**
LKR	**Lokris**	**2.30**	**31**	P	**Pn**	**04 28 00.2**	**+1.2**
LKR	**Lokris**	**2.30**	**31**	*e*PN	**Pn**	**04 28 00.4**	**+1.4**
LKR				*e*SN	**Sn**	**04 28 26.8**	**+0.7**
LKR	**Lokris**	**2.30**	**31**	*e*Pn	**Pn**	**04 28 00.4**	**+1.4**
LKR				*e*Sn	**Sn**	**04 28 26.8**	**+0.7**
LKR	**Lokris**	**2.30**	**31**	P	**Pn**	**04 28 00.2**	**+1.2**
PTL	**Penteli**	**2.33**	**53**	P	**Pn**	**04 28 00.7**	**+0.7**
PTL	**Penteli**	**2.33**	**53**	*e*PN	**Pn**	**04 28 00.1**	**+0.7**
PTL	**Penteli**	**2.33**	**53**	P	**Pn**	**04 28 00.1**	**+0.7**
PTL	**Penteli**	**2.33**	**53**	P	**Pn**	**04 28 00.1**	**+0.7**
MAKR	**Makrakomi, Fth**	**2.38**	**12**	P	**Pb**	**04 28 04.2**	**-1.5**
MAKR	**Makrakomi, Fth**	**2.38**	**12**	*e*PB	**Pb**	**04 28 03.6**	**-2.1**
MAKR	**Makrakomi, Fth**	**2.38**	**12**	*e*Pb	**Pb**	**04 28 03.6**	**-2.1**
MAKR	**Makrakomi, Fth**	**2.38**	**12**	P	**Pb**	**04 28 04.2**	**-1.5**
AGG	**Agios Georgios**	**2.43**	**15**	P	**Pn**	**04 28 03.5**	**+2.7**
AGG	**Agios Georgios**	**2.43**	**15**	*e*PN	**Pn**	**04 28 03.7**	**+2.9**
AGG				*e*SN	**Sn**	**04 28 30.9**	**+1.5**
AGG	**Agios Georgios**	**2.43**

SRS	**Serrai**	**4.72**	**20**	P		**Pn**	**04 28 34.0**	**+1.7**
SRS	**Serrai**	**4.72**	**20**	P		**Pn**	**04 28 34.0**	**+1.7**
CEL	**Celeste**	**4.73**	**291**	*e*Pn		**Pn**	**04 28 34.2**	**+1.8**
CEL				*e*S		**Sn**	**04 29 24.0**	**-2.2**
CEL	**Celeste**	**4.73**	**291**	*e*Pn		**Pn**	**04 28 34.2**	**+1.8**
CEL				*e*S		**Sn**	**04 29 24.0**	**-2.2**
TIR	**Tirane**	**4.83**	**345**	*e*Pn		**Pn**	**04 28 35.2**	**+1.4**
TIR				*e*S		**Sn**	**04 29 30.4**	**+1.8**
TIR	**Tirane**	**4.83**	**345**	*e*Pn		**Pn**	**04 28 35.2**	**+1.4**
TIR				*e*S		**Sn**	**04 29 30.4**	**+1.8**
NVR	**Nevrokopi**	**5.01**	**21**	P		**Pn**	**04 28 38.0**	**+1.7**
NVR	**Nevrokopi**	**5.01**	**21**	*e*PN		**Pn**	**04 28 37.8**	**+1.5**
NVR	**Nevrokopi**	**5.01**	**21**	*e*Pn		**Pn**	**04 28 37.8**	**+1.5**
NVR	**Nevrokopi**	**5.01**	**21**	P		**Pn**	**04 28 38.0**	**+1.7**
PHP	**Peshkopia**	**5.07**	**351**	P		**Pn**	**04 28 38.4**	**+1.4**
PHP	**Peshkopia**	**5.07**	**351**	P		**Pn**	**04 28 38.4**	**+1.4**
PHP	**Peshkopia**	**5.07**	**351**	P		**Pn**	**04 28 38.4**	**+1.4**
MMB	**Musomiste**	**5.20**	**19**	⇓*i*P		**Pn**	**04 28 39.8**	**+0.9**
MMB	**Musomiste**	**5.20**	**19**	P		**Pn**	**04 28 40.1**	**+1.2**
MMB	**Musomiste**	**5.20**	**19**	⇓*i*P		**Pn**	**04 28 39.8**	**+0.9**
PE1	**Pezze di Greco**	**5.21**	**324**	*e*Pn		**Pn**	**04 28 40.1**	**+1.2**
CUC	**Castrocucco**	**5.56**	**308**	*e*Pn		**Pn**	**04 28 46.6**	**+2.8**
CUC	**Castrocucco**	**5.56**	**308**	*e*Pn		**Pn**	**04 28 46.6**	**+2.8**
CUC				*e*S		**Sn**	**04 29 44.2**	**-2.3**
ULC	**Ulcinj**	**5.56**	**342**	*e*Pn		**Pn**	**04 28 44.1**	**+0.3**
ULC				*e*Sn		**Sn**	**04 29 44.4**	**-2.1**
ULC	**Ulcinj**	**5.56**	**342**	*e*Pn		**Pn**	**04 28 44.1**	**+0.3**
RZN	**Rozhen**	**5.59**	**26**	P		**Sn**	**04 29 46.1**	**-1.4**
SG1	**Sgolgore (BA)**	**5.61**	**319**	*e*Pn		**Pn**	**04 28 45.8**	**+1.4**
WDD	**Wield Dalam**	**5.69**	**264**	*e*Pn		**Pn**	**04 28 47.3**	**+1.7**
WDD	**Wield Dalam**	**5.69**	**264**	*e*Pn		**Pn**	**04 28 47.3**	**+1.7**
WDD				*e*S		**Sn**	**04 29 48.9**	**-0.9**
BAI	**Bari**	**5.71**	**322**	*e*Pn		**Pn**	**04 28 46.6**	**+0.9**
DRME	**Dracevica, Mon**	**5.79**	**343**	⇑*i*Pn		**Pn**	**04 28 47.5**	**+0.6**
DRME				*e*Sn		**Sn**	**04 29 50.0**	**-2.0**
DRME	**Dracevica, Mon**	**5.79**	**343**	⇑*i*Pn		**Pn**	**04 28 47.5**	**+0.6**
KDZ	**Kurdzhali**	**5.82**	**30**	⇑*i*P		**Pn**	**04 28 47.1**	**-0.3**
KDZ	**Kurdzhali**	**5.82**	**30**	P		**Sn**	**04 29 48.1**	**-4.9**
KDZ	**Kurdzhali**	**5.82**	**30**	⇑*i*P		**Pn**	**04 28 47.1**	**-0.3**
BUM	**Brajici-Budva**	**5.97**	**341**	⇑*i*Pn		**Pn**	**04 28 49.9**	**+0.5**
BUM				*e*Sn		**Sn**	**04 29 54.5**	**-2.1**
BUM	**Brajici-Budva**	**5.97**	**341**	⇑*i*Pn		**Pn**	**04 28 49.9**	**+0.5**
CDT	**Castel del Mon**	**6.00**	**319**	*e*Pn		**Pn**	**04 28 50.8**	**+1.0**
PDG	**Podgorica**	**6.00**	**344**	⇓*i*Pn		**Pn**	**04 28 49.8**	**0.0**
TTG	**Podgorica**	**6.00**	**344**	⇓*i*Pn		**Pn**	**04 28 49.8**	**0.0**
TTG				*e*Sn		**Sn**	**04 29 56.1**	**-1.2**
PVY	**Plav**	**6.03**	**349**	⇓*i*Pn		**Pn**	**04 28 51.6**	**+1.3**
PVY				*e*Sn		**Sn**	**04 29 56.1**	**-2.1**
PVY	**Plav**	**6.03**	**349**	⇓*i*Pn		**Pn**	**04 28 51.6**	**+1.3**
VTS	**Vitosha**	**6.05**	**12**	⇑*i*P		**Pn**	**04 28 53.1**	**+2.5**
VTS	**Vitosha**	**6.05**	**12**	P		**Pn**	**04 28 53.8**	**+3.2**
VTS	**Vitosha**	**6.05**	**12**	⇑*i*P		**Pn**	**04 28 53.1**	**+2.5**
BARS	**Barje**	**6.14**	**2**	⇑*i*Pn		**Pn**	**04 28 52.3**	**+0.6**
HCY	**Herceg Novi**	**6.21**	**339**	⇓*i*Pn		**Pn**	**04 28 52.4**	**-0.3**
HCY				*e*Sn		**Sn**	**04 29 59.7**	**-2.8**
HCY	**Herceg Novi**	**6.21**	**339**	⇓*i*Pn		**Pn**	**04 28 52.4**	**-0.3**
BEY	**Berane**	**6.31**	**349**	⇑*i*Pn		**Pn**	**04 28 55.1**	**+1.0**
IVA	**Berane**	**6.31**	**349**	⇑*i*Pn		**Pn**	**04 28 55.1**	**+1.0**
IVA				*e*Sn		**Sn**	**04 30 03.0**	**-2.0**
NKME	**Niksic**	**6.39**	**343**	⇓*i*Pn		**Pn**	**04 28 55.8**	**+0.6**
NKME				*e*Sn		**Sn**	**04 30 04.5**	**-2.5**
NKME	**Niksic**	**6.39**	**343**	⇓*i*Pn		**Pn**	**04 28 55.8**	**+0.6**
NKY	**Niksic**	**6.42**	**343**	⇑*i*Pn		**Pn**	**04 28 56.9**	**+1.2**
NKY				*e*Sn		**Sn**	**04 30 05.4**	**-2.5**
NKY	**Niksic**	**6.42**	**343**	⇑*i*Pn		**Pn**	**04 28 56.9**	**+1.2**
BRY	**Bratogost**	**6.62**	**341**	⇓*i*Pn		**Pn**	**04 28 58.2**	**-0.2**
BRY				*e*Sn		**Sn**	**04 30 09.2**	**-3.2**
BRY	**Bratogost**	**6.62**	**341**	⇓*i*Pn		**Pn**	**04 28 58.2**	**-0.2**
UPM	**Unac-Piva**	**6.81**	**344**	⇑*i*Pn		**Pn**	**04 29 01.6**	**+0.4**
UPM				*e*Sn		**Sn**	**04 30 14.8**	**-2.9**
UPM	**Unac-Piva**	**6.81**	**344**	⇑*i*Pn		**Pn**	**04 29 01.6**	**+0.4**
PLE	**Pljevlja**	**6.84**	**347**	⇓*i*Pn		**Pn**	**04 29 01.9**	**+0.5**
PLE				*e*Sn		**Sn**	**04 30 15.6**	**-2.5**
PLE	**Pljevlja**	**6.84**	**347**	⇓*i*Pn		**Pn**	**04 29 01.9**	**+0.5**
STON	**Ston**	**6.84**	**336**	*i* Pn		**Pn**	**04 29 00.9**	**-0.5**
STON				Sn		**Sn**	**04 30 12.7**	**-5.3**
STON	**Ston**	**6.84**	**336**	*i* Pn		**Pn**	**04 29 00.8**	**-0.5**
MPEP	**Malo Peshtene**	**6.89**	**14**	P		**Pn**	**04 29 04.7**	**+2.7**
MPEP	**Malo Peshtene**	**6.89**	**14**	P		**Pn**	**04 29 04.7**	**+2.7**
GRUS	**Gruza**	**7.23**	**355**	⇓*i*Pn		**Pn**	**04 29 06.9**	**+0.3**
DIVS	**Divibare**	**7.50**	**352**	⇑*i*P		**Pn**	**04 29 09.3**	**-1.2**
DIVS	**Divibare**	**7.50**	**352**	⇑*i*Pn		**Pn**	**04 29 09.8**	**-0.7**
UDBI	**Udbina**	**8.97**	**333**	*i* Pn		**Pn**	**04 29 32.0**	**+1.4**
UDBI				Sn		**Sn**	**04 31 05.3**	**-5.1**
UDBI	**Udbina**	**8.97**	**333**	*i* Pn		**Pn**	**04 29 32.0**	**+1.4**
NVLJ	**Novalja**	**9.35**	**329**	*e*Pn		**Pn**	**04 29 36.4**	**+0.7**
NVLJ				Sn		Sn	04 31 12.9	-6.7
NVLJ	**Novalja**	**9.35**	**329**	*e*Pn		**Pn**	**04 29 36.3**	**+0.7**
TIRR	**Tirgusor**	**9.38**	**32**	⇑*i*P		**Pn**	**04 29 36.8**	**+0.7**
TIRR	**Tirgusor**	**9.38**	**32**	⇑*i*P		**Pn**	**04 29 36.8**	**+0.7**
MLR	**Muntele Rosu**	**9.42**	**19**	Pn		Pn	04 29 28.0	-8.9
	0.0nm,0.3s,baz=145,slow=15,SNR=7.8							
AK02	**Malin Array Si**	**15.03**	**19**	*e*Pn		**Pn**	**04 30 54.6**	**+1.4**
AK02	**Malin Array Si**	**15.03**	**19**	*e*Pn		**Pn**	**04 30 54.6**	**+1.4**
KIEV	**Kiev**	**15.07**	**19**	*e*Pn		**Pn**	**04 30 51.8**	**-1.8**
AKASG	**Malin Array Be**	**15.08**	**19**	Pn		**Pn**	**04 30 51.7**	**-2.1**
	0.5nm,0.3s,baz=207,slow=12,SNR=4.3							
SUW	**Suwalki**	**17.38**	**3**	*e*Pn		**Pn**	**04 31 23.0**	**-0.1**
	49nm,0.8s							
SUW	**Suwalki**	**17.38**	**3**	*e*Pn		**Pn**	**04 31 23.0**	**-0.1**
	49nm,0.8s							
HFS	**Hagfors**	**24.00**	**350**	P		**P**	**04 32 33.8**	**-0.9**
	5.1nm,0.5s,baz=159,slow=13,SNR=14							
FINES	**FINESS Array B**	**24.96**	**5**	P		**P**	**04 32 43.6**	**+0.2**
	4.4nm,0.5s,baz=159,slow=12,SNR=22							
NAO01	**NORSAR Array S**	**25.11**	**348**	*e*P		**P**	**04 32 45.2**	**+0.3**
	3.5nm,0.5s							
NAO01	**NORSAR Array S**	**25.11**	**348**	*e*P		**P**	**04 32 45.2**	**+0.3**
	3.5nm,0.5s							
NB2	**NORSAR Subarra**	**25.24**	**348**	P		**P**	**04 32 45.3**	**-0.8**
	comp=Z,3.7nm,0.7s,baz=155,slow=9.3							
NB2	**NORSAR Subarra**	**25.24**	**348**	P		**P**	**04 32 45.3**	**-0.8**
	comp=Z,3.7nm,0.7s,SNR=9.2							
NOA	**NORSAR Array B**	**25.24**	**348**	P		**P**	**04 32 45.6**	**-0.4**
	comp=Z,3.7nm,0.7s,baz=158,slow=9.1,SNR=11							
NOA				LR		LR	04 44 25.3	
	comp=Z,44nm,19.8s,baz=260,slow=41							
AKTO	**Aktyubinsk**	**29.50**	**51**	P		**P**	**04 33 21.7**	**-2.6**
	comp=Z,1.3nm,0.5s,baz=271,slow=13,SNR=4.5							
ARCES	**ARCESS Array B**	**32.99**	**3**	P		**P**	**04 33 54.4**	**-0.4**
	comp=Z,4.7nm,0.8s,baz=189,slow=11,SNR=5.2							
YKA	**Yellowknife Ar**	**75.06**	**341**	P		**P**	**04 39 01.9**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=29,slow=5.6,SNR=5.0							
YKA	**Yellowknife Ar**	**75.06**	**341**	P		**P**	**04 39 02.0**	**+0.6**

ECX 19 04:33:27.9±0.6, 32.67N×115.82W, h3km, MD2.4, ML2.6, 3C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.08**	**104**	⇑*i*P	Pg	04 33 29.2	-0.4
YUH	**Yuha Desert**	**0.09**	**256**	⇑*i*P	Pg	04 33 29.7	0.0
WESC	**Westside Schoo**	**0.12**	**40**	*e*P	Pg	04 33 29.8	-0.4
WESC				*e*S	Sg	04 33 32.4	+0.6
COK	**Cook Ranch**	**0.20**	**24**	*e*P2	Pg	04 33 31.4	-0.3
RMX	**La Rumorosa**	**0.23**	**253**	⇑*e*P	Pg	04 33 32.2	-0.4
RMX				*e*S	Sg	04 33 36.0	+0.3
CPBX	**Cerro Prieto**	**0.50**	**120**	*e*P	Pg	04 33 37.4	-0.2
CPBX				*e*S	Sg	04 33 44.5	+0.3
BAR	**Barrett**	**0.72**	**271**	*e*P	Pg	04 33 40.9	-0.9
RDX	**Rancho Dawling**	**0.75**	**188**	*e*P	Pg	04 33 40.9	-1.6
RDX				*e*S	Sg	04 33 51.4	-1.0
RDX				IAML		04 33 52.0	
	comp=N,171nm,0.2s						
RDX				*e*		04 33 52.0	
RDX				⇓*e*		04 33 52.5	
	comp=E,345nm,0.2s						
CBX	**Cerro Bola**	**0.80**	**244**	*e*P	Pg	04 33 42.4	-1.0
CBX				*e*S	Sg	04 33 53.5	-0.4
CBX				IAML		04 33 54.2	
	comp=N,252nm,0.2s						
CBX				⇓*e*		04 33 54.2	
SDRC	**San Diego Road**	**0.95**	**274**	*e*P	Pg	04 33 44.9	-1.3
PBX	**Punta Banda**	**1.20**	**220**	*e*P	Pg	04 33 49.2	-1.8
PBX				*e*S	Sg	04 34 05.5	-1.2
ECNX	**Esteban Cantu**	**1.21**	**213**	*e*P	Pg	04 33 49.3	-1.9
ECNX				*e*S	Sg	04 34 05.5	-1.5
ZAX	**El Zacaton**	**1.22**	**199**	*e*P	Pg	04 33 49.4	-1.9
ZAX				*e*S	Sg	04 34 05.6	-1.7
ECBX	**El Chinero**	**1.36**	**151**	*e*P9	Pg	04 33 51.4	-2.6
ECBX				*e*S	Sg	04 34 09.6	-2.0
ECBX				IAML		04 34 10.5	
	comp=E,89nm,0.4s						
ECBX				*e*		04 34 10.5	
SPX	**San Pedro Mart**	**1.65**	**169**	*e*P	Pn	04 33 56.5	-1.7

MAN 19 04:44:16, 19.29N×121.11E, h33km, mb4.8, ML3.7, MS3.7, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**1.07**	**206**	⇑*i*P	Pn	04 44 34.0	-0.7
SGCP	**Mt. Cagua**	**1.37**	**139**	*e*P	Pn	04 44 39.3	+0.4
SGCP				*e*S	Sn	04 44 56.3	+0.4
APYP	**Conner**	**1.43**	**175**	*e*P	Pn	04 44 40.1	+0.5
ABRA	**Dolores**	**1.68**	**193**	*e*P	Pb	04 44 44.9	-1.4
ABRA				*e*S	Sb	04 45 06.7	-0.3
CVP	**Callao Caves**	**1.72**	**157**	⇑*i*P	Pn	04 44 44.6	+1.0
CVP				*i* S	Sn	04 45 05.9	+1.5
CAUP	**Cauayan**	**2.43**	**164**	*e*P	Pb	04 44 57.1	-2.0
BOLP	**Bolinao**	**3.11**	**202**	*e*P	Pn	04 44 56.5	-6.2
BALP	**Baler**	**3.56**	**173**	*e*P	Pn	04 45 10.3	+1.4

*MDD **19** 05:00:45.0±2.1, 37.05N×13.67W, h0km, mb3.6/8, Error ellipse: s-maj=22.2km s-min=18.0km az=176.0, PRXIMO*
*IGIL **19** 05:00:45.6, 37.08N×13.67W, h0km, ML1.9*
*INMG **19** 05:00:45.8±1.1, 36.80N×14.11W, h31km, ML2.3, Error ellipse: s-maj=9.8km s-min=7.0km az=160.0*
*CSEM **19** 05:00:48.2±0.4, 37.03N×13.57W, h30km, mb3.6, Error ellipse: s-maj=10.0km s-min=7.1km az=175.0*

ISC 19 05:00:45.5±3.9, 37.1N±0.1×13.6W±0.2, h10km, n61, σ1.9s25/111, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**3.78**	**88**	*e*P	**Pn**	**05 01 44.3**	**+0.4**
PFVI				*e*S	**Sn**	**05 02 28.3**	**-0.2**
PFVI				A	A	05 02 31.4	
	5.3nm,0.6s						
PFVI	**Vila Bisbo**	**3.78**	**88**	P	**Pn**	**05 01 44.2**	**+0.3**
	0.9nm,0.1s,SNR=5.9						
PFVI				S	**Sn**	**05 02 28.2**	**-0.2**
	9.3nm,0.2s,SNR=5.5						
PFVI	**Vila Bisbo**	**3.78**	**88**	*e*P	**Pn**	**05 01 44.3**	**+0.4**
PFVI				*e*S	**Sn**	**05 02 28.3**	**-0.2**
	5.3nm,0.6s						
PMAFR	**Mafra**	**3.87**	**59**	*e*P	**Pn**	**05 01 46.8**	**+1.7**
PMAFR				*e*S	**Sn**	**05 02 32.2**	**+1.6**
PMAFR				A	A	05 02 37.7	
	12nm,0.5s						
PMAFR	**Mafra**	**3.87**	**59**	P	**Pn**	**05 01 44.5**	**-0.6**
	2.0nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**05 02 30.2**	**-0.4**
	2.4nm,0.1s,SNR=5.8						
PMAFR	**Mafra**	**3.87**	**59**	*e*P	**Pn**	**05 01 46.8**	**+1.7**
PMAFR				*e*S	**Sn**	**05 02 32.2**	**+1.6**
	12nm,0.5s						
PTEO	**Sao Teotonio**	**3.88**	**81**	*e*P	**Pn**	**05 01 46.3**	**+1.0**
PTEO				*e*S	**Sn**	**05 02 31.1**	**+0.2**
PTEO				A	A	05 02 34.4	
	1.8nm,0.1s						
PTEO	**Sao Teotonio**	**3.88**	**81**	P	**Pn**	**05 01 46.3**	**+1.0**
PTEO				S	**Sn**	**05 02 31.1**	**+0.2**
	0.9nm,0.1s						
PTEO	**Sao Teotonio**	**3.88**	**81**	P	**Pn**	**05 01 46.3**	**+1.0**
PTEO				*e*S	**Sn**	**05 02 31.1**	**+0.2**
	1.8nm,0.1s						
MORF	**Marmelete**	**3.93**	**85**	*e*P	**Pn**	**05 01 46.0**	**+0.2**
MORF				*e*S	**Sn**	**05 02 31.1**	**-1.0**
MORF				AML	AML	05 02 35.2	
	comp=N,4.0nm,0.3s						
MORF	**Marmelete**	**3.93**	**85**	*e*P	**Pn**	**05 01 46.1**	**+0.2**
MORF				*e*S	**Sn**	**05 02 32.0**	**-0.1**
MORF				A	A	05 02 38.4	
	comp=N,3.0nm,0.1s						
MORF	**Marmelete**	**3.93**	**85**	P	**Pn**	**05 01 46.1**	**+0.2**
MORF				S	**Sn**	**05 02 32.0**	**-0.1**
	comp=N,3.0nm,0.1s						
MORF	**Marmelete**	**3.93**	**85**	P	**Pn**	**05 01 46.1**	**+0.2**
MORF				*e*S	**Sn**	**05 02 32.0**	**-0.1**
	comp=N,3.0nm,0.1s						
PACT	**Alcochete**	**4.11**	**64**	*e*S	**Sn**	**05 02 39.0**	**+2.6**
PACT	**Alcochete**	**4.11**	**64**	*e*S	**Sn**	**05 02 39.0**	**+2.6**
PNCL	**Nicolau / Gran**	**4.13**	**74**	*e*P	**Pn**	**05 01 50.0**	**+1.4**
PNCL				*e*S	**Sn**	**05 02 37.8**	**+0.8**
PNCL				A	A	05 02 43.6	
	comp=N,2.4nm,0.3s						
PNCL	**Nicolau / Gran**	**4.13**	**74**	*e*P	**Pn**	**05 01 50.0**	**+1.4**
PNCL				*e*S	**Sn**	**05 02 37.8**	**+0.8**
	comp=N,2.4nm,0.3s						
MESJ	**Messejana**	**4.32**	**78**	*e*S	**Sn**	**05 02 40.0**	**-1.6**
MESJ				AML	AML	05 02 44.9	
	comp=E,1.6nm,0.2s						
MESJ	**Messejana**	**4.32**	**78**	*e*P	**Pn**	**05 01 52.4**	**+1.2**
MESJ				*e*S	**Sn**	**05 02 42.5**	**+0.9**
MESJ				A	A	05 02 49.6	
	comp=E,2.6nm,0.7s						
MESJ	**Messejana**	**4.32**	**78**	P	**Pn**	**05 01 52.4**	**+1.2**
MESJ				S	**Sn**	**05 02 40.0**	**-1.6**
	comp=E,1.6nm,0.2s						
MESJ	**Messejana**	**4.32**	**78**	P	**Pn**	**05 01 52.4**	**+1.2**
MESJ				*e*S	**Sn**	**05 02 42.5**	**+0.9**
	comp=E,2.6nm,0.7s						
PCVE	**Castro Verde**	**4.43**	**81**	*e*P	**Pn**	**05 01 53.7**	**+0.8**
PCVE				*e*S	**Sn**	**05 02 44.4**	**-0.1**
PCVE	**Castro Verde**	**4.43**	**81**	P	**Pn**	**05 01 53.7**	**+0.8**
PCVE				S	**Sn**	**05 02 44.4**	**-0.1**
PCVE	**Castro Verde**	**4.43**	**81**	P	**Pn**	**05 01 53.7**	**+0.8**
PCVE				S	**Sn**	**05 02 44.4**	**-0.1**
PBDV	**Barranco-do-Ve**	**4.50**	**86**	*e*P	**Pn**	**05 01 54.7**	**+0.9**
PBDV				*e*S	**Sn**	**05 02 46.4**	**+0.2**
PBDV	**Barranco-do-Ve**	**4.50**	**86**	P	**Pn**	**05 01 54.7**	**+0.9**
PBDV				S	**Sn**	**05 02 46.4**	**+0.2**
PBDV	**Barranco-do-Ve**	**4.50**	**86**	P	**Pn**	**05 01 54.7**	**+0.9**
PBDV				S	**Sn**	**05 02 46.4**	**+0.2**
EVO	**Evora**	**4.63**	**70**	*e*P	**Pn**	**05 01 57.0**	**+1.5**
EVO				*e*S	**Sn**	**05 02 49.5**	**+0.1**
EVO				A	A	05 02 53.3	
	comp=E,3.8nm,0.1s						
EVO	**Evora**	**4.63**	**70**	P	**Pn**	**05 01 57.0**	**+1.5**
EVO				S	**Sn**	**05 02 49.5**	**+0.1**
	comp=E,3.8nm,0.1s						
EVO	**Evora**	**4.63**	**70**	P	**Pn**	**05 01 57.0**	**+1.5**
EVO				*e*S	**Sn**	**05 02 49.5**	**+0.1**
	comp=E,3.8nm,0.1s						
PMTG	**Montargil**	**4.66**	**63**	*e*P	**Pn**	**05 01 56.6**	**+0.7**
PMTG				*e*S	**Sn**	**05 02 49.8**	**-0.3**
PMTG				A	A	05 02 54.9	
	comp=E,1.8nm,0.2s						
PMTG	**Montargil**	**4.66**	**63**	*e*P	**Pn**	**05 01 56.6**	**+0.7**
PMTG				*e*S	**Sn**	**05 02 49.8**	**-0.3**
	comp=E,1.8nm,0.2s						
PVAQ	**Vaqueiros**	**4.67**	**84**	*e*P	**Pn**	**05 01 56.9**	**+0.8**
PVAQ				*e*S	**Sn**	**05 02 49.8**	**-0.6**
PVAQ				A	A	05 02 57.5	
	comp=E,2.4nm,0.5s						
PVAQ	**Vaqueiros**	**4.67**	**84**	P	**Pn**	**05 01 56.9**	**+0.8**
PVAQ				S	**Sn**	**05 02 49.8**	**-0.6**
	comp=E,2.4nm,0.5s						
PVAQ	**Vaqueiros**	**4.67**	**84**	P	**Pn**	**05 01 56.9**	**+0.8**
PVAQ				*e*S	**Sn**	**05 02 49.8**	**-0.6**
	comp=E,2.4nm,0.5s						
PTOM	**Tomar**	**4.78**	**56**	*e*P	**Pn**	**05 01 59.0**	**+1.4**
PTOM				*e*S	**Sn**	**05 02 53.9**	**+0.8**
PTOM				A	A	05 02 57.9	
	comp=E,4.2nm,0.3s						
PTOM	**Tomar**	**4.78**	**56**	P	**Pn**	**05 01 59.0**	**+1.4**
PTOM				S	**Sn**	**05 02 53.9**	**+0.8**
	comp=E,2.1nm,0.3s						
PTOM	**Tomar**	**4.78**	**56**	P	**Pn**	**05 01 59.0**	**+1.4**
PTOM				*e*S	**Sn**	**05 02 53.9**	**+0.8**
	comp=E,4.2nm,0.3s						
EGRO	**El Granado**	**4.87**	**83**	P	**Pn**	**05 02 00.1**	**+1.3**
	comp=E,0.3nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**05 02 53.8**	**-1.4**
	comp=E,1.1nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**4.87**	**83**	P	**Pn**	**05 02 00.1**	**+1.3**
	comp=E,0.3nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**05 02 53.8**	**-1.4**
	comp=E,1.1nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**5.05**	**67**	*e*S	**Sn**	**05 03 00.1**	**+0.4**
	comp=E,1.5nm,0.5s						
PESTR				A	A	05 03 20.0	
	comp=E,1.5nm,0.5s						
PBAR	**Barrancos**	**5.29**	**76**	*e*P	**Pn**	**05 02 05.8**	**+1.2**
PBAR				*e*S	**Sn**	**05 03 06.0**	**+0.3**
PBAR				A	A	05 03 11.0	
	comp=E,3.2nm,1.0s						
PBAR	**Barrancos**	**5.29**	**76**	P	**Pn**	**05 02 05.8**	**+1.2**
PBAR				S	**Sn**	**05 03 06.0**	**+0.3**
	comp=E,3.2nm,1.0s						
PBAR	**Barrancos**	**5.29**	**76**	P	**Pn**	**05 02 05.8**	**+1.2**
PBAR				*e*S	**Sn**	**05 03 06.0**	**+0.3**
	comp=E,3.2nm,1.0s						
PMRV	**Marv??o**	**5.40**	**62**	*e*P	**Pn**	**05 02 07.1**	**+1.0**
PMRV				*e*S	**Sn**	**05 03 07.8**	**-0.5**
PMRV				A	A	05 03 09.2	
	comp=E,2.3nm,0.6s						
PMRV	**Marv??o**	**5.40**	**62**	P	**Pn**	**05 02 07.1**	**+1.0**
PMRV				S	**Sn**	**05 03 07.8**	**-0.5**
	comp=E,2.3nm,0.6s						
PMRV	**Marv??o**	**5.40**	**62**	P	**Pn**	**05 02 07.1**	**+1.0**
PMRV				*e*S	**Sn**	**05 03 07.8**	**-0.5**
	comp=E,2.3nm,0.6s						
EBAD	**Badajoz**	**5.44**	**70**	P	**Pn**	**05 02 07.5**	**+0.8**
	comp=E,0.3nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**05 03 07.3**	**-2.1**
	comp=E,1.8nm,0.7s,SNR=4.5						
EBAD	**Badajoz**	**5.44**	**70**	P	**Pn**	**05 02 07.5**	**+0.8**
	comp=E,0.3nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**05 03 07.3**	**-2.1**
	comp=E,1.8nm,0.7s,SNR=4.5						
EMIN	**Mina Concepcio**	**5.53**	**81**	P	**Pn**	**05 02 08.0**	**+0.1**
	comp=E,0.1nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**05 03 09.1**	**-2.4**
	comp=E,0.6nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.53**	**81**	P	**Pn**	**05 02 08.0**	**+0.1**
	comp=E,0.1nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**05 03 09.1**	**-2.4**
	comp=E,0.6nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**6.41**	**40**	P	**Pn**	**05 02 20.2**	**+0.1**
	comp=E,0.3nm,0.2s,SNR=7.9						
ELOB				S	**Sn**	**05 03 30.0**	**-3.4**
	comp=E,0.7nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.41**	**40**	P	**Pn**	**05 02 20.2**	**+0.1**
	comp=E,0.3nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**6.52**	**49**	P	**Pn**	**05 02 21.9**	**+0.3**
	comp=E,0.3nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**05 03 32.4**	**-3.6**
	comp=E,0.0nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**6.52**	**49**	P	**Pn**	**05 02 21.9**	**+0.3**
	comp=E,0.3nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**6.54**	**79**	P	**Pn**	**05 02 22.4**	**+0.6**
	comp=E,0.2nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**05 03 32.4**	**-4.1**
	comp=E,0.3nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**6.

2.6nm,0.8s,baz=177,slow=8.9,SNR=4.9
VNDA Vanda 72.91 176 P **P** 05 48 25.6 **-1.6**
0.9nm,0.5s,baz=298,slow=8.3,SNR=6.3
ILAR Eielson Array 85.32 23 P **P** 05 49 34.3 **-0.7**
1.7nm,0.7s,baz=250,slow=5.2,SNR=18
TORD Torodi Ar. Bea 143.24 285 PKhKP PKPpre 05 56 29.4
0.5nm,0.3s,baz=75,slow=3.1,SNR=12
DBIC Dimbokro 150.29 275 PKPbc **PKPbc** 05 56 50.3 **-0.1**
4.7nm,0.6s,baz=142,slow=2.8,SNR=6.7

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*BJI **19** 05:43:25.5, 12°.28S×64°.51E, h10km, mb4.8/38, mB5.0/25, Ms4.8/21, Ms7 4.4/21*
*IDC **19** 05:43:29.5±0.5, 12°.06S×65°.55E, h0km, mb4.4/24, mb1 4.5/25, mb1mx4.5/30, mbtmp4.4/25, ML4.7/1, MS4.2/18, Ms1 4.2/18, ms1mx4.1/26, Error ellipse: s-maj=17.6km s-min=12.9km az=155.0*
*MOS **19** 05:43:29.5±0.9, 12°.00S×65°.54E, h9km, mb5.2/38, Error ellipse: s-maj=9.3km s-min=5.4km az=114.7*
*ISCJB **19** 05:43:30.7±0.3, 12°.08S±0°.06×65°.50E±0°.04, h17km, mb4.7/86, MS4.4/20, Error ellipse: s-maj=8.2km s-min=6.1km az=162.4*
*NEIC **19** 05:43:31.1±0.2, 12°.11S×65°.55E, h10km, mb5.0/35, Error ellipse: s-maj=6.6km s-min=5.9km az=177.0*
*GCMT **19** 05:43:31.1±0.3, 12°.02S×65°.61E, h12km, MW5.1/86, Moment Tensor Solution. s13,c14; s86,c106; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.89±.25; $M_{\theta\theta}$=4.14±.21; $M_{\phi\phi}$5.02±.18; $M_{r\theta}$=2.84±.69; $M_{r\phi}$2.03±.19; $M_{\theta\phi}$1.17±.57; Best double couple: M_o5.88900×10^{16} NP1:ϕ_s53.00000°,δ65.00000°,λ-18.00000°. Principal axes: T 5.5060, Plg6.0000°, Azm280.0000°; N 0.7600, Plg60.0000°, Azm180.0000°; P -6.2720, Plg29.0000°, Azm13.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 19 05:43:32.7±0.5, 12°.13S±0°.06×65°.51E±0°.06, h19km±1km, h19km:pP-P, n493, σ0.99/502, mb4.8/86, MS4.3/20, 110C-89D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N3	**Diego Garcia H**	**7.89**	**44**	Pn	**Pn**	**05 45 23.3**	**-2.9**
H08N3				T	T	05 53 14.2	
	baz=222,slow=75,SNR=4398						
H08N1	**Diego Garcia H**	**7.91**	**44**	Pn	Pn	05 45 23.0	-3.4
H08N1				T	T	05 53 27.3	
	baz=222,slow=75,SNR=3171						
H08N2	**Diego Garcia H**	**7.91**	**44**	Pn	Pn	05 45 22.8	-3.6
H08N2				T	T	05 53 18.1	
	baz=222,slow=75,SNR=4549						
H08S1	**Diego Garcia H**	**8.18**	**58**	Pn	Pn	05 45 24.5	-5.6
H08S1				T	T	05 53 46.7	
	baz=236,slow=74,SNR=69						
H08S2	**Diego Garcia H**	**8.19**	**58**	Pn	Pn	05 45 25.0	-5.4
H08S2				T	T	05 53 37.7	
	baz=236,slow=74,SNR=104						
H08S3	**Diego Garcia H**	**8.19**	**58**	Pn	Pn	05 45 25.2	-5.3
H08S3				T	T	05 53 34.5	
	baz=236,slow=74,SNR=154						
MSEY	**Mahe Island**	**12.38**	**306**	*e*P	**Pn**	**05 46 27.6**	**-0.4**
MSEY				pmax	pmax		
	comp=Z,107nm,0.8s						
MSEY	**Mahe Island**	**12.38**	**306**	*e*Pn	**Pn**	**05 46 27.6**	**-0.4**
	comp=Z,107nm,0.8s						
OPO	**Ambohidratompo**	**18.79**	**248**	P	**Pn**	**05 47 53.0**	**+1.2**
	comp=Z,2.5nm,0.3s,baz=59,slow=9.5,SNR=14						
OPO				LR	LR	05 53 24.5	
	comp=Z,1μm,19.9s,baz=72,slow=32						
ABPO	**Ambohimpanom**	**18.89**	**246**	*e*P	**P**	**05 47 52.1**	**-0.3**
ABPO				pmax	pmax		
	comp=Z,21nm,0.8s						
ABPO	**Ambohimpanom**	**18.89**	**246**	*e*P	**P**	**05 47 52.1**	**-0.3**
	comp=Z,21nm,0.8s						
KMBO	**Kilima Mbogo**	**30.08**	**289**	P	**P**	**05 49 42.2**	**+0.8**
	comp=Z,11nm,0.9s,baz=64,slow=7.9,SNR=13						
KMBO				LR	LR	05 59 39.2	
	comp=Z,1μm,20.8s,baz=96,slow=32						
KMBO	**Kilima Mbogo**	**30.08**	**289**	*e*P	**P**	**05 49 42.9**	**+1.5**
KMBO	**Kilima Mbogo**	**30.08**	**289**	*e*P	**P**	**05 49 42.9**	**+1.5**
LSZ	**Lusaka**	**36.37**	**261**	*e*P	**P**	**05 50 36.9**	**+0.8**
LSZ				pmax	pmax		
	comp=Z,81nm,1.1s						
LSZ	**Lusaka**	**36.37**	**261**	*e*P	**P**	**05 50 36.9**	**+0.8**
	comp=Z,82nm,1.1s						
MATP	**Matopo**	**36.41**	**252**	P	**P**	**05 50 36.8**	**+0.3**
	comp=Z,6.3nm,1.0s,baz=54,slow=7.3,SNR=8.7						
LBTB	**Lobatse**	**39.80**	**245**	P	**P**	**05 51 05.7**	**+0.7**
	comp=Z,5.9nm,0.7s,baz=87,slow=7.2,SNR=12						
LBTB	**Lobatse**	**39.80**	**245**	*e*P	**P**	**05 51 05.8**	**+0.9**
RAYN	**Ar Rayn**	**40.48**	**331**	*e*P	**P**	**05 51 09.8**	**-0.7**
	comp=Z,7.6nm,1.1s						
BOSA	**Boshof**	**40.92**	**240**	P	**P**	**05 51 14.8**	**+0.6**
	comp=Z,4.8nm,1.0s,baz=91,slow=7.8,SNR=5.8						
BOSA				LR	LR	06 04 53.0	
	comp=Z,413nm,20.2s,baz=100,slow=31						
CMAR	**Chiang Mai Arr**	**44.84**	**48**	P	**P**	**05 51 46.1**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=240,slow=8.8,SNR=8.0						
CHTO	**Chiang Mai**	**45.07**	**47**	P	P	05 51 52.7	+4.9
	comp=Z,24nm,1.4s						
CMMT	**Chiang Mai**	**45.08**	**47**	P	P	05 51 52.7	+4.8
	comp=Z,6.8nm,1.3s						
PBKT	**Sadao Pong**	**45.19**	**52**	P	P	05 51 53.6	+4.9
	comp=Z,9.2nm,1.1s						
UTTA	**Uttaradit**	**45.58**	**50**	P	P	05 51 55.8	+4.0
	comp=Z,2.5nm,0.8s						
KBL	**Kabul**	**46.53**	**4**	*e*P	**P**	**05 51 58.5**	**-0.8**
KBL	**Kabul**	**46.53**	**4**	*e*P	**P**	**05 51 58.5**	**-0.8**
LSA	**Lhasa**	**48.38**	**30**	*e*P	**P**	**05 52 14.1**	**0.0**
LSA				pmax	pmax		
	comp=Z,38nm,1.2s						
LSA	**Lhasa**	**48.38**	**30**	*e*P	**P**	**05 52 14.1**	**0.0**
	comp=Z,38nm,1.2s						
KSH	**Kashi**	**52.29**	**10**	P	P	05 52 39.0	-4.1
KSH				pP	pP	05 52 43.5	-5.7
KSH				PcS	**PcS**	**05 57 49.6**	**-3.1**
KSH				S	S	05 59 57.9	-10
KSH				ScS	**ScS**	**06 02 25.8**	**-6.6**
KSH				SS	SS	06 03 32.0	-14
KSH				PMZ			
	comp=Z,44nm,1.2s						
KSH				LN			
	comp=Z,190nm,11.3s						
KSH				LE			
	comp=Z,380nm,11.2s						
KSH				LZ			
	comp=Z,400nm,17.1s						
KAPI	**Kappang**	**54.02**	**87**	*e*P	**P**	**05 52 56.4**	**+0.1**
	comp=Z,1.9nm,0.9s						
EKS2	**Erkin-Say**	**55.04**	**7**	*e*P	**P**	**05 53 03.6**	**+0.4**
EKS2				pmax	pmax		
	comp=Z,30nm,1.4s						
EKS2	**Erkin-Say**	**55.04**	**7**	*e*P	**P**	**05 53 03.6**	**+0.4**
	comp=Z,30nm,1.4s						
AAK	**Ala-Archa**	**55.11**	**8**	P	**P**	**05 53 05.1**	**+1.3**
	comp=Z,2.0nm,0.5s,baz=178,slow=7.4,SNR=10						
AAK	**Ala-Archa**	**55.11**	**8**⇑	*e*P	**P**	**05 53 04.4**	**+0.6**
AAK				pmax	pmax		
	comp=Z,36nm,1.7s						
AAK	**Ala-Archa**	**55.11**	**8**	*e*P	**P**	**05 53 05.2**	**+1.4**
KKAR	**Karatay Array**	**55.15**	**4**	*e*P	**P**	**05 53 05.1**	**+1.2**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KKAR	**Karatay Array**	**55.15**	**4**	*e*P	**P**	**05 53 05.0**	**+1.2**
	comp=Z,3.7nm,0.8s						
GYA	**Guiyang**	**55.41**	**46**	P	**P**	**05 53 09.0**	**+2.8**
GYA				PP	PP	05 55 15.4	+5.1
GYA				ScP	**ScP**	**05 58 05.8**	**+1.2**
GYA				S	**S**	**06 00 53.0**	**+2.7**
GYA				SS	**SS**	**06 04 39.4**	**+4.0**
GYA				PMZ			
	comp=Z,10.0nm,1.0s						
GYA				PMZ			
	comp=Z,110nm,4.9s						
GYA				LN			
	comp=Z,480nm,19.4s						
GYA				LE			
	comp=Z,360nm,20.0s						
GYA				LZ			
	comp=Z,410nm,19.8s						
MAW	**Mawson**	**55.45**	**181**	LR	LR	06 10 38.4	
	comp=Z,251nm,21.5s,baz=36,slow=29						
GNI	**Garni**	**55.47**	**341**⇓	*e*P	**P**	**05 53 05.3**	**-1.1**
GNI				pmax	pmax		
	comp=Z,21nm,1.0s						
TKM2	**Tokmak 2**	**55.55**	**9**	*e*P	**P**	**05 53 05.8**	**-1.2**
TKM2				pmax	pmax		
	comp=Z,9.0nm,0.9s						
TKM2	**Tokmak 2**	**55.55**	**9**	*e*P	**P**	**05 53 05.8**	**-1.2**
	comp=Z,9.0nm,0.9s						
CD2	**Chengdu**	**56.40**	**40**	P	**P**	**05 53 13.9**	**+0.8**
CD2				S	**S**	**06 01 01.1**	**-2.0**
CD2				PMZ			
	comp=Z,20nm,1.1s						
WMQ	**Urumqi**	**59.24**	**19**	P	**P**	**05 53 34.6**	**+1.8**
WMQ				pP	**pP**	**05 53 39.3**	**+0.3**
WMQ				sP	**sP**	**05 53 41.6**	**+0.3**
WMQ				PcP	**PcP**	**05 54 24.0**	**+3.0**
WMQ				PP	**PP**	**05 55 47.6**	**+3.6**
WMQ				PcS	**PcS**	**05 58 22.8**	**-0.1**
WMQ				S	**S**	**06 01 40.1**	**+0.2**
WMQ				SS	**SS**	**06 05 34.3**	**-0.7**
WMQ				PMZ			
	comp=Z,19nm,0.6s						
WMQ				PMZ			
	comp=Z,180nm,4.4s						
WMQ				LN			
	comp=Z,280nm,14.2s						
WMQ				LE			
	comp=Z,230nm,13.6s						
WMQ				LZ			
	comp=Z,260nm,22.0s						
KBZ	**Khabaz**	**59.29**	**341**	P	**P**	**05 53 31.3**	**-1.8**
	comp=Z,1.5nm,0.6s,baz=233,slow=20,SNR=3.5						
KBZ				LR	LR	06 19 59.4	
	comp=Z,221nm,18.4s,baz=121,slow=37						
KIV	**Kislovodsk**	**59.56**	**341**	*e*P	**P**	**05 53 34.4**	**-0.7**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
LZH	**Lanzhou**	**60.07**	**35**	*e*P	P	05 53 42.3	+3.5
LZH				pP	pP	05 53 47.1	+2.1
LZH				sP	sP	05 53 49.3	+2.0
LZH				PMZ			
	comp=Z,14nm,1.0s						
GTA	**Gaotai**	**60.40**	**30**	*e*P	**P**	**05 53 42.6**	**+1.6**
GTA				pP	**pP**	**05 53 47.1**	**-0.1**
GTA				sP	**sP**	**05 53 49.6**	**+0.1**
GTA				PcP	**PcP**	**05 54 27.4**	**+1.5**
GTA				S	**S**	**06 02 00.6**	**+5.3**
GTA				sS	**sS**	**06 02 07.8**	**+2.4**
GTA				SS	SS	06 06 01.8	+8.3
GTA				PMZ			
	comp=Z,11nm,1.3s						
GTA				PMZ			
	comp=Z,220nm,4.9s						
GTA				LN			
	comp=Z,150nm,17.1s						
GTA				LE			
	comp=Z,250nm,18.0s						
GTA				LZ			
	comp=Z,240nm,16.6s						
MK31	**Makanchi Array**	**60.55**	**13**	*e*P	**P**	**05 53 41.2**	**-0.6**
MK31	**Makanchi Array**	**60.55**	**13**	*e*P	**P**	**05 53 41.2**	**-0.6**
MKAR	**Makanchi Array**	**60.55**	**13**	P	**P**	**05 53 39.9**	**-1.8**
	comp=Z,1.3nm,0.6s,baz=224,slow=11,SNR=9.9						
MKAR				LR	LR	06 18 46.7	
	comp=Z,133nm,20.4s,baz=179,slow=35						
ABKAR	**Akbulak array**	**61.31**	**356**	*e*P	**P**	**05 53 45.7**	**-1.1**
XAN	**Xi'an**	**61.73**	**40**	P	**P**	**05 53 49.9**	**-0.1**
XAN				pP	**pP**	**05 53 55.3**	**-0.9**
XAN				PMZ			
	comp=Z,2.0nm,0.8s						
CASY	**Casey**	**61.93**	**161**	*e*P	**P**	**05 53 49.6**	**-1.2**
	comp=Z,10.0nm,1.1s						
WHN	**Wuhan**	**63.27**	**47**	⇓P	P	05 54 07.3	+7.0
KURK	**Kurchatov**	**63.61**	**9**	*e*P	**P**	**05 54 01.7**	**-0.5**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KURK	**Kurchatov**	**63.61**	**9**	*e*P	**P**	**05 54 01.7**	**-0.5**
	comp=Z,8.6nm,0.9s						
BRVK	**Borovoye**	**65.05**	**3**	*e*P	**P**	**05 54 13.8**	**+2.2**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BRVK	**Borovoye**	**65.05**	**3**	*e*P	**P**	**05 54 13.8**	**+2.2**
	comp=Z,6.0nm,0.8s						
AS31	**Alice Springs**	**65.58**	**111**	*e*P	**P**	**05 54 15.6**	**-0.1**
TIRR	**Tirgusor**	**65.61**	**332**	*e*P	**P**	**05 54 14.6**	**-0.8**
TIRR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
TIRR	**Tirgusor**	**65.61**	**332**⇓	*i*P	**P**	**05 54 14.9**	**-0.5**
TIRR	**Tirgusor**	**65.61**	**332**	*e*P	**P**	**05 54 14.6**	**-0.8**
	comp=Z,9.6nm,0.9s						
TLB	**Topalu**	**65.88**	**332**	⇓P	**P**	**05 54 16.1**	**-1.0**
TLB	**Topalu**	**65.88**	**332**	⇓*i*P	**P**	**05 54 16.1**	**-1.0**
WRA	**Warramunga Arr**	**66.23**	**107**	P	**P**	**05 54 18.8**	**-1.2**
	comp=Z,6.8nm,0.8s,baz=273,slow=5.7,SNR=36						
WRA				LR	LR	06 21 39.0	
	comp=Z,291nm,18.8s,baz=320,slow=35						
WRAB	**Tennant Creek**	**66.24**	**107**	*e*P	**P**	**05 54 19.1**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,13nm,0.9s						
WRAB	**Tennant Creek**	**66.24**	**107**	*e*P	**P**	**05 54 19.1**	**-1.0**
	comp=Z,13nm,0.9s						
CFR	**Carcaliu**	**66.29**	**332**⇑	P	**P**	**05 54 19.8**	**+0.1**
CFR	**Carcaliu**	**66.29**	**332**⇑	*i*P	**P**	**05 54 19.8**	**+0.1**
VTS	**Vitosha**	**66.83**	**327**⇑	P	**P**	**05 54 23.7**	**+0.2**
VTS	**Vitosha**	**66.83**	**327**⇑	*i*P	**P**	**05 54 23.7**	**+0.2**
NJ2	**Nanjing**	**67.32**	**48**	*e*P	**P**	**05 54 27.3**	**+0.7**
NJ2				PMZ			
	comp=Z,40nm,0.6s						
VRI	**Vrincioaia**	**67.46**	**332**⇑	P	**P**	**05 54 27.6**	**+0.4**
VRI	**Vrincioaia**	**67.46**	**332**⇑	*i*P	**P**	**05 54 27.6**	**+0.4**
PLOR	**Plostina**	**67.48**	**332**⇑	P	**P**	**05 54 27.5**	**+0.1**
PLOR	**Plostina**	**67.48**	**332**⇑	*i*P	**P**	**05 54 27.5**	**+0.1**
MLR	**Muntele Rosu**	**67.54**	**331**⇑	P	**P**	**05 54 29.3**	**+1.4**
MLR	**Muntele Rosu**	**67.54**	**331**⇑	*i*P	**P**	**05 54 29.3**	**+1.4**
HHC	**Hu-ho-hao-te**	**67.73**	**36**	*e*P	**P**	**05 54 31.5**	**+2.3**
HHC				S	**S**	**06 03 26.5**	**+0.4**
HHC				SS	**SS**	**06 07 51.8**	**+3.9**
HHC				PMZ			
	comp=Z,26nm,0.9s						
HHC				PMZ			
	comp=Z,100nm,5.6s						
HHC				LN			
	comp=Z,220nm,16.0s						
HHC				LE			
	comp=Z,230nm,14.8s						
HHC				LZ			
	comp=Z,220nm,17.3s						
ZAA0	**Zalesovo Array**	**67.84**	**12**	*e*P	**P**	**05 54 30.0**	**+0.6**
ZALV	**Zalesovo Beam**	**67.84**	**12**	P	**P**	**05 54 27.6**	**-1.8**
	comp=Z,1.8nm,0.5s,baz=234,slow=5.1,SNR=12						
ZALV				LR	LR	06 23 26.3	
	comp=Z,187nm,18.1s,baz=250,slow=35						
VOIR		**67.93**	**330**⇑	P	**P**	**05 54 30.4**	**+0.1**
VOIR		**67.93**	**330**⇑	*i*P	**P**	**05 54 30.4**	**+0.1**
ARR	**Arges**	**68.08**	**330**⇑	*i*P	**P**	**05 54 30.4**	**-0.8**
TORD	**Torodi Ar. Bea**	**68.09**	**290**	P	**P**	**05 54 31.2**	**-0.6**
	comp=Z,3.1nm,1.1s,baz=119,slow=4.6,SNR=11						
TORD				LR	LR	06 22 28.7	
	comp=Z,247nm,20.4s,baz=115,slow=34						
NVS	**Novosibirsk**	**68.37**	**11**	*i* P	**P**	**05 54 32.8**	**+0.1**
ARU	**Arti**	**68.54**	**356**	*d* iP	**P**	**05 54 34.0**	**+0.2**
ARU				S	**S**	**06 03 39.1**	**+4.2**
ARU				SS	**SS**	**06 07 53.3**	**-6.2**
ARU				pmax	pmax		
	comp=Z,29nm,2.5s						
ARU	**Arti**	**68.54**	**356**	*e*P	**P**	**05 54 36.1**	**+2.3**
GZR	**Gura Zlata**	**69.02**	**329**⇑	P	**P**	**05 54 37.7**	**+0.6**
GZR	**Gura Zlata**	**69.02**	**329**⇑	*i*P	**P**	**05 54 37.7**	**+0.6**
BUR08	**Bucovina Ar. S**	**69.48**	**332**	*e*P	**P**	**05 54 39.3**	**-0.6**
DIVS	**Divibare**	**69.58**	**327**⇑	*i*P	**P**	**05 54 41.1**	**+0.5**
BZS	**Buzias**	**69.76**	**329**⇑	P	**P**	**05 54 41.5**	**0.0**
BZS	**Buzias**	**69.76**	**329**⇑	*i*P	**P**	**05 54 41.5**	**0.0**
SONM	**Songino Array**	**69.88**	**28**	P	**P**	**05 54 42.1**	**-0.3**
	comp=Z,7.0nm,1.0s,baz=218,slow=6.0,SNR=20						
SONM				LR	LR	06 24 11.4	
	comp=Z,380nm,20.1s,baz=247,slow=35						
DRGR		**70.04**	**330**⇓	P	**P**	**05 54 43.2**	**-0.1**
DRGR		**70.04**	**330**⇓	*i*P	**P**	**05 54 43.2**	**-0.1**
AK02	**Malin Array Si**	**70.08**	**336**	*e*P	**P**	**05 54 42.4**	**-1.0**
AK01	**Malin Array Si**	**70.11**	**336**	*e*P	**P**	**05 54 42.3**	**-1.2**
AKASG	**Malin Array Be**	**70.11**	**336**	P	**P**	**05 54 41.8**	**-1.8**
	comp=Z,2.1nm,0.7s,baz=126,slow=4.8,SNR=5.4						
AKASG				LR	LR	06 26 25.8	
	comp=Z,76nm,18.4s,baz=80,slow=37						
KIEV	**Kiev**	**70.11**	**336**	*e*P	**P**	**05 54 42.0**	**-1.6**
KIEV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KIEV	**Kiev**	**70.11**	**336**	*e*P	**P**	**05 54 42.0**	**-1.6**
	comp=Z,8.0nm,1.0s						
SIRR	**Siria**	**70.19**	**329**⇑	*i*P	**P**	**05 54 44.2**	**0.0**
ULN	**Ulaanbaatar**	**70.21**	**28**⇑	*e*P	**P**	**05 54 44.6**	**+0.1**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ULN	**Ulaanbaatar**	**70.21**	**28**	*e*P	**P**	**05 54 45.8**	**+1.3**
ZAK	**Zakamensk**	**70.45**	**25**	*e*P	**P**	**05 54 44.4**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
OBN	**Obninsk**	**71.28**	**343**⇓	*e*P	**P**	**05 54 50.2**	**-0.4**
OBN				pmax	pmax		
	comp=Z,40nm,1.7s						
MOS	**Moscow**	**71.53**	**344**	*e*P	**P**	**05 54 50.8**	**-1.3**
UZH	**Uzhgorod**	**71.54**	**331**	⇓*i*P	**P**	**05 54 51.5**	**-0.8**
UZH				*i*		05 55 14.5	
TLY	**Talaya**	**71.60**	**24**	*e*P	**P**	**05 54 53.2**	**+0.5**
TLY				pmax	pmax		
	comp=Z,7.0nm,1.4s						
TLY				MLR	MLR		
	comp=Z,69nm,14.0s						
TLY	**Talaya**	**71.60**	**24**	*e*P	**P**	**05 54 54.8**	**+2.2**
LVV	**L'vov**	**71.60**	**333**	*e*P	P	05 55 00.9	+8.2
PKSM	**Moragy**	**71.69**	**328**	⇑P	**P**	**05 54 52.3**	**-1.0**
PKSM	**Moragy**	**71.69**	**328**	⇑*i*P	**P**	**05 54 52.3**	**-1.0**
STKA	**Stephens Creek**	**71.95**	**120**	P	**P**	**05 54 54.2**	**-1.1**
	comp=Z,2.0nm,0.8s,baz=278,slow=7.0,SNR=4.4						
STKA				LR	LR	06 22 29.5	
	comp=Z,349nm,19.8s,baz=253,slow=32						
KWP	**Kalwaria Pacla**	**72.06**	**332**	*e*P	**P**	**05 54 55.4**	**-0.1**
KWP				pmax	pmax		
	comp=Z,108nm,0.3s						
KWP	**Kalwaria Pacla**	**72.06**	**332**	*e*P	**P**	**05 54 55.4**	**-0.1**
	comp=Z,108nm,0.3s						
KIC	**Kosan Boka**	**72.22**	**281**	*e*P	**P**	**05 54 56.7**	**-0.5**
	comp=Z,47nm,1.1s						
DBIC	**Dimbokro**	**72.40**	**281**	P	**P**	**05 54 57.6**	**-0.6**
	comp=Z,11nm,1.0s,baz=87,slow=11,SNR=5.3						
DBIC				LR	LR	06 25 57.3	
	comp=Z,121nm,19.7s,baz=88,slow=35						
LIC	**Lamto**	**72.46**	**281**	*e*P	**P**	**05 54 58.4**	**-0.2**
	comp=Z,77nm,1.4s						
LIC				*e*R			
	comp=Z,298nm,21.2s						
LIC	**Lamto**	**72.46**	**281**	*e*P	**P**	**05 54 58.1**	**-0.5**
	comp=Z,71nm,1.4s						
LIC	**Lamto**	**72.46**	**281**	*e*P	**P**	**05 54 58.4**	**-0.2**
	comp=Z,77nm,1.4s						
TIC	**Toumodi**	**72.56**	**281**	*e*P	**P**	**05 54 57.9**	**-1.3**
	comp=Z,65nm,1.5s						
VYHS	**Vyhne**	**73.11**	**330**	*e*P	**P**	**05 55 01.1**	**-0.7**
VYHS				*e*		05 55 11.4	
VYHS				pmax	pmax		
	comp=Z,8.0nm,1.3s						
VYHS	**Vyhne**	**73.11**	**330**	*e*P	**P**	**05 55 01.1**	**-0.7**
VYHS				*e*		05 55 11.4	
SOKA	**Soboth**	**73.91**	**326**⇑	*i*P	**P**	**05 55 06.5**	**-0.1**
	comp=Z,13nm,1.8s						
CONA	**Conrad Observa**	**74.25**	**328**⇑	*i*P	**P**	**05 55 08.3**	**-0.2**
	comp=Z,19nm,1.3s						
OKC	**Ostrava-Krasne**	**74.34**	**330**	*e*P	**P**	**05 55 08.8**	**-0.1**
OKC	**Ostrava-Krasne**	**74.34**	**330**	*e*P	**P**	**05 55 08.8**	**-0.1**
KBA	**Koelnbreinsper**	**75.07**	**326**⇑	*i*P	**P**	**05 55 13.8**	**+0.4**
	comp=Z,8.0nm,0.8s						
ABTA	**Abfaltersbach**	**75.33**	**325**⇑	*i*P	**P**	**05 55 14.7**	**-0.1**
	comp=Z,18nm,1.2s						
DPC	**Dobruska-Polom**	**75.57**	**330**	*e*P	**P**	**05 55 15.5**	**-0.6**
DPC				*ex*	x	05 55 24.5	
DPC	**Dobruska-Polom**	**75.57**	**330**	*e*P	**P**	**05 55 15.5**	**-0.6**
DPC				*e*		05 55 24.5	
KLMR	**Klimovskoe**	**75.62**	**347**	*e*P	**P**	**05 55 14.7**	**-1.3**
KLMR				*e*		05 55 27.9	
KLMR				pmax	pmax		
	comp=Z,19nm,1.2s						
GERES	**GERESS Array B**	**75.95**	**328**	P	**P**	**05 55 17.6**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=134,slow=7.6,SNR=10						
GOPC	**GO Pecny, Ondr**	**76.05**	**329**	*e*P	**P**	**05 55 18.6**	**-0.2**
GOPC				*ex*	x	05 55 26.5	
WTTA	**Wattenberg**	**76.12**	**325**⇑	*i*P	**P**	**05 55 19.0**	**-0.5**
	comp=Z,21nm,1.3s						
KHC	**Kasperske Hory**	**76.19**	**328**	*e*P	**P**	**05 55 17.8**	**-1.8**
KHC				*e*pP	**pP**	**05 55 26.4**	**+0.5**
KHC	**Kasperske Hory**	**76.19**	**328**	*e*P	**P**	**05 55 17.8**	**-1.8**
KHC				*e*		05 55 26.4	
WATA	**Walderalm**	**76.20**	**326**⇑	*i*P	**P**	**05 55 19.9**	**+0.1**
	comp=Z,12nm,0.9s						
PRU	**Pruhonice**	**76.22**	**329**	*e*P	**P**	**05 55 19.4**	**-0.4**
PRU				*ex*	x	05 55 27.2	
PRU	**Pruhonice**	**76.22**	**329**	*e*P	**P**	**05 55 19.4**	**-0.4**
PRU				*e*		05 55 27.2	
PRA	**Prague**	**76.33**	**329**	*e*P	**P**	**05 55 20.3**	**0.0**
PRA				*ex*	x	05 55 28.9	
PRA	**Prague**	**76.33**	**329**	*e*P	**P**	**05 55 20.3**	**0.0**
PRA				*e*		05 55 28.9	
PRA				MLR	MLR		
	comp=Z,2μm,20.6s						
KSAR	**Wonju Array Be**	**76.43**	**47**	P	**P**	**05 55 22.1**	**+0.9**
KSAR	**Wonju Array Be**	**76.43**	**47**	P	**P**	**05 55 22.1**	**+0.9**
KSRS	**Korea Array**	**76.46**	**47**	P	**P**	**05 55 22.1**	**+0.7**
	comp=Z,2.5nm,0.9s,baz=243,slow=6.3,SNR=11						
MOTA	**Moosalm**	**76.46**	**325**⇑	*i*P	**P**	**05 55 21.1**	**-0.3**
	comp=Z,14nm,1.0s						
FETA	**Feichten**	**76.49**	**325**⇑	*i*P	**P**	**05 55 21.0**	**-0.6**
	comp=Z,12nm,1.1s						
FUORN	**Ofenpass-Fuorn**	**76.52**	**324**	*e*P	**P**	**05 55 22.0**	**+0.2**
	comp=Z,8.0nm,0.9s						
PVCC	**Panska Ves**	**76.55**	**329**	*

comp=Z,22nm,1.2s
LPG La Plagne 77.97 322 *e*P P 05 55 30.2 +0.1
comp=Z,22nm,1.2s
LPL La Plagne 77.99 322 *e*P P 05 55 30.3 +0.2
comp=Z,27nm,1.3s
LPL La Plagne 77.99 322 *e*P P 05 55 30.3 +0.2
LPL pmax pmax
comp=Z,27nm,1.3s
LPL La Plagne 77.99 322 *e*P P 05 55 30.3 +0.2
comp=Z,27nm,1.3s
SENIN Lac Senin/Sane 78.10 323 *e*P P 05 55 30.3 -0.3
ORIF Oris-en-Rattie 78.20 321 *e*P P 05 55 31.1 0.0
comp=Z,62nm,1.6s
ORIF Oris-en-Rattie 78.20 321 *e*P P 05 55 31.1 0.0
ORIF pmax pmax
comp=Z,62nm,1.6s
ORIF Oris-en-Rattie 78.20 321 *e*P P 05 55 31.1 0.0
comp=Z,62nm,1.6s
BFO Black Forest 78.56 325 *i* P P 05 55 33.2 +0.3
VIVF Saint-Julien-l 78.92 321 *e*P P 05 55 35.1 +0.1
comp=Z,15nm,0.9s
VIVF Saint-Julien-l 78.92 321 *e*P P 05 55 35.1 +0.1
VIVF pmax pmax
comp=Z,15nm,0.9s
VIVF Saint-Julien-l 78.92 321 *e*P P 05 55 35.1 +0.1
comp=Z,15nm,0.9s
CABF La Chapelle 78.94 323 *e*P P 05 55 35.2 0.0
CABF La Chapelle 78.94 323 *e*P P 05 55 35.2 0.0
CABF La Chapelle 78.94 323 *e*P P 05 55 35.2 0.0
HINF Hinteralfeld 79.12 324 *e*P P 05 55 35.2 -0.9
HINF Hinteralfeld 79.12 324 *e*P P 05 55 35.2 -0.9
HINF Hinteralfeld 79.12 324 *e*P P 05 55 35.2 -0.9
CDF Champ du Feu 79.20 325 *e*P P 05 55 36.0 -0.5
comp=Z,16nm,1.0s
CDF Champ du Feu 79.20 325 *e*P P 05 55 36.0 -0.5
CDF pmax pmax
comp=Z,16nm,1.0s
CDF Champ du Feu 79.20 325 *e*P P 05 55 36.0 -0.5
comp=Z,16nm,1.0s
SSB Saint Sauveur 79.21 321 *e*P P 05 55 36.5 -0.1
SSB pmax pmax
comp=Z,10.0nm,1.3s
SSB Saint Sauveur 79.21 321 *e*P P 05 55 36.5 -0.1
comp=Z,10nm,1.3s
HAU Haudompre 79.51 324 *e*P P 05 55 37.5 -0.7
HAU Haudompre 79.51 324 *e*P P 05 55 37.5 -0.7
HAU Haudompre 79.51 324 *e*P P 05 55 37.5 -0.7
VNDA Vanda 79.62 167 P P 05 55 38.4 +0.1
comp=Z,2.0nm,0.9s,baz=260,slow=6.9,SNR=5.4
VNDA LR LR 06 25 51.1
comp=Z,155nm,20.5s,baz=269,slow=32
VNDA Vanda 79.62 167 *e*P P 05 55 38.3 +0.1
VNDA pmax pmax
comp=Z,9.0nm,1.4s
VNDA Vanda 79.62 167 *e*P P 05 55 38.3 +0.1
comp=Z,8.6nm,1.4s
FINES FINESS Array B 79.64 342 P P 05 55 37.4 -1.1
comp=Z,2.3nm,0.8s,baz=139,slow=9.1,SNR=5.2
FINES LR LR 06 30 50.9
comp=Z,72nm,20.5s,baz=92,slow=36
MTLF Montolieu 79.75 319 *e*P P 05 55 39.9 +0.4
comp=Z,12nm,0.8s
MTLF Montolieu 79.75 319 *e*P P 05 55 39.9 +0.4
MTLF pmax pmax
comp=Z,12nm,0.8s
MTLF Montolieu 79.75 319 *e*P P 05 55 39.9 +0.4
comp=Z,12nm,0.8s
PAGF Fort de Pagny 80.15 324 *e*P P 05 55 41.4 -0.2
PAGF Fort de Pagny 80.15 324 *e*P P 05 55 41.4 -0.2
SMF Signal de Mont 80.30 322 *e*P P 05 55 42.1 -0.3
SMF Signal de Mont 80.30 322 *e*P P 05 55 42.1 -0.3
SMF Signal de Mont 80.30 322 *e*P P 05 55 42.1 -0.3
SFTF Sexfontaines 80.37 324 *e*P P 05 55 42.8 0.0
SFTF Sexfontaines 80.37 324 *e*P P 05 55 42.8 0.0
CAF Calviac 80.58 320 *e*P P 05 55 44.3 +0.3
CAF Calviac 80.58 320 *e*P P 05 55 44.3 +0.3
CAF Calviac 80.58 320 *e*P P 05 55 44.3 +0.3
LOR Lormes 80.59 323⇑ *i*P P 05 55 43.8 -0.2
comp=Z,7.4nm,0.8s
LOR Lormes 80.59 323⇑ *i*P P 05 55 43.8 -0.2
LOR pmax pmax
comp=Z,7.0nm,0.8s
LOR Lormes 80.59 323⇑ *i*P P 05 55 43.8 -0.2
comp=Z,7.4nm,0.8s
SSF Saint Saulge 80.70 322⇑ *i*P P 05 55 44.5 -0.1
comp=Z,31nm,1.1s
SSF Saint Saulge 80.70 322⇑ *i*P P 05 55 44.5 -0.1
SSF pmax pmax
comp=Z,31nm,1.1s
SSF Saint Saulge 80.70 322⇑ *i*P P 05 55 44.5 -0.1
comp=Z,31nm,1.1s
MDJ Mudanjiang 80.84 41 P P 05 55 46.9 +1.6
MDJ PMZ
comp=Z,17nm,0.7s
MDJ PMZ
comp=Z,76nm,4.8s
BGF Bois d'Agland 80.86 322 *e*P P 05 55 45.8 +0.4
comp=Z,53nm,1.3s
BGF Bois d'Agland 80.86 322 *e*P P 05 55 45.8 +0.4
BGF pmax pmax
comp=Z,53nm,1.3s
BGF Bois d'Agland 80.86 322 *e*P P 05 55 45.8 +0.4
comp=Z,53nm,1.3s
RJF Les Rejaudoux 81.10 320 *e*P P 05 55 47.2 +0.5
comp=Z,17nm,0.8s
RJF Les Rejaudoux 81.10 320 *e*P P 05 55 47.2 +0.5
RJF pmax pmax
comp=Z,17nm,0.8s
RJF Les Rejaudoux 81.10 320 *e*P P 05 55 47.2 +0.5
comp=Z,17nm,0.8s
ETSF Etsaut 81.38 317 *e*P P 05 55 49.0 +0.6
ETSF Etsaut 81.38 317 *e*P P 05 55 49.0 +0.6
ETSF Etsaut 81.38 317 *e*P P 05 55 49.0 +0.6
GIVF Givet 81.45 325 *e*P P 05 55 48.7 +0.2
GIVF Givet 81.45 325 *e*P P 05 55 48.7 +0.2
GIVF Givet 81.45 325 *e*P P 05 55 48.7 +0.2
BAIF Baives 81.77 325 *e*P P 05 55 50.6 +0.4
comp=Z,49nm,1.3s
BAIF Baives 81.77 325 *e*P P 05 55 50.6 +0.4
BAIF pmax pmax
comp=Z,49nm,1.3s
BAIF Baives 81.77 325 *e*P P 05 55 50.6 +0.4
comp=Z,49nm,1.3s
SJPF Ste Jean 81.91 317 *e*P P 05 55 51.7 +0.6
comp=Z,18nm,0.8s
SJPF Ste Jean 81.91 317 *e*P P 05 55 51.7 +0.6
SJPF pmax pmax
comp=Z,18nm,0.8s
SJPF Ste Jean 81.91 317 *e*P P 05 55 51.7 +0.6
comp=Z,18nm,0.8s
USRK Ussuriysk Ar. 82.20 42 P P 05 55 52.5 0.0
comp=Z,3.1nm,0.8s,baz=289,slow=5.8,SNR=6.4
ESDC Sonseca Array 82.42 313 P P 05 55 54.3 +0.4
comp=Z,3.0nm,0.6s,baz=102,slow=4.4,SNR=21
PAB San Pablo 82.64 313 *e*P P 05 55 55.5 +0.4
PAB San Pablo 82.64 313 *e*P P 05 55 55.5 +0.4
MFF Saint Martin d 82.72 321 *e*P P 05 55 55.4 +0.2
MFF Saint Martin d 82.72 321 *e*P P 05 55 55.4 +0.2
MFF Saint Martin d 82.72 321 *e*P P 05 55 55.4 +0.2
LDF La Druitiere 83.58 323 *e*P P 05 55 59.7 +0.1
comp=Z,21nm,1.0s
LDF La Druitiere 83.58 323 *e*P P 05 55 59.7 +0.1
LDF pmax pmax
comp=Z,21nm,1.0s
LDF La Druitiere 83.58 323 *e*P P 05 55 59.7 +0.1
comp=Z,21nm,1.0s
MJAR Matsushiro Arr 83.65 51 P P 05 56 01.7 +1.4
comp=Z,3.1nm,0.9s,baz=250,slow=4.6,SNR=9.6
FLN La Foliniere 83.87 323 *e*P P 05 56 01.1 0.0
FLN La Foliniere 83.87 323 *e*P P 05 56 01.1 0.0
FLN La Foliniere 83.87 323 *e*P P 05 56 01.1 0.0
GRR Gorron 83.93 322 *e*P P 05 56 01.4 0.0
comp=Z,26nm,1.3s
GRR Gorron 83.93 322 *e*P P 05 56 01.4 0.0
GRR pmax pmax
comp=Z,26nm,1.3s
GRR Gorron 83.93 322 *e*P P 05 56 01.4 0.0
comp=Z,26nm,1.3s
NB2 NORSAR Subarra 84.52 337 P P 05 56 04.1 -0.1
comp=Z,5.4nm,1.1s,baz=127,slow=5.1
NOA NORSAR Array B 84.52 337 P P 05 56 04.1 -0.1
comp=Z,2.0nm,0.8s,baz=118,slow=5.0,SNR=4.0
NOA LR LR 06 36 05.4
comp=Z,36nm,18.4s,baz=90,slow=37
SGMF Saint Gilles 84.90 322 *e*P P 05 56 06.0 -0.3
SGMF Saint Gilles 84.90 322 *e*P P 05 56 06.0 -0.3
EVO Evora 84.95 311 *e*P P 05 56 07.3 +0.5
comp=Z,46nm,1.5s
EVO *e*R
comp=Z,145nm,19.0s
EVOP Sao Brissos 85.03 311 *e*P P 05 56 07.3 +0.1
EVOP pmax pmax
comp=Z,46nm,1.5s
EVOP Sao Brissos 85.03 311 *e*P P 05 56 07.3 +0.1
comp=Z,46nm,1.5s
QUIF Quistinic 85.14 321 *e*P P 05 56 07.1 -0.4
QUIF Quistinic 85.14 321 *e*P P 05 56 07.1 -0.4
QUIF Quistinic 85.14 321 *e*P P 05 56 07.1 -0.4
ARCES ARCESS Array B 86.09 347 P P 05 56 12.2 +0.3
comp=Z,3.3nm,0.7s,baz=156,slow=6.1,SNR=13
ARCES LR LR 06 34 42.2
comp=Z,103nm,21.3s,baz=126,slow=36
YAK Yakutsk 89.03 25 LR LR 06 36 31.4
comp=Z,115nm,18.4s,baz=267,slow=36
TIXI Tiksi 93.38 16 *e*P P 05 56 46.3 +0.2
TIXI pmax pmax
comp=Z,8.0nm,1.1s
TIXI Tiksi 93.38 16 *e*P P 05 56 46.3 +0.2
comp=Z,8.4nm,1.1s
SEY Seymchan 99.27 28 *e*P Pdif 05 57 15.0 +2.0
ILAR Eielson Array 122.85 16 PKP PKPdf 06 02 25.1 -2.1
comp=Z,0.3nm,0.7s,baz=305,slow=3.2,SNR=3.4
LPAZ La Paz 126.16 239 PKP PKPdf 06 02 35.5 -0.1
comp=Z,0.3nm,0.5s,baz=108,slow=6.4,SNR=2.4
YKA Yellowknife Ar 129.71 0 PKP PKPdf 06 02 40.2 0.0
comp=Z,0.8nm,0.7s,baz=352,slow=2.5,SNR=6.8
ULM Lac du Bonnet 139.03 342 PKP PKPdf 06 02 56.0 -2.0
comp=Z,0.9nm,0.8s,baz=11,slow=5.2,SNR=2.4
D23A Lindsay 144.20 349⇑PKPdf PKPbc 06 03 05.5 -0.2
baz=144
E26A Carlson Angus 144.28 346⇓PKPdf PKPbc 06 03 06.1 +0.2
baz=144
BSMT Bassoo Peak 144.39 0 *e*PKPdf PKPbc 06 03 06.5 +0.1
D22A Cohagen 144.39 350⇑PKPdf PKPbc 06 03 06.0 -0.3
baz=144
G30A Faulkton 144.59 341⇓PKPdf **PKPab 06 03 06.3 -0.4**
baz=144
E24A Baker 144.61 348⇑PKPdf **PKPab 06 03 06.5 -0.3**
baz=144
SWMT Swartz Lake 144.73 359 *e*PKPdf **PKPab 06 03 06.9 -0.4**
F27A Lemmon 144.73 345⇓PKPdf **PKPdf 06 03 08.0 -0.5**
baz=145
D20A Manuel Ranch, 144.74 352⇑PKPdf **PKPdf 06 03 07.8 -0.7**
baz=145
D19A Cripps Ranch, 144.75 353⇑PKPdf PKPbc 06 03 07.4 -0.1
baz=145
LAO LASA Array 144.85 350 *e*PKPdf **PKPdf 06 03 08.0 -0.7**
E23A Ismay 144.87 349⇓PKPdf **PKPdf 06 03 08.1 -0.6**
baz=145
F26A Lodgepole 144.92 346⇑PKPdf PKPbc 06 03 08.1 +0.1
baz=145
ECSD EROS Data Cent 144.93 337 *e*PKPdf **PKPab 06 03 07.6 -0.4**
ECSD EROS Data Cent 144.93 337⇓PKPdf PKPbc 06 03 07.8 -0.2
baz=145
LON Longmire 144.94 9 *e*PKIKP **PKPdf 06 03 08.9 +0.1**
LON Longmire 144.94 9 *e*PKPdf **PKPdf 06 03 08.9 +0.1**
SLMT Seeley Lake 144.99 359 *e*PKPdf PKPbc 06 03 08.2 -0.1
SCIA State Center 145.00 332 *e*PKPab **PKPab 06 03 07.9 -0.4**
F25A Bowman 145.03 347⇓PKPdf **PKPab 06 03 08.5 +0.1**
baz=145
E21A Keefer Ranch, 145.13 351⇑PKPdf **PKPbc 06 03 07.7 -0.9**
baz=145
BRSD Miller 145.14 340 *e*PKPbc **PKPbc 06 03 08.5 -0.2**
BRSD Miller 145.14 340⇑PKPdf **PKPdf 06 03 08.8 -0.4**
baz=145
G27A Dupree 145.17 344⇓PKPdf **PKPdf 06 03 09.1 -0.2**
baz=145
G28A Parade 145.17 343⇓PKPdf **PKPab 06 03 08.7 -0.1**
baz=145
CHMT Chamberlain Mo 145.31 359 *e*PKPbc **PKPbc 06 03 09.0 -0.4**
E20A Meyer Farm, Mu 145.31 352⇓PKPdf **PKPbc 06 03 08.8 -0.4**
baz=145
F24A Ekalaka 145.32 348⇓PKPdf **PKPbc 06 03 08.9 -0.5**
baz=145
H29A Onida 145.37 342⇑PKPdf **PKPbc 06 03 09.1 -0.4**
baz=145
MSO Missoula 145.41 359⇓PKPdf **PKPdf 06 03 09.5 -0.2**
baz=145
G26A Maurine 145.42 345⇑PKPdf **PKPbc 06 03 09.2 -0.4**
baz=145
E19A Rath Farm, Rou 145.44 353⇓PKPdf **PKPbc 06 03 09.1 -0.6**
baz=145
HRY Holter Researc 145.45 357 *e*PKPbc **PKPab 06 03 09.7 -0.3**
HAWA Hanford 145.58 6 *e*PKPdf **PKPab 06 03 10.1 -0.1**
F23A Volborg 145.64 349⇓PKPdf **PKPdf 06 03 09.8 -0.3**
baz=146
TIGA Tifton 145.65 309⇓PKPdf **PKPdf 06 03 09.7 -0.7**
baz=146
G25A Newell 145.71 346⇓PKPdf **PKPdf 06 03 09.7 -0.5**
baz=146
F22A Rosebud 145.74 350⇑PKPdf **PKPdf 06 03 10.1 -0.2**
baz=146
I30A Oacoma 145.77 340⇓PKPdf **PKPdf 06 03 10.2 -0.1**
baz=146
H27A Howes 145.90 344⇓PKPdf **PKPdf 06 03 10.0 -0.6**
baz=146
F20A Billings 146.01 352⇓PKPdf **PKPdf 06 03 10.1 -0.7**
baz=146
F19A Roth Farm, Mol 146.06 353⇑PKPdf **PKPdf 06 03 09.9 -1.0**
baz=146
H26A Fairpoint 146.10 345⇑PKPdf **PKPdf 06 03 09.8 -1.1**
baz=146
WVT Waverly 146.11 319 *e*PKP2 **PKPdf 06 03 10.7 -0.4**
WVT Waverly 146.11 319 *e*PKPdf **PKPdf 06 03 10.7 -0.4**
GCMT Greycliff 146.20 354 *e*PKPdf **PKPab 06 03 12.8 +0.1**
I28A Midland 146.23 343⇑PKPdf **PKPdf 06 03 10.0 -1.1**
baz=146
G22A Birney 146.28 350⇑PKPdf **PKPdf 06 03 10.3 -1.0**
baz=146
H25A Fruitdale 146.30 346⇓PKPdf **PKPdf 06 03 10.1 -1.2**
baz=146
J30A Dallas 146.31 340⇓PKPdf **PKPdf 06 03 09.8 -1.5**
baz=146
BOZ Bozeman (W) 146.50 356 *e*PKP2 **PKPdf 06 03 11.8 +0.1**
BOZ Bozeman (W) 146.50 356 *e*PKPdf **PKPdf 06 03 11.8 +0.1**
J29A Okreek 146.51 341⇓PKiKP **PKPbc 06 03 13.2 +0.2**
baz=146
G20A Bridger 146.59 352⇑PKiKP **PKPbc 06 03 13.3 0.0**
baz=146
J28A Allard Ranch, 146.78 342⇑PKiKP **PKPbc 06 03 14.0 +0.2**
baz=147
RLMT Red Lodge 146.81 353 *e*PKPdf **PKPbc 06 03 13.7 -0.4**
DLMT Dillon 146.84 358 *e*PKPdf **PKPdf 06 03 12.4 +0.1**
RSSD Black Hills 146.87 346 *e*PKP2 **PKPbc 06 03 14.0 -0.3**
RSSD Black Hills 146.87 346 *e*PKPdf **PKPbc 06 03 14.0 -0.3**
I25A Rochford 146.90 346⇑PKiKP **PKPbc 06 03 14.4 +0.1**
baz=147
K30A Basset 146.93 340⇑PKiKP **PKPab 06 03 14.8 -0.8**
baz=147
K29A Lazy Trails An 147.09 341⇓PKiKP **PKPbc 06 03 14.9 +0.2**
baz=147
I24A Kuemmerle Ranc 147.25 347⇑PKiKP **PKPbc 06 03 15.5 +0.3**
baz=147
BMO Blue Mountains 147.30 4 *e*PKIKP **PKPbc 06 03 14.5 -0.8**
BMO Blue Mountains 147.30 4 *e*PKPbc **PKPbc 06 03 14.5 -0.8**
QLMT Earthquake Lak 147.30 356 *e*PKPbc **PKPbc 06 03 16.0 +0.6**
LRAL Lakeview Retre 147.35 314 *e*PKPdf **PKPbc 06 03 14.3 -1.3**
MCMT McKenzie Canyo 147.38 358 *e*PKPbc **PKPbc 06 03 16.0 +0.3**
BGNE Belgrade 147.51 337 *e*PKPbc **PKPbc 06 03 15.6 -0.3**
H17A Grant Village 147.67 355 *e*PKPdf **PKPdf 06 03 12.9 -0.9**
L29A Maesberg Ranch 147.77 340⇑PKiKP **PKPbc 06 03 16.9 +0.3**
baz=148
I21A Big Trails, Te 147.82 350⇓PKiKP **PKPbc 06 03 17.1 +0.2**
baz=148
FLWY Flagg Ranch 147.99 355 *e*PKPbc **PKPbc 06 03 17.1 -0.3**
J22A Midwest 148.06 349⇑PKiKP **PKPbc 06 03 17.2 -0.2**
baz=148
I17A Pilgrim Ck. 148.14 355⇑PKiKP **PKPbc 06 03 17.6 -0.2**
baz=148
P35A Duane Minner, 148.18 332⇑PKiKP **PKPbc 06 03 17.1 -0.6**
baz=148
K25A Mack Ranch, Ha 148.25 345⇓PKiKP **PKPbc 06 03 17.2 -0.8**
baz=148
J21A Lysite 148.30 350⇑PKiKP **PKPbc 06 03 18.0 -0.2**
baz=148
MOOW Moose Ponds 148.32 355 *e*PKPbc **PKPbc 06 03 18.3 +0.1**
K24A Anderson Ranch 148.38 346⇑PKiKP **PKPbc 06 03 18.3 0.0**
baz=148
LOHW Long Hollow 148.45 355 *e*PKPbc **PKPbc 06 03 18.2 -0.4**
K23A Bowen Ranch, D 148.53 347⇑PKiKP **PKPbc 06 03 18.2 -0.5**
baz=148
TPAW Teton Pass 148.60 355 *e*PKPdf **PKPdf 06 03 16.3 +0.9**
J19A Crowheart 148.62 352⇓PKiKP **PKPbc 06 03 18.5 -0.5**
baz=148
HLID Hailey 148.68 360 *e*PKPbc **PKPbc 06 03 19.5 +0.4**
HLID Hailey 148.68 360⇓PKiKP **PKPbc 06 03 18.8 -0.3**
baz=149
REDW Red Top Meadow 148.72 355 *e*PKPdf **PKPdf 06 03 15.5 0.0**
REDW *e*PKPbc **PKPbc 06 03 19.7 +0.4**
HUMO Hull Mountain 148.75 12 *e*PKPbc **PKPbc 06 03 18.5 -0.6**
MFID Camas Ranch 148.80 2 *e*PKPbc **PKPbc 06 03 19.7 +0.3**
K22A Casper 148.81 349 *e*PKPbc **PKPbc 06 03 18.9 -0.6**
K22A Casper 148.81 349⇓PKiKP **PKPbc 06 03 19.0 -0.5**
baz=149
R36A Gordon, Harris 148.90 330⇓PKiKP **PKPbc 06 03 19.0 -0.6**
baz=149
BW06 Boulder Array 149.17 353 *e*PKPdf **PKPdf 06 03 16.7 +0.4**
PDAR Pinedale Array 149.17 353 PKP **PKPdf 06 03 16.4 +0.2**
comp=Z,1.2nm,0.8s,baz=74,slow=4.8,SNR=4.3
PDAR PKPbc **PKiKP 06 03 21.1 -0.7**
comp=Z,2.8nm,0.8s,baz=55,slow=2.2,SNR=12
Q33A Connelly Farm, 149.42 334⇑PKiKP **PKPbc 06 03 20.4 -0.5**
baz=149
WVOR Wild Horse Val 149.59 6 *e*PKP2 **PKPbc 06 03 21.6 +0.2**
WVOR Wild Horse Val 149.59 6 *e*PKPbc **PKPbc 06 03 21.6 +0.2**
O29A 4D Ranch, Culb 149.60 339⇓PKiKP **PKPbc 06 03 21.2 -0.2**
baz=150
P31A Stockton 149.61 337⇓PKiKP **PKPbc 06 03 21.4 0.0**
baz=150
YBH Yreka Blue Hor 149.64 12 *e*PKHKP PKPpre 06 03 16.4
YBH Yreka Blue Hor 149.64 12 *e*PKPdf **PKPdf 06 03 16.4 -0.4**
M04C Macdoel 149.76 11⇓PKiKP **PKiKP 06 03 22.2 -0.6**
baz=150
S35A Otter Creek Ra 149.80 331⇑PKiKP **PKPbc 06 03 21.4 -0.5**
baz=150
PHWY Pilot Hill 149.88 346 *e*PKPbc **PKPbc 06 03 22.0 -0.4**
O28A Krutsinger Ran 149.94 340⇑PKiKP **PKPbc 06 03 21.9 -0.3**
baz=150
R33A Olander Ranch, 150.06 333⇑PKiKP **PKPbc 06 03 22.5 0.0**
baz=150
Q31A Ellis 150.06 336⇓PKiKP **PKPbc 06 03 22.3 -0.2**
baz=150
T36A Boggs Farm, Ca 150.07 329⇓PKiKP **PKPbc 06 03 22.7 +0.2**
baz=150
S34A Willow Spring 150.16 332⇓PKiKP **PKPbc 06 03 22.7 -0.1**
baz=150
R32A Long Quarter, 150.27 334⇓PKiKP **PKPbc 06 03 22.8 -0.2**
baz=150
N02D Trinity Center 150.37 13⇑PKiKP **PKiKP 06 03 23.9 -0.1**
baz=150
N23A Red Feather La 150.37 347⇑PKiKP **PKPbc 06 03 23.5 0.0**
baz=150
Q30A Quinter 150.40 337⇑PKiKP **PKiKP 06 03 23.8 -0.4**
baz=150
HVU Hansel Valley 150.42 357 *e*PKIKP **PKPbc 06 03 22.7 -0.8**
HVU Hansel Valley 150.42 357 *e*PKPbc **PKPbc 06 03 22.7 -0.8**
T35A Sooner Cattle 150.50 330⇓PKiKP **PKPbc 06 03 23.4 -0.2**
baz=150
HWUT Hardware Ranch 150.52 356 *e*PKPdf **PKPdf 06 03 20.2 +1.8**
N22A Wattenberg Ran 150.57 348⇓PKiKP **PKiKP 06 03 24.2 -0.5**
baz=150
MIAR Mount Ida 150.68 323 *e*PKIKP **PKPdf 06 03 19.8 +1.2**
MIAR Mount Ida 150.68 323 *e*PKPdf **PKPdf 06 03 19.8 +1.2**
R31A Burdett 150.72 335⇓PKiKP **PKPbc 06 03 23.7 -0.4**
baz=151
T34A McClaskey Farm 150.74 331⇑PKiKP **PKiKP 06 03 24.5 -0.3**
baz=151
Q29A Oakley 150.76 338⇓PKiKP **PKiKP 06 03 24.7 -0.2**
baz=151
WDC Whiskeytown Da 150.78 13 *e*PKIKP **PKPdf 06 03 19.2 +0.6**
WDC *e* 06 03 25.5
WDC Whiskeytown Da 150.78 13 *e*PKPdf **PKPdf 06 03 19.2 +0.6**
WDC *e*PKPbc **PKiKP 06 03 25.5 +0.7**
N20A Spence Gulch, 150.88 350⇑PKiKP **PKiKP 06 03 25.1 -0.2**
baz=151
TUL1 Leonard 150.91 328 *e*PKPdf **PKPdf 06 03 19.5 +0.6**
TUL1 Leonard 150.91 328⇓PKiKP **PKPbc 06 03 24.2 -0.4**
baz=151
P26A Davis Ranch, A 150.95 342⇓PKiKP **PKPbc 06 03 24.8 0.0**
baz=151
S32A Newby Ranch, P 150.98 334⇓PKiKP **PKPbc 06 03 24.5 -0.2**
baz=151
TCUT Toone Canyon 150.99 355 *e*PKPdf **PKPdf 06 03 19.7 +0.5**
TCUT *e*PKPbc **PKiKP 06 03 25.1 -0.4**
O23A Lake Granby, G 151.02 346⇓PKiKP **PKiKP 06 03 25.3 -0.4**
baz=151
R30A Dighton 151.03 336⇓PKiKP **PKPbc 06 03 24.9 +0.1**
baz=151
T33A Patterson Ranc 151.19 332⇓PKiKP **PKiKP 06 03 25.4 -0.4**
baz=151
O22A Kremmling 151.21 347⇓PKiKP **PKPbc 06 03 25.2 -0.4**
baz=151
KSCO Kaye Shedlock' 151.22 341 *e*PKPdf **PKPbc 06 03 25.6 +0.2**
KSCO Kaye Shedlock' 151.22 341⇓PKiKP **PKPbc 06 03 25.4 0.0**
baz=151
BGU Big Grassy Mou 151.28 358 *e*PKPbc **PKPbc 06 03 25.3 -0.2**
W37A Quinton 151.30 326⇓PKiKP **PKPbc 06 03 25.6 0.0**
baz=151
ISCO Idaho Springs 151.34 346 *e*PKIKP **PKPdf 06 03 20.8 +0.9**
ISCO Idaho Springs 151.34 346 *e*PKPdf **PKPdf 06 03 20.8 +0.9**
ISCO Idaho Springs 151.34 346⇓PKiKP **PKiKP 06 03 26.2 -0.2**
baz=151
T32A Huddler Ranch, 151.41 333⇑PKiKP **PKiKP 06 03 26.1 -0.2**
baz=151
ELK Elko 151.48 1 *e*PKPbc **PKPbc 06 03 23.6 -2.5**
ELK Elko 151.48 1 *e*PKPbc **PKPbc 06 03 23.6 -2.5**
JLU Jordanelle 151.51 355 *e*PKPdf **PKPdf 06 03 21.2 +1.1**
JLU *e*PKPbc **PKiKP 06 03 26.3 -0.3**
JLU *e*PKPab **PKPab 06 03 35.3 +0.9**
O20A White River Ci 151.56 350⇑PKiKP **PKiKP 06 03 26.7 0.0**
baz=151
Q26A Hugo 151.59 342⇑PKiKP **PKPbc 06 03 26.2 -0.1**
baz=152
U33A Lingo Farm, Me 151.66 331⇓PKiKP **PKiKP 06 03 26.5 -0.3**
baz=152
X37A Clayton 151.68 325⇓PKiKP **PKiKP 06 03 26.7 -0.1**
baz=152
W36A Wetumka 151.73 327⇑PKiKP **PKiKP 06 03 26.6 -0.3**
baz=152
P22A Eagle 151.80 347⇓PKiKP **PKiKP 06 03 27.0 -0.2**
baz=152
P23A Jefferson 151.80 346⇑PKiKP **PKiKP 06 03 27.2 -0.2**
baz=152
R27A Eads 151.94 340⇓PKiKP **PKPbc 06 03 26.9 -0.2**
baz=152
DUG Dugway, Tooele 152.00 357 *e*PKIKP **PKPbc 06 03 27.6 +0.4**
DUG Dugway, Tooele 152.00 357 *e*PKPbc **PKPbc 06 03 27.6 +0.4**
DUG Dugway, Tooele 152.00 357⇑PKiKP **PKPbc 06 03 27.5 +0.4**
baz=152
R26A Arlington 152.13 341⇑PKiKP **PKiKP 06 03 27.9 +0.1**
baz=152
X36A Centrahoma 152.23 327⇑PKPab **PKPab 06 03 37.1 -0.3**
baz=152
V33A Lossen Ranch, 152.23 331⇓PKPab **PKPab 06 03 36.1 -1.2**
baz=152
SMCO Snowmass 152.24 347 *e*PKPbc **PKPbc 06 03 28.2 +0.1**
S28A Manter 152.25 338⇓PKPab **PKPab 06 03 37.3 -0.2**
baz=152
T29A Hugoton 152.40 337⇓PKPab **PKPab 06 03 37.5 -0.6**
baz=152
Z38A Mt. Pleasant 152.42 323⇑PKPab **PKPab 06 03 37.7 -0.5**
baz=152
W34A Bridge Creek, 152.45 329⇓PKPab **PKPab 06 03 37.8 -0.5**
baz=152
S26A Kim 152.76 341⇑PKiKP **PKiKP 06 03 29.4 +0.2**
baz=153
R23A Moffat 152.91 345⇓PKiKP **PKiKP 06 03 30.0 +0.3**
baz=153
X34A Smith Ranch, M 152.98 329⇓PKPab **PKPab 06 03 40.2 -0.3**
baz=153
340A Bronson 152.99 319⇑PKPab **PKPab 06 03 39.9 -0.8**
baz=153
T27A Campo 153.01 339⇑PKPab **PKPab 06 03 39.9 -0.8**
baz=153
SDCO Great Sand Dun 153.25 344⇓PKPab **PKPab 06 03 40.6 -1.3**
baz=153
W32A Sentinel 153.25 331⇑PKiKP **PKiKP 06 03 30.5 +0.4**
baz=153
T25A Trinidad 153.50 342⇓PKPab **PKPab 06 03 41.1 -1.7**
baz=153
NVAR Mina Array Bea 153.58 7 PKP **PKPdf 06 03 21.9 -1.2**
comp=Z,0.2nm,0.4s,baz=260,slow=1.6,SNR=2.3
NVAR PKPbc **PKiKP 06 03 31.9 +0.9**
comp=Z,2.8nm,0.8s,baz=285,slow=1.5,SNR=16
R11A Troy Canyon, C 153.87 2⇓PKPab **PKPab 06 03 44.1 -0.2**
baz=154

134A	White-Moore Ra	154.68	326	⇓PKPab	PKPab	06 03 47.7	-0.1
	baz=155							
Z32A	Haskell	154.84	329	⇓PKPab	PKPab	06 03 48.5	0.0
	baz=155							
Z31A	Sharp Cattle R	155.16	330	⇑PKPab	PKPab	06 03 49.1	-0.7
	baz=155							
TPNV	Topopah Spring	155.23	3	⇑PKPab	PKPab	06 03 49.2	-0.9
	baz=155							
Y29A	Porterfield Fa	155.40	334	⇓PKPab	PKPab	06 03 50.4	-0.5
	baz=155							
233A	Rising Star	155.55	327	⇑PKPab	PKPab	06 03 51.5	0.0
	baz=156							
334A	Lometa	155.70	324	⇓PKPab	PKPab	06 03 52.5	+0.3
	baz=156							
U15A	North Rim	155.72	356	⇓PKPab	PKPab	06 03 52.7	+0.3
	baz=156							
MSTX	Muleshoe	155.77	336	⇑PKPab	PKPab	06 03 52.4	-0.1
	baz=156							
232A	Coleman	156.05	328	⇑PKPab	PKPab	06 03 53.5	-0.2
	baz=156							
434A	Burnet	156.10	324	⇓PKPab	PKPab	06 03 53.4	-0.6
	baz=156							
333A	Richland Sprin	156.13	326	⇓PKPab	PKPab	06 03 53.6	-0.4
	baz=156							
Z28A	Tucker Farm, M	156.20	334	⇓PKPab	PKPab	06 03 54.4	+0.1
	baz=156							
535A	Dale	156.25	321	⇓PKPab	PKPab	06 03 55.3	+0.7
	baz=156							
636A	Smothers Creek	156.31	319	⇑PKPab	PKPab	06 03 55.2	+0.3
	baz=156							
332A	Millersview	156.50	327	⇑PKPab	PKPab	06 03 55.6	0.0
	baz=156							
433A	Art	156.62	325	⇑PKPab	PKPab	06 03 55.5	-0.6
	baz=157							
331A	San Angelo	156.91	328	⇑PKPab	PKPab	06 03 57.4	0.0
	baz=157							
330A	Mertzon	157.22	329	⇑PKPab	PKPab	06 03 58.1	-0.6
	baz=157							
JCT	Junction City	157.22	326	⇑PKPab	PKPab	06 03 58.9	+0.1
	baz=157							
431A	Sonora	157.50	327	⇓PKPab	PKPab	06 03 59.6	-0.4
	baz=157							
329A	Wagon Wheel Ra	157.54	331	⇑PKPab	PKPab	06 03 59.9	-0.2
	baz=158							
532A	Rocksprings	157.55	325	⇑PKPab	PKPab	06 04 00.3	+0.1
	baz=158							
835A	Beeville	157.62	318	⇓PKPab	PKPab	06 04 00.6	+0.1
	baz=158							
X16A	Lo Mia Camp, P	157.63	353	⇓PKPab	PKPab	06 04 00.4	-0.1
	baz=158							
430A	Baggett Ranch,	157.75	329	⇑PKPab	PKPab	06 04 01.2	+0.1
	baz=158							
BFSC	Mount Baldy Ra	157.80	7	⇓PKPab	PKPab	06 04 01.5	+0.3
	baz=158							
531A	Rocksprings	157.88	326	⇓PKPab	PKPab	06 04 01.8	+0.2
	baz=158							
IRM	Iron Mountain	158.06	1	⇑PKPab	PKPab	06 04 02.2	0.0
	baz=158							
429A	Davenport Ranc	158.21	330	⇑PKPab	PKPab	06 04 02.2	-0.8
	baz=158							
530A	J-C Ranch, Com	158.31	328	⇑PKPab	PKPab	06 04 03.7	+0.3
	baz=158							
631A	Perdido Creek	158.47	325	⇑PKPab	PKPab	06 04 04.4	+0.3
	baz=158							
BC3	Big Chuckawall	158.55	2	⇑PKPab	PKPab	06 04 04.0	-0.4
	baz=158							
732A	Laxson Ranch,	158.64	323	⇓PKPab	PKPab	06 04 04.7	-0.1
	baz=159							
529A	Stev Forest Ra	158.78	329	⇓PKPab	PKPab	06 04 05.2	-0.3
	baz=159							
MNTX	Cornudas Mount	158.79	338	⇑PKPab	PKPab	06 04 05.3	-0.1
	baz=159							
034A	Hebbronville	159.00	317	⇑PKPab	PKPab	06 04 06.3	-0.2
	baz=159							
933A	Laredo	159.01	319	⇑PKPab	PKPab	06 04 06.4	-0.1
	baz=159							
TXAR	Lajitas Array	160.13	331	PKPab	PKPab	06 04 11.5	+0.1
	comp=Z,1.7nm,1.0s,baz=96,slow=2.5,SNR=8.1							

DJA 19 06:26:16.6±1.0, 7°S±9°×10°5E±°, h10km, M3.5/8, MLv3.5/8, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGJI	Cibinong	0.78	93	P	Pg	06 26 30.3	-1.4
KASI	Kota Agung	1.12	338	P	Pb	06 26 35.2	-2.8
KASI				S	Sb	06 26 51.3	-1.4
SKJI	Sukabumi	1.69	105	P	Pn	06 26 46.2	0.0
KLJ	Kotabumi	1.70	358	P	Pn	06 26 46.9	+0.6
LWLI	Liwa	1.76	331	P	Pn	06 26 45.9	-1.4
LWLI				S	Sn	06 27 10.0	+0.1
KLSI		1.88	355	P	Pn	06 26 48.5	-0.3
CBJI	Citeko	1.93	86	P	Pn	06 26 50.5	+0.9
MDSI	Maura Dua	2.19	341	P	Pn	06 26 52.6	-0.6
MNAI	Manna	2.93	318	P	Pn	06 26 59.9	-3.4
MNAI				S	Sn	06 27 40.4	+1.7

*IDC **19** 06:26:18.3±1.0, 9.°64N×122.°37E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.9/33, mbtmp4.0/8, MS3.5/9, Ms1 3.5/9, ms1mx3.1/34, Error ellipse: s-maj=40.0km s-min=18.5km az=62.0*
*MAN **19** 06:26:22, 9.°70N×122.°19E, h28km, mb4.9, ML3.8, MS3.8*
*ISCJB **19** 06:26:23.2±0.5, 9.°70N±0.°04×122.°23E±0.°04, h43km±7km, mb4.1/12, MS3.4/7, Error ellipse: s-maj=6.7km s-min=5.4km az=145.9*
*NEIC **19** 06:26:28.2±1.4, 9.°56N×122.°17E, h77km±15km, mb4.4/4, Error ellipse: s-maj=15.3km s-min=10.3km az=51.0*
ISC 19 06:26:24.4±1.1, 9.°69N±0.°04×122.°25E±0.°05, h41km±13km, n36, σ1°21/35, mb4.3/12, MS3.4/7, 4C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	Jordan	0.99	20	eP	Pn	06 26 39.9	-1.9
GUIM				eS	Sn	06 26 53.1	-1.6
DCPH	Dipolog City	1.55	135	⇑iP	Pn	06 26 48.1	-1.4
DCPH				iS	Sn	06 27 07.6	-0.8
TBP	Tagbilaran	1.59	90	eP	Pn	06 26 49.6	-0.6
TBP				eS	Sn	06 27 07.9	-1.7
RCP	Roxas	1.92	15	⇑eP	Pn	06 26 55.6	+0.9
RCP				eS	Sn	06 27 21.2	+3.5
PAGZ	Pagadian	2.15	148	eP	Pn	06 26 58.2	+0.4
PAGZ				eS	Sn	06 27 24.3	+1.1
MSLP	Maasin	2.61	80	eP	Pn	06 27 05.2	+1.1
OCLP	Ormoc	2.69	60	eP	Pn	06 27 05.5	+0.2
CGP	Cagayan de Oro	2.71	117	eP	Pn	06 27 05.8	+0.3
CGP				iS	Sn	06 27 37.4	+0.3
PLP	Palo	3.06	61	⇑eP	Pn	06 27 10.3	-0.1
CTBH	Cotabato--PC H	3.15	141	⇑iP	Pn	06 27 12.8	+1.2
BUKP	Musuan	3.31	123	eP	Pn	06 27 15.3	+1.5
PPR	Puerto Princes	3.47	272	⇓eP	Pn	06 27 15.3	-0.6
PPR				eS	Sn	06 27 54.9	-0.8
DAV	Davao City (W)	4.20	128	Pn	Pn	06 27 29.6	+3.6
KKM	Kota Kinabalu	6.99	239	ePn	Pn	06 28 04.2	-0.1
	31nm,0.6s						
LUWI	Luwuk	10.67	177	Pn	Pn	06 28 58.6	+3.8
SIJI	Sorong	13.81	139	LR	LR	06 35 29.4	
	comp=Z,246nm,20.5s,baz=20,slow=40						
KAPI	Kappang	14.82	190	LR	LR	06 36 36.8	
	comp=Z,97nm,19.2s,baz=16,slow=42						
KAPI	Kappang	14.82	190	ePn	Pn	06 29 52.3	+1.0
SOEI	Soe	19.42	174	P	P	06 30 46.8	-0.7
JAY	Jayapura	22.02	122	LR	LR	06 38 54.7	
	comp=Z,131nm,21.6s,baz=325,slow=35						
GUMO	Guam	22.49	78	LR	LR	06 38 37.7	
	comp=Z,93nm,20.9s,baz=188,slow=33						
PSI	Prapat	24.16	255	P	P	06 31 37.9	+0.7
	8.6nm,0.8s,baz=70,slow=7.7,SNR=6.5						
CMAR	Chiang Mai Arr	24.20	294	P	P	06 31 38.4	+1.0
	1.4nm,0.3s,baz=125,slow=9.7,SNR=12						
CMAR				LR	LR	06 41 10.4	
	comp=Z,110nm,18.4s,baz=122,slow=37						
WRA	Warramunga Arr	31.76	158	P	P	06 32 43.4	-1.6
	0.4nm,0.6s,baz=341,slow=9.2,SNR=8.9						
SONM	Songino Array	40.31	343	P	P	06 33 58.7	+0.7
	1.5nm,0.9s,baz=165,slow=9.3,SNR=4.0						
STKA	Stephens Creek	45.29	157	P	P	06 34 37.5	-0.8
	0.7nm,0.3s,baz=328,slow=9.5,SNR=2.7						
MK31	Makanchi Array	50.15	325	eP	P	06 35 16.5	+0.6
MKAR	Makanchi Array	50.15	325	P	P	06 35 16.8	+0.9
	3.0nm,0.8s,baz=152,slow=5.5,SNR=31						
MKAR				LR	LR	06 57 00.3	
	comp=Z,38nm,21.8s,baz=74,slow=37						
TKM2	Tokmak 2	52.37	318	eP	P	06 35 34.6	+1.8
	3.3nm,0.9s						
YAK	Yakutsk	52.53	4	LR	LR	07 00 14.2	
	comp=Z,41nm,18.4s,baz=86,slow=39						
AAK	Ala-Archa	52.98	317	eP	P	06 35 38.0	+0.7
	3.6nm,0.9s						
ZALV	Zalesovo Beam	53.30	333	P	P	06 35 39.0	-0.2
	1.5nm,0.7s,baz=133,slow=6.3,SNR=6.1						
ZALV				LR	LR	06 57 48.8	
	comp=Z,35nm,20.7s,baz=68,slow=35						
KURK	Kurchatov	54.35	327	eP	P	06 35 47.0	0.0
	6.8nm,0.9s						
KKAR	Karatay Array	55.87	316	eP	P	06 35 58.5	+0.3
	2.7nm,0.8s						
AKASG	Malin Array Be	84.49	320	P	P	06 38 52.2	-0.8
	2.0nm,0.9s,baz=72,slow=4.4,SNR=4.2						
NOA	NORSAR Array B	91.50	333	LR	LR	07 25 15.1	
	comp=Z,42nm,18.4s,baz=110,slow=39						

*IDC **19** 06:26:40.6±0.9, 53.°74N×170.°56E, h0km, mb3.7/9, mb1 4.1/10, mb1mx3.8/41, mbtmp3.8/10, ML3.3/1, MS3.7/1, Ms1 3.7/1, ms1mx2.7/30, Error ellipse: s-maj=32.2km s-min=17.8km az=160.0*
*MOS **19** 06:26:41.1±1.8, 53.°46N×170.°55E, h23km, mb4.3/4, Error ellipse: s-maj=18.5km s-min=16.2km az=119.0*
*ISCJB **19** 06:26:42.3±0.6, 53.°7N±0.°1×170.°25E±0.°05, h24km, mb3.7/9, MS3.6/1, Error ellipse: s-maj=15.2km s-min=4.4km az=176.1*
*KRSC **19** 06:26:42.9±2.1, 53.°29N×169.°75E, h6km±2km, ML4.2*
ISC 19 06:26:43.5±0.8, 53.°5N±0.°1×170.°41E±0.°06, h24km, n44, σ1°52/50, mb3.9/9, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	5.14	305	eP	Pn	06 28 03.0	+4.0
KBTR	Krutoberegovo	5.14	305	P	Pn	06 28 03.0	+4.0
MKZ	Mys Kozlova	5.22	285	eP	Pn	06 27 59.9	-0.1
MKZ				eS	Sn	06 28 57.2	-2.1
MKZ	Mys Kozlova	5.22	285	P	Pn	06 27 59.9	-0.1
MKZ				S	Sn	06 28 57.2	-2.1
KZV	Kizimen	6.13	289	eP	Pn	06 28 13.0	+0.3
KZV				eS	Sn	06 29 19.8	-2.2
SPN	Mys Shipunski	6.24	270	eP	Pn	06 28 14.2	+0.2
SPN				eS	Sn	06 29 22.7	-1.8
SPN	Mys Shipunski	6.24	270	P	Pn	06 28 14.2	+0.2
SPN				S	Sn	06 29 22.7	-1.8
TUMR	Tumrok	6.25	291	eP	Pn	06 28 16.2	+2.0
TUMR				eS	Sn	06 29 25.1	+0.2
SDLR	Sedlovina	6.90	273	eP	Pn	06 28 24.0	+0.9
SDLR				eS	Sn	06 29 39.5	-1.3
UGLR	Uglovaya	6.94	272	eP	Pn	06 28 24.7	+1.0
UGLR				eS	Sn	06 29 41.5	-0.4
SMAR	Somma	6.95	273	eP	Pn	06 28 25.0	+1.1
KRER	Koryakskii	6.97	273	eP	Pn	06 28 25.3	+1.0
AVH	Avacha	6.99	273	eP	Pn	06 28 25.5	+1.2
AVH				eS	Sn	06 29 41.5	-1.4
KRX	Arik	7.03	273	eP	Pn	06 28 25.7	+0.7
KOK	Koryaka	7.04	273	eP	Pn	06 28 25.9	+0.8
RUS	Russkaya	7.26	266	eP	Pn	06 28 28.4	+0.4
RUS				S	Sn	06 29 46.2	-3.5
RUS	Russkaya	7.26	266	P	Pn	06 28 28.4	+0.4
RUS				S	Sn	06 29 46.2	-3.5
GNL	Ganaly	7.42	276	eP	Pn	06 28 32.0	+1.7
GNL				eS	Sn	06 29 53.6	-0.1
MTVR	Mutnovka	7.45	267	eP	Pn	06 28 31.4	+0.7
MTVR				eS	Sn	06 29 52.4	-2.1
PETK	Petropavlovsk-	7.62	272	Pn	Pn	06 28 35.0	+1.9
	2.2nm,0.3s,baz=94,slow=20,SNR=50						
PETK				Sn	Sn	06 29 57.2	-1.3
	0.6nm,0.3s,baz=68,slow=19,SNR=4.3						
PETK	Petropavlovsk-	7.62	272	P	Pn	06 28 35.0	+1.9
PETK						06 29 57.3	
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK				smax	smax		
	comp=N,1.0nm,0.3s						
ASAK	Asacha	7.64	266	eP	Pn	06 28 34.6	+1.3
ASAK				eS	Sn	06 29 57.9	-1.2
BILL	Bilibino	14.71	354	eP	Pn	06 30 12.1	+2.4
BILL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ILAR	Eielson Array	24.11	45	P	P	06 31 54.6	-2.3
	comp=Z,0.6nm,0.6s,baz=256,slow=8.8,SNR=7.8						
ILAR	Eielson Array	24.11	45	P	P	06 31 54.7	-2.3
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
H11N2	WAKE ISLAND Hy	33.83	186	T	T	07 09 26.6	
	baz=4.0,slow=76,SNR=128						
H11N3	WAKE ISLAND Hy	33.84	186	T	T	07 09 20.1	
	baz=4.0,slow=76,SNR=162						
H11N1	WAKE ISLAND Hy	33.85	186	T	T	07 09 20.5	
	baz=4.0,slow=76,SNR=159						
H11S1	WAKE ISLAND Hy	35.06	186	T	T	07 10 36.5	
	baz=4.0,slow=76,SNR=164						
H11S3	WAKE ISLAND Hy	35.07	186	T	T	07 10 57.6	
	baz=4.0,slow=76,SNR=93						
H11S2	WAKE ISLAND Hy	35.08	186	T	T	07 11 01.5	
	baz=4.0,slow=76,SNR=128						
YKA	Yellowknife Ar	38.53	46	P	P	06 34 02.0	-1.6
	comp=Z,0.3nm,0.5s,baz=285,slow=7.6,SNR=3.0						
SONM	Songino Array	39.73	289	LR	LR	06 50 35.6	
	comp=Z,98nm,21.4s,baz=120,slow=36						
NVAR	Mina Array Bea	49.69	77	P	P	06 35 33.6	+0.1
	comp=Z,0.9nm,0.8s,baz=299,slow=7.4,SNR=5.3						
PDAR	Pinedale Array	51.77	67	P	P	06 35 48.6	-0.6
	comp=Z,0.3nm,0.4s,baz=329,slow=5.2,SNR=5.1						
ARCES	ARCESS Array B	54.62	346	P	P	06 36 08.6	-0.8
	comp=Z,2.0nm,0.9s,baz=18,slow=9.8,SNR=6.6						
ARCES	ARCESS Array B	54.62	346	P	P	06 36 08.6	-0.8
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CMAR	Chiang Mai Arr	64.37	267	P	P	06 37 19.1	+1.7
	comp=Z,0.5nm,0.3s,baz=31,slow=7.6,SNR=3.3						
CMAR	Chiang Mai Arr	64.37	267	P	P	06 37 19.1	+1.7
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NOA	NORSAR Array B	64.59	349	P	P	06 37 18.0	-0.3
	comp=Z,1.1nm,0.7s,baz=16,slow=6.6,SNR=3.9						
NOA	NORSAR Array B	64.59	349	P	P	06 37 18.0	-0.3
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	Lajitas Array	64.66	75	P	P	06 37 19.6	+0.3
	comp=Z,1.3nm,0.5s,baz=303,slow=5.1,SNR=27						
TXAR	Lajitas Array	64.66	75	P	P	06 37 19.6	+0.3
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	Warramunga Arr	79.50	214	P	P	06 38 49.6	+1.7
	comp=Z,0.2nm,0.5s,baz=26,slow=5.9,SNR=4.8						

*ISCJB **19** 06:56:15.8±0.5, 37.°44N±0.°02×21.°37E±0.°02, h10km±3km, Error ellipse: s-maj=3.9km s-min=2.7km az=40.1*
*THE **19** 06:56:15.9, 37.°42N×21.°34E, h0km±1km, ML3.5/9, Error ellipse: s-maj=1.8km s-min=0.7km az=222.0*
*ATH **19** 06:56:16.9, 37.°48N×21.°44E, h26km, MD3.4/40, ML3.1*
*CSEM **19** 06:56:16.3±0.2, 37.°45N×21.°37E, h8km, MD3.4, Error ellipse: s-maj=3.7km s-min=2.5km az=49.0*
ISC 19 06:56:16.5±1.0, 37.°46N±0.°02×21.°38E±0.°02, h11km±8km, n162, σ0°80/226, 1C, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMT	Artemida-Makis	0.28	74	P	Pg	06 56 22.2	+0.1
AMT				S	Sg	06 56 26.8	+0.9
AMT	Artemida-Makis	0.28	74	ePB	Pb	06 56 23.8	+0.3
AMT				eSB	Sb	06 56 27.5	-0.7
AMT	Artemida-Makis	0.28	74	P	Pg	06 56 22.2	+0.1
AMT	Artemida-Makis	0.28	74	ePb	Pb	06 56 23.8	+0.3
AMT				S	Sg	06 56 26.8	+0.9
AMT				eSb	Sb	06 56 27.5	-0.7
SFD	Strofades	0.35	234	ePB	Pb	06 56 25.3	+0.5
SFD				eSB	Sb	06 56 32.9	+2.6
SFD	Strofades	0.35	234	ePb	Pb	06 56 25.3	+0.5
VTN	Vitineika	0.48	342	P	Pb	06 56 26.5	-0.5
VTN	Vitineika	0.48	342	P	Pb	06 56 26.5	-0.5
ITM	Ithomi	0.52	122	P	Pg	06 56 25.8	-0.8
ITM	Ithomi	0.52	122	ePB	Pg	06 56 26.9	+0.3
ITM				eSB	Sb	06 56 35.0	-0.2
ITM	Ithomi	0.52	122	P	Pg	06 56 25.8	-0.8
ITM	Ithomi	0.52	122	ePb	Pg	06 56 26.9	+0.3
ITM				eSb	Sb	06 56 35.0	-0.2
ZKS	Zakynthos	0.53	297	P	Pg	06 56 25.4	-1.3
ZKS	Zakynthos	0.53	297	ePN	Pb	06 56 27.6	-0.1
ZKS				eSN	Sb	06 56 36.8	+1.4
ZKS	Zakynthos	0.53	297	P	Pg	06 56 25.4	-1.3
ZKS	Zakynthos	0.53	297	ePn	Pb	06 56 27.6	-0.1
DRO	Drossia	0.56	28	P	Pg	06 56 26.8	-0.6
DRO	Drossia	0.56	28	ePN	Pg	06 56 27.6	+0.2
DRO	Drossia	0.56	28	P	Pg	06 56 26.8	-0.6
DRO	Drossia	0.56	28	ePn	Pg	06 56 27.6	+0.2
RLS	Riolos of Patr	0.60	7	P	Pg	06 56 27.9	-0.3
RLS				S	Sg	06 56 36.6	+0.4
RLS	Riolos of Patr	0.60	7	ePN	Pb	06 56 28.7	-0.3
RLS				eSN	Sg	06 56 36.5	+0.4
RLS	Riolos of Patr	0.60	7	P	Pg	06 56 27.9	-0.3
RLS	Riolos of Patr	0.60	7	ePn	Pb	06 56 28.7	-0.3
RLS				eSn	Sg	06 56 36.5	+0.4
PYL	PYLOS	0.63	152	P	Pg	06 56 27.3	-1.4
PYL				S	Sb	06 56 37.6	-0.8
PYL	PYLOS	0.63	152	ePB	Pb	06 56 28.9	-0.6
PYL				eSN	Sb	06 56 38.9	+0.5
PYL	PYLOS	0.63	152	P	Pg	06 56 27.3	-1.4
PYL	PYLOS	0.63	152	ePb	Pb	06 56 28.9	-0.6
PYL				S	Sb	06 56 37.6	-0.8
PYL				eSn	Sb	06 56 38.9	+0.5
KFL	Anninata	0.80	325	P	Pg	06 56 30.8	-1.1
KFL				S	Sb	06 56 42.9	-0.4
KFL	Anninata	0.80	325	P	Pg	06 56 30.8	-1.1
KFL				S	Sb	06 56 42.9	-0.4
VLX	Vlachokerasia	0.80	96	P	Pg	06 56 31.1	-0.9
VLX	Vlachokerasia	0.80	96	ePN	Pb	06 56 32.3	-0.2
VLX				eSN	Sg	06 56 42.8	+0.3
VLX	Vlachokerasia	0.80	96	P	Pg	06 56 31.1	-0.9
VLX	Vlachokerasia	0.80	96	ePn	Pb	06 56 32.3	-0.2
VLX				eSn	Sg	06 56 42.8	+0.3
KLV	Kalavryta, Ach	0.85	46	P	Pg	06 56 32.0	-0.8
KLV	Kalavryta, Ach	0.85	46	ePN	Pg	06 56 32.4	-0.4
KLV				eSN	Sg	06 56 43.8	-0.1
KLV	Kalavryta, Ach	0.85	46	P	Pg	06 56 32.0	-0.8
KLV	Kalavryta, Ach	0.85	46	ePn	Pg	06 56 32.4	-0.4
KLV				eSn	Sg	06 56 43.8	-0.1
GUR	Goura	0.90	58	P	Pg	06 56 32.5	-1.4
GUR	Goura	0.90	58	ePN	Pb	06 56 34.1	-0.1
GUR				eSN	Sg	06 56 46.0	+0.3
GUR	Goura	0.90	58	P	Pg	06 56 32.5	-1.4
GUR	Goura	0.90	58	ePn	Pb	06 56 34.1	-0.1
VLS	Valsamata	0.95	319	P	Pg	06 56 33.6	-1.2
VLS				S	Sb	06 56 48.2	+0.6
VLS	Valsamata	0.95	319	ePN	Pg	06 56 34.1	-0.7
VLS				eSN	Sn	06 56 49.6	+0.2
VLS	Valsamata	0.95	319	P	Pg	06 56 33.6	-1.2
VLS	Valsamata	0.95	319	ePn	Pg	06 56 34.1	-0.7
VLS				S	Sb	06 56 48.2	+0.6
VLS				eSn	Sn	06 56 49.6	+0.2
EFP	Efpalio	1.05	23	P	Pn	06 56 37.4	+0.2
EFP	Efpalio	1.05	23	ePN	Pn	06 56 37.4	+0.2
EFP	Efpalio	1.05	23	P	Pn	06 56 37.4	+0.2
KALE	Kalithea	1.11	33	P	Pg	06 56 36.9	-0.9
KALE				S	Sn	06 56 54.9	+1.5
KALE	Kalithea	1.11	33	ePN	Pn	06 56 38.5	+0.5
KALE				eSN	Sb	06 56 52.7	+0.4
KALE	Kalithea	1.11	33	P	Pg	06 56 36.9	-0.9
KALE	Kalithea	1.11	33	ePn	Pn	06 56 38.5	+0.5
KALE				eSn	Sb	06 56 52.7	+0.4
KALE				S	Sn	06 56 54.9	+1.5
PDO	Prodromos	1.15	352	P	Pg	06 56 37.5	-1.1
PDO				S	Sn	06 56 55.9	+1.6
PDO	Prodromos	1.15	352	ePN	Pb	06 56 38.5	+0.1
PDO	Prodromos	1.15	352	P	Pg	06 56 37.5	-1.1
PDO	Prodromos	1.15	352	ePn	Pb	06 56 38.5	+0.1
PDO				S	Sn	06 56 55.9	+1.6
PVO	Paravola	1.16	6	P	Pn	06 56 39.3	+0.6
PVO	Paravola	1.16	6	P	Pn	06 56 39.3	+0.6
DSF	Desfina	1.32	43	P	Pb	06 56 41.4	+0.1
DSF				S	Sn	06 57 01.6	+3.1
DSF	Desfina	1.32	43	ePN	Pb	06 56 41.4	+0.1
DSF				eSN	Sn	06 56 59.2	+0.7
DSF	Desfina	1.32	43	P	Pb	06 56 41.4	+0.1
DSF				eSn	Sn	06 56 59.2	+0.7
DSF				S	Sn	06 57 01.6	+3.1
LTK	Loutraki	1.38	65	P	Pn	06 56 40.9	-0.8
LTK	Loutraki	1.38	65	ePN	Pn	06 56 42.1	+0.4
LTK				eSN	Sn	06 57 00.5	+0.5
LTK	Loutraki	1.38	65	P	Pn	06 56 40.9	-0.8
LTK	Loutraki	1.38	65	ePn	Pn	06 56 42.1	+0.4
LTK				eSn	Sn	06 57 00.5	+0.5
LKD2	Lefkada island	1.44	337	P	Pn	06 56 42.3	-0.3
LKD2				S	Sg	06 57 03.6	+0.6
LKD2	Lefkada island	1.44	337	ePB	Pn	06 56 42.4	-0.2
LKD2				eSN	Sg	06 57 04.2	+1.2
LKD2	Lefkada island	1.44	337	P	Pn	06 56 42.3	-0.3
LKD2				S	Sg	06 57 03.6	+0.6
LKD2				eSn	Sg	06 57 04.2	+1.2
DID	Didima	1.48	88	P	Pn	06 56 42.8	-0.3
DID	Didima	1.48	88	ePN	Pn	06 56 43.2	+0.1
DID	Didima	1.48	88	P	Pn	06 56 42.8	-0.3
DID	Didima	1.48	88	ePn	Pn	06 56 43.2	+0.1
EVR	Evrytania	1.50	13	P	Pn	06 56 44.0	+0.6
EVR	Evrytania	1.50	13	ePN	Pb	06 56 44.5	+0.2
EVR				eSN	Sn	06 57 03.3	+0.3
EVR	Evrytania	1.50	13	P	Pn	06 56 44.0	+0.6

JAN	**Janina**	**2.23**	**350**	*e*PB	**Pn**	**06 56 54.8**	**+1.3**
SGD	**Sagiada**	**2.33**	**338**	P	**Pn**	**06 56 54.9**	**+0.2**
SGD	**Sagiada**	**2.33**	**338**	*e*PN	**Pn**	**06 56 55.0**	**+0.2**
SGD	**Sagiada**	**2.33**	**338**	*e*Pn	**Pn**	**06 56 55.0**	**+0.2**
NEO	**Neokhori**	**2.35**	**38**	*e*PN	**Pn**	**06 56 54.8**	**-0.2**
NEO	**Neokhori**	**2.35**	**38**	*e*Pn	**Pn**	**06 56 54.8**	**-0.2**
XOR	**Xorichti**	**2.38**	**36**	*e*PN	**Pn**	**06 56 56.0**	**+0.5**
XOR	**Xorichti**	**2.38**	**36**	*e*Pn	**Pn**	**06 56 56.0**	**+0.5**
KEK	**Kerkira**	**2.57**	**332**	*e*PN	**Pn**	**06 56 58.3**	**+0.3**
KEK	**Kerkira**	**2.57**	**332**	*e*Pn	**Pn**	**06 56 58.3**	**+0.3**
AOS	**Alonnisos**	**2.61**	**48**	*e*PN	**Pn**	**06 56 59.2**	**+0.6**
AOS	**Alonnisos**	**2.61**	**48**	*e*Pn	**Pn**	**06 56 59.2**	**+0.6**
LIT	**Litokhoron**	**2.78**	**18**	*e*PN	**Pn**	**06 57 01.9**	**+0.9**
LIT	**Litokhoron**	**2.78**	**18**	*e*Pn	**Pn**	**06 57 01.9**	**+0.9**
KZN	**Kozani**	**2.86**	**6**	*e*PN	**Pn**	**06 57 03.0**	**+0.9**
KZN	**Kozani**	**2.86**	**6**	*e*Pn	**Pn**	**06 57 03.0**	**+0.9**
KARN	**Karanos**	**2.90**	**134**	*e*PN	**Pn**	**06 57 04.1**	**+1.5**
KARN	**Karanos**	**2.90**	**134**	*e*Pn	**Pn**	**06 57 04.1**	**+1.5**
NEST	**Nestorio**	**2.96**	**355**	*e*PN	**Pn**	**06 57 04.6**	**+1.0**
NEST	**Nestorio**	**2.96**	**355**	*e*Pn	**Pn**	**06 57 04.6**	**+1.0**
PAIG	**Paliouri**	**3.05**	**35**	*e*PN	**Pn**	**06 57 04.7**	**0.0**
PAIG				*e*SN	**Sn**	**06 57 41.1**	**-0.1**
PAIG	**Paliouri**	**3.05**	**35**	*e*Pn	**Pn**	**06 57 04.7**	**0.0**
PAIG				*e*Sn	**Sn**	**06 57 41.1**	**-0.1**
FNA	**Florina**	**3.32**	**0**	*e*PN	**Pn**	**06 57 08.4**	**0.0**
FNA	**Florina**	**3.32**	**0**	*e*Pn	**Pn**	**06 57 08.4**	**0.0**
PLG	**Polygyros**	**3.33**	**28**	*e*PN	**Pn**	**06 57 07.8**	**-0.7**
PLG	**Polygyros**	**3.33**	**28**	*e*Pn	**Pn**	**06 57 07.8**	**-0.7**
APE	**Apeiranthos**	**3.34**	**95**	*e*PN	**Pn**	**06 57 08.1**	**-0.5**
APE	**Apeiranthos**	**3.34**	**95**	*e*Pn	**Pn**	**06 57 08.1**	**-0.5**
HORT	**Hortiatis**	**3.41**	**23**	*e*PN	**Pn**	**06 57 10.0**	**+0.3**
HORT	**Hortiatis**	**3.41**	**23**	*e*Pn	**Pn**	**06 57 10.0**	**+0.3**
OUR	**Ouranopolis**	**3.52**	**34**	*e*PN	**Pn**	**06 57 11.8**	**+0.7**
OUR	**Ouranopolis**	**3.52**	**34**	*e*Pn	**Pn**	**06 57 11.8**	**+0.7**
GRG	**Griva**	**3.58**	**13**	*e*PN	**Pn**	**06 57 12.1**	**+0.1**
GRG	**Griva**	**3.58**	**13**	*e*Pn	**Pn**	**06 57 12.1**	**+0.1**
SOH	**Sokhos**	**3.69**	**24**	*e*PN	**Pn**	**06 57 14.8**	**+1.2**
SOH	**Sokhos**	**3.69**	**24**	*e*Pn	**Pn**	**06 57 14.8**	**+1.2**
CHOS	**Chios island**	**3.81**	**75**	*e*PN	**Pn**	**06 57 15.1**	**-0.1**
CHOS	**Chios island**	**3.81**	**75**	*e*Pn	**Pn**	**06 57 15.1**	**-0.1**
KNT	**Kendrikon**	**3.88**	**17**	*e*PN	**Pn**	**06 57 16.4**	**+0.3**
KNT	**Kendrikon**	**3.88**	**17**	*e*Pn	**Pn**	**06 57 16.4**	**+0.3**
SMG	**Samos**	**4.34**	**85**	*e*PN	**Pn**	**06 57 24.0**	**+1.5**
SMG	**Samos**	**4.34**	**85**	*e*Pn	**Pn**	**06 57 24.0**	**+1.5**
BARS	**Barje**	**5.36**	**3**⇑	*i*Pn	**Pn**	**06 57 35.3**	**-1.1**
STON	**Ston**	**6.10**	**334**	*e*Pn	**Pn**	**06 57 43.8**	**-2.6**
STON				Sn	Sn	06 58 49.3	-6.9
NVLJ	**Novalja**	**8.63**	**327**	*i*Pn	**Pn**	**06 58 18.5**	**-2.8**
NVLJ				Sn	Sn	06 59 50.0	-8.5

DJA 19 06:56:33.6±0.9, 8°S±6°×10°7E±°, h15km±9km, M3.8/9, MLv3.8/9, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.91**	**42**	P	Pb	06 56 50.0	-1.2
CNJI				S	Sb	06 57 01.7	-1.4
SKJI	**Sukabumi**	**0.98**	**3**	P	Pb	06 56 50.6	-1.7
CISI	**Cisompet, Garu**	**1.36**	**72**	P	Pn	06 56 57.4	-0.8
CISI				S	Sn	06 57 13.8	-2.3
CGJI	**Cibinong**	**1.59**	**329**	P	Pn	06 57 00.6	-0.6
LEM	**Lembang**	**1.59**	**44**	P	Pn	06 57 01.4	-0.1
LEM				S	Sn	06 57 22.4	+0.4
CMJI	**Cimerak**	**1.93**	**84**	P	Pn	06 57 05.7	-0.2
CMJI				S	Sn	06 57 26.7	-3.3
KASI	**Kota Agung**	**3.16**	**321**	P	Pn	06 57 22.2	-0.7
MDSI	**Maura Dua**	**4.18**	**326**	P	Pn	06 57 36.4	-0.5

*BYKL **19** 07:02:37.7±0.5, 51°.88N×100°.12E*
*MOS **19** 07:02:37.9±1.6, 51°.88N×100°.14E, h4km, mb4.6/1, Error ellipse: s-maj=18.7km s-min=14.6km az=15.8*
ISC 19 07:02:38.8±1.1, 51°.91N±0°.04×100°.24E±0°.05, h10km, n30, σ2°.9 21/51, 3C-1D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOY	**Mondy**	**0.53**	**118**	⇓*i*Pg	**Pg**	**07 02 48.4**	**-0.6**
MOY				Pmax		07 02 51.1	
	248nm,0.5s						
MOY				*i* Sg	**Sg**	**07 02 56.6**	**+0.6**
MOY				Smax		07 02 58.3	
	3μm,1.0s						
MOY	**Mondy**	**0.53**	**118**	*e*PG	**Pg**	**07 02 48.4**	**-0.6**
MOY				*e*		07 02 56.2	
MOY				pmax	pmax		
	comp=Z,214nm,0.2s						
MOY				smax	smax		
	comp=E,3μm,0.3s						
ORL	**Orlik**	**0.68**	**337**⇑	*i*Pg	**Pg**	**07 02 50.4**	**-1.6**
ORL				*e*		07 02 51.2	
ORL				max		07 02 51.4	
	comp=E,595nm,0.3s						
ORL				*i* Sg	**Sg**	**07 02 59.5**	**-1.4**
ORL				Smax		07 03 02.0	
	comp=E,2μm,0.4s						
ORL	**Orlik**	**0.68**	**337**⇑	*i*PG	**Pg**	**07 02 50.4**	**-1.6**
ORL				*e*		07 02 59.5	
ORL				pmax	pmax		
	comp=Z,617nm,0.1s						
ORL				smax	smax		
	comp=N,2μm,0.5s						
ARS	**Arshan**	**1.35**	**89**	*e*Pg	**Pn**	**07 03 03.1**	**-0.7**
ARS				*e*		07 03 05.7	
ARS				max		07 03 07.3	
	comp=N,309nm,0.4s						
ARS				*e*Sg	**Sb**	**07 03 23.0**	**+1.5**
ARS				*e*		07 03 27.4	
ARS				max		07 03 29.0	
	comp=N,5μm,1.0s						
ARS	**Arshan**	**1.35**	**89**	*e*PG	**Pn**	**07 03 03.4**	**-0.4**
ARS				*e*		07 03 23.4	
ARS				pmax	pmax		
	comp=Z,248nm,0.2s						
ARS				smax	smax		
	comp=E,4μm,0.4s						
TLY	**Talaya**	**2.12**	**95**⇑	*i*Pg	**Pb**	**07 03 16.3**	**-1.1**
TLY				Pmax		07 03 17.9	
	comp=E,73nm,0.3s						
TLY				*e*Sg	**Sb**	**07 03 45.3**	**+1.5**
TLY				*e*		07 03 47.4	
TLY				max		07 03 48.9	
	comp=E,677nm,0.5s						
TLY	**Talaya**	**2.12**	**95**	*e*PN	**Pb**	**07 03 16.3**	**-1.1**
TLY				*e*		07 03 45.6	
TLY				pmax	pmax		
	comp=Z,58nm,0.3s						
ZAK	**Zakamensk**	**2.45**	**128**	*e*Pn	**Pn**	**07 03 18.4**	**-0.5**
ZAK				*e*Pg	**Pb**	**07 03 21.8**	**-1.2**
ZAK				Pmax		07 03 24.3	
	comp=Z,76nm,0.3s						
ZAK				*e*Sg	**Sb**	**07 03 55.5**	**+2.3**
ZAK				*e*SgSg	**Sg**	**07 03 58.1**	**+0.6**
ZAK				max		07 04 00.8	
	comp=Z,302nm,0.4s						
ZAK	**Zakamensk**	**2.45**	**128**	*e*PN	**Pn**	**07 03 18.7**	**-0.2**
ZAK				*e*		07 03 21.8	
ZAK				*e*S	**Sb**	**07 03 55.3**	**+2.1**
ZAK				pmax	pmax		
	comp=Z,76nm,0.3s						
ZAK				smax	smax		
	comp=N,301nm,0.4s						
IRK	**Irkutsk**	**2.51**	**81**	*e*Pn	**Pn**	**07 03 18.3**	**-1.3**
IRK				*e*Pg	**Pb**	**07 03 23.1**	**-0.8**
IRK				Pmax		07 03 29.5	
	comp=N,260nm,0.4s						
IRK				*e*Sg	**Sb**	**07 03 56.9**	**+2.1**
IRK				Smax		07 03 59.3	
	comp=N,3μm,0.8s						
IRK	**Irkutsk**	**2.51**	**81**	*e*PN	**Pb**	**07 03 23.5**	**-0.4**
IRK				*e*		07 03 57.5	
IRK				pmax	pmax		
	comp=Z,265nm,0.1s						
IRK				smax	smax		
	comp=N,3μm,0.8s						
LSTR	**Listvyanka**	**2.84**	**89**	*e*Pg	**Pb**	**07 03 28.4**	**-1.2**
LSTR				Pmax		07 03 32.4	
	comp=N,51nm,0.4s						
LSTR				*e*		07 03 34.2	
LSTR				*e*Sg	**Sb**	**07 04 07.2**	**+2.8**
LSTR				Smax		07 04 09.7	
	comp=N,781nm,1.6s						
LSTR	**Listvyanka**	**2.84**	**89**	*e*PN	**Pb**	**07 03 29.9**	**+0.3**
LSTR				*e*		07 04 07.5	
LSTR				pmax	pmax		
	comp=E,52nm,0.4s						
LSTR				smax	smax		
	comp=E,776nm,1.3s						
TRG	**Tyrgan**	**3.84**	**75**	*e*Pn	**Pn**	**07 03 41.1**	**+3.2**
TRG				*e*Pg	**Pb**	**07 03 48.2**	**+1.6**
TRG				Pmax		07 03 50.2	
	comp=E,109nm,0.7s						
TRG				*e*		07 04 28.9	
TRG				*e*Sg	**Sg**	**07 04 39.8**	**-2.2**
TRG				Smax		07 04 44.0	
	comp=E,360nm,0.8s						
TRG	**Tyrgan**	**3.84**	**75**	*e*PN	**Pn**	**07 03 39.9**	**+2.0**
TRG				*e*		07 03 49.5	
TRG				*e*S	**Sn**	**07 04 25.4**	**+2.3**
TRG				*e*		07 04 39.9	
TRG				pmax	pmax		
	comp=Z,110nm,0.6s						
TRG				smax	smax		
	comp=N,363nm,0.8s						
KAB	**Kabansk**	**3.96**	**86**	*e*	**Pg**	**07 03 54.1**	**-0.6**
KAB				max		07 03 55.9	
KAB				*e*		07 04 34.6	
KAB				*e*Sg	**Sg**	**07 04 43.1**	**-2.9**
KAB				Smax		07 04 49.6	
	comp=N,1μm,1.2s						
KAB	**Kabansk**	**3.96**	**86**	*e*PN	**Pb**	**07 03 49.8**	**+1.1**
KAB				*e*		07 04 42.8	
KAB				pmax	pmax		
	comp=Z,133nm,0.2s						
KAB				smax	smax		
	comp=E,1μm,1.6s						
ZRHB	**Zarechye**	**4.29**	**79**	*e*	Pb	07 03 50.3	-4.0
ZRHB				*e*Pg	Pg	07 03 55.5	-5.5
ZRHB				*e*		07 04 05.6	
ZRHB				max		07 04 06.6	
	comp=E,162nm,0.6s						
ZRHB				*e*		07 04 41.2	
ZRHB				*e*Sg	**Sg**	**07 04 53.2**	**-3.4**
ZRHB				Smax		07 05 08.2	
	comp=E,968nm,1.2s						
UUDB	**Ulan-Yde**	**4.60**	**88**	*e*	Pn	07 03 53.7	+5.4
UUDB				*e*Pg	**Pb**	**07 04 00.8**	**+1.3**
UUDB				Pmax		07 04 05.1	
	comp=E,30nm,0.7s						
UUDB				*e*		07 04 49.9	
UUDB				*e*Sg	**Sg**	**07 05 02.1**	**-4.1**
UUDB				Smax		07 05 05.0	
	comp=E,233nm,1.1s						
OGRR	**Ongureny**	**4.79**	**66**	*e*Pn	**Pn**	**07 03 52.4**	**+1.5**
OGRR				*e*Pg	**Pb**	**07 04 04.8**	**+2.1**
OGRR				Pmax		07 04 08.6	
	comp=E,68nm,0.3s						
OGRR				*e*Sn	**Sn**	**07 04 48.6**	**+2.2**
OGRR				*e*Sg	**Sg**	**07 05 08.2**	**-4.2**
OGRR				Smax		07 05 16.5	
	comp=E,343nm,0.6s						
OGRR	**Ongureny**	**4.79**	**66**	*e*PN	**Pn**	**07 03 53.3**	**+2.4**
OGRR				*e*		07 04 06.1	
OGRR				*e*		07 05 06.3	
OGRR				pmax	pmax		
	comp=Z,68nm,0.9s						
OGRR				smax	smax		
	comp=E,341nm,0.7s						
MXMB	**Maximikha**	**5.36**	**72**	*e*	Pn	07 04 05.8	+7.1
MXMB				*e*Pg	**Pb**	**07 04 15.5**	**+3.1**
MXMB				Pmax		07 04 18.9	
	comp=E,48nm,0.6s						
MXMB				*e*Sn	**Sn**	**07 04 58.7**	**-1.7**
MXMB				*e*Sg	**Sg**	**07 05 26.2**	**-4.4**
MXMB				Smax		07 05 38.2	
	comp=E,273nm,0.9s						
ULN	**Ulaanbaatar**	**5.98**	**130**	*e*Pg	**Pb**	**07 04 25.6**	**+2.5**
ULN				*e*Sg	**Sg**	**07 05 44.7**	**-6.0**
NIZ	**Nizh Angarsk**	**6.72**	**51**	*e*Pn	**Pn**	**07 04 19.2**	**+1.7**
NIZ				*e*		07 04 25.0	
NIZ				max		07 04 25.8	
	comp=E,40nm,0.9s						
NIZ				*e*Sn	**Sn**	**07 05 33.4**	**-0.7**
NIZ				*e*Sg	Sg	07 06 08.6	-5.8
NIZ				Smax		07 06 12.6	
	comp=E,105nm,1.1s						
YLYR	**Ulyunkhan**	**7.17**	**61**	*e*Pn	**Pn**	**07 04 25.4**	**+1.8**
YLYR				*e*		07 04 32.6	
YLYR				max		07 04 41.4	
	comp=E,7.0nm,0.6s						
YLYR				*e*Sn	**Sn**	**07 05 42.9**	**-2.2**
YLYR				*e*		07 05 51.6	
YLYR				*e*Sg	Sg	07 06 21.9	-6.8
YLYR				Smax		07 06 53.0	
	comp=E,63nm,1.5s						
KMO	**Kumora**	**7.60**	**54**	*e*Pn	**Pn**	**07 04 31.5**	**+2.1**
KMO				*e*		07 04 37.8	
KMO				Pg	Pb	07 04 56.7	+6.2
KMO				Pmax		07 04 59.5	
	comp=E,13nm,0.4s						
KMO				*e*		07 05 57.1	
KMO				*e*Sg	Sg	07 06 35.3	-7.0
KMO				Smax		07 07 04.0	
	comp=E,69nm,0.9s						
UKT	**Uakit**	**8.71**	**60**	*e*Sg	Sg	07 07 09.9	-8.1
UKT				Smax		07 07 25.4	
	comp=E,42nm,1.2s						
BOD	**Bodaibo**	**9.88**	**48**	*e*Sg	Sn	07 07 46.2	+55
BOD				Smax		07 07 55.0	
	comp=E,22nm,2.0s						
TUP	**Tupik**	**12.09**	**70**	*e*Sg		07 08 54.5	
TUP				Smax		07 09 05.7	
	comp=E,30nm,2.3s						

*CSEM **19** 07:13:36.0, 37°.22N×28°.17E, h12km, ML2.0*
ISK 19 07:13:36.0, 37°.22N×28°.17E, h12km, ML2.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.13**	**134**	*e*PG	Pg	07 13 39.6	+0.3
YER				*e*SG	Sg	07 13 42.2	+0.5
YER	**Yerkesik**	**0.13**	**134**	*e*Pg	Pg	07 13 39.6	+0.3
YER				*e*Sg	Sg	07 13 42.2	+0.5
BODT	**Bodrum**	**0.70**	**257**	*e*PG	Pb	07 13 50.2	0.0
BODT	**Bodrum**	**0.70**	**257**	*e*Pg	Pb	07 13 50.2	0.0
AYDB	**Zeytinkoy-Aydi**	**0.76**	**343**	*e*PG	Pg	07 13 51.0	+0.2
AYDB	**Zeytinkoy-Aydi**	**0.76**	**343**	*e*Pg	Pg	07 13 51.0	+0.2
KULA	**Kula-Manisa**	**1.35**	**17**	*e*PN	Pb	07 14 01.5	+0.2
KULA	**Kula-Manisa**	**1.35**	**17**	*e*Pn	Pb	07 14 01.5	+0.2
IZM	**Izmir**	**1.37**	**329**	*e*PN	Pb	07 14 01.8	0.0
IZM	**Izmir**	**1.37**	**329**	*e*Pn	Pb	07 14 01.8	+0.1
BLCB	**Balcova**	**1.46**	**323**	*e*PN	Pn	07 14 02.7	+0.4
BLCB	**Balcova**	**1.46**	**323**	*e*Pn	Pb	07 14 02.7	-0.5
ELL	**Elmali**	**1.47**	**108**	*e*PN	Pn	07 14 02.6	+0.1
ELL	**Elmali**	**1.47**	**108**	*e*Pn	Pn	07 14 02.6	+0.1

*ISCJB **19** 07:21:33.8±0.4, 33°.00N±0°.02×116°.36W±0°.03, h6km±3km, Error ellipse: s-maj=4.1km s-min=3.0km az=159.2*
*NEIC **19** 07:21:34.9, 33°.00N×116°.36W, h7km, ML3.5(PAS), After PAS.*
NEIC Felt [II] at Alpine and Ramona. Also felt at Bonita, El Centro, Escondido, Julian, La Mesa, Pine Valley, Poway, San Diego, San Marcos and Santee.
*ECX **19** 07:21:35.1±0.6, 32°.99N×116°.36W, h5km, MD3.3, ML3.5*
ISC 19 07:21:34.2±0.9, 32°.99N±0°.02×116°.35W±0°.02, h12km±7km, n28, σ0°.945/46, 9C-9D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBKC	**Canebrake**	**0.13**	**139**	⇓*i*P	**Pg**	**07 21 37.4**	**-0.1**
BORC	**Borrego Spring**	**0.28**	**349**	⇓*i*P	**Pg**	**07 21 39.9**	**-0.1**
CRR	**Carrizo Plain**	**0.34**	**108**	⇑*i*P	**Pg**	**07 21 41.2**	**+0.2**
BAR	**Barrett**	**0.41**	**221**	*e*Pg	**Pg**	**07 21 42.6**	**+0.2**
BAR				*e*Sg	**Sg**	**07 21 48.0**	**+0.1**
BAR	**Barrett**	**0.41**	**221**	⇑*i*P	**Pg**	**07 21 42.5**	**+0.1**
BAR				⇑*e*P	**Pg**	**07 21 42.6**	**+0.2**
BAR				*e*S	**Sg**	**07 21 48.3**	**+0.3**
EML	**El Monte Cty P**	**0.43**	**256**	⇑*i*P	**Pg**	**07 21 42.6**	**0.0**
RMX	**La Rumorosa**	**0.45**	**150**	⇓*e*P	**Pg**	**07 21 43.1**	**-0.1**
RMX				*e*S	**Sg**	**07 21 49.5**	**+0.3**
YUH	**Yuha Desert**	**0.50**	**134**	⇓*i*P	**Pg**	**07 21 44.0**	**+0.1**
COK	**Cook Ranch**	**0.54**	**105**⇑	*i*P	**Pb**	**07 21 45.3**	**-0.3**
SDRC	**San Diego Road**	**0.56**	**243**⇑	*e*P	**Pg**	**07 21 45.0**	**-0.2**
SDRC				*e*S	**Sg**	**07 21 52.4**	**-0.2**
WESC	**Westside Schoo**	**0.57**	**114**⇑	*e*P	**Pb**	**07 21 45.8**	**-0.2**
WESC				*e*S	**Sg**	**07 21 53.4**	**+0.5**
PFO	**Pinyon Flats O**	**0.62**	**352**	*e*Pg	**Pg**	**07 21 46.0**	**-0.3**
PFO				*e*Sg	**Sg**	**07 21 53.9**	**-0.6**
SGL	**Mount Signal**	**0.63**	**123**⇑	*i*P	**Pg**	**07 21 46.6**	**+0.2**
CBX	**Cerro Bola**	**0.73**	**201**⇓	*e*P	**Pg**	**07 21 48.2**	**-0.2**
CBX				*e*S	**Sg**	**07 21 57.7**	**-0.2**
CBX				⇑*e*		07 22 01.5	
	comp=E,3μm,0.4s						
CPBX	**Cerro Prieto**	**1.05**	**123**	*e*P9	**Pg**	**07 21 54.0**	**-0.5**
CPBX				*e*S	**Sg**	**07 22 08.3**	**+0.2**
CPBX				*e*		07 22 11.1	
	comp=N,4μm,0.3s						
CPBX				⇓*e*		07 22 15.7	
	comp=E,7μm,0.3s						
RDX	**Rancho Dawling**	**1.12**	**162**⇓	*e*P	**Pb**	**07 21 54.7**	**-0.8**
RDX				*e*S	**Sb**	**07 22 09.2**	**-0.9**
RDX				⇓*e*		07 22 11.9	
	comp=N,466nm,0.3s						
PBX	**Punta Banda**	**1.29**	**194**	*e*P	**Pn**	**07 21 57.7**	**-0.3**
PBX				*e*S	**Sb**	**07 22 14.7**	**-0.1**
ECNX	**Esteban Cantu**	**1.35**	**189**	*e*P	**Pn**	**07 21 58.6**	**-0.3**
ECNX				*e*S	**Sb**	**07 22 16.6**	**-0.1**
ZAX	**El Zacaton**	**1.48**	**177**	*e*P	**Pn**	**07 22 00.8**	**+0.1**
ZAX				*e*S	**Sn**	**07 22 20.1**	**+0.2**
ECBX	**El Chinero**	**1.88**	**144**	*e*P9	**Pn**	**07 22 07.5**	**+1.5**
ECBX				*e*S	**Sb**	**07 22 32.2**	**+0.5**
MWC	**Mount Wilson**	**1.88**	**311**	*e*Pn	**Pn**	**07 22 07.1**	**+0.8**
MWC				*e*Sn	**Sb**	**07 22 32.4**	**+0.3**
PASC	**Pasadena Art C**	**1.93**	**308**	*e*Pn	**Pn**	**07 22 07.4**	**+0.6**
PASC				*e*Sn	**Sb**	**07 22 33.1**	**-0.2**
SPX	**San Pedro Mart**	**2.08**	**159**	*e*P4	**Pb**	**07 22 12.0**	**-0.1**
SPX				*e*S	**Sb**	**07 22 38.5**	**+0.4**
SPX				⇓*e*		07 22 41.9	
	comp=E,160nm,0.8s						
SPX				*e*		07 22 44.8	
	comp=N,159nm,0.7s						
LDFC	**Landfair**	**2.32**	**26**	*e*Pn	**Pb**	**07 22 16.0**	**0.0**
GSC	**Goldstone, Bar**	**2.33**	**351**	*e*Pn	**Pn**	**07 22 12.4**	**-0.1**
GSC				*e*Sn	**Sn**	**07 22 41.1**	**+0.1**
214A	**Organ Pipe Nat**	**3.17**	**108**	*e*Pn	**Pn**	**07 22 22.8**	**-1.0**
DAC	**Darwin (Calif)**	**3.43**	**343**	*e*Pn	**Pn**	**07 22 27.9**	**+0.3**
SHPR	**Sheep Range**	**3.64**	**15**	*e*Pn	**Pn**	**07 22 30.9**	**+0.4**

*ISCJB **19** 07:23:06.3±0.4, 32°.66N±0°.03×115°.81W±0°.02, h11km±3km, Error ellipse: s-maj=4.5km s-min=3.5km az=176.8*
*MEX **19** 07:23:06.2±1.2, 32°.90N×115°.74W, h16km±28km, MD3.3*
*NEIC **19** 07:23:07.1, 32°.67N×115°.84W, h4km, ML3.6(PAS), After PAS.*
*ECX **19** 07:23:07.4±0.5, 32°.66N×115°.84W, h2km, MD3.4, ML3.6*
ISC 19 07:23:06.5±0.8, 32°.62N±0°.03×115°.82W±0°.02, h10km±6km, n32, σ0°.958/51, 11C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.08**	**69**⇑	*i*P	**Pg**	**07 23 09.0**	**+0.1**
YUH	**Yuha Desert**	**0.10**	**287**⇑	*i*P	**Pg**	**07 23 08.9**	**-0.2**
WESC	**Westside Schoo**	**0.16**	**27**⇓	*i*P	**Pg**	**07 23 09.8**	**-0.2**
WESC				*e*S	**Sg**	**07 23 12.6**	**+0.1**
RMX	**La Rumorosa**	**0.22**	**266**⇑	*i*P	**Pg**	**07 23 11.3**	**+0.1**
RMX				*e*S	**Sg**	**07 23 14.5**	**0.0**
CPBX	**Cerro Prieto**	**0.48**	**115**	*i*P	**Pb**	**07 23 16.7**	**-0.3**
CPBX				*i* S	**Sb**	**07 23 24.7**	**+0.6**
CPBX	**Cerro Prieto**	**0.48**	**115**⇑	*e*P	**Pg**	**07 23 14.6**	**-1.2**
CPBX				*e*S	**Sg**	**07 23 22.2**	**0.0**
CPBX				⇑*e*		07 23 23.7	
CPBX				IAML		07 23 23.7	
	comp=E,15μm,0.3s						
ERRC	**Elmore Ranch**	**0.50**	**359**⇓	*i*P	**Pg**	**07 23 16.0**	**-0.2**
MBIG	**Mexicali**	**0.56**	**112**	*i*P	**Pg**	**07 23 17.8**	**+0.3**
MBIG				*i* S	**Sg**	**07 23 24.8**	**-0.1**
CLIC	**Calipatria**	**0.57**	**25**⇓	*i*P	**Pg**	**07 23 17.5**	**-0.2**
COA	**Coachella**	**0.63**	**67**⇑	*i*P	**Pg**	**07 23 18.7**	**-0.1**
RDX	**Rancho Dawling**	**0.70**	**189**⇓	*e*P	**Pg**	**07 23 20.3**	**+0.2**
RDX				*e*S	**Sb**	**07 23 30.4**	**-0.2**
RDX				⇑*e*		07 23 34.0	
RDX				IAML		07 23 34.0	
	comp=N,2μm,0.3s						
EMSC	**East Mesa**	**0.71**	**80**⇑	*i*P	**Pg**	**07 23 20.3**	**0.0**
BAR	**Barrett**	**0.72**	**275**	*e*Pg	**Pg**	**07 23 20.1**	**-0.5**
BAR				*e*Sg	**Sg**	**07 23 29.1**	**-0.9**
BAR	**Barrett**	**0.72**	**275**⇑	*i*P	**Pg**	**07 23 20.1**	**-0.5**
CBX	**Cerro Bola**	**0.78**	**247**	*e*P	**Pg**	**07 23 21.5**	**-0.1**
CBX				*i* S	**Sg**	**07 23 32.2**	**+0.4**
CBX	**Cerro Bola**	**0.78**	**247**	*e*P	**Pg**	**07 23 21.5**	**-0.1**
CBX				*i* S	**Sg**	**07 23 32.2**	**+0.4**
CBX	**Cerro Bola**	**0.78**	**247**⇑	*e*P	**Pg**	**07 23 21.6**	**-0.1**
CBX				*e*S	**Sg**	**07 23 32.0**	**+0.2**
SDRC	**San Diego Road**	**0.96**	**277**	*e*P	**Pg**	**07 23 23.9**	**-1.1**
ECNX	**Esteban Cantu**	**1.17**	**215**	*e*P	**Pb**	**07 23 28.3**	**-0.5**
ECNX				*e*S	**Sb**	**07 23 44.3**	**+0.3**
PBX	**Punta Banda**	**1.17**	**222**	*e*P	**Pb**	**07 23 28.5**	**-0.3**
PBX				*e*S	**Sg**	**07 23 44.2**	**+0.1**
ZAX	**El Zacaton**	**1.17**	**200**	*e*P	**Pb**	**07 23 28.7**	**-0.1**
ZAX				*e*S	**Sn**	**07 23 45.1**	**+0.1**
ZAX				⇑*e*		07 23 47.4	
ZAX				IAML		07 23 47.4	
	comp=E,1μm,0.3s

KZA	Kyzart	5.12	28	P		Pn	07 40 55.4	-1.2
	SNR=11							
EKS2	Erkin-Say	5.24	14	P		Pn	07 40 57.8	-0.1
	SNR=60							
AAK	Ala-Archa	5.38	20	P		Pn	07 40 59.9	+0.1
	SNR=39							
AAK	Ala-Archa	5.38	20	⇓P		Pn	07 40 59.8	+0.1
	comp=E,18nm,0.5s							
AAK				⇑S		Sn	07 41 57.8	-3.0
	comp=E,39nm,0.6s							
AAK	Ala-Archa	5.38	20	P		Pn	07 40 58.9	-0.9
	comp=E,13nm,0.3s,baz=171,slow=7.9,SNR=97							
AAK				S		Sn	07 41 57.7	-3.0
	comp=E,4.4nm,0.3s,baz=276,slow=22,SNR=14							
KBK	Karagaybulak	5.53	23	P		Pn	07 41 01.5	-0.4
	SNR=10							
KK31	Karatay Array	5.63	348	⇓P		Pn	07 41 02.4	-0.7
	comp=E,192nm,0.4s,baz=166,slow=11,SNR=968							
KK31				⇑S		Sn	07 42 02.1	-4.6
	comp=E,56nm,0.5s,baz=167,slow=22,SNR=17							
ULHL	Ulahol	5.66	33	P		Pn	07 41 02.8	-0.8
	SNR=12							
CHMS	Chumysh	5.79	20	P		Pn	07 41 04.8	-0.4
	SNR=18							
USP	Ospenovka	5.97	18	P		Pn	07 41 07.0	-0.7
	SNR=34							
TKM2	Tokmak 2	5.98	26	P		Pn	07 41 08.6	+0.6
	SNR=29							
TKM2	Tokmak 2	5.98	26	⇑P		Pn	07 41 08.4	+0.4
	comp=E,11nm,0.4s							
TKM2				⇑S		Sn	07 42 13.6	-1.8
	comp=E,14nm,0.9s							
SMLA	Simla	7.71	145	*i* P		Pn	07 41 30.6	-0.6
SMLA				*eP*		Pn	07 41 31.0	-0.1
SMLA				*eS*		Sn	07 42 49.5	-7.4
SMLA				AML		AML	07 42 54.9	
	comp=E,452nm,0.5s							
SMLA				AML		AML	07 42 55.6	
	comp=N,417nm,0.5s							
PDGK	Podgornoye	8.06	42	⇓P		Pn	07 41 35.1	-0.7
	comp=N,3.7nm,0.6s							
PDGK				⇓S		Sn	07 43 04.9	-0.4
	comp=N,11nm,0.9s							
JOSI	Joshimath	9.38	136	*eP*		Pn	07 41 53.1	-0.7
JOSI				*eS*		Sn	07 43 26.1	-12
JOSI				*eS*		Sn	07 43 27.1	-11
JOSI				AML		AML	07 43 37.2	
	comp=E,297nm,0.7s							
JOSI				AML		AML	07 43 37.9	
	comp=N,299nm,0.4s							
IMYA	Miami	9.64	266	*eP*		Pn	07 41 55.1	-2.1
BHGR	Bahadurgarh	9.78	154	*eS*		Sn	07 43 38.8	-8.2
KALG	Kalgarh	9.81	143	*ex*		Sn	07 43 43.2	-4.6
NDI	New Delhi	9.88	152	*eP*		Pn	07 42 02.5	+2.1
NDI				*eS*		Sn	07 43 40.0	-10
AYAN	Aya Nagar	10.03	153	*eP*		Pn	07 42 02.8	+0.5
AYAN				*eS*		Sn	07 43 44.2	-8.9
BISR	Bishrakh	10.07	152	*ex*		Sn	07 43 51.2	-2.7
SONA	Sohna	10.23	154	*eS*		Sn	07 43 47.2	-11
SONA				AML		AML	07 43 57.2	
	comp=E,76nm,0.1s							
SONA				AML		AML	07 44 00.5	
	comp=N,30nm,0.6s							
IPAY	Payeh	10.49	268	*eP*		Pn	07 42 06.2	-2.5
IAKL	Akhelmad	10.66	269	*eP*		Pn	07 42 09.2	-1.8
IKRD	Kardeh	10.82	270	*eP*		Pn	07 42 00.3	-13
ISHV	Shirvan	11.38	274	*eP*		Pn	07 42 18.8	-1.7
AGRA	Agra	11.47	153	*eS*		Sn	07 44 16.7	-11
AGRA				AML		AML	07 44 24.8	
	comp=E,69nm,0.3s							
AGRA				AML		AML	07 44 25.5	
	comp=N,66nm,0.3s							
MK31	Makanchi Array	11.92	36	P		Pn	07 42 25.9	-1.4
	comp=N,2.0nm,0.7s,baz=231,slow=18,SNR=16							
MKAR	Makanchi Array	11.92	36	P		Pn	07 42 26.2	-1.2
	comp=N,0.3nm,0.3s,baz=226,slow=14,SNR=22							
PYUN	Piuthan	13.19	133	*eP*		Pn	07 42 40.8	-3.3
	comp=N,96nm,0.4s							
KOLN	Koldanda	13.79	132	*eP*		Pn	07 42 48.7	-3.2
	comp=N,14nm,0.3s							
KURBB	Kurchatov Arra	13.83	18	⇑P		Pn	07 42 48.2	-3.7
	comp=N,8.9nm,0.8s							
KURBB	Kurchatov Arra	13.83	18	P		Pn	07 42 48.6	-3.3
	comp=N,0.1nm,0.3s,baz=208,slow=12,SNR=15							
KURK	Kurchatov	13.94	18	⇑P		Pn	07 42 48.4	-4.9
	comp=N,2.5nm,0.6s							
GKN	Gorkha	14.26	128	*eP*		Pn	07 42 54.1	-3.6
	comp=N,45nm,0.4s							
AB31	Akbulak array	14.58	327	⇑P		Pn	07 42 59.1	-2.4
	comp=N,0.9nm,0.3s,baz=130,slow=12,SNR=9.2							
AB31				⇑S		Sn	07 45 29.5	-13
	comp=N,5.2nm,0.5s,baz=156,slow=54,SNR=12							
DMN	Daman	14.83	128	*eP*		Pn	07 43 01.4	-3.6
	comp=N,38nm,0.6s							
PKIN	Phulchoki	15.03	128	*eP*		Pn	07 43 05.2	-2.4
	comp=N,11nm,0.3s							
PKI	Pulchoki	15.04	128	*eP*		Pn	07 43 05.2	-2.6
	comp=N,24nm,0.6s							
GUN	Gumba	15.11	126	*eP*		Pn	07 43 05.4	-3.2
BVA0	Borovoye Array	15.48	356	⇓P		Pn	07 43 10.6	-2.1
	comp=N,3.3nm,0.3s,baz=159,slow=13,SNR=55							
BVAR	Borovoye Array	15.48	356	P		Pn	07 43 10.8	-1.9
	comp=N,2.9nm,0.3s,baz=161,slow=12,SNR=21							
BVAR				S		Sn	07 45 52.7	-12
	comp=N,0.2nm,0.3s,baz=169,slow=24,SNR=5.1							
JIRN	Jiri	15.48	126	*eP*		Pn	07 43 10.6	-2.7
	comp=N,23nm,0.3s							
BRVK	Borovoye	15.52	356	⇓P		Pn	07 43 10.9	-2.2
	comp=N,23nm,0.9s							
RAMN	Ramite	16.23	127	*eP*		Pn	07 43 19.9	-2.5
	comp=N,14nm,0.3s							
AKTO	Aktyubinsk	16.29	326	⇑P		Pn	07 43 22.2	-0.5
	comp=N,4.0nm,0.4s							
AKTO				⇓S		Sn	07 46 12.2	-12
	comp=N,6.2nm,0.5s							
AKTO	Aktyubinsk	16.29	326	P		P	07 43 23.7	+0.4
	comp=N,1.9nm,0.3s,baz=128,slow=13,SNR=20							
AKTO				S		Sn	07 46 11.5	-12
	comp=N,0.5nm,0.3s,baz=169,slow=22,SNR=5.9							
TAPN	Taplejung	16.68	123	*eP*		Pn	07 43 25.9	-2.1
	comp=N,18nm,0.4s							
ODAN	Odare	16.80	125	*eP*		P	07 43 27.6	-1.8
ZALV	Zalesovo Beam	18.58	24	P		P	07 43 48.9	+0.6
	comp=N,0.9nm,0.3s,baz=224,slow=12,SNR=9.1							
HHC	Hu-ho-hao-te	30.61	71	*eP*		P	07 45 53.3	+10
HHC				PP		PP	07 46 58.0	+3.1
HHC				S		S	07 50 48.3	+12
HHC				sS		sS	07 51 26.6	+1.5
HHC				SS		SnSn	07 52 37.6	+9.2
HHC				pmax		pmax		
	comp=Z,18nm,0.7s							
HHC				pmax		pmax		
	comp=Z,53nm,8.6s							
HHC				LR		LR		
	comp=N,190nm,19.7s							
HHC				LR		LR		
	comp=E,190nm,18.5s							
HHC				LR		LR		
	comp=Z,170nm,19.7s							
AKASG	Malin Array Be	32.93	307	P		P	07 46 05.5	+2.1
	comp=Z,0.6nm,0.3s,baz=111,slow=8.4,SNR=4.2							
FINES	FINESS Array B	37.06	325	P		P	07 46 40.4	+1.8
	comp=Z,1.3nm,0.3s,baz=124,slow=9.9,SNR=14							
ARCES	ARCESS Array B	40.46	337	P		P	07 47 08.8	+1.8
	comp=Z,1.1nm,0.4s,baz=115,slow=7.6,SNR=20							
NB2	NORSAR Subarra	44.02	322	P		P	07 47 37.2	+1.3
	comp=Z,1.7nm,0.5s,baz=92,slow=7.9							
NOA	NORSAR Array B	44.02	322	P		P	07 47 37.4	+1.5
	comp=Z,1.3nm,0.5s,baz=93,slow=7.7,SNR=7.1							
TORD	Torodi Ar. Bea	66.58	269	P		P	07 50 19.8	+1.7
	comp=Z,0.6nm,0.5s,baz=51,slow=5.4,SNR=14							
INK	Inuvik	72.69	10	P		P	07 50 56.2	+1.5
	comp=Z,0.8nm,0.5s,baz=320,slow=5.1,SNR=5.7							
ILAR	Eielson Array	73.50	16	P		P	07 51 00.7	+1.1
	comp=Z,0.3nm,0.8s,baz=309,slow=5.7,SNR=3.8							
YKA	Yellowknife Ar	80.12	3	P		P	07 51 38.2	+1.5
	comp=Z,0.7nm,0.4s,baz=351,slow=5.6,SNR=11							
WRA	Warramunga Arr	81.87	123	P		P	07 51 47.3	+0.7
	comp=Z,0.2nm,0.4s,baz=325,slow=4.7,SNR=8.4							

WEL 19 07:40:51.6±0.2, 38°13'S×176°47'E, h5km, ML3.6/1, 2D, Error ellipse: s-maj=2.0km s-min=1.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKRZ	Makatiti	0.01	184	⇓P*	Pg	07 40 51.8	-0.9
MKRZ				AML	AML	07 40 52.5	
MKRZ				*eS**	Sg	07 40 52.7	-0.6
OMRZ	Omania	0.08	283	⇓Pg	Pg	07 40 53.9	+0.4
OMRZ				SG	Sg	07 40 56.0	+1.3
TARZ	Mount Tarawera	0.11	165	PG	Pg	07 40 54.9	+0.7
LIRZ	Lichensteins R	0.14	331	PG	Pg	07 40 55.2	+0.8
HLRZ	Highlands Stat	0.16	215	PG	Pg	07 40 55.7	+0.8
KARZ	Kaharoa	0.20	300	PG	Pg	07 40 56.5	+0.8
MARZ	Manawahe	0.21	50	PG	Pg	07 40 56.7	+0.8
UTU	Utuhina	0.22	256	PG	Pg	07 40 56.9	+0.8
HSRZ	Hossack Road	0.26	223	PG	Pg	07 40 57.5	+0.8
OPRZ	Ohinepanea	0.29	14	PG	Pg	07 40 58.0	+0.8
OPRZ				eSG	Sg	07 41 02.3	+1.3
HRRZ	Handcock Road	0.30	209	*e*PG	Pg	07 40 58.2	+0.6

*IDC **19** 07:47:08.7±1.7, 6°91'S×105°14'E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/22, mbtmp3.8/5, ML4.0/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/19, Error ellipse: s-maj=63.7km s-min=22.3km az=45.0*

*ISCJB **19** 07:47:11.4±1.7, 7°29S±0°06×105°41E±0°05, h5km±12km, mb4.1/5, MS3.6/2, Error ellipse: s-maj=10.5km s-min=6.8km az=26.6*

*DJA **19** 07:47:13.5±0.5, 7°S±4'×10°5E±°, h10km, M4.5/15, MLv4.5/15*

ISC 19 07:47:14.4±1.4, 7°23S±0°07×105°46E±0°06, h15km±6km, n24, σ1s47/26, mb4.0/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKJI	Sukabumi	1.11	78	P	Pb	07 47 34.3	-1.0
SKJI				S	Sb	07 47 49.9	+0.3
SBJI	Serang	1.29	31	P	Pn	07 47 35.5	-2.4
SBJI				S	Sb	07 47 54.2	-0.5
TNG	Tangerang	1.58	48	P	Pn	07 47 41.5	-0.4
TNG				S	Sn	07 48 02.9	+0.8
CBJI	Citeko	1.59	60	P	Pn	07 47 42.5	+0.4
CBJI				S	Sg	07 48 13.8	+7.9
CNJI	Cibinong	1.65	93	P	Pn	07 47 40.5	-2.5
CNJI				S	Sn	07 48 04.9	+0.9
BLSI	Bandar Lampung	1.86	353	P	Pn	07 47 42.9	-3.0
KASI	Kota Agung	1.95	330	P	Pn	07 47 45.0	-2.0
LEM	Lembang	2.17	79	P	Pn	07 47 50.5	+0.2
LEM	Lembang	2.17	79	Pn	Pn	07 47 52.0	+1.7
	30nm,0.3s,baz=219,slow=6.5,SNR=17						
CISI	Cisompet, Garu	2.35	98	P	Pn	07 47 51.3	-1.4
KLI	Kotabumi	2.43	346	P	Pn	07 47 54.0	+0.4
LWLI	Liwa	2.61	327	P	Pn	07 47 57.0	+0.8
CMJI	Cimerak	3.01	101	P	Pn	07 48 01.7	+0.1
MDSI	Maura Dua	3.01	335	P	Pn	07 48 00.5	-1.2
LHSI	Lahat	3.90	330	P	Pn	07 48 14.7	+0.9
PPBI	Pangkal Pinang	5.08	8	P	Pb	07 48 37.3	-5.8
WRA	Warramunga Arr	30.71	117	P	P	07 53 28.7	-0.5
	1.0nm,0.7s,baz=303,slow=9.5,SNR=10						
STKA	Stephens Creek	41.63	131	P	P	07 55 02.3	0.0
	2.5nm,0.6s,baz=312,slow=9.0,SNR=8.4						
JNU	Nakatsue	46.84	30	LR	LR	08 18 26.3	
	comp=Z,22nm,18.5s,slow=40						
HHC	Hu-ho-hao-te	48.17	6	*eP*	P	07 55 56.1	+1.8
HHC				PP	PP	07 57 47.9	+1.1
HHC				S	S	08 02 53.9	+0.9
HHC				sS	sS	08 03 01.4	+0.6
HHC	Hu-ho-hao-te	48.17	6	SS	SS	08 06 18.0	-4.7
HHC				pmax	pmax		
	comp=Z,28nm,0.6s						
HHC				pmax	pmax		
	comp=Z,75nm,7.4s						
HHC				LR	LR		
	comp=N,200nm,17.3s						
HHC				LR	LR		
	comp=E,200nm,18.5s						
HHC				LR	LR		
	comp=Z,140nm,18.5s						
MKAR	Makanchi Array	57.60	341	P	P	07 56 57.6	-6.2
	comp=Z,0.2nm,0.7s,baz=141,slow=7.4,SNR=2.5						
ZALV	Zalesovo Beam	63.39	347	P	P	07 57 37.2	-5.9
	comp=Z,0.6nm,0.5s,baz=208,slow=5.7,SNR=2.4						
TXAR	Lajitas Array	144.85	48	PKP	PKPab	08 06 48.5	-2.4
	comp=Z,0.4nm,0.5s,baz=255,slow=1.8,SNR=7.5						

*IDC **19** 07:47:37.8±1.3, 7°13S×105°04E, h0km, mb4.2/8, mb1 4.4/11, mb1mx4.2/25, mbtmp4.4/11, ML4.7/3, MS3.2/2, Ms1 3.2/2, ms1mx2.9/18, Error ellipse: s-maj=39.5km s-min=17.6km az=41.0*

*ISCJB **19** 07:47:38.9±0.8, 7°2S±0°1×105°03E±0°07, h23km, mb4.2/9, MS3.1/1, Error ellipse: s-maj=19.6km s-min=9.0km az=18.5*

*NEIC **19** 07:47:43.4±1.0, 7°12S×105°15E, h35km, mb4.5/3, Error ellipse: s-maj=26.8km s-min=10.6km az=211.0*

ISC 19 07:47:41.6±1.0, 7°2S±0°2×105°11E±0°10, h23km, n27, σ1s12/21, mb4.3/9, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LEM	Lembang	2.52	82	Pn	Pn	07 48 21.1	-0.1
	158nm,0.3s,baz=209,slow=22,SNR=11						
LEM				Sn	Sn	07 48 51.6	+0.4
	48nm,0.3s,baz=350,slow=10,SNR=4.3						
JAGI	Jajag, Banyuwa	9.05	99	*e*Pn	Pn	07 49 51.9	+0.9
	60nm,0.8s						
PSI	Prapat	11.68	328	LR	LR	07 55 43.2	
	comp=Z,206nm,19.5s,baz=146,slow=42						
KAPI	Kappang	14.72	82	Pn	Pn	07 51 09.8	+1.3
	0.9nm,0.3s,baz=252,slow=16,SNR=5.4						
KAPI	Kappang	14.72	82	*e*Pn	Pn	07 51 07.7	-0.8
	15nm,1.1s						
MMRI	Maumere	17.03	96	*e*Pn	Pn	07 51 37.7	-0.7
	74nm,0.8s						
BATI	Baumata	18.58	101	P	Pn	07 51 59.3	+1.6
	8.0nm,0.3s,baz=326,slow=7.3,SNR=4.9						
BATI				S	S	07 55 27.1	-0.9
	1.3nm,0.3s,baz=54,slow=19,SNR=3.4						
SIJI	Sorong	26.82	78	P	P	07 53 18.8	-1.7
	14nm,0.7s,baz=289,slow=6.2,SNR=7.6						
H01W3	Cape Leeuwin H	28.79	164	T	T	08 23 44.0	
	baz=339						
H01W1	Cape Leeuwin H	28.81	164	T	T	08 23 42.0	
	baz=339						
H01W2	Cape Leeuwin H	28.81	164	T	T	08 23 42.5	
	baz=339						
WRA	Warramunga Arr	31.05	117	P	P	07 53 57.2	-0.9
	8.0nm,1.1s,baz=305,slow=9.2,SNR=22						
WRAB	Tennant Creek	31.05	117	*e*P	P	07 53 57.6	-0.6
	8.2nm,0.8s						
H08S2	Diego Garcia H	32.34	267	T	T	08 27 54.0	
	baz=90,slow=75,SNR=54						
H08S3	Diego Garcia H	32.35	267	T	T	08 27 55.1	
	baz=90,slow=75,SNR=67						
H08S1	Diego Carcia H	32.36	267	T	T	08 27 54.6	
	baz=90,slow=75,SNR=20						
STKA	Stephens Creek	41.93	131	P	P	07 55 31.3	+0.6
	5.8nm,0.5s,baz=312,slow=7.6,SNR=21						
STKA	Stephens Creek	41.93	131	*e*P	P	07 55 31.1	+0.4
	3.2nm,1.1s						
MJAR	Matsushiro Arr	53.43	33	P	P	07 57 01.0	+1.1
	1.1nm,0.6s,baz=198,slow=10,SNR=3.7						
SONM	Songino Array	54.79	1	P	P	07 57 09.0	-0.7
	0.4nm,0.5s,baz=184,slow=8.5,SNR=2.8						
SONM				PcP	PcP	07 58 12.2	+0.3
	0.8nm,0.5s,baz=180,slow=3.5,SNR=4.5						
AAK	Ala-Archa	56.88	333	*e*P	P	07 57 26.0	+1.1
MKAR	Makanchi Array	57.44	342	P	P	07 57 26.9	-1.7
	0.5nm,0.5s,baz=175,slow=6.3,SNR=5.2						
KKAR	Karatay Array	59.09	331	P	P	07 57 35.6	-4.6
ZALV	Zalesovo Beam	63.26	347	P	P	07 58 06.2	-2.0
	1.2nm,0.4s,baz=151,slow=5.5,SNR=5.7						
PETK	Petropavlovsk-	74.67	30	LR	LR	08 31 29.0	
	comp=Z,9.7nm,21.5s,baz=71,slow=35						
FINES	FINESS Array B	91.04	332	P	P	08 00 44.8	+0.9
	0.8nm,0.6s,baz=117,slow=6.8,SNR=4.9						
TXAR	Lajitas Array	145.08	47	PKPbc	PKPab	08 07 17.6	+0.1
	1.6nm,0.6s,baz=306,slow=1.0,SNR=20						

*IDC **19** 07:56:04.3±13.0, 37°05N×72°38E, h143km±120km, mb3.5/2, mb1 3.4/5, mb1mx3.1/27, mbtmp3.9/5, ML3.7/3, MS3.8/2, Ms1 3.8/2, ms1mx2.7/26, Error ellipse: s-maj=81.0km s-min=50.4km az=142.0*

*ISCJB **19** 07:56:08.0±0.7, 37°31N±0°04×72°22E±0°09, h142km, mb3.7/2, Error ellipse: s-maj=11.1km s-min=4.7km az=161.5*

*NNC **19** 07:56:13.7±2.9, 37°75N×71°94E, h210km±19km, mb2.7, mpv3.8, Error ellipse: s-maj=28.3km s-min=10.2km az=157.0*

ISC 19 07:56:06.1±1.0, 37°20N±0°08×72°17E±0°09, h142km, n31, σ1s79/30, 11C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	Sufi-Kurgan	3.00	20	⇑P	Pn	07 56 58.0	+4.7
	35nm,0.3s						
SFK				⇑S	Sn	07 57 36.0	+6.1
	84nm,0.3s						
DZET	Dzherino	3.09	302	⇓P	Pn	07 57 00.3	+6.0
	43nm,0.2s						
DZET				⇑S	Sn	07 57 36.7	+5.1
	268nm,0.4s						
KSH	Kashi	3.78	51	Pn	Pn	07 57 03.3	-0.1
KSH				Sn	Sn	07 57 40.9	-6.9
KSH				smax	smax		
	comp=N,290nm,0.5s						
KSH				smax	smax		
	comp=E,240nm,0.7s						
AML	Almayashu	5.07	13	P	Pn	07 57 23.4	+2.8
	SNR=87						
MNAS	Manas	5.29	3	⇑P	Pn	07 57 26.2	+2.9
	comp=E,2.5nm,0.3s						
MNAS				⇑S	Sn	07 58 22.4	-1.1
UCH	Uchtor	5.34	19	P	Pn	07 57 27.0	+2.7
	SNR=14						
KZA	Kyzart	5.42	25	P	Pn	07 57 27.5	+2.2
	SNR=13						
EKS2	Erkin-Say	5.59	12	P	Sn	07 58 30.1	-0.7
	SNR=8.7						
DLH	Dalhousie	5.60	145	*e*P	Pn	07 57 33.0	+5.4
AAK	Ala-Archa	5.71	18	P	Pn	07 57 31.7	+2.7
	SNR=12						
AAK	Ala-Archa	5.71	18	⇑P	Pn	07 57 32.1	+3.1
	comp=E,5.6nm,0.4s						
AAK				⇑S	Sn	07 58 34.0	+0.3
ULHL	Ulahol	5.94	31	P	Pn	07 57 34.5	+2.4
	SNR=7.0						
KK31	Karatay Array	6.03	348	P	Pn	07 57 35.6	+2.5
	comp=E,3.4nm,0.5s,baz=187,slow=15,SNR=107						
KK31				S	Sn	07 58 37.4	-3.7
	comp=E,13nm,0.3s,baz=168,slow=15,SNR=31						
TKM2	Tokmak 2	6.29	24	⇑P	Pn	07 57 36.7	0.0
	comp=E,4.0nm,0.8s						
TKM2				⇑S	Sn	07 58 46.4	-1.2
	comp=E,4.6nm,0.7s						
GKN	Gorkha	13.94	128	*e*P	P	07 59 20.9	-0.3
	comp=E,20nm,0.3s						
DMN	Daman	14.51	128	*e*P	P	07 59 28.2	+0.5
	comp=E,7.3nm,0.3s						
PKIN	Phulchoki	14.72	127	*e*P	P	07 59 30.2	+0.2
PKI	Pulchoki	14.73	127	*e*P	P	07 59 30.7	+0.5
	comp=E,11nm,0.4s						
GUN	Gumba	14.80	125	*e*P	P	07 59 31.5	+0.5
	comp=E,15nm,0.5s						
AB31	Akbulak array	14.96	328	⇑P	P	07 59 31.0	-1.2
	comp=E,1.9nm,0.4s						
AB31				S	Sn	08 02 03.5	-13
	comp=E,0.6nm,0.4s,baz=162,slow=24,SNR=7.2						
JIRN	Jiri	15.17	125	*e*P	P	07 59 36.0	+0.8
	comp=E,21nm,0.3s						
BVAR	Borovoye Array	15.87	356	P	Pn	07 59 40.7	-0.8
	comp=E,0.3nm,0.3s,baz=168,slow=15,SNR=3.2						
RAMN	Ramite	15.92	126	*e*P	P	07 59 44.7	+1.4
TAPN	Taplejung	16.39	122	*e*P	P	07 59 50.1	+1.6
AKTO	Aktyubinsk	16.67	327	⇑P	Pn	07 59 52.3	+1.1
	comp=E,2.0nm,0.4s						
AKTO	Aktyubinsk	16.67	327	P	Pn	07 59 52.2	+1.1
	comp=E,1.2nm,0.3s,baz=126,slow=11,SNR=10.0						
ZALV	Zalesovo Beam	18.90	24	P	P	08 00 14.5	-0.9
	comp=E,0.3nm,0.3s,baz=223,slow=11,SNR=5.2						
ARCES	ARCESS Array B	40.86	337	P	P	08 03 33.1	-0.4
	comp=E,1.9nm,1.0s,baz=121,slow=8.5,SNR=3.6						
PSI	Prapat	42.15	138	LR	LR	08 23 33.8	
	comp=E,211nm,18.1s,baz=158,slow=39						
JCJ	Chichijima	58.94	78	LR	LR	08 33 34.9	
	comp=E,45nm,21.8s,baz=103,slow=38						
TORD	Torodi Ar. Bea	66.67	269	P	P	08 06 41.0	-0.8
	comp=E,0.4nm,0.3s,baz=48,slow=5.2,SNR=14						

*CSEM **19** 07:59:31.1±0.5, 50°27N×18°95E, h2km, ML2.8/5, Error ellipse: s-maj=12.1km s-min=4.5km az=5.0*

PRU 19 07:59:32.7, 50°17N×18°97E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	Ojcow	0.54	84	*e*Pg	Pg	07 59 41.4	-1.6
OJC				*e*Sg	Sg	07 59 48.1	-1.9
OJC	Ojcow	0.54	84	*e*Pg	Pg	07 59 41.4	-1.6
OJC				*e*Sg	Sg	07 59 48.1	-1.9
OKC	Ostrava-Krasne	0.63	238	*e*PG	Pg	07 59 43.8	-0.9
OKC				*e*SG	Sg	07 59 52.8	-0.1
	comp=Z,9.6nm,0.2s						
OKC	Ostrava-Krasne	0.63	238	Pg	Pg	07 59 43.8	-0.9
OKC				Sg	Sg	07 59 52.8	-0.1
	9.6nm,0.2s						
MORC	Moravsky Berou	1.00	247	*e*Pg	Pg	07 59 52.0	0.0
NIE	Niedzica	1.15	130	*e*Pg	Pg	07 59 54.8	0.0
NIE				*e*Sg	Sb	08 00 11.3	+0.2
NIE	Niedzica	1.15	130	*e*Pg	Pg	07 59 54.8	0.0
NIE				*e*Sg	Sb	08 00 11.3	+0.2
VYHS	Vyhne	1.68	183	*e*Pn	Pn	08 00 02.7	-0.7
VYHS				*e*Sn	Sn	08 00 24.9	-0.7
VYHS	Vyhne	1.68	183	*e*PN	Pn	08 00 02.7	-0.7
VYHS				*e*SN	Sn	08 00 24.9	-0.7
DPC	Dobruska-Polom	1.71	277	*e*PG	Pn	08 00 03.2	-0.6
DPC				*e*SG	Sb	08 00 27.4	+0.2
DPC	Dobruska-Polom	1.71	277	Pg	Pn	08

CBJI	**Citeko**	**1.57**	**62**	P		**Pn**	**08 13 51.3**	**-2.6**
CNJI	**Cibinong**	**1.67**	**95**	P		Pn	08 13 51.2	-4.1
BLSI	**Bandar Lampung**	**1.79**	**353**	P		**Pn**	**08 13 54.9**	**-2.0**
KASI	**Kota Agung**	**1.88**	**330**	P		**Pn**	**08 13 55.4**	**-2.8**
KASI				S		**Sn**	**08 14 19.2**	**-1.6**
LEM	**Lembang**	**2.17**	**81**	P		**Pn**	**08 14 02.4**	**+0.1**
LEM	**Lembang**	**2.17**	**81**	Pn		**Pn**	**08 14 01.4**	**-0.9**
	26nm,0.3s,baz=299,slow=19,SNR=36							
LEM				Sn		**Sn**	**08 14 32.0**	**+3.8**
	21nm,0.3s,baz=285,slow=23,SNR=4.1							
LEM				LR		LR	08 15 07.5	
	comp=Z,609nm,19.0s,baz=36,slow=49							
KLI	**Kotabumi**	**2.35**	**345**	P		Pn	08 14 12.6	+7.9
CISI	**Cisompet, Garu**	**2.38**	**100**	P		Pn	08 14 01.6	-3.4
LWLI	**Liwa**	**2.54**	**327**	P		**Pn**	**08 14 09.8**	**+2.5**
MDSI	**Maura Dua**	**2.94**	**334**	P		**Pn**	**08 14 13.7**	**+1.0**
CMJI	**Cimerak**	**3.03**	**102**	P		**Pn**	**08 14 12.3**	**-1.6**
PCJI	**Pacitan**	**5.76**	**101**	P		**Pn**	**08 14 50.5**	**-0.9**
KAPI	**Kappang**	**14.38**	**82**	LR		LR	08 23 14.3	
	comp=Z,103nm,19.2s,baz=261,slow=41							
CMAR	**Chiang Mai Arr**	**26.25**	**346**	LR		LR	08 31 18.6	
	comp=Z,85nm,19.1s,baz=168,slow=41							
SIJI	**Sorong**	**26.48**	**78**	P		**P**	**08 18 59.5**	**-1.2**
	2.0nm,0.3s,baz=267,slow=18,SNR=2.0							
WRA	**Warramunga Arr**	**30.76**	**117**	P		**P**	**08 19 38.6**	**-0.1**
	2.8nm,1.1s,baz=292,slow=10,SNR=6.9							
H08S2	**Diego Garcia H**	**32.69**	**267**	T		T	08 54 07.8	
	baz=90,slow=75,SNR=33							
H08S3	**Diego Garcia H**	**32.70**	**267**	T		T	08 54 08.8	
	baz=90,slow=75,SNR=32							
H08S1	**Diego Carcia H**	**32.70**	**267**	T		T	08 54 08.4	
	baz=90,slow=75,SNR=6.9							
STKA	**Stephens Creek**	**41.69**	**131**	P		**P**	**08 21 12.8**	**+1.0**
	3.4nm,0.6s,baz=306,slow=7.9,SNR=20							
STKA				LR		LR	08 41 14.8	
	comp=Z,66nm,18.1s,baz=207,slow=40							
MKAR	**Makanchi Array**	**57.53**	**341**	P		**P**	**08 23 13.8**	**+1.8**
	0.2nm,0.5s,baz=134,slow=6.7,SNR=2.6							
KURBB	**Kurchatov Arra**	**62.08**	**341**	P		**P**	**08 23 42.7**	**-0.5**
	0.1nm,0.3s,baz=153,slow=6.0,SNR=3.5							
ZALV	**Zalesovo Beam**	**63.31**	**347**	P		**P**	**08 23 50.4**	**-0.9**
	0.5nm,0.3s,baz=168,slow=7.4,SNR=2.8							
ZALV				LR		LR	08 53 08.6	
	comp=Z,54nm,18.5s,baz=70,slow=38							
TXAR	**Lajitas Array**	**144.81**	**48**	PKP		**PKPdf**	**08 33 00.5**	**+0.6**
	2.6nm,1.1s,baz=272,slow=1.7,SNR=14							

IDC 19 08:24:27.1±3.2, **54°62N**×**86°35E**, **h0**km, **mb1 2.6**/2, **mb1mx2.6**/28, **mbtmp2.6**/2, **ML2.3**/2, **Error ellipse: s-maj=24.3km s-min=14.8km az=50.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.12**	**234**	*i*		08 31 40.0	
	baz=53,slow=328,SNR=0.6						
ZALV	**Zalesovo Beam**	**1.12**	**234**	Pg	Pg	08 24 47.8	-0.8
	0.8nm,0.3s,baz=52,slow=18,SNR=7.7						
ZALV				Lg	Lg	08 25 03.3	
	1.9nm,0.3s,baz=52,slow=27,SNR=14						
KURBB	**Kurchatov Arra**	**6.22**	**233**	Pn	Pn	08 26 01.6	+1.6
	0.0nm,0.3s,baz=49,slow=14,SNR=6.7						
KURBB				Lg	Lg	08 27 44.4	
	0.0nm,0.3s,baz=49,slow=33,SNR=3.0						
MKAR	**Makanchi Array**	**8.25**	**200**	Pn	Pn	08 26 27.5	-0.5
	0.1nm,0.3s,baz=23,slow=15,SNR=4.9						
MKAR				Sn	Sn	08 28 02.1	+0.3
	0.1nm,0.3s,baz=22,slow=28,SNR=4.2						
MKAR				Lg	Lg	08 28 49.5	
	0.1nm,0.3s,baz=15,slow=28,SNR=4.9						

IDC 19 08:31:17.2±1.3, **1°46N**×**125°92E**, **h0**km, **mb4.0**/4, **mb1 4.2**/4, **mb1mx3.8**/19, **mbtmp4.0**/4, **Error ellipse: s-maj=164.5km s-min=20.2km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.82**	**159**	P	P	08 36 22.6	+0.6
	3.3nm,0.3s,baz=336,slow=11,SNR=56						
STKA	**Stephens Creek**	**36.34**	**157**	P	P	08 38 22.3	-0.7
	5.7nm,1.1s,baz=335,slow=8.3,SNR=13						
MKAR	**Makanchi Array**	**58.97**	**326**	P	P	08 41 20.1	+1.5
	0.5nm,0.4s,baz=110,slow=8.0,SNR=9.0						
ZALV	**Zalesovo Beam**	**62.24**	**334**	P	P	08 41 39.3	-1.5
	0.3nm,0.3s,baz=123,slow=5.3,SNR=2.1						

*ISCJB **19** 08:58:08.5±0.3, 58°97N±0°.03×151°.69W±0°.04, h69km±5km, mb3.6/9, Error ellipse: s-maj=5.0km s-min=3.5km az=156.6*

*NEIC **19** 08:58:10.0, 58°.93N×151°.70W, h51km, ML3.4(AEIC), After AEIC.*

*IDC **19** 08:58:12.5±4.8, 59°.28N×151°.76W, h67km±38km, mb3.4/9, mb1 3.6/13, mb1mx3.5/29, mbtmp3.7/13, ML3.7/4, Error ellipse: s-maj=38.9km s-min=15.8km az=52.0*

ISC 19 08:58:09.9±1.0, **58°99N**±0°.05×**151°72W**±0°.04, **h54**km±10km, **n109**, **σ0s99**/119, **mb3.6**/9, **Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOM	**Homer**	**0.67**	**3**	P	**Pn**	**08 58 23.5**	**+0.1**
HOM				S	**Sn**	**08 58 34.8**	**+1.5**
AUI	**Augustine Isla**	**0.95**	**292**	P	**Pn**	**08 58 26.7**	**-0.3**
AUI				S	**Sn**	**08 58 39.8**	**+0.2**
AUP	**Augustine Pinn**	**0.95**	**294**	P	**Pn**	**08 58 27.1**	**-0.1**
AUL	**Augustine Lava**	**0.97**	**295**	P	**Pn**	**08 58 27.3**	**0.0**
OPT	**Oil Point**	**1.02**	**311**	P	**Pn**	**08 58 28.1**	**+0.1**
NNL	**Ninilchik**	**1.08**	**11**	P	**Pn**	**08 58 29.8**	**+1.1**
ILS	**Iliamna Low So**	**1.19**	**325**	P	**Pn**	**08 58 30.6**	**+0.2**
IVE	**Iliamna Volcan**	**1.23**	**328**	P	**Pn**	**08 58 30.9**	**+0.1**
KDAK	**Kodiak Island**	**1.29**	**201**	P	**Pn**	**08 58 30.9**	**-0.7**
MCNL	**McNeil River**	**1.37**	**279**	P	**Pn**	**08 58 32.2**	**-0.5**
PDB	**Pedro Bay**	**1.50**	**303**	P	**Pn**	**08 58 34.5**	**+0.2**
RSO	**Redoubt South**	**1.57**	**341**	*e*Pn	**Pn**	**08 58 35.4**	**-0.2**
SEW	**Seward**	**1.60**	**45**	*e*Pn	**Pn**	**08 58 35.2**	**-0.6**
SEW				S	**Sn**	**08 58 54.6**	**-0.8**
RDN	**Redoubt North**	**1.62**	**341**	P	**Pn**	**08 58 36.3**	**+0.1**
DFR	**Drift River**	**1.68**	**343**	P	**Pn**	**08 58 37.0**	**0.0**
NCT	**North Crescent**	**1.69**	**339**	P	**Pn**	**08 58 37.2**	**+0.1**
SLKM	**Skilak Lake**	**1.70**	**26**	P	**Pn**	**08 58 37.5**	**+0.3**
NKA	**Nikishka**	**1.77**	**8**	P	**Pn**	**08 58 40.2**	**+2.1**
KAKN	**Katmai Knife C**	**1.88**	**250**	P	**Pn**	**08 58 39.0**	**-0.8**
KABR	**Katmai Barrier**	**1.91**	**245**	P	**Pn**	**08 58 39.3**	**-0.8**
OHAK	**Old Harbor**	**1.96**	**206**	P	**Pn**	**08 58 39.4**	**-1.3**
KCE	**Katmai Mt Cerb**	**1.96**	**249**	P	**Pn**	**08 58 40.0**	**-0.8**
KVTA	**Katmai Vly 10**	**1.97**	**253**	P	**Pn**	**08 58 40.3**	**-0.5**
KELA	**Mount Kelaz**	**2.17**	**257**	P	**Pn**	**08 58 43.1**	**-0.6**
CKL	**Chakachamna La**	**2.23**	**352**	P	**Pn**	**08 58 45.0**	**+0.5**
CKN	**Chakachatna No**	**2.25**	**354**	P	**Pn**	**08 58 45.3**	**+0.6**
SPBG	**Spurr Blockage**	**2.30**	**352**	P	**Pn**	**08 58 46.1**	**+0.7**
SPBG				S	**Sn**	**08 59 14.7**	**+2.2**
BGL	**Barrier Glacie**	**2.31**	**352**	P	**Pn**	**08 58 46.3**	**+0.9**
FIB	**Fire Island**	**2.31**	**19**	P	**Pn**	**08 58 46.8**	**+1.3**
RC01	**Rabbit Creek A**	**2.33**	**24**	P	**Pn**	**08 58 46.2**	**+0.5**
RC01				S	**Sn**	**08 59 13.8**	**+0.8**
STLK	**Strandline Lak**	**2.52**	**359**	P	**Pn**	**08 58 49.3**	**+1.0**
SUA	**Susitna One**	**2.53**	**11**	P	**Pn**	**08 58 49.1**	**+0.5**
SUA				S	**Sn**	**08 59 19.4**	**+1.2**
MID	**Middleton Isla**	**2.80**	**79**	P	**Pn**	**08 58 52.0**	**-0.1**
PLK4	**Peulik 4**	**2.80**	**243**	P	**Pn**	**08 58 52.1**	**-0.2**
PLK1	**Peulik 1**	**2.84**	**247**	P	**Pn**	**08 58 52.7**	**0.0**
SVW2	**Sparrevohn**	**2.87**	**319**	P	**Pn**	**08 58 53.0**	**-0.1**
PMR	**Palmer**	**2.91**	**25**	P	**Pn**	**08 58 53.6**	**0.0**
PMR				S	**Sn**	**08 59 26.3**	**-1.0**
GLI	**Glacier Island**	**3.00**	**49**	P	**Pn**	**08 58 54.1**	**-0.8**
SKT	**Skwentna**	**3.00**	**2**	P	**Pn**	**08 58 55.2**	**+0.3**
JPK	**Jack Peak**	**3.30**	**49**	P	**Pn**	**08 58 58.6**	**-0.4**
EYAK	**Cordova Ski Ar**	**3.40**	**60**	P	**Pn**	**08 59 00.0**	**-0.3**
TRAP	**Trapper Creek**	**3.43**	**12**	P	**Pn**	**08 59 01.4**	**+0.7**
VLZ	**Valdez**	**3.45**	**49**	P	**Pn**	**08 59 00.8**	**-0.2**
SCM	**Sheep Creek Mo**	**3.59**	**35**	P	**Pn**	**08 59 03.5**	**+0.5**
DIV	**Divide**	**3.67**	**52**	P	**Pn**	**08 59 03.9**	**-0.2**
KLU	**Klutina**	**3.83**	**47**	P	**Pn**	**08 59 06.4**	**+0.1**
RAGM	**Ragged Mountai**	**3.83**	**66**	P	**Pn**	**08 59 06.4**	**+0.1**
GOAT	**Goat Mountain**	**3.88**	**63**	P	**Pn**	**08 59 07.1**	**+0.1**
PPLA	**Purkeypile**	**3.93**	**357**	P	**Pn**	**08 59 08.2**	**+0.6**
BMRM	**Bremner River**	**4.09**	**58**	P	**Pn**	**08 59 09.5**	**-0.3**
NICHA	**Nichawak Mount**	**4.13**	**69**	P	**Pn**	**08 59 10.4**	**0.0**
BERG	**Berg Lake**	**4.30**	**67**	P	**Pn**	**08 59 12.4**	**-0.3**
PS11	**TAPS Pump St11**	**4.37**	**42**	P	**Pn**	**08 59 14.4**	**+0.8**
CAST	**Castle Rocks**	**4.45**	**358**	P	**Pn**	**08 59 15.0**	**+0.3**
TT01	**Tatalina**	**4.45**	**334**	P	**Pn**	**08 59 14.9**	**+0.1**
KHIT	**Khitrov Hills**	**4.53**	**68**	P	**Pn**	**08 59 15.7**	**-0.2**
TRF	**Thorofare Moun**	**4.53**	**8**	P	**Pn**	**08 59 16.4**	**+0.5**
KTH	**Kantishna Hill**	**4.59**	**4**	P	**Pn**	**08 59 17.7**	**+1.0**
DHY	**Denali Highway**	**4.61**	**25**	P	**Pn**	**08 59 17.8**	**+0.7**
RND	**Reindeer**	**4.64**	**16**	P	**Pn**	**08 59 18.4**	**+1.0**
GLB	**Gilahina Butte**	**4.64**	**55**	P	**Pn**	**08 59 17.5**	**0.0**
VRDI	**Verde Repeater**	**4.70**	**58**	P	**Pn**	**08 59 18.5**	**+0.1**
HARP	**HAARP**	**4.70**	**40**	P	**Pn**	**08 59 18.7**	**+0.4**
KULT	**Kultieth River**	**4.74**	**71**	P	**Pn**	**08 59 18.8**	**0.0**
WASW	**Wrangell South**	**4.75**	**49**	P	**Pn**	**08 59 19.6**	**+0.5**
MCK	**McKinley**	**4.94**	**15**	*e*Pn	**Pn**	**08 59 21.8**	**+0.3**
ISLE	**Juniper Island**	**5.00**	**67**	P	**Pn**	**08 59 22.4**	**-0.1**
PAX	**Paxson**	**5.02**	**35**	P	**Pn**	**08 59 23.2**	**+0.6**
KIAG	**Kiagna River**	**5.09**	**64**	P	**Pn**	**08 59 23.5**	**-0.1**
BAGL	**Bagley Icefiel**	**5.10**	**69**	P	**Pn**	**08 59 24.2**	**+0.6**
MESA	**MESA**	**5.11**	**72**	P	**Pn**	**08 59 24.7**	**+0.8**
PTPK	**Patty Peak**	**5.13**	**61**	P	**Pn**	**08 59 24.1**	**-0.1**
BPAW	**Bear Paw Mtn.**	**5.14**	**4**	P	**Pn**	**08 59 24.4**	**+0.2**
GRNC	**Granite Creek**	**5.32**	**67**	P	**Pn**	**08 59 26.6**	**-0.2**
RKAV	**Rock Avalanche**	**5.42**	**72**	P	**Pn**	**08 59 29.1**	**+0.9**
BARN	**Barnard Glacie**	**5.45**	**63**	P	**Pn**	**08 59 29.8**	**+1.2**
CHX	**Chaix Hills**	**5.50**	**74**	P	**Pn**	**08 59 30.2**	**+1.0**
TABL	**Table Mountain**	**5.54**	**70**	P	**Pn**	**08 59 30.6**	**+0.6**
DDM	**Donnelly Dome**	**5.57**	**28**	P	**Pn**	**08 59 31.5**	**+1.4**
SAMH	**Samovar Hills**	**5.68**	**74**	P	**Pn**	**08 59 32.4**	**+0.8**
WRH	**Wood River Hil**	**5.76**	**16**	P	**Pn**	**08 59 32.9**	**+0.2**
DOT	**Dot Lake**	**5.95**	**35**	*e*Pn	**Pn**	**08 59 35.9**	**+0.6**
	17nm,0.7s						
CCB	**Clear Creek Bu**	**5.97**	**16**	P	**Pn**	**08 59 35.7**	**+0.2**
MLY	**Manley**	**6.08**	**4**	P	**Pn**	**08 59 37.6**	**+0.6**
COLA	**College**	**6.18**	**16**	P	**Pn**	**08 59 38.5**	**+0.2**
MDM	**Murphy Dome**	**6.21**	**14**	P	**Pn**	**08 59 39.1**	**+0.2**
IL1	**Eielson Array**	**6.23**	**19**	P	**Pn**	**08 59 39.4**	**+0.3**
ILAR	**Eielson Array**	**6.23**	**19**	P	**Pn**	**08 59 39.1**	**0.0**
	2.2nm,0.3s,baz=202,slow=14,SNR=66						
ILAR				S	**Sn**	**09 00 44.4**	**-4.5**
	2.2nm,0.3s,baz=204,slow=26,SNR=6.7						
BCA3	**Beaver Creek A**	**6.32**	**46**	P	**Pn**	**08 59 41.3**	**+0.9**
IM04	**Indian Mountai**	**7.08**	**353**	*e*Pn	**Pn**	**08 59 49.7**	**-1.0**
IM3	**Indian Mountai**	**7.08**	**353**	P	**Pn**	**08 59 51.0**	**+0.3**
HYT	**Haines Junctio**	**7.38**	**70**	*e*Pn	**Pn**	**08 59 56.3**	**+1.4**
EGAK	**Eagle**	**7.64**	**36**	*e*Pn	**Pn**	**08 59 58.4**	**-0.1**
	4.8nm,0.7s						
DAWY	**Dawson**	**7.78**	**44**	*e*Pn	**Pn**	**09 00 01.0**	**+0.7**
COLD	**Coldfoot**	**8.30**	**4**	P	**Pn**	**09 00 07.3**	**-0.1**
BM3	**Burnt Mountain**	**9.04**	**18**	P	**Pn**	**09 00 16.6**	**-1.0**
DLBC	**Dease Lake**	**11.28**	**83**	P	**Pn**	**09 00 50.4**	**+2.1**
	0.3nm,0.3s,baz=282,slow=7.9,SNR=12						
DLBC				S	**Sn**	**09 02 48.1**	**-4.6**
	0.2nm,0.3s,baz=198,slow=20,SNR=3.6						
INK	**Inuvik**	**12.29**	**33**	P	**Pn**	**09 01 02.2**	**+0.4**
	0.1nm,0.3s,baz=235,slow=16,SNR=4.0						
YKA	**Yellowknife Ar**	**18.30**	**63**	P	**Pn**	**09 02 20.0**	**+0.6**
	0.2nm,0.3s,baz=276,slow=10.0,SNR=17						
NVAR	**Mina Array Bea**	**29.66**	**119**	P	**P**	**09 04 11.2**	**+0.8**
	0.3nm,0.8s,baz=307,slow=8.9,SNR=2.7						
NVAR				PcP	**PcP**	**09 07 15.0**	**+1.6**
	0.2nm,0.5s,baz=308,slow=3.6,SNR=3.6						
PDAR	**Pinedale Array**	**30.52**	**103**	P	**P**	**09 04 20.6**	**+2.7**
	0.2nm,0.5s,baz=32,slow=2.9,SNR=4.0						
SPITS	**Spitsbergen Ar**	**42.88**	**4**	P	**P**	**09 06 01.6**	**-0.6**
	6.7nm,1.0s,baz=39,slow=6.8,SNR=7.3						
TXAR	**Lajitas Array**	**44.01**	**111**	P	**P**	**09 06 14.4**	**+2.4**
	0.6nm,0.8s,baz=318,slow=6.9,SNR=8.3						
ARCES	**ARCESS Array B**	**51.76**	**1**	P	**P**	**09 07 10.3**	**-0.9**
	1.9nm,0.8s,baz=356,slow=8.1,SNR=7.1						
SONM	**Songino Array**	**55.92**	**307**	P	**P**	**09 07 41.9**	**-0.1**
	0.5nm,0.7s,baz=15,slow=6.1,SNR=3.6						
FINES	**FINESS Array B**	**59.88**	**1**	P	**P**	**09 08 08.7**	**-0.7**
	0.6nm,0.6s,baz=17,slow=10.0,SNR=4.1						
MKAR	**Makanchi Array**	**65.63**	**322**	P	**P**	**09 08 46.9**	**-1.0**
	0.2nm,0.4s,baz=48,slow=7.2,SNR=4.2						
AKASG	**Malin Array Be**	**70.66**	**359**	P	**P**	**09 09 18.0**	**-1.3**
	0.9nm,0.5s,baz=4.3,slow=5.9,SNR=5.0						
BOSA	**Boshof**	**149.56**	**5**	PKPbc	**PKPbc**	**09 17 52.8**	**-0.1**
	1.1nm,0.6s,baz=333,slow=1.2,SNR=3.1						

DJA 19 08:59:52.9±0.9, **9°S**±5°, **111°1E**±°, **h23**km±10km, **M3.6**/6, **MLv3.6**/6, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**0.95**	**350**	P	Pb	09 00 09.0	-1.8
PCJI				S	Sb	09 00 23.0	0.0
UGM	**Wanagama**	**1.47**	**326**	P	Pn	09 00 17.2	-0.8
UGM				S	Sb	09 00 37.3	-0.6
CMJI	**Cimerak**	**3.17**	**295**	P	Pn	09 00 41.9	+0.5

*IDC **19** 09:01:17.6±1.1, 36°.57N×68°.96E, h0km, mb3.8/8, mb1 4.0/13, mb1mx3.8/30, mbtmp3.9/13, ML3.6/5, MS3.0/6, Ms1 3.0/6, ms1mx2.7/40, Error ellipse: s-maj=21.0km s-min=18.0km az=115.0*

*ISCJB **19** 09:01:18.7±0.7, 36°.76N±0°.05×68°.51E±0°.08, h24km, mb3.6/8, MS3.0/3, Error ellipse: s-maj=9.8km s-min=6.7km az=7.5*

*NNC **19** 09:01:21.2±1.9, 36°.83N×68°.71E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=14.8km s-min=13.1km az=172.0*

*MOS **19** 09:01:25.5±1.9, 36°.94N×68°.97E, h78km, mb4.0/6, Error ellipse: s-maj=19.3km s-min=7.2km az=72.2*

ISC 19 09:01:19.8±0.8, **36°75N**±0°.06×**68°36E**±0°.08, **h24**km, **n54**, **σ1s80**/56, **mb3.7**/8, **MS3.1**/3, **14C-7D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.08**	**10**	⇓Pn	**Pb**	**09 01 56.9**	**-0.1**
	145nm,0.5s						
DZET				⇑Lg	Lg	09 02 25.0	
	1μm,0.5s						
DZET	**Dzherino**	**2.08**	**10**	PN	**Pb**	**09 01 58.5**	**+1.5**
DZET						09 02 27.2	
DZET				pmax	pmax		
	comp=Z,106nm,0.5s						
DZET				pmax	pmax		
	comp=N,1μm,0.6s						
CEP	**Cherat**	**4.12**	**134**	P	**Pn**	**09 02 22.4**	**+1.0**
CEP				S	**Sn**	**09 03 14.0**	**+5.1**
THW	**Thamme Wali**	**4.83**	**144**	P	**Pn**	**09 02 29.8**	**-1.3**
SFK	**Sufi-Kurgan**	**5.19**	**50**	⇓Pn	**Pn**	**09 02 37.4**	**+1.2**
	comp=N,7.9nm,0.5s						
SFK				⇓Pg	**Pb**	**09 02 50.8**	**+0.8**
	comp=N,25nm,0.5s						
SFK				⇑Sn	**Sn**	**09 03 37.5**	**+2.1**
	comp=N,29nm,0.4s						
SFK				⇑Lg	Lg	09 03 58.8	
	comp=N,60nm,0.4s						
KK31	**Karatay Array**	**6.55**	**14**	⇑Pn	**Pn**	**09 02 57.3**	**+2.6**
KK31	comp=N,4.2nm,0.7s,baz=199,slow=15,SNR=32			⇑Pg	Pb	09 03 16.5	+3.4
	comp=N,2.5nm,0.5s,baz=186,slow=12,SNR=4.9						
KK31				⇓Sn	**Sn**	**09 04 11.6**	**+2.9**
	comp=N,8.2nm,0.5s,baz=199,slow=24,SNR=4.8						
KK31				⇑Lg	Lg	09 04 44.7	
	comp=N,43nm,0.6s,baz=192,slow=28,SNR=6.4						
KK31	**Karatay Array**	**6.55**	**14**	PN	**Pn**	**09 02 57.3**	**+2.6**
KK31						09 04 11.5	
KK31				pmax	pmax		
	comp=Z,2.0nm,0.2s						
KK31				smax	smax		
	comp=N,10.0nm,0.3s						
KK31				pmax	pmax		
	comp=N,43nm,0.6s						
MNAS	**Manas**	**6.56**	**28**	⇑Pn	**Pn**	**09 02 56.4**	**+1.5**
	comp=N,10nm,0.4s						
MNAS				⇑Sn	**Sn**	**09 04 09.2**	**+0.2**
	comp=N,24nm,0.6s						
MNAS	**Manas**	**6.56**	**28**	PN	**Pn**	**09 02 56.3**	**+1.5**
MNAS						09 04 09.5	
MNAS				pmax	pmax		
	comp=Z,9.0nm,0.4s						
MNAS				smax	smax		
	comp=N,19nm,0.5s						
AML	**Almayashu**	**6.77**	**36**	P	**Pn**	**09 02 58.3**	**+0.2**
	SNR=30						
EKS2	**Erkin-Say**	**7.23**	**34**	P	**Pn**	**09 03 05.1**	**+1.1**
	SNR=6.5						
UCH	**Uchtor**	**7.25**	**39**	P	**Pn**	**09 03 05.3**	**+0.7**
	SNR=51						
KZA	**Kyzart**	**7.53**	**43**	P	**Pn**	**09 03 08.8**	**+0.3**
	SNR=15						
AAK	**Ala-Archa**	**7.54**	**37**	P	**Pn**	**09 03 09.3**	**+0.9**
	SNR=47						
AAK	**Ala-Archa**	**7.54**	**37**	⇑Pn	**Pn**	**09 03 09.3**	**+0.9**
	comp=N,32nm,0.6s						
AAK				⇓Sn	**Sn**	**09 04 33.9**	**+0.8**
	comp=N,25nm,0.7s						
AAK	**Ala-Archa**	**7.54**	**37**	Pn	**Pn**	**09 03 09.2**	**+0.9**
	comp=N,7.2nm,0.3s,baz=196,slow=6.2,SNR=139						
AAK				Sn	**Sn**	**09 04 33.3**	**+0.1**
	comp=N,2.6nm,0.3s,baz=353,slow=23,SNR=6.9						
AAK				Lg	Lg	09 05 16.1	
	comp=N,1.1nm,0.3s,baz=338,slow=19,SNR=2.7						
AAK				LR	LR	09 06 27.0	
	comp=N,83nm,18.3s,baz=202,slow=42						
AAK	**Ala-Archa**	**7.54**	**37**	PN	**Pn**	**09 03 09.5**	**+1.1**
AAK						09 04 33.2	
AAK				pmax	pmax		
	comp=Z,32nm,0.6s						
AAK				pmax	pmax		
	comp=N,25nm,0.7s						
FRU	**Bishkek**	**7.75**	**37**	*i* P	**Pn**	**09 03 12.0**	**+0.9**
FRU				pmax	pmax		
	comp=Z,30nm,2.0s						
FRU				pmax	pmax		
	comp=E,360nm,2.0s						
KBK	**Karagaybulak**	**7.78**	**39**	P	**Pn**	**09 03 13.2**	**+1.5**
	SNR=31						
CHMS	**Chumysh**	**7.94**	**36**	P	**Pn**	**09 03 14.7**	**+0.9**
	SNR=30						
USP	**Ospenovka**	**8.03**	**34**	P	**Pn**	**09 03 15.2**	**+0.2**
	SNR=9.0						
ULHL	**Ulahol**	**8.20**	**46**	P	**Pn**	**09 03 17.2**	**-0.2**
	SNR=6.0						
TKM2	**Tokmak 2**	**8.30**	**40**	P	**Pn**	**09 03 18.9**	**0.0**
	SNR=13						
TKM2	**Tokmak 2**	**8.30**	**40**	⇑Pn	**Pn**	**09 03 18.9**	**0.0**
	comp=E,5.4nm,0.5s						
TKM2				⇓Sn	**Sn**	**09 04 50.7**	**-1.2**
	comp=E,14nm,0.7s						
TKM2	**Tokmak 2**	**8.30**	**40**	P	**Pn**	**09 03 18.8**	**0.0**
TKM2						09 04 51.4	
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
TKM2				smax	smax		
	comp=N,14nm,0.7s						
AB31	**Akbulak array**	**13.92**	**337**	P	**Pn**	**09 04 36.7**	**+1.3**
	comp=N,4.8nm,0.6s,baz=138,slow=8.0,SNR=41						
AB31				⇑S	**Sn**	**09 07 05.5**	**-3.6**
	comp=N,2.2nm,0.6s,baz=166,slow=67,SNR=3.5						
MK31	**Makanchi Array**	**14.43**	**42**	⇑P	Pn	09 04 39.4	-3.1
	comp=N,3.9nm,0.8s,baz=237,slow=14,SNR=33						
MK31	**Makanchi Array**	**14.43**	**42**	*i* P	**Pn**	**09 04 40.0**	**-2.4**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MKAR	**Makanchi Array**	**14.43**	**42**	Pn	**Pn**	**09 04 40.4**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=237,slow=16,SNR=29						
AKTO	**Aktyubinsk**	**15.57**	**335**	⇓P	**P**	**09 05 02.4**	**+0.7**
	comp=Z,4.9nm,0.9s						
AKTO				⇑S	**Sn**	**09 07 46.1**	**-3.1**
	comp=Z,5.5nm,0.8s						
AKTO	**Aktyubinsk**	**15.57**	**335**	Pn	**Pn**	**09 04 59.5**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=148,slow=14,SNR=10						
AKTO				Sn	**Sn**	**09 07 47.6**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=119,slow=19,SNR=2.0						
AKTO				LR	LR	09 11 16.2	
	comp=Z,47nm,18.9s,baz=139,slow=38						
KURBB	**Kurchatov Arra**	**15.67**	**25**	Pn	**Pn**	**09 04 55.6**	**-3.4**
	comp=Z,0.0nm,0.3s,baz=212,slow=12,SNR=13						
KURBB				Lg	Lg	09 09 23.6	
	comp=Z,0.0nm,0.3s,baz=211,

STKA	**Stephens Creek**	**39.33**	**241**	P		P		09 19 55.0	+1.1
	2.1nm,0.5s,baz=91,slow=9.2,SNR=14								
WRA	**Warramunga Arr**	**45.21**	**259**	P		P		09 20 41.3	-0.6
	0.7nm,0.5s,baz=93,slow=7.3,SNR=21								
ILAR	**Eielson Array**	**85.20**	**13**	P		P		09 24 59.0	-1.5
	0.3nm,0.9s,baz=228,slow=5.4,SNR=5.3								
TXAR	**Lajitas Array**	**85.28**	**57**	P		P		09 25 03.3	+1.4
	0.5nm,0.8s,baz=214,slow=5.4,SNR=7.4								
PDAR	**Pinedale Array**	**86.59**	**43**	P		P		09 25 08.1	-0.2
	0.2nm,0.6s,baz=231,slow=5.7,SNR=3.5								

IDC 19 09:14:54.9±8.9, 17°36S×178°74W, h580km±104km, mb3.0/3, mb1 3.3/3, mb1mx2.8/18, mbtmp3.9/3, Error ellipse: s-maj=110.4km s-min=42.4km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
STKA	**Stephens Creek**	**38.63**	**240**	P		P	09 21 29.6	-0.1
	2.2nm,0.5s,baz=88,slow=10,SNR=13							
WRA	**Warramunga Arr**	**44.43**	**259**	P		P	09 22 15.4	-0.2
	1.0nm,0.5s,baz=95,slow=7.1,SNR=31							
WRA				PcP		PcP	09 23 46.2	-0.3
	0.6nm,1.1s,baz=90,slow=3.3,SNR=4.5							
TXAR	**Lajitas Array**	**85.96**	**58**	P		P	09 26 34.9	-0.1
	0.3nm,0.7s,baz=226,slow=5.0,SNR=4.3							

IDC 19 09:26:12.9±9.2, 14°37N×91°12W, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.5/23, mbtmp3.4/4, ML3.6/1, Error ellipse: s-maj=215.4km s-min=97.7km az=16.0

ISCJB 19 09:26:20.8±0.8, 14°31N±0°07×92°50W±0°06, h10km, mb3.4/3, Error ellipse: s-maj=11.7km s-min=4.8km az=35.4

MEX 19 09:26:26.6±0.3, 14°39N×92°56W, h6km±15km, MD4.3

CASC 19 09:26:27.3±1.2, 14°30N×92°14W, h19km±9km, MD3.9, ML3.7

ISC 19 09:26:21.8±1.4, 14°28N±0°10×92°47W±0°07, h10km, n20, σ1§53/22, mb3.4/3, 1C-1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JAT	**Jato**	**0.81**	**87**	⇓*iP*	**Pb**		**09 26 40.3**	**+2.3**
FUG	**Fuego 3**	**1.59**	**84**	⇑*eP*	**Pn**		**09 26 49.7**	**-0.5**
PCIG		**1.59**	**333**	*iP*	**Pn**		**09 26 49.6**	**-0.3**
PCIG				*eS*	**Sn**		**09 27 07.7**	**-2.9**
PCG	**Pacaya**	**1.81**	**86**	*eP*	**Pn**		**09 26 53.1**	**-0.2**
CCIG	**Comitan**	**2.01**	**9**	*eP*	**Pn**		**09 26 56.6**	**+0.6**
CCIG				*iS*	**Sn**		**09 27 20.0**	**-1.4**
NBG	**Las Nubes**	**2.08**	**81**	*eP*	**Pn**		**09 26 58.5**	**+1.4**
NBG				*eS*	**Sn**		**09 27 23.9**	**+0.8**
RBDL	**Robledal**	**2.71**	**93**	*eP*	**Pn**		**09 27 05.7**	**+0.1**
RBDL				*eS*	**Sn**		**09 27 35.0**	**-3.4**
RTR	**El Retiro**	**2.77**	**98**	*eP*	**Pn**		**09 27 06.4**	**0.0**
SBLS	**San Blas**	**2.80**	**99**	*eP*	**Pn**		**09 27 06.9**	**0.0**
MRL	**Marmol**	**2.80**	**74**	*eP*	Pn		09 27 06.0	-0.9
SNJE	**San Jose**	**2.81**	**98**	*eP*	**Pn**		**09 27 07.2**	**+0.2**
BOQS	**Boqueron**	**3.15**	**100**	*eP*	**Pn**		**09 27 11.7**	**+0.1**
SNET	**Serv Nac Est T**	**3.20**	**100**	*eP*	**Pn**		**09 27 12.1**	**-0.2**
SNET				*eS*	**Sn**		**09 27 48.0**	**-2.6**
SNET				AML	AML		09 27 55.0	
	comp=Z,500nm,0.3s							
LBRS	**Las Brisas**	**3.37**	**99**	*eP*	**Pn**		**09 27 14.8**	**+0.1**
LFRS	**El Faro**	**3.37**	**101**	*eP*	**Pn**		**09 27 15.0**	**+0.3**
LFRS				*eS*	**Sn**		**09 27 52.4**	**-2.5**
HUIG	**Huatulco**	**3.81**	**293**	*iP*	**Pn**		**09 27 21.5**	**+0.9**
TXAR	**Lajitas Array**	**16.21**	**327**	P	**Pn**		**09 30 34.9**	**-0.1**
	comp=Z,0.0nm,0.3s,baz=147,slow=12,SNR=7.8							
NVAR	**Mina Array Bea**	**33.17**	**321**	P	P		09 32 57.9	-0.9
	comp=Z,0.7nm,0.7s,baz=126,slow=9.0,SNR=7.3							
YKA	**Yellowknife Ar**	**50.65**	**347**	P	P		09 35 15.5	-5.4
	comp=Z,0.2nm,0.4s,baz=137,slow=8.7,SNR=4.0							
ILAR	**Eielson Array**	**62.40**	**337**	P	P		09 36 40.2	-4.4
	comp=Z,0.1nm,0.5s,baz=115,slow=8.0,SNR=2.9							

ISCJB 19 09:38:47.3±0.9, 34°29S±0°03×72°39W±0°04, h21km±6km, mb4.7/61, MS4.5/3, Error ellipse: s-maj=5.5km s-min=4.3km az=135.4

GUC 19 09:38:48.0±0.6, 34°26S×72°34W, h11km±1km, ML5.0

MOS 19 09:38:49.0±1.0, 34°24S×72°10W, h30km, mb5.0/15, Error ellipse: s-maj=22.6km s-min=8.2km az=101.7

BJI 19 09:38:51.1, 34°20S×72°10W, h36km, mB5.0/6, Ms5.4/4, Ms7 5.1/4

IDC 19 09:38:51.2±0.5, 34°24S×72°15W, h40km±4km, mb4.3/15, mb1 4.5/19, mb1mx4.5/21, mbtmp4.6/19, ML4.3/3, MS4.3/6, Ms1 4.3/6, ms1mx4.0/18, Error ellipse: s-maj=18.6km s-min=11.4km az=82.0

NEIC 19 09:38:51.1±0.1, 34°25S×72°10W, mb4.8/47, Error ellipse: s-maj=6.4km s-min=3.7km az=72.0

NEIC Felt [III] at San Antonio and [II] at Navidad, Paredones, Pichilemu and Santiago. Also felt at Talca.

SJA 19 09:39:22.3±0.8, 32°72S×70°07W, h81km±8km, ML3.7

ISC 19 09:38:50.5±0.5, 34°27S±0°04×72°20W±0°05, h33km±2km, h33km:pP-P, n505, σ0§72/526, mb4.8/61, MS4.5/3, 147C-154D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
LNV	**Longovilo**	**0.73**	**65**	⇑*iP*	**Pb**		**09 39 03.7**	**-1.0**
NICH	**Los Niches**	**1.09**	**133**	⇓*iP*	**Pn**		**09 39 09.2**	**-0.1**
NICH				*iS*	**Sb**		**09 39 24.9**	**+0.2**
TACH	**Talagante**	**1.22**	**60**	⇓*iP*	**Pn**		**09 39 10.9**	**-0.3**
TALC	**Talca**	**1.22**	**158**	⇑*iP*	**Pn**		**09 39 10.9**	**-0.3**
TALC				*iS*	**Sn**		**09 39 27.3**	**+0.7**
IHA	**Instituto Hidr**	**1.32**	**21**	⇑*iP*	**Pn**		**09 39 11.8**	**-0.9**
CHCH	**Chadas Angostu**	**1.33**	**76**	⇑*iP*	**Pn**		**09 39 13.1**	**+0.3**
SAN	**Santiago**	**1.52**	**58**	⇓*iP*	**Pn**		**09 39 15.8**	**+0.4**
SAN				*iS*	**Sb**		**09 39 36.6**	**-0.3**
PCH	**Pirque**	**1.54**	**66**	*eP*	**Pn**		**09 39 16.6**	**+0.9**
PCH				*eS*	**Sb**		**09 39 38.1**	**+0.3**
FSR	**Penalolen**	**1.60**	**61**	*eP*	**Pb**		**09 39 18.4**	**-1.1**
FSR				*iS*	**Sb**		**09 39 40.6**	**+1.2**
LACH	**Col Las Americ**	**1.61**	**60**	⇑*iP*	**Pn**		**09 39 16.5**	**-0.1**
LACH				*iS*	**Sb**		**09 39 39.3**	**-0.4**
ROCH	**El Roble**	**1.63**	**38**	⇑*iP*	**Pn**		**09 39 16.9**	**-0.2**
ROCH				*iS*	**Sb**		**09 39 39.6**	**-0.8**
ROCH				AML	AML		09 39 51.5	
	comp=N,18μm,0.5s							
CLCH	**Cerro Calan**	**1.64**	**58**	⇑*iP*	**Pn**		**09 39 17.6**	**+0.6**
CLCH				*iS*	**Sb**		**09 39 40.6**	**+0.1**
CLCH				AML	AML		09 39 58.3	
	comp=E,23μm,0.7s							
SJCH	**San Jose de Ma**	**1.66**	**68**	*eP*	**Pn**		**09 39 17.4**	**+0.1**
SJCH				*iS*	**Sn**		**09 39 40.3**	**+2.7**
PEL	**Peldehue**	**1.69**	**49**	⇓*iP*	**Pn**		**09 39 18.4**	**+0.7**
PEL				*iS*	**Sb**		**09 39 41.9**	**-0.1**
PEL				AML	AML		09 39 52.9	
	comp=N,48μm,0.6s							
YECH	**El Yeso**	**1.86**	**72**	*eP*	**Pn**		**09 39 21.0**	**+0.7**
YECH				*iS*	**Sb**		**09 39 47.0**	**-0.1**
YECH				AML	AML		09 39 49.5	
	comp=E,16μm,0.6s							
AAGR	**Agrelo**	**3.05**	**68**	*eP*	**Pb**		**09 39 43.6**	**-0.5**
ARCO	**CERRO ARCO**	**3.08**	**63**	*eP*	**Pb**		**09 39 42.8**	**-1.9**
ARCO				AML	AML		09 40 30.5	
	comp=Z,2μm,0.5s							
AUSP	**Uspallata**	**3.12**	**50**	*eP*	**Pn**		**09 39 40.2**	**+2.6**
AUSP				*eS*	Sn		09 39 53.5	-21
RTLS	**Leoncito**	**3.47**	**46**	*eP*	**Pn**		**09 39 45.0**	**+2.6**
CFAA	**Coronel Fontan**	**4.26**	**53**	P	**Pn**		**09 39 54.1**	**+1.1**
	comp=Z,3.1nm,0.3s,baz=229,slow=12,SNR=133							
CFAA				Lg		Lg	09 40 54.9	
	comp=Z,7.8nm,0.3s,baz=55,slow=13,SNR=8.7							
CFAA				LR		LR	09 41 56.2	
	comp=Z,454nm,20.8s,baz=222,slow=44							
CFAA	**Coronel Fontan**	**4.26**	**53**	*eP*	**Pn**		**09 39 54.9**	**+1.8**
RTLL	**Cerro Villicun**	**4.29**	**48**	*eP*	**Pn**		**09 39 55.2**	**+1.6**
AMOG	**MOGNA**	**4.56**	**44**	*eP*	**Pn**		**09 39 58.5**	**+1.2**
ACAN	**Cantantal**	**4.65**	**66**	*eP*	Pn		09 40 02.0	+3.6
LCO	**Las Campanas**	**5.39**	**14**	*ePn*	**Pn**		**09 40 07.5**	**-1.4**
PLCA	**Paso Flores**	**6.58**	**169**	P	**Pn**		**09 40 25.2**	**+0.2**
	comp=Z,1.7nm,0.3s,baz=338,slow=15,SNR=49							
PLCA				S		Sn	09 41 49.9	+11
	comp=Z,1.0nm,0.3s,baz=331,slow=10,SNR=3.1							
PLCA				LR		LR	09 43 11.8	
	comp=Z,2μm,18.3s,baz=350,slow=39							
TRQA	**Tornquist**	**9.09**	**118**	*ePn*	**Pn**		**09 41 00.1**	**+0.8**
LVC	**Limon Verde**	**11.97**	**15**	P	**Pn**		**09 41 39.2**	**+0.2**
	comp=Z,45nm,0.3s,baz=214,slow=11,SNR=7.9							
LVC				LR		LR	09 46 28.7	
	comp=Z,6μm,21.6s,baz=210,slow=38							
LPAZ	**La Paz**	**18.27**	**13**	P		**P**	**09 43 01.8**	**-0.3**
	comp=Z,1.2nm,0.3s,baz=192,slow=9.7,SNR=65							
LPAZ	**La Paz**	**18.27**	**13**	*eP*		**P**	**09 43 01.9**	**-0.2**
LPAZ				pmax		pmax		
	comp=Z,46nm,1.1s							
LPAZ	**La Paz**	**18.27**	**13**	*ePn*		**P**	**09 43 01.9**	**-0.2**
	comp=Z,46nm,1.1s							
EFI	**East Falkland**	**20.18**	**154**	*eP*		**P**	**09 43 21.5**	**-0.5**
EFI				pmax		pmax		
	comp=Z,33nm,0.8s							
EFI	**East Falkland**	**20.18**	**154**	*eP*		**P**	**09 43 21.5**	**-0.5**
	comp=Z,32nm,0.8s							
USHA	**Ushuaia**	**20.73**	**174**	P		P	**09 43 27.7**	**-0.2**
	comp=Z,9.2nm,0.8s,baz=20,slow=11,SNR=6.3							
SIV	**San Ignacio**	**20.77**	**32**	P		**P**	**09 43 27.8**	**-0.9**
	comp=Z,61nm,1.0s,baz=227,slow=10.0,SNR=61							
NNA	**Nana**	**22.58**	**348**	P		**P**	**09 43 47.7**	**-0.5**
	comp=Z,8.8nm,0.8s,baz=177,slow=17,SNR=2.8							
SAML	**Samuel**	**26.53**	**20**	*eP*		**P**	**09 44 24.7**	**-0.5**
	comp=Z,18nm,0.8s							
BDFB	**Brasilia**	**28.60**	**56**	P		**P**	**09 44 42.6**	**-1.2**
	comp=Z,22nm,0.9s,baz=216,slow=15,SNR=20							
BDFB				LR		LR	09 57 30.9	
	comp=Z,1μm,18.9s,baz=221,slow=39							
OTAV	**Otavalo**	**34.82**	**349**	*eP*		**P**	**09 45 40.2**	**+1.3**
	comp=Z,20nm,1.6s							
OTAV				*ep*P		pP	09 45 52.2	+3.6
PTGA	**Pitinga**	**35.27**	**22**	*eP*		**P**	**09 45 41.7**	**-0.6**
	comp=Z,27nm,1.0s							
ROSC	**El Rosal**	**38.97**	**357**	P		**P**	**09 46 16.5**	**+2.5**
	comp=Z,7.0nm,0.4s,baz=270,slow=20,SNR=2.5							
SDV	**Santo Domingo**	**42.94**	**2**	*eP*		**P**	**09 46 46.3**	**-0.2**
	comp=Z,11nm,0.9s							
JTS	**JuntasAbangare**	**45.94**	**342**	*eP*		**P**	**09 47 09.9**	**-0.4**
JTS				pmax		pmax		
	comp=Z,7.0nm,0.9s							
JTS	**JuntasAbangare**	**45.94**	**342**	*eP*		**P**	**09 47 09.9**	**-0.4**
	comp=Z,7.3nm,0.9s							
VNA3	**Neumayer Olymp**	**49.16**	**158**	P		**P**	**09 47 35.0**	**+0.2**
VNA2	**Neumayer--Watz**	**49.82**	**157**	P		**P**	**09 47 39.8**	**0.0**
	baz=287,slow=8.9							
SNAA	**Sanae**	**51.39**	**158**	P		P	09 47 49.5	-2.2
SNAA	**Sanae**	**51.39**	**158**	P		**P**	**09 47 51.8**	**+0.2**
	comp=Z,8.5nm,1.1s,baz=276,slow=6.4,SNR=24							
SNAA				pP		pP	09 48 03.0	+1.3
	comp=Z,8.5nm,0.9s,baz=288,slow=6.5,SNR=14							
SNAA	**Sanae**	**51.39**	**158**	P		**P**	**09 47 51.8**	**+0.2**
SNAA				*PP		pP	09 48 03.0	+1.3
SNAA				pmax		pmax		
	comp=Z,1.0nm,1.1s							
SNAA	**Sanae**	**51.39**	**158**	P		**P**	**09 47 51.8**	**+0.2**
	comp=Z,1.3nm,1.1s							
SNAA				pP		pP	09 48 03.0	+1.3
CELP	**Cerrillos**	**52.33**	**7**	*eP*		**P**	**09 47 58.6**	**-0.5**
RKT	**Rikitea**	**55.41**	**264**	*eS*		**S**	**09 56 07.9**	**+3.6**
	comp=Z,125nm,26.2s							
RKT				eLR		LR	10 04 32.6	
	comp=Z,252nm,37.2s							
RKT	**Rikitea**	**55.41**	**264**	*eT*		T	10 48 13.0	
	comp=Z,1.4nm,0.3s							
QSPA	**South Pole Qui**	**55.97**	**180**	*eP*		**P**	**09 48 26.1**	**+0.8**
	comp=Z,49nm,0.9s							
NVL	**N'lazarevskaya**	**56.13**	**157**	*eP*		P	09 48 19.2	-7.0
NVL				pmax		pmax		
	comp=Z,13nm,0.9s							
TEIG	**Tepich**	**56.31**	**342**	*eP*		**P**	**09 48 27.7**	**-0.4**
	comp=Z,19nm,0.8s							
VNDA	**Vanda**	**63.81**	**191**	P		**P**	**09 49 19.6**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=43,slow=2.0,SNR=5.5							
VNDA				pP		pP	09 49 30.6	+1.6
	comp=Z,2.3nm,0.7s,baz=113,slow=4.1,SNR=6.7							
034A	**Hebbronville**	**65.96**	**334**	⇓P		**P**	**09 49 34.0**	**+0.6**
	baz=66							
TIGA	**Tifton**	**66.23**	**349**	*eP*		**P**	**09 49 34.8**	**-0.2**
933A	**Laredo**	**66.67**	**334**	⇑P		**P**	**09 49 38.7**	**+0.8**
	baz=67							
834A	**Tilden**	**66.88**	**335**	⇓P		**P**	**09 49 40.5**	**+1.3**
	baz=67							
TBI	**Tubuai**	**67.12**	**257**	*e*LR		LR	10 10 01.7	
	comp=Z,427nm,25.2s							
736A	**Circle Diamond**	**67.14**	**336**	⇑P		**P**	**09 49 42.4**	**+1.6**
	baz=68							
735A	**Kenedy**	**67.29**	**336**	⇓P		**P**	**09 49 43.0**	**+1.2**
	baz=68							
833A	**Chaparral WMA,**	**67.36**	**334**	⇑P		**P**	**09 49 43.2**	**+0.9**
	baz=68							
734A	**La Parita Cree**	**67.54**	**335**	⇑P		**P**	**09 49 44.1**	**+0.7**
	baz=68							
636A	**Smothers Creek**	**67.62**	**337**	⇓P		**P**	**09 49 44.6**	**+0.7**
	baz=68							
537A	**Green Hill Far**	**67.93**	**338**	⇑P		**P**	**09 49 46.2**	**+0.4**
	baz=68							
732A	**Laxson Ranch,**	**67.94**	**334**	⇑P		**P**	**09 49 46.2**	**+0.3**
	baz=68,SNR=9.9							
535A	**Dale**	**68.29**	**336**	⇓P		**P**	**09 49 48.2**	**+0.1**
	baz=69							
633A	**Saathoff Ranch**	**68.32**	**335**	⇑P		**P**	**09 49 48.6**	**+0.3**
	baz=69							
LRAL	**Lakeview Retre**	**68.38**	**347**	*eP*		**P**	**09 49 48.0**	**-0.6**
	comp=Z,3.5nm,0.8s							
339A	**Huntington**	**68.57**	**340**	⇑P		**P**	**09 49 50.5**	**+0.7**
	baz=69							
632A	**Uvalde**	**68.58**	**334**	⇓P		**P**	**09 49 50.0**	**0.0**
	baz=69							
534A	**Blanco**	**68.60**	**336**	⇑P		**P**	**09 49 50.3**	**+0.3**
	baz=69							
MEH	**Mehetia**	**68.68**	**262**	*eT*		T	11 04 48.0	
	comp=Z,33nm,0.2s							
631A	**Perdido Creek**	**68.78**	**334**	⇓P		**P**	**09 49 50.7**	**-0.5**
	baz=69							
338A	**Crockett**	**68.81**	**339**	⇑P		**P**	**09 49 51.6**	**+0.3**
	baz=69							
533A	**Kerrville**	**68.83**	**335**	⇓P		**P**	**09 49 51.7**	**+0.2**
	baz=69							
532A	**Rocksprings**	**69.19**	**334**	⇓P		**P**	**09 49 54.1**	**+0.4**
	baz=70,SNR=8.2							
434A	**Burnet**	**69.25**	**336**	⇑P		**P**	**09 49 54.3**	**+0.2**
	baz=70,SNR=5.5							
336A	**Riesel**	**69.31**	**338**	⇓P		**P**	**09 49 54.4**	**0.0**
	baz=70							
335A	**Moody**	**69.40**	**337**	⇑P		**P**	**09 49 55.2**	**+0.3**
	baz=70							
531A	**Rocksprings**	**69.45**	**334**	⇓P		**P**	**09 49 55.8**	**+0.4**
	baz=70,SNR=5.1							
JCT	**Junction City**	**69.47**	**335**	*eP*		**P**	**09 49 56.2**	**+0.7**
JCT				pmax		pmax		
	comp=Z,10.0nm,0.9s							
JCT	**Junction City**	**69.47**	**335**	*eP*		**P**	**09 49 56.2**	**+0.7**
	comp=Z,9.6nm,0.9s							
JCT	**Junction City**	**69.47**	**335**	⇑P		**P**	**09 49 55.6**	**+0.2**
	baz=70							
433A	**Art**	**69.47**	**335**	⇓P		**P**	**09 49 55.7**	**+0.2**
	baz=70,SNR=9.7							
237A	**Washetta, Mont**	**69.56**	**339**	⇓P		**P**	**09 49 56.0**	**0.0**
	baz=70							
KMSC	**Kings Mountain**	**69.58**	**352**	*eP*		**P**	**09 49 55.9**	**-0.1**
	comp=Z,11nm,0.8s							
KMSC	**Kings Mountain**	**69.58**	**352**	⇓P		**P**	**09 49 55.8**	**-0.1**
	baz=70							
TVO	**Taravao**	**69.70**	**262**	*eT*		T	11 06 04.5	
	comp=Z,1.4nm,0.3s							
334A	**Lometa**	**69.71**	**336**	⇑P		**P**	**09 49 57.3**	**+0.3**
	baz=70,SNR=7.9							
530A	**J-C Ranch, Com**	**69.73**	**333**	⇓P		**P**	**09 49 57.6**	**+0.5**
	baz=70,SNR=6.9							
432A	**Menard**	**69.83**	**335**	⇑P		**P**	**09 49 57.5**	**-0.2**
	baz=70							
TIAR	**Tiarei**	**69.89**	**262**	*eT*		T	11 06 18.8	
	comp=Z,3.9nm,0.2s							
TXAR	**Lajitas Array**	**69.90**	**331**	P		**P**	**09 49 58.3**	**0.0**
	comp=Z,1.6nm,0.6s,baz=151,slow=8.7,SNR=24							
431A	**Sonora**	**69.94**	**334**	⇓P		**P**	**09 49 58.0**	**-0.4**
	baz=70							
333A	**Richland Sprin**	**69.96**	**336**	⇑P		**P**	**09 49 58.1**	**-0.3**
	baz=70,SNR=5.4							
529A	**Stev Forest Ra**	**70.04**	**333**	⇓P		**P**	**09 49 59.1**	**+0.1**
	baz=70,SNR=7.7							
PPT2	**Papeete2**	**70.06**	**262**	*eS*		**S**	**09 59 08.6**	**+0.2**
	comp=Z,105nm,23.8s							
PPT2	**Papeete2**	**70.06**	**262**	*e*LR		LR	10 11 24.4	
	comp=Z,334nm,26.5s							
WHTX	**Lake Whitney,**	**70.06**	**337**	⇑P		**P**	**09 49 59.3**	**+0.3**
	baz=70							
430A	**Baggett Ranch,**	**70.26**	**334**	⇓P		**P**	**09 50 00.3**	**-0.1**
	baz=71,SNR=6.2							
332A	**Millersview**	**70.27**	**335**	⇓P		**P**	**09 50 00.2**	**-0.2**
	baz=71							
OXF	**Oxford**	**70.30**	**345**	*eP*		**P**	**09 50 00.2**	**-0.2**
OXF				*e*PP		pP	09 50 09.8	-1.0
OXF				pmax		pmax		
	comp=Z,26nm,0.8s							
OXF	**Oxford**	**70.30**	**345**	*eP*		**P**	**09 50 00.2**	**-0.2**
	comp=Z,26nm,0.8s							
OXF				*ep*P		pP	09 50 09.8	-1.0
234A	**Clairette**	**70.30**	**337**	⇑P		**P**	**09 50 00.6**	**+0.1**
	baz=71,SNR=6.1							
CPCT	**Cooper Cave**	**70.31**	**349**	*eP*		**P**	**09 49 59.9**	**-0.6**
SWET	**Sewanee**	**70.31**	**348**	*eP*		**P**	**09 50 00.3**	**-0.2**
	comp=Z,22nm,0.9s							
429A	**Davenport Ranc**	**70.36**	**333**	⇑P		**P**	**09 50 01.0**	**0.0**
	baz=71							
TKL	**Tuckaleechee C**	**70.40**	**350**	*eP*		**P**	**09 50 00.1**	**-0.9**
TKL	**Tuckaleechee C**	**70.40**	**350**	*eP*		**P**	**09 50 00.1**	**-0.9**
331A	**San Angelo**	**70.44**	**335**	⇑P		**P**	**09 50 01.6**	**+0.2**
	baz=71							
233A	**Rising Star**	**70.56**	**336**	⇑P		**P**	**09 50 02.1**	**0.0**
	baz=71							
232A	**Coleman**	**70.70**	**335**	⇑P		**P**	**09 50 02.9**	**-0.1**
	baz=71							
330A	**Mertzon**	**70.80**	**334**	⇑P		**P**	**09 50 03.4**	**-0.2**
	baz=71							
134A	**White-Moore Ra**	**70.80**	**337**	⇓P		**P**	**09 50 03.4**	**-0.1**
	baz=71							
231A	**Bronte**	**70.97**	**335**	⇓P		**P**	**09 50 04.3**	**-0.3**
	baz=71							
133A	**Hamilton Ranch**	**71.11**	**336**	⇓P		**P**	**09 50 05.3**	**-0.1**
	baz=71							
329A	**Wagon Wheel Ra**	**71.17**	**333**	⇓P		**P**	**09 50 05.9**	**0.0**
	baz=72							
230A	**Sterling City**	**71.21**	**334**	⇑P		**P**	**09 50 06.2**	**0.0**
	baz=72							
Z35A	**Perchaven, San**	**71.24**	**338**	⇓P		**P**	**09 50 06.4**	**+0.2**
	baz=72							
MIAR	**Mount Ida**	**71.32**	**341**	*eP*		**P**	**09 50 08.6**	**+1.9**
MIAR				pmax		pmax		
	comp=Z,6.0nm,1.0s							
MIAR	**Mount Ida**	**71.32**	**341**	*eP*		**P**	**09 50 08.6**	**+1.9**
	comp=Z,5.8nm,1.0s							
ABTX	**Abilene, Hawle**	**71.37**	**336**	⇓P		**P**	**09 50 07.1**	**+0.1**
	baz=72							
Z34A	**Collier Ranch,**	**71.49**	**337**	⇓P		**P**	**09 50 07.8**	**+0.1**
	baz=72							
229A	**Bryant Ranch,**	**71.54**	**334**	⇓P		**P**	**09 50 07.7**	**-0.4**
	baz=72							
WVT	**Waverly**	**71.54**	**347**	*eP*		**P**	**09 50 07.0**	**-0.9**
WVT				pmax		pmax		
	comp=Z,39nm,0.9s							
WVT	**Waverly**	**71.54**	**347**	*eP*		**P**	**09 50 07.0**	**-0.9**
	comp=Z,39nm,0.9s							
131A	**Roby**	**71.67**	**335**	⇑P		**P**	**09 50 08.5**	**-0.3**
	baz=72							
Z33A	**Whitaker Ranch**	**71.68**	**337**	⇓P		**P**	**09 50 08.4**	**-0.5**
	baz=72,SNR=5.6							
Z32A	**Haskell**	**71.94**	**336**	⇓P		**P**	**09 50 10.4**	**0.0**
	baz=72							
228A	**UT Block 9, Go**	**71.96**	**333**	⇓P		**P**	**09 50 10.3**	**-0.4**
	baz=72							
Y34A	**Reagan Ranch,**	**71.98**	**338**	⇓P		**P**	**09 50 10.4**	**-0.2**
	baz=72							
W38A	**Poteau**	**72.07**	**341**	⇓P		**P**	**09 50 10.9**	**-0.3**
	baz=72							
X36A	**Centrahoma**	**72.12**	**339**	⇑P		**P**	**09 50 10.9**	**-0.6**
	baz=72,SNR=5.5							
X35A	**Drake**	**72.15**	**339**	⇑P		**P**	**09 50 11.2**	**-0.4**
	baz=72							
129A	**Stewart Farms,**	**72.16**	**334**	⇓P		**P**	**09 50 11.4**	**-0.4**
	baz=72							
Z31A	**Sharp Cattle R**	**72.17**	**336**	⇑P		**P**	**09 50 11.7**	**-0.2**
	baz=72							
128A	**Castleberry Fa**	**72.37**	**333**	⇓P		**P**	**09 50 13.1**	**0.0**
	baz=73							
W37A	**Quinton**	**72.39**	**340**	⇓P		**P**	**09 50 13.0**	**0.0**
	baz=73							
Z30A	**Sanderson Ranc**	**72.48**	**335**	⇓P		**P**	**09 50 13.5**	**-0.2**
	baz=73							
Y32A	**R-V Farms, Ver**	**72.56**	**337**	⇓P		**P**	**09 50 14.0**	**-0.1**
	baz=73							
X34A	**Smith Ranch, M**	**72.60**	**338**	⇓P		**P**	**09 50 13.

TUC **Tucson** 75.52 327 *e*P P 09 50 32.7 +1.2
TUC *e**PP PcP 09 50 43.3 -1.1
TUC pmax pmax
comp=Z,8.0nm,1.5s
TUC **Tucson** 75.52 327 *e*P P 09 50 32.7 +1.2
comp=Z,8.2nm,1.5s
TUC *e*pP PcP 09 50 43.3 -1.1
U28A **Mallet** 75.66 335 ⇓P P 09 50 32.4 +0.1
baz=76
LAZ **Ladron** 75.75 331 *e*P P 09 50 33.3 +0.3
comp=Z,11nm,1.7s
U27A **Thompson Grove** 75.91 335 ⇓P P 09 50 33.8 +0.1
baz=76
ANMO **Albuquerque** 75.95 332 *d i*P P 09 50 34.0 -0.1
ANMO pmax pmax
comp=Z,11nm,0.8s
ANMO **Albuquerque** 75.95 332 *e*P P 09 50 34.6 +0.5
Q35A **Mercer Eighty,** 76.04 341 ⇓P P 09 50 34.2 0.0
baz=76
R33A **Olander Ranch,** 76.07 339 ⇓P P 09 50 34.8 +0.3
baz=76
HDIL **Hopedale** 76.11 347 *e*P P 09 50 34.3 -0.3
comp=Z,0.7nm,0.7s
214A **Organ Pipe Nat** 76.16 325 ⇓P P 09 50 36.2 +1.0
baz=76
T28A **Walsh** 76.29 336 ⇑P P 09 50 36.1 +0.3
baz=77
Q34A **Chapman** 76.35 340 ⇑P P 09 50 36.4 +0.3
baz=77
T27A **Campo** 76.45 335 ⇓P P 09 50 37.0 +0.2
baz=77
R31A **Burdett** 76.52 338 ⇓P P 09 50 37.2 +0.1
baz=77
S28A **Manter** 76.64 336 ⇑P P 09 50 38.1 +0.3
baz=77,SNR=5.7
P35A **Duane Minner,** 76.66 341 ⇓P P 09 50 37.3 -0.5
baz=77
Q33A **Connelly Farm,** 76.67 340 ⇑P P 09 50 37.7 -0.2
baz=77
T26A **Comanche Natio** 76.85 335 ⇓P P 09 50 39.3 +0.1
baz=77
Q32A **Meitler Ranch,** 76.88 339 ⇓P P 09 50 39.2 +0.2
baz=77
X18A **Snowflake** 77.03 329 ⇑P P 09 50 40.6 +0.4
baz=77
T25A **Trinidad** 77.11 334 ⇑P P 09 50 41.4 +0.7
baz=78,SNR=8.0
Q31A **Ellis** 77.14 339 ⇑P P 09 50 41.0 +0.5
baz=78
S26A **Kim** 77.21 335 ⇓P P 09 50 41.7 +0.6
baz=78,SNR=8.5
R28A **Tribune** 77.30 337 ⇓P P 09 50 41.9 +0.4
baz=78
Q30A **Quinter** 77.36 338 ⇓P P 09 50 42.1 +0.2
baz=78,SNR=5.4
W18A **Petrified Fore** 77.44 329 *e*P P 09 50 43.3 +0.8
comp=Z,4.2nm,0.7s
W18A **Petrified Fore** 77.44 329 ⇓P P 09 50 42.4 -0.1
baz=78
P32A **Huiting Farm,** 77.47 339 ⇓P P 09 50 42.0 -0.3
baz=78
Q29A **Oakley** 77.52 337 ⇓P P 09 50 42.8 +0.1
baz=78
R27A **Eads** 77.58 336 ⇑P P 09 50 43.0 -0.1
baz=78,SNR=7.3
X16A **Lo Mia Camp, P** 77.59 328 ⇓P P 09 50 44.1 +0.8
baz=78
P31A **Stockton** 77.61 339 ⇓P P 09 50 43.3 +0.2
baz=78
Y14A **Wickenburg** 77.89 326 ⇑P P 09 50 45.5 +0.6
baz=78
Q28A **Sharon Springs** 77.95 337 ⇑P P 09 50 45.7 +0.5
baz=78
O32A **Brockman Farm,** 77.97 340 ⇓P P 09 50 45.9 +0.8
baz=78
SDCO **Great Sand Dun** 78.05 334 ⇓P P 09 50 46.5 +0.5
baz=78
P29A **Atwood** 78.16 338 ⇑P P 09 50 47.0 +0.7
baz=78,SNR=6.7
KSCO **Kaye Shedlock'** 78.17 336 ⇓P P 09 50 47.1 +0.7
baz=78
SCIA **State Center** 78.22 344 *e*P P 09 50 46.9 +0.5
comp=Z,16nm,1.1s
P28A **Saint Francis** 78.39 337 ⇑P P 09 50 47.9 +0.3
baz=79
Q26A **Hugo** 78.39 336 ⇑P P 09 50 48.2 +0.6
baz=79
O30A **MW Ranch, Wils** 78.42 339 ⇓P P 09 50 48.0 +0.4
baz=79
N32A **Stulken Farm,** 78.44 340 ⇓P P 09 50 48.9 +1.2
baz=79
WUAZ **Wupatki** 78.49 328 *e*P P 09 50 49.7 +1.5
comp=Z,7.2nm,1.0s
WUAZ **Wupatki** 78.49 328 ⇓P P 09 50 48.9 +0.7
baz=79
S22A **4UR Ranch, Cre** 78.55 333 ⇓P P 09 50 49.3 +0.6
baz=79
R23A **Moffat** 78.56 334 ⇑P P 09 50 49.4 +0.6
baz=79
JFWS **Jewell Farm** 78.57 347 *e*P P 09 50 48.2 -0.1
JFWS pmax pmax
comp=Z,9.0nm,0.8s
JFWS **Jewell Farm** 78.57 347 *e*P P 09 50 48.2 -0.1
comp=Z,8.9nm,0.8s
MONP **Monument Peak,** 78.67 323 ⇓P P 09 50 49.5 +0.1
baz=79
MVCO **Mesa Verde** 78.73 331 *e*P P 09 50 50.8 +1.1
MVCO **Mesa Verde** 78.73 331 ⇓P P 09 50 50.3 +0.6
baz=79
BC3 **Big Chuckawall** 78.82 324 ⇓P P 09 50 50.5 +0.4
baz=79
P26A **Davis Ranch, A** 78.91 336 ⇑P P 09 50 51.1 +0.6
baz=79
BGNE **Belgrade** 79.00 340 ⇑P P 09 50 50.8 +0.1
baz=79
Q24A **Divide** 79.00 334 ⇓P P 09 50 51.6 +0.4
baz=79
IRM **Iron Mountain** 79.08 325 ⇓P P 09 50 52.0 +0.6
baz=79
M31A **Lambtecht Ranc** 79.17 340 ⇓P P 09 50 52.8 +1.0
baz=80
O27A **Beecher Island** 79.19 337 ⇓P P 09 50 53.0 +1.0
baz=80
W13A **Hualapai Mount** 79.26 326 ⇓P P 09 50 53.5 +0.9
baz=80
PFO **Pinyon Flats O** 79.27 324 ⇑P P 09 50 53.4 +0.9
baz=80
TSUM **Tsumeb** 79.27 106 *e*P P 09 50 53.7 +0.6
comp=Z,14nm,1.4s
BELC **Belle Mtn. Jos** 79.36 324 ⇓P P 09 50 53.4 +0.4
baz=80
O26A **Horse Wrangler** 79.51 336 ⇑P P 09 50 54.6 +0.9
baz=80
PV01 **Paradox Valley** 79.56 332 *e*P P 09 50 55.0 +0.9
comp=Z,234nm,0.9s
MURC **Murrieta** 79.63 323 ⇓P P 09 50 55.3 +0.9
baz=80
U15A **North Rim** 79.65 328 ⇓P P 09 50 55.7 +0.9
baz=80
CASY **Casey** 79.75 181 *e*P P 09 50 54.8 +0.2
comp=Z,19nm,1.1s
GMRC **Granite Mounta** 79.83 325 ⇑P P 09 50 56.5 +0.9
baz=80
L31A **Butterfield Fa** 79.90 340 ⇓P P 09 50 56.6 +0.9
baz=80
ISCO **Idaho Springs** 79.91 334 *e*P P 09 50 57.1 +1.0
ISCO **Idaho Springs** 79.91 334 *e*P P 09 50 57.1 +1.0
ISCO **Idaho Springs** 79.91 334 ⇑P P 09 50 56.6 +0.5
baz=80
BOSA **Boshof** 80.07 118 P P 09 50 57.3 0.0
comp=Z,16nm,0.9s,baz=256,slow=5.3,SNR=18
BOSA pP pP 09 51 09.2 +1.4
comp=Z,22nm,0.8s,baz=265,slow=4.5,SNR=14
P22A **Eagle** 80.14 334 ⇓P P 09 50 57.9 +0.6
baz=80
M27A **Reverse DX Ran** 80.37 337 ⇑P P 09 50 58.8 +0.5
baz=81
O23A **Lake Granby, G** 80.38 334 ⇓P P 09 50 59.4 +0.7
baz=81
TUQ **Turquoise Moun** 80.49 325 ⇓P P 09 51 00.4 +1.2
baz=81,SNR=5.0
M26A **McRoberts Ranc** 80.56 337 ⇓P P 09 51 00.2 +0.9
baz=81
O22A **Kremmling** 80.56 334 ⇑P P 09 50 60.0 +0.3
baz=81
K30A **Basset** 80.58 340 ⇑P P 09 51 00.1 +0.8
baz=81
ECSD **EROS Data Cent** 80.76 342 ⇑P P 09 51 00.1 -0.2
baz=81
GSC **Goldstone, Bar** 80.80 324 ⇑P P 09 51 01.2 +0.4
baz=81
M25A **Palm-Egli Farm** 80.83 336 ⇓P P 09 51 01.6 +0.8
baz=81
K29A **Lazy Trails An** 80.86 339 ⇑P P 09 51 01.1 +0.2
baz=81
N23A **Red Feather La** 80.99 335 ⇑P P 09 51 01.9 0.0
baz=81
SHPR **Sheep Range** 81.00 326 *e*P P 09 51 03.2 +1.3
EDW2 **Edwards Air Fo** 81.04 323 ⇑P P 09 51 02.7 +0.7
baz=81
L26A **Underwood Farm** 81.05 337 ⇓P P 09 51 02.6 +0.6
baz=81
N22A **Wattenberg Ran** 81.09 334 ⇓P P 09 51 03.4 +1.0
baz=81
K28A **Ten Mile Ranch** 81.13 339 ⇓P P 09 51 03.3 +0.9
baz=82
SPMN **Marine on St.** 81.30 345 *e*P P 09 51 02.1 -0.9
comp=Z,3.6nm,0.6s
SPMN **Marine on St.** 81.30 345 ⇑P P 09 51 02.3 -0.7
baz=82
MVU **Marysvale** 81.36 329 *e*P P 09 51 04.1 +0.2
comp=Z,2.9nm,0.6s
LRMC **Laurel Mtn Rad** 81.37 324 ⇓P P 09 51 04.4 +0.6
baz=82
K27A **Fluckinger Fa** 81.39 338 ⇓P P 09 51 04.2 +0.5
baz=82
J29A **Okreek** 81.46 340 ⇓P P 09 51 04.5 +0.5
baz=82,SNR=12
I30A **Oacoma** 81.67 340 ⇑P P 09 51 04.9 -0.2
baz=82,SNR=7.3
J28A **Allard Ranch,** 81.74 339 ⇓P P 09 51 06.2 +0.7
baz=82,SNR=6.7
MPMC **Manual Prospec** 81.74 324 ⇑P P 09 51 06.2 +0.4
baz=82
FURC **Furnace Creek,** 81.77 325 ⇓P P 09 51 06.4 +0.7
baz=82
N20A **Spence Gulch,** 81.78 333 ⇑P P 09 51 06.4 +0.4
baz=82
J27A **Elkhorn Farm,** 81.81 338 ⇓P P 09 51 06.5 +0.6
baz=82
K25A **Mack Ranch, Ha** 81.82 337 ⇑P P 09 51 06.9 +0.8
baz=82
TPNV **Topopah Spring** 81.87 326 ⇓P P 09 51 07.4 +1.0
baz=82,SNR=7.3
ISA **Isabella, Lake** 81.90 324 *e*P P 09 51 07.9 +1.3
ISA *e**PP pP 09 51 18.8 +1.7
ISA **Isabella, Lake** 81.90 324 *e*P P 09 51 07.9 +1.3
ISA *e*pP pP 09 51 18.8 +1.7
ISA **Isabella, Lake** 81.90 324 ⇓P P 09 51 07.3 +0.8
baz=82
DAC **Darwin (Calif)** 81.97 324 *e*P P 09 51 08.4 +1.4
DAC **Darwin (Calif)** 81.97 324 *e*P P 09 51 08.4 +1.4
I29A **Vivian Onida** 82.02 340 ⇑P P 09 51 06.9 0.0
baz=82
BRSD **Miller** 82.03 341 ⇑P P 09 51 06.9 -0.1
baz=82
I28A **Midland** 82.25 339 ⇓P P 09 51 08.4 +0.3
baz=83,SNR=7.0
LBTB **Lobatse** 82.31 115 *e*P P 09 51 09.3 +0.1
LBTB *e**PP pP 09 51 21.1 +1.3
LBTB pmax pmax
comp=Z,18nm,0.9s
LBTB **Lobatse** 82.31 115 *e*P P 09 51 09.3 +0.1
comp=Z,18nm,0.9s
LBTB *e*pP pP 09 51 21.1 +1.3
VES **Vestal, Richgr** 82.35 323 ⇓P P 09 51 09.8 +1.0
baz=83
GRAC **Grapevine Rang** 82.44 325 ⇑P P 09 51 10.4 +1.1
baz=83
J25A **Sunshine Ranch** 82.50 337 ⇑P P 09 51 09.7 +0.1
baz=83
K23A **Bowen Ranch, D** 82.53 336 ⇑P P 09 51 09.8 0.0
baz=83
H29A **Onida** 82.55 340 ⇑P P 09 51 09.8 +0.2
baz=83
I27A **Quinn** 82.57 339 ⇑P P 09 51 10.2 +0.3
baz=83
R11A **Troy Canyon, C** 82.71 327 *e*P P 09 51 11.8 +1.0
comp=Z,4.2nm,0.8s
R11A *e*pP pP 09 51 22.4 +1.0
R11A **Troy Canyon, C** 82.71 327 ⇑P P 09 51 11.9 +1.1
baz=83,SNR=9.4
G30A **Faulkton** 82.72 341 ⇑P P 09 51 11.1 +0.5
baz=83
J24A **Dixon Ranch, L** 82.72 337 ⇓P P 09 51 10.8 +0.1
baz=83
K22A **Casper** 82.75 335 ⇓P P 09 51 10.6 -0.4
baz=83
JLU **Jordanelle** 82.82 331 *e*P P 09 51 12.2 +0.8
JLU *e*pP pP 09 51 21.9 -0.1
G29A **Hoven** 82.99 341 ⇓P P 09 51 12.0 0.0
baz=83
DUG **Dugway, Tooele** 83.03 330 ⇓P P 09 51 12.6 +0.2
baz=83
I25A **Romford** 83.04 338 ⇓P P 09 51 12.5 0.0
baz=83
H27A **Howes** 83.09 339 ⇑P P 09 51 12.5 0.0
baz=83,SNR=6.5
G28A **Parade** 83.16 340 ⇓P P 09 51 12.9 +0.1
baz=84
I24A **Kuemmerle Ranc** 83.18 337 ⇓P P 09 51 13.1 0.0
baz=84
RSSD **Black Hills** 83.23 338 *e*P P 09 51 13.8 +0.3
RSSD **Black Hills** 83.23 338 *e*P P 09 51 13.8 +0.3
TPH **Tonopah** 83.23 326 *e*P P 09 51 14.4 +0.8
TPH *e**PP pP 09 51 25.4 +1.3
TPH pmax pmax
comp=Z,5.0nm,0.8s
TPH **Tonopah** 83.23 326 *e*P P 09 51 14.4 +0.8
comp=Z,4.8nm,0.8s
TPH *e*pP pP 09 51 25.4 +1.3
F30A **Leola** 83.34 341 ⇑P P 09 51 13.8 0.0
baz=84
J22A **Midwest** 83.40 336 ⇓P P 09 51 14.1 -0.2
baz=84
F29A **Eureka** 83.55 341 ⇓P P 09 51 14.7 -0.1
baz=84,SNR=6.6
MLAC **Mammoth, Mammo** 83.64 324 ⇑P P 09 51 15.5 -0.3
baz=84
EYMN **Ely** 83.65 347 *e*P P 09 51 14.8 -0.5
EYMN *e*pP pP 09 51 21.9 -3.9
J21A **Lysite** 83.68 335 ⇓P P 09 51 15.5 -0.3
baz=84
HWUT **Hardware Ranch** 83.72 331 *e*P P 09 51 16.5 +0.5
G27A **Dupree** 83.73 339 ⇑P P 09 51 15.7 0.0
baz=84
BGU **Big Grassy Mou** 83.74 330 *e*P P 09 51 16.5 +0.5
comp=Z,14nm,1.5s
I22A **9 Mile Ranch,** 83.83 336 ⇓P P 09 51 16.2 -0.2
baz=84
F28A **McLaughlin** 83.83 340 ⇑P P 09 51 16.4 +0.1
baz=84
G26A **Maurine** 83.85 339 ⇑P P 09 51 16.5 +0.1
baz=84
J20A **Shoshoni** 83.91 335 ⇑P P 09 51 17.3 +0.4
baz=84
PDAR **Pinedale Array** 83.94 333 P P 09 51 16.8 -0.3
comp=Z,1.2nm,0.8s,baz=127,slow=3.7,SNR=12
PDAR pP pP 09 51 29.6 +1.9
comp=Z,1.9nm,0.8s,baz=198,slow=4.2,SNR=11
H24A **Dirks Ranch, A** 83.95 337 ⇑P P 09 51 16.8 -0.3
baz=84
G25A **Newell** 84.00 338 ⇑P P 09 51 17.2 +0.1
baz=84,SNR=5.6
NVAR **Mina Array Bea** 84.03 325 P P 09 51 18.1 +0.4
comp=Z,2.1nm,0.8s,baz=158,slow=5.7,SNR=19
NVAR pP pP 09 51 30.3 +2.1
comp=Z,2.9nm,0.7s,baz=156,slow=5.3,SNR=13
I21A **Big Trails, Te** 84.04 335 ⇑P P 09 51 17.4 -0.1
baz=84
J19A **Crowheart** 84.19 334 ⇑P P 09 51 18.2 -0.2
baz=84
F27A **Lemmon** 84.20 340 ⇑P P 09 51 18.1 0.0
baz=85,SNR=7.6
HVU **Hansel Valley** 84.35 331 *e*P P 09 51 19.5 +0.3
HVU **Hansel Valley** 84.35 331 *e*P P 09 51 19.5 +0.3
F26A **Lodgepole** 84.37 339 ⇓P P 09 51 18.9 -0.2
baz=85
TOA0 **Torodi Ar. Sit** 84.43 70 *e*P P 09 51 19.7 -0.3
TORD **Torodi Ar. Bea** 84.43 70 P P 09 51 19.8 -0.2
comp=Z,12nm,0.9s,baz=252,slow=4.3,SNR=43
TORD LR LR 10 28 13.8
comp=Z,247nm,18.7s,baz=225,slow=35
TOB1 **Torodi Ar. Sit** 84.44 70 *e*P P 09 51 19.7 -0.3
I20A **Worland** 84.45 335 ⇑P P 09 51 19.2 -0.3
baz=85
D30A **Buchanan** 84.45 342 ⇑P P 09 51 19.1 -0.2
baz=85,SNR=5.5
E28A **Huff** 84.47 341 ⇓P P 09 51 18.5 -1.0
baz=85
ELK **Elko** 84.52 329 *e*P P 09 51 20.3 +0.1
ELK pmax pmax
comp=Z,3.0nm,0.8s
ELK **Elko** 84.52 329 *e*P P 09 51 20.3 +0.1
comp=Z,3.0nm,0.8s
E27A **Carson** 84.58 340 ⇓P P 09 51 19.5 -0.5
baz=85
WAKR **Walker** 84.62 325 *e*P P 09 51 22.3 +1.6
comp=Z,2.7nm,0.7s
F25A **Bowman** 84.67 339 ⇑P P 09 51 20.6 0.0
baz=85
I19A **Meeteetse** 84.83 334 ⇓P P 09 51 21.5 -0.1
baz=85
H20A **Greybull** 84.87 335 ⇑P P 09 51 21.4 -0.3
baz=85,SNR=7.6
E26A **Carlson Angus** 84.88 340 ⇑P P 09 51 21.1 -0.4
baz=85
AGMN **Agassiz Nation** 84.88 344 *e*P P 09 51 21.1 -0.4
AGMN **Agassiz Nation** 84.88 344 ⇑P P 09 51 21.3 -0.2
baz=85
F24A **Ekalaka** 84.91 338 ⇑P P 09 51 21.5 -0.3
baz=85
C30A **Mose, Pekin** 84.94 343 ⇓P P 09 51 21.9 +0.2
baz=85,SNR=15
REDW **Red Top Meadow** 84.94 333 *e*P P 09 51 21.9 -0.3
comp=Z,16nm,1.6s
LOHW **Long Hollow** 85.06 333 *e*P P 09 51 22.9 +0.1
comp=Z,5.1nm,1.0s
TPAW **Teton Pass** 85.08 333 *e*P P 09 51 23.2 +0.2
comp=Z,2.3nm,0.7s
F23A **Volborg** 85.10 337 ⇑P P 09 51 22.4 -0.4
baz=85
E25A **Miller Ranch,** 85.18 339 ⇑P P 09 51 23.0 -0.1
baz=86
MOOW **Moose Ponds** 85.23 333 *e*P P 09 51 23.3 -0.3
comp=Z,1.3nm,0.9s
G21A **Lodge Grass** 85.25 336 ⇑P P 09 51 23.1 -0.4
baz=86
I17A **Pilgrim Ck.** 85.31 333 ⇑P P 09 51 24.0 0.0
baz=86
MDND **Maddock** 85.36 342 *e*P P 09 51 24.1 +0.2
comp=Z,26nm,0.8s
MDND **Maddock** 85.36 342 ⇑P P 09 51 23.9 0.0
baz=86,SNR=5.1
D26A **Manning** 85.38 340 ⇑P P 09 51 24.0 0.0
baz=86
H19A **Powell** 85.38 335 ⇑P P 09 51 23.9 -0.4
baz=86
F22A **Rosebud** 85.42 337 ⇓P P 09 51 24.1 -0.2
baz=86
IMW **Indian Meadow** 85.43 333 *e*P P 09 51 25.1 +0.4
FLWY **Flagg Ranch** 85.50 333 *e*P P 09 51 25.3 +0.3
comp=Z,11nm,0.8s
G20A **Bridger** 85.59 335 ⇓P P 09 51 24.8 -0.5
baz=86,SNR=11
B30A **Myrvik Farm, E** 85.59 343 ⇑P P 09 51 24.8 -0.2
baz=86,SNR=16
H18A **Shoshone NF, C** 85.63 334 ⇓P P 09 51 25.2 -0.4
baz=86,SNR=19
H17A **Grant Village** 85.72 333 ⇑P P 09 51 26.2 +0.1
baz=86
C27A **Sayler Ranch,** 85.74 341 ⇓P P 09 51 26.3 +0.5
baz=86
D25A **Fairfield** 85.74 339 ⇑P P 09 51 26.3 +0.4
baz=86
LKWY **Lake** 85.80 334 *e*P P 09 51 27.6 +1.1
LKWY **Lake** 85.80 334 *e*P P 09 51 27.6 +1.1
B29A **Wagenman Farm,** 85.86 342 ⇑P P 09 51 26.4 0.0
baz=86
RLMT **Red Lodge** 85.87 335 *e*P P 09 51 26.7 -0.1
comp=Z,4.9nm,0.7s
D24A **Glendive** 86.01 339 ⇑P P 09 51 27.5 +0.3
baz=86
A30A **Hoffart Farm,** 86.04 343 ⇑P P 09 51 27.2 -0.1
baz=86,SNR=6.0
F20A **Billings** 86.07 336 ⇓P P 09 51 27.3 -0.3
baz=86
B28A **Dugan Ranch, T** 86.11 342 ⇓P P 09 51 27.7 +0.1
baz=86
A29A **Manning Farm,** 86.26 343 ⇓P P 09 51 28.0 -0.4
baz=87,SNR=7.4
D23A **Lindsay** 86.33 338 ⇓P P 09 51 28.9 +0.1
baz=87,SNR=17
E21A **Keefer Ranch,** 86.36 337 ⇑P P 09 51 28.8 -0.1
baz=87
F19A **Roth Farm, Mol** 86.39 335 ⇓P P 09 51 28.5 -0.7
baz=87
C24A **Savage** 86.41 339 ⇓P P 09 51 29.4 +0.3
baz=87,SNR=9.1
HLID **Hailey** 86.50 331 *e*P P 09 51 31.0 +1.1
HLID **Hailey** 86.50 331 ⇓P P 09 51 30.6 +0.7
baz=87,SNR=7.0
D22A **Cohagen** 86.61 338 ⇑P P 09 51 30.2 0.0
baz=87,SNR=5.5
E20A **Meyer Farm, Mu** 86.68 336 ⇑P P 09 51 30.5 0.0
baz=87,SNR=17
B25A **Knox Farm, Ray** 86.71 340 ⇓P P 09 51 30.8 +0.2
baz=87
ULM **Lac du Bonnet** 86.72 345 P P 09 51 29.7 -0.8
comp=Z,4.6nm,0.9s,baz=159,slow=4.8,SNR=10.0
ULM **Lac du Bonnet** 86.72 345 ⇑P P 09 51 29.7 -0.8
ULM pmax pmax
comp=Z,5.0nm,0.9s
ULM **Lac du Bonnet** 86.72 345 *e*P P 09 51 29.8 -0.7
D21A **La Casta Ranch** 86.80 337 ⇑P P 09 51 30.7 -0.4
baz=87,SNR=7.0
A27A **Ledoux Ranch,** 86.80 341 ⇓P P 09 51 31.5 +0.5
baz=87
E19A **Rath Farm, Rou** 86.86 336 ⇓P P 09 51 31.3 -0.2
baz=87,SNR=13
C23A **Lambert** 86.88 338 ⇑P P 09 51 31.5 0.0
baz=87,SNR=10.0
MCMT **McKenzie Canyo** 86.94 332 *e*P P 09 51 33.3 +1.2
MFID **Camas Ranch** 86.96 330 *e*P P 09 51 32.9 +0.8
A26A **Wade Farm, Ken** 86.96 341 ⇑P P 09 51 31.9 +0.1
baz=87
DGMT **Dagmar** 87.19 339 *e*P P 09 51 33.3 +0.4
DGMT **Dagmar** 87.19 339 ⇑P P 09 51 33.0 0.0
baz=88
D20A **Manuel Ranch,** 87.19 336 ⇑P P 09 51 32.9 -0.2
baz=88,SNR=8.5
DLMT **Dillon** 87.30 333 *e*P P 09 51 34.3 +0.6
comp=Z,8.6nm,1.4s
A25A **Svangstu Ranch** 87.30 340 ⇑P P 09 51 33.4 -0.1
baz=88
B23A **Brockton** 87.42 339 ⇑P P 09 51 34.0 0.0
baz=88
C21A **Desert Coulee** 87.50 337 ⇓P P 09 51 34.2 -0.3
baz=88,SNR=10
D19A **Cripps Ranch,** 87.51 336 ⇑P P 09 51 34.0 -0.6
baz=88
A24A **Westby** 87.54 340 ⇓P P 09 51 34.5 -0.1
baz=88
B22A **Reddig Ranch S** 87.58 338 ⇓P P 09 51 34.7 -0.1
baz=88,SNR=5.4
C20A **Veseth Ranch,** 87.69 337 ⇑P P 09 51 35.0 -0.4
baz=88
WDC **Whiskeytown Da** 87.74 324 *e*P P 09 51 35.6 -0.1
WDC pmax pmax
comp=Z,6.0nm,0.7s
WDC **Whiskeytown Da** 87.74 324 *e*P P 09 51 35.6 -0.1
comp=Z,5.6nm,0.7s
B21A **Ellsworth Farm** 88.01 338 ⇑P P 09 51 36.8 0.0
baz=88,SNR=5.9
C19A **Slack Wire Ran** 88.06 336 ⇑P P 09 51 36.3 -0.8
baz=88
N02D **Trinity Center** 88.12 324 ⇑P P 09 51 37.5 -0.2
baz=88
A22A **Carney Farms,** 88.17 339 ⇑P P 09 51 37.3 -0.3
baz=88,SNR=7.7
M04C **Macdoel** 88.33 325 ⇓P P 09 51 38.1 -0.6
baz=89
B20A **Solberg Farm,** 88.34 337 ⇑P P 09 51 37.8 -0.7
baz=89
A21A **Bergtoll Ranch** 88.47 338 ⇑P P 09 51 38.8 -0.3
baz=89
M02C **Callahan** 88.52 324 ⇓P P 09 51 38.9 -0.6
baz=89
EGMT **Eagleton** 88.55 336 ⇓P P 09 51 39.3 -0.2
baz=89
B19A **Brinkman Farms** 88.65 337 ⇑P P 09 51 39.7 -0.2
baz=89
A20A **Cobblestone Ra** 88.69 337 ⇑P P 09 51 40.3 +0.2

baz=89,SNR=5.8
SCHQ Schefferville 88.86 3 P **P** 09 51 40.1 -0.5
comp=Z,2.8nm,0.9s,baz=165,slow=4.7,SNR=3.6
A19A Klindworth Far 89.00 337 ⇑P **P** 09 51 41.4 -0.2
baz=89
SLMT Seeley Lake 89.21 333 *e*P **P** 09 51 42.7 -0.1
L02D Cave Junction, 89.46 324 ⇑P **P** 09 51 43.1 -0.7
baz=90
YKA Yellowknife Ar 102.27 341 P **Pdif** 09 52 40.2 -1.3
comp=Z,0.5nm,0.8s,baz=135,slow=3.7,SNR=3.7
ILAR Eielson Array 114.37 333 PKiKP PKPdf 09 57 25.0 -0.8
comp=Z,0.5nm,0.8s,baz=159,slow=1.3,SNR=5.9
WRA Warramunga Arr 120.46 209 PKP **PKPdf** 09 57 38.0 -1.1
comp=Z,1.3nm,0.6s,baz=164,slow=1.5,SNR=22
WRA Warramunga Arr 120.46 209 PKIKP **PKPdf** 09 57 38.0 -1.1
WRA Warramunga Arr 120.46 209 PKP **PKPdf** 09 57 38.0 -1.1
KIEV Kiev 122.46 48 ⇓*i*PKIKP **PKPdf** 09 57 40.8 -1.0
AKASG Malin Array Be 122.47 48 PKP **PKPdf** 09 57 40.2 -1.6
comp=Z,2.1nm,0.8s,baz=266,slow=2.9,SNR=8.0
SPITS Spitsbergen Ar 122.97 14 PKP **PKPdf** 09 57 41.5 -0.6
comp=Z,7.0nm,1.0s,baz=160,slow=4.6,SNR=4.4
VSU Vasula 122.99 38*d i*PKIKP **PKPdf** 09 57 42.7 +0.2
FINES FINESS Array B 123.29 35 PKP **PKPdf** 09 57 42.5 -0.6
comp=Z,2.5nm,0.9s,baz=194,slow=2.9,SNR=4.7
ARCES ARCESS Array B 124.31 25 PKP **PKPdf** 09 57 44.4 -0.4
comp=Z,0.9nm,0.7s,baz=256,slow=3.6,SNR=4.5
H11S2 WAKE ISLAND Hyl 125.63 269 T T 12 16 22.9
baz=110,slow=72,SNR=11
H11S1 WAKE ISLAND Hyl 125.64 269 T T 12 16 18.3
baz=110,slow=72,SNR=12
H11S3 WAKE ISLAND Hyl 125.65 269 T T 12 16 22.7
baz=110,slow=72,SNR=10
H11N3 WAKE ISLAND Hyl 126.05 270 T T 12 16 49.8
baz=115,slow=79,SNR=4.0
H11N1 WAKE ISLAND Hyl 126.06 270 T T 12 16 45.9
baz=115,slow=79,SNR=10
H11N2 WAKE ISLAND Hyl 126.07 270 T T 12 16 48.0
baz=115,slow=79,SNR=10
LVZ Lovozero 127.56 27⇑*i*PKIKP **PKPdf** 09 57 50.5 -0.6
OBN Obninsk 127.72 43⇑*e*PKIKP **PKPdf** 09 57 51.1 -0.6
OBN pmax pmax
comp=Z,9.0nm,0.5s
KLMR Klimovskoe 129.70 36 *e*PKIKP PKPdf 09 57 50.1 -5.2
KLMR 09 58 01.4
KLMR pmax pmax
comp=Z,16nm,1.2s
KIV Kislovodsk 129.75 58 *e*PKIKP **PKPdf** 09 57 55.9 -0.2
KIV pmax pmax
comp=Z,5.0nm,0.7s
KBZ Khabaz 129.85 59 PKP **PKPdf** 09 57 56.0 -0.1
comp=Z,2.8nm,0.9s,baz=233,slow=20,SNR=4.0
BILL Bilibino 133.02 334 *i* PKIKP **PKPdf** 09 58 00.0 -1.4
BILL *i* 09 58 09.8
BILL 10 00 29.0
BILL pmax pmax
comp=Z,5.0nm,1.5s
BILL pmax pmax
comp=Z,4.0nm,1.1s
PET Petropavlovsk 139.68 314 *i* PKIKP **PKPdf** 09 58 15.6 +1.4
ARU Arti 140.03 41 *e*PKIKP **PKPdf** 09 58 15.3 +0.6
ARU SS SS 10 19 24.8 -7.4
SEY Seymchan 140.19 330 *i* PKIKP **PKPdf** 09 58 15.7 +0.9
PETK Petropavlovsk- 140.24 314 PKhKP PKPpre 09 58 09.5
comp=Z,0.7nm,0.8s,baz=114,slow=3.6,SNR=2.6
AKTO Aktyubinsk 140.61 50 PKP **PKPdf** 09 58 15.2 -0.9
comp=Z,1.7nm,0.8s,baz=311,slow=2.9,SNR=4.5
TIXI Tiksi 140.93 350⇓*e*PKIKP **PKPdf** 09 58 15.3 -0.6
BRVK Borovoye 147.50 43 *e*PKP2 **PKPbc** 09 58 31.2 +0.7
BRVK Borovoye 147.50 43 *e*PKPbc **PKPbc** 09 58 31.2 +0.7
BVAR Borovoye Array 147.57 43 PKPbc **PKPdf** 09 58 28.9 +0.8
comp=Z,6.5nm,0.6s,baz=270,slow=1.4,SNR=2.9
YAK Yakutsk 148.94 340 *e*PKP2 **PKPbc** 09 58 33.6 -0.4
YAK Yakutsk 148.94 340 *e*PKPbc **PKPbc** 09 58 33.6 -0.4
KKAR Karatay Array 149.79 62 *e*PKP2 **PKPbc** 09 58 36.5 -0.3
KKAR Karatay Array 149.79 62 *e*PKPbc **PKPbc** 09 58 36.5 -0.3
KULM Kulim 150.41 165 *e*PKPbc **PKPbc** 09 58 38.6 -0.6
EKS2 Erkin-Say 152.22 62 *e*PKIKP **PKPbc** 09 58 43.2 +0.5
EKS2 Erkin-Say 152.22 62 *e*PKPbc **PKPbc** 09 58 43.1 +0.5
AAK Ala-Archa 152.75 62 *e*PKIKP **PKPbc** 09 58 44.5 +0.6
AAK Ala-Archa 152.75 62 *e*PKPbc **PKPbc** 09 58 44.5 +0.6
FRU Bishkek 152.82 62 *e*PKIKP **PKPbc** 09 58 44.0 +0.2
FRU *e* 09 58 53.0
KURK Kurchatov 153.17 43 *e*PKIKP **PKPdf** 09 58 36.5 -0.3
KURK *e* 09 58 44.3
KURK Kurchatov 153.17 43 *e*PKPdf **PKPdf** 09 58 36.5 -0.3
KURK *e*PKPbc **PKPbc** 09 58 44.3 0.0
NVS Novosibirsk 153.24 32 *i* PKIKP **PKPbc** 09 58 43.2 -1.1
NVS *i* 09 58 50.4
NVS pmax pmax
comp=Z,18nm,0.9s
NVS pmax pmax
comp=E,3.0nm,0.5s
TKM2 Tokmak 2 153.52 61 *e*PKIKP **PKPdf** 09 58 37.9 0.0
TKM2 *e* 09 58 45.5
TKM2 Tokmak 2 153.52 61 *e*PKPdf **PKPdf** 09 58 37.9 0.0
TKM2 *e*PKPbc **PKPbc** 09 58 45.5 -0.1
TKM2 *e*PKPab **PKPab** 09 58 58.1 0.0
KSH Kashi 154.09 69 PKPbc **PKPbc** 09 58 46.8 -0.1
KSH sPKP 09 59 01.4
KSH PKS PKSdf 10 02 18.9 +5.9
KSH PP PP 10 03 10.8 +35
KSH AMB AMB
comp=Z,52nm,4.5s
KSH LR LR
comp=N,100nm,5.6s
KSH LR LR
comp=E,87nm,6.3s
KSH LR LR
comp=Z,200nm,9.5s
ZAA0 Zalesovo Array 154.52 32 *e*PKPdf **PKPdf** 09 58 38.2 -0.4
ZAA0 *e*PKPbc **PKPbc** 09 58 47.2 +0.1
ZALV Zalesovo Beam 154.52 32 PKP **PKPdf** 09 58 38.1 -0.6
comp=Z,3.3nm,0.9s,baz=282,slow=2.7,SNR=9.0
ZALV PKPbc **PKPbc** 09 58 47.2 +0.1
comp=Z,9.2nm,0.7s,baz=293,slow=3.5,SNR=27
BOD Bodaibo 156.07 352 *e*PKP2 **PKPab** 09 59 07.4 -0.8
BOD pmax pmax
comp=Z,9.0nm,0.9s
MK31 Makanchi Array 157.04 49 *e*PKIKP **PKPdf** 09 58 41.7 -0.6
MK31 Makanchi Array 157.04 49 *e*PKPdf **PKPdf** 09 58 41.7 -0.6
MK31 *e*PKPab **PKPab** 09 59 12.4 -0.4
MKAR Makanchi Array 157.04 49 PKP **PKPdf** 09 58 41.7 -0.6
comp=Z,1.1nm,0.9s,baz=284,slow=4.9,SNR=8.8
MKAR PKPbc PKPbc 09 58 52.0
comp=Z,1.7nm,0.9s,baz=295,slow=3.8,SNR=9.6
MKAR PKPab **PKPab** 09 59 12.6 -0.3
comp=Z,3.2nm,0.9s,baz=306,slow=3.4,SNR=9.9
WMQ Urumqi 161.74 53 *e*PKP **PKPdf** 09 58 48.0 +0.1
WMQ LN
comp=Z,330nm,38.6s
WMQ LE
comp=Z,420nm,29.6s
WMQ LZ
comp=Z,340nm,29.6s
CMAR Chiang Mai Arr 162.38 151 PKP **PKPdf** 09 58 48.8 -0.4
comp=Z,0.7nm,0.3s,baz=248,slow=3.7,SNR=4.4
ZAK Zakamensk 163.56 10 *e*PKP2 **PKPab** 09 59 40.0 -1.1
ZAK pmax pmax
comp=Z,2.0nm,1.3s
ZAK pmax pmax
comp=Z,4.0nm,1.3s
SONM Songino Array 166.41 4 PKP **PKPdf** 09 58 51.5 -0.5
comp=Z,0.5nm,0.8s,baz=262,slow=1.0,SNR=4.1
SONM Songino Array 166.41 4 PKIKP **PKPdf** 09 58 51.5 -0.5
SONM pmax pmax
comp=Z,1.0nm,0.8s
GTA Gaotai 171.80 49 *e*PKP **PKPdf** 09 58 56.0 +0.3
GTA pPKP **pPKPdf** 09 59 06.8 +0.1
GTA sPKP 09 59 10.4
GTA PKPab **PKPab** 10 00 18.6 +0.6
HHC Hu-ho-hao-te 172.78 337 *e*PKP **PKPdf** 09 58 57.8 +1.7
HHC PP **PP** 10 04 15.8 +2.6
HHC SKKS 10 11 01.1
HHC PPMZ
comp=Z,35nm,4.7s
HHC LN
comp=Z,320nm,16.7s
HHC LE
comp=Z,220nm,17.7s
HHC LZ
comp=Z,260nm,19.0s
CD2 Chengdu 175.22 133 *e*PKP **PKPdf** 09 58 57.5 +0.3
LZH Lanzhou 176.29 60 *e*PKP **PKPdf** 09 58 57.4 0.0
LZH pPKP **pPKPdf** 09 59 08.8 +0.4
LZH sPKP 09 59 12.1

IDC 19 09:39:52.4±2.5, 54°09N×86°27E, h0km, mb1 2.8/2, mb1mx2.8/28, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=19.2km s-min=12.5km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.87**	**261**	*i*		09 46 20.0	
	baz=80,slow=322,SNR=2.5						
ZALV	**Zalesovo Beam**	**0.87**	**261**	Pg	Pg	09 40 08.8	-0.2
	0.8nm,0.3s,baz=81,slow=19,SNR=8.0						
ZALV				Lg	Lg	09 40 20.9	
	1.2nm,0.3s,baz=81,slow=29,SNR=10						
ZALV				Rg	Rg	09 40 25.9	
	2.8nm,0.4s,baz=85,slow=31,SNR=10						
KURBB	**Kurchatov Arra**	**5.88**	**237**	Pn	Pn	09 41 21.4	+0.7
	0.1nm,0.3s,baz=55,slow=14,SNR=6.6						
KURBB				Lg	Lg	09 43 00.6	
	0.0nm,0.3s,baz=57,slow=31,SNR=2.6						
MKAR	**Makanchi Array**	**7.74**	**201**	Pn	Pn	09 41 47.1	+0.9
	0.2nm,0.3s,baz=22,slow=17,SNR=6.4						
MKAR				Lg	Lg	09 43 58.6	
	0.1nm,0.3s,baz=13,slow=33,SNR=4.2						

*IDC **19** 10:29:58.9±0.7, 54°32S×135°86W, h0km, mb3.9/12, mb1 4.0/12, mb1mx4.0/24, mbtmp3.9/12, Error ellipse: s-maj=22.7km s-min=18.7km az=147.0*
*ISCJB **19** 10:29:59.1±0.7, 54°45S±0°1×135°9W±0°2, h13km, mb3.9/12, Error ellipse: s-maj=20.6km s-min=16.6km az=138.8*
ISC 19 10:30:01.0±0.7, 54°35S±0°1×135°8W±0°1, h13km, n22, σ1§03/22, mb4.0/12, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**31.75**	**201**	P	**P**	**10 36 23.5**	**-0.6**
	0.4nm,0.8s,baz=16,slow=4.1,SNR=2.5						
QSPA	**South Pole Qui**	**35.83**	**180**	P	**P**	**10 36 58.9**	**-1.0**
	8.9nm,1.0s,baz=99,slow=2.1,SNR=9.2						
USHA	**Ushuaia**	**37.68**	**119**	P	**P**	**10 37 15.9**	**+0.4**
	4.3nm,0.7s,baz=260,slow=18,SNR=2.8						
SNAA	**Sanae**	**50.01**	**162**	P	**P**	**10 38 54.0**	**-0.4**
	0.8nm,0.9s,baz=252,slow=5.5,SNR=7.3						
CFAA	**Coronel Fontan**	**52.17**	**93**	P	**P**	**10 39 10.6**	**-0.5**
	0.2nm,0.7s,baz=204,slow=12,SNR=3.1						
MAW	**Mawson**	**57.58**	**188**	P	**P**	**10 39 50.3**	**+0.7**
	3.1nm,0.8s,baz=97,slow=17,SNR=1.7						
STKA	**Stephens Creek**	**60.64**	**255**	P	**P**	**10 40 11.8**	**+0.3**
	1.1nm,0.7s,baz=111,slow=15,SNR=2.0						
LPAZ	**La Paz**	**63.93**	**82**	P	**P**	**10 40 33.5**	**-0.8**
	0.9nm,0.8s,baz=345,slow=12,SNR=1.8						
WRA	**Warramunga Arr**	**73.95**	**258**	P	**P**	**10 41 35.0**	**-1.0**
	2.0nm,0.9s,baz=143,slow=5.4,SNR=14						
TXAR	**Lajitas Array**	**87.83**	**28**	P	**P**	**10 42 49.3**	**-0.4**
	0.1nm,0.4s,baz=117,slow=32,SNR=2.2						
NVAR	**Mina Array Bea**	**93.62**	**14**	P	**P**	**10 43 16.3**	**-0.3**
	0.2nm,0.5s,baz=159,slow=3.4,SNR=2.4						
BOSA	**Boshof**	**95.79**	**163**	P	**P**	**10 43 28.5**	**+1.6**
	2.2nm,0.9s,baz=108,slow=6.4,SNR=2.1						
BOSA	**Boshof**	**95.79**	**163**	P	**P**	**10 43 28.5**	**+1.6**
BOSA	**Boshof**	**95.79**	**163**	P	**P**	**10 43 28.5**	**+1.6**
ILAR	**Eielson Array**	**119.08**	**355**	PKP	**PKPdf**	**10 48 49.1**	**+1.2**
	0.6nm,1.1s,baz=184,slow=4.6,SNR=2.4						
ILAR	**Eielson Array**	**119.08**	**355**	PKIKP	**PKPdf**	**10 48 49.1**	**+1.2**
ILAR	**Eielson Array**	**119.08**	**355**	PKP	**PKPdf**	**10 48 49.1**	**+1.2**
TORD	**Torodi Ar. Bea**	**127.15**	**124**	PKP	**PKPdf**	**10 49 04.1**	**-0.9**
	0.4nm,0.7s,baz=243,slow=3.9,SNR=2.9						
TORD	**Torodi Ar. Bea**	**127.15**	**124**	PKP	**PKPdf**	**10 49 04.1**	**-0.9**
ESDC	**Sonseca Array**	**144.79**	**94**	PKP	**PKPdf**	**10 49 36.8**	**-0.1**
	0.3nm,0.3s,baz=260,slow=17,SNR=3.3						
ESDC	**Sonseca Array**	**144.79**	**94**	PKP	**PKPdf**	**10 49 36.8**	**-0.1**
KEST	**Kesra**	**149.58**	**113**	PKPbc	**PKPbc**	**10 49 51.3**	**+1.7**
	0.5nm,0.4s,baz=326,slow=3.6,SNR=2.9						

*IDC **19** 10:30:08.4±0.4, 54°57S×135°51W, h0km, mb4.9/16, mb1 5.0/16, mb1mx4.9/24, mbtmp4.9/16, MS5.5/13, Ms1 5.5/13, ms1mx5.4/25, Error ellipse: s-maj=20.5km s-min=12.5km az=170.0*
*MOS **19** 10:30:09.5±1.4, 54°75S×135°54W, h10km, mb5.5/15, MS5.7/18, Error ellipse: s-maj=22.8km s-min=15.2km az=69.1*
*ISCJB **19** 10:30:09.5±0.2, 54°92S±0°05×135°41W±0°08, h10km, mb5.1/56, MS5.7/165, Error ellipse: s-maj=7.5km s-min=6.4km az=142.5*
*NEIC **19** 10:30:10.4±0.2, 54°80S×135°25W, h10km, mb5.4/31, MS5.7/148, Error ellipse: s-maj=11.7km s-min=7.4km az=161.0*
*GCMT **19** 10:30:10.4±0.1, 54°72S×135°49W, h15km, MW6.0/132, Moment Tensor Solution. s123,c249; s132,c421; Duration: 2s3 Moment tensor: Scale 10^18 Nm; Mrr=0.12±.01; Mθθ=0.84±.01; Mφφ=-0.71±.01; Mrθ=0.05±.02; Mθφ=0.79±.01; Mφr=0.05±.02; Best double couple: M=1.11000×10^18 NP1:φs=22.00000°, δ=89.00000°, λ=177.00000°. NP2:φs=112.00000°, δ=87.00000°, λ=1.00000°. Principal axes: T 1.1720, Plg3.0000°, Azm337.0000°; N -0.1240, Plg87.0000°, Azm185.0000°; P -1.0480, Plg2.0000°, Azm67.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*BJI **19** 10:30:11.1, 54°80S×135°30W, h10km, mB5.6/24, Ms5.7/23, Ms7 5.4/23*
*AWI **19** 10:30:12.0, 54°70S×135°30W*
ISC 19 10:30:11.0±0.2, 54°75S±0°07×135°33W±0°06, h10km, n447, σ1§81/290, mb5.2/55, MS5.7/166, 5C-4D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTCN	**Pitcairn Islan**	**29.89**	**10**	PFAKE		10 36 30.0	+11
PTCN				LR	LR		
	comp=Z,11μm,21.0s						
SBA	**Scott Base**	**30.51**	**201**	*e*P	**P**	**10 36 23.9**	**+0.2**
SBA				pmax	pmax		
	comp=Z,107nm,1.5s						
SBA				MLR	MLR		
	comp=Z,8μm,21.0s						
SBA	**Scott Base**	**30.51**	**201**	*e*P	**P**	**10 36 23.9**	**+0.2**
	comp=Z,107nm,1.5s						
SBA				LR	LR		
	comp=Z,8μm,21.0s						
VNDA	**Vanda**	**31.47**	**202**	P	**P**	**10 36 34.1**	**+1.9**
	comp=Z,22nm,1.2s,baz=74,slow=8.2,SNR=28						
VNDA				LR	LR	10 45 57.1	
	comp=Z,6μm,21.6s,baz=83,slow=30						
VNDA	**Vanda**	**31.47**	**202**	*e*P	**P**	**10 36 34.6**	**+2.4**
VNDA				*e*		10 39 25.4	
VNDA				pmax	pmax		
	comp=Z,120nm,1.8s						
VNDA	**Vanda**	**31.47**	**202**	*e*P	**P**	**10 36 34.6**	**+2.4**
	comp=Z,120nm,1.8s						
VNDA				*e*PcP	**PcP**	**10 39 25.4**	**+0.6**
RKT	**Rikitea**	**31.59**	**1**	*e*S	**S**	**10 41 40.1**	**-2.1**
	comp=Z,3μm,28.0s						
RKT				*e*LQ	LQ	10 43 18.3	
	comp=Z,6μm,33.3s						
RKT				*e*LR	LR	10 44 53.1	
	comp=Z,22μm,27.2s,baz=178						
RKT	**Rikitea**	**31.59**	**1**	*e*T	T	11 09 15.3	
	comp=Z,30nm,0.3s						
TBI	**Tubuai**	**33.09**	**336**	*e*S	**S**	**10 42 01.4**	**-4.3**
	comp=Z,2μm,28.5s						
TBI				*e*LR	LR	10 45 12.3	
	comp=Z,32μm,29.8s,baz=167						
TBI	**Tubuai**	**33.09**	**336**	*e*T	T	11 10 59.3	
	comp=Z,443nm,0.3s						
RPN	**Rapa Nui**	**33.49**	**45**	PFAKE		10 37 00.0	+10
RPN				LR	LR		
	comp=Z,16μm,20.0s						
SNZO	**South Karori**	**35.24**	**271**	PFAKE		10 37 20.0	+15
SNZO				LR	LR		
	comp=Z,10μm,20.0s						
ODZ	**Otahua Downs**	**35.30**	**263**	*e*P	**P**	**10 37 07.5**	**+1.6**
	comp=Z,320nm,2.4s						
PMSA	**Palmer Station**	**35.32**	**135**	LR	LR	10 47 57.0	
	comp=Z,21μm,19.5s,baz=245,slow=30						
QSPA	**South Pole Qui**	**35.42**	**180**	LR	LR	10 49 48.6	
	comp=Z,14μm,18.3s,baz=74,slow=33						
QSPA	**South Pole Qui**	**35.42**	**180**	*e*P	**P**	**10 37 05.6**	**-1.3**
BKZ	**Black Stump Fm**	**35.60**	**276**	*e*P	**P**	**10 37 10.3**	**+1.7**
	comp=Z,106nm,1.9s						
RPZ	**Rata Peaks**	**35.86**	**265**	P	**P**	**10 37 08.8**	**-1.9**
	comp=Z,6.2nm,0.9s,baz=45,slow=1.4,SNR=3.0						
RPZ				LR	LR	10 48 38.1	
	comp=Z,11μm,19.9s,baz=119,slow=31						
URZ	**Urewera**	**35.86**	**277**	LR	LR	10 48 06.1	
	comp=Z,10μm,21.1s,baz=172,slow=30						
WHZ	**Wether Hill Ro**	**36.36**	**260**	*e*P	**P**	**10 37 16.8**	**+1.9**
	comp=Z,598nm,2.1s						
USHA	**Ushuaia**	**37.23**	**118**	P	**P**	**10 37 22.4**	**+0.2**
	comp=Z,61nm,0.9s,baz=230,slow=7.1,SNR=19						
USHA				LR	LR	10 49 14.0	
	comp=Z,11μm,19.1s,baz=222,slow=31						
MEH	**Mehetia**	**38.08**	**340**	*e*T	T	11 17 14.6	
	comp=Z,62nm,0.3s						
TVO	**Taravao**	**38.42**	**338**	*e*P	**P**	**10 37 33.2**	**+0.6**
	comp=Z,35nm,1.2s						
TVO	**Taravao**	**38.42**	**338**	*e*T	T	11 17 39.0	
	comp=Z,6.6nm,0.4s						
PAE	**Paea**	**38.60**	**338**	*e*P	**P**	**10 37 34.5**	**+0.4**
	comp=Z,12nm,1.0s						
PAE	**Paea**	**38.60**	**338**	*e*T	T	11 17 53.0	
	comp=Z,7.5nm,0.4s						
TIAR	**Tiarei**	**38.65**	**338**	*e*P	**P**	**10 37 35.1**	**+0.5**
	comp=Z,28nm,1.4s						
TIAR	**Tiarei**	**38.65**	**338**	*e*T	T	11 17 57.0	
	comp=Z,6.2nm,0.3s						
PPT2	**Papeete2**	**38.67**	**338**	*e*P	**P**	**10 37 35.6**	**+0.8**
	comp=Z,80nm,1.4s						
PPT2				*e*S	**S**	**10 43 28.0**	**-3.4**
	comp=Z,3μm,27.8s						
PPT2				*e*LR	LR	10 48 02.5	
	comp=Z,32μm,26.8s,baz=172						
PPT2	**Papeete2**	**38.67**	**338**	*e*T	T	11 17 58.1	
	comp=Z,24nm,0.4s						
PPT	**Papeete**	**38.69**	**338**	LR	LR	10 49 17.5	
	comp=Z,9μm,20.8s,baz=148,slow=30						
RAO	**Raoul Island**	**39.73**	**292**	LR	LR	10 52 42.8	
	comp=Z,939nm,18.4s,baz=140,slow=34						
OUZ	**Omahuta**	**40.00**	**278**	*e*P	**P**	**10 37 47.2**	**+1.5**
	comp=Z,198nm,2.2s						
PLCA	**Paso Flores**	**44.16**	**99**	P	**P**	**10 38 20.7**	**+1.0**
	comp=Z,18nm,1.2s,baz=232,slow=9.4,SNR=7.1						
PLCA	**Paso Flores**	**44.16**	**99**	*e*P	**P**	**10 38 20.3**	**+0.5**
PLCA				pmax	pmax		
	comp=Z,169nm,2.0s						
PLCA	**Paso Flores**	**44.16**	**99**	*e*P	**P**	**10 38 20.3**	**+0.5**
	comp=Z,168nm,2.0s						
EFI	**East Falkland**	**44.18**	**119**⇓	*e*P	**P**	**10 38 21.3**	**+1.7**
EFI				pmax	pmax		
	comp=Z,208nm,1.5s						
EFI	**East Falkland**	**44.18**	**119**	PFAKE		10 38 30.0	+10
EFI				LR	LR		
	comp=Z,9μm,20.0s						
VNA3	**Neumayer Olymp**	**48.58**	**159**	P	**P**	**10 38 53.6**	**-0.3**
VNA2	**Neumayer--Watz**	**49.28**	**160**	P	**P**	**10 38 58.5**	**-0.8**
	baz=218,slow=8.5						
VNA1	**Neumayer--Stat**	**49.33**	**159**	P	**P**	**10 38 59.9**	**+0.3**
CASY	**Casey**	**49.52**	**209**	*e*P	**P**	**10 39 01.4**	**+0.2**
	comp=Z,49nm,1.1s						
CASY				LR	LR		
	comp=Z,3μm,19.0s						
SNAA	**Sanae**	**49.53**	**162**	P	**P**	**10 38 59.2**	**-2.1**
SNAA	**Sanae**	**49.53**	**162**	P	**P**	**10 39 01.6**	**+0.3**
	comp=Z,8.1nm,0.9s,baz=229,slow=5.8,SNR=30						
SNAA				LR	LR	10 57 43.1	
	comp=Z,4μm,21.0s,baz=250,slow=33						
SNAA	**Sanae**	**49.53**	**162**	*e*P	**P**	**10 38 58.1**	**-3.2**
SNAA				pmax	pmax		
	comp=Z,74nm,1.3s						
SNAA	**Sanae**	**49.53**	**162**	*e*P	**P**	**10 38 58.1**	**-3.2**
	comp=Z,74nm,1.3s						
AFI	**Afiamalu**	**49.65**	**311**	PFAKE		10 39 10.0	+7.2
AFI				LR	LR		
	comp=Z,6μm,20.0s						
TAU	**Tasmania Unive**	**49.76**	**250**	PFAKE		10 39 10.0	+6.7
TAU				LR	LR		
	comp=Z,11μm,19.0s						
TRQA	**Tornquist**	**50.85**	**103**	*e*P	**P**	**10 39 11.0**	**-0.7**
	comp=Z,48nm,1.2s						
MSVF	**Nonsavu**	**51.23**	**297**	PFAKE		10 39 30.0	+15
MSVF				LR	LR		
	comp=Z,4μm,21.0s						
CFAA	**Coronel Fontan**	**51.87**	**92**	P	**P**	**10 39 18.8**	**-0.6**
	comp=Z,1.6nm,1.1s,baz=200,slow=6.7,SNR=11						
LCO	**Las Campanas**	**52.36**	**88**	PFAKE		10 39 30.0	+6.6
LCO				LR	LR		
	comp=Z,5μm,19.0s						
HOPE	**Hope Point**	**52.57**	**133**	PFAKE		10 39 40.0	+16
HOPE				LR	LR		
	comp=Z,15μm,19.0s						
NVL	**N'lazarevskaya**	**52.61**	**167**	*e*P	P	10 39 15.1	-9.2
NVL				*e*S	**S**	**10 46 47.8**	**-3.0**
NVL				pmax	pmax		
	comp=Z,23nm,1.0s						
NVL				MLR	MLR		
	comp=Z,5μm,15.0s						
MIR	**Mirnyy**	**53.67**	**202**	*e*P	P	10 39 41.0	+8.9
MIR				pmax	pmax		
	comp=Z,8.0nm,1.5s						
DZM	**Mont Dzumac**	**54.01**	**283**	LR	LR	10 57 06.5	
	comp=Z,5μm,21.4s,baz=180,slow=30						
CAN	**Canberra**	**54.10**	**258**	*e*P	**P**	**10 39 34.7**	**-1.2**
CAN				pmax	pmax		
	comp=Z,118nm,1.8s						
CAN				MLR	MLR		
	comp=Z,4μm,19.0s						
CAN	**Canberra**	**54.10**	**258**	*e*P	**P**	**10 39 34.7**	**-1.2**
	comp=Z,118nm,1.8s						
CAN				LR	LR		
	comp=Z,4μm,19.0s						
ARMA	**Armidale**	**56.18**	**264**	*e*P	**P**	**10 39 51.5**	**+0.5**
	comp=Z,41nm,1.1s						
MAW	**Mawson**	**57.21**	**188**	P	**P**	**10 39 56.8**	**-0.8**
	comp=Z,14nm,0.9s,baz=207,slow=4.1,SNR=7.8						
LVC	**Limon Verde**	**58.28**	**85**	P	**P**	**10 40 04.8**	**-1.3**
	comp=Z,95nm,1.1s,baz=220,slow=6.4,SNR=12						
LVC				LR	LR	10 59 25.8	
	comp=Z,12μm,21.4s,baz=223,slow=30						
EIDS	**Eidsvold**	**60.30**	**267**	*e*P	**P**	**10 40 18.7**	**-1.1**
STKA	**Stephens Creek**	**60.81**	**255**	P	**P**	**10 40 20.6**	**-2.6**
	comp=Z,13nm,1.0s,baz=134,slow=6.1,SNR=3.4						
STKA	**Stephens Creek**	**60.81**	**255**	*e*P	**P**	**10 40 23.0**	**-0.2**
STKA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
STKA	**Stephens Creek**	**60.81**	**255**	*e*P	**P**	**10 40 23.0**	**-0.2**
	comp=Z,3.5nm,0.9s						
CPUP	**Villa Florida**	**62.12**	**97**	*e*P	**P**	**10 40 32.1**	**+0.1**
CPUP				pmax	pmax		
	comp=Z,1.0nm,1.1s						
CPUP	**Villa Florida**	**62.12**	**97**	*e*P	**P**	**10 40 32.1**	**+0.1**
	comp=Z,1.4nm,1.1s						
NNA	**Nana**	**62.31**	**70**	PFAKE		10 40 40.0	+6.5
NNA				LR	LR		
	comp=Z,13μm,20.0s						
BBOO	**Buckleboo**	**63.18**	**251**	*e*P	**P**	**10 40 38.2**	**-0.8**
	comp=Z,96nm,1.7s						
LPAZ	**La Paz**	**63.71**	**81**	P	**P**	**10 40 42.5**	**-1.0**
	comp=Z,36nm,1.2s,baz=217,slow=3.3,SNR=34						
LPAZ	**La Paz**	**63.71**	**81**	*e*P	**P**	**10 40 44.1**	**+0.6**
PAYG	**Puerto Ayora**	**65.22**	**51**	PFAKE		10 41 00.0	+7.4
PAYG				LR	LR		
	comp=Z,6μm,20.0s						
ATAH	**Atahualpa**	**65.52**	**66**	P	**P**	**10 40 54.4**	**-0.6**
	comp=Z,6.2nm,0.9s,baz=233,slow=7.6,SNR=8.8						
ATAH				LR	LR	11 02 58.1	
	comp=Z,6μm,19.2s,baz=249,slow=30						
CTA	**Charters Tower**	**67.19**	**267**	P	**P**	**10 41

SAML Samuel 72.45 81 *e*P P **10 41 36.6 -1.1**
comp=Z,28nm,1.3s
SAML LR LR
comp=Z,3μm,22.0s
H01W1 Cape Leeuwin H 72.72 234 T T 12 01 49.0
baz=144,slow=76,SNR=255
H01W2 Cape Leeuwin H 72.73 234 T T 12 01 51.2
baz=144,slow=76,SNR=349
H01W3 Cape Leeuwin H 72.74 234 T T 12 01 50.3
baz=144,slow=76,SNR=240
NWAO Narrogin (SRO) 72.86 237 PFAKE 10 41 50.0 +10
NWAO LR LR
comp=Z,1.0nm,21.0s
PAF Port-aux-Franc 74.08 197 S **SKiKP** **10 51 13.0 -1.3**
PAF L L 11 00 00.0
PAF R 11 05 00.0
PAF L L 11 22 00.0
PAF R 11 26 00.0
PAF Port-aux-Franc 74.08 197 PFAKE 10 42 00.0 +13
PAF LR LR
comp=Z,4μm,19.0s
WRA Warramunga Arr 74.15 258 P **P** **10 41 46.0 -1.6**
comp=Z,13nm,0.8s,baz=143,slow=5.4,SNR=23
WRAB Tennant Creek 74.15 258 *e*P P **10 41 47.1 -0.6**
WRAB pmax pmax
comp=Z,21nm,0.9s
WRAB MLR MLR
comp=Z,7μm,19.0s
WRAB Tennant Creek 74.15 258 *e*P P **10 41 47.1 -0.6**
comp=Z,21nm,0.9s
WRAB LR LR
comp=Z,7μm,19.0s
PMG Port Moresby 75.17 275 PFAKE 10 42 00.0 +6.5
PMG LR LR
comp=Z,3μm,19.0s
BDFB Brasilia 75.85 97 P **P** **10 41 56.4 -1.2**
comp=Z,12nm,1.1s,baz=198,slow=3.1,SNR=7.3
POHA Pohakuloa 76.19 340 PFAKE 10 42 10.0 +11
POHA LR LR
comp=Z,10μm,20.0s
JTS JuntasAbangare 77.33 51 *e*P P **10 42 07.3 +1.5**
JTS pmax pmax
comp=Z,37nm,1.3s
JTS MLR MLR
comp=Z,10μm,22.0s
JTS JuntasAbangare 77.33 51 *e*P P **10 42 07.3 +1.5**
comp=Z,37nm,1.3s
JTS LR LR
comp=Z,10μm,22.0s
ROSC El Rosal 77.79 63 P **P** **10 42 08.1 -0.8**
comp=Z,6.2nm,0.4s,baz=123,slow=2.5,SNR=14
KIP Kipapa 78.31 338 PFAKE 10 42 20.0 +9.0
KIP LR LR
comp=Z,7μm,21.0s
BCIP Isla Barro Col 78.73 56 PFAKE 10 42 20.0 +6.5
BCIP LR LR
comp=Z,6μm,21.0s
CRZF Crozet Islands 79.01 185 S S 10 52 02.0 -11
CRZF SS SS 10 56 44.0 -33
CRZF L L 11 01 00.0
CRZF R 11 06 00.0
CRZF R 11 28 00.0
FITZ Fitzroy Crossi 80.50 252 *e*P P **10 42 22.5 -0.8**
comp=Z,50nm,1.4s
PTGA Pitinga 80.98 78 PFAKE 10 42 40.0 +14
PTGA LR LR
comp=Z,5μm,21.0s
MBWA Marble Bar 81.21 246 *e*P P **10 42 25.7 -1.2**
comp=Z,41nm,1.2s
MBWA LR LR
comp=Z,6μm,22.0s
SDV Santo Domingo 83.12 64 PFAKE 10 42 50.0 +13
SDV LR LR
comp=Z,3μm,22.0s
AIS Amsterdam Isla 83.59 206 R 11 08 00.0
TEIG Tepich 84.78 44 *e*P P **10 42 45.6 +0.3**
comp=Z,43nm,1.0s
TEIG LR LR
comp=Z,3μm,19.0s
035A Encino 87.42 33 P P **10 43 01.1 +3.0**
baz=88
MTDJ Mount Denham 87.69 54 PFAKE 10 43 10.0 +10
MTDJ LR LR
comp=Z,3μm,20.0s
933A Laredo 87.69 32 P P **10 43 01.4 +1.9**
baz=88
934A Benavides 87.91 32 P P 10 43 03.8 +3.4
baz=88
H11S2 WAKE ISLAND Hy 87.99 306 T T 12 20 16.8
baz=148,slow=75,SNR=59
H11S3 WAKE ISLAND Hy 88.00 306 T T 12 20 19.0
baz=148,slow=75,SNR=53
H11S1 WAKE ISLAND Hy 88.01 306 T T 12 20 18.3
baz=148,slow=75,SNR=34
KVTX Kingsville 88.06 33 PFAKE 10 43 10.0 +8.9
KVTX LR LR
comp=Z,1μm,22.0s
TXAR Lajitas Array 88.06 27 P P **10 42 59.6 -1.7**
comp=Z,1.5nm,0.8s,baz=197,slow=7.9,SNR=11
833A Chaparral WMA, 88.32 31 P P **10 43 05.0 +2.6**
baz=89
834A Tilden 88.39 32 P P **10 43 04.5 +1.8**
baz=89
214A Organ Pipe Nat 88.50 19 P P **10 43 03.7 +0.5**
comp=Z,26nm,1.3s
214A Organ Pipe Nat 88.50 19 P P **10 43 05.5 +2.3**
baz=89
732A Laxson Ranch, 88.53 31 P P **10 43 05.6 +2.2**
baz=89
319A Douglas 88.66 22 P P **10 43 06.2 +2.1**
baz=89
733A Divot King Ran 88.72 31 P P **10 43 06.7 +2.4**
baz=89
H11N3 WAKE ISLAND Hy 88.96 307 T T 12 21 18.1
baz=149,slow=76,SNR=17
H11N1 WAKE ISLAND Hy 88.97 307 T T 12 21 17.6
baz=149,slow=76,SNR=28
H11N2 WAKE ISLAND Hy 88.98 307 T T 12 21 19.5
baz=149,slow=76,SNR=14
113A Mohawk Valley, 89.12 18 P P **10 43 08.1 +2.1**
baz=90
529A Stev Forest Ra 89.20 28 P P **10 43 08.5 +1.9**
baz=90
TUC Tucson 89.25 21 *e*P P **10 43 07.0 +0.2**
TUC pmax pmax
comp=Z,17nm,1.4s
TUC MLR MLR
comp=Z,2μm,20.0s
TUC Tucson 89.25 21 *e*P P **10 43 07.0 +0.2**
comp=Z,17nm,1.4s
TUC LR LR
comp=Z,2μm,20.0s
530A J-C Ranch, Com 89.47 29 P P **10 43 09.4 +1.6**
baz=90
PFO Pinyon Flats O 89.49 16 P P **10 43 06.4 -1.5**
comp=Z,250nm,0.2s,SNR=16
PFO Pinyon Flats O 89.49 16 P P **10 43 08.4 +0.5**
PFO pmax pmax
comp=Z,51nm,0.2s
PFO MLR MLR
comp=Z,5μm,20.0s
PFO Pinyon Flats O 89.49 16 P P **10 43 08.4 +0.5**
comp=Z,51nm,0.2s
PFO LR LR
comp=Z,5μm,20.0s
531A Rocksprings 89.71 30 P P **10 43 10.8 +1.8**
baz=90
429A Davenport Ranc 89.77 28 P P **10 43 11.1 +1.8**
baz=90
532A Rocksprings 89.86 30 P P **10 43 11.4 +1.7**
baz=90
MNTX Cornudas Mount 89.88 25 *e*P P **10 43 10.2 +0.5**
comp=Z,9.2nm,1.3s
MNTX LR LR
comp=Z,2μm,22.0s
533A Kerrville 90.07 31 P P **10 43 12.0 +1.4**
baz=90
636A Smothers Creek 90.12 33 P P **10 43 12.1 +1.3**
baz=90
431A Sonora 90.18 29 P P **10 43 11.9 +0.8**
baz=90
MIDW Midway 90.18 324 PFAKE 10 43 20.0 +8.9
MIDW LR LR
comp=Z,3μm,20.0s
JCT Junction City 90.22 30 *e*P P **10 43 12.2 +0.9**
JCT pmax pmax
comp=Z,33nm,1.3s
JCT MLR MLR
comp=Z,1μm,19.0s
JCT Junction City 90.22 30 *e*P P **10 43 12.2 +0.9**
comp=Z,33nm,1.3s
JCT LR LR
comp=Z,1μm,19.0s
JCT Junction City 90.22 30 P P **10 43 12.2 +0.9**
baz=91
IRM Iron Mountain 90.24 17 P P **10 43 11.9 +0.5**
baz=91
GTBY Guantanamo Bay 90.29 55 PFAKE 10 43 20.0 +8.2
GTBY LR LR
comp=Z,4μm,19.0s
EDW2 Edwards Air Fo 90.51 14 P P **10 43 13.2 +0.6**
baz=91
432A Menard 90.60 30 P P **10 43 13.7 +0.6**
baz=91
GRGR Grenville 90.62 70 PFAKE 10 43 20.0 +6.5
GRGR LR LR
comp=Z,6μm,21.0s
330A Mertzon 90.70 29 P P **10 43 13.6 0.0**
baz=91
RCBR Riachuelo 90.71 101 PFAKE 10 43 20.0 +5.9
RCBR LR LR
comp=Z,4μm,20.0s
SUR Sutherland 90.83 160 PFAKE 10 43 20.0 +5.3
SUR LR LR
comp=Z,8μm,20.0s
HKT Hockley 90.94 34 *e*P P 10 43 17.9 +3.4
HKT pmax pmax
comp=Z,23nm,1.6s
HKT Hockley 90.94 34 *e*P P 10 43 17.9 +3.4
comp=Z,23nm,1.6s
332A Millersview 91.09 30 P P **10 43 15.4 0.0**
baz=91
GSC Goldstone, Bar 91.09 15 P P 10 43 20.2 +4.9
GSC pmax pmax
comp=Z,12nm,1.4s
GSC Goldstone, Bar 91.09 15 P P 10 43 20.2 +4.9
comp=Z,12nm,1.4s
ISA Isabella, Lake 91.21 14 *e*P P **10 43 16.1 +0.3**
ISA pmax pmax
comp=Z,7.0nm,1.2s
ISA Isabella, Lake 91.21 14 *e*P P **10 43 16.1 +0.3**
comp=Z,7.3nm,1.2s
ISA Isabella, Lake 91.21 14 P P **10 43 15.9 0.0**
baz=92
333A Richland Sprin 91.25 30 P P **10 43 16.1 0.0**
baz=92
SDDR Presa de Saban 91.33 58 PFAKE 10 43 30.0 +13
SDDR LR LR
comp=Z,2μm,21.0s
128A Castleberry Fa 91.50 27 P P **10 43 16.9 -0.4**
baz=92
233A Rising Star 91.93 30 P P **10 43 19.6 +0.4**
baz=92
WUAZ Wupatki 92.23 19 *e*P P **10 43 21.5 +0.8**
comp=Z,10nm,1.3s
SHPR Shep Range 92.53 16 *e*P P **10 43 21.8 -0.2**
comp=Z,18nm,1.7s
BBGH Gun Hill 92.59 71 PFAKE 10 43 30.0 +7.3
BBGH LR LR
comp=Z,4μm,20.0s
ANMO Albuquerque 92.72 23‖ *e*P P **10 43 22.3 -0.7**
ANMO pmax pmax
comp=Z,20nm,1.2s
ANMO Albuquerque 92.72 23 P P **10 43 21.4 -1.6**
comp=Z,5.2nm,1.2s
ANMO LR LR
comp=Z,2μm,20.0s
FDF Fort de France 93.04 69 PFAKE 10 43 40.0 +15
FDF LR LR
comp=Z,4μm,20.0s
SJG San Juan 93.20 63 PFAKE 10 43 40.0 +15
SJG LR LR
comp=Z,2μm,20.0s
GRTK Grand Turk 93.56 57 PFAKE 10 43 40.0 +13
GRTK LR LR
comp=Z,2μm,22.0s
MVCO Mesa Verde 94.45 21 PFAKE 10 43 40.0 +9.0
MVCO LR LR
comp=Z,2μm,20.0s
KAPI Kappang 94.47 255 PFAKE 10 43 40.0 +8.6
KAPI LR LR
comp=Z,2μm,19.0s
BRAL Brewton 94.96 40 PFAKE 10 43 40.0 +6.9
BRAL LR LR
comp=Z,2μm,19.0s
MVU Marysvale 94.98 18 *e*P P **10 43 34.4 +1.0**
comp=Z,5.7nm,1.1s
ANWB Willy Bob 95.12 67 PFAKE 10 43 40.0 +5.8
ANWB LR LR
comp=Z,2μm,20.0s
GUMO Guam 95.19 286 LR LR 11 19 37.3
comp=Z,283nm,20.1s,baz=146,slow=31
SDCO Great Sand Dun 95.62 23 PFAKE 10 43 50.0 +14
SDCO LR LR
comp=Z,3μm,20.0s
MIAR Mount Ida 95.91 34 PFAKE 10 43 50.0 +13
MIAR LR LR
comp=Z,770nm,21.0s
NLU North Lily Min 96.41 18 *e*P P **10 43 40.0 +0.1**
comp=Z,5.3nm,1.3s
DUG Dugway, Tooele 96.52 17 PFAKE 10 43 50.0 +10
DUG LR LR
comp=Z,2μm,19.0s
ISCO Idaho Springs 97.56 23 PFAKE 10 44 00.0 +15
ISCO LR LR
comp=Z,3μm,19.0s
SHEL Horse Pasture 97.63 132 PFAKE 10 44 00.0 +14
SHEL LR LR
comp=Z,3μm,19.0s
HWUT Hardware Ranch 98.11 18 PFAKE 10 44 00.0 +13
HWUT LR LR
comp=Z,2μm,21.0s
GOGA Godfrey 98.46 42 PFAKE 10 44 00.0 +11
GOGA LR LR
comp=Z,2μm,19.0s
KSU1 Kansas State U 99.20 30 PFAKE 10 44 00.0 +7.9
KSU1 LR LR
comp=Z,1μm,22.0s
AHID Auburn Hatcher 99.32 18 PFAKE 10 44 00.0 +7.2
AHID LR LR
comp=Z,2μm,21.0s
OGNE Ogallala 99.49 25 PFAKE 10 44 00.0 +6.5
OGNE LR LR
comp=Z,2μm,22.0s
NHSC New Hope 99.49 44 PFAKE 10 44 00.0 +6.5
NHSC LR LR
comp=Z,2μm,19.0s
HLID Hailey 99.55 15 PFAKE 10 44 00.0 +6.2
HLID LR LR
comp=Z,4μm,20.0s
BW06 Boulder Array 99.60 19 PFAKE 10 44 00.0 +5.9
BW06 LR LR
comp=Z,3μm,20.0s
PDAR Pinedale Array 99.60 19 P **Pdif** **10 43 54.1 0.0**
comp=Z,0.6nm,0.9s,baz=211,slow=1.7,SNR=4.1
COCO West Island 100.18 232 PFAKE 10 44 10.0 +13
COCO LR LR
comp=Z,2μm,19.0s
BMO Blue Mountains 100.40 13 PFAKE 10 44 10.0 +13
BMO LR LR
comp=Z,3μm,19.0s
ASCN Ascension 100.59 120 PFAKE 10 44 10.0 +11
ASCN LR LR
comp=Z,1μm,21.0s
DAV Davao City (W) 100.98 267 PFAKE 10 44 10.0 +9.3
DAV LR LR
comp=Z,2μm,22.0s
LKWY Lake 101.19 18 PFAKE 10 44 10.0 +8.8
LKWY LR LR
comp=Z,2μm,21.0s
HAWA Hanford 101.65 11 PFAKE 10 44 10.0 +7.2
HAWA LR LR
comp=Z,3μm,19.0s
RLMT Red Lodge 101.93 19 PFAKE 10 44 20.0 +16
RLMT LR LR
comp=Z,3μm,20.0s
BOZ Bozeman (W) 102.02 17 PFAKE 10 44 20.0 +15
BOZ LR LR
comp=Z,2μm,19.0s
NLWA Neilton Lookou 102.22 8 PFAKE 10 44 20.0 +15
NLWA LR LR
comp=Z,2μm,19.0s
CNNC Cliffs of the 102.28 45 PFAKE 10 44 20.0 +14
CNNC LR LR
comp=Z,3μm,20.0s
HDIL Hopedale 102.77 34 PFAKE 10 44 20.0 +12
HDIL LR LR
comp=Z,1μm,22.0s
SCIA State Center 102.78 31 PFAKE 10 44 20.0 +12
SCIA LR LR
comp=Z,2μm,21.0s
BLA Blacksburg 102.98 42 PFAKE 10 44 20.0 +11
BLA LR LR
comp=Z,2μm,19.0s
ECSD EROS Data Cent 103.50 28 PFAKE 10 44 20.0 +8.9
ECSD LR LR
comp=Z,2μm,20.0s
NEW Newport 103.78 12 PFAKE 10 44 20.0 +7.7
NEW LR LR
comp=Z,3μm,19.0s
RER Riviere de l'E 103.81 191 PFAKE 10 44 20.0 +6.6
RER LR LR
comp=Z,3μm,19.0s
LAO LASA Array 104.02 20 PFAKE 10 44 20.0 +6.5
LAO LR LR
comp=Z,3μm,20.0s
JFWS Jewell Farm 104.60 33 PFAKE 10 44 30.0 +14
JFWS LR LR
comp=Z,1μm,19.0s
EGMT Eagleton 104.64 17 PFAKE 10 44 30.0 +14
EGMT LR LR
comp=Z,2μm,21.0s
ACSO Alum Creek Sta 104.66 39 PFAKE 10 44 30.0 +14
ACSO LR LR
comp=Z,2μm,20.0s
CBN Corbin Frederi 105.04 44 PFAKE 10 48 40.0
CBN LR LR
comp=Z,4μm,19.0s
KSM Kuching 105.06 251 PFAKE 10 48 40.0
KSM LR LR
comp=Z,3μm,22.0s
KKM Kota Kinabalu 105.53 258 PFAKE 10 48 50.0
KKM LR LR
comp=Z,4μm,22.0s
BBSR BB Station 105.75 56 PFAKE 10 48 50.0
BBSR LR LR
comp=Z,1μm,20.0s
DGMT Dagmar 106.13 21 PFAKE 10 48 50.0
DGMT LR LR
comp=Z,2μm,21.0s
AAM Ann Arbor 106.24 37 PFAKE 10 48 50.0
AAM LR LR
comp=Z,2μm,20.0s
ABPO Ambohimpanom 106.50 183 PFAKE 10 48 50.0
ABPO LR LR
comp=Z,8μm,20.0s
COWI Conover 107.81 32 PFAKE 10 48 50.0
COWI LR LR
comp=Z,1μm,19.0s
AGMN Agassiz Nation 107.92 26 PFAKE 10 48 50.0
AGMN LR LR
comp=Z,2μm,21.0s
GLMI Grayling 108.13 35 PFAKE 10 48 50.0
GLMI LR LR
comp=Z,2μm,20.0s
EYMN Ely 108.78 29 PFAKE 10 48 50.0
EYMN LR LR
comp=Z,2μm,21.0s
BINY Binghamton 109.00 43 PFAKE 10 48 50.0
BINY LR LR
comp=Z,4μm,19.0s
NCB Newcomb 111.19 43 PFAKE 10 49 00.0
NCB LR LR
comp=Z,1μm,21.0s
LONY Lake Ozonia 111.59 42 PFAKE 10 49 00.0
LONY LR LR
comp=Z,2μm,20.0s
ADK Adak 111.69 334 PFAKE 10 49 00.0
ADK LR LR
comp=Z,6μm,22.0s
FFC Flin Flon 112.50 20 PFAKE 10 49 00.0
FFC LR LR
comp=Z,4μm,19.0s
KDAK Kodiak Island 113.04 350 PFAKE 10 49 00.0
KDAK LR LR
comp=Z,3μm,21.0s
KULM Kulim 113.43 244 PFAKE 10 49 00.0
KULM LR LR
comp=Z,2μm,19.0s
DGAR Diego Garcia 113.85 210 PFAKE 10 49 00.0
DGAR LR LR
comp=Z,2μm,20.0s
PKME Peaks-Kenny Pk 114.24 45 PFAKE 10 49 00.0 +10
PKME LR LR
comp=Z,1μm,22.0s
SACV Santiago Islan 114.62 99 PFAKE 10 49 00.0 +8.6
SACV LR LR
comp=Z,2μm,19.0s
MAJO Matsushiro 117.02 296 PFAKE 10 49 10.0 +15
MAJO LR LR
comp=Z,2μm,21.0s
YHNB Yeheng 117.35 275 PFAKE 10 49 10.0 +14
YHNB LR LR
comp=Z,1μm,19.0s
TATO Taipei 117.52 275 PFAKE 10 49 10.0 +13
TATO LR LR
comp=Z,2μm,22.0s
YKA Yellowknife Ar 118.03 11 PKP **PKPdf** **10 48 54.5 -1.9**
comp=Z,0.6nm,0.8s,baz=189,slow=2.3,SNR=4.0
ERM Erimo 118.66 303 PFAKE 10 49 10.0 +12
ERM LR LR
comp=Z,2μm,20.0s
EGAK Eagle 119.28 357 PFAKE 10 49 10.0 +11
EGAK LR LR
comp=Z,6μm,20.0s
ILAR Eielson Array 119.52 354 PKP **PKPdf** **10 48 58.1 -1.1**
comp=Z,0.9nm,0.7s,baz=192,slow=2.4,SNR=5.2
ILAR Eielson Array 119.52 354 PKP **PKPdf** **10 48 58.1 -1.1**
QIZ Qiongzhong 119.63 261 PKP **PKPdf** **10 49 01.5 +0.6**
QIZ PP **PP** **10 50 25.0 +1.4**
QIZ SS SS 11 06 48.8 +1.3
QIZ PPMZ
comp=Z,290nm,11.6s
QIZ LN
comp=Z,740nm,20.5s
QIZ LE
comp=Z,240nm,23.8s
QIZ LZ
comp=Z,850nm,21.9s
QIZ Qiongzhong 119.63 261 PFAKE 10 49 10.0 +9.1
QIZ LR LR
comp=Z,1μm,19.0s
COLA College 119.68 354 PFAKE 10 49 10.0 +10
COLA LR LR
comp=Z,4μm,20.0s
MSEY Mahe Island 120.11 192 PFAKE 10 49 10.0 +7.8
MSEY LR LR
comp=Z,2μm,19.0s
PET Petropavlovsk 120.46 320 *e*PKIKP **PKPdf** **10 49 06.0 +4.6**
PET Petropavlovsk 120.46 320 PFAKE 10 49 10.0 +8.6
PET LR LR
comp=Z,2μm,20.0s
PETK Petropavlovsk- 120.88 320 PKP **PKPdf** **10 49 02.4 +0.2**
comp=Z,6.7nm,0.9s,baz=126,slow=7.5,SNR=7.3
IM04 Indian Mountai 121.21 351 *e*PKPdf **PKPdf** **10 49 01.7 -0.8**
SSE Sheshan 122.32 279 PKP **PKPdf** **10 49 09.4 +3.7**
SSE PP PP 10 50 47.6 +5.5
SSE LN
comp=Z,1μm,30.5s
SSE LE
comp=Z,690nm,30.4s
SSE LZ
comp=Z,2μm,29.3s
SCHQ Schefferville 122.79 40 PKP **PKPdf** **10 49 04.4 -1.5**
comp=Z,3.2nm,0.8s,baz=256,slow=3.7,SNR=5.1
INCN Inchon 123.93 288 PFAKE 10 49 20.0 +11
INCN LR LR
comp=Z,1μm,20.0s
KMBO Kilima Mbogo 123.98 171 PFAKE 10 49 20.0 +10
KMBO LR LR
comp=Z,6μm,21.0s
CM31 Chiang Mai Arr 125.29 251 *e*PKPdf **PKPdf** **10 49 13.7 +1.9**
CMAR Chiang Mai Arr 125.29 251 PKP **PKPdf** **10 49 11.2 -0.6**
comp=Z,1.2nm,0.4s,baz=201,slow=1.9,SNR=12
CHTO Chiang Mai 125.58 251 *e*PKIKP **PKPdf** **10 49 12.3 -0.1**
CHTO *e* 10 51 04.7
CHTO MLR MLR
comp=Z,2μm,21.0s

CHTO Chiang Mai 125.58 251 *e*PKPdf **PKPdf 10 49 12.3 -0.1**
CHTO *e*PP **PP 10 51 04.7 +0.9**
CHTO LR LR
comp=Z,2µm,21.0s
WHN Wuhan 125.85 273 PKP **PKPdf 10 49 12.3 -0.2**
TORD Torodi Ar. Bea 126.68 124 PKP **PKPdf 10 49 12.9 -1.7**
comp=Z,5.2nm,0.9s,baz=189,slow=0.6,SNR=13
TORD Torodi Ar. Bea 126.68 124 PKP **PKPdf 10 49 12.9 -1.7**
GYA Guiyang 127.24 264 *e*Pdif **Pdif 10 45 58.8 +1.5**
GYA PKP **PKiKP 10 49 17.0 +1.0**
GYA PP PP 10 51 20.4 +5.3
GYA PKS **PKSdf 10 52 51.6 -0.7**
GYA SKKS 10 58 11.0
GYA SS **SS 11 08 26.3 +2.1**
GYA PPMZ
comp=Z,180nm,7.6s
GYA LN
comp=Z,190nm,22.4s
GYA LE
comp=Z,160nm,23.0s
GYA LZ
comp=Z,180nm,25.8s
MDJ Mudanjiang 127.37 296 PFAKE 10 49 30.0 +15
MDJ LR LR
comp=Z,1µm,20.0s
ENH Enshi 128.47 269 PFAKE 10 49 30.0 +12
ENH LR LR
comp=Z,650nm,22.0s
BILL Bilibino 129.84 335 ⇓ *i*PKIKP **PKPdf 10 49 22.0 +3.0**
BILL *e* 10 49 28.8
BILL *e* 10 51 36.7
BILL *i* 11 13 38.2
BILL pmax pmax
comp=Z,8.0nm,2.5s
BILL Bilibino 129.84 335 PFAKE 10 49 30.0 +11
BILL LR LR
comp=Z,2µm,20.0s
SEY Seymchan 130.08 325 *e*PKIKP **PKPdf 10 49 23.1 +3.6**
XAN Xi'an 131.54 272 PKP **PKPdf 10 49 23.9 +0.6**
XAN PPMZ
comp=Z,86nm,11.3s
XAN LN
comp=Z,880nm,30.8s
XAN LZ
comp=Z,200nm,30.8s
BJT Baijiatuau 131.54 283 PFAKE 10 49 30.0 +6.9
BJT LR LR
comp=Z,1µm,20.0s
BJI Beijing 131.55 283 PKP **PKPdf 10 49 24.9 +1.8**
BJI PP **PP 10 51 44.8 +1.7**
BJI SS SS 11 09 20.8 +3.6
BJI PPMZ
comp=Z,170nm,5.6s
BJI LN
comp=Z,570nm,20.0s
BJI LE
comp=Z,560nm,21.5s
BJI LZ
comp=Z,680nm,23.8s
TIY Taiyuan 132.09 278 SS SS 11 09 31.1 +7.1
TIY AMB AMB
comp=Z,200nm,6.0s
TIY LR LR
comp=N,1µm,20.6s
TIY LR LR
comp=E,450nm,16.4s
TIY LR LR
comp=Z,730nm,17.2s
CD2 Chengdu 132.26 265 *e*PKP **PKPdf 10 49 25.8 +1.0**
CD2 sPKP 10 49 35.4
CD2 PP **PP 10 51 50.0 +2.3**
CD2 PKS **PKSdf 10 52 59.3 -2.0**
CD2 SKS **SKSdf 10 56 34.6 -1.4**
CD2 SKKS **SKKSac 10 58 43.0 -0.4**
CD2 SS **SS 11 09 27.3 +1.4**
CD2 PPMZ
comp=Z,410nm,6.5s
CD2 LN
comp=Z,940nm,20.2s
CD2 LZ
comp=Z,880nm,23.8s
HHC Hu-ho-hao-te 134.71 281 *e*PKP **PKPdf 10 49 25.8 -3.4**
HHC SKS **SKSdf 10 56 36.8 -3.2**
HHC SKKS **SKKSac 10 58 52.4 -5.6**
HHC SS **SS 11 09 53.0 -2.7**
HHC PPMZ
comp=Z,110nm,7.1s
HHC LN
comp=Z,630nm,17.7s
HHC LE
comp=Z,920nm,26.0s
HHC LZ
comp=Z,1µm,25.1s
HIA Hailar 135.52 295 ⇓ *e*PKIKP **PKPdf 10 49 34.6 +4.3**
HIA Hailar 135.52 295 PFAKE 10 49 40.0 +10
HIA LR LR
comp=Z,1µm,20.0s
LZH Lanzhou 135.93 270 *e*PKP **PKPdf 10 49 32.8 +1.1**
LZH PP **PP 10 52 11.1 -0.1**
LZH SKKS 10 59 06.4
LZH SS **SS 11 10 10.8 +0.4**
LZH PPMZ
comp=Z,340nm,7.0s
LZH LN
comp=Z,610nm,16.4s
LZH LE
comp=Z,810nm,18.2s
LZH LZ
comp=Z,950nm,19.9s
SFJD Kangerlussuaq 136.74 35 PFAKE 10 49 40.0 +8.1
SFJD LR LR
comp=Z,2µm,21.0s
TAM Tamanrasset 136.78 122 *e*PKIKP **PKPdf 10 49 33.7 0.0**
TAM MLR MLR
comp=Z,2µm,20.0s
TAM Tamanrasset 136.78 122 *e*PKPdf **PKPdf 10 49 33.6 0.0**
TAM LR LR
comp=Z,2µm,20.0s
LSA Lhasa 138.50 252 PFAKE 10 49 50.0 +13
LSA LR LR
comp=Z,2µm,19.0s
PFVI Vila Bisbo 139.94 93 *e*LR LR 11 36 57.6
comp=Z,1µm,22.0s
GTA Gaotai 140.52 271 *e*PKP **PKPdf 10 49 42.3 +2.3**
GTA sPKP 10 49 49.3
GTA PP **PP 10 52 43.4 +3.7**
GTA SKS **SKSdf 10 56 50.8 +0.8**
GTA SKKS **SKKSac 10 59 33.6 +0.9**
GTA SS **SS 11 11 04.9 +0.2**
GTA PPMZ
comp=Z,230nm,7.2s
GTA LN
comp=Z,630nm,18.6s
GTA LE
comp=Z,650nm,19.1s
GTA LZ
comp=Z,1µm,20.9s
PBDV Barranco-do-Ve 140.53 94 *e*PKPdf **PKPdf 10 49 39.8 -0.1**
PBDV Barranco-do-Ve 140.53 94 *e*LR LR 11 32 34.1
comp=Z,1µm,22.0s
PCVE Castro Verde 140.74 94 *e*LR LR 11 37 38.7
PVAQ Vaqueiros 140.77 94 *e*LR LR 11 37 30.5
PVAQ A A 11 44 13.4
comp=Z,1µm,20.0s
PNCL Nicolau / Gran 140.78 93 *e*LR LR 11 38 28.0
PNCL A A 11 44 13.9
comp=Z,2µm,22.0s
PMAFR Mafra 140.91 91 *e*LR LR 11 37 38.7
comp=Z,2µm,18.0s
PMTG Montargil 141.60 92 *e*LR LR 11 37 46.9
comp=Z,2µm,20.0s
PBAR Barrancos 141.69 94 *e*LR LR 11 35 54.1
comp=Z,3µm,22.0s
PESTR Estremoz 141.84 93 *e*LR LR 11 37 05.8
PESTR A A 11 46 47.1
comp=Z,2µm,20.0s
SONM Songino Array 141.92 286 PKhKP PKPpre 10 49 36.6
comp=Z,1.7nm,0.8s,baz=138,slow=3.9,SNR=6.7
PCAS Casmilo, Conde 142.09 90 *e*LR LR 11 38 03.4
comp=Z,2µm,22.0s
TIXI Tiksi 142.31 329 *e*PKHKP PKPpre 10 49 35.5
TIXI Tiksi 142.31 329 *e*PKPdf PKPpre 10 49 35.5
PMRV Marv??o 142.32 92 *e*LR LR 11 39 00.9
MTE Manteigas 142.87 91 *e*LR LR 11 31 37.1
comp=Z,1µm,22.0s

MTE Manteigas 142.87 91 PFAKE 10 50 00.0 +16
MTE LR LR
comp=Z,2µm,21.0s
BOD Bodaibo 142.92 304 *e*PKIKP **PKPdf 10 49 39.2 -4.2**
BOD pmax pmax
comp=Z,5.0nm,2.1s
POLO Lamas de Olo 143.35 89 *e*LR LR 11 38 28.0
POLO A A 11 48 28.5
comp=Z,650nm,20.0s
PGAV Gavieira, Arco 143.45 88 *e*LR LR 11 38 19.8
comp=Z,2µm,20.0s
MVO Moncorvo 143.66 90 *e*LR LR 11 33 53.6
comp=Z,2µm,22.0s
PAB San Pablo 144.16 94 PFAKE 10 50 00.0 +14
PAB LR LR
comp=Z,2µm,21.0s
PBRG Braganca 144.24 90 *e*PKPdf **PKPdf 10 49 45.7 -0.7**
PBRG Braganca 144.24 90 *e*LR LR 11 38 44.4
ESDC Sonseca Array 144.47 95 PKP **PKPab 10 49 44.2 -1.0**
comp=Z,7.1nm,0.9s,baz=256,slow=3.3,SNR=24
ESDC Sonseca Array 144.47 95 PKP **PKPab 10 49 44.2 -1.0**
ESLA Sonseca Array 144.47 95 *e*PKPdf **PKPdf 10 49 46.3 -0.6**
NDI New Delhi 144.93 235 *e*P **PKPab 10 49 45.0 -2.1**
ZAK Zakamensk 145.01 288 *e*PKHKP PKPpre 10 49 38.8
ZAK pmax pmax
comp=Z,24nm,1.5s
IRK Irkutsk 145.38 291 *e*PKP2 **PKPbc 10 49 45.9 -2.0**
IRK pmax pmax
comp=Z,61nm,1.9s
TLY Talaya 145.45 290 *e*PKP2 **PKPdf 10 49 45.9 -2.2**
TLY *e*SS SS 11 11 55.2 -6.1
TLY pmax pmax
comp=Z,9.0nm,1.0s
TLY Talaya 145.45 290 PFAKE 10 50 00.0 +12
TLY LR LR
comp=Z,2µm,21.0s
JMDO Jabal Madar 146.13 203 P **PKPdf 10 49 50.6 +0.4**
SNR=7.7
WBK Wadi Bani Khal 146.16 204 P **PKPab 10 49 51.9 0.0**
SNR=14
SMDO Samad 146.81 203 P **PKPbc 10 49 53.0 -0.3**
SNR=15
BORG Borgarnes 146.84 46 PFAKE 10 50 00.0 +6.7
BORG LR LR
comp=Z,3µm,22.0s
ARQ Araqi 147.40 201 P **PKPbc 10 49 54.9 +0.2**
SNR=15
SJPF Ste Jean 148.25 92 *e*PKIKP **PKPdf 10 49 51.6 -1.5**
comp=Z,74nm,1.1s
SJPF Ste Jean 148.25 92 *e*PKIKP **PKPdf 10 49 51.6 -1.5**
SJPF Ste Jean 148.25 92 *e*PKPdf **PKPdf 10 49 51.6 -1.5**
ETSF Etsaut 148.50 93 *e*PKIKP **PKPdf 10 49 51.8 -1.8**
comp=Z,44nm,1.0s
ETSF Etsaut 148.50 93 *e*PKPdf **PKPdf 10 49 51.8 -1.8**
ATE Arette 148.54 93 PKP **PKPdf 10 49 53.9 +0.3**
REYF Montagne du Re 148.71 93 PKP **PKPbc 10 49 55.9 -1.8**
ASHO Ashiyiah 148.80 200 P **PKPdf 10 49 55.9 +1.3**
SNR=13
ASHO Ashiyiah 148.80 200 ⇑ *i*P **PKPdf 10 49 55.2 +0.6**
SNR=8.5
RAYN Ar Rayn 148.81 181 *e*PKPbc **PKPbc 10 49 58.2 -0.3**
RAYN *e*PKPab **PKPab 10 50 03.1 +0.7**
ASUD Al Ashush, Dub 148.89 199 ⇑ *i*P **PKPdf 10 49 56.3 +1.6**
SNR=6.0
HATD Hatta, Dubai 148.93 200 P **PKPdf 10 49 56.2 +1.4**
SNR=20
HATD Hatta, Dubai 148.93 200 *i* P **PKPdf 10 49 56.4 +1.6**
SNR=11
EPF Esparros 149.10 94 *e*PKIKP **PKPdf 10 49 51.7 -2.8**
EPF Esparros 149.10 94 *e*PKPdf **PKPdf 10 49 51.7 -2.8**
KEST Kesra 149.16 113 PKPbc **PKPbc 10 50 00.1 +0.9**
comp=Z,4.5nm,1.0s,baz=207,slow=3.4,SNR=5.6
SALF Salau 149.43 95 PKP **PKPdf 10 49 55.7 +0.6**
QUIF Quistinic 149.85 83 *e*PKIKP **PKPdf 10 49 53.1 -2.3**
comp=Z,89nm,1.4s
QUIF Quistinic 149.85 83 *e*PKIKP **PKPdf 10 49 53.1 -2.3**
QUIF Quistinic 149.85 83 *e*PKPdf **PKPdf 10 49 53.1 -2.3**
ROSF Rostrenen 150.00 82 *e*PKIKP **PKPdf 10 49 53.4 -2.3**
comp=Z,112nm,1.4s
ROSF Rostrenen 150.00 82 *e*PKIKP **PKPdf 10 49 53.4 -2.3**
ROSF Rostrenen 150.00 82 *e*PKPdf **PKPdf 10 49 53.4 -2.3**
WMQ Urumqi 150.34 266 PKPbc **PKPbc 10 49 59.5 -2.2**
WMQ pPKP **PKPab 10 50 06.3 -1.9**
WMQ PKS **PKSdf 10 53 34.3 +3.1**
WMQ PP PP 10 53 44.3 +6.4
WMQ SKS **SKSdf 10 57 05.5 +1.5**
WMQ SKKS **SKKSac 11 00 32.6 +4.5**
WMQ PPMZ
comp=Z,67nm,9.4s
WMQ LN
comp=Z,2µm,28.0s
WMQ LE
comp=Z,1µm,25.6s
WMQ LZ
comp=Z,620nm,25.4s
SGMF Saint Gilles 150.37 83 *e*PKIKP **PKPdf 10 49 54.1 -2.2**
comp=Z,57nm,1.2s
SGMF Saint Gilles 150.37 83 *e*PKIKP **PKPdf 10 49 54.1 -2.2**
SGMF Saint Gilles 150.37 83 *e*PKPdf **PKPdf 10 49 54.1 -2.2**
LFF La Frestale 150.47 91 *e*PKIKP **PKPdf 10 49 54.3 -2.2**
LFF La Frestale 150.47 91 *e*PKIKP **PKPdf 10 49 54.3 -2.2**
LFF La Frestale 150.47 91 *e*PKPdf **PKPdf 10 49 54.3 -2.2**
MFF Saint Martin d 150.89 87 *e*PKIKP **PKPdf 10 49 54.8 -2.4**
comp=Z,28nm,0.9s
MFF Saint Martin d 150.89 87 *e*PKIKP **PKPdf 10 49 54.8 -2.4**
MFF Saint Martin d 150.89 87 *e*PKPdf **PKPdf 10 49 54.8 -2.4**
RJF Les Rejaudoux 151.13 91 *e*PKIKP **PKPdf 10 49 55.1 -2.5**
comp=Z,31nm,1.0s
RJF Les Rejaudoux 151.13 91 *e*PKIKP **PKPdf 10 49 55.1 -2.5**
RJF Les Rejaudoux 151.13 91 *e*PKPdf **PKPdf 10 49 55.1 -2.5**
CAF Calviac 151.24 92 *e*PKIKP **PKPdf 10 49 55.3 -2.5**
CAF Calviac 151.24 92 *e*PKIKP **PKPdf 10 49 55.3 -2.5**
CAF Calviac 151.24 92 *e*PKPdf **PKPdf 10 49 55.3 -2.5**
GRR Gorron 151.41 84 *e*PKIKP **PKPdf 10 49 54.9 -3.0**
GRR Gorron 151.41 84 *e*PKIKP **PKPdf 10 49 54.9 -3.0**
GRR Gorron 151.41 84 *e*PKPdf **PKPdf 10 49 54.9 -3.0**
FLN La Foliniere 151.82 83 *e*PKIKP **PKPdf 10 49 56.3 -2.2**
comp=Z,102nm,1.5s
FLN La Foliniere 151.82 83 *e*PKIKP **PKPdf 10 49 56.3 -2.2**
FLN La Foliniere 151.82 83 *e*PKPdf **PKPdf 10 49 56.3 -2.2**
VSL Villasalto 151.92 108 PFAKE 10 50 10.0 +4.5
VSL LR LR
comp=Z,2µm,21.0s
LDF La Druitiere 151.94 84 *e*PKIKP **PKPdf 10 49 56.5 -2.2**
comp=Z,77nm,1.6s
LDF La Druitiere 151.94 84 *e*PKIKP **PKPdf 10 49 56.5 -2.2**
LDF La Druitiere 151.94 84 *e*PKPdf **PKPdf 10 49 56.5 -2.2**
WDD Wield Dalam 151.95 120 PFAKE 10 50 10.0 +4.4
WDD LR LR
comp=Z,3µm,19.0s
SSB Saint Sauveur 152.87 94 PFAKE 10 50 10.0 +2.5
SSB LR LR
comp=Z,2µm,21.0s
ESK Eskdalemuir 152.98 69 PFAKE 10 50 10.0 +2.7
ESK LR LR
comp=Z,2µm,20.0s
KBS Kingsbay 153.34 13 PFAKE 10 50 10.0 +2.5
KBS LR LR
comp=Z,2µm,20.0s
KBL Kabul 153.61 230 *e*PKIKP **PKPdf 10 50 01.2 -0.7**
KBL *e* 10 50 21.2
KBL Kabul 153.61 230 *e*PKPdf **PKPdf 10 50 01.2 -0.7**
KBL *e*PKPbc **PKiKP 10 50 10.8 +1.1**
KBL *e*PKPab **PKPab 10 50 21.2 -1.1**
KSH Kashi 154.10 247 PKPbc **PKPbc 10 50 07.6 -2.8**
KSH PKS **PKSdf 10 53 40.0 +3.4**
KSH PPMZ
comp=Z,120nm,4.3s
KSH LN
comp=Z,250nm,10.9s
KSH LE
comp=Z,210nm,9.1s
KSH LZ
comp=Z,1µm,24.3s
CEL Celeste 154.49 118 PFAKE 10 50 10.0 -1.2
CEL LR LR
comp=Z,2µm,21.0s
MK31 Makanchi Array 155.17 267 *e*PKIKP **PKPdf 10 50 01.8 -1.6**
MK31 Makanchi Array 155.17 267 *e*PKPdf **PKPdf 10 50 01.8 -1.6**
MKAR Makanchi Array 155.17 267 PKP **PKPdf 10 50 01.5 -1.9**
comp=Z,0.9nm,0.6s,baz=75,slow=1.4,SNR=5.4
MKAR PKPab **PKPab 10 50 25.7 -2.7**
comp=Z,8.0nm,0.9s,baz=125,slow=5.7,SNR=9.3
LOMF Lomont 155.33 92 PKP **PKPdf 10 50 05.2 +1.5**

DOU Dourbes 155.37 84 PKPab **PKPab 10 50 30.4 +1.4**
VLC Villacollemand 155.57 101 PFAKE 10 50 10.0 +6.0
VLC LR LR
comp=Z,1µm,20.0s
TIP Timpagrande 155.62 118 *e*PKPdf **PKPdf 10 50 05.6 +1.3**
TIP *e*PKPab **PKPab 10 50 30.2 -0.3**
TIP LR LR
comp=Z,2µm,21.0s
CUC Castrocucco 155.74 116 PFAKE 10 50 10.0 +5.6
CUC LR LR
comp=Z,2µm,20.0s
MOF Molkenrain 155.77 91 PKP **PKPdf 10 50 05.7 +1.4**
ECH Echery 155.97 90 PFAKE 10 50 10.0 +5.6
ECH LR LR
comp=Z,2µm,21.0s
WLF Walferdange 156.08 86 *e*PKP2 **PKPab 10 50 34.6 +2.5**
WLF MLR MLR
comp=Z,2µm,20.0s
WLF Walferdange 156.08 86 *e*PKPab **PKPab 10 50 34.6 +2.5**
WLF LR LR
comp=Z,2µm,20.0s
AQU L'Aquila 156.10 108 PFAKE 10 50 20.0 -12
AQU LR LR
comp=Z,2µm,21.0s
TUE Stuetta 156.32 96 *e*PKPdf **PKPdf 10 50 05.8 +0.6**
TUE LR LR
comp=Z,3µm,21.0s
TKM2 Tokmak 2 156.66 252 PFAKE 10 50 20.0 +14
TKM2 LR LR
comp=Z,2µm,21.0s
BFO Black Forest 156.70 91 PFAKE 10 50 20.0 +15
BFO LR LR
comp=Z,2µm,19.0s
LANF Langenberg 156.72 89 PKP **PKPdf 10 50 07.3 +1.9**
ZAA0 Zalesovo Array 156.80 285 *e*PKPdf **PKPdf 10 50 08.8 +3.5**
ZALV Zalesovo Beam 156.80 285 PKP **PKPdf 10 50 03.1 -2.2**
comp=Z,0.6nm,0.5s,baz=109,slow=3.6,SNR=2.4
ZALV PKPab **PKPab 10 50 33.7 -1.4**
comp=Z,2.5nm,0.7s,baz=124,slow=2.7,SNR=7.0
AAK Ala-Archa 157.08 250 ⇑ *e*PKIKP **PKPdf 10 50 09.3 +3.0**
AAK Ala-Archa 157.08 250 *e*PKPab **PKPab 10 50 37.2 +0.3**
AAK LR LR
comp=Z,2µm,20.0s
FRU Bishkek 157.14 251 *e*PKIKP PKPdf 10 50 16.0 +10
FRU *e* 10 50 28.0
FRU *e* 10 54 16.0
SANT Santorini 157.36 136 PFAKE 10 50 20.0 +13
SANT LR LR
comp=Z,2µm,21.0s
EKS2 Erkin-Say 157.49 250 *e*PKIKP **PKPdf 10 50 06.5 -0.2**
EKS2 MLR MLR
comp=Z,3µm,22.0s
EKS2 Erkin-Say 157.49 250 *e*PKPdf **PKPdf 10 50 06.5 -0.2**
EKS2 *e*PKPab **PKPab 10 50 39.0 +0.5**
EKS2 LR LR
comp=Z,3µm,22.0s
ABTA Abfaltersbach 158.29 98 ⇑ *i*pPKPdf **PKPdf 10 50 09.8 +2.3**
comp=Z,5.3nm,0.9s
CSS Prodhromos 158.70 154 PFAKE 10 50 20.0 +12
CSS LR LR
comp=Z,865nm,22.0s
TIR Tirane 158.82 119 PFAKE 10 50 20.0 +12
TIR LR LR
comp=Z,2µm,20.0s
KURK Kurchatov 159.18 273 PFAKE 10 50 20.0 +12
KURK LR LR
comp=Z,2µm,21.0s
NKC Novy Kostel 159.98 90 *e*SS SS 11 14 40.9 +0.1
NKC AMS AMS 12 03 10.0
comp=Z,1µm,19.7s
GERES GERESS Array B 160.07 94 PKP **PKPdf 10 50 08.7 -0.9**
comp=Z,0.5nm,0.4s,baz=166,slow=0.8,SNR=3.7
KHC Kasperske Hory 160.13 94 *e*PKPDF **PKPdf 10 50 10.1 +0.6**
KHC *e*pPKP **pPKPdf 10 50 16.6 +3.6**
KHC *ex* x 10 50 34.8
KHC *e*PKPAB **PKPab 10 50 49.6 -0.2**
KHC *e*PP **PP 10 54 31.0 -1.6**
KHC *e*SS SS 11 14 42.2 -0.3
KHC AMS AMS 11 57 40.0
comp=Z,2µm,21.7s
KHC Kasperske Hory 160.13 94 *e*PKIKP **PKPdf 10 50 10.1 +0.6**
KHC *e* 10 50 16.6
KHC *e* 10 50 49.6
KHC *e* 10 54 31.0
KHC *e*SS SS 11 14 42.2 -0.3
KHC MLR MLR
comp=Z,2µm,21.7s
ISP Isparta 160.52 145 PFAKE 10 50 20.0 +10
ISP LR LR
comp=Z,2µm,21.0s
KONO Kongsberg 160.54 61 PFAKE 10 50 20.0 +10
KONO LR LR
comp=Z,3µm,20.0s
CLL Collm 160.74 87 *e*PKPab **PKPab 10 50 53.0 +0.7**
comp=Z,34nm,1.8s
CLL *e*PP **PP 10 54 40.0 +4.3**
CLL *e*PSKS 11 05 09.0
CLL *e*PPS PPS 11 08 02.0
CLL *e*SS SS 11 14 48.0 -0.7
CLL *e*PSS PSS 11 15 46.0
CLL *e*SSS SSS 11 21 06.0
CLL *e*SSSS 11 25 06.0
CLL *e* 11 27 00.0
CLL LmV 12 20 00.0
comp=Z,2µm,20.1s
CLL Collm 160.74 87 *e*PKIKP PKPdf 10 50 19.0 +9.0
CLL *e* 10 50 53.0
CLL pmax pmax
comp=Z,7.0nm,0.9s
CLL pmax pmax
comp=Z,34nm,1.8s
CLL MLR MLR
comp=Z,2µm,20.1s
CONA Conrad Observa 160.85 99 ⇑ *i*PKPdf **PKPdf 10 50 11.4 +1.0**
comp=Z,5.8nm,0.8s
PRA Prague 161.06 92 *e*PP PP 10 54 45.0 +7.5
PRA AMS AMS 11 59 10.0
comp=Z,2µm,20.6s
PRU Pruhonice 161.08 92 *e*PKPAB **PKPab 10 50 53.3 -0.5**
PRU *e*PP PP 10 54 44.9 +7.3
PRU *ex* x 11 08 19.7
PRU *e*SS SS 11 14 49.7 -2.6
PRU AMS AMS 11 59 30.0
comp=Z,1µm,19.4s
PRU Pruhonice 161.08 92 *e*PKP2 **PKPab 10 50 53.3 -0.5**
PRU *e* 10 54 44.9
PRU *e*SS SS 11 14 49.7 -2.6
PRU MLR MLR
comp=Z,1µm,19.4s
GOPC GO Pecny, Ondr 161.19 93 *e*PKPAB **PKPab 10 50 55.0 +0.6**
GOPC *e*pPKP pPKP 10 50 59.8
GOPC *e*PP PP 10 54 44.6 +6.4
GOPC *ex* x 11 08 13.1
GOPC *e*SS SS 11 14 53.0 -0.5
GOPC AMS AMS 12 01 20.0
comp=Z,1µm,19.9s
PVCC Panska Ves 161.33 91 AMS AMS 11 56 30.0
comp=Z,2µm,18.6s
DPC Dobruska-Polom 162.27 93 *e*PKPDF **PKPdf 10 50 12.8 +1.0**
DPC *e*pPKP **pPKPdf 10 50 19.2 +4.0**
DPC *ex* x 10 50 25.9
DPC *e*PKPAB **PKPab 10 50 55.3 -3.8**
DPC *ex* x 10 50 59.7
DPC *e*PP **PP 10 54 44.6 +0.6**
DPC *e*SS SS 11 15 06.1 +1.2
DPC AMS AMS 11 59 10.0
DPC Dobruska-Polom 162.27 93 *e*PKIKP **PKPdf 10 50 12.8 +1.0**
DPC *e* 10 50 19.2
DPC *e* 10 50 55.3
DPC *e* 10 54 44.6
DPC *e*SS SS 11 15 06.1 +1.2
VYHS Vyhne 162.84 101 *e*PKIKP **PKPdf 10 50 13.4 +1.1**
VYHS Vyhne 162.84 101 *e*PKP **PKPdf 10 50 13.4 +1.1**
KEV Kevo 162.96 21 PFAKE 10 50 20.0 +8.3
KEV LR LR
comp=Z,3µm,21.0s
OKC Ostrava-Krasne 163.10 96 *e*PP PP 10 54 48.3 -0.1
OKC *e*SS SS 11 15 12.5 -0.8
OKC AMS AMS 12 07 50.0
comp=Z,1µm,23.0s
ANTO Ankara 163.12 147 PFAKE 10 50 20.0 +7.0
ANTO LR LR
comp=Z,2µm,20.0s
PSZ Piszkesteto 163.13 104 PFAKE 10 50 20.0 +7.3

PSZ				LR	LR			
	comp=Z,3µm,20.0s							
BR131	**Keskin Array S**	**163.24**	**149**	*e*PKPdf	**PKPdf**	**10 50 14.3**	**+1.1**
BR131				*e*PKPab	**PKPab**	**10 51 02.7**	**-1.0**
BRVK	**Borovoye**	**164.84**	**274**	PFAKE		10 50 20.0	+6.0
BRVK				LR	LR			
	comp=Z,3µm,20.0s							
UZH	**Uzhgorod**	**164.87**	**105**	*e*PKIKP	PKPdf	10 50 23.0	+8.9
UZH				*e*		10 50 29.7	
GNI	**Garni**	**165.40**	**180**	PFAKE		10 50 30.0	+15
GNI				LR	LR			
	comp=Z,3µm,22.0s							
KWP	**Kalwaria Pacla**	**165.62**	**102**	*e*PKIKP	**PKPdf**	**10 50 15.7**	**+0.9**
KWP				MLR	MLR			
	comp=Z,3µm,20.0s							
KWP	**Kalwaria Pacla**	**165.62**	**102**	*e*PKPdf	**PKPdf**	**10 50 15.7**	**+0.9**
KWP				LR	LR			
	comp=Z,3µm,20.0s							
LVZ	**Lovozero**	**165.99**	**16**	PFAKE		10 50 20.0	+5.4
LVZ				LR	LR			
	comp=Z,3µm,22.0s							
KIS	**Kishinev**	**167.36**	**121**	*e*PP	PP	10 55 16.0	+5.7
KIS				*e*SKS	**SKSdf**	**10 57 18.0**	**-1.6**
KIS	**Kishinev**	**167.36**	**121**	*e*PPP	PPP	10 59 12.0	
MAK	**Makhachkala**	**168.06**	**190**	*e*PKIKP	**PKPdf**	**10 50 15.2**	**-1.6**
MAK				*e*		10 55 11.1	
MAK				*e*SS	SS	11 15 55.8	-6.4
MAK				*e*SSS	SSS	11 22 33.2	
MAK				pmax	pmax			
	comp=Z,168nm,1.2s							
SIM	**Simferopol'**	**168.07**	**141**	*i* PKIKP	PKPdf	10 50 25.4	+8.6
SIM				pmax	pmax			
	comp=Z,180nm,8.0s							
FINES	**FINESS Array B**	**168.12**	**48**	PKPab	**PKPab**	**10 51 23.9**	**-0.5**
	comp=Z,5.9nm,1.1s,baz=323,slow=2.9,SNR=6.7							
KBZ	**Khabaz**	**168.91**	**173**	PKPab	**PKPab**	**10 51 27.7**	**-0.6**
	comp=Z,2.0nm,0.9s,baz=54,slow=24,SNR=4.4							
KIV	**Kislovodsk**	**169.12**	**172**	*e*PKIKP	**PKPdf**	**10 50 18.0**	**+0.4**
KIV				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KIV	**Kislovodsk**	**169.12**	**172**	*e*PKPab	**PKPab**	**10 51 28.3**	**-1.1**
KIV				LR	LR			
	comp=Z,4µm,22.0s							
NACGM	**Naroch**	**169.68**	**82**	*e*PKP	**PKPdf**	**10 50 20.0**	**+2.6**
KIEV	**Kiev**	**169.78**	**107**	PFAKE		10 50 30.0	+12
KIEV				LR	LR			
	comp=Z,2µm,22.0s							
AKASG	**Malin Array Be**	**169.80**	**107**	PKP	**PKPdf**	**10 50 15.9**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=254,slow=1.3,SNR=8.8							
AKASG				PKPab	**PKPab**	**10 51 31.4**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=225,slow=4.9,SNR=4.4							
ARU	**Arti**	**171.95**	**288**	PFAKE		10 50 30.0	+11
ARU				LR	LR			
	comp=Z,2µm,20.0s							
KLMR	**Klimovskoe**	**173.29**	**22**	PKIKP	**PKPdf**	**10 50 19.8**	**+0.8**
KLMR				pmax	pmax			
	comp=Z,10.0nm,1.2s							
OBN	**Obninsk**	**175.31**	**82**	*e*PKIKP	**PKPdf**	**10 50 24.2**	**+4.4**
OBN				*i* SS	SS	11 17 20.1	+5.2
OBN				pmax	pmax			
	comp=Z,8.0nm,0.4s							
OBN	**Obninsk**	**175.31**	**82**	PFAKE		10 50 30.0	+10
OBN				LR	LR			
	comp=Z,2µm,20.0s							

ISCJB ***19*** *10:39:04.7±0.5,41.27S±0.08×88.3W±0.1,h10km, mb4.7/35,MS4.4/1,Error ellipse: s-maj=12.5km s-min=10.9km az=145.8*

IDC ***19*** *10:39:04.7±0.9,41.13S×88.55W,h0km,mb4.2/6, mb1 4.4/9,mb1mx4.2/26,mbtmp4.1/9,ML3.8/3,MS4.5/1, Ms1 4.5/1,ms1mx3.8/20,Error ellipse: s-maj=25.5km s-min=23.5km az=75.0*

BJI ***19*** *10:39:06.4,41.20S×88.20W,h10km,mB5.1/3,Ms6.5/3, Ms7 5.3/3*

GCMT ***19*** *10:39:06.6±0.4,41.51S×88.76W,h12km,MW5.4/64, Moment Tensor Solution. s15,c18; s64,c84; Duration: 1s2 Moment tensor: Scale 10^17Nm; Mrr0.05±.08; Mθθ0.26±.08; Mφφ-0.31±.09; Mrθ-0.54±.24; Mrφ-1.46±.05; Mθφ0.17±.19; Best double couple: M0 1.58900×10^17 NP1:ϕ1263.00000°,δ83.00000°,λ161.00000°. NP2: ϕs356.00000°,δ71.00000°,λ7.00000°. Principal axes: T 1.6340, Plg18.0000°, Azm218.0000°; N -0.0910, Plg70.0000°, Azm64.0000°; P -1.5440, Plg8.0000°, Azm311.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***19*** *10:39:06.2±0.4,41.24S×88.47W,h10km,mb4.8/31 Error ellipse: s-maj=10.5km s-min=9.2km az=49.0*

ISC 19 10:39:06.2±0.6, 41.2S±0.1×88.4W±0.1, h10km, n50, σ1s50, mb4.8/35, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**13.47**	**94**	Pn	Pn	10 42 21.2	+3.8
	0.2nm,0.3s,baz=264,slow=12,SNR=5.8						
CFAA	**Coronel Fontan**	**18.79**	**66**	P	**Pn**	**10 43 27.0**	**+0.7**
	0.1nm,0.3s,baz=235,slow=9.8,SNR=28						
USHA	**Ushuaia**	**18.96**	**143**	P	**P**	**10 43 27.0**	**-0.3**
	0.3nm,0.3s,baz=275,slow=13,SNR=4.1						
TRQA	**Tornquist**	**20.54**	**90**	*e*P	**P**	**10 43 44.4**	**-0.4**
	60nm,1.1s						
LVC	**Limon Verde**	**24.74**	**47**	*e*P	**P**	**10 44 27.6**	**-0.6**
	78nm,1.7s						
LPAZ	**La Paz**	**30.38**	**41**	P	**P**	**10 45 20.1**	**+0.9**
	6.7nm,0.9s,baz=212,slow=8.0,SNR=13						
LPAZ	**La Paz**	**30.38**	**41**	*e*P	**P**	**10 45 19.4**	**+0.3**
	7.5nm,0.9s						
SIV	**San Ignacio**	**34.46**	**51**	LR	LR	10 58 49.6	
	comp=Z,784nm,21.6s,baz=246,slow=34						
SAML	**Samuel**	**39.11**	**42**	*e*P	**P**	**10 46 33.3**	**-0.5**
	10.0nm,0.9s						
OTAV	**Otavalo**	**42.24**	**15**	*e*P	**P**	**10 47 01.2**	**+1.0**
	15nm,1.2s						
BDFB	**Brasilia**	**43.13**	**66**	P	**P**	**10 47 06.8**	**-0.3**
	5.6nm,0.7s,baz=220,slow=11,SNR=6.7						
QSPA	**South Pole Qui**	**49.01**	**180**	P	**P**	**10 47 54.2**	**+1.3**
	2.2nm,1.0s,baz=149,slow=2.4,SNR=6.8						
SDV	**Santo Domingo**	**52.47**	**22**	*e*P	**P**	**10 48 17.7**	**-1.8**
	10nm,0.9s						
SBA	**Scott Base**	**53.09**	**195**	*e*P	**P**	**10 48 20.5**	**-2.7**
	14nm,1.4s						
VNDA	**Vanda**	**54.18**	**195**	*e*P	**P**	**10 48 31.3**	**+0.1**
	10nm,1.4s						
LRS	**Lares**	**62.49**	**23**	*e*P	**P**	**10 49 30.7**	**+0.8**
TXAR	**Lajitas Array**	**71.62**	**346**	P	**P**	**10 50 26.8**	**-1.0**
	1.3nm,0.8s,baz=178,slow=3.5,SNR=13						
JCT	**Junction City**	**72.12**	**350**	*e*P	**P**	**10 50 29.9**	**-0.8**
	7.2nm,0.9s						
LRAL	**Lakeview Retre**	**73.90**	**1**	*e*P	**P**	**10 50 41.9**	**+0.8**
	13nm,1.2s						
GOGA	**Godfrey**	**74.40**	**4**	*e*P	P	10 50 49.0	+4.9
	11nm,0.9s						
MSTX	**Muleshoe**	**75.99**	**348**	*e*P	**P**	**10 50 53.6**	**+0.3**
	7.3nm,0.8s						
TUC	**Tucson**	**76.04**	**341**	*e*P	P	10 50 57.8	+4.2
	6.1nm,1.4s						
AMTX	**Amarillo**	**76.72**	**349**	*e*P	**P**	**10 50 57.5**	**+0.1**
	9.4nm,0.8s						
TUL1	**Leonard**	**77.06**	**354**	*e*P	**P**	**10 51 00.0**	**+0.7**
	15nm,1.0s						
ANMO	**Albuquerque**	**77.60**	**345**	*e*P	**P**	**10 51 01.3**	**-1.3**
	4.5nm,1.1s						
PV01	**Paradox Valley**	**81.11**	**344**	*e*P	**P**	**10 51 21.8**	**+0.2**
R11A	**Troy Canyon, C**	**83.00**	**339**	*e*P	**P**	**10 51 31.3**	**-0.2**
	9.8nm,1.5s						
NLU	**North Lily Min**	**83.63**	**342**	*e*P	**P**	**10 51 35.4**	**+0.7**
	10nm,1.3s						
JFWS	**Jewell Farm**	**83.77**	**359**	*e*P	**P**	**10 51 35.9**	**+0.8**
	5.0nm,0.7s						
NVAR	**Mina Array Bea**	**83.86**	**337**	P	**P**	**10 51 35.4**	**-0.6**
	0.8nm,0.7s,baz=168,slow=6.2,SNR=8.1						
DUG	**Dugway, Tooele**	**84.03**	**341**	*e*P	**P**	**10 51 36.2**	**-0.5**
	14nm,1.4s						
CMB	**Columbia Colle**	**84.13**	**335**	*e*P	**P**	**10 51 37.7**	**+0.5**
	5.9nm,1.1s						
ECSD	**EROS Data Cent**	**84.90**	**354**	*e*P	**P**	**10 51 40.8**	**0.0**
	11nm,1.0s						
K22A	**Casper**	**85.09**	**347**	*e*P	**P**	**10 51 42.6**	**+0.5**
	11nm,1.0s						
PDAR	**Pinedale Array**	**85.77**	**345**	P	**P**	**10 51 44.8**	**-0.7**
	0.7nm,0.9s,baz=128,slow=4.1,SNR=8.9						
RSSD	**Black Hills**	**86.12**	**349**	*e*P	P	10 51 51.2	+4.0
	49nm,2.7s						
REDW	**Red Top Meadow**	**86.61**	**344**	*e*P	P	10 51 55.3	+5.6
	16nm,1.6s						
TPAW	**Teton Pass**	**86.75**	**344**	*e*P	**P**	**10 51 50.9**	**+0.4**
	10nm,1.2s						
LOHW	**Long Hollow**	**86.79**	**344**	*e*P	**P**	**10 51 51.4**	**+0.8**
	4.4nm,1.2s						
FXWY	**Fox Creek**	**86.91**	**344**	*e*P	**P**	**10 51 52.3**	**+1.1**
	5.7nm,0.4s						
FLWY	**Flagg Ranch**	**87.27**	**344**	*e*P	**P**	**10 51 53.4**	**+0.5**
	20nm,1.5s						
HLID	**Hailey**	**87.60**	**341**	*e*P	**P**	**10 51 54.5**	**0.0**
	6.6nm,1.3s						
G08A	**Pilot Rock**	**90.38**	**339**	*e*P	P	10 52 12.8	+5.4
	6.1nm,1.2s						
TIXI	**Tiksi**	**144.38**	**341**	*e*PKPdf	**PKPab**	**10 58 37.9**	**-1.6**
KSRS	**Korea Array**	**151.81**	**274**	PKPbc	**PKPbc**	**10 59 01.2**	**+0.3**
	0.8nm,0.7s,baz=90,slow=1.4,SNR=3.6						
KSAR	**Wonju Array Be**	**151.84**	**274**	PKPbc	**PKPbc**	**10 59 01.2**	**+0.2**
HHC	**Hu-ho-hao-te**	**164.95**	**275**	*e*PKP	**PKPdf**	**10 59 06.1**	**-4.3**
HHC				SKKS		11 10 37.3	
HHC				PPMZ			
	55nm,9.6s						
HHC				LN			
	560nm,18.1s						
HHC				LE			
	220nm,17.2s						
HHC				LZ			
	410nm,19.8s						
KSH	**Kashi**	**167.93**	**93**	*e*PKP	**PKPdf**	**10 59 16.6**	**+3.9**
KSH				PKS	**PKSdf**	**11 02 47.8**	**+2.4**
KSH				SKS	**SKSdf**	**11 06 18.9**	**+2.3**
KSH				PPMZ			
	110nm,5.7s						
KSH				LN			
	170nm,8.5s						
KSH				LE			
	150nm,6.0s						
KSH				LZ			
	660nm,13.2s						
LZH	**Lanzhou**	**169.17**	**246**	*e*PKP	**PKPdf**	**10 59 09.3**	**-4.4**
LZH				pPKP	**pPKPdf**	**10 59 20.1**	**+2.9**
LZH				sPKP		10 59 23.5	
WMQ	**Urumqi**	**176.10**	**47**	*e*PKP	**PKPdf**	**10 59 16.3**	**0.0**
WMQ				PKS	**PKSdf**	**11 02 49.3**	**+0.9**
WMQ				SKS	**SKSdf**	**11 06 18.6**	**-0.6**
WMQ				SKKS	**SKKSac**	**11 11 34.0**	**-1.2**
WMQ				SS	**SS**	**11 26 16.4**	**-1.4**
WMQ				LN			
	1µm,21.6s						
WMQ				LE			
	670nm,22.4s						
WMQ				LZ			
	800nm,25.6s						

IDC ***19*** *10:48:02.5±0.6,34.65S×72.52W,h0km,mb4.2/11, mb1 4.5/13,mb1mx4.3/28,mbtmp4.3/13,ML4.6/2,MS5.1/2, Ms1 5.0/2,ms1mx4.1/19,Error ellipse: s-maj=23.7km s-min=14.9km az=90.0*

ISCJB ***19*** *10:48:03.4±1.5,34.70S±0.03×72.59W±0.03,h12km±9km, mb4.4/23,MS5.2/1,Error ellipse: s-maj=5.0km s-min=4.4km az=4.0*

NEIC ***19*** *10:48:04.0,34.69S×72.44W,h7km,mb4.5/16, ML4.5(GUC),After GUC.*

NEIC Felt [III] at Constitucion, Curico, Linares, Pencahue and Talca and [II] at San Clemente.

GUC ***19*** *10:48:04.9±0.3,34.69S×72.44W,h7km±1km,ML4.5*

SJA ***19*** *10:48:35.8±0.7,33.14S×70.62W,h109km±19km,ML3.4*

ISC 19 10:48:04.4±1.7, 34.70S±0.04×72.45W±0.06, h11km±10km, n271, σ0s81/280, mb4.5/23, 114C-99D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.97**	**136**	*e*P	**Pg**	**10 48 22.8**	**-0.3**
TALC				*i* S	**Sb**	**10 48 36.6**	**+0.7**
NICH	**Los Niches**	**1.05**	**107**	*e*P	**Pg**	**10 48 24.9**	**+0.3**
NICH				*e*S	**Sn**	**10 48 39.4**	**-0.3**
LNV	**Longovilo**	**1.14**	**50**	*i* P	**Pb**	**10 48 25.5**	**-0.6**
LNV				*i* S	**Sg**	**10 48 41.0**	**0.0**
LNCH	**Linares**	**1.34**	**149**	*e*P	**Pn**	**10 48 29.0**	**-0.1**
LNCH				*i* S	**Sn**	**10 48 47.2**	**+0.3**
CHCH	**Chadas Angostu**	**1.67**	**63**	*i* P	**Pn**	**10 48 34.0**	**+0.3**
PCH	**Pirque**	**1.93**	**57**	*i* P	**Pn**	**10 48 38.3**	**+1.0**
SJCH	**San Jose de Ma**	**2.04**	**59**	*e*P	**Pn**	**10 48 39.3**	**+0.5**
SJCH				*i* S	**Sb**	**10 49 06.0**	**-0.9**
SJCH				AML	AML	10 49 12.6	
	comp=N,5µm,0.6s						
PEL	**Peldehue**	**2.14**	**44**	*e*P	**Pn**	**10 48 41.3**	**+1.2**
PEL				*i* S	**Sb**	**10 49 09.3**	**-0.5**
PEL				AML	AML	10 49 22.4	
	comp=N,5µm,0.5s						
CCSP	**San Pedro de C**	**2.21**	**194**	AML	AML	10 49 18.0	
	comp=N,5µm,0.3s						
YECH	**El Yeso**	**2.22**	**63**	*i* P	**Pb**	**10 48 43.5**	**-1.2**
YECH				*i* S	**Sb**	**10 49 12.5**	**+0.2**
YECH				AML	AML	10 49 18.0	
	comp=N,3µm,0.3s						
AAGR	**Agrelo**	**3.42**	**63**	*e*P	**Pb**	**10 49 03.6**	**-1.4**
AAGR				*e*S	Sn	10 49 24.5	-14
ARCO	**CERRO ARCO**	**3.47**	**59**	*e*P	**Pb**	**10 49 03.0**	**-3.0**
ARCO				AML	AML	10 50 04.2	
	comp=Z,358nm,0.7s						
AUSP	**Uspallata**	**3.56**	**47**	*e*P	**Pn**	**10 49 02.8**	**+3.0**
ASAL	**Salagasta**	**3.68**	**56**	*e*P	Pb	10 49 05.5	-4.0
RTLS	**Leoncito**	**3.92**	**43**	*e*P	**Pn**	**10 49 07.3**	**+2.5**
RTCV	**Cerro Valdivia**	**4.33**	**50**	*e*P	**Pn**	**10 49 12.5**	**+2.2**
CFAA	**Coronel Fontan**	**4.69**	**50**	Pn	**Pn**	**10 49 16.7**	**+1.5**
	comp=Z,0.9nm,0.3s,baz=225,slow=15,SNR=46						
CFAA				Sn	**Sn**	**10 50 10.5**	**+0.8**
	comp=Z,1.1nm,0.3s,baz=286,slow=19,SNR=2.3						
CFAA				Lg	Lg	10 50 28.1	
	comp=Z,1.2nm,0.3s,baz=286,slow=18,SNR=5.2						
CFAA	**Coronel Fontan**	**4.69**	**50**	*e*P	**Pn**	**10 49 16.8**	**+1.5**
RTLL	**Cerro Villicun**	**4.74**	**46**	*e*P	**Pn**	**10 49 17.3**	**+1.4**
AMOG	**MOGNA**	**5.02**	**43**	*e*P	**Pn**	**10 49 20.7**	**+0.9**
LCO	**Las Campanas**	**5.86**	**15**	*e*Pn	**Pn**	**10 49 30.0**	**-1.5**
LCO				*e*Sg	**Sg**	**10 51 13.1**	**+0.4**
PLCA	**Paso Flores**	**6.21**	**167**	Pn	**Pn**	**10 49 37.5**	**+1.4**
	comp=Z,6.6nm,0.3s,baz=340,slow=11,SNR=176						
PLCA				Lg	Lg	10 51 15.9	
	comp=Z,2.5nm,0.3s,baz=301,slow=14,SNR=3.8						
PLCA				LR	LR	10 52 22.0	
	comp=Z,10µm,18.2s,baz=234,slow=41						
TRQA	**Tornquist**	**9.08**	**115**	*e*Pn	**Pn**	**10 50 18.6**	**+3.1**
	comp=Z,33nm,1.0s						
LVC	**Limon Verde**	**12.44**	**15**	*e*Pn	**Pn**	**10 51 04.4**	**+2.7**
CPUP	**Villa Florida**	**15.46**	**61**	*e*Pn	**Pn**	**10 51 41.9**	**-0.6**
	comp=Z,17nm,2.8s						
LPAZ	**La Paz**	**18.74**	**13**	P	**Pn**	**10 52 25.0**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=187,slow=7.0,SNR=30						
LPAZ	**La Paz**	**18.74**	**13**	*e*P	**Pn**	**10 52 25.1**	**+0.7**
	comp=Z,11nm,0.9s						
USHA	**Ushuaia**	**20.32**	**173**	P	**P**	**10 52 40.6**	**+0.3**
	comp=Z,10nm,0.9s,baz=338,slow=4.1,SNR=4.2						
SIV	**San Ignacio**	**21.25**	**32**	P	**P**	**10 52 49.9**	**-0.8**
	comp=Z,4.0nm,0.7s,baz=220,slow=13,SNR=12						
SAML	**Samuel**	**27.00**	**21**	*e*P	**P**	**10 53 49.3**	**+2.8**
	comp=Z,4.4nm,0.9s						
BDFB	**Brasilia**	**29.01**	**55**	P	**P**	**10 54 04.8**	**+0.2**
	comp=Z,3.1nm,0.7s,baz=220,slow=9.0,SNR=3.4						
ROSC	**El Rosal**	**39.38**	**357**	LR	LR	11 09 52.4	
	comp=Z,4µm,21.5s,baz=205,slow=33						
SNAA	**Sanae**	**51.07**	**158**	P	**P**	**10 57 06.7**	**+0.2**
	comp=Z,1.9nm,0.9s,baz=299,slow=8.6,SNR=22						
SNAA	**Sanae**	**51.07**	**158**	P	**P**	**10 57 06.7**	**+0.2**
	comp=Z,0.2nm,0.9s						
QSPA	**South Pole Qui**	**55.54**	**180**	P	**P**	**10 57 40.2**	**+0.7**
	comp=Z,8.7nm,0.9s,baz=144,slow=2.0,SNR=17						
QSPA	**South Pole Qui**	**55.54**	**180**	*e*P	**P**	**10 57 39.9**	**+0.4**
	comp=Z,391nm,2.0s						
934A	**Benavides**	**66.69**	**335**	⇑P	**P**	**10 58 56.5**	**+1.2**
	baz=67						
736A	**Circle Diamond**	**67.45**	**337**	⇓P	**P**	**10 59 01.2**	**+1.2**
	baz=68						
833A	**Chaparral WMA,**	**67.66**	**334**	⇓P	**P**	**10 59 01.4**	**-0.1**
	baz=68						
832A	**Faith Ranch, C**	**67.83**	**334**	⇓P	**P**	**10 59 02.5**	**-0.1**
	baz=68						
636A	**Smothers Creek**	**67.93**	**337**	⇑P	**P**	**10 59 03.9**	**+0.7**
	baz=68						
732A	**Laxson Ranch,**	**68.24**	**334**	⇓P	**P**	**10 59 05.6**	**+0.5**
	baz=68						
632A	**Uvalde**	**68.88**	**335**	⇑P	**P**	**10 59 09.4**	**+0.3**
	baz=69						
532A	**Rocksprings**	**69.49**	**335**	⇓P	**P**	**10 59 13.1**	**+0.2**
	baz=70						
434A	**Burnet**	**69.56**	**336**	⇓P	**P**	**10 59 13.2**	**-0.1**
	baz=70						
531A	**Rocksprings**	**69.75**	**334**	⇓P	**P**	**10 59 15.1**	**+0.5**
	baz=70						
JCT	**Junction City**	**69.77**	**335**	⇓P	**P**	**10 59 14.3**	**-0.4**
	baz=70						
433A	**Art**	**69.78**	**336**	⇓P	**P**	**10 59 14.7**	**0.0**
	baz=70						
KMSC	**Kings Mountain**	**69.98**	**352**	⇓P	**P**	**10 59 14.5**	**-1.2**
	baz=70						
530A	**J-C Ranch, Com**	**70.02**	**334**	⇑P	**P**	**10 59 16.9**	**+0.7**
	baz=70						
334A	**Lometa**	**70.03**	**337**	⇑P	**P**	**10 59 16.2**	**+0.1**
	baz=70						
TXAR	**Lajitas Array**	**70.18**	**331**	P	**P**	**10 59 17.5**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=154,slow=8.1,SNR=23						
431A	**Sonora**	**70.24**	**334**	⇓P	**P**	**10 59 17.9**	**+0.4**
	baz=70						
333A	**Richland Sprin**	**70.27**	**336**	⇑P	**P**	**10 59 17.5**	**-0.1**
	baz=71						
529A	**Stev Forest Ra**	**70.33**	**333**	⇓P	**P**	**10 59 18.2**	**+0.1**
	baz=71						
430A	**Baggett Ranch,**	**70.56**	**334**	⇑P	**P**	**10 59 19.3**	**-0.2**
	baz=71						
332A	**Millersview**	**70.58**	**335**	⇓P	**P**	**10 59 19.6**	**0.0**
	baz=71						
429A	**Davenport Ranc**	**70.66**	**333**	⇓P	**P**	**10 59 20.1**	**0.0**
	baz=71						
331A	**San Angelo**	**70.75**	**335**	⇓P	**P**	**10 59 20.4**	**-0.2**
	baz=71						
233A	**Rising Star**	**70.87**	**336**	⇑P	**P**	**10 59 21.0**	**-0.3**
	baz=71						
232A	**Coleman**	**71.00**	**336**	⇑P	**P**	**10 59 21.6**	**-0.6**
	baz=71						
330A	**Mertzon**	**71.10**	**334**	⇓P	**P**	**10 59 22.1**	**-0.7**
	baz=71						
231A	**Bronte**	**71.28**	**335**	⇑P	**P**	**10 59 23.2**	**-0.6**
	baz=72						
133A	**Hamilton Ranch**	**71.42**	**337**	⇑P	**P**	**10 59 24.7**	**0.0**
	baz=72						
329A	**Wagon Wheel Ra**	**71.46**	**334**	⇓P	**P**	**10 59 24.6**	**-0.4**
	baz=72						
Z35A	**Perchaven, San**	**71.56**	**338**	⇑P	**P**	**10 59 25.2**	**-0.3**
	baz=72						
ABTX	**Abilene, Hawle**	**71.68**	**336**	⇑P	**P**	**10 59 25.7**	**-0.5**
	baz=72						
229A	**Bryant Ranch,**	**71.83**	**334**	⇑P	**P**	**10 59 27.3**	**+0.1**
	baz=72						
WVT	**Waverly**	**71.91**	**347**	*e*P	**P**	**10 59 26.8**	**-0.7**
	comp=Z,12nm,0.9s						
Z33A	**Whitaker Ranch**	**72.00**	**337**	⇓P	**P**	**10 59 27.9**	**-0.2**
	baz=72						
X37A	**Clayton**	**72.19**	**340**	⇑P	**P**	**10 59 29.1**	**-0.1**
	baz=72						
Z32A	**Haskell**	**72.25**	**336**	⇑P	**P**	**10 59 29.4**	**-0.2**
	baz=73						
228A	**UT Block 9, Go**	**72.25**	**333**	⇑P	**P**	**10 59 29.7**	**0.0**
	baz=73						
Y34A	**Reagan Ranch,**	**72.30**	**338**	⇑P	**P**	**10 59 29.8**	**-0.1**
	baz=73						
W38A	**Poteau**	**72.41**	**341**	⇓P	**P**	**10 59 29.7**	**-0.8**
	baz=73						
X36A	**Centrahoma**	**72.45**	**339**	⇓P	**P**	**10 59 29.7**	**-1.0**
	baz=73						
129A	**Stewart Farms,**	**72.45**	**334**	⇑P	**P**	**10 59 30.6**	**-0.4**
	baz=73						
X35A	**Drake**	**72.47**	**339**	⇑P	**P**	**10 59 30.2**	**-0.7**
	baz=73						
Z31A	**Sharp Cattle R**	**72.48**	**336**	⇓P	**P**	**10 59 30.8**	**-0.2**
	baz=73						
128A	**Castleberry Fa**	**72.67**	**334**	⇑P	**P**	**10 59 32.0**	**-0.2**
	baz=73						
Z30A	**Sanderson Ranc**	**72.79**	**335**	⇑P	**P**	**10 59 32.0**	**-0.8**
	baz=73						
X34A	**Smith Ranch, M**	**72.92**	**338**	⇑P	**P**	**10 59 33.2**	**-0.4**
	baz=73						
W36A	**Wetumka**	**72.95**	**340**	⇑P	**P**	**10 59 32.9**	**-0.8**
	baz=73						
MNTX	**Cornudas Mount**	**72.95**	**331**	⇑P	**P**	**10 59 33.0**	**-0.8**
	baz=73						
Z29A	**Hungry Hill Ra**	**72.97**	**335**	⇑P	**P**	**10 59 33.4**	**-0.5**
	baz=73						
X33A	**Lawton**	**73.07**	**338**	⇓P	**P**	**10 59 33.8**	**-0.7**
	baz=73						
Y31A	**Rekieta Farm,**	**73.11**	**336**	⇓P	**P**	**10 59 34.6**	**-0.1**
	baz=73						
X32A	**Elmer**	**73.21**	**337**	⇓P	**P**	**10 59 34.7**	**-0.6**
	baz=74						
Z28A	**Tucker Farm, M**	**73.23**	**334**	⇓P	**P**	**10 59 35.6**	**0.0**
	baz=74						
Y29A	**Porterfield Fa**	**73.50**	**335**	⇑P	**P**	**10 59 37.2**	**+0.1**
	baz=74						
TUL1	**Leonard**	**73.55**	**340**	⇓P	**P**	**10 59 36.9**	**-0.4**
	baz=74						
W33A	**Caddo, Fort Co**	**73.62**	**338**	⇑P	**P**	**10 59 37.4**	**-0.3**
	baz=74						
X31A	**McDonald Ranch**	**73.63**	**337**	⇑P	**P**	**10 59 37.7**	**-0.1**
	baz=74						
V35A	**Meyer Ranch, C**	**73.70**	**340**	⇑P	**P**	**10 59 37.7**	**-0.5**
	baz=74						
Y28A	**McKinney Farm,**	**73.74**	**335**	⇑P	**P**	**10 59 38.4**	**-0.1**
	baz=74						
X30A	**Coker Ranch, T**	**73.75**	**336**	⇓P	**P**	**10 59 38.0**	**-0.5**
	baz=74						
W32A	**Sentinel**	**73.84**	**337**	⇓P	**P**	**10 59 39.0**	**0.0**
	baz=74						
V34A	**Guthrie**	**73.97**	**339**	⇓P	**P**	**10 59 39.8**	**+0.1**
	baz=74			

S26A	Kim	77.52	335	⇓P		P	11 00 00.7	+0.6
	baz=78							
R28A	Tribune	77.61	337	⇓P		P	11 00 01.1	+0.5
	baz=78							
Z14A	Wintersburg	77.63	326	⇑P		P	11 00 01.9	+1.2
	baz=78							
Q30A	Quinter	77.69	338	⇑P		P	11 00 01.4	+0.4
	baz=78							
W18A	Petrified Fore	77.71	329	⇓P		P	11 00 02.5	+1.2
	baz=78							
Q29A	Oakley	77.84	338	⇓P		P	11 00 01.5	-0.4
	baz=78							
X16A	Lo Mia Camp, P	77.84	328	⇓P		P	11 00 03.5	+1.4
	baz=78							
R27A	Eads	77.89	336	⇑P		P	11 00 02.1	-0.1
	baz=78							
P31A	Stockton	77.94	339	⇑P		P	11 00 03.2	+0.8
	baz=78							
R26A	Arlington	78.12	336	⇑P		P	11 00 03.9	+0.4
	baz=78							
P30A	Selden	78.22	338	⇓P		P	11 00 04.9	+1.0
	baz=78							
Q28A	Sharon Springs	78.27	337	⇓P		P	11 00 04.4	+0.1
	baz=79							
O32A	Brockman Farm,	78.30	340	⇑P		P	11 00 05.4	+1.1
	baz=79							
SDCO	Great Sand Dun	78.34	334	⇑P		P	11 00 05.5	+0.6
	baz=79							
P29A	Atwood	78.48	338	⇓P		P	11 00 05.8	+0.4
	baz=79							
Q26A	Hugo	78.70	336	⇓P		P	11 00 07.2	+0.5
	baz=79							
P28A	Saint Francis	78.71	337	⇓P		P	11 00 07.5	+0.9
	baz=79							
O30A	MW Ranch, Wils	78.74	339	⇓P		P	11 00 07.5	+0.8
	baz=79							
WUAZ	Wupatki	78.75	328	*e*P		P	11 00 07.9	+0.9
	comp=Z,6.4nm,1.0s							
WUAZ	Wupatki	78.75	328	⇑P		P	11 00 08.1	+1.1
	baz=79							
S22A	4UR Ranch, Cre	78.84	333	⇓P		P	11 00 08.6	+0.9
	baz=79							
R23A	Moffat	78.86	334	⇑P		P	11 00 08.6	+0.8
	baz=79							
MVCO	Mesa Verde	79.01	331	⇓P		P	11 00 09.4	+0.9
	baz=79							
BC3	Big Chuckawall	79.05	325	⇓P		P	11 00 09.6	+0.9
	baz=79							
P26A	Davis Ranch, A	79.22	336	⇑P		P	11 00 09.6	+0.1
	baz=80							
Q24A	Divide	79.30	335	⇓P		P	11 00 10.3	+0.1
	baz=80							
IRM	Iron Mountain	79.32	325	⇑P		P	11 00 10.8	+0.7
	baz=80							
PFO	Pinyon Flats O	79.49	324	⇓P		P	11 00 12.5	+1.4
	baz=80							
O27A	Beecher Island	79.50	337	⇑P		P	11 00 11.7	+0.7
	baz=80							
W13A	Hualapai Mount	79.51	327	⇓P		P	11 00 12.4	+1.1
	baz=80							
O26A	Horse Wrangler	79.82	336	⇑P		P	11 00 13.6	+0.8
	baz=80							
U15A	North Rim	79.91	328	⇓P		P	11 00 14.9	+1.4
	baz=80							
BOSA	Boshof	80.05	118	P		P	11 00 15.9	+1.4
	comp=Z,2.4nm,0.7s,baz=238,slow=7.0,SNR=3.8							
GMRC	Granite Mounta	80.06	325	⇑P		P	11 00 15.4	+1.2
	baz=80							
N27A	Anderson Farm,	80.08	337	⇓P		P	11 00 14.4	+0.2
	baz=80							
ISCO	Idaho Springs	80.21	335	⇑P		P	11 00 15.6	+0.5
	baz=80							
P22A	Eagle	80.44	334	⇑P		P	11 00 17.7	+1.4
	baz=81							
FMP	Fort Macarthur	80.48	323	⇓P		P	11 00 18.0	+1.7
	baz=81							
O23A	Lake Granby, G	80.68	335	⇑P		P	11 00 18.4	+0.8
	baz=81							
TUQ	Turquoise Moun	80.73	325	⇑P		P	11 00 18.7	+0.9
	baz=81							
O22A	Kremmling	80.86	334	⇓P		P	11 00 19.1	+0.5
	baz=81							
GSC	Goldstone, Bar	81.03	325	⇓P		P	11 00 20.5	+1.1
	baz=81							
ECSD	EROS Data Cent	81.11	343	*e*P		P	11 00 18.8	-0.7
	comp=Z,13nm,1.1s							
ECSD	EROS Data Cent	81.11	343	⇑P		P	11 00 19.3	-0.2
	baz=82							
EDW2	Edwards Air Fo	81.27	324	⇑P		P	11 00 21.8	+1.2
	baz=82							
N23A	Red Feather La	81.30	335	⇑P		P	11 00 21.6	+0.8
	baz=82							
N22A	Wattenberg Ran	81.39	335	⇓P		P	11 00 22.4	+1.0
	baz=82							
K28A	Ten Mile Ranch	81.46	339	⇑P		P	11 00 22.4	+1.0
	baz=82							
LRMC	Laurel Mtn Rad	81.60	324	⇓P		P	11 00 23.4	+1.0
	baz=82							
SPMN	Marine on St.	81.66	346	⇓P		P	11 00 21.5	-0.8
	baz=82							
J29A	Okreek	81.79	340	⇑P		P	11 00 23.4	+0.3
	baz=82							
FURC	Furnace Creek,	82.01	325	⇓P		P	11 00 25.6	+1.3
	baz=82							
I30A	Oacoma	82.01	341	⇓P		P	11 00 24.1	-0.1
	baz=82							
J28A	Allard Ranch,	82.07	339	⇑P		P	11 00 25.3	+0.7
	baz=82							
N20A	Spence Gulch,	82.08	333	⇑P		P	11 00 25.6	+0.6
	baz=82							
TPNV	Topopah Spring	82.11	326	⇓P		P	11 00 26.3	+1.2
	baz=82,SNR=6.1							
ISA	Isabella, Lake	82.13	324	*e*P		P	11 00 25.8	+0.7
	comp=Z,3.4nm,0.9s							
ISA	Isabella, Lake	82.13	324	⇓P		P	11 00 26.5	+1.3
	baz=82							
J27A	Elkhorn Farm,	82.14	339	⇓P		P	11 00 25.5	+0.4
	baz=82							
VES	Vestal, Richgr	82.57	323	⇑P		P	11 00 28.4	+1.1
	baz=83							
I28A	Midland	82.58	340	⇑P		P	11 00 27.6	+0.4
	baz=83							
J25A	Sunshine Ranch	82.82	338	⇑P		P	11 00 29.1	+0.5
	baz=83							
K23A	Bowen Ranch, D	82.84	336	⇑P		P	11 00 29.1	+0.4
	baz=83							
H29A	Onida	82.88	340	⇑P		P	11 00 28.9	+0.2
	baz=83							
I27A	Quinn	82.90	339	⇑P		P	11 00 29.3	+0.4
	baz=83							
R11A	Troy Canyon, C	82.96	327	*e*P		P	11 00 30.3	+0.8
	comp=Z,3.2nm,0.9s							
R11A	Troy Canyon, C	82.96	327	⇑P		P	11 00 30.6	+1.1
	baz=83,SNR=9.2							
J24A	Dixon Ranch, L	83.04	337	⇑P		P	11 00 30.6	+0.8
	baz=83							
K22A	Casper	83.05	335	⇓P		P	11 00 30.3	+0.4
	baz=83							
G30A	Faulkton	83.06	341	⇑P		P	11 00 29.7	0.0
	baz=83							
DUG	Dugway, Tooele	83.31	330	⇓P		P	11 00 31.8	+0.5
	baz=84,SNR=5.5							
I25A	Rochford	83.36	338	⇓P		P	11 00 31.5	0.0
	baz=84							
TPH	Tonopah	83.48	326	*e*P		P	11 00 33.0	+0.7
	comp=Z,7.4nm,1.2s							
J22A	Midwest	83.71	336	⇑P		P	11 00 32.6	-0.6
	baz=84							
F29A	Eureka	83.89	341	⇑P		P	11 00 34.1	+0.1
	baz=84							
J21A	Lysite	83.98	335	⇓P		P	11 00 34.7	0.0
	baz=84							
HWUT	Hardware Ranch	84.00	332	*e*P		P	11 00 34.8	0.0
	comp=Z,3.6nm,0.9s							
G27A	Dupree	84.06	340	⇓P		P	11 00 34.8	0.0
	baz=84							
I22A	9 Mile Ranch,	84.14	336	⇑P		P	11 00 35.1	-0.3
	baz=84							
F28A	McLaughlin	84.17	341	⇑P		P	11 00 35.7	+0.3
	baz=84							
G26A	Maurine	84.17	339	⇓P		P	11 00 35.4	-0.1
	baz=84							
J20A	Shoshoni	84.21	335	⇓P		P	11 00 36.2	+0.4
	baz=84,SNR=6.7							
PDAR	Pinedale Array	84.23	333	P		P	11 00 35.5	-0.5
	comp=Z,1.3nm,0.8s,baz=135,slow=3.8,SNR=11							
NVAR	Mina Array Bea	84.26	326	P		P	11 00 36.9	+0.6
	comp=Z,1.5nm,0.7s,baz=156,slow=6.2,SNR=17							
H24A	Dirks Ranch, A	84.28	338	⇑P		P	11 00 35.7	-0.3
	baz=85							
I21A	Big Trails, Te	84.34	335	⇓P		P	11 00 36.5	0.0
	baz=85							
J19A	Crowheart	84.48	334	⇑P		P	11 00 37.3	+0.1
	baz=85							
H22A	Clearmont	84.72	336	⇑P		P	11 00 38.2	-0.1
	baz=85							
I20A	Worland	84.75	335	⇑P		P	11 00 38.6	+0.2
	baz=85							
TORD	Torodi Ar. Bea	84.77	70	P		P	11 00 38.0	-1.1
	comp=Z,1.7nm,0.9s,baz=286,slow=4.3,SNR=6.9							
D30A	Buchanan	84.80	342	⇑P		P	11 00 38.5	0.0
	baz=85							
F25A	Bowman	85.00	339	⇑P		P	11 00 39.7	+0.1
	baz=85							
H20A	Greybull	85.18	335	⇓P		P	11 00 40.3	-0.3
	baz=86							
F24A	Ekalaka	85.23	338	⇑P		P	11 00 40.3	-0.5
	baz=86							
AGMN	Agassiz Nation	85.24	345	⇑P		P	11 00 40.3	-0.3
	baz=86							
G22A	Birney	85.25	337	⇓P		P	11 00 40.6	-0.4
	baz=86							
C30A	Mose, Pekin	85.28	343	⇓P		P	11 00 40.7	-0.2
	baz=86							
F23A	Volborg	85.42	338	⇑P		P	11 00 41.6	-0.1
	baz=86							
G21A	Lodge Grass	85.56	336	⇑P		P	11 00 42.4	-0.1
	baz=86							
I17A	Pilgrim Ck.	85.60	333	⇑P		P	11 00 43.1	+0.2
	baz=86							
H19A	Powell	85.68	335	⇑P		P	11 00 43.0	-0.1
	baz=86							
MDND	Maddock	85.70	342	⇑P		P	11 00 42.6	-0.4
	baz=86							
D26A	Manning	85.71	340	⇓P		P	11 00 42.8	-0.2
	baz=86							
F22A	Rosebud	85.74	337	⇑P		P	11 00 43.2	-0.1
	baz=86							
FLWY	Flagg Ranch	85.79	333	*e*P		P	11 00 44.2	+0.4
	comp=Z,3.0nm,0.6s							
G20A	Bridger	85.89	336	⇓P		P	11 00 43.2	-1.0
	baz=86,SNR=6.8							
H18A	Shoshone NF, C	85.93	334	⇓P		P	11 00 44.2	-0.3
	baz=86,SNR=14							
B30A	Myrvik Farm, E	85.95	343	⇓P		P	11 00 43.7	-0.5
	baz=86,SNR=5.5							
H17A	Grant Village	86.01	334	⇑P		P	11 00 45.4	+0.4
	baz=86							
D25A	Fairfield	86.07	339	⇑P		P	11 00 45.3	+0.4
	baz=86							
A30A	Hoffart Farm,	86.40	343	⇑P		P	11 00 46.2	-0.2
	baz=87							
A29A	Manning Farm,	86.61	343	⇓P		P	11 00 47.3	-0.1
	baz=87							
D23A	Lindsay	86.65	338	⇓P		P	11 00 47.9	+0.1
	baz=87,SNR=8.3							
E21A	Keefer Ranch,	86.68	337	⇑P		P	11 00 48.1	+0.2
	baz=87							
F19A	Roth Farm, Mol	86.70	335	⇓P		P	11 00 47.6	-0.5
	baz=87							
C24A	Savage	86.74	339	⇑P		P	11 00 48.2	+0.1
	baz=87,SNR=8.7							
HLID	Hailey	86.78	331	⇓P		P	11 00 48.9	+0.3
	baz=87							
D22A	Cohagen	86.93	338	⇑P		P	11 00 49.1	0.0
	baz=87							
E20A	Meyer Farm, Mu	86.99	336	⇑P		P	11 00 49.3	-0.1
	baz=87,SNR=8.3							
B25A	Knox Farm, Ray	87.04	340	⇑P		P	11 00 49.6	-0.1
	baz=87							
ULM	Lac du Bonnet	87.08	345	P		P	11 00 47.5	-2.2
	comp=Z,3.0nm,0.8s,baz=170,slow=6.3,SNR=5.6							
D21A	La Casta Ranch	87.11	337	⇑P		P	11 00 49.7	-0.3
	baz=87							
E19A	Rath Farm, Rou	87.17	336	⇓P		P	11 00 49.9	-0.5
	baz=88,SNR=7.1							
C23A	Lambert	87.21	339	⇑P		P	11 00 50.1	-0.3
	baz=88							
MCMT	McKenzie Canyo	87.23	333	*e*P		P	11 00 51.5	+0.6
	comp=Z,3.4nm,1.2s							
A26A	Wade Farm, Ken	87.30	341	⇑P		P	11 00 50.6	-0.2
	baz=88							
D20A	Manuel Ranch,	87.51	336	⇓P		P	11 00 51.5	-0.5
	baz=88							
DGMT	Dagmar	87.52	339	⇓P		P	11 00 51.4	-0.5
	baz=88							
B23A	Brockton	87.74	339	⇑P		P	11 00 52.6	-0.4
	baz=88							
D19A	Cripps Ranch,	87.82	336	⇓P		P	11 00 53.2	-0.3
	baz=88							
C21A	Desert Coulee	87.82	337	⇓P		P	11 00 52.7	-0.7
	baz=88,SNR=5.0							
A24A	Westby	87.87	340	⇓P		P	11 00 53.0	-0.5
	baz=88							
C20A	Veseth Ranch,	88.01	337	⇓P		P	11 00 53.9	-0.4
	baz=88							
N02D	Trinity Center	88.35	324	⇑P		P	11 00 55.9	-0.3
	baz=89							
A22A	Carney Farms,	88.49	339	⇑P		P	11 00 56.1	-0.5
	baz=89							
M04C	Macdoel	88.57	325	⇑P		P	11 00 57.5	+0.3
	baz=89							
B20A	Solberg Farm,	88.65	337	⇑P		P	11 00 56.9	-0.5
	baz=89							
A20A	Cobblestone Ra	89.01	337	⇑P		P	11 00 58.0	-1.0
	baz=89							
J05D	Fort Rock, OR	89.47	327	⇓P		P	11 01 01.2	-0.2
	baz=90							
YKA	Yellowknife Ar	102.61	341	P		Pdif	11 01 59.3	-1.2
	comp=Z,0.6nm,0.8s,baz=142,slow=2.9,SNR=3.7							
WRA	Warramunga Arr	119.98	209	PKP		PKPdf	11 06 54.2	-1.4
	comp=Z,1.0nm,0.5s,baz=160,slow=1.7,SNR=18							
SEY	Seymchan	140.46	330	PKP		PKPdf	11 07 31.5	-1.4
	comp=Z,1.6nm,0.7s,baz=163,slow=19							
ZALV	Zalesovo Beam	155.00	33	PKP		PKPdf	11 07 55.8	-1.0
	comp=Z,0.2nm,0.2s,baz=336,slow=2.0,SNR=2.4							
ZALV				PKPbc		PKPbc	11 08 04.8	-0.8
	comp=Z,1.0nm,0.6s,baz=302,slow=2.8,SNR=6.1							
ZALV				PKPab		PKPab	11 08 20.6	-0.5
	comp=Z,0.9nm,0.6s,baz=302,slow=2.8,SNR=4.0							
MKAR	Makanchi Array	157.48	50	PKP		PKPdf	11 07 59.9	-0.5
	comp=Z,0.2nm,0.6s,baz=284,slow=1.7,SNR=3.3							
MKAR				PKPab		PKPab	11 08 31.0	-1.1
	comp=Z,0.3nm,0.6s,baz=298,slow=4.8,SNR=2.8							

IDC ***19*** *10:51:01.6±0.4,54˚.61S×135˚.47W,h0km,mb4.8/17, mb1 4.8/17,mb1mx4.8/23,mbtmp4.8/17,MS5.7/16, Ms1 5.7/16,ms1mx5.6/19,Error ellipse: s-maj=17.3km s-min=12.8km az=164.0*

ISCJB ***19*** *10:51:02.3±0.2,54˚.91S±0˚.05×135˚.48W±0˚.08,h10km, mb5.0/49,MS5.7/181,Error ellipse: s-maj=7.5km s-min=6.1km az=138.7*

MOS ***19*** *10:51:02.1±1.5,54˚.91S×135˚.41W,h10km,mb5.4/10, MS5.7/18,Error ellipse: s-maj=21.8km s-min=13.3km az=79.0*

GCMT ***19*** *10:51:03.1±0.1,54˚.71S×135˚.54W,h15km,MW6.0/131, Moment Tensor Solution. s106,c190; s131,c439; Duration: 25 Moment tensor: Scale 1018Nm; Mrr=0.08±.01; Mθθ0.92±.01; Mϕϕ-0.83±.01; Mrθ0.11±.03; Mθϕ0.87±.01; Mϕr0.16±.03; Best double couple: M01.25100×1018 NP1:ϕ23.00000°, δ89.00000°, λ172.00000°. NP2:ϕ113.00000°, δ82.00000°,λ1.00000°. Principal axes: T 1.2970, Plg7.0000°, Azm337.0000°; N -0.0920, Plg81.0000°, Azm196.0000°; P -1.2040, Plg5.0000°, Azm68.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

BJI ***19*** *10:51:03.8,54˚.90S×135˚.50W,h10km,mB5.7/23, Ms5.9/28,Ms7 5.7/28*

NEIC ***19*** *10:51:03.1±0.2,54˚.84S×135˚.40W,h10km,mb5.4/25, MS5.8/162,Error ellipse: s-maj=14.0km s-min=8.6km az=163.0*

AWI ***19*** *10:51:05.8,54˚.80S×135˚.30W*

ISC 19 10:51:03.6±0.2,54˚.65S±0˚.07×135˚.42W±0˚.06,h10km, n501,σ1§99/335,mb5.2/48,MS5.8/181,11C-2D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTCN	Pitcairn Islan	29.80	10	PFAKE		10 57 20.0	+9.5
PTCN				LR	LR		
	comp=Z,16μm,19.0s						
SBA	Scott Base	30.59	201	*e*P	P	10 57 15.9	-1.1
SBA				pmax	pmax		
	comp=Z,61nm,1.3s						
SBA				MLR	MLR		
	comp=Z,12μm,20.0s						
SBA	Scott Base	30.59	201	*e*P	P	10 57 15.9	-1.1
	comp=Z,61nm,1.3s						
SBA				LR	LR		
	comp=Z,12μm,20.0s						
RKT	Rikitea	31.49	1	*e*S	S	11 02 28.2	-5.1
	comp=Z,4μm,27.2s						
RKT				*e*LQ	LQ	11 04 10.6	
	comp=Z,9μm,31.2s						
RKT				*e*LR	LR	11 05 32.7	
	comp=Z,35μm,28.0s,baz=178						
RKT	Rikitea	31.49	1	*e*T	T	11 30 09.5	
	comp=Z,34nm,0.3s						
VNDA	Vanda	31.55	202	P	P	10 57 26.9	+1.5
	comp=Z,12nm,1.1s,baz=74,slow=7.3,SNR=30						
VNDA				LR	LR	11 06 29.1	
	comp=Z,10μm,21.9s,baz=82,slow=29						
TBI	Tubuai	32.98	336	*e*LR	LR	11 06 04.7	
	comp=Z,54μm,28.5s,baz=167						
TBI	Tubuai	32.98	336	*e*T	T	11 32 00.5	
	comp=Z,501nm,0.4s						
RPN	Rapa Nui	33.46	45	PFAKE		10 58 00.0	+17
RPN				LR	LR		
	comp=Z,23μm,21.0s						
SNZO	South Karori	35.18	271	PFAKE		10 58 10.0	+13
SNZO				LR	LR		
	comp=Z,18μm,19.0s						
ODZ	Otahua Downs	35.26	263	*e*P	P	10 57 59.9	+1.8
	comp=Z,160nm,1.9s						
PMSA	Palmer Station	35.43	136	PFAKE		10 58 10.0	+11
PMSA				LR	LR		
	comp=Z,24μm,20.0s						
QSPA	South Pole Qui	35.52	180	P	P	10 58 00.7	+0.3
	comp=Z,33nm,0.9s,baz=97,slow=2.3,SNR=22						
QSPA	South Pole Qui	35.52	180	P	P	10 58 00.7	+0.3
QSPA				LR	LR		
	comp=Z,19μm,21.0s						
URZ	Urewera	35.79	277	P	P	10 58 03.4	+0.6
	comp=Z,8.4nm,0.9s,baz=109,slow=7.5,SNR=4.1						
RPZ	Rata Peaks	35.81	265	P	P	10 58 02.4	-0.5
	comp=Z,8.4nm,0.9s,baz=159,slow=4.0,SNR=4.4						
WHZ	Wether Hill Ro	36.32	260	*e*P	P	10 58 10.2	+3.0
	comp=Z,487nm,2.1s						
USHA	Ushuaia	37.33	119	P	P	10 58 16.2	+0.6
	comp=Z,43nm,0.8s,baz=207,slow=7.1,SNR=20						
MEH	Mehetia	37.97	340	*e*T	T	11 38 14.8	
	comp=Z,69nm,0.3s						
TVO	Taravao	38.30	338	*e*P	P	10 58 23.9	-0.4
	comp=Z,24nm,1.1s						
TVO	Taravao	38.30	338	*e*T	T	11 38 39.9	
	comp=Z,8.7nm,0.4s						
PAE	Paea	38.49	338	*e*P	P	10 58 26.6	+0.8
	comp=Z,15nm,1.2s						
PAE	Paea	38.49	338	*e*T	T	11 38 53.7	
	comp=Z,10nm,0.3s						
TIAR	Tiarei	38.54	338	*e*P	P	10 58 25.7	-0.5
	comp=Z,18nm,1.3s						
TIAR	Tiarei	38.54	338	*e*T	T	11 38 47.4	
	comp=Z,7.7nm,0.3s						
PPT2	Papeete2	38.56	338	*e*P	P	10 58 27.6	+1.2
	comp=Z,67nm,1.4s						
PPT2				*e*S	S	11 04 18.8	-3.5
	comp=Z,3μm,25.1s						
PPT2				*e*LQ	LQ	11 07 04.6	
	comp=Z,5μm,24.8s						
PPT2				*e*LR	LR	11 08 39.3	
	comp=Z,51μm,26.0s,baz=172						
PPT2	Papeete2	38.56	338	*e*T	T	11 38 58.4	
	comp=Z,46nm,0.4s						
PPT	Papeete	38.58	338	LR	LR	11 09 57.1	
	comp=Z,15μm,20.6s,baz=140,slow=30						
DRV	Dumont d'Urvil	39.80	218	S	S	11 04 30.0	-10
DRV				L	L	11 07 00.0	
DRV				R		11 08 00.0	
OUZ	Omahuta	39.93	278	*e*P	P	10 58 39.8	+2.1
	comp=Z,120nm,1.7s						
PLCA	Paso Flores	44.23	100	P	P	10 59 13.2	+0.3
	comp=Z,15nm,1.3s,baz=254,slow=9.6,SNR=5.4						
PLCA				LR	LR	11 13 35.3	
	comp=Z,11μm,18.6s,baz=234,slow=31						
EFI	East Falkland	44.28	120	⇑*e*P	P	10 59 11.8	-1.2
EFI				pmax	pmax		
	comp=Z,265nm,1.7s						
EFI	East Falkland	44.28	120	PFAKE		10 59 20.0	+7.0
EFI				LR	LR		
	comp=Z,9μm,19.0s						
VNA3	Neumayer Olymp	48.69	160	P	P	10 59 46.0	-1.3
VNA2	Neumayer--Watz	49.40	160	P	P	10 59 51.8	-1.0
	baz=212,slow=8.5						
VNA1	Neumayer--Stat	49.44	160	P	P	10 59 52.5	-0.6
AFI	Afiamalu	49.54	311	PFAKE		11 00 10.0	+15
AFI				LR	LR		
	comp=Z,10μm,20.0s						
CASY	Casey	49.58	209	*e*P	P	10 59 54.6	+0.5
	comp=Z,46nm,1.0s						
CASY				LR	LR		
	comp=Z,4μm,20.0s						
SNAA	Sanae	49.65	162	P	P	10 59 50.7	-4.0
SNAA	Sanae	49.65	162	P	P	10 59 53.2	-1.5
	comp=Z,8.5nm,0.9s,baz=227,slow=9.2,SNR=24						
SNAA	Sanae	49.65	162	P	P	10 59 53.2	-1.5
SNAA				*e*		11 01 13.5	
SNAA				pmax	pmax		
	comp=Z,2.0nm,1.4s						
SNAA	Sanae	49.65	162	P	P	10 59 53.2	-1.5
	comp=Z,2.2nm,1.4s						
SNAA				*e*PcP	PcP	11 01 13.5	-2.4
TAU	Tasmania Unive	49.74	250	PFAKE		11 00 10.0	+14
TAU				LR	LR		
	comp=Z,20μm,21.0s						
TRQA	Tornquist	50.93	103	*e*P	P	11 00 04.7	-0.2
	comp=Z,32nm,1.2s						
TRQA				LR	LR		
	comp=Z,15μm,20.0s						
MSVF	Nonsavu	51.14	297	PFAKE		11 00 20.0	+13
MSVF				LR	LR		
	comp=Z,6μm,20.0s						
LCO	Las Campanas	52.41	88	PFAKE		11 00 30.0	+14
LCO				LR	LR		
	comp=Z,5μm,19.0s						
HOPE	Hope Point	52.68	133	PFAKE		11 00 30.0	+12
HOPE				LR	LR		
	comp=Z,14μm,20.0s						
NVL	N'lazarevskaya	52.72	167	*e*P	P	11 00 15.4	-2.3
NVL				pmax	pmax		
	comp=Z,14nm,0.9s						
NVL				MLR	MLR		
	comp=Z,6μm,14.0s						
MIR	Mirnyy	53.74	202	*e*P	P	11 00 36.0	+11
MIR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CAN	Canberra	54.07	258	*e*P	P	11 00 27.9	-0.4
CAN				pmax	pmax		
	comp=Z,65nm,1.3s						
CAN				MLR	MLR		
	comp=Z,7μm,19.0s						
CAN	Canberra	54.07	258	*e*P	P	11 00 27.9	-0.4
	comp=Z,65nm,1.3s						
CAN				LR	LR		
	comp=Z,7μm,19.0s						
ARMA	Armidale	56.14	264	*e*P	P	11 00 43.7	+0.4
	comp=Z,57nm,1.0s						
MAW	Mawson	57.30	188	P	P	11 00 50.4	-0.5

comp=Z,7.0nm,1.0s
STKA Stephens Creek 60.79 255 *e*P **P 11 01 14.2 -1.4**
comp=Z,6.9nm,1.0s
NNA Nana 62.33 71 P **P 11 01 26.4 +0.2**
comp=Z,3.6nm,0.3s,baz=214,slow=15,SNR=2.8
NNA Nana 62.33 71 P **P 11 01 26.4 +0.2**
NNA MLR MLR
comp=Z,16μm,20.0s
NNA Nana 62.33 71 P **P 11 01 26.4 +0.2**
NNA LR LR
comp=Z,16μm,20.0s
BBOO Buckleboo 63.16 251 *e*P **P 11 01 31.4 -0.1**
comp=Z,6.7nm,1.5s
LPAZ La Paz 63.75 81 P **P 11 01 36.1 -0.2**
comp=Z,13nm,1.2s,baz=201,slow=5.9,SNR=12
LPAZ LR LR 11 22 60.0
comp=Z,2μm,21.9s,baz=208,slow=30
LPAZ La Paz 63.75 81 *e*P **P 11 01 36.1 -0.2**
LPAZ pmax pmax
comp=Z,43nm,1.3s
LPAZ La Paz 63.75 81 *e*P **P 11 01 36.1 -0.2**
comp=Z,44nm,1.3s
PAYG Puerto Ayora 65.20 51 PFAKE 11 02 00.0 +15
PAYG LR LR
comp=Z,8μm,20.0s
ATAH Atahualpa 65.53 66 P **P 11 01 47.7 +0.1**
comp=Z,1.7nm,0.6s,baz=226,slow=5.8,SNR=6.7
CTAO Charters Tower 67.14 267 *e*P **P 11 01 55.6 -1.9**
CTAO pmax pmax
comp=Z,58nm,1.0s
CTAO MLR MLR
comp=Z,4μm,20.0s
CTAO Charters Tower 67.14 267 *e*P **P 11 01 55.6 -1.9**
comp=Z,58nm,1.0s
CTAO LR LR
comp=Z,4μm,20.0s
HNR Honiara 67.78 286 PFAKE 11 02 10.0 +8.5
HNR LR LR
comp=Z,3μm,19.0s
SIV San Ignacio 68.06 87 P **P 11 02 02.8 -0.6**
comp=Z,9.4nm,0.8s,baz=220,slow=6.0,SNR=17
FORT Forrest 69.05 246 *e*P **P 11 02 08.7 -0.7**
AS31 Alice Springs 71.42 255 *e*P **P 11 02 21.1 -2.9**
OTAV Otavalo 71.73 62 *e*P **P 11 02 27.0 +0.6**
comp=Z,67nm,1.5s
OTAV LR LR
comp=Z,3μm,22.0s
SAML Samuel 72.49 81 *e*P **P 11 02 29.5 -0.9**
comp=Z,20nm,1.1s
SAML LR LR
comp=Z,3μm,20.0s
H01W1 Cape Leeuwin H 72.74 234 T T 12 22 35.4
baz=144,slow=76,SNR=277
H01W2 Cape Leeuwin H 72.75 234 T T 12 22 37.3
baz=144,slow=76,SNR=293
H01W3 Cape Leeuwin H 72.76 234 T T 12 22 36.7
baz=144,slow=76,SNR=220
NWAO Narrogin (SRO) 72.87 237 PFAKE 11 02 40.0 +7.5
NWAO LR LR
comp=Z,1.0nm,20.0s
COEN Coen 73.78 269 *e*P **P 11 02 39.5 +1.4**
WRA Warramunga Arr 74.12 258 P **P 11 02 37.2 -2.8**
comp=Z,30nm,0.9s,baz=142,slow=5.5,SNR=92
WRA LR LR 11 32 14.9
comp=Z,12μm,18.9s,baz=150,slow=33
WRAB Tennant Creek 74.12 258 P **P 11 02 37.0 -3.1**
comp=Z,266nm,1.0s,SNR=6.8
WRAB Tennant Creek 74.12 258⇑ *i*P **P 11 02 38.7 -1.4**
WRAB pmax pmax
comp=Z,114nm,0.8s
WRAB Tennant Creek 74.12 258 *e*P **P 11 02 37.1 -2.9**
WRAB LR LR
comp=Z,13μm,19.0s
PAF Port-aux-Franc 74.16 197 PFAKE 11 02 50.0 +10
PAF LR LR
comp=Z,6μm,19.0s
PMG Port Moresby 75.11 275⇓ *e*P **P 11 02 46.4 +0.6**
PMG pmax pmax
comp=Z,205nm,1.2s
PMG Port Moresby 75.11 275 PFAKE 11 03 00.0 +14
PMG LR LR
comp=Z,6μm,19.0s
BDFB Brasilia 75.92 97 P **P 11 02 48.8 -1.8**
comp=Z,1.4nm,0.3s,baz=223,slow=7.7,SNR=4.1
BDFB LR LR 11 32 13.3
comp=Z,9μm,21.8s,baz=226,slow=32
POHA Pohakuloa 76.08 341 PFAKE 11 03 00.0 +8.6
POHA LR LR
comp=Z,10μm,20.0s
JTS JuntasAbangare 77.31 51 LR LR 11 29 00.3
comp=Z,9μm,20.6s,baz=208,slow=30
JTS JuntasAbangare 77.31 51⇑ *e*P **P 11 02 58.7 +0.4**
JTS pmax pmax
comp=Z,54nm,1.7s
ROSC El Rosal 77.79 63 P **P 11 03 01.3 -0.2**
comp=Z,8.4nm,0.4s,baz=265,slow=4.6,SNR=8.6
ROSC LR LR 11 30 35.6
comp=Z,5μm,21.8s,baz=206,slow=30
KIP Kipapa 78.20 339 PFAKE 11 03 20.0 +17
KIP LR LR
comp=Z,7μm,21.0s
BCIP Isla Barro Col 78.72 56 PFAKE 11 03 20.0 +14
BCIP LR LR
comp=Z,6μm,21.0s
CMIG Matias Romero 79.35 39 LR LR 11 30 33.7
comp=Z,2μm,19.2s,baz=194,slow=30
FITZ Fitzroy Crossi 80.48 252 *e*P **P 11 03 14.7 -1.0**
PTGA Pitinga 81.01 78 *e*P **P 11 03 18.8 +0.2**
comp=Z,29nm,1.4s
PTGA LR LR
comp=Z,6μm,22.0s
MBWA Marble Bar 81.20 246 *e*P **P 11 03 18.1 -1.4**
comp=Z,30nm,1.0s
MBWA LR LR
comp=Z,7μm,19.0s
LPIG La Paz 81.35 23 LR LR 11 31 16.2
comp=Z,2μm,18.1s,baz=193,slow=30
SDV Santo Domingo 83.12 64 *e*P **P 11 03 30.9 +1.1**
comp=Z,30nm,1.6s
SDV LR LR
comp=Z,3μm,20.0s
TEIG Tepich 84.75 44 LR LR 11 34 06.8
comp=Z,3μm,19.3s,baz=197,slow=30
TEIG Tepich 84.75 44 *e*P **P 11 03 40.5 +2.9**
comp=Z,167nm,1.9s
933A Laredo 87.64 32 P **P 11 03 53.4 +1.7**
baz=88
MTDJ Mount Denham 87.67 54 PFAKE 11 04 00.0 +7.7
MTDJ LR LR
comp=Z,3μm,20.0s
934A Benavides 87.86 32 P **P 11 03 55.0 +2.2**
baz=88
KVTX Kingsville 88.00 33 PFAKE 11 04 00.0 +6.5
KVTX LR LR
comp=Z,996nm,22.0s
TXAR Lajitas Array 88.00 27 P **P 11 03 53.7 +0.1**
comp=Z,1.9nm,1.0s,baz=196,slow=6.6,SNR=14
832A Faith Ranch, C 88.05 31 P **P 11 03 55.3 +1.5**
baz=88
833A Chaparral WMA, 88.26 31 P **P 11 03 56.5 +1.8**
baz=89
214A Organ Pipe Nat 88.43 19 *e*P **P 11 03 56.2 +0.8**
comp=Z,16nm,1.2s
214A Organ Pipe Nat 88.43 19 P **P 11 03 57.1 +1.6**
baz=89
732A Laxson Ranch, 88.47 31 P **P 11 03 57.2 +1.5**
baz=89
319A Douglas 88.59 22 P **P 11 03 57.6 +1.3**
baz=89
WAKE Wake Island 88.60 307 PFAKE 11 04 10.0 +13
WAKE LR LR
comp=Z,3μm,21.0s
733A Divot King Ran 88.66 31 P **P 11 03 58.8 +2.2**
baz=89
H11N3 WAKE ISLAND Hy 88.86 307 T T 12 42 14.1
baz=147,slow=76,SNR=32
H11N1 WAKE ISLAND Hy 88.86 307 T T 12 42 34.3
baz=147,slow=76,SNR=30
H11N2 WAKE ISLAND Hy 88.88 307 T T 12 42 14.6
baz=147,slow=76,SNR=24
113A Mohawk Valley, 89.04 18 P **P 11 03 59.8 +1.6**
baz=90
529A Stev Forest Ra 89.14 28 P **P 11 04 00.0 +1.1**
baz=90
TUC Tucson 89.17 21 *e*P **P 11 04 00.6 +1.6**
TUC MLR MLR
comp=Z,2μm,20.0s
TUC Tucson 89.17 21 *e*P **P 11 04 00.6 +1.6**
TUC LR LR
comp=Z,2μm,20.0s
632A Uvalde 89.26 31 P **P 11 04 01.2 +1.8**
baz=90
PFO Pinyon Flats O 89.41 16 LR LR 11 35 02.6
comp=Z,5μm,19.7s,baz=200,slow=30
530A J-C Ranch, Com 89.41 29 P **P 11 04 02.1 +1.9**
baz=90
736A Circle Diamond 89.57 33 P **P 11 04 02.0 +1.2**
baz=90
531A Rocksprings 89.65 30 P **P 11 04 02.6 +1.3**
baz=90
429A Davenport Ranc 89.70 28 P **P 11 04 02.7 +1.2**
baz=90
532A Rocksprings 89.80 30 P **P 11 04 03.3 +1.3**
baz=90
MNTX Cornudas Mount 89.81 25 *e*P **P 11 04 03.0 +1.1**
comp=Z,65nm,2.4s
MNTX LR LR
comp=Z,2μm,22.0s
MNTX Cornudas Mount 89.81 25 P **P 11 04 02.8 +0.8**
baz=90
Y12C Blythe 89.86 17 P **P 11 04 03.3 +1.2**
baz=90
533A Kerrville 90.01 31 P **P 11 04 04.5 +1.6**
baz=90
430A Baggett Ranch, 90.04 29 P **P 11 04 04.5 +1.3**
baz=90
MIDW Midway 90.07 324 PFAKE 11 04 10.0 +6.8
MIDW LR LR
comp=Z,3μm,20.0s
431A Sonora 90.12 29 P **P 11 04 04.5 +1.0**
baz=91
IRM Iron Mountain 90.16 17 P **P 11 04 05.0 +1.5**
baz=91
JCT Junction City 90.16 30 *e*P **P 11 04 05.9 +2.2**
JCT MLR MLR
comp=Z,1μm,19.0s
JCT Junction City 90.16 30 *e*P **P 11 04 05.9 +2.2**
JCT LR LR
comp=Z,1μm,19.0s
JCT Junction City 90.16 30 P **P 11 04 04.7 +1.0**
baz=91
GTBY Guantanamo Bay 90.28 55 PFAKE 11 04 20.0 +16
GTBY LR LR
comp=Z,4μm,19.0s
EDW2 Edwards Air Fo 90.42 14 P **P 11 04 06.1 +1.3**
baz=91
432A Menard 90.54 30 P **P 11 04 06.5 +1.1**
baz=91
HEC Hector,Ludlow 90.62 16 P **P 11 04 08.1 +2.3**
baz=91
433A Art 90.63 31 P **P 11 04 06.7 +0.8**
baz=91
GRGR Grenville 90.63 70 PFAKE 11 04 20.0 +14
GRGR LR LR
comp=Z,6μm,21.0s
330A Mertzon 90.64 29 P **P 11 04 07.1 +1.2**
baz=91
GMRC Granite Mounta 90.68 16 P **P 11 04 07.8 +1.8**
baz=91
RCBR Riachuelo 90.78 101 PFAKE 11 04 20.0 +13
RCBR LR LR
comp=Z,5μm,20.0s
SUR Sutherland 90.94 160 PFAKE 11 04 20.0 +12
SUR LR LR
comp=Z,8μm,20.0s
GSC Goldstone, Bar 91.01 15 *e*P **P 11 04 09.4 +1.9**
GSC pmax pmax
comp=Z,11nm,1.3s
GSC Goldstone, Bar 91.01 15 *e*P **P 11 04 09.4 +1.9**
comp=Z,11nm,1.3s
GSC Goldstone, Bar 91.01 15 P **P 11 04 09.0 +1.4**
baz=92
332A Millersview 91.03 30 P **P 11 04 09.3 +1.6**
baz=92
LRMC Laurel Mtn Rad 91.05 14 P **P 11 04 08.9 +1.1**
baz=92
X16A Lo Mia Camp, P 91.08 20 P **P 11 04 09.0 +1.0**
baz=92
ISA Isabella, Lake 91.12 14 *e*P **P 11 04 09.7 +1.7**
ISA Isabella, Lake 91.12 14 *e*P **P 11 04 09.7 +1.7**
333A Richland Sprin 91.19 31 P **P 11 04 09.7 +1.3**
baz=92
VES Vestal, Richgr 91.22 13 P **P 11 04 09.9 +1.6**
baz=92
TUQ Turquoise Moun 91.28 16 P **P 11 04 10.8 +1.9**
baz=92
W13A Hualapai Mount 91.29 18 P **P 11 04 10.8 +1.8**
baz=92
SDDR Presa de Saban 91.33 58 PFAKE 11 04 20.0 +11
SDDR LR LR
comp=Z,2μm,20.0s
231A Bronte 91.38 29 P **P 11 04 10.4 +1.1**
baz=92
128A Castleberry Fa 91.43 27 P **P 11 04 10.2 +0.6**
baz=92
X18A Snowflake 91.49 21 P **P 11 04 11.2 +1.3**
baz=92
129A Stewart Farms, 91.61 28 P **P 11 04 11.9 +1.5**
baz=92
MPMC Manual Prospec 91.65 14 P **P 11 04 12.2 +1.5**
baz=92
233A Rising Star 91.87 30 P **P 11 04 12.7 +1.2**
baz=92
FURC Furnace Creek, 92.15 15 P **P 11 04 14.6 +2.0**
baz=93
WUAZ Wupatki 92.16 19 *e*P **P 11 04 15.4 +2.4**
WUAZ LR LR
comp=Z,4μm,19.0s
WUAZ Wupatki 92.16 19 P **P 11 04 14.0 +1.0**
baz=93
ABTX Abilene, Hawle 92.22 30 P **P 11 04 14.9 +1.7**
baz=93
Z29A Hungry Hill Ra 92.24 28 P **P 11 04 15.2 +1.9**
baz=93
SHPR Sheep Range 92.45 16 *e*P **P 11 04 15.8 +1.5**
BBGH Gun Hill 92.61 71 PFAKE 11 04 30.0 +15
BBGH LR LR
comp=Z,4μm,20.0s
ANMO Albuquerque 92.65 23⇑ *i*P **P 11 04 16.4 +1.1**
ANMO pmax pmax
comp=Z,16nm,1.2s
ANMO Albuquerque 92.65 23 *e*P **P 11 04 15.2 -0.1**
ANMO LR LR
comp=Z,2μm,20.0s
TPNV Topopah Spring 92.71 15 P **P 11 04 17.3 +1.8**
baz=93
U15A North Rim 92.87 18 P **P 11 04 17.6 +1.2**
baz=93
Z32A Haskell 92.91 29 P **P 11 04 17.6 +1.3**
baz=93
FDF Fort de France 93.05 69 PFAKE 11 04 30.0 +13
FDF LR LR
comp=Z,4μm,20.0s
Z33A Whitaker Ranch 93.09 30 P **P 11 04 18.1 +0.9**
baz=94
SJG San Juan 93.20 63 PFAKE 11 04 30.0 +12
SJG LR LR
comp=Z,2μm,20.0s
Y31A Rekieta Farm, 93.30 29 P **P 11 04 19.4 +1.3**
baz=94
GRTK Grand Turk 93.55 57 PFAKE 11 04 30.0 +11
GRTK LR LR
comp=Z,2μm,19.0s
TPH Tonopah 93.67 14 *e*P **P 11 04 21.9 +2.0**
TPH pmax pmax
comp=Z,10.0nm,1.7s
TPH Tonopah 93.67 14 *e*P **P 11 04 21.9 +2.0**
comp=Z,10nm,1.7s
NVAR Mina Array Bea 93.87 13 P **P 11 04 20.7 -0.2**
comp=Z,0.9nm,0.9s,baz=180,slow=6.4,SNR=4.9
R11A Troy Canyon, C 94.18 16 P **P 11 04 24.0 +1.8**
baz=95
MVCO Mesa Verde 94.38 21 PFAKE 11 04 30.0 +6.8
MVCO LR LR
comp=Z,2μm,20.0s
KAPI Kappang 94.44 255 PFAKE 11 04 30.0 +6.1
KAPI LR LR
comp=Z,3μm,19.0s
WMOK Wichita Mounta 94.45 30 PFAKE 11 04 30.0 +6.6
WMOK LR LR
comp=Z,1μm,19.0s
BRAL Brewton 94.91 40 PFAKE 11 04 40.0 +14
BRAL LR LR
comp=Z,2μm,19.0s
GUMO Guam 95.11 286 PFAKE 11 04 40.0 +13
GUMO LR LR
comp=Z,91nm,19.0s
ANWB Willy Bob 95.13 67 PFAKE 11 04 40.0 +13
ANWB LR LR
comp=Z,2μm,20.0s
BOSA Boshof 95.42 163 LR LR 11 44 52.4
comp=Z,7μm,18.6s,baz=206,slow=34
SDCO Great Sand Dun 95.55 23 PFAKE 11 04 40.0 +11
SDCO LR LR
comp=Z,3μm,20.0s
MIAR Mount Ida 95.85 34 PFAKE 11 04 40.0 +10
MIAR LR LR
comp=Z,841nm,19.0s
DUG Dugway, Tooele 96.44 17 PFAKE 11 04 40.0 +7.5
DUG LR LR
comp=Z,2μm,19.0s
ISCO Idaho Springs 97.49 23 PFAKE 11 04 50.0 +12
ISCO LR LR
comp=Z,3μm,19.0s
SHEL Horse Pasture 97.74 132 PFAKE 11 04 50.0 +11
SHEL LR LR
comp=Z,3μm,19.0s
WVOR Wild Horse Val 97.77 12 PFAKE 11 04 50.0 +12
WVOR LR LR
comp=Z,4μm,19.0s
HWUT Hardware Ranch 98.03 18 PFAKE 11 04 50.0 +10
HWUT LR LR
comp=Z,2μm,21.0s
GOGA Godfrey 98.42 42 PFAKE 11 04 50.0 +8.6
GOGA LR LR
comp=Z,2μm,19.0s
KSU1 Kansas State U 99.14 30 PFAKE 11 05 00.0 +16
KSU1 LR LR
comp=Z,1μm,22.0s
AHID Auburn Hatcher 99.24 18 PFAKE 11 05 00.0 +15
AHID LR LR
comp=Z,2μm,21.0s
OGNE Ogallala 99.42 25 PFAKE 11 05 00.0 +14
OGNE LR LR
comp=Z,2μm,22.0s
NHSC New Hope 99.46 44 PFAKE 11 05 00.0 +14
NHSC LR LR
comp=Z,2μm,19.0s
HLID Hailey 99.46 15 PFAKE 11 05 00.0 +14
HLID LR LR
comp=Z,4μm,20.0s
BW06 Boulder Array 99.52 19 PFAKE 11 05 00.0 +14
BW06 LR LR
comp=Z,3μm,20.0s
PDAR Pinedale Array 99.52 19 P **Pdif 11 04 49.0 +2.6**
comp=Z,0.2nm,0.7s,baz=180,slow=3.6,SNR=2.7
PDAR LR LR 11 40 32.0
comp=Z,3μm,22.0s,baz=210,slow=30
COCO West Island 100.20 232 PFAKE 11 05 00.0 +10
COCO LR LR
comp=Z,2μm,19.0s
BMO Blue Mountains 100.32 13 PFAKE 11 05 00.0 +10
BMO LR LR
comp=Z,3μm,19.0s
ASCN Ascension 100.69 120 PFAKE 11 05 00.0 +7.9
ASCN LR LR
comp=Z,1μm,20.0s
DAV Davao City (W) 100.94 267 PFAKE 11 05 00.0 +6.9
DAV LR LR
comp=Z,2μm,21.0s
LKWY Lake 101.11 18 PFAKE 11 05 10.0 +17
LKWY LR LR
comp=Z,2μm,21.0s
HAWA Hanford 101.56 11 PFAKE 11 05 10.0 +15
HAWA LR LR
comp=Z,3μm,19.0s
RLMT Red Lodge 101.85 19 PFAKE 11 05 10.0 +13
RLMT LR LR
comp=Z,3μm,20.0s
BOZ Bozeman (W) 101.94 17 PFAKE 11 05 10.0 +13
BOZ LR LR
comp=Z,2μm,19.0s
NLWA Neilton Lookou 102.13 8 PFAKE 11 05 10.0 +12
NLWA LR LR
comp=Z,2μm,19.0s
CNNC Cliffs of the 102.24 45 PFAKE 11 05 10.0 +12
CNNC LR LR
comp=Z,3μm,20.0s
HDIL Hopedale 102.72 34 PFAKE 11 05 10.0 +10
HDIL LR LR
comp=Z,1μm,22.0s
SCIA State Center 102.72 31 PFAKE 11 05 10.0 +10
SCIA LR LR
comp=Z,2μm,21.0s
TSUM Tsumeb 102.91 154 PFAKE 11 05 10.0 +7.9
TSUM LR LR
comp=Z,6μm,21.0s
BLA Blacksburg 102.94 42 PFAKE 11 05 10.0 +8.5
BLA LR LR
comp=Z,2μm,19.0s
ECSD EROS Data Cent 103.43 28 PFAKE 11 05 20.0 +17
ECSD LR LR
comp=Z,2μm,20.0s
NEW Newport 103.69 12 PFAKE 11 05 20.0 +15
NEW LR LR
comp=Z,3μm,19.0s
RER Riviere de l'E 103.90 191 PFAKE 11 05 20.0 +14
RER LR LR
comp=Z,3μm,19.0s
LAO LASA Array 103.94 20 PFAKE 11 05 20.0 +14
LAO LR LR
comp=Z,3μm,20.0s
JFWS Jewell Farm 104.54 33 PFAKE 11 05 20.0 +12
JFWS LR LR
comp=Z,1μm,19.0s
EGMT Eagleton 104.57 17 PFAKE 11 05 20.0 +12
EGMT LR LR
comp=Z,2μm,21.0s
ACSO Alum Creek Sta 104.61 39 PFAKE 11 05 20.0 +11
ACSO LR LR
comp=Z,2μm,20.0s
CBN Corbin Frederi 105.00 44 PFAKE 11 09 40.0
CBN LR LR
comp=Z,4μm,19.0s
KSM Kuching 105.05 251 PFAKE 11 05 20.0 +8.6
KSM LR LR
comp=Z,3μm,22.0s
KKM Kota Kinabalu 105.50 258 PFAKE 11 09 40.0
KKM LR LR
comp=Z,4μm,22.0s
BBSR BB Station 105.74 56 PFAKE 11 09 40.0
BBSR LR LR
comp=Z,1μm,19.0s
DGMT Dagmar 106.06 21 PFAKE 11 09 40.0
DGMT LR LR
comp=Z,2μm,21.0s
AAM Ann Arbor 106.19 37 PFAKE 11 09 40.0
AAM LR LR
comp=Z,2μm,20.0s
ABPO Ambohimpanom 106.60 183 PFAKE 11 09 40.0
ABPO LR LR
comp=Z,8μm,20.0s
COWI Conover 107.76 32 PFAKE 11 09 40.0
COWI LR LR
comp=Z,1μm,19.0s
AGMN Agassiz Nation 107.85 27 PFAKE 11 09 40.0
AGMN LR LR
comp=Z,2μm,21.0s
GLMI Grayling 108.08 35 PFAKE 11 09 40.0
GLMI LR LR
comp=Z,2μm,20.0s
EYMN Ely 108.72 30 PFAKE 11 09 40.0
EYMN LR LR
comp=Z,2μm,21.0s
BINY Binghamton 108.97 43 PFAKE 11 09 40.0
BINY LR LR
comp=Z,4μm,19.0s
LSZ Lusaka 108.97 163 PFAKE 11 09 40.0
LSZ LR LR
comp=Z,6μm,20.0s
WRAK Wrangell Islan 110.73 2 PFAKE 11 09 50.0
WRAK LR LR
comp=Z,5μm,20.0s
NCB Newcomb 111.15 43 PFAKE 11 09 50.0
NCB LR LR
comp=Z,1μm,21.0s
LONY Lake Ozonia 111.56 42 PFAKE 11 09 50.0
LONY LR LR
comp=Z,2μm,20.0s

ADK Adak 111.58 334 PFAKE 11 09 50.0
ADK LR LR
comp=Z,6μm,22.0s
FFC Flin Flon 112.43 20 PFAKE 11 09 50.0
FFC LR LR
comp=Z,4μm,19.0s
KDAK Kodiak Island 112.93 350 PFAKE 11 09 50.0
KDAK LR LR
comp=Z,3μm,21.0s
KULM Kulim 113.42 244 PFAKE 11 09 50.0
KULM LR LR
comp=Z,2μm,19.0s
DGAR Diego Garcia 113.91 210 PFAKE 11 09 50.0
DGAR LR LR
comp=Z,2μm,20.0s
PKME Peaks-Kenny Pk 114.21 45 PFAKE 11 09 50.0 +7.8
PKME LR LR
comp=Z,1μm,22.0s
SACV Santiago Islan 114.69 99 PFAKE 11 10 00.0 +16
SACV LR LR
comp=Z,2μm,19.0s
MAJO Matsushiro 116.92 296 PFAKE 11 10 00.0 +12
MAJO LR LR
comp=Z,2μm,21.0s
YHNB Yeheng 117.29 275 PFAKE 11 10 00.0 +11
YHNB LR LR
comp=Z,1μm,19.0s
TATO Taipei 117.46 275 PFAKE 11 10 00.0 +11
TATO LR LR
comp=Z,2μm,22.0s
YKA Yellowknife Ar 117.94 11 PKP **PKPdf 11 09 49.3 +0.4**
comp=Z,0.4nm,0.7s,baz=242,slow=1.8,SNR=3.5
YKA PKKPbc **PKKPab 11 20 08.7 -0.3**
comp=Z,0.7nm,0.9s,baz=3.2,slow=4.9,SNR=4.7
ERM Erimo 118.56 303 PFAKE 11 10 00.0 +9.3
ERM LR LR
comp=Z,2μm,20.0s
QZH Quanzhou 119.12 273 *e*PKP **PKPdf 11 09 50.0 -2.4**
QZH PP **PP 11 11 15.1 +2.4**
QZH SS SS 11 27 29.5 -4.1
QZH LN
comp=Z,2μm,22.1s
QZH LE
comp=Z,3μm,22.4s
QZH LZ
comp=Z,5μm,38.5s
EGAK Eagle 119.17 357 PFAKE 11 10 00.0 +8.8
EGAK LR LR
comp=Z,6μm,20.0s
ILAR Eielson Array 119.41 354 PKP **PKPdf 11 09 51.4 -0.3**
comp=Z,1.6nm,0.8s,baz=191,slow=2.7,SNR=13
ILAR PKKPbc **PKKPbc 11 20 04.7 +0.9**
comp=Z,0.5nm,0.8s,baz=299,slow=3.3,SNR=5.2
COLA College 119.57 354 ⇑ *i*PKIKP **PKPdf 11 09 53.6 +1.7**
COLA College 119.57 354 PFAKE 11 10 00.0 +8.1
COLA LR LR
comp=Z,4μm,20.0s
QIZ Qiongzhong 119.59 261 PKP **PKPdf 11 09 53.9 +0.4**
QIZ PP **PP 11 11 17.6 +1.6**
QIZ SS SS 11 27 40.8 +1.2
QIZ PPMZ
comp=Z,380nm,10.9s
QIZ LN
comp=Z,900nm,26.4s
QIZ LE
comp=Z,290nm,27.8s
QIZ LZ
comp=Z,1μm,27.8s
QIZ Qiongzhong 119.59 261 PFAKE 11 10 00.0 +6.5
QIZ LR LR
comp=Z,1μm,19.0s
MSEY Mahe Island 120.20 193 PFAKE 11 10 10.0 +15
MSEY LR LR
comp=Z,2μm,20.0s
PET Petropavlovsk 120.35 320 PFAKE 11 10 10.0 +16
PET LR LR
comp=Z,2μm,20.0s
PETK Petropavlovsk- 120.77 320 PKP **PKPdf 11 09 53.6 -1.1**
comp=Z,6.8nm,1.0s,baz=152,slow=6.7,SNR=7.6
IM04 Indian Mountai 121.10 351 *e*PKPdf **PKPdf 11 09 55.3 +0.3**
YSS Yuzh-Sakhalins 122.42 307 PFAKE 11 10 10.0 +12
YSS LR LR
comp=Z,720nm,22.0s
SCHQ Schefferville 122.75 40 PKP **PKPdf 11 09 56.6 -1.8**
comp=Z,3.0nm,0.9s,baz=315,slow=5.6,SNR=3.4
INCN Inchon 123.85 288 PFAKE 11 10 10.0 +8.9
INCN LR LR
comp=Z,1μm,20.0s
KMBO Kilima Mbogo 124.09 171 PFAKE 11 10 10.0 +7.3
KMBO LR LR
comp=Z,6μm,21.0s
NJ2 Nanjing 124.30 278 *e*PKP **PKPdf 11 10 02.3 +0.2**
NJ2 PP **PP 11 11 48.5 +0.5**
NJ2 SKKS 11 18 45.5
NJ2 SS **SS 11 28 42.3 +2.5**
NJ2 LN
comp=Z,5μm,20.3s
NJ2 LE
comp=Z,6μm,21.5s
NJ2 LZ
comp=Z,7μm,22.4s
CMAR Chiang Mai Arr 125.27 251 PKP **PKPdf 11 10 02.9 -1.5**
comp=Z,5.7nm,0.9s,baz=191,slow=1.9,SNR=26
CHTO Chiang Mai 125.56 251 PFAKE 11 10 20.0 +15
CHTO LR LR
comp=Z,2μm,21.0s
TORD Torodi Ar. Bea 126.78 124 PKP **PKPdf 11 10 05.7 -1.7**
comp=Z,3.1nm,0.8s,baz=216,slow=1.5,SNR=10
GYA Guiyang 127.19 264 *e*Pdif **Pdif 11 06 50.3 +0.6**
GYA PKP **PKiKP 11 10 08.6 +0.1**
GYA PP **PP 11 12 12.0 +4.6**
GYA PKS **PKSdf 11 13 44.4 -0.4**
GYA SKKS 11 19 02.5
GYA SS **SS 11 29 18.8 +2.5**
GYA PPMZ
comp=Z,180nm,7.8s
GYA LN
comp=Z,190nm,22.0s
GYA LE
comp=Z,160nm,23.2s
GYA LZ
comp=Z,180nm,25.6s
MDJ Mudanjiang 127.28 297 PKP **PKPdf 11 10 06.6 -0.8**
MDJ PPMZ
comp=Z,150nm,5.7s
MDJ Mudanjiang 127.28 297 PFAKE 11 10 20.0 +13
MDJ LR LR
comp=Z,1μm,20.0s
ENH Enshi 128.42 269 PFAKE 11 10 20.0 +10
ENH LR LR
comp=Z,650nm,22.0s
CN2 Changchun 128.91 293 *e*PKP **PKPdf 11 10 10.9 +0.4**
BILL Bilibino 129.73 335 PKIKP **PKPdf 11 10 16.0 +4.7**
BILL Bilibino 129.73 335 PFAKE 11 10 20.0 +8.7
BILL LR LR
comp=Z,2μm,20.0s
SEY Seymchan 129.97 325 PKP **PKPdf 11 10 10.8 -1.1**
comp=Z,2.2nm,0.8s,baz=96,slow=3.5,SNR=6.3
BJT Baijiatuau 131.47 283 PFAKE 11 10 30.0 +14
BJT LR LR
comp=Z,1μm,20.0s
BJI Beijing 131.48 284 PKP **PKPdf 11 10 16.8 +1.3**
BJI SS SS 11 30 12.0 +3.2
BJI PPMZ
comp=Z,290nm,13.3s
BJI LN
comp=Z,910nm,21.8s
BJI LE
comp=Z,650nm,24.0s
BJI LZ
comp=Z,980nm,23.2s
XAN Xi'an 131.48 272 PKP **PKPdf 11 10 16.6 +0.8**
CD2 Chengdu 132.21 265 *e*PKP **PKPdf 11 10 18.6 +1.3**
CD2 PP **PP 11 12 42.3 +2.3**
CD2 PKS PKSdf 11 13 47.8 -6.0
CD2 SKS **SKSdf 11 17 24.3 -4.3**
CD2 SKKS **SKKSac 11 19 33.8 -1.9**
CD2 SS **SS 11 30 19.1 +1.2**
CD2 PPMZ
comp=Z,350nm,7.1s
CD2 LN
comp=Z,1μm,19.0s
CD2 LE
comp=Z,1μm,20.2s
CD2 LZ
comp=Z,1μm,16.6s
HHC Hu-ho-hao-te 134.63 281 *e*PKP **PKPdf 11 10 19.9 -1.7**
HHC PP **PP 11 12 54.8 -0.8**
HHC PPMZ
comp=Z,100nm,6.9s
HHC LN
comp=Z,510nm,18.2s
HHC LE
comp=Z,580nm,18.8s
HHC LZ
comp=Z,870nm,19.0s
HIA Hailar 135.43 296 ⇓ *i*PKIKP **PKPdf 11 10 24.3 +1.6**
HIA Hailar 135.43 296 PFAKE 11 10 30.0 +7.3
HIA LR LR
comp=Z,1μm,19.0s
LZH Lanzhou 135.87 270 *e*PKP **PKPdf 11 10 25.8 +1.6**
LZH PP **PP 11 13 06.6 +3.1**
LZH PPMZ
comp=Z,240nm,8.0s
LZH LN
comp=Z,690nm,17.4s
LZH LE
comp=Z,800nm,19.6s
LZH LZ
comp=Z,910nm,20.2s
SFJD Kangerlussuaq 136.68 35 PFAKE 11 10 40.0 +16
SFJD LR LR
comp=Z,2μm,21.0s
TAM Tamanrasset 136.88 122 *e*PKIKP **PKPdf 11 10 27.8 +1.4**
TAM MLR MLR
comp=Z,2μm,20.0s
TAM Tamanrasset 136.88 122 *e*PKPdf **PKPdf 11 10 27.8 +1.4**
TAM LR LR
comp=Z,2μm,20.0s
YAK Yakutsk 137.82 316 *e*P Pdif 11 07 50.4 +15
YAK pmax pmax
comp=Z,11nm,1.4s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.4s
YAK pmax pmax
comp=E,14nm,1.2s
YAK pmax pmax
comp=N,9.0nm,1.3s
YAK pmax pmax
comp=Z,115nm,5.1s
YAK Yakutsk 137.82 316 PFAKE 11 10 40.0 +13
YAK LR LR
comp=Z,2μm,20.0s
LSA Lhasa 138.48 252 PFAKE 11 10 40.0 +10
LSA LR LR
comp=Z,2μm,19.0s
PFVI Vila Bisbo 140.00 93 *e*LR LR 11 59 20.4
GTA Gaotai 140.47 271 *e*PKP **PKPdf 11 10 27.4 -5.1**
GTA sPKP 11 10 34.5
GTA PP **PP 11 13 31.5 -0.5**
GTA SKS **SKSdf 11 17 36.0 -6.5**
GTA SKKS **SKKSac 11 20 21.6 -3.4**
GTA SS **SS 11 31 55.8 -0.9**
GTA PPMZ
comp=Z,330nm,9.4s
GTA LN
comp=Z,710nm,19.0s
GTA LE
comp=Z,970nm,20.0s
GTA LZ
comp=Z,1μm,20.2s
PBDV Barranco-do-Ve 140.60 94 *e*LR LR 11 59 20.4
PCVE Castro Verde 140.80 94 *e*LR LR 11 59 20.4
PVAQ Vaqueiros 140.83 94 *e*LR LR 11 59 43.1
PNCL Nicolau / Gran 140.84 93 *e*LR LR 11 59 28.0
PMAFR Mafra 140.97 91 *e*LR LR 12 00 28.6
ULN Ulaanbaatar 141.49 286 *e*PKIKP **PKPdf 11 10 29.3 -4.8**
ULN MLR MLR
comp=Z,2μm,19.0s
ULN Ulaanbaatar 141.49 286 *e*PKPdf **PKPdf 11 10 29.2 -4.8**
ULN LR LR
comp=Z,2μm,19.0s
PMTG Montargil 141.66 92 *e*LR LR 11 59 05.2
PBAR Barrancos 141.75 94 *e*LR LR 11 59 28.0
SONM Songino Array 141.84 286 PKhKP PKPpre 11 10 29.5
comp=Z,2.1nm,0.9s,baz=174,slow=6.0,SNR=4.7
PESTR Estremoz 141.89 92 *e*LR LR 11 59 43.1
PCAS Casmilo, Conde 142.15 90 *e*LR LR 11 59 20.4
TIXI Tiksi 142.20 329 *e*PKHKP PKPpre 11 10 29.7
TIXI MLR MLR
comp=Z,2μm,20.0s
TIXI Tiksi 142.20 329 *e*PKPdf PKPpre 11 10 29.7
TIXI LR LR
comp=Z,2μm,20.0s
PMRV Marv??o 142.38 92 *e*LR LR 12 00 13.5
BOD Bodaibo 142.82 304 *e*PKIKP **PKPdf 11 10 33.6 -2.3**
BOD pmax pmax
comp=Z,8.0nm,1.8s
SUMG Summit 142.86 30 *i P* **PKPdf 11 10 36.0 -0.1**
comp=Z,15nm,1.2s
SUMG Summit 142.86 30 *i* PKIKP **PKPdf 11 10 36.0 -0.1**
SUMG pmax pmax
comp=Z,15nm,1.2s
SUMG Summit 142.86 30 *e*PKPdf **PKPdf 11 10 36.8 +0.7**
MTE Manteigas 142.93 91 PFAKE 11 10 50.0 +13
MTE LR LR
comp=Z,2μm,21.0s
POLO Lamas de Olo 143.41 89 *e*LR LR 12 00 05.9
PGAV Gavieira, Arco 143.50 88 *e*LR LR 11 59 43.1
MVO Moncorvo 143.72 90 *e*LR LR 11 59 43.1
PAB San Pablo 144.22 94 PFAKE 11 10 50.0 +11
PAB LR LR
comp=Z,2μm,21.0s
PBRG Braganca 144.29 89 *e*LR LR 12 00 13.5
ESDC Sonseca Array 144.53 95 PKP **PKPab 11 10 37.1 -0.9**
comp=Z,6.0nm,0.8s,baz=227,slow=3.5,SNR=21
ESLA Sonseca Array 144.53 95 *e*PKPdf **PKPdf 11 10 40.1 +0.5**
NDI New Delhi 144.94 236 *e*P **PKPab 11 10 38.0 -1.8**
IRK Irkutsk 145.29 291 *e*PKIKP **PKPbc 11 10 39.6 -0.6**
TLY Talaya 145.37 290 PKPbc **PKPbc 11 10 39.6 -0.9**
comp=Z,10nm,0.9s,baz=196,slow=1.7,SNR=4.6
TLY Talaya 145.37 290 *e*PKIKP **PKPbc 11 10 39.4 -1.1**
TLY *i* 11 10 47.5
TLY pmax pmax
comp=Z,16nm,1.0s
TLY Talaya 145.37 290 PKPbc **PKPbc 11 10 40.1 -0.4**
SNR=12
TLY Talaya 145.37 290 *e*PKPbc **PKPab 11 10 40.6 -0.1**
TLY LR LR
comp=Z,2μm,21.0s
JMDO Jabal Madar 146.20 203 PKPdf **PKPab 11 10 44.4 -0.3**
SNR=13
WBK Wadi Bani Khal 146.23 204 PKPdf **PKPab 11 10 45.3 +0.6**
SNR=14
BORG Borgarnes 146.81 46 PFAKE 11 10 50.0 +4.3
BORG LR LR
comp=Z,3μm,22.0s
MOY Mondy 146.81 289 *e*PKP2 **PKPbc 11 10 45.5 +0.5**
MOY pmax pmax
comp=Z,73nm,2.8s
SMDO Samad 146.88 203 PKPdf **PKPbc 11 10 45.1 -1.0**
SNR=11
ARQ Araqi 147.48 201 PKPdf **PKPbc 11 10 48.0 +0.4**
SNR=20
HOQ Hoqain 147.55 202 PKPdf **PKPbc 11 10 48.0 +0.2**
SNR=7.9
SJPF Ste Jean 148.31 92 *e*PKIKP **PKPdf 11 10 43.4 -2.4**
comp=Z,245nm,1.7s
SJPF Ste Jean 148.31 92 *e*PKPdf **PKPdf 11 10 43.4 -2.4**
ETSF Etsaut 148.56 93 *e*PKIKP **PKPdf 11 10 43.6 -2.7**
comp=Z,62nm,1.1s
ETSF Etsaut 148.56 93 *e*PKPdf **PKPdf 11 10 43.6 -2.7**
ASHO Ashiyiah 148.88 201 PKPdf **PKPbc 11 10 51.6 +0.3**
SNR=14
ASHO Ashiyiah 148.88 201 ⇑ *i*P **PKPbc 11 10 51.3 0.0**
SNR=13
RAYN Ar Rayn 148.91 182 *e*PKPdf **PKPdf 11 10 48.5 +1.0**
RAYN *e*PKPbc **PKiKP 11 10 52.6 -0.2**
ASUD Al Ashush, Dub 148.97 199 ⇑ *i*P **PKPbc 11 10 52.1 +0.7**
SNR=6.0
HATD Hatta, Dubai 149.00 201 PKPdf **PKPbc 11 10 52.0 +0.4**
SNR=26
HATD Hatta, Dubai 149.00 201 ⇑ *i*P **PKPbc 11 10 51.5 0.0**
SNR=14
EPF Esparros 149.16 94 *e*PKIKP **PKPdf 11 10 43.5 -3.7**
comp=Z,33nm,1.0s
EPF Esparros 149.16 94 *e*PKPdf **PKPdf 11 10 43.5 -3.7**
KEST Kesra 149.25 113 PKPbc **PKPbc 11 10 52.4 +0.4**
comp=Z,3.2nm,1.1s,baz=313,slow=6.3,SNR=3.7
QUIF Quistinic 149.89 83 *e*PKIKP **PKPdf 11 10 45.0 -3.1**
comp=Z,74nm,1.2s
QUIF Quistinic 149.89 83 *e*PKIKP **PKPdf 11 10 45.0 -3.1**
QUIF Quistinic 149.89 83 *e*PKPdf **PKPdf 11 10 45.0 -3.1**
BANOM Banah 150.03 201 *i P* **PKPbc 11 10 54.1 0.0**
SNR=8.4
ROSF Rostrenen 150.04 82 *e*PKIKP **PKPdf 11 10 45.3 -3.1**
comp=Z,81nm,1.5s
ROSF Rostrenen 150.04 82 *e*PKIKP **PKPdf 11 10 45.3 -3.1**
ROSF Rostrenen 150.04 82 *e*PKPdf **PKPdf 11 10 45.3 -3.1**
WMQ Urumqi 150.29 267 PKPbc **PKPbc 11 10 53.1 -1.1**
WMQ pPKP **PKiKP 11 10 57.4 +2.4**
WMQ sPKP 11 10 59.3
WMQ PKS **PKSdf 11 14 26.5 +2.8**
WMQ PP PP 11 14 36.6 +6.3
WMQ SKS **SKSdf 11 17 59.5 +2.9**
WMQ SS **SS 11 33 53.3 +4.7**
WMQ PPMZ
comp=Z,89nm,8.4s
WMQ LN
comp=Z,1μm,22.4s
WMQ LE
comp=Z,1μm,21.0s
WMQ LZ
comp=Z,1μm,24.4s
SGMF Saint Gilles 150.41 83 *e*PKIKP **PKPdf 11 10 46.3 -2.6**
comp=Z,38nm,1.1s
SGMF Saint Gilles 150.41 83 *e*PKIKP **PKPdf 11 10 46.3 -2.6**
SGMF Saint Gilles 150.41 83 *e*PKPdf **PKPdf 11 10 46.3 -2.6**
MTLF Montolieu 150.44 95 *e*PKIKP **PKPdf 11 10 46.3 -2.9**
comp=Z,87nm,1.4s
MTLF Montolieu 150.44 95 *e*PKIKP **PKPdf 11 10 46.3 -2.9**
MTLF Montolieu 150.44 95 *e*PKPdf **PKPdf 11 10 46.3 -2.9**
LFF La Frestale 150.53 91 *e*PKIKP **PKPdf 11 10 46.9 -2.3**
comp=Z,75nm,1.2s
LFF La Frestale 150.53 91 *e*PKIKP **PKPdf 11 10 46.9 -2.3**
LFF La Frestale 150.53 91 *e*PKPdf **PKPdf 11 10 46.9 -2.3**
MFF Saint Martin d 150.94 87 *e*PKIKP **PKPdf 11 10 46.8 -3.0**
comp=Z,65nm,1.3s
MFF Saint Martin d 150.94 87 *e*PKIKP **PKPdf 11 10 46.8 -3.0**
MFF Saint Martin d 150.94 87 *e*PKPdf **PKPdf 11 10 46.8 -3.0**
RJF Les Rejaudoux 151.19 91 *e*PKIKP **PKPdf 11 10 47.4 -2.9**
RJF Les Rejaudoux 151.19 91 *e*PKIKP **PKPdf 11 10 47.4 -2.9**
RJF Les Rejaudoux 151.19 91 *e*PKPdf **PKPdf 11 10 47.4 -2.9**
CAF Calviac 151.29 92 *e*PKIKP **PKPdf 11 10 48.2 -2.3**
comp=Z,47nm,1.2s
CAF Calviac 151.29 92 *e*PKIKP **PKPdf 11 10 48.2 -2.3**
CAF Calviac 151.29 92 *e*PKPdf **PKPdf 11 10 48.2 -2.3**
GRR Gorron 151.46 84 *e*PKIKP **PKPdf 11 10 46.9 -3.6**
comp=Z,28nm,1.1s
GRR Gorron 151.46 84 *e*PKIKP **PKPdf 11 10 46.9 -3.6**
GRR Gorron 151.46 84 *e*PKPdf **PKPdf 11 10 46.9 -3.6**
FLN La Foliniere 151.86 83 *e*PKIKP **PKPdf 11 10 48.4 -2.7**
comp=Z,107nm,1.6s
FLN La Foliniere 151.86 83 *e*PKIKP **PKPdf 11 10 48.4 -2.7**
FLN La Foliniere 151.86 83 *e*PKPdf **PKPdf 11 10 48.4 -2.7**
LDF La Druitiere 151.99 84 *e*PKIKP **PKPdf 11 10 48.0 -3.3**
comp=Z,45nm,1.4s
LDF La Druitiere 151.99 84 *e*PKIKP **PKPdf 11 10 48.0 -3.3**
LDF La Druitiere 151.99 84 *e*PKPdf **PKPdf 11 10 48.0 -3.3**
VSL Villasalto 152.00 108 PFAKE 11 11 00.0 +1.7
VSL LR LR
comp=Z,2μm,21.0s
WDD Wield Dalam 152.04 120 PFAKE 11 11 00.0 +1.6
WDD LR LR
comp=Z,3μm,19.0s
SSB Saint Sauveur 152.93 94 PFAKE 11 11 00.0 -0.2
SSB LR LR
comp=Z,2μm,21.0s
ESK Eskdalemuir 152.99 69 PFAKE 11 11 00.0 +0.1
ESK LR LR
comp=Z,2μm,20.0s
EKA Eskdalemuir Ar 153.02 69 PKPbc **PKPbc 11 10 59.9 0.0**
comp=Z,4.2nm,0.8s,baz=259,slow=1.7,SNR=12
AVF Avril sur Loir 153.08 90 *e*PKIKP **PKPdf 11 10 50.2 -2.8**
AVF Avril sur Loir 153.08 90 *e*PKIKP **PKPdf 11 10 50.2 -2.8**
AVF Avril sur Loir 153.08 90 *e*PKPdf **PKPdf 11 10 50.2 -2.8**
KBS Kingsbay 153.26 13 PFAKE 11 11 00.0 +0.1
KBS LR LR
comp=Z,2μm,20.0s
SMF Signal de Mont 153.28 90 *e*PKIKP **PKPdf 11 10 50.6 -2.7**
SMF Signal de Mont 153.28 90 *e*PKIKP **PKPdf 11 10 50.6 -2.7**
SMF Signal de Mont 153.28 90 *e*PKPdf **PKPdf 11 10 50.6 -2.7**
KBL Kabul 153.64 230 *e*PKIKP **PKPbc 11 11 02.8 +0.5**
KBL Kabul 153.64 230 *e*PKPbc **PKPbc 11 11 02.8 +0.5**
KSH Kashi 154.09 247 *e*PKPbc **PKPbc 11 11 00.5 -2.5**
KSH PKS **PKSdf 11 14 33.1 +3.9**
KSH PPMZ
comp=Z,120nm,3.0s
KSH LN
comp=Z,340nm,10.6s
KSH LE
comp=Z,550nm,14.4s
KSH LZ
comp=Z,2μm,22.2s
SPITS Spitsbergen Ar 154.41 13 PKPbc **PKPbc 11 11 02.1 -0.3**
comp=Z,10nm,1.1s,baz=304,slow=1.5,SNR=3.4
CEL Celeste 154.58 118 PFAKE 11 11 10.0 +6.0
CEL LR LR
comp=Z,2μm,21.0s
MK31 Makanchi Array 155.12 267 *e*PKIKP PKPdf 11 11 04.6 +8.6
MK31 *e* 11 11 20.4
MK31 Makanchi Array 155.12 267 *e*PKPbc PKPdf 11 11 04.6 +8.6
MK31 *e*PKPab **PKPab 11 11 20.4 -0.4**
MKAR Makanchi Array 155.12 267 PKP **PKPdf 11 10 54.4 -1.6**
comp=Z,1.2nm,1.0s,baz=274,slow=6.0,SNR=5.7
MKAR PKPbc PKPbc 11 11 04.3
comp=Z,7.5nm,0.9s,baz=140,slow=0.9,SNR=28
MKAR PKPab **PKPab 11 11 20.1 -0.6**
comp=Z,7.7nm,0.9s,baz=106,slow=2.6,SNR=6.7
VLC Villacollemand 155.64 101 PFAKE 11 11 10.0 -13
VLC LR LR
comp=Z,2μm,21.0s
TIP Timpagrande 155.72 118 PFAKE 11 11 10.0 +13
TIP LR LR
comp=Z,2μm,21.0s
CUC Castrocucco 155.83 115 PFAKE 11 11 10.0 +13
CUC LR LR
comp=Z,2μm,20.0s
ECH Echery 156.02 90 PFAKE 11 11 10.0 +13
ECH LR LR
comp=Z,2μm,21.0s
WLF Walferdange 156.12 86 *e*SS SS 11 34 55.8 +3.5
WLF Walferdange 156.12 86 PFAKE 11 11 10.0 +13
WLF LR LR
comp=Z,2μm,20.0s
AQU L'Aquila 156.18 108 PFAKE 11 11 10.0 +12
AQU LR LR
comp=Z,2μm,21.0s
TUE Stuetta 156.38 96 PFAKE 11 11 10.0 +12
TUE LR LR
comp=Z,3μm,21.0s
TKM2 Tokmak 2 156.64 253 *e*PKIKP **PKPdf 11 10 57.0 -1.3**
TKM2 MLR MLR
comp=Z,2μm,21.0s
TKM2 Tokmak 2 156.64 253 *e*PKPdf **PKPdf 11 10 57.0 -1.3**
TKM2 *e*PKPab **PKPab 11 11 26.5 -1.1**
TKM2 LR LR
comp=Z,2μm,21.0s
ZAA0 Zalesovo Array 156.72 285 *e*PKPab **PKPab 11 11 26.7 -0.6**
ZALV Zalesovo Beam 156.72 285 PKP **PKPdf 11 10 56.0 -1.7**
comp=Z,0.5nm,0.4s,baz=112,slow=1.6,SNR=3.7
ZALV PKPab **PKPab 11 11 24.9 -2.4**
comp=Z,5.0nm,0.9s,baz=122,slow=5.4,SNR=8.4
BFO Black Forest 156.76 91 *e*SS SS 11 35 04.4 +5.2
BFO Black Forest 156.76 91 PFAKE 11 11 10.0 +12
BFO LR LR
comp=Z,2μm,19.0s
AAK Ala-Archa 157.06 251 PKP **PKPdf 11 10 59.1 +0.3**
comp=Z,0.8nm,0.4s,baz=321,slow=0.1,SNR=1.9
AAK PKPab **PKPab 11 11 28.6 -0.8**
comp=Z,12nm,0.9s,baz=210,slow=8.1,SNR=8.7
AAK PP **PP 11 15 09.5 +1.1**
comp=Z,2.9nm,1.0s,baz=144,slow=6.8,SNR=5.8
AAK Ala-Archa 157.06 251 PKIKP **PKPdf 11 10 59.1 +0.3**
AAK *e* 11 11 02.2
AAK 11 15 09.5
AAK MLR MLR
comp=Z,2μm,20.0s
AAK Ala-Archa 157.06 251 PKP **PKPdf 11 10 59.1 +0.3**
AAK *e*PKPdf **PKPdf 11 11 02.2 +3.3**
AAK PKPab **PKPab 11 11 28.6 -0.8**
AAK *e*PKPab PKPab 11 11 29.0 -0.4

AAK					PP	**PP**	11 15 09.5	+1.1	
AAK					LR	LR			
	comp=Z,2μm,20.0s								
FRU	**Bishkek**	**157.12**	**251**	*e*PKIKP	**PKPdf**		**11 11 02.0**	**+3.3**	
SANT	**Santorini**	**157.47**	**136**	PFAKE			11 11 10.0	+11	
SANT				LR	LR				
	comp=Z,2μm,21.0s								
EKS2	**Erkin-Say**	**157.47**	**250**	*e*PKIKP	**PKPdf**		**11 10 59.0**	**-0.3**	
EKS2				MLR	MLR				
	comp=Z,3μm,22.0s								
EKS2	**Erkin-Say**	**157.47**	**250**	*e*PKPdf	**PKPdf**		**11 10 59.0**	**-0.3**	
EKS2				LR	LR				
	comp=Z,3μm,22.0s								
STU	**Stuttgart**	**157.48**	**90**	*e*SS	SS		11 35 09.1	+2.3	
ABTA	**Abfaltersbach**	**158.36**	**98**	⇑*i*sPKPdf	sPKPdf		11 11 06.2	+1.4	
	comp=Z,7.4nm,1.1s								
CSS	**Prodhromos**	**158.81**	**154**	PFAKE			11 11 10.0	+9.0	
CSS				LR	LR				
	comp=Z,865nm,22.0s								
UBBA	**Unterbreizbach**	**158.85**	**86**	*e*SS	SS		11 35 26.7	+5.5	
TIR	**Tirane**	**158.92**	**119**	PFAKE			11 11 10.0	+9.1	
TIR				LR	LR				
	comp=Z,2μm,19.0s								
RJOB	**Jochberg**	**159.05**	**96**	*e*SS	SS		11 35 27.1	+3.4	
GRF	**Grafenberg Arr**	**159.08**	**90**	*e*PKPdf	**PKPdf**		**11 11 03.3**	**+2.4**	
GRF				*e*SS	SS		11 35 28.1	+4.2	
KURK	**Kurchatov**	**159.12**	**273**	PKIKP	**PKPdf**		**11 11 00.0**	**-0.8**	
KURK							11 15 21.3		
KURK				MLR	MLR				
	comp=Z,2μm,20.0s								
KURK	**Kurchatov**	**159.12**	**273**	PKP	**PKPdf**		**11 11 00.0**	**-0.8**	
KURK				PP	**PP**		**11 15 21.3**	**+1.7**	
KURK				LR	LR				
	comp=Z,2μm,20.0s								
KURBB	**Kurchatov Arra**	**159.13**	**273**	PKP	**PKPdf**		**11 11 00.0**	**-0.8**	
	comp=Z,0.5nm,0.7s,baz=254,slow=0.3,SNR=4.8								
KURBB				PP	**PP**		**11 15 21.3**	**+1.7**	
	comp=Z,0.9nm,0.6s,baz=135,slow=4.0,SNR=9.0								
OBKA	**Obir**	**159.40**	**101**	⇑*i*sPKPdf	sPKPdf		11 11 09.5	+3.4	
	comp=Z,34nm,0.8s								
ROTZ	**Rotzenmuhle**	**159.69**	**91**	*e*SS	SS		11 35 35.7	+5.4	
WET	**Wettzell**	**159.79**	**93**	*e*SS	SS		11 35 35.3	+3.9	
NKC	**Novy Kostel**	**160.03**	**90**	*e*PKPDF	**PKPdf**		**11 11 03.7**	**+1.8**	
NKC				*ex*	x		11 35 11.8		
NKC				AMS	AMS		12 24 20.0		
	comp=Z,2μm,19.4s								
NKC	**Novy Kostel**	**160.03**	**90**	*e*PKIKP	**PKPdf**		**11 11 03.7**	**+1.8**	
NKC				MLR	MLR				
	comp=Z,2μm,19.4s								
TANN	**Tannenbergstha**	**160.11**	**89**	*e*SS	SS		11 35 42.2	+7.3	
GEC2	**GERESS Array S**	**160.13**	**94**	*e*SS	SS		11 35 39.3	+4.2	
GERES	**GERESS Array B**	**160.13**	**94**	PKP	**PKPdf**		**11 11 02.0**	**-0.1**	
	comp=Z,0.4nm,0.3s,baz=191,slow=2.7,SNR=5.4								
KHC	**Kasperske Hory**	**160.19**	**93**	*e*PKPDF	**PKPdf**		**11 11 03.4**	**+1.2**	
KHC				*ep*PKP	**pPKPdf**		**11 11 09.0**	**+3.4**	
KHC				*ex*	x		11 11 17.3		
KHC				*ex*	x		11 11 32.6		
KHC				*e*PKPAB	**PKPab**		**11 11 44.5**	**+1.9**	
KHC				*e*SS	SS		11 35 29.7	-6.0	
KHC				AMS	AMS		12 18 30.0		
	comp=Z,2μm,19.3s								
KHC	**Kasperske Hory**	**160.19**	**93**	*e*PKIKP	**PKPdf**		**11 11 03.4**	**+1.2**	
KHC				*e*			11 11 09.0		
KHC				*e*SS	SS		11 35 29.7	-6.0	
KHC				MLR	MLR				
	comp=Z,2μm,19.3s								
KONO	**Kongsberg**	**160.54**	**61**	PFAKE			11 11 10.0	+7.9	
KONO				LR	LR				
	comp=Z,3μm,20.0s								
ISP	**Isparta**	**160.63**	**145**	PFAKE			11 11 10.0	+6.9	
ISP				LR	LR				
	comp=Z,2μm,21.0s								
CLL	**Collm**	**160.78**	**87**	*e*SS	SS		11 35 46.1	+4.3	
CLL	**Collm**	**160.78**	**87**	*e*(sPKPdf)	**sPKPdf**		**11 11 09.0**	**+1.7**	
CLL				*e*PKPab	**PKPab**		**11 11 47.0**	**+1.9**	
	comp=Z,27nm,1.9s								
CLL				*e*			11 12 00.0		
	comp=Z,42nm,2.0s								
CLL				*e*PP	**PP**		**11 15 32.0**	**+3.4**	
	comp=Z,47nm,2.3s								
CLL				*e*PSKS			11 25 58.0		
CLL				*e*SS	SS		**11 35 41.0**	**-0.8**	
CLL				LmH			12 33 00.0		
	comp=N,2μm,21.6s								
CLL				LmH			12 33 00.0		
	comp=E,800nm,21.7s								
CLL				LmV			12 36 00.0		
	comp=Z,1μm,19.8s								
CLL	**Collm**	**160.78**	**87**	*e*PKIKP	**sPKPdf**		**11 11 09.0**	**+1.7**	
CLL				pmax	pmax				
	comp=Z,27nm,1.9s								
CLL				MLR	MLR				
	comp=Z,1μm,19.8s								
CONA	**Conrad Observa**	**160.92**	**99**	⇑*i*PKPdf	**PKPdf**		**11 11 03.8**	**+0.7**	
	comp=Z,14nm,1.4s								
PRA	**Prague**	**161.11**	**92**	*e*SS	SS		11 35 49.9	+4.7	
PRA				AMS	AMS		12 20 10.0		
	comp=Z,2μm,19.7s								
PRU	**Pruhonice**	**161.14**	**92**	*e*SS	SS		11 35 47.2	+1.7	
PRU				AMS	AMS		12 22 20.0		
	comp=Z,2μm,20.8s								
BRG	**Berggiesshubel**	**161.16**	**89**	*e*PKP	**PKPdf**		**11 11 04.2**	**+1.1**	
	comp=Z,1.7nm,0.6s								
BRG				PP	SKSdf		11 18 18.0	+10	
BRG				SS	SS		11 35 55.0	+9.2	
BRG	**Berggiesshubel**	**161.16**	**89**	*e*PKIKP	**PKPdf**		**11 11 04.2**	**+1.1**	
BRG				pmax	pmax				
	comp=Z,2.0nm,0.6s								
GOPC	**GO Pecny, Ondr**	**161.25**	**92**	*e*PKPDF	**PKPdf**		**11 11 06.8**	**+3.5**	
GOPC				*ep*PKP	**pPKPdf**		**11 11 12.1**	**+5.4**	
GOPC				*ex*	x		11 11 19.6		
GOPC				*e*SS	SS		11 35 45.2	-1.6	
GOPC				AMS	AMS		12 22 20.0		
	comp=Z,2μm,18.4s								
NOA	**NORSAR Array B**	**161.29**	**57**	PKP	**PKPdf**		**11 11 02.4**	**-0.6**	
	comp=Z,0.9nm,0.9s,baz=312,slow=1.1,SNR=2.1								
TREC	**Trest**	**161.38**	**95**	AMS	AMS		12 35 40.0		
	comp=Z,2μm,19.4s								
PVCC	**Panska Ves**	**161.38**	**90**	*e*SS	SS		11 35 51.1	+3.0	
PVCC				AMS	AMS		12 33 40.0		
	comp=Z,3μm,19.2s								
DPC	**Dobruska-Polom**	**162.33**	**92**	*e*PKPDF	**PKPdf**		**11 11 07.0**	**+2.6**	
DPC				*ep*PKP	**pPKPdf**		**11 11 11.5**	**+3.7**	
DPC				*ex*	x		11 11 20.3		
DPC				*e*SS	SS		11 36 00.0	+1.9	
DPC				AMS	AMS		12 20 00.0		
DPC	**Dobruska-Polom**	**162.33**	**92**	*e*PKIKP	**PKPdf**		**11 11 07.0**	**+2.6**	
DPC				*e*			11 11 11.5		
DPC				*e*SS	SS		11 36 00.0	+1.9	
KRLC	**Kraliky**	**162.48**	**94**	*e*PKPDF	**PKPdf**		**11 11 06.9**	**+2.3**	
KRLC				*ep*PKP	**pPKPdf**		**11 11 11.8**	**+3.8**	
KRLC				*ex*	x		11 11 20.9		
KRLC	**Kraliky**	**162.48**	**94**	*e*PKIKP	**PKPdf**		**11 11 06.9**	**+2.3**	
KRLC				*e*			11 11 11.8		
KEV	**Kevo**	**162.89**	**21**	PFAKE			11 11 10.0	+5.7	
KEV				LR	LR				
	comp=Z,3μm,21.0s								
VYHS	**Vyhne**	**162.91**	**101**	*e*PKIKP	**PKPdf**		**11 11 08.2**	**+3.2**	
VYHS	**Vyhne**	**162.91**	**101**	*e*	**PKPdf**		**11 11 08.2**	**+3.2**	
OKC	**Ostrava-Krasne**	**163.16**	**96**	*e*PKPDF	**PKPdf**		**11 11 07.2**	**+2.0**	
OKC				*ex*	x		11 11 20.9		
OKC				*e*SS	SS		11 36 07.1	+0.5	
OKC				AMS	AMS		12 28 50.0		
	comp=Z,2μm,20.6s								
OKC	**Ostrava-Krasne**	**163.16**	**96**	*e*PKIKP	**PKPdf**		**11 11 07.2**	**+2.0**	
OKC				*e*SS	SS		11 36 07.1	+0.5	
OKC				MLR	MLR				
	comp=Z,2μm,20.6s								
PSZ	**Piszkesteto**	**163.21**	**103**	PFAKE			11 11 20.0	+15	
PSZ				LR	LR				
	comp=Z,3μm,20.0s								
ANTO	**Ankara**	**163.23**	**147**	PFAKE			11 11 20.0	+14	
ANTO				LR	LR				
	comp=Z,2μm,20.0s								
STHS	**Stebnicka Huta**	**164.75**	**100**	*e*PKIKP	**PKPdf**		**11 11 09.3**	**+2.6**	
STHS	**Stebnicka Huta**	**164.75**	**100**	*e*PKP	**PKPdf**		**11 11 09.3**	**+2.6**	
BRVK	**Borovoye**	**164.77**	**275**	PFAKE			11 11 20.0	+13	
BRVK				LR	LR				
	comp=Z,3μm,20.0s								
KOLS	**Kolonicke sedl**	**165.09**	**103**	*e*PKIKP	PKPdf		11 11 13.6	+6.6	
KOLS	**Kolonicke sedl**	**165.09**	**103**	*e*PKP	PKPdf		11 11 13.6	+6.6	
GNI	**Garni**	**165.50**	**181**	PFAKE			11 11 20.0	+12	
GNI				LR	LR				
	comp=Z,3μm,22.0s								
KWP	**Kalwaria Pacla**	**165.69**	**102**	PFAKE			11 11 20.0	+13	
KWP				LR	LR				
	comp=Z,3μm,20.0s								
LVZ	**Lovozero**	**165.91**	**16**	PFAKE			11 11 20.0	+13	
LVZ				LR	LR				
	comp=Z,3μm,22.0s								
KIS	**Kishinev**	**167.46**	**121**	*e*PKP	PKPdf		11 11 14.0	+5.2	
KIS	**Kishinev**	**167.46**	**121**	*e*PKIKP	PKPdf		11 11 14.0	+5.2	
KIS				*e*PPS	PPS		11 29 55.0		
SUW	**Suwalki**	**167.50**	**84**	*e*PKIKP	**PKPdf**		**11 11 08.6**	**0.0**	
SUW	**Suwalki**	**167.50**	**84**	*e*PKPdf	**PKPdf**		**11 11 08.6**	**0.0**	
FINES	**FINESS Array B**	**168.10**	**48**	PKPab	**PKPab**		**11 12 16.5**	**-0.5**	
	comp=Z,1.5nm,0.8s,baz=225,slow=1.9,SNR=4.2								
SIM	**Simferopol'**	**168.19**	**141**	*i* PKIKP	**PKPdf**		**11 11 08.6**	**-0.8**	
SIM				*e*			11 16 12.0		
SIM				*e*SSS	SSS		11 43 34.0		
SIM				pmax	pmax				
	comp=Z,140nm,8.2s								
KBZ	**Khabaz**	**169.02**	**174**	PKP	**PKPdf**		**11 11 11.1**	**+1.1**	
	comp=Z,1.0nm,0.4s,baz=236,slow=23,SNR=3.7								
KBZ				PKPab	**PKPab**		**11 12 20.1**	**-1.3**	
	comp=Z,3.0nm,0.9s,baz=56,slow=24,SNR=4.0								
KIV	**Kislovodsk**	**169.23**	**173**	PFAKE			11 11 20.0	+10	
KIV				LR	LR				
	comp=Z,144nm,20.0s								
AK02	**Malin Array Si**	**169.84**	**107**	*e*PKPdf	**PKPdf**		**11 11 10.3**	**0.0**	
KIEV	**Kiev**	**169.87**	**107**	PFAKE			11 11 20.0	+10	
KIEV				LR	LR				
	comp=Z,2μm,22.0s								
AK01	**Malin Array Si**	**169.87**	**107**	*e*PKPdf	**PKPdf**		**11 11 09.3**	**-1.0**	
AK01				*e*PKPab	**PKPab**		**11 12 25.1**	**0.0**	
ARU	**Arti**	**171.87**	**288**	PFAKE			11 11 20.0	+8.8	
ARU				LR	LR				
	comp=Z,2μm,20.0s								
OBN	**Obninsk**	**175.35**	**81**	*e*PKIKP	**PKPdf**		**11 11 14.5**	**+2.1**	
OBN				pmax	pmax				
	comp=Z,7.0nm,1.4s								
OBN	**Obninsk**	**175.35**	**81**	PFAKE			11 11 20.0	+7.6	
OBN				LR	LR				
	comp=Z,2μm,20.0s								

ISCJB ***19*** *11:28:08.8±0.5, 15°.61N±0°.07×92°.51W±0°.05, h200km, mb3.6/8, Error ellipse: s-maj=9.4km s-min=6.8km az=16.3*
IDC ***19*** *11:28:10.0±1.5, 15°.70N×92°.23W, h179km±15km, mb3.5/8, mb1 3.8/12, mb1mx3.5/38, mbtmp4.1/12, Error ellipse: s-maj=25.8km s-min=11.4km az=53.0*
MEX ***19*** *11:28:11.5±1.2, 15°.73N×92°.45W, h189km±10km, MD4.2*
ISC 19 11:28:10.5±0.8**, 15°.63N**±0°.08×**92°.44W**±0°.06**, h200**km**, n18, σ2s35/23, mb3.8/8, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.71**	**24**	*i* P		**Pn**	**11 28 36.7**	**-2.0**
CCIG				*i* S		**Sn**	**11 28 56.4**	**-4.4**
THIG		**0.74**	**167**	*i* P		**Pn**	**11 28 37.4**	**-1.4**
THIG				*i* S		**Sn**	**11 28 58.3**	**-2.3**
PCIG		**0.75**	**276**	*e*P		**Pn**	**11 28 36.8**	**-1.9**
PCIG				*e*S		**Sn**	**11 28 56.9**	**-3.6**
CMIG	**Matias Romero**	**2.76**	**302**	P		**Pn**	**11 28 55.7**	**-1.6**
	108nm,0.3s,baz=152,slow=7.9,SNR=1381							
CMIG				S		**Sn**	**11 29 29.6**	**-4.3**
	106nm,0.3s,baz=317,slow=20,SNR=28							
HUIG	**Huatulco**	**3.53**	**273**	P		**Pn**	**11 29 04.5**	**-2.0**
VHO	**Vista Hermosa**	**4.36**	**290**	*e*P		**Pn**	**11 29 17.5**	**+0.4**
VHO				*i* S		**Sn**	**11 30 06.2**	**-3.1**
TEIG	**Tepich**	**6.05**	**40**	P		**Pn**	**11 29 35.3**	**-3.1**
	3.7nm,0.3s,baz=58,slow=3.7,SNR=25							
TEIG				S		**Sn**	**11 30 47.8**	**-0.2**
	baz=3.4,slow=19,SNR=2.0							
JTS	**JuntasAbangare**	**9.02**	**125**	P		**Pn**	**11 30 16.9**	**-0.3**
	3.8nm,0.3s,baz=328,slow=13,SNR=22							
JTS				S		Sn	11 31 48.9	-10
	0.5nm,0.3s,baz=299,slow=19,SNR=2.0							
TXAR	**Lajitas Array**	**17.12**	**325**	P		**Pn**	**11 32 00.2**	**+1.9**
	0.4nm,0.3s,baz=154,slow=12,SNR=72							
TKL	**Tuckaleechee C**	**21.40**	**20**	P		**P**	**11 32 42.9**	**+0.2**
	1.6nm,0.5s,baz=181,slow=12,SNR=4.6							
ANMO	**Albuquerque**	**22.98**	**329**	P		**P**	**11 33 00.4**	**+2.5**
	0.6nm,0.6s,baz=154,slow=8.3,SNR=4.0							
NVAR	**Mina Array Bea**	**32.15**	**320**	P		P	11 34 23.4	+3.8
	4.2nm,0.7s,baz=133,slow=8.6,SNR=45							
LPAZ	**La Paz**	**39.77**	**142**	P		**P**	**11 35 25.9**	**+1.0**
	2.4nm,0.5s,baz=342,slow=6.0,SNR=11							
SIV	**San Ignacio**	**44.12**	**134**	P		**P**	**11 35 59.1**	**-0.3**
	1.5nm,0.4s,baz=314,slow=8.8,SNR=9.5							
YKA	**Yellowknife Ar**	**49.35**	**347**	P		**P**	**11 36 39.6**	**+0.3**
	2.0nm,0.4s,baz=136,slow=9.0,SNR=22							
INK	**Inuvik**	**58.76**	**343**	P		**P**	**11 37 48.4**	**+1.3**
	0.5nm,0.5s,baz=138,slow=8.1,SNR=3.5							
ILAR	**Eielson Array**	**61.18**	**337**	P		**P**	**11 38 04.5**	**+0.9**
	0.2nm,0.4s,baz=112,slow=5.5,SNR=5.8							
WRA	**Warramunga Arr**	**135.36**	**257**	PKP		**PKPdf**	**11 47 09.5**	**+2.2**
	0.3nm,0.5s,baz=88,slow=2.5,SNR=6.8							

IDC ***19*** *11:49:44.1±2.2, 54°.06N×168°.80E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.5/28, mbtmp3.4/5, ML2.7/1, Error ellipse: s-maj=88.9km s-min=31.6km az=164.0*
KRSC ***19*** *11:49:46.9±1.4, 53°.71N×168°.15E, h26km±10km, ML3.9*
ISC 19 11:49:47.5±1.0**, 54°.0N**±0°.1×**168°.52E**±0°.06**, h30**km**, n30, σ1s42/27, mb3.4/4, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.92**	**311**	*e*P		**Pn**	**11 50 19.7**	**+1.6**
BKI				*e*S		**Sb**	**11 50 44.5**	**-0.9**
KBTR	**Krutoberegovo**	**3.96**	**307**	P		Pn	11 50 50.7	+4.6
KZV	**Kizimen**	**4.92**	**287**	*e*P		**Pn**	**11 51 01.4**	**+1.9**
TUMR	**Tumrok**	**5.04**	**288**	*e*P		Pn	11 51 04.3	+3.3
SPN	**Mys Shipunski**	**5.14**	**264**	*e*P		**Pn**	**11 51 03.0**	**+0.6**
NLC	**Nalytchevo**	**5.53**	**265**	*e*S		**Sn**	**11 52 08.2**	**-1.9**
SDLR	**Sedlovina**	**5.78**	**267**	*e*P		**Pn**	**11 51 12.1**	**+0.9**
SDLR				*e*S		**Sn**	**11 52 16.2**	**-0.2**
UGLR	**Uglovaya**	**5.83**	**266**	*e*P		**Pn**	**11 51 13.3**	**+1.5**
SMAR	**Somma**	**5.83**	**267**	*e*P		**Pn**	**11 51 13.2**	**+1.2**
KRER	**Koryakskii**	**5.85**	**267**	*e*P		**Pn**	**11 51 13.7**	**+1.4**
KRER				*e*S		**Sn**	**11 52 17.6**	**-0.8**
AVH	**Avacha**	**5.87**	**267**	*e*S		**Sn**	**11 52 18.4**	**-0.2**
KRX	**Arik**	**5.90**	**268**	*e*P		**Pn**	**11 51 13.9**	**+1.0**
KOK	**Koryaka**	**5.92**	**267**	*e*P		**Pn**	**11 51 13.7**	**+0.6**
PET	**Petropavlovsk**	**5.97**	**265**	*e*S		**Sn**	**11 52 20.3**	**-0.6**
RUS	**Russkaya**	**6.21**	**260**	*e*P		**Pn**	**11 51 19.2**	**+2.2**
GNL	**Ganaly**	**6.27**	**272**	*e*P		**Pn**	**11 51 20.2**	**+2.3**
MTVR	**Mutnovka**	**6.39**	**261**	*e*S		**Sn**	**11 52 28.9**	**-2.6**
PETK	**Petropavlovsk-**	**6.51**	**267**	Pn		**Pn**	**11 51 23.4**	**+2.2**
	0.7nm,0.3s,baz=89,slow=15,SNR=13							
PETK				Sn		**Sn**	**11 52 33.7**	**-0.6**
	0.5nm,0.3s,baz=99,slow=18,SNR=5.3							
ASAK	**Asacha**	**6.58**	**260**	*e*P		**Pn**	**11 51 23.7**	**+1.5**
ASAK				*e*S		**Sn**	**11 52 35.8**	**-0.4**
SKR	**Severo-Kuril's**	**8.28**	**252**	*e*P		**Pn**	**11 51 46.6**	**+1.2**
ILAR	**Eielson Array**	**24.59**	**46**	P		**P**	**11 55 02.9**	**-1.6**
	0.7nm,0.7s,baz=261,slow=7.6,SNR=7.9							
H11N2	**WAKE ISLAND Hy**	**34.21**	**183**	T		T	12 33 06.1	
	baz=1.9,slow=76,SNR=21							
H11N3	**WAKE ISLAND Hy**	**34.23**	**183**	T		T	12 33 07.2	
	baz=1.9,slow=76,SNR=28							
H11N1	**WAKE ISLAND Hy**	**34.23**	**183**	T		T	12 33 07.5	
	baz=1.9,slow=76,SNR=21							
H11S1	**WAKE ISLAND Hy**	**35.43**	**183**	T		T	12 34 37.4	
	baz=2.1,slow=76,SNR=9.2							
H11S3	**WAKE ISLAND Hy**	**35.45**	**183**	T		T	12 34 38.4	
	baz=2.1,slow=76,SNR=6.8							
H11S2	**WAKE ISLAND Hy**	**35.45**	**183**	T		T	12 34 38.5	
	baz=2.1,slow=76,SNR=11							
YKA	**Yellowknife Ar**	**39.02**	**46**	P		**P**	**11 57 10.7**	**0.0**
	0.4nm,0.6s,baz=291,slow=8.6,SNR=3.8							
PDAR	**Pinedale Array**	**52.62**	**67**	P		**P**	**11 58 58.8**	**+0.2**
	0.5nm,0.9s,baz=308,slow=4.4,SNR=3.4							
TXAR	**Lajitas Array**	**65.61**	**73**	P		**P**	**12 00 28.6**	**0.0**
	0.2nm,0.5s,baz=296,slow=4.0,SNR=5.4							

ISCJB ***19*** *12:20:03.0±1.3, 50°.1N±0°.1×73°.1E±0°.1, h10km, mb3.5/1, Error ellipse: s-maj=17.4km s-min=4.8km az=33.4*
NNC ***19*** *12:20:03.9±3.8, 50°.21N×73°.15E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=47.1km s-min=9.7km az=26.0*
IDC ***19*** *12:20:06.7±1.3, 50°.70N×73°.62E, h0km, mb3.4/1, mb1 3.2/5, mb1mx3.1/42, mbtmp3.0/5, ML2.4/4, Error ellipse: s-maj=26.8km s-min=8.1km az=34.0*
ISC 19 12:20:03.4±2.1**, 50°.1N**±0°.2×**73°.0E**±0°.1**, h10**km**, n10,**

KURK	**Kurchatov**	**3.67**	**78**	⇑Pn		**Pn**	**12 20 57.8**	**-2.3**	
KURK	3.3nm,0.7s			⇑Sn		**Sn**	**12 21 44.2**	**+0.8**	
	16nm,0.7s								
MK31	**Makanchi Array**	**7.01**	**114**	⇓Pg		Pb	12 22 09.3	+4.1	
	0.7nm,0.6s,baz=287,slow=17,SNR=4.9								
MK31				⇓Lg		Lg	12 23 46.4		
	3.9nm,0.6s,baz=306,slow=30,SNR=6.5								
MKAR	**Makanchi Array**	**7.01**	**114**	Pn		**Pn**	**12 21 48.5**	**+2.4**	
	0.1nm,0.3s,baz=311,slow=14,SNR=2.5								
MKAR				Sn		**Sn**	**12 23 08.9**	**+3.1**	
	0.1nm,0.3s,baz=291,slow=24,SNR=3.1								
MKAR				Lg		Lg	12 23 44.5		
	0.4nm,0.3s,baz=303,slow=30,SNR=8.0								
ZALV	**Zalesovo Beam**	**8.27**	**58**	Pn		Pn	12 21 56.5	-6.8	
	0.2nm,0.3s,baz=251,slow=13,SNR=6.7								
ZALV				Lg		Lg	12 24 10.6		
	0.2nm,0.3s,baz=253,slow=30,SNR=2.9								
ILAR	**Eielson Array**	**61.38**	**18**	P		**P**	**12 30 16.9**	**-2.0**	
	0.2nm,0.5s,baz=334,slow=5.9,SNR=4.8								

BJI ***19*** *12:42:07.3, 6°.54S×128°.60E, h308km, mb4.8/68, mB4.9/27*
ISCJB ***19*** *12:42:09.7±0.2, 6°.60S±0°.02×128°.31E±0°.02, h325km±2km, mb4.8/105, Error ellipse: s-maj=3.2km s-min=3.0km az=164.8*
MOS ***19*** *12:42:09.1±1.1, 6°.50S×128°.30E, h310km, mb5.0/37, Error ellipse: s-maj=9.4km s-min=5.1km az=115.1*
NEIC ***19*** *12:42:09.7±0.1, 6°.53S×128°.27E, mb5.0/58, Error ellipse: s-maj=4.5km s-min=3.5km az=61.0*
DJA ***19*** *12:42:10.7±0.2, 7°.S±2°×12°.8E±°, h311km±3km, M5.1/58, mb5.3/58, mbB5.5/49, MLv5.7/17, Mw(mB)5.0/49*
IDC ***19*** *12:42:10.6±0.6, 6°.52S×128°.25E, h314km±6km, mb4.6/26, mb1 4.7/29, mb1mx4.7/30, mbtmp5.3/29, Error ellipse: s-maj=9.6km s-min=7.1km az=80.0*
KLM ***19*** *12:42:11.2, 6°.54S×128°.28E, h312km, mb5.2, MS6.4*
ISC 19 12:42:10.3±0.2**, 6°.57S**±0°.03×**128°.29E**±0°.03**, h315**km±2km**, h316**km**; pP-P, n634,** σ1s24/758**, mb4.9**/104**, 59C-45D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.59**	**38**	P		**Pn**	**12 43 04.3**	**+0.9**
BNDI				S		**S**	**12 43 47.5**	**+1.7**
AAI	**Ambon**	**2.87**	**358**	P		**Pn**	**12 43 07.0**	**+1.1**
AAI				S		**S**	**12 43 53.5**	**+3.1**
MSAI	**Masohi**	**3.27**	**11**	P		**Pn**	**12 43 10.0**	**+0.2**
SAUI	**Saumlaki**	**3.29**	**115**	P		**Pn**	**12 43 10.4**	**+0.4**
SAUI	**Saumlaki**	**3.29**	**115**	*e*Pn		**Pn**	**12 43 10.5**	**+0.4**
NLAI	**Namlea**	**3.52**	**340**	P		**Pn**	**12 43 14.4**	**+2.1**
NLAI				S		**S**	**12 44 06.9**	**+4.9**
SANI	**Sanana**	**5.05**	**333**	P		**Pn**	**12 43 29.6**	**+0.6**
	2μm,1.3s,26μm7.2nm							
SANI				S		**S**	**12 44 31.8**	**-0.6**
	2μm,1.3s,26μm7.2nm							
SOEI	**Soe**	**5.09**	**231**	P		**Pn**	**12 43 29.1**	**-0.5**
	13μm,1.0s,111μm36nm							
SOEI	**Soe**	**5.09**	**231**	*e*Pn		**Pn**	**12 43 29.1**	**-0.5**
	10μm,0.9s							
SOEI				*e*S		**S**	**12 44 30.7**	**-2.7**
FAKI	**Fak Fak**	**5.36**	**48**	P		**Pn**	**12 43 31.1**	**-1.5**
FAKI	**Fak Fak**	**5.36**	**48**	*e*Pn		**Pn**	**12 43 30.9**	**-1.8**
BATI	**Baumata**	**5.83**	**231**	P		**Pn**	**12 43 37.9**	**-0.2**
	5μm,0.7s,57μm32nm							
BATI				S		**S**	**12 44 45.0**	**-4.0**
	5μm,0.7s,57μm32nm							
BATI	**Baumata**	**5.83**	**231**	P		**Pn**	**12 43 37.8**	**-0.3**
	819nm,0.3s,baz=112,slow=1.4,SNR=1130							
BATI				S		**S**	**12 44 45.5**	**-3.6**
	536nm,0.3s,baz=82,slow=22,SN

526nm,1.2s,5µm
PCI S **S** **12 46 25.8 +1.1**
526nm,1.2s,5µm
SGSI Sangihe 10.56 345 P **P** **12 44 37.3 -0.3**
746nm,1.0s,9µm
SGSI S **S** **12 46 29.7 -4.3**
746nm,1.0s,9µm
TOLI Toli-Toli 10.70 315 *e*P **P** **12 44 38.5 -0.6**
TOLI *e*S **S** **12 46 37.4 +0.3**
MPSI Mapaga 10.83 309 P **P** **12 44 41.8 +1.2**
474nm,0.9s,5µm
MPSI S **S** **12 46 44.6 +4.4**
474nm,0.9s,5µm
SMPI Sarmi 11.34 67 P **Pn** **12 44 44.7 0.0**
522nm,1.2s
SMPI S **S** **12 46 48.7 -2.9**
522nm,1.2s
FITZ Fitzroy Crossi 11.75 192 *e*Pn **Pn** **12 44 48.4 -1.2**
GENI Genyem 12.48 72 P **P** **12 44 59.0 +0.1**
1µm,0.9s,11µm
KBKI Kotabaru 12.51 284 P **P** **12 45 00.5 +1.2**
128nm,0.9s,1µm
BKB Balikpapan 12.53 294 P P 12 45 03.8 +4.3
BKB S **S** **12 47 23.3 +5.1**
JAY Jayapura 13.01 73 P **Pn** **12 45 06.3 +1.4**
672nm,1.0s,7µm
JAY Jayapura 13.01 73 P **Pn** **12 45 05.4 +0.5**
7.6nm,0.3s,baz=258,slow=7.5,SNR=75
JAY S **S** **12 47 29.1 +0.4**
1.3nm,0.3s,baz=310,slow=23,SNR=7.3
SRBI Singaraja 13.06 263 P **P** **12 45 02.8 -2.6**
64nm,0.9s
SRBI S S 12 47 20.0 -10
64nm,0.9s
IGBI Denpasar 13.22 259 P **P** **12 45 06.6 -0.5**
121nm,0.8s,2µm
BBKI Banjar Baru 13.75 282 P **Pn** **12 45 15.6 +1.9**
244nm,0.8s,3µm
BBKI S **S** **12 47 48.1 +3.5**
244nm,0.8s,3µm
DAV Davao City (W) 13.82 349 P **Pn** **12 45 15.6 +1.2**
SNR=6.4
ABJI Asem Bagus 14.00 264 P **Pn** **12 45 16.4 -0.2**
143nm,1.3s
JAGI Jajag, Banyuwa 14.15 261 *e*P **P** **12 45 15.9 -1.5**
101nm,0.9s
JAGI *e*S S 12 47 38.6 -14
KMMI Kalianget 14.23 267 P **Pn** **12 45 19.6 +0.2**
351nm,0.9s,4µm
KMMI S P 12 45 22.7 +4.4
4µm351nm,0.9s
CTBH Cotabato--PC H 14.28 344 ⇑ *i*P **P** **12 45 19.4 +0.5**
MTKI Muara Teweh, K 14.49 292 P **Pn** **12 45 22.7 +0.3**
167nm,1.0s
WRAB Tennant Creek 14.53 157 P **Pn** **12 45 22.3 -0.5**
7µm,0.6s
WRAB Tennant Creek 14.53 157 *e*P **P** **12 45 22.0 +0.5**
WRAB Tennant Creek 14.53 157 *e*Pn **P** **12 45 21.9 +0.5**
WRA Warramunga Arr 14.53 157 P **P** **12 45 22.1 +0.5**
80nm,0.3s,baz=338,slow=9.4,SNR=991
WRA S **S** **12 47 56.0 -4.4**
33nm,0.3s,baz=337,slow=21,SNR=16
BLJI Banyuglugur 14.63 265 P **Pn** **12 45 23.5 -0.6**
226nm,1.3s,2µm
BLJI S **Pn** **12 45 26.0 +1.9**
2µm226nm,1.3s
BUKP Musuan 14.71 347 *e*P **Pn** **12 45 24.6 -0.5**
GMJI Gumukmas 14.82 263 P **P** **12 45 24.3 -0.5**
51nm,1.0s
TSM Tawau 14.99 316 ⇑P **Pn** **12 45 28.1 -0.2**
PAGZ Pagadian 15.14 341 *e*P **Pn** **12 45 29.3 -0.7**
BUTP Butuan 15.67 350 *e*P **Pn** **12 45 36.6 +0.5**
COEN Coen 16.37 118 *e*P **P** **12 45 42.9 +1.2**
181nm,0.6s
MBWA Marble Bar 16.70 209 P **P** **12 45 45.7 +0.5**
SNR=26
MBWA Marble Bar 16.70 209 *e*Pn **P** **12 45 45.1 -0.2**
485nm,0.7s
PCJI Pacitan 17.05 264 P **P** **12 45 47.8 -1.3**
90nm,0.9s
KKM Kota Kinabalu 17.39 316 ⇓P **P** **12 45 54.1 +1.2**
KKM Kota Kinabalu 17.39 316 *e*P **P** **12 45 53.7 +0.9**
57nm,0.8s
KDM Kudat 17.61 319 ⇓P **Pn** **12 45 57.2 -1.6**
AS31 Alice Springs 17.83 163 *e*P **P** **12 45 58.5 +1.1**
AS31 *e*S **S** **12 49 00.9 -5.0**
GUIM Jordan 18.00 342 *e*P **P** **12 45 58.2 -1.1**
BTM Bintulu 18.02 302 ⇑P **P** **12 46 02.5 +2.9**
SBUM Sibu 18.38 299 ⇑P **P** **12 46 06.3 +2.9**
PMG Port Moresby 18.89 100 *d* **i**P **P** **12 46 10.2 +1.4**
PMG Port Moresby 18.89 100 *e*P **P** **12 46 10.8 +2.0**
KSM Kuching 19.65 293 ⇓P **P** **12 46 18.4 +1.4**
KSM Kuching 19.65 293 *e*P **P** **12 46 16.2 -0.7**
CMJI Cimerak 19.73 265 P **P** **12 46 14.0 -3.7**
CISI Cisompet, Garu 20.35 266 P **P** **12 46 20.9 -3.2**
945nm,1.1s,9µm
CISI Cisompet, Garu 20.35 266 *e*P **P** **12 46 21.6 -2.5**
688nm,0.9s
LEM Lembang 20.54 268 P **P** **12 46 23.3 -2.7**
394nm,1.4s,4µm
LEM Lembang 20.54 268 P **P** **12 46 25.1 -1.0**
191nm,0.8s,baz=50,slow=8.5,SNR=32
LEM S **S** **12 49 55.5 -0.5**
19nm,0.6s,baz=322,slow=19,SNR=2.1
CNJI Cibinong 21.02 267 P **P** **12 46 27.5 -2.9**
2µm,1.0s,14µm
CBJI Citeko 21.31 269 P **P** **12 46 31.5 -1.6**
497nm,0.9s
TGY Tagaytay City 21.80 340 P **P** **12 46 36.2 -1.4**
475nm,1.0s,baz=218,slow=1.7,SNR=11
CTA Charters Tower 22.01 129 P **P** **12 46 41.3 +1.9**
116nm,0.7s,baz=307,slow=12,SNR=116
CTA S **S** **12 50 19.7 +0.4**
17nm,0.8s,baz=246,slow=20,SNR=2.1
CTAO Charters Tower 22.01 129 *e*P **P** **12 46 41.1 +1.7**
CTAO pmax pmax
comp=Z,134nm,0.8s
CTAO Charters Tower 22.01 129 *e*P **P** **12 46 41.1 +1.7**
comp=Z,134nm,0.8s
FORT Forrest 24.08 180 *e*P **P** **12 46 58.2 +0.2**
GUMO Guam 25.92 39 P **P** **12 47 14.4 -0.3**
comp=Z,138nm,0.9s,baz=197,slow=11,SNR=6.4
BBOO Buckleboo 27.09 166 *e*P **P** **12 47 25.0 +0.1**
comp=Z,202nm,0.8s
STKA Stephens Creek 28.07 155 P **P** **12 47 34.1 +0.5**
comp=Z,175nm,0.7s,baz=328,slow=8.8,SNR=482
STKA pP **pP** **12 48 33.4 0.0**
comp=Z,105nm,0.9s,baz=326,slow=8.7,SNR=4.1
STKA Stephens Creek 28.07 155 *e*P **P** **12 47 34.1 +0.5**
STKA *e**PP **pP** **12 48 32.9 -0.5**
STKA Stephens Creek 28.07 155 *e*P **P** **12 47 34.1 +0.5**
comp=Z,0.2nm,0.6s
STKA *e*pP **pP** **12 48 32.9 -0.5**
STKA pP **pP** **12 48 33.4 0.0**
NWAO Narrogin (SRO) 28.17 200 P **P** **12 47 34.4 -0.1**
comp=Z,119nm,0.8s,baz=329,slow=4.8,SNR=67
NWAO pP **pP** **12 48 35.2 +1.0**
comp=Z,193nm,0.8s,baz=328,slow=6.5,SNR=16
EIDS Eidsvold 28.71 133 *e*P **P** **12 47 39.0 -0.3**
comp=Z,21nm,1.0s
EIDS *e*ScP **ScP** **12 53 52.2 +0.1**
IPM Ipoh 29.35 291 *e*P **P** **12 47 45.7 +0.5**
comp=Z,14nm,1.0s
TPUB Ta-pu 30.62 346 *e*P **P** **12 47 54.0 -2.1**
comp=Z,67nm,1.4s
PSI Prapat 30.76 287 P **P** **12 47 56.9 -0.8**
comp=Z,53nm,1.0s,baz=141,slow=5.4,SNR=30
PSI pP **pP** **12 48 58.6 +0.7**
comp=Z,12nm,0.8s,baz=162,slow=5.8,SNR=2.5
SSLB Suanglung 31.01 347 *e*P **P** **12 47 57.4 -2.1**
comp=Z,29nm,1.1s
QIZ Qiongzhong 31.27 325 P **P** **12 48 02.3 +0.5**
GSI Gunungsitoli 31.64 283 *e*P **P** **12 48 03.7 -1.6**
comp=Z,78nm,1.0s
GSI *e*PcP **PcP** **12 50 50.7 +1.7**
YHNB Yeheng 31.78 348 *e*P **P** **12 48 04.3 -1.9**
comp=Z,75nm,1.1s
TRTT Trang 31.92 296 P P 12 48 11.8 +4.3
comp=Z,48nm,1.0s,comp=Z,664nm
ARMA Armidale 32.30 140 *e*P **P** **12 48 11.7 +1.0**
comp=Z,56nm,0.8s
QZH Quanzhou 32.72 344 ⇓ *i*P **P** **12 48 13.5 -0.8**
QZH S **S** **12 53 04.1 -3.0**
QZH PMZ
comp=Z,60nm,0.9s
QZH LN
comp=Z,900nm,20.1s
QZH LE
comp=Z,2µm,19.2s
QZH LZ
comp=Z,1µm,26.1s
CHAI Chaiyaphum 34.31 311 P **P** **12 48 28.4 +0.3**
comp=Z,5.2nm,0.8s
CAN Canberra 34.37 149 *e*P **P** **12 48 30.1 +1.7**
CAN pmax pmax
comp=Z,207nm,0.7s
CAN Canberra 34.37 149 *e*P **P** **12 48 30.1 +1.7**
comp=Z,207nm,0.7s
CAN *e*ScP **ScP** **12 54 10.7 -0.5**
LOEI Loei 35.85 312 P **P** **12 48 39.3 -1.9**
comp=Z,23nm,1.2s,comp=Z,914nm
CBIJ Chichi jima 36.07 21 *e*P **P** **12 48 42.0 -0.8**
comp=Z,25nm,0.8s
UTTA Uttaradit 36.53 312 P **P** **12 48 47.8 +1.0**
comp=Z,6.7nm,0.8s
SUKH Sukhothai 37.05 311 P **P** **12 48 52.1 +0.9**
comp=Z,7.3nm,0.8s,comp=Z,56nm
JSU Suzuyama 37.92 3 P **P** **12 48 57.8 -0.5**
CM31 Chiang Mai Arr 38.17 311 *e*P **P** **12 48 59.6 -1.0**
comp=Z,7.4nm,0.7s
CM31 *e*PcP **PcP** **12 51 10.0 +1.9**
CMAR Chiang Mai Arr 38.17 311 P **P** **12 49 01.1 +0.6**
comp=Z,4.8nm,0.8s,baz=142,slow=7.1,SNR=32
CMAR PcP **PcP** **12 51 09.7 +1.6**
comp=Z,6.5nm,1.0s,baz=159,slow=2.9,SNR=6.0
CMAR ScP **ScP** **12 54 26.1 +0.7**
comp=Z,10nm,1.0s,baz=158,slow=3.0,SNR=18
CRAI Chiangrai 38.25 315 P **P** **12 48 58.2 -3.0**
comp=Z,12nm,1.1s,comp=Z,410nm
CMMT Chiang Mai 38.38 312 P **P** **12 49 02.7 +0.4**
comp=Z,22nm,1.1s
CHTO Chiang Mai 38.39 312 P **P** **12 49 02.8 +0.4**
comp=Z,74nm,1.1s
CHTO Chiang Mai 38.39 312 *e*P **P** **12 49 02.7 +0.4**
CHTO pmax pmax
comp=Z,9.0nm,0.9s
CHTO Chiang Mai 38.39 312 P **P** **12 49 03.2 +0.8**
SNR=5.6
CHTO Chiang Mai 38.39 312 *e*P **P** **12 49 02.7 +0.4**
comp=Z,8.8nm,0.9s
GYA Guiyang 38.97 328 ⇓ *i*P **P** **12 49 07.0 -0.1**
GYA pP **pP** **12 50 11.0 +1.4**
GYA sP **sP** **12 50 46.4 +0.8**
GYA PcP **PcP** **12 51 12.1 +1.5**
GYA ScP **ScP** **12 54 29.3 +0.8**
GYA S **S** **12 54 44.3 +2.3**
GYA PcS **PcS** **12 55 01.0 +0.1**
GYA ScS **ScS** **12 58 40.8 -0.2**
GYA PMZ
comp=Z,30nm,1.0s
CMAI Chiengmai2 39.01 313 P **P** **12 49 08.2 +0.5**
comp=Z,17nm,1.1s,comp=Z,2µm
WHN Wuhan 39.25 341 ⇑P **P** **12 49 10.1 +0.9**
NJ2 Nanjing 39.45 347 *e*P **P** **12 49 11.1 +0.3**
NJ2 pP **pP** **12 50 12.1 -1.4**
NJ2 sP **sP** **12 50 48.1 -1.4**
NJ2 S **S** **12 54 50.0 +1.3**
NJ2 sS **sS** **12 56 39.0 -2.5**
NJ2 PMZ
comp=Z,30nm,0.5s
NJ2 PMZ
comp=Z,340nm,8.4s
NJ2 LN
comp=Z,2µm,28.8s
NJ2 LE
comp=Z,1µm,25.3s
NJ2 LZ
comp=Z,1µm,26.1s
JNU Nakatsue 39.55 3 P **P** **12 49 10.9 -0.8**
KSJJU Jeju 39.82 358 P **P** **12 49 14.9 +1.0**
SNR=9.6
KSJJU Jeju 39.82 358 P **P** **12 49 14.9 +1.0**
SNR=9.6
DZM Mont Dzumac 39.90 117 P **P** **12 49 16.3 +1.4**
comp=Z,15nm,0.6s,baz=90,slow=24,SNR=7.7
DZM Mont Dzumac 39.90 117 *e*P **P** **12 49 15.4 +0.5**
comp=Z,18nm,0.8s
TAU Tasmania Unive 39.90 158 *e*P **P** **12 49 14.4 0.0**
TAU *e**PP **pP** **12 50 17.9 +0.7**
TAU pmax pmax
comp=Z,78nm,1.0s
TAU Tasmania Unive 39.90 158 *e*P **P** **12 49 14.4 0.0**
comp=Z,78nm,1.0s
TAU *e*pP **pP** **12 50 17.9 +0.7**
KMI Kunming 40.14 323 P **P** **12 49 18.1 +1.2**
KMI PMZ
comp=Z,39nm,1.3s
KSWAN Wando 40.77 358 P **P** **12 49 22.4 +0.9**
SNR=6.1
KSWAN Wando 40.77 358 P **P** **12 49 22.4 +0.9**
SNR=6.1
KSJDO Jindo 40.86 358 P **P** **12 49 22.5 +0.1**
SNR=6.7
KSJDO Jindo 40.86 358 P **P** **12 49 22.5 +0.1**
SNR=6.7
KSHUK Heuksando 41.12 356 P **P** **12 49 25.0 +0.6**
SNR=12
KSHUK Heuksando 41.12 356 P **P** **12 49 25.0 +0.6**
SNR=12
KSKWJ Gwangju 41.53 358 P **P** **12 49 28.2 +0.5**
SNR=9.6
KSKWJ Gwangju 41.53 358 P **P** **12 49 28.2 +0.5**
SNR=9.6
JHS Saijyo 41.60 6 P **P** **12 49 28.2 -0.1**
JAD Aida 41.66 7 P **P** **12 49 28.6 -0.2**
KSJEU Jeongeup 41.86 358 P **P** **12 49 30.6 +0.2**
SNR=12
KSJEU Jeongeup 41.86 358 P **P** **12 49 30.6 +0.2**
SNR=12
JWT Wachi 42.17 9 P **P** **12 49 32.6 -0.2**
KSJEO Jeonju 42.29 359 P **P** **12 49 34.0 +0.2**
SNR=6.4
KSJEO Jeonju 42.29 359 P **P** **12 49 34.0 +0.2**
SNR=6.4
TJN Taejon 42.73 359 *i*P **P** **12 49 37.1 -0.2**
KSKOJ Gongju 42.83 359 P **P** **12 49 38.7 +0.6**
SNR=5.8
KSBON Boeun 42.85 359 P **P** **12 49 39.3 +1.0**
SNR=20
KSBON Boeun 42.85 359 P **P** **12 49 39.3 +1.0**
SNR=20
KSCEJ CHEONGJU 42.99 359 P **P** **12 49 40.4 +1.1**
SNR=6.2
KSSES Seosan 43.17 358 P **P** **12 49 41.3 +0.6**
SNR=15
KSSES Seosan 43.17 358 P **P** **12 49 41.3 +0.6**
SNR=15
KSCEA Cheonan 43.18 359 P **P** **12 49 41.5 +0.6**
SNR=17
KSCEA Cheonan 43.18 359 P **P** **12 49 41.5 +0.6**
SNR=17
KSCHJ Chungju 43.22 360 P **P** **12 49 41.5 +0.3**
SNR=14
KSCHJ Chungju 43.22 360 P **P** **12 49 41.5 +0.3**
SNR=14
KSTBA Taebaek 43.47 1 P **P** **12 49 44.1 +0.8**
SNR=6.9
KSTBA Taebaek 43.47 1 P **P** **12 49 44.1 +0.8**
SNR=6.9
JRY Ryogami san 43.52 13 P **P** **12 49 41.7 -2.0**
KSAR Wonju Array Be 43.79 360 P **P** **12 49 46.2 +0.5**
KSAR 12 51 26.5
KSAR Wonju Array Be 43.79 360 P **P** **12 49 46.1 +0.5**
KSAR PcP **PcP** **12 51 26.5 +0.4**
KSAR ScP **ScP** **12 54 46.0 -1.3**
KSRS Korea Array 43.80 360 P **P** **12 49 46.1 +0.4**
comp=Z,17nm,0.5s,baz=179,slow=9.9,SNR=87
KSRS PcP **PcP** **12 51 26.5 +0.4**
comp=Z,4.4nm,0.9s,baz=186,slow=2.7,SNR=5.5
KSRS ScP **ScP** **12 54 46.0 -1.4**
comp=Z,2.3nm,1.0s,baz=184,slow=3.2,SNR=5.5
TIA Tai'an 43.83 347 ⇓P **P** **12 49 45.3 -0.8**
TIA PMZ
comp=Z,50nm,1.1s
MJAR Matsushiro Arr 43.88 12 P **P** **12 49 44.5 -2.1**
comp=Z,40nm,1.0s,baz=190,slow=9.4,SNR=49
MJAR ScP **ScP** **12 54 47.0 -0.7**
comp=Z,5.6nm,1.1s,baz=201,slow=5.4,SNR=7.3
MAJO Matsushiro 43.88 12 *e*P **P** **12 49 44.7 -1.8**
MAJO pmax pmax
comp=Z,61nm,1.0s
MAJO Matsushiro 43.88 12 *e*P **P** **12 49 44.7 -1.8**
comp=Z,61nm,1.0s
MAT Matsushiro 43.88 12 P **P** **12 49 44.4 -2.1**
MAT Matsushiro 43.88 12 P **P** **12 49 44.9 -1.6**
KSDGY Daegwallycong 44.03 0 P **P** **12 49 48.6 +0.8**
SNR=17
CD2 Chengdu 44.05 329 P **P** **12 49 47.8 -0.2**
CD2 pP **pP** **12 50 52.3 +0.2**
CD2 PP **PP** **12 51 38.8 +0.8**
CD2 S **S** **12 55 53.1 -3.1**
CD2 PMZ
comp=Z,60nm,1.1s
KSMUS Musan 44.25 358 P **P** **12 49 50.3 +1.0**
SNR=13
KSIJA INJE 44.33 360 P **P** **12 49 51.1 +1.1**
SNR=8.0
XAN Xi'an 44.36 337 P **P** **12 49 49.3 -1.1**
XAN PMZ
comp=Z,19nm,1.2s
JSD Sado 45.34 11 P **P** **12 49 58.0 +0.1**
JMM Marumori 45.72 14 P **P** **12 50 00.2 -0.6**
IMP Imphal 45.73 314 *e*P **P** **12 50 02.0 +0.8**
IMP *e*S **ScP** **12 54 55.0 -0.7**
JYA Atsumi 46.17 12 P **P** **12 50 04.8 +0.5**
JOM Ohasama 47.37 14 P **P** **12 50 13.2 -0.3**
BJT Baijiatuan 47.69 347 *e*P **P** **12 50 15.8 -0.2**
BJT pmax pmax
comp=Z,39nm,0.8s
BJT Baijiatuan 47.69 347 *e*P **P** **12 50 15.8 -0.2**
comp=Z,39nm,0.8s
BJI Beijing 47.71 347 P **P** **12 50 15.8 -0.3**
BJI ScP **ScP** **12 55 03.6 0.0**
BJI ScS **ScS** **12 59 36.3 +1.1**
BJI PMZ
comp=Z,92nm,1.2s
LZH Lanzhou 48.25 333 ⇑P **P** **12 50 21.4 +0.9**
LZH pP **pP** **12 51 22.6 -3.3**
LZH sP **sP** **12 52 02.6 +1.5**
LZH PP **PP** **12 52 18.8 +2.4**
LZH ScP **ScP** **12 55 07.1 +0.9**
LZH S **S** **12 56 54.4 -1.3**
LZH sS **sS** **12 58 52.4 +0.2**
LZH SS **SS** **13 00 28.3 -1.6**
LZH PMZ
comp=Z,81nm,1.0s
LZH PMZ
comp=Z,340nm,4.8s
LZH LN
comp=Z,370nm,13.3s
LZH LE
comp=Z,490nm,14.6s
LZH LZ
comp=Z,550nm,16.7s
SNY Shenyang 48.36 355 ⇓P **P** **12 50 20.3 -0.7**
SNY PMZ
comp=Z,47nm,1.6s
JTM Tenmabayashi 48.57 13 P **P** **12 50 22.0 -0.6**
JOT Ohata 49.13 13 P **P** **12 50 26.9 +0.1**
HHC Hu-ho-hao-te 49.63 343 *e*P **P** **12 50 30.8 0.0**
HHC S **S** **12 57 15.8 +1.2**
HHC PMZ
comp=Z,31nm,0.6s
CN2 Changchun 50.20 357 *e*P **P** **12 50 34.1 -0.7**
CN2 PMZ
comp=Z,10.0nm,0.5s
USRK Ussuriysk Ar. 50.65 3 P **P** **12 50 38.1 0.0**
comp=Z,16nm,0.5s,baz=184,slow=7.1,SNR=36
LSA Lhasa 50.73 317 *e*P **P** **12 50 40.5 +0.9**
LSA pmax pmax
comp=Z,26nm,0.8s
LSA Lhasa 50.73 317 *e*P **P** **12 50 40.5 +0.9**
comp=Z,26nm,0.8s
MDJ Mudanjiang 50.97 1 P **P** **12 50 41.3 +0.8**
MDJ pP **pP** **12 51 46.8 +0.2**
MDJ PcP **PcP** **12 51 53.3 +1.6**
MDJ sP **sP** **12 52 20.8 -0.8**
MDJ S **S** **12 57 36.8 +4.3**
MDJ sS **sS** **12 59 27.8 -2.5**
MDJ PMZ
comp=Z,52nm,1.4s
MDJ PMZ
comp=Z,510nm,9.8s
MDJ LN
comp=Z,240nm,21.2s
MDJ LE
comp=Z,200nm,17.6s
MDJ LZ
comp=Z,360nm,22.2s
MDJ Mudanjiang 50.97 1 *e*P **P** **12 50 40.1 -0.3**
comp=Z,186nm,1.7s
JCZ Jackson Bay 51.42 143 PN **P** **12 50 45.6 +1.6**
ODAN Odan 51.70 312 *e*P **P** **12 50 46.1 -0.5**
comp=Z,68nm,0.9s
TAPN Taplejung 51.74 313 *e*P **P** **12 50 46.8 -0.1**
RAMN Ramite 52.34 311 *e*P **P** **12 50 51.4 +0.2**
comp=Z,98nm,0.8s
KUZ Kuaotunu 52.58 132 *e*PN **P** **12 50 54.0 +1.5**
RPZ Rata Peaks 52.61 142 PN **P** **12 50 53.9 +1.3**
RPZ Rata Peaks 52.61 142 *e*P **P** **12 50 53.6 +0.9**
comp=Z,222nm,1.0s
GTA Gaotai 52.80 332 ⇓P **P** **12 50 54.6 +0.4**
GTA PcP **PcP** **12 52 00.3 +1.3**
GTA pP **pP** **12 52 02.5 +1.6**
GTA sP **sP** **12 52 36.6 +0.9**
GTA ScP **ScP** **12 55 26.3 +0.6**
GTA S **S** **12 57 58.3 +0.5**
GTA sS **sS** **12 59 56.3 -0.1**
GTA ScS **ScS** **13 00 09.3 -1.4**
GTA SS **SS** **13 01 43.1 +1.4**
GTA PMZ
comp=Z,49nm,1.1s
GTA PMZ
comp=Z,180nm,7.6s
GTA LN
comp=Z,280nm,15.7s
GTA LE
comp=Z,240nm,16.6s
GTA LZ
comp=Z,210nm,14.7s
YUK Yuzh-Kuril'sk 52.81 16 ⇓ *e*P **P** **12 50 52.9 -1.1**
JIRN Jiri 53.04 312 *e*P **P** **12 50 56.4 0.0**
comp=Z,65nm,1.0s
GUN Gumba 53.40 312 *e*P **P** **12 50 58.9 -0.1**
comp=Z,71nm,0.7s
KHZ Kahutara 53.53 139 *e*P **P** **12 50 59.7 +0.4**
comp=Z,112nm,0.9s
PKI Pulchoki 53.57 311 *e*P **P** **12 50 59.7 -0.5**
PKIN Phulchoki 53.58 311 *e*P **P** **12 51 00.2 0.0**
KKN Kakani 53.78 311 *e*P **P** **12 51 01.3 -0.3**
comp=Z,58nm,1.1s
MCQ Macquarie Isla 53.78 158 *e*P **P** **12 51 02.5 +1.6**
MCQ pmax pmax
comp=Z,4µm,1.4s
MCQ Macquarie Isla 53.78 158 *e*P **P** **12 51 02.5 +1.6**
comp=Z,4µm,1.4s
DMN Daman 53.81 311 *e*P **P** **12 51 01.8 -0.1**
comp=Z,76nm,1.1s
BKZ Black Stump Fm 54.10 134 PN **P** **12 51 04.0 +0.4**
URZ Urewera 54.19 133 PN **P** **12 51 04.2 +0.1**
URZ Urewera 54.19 133 *e*P **P** **12 51 04.0 -0.1**
comp=Z,32nm,0.7s
GKN Gorkha 54.38 311 *e*P **P** **12 51 05.6 -0.2**
HAZ Te Kaha 54.49 132 PN **P** **12 51 06.5 +0.3**
MWZ Matawai 54.52 133 PN **P** **12 51 07.1 +0.5**
TWGZ Tauwhareparae 54.79 133 PN **P** **12 51 09.4 +0.9**
YSS Yuzh-Sakhalins 54.82 12 *i*P **P** **12 51 08.1 -0.2**
YSS pmax pmax
comp=Z,31nm,1.3s
KOLN Koldanda 55.03 310 *e*P **P** **12 51 10.5 0.0**
HABR Khabarovsk 55.13 5 *de*P **P** **12 51 08.4 -2.1**
HABR 12 52 05.6
HABR *e* 12 53 15.9
HABR *e**PP 12 54 35.5
HABR *e*S **S** **12 58 25.7 -2.6**
HABR *e* 13 00 22.7
HABR SS **SS** **13 02 16.3 -1.5**
HABR pmax pmax
comp=E,49nm,1.9s
HABR pmax pmax
comp=Z,143nm,1.9s
HABR pmax pmax
comp=N,27nm,1.3s
HABR MLR MLR
comp=Z,312nm,16.0s
KLR Kul'dur 55.65 3 *e*P P 12 51 10.7 -3.5

KLR *e* 12 58 27.0
KLR pmax pmax
comp=Z,100nm,1.6s
HIA Hailar 56.11 353 *e*P **P** **12 51 17.9 +0.4**
HIA *e* 12 52 12.4
HIA pmax pmax
comp=Z,12nm,0.9s
HIA Hailar 56.11 353 *e*P **P** **12 51 17.9 +0.4**
comp=Z,12nm,0.9s
HIA *e*PcP **PcP** **12 52 12.4 +1.0**
HIA *e*ScP **ScP** **12 55 39.9 0.0**
ULN Ulaanbaatar 57.35 343 *e*P **P** **12 51 26.9 +0.5**
ULN *e*S **S** **12 58 58.2 +0.5**
ULN pmax pmax
comp=Z,84nm,1.4s
ULN Ulaanbaatar 57.35 343 P **P** **12 51 27.5 +1.1**
SNR=30
ULN Ulaanbaatar 57.35 343 *e*P **P** **12 51 26.9 +0.5**
comp=Z,84nm,1.4s
ULN *e*S **S** **12 58 58.2 +0.5**
SONM Songino Array 57.52 343 P **P** **12 51 28.0 +0.5**
comp=Z,26nm,1.0s,baz=163,slow=7.4,SNR=27
SONM Songino Array 57.52 343 P **P** **12 51 28.0 +0.5**
ZAK Zakamensk 60.72 342 *e*P **P** **12 51 48.9 -0.3**
ZAK pmax pmax
comp=Z,16nm,1.9s
CASY Casey 60.87 188 *e*P **P** **12 51 50.0 +0.2**
comp=Z,51nm,1.0s
CASY *e*PcP **PcP** **12 52 30.1 +0.1**
TLY Talaya 61.76 343 P **P** **12 51 57.9 +1.9**
comp=Z,104nm,1.0s,SNR=6.0
TLY Talaya 61.76 343 *e*P **P** **12 51 57.5 +1.5**
TLY pmax pmax
comp=Z,30nm,1.3s
TLY Talaya 61.76 343 P **P** **12 51 57.3 +1.3**
SNR=16
TLY Talaya 61.76 343 *e*P **P** **12 51 57.0 +1.0**
comp=Z,44nm,1.4s
IRK Irkutsk 62.08 344 ⇓*i*P **P** **12 51 58.4 +0.3**
IRK pmax pmax
comp=Z,104nm,1.5s
WMQ Urumqi 62.12 328 P **P** **12 51 59.4 +0.7**
WMQ PcP **PcP** **12 52 36.8 +1.2**
WMQ pP **pP** **12 53 09.9 +2.1**
WMQ sP **sP** **12 53 43.8 +1.8**
WMQ PMZ
comp=Z,46nm,0.9s
WMQ PMZ
comp=Z,540nm,4.8s
WMQ LN
comp=Z,190nm,20.0s
WMQ LE
comp=Z,180nm,19.0s
WMQ LZ
comp=Z,140nm,19.2s
MOY Mondy 62.56 341 *e*P **P** **12 52 02.4 +1.0**
MOY pmax pmax
comp=Z,95nm,1.9s
CLNS Chul'man 63.25 358 *e*P **P** **12 52 05.8 +0.1**
CLNS pmax pmax
comp=Z,24nm,1.1s
CLNS pmax pmax
comp=N,15nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,0.8s
PEA0B Petropavlovsk- 64.46 19 *e*P **P** **12 52 14.2 +0.6**
PETK Petropavlovsk- 64.46 19 P **P** **12 52 14.1 +0.4**
comp=E,15nm,0.6s,baz=180,slow=4.9,SNR=47
PET Petropavlovsk 64.71 20 *i*P **P** **12 52 15.1 0.0**
PET pmax pmax
comp=Z,53nm,1.3s
BOD Bodaibo 65.22 352 *e*P **P** **12 52 18.2 -0.1**
BOD pmax pmax
comp=Z,36nm,1.5s
KSH Kashi 66.57 318 P **P** **12 52 28.8 +1.3**
KSH pP **pP** **12 53 40.5 +2.9**
KSH sP **sP** **12 54 12.0 +0.4**
KSH PcS 12 56 58.9
KSH S **S** **13 00 53.3 +0.5**
KSH ScS **SKSac** **13 01 51.1 -1.8**
KSH sS **sS** **13 02 57.6 +0.7**
KSH PMZ
comp=Z,22nm,0.8s
KSH PMZ
comp=Z,140nm,3.8s
KSH LN
comp=Z,690nm,15.2s
KSH LE
comp=Z,160nm,9.3s
KSH LZ
comp=Z,190nm,14.1s
MK31 Makanchi Array 66.95 328 *e*P **P** **12 52 30.2 +0.6**
MK31 Makanchi Array 66.95 328 *e*P **P** **12 52 30.2 +0.6**
MKAR Makanchi Array 66.95 328 P **P** **12 52 30.1 +0.5**
comp=Z,19nm,0.8s,baz=148,slow=5.4,SNR=136
KZA Kyzart 68.36 320 P **P** **12 52 40.3 +1.4**
SNR=17
KZA Kyzart 68.36 320 *i*P **P** **12 52 40.3 +1.4**
YAK Yakutsk 68.41 1 P **P** **12 52 37.8 -0.4**
comp=Z,10nm,0.3s,baz=359,slow=20,SNR=18
YAK Yakutsk 68.41 1 *e*P **P** **12 52 37.5 -0.7**
YAK *e* 12 53 00.6
YAK *e*PPP PPP 12 56 54.3
YAK *e*S **S** **13 01 12.0 -1.4**
YAK *e* 13 02 02.1
YAK pmax pmax
comp=Z,143nm,1.0s
YAK pmax pmax
comp=N,56nm,1.3s
YAK pmax pmax
comp=E,22nm,1.2s
YAK pmax pmax
comp=Z,15nm,0.9s
YAK pmax pmax
comp=N,21nm,1.5s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK smax smax
comp=E,129nm,1.8s
YAK smax smax
comp=N,147nm,2.1s
YAK Yakutsk 68.41 1 *e*P **P** **12 52 38.0 -0.2**
TKM2 Tokmak 2 68.58 321 P **P** **12 52 41.1 +1.1**
SNR=16
TKM2 Tokmak 2 68.58 321 *e*P **P** **12 52 40.9 +0.9**
TKM2 *e**PP **pP** **12 53 50.1 -0.5**
TKM2 pmax pmax
comp=Z,27nm,1.2s
TKM2 Tokmak 2 68.58 321 *e*P **P** **12 52 40.9 +0.9**
comp=Z,27nm,1.2s
TKM2 *e*pP **pP** **12 53 50.1 -0.5**
KBK Karagaybulak 68.85 321 P **P** **12 52 42.9 +1.2**
SNR=9.6
KBK Karagaybulak 68.85 321 *i*P **P** **12 52 42.8 +1.2**
UCH Uchtor 68.91 320 P **P** **12 52 43.8 +1.4**
SNR=21
UCH Uchtor 68.91 320 *i*P **P** **12 52 43.7 +1.4**
AAK Ala-Archa 69.13 320 P **P** **12 52 44.5 +1.2**
comp=Z,139nm,1.1s,SNR=12
AAK Ala-Archa 69.13 320 P **P** **12 52 44.7 +1.4**
SNR=19
AAK Ala-Archa 69.13 320 *e*P **P** **12 52 44.5 +1.2**
AAK pmax pmax
comp=Z,32nm,1.1s
AAK Ala-Archa 69.13 320 P **P** **12 52 45.1 +1.8**
SNR=17
AAK Ala-Archa 69.13 320 *e*P **P** **12 52 44.5 +1.2**
comp=Z,32nm,1.1s
FRU Bishkek 69.15 321 *i*P **P** **12 52 43.0 -0.3**
FRU *e* 12 53 13.0
FRU pmax pmax
comp=Z,40nm,1.8s
CHMS Chumysh 69.15 321 P **P** **12 52 44.1 +0.8**
SNR=5.7
CHMS Chumysh 69.15 321 *i*P **P** **12 52 44.1 +0.8**
KBL Kabul 69.20 311 *e*P **P** **12 52 43.8 -0.2**
KBL pmax pmax
comp=Z,15nm,1.1s
KBL Kabul 69.20 311 *e*P **P** **12 52 43.8 -0.2**
comp=Z,15nm,1.1s
AML Almayashu 69.38 320 P **P** **12 52 46.6 +1.4**
SNR=26
AML Almayashu 69.38 320 *i*P **P** **12 52 46.6 +1.4**
USP Ospenovka 69.45 321 P **P** **12 52 46.1 +0.9**
SNR=23
USP Ospenovka 69.45 321 *i*P **P** **12 52 46.0 +0.9**

EKS2 Erkin-Say 69.60 320 P **P** **12 52 47.7 +1.5**
SNR=21
EKS2 Erkin-Say 69.60 320 *e*P **P** **12 52 47.6 +1.5**
EKS2 *e**PP **pP** **12 53 56.4 -0.6**
EKS2 pmax pmax
comp=Z,39nm,1.1s
EKS2 Erkin-Say 69.60 320 *e*P **P** **12 52 47.6 +1.5**
comp=Z,40nm,1.1s
EKS2 *e*pP **pP** **12 53 56.4 -0.6**
ZAA0 Zalesovo Array 70.46 334 *e*P **P** **12 52 50.4 -0.5**
ZAA0 *e*PcP **PcP** **12 53 10.8 +0.8**
ZALV Zalesovo Beam 70.46 334 P **P** **12 52 50.9 0.0**
comp=Z,19nm,0.8s,baz=122,slow=5.4,SNR=87
ZALV pP **pP** **12 54 01.5 -0.4**
comp=Z,4.6nm,0.8s,baz=141,slow=6.6,SNR=2.2
KURK Kurchatov 71.28 329 P **P** **12 52 56.1 +0.2**
comp=Z,158nm,1.4s,SNR=50
KURK Kurchatov 71.28 329 *e*P **P** **12 52 56.2 +0.3**
KURK *e**PP **pP** **12 54 04.3 -2.8**
KURK pmax pmax
comp=Z,102nm,1.3s
KURK Kurchatov 71.28 329 P **P** **12 52 56.6 +0.7**
SNR=40
KURK Kurchatov 71.28 329 *e*P **P** **12 52 56.2 +0.3**
comp=Z,102nm,1.3s
KURK *e*pP **pP** **12 54 04.3 -2.8**
SEY Seymchan 71.71 11 P **P** **12 52 58.8 +0.6**
comp=Z,50nm,0.9s,baz=202,slow=4.6,SNR=123
NVS Novosibirsk 71.75 334 ⇓*i*P **P** **12 52 57.0 -1.5**
NVS *i* 12 54 06.8
NVS *i*S **S** **13 01 47.7 -4.5**
NVS pmax pmax
comp=N,31nm,1.6s
NVS pmax pmax
comp=E,33nm,1.6s
NVS pmax pmax
comp=Z,67nm,1.6s
NVS smax smax
comp=N,55nm,2.7s
NVS smax smax
comp=E,68nm,2.5s
KKAR Karatay Array 71.91 319 *e*P **P** **12 53 00.6 +0.8**
KKAR pmax pmax
comp=Z,22nm,1.1s
KKAR Karatay Array 71.91 319 *e*P **P** **12 53 00.6 +0.8**
comp=Z,22nm,1.1s
VNDA Vanda 73.08 173 P **P** **12 53 05.8 -0.2**
comp=Z,14nm,0.8s,baz=318,slow=6.3,SNR=65
VNDA Vanda 73.08 173 *e*P **P** **12 53 05.8 -0.2**
VNDA pmax pmax
comp=Z,17nm,0.9s
VNDA Vanda 73.08 173 *e*P **P** **12 53 05.8 -0.2**
comp=Z,18nm,0.9s
SBA Scott Base 73.98 172 *e*P **P** **12 53 12.1 +0.9**
SBA *e* 12 55 59.6
SBA pmax pmax
comp=Z,44nm,1.3s
SBA Scott Base 73.98 172 *e*P **P** **12 53 12.1 +0.9**
comp=Z,44nm,1.3s
SBA *e*PP **PP** **12 55 59.6 -1.5**
SMDO Samad 74.63 296 P **P** **12 53 16.7 +0.5**
SNR=6.0
MAW Mawson 74.73 201 P **P** **12 53 16.3 +0.7**
comp=Z,36nm,1.0s,baz=61,slow=6.4,SNR=11
MAW Mawson 74.73 201 *e*P **P** **12 53 16.1 +0.4**
MAW pmax pmax
comp=Z,14nm,1.1s
MAW Mawson 74.73 201 *e*P **P** **12 53 16.1 +0.4**
comp=Z,14nm,1.1s
HOQ Hoqain 75.42 296 P **P** **12 53 21.4 +0.9**
SNR=7.0
UOSS Wadi Hilu 76.72 297 P **P** **12 53 27.6 -0.2**
comp=Z,110nm,1.0s,SNR=5.1
HATD Hatta, Dubai 76.76 297 P **P** **12 53 29.0 +1.0**
SNR=5.0
HATD Hatta, Dubai 76.76 297 ⇑*i*P **P** **12 53 28.6 +0.6**
SNR=7.9
ASHO Ashiyiah 76.79 297 P **P** **12 53 29.1 +0.9**
SNR=5.3
ASHO Ashiyiah 76.79 297 ⇑*i*P **P** **12 53 28.6 +0.4**
SNR=11
BANOM Banah 76.87 298 P **P** **12 53 29.8 +1.1**
SNR=6.4
BANOM Banah 76.87 298 ⇑*i*P **P** **12 53 29.1 +0.4**
SNR=17
BRVK Borovoye 76.88 328 *e*P **P** **12 53 28.8 +0.8**
BRVK *e**PP **pP** **12 54 41.5 +1.1**
BRVK pmax pmax
comp=Z,40nm,1.3s
BRVK Borovoye 76.88 328 P **P** **12 53 28.6 +0.5**
SNR=16
BRVK Borovoye 76.88 328 *e*P **P** **12 53 28.8 +0.8**
comp=Z,40nm,1.3s
BRVK *e*pP **pP** **12 54 41.5 +1.1**
FAQ Al Faqa, Dubai 77.22 297 ⇓*i*P **P** **12 53 30.9 +0.4**
SNR=8.2
ASUD Al Ashush, Dub 77.42 297 ⇓P **P** **12 53 32.5 +0.9**
TIXI Tiksi 78.06 0 *c*/P **P** **12 53 34.2 +0.1**
TIXI *i* *PP **pP** **12 54 45.1 -1.6**
TIXI pmax pmax
comp=Z,45nm,1.0s
TIXI Tiksi 78.06 0 *e*P **P** **12 53 33.2 -0.9**
comp=Z,42nm,0.8s
BILL Bilibino 79.09 14 *d*/P **P** **12 53 38.7 -1.1**
BILL *e* 12 53 47.4
BILL pmax pmax
comp=Z,9.0nm,1.2s
BILL MLR MLR
comp=Z,209nm,16.0s
BILL Bilibino 79.09 14 *e*P **P** **12 53 39.6 -0.2**
comp=Z,8.6nm,1.0s
OPO Ambohidratompo 79.53 252 P **P** **12 53 44.4 +0.9**
comp=Z,20nm,0.8s,baz=76,slow=8.1,SNR=3.2
UNV Unalaska Valle 81.07 33 *e*P **P** **12 53 50.5 0.0**
comp=Z,47nm,1.1s
ABKAR Akbulak array 81.13 322 *e*P **P** **12 53 51.0 0.0**
comp=Z,8.0nm,0.6s
QSPA South Pole Qui 83.40 180 *e*P **P** **12 54 02.0 -0.6**
comp=Z,38nm,0.8s
SVE Sverdlovsk 83.53 329 ⇓*i*P **P** **12 54 03.8 +0.6**
SVE pmax pmax
comp=Z,68nm,1.4s
ARU Arti 84.45 328 P **P** **12 54 07.5 -0.3**
comp=Z,150nm,0.8s,SNR=7.0
ARU Arti 84.45 328 *e*P **P** **12 54 07.2 -0.6**
ARU *e**PP **pP** **12 55 24.7 +3.1**
ARU *e* 12 57 27.9
ARU pmax pmax
comp=Z,31nm,1.0s
ARU Arti 84.45 328 *e*P **P** **12 54 07.2 -0.6**
comp=Z,31nm,1.0s
ARU *e*pP **pP** **12 55 24.7 +3.1**
ARU *e*PP **PP** **12 57 27.9 -0.2**
DAMY Dhamar 85.77 285 *e*P **P** **12 54 17.4 +1.8**
comp=Z,16nm,0.8s
RAYN Ar Rayn 86.03 294 P **P** **12 54 16.9 +0.5**
comp=Z,276nm,0.8s,SNR=17
RAYN Ar Rayn 86.03 294 *e*P **P** **12 54 16.4 0.0**
comp=Z,55nm,1.0s
KDAK Kodiak Island 89.75 32 *i*P **P** **12 54 35.0 +1.9**
ZEI Tsey 90.31 313 *e*P **P** **12 54 36.0 -0.4**
ZEI pmax pmax
comp=Z,19nm,1.3s
NCK Nalchik 90.64 314 ⇑*e*P **P** **12 54 35.8 -1.8**
KMBO Kilima Mbogo 90.91 269 P **P** **12 54 39.8 -0.1**
comp=Z,7.6nm,0.9s,baz=40,slow=6.6,SNR=7.5
PPLA Purkeypile 91.05 27 *e*P **P** **12 54 38.2 -1.0**
comp=Z,26nm,1.3s
KBZ Khabaz 91.17 314 P **P** **12 54 38.9 -1.1**
comp=Z,2.8nm,0.9s,baz=56,slow=24,SNR=4.5
NEY Neytrino 91.24 313 *e*P **P** **12 54 40.9 +0.3**
NEY pmax pmax
comp=Z,3.0nm,1.7s
KIV Kislovodsk 91.36 314 *e*P **P** **12 54 40.9 -0.1**
KIV pmax pmax
comp=Z,8.0nm,0.9s
KTH Kantishna Hill 91.74 26 *e*P **P** **12 54 41.4 -0.9**
comp=Z,25nm,1.3s
RC01 Rabbit Creek A 91.83 29 *e*P **P** **12 54 42.0 -0.7**
comp=Z,24nm,1.3s
MCK McKinley 92.65 26 *e*P **P** **12 54 45.3 -1.1**
MCK pmax pmax
comp=Z,41nm,1.3s
MCK McKinley 92.65 26 *e*P **P** **12 54 45.3 -1.1**
comp=Z,41nm,1.3s
COLD Coldfoot 92.73 23 *e*P **P** **12 54 46.3 -0.4**

comp=Z,8.8nm,1.0s
COLA College 93.29 25 ⇓*i*P **P** **12 54 48.2 -1.1**
COLA pmax pmax
comp=Z,39nm,1.7s
ILAR Eielson Array 93.69 25 P **P** **12 54 49.4 -1.7**
comp=Z,4.8nm,1.0s,baz=270,slow=4.0,SNR=32
ILAR PKKPbc **PKKPdf** **13 11 54.4 -1.1**
comp=Z,0.7nm,0.7s,baz=20,slow=2.0,SNR=5.9
DIV Divide 93.74 29 *e*P **P** **12 54 51.0 -0.6**
comp=Z,31nm,1.2s
PAX Paxson 94.09 27 *e*P **P** **12 54 53.0 -0.2**
PAX pmax pmax
comp=Z,32nm,1.5s
PAX Paxson 94.09 27 *e*P **P** **12 54 53.0 -0.2**
comp=Z,32nm,1.5s
BMRM Bremner River 94.29 29 *e*P **P** **12 54 53.2 -0.9**
comp=Z,23nm,1.2s
DOT Dot Lake 94.79 27 *e*P **P** **12 54 55.5 -0.7**
comp=Z,17nm,1.4s
DOT *e*pP **pP** **12 56 08.6 -2.5**
SNAA Sanae 95.68 194 P **P** **12 54 57.5 -2.7**
SNAA Sanae 95.68 194 *e*P **P** **12 54 57.6 -2.7**
SNAA pmax pmax
comp=Z,13nm,1.1s
SNAA Sanae 95.68 194 *e*P **P** **12 54 57.6 -2.7**
comp=Z,13nm,1.1s
EGAK Eagle 96.13 26 *e*P **P** **12 55 01.8 -0.5**
comp=Z,3.8nm,1.0s
EGAK *e*pP **pP** **12 56 14.4 -2.8**
OBN Obninsk 96.33 325 ⇑*i*P **P** **12 55 02.5 -0.8**
OBN *i* 12 58 59.3
OBN pmax pmax
comp=Z,26nm,1.7s
DAWY Dawson 96.88 26 *e*P **P** **12 55 05.8 0.0**
DAWY *e*pP **pP** **12 56 18.0 -2.7**
VNA2 Neumayer--Watz 97.26 193 P Pdif 12 55 07.5 +0.1
baz=105,slow=4.8
VNA3 Neumayer Olymp 97.53 193 P Pdif 12 55 11.1 +2.6
BOSA Boshof 98.22 240 P **P** **12 55 12.4 -0.3**
comp=Z,2.6nm,0.8s,baz=337,slow=4.2,SNR=4.7
INK Inuvik 99.10 22 P **Pdif** **12 55 13.8 -1.6**
comp=Z,4.4nm,1.0s,baz=280,slow=5.5,SNR=7.1
INK Inuvik 99.10 22 *e*P **Pdif** **12 55 14.6 -0.9**
INK Inuvik 99.10 22 *e*P **Pdif** **12 55 14.6 -0.9**
PUL Pulkovo 99.66 329 ⇓*e*P **Pdif** **12 55 18.8 +0.7**
ARCES ARCESS Array B 100.59 340 P **Pdif** **12 55 20.9 -1.2**
comp=Z,3.0nm,0.9s,baz=250,slow=14,SNR=6.3
ARCES PKKPbc **PKKPbc** **13 11 35.4 -3.6**
comp=Z,1.2nm,0.8s,baz=266,slow=3.3,SNR=4.2
ARCES ARCESS Array B 100.59 340 P **Pdif** **12 55 21.0 -1.2**
SPITS Spitsbergen Ar 100.82 349 P **Pdif** **12 55 22.8 -0.2**
comp=Z,11nm,0.9s,baz=96,slow=8.0,SNR=7.1
FINES FINESS Array B 101.58 331 P **Pdif** **12 55 25.4 -1.3**
comp=Z,0.5nm,0.6s,baz=84,slow=4.6,SNR=2.7
STHS Stebnicka Huta 106.04 319 *e*PKP **PKiKP** **12 59 57.0 -0.2**
YKA Yellowknife Ar 108.11 26 PKiKP **PKiKP** **13 00 00.1 -0.5**
comp=Z,0.5nm,0.7s,baz=310,slow=2.2,SNR=5.0
YKA PKKPbc **PKKPbc** **13 11 12.3 -3.8**
comp=Z,2.3nm,0.7s,baz=103,slow=2.9,SNR=12
GERES GERESS Array B 111.01 320 PKiKP **PKiKP** **13 00 06.1 -0.5**
comp=Z,1.3nm,0.6s,baz=83,slow=3.4,SNR=5.2
KHC Kasperske Hory 111.01 320 *e*PP PP 13 00 53.7 +3.4
NVAR Mina Array Bea 112.35 51 PKiKP **PKiKP** **13 00 10.9 +1.3**
comp=Z,0.9nm,0.9s,baz=275,slow=2.5,SNR=6.7
NVAR PKKPbc **PKKPbc** **13 11 01.5 -0.3**
comp=Z,0.5nm,0.7s,baz=103,slow=5.6,SNR=4.9
NVAR PKKPab **PKKPab** **13 11 10.4 +0.4**
comp=Z,1.0nm,0.9s,baz=118,slow=3.5,SNR=5.8
MPMC Manual Prospec 113.38 54 P **PKiKP** **13 00 12.5 +0.9**
baz=113
HLID Hailey 114.16 45 *e*PKPdf PKPdf 13 00 14.4 +1.5
HLID *e*PP **PP** **13 01 10.3 -2.6**
HLID Hailey 114.16 45 P PKPdf 13 00 13.9 +1.1
baz=114
GMRC Granite Mounta 115.06 55 P **PKPdf** **13 00 16.1 +1.2**
baz=115
BC3 Big Chuckawall 115.42 56 P **PKPdf** **13 00 16.3 +0.8**
baz=115
EGMT Eagleton 115.93 39 P **PKPdf** **13 00 16.4 +0.4**
baz=116
DUG Dugway, Tooele 116.16 48 P **PKPdf** **13 00 17.7 +0.9**
baz=116
A19A Klindworth Far 116.23 38 P **PKPdf** **13 00 16.9 +0.3**
baz=116
B19A Brinkman Farms 116.28 39 P **PKPdf** **13 00 17.7 +1.1**
baz=116
C19A Slack Wire Ran 116.47 39 P **PKPdf** **13 00 17.7 +0.6**
baz=116
IMW Indian Meadow 116.48 44 *e*PKPdf **PKPdf** **13 00 18.2 +0.7**
LPG La Plagne 116.51 318 *e*PKIKP **PKPdf** **13 00 17.2 -0.3**
comp=Z,10nm,0.8s
LPG La Plagne 116.51 318 *e*PKIKP **PKPdf** **13 00 17.2 -0.3**
LPG La Plagne 116.51 318 *e*PKPdf **PKPdf** **13 00 17.2 -0.3**
LPL La Plagne 116.52 318 *e*PKIKP **PKPdf** **13 00 17.2 -0.2**
comp=Z,8.5nm,0.7s
LPL La Plagne 116.52 318 *e*PKIKP **PKPdf** **13 00 17.2 -0.2**
LPL La Plagne 116.52 318 *e*PKPdf **PKPdf** **13 00 17.2 -0.2**
CABF La Chapelle 116.58 319 *e*PKIKP **PKPdf** **13 00 17.3 0.0**
comp=Z,9.3nm,0.7s
CABF La Chapelle 116.58 319 *e*PKIKP **PKPdf** **13 00 17.3 0.0**
CABF La Chapelle 116.58 319 *e*PKPdf **PKPdf** **13 00 17.3 0.0**
REDW Red Top Meadow 116.70 44 *e*PKPdf **PKPdf** **13 00 18.6 +0.7**
LOHW Long Hollow 116.80 44 *e*PKPdf **PKPdf** **13 00 19.1 +1.1**
LOHW *e*SKPdf **SKiKP** **13 03 23.6 +0.3**
CTU Camp Tracy 116.81 48 *e*PKPdf **PKPdf** **13 00 18.4 +0.3**
B20A Solberg Farm, 116.86 38 P **PKPdf** **13 00 17.4 -0.4**
baz=117
E19A Rath Farm, Rou 117.09 41 P **PKPdf** **13 00 18.8 +0.4**
baz=117
C20A Veseth Ranch, 117.14 39 P **PKPdf** **13 00 18.9 +0.6**
baz=117
KEST Kesra 117.22 307 PKP **PKPdf** **13 00 18.8 -0.1**
comp=Z,1.4nm,0.6s,baz=310,slow=17,SNR=3.7
U15A North Rim 117.44 52 P **PKPdf** **13 00 20.8 +1.2**
baz=117
C21A Desert Coulee 117.66 39 P **PKPdf** **13 00 19.7 +0.4**
baz=118
LOR Lormes 117.77 321 *e*PKIKP **PKPdf** **13 00 19.4 -0.1**
LOR Lormes 117.77 321 *e*PKIKP **PKPdf** **13 00 19.4 -0.1**
LOR Lormes 117.77 321 *e*PKPdf **PKPdf** **13 00 19.4 -0.1**
PDAR Pinedale Array 117.79 45 PKP **PKPdf** **13 00 20.4 +0.4**
comp=Z,1.6nm,0.7s,baz=10,slow=1.0,SNR=14
PDAR PKKPbc **PKKPbc** **13 10 41.6 -1.8**
comp=Z,2.2nm,0.8s,baz=87,slow=5.5,SNR=8.2
G20A Bridger 117.90 42 P **PKPdf** **13 00 20.5 +0.5**
baz=118
A22A Carney Farms, 117.92 37 P **PKPdf** **13 00 20.1 +0.3**
baz=118
J19A Crowheart 117.98 44 P **PKPdf** **13 00 21.1 +0.8**
baz=118
D21A La Casta Ranch 118.02 40 P **PKPdf** **13 00 20.9 +0.8**
baz=118
SSF Saint Saulge 118.07 320 *e*PKIKP **PKPdf** **13 00 20.0 -0.1**
comp=Z,11nm,0.8s
SSF Saint Saulge 118.07 320 *e*PKIKP **PKPdf** **13 00 20.0 -0.1**
SSF Saint Saulge 118.07 320 *e*PKPdf **PKPdf** **13 00 20.0 -0.1**
SRU San Rafael Swe 118.14 49 *e*PKIKP **PKPdf** **13 00 21.2 +0.5**
SRU San Rafael Swe 118.14 49 *e*PKPdf **PKPdf** **13 00 21.1 +0.5**
SRU *e*SKPdf **SKPdf** **13 03 25.8 0.0**
AVF Avril sur Loir 118.27 320 *e*PKIKP **PKPdf** **13 00 20.0 -0.4**
comp=Z,5.9nm,0.8s
AVF Avril sur Loir 118.27 320 *e*PKIKP **PKPdf** **13 00 20.0 -0.4**
AVF Avril sur Loir 118.27 320 *e*PKPdf **PKPdf** **13 00 20.0 -0.4**
WUAZ Wupatki 118.36 53 *e*PKPdf **PKPdf** **13 00 22.2 +0.9**
WUAZ Wupatki 118.36 53 P **PKPdf** **13 00 22.1 +0.9**
baz=118
I20A Worland 118.39 43 P **PKPdf** **13 00 21.5 +0.5**
baz=118
D22A Cohagen 118.50 39 P **PKPdf** **13 00 21.7 +0.8**
baz=118
X16A Lo Mia Camp, P 118.55 54 P **PKPdf** **13 00 22.4 +0.8**
baz=118
J20A Shoshoni 118.62 44 P **PKPdf** **13 00 22.1 +0.6**
baz=119
BGF Bois d'Agland 118.68 320 *e*PKIKP **PKPdf** **13 00 21.4 +0.1**
BGF Bois d'Agland 118.68 320 *e*PKIKP **PKPdf** **13 00 21.4 +0.1**
BGF Bois d'Agland 118.68 320 *e*PKPdf **PKPdf** **13 00 21.4 +0.1**
B23A Brockton 118.70 37 P **PKPdf** **13 00 21.8 +0.5**
baz=119
C23A Lambert 118.85 38 P **PKPdf** **13 00 22.4 +0.8**
baz=119
I21A Big Trails, Te 119.01 43 P **PKPdf** **13 00 22.2 0.0**
baz=119
J21A Lysite 119.06 44 P **PKPdf** **13 00 22.6 +0.2**
baz=119
A24A Westby 119.09 37 P **PKPdf** **13 00 22.3 +0.3**

	baz=119							
G22A	Birney	119.17	41	P	PKPdf	13 00 23.0	+0.6	
	baz=119							
TCF	Toulx Ste Croi	119.19	320	ePKIKP	PKPdf	13 00 22.3	0.0	
	comp=Z,7.0nm,0.8s							
TCF	Toulx Ste Croi	119.19	320	ePKIKP	PKPdf	13 00 22.3	0.0	
TCF	Toulx Ste Croi	119.19	320	ePKPdf	PKPdf	13 00 22.3	0.0	
N20A	Spence Gulch,	119.31	47	P	PKPdf	13 00 23.9	+0.9	
	baz=119							
H22A	Clearmont	119.36	42	P	PKPdf	13 00 23.1	+0.4	
	baz=119							
TUC	Tucson	119.52	57	ePKIKP	PKPdf	13 00 24.7	+1.3	
TUC	Tucson	119.52	57	ePKPdf	PKPdf	13 00 24.7	+1.3	
I22A	9 Mile Ranch,	119.53	43	P	PKPdf	13 00 24.2	+1.0	
	baz=120							
O20A	White River Ci	119.54	47	ePKPdf	PKPdf	13 00 24.5	+1.1	
O20A				eSKPdf	SKiKP	13 03 28.9	0.0	
O20A	White River Ci	119.54	47	P	PKPdf	13 00 24.2	+0.9	
	baz=120							
F23A	Volborg	119.55	40	P	PKPdf	13 00 23.7	+0.6	
	baz=120							
J22A	Midwest	119.70	43	P	PKPdf	13 00 23.5	-0.1	
	baz=120							
CAF	Calviac	119.81	319	ePKIKP	PKPdf	13 00 23.9	+0.4	
	comp=Z,11nm,0.9s							
CAF	Calviac	119.81	319	ePKIKP	PKPdf	13 00 23.9	+0.4	
CAF	Calviac	119.81	319	ePKPdf	PKPdf	13 00 23.9	+0.4	
PV01	Paradox Valley	119.88	50	ePKPdf	PKPdf	13 00 25.2	+1.0	
E24A	Baker	119.91	39	P	PKPdf	13 00 24.1	+0.4	
	baz=120							
K22A	Casper	119.94	44	P	PKPdf	13 00 24.4	+0.3	
	baz=120							
MVCO	Mesa Verde	120.19	51	ePKPdf	PKPdf	13 00 26.1	+1.4	
MVCO	Mesa Verde	120.19	51	P	PKPdf	13 00 26.1	+1.4	
	baz=120							
H24A	Dirks Ranch, A	120.49	41	P	PKPdf	13 00 24.9	0.0	
	baz=120							
MFF	Saint Martin d	120.55	321	ePKIKP	PKPdf	13 00 24.7	-0.1	
	comp=Z,13nm,0.8s							
MFF	Saint Martin d	120.55	321	ePKIKP	PKPdf	13 00 24.7	-0.1	
MFF	Saint Martin d	120.55	321	ePKPdf	PKPdf	13 00 24.7	-0.1	
N22A	Wattenberg Ran	120.62	46	P	PKPdf	13 00 26.2	+0.6	
	baz=121							
P22A	Eagle	120.79	47	P	PKPdf	13 00 26.8	+0.9	
	baz=121							
319A	Douglas	120.97	57	P	PKPdf	13 00 27.7	+1.4	
	baz=121							
RSSD	Black Hills	121.07	42	ePKIKP	PKPdf	13 00 26.0	-0.2	
RSSD	Black Hills	121.07	42	ePKPdf	PKPdf	13 00 26.0	-0.2	
K24A	Anderson Ranch	121.09	43	P	PKPdf	13 00 26.2	0.0	
	baz=121							
O23A	Lake Granby, G	121.20	47	P	PKPdf	13 00 27.8	+1.1	
	baz=121							
S22A	4UR Ranch, Cre	121.31	50	P	PKPdf	13 00 28.5	+1.5	
	baz=121							
I25A	Rochford	121.31	42	P	PKPdf	13 00 26.7	0.0	
	baz=121							
H26A	Fairpoint	121.70	41	P	PKPdf	13 00 27.6	+0.4	
	baz=122							
G27A	Dupree	121.91	40	P	PKPdf	13 00 27.7	+0.1	
	baz=122							
R23A	Moffat	121.93	49	P	PKPdf	13 00 29.5	+1.4	
	baz=122							
121A	Cookes Peak, D	121.95	56	P	PKPdf	13 00 29.6	+1.4	
	baz=122							
H27A	Howes	122.14	40	P	PKPdf	13 00 28.0	-0.1	
	baz=122							
E28A	Huff	122.14	38	P	PKPdf	13 00 28.4	+0.4	
	baz=122							
SDCO	Great Sand Dun	122.31	49	P	PKPdf	13 00 29.9	+1.0	
	baz=122							
ETSF	Etsaut	122.35	317	ePKIKP	PKPdf	13 00 30.3	+1.8	
ETSF	Etsaut	122.35	317	ePKIKP	PKPdf	13 00 30.3	+1.8	
ETSF	Etsaut	122.35	317	ePKPdf	PKPdf	13 00 30.3	+1.8	
I27A	Quinn	122.40	41	P	PKPdf	13 00 29.3	+0.7	
	baz=122							
F28A	McLaughlin	122.41	39	P	PKPdf	13 00 29.2	+0.7	
	baz=122							
G28A	Parade	122.69	40	P	PKPdf	13 00 29.4	+0.3	
	baz=123							
C30A	Mose, Pekin	122.92	36	P	PKPdf	13 00 28.9	-0.5	
	baz=123							
ULM	Lac du Bonnet	123.00	32	PKP	PKPdf	13 00 28.6	-0.9	
	comp=Z,1.1nm,0.5s,baz=304,slow=4.6,SNR=8.7							
ULM				PKKPbc	PKKPab	13 10 21.2	-1.5	
	comp=Z,3.0nm,0.8s,baz=308,slow=1.7,SNR=7.3							
J28A	Allard Ranch,	123.21	41	P	PKPdf	13 00 30.5	+0.4	
	baz=123							
P26A	Davis Ranch, A	123.28	46	P	PKPdf	13 00 31.3	+0.8	
	baz=123							
N27A	Anderson Farm,	123.39	45	P	PKPdf	13 00 30.9	+0.2	
	baz=123							
R26A	Arlington	123.66	48	P	PKPdf	13 00 31.7	+0.4	
	baz=124							
G30A	Faulkton	123.78	39	P	PKPdf	13 00 31.4	+0.3	
	baz=124							
J29A	Okreek	123.81	41	P	PKPdf	13 00 31.6	+0.3	
	baz=124							
S26A	Kim	123.87	49	P	PKPdf	13 00 32.8	+1.0	
	baz=124							
T26A	Comanche Natio	123.93	49	P	PKPdf	13 00 33.0	+1.1	
	baz=124							
MNTX	Cornudas Mount	124.13	56	ePKPdf	PKPdf	13 00 33.2	+1.0	
MNTX	Cornudas Mount	124.13	56	P	PKPdf	13 00 33.3	+1.1	
	baz=124							
R27A	Eads	124.14	48	P	PKPdf	13 00 33.2	+1.0	
	baz=124							
U27A	Thompson Grove	124.77	50	P	PKPdf	13 00 34.6	+1.1	
	baz=125							
R28A	Tribune	124.84	47	P	PKPdf	13 00 34.3	+0.9	
	baz=125							
O29A	4D Ranch, Culb	124.88	45	P	PKPdf	13 00 34.0	+0.6	
	baz=125							
S28A	Manter	125.05	48	P	PKPdf	13 00 34.7	+0.7	
	baz=125							
T28A	Walsh	125.06	49	P	PKPdf	13 00 34.8	+0.8	
	baz=125							
Q29A	Oakley	125.24	46	P	PKPdf	13 00 35.0	+0.8	
	baz=125							
MSTX	Muleshoe	125.60	53	ePKPdf	PKPdf	13 00 35.1	0.0	
X28A	Dimmitt	125.88	52	P	PKPdf	13 00 37.1	+1.5	
	baz=126							
ESDC	Sonseca Array	126.01	315	PKP	PKPdf	13 00 35.8	+0.1	
	comp=Z,0.2nm,0.2s,baz=39,slow=3.3,SNR=4.5							
ECSD	EROS Data Cent	126.04	39	P	PKPdf	13 00 35.9	+0.4	
	baz=126							
TXAR	Lajitas Array	126.16	58	PKP	PKPdf	13 00 37.1	+0.8	
	comp=Z,1.4nm,0.8s,baz=289,slow=1.9,SNR=15							
TXAR				PKKPbc	PKKPbc	13 10 12.2	+1.1	
	comp=Z,0.3nm,0.8s,baz=107,slow=4.2,SNR=3.7							
128A	Castleberry Fa	126.24	54	P	PKPdf	13 00 37.0	+0.7	
	baz=126							
PAB	San Pablo	126.33	315	ePKIKP	PKPdf	13 00 36.2	-0.1	
PAB	San Pablo	126.33	315	ePKPdf	PKPdf	13 00 36.2	-0.1	
Y29A	Porterfield Fa	126.50	52	P	PKPdf	13 00 37.8	+1.0	
	baz=126							
R31A	Burdett	126.52	47	P	PKPdf	13 00 37.5	+0.8	
	baz=126							
V30A	Spur Ranch, Mi	126.62	50	P	PKPdf	13 00 37.8	+0.8	
	baz=127							
P32A	Huiting Farm,	126.62	45	P	PKPdf	13 00 38.0	+1.3	
	baz=127							
Q32A	Meitler Ranch,	126.92	45	P	PKPdf	13 00 37.9	+0.6	
	baz=127							
X30A	Coker Ranch, T	126.93	51	P	PKPdf	13 00 38.4	+0.9	
	baz=127							
329A	Wagon Wheel Ra	126.98	55	P	PKPdf	13 00 38.8	+1.1	
	baz=127							
TOA0	Torodi Ar. Sit	127.06	281	ePKIKP	PKPdf	13 00 37.6	-0.6	
TOA0	Torodi Ar. Sit	127.06	281	ePKP1	SKiKP	13 03 23.4	-21	
TORD	Torodi Ar. Bea	127.06	281	PKP	PKPdf	13 00 37.5	-0.7	
	comp=Z,7.4nm,0.8s,baz=73,slow=1.8,SNR=34							
TORD				SKPbc	SKiKP	13 03 24.6	-20	
	comp=Z,6.8nm,1.1s,baz=92,slow=3.5,SNR=15							
Y30A	Stafford Cattl	127.10	52	P	PKPdf	13 00 38.4	+0.5	
	baz=127							
529A	Stev Forest Ra	127.17	57	P	PKPdf	13 00 38.8	+0.6	
	baz=127							
429A	Davenport Ranc	127.30	56	P	PKPdf	13 00 39.5	+1.1	
	baz=127							
W31A	Holland Ranch,	127.39	50	P	PKPdf	13 00 39.8	+1.4	
	baz=127							
T32A	Huddler Ranch,	127.40	48	P	PKPdf	13 00 40.0	+1.6	
	baz=127							
Q33A	Connelly Farm,	127.43	45	P	PKPdf	13 00 39.4	+1.1	
	baz=127							
X31A	McDonald Ranch	127.56	51	P	PKPdf	13 00 39.9	+1.2	
	baz=128							
Y31A	Rekieta Farm,	127.57	52	P	PKPdf	13 00 40.2	+1.4	
	baz=128							
R33A	Olander Ranch,	127.62	46	P	PKPdf	13 00 39.8	+1.1	
	baz=128							
430A	Baggett Ranch,	127.80	56	P	PKPdf	13 00 40.2	+0.9	
	baz=128							
530A	J-C Ranch, Com	127.89	57	P	PKPdf	13 00 40.4	+0.9	
	baz=128							
231A	Bronte	128.20	54	P	PKPdf	13 00 40.8	+0.8	
	baz=128							
431A	Sonora	128.34	56	P	PKPdf	13 00 41.4	+1.0	
	baz=128							
Z32A	Haskell	128.41	52	P	PKPdf	13 00 41.6	+1.3	
	baz=128							
531A	Rocksprings	128.55	56	P	PKPdf	13 00 41.7	+0.9	
	baz=128							
631A	Perdido Creek	128.74	57	P	PKPdf	13 00 41.7	+0.7	
	baz=129							
332A	Millersview	128.84	55	P	PKPdf	13 00 42.3	+1.1	
	baz=129							
432A	Menard	128.95	55	P	PKPdf	13 00 42.2	+0.7	
	baz=129							
JCT	Junction City	129.07	56	ePKIKP	PKPdf	13 00 42.3	+0.6	
JCT	Junction City	129.07	56	ePKPdf	PKPdf	13 00 42.3	+0.6	
JCT	Junction City	129.07	56	P	PKPdf	13 00 42.3	+0.6	
	baz=129							
S35A	Otter Creek Ra	129.07	46	P	PKPdf	13 00 42.7	+1.3	
	baz=129							
532A	Rocksprings	129.09	56	P	PKPdf	13 00 42.9	+1.1	
	baz=129							
233A	Rising Star	129.31	54	⇑SKP	SKPbc	13 03 34.1	+0.5	
	baz=129,SNR=18							
R36A	Gordon, Harris	129.36	45	P	PKPdf	13 00 42.6	+0.6	
	baz=129							
R36A				⇑SKP	SKPbc	13 03 33.5	0.0	
	baz=129							
632A	Uvalde	129.37	57	P	PKPdf	13 00 43.8	+1.5	
	baz=129							
632A				⇓SKP	SKPbc	13 03 34.7	+0.9	
	baz=129,SNR=35							
732A	Laxson Ranch,	129.44	58	⇑SKP	SKPbc	13 03 34.8	+0.8	
	baz=129,SNR=15							
333A	Richland Sprin	129.47	55	P	PKPdf	13 00 43.5	+1.1	
	baz=129							
333A				⇑SKP	SKPbc	13 03 34.3	+0.2	
	baz=129,SNR=14							
V35A	Meyer Ranch, C	129.51	48	⇓SKP	SKPbc	13 03 34.6	+0.4	
	baz=130,SNR=6.5							
Y34A	Reagan Ranch,	129.52	51	⇑SKP	SKPbc	13 03 35.3	+1.1	
	baz=130,SNR=7.9							
832A	Faith Ranch, C	129.56	59	P	PKPdf	13 00 44.2	+1.5	
	baz=130							
832A				SKP	SKPbc	13 03 35.2	+0.7	
	baz=130							
433A	Art	129.56	55	P	PKPdf	13 00 43.6	+0.9	
	baz=130							
433A				⇑SKP	SKPbc	13 03 34.7	+0.2	
	baz=130,SNR=25							
S36A	Lake Cedric, C	129.57	45	⇑SKP	SKPbc	13 03 34.0	-0.2	
	baz=130							
Z34A	Collier Ranch,	129.61	52	⇑SKP	SKPbc	13 03 35.0	+0.4	
	baz=130							
T36A	Boggs Farm, Ca	129.66	46	⇑SKP	SKPbc	13 03 34.7	0.0	
	baz=130							
W35A	Tecumseh	129.73	49	P	PKPdf	13 00 43.7	+1.0	
	baz=130							
W35A				⇑SKP	SKPbc	13 03 35.7	+0.7	
	baz=130,SNR=9.9							
134A	White-Moore Ra	129.77	53	⇑SKP	SKPbc	13 03 35.9	+0.7	
	baz=130,SNR=16							
533A	Kerrville	129.82	56	⇑SKP	SKPbc	13 03 35.5	0.0	
	baz=130,SNR=8.8							
Q37A	Longview Farm,	129.83	44	⇓SKP	SKPbc	13 03 34.3	-0.9	
	baz=130							
PLCA	Paso Flores	129.84	161	PKP	PKPdf	13 00 43.5	+0.5	
	comp=Z,4.1nm,0.7s,baz=350,slow=2.8,SNR=7.5							
PLCA				SKPbc	SKPab	13 03 34.1	-1.2	
	comp=Z,19nm,1.1s,baz=201,slow=5.8,SNR=12							
R37A	Teagarden Farm	129.84	44	P	PKPdf	13 00 43.4	+0.5	
	baz=130							
R37A				⇑SKP	SKPbc	13 03 34.4	-0.9	
	baz=130,SNR=8.5							
633A	Saathoff Ranch	129.89	57	⇑SKP	SKPbc	13 03 36.7	+1.0	
	baz=130,SNR=18							
234A	Clairette	129.92	53	⇑SKP	SKPbc	13 03 36.2	+0.4	
	baz=130,SNR=16							
X35A	Drake	129.95	50	⇑SKP	SKPbc	13 03 36.3	+0.5	
	baz=130,SNR=7.7							
733A	Divot King Ran	130.01	58	⇓SKP	SKPbc	13 03 36.9	+0.8	
	baz=130,SNR=8.5							
833A	Chaparral WMA,	130.04	58	⇑SKP	SKPbc	13 03 36.8	+0.5	
	baz=130,SNR=26							
334A	Lometa	130.07	54	P	PKPdf	13 00 44.2	+0.6	
	baz=130							
334A				⇑SKP	SKPbc	13 03 36.9	+0.5	
	baz=130,SNR=21							
Z35A	Perchaven, San	130.14	51	⇓SKP	SKPbc	13 03 36.9	+0.3	
	baz=130,SNR=7.9							
434A	Burnet	130.21	55	P	PKPdf	13 00 44.6	+0.8	
	baz=130							
434A				⇑SKP	SKPbc	13 03 37.3	+0.3	
	baz=130,SNR=26							
W36A	Wetumka	130.22	49	P	PKPdf	13 00 44.9	+1.2	
	baz=130							
W36A				⇓SKP	SKPbc	13 03 37.4	+0.6	
	baz=130,SNR=9.5							
TUL1	Leonard	130.22	48	⇓SKP	SKPbc	13 03 37.0	+0.3	
	baz=130,SNR=7.1							
534A	Blanco	130.30	56	⇓SKP	SKPbc	13 03 37.9	+0.6	
	baz=130,SNR=47							
135A	Vickery Place,	130.30	52	⇑SKP	SKPbc	13 03 38.1	+0.9	
	baz=130							
933A	Laredo	130.34	59	⇑SKP	SKPbc	13 03 39.0	+1.5	
	baz=130,SNR=25							
X36A	Centrahoma	130.35	50	P	PKPdf	13 00 44.6	+0.7	
	baz=130							
X36A				⇓SKP	SKPbc	13 03 38.0	+0.7	
	baz=130,SNR=23							
SCHQ	Schefferville	130.36	11	PKP	PKPdf	13 00 43.7	+0.3	
	comp=Z,2.7nm,0.6s,baz=260,slow=4.8,SNR=4.0							
SCHQ				SKPbc	SKPbc	13 03 35.7	-1.0	
	comp=Z,20nm,1.0s,baz=2.2,slow=4.1,SNR=17							
WHTX	Lake Whitney,	130.47	53	⇑SKP	SKPbc	13 03 38.4	+0.6	
	baz=130,SNR=9.9							
734A	La Parita Cree	130.59	57	⇓SKP	SKPbc	13 03 39.7	+1.3	
	baz=131,SNR=7.8							
634A	China Grove, S	130.60	57	⇓SKP	SKPbc	13 03 39.2	+0.8	
	baz=131							
335A	Moody	130.74	54	⇑SKP	SKPbc	13 03 39.3	+0.5	
	baz=131							
435B	Jarrell	130.78	55	⇑SKP	SKPbc	13 03 39.5	+0.5	
	baz=131							
834A	Tilden	130.81	58	⇓SKP	SKPbc	13 03 40.9	+1.7	
	baz=131,SNR=9.4							
W37A	Quinton	130.82	48	⇑SKP	SKPbc	13 03 39.8	+0.8	
	baz=131,SNR=8.9							
934A	Benavides	130.98	59	⇑SKP	SKPbc	13 03 41.9	+2.1	
	baz=131,SNR=9.2							
034A	Hebbronville	130.99	60	⇑SKP	SKPbc	13 03 42.1	+2.2	
	baz=131							
535A	Dale	131.04	56	⇓SKP	SKPbc	13 03 40.7	+0.7	
	baz=131,SNR=5.3							
635A	Leesville	131.08	56	⇓SKP	SKPbc	13 03 41.2	+1.0	
	baz=131							
X37A	Clayton	131.09	49	⇑SKP	SKPbc	13 03 40.7	+0.7	
	baz=131,SNR=21							
336A	Riesel	131.17	54	⇑SKP	SKPbc	13 03 40.8	+0.4	
	baz=131,SNR=8.5							
236A	Katherine and	131.20	53	⇑SKP	SKPbc	13 03 41.5	+0.9	
	baz=131							
735A	Kenedy	131.21	57	⇑SKP	SKPbc	13 03 42.1	+1.4	
	baz=131							
835A	Beeville	131.37	58	⇓SKP	SKPbc	13 03 43.2	+2.0	
	baz=131							
436A	Wall Ranch, Ga	131.42	54	⇓SKP	SKPbc	13 03 42.6	+1.2	
	baz=131							
536A	Bastrop	131.44	55	⇓SKP	SKPbc	13 03 42.5	+1.1	
	baz=131							
Z37A	Pogue Cattle C	131.46	51	⇑SKP	SKPbc	13 03 42.0	+0.6	
	baz=131							
W38A	Poteau	131.52	48	⇑SKP	SKPbc	13 03 42.4	+0.8	
	baz=132							
035A	Encino	131.52	60	⇑SKP	SKPbc	13 03 43.7	+1.9	
	baz=132							
137A	Heron Place, G	131.58	52	⇓SKP	SKPbc	13 03 42.8	+0.9	
	baz=132							
636A	Smothers Creek	131.64	56	⇓SKP	SKPbc	13 03 44.2	+2.1	
	baz=132,SNR=7.7							
035Z	Hargill	131.68	60	⇑SKP	SKPbc	13 03 44.2	+1.9	
	baz=132							
237A	Washetta, Mont	131.77	52	⇑SKP	SKPbc	13 03 43.8	+1.3	
	baz=132							
736A	Circle Diamond	131.80	57	⇑SKP	SKPbc	13 03 44.8	+2.1	
	baz=132							
Z38A	Mt. Pleasant	131.93	51	⇑SKP	SKPbc	13 03 43.9	+0.9	
	baz=132							
437A	Phantom Ranch,	131.93	54	⇑SKP	SKPbc	13 03 43.8	+0.6	
	baz=132							
537A	Green Hill Far	132.05	55	⇓SKP	SKPbc	13 03 45.3	+1.7	
	baz=132							
936A	North Padre Is	132.06	59	⇓SKP	SKPbc	13 03 46.2	+2.5	
	baz=132							
138A	Matatall Enter	132.08	51	⇑SKP	SKPbc	13 03 45.4	+1.8	
	baz=132							
238A	Jacksonville	132.31	52	⇑SKP	SKPbc	13 03 45.6	+1.1	
	baz=132							
338A	Crockett	132.40	53	⇑SKP	SKPbc	13 03 45.7	+0.9	
	baz=132							
MIAR	Mount Ida	132.45	48	ePKIKP	PKPdf	13 00 49.6	+1.7	
MIAR	Mount Ida	132.45	48	ePKPdf	PKPdf	13 00 49.6	+1.7	
438A	Sam Houston St	132.49	54	⇓SKP	SKPbc	13 03 46.6	+1.5	
	baz=132							
Z39A	Irene McRaven,	132.54	50	⇑SKP	SKPbc	13 03 46.4	+1.2	
	baz=132							
139A	Bunkhouse Ranc	132.61	51	⇓SKP	SKPbc	13 03 47.8	+2.3	
	baz=133							
538A	Harpers Horsep	132.67	55	⇑SKP	SKPbc	13 03 47.5	+1.8	
	baz=133							
239A	Gary	132.81	52	⇑SKP	SKPbc	13 03 47.3	+1.1	
	baz=133							
339A	Huntington	133.01	53	⇓SKP	SKPbc	13 03 48.0	+1.2	
	baz=133							
738A	Farr-Stevens R	133.01	56	⇓SKP	SKPbc	13 03 47.2	+0.3	
	baz=133							
439A	Center Grove,	133.04	54	⇓SKP	SKPbc	13 03 48.2	+1.3	
	baz=133							
539A	Cross D Ranch,	133.33	54	⇑SKP	SKPbc	13 03 49.8	+1.8	
	baz=133							
KIC	Kosan Boka	133.35	273	ePKIKP	PKPdf	13 00 50.8	+0.6	
KIC	Kosan Boka	133.35	273	ePKP1	SKPdf	13 03 46.7	-8.3	
	comp=Z,65nm,1.2s							
DBIC	Dimbokro	133.48	273	PKP	PKPdf	13 00 51.2	+0.8	
	comp=Z,6.8nm,0.7s,baz=204,slow=1.1,SNR=5.6							
DBIC				SKPbc	SKPbc	13 03 47.7	-1.2	
	comp=Z,23nm,1.1s,baz=93,slow=5.6,SNR=6.9							
340A	Bronson	133.50	52	⇑SKP	SKPbc	13 03 50.0	+1.5	
	baz=134							
LIC	Lamto	133.62	272	ePKIKP	PKPdf	13 00 51.1	+0.4	
	comp=Z,26nm,1.1s							
LIC	Lamto	133.62	272	ePKIKP	PKPdf	13 00 51.2	+0.5	
LIC	Lamto	133.62	272	ePKP1	PKPbc	13 03 47.3		
	comp=Z,77nm,1.4s							
LIC	Lamto	133.62	272	ePKPdf	PKPdf	13 00 51.1	+0.4	
TIC	Toumodi	133.64	273	ePKIKP	PKPdf	13 00 51.2	+0.4	
TIC	Toumodi	133.64	273	ePKP1	PKPbc	13 03 47.5		
	comp=Z,60nm,1.2s							
LRAL	Lakeview Retre	137.98	46	ePKPdf	PKPdf	13 00 58.8	+0.5	
LRAL				eSKPab	SKPab	13 04 10.7	0.0	
LVC	Limon Verde	146.46	150	ePKPdf	PKPdf	13 01 14.8	+0.9	
LVC				ePKPbc	PKPab	13 01 17.1	-0.3	
CPUP	Villa Florida	146.84	171	ePKIKP	PKPdf	13 01 14.7	+0.6	
CPUP				e		13 01 16.8		
CPUP	Villa Florida	146.84	171	ePKPdf	PKPdf	13 01 14.7	+0.6	
CPUP				ePKPbc	PKPbc	13 01 16.8	+0.4	
NNA	Nana	148.94	126	ePKP2	PKPbc	13 01 23.1	+0.8	
NNA	Nana	148.94	126	ePKPbc	PKPbc	13 01 23.1	+0.8	
LPAZ	La Paz	152.07	145	PKP	PKPdf	13 01 23.6	+0.2	
	comp=Z,5.0nm,1.0s,baz=117,slow=0.1,SNR=11							
LPAZ				PKPbc	PKiKP	13 01 30.7	+0.2	
	comp=Z,3.7nm,0.4s,baz=41,slow=5.1,SNR=23							
LPAZ				PKPab	PKPab	13 01 42.4	+1.4	
	comp=Z,16nm,0.6s,baz=188,slow=4.7,SNR=25							
BDFB	Brasilia	157.63	189	PKPab	PKPab	13 02 04.0	0.0	
	comp=Z,3.0nm,0.7s,baz=189,slow=8.1,SNR=3.9							
BDFB	Brasilia	157.63	189	PKP2	PKPab	13 02 04.0	0.0	
SDV	Santo Domingo	161.10	82	ePKPdf	PKPdf	13 01 34.6	+0.1	
SDV				ePKPab	PKPab	13 02 20.1	+0.5	

IDC 19 12:55:19.1±3.4, 20.99°S×174.52°W, h0km, mb3.7/2, mb1 4.1/2, mb1mx3.6/24, mbtmp3.7/2, Error ellipse: s-maj=182.6km s-min=40.2km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	47.76	262	P	P	13 03 58.5	+0.1
	0.4nm,0.4s,baz=99,slow=7.7,SNR=17						
WRA				PcP	PcP	13 05 27.2	-0.4
	0.4nm,0.9s,baz=102,slow=3.8,SNR=6.5						
ILAR	Eielson Array	88.10	11	P	P	13 08 12.0	+0.9
	0.3nm,0.4s,baz=218,slow=5.5,SNR=7.3						
AKASG	Malin Array Be	144.96	334	PKP	PKPdf	13 14 59.4	+1.2
	0.2nm,0.2s,baz=26,slow=4.1,SNR=3.0						
GERES	GERESS Array B	151.44	349	PKPbc	PKPbc	13 15 12.9	-2.1
	0.9nm,0.6s,baz=339,slow=2.4,SNR=4.0						

**IGQ 19 13:01:14±0.6, 2.08S×79.78W, h4km±97km, M

ECL	**Taimali**	**0.35**	**199**	P		Pg	13 02 31.5	-0.3
	baz=198								
STYT	**Tauyuan**	**0.38**	**308**	*e*P		Pg	13 02 31.5	-0.8
	baz=308								
STYT				*e*S		Sg	13 02 36.0	-1.5	
	baz=308								
STYT	**Tauyuan**	**0.38**	**308**	P		Pg	13 02 31.6	-0.7	
	baz=272								
STYT				S		Sg	13 02 36.0	-1.6	
	baz=272								
TWF1	**Yuli**	**0.47**	**25**	*i* P		Pg	13 02 33.9	0.0	
	baz=26								
TWF1				*e*S		Sg	13 02 39.6	-0.5	
	baz=26								
TWF1	**Yuli**	**0.47**	**25**	⇓*i* P		Pg	13 02 33.9	0.0	
	baz=54								
TWF1				S		Sg	13 02 39.5	-0.7	
	baz=54								
SGST	**Jiashian**	**0.48**	**288**	*e*P		Pg	13 02 34.2	+0.1	
	baz=288								
SGST				S		Sg	13 02 40.8	+0.1	
	baz=288								
SGST	**Jiashian**	**0.48**	**288**	*e*S		Sg	13 02 41.1	+0.5	
	baz=259								
WTP	**Ta-pu**	**0.53**	**306**	*e*P		Pg	13 02 34.5	-0.6	
	baz=306								
WTP				*e*S		Sg	13 02 41.5	-0.9	
	baz=306								
WTP	**Ta-pu**	**0.53**	**306**	*e*P		Pg	13 02 35.0	-0.1	
	baz=285								
WTP				*e*S		Sg	13 02 41.8	-0.5	
	baz=285								
ALS	**Alishan**	**0.63**	**336**	*e*P		Pg	13 02 34.5	-2.9	
	baz=334								

WEL 19 13:33:10.0±0.2, 39°91S×174°41E, h124km±1km, ML3.9/19, 16C-29D, Error ellipse: s-maj=0.9km s-min=0.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LREZ	**Lake Rotokare**	**0.45**	**359**	⇓P	Pn	13 33 28.2	+0.1
LREZ				*e*SN	Sn	13 33 41.0	-0.7
WAZ	**Wanganui**	**0.47**	**71**	P	Pn	13 33 28.2	0.0
WAZ				SN	Sn	13 33 42.3	+0.5
PREZ	**Palmer Road**	**0.60**	**341**	P	Pn	13 33 28.8	-0.3
PREZ				SN	Sn	13 33 42.4	-1.0
NMEZ	**Namu Road**	**0.65**	**320**	P	Pn	13 33 29.0	-0.3
NEZ	**North Egmont**	**0.68**	**339**	P	Pn	13 33 29.5	-0.2
KHEZ	**Kahui Hut**	**0.69**	**333**	⇑P	Pn	13 33 29.5	-0.2
KHEZ				SN	Sn	13 33 43.8	-0.9
DREZ	**Durham Road**	**0.73**	**347**	P	Pn	13 33 29.8	-0.2
NWEZ	**Newall Road**	**0.76**	**326**	P	Pn	13 33 30.2	-0.1
PKE	**Pukeiti**	**0.78**	**335**	P	Pn	13 33 30.2	-0.2
VRZ	**Vera Road**	**0.82**	**19**	⇓P	Pn	13 33 30.5	-0.2
VRZ				SN	Sn	13 33 45.8	-0.6
MHEZ	**Mangahewa**	**0.83**	**355**	P	Pn	13 33 30.9	+0.1
PKVZ	**Pokaka**	**0.95**	**50**	⇓P	Pn	13 33 31.7	-0.2
MTVZ	**Mangateitei**	**0.97**	**58**	⇓P	Pn	13 33 31.8	-0.3
DUWZ	**D'Urville Isla**	**0.97**	**203**	⇑P	Pn	13 33 31.8	-0.2
DUWZ				SN	Sn	13 33 48.6	-0.2
KIW	**Kapiti Island**	**1.03**	**159**	⇑P	Pn	13 33 32.5	-0.1
KIW				AML	AML	13 33 48.3	
KIW				AML	AML	13 33 48.4	
TRVZ	**Turoa**	**1.07**	**56**	⇓P	Pn	13 33 32.9	-0.4
OGWZ	**Otaki Gorge**	**1.08**	**148**	P	Pn	13 33 33.3	+0.2
WNVZ	**Wahianoa**	**1.08**	**58**	⇓P	Pn	13 33 33.1	-0.3
DRZ	**Dome Shelter**	**1.09**	**55**	P	Pn	13 33 33.3	-0.3
FWVZ	**Far West T-bar**	**1.09**	**54**	P	Pn	13 33 33.1	-0.5
WHVZ	**Whangaehu Hut**	**1.10**	**56**	⇓P	Pn	13 33 33.1	-0.5
WPVZ	**Whakapapa**	**1.12**	**52**	⇓P	Pn	13 33 33.3	-0.4
COVZ	**Chateau Observ**	**1.12**	**51**	⇓P	Pn	13 33 33.3	-0.4
POWZ	**Post Office Ro**	**1.15**	**115**	P	Pn	13 33 33.7	-0.1
MOVZ	**Moawhango**	**1.15**	**65**	⇓P	Pn	13 33 33.3	-0.6
TWVZ	**Taurewa**	**1.15**	**44**	⇑P	Pn	13 33 33.5	-0.4
TUVZ	**Tukino**	**1.15**	**57**	P	Pn	13 33 33.9	-0.2
MRZ	**Mangatainoka R**	**1.17**	**131**	⇓P	Pn	13 33 34.0	0.0
MRZ				SN	Sn	13 33 50.1	-2.2
MRZ				AML	AML	13 33 50.6	
NGZ	**Ngauruhoe**	**1.17**	**52**	⇓P	Pn	13 33 33.9	-0.4
TSZ	**Takapari Road**	**1.20**	**98**	⇓P	Pn	13 33 34.1	-0.2
TSZ				AML	AML	13 33 34.7	
TSZ				AML	AML	13 33 36.3	
WTVZ	**West Tongariro**	**1.20**	**49**	⇓P	Pn	13 33 34.1	-0.4
OTVZ	**Oturere**	**1.22**	**53**	⇓P	Pn	13 33 34.6	-0.2
KRVZ	**Karewarewa**	**1.25**	**50**	⇓P	Pn	13 33 34.6	-0.5
CAW	**Cannon Point**	**1.30**	**158**	⇑P	Pn	13 33 35.5	+0.1
CAW				AML	AML	13 33 53.2	
CAW				AML	AML	13 33 54.5	
HOWZ	**Holdsworth Sta**	**1.30**	**140**	⇓P	Pn	13 33 35.3	-0.1
TCW	**Tory Channel**	**1.31**	**185**	⇑P	Pn	13 33 35.4	-0.1
TCW				AML	AML	13 33 53.7	
TCW				AML	AML	13 33 53.7	
BHHZ	**Black Hill Sta**	**1.34**	**72**	P	Pn	13 33 35.2	-0.8
PRWZ	**Pori Road**	**1.36**	**119**	⇓P	Pn	13 33 36.2	+0.2
KATZ	**Kakaramea**	**1.36**	**47**	P	Pn	13 33 35.9	-0.3
DVHZ	**Dannevirke**	**1.40**	**107**	⇓P	Pn	13 33 36.4	-0.2
WELZ	**Wellington**	**1.40**	**169**	P	Pn	13 33 36.4	-0.1
WEL				AML	AML	13 33 55.6	
TIWZ	**Tintock**	**1.42**	**128**	⇓P	Pn	13 33 36.8	0.0
TIWZ				AML	AML	13 33 55.8	
TIWZ				AML	AML	13 33 56.1	
HIZ	**Hauiti**	**1.43**	**14**	⇑P	Pn	13 33 36.5	-0.4
RITZ	**Rihia Road**	**1.45**	**51**	P	Pn	13 33 37.3	+0.1
RATZ	**Rangitukua**	**1.48**	**46**	P	Pn	13 33 37.6	+0.2
MTW	**Mount Morrison**	**1.50**	**147**	⇓P	Pn	13 33 37.5	-0.2
MTW				AML	AML	13 33 56.6	
MTW				AML	AML	13 33 56.8	
NNZ	**Nelson**	**1.53**	**211**	P	Pn	13 33 37.5	-0.4
NNZ				SN	Sn	13 33 57.8	-1.5
KRHZ	**Kereru**	**1.53**	**81**	⇓P	Pn	13 33 37.7	-0.4
BHW	**Baring Head**	**1.54**	**167**	⇑P	Pn	13 33 37.9	-0.2
BHW				AML	AML	13 33 56.6	
BHW				AML	AML	13 33 57.6	
TUWZ	**Tuamarina**	**1.56**	**193**	P	Pn	13 33 37.8	-0.6
TUWZ				AML	AML	13 33 59.1	
TUWZ				AML	AML	13 34 00.4	
WPHZ	**Waipukurau**	**1.56**	**96**	P	Pn	13 33 38.3	-0.1
WATZ	**Wairara**	**1.57**	**41**	⇑P	Pn	13 33 38.8	+0.2
BFZ	**Birch Farm**	**1.60**	**119**	P	Pn	13 33 38.6	-0.2
MSWZ	**Moikau Station**	**1.64**	**157**	⇑P	Pn	13 33 39.1	-0.2
MSWZ				AML	AML	13 33 59.0	
MSWZ				AML	AML	13 33 59.1	
TMWZ	**Te Maipa**	**1.64**	**137**	⇓P	Pn	13 33 39.3	-0.1
HATZ	**Hinemaiaia**	**1.65**	**53**	P	Pn	13 33 38.7	-0.8
PAWZ	**Paruwai Farm**	**1.66**	**153**	P	Pn	13 33 39.4	-0.1
PAWZ				AML	AML	13 33 59.8	
PAWZ				AML	AML	13 33 59.8	
ANWZ	**Angora Road**	**1.67**	**110**	⇓P	Pn	13 33 39.8	+0.1
CPWZ	**Castlepoint**	**1.69**	**127**	⇑P	Pn	13 33 40.5	+0.6
PRHZ	**Porangahau**	**1.74**	**103**	⇓P	Pn	13 33 40.5	0.0
BKZ	**Black Stump Fm**	**1.77**	**66**	⇓P	Pn	13 33 40.1	-0.8
BKZ				AML	AML	13 34 04.7	
BKZ				AML	AML	13 34 04.8	
TRWZ	**Traveller**	**1.78**	**147**	P	Pn	13 33 40.6	-0.3
TRWZ				AML	AML	13 34 02.3	
TRWZ				AML	AML	13 34 02.8	
PLWZ	**Palliser**	**1.78**	**159**	P	Pn	13 33 40.6	-0.4
KUTZ	**Kaahu Road**	**1.79**	**38**	P	Pn	13 33 41.2	0.0
TLZ	**Tolley Road**	**1.80**	**29**	P	Pn	13 33 40.9	-0.4
MCHZ	**McNeill Hill**	**1.82**	**76**	P	Pn	13 33 41.5	+0.1
BSWZ	**Blackbirch Sta**	**1.85**	**193**	P	Pn	13 33 41.6	-0.2
BSWZ				AML	AML	13 34 07.1	
BSWZ				AML	AML	13 34 07.4	
PXZ	**Pawanui**	**1.89**	**95**	*e*PN	Pn	13 33 39.0	-3.2
PXZ				AML	AML	13 34 09.8	
KAHZ	**Kahuranaki**	**1.90**	**87**	P	Pn	13 33 42.1	-0.4
NMHZ	**Naumai**	**2.02**	**67**	P	Pn	13 33 44.0	0.0
CKHZ	**Cape Kidnapper**	**2.07**	**84**	P	Pn	13 33 44.6	+0.1
ARHZ	**Aropaoanui**	**2.10**	**73**	⇑P	Pn	13 33 44.4	-0.4
THZ	**Tophouse**	**2.18**	**211**	⇑P	Pn	13 33 45.2	-0.8
RAHZ	**Arahi**	**2.29**	**65**	P	Pn	13 33 46.7	-0.7
TOZ	**Tahuroa Road**	**2.33**	**22**	P	Pn	13 33 47.0	-0.8
WHHZ	**Waihua**	**2.33**	**70**	P	Pn	13 33 47.2	-0.6
KHZ	**Kahutara**	**2.59**	**194**	P	Pn	13 33 50.5	-0.6
KHZ				AML	AML	13 34 21.7	
KHZ				AML	AML	13 34 21.8	
URZ	**Urewera**	**2.67**	**53**	P	Pn	13 33 50.7	-1.3
URZ				AML	AML	13 34 22.5	
URZ				AML	AML	13 34 23.8	
KNZ	**Kokohu**	**2.67**	**72**	PN	Pn	13 33 50.8	-1.4
DSZ	**Denniston Nort**	**2.70**	**226**	⇑PN	Pn	13 33 51.3	-1.2
RAGZ	**Rawiri**	**2.73**	**60**	*e*PN	Pn	13 33 51.8	-1.1
KBAZ	**Karaka Road Bo**	**2.83**	**8**	PN	Pn	13 33 54.5	+0.3
MKAZ	**Moumakai**	**2.85**	**12**	PN	Pn	13 33 54.2	-0.3
PRGZ	**Paritu Road**	**2.86**	**71**	PN	Pn	13 33 53.3	-1.3
RIGZ	**Rimuhau**	**2.86**	**66**	PN	Pn	13 33 53.2	-1.5
MWZ	**Matawai**	**2.89**	**58**	⇑PN	Pn	13 33 53.5	-1.5
MWZ				AML	AML	13 34 27.9	
MWZ				AML	AML	13 34 28.3	
ETAZ	**East Tamaki Re**	**2.98**	**8**	PN	Pn	13 33 55.9	-0.2
TKGZ	**Te Karaka**	**3.05**	**62**	PN	Pn	13 33 55.6	-1.4
CNGZ	**Carnagh Statio**	**3.27**	**65**	PN	Pn	13 33 58.8	-1.1
TWGZ	**Tauwhareparae**	**3.27**	**59**	PN	Pn	13 33 58.9	-1.2
LTZ	**Lake Taylor**	**3.29**	**209**	PN	Pn	13 33 58.5	-1.8
KUZ	**Kuaotunu**	**3.32**	**18**	⇑PN	Pn	13 33 60.0	-0.6
HAZ	**Te Kaha**	**3.40**	**52**	PN	Pn	13 33 59.2	-2.3
WMGZ	**Waiomatatini S**	**3.75**	**58**	PN	Pn	13 34 04.4	-2.0
MXZ	**Matakaoa Point**	**3.84**	**54**	PN	Pn	13 34 05.9	-1.5
OXZ	**Oxford**	**3.85**	**207**	⇓PN	Pn	13 34 04.6	-3.0
CRLZ	**Canterbury Las**	**3.90**	**200**	⇓PN	Pn	13 34 05.4	-2.8
MQZ	**McQueen's Vall**	**4.02**	**199**	⇓PN	Pn	13 34 06.7	-3.0
WVZ	**Waitaha Valley**	**4.20**	**220**	PN	Pn	13 34 10.2	-2.0
RPZ	**Rata Peaks**	**4.56**	**212**	PN	Pn	13 34 15.0	-2.1
FOZ	**Fox Glacier**	**5.08**	**223**	PN	Pn	13 34 20.1	-3.9
LBZ	**Lake Benmore**	**5.47**	**214**	PN	Pn	13 34 26.3	-2.9
ODZ	**Otahua Downs**	**5.84**	**207**	PN	Pn	13 34 31.9	-2.4
JCZ	**Jackson Bay**	**5.92**	**224**	PN	Pn	13 34 32.3	-3.2
TUZ	**Tuapeka**	**6.99**	**209**	PN	Pn	13 34 47.7	-2.0
SYZ	**Scrubby Hill**	**7.66**	**208**	*e*PN	Pn	13 34 56.6	-2.1

*ISCJB **19** 13:41:41.8±0.6, 2°.54N±0.°05×98°.30E±0.°06, h104km±5km, mb3.8/4, Error ellipse: s-maj=9.2km s-min=8.1km az=13.9*
*IDC **19** 13:41:44.2±1.4, 2°.82N×98°.71E, h99km±8km, mb3.4/4, mb1 3.5/4, mb1mx3.2/35, mbtmp3.8/4, Error ellipse: s-maj=57.9km s-min=23.3km az=58.0*
*DJA **19** 13:41:44.2±0.5, 3°N±3°×9°E±°, h67km±7km, M3.6/10, mb3.9/1, MLv3.5/10*

ISC 19 13:41:42.6±1.0, 2°.54N±0.°05×98°.29E±0.°06, h96km±9km, n11, σ1°926/17, mb3.7/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.68**	**68**	P	**Pn**	**13 41 59.4**	**-0.3**
	39nm,0.3s,baz=301,slow=9.5,SNR=94						
PSI				S	**Sn**	**13 42 11.1**	**-1.4**
	13nm,0.3s,baz=142,slow=20,SNR=5.7						
TSI	**Tuntungan**	**0.99**	**16**	P	**Pn**	**13 42 03.6**	**+0.9**
TSI				S	**Sn**	**13 42 18.8**	**+1.1**
GSI	**Gunungsitoli**	**1.42**	**210**	P	**Pn**	**13 42 08.1**	**+0.3**
GSI				S	**Sn**	**13 42 26.9**	**+0.1**
SNSI	**Sinabang, Aceh**	**1.97**	**266**	P	**Pn**	**13 42 15.5**	**+0.9**
SNSI				S	**Sn**	**13 42 38.4**	**-0.7**
MNSI	**Mandailing Nat**	**2.16**	**143**	P	**Pn**	**13 42 18.7**	**+1.5**
LHMI	**Lhok Sumawe**	**2.99**	**333**	P	**Pn**	**13 42 29.1**	**+0.9**
LHMI				S	**Sn**	**13 43 04.0**	**+0.8**
BSI	**Banda Aceh**	**4.19**	**315**	P	**Pn**	**13 42 45.7**	**+1.3**
BSI				S	**Sn**	**13 43 29.2**	**-3.0**
WRA	**Warramunga Arr**	**41.84**	**124**	P	**P**	**13 49 23.0**	**-0.5**
	0.3nm,0.5s,baz=302,slow=9.1,SNR=6.3						
MKAR	**Makanchi Array**	**46.23**	**345**	P	**P**	**13 49 58.0**	**-0.1**
	0.4nm,0.5s,baz=173,slow=7.8,SNR=12						
KURBB	**Kurchatov Arra**	**50.74**	**344**	P	**P**	**13 50 32.8**	**+0.1**
	0.4nm,0.4s,baz=158,slow=6.8,SNR=5.1						
ZALV	**Zalesovo Beam**	**52.42**	**350**	P	**P**	**13 50 44.7**	**-0.4**
	1.6nm,0.3s,baz=170,slow=8.0,SNR=6.2						

*IDC **19** 13:45:31.9±0.7, 36°.75S×73°.56W, h0km, mb4.4/13, mb1 4.6/16, mb1mx4.4/28, mbtmp4.4/16, ML4.4/3, MS4.2/8, Ms1 4.1/8, ms1mx4.0/15, Error ellipse: s-maj=24.6km s-min=14.9km az=90.0*
*ISCJB **19** 13:45:32.2±0.3, 36°.76S±0.°03×73°.66W±0.°05, h14km, mb4.6/26, MS4.2/8, Error ellipse: s-maj=6.6km s-min=4.2km az=23.1*
*GUC **19** 13:45:32.8±0.4, 36°.98S×73°.65W, h26km±2km, ML4.8*
*SJA **19** 13:45:32.5±0.6, 36°.61S×73°.81W, h30km, ML4.3*
*BJI **19** 13:45:35.3, 36°.80S×73°.60W, h26km, mB5.0/6, Ms4.9/4, Ms7 4.8/4*
*NEIC **19** 13:45:35.6±0.3, 36°.77S×73°.58W, mb4.7/13, ML4.8(GUC), Error ellipse: s-maj=9.9km s-min=6.4km az=81.0*
NEIC Felt [V] at Concepcion, [IV] at Chillan and Curanilahue, [III] at Quirihue and [II] at Santa Juana.

ISC 19 13:45:33.8±0.4, 36°.82S±0.°04×73°.55W±0.°06, h14km, n90, σ1°936/96, mb4.7/27, MS4.3/8, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.35**	**94**	*i* P	**Pn**	**13 45 43.5**	**-1.0**
CCSP				*i* S	**Sn**	**13 45 49.8**	**-1.5**
CCSP				AML	AML	13 45 51.7	
	comp=E,144μm,0.4s						
LNCH	**Linares**	**1.85**	**59**	⇓*i* P	**Pn**	**13 46 05.5**	**+0.5**
LNCH				*i* S	**Sg**	**13 46 31.9**	**-1.4**
TALC	**Talca**	**2.10**	**48**	⇓*i* P	**Pb**	**13 46 11.1**	**-0.5**
TALC				*i* S	**Sg**	**13 46 40.3**	**-1.1**
NICH	**Los Niches**	**2.62**	**47**	*i* P	**Pb**	**13 46 18.6**	**-1.8**
NICH				*i* S	**Sb**	**13 46 53.2**	**+0.9**
VLCH	**Valdivia**	**2.99**	**176**	*i* P	**Pn**	**13 46 19.1**	**-1.6**
VLCH				*i* S	**Sn**	**13 46 54.2**	**-2.1**
CLCH	**Cerro Calan**	**4.22**	**37**	⇑*i* P	**Pn**	**13 46 37.1**	**-0.6**
CLCH				*i* S	**Sn**	**13 47 28.8**	**+2.0**
PEL	**Peldehue**	**4.36**	**33**	⇓*i* P	**Pn**	**13 46 38.4**	**-1.2**
PEL				*i* S	**Sn**	**13 47 31.6**	**+1.4**
PLCA	**Paso Flores**	**4.55**	**150**	Pn	**Pn**	**13 46 44.7**	**+2.4**
	comp=E,4.1nm,0.3s,baz=322,slow=11,SNR=62						
PLCA				Lg	Lg	13 47 57.9	
	comp=E,7.3nm,0.3s,baz=260,slow=12,SNR=3.7						
PLCA	**Paso Flores**	**4.55**	**150**	*e*Pn	**Pn**	**13 46 44.0**	**+1.7**
PLCA				Lg	Lg	13 47 57.9	
AAGR	**Agrelo**	**5.38**	**48**	*e*P	**Pn**	**13 46 54.9**	**+1.2**
ARCO	**CERRO ARCO**	**5.49**	**45**	*e*P	**Pn**	**13 46 56.4**	**+1.0**
ARCO				AML	AML	13 48 33.0	
	comp=Z,135nm,0.7s						
AUSP	**Uspallata**	**5.73**	**38**	*e*P	**Pn**	**13 46 59.7**	**+1.0**
AUSP				*e*S	**Sn**	**13 48 03.5**	**-0.9**
ASAL	**Salagasta**	**5.73**	**44**	*e*P	**Pn**	**13 46 59.5**	**+0.9**
RTLS	**Leoncito**	**6.12**	**36**	*e*P	**Pn**	**13 47 04.6**	**+0.6**
RTCV	**Cerro Valdivia**	**6.45**	**41**	*e*P	**Pn**	**13 47 08.4**	**0.0**
CFAA	**Coronel Fontan**	**6.81**	**42**	Pn	**Pn**	**13 47 12.7**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=219,slow=12,SNR=34						
CFAA				Sn	**Sn**	**13 48 31.4**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=266,slow=16,SNR=2.3						
CFAA	**Coronel Fontan**	**6.81**	**42**	*e*P	**Pn**	**13 47 12.8**	**-0.5**
RTLL	**Cerro Villicun**	**6.91**	**39**	*e*P	**Pn**	**13 47 14.3**	**-0.3**
ACAN	**Cantantal**	**6.94**	**51**	*e*P	**Pn**	**13 47 15.3**	**+0.3**
AMOG	**MOGNA**	**7.22**	**37**	*e*P	**Pn**	**13 47 18.3**	**-0.6**
LCO	**Las Campanas**	**8.15**	**18**	*e*Pn	**Pn**	**13 47 29.8**	**-2.1**
	comp=Z,50nm,0.9s						
TRQA	**Tornquist**	**9.29**	**101**	*e*Pn	**Pn**	**13 47 49.8**	**+2.6**
	comp=Z,79nm,1.1s						
LVC	**Limon Verde**	**14.72**	**17**	Pn	**Pn**	**13 49 00.8**	**-1.0**
	comp=Z,8.1nm,0.3s,baz=180,slow=6.1,SNR=2.6						
LVC	**Limon Verde**	**14.72**	**17**	*e*Pn	**Pn**	**13 49 03.3**	**+1.5**
CPUP	**Villa Florida**	**17.31**	**57**	*e*P	**Pn**	**13 49 35.5**	**+0.5**
USHA	**Ushuaia**	**18.35**	**171**	P	**Pn**	**13 49 49.9**	**+2.3**
	comp=Z,0.4nm,0.3s,baz=334,slow=7.1,SNR=5.1						
EFI	**East Falkland**	**18.48**	**148**	*e*P	**Pn**	**13 49 49.6**	**+0.5**
LPAZ	**La Paz**	**21.01**	**15**	P	**P**	**13 50 18.6**	**+1.0**
	comp=Z,8.0nm,0.9s,baz=182,slow=7.8,SNR=28						
LPAZ	**La Paz**	**21.01**	**15**	*e*P	**P**	**13 50 18.5**	**+1.0**
	comp=Z,25nm,1.2s						
SIV	**San Ignacio**	**23.52**	**31**	P	**P**	**13 50 42.4**	**-1.1**
	comp=Z,9.0nm,0.9s,baz=238,slow=12,SNR=22						
SAML	**Samuelo**	**29.30**	**21**	*e*P	**P**	**13 51 35.5**	**-0.3**
	comp=Z,2.2nm,0.8s						
HOPE	**Hope Point**	**30.81**	**136**	P	**P**	**13 51 47.1**	**-1.8**
BDFB	**Brasilia**	**30.97**	**54**	P	**P**	**13 51 51.2**	**+0.5**
	comp=Z,5.6nm,0.9s,baz=180,slow=4.5,SNR=5.2						
BDFB				LR	LR	14 05 43.5	
	comp=Z,838nm,21.0s,baz=222,slow=39						
SDV	**Santo Domingo**	**45.55**	**4**	*e*P	**P**	**13 53 52.7**	**-0.6**
	comp=Z,10nm,0.9s						
RCBR	**Riachuelo**	**46.19**	**57**	P	**P**	**13 53 59.3**	**+0.9**
	comp=Z,7.1nm,0.8s,baz=242,slow=6.9,SNR=3.9						
VNA3	**Neumayer Olymp**	**47.24**	**157**	P	**P**	**13 54 07.3**	**+1.4**
VNA1	**Neumayer--Stat**	**47.59**	**156**	P	**P**	**13 54 10.6**	**+2.0**
VNA2	**Neumayer--Watz**	**47.92**	**156**	P	**P**	**13 54 12.2**	**+1.1**
	baz=289,slow=8.4						
SNAA	**Sanae**	**49.46**	**157**	P	**P**	**13 54 21.0**	**-2.1**
SNAA	**Sanae**	**49.46**	**157**	P	**P**	**13 54 23.7**	**+0.6**
	comp=Z,5.8nm,1.0s,baz=283,slow=6.0,SNR=21						
QSPA	**South Pole Qui**	**53.42**	**180**	P	**P**	**13 54 54.0**	**+1.1**
	comp=Z,13nm,0.8s,baz=138,slow=2.7,SNR=39						
QSPA	**South Pole Qui**	**53.42**	**180**	*e*P	**P**	**13 54 54.2**	**+1.3**
QSPA				*e*		13 55 01.6	
RKT	**Rikitea**	**54.10**	**266**	*e*LR	LR	14 10 36.9	
	comp=Z,257nm,26.5s						
RKT	**Rikitea**	**54.10**	**266**	*e*T	T	14 53 01.2	
	comp=Z,2.5nm,0.4s						
TBI	**Tubuai**	**65.50**	**258**	*e*LR	LR	14 15 54.7	
	comp=Z,344nm,26.0s						
MEH	**Mehetia**	**67.29**	**264**	*e*T	T	15 09 30.7	
	comp=Z,31nm,0.2s						
TIAR	**Tiarei**	**68.48**	**264**	*e*T	T	15 11 00.1	
	comp=Z,3.8nm,0.2s						
PPT2	**Papeete2**	**68.65**	**264**	*e*LR	LR	14 17 19.9	
	comp=Z,278nm,23.2s						
PPT	**Papeete**	**68.66**	**264**	LR	LR	14 18 44.1	
	comp=Z,217nm,19.7s,baz=160,slow=29						
TXAR	**Lajitas Array**	**71.62**	**333**	P	**P**	**13 56 54.9**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=158,slow=8.6,SNR=8.0						
TXAR				LR	LR	14 23 48.6	
	comp=Z,195nm,18.2s,baz=0.0,slow=32						
WVT	**Waverly**	**73.78**	**348**	*e*P	**P**	**13 57 06.6**	**-0.7**
	comp=Z,12nm,1.1s						
LIC	**Lamto**	**76.83**	**72**	*e*P	**P**	**13 57 25.6**	**+0.1**
	comp=Z,80nm,1.9s						
TIC	**Toumodi**	**77.11**	**72**	*e*P	**P**	**13 57 27.3**	**+0.3**
	comp=Z,12nm,0.2s						
KIC	**Kosan Boka**	**77.14**	**72**	*e*P	**P**	**13 57 27.5**	**+0.3**
	comp=Z,53nm,1.0s						
DBIC	**Dimbokro**	**77.25**	**72**	P	**P**	**13 57 28.2**	**+0.4**
	comp=Z,10nm,0.8s,baz=201,slow=3.8,SNR=5.2						
DBIC				LR	LR	14 29 49.8	
	comp=Z,130nm,18.0s,baz=198,slow=34						
DBIC	**Dimbokro**	**77.25**	**72**	*e*P	**P**	**13 57 28.2**	**+0.4**
	comp=Z,12nm,0.8s						
ANMO	**Albuquerque**	**77.69**	**333**	*e*P	**P**	**13 57 30.7**	**+0.7**
	comp=Z,1.6nm,0.9s						
BOSA	**Boshof**	**79.85**	**118**	P	**P**	**13 57 42.1**	**-0.1**
	comp=Z,8.4nm,0.9s,baz=250,slow=6.1,SNR=7.7						
BOSA				LR	LR	14 27 33.8	
	comp=Z,101nm,21.1s,baz=154,slow=32						
BOSA	**Boshof**	**79.85**	**118**	*e*P	**P**	**13 57 42.3**	**+0.1**
BOSA				*e*		13 57 50.9	
SDCO	**Great Sand Dun**	**79.86**	**335**	P	**P**	**13 57 42.4**	**+0.4**
	comp=Z,2.1nm,0.9s						
SMCO	**Snowmass**	**81.66**	**334**	P	**P**	**13 57 49.1**	**-2.6**
	comp=Z,8.2nm,1.1s						
LBTB	**Lobatse**	**82.23**	**115**	*e*P	**P**	**13 57 54.9**	**0.0**
	comp=Z,9.2nm,0.6s						
LBTB				*e*		13 58 03.4	
ECSD	**EROS Data Cent**	**82.87**	**343**	*e*P	**P**	**13 57 57.1**	**-0.4**
	comp=Z,9.1nm,1.0s						
RSSD	**Black Hills**	**85.18**	**338**	*e*P	**P**	**13 58 09.3**	**-0.2**
	comp=Z,3.6nm,0.9s						
HWUT	**Hardware Ranch**	**85.45**	**332**	*e*P	**P**	**13 58 09.7**	**-1.2**
	comp=Z,8.0nm,1.4s						
NVAR	**Mina Array Bea**	**85.52**	**326**	P	**P**	**13 58 12.3**	**+1.0**
	comp=Z,1.2nm,1.0s,baz=157,slow=6.2,SNR=3.8						
PDAR	**Pinedale Array**	**85.74**	**334**	P	**P**	**13 58 12.8**	**+0.4**
	comp=Z,1.7nm,1.1s,baz=146,slow=2.9,SNR=6.9	

RDX				*e*			14 06 47.1	
SGL	**Mount Signal**	**0.58**	**325**	⇓*iP*		**Pg**	**14 06 34.8**	**-0.1**
EMSC	**East Mesa**	**0.63**	**27**	*eP2*		**Pg**	**14 06 35.8**	**0.0**
WESC	**Westside Schoo**	**0.68**	**330**	⇓*eP*		**Pg**	**14 06 36.7**	**+0.1**
YUH	**Yuha Desert**	**0.69**	**313**	*eP2*		**Pg**	**14 06 36.7**	**-0.2**
COA	**Coachella**	**0.71**	**14**	*eP2*		**Pg**	**14 06 36.7**	**-0.5**
RMX	**La Rumorosa**	**0.77**	**304**	⇑*eP*		**Pg**	**14 06 38.3**	**-0.1**
RMX				*eS*		**Sg**	**14 06 48.2**	**-0.2**
RMX				IAML			14 06 49.0	
	comp=N,1μm,0.2s							
RMX				⇓*e*			14 06 49.0	
ZAX	**El Zacaton**	**1.04**	**231**	*eP*		**Pn**	**14 06 44.8**	**+0.3**
SPIG	**San Pedro Mart**	**1.13**	**186**	*eP*		**Pn**	**14 06 45.9**	**-0.1**
SPIG	**San Pedro Mart**	**1.13**	**186**	*eP*		**Pn**	**14 06 45.9**	**-0.1**
SPIG	**San Pedro Mart**	**1.13**	**186**	⇓*eP*		**Pn**	**14 06 46.0**	**+0.1**
SPX	**San Pedro Mart**	**1.13**	**186**	*eP*		**Pn**	**14 06 45.9**	**-0.1**
SPX	**San Pedro Mart**	**1.13**	**186**	⇓*eP*		**Pn**	**14 06 46.1**	**+0.1**
CBX	**Cerro Bola**	**1.14**	**277**	*eP*		**Pg**	**14 06 44.7**	**-0.8**
CBX	**Cerro Bola**	**1.14**	**277**	*eP*		**Pg**	**14 06 44.7**	**-0.8**
CBX	**Cerro Bola**	**1.14**	**277**	*eP*		**Pg**	**14 06 45.4**	**-0.2**
ECNX	**Esteban Cantu**	**1.20**	**245**	⇓*eP*		**Pn**	**14 06 47.3**	**+0.6**
BAR	**Barrett**	**1.25**	**294**	*ePn*		**Pn**	**14 06 46.3**	**-1.0**
BAR				*eS*		**Sb**	**14 07 02.5**	**-1.1**
BAR	**Barrett**	**1.25**	**294**	*eP2*		**Pn**	**14 06 46.1**	**-1.2**
PBX	**Punta Banda**	**1.27**	**251**	⇑*eP*		**Pg**	**14 06 48.0**	**+0.1**
SDRC	**San Diego Road**	**1.48**	**293**	*eP2*		**Pn**	**14 06 51.0**	**+0.6**
PFO	**Pinyon Flats O**	**1.72**	**327**	*ePn*		**Pn**	**14 06 51.5**	**-2.4**
214A	**Organ Pipe Nat**	**2.14**	**95**	*ePn*		**Pn**	**14 06 57.5**	**-2.1**
214A				*ePg*		**Pb**	**14 07 03.1**	**+0.4**
214A				*eSg*		**Sb**	**14 07 03.1**	**+0.7**
LDFC	**Landfair**	**2.91**	**3**	*ePn*		**Pn**	**14 07 09.5**	**-0.7**
LDFC				*ePg*		**Pg**	**14 07 20.3**	**+1.1**
MWC	**Mount Wilson**	**3.07**	**312**	*ePn*		**Pn**	**14 07 12.9**	**+0.3**
MWC				*ePg*		**Pb**	**14 07 19.9**	**+1.3**
GSC	**Goldstone, Bar**	**3.36**	**339**	*ePg*		**Pg**	**14 07 27.7**	**-0.2**
TUC	**Tucson**	**3.85**	**87**	*ePg*		**Pg**	**14 07 35.9**	**-1.4**
SHPR	**Sheep Range**	**4.33**	**2**	*ePn*		**Pn**	**14 07 29.6**	**-0.2**
SHPR				*ePg*		**Pg**	**14 07 47.5**	**+1.0**
ISA	**Isabella, Lake**	**4.36**	**324**	*ePg*		**Pg**	**14 07 43.9**	**-3.1**
DAC	**Darwin (Calif)**	**4.51**	**336**	*ePg*		**Pg**	**14 07 51.9**	**+2.0**
WUAZ	**Wupatki**	**4.68**	**43**	*ePn*		**Pn**	**14 07 34.9**	**+0.2**
W18A	**Petrified Fore**	**5.51**	**56**	*ePn*		**Pn**	**14 07 46.9**	**+0.8**
121A	**Cookes Peak, D**	**6.39**	**85**	*ePn*		**Pn**	**14 07 58.0**	**-0.1**
	comp=N,4.4nm,0.3s							

NEIC ***19*** *14:10:23.6,32°.26N×115°.31W,h10km,MD3.8(MEX), ML3.3(ECX),ML3.4(PAS),After ECX.*
ECX ***19*** *14:10:23.7±0.5,32°.25N×115°.32W,h6km,MD3.3,ML3.5*
MEX ***19*** *14:10:24.3±0.4,32°.27N×115°.26W,h10km,MD3.8*
ISC 19 14:10:21.8±0.9,32°.21N±0°.03×115°.28W±0°.03,h17km±7km, n39,σ0ˢ91/51,6C-12D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MBIG	**Mexicali**	**0.21**	**18**	*eP*		**Pb**	**14 10 27.3**	**+0.1**
MBIG				*i* S		**Sg**	**14 10 29.7**	**-0.4**
CPBX	**Cerro Prieto**	**0.21**	**353**	*i* P		**Pg**	**14 10 26.8**	**0.0**
CPBX				*i* S		**Sg**	**14 10 29.8**	**-0.4**
CPBX	**Cerro Prieto**	**0.21**	**353**	⇓*eP*		**Pg**	**14 10 26.8**	**0.0**
CPBX				⇓*eP*		**Pg**	**14 10 26.8**	**0.0**
CPBX				*eS*		**Sg**	**14 10 29.9**	**-0.3**
CPBX				⇓*e*			14 10 32.5	
CPBX				IAML			14 10 32.5	
	comp=N,36μm,0.3s							
CPBX				IAML			14 10 36.5	
	comp=E,33μm,0.3s							
CPBX				*e*			14 10 36.5	
SGL	**Mount Signal**	**0.58**	**319**	*eP2*		**Pg**	**14 10 33.1**	**-0.3**
EMSC	**East Mesa**	**0.58**	**25**	*eP2*		**Pg**	**14 10 34.0**	**+0.6**
RDX	**Rancho Dawling**	**0.63**	**244**	⇓*eP*		**Pb**	**14 10 34.8**	**+0.3**
RDX				*eS*		**Sg**	**14 10 43.1**	**+0.2**
RDX				IAML			14 10 48.6	
	comp=N,2μm,0.4s							
RDX				⇓*e*			14 10 48.6	
COA	**Coachella**	**0.67**	**11**	⇓*iP*		**Pg**	**14 10 34.9**	**0.0**
WESC	**Westside Schoo**	**0.67**	**325**	⇓*eP*		**Pb**	**14 10 35.1**	**0.0**
YUH	**Yuha Desert**	**0.70**	**309**	⇑*iP*		**Pg**	**14 10 35.0**	**-0.6**
RMX	**La Rumorosa**	**0.79**	**300**	⇑*eP*		**Pb**	**14 10 36.6**	**-0.6**
RMX				*eS*		**Sb**	**14 10 46.5**	**-1.1**
RMX				*e*			14 10 47.8	
RMX				IAML			14 10 47.8	
	comp=N,2μm,0.2s							
ZAX	**El Zacaton**	**1.10**	**231**	⇑*eP*		**Pg**	**14 10 43.0**	**0.0**
SPIG	**San Pedro Mart**	**1.17**	**188**	*eP*		**Pb**	**14 10 44.1**	**+0.2**
SPIG	**San Pedro Mart**	**1.17**	**188**	*eP*		**Pb**	**14 10 44.1**	**+0.2**
SPIG	**San Pedro Mart**	**1.17**	**188**	⇓*eP*		**Pb**	**14 10 44.3**	**+0.5**
SPX	**San Pedro Mart**	**1.17**	**188**	*eP*		**Pb**	**14 10 44.1**	**+0.2**
SPX	**San Pedro Mart**	**1.17**	**188**	⇓*eP*		**Pb**	**14 10 44.3**	**+0.5**
SPX				IAML			14 11 04.4	
	comp=E,540nm,0.4s							
SPX				*e*			14 11 04.4	
CBX	**Cerro Bola**	**1.18**	**275**	*eP*		**Pn**	**14 10 43.3**	**-0.5**
CBX	**Cerro Bola**	**1.18**	**275**	*eP*		**Pn**	**14 10 43.3**	**-0.5**
CBX	**Cerro Bola**	**1.18**	**275**	⇑*eP*		**Pn**	**14 10 43.5**	**-0.2**
CBX				*eS*		**Sb**	**14 10 59.2**	**+0.2**
CBX				⇓*e*			14 11 00.7	
CBX				IAML			14 11 00.7	
	comp=E,1μm,0.4s							
ECNX	**Esteban Cantu**	**1.25**	**244**	⇓*eP*		**Pb**	**14 10 45.4**	**+0.3**
BAR	**Barrett**	**1.27**	**292**	*ePg*		**Pn**	**14 10 44.3**	**-0.6**
BAR				*eSg*		**Sb**	**14 11 00.8**	**-0.7**
BAR	**Barrett**	**1.27**	**292**	⇓*eP*		**Pn**	**14 10 44.8**	**-0.1**
PBX	**Punta Banda**	**1.32**	**250**	⇓*eP*		**Pb**	**14 10 46.1**	**-0.1**
SDRC	**San Diego Road**	**1.50**	**291**	⇓*eP*		**Pn**	**14 10 48.1**	**+0.1**
PFO	**Pinyon Flats O**	**1.71**	**325**	*ePn*		**Pn**	**14 10 49.6**	**-1.4**
PFO				*ePg*		**Pg**	**14 10 54.1**	**-0.7**
214A	**Organ Pipe Nat**	**2.11**	**96**	*ePn*		**Pn**	**14 10 56.0**	**-0.4**
214A				*ePg*		**Pg**	**14 11 01.9**	**-0.4**
LDFC	**Landfair**	**2.86**	**3**	*ePn*		**Pn**	**14 11 07.7**	**+0.8**
LDFC				*ePg*		**Pg**	**14 11 16.5**	**-0.3**
PASC	**Pasadena Art C**	**3.13**	**310**	*ePn*		**Pn**	**14 11 11.7**	**+1.3**
GSC	**Goldstone, Bar**	**3.34**	**338**	*ePg*		**Pg**	**14 11 25.5**	**-0.3**
OSI	**Osito Audit: C**	**3.75**	**311**	Pg		**Pb**	**14 11 30.4**	**+2.7**
TUC	**Tucson**	**3.81**	**87**	*ePg*		**Pg**	**14 11 34.9**	**+0.1**
SHPR	**Sheep Range**	**4.29**	**1**	*ePg*		**Pg**	**14 11 43.1**	**-0.9**
ISA	**Isabella, Lake**	**4.35**	**323**	*ePg*		**Pg**	**14 11 44.8**	**-0.4**
DAC	**Darwin (Calif)**	**4.49**	**335**	*ePg*		**Pg**	**14 11 49.3**	**+1.5**
WUAZ	**Wupatki**	**4.63**	**43**	*ePn*		**Pn**	**14 11 33.4**	**+2.2**
WUAZ				*ePg*		**Pg**	**14 11 47.8**	**-2.7**
WUAZ				*eSg*		**Sg**	**14 12 48.4**	**-2.0**
R11A	**Troy Canyon, C**	**6.13**	**358**	*ePg*		**Pg**	**14 12 20.0**	**+0.8**
	comp=E,1.9nm,0.6s							
121A	**Cookes Peak, D**	**6.34**	**85**	*ePn*		**Pn**	**14 11 56.1**	**+1.3**
	comp=E,5.1nm,0.3s							
MVU	**Marysvale**	**6.76**	**21**	*ePg*		**Pg**	**14 12 30.9**	**-0.4**
	comp=E,4.7nm,0.8s							
MSU	**Marysvale**	**6.78**	**21**	*ePg*		Pg	14 12 28.3	-3.3
	comp=E,4.8nm,0.6s							

IDC ***19*** *14:38:11.5±1.4,37°.77S×177°.38E,h0km,mb4.2/3, mb1 4.3/3,mb1mx4.0/22,mbtmp4.2/3,MS3.5/6,Ms1 3.5/6, ms1mx3.3/20,Error ellipse: s-maj=41.3km s-min=9.4km az=106.0*
ISCJB ***19*** *14:38:14.0±0.3,37°.81S±0°.02×176°.93E±0°.02,h13km, mb4.0/3,MS3.5/5,Error ellipse: s-maj=2.9km s-min=2.8km az=6.7*
NEIC ***19*** *14:38:14.4,37°.80S×176°.93E,h5km,ML4.3(WEL),After WEL.*
NEIC Felt at Whakatane.
WEL ***19*** *14:38:14.4±0.1,37°.85S×176°.95E,h5km,ML4.3/37,Error ellipse: s-maj=0.6km s-min=0.6km az=0.0*
WEL Felt from Bay of Plenty to Rotorua, maximum reported intensity MM 6.
ISC 19 14:38:14.6±0.6,37°.83S±0°.02×176°.95E±0°.02,h13km,n157, σ1ˢ10/143,mb4.0/3,MS3.5/5,11C-1D,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MARZ	**Manawahe**	**0.27**	**234**	PG		**Pg**	**14 38 19.9**	**-0.4**
OPRZ	**Ohinepanea**	**0.31**	**267**	PG		**Pg**	**14 38 21.0**	**-0.1**
EDRZ	**Edgecumbe**	**0.33**	**211**	PG		**Pg**	**14 38 20.7**	**-0.6**
EDRZ				AML		AML	14 38 35.9	
EDRZ				AML		AML	14 38 53.0	
WIZ	**White Island**	**0.35**	**32**	⇑PG		**Pg**	**14 38 21.6**	**-0.1**
WIZ				SG		**Sg**	**14 38 25.2**	**-1.3**
URZ	**Urewera**	**0.45**	**164**	⇓PG		**Pg**	**14 38 22.0**	**-1.5**
URZ				SG		**Sg**	**14 38 29.2**	**-0.3**
URZ				AML		AML	14 38 33.0	
URZ	**Urewera**	**0.45**	**164**	Pg		**Pg**	**14 38 22.1**	**-1.5**
	985nm,0.3s,baz=351,slow=19,SNR=348							
URZ				Lg		Lg	14 38 28.6	
	1μm,0.3s,baz=41,slow=20,SNR=47							
LIRZ	**Lichensteins R**	**0.48**	**248**	PG		**Pg**	**14 38 24.2**	**+0.1**
LIRZ	**Lichensteins R**	**0.48**	**248**	Pg		**Pg**	**14 38 24.3**	**+0.1**
MKRZ	**Makatiti**	**0.49**	**231**	PG		**Pg**	**14 38 24.6**	**+0.2**
MKRZ				AML		AML	14 38 34.9	
MKRZ				AML		AML	14 38 35.6	
MKRZ	**Makatiti**	**0.49**	**231**	Pg		**Pg**	**14 38 24.6**	**+0.2**
OMRZ	**Omania**	**0.54**	**238**	PG		**Pg**	**14 38 25.2**	**0.0**
OMRZ	**Omania**	**0.54**	**238**	Pg		**Pg**	**14 38 25.2**	**0.0**
TARZ	**Mount Tarawera**	**0.54**	**221**	*e*PG		**Pg**	**14 38 25.3**	**+0.1**
TGRZ	**Tauranga**	**0.56**	**280**	⇑PG		**Pg**	**14 38 25.6**	**0.0**
TGRZ				AML		AML	14 38 33.1	
TGRZ				AML		AML	14 38 38.5	
TGRZ	**Tauranga**	**0.56**	**280**	Pg		**Pg**	**14 38 25.7**	**+0.2**
KARZ	**Kaharoa**	**0.59**	**251**	PG		**Pg**	**14 38 26.3**	**+0.1**
KARZ	**Kaharoa**	**0.59**	**251**	Pg		**Pg**	**14 38 26.3**	**+0.1**
RRRZ	**Republican Roa**	**0.62**	**214**	⇑PG		**Pg**	**14 38 26.2**	**-0.5**
RRRZ	**Republican Roa**	**0.62**	**214**	P*		**Pg**	**14 38 26.2**	**-0.5**
HLRZ	**Highlands Stat**	**0.64**	**228**	P*		**Pb**	**14 38 27.4**	**-0.2**
HAZ	**Te Kaha**	**0.66**	**84**	P*		**Pg**	**14 38 26.4**	**-1.1**
MWZ	**Matawai**	**0.68**	**138**	⇑P*		**Pg**	**14 38 26.4**	**-1.5**
MWZ				AML		AML	14 38 39.5	
MWZ				AML		AML	14 38 40.0	
MWZ				AML		AML	14 38 43.5	
MWZ				AML		AML	14 38 43.5	
UTU	**Utuhina**	**0.69**	**240**	*e*P*		**Pb**	**14 38 28.5**	**-0.1**
UTU				AML		AML	14 38 37.3	
UTU				AML		AML	14 38 38.5	
UTU	**Utuhina**	**0.69**	**240**	P*		**Pb**	**14 38 28.6**	**-0.1**
HSRZ	**Hossack Road**	**0.74**	**229**	*e*P*		**Pb**	**14 38 29.2**	**-0.2**
RAGZ	**Rawiri**	**0.76**	**151**	⇑P*		**Pg**	**14 38 28.1**	**-1.3**
HRRZ	**Handcock Road**	**0.77**	**223**	⇑P*		**Pg**	**14 38 29.6**	**0.0**
HRRZ	**Handcock Road**	**0.77**	**223**	P*		**Pg**	**14 38 29.6**	**0.0**
MYRZ	**Mayor Island**	**0.79**	**314**	P*		**Pg**	**14 38 29.5**	**-0.4**
PRRZ	**Plateau Road**	**0.80**	**213**	P*		**Pg**	**14 38 29.5**	**-0.7**
PRRZ	**Plateau Road**	**0.80**	**213**	P*		**Pg**	**14 38 29.5**	**-0.7**
GRRZ	**Galatos Road**	**0.84**	**232**	P*		**Pg**	**14 38 30.9**	**0.0**
ALRZ	**Allen Road**	**0.88**	**213**	⇑P*		**Pg**	**14 38 30.9**	**-0.7**
ALRZ	**Allen Road**	**0.88**	**213**	P*		**Pg**	**14 38 30.9**	**-0.7**
TWGZ	**Tauwhareparae**	**0.88**	**113**	⇑P*		**Pg**	**14 38 31.3**	**-0.4**
WPRZ	**Whakapapataran**	**0.93**	**222**	P*		**Pg**	**14 38 32.3**	**-0.3**
TKGZ	**Te Karaka**	**0.93**	**131**	⇑P*		**Pb**	**14 38 32.2**	**-0.5**
SNGZ	**Shannon Statio**	**1.00**	**162**	P*		**Pb**	**14 38 33.0**	**-0.8**
PUZ	**Puketiti**	**1.06**	**104**	P*		**Pb**	**14 38 34.5**	**-0.4**
PUZ				AML		AML	14 38 59.4	
PUZ				AML		AML	14 39 02.1	
PUZ	**Puketiti**	**1.06**	**104**	P*		**Pb**	**14 38 34.5**	**-0.4**
RIGZ	**Rimuhau**	**1.08**	**144**	P*		**Pb**	**14 38 35.4**	**+0.1**
MRHZ	**Matea Rd**	**1.09**	**203**	⇑P*		**Pb**	**14 38 34.2**	**-1.1**
RAHZ	**Arahi**	**1.09**	**174**	P*		**Pb**	**14 38 34.6**	**-0.8**
RAHZ	**Arahi**	**1.09**	**174**	P*		**Pb**	**14 38 34.6**	**-0.8**
KUTZ	**Kaahu Road**	**1.11**	**233**	P*		**Pb**	**14 38 34.7**	**-1.0**
MXZ	**Matakaoa Point**	**1.11**	**77**	P*		**Pb**	**14 38 34.4**	**-1.2**
MXZ				AML		AML	14 38 59.7	
MXZ				AML		AML	14 38 59.8	
MXZ				AML		AML	14 39 01.9	
MXZ				AML		AML	14 39 01.9	
MXZ	**Matakaoa Point**	**1.11**	**77**	P*		**Pb**	**14 38 34.5**	**-1.1**
TOZ	**Tahuroa Road**	**1.15**	**274**	P*		**Pb**	**14 38 34.7**	**-1.6**
TOZ	**Tahuroa Road**	**1.15**	**274**	P*		**Pb**	**14 38 34.8**	**-1.6**
WMGZ	**Waiomatatini S**	**1.16**	**90**	P*		**Pb**	**14 38 36.5**	**0.0**
WMGZ				S*		**Sn**	**14 38 53.5**	**+1.3**
CNGZ	**Carnagh Statio**	**1.19**	**124**	P*		**Pg**	**14 38 38.1**	**+0.6**
CNGZ	**Carnagh Statio**	**1.19**	**124**	P*		**Pg**	**14 38 38.1**	**+0.6**
TLZ	**Tolley Road**	**1.22**	**245**	P*		**Pn**	**14 38 35.7**	**-1.8**
HATZ	**Hinemaiaia**	**1.26**	**212**	P*		**Pn**	**14 38 36.8**	**-1.2**
HATZ				AML		AML	14 39 05.2	
HATZ				AML		AML	14 39 13.7	
HATZ	**Hinemaiaia**	**1.26**	**212**	P*		**Pn**	**14 38 36.8**	**-1.2**
WHHZ	**Waihua**	**1.27**	**170**	P*		**Pb**	**14 38 38.3**	**0.0**
NMHZ	**Naumai**	**1.27**	**185**	⇑P*		**Pn**	**14 38 37.7**	**-0.5**
NMHZ	**Naumai**	**1.27**	**185**	P*		**Pn**	**14 38 37.7**	**-0.5**
WATZ	**Wairara**	**1.30**	**227**	P*		**Pn**	**14 38 38.0**	**-0.5**
WATZ				AML		AML	14 39 14.9	
WATZ				AML		AML	14 39 19.2	
WATZ	**Wairara**	**1.30**	**227**	P*		**Pn**	**14 38 38.0**	**-0.5**
PRGZ	**Paritu Road**	**1.32**	**146**	P*		**Pb**	**14 38 39.4**	**+0.2**
PRGZ	**Paritu Road**	**1.32**	**146**	Pn		**Pb**	**14 38 39.4**	**+0.2**
KNZ	**Kokohu**	**1.32**	**155**	P*		**Pn**	**14 38 38.5**	**-0.3**
BKZ	**Black Stump Fm**	**1.39**	**195**	P*		**Pn**	**14 38 38.3**	**-1.4**
BKZ				AML		AML	14 39 21.5	
BKZ				AML		AML	14 39 24.8	
RATZ	**Rangitukua**	**1.39**	**221**	P*		**Pn**	**14 38 40.0**	**+0.2**
RATZ				AML		AML	14 39 31.4	
RATZ				AML		AML	14 39 53.4	
RATZ	**Rangitukua**	**1.39**	**221**	P*		**Pn**	**14 38 40.0**	**+0.2**
ARHZ	**Aropaoanui**	**1.43**	**179**	PN		**Pn**	**14 38 40.6**	**+0.3**
RITZ	**Rihia Road**	**1.43**	**216**	P*		**Pn**	**14 38 40.5**	**+0.1**
RITZ				AML		AML	14 39 20.7	
RITZ				AML		AML	14 39 36.8	
RITZ	**Rihia Road**	**1.43**	**216**	P*		**Pn**	**14 38 40.5**	**+0.1**
KUZ	**Kuaotunu**	**1.46**	**317**	PN		**Pn**	**14 38 38.5**	**-2.2**
KUZ				AML		AML	14 39 09.2	
KUZ				AML		AML	14 39 09.2	
KUZ				AML		AML	14 39 09.2	
KUZ				AML		AML	14 39 09.2	
KUZ	**Kuaotunu**	**1.46**	**317**	Pn		**Pn**	**14 38 38.5**	**-2.2**
KATZ	**Kakaramea**	**1.51**	**220**	AML		AML	14 39 28.2	
KATZ				AML		AML	14 39 28.3	
KATZ	**Kakaramea**	**1.51**	**220**	P*		**Pb**	**14 38 42.9**	**+0.2**
MHGZ	**Mahia Peninsul**	**1.52**	**151**	Pn		**Pn**	**14 38 41.9**	**+0.3**
MKAZ	**Moumakai**	**1.59**	**296**	PN		**Pn**	**14 38 40.7**	**-1.8**
MKAZ				AML		AML	14 38 47.0	
MKAZ				AML		AML	14 39 19.6	
MKAZ	**Moumakai**	**1.59**	**296**	Pn		**Pn**	**14 38 40.7**	**-1.8**
MCHZ	**McNeill Hill**	**1.63**	**187**	*e*PN		**Pn**	**14 38 43.5**	**+0.6**
MCHZ	**McNeill Hill**	**1.63**	**187**	Pn		**Pb**	**14 38 43.9**	**-0.6**
KRVZ	**Karewarewa**	**1.63**	**219**	AML		AML	14 39 17.3	
KRVZ				AML		AML	14 39 23.7	
KRVZ	**Karewarewa**	**1.63**	**219**	*e*P*		**Pn**	**14 38 43.0**	**-0.2**
OTVZ	**Oturere**	**1.67**	**217**	P*		**Pn**	**14 38 43.6**	**-0.2**
OTVZ				AML		AML	14 39 26.1	
OTVZ				AML		AML	14 39 35.7	
OTVZ	**Oturere**	**1.67**	**217**	P*		**Pn**	**14 38 43.6**	**-0.2**
WTVZ	**West Tongariro**	**1.67**	**219**	AML		AML	14 39 22.5	
WTVZ				AML		AML	14 39 23.0	
WTVZ	**West Tongariro**	**1.67**	**219**	P*		**Pb**	**14 38 44.6**	**-0.7**
NGZ	**Ngauruhoe**	**1.71**	**218**	AML		AML	14 39 45.3	
NGZ				AML		AML	14 39 46.7	
NGZ	**Ngauruhoe**	**1.71**	**218**	P*		**Pn**	**14 38 45.0**	**+0.7**
TUVZ	**Tukino**	**1.76**	**215**	AML		AML	14 39 31.4	
TUVZ				AML		AML	14 39 44.1	
TUVZ	**Tukino**	**1.76**	**215**	P*		**Pb**	**14 38 46.7**	**-0.2**
WPVZ	**Whakapapa**	**1.76**	**218**	AML		AML	14 39 26.4	
WPVZ				AML		AML	14 39 31.7	
WPVZ	**Whakapapa**	**1.76**	**218**	P*		**Pb**	**14 38 46.1**	**-0.8**
HIZ	**Hauiti**	**1.79**	**247**	PN		**Pn**	**14 38 44.3**	**-0.9**
HIZ				AML		AML	14 39 41.6	
HIZ	**Hauiti**	**1.79**	**247**	Pn		**Pg**	**14 38 49.0**	**0.0**
KBAZ	**Karaka Road Bo**	**1.80**	**293**	PN		**Pn**	**14 38 44.3**	**-1.0**
BHHZ	**Black Hill Sta**	**1.80**	**202**	P*		**Pn**	**14 38 44.4**	**-1.0**
BHHZ	**Black Hill Sta**	**1.80**	**202**	P*		**Pn**	**14 38 44.5**	**-1.0**
FWVZ	**Far West T-bar**	**1.80**	**217**	AML		AML	14 39 18.7	
FWVZ				AML		AML	14 39 19.1	
FWVZ	**Far West T-bar**	**1.80**	**217**	P*		**Pb**	**14 38 47.1**	**-0.5**
CKHZ	**Cape Kidnapper**	**1.83**	**177**	*e*PN		**Pn**	**14 38 45.4**	**-0.4**
CKHZ	**Cape Kidnapper**	**1.83**	**177**	Pn		**Pn**	**14 38 45.9**	**0.0**
ETAZ	**East Tamaki Re**	**1.83**	**298**	PN		**Pn**	**14 38 44.6**	**-1.2**
MOVZ	**Moawhango**	**1.84**	**210**	P*		**Pn**	**14 38 46.2**	**+0.2**
MOVZ				AML		AML	14 39 16.4	
MOVZ				AML		AML	14 39 26.7	
MOVZ	**Moawhango**	**1.84**	**210**	P*		**Pn**	**14 38 46.2**	**+0.2**
TRVZ	**Turoa**	**1.84**	**216**	AML		AML	14 39 16.9	
TRVZ				AML		AML	14 39 36.8	
TRVZ	**Turoa**	**1.84**	**216**	P*		**Pb**	**14 38 48.6**	**+0.4**
WNHZ	**Wahianoa**	**1.84**	**215**	P*		**Pb**	**14 38 47.6**	**-0.6**
KRHZ	**Kereru**	**1.87**	**194**	*e*PN		**Pn**	**14 38 47.1**	**+0.7**
PKVZ	**Pokaka**	**1.93**	**220**	AML		AML	14 39 26.5	
PKVZ				AML		AML	14 40 37.9	
PKVZ	**Pokaka**	**1.93**	**220**	P*		**Pb**	**14 38 49.5**	**-0.1**
MTAZ	**Motutapu**	**1.93**	**302**	Pn		**Pb**	**14 38 49.8**	**+0.2**
MTVZ	**Mangateitei**	**1.94**	**216**	AML		AML	14 39 29.5	
MTVZ				AML		AML	14 39 31.2	
MTVZ	**Mangateitei**	**1.94**	**216**	P*		**Pb**	**14 38 49.6**	**-0.3**
KAHZ	**Kahuranaki**	**1.97**	**182**	PN		**Pn**	**14 38 47.8**	**+0.1**
KAHZ	**Kahuranaki**	**1.97**	**182**	Pn		**Pn**	**14 38 47.9**	**+0.1**
GRZ	**Great Barrier**	**1.98**	**322**	*e*PN		**Pn**	**14 38 46.1**	**-1.7**
ABAZ	**Army Bay**	**2.09**	**305**	*e*PN		**Pn**	**14 38 48.2**	**-1.1**
WTAZ	**Waiatarua**	**2.09**	**295**	*e*PN		**Pn**	**14 38 48.4**	**-1.0**
WTAZ	**Waiatarua**	**2.09**	**295**	Pn		**Pn**	**14 38 48.6**	**-0.8**
VRZ	**Vera Road**	**2.15**	**232**	AML		AML	14 39 58.8	
VRZ				AML		AML	14 40 06.8	
VRZ	**Vera Road**	**2.15**	**232**	P*		**Pn**	**14 38 50.8**	**+0.6**
PXZ	**Pawanui**	**2.20**	**182**	AML		AML	14 39 41.7	
PXZ				AML		AML	14 39 41.8	
PXZ				AML		AML	14 39 51.7	
PXZ				AML		AML	14 39 51.8	
PXZ	**Pawanui**	**2.20**	**182**	Pn		**Pn**	**14 38 48.4**	**-2.4**
WPHZ	**Waipukurau**	**2.27**	**190**	Pn		**Pn**	**14 38 51.5**	**-0.4**
TSZ	**Takapari Road**	**2.36**	**199**	PN		**Pn**	**14 38 52.9**	**-0.2**
TSZ				AML		AML	14 39 32.2	
TSZ				AML		AML	14 39 46.3	
TSZ	**Takapari Road**	**2.36**	**199**	Pn		**Pn**	**14 38 52.9**	**-0.2**
PRHZ	**Porangahau**	**2.45**	**186**	PN		**Pn**	**14 38 53.4**	**-0.9**
PRHZ	**Porangahau**	**2.45**	**186**	Pn		**Pn**	**14 38 53.4**	**-0.9**
WAZ	**Wanganui**	**2.46**	**218**	PN		**Pb**	**14 38 57.1**	**-1.7**
WAZ				AML		AML	14 39 42.0	
WAZ				AML		AML	14 39 45.9	
WAZ	**Wanganui**	**2.46**	**218**	Pn		**Pb**	**14 38 57.6**	**-1.2**
ANWZ	**Angora Road**	**2.66**	**188**	*e*PN		**Pn**	**14 38 56.1**	**-1.0**
WCZ	**Waipu Caves**	**2.81**	**311**	PN		**Pn**	**14 38 57.9**	**-1.4**
WCZ	**Waipu Caves**	**2.81**	**311**	Pn		**Pn**	**14 38 57.9**	**-1.4**
BFZ	**Birch Farm**	**2.90**	**191**	PN		**Pn**	**14 38 58.9**	**-1.6**
BFZ	**Birch Farm**	**2.90**	**191**	Pn		**Pn**	**14 38 58.9**	**-1.6**
MRZ	**Mangatainoka R**	**3.02**	**200**	PN		**Pn**	**14 39 00.8**	**-1.4**
MRZ				AML		AML	14 39 57.9	
MRZ				AML		AML	14 40 14.1	
MRZ	**Mang

ECNX	Esteban Cantu	1.22	217	*e*P		Pn	14 39 48.3	-0.4
PBX	Punta Banda	1.22	224	*e*P		Pn	14 39 48.4	-0.2
BELC	Belle Mtn. Jos baz=1.4	1.38	351	P		Pn	14 39 49.5	-1.5
Y12C	Blythe baz=1.5	1.51	42	P		Pn	14 39 51.3	-1.3
MURC	Murrieta baz=1.6	1.56	309	P		Pn	14 39 52.3	-1.1
SPIG	San Pedro Mart	1.60	172	*e*P		Pn	14 39 53.6	-0.5
SPIG	San Pedro Mart	1.60	172	*e*P		Pn	14 39 53.6	-0.5
SPIG	San Pedro Mart	1.60	172	⇓*e*P		Pn	14 39 53.7	-0.5
SPX	San Pedro Mart	1.60	172	*e*P		Pn	14 39 53.7	-0.4
SPX	San Pedro Mart	1.60	172	⇓*e*P		Pn	14 39 53.7	-0.4
IRM	Iron Mountain baz=1.6	1.60	18	P		Pn	14 39 52.7	-1.2
113A	Mohawk Valley, baz=1.7	1.67	85	P		Pn	14 39 53.6	-1.2
BBRC	Big Bear Solar baz=1.9	1.90	329	P		Pn	14 39 57.6	-0.7
GMRC	Granite Mounta baz=2.2	2.14	2	P		Pn	14 40 00.4	-1.1
BFSC	Mount Baldy Ra baz=2.3	2.27	315	Pg		Pb	14 40 06.7	0.0
BFSC	baz=2.3			Sb		Sb	14 40 34.8	0.0
CIS	Catalina Islan baz=2.4	2.37	290	Sb		Sb	14 40 38.5	+0.9
SCI	San Clemente I baz=2.4	2.39	279	P		Pn	14 40 04.2	-0.5
Z14A	Wintersburg baz=2.5	2.46	72	P		Pn	14 40 04.5	-1.1
LDFC	Landfair	2.50	12	*e*Pn		Pn	14 40 06.1	-0.2
LDFC				*e*Pg		Pg	14 40 14.2	+0.6
MWC	Mount Wilson	2.51	310	*e*Pn		Pn	14 40 06.6	+0.1
MWC				*e*Pg		Pb	14 40 10.8	-0.1
MWC				*e*Sg		Sb	14 40 42.7	+1.0
PASC	Pasadena Art C	2.56	308	*e*Pg		Pb	14 40 11.3	-0.3
PASC				*e*Sg		Sb	14 40 43.1	0.0
214A	Organ Pipe Nat	2.57	104	*e*Pn		Pn	14 40 05.5	-1.7
214A				*e*Pg		Pg	14 40 15.6	+0.6
214A	Organ Pipe Nat baz=2.6	2.57	104	P		Pn	14 40 05.5	-1.7
GSC	Goldstone, Bar	2.81	342	*e*Pn		Pn	14 40 09.7	-0.8
GSC				*e*Pg		Pb	14 40 17.4	+1.5
W13A	Hualapai Mount baz=2.9	2.90	32	P		Pn	14 40 11.5	-0.5
OSI	Osito Audit: C	3.18	309	*e*Pg		Pb	14 40 23.4	+1.2
OSI				*e*Sg		Sb	14 41 03.6	+2.6
MPMC	Manual Prospec baz=3.7	3.71	338	P		Pn	14 40 22.3	-0.8
ISA	Isabella, Lake	3.78	324	*e*Pn		Pn	14 40 23.5	-0.4
ISA				*e*Pg		Pb	14 40 34.9	+2.4
ISA				*e*Sg		Sb	14 41 21.1	+2.9
SHPR	Sheep Range	3.89	7	*e*Pn		Pn	14 40 25.6	0.0
SHPR				*e*Pg		Pg	14 40 41.1	+0.7
DAC	Darwin (Calif)	3.95	338	*e*Pn		Pn	14 40 25.8	-0.5
DAC				*e*Pg		Pb	14 40 38.3	+2.9
X16A	Lo Mia Camp, P baz=4.0	4.01	62	P		Pn	14 40 27.4	+0.3
TUC	Tucson	4.20	93	*e*Pn		Pn	14 40 28.6	-1.0
WUAZ	Wupatki	4.62	50	*e*Pn		Pn	14 40 35.8	+0.2
WUAZ	Wupatki baz=4.6	4.62	50	P		Pn	14 40 36.6	+1.0
U15A	North Rim baz=4.8	4.74	36	P		Pn	14 40 38.4	+1.1
X18A	Snowflake baz=5.2	5.19	67	P		Pn	14 40 44.0	+0.7
TPH	Tonopah comp=N,8.1nm,0.6s	5.56	348	*e*Pg		Pg	14 41 12.3	0.0
W18A	Petrified Fore comp=N,13nm,0.4s	5.57	62	*e*Pn		Pn	14 40 50.0	+1.3
W18A	Petrified Fore baz=5.6	5.57	62	P		Pn	14 40 50.1	+1.5
R11A	Troy Canyon, C comp=N,6.1nm,0.8s	5.71	1	Pn		Pn	14 40 49.7	-0.8
R11A				Pg		Pg	14 41 13.3	-1.8
MVU	Marysvale comp=N,4.0nm,0.4s	6.52	25	*e*Pn		Pn	14 41 02.1	+0.4
MSU	Marysvale comp=N,8.5nm,0.8s	6.54	25	*e*P		Pn	14 41 07.1	+5.0
WAKR	Walker comp=N,9.2nm,1.1s	6.59	334	Pg		Pg	14 41 30.3	-1.7
121A	Cookes Peak, D comp=N,11nm,0.6s	6.71	89	*e*Pn		Pn	14 41 04.1	-0.2
121A	Cookes Peak, D baz=6.7	6.71	89	P		Pn	14 41 04.3	0.0
MVCO	Mesa Verde comp=N,13nm,0.6s	7.50	50	Pn		Pn	14 41 15.6	+0.4
SRU	San Rafael Swe comp=N,6.6nm,0.6s	7.72	32	Pn		Pn	14 41 20.7	+2.5

*NNC **19** 15:25:20.9±1.1,42˚06N×69˚34E,h11km±8km,mb4.0, mpv3.8,Error ellipse: s-maj=8.4km s-min=5.2km az=99.0*
*IDC **19** 15:25:20.3±1.7,42˚19N×69˚33E,h0km,mb3.8/2, mb1 3.6/8,mb1mx3.4/51,mbtmp3.5/8,ML3.1/6,MS2.8/2, Ms1 2.8/2,ms1mx2.4/45,Error ellipse: s-maj=21.0km s-min=10.2km az=21.0*

ISC 19 15:25:19.0±0.8,42˚09N±0˚05×69˚06E±0˚06,h10km,n33, σ2s14/43,mb3.8/3,16C-9D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time h m s	Res ISC
KK31	Karatay Array 50nm,0.5s,baz=224,slow=15,SNR=461	1.48	46	Op P	ISC Pb	15 25 46.1	-0.5
KK31	126nm,0.3s,baz=227,slow=33,SNR=16			S	Sn	15 26 04.0	-1.2
MNAS	Manas 20nm,0.3s	2.59	80	⇑Pg	Pb	15 26 04.1	-1.6
MNAS	136nm,0.3s			⇓Lg	Lg	15 26 35.3	
DZET	Dzherino 28nm,0.4s	3.28	183	⇑Pg	Pg	15 26 21.2	-0.8
DZET	109nm,0.6s			⇑Lg	Lg	15 27 04.3	
AML	Almayashu SNR=31	3.45	88	P	Pb	15 26 20.1	-0.3
EKS2	Erkin-Say SNR=22	3.54	79	P	Pb	15 26 22.4	+0.4
SFK	Sufi-Kurgan 2.0nm,0.2s	3.95	120	⇑Pn	Pn	15 26 20.4	+0.5
SFK	37nm,0.4s			⇑Sn	Sn	15 27 03.6	-2.8
UCH	Uchtor SNR=13	4.06	86	P	Pb	15 26 31.2	+0.3
AAK	Ala-Archa SNR=22	4.07	80	P	Pb	15 26 32.5	+1.6
AAK	Ala-Archa 0.5nm,0.3s,baz=218,slow=12,SNR=3.8	4.07	80	Pn	Pn	15 26 24.3	+2.9
AAK	3.6nm,0.3s,baz=231,slow=11,SNR=57			Pg	Pb	15 26 31.2	+0.4
AAK	17nm,0.3s,baz=183,slow=23,SNR=12			Lg	Lg	15 27 20.9	
USP	Ospenovka SNR=6.6	4.18	72	P	Pb	15 26 33.6	+0.8
CHMS	Chumysh SNR=10	4.30	76	P	Pb	15 26 36.4	+1.5
KBK	Karagaybulak SNR=9.2	4.40	81	P	Pb	15 26 38.3	+1.7
KZA	Kyzart SNR=19	4.61	88	P	Pb	15 26 41.5	+1.3
TKM2	Tokmak 2 SNR=7.6	4.91	78	P	Pb	15 26 47.1	+2.0
TKM2	Tokmak 2 7.6nm,0.5s	4.91	78	⇑Pg	Pb	15 26 45.2	0.0
TKM2	49nm,0.4s			⇓Lg	Lg	15 27 46.1	
KSH	Kashi comp=N,40nm,0.6s	5.84	114	Pn Sn smax	Pn Sn smax	15 26 45.8 15 27 45.6	0.0 -7.3
KSH	comp=E,81nm,1.1s			smax	smax		
PDGK	Podgornoye comp=E,3.7nm,0.9s	7.78	77	⇑Pg	Pb	15 27 37.8	+3.9
PDGK	comp=E,17nm,0.7s			⇑Lg	Lg	15 29 18.2	
AB31	Akbulak array comp=E,2.4nm,0.5s	9.59	321	⇑Pn	Pn	15 27 38.9	+1.9
AB31	comp=E,1.4nm,0.3s,baz=192,slow=39,SNR=4.9			⇓Sn	Sn	15 29 21.2	-3.7
MK31	Makanchi Array comp=E,0.7nm,0.6s,baz=251,slow=17,SNR=12	10.56	59	⇓Pn	Pn	15 27 50.1	-0.4
MK31	comp=E,1.1nm,0.5s			⇓Sn	Sn	15 29 45.3	-3.5
MK31				⇑Lg	Lg	15 30 45.8	
	comp=E,12nm,1.3s,baz=254,slow=33,SNR=4.7						
MKAR	Makanchi Array comp=E,0.4nm,0.3s,baz=248,slow=17,SNR=12	10.56	59	Pn	Pn	15 27 48.9	-1.6
MKAR	comp=E,0.1nm,0.3s,baz=246,slow=24,SNR=2.5			Sn	Sn	15 29 39.0	-10
MKAR	comp=E,0.3nm,0.3s,baz=248,slow=29,SNR=4.4			Lg	Lg	15 30 47.1	
KURBB	Kurchatov Arra comp=E,1.7nm,0.9s	10.75	34	⇓Pn	Pn	15 27 55.7	+2.8
KURBB	comp=E,17nm,0.8s			⇓Lg	Lg	15 30 58.1	
KURBB	Kurchatov Arra comp=E,0.1nm,0.3s,baz=224,slow=13,SNR=7.7	10.75	34	Pn	Pn	15 27 50.8	-2.1
KURBB	comp=E,0.1nm,0.3s,baz=226,slow=36,SNR=8.4			Lg	Lg	15 30 56.8	
KURK	Kurchatov comp=E,1.2nm,1.1s	10.86	34	⇑Pn	Pn	15 27 56.4	+2.0
KURK	comp=E,6.4nm,0.8s			⇑Lg	Lg	15 30 57.2	
BVA0	Borovoye Array comp=E,1.4nm,0.7s,baz=0.0,slow=0.1,SNR=6.1	10.98	4	⇑Pn	Pn	15 27 56.3	+0.2
BVA0				⇓Sn	Sn	15 30 00.9	+2.0
BVAR	Borovoye Array comp=E,0.4nm,0.3s,baz=178,slow=14,SNR=7.8	10.98	4	Pn	Pn	15 27 56.3	+0.2
BVAR	comp=E,0.2nm,0.3s,baz=182,slow=20,SNR=2.9			Sn	Sn	15 29 54.2	-4.7
BVAR	comp=E,0.2nm,0.3s,baz=182,slow=29,SNR=4.0			Lg	Lg	15 31 06.9	
BRVK	Borovoye comp=E,1.9nm,0.6s	11.01	4	⇓Pn	Pn	15 27 55.5	-1.0
BRVK				⇑Sn	Sn	15 30 00.8	+1.2
AKTO	Aktyubinsk comp=E,0.6nm,0.3s	11.31	321	⇑Pn	Pn	15 28 02.5	+1.9
AKTO	comp=E,2.2nm,0.5s			⇑Sn	Sn	15 30 03.5	-3.4
AKTO	Aktyubinsk comp=E,0.5nm,0.3s,baz=128,slow=10,SNR=4.7	11.31	321	Pn	Pn	15 28 02.7	+2.1
AKTO	comp=E,0.4nm,0.3s,baz=128,slow=19,SNR=3.3			Sn	Sn	15 30 02.0	-4.9
AKTO	comp=E,0.2nm,0.3s,baz=204,slow=20,SNR=1.9			Lg	Lg	15 31 20.2	
AKTO	comp=E,46nm,20.3s,baz=203,slow=37			LR	LR	15 32 18.8	
ZALV	Zalesovo Beam comp=E,0.2nm,0.3s,baz=233,slow=12,SNR=4.2	15.83	36	Pn	Pn	15 29 01.1	-0.7
HHC	Hu-ho-hao-te	31.64	78	*e*P	P	15 31 48.6	+6.3
HHC				PP	PP	15 32 50.8	-2.8
HHC				S	S	15 36 54.1	+2.6
HHC				SS	SnSn	15 38 37.9	+0.8
HHC	comp=E,78nm,1.1s			pmax	pmax		
HHC	comp=E,68nm,7.4s			pmax	pmax		
HHC	comp=N,170nm,18.5s			LR	LR		
HHC	comp=E,150nm,18.5s			LR	LR		
HHC	comp=Z,150nm,18.5s			LR	LR		
FINES	FINESS Array B comp=Z,0.7nm,0.6s,baz=117,slow=9.9,SNR=3.3	32.08	322	P	P	15 31 48.4	+2.6
ARCES	ARCESS Array B comp=Z,1.3nm,0.8s,baz=101,slow=9.5,SNR=6.9	35.43	335	P	P	15 32 17.0	+2.1
TGY	Tagaytay City comp=Z,8.5nm,21.2s,baz=325,slow=38	52.59	106	LR	LR	15 58 26.1	

*ISCJB **19** 15:29:36.0±0.6,42˚20N±0˚03×74˚11E±0˚03,h9km±4km, Error ellipse: s-maj=5.3km s-min=3.8km az=7.5*
*KNET **19** 15:29:35.8±0.5,42˚22N×74˚13E,h6km±13km,ml2.9,Error ellipse: s-maj=2.4km s-min=1.6km az=19.0*
*NNC **19** 15:29:35.1±0.8,42˚19N×74˚08E,h0km,mb3.6,mpv3.4, Error ellipse: s-maj=8.0km s-min=3.2km az=154.0*
*KRNET **19** 15:29:35.8±0.1,42˚20N×74˚12E,h14km,mb3.8*

ISC 19 15:29:36.0±0.9,42˚19N±0˚03×74˚11E±0˚02,h14km±8km, n29,σ0s52/52,27C-10D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time h m s	Res ISC
UCH	Uchtor 253nm,0.2s,SNR=56	0.30	83	Op ⇑P	ISC Pg	15 29 42.2	-0.2
UCH	656nm,0.1s			⇑S	Sg	15 29 46.5	-0.4
UCH	Uchtor baz=85	0.30	83	*e*P	Pg	15 29 42.1	-0.4
UCH	baz=85			*i* S	Sg	15 29 46.5	-0.4
AML	Almayashu 720nm,0.2s,SNR=822	0.32	259	⇑P	Pg	15 29 42.6	-0.1
AML	2μm,0.2s			⇑S	Sg	15 29 47.3	-0.1
AML	Almayashu baz=258	0.32	259	*e*P	Pg	15 29 42.5	-0.3
AML	baz=258			*i* S	Sg	15 29 47.1	-0.3
AAK	Ala-Archa 64nm,0.2s,SNR=61	0.52	33	⇓P	Pg	15 29 46.4	+0.1
AAK	990nm,0.4s			⇓S	Sg	15 29 53.5	+0.2
AAK	Ala-Archa 17nm,0.2s	0.52	33	⇑P	Pg	15 29 46.3	-0.1
AAK	247nm,0.3s			⇑S	Sg	15 29 53.3	0.0
AAK	Ala-Archa baz=32	0.52	33	*e*P	Pg	15 29 46.3	-0.1
AAK	baz=32			*i* S	Sg	15 29 53.4	0.0
EKS2	Erkin-Say 37nm,0.2s,SNR=110	0.53	332	P	Pg	15 29 46.4	-0.1
EKS2	185nm,0.2s			⇑S	Sg	15 29 53.6	0.0
EKS2	Erkin-Say baz=331	0.53	332	*e*P	Pg	15 29 46.2	-0.3
EKS2	baz=331			*i* S	Sg	15 29 53.4	-0.2
EKS	Erkin-Say baz=332	0.53	333	*i* P	Pg	15 29 46.5	0.0
EKS	baz=332			*e*S	Sg	15 29 54.2	+0.5
KBK	Karagaybulak 69nm,0.1s,SNR=62	0.77	53	⇑P	Pg	15 29 50.9	-0.1
KBK	622nm,0.3s			⇑S	Sg	15 30 01.4	+0.2
KBK	Karagaybulak baz=53	0.77	53	⇑*i*P	Pg	15 29 50.8	-0.2
KBK	baz=53			⇑*i*S	Sg	15 30 01.3	+0.1
KZA	Kyzart 81nm,0.2s,SNR=158	0.85	97	⇑P	Pg	15 29 52.3	-0.3
KZA	332nm,0.2s			⇑S	Sb	15 30 04.1	-0.2
KZA	Kyzart baz=98	0.85	97	⇑*i*P	Pg	15 29 52.1	-0.5
KZA	baz=98			⇑*i*S	Sg	15 30 03.9	0.0
CHMS	Chumysh 20nm,0.1s,SNR=30	0.93	30	⇓P	Pg	15 29 53.7	-0.3
CHMS	127nm,0.2s			⇑S	Sg	15 30 06.1	-0.2
CHMS	Chumysh baz=30	0.93	30	*e*P	Pg	15 29 53.6	-0.4
CHMS	baz=30			*i* S	Sg	15 30 06.1	-0.2
USP	Ospenovka 35nm,0.2s,SNR=54	1.11	15	⇓P	Pb	15 29 56.8	-0.2
USP	Ospenovka baz=15	1.11	15	⇓*i*P	Pb	15 29 56.7	-0.3
USP	baz=15			⇓*i*S	Sb	15 30 11.4	+0.1
MNAS	Manas 10nm,0.4s	1.23	284	⇑P	Pn	15 29 58.5	-0.4
MNAS	29nm,0.2s			⇑S	Sb	15 30 14.1	-0.7
TKM2	Tokmak 2 26nm,0.1s,SNR=125	1.31	56	P	Pn	15 30 00.4	+0.2
TKM2	Tokmak 2 10nm,0.3s	1.31	56	⇑P	Pn	15 29 59.7	-0.5
TKM2	74nm,0.3s			⇑S	Sb	15 30 17.2	-0.2
TKM2	Tokmak 2 baz=56	1.31	56	⇑*i*P	Pn	15 30 00.2	+0.1
TKM2	baz=56			⇑*i*S	Sb	15 30 17.2	-0.2
BOOM	Boomskoye usch baz=78	1.39	77	*e*P	Pn	15 30 01.0	-0.1
BOOM	baz=78			*e*S	Sn	15 30 17.8	-1.5
ULHL	Ulahol baz=88	1.58	87	⇑*i*P	Pn	15 30 04.7	+0.9
ULHL	baz=88			⇑*i*S	Sb	15 30 25.7	+0.6
NRN	Naryn baz=119	1.60	118	*e*P	Pb	15 30 05.6	+0.1
NRN	baz=119			*e*S	Sb	15 30 26.2	+0.4
SFK	Sufi-Kurgan 14nm,0.6s	2.23	192	⇓Pg	Pb	15 30 16.6	+0.4
SFK	54nm,0.5s			⇑Lg	Lg	15 30 46.1	
KNDC	Almaty 51nm,0.4s	2.34	63	⇓Pg	Pb	15 30 19.1	+1.1
KNDC	118nm,0.3s			⇑Lg	Lg	15 30 50.4	
KK31	Karatay Array 3.4nm,0.3s,baz=112,slow=16,SNR=18	2.81	290	⇓Pg	Pb	15 30 27.6	+1.7
KK31	45nm,0.4s,baz=111,slow=26,SNR=27			Lg	Lg	15 31 03.2	
PDGK	Podgornoye 13nm,1.1s	4.11	72	⇓Pg	Pb	15 30 49.6	+1.5
PDGK	16nm,0.5s			⇑Lg	Lg	15 31 43.2	

*IDC **19** 15:36:35.0±0.7, 11˚57S×119˚38E,h0km,mb4.0/8, mb1 4.2/10,mb1mx4.0/27,mbtmp4.1/10,ML4.4/2,MS3.1/3, Ms1 3.2/3,ms1mx2.8/25,Error ellipse: s-maj=34.3km s-min=16.8km az=61.0*
*ISCJB **19** 15:36:37.6±0.4, 11˚72S±0˚04×119˚11E±0˚03,h33km, mb4.1/11,MS3.8/2,Error ellipse: s-maj=5.3km s-min=3.8km az=17.3*
*NEIC **19** 15:36:38.3±2.4, 11˚71S×119˚18E,h22km±18km,mb4.0/3, Error ellipse: s-maj=10.6km s-min=7.8km az=55.0*
*DJA **19** 15:36:43.9±0.4, 11˚S±3˚×11˚9E±˚,h25km,M4.9/24, mb5.1/24,mB5.4/12,MLv4.9/24,Mw(mB)4.8/12*

ISC 19 15:36:39.9±0.5,11˚67S±0˚06×119˚20E±0˚04,h35km,n66, σ1s76/77,mb4.1/11,South of Sumba

Code	Station Name	Δ°	AZ°	Phase ID		Time h m s	Res ISC
BASI	Baing, Sumba	1.97	43	Op P	ISC Pn	15 37 12.2	+1.3
BASI				S	Sn	15 37 35.3	+0.9
WSI	Waingapu	2.26	29	P	Pn	15 37 17.0	+2.2
WSI				S	Sn	15 37 40.0	-1.5
EDFI	Ende, Flores	3.79	40	P	Pn	15 37 36.6	+0.5
EDFI				S	Sn	15 38 16.9	-2.7
MMRI	Maumere	4.24	45	P	Pn	15 37 42.5	+0.3
MMRI				S	Sn	15 38 27.1	-3.4
MMRI	Maumere	4.24	45	*e*P	Pn	15 37 42.4	+0.3
IGBI	Denpasar	4.89	305	P	Pn	15 37 50.3	-0.8
IGBI				S	Sn	15 38 44.7	-1.8
DNP	Denpasar	4.93	307	P	Pn	15 37 52.1	+0.6
DNP				S	Sn	15 38 46.6	-0.7
SRBI	Singaraja	5.30	312	P	Pn	15 37 57.4	+0.7
SRBI				S	Sn	15 38 55.2	-1.4
SOEI	Soe 209nm,0.8s,3μm1.1nm	5.33	70	P	Pn	15 38 00.1	+2.9
SOEI	209nm,0.8s,3μm1.1nm			S	Sn	15 38 55.5	-1.9
SOEI	Soe 156nm,0.7s	5.33	70	*e*P	Pn	15 37 59.2	+2.0
BSSI	Bau Bau, Buton 94nm,0.6s,1μm0.5nm	5.63	13	P	Pn	15 38 01.9	+0.6
BSSI	94nm,0.6s,1μm0.5nm			S	Sn	15 39 02.7	-2.1
ABJI	Asem Bagus 394nm,0.9s,1.2nm	6.23	308	P	Pn	15 38 09.5	+0.1
BKSI	Bulukumba 109nm,0.7s,1μm0.5nm	6.37	8	P	Pn	15 38 12.7	+1.3
BKSI	109nm,0.7s,1μm0.5nm			S	Sn	15 39 19.0	-3.9
GMJI	Gumukmas 185nm,0.5s,4μm0.7nm	6.60	300	P	Pn	15 38 13.3	-1.2
GMJI	185nm,0.5s,4μm0.7nm			S	Sn	15 39 25.3	-3.3
KAPI	Kappang 5.9nm,0.3s,baz=218,slow=2.4,SNR=47	6.63	5	Pn	Pn	15 38 16.6	+1.6
KAPI	5.2nm,0.3s,baz=146,slow=23,SNR=8.4			Sn	Sn	15 39 27.3	-2.1
KAPI	comp=Z,131nm,18.7s,baz=180,slow=39			LR	LR	15 40 47.5	
KAPI	Kappang 19nm,0.6s	6.63	5	*e*P	Pn	15 38 16.4	+1.4
KAPI				*e*Sn	Sn	15 39 26.1	-3.3
KAPI				Sn	Sn	15 39 27.3	-2.1
BLJI	Banyuglugur 146nm,0.8s,4μm0.7nm	6.76	305	P	Pn	15 38 16.2	-0.6
KMMI	Kalianget 167nm,1.0s,0.6nm	6.91	311	P	Pn	15 38 20.2	+1.4
PWJI	Pagerwojo 130nm,0.7s,4μm0.6nm	8.14	296	P	Pn	15 38 36.1	+0.4
PWJI	130nm,0.7s,4μm0.6nm			S	Sn	15 40 02.1	-4.4
TTSI	Tana Toraja 22nm,0.9s	8.59	4	P	Pn	15 38 44.6	+2.8
PCJI	Pacitan 284nm,0.6s,3μm	8.62	293	P	Pn	15 38 42.1	-0.2
KBKI	Kotabaru 18nm,0.9s	8.84	340	P	Pn	15 38 46.0	+0.7
BBKI	Banjar Baru 65nm,0.9s	9.23	332	P	Pn	15 38 52.6	+2.0
UGM	Wanagama 274nm,0.9s	9.33	293	P	Pn	15 38 52.1	0.0
MBWA	Marble Bar 29nm,0.4s	9.45	177	*e*Pn	Pn	15 38 52.4	-1.3
MBWA				*e*Sn	Sn	15 40 24.1	-15
UWJI	Ujung Watu 82nm,1.0s,1μm	9.68	302	P	Pn	15 38 57.6	+0.8
CISI	Cisompet, Garu 108nm,0.7s	11.95	289	P	Pn	15 39 26.3	-1.6
CISI	Cisompet, Garu 62nm,0.5s	11.95	289	*e*Pn	Pn	15 39 25.2	-2.7
LEM	Lembang	12.40	292	P	P	15 39 46.6	+0.8
LEM	Lembang 3.4nm,0.3s,baz=108,slow=20,SNR=6.4	12.40	292	Pn	Pn	15 39 34.1	-0.2
LEM	1.8nm,0.3s,baz=198,slow=20,SNR=3.6			Sn	Sn	15 41 51.7	+0.3
CNJI	Cibinong 49nm,0.8s,1μm	12.67	289	P	Pn	15 39 37.8	+0.1
STKI	Sintang	13.96	326	P	P	15 40 00.9	-2.0
CGJI	Cibinong	14.25	289	P	Pn	15 39 56.9	-2.4
FAKI	Fak Fak	15.58	57	P	Pn	15 40 16.9	-0.2
KSM	Kuching 10nm,0.9s	15.77	325	*e*P	P	15 40 24.0	+0.9
SIJI	Sorong comp=Z,41nm,19.1s,baz=184,slow=39	16.08	49	LR	LR	15 46 52.4	
MDSI	Maura Dua	16.49	294	P	P	15 40 36.6	+5.5
WRA	Warramunga Arr 1.4nm,0.3s,baz=288,slow=14,SNR=43	16.72	121	Pn	Pn	15 40 28.8	-2.8
WRA	0.9nm,0.3s,baz=299,slow=24,SNR=4.6			Sn	Sn	15 43 24.4	-12
WRAB	Tennant Creek 7.9nm,0.6s	16.72	121	*e*P	Pn	15 40 29.4	-2.3
LHSI	Lahat	17.37	295	P	P	15 40 44.4	+3.6
AS31	Alice Springs	18.38	132	*e*P	P	15 40 52.6	+0.6
FORT	Forrest 52nm,0.6s	20.71	158	*e*P	P	15 41 18.1	+0.8
NWAO	Narrogin (SRO) 9.9nm,0.6s,baz=329,slow=11,SNR=3.9	21.24	185	P	P	15 41 23.8	+0.9
PSI	Prapat 3.5nm,0.5s,baz=108,slow=3.2,SNR=6.0	24.76	304	P	P	15 42 01.1	+2.4
BBOO	Buckleboo	26.12	146	*e*P	P	15 42 11.6	+0.9
STKA	Stephens Creek 0.9nm,0.6s,baz=317,slow=12,SNR=3.3	28.82	138	P	P	15 42 35.4	+0.5
CMAR	Chiang Mai Arr 0.7nm,0.6s,baz=154,slow=5.0,SNR=3.8	35.99	326	P	P	15 43 38.7	+0.8
CMAR	comp=Z,44nm,19.4s,baz=160,slow=37			LR	LR	15 58 42.3	
H08S2	Diego Garcia H baz=96,slow=74	46.18	271	T	T	16 36 01.7	
H08S3	Diego Garcia H baz=96,slow=74	46.19	271	T	T	16 36 01.7	
H08S1	Diego Carcia H baz=96	46.20	271	T	T	16 36 01.7	
HHC	Hu-ho-hao-te	52.73	353	*e*P	P	15 45 58.3	+7.0
HHC				PP	PP	15 47 59.8	+8.8
HHC				S	S	15 53 26.6	+10
HHC				sS	sS	15 53 34.1	-0.3
HHC	Hu-ho-hao-te	52.73	353	SS	SKiKP	15 57 05.1	-4.5
HHC	comp=Z,20nm,0.7s			pmax	pmax		
HHC	comp=Z,64nm,7.4s			pmax	pmax		

HHC				LR	LR			
	comp=N,220nm,17.3s							
HHC				LR	LR			
	comp=E,280nm,16.0s							
HHC				LR	LR			
	comp=Z,250nm,18.5s							
GTA	**Gaotai**	**53.93**	**341**	*e*P	**P**	**15**	**46**	**01.0 +0.8**
GTA				pP	**pP**	**15**	**46**	**11.9 +1.1**
GTA				sP	**sP**	**15**	**46**	**15.9 +1.0**
GTA				pmax	pmax			
	comp=Z,3.0nm,1.1s							
SONM	**Songino Array**	**60.32**	**350**	P	**P**	**15**	**46**	**45.4 +0.1**
	comp=Z,1.3nm,0.6s,baz=167,slow=7.8,SNR=6.7							
MK31	**Makanchi Array**	**66.91**	**333**	*e*P	**P**	**15**	**47**	**28.4 -0.3**
MKAR	**Makanchi Array**	**66.91**	**333**	P	**P**	**15**	**47**	**28.5 -0.2**
	comp=Z,0.9nm,0.7s,baz=165,slow=5.0,SNR=11							
KURK	**Kurchatov**	**71.47**	**334**	*e*P	**P**	**15**	**47**	**56.2 -0.6**
	comp=Z,1.9nm,0.9s							
ZALV	**Zalesovo Beam**	**71.59**	**339**	P	**P**	**15**	**47**	**56.4 -1.1**
	comp=Z,0.5nm,0.5s,baz=163,slow=7.5,SNR=4.6							
PETK	**Petropavlovsk-**	**72.43**	**23**	P	**P**	**15**	**48**	**03.0 +0.5**
	comp=Z,1.6nm,1.0s,baz=236,slow=6.9,SNR=4.2							
PETK	**Petropavlovsk-**	**72.43**	**23**	P	**P**	**15**	**48**	**03.0 +0.5**
ABKAR	**Akbulak array**	**79.85**	**325**	*e*P	**P**	**15**	**48**	**45.0 +0.2**
KOLS	**Kolonicke sedl**	**103.24**	**318**	PDIF	**Pdif**	**15**	**50**	**37.9 +2.0**
TORD	**Torodi Ar. Bea**	**119.09**	**279**	PKP	**PKPdf**	**15**	**55**	**26.4 +0.3**
	comp=Z,1.3nm,0.8s,baz=75,slow=1.6,SNR=7.5							
LVC	**Limon Verde**	**145.02**	**167**	PKPbc	**PKPdf**	**15**	**56**	**15.4 +0.6**
	comp=Z,13nm,0.7s,baz=243,slow=3.4,SNR=4.4							
BDFB	**Brasilia**	**150.06**	**205**	PKPbc	**PKPbc**	**15**	**56**	**28.6 +0.5**
	comp=Z,1.4nm,0.3s,baz=117,slow=16,SNR=3.3							
SIV	**San Ignacio**	**152.52**	**179**	PKPbc	**PKPbc**	**15**	**56**	**33.2 -0.5**
	comp=Z,2.1nm,0.9s,baz=208,slow=4.4,SNR=3.6							

*NEIC **19** 15:42:21.2, 37.88S×176.97E, h5km, ML4.0(WEL), After WEL.*
NEIC Felt at Whakatane.
WEL 19 15:42:21.1±0.1, 37.87S×176.97E, h5km, ML3.8/25, 8C-3D, Error ellipse: s-maj=0.7km s-min=0.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
MARZ	**Manawahe**	**0.26**	**244**	PG	Pg	15	42	26.6 +0.3
MARZ				SG	Sg	15	42	30.8 +0.9
MARZ	**Manawahe**	**0.26**	**244**	Pg	Pg	15	42	26.6 +0.3
EDRZ	**Edgecumbe**	**0.30**	**218**	PG	Pg	15	42	27.4 +0.3
EDRZ				AML	AML	15	42	33.9
EDRZ				AML	AML	15	42	34.3
EDRZ	**Edgecumbe**	**0.30**	**218**	Pg	Pg	15	42	27.4 +0.3
OPRZ	**Ohinepanea**	**0.33**	**274**	⇓PG	Pg	15	42	27.7 +0.2
OPRZ	**Ohinepanea**	**0.33**	**274**	Pg	Pg	15	42	27.7 +0.2
WIZ	**White Island**	**0.38**	**27**	⇑PG	Pg	15	42	29.3 +0.9
URZ	**Urewera**	**0.40**	**165**	PG	Pg	15	42	28.7 -0.2
URZ				SG	Sb	15	42	36.2 -1.0
URZ				AML	AML	15	42	37.6
URZ	**Urewera**	**0.40**	**165**	Pg	Pg	15	42	28.7 -0.2
MKRZ	**Makatiti**	**0.48**	**236**	PG	Pb	15	42	31.3 -0.8
MKRZ				AML	AML	15	42	36.0
MKRZ				AML	AML	15	42	46.6
MKRZ	**Makatiti**	**0.48**	**236**	Pg	Pb	15	42	31.3 -0.8
LIRZ	**Lichensteins R**	**0.49**	**254**	PG	Pg	15	42	31.0 +0.5
LIRZ	**Lichensteins R**	**0.49**	**254**	Pg	Pg	15	42	31.0 +0.5
TARZ	**Mount Tarawera**	**0.52**	**225**	PG	Pg	15	42	31.9 +0.7
TARZ	**Mount Tarawera**	**0.52**	**225**	Pg	Pg	15	42	31.9 +0.7
OMRZ	**Omania**	**0.53**	**243**	PG	Pg	15	42	31.4 0.0
OMRZ	**Omania**	**0.53**	**243**	Pg	Pg	15	42	31.4 0.0
TGRZ	**Tauranga**	**0.58**	**284**	PG	Pg	15	42	32.7 +0.4
TGRZ				AML	AML	15	42	43.0
TGRZ				AML	AML	15	42	43.5
TGRZ	**Tauranga**	**0.58**	**284**	Pg	Pg	15	42	32.7 +0.4
RRRZ	**Republican Roa**	**0.59**	**218**	*e*PG	Pg	15	42	32.6 +0.1
KARZ	**Kaharoa**	**0.60**	**255**	PG	Pg	15	42	32.8 +0.2
KARZ	**Kaharoa**	**0.60**	**255**	Pg	Pg	15	42	32.8 +0.2
HLRZ	**Highlands Stat**	**0.62**	**232**	P*	Pb	15	42	34.0 -0.6
MWZ	**Matawai**	**0.64**	**137**	P*	Pg	15	42	33.4 0.0
MWZ				*e*S*	Sg	15	42	41.9 +0.1
MWZ				AML	AML	15	42	43.0
MWZ				AML	AML	15	42	43.1
MWZ				AML	AML	15	43	02.3
MWZ	**Matawai**	**0.64**	**137**	P*	Pg	15	42	33.4 0.0
HAZ	**Te Kaha**	**0.65**	**80**	P*	Pg	15	42	33.7 +0.1
HAZ				S*	Sg	15	42	42.1 +0.1
UTU	**Utuhina**	**0.69**	**243**	*e*P*	Pb	15	42	35.2 -0.5
UTU				AML	AML	15	42	51.7
UTU				AML	AML	15	42	56.9
RAGZ	**Rawiri**	**0.71**	**151**	P*	Pg	15	42	35.0 0.0
HSRZ	**Hossack Road**	**0.72**	**232**	*e*P*	Pb	15	42	35.8 -0.4
HRRZ	**Handcock Road**	**0.75**	**226**	P*	Pb	15	42	36.3 -0.4
PRRZ	**Plateau Road**	**0.78**	**216**	⇑P*	Pg	15	42	35.9 -0.1
PRRZ	**Plateau Road**	**0.78**	**216**	P*	Pg	15	42	35.9 -0.1
MYRZ	**Mayor Island**	**0.83**	**315**	P*	Pg	15	42	36.7 -0.2
GRRZ	**Galatos Road**	**0.83**	**235**	*e*P*	Pg	15	42	37.4 +0.2
TWGZ	**Tauwhareparae**	**0.85**	**111**	P*	Pb	15	42	38.2 -0.2
ALRZ	**Allen Road**	**0.85**	**215**	⇑P*	Pg	15	42	37.4 -0.1
TKGZ	**Te Karaka**	**0.89**	**130**	P*	Pb	15	42	39.0 -0.1
WPRZ	**Whakapapatarin**	**0.91**	**224**	⇑P*	Pg	15	42	38.9 +0.3
SNGZ	**Shannon Statio**	**0.95**	**163**	⇑P*	Pg	15	42	39.7 +0.2
PUZ	**Puketiti**	**1.03**	**102**	P*	Pb	15	42	41.7 +0.2
PUZ				AML	AML	15	43	01.6
PUZ				AML	AML	15	43	04.8
RIGZ	**Rimuhau**	**1.04**	**144**	P*	Pn	15	42	42.3 -0.1
RAHZ	**Arahi**	**1.05**	**175**	P*	Pg	15	42	41.1 -0.2
MRHZ	**Matea Rd**	**1.06**	**204**	P*	Pg	15	42	40.7 -0.8
KUTZ	**Kaahu Road**	**1.10**	**235**	P*	Pg	15	42	41.5 -0.7
MXZ	**Matakaoa Point**	**1.10**	**74**	*e*P*	Pb	15	42	42.4 -0.2
MXZ				AML	AML	15	43	00.7
MXZ				AML	AML	15	43	04.0
WMGZ	**Waiomatatini S**	**1.14**	**88**	P*	Pn	15	42	43.6 -0.1
CNGZ	**Carnagh Statio**	**1.15**	**123**	⇑P*	Pn	15	42	44.9 +1.1
TOZ	**Tahuroa Road**	**1.18**	**276**	P*	Pg	15	42	42.7 -0.6
WHHZ	**Waihua**	**1.22**	**170**	P*	Pb	15	42	44.7 0.0
TLZ	**Tolley Road**	**1.22**	**248**	P*	Pg	15	42	43.4 -1.2
HATZ	**Hinemaiaia**	**1.23**	**214**	P*	Pg	15	42	43.4 -1.4
HATZ				AML	AML	15	43	02.2
HATZ				AML	AML	15	43	13.1
NMHZ	**Naumai**	**1.23**	**186**	P*	Pg	15	42	44.2 -0.7
PRGZ	**Paritu Road**	**1.27**	**146**	P*	Pb	15	42	46.2 +0.7
KNZ	**Kokohu**	**1.27**	**155**	P*	Pg	15	42	45.3 -0.2
KNZ	**Kokohu**	**1.27**	**155**	P*	Pg	15	42	45.3 -0.2
BKZ	**Black Stump Fm**	**1.35**	**196**	P*	Pn	15	42	45.0 -1.7
BKZ				AML	AML	15	43	10.2
BKZ				AML	AML	15	43	10.8
BKZ	**Black Stump Fm**	**1.35**	**196**	P*	Pn	15	42	45.0 -1.7
RATZ	**Rangitukua**	**1.38**	**223**	*e*P*	Pn	15	42	46.5 -0.5
RATZ				AML	AML	15	43	00.8
RATZ				AML	AML	15	43	01.5
ARHZ	**Aropaoanui**	**1.39**	**179**	PN	Pn	15	42	47.1 0.0
KATZ	**Kakaramea**	**1.49**	**222**	AML	AML	15	43	15.2
KATZ				AML	AML	15	43	15.9
KUZ	**Kuaotunu**	**1.50**	**318**	PN	Pn	15	42	45.8 -2.9
KUZ				AML	AML	15	43	14.0
KUZ				AML	AML	15	43	22.5
MCHZ	**McNeill Hill**	**1.59**	**188**	⇓PN	Pb	15	42	50.9 0.0
MKAZ	**Moumakai**	**1.62**	**297**	*e*PN	Pn	15	42	49.2 -1.1
MKAZ				AML	AML	15	43	19.4
MKAZ				AML	AML	15	43	22.4
OTVZ	**Oturere**	**1.65**	**218**	P*	Pb	15	42	51.8 -0.5
OTVZ				AML	AML	15	43	23.9
OTVZ				AML	AML	15	43	31.0
TUVZ	**Tukino**	**1.74**	**216**	*e*P*	Pn	15	42	52.7 +0.6
TUVZ				AML	AML	15	43	24.3
WPVZ	**Whakapapa**	**1.74**	**220**	AML	AML	15	43	37.7
WPVZ				AML	AML	15	43	39.3
BHHZ	**Black Hill Sta**	**1.77**	**204**	P*	Pn	15	42	51.0 -1.5
FWVZ	**Far West T-bar**	**1.78**	**218**	*e*P*	Pb	15	42	53.6 -0.8
FWVZ				AML	AML	15	43	23.7
FWVZ				AML	AML	15	43	25.2
HIZ	**Hauiti**	**1.79**	**248**	*e*PN	Pn	15	42	51.2 -1.5
HIZ				AML	AML	15	43	49.8
MOVZ	**Moawhango**	**1.81**	**212**	⇓P*	Pn	15	42	52.9 -0.1
MOVZ				AML	AML	15	43	23.0
MOVZ				AML	AML	15	43	24.5
WNVZ	**Wahianoa**	**1.81**	**216**	*e*P*	Pn	15	42	53.3 +0.1
TRVZ	**Turoa**	**1.81**	**218**	AML	AML	15	43	26.6
TRVZ				AML	AML	15	43	51.7
KBAZ	**Karaka Road Bo**	**1.83**	**294**	PN	Pn	15	42	53.7 +0.6
KRHZ	**Kereru**	**1.83**	**195**	⇑PN	Pn	15	42	53.8 +0.5
ETAZ	**East Tamaki Re**	**1.87**	**299**	*e*PN	Pn	15	42	52.9 -0.8
KAHZ	**Kahuranaki**	**1.93**	**182**	⇑PN	Pn	15	42	54.5 0.0
PXZ	**Pawanui**	**2.16**	**182**	PN	Pn	15	42	56.6 -1.1
PXZ				AML	AML	15	43	25.9
PXZ				AML	AML	15	43	25.9
WPHZ	**Waipukurau**	**2.23**	**191**	*e*PN	Pn	15	42	58.0 -0.7
TSZ	**Takapari Road**	**2.33**	**200**	PN	Pn	15	42	59.8 -0.3
TSZ				AML	AML	15	43	35.2
WAZ	**Wanganui**	**2.44**	**219**	*e*PN	Pn	15	43	01.9 +0.2
WAZ				AML	AML	15	43	38.0
BFZ	**Birch Farm**	**2.87**	**191**	*e*PN	Pn	15	43	05.6 -1.9
MRZ	**Mangatainoka R**	**2.99**	**201**	*e*PN	Pn	15	43	07.4 -1.7
MRZ				AML	AML	15	43	54.1
MRZ				AML	AML	15	44	34.4

WEL 19 15:42:37.0±0.1, 37.88S×176.98E, h5km, ML3.8/8, Error ellipse: s-maj=0.8km s-min=0.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
MARZ	**Manawahe**	**0.26**	**247**	PG	Pg	15	42	42.6 +0.4
MARZ				*e*SG	Sg	15	42	47.1 +1.3
EDRZ	**Edgecumbe**	**0.29**	**221**	SG	Sg	15	42	48.2 +1.4
EDRZ				AML	AML	15	42	50.3
OPRZ	**Ohinepanea**	**0.34**	**276**	PG	Pg	15	42	43.9 +0.3
OPRZ				SG	Sg	15	42	48.8 +0.7
URZ	**Urewera**	**0.39**	**165**	PG	Pg	15	42	45.0 +0.5
URZ				AML	AML	15	42	53.3
URZ				AML	AML	15	42	56.2
MKRZ	**Makatiti**	**0.48**	**238**	*e*PG	Pb	15	42	47.5 -0.4
MKRZ				AML	AML	15	42	56.2
MKRZ				AML	AML	15	42	56.5
LIRZ	**Lichensteins R**	**0.49**	**255**	PG	Pg	15	42	47.2 +0.8
TGRZ	**Tauranga**	**0.59**	**285**	PG	Pg	15	42	49.0 +0.6
TGRZ				AML	AML	15	42	58.7
TGRZ				AML	AML	15	42	59.0
MWZ	**Matawai**	**0.62**	**137**	*e*P*	Pg	15	42	49.7 +0.7
MWZ				AML	AML	15	42	57.9
MWZ				AML	AML	15	42	58.7
HAZ	**Te Kaha**	**0.65**	**79**	P*	Pg	15	42	49.9 +0.5
HAZ				*e*S*	Sg	15	42	58.8 +1.0
UTU	**Utuhina**	**0.69**	**245**	AML	AML	15	43	07.9
PUZ	**Puketiti**	**1.02**	**101**	AML	AML	15	43	14.8
PUZ				AML	AML	15	43	17.7
MXZ	**Matakaoa Point**	**1.10**	**73**	AML	AML	15	43	19.5
MXZ				AML	AML	15	43	19.9

*IDC **19** 15:51:48.4±0.8, 34.37S×73.80W, h0km, mb4.0/7, mb1 4.3/9, mb1mx4.1/28, mbtmp4.0/9, ML4.1/2, MS3.4/4, Ms1 3.4/4, ms1mx3.0/22, Error ellipse: s-maj=29.0km s-min=18.6km az=87.0*
*ISCJB **19** 15:51:51.6±0.5, 34.42S±0.05×73.63W±0.05, h33km, mb4.0/7, MS3.4/2, Error ellipse: s-maj=7.2km s-min=5.0km az=148.4*
*GUC **19** 15:51:51.2±0.7, 34.37S×73.52W, h41km±4km, ML4.0*
*NEIC **19** 15:51:53.5±0.5, 34.42S×73.71W, h35km, mb4.2/3, Error ellipse: s-maj=12.3km s-min=8.7km az=84.0*
*SJA **19** 15:51:53.7±1.1, 33.72S×73.47W, h10km, ML3.3*
ISC 19 15:51:53.4±0.7, 34.41S±0.06×73.62W±0.08, h35km, n43, σ0.95/50, mb4.1/7, 3C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
LNV	**Longovilo**	**1.89**	**77**	⇓*i*P	**Pn**	**15**	**52**	**21.5 -1.6**
LNV				*i* S	**Sn**	**15**	**52**	**45.0 -0.7**
TALC	**Talca**	**1.91**	**122**	⇑*i*P	**Pn**	**15**	**52**	**22.9 -0.5**
TALC				*i* S	**Sn**	**15**	**52**	**45.9 -0.2**
NICH	**Los Niches**	**2.06**	**107**	*e*P	**Pn**	**15**	**52**	**25.0 -0.4**
NICH				*e*S	**Sn**	**15**	**52**	**50.6 +0.7**
RCDM	**Rinconada Maip**	**2.51**	**69**	*e*P	**Pn**	**15**	**52**	**30.5 -1.2**
RCDM				*i* S	**Sn**	**15**	**53**	**00.4 -0.7**
RCDM				AML	AML	15	53	03.2
	comp=N,1μm,0.4s							
ROCH	**El Roble**	**2.60**	**57**	⇑*i*P	**Pn**	**15**	**52**	**31.5 -1.7**
ROCH				AML	AML	15	53	13.4
	comp=N,317nm,0.9s							
SAN	**Santiago**	**2.64**	**70**	*e*S	**Sn**	**15**	**53**	**04.1 -0.2**
PEL	**Peldehue**	**2.75**	**63**	⇑*i*P	**Pn**	**15**	**52**	**34.2 -0.8**
PEL				*i* S	**Sn**	**15**	**53**	**07.3 +0.2**
PEL				AML	AML	15	53	09.5
	comp=N,1μm,0.2s							
CLCH	**Cerro Calan**	**2.75**	**69**	*e*P	**Pn**	**15**	**52**	**34.5 -0.6**
CLCH				*i* S	**Sn**	**15**	**53**	**07.1 -0.2**
CLCH				AML	AML	15	53	13.6
	comp=N,713nm,0.7s							
SJCH	**San Jose de Ma**	**2.82**	**75**	*i* S	**Sn**	**15**	**53**	**08.4 -0.4**
AUSP	**Uspallata**	**4.16**	**60**	*e*P	**Pn**	**15**	**52**	**55.3 +0.7**
AUSP				*e*S	**Sn**	**15**	**53**	**40.6 -1.6**
AAGR	**Agrelo**	**4.20**	**73**	*e*P	**Pn**	**15**	**52**	**58.0 +2.9**
ARCO	**CERRO ARCO**	**4.21**	**69**	*e*P	**Pn**	**15**	**52**	**56.8 +1.5**
ARCO				AML	AML	15	53	54.8
	comp=Z,40nm,0.7s							
ASAL	**Salagasta**	**4.39**	**67**	*e*P	**Pn**	**15**	**52**	**59.5 +1.9**
RTLS	**Leoncito**	**4.46**	**56**	*e*P	**Pn**	**15**	**52**	**59.5 +0.6**
RTCV	**Cerro Valdivia**	**4.96**	**61**	*e*P	**Pn**	**15**	**53**	**05.8 +0.4**
CFAA	**Coronel Fontan**	**5.32**	**60**	Pn	**Pn**	**15**	**53**	**10.2 -0.1**
	comp=Z,0.3nm,0.3s,baz=232,slow=12,SNR=30							
CFAA				Sn	**Sn**	**15**	**54**	**11.8 +1.5**
	comp=Z,0.7nm,0.3s,baz=310,slow=22,SNR=7.7							
AMOG	**MOGNA**	**5.54**	**53**	*e*P	**Pn**	**15**	**53**	**12.9 -0.5**
ACAN	**Cantantal**	**5.79**	**70**	*e*P	**Pn**	**15**	**53**	**17.3 +0.5**
LCO	**Las Campanas**	**5.93**	**26**	*e*P	Pn	15	53	15.3 -3.6
PLCA	**Paso Flores**	**6.76**	**160**	Pn	**Pn**	**15**	**53**	**29.8 -0.4**
	comp=Z,1.2nm,0.3s,baz=324,slow=10,SNR=36							
PLCA				LR	LR	15	55	42.7
	comp=Z,85nm,21.7s,baz=338,slow=34							
PLCA	**Paso Flores**	**6.76**	**160**	*e*P	**Pn**	**15**	**53**	**29.8 -0.4**
	comp=Z,26nm,1.0s							
TRQA	**Tornquist**	**10.08**	**115**	*e*P	**Pn**	**15**	**54**	**16.6 +0.9**
LVC	**Limon Verde**	**12.46**	**21**	LR	LR	15	58	54.0
	comp=Z,522nm,19.4s,baz=301,slow=34							
CPUP	**Villa Florida**	**16.19**	**65**	P	**P**	**15**	**55**	**40.2 -0.8**
	comp=Z,0.4nm,1.1s							
LPAZ	**La Paz**	**18.71**	**17**	P	**Pn**	**15**	**56**	**10.7 +0.6**
	comp=Z,0.1nm,0.3s,baz=191,slow=7.9,SNR=15							
LPAZ	**La Paz**	**18.71**	**17**	*e*P	**Pn**	**15**	**56**	**10.5 +0.4**
	comp=Z,8.9nm,1.1s							
USHA	**Ushuaia**	**20.74**	**172**	P	Pn	15	56	33.1 -0.2
	comp=Z,13nm,1.0s,baz=243,slow=3.3,SNR=5.3							
SIV	**San Ignacio**	**21.53**	**35**	P	**P**	**15**	**56**	**41.2 +1.6**
	comp=Z,2.6nm,0.7s,baz=225,slow=11,SNR=7.5							
ATAH	**Atahualpa**	**27.50**	**350**	LR	LR	16	06	03.8
	comp=Z,56nm,18.6s,slow=31							
SDV	**Santo Domingo**	**43.15**	**4**	*e*P	**P**	**15**	**59**	**50.1 -0.7**
SNAA	**Sanae**	**51.70**	**158**	*e*P	**P**	**16**	**00**	**54.8 -1.9**
QSPA	**South Pole Qui**	**55.83**	**180**	P	**P**	**16**	**01**	**27.7 +0.7**
	comp=Z,3.7nm,1.0s,baz=177,slow=7.1,SNR=5.4							
QSPA	**South Pole Qui**	**55.83**	**180**	*e*P	**P**	**16**	**01**	**27.5 +0.5**
	comp=Z,3.4nm,0.9s							
TXAR	**Lajitas Array**	**69.47**	**332**	P	**P**	**16**	**02**	**58.1 -0.1**
	comp=Z,2.4nm,0.8s,baz=155,slow=8.5,SNR=19							
TXAR				LR	LR	16	27	43.0
	comp=Z,40nm,20.1s,baz=0.0,slow=31							
NVAR	**Mina Array Bea**	**83.48**	**326**	P	**P**	**16**	**04**	**17.3 -0.2**
	comp=Z,0.4nm,0.7s,baz=171,slow=6.4,SNR=3.2							
PDAR	**Pinedale Array**	**83.55**	**334**	P	**P**	**16**	**04**	**17.4 -0.4**
	comp=Z,0.7nm,1.0s,baz=131,slow=5.0,SNR=3.2							
HVU	**Hansel Valley**	**83.91**	**332**	*e*P	**P**	**16**	**04**	**19.5 -0.1**
	comp=Z,1.6nm,0.8s							
TORD	**Torodi Ar. Bea**	**85.58**	**71**	P	**P**	**16**	**04**	**28.8 +0.4**
	comp=Z,1.0nm,0.7s,baz=265,slow=3.2,SNR=6.6							
KURBB	**Kurchatov Arra**	**154.06**	**43**	PKPbc	**PKPbc**	**16**	**11**	**49.0 +0.1**
	comp=Z,0.7nm,0.6s,baz=301,slow=3.0,SNR=11							
KURBB				PKPab	**PKPab**	**16**	**12**	**02.5 0.0**
	comp=Z,1.1nm,0.9s,baz=292,slow=4.3,SNR=7.6							
KURK	**Kurchatov**	**154.07**	**43**	PKPbc	**PKPbc**	**16**	**11**	**49.0 +0.1**
KURK				PKPab	**PKPab**	**16**	**12**	**02.5 0.0**
ZALV	**Zalesovo Beam**	**155.26**	**31**	PKP	**PKPdf**	**16**	**11**	**42.1 -0.2**
	comp=Z,0.5nm,0.5s,baz=316,slow=4.0,SNR=3.2							
ZALV				PKPbc	PKPbc	16	11	50.7
	comp=Z,1.3nm,0.7s,baz=304,slow=3.2,SNR=5.6							
ZALV				PKPab	**PKPab**	**16**	**12**	**08.1 +0.6**
	comp=Z,1.0nm,0.8s,baz=328,slow=5.3,SNR=4.0							
MKAR	**Makanchi Array**	**158.02**	**49**	PKPab	**PKPab**	**16**	**12**	**20.0 +0.3**
	comp=Z,0.8nm,0.6s,baz=289,slow=7.6,SNR=10							
SONM	**Songino Array**	**166.59**	**360**	PKPab	**PKPab**	**16**	**12**	**58.1 +0.9**
	comp=Z,0.4nm,0.8s,baz=342,slow=1.8,SNR=3.2							

WEL 19 16:21:07.8±0.1, 37.84S×176.97E, h5km, ML3.7/20, 15C-1D, Error ellipse: s-maj=0.9km s-min=0.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
MARZ	**Manawahe**	**0.28**	**238**	⇑PG	Pg	16	21	13.6 +0.3
MARZ				SG	Sg	16	21	17.3 +0.3
EDRZ	**Edgecumbe**	**0.32**	**215**	⇑PG	Pg	16	21	14.6 +0.4
EDRZ				AML	AML	16	21	19.2
EDRZ				AML	AML	16	21	19.8
OPRZ	**Ohinepanea**	**0.33**	**269**	⇓PG	Pg	16	21	14.3 +0.1
WIZ	**White Island**	**0.36**	**29**	⇑PG	Pg	16	21	15.1 +0.3
URZ	**Urewera**	**0.43**	**165**	⇑PG	Pg	16	21	15.9 -0.3
URZ				AML	AML	16	21	22.8
URZ				SG	Sg	16	21	23.0 +1.2
LIRZ	**Lichensteins R**	**0.49**	**251**	⇑PG	Pg	16	21	18.0 +0.6
MKRZ	**Makatiti**	**0.50**	**233**	⇑PG	Pb	16	21	18.5 -0.7
MKRZ				AML	AML	16	21	21.9
MKRZ				AML	AML	16	21	25.4
TARZ	**Mount Tarawera**	**0.54**	**223**	⇑PG	Pb	16	21	19.2 -0.8
OMRZ	**Omania**	**0.54**	**241**	⇑PG	Pg	16	21	18.8 +0.4
KARZ	**Kaharoa**	**0.60**	**252**	⇑P*	Pg	16	21	20.0 +0.4
RRRZ	**Republican Roa**	**0.61**	**216**	⇑P*	Pg	16	21	19.9 +0.2
HLRZ	**Highlands Stat**	**0.64**	**230**	P*	Pb	16	21	21.1 -0.5
MWZ	**Matawai**	**0.66**	**138**	P*	Pg	16	21	20.2 -0.4
MWZ				S*	Sg	16	21	29.3 +0.1
MWZ				AML	AML	16	21	30.0
MWZ				AML	AML	16	21	32.0
MWZ				AML	AML	16	21	32.0
UTU	**Utuhina**	**0.70**	**241**	P*	Pb	16	21	22.1 -0.5
UTU				AML	AML	16	21	31.6
UTU				AML	AML	16	21	31.8
HSRZ	**Hossack Road**	**0.74**	**231**	P*	Pb	16	21	23.4 +0.1
RAGZ	**Rawiri**	**0.74**	**152**	⇑P*	Pg	16	21	21.9 -0.3
HRRZ	**Handcock Road**	**0.77**	**224**	P*	Pb	16	21	23.4 -0.4
PRRZ	**Plateau Road**	**0.80**	**215**	P*	Pg	16	21	23.3 +0.1
MYRZ	**Mayor Island**	**0.81**	**314**	P*	Pg	16	21	22.9 -0.4
GRRZ	**Galatos Road**	**0.85**	**233**	P*	Pb	16	21	24.9 -0.3
TWGZ	**Tauwhareparae**	**0.86**	**113**	P*	Pg	16	21	24.9 +0.3
ALRZ	**Allen Road**	**0.87**	**214**	P*	Pg	16	21	24.6 -0.1
TKGZ	**Te Karaka**	**0.91**	**131**	P*	Pb	16	21	25.8 -0.4
WPRZ	**Whakapapatarin**	**0.93**	**223**	P*	Pg	16	21	26.1 +0.3
SNGZ	**Shannon Statio**	**0.98**	**163**	⇑P*	Pg	16	21	26.7 -0.1
PUZ	**Puketiti**	**1.04**	**103**	P*	Pg	16	21	27.9 0.0
PUZ				AML	AML	16	21	47.2
PUZ				AML	AML	16	21	50.0
**RIGZ

*ISCJB **19** 16:49:32.7±0.5,51°.47N±0°.03×16°.15E±0°.03,h0km,Error ellipse: s-maj=3.7km s-min=2.7km az=10.0*
*IDC **19** 16:49:36.0±0.8,51°.48N×15°.88E,h0km,mb1 3.1/8, mb1mx3.0/41,mbtmp3.0/8,ML2.9/8,Error ellipse: s-maj=13.6km s-min=7.7km az=102.0*
*CSEM **19** 16:49:35.0±0.3,51°.42N×16°.13E,h2km,ML3.4/14,Error ellipse: s-maj=5.9km s-min=3.4km az=174.0,Suspected Mining induced.*
*PRU **19** 16:49:36.0,51°.42N×16°.11E,h0km*
*VIE **19** 16:49:37.1±0.4,51°.23N×16°.14E,h0km,mb2.3/6,ML2.6/6, Error ellipse: s-maj=2.7km s-min=1.8km az=19.0 62 km WNW of Wroclaw Suspected Mining induced.*

ISC 19 16:49:33.3±0.7,51°.50N±0°.03×16°.14E±0°.02,h0km,n55, σ1s28/103,3C-5D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.67**	**171**	*i* Pg	**Pg**	**16 49 47.5**	**+1.4**
KSP				*i*		16 49 48.8	
KSP				*e*Sg	**Sg**	**16 49 55.2**	**+0.5**
KSP	**Ksiaz**	**0.67**	**171**	⇓*i* Pg	**Pg**	**16 49 47.5**	**+1.4**
KSP				*e*Sg	**Sg**	**16 49 55.2**	**+0.5**
UPC	**Upice**	**1.00**	**185**	*e*PG	**Pg**	**16 49 53.2**	**+0.8**
UPC				*e*SG	**Sg**	**16 50 05.1**	**-0.2**
	comp=Z,60nm,0.4s						
UPC	**Upice**	**1.00**	**185**	Pg	**Pg**	**16 49 53.2**	**+0.8**
UPC				Sg	**Sg**	**16 50 05.1**	**-0.2**
	60nm,0.4s						
DPC	**Dobruska-Polom**	**1.16**	**174**	*e*PG	**Pg**	**16 49 56.2**	**+0.7**
DPC				*e*SG	**Sg**	**16 50 09.9**	**-0.6**
	comp=Z,131nm,0.3s						
DPC	**Dobruska-Polom**	**1.16**	**174**	Pg	**Pg**	**16 49 56.2**	**+0.7**
DPC				Sg	**Sg**	**16 50 09.9**	**-0.6**
	131nm,0.3s						
PVCC	**Panska Ves**	**1.39**	**226**	*e*PG	**Pb**	**16 50 00.9**	**+0.8**
PVCC				*e*SG	**Sb**	**16 50 18.9**	**+0.5**
	comp=Z,133nm,0.2s						
PVCC	**Panska Ves**	**1.39**	**226**	Pg	**Pb**	**16 50 00.9**	**+0.8**
PVCC				Sg	**Sb**	**16 50 18.9**	**+0.5**
	133nm,0.2s						
KRLC	**Kraliky**	**1.49**	**164**	*e*PG	**Pn**	**16 50 01.9**	**+0.6**
KRLC				*e*SG	**Sg**	**16 50 20.7**	**-0.3**
KRLC	**Kraliky**	**1.49**	**164**	Pg	**Pn**	**16 50 01.9**	**+0.6**
KRLC				Sg	**Sg**	**16 50 20.7**	**-0.3**
BRG	**Berggiesshubel**	**1.52**	**246**	PN	**Pn**	**16 50 02.1**	**+0.4**
BRG				PG	**Pg**	**16 50 03.4**	**+1.1**
BRG				SG	**Sn**	**16 50 23.2**	**+1.1**
	34nm,0.5s						
PRA	**Prague**	**1.79**	**218**	*e*PN	**Pn**	**16 50 06.3**	**+0.8**
PRA				*e*PG	**Pg**	**16 50 08.4**	**+0.7**
PRA				*e*SG	**Sg**	**16 50 31.5**	**+0.6**
	comp=Z,23nm,0.5s						
PRA	**Prague**	**1.79**	**218**	Pn	**Pn**	**16 50 06.3**	**+0.8**
PRA	**Prague**	**1.79**	**218**	Pg	**Pg**	**16 50 08.4**	**+0.7**
PRA				Sg	**Sg**	**16 50 31.5**	**+0.6**
	23nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.81**	**209**	*e*PN	**Pn**	**16 50 06.4**	**+0.7**
GOPC				*e*PG	**Pb**	**16 50 08.0**	**+0.8**
GOPC				*e*SG	**Sb**	**16 50 31.1**	**+0.7**
	comp=Z,20nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.81**	**209**	Pn	**Pn**	**16 50 06.4**	**+0.7**
PRU	**Pruhonice**	**1.82**	**214**	*e*PN	**Pn**	**16 50 06.3**	**+0.4**
PRU				*e*PG	**Pb**	**16 50 08.3**	**+0.8**
PRU				*e*SG	**Sg**	**16 50 32.0**	**+0.2**
	comp=Z,19nm,0.3s						
PRU	**Pruhonice**	**1.82**	**214**	Pn	**Pn**	**16 50 06.3**	**+0.4**
MORC	**Moravsky Berou**	**1.95**	**152**	*e*Pn	**Pn**	**16 50 08.1**	**+0.5**
MORC				*e*Sg	**Sb**	**16 50 34.5**	**0.0**
CLL	**Collm**	**1.97**	**266**	*e*Pn	**Pn**	**16 50 09.0**	**+1.1**
CLL				*e*Pg	**Pb**	**16 50 11.0**	**+1.0**
CLL				*e*		16 50 15.0	
CLL				*e*		16 50 27.0	
CLL				*e*Sg	**Sg**	**16 50 38.0**	**+1.4**
	comp=Z,20nm,0.4s						
OKC	**Ostrava-Krasne**	**2.10**	**142**	*e*PN	**Pn**	**16 50 10.2**	**+0.5**
OKC				*e*PG	**Pb**	**16 50 12.7**	**+0.4**
OKC				*e*SG	**Sb**	**16 50 40.0**	**+1.1**
	comp=Z,16nm,0.4s						
OKC	**Ostrava-Krasne**	**2.10**	**142**	Pn	**Pn**	**16 50 10.2**	**+0.5**
OKC	**Ostrava-Krasne**	**2.10**	**142**	Pg	**Pb**	**16 50 12.7**	**+0.4**
OKC				Sg	**Sb**	**16 50 40.0**	**+1.1**
	comp=Z,16nm,0.4s						
VRAC	**Vranov**	**2.22**	**172**	Pn	**Pn**	**16 50 13.3**	**+1.9**
	comp=Z,2.3nm,0.3s,baz=344,slow=18,SNR=17						
VRAC				Sn	**Sb**	**16 50 42.3**	**+0.1**
	comp=Z,4.5nm,0.3s,baz=270,slow=22,SNR=7.1						
VRAC	**Vranov**	**2.22**	**172**	*e*Pn	**Pn**	**16 50 13.1**	**+1.8**
VRAC				*e*Sg	**Sg**	**16 50 44.7**	**+0.3**
TREC	**Trest**	**2.25**	**191**	*e*PG	**Pb**	**16 50 15.6**	**+0.8**
TREC				*e*SG	**Sb**	**16 50 44.3**	**+1.2**
	comp=Z,14nm,0.2s						
TREC	**Trest**	**2.25**	**191**	Pg	**Pb**	**16 50 15.6**	**+0.8**
TREC				Sg	**Sb**	**16 50 44.3**	**+1.2**
	comp=Z,14nm,0.2s						
OJC	**Ojcow**	**2.65**	**118**	*e*Pg	**Pg**	**16 50 25.3**	**+1.2**
OJC				*e*Sg	**Sg**	**16 51 00.8**	**+2.3**
OJC	**Ojcow**	**2.65**	**118**	*e*Pg	**Pg**	**16 50 30.3**	**+1.2**
OJC				*e*Sg	**Sg**	**16 51 00.8**	**+2.3**
NKC	**Novy Kostel**	**2.66**	**243**	*e*PN	**Pn**	**16 50 18.9**	**+1.5**
NKC				*e*PG	**Pg**	**16 50 24.4**	**+0.2**
NKC				*e*SG	**Sg**	**16 50 59.9**	**+1.2**
	comp=Z,17nm,0.3s						
NKC	**Novy Kostel**	**2.66**	**243**	Pn	**Pn**	**16 50 18.9**	**+1.5**
KHC	**Kasperske Hory**	**2.88**	**216**	*e*PN	**Pn**	**16 50 21.3**	**+0.8**
KHC				*e*PG	**Pb**	**16 50 27.4**	**+1.8**
KHC				*e*SN	**Sn**	**16 50 55.0**	**-0.9**
KHC				*e*SG	**Sg**	**16 51 04.7**	**-1.2**
	comp=Z,11nm,0.3s						
KHC	**Kasperske Hory**	**2.88**	**216**	Pn	**Pn**	**16 50 21.3**	**+0.8**
KHC	**Kasperske Hory**	**2.88**	**216**	Pg	**Pb**	**16 50 27.4**	**+1.8**
KHC				Sn	**Sn**	**16 50 55.0**	**-0.9**
KHC				Sg	**Sg**	**16 51 04.7**	**-1.2**
	comp=Z,11nm,0.3s						
GERES	**GERESS Array B**	**3.08**	**211**	Pn	**Pn**	**16 50 25.0**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=33,slow=14,SNR=16						
GERES				Sn	**Sn**	**16 50 56.1**	**-4.9**
	comp=Z,1.9nm,0.3s,baz=38,slow=24,SNR=6.7						
GERES				Lg	Lg	16 51 09.9	
	comp=Z,3.3nm,0.3s,baz=28,slow=26,SNR=7.2						
VYHS	**Vyhne**	**3.48**	**149**	*e*Pn	**Pn**	**16 50 27.2**	**-1.5**
VYHS	**Vyhne**	**3.48**	**149**	*e*PN	**Pn**	**16 50 27.2**	**-1.5**
VYHS				*e*PG	**Pg**	**16 50 39.5**	**-0.4**
CONA	**Conrad Observa**	**3.58**	**183**	⇓*i* Pn	**Pn**	**16 50 31.0**	**+0.8**
CONA				⇓*i* Sg	**Sg**	**16 51 26.1**	**-2.2**
	comp=Z,12nm,0.3s						
CONA	**Conrad Observa**	**3.58**	**183**	Pn	**Pn**	**16 50 31.0**	**+0.8**
CONA				Sg	**Sg**	**16 51 26.1**	**-2.2**
	comp=Z,12nm,0.3s						
MOA	**Molln**	**3.85**	**199**	⇓*i* Pn	**Pn**	**16 50 35.0**	**+1.2**
MOA				⇑*i* Sg	**Sg**	**16 51 36.6**	**-0.4**
	comp=Z,11nm,0.6s						
MOA	**Molln**	**3.85**	**199**	Pn	**Pn**	**16 50 35.0**	**+1.2**
MOA				Sg	**Sg**	**16 51 36.6**	**-0.4**
	comp=Z,11nm,0.6s						
STHS	**Stebnicka Huta**	**3.87**	**121**	*e*Pn	**Pn**	**16 50 35.7**	**+1.6**
STHS	**Stebnicka Huta**	**3.87**	**121**	*e*PN	**Pn**	**16 50 35.7**	**+1.6**
STHS				*e*PG	**Pg**	**16 50 50.6**	**+3.1**
ARSA	**Arzberg**	**4.27**	**186**	⇑*i* Sg	**Sg**	**16 51 50.2**	**-0.3**
	comp=Z,12nm,0.7s						
ARSA	**Arzberg**	**4.27**	**186**	Sg	**Sg**	**16 51 50.2**	**-0.3**
	comp=Z,12nm,0.7s						
KOLS	**Kolonicke sedl**	**4.71**	**121**	*e*Pg	**Pg**	**16 51 03.4**	**0.0**
KOLS	**Kolonicke sedl**	**4.71**	**121**	*e*PG	**Pg**	**16 51 03.4**	**0.0**
KBA	**Koelnbreinsper**	**4.79**	**203**	⇑*i* Pn	**Pn**	**16 50 47.8**	**+1.0**
KBA				⇓*i* Sg	**Sg**	**16 52 07.4**	**+0.3**
	comp=Z,5.3nm,0.5s						
KBA	**Koelnbreinsper**	**4.79**	**203**	Pn	**Pn**	**16 50 47.8**	**+1.0**
KBA				Sg	**Sg**	**16 52 07.4**	**+0.3**
	comp=Z,5.3nm,0.5s						
DAVOX	**Davos/Dischmat**	**6.26**	**223**	Pn	**Pn**	**16 51 08.9**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=42,slow=14,SNR=2.5						
DAVOX				Lg	Lg	16 52 54.1	
	comp=Z,0.2nm,0.3s,baz=331,slow=19,SNR=2.5						
AKASG	**Malin Array Be**	**8.28**	**90**	Pn	**Pn**	**16 51 35.9**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=276,slow=12,SNR=5.2						
AKASG				Lg	Lg	16 54 05.2	
	comp=Z,0.1nm,0.3s,baz=281,slow=26,SNR=2.7						
HFS	**Hagfors**	**8.76**	**352**	Pn	**Pn**	**16 51 41.2**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=159,slow=16,SNR=3.1						
HFS				Sn	Sn	16 53 15.1	-5.3
	comp=Z,0.1nm,0.3s,baz=159,slow=24,SNR=2.1						
FINES	**FINESS Array B**	**11.36**	**25**	Pn	**Pn**	**16 52 16.2**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=209,slow=14,SNR=6.1						
FINES				Sn	**Sn**	**16 54 20.2**	**-4.1**
	comp=Z,0.1nm,0.3s,baz=220,slow=22,SNR=3.8						
EKA	**Eskdalemuir Ar**	**12.12**	**296**	Pn	**Pn**	**16 52 27.3**	**+0.2**
	baz=99,slow=14,SNR=2.5						
ARCES	**ARCESS Array B**	**18.63**	**10**	Pn	**P**	**16 53 48.9**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=187,slow=14,SNR=3.6						

*NEIC **19** 17:03:22.8,37°.87S×176°.93E,h4km,ML3.7(WEL),After WEL.*
NEIC Felt at Edgecumbe.
WEL 19 17:03:22.8±0.1,37°.88S×176°.95E,h5km,ML3.7/20,7C-3D, Error ellipse: s-maj=0.8km s-min=0.7km az=0.0,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARZ	**Manawahe**	**0.25**	**243**	⇑Pg	**Pg**	17 03 27.8	+0.2
MARZ				SG	Sg	17 03 32.2	+1.2
MARZ	**Manawahe**	**0.25**	**243**	Pg	**Pg**	17 03 27.8	+0.2
EDRZ	**Edgecumbe**	**0.29**	**216**	PG	Pg	17 03 28.6	+0.1
EDRZ				AML	AML	17 03 33.7	
EDRZ				AML	AML	17 03 40.4	
EDRZ	**Edgecumbe**	**0.29**	**216**	Pg	Pg	17 03 28.6	+0.1
OPRZ	**Ohinepanea**	**0.32**	**275**	PG	Pg	17 03 29.0	+0.1
OPRZ				SG	Sg	17 03 34.1	+1.0
OPRZ	**Ohinepanea**	**0.32**	**275**	Pg	Pg	17 03 29.0	+0.1
WIZ	**White Island**	**0.40**	**29**	PG	Pg	17 03 31.1	+0.7
WIZ	**White Island**	**0.40**	**29**	Pg	Pg	17 03 31.1	+0.7
URZ	**Urewera**	**0.40**	**162**	PG	Pg	17 03 30.2	-0.4
URZ				SG	Sg	17 03 36.5	+0.6
URZ				AML	AML	17 03 39.1	
URZ	**Urewera**	**0.40**	**162**	Pg	Pg	17 03 30.2	-0.4
MKRZ	**Makatiti**	**0.47**	**235**	PG	Pg	17 03 32.5	+0.7
MKRZ				AML	AML	17 03 42.7	
MKRZ				AML	AML	17 03 45.0	
MKRZ	**Makatiti**	**0.47**	**235**	Pg	Pg	17 03 32.5	+0.7
LIRZ	**Lichensteins R**	**0.47**	**254**	PG	Pg	17 03 32.2	+0.4
LIRZ				SG	Sb	17 03 39.4	-1.4
LIRZ	**Lichensteins R**	**0.47**	**254**	Pg	Pg	17 03 32.2	+0.4
TARZ	**Mount Tarawera**	**0.50**	**224**	PG	Pg	17 03 33.2	+0.5
TARZ	**Mount Tarawera**	**0.50**	**224**	Pg	Pg	17 03 33.2	+0.5
OMRZ	**Omania**	**0.51**	**243**	⇑PG	Pg	17 03 33.0	+0.2
OMRZ	**Omania**	**0.51**	**243**	Pg	Pg	17 03 33.0	+0.2
TGRZ	**Tauranga**	**0.57**	**285**	⇑PG	Pg	17 03 33.9	+0.2
TGRZ				AML	AML	17 03 43.9	
TGRZ				AML	AML	17 03 44.1	
TGRZ	**Tauranga**	**0.57**	**285**	Pg	Pg	17 03 33.9	+0.2
KARZ	**Kaharoa**	**0.58**	**255**	PG	Pg	17 03 34.2	+0.2
KARZ	**Kaharoa**	**0.58**	**255**	Pg	Pg	17 03 34.2	+0.2
RRRZ	**Republican Roa**	**0.58**	**216**	PG	Pg	17 03 33.9	-0.1
RRRZ	**Republican Roa**	**0.58**	**216**	Pg	Pg	17 03 33.9	-0.1
HLRZ	**Highlands Stat**	**0.60**	**231**	*e*P*	Pg	17 03 35.1	+0.6
MWZ	**Matawai**	**0.65**	**135**	P*	Pg	17 03 34.8	-0.5
MWZ				S*	Sg	17 03 43.8	0.0
MWZ				AML	AML	17 03 44.2	
MWZ				AML	AML	17 03 48.3	
MWZ				AML	AML	17 03 48.3	
MWZ	**Matawai**	**0.65**	**135**	P*	Pg	17 03 34.8	-0.5
HAZ	**Te Kaha**	**0.67**	**80**	P*	Pg	17 03 35.4	-0.3
UTU	**Utuhina**	**0.67**	**243**	P*	Pb	17 03 36.4	-0.6
UTU				AML	AML	17 03 53.1	
UTU				AML	AML	17 03 55.0	
HSRZ	**Hossack Road**	**0.71**	**232**	P*	Pb	17 03 37.1	-0.5
RAGZ	**Rawiri**	**0.72**	**150**	⇑P*	Pg	17 03 36.4	-0.3
HRRZ	**Handcock Road**	**0.74**	**225**	⇓P*	Pg	17 03 37.4	+0.4
HRRZ	**Handcock Road**	**0.74**	**225**	P*	Pg	17 03 37.4	+0.4
PRRZ	**Plateau Road**	**0.76**	**215**	P*	Pg	17 03 37.2	-0.2
PRRZ	**Plateau Road**	**0.76**	**215**	P*	Pg	17 03 37.2	-0.2
GRRZ	**Galatos Road**	**0.81**	**234**	P*	Pg	17 03 38.9	+0.4
MYRZ	**Mayor Island**	**0.82**	**316**	P*	Pg	17 03 38.3	-0.2
ALRZ	**Allen Road**	**0.84**	**215**	P*	Pg	17 03 38.6	-0.3
ALRZ	**Allen Road**	**0.84**	**215**	P*	Pg	17 03 38.6	-0.3
TWGZ	**Tauwhareparae**	**0.87**	**111**	⇑P*	Pg	17 03 39.9	+0.4
WPRZ	**Whakapapaparin**	**0.89**	**224**	P*	Pg	17 03 40.2	+0.2
TKGZ	**Te Karaka**	**0.90**	**129**	P*	Pb	17 03 40.6	-0.4
SNGZ	**Shannon Statio**	**0.95**	**161**	⇑P*	Pg	17 03 41.0	-0.2
RAHZ	**Arahi**	**1.05**	**174**	P*	Pg	17 03 42.5	-0.4
RAHZ	**Arahi**	**1.05**	**174**	P*	Pg	17 03 42.5	-0.4
RIGZ	**Rimuhau**	**1.05**	**143**	⇑P*	Pb	17 03 43.8	+0.3
PUZ	**Puketiti**	**1.05**	**101**	P*	Pb	17 03 43.3	-0.2
PUZ				AML	AML	17 04 03.3	
PUZ				AML	AML	17 04 06.7	
PUZ	**Puketiti**	**1.05**	**101**	P*	Pb	17 03 43.3	-0.2
MXZ	**Matakaoa Point**	**1.12**	**74**	AML	AML	17 04 02.3	
MXZ				AML	AML	17 04 03.2	
TOZ	**Tahuroa Road**	**1.16**	**277**	*e*P*	Pg	17 03 44.1	-0.8
WMGZ	**Waiomatatini S**	**1.16**	**88**	P*	Pn	17 03 45.6	-0.1
CNGZ	**Carnagh Statio**	**1.16**	**122**	P*	Pn	17 03 46.4	+0.7
CNGZ	**Carnagh Statio**	**1.16**	**122**	P*	Pn	17 03 46.4	+0.7
TLZ	**Tolley Road**	**1.20**	**247**	*e*P*	Pg	17 03 43.6	-2.3
WHHZ	**Waihua**	**1.22**	**170**	*e*P*	Pg	17 03 46.0	-0.2
NMHZ	**Naumai**	**1.23**	**185**	P*	Pg	17 03 45.5	-1.0
NMHZ	**Naumai**	**1.23**	**185**	P*	Pg	17 03 45.5	-1.0
KNZ	**Kokohu**	**1.28**	**154**	P*	Pb	17 03 47.8	+0.5
KNZ	**Kokohu**	**1.28**	**154**	P*	Pb	17 03 47.8	+0.5
PRGZ	**Paritu Road**	**1.28**	**145**	P*	Pb	17 03 48.1	+0.7
BKZ	**Black Stump Fm**	**1.34**	**195**	P*	Pn	17 03 46.1	-2.2
BKZ				AML	AML	17 04 13.0	
BKZ				AML	AML	17 04 13.2	
BKZ	**Black Stump Fm**	**1.34**	**195**	P*	Pn	17 03 46.1	-2.2
ARHZ	**Aropaoanui**	**1.39**	**179**	*e*Pn	Pn	17 03 48.7	-0.1
RITZ	**Rihia Road**	**1.40**	**218**	AML	AML	17 04 15.5	
KUZ	**Kuaotunu**	**1.49**	**319**	PN	Pn	17 03 47.0	-3.2
KUZ				AML	AML	17 03 56.6	
KUZ				AML	AML	17 04 22.9	
KUZ	**Kuaotunu**	**1.49**	**319**	Pn	Pn	17 03 47.0	-3.2
MCHZ	**McNeill Hill**	**1.58**	**187**	PN	Pn	17 03 51.7	+0.2
MKAZ	**Moumakai**	**1.61**	**298**	*e*Pn	Pn	17 03 49.4	-2.5
MKAZ				AML	AML	17 04 14.5	
MKAZ				AML	AML	17 04 14.5	
OTVZ	**Oturere**	**1.64**	**218**	P*	Pn	17 03 51.6	-0.8
OTVZ				AML	AML	17 04 24.5	
OTVZ				AML	AML	17 04 40.2	
TUVZ	**Tukino**	**1.72**	**216**	⇓P*	Pb	17 03 54.6	-0.5
FWVZ	**Far West T-bar**	**1.76**	**218**	*e*P*	Pn	17 03 55.1	+0.8
FWVZ				AML	AML	17 04 24.5	
FWVZ				AML	AML	17 04 28.1	
HIZ	**Hauiti**	**1.77**	**248**	AML	AML	17 04 26.4	
HIZ				AML	AML	17 04 28.7	
MOVZ	**Moawhango**	**1.79**	**211**	P*	Pn	17 03 54.0	-0.5
MOVZ				AML	AML	17 04 29.3	
MOVZ				AML	AML	17 04 29.8	
WNVZ	**Wahianoa**	**1.80**	**216**	⇓P*	Pn	17 03 55.4	+0.7
TRVZ	**Turoa**	**1.80**	**217**	AML	AML	17 04 25.4	
TRVZ				AML	AML	17 04 32.7	
KRHZ	**Kereru**	**1.82**	**194**	PN	Pn	17 03 54.2	-0.7
MTVZ	**Mangateitei**	**1.90**	**217**	P*	Pb	17 03 57.3	-0.8
MTVZ				AML	AML	17 04 32.9	
MTVZ				AML	AML	17 04 33.7	
KAHZ	**Kahuranaki**	**1.92**	**182**	PN	Pn	17 03 55.9	-0.3
PNHZ	**Pukenui**	**2.12**	**196**	PN	Pn	17 03 58.5	-0.5
PXZ	**Pawanui**	**2.15**	**182**	PN	Pn	17 03 58.1	-1.3
PXZ				AML	AML	17 04 26.5	
TSZ	**Takapari Road**	**2.31**	**199**	PN	Pn	17 04 00.8	-0.8
TSZ	**Takapari Road**	**2.31**	**199**	Pn	Pn	17 04 00.8	-0.8
WAZ	**Wanganui**	**2.43**	**219**	PN	Pb	17 04 05.1	-1.9
WCZ	**Waipu Caves**	**2.84**	**312**	PN	Pn	17 04 06.7	-2.1
BFZ	**Birch Farm**	**2.85**	**191**	PN	Pn	17 04 06.7	-2.3
MRZ	**Mangatainoka R**	**2.98**	**201**	PN	Pn	17 04 08.9	-1.8
MRZ				AML	AML	17 05 10.5	
MRZ				AML	AML	17 05 14.4	

*ISCJB **19** 17:06:29.7±0.4,67°.09N±0°.02×21°.02E±0°.07,h0km,Error ellipse: s-maj=4.1km s-min=2.8km az=0.6*
*UPP **19** 17:06:30.7,67°.08N×20°.92E,h0km,ML2.0,Mining explosion.*
*CSEM **19** 17:06:30.6±0.2,67°.10N×20°.97E,h2km,ML2.0,Error ellipse: s-maj=4.7km s-min=3.8km az=97.0,Mining explosion.*
*NAO **19** 17:06:31.6±1.1,67°.04N×21°.34E,ML2.4*
*HEL **19** 17:06:31.4±0.1,67°.08N×20°.91E,h0km,ML2.3, ML2.0(UPP),Explosion*
*HEL **19** 17:06:31.4,67°.09N×20°.93E,h0km,ML2.3,Explosion*
*IDC **19** 17:06:31.6±0.9,67°.07N×21°.25E,h0km,mb1 2.7/4, mb1mx2.6/28,mbtmp2.6/4,ML2.2/4,Error ellipse: s-maj=18.4km s-min=8.4km az=113.0*
*BER **19** 17:06:32.4±3.3,67°.11N×20°.78E,h0km,ML1.8, ML2.4(NAO),Suspected explosion*

ISC 19 17:06:30.3±0.7,67°.07N±0°.02×20°.84E±0°.03,h0km,n81, σ1s02/103,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASU	**Masugnsbyn**	**0.60**	**48**	*i* P	**Pg**	**17 06 41.4**	**-0.3**
MASU	**Masugnsbyn**	**0.60**	**48**	P	**Pg**	**17 06 41.4**	**-0.3**
MASU	**Masugnsbyn**	**0.60**	**48**	P	**Pg**	**17 06 41.4**	**-0.3**
ERTU	**Ertsjaerv**	**0.74**	**133**	*e*P	**Pg**	**17 06 44.0**	**-0.5**
	baz=317						
ERTU				*e*S	**Sg**	**17 06 54.1**	**0.0**
ERTU	**Ertsjaerv**	**0.74**	**133**	P	**Pg**	**17 06 44.0**	**-0.5**
ERTU				S	**Sg**	**17 06 54.1**	**0.0**
KUA	**Kurravaara**	**0.91**	**348**	*e*P	**Pg**	**17 06 47.6**	**-0.3**
KUA				*e*S	**Sb**	**17 07 00.8**	**-0.9**
KUA	**Kurravaara**	**0.91**	**348**	P	**Pg**	**17 06 47.5**	**-0.3**
KUA				S	**Sb**	**17 07 00.8**	**-0.9**
KUA	**Kurravaara**	**0.91**	**348**	P	**Pg**	**17 06 47.6**	**-0.3**
KUA				S	**Sb**	**17 07 00.8**	**-0.9**
SALU	**Saltoluokta**	**0.96**	**290**	*e*P	**Pg**	**17 06 49.2**	**+0.5**
SALU	**Saltoluokta**	**0.96**	**290**	P	**Pg**	**17 06 49.2**	**+0.5**
SALU	**Saltoluokta**	**0.96**	**290**	P	**Pg**	**17 06 49.2**	**+0.5**
NIKU	**Nikkaluokta**	**1.06**	**320**	*e*P	**Pg**	**17 06 50.6**	**-0.1**
NIKU	**Nikkaluokta**	**1.06**	**320**	P	**Pg**	**17 06 50.6**	**-0.1**
NIKU	**Nikkaluokta**	**1.06**	**320**	P	**Pg**	**17 06 50.6**	**-0.1**
LANU	**Lannavaara**	**1.08**	**24**	*e*P	**Pg**	**17 06 50.0**	**-1.0**
LANU	**Lannavaara**	**1.08**	**24**	P	**Pg**	**17 06 50.2**	**-0.8**
LANU	**Lannavaara**	**1.08**	**24**	P	**Pg**	**17 06 50.2**	**-0.8**
KALU	**Kalix**	**1.58**	**139**	*e*P	**Pn**	**17 06 59.2**	**-0.3**
	baz=327						
KALU	**Kalix**	**1.58**	**139**	P	**Pn**	**17 06 59.2**	**-0.3**
KALU	**Kalix**	**1.58**	**139**	P	**Pn**	**17 06 59.1**	**-0.4**
SJUU	**Sjulsmark**	**1.59**	**168**	*e*P	**Pn**	**17 06 59.8**	**+0.1**
SJUU	**Sjulsmark**	**1.59**	**168**	P	**Pn**	**17 06 59.8**	**+0.1**
SJUU	**Sjulsmark**	**1.59**	**168**	P	**Pn**	**17 06 59.8**	**+0.1**
HEF	**Hetta**	**1.72**	**37**	*e*P	**Pn**	**17 07 01.2**	**-0.4**
	baz=218						
HEF				MSG		17 07 21.7	
	comp=Z,16nm,0.2s						
HEF				*e*SN	**Sn**	**17 07 24.6**	**+0.4**
HEF	**Hetta**	**1.72**	**37**	P	**Pn**	**17 07 01.1**	**-0.4**
LILU	**Lilltraesk**	**1.83**	**193**	*e*P	**Pb**	**17 07 04.0**	**-0.7**
LILU	**Lilltraesk**	**1.83**	**193**	P	**Pb**	**17 07 04.0**	**-0.7**
LILU	**Lilltraesk**	**1.83**	**193**	P	**Pb**	**17 07 04.0**	**-0.7**
KIF	**Kilpisjarvi**	**1.95**	**360**	*e*PB	**Pb**	**17 07 06.1**	**-0.5**
KIF				MSG		17 07 29.7	
	comp=Z,29nm,0.2s						
KIF				*e*SG	**Sg**	**17 07 33.0**	**+0.2**
KIF	**Kilpisjarvi**	**1.95**	**360**	Pb	**Pb**	**17 07 06.1**	**-0.5**
RNF	**Rovaniemi**	**2.10**	**100**	*e*SG	**Sb**	**17 07 35.5**	**-0.2**
RNF	**Rovaniemi**	**2.10**	**100**	Sg	**Sb**	**17 07 35.5**	**-0.2**
KTK1	**Kautokeino**	**2.15**	**24**	*e*Sg	**Sb**	**17 07 37.3**	**0.0**
KTK1				IAML		17 07 41.8	
	comp=N,13nm,0.2s						
SGF	**Sodankyl**	**2.24**	**78**	*e*PB	**Pn**	**17 07 09.8**	**+1.2**
SGF				*e*SG	**Sb**	**17 07 39.6**	**-0.3**
SGF	**Sodankyl**	**2.24**	**78**	Pb	**Pn**	**17 07 09.8**	**+1.2**
SGF				Sg	**Sb**	**17 07 39.6**	**-0.3**
BURU	**Burvik**	**2.50**	**175**	*e*P	**Pn**	**17 07 13.6**	**+1.3**
BURU	**Burvik**	**2.50**	**175**	P	**Pn**	**17 07 13.5**	**+1.3**
BURU	**Burvik**	**2.50**	**175**	P	**

ellipse: s-maj=4.4km s-min=3.5km az=34.0
*AZER **19** 17:27:39.6±0.0,39°.69N×51°.08E,h49km,Error ellipse: s-maj=2.0km s-min=1.1km az=281.0*
ISC 19 17:27:38.2±0.5,39.77N±0.04×51.34E±0.04,h47km,n133,
σ1§64/170,mb3.9/20,29C-20D,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GALA	**Gala**	**1.11**	**305**	⇓Pg		**Pn**		**17 27 59.6**	**+2.3**
GALA				⇓Sg		**Sn**		**17 28 16.2**	**+4.8**
GALA	**Gala**	**1.11**	**305**	Pg		**Pn**		**17 27 59.6**	**+2.3**
NDR	**Nardaran**	**1.31**	**308**	⇑Pg		**Pn**		**17 28 02.1**	**+2.0**
NDR				⇓Sg		Sn		17 28 21.8	+5.3
NDR	**Nardaran**	**1.31**	**308**	Pg		**Pn**		**17 28 02.1**	**+2.0**
GOBA	**Gobu** SNR=4.1	**1.38**	**297**	⇓Pg		**Pn**		**17 28 02.5**	**+1.4**
GOBA				⇓Sg		**Sn**		**17 28 22.1**	**+3.9**
GOBA	**Gobu** SNR=4.1	**1.38**	**297**	Pg		**Pn**		**17 28 02.5**	**+1.4**
ALIB	**Äli-Bayra** SNR=8.6	**1.80**	**277**	⇓Pg		**Pn**		**17 28 09.5**	**+2.7**
ALIB	**Äli-Bayra** SNR=8.6	**1.80**	**277**	Pg		**Pn**		**17 28 09.5**	**+2.7**
SAAT	**Saatly**	**2.25**	**273**	⇓Pn		**Pn**		**17 28 13.1**	**+0.2**
SAAT				⇑Sn		**Sn**		**17 28 40.2**	**+0.8**
SAAT	**Saatly**	**2.25**	**273**	Pn		**Pn**		**17 28 13.1**	**+0.2**
SAAT				Sn		**Sn**		**17 28 40.2**	**+0.8**
LKRN	**Lenkeran, Azer** SNR=4.6	**2.25**	**243**	⇓Pn		**Pn**		**17 28 13.1**	**+0.1**
LKRN				⇓Sn		**Sn**		**17 28 39.0**	**-0.6**
LKRN	**Lenkeran, Azer** SNR=4.6	**2.25**	**243**	Pn		**Pn**		**17 28 13.1**	**+0.1**
LKRN				Sn		**Sn**		**17 28 39.0**	**-0.6**
PQL	**Pirkuli**	**2.33**	**297**	⇓Pn		**Pn**		**17 28 14.0**	**-0.3**
PQL				⇑Sn		**Sn**		**17 28 42.6**	**+0.8**
PQL	**Pirkuli**	**2.33**	**297**	Pn		**Pn**		**17 28 14.0**	**-0.3**
PQL				Sn		**Sn**		**17 28 42.6**	**+0.8**
GLBA	**Clilabad** SNR=6.4	**2.34**	**258**	⇑Pn		**Pn**		**17 28 14.4**	**+0.2**
GLBA				⇑Sn		**Sn**		**17 28 41.0**	**-0.7**
GLBA	**Clilabad** SNR=6.4	**2.34**	**258**	Pn		**Pn**		**17 28 14.4**	**+0.2**
GLBA				Sn		**Sn**		**17 28 41.0**	**-0.7**
KDMR	**Kurdemir** SNR=2.8	**2.49**	**285**	⇑Pn		**Pn**		**17 28 17.2**	**+0.9**
KDMR				⇑Sn		**Sn**		**17 28 45.9**	**+0.4**
KDMR	**Kurdemir** SNR=2.8	**2.49**	**285**	Pn		**Pn**		**17 28 17.2**	**+0.9**
KDMR				Sn		**Sn**		**17 28 45.9**	**+0.4**
LRK	**Lerik** SNR=74	**2.59**	**245**	⇑Pn		**Pn**		**17 28 17.4**	**-0.4**
LRK				⇑Sn		**Sn**		**17 28 46.5**	**-1.6**
LRK	**Lerik** SNR=74	**2.59**	**245**	Pn		**Pn**		**17 28 17.4**	**-0.4**
LRK				Sn		**Sn**		**17 28 46.5**	**-1.6**
IML	**Ismayilli**	**2.62**	**294**	⇓Pn		**Pn**		**17 28 18.8**	**+0.7**
IML				⇑Sn		**Sn**		**17 28 47.9**	**-0.8**
IML	**Ismayilli**	**2.62**	**294**	Pn		**Pn**		**17 28 18.8**	**+0.7**
IML				Sn		**Sn**		**17 28 47.9**	**-0.8**
QUBA	**Quba, Azerbaij** SNR=8.7	**2.68**	**307**	⇓Pn		**Pn**		**17 28 20.3**	**+1.4**
QUBA				⇓Sn		**Sn**		**17 28 51.8**	**+1.6**
QUBA	**Quba, Azerbaij** SNR=8.7	**2.68**	**307**	Pn		**Pn**		**17 28 20.3**	**+1.4**
QUBA				Sn		**Sn**		**17 28 51.8**	**+1.6**
BRDA	**Brd** SNR=3.0	**3.23**	**280**	⇑Pn		**Pn**		**17 28 27.3**	**+0.9**
BRDA	**Brd** SNR=3.0	**3.23**	**280**	Pn		**Pn**		**17 28 27.3**	**+0.9**
MNGR	**Mingechevir, A** SNR=4.4	**3.40**	**288**	⇑Pn		**Pn**		**17 28 29.2**	**+0.4**
MNGR				⇑Sn		**Sn**		**17 29 08.5**	**+0.6**
MNGR	**Mingechevir, A** SNR=4.4	**3.40**	**288**	Pn		**Pn**		**17 28 29.2**	**+0.4**
MNGR				Sn		**Sn**		**17 29 08.5**	**+0.6**
SEKA	**Sheki**	**3.47**	**296**	⇑Pn		**Pn**		**17 28 30.1**	**+0.3**
SEKA				⇑Sn		**Sn**		**17 29 08.7**	**-0.9**
SEKA	**Sheki**	**3.47**	**296**	Pn		**Pn**		**17 28 30.1**	**+0.3**
SEKA				Sn		**Sn**		**17 29 08.7**	**-0.9**
IHRS	**Heris**	**3.65**	**248**	*e*Pn		**Pn**		**17 28 32.9**	**+0.5**
IHRS				*e*Sn		**Sn**		**17 29 13.8**	**-0.4**
IHRS	comp=Z,3μm,0.1s			*e*				17 29 16.8	
IHRS	**Heris**	**3.65**	**248**	*e*Pn		**Pn**		**17 28 32.9**	**+0.5**
IHRS				*e*Sn		**Sn**		**17 29 13.9**	**-0.4**
IGLO	**Ghaloghah**	**3.81**	**148**	*e*Pn		**Pn**		**17 28 36.4**	**+1.7**
IGLO	comp=Z,3μm,0.1s			*e*				17 29 28.1	
IALA	**Alasht**	**3.86**	**162**	*e*Pn		**Pn**		**17 28 37.3**	**+1.9**
IALA	comp=Z,24μm,0.1s			*e*				17 29 23.2	
IALA	**Alasht**	**3.86**	**162**	*e*Pn		**Pn**		**17 28 37.3**	**+1.9**
GANJ	**Ganja** SNR=5.1	**3.94**	**284**	⇓Pn		**Pn**		**17 28 35.2**	**-1.0**
GANJ	**Ganja** SNR=5.1	**3.94**	**284**	Pn		**Pn**		**17 28 35.2**	**-1.0**
ZKTA	**Zakatala** SNR=4.1	**4.04**	**299**	⇑Pn		**Pn**		**17 28 38.7**	**+1.2**
ZKTA				⇓Sn		**Sn**		**17 29 23.7**	**+0.1**
IMHD	**Mahdasht**	**4.12**	**188**	*e*Pn		**Pn**		**17 28 40.6**	**+1.9**
IMHD	comp=Z,596nm,0.1s			*e*				17 29 33.9	
IMHD	**Mahdasht**	**4.12**	**188**	*e*Pn		**Pn**		**17 28 40.6**	**+1.9**
IDMV	**Damavand**	**4.22**	**172**	*e*Pn		**Pn**		**17 28 42.6**	**+2.2**
IDMV				*e*Sn		**Sn**		**17 29 30.5**	**+1.9**
IDMV	comp=Z,807nm,0.1s			*e*				17 29 33.8	
IDMV	**Damavand**	**4.22**	**172**	*e*Pn		**Pn**		**17 28 42.6**	**+2.2**
IDMV				*e*Sn		**Sn**		**17 29 30.5**	**+1.9**
ISHM	**Shahmirzad**	**4.25**	**158**	*e*Pn		**Pn**		**17 28 43.1**	**+2.4**
ISHM	comp=Z,5μm,0.1s			*e*				17 29 37.5	
IFIR	**Firoozkooh**	**4.28**	**164**	*e*Pn		**Pn**		**17 28 43.3**	**+2.3**
IFIR	comp=Z,4μm,0.2s			*e*				17 29 35.5	
IFIR	**Firoozkooh**	**4.28**	**164**	*e*Pn		**Pn**		**17 28 43.3**	**+2.3**
MAK	**Makhachkala**	**4.30**	**319**	*e*P		**Pn**		**17 28 40.9**	**-0.1**
MAK	**Makhachkala**	**4.30**	**319**	*e*P		**Pn**		**17 28 40.9**	**-0.1**
ITBZ	**Tabriz**	**4.33**	**251**	*e*Pn		**Pn**		**17 28 42.2**	**+0.5**
ITBZ	comp=Z,349nm,0.3s			*e*				17 29 48.0	
ITBZ	**Tabriz**	**4.33**	**251**	*e*Pn		**Pn**		**17 28 42.2**	**+0.5**
IMRD	**Marand**	**4.50**	**258**	*e*Pn		**Pn**		**17 28 44.8**	**+0.7**
IMRD	comp=Z,1μm,0.3s			*e*				17 29 44.7	
IMRD	**Marand**	**4.50**	**258**	*e*Pn		**Pn**		**17 28 44.8**	**+0.7**
IRAZ	**Razeghan**	**4.50**	**195**	*e*Pn		**Pn**		**17 28 45.2**	**+1.1**
IRAZ	comp=Z,499nm,0.2s			*e*				17 29 45.8	
IRAZ	**Razeghan**	**4.50**	**195**	*e*Pn		**Pn**		**17 28 45.2**	**+1.1**
ILAS	**Lasjerd**	**4.57**	**163**	*e*Pn		**Pn**		**17 28 47.3**	**+2.3**
ILAS	comp=Z,1μm,0.2s			*e*				17 29 43.8	
ILAS	**Lasjerd**	**4.57**	**163**	*e*Pn		**Pn**		**17 28 47.3**	**+2.3**
QZX	**Qazax, Azerbai** SNR=9.3	**4.73**	**288**	⇑Pn		**Pn**		**17 28 46.7**	**-0.3**
QZX				⇓Sn		**Sn**		**17 29 37.8**	**-2.8**
QZX	**Qazax, Azerbai** SNR=9.3	**4.73**	**288**	Pn		**Pn**		**17 28 46.7**	**-0.3**
QZX				Sn		**Sn**		**17 29 37.8**	**-2.8**
IVRN	**Varamin**	**4.78**	**176**	*e*Pn		**Pn**		**17 28 49.7**	**+1.9**
IVRN	comp=Z,400nm,0.1s			*e*				17 29 55.2	
IVRN	**Varamin**	**4.78**	**176**	*e*Pn		**Pn**		**17 28 49.7**	**+1.9**
GNI	**Garni**	**5.08**	**276**	Pn		**Pn**		**17 28 51.7**	**-0.3**
GNI	comp=Z,7.1nm,0.3s,baz=12,slow=0.5,SNR=5.2			Sn		**Sn**		**17 29 46.5**	**-3.0**
GNI	comp=Z,0.7nm,0.3s,baz=120,slow=20,SNR=2.0			P		**Pn**		**17 28 51.7**	**-0.3**
GNI								17 29 46.5	
GNI	comp=Z,2.0nm,0.3s			pmax		pmax			
GNI	comp=N,1.0nm,0.3s			smax		smax			
TRKR	**Terskaya**	**6.32**	**311**	⇑*i*P		**Pn**		**17 29 09.6**	**+0.8**
TRKR	**Terskaya**	**6.32**	**311**	*i* P		**Pn**		**17 29 09.6**	**+0.8**
ZEI	**Tsey**	**6.36**	**301**	*e*P		**Pn**		**17 29 10.1**	**+0.6**
ZEI	**Tsey**	**6.36**	**301**	*e*P		**Pn**		**17 29 10.1**	**+0.6**
NCK	**Nalchik**	**6.89**	**305**	⇑*e*P		**Pn**		**17 29 16.9**	**+0.3**
NCK	**Nalchik**	**6.89**	**305**	*e*P		**Pn**		**17 29 16.9**	**+0.3**
KBZ	**Khabaz**	**7.45**	**305**	Pn		**Pn**		**17 29 26.1**	**+1.9**
KBZ	comp=N,0.2nm,0.3s,baz=56,slow=24,SNR=2.6			Sn		Sn		17 30 37.0	-10
	comp=N,0.3nm,0.3s,baz=236,slow=23,SNR=2.8								
KIV	**Kislovodsk**	**7.69**	**306**	*e*P		**Pn**		**17 29 29.2**	**+1.5**
KIV				*e*S		**Sn**		**17 30 55.0**	**+1.6**
KIV	comp=Z,3.0nm,0.7s			pmax		pmax			
KIV	comp=Z,6.0nm,7.0s			MLR		MLR			
KIV	**Kislovodsk**	**7.69**	**306**	*e*P		**Pn**		**17 29 29.2**	**+1.5**
KIV	comp=Z,3.0nm,0.7s			*e*S		**Sn**		**17 30 55.0**	**+1.6**
AB31	**Akbulak array**	**11.29**	**30**	⇓Pn		**Pn**		**17 30 14.0**	**-2.8**
AB31	comp=Z,0.3nm,0.2s,baz=224,slow=12			⇓Sn		**Sn**		**17 32 17.1**	**-4.3**
ANN	**Anapa**	**11.46**	**301**	*e*P		**Pn**		**17 30 19.2**	**+0.1**
ANN	comp=Z,44nm,1.0s			pmax		pmax			
ANN	**Anapa**	**11.46**	**301**	*e*P		**Pn**		**17 30 19.2**	**+0.1**
AKTO	**Aktyubinsk**	**11.65**	**22**	⇑Pn		**Pn**		**17 30 19.2**	**-2.5**
AKTO	comp=Z,3.1nm,0.5s			⇑Sn		**Sn**		**17 32 25.0**	**-5.3**
AKTO	**Aktyubinsk**	**11.65**	**22**	Pn		**Pn**		**17 30 19.2**	**-2.5**
AKTO	comp=Z,1.3nm,0.3s,baz=201,slow=9.9,SNR=19			Sn		**Sn**		**17 32 25.8**	**-4.5**
AKTO	comp=Z,1.3nm,0.3s,baz=15,slow=20,SNR=10.0			LR		LR		17 36 50.5	
AKTO	**Aktyubinsk**	**11.65**	**22**	P		**Pn**		**17 30 19.3**	**-2.5**
AKTO	comp=Z,22nm,18.2s,baz=189,slow=47							17 32 25.8	
KK31	**Karatay Array**	**14.76**	**71**	⇑P		**Pn**		**17 31 03.1**	**-0.9**
ARU	**Arti**	**17.33**	**14**	*c i*P		**P**		**17 31 38.0**	**+0.6**
ARU				S		**S**		**17 34 51.4**	**-3.7**
ARU	comp=Z,5.0nm,0.8s			pmax		pmax			
ARU	**Arti**	**17.33**	**14**	*i* P		**P**		**17 31 38.0**	**+0.6**
AAK	**Ala-Archa**	**17.65**	**73**	P		**P**		**17 31 42.4**	**+1.2**
AAK	comp=Z,0.1nm,0.3s,baz=243,slow=9.1,SNR=4.3			⇑*i*P		**P**		**17 31 43.0**	**+1.8**
AAK	comp=Z,8.0nm,1.7s			pmax		pmax			
AAK	**Ala-Archa**	**17.65**	**73**	*i* P		**P**		**17 31 43.0**	**+1.8**
BRVK	**Borovoye**	**18.55**	**38**	⇓Pn		**Pn**		**17 31 52.5**	**+0.9**
BRVK	comp=Z,6.3nm,0.9s			⇓*i*P		**Pn**		**17 31 52.4**	**+0.9**
BRVK	comp=Z,3.0nm,1.1s			pmax		pmax			
BRVK	**Borovoye**	**18.55**	**38**	*i* P		**Pn**		**17 31 52.4**	**+0.9**
BVA0	**Borovoye Array**	**18.58**	**38**	⇓Pn		**Pn**		**17 31 51.9**	**0.0**
BVA0	comp=Z,2.4nm,0.6s,baz=229,slow=6.6,SNR=6.8			Sn		**Sn**		**17 35 14.2**	**-4.4**
BVA0	**Borovoye Array**	**18.58**	**38**	Pn		**Pn**		**17 31 51.9**	**0.0**
BVAR	**Borovoye Array**	**18.58**	**38**	P		**Pn**		**17 31 52.2**	**+0.3**
BVAR	comp=Z,1.1nm,0.3s,baz=230,slow=11,SNR=27			pmax		pmax			
BVAR	**Borovoye Array**	**18.58**	**38**	P		**Pn**		**17 31 52.2**	**+0.3**
AKASG	**Malin Array Be**	**18.95**	**313**	P		**Pn**		**17 31 55.4**	**-0.8**
AKASG	comp=Z,2.4nm,0.3s,baz=111,slow=10,SNR=7.5			*e*P		**Pn**		**17 31 55.9**	**-0.3**
AKASG	**Malin Array Be**	**18.95**	**313**	*e*P		**Pn**		**17 31 55.9**	**-0.3**
AKASG	comp=Z,2.0nm,0.3s			pmax		pmax			
AKASG	**Malin Array Be**	**18.95**	**313**	*e*P		**Pn**		**17 31 55.9**	**-0.3**
KIEV	**Kiev**	**18.95**	**312**	⇑*e*P		**Pn**		**17 31 56.8**	**+0.5**
KIEV	**Kiev**	**18.95**	**312**	*e*P		**Pn**		**17 31 56.8**	**+0.5**
IDI	**Anoyia**	**21.41**	**266**	P		**P**		**17 32 20.4**	**-1.7**
KURBB	**Kurchatov Arra**	**21.89**	**51**	P		**P**		**17 32 28.7**	**+1.6**
KURBB	comp=Z,1.1nm,0.7s,baz=253,slow=11,SNR=7.8			P		**P**		**17 32 28.7**	**+0.7**
KURK	**Kurchatov**	**21.98**	**51**	P		**P**		**17 32 28.7**	**+0.7**
KURK	comp=Z,1.0nm,0.7s			pmax		pmax			
KURK	**Kurchatov**	**21.98**	**51**	P		**P**		**17 32 28.7**	**+0.7**
PRGR	**Permogore**	**22.17**	**353**	*e*P		**P**		**17 32 31.1**	**+1.2**
PRGR	comp=Z,10.0nm,0.6s			pmax		pmax			
PRGR	**Permogore**	**22.17**	**353**	*e*P		**P**		**17 32 31.1**	**+1.2**
KLMR	**Klimovskoe**	**22.34**	**345**	*e*P		**P**		**17 32 27.3**	**-4.5**
KLMR				*e*S		S		17 36 26.4	-7.8
KLMR	comp=Z,11nm,1.1s			pmax		pmax			
KOLS	**Kolonicke sedl**	**22.59**	**304**	*e*P		**P**		**17 32 35.6**	**+1.0**
KOLS				*e*				17 32 55.0	
KOLS	**Kolonicke sedl**	**22.59**	**304**	*e*P		**P**		**17 32 35.6**	**+1.0**
KOLS	**Kolonicke sedl**	**22.59**	**304**	*e*P		**P**		**17 32 35.6**	**+1.0**
KOLS				*e*				17 32 54.9	
MK31	**Makanchi Array**	**23.49**	**62**	⇑P		**P**		**17 32 45.8**	**+2.1**
MK31	comp=Z,0.6nm,0.6s,baz=260,slow=13,SNR=12 **Makanchi Array**	**23.49**	**62**	P		**P**		**17 32 45.8**	**+2.1**
MKAR	comp=Z,0.6nm,0.6s,SNR=12 **Makanchi Array**	**23.49**	**62**	P		**P**		**17 32 45.2**	**+1.4**
MKAR	comp=Z,0.9nm,0.7s,baz=261,slow=13,SNR=13 **Makanchi Array**	**23.49**	**62**	*e*P		**P**		**17 32 45.8**	**+2.1**
MKAR	comp=Z,1.0nm,0.7s			pmax		pmax			
MKAR	**Makanchi Array**	**23.49**	**62**	*e*P		**P**		**17 32 45.8**	**+2.1**
VSU	**Vasula**	**24.44**	**328**	⇑*i*P		**P**		**17 32 53.0**	**+0.8**
VSU	comp=Z,26nm,0.7s			pmax		pmax			
VSU	**Vasula**	**24.44**	**328**	*i* P		**P**		**17 32 53.0**	**+0.8**
VYHS	comp=Z,26nm,0.7s **Vyhne**	**24.75**	**301**	*e*P		**P**		**17 32 53.2**	**-2.0**
VYHS	**Vyhne**	**24.75**	**301**	*e*P		**P**		**17 32 53.2**	**-2.0**
VYHS	**Vyhne**	**24.75**	**301**	*e*P		**P**		**17 32 53.2**	**-2.0**
TMCR	**Tamitsa**	**25.66**	**347**	*e*P		**P**		**17 33 04.1**	**+0.9**
TMCR	comp=Z,19nm,1.1s			pmax		pmax			
ZALV	**Zalesovo Beam**	**26.63**	**47**	P		**P**		**17 33 13.2**	**+1.0**
ZALV	comp=Z,1.4nm,0.6s,baz=262,slow=11,SNR=7.5 **Zalesovo Beam**	**26.63**	**47**	*e*P		**P**		**17 33 14.2**	**+2.1**
ZALV	comp=Z,1.0nm,0.6s			pmax		pmax			
FINES	**FINESS Array B**	**26.65**	**333**	P		**P**		**17 33 12.6**	**+0.3**
FINES	comp=Z,2.3nm,0.5s,baz=152,slow=11,SNR=13 **FINESS Array B**	**26.65**	**333**	P		**P**		**17 33 12.6**	**+0.3**
FINES	comp=Z,2.0nm,0.5s			pmax		pmax			
HFS	**Hagfors**	**31.01**	**324**	P		**P**		**17 33 51.8**	**+0.8**
HFS	comp=Z,1.0nm,0.3s,baz=114,slow=9.9,SNR=14 **Hagfors**	**31.01**	**324**	P		**P**		**17 33 51.8**	**+0.8**
HFS	comp=Z,1.0nm,0.3s			pmax		pmax			
NOA	**NORSAR Array B**	**32.49**	**324**	P		**P**		**17 34 04.8**	**+0.7**
NOA	comp=Z,0.5nm,0.6s,baz=116,slow=8.6,SNR=3.3 **NORSAR Array B**	**32.49**	**324**	P		**P**		**17 34 04.8**	**+0.7**
NOA	comp=Z,1.0nm,0.6s			pmax		pmax			
ARCES	**ARCESS Array B**	**32.81**	**344**	P		**P**		**17 34 07.0**	**+0.3**
ARCES	comp=Z,1.7nm,0.8s,baz=140,slow=10.0,SNR=13 **ARCESS Array B**	**32.81**	**344**	P		**P**		**17 34 07.0**	**+0.3**
ARCES	comp=Z,2.0nm,0.8s			pmax		pmax			
SONM	**Songino Array**	**39.80**	**60**	P		**P**		**17 35 09.3**	**+2.5**
ULN	comp=Z,0.2nm,0.4s,baz=268,slow=7.2,SNR=1.9 **Ulaanbaatar**	**40.23**	**59**	⇑*e*P		**P**		**17 35 13.1**	**+2.7**
ULN	comp=Z,4.0nm,2.5s			pmax		pmax			
TORD	**Torodi Ar. Bea**	**50.94**	**253**	P		**P**		**17 36 35.0**	**0.0**
DBIC	comp=Z,0.2nm,0.4s,baz=40,slow=6.6,SNR=4.5 **Dimbokro**	**60.04**	**252**	P		**P**		**17 37 41.4**	**+0.9**
DBIC	comp=Z,1.1nm,0.4s,baz=53,slow=5.1,SNR=2.1 **Dimbokro**	**60.04**	**252**	P		**P**		**17 37 41.4**	**+0.9**
DBIC	comp=Z,1.0nm,0.4s			pmax		pmax			
BILL	**Bilibino**	**62.08**	**23**	P		**P**		**17 37 54.0**	**+0.4**
BILL	comp=Z,4.0nm,1.5s			pmax		pmax			
YKA	**Yellowknife Ar**	**77.45**	**353**	P		**P**		**17 39 27.2**	**-0.9**
YKA	comp=Z,0.5nm,0.7s,baz=12,slow=5.3,SNR=4.4			pmax		pmax			
YKA	**Yellowknife Ar**	**77.45**	**353**	P		**P**		**17 39 27.2**	**-0.9**
YKA	comp=Z,1.0nm,0.7s			pmax		pmax			

*JMA **19** 17:43:43.2±0.2,44°.00N×148°.16E,h0km,M4.1*
*SKHL **19** 17:43:44.2±0.7,44°.45N×148°.31E,h40km±5km,mb4.7/4*
ISC 19 17:43:40.8±3.4,44°.35N±0°.08×148°.6E±0°.2,h35km,n14,
σ1§68/23,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.04**	**329**	*i* P		**Pn**		**17 43 59.0**	**+0.2**
KUR	270nm,0.3s				AMB	AMB		17 43 59.1	
KUR				*i* S		**Sn**		**17 44 09.8**	**-2.3**
KUR	1μm,0.6s				A	A		17 44 13.0	
KUR	820nm,0.6s				A	A		17 44 13.0	
SHO	**Shikotan**	**1.38**	**250**	*e*P		**Pn**		**17 44 03.9**	**+0.4**
SHO	230nm,0.3s				AMB	AMB		17 44 05.9	
SHO				*e*S		**Sn**		**17 44 18.8**	**-1.8**
SHO	356nm,0.3s				A	A		17 44 21.6	
YUK	**Yuzh-Kuril'sk**	**2.01**	**262**	*i* P		**Pn**		**17 44 13.0**	**+0.7**
YUK	30nm,0.3s				AMB	AMB		17 44 15.2	
YUK	20nm,0.3s				AMB	AMB		17 44 15.2	
YUK	110nm,0.3s				AMB	AMB		17 44 15.2	
YUK				*i* S		**Sn**		**17 44 35.4**	**-0.8**
YUK	200nm,0.5s				A	A		17 44 37.6	
YUK	180nm,0.4s				A	A		17 44 37.8	
YUK	200nm,0.4s				A	A		17 44 37.8	
NEM2	**Nemuro 2**	**2.31**	**246**	P		**Pn**		**17 44 16.8**	**+0.5**
NEM2				*e*S		**Sn**		**17 44 41.4**	**-2.0**
JRA	**Rausu**	**2.56**	**262**	P		**Pn**		**17 44 21.5**	**+1.8**
JRA				*e*S		**Sn**		**17 44 49.6**	**0.0**
JNK	**Nakash**	**2.92**	**256**	P		**Pn**		**17 44 26.3**	**+1.5**
JNK				*e*S		**Sn**		**17 44 57.4**	**-1.3**
JAK	**Akkeshi**	**3.16**	**246**	P		**Pn**		**17 44 28.9**	**+0.9**
JAK				*e*S		**Sn**		**17 45 02.3**	**-2.1**
JTKR	**Abashiri--Toko**	**3.42**	**265**	P		Pn		17 44 34.9	+3.4
JAR	**Ashorobuto**	**3.67**	**255**	P		**Pn**		**17 44 37.5**	**+2.5**
JAR				*e*S		**Sn**		**17 45 17.6**	**+0.5**
JCH	**Churui**	**4.21**	**247**	P		**Pn**		**17 44 43.6**	**+1.2**
YSS	**Yuzh-Sakhalins**	**4.87**	**304**	*e*P		**Pn**		**17 44 53.6**	**+2.1**
YSS	150nm,0.3s				AMB	AMB		17 44 55.2	
JKB	**Kayabe**	**6.08**	**249**	P		**Pn**		**17 45 10.0**	**+1.9**
JKB				*e*S		**Sn**		**17 46 14.6**	**-1.8**
JOT	**Ohata**	**6.31**	**245**	P		**Pn**		**17 45 12.7**	**+1.4**
JOT				*e*S		**Sn**		**17 46 19.2**	**-2.9**
JANG	**Nango**	**6.60**	**235**	P		**Pn**		**17 45 16.2**	**+0.9**

MEX 19 17:57:31.2±0.9,16°.31N×99°.35W,h16km±999km,MD3.9,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.74**	**319**	*e*P		Pn		17 57 47.9	+0.9
ACX				*e*S		Sn		17 57 57.1	-0.8
ACP2	**Acapulco**	**0.76**	**317**	*e*P		Pg		17 57 43.2	-2.8
ACP2				*e*S		Sg		17 57 52.6	-3.5
CAIG	**El Cayaco**	**1.14**	**310**	*e*P		Pn		17 57 48.8	-3.8
CAIG				*i* S		Sb		17 58 02.1	-5.1
PNIG	**Pinotepa**	**1.18**	**86**	*i* P		Pn		17 57 49.4	-3.6
PNIG				*i* S		Sb		17 58 03.1	-5.2
TLIG	**Tlapa**	**1.45**	**31**	*i* P		Pn		17 57 53.3	-3.6
MEIG	**Mezcala**	**1.62**	**351**	*e*P		Pn		17 57 56.1	-3.2
MEIG				*e*S		Sn		17 58 15.8	-4.2
PLIG	**Platanillo**	**2.07**	**356**	*e*P		Pn		17 58 03.7	-1.8
PLIG				*e*S		Sn		17 58 26.4	-4.7
ARIG	**Puente Sto Nin**	**2.18**	**334**	*e*P		Pn		17 58 04.8	-2.0

*BJI **19** 18:11:43.9,7°.88S×147°.18E,h98km,mb4.8/11,mB4.6/7*
*IDC **19** 18:11:49.8±0.7,7°.65S×147°.24E,h130km±5km,mb3.9/15, mb1 4.0/16,mb1mx3.9/20,mbtmp4.3/16,Error ellipse: s-maj=21.1km s-min=11.7km az=69.0*
*NEIC **19** 18:11:49.5±0.4,7°.76S×147°.10E,mb4.8/12,Error ellipse: s-maj=10.1km s-min=5.7km az=82.0*
*ISCJB **19** 18:11:50.4±0.5,7°.82S±0°.05×147°.02E±0°.08,h150km, mb4.3/34,Error ellipse: s-maj=11.8km s-min=6.7km az=170.1*
ISC 19 18:11:51.2±0.6,7°.84S±0°.07×147°.1E±0°.1,h150km,n65,
σ1§18/59,mb4.3/34,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.56**	**177**	*e*Pn		**Pn**		**18 12 19.1**	**-2.3**
COEN	**Coen** 17nm,0.4s	**7.18**	**212**	*e*Pn		**Pn**		**18 13 34.1**	**+0.4**
JAY	**Jayapura** 1.1nm,0.3s,baz=183,slow=4.4,SNR=5.9	**8.26**	**310**	P		**Pn**		**18 13 46.4**	**-1.8**
CTA	**Charters Tower** 0.9nm,0.3s,baz=8.4,slow=13,SNR=10.0	**12.20**	**184**	P		**P**		**18 14 45.5**	**-0.9**
CTAO	**Charters Tower**	**12.20**	**184**	*e*Pn		**P**		**18 14 43.8**	**-2.6**
SIJI	**Sorong** 1.8nm,0.3s,baz=102,slow=10,SNR=9.9	**17.21**	**293**	P		**P**		**18 15 39.8**	**-2.2**
WRAB	**Tennant Creek** 14nm,0.8s	**17.22**	**224**	*e*Pn		**P**		**18 15 41.2**	**-0.8**
WRA	**Warramunga Arr** 2.1nm,0.3s,baz=52,slow=11,SNR=51	**17.23**	**224**	P		**Pn**		**18 15 42.4**	**-0.6**
WRA	baz=44,slow=16,SNR=6.1			S		Sn		18 19 06.9	+11
AS31	**Alice Springs**	**20.18**	**217**	*e*Pn		**P**		**18 16 14.4**	**+0.3**
DZM	**Mont Dzumac

KMI	**Kunming**	**54.18 309**	P	P	18 21 03.8	+2.1
KMI			PMZ				
	10.0nm,0.8s						
CM31	**Chiang Mai Arr**	**54.19 299**	*e*P	**P**	**18 21 02.6**	**+1.0**
	3.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**54.19 299**	P	P	18 21 03.2	+1.6
	5.8nm,0.6s,baz=124,slow=5.5,SNR=46						
CMMT	**Chiang Mai**	**54.34 300**	P	P	18 21 04.2	+1.5
CHTO	**Chiang Mai**	**54.34 300**	P	P	18 21 04.3	+1.6
	31nm,1.1s						
GTA	**Gaotai**	**64.20 321**	*e*P	P	18 22 11.8	+1.6
GTA			PMZ				
	4.0nm,1.0s						
LSA	**Lhasa**	**65.40 308**	*e*P	P	18 22 20.4	+1.7
	14nm,0.6s						
SONM	**Songino Array**	**66.04 331**	P	**P**	**18 22 22.6**	**+0.6**
	0.7nm,0.4s,baz=154,slow=6.0,SNR=7.5						
SONM			pP	**PcP**	**18 22 52.3**	**+1.0**
	0.5nm,0.6s,baz=134,slow=5.3,SNR=2.3						
TAPN	**Taplejung**	**67.22 304**	*e*P	**P**	**18 22 31.0**	**+0.9**
ODAN	**Odare**	**67.30 303**	*e*P	**P**	**18 22 31.5**	**+1.0**
RAMN	**Ramite**	**67.99 303**	*e*P	**P**	**18 22 35.9**	**+1.1**
JIRN	**Jiri**	**68.59 304**	*e*P	**P**	**18 22 39.7**	**+1.0**
GUN	**Gumba**	**68.94 304**	*e*P	**P**	**18 22 41.9**	**+1.1**
	21nm,0.8s						
PKI	**Pulchoki**	**69.20 303**	*e*P	**P**	**18 22 43.2**	**+0.8**
KKN	**Kakani**	**69.39 303**	*e*P	**P**	**18 22 44.4**	**+1.0**
DMN	**Daman**	**69.47 303**	*e*P	**P**	**18 22 45.2**	**+1.2**
	21nm,0.7s						
GKN	**Gorkha**	**69.99 303**	*e*P	**P**	**18 22 47.8**	**+0.7**
	20nm,0.7s						
VNDA	**Vanda**	**70.08 177**	P	P	18 22 48.6	+2.1
	1.2nm,0.8s,baz=300,slow=7.7,SNR=5.6						
KOLN	**Koldanda**	**70.77 303**	*e*P	**P**	**18 22 52.7**	**+0.8**
MK31	**Makanchi Array**	**78.95 321**	*e*P	**P**	**18 23 39.0**	**+0.8**
MKAR	**Makanchi Array**	**78.95 321**	P	**P**	**18 23 39.2**	**+0.9**
	4.8nm,0.7s,baz=103,slow=3.9,SNR=46						
MKAR			pP	**pP**	**18 24 12.4**	**-3.0**
	0.9nm,0.6s,baz=111,slow=5.6,SNR=2.6						
ZALV	**Zalesovo Beam**	**80.60 328**	P	**P**	**18 23 46.9**	**0.0**
	1.9nm,0.4s,baz=126,slow=5.3,SNR=14						
KURK	**Kurchatov**	**82.72 323**	*e*P	**P**	**18 23 58.6**	**+0.5**
KKAR	**Karatay Array**	**85.62 314**	*e*P	**P**	**18 24 13.2**	**+0.2**
	1.2nm,0.4s						
ILAR	**Eielson Array**	**87.13 23**	P	**P**	**18 24 18.9**	**-1.0**
	0.8nm,0.8s,baz=256,slow=5.6,SNR=5.6						
ILAR			pP	pP	18 24 51.7	-6.0
	0.9nm,0.8s,baz=252,slow=4.8,SNR=3.8						
BVAR	**Borovoye Array**	**88.29 324**	P	**P**	**18 24 25.0**	**-0.6**
	0.8nm,0.5s,baz=119,slow=8.6,SNR=4.5						
ABKAR	**Akbulak array**	**94.01 319**	*e*P	**P**	**18 24 51.4**	**-0.8**
	0.7nm,0.6s						
TOA0	**Torodi Ar. Sit**	**145.57 282**	*e*PKPdf	**PKPab**	**18 31 14.5**	**+0.9**
TORD	**Torodi Ar. Bea**	**145.57 282**	PKPbc	**PKPab**	**18 31 14.1**	**+0.5**
	7.7nm,0.4s,baz=76,slow=4.5,SNR=138						
TORD			pPKPbc	pPKPbc	18 31 49.0	-3.4
	1.8nm,0.6s,baz=79,slow=4.3,SNR=3.6						
DBIC	**Dimbokro**	**152.13 269**	PKPbc	**PKPbc**	**18 31 30.8**	**+0.7**
	4.3nm,0.8s,baz=96,slow=5.0,SNR=3.8						
DBIC			PKPab	**PKPab**	**18 31 41.3**	**+1.1**
	4.5nm,0.9s,baz=90,slow=2.8,SNR=4.7						

WEL 19 18:18:46.2±0.1, 37.88S×176.94E, h5km, ML3.5/11, 7C-5D, Error ellipse: s-maj=0.9km s-min=0.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARZ	**Manawahe**	**0.23**	**244**	⇓PG	Pg	18 18 51.3	+0.4
MARZ				SG	Sg	18 18 55.6	+1.6
EDRZ	**Edgecumbe**	**0.28**	**215**	⇑PG	Pg	18 18 52.0	+0.3
EDRZ				AML	AML	18 18 57.3	
EDRZ				AML	AML	18 19 00.5	
OPRZ	**Ohinepanea**	**0.31**	**277**	PG	Pg	18 18 52.5	+0.3
OPRZ				SG	Sg	18 18 57.8	+1.5
URZ	**Urewera**	**0.40**	**161**	⇓PG	Pg	18 18 53.7	-0.3
URZ				SG	Sg	18 19 00.6	+1.3
URZ				AML	AML	18 19 08.1	
WIZ	**White Island**	**0.41**	**29**	*e*PG	Pg	18 18 54.5	+0.4
MKRZ	**Makatiti**	**0.45**	**235**	PG	Pb	18 18 56.3	-0.4
MKRZ				AML	AML	18 19 04.7	
MKRZ				AML	AML	18 19 06.3	
LIRZ	**Lichensteins R**	**0.46**	**254**	PG	Pg	18 18 55.8	+0.8
LIRZ				*e*SG	Sg	18 19 02.1	+1.1
TARZ	**Mount Tarawera**	**0.49**	**224**	PG	Pb	18 18 57.0	-0.5
OMRZ	**Omania**	**0.50**	**243**	⇓PG	Pg	18 18 56.8	+0.8
TGRZ	**Tauranga**	**0.56**	**286**	PG	Pg	18 18 57.5	+0.5
TGRZ				AML	AML	18 19 08.1	
TGRZ				AML	AML	18 19 08.7	
RRRZ	**Republican Roa**	**0.57**	**216**	PG	Pg	18 18 57.6	+0.4
KARZ	**Kaharoa**	**0.57**	**256**	PG	Pg	18 18 57.8	+0.6
HLRZ	**Highlands Stat**	**0.59**	**231**	PG	Pb	18 18 59.0	-0.2
MWZ	**Matawai**	**0.65**	**134**	P*	Pg	18 18 58.4	-0.4
MWZ				S*	Sg	18 19 07.4	+0.2
MWZ				AML	AML	18 19 07.7	
MWZ				AML	AML	18 19 07.7	
MWZ				AML	AML	18 19 07.7	
UTU	**Utuhina**	**0.66**	**243**	P*	Pb	18 19 00.2	0.0
UTU				AML	AML	18 19 10.4	
UTU				AML	AML	18 19 10.9	
HAZ	**Te Kaha**	**0.68**	**80**	P*	Pg	18 18 58.9	-0.4
HSRZ	**Hossack Road**	**0.70**	**232**	P*	Pb	18 19 00.8	-0.1
RAGZ	**Rawiri**	**0.72**	**149**	⇑P*	Pg	18 18 59.0	-0.3
HRRZ	**Handcock Road**	**0.73**	**225**	P*	Pg	18 19 01.0	-0.5
PRRZ	**Plateau Road**	**0.75**	**215**	P*	Pg	18 19 00.8	+0.1
MYRZ	**Mayor Island**	**0.82**	**317**	P*	Pg	18 19 01.9	0.0
ALRZ	**Allen Road**	**0.83**	**215**	P*	Pg	18 19 02.1	-0.1
TWGZ	**Tauwhareparae**	**0.87**	**110**	⇑P*	Pg	18 19 03.5	+0.4
WPRZ	**Whakapapatarin**	**0.88**	**224**	P*	Pb	18 19 04.2	+0.1
TKGZ	**Te Karaka**	**0.91**	**128**	⇓P*	Pb	18 19 04.3	-0.1
SNGZ	**Shannon Statio**	**0.95**	**161**	⇑P*	Pg	18 19 04.5	0.0
MRHZ	**Matea Rd**	**1.03**	**203**	P*	Pg	18 19 05.4	-0.8
RAHZ	**Arahi**	**1.04**	**174**	⇑P*	Pg	18 19 06.2	-0.1
RIGZ	**Rimuhau**	**1.04**	**142**	P*	Pb	18 19 07.1	+0.2
PUZ	**Puketiti**	**1.06**	**101**	⇑P*	Pb	18 19 06.9	-0.2
PUZ				AML	AML	18 19 26.1	
PUZ				AML	AML	18 19 30.0	
MXZ	**Matakaoa Point**	**1.13**	**74**	P*	Pg	18 19 07.6	-0.3
MXZ				AML	AML	18 19 12.9	
MXZ				AML	AML	18 19 29.4	
TOZ	**Tahuroa Road**	**1.15**	**277**	P*	Pg	18 19 07.4	-0.9
CNGZ	**Carnagh Statio**	**1.17**	**121**	P*	Pn	18 19 10.1	+0.9
WMGZ	**Waiomatatini S**	**1.17**	**87**	P*	Pb	18 19 09.0	+0.1
TLZ	**Tolley Road**	**1.19**	**248**	*e*P*	Pg	18 19 07.5	-1.7
WHHZ	**Waihua**	**1.21**	**169**	P*	Pn	18 19 10.0	+0.1
NMHZ	**Naumai**	**1.22**	**185**	P*	Pg	18 19 09.2	-0.5
KNZ	**Kokohu**	**1.27**	**153**	P*	Pg	18 19 10.5	-0.2
PRGZ	**Paritu Road**	**1.28**	**145**	P*	Pb	18 19 11.4	+0.6
BKZ	**Black Stump Fm**	**1.33**	**195**	⇓P*	Pn	18 19 09.9	-1.6
BKZ				AML	AML	18 19 34.9	
BKZ				AML	AML	18 19 41.3	
ARHZ	**Aropaoanui**	**1.38**	**178**	PN	Pn	18 19 12.2	0.0
KUZ	**Kuaotunu**	**1.49**	**319**	⇑PN	Pn	18 19 12.8	-0.8
KUZ				AML	AML	18 19 46.4	
KUZ				AML	AML	18 19 49.7	
MCHZ	**McNeill Hill**	**1.57**	**187**	PN	Pb	18 19 15.3	-0.5
MKAZ	**Moumakai**	**1.61**	**298**	PN	Pn	18 19 14.4	-0.9
MKAZ				AML	AML	18 19 38.0	
MKAZ				AML	AML	18 19 41.2	
BHHZ	**Black Hill Sta**	**1.75**	**203**	P*	Pn	18 19 16.0	-1.3
HIZ	**Hauiti**	**1.76**	**248**	PN	Pn	18 19 18.1	+0.7
WNVZ	**Wahianoa**	**1.79**	**216**	P*	Pb	18 19 18.9	-0.8
KRHZ	**Kereru**	**1.81**	**194**	PN	Pn	18 19 18.0	-0.2
KAHZ	**Kahuranaki**	**1.91**	**181**	PN	Pn	18 19 19.5	0.0
TSZ	**Takapari Road**	**2.30**	**199**	PN	Pn	18 19 23.4	-1.6
MRZ	**Mangatainoka R**	**2.97**	**200**	PN	Pn	18 19 32.6	-1.4

*ISCJB **19** 18:21:13.0±1.3, 6.97S±0.05×105.07E±0.03, h1km±8km, mb3.7/4, Error ellipse: s-maj=8.4km s-min=4.7km az=29.6*
*IDC **19** 18:21:12.4±1.6, 6.75S×104.99E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.6/22, mbtmp3.7/5, ML4.0/1, Error ellipse: s-maj=53.0km s-min=21.6km az=40.0*
*DJA **19** 18:21:15.9±0.4, 7.3S±3.1×107.5E±.1, h10km, M4.2/17, mb4.2/1, MLv4.2/17*
ISC 19 18:21:14.4±1.8, 6.90S±0.07×105.08E±0.05, h9km±10km, n28, σ1°05/32, mb3.8/4, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGJI	**Cibinong**	**0.67**	**65**	P	**Pg**	**18 21 27.5**	**+0.1**
CGJI				S	**Sg**	**18 21 36.0**	**-0.2**
SBJI	**Serang**	**1.30**	**54**	P	**Pn**	**18 21 38.6**	**-0.1**
SBJI				S	**Sb**	**18 21 55.7**	**-0.1**
SKJI	**Sukabumi**	**1.47**	**94**	P	**Pb**	**18 21 41.7**	**-0.3**
SKJI				S	**Sg**	**18 22 01.7**	**-0.1**
KASI	**Kota Agung**	**1.48**	**337**	P	**Pn**	**18 21 40.5**	**-0.7**
KASI				S	**Sg**	**18 22 02.7**	**+0.7**
BLSI	**Bandar Lampung**	**1.53**	**6**	P	**Pn**	**18 21 41.4**	**-0.5**
BLSI				S	**Sn**	**18 22 02.3**	**+0.5**
TNG	**Tangerang**	**1.72**	**65**	P	**Pb**	**18 21 45.6**	**-0.5**
TNG				S	**Sn**	**18 22 07.3**	**+0.8**
CBJI	**Citeko**	**1.82**	**75**	P	**Pn**	**18 21 47.0**	**+1.1**
CBJI				S	**Sb**	**18 22 11.7**	**+0.8**
KLI	**Kotabumi**	**2.03**	**354**	P	**Pb**	**18 21 50.6**	**-0.9**
CNJI	**Cibinong**	**2.08**	**102**	P	**Pn**	**18 21 48.7**	**-0.7**
CNJI				S	**Sn**	**18 22 15.0**	**-0.4**
LWLI	**Liwa**	**2.12**	**331**	P	**Pb**	**18 21 51.7**	**-1.4**
LWLI				S	**Sb**	**18 22 20.9**	**+1.3**
LEM	**Lembang**	**2.52**	**89**	P	**Pn**	**18 21 57.9**	**+2.2**
LEM	**Lembang**	**2.52**	**89**	Pn	**Pn**	**18 21 56.2**	**+0.5**
	27nm,0.3s,baz=243,slow=9.0,SNR=18						
LEM				Sn	**Sb**	**18 22 31.6**	**+0.4**
	16nm,0.3s,baz=336,slow=22,SNR=3.8						
MDSI	**Maura Dua**	**2.55**	**339**	P	**Pn**	**18 21 56.6**	**+0.6**
CISI	**Cisompet, Garu**	**2.79**	**104**	P	**Pn**	**18 21 59.3**	**-0.1**
MNAI	**Manna**	**3.29**	**320**	P	**Pn**	**18 22 07.6**	**+1.5**
LHSI	**Lahat**	**3.42**	**333**	P	**Pn**	**18 22 10.0**	**+2.1**
CMJI	**Cimerak**	**3.46**	**105**	P	**Pn**	**18 22 09.0**	**+0.6**
H01W3	**Cape Leeuwin H**	**29.08**	**165**	T	T	18 57 39.8	
	baz=343,slow=76,SNR=72						
H01W1	**Cape Leeuwin H**	**29.09**	**165**	T	T	18 57 40.9	
	baz=343,slow=76,SNR=65						
H01W2	**Cape Leeuwin H**	**29.09**	**165**	T	T	18 57 40.9	
	baz=343,slow=76,SNR=86						
WRA	**Warramunga Arr**	**31.21**	**117**	P	**P**	**18 27 34.2**	**-0.1**
	0.6nm,0.7s,baz=292,slow=10,SNR=7.1						
H08S2	**Diego Garcia H**	**32.33**	**267**	T	T	19 01 48.6	
	baz=90,slow=75,SNR=154						
H08S3	**Diego Garcia H**	**32.34**	**267**	T	T	19 01 49.3	
	baz=90,slow=75,SNR=140						
H08S1	**Diego Carcia H**	**32.34**	**267**	T	T	19 01 50.0	
	baz=90,slow=75,SNR=148						
STKA	**Stephens Creek**	**42.14**	**131**	P	**P**	**18 29 08.3**	**+1.0**
	1.5nm,0.5s,baz=304,slow=8.8,SNR=7.5						
MKAR	**Makanchi Array**	**57.16**	**342**	P	**P**	**18 30 58.8**	**-2.8**
	0.1nm,0.3s,baz=165,slow=6.0,SNR=5.5						
ZALV	**Zalesovo Beam**	**62.97**	**347**	P	**P**	**18 31 41.2**	**-0.1**
	0.4nm,0.3s,baz=146,slow=7.3,SNR=3.0						
TXAR	**Lajitas Array**	**144.91**	**47**	PKP	**PKPab**	**18 40 51.9**	**0.0**
	0.2nm,0.7s,baz=242,slow=1.5,SNR=3.0						

*DDA **19** 18:24:37.1, 38.28N×26.51E, h17km, MD3.0, ML3.1*
*CSEM **19** 18:24:38.9±0.1, 38.26N×26.51E, h15km, ML3.1, Error ellipse: s-maj=3.4km s-min=2.4km az=54.0*
*ATH **19** 18:24:38.5, 38.23N×26.45E, h33km±3km, MD3.1/6*
*ISCJB **19** 18:24:38.4±0.4, 38.27N±0.02×26.53E±0.03, h11km±2km, Error ellipse: s-maj=3.7km s-min=2.7km az=144.6*
*THE **19** 18:24:38.9, 38.26N×26.54E, h10km±1km, ML3.1/5, Error ellipse: s-maj=1.7km s-min=0.7km az=239.0*
*ISK **19** 18:24:38.4, 38.27N×26.58E, h6km, MD3.0*
ISC 19 18:24:38.3±0.8, 38.26N±0.02×26.52E±0.02, h11km±5km, n82, σ0°58/123, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZEY	**¯zmir**	**0.03**	**212**	*i*P	**Pg**	**18 24 40.7**	**+0.4**
ZEY				*i*S	**Sg**	**18 24 42.3**	**+0.6**
URLA	**Izmir**	**0.11**	**31**	*i*P	**Pg**	**18 24 40.9**	**-0.4**
URLA				*i*S	**Sg**	**18 24 42.7**	**-0.7**
CHOS	**Chios island**	**0.39**	**289**	PG	**Pb**	**18 24 47.3**	**0.0**
CHOS				*e*SG	**Sb**	**18 24 53.7**	**+0.4**
CHOS	**Chios island**	**0.39**	**289**	P	**Pb**	**18 24 47.2**	**0.0**
CHOS				S	**Sb**	**18 24 53.2**	**-0.1**
CHOS	**Chios island**	**0.39**	**289**	*e*PB	**Pb**	**18 24 47.3**	**0.0**
CHOS				*e*SB	**Sb**	**18 24 53.3**	**-0.1**
CHOS	**Chios island**	**0.39**	**289**	P	**Pb**	**18 24 47.2**	**0.0**
CHOS				S	**Sb**	**18 24 53.2**	**-0.1**
BLCB	**Balcova**	**0.43**	**73**	PG	**Pg**	**18 24 46.2**	**-0.6**
BLCB				*e*SG	**Sg**	**18 24 52.1**	**-0.3**
BLCB	**Balcova**	**0.43**	**73**	*i* Pg	**Pg**	**18 24 46.2**	**-0.6**
BLCB				*e*Sg	**Sg**	**18 24 52.1**	**-0.3**
IZM	**Izmir**	**0.60**	**77**	*e*PG	**Pg**	**18 24 49.6**	**-0.4**
IZM	**Izmir**	**0.60**	**77**	*e*Pg	**Pg**	**18 24 49.6**	**-0.4**
SMG	**Samos**	**0.61**	**156**	P	**Pg**	**18 24 50.3**	**+0.2**
SMG				S	**Sg**	**18 24 55.7**	**0.0**
SMG	**Samos**	**0.61**	**156**	*e*PN	**Pg**	**18 24 50.4**	**+0.3**
SMG				*e*SN	**Sn**	**18 25 01.2**	**-1.5**
SMG	**Samos**	**0.61**	**156**	*e*Pn	**Pg**	**18 24 50.4**	**+0.3**
SMG				S	**Sb**	**18 24 59.5**	**0.0**
SMG				*e*Sn	**Sn**	**18 25 01.2**	**-1.5**
GCAM	**G?zelcaml?**	**0.79**	**135**	*i*P	**Pg**	**18 24 53.7**	**0.0**
GCAM				*i*S	**Sg**	**18 25 04.5**	**+0.5**
GCAM	**G?zelcaml?**	**0.79**	**135**	*i*P	**Pg**	**18 24 53.7**	**0.0**
GCAM				*i*S	**Sg**	**18 25 04.5**	**+0.5**
PRK	**Paraskevi**	**1.00**	**349**	P	**Pb**	**18 24 56.8**	**-0.9**
PRK				S	**Sn**	**18 25 11.9**	**-0.5**
PRK	**Paraskevi**	**1.00**	**349**	*e*PB	**Pb**	**18 24 56.9**	**-0.8**
PRK				*e*SN	**Sn**	**18 25 12.2**	**-0.2**
PRK	**Paraskevi**	**1.00**	**349**	*e*Pb	**Pb**	**18 24 56.9**	**-0.8**
PRK				S	**Sn**	**18 25 11.9**	**-0.5**
PRK				*e*Sn	**Sn**	**18 25 12.2**	**-0.2**
AYVA	**Ayvalik**	**1.05**	**7**	*i*P	**Pg**	**18 24 58.0**	**-0.6**
AYVA				*i*S	**Sn**	**18 25 13.9**	**+0.2**
AYVA	**Ayvalik**	**1.05**	**7**	*i*P	**Pb**	**18 24 58.0**	**-0.6**
AYVA				*i*S	**Sn**	**18 25 13.9**	**+0.2**
SIGR	**SIGRI**	**1.08**	**331**	*e*PN	**Pg**	**18 24 59.9**	**+0.7**
SIGR	**SIGRI**	**1.08**	**331**	P	**Pb**	**18 24 59.0**	**0.0**
SIGR				S	**Sn**	**18 25 14.0**	**-0.4**
SIGR	**SIGRI**	**1.08**	**331**	*e*PN	**Pb**	**18 24 59.1**	**0.0**
SIGR				*e*SN	**Sn**	**18 25 14.3**	**-0.1**
SIGR	**SIGRI**	**1.08**	**331**	P	**Pb**	**18 24 59.0**	**0.0**
SIGR	**SIGRI**	**1.08**	**331**	*e*Pn	**Pg**	**18 24 59.9**	**+0.7**
SIGR				S	**Sn**	**18 25 14.0**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**1.12**	**106**	*e*PN	**Pb**	**18 24 59.5**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.12**	**106**	*e*Pn	**Pb**	**18 24 59.5**	**-0.3**
AKHS	**Akhisar**	**1.18**	**58**	*i*P	**Pn**	**18 25 00.4**	**-0.4**
AKHS				*i*S	**Sb**	**18 25 16.3**	**+0.2**
AKHS	**Akhisar**	**1.18**	**58**	*i*P	**Pn**	**18 25 00.4**	**-0.4**
AKHS				*i*S	**Sb**	**18 25 16.3**	**+0.2**
AKS	**Akhisar**	**1.18**	**58**	*e*PN	**Pn**	**18 25 00.7**	**-0.2**
AKS	**Akhisar**	**1.18**	**58**	*e*Pn	**Pn**	**18 25 00.7**	**-0.2**
AYDN	**Tasoluk**	**1.23**	**119**	*i*P	**Pg**	**18 25 02.9**	**+1.0**
AYDN				*i*S	**Sg**	**18 25 18.8**	**+0.9**
AYDN	**Tasoluk**	**1.23**	**119**	*i*P	**Pg**	**18 25 02.9**	**+1.0**
AYDN				*i*S	**Sg**	**18 25 18.8**	**+0.9**
BODT	**Bodrum**	**1.35**	**152**	*e*PN	**Pb**	**18 25 04.0**	**+0.3**
BODT	**Bodrum**	**1.35**	**152**	*e*Pn	**Pb**	**18 25 04.0**	**+0.3**
BDRM	**Kayabasi**	**1.40**	**148**	*i*P	**Pn**	**18 25 03.5**	**-0.3**
BDRM				*i*S	**Sb**	**18 25 22.6**	**+0.2**
BDRM	**Kayabasi**	**1.40**	**148**	*i*P	**Pn**	**18 25 03.5**	**-0.3**
BDRM				*i*S	**Sb**	**18 25 22.6**	**+0.2**
APE	**Apeiranthos**	**1.43**	**214**	P	**Pn**	**18 25 03.6**	**-0.6**
APE				S	**Sb**	**18 25 23.0**	**-0.2**
APE	**Apeiranthos**	**1.43**	**214**	*e*PN	**Pn**	**18 25 03.3**	**-0.9**
APE	**Apeiranthos**	**1.43**	**214**	*e*Pn	**Pn**	**18 25 03.3**	**-0.9**
APE	**Apeiranthos**	**1.43**	**214**	P	**Pn**	**18 25 03.6**	**-0.6**
APE				S	**Sb**	**18 25 23.0**	**-0.2**
EZN	**Ezine**	**1.57**	**354**	*e*PN	**Pb**	**18 25 07.4**	**+0.1**
EZN	**Ezine**	**1.57**	**354**	*e*Pn	**Pb**	**18 25 07.4**	**+0.1**
MANT	**Manisa**	**1.62**	**81**	*i*P	**Pb**	**18 25 08.3**	**0.0**
MANT				*i*S	**Sn**	**18 25 27.8**	**-0.1**
MANT	**Manisa**	**1.62**	**81**	*i*P	**Pb**	**18 25 08.3**	**0.0**
MANT				*i*S	**Sn**	**18 25 27.8**	**-0.1**
BOZC	**Bozcaada**	**1.62**	**347**	*i*P	**Pn**	**18 25 06.2**	**-0.6**
BOZC				*i*S	**Sn**	**18 25 26.6**	**-1.1**
KULA	**Kula-Manisa**	**1.70**	**81**	*e*PN	**Pn**	**18 25 08.6**	**+0.6**
KULA	**Kula-Manisa**	**1.70**	**81**	P	**Pn**	**18 25 08.1**	**+0.1**
KULA				S	**Sn**	**18 25 29.6**	**-0.2**
KULA	**Kula-Manisa**	**1.70**	**81**	P	**Pn**	**18 25 08.1**	**+0.1**
KULA	**Kula-Manisa**	**1.70**	**81**	*e*Pn	**Pn**	**18 25 08.6**	**+0.6**
KULA				S	**Sn**	**18 25 29.6**	**-0.2**
BALY	**Balya**	**1.71**	**30**	*i*P	**Pb**	**18 25 08.9**	**-0.8**
BALY				*i*S	**Sb**	**18 25 30.9**	**-0.3**
BALY	**Balya**	**1.71**	**30**	*i*P	**Pb**	**18 25 09.5**	**-0.2**
BALY				*i*S	**Sb**	**18 25 30.9**	**-0.3**
BALB	**Balikesir**	**1.73**	**37**	*e*PN	**Pb**	**18 25 09.8**	**-0.4**
BALB	**Balikesir**	**1.73**	**37**	*e*Pn	**Pb**	**18 25 09.8**	**-0.4**
YER	**Yerkesik**	**1.79**	**128**	*e*PN	**Pb**	**18 25 10.3**	**-0.9**
YER	**Yerkesik**	**1.79**	**128**	*e*Pn	**Pb**	**18 25 10.3**	**-0.9**
LIA	**Limnos Island**	**1.94**	**328**	P	**Pn**	**18 25 11.5**	**+0.3**
LIA	**Limnos Island**	**1.94**	**328**	*e*PB	**Pn**	**18 25 11.5**	**+0.3**
LIA	**Limnos Island**	**1.94**	**328**	P	**Pn**	**18 25 11.5**	**+0.3**
DST	**Dursunbey**	**2.11**	**50**	*e*PN	**Pn**	**18 25 14.7**	**+1.0**
DST	**Dursunbey**	**2.11**	**50**	*e*Pn	**Pn**	**18 25 14.7**	**+1.0**
SMTH	**Samothraki Isl**	**2.33**	**341**	P	**Pn**	**18 25 16.0**	**-0.7**
SMTH	**Samothraki Isl**	**2.33**	**341**	*e*PN	**Pn**	**18 25 16.7**	**0.0**
SMTH	**Samothraki Isl**	**2.33**	**341**	P	**Pn**	**18 25 16.0**	**-0.7**
SMTH	**Samothraki Isl**	**2.33**	**341**	*e*Pn	**Pn**	**18 25 16.7**	**0.0**
KHL	**Karahalli**	**2.36**	**88**	*e*PN	**Pn**	**18 25 18.3**	**+1.2**
KHL	**Karahalli**	**2.36**	**88**	*e*Pn	**Pn**	**18 25 18.3**	**+1.2**
ARG	**Arkhangelos**	**2.41**	**147**	P	**Pn**	**18 25 17.0**	**-0.7**
ARG	**Arkhangelos**	**2.41**	**147**	*e*PN	**Pn**	**18 25 18.1**	**+0.4**
ARG	**Arkhangelos**	**2.41**	**147**	P	**Pn**	**18 25 17.0**	**-0.7**
ARG	**Arkhangelos**	**2.41**	**147**	*e*Pn	**Pn**	**18 25 18.1**	**+0.4**
ALN	**Alexandroupoli**	**2.66**	**352**	P	**Pn**	**18 25 20.1**	**-1.0**
ALN				S	**Sn**	**18 25 53.7**	**+0.5**
ALN	**Alexandroupoli**	**2.66**	**352**	P	**Pn**	**18 25 20.1**	**-1.0**
ALN				S	**Sn**	**18 25 53.7**	**+0.5**
ULDT	**Uludag**	**2.77**	**46**	*i* P	**Pb**	**18 25 29.8**	**+1.9**
ULDT				*i* S	**Sb**	**18 26 01.2**	**-0.6**
OUR	**Ouranopolis**	**2.86**	**317**	P	**Pn**	**18 25 24.3**	**+0.5**
OUR	**Ouranopolis**	**2.86**	**317**	P	**Pn**	**18 25 24.3**	**+0.5**
RDO	**Rodhopi**	**2.98**	**346**	P	**Pn**	**18 25 26.1**	**+0.6**
RDO	**Rodhopi**	**2.98**	**346**	P	**Pn**	**18 25 26.1**	**+0.6**
KAVA	**Kavala**	**3.14**	**331**	P	**Pn**	**18 25 27.2**	**-0.5**
KAVA	**Kavala**	**3.14**	**331**	P	**Pn**	**18 25 27.2**	**-0.5**
EDRB	**Edirne**	**3.58**	**3**	P	**Pn**	**18 25 33.6**	**-0.2**
EDRB	**Edirne**	**3.58**	**3**	P	**Pn**	**18 25 33.6**	**-0.2**

KRSC 19 18:30:33.5±1.1, 55.76N×162.93E, h54km±19km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.46**	**352**	*e*P	Pn	18 30 44.5	0.0
KBTR				*e*S	Sn	18 30 53.9	+1.5
BDR	**Baidarnaya**	**1.26**	**311**	*e*P	Pn	18 30 56.3	+1.3
BDR				*e*S	Sn	18 31 12.3	+1.3
SRKR	**Sorokina**	**1.33**	**313**	*e*P	Pn	18 30 57.2	+1.3
SRKR				*e*S	Sn	18 31 14.4	+1.7
MKZ	**Mys Kozlova**	**1.39**	**210**	*e*P	Pn	18 30 56.9	+0.4
MKZ				*e*S	Sn	18 31 16.1	+2.4
KLY	**Klyuchi**	**1.40**	**294**	*e*P	Pn	18 30 56.1	-0.5
KLY				*e*S	Sn	18 31 12.6	-1.4
KMNR	**Kamenistaya**	**1.52**	**271**	*e*P	Pn	18 31 00.2	+1.7
KMNR				*e*S	Sn	18 31 20.5	+3.2
KPT	**Kopyto**	**1.54**	**279**	*e*P	Pn	18 31 00.0	+1.2
KPT

BVAR	**Borovoye Array**	**68.32**	**329**	P		**P**	**18 42 58.6**	**+1.2**
	0.2nm,0.5s,baz=149,slow=11,SNR=3.0							

IDC ***19*** *18:42:54.0±1.8, 14°.39S×76°.24W, h0km, mb4.0/2, mb1 4.1/7, mb1mx3.8/22, mbtmp4.0/7, ML3.5/4, MS3.2/5, Ms1 3.2/5, ms1mx3.0/24, Error ellipse: s-maj=54.0km s-min=21.2km az=54.0*

ISCJB ***19*** *18:42:55.0±1.7, 14°.6S×76°.14W±0°.2, h29km, mb3.9/2, MS3.5/2, Error ellipse: s-maj=35.1km s-min=8.0km az=149.5*

ISC 19 18:42:57.3±1.2, 14°.5S±0°.1×76°.3W±0°.2, h29km, n18, σ1°55/12, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
NNA	**Nana**	**2.57**	**347**	Pn			**Pn**	**18 43 34.3**	**-2.8**
	8.9nm,0.3s,baz=175,slow=15,SNR=13								
NNA				Sn			**Sn**	**18 44 07.9**	**+0.5**
	33nm,0.3s,baz=172,slow=14,SNR=6.5								
ATAH	**Atahualpa**	**7.62**	**344**	Pn			**Pn**	**18 44 46.6**	**-0.3**
	0.2nm,0.3s,baz=170,slow=11,SNR=1.8								
ATAH				Sn			Sn	18 46 23.6	+11
	0.7nm,0.3s,baz=101,slow=16,SNR=2.9								
ATAH				LR			LR	18 47 53.4	
	comp=Z,42nm,19.9s,baz=207,slow=40								
LPAZ	**La Paz**	**8.04**	**104**	Pn			**Pn**	**18 44 54.6**	**+1.9**
	1.6nm,0.3s,baz=299,slow=7.8,SNR=52								
LPAZ				Sn			Sn	18 46 37.5	+14
	baz=184,slow=16,SNR=2.1								
LPAZ				LR			LR	18 48 17.4	
	comp=Z,159nm,20.6s,baz=334,slow=40								
LVC	**Limon Verde**	**10.65**	**140**	Pn			**Pn**	**18 45 29.2**	**+0.9**
	32nm,0.3s,baz=298,slow=12,SNR=7.9								
LVC				Sn			**Sn**	**18 47 24.3**	**-2.4**
	21nm,0.3s,baz=304,slow=15,SNR=4.3								
SIV	**San Ignacio**	**14.74**	**98**	Pn			**Pn**	**18 46 22.8**	**-1.0**
	0.2nm,0.3s,baz=279,slow=13,SNR=3.8								
SIV				LR			LR	18 51 26.7	
	comp=Z,70nm,21.4s,baz=7.5,slow=35								
BDFB	**Brasilia**	**27.30**	**96**	LR			LR	19 00 13.0	
	comp=Z,92nm,19.6s,baz=212,slow=38								
TORD	**Torodi Ar. Bea**	**81.92**	**74**	P			**P**	**18 55 15.4**	**+0.5**
	2.1nm,0.5s,baz=262,slow=5.4,SNR=24								
ESDC	**Sonseca Array**	**86.05**	**47**	P			**P**	**18 55 36.3**	**+0.9**
	0.1nm,0.3s,baz=260,slow=6.2,SNR=2.3								
DAVOX	**Davos/Dischmat**	**97.83**	**44**	LR			LR	19 35 37.7	
	comp=Z,24nm,18.8s,baz=89,slow=32								
H11N3	**WAKE ISLAND Hy**	**19.69**	**285**	T			T	21 12 42.0	
	baz=103								
H11N2	**WAKE ISLAND Hy**	**19.70**	**285**	T			T	21 12 48.1	
	baz=103								
H11N1	**WAKE ISLAND Hy**	**19.70**	**285**	T			T	21 12 43.2	
	baz=103								
H11S2	**WAKE ISLAND Hy**	**19.75**	**283**	T			T	21 12 48.4	
	baz=116								
H11S1	**WAKE ISLAND Hy**	**19.75**	**283**	T			T	21 12 39.8	
	baz=116								
H11S3	**WAKE ISLAND Hy**	**19.76**	**283**	T			T	21 12 49.4	
	baz=116								
WRA	**Warramunga Arr**	**134.41**	**222**	PKP			**PKPdf**	**19 02 14.7**	**+1.2**
	0.3nm,0.8s,baz=128,slow=2.0,SNR=3.4								
ZALV	**Zalesovo Beam**	**137.44**	**357**	PKP			**PKPdf**	**19 02 19.0**	**0.0**
	0.4nm,0.6s,baz=262,slow=2.9,SNR=2.4								
SONM	**Songino Array**	**146.70**	**357**	PKPbc			**PKPab**	**19 02 37.7**	**0.0**
	0.6nm,0.5s,baz=347,slow=2.5,SNR=5.2								

ISCJB ***19*** *18:50:24.0±0.4, 38°.26N±0°.02×26°.53E±0°.03, h9km±2km, Error ellipse: s-maj=4.3km s-min=3.3km az=140.2*

DDA ***19*** *18:50:23.4, 38°.26N×26°.53E, h13km, MD2.9*

ISK ***19*** *18:50:24.5, 38°.31N×26°.61E, h8km, MD3.0*

ATH ***19*** *18:50:24.0, 38°.20N×26°.40E, h39km±1km, MD3.5/7*

CSEM ***19*** *18:50:24.5±0.1, 38°.29N×26°.56E, h10km, MD2.9, Error ellipse: s-maj=3.9km s-min=2.6km az=45.0*

ISC 19 18:50:23.9±0.8, 38°.27N±0°.02×26°.52E±0°.02, h11km±5km, n66, σ0°65/93, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
ZEY	**¯zmir**	**0.04**	**200**	*i* P			**Pg**	**18 50 26.0**	**+0.1**
ZEY				*i* S			**Sg**	**18 50 28.0**	**+0.7**
URLA	**Izmir**	**0.11**	**34**	*i* P			**Pg**	**18 50 26.6**	**-0.1**
URLA				*i* S			**Sg**	**18 50 28.4**	**-0.4**
URLA	**Izmir**	**0.11**	**34**	*i* P			**Pg**	**18 50 26.6**	**-0.1**
URLA				*i* S			**Sg**	**18 50 28.4**	**-0.4**
CHOS	**Chios island**	**0.38**	**288**	*e*PG			**Pb**	**18 50 33.2**	**+0.4**
CHOS	**Chios island**	**0.38**	**288**	*e*PB			**Pb**	**18 50 33.0**	**+0.2**
CHOS				*e*SB			**Sb**	**18 50 39.3**	**+0.5**
CHOS	**Chios island**	**0.38**	**288**	*e*Pb			**Pb**	**18 50 33.0**	**+0.2**
CHOS	**Chios island**	**0.38**	**288**	*e*Pg			**Pb**	**18 50 33.2**	**+0.4**
CHOS				*e*Sb			**Sb**	**18 50 39.3**	**+0.5**
BLCB	**Balcova**	**0.43**	**74**	PG			**Pg**	**18 50 32.0**	**-0.3**
BLCB				*e*SG			**Sg**	**18 50 37.2**	**-0.8**
BLCB	**Balcova**	**0.43**	**74**	*i* Pg			**Pg**	**18 50 32.0**	**-0.3**
IZM	**Izmir**	**0.60**	**78**	*e*PG			**Pg**	**18 50 35.5**	**-0.1**
IZM	**Izmir**	**0.60**	**78**	*e*Pg			**Pg**	**18 50 35.5**	**-0.1**
SMG	**Samos**	**0.62**	**156**	*e*PN			**Pg**	**18 50 36.2**	**+0.3**
SMG				*e*SN			**Sb**	**18 50 46.2**	**+0.7**
SMG	**Samos**	**0.62**	**156**	*e*Pn			**Pg**	**18 50 36.2**	**+0.3**
GCAM	**G?zelcaml?**	**0.80**	**135**	*i* P			**Pg**	**18 50 39.4**	**0.0**
GCAM				*i* S			**Sg**	**18 50 49.4**	**-0.5**
GCAM	**G?zelcaml?**	**0.80**	**135**	*i* P			**Pg**	**18 50 39.4**	**0.0**
GCAM				*i* S			**Sg**	**18 50 49.4**	**-0.5**
PRK	**Paraskevi**	**0.99**	**349**	*e*PB			**Pb**	**18 50 43.1**	**-0.1**
PRK				*e*SN			**Sn**	**18 50 57.6**	**-0.3**
PRK	**Paraskevi**	**0.99**	**349**	*e*Pb			**Pb**	**18 50 43.1**	**-0.1**
PRK				*e*Sn			**Sn**	**18 50 57.6**	**-0.3**
AYVA	**Ayvalik**	**1.04**	**7**	*i* P			**Pg**	**18 50 43.8**	**-0.2**
AYVA				*i* S			**Sn**	**18 50 59.6**	**+0.4**
AYVA	**Ayvalik**	**1.04**	**7**	*i* P			**Pg**	**18 50 43.8**	**-0.2**
AYVA				*i* S			**Sn**	**18 50 59.6**	**+0.4**
SIGR	**SIGRI**	**1.07**	**331**	*e*PG			**Pn**	**18 50 46.0**	**+1.0**
SIGR	**SIGRI**	**1.07**	**331**	*e*PN			**Pn**	**18 50 44.8**	**-0.2**
SIGR				*e*SN			**Sn**	**18 50 59.9**	**0.0**
SIGR	**SIGRI**	**1.07**	**331**	*e*Pn			**Pn**	**18 50 44.8**	**-0.2**
SIGR	**SIGRI**	**1.07**	**331**	*e*Pg			**Pn**	**18 50 46.0**	**+1.0**
SIGR				*e*Sn			**Sn**	**18 50 59.9**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.13**	**106**	*e*PG			**Pb**	**18 50 45.3**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.13**	**106**	*e*Pg			**Pb**	**18 50 45.3**	**-0.3**
AKHS	**Akhisar**	**1.18**	**59**	*i* P			**Pg**	**18 50 46.7**	**0.0**
AKHS				*i* S			**Sn**	**18 51 02.3**	**-0.4**
AKHS	**Akhisar**	**1.18**	**59**	*i* P			**Pg**	**18 50 46.7**	**0.0**
AKHS				*i* S			**Sn**	**18 51 02.3**	**-0.4**
AKS	**Akhisar**	**1.18**	**59**	*e*PN			**Pb**	**18 50 46.0**	**-0.5**
AKS	**Akhisar**	**1.18**	**59**	*e*Pn			**Pb**	**18 50 46.0**	**-0.5**
AYDN	**Tasoluk**	**1.24**	**119**	*i* P			**Pg**	**18 50 48.9**	**+1.2**
AYDN	**Tasoluk**	**1.24**	**119**	*i* P			**Pg**	**18 50 48.9**	**+1.2**
AYDN				*i* S			**Sn**	**18 51 05.5**	**+1.4**
BODT	**Bodrum**	**1.36**	**152**	*e*PN			**Pg**	**18 50 50.5**	**+0.4**
BODT	**Bodrum**	**1.36**	**152**	*e*Pn			**Pg**	**18 50 50.5**	**+0.4**
BDRM	**Kayabasi**	**1.41**	**148**	*i* P			**Pg**	**18 50 49.4**	**-0.2**
BDRM				*i* S			**Sg**	**18 51 09.5**	**+0.2**
BDRM	**Kayabasi**	**1.41**	**148**	*i* P			**Pg**	**18 50 49.4**	**-0.2**
BDRM				*i* S			**Sg**	**18 51 09.5**	**+0.2**
APE	**Apeiranthos**	**1.43**	**213**	*e*PN			**Pn**	**18 50 47.5**	**-2.5**
APE	**Apeiranthos**	**1.43**	**213**	*e*Pn			**Pn**	**18 50 47.5**	**-2.5**
EZN	**Ezine**	**1.56**	**355**	*e*PN			**Pb**	**18 50 53.1**	**+0.2**
EZN	**Ezine**	**1.56**	**355**	*e*Pn			**Pb**	**18 50 53.1**	**+0.2**
BOZC	**Bozcaada**	**1.61**	**347**	*i* P			**Pn**	**18 50 52.2**	**-0.2**
BOZC				*i* S			**Sg**	**18 51 15.4**	**-0.3**
MANT	**Manisa**	**1.62**	**82**	*i* P			**Pb**	**18 50 54.2**	**+0.2**
MANT				*i* S			**Sn**	**18 51 13.7**	**0.0**
MANT	**Manisa**	**1.62**	**82**	*i* P			**Pb**	**18 50 54.2**	**+0.2**
MANT				*i* S			**Sn**	**18 51 13.7**	**0.0**
BALY	**Balya**	**1.70**	**30**	*i* P			**Pn**	**18 50 53.8**	**+0.2**
BALY	**Balya**	**1.70**	**30**	*i* P			**Pn**	**18 50 53.8**	**+0.2**
BALY				*i* S			**Sg**	**18 51 18.0**	**-0.6**
KULA	**Kula-Manisa**	**1.70**	**81**	*e*PN			**Pn**	**18 50 54.0**	**+0.3**
KULA	**Kula-Manisa**	**1.70**	**81**	*e*Pn			**Pn**	**18 50 54.0**	**+0.3**
BALB	**Balikesir**	**1.73**	**37**	*e*PN			**Pn**	**18 50 54.0**	**0.0**
BALB	**Balikesir**	**1.73**	**37**	*e*Pn			**Pn**	**18 50 54.0**	**0.0**
YER	**Yerkesik**	**1.80**	**129**	*e*PN			**Pb**	**18 50 56.4**	**-0.7**
YER	**Yerkesik**	**1.80**	**129**	*e*Pn			**Pb**	**18 50 56.4**	**-0.7**
DEMI	**Demirci**	**1.89**	**65**	*i* P			**Pn**	**18 50 55.8**	**-0.4**
DEMI	**Demirci**	**1.89**	**65**	*i* P			**Pn**	**18 50 55.8**	**-0.4**
DEMI				*i* S			**Sb**	**18 51 23.0**	**+1.0**
LIA	**Limnos Island**	**1.93**	**328**	*e*PN			**Pn**	**18 50 56.2**	**-0.5**
LIA	**Limnos Island**	**1.93**	**328**	*e*Pn			**Pn**	**18 50 56.2**	**-0.5**
DURS	**Dursunbey**	**2.02**	**48**	*i* P			**Pn**	**18 50 57.9**	**-0.2**
DURS				*i* S			**Sn**	**18 51 21.7**	**-1.8**
DURS	**Dursunbey**	**2.02**	**48**	*i* P			**Pn**	**18 50 57.9**	**-0.2**
DURS				*i* S			**Sn**	**18 51 21.7**	**-1.8**
DENT	**Denizli**	**2.05**	**104**	*e*PN			**Pn**	**18 50 59.1**	**+0.6**
DENT	**Denizli**	**2.05**	**104**	*e*Pn			**Pn**	**18 50 59.1**	**+0.6**
DST	**Dursunbey**	**2.11**	**50**	*e*PN			**Pn**	**18 50 59.5**	**+0.2**
DST	**Dursunbey**	**2.11**	**50**	*e*Pn			**Pn**	**18 50 59.5**	**+0.2**
SMTH	**Samothraki Isl**	**2.33**	**341**	*e*PN			**Pn**	**18 51 02.5**	**+0.3**
SMTH	**Samothraki Isl**	**2.33**	**341**	*e*Pn			**Pn**	**18 51 02.5**	**+0.3**
ARG	**Arkhangelos**	**2.42**	**148**	*e*PN			**Pn**	**18 51 03.6**	**+0.1**
ARG	**Arkhangelos**	**2.42**	**148**	*e*Pn			**Pn**	**18 51 03.6**	**+0.1**
ALN	**Alexandroupoli**	**2.65**	**352**	*e*PN			**Pn**	**18 51 07.4**	**+0.8**
ALN	**Alexandroupoli**	**2.65**	**352**	*e*Pn			**Pn**	**18 51 07.4**	**+0.8**

ISCJB ***19*** *19:00:02.3±0.6, 3°.81N±0°.09×63°.77E±0°.09, h10km, mb4.1/27, MS3.5/14, Error ellipse: s-maj=14.9km s-min=11.1km az=143.5*

IDC ***19*** *19:00:02.2±0.6, 3°.84N×63°.81E, h0km, mb3.9/16, mb1 4.0/16, mb1mx3.9/27, mbtmp3.9/16, MS3.4/14, Ms1 3.5/14, ms1mx3.3/30, Error ellipse: s-maj=22.6km s-min=16.3km az=138.0*

NEIC ***19*** *19:00:03.9±0.5, 3°.79N×63°.74E, h10km, mb4.5/9, Error ellipse: s-maj=15.8km s-min=11.6km az=138.0*

ISC 19 19:00:03.7±0.7, 3°.7N±0°.1×63°.9E±0°.1, h10km, n53, σ1°44/44, mb4.0/27, MS3.5/14, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
H08N2	**Diego Garcia H**	**12.20**	**144**	T			T	19 15 22.7	
	baz=324,slow=76,SNR=113								
H08N3	**Diego Garcia H**	**12.21**	**145**	T			T	19 15 23.5	
	baz=324,slow=76,SNR=78								
H08N1	**Diego Garcia H**	**12.22**	**144**	T			T	19 15 27.3	
	baz=324,slow=76,SNR=109								
RAYN	**Ar Rayn**	**26.56**	**320**	*e*P			**P**	**19 05 46.6**	**+4.5**
	6.6nm,1.2s								
KMBO	**Kilima Mbogo**	**27.06**	**260**	LR			LR	19 14 59.8	
	comp=Z,85nm,20.4s,baz=90,slow=33								
OPO	**Ambohidratompo**	**27.56**	**216**	LR			LR	19 14 08.0	
	comp=Z,157nm,21.1s,baz=74,slow=31								
CMAR	**Chiang Mai Arr**	**37.29**	**64**	P			**P**	**19 07 17.5**	**+1.2**
	0.7nm,0.9s,baz=272,slow=9.9,SNR=4.7								
CMAR				PcP			**PcP**	**19 09 36.2**	**+0.3**
	0.6nm,0.8s,baz=248,slow=4.8,SNR=3.8								
CMAR				LR			LR	19 22 05.3	
	comp=Z,71nm,18.3s,baz=212,slow=36								
CHTO	**Chiang Mai**	**37.41**	**64**	P			**P**	**19 07 19.1**	**+1.8**
	8.7nm,1.4s								
EKS2	**Erkin-Say**	**39.81**	**11**	*e*P			**P**	**19 07 39.2**	**+2.0**
	11nm,1.2s								
AAK	**Ala-Archa**	**39.93**	**12**	P			**P**	**19 07 39.6**	**+1.3**
	0.6nm,0.4s,baz=210,slow=16,SNR=2.8								
GNI	**Garni**	**40.23**	**337**	P			**P**	**19 07 39.5**	**-1.3**
	14nm,1.3s								
MATP	**Matopo**	**42.19**	**234**	P			**P**	**19 07 57.9**	**+0.6**
	2.8nm,0.8s,baz=60,slow=9.7,SNR=6.6								
KBZ	**Khabaz**	**44.01**	**338**	P			**P**	**19 08 10.7**	**-0.7**
	1.9nm,1.0s,baz=233,slow=20,SNR=2.8								
BR131	**Keskin Array S**	**45.15**	**327**	*e*P			P	19 08 16.6	-4.3
	0.8nm,0.6s								
ABKAR	**Akbulak array**	**45.54**	**356**	*e*P			**P**	**19 08 24.7**	**+1.1**
	6.4nm,1.0s								
MK31	**Makanchi Array**	**45.82**	**18**	*e*P			**P**	**19 08 25.5**	**-0.4**
MKAR	**Makanchi Array**	**45.82**	**18**	P			**P**	**19 08 25.4**	**-0.5**
	0.4nm,0.6s,baz=221,slow=11,SNR=5.5								
MKAR				PcP			**PcP**	**19 10 02.5**	**-0.8**
	0.6nm,1.0s,baz=212,slow=5.1,SNR=3.9								
MKAR				LR			LR	19 27 53.4	
	comp=Z,14nm,21.8s,baz=196,slow=37								
LBTB	**Lobatse**	**46.86**	**230**	P			**P**	**19 08 34.8**	**+0.3**
	2.7nm,0.9s,baz=79,slow=11,SNR=3.8								
BOSA	**Boshof**	**49.08**	**227**	P			**P**	**19 08 52.2**	**+0.6**
	3.4nm,1.0s,baz=87,slow=6.2,SNR=3.2								
BOSA				LR			LR	19 28 41.0	
	comp=Z,73nm,18.1s,baz=143,slow=35								
ZAA0	**Zalesovo Array**	**52.96**	**15**	*e*P			**P**	**19 09 19.4**	**-0.9**
ZALV	**Zalesovo Beam**	**52.96**	**15**	P			**P**	**19 09 19.2**	**-1.0**
	1.3nm,0.6s,baz=212,slow=8.2,SNR=9.0								
ZALV				PcP			**PcP**	**19 10 28.3**	**-0.8**
	0.4nm,0.5s,baz=212,slow=5.1,SNR=2.1								
ZALV				LR			LR	19 30 58.9	
	comp=Z,32nm,21.1s,baz=250,slow=35								
AKASG	**Malin Array Be**	**55.18**	**334**	LR			LR	19 36 58.4	
	comp=Z,22nm,18.7s,baz=25,slow=40								
SONM	**Songino Array**	**57.13**	**33**	P			**P**	**19 09 50.9**	**+0.1**
	1.4nm,0.9s,baz=238,slow=9.2,SNR=7.6								
SONM				LR			LR	19 34 19.5	
	comp=Z,95nm,21.4s,baz=264,slow=36								
H01W3	**Cape Leeuwin H**	**60.76**	**134**	T			T	20 16 00.1	
	baz=299,slow=75,SNR=6.1								
H01W2	**Cape Leeuwin H**	**60.76**	**134**	T			T	20 15 58.2	
	baz=299,slow=75,SNR=6.6								
H01W1	**Cape Leeuwin H**	**60.77**	**134**	T			T	20 16 01.7	
	baz=299,slow=75,SNR=5.8								
KRLC	**Kraliky**	**60.91**	**327**	*e*P			**P**	**19 10 17.5**	**+0.7**
KRLC				*e*pP			**pP**	**19 10 23.0**	**+3.0**
TREC	**Trest**	**61.20**	**326**	*e*P			**P**	**19 10 18.7**	**-0.1**
TREC				*e*x			x	19 10 25.1	
DPC	**Dobruska-Polom**	**61.30**	**327**	*e*P			**P**	**19 10 19.0**	**-0.5**
DPC				*e*pP			**pP**	**19 10 24.7**	**+2.0**
TORD	**Torodi Ar. Bea**	**62.11**	**283**	P			**P**	**19 10 25.8**	**+0.3**
	0.4nm,0.8s,baz=62,slow=6.6,SNR=3.0								
TORD				LR			LR	19 36 58.0	
	comp=Z,34nm,19.0s,baz=165,slow=36								
BRG	**Berggiesshubel**	**62.87**	**327**	*e*(P)			P	19 10 36.5	+6.6
	3.2nm,0.9s								
NKC	**Novy Kostel**	**63.37**	**326**	*e*P			**P**	**19 10 33.7**	**+0.4**
NKC				*e*x			x	19 10 39.9	
FINES	**FINESS Array B**	**64.24**	**341**	P			**P**	**19 10 37.1**	**-1.6**
	0.8nm,0.8s,baz=167,slow=13,SNR=3.1								
CDF	**Champ du Feu**	**65.59**	**322**	*e*P			**P**	**19 10 47.2**	**-0.8**
	10nm,1.0s								
CDF	**Champ du Feu**	**65.59**	**322**	*e*P			**P**	**19 10 47.2**	**-0.8**
	10nm,1.0s								
CABF	**La Chapelle**	**65.63**	**320**	*e*P			**P**	**19 10 45.8**	**-2.5**
	37nm,1.2s								
CABF	**La Chapelle**	**65.63**	**320**	*e*P			**P**	**19 10 45.8**	**-2.5**
	37nm,1.2s								
KSRS	**Korea Array**	**67.27**	**51**	LR			LR	19 41 46.7	
	comp=Z,28nm,20.2s,baz=248,slow=37								
BGF	**Bois d'Agland**	**67.71**	**319**	*e*P			**P**	**19 11 01.6**	**+0.2**
BGF	**Bois d'Agland**	**67.71**	**319**	*e*P			**P**	**19 11 01.6**	**+0.2**
DBIC	**Dimbokro**	**68.50**	**266**	LR			LR	19 42 09.2	
	comp=Z,47nm,18.7s,baz=126,slow=37								
NOA	**NORSAR Array B**	**69.51**	**336**	P			**P**	**19 11 10.9**	**-1.6**
	0.4nm,0.6s,baz=115,slow=6.7,SNR=2.4								
NOA				LR			LR	19 43 32.8	
	comp=Z,14nm,18.6s,baz=245,slow=38								
ARCES	**ARCESS Array B**	**70.45**	**347**	P			**P**	**19 11 15.4**	**-2.6**
	0.9nm,0.7s,baz=122,slow=4.6,SNR=5.8								
ESDC	**Sonseca Array**	**70.69**	**311**	P			**P**	**19 11 19.5**	**-0.6**
	0.3nm,0.2s,baz=102,slow=5.3,SNR=4.3								
WRA	**Warramunga Arr**	**72.98**	**112**	P			**P**	**19 11 34.6**	**+0.4**
	4.6nm,0.8s,baz=290,slow=5.3,SNR=36								
MJAR	**Matsushiro Arr**	**75.22**	**53**	P			**P**	**19 11 47.1**	**+0.1**
	0.5nm,0.5s,baz=273,slow=4.1,SNR=2.9								
MJAR				LR			LR	19 49 50.1	
	comp=Z,20nm,18.1s,baz=70,slow=40								
TIXI	**Tiksi**	**78.81**	**17**	*e*P			**P**	**19 12 05.2**	**-1.2**
	1.0nm,0.5s								
SEY	**Seymchan**	**86.06**	**27**	P			**P**	**19 12 44.7**	**+0.2**
	1.2nm,0.7s,baz=251,slow=6.7,SNR=3.7								
PETK	**Petropavlovsk-**	**89.38**	**37**	LR			LR	19 54 02.2	
	comp=Z,28nm,21.2s,baz=262,slow=36								
ULM	**Lac du Bonnet**	**123.53**	**345**	PKP			**PKPdf**	**19 18 59.4**	**-2.2**
	1.2nm,0.5s,baz=34,slow=3.6,SNR=2.7								
PDAR	**Pinedale Array**	**133.40**	**353**	PKP			**PKPdf**	**19 19 20.5**	**-0.4**
	0.3nm,0.7s,baz=12,slow=4.8,SNR=3.4								
NVAR	**Mina Array Bea**	**138.06**	**3**	PKP			**PKPdf**	**19 19 28.8**	**-0.9**
	0.1nm,0.3s,baz=203,slow=1.9,SNR=2.7								
TXAR	**Lajitas Array**	**145.08**	**341**	PKP			**PKPab**	**19 19 42.0**	**+0.3**
	1.6nm,0.9s,baz=45,slow=3.4,SNR=11								

TEH 19 19:11:24.7, 35°.16N×62°.27E, h6km, ML3.8, Turkmenistan-Afghanistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
IMYA	**Miami**	**2.12**	**304**	*e*Pn			Pn	19 12 00.2	-0.7
IMYA				*e*				19 12 28.5	
	comp=Z,7µm,0.1s								
ISRO	**Mashad**	**2.55**	**298**	*e*			Sn	19 12 38.2	0.0
	comp=Z,11µm,0.2s								
ISRO				*e*Pn			Pn	19 12 06.4	-0.4
IPAY	**Payeh**	**2.96**	**297**	*e*Pn			Pn	19 12 12.0	-0.5
IPAY				*e*Sn			Sn	19 12 46.8	-1.8
IPAY				*e*				19 12 52.6	
	comp=Z,3µm,0.1s								
IDAH	**Dahanechah**	**3.13**	**220**	*e*Pn			Pn	19 12 14.3	-0.6
IDAH				*e*				19 13 06.7	
	comp=Z,914nm,0.3s								
IAKL	**Akhelmad**	**3.19**	**298**	*e*Pn			Pn	19 12 15.4	-0.4
IAKL				*e*Sn			Sn	19 12 52.2	-2.3
IAKL				*e*				19 12 59.8	
	comp=Z,3µm,0.2s								
ITEQ	**Tejag**	**3.69**	**233**	*e*			Sb	19 13 18.1	+2.3
	comp=Z,791nm,0.3s								
ISFR	**Sfrayin**	**3.94**	**300**	*e*Pn			Pn	19 12 25.1	-0.9
ISFR				*e*				19 13 32.5	
	comp=Z,1µm,0.3s								

NIED ***19*** *19:12:00, 36°.80N×141°.30E, h44km, Mw3.6 Best double couple: M0 3.00000×10^14 NP1:φs3.00000°, δ46.00000°, λ157.00000°. NP2:φs110.00000°, δ74.00000°, λ47.00000°.*

ISCJB ***19*** *19:12:14.1±1.1, 36°.73N±0°.05×141°.56E±0°.08, h42km±10km, mb3.4/7, Error ellipse: s-maj=11.4km s-min=8.5km az=25.2*

IDC ***19*** *19:12:16.0±2.2, 36°.72N×141°.59E, h42km±20km, mb3.3/6, mb1 3.6/10, mb1mx3.4/41, mbtmp3.7/10, ML3.5/4, MS2.1/1, Ms1 2.1/1, ms1mx1.9/17, Error ellipse: s-maj=19.1km s-min=14.1km az=131.0*

JMA ***19*** *19:12:17.0±0.1, 36°.75N×141°.29E, h47km±2km, M3.5 Broadband fault plane solution: P waves. NP1: φs299.00000°, δ85.00000°, λ79.00000°. NP2: φs185.00000°, δ12.00000°, λ155.00000°. Principal axes: T Plg49.0000°, Azm197.0000°; N Plg11.0000°, Azm300.0000°; P Plg39.0000°, Azm39.0000°;*

ISC 19 19:12:14.7±1.7, 36.72N±0°.06×141°.50E±0°.07, h26km±11km, n24, σ1°53/25, mb3.5/7, 4C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.68**	**304**	⇑P			**Pb**	**19 12 28.1**	**+0.2**
ONAJ				S			**Sb**	**19 12 36.1**	**-0.8**
JHO	**Hitachi**	**0.76**	**262**	⇓P			**Pb**	**19 12 29.1**	**-0.1**
JHO				S			**Sb**	**19 12 37.7**	**-1.4**
JFK	**Kawauchi**	**0.81**	**322**	⇑P			**Pb**	**19 12 30.3**	**+0.1**
JFT	**Otama**	**1.22**	**311**	⇑P			**Pn**	**19 12 36.9**	**+0.8**
JFT				S			**Sn**	**19 12 49.7**	**-2.1**
JMM	**Marumori**	**1.27**	**334**	⇑P			**Pn**	**19 12 36.9**	**+0.1**
JFY	**Yanaizu**	**1.59**	**296**	P			**Pn**	**19 12 42.4**	**+1.3**
JFY				S			**Sn**	**19 13 00.9**	**0.0**
MJAR	**Matsushiro Arr**	**2.65**	**267**	P			**Pn**	**19 12 57.1**	**+1.4**
	8

baz=210
TWD S Sn 19 34 36.9 -0.1
baz=210
NCU National Centr 0.85 283 *e*P Pn 19 34 24.3 +0.1
baz=279
NCU *e*S Sn 19 34 38.0 +0.7
baz=279
YOJ Yonaguni jima 0.88 111 P Pn 19 34 24.4 -0.2
YOJ *e*S Sn 19 34 38.0 +0.2
HWA Hwalien 0.93 210 *e*P Pn 19 34 25.1 0.0
baz=206
HWA *e*S Sn 19 34 39.9 +1.2
baz=206
WHF Hehuan Shan 1.00 230⇓*i*P Pn 19 34 26.2 -0.2
baz=227
WHF S Sn 19 34 41.2 +0.3
baz=227
TWT Tachien 1.00 238 *e*P Pn 19 34 26.9 +0.8
baz=235
TWT S Sn 19 34 41.2 +0.7
baz=235
NSTT Nanjuang 1.02 261 P Pn 19 34 25.9 -0.3
baz=258
NSTT S Sn 19 34 40.2 -0.4
baz=258
HSN Hsinchu 1.03 271 *e*P Pn 19 34 25.9 -0.5
baz=269
HSN *e*S Sn 19 34 40.4 -0.5
baz=269
ESF Shoufeng Towns 1.06 211 *e*P Pn 19 34 25.8 -0.9
baz=208
ESF *e*S Sn 19 34 41.8 +0.2
baz=208
ESL Shilin 1.15 213⇓*i*P Pn 19 34 26.5 -1.3
baz=209
ESL S Sn 19 34 41.8 -1.6
baz=209
NSY Sanyi 1.28 254 *e*P Pn 19 34 29.5 +0.1
baz=250
NSY *e*S Sn 19 34 46.6 +0.2
baz=250
TWQ1 Liyutan 1.29 251 *e*P Pn 19 34 29.4 -0.2
baz=247
TWQ1 *e*S Sn 19 34 46.5 -0.1
baz=247
WDT Danda 1.36 221⇓*i*P Pn 19 34 30.4 -0.3
baz=218
WDT S Sn 19 34 48.2 -0.3
baz=218
SMLT Sun Moon Lake 1.42 231 *e*P Pn 19 34 31.6 +0.3
baz=228
SMLT *e*S Sn 19 34 52.3 +2.6
baz=228
TYC Yuchr 1.44 233⇓*i*P Pn 19 34 31.6 +0.2
baz=230
TYC *i*S Sn 19 34 50.6 +0.7
baz=230
EHY Hungye 1.46 210 *e*P Pn 19 34 29.9 -1.9
baz=207
EHY *e*S Sn 19 34 48.6 -1.9
baz=207
IRIF Iriomote-Funau 1.54 107 P Pn 19 34 32.1 -0.7
IRIF *e*S Sn 19 34 52.4 0.0
WNT Mingjian 1.58 235 *e*P Pn 19 34 33.4 +0.2
baz=233
TWF1 Yuli 1.61 208 *e*P Pn 19 34 32.1 -1.6
baz=205
TWF1 *e*S Sn 19 34 52.5 -1.4
baz=205
YUS Yu-Shan 1.67 219 *e*P Pn 19 34 35.3 +0.4
baz=217
YUS *e*S Sn 19 34 57.2 +1.2
baz=217
HATJ Hateruma jima 1.71 115 P Pn 19 34 35.0 +0.1
ALS Alishan 1.74 223 *e*P Pn 19 34 36.4 +0.8
baz=221
ALS *e*S Sn 19 34 59.2 +1.8
baz=221
CHN5 Tsauling 1.76 228 P Pn 19 34 35.8 +0.1
baz=226
CHN5 *e*S Sn 19 34 58.7 +1.1
baz=226
WGK Gukeng 1.79 232 *e*P Pn 19 34 36.1 +0.2
baz=230
WGK *e*S Sn 19 34 59.0 +0.9
baz=230
CHKT Chengkung 1.81 202 *e*P Pn 19 34 35.2 -1.1
baz=200
CHKT *e*S Sn 19 34 56.3 -2.3
baz=200
JKRS Kuro-shima 1.82 107 P Pn 19 34 36.4 +0.1
ELDTW Lidau 1.88 212 *e*P Pn 19 34 36.5 -0.8
baz=210
ELDTW *e*S Sn 19 34 59.7 -0.7
baz=210
JIJ Ishigaki jima 1.90 102 P Pn 19 34 36.8 -0.6
JIJ *e*S Sn 19 35 00.3 -0.4
CHN2 Minshiung 1.94 230 *e*S Sn 19 35 03.5 +1.8
baz=222
CHN4 Tsaushan 1.99 224 *e*P Pn 19 34 39.0 +0.4
baz=222
CHN4 *e*S Sn 19 35 05.8 +3.0
baz=222
CHY Chiayi 2.00 230 *e*P Pn 19 34 37.6 -1.2
baz=228
CHY *e*S Sn 19 35 03.7 +0.5
baz=228
JISG Ishigakijimahi 2.02 95 P Pn 19 34 38.7 -0.2
JISG *e*S Sn 19 35 03.8 +0.4
STYT Tauyuan 2.03 218 *e*P Pn 19 34 40.1 +0.8
baz=215
STYT *e*S Sn 19 35 05.7 +1.7
baz=215
WTP Ta-pu 2.05 222 *e*P Pn 19 34 39.8 +0.3
baz=220
WTP *e*S Sn 19 35 06.9 +2.4
baz=220
WSF Szhu 2.06 237 *e*P Pn 19 34 39.2 -0.4
baz=234
WSF *e*S Sn 19 35 04.3 -0.3
baz=234
TWK Hsinying 2.12 225 *e*P Pn 19 34 40.3 0.0
baz=222
TWK *e*S Sn 19 35 07.8 +1.8
baz=222
CHN1 Nanshi 2.15 222 *e*P Pn 19 34 41.0 +0.2
baz=220
CHN1 *e*S Sn 19 35 07.5 +0.7
baz=220
TWG Pinlang 2.17 206 *e*P Pn 19 34 40.0 -1.2
baz=204
TWG *e*S Sn 19 35 04.8 -2.5
baz=204
SGST Jiashian 2.19 220 *e*P Pn 19 34 42.0 +0.6
baz=218
SGST *e*S Sn 19 35 08.8 +1.0
baz=218
CHN3 Shinhua 2.33 223 *e*S Sn 19 35 13.9 +2.8
baz=221
JTJ Tarama 2.37 93 P Pn 19 34 44.4 +0.8
JTJ *e*S Sn 19 35 12.8 +1.0
ECL Taimali 2.42 206 *e*P Pn 19 34 42.7 -1.7
baz=204
ECL *e*S Sn 19 35 11.2 -1.9
baz=204
SSD Sandimen 2.44 214 *e*P Pn 19 34 45.5 +0.9
baz=212
SSD *e*S Sn 19 35 15.6 +2.0
baz=212
PNG Penghu 2.63 243 *e*P Pn 19 34 45.7 -1.4
baz=241
PNG *e*S Sn 19 35 16.1 -2.0
baz=241
EAST Anshuo 2.66 206 *e*P Pn 19 34 46.6 -1.0
baz=204
EAST *e*S Sn 19 35 17.9 -1.0
baz=204
SCZT Fangliau 2.76 210 *e*P Pn 19 34 49.5 +0.5
baz=208
SCZT *e*S Sn 19 35 24.4 +3.0
baz=208
LAY Lan-yu 2.78 191 *e*P Pn 19 34 47.8 -1.5
baz=189
JIRB Irabujima 2.79 88 P Pn 19 34 49.6 +0.3
JIRB *e*S Sn 19 35 22.0 0.0
JIKM Ikemajima 2.86 87 *e*S Sn 19 35 24.3 +0.6
JOGS Gusukube 3.00 90 P Pn 19 34 53.0 +0.8
TWK1 Hengchun 3.07 203 *e*S Sn 19 35 28.4 -0.5

baz=202

IDC ***19*** *19:41:43.7±0.9, 27.°42N×56.°24E, h0km, mb3.7/17, mb1 3.9/21,mb1mx3.8/34, mbtmp3.8/21, ML4.0/3, MS2.9/2, Ms1 2.9/2, ms1mx2.4/34, Error ellipse: s-maj=21.9km s-min=15.3km az=159.0*
THR ***19*** *19:41:46.3±0.3, 27.°35N×56.°19E, h28km±2km, ML3.9*
DSN ***19*** *19:41:46.6±1.0, 27.°49N×56.°87E, h15km, mb3.5/8, ML4.3/7, Ms3.8/1, Error ellipse: s-maj=33.8km s-min=9.4km az=108.0*
TEH ***19*** *19:41:47.0, 27.°33N×56.°27E, h13km, ML3.8*
CSEM ***19*** *19:41:48.2±0.2, 27.°46N×56.°23E, h15km, ML3.9, Ms3.8, Error ellipse: s-maj=7.5km s-min=3.9km az=77.0*
OMAN ***19*** *19:41:53.2±13.0, 26.°98N×55.°70E, h15km, Error ellipse: s-maj=8.4km s-min=6.2km az=37.0*

ISC 19 19:41:47.5±0.7, 27.°43N±0.°04×56.°17E±0.°05, h24km±4km, n79, σ1s64/88, mb3.7/17, 8C-9D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**0.03**	**183**	*e*Pg	**Pb**	**19 41 51.3**	**-0.6**
BNDS				*e*Sg	**Sb**	**19 41 54.9**	**0.0**
BNDS				AML	AML	19 41 55.5	
	comp=E,31μm,0.3s						
BNDS				AML	AML	19 41 57.3	
	comp=N,30μm,0.6s						
BNDS	**Bandar-Abbas**	**0.03**	**183**	*e*Pg	**Pb**	**19 41 51.3**	**-0.6**
BNDS				*e*Sg	**Sb**	**19 41 54.9**	**0.0**
	comp=N,30μm,0.6s						
BANOM	**Banah**	**1.51**	**176**	P	**Pb**	**19 42 15.7**	**+0.8**
BANOM				S	**Sb**	**19 42 36.7**	**+3.1**
BANOM	**Banah**	**1.51**	**176**	⇑P	**Pb**	**19 42 15.7**	**+0.8**
BANOM	**Banah**	**1.51**	**176**	⇓*e*P	**Pb**	**19 42 15.4**	**+0.5**
	SNR=364						
BANOM				⇑S	**Sb**	**19 42 36.7**	**+3.1**
NAZ	**Nazwa, Dubai**	**2.48**	**191**	P	**Pb**	**19 42 29.3**	**-2.1**
	SNR=9.5						
NAZ	**Nazwa, Dubai**	**2.48**	**191**	⇓*e*P	**Pb**	**19 42 29.3**	**-2.1**
	SNR=9.5						
KRBR	**Kerman**	**2.59**	**11**	*e*Pn	**Pn**	**19 42 29.9**	**+1.7**
KRBR				AML	AML	19 43 08.4	
	comp=E,383nm,0.6s						
KRBR				AML	AML	19 43 15.4	
	comp=N,371nm,0.8s						
KRBR	**Kerman**	**2.59**	**11**	*e*Pn	**Pn**	**19 42 29.9**	**+1.7**
	comp=N,371nm,0.8s						
HATD	**Hatta, Dubai**	**2.60**	**181**	P	**Pb**	**19 42 31.1**	**-2.3**
	SNR=22						
HATD	**Hatta, Dubai**	**2.60**	**181**	⇓*e*P	**Pb**	**19 42 31.1**	**-2.3**
	SNR=22						
FAQ	**Al Faqa, Dubai**	**2.73**	**191**	P	**Pb**	**19 42 32.9**	**-2.8**
	SNR=28						
FAQ	**Al Faqa, Dubai**	**2.73**	**191**	⇓*e*P	**Pb**	**19 42 32.9**	**-2.8**
	SNR=28						
ASHO	**Ashiyiah**	**2.74**	**182**	P	**Pb**	**19 42 32.8**	**-3.1**
	SNR=34						
ASHO	**Ashiyiah**	**2.74**	**182**	P	**Pb**	**19 42 33.0**	**-2.8**
	SNR=34						
ASHO	**Ashiyiah**	**2.74**	**182**	⇓*e*P	**Pb**	**19 42 32.8**	**-3.1**
	SNR=34						
ASUD	**Al Ashush, Dub**	**2.90**	**195**	P	**Pb**	**19 42 35.9**	**-2.6**
	SNR=58						
ASUD	**Al Ashush, Dub**	**2.90**	**195**	*i* P	**Pb**	**19 42 35.9**	**-2.6**
	SNR=58						
ISRV	**Sarvestan**	**3.32**	**306**	*e*Pn	**Pn**	**19 42 40.9**	**+2.6**
ISRV				*e*		19 44 01.7	
	comp=Z,5μm,0.5s						
ISRV	**Sarvestan**	**3.32**	**306**	*e*Pn	**Pn**	**19 42 40.9**	**+2.6**
HOQ	**Hoqain**	**3.97**	**165**	P	**Pn**	**19 42 47.3**	**+0.4**
HOQ				S	**Sn**	**19 43 33.9**	**+1.2**
HOQ	**Hoqain**	**3.97**	**165**	⇑P	**Pn**	**19 42 47.3**	**+0.4**
HOQ				⇓S	**Sn**	**19 43 33.9**	**+1.2**
ARQ	**Araqi**	**4.09**	**176**	⇑P	**Pn**	**19 42 47.3**	**-1.3**
IMEH	**Mehriz**	**4.17**	**341**	*e*Pn	**Pn**	**19 42 52.2**	**+2.3**
IMEH				*e*		19 43 45.9	
	comp=Z,1μm,0.3s						
IMEH	**Mehriz**	**4.17**	**341**	*e*Pn	**Pn**	**19 42 52.2**	**+2.3**
IKAZ	**Kazeroun**	**4.47**	**303**	*e*Pn	**Pn**	**19 42 56.0**	**+1.9**
IKAZ				*e*Sn	**Sn**	**19 43 46.3**	**+0.8**
IKAZ				*e*		19 43 52.0	
	comp=Z,1μm,0.1s						
IKAZ	**Kazeroun**	**4.47**	**303**	*e*Pn	**Pn**	**19 42 56.0**	**+1.9**
IKAZ				*e*Sn	**Sn**	**19 43 46.3**	**+0.8**
ZHSF	**Zahedan**	**4.59**	**61**	*e*Pn	**Pn**	**19 42 56.7**	**+1.1**
ZHSF	**Zahedan**	**4.59**	**61**	*e*Pn	**Pn**	**19 42 56.7**	**+1.1**
SMDO	**Samad**	**4.67**	**158**	P	**Pn**	**19 42 58.4**	**+1.7**
SMDO	**Samad**	**4.67**	**158**	⇓P	**Pn**	**19 42 58.4**	**+1.7**
ISAD	**Sadrabad**	**4.96**	**335**	*e*Pn	**Pn**	**19 43 02.5**	**+1.7**
ISAD				*e*		19 44 04.7	
	comp=Z,760nm,0.3s						
ISAD	**Sadrabad**	**4.96**	**335**	*e*Pn	**Pn**	**19 43 02.5**	**+1.7**
JMDO	**Jabal Madar**	**5.34**	**160**	P	**Pn**	**19 43 07.9**	**+2.2**
JMDO	**Jabal Madar**	**5.34**	**160**	⇑P	**Pn**	**19 43 07.9**	**+2.2**
WBK	**Wadi Bani Khal**	**5.43**	**152**	P	**Pn**	**19 43 07.0**	**-0.1**
WBK	**Wadi Bani Khal**	**5.43**	**152**	⇑P	**Pn**	**19 43 07.0**	**-0.1**
IKOO	**Kooshah**	**5.55**	**26**	*e*Pn	**Pn**	**19 43 09.6**	**+0.8**
IKOO				*e*		19 44 55.2	
	comp=N,470nm,0.3s						
IKOO	**Kooshah**	**5.55**	**26**	*e*Pn	**Pn**	**19 43 09.6**	**+0.8**
SLWS		**5.62**	**243**	P	**Pn**	**19 43 12.0**	**+2.4**
SLWS		**5.62**	**243**	P	**Pn**	**19 43 12.0**	**+2.4**
BTHS		**5.87**	**236**	P	**Pn**	**19 43 15.0**	**+2.0**
BTHS		**5.87**	**236**	P	**Pn**	**19 43 14.6**	**+1.6**
NASN	**Na'in**	**6.09**	**332**	*e*Pn	**Pn**	**19 43 18.4**	**+2.0**
NASN	**Na'in**	**6.09**	**332**	*e*Pn	**Pn**	**19 43 18.4**	**+2.0**
IZEF	**Zefreh**	**6.38**	**329**	*e*Pn	**Pn**	**19 43 21.6**	**+1.3**
IZEF				*e*		19 44 39.5	
	comp=Z,100nm,0.2s						
IZEF	**Zefreh**	**6.38**	**329**	*e*Pn	**Pn**	**19 43 21.6**	**+1.3**
IPIR	**Pirpir**	**6.95**	**320**	*e*Sn	**Sn**	**19 44 45.1**	**-1.5**
IKLH	**Kolahrood**	**7.08**	**327**	*e*Pn	**Pn**	**19 43 31.1**	**+1.2**
IKLH				*e*		19 45 09.5	
	comp=Z,139nm,0.2s						
IKLH	**Kolahrood**	**7.08**	**327**	*e*Pn	**Pn**	**19 43 31.1**	**+1.2**
KFJS		**7.33**	**278**	P	**Pn**	**19 43 34.0**	**+0.9**
QAM	**Ghamsar**	**7.51**	**328**	*e*Pn	**Pn**	**19 43 37.3**	**+1.6**
QAM				*e*		19 44 24.8	
	comp=Z,394nm,0.0s						
SHAO	**Shalim**	**9.38**	**183**	P	**Pn**	**19 44 02.4**	**+1.1**
	SNR=7.8						
SHAO	**Shalim**	**9.38**	**183**	P	**Pn**	**19 44 02.4**	**+1.1**
	SNR=7.8						
RBK	**Rabkut**	**10.05**	**191**	P	**Pn**	**19 44 11.0**	**+0.5**
RBK	**Rabkut**	**10.05**	**191**	⇑P	**Pn**	**19 44 11.0**	**+0.5**
RBK				⇓S	**Sn**	**19 45 59.0**	**-3.5**
ABTO	**Aybut**	**10.38**	**195**	⇑P	**Pn**	**19 44 14.8**	**-0.2**
	SNR=9.5						
ABTO				⇓S	Sn	19 46 02.9	-7.7
GNI	**Garni**	**15.83**	**326**	Pn	**Pn**	**19 45 29.9**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=96,slow=18,SNR=1.8						
ASF	**Jabal al Asfar**	**17.38**	**290**	P	**P**	**19 45 49.8**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=85,slow=4.5,SNR=4.3						
EIL	**Elat**	**18.78**	**282**	P	**Pn**	**19 46 06.3**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=15,slow=20,SNR=2.2						
MMAI	**Mount Meron Ar**	**18.78**	**292**	P	**Pn**	**19 46 06.6**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=99,slow=16,SNR=7.3						
AAK	**Ala-Archa**	**21.26**	**40**	P	**P**	**19 46 31.3**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=225,slow=7.1,SNR=2.2						
AAK				LR	LR	19 55 52.8	
	comp=Z,54nm,18.4s,baz=204,slow=40						
AKTO	**Aktyubinsk**	**23.01**	**3**	P	**P**	**19 46 50.9**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=177,slow=14,SNR=6.9						
AKTO				LR	LR	19 56 56.1	
	comp=Z,17nm,18.9s,baz=189,slow=40						
BVAR	**Borovoye Array**	**27.67**	**19**	P	**P**	**19 47 33.3**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=203,slow=7.2,SNR=4.9						
MKAR	**Makanchi Array**	**28.20**	**40**	P	**P**	**19 47 37.8**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=238,slow=11,SNR=4.3						
KURBB	**Kutov Arra**	**28.73**	**30**	P	**P**	**19 47 43.5**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=231,slow=8.4,SNR=4.0						
AKASG	**Malin Array Be**	**30.96**	**326**	P	**P**	**19 48 01.8**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=133,slow=8.5,SNR=4.5						
ZALV	**Zalesovo Beam**	**33.83**	**31**	P	**P**	**19 48 27.2**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=231,slow=9.4,SNR=5.1						
GERES	**GERESS Array B**	**39.00**	**315**	P	**P**	**19 49 11.6**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=113,slow=8.9,SNR=3.7						
FINES	**FINESS Array B**	**39.52**	**338**	P	**P**	**19 49 15.5**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=133,slow=10,SNR=6.3						
SONM	**Songino Array**	**43.80**	**48**	P	**P**	**19 49 51.2**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=266,slow=8.7,SNR=2.8						
NB2	**NORSAR Subarra**	**45.05**	**331**	P	**P**	**19 50 01.2**	**0.0**
	comp=Z,1.5nm,0.8s,baz=115,slow=8.6						
NOA	**NORSAR Array B**	**45.05**	**331**	P	**P**	**19 50 01.7**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=116,slow=8.0,SNR=3.7						
ARCES	**ARCESS Array B**	**45.74**	**345**	P	**P**	**19 50 07.0**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=138,slow=9.2,SNR=5.9						
ESDC	**Sonseca Array**	**50.73**	**300**	P	**P**	**19 50 44.9**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=72,slow=9.0,SNR=3.8						
TORD	**Torodi Ar. Bea**	**52.65**	**266**	P	**P**	**19 51 00.5**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=63,slow=7.5,SNR=17						
BOSA	**Boshof**	**63.12**	**210**	P	**P**	**19 52 14.2**	**+0.7**
	comp=Z,1.0nm,0.4s,baz=44,slow=7.2,SNR=3.5						
ILAR	**Eielson Array**	**86.36**	**10**	P	**P**	**19 54 27.2**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=330,slow=5.3,SNR=3.7						
WRA	**Warramunga Arr**	**89.08**	**113**	P	**P**	**19 54 40.2**	**-0.9**
	comp=Z,0.4nm,1.0s,baz=312,slow=4.2,SNR=2.8						

MAN 19 20:46:26, 13.°84N×120.°46E, h66km, mb4.5, ML3.4, MS3.3, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.23**	**244**	*e*P	Pn	20 46 39.1	+2.8
LUBP				*e*S	Sn	20 46 47.0	+3.2
PGP	**Puerto Galera**	**0.58**	**125**⇑	*e*P	Pn	20 46 41.8	+2.4
PGP				*e*S	Sn	20 46 58.3	+9.2
SJMP	**San Jose**	**1.51**	**155**	*e*P	Pn	20 46 53.6	+2.6
BUSP	**Coron**	**1.84**	**188**	*e*P	Pn	20 46 57.2	+1.8
BUSP				*e*S	Sn	20 47 14.9	-2.8
OTRP	**Odiongan**	**2.11**	**134**	*e*P	Pn	20 47 00.2	+1.1

WEL 19 21:08:27.3±0.4, 38.°46S×175.°83E, h174km±2km, ML3.5/14, 7C-4D, Error ellipse: s-maj=2.9km s-min=2.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRHZ	**Matea Rd**	**0.59**	**129**	PN	Pn	21 08 52.0	0.0
MRHZ				SN	Sn	21 09 10.7	-0.2
NGZ	**Ngauruhoe**	**0.74**	**194**	PN	Pn	21 08 52.8	0.0
TUVZ	**Tukino**	**0.82**	**190**	⇑PN	Pn	21 08 53.5	+0.2
FWVZ	**Far West T-bar**	**0.82**	**195**	PN	Pn	21 08 53.5	+0.1
WHVZ	**Whangaehu Hut**	**0.84**	**193**	⇑PN	Pn	21 08 53.7	+0.1
TRVZ	**Turoa**	**0.87**	**195**	PN	Pn	21 08 53.9	+0.1
BKZ	**Black Stump Fm**	**0.88**	**144**	⇑PN	Pn	21 08 53.7	+0.1
BKZ				SN	Sn	21 09 13.8	-0.1
WNVZ	**Wahianoa**	**0.89**	**192**	PN	Pn	21 08 53.8	+0.1
PKVZ	**Pokaka**	**0.91**	**204**	PN	Pn	21 08 53.7	-0.1
MOVZ	**Moawhango**	**0.95**	**184**	PN	Pn	21 08 53.9	-0.2
MTVZ	**Mangateitei**	**0.97**	**197**	PN	Pn	21 08 54.2	0.0
NMHZ	**Naumai**	**1.00**	**130**	⇑PN	Pn	21 08 55.6	+1.1
URZ	**Urewera**	**1.03**	**79**	PN	Pn	21 08 54.2	-0.4
URZ				SN	Sn	21 09 15.0	-0.6
BHHZ	**Black Hill Sta**	**1.04**	**170**	PN	Pn	21 08 54.7	-0.1
RAHZ	**Arahi**	**1.08**	**115**	⇓PN	Pn	21 08 55.9	+0.8
ARHZ	**Aropaoanui**	**1.21**	**132**	PN	Pn	21 08 56.8	+0.7
KRHZ	**Kereru**	**1.26**	**161**	⇑PN	Pn	21 08 56.7	+0.1
MWZ	**Matawai**	**1.34**	**85**	PN	Pn	21 08 57.3	-0.1
WAZ	**Wanganui**	**1.45**	**207**	PN	Pn	21 08 57.6	-0.7
RIGZ	**Rimuhau**	**1.54**	**100**	PN	Pn	21 08 59.4	+0.3
KNZ	**Kokohu**	**1.55**	**112**	PN	Pn	21 08 59.5	+0.4
KAHZ	**Kahuranaki**	**1.56**	**149**	PN	Pn	21 08 59.8	+0.4
TSZ	**Takapari Road**	**1.60**	**176**	⇑PN	Pn	21 08 59.3	-0.5
TSZ				SN	Sn	21 09 23.5	-1.6
WPHZ	**Waipukurau**	**1.67**	**164**	⇓PN	Pn	21 09 00.2	-0.2
PRHZ	**Porangahau**	**1.91**	**161**	PN	Pn	21 09 02.4	-0.6
PUZ	**Puketiti**	**1.95**	**79**	PN	Pn	21 08 59.5	-4.0
ANWZ	**Angora Road**	**2.06**	**166**	⇓PN	Pn	21 09 03.9	-0.7
PRWZ	**Pori Road**	**2.10**	**177**	PN	Pn	21 09 04.0	-1.0
MRZ	**Mangatainoka R**	**2.21**	**185**	PN	Pn	21 09 04.7	-1.5
MRZ				SN	Sn	21 09 33.9	-2.8
BFZ	**Birch Farm**	**2.24**	**172**	PN	Pn	21 09 05.2	-1.4
TIWZ	**Tintock**	**2.31**	**179**	PN	Pn	21 09 06.0	-1.5
OGWZ	**Otaki Gorge**	**2.41**	**192**	⇓PN	Pn	21 09 06.9	-1.6
HOWZ	**Holdsworth Sta**	**2.45**	**186**	PN	Pn	21 09 07.0	-2.1
KIW	**Kapiti Island**	**2.50**	**196**	PN	Pn	21 09 07.4	-2.2
MTW	**Mount Morrison**	**2.71**	**185**	PN	Pn	21 09 09.6	-2.5
CAW	**Cannon Point**	**2.71**	**192**	PN	Pn	21 09 10.0	-2.2
DUWZ	**D'Urville Isla**	**2.77**	**212**	PN	Pn	21 09 10.1	-2.7
TRWZ	**Traveller**	**2.94**	**182**	PN	Pn	21 09 12.4	-2.5
TCW	**Tory Channel**	**3.00**	**203**	PN	Pn	21 09 12.9	-2.7
BHW	**Baring Head**	**3.04**	**194**	PN	Pn	21 09 13.2	-2.8
PLWZ	**Palliser**	**3.14**	**188**	PN	Pn	21 09 14.3	-3.1
TUWZ	**Tuamarina**	**3.30**	**205**	PN	Pn	21 09 16.3	-3.0
NNZ	**Nelson**	**3.34**	**214**	PN	Pn	21 09 16.6	-3.1
NNZ				SN	Sn	21 09 56.9	-4.0
BSWZ	**Blackbirch Sta**	**3.58**	**204**	PN	Pn	21 09 19.9	-3.0
THZ	**Tophouse**	**3.99**	**213**	PN	Pn	21 09 24.3	-3.8
KHZ	**Kahutara**	**4.32**	**203**	⇑PN	Pn	21 09 28.8	-3.4
MQZ	**McQueen's Vall**	**5.76**	**204**	PN	Pn	21 09 45.7	-5.3
MQZ				SN	Sn	21 10 47.9	-9.0

IDC 19 21:09:06.8±2.2, 31.°69S×178.°22W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/18, mbtmp3.6/3, ML3.0/1, Error ellipse: s-maj=49.2km s-min=45.3km az=65.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.60**	**209**	Pn	Pn	21 10 58.3	-0.4
	0.2nm,0.3s,baz=82,slow=14,SNR=4.8						
URZ				Sn	Sn	21 12 19.5	-6.0
	0.4nm,0.3s,baz=76,slow=18,SNR=3.5						
ASAR	**Alice Springs**	**42.87**	**268**	P	P	21 17 07.0	-0.1
	0.2nm,0.4s,baz=99,slow=7.5,SNR=8.5						
WRA	**Warramunga Arr**	**43.97**	**274**	P	P	21 17 15.8	-0.2
	0.8nm,0.4s,baz=113,slow=8.1,SNR=18						
FINES	**FINESS Array B**	**146.28**	**339**	PKPbc	PKPbc	21 28 48.3	-0.2
	0.8nm,0.8s,baz=29,slow=4.4,SNR=3.6						
TORD	**Torodi Ar. Bea**	**161.55**	**180**	PKPab	PKPab	21 29 53.7	-0.9
	0.7nm,1.0s,baz=193,slow=5.9,SNR=2.6						

IDC ***19*** *21:25:01.9±1.3, 33.°99S×71.°90W, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.7/20, mbtmp3.6/4, ML3.6/2, MS3.8/3, Ms1 3.7/3, ms1mx3.3/14, Error ellipse: s-maj=54.9km s-min=22.7km az=81.0*
SJA ***19*** *21:25:17.6±1.6, 33.°16S×71.°37W, h10km, ML3.1*

ISC 19 21:25:03.6±1.1, 33.°9S±0.°1×71.°8W±0.°1, h10km, n16, σ1s53/14, MS3.9/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAGR	**Agrelo**	**2.61**	**72**	*e*P	**Pg**	**21 25 55.6**	**+1.8**
ARCO	**CERRO ARCO**	**2.63**	**67**	*e*P	**Pg**	**21 25 54.5**	**+0.5**
ARCO				AML	AML	21 26 40.8	
	comp=Z,141nm,0.4s						
AUSP	**Uspallata**	**2.64**	**51**	*e*P	**Pg**	**21 25 54.4**	**+0.1**
AUSP				*e*S	**Sn**	**21 26 19.1**	**+0.4**
RTLS	**Leoncito**	**2.98**	**45**	*e*P	**Pb**	**21 25 58.3**	**+1.2**
CFAA	**Coronel Fontan**	**3.78**	**53**	*e*P	**Pb**	**21 26 08.0**	**-2.6**
RTLL	**Cerro Villicun**	**3.81**	**48**	*e*P	**Pb**	**21 26 08.0**	**-3.1**
AMOG	**MOGNA**	**4.08**	**44**	*e*P	Pb	21 26 11.3	-4.4
ACAN	**Cantantal**	**4.20**	**68**	*e*P4		21 26 14.0	
PLCA	**Paso Flores**	**6.87**	**172**	Pn	**Pn**	**21 26 44.2**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=357,slow=18,SNR=3.7						
PLCA				Lg	Lg	21 28 38.7	
	comp=Z,0.3nm,0.3s,baz=80,slow=22,SNR=4.0						
LPAZ	**La Paz**	**17.87**	**12**	P	**P**	**21 29 15.0**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=187,slow=9.9,SNR=6.9						
BDFB	**Brasilia**	**28.12**	**56**	LR	LR	21 43 26.2	
	comp=Z,174nm,18.5s,baz=212,slow=39	

mb4.0/8, Error ellipse: s-maj=10.0km s-min=4.2km az=147.3
*DJA **19** 21:28:59.7±0.5, 2°S±4″×10°0E±°, h65km±13km, M3.9/13, mb4.1/1, MLv3.9/13*

ISC 19 21:28:58.9±0.8, 1°84S±0°05×100°33E±0°08, h56km, n25, σ1°38/31, mb4.0/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PPI	**Padang Panjang**	**1.38**	**3**	P	**Pn**	**21 29 22.5**	**+0.6**
PPI				S	**Sn**	**21 29 40.1**	**+1.0**
SDSI	**Sungai Dareh**	**1.42**	**51**	P	**Pn**	**21 29 22.6**	**+0.1**
SDSI				S	**Sn**	**21 29 40.7**	**+0.5**
BKNI	**Bangkinang**	**2.27**	**18**	P	**Pn**	**21 29 35.4**	**+1.4**
MASI	**Maura Aman, Be**	**2.30**	**124**	P	**Pn**	**21 29 34.7**	**+0.1**
MASI				S	**Sn**	**21 30 05.2**	**+3.4**
MNSI	**Mandailing Nat**	**2.73**	**344**	P	**Pn**	**21 29 41.0**	**+0.7**
MNSI				S	**Sn**	**21 30 09.3**	**-2.8**
MNAI	**Manna**	**3.62**	**134**	P	**Pn**	**21 29 53.4**	**+0.8**
MNAI				S	**Sn**	**21 30 35.2**	**+1.0**
GSI	**Gunungsitoli**	**4.17**	**319**	P	**Pn**	**21 30 01.0**	**+1.0**
DSRI	**Dabo**	**4.46**	**72**	P	**Pn**	**21 30 04.3**	**+0.3**
MDSI	**Maura Dua**	**4.65**	**124**	P	**Pn**	**21 30 06.6**	**-0.1**
MDSI				S	**Sn**	**21 31 02.0**	**+2.5**
PSI	**Prapat**	**4.82**	**343**	Pn	**Pn**	**21 30 11.2**	**+2.0**
	0.8nm,0.3s,baz=152,slow=9.5,SNR=4.2						
PSI				Sn	**Sn**	**21 31 06.4**	**+2.6**
	0.3nm,0.3s,baz=171,slow=19,SNR=3.6						
TPRI	**Tanjung Pinang**	**5.01**	**57**	P	**Pn**	**21 30 10.9**	**-0.8**
KASI	**Kota Agung**	**5.54**	**131**	P	**Pn**	**21 30 18.1**	**-0.7**
KASI				S	**Sn**	**21 31 19.5**	**-1.7**
CMAR	**Chiang Mai Arr**	**20.22**	**356**	P	**P**	**21 33 29.8**	**+0.3**
	0.3nm,0.5s,baz=190,slow=8.8,SNR=4.2						
H08S2	**Diego Garcia H**	**28.32**	**257**	T	T	22 03 49.7	
	baz=82,slow=74,SNR=3.5						
H08S3	**Diego Garcia H**	**28.33**	**257**	T	T	22 03 44.6	
	baz=82,slow=74,SNR=3.7						
H08S1	**Diego Carcia H**	**28.34**	**257**	T	T	22 03 48.6	
	baz=82						
WRA	**Warramunga Arr**	**37.79**	**121**	P	**P**	**21 36 08.1**	**-2.0**
	0.6nm,0.4s,baz=301,slow=9.5,SNR=22						
WRA				PcP	**PcP**	**21 38 25.0**	**-1.1**
	0.8nm,1.3s,baz=307,slow=2.7,SNR=3.9						
ASAR	**Alice Springs**	**39.08**	**126**	P	**P**	**21 36 20.1**	**-0.8**
	1.5nm,0.6s,baz=304,slow=7.7,SNR=23						
ASAR				PcP	**PcP**	**21 38 30.3**	**+0.2**
	0.2nm,0.6s,baz=264,slow=1.9,SNR=3.3						
SONM	**Songino Array**	**49.76**	**5**	P	**P**	**21 37 45.9**	**0.0**
	0.5nm,0.5s,baz=182,slow=11,SNR=5.2						
MKAR	**Makanchi Array**	**50.97**	**344**	P	**P**	**21 37 55.3**	**+0.4**
	1.4nm,0.6s,baz=170,slow=6.7,SNR=24						
USRK	**Ussuriysk Ar.**	**53.86**	**28**	P	**P**	**21 38 16.3**	**-0.1**
	1.1nm,0.6s,baz=229,slow=5.5,SNR=3.4						
ZALV	**Zalesovo Beam**	**57.08**	**349**	P	**P**	**21 38 39.0**	**-0.2**
	0.9nm,0.3s,baz=174,slow=6.0,SNR=13						
FINES	**FINESS Array B**	**84.13**	**332**	P	**P**	**21 41 24.0**	**+0.3**
	0.4nm,0.5s,baz=108,slow=8.9,SNR=3.0						
ARCES	**ARCESS Array B**	**86.44**	**340**	P	**P**	**21 41 35.0**	**-0.2**
	0.9nm,0.8s,baz=100,slow=3.8,SNR=3.1						
TXAR	**Lajitas Array**	**144.38**	**38**	PKP	PKPbc	21 48 28.4	+0.2
	0.8nm,0.6s,baz=281,slow=1.0,SNR=9.2						

*SZGRF **19** 21:31:05.7, 21°38S×178°11W, h33km, Fiji Islands region*
*NEIC **19** 21:32:07.6±1.1, 20°28S×178°35W, h561km±11km, mb4.6/10, Error ellipse: s-maj=30.2km s-min=11.4km az=146.0*
*ISCJB **19** 21:32:08.4±0.3, 20°48S±0°07×178°48W±0°08, h587km, mb4.2/23, Error ellipse: s-maj=10.7km s-min=7.3km az=37.9*
*IDC **19** 21:32:09.7±2.7, 20°55S×178°42W, h588km±30km, mb3.6/15, mb1 3.8/17, mb1mx3.6/25, mbtmp4.5/17, Error ellipse: s-maj=16.2km s-min=12.3km az=81.0*

ISC 19 21:32:09.5±0.5, 20°48S±0°09×178°46W±0°09, h587km, n112, σ0°84/119, mb4.4/23, 13C-24D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.29**	**309**	*e*P	**P**	**21 33 34.0**	**-2.3**
AFI	**Afiamalu**	**9.13**	**45**	*e*P	P	21 34 13.2	-6.4
DZM	**Mont Dzumac**	**14.16**	**261**	P	**P**	**21 35 08.9**	**-1.4**
	1.6nm,0.3s,baz=90,slow=20,SNR=13						
URZ	**Urewera**	**18.13**	**191**	P	**P**	**21 35 44.8**	**-1.9**
	1.8nm,0.3s,baz=18,slow=2.1,SNR=6.7						
URZ				S	**S**	**21 38 41.4**	**-1.6**
	0.4nm,0.3s,baz=274,slow=15,SNR=6.1						
RPZ	**Rata Peaks**	**24.77**	**198**	P	**P**	**21 36 45.2**	**-1.0**
	3.1nm,0.4s,baz=21,slow=5.5,SNR=6.5						
WHZ	**Wether Hill Ro**	**27.70**	**201**	*e*P	**P**	**21 37 13.4**	**+1.6**
	16nm,0.6s						
CTA	**Charters Tower**	**33.06**	**264**	P	**P**	**21 37 58.8**	**+0.6**
	12nm,0.4s,baz=88,slow=11,SNR=16						
CTAO	**Charters Tower**	**33.06**	**264**	*e*P	**P**	**21 37 58.6**	**+0.4**
	31nm,1.1s						
STKA	**Stephens Creek**	**37.41**	**244**	P	**P**	**21 38 34.9**	**+0.9**
	8.2nm,0.8s,baz=84,slow=10,SNR=26						
STKA				PcP	**PcP**	**21 40 37.9**	**+1.1**
	1.9nm,1.0s,baz=99,slow=0.9,SNR=3.3						
STKA	**Stephens Creek**	**37.41**	**244**	*e*P	**P**	**21 38 35.0**	**+1.1**
	2.2nm,1.0s						
JAY	**Jayapura**	**43.63**	**289**	P	**P**	**21 39 23.7**	**+0.1**
	10.0nm,0.4s,baz=159,slow=5.6,SNR=12						
AS01	**Alice Springs**	**44.06**	**257**	*e*P	**P**	**21 39 26.9**	**+0.1**
ASAR	**Alice Springs**	**44.10**	**257**	P	**P**	**21 39 27.6**	**+0.5**
	20nm,0.7s,baz=91,slow=7.7,SNR=226						
ASAR				PcP	**PcP**	**21 40 59.8**	**+0.6**
	1.9nm,0.6s,baz=103,slow=3.7,SNR=7.6						
WRAB	**Tennant Creek**	**44.17**	**262**	*e*P	**P**	**21 39 27.2**	**-0.4**
	15nm,1.0s						
WRA	**Warramunga Arr**	**44.18**	**262**	P	**P**	**21 39 27.7**	**0.0**
	6.6nm,0.3s,baz=96,slow=7.6,SNR=358						
FORT	**Forrest**	**48.91**	**247**	*e*P	**P**	**21 40 03.5**	**+0.3**
	27nm,0.7s						
SIJI	**Sorong**	**52.82**	**285**	P	**P**	**21 40 32.1**	**+0.4**
	22nm,0.7s,baz=96,slow=8.2,SNR=14						
SOEI	**Soe**	**56.07**	**272**	*e*P	**P**	**21 40 56.5**	**+1.9**
	38nm,0.7s						
VNDA	**Vanda**	**57.89**	**185**	P	**P**	**21 41 06.6**	**+0.8**
	1.0nm,0.7s,baz=4.3,slow=6.6,SNR=8.5						
KAPI	**Kappang**	**61.85**	**275**	P	**P**	**21 41 32.2**	**-0.8**
	1.8nm,0.3s,baz=54,slow=18,SNR=3.1						
MJAR	**Matsushiro Arr**	**69.94**	**324**	P	**P**	**21 42 23.3**	**+0.5**
	0.4nm,0.3s,baz=151,slow=7.8,SNR=3.0						
PTRM	**Twissleman Ran**	**78.47**	**45**	*e*P	**P**	**21 43 10.5**	**-0.4**
NV01	**Mina Array Sit**	**81.31**	**44**	*e*P	**P**	**21 43 26.5**	**+0.7**
NVAR	**Mina Array Bea**	**81.31**	**44**	P	**P**	**21 43 26.4**	**+0.6**
	1.5nm,0.7s,baz=228,slow=8.9,SNR=11						
SPU	**Mount Spurr**	**84.11**	**13**	*e*P	**P**	**21 43 36.7**	**-2.4**
SPU				*e*S	**S**	**21 53 16.9**	**+1.4**
F10A	**Beach Ranch, E**	**86.25**	**38**	*e*P	**P**	**21 43 50.2**	**+0.4**
	6.9nm,0.8s						
RND	**Reindeer**	**86.78**	**13**	*e*P	**P**	**21 43 51.6**	**-0.3**
	6.9nm,0.9s						
TX31	**Lajitas Ar. Si**	**87.41**	**58**	*e*P	**P**	**21 43 56.5**	**+0.8**
TXAR	**Lajitas Array**	**87.41**	**58**	P	**P**	**21 43 56.9**	**+1.2**
	1.5nm,0.8s,baz=216,slow=6.8,SNR=19						
PV01	**Paradox Valley**	**87.69**	**48**	*e*P	**P**	**21 43 54.4**	**-2.6**
PV01				*e*S	**S**	**21 53 51.5**	**+0.8**
WRH	**Wood River Hil**	**87.88**	**13**	*e*P	**P**	**21 43 56.0**	**-0.8**
	3.9nm,0.8s						
CCB	**Clear Creek Bu**	**88.09**	**13**	*e*P	**P**	**21 43 56.9**	**-1.0**
	4.8nm,0.6s						
VNA3	**Neumayer Olymp**	**88.19**	**176**	P	**P**	**21 43 58.6**	**+0.1**
MCMT	**McKenzie Canyo**	**88.22**	**40**	*e*P	**P**	**21 44 00.7**	**+1.5**
IL1	**Eielson Array**	**88.39**	**13**	*e*P	**P**	**21 43 57.6**	**-1.7**
ILAR	**Eielson Array**	**88.39**	**13**	P	**P**	**21 43 58.2**	**-1.0**
	1.3nm,0.5s,baz=213,slow=5.0,SNR=11						
VNA2	**Neumayer--Watz**	**88.62**	**177**	P	**P**	**21 44 00.9**	**+0.5**
	baz=178,slow=3.7						
BW06	**Boulder Array**	**89.24**	**43**	*e*P	**P**	**21 44 03.8**	**-0.3**
PDAR	**Pinedale Array**	**89.24**	**43**	P	**P**	**21 44 04.2**	**+0.2**
	1.3nm,0.6s,baz=195,slow=1.4,SNR=12						
CMAR	**Chiang Mai Arr**	**89.70**	**290**	P	**P**	**21 44 07.8**	**+1.3**
	1.1nm,0.8s,baz=97,slow=3.0,SNR=6.6						
ULM	**Lac du Bonnet**	**100.90**	**40**	PKiKP	**PKiKP**	**21 49 16.2**	**-1.8**
	0.9nm,0.4s,baz=239,slow=12,SNR=3.9						
LPAZ	**La Paz**	**102.46**	**113**	PKiKP	**PKiKP**	**21 49 22.6**	**-0.1**
	0.7nm,0.3s,baz=299,slow=7.8,SNR=6.3						
ZALV	**Zalesovo Beam**	**110.21**	**321**	PKiKP	**PKiKP**	**21 49 34.3**	**-0.8**
	0.3nm,0.3s,baz=88,slow=1.2,SNR=4.6						
MKAR	**Makanchi Array**	**110.87**	**313**	PKiKP	**PKiKP**	**21 49 35.9**	**-0.7**
	0.6nm,0.6s,baz=276,slow=2.3,SNR=9.8						
ARCES	**ARCESS Array B**	**128.82**	**349**	PKP	**PKPdf**	**21 50 09.1**	**-1.3**
	1.0nm,0.5s,baz=39,slow=2.0,SNR=13						
FINES	**FINESS Array B**	**135.63**	**343**	PKP	**PKPdf**	**21 50 22.1**	**-1.3**
	0.6nm,0.5s,baz=50,slow=3.0,SNR=6.7						
NB2	**NORSAR Subarra**	**138.91**	**353**	PKP	PKPpre	21 50 22.1	
	comp=Z,0.8nm,0.6s,baz=20,slow=3.8						
NOA	**NORSAR Array B**	**138.91**	**353**	PKhKP	PKPpre	21 50 23.0	
	comp=Z,0.7nm,0.6s,baz=14,slow=2.3,SNR=4.6						
AKASG	**Malin Array Be**	**142.79**	**331**	PKhKP	PKPpre	21 50 32.9	
	comp=Z,3.0nm,0.5s,baz=42,slow=4.4,SNR=18						
BSEG	**Bad Segeberg**	**145.94**	**351**	*e*PKPbc	**PKPbc**	**21 50 44.3**	**+0.4**
LEOM	**Leova**	**146.12**	**326**	⇓*i*P	**PKPbc**	**21 50 45.0**	**+0.3**
TESR	**Tescani**	**146.92**	**328**	⇓*i*P	**PKPbc**	**21 50 46.9**	**0.0**
CFR	**Carcaliu**	**147.02**	**324**	⇓*i*P	**PKPbc**	**21 50 47.2**	**+0.1**
ANTO	**Ankara**	**147.03**	**313**	⇓*i*P	**PKPbc**	**21 50 47.9**	**+0.4**
BR231	**Keskin MP Arra**	**147.06**	**313**	*e*PKPdf	**PKPbc**	**21 50 46.7**	**-0.9**
VRI	**Vrincioaia**	**147.32**	**327**	⇓*i*P	**PKPbc**	**21 50 47.7**	**-0.3**
NRDL	**Niedersach Rie**	**147.36**	**350**	*e*PKPbc	**PKPbc**	**21 50 47.7**	**0.0**
PLOR	**Plostina**	**147.37**	**327**	⇓*i*P	**PKPbc**	**21 50 48.1**	**0.0**
MANR	**Mangalia**	**147.61**	**322**	⇓*i*P	**PKPbc**	**21 50 48.1**	**-0.6**
TRPA	**Tarpa**	**147.63**	**333**	⇓*i*P	**PKPbc**	**21 50 48.9**	**+0.3**
OKC	**Ostrava-Krasne**	**147.87**	**340**	⇑*e*PKP	**PKPbc**	**21 50 49.0**	**-0.2**
OKC				*e*PKPAB	**PKPab**	**21 50 53.9**	**0.0**
UPC	**Upice**	**147.93**	**343**	⇑*e*PKP	**PKPbc**	**21 50 49.8**	**+0.5**
DOPR	**Dopca**	**147.93**	**328**	⇓*i*P	**PKPbc**	**21 50 50.5**	**+1.0**
CLL	**Collm**	**147.95**	**346**	*e*PKPbc	**PKPbc**	**21 50 49.5**	**+0.2**
CLL	**Collm**	**147.95**	**346**	⇓*i*PKPbc	**PKPbc**	**21 50 49.5**	**+0.2**
	comp=Z,12nm,0.9s						
CLL				*i* PKPab	**PKPab**	**21 50 53.9**	**-0.3**
CLL	**Collm**	**147.95**	**346**	*e*PKPbc	**PKPbc**	**21 50 49.6**	**+0.3**
CLZ	**Clausthal**	**147.95**	**350**	*e*PKPbc	**PKPbc**	**21 50 49.8**	**+0.4**
MLR	**Muntele Rosu**	**147.97**	**327**	⇓*i*P	**PKPbc**	**21 50 49.5**	**-0.3**
DPC	**Dobruska-Polom**	**147.98**	**342**	⇑*e*PKP	**PKPbc**	**21 50 50.2**	**+0.7**
DPC				*e*PKPAB	**PKPab**	**21 50 56.4**	**+2.0**
KRLC	**Kraliky**	**148.09**	**341**	⇑*e*PKP	**PKPbc**	**21 50 49.3**	**-0.5**
MORC	**Moravsky Berou**	**148.12**	**340**	⇓*i*P	**PKPbc**	**21 50 49.7**	**-0.2**
BRG	**Berggiesshubel**	**148.13**	**345**	*i* PKP	**PKPbc**	**21 50 50.2**	**+0.4**
	comp=Z,5.7nm,0.7s						
BRG	**Berggiesshubel**	**148.13**	**345**	*e*PKPbc	**PKPbc**	**21 50 50.2**	**+0.4**
PVCC	**Panska Ves**	**148.30**	**344**	⇑*e*PKP	**PKPbc**	**21 50 51.1**	**+0.9**
DRGR		**148.59**	**332**	⇓*i*P	**PKPbc**	**21 50 51.4**	**+0.2**
ARR	**Arges**	**148.72**	**329**	⇓*i*P	**PKPbc**	**21 50 53.2**	**+1.6**
PRA	**Prague**	**148.75**	**344**	⇑*e*PKP	**PKPbc**	**21 50 51.9**	**+0.5**
BUG	**Bochum--Univer**	**148.78**	**353**	*e*PKPbc	**PKPbc**	**21 50 52.0**	**+0.6**
PRU	**Pruhonice**	**148.80**	**344**	⇑*e*PKP	**PKPbc**	**21 50 51.8**	**+0.3**
GOPC	**GO Pecny, Ondr**	**148.80**	**343**	⇑*e*PKP	**PKPbc**	**21 50 51.9**	**+0.4**
VRAC	**Vranov**	**148.82**	**341**	⇓*i*P	**PKPbc**	**21 50 51.9**	**+0.3**
TANN	**Tannenbergstha**	**148.90**	**346**	*e*PKPbc	**PKPbc**	**21 50 52.1**	**+0.3**
UBBA	**Unterbreizbach**	**149.00**	**350**	*e*PKPbc	**PKPbc**	**21 50 51.9**	**+0.1**
NKC	**Novy Kostel**	**149.08**	**346**	⇑*e*PKP	**PKPbc**	**21 50 52.5**	**+0.3**
NKC				*e*PKPAB	**PKPab**	**21 50 59.0**	**+0.1**
TREC	**Trest**	**149.16**	**342**	⇑*e*PKP	**PKPbc**	**21 50 52.7**	**+0.3**
SIRR	**Siria**	**149.46**	**332**	⇓*i*P	**PKPbc**	**21 50 53.4**	**+0.2**
ROTZ	**Rotzenmuhle**	**149.57**	**346**	*e*PKPbc	**PKPbc**	**21 50 53.8**	**+0.4**
MEM	**Membach**	**149.73**	**354**	PKPbc	**PKPbc**	**21 50 54.0**	**+0.3**
TNS	**Taunus Mts**	**149.82**	**351**	*e*PKPbc	**PKPbc**	**21 50 54.4**	**+0.4**
KHC	**Kasperske Hory**	**149.83**	**344**	⇑*e*PKP	**PKPbc**	**21 50 54.5**	**+0.4**
KHC				*e*PKPAB	**PKPab**	**21 51 02.5**	**+0.4**
GRF	**Grafenberg Arr**	**149.85**	**347**	*e*PKPbc	**PKPbc**	**21 50 54.5**	**+0.5**
BZS	**Buzias**	**149.98**	**331**	⇓*i*P	**PKPbc**	**21 50 54.5**	**+0.1**
WET	**Wettzell**	**150.00**	**345**	*e*PKPbc	**PKPbc**	**21 50 54.8**	**+0.4**
GEC2	**GERESS Array S**	**150.07**	**344**	*e*PKPbc	**PKPbc**	**21 50 54.7**	**0.0**
GEC2	**GERESS Array S**	**150.07**	**344**	*e*PKPbc	**PKPbc**	**21 50 55.1**	**+0.4**
GERES	**GERESS Array B**	**150.07**	**344**	*e*PKPbc	**PKPbc**	**21 50 54.8**	**0.0**
	comp=Z,2.2nm,0.7s,baz=52,slow=2.2,SNR=19						
CONA	**Conrad Observa**	**150.27**	**340**	⇓*i*PKiKP	**PKiKP**	**21 50 55.5**	**-0.2**
	comp=Z,4.0nm,0.6s						
DOU	**Dourbes**	**150.35**	**356**	PKPbc	**PKPbc**	**21 50 55.7**	**+0.5**
WLF	**Walferdange**	**150.65**	**354**	*e*PKPbc	**PKPbc**	**21 50 57.0**	**+1.1**
PKSM	**Moragy**	**150.76**	**335**	⇓*i*P	**PKPbc**	**21 50 56.1**	**-0.1**
MOA	**Molln**	**150.82**	**342**	⇑*i*PKPbc	**PKPbc**	**21 50 55.8**	**-0.6**
	comp=Z,2.0nm,0.6s						
FUR	**Furstenfeldbru**	**151.28**	**346**	*e*PKPbc	**PKPbc**	**21 50 57.6**	**+0.2**
RJOB	**Jochberg**	**151.32**	**344**	*e*PKPbc	**PKPbc**	**21 50 58.2**	**+0.6**
VTS	**Vitosha**	**151.40**	**325**	⇓*i*P	**PKPbc**	**21 50 58.1**	**+0.1**
BFO	**Black Forest**	**151.68**	**350**	*e*PKPbc	**PKPbc**	**21 50 58.1**	**-0.2**
KBA	**Koelnbreinsper**	**151.78**	**343**	⇓*i*PKPbc	**PKPbc**	**21 50 58.6**	**-0.2**
	comp=Z,4.6nm,0.9s						
MMB	**Musomiste**	**151.79**	**323**	⇓*i*P	**PKPbc**	**21 50 58.3**	**-0.5**
DIVS	**Divibare**	**151.88**	**331**	⇓*i*P	**PKPbc**	**21 50 58.8**	**-0.2**
WTTA	**Wattenberg**	**152.05**	**345**	⇓*i*PKPbc	**PKPbc**	**21 50 58.9**	**-0.4**
	comp=Z,3.9nm,0.4s						
ABTA	**Abfaltersbach**	**152.31**	**344**	⇑*i*PKPbc	**PKPbc**	**21 50 59.2**	**-0.6**
	comp=Z,4.2nm,0.6s						
ESDC	**Sonseca Array**	**160.30**	**13**	PKPab	**PKPab**	**21 51 46.4**	**-1.0**
	comp=Z,0.6nm,0.9s,baz=342,slow=6.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**172.71**	**181**	PKP	**PKPdf**	**21 51 11.8**	**-1.0**
	comp=Z,1.0nm,0.9s,baz=259,slow=1.5,SNR=4.2						
TORD				PKPab	**PKPab**	**21 52 42.5**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=181,slow=3.8,SNR=4.1						

IDC 19 21:36:19.9±5.1, 4°47S×147°63E, h0km, mb3.4/2, mb1 3.8/2, mb1mx3.3/17, mbtmp3.6/2, Error ellipse: s-maj=193.2km s-min=50.7km az=107.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.10**	**219**	P	P	21 40 55.2	-0.2
	1.0nm,0.5s,baz=43,slow=12,SNR=6.0						
ASAR	**Alice Springs**	**23.22**	**213**	P	P	21 41 28.8	-0.2
	1.0nm,0.6s,baz=53,slow=8.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**145.29**	**287**	PKPbc	PKPbc	21 55 60.0	-0.6
	0.3nm,0.7s,baz=67,slow=3.4,SNR=4.7						

*IDC **19** 22:09:38.7±1.1, 16°55N×146°16E, h0km, mb3.5/7, mb1 3.8/8, mb1mx3.6/28, mbtmp3.6/8, ML4.0/1, Error ellipse: s-maj=33.4km s-min=19.4km az=103.0*
*ISCJB **19** 22:09:41.8±1.0, 16°58N±0°08×146°2E±0°2, h33km, mb3.4/7, Error ellipse: s-maj=28.5km s-min=9.2km az=13.0*

ISC 19 22:09:43.8±1.1, 16°55N±0°10×146°2E±0°2, h35km, n14, σ1°18/9, mb3.5/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.20**	**203**	Pn	**Pn**	**22 10 30.1**	**-1.5**
	18nm,0.3s,baz=322,slow=12,SNR=6						
GUMO				Sn	**Sn**	**22 11 10.5**	**+2.0**
	baz=131,slow=19,SNR=2.3						
H11S3	**WAKE ISLAND Hy**	**19.67**	**81**	T	T	22 34 49.1	
	baz=268,slow=75,SNR=59						
H11S1	**WAKE ISLAND Hy**	**19.68**	**81**	T	T	22 34 48.7	
	baz=268,slow=75,SNR=65						
H11S2	**WAKE ISLAND Hy**	**19.69**	**81**	T	T	22 34 50.6	
	baz=268,slow=75,SNR=66						
H11N1	**WAKE ISLAND Hy**	**19.95**	**78**	T	T	22 35 08.7	
	baz=264,slow=75,SNR=406						
H11N2	**WAKE ISLAND Hy**	**19.95**	**78**	T	T	22 35 09.9	
	baz=264,slow=75,SNR=239						
H11N3	**WAKE ISLAND Hy**	**19.97**	**78**	T	T	22 35 10.9	
	baz=264,slow=75,SNR=369						
KSRS	**Korea Array**	**26.32**	**326**	P	P	**22 15 16.5**	**+0.2**
	0.6nm,0.4s,baz=148,slow=12,SNR=4.2						
WRA	**Warramunga Arr**	**38.08**	**198**	P	P	**22 16 59.3**	**-0.1**
	0.4nm,0.9s,baz=21,slow=9.9,SNR=3.3						
CMAR	**Chiang Mai Arr**	**44.98**	**280**	P	P	**22 17 55.5**	**-0.5**
	1.1nm,0.8s,baz=64,slow=6.1,SNR=7.1						
SONM	**Songino Array**	**45.10**	**323**	P	P	**22 17 57.1**	**+0.4**
	0.2nm,0.8s,baz=108,slow=4.7,SNR=2.6						
MKAR	**Makanchi Array**	**60.27**	**315**	P	P	**22 19 49.0**	**+0.1**
	0.5nm,0.8s,baz=93,slow=4.9,SNR=5.8						
ILAR	**Eielson Array**	**65.37**	**26**	P	P	**22 20 21.9**	**-0.6**
	0.2nm,0.4s,baz=256,slow=5.6,SNR=4.5						
YKA	**Yellowknife Ar**	**79.67**	**28**	P	P	**22 21 48.6**	**+1.1**
	0.4nm,0.7s,baz=306,slow=6.6,SNR=2.9						

*ISCJB **19** 22:24:40.4±1.7, 7°1S×120°3E±0°9, h576km, mb2.9/4, Error ellipse: s-maj=143.1km s-min=15.3km az=148.4*
*IDC **19** 22:24:40.6±1.7, 7°24S×120°20E, h557km±9km, mb2.5/4, mb1 2.6/6, mb1mx2.5/26, mbtmp3.4/6, Error ellipse: s-maj=107.0km s-min=16.5km az=59.0*

ISC 19 22:24:41.7±1.9, 7°1S±0°6×120°5E±1°0, h576km, n6, σ1°99/7, mb3.0/4, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**2.16**	**341**	P	P	**22 25 54.1**	**-0.5**
	2.6nm,0.3s,baz=182,slow=3.0,SNR=11						
KAPI				S	**S**	**22 26 50.4**	**-3.3**
	4.2nm,0.3s,baz=172,slow=18,SNR=4.9						
WRA	**Warramunga Arr**	**18.58**	**135**	P	P	**22 28 23.7**	**0.0**
	0.1nm,0.3s,baz=315,slow=11,SNR=9.3						
STKA	**Stephens Creek**	**31.59**	**144**	P	P	**22 30 18.2**	**-0.1**
	0.5nm,0.4s,baz=310,slow=7.7,SNR=3.8						
SONM	**Songino Array**	**56.06**	**349**	P	P	**22 33 28.8**	**+1.8**
	0.1nm,0.4s,baz=156,slow=6.0,SNR=2.3						
MKAR	**Makanchi Array**	**63.43**	**332**	P	P	**22 34 16.8**	**+1.1**
	0.2nm,0.6s,baz=139,slow=6.2,SNR=3.9						
ZALV	**Zalesovo Beam**	**67.78**	**338**	P	P	**22 34 42.3**	**-0.3**
	0.3nm,0.3s,baz=130,slow=4.5,SNR=2.6						

*SZGRF **19** 22:55:27.3, 18°10S×178°00W, h33km, Fiji Islands region*
*ISCJB **19** 22:56:25.4±0.5, 17°6S±0°1×178°7W±0°1, h547km, mb3.8/13, Error ellipse: s-maj=15.3km s-min=11.1km az=141.5*
*IDC **19** 22:56:26.2±2.4, 17°60S×178°68W, h543km±27km, mb3.4/14, mb1 3.7/15, mb1mx3.5/22, mbtmp4.3/15, Error ellipse: s-maj=18.9km s-min=11.7km az=148.0*

ISC 19 22:56:27.2±0.6, 17°7S±0°1×178°8W±0°1, h547km, n72, σ1°63/72, mb3.8/13, 15C-5D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.53**	**250**	P	**P**	**22 59 30.8**	**-1.2**
	0.2nm,0.3s,baz=69,slow=14,SNR=14						
URZ	**Urewera**	**20.77**	**189**	P	**P**	**23 00 28.6**	**-1.5**
	7.5nm,0.7s,baz=338,slow=4.7,SNR=4.5						
RPZ	**Rata Peaks**	**27.29**	**196**	P	**P**	**23 01 27.1**	**-0.9**
	3.0nm,0.6s,baz=18,slow=19,SNR=3.7						
STKA	**Stephens Creek**	**38.38**	**241**	P	**P**	**23 03 03.7**	**+1.7**
	4.6nm,0.6s,baz=94,slow=9.8,SNR=14						
WRA	**Warramunga Arr**	**44.29**	**259**	P	**P**	**23 03 48.9**	**0.0**
	1.2nm,0.6s,baz=96,slow=6.9,SNR=32						
WRA				PcP	**PcP**	**23 05 21.3**	**-0.1**
	1.7nm,0.8s,baz=88,slow=3.8,SNR=8.9						
WRA				S	**S**	**23 09 42.2**	**-1.3**
	0.6nm,0.7s,baz=98,slow=13,SNR=7.8						
ASAR	**Alice Springs**	**44.47**	**254**	P	**P**	**23 03 51.0**	**+0.6**
	14nm,0.6s,baz=88,slow=8.1,SNR=195						
ASAR				PcP	**PcP**	**23 05 20.6**	**-1.4**
	1.6nm,0.8s,baz=87,slow=7.9,SNR=10						
ASAR				S	**S**	**23 09 46.5**	**+0.4**
	1.8nm,0.8s,baz=89,slow=15,SNR=17						
VNDA	**Vanda**

FAGN	**Fagnano**	**0.15**	**100**	Pg	Pg	23	12	47.9 +0.4
FAGN				Sg	Sg	23	12	50.9 +1.3
	174nm,0.5s							
FIAM	**Fiamignano**	**0.20**	**263**	Pg	Pg	23	12	49.0 +0.7
FIAM				Sg	Sg	23	12	52.5 +1.4
	33nm,0.9s							
PTQR	**Pietraquaria**	**0.27**	**177**	Pg	Pg	23	12	50.3 +0.6
	1.0nm,0.2s							

ROM 19 23:13:01.1±0.2, 42°29N×13°36E, h0km, Md1.7/3, Ml1.1/1, Error ellipse: s-maj=2.0km s-min=1.4km az=61.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T0106	**Roio Piano**	**0.03**	**36**	Pg	Pg	23 13 01.6	-0.2
T0106				Sg	Sg	23 13 02.2	-0.1
T0104	**Madonna delle**	**0.08**	**346**	Pg	Pg	23 13 02.8	+0.1
T0104				Sg	Sg	23 13 04.3	+0.5
FAGN	**Fagnano**	**0.17**	**97**	Pg	Pg	23 13 04.5	+0.1
FAGN				Sg	Sg	23 13 07.8	+1.2
	52nm,0.5s						
PTQR	**Pietraquaria**	**0.27**	**174**	Pg	Pg	23 13 07.2	+0.9
	1.0nm,0.2s						

NNC ***19*** *23:39:17.3±3.9, 36°.89N×70°.79E, h168km±31km, mb2.9, mpv4.0, Error ellipse: s-maj=36.1km s-min=17.2km az=167.0*

ISC 19 23:39:15.7±2.4, 36°.8N±0°.2×70°.78E±0°.08, h200km, n14, σ1°24/21, 6C-10D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.51**	**323**	⇓P	**Pn**	**23 39 58.9**	**-0.8**
	19nm,0.2s						
DZET				⇑S	**Sn**	**23 40 32.2**	**-2.0**
	197nm,0.5s						
SFK	**Sufi-Kurgan**	**3.84**	**33**	⇑P	**Pn**	**23 40 14.7**	**-0.9**
	14nm,0.4s						
SFK				⇑S	**Sn**	**23 41 00.2**	**-2.5**
	19nm,0.2s						
AML	**Almayashu**	**5.76**	**22**	P	**Pn**	**23 40 40.2**	**+0.1**
	SNR=56						
MNAS	**Manas**	**5.81**	**13**	⇓P	**Pn**	**23 40 41.1**	**+0.6**
	9.2nm,0.8s						
MNAS				⇓S	**Sn**	**23 41 46.7**	**-1.0**
	24nm,0.6s						
UCH	**Uchtor**	**6.12**	**27**	P	**Pn**	**23 40 44.0**	**-0.9**
	SNR=19						
EKS2	**Erkin-Say**	**6.27**	**21**	P	**Pn**	**23 40 47.3**	**+0.8**
	SNR=14						
KK31	**Karatay Array**	**6.28**	**358**	⇑P	**Pn**	**23 40 47.7**	**+1.3**
	6.2nm,0.3s,baz=180,slow=12,SNR=245						
KK31				⇓S	**Sn**	**23 41 59.0**	**+0.7**
	5.2nm,0.4s,baz=190,slow=24,SNR=13						
AAK	**Ala-Archa**	**6.47**	**25**	P	**Pn**	**23 40 49.6**	**+0.6**
	SNR=11						
AAK	**Ala-Archa**	**6.47**	**25**	⇑P	**Pn**	**23 40 49.4**	**+0.3**
	7.4nm,0.8s						
AAK				⇓S	**Sn**	**23 42 02.6**	**-0.5**
	19nm,0.8s						
TKM2	**Tokmak 2**	**7.13**	**30**	P	**Pn**	**23 40 57.6**	**-0.1**
	SNR=16						
TKM2	**Tokmak 2**	**7.13**	**30**	⇓P	**Pn**	**23 40 58.8**	**+1.1**
	9.5nm,0.7s						
TKM2				⇑S	**Sn**	**23 42 19.5**	**+0.8**
	4.7nm,0.7s						
MK31	**Makanchi Array**	**13.14**	**37**	⇓P	**P**	**23 42 17.2**	**-0.6**
	0.7nm,0.6s,baz=226,slow=13,SNR=6.0						
AB31	**Akbulak array**	**14.71**	**331**	⇓P	**P**	**23 42 37.6**	**+2.4**
	0.4nm,0.4s						
AB31				S	**S**	**23 45 16.2**	**-1.2**
	1.9nm,0.7s,baz=150,slow=20,SNR=13						
AKTO	**Aktyubinsk**	**16.41**	**330**	⇓P	Pn	23 42 59.3	+4.6
	1.5nm,0.7s						
AKTO				⇓S	**Sn**	**23 45 58.5**	**-0.6**
	1.6nm,0.8s						

IDC ***19*** *23:39:36.8±0.8, 53°.82N×170°.51E, h0km, mb3.7/16, mb1 4.0/17, mb1mx3.8/31, mbtmp3.7/17, ML2.9/1, Error ellipse: s-maj=22.9km s-min=15.9km az=168.0*
ISCJB ***19*** *23:39:38.3±0.5, 53°.69N±0°.09×170°.44E±0°.07, h26km, mb3.7/16, Error ellipse: s-maj=12.5km s-min=5.8km az=174.2*
KRSC ***19*** *23:39:38.8±2.5, 53°.48N×169°.95E, h17km±34km, ML3.7*

ISC 19 23:39:40.4±0.8, 53°.7N±0°.1×170°.44E±0°.07, h26km, n42, σ0s94/37, mb3.7/16, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**3.01**	**302**	*e*P	**Pn**	**23 40 26.6**	**+0.4**
BKI				*e*S	**Sn**	**23 41 01.5**	**+0.1**
KBTR	**Krutoberegovo**	**5.05**	**303**	*e*P	Pn	23 40 56.6	+2.2
MKZ	**Mys Kozlova**	**5.19**	**283**	*e*P	**Pn**	**23 40 56.3**	**+0.1**
KZV	**Kizimen**	**6.09**	**287**	*e*P	**Pn**	**23 41 09.4**	**+0.7**
TUMR	**Tumrok**	**6.20**	**289**	*e*P	**Pn**	**23 41 12.5**	**+2.3**
SPN	**Mys Shipunski**	**6.26**	**269**	*e*P	**Pn**	**23 41 11.2**	**+0.2**
NLC	**Nalytchevo**	**6.65**	**270**	*e*P	**Pn**	**23 41 16.3**	**0.0**
SDLR	**Sedlovina**	**6.91**	**271**	*e*P	**Pn**	**23 41 20.3**	**+0.3**
UGLR	**Uglovaya**	**6.96**	**271**	*e*P	**Pn**	**23 41 21.1**	**+0.5**
SMAR	**Somma**	**6.96**	**271**	*e*P	**Pn**	**23 41 21.5**	**+0.7**
KRER	**Koryakskii**	**6.99**	**271**	*e*P	**Pn**	**23 41 21.5**	**+0.4**
AVH	**Avacha**	**7.00**	**271**	*e*P	**Pn**	**23 41 22.0**	**+0.8**
KRX	**Arik**	**7.04**	**272**	*e*P	**Pn**	**23 41 21.7**	**-0.1**
KOK	**Koryaka**	**7.06**	**271**	*e*P	**Pn**	**23 41 22.2**	**+0.2**
RUS	**Russkaya**	**7.30**	**265**	*e*P	**Pn**	**23 41 24.8**	**-0.4**
GNL	**Ganaly**	**7.42**	**275**	*e*P	**Pn**	**23 41 28.1**	**+1.1**
MTVR	**Mutnovka**	**7.49**	**265**	*e*P	**Pn**	**23 41 28.4**	**+0.5**
PETK	**Petropavlovsk-**	**7.64**	**271**	Pn	**Pn**	**23 41 30.1**	**+0.2**
	0.9nm,0.3s,baz=93,slow=20,SNR=14						
PETK				Sn	**Sn**	**23 42 52.5**	**-3.1**
	0.5nm,0.3s,baz=94,slow=20,SNR=2.6						
ASAK	**Asacha**	**7.68**	**265**	*e*P	**Pn**	**23 41 30.9**	**+0.4**
ILAR	**Eielson Array**	**23.95**	**46**	P	**P**	**23 44 50.0**	**-2.1**
	0.6nm,0.7s,baz=258,slow=8.3,SNR=8.5						
H11N2	**WAKE ISLAND Hy**	**34.03**	**186**	T	T	00 22 15.5	
	baz=3.8,slow=76,SNR=226						
H11N3	**WAKE ISLAND Hy**	**34.04**	**186**	T	T	00 22 16.4	
	baz=3.8,slow=76,SNR=221						
H11N1	**WAKE ISLAND Hy**	**34.05**	**186**	T	T	00 22 16.8	
	baz=3.8,slow=76,SNR=243						
H11S1	**WAKE ISLAND Hy**	**35.26**	**186**	T	T	00 23 50.0	
	baz=3.8,slow=76,SNR=262						
H11S3	**WAKE ISLAND Hy**	**35.27**	**186**	T	T	00 23 48.6	
	baz=3.8,slow=76,SNR=165						
H11S2	**WAKE ISLAND Hy**	**35.27**	**186**	T	T	00 23 51.8	
	baz=3.8,slow=76,SNR=208						
YKA	**Yellowknife Ar**	**38.38**	**46**	P	**P**	**23 46 57.9**	**-1.0**
	0.3nm,0.5s,baz=290,slow=7.6,SNR=3.7						
SPITS	**Spitsbergen Ar**	**47.42**	**353**	P	**P**	**23 48 12.4**	**+0.5**
	7.3nm,0.9s,baz=57,slow=6.1,SNR=5.4						
NVAR	**Mina Array Bea**	**49.62**	**77**	P	**P**	**23 48 29.9**	**+0.3**
	0.6nm,0.6s,baz=304,slow=7.7,SNR=4.9						
PDAR	**Pinedale Array**	**51.68**	**68**	P	**P**	**23 48 45.0**	**-0.1**
	0.3nm,0.4s,baz=330,slow=5.1,SNR=5.1						
KURBB	**Kurchatov Arra**	**52.61**	**307**	P	**P**	**23 48 51.5**	**0.0**
	0.8nm,0.8s,baz=51,slow=7.4,SNR=7.9						
MKAR	**Makanchi Array**	**53.31**	**301**	P	**P**	**23 48 56.4**	**-0.4**
	0.2nm,0.5s,baz=32,slow=5.0,SNR=4.2						
ARCES	**ARCESS Array B**	**54.43**	**346**	P	**P**	**23 49 04.7**	**0.0**
	2.5nm,0.9s,baz=24,slow=9.4,SNR=7.1						
BVAR	**Borovoye Array**	**54.68**	**313**	P	**P**	**23 49 06.0**	**-0.7**
	0.7nm,0.7s,baz=27,slow=12,SNR=3.6						
CMAR	**Chiang Mai Arr**	**64.40**	**266**	P	**P**	**23 50 15.8**	**+1.7**
	0.6nm,0.4s,baz=18,slow=9.8,SNR=6.0						
NB2	**NORSAR Subarra**	**64.41**	**349**	P	**P**	**23 50 13.6**	**0.0**
	comp=Z,1.0nm,0.8s,baz=15,slow=6.5						
NOA	**NORSAR Array B**	**64.41**	**349**	P	**P**	**23 50 13.9**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=16,slow=6.6,SNR=4.4						
TXAR	**Lajitas Array**	**64.59**	**75**	P	**P**	**23 50 15.8**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=308,slow=5.2,SNR=21						
HFS	**Hagfors**	**64.98**	**347**	P	**P**	**23 50 16.8**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=22,slow=4.8,SNR=5.1						
GERES	**GERESS Array B**	**75.94**	**344**	P	**P**	**23 51 24.2**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=34,slow=7.1,SNR=4.7						
WRA	**Warramunga Arr**	**79.68**	**214**	P	**P**	**23 51 45.7**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=27,slow=5.9,SNR=4.3						
ASAR	**Alice Springs**	**83.29**	**213**	P	**P**	**23 52 05.7**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=24,slow=7.4,SNR=3.6						

MOS ***19*** *23:53:40.6±3.0, 53°.10N×119°.65E, h10km, mb4.4/1, Error ellipse: s-maj=35.2km s-min=17.9km az=101.0*
BYKL ***19*** *23:53:41.0±0.3, 53°.12N×119°.59E*

ISC 19 23:53:40.6±0.8, 53°.14N±0°.03×119°.63E±0°.03, h10km, n36, σ2s23/52, 2C-1D, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUP	**Tupik**	**1.30**	**8**	*e*Pg	**Pn**	**23 54 05.8**	**+0.9**
TUP				*i* Sg	**Sn**	**23 54 23.3**	**+1.1**
TUP				Pmax			
	321nm,0.2s						
TUP				Smax			
	3µm,0.4s						
TUP	**Tupik**	**1.30**	**8**	*e*PG	**Pn**	**23 54 05.7**	**+0.9**
TUP				*i*		23 54 23.3	
TUP				pmax	pmax		
	comp=Z,323nm,0.3s						
TUP				smax	smax		
	comp=E,2µm,0.4s						
YKLR	**Yuktali**	**3.65**	**18**	*e*Pn	**Pn**	**23 54 35.8**	**-1.2**
YKLR				*e*Pg	**Pb**	**23 54 46.6**	**+1.5**
YKLR				*e*Sn	**Sn**	**23 55 18.0**	**-2.1**
YKLR				*e*Sg	**Sb**	**23 55 33.7**	**+4.4**
YKLR				*e*SgSg	**SbSb**	**23 55 37.2**	**+2.7**
CRS	**Chara**	**3.85**	**349**	*e*Pn	**Pn**	**23 54 39.4**	**-0.4**
CRS				*e*Pg	**Pb**	**23 54 50.2**	**+1.7**
CRS				*e*Sg	**Sg**	**23 55 41.2**	**-2.8**
CRS				Pmax			
	comp=E,25nm,0.5s						
CRS				Smax			
	comp=E,242nm,1.6s						
CRS	**Chara**	**3.85**	**349**	*e*PN	**Pb**	**23 54 49.3**	**+0.8**
CRS				*e*		23 55 40.8	
CRS				pmax	pmax		
	comp=Z,24nm,0.6s						
CRS				smax	smax		
	comp=N,243nm,1.0s						
CIT	**Chita**	**3.87**	**256**	*e*	**Pb**	**23 54 51.0**	**+2.0**
CIT				*e*Sg	**Sb**	**23 55 38.7**	**+2.8**
CIT				max			
	comp=N,95nm,0.3s						
CIT				Smax			
	comp=N,320nm,0.9s						
HIA	**Hailar**	**3.88**	**179**	*e*Pn	Pn	23 54 43.8	+3.5
HIA				*e*Pg	**Pb**	**23 54 49.7**	**+0.6**
HIA				*e*Sg	**Sb**	**23 55 40.2**	**+4.1**
HIA	**Hailar**	**3.88**	**179**	*e*PN	**Pb**	**23 54 50.1**	**+1.0**
HIA				*e*S	**Sb**	**23 55 40.1**	**+4.0**
NLYR	**Nelyaty**	**4.05**	**327**	*e*Pn	**Pn**	**23 54 42.3**	**-0.3**
NLYR				*e*Pg	**Pb**	**23 54 53.0**	**+1.0**
NLYR				*e*Sg	**Sg**	**23 55 47.2**	**-3.3**
NLYR				Pmax			
	comp=N,35nm,0.4s						
NLYR				Smax			
	comp=N,157nm,0.8s						
NLYR	**Nelyaty**	**4.05**	**327**	*e*PN	**Pn**	**23 54 42.1**	**-0.5**
NLYR				*e*		23 54 52.9	
NLYR				*e*		23 55 48.4	
NLYR				pmax	pmax		
	comp=Z,36nm,0.6s						
NLYR				smax	smax		
	comp=E,159nm,1.0s						
UKT	**Uakit**	**4.23**	**306**	⇑ *i*Pn	**Pn**	**23 54 44.7**	**-0.4**
UKT				*e*Pg	**Pb**	**23 54 56.4**	**+1.4**
UKT				*e*Sg	**Sb**	**23 55 50.8**	**+4.7**
UKT				Pmax			
	comp=E,16nm,0.7s						
UKT				Smax			
	comp=E,104nm,0.8s						
IENR	**Iengra**	**4.33**	**42**	*e*Pn	**Pn**	**23 54 45.5**	**-0.9**
IENR				*e*Pg	**Pb**	**23 54 59.1**	**+2.4**
IENR				*e*Sg	**Sg**	**23 55 56.0**	**-3.4**
KROS	**Kirovskiy**	**4.54**	**71**	*e*Pn	**Pn**	**23 54 48.0**	**-1.3**
KROS				*e*Sg	**Sg**	**23 56 03.0**	**-3.3**
ZEA	**Zeya**	**4.59**	**80**	*e*Pg	**Pg**	**23 55 06.4**	**-2.1**
ZEA				*e*Sg	**Sg**	**23 56 05.7**	**-2.3**
CLNS	**Chul'man**	**4.78**	**37**	*e*Pn	**Pn**	**23 54 52.2**	**-0.5**
CLNS				*e*Pg	**Pb**	**23 55 07.5**	**+3.1**
CLNS				*e*Sg	Sb	23 56 09.5	+7.5
CLNS	**Chul'man**	**4.78**	**37**	*e*PN	**Pg**	**23 55 11.0**	**-1.1**
CLNS				pmax	pmax		
	comp=Z,22nm,0.5s						
YLYR	**Ulyunkhan**	**5.29**	**293**	⇑ *i*Pn	**Pn**	**23 54 59.4**	**-0.2**
YLYR				*e*Pg	**Pb**	**23 55 15.2**	**+2.2**
YLYR				*e*Sn	**Sn**	**23 55 59.5**	**-1.0**
YLYR				*i* Sg	Sg	23 56 24.0	-6.2
YLYR				Pmax			
	comp=Z,6.0nm,0.4s						
YLYR				Smax			
	comp=Z,155nm,1.0s						
KMO	**Kumora**	**5.63**	**303**	⇓ *i*Pn	**Pn**	**23 55 04.2**	**0.0**
KMO				*e*		23 55 12.2	
KMO				*e*Pg	**Pb**	**23 55 21.1**	**+2.3**
KMO				*e*Sn	**Sn**	**23 56 08.2**	**-0.6**
KMO				*e*Sg	Sg	23 56 34.5	-6.5
KMO				Pmax			
	comp=Z,10.0nm,0.5s						
KMO				Smax			
	comp=Z,162nm,1.3s						
KMO	**Kumora**	**5.63**	**303**	*e*PN	**Pn**	**23 55 03.6**	**-0.6**
KMO				*e*		23 55 21.0	
KMO				*e*S	**Sn**	**23 56 08.5**	**-0.3**
KMO				*e*		23 56 35.1	
KMO				pmax	pmax		
	comp=Z,6.0nm,0.4s						
KMO				smax	smax		
	comp=N,165nm,1.2s						
BOD	**Bodaibo**	**5.67**	**328**	*e*Pn	**Pn**	**23 55 05.8**	**+1.0**
BOD				*e*		23 55 14.3	
BOD				*e*Pg	**Pb**	**23 55 22.5**	**+3.0**
BOD				*e*Sg	Sg	23 56 35.7	-6.8
BOD				Pmax			
	comp=N,14nm,0.6s						
BOD				Smax			
	comp=N,38nm,0.7s						
SYVR	**Suvo**	**5.79**	**279**	*e*Sg	**Sg**	**23 56 40.2**	**-5.9**
SYVR				Smax			
	comp=N,98nm,1.5s						
SYVR	**Suvo**	**5.79**	**279**	*e*PN	Pg	23 55 26.7	-4.6
SYVR				*e*		23 56 40.6	
SYVR				pmax	pmax		
	comp=Z,2.0nm,0.1s						
SYVR				smax	smax		
	comp=E,100nm,0.8s						
NIZ	**Nizh Angarsk**	**6.45**	**298**	*e*Pn	**Pn**	**23 55 15.5**	**+0.1**
NIZ				*e*Sg	Sg	23 57 00.2	-7.1
NIZ				Smax			
	comp=E,56nm,1.3s						
NIZ	**Nizh Angarsk**	**6.45**	**298**	*e*PN	**Pn**	**23 55 15.6**	**+0.1**
NIZ				*e*S	**Sn**	**23 56 27.6**	**-1.4**
NIZ				*e*S	Sg	23 57 01.2	-6.1
NIZ				smax	smax		
	comp=N,32nm,0.4s						
MXMB	**Maximikha**	**6.54**	**275**	*e*Sg	Sg	23 57 02.6	-7.8
MXMB				Smax			
	comp=N,329nm,1.0s						
OGRR	**Ongureny**	**7.22**	**279**	*e*Pn	**Pn**	**23 55 25.6**	**-0.4**
OGRR				*e*		23 56 40.0	
OGRR				*e*Sg	Sg	23 57 24.2	-7.8
OGRR				max			
	comp=N,2.0nm,0.3s						
OGRR				Smax			
	comp=N,53nm,1.6s						
OGRR	**Ongureny**	**7.22**	**279**	*e*PN	**Pn**	**23 55 24.7**	**-1.3**
OGRR				*e*		23 55 48.8	
OGRR				*e*		23 57 24.3	
OGRR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
OGRR				smax	smax		
	comp=N,53nm,2.2s						
UUDB	**Ulan-Yde**	**7.42**	**265**	*e*Sg	Sg	23 57 30.8	-7.6
UUDB				Smax			
	comp=N,79nm,1.3s						
ZRHB	**Zarechye**	**7.58**	**271**	*e*	Pn	23 55 40.1	+9.1
ZRHB				*e*Sg	Sg	23 57 34.3	-9.4
ZRHB				Smax			
	comp=N,344nm,1.1s						
TRG	**Tyrgan**	**8.03**	**273**	*e*Pn	**Pn**	**23 55 36.3**	**-1.0**
TRG				*e*		23 56 58.5	
TRG				*e*Sg	Sg	23 57 48.4	-10
TRG				Smax			
	comp=N,44nm,1.6s						
LSTR	**Listvyanka**	**9.12**	**268**	*e*Sg	Sn	23 58 23.1	+48
LSTR				Smax			
	comp=N,57nm,1.3s						
ULN	**Ulaanbaatar**	**9.59**	**242**	*e*Sg	Sn	23 58 37.0	+50
ZAK	**Zakamensk**	**10.50**	**261**	*e*Sg	Sn	23 59 05.2	+56
ZAK				Smax			
	comp=N,15nm,1.7s						
ARS	**Arshan**	**10.56**	**270**	*e*Sg	Sn	23 59 07.3	+57
ARS				Smax			
	comp=N,47nm,0.9s						
MOY	**Mondy**	**11.48**	**270**	*e*Sg		23 59 35.2	
MOY				Smax			
	comp=N,25nm,2.6s						
ORL	**Orlik**	**12.00**	**275**	*e*		23 59 42.6	
ORL				*e*Sg		23 59 51.3	
ORL				Smax			
	comp=N,14nm,2.1s						

NEIC ***20*** *00:08:10.5, 37°.85S×176°.95E, h5km, ML3.7(WEL), After WEL.*
NEIC Felt [IV] at Whakatane. Also felt at Coastlands, Edgecumbe and Ohope.

WEL 20 00:08:10.4±0.1, 37°.85S×176°.95E, h5km, ML3.7/10, 11C-2D, Error ellipse: s-maj=1.1km s-min=0.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.26**	**239**	⇑PG	Pg	00 08 15.9	+0.4
EDRZ	**Edgecumbe**	**0.31**	**214**	⇓PG	Pg	00 08 16.7	+0.2
EDRZ				AML	AML	00 08 26.2	
EDRZ				AML	AML	00 08 30.9	
OPRZ	**Ohinepanea**	**0.32**	**271**	PG	Pg	00 08 16.5	0.0
WIZ	**White Island**	**0.37**	**30**	⇑PG	Pg	00 08 17.7	+0.1
WIZ				SG	Sg	00 08 23.1	+0.6
URZ	**Urewera**	**0.42**	**163**	PG	Pg	00 08 18.2	-0.4
URZ				AML	AML	00 08 27.4	
URZ				AML	AML	00 08 30.0	
URZ	**Urewera**	**0.42**	**163**	*e*Pg	Pg	00 08 18.3	-0.4
LIRZ	**Lichensteins R**	**0.47**	**251**	⇑PG	Pg	00 08 20.2	+0.6
MKRZ	**Makatiti**	**0.48**	**233**	PG	Pb	00 08 20.6	-0.8
MKRZ				AML	AML	00 08 27.4	
MKRZ				AML	AML	00 08 30.1	
TARZ	**Mount Tarawera**	**0.52**	**223**	⇓PG	Pg	00 08 21.2	+0.6
OMRZ	**Omania**	**0.53**	**241**	PG	Pg	00 08 21.0	+0.3
TGRZ	**Tauranga**	**0.56**	**282**	⇑PG	Pg	00 08 21.6	+0.3
TGRZ				AML	AML	00 08 33.3	
TGRZ				AML	AML	00 08 33.8	
KARZ	**Kaharoa**	**0.59**	**253**	⇑PG	Pg	00 08 22.2	+0.4
RRRZ	**Republican Roa**	**0.60**	**215**	PG	Pg	00 08 22.1	+0.1
HLRZ	**Highlands Stat**	**0.62**	**230**	P*	Pb	00 08 23.5	-0.3
MWZ	**Matawai**	**0.66**	**137**	⇑P*	Pg	00 08 22.6	-0.6
MWZ				AML	AML	00 08 31.9	
MWZ				AML	AML	00 08 34.9	
MWZ				AML	AML	00 08 35.5	
MWZ				AML	AML	00 08 35.6	
HAZ	**Te Kaha**	**0.66**	**82**	P*	Pg	00 08 22.6	-0.6
RAGZ	**Rawiri**	**0.74**	**151**	⇑P*	Pg	00 08 24.3	-0.5
HRRZ	**Handcock Road**	**0.75**	**224**	P*	Pb	00 08 25.7	-0.5
MYRZ	**Mayor Island**	**0.80**	**315**	P*	Pg	00 08 25.7	-0.2
TWGZ	**Tauwhareparae**	**0.87**	**112**	⇑P*	Pg	00 08 27.5	+0.2
TKGZ	**Te Karaka**	**0.92**	**130**	⇑P*	Pg	00 08 28.3	+0.3
SNGZ	**Shannon Statio**	**0.97**	**162**	P*	Pg	00 08 29.0	-0.2
RIGZ	**Rimuhau**	**1.06**	**143**	⇑P*	Pb	00 08 31.6	+0.2
MRHZ	**Matea Rd**	**1.07**	**203**	P*	Pg	00 08 30.1	-0.9
RAHZ	**Arahi**	**1.07**	**174**	P*	Pg	00 08 30.9	-0.1
MXZ	**Matakaoa Point**	**1.11**	**75**	P*	Pg	00 08 31.6	-0.2
MXZ				AML	AML	00 08 49.3	
MXZ				AML	AML	00 08 49.3	
MXZ				AML	AML	00 08 57.9	
MXZ				AML	AML	00 08 57.9	
TOZ	**Tahuroa Road**	**1.16**	**276**	P*	Pg	00 08 31.7	-0.9
WMGZ	**Waiomatatini S**	**1.16**	**89**	P*	Pg	00 08 32.7	0.0
CNGZ	**Carnagh Statio**	**1.17**	**123**	P*	Pn	00 08 34.1	+0.6
NMHZ	**Naumai**	**1.25**	**185**	P*	Pg	00 08 33.7	-0.8
KNZ	**Kokohu**	**1.30**	**154**	P*	Pn	00 08 35.1	0.0
BKZ	**Black Stump Fm**	**1.36**	**195**	⇑P*	Pn	00 08 34.4	-1.7
BKZ				AML	AML	00 09 07.1	
BKZ				AML	AML	00 09 21.3	
BKZ	**Black Stump Fm**	**1.36**	**195**	*e*Pn	Pn	00 08 34.5	-1.6
BKZ				*e*Sn	Sb	00 08 52.2	-2.1
ARHZ	**Aropaoanui**	**1.41**	**179**	*e*PN	Pg	00 08 37.5	+0.1
KUZ	**Kuaotunu**	**1.48**	**318**	PN	Pn	00 08 34.4	-3.3
KUZ				AML	AML	00 09 04.2	
KUZ				AML	AML	00 09 05.4	
MCHZ	**McNeill Hill**	**1.60**	**187**	PN	Pb	00 08 40.1	-0.5
MKAZ	**Moumakai**	**1.60**	**297**	PN	Pn	00 08 36.6	-2.8
MKAZ				AML	AML	00 09 08.0	
MKAZ				AML	AML	00 09 09.6	
BHHZ	**Black Hill Sta**	**1.78**	**203**	*e*P*	Pn	00 08 40.2	-1.7
FWVZ	**Far West T-bar**	**1.78**	**218**	*e*P*	Pn	00 08 39.5	-2.7
FWVZ				AML	AML	00 09 14.6	
FWVZ				AML	AML	00 09 15.1	
WNVZ	**Wahianoa**	**1.82**	**215**	*e*P*	Pn	00 08 43.4	+0.9
KRHZ	**Kereru**	**1.85**	**194**	*e*PN	Pn	00 08 42.1	-0.8
KAHZ	**Kahuranaki**	**1.94**	**182**	PN	Pn	00 08 43.9	-0.2
GRZ	**Great Barrier**	**2.00**	**323**	*e*PN	Pn	00 08 44.4	-0.5
BFZ	**Birch Farm**	**2.88**	**191**	*e*PN	Pn	00 08 54.8	-2.1
BFZ	**Birch Farm**	**2.88**	**191**	*e*Pn	Pn	00 08 55.1	-1.8
BFZ				*e*Sn	Sn	00 09 28.7	-3.2
OUZ	**Omahuta**	**3.77**	**313**	*e*Pn	Pn	00 09 07.6	-1.6
SNZO	**South Karori**	**3.87**	**206**	*e*Pn	Pn	00 09 08.6	-1.8
KHZ	**Kahutara**	**5.26**	**209**	*e*Pn	Pn	00 09 21.5	-8.1

ISCJB ***20*** *00:18:33.1±1.3, 16°.0S±0°.5×176°.7W±0°.4, h382km, mb3.7/6, Error ellipse: s-maj=87.0km s-min=17.7km az=148.0*
IDC ***20*** *00:18:34.8±8.7, 16°.13S×176°.62W, h389km±92km, mb3.4/6, mb1 3.8/6, mb1mx3.3/24, mbtmp4.2/6, Error ellipse: s-maj=86.5km s-min=25.3km az=152.0*

ISC 20 00:18:34.3±0.9, 16°.0S±0°.3×176°.7W±0°.2, h382km, n16, σ0s38/16, mb3.6/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA

M_{rr}-0.47±.04; $M_{\theta\theta}$2.66±.04; $M_{\phi\phi}$-2.19±.04; $M_{r\theta}$0.32±.08; $M_{r\phi}$2.19±.04; $M_{\theta\phi}$0.35±.08; Best double couple: M_o3.29900×10^{17} NP1:ϕ_s24.00000°,δ89.00000°, λ172.00000°. NP2:ϕ_s114.00000°,δ82.00000°,λ1.00000°. Principal axes: T 3.5470, Plg6.0000°, Azm339.0000°; N -0.4990, Plg82.0000°, Azm198.0000°; P -3.0500, Plg5.0000°, Azm69.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

NEIC **20** *00:44:58.6±0.5,56.87S×143.13W,h10km,mb5.1/18, MS5.0/131 Error ellipse: s-maj=15.9km s-min=14.1km az=48.0*

ISC 20 00:44:58.0±0.5,56.5S±0.1×143.4W±0.1,h10km,n236, σ2s46/54,mb4.9/23,MS5.0/148,2C,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SBA	**Scott Base**	**27.23**	**201**	*eP*		**P**	**00 50 41.4**	**-0.1**
	26nm,1.5s							
SBA				LR		LR		
	comp=Z,4μm,19.0s							
VNDA	**Vanda**	**28.11**	**202**	P		**P**	**00 50 52.3**	**+2.9**
	comp=Z,1.4nm,1.0s,baz=66,slow=6.5,SNR=4.7							
VNDA				LR		LR	00 58 23.1	
	comp=Z,1μm,21.2s,baz=74,slow=28							
VNDA	**Vanda**	**28.11**	**202**	*eP*		**P**	**00 50 47.5**	**-1.9**
	comp=Z,85nm,2.8s							
BFZ	**Birch Farm**	**30.52**	**284**	*eP*		**P**	**00 51 13.2**	**+2.2**
	comp=Z,500nm,2.8s							
ODZ	**Otahua Downs**	**30.68**	**272**	*eP*		**P**	**00 51 12.2**	**-0.3**
	comp=Z,254nm,3.0s							
SNZO	**South Karori**	**30.91**	**281**	PFAKE			00 51 30.0	+16
SNZO				LR		LR		
	comp=Z,4μm,20.0s							
RPZ	**Rata Peaks**	**31.30**	**275**	LR		LR	01 00 47.3	
	comp=Z,3μm,20.9s,baz=122,slow=31							
DCZ	**Deep Cove**	**32.34**	**269**	*eP*		**P**	**00 51 28.7**	**+1.6**
	comp=Z,39nm,1.4s							
TBI	**Tubuai**	**33.44**	**350**	*eS*		S	00 56 45.9	-12
	comp=Z,846nm,27.5s							
TBI				*eLQ*		LQ	00 58 44.9	
	comp=Z,858nm,28.8s							
TBI				*eLR*		LR	01 00 00.2	
	comp=Z,8μm,29.2s,baz=176							
TBI	**Tubuai**	**33.44**	**350**	*eT*		T	01 26 00.1	
	comp=Z,252nm,0.3s							
QSPA	**South Pole Qui**	**33.63**	**180**	P		**P**	**00 51 40.8**	**+2.4**
	comp=Z,3.1nm,0.6s,baz=84,slow=2.1,SNR=33							
QSPA	**South Pole Qui**	**33.63**	**180**	*eP*		**P**	**00 51 37.9**	**-0.5**
	comp=Z,107nm,2.1s							
QSPA				LR		LR		
	comp=Z,3μm,19.0s							
RKT	**Rikitea**	**33.93**	**14**	*eS*		S	00 56 55.1	-11
	comp=Z,514nm,29.5s							
RKT				*eLQ*		LQ	00 58 59.0	
	comp=Z,4μm,31.8s							
RKT				*eLR*		LR	01 00 24.1	
	comp=Z,5μm,29.2s,baz=189							
RKT	**Rikitea**	**33.93**	**14**	*eT*		T	01 26 37.7	
	comp=Z,37nm,0.2s							
DRV	**Dumont d'Urvil**	**35.45**	**222**	S		S	00 57 13.0	-15
DRV				L		L	00 59 00.0	
DRV				R			01 01 00.0	
RAO	**Raoul Island**	**36.53**	**304**	LR		LR	01 02 53.3	
	comp=Z,928nm,19.5s,baz=144,slow=30							
RAR	**Rarotonga**	**37.31**	**334**	PFAKE			00 52 30.0	+20
RAR				LR		LR		
	comp=Z,2.0nm,21.0s							
MEH	**Mehetia**	**38.75**	**353**	*eT*		T	01 32 40.5	
	comp=Z,72nm,0.3s							
TVO	**Taravao**	**38.93**	**351**	*eT*		T	01 32 50.9	
	comp=Z,10nm,0.3s							
PAE	**Paea**	**39.08**	**351**	*eT*		T	01 33 01.0	
	comp=Z,15nm,0.2s							
PPT2	**Papeete2**	**39.15**	**351**	*eS*		S	00 58 13.9	-12
	comp=Z,1μm,26.0s							
PPT2				*eLQ*		LQ	01 00 57.8	
	comp=Z,898nm,24.8s							
PPT2				*eLR*		LR	01 02 36.3	
	comp=Z,8μm,28.2s,baz=181							
PPT2	**Papeete2**	**39.15**	**351**	*eT*		T	01 33 01.2	
	comp=Z,38nm,0.3s							
TIAR	**Tiarei**	**39.16**	**351**	*eT*		T	01 33 02.3	
	comp=Z,15nm,0.2s							
PPT	**Papeete**	**39.17**	**351**	LR		LR	01 03 43.6	
	comp=Z,2μm,19.1s,baz=190,slow=29							
VAH	**Vaihoa**	**41.34**	**354**	*eT*		T	01 35 54.3	
	comp=Z,214nm,0.3s							
PMOR	**Pomariorio Ree**	**41.59**	**353**	*eT*		T	01 36 04.6	
	comp=Z,26nm,0.3s							
TAU	**Tasmania Unive**	**44.89**	**257**	PFAKE			00 53 20.0	+7.7
TAU				LR		LR		
	comp=Z,2μm,20.0s							
CASY	**Casey**	**45.64**	**213**	*eP*		**P**	**00 53 16.1**	**-1.9**
	comp=Z,30nm,1.6s							
CASY				LR		LR		
	comp=Z,2μm,20.0s							
AFI	**Afiamalu**	**47.77**	**321**	*eP*		P	00 53 38.5	+3.2
	comp=Z,51nm,1.9s							
AFI				LR		LR		
	comp=Z,2μm,19.0s							
PLCA	**Paso Flores**	**48.28**	**103**	P		**P**	**00 53 39.0**	**0.0**
	comp=Z,4.1nm,1.1s,baz=237,slow=11,SNR=3.4							
MSVF	**Nonsavu**	**48.33**	**307**	PFAKE			00 53 50.0	+10
MSVF				LR		LR		
	comp=Z,3μm,21.0s							
VNA3	**Neumayer Olymp**	**48.41**	**162**	P		**P**	**00 53 40.1**	**+0.5**
VNA2	**Neumayer--Watz**	**49.07**	**162**	P		**P**	**00 53 45.4**	**+0.8**
	baz=207,slow=6.7							
SNAA	**Sanae**	**49.13**	**165**	P		P	00 53 41.3	-3.9
SNAA	**Sanae**	**49.13**	**165**	*eP*		P	00 53 41.2	-4.0
	comp=Z,13nm,1.0s							
VNA1	**Neumayer--Stat**	**49.16**	**162**	P		**P**	**00 53 46.2**	**+0.9**
CAN	**Canberra**	**49.34**	**265**	PFAKE			00 54 00.0	+13
CAN				LR		LR		
	comp=Z,1μm,20.0s							
HOPE	**Hope Point**	**54.55**	**136**	*eP*		**P**	**00 54 23.0**	**-2.7**
	comp=Z,114nm,1.3s							
HOPE				LR		LR		
	comp=Z,1μm,20.0s							
MAW	**Mawson**	**54.66**	**192**	LR		LR	01 16 03.0	
	comp=Z,1μm,18.1s,baz=158,slow=34							
TRQA	**Tornquist**	**54.79**	**107**	PFAKE			00 54 40.0	+12
TRQA				LR		LR		
	comp=Z,624nm,21.0s							
STKA	**Stephens Creek**	**56.00**	**262**	P		P	00 54 32.7	-3.8
	comp=Z,5.7nm,1.0s,baz=142,slow=10,SNR=4.9							
STKA				LR		LR	01 14 28.0	
	comp=Z,2μm,20.3s,baz=129,slow=32							
STKA	**Stephens Creek**	**56.00**	**262**	*eP*		**P**	**00 54 36.4**	**-0.2**
	comp=Z,2.9nm,1.2s							
LCO	**Las Campanas**	**56.89**	**93**	*eP*		P	00 54 36.6	-6.6
	comp=Z,71nm,1.7s							
XMAS	**Kiritimati**	**59.49**	**344**	PFAKE			00 55 20.0	+19
XMAS				LR		LR		
	comp=Z,2μm,19.0s							
CTAO	**Charters Tower**	**62.67**	**275**	PFAKE			00 55 40.0	+17
CTAO				LR		LR		
	comp=Z,789nm,19.0s							
LVC	**Limon Verde**	**62.90**	**90**	PFAKE			00 55 40.0	+15
LVC				LR		LR		
	comp=Z,521nm,22.0s							
HNR	**Honiara**	**64.17**	**294**	PFAKE			00 55 50.0	+17
HNR				LR		LR		
	comp=Z,730nm,21.0s							
FORT	**Forrest**	**64.17**	**253**	*eP*		**P**	**00 55 30.9**	**-1.6**
	comp=Z,33nm,1.2s							
AS01	**Alice Springs**	**66.61**	**262**	*eP*		P	00 55 43.7	-4.8
AS12	**Alice Springs**	**66.64**	**262**	*eP*		P	00 55 44.5	-4.1
ASAR	**Alice Springs**	**66.64**	**262**	P		P	00 55 44.5	-4.1
	comp=Z,4.7nm,1.0s,baz=141,slow=6.0,SNR=17							
ASAR				LR		LR	01 20 40.8	
	comp=Z,1μm,21.3s,baz=144,slow=32							
NNA	**Nana**	**67.18**	**77**	PFAKE			00 56 00.0	+7.8
NNA				LR		LR		
	comp=Z,1μm,21.0s							
H01W1	**Cape Leeuwin H**	**67.94**	**240**	T		T	02 10 46.5	
	baz=143,slow=76,SNR=353							
H01W2	**Cape Leeuwin H**	**67.94**	**240**	T		T	02 10 53.5	
	baz=143,slow=76,SNR=422							
H01W3	**Cape Leeuwin H**	**67.95**	**240**	T		T	02 10 53.5	
	baz=143,slow=76,SNR=366							
NWAO	**Narrogin (SRO)**	**68.02**	**243**	PFAKE			00 56 10.0	+13
NWAO				LR		LR		
	comp=Z,1.0nm,22.0s							
LPAZ	**La Paz**	**68.43**	**87**	P		**P**	**00 55 59.7**	**-1.0**
	comp=Z,1.3nm,0.8s,baz=217,slow=9.6,SNR=5.7							
LPAZ				LR		LR	01 20 39.4	
	comp=Z,97nm,19.8s,baz=218,slow=31							
LPAZ	**La Paz**	**68.43**	**87**	*eP*		**P**	**00 55 60.0**	**-0.7**
	comp=Z,41nm,1.9s							
WRA	**Warramunga Arr**	**69.38**	**265**	P		P	00 56 01.1	-4.8
	comp=Z,2.0nm,0.8s,baz=145,slow=5.6,SNR=15							
WRA				LR		LR	01 24 07.5	
	comp=Z,663nm,18.6s,baz=120,slow=34							
WRAB	**Tennant Creek**	**69.38**	**265**	*eP*		**P**	**00 56 08.6**	**+2.6**
	comp=Z,8.3nm,0.9s							
WRAB				LR		LR		
	comp=Z,965nm,19.0s							
PAF	**Port-aux-Franc**	**70.86**	**203**	S		S	01 05 23.0	-6.2
PAF				SS		**SS**	**01 09 56.0**	**-4.4**
PAF				L		L	01 13 00.0	
PAF				R			01 18 00.0	
PMG	**Port Moresby**	**70.92**	**282**	PFAKE			00 56 30.0	+15
PMG				LR		LR		
	comp=Z,1μm,20.0s							
MBWA	**Marble Bar**	**76.32**	**252**	PFAKE			00 57 00.0	+13
MBWA				LR		LR		
	comp=Z,753nm,19.0s							
OTAV	**Otavalo**	**76.61**	**69**	*eP*		P	00 56 45.4	-3.9
	comp=Z,12nm,1.4s							
OTAV				LR		LR		
	comp=Z,415nm,22.0s							
CRZF	**Crozet Islands**	**76.62**	**191**	S		**S**	**01 06 39.0**	**+4.6**
CRZF				SS		SS	01 11 20.0	-8.2
CRZF				R			01 21 00.0	
POHA	**Pohakuloa**	**76.68**	**348**	*eP*		P	00 56 52.6	+3.5
	comp=Z,840nm,2.3s							
SAML	**Samuel**	**77.17**	**87**	*eP*		P	00 56 46.9	-5.1
	comp=Z,9.2nm,1.4s							
SAML				LR		LR		
	comp=Z,462nm,21.0s							
BDFB	**Brasilia**	**80.02**	**103**	LR		LR	01 28 55.3	
	comp=Z,601nm,18.9s,baz=198,slow=33							
JTS	**JuntasAbangare**	**82.07**	**58**	PFAKE			00 57 30.0	+12
JTS				LR		LR		
	comp=Z,349nm,20.0s							
ROSC	**El Rosal**	**82.67**	**70**	LR		LR	01 26 58.7	
	comp=Z,363nm,21.5s,baz=200,slow=30							
BCIP	**Isla Barro Col**	**83.56**	**63**	PFAKE			00 57 40.0	+14
BCIP				LR		LR		
	comp=Z,369nm,21.0s							
SDV	**Santo Domingo**	**88.01**	**71**	PFAKE			00 58 00.0	+12
SDV				LR		LR		
	comp=Z,328nm,20.0s							
TEIG	**Tepich**	**89.33**	**50**	PFAKE			00 58 10.0	+16
TEIG				LR		LR		
	comp=Z,318nm,19.0s							
KAPI	**Kappang**	**89.65**	**262**	PFAKE			00 58 10.0	+14
KAPI				LR		LR		
	comp=Z,968nm,20.0s							
SUR	**Sutherland**	**90.42**	**167**	PFAKE			00 58 10.0	+10
SUR				LR		LR		
	comp=Z,1μm,22.0s							
TXAR	**Lajitas Array**	**91.92**	**34**	P		**P**	**00 58 04.0**	**-2.2**
	comp=Z,0.3nm,0.7s,baz=196,slow=3.9,SNR=3.8							
TXAR				LR		LR	01 29 32.4	
	comp=Z,211nm,21.9s,baz=0.0,slow=29							
KVTX	**Kingsville**	**92.17**	**39**	PFAKE			00 58 20.0	+13
KVTX				LR		LR		
	comp=Z,451nm,22.0s							
MTDJ	**Mount Denham**	**92.47**	**60**	PFAKE			00 58 20.0	+11
MTDJ				LR		LR		
	comp=Z,193nm,19.0s							
PFO	**Pinyon Flats O**	**92.65**	**22**	PFAKE			00 58 20.0	+10
PFO				LR		LR		
	comp=Z,712nm,21.0s							
TUC	**Tucson**	**92.72**	**27**	PFAKE			00 58 20.0	+10
TUC				LR		LR		
	comp=Z,278nm,20.0s							
MNTX	**Cornudas Mount**	**93.61**	**32**	PFAKE			00 58 30.0	+16
MNTX				LR		LR		
	comp=Z,269nm,19.0s							
JCT	**Junction City**	**94.22**	**37**	PFAKE			00 58 30.0	+13
JCT				LR		LR		
	comp=Z,255nm,19.0s							
BOSA	**Boshof**	**94.65**	**170**	LR		LR	01 36 34.7	
	comp=Z,564nm,20.0s,baz=203,slow=33							
RCBR	**Riachuelo**	**94.67**	**108**	PFAKE			00 58 30.0	+11
RCBR				LR		LR		
	comp=Z,499nm,20.0s							
GTBY	**Guantanamo Bay**	**95.10**	**61**	PFAKE			00 58 30.0	+9.0
GTBY				LR		LR		
	comp=Z,381nm,22.0s							
GRGR	**Grenville**	**95.49**	**76**	PFAKE			00 58 30.0	+7.1
GRGR				LR		LR		
	comp=Z,649nm,20.0s							
SDDR	**Presa de Saban**	**96.19**	**65**	PFAKE			00 58 40.0	+14
SDDR				LR		LR		
	comp=Z,216nm,20.0s							
ANMO	**Albuquerque**	**96.36**	**30**	PFAKE			00 58 40.0	+13
ANMO				LR		LR		
	comp=Z,407nm,22.0s							
DAV	**Davao City (W)**	**96.43**	**273**	PFAKE			00 58 40.0	+13
DAV				LR		LR		
	comp=Z,321nm,20.0s							
TPH	**Tonopah**	**96.81**	**20**	*eP*		**P**	**00 58 30.9**	**+2.2**
	comp=Z,4.0nm,1.0s							
FDF	**Fort de France**	**97.92**	**75**	PFAKE			00 58 50.0	+16
FDF				LR		LR		
	comp=Z,682nm,20.0s							
MVCO	**Mesa Verde**	**97.95**	**27**	PFAKE			00 58 50.0	+16
MVCO				LR		LR		
	comp=Z,303nm,19.0s							
SJG	**San Juan**	**98.08**	**70**	PFAKE			00 58 50.0	+15
SJG				LR		LR		
	comp=Z,214nm,20.0s							
WMOK	**Wichita Mounta**	**98.46**	**36**	PFAKE			00 58 50.0	+14
WMOK				LR		LR		
	comp=Z,221nm,19.0s							
SDCO	**Great Sand Dun**	**99.25**	**30**	PFAKE			00 58 50.0	+10
SDCO				LR		LR		
	comp=Z,447nm,22.0s							
BRAL	**Brewton**	**99.37**	**46**	PFAKE			00 58 50.0	+10
BRAL				LR		LR		
	comp=Z,211nm,19.0s							
DUG	**Dugway, Tooele**	**99.77**	**23**	PFAKE			00 59 00.0	+18
DUG				LR		LR		
	comp=Z,505nm,21.0s							
ANWB	**Willy Bob**	**100.01**	**73**	PFAKE			00 58 50.0	+6.9
ANWB				LR		LR		
	comp=Z,275nm,21.0s							
MIAR	**Mount Ida**	**100.06**	**40**	PFAKE			00 59 00.0	+17
MIAR				LR		LR		
	comp=Z,197nm,19.0s							
KSM	**Kuching**	**100.19**	**257**	PFAKE			00 59 00.0	+16
KSM				LR		LR		
	comp=Z,413nm,19.0s							
KKM	**Kota Kinabalu**	**100.76**	**265**	PFAKE			00 59 00.0	+13
KKM				LR		LR		
	comp=Z,116nm,20.0s							
ISCO	**Idaho Springs**	**101.14**	**29**	PFAKE			00 59 00.0	+12
ISCO				LR		LR		
	comp=Z,362nm,22.0s							
HWUT	**Hardware Ranch**	**101.39**	**24**	PFAKE			00 59 00.0	+11
HWUT				LR		LR		
	comp=Z,405nm,19.0s							
H10S3	**ASCENSION HYDR**	**102.33**	**128**	T		T	02 54 15.8	
	baz=207,slow=75,SNR=83							
H10S2	**ASCENSION HYDR**	**102.33**	**128**	T		T	02 54 15.9	
	baz=207,slow=75,SNR=85							
H10S1	**ASCENSION HYDR**	**102.35**	**128**	T		T	02 54 17.0	
	baz=207,slow=75,SNR=100							
AHID	**Auburn Hatcher**	**102.60**	**24**	PFAKE			00 59 10.0	+16
AHID				LR		LR		
	comp=Z,473nm,21.0s							
HLID	**Hailey**	**102.66**	**21**	PFAKE			00 59 10.0	+15
HLID				LR		LR		
	comp=Z,877nm,21.0s							
TSUM	**Tsumeb**	**102.88**	**162**	PFAKE			00 59 10.0	+14
TSUM				LR		LR		
	comp=Z,822nm,22.0s							
GOGA	**Godfrey**	**102.93**	**48**	PFAKE			00 59 10.0	+14
GOGA				LR		LR		
	comp=Z,174nm,19.0s							
BW06	**Boulder Array**	**102.95**	**25**	PFAKE			00 59 10.0	+14
BW06				LR		LR		
	comp=Z,481nm,19.0s							
KSU1	**Kansas State U**	**103.15**	**36**	PFAKE			00 59 10.0	+13
KSU1				LR		LR		
	comp=Z,244nm,19.0s							
OGNE	**Ogallala**	**103.19**	**31**	PFAKE			00 59 10.0	+13
OGNE				LR		LR		
	comp=Z,429nm,22.0s							
BMO	**Blue Mountains**	**103.36**	**19**	PFAKE			00 59 10.0	+12
BMO				LR		LR		
	comp=Z,407nm,19.0s							
ASCN	**Ascension**	**103.38**	**128**	PFAKE			00 59 10.0	+12
ASCN				LR		LR		
	comp=Z,930nm,22.0s							
H10N3	**ASCENSION HYDR**	**103.39**	**128**	T		T	02 55 48.3	
	baz=206,slow=74,SNR=15							
H10N1	**ASCENSION HYDR**	**103.40**	**128**	T		T	02 55 48.6	
	baz=206,slow=74,SNR=30							
H10N2	**ASCENSION HYDR**	**103.41**	**128**	T		T	02 55 54.2	
	baz=206,slow=74,SNR=24							
NHSC	**New Hope**	**104.05**	**51**	PFAKE			00 59 10.0	+9.2
NHSC				LR		LR		
	comp=Z,165nm,21.0s							
ABPO	**Ambohimpanom**	**104.22**	**190**	PFAKE			00 59 10.0	+7.7
ABPO				LR		LR		
	comp=Z,1μm,20.0s							
LKWY	**Lake**	**104.47**	**24**	PFAKE			00 59 20.0	+17
LKWY				LR		LR		
	comp=Z,386nm,19.0s							
HAWA	**Hanford**	**104.48**	**17**	PFAKE			00 59 20.0	+18
HAWA				LR		LR		
	comp=Z,1μm,21.0s							
BOZ	**Bozeman (W)**	**105.23**	**22**	PFAKE			01 03 30.0	
BOZ				LR		LR		
	comp=Z,218nm,20.0s							
RLMT	**Red Lodge**	**105.25**	**24**	PFAKE			01 03 30.0	
RLMT				LR		LR		
	comp=Z,369nm,21.0s							
NEW	**Newport**	**106.69**	**18**	PFAKE			01 03 40.0	
NEW				LR		LR		
	comp=Z,617nm,20.0s							
SCIA	**State Center**	**106.79**	**37**	PFAKE			01 03 40.0	
SCIA				LR		LR		
	comp=Z,288nm,20.0s							
CNNC	**Cliffs of the**	**106.85**	**51**	PFAKE			01 03 40.0	
CNNC				LR		LR		
	comp=Z,354nm,20.0s							
HDIL	**Hopedale**	**106.94**	**40**	PFAKE			01 03 40.0	
HDIL				LR		LR		
	comp=Z,228nm,20.0s							
ECSD	**EROS Data Cent**	**107.35**	**34**	PFAKE			01 03 40.0	
ECSD				LR		LR		
	comp=Z,591nm,20.0s							
LAO	**LASA Array**	**107.44**	**26**	PFAKE			01 03 40.0	
LAO				LR		LR		
	comp=Z,461nm,20.0s							
BLA	**Blacksburg**	**107.46**	**48**	PFAKE			01 03 40.0	
BLA				LR		LR		
	comp=Z,218nm,21.0s							
EGMT	**Eagleton**	**107.89**	**23**	PFAKE			01 03 40.0	
EGMT				LR		LR		
	comp=Z,328nm,22.0s							
LSZ	**Lusaka**	**108.12**	**171**	PFAKE			01 03 40.0	
LSZ				LR		LR		
	comp=Z,1μm,19.0s							
KULM	**Kulim**	**108.54**	**251**	PFAKE			01 03 40.0	
KULM				LR		LR		
	comp=Z,250nm,19.0s							
JFWS	**Jewell Farm**	**108.69**	**38**	PFAKE			01 03 40.0	
JFWS				LR		LR		
	comp=Z,295nm,22.0s							
ACSO	**Alum Creek Sta**	**109.02**	**45**	PFAKE			01 03 40.0	
ACSO				LR		LR		
	comp=Z,228nm,21.0s							
CBN	**Corbin Frederi**	**109.58**	**50**	PFAKE			01 03 40.0	
CBN				LR		LR		
	comp=Z,315nm,19.0s							
DGMT	**Dagmar**	**109.60**	**26**	PFAKE			01 03 40.0	
DGMT				LR		LR		
	comp=Z,372nm,21.0s							
AAM	**Ann Arbor**	**110.54**	**43**	PFAKE			01 03 40.0	
AAM				LR		LR		
	comp=Z,177nm,20.0s							
ADK	**Adak**	**111.48**	**339**	PFAKE			01 03 40.0	
ADK				LR		LR		
	comp=Z,776nm,22.0s							
AGMN	**Agassiz Nation**	**111.70**	**32**	PFAKE			01 03 40.0	
AGMN				LR		LR		
	comp=Z,362nm,22.0s							
COWI	**Conover**	**111.87**	**37**	PFAKE			01 03 40.0	
COWI				LR		LR		
	comp=Z,202nm,20.0s							
GLMI	**Grayling**	**112.35**	**41**	PFAKE			01 03 50.0	
GLMI				LR		LR		
	comp=Z,217nm,20.0s							
EYMN	**Ely**	**112.72**	**35**	PFAKE			01 03 50.0	
EYMN				LR		LR		
	comp=Z,568nm,22.0s							
WRAK	**Wrangell Islan**	**112.94**	**7**	PFAKE			01 03 50.0	
WRAK				LR		LR		
	comp=Z,813nm,22.0s							
YHNB	**Yeheng**	**113.06**	**280**	PFAKE			01 03 50.0	
YHNB				LR		LR		
	comp=Z,308nm,21.0s							
TATO	**Taipei**	**113.25**	**280**	PFAKE			01 03 50.0	
TATO				LR		LR		
	comp=Z,301nm,21.0s							
MAJO	**Matsushiro**	**113.83**	**300**	PFAKE			01 03 50.0	
MAJO				LR		LR		
	comp=Z,213nm,22.0s							
KDAK	**Kodiak Island**	**114.20**	**355**	PFAKE			01 03 50.0	+14
KDAK				LR		LR		
	comp=Z,1μm,21.0s							
QIZ	**Qiongzhong**	**114.91**	**267**	PFAKE			01 03 50.0	+11
QIZ				LR		LR		
	comp=Z,259nm,20.0s							
NCB	**Newcomb**	**115.69**	**48**	PFAKE			01 03 50.0	+10
NCB				LR		LR		
	comp=Z,309nm,20.0s							
FFC	**Flin Flon**	**115.91**	**25**	PFAKE			01 03 50.0	+10
FFC				LR		LR		
	comp=Z,371nm,20.0s							
ERM	**Erimo**	**115.96**	**307**	PFAKE			01 03 50.0	+10
ERM				LR		LR		
	comp=Z,490nm,22.0s							
MSEY	**Mahe Island**	**117.08**	**201**	PFAKE			01 03 50.0	+6.7
MSEY				LR		LR		
	comp=Z,502nm,19.0s							
SACV	**Santiago Islan**	**118.65**	**107**	PFAKE			01 04 00.0	+14
SACV				LR		LR		
	comp=Z,402nm,22.0s							
PKME	**Peaks-Kenny Pk**	**118.81**	**51**	PFAKE			01 04 00.0	+15
PKME				LR		LR		
	comp=Z,400nm,20.0s							
MSKU	**Masuku**	**119.07**	**153**	PFAKE			01 04 00.0	+13
MSKU				LR		LR		
	comp=Z,3.0nm,21.0s							
PET	**Petropavlovsk**	**119.08**	**324**	PFAKE			01 04 00.0	+14
PET				LR		LR		
	comp=Z,833nm,20.0s							
NJ2	**Nanjing**	**120.22**	**283**	*e*PKP		**PKPdf**	**01 03 47.6**	**-1.0**
NJ2				PP		**PP**	**01 05 13.0**	**-1.7**
NJ2				PPMZ				
	comp=Z,30nm,6.8s							
NJ2				LN				
	comp=Z,530nm,24.3s							
NJ2				LE				
	comp=Z,730nm,25.3s							
INCN	**Inchon**	**120.29**	**293**	PFAKE			01 04 00.0	+11
INCN				LR		LR		
	comp=Z,204nm,22.0s							
CHTO	**Chiang Mai**	**120.72**	**257**	PFAKE			01 04 00.0	+10
CHTO				LR		LR		
	comp=Z,304nm,22.0s							
EGAK	**Eagle**	**120.99**	**1**	PFAKE			01 04 00.0	+11
EGAK				LR		LR		
	comp=Z,450nm,20.0s							
IL1	**Eielson Array**	**121.00**	**358**	*e*PKPdf		**PK

MDJ	**Mudanjiang**	**124.21**	**300**	PFAKE			01 04 10.0	+14
MDJ				LR	LR			
	comp=Z,425nm,20.0s							
BJT	**Baijiatuau**	**127.62**	**288**	PFAKE			01 04 20.0	+17
BJT				LR	LR			
	comp=Z,265nm,22.0s							
BILL	**Bilibino**	**129.67**	**338**	PFAKE			01 04 20.0	+14
BILL				LR	LR			
	comp=Z,540nm,22.0s							
HHC	**Hu-ho-hao-te**	**130.67**	**285**	*e*PKP		**PKPdf**	**01 04 03.8**	**-4.7**
HHC				PP		**PP**	**01 06 23.8**	**-0.7**
HHC				SS		SS	01 23 47.3	-6.3
HHC				PPMZ				
	comp=Z,43nm,7.4s							
HHC				LN				
	comp=Z,130nm,17.3s							
HHC				LE				
	comp=Z,120nm,14.8s							
HHC				LZ				
	comp=Z,42nm,18.5s							
HIA	**Hailar**	**132.26**	**299**	PFAKE			01 04 20.0	+8.9
HIA				LR	LR			
	comp=Z,310nm,22.0s							
LSA	**Lhasa**	**133.65**	**258**	PFAKE			01 04 30.0	+15
LSA				LR	LR			
	comp=Z,277nm,20.0s							
ULN	**Ulaanbaatar**	**137.77**	**289**	PFAKE			01 04 30.0	+8.4
ULN				LR	LR			
	comp=Z,211nm,22.0s							
TAM	**Tamanrasset**	**139.33**	**133**	PFAKE			01 04 40.0	+15
TAM				LR	LR			
	comp=Z,317nm,21.0s							
SFJD	**Kangerlussuaq**	**140.88**	**38**	PFAKE			01 04 40.0	+14
SFJD				LR	LR			
	comp=Z,311nm,22.0s							
TIXI	**Tiksi**	**141.51**	**329**	PFAKE			01 04 40.0	+13
TIXI				LR	LR			
	comp=Z,399nm,21.0s							
TLY	**Talaya**	**141.83**	**292**	PFAKE			01 04 40.0	+11
TLY				LR	LR			
	comp=Z,172nm,20.0s							
WMQ	**Urumqi**	**145.74**	**270**	PKPbc		**PKPdf**	**01 04 35.0**	**-0.9**
RAYN	**Ar Rayn**	**146.40**	**195**	*e*PKPdf		**PKPdf**	**01 04 37.4**	**-0.2**
SUMG	**Summit**	**146.80**	**32**	*i* P		**PKPab**	**01 04 42.4**	**+2.0**
	comp=Z,12nm,0.8s							
SUMG	**Summit**	**146.80**	**32**	*e*PKPdf		**PKPbc**	**01 04 38.9**	**-0.2**
MTE	**Manteigas**	**147.23**	**100**	PFAKE			01 04 50.0	+7.4
MTE				LR	LR			
	comp=Z,218nm,20.0s							
PAB	**San Pablo**	**148.36**	**105**	PFAKE			01 04 50.0	+2.9
PAB				LR	LR			
	comp=Z,366nm,19.0s							
ESDC	**Sonseca Array**	**148.65**	**105**	PKPbc		**PKPbc**	**01 04 43.1**	**-1.5**
	comp=Z,2.9nm,1.0s,baz=255,slow=1.2,SNR=4.2							
ES19	**SONSECA Array**	**148.71**	**105**	*e*PKPdf		**PKPdf**	**01 04 40.9**	**0.0**
KBL	**Kabul**	**148.87**	**239**	*e*PKPdf		**PKPdf**	**01 04 43.5**	**+2.0**
KSH	**Kashi**	**149.21**	**253**	*e*PKPbc		**PKPdf**	**01 04 44.0**	**+2.1**
KSH				PKS		**PKSdf**	**01 08 17.4**	**+0.6**
KSH				SKS		**SKSdf**	**01 11 50.3**	**+0.5**
KSH				PPMZ				
	comp=Z,110nm,4.6s							
KSH				LZ				
	comp=Z,160nm,6.4s							
MK01	**Makanchi Array**	**150.55**	**270**	*e*PKPdf		**PKPdf**	**01 04 46.0**	**+2.4**
MK32	**Makanchi Array**	**150.57**	**270**	*e*PKPdf		**PKPdf**	**01 04 46.1**	**+2.5**
MKAR	**Makanchi Array**	**150.57**	**270**	PKPbc		**PKPdf**	**01 04 46.1**	**+2.5**
	comp=Z,3.3nm,0.9s,baz=202,slow=1.3,SNR=19							
MKAR				PKPab		**PKiKP**	**01 04 52.9**	**+3.2**
	comp=Z,1.9nm,0.8s,baz=130,slow=5.3,SNR=8.3							
TKM2	**Tokmak 2**	**151.80**	**258**	PFAKE			01 05 00.0	-1.4
TKM2				LR	LR			
	comp=Z,169nm,20.0s							
AAK	**Ala-Archa**	**152.20**	**256**	*e*PKPdf		**PKPdf**	**01 04 47.2**	**+0.8**
AAK				LR	LR			
	comp=Z,259nm,22.0s							
EKS2	**Erkin-Say**	**152.61**	**255**	*e*PKPdf		**PKPdf**	**01 04 46.0**	**-1.0**
EKS2				LR	LR			
	comp=Z,202nm,20.0s							
ZAA0	**Zalesovo Array**	**152.85**	**285**	*e*PKPdf		**PKPdf**	**01 04 48.1**	**+1.4**
ZALV	**Zalesovo Beam**	**152.85**	**285**	PKPbc		**PKPbc**	**01 04 51.1**	**-2.9**
	comp=Z,0.3nm,0.4s,baz=96,slow=1.8,SNR=3.4							
ZALV				PKPab		**PKPab**	**01 05 01.2**	**-4.0**
	comp=Z,1.6nm,0.7s,baz=126,slow=4.0,SNR=9.2							
WDD	**Wield Dalam**	**154.50**	**135**	PFAKE			01 05 00.0	+1.9
WDD				LR	LR			
	comp=Z,454nm,19.0s							
KURK	**Kurchatov**	**154.75**	**275**	PFAKE			01 05 00.0	+1.9
KURK				LR	LR			
	comp=Z,352nm,22.0s							
VSL	**Villasalto**	**155.29**	**122**	PFAKE			01 05 00.0	+9.3
VSL				LR	LR			
	comp=Z,386nm,19.0s							
KBS	**Kingsbay**	**156.07**	**11**	PFAKE			01 05 00.0	+9.4
KBS				LR	LR			
	comp=Z,379nm,20.0s							
SSB	**Saint Sauveur**	**157.06**	**106**	PFAKE			01 05 00.0	+7.1
SSB				LR	LR			
	comp=Z,405nm,20.0s							
CEL	**Celeste**	**157.11**	**134**	PFAKE			01 05 00.0	+6.8
CEL				LR	LR			
	comp=Z,549nm,21.0s							
ESK	**Eskdalemuir**	**157.85**	**76**	PFAKE			01 05 10.0	+17
ESK				LR	LR			
	comp=Z,369nm,19.0s							
TIP	**Timpagrande**	**158.25**	**135**	PFAKE			01 05 10.0	+15
TIP				LR	LR			
	comp=Z,282nm,21.0s							
CSS	**Prodhromos**	**158.31**	**173**	PFAKE			01 05 10.0	+15
CSS				LR	LR			
	comp=Z,117nm,22.0s							
SANT	**Santorini**	**158.47**	**155**	PFAKE			01 05 10.0	+15
SANT				LR	LR			
	comp=Z,260nm,20.0s							
CUC	**Castrocucco**	**158.56**	**132**	PFAKE			01 05 10.0	+15
CUC				LR	LR			
	comp=Z,239nm,20.0s							
VLC	**Villacollemand**	**159.33**	**116**	PFAKE			01 05 10.0	+14
VLC				LR	LR			
	comp=Z,304nm,20.0s							
ECH	**Echery**	**160.30**	**102**	PFAKE			01 05 10.0	+13
ECH				LR	LR			
	comp=Z,541nm,20.0s							
TUE	**Stuetta**	**160.38**	**109**	PFAKE			01 05 10.0	+13
TUE				LR	LR			
	comp=Z,728nm,20.0s							
BRVK	**Borovoye**	**160.41**	**274**	PFAKE			01 05 10.0	+13
BRVK				LR	LR			
	comp=Z,323nm,21.0s							
WLF	**Walferdange**	**160.57**	**98**	PFAKE			01 05 10.0	+13
WLF				LR	LR			
	comp=Z,349nm,20.0s							
ISP	**Isparta**	**160.84**	**165**	PFAKE			01 05 10.0	+12
ISP				LR	LR			
	comp=Z,296nm,21.0s							
BFO	**Black Forest**	**161.00**	**104**	PFAKE			01 05 10.0	+13
BFO				LR	LR			
	comp=Z,438nm,20.0s							
TIR	**Tirane**	**161.32**	**137**	PFAKE			01 05 10.0	+12
TIR				LR	LR			
	comp=Z,403nm,20.0s							
FETA	**Feichten**	**161.46**	**110**	⇧ *i*PKiKP		PKPdf	01 05 13.6	+15
	comp=Z,6.6nm,1.1s							
GNI	**Garni**	**162.77**	**201**	PFAKE			01 05 10.0	+10
GNI				LR	LR			
	comp=Z,441nm,21.0s							
ANTO	**Ankara**	**163.14**	**170**	PFAKE			01 05 10.0	+10
ANTO				LR	LR			
	comp=Z,293nm,20.0s							
KHC	**Kasperske Hory**	**164.28**	**108**	*e*PKPDF		**PKPdf**	**01 05 05.5**	**+4.9**
KHC				*ex*		x	01 05 16.8	
NKC	**Novy Kostel**	**164.30**	**103**	*e*PKPDF		**PKPdf**	**01 05 04.4**	**+3.8**
NKC				*ex*		x	01 05 15.5	
CONA	**Conrad Observa**	**164.69**	**115**	⇧ *i*PKiKP		**PKPdf**	**01 05 05.1**	**+4.1**
	comp=Z,9.8nm,1.4s							
PRU	**Pruhonice**	**165.29**	**107**	*e*PPKP		pPKPdf	01 05 12.4	+7.6
KONO	**Kongsberg**	**165.41**	**66**	PFAKE			01 05 10.0	+8.8
KONO				LR	LR			
	comp=Z,346nm,21.0s							
BRG	**Berggiesshubel**	**165.45**	**103**	*e*P		**PKPdf**	**01 05 00.4**	**-1.1**
	comp=Z,2.5nm,0.9s							
BRG				*e*			01 05 13.4	
	comp=Z,3.2nm,1.0s							
	comp=N,247nm,23.7s							
	comp=E,190nm,19.7s							
	comp=Z,220nm,21.7s							

PVCC	**Panska Ves**	**165.60**	**105**	*e*pPKP		pPKPdf	01 05 12.1	+7.0
KEV	**Kevo**	**166.06**	**14**	PFAKE			01 05 10.0	+8.6
KEV				LR	LR			
	comp=Z,464nm,22.0s							
UPC	**Upice**	**166.36**	**108**	*e*pPKP		pPKPdf	01 05 11.0	+5.3
DPC	**Dobruska-Polom**	**166.43**	**109**	*e*pPKP		**pPKPdf**	**01 05 12.2**	**+6.4**
DPC				*ex*		x	01 05 24.0	
PSZ	**Piszkesteto**	**166.63**	**123**	PFAKE			01 05 10.0	+7.3
PSZ				LR	LR			
	comp=Z,259nm,19.0s							
KIV	**Kislovodsk**	**166.84**	**200**	PFAKE			01 05 10.0	+7.0
KIV				LR	LR			
	comp=Z,322nm,21.0s							
ARU	**Arti**	**167.89**	**279**	PFAKE			01 05 10.0	+6.8
ARU				LR	LR			
	comp=Z,380nm,21.0s							
LVZ	**Lovozero**	**168.55**	**4**	PFAKE			01 05 10.0	+6.7
LVZ				LR	LR			
	comp=Z,379nm,20.0s							
KWP	**Kalwaria Pacla**	**169.16**	**124**	PFAKE			01 05 20.0	+16
KWP				LR	LR			
	comp=Z,545nm,22.0s							
KIEV	**Kiev**	**172.68**	**140**	PFAKE			01 05 20.0	+14
KIEV				LR	LR			
	comp=Z,353nm,20.0s							
OBN	**Obninsk**	**178.58**	**178**	PFAKE			01 05 20.0	+13
OBN				LR	LR			
	comp=Z,475nm,22.0s							

IDC ***20*** *00:45:25.1±0.9,20.˝79S×168.˚62E, h0km, mb4.2/13, mb1 4.3/14, mb1mx4.2/27, mbtmp4.2/14, ML3.4/1, MS2.9/1, Ms1 2.9/1, ms1mx2.7/18, Error ellipse: s-maj=26.1km s-min=18.3km az=144.0*

ISCJB ***20*** *00:45:28.1±0.9,20.˝8S±0.˝1×168.˚5E±0.˚1, h30km, mb4.1/12, Error ellipse: s-maj=23.4km s-min=9.6km az=137.8*

ISC 20 00:45:29.6±0.9, 20.˝8S±0.˝2×168.˚6E±0.˚1, h30km, n18, σ0s90/19, mb4.3/12, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.32**	**238**	Pn		**Pn**	**00 46 04.9**	**-1.0**
	9.3nm,0.3s,baz=270,slow=24,SNR=58							
DZM				Sn		**Sn**	**00 46 33.0**	**-0.4**
	56nm,0.3s,baz=318,slow=20,SNR=7.4							
DZM				LR		LR	00 46 42.3	
	comp=Z,286nm,21.3s,baz=359,slow=32							
CTA	**Charters Tower**	**20.91**	**268**	P		**P**	**00 50 10.6**	**+0.7**
	2.5nm,0.7s,baz=108,slow=15,SNR=4.8							
STKA	**Stephens Creek**	**26.47**	**240**	P		**P**	**00 51 04.8**	**+0.5**
	1.2nm,0.7s,baz=116,slow=5.8,SNR=3.9							
WRA	**Warramunga Arr**	**32.06**	**265**	P		**P**	**00 51 53.0**	**-1.1**
	0.3nm,0.6s,baz=92,slow=8.3,SNR=6.9							
ASAR	**Alice Springs**	**32.15**	**258**	P		**P**	**00 51 55.0**	**+0.2**
	4.9nm,0.8s,baz=82,slow=9.0,SNR=56							
JAY	**Jayapura**	**32.69**	**300**	P		**P**	**00 51 59.9**	**+0.2**
	7.2nm,0.8s,baz=126,slow=9.8,SNR=3.2							
SIJI	**Sorong**	**41.47**	**294**	P		**P**	**00 53 13.7**	**-0.5**
	3.6nm,0.5s,baz=123,slow=10,SNR=2.6							
QSPA	**South Pole Qui**	**69.22**	**180**	P		**P**	**00 56 34.5**	**+1.0**
	2.4nm,0.9s,baz=330,slow=2.6,SNR=1.7							
USRK	**Ussuriysk Ar.**	**72.87**	**333**	P		**P**	**00 56 55.5**	**0.0**
	0.7nm,0.2s,baz=96,slow=5.8,SNR=7.6							
PETK	**Petropavlovsk-**	**74.24**	**353**	P		**P**	**00 57 03.9**	**+0.4**
	3.7nm,0.7s,baz=151,slow=9.2,SNR=1.5							
CMAR	**Chiang Mai Ar**	**78.58**	**295**	P		**P**	**00 57 30.8**	**+1.9**
	1.2nm,0.3s,baz=143,slow=4.1,SNR=5.4							
SONM	**Songino Array**	**88.12**	**323**	P		**P**	**00 58 17.9**	**+0.5**
	0.7nm,0.9s,baz=150,slow=3.6,SNR=5.6							
NVAR	**Mina Array Bea**	**90.33**	**49**	P		**P**	**00 58 27.7**	**-0.5**
	3.1nm,0.9s,baz=224,slow=8.6,SNR=14							
ILAR	**Eielson Array**	**91.94**	**18**	P		**P**	**00 58 32.9**	**-1.9**
	0.6nm,0.8s,baz=231,slow=5.3,SNR=6.2							
YKA	**Yellowknife Ar**	**102.38**	**28**	P		**Pdif**	**00 59 22.0**	**0.0**
	0.4nm,0.6s,baz=254,slow=4.4,SNR=3.0							
MKAR	**Makanchi Array**	**102.43**	**315**	P		**Pdif**	**00 59 23.0**	**+0.4**
	0.2nm,0.5s,baz=103,slow=6.5,SNR=3.0							
ARCES	**ARCESS Array B**	**126.44**	**345**	PKP		**PKPdf**	**01 04 28.3**	**-0.7**
	1.7nm,1.0s,baz=51,slow=2.9,SNR=2.8							
GERES	**GERESS Array B**	**145.58**	**330**	PKPbc		**PKPab**	**01 05 05.8**	**+0.3**
	2.4nm,0.8s,baz=35,slow=3.3,SNR=18							

KRSC 20 00:54:39.8±1.5, 51.˝79N×159.˚22E, h58km±20km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.78**	**326**	*i* P		Pn	00 54 55.9	+1.0
RUS				*e*S		Sn	00 55 05.5	-0.4
MTVR	**Mutnovka**	**0.94**	**317**	*i* P		Pn	00 54 58.6	+1.4
MTVR				*i* S		Sn	00 55 10.4	+0.3
ASAK	**Asacha**	**1.01**	**306**	*i* P		Pn	00 54 59.7	+1.7
ASAK				*e*S		Sn	00 55 12.0	+0.5
GRL	**Gorelyy**	**1.04**	**317**	*e*P		Pn	00 55 00.4	+1.9
GRL				*e*S		Sn	00 55 13.8	+1.5
PET	**Petropavlovsk**	**1.28**	**344**	*e*P		Pn	00 55 03.3	+1.8
PET				*e*S		Sn	00 55 18.9	+1.2
NLC	**Nalytchevo**	**1.38**	**3**	*e*P		Pn	00 55 04.0	+1.2
NLC				*e*S		Sn	00 55 20.4	+0.3
SPN	**Mys Shipunski**	**1.40**	**20**	*e*P		Pn	00 55 06.1	+3.1
SPN				*e*S		Sn	00 55 24.4	+4.0
UGLR	**Uglovaya**	**1.44**	**350**	*e*P		Pn	00 55 05.9	+2.1
SMAR	**Somma**	**1.49**	**350**	*e*P		Pn	00 55 06.5	+1.8
SDLR	**Sedlovina**	**1.50**	**352**	*i* P		Pn	00 55 06.3	+1.6
SDLR				*e*S		Sn	00 55 24.7	+1.4
AVH	**Avacha**	**1.50**	**349**	*i* P		Pn	00 55 06.9	+2.3
AVH				*e*S		Sn	00 55 25.5	+2.2
PAU	**Pauzhetka**	**1.54**	**259**	*e*P		Pn	00 55 06.9	+1.9
PAU				*e*S		Sn	00 55 25.6	+1.7
KRER	**Koryakskii**	**1.54**	**349**	*i* P		Pn	00 55 07.4	+2.1
KRER				*e*S		Sn	00 55 26.1	+1.7
KOK	**Koryaka**	**1.54**	**347**	*e*P		Pn	00 55 07.7	+2.5
KOK				*e*S		Sn	00 55 26.5	+2.2
MIPR	**Malaya Ipel'ka**	**1.60**	**289**	*e*P		Pn	00 55 08.5	+2.7
KRX	**Arik**	**1.61**	**348**	*e*P		Pn	00 55 08.2	+2.1
KRX				*e*S		Sn	00 55 27.3	+1.4
APC	**Apacha**	**1.70**	**313**	*e*P		Pn	00 55 09.9	+2.8
APC				*e*S		Sn	00 55 30.3	+2.5
GNL	**Ganaly**	**2.06**	**338**	*e*P		Pn	00 55 15.2	+3.0
GNL				*e*S		Sn	00 55 39.6	+2.8
SKR	**Severo-Kuril's**	**2.25**	**242**	*e*P		Pn	00 55 16.8	+2.2
SKR				*e*S		Sn	00 55 42.8	+1.7
MKZ	**Mys Kozlova**	**3.15**	**28**	*e*P		Pn	00 55 30.1	+3.2
KZV	**Kizimen**	**3.39**	**10**	*e*P		Pn	00 55 35.1	+4.7
TUMR	**Tumrok**	**3.54**	**9**	*e*P		Pn	00 55 37.3	+4.9
BKI	**Bering**	**5.28**	**47**	*e*P		Pn	00 55 58.9	+2.9
BKI				*e*S		Sn	00 56 54.2	-1.3

ISCJB ***20*** *01:39:33.1±0.6,2.˝14N±0.˝04×127.˚23E±0.˚05, h63km, mb4.0/8, Error ellipse: s-maj=6.9km s-min=6.2km az=164.1*

IDC ***20*** *01:39:37.7±2.7, 1.˚94N×126.˚83E, h100km±26km, mb3.7/8, mb1 3.8/10, mb1mx3.6/31, mbtmp4.0/10, Error ellipse: s-maj=36.8km s-min=10.8km az=64.0*

DJA ***20*** *01:39:38.4±0.7, 2.˚N±3.˚×12.˚7E±.˚, h57km±12km, M4.8/9, mb4.9/4, mB5.2/4, MLv4.8/9, Mw(mB)4.7/4*

ISC 20 01:39:34.1±0.7, 2.˚19N±0.˚05×127.˚21E±0.˚06, h63km, n18, σ2s18/24, mb3.9/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.42**	**173**	P		Pn	01 40 03.0	+5.2
TNTI				S		**Sn**	**01 40 21.0**	**+5.4**
SGSI	**Sangihe**	**2.24**	**312**	P		**Pn**	**01 40 11.0**	**+2.1**
SGSI				S		**Sn**	**01 40 36.8**	**+1.3**
KMSI	**Cibinong**	**3.60**	**244**	P		**Pn**	**01 40 30.4**	**+2.9**
KMSI				S		**Sn**	**01 41 10.4**	**+1.5**
SANI	**Sanana**	**4.38**	**196**	P		**Pn**	**01 40 39.5**	**+1.2**
SIJI	**Sorong**	**5.07**	**127**	P		Pn	01 40 53.2	+5.6
	3.4nm,0.3s,baz=184,slow=20,SNR=4.5							
NLAI	**Namlea**	**5.39**	**181**	P		**Pn**	**01 40 54.7**	**+2.6**
	97nm,0.5s,3µm0.6nm							
NLAI				S		**Sn**	**01 41 52.4**	**-0.5**
	97nm,0.5s,3µm0.6nm							
LUWI	**Luwuk**	**5.47**	**234**	P		Pn	01 40 57.4	+4.2
LUWI				S		**Sn**	**01 41 54.1**	**-0.7**
MRSI	**Marisa**	**5.53**	**252**	P		**Pn**	**01 40 56.6**	**+2.6**
	132nm,0.7s,2µm0.5nm							
MRSI				S		**Sn**	**01 41 55.9**	**-0.4**
	132nm,0.7s,2µm0.5nm							
APSI	**Ampana**	**6.35**	**241**	P		**Pn**	**01 41 05.6**	**+0.4**
APSI				S		**Sn**	**01 42 17.6**	**+1.2**
JAY	**Jayapura**	**14.28**	**109**	P		**P**	**01 42 58.2**	**-0.6**
	0.3nm,0.3s,baz=141,slow=13,SNR=2.3							
WRA	**Warramunga Arr**	**23.08**	**163**	P		**P**	**01 44 33.7**	**-1.0**
	6.3nm,0.4s,baz=340,slow=11,SNR=195							
WRA				S		**S**	**01 48 36.4**	**-4.6**
	1.0nm,0.8s,baz=338,slow=20,SNR=4.7							
ASAR	**Alice Springs**	**26.52**	**166**	P		**P**	**01 45 05.3**	**-0.7**
	1.5nm,0.4s,baz=342,slow=7.3,SNR=23							
ASAR				PcP		**PcP**	**01 48 29.1**	**-0.5**
	0.9nm,0.4s,baz=352,slow=2.5,SNR=7.7							
CMAR	**Chiang Mai Arr**	**32.07**	**302**	P		**P**	**01 45 52.7**	**-2.7**
	0.5nm,0.3s,baz=110,slow=11,SNR=3.7							
STKA	**Stephens Creek**	**36.53**	**159**	P		**P**	**01 46 32.8**	**-1.0**
	3.4nm,0.4s,baz=337,slow=8.1,SNR=26							
SONM	**Songino Array**	**48.90**	**341**	P		**P**	**01 48 14.3**	**+0.5**
	0.3nm,0.6s,baz=164,slow=5.7,SNR=3.4							
PETK	**Petropavlovsk-**	**56.67**	**21**	P		**P**	**01 49 12.9**	**+1.9**
	0.7nm,0.5s,baz=229,slow=11,SNR=3.5							
MKAR	**Makanchi Array**	**59.08**	**326**	P		**P**	**01 49 28.5**	**+0.5**
	1.3nm,0.7s,baz=125,slow=5.5,SNR=16							
ZALV	**Zalesovo Beam**	**62.17**	**333**	P		**P**	**01 49 48.1**	**-0.7**
	0.5nm,0.5s,baz=146,slow=8.5,SNR=2.7							

AWI ***20*** *01:43:39.5, 53.˝94S×24.˚21W*

IDC ***20*** *01:43:48.8±0.7, 55.˚52S×26.˚27W, h0km, mb4.6/7, mb1 4.5/8, mb1mx4.2/20, mbtmp4.4/8, ML3.2/1, MS4.4/15, Ms1 4.4/15, ms1mx4.3/23, Error ellipse: s-maj=26.5km s-min=19.9km az=90.0*

GCMT ***20*** *01:43:50.0±0.3, 55.˚66S×26.˚19W, h13km±1km, MW5.0/70, Moment Tensor Solution. s28,c29; s70,c96; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.37±.23; Mθθ-1.65±.17; Mφφ-1.71±.14; Mrθ0.41±.45; Mrφ1.64±.09; Mθφ1.45±.40; Best double couple: M☉3.64700×10^16 NP1:ϕs334.00000°, δ54.00000°, λ112.00000°. NP2: ϕs119.00000°, δ41.00000°, λ62.00000°. Principal axes: T 3.8850, Plg71.0000°, Azm298.0000°; N -0.4660, Plg18.0000°, Azm140.0000°; P -3.4090, Plg7.0000°, Azm48.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***20*** *01:43:50.0±0.3, 55.˚50S×26.˚29W, h10km, mb4.8/10 Error ellipse: s-maj=9.0km s-min=7.7km az=41.0*

ISCJB ***20*** *01:43:51.8±0.4, 55.˚45S±0.˚07×26.˚4W±0.˚1, h32km, mb4.6/16, MS4.5/14, Error ellipse: s-maj=12.2km s-min=8.3km az=148.0*

ISC 20 01:43:53.4±0.5, 55.˚6S±0.˚1×26.˚55W±0.˚08, h32km, n56, σ0s96/42, mb4.7/15, MS4.4/14, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.87**	**278**	*e*Pn		**Pn**	**01 45 17.3**	**-0.7**
	109nm,0.9s							
HOPE				*e*S		**Sn**	**01 46 21.6**	**-2.5**
VNA1	**Neumayer--Stat**	**17.13**	**159**	P		**P**	**01 47 51.5**	**+0.2**
VNA1	**Neumayer--Stat**	**17.13**	**159**	S		S	01 51 17.0	+9.1
VNA3	**Neumayer Olymp**	**17.35**	**162**	P		**P**	**01 47 53.5**	**-0.3**
VNA2	**Neumayer--Watz**	**17.53**	**159**	P		**P**	**01 47 56.4**	**+0.6**
	baz=314,slow=14							
SNAA	**Sanae**	**19.06**	**157**	P		**P**	**01 48 11.0**	**-1.7**
SNAA	**Sanae**	**19.06**	**157**	P		**P**	**01 48 11.9**	**-0.8**
	0.1nm,0.3s,baz=297,slow=12,SNR=14							
SNAA				LR		LR	01 54 12.5	
	comp=Z,384nm,19.8s,baz=332,slow=33							
SNAA	**Sanae**	**19.06**	**157**	*e*P		**P**	**01 48 09.6**	**-3.0**
	35nm,1.4s							
PMSA	**Palmer Station**	**20.50**	**228**	P		Pn	01 48 31.6	+1.0
	28nm,0.6s,baz=65,slow=4.7,SNR=12							
PMSA				LR		LR	01 55 27.4	
	comp=Z,806nm,18.6s,baz=70,slow=34							
TRQA	**Tornquist**	**29.46**	**292**	*e*P		**P**	**01 49 55.1**	**+0.9**
	22nm,1.2s							
PLCA	**Paso Flores**	**32.27**	**279**	LR		LR	02 04 31.5	
	comp=Z,516nm,18.1s,baz=124,slow=38							
QSPA	**South Pole Qui**	**34.70**	**180**	P		**P**	**01 50 40.0**	**+0.1**
	10nm,0.7s,baz=206,slow=3.8,SNR=95							
CPUP	**Villa Florida**	**36.76**	**310**	*e*P		**P**	**01 50 57.9**	**+0.2**
	0.3nm,1.0s							
MAW	**Mawson**	**40.34**	**144**	LR		LR	02 07 00.6	
	comp=Z,580nm,19.0s,baz=258,slow=35							
BDFB	**Brasilia**	**43.11**	**329**	LR		LR	02 08 48.1	
	comp=Z,867nm,18.6s,baz=157,slow=35							
LVC	**Limon Verde**	**45.36**	**299**	*e*P		**P**	**01 52 10.5**	**+1.6**
	13nm,0.6s							
BOSA	**Boshof**	**45.49**	**76**	P		**P**	**01 52 07.8**	**-1.8**
	2.7nm,0.7s,baz=238,slow=7.0,SNR=4.9							
BOSA				LR		LR	02 08 04.1	
	comp=Z,2µm,18.6s,baz=246,slow=32							
SBA	**Scott Base**	**46.61**	**184**	*e*P		**P**	**01 52 18.6**	**+0.9**
	9.0nm,1.0s							
VNDA	**Vanda**	**47.09**	**182**	P		**P**	**01 52 22.0**	**+0.6**
	7.3nm,0.8s,baz=192,slow=5.0,SNR=22							
VNDA				LR		LR	02 10 56.9	
	comp=Z,292nm,20.0s,baz=172,slow=34							
VNDA	**Vanda**	**47.09**	**182**	*e*P		**P**	**01 52 21.7**	**+0.3**
	8.4nm,

CASC 20 01:50:59.3±3.2, 7°91′N×82°38′W, h22km±20km, MD3.8, 1C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRU	**Baru**	**0.90**	**349**	*eP*	Pn	01 51 17.2	-0.1
TBS2		**0.92**	**343**	*eP*	Pn	01 51 17.3	+0.2
TBS2				*eS*	Sn	01 51 29.3	-0.5
BUS	**Buena Vista**	**2.12**	**320**	*eP*	Pn	01 51 34.2	+0.1
BUS				*eS*	Sb	01 52 02.4	-1.7
URSC	**Urasca**	**2.35**	**324**	*eP*	Pn	01 51 37.7	+0.8
URSC				*eS*	Sn	01 52 06.9	+1.5
CGA2	**Cerro Gallo 2**	**2.93**	**316**	*eP*	Pn	01 51 41.6	-3.3

IDC 20 02:23:19.0±23.0, 17°84S×178°56W, h492km±197km, mb3.1/3, mb1 3.4/3, mb1mx2.8/44, mbtmp4.0/3, Error ellipse: s-maj=287.5km s-min=49.5km az=133.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.50**	**259**	P	P	02 30 45.8	-0.5
	0.6nm,0.5s,baz=95,slow=7.4,SNR=24						
WRA				PcP	pP	02 32 18.5	+0.5
	0.3nm,0.5s,baz=90,slow=3.5,SNR=4.4						
ASAR	**Alice Springs**	**44.67**	**254**	P	P	02 30 47.9	+0.3
	3.6nm,0.4s,baz=89,slow=8.4,SNR=58						
ILAR	**Eielson Array**	**85.85**	**13**	P	P	02 35 05.1	-0.4
	0.5nm,1.0s,baz=219,slow=5.3,SNR=4.1						
GERES	**GERESS Array B**	**147.50**	**345**	PKPbc	PKPbc	02 42 07.2	-0.2
	0.8nm,0.5s,baz=31,slow=3.2,SNR=8.2						

*ISCJB **20** 02:28:44.5±1.4, 28°.0N±0°.1×114°.9W±0°.2, h10km, mb3.6/4, MS3.4/2, Error ellipse: s-maj=24.6km s-min=10.4km az=143.0*
*IDC **20** 02:28:45.7±2.2, 28°.14N×114°.80W, h0km, mb3.7/4, mb1 3.9/9, mb1mx3.7/47, mbtmp3.6/9, ML3.6/5, MS3.2/7, Ms1 3.2/7, ms1mx2.9/38, Error ellipse: s-maj=38.7km s-min=13.3km az=42.0*

ISC 20 02:28:46.3±1.5, 28°.1N±0°.1×115°.0W±0°.2, h10km, n13, σ1s53/10, mb3.6/4, Off west coast of Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFO	**Pinyon Flats O**	**5.66**	**348**	Pn	**Pn**	**02 30 11.3**	**+0.7**
	0.2nm,0.3s,baz=160,slow=15,SNR=2.6						
PFO				Sn	**Sb**	**02 31 32.2**	**-1.1**
	0.4nm,0.3s,baz=71,slow=8.9,SNR=3.9						
PFO				LR	LR	02 32 00.5	
	comp=Z,84nm,18.1s,baz=220,slow=35						
LPIG	**La Paz**	**5.78**	**132**	Pn	**Pn**	**02 30 12.7**	**+0.5**
	2.1nm,0.3s,baz=330,slow=4.6,SNR=5.6						
LPIG				LR	LR	02 32 00.7	
	comp=Z,108nm,18.6s,baz=327,slow=34						
ANMO	**Albuquerque**	**10.00**	**45**	Pn	**Pn**	**02 31 11.7**	**+1.4**
	0.1nm,0.3s,baz=226,slow=12,SNR=10						
ANMO				LR	LR	02 35 04.5	
	comp=Z,118nm,20.8s,baz=226,slow=38						
TXAR	**Lajitas Array**	**10.03**	**80**	Pn	**Pn**	**02 31 10.4**	**-0.3**
	0.1nm,0.3s,baz=256,slow=14,SNR=9.2						
TXAR				LR	LR	02 35 08.7	
	comp=Z,103nm,20.6s,baz=0.0,slow=39						
NVAR	**Mina Array Bea**	**10.69**	**346**	Pn	Pn	02 31 22.5	+2.7
	0.2nm,0.3s,baz=165,slow=14,SNR=13						
ELK	**Elko**	**12.64**	**359**	Pn	Pn	02 31 54.0	+7.6
	0.0nm,0.3s,baz=175,slow=10,SNR=4.8						
YBH	**Yreka Blue Hor**	**15.01**	**337**	LR	LR	02 37 33.3	
	comp=Z,110nm,18.8s,baz=179,slow=35						
PDAR	**Pinedale Array**	**15.31**	**15**	Pn	**Pn**	**02 32 25.5**	**+2.7**
	0.1nm,0.3s,baz=179,slow=9.9,SNR=6.1						
CMIG	**Matias Romero**	**21.52**	**116**	P	**P**	**02 33 34.9**	**-0.7**
	3.4nm,1.0s,baz=321,slow=6.5,SNR=3.0						
CMIG				LR	LR	02 41 14.5	
	comp=Z,163nm,18.1s,baz=322,slow=35						
ULM	**Lac du Bonnet**	**26.50**	**28**	P	**P**	**02 34 21.8**	**-2.1**
	1.9nm,0.7s,baz=226,slow=7.0,SNR=4.6						
YKA	**Yellowknife Ar**	**34.42**	**0**	P	**P**	**02 35 33.5**	**-0.2**
	0.5nm,0.9s,baz=183,slow=9.0,SNR=3.2						
ILAR	**Eielson Array**	**41.88**	**340**	P	**P**	**02 36 36.2**	**-0.3**
	0.9nm,0.8s,baz=154,slow=7.4,SNR=11						
CFAA	**Coronel Fontan**	**74.20**	**140**	LR	LR	03 05 07.2	
	comp=Z,20nm,21.6s,baz=347,slow=29						

IDC 20 02:32:54.9±8.6, 5°91S×146°67E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.3/26, mbtmp3.5/3, ML3.3/1, Error ellipse: s-maj=138.1km s-min=84.9km az=169.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.39**	**220**	P	Pn	02 37 10.2	-1.4
	0.1nm,0.3s,baz=46,slow=12,SNR=8.8						
ASAR	**Alice Springs**	**21.51**	**214**	P	P	02 37 45.5	-0.2
	0.5nm,0.4s,baz=43,slow=11,SNR=6.8						
STKA	**Stephens Creek**	**26.27**	**190**	P	P	02 38 32.9	+0.8
	0.7nm,0.4s,baz=7.8,slow=11,SNR=3.1						

IDC 20 02:37:30.1±1.9, 2°99N×126°32E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/34, mbtmp3.6/4, Error ellipse: s-maj=177.0km s-min=22.8km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.11**	**161**	P	P	02 42 47.5	-0.3
	0.8nm,0.5s,baz=341,slow=11,SNR=21						
ASAR	**Alice Springs**	**27.50**	**165**	P	P	02 43 18.6	+0.1
	0.3nm,0.6s,baz=346,slow=7.2,SNR=4.4						
STKA	**Stephens Creek**	**37.59**	**158**	P	P	02 44 47.2	+0.7
	1.2nm,0.7s,baz=315,slow=8.6,SNR=3.0						
MKAR	**Makanchi Array**	**57.93**	**326**	P	P	02 47 23.9	-0.4
	0.4nm,0.4s,baz=120,slow=6.4,SNR=13						

*SJA **20** 02:40:13.6±1.4, 34°.47S×73°.55W, h10km, ML3.4, MW3.1*
*ISCJB **20** 02:40:22.0±0.8, 34°.97S±0°.04×72°.45W±0°.07, h10km, Error ellipse: s-maj=8.6km s-min=5.0km az=14.5*
*GUC **20** 02:40:22.3±0.6, 34°.95S×72°.42W, h20km±8km, ML4.0*

ISC 20 02:40:20.6±1.3, 34°.95S±0°.04×72°.39W±0°.08, h10km, n21, σ1s49/26, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.76**	**126**	*iP*	**Pn**	**02 40 37.0**	**-0.5**
TALC				*i* S	**Sn**	**02 40 47.8**	**-1.3**
NICH	**Los Niches**	**0.96**	**93**	*iP*	**Pn**	**02 40 40.6**	**+0.4**
NICH				*eS*	**Sn**	**02 40 53.5**	**-0.3**
LNCH	**Linares**	**1.10**	**144**	*iP*	**Pn**	**02 40 44.4**	**+2.3**
LNCH				*i* S	**Sn**	**02 40 59.3**	**+1.9**
COCH	**Cobquecura**	**1.22**	**195**	*iP*	**Pn**	**02 40 44.1**	**+0.4**
COCH				*eS*	**Sb**	**02 40 59.5**	**0.0**
LNV	**Longovilo**	**1.28**	**39**	*i* P	**Pn**	**02 40 44.5**	**-0.1**
CHCH	**Chadas Angostu**	**1.76**	**55**	*iP*	**Pb**	**02 40 53.4**	**+0.4**
TACH	**Talagante**	**1.77**	**43**	*iP*	**Pb**	**02 40 52.6**	**-0.5**
PCH	**Pirque**	**2.05**	**50**	*eP*	**Pb**	**02 40 58.0**	**0.0**
SAN	**Santiago**	**2.07**	**44**	*eP*	**Pb**	**02 40 57.6**	**-0.8**
SAN				*i* S	**Sb**	**02 41 24.9**	**+0.7**
ROCH	**El Roble**	**2.29**	**311**	*iP*	**Pg**	**02 41 03.7**	**-0.8**
ROCH				*eS*	**Sg**	**02 41 33.2**	**-0.9**
ROCH				AML	AML	02 41 40.4	
	comp=N,733nm,0.5s						
PEL	**Peldehue**	**2.29**	**39**	*iP*	**Pb**	**02 41 00.8**	**-1.3**
PEL				*i* S	**Sb**	**02 41 30.1**	**-0.5**
PEL				AML	AML	02 41 34.5	
	comp=N,2μm,0.6s						
AAGR	**Agrelo**	**3.50**	**59**	*eP*	**Pb**	**02 41 20.8**	**-1.9**
ARCO	**CERRO ARCO**	**3.57**	**55**	*eP*	**Pb**	**02 41 21.9**	**-2.1**
ARCO				AML	AML	02 42 15.2	
	comp=Z,42nm,0.8s						
AUSP	**Uspallata**	**3.70**	**44**	*eP*	Pn	02 41 21.6	+3.4
ASAL	**Salagasta**	**3.79**	**53**	*eP*	Pb	02 41 23.7	-3.9
ASAL				*eS*	**Sb**	**02 42 14.9**	**+1.3**
RTLS	**Leoncito**	**4.08**	**40**	*eP*	**Pn**	**02 41 26.3**	**+3.1**
RTCV	**Cerro Valdivia**	**4.46**	**47**	*eP*	**Pn**	**02 41 31.4**	**+3.0**
CFAA	**Coronel Fontan**	**4.82**	**47**	*eP*	**Pn**	**02 41 35.5**	**+2.2**
RTLL	**Cerro Villicun**	**4.88**	**43**	*eP*	**Pn**	**02 41 35.6**	**+1.4**
ACAN	**Cantantal**	**5.10**	**60**	*eP*	Pn	02 41 41.1	+4.0
AMOG	**MOGNA**	**5.17**	**40**	*eP*	**Pn**	**02 41 39.2**	**+1.0**

*IDC **20** 02:55:53.7±0.5, 73°.31N×7°.35E, h0km, mb3.8/16, mb1 4.1/22, mb1mx3.9/39, mbtmp3.9/22, ML4.1/6, MS3.9/27, Ms1 3.9/27, ms1mx3.8/39, Error ellipse: s-maj=13.8km s-min=9.3km az=64.0*
*NEIC **20** 02:55:55.0±0.3, 73°.35N×7°.54E, h10km, mb4.5/17, Error ellipse: s-maj=7.5km s-min=6.0km az=71.0*
*CSEM **20** 02:55:54.0±0.3, 73°.39N×7°.60E, h15km, ML4.3, Error ellipse: s-maj=9.6km s-min=5.7km az=94.0*
*MOS **20** 02:55:54.0±1.4, 73°.39N×7°.80E, h10km, mb4.5/32, Error ellipse: s-maj=26.3km s-min=4.6km az=93.9*
*GCMT **20** 02:55:55.0±0.3, 73°.41N×7°.37E, h12km, MW4.8/74, Moment Tensor Solution. s13,c14; s74,c105; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.55±.06; $M_{\theta\theta}$0.52±.06; $M_{\phi\phi}$ 1.03±.05; $M_{r\theta}$-0.38±.27; $M_{\theta\phi}$0.73±.05; $M_{\phi r}$-0.63±.27; Best double couple: $M_0$1.71700×10^{16} NP1:ϕ_s33.00000°,δ58.00000°,λ-92.00000°. NP2: ϕ_s217.00000°,δ32.00000°,λ-87.00000°. Principal axes: T 1.7150, Plg13.0000°, Azm125.0000°; N 0.0000, Plg2.0000°, Azm35.0000°; P -1.7180, Plg77.0000°, Azm297.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NAO **20** 02:55:56.0±0.9, 4, 73°.34N×7°.63E, h24km±84km, ML4.3*
*BER **20** 02:55:57.7±3.5, 73°.38N×8°.28E, h14km±22km, MD2.8, ML2.8, ML4.3(NAO)*
*KOLA **20** 02:56:03.4, 72°.63N×9°.02E, h0km*

ISC 20 02:55:54.9±0.5, 73°.48N±0°.04×7°.56E±0°.06, h13km, n250, σ1s54/236, mb4.2/46, MS3.8/37, 3C-3D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJO	**Bjornoya**	**3.38**	**67**	Pn	**Pn**	**02 56 46.0**	**-1.2**
BJO	**Bjornoya**	**3.38**	**67**	*eP*	**Pn**	**02 56 46.0**	**-1.2**
BJO				IAML		02 57 28.0	
	comp=Z,29nm,0.4s						
BJO	**Bjornoya**	**3.38**	**67**	*eP*	**Pn**	**02 56 46.0**	**-1.2**
	SNR=55						
HSPB	**Hornsund (broa**	**4.09**	**26**	Pn	**Pn**	**02 56 57.3**	**+0.4**
HSPB				*eP*	**Pn**	**02 56 57.3**	**+0.4**
HSPB	**Hornsund (broa**	**4.09**	**26**	*eP*	**Pn**	**02 56 57.3**	**+0.4**
	SNR=53						
HSP	**Hornsund**	**4.09**	**26**	Pn	**Pn**	**02 56 57.3**	**+0.3**
HSP	**Hornsund**	**4.09**	**26**	*eP*	**Pn**	**02 56 57.3**	**+0.3**
SPA0	**Spitsbergen Ar**	**5.19**	**20**	Pn	**Pn**	**02 57 13.1**	**+1.0**
	baz=187,slow=16						
SPA0				Sn	**Sn**	**02 58 10.2**	**-1.5**
	baz=203,slow=22						
SPA0	**Spitsbergen Ar**	**5.19**	**20**	Pn	**Pn**	**02 57 13.1**	**+1.0**
	baz=187,slow=16						
SPA0				Sn	**Sn**	**02 58 10.2**	**-1.5**
	baz=203,slow=22						
SPA0	**Spitsbergen Ar**	**5.19**	**20**	Pn	**Pn**	**02 57 13.1**	**+1.0**
	SNR=55						
SPA0				Sn	**Sn**	**02 58 10.2**	**-1.5**
	SNR=3.9						
SPITS	**Spitsbergen Ar**	**5.19**	**20**	Pn	**Pn**	**02 57 13.1**	**+1.0**
	baz=193,slow=14,SNR=527						
SPITS				Sn	**Sn**	**02 58 11.7**	**0.0**
	baz=159,slow=30,SNR=1.7						
SPITS				LR	LR	02 59 03.2	
	comp=Z,1μm,19.5s,baz=215,slow=35						
TRO	**Tromso**	**5.28**	**131**	*eP*	**Pn**	**02 57 11.3**	**-1.9**
TRO	**Tromso**	**5.28**	**131**	*eP*	**Pn**	**02 57 11.3**	**-1.9**
	SNR=53						
HOPEN	**Hopen**	**5.44**	**48**	Pn	**Pn**	**02 57 15.5**	**0.0**
HOPEN	**Hopen**	**5.44**	**48**	Pn	**Pn**	**02 57 15.5**	**0.0**
JMIC	**Jan Mayen**	**5.51**	**251**	LR	LR	02 58 54.7	
	comp=Z,975nm,21.3s,baz=76,slow=34						
KBS	**Kingsbay**	**5.58**	**9**	Pn	**Pn**	**02 57 18.0**	**+0.6**
KBS	**Kingsbay**	**5.58**	**9**	*eP*	**Pn**	**02 57 17.9**	**+0.6**
KBS				*eS*	**Sn**	**02 58 18.9**	**-2.3**
KBS				IAML		02 58 23.0	
	comp=Z,3.9nm,0.6s						
KBS	**Kingsbay**	**5.58**	**9**	*eP*	**Pn**	**02 57 18.4**	**+1.1**
KBS				pmax	pmax		
	comp=Z,5.0nm,0.3s						
KBS	**Kingsbay**	**5.58**	**9**	*eP*	**Pn**	**02 57 18.4**	**+1.1**
	comp=Z,5.0nm,0.3s						
KBS	**Kingsbay**	**5.58**	**9**	*eP*	**Pn**	**02 57 18.4**	**+1.1**
	comp=Z,4.9nm,0.3s						
LOF	**Lofoten**	**5.72**	**157**	*eP*	**Pn**	**02 57 16.6**	**-2.7**
LOF				*eS*	Sn	02 58 15.1	-10
LOF				IAML		02 58 16.6	
	comp=Z,88nm,0.6s						
LOF	**Lofoten**	**5.72**	**157**	*eP*	**Pn**	**02 57 16.6**	**-2.7**
	SNR=53						
KTK1	**Kautokeino**	**6.74**	**124**	*eP*	**Pn**	**02 57 33.2**	**-0.1**
KTK1	**Kautokeino**	**6.74**	**124**	*eP*	**Pn**	**02 57 33.2**	**-0.1**
	SNR=51						
ARA0	**ARCESS Array S**	**6.92**	**116**	Pn	**Pn**	**02 57 34.6**	**-1.2**
	baz=316,slow=11						
ARA0	**ARCESS Array S**	**6.92**	**116**	Pn	**Pn**	**02 57 34.6**	**-1.2**
	baz=316,slow=11						
ARA0	**ARCESS Array S**	**6.92**	**116**	Pn	**Pn**	**02 57 34.6**	**-1.2**
	SNR=55						
ARCES	**ARCESS Array B**	**6.92**	**116**	Pn	**Pn**	**02 57 34.8**	**-1.0**
	comp=Z,8.7nm,0.3s,baz=323,slow=12,SNR=232						
ARCES				Sn	Sn	02 58 42.6	-12
	comp=Z,1.8nm,0.3s,baz=314,slow=24,SNR=2.1						
ARE0	**ARCESS Array S**	**6.92**	**116**	*ePn*	**Pn**	**02 57 34.8**	**-1.0**
ARE0	**ARCESS Array S**	**6.92**	**116**	*ePn*	**Pn**	**02 57 34.8**	**-1.0**
ARE0				*eS*	Sn	02 58 42.3	-12
KUA	**Kurravaara**	**6.96**	**136**	P	**Pn**	**02 57 35.1**	**-1.2**
SALU	**Saltoluokta**	**7.13**	**144**	P	**Pn**	**02 57 37.0**	**-1.6**
KEV	**Kevo**	**7.17**	**112**	*eP*	**Pn**	**02 57 37.7**	**-1.4**
KEV				pmax	pmax		
	comp=Z,25nm,0.6s						
KEV	**Kevo**	**7.17**	**112**	*eP*	**Pn**	**02 57 37.7**	**-1.4**
	comp=Z,25nm,0.6s						
KEV	**Kevo**	**7.17**	**112**	*ePn*	**Pn**	**02 57 37.7**	**-1.4**
	comp=Z,25nm,0.6s						
KEV				*eS*	Sn	02 58 50.0	-10
LANU	**Lannavaara**	**7.22**	**132**	P	**Pn**	**02 57 38.5**	**-1.4**
KONS	**Konsvik**	**7.26**	**162**	*eP*	**Pn**	**02 57 38.4**	**-2.0**
KONS				*eS*	Sn	02 58 50.9	-12
KONS				IAML		02 58 55.2	
	comp=Z,16nm,0.4s						
KONS	**Konsvik**	**7.26**	**162**	*eP*	**Pn**	**02 57 38.4**	**-2.0**
	SNR=51						
STOK	**Stokkvaagen**	**7.42**	**163**	*eP*	**Pn**	**02 57 40.3**	**-2.2**
STOK				*eS*	Sn	02 58 55.4	-11
STOK				IAML		02 58 58.5	
	comp=Z,14nm,0.3s						
STOK	**Stokkvaagen**	**7.42**	**163**	*eP*	**Pn**	**02 57 40.3**	**-2.2**
	SNR=51						
FLOS	**Flostrand**	**7.44**	**162**	*eP*	**Pn**	**02 57 41.5**	**-1.4**
FLOS				*eS*	Sn	02 58 56.3	-11
FLOS				IAML		02 59 03.7	
	comp=Z,23nm,0.3s						
FLOS	**Flostrand**	**7.44**	**162**	*eP*	**Pn**	**02 57 41.5**	**-1.4**
	SNR=51						
MOR8	**Moi Rana**	**7.71**	**159**	*eP*	**Pn**	**02 57 44.2**	**-2.4**
MOR8				*eS*	Sn	02 59 02.6	-11
MOR8				IAML		02 59 05.1	
	comp=Z,38nm,0.3s						
MOR8	**Moi Rana**	**7.71**	**159**	*eP*	**Pn**	**02 57 44.2**	**-2.4**
	SNR=51						
PAJU	**Pajala**	**8.32**	**133**	P	**Pn**	**02 57 53.6**	**-1.3**
ERTU	**Ertsjaerv**	**8.54**	**137**	P	**Pn**	**02 57 56.5**	**-1.4**
ERTU				S	Sn	02 59 07.9	-26
NSS	**Namsos**	**9.12**	**168**	*eP*	**Pn**	**02 58 04.5**	**-1.5**
NSS				*eS*	Sn	02 59 37.2	-11
NSS				IAML		02 59 44.6	
	comp=Z,8.7nm,0.4s						
NSS	**Namsos**	**9.12**	**168**	*eP*	**Pn**	**02 58 04.4**	**-1.5**
	SNR=51						
LILU	**Lilltraesk**	**9.27**	**146**	P	**Pn**	**02 58 05.7**	**-2.2**
SJUU	**Sjulsmark**	**9.36**	**142**	P	**Pn**	**02 58 06.8**	**-2.4**
KALU	**Kalix**	**9.38**	**137**	P	**Pn**	**02 58 08.2**	**-1.1**
SVAU	**Svanoeiden**	**9.97**	**149**	P	**Pn**	**02 58 15.6**	**-1.9**
BURU	**Burvik**	**10.17**	**144**	P	**Pn**	**02 58 18.3**	**-2.0**
BURU				S	Sn	02 59 44.2	-30
APA0	**Apatity Array**	**10.24**	**112**	Pn	**Pn**	**02 58 18.3**	**-2.9**
	baz=316,slow=10						
APA0	**Apatity Array**	**10.24**	**112**	Pn	**Pn**	**02 58 18.3**	**-2.9**
	baz=316,slow=10						
APA0	**Apatity Array**	**10.24**	**112**	P	**Pn**	**02 58 18.7**	**-2.5**
APA0				S	Sn	03 00 00.6	-15
APA0	**Apatity Array**	**10.24**	**112**	Pn	**Pn**	**02 58 18.3**	**-2.9**
	SNR=55						
APA	**Apatity**	**10.38**	**112**	P	**Pn**	**02 58 20.6**	**-2.5**
APA				S	Sn	03 00 04.3	-15
LVZ	**Lovozero**	**10.48**	**109**	*eP*	**Pn**	**02 58 21.9**	**-2.6**
LVZ				pmax	pmax		
	comp=Z,71nm,0.8s						
LVZ	**Lovozero**	**10.48**	**109**	*eP*	**Pn**	**02 58 21.9**	**-2.6**
	comp=Z,71nm,0.8s						
LVZ	**Lovozero**	**10.48**	**109**	*ePn*	**Pn**	**02 58 21.9**	**-2.6**
	comp=Z,71nm,0.8s						
LVZ				*eSn*	Sn	03 00 13.1	-8.5
UMAU	**Umeaa**	**10.71**	**147**	P	**Pn**	**02 58 25.4**	**-2.2**
SOLU	**Solleftea**	**10.86**	**156**	P	**Pn**	**02 58 27.9**	**-1.8**
HUSU	**Husum**	**11.01**	**151**	P	**Pn**	**02 58 30.3**	**-1.5**
HEMU	**Hemsoen**	**11.50**	**155**	P	**Pn**	**02 58 35.9**	**-2.6**
NB2	**NORSAR Subarra**	**12.57**	**172**	Pn	**Pn**	**02 58 52.2**	**-0.9**
	baz=352,slow=14						
NB2	**NORSAR Subarra**	**12.57**	**172**	Pn	**Pn**	**02 58 52.2**	**-0.9**
	baz=352,slow=14						
NB2	**NORSAR Subarra**	**12.57**	**172**	Pn	**Pn**	**02 58 52.2**	**-0.9**
	SNR=55						
NOA	**NORSAR Array B**	**12.57**	**172**	Pn	**Pn**	**02 58 50.5**	**-2.6**
	comp=Z,1.0nm,0.3s,baz=352,slow=12,SNR=18						
NOA				Sn	Sn	03 00 58.5	-14
	comp=Z,0.3nm,0.3s,baz=245,slow=20,SNR=3.0						
NOA				LR	LR	03 03 22.9	
	comp=Z,417nm,19.8s,baz=350,slow=36						
NAO01	**NORSAR Array S**	**12.75**	**173**	*ePn*	**Pn**	**02 58 53.1**	**-2.5**
NAO01	**NORSAR Array S**	**12.75**	**173**	*ePn*	**Pn**	**02 58 53.1**	**-2.5**
SUMG	**Summit**	**13.21**	**288**	*eP*	**Pn**	**02 59 00.1**	**-2.0**
SUMG	**Summit**	**13.21**	**288**	*eP*	**Pn**	**02 59 00.1**	**-2.0**
SUMG	**Summit**	**13.21**	**288**	*ePn*	**Pn**	**02 59 00.1**	**-2.0**
BORG	**Borgarnes**	**13.34**	**244**	LR	LR	03 02 42.6	
	comp=Z,406nm,20.8s,baz=8.1,slow=31						
HFS	**Hagfors**	**13.61**	**167**	Pn	**Pn**	**02 59 04.7**	**-2.5**
	baz=355,slow=11						
HFS	**Hagfors**	**13.61**	**167**	Pn	**Pn**	**02 59 04.7**	**-2.5**
	baz=355,slow=11						
HFS	**Hagfors**	**13.61**	**167**	Pn	**Pn**	**02 59 05.2**	**-1.9**
	comp=Z,0.7nm,0.3s,baz=1.8,slow=12,SNR=21						
HFS				Sn	Sn	03 01 25.0	-13
	comp=Z,0.3nm,0.3s,baz=0.0,slow=23,SNR=4.0						
HFS				LR	LR	03 03 55.5	
	comp=Z,819nm,19.3s,baz=346,slow=36						
HFS	**Hagfors**	**13.61**	**167**	Pn	**Pn**	**02 59 04.7**	**-2.5**
	SNR=55						
FIA0	**FINESS Array S**	**13.90**	**141**	Pn	**Pn**	**02 59 08.9**	**-2.3**
	baz=330,slow=10						
FIA0	**FINESS Array S**	**13.90**	**141**	Pn	**Pn**	**02 59 08.9**	**-2.3**
	baz=330,slow=10						
FIA0	**FINESS Array S**	**13.90**	**141**	Pn	**Pn**	**02 59 08.9**	**-2.3**
	SNR=55						
FIA1	**FINESS Array S**	**13.90**	**141**	*ePn*	**Pn**	**02 59 08.8**	**-2.4**
FIA1	**FINESS Array S**	**13.90**	**141**	*ePn*	**Pn**	**02 59 08.8**	**-2.4**
FINES	**FINESS Array B**	**13.90**	**141**	Pn	**Pn**	**02 59 08.9**	**-2.3**
	comp=Z,2.0nm,0.3s,baz=333,slow=10,SNR=83						
FINES				LR	LR	03 04 12.2	
	comp=Z,724nm,21.4s,baz=275,slow=36						
FINES	**FINESS Array B**	**13.90**	**141**	P	**Pn**	**02 59 08.9**	**-2.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.3s						
FINES				MLR	MLR		
	comp=Z,724nm,21.4s						
TMCR	**Tamitsa**	**14.22**	**115**	*eP*	**P**	**02 59 23.1**	**+0.2**
TMCR				pmax	pmax		
	comp=Z,48nm,1.5s						
TMCR	**Tamitsa**	**14.22**	**115**	*eP*	**P**	**02 59 23.1**	**+0.2**
	comp=Z,48nm,1.5s						
VSU	**Vasula**	**16.82**	**143**	*d iP*	**Pn**	**02 59 45.8**	**-3.9**
KLMR	**Klimovskoe**	**17.38**	**120**	*eP*	**Pn**	**02 59 54.2**	**-2.4**
KLMR				pmax	pmax		
	comp=Z,71nm,1.5s						
KLMR	**Klimovskoe**	**17.38**	**120**	*eP*	**Pn**	**02 59 54.2**	**-2.4**
	comp=Z,71nm,1.5s						
PRGR	**Permogore**	**18.30**	**110**	*eP*	**Pn**	**03 00 05.7**	**-2.2**
PRGR				pmax	pmax		
	comp=Z,14nm,0.4s						
PRGR	**Permogore**	**18.30**	**110**	*eP*	**Pn**	**03 00 05.7**	**-2.2**
	comp=Z,14nm,0.4s						
EKA	**Eskdalemuir Ar**	**18.73**	**199**	P	**P**	**03 00 09.6**	**-3.2**
	baz=7.5,slow=12,SNR=3.2						
SFJD	**Kangerlussuaq**	**19.89**	**281**	LR	LR	03 07 07.7	
	comp=Z,749nm,18.9s,baz=53,slow=34						
MOS	**Moscow**	**21.52**	**129**	*eP*	**P**	**03 00 41.4**	**-1.7**
MOS				pmax	pmax		
	comp=Z,55nm,1.5s						
MOS				pmax	pmax		
	comp=Z,100nm,2.0s						
MOS	**Moscow**	**21.52**	**129**	*eP*	**P**	**03 00 41.4**	**-1.7**
	comp=Z,100nm,2.0s						
OBN	**Obninsk**	**21.87**	**132**	P	**P**	**03 00 47.8**	**+1.0**
	comp=Z,13nm,0.5s,baz=328,slow=4.2,SNR=8.8						
OBN				LR	LR	03 09 24.3	
	comp=Z,307nm,18.5s,baz=274,slow=37						
OBN	**Obninsk**	**21.87**	**132**	*c iP*	**P**	**03 00 46.5**	**-0.3**
OBN				*i*		03 00 53.4	
OBN				*i*		03 01 07.9	
OBN				pmax	pmax		
	comp=Z,80nm,1.7s						
OBN				MLR	MLR		
	comp=Z,595nm,23.0s						
OBN	**Obninsk**	**21

DPC MLR MLR
comp=Z,300nm,17.4s
DPC Dobruska-Polom 23.52 166 P **P** **03 01 04.1 -0.1**
BAIF Baives 23.55 185 *eP* **P** **03 01 03.0 -1.4**
BAIF Baives 23.55 185 *eP* **P** **03 01 03.0 -1.4**
BAIF Baives 23.55 185 *eP* **P** **03 01 03.0 -1.4**
PRA Prague 23.68 169 *eS* **S** **03 05 20.9 +1.0**
PRU Pruhonice 23.77 169 *eP* **P** **03 01 07.7 +1.1**
PRU *ex* x 03 01 13.1
PRU *eS* **S** **03 05 23.4 +2.1**
PRU AMS AMS 03 09 50.0
comp=Z,300nm,19.5s
PRU Pruhonice 23.77 169 *eP* **P** **03 01 07.7 +1.1**
PRU *e* 03 01 13.1
PRU *eS* **S** **03 05 23.4 +2.1**
PRU MLR MLR
comp=Z,300nm,19.5s
KRLC Kraliky 23.82 165 *eP* **P** **03 01 07.3 +0.1**
KRLC *epP* **pP** **03 01 11.3 +0.2**
KRLC Kraliky 23.82 165 *eP* **P** **03 01 07.3 +0.1**
KRLC *e* 03 01 11.3
KRLC Kraliky 23.82 165 P **P** **03 01 07.3 +0.1**
GOPC GO Pecny, Ondr 23.86 168 *eS* **S** **03 05 23.5 +0.7**
GOPC AMS AMS 03 10 20.0
comp=Z,400nm,17.3s
OKC Ostrava-Krasne 24.17 163 *eP* **P** **03 01 12.2 +1.8**
OKC *ex* x 03 01 18.4
OKC AMS AMS 03 10 40.0
comp=Z,300nm,18.2s
OKC Ostrava-Krasne 24.17 163 *eP* **P** **03 01 12.2 +1.8**
OKC *e* 03 01 18.4
OKC MLR MLR
comp=Z,300nm,18.2s
MORC Moravsky Berou 24.18 164 *eP* **P** **03 01 10.3 -0.2**
MORC pmax pmax
comp=Z,7.0nm,1.0s
MORC Moravsky Berou 24.18 164 *eP* **P** **03 01 10.5 0.0**
MORC Moravsky Berou 24.18 164 *eP* **P** **03 01 10.3 -0.2**
comp=Z,7.3nm,1.0s
TREC Trest 24.51 167 AMS AMS 03 10 30.0
comp=Z,400nm,18.5s
TREC Trest 24.51 167 *eP* P 03 01 21.8 +8.2
TREC MLR MLR
comp=Z,400nm,18.5s
KHC Kasperske Hory 24.57 170 *eP* **P** **03 01 15.7 +1.6**
KHC *ex* x 03 01 22.2
KHC AMS AMS 03 10 50.0
comp=Z,300nm,16.8s
KHC Kasperske Hory 24.57 170 *eP* **P** **03 01 15.7 +1.6**
KHC *e* 03 01 22.2
KHC MLR MLR
comp=Z,300nm,16.8s
VRAC Vranov 24.57 166 P **P** **03 01 14.9 +0.8**
comp=Z,8.6nm,0.8s,baz=353,slow=11,SNR=12
VRAC LR LR 03 11 04.8
comp=Z,328nm,18.2s,baz=348,slow=37
VRAC Vranov 24.57 166 P **P** **03 01 14.9 +0.8**
VRAC pmax pmax
comp=Z,9.0nm,0.8s
VRAC MLR MLR
comp=Z,328nm,18.2s
AKASG Malin Array Be 24.69 146 P **P** **03 01 14.6 -0.4**
comp=Z,4.0nm,0.5s,baz=342,slow=9.4,SNR=18
AKASG LR LR 03 10 39.0
comp=Z,731nm,20.9s,baz=330,slow=36
AKASG Malin Array Be 24.69 146 P **P** **03 01 14.6 -0.4**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG MLR MLR
comp=Z,731nm,20.9s
AKBB Malin Array Si 24.69 146 *eP* **P** **03 01 14.5 -0.5**
AKBB Malin Array Si 24.69 146 *eP* **P** **03 01 14.5 -0.5**
KIEV Kiev 24.69 146 *eP* **P** **03 01 14.4 -0.7**
KIEV pmax pmax
comp=Z,5.0nm,0.6s
KIEV Kiev 24.69 146 *eP* **P** **03 01 14.4 -0.7**
comp=Z,5.4nm,0.6s
AK01 Malin Array Si 24.69 146 *eP* **P** **03 01 13.9 -1.2**
LPSR Galich'ya Gora 24.72 131 *eP* **P** **03 01 15.6 +0.2**
LPSR pmax pmax
comp=N,7.0nm,1.0s
LPSR pmax pmax
comp=E,7.0nm,1.0s
LPSR pmax pmax
comp=Z,20nm,1.0s
LPSR MLR MLR
comp=N,290nm,27.0s
LPSR MLR MLR
comp=E,1μm,27.0s
LPSR MLR MLR
comp=Z,430nm,27.0s
AK02 Malin Array Si 24.73 146 *eP* **P** **03 01 14.8 -0.6**
LVV L'vov 24.80 154 *eP* **P** **03 01 16.9 +0.8**
KWP Kalwaria Pacla 24.83 156 *eP* **P** **03 01 16.9 +0.5**
KWP pmax pmax
comp=Z,18nm,1.1s
KWP Kalwaria Pacla 24.83 156 *eP* **P** **03 01 16.9 +0.5**
comp=Z,18nm,1.1s
RES Resolute Bay 24.86 322 LR LR 03 10 46.6
comp=Z,366nm,20.8s,baz=18,slow=36
GERES GERESS Array B 24.86 170 P **P** **03 01 17.7 +0.9**
comp=Z,3.1nm,0.9s,baz=0.9,slow=8.1,SNR=18
GERES LR LR 03 11 10.8
comp=Z,294nm,18.7s,baz=337,slow=37
GERES GERESS Array B 24.86 170 P **P** **03 01 17.7 +0.9**
GERES pmax pmax
comp=Z,3.0nm,0.9s
GERES MLR MLR
comp=Z,294nm,18.7s
STHS Stebnicka Huta 24.88 158 *eP* **P** **03 01 18.7 +1.9**
STHS pmax pmax
comp=Z,4.0nm,0.9s
STHS Stebnicka Huta 24.88 158 *eP* **P** **03 01 18.7 +1.9**
PAGF Fort de Pagny 25.02 183 *eP* **P** **03 01 18.2 +0.1**
comp=Z,4.9nm,1.0s
PAGF Fort de Pagny 25.02 183 *eP* **P** **03 01 18.2 +0.1**
comp=Z,4.9nm,1.0s
FLN La Foliniere 25.05 193 *eP* **P** **03 01 18.6 +0.2**
comp=Z,26nm,1.4s
FLN La Foliniere 25.05 193 *eP* **P** **03 01 18.6 +0.2**
FLN pmax pmax
comp=Z,26nm,1.4s
FLN La Foliniere 25.05 193 *eP* **P** **03 01 18.6 +0.2**
comp=Z,26nm,1.4s
CDF Champ du Feu 25.15 180 *eP* **P** **03 01 18.3 -1.1**
CDF Champ du Feu 25.15 180 *eP* **P** **03 01 18.3 -1.1**
CDF Champ du Feu 25.15 180 *eP* **P** **03 01 18.3 -1.1**
LDF La Druitiere 25.20 192 *eP* **P** **03 01 20.1 +0.4**
comp=Z,21nm,1.2s
LDF La Druitiere 25.20 192 *eP* **P** **03 01 20.1 +0.4**
LDF pmax pmax
comp=Z,21nm,1.2s
LDF La Druitiere 25.20 192 *eP* **P** **03 01 20.1 +0.4**
comp=Z,21nm,1.2s
BFO Black Forest 25.23 179 *ceP* **P** **03 01 22.7 +2.6**
KOLS Kolonicke sedl 25.47 157 *eP* **P** **03 01 23.0 +0.9**
KOLS pmax pmax
comp=Z,5.0nm,0.9s
KOLS Kolonicke sedl 25.47 157 *eP* **P** **03 01 23.0 +0.9**
VYHS Vyhne 25.56 162 *eP* **P** **03 01 24.5 +1.5**
VYHS pmax pmax
comp=Z,5.0nm,1.4s
VYHS Vyhne 25.56 162 *eP* **P** **03 01 24.5 +1.5**
ROSF Rostrenen 25.68 197 *eP* **P** **03 01 24.2 +0.1**
comp=Z,24nm,1.3s
ROSF Rostrenen 25.68 197 *eP* **P** **03 01 24.2 +0.1**
ROSF pmax pmax
comp=Z,24nm,1.3s
ROSF Rostrenen 25.68 197 *eP* **P** **03 01 24.2 +0.1**
comp=Z,24nm,1.3s
UZH Uzhgorod 25.77 157 *eP* **P** **03 01 24.7 -0.1**
UZH *e* 03 01 28.1
UZH *e* 03 02 07.7
UZH *ePPP* PPP 03 02 21.1
UZH *eS* **S** **03 05 47.7 -5.5**
UZH *eSS* **SnSn** **03 06 49.3 +1.1**
UZH *eSSS* SSS 03 07 18.3
UZH MLR MLR
comp=N,260nm,16.0s
UZH MLR MLR
comp=E,170nm,16.0s
UZH MLR MLR
comp=Z,250nm,16.0s
CONA Conrad Observa 25.90 167 ⇑ *iP* **P** **03 01 26.6 +0.4**
comp=Z,6.6nm,0.9s

ARU Arti 26.27 103 *diP* P 03 01 33.7 +4.4
ARU 03 02 12.0
ARU S S 03 06 08.7 +7.7
ARU SS **SnSn** **03 07 03.2 +3.0**
ARU pmax pmax
comp=Z,27nm,1.7s
ARU MLR MLR
comp=Z,198nm,17.0s
ARU Arti 26.27 103 *eP* **P** **03 01 31.4 +2.1**
comp=Z,14nm,1.0s
LOR Lormes 26.35 186 *eP* **P** **03 01 30.1 0.0**
comp=Z,16nm,1.2s
LOR Lormes 26.35 186 *eP* **P** **03 01 30.1 0.0**
LOR pmax pmax
comp=Z,16nm,1.2s
LOR Lormes 26.35 186 *eP* **P** **03 01 30.1 0.0**
comp=Z,16nm,1.2s
SSF Saint Saulge 26.56 186 *eP* **P** **03 01 31.8 -0.3**
comp=Z,5.1nm,0.9s
SSF Saint Saulge 26.56 186 *eP* **P** **03 01 31.8 -0.3**
SSF pmax pmax
comp=Z,5.0nm,0.9s
SSF Saint Saulge 26.56 186 *eP* **P** **03 01 31.8 -0.3**
comp=Z,5.1nm,0.9s
DAVOX Davos/Dischmat 26.80 176 LR LR 03 12 14.8
comp=Z,121nm,18.6s,baz=346,slow=37
AVF Avril sur Loir 26.84 186 *eP* **P** **03 01 34.6 +0.1**
comp=Z,5.5nm,1.0s
AVF Avril sur Loir 26.84 186 *eP* **P** **03 01 34.6 +0.1**
AVF pmax pmax
comp=Z,6.0nm,1.0s
AVF Avril sur Loir 26.84 186 *eP* **P** **03 01 34.6 +0.1**
comp=Z,5.5nm,1.0s
CABF La Chapelle 26.96 182 *eP* **P** **03 01 36.1 +0.3**
comp=Z,28nm,1.4s
CABF La Chapelle 26.96 182 *eP* **P** **03 01 36.1 +0.3**
CABF pmax pmax
comp=Z,28nm,1.4s
CABF La Chapelle 26.96 182 *eP* **P** **03 01 36.1 +0.3**
comp=Z,28nm,1.4s
BUR08 Bucovina Ar. S 27.09 153 *eP* **P** **03 01 37.1 +0.2**
MFF Saint Martin d 27.18 192 *eP* **P** **03 01 38.9 +1.2**
comp=Z,18nm,1.2s
MFF Saint Martin d 27.18 192 *eP* **P** **03 01 38.9 +1.2**
MFF pmax pmax
comp=Z,18nm,1.2s
MFF Saint Martin d 27.18 192 *eP* **P** **03 01 38.9 +1.2**
comp=Z,18nm,1.2s
FRB Frobisher Bay 27.28 290 LR LR 03 11 44.0
comp=Z,232nm,18.4s,baz=12,slow=35
TCF Toulx Ste Croi 27.38 188 *eP* **P** **03 01 39.6 +0.1**
comp=Z,20nm,1.4s
TCF Toulx Ste Croi 27.38 188 *eP* **P** **03 01 39.6 +0.1**
TCF pmax pmax
comp=Z,20nm,1.4s
TCF Toulx Ste Croi 27.38 188 *eP* **P** **03 01 39.6 +0.1**
comp=Z,20nm,1.4s
RJF Les Rejaudoux 28.39 189 *eP* **P** **03 01 48.8 +0.3**
RJF Les Rejaudoux 28.39 189 *eP* **P** **03 01 48.8 +0.3**
RJF Les Rejaudoux 28.39 189 *eP* **P** **03 01 48.8 +0.3**
MLR Munte Rosu 29.30 153 LR LR 03 13 51.6
comp=Z,137nm,19.2s,baz=350,slow=37
BRVK Borovoye 32.53 94 *ljeP* P 03 02 27.3 +2.4
BRVK pmax pmax
comp=Z,7.0nm,1.7s
BRVK MLR MLR
comp=Z,175nm,18.0s
ABKAR Akbulak array 33.04 108 *eP* **P** **03 02 29.8 +0.4**
comp=Z,1.4nm,0.7s
KIV Kislovodsk 33.72 132 *eP* **P** **03 02 36.9 +1.4**
KIV *eS* **S** **03 07 58.8 +0.7**
KIV pmax pmax
comp=Z,4.0nm,0.9s
KIV MLR MLR
comp=Z,233nm,15.0s
KBZ Khabaz 33.98 131 P P 03 02 39.3 +1.7
comp=Z,1.6nm,0.6s,baz=349,slow=8.9,SNR=4.5
KBZ LR LR 03 16 56.8
comp=Z,282nm,21.9s,baz=252,slow=37
KBZ Khabaz 33.98 131 P P 03 02 39.3 +1.7
KBZ pmax pmax
comp=Z,2.0nm,0.6s
KBZ MLR MLR
comp=Z,282nm,21.9s
SCHQ Schefferville 34.30 279 LR LR 03 15 00.0
comp=Z,330nm,21.6s,baz=64,slow=34
ESDC Sonseca Array 34.34 196 P **P** **03 02 40.9 +0.1**
comp=Z,0.1nm,0.3s,baz=11,slow=7.4,SNR=3.2
ZALV Zalesovo Beam 35.89 80 P P 03 02 56.1 +2.1
comp=Z,0.7nm,0.3s,baz=330,slow=8.4,SNR=3.4
ZALV LR LR 03 20 33.1
comp=Z,164nm,20.6s,baz=248,slow=41
ZALV Zalesovo Beam 35.89 80 P P 03 02 56.1 +2.1
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV MLR MLR
comp=Z,164nm,20.6s
BR131 Keskin Array S 36.08 145 *eP* **P** **03 02 57.4 +1.5**
comp=Z,1.2nm,0.6s
GNI Garni 37.80 131 P P 03 03 13.0 +2.4
GNI pmax pmax
comp=Z,19nm,2.1s
GNI MLR MLR
comp=Z,277nm,24.0s
KEST Kesra 37.83 178 LR LR 03 18 07.4
comp=Z,37nm,19.2s,baz=306,slow=35
BILL Bilibino 38.05 13 *i*P P 03 03 14.3 +2.1
BILL *i* 03 03 23.3
BILL pmax pmax
comp=Z,4.0nm,1.5s
YKA Yellowknife Ar 38.93 321 P **P** **03 03 20.9 +1.2**
comp=Z,0.6nm,0.6s,baz=13,slow=8.6,SNR=5.4
YKA PcP **PcP** **03 05 30.7 +0.9**
comp=Z,0.3nm,0.6s,baz=12,slow=2.9,SNR=5.4
YKA Yellowknife Ar 38.93 321 P **P** **03 03 20.9 +1.2**
YKA 03 05 30.7
YKA pmax pmax
comp=Z,1.0nm,0.6s
ILAR Eielson Array 40.97 344 P P 03 03 39.2 +2.7
comp=Z,1.0nm,0.8s,baz=3.3,slow=6.7,SNR=13
ILAR PcP **PcP** **03 05 38.7 +2.3**
comp=Z,0.2nm,0.8s,baz=331,slow=4.5,SNR=4.2
ILAR Eielson Array 40.97 344 P P 03 03 39.3 +2.7
ILAR 03 05 38.7
ILAR pmax pmax
comp=Z,1.0nm,0.8s
MK31 Makanchi Array 41.58 87 *eP* P 03 03 44.0 +2.1
MK31 Makanchi Array 41.58 87 *eP* P 03 03 44.0 +2.1
MKAR Makanchi Array 41.58 87 P P 03 03 44.3 +2.4
comp=Z,1.1nm,0.9s,baz=322,slow=7.7,SNR=8.2
MKAR LR LR 03 25 11.1
comp=Z,152nm,18.1s,baz=326,slow=42
MKAR Makanchi Array 41.58 87 P P 03 03 44.3 +2.4
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR MLR MLR
comp=Z,153nm,18.1s
AAK Ala-Archa 43.17 97 P P 03 03 57.0 +2.0
AAK pmax pmax
comp=Z,6.0nm,1.0s
AAK MLR MLR
comp=Z,294nm,20.0s
ULM Lac du Bonnet 46.21 300 P **P** **03 04 18.5 -0.4**
comp=Z,2.1nm,0.8s,baz=54,slow=4.1,SNR=5.6
ULM LR LR 03 23 33.7
comp=Z,298nm,18.9s,baz=45,slow=36
ULM Lac du Bonnet 46.21 300 P **P** **03 04 18.5 -0.4**
ULM pmax pmax
comp=Z,2.0nm,0.8s
ULM MLR MLR
comp=Z,298nm,19.0s
SONM Songino Array 47.28 65 P P 03 04 30.0 +2.6
comp=Z,0.7nm,0.8s,baz=338,slow=7.6,SNR=4.2
SONM Songino Array 47.28 65 P P 03 04 30.0 +2.6
SONM pmax pmax
comp=Z,1.0nm,0.8s
ULN Ulaanbaatar 47.42 64 *eP* P 03 04 31.4 +2.8
ULN pmax pmax
comp=Z,4.0nm,1.2s
ULN MLR MLR
comp=Z,113nm,19.0s
HHC Hu-ho-hao-te 55.13 64 *eP* P 03 05 28.9 +2.5
HHC PP **PP** **03 07 32.9 +3.6**
HHC S **S** **03 13 07.9 -0.7**
HHC Hu-ho-hao-te 55.13 64 SS **SS** **03 16 50.1 -1.7**
HHC pmax pmax
comp=Z,16nm,1.0s
HHC pmax pmax
comp=Z,84nm,8.6s
HHC LR LR
comp=N,150nm,18.5s
HHC LR LR
comp=E,140nm,19.7s
HHC LR LR
comp=Z,98nm,17.3s
PDAR Pinedale Array 56.48 308 P **P** **03 05 37.2 +1.0**
comp=Z,0.2nm,0.5s,baz=17,slow=7.4,SNR=2.4
PDAR LR LR 03 29 57.4
comp=Z,131nm,19.2s,baz=42,slow=36
TORD Torodi Ar. Bea 60.40 187 P **P** **03 06 02.6 -0.9**
comp=Z,1.1nm,0.6s,baz=0.3,slow=6.5,SNR=15
KSRS Korea Array 62.28 51 LR LR 03 39 07.5
comp=Z,46nm,18.1s,baz=360,slow=42
NVAR Mina Array Bea 62.52 314 P P 03 06 19.9 +2.0
comp=Z,0.7nm,0.7s,baz=9.9,slow=7.2,SNR=3.2
ANMO Albuquerque 63.21 303 P P 03 06 32.0 +9.4
ANMO pmax pmax
comp=Z,23nm,2.5s
ANMO MLR MLR
comp=Z,907nm,18.0s
TXAR Lajitas Array 67.88 299 P P 03 06 55.2 +2.6
comp=Z,0.4nm,0.7s,baz=29,slow=5.9,SNR=4.7
TXAR LR LR 03 36 41.7
comp=Z,180nm,18.6s,baz=0.0,slow=36
CMAR Chiang Mai Arr 72.84 83 LR LR 03 47 02.5
comp=Z,38nm,18.2s,baz=220,slow=42
ROSC El Rosal 83.06 264 LR LR 03 41 42.6
comp=Z,39nm,21.2s,baz=272,slow=33
NNA Nana 99.81 261 LR LR 03 57 05.6
comp=Z,16nm,18.0s,baz=12,slow=37
WRA Warramunga Arr 119.08 60 PKP **PKPdf** **03 14 42.2 -0.6**
comp=Z,0.3nm,0.8s,baz=326,slow=2.3,SNR=2.7
ASAR Alice Springs 122.55 61 PKP **PKPdf** **03 14 48.8 -0.6**
comp=Z,0.5nm,0.6s,baz=357,slow=1.8,SNR=6.8
ASAR Alice Springs 122.55 61 PKIKP **PKPdf** **03 14 48.8 -0.6**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
VNA2 Neumayer--Watz 144.49 188 P **PKPdf** **03 15 29.2 +0.6**
baz=336,slow=3.5
VNA3 Neumayer Olymp 144.91 190 P **PKPdf** **03 15 30.6 +1.2**
SNAA Sanae 145.07 186 P **PKPdf** **03 15 28.5 -1.2**

KRSC 20 03:00:21.5±1.3, **49°.94N**×**156°.92E, h61**km±23km, **ML3.6, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.90**	**326**	*eP*		Pn 03 00 39.1	+0.8
SKR				*eS*		Sn 03 00 51.9	+1.2
PAU	**Pauzhetka**	**1.53**	**358**	*eS*		Sn 03 01 08.4	+2.9
MIPR	**Malaya Ipel'ka**	**2.34**	**358**	*eP*		Pn 03 00 59.1	+1.5
ASAK	**Asacha**	**2.52**	**14**	*eP*		Pn 03 01 02.9	+2.7
MTVR	**Mutnovka**	**2.67**	**17**	*eP*		Pn 03 01 05.3	+3.0
MTVR				*eS*		Sn 03 01 36.9	+3.3
RUS	**Russkaya**	**2.69**	**21**	*eS*		Sn 03 01 36.2	+2.5
UGLR	**Uglovaya**	**3.48**	**19**	*eP*		Pn 03 01 16.7	+3.3
SMAR	**Somma**	**3.53**	**19**	*eP*		Pn 03 01 18.0	+3.9
SDLR	**Sedlovina**	**3.56**	**19**	*eP*		Pn 03 01 17.1	+2.7
SPN	**Mys Shipunski**	**3.71**	**30**	*eP*		Pn 03 01 18.8	+2.5
SPN				*eS*		Sn 03 02 01.9	+3.2
GNL	**Ganaly**	**3.81**	**9**	*eP*		Pn 03 01 21.2	+3.3

*CRAAG **20** 03:14:15.8, 36°.57N×5°.78E, Ml3.6*
*ISCJB **20** 03:14:16.4±0.5, 37°.11N±0°.04×5°.93E±0°.04, h10km, Error ellipse: s-maj=6.1km s-min=4.3km az=33.6*
*MDD **20** 03:14:17.5±0.5, 36°.87N×5°.89E, h0km, mb4.3/12, Error ellipse: s-maj=10.5km s-min=4.3km az=37.0, PRXIMO*
*CSEM **20** 03:14:17.4±0.3, 37°.02N×5°.99E, h5km, ML3.6, Error ellipse: s-maj=9.5km s-min=6.4km az=27.0*
*LDG **20** 03:14:21.5±0.2, 37°.23N×5°.44E, h2km, Ml2.9/12, Error ellipse: s-maj=4.3km s-min=2.2km az=154.0*

ISC 20 03:14:15.5±0.7, **37°.01N**±0°.04×**5°.96E**±0°.03, **h10**km, **n115, s29**/103, **2C, Western Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DFRA	**Djebel Bou Aff**	**0.47**	**189**	P	Pg	03 14 19.7	-5.0
DFRA	**Djebel Bou Aff**	**0.47**	**189**	P	Pg	03 14 19.7	-5.0
CAEH	**'Ain El Ouahch**	**0.75**	**108**	P	**Pn**	**03 14 33.0**	**+0.8**
CAEH	**'Ain El Ouahch**	**0.75**	**108**	P	**Pn**	**03 14 33.0**	**+0.8**
CAEH	**'Ain El Ouahch**	**0.75**	**108**	P	**Pn**	**03 14 33.0**	**+0.8**
CASM	**Ain Smara**	**0.86**	**150**	P	**Pg**	**03 14 30.4**	**-1.7**
CASM	**Ain Smara**	**0.86**	**150**	P	**Pg**	**03 14 30.4**	**-1.7**
CASM	**Ain Smara**	**0.86**	**150**	P	**Pg**	**03 14 30.4**	**-1.7**
CKFL	**Kef-Lekhel**	**0.86**	**135**	P	**Pg**	**03 14 32.4**	**+0.3**
CKFL	**Kef-Lekhel**	**0.86**	**135**	P	**Pg**	**03 14 32.4**	**+0.3**
CKFL	**Kef-Lekhel**	**0.86**	**135**	P	**Pg**	**03 14 32.4**	**+0.3**
SET	**Setif**	**0.93**	**209**	P	Pg	03 14 27.0	-6.4
SET	**Setif**	**0.93**	**209**	P	Pg	03 14 27.0	-6.4
SET	**Setif**	**0.93**	**209**	P	Pg	03 14 27.0	-6.4
CTEI	**Djebel Teioual**	**1.01**	**159**	P	Pg	03 14 30.9	-4.1
CTEI	**Djebel Teioual**	**1.01**	**159**	P	Pg	03 14 30.9	-4.1
CTEI	**Djebel Teioual**	**1.01**	**159**	P	Pg	03 14 30.9	-4.1
CKHR	**Kef el Ahmar**	**1.06**	**200**	P	Pg	03 14 29.5	-6.4
CKHR	**Kef el Ahmar**	**1.06**	**200**	P	Pg	03 14 29.5	-6.4
CKHR	**Kef el Ahmar**	**1.06**	**200**	P	Pg	03 14 29.5	-6.4
CMAH	**Djebel Manchou**	**1.23**	**108**	P	**Pg**	**03 14 40.5**	**+1.3**
CMAH	**Djebel Manchou**	**1.23**	**108**	P	**Pg**	**03 14 40.5**	**+1.3**
CMAH	**Djebel Manchou**	**1.23**	**108**	P	**Pg**	**03 14 40.5**	**+1.3**
EMHD	**Djebel Mahouad**	**2.55**	**252**	P	Pn	03 14 53.0	-4.1
EMHD	**Djebel Mahouad**	**2.55**	**252**	P	Pn	03 14 53.0	-4.1
EMHD	**Djebel Mahouad**	**2.55**	**252**	P	Pn	03 14 53.0	-4.1
ETOS	**Mallorca** 12nm,0.2s,SNR=18	**3.70**	**319**	⇑P	Pn	03 15 16.0	+3.2
ETOS				S	**Sn**	**03 15 57.7**	**+1.2**
ETOS	**Mallorca** 3.4nm,0.2s 12nm,0.2s,SNR=18	**3.70**	**319**	P	Pn	03 15 16.0	+3.2
ETOS				S	**Sn**	**03 15 57.7**	**+1.2**
EIBI	**Ibiza** 3.4nm,0.2s 9.9nm,0.3s,SNR=18	**4.17**	**300**	⇑P	**Pn**	**03 15 20.9**	**+1.7**
EIBI				S	**Sn**	**03 16 07.4**	**-0.5**
EIBI	**Ibiza** 8.1nm,0.4s 9.9nm,0.3s,SNR=18	**4.17**	**300**	P	**Pn**	**03 15 20.9**	**+1.7**
EIBI				S	**Sn**	**03 16 07.4**	**-0.5**
EBEN	**Beniarda** 0.8nm,0.2s,SNR=7.9	**5.18**	**291**	P	**Pn**	**03 15 34.6**	**+1.4**
EBEN	**Beniarda** 0.8nm,0.2s,SNR=7.9	**5.18**	**291**	P	**Pn**	**03 15 34.6**	**+1.4**
CFON	**Fontmartina** 1.4nm,0.2s,SNR=5.6	**5.47**	**331**	P	Pn	03 15 40.5	+3.2
CFON				S	**Sn**	**03 16 40.0**	**-0.3**
CFON	**Fontmartina** 2.4nm,0.3s 1.4nm,0.2s,SNR=5.6	**5.47**	**331**	P	Pn	03 15 40.5	+3.2
CFON				S	**Sn**	**03 16 40.0**	**-0.3**
EPOB	**Poblet** 2.0nm,0.2s,SNR=6.4	**5.76**	**320**	P	Pn	03 15 44.1	+3.0
EPOB				S	**Sn**	**03 16 46.8**	**-0.5**
EPOB	**Poblet** 0.8nm,0.2s,SNR=7.9 2.0nm,0.2s,SNR=6.4	**5.76**	**320**	P	Pn	03 15 44.1	+3.0
EPOB				S	**Sn**	**03 16 46.8**	**-0.5**
EMUR	**La Murta** 1.2nm,0.3s,SNR=7.9	**5.79**	**280**	P	Pn	03 15 44.9	+3.3
EMUR	**La Murta** 1.2nm,0.3s,SNR=7.9	**5.79**	**280**	P	Pn	03 15 44.9	+3.3
ERTA	**Horta de San J** 0.6nm,0.1s,SNR=6.4	**5.89**	**314**	P	**Pn**	**03 15 45.5**	**+2.6**
ERTA				S	**Sn**	**03 16 49.1**	**-1.5**
ERTA	**Horta de San J** 0.3nm,0.3s 0.6nm,0.1s,SNR=6.4	**5.89**	**314**	P	**Pn**	**03 15 45.5**	**+2.6**
ERTA				S	**Sn**	**03 16 49.1**	**-1.5**
EJON	**La Jonquera** SNR=7.9	**5.92**	**337**	P	**Pn**	**03 15 45.3**	**+1.9**
EJON	**La Jonquera** SNR=7.9	**5.92**	**337**	P	**Pn**	**03 15 45.3**	**+1.9**
EMIR	**Miracle** 1.5nm,0.1s,SNR=9.6	**5.98**	**326**	P	Pn	03 15 47.6	+3.4
EMIR				S	**Sn**	**03 16 53.2**	**+0.5**
EMIR	**Miracle** 0.1nm,0.3s	**5.98**	**326**	P	Pn	03 15 47.6	+3.4

1.5nm,0.1s,SNR=9.6
EMIR S **Sn** **03 16 53.2 +0.5**
0.1nm,0.3s
PGF **Pioggiola** **6.00 22** *e*Pn Pn 03 15 49.1 +4.6
PGF *e*Sn **Sn** **03 16 53.6 +0.3**
1.4nm,0.2s
PGF **Pioggiola** **6.00 22** P Pn 03 15 49.1 +4.6
PGF S **Sn** **03 16 53.6 +0.3**
0.7nm,0.2s
PGF **Pioggiola** **6.00 22** P Pn 03 15 49.1 +4.6
PGF S **Sn** **03 16 53.6 +0.3**
0.7nm,0.2s
EMOS **Mosqueruela** **6.05 306** P **Pn** **03 15 47.3 +2.2**
1.2nm,0.1s,SNR=17
EMOS **Mosqueruela** **6.05 306** P **Pn** **03 15 47.3 +2.2**
1.2nm,0.1s,SNR=17
ETOB **Tobarra** **6.17 288** P **Pn** **03 15 48.7 +2.0**
0.5nm,0.1s,SNR=14
ETOB S **Sn** **03 16 56.2 -1.1**
0.3nm,0.2s,SNR=7.9
ETOB **Tobarra** **6.17 288** P **Pn** **03 15 48.7 +2.0**
0.5nm,0.1s,SNR=14
ETOB S **Sn** **03 16 56.2 -1.1**
0.3nm,0.2s,SNR=7.9
CLLI **Llivia** **6.27 332** P Pn 03 15 52.3 +4.2
1.2nm,0.3s,SNR=7.7
CLLI S **Sn** **03 17 01.6 +1.8**
0.5nm,0.2s,SNR=7.9
CLLI **Llivia** **6.27 332** P Pn 03 15 52.3 +4.2
1.2nm,0.3s,SNR=7.7
CLLI S **Sn** **03 17 01.6 +1.8**
0.5nm,0.2s,SNR=7.9
LMR **La Mourre** **6.33 4** *e*Pn **Pn** **03 15 51.6 +2.7**
LMR *e*Sn **Sn** **03 16 57.7 -3.5**
2.4nm,0.3s
LMR **La Mourre** **6.33 4** P **Pn** **03 15 51.6 +2.7**
LMR S **Sn** **03 16 57.7 -3.5**
1.2nm,0.3s
LMR **La Mourre** **6.33 4** P **Pn** **03 15 51.6 +2.7**
LMR S **Sn** **03 16 57.7 -3.5**
1.2nm,0.3s
CSOR **Sort** **6.52 327** P Pn 03 15 55.4 +3.7
0.7nm,0.2s,SNR=6.8
CSOR S **Sn** **03 17 06.9 +0.7**
1.4nm,0.3s,SNR=7.9
CSOR **Sort** **6.52 327** P Pn 03 15 55.4 +3.7
0.7nm,0.2s,SNR=6.8
CSOR S **Sn** **03 17 06.9 +0.7**
1.4nm,0.3s,SNR=7.9
FRF **La Foret Royal** **6.56 4** *e*Pn **Pn** **03 15 54.5 +2.4**
FRF *e*Sn **Sn** **03 17 03.6 -3.4**
1.4nm,0.3s
FRF **La Foret Royal** **6.56 4** P **Pn** **03 15 54.5 +2.4**
FRF S **Sn** **03 17 03.6 -3.4**
0.7nm,0.3s
FRF **La Foret Royal** **6.56 4** P **Pn** **03 15 54.5 +2.4**
FRF S **Sn** **03 17 03.6 -3.4**
0.7nm,0.3s
SESP **Santiago Espad** **6.85 282** P **Pn** **03 15 58.7 +2.5**
1.0nm,0.2s,SNR=7.9
SESP **Santiago Espad** **6.85 282** P **Pn** **03 15 58.7 +2.5**
1.0nm,0.2s,SNR=7.9
ESAC **San Caprasio** **6.85 315** P Pn 03 15 59.7 +3.6
11nm,0.3s,SNR=9.3
ESAC **San Caprasio** **6.85 315** P Pn 03 15 59.7 +3.6
11nm,0.3s,SNR=9.3
EHUE **Huescar** **6.86 279** P Pn 03 15 59.9 +3.7
0.3nm,0.2s,SNR=7.9
EHUE **Huescar** **6.86 279** P Pn 03 15 59.9 +3.7
0.3nm,0.2s,SNR=7.9
SBF **Sospel** **6.94 9** *e*Pn **Pn** **03 15 59.6 +2.3**
SBF *e*Sn **Sn** **03 17 13.4 -2.8**
4.2nm,0.4s
SBF **Sospel** **6.94 9** P **Pn** **03 15 59.6 +2.3**
SBF S **Sn** **03 17 13.4 -2.8**
2.1nm,0.4s
SBF **Sospel** **6.94 9** P **Pn** **03 15 59.6 +2.3**
SBF S **Sn** **03 17 13.4 -2.8**
2.1nm,0.4s
MTLF **Montolieu** **6.94 337** *e*Pn **Pn** **03 15 56.8 -0.5**
MTLF **Montolieu** **6.94 337** *e*Pg Pg 03 16 23.0 -5.4
MTLF *e*Sn Sn 03 17 08.3 -8.0
0.5nm,0.4s
MTLF **Montolieu** **6.94 337** P **Pn** **03 15 56.8 -0.5**
MTLF S Sn 03 17 08.3 -8.0
0.2nm,0.4s
MTLF **Montolieu** **6.94 337** P **Pn** **03 15 56.8 -0.5**
MTLF S Sn 03 17 08.3 -8.0
0.2nm,0.4s
SMRF **Simiane la Rot** **6.96 358** *e*Pn **Pn** **03 15 58.9 +1.3**
SMRF *e*Sn **Sn** **03 17 12.0 -4.9**
0.4nm,0.2s
SMRF **Simiane la Rot** **6.96 358** P **Pn** **03 15 58.9 +1.3**
SMRF S **Sn** **03 17 12.0 -4.9**
0.4nm,0.2s
SMRF **Simiane la Rot** **6.96 358** *e*Pn **Pn** **03 15 58.9 +1.3**
SMRF S **Sn** **03 17 12.0 -4.9**
0.4nm,0.2s
EQES **Quesada** **7.24 279** P **Pn** **03 16 02.1 +0.7**
0.8nm,0.2s,SNR=8.8
EQES S **Sn** **03 17 21.5 -2.2**
2.8nm,0.6s
EQES **Quesada** **7.24 279** P **Pn** **03 16 02.1 +0.7**
0.8nm,0.2s,SNR=8.8
EQES S **Sn** **03 17 21.5 -2.2**
2.8nm,0.6s
LASF **Ste Croix** **7.24 348** *e*Pn **Pn** **03 16 01.6 +0.2**
LASF **Ste Croix** **7.24 348** P **Pn** **03 16 01.6 +0.2**
LASF **Ste Croix** **7.24 348** P **Pn** **03 16 01.6 +0.2**
EPF **Esparros** **7.40 326** *e*Pn **Pn** **03 16 02.6 -1.0**
EPF **Esparros** **7.40 326** *e*P Pn 03 16 08.7 +5.1
EPF **Esparros** **7.40 326** P Pn 03 16 08.7 +5.1
EPF **Esparros** **7.40 326** P Pn 03 16 08.7 +5.1
MBDF **Montbardon** **7.73 4** *e*Pn **Pn** **03 16 10.1 +1.8**
MBDF **Montbardon** **7.73 4** P **Pn** **03 16 10.1 +1.8**
MBDF **Montbardon** **7.73 4** P **Pn** **03 16 10.1 +1.8**
VIVF **Saint-Julien-l** **7.90 353** *e*Pn **Pn** **03 16 11.2 +0.8**
VIVF **Saint-Julien-l** **7.90 353** P **Pn** **03 16 11.2 +0.8**
VIVF **Saint-Julien-l** **7.90 353** P **Pn** **03 16 11.2 +0.8**
ORIF **Oris-en-Rattie** **7.90 360** *e*Pn **Pn** **03 16 12.0 +1.5**
ORIF **Oris-en-Rattie** **7.90 360** P **Pn** **03 16 12.0 +1.5**
ORIF **Oris-en-Rattie** **7.90 360** P **Pn** **03 16 12.0 +1.5**
ATE **Arette** **7.93 322** P Pn 03 16 15.0 +4.1
1.6nm,0.2s,SNR=7.9
ATE **Arette** **7.93 322** P Pn 03 16 15.0 +4.1
1.6nm,0.2s,SNR=7.9
IELO **Elcoad** **8.03 319** P Pn 03 16 15.8 +3.5
SNR=7.9
IELO **Elcoad** **8.03 319** P Pn 03 16 15.8 +3.5
SNR=7.9
SJPF **Ste Jean** **8.21 320** *e*P Pn 03 16 18.8 +4.0
SJPF *e*Sn Sn 03 17 36.9 -11
0.6nm,0.3s
SJPF **Ste Jean** **8.21 320** P Pn 03 16 18.8 +4.0
SJPF S Sn 03 17 36.9 -11
0.3nm,0.3s
SJPF **Ste Jean** **8.21 320** *e*P Pn 03 16 18.8 +4.0
SJPF S Sn 03 17 36.9 -11
0.3nm,0.3s
EALK **Alkurruntz** **8.44 320** P Pn 03 16 21.7 +4.0
2.3nm,0.2s,SNR=5.2
EALK **Alkurruntz** **8.44 320** P Pn 03 16 21.7 +4.0
2.3nm,0.2s,SNR=5.2
CAF **Calviac** **8.44 341** *e*P Pn 03 16 22.3 +4.5
CAF **Calviac** **8.44 341** P Pn 03 16 22.3 +4.5
CAF **Calviac** **8.44 341** *e*P Pn 03 16 22.3 +4.5
LPG **La Plagne** **8.50 4** *e*Pn **Pn** **03 16 20.7 +1.8**
LPG *e*Sn **Sn** **03 17 49.9 -5.1**
0.8nm,0.5s
LPG **La Plagne** **8.50 4** P **Pn** **03 16 20.7 +1.8**
LPG S **Sn** **03 17 49.9 -5.1**
0.4nm,0.5s
LPG **La Plagne** **8.50 4** P **Pn** **03 16 20.7 +1.8**
LPG S **Sn** **03 17 49.9 -5.1**
0.4nm,0.5s
LPL **La Plagne** **8.52 4** *e*Pn **Pn** **03 16 20.8 +1.7**
LPL *e*Sn **Sn** **03 17 50.5 -4.9**
1.8nm,0.6s
LPL **La Plagne** **8.52 4** P **Pn** **03 16 20.8 +1.7**
LPL S **Sn** **03 17 50.5 -4.9**
0.9nm,0.6s
LPL **La Plagne** **8.52 4** P **Pn** **03 16 20.8 +1.7**
LPL S **Sn** **03 17 50.5 -4.9**
0.9nm,0.6s
ELAN **Lanestosa** **9.51 314** P Pn 03 16 36.1 +3.7
0.9nm,0.2s,SNR=7.5
ELAN **Lanestosa** **9.51 314** P Pn 03 16 36.1 +3.7
0.9nm,0.2s,SNR=7.5

*IDC **20** 03:20:47.4±1.1,22.89N×45.06W,h0km,mb3.6/7, mb1 3.9/7,mb1mx3.6/25,mbtmp3.6/7,MS3.5/10, Ms1 3.5/10,ms1mx3.2/27,Error ellipse: s-maj=31.0km s-min=27.0km az=44.0*
*ISCJB **20** 03:20:48.7±0.8,22.9N±0.2×45.0W±0.2,h21km,mb3.6/7, MS3.6/10,Error ellipse: s-maj=23.9km s-min=20.9km az=140.0*
ISC 20 03:20:50.6±1.0,**22.9N**±0.2×**45.0W**±0.2,**h21**km,**n20,** σ1°**24**/7,**mb3.7**/7,**MS3.5**/10,**Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDFB	**Brasilia**	**38.39**	**185**	P	**P**	**03 28 11.3**	**+0.6**
	2.3nm,0.7s,baz=37,slow=8.5,SNR=4.2						
DBIC	**Dimbokro**	**41.88**	**106**	LR	LR	03 42 23.2	
	comp=Z,52nm,21.7s,baz=253,slow=31						
H10N2	**ASCENSION HYDR**	**42.72**	**132**	T	T	04 13 56.5	
	baz=315,slow=75,SNR=24						
H10N3	**ASCENSION HYDR**	**42.72**	**132**	T	T	04 13 55.6	
	baz=315,slow=75,SNR=22						
H10N1	**ASCENSION HYDR**	**42.73**	**132**	T	T	04 13 56.9	
	baz=315,slow=75,SNR=24						
H10S3	**ASCENSION HYDR**	**43.41**	**133**	T	T	04 14 55.2	
	baz=317,slow=75,SNR=12						
H10S1	**ASCENSION HYDR**	**43.41**	**133**	T	T	04 14 53.9	
	baz=317,slow=75,SNR=15						
H10S2	**ASCENSION HYDR**	**43.43**	**133**	T	T	04 14 59.3	
	baz=317,slow=75,SNR=13						
LPAZ	**La Paz**	**45.01**	**212**	LR	LR	03 46 12.9	
	comp=Z,54nm,21.2s,baz=6.0,slow=34						
TORD	**Torodi Ar. Bea**	**45.31**	**94**	P	**P**	**03 29 05.9**	**-1.5**
	0.9nm,1.0s,baz=287,slow=6.9,SNR=3.5						
TORD				LR	LR	03 47 01.1	
	comp=Z,76nm,18.2s,baz=310,slow=35						
ULM	**Lac du Bonnet**	**47.92**	**318**	LR	LR	03 47 22.8	
	comp=Z,60nm,19.6s,baz=94,slow=33						
GERES	**GERESS Array B**	**52.67**	**45**	P	**P**	**03 30 05.3**	**+1.8**
	0.2nm,0.4s,baz=256,slow=4.0,SNR=4.8						
GERES				LR	LR	03 48 16.0	
	comp=Z,40nm,20.6s,baz=248,slow=31						
NOA	**NORSAR Array B**	**54.05**	**30**	LR	LR	03 49 01.0	
	comp=Z,42nm,20.8s,baz=265,slow=31						
PDAR	**Pinedale Array**	**56.39**	**307**	P	**P**	**03 30 30.7**	**-0.1**
	0.8nm,1.0s,baz=88,slow=10,SNR=4.1						
PDAR				LR	LR	03 52 12.4	
	comp=Z,36nm,19.1s,baz=98,slow=33						
YKA	**Yellowknife Ar**	**60.55**	**330**	P	**P**	**03 30 58.8**	**-0.3**
	0.2nm,0.6s,baz=100,slow=7.1,SNR=3.5						
AKASG	**Malin Array Be**	**62.78**	**43**	P	**P**	**03 31 14.4**	**0.0**
	0.2nm,0.3s,baz=272,slow=4.8,SNR=3.9						
ILAR	**Eielson Array**	**74.46**	**334**	P	**P**	**03 32 26.5**	**-0.5**
	0.8nm,0.8s,baz=64,slow=5.2,SNR=8.4						
KMBO	**Kilima Mbogo**	**83.32**	**94**	LR	LR	04 07 48.4	
	comp=Z,42nm,19.9s,baz=131,slow=34						
ZALV	**Zalesovo Beam**	**92.16**	**27**	LR	LR	04 13 59.5	
	comp=Z,19nm,18.3s,baz=250,slow=35						
MKAR	**Makanchi Array**	**95.93**	**33**	LR	LR	04 15 31.7	
	comp=Z,31nm,18.3s,baz=138,slow=34						

KMA 20 03:27:11.3,35.48N×127.51E,h0km,3C-3D,South Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSNAW	**Namwon**	**0.16**	**242**	P	Pg	03 27 14.5	+0.1
	SNR=28						
KSNAW	**Namwon**	**0.16**	**242**	P	Pg	03 27 14.5	+0.1
	SNR=28						
KSNAW	**Namwon**	**0.16**	**242**	P	Pg	03 27 14.5	+0.1
	SNR=28						
KSJEU	**Jeongeup**	**0.47**	**272**	P	Pg	03 27 19.7	-0.7
	SNR=14						
KSJEU	**Jeongeup**	**0.47**	**272**	P	Pg	03 27 19.7	-0.7
	SNR=14						
KSJEU	**Jeongeup**	**0.47**	**272**	P	Pg	03 27 19.7	-0.7
	SNR=14						
KSKWJ	**Gwangju**	**0.53**	**233**	↑P	Pg	03 27 21.4	-0.1
	SNR=15						
KSKWJ	**Gwangju**	**0.53**	**233**	↑P	Pg	03 27 21.4	-0.1
	SNR=15						
KSKWJ	**Gwangju**	**0.53**	**233**	↑P	Pg	03 27 21.4	-0.1
	SNR=15						
KSGUS	**GUNSAN**	**0.81**	**313**	↓P	Pg	03 27 26.5	-0.5
	SNR=12						
KSGUS	**GUNSAN**	**0.81**	**313**	↓P	Pg	03 27 26.5	-0.5
	SNR=12						
KSGUS	**GUNSAN**	**0.81**	**313**	↓P	Pg	03 27 26.5	-0.5
	SNR=12						
KSKOH	**Goheung**	**0.89**	**193**	P	Pg	03 27 28.9	+0.5
	SNR=18						
KSKOH	**Goheung**	**0.89**	**193**	P	Pg	03 27 28.9	+0.5
	SNR=18						
KSKOH	**Goheung**	**0.89**	**193**	P	Pg	03 27 28.9	+0.5
	SNR=18						
KSBON	**Boeun**	**1.05**	**13**	P	Pb	03 27 32.4	0.0
	SNR=7.7						
KSBON	**Boeun**	**1.05**	**13**	P	Pb	03 27 32.4	0.0
	SNR=7.7						

*ISCJB **20** 03:30:45.6±0.8,56.52S±0.09×26.4W±0.2,h35km,mb4.3/5, Error ellipse: s-maj=19.1km s-min=12.0km az=168.9*
*IDC **20** 03:30:53.2±7.7,56.81S×26.22W,h97km±73km,mb4.0/5, mb1 4.1/6,mb1mx3.8/17,mbtmp4.4/6,ML2.9/1,Error ellipse: s-maj=24.0km s-min=23.3km az=19.0*
*AWI **20** 03:30:56.7,58.16S×29.61W*
ISC 20 03:30:48.4±0.8,**56.6S**±0.1×**26.2W**±0.2,**h35**km,**n22,** σ2°**15**/12,**mb4.3**/5,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.07**	**158**	P	**P**	**03 34 33.2**	**-1.1**
VNA3	**Neumayer Olymp**	**16.29**	**161**	P	**Pn**	**03 34 34.7**	**+0.7**
VNA2	**Neumayer--Watz**	**16.47**	**158**	P	**Pn**	**03 34 37.6**	**+1.3**
	baz=315,slow=13						
SNAA	**Sanae**	**18.01**	**156**	P	**P**	**03 34 56.5**	**+0.8**
SNAA	**Sanae**	**18.01**	**156**	P	**Pn**	**03 34 53.5**	**-2.1**
	0.0nm,0.3s,baz=268,slow=10,SNR=7.5						
PMSA	**Palmer Station**	**19.98**	**230**	P	**P**	**03 35 15.8**	**-1.5**
	1.4nm,0.3s,baz=90,slow=10,SNR=4.4						
VNDA	**Vanda**	**46.05**	**182**	P	P	03 39 04.8	-3.1
	2.0nm,0.6s,baz=181,slow=7.6,SNR=19						
H10S2	**ASCENSION HYDR**	**48.37**	**15**	T	T	04 32 11.2	
	baz=189,slow=75,SNR=8.6						
H10S3	**ASCENSION HYDR**	**48.37**	**15**	T	T	04 32 11.5	
	baz=189,slow=75,SNR=9.1						
H10S1	**ASCENSION HYDR**	**48.38**	**15**	T	T	04 32 12.5	
	baz=189,slow=75,SNR=9.2						
LBTB	**Lobatse**	**48.62**	**72**	P	**P**	**03 39 27.7**	**-0.9**
	2.1nm,0.5s,baz=218,slow=10,SNR=5.6						
H10N1	**ASCENSION HYDR**	**49.48**	**15**	T	T	04 33 48.6	
	baz=202						
H10N3	**ASCENSION HYDR**	**49.49**	**15**	T	T	04 33 45.8	
	baz=202,slow=74						
H10N2	**ASCENSION HYDR**	**49.50**	**15**	T	T	04 33 50.0	
	baz=202,slow=74						
LPAZ	**La Paz**	**51.16**	**304**	P	**P**	**03 39 47.5**	**-1.1**
	2.5nm,0.4s,baz=99,slow=4.9,SNR=31						
DBIC	**Dimbokro**	**65.43**	**23**	P	**P**	**03 41 26.9**	**-0.6**
	2.9nm,0.7s,baz=177,slow=9.3,SNR=3.8						
TORD	**Torodi Ar. Bea**	**73.26**	**28**	P	**P**	**03 42 15.2**	**-0.6**
	2.3nm,0.6s,baz=201,slow=6.3,SNR=41						
H08S1	**Diego Carcia H**	**88.41**	**101**	T	T	05 22 55.8	
	baz=198						
H08S2	**Diego Garcia H**	**88.42**	**101**	T	T	05 22 56.1	
	baz=198						
H08S3	**Diego Garcia H**	**88.43**	**101**	T	T	05 22 57.4	
	baz=198						
SONM	**Songino Array**	**150.19**	**87**	PKPbc	**PKPdf**	**03 50 31.4**	**+1.9**
	0.8nm,0.4s,baz=216,slow=4.0,SNR=6.4						
ILAR	**Eielson Array**	**150.91**	**311**	PKPab	**PKPbc**	**03 50 40.6**	**+5.0**
	0.7nm,0.7s,baz=119,slow=2.3,SNR=7.7						

*ISCJB **20** 03:52:36.9±0.3,24.32S±0.03×67.28W±0.04,h181km, mb4.1/14,Error ellipse: s-maj=5.8km s-min=3.6km az=149.7*
*SJA **20** 03:52:36.6±1.0,24.28S×67.23W,h193km±14km,ML3.3, MW3.5*
*IDC **20** 03:52:37.7±1.1,24.22S×67.06W,h161km±10km,mb3.9/10, mb1 4.0/15,mb1mx3.9/21,mbtmp4.4/15,Error ellipse: s-maj=14.0km s-min=13.6km az=71.0*
*NEIC **20** 03:52:37.0±0.5,24.29S×67.10W,h158km±6km,mb4.6/5, Error ellipse: s-maj=9.2km s-min=6.0km az=93.0*
*GUC **20** 03:52:39.8±0.5,24.10S×67.85W,h225km±15km,ML5.0*
ISC 20 03:52:38.6±0.5,**24.33S**±0.04×**67.28W**±0.05,**h181**km,**n55,** σ1°**67**/61,**mb4.2**/14,**Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.66**	**104**	AML	AML	03 53 39.1	
	comp=Z,488nm,0.8s						
AZAP	**Zapla**	**2.02**	**88**	*e*P	**Pn**	**03 53 15.1**	**-1.2**
AZAP				*e*S	**Sn**	**03 53 43.8**	**-1.5**
AZAP				AML	AML	03 53 46.1	
	comp=Z,340nm,0.7s						
HJA	**Humahuaca**	**2.04**	**57**	*e*P	**Pn**	**03 53 15.8**	**-0.9**
HJA				AML	AML	03 53 47.6	
FSA	**Cafayete**	**2.10**	**147**	AML	AML	03 53 49.8	
	comp=Z,53nm,0.7s						
LVC	**Limon Verde**	**2.27**	**318**	P	**Pn**	**03 53 18.8**	**-0.2**
	comp=Z,2μm,0.3s,baz=134,slow=7.9,SNR=466						
LVC				S	**Sn**	**03 53 48.8**	**-1.7**
	comp=Z,5μm,0.3s,baz=130,slow=23,SNR=93						
LVC	**Limon Verde**	**2.27**	**318**	*e*Pn	**Pn**	**03 53 18.8**	**-0.2**
LVC				*e*S	Sn	03 53 43.6	-6.9
LVC	**Limon Verde**	**2.27**	**318**	*e*P	**Pn**	**03 53 18.9**	**-0.2**
LVC				*e*S	**Sn**	**03 53 49.3**	**-1.1**
ASTB	**Santa Barbara**	**2.58**	**82**	*e*P	**Pn**	**03 53 21.8**	**-0.7**
PB06	**IPOC Station P**	**2.65**	**307**	*e*P	**Pn**	**03 53 22.9**	**-0.5**
PB06				*e*S	**Sn**	**03 53 55.7**	**-2.5**
PB06				AML	AML	03 53 58.3	
	comp=N,2μm,0.5s						
YJA	**Yavi**	**2.68**	**37**	AML	AML	03 53 59.1	
	comp=Z,42nm,0.7s						
PB04	**IPOC Station P**	**2.89**	**315**	*e*P	Pn	03 53 30.4	+4.5
PB04				*e*S	Sn	03 54 08.6	+5.7
PB04				AML	AML	03 54 10.0	
	comp=N,2μm,0.5s						
AHML	**Horco Molle**	**3.01**	**145**	*e*P	**Pn**	**03 53 27.2**	**-0.3**
AHML				*e*S	**Sn**	**03 54 04.6**	**-1.1**
AHML				AML	AML	03 54 05.5	
	comp=Z,28nm,0.6s						
PB09	**IPOC Station P**	**3.10**	**324**	*e*P	**Pn**	**03 53 28.7**	**-0.1**
PB09				*e*S	**Sn**	**03 54 06.1**	**-1.7**
PB09				AML	AML	03 54 07.3	
	comp=N,6μm,0.6s						
PB07	**IPOC Station P**	**3.53**	**317**	*e*P	**Pn**	**03 53 33.2**	**-0.9**
PB07				*e*S	**Sn**	**03 54 13.5**	**-3.9**
PB07				AML	AML	03 54 15.4	
	comp=N,2μm,0.5s						
PB01	**IPOC Station P**	**3.85**	**328**	*e*P	**Pn**	**03 53 36.5**	**-1.6**
PB01				*e*S	**Sn**	**03 54 20.8**	**-3.7**
CYA	**Choya**	**4.31**	**162**	*e*P	**Pn**	**03 53 43.6**	**-0.1**
CYA				*e*S	**Sn**	**03 54 31.9**	**-2.9**
LCO	**Las Campanas**	**5.58**	**213**	*e*Pn	**Pn**	**03 53 58.1**	**-2.3**
	comp=N,63nm,0.4s						
LCO				*e*S	Sn	03 54 55.5	-9.3
LCO	**Las Campanas**	**5.58**	**213**	*e*P	**Pn**	**03 53 58.5**	**-1.9**
LCO				*e*S	**Sn**	**03 55 02.2**	**-2.6**
CFAA	**Coronel Fontan**	**7.30**	**186**	P	**Pn**	**03 54 21.6**	**-1.1**
	comp=N,0.2nm,0.3s,baz=6.4,slow=12,SNR=20						
CFAA				S	**Sn**	**03 55 41.2**	**-3.9**
	comp=N,0.5nm,0.3s,baz=233,slow=19,SNR=11						
LPAZ	**La Paz**	**8.04**	**354**	P	**Pn**	**03 54 31.7**	**-1.4**
	comp=N,3.3nm,0.3s,baz=170,slow=12,SNR=69						
ARE	**Arequipa**	**8.76**	**332**	*e*P	**Pn**	**03 54 41.0**	**-1.4**
CPUP	**Villa Florida**	**9.22**	**105**	*e*Pn	**Pn**	**03 54 45.5**	**-2.4**
	comp=N,0.5nm,1.1s						
SIV	**San Ignacio**	**10.13**	**36**	P	Pn	03 54 56.5	-3.5
	comp=N,2.8nm,0.3s,baz=229,slow=12,SNR=18						
SIV				S	Sn	03 56 35.2	-18
	baz=232,slow=17,SNR=5.9						
TRQA	**Tornquist**	**14.41**	**163**	*e*Pn	**Pn**	**03 55 53.1**	**-1.3**
	comp=N,30nm,0.6s						
SAML	**Samuel**	**15.78**	**15**	*e*Pn	**Pn**	**03 56 09.1**	**-2.2**
	comp=N,5.3nm,0.6s						
PLCA	**Paso Flores**	**16.59**	**189**	P	**Pn**	**03 56 22.0**	**+1.0**
	comp=N,0.6nm,0.3s,baz=13,slow=12,SNR=11						
PLCA	**Paso Flores**	**16.59**	**189**	*e*Pn	**Pn**	**03 56 21.7**	**+0.7**
	comp=N,17nm,0.6s						
BDFB	**Brasilia**	**20.04**	**68**	P	**P**	**03 56 56.7**	**-1.4**
	comp=N,6.7nm,0.3s,baz=241,slow=10,SNR=100						
PTGA	**Pitinga**	**24.50**	**18**	P	**P**	**03 57 40.5**	**-0.9**
	comp=N,2.4nm,0.3s,baz=327,slow=22,SNR=7.9						
RCBR	**Riachuelo**	**35.29**	**64**	P	**P**	**03 59 15.9**	**-0.7**
	comp=N,15nm,0.9s,baz=238,slow=12,SNR=5.3						
VNA3	**Neumayer Olymp**	**56.93**	**161**	P	**P**	**04 02 06.5**	**+2.0**
VNA2	**Neumayer--Watz**	**57.50**	**160**	P	**P**	**04 02 10.1**	**+1.6**
	baz=283,slow=7.2						
SNAA	**Sanae**	**59.13**	**161**	P	**P**	**04 02 18.9**	**-0.9**
TXAR	**Lajitas Array**	**63.80**	**325**	P	**P**	**04 02 53.3**	**+1.6**
	comp=N,0.2nm,0.6s,baz=144,slow=7.8,SNR=3.2						
QSPA	**South Pole Qui**	**65.88**	**180**	*e*P	**P**	**04 03 06.7**	**+2.0**
	comp=N,5.6nm,0.8s						
LIC	**Lamto**	**67.78**	**72**	*e*P	P	04 03 10.4	-7.0
	comp=N,17nm,0.7s						
TIC	**Toumodi**	**67.99**	**71**	*e*P	P	04 03 11.7	-7.0
KIC	**Kosan Boka**	**68.09**	**72**	*e*P	**P**	**04 03 18.8**	**-0.5**
	comp=N,13nm,0.7s						
DBIC	**Dimbokro**	**68.14**	**72**	P	**P**	**04 03 18.8**	**-0.9**
	comp=N,5.1nm,0.8s,baz=213,slow=9.5,SNR=7.6						
VNDA	**Vanda**	**74.34**	**190**	P	P	04 03 59.2	+3.4
	comp=N,2.0nm,0.9s,baz=108,slow=7.5,SNR=7.4						
TOA0	**Torodi Ar. Sit**	**76.92**	**69**	*e*P	**P**	**04 04 11.0**	**-0.5**
TOA0	**Torodi Ar. Sit**	**76.92**	**69**	*e*P	**P**	**04 04 10.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**76.92**	**69**	P	**P**	**04 04 10.9**	**-0.5**
	comp=N,5.5nm,0.7s,baz=267,slow=6.1,SNR=99						
ULM	**Lac du Bonnet**	**78.46**	**342**	P	**P**	**04 04 19.6**	**+0.4**
	comp=N,1.0nm,0.5s,baz=190,slow=9.0,SNR=4.4						
SCHQ	**Schefferville**	**78.83**	**0**	P	**P**	**04 04 22.0**	**+0.9**
	comp=N,1.3nm,0.7s,baz=170,slow=6.1,SNR=3.3						
BOSA	**Boshof**	**80.81**	**117**	P	**P**	**04 04 33.2**	**+0.5**
	comp=N,1.9nm,0.4s,baz=249,slow=4.0,SNR=11						
ESDC	**Sonseca Array**	**86.81**	**44**	P	**P**	**04 05 04.3**	**+1.8**
	comp=N,0.3nm,0.4s,baz=270,slow=3.0,SNR=5.6						
YKA	**Yellowknife Ar**	**94.34**	**340**	P	**P**	**04 05 37.4**	**+0.4**
	comp=N,0.3nm,0.6s,baz=128,slow=4.0,SNR=3.1						
ASAR	**Alice Springs**	**128.06**	**205**	PKP	**PKPdf**	**04 11 25.4**	**+1.6**
	comp=N,0.6nm,0.7s,baz=133,slow=1.7,SNR=5.5						
WRA	**Warramunga Arr**	**131.22**	**207**	PKP	**PKPdf**	**04 11 31.6**	**+1.7**
	comp=N,0.5nm,0.5s,baz=164,slow=1.6,SNR=16						
WRA				SKPbc	**SKPab**	**04 14 40.1**	**+1.8**
	comp=N,0.8nm,0.5s,baz=151,slow=3.6,SNR=15						
ZALV	**Zalesovo Beam**	**143.80**	**28**	PKP	**PKPdf**	**04 11 51.4**	**-0.4**
	comp=N,1.9nm,0.4s,baz=298,slow=3.2,SNR=9.3						
MK31	**Makanchi Array**	**146.94**	**40**	PKPbc	**PKPab**	**04 12 00.8**	**-0.7**
MKAR	**Makanchi Array**	**146.94**	**40**	PKPbc	**PKPab**	**04 12 01.1**	**-0.5**
	comp=N,3.8nm,0.6s,baz=308,slow=6.0,SNR=47						
SONM	**Songino Array**	**156.00**	**11**	PKPab	**PKPab**	**04 12 40.1**	**+0.7**
	comp=N,0.5nm,0.5s,baz=306,slow=3.4,SNR=2.3				

YMD	**Yuma Desert**	**0.70**	**61**	⇑*iP*	**Pg**	**04 01 29.5**	**+0.1**
YUH	**Yuha Desert**	**0.70**	**308**	⇓*iP*	**Pg**	**04 01 28.9**	**-0.5**
ECBX	**El Chinero**	**0.76**	**166**	*e*P9	**Pg**	**04 01 29.1**	**-1.3**
ECBX				*e*S	**Sg**	**04 01 40.1**	**-0.4**
RMX	**La Rumorosa**	**0.79**	**300**	*e*P	**Pg**	**04 01 30.5**	**-0.5**
RMX				*e*S	**Sg**	**04 01 41.0**	**-0.5**
RMX				⇑*e*		04 01 42.4	
	comp=E,391nm,0.5s						
ZAX	**El Zacaton**	**1.10**	**231**	*e*P	**Pb**	**04 01 36.7**	**+0.2**
ZAX				*e*S	**Sb**	**04 01 51.3**	**+0.6**
SPX	**San Pedro Mart**	**1.18**	**188**	*e*P	**Pn**	**04 01 37.8**	**-0.1**
SPX				*e*S	**Sg**	**04 01 54.9**	**+1.1**
SPX				⇓*e*		04 01 55.4	
SPX				IAML		04 01 55.4	
	comp=E,100nm,0.3s						
SPX				⇑*e*		04 01 57.0	
SPX				IAML		04 01 57.0	
	comp=N,83nm,0.1s						
CBX	**Cerro Bola**	**1.19**	**275**	*e*P	**Pn**	**04 01 37.5**	**-0.4**
CBX				*i* S	**Sb**	**04 01 52.8**	**-0.4**
CBX	**Cerro Bola**	**1.19**	**275**	*e*P	**Pn**	**04 01 37.7**	**-0.2**
CBX				*e*S	**Sb**	**04 01 53.2**	**0.0**
CBX				IAML		04 01 54.0	
	comp=N,283nm,0.3s						
ECNX	**Esteban Cantu**	**1.26**	**244**	*e*P	**Pb**	**04 01 39.5**	**+0.3**
ECNX				*e*S	**Sn**	**04 01 56.0**	**+0.4**
PBX	**Punta Banda**	**1.32**	**250**	*e*P	**Pb**	**04 01 40.1**	**-0.1**
PBX				*e*S	**Sn**	**04 01 57.8**	**+0.7**

IDC 20 04:03:37.3±58.0, 21°65S×179°24W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/18, mbtmp4.1/3, Error ellipse: s-maj=1044.0km s-min=149.8km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.25**	**245**	P	P	04 10 41.6	-0.7
	1.1nm,0.5s,baz=103,slow=11,SNR=8.0						
ASAR	**Alice Springs**	**43.14**	**258**	P	P	04 11 39.9	0.0
	3.9nm,0.9s,baz=94,slow=7.8,SNR=38						
WRA	**Warramunga Arr**	**43.31**	**264**	P	P	04 11 41.5	+0.2
	1.3nm,0.7s,baz=96,slow=8.3,SNR=70						

GUC 20 04:09:34.9±0.3, 37°47S×73°15W, h58km±3km, ML3.6, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGCH	**Angol**	**0.49**	**133**	*e*S	Sn	04 09 55.6	+0.6
CCSP	**San Pedro de C**	**0.63**	**3**	⇑*i*P	Pn	04 09 48.2	0.0
CCSP				*i* S	Sn	04 09 58.5	+0.7
CCSP				AML	AML	04 10 00.7	
	comp=N,5μm,0.6s						
COCH	**Cobquecura**	**1.37**	**12**	⇑*i*P	Pn	04 09 58.1	+0.3
COCH				*i* S	Sn	04 10 15.6	+0.7
ROCH	**El Roble**	**4.82**	**22**	⇑*i*P	Pn	04 10 46.0	+0.8

*KRNET **20** 04:23:05.8±0.1, 42°.16N×74°.00E, h6km, mb2.1*
*NNC **20** 04:23:05.8±2.2, 42°.28N×73°.91E, h14km±10km, mb2.8, mpv2.0, Error ellipse: s-maj=29.0km s-min=9.3km az=165.0*
*KNET **20** 04:23:05.5±0.3, 42°.16N×74°.00E, h6km±6km, ml1.4, Error ellipse: s-maj=1.5km s-min=1.2km az=19.0*
ISC 20 04:23:05.8±1.0, 42°.14N±0°.04×73°.98E±0°.02, h12km±9km, n19, σ0°.946/32, 23C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.21**	**267**	⇑P	**Pg**	**04 23 10.6**	**0.0**
	21nm,0.1s,SNR=267						
AML				⇓S	**Sg**	**04 23 14.1**	**+0.1**
	596nm,0.3s						
AML	**Almayashu**	**0.21**	**267**	⇑*i*P	**Pg**	**04 23 10.6**	**0.0**
	baz=262						
AML				⇑*i*S	**Sg**	**04 23 14.0**	**+0.1**
	baz=262						
UCH	**Uchtor**	**0.41**	**78**	⇓P	**Pg**	**04 23 13.7**	**-0.4**
	11nm,0.1s,SNR=70						
UCH				⇑S	**Sg**	**04 23 19.2**	**-0.4**
	24nm,0.1s						
UCH	**Uchtor**	**0.41**	**78**	⇑*i*P	**Pg**	**04 23 13.6**	**-0.4**
	baz=80						
UCH				⇑*i*S	**Sg**	**04 23 19.4**	**-0.2**
	baz=80						
EKS2	**Erkin-Say**	**0.54**	**344**	⇑P	**Pg**	**04 23 16.2**	**-0.2**
	1.8nm,0.1s,SNR=6.5						
EKS2				⇓S	**Sg**	**04 23 23.6**	**0.0**
	11nm,0.2s						
EKS2	**Erkin-Say**	**0.54**	**344**	⇓*i*P	**Pg**	**04 23 16.2**	**-0.2**
	baz=342						
EKS2				⇓*i*S	**Sg**	**04 23 23.6**	**0.0**
	baz=342						
EKS	**Erkin-Say**	**0.54**	**345**	*e*P	**Pg**	**04 23 16.0**	**-0.5**
	baz=343						
EKS				*e*S	**Sg**	**04 23 24.1**	**+0.4**
	baz=343						
AAK	**Ala-Archa**	**0.62**	**38**	⇑P	**Pb**	**04 23 18.9**	**+0.2**
	1.5nm,0.4s						
AAK				⇑S	**Sg**	**04 23 26.0**	**-0.3**
	2.2nm,0.3s						
AAK	**Ala-Archa**	**0.62**	**38**	⇑*i*P	**Pg**	**04 23 17.6**	**-0.4**
	baz=38						
AAK				⇑*i*S	**Sg**	**04 23 25.9**	**-0.3**
	baz=38						
KBK	**Karagaybulak**	**0.88**	**54**	⇑*i*P	**Pg**	**04 23 22.4**	**-0.5**
	baz=55						
KBK				⇑*i*S	**Sb**	**04 23 34.8**	**-0.2**
	baz=55						
KZA	**Kyzart**	**0.95**	**94**	⇓P	**Pg**	**04 23 23.6**	**-0.6**
	3.1nm,0.2s,SNR=14						
KZA	**Kyzart**	**0.95**	**94**	⇑*i*P	**Pg**	**04 23 23.6**	**-0.6**
	baz=95						
KZA				⇑*i*S	**Sg**	**04 23 36.9**	**+0.3**
	baz=95						
MNAS	**Manas**	**1.15**	**288**	⇓Pn	**Pg**	**04 23 26.7**	**-1.1**
	0.8nm,0.5s						
MNAS				⇑Sn	**Sg**	**04 23 41.7**	**-1.0**
	1.0nm,0.3s						
TKM2	**Tokmak 2**	**1.43**	**56**	⇓Sn	**Sb**	**04 23 50.6**	**-0.1**
	1.9nm,0.4s						
TKM2	**Tokmak 2**	**1.43**	**56**	⇑*i*P	**Pg**	**04 23 32.9**	**-0.3**
	baz=57						
TKM2				⇑*i*S	**Sb**	**04 23 50.6**	**-0.1**
	baz=57						
ULHL	**Ulahol**	**1.69**	**86**	⇓P	**Pn**	**04 23 36.2**	**+1.0**
	1.6nm,0.2s,SNR=8.4						
ULHL	**Ulahol**	**1.69**	**86**	⇑*i*P	**Pb**	**04 23 36.9**	**0.0**
	baz=86						
ULHL				⇑*i*S	**Sg**	**04 23 59.5**	**-0.6**
	baz=86						
SFK	**Sufi-Kurgan**	**2.16**	**190**	⇑Lg	Lg	04 24 13.0	
	2.1nm,0.5s						
KK31	**Karatay Array**	**2.73**	**292**	⇑Pg	**Pb**	**04 23 54.5**	**0.0**
	0.4nm,0.4s,baz=106,slow=16,SNR=5.2						
KK31				⇑Lg	Lg	04 24 31.4	
	1.0nm,0.5s,baz=118,slow=28,SNR=3.8						

IDC 20 05:15:36.7±40.0, 15°17S×175°12W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.7/35, mbtmp4.0/3, Error ellipse: s-maj=763.1km s-min=167.7km az=77.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.73**	**239**	P	P	05 23 34.7	-1.1
	0.9nm,0.5s,baz=93,slow=12,SNR=5.2						
WRA	**Warramunga Arr**	**48.29**	**257**	P	P	05 24 20.6	+0.4
	0.4nm,0.4s,baz=89,slow=8.0,SNR=13						
ASAR	**Alice Springs**	**48.61**	**252**	P	P	05 24 22.7	+0.1
	3.6nm,0.6s,baz=89,slow=8.0,SNR=44						

*SJA **20** 05:16:08.8±1.4, 34°.38S×72°.75W, h35km, ML3.7, MW3.7*
*ISCJB **20** 05:16:10.9±0.6, 34°.39S±0°.02×71°.99W±0°.06, h10km, mb4.0/3, Error ellipse: s-maj=6.7km s-min=3.3km az=12.5*
*NEIC **20** 05:16:11.0, 34°.40S×71°.94W, h7km, mb3.2/1, ML3.7(GUC), After GUC.*
NEIC Felt [IV] at Pichilemu and [II] at Navidad, Paredones, Rancagua and San Fernando.
*GUC **20** 05:16:11.0±0.4, 34°.40S×71°.95W, h7km±1km, ML3.7*
*IDC **20** 05:16:17.3±3.2, 34°.50S×71°.97W, h49km±33km, mb3.3/2, mb1 3.5/5, mb1mx3.4/17, mbtmp3.4/5, ML3.7/2, Error ellipse: s-maj=46.3km s-min=21.4km az=115.0*
ISC 20 05:16:11.2±0.8, 34°.39S±0°.03×71°.98W±0°.06, h10km, n32, σ1°.947/45, mb4.0/3, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.64**	**48**	⇑*i*P	**Pb**	**05 16 23.9**	**-0.6**
LNV				*i* S	**Sg**	**05 16 33.0**	**+0.9**
NICH	**Los Niches**	**0.87**	**135**	*e*P	**Pg**	**05 16 27.1**	**-0.8**
NICH				*i* S	**Sg**	**05 16 39.2**	**0.0**
TALC	**Talca**	**1.04**	**164**	⇑*i*P	**Pg**	**05 16 30.2**	**-1.1**
TALC				*i* S	**Sg**	**05 16 44.4**	**-0.4**
TACH	**Talagante**	**1.14**	**50**	⇓*i*P	**Pb**	**05 16 31.8**	**-1.2**
TACH				*i* S	**Sb**	**05 16 47.0**	**-0.9**
CHCH	**Chadas Angostu**	**1.20**	**68**	⇑*i*P	**Pn**	**05 16 32.6**	**-1.4**
CHCH				*i* S	**Sb**	**05 16 48.6**	**-0.9**
RCDM	**Rinconada Maip**	**1.33**	**48**	⇑*i*P	**Pn**	**05 16 33.7**	**-2.1**
RCDM				*i* S	**Sb**	**05 16 51.5**	**-1.9**
IHA	**Instituto Hidr**	**1.39**	**12**	*e*P	**Pn**	**05 16 35.8**	**-0.9**
IHA				*i* S	**Sb**	**05 16 54.7**	**-0.4**
PCH	**Pirque**	**1.44**	**58**	*i* P	**Pn**	**05 16 36.7**	**-0.8**
PCH				*i* S	**Sn**	**05 16 55.9**	**-0.6**
LNCH	**Linares**	**1.48**	**168**	*e*P	**Pn**	**05 16 37.5**	**-0.5**
LNCH				*e*S	**Sb**	**05 16 57.3**	**-0.5**
SJCH	**San Jose de Ma**	**1.55**	**61**	*e*P	**Pn**	**05 16 38.1**	**-0.8**
SJCH				*e*S	**Sn**	**05 16 58.7**	**-0.4**
CLCH	**Cerro Calan**	**1.56**	**51**	*e*P	**Pn**	**05 16 38.4**	**-0.6**
CLCH				*e*S	**Sn**	**05 16 59.2**	**-0.2**
CLCH				AML	AML	05 17 02.8	
	comp=N,2μm,0.7s						
ROCH	**El Roble**	**1.63**	**30**	*e*P	**Pn**	**05 16 39.1**	**-1.1**
ROCH				*e*S	**Sn**	**05 17 01.2**	**-0.1**
ROCH				AML	AML	05 17 04.2	
	comp=N,1μm,0.8s						
PEL	**Peldehue**	**1.65**	**41**	*e*P	**Pn**	**05 16 39.8**	**-0.5**
PEL				*i* S	**Sn**	**05 17 01.8**	**+0.2**
AAGR	**Agrelo**	**2.93**	**64**	*e*P	**Pb**	**05 17 04.3**	**+0.6**
ARCO	**CERRO ARCO**	**2.98**	**60**	*e*P	**Pb**	**05 17 04.5**	**+0.1**
ARCO				*e*S	**Sg**	**05 17 45.4**	**-1.5**
ARCO				AML	AML	05 17 48.3	
	comp=Z,191nm,0.7s						
AUSP	**Uspallata**	**3.07**	**46**	*e*P	**Pb**	**05 17 05.8**	**-0.2**
AUSP				*e*S	**Sb**	**05 17 46.1**	**+2.5**
ASAL	**Salagasta**	**3.19**	**57**	*e*P	**Pb**	**05 17 07.4**	**-0.5**
ASAL				*e*S	**Sb**	**05 17 49.9**	**+3.0**
RTLS	**Leoncito**	**3.43**	**42**	*e*P	**Pb**	**05 17 10.9**	**-1.3**
RTLS				*e*S	**Sb**	**05 17 55.1**	**+1.0**
RTCV	**Cerro Valdivia**	**3.84**	**50**	*e*P	Pb	05 17 14.7	-4.2
RTCV				*e*S	**Sb**	**05 18 05.8**	**+0.2**
SJA	**San Juan**	**4.06**	**46**	AML	AML	05 18 22.4	
	comp=Z,54nm,0.7s						
CFAA	**Coronel Fontan**	**4.20**	**50**	P	Pn	05 17 18.2	+2.8
	comp=Z,0.1nm,0.3s,baz=218,slow=14,SNR=19						
CFAA				S	**Sn**	**05 18 09.6**	**+5.1**
	comp=Z,0.3nm,0.3s,baz=109,slow=20,SNR=3.7						
RTLL	**Cerro Villicun**	**4.25**	**45**	*e*P	Pn	05 17 19.8	+3.8
AVFE	**Valle Fertil**	**5.34**	**47**	*e*P	Pn	05 17 34.7	+3.7
LCO	**Las Campanas**	**5.48**	**12**	*e*Pn	**Pn**	**05 17 33.2**	**+0.1**
LCO				*e*Sg	**Sg**	**05 19 04.1**	**-2.9**
PLCA	**Paso Flores**	**6.43**	**170**	P	Pn	05 17 48.5	+2.6
	comp=Z,0.5nm,0.3s,baz=354,slow=12,SNR=15						
LPAZ	**La Paz**	**18.36**	**12**	P	**P**	**05 20 28.6**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=190,slow=10,SNR=8.5						
LPAZ	**La Paz**	**18.36**	**12**	*e*Pn	**P**	**05 20 28.5**	**+1.9**
	comp=Z,1.4nm,0.8s						
PTGA	**Pitinga**	**35.33**	**21**	P	**P**	**05 23 05.4**	**-1.3**
	comp=Z,7.6nm,0.6s						
TXAR	**Lajitas Array**	**70.10**	**331**	P	**P**	**05 27 25.6**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=143,slow=9.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**84.30**	**70**	P	**P**	**05 28 44.4**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=236,slow=4.3,SNR=4.0						
KURK	**Kurchatov**	**153.13**	**44**	*e*PKPdf	**PKPdf**	**05 36 00.8**	**-0.4**
ZAA0	**Zalesovo Array**	**154.53**	**33**	*e*PKPdf	PKPdf	05 35 55.4	-7.7

*ISCJB **20** 05:24:49.7±0.5, 7°.54S±0°.04×128°.59E±0°.06, h151km, mb4.0/7, Error ellipse: s-maj=8.4km s-min=5.7km az=20.5*
*IDC **20** 05:24:49.2±2.2, 7°.55S×128°.58E, h120km±20km, mb3.9/7, mb1 3.8/11, mb1mx3.7/20, mbtmp4.2/11, Error ellipse: s-maj=23.6km s-min=14.8km az=77.0*
*DJA **20** 05:24:50.1±0.9, 8°.5S±10°×12°.9E±1°.0, h119km±7km, M4.4/7, mb4.5/5, MLv4.4/7*
ISC 20 05:24:50.7±0.6, 7°.69S±0°.06×128°.70E±0°.08, h151km, n20, σ2°.932/23, mb4.0/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**3.36**	**21**	P	**Pn**	**05 25 41.4**	**-1.3**
MSAI	**Masohi**	**4.32**	**3**	P	**Pn**	**05 25 53.9**	**-1.3**
SOEI	**Soe**	**4.84**	**245**	P	**Pn**	**05 26 01.1**	**-1.1**
SOEI				S	**Sn**	**05 26 55.5**	**-2.4**
FAKI	**Fak Fak**	**5.91**	**37**	P	**Pn**	**05 26 14.4**	**-1.8**
	49nm,0.9s,0.2nm						
MMRI	**Maumere**	**6.47**	**261**	P	Pn	05 26 19.6	-4.1
	41nm,0.6s,0.4nm						
SIJI	**Sorong**	**7.24**	**21**	P	**Pn**	**05 26 31.9**	**-2.1**
	4.9nm,0.3s,baz=222,slow=18,SNR=12						
SIJI				S	**Sn**	**05 27 51.5**	**-3.6**
	1.9nm,0.3s,baz=203,slow=21,SNR=8.0						
BKSI	**Bulukumba**	**8.84**	**285**	P	Pn	05 27 01.3	+5.9
KAPI	**Kappang**	**9.29**	**286**	P	**Pn**	**05 26 58.6**	**-2.7**
	0.6nm,0.3s,baz=73,slow=7.4,SNR=5.9						
WRA	**Warramunga Arr**	**13.35**	**156**	P	**Pn**	**05 27 54.8**	**+0.4**
	1.1nm,0.3s,baz=337,slow=13,SNR=38						
WRA				S	**Sn**	**05 30 16.8**	**-5.5**
	3.8nm,0.3s,baz=328,slow=22,SNR=14						
ASAR	**Alice Springs**	**16.65**	**163**	P	**Pn**	**05 28 38.0**	**+2.6**
	0.4nm,0.3s,baz=334,slow=8.9,SNR=18						
ASAR				S	**S**	**05 31 39.4**	**-1.2**
	1.1nm,0.3s,baz=328,slow=17,SNR=7.6						
LEM	**Lembang**	**20.93**	**271**	P	**P**	**05 29 22.6**	**+0.7**
	62nm,0.7s						
STKA	**Stephens Creek**	**26.90**	**155**	P	**P**	**05 30 20.7**	**+3.0**
	0.6nm,0.3s,baz=336,slow=10,SNR=5.5						
CMAR	**Chiang Mai Arr**	**39.21**	**312**	P	**P**	**05 32 04.8**	**+0.4**
	1.0nm,0.3s,baz=142,slow=7.8,SNR=10						
USRK	**Ussuriysk Ar.**	**51.73**	**3**	P	**P**	**05 33 42.6**	**+0.2**
	0.9nm,0.4s,baz=196,slow=7.3,SNR=4.4						
SONM	**Songino Array**	**58.70**	**343**	P	**P**	**05 34 33.5**	**+1.0**
	4.7nm,0.3s,baz=162,slow=7.9,SNR=19						
PETK	**Petropavlovsk-**	**65.38**	**19**	P	**P**	**05 35 18.5**	**+1.7**
	1.4nm,0.7s,baz=216,slow=7.1,SNR=3.6						
MKAR	**Makanchi Array**	**68.10**	**328**	P	**P**	**05 35 34.9**	**+0.6**
	1.1nm,0.4s,baz=125,slow=6.3,SNR=24						
MKAR				PcP	**PcP**	**05 36 00.6**	**+1.4**
	0.3nm,0.4s,baz=126,slow=5.1,SNR=4.5						
ZALV	**Zalesovo Beam**	**71.64**	**334**	P	**P**	**05 35 55.6**	**0.0**
	2.4nm,0.4s,baz=117,slow=5.2,SNR=14						
TXAR	**Lajitas Array**	**126.38**	**59**	PKP	**PKPdf**	**05 43 39.9**	**+3.4**
	0.2nm,0.7s,baz=195,slow=3.0,SNR=6.4						
TORD	**Torodi Ar. Bea**	**127.68**	**281**	PKP	**PKPdf**	**05 43 40.6**	**+1.5**
	0.2nm,0.6s,baz=23,slow=1.9,SNR=6.1						

*IDC **20** 05:34:31.1±1.7, 20°.93S×168°.71E, h0km, mb4.0/9, mb1 4.2/10, mb1mx4.0/28, mbtmp4.0/10, ML3.4/1, Error ellipse: s-maj=64.3km s-min=18.4km az=146.0*
*ISCJB **20** 05:34:34.2±1.4, 20°.9S±0°.3×168°.6E±0°.2, h30km, mb4.0/8, Error ellipse: s-maj=49.4km s-min=10.1km az=141.9*
ISC 20 05:34:35.9±1.6, 21°.0S±0°.4×168°.6E±0°.3, h30km, n14, σ1°.924/14, mb4.1/8, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.24**	**241**	Pn	**Pn**	**05 35 11.4**	**+0.4**
	9.3nm,0.3s,baz=270,slow=24,SNR=18						
DZM				Sn	**Sb**	**05 35 40.9**	**-2.2**
	32nm,0.3s,baz=268,slow=24,SNR=10						
CTA	**Charters Tower**	**20.89**	**268**	P	Pn	05 39 17.9	-0.7
	1.5nm,0.3s,baz=101,slow=16,SNR=3.0						
STKA	**Stephens Creek**	**26.39**	**240**	P	**P**	**05 40 11.5**	**+1.6**
	2.2nm,1.1s,baz=58,slow=8.9,SNR=3.8						
WRA	**Warramunga Arr**	**32.03**	**266**	P	**P**	**05 40 59.6**	**-0.5**
	0.4nm,0.7s,baz=94,slow=8.3,SNR=5.1						
ASAR	**Alice Springs**	**32.11**	**259**	P	**P**	**05 41 01.6**	**+0.8**
	4.9nm,0.9s,baz=82,slow=8.9,SNR=32						
PETK	**Petropavlovsk-**	**74.37**	**353**	P	**P**	**05 46 10.3**	**-0.2**
	2.2nm,0.6s,baz=151,slow=9.5,SNR=5.7						
CMAR	**Chiang Mai Arr**	**78.63**	**295**	P	**P**	**05 46 36.9**	**+1.4**
	0.8nm,0.5s,baz=128,slow=4.3,SNR=5.8						
SONM	**Songino Array**	**88.22**	**323**	P	**P**	**05 47 24.5**	**+0.3**
	0.6nm,0.6s,baz=93,slow=1.3,SNR=3.9						
NVAR	**Mina Array Bea**	**90.43**	**49**	P	**P**	**05 47 34.6**	**-0.4**
	2.0nm,0.8s,baz=231,slow=8.4,SNR=12						
ILAR	**Eielson Array**	**92.08**	**18**	P	**P**	**05 47 39.3**	**-2.4**
	0.7nm,0.8s,baz=245,slow=5.2,SNR=5.0						
MKAR	**Makanchi Array**	**102.51**	**315**	P	**Pdif**	**05 48 29.6**	**+0.3**
	0.1nm,0.5s,baz=116,slow=3.4,SNR=2.4						
NKC	**Novy Kostel**	**145.24**	**333**	*e*P	**PKPdf**	**05 54 10.9**	**+0.4**
NKC				*ex*	x	05 54 22.4	
KHC	**Kasperske Hory**	**145.54**	**331**	*e*P	**PKPab**	**05 54 12.0**	**+0.5**
KHC				*ex*	x	05 54 22.6	
GERES	**GERESS Array B**	**145.69**	**330**	PKPbc	**PKPbc**	**05 54 11.8**	**0.0**
	1.2nm,0.7s,baz=31,slow=3.1,SNR=11						

*CSEM **20** 05:52:11.9±0.6, 79°.89N×24°.33E, h10km, ML3.0, Error ellipse: s-maj=10.0km s-min=6.3km az=24.0*
*BER **20** 05:52:12.4±4.9, 80°.04N×25°.01E, h22km±29km, MD2.7, ML3.1, ML3.0(NAO)*
*NAO **20** 05:52:14.6±2.6, 79°.84N×24°.33E, h21km±11km, ML3.0*
ISC 20 05:52:13.2±2.0, 79°.83N±0°.10×24°.51E±0°.07, h10km, n26, σ1°.910/42, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**2.27**	**227**	Pn	**Pn**	**05 52 49.9**	**-0.9**
	baz=38,slow=12						
SPA0				Pg	**Pg**	**05 52 56.3**	**-0.4**
	baz=29,slow=14						
SPA0				Sn	**Sn**	**05 53 17.5**	**-1.3**
	baz=45,slow=28						
SPA0				Lg	Lg	05 53 26.5	
	baz=61,slow=37						
SPA0	**Spitsbergen Ar**	**2.27**	**227**	Pn	**Pn**	**05 52 49.9**	**-0.9**
	baz=38,slow=12						
SPA0				Pg	**Pg**	**05 52 56.3**	**-0.4**
	baz=29,slow=14						
SPA0				Sn	**Sn**	**05 53 17.5**	**-1.3**
	baz=45,slow=28						
SPA0				Lg	Lg	05 53 26.5	
	baz=61,slow=37						
SPA0	**Spitsbergen Ar**	**2.27**	**227**	Pn	**Pn**	**05 52 49.9**	**-0.9**
	baz=38,slow=12,SNR=0.5						
SPA0	**Spitsbergen Ar**	**2.27**	**227**	Pg	**Pg**	**05 52 56.3**	**-0.4**
	baz=29,slow=13,SNR=7.3						
SPA0				Sn	**Sn**	**05 53 17.5**	**-1.3**
	baz=45,slow=24,SNR=9.3						
SPA0				Lg	Lg	05 53 26.5	
	baz=61,slow=28,SNR=6.4						
KBS	**Kingsbay**	**2.50**	**255**	Pn	**Pn**	**05 52 52.2**	**-1.5**
KBS				Pg	**Pb**	**05 52 58.8**	**+0.8**
KBS				Lg	Lg	05 53 30.9	
KBS	**Kingsbay**	**2.50**	**255**	*e*P	**Pn**	**05 52 52.1**	**-1.6**
KBS				*e*Sg	**Sb**	**05 53 30.3**	**+1.6**
KBS				IAML		05 53 33.9	
	comp=Z,129nm,0.4s						
KBS	**Kingsbay**	**2.50**	**255**	Pn	**Pn**	**05 52 52.2**	**-1.5**
KBS	**Kingsbay**	**2.50**	**255**	Pg	**Pb**	**05 52 58.8**	**+0.8**
KBS				*e*Sg	**Sb**	**05 53 30.3**	**+1.6**
	SNR=92						
HOPEN	**Hopen**	**3.34**	**178**	Pn	**Pn**	**05 53 05.1**	**-0.1**
HOPEN				Pg	**Pg**	**05 53 17.0**	**0.0**
HOPEN				Lg	Lg	05 54 01.0	
HOPEN	**Hopen**	**3.34**	**178**	*e*P	**Pn**	**05 53 05.2**	**-0.1**
HOPEN				*e*Sg	**Sg**	**05 54 00.9**	**+0.7**
HOPEN				IAML		05 54 05.2	
	comp=Z,170nm,0.4s						
HOPEN	**Hopen**	**3.34**	**178**	*e*P	**Pn**	**05 53 05.2**	**-0.1**
	SNR=59						
HOPEN	**Hopen**	**3.34**	**178**	Pg	**Pg**	**05 53 17.0**	**0.0**
HOPEN				*e*Sg	**Sg**	**05 54 00.9**	**+0.7**
	SNR=91						
HOPEN				Lg	Lg	05 54 01.0	
HSP	**Hornsund**	**3.35**	**217**	Pn	**Pn**	**05 53 04.7**	**-0.9**
HSP				Pg	**Pg**	**05 53 17.2**	**-0.1**
HSP				Sn	**Sn**	**05 53 45.6**	**+0.3**
HSP				Lg	Lg	05 53 58.6	
HSP	**Hornsund**	**3.35**	**217**	*e*P	Pg	05 53 07.2	-10
HSP				*e*S	Sn	05 53 16.7	-29
HSP	**Hornsund**	**3.35**	**217**	Pn	**Pn**	**05 53 04.7**	**-0.9**
HSPB	**Hornsund (broa**	**3.36**	**217**	*e*P	**Pn**	**05 53 07.3**	**+1.7**
HSPB				*e*S	**Sn**	**05 53 45.8**	**+0.3**
HSPB				*e*Sg	**Sg**	**05 54 00.2**	**-0.8**
HSPB				IAML		05 54 02.7	
	comp=Z,146nm,0.4s						
HSPB	**Hornsund (broa**	**3.36**	**217**	*e*P	**Pn**	**05 53 07.3**	**+1.7**
	SNR=59						
HSPB				*e*S	**Sn**	**05 53 45.8**	**+0.3**
	SNR=59						
HSPB				*e*Sg	**Sg**	**05 54 00.2**	**-0.8**
	SNR=91						
BJO	**Bjornoya**	**5.48**	**195**	Pn	**Pn**	**05 53 32.9**	**-1.8**
BJO				Lg	Lg	05 55 07.2	
BJO	**Bjornoya**	**5.48**	**195**	Pn	**Pn**	**05 53 32.9**	**-1.8**
BJO				Lg	Lg	05 55 07.2	
BJO	**Bjornoya**	**5.48**	**195**	Pn	**Pn**	**05 53 32.9**	**-1.8**
BJO				Lg	Lg	05 55 07.2	
ARA0	**ARCESS Array S**	**10.35**	**178**	Pn	**Pn**	**05 54 40.0**	**-1.5**
	baz=355,slow=12						
ARA0				Sn	Sn	05 56 28.7	-8.6
	baz=7.6,slow=22						
ARA0	**ARCESS Array S**	**10.35**	**178**	Pn	**Pn**	**05 54 40.0**

JKB	**Kayabe**	**6.04 249**	P		**Pn**	**05 57 09.2**	**+2.0**
JANG	**Nango**	**6.56 235**	*e*S		**Sn**	**05 58 23.3**	**-4.6**

IDC 20 06:02:01.2±3.1, 54.60N×86.73E, h0km, mb1 2.8/2, mb1mx2.8/30, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=24.9km s-min=18.2km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.29 241**	*i*				06 10 01.6	
	baz=58,slow=339,SNR=2.7							
ZALV	**Zalesovo Beam**	**1.29 241**		Pg	Pg		06 02 24.2	-1.9
	1.2nm,0.3s,baz=59,slow=16,SNR=7.7							
ZALV				Lg	Lg		06 02 42.4	
	1.2nm,0.3s,baz=60,slow=28,SNR=7.5							
KURBB	**Kurchatov Arra**	**6.38 235**		Pn	Pn		06 03 37.6	+1.2
	0.1nm,0.3s,baz=51,slow=14,SNR=14							
KURBB				Sn	Sn		06 04 49.4	-0.6
	0.0nm,0.3s,baz=47,slow=22,SNR=2.5							
KURBB				Lg	Lg		06 05 25.3	
	0.0nm,0.3s,baz=36,slow=29,SNR=2.7							
MKAR	**Makanchi Array**	**8.30 202**		Pn	Pn		06 04 03.3	+0.5
	0.1nm,0.3s,baz=18,slow=13,SNR=3.1							

*IDC **20** 06:03:17.8±1.1, 2.06S×127.89E, h0km, mb4.0/4, mb1 4.3/7, mb1mx3.9/34, mbtmp4.1/7, ML4.2/3, MS2.8/2, Ms1 2.8/2, ms1mx2.6/27, Error ellipse: s-maj=26.1km s-min=18.9km az=52.0*

*ISCJB **20** 06:03:20.2±0.5, 1.87S±0.05×127.75E±0.03, h35km, mb4.1/4, MS2.3/1, Error ellipse: s-maj=7.1km s-min=3.9km az=18.1*

*DJA **20** 06:03:22.7±0.3, 2.3S±3×12.8E±°, h95km±10km, M4.2/11, mb4.5/2, mB5.0/1, MLv4.1/11, Mw(mB)4.3/1*

ISC 20 06:03:21.4±0.8, 2.01S±0.05×127.72E±0.04, h35km, n17, σ2§56/24, mb4.1/4, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
NLAI	**Namlea**	**1.37 207**		P	**Pn**		**06 03 45.9**	**+1.8**
NLAI				S	**Sn**		**06 04 03.9**	**+2.9**
SANI	**Sanana**	**1.73 269**		P	**Pn**		**06 03 49.7**	**+0.6**
SANI				S	**Sn**		**06 04 11.6**	**+1.6**
MSAI	**Masohi**	**1.79 138**		P	**Pn**		**06 03 52.5**	**+2.6**
MSAI				S	**Sn**		**06 04 15.4**	**+3.9**
TNTI	**Ternate**	**2.79 353**		P	**Pn**		**06 04 05.8**	**+2.2**
TNTI				S	Sn		06 04 42.4	+6.4
BNDI	**Bandanaira**	**3.31 139**		P	**Pn**		**06 04 13.1**	**+2.3**
BNDI				S	**Sn**		**06 04 51.2**	**+2.2**
SIJI	**Sorong**	**3.72 72**		Pn	**Pn**		**06 04 16.5**	**+0.1**
	8.5nm,0.3s,baz=233,slow=24,SNR=22							
SIJI				Sn	**Sn**		**06 04 57.9**	**-1.1**
	8.8nm,0.3s,baz=344,slow=23,SNR=7.9							
SIJI				LR	LR		06 06 03.1	
	comp=Z,288nm,18.3s,baz=240,slow=46							
FAKI	**Fak Fak**	**4.61 101**		P	**Pn**		**06 04 27.7**	**-1.0**
LUWI	**Luwuk**	**5.04 281**		P	**Pn**		**06 04 36.1**	**+1.5**
LUWI				S	**Sn**		**06 05 32.6**	**+0.9**
APSI	**Ampana**	**6.17 280**		P	**Pn**		**06 04 50.1**	**0.0**
	128nm,0.7s,2µm0.7nm							
APSI				S	**Sn**		**06 06 00.0**	**+0.5**
	128nm,0.7s,2µm0.7nm							
MRSI	**Marisa**	**6.29 293**		P	**Pn**		**06 04 51.7**	**0.0**
MRSI				S	**Sn**		**06 06 03.0**	**+0.6**
KAPI	**Kappang**	**8.50 249**		Pn	Pn		06 05 25.9	+3.9
	1.4nm,0.3s,baz=318,slow=20,SNR=6.7							
WRA	**Warramunga Arr**	**18.96 161**		P	**P**		**06 07 38.8**	**-1.1**
	1.4nm,0.3s,baz=339,slow=12,SNR=29							
WRA				S	**Sn**		**06 11 05.5**	**-6.7**
	0.1nm,0.3s,baz=334,slow=23,SNR=5.1							
ASAR	**Alice Springs**	**22.35 165**		P	**P**		**06 08 16.5**	**0.0**
	8.3nm,0.4s,baz=345,slow=12,SNR=209							
ASAR				S	**S**		**06 12 14.5**	**-5.7**
	2.4nm,1.0s,baz=348,slow=22,SNR=14							
GUMO	**Guam**	**23.01 47**		LR	LR		06 15 55.4	
	comp=Z,12nm,21.7s,baz=132,slow=33							
STKA	**Stephens Creek**	**32.46 158**		P	**P**		**06 09 49.0**	**+0.4**
	1.7nm,0.4s,baz=332,slow=8.6,SNR=9.5							
CMAR	**Chiang Mai Arr**	**34.87 307**		P	P		06 10 13.3	+3.6
	0.7nm,0.4s,baz=124,slow=8.0,SNR=2.9							
MKAR	**Makanchi Array**	**62.84 327**		P	**P**		**06 13 45.2**	**+1.4**
	0.3nm,0.7s,baz=138,slow=4.4,SNR=3.1							

IDC 20 06:07:09.2±2.5, 54.18N×86.32E, h0km, mb1 2.8/2, mb1mx2.8/30, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=19.5km s-min=12.2km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.91 256**	*i*				06 13 22.6	
	baz=74,slow=324,SNR=2.9							
ZALV	**Zalesovo Beam**	**0.91 256**		Pg	Pg		06 07 25.0	-1.7
	2.1nm,0.3s,baz=72,slow=16,SNR=15							
ZALV				Lg	Lg		06 07 40.1	
	4.0nm,0.3s,baz=78,slow=31,SNR=20							
KURBB	**Kurchatov Arra**	**5.95 236**		Pn	Pn		06 08 39.6	+1.2
	0.1nm,0.3s,baz=53,slow=13,SNR=9.9							
KURBB				Lg	Lg		06 10 18.0	
	0.0nm,0.3s,baz=50,slow=25,SNR=3.7							
MKAR	**Makanchi Array**	**7.83 201**		Pn	Pn		06 09 05.2	+0.9
	0.1nm,0.3s,baz=13,slow=14,SNR=6.0							

*ISCJB **20** 06:10:53.3±1.0, 55.4S±0.1×27.3W±0.5, h10km, mb3.8/3, Error ellipse: s-maj=41.4km s-min=15.9km az=159.6*

*IDC **20** 06:10:53.2±1.0, 55.41S×27.25W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.7/15, mbtmp3.8/3, Error ellipse: s-maj=39.9km s-min=32.7km az=79.0*

*AWI **20** 06:10:55.1, 55.15S×26.72W*

ISC 20 06:10:55.8±0.9, 55.5S±0.2×27.4W±0.3, h10km, n14, σ2§71/9, mb3.9/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
VNA3	**Neumayer Olymp**	**17.55 161**		P	**Pn**		**06 15 01.3**	**+1.1**
VNA2	**Neumayer--Watz**	**17.75 158**		P	**Pn**		**06 15 03.6**	**+0.9**
	baz=318,slow=14							
SNAA	**Sanae**	**19.30 157**		P	**P**		**06 15 17.8**	**-2.8**
VNDA	**Vanda**	**47.12 183**		P	**P**		**06 19 26.9**	**-0.4**
	0.6nm,0.6s,baz=183,slow=7.0,SNR=5.8							
H10S2	**ASCENSION HYDR**	**47.51 17**		T	T		07 10 46.3	
	baz=191,slow=75							
H10S3	**ASCENSION HYDR**	**47.52 17**		T	T		07 10 40.3	
	baz=191,slow=75							
H10S1	**ASCENSION HYDR**	**47.53 17**		T	T		07 10 39.7	
	baz=191,slow=75							
H10N1	**ASCENSION HYDR**	**48.63 17**		T	T		07 12 09.5	
	baz=187							
H10N3	**ASCENSION HYDR**	**48.63 17**		T	T		07 12 03.8	
	baz=187							
H10N2	**ASCENSION HYDR**	**48.65 17**		T	T		07 12 04.7	
	baz=187							
LPAZ	**La Paz**	**49.96 305**		P	**P**		**06 19 49.4**	**-1.2**
	0.8nm,0.7s,baz=149,slow=5.9,SNR=6.2							
TORD	**Torodi Ar. Bea**	**72.64 30**		P	**P**		**06 22 21.8**	**-1.6**
	0.9nm,0.6s,baz=202,slow=6.4,SNR=7.8							
ILAR	**Eielson Array**	**149.65 312**		PKPbc	**PKPdf**		**06 30 42.8**	**+3.4**
	0.5nm,0.6s,baz=128,slow=2.7,SNR=7.5							
SONM	**Songino Array**	**150.82 86**		PKPbc	**PKPbc**		**06 30 46.6**	**-1.1**
	0.7nm,0.6s,baz=259,slow=2.8,SNR=5.6							
SONM				PKPab	**PKiKP**		**06 30 52.4**	**+4.2**
	0.5nm,0.5s,baz=210,slow=4.2,SNR=3.4							

*JMA **20** 06:11:16.6±0.3, 44.01N×148.10E, h0km, M4.1*

*SKHL **20** 06:11:17.2±0.4, 44.43N×148.30E, h33km±5km, mb4.4/2*

ISC 20 06:11:14.7±4.2, 44.4N±0.1×148.5E±0.2, h30km±27km, n12, σ1§41/20, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
KUR	**Kuril'sk**	**0.95 334**	*i*	P	**Pn**		**06 11 32.3**	**+0.4**
KUR				AMB	AMB		06 11 32.9	
	210nm,0.3s							
KUR			*i*	S	**Sb**		**06 11 43.8**	**-0.9**
KUR				A	A		06 11 48.4	
	400nm,0.4s							
KUR				A	A		06 11 48.4	
	350nm,0.4s							
SHO	**Shikotan**	**1.28 247**	*e*P		**Pn**		**06 11 36.9**	**+0.4**
SHO				*e*S	**Sn**		**06 11 51.3**	**-1.4**
SHO				A	A		06 11 52.8	
	330nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.90 260**	*i*	P	**Pn**		**06 11 46.1**	**+1.1**
YUK				AMB	AMB		06 11 47.2	
	110nm,0.3s							
YUK			*i*	S	**Sn**		**06 12 07.9**	**-0.1**
YUK				A	A		06 12 14.1	
	240nm,0.3s							
YUK				A	A		06 12 14.1	
	150nm,0.3s							
NEM2	**Nemuro 2**	**2.22 243**		P	**Pn**		**06 11 49.8**	**+0.5**
NEM2				*e*S	**Sn**		**06 12 14.1**	**-1.6**
JRA	**Rausu**	**2.45 261**		P	**Pn**		**06 11 54.4**	**+1.9**
JRA				*e*S	**Sn**		**06 12 22.0**	**+0.7**
JNK	**Nakash**	**2.82 255**		P	**Pn**		**06 11 59.2**	**+1.6**
JNK				*e*S	**Sn**		**06 12 30.0**	**-0.6**
JAK	**Akkeshi**	**3.06 244**		P	**Pn**		**06 12 01.9**	**+0.9**
JAK				*e*S	**Sn**		**06 12 35.0**	**-1.6**
JTKR	**Abashiri--Toko**	**3.30 264**		P	Pn		06 12 07.6	+3.3
JAR	**Ashorobuto**	**3.57 254**		*e*S	**Sn**		**06 12 49.5**	**+0.5**
JCH	**Churui**	**4.11 246**		P	**Pn**		**06 12 16.6**	**+1.2**
JCH				*e*S	**Sn**		**06 13 01.1**	**-1.3**
JKB	**Kayabe**	**5.98 248**		P	**Pn**		**06 12 42.9**	**+1.8**
JKB				*e*S	**Sn**		**06 13 47.3**	**-1.2**
JOT	**Ohata**	**6.22 244**		*e*S	**Sn**		**06 13 51.9**	**-2.5**

IDC 20 06:14:17.8±3.5, 30.41S×138.26E, h0km, mb1 3.1/3, mb1mx3.0/16, mbtmp2.8/3, ML2.6/3, Error ellipse: s-maj=78.3km s-min=15.4km az=43.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
STKA	**Stephens Creek**	**3.22 118**		Pn	Pn		06 15 08.6	-1.0
	0.3nm,0.3s,baz=297,slow=10,SNR=5.4							
STKA				Pg	Pb		06 15 16.3	+0.5
	1.2nm,0.3s,baz=299,slow=14,SNR=21							
STKA				Sn	Sn		06 15 47.7	-0.9
	2.2nm,0.3s,baz=323,slow=14,SNR=5.8							
STKA				Lg	Lg		06 16 01.5	
	3.8nm,0.3s,baz=207,slow=21,SNR=8.0							
ASAR	**Alice Springs**	**7.75 329**		Pn	Pn		06 16 13.1	+1.1
	0.1nm,0.3s,baz=150,slow=12,SNR=5.4							
ASAR				Sn	Sn		06 17 41.2	+0.6
	0.1nm,0.3s,baz=151,slow=21,SNR=4.9							
WRA	**Warramunga Arr**	**11.01 340**		Pn	Pn		06 16 56.6	+0.1
	0.1nm,0.3s,baz=164,slow=12,SNR=6.5							
WRA				Sn	Sn		06 19 00.4	-0.1
	0.1nm,0.3s,baz=162,slow=24,SNR=3.7							

*ISCJB **20** 06:34:09.7±0.5, 18.45N±0.03×72.82W±0.02, h11km±3km, mb3.9/26, MS3.1/6, Error ellipse: s-maj=4.7km s-min=3.7km az=16.7*

*IDC **20** 06:34:09.4±0.5, 18.43N×72.84W, h0km, mb3.9/19, mb1 4.1/24, mb1mx4.0/35, mbtmp3.9/24, ML3.7/5, MS3.1/8, Ms1 3.1/8, ms1mx2.9/29, Error ellipse: s-maj=16.8km s-min=12.3km az=61.0*

*NEIC **20** 06:34:11.3±0.3, 18.46N×72.81W, h10km, mb4.3/13, Error ellipse: s-maj=5.9km s-min=4.4km az=202.0*

NEIC Felt [II] at Port-au-Prince. Also felt at Grand Goave and Petionville.

*JSN **20** 06:34:11.7±0.8, 18.56N×72.91W, h0km±999km, MD5.1*

*BJI **20** 06:34:12.1, 18.40N×72.80W, h10km, mB4.9/1, Ms7 4.7/2*

ISC 20 06:34:10.5±1.0, 18.43N±0.04×72.85W±0.03, h6km±6km, n75, σ1§70/89, mb4.0/27, MS3.0/6, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
LGNH	**LØogne**	**0.24**	**70**	*e*Pg	**Pg**		**06 34 14.3**	**-0.9**
LGNH				*e*Sg	**Sg**		**06 34 16.9**	**-1.5**
LGNH				*e*Sg	Sg		06 34 17.3	-1.2
JAKH	**Jacmel**	**0.36**	**121**	*e*Pg	**Pg**		**06 34 17.7**	**+0.2**
JAKH				*e*Sg	**Sb**		**06 34 24.0**	**-1.3**
WSYH	**La Gonave Hosp**	**0.40**	**358**	*e*Pg	**Pg**		**06 34 17.2**	**-1.1**
WSYH				*e*Sg	**Sg**		**06 34 22.6**	**-1.0**
PAPH	**Port-au-Prince**	**0.53**	**79**	*e*Pg	**Pg**		**06 34 19.3**	**-1.3**
PAPH				*e*Sg	**Sg**		**06 34 27.0**	**-0.5**
SDDR	**Presa de Saban**	**1.58**	**69**	*e*Pn	**Pn**		**06 34 37.4**	**-1.6**
SDDR				*e*Sn	**Sn**		**06 34 58.0**	**-1.9**
GTBY	**Guantanamo Bay**	**2.61**	**305**	*e*Pn	**Pn**		**06 34 51.0**	**-2.3**
GTBY				*e*Sn	**Sn**		**06 35 26.1**	**+0.8**
GRTK	**Grand Turk**	**3.47**	**27**	*e*Pn	**Pn**		**06 35 04.5**	**-0.5**
GRTK				*e*Sn	**Sn**		**06 35 43.9**	**-2.5**
SMN1	**Samana, DR**	**3.47**	**77**	*e*Pn	**Pn**		**06 35 06.0**	**+1.0**
SMN1				*e*Sn	**Sn**		**06 35 50.0**	**+3.5**
GWJ	**Greenwich**	**3.71**	**265**	*i* P	**Pn**		**06 35 08.2**	**0.0**
HOJ	**Hope**	**3.73**	**264**	*i* P	**Pn**		**06 35 09.7**	**+0.9**
STH	**Stony Hill**	**3.78**	**265**	*i* P	**Pn**		**06 35 09.2**	**-0.3**
BBJ	**Bamboo Saint A**	**4.20**	**270**	*i* P	**Pn**		**06 35 15.4**	**+0.2**
MTDJ	**Mount Denham**	**4.46**	**268**	*e*Pn	**Pn**		**06 35 18.6**	**-0.2**
CVJ	**Coleyville**	**4.46**	**268**	*i* P	**Pn**		**06 35 18.6**	**-0.2**
MBJ	**Montego Bay**	**4.76**	**271**	*i* S	**Sn**		**06 36 16.1**	**-2.5**
AGP	**Aguadilla**	**5.42**	**89**	*e*Pn	Pn		06 35 35.7	+3.8
MPR	**Mayaguez**	**5.42**	**91**	*e*Pn	Pn		06 35 38.1	+6.1
CRPR	**Cabo Rojo, PR**	**5.47**	**93**	*e*Pn	**Pn**		**06 35 31.8**	**-0.8**
LSP	**Las Mesas**	**5.48**	**92**	*e*Pn	**Pn**		**06 35 34.1**	**+1.4**
LRS	**Lares**	**5.70**	**90**	*e*Pn	**Pn**		**06 35 35.9**	**+0.1**
AOPR	**Arecibo Observ**	**5.78**	**90**	*e*Pn	**Pn**		**06 35 37.9**	**+0.9**
OBIP	**Obispado Ponce**	**5.94**	**93**	*e*Pn	**Pn**		**06 35 37.9**	**-1.2**
OBIP				*e*Sn	**Sn**		**06 36 45.6**	**-1.9**
CELP	**Cerrillos**	**5.96**	**92**	*e*Pn	**Pn**		**06 35 38.6**	**-0.8**
SJG	**San Juan**	**6.37**	**92**	*e*Pn	**Pn**		**06 35 46.1**	**+1.1**
HUMP	**Col San Antoni**	**6.65**	**91**	*e*Pn	**Pn**		**06 35 49.5**	**+0.6**
SDV	**Santo Domingo**	**9.72**	**167**	*e*Pn	**Pn**		**06 36 31.7**	**+0.5**
SDV				*e*Sn	Sn		06 38 14.1	-6.9
PCRV	**Puerto La Cruz**	**11.42**	**135**	Pn	**Pn**		**06 36 55.0**	**+0.7**
	1.8nm,0.3s,baz=317,slow=4.0,SNR=9.1							
PCRV				Sn	**Sn**		**06 38 57.3**	**-5.2**
	1.1nm,0.3s,baz=202,slow=17,SNR=3.0							
BCIP	**Isla Barro Col**	**11.44**	**217**	*e*Pn	**Pn**		**06 36 54.1**	**-0.4**
BCIP				*e*Sn	**Sn**		**06 37 57.6**	**-5.1**
ROSC	**El Rosal**	**13.57**	**186**	Pn	**Pn**		**06 37 24.8**	**+0.8**
	1.2nm,0.3s,baz=61,slow=20,SNR=6.8							
ROSC				Sn	**Sn**		**06 39 58.2**	**+2.8**
	0.5nm,0.3s,baz=270,slow=20,SNR=3.7							
ROSC	**El Rosal**	**13.57**	**186**	*e*Pn	**Pn**		**06 37 26.4**	**+2.4**
ROSC				*e*Sn	**Sn**		**06 39 50.1**	**-5.3**
ROSC				Sn	**Sn**		**06 39 58.2**	**+2.8**
JTS	**JuntasAbangare**	**14.24**	**237**	Pn	**Pn**		**06 37 34.7**	**+1.8**
	0.4nm,0.3s,baz=21,slow=14,SNR=2.9							
JTS				LR	LR		06 44 07.6	
	comp=Z,37nm,18.4s,baz=63,slow=42							
TEIG	**Tepich**	**14.68**	**280**	Pn	**Pn**		**06 37 39.0**	**+0.2**
	1.7nm,0.3s,baz=83,slow=3.9,SNR=8.4							
KMSC	**Kings Mountain**	**18.28**	**337**	*e*Pn	**P**		**06 38 26.6**	**+1.6**
	179nm,3.0s							
OTAV	**Otavalo**	**18.90**	**198**	*e*P	**Pn**		**06 38 34.6**	**+1.7**
	5.5nm,0.8s							
TKL	**Tuckaleechee C**	**19.70**	**333**	P	**P**		**06 38 41.3**	**+0.6**
	0.2nm,0.3s,baz=150,slow=16,SNR=2.2							
TKL				LR	LR		06 46 58.8	
	comp=Z,36nm,19.4s,baz=138,slow=39							
BLA	**Blacksburg**	**19.86**	**342**	*e*P	**Pn**		**06 38 44.2**	**+0.2**
	22nm,1.0s							
TZTN	**Tazewell**	**20.36**	**335**	*e*P	Pn		06 38 54.6	+4.7
	15nm,1.1s							
CMIG	**Matias Romero**	**21.03**	**270**	P	**P**		**06 38 55.1**	**-0.1**
	0.9nm,0.5s,baz=97,slow=12,SNR=1.9							
WVT	**Waverly**	**22.05**	**326**	*e*P	**P**		**06 39 06.2**	**+0.2**
	4.2nm,0.8s							
SSPA	**Standing Stone**	**22.56**	**350**	*e*P	**P**		**06 39 12.9**	**+1.5**
	13nm,0.9s							
PTGA	**Pitinga**	**22.86**	**145**	P	**P**		**06 39 15.2**	**+0.3**
	6.3nm,0.8s,baz=337,slow=14,SNR=7.3							
PTGA				LR	LR		06 49 26.2	
	comp=Z,53nm,18.3s,baz=185,slow=40							
PTGA	**Pitinga**	**22.86**	**145**	P	**P**		**06 39 15.4**	**+0.5**
	5.7nm,0.8s							
ACSO	**Alum Creek Sta**	**23.42**	**340**	*e*P	**P**		**06 39 22.4**	**+2.0**
	6.4nm,0.7s							
ATAH	**Atahualpa**	**25.98**	**193**	LR	LR		06 50 20.2	
	comp=Z,39nm,18.4s,baz=1.1,slow=37							
SADO	**Sadowa**	**26.79**	**350**	P	**P**		**06 39 50.2**	**-1.1**
	1.3nm,0.6s,baz=176,slow=13,SNR=2.2							
SADO				LR	LR		06 48 11.7	
	comp=Z,45nm,21.5s,baz=161,slow=31							
JFWS	**Jewell Farm**	**28.52**	**333**	*e*P	**P**		**06 40 08.6**	**+1.8**
	146nm,3.0s							
TXAR	**Lajitas Array**	**30.12**	**297**	P	**P**		**06 40 21.4**	**+0.1**
	0.9nm,0.9s,baz=110,slow=9.2,SNR=6.4							
MNTX	**Cornudas Mount**	**32.17**	**301**	*e*P	**P**		**06 40 40.0**	**+0.7**
	3.9nm,1.1s							
LPAZ	**La Paz**	**34.81**	**172**	P	**P**		**06 41 04.1**	**+1.1**
	0.6nm,0.7s,baz=350,slow=4.6,SNR=4.8							
SCHQ	**Schefferville**	**36.63**	**6**	P	**P**		**06 41 17.7**	**+0.1**
	2.4nm,0.7s,baz=186,slow=3.5,SNR=4.1							
ULM	**Lac du Bonnet**	**36.70**	**335**	P	**P**		**06 41 17.2**	**-1.0**
	0.5nm,0.4s,baz=153,slow=11,SNR=2.2							
PDAR	**Pinedale Array**	**39.38**	**316**	P	**P**		**06 41 40.5**	**-0.8**
	0.4nm,0.5s,baz=108,slow=11,SNR=4.8							
LOHW	**Long Hollow**	**40.44**	**317**	*e*P	**P**		**06 41 52.2**	**+2.1**
	2.6nm,0.8s							
MOOW	**Moose Ponds**	**40.59**	**317**	*e*P	**P**		**06 41 50.4**	**-1.0**
	3.0nm,0.8s							
YUH	**Yuha Desert**	**41.09**	**299**	*e*P	**P**		**06 41 57.4**	**+2.1**
BDFB	**Brasilia**	**41.76**	**143**	P	**P**		**06 42 00.1**	**-1.0**
	2.7nm,0.7s,baz=209,slow=27,SNR=4.9							
NVAR	**Mina Array Bea**	**44.15**	**307**	P	**P**		**06 42 21.2**	**+0.8**
	0.8nm,0.7s,baz=65,slow=7.1,SNR=5.9							
YKA	**Yellowknife Ar**	**52.62**	**337**	P	**P**		**06 43 25.1**	**0.0**
	1.7nm,0.8s,baz=125,slow=7.7,SNR=12							
SUMG	**Summit**	**57.62**	**12**	*e*P	**P**		**06 44 04.0**	**+2.5**
	9.3nm,1.2s							
PLCA	**Paso Flores**	**58.89**	**178**	P	**P**		**06 44 10.1**	**-0.3**
	1.3nm,0.8s,baz=325,slow=12,SNR=3.5							
ESDC	**Sonseca Array**	**62.37**	**54**	P	**P**		**06 44 35.7**	**+1.4**
	0.2nm,0.3s,baz=270,slow=8.1,SNR=4.7							
ILAR	**Eielson Array**	**66.69**	**333**	P	**P**		**06 45 01.4**	**-0.6**
	0.6nm,0.8s,baz=106,slow=4.6,SNR=6.5							
DBIC	**Dimbokro**	**67.06**	**90**	LR	LR		07 11 28.7	
	comp=Z,17nm,20.1s,baz=116,slow=33							
NOA	**NORSAR Array B**	**71.20**	**31**	LR	LR		07 11 39.4	
	comp=Z,10nm,21.7s,baz=60,slow=32							
TORD	**Torodi Ar. Bea**	**71.49**	**82**	P	**P**		**06 45 30.7**	**-2.0**
	0.5nm,0.7s,baz=296,slow=2.3,SNR=3.4							
GERES	**GERESS Array B**	**74.12**	**43**	P	**P**		**06 45 47.5**	**-0.4**
	2.2nm,0.7s,baz=279,slow=3.5,SNR=15							
GERES				LR	LR		07 14 10.6	
	comp=Z,26nm,19.9s,baz=292,slow=32							
ARCES	**ARCESS Array B**	**75.78**	**21**	P	**P**		**06 45 58.1**	**+1.1**
	1.3nm,0.6s,baz=289,slow=3.7,SNR=8.1							
FINES	**FINESS Array B**	**78.18**	**39**	P	**P**		**06 46 10.6**	**0.0**
	1.1nm,0.7s,baz=262,slow=2.8,SNR=4.4							
AKASG	**Malin Array Be**	**83.32**	**39**	P	**P**		**06 46 39.2**	**+0.9**
	0.3nm,0.3s,baz=281,slow=4.2,SNR=6.4							
KSH	**Kashi**	**115.41**	**26**	*e*PKP	**PKPdf**		**06 52 55.6**	**+1.7**
KSH				PP	PP		06 54 00.5	+6.6
KSH				PKS	**PKSdf**		**06 56 30.9**	**+0.2**
KSH				SKS	**SKSdf**		**07 00 06.5**	**-0.4**
KSH				SKKS	**SKKSac**		**07 00 53.8**	**-3.6**
KSH				LZ				
	110nm,5.1s							
WMQ	**Urumqi**	**115.54**	**16**	*e*PKP	**PKPdf**		**06 52 54.3**	**+0.4**
HHC	**Hu-ho-hao-te**	**120.89**	**356**	*e*PKP	**PKPdf**		**06 53 05.9**	**+1.6**
HHC				PP	PP		06 54 37.3	+5.8
HHC				SKS	**SKSdf**		**07 00 16.8**	**-0.5**
HHC				SS	**SS**		**07 11 04.8**	**+2.3**
HHC				PPMZ				
	33nm,8.6s							
HHC				LZ				
	63nm,21.0s							
NJ2	**Nanjing**	**128.57**	**347**	*e*PKP	**PKPdf**		**06 53 19.6**	**+0.5**
WRA	**Warramunga Arr**	**154.29**	**262**	PKP	**PKPdf**		**06 54 02.9**	**-1.5**
	0.7nm,1.0s,baz=84,slow=1.7,SNR=4.3							
WRA				PKPbc	**PKPbc**		**06 54 10.8**	**-1.8**
	0.7nm,0.8s,baz=87,slow=3.3,SNR=8.1							
ASAR	**Alice Springs**	**154.52**	**254**	PKPbc	**PKPbc**		**06 54 10.9**	**-2.1**
	0.3nm,0.5s,baz=108,slow=3.0,SNR=3.7							

IDC 20 06:34:31.6±2.0, 16.94S×174.27W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/20, mbtmp4.0/5, Error ellipse: s-maj=56.6km s-min=31.8km az=119.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
URZ	**Urewera**	**22.55 198**		P	P		06 39 33.4	+0.1
	3.7nm,0.3s,baz=26,slow=4.1,SNR=9.8							
STKA	**Stephens Creek**	**42.56 241**		P	P		06 42 29.2	-0.1
	0.5nm,0.4s,baz=75,slow=12,SNR=3.2							
WRA	**Warramunga Arr**	**48.70 258**		P	P		06 43 18.0	-0.1
	0.8nm,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**20.72**	**171**	P	**P**	**07 38 23.4**	**-0.2**
	2.4nm,1.0s,baz=349,slow=12,SNR=6.1						
STKA	**Stephens Creek**	**25.92**	**349**	P	**P**	**07 39 16.6**	**+0.9**
	2.5nm,0.8s,baz=160,slow=9.5,SNR=6.7						
H01W1	**Cape Leeuwin H**	**31.65**	**301**	T	T	08 13 41.1	
	baz=144,slow=76,SNR=18						
H01W2	**Cape Leeuwin H**	**31.66**	**301**	T	T	08 13 40.6	
	baz=144,slow=76,SNR=19						
H01W3	**Cape Leeuwin H**	**31.67**	**301**	T	T	08 13 42.5	
	baz=144,slow=76,SNR=21						
QSPA	**South Pole Qui**	**32.59**	**180**	P	**P**	**07 40 15.0**	**+0.3**
	2.0nm,1.0s,baz=359,slow=8.7,SNR=3.7						
ASAR	**Alice Springs**	**35.16**	**339**	P	**P**	**07 40 38.3**	**+1.0**
	1.3nm,0.8s,baz=166,slow=9.5,SNR=14						
ASAR				PcP	**PcP**	**07 43 06.9**	**-1.6**
	0.6nm,0.9s,baz=145,slow=3.4,SNR=4.5						
WRA	**Warramunga Arr**	**38.70**	**340**	P	**P**	**07 41 07.2**	**-0.3**
	3.2nm,0.8s,baz=167,slow=7.5,SNR=24						
SNAA	**Sanae**	**49.41**	**192**	P	**P**	**07 42 31.6**	**-1.1**
SNAA	**Sanae**	**49.41**	**192**	P	**P**	**07 42 33.6**	**+0.8**
	0.6nm,0.6s,baz=202,slow=10,SNR=15						
VNA3	**Neumayer Olymp**	**50.50**	**189**	P	**P**	**07 42 41.9**	**+0.8**
VNA2	**Neumayer--Watz**	**50.59**	**191**	P	**P**	**07 42 42.9**	**+1.2**
	baz=155,slow=5.5						
VNA1	**Neumayer--Stat**	**50.94**	**190**	P	**P**	**07 42 44.6**	**+0.3**
H08S2	**Diego Garcia H**	**75.38**	**279**	T	T	09 08 29.8	
	baz=146,slow=76						
H08S1	**Diego Garcia H**	**75.39**	**279**	T	T	09 08 35.8	
	baz=146,slow=76						
H08S3	**Diego Garcia H**	**75.40**	**279**	T	T	09 08 31.2	
	baz=146,slow=76						
FINES	**FINESS Array B**	**150.73**	**303**	PKPbc	**PKPbc**	**07 53 34.1**	**-0.2**
	2.2nm,0.7s,baz=111,slow=4.7,SNR=7.2						
FINES				PKPab	**PKPab**	**07 53 40.5**	**-1.0**
	1.7nm,0.8s,baz=134,slow=5.5,SNR=5.1						
GERES	**GERESS Array B**	**151.33**	**273**	PKPbc	**PKPbc**	**07 53 36.0**	**-0.3**
	0.3nm,0.2s,baz=153,slow=1.5,SNR=4.2						
GERES				PKPab	**PKPab**	**07 53 44.7**	**+0.1**
	0.3nm,0.2s,baz=176,slow=4.0,SNR=3.5						

*ISCJB **20** 07:48:04.3±0.6, 6.94N±0.06×73.11W±0.07, h166km, mb3.0/1, Error ellipse: s-maj=12.0km s-min=6.1km az=37.5*
*FUNV **20** 07:48:05.1, 6.79N×73.16W, h166km, MW3.6*
*IDC **20** 07:48:05.1±7.6, 4.70N×76.95W, h71km±79km, mb3.0/1, mb1 3.6/2, mb1mx3.1/21, mbtmp3.5/2, ML2.9/1, Error ellipse: s-maj=91.4km s-min=39.8km az=31.0*
ISC 20 07:48:04.4±1.1, 6.91N±0.07×73.09W±0.08, h166km, n19, σ0.870/24, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.22**	**39**	⇑*eP*	**Pn**	**07 48 34.1**	**+1.2**
CAPV				*eS*	**Sn**	**07 48 55.4**	**+0.6**
ROSC	**El Rosal**	**2.38**	**211**	P	**Pn**	**07 48 45.4**	**0.0**
	41nm,0.3s,baz=277,slow=19,SNR=209						
ROSC				S	**Sn**	**07 49 17.4**	**+0.4**
	54nm,0.3s,baz=66,slow=20,SNR=13						
VIGV	**El Vigia**	**2.57**	**42**	*eP*	**Pn**	**07 48 48.5**	**+1.2**
VIGV				*eS*	**Sn**	**07 49 20.0**	**-0.5**
SOCV	**Socops**	**2.60**	**58**	*eP*	**Pn**	**07 48 49.0**	**+1.3**
SOCV				*eS*	**Sn**	**07 49 21.1**	**-0.1**
ELOV	**Elorza**	**3.58**	**88**	*eP*	**Pn**	**07 49 00.2**	**+0.4**
VIRV	**Villa del Rosa**	**3.64**	**11**	*eP*	**Pn**	**07 49 00.9**	**+0.4**
VIRV				*eS*	**Sn**	**07 49 43.7**	**-0.5**
QARV	**Quebrada Arrib**	**4.15**	**38**	*eP*	**Pn**	**07 49 08.5**	**+1.4**
SANV	**Sanarito**	**4.36**	**54**	*eP*	**Pn**	**07 49 10.7**	**+0.8**
CURV	**Curarigua**	**4.37**	**45**	*eP*	**Pn**	**07 49 10.7**	**+0.6**
TEPV	**Terepaima**	**4.91**	**52**	*eP*	**Pn**	**07 49 17.6**	**+0.5**
SIQV	**Siquisique**	**4.93**	**41**	*eP*	**Pn**	**07 49 17.8**	**+0.5**
BAUV	**El Baul**	**5.39**	**68**	*eP*	**Pn**	**07 49 23.0**	**-0.4**
MAPV	**Macapo**	**5.43**	**57**	*eP*	**Pn**	**07 49 24.0**	**+0.2**
MONV	**Montecano**	**5.88**	**31**	*eP*	**Pn**	**07 49 30.1**	**+0.3**
TURV	**Turiamo**	**6.27**	**56**	*eP*	**Pn**	**07 49 35.2**	**+0.2**
MERV	**Las Mercedes**	**7.12**	**70**	*eP*	**Pn**	**07 49 46.7**	**+0.5**
CUPV	**Cœpira**	**7.87**	**66**	*eP*	**Pn**	**07 49 55.9**	**-0.4**
TXAR	**Lajitas Array**	**36.43**	**312**	P	**P**	**07 54 52.8**	**-0.6**
	0.2nm,0.5s,baz=129,slow=8.5,SNR=3.8						
WRA	**Warramunga Arr**	**150.40**	**241**	PKPbc	**PKPbc**	**08 07 36.8**	**-0.4**
	0.3nm,0.9s,baz=105,slow=3.1,SNR=5.2						

*ISCJB **20** 07:50:14.0±0.3, 20.06S±0.07×178.23W±0.07, h569km, mb4.3/31, Error ellipse: s-maj=10.2km s-min=8.1km az=43.3*
*BJI **20** 07:50:16.0, 20.00S×178.10W, h594km, mb4.8/20, mB4.9/12*
*NEIC **20** 07:50:16.1±1.5, 20.03S×178.13W, h598km±15km, mb4.7/16, Error ellipse: s-maj=23.7km s-min=17.0km az=120.0*
*IDC **20** 07:50:17.4±1.7, 20.04S×178.34W, h596km±21km, mb3.6/18, mb1 3.9/19, mb1mx3.8/21, mbtmp4.6/19, Error ellipse: s-maj=15.1km s-min=9.6km az=154.0*
ISC 20 07:50:15.0±0.4, 20.07S±0.08×178.21W±0.08, h569km, n109, σ1.59/125, mb4.4/31, 27C-5D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.24**	**303**	*eP*	**P**	**07 51 42.8**	**+2.6**
DZM	**Mont Dzumac**	**14.46**	**259**	P	**P**	**07 53 19.2**	**+0.4**
	1.9nm,0.3s,baz=90,slow=20,SNR=18						
DZM	**Mont Dzumac**	**14.46**	**259**	*eP*	**P**	**07 53 19.8**	**+1.0**
	15nm,0.6s						
URZ	**Urewera**	**18.57**	**192**	P	**P**	**07 53 55.4**	**-1.6**
	4.8nm,0.3s,baz=266,slow=2.0,SNR=36						
URZ	**Urewera**	**18.57**	**192**	*eP*	**P**	**07 53 55.7**	**-1.3**
	12nm,0.3s						
RPZ	**Rata Peaks**	**25.23**	**198**	P	**P**	**07 54 55.9**	**-0.7**
	3.8nm,0.6s,baz=36,slow=7.7,SNR=5.6						
PPT	**Papeete**	**27.21**	**90**	P	**P**	**07 55 14.8**	**+0.5**
	14nm,0.6s,baz=353,slow=9.9,SNR=4.4						
WHZ	**Wether Hill Ro**	**28.16**	**201**	*eP*	**P**	**07 55 23.8**	**+1.6**
	18nm,0.7s						
CTA	**Charters Tower**	**33.33**	**264**	P	**P**	**07 56 07.3**	**+0.3**
	35nm,0.4s,baz=92,slow=11,SNR=56						
CTAO	**Charters Tower**	**33.33**	**264**	*eP*	**P**	**07 56 07.2**	**+0.3**
	33nm,0.5s						
PMG	**Port Moresby**	**35.05**	**283**	*eP*	**P**	**07 56 21.9**	**+0.6**
	133nm,0.8s						
COEN	**Coen**	**37.36**	**273**	*eP*	**P**	**07 56 40.7**	**+0.4**
	25nm,0.8s						
STKA	**Stephens Creek**	**37.80**	**244**	P	**P**	**07 56 44.0**	**+0.4**
	7.8nm,0.9s,baz=86,slow=9.0,SNR=17						
STKA	**Stephens Creek**	**37.80**	**244**	*eP*	**P**	**07 56 44.1**	**+0.5**
	2.2nm,1.0s						
BBOO	**Buckleboo**	**42.56**	**243**	*eP*	**P**	**07 57 21.8**	**+0.1**
	0.9nm,0.6s						
AS31	**Alice Springs**	**44.42**	**256**	*eP*	**P**	**07 57 36.0**	**-0.3**
ASAR	**Alice Springs**	**44.42**	**256**	P	**P**	**07 57 36.1**	**-0.1**
	29nm,0.8s,baz=90,slow=7.9,SNR=341						
ASAR				PcP	**PcP**	**07 59 07.0**	**-0.5**
	2.9nm,0.7s,baz=97,slow=3.9,SNR=8.9						
ASAR				S	**S**	**08 03 27.8**	**-2.6**
	2.1nm,0.8s,baz=92,slow=16,SNR=16						
WRAB	**Tennant Creek**	**44.45**	**262**	*eP*	**P**	**07 57 35.6**	**-0.9**
	34nm,1.2s						
WRA	**Warramunga Arr**	**44.46**	**262**	P	**P**	**07 57 35.8**	**-0.8**
	15nm,0.5s,baz=97,slow=8.2,SNR=450						
WRA				PcP	**PcP**	**07 59 07.1**	**-0.6**
	2.3nm,1.0s,baz=101,slow=3.1,SNR=4.8						
WRA				S	**S**	**08 03 27.3**	**-3.8**
	1.6nm,0.9s,baz=96,slow=13,SNR=7.2						
SOEI	**Soe**	**56.29**	**272**	*eP*	**P**	**07 59 04.0**	**+1.1**
	45nm,0.8s						
MBWA	**Marble Bar**	**57.75**	**257**	*eP*	**P**	**07 59 11.6**	**-1.1**
	8.5nm,0.6s						
VNDA	**Vanda**	**58.31**	**185**	P	**P**	**07 59 16.9**	**+1.4**
	2.1nm,0.9s,baz=346,slow=6.5,SNR=9.1						
MJAR	**Matsushiro Arr**	**69.75**	**324**	P	**P**	**08 00 27.9**	**-0.7**
	5.5nm,0.6s,baz=157,slow=6.2,SNR=18						
MAT	**Matsushiro**	**69.75**	**324**	P	**P**	**08 00 27.7**	**-0.9**
QSPA	**South Pole Qui**	**69.99**	**180**	*eP*	**P**	**08 00 30.8**	**+1.1**
	10nm,0.8s						
YULB	**Yu-li**	**73.10**	**303**	*eP*	**P**	**08 00 46.5**	**-1.9**
	9.7nm,0.3s						
PETK	**Petropavlovsk-**	**75.81**	**345**	P	**P**	**08 01 02.4**	**-0.6**
	8.8nm,0.7s,baz=144,slow=9.5,SNR=23						
KSRS	**Korea Array**	**76.44**	**319**	P	**P**	**08 01 06.4**	**-0.3**
	2.3nm,0.6s,baz=128,slow=6.0,SNR=8.9						
USRK	**Ussuriysk Ar.**	**78.50**	**326**	P	**P**	**08 01 18.1**	**+0.4**
	6.7nm,0.7s,baz=125,slow=3.5,SNR=16						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NJ2	**Nanjing**	**79.45**	**310**	*eP*	P	08 01 26.3	+3.2
NJ2				PMZ			
	40nm,0.8s						
MDJ	**Mudanjiang**	**80.06**	**325**	P	**P**	**08 01 27.8**	**+1.9**
MDJ				pP	pP	08 03 32.6	+6.1
MDJ				sP	sP	08 04 31.5	+7.1
MDJ				PMZ			
	9.0nm,1.1s						
NVAR	**Mina Array Bea**	**80.86**	**43**	P	**P**	**08 01 31.3**	**+0.8**
	0.8nm,0.7s,baz=220,slow=9.8,SNR=5.0						
CN2	**Changchun**	**81.84**	**322**	⇓P	**P**	**08 01 35.0**	**-0.2**
CN2				*es*P	**sP**	**08 04 39.0**	**+4.8**
CN2				*eS*	**SKSac**	**08 10 59.5**	**-1.7**
CN2				PMZ			
	10.0nm,0.8s						
CN2				PMZ			
	200nm,4.0s						
WHN	**Wuhan**	**82.03**	**306**	⇑P	**P**	**08 01 36.9**	**+0.5**
SPU	**Mount Spurr**	**83.67**	**12**	*eP*	**P**	**08 01 42.8**	**-1.2**
BJI	**Beijing**	**85.45**	**315**	P	**P**	**08 01 53.3**	**+0.2**
BJI				PMZ			
	12nm,0.6s						
TRF	**Thorofare Moun**	**86.08**	**12**	*eP*	**P**	**08 01 54.8**	**-1.0**
GYA	**Guiyang**	**86.27**	**300**	*eP*	**P**	**08 01 57.8**	**+0.3**
GYA				pP	pP	08 04 06.0	+5.5
GYA				sP	sP	08 05 04.3	+6.5
GYA				PP	**PP**	**08 05 33.6**	**+4.2**
GYA				SKS	**SKSac**	**08 11 26.8**	**-3.3**
GYA				S	**S**	**08 11 44.3**	**-1.7**
GYA				PMZ			
	10.0nm,1.0s						
TXAR	**Lajitas Array**	**87.00**	**57**	P	**P**	**08 02 01.8**	**+0.9**
	0.5nm,0.8s,baz=213,slow=6.7,SNR=5.1						
XAN	**Xi'an**	**87.72**	**307**	P	**P**	**08 02 04.4**	**+0.4**
XAN				PMZ			
	4.0nm,0.8s						
COLA	**College**	**87.84**	**12**	*eP*	**P**	**08 02 02.7**	**-1.0**
	12nm,0.7s						
ILAR	**Eielson Array**	**87.95**	**13**	P	**P**	**08 02 03.4**	**-0.9**
	4.3nm,0.8s,baz=219,slow=5.3,SNR=47						
VNA3	**Neumayer Olymp**	**88.58**	**176**	P	**P**	**08 02 07.1**	**-0.2**
PDAR	**Pinedale Array**	**88.79**	**43**	P	**P**	**08 02 09.5**	**+0.4**
	0.5nm,0.6s,baz=242,slow=3.2,SNR=4.9						
HHC	**Hu-ho-hao-te**	**88.91**	**314**	*eP*	**P**	**08 02 09.0**	**-0.5**
HHC				PP	**PP**	**08 05 52.8**	**+2.8**
HHC				S	**S**	**08 12 06.0**	**-3.9**
HHC				sS	sS	08 15 56.8	+5.9
HHC				SS	**SS**	**08 18 22.6**	**+1.9**
HHC				PMZ			
	23nm,0.9s						
HHC				PMZ			
	90nm,7.4s						
VNA2	**Neumayer--Watz**	**89.02**	**177**	P	**P**	**08 02 09.5**	**+0.1**
	baz=204,slow=3.8						
EGAK	**Eagle**	**89.25**	**15**	*eP*	**P**	**08 02 10.4**	**0.0**
	5.8nm,0.8s						
COLD	**Coldfoot**	**89.50**	**11**	*eP*	**P**	**08 02 11.0**	**-0.5**
	5.2nm,1.1s						
PLCA	**Paso Flores**	**89.71**	**134**	*eP*	P	08 02 07.1	-6.3
CMAR	**Chiang Mai Arr**	**89.78**	**290**	P	**P**	**08 02 14.9**	**+1.0**
	3.0nm,0.5s,baz=121,slow=2.9,SNR=23						
CHTO	**Chiang Mai**	**89.91**	**290**	*eP*	**P**	**08 02 14.9**	**+0.4**
	6.0nm,0.7s						
CD2	**Chengdu**	**90.39**	**303**	*eP*	**P**	**08 02 16.8**	**+0.3**
CD2				PMZ			
	10.0nm,0.6s						
SONM	**Songino Array**	**95.30**	**319**	P	**P**	**08 02 37.6**	**-1.1**
	0.5nm,0.4s,baz=119,slow=5.1,SNR=2.5						
YKA	**Yellowknife Ar**	**96.21**	**25**	P	**P**	**08 02 41.5**	**-0.7**
	0.5nm,0.6s,baz=249,slow=4.2,SNR=3.9						
ZALV	**Zalesovo Beam**	**110.04**	**321**	PKiKP	**PKiKP**	**08 07 40.0**	**-2.0**
	0.6nm,0.4s,baz=180,slow=1.4,SNR=3.3						
MK31	**Makanchi Array**	**110.76**	**314**	*e*PKPdf	**PKiKP**	**08 07 42.0**	**-1.6**
MKAR	**Makanchi Array**	**110.76**	**314**	PKiKP	**PKiKP**	**08 07 41.4**	**-2.3**
	0.7nm,0.6s,baz=255,slow=3.6,SNR=9.7						
KSH	**Kashi**	**114.48**	**305**	*e*PKP	PKPdf	08 07 49.4	-1.8
KSH				PP	**PP**	**08 09 03.6**	**+4.7**
KSH				sPKP		08 11 05.3	
KSH				PKS	**PKSdf**	**08 11 25.0**	**-2.9**
KSH				SKKS		08 14 53.6	
KSH				PPMZ			
	36nm,3.6s						
ARCES	**ARCESS Array B**	**128.47**	**350**	PKP	**PKPdf**	**08 08 16.0**	**-0.9**
	1.7nm,0.7s,baz=31,slow=0.9,SNR=12						
FINES	**FINESS Array B**	**135.31**	**344**	PKhKP	PKPpre	08 08 26.5	
	1.5nm,0.7s,baz=108,slow=4.5,SNR=5.5						
FINES				PKP	**PKiKP**	**08 08 31.3**	**-0.4**
	0.9nm,0.5s,baz=34,slow=2.5,SNR=5.7						
NOA	**NORSAR Array B**	**138.54**	**353**	PKhKP	PKPpre	08 08 26.4	
	0.7nm,0.7s,baz=18,slow=2.5,SNR=3.8						
NOA				PKP	**PKPdf**	**08 08 36.2**	**+0.1**
	0.4nm,0.5s,baz=25,slow=2.3,SNR=2.8						
AKASG	**Malin Array Be**	**142.55**	**331**	PKhKP	PKPpre	08 08 39.0	
	4.0nm,0.4s,baz=43,slow=4.4,SNR=41						
AKBB	**Malin Array Si**	**142.55**	**331**	*e*PKPdf	PKPpre	08 08 39.2	
AK01	**Malin Array Si**	**142.56**	**331**	*e*PKPdf	PKPpre	08 08 39.2	
KIEV	**Kiev**	**142.56**	**331**	*e*PKPdf	PKPpre	08 08 39.1	
AK02	**Malin Array Si**	**142.59**	**331**	*e*PKPdf	PKPpre	08 08 39.2	
MALT	**Malatya**	**143.51**	**308**	⇑P	PKPbc	08 08 44.9	+0.3
BR131	**Keskin Array S**	**146.41**	**313**	*e*PKPbc	**PKPbc**	**08 08 52.3**	**-0.8**
BR131				*e*PKPab	**PKPab**	**08 08 55.5**	**-0.2**
BRTR	**Keskin Array B**	**146.41**	**313**	PKPbc	**PKPbc**	**08 08 52.0**	**-1.1**
	4.4nm,0.7s,baz=63,slow=2.7,SNR=17						
TLCR		**146.45**	**324**	⇑*i*P	**PKPbc**	**08 08 52.3**	**-0.5**
CFR	**Carcaliu**	**146.82**	**325**	⇑*i*P	**PKPbc**	**08 08 52.9**	**-0.9**
KOLS	**Kolonicke sedl**	**146.84**	**335**	*e*PKP	**PKPbc**	**08 08 53.9**	**+0.1**
STHS	**Stebnicka Huta**	**146.85**	**337**	*e*PKP	**PKPbc**	**08 08 53.9**	**+0.1**
VRI	**Vrincioaia**	**147.10**	**327**	⇓*i*P	**PKPbc**	**08 08 53.8**	**-0.8**
NIE	**Niedzica**	**147.19**	**337**	*e*PKP	**PKPbc**	**08 08 54.8**	**0.0**
KSP	**Ksiaz**	**147.23**	**343**	*e*PKP	**PKPbc**	**08 08 54.7**	**-0.1**
TLB	**Topalu**	**147.25**	**324**	⇓*i*P	**PKPbc**	**08 08 54.5**	**-0.5**
TRPA	**Tarpa**	**147.37**	**334**	⇑*i*P	**PKPbc**	**08 08 54.3**	**-0.9**
OKC	**Ostrava-Krasne**	**147.57**	**340**	*e*PKPAB	**PKPab**	**08 09 00.1**	**+0.3**
CLL	**Collm**	**147.60**	**347**	⇓*i*PKPbc	**PKPbc**	**08 08 55.3**	**-0.4**
	comp=Z,18nm,0.9s						
CLL				⇑*i*PKPab	**PKPab**	**08 08 59.1**	**-0.8**
	comp=Z,12nm,0.7s						
UPC	**Upice**	**147.61**	**343**	⇑*e*PKP	**PKPbc**	**08 08 55.6**	**-0.2**
UPC				*e*PKPAB	**PKPab**	**08 09 00.1**	**+0.1**
DPC	**Dobruska-Polom**	**147.66**	**343**	⇑*e*PKP	**PKPbc**	**08 08 56.0**	**0.0**
DPC				*e*PKPAB	**PKPab**	**08 09 00.6**	**+0.3**
DOPR	**Dopca**	**147.70**	**328**	⇑*i*P	**PKPbc**	**08 08 56.5**	**+0.3**
MLR	**Muntele Rosu**	**147.76**	**327**	⇑*i*P	**PKPbc**	**08 08 57.0**	**+0.5**
KRLC	**Kraliky**	**147.78**	**342**	⇑*e*PKP	**PKPbc**	**08 08 56.0**	**-0.3**
BRG	**Berggiesshubel**	**147.80**	**346**	*i* PKP	**PKPbc**	**08 08 55.9**	**-0.3**
	comp=Z,8.6nm,0.6s						
BRG				*e*		08 08 60.0	
	comp=Z,5.0nm,0.7s						
MORC	**Moravsky Berou**	**147.81**	**341**	⇑*i*P	**PKPbc**	**08 08 56.2**	**-0.2**
PVCC	**Panska Ves**	**147.97**	**345**	⇑*e*PKP	**PKPbc**	**08 08 56.8**	**+0.1**
PVCC				*e*PKPAB	**PKPab**	**08 09 01.4**	**0.0**
VOIR		**148.25**	**328**	⇑*i*P	**PKPbc**	**08 08 56.5**	**-1.1**
PRA	**Prague**	**148.42**	**344**	*e*PKPAB	**PKPab**	**08 09 02.7**	**-0.6**
PRU	**Pruhonice**	**148.47**	**344**	⇑*e*PKP	**PKPbc**	**08 08 57.7**	**-0.2**
PRU				*e*PKPAB	**PKPab**	**08 09 03.3**	**-0.2**
GOPC	**GO Pecny, Ondr**	**148.47**	**344**	⇑*e*PKP	**PKPbc**	**08 08 57.8**	**-0.2**
GOPC				*e*PKPAB	**PKPab**	**08 09 02.1**	**-1.5**
VYHS	**Vyhne**	**148.49**	**338**	*e*PKP	**PKPbc**	**08 08 57.9**	**-0.2**
VYHS				*e*		08 09 03.8	
ARR	**Arges**	**148.50**	**328**	⇓*i*P	**PKPbc**	**08 08 58.9**	**+0.6**
NKC	**Novy Kostel**	**148.74**	**347**	⇑*e*PKP	**PKPbc**	**08 08 58.1**	**-0.5**
NKC				*e*PKPAB	**PKPab**	**08 09 04.3**	**-0.3**
TREC	**Trest**	**148.85**	**343**	⇑*e*PKP	**PKPbc**	**08 08 58.3**	**-0.6**
TREC				*e*PKPAB	**PKPab**	**08 09 03.2**	**-1.9**
GZR	**Gura Zlata**	**149.37**	**330**	⇑*i*P	**PKPbc**	**08 08 59.7**	**-0.7**
JMB	**Yambol**	**149.42**	**322**	⇑*i*P	**PKPbc**	**08 08 59.6**	**-0.9**
KHC	**Kasperske Hory**	**149.50**	**345**	⇑*e*PKP	**PKPbc**	**08 09 00.3**	**-0.2**
KHC				*e*PKPAB	**PKPab**	**08 09 07.5**	**-0.4**
KHC				*ex*	x	08 11 22.7	
BZS	**Buzias**	**149.73**	**332**	⇑*i*P	**PKPbc**	**08 09 00.7**	**-0.4**
GERES	**GERESS Array B**	**149.74**	**344**	PKPbc	**PKPbc**	**08 09 00.6**	**-0.6**
	comp=Z,4.6nm,0.8s,baz=40,slow=2.3,SNR=23						
CONA	**Conrad Observa**	**149.96**	**341**	⇑*i*PKiKP	**PKPbc**	**08 09 01.4**	**-0.3**
	comp=Z,5.3nm,0.7s						
PKSM	**Moragy**	**150.49**	**336**	⇑*i*P	**PKPbc**	**08 09 02.0**	**-0.8**
KDZ	**Kurdzhali**	**150.61**	**322**	⇑*i*P	**PKPbc**	**08 09 02.8**	**-0.5**
PERS	**Pernice**	**151.35**	**341**	*i* PKPbc	**PKPbc**	**08 09 03.5**	**-1.4**
ABTA	**Abfaltersbach**	**151.99**	**344**	⇑*i*PKiKP	**PKPbc**	**08 09 05.0**	**-1.3**
	comp=Z,6.0nm,0.5s						
ABTA				⇑*i*PKPab	**PKPab**	**08 09 17.6**	**-0.8**
	comp=Z,4.5nm,0.7s						
BOJS	**Bojanci**	**152.31**	**339**	*i* PKPbc	**PKPbc**	**08 09 06.5**	**-0.4**
JAVS	**Javornik**	**152.34**	**341**	*i* PKPbc	**PKPbc**	**08 09 05.7**	**-1.4**
TORD	**Torodi Ar. Bea**	**173.11**	**179**	PKPab	**PKPab**	**08 10 51.9**	**+0.4**

comp=Z,0.5nm,0.8s,baz=195,slow=3.2,SNR=2.6

VIE 20 07:52:11.3±0.2, 47.53N×14.96E, h0km, mb1.0/3, ML1.1/4, 4C-2D, Error ellipse: s-maj=1.9km s-min=1.0km az=27.0
4 km ENE of Erzberg Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSA	**Arzberg**	**0.47**	**125**	⇑*i*Pg	Pg	07 52 20.5	0.0
	2.5nm,0.2s						
ARSA				⇑*i*Sg	Sg	07 52 27.0	+0.3
	5.8nm,0.7s						
MOA	**Molln**	**0.57**	**305**	⇑*i*Pg	Pg	07 52 22.1	-0.2
	0.7nm,0.1s						
MOA				⇓*i*Sg	Sg	07 52 30.1	+0.4
	3.3nm,0.3s						
CONA	**Conrad Observa**	**0.73**	**56**	⇓*i*Pg	Pg	07 52 25.5	0.0
	0.7nm,0.2s						
CONA				⇑*i*Sg	Sg	07 52 35.5	+0.4
	1.8nm,0.3s						

*ISCJB **20** 07:53:25.6±0.8, 11.81N±0.03×61.03W±0.06, h78km±11km, Error ellipse: s-maj=10.1km s-min=4.3km az=8.2*
*TRN **20** 07:53:25.8, 11.86N×60.99W, h30km, MD3.6*
*FUNV **20** 07:53:26.9, 11.85N×60.93W, h35km, MW3.2*
ISC 20 07:53:27.0±1.5, 11.83N±0.03×61.05W±0.06, h60km±20km, n21, σ0.883/33, 1C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRW	**Mount Saint Ca**	**0.68**	**299**	*eP*	**Pn**	**07 53 40.9**	**-0.2**
TPR	**Prospect**	**0.70**	**157**	*eP*	**Pn**	**07 53 40.8**	**-0.4**
TPR				*eS*	**Sn**	**07 53 51.0**	**-0.6**
TOSP	**Speyside**	**0.73**	**136**	*eP*	**Pn**	**07 53 41.4**	**-0.3**
TOSP				*eS*	**Sn**	**07 53 52.5**	**+0.2**
BOT	**Bacolet**	**0.74**	**154**	*eP*	**Pn**	**07 53 41.3**	**-0.4**
BOT				*eS*	**Sn**	**07 53 52.2**	**-0.2**
TRN	**Trinidad (W)**	**1.23**	**196**	*eP*	**Pn**	**07 53 48.3**	**+0.2**
TRN				*eS*	**Sn**	**07 54 05.1**	**+1.4**
FCV	**Fort Charlotte**	**1.33**	**352**	*eP*	**Pn**	**07 53 49.7**	**+0.3**
FCV				*eS*	**Sn**	**07 54 06.5**	**+0.4**
TBH	**Brigand Hill**	**1.34**	**181**	*eP*	**Pn**	**07 53 51.4**	**+1.8**
TBH				*eS*	**Sn**	**07 54 08.5**	**+2.0**
SVB	**Belmont**	**1.44**	**352**	*eP*	**Pn**	**07 53 50.8**	**-0.2**
SVB				*eS*	**Sn**	**07 54 08.8**	**-0.1**
SVV	**Soufriere Volc**	**1.48**	**354**	⇑*eP*	**Pn**	**07 53 52.0**	**+0.5**
SVV				*eS*	**Sn**	**07 54 10.8**	**+0.9**
GUIV	**Guiria**	**1.65**	**224**	*eP*	**Pn**	**07 53 53.6**	**0.0**
GUIV				*eS*	**Sn**	**07 54 14.0**	**+0.2**
MCLT	**Moule a Chique**	**1.87**	**3**	*eP*	**Pn**	**07 53 57.1**	**+0.5**
MCLT	**Moule a Chique**	**1.87**	**3**	*e*	**Sn**	**07 54 18.0**	**-1.3**
MCLT				*eS*	**Sn**	**07 54 20.1**	**+0.9**
CRUV	**Carupano**	**2.43**	**242**	*eP*	**Pn**	**07 54 04.7**	**+0.3**
CRUV				*eS*	**Sn**	**07 54 33.0**	**0.0**
GUNV	**Guanoco**	**2.49**	**228**	*eP*	**Pn**	**07 54 05.8**	**+0.6**
GUNV				*eS*	**Sn**	**07 54 34.0**	**-0.4**
PCRV	**Puerto La Cruz**	**3.89**	**245**	*eP*	**Pn**	**07 54 23.8**	**-0.5**
**P

0.4nm,0.3s,baz=275,slow=11,SNR=31
PLCA Sn **S** **08 13 35.6 -2.0**
0.1nm,0.3s,baz=207,slow=2.3,SNR=1.7
PLCA LR LR 08 15 17.4
comp=Z,9μm,21.4s,baz=272,slow=32
PLCA Paso Flores 16.61 103 *eP* **P** **08 10 28.0 +3.5**
PLCA Paso Flores 16.61 103 *ePn* **P** **08 10 23.8 -0.7**
PLCA *eSn* **Sn** **08 13 22.1 -4.1**
ROCH El Roble 18.07 77 *eP* P 08 10 47.5 +6.6
RPN Rapa Nui 18.68 304 P **P** **08 10 45.1 -2.3**
5.8nm,0.3s,baz=80,slow=3.9,SNR=2.7
RPN LR LR 08 15 53.8
comp=Z,36μm,19.2s,baz=132,slow=31
LCO Las Campanas 20.30 67 *eP* Pn 08 11 07.8 +0.3
LCO Las Campanas 20.30 67 *eP* Pn 08 11 07.1 -0.5
323nm,1.5s
LCO *eS* Sn 08 14 55.2 -0.9
LCO LR LR
comp=Z,49μm,22.0s
CFAA Coronel Fontan 20.78 76 P **P** **08 11 11.5 +1.2**
comp=Z,1.6nm,0.6s,baz=239,slow=9.0,SNR=26
CFAA LR LR 08 17 27.6
comp=Z,2μm,19.6s,baz=250,slow=32
USHA Ushuaia 22.42 143 P **P** **08 11 29.0 +1.3**
comp=Z,25nm,1.0s,baz=275,slow=11,SNR=5.8
USHA LR LR 08 18 38.2
comp=Z,41μm,18.1s,baz=280,slow=32
TRQA Tornquist 23.51 97 *eP* **P** **08 11 41.3 +2.1**
TRQA Tornquist 23.51 97 *eP* **P** **08 11 40.5 +1.3**
comp=Z,1μm,2.2s
TRQA LR LR
comp=Z,11μm,21.0s
PB10 IPOC Station P 23.95 56 *eP* **P** **08 11 47.7 +4.2**
PB06 IPOC Station P 25.16 56 *eP* **P** **08 11 56.0 +1.3**
PB04 IPOC Station P 25.53 56 *eP* **P** **08 11 56.1 -1.7**
LVC Limon Verde 25.66 57 P **P** **08 12 01.0 +1.7**
comp=Z,114nm,0.9s,baz=228,slow=9.2,SNR=22
LVC LR LR 08 19 27.1
comp=Z,144μm,22.0s,baz=222,slow=30
LVC Limon Verde 25.66 57 *eP* **P** **08 12 00.0 +0.7**
comp=Z,161nm,1.2s
LVC *eS* **S** **08 16 30.1 +2.7**
PB07 IPOC Station P 25.66 54 *eP* **P** **08 12 01.1 +1.8**
PATCX Punta Patache 26.17 52 *eP* **P** **08 12 05.7 +1.9**
PB01 IPOC Station P 26.42 54 *eP* **P** **08 12 07.6 +1.6**
EFI East Falkland 26.77 129‖ *eP* **P** **08 12 11.8 +3.0**
EFI pmax pmax
comp=Z,1μm,3.0s
EFI MLR MLR
comp=Z,58μm,15.0s
EFI East Falkland 26.77 129 *eP* **P** **08 12 09.6 +0.8**
comp=Z,532nm,1.7s
EFI LR LR
comp=Z,20μm,19.0s
PSGC Pisagua 27.11 51 *eP* **P** **08 12 15.2 +2.9**
MNMC Minimini 27.79 51 *eP* **P** **08 12 19.4 +0.8**
ARE Arequipa 28.81 44 *eP* **P** **08 12 28.0 +0.3**
ARE Arequipa 28.81 44 *eP* **P** **08 12 28.0 +0.3**
NNA Nana 30.15 31 P **P** **08 12 38.2 -1.1**
comp=Z,16nm,1.1s,baz=201,slow=9.6,SNR=5.6
NNA Nana 30.15 31 *eP* **P** **08 12 41.3 +1.9**
NNA pmax pmax
comp=Z,103nm,1.6s
NNA MLR MLR
comp=Z,30μm,22.0s
NNA Nana 30.15 31 *eP* **P** **08 12 41.3 +1.9**
comp=Z,103nm,1.6s
NNA LR LR
comp=Z,30μm,22.0s
PMSA Palmer Station 30.53 157 LR LR 08 22 06.8
comp=Z,12μm,19.6s,baz=307,slow=31
LPAZ La Paz 30.86 49 P **P** **08 12 45.9 -0.3**
comp=Z,41nm,1.2s,baz=206,slow=6.9,SNR=41
LPAZ LR LR 08 22 31.8
comp=Z,14μm,20.1s,baz=238,slow=31
LPAZ La Paz 30.86 49 *eP* **P** **08 12 46.3 0.0**
LPAZ pmax pmax
comp=Z,111nm,1.4s
LPAZ La Paz 30.86 49 *eP* **P** **08 12 46.8 +0.5**
LPAZ La Paz 30.86 49 *eP* **P** **08 12 46.2 0.0**
comp=Z,111nm,1.4s
CPUP Villa Florida 31.68 77 *eP* **P** **08 12 52.5 -0.2**
CPUP pmax pmax
comp=Z,1.0nm,1.0s
CPUP Villa Florida 31.68 77 *eP* **P** **08 12 52.5 -0.2**
comp=Z,1.2nm,1.0s
ATAH Atahualpa 34.08 25 P **P** **08 13 15.3 +1.1**
comp=Z,15nm,0.9s,baz=214,slow=8.9,SNR=14
ATAH LR LR 08 23 42.7
comp=Z,22μm,20.9s,baz=216,slow=30
SIV San Ignacio 35.54 58 P **P** **08 13 25.9 -0.5**
comp=Z,9.2nm,0.8s,baz=240,slow=12,SNR=22
PAYG Puerto Ayora 38.22 3 PFAKE 08 14 00.0 +11
PAYG LR LR
comp=Z,8μm,21.0s
SAML Samuel 39.59 49 *eP* **P** **08 13 59.6 -1.1**
comp=Z,425nm,2.5s
SAML LR LR
comp=Z,14μm,22.0s
RKT Rikitea 39.63 281 *eS* **S** **08 20 00.2 -3.4**
comp=Z,3μm,28.0s
RKT *eLQ* LQ 08 22 57.6
comp=Z,15μm,29.8s
RKT *eLR* LR 08 24 37.7
comp=Z,4μm,32.2s
RKT Rikitea 39.63 281 *eT* T 08 55 40.1
comp=Z,1.3nm,0.2s
HOPE Hope Point 39.98 131 PFAKE 08 14 20.0 +16
HOPE LR LR
comp=Z,13μm,19.0s
OTAV Otavalo 41.04 21 *eP* **P** **08 14 13.0 -0.2**
comp=Z,41nm,1.2s
OTAV LR LR
comp=Z,11μm,20.0s
BDFB Brasilia 44.99 71 P **P** **08 14 44.5 -0.3**
comp=Z,43nm,1.2s,baz=249,slow=5.6,SNR=22
BDFB LR LR 08 32 53.2
comp=Z,15μm,18.5s,baz=228,slow=35
BDFB Brasilia 44.99 71 P **P** **08 14 44.5 -0.3**
BDFB pmax pmax
comp=Z,43nm,1.2s
BDFB MLR MLR
comp=Z,15μm,18.5s
ROSC El Rosal 46.66 25 P **P** **08 14 59.6 +1.3**
comp=Z,4.3nm,0.4s,baz=148,slow=2.8,SNR=20
ROSC LR LR 08 32 31.8
comp=Z,12μm,18.4s,baz=192,slow=34
ROSC El Rosal 46.66 25 *eP* **P** **08 14 60.0 +1.7**
PTGA Pitinga 48.12 46 *eP* **P** **08 15 09.0 -0.3**
PTGA LR LR
comp=Z,13μm,20.0s
BCIP Isla Barro Col 49.29 16 PFAKE 08 15 30.0 +12
BCIP LR LR
comp=Z,9μm,20.0s
JTS JuntasAbangare 49.52 9 *eP* **P** **08 15 21.4 +1.5**
JTS pmax pmax
comp=Z,123nm,1.5s
JTS MLR MLR
comp=Z,15μm,22.0s
JTS JuntasAbangare 49.52 9 *eP* **P** **08 15 21.4 +1.5**
comp=Z,123nm,1.5s
JTS LR LR
comp=Z,15μm,22.0s
TBI Tubuai 50.73 270 *eP* **P** **08 15 31.5 +2.4**
comp=Z,240nm,1.2s
TBI *eS* **S** **08 22 42.0 -2.1**
comp=Z,3μm,29.0s
TBI *eLQ* LQ 08 27 47.9
comp=Z,9μm,31.0s
TBI *eLR* LR 08 29 56.1
comp=Z,10μm,24.5s,baz=124
TBI Tubuai 50.73 270 *eT* T 09 09 29.0
comp=Z,3.6nm,0.2s
VNA3 Neumayer Olymp 51.18 156 P **P** **08 15 33.3 +1.4**
QSPA South Pole Qui 51.19 180 P **P** **08 15 31.9 -0.2**
comp=Z,5.7nm,0.8s,baz=147,slow=3.0,SNR=23
QSPA LR LR 08 35 22.9
comp=Z,6μm,18.1s,baz=128,slow=34
QSPA South Pole Qui 51.19 180 *eP* **P** **08 15 32.0 -0.2**
comp=Z,214nm,2.2s
SDV Santo Domingo 51.68 27 *eP* **P** **08 15 34.6 -1.9**
comp=Z,55nm,1.5s
SDV LR LR
comp=Z,30μm,19.0s
VNA1 Neumayer--Stat 51.73 155 P **P** **08 15 37.5 +1.6**
VNA2 Neumayer--Watz 51.96 155 P **P** **08 15 39.0 +1.3**
baz=246,slow=7.7

MEH Mehetia 52.69 277 *eT* T 09 11 58.2
comp=Z,22nm,0.2s
SNAA Sanae 53.25 157 P **P** **08 15 45.2 -2.1**
SNAA Sanae 53.25 157 P **P** **08 15 46.4 -0.9**
comp=Z,7.6nm,1.0s,baz=265,slow=8.4,SNR=28
SNAA Sanae 53.25 157 P **P** **08 15 46.4 -0.9**
SNAA pmax pmax
comp=Z,8.0nm,1.0s
SNAA Sanae 53.25 157 *eP* **P** **08 15 44.2 -3.1**
comp=Z,36nm,0.8s
TVO Taravao 53.66 276 *eT* T 09 13 10.8
comp=Z,1.2nm,0.3s
TIAR Tiarei 53.86 276 *eP* **P** **08 15 52.1 -0.4**
comp=Z,14nm,1.0s
TIAR Tiarei 53.86 276 *eT* T 09 13 25.8
comp=Z,6.3nm,0.3s
VAH Vaihoa 53.91 280 *eP* **P** **08 15 52.1 -0.7**
comp=Z,97nm,1.3s
PAE Paea 53.98 276 *eT* T 09 13 34.5
comp=Z,1.1nm,0.4s
PPT2 Papeete2 54.02 276 *eS* **S** **08 23 26.3 -3.1**
comp=Z,4μm,26.9s
PPT2 *eLQ* LQ 08 29 10.7
comp=Z,6μm,25.5s
PPT2 *eLR* LR 08 31 24.3
comp=Z,3μm,22.0s,baz=134
PPT Papeete 54.03 276 LR LR 08 33 09.1
comp=Z,2μm,18.7s,baz=128,slow=30
PMOR Pomariorio Ree 54.26 280 *eP* **P** **08 15 54.5 -0.8**
comp=Z,70nm,1.4s
SBA Scott Base 54.47 195 *eP* **P** **08 15 56.3 +0.3**
SBA pmax pmax
comp=Z,420nm,2.8s
SBA MLR MLR
comp=Z,5μm,19.0s
SBA Scott Base 54.47 195 *eP* **P** **08 15 56.3 +0.3**
comp=Z,420nm,2.8s
SBA LR LR
comp=Z,5μm,19.0s
VNDA Vanda 55.57 195 P **P** **08 16 03.4 -0.7**
comp=Z,6.7nm,0.8s,baz=104,slow=7.4,SNR=7.1
VNDA LR LR 08 36 10.0
comp=Z,5μm,18.6s,baz=100,slow=32
VNDA Vanda 55.57 195 *eP* **P** **08 16 03.5 -0.6**
comp=Z,27nm,1.3s
CMIG Matias Romero 55.90 357 P **P** **08 16 06.2 -0.8**
comp=Z,1.6nm,0.7s,baz=159,slow=11,SNR=4.0
NVL N'lazarevskaya 58.01 158 *eP* P 08 16 15.0 -6.4
NVL *eS* S 08 24 14.3 -6.6
NVL pmax pmax
comp=Z,23nm,0.8s
GRGR Grenville 58.28 36 PFAKE 08 16 40.0 +16
GRGR LR LR
comp=Z,7μm,19.0s
MTDJ Mount Denham 58.57 16 PFAKE 08 16 40.0 +14
MTDJ LR LR
comp=Z,3μm,21.0s
TEIG Tepich 59.06 4 PFAKE 08 16 40.0 +11
TEIG LR LR
comp=Z,4μm,21.0s
BBGH Gun Hill 60.13 37 PFAKE 08 16 50.0 +13
BBGH LR LR
comp=Z,8μm,19.0s
RCBR Riachuelo 60.36 72 PFAKE 08 16 50.0 +11
RCBR LR LR
comp=Z,8μm,19.0s
GTBY Guantanamo Bay 60.77 18 PFAKE 08 16 50.0 +9.0
GTBY LR LR
comp=Z,3μm,20.0s
FDF Fort de France 60.80 35 PFAKE 08 16 50.0 +8.6
FDF LR LR
comp=Z,5μm,20.0s
SDDR Presa de Saban 60.91 23 PFAKE 08 16 50.0 +7.9
SDDR LR LR
comp=Z,7μm,20.0s
OBIP Obispado Ponce 61.59 28 *eP* **P** **08 16 45.7 -0.9**
comp=Z,72nm,1.0s
CELP Cerrillos 61.63 28 *eP* **P** **08 16 45.7 -1.2**
LRS Lares 61.73 27 *eP* **P** **08 16 47.4 -0.2**
SJG San Juan 61.82 28 *eP* **P** **08 16 48.3 +0.1**
SJG pmax pmax
comp=Z,101nm,1.0s
SJG MLR MLR
comp=Z,4μm,20.0s
SJG San Juan 61.82 28 *eP* **P** **08 16 48.3 +0.1**
comp=Z,101nm,1.0s
SJG LR LR
comp=Z,4μm,20.0s
ANWB Willy Bob 63.14 33 PFAKE 08 17 10.0 +13
ANWB LR LR
comp=Z,4μm,20.0s
GRTK Grand Turk 63.35 22 PFAKE 08 17 10.0 +12
GRTK LR LR
comp=Z,6μm,20.0s
SLBS Sierra La Lagu 64.60 342 *eP* **P** **08 17 07.3 +0.7**
comp=Z,440nm,2.8s
035Z Hargill 65.40 354 ⇑P **P** **08 17 11.0 -0.6**
baz=66
035A Encino 65.88 354 ⇓P **P** **08 17 14.2 -0.5**
baz=66
034A Hebbronville 66.05 354 ⇑P **P** **08 17 15.1 -0.7**
baz=66
936A North Padre Is 66.30 355 ⇑P **P** **08 17 17.7 +0.3**
baz=67
KVTX Kingsville 66.47 354 PFAKE 08 17 30.0 +12
KVTX LR LR
comp=Z,2μm,20.0s
SYO Syowa Base 66.51 163 ⇓P P 08 17 22.0 +3.7
934A Benavides 66.57 354 ⇑P **P** **08 17 20.1 +0.9**
baz=67,SNR=7.4
934A ⇓S **S** **08 26 13.0 +3.4**
baz=67
934A ⇓S **S** **08 26 13.0 +3.4**
baz=67
934A ⇓S **S** **08 26 13.0 +3.4**
baz=67
933A Laredo 66.65 353 ⇓P **P** **08 17 20.3 +0.6**
baz=67,SNR=15
834A Tilden 67.09 354 ⇑P **P** **08 17 23.4 +0.9**
baz=68
835A Beeville 67.19 354 ⇓P **P** **08 17 24.0 +0.9**
baz=68
833A Chaparral WMA, 67.36 353 ⇑P **P** **08 17 24.4 +0.2**
baz=68,SNR=6.2
DRV Dumont d'Urvil 67.37 200 P P 08 17 06.0 -18
DRV S S 08 25 57.0 -21
DRV SS **SS** **08 30 41.0 +3.6**
DRV L L 08 33 00.0
DRV R 08 37 00.0
832A Faith Ranch, C 67.38 352 ⇑P **P** **08 17 24.3 0.0**
baz=68
SNZO South Karori 67.69 234 PFAKE 08 17 40.0 +14
SNZO LR LR
comp=Z,7μm,20.0s
733A Divot King Ran 67.75 353 ⇓P **P** **08 17 26.5 -0.1**
baz=68
735A Kenedy 67.76 355 ⇑P **P** **08 17 27.2 +0.6**
baz=68,SNR=5.7
736A Circle Diamond 67.81 355 ⇑P **P** **08 17 27.0 +0.1**
baz=68
734A La Parita Cree 67.81 354 ⇓P **P** **08 17 27.2 +0.2**
baz=68,SNR=5.9
732A Laxson Ranch, 67.82 353 ⇓P **P** **08 17 26.8 -0.3**
baz=68,SNR=6.6
635A Leesville 68.28 355 ⇑P **P** **08 17 29.7 -0.3**
baz=69,SNR=5.6
634A China Grove, S 68.32 354 ⇓P **P** **08 17 29.3 -0.9**
baz=69
636A Smothers Creek 68.33 355 ⇑P **P** **08 17 29.3 -0.9**
baz=69,SNR=7.7
633A Saathoff Ranch 68.47 353 ⇓P **P** **08 17 29.4 -1.7**
baz=69,SNR=5.3
631A Perdido Creek 68.56 352 ⇑P **P** **08 17 29.5 -2.2**
baz=69,SNR=11
632A Uvalde 68.57 353 ⇓P **P** **08 17 30.1 -1.7**
baz=69,SNR=17
RPZ Rata Peaks 68.62 231 P **P** **08 17 31.2 -1.0**
comp=Z,12nm,1.1s,baz=194,slow=12,SNR=4.1
RPZ Rata Peaks 68.62 231 *eP* **P** **08 17 32.3 +0.1**
HKT Hockley 68.73 356 *eP* **P** **08 17 33.6 +1.0**
HKT pmax pmax
comp=Z,113nm,1.8s
HKT Hockley 68.73 356 *eP* **P** **08 17 33.6 +1.0**
comp=Z,113nm,1.8s
TXAR Lajitas Array 68.88 349 P **P** **08 17 31.7 -2.1**
comp=Z,4.4nm,0.9s,baz=163,slow=8.9,SNR=21
TXAR LR LR 08 42 02.9
comp=Z,5μm,19.8s,baz=0.0,slow=31
TXAR PKP2bc 08 45 50.9
comp=Z,0.1nm,0.4s,baz=72,slow=3.9,SNR=3.5
537A Green Hill Far 68.88 356 ⇓P **P** **08 17 32.4 -1.3**
baz=69,SNR=7.1
535A Dale 68.91 355 ⇓P **P** **08 17 31.4 -2.4**
baz=69
534A Blanco 68.97 354 ⇑P **P** **08 17 32.5 -1.8**
baz=69
538A Harpers Horsep 68.98 357 ⇑P **P** **08 17 32.5 -1.8**
baz=69
533A Kerrville 69.06 354 ⇓P **P** **08 17 32.8 -2.1**
baz=69,SNR=7.4
532A Rocksprings 69.20 353 ⇓P **P** **08 17 33.5 -2.3**
baz=70,SNR=17
RAO Raoul Island 69.25 249 PFAKE 08 17 50.0 +14
RAO LR LR
comp=Z,4μm,22.0s
531A Rocksprings 69.30 352 ⇑P **P** **08 17 34.0 -2.4**
baz=70,SNR=26
530A J-C Ranch, Com 69.38 351 ⇑P **P** **08 17 34.9 -1.9**
baz=70,SNR=29
529A Stev Forest Ra 69.46 351 ⇑P **P** **08 17 36.0 -1.4**
baz=70,SNR=7.6
439A Center Grove, 69.52 358 ⇓P **P** **08 17 36.0 -1.6**
baz=70
JCT Junction City 69.54 353 *eP* **P** **08 17 35.8 -2.0**
JCT pmax pmax
comp=Z,136nm,1.4s
JCT MLR MLR
comp=Z,976nm,19.0s
JCT Junction City 69.54 353 *eP* **P** **08 17 35.8 -2.0**
comp=Z,136nm,1.4s
JCT LR LR
comp=Z,976nm,19.0s
JCT Junction City 69.54 353 ⇓P **P** **08 17 35.8 -2.0**
baz=70,SNR=24
436A Wall Ranch, Ga 69.59 356 ⇑P **P** **08 17 37.4 -0.7**
baz=70,SNR=5.4
435B Jarrell 69.66 355 ⇓P **P** **08 17 37.6 -0.9**
baz=70
434A Burnet 69.74 354 ⇑P **P** **08 17 36.8 -2.2**
baz=70,SNR=14
433A Art 69.75 354 ⇓P **P** **08 17 37.1 -2.0**
baz=70,SNR=16
431A Sonora 69.82 352 ⇓P **P** **08 17 38.4 -1.1**
baz=70,SNR=24
BRAL Brewton 69.85 5 PFAKE 08 17 50.0 +10
BRAL LR LR
comp=Z,2μm,19.0s
429A Davenport Ranc 69.91 351 ⇓P **P** **08 17 38.4 -1.8**
baz=70,SNR=15
432A Menard 69.93 353 ⇑P **P** **08 17 38.9 -1.4**
baz=70,SNR=6.6
430A Baggett Ranch, 69.99 352 ⇓P **P** **08 17 39.5 -1.1**
baz=70,SNR=19
339A Huntington 70.05 358 ⇑P **P** **08 17 40.1 -0.8**
baz=70
338A Crockett 70.10 357 ⇑P **P** **08 17 40.3 -0.9**
baz=70,SNR=5.4
340A Bronson 70.12 358 ⇑P **P** **08 17 39.8 -1.5**
baz=70
335A Moody 70.14 355 ⇓P **P** **08 17 39.9 -1.5**
baz=70,SNR=7.7
336A Riesel 70.21 356 ⇓P **P** **08 17 40.7 -1.1**
baz=71,SNR=7.8
334A Lometa 70.25 354 ⇓P **P** **08 17 41.0 -1.2**
baz=71,SNR=13
333A Richland Sprin 70.30 354 ⇓P **P** **08 17 41.4 -1.1**
baz=71,SNR=19
331A San Angelo 70.42 352 ⇓P **P** **08 17 41.8 -1.5**
baz=71,SNR=14
332A Millersview 70.43 353 ⇑P **P** **08 17 41.4 -1.8**
baz=71,SNR=23
NATX Nacogdoches 70.48 358 *eP* **P** **08 17 45.3 +1.8**
comp=Z,63nm,1.1s
TIGA Tifton 70.56 8 ⇓P **P** **08 17 43.1 -1.0**
baz=71
330A Mertzon 70.60 352 ⇓P **P** **08 17 42.8 -1.5**
baz=71,SNR=8.4
239A Gary 70.73 358 ⇑P **P** **08 17 43.8 -1.3**
baz=71
238A Jacksonville 70.74 357 ⇑P **P** **08 17 43.8 -1.3**
baz=71
237A Washetta, Mont 70.77 357 ⇓P **P** **08 17 44.2 -1.0**
baz=71
329A Wagon Wheel Ra 70.77 351 ⇓P **P** **08 17 43.9 -1.5**
baz=71,SNR=6.6
236A Katherine and 70.80 356 ⇓P **P** **08 17 44.1 -1.4**
baz=71
WHTX Lake Whitney, 70.85 355 *eP* **P** **08 17 46.7 +0.9**
comp=Z,70nm,1.0s
WHTX Lake Whitney, 70.85 355 ⇑P **P** **08 17 44.9 -0.9**
baz=71,SNR=6.3
234A Clairette 70.91 355 ⇑P **P** **08 17 44.9 -1.3**
baz=71,SNR=20
232A Coleman 70.92 353 ⇓P **P** **08 17 44.9 -1.3**
baz=71,SNR=7.8
233A Rising Star 70.98 354 ⇓P **P** **08 17 44.6 -2.1**
baz=71,SNR=18
231A Bronte 71.03 353 ⇓P **P** **08 17 45.5 -1.5**
baz=71
230A Sterling City 71.07 352 ⇑P **P** **08 17 46.6 -0.6**
baz=71,SNR=6.0
229A Bryant Ranch, 71.23 351 ⇑P **P** **08 17 47.3 -0.9**
baz=72,SNR=5.8
137A Heron Place, G 71.36 357 ⇓P **P** **08 17 48.3 -0.5**
baz=72
139A Bunkhouse Ranc 71.39 358 ⇑P **P** **08 17 48.9 -0.1**
baz=72
138A Matatall Enter 71.39 357 ⇑P **P** **08 17 47.8 -1.2**
baz=72
135A Vickery Place, 71.41 355 ⇓P **P** **08 17 48.1 -1.0**
baz=72
MNTX Cornudas Mount 71.46 348 *eP* **P** **08 17 47.3 -2.2**
comp=Z,26nm,1.2s
MNTX LR LR
comp=Z,2μm,19.0s
MNTX Cornudas Mount 71.46 348 ⇑P **P** **08 17 48.8 -0.7**
baz=72,SNR=17
134A White-Moore Ra 71.47 355 ⇑P **P** **08 17 48.2 -1.3**
baz=72,SNR=7.9
228A UT Block 9, Go 71.47 351 ⇓P **P** **08 17 48.0 -1.7**
baz=72
133A Hamilton Ranch 71.57 354 ⇑P **P** **08 17 48.6 -1.5**
baz=72,SNR=16
ABTX Abilene, Hawle 71.65 353 *eP* **P** **08 17 49.1 -1.5**
comp=Z,45nm,1.0s
ABTX Hailene, Hawle 71.65 353 ⇑P **P** **08 17 49.2 -1.5**
baz=72,SNR=6.6
130A Snyder 71.75 352 ⇑P **P** **08 17 50.1 -1.2**
baz=72,SNR=5.6
131A Roby 71.77 353 ⇓P **P** **08 17 49.7 -1.7**
baz=72,SNR=5.6
319A Douglas 71.86 345 ⇑P **P** **08 17 50.3 -1.8**
baz=72
LRAL Lakeview Retre 71.87 4 *eP* **P** **08 17 49.1 -2.8**
comp=Z,68nm,1.5s
129A Stewart Farms, 71.89 351 ⇓P **P** **08 17 50.6 -1.5**
baz=72,SNR=7.5
Z39A Irene McRaven, 71.95 358 ⇓P **P** **08 17 51.4 -1.0**
baz=72
Z37A Pogue Cattle C 71.95 357 ⇑P **P** **08 17 51.8 -0.6**
baz=72
128A Castleberry Fa 71.95 351 ⇓P **P** **08 17 50.9 -1.6**
baz=72,SNR=15
Z38A Mt. Pleasant 71.98 357 ⇓P **P** **08 17 51.5 -1.0**
baz=72
MAW Mawson 72.00 170 P **P** **08 17 51.3 -1.1**
comp=Z,12nm,0.9s,baz=177,slow=7.4,SNR=6.3
MAW LR LR 08 47 24.9
comp=Z,1μm,18.1s,baz=210,slow=34
MAW Mawson 72.00 170 *eP* **P** **08 17 51.5 -0.9**
Z35A Perchaven, San 72.17 355 ⇓P **P** **08 17 52.7 -1.0**
baz=73
Z33A Whitaker Ranch 72.23 354 ⇓P **P** **08 17 52.8 -1.3**
baz=73,SNR=7.8
Z34A Collier Ranch, 72.25 355 ⇓P **P** **08 17 52.8 -1.4**
baz=73
Z32A Haskell 72.31 353 ⇑P **P** **08 17 54.0 -0.5**
baz=73,SNR=7.8
Z31A Sharp Cattle R 72.38 353 ⇓P **P** **08 17 53.8 -1.2**
baz=73,SNR=23
XMAS Kiritimati 72.42 288 PFAKE 08 18 10.0 +14
XMAS LR LR
comp=Z,2μm,19.0s
Z30A Sanderson Ranc 72.45 352 ⇑P **P** **08 17 54.0 -1.5**
baz=73,SNR=11

Z29A	Hungry Hill Ra	72.49	352	⇓P		P	08 17 54.5	-1.3	
	baz=73,SNR=6.7								
GOGA	Godfrey	72.53	8	eP		P	08 17 55.6	-0.2	
GOGA	comp=Z,195nm,2.4s			pmax		pmax			
GOGA	comp=Z,3µm,22.0s			MLR		MLR			
GOGA	Godfrey	72.53	8	eP		P	08 17 55.6	-0.2	
GOGA	comp=Z,195nm,2.4s			LR		LR			
Z28A	comp=Z,3µm,22.0s Tucker Farm, M	72.60	351	⇑P		P	08 17 54.9	-1.5	
NHSC	baz=73 New Hope	72.63	10	eP		P	08 17 58.0	+1.6	
NHSC	comp=Z,93nm,1.5s			LR		LR			
121A	comp=Z,6µm,22.0s Cookes Peak, D	72.69	346	eP		P	08 17 56.1	-0.9	
121A	comp=Z,23nm,1.3s Cookes Peak, D	72.69	346	⇑P		P	08 17 56.1	-0.9	
Y34A	baz=73 Reagan Ranch,	72.82	355	⇑P		P	08 17 56.2	-1.4	
Y33A	baz=73,SNR=9.2 Hilltop Ranch,	72.94	354	⇓P		P	08 17 56.6	-1.6	
Y32A	baz=73,SNR=6.7 R-V Farms, Ver	73.00	354	⇑P		P	08 17 57.1	-1.5	
Y30A	baz=73,SNR=7.2 Stafford Cattl	73.01	352	⇓P		P	08 17 57.3	-1.5	
Y31A	baz=73,SNR=8.4 Rekieta Farm,	73.03	353	⇑P		P	08 17 57.2	-1.7	
Y29A	baz=73,SNR=8.7 Porterfield Fa	73.08	352	⇑P		P	08 17 57.5	-1.8	
TUC	baz=74 Tucson	73.09	344	eP		P	08 17 57.8	-1.5	
TUC	comp=Z,58nm,1.5s			pmax		pmax			
TUC	comp=Z,2µm,21.0s			MLR		MLR			
TUC	Tucson	73.09	344	eP		P	08 17 57.8	-1.5	
TUC	comp=Z,58nm,1.5s			LR		LR			
Y28A	comp=Z,2µm,21.0s McKinney Farm,	73.19	351	⇑P		P	08 17 58.3	-1.6	
X35A	baz=74,SNR=8.1 Drake	73.22	356	⇓P		P	08 17 58.6	-1.3	
214A	baz=74,SNR=7.4 Organ Pipe Nat	73.22	342	eP		P	08 17 58.6	-1.4	
214A	comp=Z,29nm,1.2s Organ Pipe Nat	73.22	342	⇓P		P	08 17 57.7	-2.3	
MIAR	baz=74,SNR=14 Mount Ida	73.23	359	eP		P	08 18 00.8	+0.8	
MIAR	comp=Z,54nm,1.3s			pmax		pmax			
MIAR	comp=Z,2µm,22.0s			MLR		MLR			
MIAR	Mount Ida	73.23	359	eP		P	08 18 00.8	+0.8	
MIAR	comp=Z,54nm,1.3s			LR		LR			
MSTX	comp=Z,2µm,22.0s Muleshoe	73.32	351	eP		P	08 17 58.2	-2.5	
MSTX	comp=Z,122nm,1.3s Muleshoe	73.32	351	⇑P		P	08 17 58.6	-2.0	
X37A	baz=74,SNR=13 Clayton	73.33	357	⇑P		P	08 17 59.7	-0.9	
X36A	baz=74 Centrahoma	73.35	356	⇓P		P	08 17 59.3	-1.4	
X32A	baz=74,SNR=8.6 Elmer	73.40	354	⇓P		P	08 17 59.4	-1.6	
AFI	baz=74,SNR=8.0 Afiamalu	73.44	265	PFAKE			08 18 10.0	+8.1	
AFI	comp=Z,4µm,20.0s			LR		LR			
UALR	University of	73.45	360	eP		P	08 18 02.2	+0.9	
X33A	comp=Z,35nm,1.3s Lawton	73.46	354	⇓P		P	08 17 59.4	-1.9	
X34A	baz=74 Smith Ranch, M	73.47	355	⇓P		P	08 17 59.4	-2.0	
CASY	baz=74 Casey	73.57	189	PFAKE			08 18 10.0	+8.3	
CASY	comp=Z,9µm,20.0s			LR		LR			
X30A	Coker Ranch, T	73.57	352	⇑P		P	08 18 00.8	-1.3	
X29A	baz=74,SNR=7.8 Tulia	73.66	352	⇑P		P	08 18 01.5	-1.1	
X31A	baz=74,SNR=7.7 McDonald Ranch	73.67	353	⇑P		P	08 18 01.3	-1.3	
WMOK	baz=74,SNR=10 Wichita Mounta	73.67	354	eP		P	08 18 03.1	+0.5	
WMOK	comp=Z,18nm,1.0s			pmax		pmax			
WMOK	comp=Z,1µm,20.0s			MLR		MLR			
WMOK	Wichita Mounta	73.67	354	eP		P	08 18 03.1	+0.5	
WMOK	comp=Z,18nm,1.0s			LR		LR			
W38A	comp=Z,1µm,20.0s Poteau	73.78	358	⇑P		P	08 18 02.6	-0.6	
X28A	baz=74,SNR=6.0 Dimmitt	73.79	351	⇓P		P	08 18 02.5	-0.9	
W37A	baz=74,SNR=5.5 Quinton	73.88	357	⇑P		P	08 18 02.9	-0.9	
W36A	baz=74 Wetumka	73.91	356	⇓P		P	08 18 03.4	-0.6	
W35A	baz=74 Tecumseh	73.96	356	⇓P		P	08 18 02.4	-1.9	
W33A	baz=74,SNR=5.3 Caddo, Fort Co	74.06	355	⇑P		P	08 18 02.6	-2.3	
AMTX	baz=74,SNR=12 Amarillo	74.09	352	eP		P	08 18 03.6	-1.5	
AMTX	comp=Z,72nm,1.0s Amarillo	74.09	352	⇓P		P	08 18 02.5	-2.6	
W32A	baz=74 Sentinel	74.09	354	⇑P		P	08 18 01.8	-3.3	
W34A	baz=74,SNR=9.4 Bridge Creek,	74.09	355	eP		P	08 18 05.1	0.0	
W34A	comp=Z,60nm,1.1s Bridge Creek,	74.09	355	⇓P		P	08 18 04.6	-0.5	
W31A	baz=74,SNR=6.2 Holland Ranch,	74.22	353	⇑P		P	08 18 05.8	-0.1	
LPM	baz=75,SNR=6.5 Los Pinos Moun	74.22	348	eP		P	08 18 07.1	+1.1	
113A	comp=Z,20nm,1.4s Mohawk Valley,	74.23	341	⇓P		P	08 18 05.9	0.0	
W30A	baz=75,SNR=7.1 Crocket Farms	74.27	353	⇓P		P	08 18 05.5	-0.7	
W29A	baz=75 Amarillo	74.32	352	⇑P		P	08 18 06.6	+0.1	
KMSC	baz=75,SNR=6.8 Kings Mountain	74.48	9	eP		P	08 18 07.4	+0.1	
KMSC	comp=Z,56nm,1.4s Kings Mountain	74.48	9	⇑P		P	08 18 07.2	-0.1	
W28A	baz=75 Vega	74.52	351	⇑P		P	08 18 07.6	0.0	
V35A	baz=75 Meyer Ranch, C	74.56	356	⇓P		P	08 18 07.7	-0.1	
Z14A	baz=75,SNR=7.1 Wintersburg	74.60	342	⇓P		P	08 18 07.3	-0.8	
GNAR	baz=75 Gosnell	74.66	2	eP		P	08 18 08.9	+0.6	
TUL1	comp=Z,1µm,1.3s Leonard	74.66	357	⇓P		P	08 18 08.0	-0.4	
V32A	baz=75,SNR=8.8 Arapaho	74.67	354	⇓P		P	08 18 08.3	-0.2	
V34A	baz=75,SNR=5.6 Guthrie	74.67	355	eP		P	08 18 06.9	-1.5	
V34A	comp=Z,79nm,1.3s Guthrie	74.67	355	⇑P		P	08 18 07.9	-0.5	
V33A	baz=75 Lossen Ranch,	74.71	355	⇓P		P	08 18 09.0	+0.4	
V31A	baz=75,SNR=6.9 Spring Creek L	74.79	353	⇓P		P	08 18 09.7	+0.6	
ANMO	baz=75,SNR=17 Albuquerque	74.81	348	eP		P	08 18 08.6	-0.9	
ANMO	comp=Z,20nm,1.1s			pmax		pmax			
ANMO	comp=Z,2µm,21.0s			MLR		MLR			
ANMO	Albuquerque	74.81	348	eP		P	08 18 08.6	-0.9	
ANMO	comp=Z,20nm,1.1s			LR		LR			
WVT	comp=Z,2µm,21.0s Waverly	74.90	4	eP		P	08 18 10.1	+0.4	
WVT	comp=Z,30nm,1.3s Waverly	74.90	4	eP		P	08 18 10.1	+0.4	
BAR	comp=Z,30nm,1.3s Barrett	74.93	339	eP		P	08 18 09.9	0.0	
	comp=Z,4.0nm,0.5s								

SWSC	Sam W. Stewart	74.93	339	⇓P		P	08 18 09.3	-0.7	
V28A	baz=75 Channing	75.01	351	⇓P		P	08 18 09.9	-0.7	
X18A	baz=75 Snowflake	75.05	345	⇑P		P	08 18 11.4	+0.5	
V29A	baz=75,SNR=14 Stinnett	75.05	352	⇓P		P	08 18 08.7	-2.0	
CNNC	baz=75 Cliffs of the	75.07	12	PFAKE			08 18 20.0	+9.3	
CNNC	comp=Z,4µm,20.0s			LR		LR			
V27A	Dan Oppiter Fa	75.09	351	⇓P		P	08 18 10.4	-0.5	
Y14A	baz=76 Wickenburg	75.16	342	⇑P		P	08 18 11.3	-0.1	
X16A	baz=76,SNR=14 Lo Mia Camp, P	75.26	344	⇑P		P	08 18 12.4	+0.3	
U34A	baz=76,SNR=18 Anderson Ranch	75.28	355	eP		P	08 18 12.9	+1.0	
U34A	comp=Z,68nm,1.1s Anderson Ranch	75.28	355	⇓P		P	08 18 12.0	+0.1	
U33A	baz=76 Lingo Farm, Me	75.31	355	⇑P		P	08 18 12.2	+0.1	
U32A	baz=76 Winter Ranch,	75.32	354	⇑P		P	08 18 12.3	+0.1	
Y12C	baz=76 Blythe	75.36	341	⇓P		P	08 18 13.1	+0.7	
U31A	baz=76,SNR=5.6 Nine Bar Ranch	75.38	354	⇓P		P	08 18 12.4	-0.2	
PBMO	baz=76 Poplar Bluff	75.46	1	eP		P	08 18 13.1	+0.2	
BBSR	comp=Z,60nm,1.4s BB Station	75.47	24	PFAKE			08 18 20.0	+7.0	
BBSR	comp=Z,4µm,21.0s			LR		LR			
BC3	Big Chuckawall	75.51	340	⇓P		P	08 18 13.0	-0.4	
ASCN	baz=76 Ascension	75.51	88	PFAKE			08 18 30.0	+16	
ASCN	comp=Z,2µm,20.0s			LR		LR			
W18A	Petrified Fore	75.58	345	⇑P		P	08 18 13.4	-0.4	
U29A	baz=76 Oasis Ranch, S	75.60	352	⇓P		P	08 18 13.9	0.0	
U30A	baz=76 WK&E Inc. Balk	75.61	353	⇓P		P	08 18 14.6	+0.7	
U28A	baz=76 Mallet	75.63	352	⇑P		P	08 18 14.3	+0.2	
T35A	baz=76,SNR=5.3 Sooner Cattle	75.70	356	⇓P		P	08 18 13.7	-0.6	
PFO	baz=76,SNR=8.9 Pinyon Flats O	75.74	339	P		P	08 18 14.3	-0.5	
PFO	comp=Z,2.9nm,0.8s,baz=161,slow=4.7,SNR=4.7 Pinyon Flats O	75.74	339	eP		P	08 18 15.5	+0.7	
PFO	comp=Z,15nm,1.3s			pmax		pmax			
PFO	comp=Z,3µm,21.0s			MLR		MLR			
PFO	Pinyon Flats O	75.74	339	eP		P	08 18 15.4	+0.7	
PFO	comp=Z,15nm,1.3s			LR		LR			
PFO	comp=Z,3µm,21.0s Pinyon Flats O	75.74	339	⇓P		P	08 18 14.3	-0.5	
U27A	baz=76 Thompson Grove	75.74	351	⇓P		P	08 18 14.3	-0.4	
SCI	baz=76,SNR=9.1 San Clemente I	75.75	337	⇓P		P	08 18 14.4	-0.3	
T36A	baz=76 Boggs Farm, Ca	75.81	357	⇓P		P	08 18 14.4	-0.5	
T34A	baz=76,SNR=10 McClaskey Farm	75.84	356	⇓P		P	08 18 14.7	-0.4	
IRM	baz=76,SNR=16 Iron Mountain	75.91	340	⇑P		P	08 18 15.5	-0.1	
MURC	baz=76 Murrieta	75.94	339	⇑P		P	08 18 15.6	-0.2	
T33A	baz=76 Patterson Ranc	75.96	355	⇓P		P	08 18 15.4	-0.4	
BELC	baz=76,SNR=7.1 Belle Mtn. Jos	75.98	340	⇑P		P	08 18 15.6	-0.6	
T32A	baz=76 Huddler Ranch,	76.11	354	⇑P		P	08 18 16.9	+0.2	
T30A	baz=76 Plains	76.12	353	⇑P		P	08 18 16.3	-0.4	
T29A	baz=76 Hugoton	76.30	352	⇓P		P	08 18 16.8	-1.0	
WUAZ	baz=77 Wupatki	76.30	344	eP		P	08 18 19.5	+1.5	
WUAZ	comp=Z,111nm,1.8s			LR		LR			
WUAZ	comp=Z,2µm,19.0s Wupatki	76.30	344	⇑P		P	08 18 17.2	-0.8	
NEE2	baz=77 Needles Airpor	76.35	341	⇑P		P	08 18 17.9	-0.1	
T28A	baz=77 Walsh	76.35	352	⇓P		P	08 18 17.5	-0.6	
FMP	baz=77,SNR=7.2 Fort Macarthur	76.36	338	⇓P		P	08 18 17.2	-1.0	
T27A	baz=77 Campo	76.36	351	⇓P		P	08 18 16.7	-1.5	
S35A	baz=77,SNR=8.5 Otter Creek Ra	76.45	357	⇓P		P	08 18 17.9	-0.6	
S33A	baz=77,SNR=6.6 Kaszmaul Farm,	76.46	355	⇓P		P	08 18 17.0	-1.6	
S36A	baz=77 Lake Cedric, C	76.46	357	⇑P		P	08 18 17.4	-1.2	
W13A	baz=77,SNR=8.5 Hualapai Mount	76.48	342	⇓P		P	08 18 17.7	-1.4	
BBRC	baz=77,SNR=6.2 Big Bear Solar	76.48	339	⇑P		P	08 18 16.9	-2.2	
S34A	baz=77 Willow Spring	76.51	356	⇑P		P	08 18 17.7	-1.2	
T26A	baz=77,SNR=6.8 Comanche Natio	76.58	351	⇑P		P	08 18 17.9	-1.6	
S32A	baz=77,SNR=8.1 Newby Ranch, P	76.63	354	⇓P		P	08 18 17.6	-2.0	
GMRC	baz=77 Granite Mounta	76.63	340	⇑P		P	08 18 18.5	-1.3	
BLA	baz=77,SNR=7.0 Blacksburg	76.64	10	PFAKE			08 18 30.0	+10	
BLA	comp=Z,8µm,20.0s			LR		LR			
T25A	Trinidad	76.66	350	⇑P		P	08 18 18.3	-1.7	
BFSC	baz=77,SNR=15 Mount Baldy Ra	76.67	338	⇓P		P	08 18 18.7	-1.4	
S30A	baz=77 Montezuma	76.70	353	⇑P		P	08 18 17.5	-2.6	
S29A	baz=77 Ulysses	76.74	353	⇑P		P	08 18 18.6	-1.7	
S28A	baz=77,SNR=6.7 Manter	76.79	352	⇑P		P	08 18 19.2	-1.4	
HEC	baz=77,SNR=7.1 Hecor,Ludlow	76.86	340	⇓P		P	08 18 18.9	-2.1	
BLG	baz=77 Laguna Peak, P	76.96	337	⇓P		P	08 18 20.3	-1.2	
S27A	baz=77 Las Animas	77.00	351	⇓P		P	08 18 21.1	-0.7	
S26A	baz=77,SNR=5.8 Kim	77.01	351	⇓P		P	08 18 20.3	-1.6	
R37A	baz=77,SNR=22 Teagarden Farm	77.02	358	⇓P		P	08 18 19.9	-1.8	
R36A	baz=77 Gordon, Harris	77.06	357	⇑P		P	08 18 20.5	-1.5	
WCI	baz=78 Wyandotte Cave	77.08	5	eP		P	08 18 22.0	-0.1	
WCI	comp=Z,22nm,0.9s			pmax		pmax			
WCI	Wyandotte Cave	77.08	5	eP		P	08 18 22.0	-0.1	
R33A	comp=Z,22nm,0.9s Olander Ranch,	77.17	355	⇑P		P	08 18 21.8	-0.8	
R31A	baz=78 Burdett	77.26	354	⇑P		P	08 18 21.2	-1.9	
TUQ	baz=78,SNR=8.9 Turquoise Moun	77.32	340	⇑P		P	08 18 21.0	-2.7	
R30A	baz=78,SNR=5.3 Dighton	77.32	353	⇑P		P	08 18 21.7	-1.8	
SHEL	baz=78,SNR=8.3 Horse Pasture	77.33	100	PFAKE			08 18 40.0	+16	
SHEL	comp=Z,2µm,19.0s			LR		LR			
R32A	Long Quarter,	77.33	355	⇓P		P	08 18 23.3	-0.3	
OSI	baz=78 Osito Audit: C	77.33	338	⇑P		P	08 18 22.5	-1.1	
EDW2	baz=78 Edwards Air Fo	77.36	338	⇓P		P	08 18 23.6	-0.3	
MVCO	baz=78 Mesa Verde	77.37	347	eP		P	08 18 23.7	-0.4	
MVCO	comp=Z,168nm,2.2s			LR		LR			
MVCO	comp=Z,2µm,22.0s Mesa Verde	77.37	347	⇓P		P	08 18 22.0	-2.1	

U15A	baz=78,SNR=7.2 North Rim	77.38	343	⇑P		P	08 18 22.4	-1.8	
SDCO	baz=78,SNR=21 Great Sand Dun	77.41	349	eP		P	08 18 24.7	+0.4	
SDCO	comp=Z,30nm,1.4s			LR		LR			
SDCO	comp=Z,2µm,20.0s Great Sand Dun	77.41	349	⇑P		P	08 18 23.9	-0.4	
GSC	baz=78,SNR=18 Goldstone, Bar	77.43	339	eP		P	08 18 25.0	+0.8	
GSC	comp=Z,86nm,1.8s			pmax		pmax			
GSC	Goldstone, Bar	77.43	339	eP		P	08 18 25.0	+0.8	
GSC	comp=Z,86nm,1.8s Goldstone, Bar	77.43	339	⇓P		P	08 18 24.3	+0.1	
S23A	baz=78 Nye Farm, Mont	77.44	349	⇑P		P	08 18 17.0	-7.4	
JSRW	baz=78 J. Sargeant Re	77.47	11	eP		P	08 18 23.2	-1.1	
R28A	Tribune	77.53	352	⇓P		P	08 18 23.9	-0.9	
R29A	baz=78,SNR=8.0 Marienthal	77.54	353	⇑P		P	08 18 21.6	-3.2	
Q37A	baz=78 Longview Farm,	77.57	358	⇑P		P	08 18 24.2	-0.6	
R27A	baz=78,SNR=6.2 Eads	77.58	351	⇓P		P	08 18 23.8	-1.3	
Q35A	baz=78,SNR=16 Mercer Eighty,	77.61	357	⇑P		P	08 18 24.4	-0.6	
S22A	baz=78,SNR=8.6 4UR Ranch, Cre	77.61	348	⇓P		P	08 18 24.3	-1.2	
R26A	baz=78,SNR=19 Arlington	77.67	351	⇓P		P	08 18 24.2	-1.4	
Q36A	baz=78,SNR=9.3 Arnold C. Orve	77.69	357	⇓P		P	08 18 24.1	-1.3	
Q34A	baz=78,SNR=6.6 Chapman	77.72	356	⇑P		P	08 18 24.5	-1.1	
ARVC	baz=78,SNR=6.1 Arvin	77.84	338	⇓P		P	08 18 25.6	-0.8	
Q33A	baz=78 Connelly Farm,	77.84	355	⇑P		P	08 18 25.5	-0.9	
KSU1	baz=78,SNR=6.7 Kansas State U	77.88	356	eP		P	08 18 24.1	-2.5	
KSU1	comp=Z,154nm,1.6s			LR		LR			
KSU1	comp=Z,2µm,19.0s Kansas State U	77.88	356	⇓P		P	08 18 25.6	-1.0	
Q32A	baz=78 Meitler Ranch,	77.88	355	⇓P		P	08 18 25.5	-1.1	
R23A	baz=78,SNR=9.0 Moffat	77.89	349	⇓P		P	08 18 26.2	-0.8	
Q31A	baz=78 Ellis	77.96	354	⇑P		P	08 18 26.4	-0.7	
Q29A	baz=78,SNR=7.0 Oakley	77.98	353	⇑P		P	08 18 22.9	-4.3	
Q30A	baz=78 Quinter	78.00	354	⇑P		P	08 18 25.4	-1.9	
BLO	baz=78,SNR=8.9 Bloomington	78.00	4	eP		P	08 18 31.1	+3.9	
BLO	comp=Z,35nm,1.2s			pmax		pmax			
BLO	Bloomington	78.00	4	eP		P	08 18 31.1	+3.9	
CBN	comp=Z,34nm,1.2s Corbin Frederi	78.05	12	PFAKE			08 18 40.0	+13	
CBN	comp=Z,2µm,19.0s			LR		LR			
SHPR	Sheep Range	78.13	341	eP		P	08 18 27.0	-1.2	
ISA	Isabella, Lake	78.23	338	eP		P	08 18 28.2	-0.5	
ISA	comp=Z,47nm,1.4s			pmax		pmax			
ISA	Isabella, Lake	78.23	338	eP		P	08 18 28.2	-0.5	
ISA	comp=Z,47nm,1.4s Isabella, Lake	78.23	338	⇓P		P	08 18 27.5	-1.2	
Q28A	baz=79,SNR=5.3 Sharon Springs	78.24	352	⇓P		P	08 18 26.9	-1.7	
P33A	baz=79,SNR=6.6 Williams Farm,	78.27	356	⇓P		P	08 18 21.6	-7.1	
P35A	baz=79 Duane Minner,	78.28	357	⇓P		P	08 18 27.0	-1.7	
KSCO	baz=79,SNR=10 Kaye Shedlock'	78.28	352	eP		P	08 18 28.5	-0.4	
KSCO	comp=Z,59nm,1.3s Kaye Shedlock'	78.28	352	⇓P		P	08 18 27.0	-1.9	
PV01	baz=79,SNR=7.3 Paradox Valley	78.28	347	eP		P	08 18 27.4	-1.7	
Q26A	Hugo	78.30	351	⇓P		P	08 18 27.5	-1.6	
MPMC	baz=79,SNR=9.1 Manual Prospec	78.33	339	⇓P		P	08 18 25.9	-3.5	
SMMC	baz=79 Simmler	78.36	337	⇑P		P	08 18 26.6	-2.8	
P31A	baz=79 Stockton	78.47	354	⇑P		P	08 18 28.2	-1.7	
P32A	baz=79,SNR=6.9 Huiting Farm,	78.52	355	⇑P		P	08 18 28.5	-1.6	
Q24A	baz=79,SNR=9.8 Divide	78.55	350	⇓P		P	08 18 29.5	-1.2	
DAC	baz=79 Darwin (Calif)	78.56	339	eP		P	08 18 31.6	+0.9	
DAC	comp=Z,71nm,1.7s			pmax		pmax			
DAC	Darwin (Calif)	78.56	339	eP		P	08 18 31.6	+0.9	
P30A	comp=Z,71nm,1.7s Selden	78.57	354	⇑P		P	08 18 29.6	-0.8	
VES	baz=79,SNR=9.1 Vestal, Richgr	78.58	338	⇓P		P	08 18 26.6	-3.8	
Q23A	baz=79 Hartsel	78.59	349	⇓P		P	08 18 28.0	-2.9	
PV04	baz=79 Paradox Valley	78.60	347	eP		P	08 18 29.0	-1.7	
P29A	Atwood	78.69	353	⇑P		P	08 18 28.5	-2.6	
P28A	baz=79 Saint Francis	78.74	352	⇓P		P	08 18 30.1	-1.4	
P27A	baz=79,SNR=9.2 Ficken Ranch,	78.81	352	⇓P		P	08 18 28.6	-3.2	
TPNV	baz=79 Topopah Spring	78.83	340	⇓P		P	08 18 30.4	-1.7	
P26A	baz=79,SNR=16 Davis Ranch, A	78.90	351	⇑P		P	08 18 30.7	-1.7	
MSVF	baz=79,SNR=6.1 Nonsavu	78.96	256	PFAKE			08 18 40.0	+6.7	
MSVF	comp=Z,2µm,20.0s			LR		LR			
SMCO	Snowmass	79.03	348	eP		P	08 18 31.6	-1.9	
P23A	comp=Z,75nm,1.4s Jefferson	79.05	349	⇓P		P	08 18 31.6	-1.8	
O31A	baz=79,SNR=7.3 Woolen Ranch,	79.09	354	⇓P		P	08 18 31.4	-1.9	
O32A	baz=80,SNR=6.7 Brockman Farm,	79.13	355	⇑P		P	08 18 26.3	-7.1	
SFIN	baz=80 Lafayette	79.17	4	eP		P	08 18 31.3	-2.3	
SFIN	comp=Z,58nm,1.7s Lafayette	79.17	4	⇓P		P	08 18 30.6	-3.1	
GRAC	baz=80 Grapevine Rang	79.18	340	⇓P		P	08 18 28.8	-5.1	
O30A	baz=80 MW Ranch, Wils	79.18	354	⇑P		P	08 18 28.9	-4.9	
O29A	baz=80 4D Ranch, Culb	79.19	353	⇑P		P	08 18 31.2	-2.7	
HDIL	baz=80,SNR=5.9 Hopedale	79.26	2	eP		P	08 18 34.7	+0.6	
HDIL	comp=Z,67nm,1.6s			LR		LR			
O28A	comp=Z,1µm,20.0s Krutsinger Ran	79.29	352	⇑P		P	08 18 29.9	-4.5	
ACSO	baz=80,SNR=12 Alum Creek Sta	79.33	7	eP		P	08 18 32.6	-1.9	
ACSO	comp=Z,38nm,1.3s			ePcP		PcP	08 18 44.3	+1.7	
ACSO	comp=Z,3µm,19.0s			LR		LR			
MSU	Marysvale	79.36	344	eP		P	08 18 35.5	+0.5	
MSU	comp=Z,151nm,2.2s			pmax		pmax			
MSU	Marysvale	79.36	344	eP		P	08 18 35.5	+0.5	
MVU	comp=Z,150nm,2.2s Marysvale	79.36	344	eP		P	08 18 34.9	-0.1	
P22A	comp=Z,76nm,1.9s Eagle	79.41	349	⇑P		P	08 18 30.3	-4.9	
O27A	baz=80,SNR=7.5 Beecher Island	79.43	352	⇑P		P	08 18 29.7	-5.5	
ISCO	baz=80 Idaho Springs	79.44	349	PFAKE			08 18 50.0	+14	
ISCO	comp=Z,3µm,20.0s			LR		LR			
ISCO	Idaho Springs	79.44	349	⇑P		P	08 18 31.7	-3.8	
O26A	baz=80,SNR=7.2 Horse Wrangler	79.57	351	⇑P		P	08 18 31.0	-5.0	
	baz=80,SNR=6.9								

SRU	San Rafael Swe	79.59	346	eP		P	08 18 33.4	-2.9
SRU				pmax		pmax			
	comp=Z,52nm,1.4s								
SRU	San Rafael Swe	79.59	346	eP		P	08 18 33.4	-2.9
	comp=Z,52nm,1.4s								
N32A	Stulken Farm,	79.63	355	⇑P		P	08 18 33.1	-3.1
	baz=80								
LRV	Little Rabbit	79.70	337	eP		P	08 18 30.8	-5.9
N31A	Bailey Ranch,	79.73	355	⇓P		P	08 18 35.4	-1.4
	baz=80								
N30A	Hueftle Ranch,	79.80	354	⇓P		P	08 18 34.5	-2.6
	baz=80								
N28A	Pribbeno Ranch	79.82	353	⇑P		P	08 18 33.5	-3.8
	baz=80								
MTUM	Tungsten Hills	79.84	339	eP		P	08 18 39.9	+2.3
N29A	Votaw Ranch, W	79.86	353	⇑P		P	08 18 31.8	-5.7
	baz=80,SNR=6.4								
O23A	Lake Granby, G	79.88	349	⇓P		P	08 18 32.5	-5.4
	baz=80,SNR=11								
TMUT	Trail Mountain	79.91	345	eP		P	08 18 38.0	-0.1
	comp=Z,56nm,1.3s								
TMUT				ePcP		PcP	08 18 45.1	-0.4
O22A	Kremmling	79.93	349	⇓P		P	08 18 37.5	-0.6
	baz=80								
R11A	Troy Canyon, C	79.99	341	eP		P	08 18 36.9	-1.5
	comp=Z,163nm,2.3s								
R11A	Troy Canyon, C	79.99	341	⇑P		P	08 18 38.4	0.0
	baz=80								
N27A	Anderson Farm,	80.04	352	⇑P		P	08 18 38.4	-0.2
	baz=80,SNR=5.3								
OGNE	Ogallala	80.12	352	eP		P	08 18 39.2	+0.2
	comp=Z,62nm,1.1s								
OGNE				ePcP		PcP	08 18 46.3	+0.1
OGNE				LR		LR			
	comp=Z,2μm,19.0s								
OGNE	Ogallala	80.12	352	⇑P		P	08 18 39.2	+0.2
	baz=80								
N26A	Koester Ranch,	80.14	351	⇓P		P	08 18 38.7	-0.4
	baz=80								
TPH	Tonopah	80.15	340	eP		P	08 18 39.3	0.0
TPH				pmax		pmax			
	comp=Z,55nm,1.3s								
TPH	Tonopah	80.15	340	eP		P	08 18 39.3	0.0
	comp=Z,55nm,1.3s								
O20A	White River Ci	80.17	347	eP		P	08 18 39.1	-0.3
	comp=Z,52nm,1.3s								
O20A				ePcP		PcP	08 18 46.6	0.0
O20A	White River Ci	80.17	347	⇓P		P	08 18 38.8	-0.6
	baz=81,SNR=8.5								
M31A	Lambtecht Ranc	80.25	355	⇑P		P	08 18 39.1	-0.4
	baz=81,SNR=7.0								
BGNE	Belgrade	80.26	355	eP		P	08 18 39.1	-0.5
	comp=Z,179nm,1.1s								
BGNE				ePcP		PcP	08 18 46.5	-0.2
BGNE	Belgrade	80.26	355	⇑P		P	08 18 38.9	-0.7
	baz=81,SNR=9.3								
M29A	Burnside Ranch	80.49	353	⇓P		P	08 18 39.6	-1.2
	baz=81,SNR=7.6								
M28A	Bar X Bar Ranc	80.51	353	⇑P		P	08 18 40.6	-0.3
	baz=81								
N22A	Wattenberg Ran	80.54	349	⇑P		P	08 18 40.8	-0.6
	baz=81								
N23A	Red Feather La	80.56	349	⇓P		P	08 18 41.0	-0.5
	baz=81,SNR=11								
SCIA	State Center	80.58	359	PFAKE			08 18 50.0	+8.8
SCIA				LR		LR			
	comp=Z,2μm,20.0s								
MPU	Maple Canyon	80.69	345	eP		P	08 18 41.8	-0.4
	comp=Z,36nm,1.3s								
MPU				ePcP		PcP	08 18 49.0	+0.2
NLU	North Lily Min	80.72	345	eP		P	08 18 43.8	+1.5
	comp=Z,35nm,1.2s								
M26A	McRoberts Ranc	80.76	352	⇑P		P	08 18 42.6	+0.2
	baz=81								
NVAR	Mina Array Bea	80.77	339	P		P	08 18 41.9	-0.7
	comp=Z,6.5nm,1.0s,baz=172,slow=5.8,SNR=16								
M25A	Palm-Egli Farm	80.84	351	⇓P		P	08 18 43.0	+0.1
	baz=81								
PHWY	Pilot Hill	80.89	350	eP		P	08 18 44.4	+1.1
	comp=Z,66nm,1.8s								
L30A	Spencer Herefo	80.91	354	⇓P		P	08 18 42.1	-1.0
	baz=81,SNR=7.7								
CMB	Columbia Colle	81.00	338	eP		P	08 18 44.7	+1.1
CMB				pmax		pmax			
	comp=Z,47nm,1.4s								
CMB	Columbia Colle	81.00	338	eP		P	08 18 44.7	+1.1
	comp=Z,46nm,1.4s								
L31A	Butterfield Fa	81.07	355	⇓P		P	08 18 43.1	-0.8
	baz=82,SNR=11								
L29A	Maesberg Ranch	81.09	354	⇓P		P	08 18 43.6	-0.5
	baz=82,SNR=8.5								
DUG	Dugway, Tooele	81.11	344	eP		P	08 18 42.9	-1.4
DUG				e			08 18 51.6		
DUG				pmax		pmax			
	comp=Z,86nm,1.5s								
DUG				MLR		MLR			
	comp=Z,1μm,20.0s								
DUG	Dugway, Tooele	81.11	344	eP		P	08 18 42.9	-1.4
	comp=Z,86nm,1.5s								
DUG				ePcP		PcP	08 18 51.6	+1.0
DUG				LR		LR			
	comp=Z,1μm,20.0s								
DUG	Dugway, Tooele	81.11	344	⇓P		P	08 18 43.4	-0.9
	baz=82,SNR=19								
WAKR	Walker	81.16	339	eP		P	08 18 46.4	+1.7
JLU	Jordanelle	81.22	345	eP		P	08 18 44.4	-0.6
	comp=Z,185nm,2.4s								
AAM	Ann Arbor	81.32	6	PFAKE			08 19 00.0	+15
AAM				LR		LR			
	comp=Z,3μm,19.0s								
L25A	Engebretsen Ra	81.54	351	⇓P		P	08 18 46.7	+0.2
	baz=82								
JFWS	Jewell Farm	81.59	1	eP		P	08 18 45.3	-1.3
JFWS				e			08 18 53.1		
JFWS				pmax		pmax			
	comp=Z,22nm,1.0s								
JFWS				MLR		MLR			
	comp=Z,2μm,19.0s								
JFWS	Jewell Farm	81.59	1	eP		P	08 18 45.3	-1.3
	comp=Z,22nm,1.0s								
JFWS				ePcP		PcP	08 18 53.0	+0.6
JFWS				LR		LR			
	comp=Z,2μm,19.0s								
K30A	Basset	81.62	354	⇓P		P	08 18 46.3	-0.6
	baz=82,SNR=16								
K29A	Lazy Trails An	81.77	354	⇑P		P	08 18 46.2	-1.5
	baz=82								
K28A	Ten Mile Ranch	81.81	353	⇑P		P	08 18 45.8	-2.1
	baz=82								
BGU	Big Grassy Mou	81.85	344	eP		P	08 18 48.2	0.0
	comp=Z,23nm,1.3s								
K27A	Flueckinger Fa	81.89	352	⇓P		P	08 18 47.3	-1.0
	baz=82,SNR=8.9								
K25A	Mack Ranch, Ha	81.98	351	⇓P		P	08 18 46.7	-2.1
	baz=82								
K26A	Motz Farm, Whi	81.98	352	⇓P		P	08 18 47.3	-1.5
	baz=82								
BINY	Binghamton	82.17	12	PFAKE			08 19 00.0	+10
BINY				LR		LR			
	comp=Z,2μm,20.0s								
ELK	Elko	82.18	342	eP		P	08 18 48.2	-1.8
ELK				pmax		pmax			
	comp=Z,123nm,2.1s								
ELK	Elko	82.18	342	eP		P	08 18 48.2	-1.8
	comp=Z,123nm,2.1s								
K24A	Anderson Ranch	82.20	351	⇑P		P	08 18 49.6	-0.5
	baz=83								
HWUT	Hardware Ranch	82.21	345	eP		P	08 18 50.7	+0.6
	comp=Z,37nm,1.3s								
HWUT				ePcP		PcP	08 18 56.6	+1.2
HWUT				LR		LR			
	comp=Z,2μm,20.0s								
J30A	Dallas	82.26	355	⇑P		P	08 18 49.0	-1.2
	baz=83,SNR=14								
TAU	Tasmania Unive	82.28	220	PFAKE			08 19 00.0	+9.4
TAU				LR		LR			
	comp=Z,5μm,20.0s								
K23A	Bowen Ranch, D	82.34	350	⇓P		P	08 18 49.7	-1.0
	baz=83								
K22A	Casper	82.36	349	eP		P	08 18 50.7	-0.2
	comp=Z,124nm,1.5s								
K22A				ePcP		PcP	08 18 58.1	+2.0
K22A	Casper	82.36	349	⇓P		P	08 18 49.7	-1.1
	baz=83,SNR=8.0								
BMN	Battle Mountai	82.37	341	eP		P	08 18 51.3	+0.4
BMN				e			08 18 57.9		
BMN				pmax		pmax			
	comp=Z,118nm,2.0s								
BMN	Battle Mountai	82.37	341	eP		P	08 18 51.3	+0.4
	comp=Z,118nm,2.0s								
BMN				ePcP		PcP	08 18 57.9	+1.7
J27A	Elkhorn Farm,	82.41	353	⇓P		P	08 18 50.2	-0.8
	baz=83,SNR=9.9								
J29A	Okreek	82.41	354	⇓P		P	08 18 50.4	-0.6
	baz=83,SNR=11								
ECSD	EROS Data Cent	82.50	357	eP		P	08 18 50.9	-0.4
	comp=Z,86nm,1.6s								
ECSD				LR		LR			
	comp=Z,1μm,20.0s								
ECSD	EROS Data Cent	82.50	357	⇑P		P	08 18 50.8	-0.5
	baz=83,SNR=20								
J28A	Allard Ranch,	82.50	353	⇑P		P	08 18 52.0	+0.5
	baz=83,SNR=9.5								
OHCM	Honcut	82.53	337	eP		P	08 18 53.1	+1.6
J26A	Sides Ranch, S	82.58	352	⇑P		P	08 18 52.4	+0.5
	baz=83,SNR=9.0								
HVU	Hansel Valley	82.62	345	eP		P	08 18 52.5	+0.3
HVU				pmax		pmax			
	comp=Z,32nm,1.2s								
HVU	Hansel Valley	82.62	345	eP		P	08 18 52.5	+0.3
	comp=Z,32nm,1.2s								
J25A	Sunshine Ranch	82.74	351	⇓P		P	08 18 52.9	+0.2
	baz=83,SNR=8.1								
J24A	Dixon Ranch, L	82.78	351	⇓P		P	08 18 50.3	-2.7
	baz=83								
I30A	Oacoma	82.84	355	⇑P		P	08 18 52.0	-1.2
	baz=83,SNR=5.2								
BW06	Boulder Array	82.96	347	eP		P	08 18 52.2	-1.9
	comp=Z,41nm,1.2s								
BW06				ePcP		pP	08 19 00.5	+1.5
BW06				LR		LR			
	comp=Z,2μm,22.0s								
PDAR	Pinedale Array	82.96	347	P		P	08 18 52.1	-1.9
	comp=Z,2.0nm,0.7s,baz=143,slow=4.6,SNR=17								
PDAR				PKKPbc		PKKPbc	08 37 16.8	-1.2
	comp=Z,0.4nm,0.8s,baz=86,slow=2.8,SNR=2.8								
PDAR				PKPPKP		P'P'df	08 45 24.8	+10
	comp=Z,0.4nm,0.9s,baz=240,slow=5.0,SNR=3.8								
J23A	Dilts Ranch, B	82.97	350	⇓P		P	08 18 53.0	-1.0
	baz=83								
I29A	Vivian Onida	83.02	354	⇓P		P	08 18 51.5	-2.6
	baz=83								
I28A	Midland	83.07	353	⇑P		P	08 18 53.8	-0.6
	baz=84,SNR=16								
I27A	Quinn	83.22	353	⇑P		P	08 18 53.9	-1.2
	baz=84,SNR=7.1								
AHID	Auburn Hatcher	83.24	346	PFAKE			08 19 10.0	+15
AHID				LR		LR			
	comp=Z,2μm,21.0s								
I26A	New Underwood	83.27	352	⇑P		P	08 18 55.1	-0.4
	baz=84								
POHA	Pohakuloa	83.28	302	PFAKE			08 19 10.0	+14
POHA				LR		LR			
	comp=Z,3μm,21.0s								
J20A	Shoshoni	83.29	348	⇑P		P	08 18 54.7	-0.9
	baz=84,SNR=11								
I24A	Kuemmerle Ranc	83.30	351	⇑P		P	08 18 52.4	-3.3
	baz=84								
BRSD	Miller	83.34	355	eP		P	08 18 56.5	+0.9
	comp=Z,21nm,1.0s								
BRSD	Miller	83.34	355	⇓P		P	08 18 52.6	-3.1
	baz=84								
J19A	Crowheart	83.36	348	⇑P		P	08 18 54.7	-1.3
	baz=84,SNR=12								
SACV	Santiago Islan	83.38	65	PFAKE			08 19 10.0	+13
SACV				LR		LR			
	comp=Z,3μm,19.0s								
RSSD	Black Hills	83.48	351	eP		P	08 18 56.4	-0.3
RSSD				pmax		pmax			
	comp=Z,34nm,1.2s								
RSSD	Black Hills	83.48	351	eP		P	08 18 56.4	-0.3
	comp=Z,34nm,1.2s								
KCPM	Cahto Peak	83.49	336	eP		P	08 18 57.9	+1.1
	comp=Z,47nm,1.2s								
KIPM	Iron Peak	83.57	336	eP		P	08 18 57.7	+0.5
	comp=Z,85nm,1.5s								
I22A	9 Mile Ranch,	83.58	350	⇑P		P	08 18 54.4	-2.7
	baz=84,SNR=8.1								
H29A	Onida	83.61	354	⇓P		P	08 18 53.4	-3.7
	baz=84								
I21A	Big Trails, Te	83.61	349	⇑P		P	08 18 55.4	-1.9
	baz=84,SNR=8.2								
GLMI	Grayling	83.76	5	PFAKE			08 19 10.0	+12
GLMI				LR		LR			
	comp=Z,3μm,20.0s								
REDW	Red Top Meadow	83.77	346	eP		P	08 18 59.1	+0.9
	comp=Z,45nm,1.2s								
H27A	Howes	83.78	353	⇑P		P	08 18 57.3	-0.7
	baz=84,SNR=10.0								
H26A	Fairpoint	83.83	352	⇑P		P	08 18 57.5	-0.8
	baz=84,SNR=8.1								
SNOW	Snow King Moun	83.85	346	eP		P	08 18 58.1	-0.5
	comp=Z,37nm,1.3s								
I20A	Worland	83.88	348	⇑P		P	08 18 57.7	-0.9
	baz=84,SNR=10								
SPMN	Marine on St.	83.89	359	eP		P	08 18 57.3	-1.2
	comp=Z,23nm,1.0s								
SPMN				ePcP		pP	08 19 03.4	-0.1
SPMN	Marine on St.	83.89	359	⇑P		P	08 18 59.4	+0.9
	baz=84								
H25A	Fruitdale	83.93	352	⇑P		P	08 18 58.5	-0.3
	baz=84,SNR=10								
LOHW	Long Hollow	83.97	347	eP		P	08 18 59.5	+0.2
	comp=Z,23nm,1.2s								
WDC	Whiskeytown Da	83.99	337	eP		P	08 18 59.4	+0.3
WDC				pmax		pmax			
	comp=Z,48nm,1.3s								
WDC	Whiskeytown Da	83.99	337	eP		P	08 18 59.4	+0.3
	comp=Z,48nm,1.3s								
KMRM	Mail Ridge	84.02	336	eP		P	08 19 07.2	+7.8
	comp=Z,100nm,1.2s								
G30A	Faulkton	84.03	355	⇓P		P	08 18 59.3	+0.1
	baz=84,SNR=5.2								
FXWY	Fox Creek	84.07	346	eP		P	08 18 58.6	-1.2
	comp=Z,21nm,1.1s								
I19A	Meeteetse	84.10	348	⇓P		P	08 18 59.7	-0.1
	baz=84,SNR=8.1								
MOOW	Moose Ponds	84.12	347	eP		P	08 18 59.2	-0.8
	comp=Z,30nm,1.4s								
G29A	Hoven	84.15	354	⇑P		P	08 18 59.6	-0.2
	baz=85,SNR=5.9								
H24A	Dirks Ranch, A	84.16	351	⇑P		P	08 19 00.1	0.0
	baz=85,SNR=13								
NCB	Newcomb	84.19	13	PFAKE			08 19 10.0	+10
NCB				LR		LR			
	comp=Z,3μm,20.0s								
H22A	Clearmont	84.25	350	⇓P		P	08 19 01.7	+1.3
	baz=85								
H21A	Big Horn, Sher	84.38	349	⇓P		P	08 19 03.0	+1.8
	baz=85								
H20A	Greybull	84.38	349	⇓P		P	08 19 01.2	0.0
	baz=85,SNR=6.6								
FLWY	Flagg Ranch	84.44	347	eP		P	08 19 00.8	-0.8
	comp=Z,163nm,1.6s								
G26A	Maurine	84.49	353	⇑P		P	08 19 01.6	0.0
	baz=85,SNR=9.6								
G27A	Dupree	84.51	353	⇑P		P	08 19 01.1	-0.6
	baz=85,SNR=7.9								
WVOR	Wild Horse Val	84.61	341	eP		P	08 19 03.7	+1.3
WVOR				pmax		pmax			
	comp=Z,101nm,2.0s								
WVOR				MLR		MLR			
	comp=Z,2μm,19.0s								
WVOR	Wild Horse Val	84.61	341	eP		P	08 19 03.7	+1.3
	comp=Z,101nm,2.0s								
WVOR				LR		LR			
	comp=Z,2μm,19.0s								
HLID	Hailey	84.67	344	PFAKE			08 19 10.0	+7.2
HLID				LR		LR			
	comp=Z,2μm,21.0s								
HLID	Hailey	84.67	344	⇓P		P	08 19 03.0	+0.2
	baz=85,SNR=9.3								
G23A	Biddle	84.72	351	⇓P		P	08 19 02.4	-0.4
	baz=85								
H19A	Powell	84.72	348	⇓P		P	08 19 02.6	-0.3
	baz=85,SNR=7.2								
H17A	Grant Village	84.72	347	eP		P	08 19 03.9	+0.8
	comp=Z,30nm,1.4s								
H17A	Grant Village	84.72	347	⇑P		P	08 19 03.0	-0.1
	baz=85								
G24A	Alzada	84.72	351	⇓P		P	08 19 03.0	+0.2
	baz=85,SNR=8.5								
F30A	Leola	84.73	355	⇓P		P	08 19 02.5	-0.3
	baz=85								
LONY	Lake Ozonia	84.76	12	eP		P	08 19 01.8	-1.2
	comp=Z,102nm,1.8s								
LONY				LR		LR			
	comp=Z,3μm,21.0s								
F29A	Eureka	84.78	355	⇓P		P	08 19 03.2	+0.1
	baz=85,SNR=6.2								
COWI	Conover	84.80	2	eP		P	08 19 02.2	-1.0
	comp=Z,27nm,1.4s								
COWI				LR		LR			
	comp=Z,2μm,20.0s								
YFT	Old Faithful	84.82	347	eP		P	08 19 05.6	+2.0
	comp=Z,38nm,1.2s								
H18A	Shoshone NF, C	84.83	347	⇑P		P	08 19 03.1	-0.6
	baz=85,SNR=7.3								
MFID	Camas Ranch	84.85	343	eP		P	08 19 04.2	+0.7
	comp=Z,27nm,1.3s								
G22A	Birney	84.85	350	⇑P		P	08 19 03.4	-0.1
	baz=85,SNR=7.3								
LKWY	Lake	84.85	347	eP		P	08 19 05.6	+1.9
LKWY				pmax		pmax			
	comp=Z,22nm,1.3s								
LKWY				MLR		MLR			
	comp=Z,2μm,19.0s								
LKWY	Lake	84.85	347	eP		P	08 19 05.6	+1.9
	comp=Z,22nm,1.3s								
LKWY				LR		LR			
	comp=Z,2μm,19.0s								
F28A	McLaughlin	84.87	354	⇓P		P	08 19 04.9	+1.4
	baz=85								
M04C	Macdoel	84.89	338	⇓P		P	08 19 03.6	-0.2
	baz=85,SNR=8.5								
G21A	Lodge Grass	84.98	349	⇑P		P	08 19 04.3	+0.1
	baz=85								
F27A	Lemmon	85.00	353	⇑P		P	08 19 03.8	-0.4
	baz=85,SNR=9.0								
F26A	Lodgepole	85.05	353	⇑P		P	08 19 05.0	+0.6
	baz=85,SNR=9.9								
YNR	Norris Junctio	85.05	347	eP		P	08 19 03.9	-0.8
	comp=Z,67nm,1.8s								
G20A	Bridger	85.13	349	⇑P		P	08 19 03.9	-1.1
	baz=86								
RLMT	Red Lodge	85.20	348	PFAKE			08 19 20.0	+15
RLMT				LR		LR			
	comp=Z,3μm,19.0s								
F25A	Bowman	85.20	352	⇓P		P	08 19 04.9	-0.3
	baz=86,SNR=6.8								
F23A	Volborg	85.23	351	⇑P		P	08 19 04.7	-0.7
	baz=86,SNR=6.8								
F24A	Ekalaka	85.23	351	⇑P		P	08 19 05.4	0.0
	baz=86,SNR=12								
QLMT	Earthquake Lak	85.30	346	eP		P	08 19 08.0	+2.1
	comp=Z,4.4nm,1.3s								
E30A	Jud	85.38	355	⇓P		P	08 19 06.3	+0.3
	baz=86,SNR=5.2								
F22A	Rosebud	85.40	350	⇓P		P	08 19 06.2	+0.1
	baz=86,SNR=6.3								
K05A	Summer Lake	85.49	339	eP		P	08 19 14.6	+7.7
	comp=Z,100nm,1.4s								
E29A	Napoleon	85.50	355	⇑P		P	08 19 04.6	-2.0
	baz=86								
E27A	Carson	85.51	353	⇑P		P	08 19 06.5	-0.3
	baz=86,SNR=5.3								
SUR	Sutherland	85.52	129	eP		P	08 19 08.8	+1.2
SUR				LR		LR			
	comp=Z,4μm,20.0s								
MCMT	McKenzie Canyo	85.56	345	eP		P	08 19 08.4	+1.1
E28A	Huff	85.58	354	⇓P		P	08 19 06.6	-0.5
	baz=86,SNR=6.5								
K04D	Chiloquin, OR	85.64	338	⇑P		P	08 19 06.3	-1.2
	baz=86								
E26A	Carlson Angus	85.64	353	⇑P		P	08 19 06.9	-0.4
	baz=86,SNR=7.9								
F20A	Billings	85.69	349	⇑P		P	08 19 08.3	+0.7
	baz=86								
E25A	Miller Ranch,	85.76	352	⇑P		P	08 19 07.9	-0.1
	baz=86,SNR=8.8								
F19A	Roth Farm, Mol	85.86	348	⇓P		P	08 19 08.4	-0.1
	baz=86,SNR=8.0								
GCMT	Greycliff	85.92	348	eP		P	08 19 10.4	+1.6
E24A	Baker	85.92	352	⇓P		P	08 19 08.3	-0.4
	baz=86,SNR=6.0								
D30A	Buchanan	85.98	355	⇓P		P	08 19 09.0	0.0
	baz=86,SNR=9.2								
E23A	Ismay	85.98	351	⇑P		P	08 19 11.5	+2.5
	baz=86								
D29A	Pettibone, Tap	85.98	355	⇑P		P	08 19 11.5	+2.5
	baz=86								
E22A	Miles City	86.00	350	⇑P		P	08 19 13.3	+4.2
	baz=86								
DLMT	Dillon	86.03	346	eP		P	08 19 09.5	+0.1
	comp=Z,91nm,1.7s								
KIP	Kipapa	86.10	301	PFAKE			08 19 20.0	+10
KIP				LR		LR			
	comp=Z,3μm,19.0s								
BOZ	Bozeman (W)	86.12	346	eP		P	08 19 09.5	-0.4
BOZ				pmax		pmax			
	comp=Z,60nm,1.9s								
BOZ				MLR		MLR			
	comp=Z,1μm,21.0s								
BOZ	Bozeman (W)	86.12	346	eP		P	08 19 09.5	-0.4
	comp=Z,60nm,1.9s								
BOZ				LR		LR			
	comp=Z,1μm,21.0s								
D27A	Center	86.18	354	⇓P		P	08 19 10.8	+0.8
	baz=87								
D28A	Regan	86.19	354	⇑P		P	08 19 09.7	-0.3
	baz=87								
D26A	Manning	86.19	353	⇑P		P	08 19 10.8	+0.8
	baz=87								
E21A	Keefer Ranch,	86.25	350	⇓P		P	08 19 11.1	+0.7
	baz=87								
LAO	LASA Array	86.28	350	eP		P	08 19 10.4	-0.1
	comp=Z,19nm,0.9s								
LAO				LR		LR			
	comp=Z,2μm,21.0s								
E20A	Meyer Farm, Mu	86.37	349	⇓P		P	08 19 14.0	+3.0
	baz=87								
I07A	Izee	86.38	341	eP		P	08 19 18.6	+7.4
	comp=Z,52nm,1.3s								
PKME	Peaks-Kenny Pk	86.39	16	PFAKE			08 19 20.0	+9.0
PKME				LR		LR			
	comp=Z,3μm,19.0s								
D25A	Fairfield	86.40	352	⇓P		P	08 19 14.1	+3.0
	baz=87								
E19A	Rath Farm, Rou	86.43	349	⇓P		P	08 19 11.4	+0.1
	baz=87,SNR=7.8								
LRM	Limekiln Ridge	86.44	346	eP		P	08 19 12.6	+1.0
D24A	Glendive	86.47	352	⇑P		P	08 19 11.6	+0.2
	baz=87								
BMO	Blue Mountains	86.55	342	PFAKE			08 19 20.0	+8.0
BMO				LR		LR			
	comp=Z,2μm,20.0s								
C30A	Mose, Pekin	86.55	356	⇓P		P	08 19 11.4	-0.4
	baz=87,SNR=7.6								
EYMN	Ely	86.61	0	PFAKE			08 19 20.0	+7.9
EYMN				LR		LR			
	comp=Z,2μm,21.0s								

G08A Pilot Rock 87.37 341 *e*P P 08 19 17.0 +1.1
comp=Z,47nm,1.4s
B29A Wagenman Farm, 87.37 355 ⇑P P 08 19 14.3 -1.4
baz=88,SNR=8.5
B28A Dugan Ranch, T 87.42 354 ⇓P P 08 19 14.8 -1.1
baz=88,SNR=6.4
B25A Knox Farm, Ray 87.49 353 ⇓P P 08 19 18.8 +2.5
baz=88
B26A Jensen Ranch, 87.50 353 ⇓P P 08 19 17.2 +0.7
baz=88
C21A Desert Coulee 87.52 350 ⇑P P 08 19 18.9 +2.4
baz=88
C20A Veseth Ranch, 87.53 349 ⇓P P 08 19 15.9 -0.7
baz=88,SNR=8.2
CHMT Chamberlain Mo 87.64 346 *e*P P 08 19 18.5 +1.2
comp=Z,22nm,1.4s
MSO Missoula 87.70 345 *e*P P 08 19 19.9 +2.5
comp=Z,81nm,1.8s
C19A Slack Wire Ran 87.71 349 ⇓P P 08 19 16.6 -0.9
baz=88,SNR=8.0
A30A Hoffart Farm, 87.78 356 ⇓P P 08 19 17.3 -0.4
baz=88,SNR=6.6
DGMT Dagmar 87.80 352 *e*P P 08 19 18.1 +0.3
comp=Z,278nm,2.5s
DGMT LR LR
comp=Z,1μm,19.0s
A29A Manning Farm, 87.81 355 ⇑P P 08 19 17.7 -0.2
baz=88,SNR=8.6
A26A Wade Farm, Ken 88.00 353 ⇓P P 08 19 21.2 +2.5
baz=88
SLMT Seeley Lake 88.01 346 *e*P P 08 19 19.6 +0.6
comp=Z,46nm,1.3s
B21A Ellsworth Farm 88.10 350 ⇓P P 08 19 22.2 +3.0
baz=88
EGMT Eagleton 88.10 348 *e*P P 08 19 19.8 +0.4
comp=Z,34nm,1.3s
EGMT LR LR
comp=Z,1μm,20.0s
B20A Solberg Farm, 88.25 349 ⇓P P 08 19 20.5 +0.5
baz=89,SNR=12
SWMT Swartz Lake 88.36 345 *e*P P 08 19 19.4 -1.2
comp=Z,14nm,1.3s
B19A Brinkman Farms 88.40 349 ⇓P P 08 19 21.9 +1.2
baz=89
A22A Carney Farms, 88.51 351 ⇑P P 08 19 23.6 +2.4
baz=89
HAWA Hanford 88.54 341 PFAKE 08 19 30.0 +8.7
HAWA LR LR
comp=Z,2μm,19.0s
A20A Cobblestone Ra 88.66 350 ⇓P P 08 19 24.3 +2.4
baz=89
A19A Klindworth Far 88.83 349 ⇑P P 08 19 23.7 +1.0
baz=89,SNR=6.6
ULM Lac du Bonnet 88.98 358 P P 08 19 22.4 -0.9
comp=Z,1.6nm,1.0s,baz=270,slow=5.1,SNR=2.6
ULM LR LR 08 55 41.2
comp=Z,2μm,21.1s,baz=174,slow=33
ULM Lac du Bonnet 88.98 358 *e*P P 08 19 24.2 +0.9
ULM pmax pmax
comp=Z,18nm,1.3s
ULM Lac du Bonnet 88.98 358 *e*P P 08 19 24.2 +0.9
comp=Z,18nm,1.3s
CRZF Crozet Islands 88.99 156 S S 08 29 55.0 -16
CRZF SS SS 08 35 48.0 -15
CRZF L L 08 42 00.0
CRZF R 08 47 00.0
D08A Wollman Farm, 89.01 342 *e*P P 08 19 24.6 +1.1
NEW Newport 89.73 344 *e*P P 08 19 30.9 +4.0
NEW pmax pmax
comp=Z,24nm,1.4s
NEW MLR MLR
comp=Z,2μm,19.0s
NEW Newport 89.73 344 *e*P P 08 19 30.9 +4.0
comp=Z,24nm,1.4s
NEW LR LR
comp=Z,2μm,19.0s
B08A Colville Reser 90.33 342 *e*P P 08 19 36.2 +6.5
comp=Z,36nm,1.6s
PAF Port-aux-Franc 90.60 169 S **S** 08 30 29.0 +2.8
PAF SS **SS** 08 36 29.0 +3.3
PAF L L 08 43 00.0
PAF R 08 50 00.0
NLWA Neilton Lookou 90.61 339 PFAKE 08 19 40.0 +9.0
NLWA LR LR
comp=Z,2μm,22.0s
BOSA Boshof 90.89 129 P **P** 08 19 31.9 -1.4
comp=Z,1.7nm,0.7s,baz=243,slow=6.8,SNR=2.3
BOSA LR LR 08 54 26.8
comp=Z,3μm,20.7s,baz=238,slow=32
DBIC Dimbokro 92.00 83 P **P** 08 19 38.4 0.0
comp=Z,4.7nm,1.0s,baz=194,slow=5.5,SNR=1.9
DBIC LR LR 08 57 31.6
comp=Z,2μm,20.2s,baz=214,slow=33
TSUM Tsumeb 92.44 117 PFAKE 08 19 50.0 +9.5
TSUM LR LR
comp=Z,3μm,19.0s
EIDS Eidsvold 92.91 234 *e*P **P** 08 19 40.0 -2.5
comp=Z,52nm,1.8s
STKA Stephens Creek 93.60 223 P **P** 08 19 43.1 -2.5
comp=Z,2.2nm,0.8s,baz=128,slow=2.1,SNR=5.0
STKA LR LR 08 54 00.0
comp=Z,2μm,21.0s,baz=152,slow=30
STKA Stephens Creek 93.60 223 *e*P **P** 08 19 45.6 0.0
comp=Z,5.9nm,1.7s
LBTB Lobatse 93.69 126 *e*P **P** 08 19 46.2 0.0
LBTB pmax pmax
comp=Z,29nm,1.2s
LBTB Lobatse 93.69 126 *e*P **P** 08 19 46.2 0.0
comp=Z,30nm,1.2s
FFC Flin Flon 93.78 354 PFAKE 08 20 00.0 +14
FFC LR LR
comp=Z,2μm,19.0s
H07S1 FLORES T-PHASE 95.89 43 *e*LR LR 08 52 31.0
SCHQ Schefferville 95.98 14 P **P** 08 19 54.1 -1.5
comp=Z,1.3nm,0.7s,baz=210,slow=14,SNR=2.8
SCHQ LR LR 09 01 15.0
comp=Z,3μm,20.8s,baz=211,slow=34
ROSA Rosais 97.02 45 *e*LR LR 08 53 06.2
comp=Z,96nm,16.6s
PGRA Graciosa 97.38 45 *e*LR LR 08 52 40.0
comp=Z,156nm,18.7s
PSMN Pico do Norte, 97.61 48 *e*LR LR 08 53 12.2
comp=Z,210nm,14.9s
HNR Honiara 97.76 251 PFAKE 08 20 20.0 +15
HNR LR LR
comp=Z,1μm,22.0s
PSET Sete Cidades 97.80 47 *e*LR LR 08 53 20.3
comp=Z,256nm,14.2s
PMOZ Porto Moniz, M 99.64 56 *e*PP PP 08 24 08.2 -9.1
PMOZ Porto Moniz, M 99.64 56 *e*LR LR 08 53 51.4
comp=Z,2μm,18.0s
CTAO Charters Tower 99.79 234 PFAKE 08 20 20.0 +6.2
CTAO LR LR
comp=Z,4μm,20.0s
WRAK Wrangell Islan 101.03 339 PFAKE 08 20 30.0 +12
WRAK LR LR
comp=Z,1μm,20.0s
TORD Torodi Ar. Bea 101.05 82 P **Pdif** 08 20 20.0 +0.7
comp=Z,0.4nm,0.7s,baz=232,slow=3.5,SNR=2.8
TORD PP PP 08 24 20.2 -7.8
comp=Z,3.5nm,1.2s,baz=217,slow=7.0,SNR=4.2
LSZ Lusaka 102.39 121 PFAKE 08 20 40.0 +14
LSZ LR LR
comp=Z,3μm,21.0s
YKA Yellowknife Ar 102.81 349 PP PP 08 24 40.1 -0.3
comp=Z,0.3nm,0.6s,baz=166,slow=5.7,SNR=4.0
MIDW Midway 103.81 295 PFAKE 08 20 40.0 +8.8
MIDW LR LR
comp=Z,2μm,20.0s
ASAR Alice Springs 104.23 223 Pdiff **Pdif** 08 20 31.6 -1.9
comp=Z,0.4nm,0.8s,baz=150,slow=4.1,SNR=2.8
ASAR PKKP **PKKPdf** 08 36 26.2 -1.8
comp=Z,0.7nm,1.0s,baz=332,slow=2.3,SNR=4.4
PMG Port Moresby 106.93 242 PFAKE 08 25 10.0
PMG LR LR
comp=Z,4μm,20.0s
WRAB Tennant Creek 107.00 225 PFAKE 08 25 10.0
WRAB LR LR
comp=Z,6μm,21.0s
PFVI Vila Bisbo 107.69 56 *e*PP PP 08 25 22.7 +5.4
PFVI Vila Bisbo 107.69 56 *e*LQ LQ 08 40 34.5
PFVI Vila Bisbo 107.69 56 *e*LR LR 08 57 15.6
comp=Z,2μm,20.0s
MORF Marmelete 107.91 56 *e*PP PP 08 25 25.7 +6.8
MORF Marmelete 107.91 56 *e*SS SS 08 40 47.8 +17
MORF Marmelete 107.91 56 *e*LQ LQ 08 56 28.2
MORF *e*LR LR 08 58 36.6
comp=Z,3μm,20.0s
PBDV Barranco-do-Ve 108.34 57 *e*PP PP 08 25 15.6 -6.5
PBDV *i* P **SP** **08 34 38.9 -5.2**
PBDV *e*LQ LQ 08 40 47.0
PBDV Barranco-do-Ve 108.34 57 *e*LR LR 08 58 22.4
comp=Z,3μm,18.0s
PNCL Nicolau / Gran 108.45 56 *e*PP PP 08 25 23.8 +1.0
PNCL Nicolau / Gran 108.45 56 *e*LQ LQ 08 40 45.2
PNCL Nicolau / Gran 108.45 56 *e*LR LR 08 58 02.6
comp=Z,3μm,18.0s
PMAFR Mafra 108.46 55 *e*PP PP 08 25 16.6 -6.3
PMAFR Mafra 108.46 55 *e*LR LR 08 57 15.6
comp=Z,5μm,20.0s
PCVE Castro Verde 108.49 56 *e*PP PP 08 25 28.6 +5.5
PCVE Castro Verde 108.49 56 *e*LQ LQ 08 40 48.8
PCVE Castro Verde 108.49 56 *e*LR LR 08 57 43.4
comp=Z,11μm,24.0s
PVAQ Vaqueiros 108.57 57 *e*PP PP 08 25 25.8 +2.1
PVAQ Vaqueiros 108.57 57 *e*LR LR 08 57 50.4
comp=Z,3μm,18.0s
KDAK Kodiak Island 108.93 330 PFAKE 08 25 10.0
KDAK LR LR
comp=Z,3μm,20.0s
PMTG Montargil 109.20 55 *e*PP PP 08 25 27.2 -1.0
PMTG Montargil 109.20 55 *e*LR LR 08 57 14.1
comp=Z,4μm,22.0s
PBAR Barrancos 109.45 56 *e*PP PP 08 25 43.4 +13
PBAR Barrancos 109.45 56 *e*LQ LQ 08 40 52.4
PBAR Barrancos 109.45 56 *e*LR LR 08 58 29.3
comp=Z,7μm,20.0s
PESTR Estremoz 109.49 56 *e*PP PP 08 25 18.9 -11
PESTR Estremoz 109.49 56 *e*LR LR 08 57 50.4
comp=Z,3μm,22.0s
PCAS Casmilo, Conde 109.59 54 *e*PP PP 08 25 35.1 +4.0
PCAS Casmilo, Conde 109.59 54 *e*LQ LQ 08 40 54.1
PCAS Casmilo, Conde 109.59 54 *e*LR LR 08 58 33.5
comp=Z,3μm,18.0s
TAM Tamanrasset 109.67 76 PFAKE 08 25 10.0
TAM LR LR
comp=Z,4μm,19.0s
PMRV Marv??o 109.93 55 *e*PP PP 08 25 38.8 +5.2
PMRV Marv??o 109.93 55 *e*LQ LQ 08 41 04.8
PMRV Marv??o 109.93 55 *e*LR LR 08 58 46.1
comp=Z,4μm,20.0s
H11S2 WAKE ISLAND Hyl 109.97 278 T T 10 23 55.4
baz=126,slow=76,SNR=118
H11S1 WAKE ISLAND Hyl 109.99 278 T T 10 23 56.5
baz=126,slow=76,SNR=84
H11S3 WAKE ISLAND Hyl 109.99 278 T T 10 23 42.0
baz=126,slow=76,SNR=56
SFJD Kangerlussuaq 110.33 16 PFAKE 08 25 10.0
SFJD LR LR
comp=Z,2μm,20.0s
EGAK Eagle 110.38 340 PFAKE 08 25 10.0
EGAK LR LR
comp=Z,2μm,19.0s
MTE Manteigas 110.38 54 *e*PP PP 08 25 22.9 -14
MTE *i* P **SP** **08 35 00.9 -3.6**
MTE *e*LQ LQ 08 41 01.3
MTE Manteigas 110.38 54 *e*LR LR 08 59 08.3
comp=Z,2μm,20.0s
MTE Manteigas 110.38 54 PFAKE 08 25 10.0
MTE LR LR
comp=Z,2μm,20.0s
WAKE Wake Island 110.47 279 PFAKE 08 25 10.0
WAKE LR LR
comp=Z,2μm,19.0s
POLO Lamas de Olo 110.77 53 *e*PP PP 08 25 32.6 -7.1
POLO Lamas de Olo 110.77 53 *e*LQ LQ 08 41 12.0
POLO Lamas de Olo 110.77 53 *e*LR LR 08 59 20.3
comp=Z,2μm,18.0s
PGAV Gavieira, Arco 110.81 52 *e*PP PP 08 25 34.1 -5.9
ABPO Ambohimpanom 110.82 139 PFAKE 08 25 10.0
ABPO LR LR
comp=Z,4μm,22.0s
MVO Moncorvo 111.14 54 *e*PP PP 08 25 33.8 -8.5
MVO Moncorvo 111.14 54 *e*LR LR 08 59 00.0
comp=Z,3μm,18.0s
PBRG Braganca 111.67 53 *e*PP PP 08 25 28.4 -18
PBRG Braganca 111.67 53 *e*LR LR 08 59 20.9
comp=Z,4μm,20.0s
PAB San Pablo 111.96 56 PFAKE 08 25 20.0
PAB LR LR
comp=Z,4μm,20.0s
ILAR Eielson Array 111.99 338 PP PP 08 25 48.4 +0.6
comp=Z,1.9nm,1.2s,baz=151,slow=4.0,SNR=5.4
COLA College 112.35 338 *i* PKIKP **PKiKP** **08 25 01.0 -2.9**
COLA College 112.35 338 PFAKE 08 25 20.0
COLA LR LR
comp=Z,1μm,19.0s
MBWA Marble Bar 113.12 212 PFAKE 08 25 20.0
MBWA LR LR
comp=Z,4μm,19.0s
MBAR Mbarara 114.55 112 PFAKE 08 25 20.0 +10
MBAR LR LR
comp=Z,975nm,20.0s
ADK Adak 116.55 316 PFAKE 08 25 20.0 +7.6
ADK LR LR
comp=Z,1μm,22.0s
BORG Borgarnes 117.16 27 PFAKE 08 25 20.0 +6.8
BORG LR LR
comp=Z,886nm,20.0s
SUMG Summit 117.32 16 *i* P **PP** **08 26 25.9 +0.1**
SUMG *i* 08 36 08.9
comp=Z,2μm,21.0s
KMBO Kilima Mbogo 118.76 118 PFAKE 08 25 30.0 +12
KMBO LR LR
comp=Z,2μm,20.0s
ESK Eskdalemuir 120.39 41 PFAKE 08 25 30.0 +10
ESK LR LR
comp=Z,1μm,21.0s
EKA Eskdalemuir Ar 120.43 41 PKP **PKPdf** **08 25 18.5 -1.3**
comp=Z,0.5nm,0.6s,baz=258,slow=4.2,SNR=3.6
EKA Eskdalemuir Ar 120.43 41 PKIKP **PKPdf** **08 25 18.5 -1.3**
EKA pmax pmax
comp=Z,1.0nm,0.6s
SSB Saint Sauveur 120.50 54 PFAKE 08 25 30.0 +10
SSB LR LR
comp=Z,3μm,20.0s
VSL Villasalto 121.14 62 PFAKE 08 25 30.0 +8.3
VSL LR LR
comp=Z,1μm,19.0s
BNI Bardonecchia 121.77 55 PFAKE 08 25 30.0 +7.1
BNI LR LR
comp=Z,1μm,19.0s
WDD Wield Dalam 123.14 68 PFAKE 08 25 40.0 +14
WDD LR LR
comp=Z,4μm,20.0s
WLF Walferdange 123.32 50 PFAKE 08 25 40.0 +14
WLF LR LR
comp=Z,4μm,21.0s
ECH Echery 123.36 52 PFAKE 08 25 40.0 +14
ECH LR LR
comp=Z,2μm,20.0s
VLC Villacollemand 123.81 58 PFAKE 08 25 40.0 +13
VLC LR LR
comp=Z,2μm,20.0s
GUMO Guam 124.02 260 PFAKE 08 25 40.0 +12
GUMO LR LR
comp=Z,164nm,22.0s
TUE Stuetta 124.05 55 PFAKE 08 25 40.0 +13
TUE LR LR
comp=Z,3μm,19.0s
BFO Black Forest 124.13 52 PFAKE 08 25 40.0 +13
BFO LR LR
comp=Z,2μm,21.0s
DAVOX Davos/Dischmat 124.51 55 PKP **PKPdf** **08 25 28.4 +0.2**
comp=Z,1.9nm,0.4s,baz=346,slow=7.0,SNR=3.8
DAVOX Davos/Dischmat 124.51 55 PKIKP **PKPdf** **08 25 28.4 +0.2**
DAVOX pmax pmax
comp=Z,2.0nm,0.4s
DAVA Damuels 124.70 54⇑ *i*PKiKP **PKiKP** **08 25 29.9 +1.1**
comp=Z,14nm,1.5s
AQU L'Aquila 125.11 61 PFAKE 08 25 40.0 +11
AQU LR LR
comp=Z,948nm,19.0s
FETA Feichten 125.14 55⇑ *i*PKPdf **PKPdf** **08 25 28.6 -0.8**
comp=Z,17nm,1.4s
CEL Celeste 125.17 66 PFAKE 08 25 40.0 +10
CEL LR LR
comp=Z,4μm,22.0s
MOTA Moosalm 125.50 54⇑ *i*PKPdf **PKPdf** **08 25 29.9 -0.1**
comp=Z,13nm,1.1s
WTTA Wattenberg 125.81 55⇑ *i*PKiKP **PKiKP** **08 25 32.3 +1.2**
comp=Z,20nm,1.3s
CUC Castrocucco 125.83 64 PFAKE 08 25 40.0 +9.3
CUC LR LR
comp=Z,2μm,20.0s
TIP Timpagrande 126.17 66 PFAKE 08 25 40.0 +8.6
TIP LR LR
comp=Z,1μm,22.0s
MSEY Mahe Island 127.18 138 PFAKE 08 25 50.0 +16
MSEY LR LR
comp=Z,1μm,19.0s
KAPI Kappang 127.21 221 PFAKE 08 25 50.0 +16
KAPI LR LR
comp=Z,2μm,21.0s
MUD Monsted U'grnd 127.31 43 *i* P **PP** **08 27 33.8 +0.5**
comp=Z,3μm,24.0s
NKC Novy Kostel 127.32 51 *e*pPKP **pPKPdf** **08 25 40.2 +1.8**
NKC *ex* x 08 25 46.2
NKC *e*PP **PP** **08 27 33.4 -0.3**
NKC *ex* x 08 28 54.8
NKC *e*SP SP 08 37 32.0 -4.3
NKC *ex* x 08 39 07.5
NKC AMS AMS 09 14 40.0
comp=Z,2μm,21.0s
NKC Novy Kostel 127.32 51 *e*PKIKP **pPKPdf** **08 25 40.2 +1.8**
NKC *e* 08 25 46.2
NKC *e* 08 27 33.4
NKC *e*SP SP 08 37 32.0 -4.3
NKC *e* 08 39 07.5
NKC MLR MLR
comp=Z,2μm,21.0s
GERES GERESS Array B 127.65 53 PKP **PKPdf** **08 25 33.6 -0.4**
comp=Z,0.9nm,0.8s,baz=218,slow=1.5,SNR=5.6
GERES GERESS Array B 127.65 53 PKIKP **PKPdf** **08 25 33.6 -0.4**
GERES pmax pmax
comp=Z,1.0nm,0.8s
KHC Kasperske Hory 127.67 53 *e*PKPdf **PKPdf** **08 25 34.3 +0.4**
KHC *ep*PKP **pPKPdf** **08 25 39.2 +0.1**
KHC *e*PP **PP** **08 27 34.3 -1.7**
KHC *ex* x 08 28 55.4
KHC *e*SP SP 08 37 36.6 -2.8
KHC *ex* x 08 39 10.3
KHC *e*SS **SS** **08 44 44.8 -2.4**
KHC AMS AMS 09 20 20.0
comp=Z,2μm,18.2s
KHC Kasperske Hory 127.67 53 *e*PKIKP **PKPdf** **08 25 34.3 +0.4**
KHC *e* 08 25 39.2
KHC *e* 08 27 34.3
KHC *e*SP SP 08 37 36.6 -2.8
KHC *e* 08 39 10.3
KHC *e*SS **SS** **08 44 44.8 -2.4**
KHC MLR MLR
comp=Z,2μm,18.2s
CLL Collm 127.99 50 *e*PKPdf **PKPdf** **08 25 35.0 +0.6**
comp=Z,9.0nm,1.3s
CLL *e*PP **PP** **08 27 34.0 -4.0**
CLL *e* 08 28 59.0
CLL *e*SKKSac SKKSac 08 34 34.0 0.0
CLL *e*PS **PS** **08 37 40.0 -4.3**
CLL *e*PPS PPS 08 39 09.0
CLL *e*SS SS 08 45 01.0 +10
CLL *e* 08 47 41.0
CLL *e*SSS SSS 08 49 39.0
CLL Lm MLR 09 16 00.0
comp=N,900nm,21.8s
CLL Lm MLR 09 16 00.0
comp=E,2μm,21.0s
CLL Lm MLR 09 16 00.0
comp=Z,3μm,20.8s
CLL Collm 127.99 50 *e*PKIKP **PKPdf** **08 25 35.0 +0.6**
CLL pmax pmax
comp=Z,9.0nm,1.3s
CLL MLR MLR
comp=Z,3μm,20.8s
KONO Kongsberg 128.35 39 PFAKE 08 25 50.0 +15
KONO LR LR
comp=Z,1μm,19.0s
COCO West Island 128.36 191 PFAKE 08 25 50.0 +14
COCO LR LR
comp=Z,3μm,20.0s
BRG Berggiesshubel 128.43 51 *e*P **PKPdf** **08 25 37.1 +1.8**
comp=Z,10.0nm,1.6s
BRG SS SS 08 45 12.0 +16
comp=N,946nm,20.0s
comp=E,2μm,20.6s
comp=Z,3μm,21.0s
BRG Berggiesshubel 128.43 51 *e*PKIKP **PKPdf** **08 25 37.1 +1.8**
BRG pmax pmax
comp=Z,10.0nm,1.6s
BRG MLR MLR
comp=N,946nm,20.0s
BRG MLR MLR
comp=E,2μm,20.6s
BRG MLR MLR
comp=Z,3μm,21.0s
PRA Prague 128.49 52 *ex* x 08 45 10.7
PRU Pruhonice 128.53 52 *ep*PKP **pPKPdf** **08 25 41.4 +0.8**
PRU *ex* x 08 25 48.1
PRU *e*PP **PP** **08 27 41.3 -0.3**
PRU *ex* x 08 28 56.4
PRU *e*SP SP 08 37 45.5 -1.3
PRU *e*SKKP 08 39 20.7
PRU *e*SS **SS** **08 44 55.7 -2.1**
PRU AMS AMS 09 23 10.0
comp=Z,1μm,18.2s
PRU Pruhonice 128.53 52 *e*PKIKP **pPKPdf** **08 25 41.4 +0.8**
PRU *e* 08 25 48.1
PRU *e* 08 27 41.3
PRU *e*SP SP 08 37 45.5 -1.3
PRU *e* 08 39 20.7
PRU *e*SS **SS** **08 44 55.7 -2.1**
PRU MLR MLR
comp=Z,1μm,18.2s
GOPC GO Pecny, Ondr 128.66 52 *e*PKPdf **PKPdf** **08 25 37.9 +2.1**
GOPC *ep*PKP **pPKPdf** **08 25 42.8 +1.9**
GOPC *e*PP **PP** **08 27 42.7 +0.2**
GOPC *ex* x 08 28 52.1
GOPC *e*SP SP 08 37 47.3 -0.7
GOPC *e*SKKP 08 39 21.4
GOPC *e*SS **SS** **08 45 01.2 +1.7**
GOPC AMS AMS 09 18 50.0
comp=Z,2μm,19.2s
PVCC Panska Ves 128.71 52 *e*PP PP 08 27 43.1 +0.3
PVCC *ex* x 08 28 59.5
PVCC *e*SKKP 08 39 22.8
PVCC *e*SS SS 08 44 59.2 -0.8
PVCC AMS AMS 09 15 50.0
comp=Z,3μm,21.6s
COP Copenhagen 128.87 45 *i* P **PP** **08 27 46.2 +2.6**
COP *i* 08 28 59.6
comp=Z,1μm,22.0s
TREC Trest 128.91 53 *e*PP PP 08 27 45.0 +0.9
TREC *e*SKKP 08 39 23.3
TREC AMS AMS 09 21 20.0
comp=Z,2μm,19.6s
TIR Tirane 129.19 64 PFAKE 08 25 50.0 +13
TIR LR LR
comp=Z,4μm,22.0s
NOA NORSAR Array B 129.43 38 PKP **PKPdf** **08 25 36.4 -0.5**
comp=Z,0.3nm,0.5s,baz=264,slow=2.0,SNR=1.9
UPC Upice 129.58 52 *e*PKPdf **PKPdf** **08 25 42.5 +5.0**
UPC Upice 129.58 52 *e*PKIKP **PKPdf** **08 25 42.5 +5.0**
DPC Dobruska-Polom 129.73 52 *e*PKPdf **PKPdf** **08 25 40.5 +2.7**
DPC *ep*PKP **pPKPdf** **08 25 45.3 +2.3**
DPC *e*PP **PP** **08 27 50.1 +0.6**
DPC *e*SKP 08 29 03.5
DPC *e*SP SP 08 37 55.3 -2.0
DPC *ex* x 08 39 26.9
DPC *e*SS **SS** **08 45 14.4 +1.7**
DPC AMS AMS 09 19 40.0
comp=Z,1μm,20.1s
DPC Dobruska-Polom 129.73 52 *e*PKIKP **PKPdf** **08 25 40.5 +2.7**
DPC *e* 08 25 45.3
DPC *e* 08 27 50.1
DPC *e*SP SP 08 37 55.3 -2.0
DPC *e*SS **SS** **08 45 14.4 +1.7**
DPC MLR MLR
comp=Z,1μm,20.1s
BILL Bilibino 129.82 331 *i* PKIKP **PKPdf** **08 25 40.9 +3.5**
BILL pmax pmax
comp=Z,4.0nm,1.7s
BILL MLR MLR
comp=Z,828nm,19.0s
BILL Bilibino 129.82 331 *e*PKPdf **PKPdf** **08 25 38.1 +0.7**
BILL LR LR
comp=Z,3μm,19.0s

BSD	**Bornholm Skovb**	**130.10**	**46**	*i* P		**PP**	**08 27 47.6**	**-4.1**
BSD				*i*			08 29 03.8	
	comp=Z,3μm,22.0s							
KBS	**Kingsbay**	**130.69**	**14**		PFAKE		08 25 50.0	+11
KBS					LR	LR		
	comp=Z,1μm,20.0s							
OKC	**Ostrava-Krasne**	**130.72**	**53**	*e*PP		PP	08 27 55.6	-0.3
OKC				*e*SKP			08 29 07.6	
OKC				*e*SP		SP	08 38 01.3	-4.5
OKC				*ex*		x	08 39 39.2	
OKC				*e*SS		**SS**	**08 45 29.5**	**+4.7**
OKC					AMS	AMS	09 21 20.0	
	comp=Z,1μm,20.0s							
VYHS	**Vyhne**	**130.79**	**55**	*e*PKIKP		**PKPdf**	**08 25 42.1**	**+2.2**
VYHS	**Vyhne**	**130.79**	**55**	*e*PKP		**PKPdf**	**08 25 42.0**	**+2.2**
PET	**Petropavlovsk**	**130.94**	**311**		PFAKE		08 25 50.0	+10
PET					LR	LR		
	comp=Z,830nm,21.0s							
PSZ	**Piszkesteto**	**131.31**	**56**		PFAKE		08 25 50.0	+9.0
PSZ					LR	LR		
	comp=Z,2μm,22.0s							
SANT	**Santorini**	**131.37**	**72**		PFAKE		08 25 50.0	+8.6
SANT					LR	LR		
	comp=Z,1μm,22.0s							
PETK	**Petropavlovsk-**	**131.51**	**311**		PKP	**PKPdf**	**08 25 39.6**	**-1.5**
	comp=Z,1.7nm,1.0s,baz=142,slow=7.3,SNR=3.4							
PETK	**Petropavlovsk-**	**131.51**	**311**		PKIKP	**PKPdf**	**08 25 39.6**	**-1.5**
PETK					pmax	pmax		
	comp=Z,2.0nm,1.0s							
DGAR	**Diego Garcia**	**131.60**	**159**		PFAKE		08 25 50.0	+7.5
DGAR					LR	LR		
	comp=Z,1μm,20.0s							
KOLS	**Kolonicke sedl**	**133.10**	**55**	*e*PKIKP		**PKPdf**	**08 25 46.0**	**+1.8**
KOLS	**Kolonicke sedl**	**133.10**	**55**	*e*PKP		**PKPdf**	**08 25 46.0**	**+1.8**
DAV	**Davao City (W)**	**133.52**	**237**		PFAKE		08 26 00.0	+14
DAV					LR	LR		
	comp=Z,1μm,22.0s							
MLR	**Muntele Rosu**	**134.69**	**61**		PKP	**PKPdf**	**08 25 46.0**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=325,slow=9.5,SNR=3.6							
BUR08	**Bucovina Ar. S**	**134.71**	**58**	*e*PKPdf		**PKPdf**	**08 25 46.6**	**-0.8**
SEY	**Seymchan**	**135.35**	**324**		PKIKP	**PKPdf**	**08 25 48.9**	**+0.9**
ISP	**Isparta**	**135.67**	**73**		PFAKE		08 26 00.0	+10
ISP					LR	LR		
	comp=Z,1μm,20.0s							
KEV	**Kevo**	**136.04**	**26**		PFAKE		08 26 00.0	+11
KEV					LR	LR		
	comp=Z,1μm,21.0s							
FINES	**FINESS Array B**	**136.61**	**38**		PKP	**PKPdf**	**08 25 47.8**	**-2.5**
	comp=Z,1.1nm,0.9s,baz=275,slow=6.9,SNR=4.1							
FINES	**FINESS Array B**	**136.61**	**38**		PKIKP	**PKPdf**	**08 25 47.8**	**-2.5**
FINES					pmax	pmax		
	comp=Z,1.0nm,0.9s							
CSS	**Prodhromos**	**136.75**	**78**		PFAKE		08 26 00.0	+8.5
CSS					LR	LR		
	comp=Z,355nm,21.0s							
VSU	**Vasula**	**136.97**	**42**	*i* PKIKP		**PKPdf**	**08 25 51.0**	**-0.1**
KIS	**Kishinev**	**136.97**	**59**	*e*PKP		**PKPdf**	**08 25 50.0**	**-1.5**
KIS	**Kishinev**	**136.97**	**59**	*e*PP		PP	08 28 12.0	-24
KIS				*e*SKP			08 29 05.0	
KIS				*e*SKS		**SKSdf**	**08 33 08.0**	**+6.5**
KIS				*e*SKSP			08 38 06.0	
KIS					LRM	MLR	09 22 50.0	
	comp=Z,2μm,24.0s							
KIS	**Kishinev**	**136.97**	**59**	*e*PKIKP		**PKPdf**	**08 25 50.0**	**-1.5**
KIS					MLR	MLR		
	comp=Z,2μm,22.0s							
KIS					MLR	MLR		
	comp=Z,2μm,24.0s							
YUK	**Yuzh-Kuril'sk**	**137.11**	**296**	*i* PKIKP		PKPdf	08 25 58.0	+6.2
YUK				*e*			08 28 43.4	
YUK				*i* SS		SS	08 46 41.4	-0.9
KSM	**Kuching**	**137.38**	**214**		PFAKE		08 26 00.0	+6.7
KSM					LR	LR		
	comp=Z,1μm,19.0s							
KIEV	**Kiev**	**137.84**	**54**	*i* PKIKP		**PKPdf**	**08 25 55.0**	**+2.1**
KIEV	**Kiev**	**137.84**	**54**		PFAKE		08 26 00.0	+7.1
KIEV					LR	LR		
	comp=Z,3μm,22.0s							
AKASG	**Malin Array Be**	**137.85**	**54**		PKP	**PKPdf**	**08 25 53.7**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=266,slow=2.9,SNR=4.2							
ANTO	**Ankara**	**138.00**	**71**		PFAKE		08 26 10.0	+16
ANTO					LR	LR		
	comp=Z,1μm,21.0s							
KKM	**Kota Kinabalu**	**138.38**	**225**		PFAKE		08 26 10.0	+15
KKM					LR	LR		
	comp=Z,1μm,19.0s							
ERM	**Erimo**	**138.53**	**292**		PFAKE		08 26 10.0	+16
ERM					LR	LR		
	comp=Z,2μm,22.0s							
APA	**Apatity**	**138.83**	**28**	*i* PKHKP		PKPpre	08 25 43.5	
LVZ	**Lovozero**	**139.19**	**28**	*i* PKIKP		**PKPdf**	**08 25 55.0**	**0.0**
LVZ					MLR	MLR		
	comp=Z,437nm,17.0s							
LVZ	**Lovozero**	**139.19**	**28**		PFAKE		08 26 10.0	+15
LVZ					LR	LR		
	comp=Z,747nm,19.0s							
YSS	**Yuzh-Sakhalins**	**139.84**	**300**	*e*PKIKP		**PKPdf**	**08 25 58.0**	**+1.3**
YSS				*e*PPP		PPP	08 32 06.0	
YSS				*e*SSS		SSS	08 52 22.0	
YSS	**Yuzh-Sakhalins**	**139.84**	**300**		PFAKE		08 26 10.0	+13
YSS					LR	LR		
	comp=Z,993nm,19.0s							
SIM	**Simferopol'**	**140.20**	**64**	*e*PKIKP		**PKPdf**	**08 25 54.1**	**-3.4**
SIM				*e*SSS		SSS	08 52 32.0	
SIM					pmax	pmax		
	comp=Z,90nm,8.6s							
MJAR	**Matsushiro Arr**	**140.59**	**283**		PKP	**PKPdf**	**08 25 58.6**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=129,slow=3.1,SNR=5.3							
MJAR	**Matsushiro Arr**	**140.59**	**283**		PKIKP	**PKPdf**	**08 25 58.6**	**+0.1**
MJAR					pmax	pmax		
	comp=Z,1.0nm,0.3s							
MAJO	**Matsushiro**	**140.59**	**283**		PFAKE		08 26 10.0	+12
MAJO					LR	LR		
	comp=Z,893nm,20.0s							
TIXI	**Tiksi**	**141.38**	**341**	*i* PKIKP		**PKPdf**	**08 26 03.0**	**+4.2**
TIXI					MLR	MLR		
	comp=Z,1μm,20.0s							
TIXI	**Tiksi**	**141.38**	**341**	*e*PKPdf		**PKPdf**	**08 26 00.2**	**+1.4**
TIXI					LR	LR		
	comp=Z,1μm,20.0s							
OBN	**Obninsk**	**142.45**	**47**		PKP	**PKPdf**	**08 25 58.9**	**-2.2**
	comp=Z,15nm,0.4s,baz=215,slow=4.9,SNR=4.2							
OBN	**Obninsk**	**142.45**	**47**	*i* PKIKP		**PKPdf**	**08 26 02.8**	**+1.7**
OBN				*i* SS		SS	08 47 44.4	+0.2
OBN					pmax	pmax		
	comp=Z,70nm,2.5s							
OBN					MLR	MLR		
	comp=Z,1μm,20.0s							
OBN	**Obninsk**	**142.45**	**47**		PKP	**PKPdf**	**08 25 58.9**	**-2.2**
OBN					LR	LR		
	comp=Z,2μm,21.0s							
ANN	**Anapa**	**142.49**	**64**	*i* PKIKP		**PKPdf**	**08 25 58.9**	**-2.7**
ANN				*e*			08 26 02.4	
ANN				*e*			08 29 09.2	
ANN				*e*SSS		SSS	08 53 04.8	
ANN					pmax	pmax		
	comp=Z,35nm,0.8s							
ANN					MLR	MLR		
	comp=N,315nm,21.0s							
ANN					MLR	MLR		
	comp=Z,1μm,21.0s							
ANN					MLR	MLR		
	comp=E,1μm,21.0s							
MOS	**Moscow**	**143.01**	**46**	*e*PKHKP		PKPab	08 25 57.2	-0.2
KLMR	**Klimovskoe**	**143.14**	**38***d*	*i* PKIKP		PKPbc	08 25 59.4	+0.2
KLMR					pmax	pmax		
	comp=Z,40nm,1.5s							
SOC	**Sochi**	**143.91**	**67**	*e*PKIKP		**PKPdf**	**08 26 04.4**	**+0.3**
SOC				*e*			08 29 23.0	
SOC				*e*			08 33 07.7	
SOC					pmax	pmax		
	comp=Z,53nm,1.1s							
SOC					MLR	MLR		
	comp=Z,652nm,21.0s							
LPSR	**Galich'ya Gora**	**143.98**	**52**	*e*PKIKP		PKPab	08 26 01.5	+0.2
LPSR					pmax	pmax		
	comp=N,10.0nm,1.0s							
LPSR					pmax	pmax		
	comp=Z,40nm,1.0s							
LPSR					pmax	pmax		
	comp=E,10.0nm,0.9s							
VSR	**Storozhevoye**	**144.16**	**54**	*e*PKIKP		**PKPab**	**08 26 02.0**	**0.0**
VSR					pmax	pmax		
	comp=Z,70nm,1.9s							
VSR					pmax	pmax		
	comp=N,10.0nm,1.0s							
VSR					pmax	pmax		
	comp=E,20nm,1.2s							
VORD	**Divnogorie**	**144.24**	**54**	*e*PKIKP		PKPbc	08 26 02.6	-0.1
VORD					pmax	pmax		
	comp=Z,30nm,1.6s							
VORD					pmax	pmax		
	comp=N,10.0nm,0.6s							
VORD					pmax	pmax		
	comp=E,10.0nm,0.6s							
KULM	**Kulim**	**144.48**	**202**	*e*PKPdf		**PKPdf**	**08 26 09.4**	**+3.3**
KULM					LR	LR		
	comp=Z,1μm,20.0s							
HABR	**Khabarovsk**	**145.17**	**301**	*c*PKIKP		**PKPbc**	**08 26 05.6**	**-0.2**
HABR				*e*			08 26 09.1	
HABR				*i*			08 26 10.0	
HABR				*e*			08 29 24.1	
HABR				*e**PP			08 32 36.3	
HABR				*e*			08 33 14.9	
HABR					pmax	pmax		
	comp=Z,149nm,2.2s							
HABR					pmax	pmax		
	comp=Z,197nm,1.8s							
HABR					pmax	pmax		
	comp=E,83nm,1.9s							
HABR					pmax	pmax		
	comp=N,82nm,1.9s							
PRGR	**Permogore**	**145.72**	**35**	*e*PKP2		**PKPdf**	**08 26 06.8**	**+0.2**
PRGR					pmax	pmax		
	comp=Z,115nm,1.0s							
YAK	**Yakutsk**	**145.80**	**326**	PKPbc		**PKPdf**	**08 26 04.0**	**-2.8**
	comp=Z,3.3nm,0.3s,baz=188,slow=14,SNR=2.2							
YAK	**Yakutsk**	**145.80**	**326**	*e*PKP2		**PKPdf**	**08 26 04.1**	**-2.7**
YAK				*e*			08 29 26.4	
YAK					pmax	pmax		
	comp=Z,90nm,1.4s							
YAK					pmax	pmax		
	comp=E,31nm,1.4s							
YAK					pmax	pmax		
	comp=Z,208nm,4.9s							
YAK					pmax	pmax		
	comp=N,34nm,3.0s							
YAK					pmax	pmax		
	comp=E,70nm,2.9s							
YAK	**Yakutsk**	**145.80**	**326**	PKPbc		**PKPdf**	**08 26 04.0**	**-2.8**
YAK					LR	LR		
	comp=Z,1μm,21.0s							
NEY	**Neytrino**	**146.02**	**68**	*e*PKP2		**PKPab**	**08 26 09.4**	**-0.1**
KIV	**Kislovodsk**	**146.09**	**67**	*i* PKP2		**PKPab**	**08 26 10.3**	**+0.7**
KIV				*e*			08 29 29.4	
KIV				*e*			08 42 19.7	
KIV				*e*SS		SS	08 48 26.9	-0.2
KIV				*e*SSS		SSS	08 53 57.4	
KIV					pmax	pmax		
	comp=Z,39nm,1.1s							
KIV	**Kislovodsk**	**146.09**	**67**	⇓*i* P		**PKPab**	**08 26 14.7**	**+5.1**
	SNR=13							
KIV	**Kislovodsk**	**146.09**	**67**	*e*PKPbc		**PKPab**	**08 26 10.1**	**+0.5**
KIV					LR	LR		
	comp=Z,1μm,21.0s							
KBZ	**Khabaz**	**146.21**	**67**	PKPbc		**PKPbc**	**08 26 09.1**	**0.0**
	comp=Z,3.1nm,0.7s,baz=56,slow=23,SNR=9.9							
KBZ	**Khabaz**	**146.21**	**67**	PKP2		**PKPbc**	**08 26 09.1**	**0.0**
KBZ					pmax	pmax		
	comp=Z,3.0nm,0.7s							
ONI	**Oni**	**146.45**	**69**	P		**PKPab**	**08 26 10.6**	**-0.4**
GOF	**Gofitskoye**	**146.47**	**65**	*e*PKP2		**PKPbc**	**08 26 10.2**	**+0.3**
GOF					pmax	pmax		
	comp=Z,81nm,1.3s							
IDHR	**Dehrash**	**146.70**	**84**	*e*P		**PKPdf**	**08 26 07.5**	**-2.0**
ZEI	**Tsey**	**146.81**	**69**	*i* PKIKP		**PKPdf**	**08 26 09.7**	**+0.3**
ZEI					pmax	pmax		
	comp=Z,76nm,1.7s							
GNI	**Garni**	**146.94**	**74**	PKPbc		**PKPab**	**08 26 12.5**	**-0.6**
	comp=Z,6.2nm,0.3s,baz=253,slow=4.6,SNR=4.9							
GNI	**Garni**	**146.94**	**74**	⇓*i* PKP2		**PKPab**	**08 26 13.2**	**+0.1**
GNI					pmax	pmax		
	comp=Z,59nm,1.7s							
GNI					MLR	MLR		
	comp=Z,927nm,22.0s							
GNI	**Garni**	**146.94**	**74**	⇑*i* P		**PKPab**	**08 26 13.9**	**+0.7**
	SNR=10							
GNI	**Garni**	**146.94**	**74**	PKPbc		**PKPab**	**08 26 12.5**	**-0.6**
GNI					LR	LR		
	comp=Z,950nm,22.0s							
USRK	**Ussuriysk Ar.**	**146.96**	**293**	PKPbc		**PKPdf**	**08 26 09.1**	**-0.3**
	comp=Z,5.0nm,0.8s,baz=99,slow=3.9,SNR=7.9							
TBLG	**Delisi**	**147.25**	**71**	P		**PKPab**	**08 26 13.5**	**-0.6**
KLR	**Kul'dur**	**147.36**	**303**	*e*PKIKP		**PKPdf**	**08 26 07.8**	**-2.0**
KLR					pmax	pmax		
	comp=Z,2μm,9.0s							
CMBY	**CAMPBELL BAY**	**147.65**	**191**	*e*P		**PKPdf**	**08 26 10.0**	**-1.5**
CMBY					AMS	AMS	09 11 07.0	
	comp=Z,717nm,3.3s							
DGRG	**David-gareji**	**147.67**	**72**	P		**PKPab**	**08 26 15.2**	**-0.6**
SSLB	**Suanglung**	**148.18**	**251**	*e*PKPdf		**PKPdf**	**08 26 12.5**	**+0.5**
SSLB				*e*PKPbc		**PKPbc**	**08 26 14.6**	**-0.8**
SSLB				*e*PKPab		**PKPab**	**08 26 19.8**	**+1.5**
YHNB	**Yeheng**	**148.38**	**253**		PFAKE		08 26 20.0	+0.9
YHNB					LR	LR		
	comp=Z,1μm,22.0s							
TATO	**Taipei**	**148.47**	**254**		PFAKE		08 26 20.0	+0.6
TATO					LR	LR		
	comp=Z,976nm,22.0s							
MDJ	**Mudanjiang**	**148.71**	**294**		PKPbc	**PKPdf**	**08 26 13.1**	**+0.9**
MDJ					PP	**PP**	**08 29 51.1**	**+4.3**
MDJ					SS	SS	08 48 58.8	+2.4
MDJ					PPMZ			
	comp=Z,240nm,3.4s							
MDJ					LN			
	comp=Z,480nm,23.1s							
MDJ					LE			
	comp=Z,690nm,25.2s							
MDJ					LZ			
	comp=Z,830nm,24.5s							
MDJ	**Mudanjiang**	**148.71**	**294**	*e*PKPdf		**PKPdf**	**08 26 13.5**	**+1.3**
MDJ				*e*PKPbc		**PKPbc**	**08 26 16.2**	**+0.1**
MDJ				*e*PKPab		**PKPab**	**08 26 21.0**	**+1.2**
MDJ					LR	LR		
	comp=Z,979nm,20.0s							
KSRS	**Korea Array**	**148.72**	**280**	PKPbc		**PKPbc**	**08 26 14.4**	**-1.9**
	comp=Z,4.2nm,1.0s,baz=117,slow=3.6,SNR=12							
KSRS	**Korea Array**	**148.72**	**280**	PKP2		**PKPbc**	**08 26 14.4**	**-1.9**
KSRS					pmax	pmax		
	comp=Z,4.0nm,1.0s							
KSAR	**Wonju Array Be**	**148.75**	**280**	PKP2		**PKPdf**	**08 26 14.4**	**+1.9**
KSAR	**Wonju Array Be**	**148.75**	**280**	PKPbc		**PKPdf**	**08 26 14.4**	**+1.9**
TJN	**Taejon**	**148.85**	**278**	*i* PKP2		**PKPbc**	**08 26 15.9**	**-0.7**
IKAZ	**Kazeroun**	**149.00**	**96**	*e*P		**PKPbc**	**08 26 16.3**	**-1.4**
NAZ	**Nazwa, Dubai**	**149.44**	**108**	⇑*i*P		**PKPbc**	**08 26 19.8**	**+1.3**
	SNR=6.5							
MAK	**Makhachkala**	**149.45**	**69**	*e*PKP2		PKPab	08 26 34.0	+11
MAK					MLR	MLR		
	comp=Z,2μm,25.0s							
IPIR	**Pirpir**	**149.47**	**90**	*e*P		**PKPdf**	**08 26 15.5**	**+1.2**
ASHO	**Ashiyiah**	**149.56**	**109**	⇓*i*P		**PKPbc**	**08 26 18.9**	**0.0**
	SNR=6.8							
INCN	**Inchon**	**149.72**	**279**		PFAKE		08 26 30.0	+5.8
INCN					LR	LR		
	comp=Z,668nm,21.0s							
ISRV	**Sarvestan**	**149.80**	**98**	*e*P		**PKPdf**	**08 26 13.8**	**-1.1**
IPAR	**Pars**	**149.96**	**97**	*e*P		**PKPbc**	**08 26 17.8**	**-2.2**
CLNS	**Chul'man**	**150.00**	**319**	*e*PKP2		**PKPab**	**08 26 22.7**	**-2.1**
CLNS					pmax	pmax		
	comp=Z,27nm,1.2s							
CLNS					pmax	pmax		
	comp=N,13nm,1.3s							
CLNS					pmax	pmax		
	comp=E,8.0nm,1.1s							
QZH	**Quanzhou**	**150.60**	**251**	*i* PKPbc		**PKPdf**	**08 26 17.0**	**+1.2**
QZH					PP	**PP**	**08 30 00.3**	**+2.6**
QZH					LN			
	comp=E,2μm,23.2s							
QZH					LE			
	comp=E,760nm,17.9s							
QZH					LZ			
	comp=E,3μm,24.7s							
IZEF	**Zefreh**	**150.68**	**91**	*e*P		**PKPdf**	**08 26 18.3**	**+2.2**
CN2	**Changchun**	**151.63**	**292**	*e*PKPbc		**PKPdf**	**08 26 13.3**	**-3.5**
CN2				*e*pPKP		**PKPbc**	**08 26 23.0**	**-0.1**
CN2				*e*PP		**PP**	**08 30 03.3**	**-0.4**
CN2					PPMZ			
	comp=E,200nm,8.0s							
CN2					LN			
	comp=E,300nm,22.0s							
CN2					LE			
	comp=E,300nm,22.0s							
CN2					LZ			
	comp=E,500nm,24.0s							
SSE	**Sheshan**	**151.76**	**264**		PKPbc	**PKPdf**	**08 26 18.1**	**+0.7**
SSE					PP	**PP**	**08 30 06.8**	**+2.2**
SSE					SS	SS	08 49 32.3	+1.6
SSE					PPMZ			
	comp=E,83nm,12.0s							
SSE					LN			
	comp=E,610nm,20.2s							
SSE					LE			
	comp=E,490nm,20.2s							
SSE					LZ			
	comp=E,1μm,20.3s							
PBA	**Port Blair**	**152.39**	**190**	*e*P		PKPdf	08 26 17.4	-1.4
PBA					AMS	AMS	09 19 17.6	
	comp=Z,431nm,1.0s							
QIZ	**Qiongzhong**	**152.47**	**230**		PKPbc	**PKPdf**	**08 26 18.8**	**-0.1**
QIZ					PKS	**PKSdf**	**08 29 53.5**	**0.0**
QIZ					PP	**PP**	**08 30 07.3**	**-0.7**
QIZ					SS	SS	08 49 39.8	+2.4
QIZ					LN			
	comp=Z,500nm,25.2s							
QIZ					LZ			
	comp=Z,1μm,45.7s							
QIZ	**Qiongzhong**	**152.47**	**230**		PFAKE		08 26 30.0	+4.2
QIZ					LR	LR		
	comp=Z,937nm,22.0s							
SNY	**Shenyang**	**152.84**	**287**	⇓PKPbc		**PKPbc**	**08 26 27.5**	**+1.6**
SNY					PP	**PP**	**08 30 09.9**	**-0.7**
GZH	**Guangzhou**	**153.16**	**241**		PKPbc	**PKPbc**	**08 26 25.5**	**-1.7**
GZH					PKPab	PKPab	08 26 45.9	+7.1
GZH					PP	**PP**	**08 30 13.4**	**+1.2**
GZH					SS	SS	08 49 43.0	-2.4
GZH					LN			
	comp=Z,840nm,20.5s							
GZH					LE			
	comp=Z,680nm,19.7s							
DGPR	**DIGLIPUR**	**153.86**	**191**	*e*P		**PKPdf**	**08 26 21.1**	**+0.1**
DGPR					AMS	AMS	09 18 01.7	
	comp=Z,447nm,8.2s							
NJ2	**Nanjing**	**153.97**	**264**	*e*PKPbc		**PKPdf**	**08 26 20.5**	**-0.1**
NJ2				pPKP		**pPKPdf**	**08 26 24.8**	**-1.0**
NJ2				sPKP			08 26 27.6	
NJ2				PKPab		**PKPab**	**08 26 42.3**	**+0.2**
NJ2				PP		**PP**	**08 30 17.5**	**+0.4**
NJ2				SS		SS	08 49 53.0	-1.9
NJ2				LN				
	comp=Z,850nm,25.2s							
NJ2				LE				
	comp=Z,600nm,17.1s							
NJ2				LZ				
	comp=Z,7μm,16.6s							
ARU	**Arti**	**153.98**	**38**		PKIKP	**PKPdf**	**08 26 18.3**	**-1.6**
ARU				*i*			08 26 26.9	
ARU							08 30 13.7	
ARU					SS	SS	08 49 52.2	-1.2
ARU	**Arti**	**153.98**	**38**	*e*PKPdf		**PKPdf**	**08 26 20.3**	**+0.4**
ARU				*e*PKPbc		**PKPbc**	**08 26 27.5**	**-0.4**
ARU				*e*PKPab		**PKPab**	**08 26 42.4**	**+1.1**
ARU					LR	LR		
	comp=Z,3μm,20.0s							
BOD	**Bodaibo**	**154.72**	**327**	*e*PKIKP		**PKPdf**	**08 26 16.7**	**-4.2**
BOD				*e*			08 30 26.6	
BOD					pmax	pmax		
	comp=Z,15nm,1.9s							
HIA	**Hailar**	**155.16**	**305**		PFAKE		08 26 30.0	+8.2
HIA					LR	LR		
	comp=Z,2μm,20.0s							
AKTO	**Aktyubinsk**	**156.06**	**52**		PKP	**PKPdf**	**08 26 23.4**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=291,slow=1.2,SNR=4.1							
AKTO					PKPab	**PKPab**	**08 26 50.7**	**+0.2**
	comp=Z,3.3nm,0.8s,baz=281,slow=3.3,SNR=7.3							
AKTO	**Aktyubinsk**	**156.06**	**52**		PKIKP	**PKPdf**	**08 26 23.4**	**+0.5**
AKTO							08 26 50.7	
AKTO					pmax	pmax		
	comp=Z,1.0nm,0.7s							
AKTO					pmax	pmax		
	comp=Z,3.0nm,0.8s							
POO	**Poona**	**156.19**	**145**	*e*P		**PKPdf**	**08 26 21.8**	**-2.4**
POO					AMS	AMS	09 20 41.2	
	comp=Z,438nm,8.0s							
POO	**Poona**	**156.19**	**145**	*ex*		**PKPab**	**08 26 54.0**	**+2.2**
WHN	**Wuhan**	**156.76**	**257**	⇑PKP		**PKPdf**	**08 26 24.1**	**-0.4**
WHN					LN			
	comp=Z,1μm,18.8s							
WHN					LE			
	comp=Z,2μm,23.1s							
WHN					LZ			
	comp=Z,3μm,20.4s							
CMAR	**Chiang Mai Arr**	**157.37**	**208**	PKP		**PKPdf**	**08 26 25.1**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=230,slow=2.5,SNR=4.5							
CMAR					PKPab	**PKPab**	**08 26 56.0**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=164,slow=3.6,SNR=3.4							
CMAR	**Chiang Mai Arr**	**157.37**	**208**		PKIKP	**PKPdf**	**08 26 25.1**	**-0.5**
CMAR					pmax	pmax		
	comp=Z,1.0nm,0.3s							
CMAR					pmax	pmax		
	comp=Z,1.0nm,0.4s							
ABKAR	**Akbulak array**	**157.59**	**54**	*e*PKPdf		**PKPdf**	**08 26 26.3**	**+1.4**
CHTO	**Chiang Mai**	**157.69**	**208**		PFAKE		08 26 40.0	+14
CHTO					LR	LR		
	comp=Z,1μm,22.0s							
IMYA	**Miami**	**157.85**	**88**	*e*P		**PKPdf**	**08 26 26.8**	**+0.8**
BHJ	**Bhuj**	**157.88**	**130**	*e*P		**PKPdf**	**08 26 26.0**	**-0.1**
BHJ					AMS	AMS	09 19 44.9	
	comp=Z,114nm,6.9s							
BJI	**Beijing**	**158.22**	**282**		PKP	**PKPdf**	**08 26 26.3**	**+0.3**
BJI					PP	**PP**	**08 30 43.6**	**+2.9**
BJI					SS	SS	08 50 44.8	+4.1
BJI					PPMZ			
	comp=Z,230nm,5.9s							
BJI					LN			
	comp=Z,520nm,21.7s							
BJI					LE			
	comp=Z,880nm,23.2s							
BJI					LZ			
	comp=Z,1μm,27.0s							
BJT	**Baijiatuau**	**158.23**	**282**		PFAKE		08 26 40.0	+14
BJT					LR	LR		
	comp=Z,1μm,22.0s							
VIS	**Vishakhapatnam**	**158.38**	**168**	*e*P		**PKPdf**	**08 26 23.2**	**-3.6**
VIS					AMS	AMS	09 19 46.1	
	comp=Z,550nm,4.8s							
GYA	**Guiyang**	**159.90**	**237**		PKP	**PKPdf**	**08 26 29.0**	**+0.4**
GYA					PKPab	**PKPab**	**08 27 09.5**	**+1.6**
GYA					PKS	**PKSdf**	**08 30 01.8**	**-0.4**
GYA	

	comp=Z,420nm,4.3s						
XAN	**Xi'an**	**162.41**	**260**	PKP	PKPdf	08 26 37.9	+7.0
TLY	**Talaya**	**163.26**	**324**	*e*PKIKP	PKPdf	08 26 42.8	+12
TLY				pmax	pmax		
	comp=Z,6.0nm,1.4s						
TLY	**Talaya**	**163.26**	**324**	PFAKE		08 26 40.0	+8.9
TLY				LR	LR		
	comp=Z,2μm,21.0s						
ULN	**Ulaanbaatar**	**163.58**	**309**	*e*PKIKP	**PKPdf**	**08 26 28.6**	**-3.1**
ULN	**Ulaanbaatar**	**163.58**	**309**	PFAKE		08 26 40.0	+8.3
ULN				LR	LR		
	comp=Z,2μm,21.0s						
NVS	**Novosibirsk**	**163.88**	**10**	*i* PKIKP	**PKPdf**	**08 26 29.5**	**-2.0**
SONM	**Songino Array**	**163.99**	**309**	PKP	**PKPdf**	**08 26 31.5**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=294,slow=1.4,SNR=4.5						
SONM				PKPab	**PKPab**	**08 27 24.4**	**-0.8**
	comp=Z,3.5nm,1.1s,baz=77,slow=2.0,SNR=3.8						
SONM	**Songino Array**	**163.99**	**309**	PKIKP	**PKPdf**	**08 26 31.5**	**-0.6**
SONM						08 27 24.4	
SONM				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ZAK	**Zakamensk**	**164.30**	**321**	*e*PKIKP	**PKPdf**	**08 26 28.2**	**-4.0**
ZAK				*e*		08 31 18.1	
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.7s						
BOK	**Bokaro**	**164.70**	**173**	*e*P	**PKPdf**	**08 26 32.1**	**-1.2**
BOK				AMS	AMS	09 18 50.7	
	comp=Z,125nm,2.1s						
CD2	**Chengdu**	**164.71**	**243**	PKP	**PKPdf**	**08 26 33.5**	**+0.3**
CD2				PKPab	PKPab	08 27 34.3	+5.5
CD2				PKS	**PKSdf**	**08 30 05.8**	**-0.3**
CD2				SKKS		08 38 01.3	
CD2				SS	**SS**	**08 51 46.8**	**-1.3**
CD2				PPMZ			
	comp=Z,490nm,6.5s						
CD2				LN			
	comp=Z,1μm,19.0s						
CD2				LE			
	comp=Z,1μm,17.8s						
CD2				LZ			
	comp=Z,2μm,20.2s						
ZAA0	**Zalesovo Array**	**164.94**	**7**	*e*PKPdf	**PKPdf**	**08 26 28.8**	**-3.7**
ZAA0				*e*PKPab	**PKPab**	**08 27 30.0**	**+1.1**
ZALV	**Zalesovo Beam**	**164.94**	**7**	PKP	**PKPdf**	**08 26 29.6**	**-2.9**
	comp=Z,1.9nm,0.7s,baz=270,slow=1.5,SNR=7.2						
ZALV				PKPab	**PKPab**	**08 27 29.1**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=348,slow=4.9,SNR=2.0						
ZALV	**Zalesovo Beam**	**164.94**	**7**	PKIKP	**PKPdf**	**08 26 29.6**	**-2.9**
ZALV						08 27 29.1	
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SHL	**Shillong**	**166.16**	**195**	*e*P	**PKPdf**	**08 26 34.1**	**-0.6**
SHL				AMS	AMS	09 19 12.6	
	comp=Z,207nm,17.3s						
KURK	**Kurchatov**	**166.61**	**26**	*e*PKIKP	**PKPdf**	**08 26 34.0**	**0.0**
KURK				MLR	MLR		
	comp=Z,3μm,21.0s						
KURK	**Kurchatov**	**166.61**	**26**	*e*PKPdf	**PKPdf**	**08 26 34.0**	**0.0**
KURK				LR	LR		
	comp=Z,3μm,21.0s						
LZH	**Lanzhou**	**167.03**	**262**	*e*PKP	**PKPdf**	**08 26 34.3**	**-0.7**
LZH				pPKP	**pPKPdf**	**08 26 39.8**	**-0.4**
LZH				sPKP		08 26 43.0	
DDI	**Dehra Dun**	**168.11**	**134**	*e*P	**PKPdf**	**08 26 34.0**	**-1.9**
DDI				AMS	AMS	09 15 08.7	
	comp=Z,181nm,6.8s						
SMLA	**Simla**	**168.18**	**129**	*e*P	**PKPdf**	**08 26 35.5**	**-0.2**
SMLA				AMS	AMS	09 28 44.8	
	comp=Z,1μm,25.3s						
DHRM	**DHARAMSHALA**	**168.37**	**122**	*e*P	**PKPdf**	**08 26 36.2**	**0.0**
DHRM				AMS	AMS	09 32 09.2	
	comp=Z,1μm,20.0s						
EKS2	**Erkin-Say**	**168.69**	**67**	*e*PKIKP	**PKPdf**	**08 26 36.0**	**+0.1**
EKS2				MLR	MLR		
	comp=Z,2μm,22.0s						
EKS2	**Erkin-Say**	**168.69**	**67**	*e*PKPdf	**PKPdf**	**08 26 36.0**	**+0.1**
EKS2				LR	LR		
	comp=Z,2μm,22.0s						
AAK	**Ala-Archa**	**169.21**	**66**	*e*PKIKP	**PKPdf**	**08 26 36.8**	**+0.5**
AAK				*e*		08 27 49.7	
AAK				MLR	MLR		
	comp=Z,2μm,20.0s						
AAK	**Ala-Archa**	**169.21**	**66**	*e*PKPdf	**PKPdf**	**08 26 36.8**	**+0.5**
AAK				*e*PKPab	**PKPab**	**08 27 49.7**	**+1.1**
AAK				LR	LR		
	comp=Z,2μm,20.0s						
FRU	**Bishkek**	**169.24**	**65**	*e*PKIKP	**PKPdf**	**08 26 33.5**	**-2.6**
FRU				pmax	pmax		
	comp=Z,60nm,2.0s						
TKM2	**Tokmak 2**	**169.91**	**63**	*e*PKIKP	**PKPdf**	**08 26 37.1**	**+0.3**
TKM2				MLR	MLR		
	comp=Z,2μm,21.0s						
TKM2	**Tokmak 2**	**169.91**	**63**	*e*PKPdf	**PKPdf**	**08 26 37.1**	**+0.3**
TKM2				LR	LR		
	comp=Z,2μm,21.0s						
LSA	**Lhasa**	**170.31**	**197**	PFAKE		08 26 50.0	+12
LSA				LR	LR		
	comp=Z,2μm,21.0s						
KSH	**Kashi**	**170.72**	**83**	PKP	**PKPdf**	**08 26 35.8**	**-1.4**
KSH				PKS	**PKSdf**	**08 30 07.3**	**-2.4**
KSH				SKS	**SKSdf**	**08 33 38.6**	**-1.5**
KSH				PPMZ			
	comp=Z,35nm,3.0s						
KSH				LN			
	comp=Z,890nm,15.6s						
KSH				LE			
	comp=Z,770nm,16.4s						
KSH				LZ			
	comp=Z,2μm,20.5s						
GTA	**Gaotai**	**170.76**	**276**	*e*PKP	**PKPdf**	**08 26 39.8**	**+2.5**
GTA				sPKP		08 26 46.9	
GTA				PKPab	PKPab	08 28 00.8	+5.3
GTA				PP	**PP**	**08 31 51.0**	**+4.4**
GTA				SKS	**SKSdf**	**08 33 42.1**	**+1.9**
GTA				SKKS	**SKKSac**	**08 38 37.1**	**+4.6**
GTA				PPMZ			
	comp=Z,210nm,5.3s						
GTA				LN			
	comp=Z,940nm,23.7s						
GTA				LE			
	comp=Z,1μm,21.4s						
GTA				LZ			
	comp=Z,3μm,23.8s						
MKAR	**Makanchi Array**	**171.22**	**26**	PKP	**PKPdf**	**08 26 34.1**	**-3.0**
	comp=Z,1.2nm,1.1s,baz=318,slow=1.6,SNR=8.5						
MKAR				PKPab	**PKPab**	**08 27 56.2**	**-0.8**
	comp=Z,0.8nm,0.9s,baz=335,slow=2.4,SNR=2.5						
MKAR	**Makanchi Array**	**171.22**	**26**	PKIKP	**PKPdf**	**08 26 34.1**	**-3.0**
MKAR						08 27 56.2	
MKAR				pmax	pmax		
	comp=Z,1.0nm,1.1s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WMQ	**Urumqi**	**175.22**	**2**	*e*PKP	**PKPdf**	**08 26 35.0**	**-3.8**
WMQ				PKS	**PKSdf**	**08 30 06.4**	**-4.5**
WMQ				PP	**PP**	**08 32 06.3**	**-0.5**
WMQ				SKS	**SKSdf**	**08 33 38.6**	**-2.6**
WMQ				SKKS	**SKKSac**	**08 38 53.6**	**+0.7**
WMQ				SS	**SS**	**08 53 30.8**	**+0.7**
WMQ				PPMZ			
	comp=Z,58nm,11.8s						
WMQ				LN			
	comp=Z,260nm,21.2s						
WMQ				LE			
	comp=Z,220nm,20.8s						
WMQ				LZ			
	comp=Z,380nm,22.4s						

*ISCJB **20** 08:07:33.9±1.0, 5.5°S±0.1°×148.9°E±0.2, h163km, mb3.7/9, Error ellipse: s-maj=36.9km s-min=11.3km az=22.2*
*IDC **20** 08:07:45.8±3.4, 5.6°S×148.5°E, h266km±32km, mb3.4/9, mb1 3.6/10, mb1mx3.5/18, mbtmp4.1/10, Error ellipse: s-maj=35.0km s-min=10.4km az=112.0*

ISC 20 08:07:35.0±1.1, 5.6°S±0.1°×148.7°E±0.3, h163km, n11, σ1ᵖ63/13, mb3.8/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.90**	**223**	P	**Pn**	**08 11 56.6**	**-0.9**
	2.3nm,0.3s,baz=49,slow=10,SNR=91						
WRA				S	**S**	**08 15 27.7**	**-1.5**
	0.2nm,0.3s,baz=49,slow=19,SNR=6.4						
ASAR	**Alice Springs**	**22.87**	**217**	P	**P**	**08 12 26.8**	**+2.2**
	2.8nm,0.4s,baz=50,slow=8.0,SNR=78						
ASAR				S	**S**	**08 16 23.9**	**+2.1**
	0.4nm,0.8s,baz=33,slow=19,SNR=4.3						
MJAR	**Matsushiro Arr**	**43.09**	**348**	P	**P**	**08 15 19.5**	**+0.6**
	1.4nm,0.7s,baz=166,slow=7.1,SNR=6.0						
KSRS	**Korea Array**	**47.03**	**337**	P	**P**	**08 15 51.0**	**+1.0**
	3.0nm,0.7s,baz=153,slow=8.7,SNR=12						
USRK	**Ussuriysk Ar.**	**51.84**	**345**	P	**P**	**08 16 27.6**	**+1.3**
	2.4nm,0.6s,baz=158,slow=8.1,SNR=7.1						
PETK	**Petropavlovsk-**	**59.03**	**6**	P	**P**	**08 17 18.9**	**+1.4**
	1.8nm,0.5s,baz=170,slow=10,SNR=5.9						
MKAR	**Makanchi Array**	**78.28**	**320**	P	**P**	**08 19 15.9**	**-1.0**
	0.1nm,0.4s,baz=94,slow=7.3,SNR=3.9						
ZALV	**Zalesovo Beam**	**79.59**	**327**	P	**P**	**08 19 21.3**	**-2.5**
	0.5nm,0.3s,baz=115,slow=6.8,SNR=3.1						
QSPA	**South Pole Qui**	**84.33**	**180**	P	**P**	**08 19 48.3**	**-0.3**
	1.3nm,0.8s,baz=326,slow=3.6,SNR=6.1						
ILAR	**Eielson Array**	**84.51**	**23**	P	**P**	**08 19 48.0**	**-1.3**
	0.8nm,0.7s,baz=250,slow=5.1,SNR=13						
TORD	**Torodi Ar. Bea**	**146.59**	**285**	PKPbc	**PKPdf**	**08 26 56.0**	**-0.6**
	1.1nm,0.3s,baz=79,slow=2.4,SNR=28						

*ISCJB **20** 08:12:35.4±0.8, 39.1°S±0.1°×92.3°W±0.3, h10km, mb4.0/6, Error ellipse: s-maj=28.9km s-min=15.4km az=178.8*
*IDC **20** 08:12:35.4±1.2, 39.0°4S×92.3°3W, h0km, mb4.1/6, mb1 4.4/6, mb1mx4.2/16, mbtmp4.1/6, Error ellipse: s-maj=40.5km s-min=29.2km az=101.0*

ISC 20 08:12:37.1±1.0, 39.0°S±0.1°×92.3°W±0.3, h10km, n13, σ0ᵖ72/9, mb4.1/6, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**25.82**	**57**	P	**P**	**08 18 08.5**	**-0.4**
	21nm,1.0s,baz=225,slow=11,SNR=4.0						
LPAZ	**La Paz**	**31.01**	**50**	P	**P**	**08 18 55.9**	**+0.3**
	1.8nm,0.9s,baz=220,slow=8.8,SNR=3.1						
QSPA	**South Pole Qui**	**51.19**	**180**	P	**P**	**08 21 40.1**	**-0.2**
	2.3nm,0.7s,baz=171,slow=1.3,SNR=5.9						
VNA3	**Neumayer Olymp**	**51.26**	**155**	P	**P**	**08 21 40.2**	**-0.4**
VNA1	**Neumayer--Stat**	**51.81**	**155**	P	**P**	**08 21 45.5**	**+0.8**
VNA2	**Neumayer--Watz**	**52.04**	**155**	P	**P**	**08 21 46.6**	**+0.2**
	baz=284,slow=9.1						
SNAA	**Sanae**	**53.32**	**157**	P	P	08 21 52.4	-3.5
TXAR	**Lajitas Array**	**68.84**	**349**	P	**P**	**08 23 42.0**	**+0.2**
	1.6nm,1.0s,baz=166,slow=7.7,SNR=6.5						
NVAR	**Mina Array Bea**	**80.70**	**340**	P	**P**	**08 24 51.1**	**+0.7**
	0.5nm,0.6s,baz=165,slow=7.5,SNR=4.0						
PDAR	**Pinedale Array**	**82.92**	**347**	P	**P**	**08 25 00.8**	**-1.2**
	1.1nm,1.0s,baz=153,slow=5.6,SNR=4.1						
H11S2	**WAKE ISLAND Hyl**	**09.78**	**278**	T	T	10 29 53.1	
	baz=124						
H11S1	**WAKE ISLAND Hyl**	**09.80**	**278**	T	T	10 29 57.8	
	baz=124						
H11S3	**WAKE ISLAND Hyl**	**09.80**	**278**	T	T	10 29 54.9	
	baz=124						

IDC 20 08:13:13.0±18.0, 40.5°S×88.2°W, h0km, mb4.3/3, mb1 4.8/3, mb1mx4.2/15, mbtmp4.3/3, Error ellipse: s-maj=706.6km s-min=332.7km az=107.0, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**70.98**	**346**	P	P	08 24 32.4	0.0
	2.0nm,0.9s,baz=172,slow=8.6,SNR=6.5						
NVAR	**Mina Array Bea**	**83.26**	**337**	P	P	08 25 41.5	+0.1
	3.6nm,1.1s,baz=173,slow=6.9,SNR=6.2						
PDAR	**Pinedale Array**	**85.14**	**344**	P	P	08 25 50.8	-0.1
	4.6nm,1.2s,baz=137,slow=7.6,SNR=5.0						

*ISCJB **20** 08:22:21.4±0.8, 39.2°S±0.1°×92.9°W±0.2, h10km, mb3.4/6, Error ellipse: s-maj=26.9km s-min=17.6km az=173.9*
*IDC **20** 08:22:21.8±1.3, 39.0°9S×93.0°2W, h0km, mb3.5/6, mb1 3.9/6, mb1mx3.8/16, mbtmp3.5/6, Error ellipse: s-maj=36.4km s-min=31.7km az=90.0*

ISC 20 08:22:23.2±1.0, 39.2°S±0.1°×93.0°W±0.2, h10km, n12, σ1ᵖ24/8, mb3.6/6, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**21.50**	**77**	P	**P**	**08 27 10.9**	**-1.2**
	0.4nm,0.8s,baz=240,slow=10,SNR=6.3						
LPAZ	**La Paz**	**31.48**	**51**	P	**P**	**08 28 47.5**	**+1.7**
	0.8nm,0.8s,baz=225,slow=10.0,SNR=2.8						
QSPA	**South Pole Qui**	**51.06**	**180**	P	**P**	**08 31 26.4**	**+1.0**
	1.4nm,0.9s,baz=288,slow=0.8,SNR=4.2						
VNA3	**Neumayer Olymp**	**51.36**	**156**	P	**P**	**08 31 27.0**	**-0.4**
VNA2	**Neumayer--Watz**	**52.14**	**155**	P	**P**	**08 31 32.4**	**-0.8**
	baz=279,slow=8.7						
SNAA	**Sanae**	**53.41**	**157**	P	P	08 31 38.6	-4.1
TXAR	**Lajitas Array**	**68.87**	**350**	P	**P**	**08 33 27.5**	**-0.5**
	0.3nm,0.7s,baz=166,slow=8.9,SNR=4.0						
NVAR	**Mina Array Bea**	**80.60**	**340**	P	**P**	**08 34 36.7**	**+0.5**
	0.4nm,0.6s,baz=163,slow=6.1,SNR=3.9						
PDAR	**Pinedale Array**	**82.93**	**348**	P	**P**	**08 34 47.0**	**-1.1**
	0.3nm,0.8s,baz=146,slow=5.8,SNR=3.7						
H11S2	**WAKE ISLAND Hyl**	**09.29**	**278**	T	T	10 39 42.4	
	baz=126						
H11S1	**WAKE ISLAND Hyl**	**09.31**	**278**	T	T	10 39 39.0	
	baz=126						
H11S3	**WAKE ISLAND Hyl**	**09.31**	**278**	T	T	10 39 39.4	
	baz=126						

*IDC **20** 08:26:10.4±1.2, 4.3°S×153.7°E, h0km, mb4.0/6, mb1 4.3/6, mb1mx3.8/30, mbtmp4.0/6, Error ellipse: s-maj=50.7km s-min=23.3km az=108.0*
*NEIC **20** 08:26:16.0±0.8, 4.3°S×153.7°E, h35km, mb4.2/2, Error ellipse: s-maj=30.7km s-min=13.6km az=110.0*
*ISCJB **20** 08:26:20.1±1.1, 4.5°S±0.2°×153.7°E±0.3, h85km, mb3.8/8, Error ellipse: s-maj=39.4km s-min=17.9km az=21.9*

ISC 20 08:26:21.7±1.1, 4.4°S±0.2°×153.6°E±0.3, h85km, n10, σ0ᵖ43/11, mb4.0/8, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRAB	**Tennant Creek**	**24.30**	**229**	*e*P	**P**	**08 31 31.4**	**0.0**
	7.5nm,0.6s						
WRAB				*e*PcP	**PcP**	**08 35 09.8**	**+0.2**
WRA	**Warramunga Arr**	**24.31**	**229**	P	**P**	**08 31 31.9**	**+0.3**
	6.5nm,0.6s,baz=54,slow=10.0,SNR=99						
ASAR	**Alice Springs**	**26.99**	**223**	P	**P**	**08 31 55.9**	**0.0**
	0.9nm,0.7s,baz=56,slow=8.9,SNR=13						
STKA	**Stephens Creek**	**29.57**	**201**	P	**P**	**08 32 18.1**	**-0.5**
	3.8nm,0.7s,baz=26,slow=12,SNR=10						
VNDA	**Vanda**	**73.20**	**178**	P	**P**	**08 37 43.3**	**+0.3**
	1.2nm,0.8s,baz=330,slow=6.6,SNR=5.3						
VNDA	**Vanda**	**73.20**	**178**	*e*P	**P**	**08 37 43.6**	**+0.6**
MKAR	**Makanchi Array**	**80.55**	**319**	P	**P**	**08 38 25.2**	**+0.3**
	0.5nm,0.7s,baz=113,slow=3.7,SNR=4.4						
ILAR	**Eielson Array**	**81.48**	**22**	P	**P**	**08 38 29.2**	**-0.2**
	0.6nm,1.0s,baz=241,slow=5.0,SNR=5.2						
KURK	**Kurchatov**	**83.94**	**322**	*e*P	**P**	**08 38 42.5**	**+0.1**
	2.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**150.94**	**289**	PKPbc	**PKPbc**	**08 46 05.1**	**-0.6**
	1.9nm,0.8s,baz=59,slow=1.7,SNR=11						

IDC 20 08:43:24.1±2.5, 53.7°N×86.8°E, h0km, mb1 3.0/2, mb1mx2.9/30, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=21.0km s-min=12.9km az=70.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.22**	**282**	*i*		08 51 50.1	
	baz=99,slow=327,SNR=5.9						
ZALV	**Zalesovo Beam**	**1.22**	**282**	Pg	Pg	08 43 46.5	-1.0
	1.8nm,0.3s,baz=101,slow=13,SNR=17						
ZALV				Lg	Lg	08 44 04.1	
	2.2nm,0.3s,baz=103,slow=30,SNR=15						
ZALV				Rg	Rg	08 44 13.4	
	2.8nm,0.5s,baz=86,slow=22,SNR=4.2						
KURBB	**Kurchatov Arra**	**5.97**	**242**	Pn	Pn	08 44 54.6	+1.0
	0.1nm,0.3s,baz=58,slow=14,SNR=8.4						
KURBB				Sn	Sn	08 46 01.6	-1.0
	0.0nm,0.3s,baz=56,slow=25,SNR=2.9						
KURBB				Lg	Lg	08 46 34.0	
	0.0nm,0.3s,baz=61,slow=33,SNR=5.2						
MKAR	**Makanchi Array**	**7.51**	**205**	Pn	Pn	08 45 16.1	+1.4
	0.2nm,0.3s,baz=22,slow=13,SNR=7.5						
MKAR				Sn	Sn	08 46 40.1	-0.5
	0.1nm,0.3s,baz=18,slow=29,SNR=3.1						
MKAR				Lg	Lg	08 47 19.5	
	baz=24,slow=30,SNR=3.0						

*ISCJB **20** 08:59:33.5±0.3, 32.6°9N±0.0°2×115.8°5W±0.0°2, h9km±2km, Error ellipse: s-maj=2.7km s-min=2.6km az=36.1*
*NEIC **20** 08:59:34.6, 32.6°7N×115.8°7W, h3km, ML3.7(PAS), After PAS.*
*ECX **20** 08:59:34.8±0.6, 32.6°7N×115.8°7W, h2km, MD3.6, ML3.8*
*MEX **20** 08:59:36.6±0.7, 32.9°6N×115.0°8W, h20km, MD3.4*

ISC 20 08:59:34.3±0.8, 32.6°3N±0.0°2×115.8°6W±0.0°2, h9km±6km, n41, σ1ᵖ27/71, 11C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUH	**Yuha Desert**	**0.06**	**286**	⇑*i*P	**Pg**	**08 59 36.1**	**-0.1**
SGL	**Mount Signal**	**0.11**	**81**	⇑*i*P	**Pg**	**08 59 36.9**	**-0.1**
WESC	**Westside Schoo**	**0.17**	**39**	⇓*e*P	**Pg**	**08 59 37.5**	**-0.3**
WESC				*e*S	**Sg**	**08 59 40.4**	**+0.2**
RMX	**La Rumorosa**	**0.19**	**261**	⇑*e*P	**Pg**	**08 59 38.5**	**+0.2**
RMX				*e*S	**Sg**	**08 59 41.7**	**+0.6**
COK	**Cook Ranch**	**0.24**	**26**	⇓*i*P	**Pg**	**08 59 38.9**	**-0.3**
CRR	**Carrizo Plain**	**0.27**	**339**	⇓*i*P	**Pg**	**08 59 39.1**	**-0.7**
DREC	**Desert Rsrch C**	**0.39**	**63**	⇑*e*P	**Pg**	**08 59 42.2**	**+0.4**
CBKC	**Canebrake**	**0.43**	**309**	*i* P	**Pg**	**08 59 42.4**	**-0.2**
CPBX	**Cerro Prieto**	**0.51**	**114**	*e*P	**Pg**	**08 59 44.8**	**+0.6**
CPBX	**Cerro Prieto**	**0.51**	**114**	⇑*e*P	**Pg**	**08 59 44.6**	**+0.4**
CPBX				*e*S	**Sb**	**08 59 52.6**	**-0.3**
CLIC	**Calipatria**	**0.58**	**28**	⇓*i*P	**Pg**	**08 59 45.2**	**-0.2**
MBIG	**Mexicali**	**0.60**	**112**	*i* P	**Pg**	**08 59 46.3**	**+0.5**
MBIG				*e*S	**Sg**	**08 59 53.1**	**-0.6**
BAR	**Barrett**	**0.69**	**274**	*e*Pg	**Pg**	**08 59 47.2**	**-0.4**
BAR				*e*Sg	**Sg**	**08 59 56.2**	**-0.5**
BAR	**Barrett**	**0.69**	**274**	⇑*e*P	**Pg**	**08 59 47.2**	**-0.4**
RDX	**Rancho Dawling**	**0.70**	**186**	⇓*e*P	**Pg**	**08 59 47.9**	**0.0**
RDX				⇑*e*		09 00 02.3	
	comp=N,3μm,0.5s						
EMSC	**East Mesa**	**0.74**	**81**	⇑*e*P	**Pg**	**08 59 48.2**	**-0.4**
CBX	**Cerro Bola**	**0.75**	**245**	*e*P	Pn	08 59 59.1	+7.9
CBX	**Cerro Bola**	**0.75**	**245**	⇑*e*P	**Pg**	**08 59 48.9**	**+0.1**
CBX				*e*S	Pn	08 59 59.1	+7.9
	comp=N,7μm,0.5s						
SDRC	**San Diego Road**	**0.92**	**277**	⇑*e*P	**Pg**	**08 59 51.1**	**-0.9**
PFO	**Pinyon Flats O**	**1.10**	**333**	*e*Pg	**Pg**	**08 59 53.1**	**-2.3**
PFO				*e*Sg	**Sg**	**09 00 08.3**	**-1.3**
PBX	**Punta Banda**	**1.15**	**220**	*e*P	**Pb**	**08 59 55.9**	**-0.5**
PBX				*e*S	**Sb**	**09 00 11.2**	**-0.2**
ECNX	**Esteban Cantu**	**1.16**	**213**	*e*P	**Pb**	**08 59 56.0**	**-0.6**
ECNX				*e*S	**Sb**	**09 00 12.0**	**+0.3**
ZAX	**El Zacaton**	**1.17**	**198**	*e*P	**Pb**	**08 59 56.3**	**-0.4**
ZAX				*e*S	**Sb**	**09 00 12.2**	**+0.2**
ECBX	**El Chinero**	**1.34**	**149**	*e*P9	**Pn**	**08 59 57.4**	**-1.8**
ECBX				*e*S	**Sb**	**09 00 15.7**	**-1.2**
ECBX				⇓*e*		09 00 18.8	
	comp=E,854nm,0.4s						
SPX	**San Pedro Mart**	**1.62**	**168**	*e*P	**Pn**	**09 00 02.6**	**-0.7**
SPX	**San Pedro Mart**	**1.62**	**168**	*e*P	**Pn**	**09 00 03.0**	**-0.3**
SPX				*e*S	**Sb**	**09 00 26.2**	**+1.1**
SPX				⇑*e*		09 00 29.8	
	comp=E,635nm,0.3s						
PASC	**Pasadena Art C**	**2.48**	**309**	*e*Pn	**Pn**	**09 00 16.7**	**+1.8**
PASC				*e*Sg	**Sg**	**09 00 53.2**	**-0.8**
LDFC	**Landfair**	**2.52**	**14**	*e*Pg	**Pg**	**09 00 22.1**	**-0.5**
LDFC				*e*Sn	**Sn**	**09 00 46.7**	**+0.4**
214A	**Organ Pipe Nat**	**2.67**	**104**	*e*Pn	**Pn**	**09 00 15.0**	**-2.4**
214A				*e*Sn	**Sn**	**09 00 49.8**	**0.0**
GSC	**Goldstone, Bar**	**2.78**	**344**	Pn	**Pn**	**09 00 19.6**	**+0.6**
GSC				*e*Sn	**Sn**	**09 00 52.7**	**0.0**
GSC				*e*Sg	**Sg**	**09 01 04.1**	**+0.6**
OSI	**Osito Audit: C**	**3.10**	**310**	*e*Pn	**Pn**	**09 00 23.4**	**-0.1**
OSI				*e*Sg	**Sg**	**09 01 14.3**	**+0.3**
ISA	**Isabella, Lake**	**3.72**	**325**	*e*Pn	**Pn**	**09 00 32.4**	**+0.4**
ISA				*e*Sg	**Sg**	**09 01 31.3**	**-2.5**
SHPR	**Sheep Range**	**3.91**	**8**	*e*Pn	**Pn**	**09 00 35.1**	**+0.5**
SHPR				*e*Pg	**Pg**	**09 00 49.2**	**+0.1**
SHPR				*e*Sn	**Sn**	**09 01 21.6**	**+0.9**
DAC	**Darwin (Calif)**	**3.91**	**339**	*e*Pn	**Pn**	**09 00 35.9**	**+1.2**
DAC				*e*Sg	**Sg**	**09 01 36.5**	**-3.4**
TUC	**Tucson**	**4.30**	**93**	*e*Pn	**Pn**	**09 00 37.3**	**-2.6**
TUC				*e*Pg	**Pg**	**09 00 58.0**	**+1.3**
TUC				*e*Sg	**Sg**	**09 01 53.8**	**+1.5**
WUAZ	**Wupatki**	**4.70**	**51**	*e*Pn	**Pn**	**09 00 45.6**	**0.0**
WUAZ				*e*Pg	**Pg**	**09 01 05.0**	**+0.6**
WUAZ				*e*Sn	**Sn**	**09 01 39.0**	**-1.4**
TPH	**Tonopah**	**5.54**	**349**	*e*Pn	**Pn**	**09 00 58.1**	**+0.9**
	comp=E,7.1nm,0.8s						
TPH				*e*Pg	**Pg**	**09 01 21.0**	**+0.5**
TPH				*e*Sg	**Sg**	**09 02 28.8**	**-3.5**
WAKR	**Walker**	**6.55**	**335**	*e*Pn	**Pn**	**09 01 11.4**	**+0.5**
	comp=E,4.3nm,0.9s						
WAKR				*e*Sn	**Sn**	**09 02 27.7**	**+1.9**
WAKR				*e*Sg	**Sg**	**09 03 08.1**	**+3.7**
121A	**Cookes Peak, D**	**6.81**	**89**	*e*Pn	**Pn**	**09 01 13.8**	**-0.8**
	comp=E,16nm,0.6

ERMK *i* S Sg 09 06 04.4 -1.8
CTKT Corum 2.59 354 *i* P Pb 09 05 37.2 -1.3
CTKT Corum 2.59 354 *i* P Pb 09 05 37.2 -1.3

IDC ***20*** *09:12:14.3±1.0,36°.71S×73°.14W,h0km,mb3.7/6, mb1 3.8/8,mb1mx3.7/29,mbtmp3.6/8,ML2.9/2,Error ellipse: s-maj=27.9km s-min=14.6km az=90.0*
ISCJB ***20*** *09:12:17.4±0.9,36°.68S±0°.04×73°.2W±0°.1,h31km±4km, mb3.7/5,Error ellipse: s-maj=17.6km s-min=6.2km az=10.8*
GUC ***20*** *09:12:18.8±0.6,36°.70S×73°.05W,h30km±3km,ML3.7*
ISC 20 09:12:18.6±0.9,36.70S±0°.05×73.0W±0°.1,h28km±7km,n13, σ1§05/19,mb3.7/5,4C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.16**	**210**	⇑*iP*	**Pb**	**09 12 24.1**	**-0.1**
CCSP				*eS*	**Sb**	**09 12 27.7**	**-0.2**
CCSP				AML	AML	09 12 29.3	
	comp=E,33μm,0.4s						
COCH	**Cobquecura**	**0.60**	**17**	⇑*iP*	**Pb**	**09 12 30.1**	**-0.5**
COCH				*eS*	**Sb**	**09 12 38.6**	**0.0**
AGCH	**Angol**	**1.13**	**167**	⇓*iP*	**Pn**	**09 12 39.0**	**+0.3**
AGCH				*i* S	**Sb**	**09 12 53.9**	**0.0**
TALC	**Talca**	**1.71**	**41**	⇑*iP*	**Pn**	**09 12 47.6**	**+1.0**
TALC				*i* S	**Sb**	**09 13 10.7**	**+0.2**
NICH	**Los Niches**	**2.23**	**41**	⇑*iP*	**Pb**	**09 12 56.1**	**-2.1**
NICH				*eS*	**Sb**	**09 13 27.1**	**+1.8**
PLCA	**Paso Flores**	**4.46**	**155**	Pn	**Pn**	**09 13 25.9**	**+1.5**
	comp=E,0.2nm,0.3s,baz=307,slow=11,SNR=6.3						
PLCA				Lg	Lg	09 14 37.2	
	comp=E,1.5nm,0.3s,baz=96,slow=20,SNR=3.9						
CFAA	**Coronel Fontan**	**6.44**	**39**	Pn	**Pn**	**09 13 51.5**	**-0.2**
	comp=E,0.2nm,0.3s,baz=214,slow=13,SNR=16						
CFAA				Sn	**Sn**	**09 15 04.9**	**+0.6**
	comp=E,0.1nm,0.3s,baz=160,slow=10,SNR=2.0						
CFAA				Lg	Lg	09 15 42.5	
	comp=E,0.2nm,0.3s,baz=278,slow=13,SNR=2.8						
LPAZ	**La Paz**	**20.79**	**13**	P	**P**	**09 16 59.2**	**+0.9**
	comp=E,2.8nm,0.9s,baz=189,slow=8.1,SNR=9.2						
SIV	**San Ignacio**	**23.19**	**30**	P	**P**	**09 17 22.4**	**-1.0**
	comp=E,2.5nm,0.9s,baz=226,slow=9.9,SNR=5.6						
SNAA	**Sanae**	**49.40**	**157**	P	**P**	**09 21 06.3**	**+0.7**
	comp=E,0.5nm,0.9s,baz=289,slow=10,SNR=3.5						
QSPA	**South Pole Qui**	**53.54**	**180**	P	**P**	**09 21 35.1**	**-1.6**
	comp=E,1.1nm,0.8s,baz=135,slow=7.2,SNR=3.8						
TXAR	**Lajitas Array**	**71.72**	**332**	P	**P**	**09 23 38.4**	**+0.1**
	comp=E,0.9nm,0.7s,baz=149,slow=8.6,SNR=14						
PDAR	**Pinedale Array**	**85.82**	**334**	P	**P**	**09 24 55.6**	**+0.1**
	comp=E,0.4nm,0.8s,baz=119,slow=5.2,SNR=4.2						

IDC 20 09:15:50.7±2.8,53°.57N×87°.89E,h0km,mb1 2.9/2, mb1mx2.8/30,mbtmp2.9/2,ML2.6/2,Error ellipse: s-maj=23.3km s-min=15.7km az=64.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.86**	**283**	*i*		09 27 47.6	
	baz=98,slow=328,SNR=11						
ZALV	**Zalesovo Beam**	**1.86**	**283**	Pn	Pn	09 16 23.3	-0.5
	2.2nm,0.3s,baz=101,slow=15,SNR=12						
ZALV				Lg	Lg	09 16 50.4	
	4.0nm,0.3s,baz=105,slow=22,SNR=9.3						
ZALV				Rg	Rg	09 17 02.9	
	2.9nm,0.3s,baz=102,slow=31,SNR=5.3						
KURBB	**Kurchatov Arra**	**6.48**	**247**	Pn	Pn	09 17 28.0	+0.8
	0.1nm,0.3s,baz=61,slow=14,SNR=5.2						
KURBB				Sn	Sn	09 18 39.3	-2.5
	0.0nm,0.3s,baz=153,slow=15,SNR=1.7						
KURBB				Lg	Lg	09 19 16.0	
	0.1nm,0.3s,baz=64,slow=32,SNR=7.2						
MKAR	**Makanchi Array**	**7.67**	**210**	Pn	Pn	09 17 44.7	+1.0
	0.1nm,0.3s,baz=26,slow=14,SNR=5.7						
MKAR				Sn	Sn	09 19 12.1	+0.8
	0.1nm,0.3s,baz=22,slow=28,SNR=3.7						
MKAR				Lg	Lg	09 19 55.3	
	0.1nm,0.3s,baz=31,slow=34,SNR=5.8						

IDC 20 09:18:54.4±3.3,53°.55N×87°.83E,h0km,mb1 2.6/2, mb1mx2.6/41,mbtmp2.6/2,ML2.6/2,Error ellipse: s-maj=32.9km s-min=17.7km az=54.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.83**	**284**	*i*		09 30 54.4	
	baz=98,slow=327,SNR=8.1						
ZALV	**Zalesovo Beam**	**1.83**	**284**	Pn	Pn	09 19 27.3	+0.2
	1.1nm,0.3s,baz=100,slow=14,SNR=4.4						
ZALV				Lg	Lg	09 19 52.1	
	1.1nm,0.3s,baz=106,slow=28,SNR=3.6						
KURBB	**Kurchatov Arra**	**6.44**	**247**	Pn	Pn	09 20 31.0	+0.7
	0.1nm,0.3s,baz=62,slow=14,SNR=5.9						
MKAR	**Makanchi Array**	**7.64**	**210**	Pn	Pn	09 20 47.8	+1.0
	0.1nm,0.3s,baz=40,slow=16,SNR=4.3						

IDC 20 09:22:07.7±2.5,53°.94N×86°.46E,h0km,mb1 2.6/1, mb1mx2.6/29,mbtmp2.6/1,ML2.5/2,Error ellipse: s-maj=20.7km s-min=12.5km az=65.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**271**	*i*		09 29 20.0	
	baz=88,slow=324,SNR=1.7						
ZALV	**Zalesovo Beam**	**0.97**	**271**	Pg	Pg	09 22 26.1	-0.3
	0.6nm,0.3s,baz=90,slow=17,SNR=6.0						
ZALV				Lg	Lg	09 22 39.8	
	1.9nm,0.3s,baz=94,slow=30,SNR=11						
ZALV				Rg	Rg	09 22 49.5	
	8.6nm,1.0s,baz=89,slow=25,SNR=19						
KURBB	**Kurchatov Arra**	**5.89**	**239**	Pn	Pn	09 23 36.7	+0.6
	0.1nm,0.3s,baz=56,slow=13,SNR=4.0						
MKAR	**Makanchi Array**	**7.63**	**202**	Pn	Pn	09 24 01.3	+1.2
	0.1nm,0.3s,baz=19,slow=14,SNR=6.3						

ISCJB ***20*** *09:22:39.4±0.3,32°.67N±0°.02×115°.86W±0°.02,h10km±3km, Error ellipse: s-maj=4.0km s-min=3.3km az=13.8*
NEIC ***20*** *09:22:40.1,32°.67N×115°.86W,h4km,MD3.3(MEX), ML3.3(PAS),ML3.5(ECX),After PAS.*
ECX ***20*** *09:22:40.3±0.6,32°.66N×115°.87W,h2km,MD3.2,ML3.4*
MEX ***20*** *09:22:42.8±0.7,32°.38N×115°.81W,h20km±999km,MD3.3*
ISC 20 09:22:39.5±0.8,32°.64N±0°.02×115°.86W±0°.02,h11km±6km, n36,σ0§86/53,12C-5D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.05**	**276**	⇑*iP*	**Pg**	**09 22 41.6**	**-0.1**
SGL	**Mount Signal**	**0.12**	**86**	⇑*iP*	**Pg**	**09 22 42.4**	**-0.1**
WESC	**Westside Schoo**	**0.16**	**43**	⇑*eP*	**Pg**	**09 22 43.0**	**-0.1**
WESC				*eS*	**Sg**	**09 22 46.0**	**+0.3**
RMX	**La Rumorosa**	**0.19**	**258**	⇑*iP*	**Pg**	**09 22 44.0**	**+0.3**
RMX				*eS*	**Sg**	**09 22 47.0**	**+0.4**
RMX				⇓*e*		09 22 47.1	
RMX				IAML		09 22 47.1	
	comp=N,9μm,0.1s						
ERPC	**Ernies Place**	**0.20**	**59**	⇑*iP*	**Pg**	**09 22 44.0**	**+0.2**
COK	**Cook Ranch**	**0.24**	**29**	⇓*iP*	**Pg**	**09 22 44.4**	**0.0**
CRR	**Carrizo Plain**	**0.26**	**340**	⇓*iP*	**Pg**	**09 22 44.5**	**-0.4**
DREC	**Desert Rsrch C**	**0.39**	**65**	⇑*iP*	**Pg**	**09 22 47.7**	**+0.5**
CPBX	**Cerro Prieto**	**0.52**	**115**	*eP*	**Pg**	**09 22 50.1**	**+0.4**
CPBX				*i* S	**Sb**	**09 22 58.1**	**-0.2**
CPBX	**Cerro Prieto**	**0.52**	**115**	⇑*eP*	**Pg**	**09 22 50.1**	**+0.4**
CPBX				⇑*eP*	**Pg**	**09 22 50.1**	**+0.4**
CPBX				*eS*	**Sb**	**09 22 57.8**	**-0.5**
MBIG	**Mexicali**	**0.61**	**112**	*eP*	**Pg**	**09 22 51.8**	**+0.4**
BAR	**Barrett**	**0.69**	**273**	*ePg*	**Pg**	**09 22 52.6**	**-0.3**
BAR				*eSg*	**Sg**	**09 23 01.4**	**-0.4**
BAR	**Barrett**	**0.69**	**273**	⇑*iP*	**Pg**	**09 22 52.7**	**-0.1**
BAR				*eS*	**Sg**	**09 23 01.7**	**-0.1**
RDX	**Rancho Dawling**	**0.71**	**185**	⇓*eP*	**Pg**	**09 22 53.4**	**0.0**
RDX				*eS*	**Sg**	**09 23 03.5**	**+0.7**
RDX				IAML		09 23 07.6	
	comp=N,1μm,0.4s						
RDX				⇓*e*		09 23 07.6	
CBX	**Cerro Bola**	**0.75**	**244**	*iP*	**Pg**	**09 22 54.4**	**+0.2**
CBX	**Cerro Bola**	**0.75**	**244**	*iP*	**Pg**	**09 22 54.4**	**+0.2**
CBX	**Cerro Bola**	**0.75**	**244**	⇑*eP*	**Pg**	**09 22 54.4**	**+0.2**
CBX				*eS*	**Sg**	**09 23 04.6**	**+0.6**
CBX				IAML		09 23 05.5	
	comp=N,3μm,0.2s						
CBX				⇑*e*		09 23 05.5	
SDRC	**San Diego Road**	**0.92**	**276**	⇑*eP*	**Pg**	**09 22 56.5**	**-0.7**
SDRC				*eS*	**Sg**	**09 23 08.7**	**-0.5**
PFO	**Pinyon Flats O**	**1.08**	**333**	*ePg*	**Pb**	**09 22 59.3**	**-1.1**
PFO				*eSg*	**Sb**	**09 23 12.9**	**-1.8**
PBX	**Punta Banda**	**1.16**	**219**	*eP*	**Pb**	**09 23 01.3**	**-0.3**
PBX				*eS*	**Sb**	**09 23 16.7**	**+0.1**
ECNX	**Esteban Cantu**	**1.16**	**213**	*eP*	**Pb**	**09 23 01.4**	**-0.3**
ECNX				*eS*	**Sg**	**09 23 17.3**	**+0.2**
ZAX	**El Zacaton**	**1.18**	**197**	*eP*	**Pb**	**09 23 01.6**	**-0.4**
ZAX				*eS*	**Sb**	**09 23 17.7**	**+0.4**
ECBX	**El Chinero**	**1.35**	**149**	*eP*9	Pn	**09 23 02.1**	**-2.2**
ECBX				*eS*	**Sb**	**09 23 20.9**	**-1.3**
SPIG	**San Pedro Mart**	**1.63**	**168**	*eP*	**Pb**	**09 23 10.3**	**+0.5**
SPIG	**San Pedro Mart**	**1.63**	**168**	*eP*	**Pb**	**09 23 10.3**	**+0.5**
SPX	**San Pedro Mart**	**1.63**	**168**	*eP*	**Pb**	**09 23 10.3**	**+0.5**
SPX	**San Pedro Mart**	**1.63**	**168**	*eP*	**Pn**	**09 23 08.8**	**+0.4**
SPX				*eS*	**Sb**	**09 23 31.6**	**+1.1**
SPX				*e*		09 23 33.4	
SPX				IAML		09 23 33.4	
	comp=E,215nm,0.3s						
PASC	**Pasadena Art C**	**2.47**	**309**	*ePn*	**Pn**	**09 23 20.0**	**+0.3**
PASC				*eSn*	**Sb**	**09 23 53.4**	**-1.0**
214A	**Organ Pipe Nat**	**2.67**	**104**	*ePn*	**Pn**	**09 23 30.6**	**-1.9**
GSC	**Goldstone, Bar**	**2.77**	**344**	*ePn*	**Pn**	**09 23 26.2**	**+2.3**
ISA	**Isabella, Lake**	**3.71**	**325**	*ePn*	**Pn**	**09 23 38.4**	**+1.5**
SHPR	**Sheep Range**	**3.90**	**8**	*ePn*	**Pb**	**09 23 48.9**	**+0.6**
DAC	**Darwin (Calif)**	**3.90**	**339**	Pn	**Pn**	**09 23 41.7**	**+2.1**
TUC	**Tucson**	**4.30**	**93**	*ePn*	**Pn**	**09 23 44.0**	**-1.1**
WUAZ	**Wupatki**	**4.70**	**51**	*ePn*	**Pn**	**09 23 51.0**	**+0.5**
121A	**Cookes Peak, D**	**6.82**	**89**	*ePn*	**Pn**	**09 24 19.1**	**-0.5**
	comp=E,7.0nm,0.6s						

ISCJB ***20*** *09:26:24.7±0.3,32°.68N±0°.02×115°.83W±0°.02,h13km±2km, mb3.9/2,MS3.8/1,Error ellipse: s-maj=2.9km s-min=2.5km az=155.9*
IDC ***20*** *09:26:25.7±2.2,32°.69N×115°.76W,h0km,mb3.6/1, mb1 4.0/6,mb1mx3.7/28,mbtmp3.6/6,ML3.5/5,MS3.6/4, Ms1 3.6/4,ms1mx3.3/44,Error ellipse: s-maj=33.6km s-min=12.9km az=38.0*
NEIC ***20*** *09:26:26.0,32°.67N×115°.86W,h4km,mb4.1/2, ML4.4(PAS),ML4.5(ECX),After PAS.*
NEIC Felt [IV] at El Centro and [II] at Alpine, Coronado, El Cajon, Lakeside, Poway, San Diego, Santee and Spring Valley. Felt in much of Imperial and San Diego Counties and in parts of Los Angeles, Orange and Riverside Counties. Felt [III] at Mexicali, Baja California. Also felt at El Sauzal and Tijuana.
MEX ***20*** *09:26:26.9±0.5,32°.75N×115°.88W,h18km±583km,MD3.3*
ECX ***20*** *09:26:26.3±0.6,32°.67N×115°.87W,h2km,MD4.3,ML4.5*
ISC 20 09:26:25.5±0.8,32°.66N±0°.02×115°.87W±0°.02,h12km±6km, n102,σ1§08/115,12C-1D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESC	**Westside Schoo**	**0.15**	**51**	⇑*iP*	**Pg**	**09 26 28.9**	**-0.2**
WESC				*eS*	**Sg**	**09 26 31.9**	**+0.2**
RMX	**La Rumorosa**	**0.18**	**251**	⇑*iP*	**Pg**	**09 26 29.9**	**+0.3**
RMX				*eS*	**Sg**	**09 26 32.5**	**-0.1**
IBP	**Imperial Bould**	**0.18**	**270**	P	**Pg**	**09 26 29.6**	**0.0**
	baz=0.2						
COK	**Cook Ranch**	**0.22**	**33**	⇑*iP*	**Pg**	**09 26 30.3**	**0.0**
SWSC	**Sam W. Stewart**	**0.29**	**13**	P	**Pg**	**09 26 30.9**	**-0.5**
	baz=0.3						
SWSC				S	**Sg**	**09 26 35.0**	**-0.3**
	baz=0.3						
DREC	**Desert Rsrch C**	**0.39**	**68**	⇑*iP*	**Pg**	**09 26 33.6**	**+0.4**
CPBX	**Cerro Prieto**	**0.54**	**117**	*eP*	**Pg**	**09 26 34.7**	**-1.3**
CPBX	**Cerro Prieto**	**0.54**	**117**	⇑*eP*	**Pg**	**09 26 36.0**	**0.0**
CPBX				⇑*eP*	**Pg**	**09 26 36.1**	**0.0**
CPBX				*eS*	**Sg**	**09 26 43.6**	**+0.5**
CLIC	**Calipatria**	**0.56**	**31**	⇑*iP*	**Pg**	**09 26 36.6**	**+0.1**
MBIG	**Mexicali**	**0.62**	**114**	*eP*	**Pg**	**09 26 37.7**	**+0.1**
COA	**Coachella**	**0.66**	**72**	⇑*iP*	**Pg**	**09 26 38.0**	**-0.4**
BAR	**Barrett**	**0.67**	**272**	*ePg*	**Pg**	**09 26 38.5**	**0.0**
BAR				*eSg*	**Sg**	**09 26 47.3**	**-0.2**
BAR	**Barrett**	**0.67**	**272**	⇑*iP*	**Pg**	**09 26 38.6**	**0.0**
RDX	**Rancho Dawling**	**0.73**	**185**	⇓*eP*	**Pg**	**09 26 39.3**	**-0.5**
RDX				*eS*	**Sg**	**09 26 49.6**	**+0.3**
CBX	**Cerro Bola**	**0.75**	**243**	*eP*	**Pg**	**09 26 39.6**	**-0.5**
CBX				*eS*	**Sg**	**09 26 49.0**	**-1.0**
CBX	**Cerro Bola**	**0.75**	**243**	*eP*	**Pg**	**09 26 39.6**	**-0.5**
CBX				*eS*	**Sg**	**09 26 49.0**	**-1.0**
CBX	**Cerro Bola**	**0.75**	**243**	⇑*iP*	**Pg**	**09 26 40.3**	**+0.2**
CBX				*eS*	**Sg**	**09 26 50.5**	**+0.5**
CBX				IAML		09 26 53.9	
	comp=E,32μm,0.6s						
EMSC	**East Mesa**	**0.75**	**84**	⇑*eP*	**Pg**	**09 26 39.5**	**-0.5**
SDRC	**San Diego Road**	**0.90**	**275**	⇑*iP*	**Pg**	**09 26 42.4**	**-0.5**
BC3	**Big Chuckawall**	**1.05**	**19**	P	**Pb**	**09 26 43.8**	**-1.9**
	baz=1.1						
109C	**Camp Elliot, M**	**1.06**	**283**	P	**Pb**	**09 26 44.9**	**-0.9**
	baz=1.1						
109C				S	**Sb**	**09 26 58.7**	**-0.9**
	baz=1.1						
PFO	**Pinyon Flats O**	**1.06**	**333**	Pg	**Pb**	**09 26 44.3**	**-1.6**
	comp=E,397nm,0.3s,baz=149,slow=16,SNR=712						
PFO				Lg	Lg	09 26 58.5	
	comp=E,980nm,0.3s,baz=262,slow=9.1,SNR=51						
PFO	**Pinyon Flats O**	**1.06**	**333**	P	**Pb**	**09 26 44.3**	**-1.6**
	baz=1.1						
PBX	**Punta Banda**	**1.17**	**218**	*eP*	**Pb**	**09 26 47.3**	**-0.3**
PBX				*eS*	**Sg**	**09 27 03.0**	**-0.1**
ECNX	**Esteban Cantu**	**1.18**	**212**	*eP*	**Pb**	**09 26 47.3**	**-0.5**
ECNX				*eS*	**Sb**	**09 27 03.3**	**+0.3**
ZAX	**El Zacaton**	**1.19**	**197**	*eP*	**Pn**	**09 26 47.6**	**-0.5**
ZAX				*eS*	**Sg**	**09 27 04.0**	**0.0**
BELC	**Belle Mtn. Jos**	**1.34**	**356**	P	**Pn**	**09 26 48.2**	**-1.9**
	baz=1.4						
ECBX	**El Chinero**	**1.38**	**149**	*eP*9	Pn	09 26 46.8	-3.7
ECBX				*eS*	**Sn**	**09 27 05.8**	**-2.8**
MURC	**Murrieta**	**1.45**	**310**	P	**Pn**	**09 26 50.4**	**-1.3**
	baz=1.5						
MURC				S	**Sn**	**09 27 10.8**	**+0.1**
	baz=1.5						
Y12C	**Blythe**	**1.57**	**46**	P	**Pn**	**09 26 51.3**	**-1.9**
	baz=1.6						
IRM	**Iron Mountain**	**1.61**	**22**	Pb	**Pn**	**09 26 53.4**	**-0.4**
	baz=1.6						
SPIG	**San Pedro Mart**	**1.65**	**168**	*eP*	**Pn**	**09 26 53.3**	**-1.3**
SPIG	**San Pedro Mart**	**1.65**	**168**	*eP*	**Pn**	**09 26 53.3**	**-1.3**
SPX	**San Pedro Mart**	**1.65**	**168**	*eP*	**Pn**	**09 26 54.0**	**-0.6**
SPX	**San Pedro Mart**	**1.65**	**168**	*eP*2	**Pn**	**09 26 54.5**	**0.0**
SPX				*eS*	**Sb**	**09 27 18.0**	**+1.1**
113A	**Mohawk Valley,**	**1.78**	**86**	P	**Pn**	**09 26 54.3**	**-1.8**
	baz=1.8						
BBRC	**Big Bear Solar**	**1.82**	**332**	P	**Pn**	**09 26 56.0**	**-0.8**
	baz=1.9						
BBRC				Sb	**Sb**	**09 27 22.6**	**+0.9**
	baz=1.9						
GMRC	**Granite Mounta**	**2.12**	**5**	P	**Pn**	**09 26 59.4**	**-1.5**
	baz=2.2						
BFSC	**Mount Baldy Ra**	**2.17**	**317**	P	**Pn**	**09 27 00.8**	**-0.7**
	baz=2.2						
BFSC				Sb	**Sb**	**09 27 31.8**	**+0.2**
	baz=2.2						
PDMCI	**Parker Dam,Lak**	**2.18**	**41**	P	**Pn**	**09 27 00.4**	**-1.3**
	baz=2.2						
CIS	**Catalina Islan**	**2.25**	**290**	P	**Pn**	**09 27 03.2**	**+0.6**
	baz=2.3						
CIS				Sb	**Sb**	**09 27 34.6**	**+0.7**
	baz=2.3						
SCI	**San Clemente I**	**2.27**	**279**	P	**Pn**	**09 27 03.3**	**+0.4**
	baz=2.3						
FMP	**Fort Macarthur**	**2.28**	**298**	Pb	**Pb**	**09 27 05.5**	**-1.1**
	baz=2.3						
PASC	**Pasadena Art C**	**2.45**	**309**	*ePn*	**Pb**	**09 27 07.7**	**-1.8**
Z14A	**Wintersburg**	**2.56**	**73**	P	**Pn**	**09 27 05.1**	**-1.6**
	baz=2.6						
214A	**Organ Pipe Nat**	**2.69**	**104**	*ePn*	**Pn**	**09 27 08.6**	**0.0**
214A	**Organ Pipe Nat**	**2.69**	**104**	P	**Pn**	**09 27 06.3**	**-2.3**
	baz=2.7						
Y14A	**Wickenburg**	**2.72**	**61**	P	**Pn**	**09 27 07.7**	**-1.4**
	baz=2.7						
GSC	**Goldstone, Bar**	**2.75**	**344**	*ePn*	**Pn**	**09 27 08.5**	**-1.0**
EDW2	**Edwards Air Fo**	**2.83**	**322**	P	**Pn**	**09 27 09.7**	**-0.8**
	baz=2.9						
W13A	**Hualapai Mount**	**2.94**	**34**	P	**Pn**	**09 27 11.2**	**-1.0**
	baz=3.0						
MPMC	**Manual Prospec**	**3.64**	**339**	P	**Pn**	**09 27 20.9**	**-1.0**
	baz=3.7						
DAC	**Darwin (Calif)**	**3.88**	**339**	*ePn*	**Pn**	**09 27 24.4**	**-0.7**
SHPR	**Sheep Range**	**3.88**	**9**	*ePn*	**Pn**	**09 27 24.7**	**-0.4**
X16A	**Lo Mia Camp, P**	**4.09**	**63**	P	**Pn**	**09 27 27.3**	**-0.8**
	baz=4.1						
TUC	**Tucson**	**4.32**	**93**	*ePn*	**Pn**	**09 27 29.2**	**-1.8**
GRAC	**Grapevine Rang**	**4.50**	**345**	P	**Pn**	**09 27 33.5**	**0.0**
	baz=4.5						
WUAZ	**Wupatki**	**4.70**	**51**	*ePn*	**Pn**	**09 27 36.8**	**+0.4**
WUAZ	**Wupatki**	**4.70**	**51**	P	**Pn**	**09 27 36.5**	**+0.2**
	baz=4.7						
U15A	**North Rim**	**4.78**	**37**	P	**Pn**	**09 27 37.8**	**+0.2**
	baz=4.8						
X18A	**Snowflake**	**5.28**	**68**	P	**Pn**	**09 27 44.3**	**-0.1**
	baz=5.3						
W18A	**Petrified Fore**	**5.66**	**63**	*ePn*	**Pn**	**09 27 50.4**	**+0.8**
W18A	**Petrified Fore**	**5.66**	**63**	P	**Pn**	**09 27 50.6**	**+0.9**
	baz=5.7						
R11A	**Troy Canyon, C**	**5.68**	**2**	*ePn*	**Pn**	**09 27 49.7**	**-0.2**
R11A	**Troy Canyon, C**	**5.68**	**2**	P	**Pn**	**09 27 50.1**	**+0.2**
	baz=5.7						
319A	**Douglas**	**5.74**	**101**	P	**Pn**	**09 27 49.9**	**-0.8**
	baz=5.7						
NVAR	**Mina Array Bea**	**6.09**	**342**	Pn	**Pn**	**09 27 56.0**	**+0.5**
	comp=E,0.2nm,0.3s,baz=163,slow=15,SNR=4.5						
MVU	**Marysvale**	**6.55**	**26**	*ePn*	**Pn**	**09 28 02.3**	**+0.5**
121A	**Cookes Peak, D**	**6.83**	**89**	*ePn*	**Pn**	**09 28 04.9**	**-0.7**
121A	**Cookes Peak, D**	**6.83**	**89**	P	**Pn**	**09 28 05.0**	**-0.7**
	baz=6.8						
LAZ	**Ladron**	**7.50**	**74**	*ePn*	**Pn**	**09 28 15.3**	**+0.5**
MVCO	**Mesa Verde**	**7.57**	**51**	*ePn*	**Pn**	**09 28 18.1**	**+2.3**
MVCO	**Mesa Verde**	**7.57**	**51**	P	**Pn**	**09 28 18.2**	**+2.3**
	baz=7.6						
LENM	**Lemitar**	**7.59**	**76**	*ePn*	**Pn**	**09 28 16.2**	**+0.1**
Y22D	**IRIS PASSCAL I**	**7.62**	**77**	P	**Pn**	**09 28 17.1**	**+0.6**
	baz=7.6						
SRU	**San Rafael Swe**	**7.76**	**32**	Pn	**Pn**	**09 28 21.1**	**+2.6**
LPM	**Los Pinos Moun**	**7.89**	**75**	*ePn*	**Pn**	**09 28 20.2**	**-0.1**
PV04	**Paradox Valley**	**8.06**	**43**	*ePn*	**Pn**	**09 28 24.9**	**+2.4**
PV01	**Paradox Valley**	**8.08**	**45**	*ePn*	**Pn**	**09 28 24.4**	**+1.5**
ELK	**Elko**	**8.08**	**3**	Pn	Pn	09 28 29.4	+6.5
	comp=E,0.2nm,0.3s,baz=171,slow=14,SNR=3.7						
ELK				Lg	Lg	09 30 39.0	
	comp=E,0.3nm,0.3s,baz=315,slow=9.9,SNR=3.1						
ANMO	**Albuquerque**	**8.16**	**71**	Pn	**Pn**	**09 28 25.2**	**+1.2**
	comp=E,0.3nm,0.3s,baz=256,slow=12,SNR=25						
ANMO				Lg	Lg	09 30 43.4	
	comp=E,0.2nm,0.3s,baz=164,slow=20,SNR=2.0						
BGU	**Big Grassy Mou**	**8.56**	**15**	*ePn*	**Pn**	**09 28 28.7**	**-0.6**
MNTX	**Cornudas Mount**	**8.94**	**93**	*ePn*	**Pn**	**09 28 34.3**	**-0.3**
MNTX	**Cornudas Mount**	**8.94**	**93**	P	**Pn**	**09 28 34.5**	**-0.1**
	baz=8.9						
S22A	**4UR Ranch, Cre**	**8.97**	**53**	P	**Pn**	**09 28 36.8**	**+1.7**
	baz=9.0						
HWUT	**Hardware Ranch**	**9.57**	**20**	*ePn*	**Pn**	**09 28 43.5**	**+0.3**
SMCO	**Snowmass**	**9.71**	**45**	*ePn*	**Pn**	**09 28 47.5**	**+2.1**
LPIG	**La Paz**	**9.83**	**149**	LR	LR	09 32 29.1	
	comp=E,250nm,19.3s,baz=34,slow=37						
R23A	**Moffat**	**9.88**	**53**	P	**Pn**	**09 28 49.6**	**+2.0**
	baz=9.9						
SDCO	**Great Sand Dun**	**9.88**	**56**	*ePn*	**Pn**	**09 28 47.8**	**+0.2**
SDCO	**Great Sand Dun**	**9.88**	**56**	P	**Pn**	**09 28 48.8**	**+1.1**
	baz=9.9						
YBH	**Yreka Blue Hor**	**10.56**	**331**	LR	LR	09 32 36.6	
	comp=E,441nm,18.5s,baz=168,slow=35						
TXAR	**Lajitas Array**	**10.99**	**104**	Pn	**Pn**	**09 29 04.0**	**+1.5**
	comp=E,0.3nm,0.3s,baz=290,slow=13,SNR=20						
TXAR				Lg	Lg	09 32 10.2	
	comp=E,0.1nm,0.3s,baz=273,slow=26,SNR=3.4						
TXAR				LR	LR	09 33 14.4	
	comp=E,204nm,20.6s,baz=0.0,slow=38						
MSTX	**Muleshoe**	**11.04**	**80**	*ePn*	**Pn**	**09 29 04.7**	**+1.4**
PDAR	**Pinedale Array**	**11.25**	**25**	Pn	Pn	09 29 11.0	+4.7
	comp=E,0.0nm,0.3s,baz=222,slow=16,SNR=10						
PDAR				Lg	Lg	09 32 30.

	86nm,0.6s							
TKM2				⇓Lg		Lg	09 32 38.6	
	227nm,0.9s							
TKM2	**Tokmak 2**	**3.16**	**342**	*e*PN		**Pn**	**09 31 54.9**	**+2.1**
TKM2	**Tokmak 2**	**3.16**	**342**	⇑*i*P		**Pn**	**09 31 54.9**	**+2.1**
	baz=335							
TKM2				⇑*i*S		**Sb**	**09 32 38.8**	**+0.9**
	baz=335							
AAK	**Ala-Archa**	**3.27**	**327**	P		**Pn**	**09 31 56.6**	**+2.3**
	SNR=24							
AAK	**Ala-Archa**	**3.27**	**327**	⇑Pn		**Pn**	**09 31 56.0**	**+1.8**
	92nm,0.6s							
AAK				⇑Lg		Lg	09 32 42.8	
	415nm,1.1s							
AAK	**Ala-Archa**	**3.27**	**327**	Pn		**Pn**	**09 31 56.3**	**+2.1**
	6.8nm,0.3s,baz=142,slow=8.1,SNR=40							
AAK				Pg		**Pb**	**09 32 01.0**	**-0.1**
	12nm,0.3s,baz=155,slow=16,SNR=76							
AAK				Lg		Lg	09 32 42.9	
	30nm,0.3s,baz=292,slow=16,SNR=15							
AAK	**Ala-Archa**	**3.27**	**327**	⇑*i*P		**Pn**	**09 31 56.1**	**+1.8**
	baz=320							
AAK				⇑*i*S		**Sb**	**09 32 40.0**	**-1.0**
	baz=320							
AML	**Almayashu**	**3.29**	**313**	P		**Pn**	**09 31 56.9**	**+2.1**
	SNR=334							
AML	**Almayashu**	**3.29**	**313**	⇓*i*P		**Pn**	**09 31 56.7**	**+1.9**
	baz=307							
AML				⇓*i*S		**Sn**	**09 32 39.1**	**+4.9**
	baz=307							
KNDC	**Almaty**	**3.30**	**1**	⇓Pg		**Pb**	**09 32 00.3**	**-1.1**
KNDC				⇑Lg		Lg	09 32 44.5	
AAA	**Alma-Ata**	**3.35**	**0**	*e*PN		**Pb**	**09 32 01.3**	**-1.0**
AAA				*e*S		**Sb**	**09 32 44.1**	**+0.9**
AAA				pmax		pmax		
	comp=Z,189nm,0.4s							
AAA				smax		smax		
	comp=E,846nm,0.6s							
FRU	**Bishkek**	**3.39**	**330**	*e*PN		**Pn**	**09 31 57.0**	**+1.2**
FRU				*e*S		**Sn**	**09 32 37.0**	**+0.9**
FRU				pmax		pmax		
	comp=Z,350nm,1.6s							
FRU				pmax		pmax		
	comp=E,780nm,1.8s							
CHMS	**Chumysh**	**3.49**	**333**	P		**Pn**	**09 31 59.2**	**+2.1**
	SNR=32							
CHMS	**Chumysh**	**3.49**	**333**	⇑*i*P		**Pn**	**09 31 59.2**	**+2.1**
	baz=326							
CHMS				⇑*i*S		**Sb**	**09 32 47.2**	**+0.2**
	baz=326							
EKS2	**Erkin-Say**	**3.62**	**320**	P		**Pn**	**09 32 01.4**	**+2.4**
	SNR=95							
EKS2	**Erkin-Say**	**3.62**	**320**	⇑*i*P		**Pn**	**09 32 01.7**	**+2.6**
	baz=314							
EKS2				⇑*i*S		**Sb**	**09 32 53.8**	**+2.7**
	baz=314							
USP	**Ospenovka**	**3.81**	**332**	P		**Pn**	**09 32 03.7**	**+2.2**
	SNR=8.4							
PDGK	**Podgornoye**	**3.92**	**29**	⇑Pn		**Pn**	**09 32 03.9**	**+1.0**
	comp=E,7.9nm,0.7s							
PDGK				⇑Pg		**Pb**	**09 32 11.6**	**-0.2**
	comp=E,90nm,1.2s							
PDGK				⇓Lg		Lg	09 33 02.2	
	comp=E,323nm,0.7s							
MNAS	**Manas**	**4.21**	**309**	⇓Pn		**Pn**	**09 32 07.9**	**+0.9**
	comp=E,28nm,0.6s							
MNAS				⇑Lg		Lg	09 33 12.9	
	comp=E,119nm,1.2s							
KK31	**Karatay Array**	**5.77**	**306**	⇓Pn		**Pn**	**09 32 27.3**	**-1.1**
	comp=E,0.6nm,0.4s,baz=132,slow=13,SNR=7.9							
KK31				⇑Pg		**Pb**	**09 32 44.8**	**+1.3**
	comp=E,11nm,0.7s,baz=131,slow=14,SNR=14							
KK31				⇑Lg		Lg	09 34 03.0	
	comp=E,19nm,0.6s,baz=116,slow=24,SNR=6.1							
DZET	**Dzherino**	**6.37**	**263**	⇑Pn		**Pn**	**09 32 35.9**	**-0.9**
	comp=E,21nm,0.4s							
DZET				⇓Sn		**Sn**	**09 33 48.5**	**-1.0**
	comp=E,26nm,0.4s							
DZET				⇑Lg		Lg	09 34 20.8	
	comp=E,105nm,0.8s							
CHCP	**Chirah Chowk**	**6.90**	**206**	P		**Pn**	**09 32 46.4**	**+2.5**
CEP	**Cherat**	**7.28**	**215**	P		**Pn**	**09 32 50.7**	**+1.4**
CEP				S		**Sn**	**09 34 11.0**	**-1.2**
MK31	**Makanchi Array**	**7.91**	**28**	Pn		**Pn**	**09 32 59.1**	**+1.3**
	comp=E,0.7nm,0.5s,baz=219,slow=16,SNR=5.2							
MK31				⇑Pg		**Pb**	**09 33 23.0**	**+3.1**
	comp=E,2.9nm,0.7s,baz=227,slow=14,SNR=4.0							
MK31				⇓Lg		Lg	09 35 10.0	
	comp=E,10.0nm,0.8s,baz=218,slow=30,SNR=4.9							
MKAR	**Makanchi Array**	**7.91**	**28**	Pn		**Pn**	**09 32 58.0**	**+0.2**
	comp=E,0.2nm,0.3s,baz=226,slow=18,SNR=5.5							
MKAR				Pg		Pb	09 33 16.3	-3.6
	comp=E,0.2nm,0.3s,baz=225,slow=14,SNR=5.2							
MKAR				Sn		**Sn**	**09 34 25.8**	**-1.5**
	comp=E,0.3nm,0.3s,baz=219,slow=17,SNR=2.4							
MKAR				Lg		Lg	09 35 07.1	
	comp=E,0.7nm,0.3s,baz=256,slow=25,SNR=4.4							
THW	**Thamme Wali**	**8.24**	**212**	P		**Pn**	**09 33 04.3**	**+1.9**
WMQ	**Urumqi**	**8.94**	**61**	*e*P		**Pn**	**09 33 09.8**	**-2.1**
WMQ				sP			09 33 17.6	
KURBB	**Kurchatov Arra**	**10.77**	**6**	⇑Lg		Lg	09 36 41.7	
	comp=E,55nm,0.8s							
KURBB	**Kurchatov Arra**	**10.77**	**6**	Pn		**Pn**	**09 33 36.9**	**0.0**
	comp=E,0.1nm,0.3s,baz=191,slow=11,SNR=5.5							
KURBB				Lg		Lg	09 36 35.5	
	comp=E,0.1nm,0.3s,baz=192,slow=29,SNR=8.9							
KURK	**Kurchatov**	**10.87**	**6**	⇓Lg		Lg	09 36 41.4	
	comp=E,22nm,1.0s							
KURK	**Kurchatov**	**10.87**	**6**	P		**Pn**	**09 33 36.9**	**-1.3**
KOLN	**Koldanda**	**13.32**	**153**	*e*P		Pn	09 34 08.8	-3.2
GKN	**Gorkha**	**13.49**	**149**	*e*P		Pn	09 34 10.3	-4.0
BVA0	**Borovoye Array**	**13.86**	**343**	⇑P		Pn	09 34 15.4	-3.7
	comp=E,5.7nm,1.1s,baz=159,slow=13,SNR=12							
BVA0				⇑Lg		Lg	09 38 18.3	
	comp=E,20nm,1.3s,baz=163,slow=30,SNR=6.8							
BVAR	**Borovoye Array**	**13.86**	**343**	Pn		**Pn**	**09 34 17.1**	**-1.9**
	comp=E,0.1nm,0.3s,baz=154,slow=15,SNR=5.6							
BVAR				Lg		Lg	09 38 13.2	
	comp=E,0.1nm,0.3s,baz=167,slow=27,SNR=3.9							
BRVK	**Borovoye**	**13.91**	**343**	⇑P		**Pn**	**09 34 18.5**	**-1.3**
	comp=E,17nm,1.0s							
BRVK				⇓Lg		Lg	09 38 19.6	
	comp=E,41nm,1.2s							
BRVK	**Borovoye**	**13.91**	**343**	⇑*e*P		**Pn**	**09 34 19.1**	**-0.7**
BRVK				pmax		pmax		
	comp=Z,9.0nm,1.8s							
PKIN	**Phulchoki**	**14.17**	**148**	*e*P		Pn	09 34 19.9	-3.9
PKI	**Pulchoki**	**14.18**	**148**	*e*P		Pn	09 34 19.8	-4.2
JIRN	**Jiri**	**14.44**	**145**	*e*P		Pn	09 34 23.6	-3.9
	comp=Z,12nm,0.3s							
ZALV	**Zalesovo Beam**	**15.03**	**18**	Pn		**Pn**	**09 34 34.5**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=185,slow=14,SNR=3.9							
ZALV				Lg		Lg	09 38 58.7	
	baz=190,slow=23,SNR=2.4							
ZALV	**Zalesovo Beam**	**15.03**	**18**	*e*P		**P**	**09 34 38.6**	**-1.8**
AB31	**Akbulak array**	**15.25**	**313**	⇓Pn		**Pn**	**09 34 35.0**	**-3.0**
	comp=Z,1.8nm,0.7s,baz=86,slow=2.5,SNR=23							
TAPN	**Taplejung**	**15.40**	**141**	*e*P		**Pn**	**09 34 37.9**	**-2.5**
AKTO	**Aktyubinsk**	**16.93**	**315**	⇑Pn		**Pn**	**09 34 57.1**	**-2.5**
	comp=Z,6.6nm,1.1s							
AKTO	**Aktyubinsk**	**16.93**	**315**	Pn		**Pn**	**09 34 57.3**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=119,slow=14,SNR=7.4							
GTA	**Gaotai**	**17.63**	**84**	*e*P		**P**	**09 35 13.8**	**+4.2**
GTA				pP		**pP**	**09 35 17.3**	**+4.9**
GTA				sP		sP	09 35 19.9	+6.2
GTA				PMZ				
	comp=Z,5.0nm,1.1s							
ARU	**Arti**	**20.46**	**330**	*c i*P		Pn	09 35 42.6	+0.3
ARU							09 35 56.7	
ARU				SS		Sn	09 39 52.2	+19
ARU				pmax		pmax		
	comp=Z,4.0nm,1.0s							
ZAK	**Zakamensk**	**21.23**	**52**	*e*P		**P**	**09 35 48.1**	**-0.6**
SONM	**Songino Array**	**22.57**	**60**	P		**P**	**09 36 02.6**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=243,slow=13,SNR=4.5							
SONM				LR		LR	09 45 31.2	
	comp=Z,1μm,18.9s,baz=292,slow=38							
GNI	**Garni**	**24.57**	**281**	⇑*i*P		P	09 36 17.7	-5.3
GNI				pmax		pmax		
	comp=Z,12nm,1.6s							
QIZ	**Qiongzhong**	**35.13**	**117**	P		**P**	**09 37 58.0**	**+1.5**
QIZ				S		**S**	**09 43 34.0**	**+4.6**
FINES	**FINESS Array B**	**37.45**	**322**	P		**P**	**09 38 14.2**	**-1.7**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.7s							

ARCES	**ARCESS Array B**	**39.92**	**335**	P		P	09 38 34.3	-2.2
	comp=Z,0.9nm,0.7s,baz=92,slow=7.3,SNR=5.3							
ARCES	**ARCESS Array B**	**39.92**	**335**	P		P	09 38 34.3	-2.2
ARCES				pmax		pmax		
	comp=Z,1.0nm,0.7s							
VYHS	**Vyhne**	**41.61**	**302**	*e*P		**P**	**09 38 50.1**	**-0.7**
VYHS	**Vyhne**	**41.61**	**302**	*e*P		**P**	**09 38 50.1**	**-0.7**
NOA	**NORSAR Array B**	**44.58**	**321**	P		P	09 39 12.3	-2.3
	comp=Z,0.8nm,0.8s,baz=87,slow=7.9,SNR=2.7							
NOA	**NORSAR Array B**	**44.58**	**321**	P		P	09 39 12.3	-2.3
NOA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
CLL	**Collm**	**44.78**	**307**	*e*P		P	09 39 11.0	-5.4
CLL				LmV			10 13 00.0	
	comp=Z,400nm,20.7s							
CLL	**Collm**	**44.78**	**307**	*e*P		P	09 39 11.0	-5.4
CLL				MLR		MLR		
	comp=Z,400nm,20.7s							
ILAR	**Eielson Array**	**70.15**	**18**	LR		LR	10 15 34.5	
	comp=Z,247nm,19.1s,baz=324,slow=38							
TORD	**Torodi Ar. Bea**	**70.40**	**271**	P		P	09 42 14.4	-2.9
	comp=Z,2.0nm,0.6s,baz=48,slow=5.4,SNR=23							
YKA	**Yellowknife Ar**	**77.52**	**5**	P		**P**	**09 42 56.0**	**-2.2**
	comp=Z,0.6nm,0.7s,baz=346,slow=6.2,SNR=4.2							
YKA	**Yellowknife Ar**	**77.52**	**5**	P		**P**	**09 42 56.0**	**-2.2**
YKA				pmax		pmax		
	comp=Z,1.0nm,0.7s							
ASAR	**Alice Springs**	**82.58**	**129**	P		P	09 43 23.1	-3.0
	comp=Z,0.3nm,0.7s,baz=316,slow=5.2,SNR=2.9							

*IDC **20** 09:34:42.8±0.6, 55.°53S×26.°52W, h0km, mb4.5/10, mb1 4.5/11, mb1mx4.3/30, mbtmp4.4/11, ML3.3/1, MS4.2/4, Ms1 4.2/4, ms1mx3.7/20, Error ellipse: s-maj=21.8km s-min=17.0km az=46.0*

*NEIC **20** 09:34:44.2±0.2, 55.°54S×26.°56W, h10km, mb4.7/5, Error ellipse: s-maj=7.9km s-min=5.9km az=224.0*

*ISCJB **20** 09:34:46.7±0.5, 55.°50S±0.°07×26.°7W±0.°2, h38km, mb4.6/15, MS4.3/3, Error ellipse: s-maj=14.2km s-min=8.3km az=144.7*

*AWI **20** 09:35:19.0, 59.°34S×31.°40W*

ISC 20 09:34:48.3±0.5, 55.°6S±0.°1×26.°7W±0.°1, h38km, n43, σ0s78/38, mb4.6/14, MS4.3/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
HOPE	**Hope Point**	**5.80**	**279**	*e*Pn		**Pn**	**09 36 10.3**		**-1.4**
	92nm,0.6s								
VNA1	**Neumayer--Stat**	**17.15**	**159**	P		**P**	**09 38 47.9**		**+1.9**
VNA3	**Neumayer Olymp**	**17.37**	**162**	P		**P**	**09 38 48.2**		**-0.2**
VNA2	**Neumayer--Watz**	**17.55**	**159**	P		**P**	**09 38 51.0**		**+0.7**
	baz=314,slow=15								
SNAA	**Sanae**	**19.08**	**157**	P		**P**	**09 39 05.0**		**-2.3**
SNAA	**Sanae**	**19.08**	**157**	P		**P**	**09 39 06.4**		**-0.9**
	0.1nm,0.3s,baz=303,slow=12,SNR=21								
SNAA				LR		LR	09 44 57.4		
	comp=Z,216nm,19.4s,baz=330,slow=32								
PMSA	**Palmer Station**	**20.45**	**228**	P		**P**	**09 39 22.4**		**+0.3**
	39nm,0.7s,baz=6.3,slow=19,SNR=10								
PMSA				LR		LR	09 46 10.9		
	comp=Z,526nm,18.6s,baz=58,slow=34								
TRQA	**Tornquist**	**29.40**	**292**	*e*P		**P**	**09 40 48.3**		**+0.5**
	20nm,1.2s								
QSPA	**South Pole Qui**	**34.70**	**180**	*e*P		**P**	**09 41 33.9**		**-0.3**
	10nm,0.6s								
CFAA	**Coronel Fontan**	**37.64**	**292**	P		**P**	**09 41 58.8**		**-0.7**
	1.8nm,0.9s,baz=148,slow=8.6,SNR=24								
BDFB	**Brasilia**	**43.08**	**329**	LR		LR	09 59 32.7		
	comp=Z,402nm,19.1s,baz=126,slow=35								
LVC	**Limon Verde**	**45.31**	**299**	P		**P**	**09 43 04.0**		**+1.4**
	80nm,0.7s,baz=129,slow=2.1,SNR=29								
BOSA	**Boshof**	**46.56**	**76**	P		**P**	**09 43 03.4**		**-1.0**
	3.9nm,0.7s,baz=210,slow=7.8,SNR=7.3								
VNDA	**Vanda**	**47.09**	**183**	P		**P**	**09 43 15.9**		**+0.3**
	8.5nm,0.6s,baz=189,slow=5.3,SNR=37								
H10S2	**ASCENSION HYDR**	**47.44**	**16**	T		T	10 34 19.1		
	baz=189,slow=75,SNR=7.4								
H10S3	**ASCENSION HYDR**	**47.44**	**16**	T		T	10 34 19.3		
	baz=189,slow=75,SNR=7.3								
SIV	**San Ignacio**	**47.45**	**312**	P		**P**	**09 43 19.1**		**-0.1**
	1.9nm,0.7s,baz=176,slow=7.6,SNR=5.3								
H10S1	**ASCENSION HYDR**	**47.45**	**16**	T		T	10 34 20.4		
	baz=189,slow=75,SNR=7.1								
H10N1	**ASCENSION HYDR**	**48.55**	**16**	T		T	10 35 43.3		
	baz=186								
H10N3	**ASCENSION HYDR**	**48.56**	**16**	T		T	10 35 43.9		
	baz=186,SNR=5.6								
H10N2	**ASCENSION HYDR**	**48.57**	**16**	T		T	10 35 44.5		
	baz=186								
LPAZ	**La Paz**	**50.33**	**304**	P		**P**	**09 43 43.0**		**+1.0**
	15nm,0.8s,baz=144,slow=5.5,SNR=59								
SAML	**Samuel**	**54.66**	**314**	*e*P		**P**	**09 44 13.5**		**+0.2**
	5.6nm,0.9s								
PTGA	**Pitinga**	**60.97**	**321**	P		**P**	**09 44 57.3**		**-0.3**
	1.9nm,0.7s,baz=138,slow=15,SNR=3.5								
OTAV	**Otavalo**	**69.62**	**303**	*e*P		**P**	**09 45 54.4**		**+0.2**
	4.0nm,0.9s								
TOA0	**Tordi Ar. Sit**	**72.47**	**29**	*e*P		**P**	**09 46 10.7**		**-0.1**
TORD	**Tordi Ar. Bea**	**72.47**	**29**	P		**P**	**09 46 10.6**		**-0.1**
	4.6nm,0.5s,baz=200,slow=6.5,SNR=67								
SDV	**Santo Domingo**	**73.87**	**314**	*e*P		**P**	**09 46 19.6**		**+0.3**
	7.9nm,1.0s								
STKA	**Stephens Creek**	**92.34**	**170**	P		**P**	**09 47 54.6**		**+0.1**
	1.4nm,0.8s,baz=207,slow=4.5,SNR=3.2								
STKA				LR		LR	10 27 07.1		
	comp=Z,269nm,20.4s,baz=292,slow=34								
ASAR	**Alice Springs**	**99.38**	**162**	P		**Pdif**	**09 48 26.0**		**-0.7**
	0.8nm,0.8s,baz=186,slow=4.1,SNR=14								
WRA	**Warramunga Arr**	**103.09**	**162**	Pdiff		**Pdif**	**09 48 42.7**		**-0.5**
	0.4nm,0.8s,baz=191,slow=4.2,SNR=4.0								
ARCES	**ARCESS Array B**	**130.37**	**21**	PKP		**PKPdf**	**09 53 53.1**		**+0.2**
	2.7nm,0.8s,baz=222,slow=4.9,SNR=7.2								
YKA	**Yellowknife Ar**	**136.00**	**318**	PKP		**PKPdf**	**09 54 04.0**		**+0.4**
	1.7nm,0.8s,baz=122,slow=1.8,SNR=9.3								
INK	**Inuvik**	**145.60**	**321**	*e*PKPdf		**PKPab**	**09 54 21.2**		**-0.2**
ILAR	**Eielson Array**	**150.00**	**312**	PKPbc		**PKPbc**	**09 54 33.6**		**+0.5**
	6.9nm,0.8s,baz=121,slow=1.4,SNR=19								
SONM	**Songino Array**	**150.40**	**85**	PKPbc		**PKPbc**	**09 54 35.7**		**+0.9**
	0.7nm,0.5s,baz=241,slow=2.7,SNR=4.6								
COLA	**College**	**150.42**	**312**	*e*PKPbc		**PKPbc**	**09 54 34.1**		**+0.1**
MCK	**McKinley**	**150.68**	**310**	*e*PKPbc		**PKPbc**	**09 54 34.8**		**+0.1**
TRF	**Thorofare Moun**	**151.22**	**309**	*e*PKPdf		**PKPdf**	**09 54 30.3**		**0.0**
KTH	**Kantishna Hill**	**151.52**	**309**	*e*PKPbc		**PKPbc**	**09 54 37.0**		**+0.2**
BPAW	**Bear Paw Mtn.**	**151.64**	**310**	*e*PKPdf		**PKPdf**	**09 54 30.9**		**+0.2**
BPAW				*e*PKPbc		**PKiKP**	**09 54 37.1**		**-0.3**
COLD	**Coldfoot**	**151.66**	**317**	*e*PKPdf		**PKPdf**	**09 54 31.8**		**+1.2**
COLD				*e*PKPbc		**PKiKP**	**09 54 37.2**		**-0.1**
IM04	**Indian Mountai**	**153.01**	**314**	*e*PKPbc		**PKPbc**	**09 54 40.1**		**+0.1**

*AZER **20** 09:52:20.7±0.4, 35.°35N×47.°51E, h5km, Error ellipse: s-maj=356.2km s-min=32.5km az=280.0*

*ISCJB **20** 09:52:31.4±0.6, 35.°82N±0.°05×48.°92E±0.°06, h10km, Error ellipse: s-maj=7.3km s-min=6.5km az=173.5*

*CSEM **20** 09:52:31.3±0.2, 35.°81N×48.°86E, h2km, ML3.7, Error ellipse: s-maj=4.8km s-min=4.4km az=128.0*

*TEH **20** 09:52:32.2, 35.°79N×48.°89E, h6km, ML3.7*

*ISN **20** 09:53:12.6±2.4, 34.°51N×46.°32E, h0km±10km, ML3.9*

ISC 20 09:52:31.6±1.0, 35.°84N±0.°03×48.°90E±0.°04, h10km, n36, σ0s95/37, 4C-2D, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
IRAZ	**Razeghan**	**0.94**	**117**	*e*Pg		Pg	09 52 45.6		-4.1
IRAZ				*e*			09 53 08.1		
	comp=Z,21μm,0.3s								
IRAZ	**Razeghan**	**0.94**	**117**	*e*Pg		Pg	09 52 45.6		-4.1
IMHD	**Mahdasht**	**1.44**	**95**	*e*Pn		**Pn**	**09 52 56.0**		**-1.9**
IMHD				*e*Sg		**Sn**	**09 53 16.8**		**-0.1**
IMHD				*e*			09 53 17.2		
	comp=Z,9μm,0.1s								
IMHD	**Mahdasht**	**1.44**	**95**	*e*Pn		**Pn**	**09 52 56.0**		**-1.9**
IMHD				*e*Sg		**Sn**	**09 53 16.8**		**-0.1**
IBZA	**Bozab**	**1.61**	**212**	*e*Pn		Pn	09 52 56.0		-4.3
IBZA	**Bozab**	**1.61**	**212**	*e*Pn		Pn	09 52 56.0		-4.3
IKOM	**Komasi**	**2.01**	**215**	*e*Sg		**Sb**	**09 53 33.2**		**-0.3**
IKOM				*e*Pn		**Pn**	**09 53 06.2**		**+0.5**
IKOM				*e*			09 53 39.8		
	comp=Z,15μm,0.4s								
IKOM	**Komasi**	**2.01**	**215**	*e*Pn		**Pn**	**09 53 06.2**		**+0.5**
IKOM				*e*Sg		**Sb**	**09 53 33.2**		**-0.3**
IDHR	**Dehrash**	**2.35**	**242**	*e*Pn		**Pn**	**09 53 10.5**		**+0.1**
IDHR				*e*			09 53 13.7		
	comp=Z,6μm,0.2s								
IDHR	**Dehrash**	**2.35**	**242**	*e*Pn		**Pn**	**09 53 10.5**		**+0.1**
IVRN	**Varamin**	**2.45**	**109**	*e*Pn		**Pn**	**09 53 12.7**		**+1.0**
IVRN				*e*			09 54 02.1		
	comp=Z,3μm,0.2s								
IVRN	**Varamin**	**2.45**	**109**	*e*Pn		**Pn**	**09 53 12.7**		**+1.0**
IKFM	**Kafar-mosalman**	**2.46**	**201**	*e*Pn		**Pn**	**09 53 12.6**		**+0.8**
IKFM				*e*			09 53 56.3		
	comp=Z,99nm,0.3s								
IKFM	**Kafar-mosalman**	**2.46**	**201**	*e*Pn		**Pn**	**09 53 12.5**		**+0.8**
IDMV	**Damavand**	**2.56**	**95**	*e*Pn		**Pn**	**09 53 14.5**		**+1.1**
IDMV	**Damavand**	**2.56**	**95**	*e*Pn		**Pn**	**09 53 14.5**		**+1.1**
IPRN	**Peran**	**2.81**	**81**	*e*Pn		**Pn**	**09 53 17.6**		**+0.9**
IPRN				*e*			09 54 08.8		
	comp=Z,2μm,0.4s								
LRK	**Lerik**	**2.84**	**351**	⇑P		**Pn**	**09 53 17.6**		**+0.5**
	SNR=3.0								
LRK				⇑S		**Sg**	**09 54 01.9**		**-0.9**
LRK	**Lerik**	**2.84**	**351**	P		**Pn**	**09 53 17.6**		**+0.5**
	SNR=3.0								
LRK				S		**Sg**	**09 54 01.9**		**-0.9**
LKRN	**Lenkeran, Azer**	**2.87**	**358**	⇓P		**Pn**	**09 53 18.5**		**+1.1**
	SNR=5.2								
LKRN				⇓S		**Sg**	**09 54 03.3**		**-0.5**
LKRN	**Lenkeran, Azer**	**2.87**	**358**	P		**Pn**	**09 53 18.5**		**+1.1**
	SNR=5.2								
LKRN				S		**Sg**	**09 54 03.3**		**-0.5**
IFIR	**Firoozkooh**	**3.14**	**92**	*e*Pn		**Pn**	**09 53 23.2**		**+1.9**
IFIR				*e*			09 54 10.2		
	comp=Z,1μm,0.1s								
IFIR	**Firoozkooh**	**3.14**	**92**	*e*Pn		**Pn**	**09 53 23.2**		**+1.9**
IKLH	**Kolahrood**	**3.34**	**138**	*e*Pn		**Pn**	**09 53 25.1**		**+1.0**
IKLH				*e*			09 54 20.8		
	comp=N,3μm,0.3s								
IKLH	**Kolahrood**	**3.34**	**138**	*e*Pn		**Pn**	**09 53 25.1**		**+1.0**
GLBA	**Clilabad**	**3.42**	**353**	⇑P		**Pn**	**09 53 25.9**		**+0.9**
	SNR=7.9								
GLBA				⇑S		**Sb**	**09 54 13.7**		**-0.3**
GLBA	**Clilabad**	**3.42**	**353**	P		**Pn**	**09 53 25.9**		**+0.9**
	SNR=7.9								
GLBA				S		**Sb**	**09 54 13.7**		**-0.3**
IPIR	**Pirpir**	**3.55**	**152**	*e*Pn		**Pn**	**09 53 27.4**		**+0.5**
IPIR				*e*			09 54 24.4		
	comp=Z,2μm,0.3s								
IPIR	**Pirpir**	**3.55**	**152**	*e*Pn		**Pn**	**09 53 27.5**		**+0.5**
IBDR	**Badra**	**3.66**	**223**	*e*PG		x	09 53 43.3		
IBDR				*e*SG		x	09 54 07.2		
IKRK	**Kirkuk**	**3.74**	**265**	*e*PN		x	09 53 47.6		
IKRK				*e*SN		x	09 54 08.2		
IZEF	**Zefreh**	**4.08**	**135**	*e*Pn		**Pn**	**09 53 34.5**		**+0.3**
IZEF				*e*			09 54 50.7		
	comp=Z,428nm,0.2s								
IZEF	**Zefreh**	**4.08**	**135**	*e*Pn		**Pn**	**09 53 34.5**		**+0.3**
IANJ	**Anjilo**	**4.10**	**94**	*e*			09 54 55.7		
	comp=Z,731nm,0.4s								
MSL	**Mosul**	**4.72**	**279**	*e*PN		x	09 54 04.1		
MSL				*e*SN		x	09 54 41.9		
NSR	**Nassriya**	**5.34**	**206**	*e*PN		x	09 54 08.8		
NSR				*e*SN		x	09 54 47.3		

*ISCJB **20** 10:00:04.1±0.5, 59.°77N±0.°03×24.°38E±0.°06, h0km, Error ellipse: s-maj=4.8km s-min=3.6km az=20.0*

*IDC **20** 10:00:05.9±1.9, 59.°78N×24.°62E, h0km, mb1 3.0/3, mb1mx2.9/27, mbtmp3.0/3, ML2.9/3, Error ellipse: s-maj=22.1km s-min=7.0km az=143.0*

*HEL **20** 10:00:05.9±0.1, 59.°76N×24.°43E, h0km, ML2.2, Explosion*

ISC 20 10:00:04.9±0.8, 59.°76N±0.°03×24.°50E±0.°04, h0km, n15, σ0s59/20, Baltic States-Belarus-Northwestern Russia

| Code | Station Name | Δ° |

PVAQ	**Vaqueiros**	**5.31**	**339**	P		**Pn**	**10 04 29.7**	**-0.1**
PVAQ				S		**Sn**	**10 05 26.7**	**-4.3**
	4.5nm,0.3s							
PVAQ	**Vaqueiros**	**5.31**	**339**	P		**Pn**	**10 04 29.7**	**-0.1**
PVAQ				*e*Sn		**Sn**	**10 05 26.7**	**-4.3**
	4.5nm,0.3s							
EGRO	**El Granado**	**5.37**	**342**	P		**Pn**	**10 04 30.6**	**+0.1**
	2.2nm,0.1s,SNR=12							
EGRO				S		**Sn**	**10 05 28.8**	**-3.5**
	7.4nm,0.4s,SNR=6.0							
EGRO	**El Granado**	**5.37**	**342**	P		**Pn**	**10 04 30.6**	**+0.1**
	2.2nm,0.1s,SNR=12							
EGRO				S		**Sn**	**10 05 28.8**	**-3.5**
	7.4nm,0.4s,SNR=6.0							
EMIN	**Mina Concepcio**	**5.42**	**349**	P		**Pn**	**10 04 31.2**	**0.0**
	1.2nm,0.2s,SNR=13							
EMIN				S		**Sn**	**10 05 31.2**	**-2.4**
	1.8nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**5.42**	**349**	P		**Pn**	**10 04 31.2**	**0.0**
	1.2nm,0.2s,SNR=13							
EMIN				S		**Sn**	**10 05 31.2**	**-2.4**
	1.8nm,0.2s,SNR=7.9							
PFVI	**Vila Bisbo**	**5.47**	**330**	*e*Pn		**Pn**	**10 04 32.7**	**+0.7**
PFVI				A		A	10 05 46.6	
	9.4nm,0.7s							
PFVI	**Vila Bisbo**	**5.47**	**330**	P		**Pn**	**10 04 33.3**	**+1.3**
	1.4nm,0.1s,SNR=7.9							
PFVI				S		**Sn**	**10 05 33.2**	**-1.9**
	4.9nm,0.2s,SNR=7.9							
PFVI	**Vila Bisbo**	**5.47**	**330**	*e*Pn		**Pn**	**10 04 32.7**	**+0.7**
	9.4nm,0.7s							
PFVI	**Vila Bisbo**	**5.47**	**330**	P		**Pn**	**10 04 33.3**	**+1.3**
	1.4nm,0.1s,SNR=7.9							
PFVI				S		**Sn**	**10 05 33.2**	**-1.9**
	4.9nm,0.2s,SNR=7.9							
MORF	**Marmelete**	**5.55**	**332**	*e*P		**Pn**	**10 04 32.8**	**-0.3**
MORF				*e*S		**Sn**	**10 05 33.1**	**-3.9**
MORF					AML	AML	10 05 35.1	
	comp=E,2.6nm,0.1s							
MORF	**Marmelete**	**5.55**	**332**	*e*Pn		**Pn**	**10 04 32.8**	**-0.3**
MORF				*e*Sn		**Sn**	**10 05 33.1**	**-3.9**
MORF				A		A	10 05 39.1	
	comp=E,4.6nm,0.2s							
MORF	**Marmelete**	**5.55**	**332**	P		**Pn**	**10 04 32.8**	**-0.3**
MORF				S		**Sn**	**10 05 33.1**	**-3.9**
	comp=E,4.6nm,0.2s							
MORF	**Marmelete**	**5.55**	**332**	P		**Pn**	**10 04 32.8**	**-0.3**
MORF				S		**Sn**	**10 05 33.1**	**-3.9**
	comp=E,4.6nm,0.2s							
ECAB	**El Cabril**	**5.61**	**360**	P		**Pn**	**10 04 33.7**	**-0.3**
	comp=E,1.0nm,0.2s,SNR=6.7							
ECAB				S		**Sn**	**10 05 35.2**	**-3.4**
	comp=E,2.2nm,0.2s,SNR=5.8							
ECAB	**El Cabril**	**5.61**	**360**	P		**Pn**	**10 04 33.7**	**-0.3**
	comp=E,1.0nm,0.2s,SNR=6.7							
ECAB				S		**Sn**	**10 05 35.2**	**-3.4**
	comp=E,2.2nm,0.2s,SNR=5.8							
PCVE	**Castro Verde**	**5.62**	**338**	*e*Pn		**Pn**	**10 04 34.2**	**+0.2**
PCVE				*e*Sn		**Sn**	**10 05 34.8**	**-3.8**
PCVE				A		A	10 05 40.6	
	comp=E,0.3nm,0.7s							
PCVE	**Castro Verde**	**5.62**	**338**	P		**Pn**	**10 04 34.2**	**+0.2**
PCVE				S		**Sn**	**10 05 34.8**	**-3.8**
	comp=E,0.3nm,0.7s							
PCVE	**Castro Verde**	**5.62**	**338**	P		**Pn**	**10 04 34.2**	**+0.2**
PCVE				S		**Sn**	**10 05 34.8**	**-3.8**
	comp=E,0.3nm,0.7s							
EADA	**Adamuz**	**5.74**	**6**	P		**Pn**	**10 04 36.0**	**+0.3**
	comp=E,0.8nm,0.2s,SNR=7.9							
EADA				S		**Sn**	**10 05 39.1**	**-2.6**
	comp=E,0.6nm,0.3s,SNR=7.9							
EADA	**Adamuz**	**5.74**	**6**	P		**Pn**	**10 04 36.0**	**+0.3**
	comp=E,0.8nm,0.2s,SNR=7.9							
EADA				S		**Sn**	**10 05 39.1**	**-2.6**
	comp=E,0.6nm,0.3s,SNR=7.9							
MESJ	**Messejana**	**5.87**	**337**	*e*P		**Pn**	**10 04 37.4**	**+0.1**
MESJ				*e*S		**Sn**	**10 05 39.6**	**-5.2**
MESJ					AML	AML	10 05 40.6	
	comp=N,1.6nm,0.6s							
MESJ	**Messejana**	**5.87**	**337**	*e*Pn		**Pn**	**10 04 37.5**	**+0.1**
MESJ				*e*Sn		**Sn**	**10 05 40.8**	**-3.9**
MESJ				A		A	10 05 47.4	
	comp=N,3.3nm,0.4s							
MESJ	**Messejana**	**5.87**	**337**	P		**Pn**	**10 04 37.5**	**+0.1**
MESJ				S		**Sn**	**10 05 40.8**	**-3.9**
	comp=N,3.3nm,0.4s							
MESJ	**Messejana**	**5.87**	**337**	P		**Pn**	**10 04 37.5**	**+0.1**
MESJ				S		**Sn**	**10 05 40.8**	**-3.9**
	comp=N,3.3nm,0.4s							
PBAR	**Barrancos**	**5.88**	**347**	*e*Pn		**Pn**	**10 04 37.6**	**0.0**
PBAR				*e*Sn		**Sn**	**10 05 41.0**	**-4.0**
PBAR				A		A	10 05 45.1	
	comp=N,7.4nm,0.5s							
PBAR	**Barrancos**	**5.88**	**347**	P		**Pn**	**10 04 37.6**	**0.0**
PBAR				S		**Sn**	**10 05 41.0**	**-4.0**
	comp=N,7.4nm,0.5s							
PBAR	**Barrancos**	**5.88**	**347**	P		**Pn**	**10 04 37.6**	**0.0**
PBAR				S		**Sn**	**10 05 41.0**	**-4.0**
	comp=N,7.4nm,0.5s							
PNCL	**Nicolau / Gran**	**6.22**	**336**	*e*Pn		**Pn**	**10 04 41.8**	**-0.4**
PNCL				*e*Sn		**Sn**	**10 05 49.1**	**-4.2**
PNCL				A		A	10 05 58.2	
	comp=N,1.9nm,0.2s							
PNCL	**Nicolau / Gran**	**6.22**	**336**	*e*Pn		**Pn**	**10 04 41.8**	**-0.4**
EBAD	**Badajoz**	**6.44**	**348**	⇑P		**Pn**	**10 04 45.6**	**+0.3**
	comp=N,4.4nm,0.1s,SNR=18							
EBAD				S		**Sn**	**10 05 54.7**	**-4.0**
	comp=N,1.7nm,0.1s,SNR=4.2							
EBAD	**Badajoz**	**6.44**	**348**	P		**Pn**	**10 04 45.6**	**+0.3**
	comp=N,4.4nm,0.1s,SNR=18							
PESTR	**Estremoz**	**6.66**	**345**	*e*Pn		**Pn**	**10 04 48.8**	**+0.5**
PESTR				*e*Sn		**Sn**	**10 06 00.6**	**-3.6**
PESTR				A		A	10 06 05.5	
	comp=N,2.5nm,0.4s							
PESTR	**Estremoz**	**6.66**	**345**	*e*Pn		**Pn**	**10 04 48.8**	**+0.5**
PESTR				*e*Sn		**Sn**	**10 06 00.6**	**-3.6**
	comp=N,2.5nm,0.4s							
PMTG	**Montargil**	**7.00**	**341**	*e*Pn		**Pn**	**10 04 52.7**	**-0.3**
PMTG				*e*Sn		**Sn**	**10 06 08.6**	**-4.1**
PMTG				A		A	10 06 23.0	
	comp=N,2.6nm,0.4s							
PMTG	**Montargil**	**7.00**	**341**	*e*Pn		**Pn**	**10 04 52.7**	**-0.3**
PMRV	**Marv??o**	**7.16**	**347**	*e*Pn		**Pn**	**10 04 55.4**	**+0.2**
PMRV	**Marv??o**	**7.16**	**347**	P		**Pn**	**10 04 55.4**	**+0.2**
PMRV	**Marv??o**	**7.16**	**347**	P		**Pn**	**10 04 55.4**	**+0.2**
EPLA	**Plasencia**	**7.62**	**356**	P		**Pn**	**10 05 01.9**	**+0.3**
	comp=N,2.6nm,0.2s,SNR=7.9							
EPLA	**Plasencia**	**7.62**	**356**	P		**Pn**	**10 05 01.9**	**+0.3**
	comp=N,2.6nm,0.2s,SNR=7.9							
MVO	**Moncorvo**	**8.80**	**352**	P		**Pn**	**10 05 18.4**	**+0.6**
	comp=N,3.2nm,0.2s,SNR=7.9							
MVO	**Moncorvo**	**8.80**	**352**	P		**Pn**	**10 05 18.4**	**+0.6**
	comp=N,3.2nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**9.54**	**354**	P		**Pn**	**10 05 28.6**	**+0.7**
	comp=N,1.2nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**9.54**	**354**	P		**Pn**	**10 05 28.6**	**+0.7**
	comp=N,1.2nm,0.2s,SNR=7.9							
ELOB	**Lobios**	**9.64**	**348**	P		**Pn**	**10 05 28.7**	**-0.6**
	comp=N,1.0nm,0.2s,SNR=7.9							
ELOB	**Lobios**	**9.64**	**348**	P		**Pn**	**10 05 28.7**	**-0.6**
	comp=N,1.0nm,0.2s,SNR=7.9							

*IDC **20** 10:05:29.1±3.8, 38.°17S×91.°93W, h0km, mb3.7/6, mb1 4.1/7, mb1mx4.0/17, mbtmp3.8/7, ML3.1/1, MS3.8/7, Ms1 3.9/7, ms1mx3.7/18, Error ellipse: s-maj=100.2km s-min=28.3km az=14.0*

ISC 20 10:05:29.6±2.8, 38.°4S±0.°5×92.°0W±0.°3, h10km, n14, σ0s79/7, mb3.8/5, MS3.9/5, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**16.66**	**105**	Pn		**P**	**10 09 26.1**	**+0.4**
	0.0nm,0.3s,baz=277,slow=14,SNR=2.5							
PLCA					LR	LR	10 13 59.8	
	comp=Z,313nm,20.6s,baz=273,slow=31							
RPN	**Rapa Nui**	**18.40**	**302**		LR	LR	10 14 42.0	
	comp=Z,700nm,19.3s,baz=106,slow=30							
CFAA	**Coronel Fontan**	**20.54**	**78**	P		**P**	**10 10 07.2**	**-1.0**
	0.4nm,0.6s,baz=252,slow=14,SNR=5.0							
CFAA					LR	LR	10 16 09.6	
	comp=Z,36nm,18.2s,baz=244,slow=31							
USHA	**Ushuaia**	**22.88**	**144**		LR	LR	10 17 31.7	
	comp=Z,632nm,19.2s,baz=219,slow=31							
LVC	**Limon Verde**	**25.22**	**58**	P		**P**	**10 10 55.2**	**-0.7**
	7.9nm,0.7s,baz=235,slow=11,SNR=5.5							
LPAZ	**La Paz**	**30.36**	**50**	P		**P**	**10 11 43.2**	**+0.8**
	0.9nm,0.5s,baz=206,slow=7.7,SNR=5.6							
LPAZ					LR	LR	10 21 12.8	
	comp=Z,372nm,21.2s,baz=215,slow=31							
PMSA	**Palmer Station**	**31.09**	**157**	LR		LR	10 20 33.9	
	comp=Z,157nm,20.2s,baz=278,slow=29							
BDFB	**Brasilia**	**44.69**	**72**	LR		LR	10 30 03.0	
	comp=Z,138nm,20.3s,baz=156,slow=33							
TXAR	**Lajitas Array**	**68.25**	**349**	P		**P**	**10 16 30.6**	**0.0**
	0.4nm,0.8s,baz=163,slow=9.1,SNR=5.5							
NVAR	**Mina Array Bea**	**80.20**	**339**	P		**P**	**10 17 40.3**	**+0.1**
	0.5nm,0.6s,baz=177,slow=5.8,SNR=5.6							
PDAR	**Pinedale Array**	**82.34**	**347**	P		**P**	**10 17 51.1**	**-0.4**
	0.6nm,0.8s,baz=120,slow=5.3,SNR=4.9							
H11S2	**WAKE ISLAND Hyl**	**109.98**	**278**	T		T	12 22 53.7	
	baz=124,SNR=5.2							
H11S1	**WAKE ISLAND Hyl**	**109.99**	**278**	T		T	12 22 53.9	
	baz=124							
H11S3	**WAKE ISLAND Hyl**	**110.00**	**278**	T		T	12 22 53.7	
	baz=124							

*ISCJB **20** 10:24:57.6±1.0, 5.°87S±0.°04×105.°14E±0.°04, h5km±7km, mb4.0/5, Error ellipse: s-maj=8.4km s-min=4.2km az=41.4*
*DJA **20** 10:24:59.1±0.3, 6.°S±2.°×10.°5E±.°, h10km, M4.2/13, MLv4.2/13*
*IDC **20** 10:25:08.2±6.9, 6.°10S×105.°03E, h106km±49km, mb3.6/5, mb1 3.8/6, mb1mx3.4/24, mbtmp4.0/6, Error ellipse: s-maj=88.2km s-min=19.3km az=59.0*

ISC 20 10:24:56.9±1.2, 5.°82S±0.°04×105.°11E±0.°04, h7km±9km, n26, σ1s04/31, mb4.2/5, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BLSI	**Bandar Lampung**	**0.47**	**16**	P		**Pb**	**10 25 07.8**	**+0.3**
BLSI				S		**Sb**	**10 25 14.4**	**-0.3**
KASI	**Kota Agung**	**0.68**	**295**	P		**Pb**	**10 25 12.2**	**+1.0**
KASI				S		**Sb**	**10 25 21.7**	**+0.9**
CGJI	**Cibinong**	**0.98**	**144**	P		**Pg**	**10 25 15.5**	**-0.3**
CGJI				S		**Sg**	**10 25 28.4**	**-0.1**
KLI	**Kotabumi**	**0.98**	**345**	P		**Pn**	**10 25 17.6**	**+0.4**
KLI				S		**Sn**	**10 25 32.0**	**+0.6**
SBJI	**Serang**	**1.06**	**107**	P		**Pg**	**10 25 17.0**	**-0.2**
SBJI				S		**Sg**	**10 25 30.4**	**-0.6**
LWLI	**Liwa**	**1.32**	**307**	P		**Pn**	**10 25 23.4**	**+1.5**
TNG	**Tangerang**	**1.56**	**103**	P		**Pn**	**10 25 26.3**	**+1.1**
TNG				S		**Sn**	**10 25 46.3**	**+0.5**
MDSI	**Maura Dua**	**1.62**	**325**	P		**Pg**	**10 25 27.6**	**-0.4**
MDSI				S		**Sg**	**10 25 50.4**	**+1.4**
SKJI	**Sukabumi**	**1.86**	**129**	P		**Pn**	**10 25 30.7**	**+1.4**
SKJI				S		**Sb**	**10 25 55.8**	**+1.0**
CNJI	**Cibinong**	**2.49**	**127**	P		**Pn**	**10 25 38.4**	**+0.4**
LHSI	**Lahat**	**2.53**	**321**	P		**Pg**	**10 25 44.2**	**-1.4**
MNAI	**Manna**	**2.59**	**304**	P		**Pb**	**10 25 42.0**	**-1.8**
LEM	**Lembang**	**2.68**	**112**	P		**Pn**	**10 25 40.8**	**0.0**
LEM	**Lembang**	**2.68**	**112**	P		**Pg**	**10 25 49.2**	**+0.8**
	20nm,0.3s,baz=170,slow=23,SNR=10.0							
LEM					S	**Sg**	**10 26 23.3**	**0.0**
	17nm,0.3s,baz=106,slow=23,SNR=3.3							
H01W3	**Cape Leeuwin H**	**30.10**	**165**	T		T	11 02 54.2	
	baz=342,slow=76,SNR=74							
H01W1	**Cape Leeuwin H**	**30.11**	**165**	T		T	11 02 54.5	
	baz=342,slow=76,SNR=79							
H01W2	**Cape Leeuwin H**	**30.11**	**165**	T		T	11 02 54.7	
	baz=342,slow=76,SNR=76							
WRA	**Warramunga Arr**	**31.68**	**119**	P		**P**	**10 31 20.1**	**-1.4**
	0.9nm,0.7s,baz=294,slow=9.8,SNR=14							
WRA					PcP	**PcP**	**10 34 11.8**	**-1.7**
	0.1nm,0.3s,baz=298,slow=3.8,SNR=3.5							
H08S2	**Diego Garcia H**	**32.44**	**265**	T		T	11 04 56.9	
	baz=88,slow=76,SNR=27							
H08S3	**Diego Garcia H**	**32.45**	**265**	T		T	11 04 57.3	
	baz=88,slow=76,SNR=22							
H08S1	**Diego Garcia H**	**32.46**	**265**	T		T	11 04 57.1	
	baz=88,slow=76,SNR=13							
ASAR	**Alice Springs**	**32.90**	**126**	P		**P**	**10 31 31.1**	**-1.0**
	1.9nm,0.7s,baz=293,slow=7.7,SNR=38							
ASAR					PcP	**PcP**	**10 34 15.6**	**-1.2**
	0.2nm,0.5s,baz=284,slow=1.7,SNR=4.3							
STKA	**Stephens Creek**	**42.82**	**132**	P		**P**	**10 32 55.3**	**-0.5**
	5.6nm,0.6s,baz=305,slow=8.0,SNR=23							
SONM	**Songino Array**	**53.44**	**1**	P		**P**	**10 34 19.3**	**+1.5**
	0.4nm,0.7s,baz=186,slow=8.7,SNR=2.5							
ZALV	**Zalesovo Beam**	**61.94**	**347**	P		**P**	**10 35 18.1**	**+0.8**
	0.7nm,0.4s,baz=176,slow=4.3,SNR=3.5							
TXAR	**Lajitas Array**	**144.15**	**46**	PKP		**PKPab**	**10 44 31.2**	**-0.9**
	0.2nm,0.5s,baz=325,slow=1.1,SNR=7.3							

ECX 20 10:28:09.6±0.6, 32.°67N×115.°88W, h2km, MD3.3, ML3.5, 11C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.05**	**238**	⇑*i*P		Pg	10 28 10.7	+0.1
SGL	**Mount Signal**	**0.13**	**101**	⇑*i*P		Pg	10 28 11.7	-0.5
WESC	**Westside Schoo**	**0.15**	**55**	*e*P		Pg	10 28 12.1	-0.4
WESC				*e*S		Sg	10 28 15.2	+0.7
RMX	**La Rumorosa**	**0.19**	**248**	⇑*e*P		Pg	10 28 13.2	-0.3
RMX				*e*S		Sg	10 28 15.9	-0.1
RMX				IAML			10 28 16.3	
	comp=N,8μm,0.1s							
RMX				⇓*e*			10 28 16.3	
COK	**Cook Ranch**	**0.21**	**35**	⇓*i*P		Pg	10 28 13.6	-0.1
DREC	**Desert Rsrch C**	**0.38**	**70**	⇑*e*P		Pg	10 28 17.0	0.0
CBKC	**Canebrake**	**0.39**	**306**	⇑*i*P		Pg	10 28 17.1	-0.1
CPBX	**Cerro Prieto**	**0.55**	**118**	⇑*e*P		Pg	10 28 19.4	-0.7
CPBX				*e*S		Sg	10 28 27.5	+0.3
CPBX				*e*			10 28 32.6	
CPBX				IAML			10 28 32.6	
	comp=E,12μm,0.3s							
CLIC	**Calipatria**	**0.55**	**32**	⇓*i*P		Pg	10 28 20.0	-0.2
COA	**Coachella**	**0.66**	**73**	⇑*i*P		Pg	10 28 21.4	-0.9
BAR	**Barrett**	**0.67**	**271**	⇑*e*P		Pg	10 28 21.9	-0.7
RDX	**Rancho Dawling**	**0.74**	**184**	⇓*e*P		Pg	10 28 22.6	-1.5
RDX				*e*S		Sg	10 28 35.3	-0.6
EMSC	**East Mesa**	**0.75**	**85**	⇑*i*P		Pg	10 28 23.0	-1.0
CBX	**Cerro Bola**	**0.76**	**242**	⇑*e*P		Pg	10 28 23.6	-0.8
CBX				*e*S		Sg	10 28 33.9	-0.4
CBX				IAML			10 28 37.1	
	comp=E,3μm,0.5s							
CBX				⇓*e*			10 28 37.1	
SDRC	**San Diego Road**	**0.90**	**274**	⇓*e*P		Pg	10 28 25.7	-1.2
PBX	**Punta Banda**	**1.18**	**218**	*e*P		Pg	10 28 30.6	-1.6
PBX				*e*S		Sg	10 28 46.4	-1.1
ECNX	**Esteban Cantu**	**1.18**	**211**	*e*P		Pg	10 28 30.6	-1.9
ECNX				*e*S		Sg	10 28 46.5	-1.4
ZAX	**El Zacaton**	**1.20**	**196**	*e*P		Pg	10 28 30.9	-1.9
ZAX				*e*S		Sg	10 28 47.1	-1.5
ECBX	**El Chinero**	**1.39**	**149**	*e*P9		Pn	10 28 31.9	-4.1
ECBX				*e*S		Sg	10 28 50.5	-3.7
ECBX				IAML			10 28 51.6	
	comp=E,553nm,0.6s							
ECBX				⇓*e*			10 28 51.6	
SPX	**San Pedro Mart**	**1.66**	**168**	*e*P		Pn	10 28 38.4	-1.8
SPX				*e*S		Sn	10 29 01.7	-0.7

IDC 20 10:50:18.1±7.7, 8.°42S×155.°82E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/22, mbtmp3.4/3, MS4.1/1, Ms1 4.1/1, ms1mx3.1/13, Error ellipse: s-maj=130.7km s-min=91.4km az=16.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.73**	**239**	P		P	10 55 32.6	+0.4
	0.4nm,0.8s,baz=66,slow=9.8,SNR=3.5							
ASAR	**Alice Springs**	**25.89**	**232**	P		P	10 55 51.4	-0.7
	0.4nm,0.9s,baz=64,slow=9.7,SNR=5.1							
STKA	**Stephens Creek**	**26.83**	**208**	P		P	10 56 00.7	+0.3
	1.8nm,1.0s,baz=18,slow=11,SNR=2.9							
JOW	**Kunigami**	**44.07**	**324**	LR		LR	11 16 36.4	
	comp=Z,217nm,19.0s,slow=36							

*JMA **20** 10:51:42.1±0.3, 43.°50N×147.°44E, h15km, M2.6*
*SKHL **20** 10:51:43.0±1.0, 43.°55N×147.°58E, h40km±2km, mb4.0/3*

ISC 20 10:51:42.1±2.9, 43.°6N±0.°1×147.°6E±0.°1, h30km±14km, n9, σ0s83/16, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.66**	**299**	*e*P		**Pb**	**10 51 55.1**	**-0.1**
SHO					AMB	AMB	10 51 55.3	
	60nm,0.2s							
SHO				*e*S		**Sb**	**10 52 04.0**	**-0.1**
SHO				A		A	10 52 06.8	
	270nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.37**	**291**	*i* P		**Pn**	**10 52 04.9**	**-0.2**
YUK					AMB	AMB	10 52 05.3	
	20nm,0.2s							
YUK					AMB	AMB	10 52 05.3	
	40nm,0.2s							
YUK				*i* S		**Sn**	**10 52 22.2**	**0.0**
YUK				A		A	10 52 22.3	
	70nm,0.3s							
YUK				A		A	10 52 22.3	
	60nm,0.3s							
NEM2	**Nemuro 2**	**1.39**	**263**	P		**Pn**	**10 52 04.8**	**-0.5**
NEM2				*e*S		**Sn**	**10 52 21.1**	**-1.5**
KUR	**Kuril'sk**	**1.69**	**6**	*e*P		**Pn**	**10 52 09.8**	**+0.3**
KUR					AMB	AMB	10 52 10.6	
	10.0nm,0.1s							
KUR				*i* S		**Sn**	**10 52 29.3**	**-0.8**
KUR				A		A	10 52 31.2	
	20nm,0.1s							
KUR				A		A	10 52 31.2	
	10.0nm,0.1s							
JRA	**Rausu**	**1.86**	**283**	P		**Pn**	**10 52 12.0**	**+0.2**
JRA				*e*S		**Sn**	**10 52 34.4**	**+0.2**
JNK	**Nakash**	**2.12**	**272**	*e*S		**Sn**	**10 52 39.8**	**-0.8**
JAK	**Akkeshi**	**2.21**	**256**	P		**Pn**	**10 52 17.2**	**+0.5**
JAR	**Ashorobuto**	**2.82**	**266**	P		**Pn**	**10 52 26.1**	**+1.0**
JAR				*e*S		**Sn**	**10 52 59.1**	**+1.0**
YSS	**Yuzh-Sakhalins**	**4.84**	**316**	*e*P		**Pn**	**10 52 54.0**	**+1.2**
YSS				*e*S		**Sn**	**10 53 47.1**	**-0.6**
YSS				A		A	10 53 51.3	
	10.0nm,0.4s							

*NEIC **20** 10:51:52.5±0.2, 17.°11N×146.°26E, h10km, mb4.8/38, Error ellipse: s-maj=7.6km s-min=5.6km az=109.0*
*ISCJB **20** 10:52:01.3±0.9, 17.°18N±0.°03×146.°14E±0.°04, h92km±8km, mb4.5/71, Error ellipse: s-maj=7.0km s-min=5.4km az=13.5*
*BJI **20** 10:52:03.3, 16.°88N×146.°03E, h110km, mb4.8/20, mB4.6/10*
*IDC **20** 10:52:04.5±1.2, 17.°13N×145.°98E, h115km±11km, mb3.9/22, mb1 4.1/24, mb1mx4.0/32, mbtmp4.4/24, MS3.2/2, Ms1 3.2/2, ms1mx2.8/30, Error ellipse: s-maj=16.7km s-min=8.2km az=96.0*
*DJA **20** 10:52:33.2±3.8, 16.°N±20.°×14.°6E±1.°4, h333km±33km, M4.8/27, mb4.7/27, mB5.4/10, Mw(mB)4.9/10*

ISC 20 10:52:03.5±0.5, 17.°11N±0.°05×146.°23E±0.°07, h105km±3km, h105km:pP-P, n127, σ1s66/147, mb4.6/70, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.74**	**201**	P		**Pn**	**10 52 59.9**	**+0.7**
	286nm,0.3s,baz=96,slow=2.7,SNR=100							
GUMO				S		**Sn**	**10 53 41.7**	**-0.7**
	273nm,0.3s,baz=192,slow=18,SNR=7.8							
CBIJ	**Chichi jima**	**10.62**	**340**	P		**Pn**	**10 54 31.8**	**-0.7**
JCJ	**Chichijima**	**10.62**	**340**	P		**Pn**	**10 54 31.8**	**-0.7**
	2.1nm,0.3s,baz=128,slow=19,SNR=3.7							
JOW	**Kunigami**	**19.24**	**303**	P		**P**	**10 56 20.1**	**+0.5**
	0.3nm,0.3s,baz=131,slow=14,SNR=18							
H11S3	**WAKE ISLAND Hy**	**19.53**	**83**	T		T	11 17 12.3	
	baz=270,slow=75,SNR=39							
H11S1	**WAKE ISLAND Hy**	**19.54**	**83**	T		T	11 17 11.8	
	baz=270,slow=75,SNR=54							
H11S2	**WAKE ISLAND Hy**	**19.55**	**83**	T		T	11 17 11.1	
	baz=270,slow=75,SNR=58							
H11N1	**WAKE ISLAND Hy**	**19.78**	**79**	T		T	11 17 38.6	
	baz=266,slow=74,SNR=107							
H11N2	**WAKE ISLAND Hy**	**19.78**	**79**	T		T	11 17 38.0	
	baz=266,slow=74,SNR=118							
H11N3	**WAKE ISLAND Hy**	**19.79**	**79**	T		T	11 17 38.8	
	baz=266,slow=74,SNR=79							
JAY	**Jayapura**	**20.25**	**196**	P		**P**	**10 56 30.3**	**-0.3**
	39nm,0.6s,baz=349,slow=3.7,SNR=23							
SMPI	**Sarmi**	**20.38**	**202**	P		Pn	10 56 34.9	-0.1
	48nm,0.9s,2μm							
GENI	**Genyem**	**20.47**	**198**	P		Pn	10 56 35.9	-0.2
	147nm,1.3s,3μm							
MJAR	**Matsushiro Arr**	**20.62**	**341**	P		**P**	**10 56 32.9**	**-1.6**
	1.7nm,0.5s,baz=164,slow=8.9,SNR=12							
MAJO	**Matsushiro**	**20.62**	**341**	*e*P		**P**	**10 56 32.6**	**-1.9**
	8.2nm,0.6s							
JNU	**Nakatsue**	**21.11**	**322**	P		**P**	**10 56 38.2**	**-1.5**
	2.2nm,0.7s,baz=98,slow=7.1,SNR=2.5							
**

970nm,14.8s
HHC LZ
830nm,17.3s
KSM Kuching 38.59 250 *e*P **P 10 59 16.3 -0.3**
17nm,0.5s
WRAB Tennant Creek 38.62 198 *e*P **P 10 59 15.7 -1.0**
13nm,0.8s
WRA Warramunga Arr 38.63 198 P **P 10 59 15.8 -1.0**
8.4nm,0.4s,baz=26,slow=8.6,SNR=50
WRA PcP **PcP 11 01 26.7 -0.5**
0.9nm,0.4s,baz=25,slow=3.9,SNR=3.0
WRA ScP **S 11 05 01.8 -3.9**
0.4nm,0.4s,baz=19,slow=4.5,SNR=7.1
SRBI Singaraja 39.58 233 P **P 10 59 26.4 +1.5**
26nm,1.2s,793nm
BLJI Banyuglugur 40.63 235 P **P 10 59 36.1 +2.6**
34nm,0.6s,2µm
CD2 Chengdu 40.91 298 *e*P **P 10 59 35.6 -0.1**
CD2 sP **sP 11 00 10.4 -1.4**
CD2 PP **PP 11 01 10.3 -1.8**
CD2 S **S 11 05 38.4 -1.4**
CD2 sS **sS 11 06 18.8 -2.6**
CD2 PMZ
10.0nm,0.6s
CD2 PMZ
30nm,4.8s
LZH Lanzhou 41.96 305 *e*P **P 10 59 44.1 -0.3**
LZH pP **pP 11 00 05.9 -2.7**
LZH PMZ
17nm,1.0s
PWJI Pagerwojo 42.21 236 P **P 10 59 46.2 -0.2**
53nm,0.7s
AS31 Alice Springs 42.27 197 *e*P **P 10 59 46.0 -0.9**
ASAR Alice Springs 42.28 197 P **P 10 59 45.8 -1.0**
1.7nm,0.3s,baz=21,slow=7.4,SNR=69
ASAR PcP **PcP 11 01 39.0 +0.1**
1.3nm,0.6s,baz=30,slow=4.3,SNR=4.4
ASAR ScP **ScP 11 05 18.3 -1.8**
0.6nm,0.7s,baz=38,slow=4.4,SNR=5.0
PBKT Sadao Pong 43.24 276 P **P 10 59 57.2 +2.4**
9.1nm,1.0s
UTTA Uttaradit 43.50 278 P **P 10 59 59.0 +2.2**
4.5nm,0.7s
SONM Songino Array 44.70 322 P **P 11 00 04.7 -1.5**
0.7nm,0.5s,baz=143,slow=11,SNR=4.5
CMAI Chiengmai2 44.72 281 P **P 11 00 09.5 +2.7**
6.6nm,0.8s
CMAR Chiang Mai Arr 44.95 279 P **P 11 00 08.2 -0.2**
5.8nm,0.6s,baz=70,slow=7.6,SNR=28
SEY Seymchan 45.98 4 P **P 11 00 16.2 +0.4**
1.1nm,0.4s,baz=194,slow=12,SNR=13
MDSI Maura Dua 46.74 246 P **P 11 00 23.4 +0.9**
15nm,1.5s
SURT Suratani 46.82 266 P **P 11 00 26.2 +3.1**
6.0nm,0.9s
ARMA Armidale 47.54 174 *e*P **P 11 00 29.7 +1.2**
52nm,2.1s
STKA Stephens Creek 48.91 185 P **P 11 00 38.7 -0.2**
5.3nm,0.5s,baz=359,slow=6.7,SNR=40
STKA Stephens Creek 48.91 185 *e*P **P 11 00 38.8 -0.1**
GSI Gunungsitoli 50.34 257 P **P 11 00 51.5 +1.3**
BBOO Buckleboo 50.58 191 *e*P **P 11 00 51.8 +0.2**
1.8nm,0.7s
FORT Forrest 50.72 200 *e*P **P 11 00 52.0 -0.6**
19nm,1.0s
CAN Canberra 52.21 177 *e*P **P 11 01 04.8 +1.1**
19nm,0.6s
BILL Bilibino 52.49 9 *e*P **P 11 01 05.4 0.0**
11nm,0.4s
TAPN Taplejung 54.70 292 *e*P **P 11 01 22.6 0.0**
ODAN Odare 55.01 291 *e*P **P 11 01 23.7 -1.0**
RAMN Ramite 55.71 291 *e*P **P 11 01 28.0 -1.8**
WMQ Urumqi 55.73 312 *e*P **P 11 01 32.6 +3.2**
WMQ pP **pP 11 01 56.3 +1.6**
WMQ sP **sP 11 02 07.5 +1.1**
WMQ S **S 11 09 09.0 +0.9**
WMQ sS **sS 11 09 50.3 -1.3**
WMQ ScS **ScS 11 11 08.6 -0.1**
WMQ SS **SS 11 12 55.3 +0.4**
WMQ PMZ
9.0nm,0.5s
WMQ PMZ
89nm,4.0s
WMQ LN
66nm,17.4s
WMQ LE
43nm,18.8s
WMQ LZ
34nm,21.0s
JIRN Jiri 56.04 292 *e*P **P 11 01 31.3 -0.9**
PKI Pulchoki 56.73 292 *e*P **P 11 01 36.0 -1.1**
7.8nm,0.4s
PKIN Phulchoki 56.74 292 *e*P **P 11 01 36.2 -0.9**
4.6nm,0.3s
DMN Daman 57.00 292 *e*P **P 11 01 37.6 -1.3**
10nm,0.4s
GKN Gorkha 57.39 293 *e*P **P 11 01 41.0 -0.6**
ZALV Zalesovo Beam 59.58 323 P **P 11 01 54.2 -1.8**
0.7nm,0.4s,baz=131,slow=15,SNR=2.9
MK31 Makanchi Array 59.93 315 *e*P **P 11 01 57.8 -0.8**
MKAR Makanchi Array 59.93 315 P **P 11 01 57.5 -1.2**
0.4nm,0.3s,baz=90,slow=7.2,SNR=8.6
MKAR Makanchi Array 59.93 315 P **P 11 01 57.5 -1.2**
MKAR *e*pP **pP 11 02 24.1 -0.2**
RC01 Rabbit Creek A 62.68 29 *e*P **P 11 02 16.7 -0.2**
KTH Kantishna Hill 62.82 27 *e*P **P 11 02 17.5 -0.4**
16nm,1.2s
BPAW Bear Paw Mtn. 62.95 26 *e*P **P 11 02 19.5 +0.8**
3.2nm,0.9s
TRF Thorofare Moun 63.06 27 *e*P **P 11 02 19.8 +0.1**
5.2nm,0.8s
KSH Kashi 64.20 306 *e*P P 11 02 32.5 +5.0
KSH pP pP 11 02 56.9 +3.5
KSH sP sP 11 03 08.0 +3.1
KSH PP PP 11 04 57.1 +7.3
KSH S **S 11 11 01.8 +4.9**
KSH ScS **ScS 11 12 13.6 +1.5**
KSH PMZ
44nm,4.3s
KSH LN
99nm,7.1s
KSH LE
120nm,9.6s
KSH LZ
99nm,5.5s
COLD Coldfoot 64.21 23 *e*P **P 11 02 27.6 +0.7**
2.1nm,0.5s
ILAR Eielson Array 64.84 26 P **P 11 02 30.4 -0.7**
2.3nm,0.6s,baz=251,slow=5.9,SNR=32
PAX Paxson 65.06 28 *e*P **P 11 02 33.3 +0.7**
6.3nm,0.7s
DOT Dot Lake 65.82 27 *e*P **P 11 02 37.8 +0.4**
9.1nm,0.8s
HYT Haines Junctio 68.52 31 *e*P **P 11 02 56.3 +1.6**
INK Inuvik 70.63 23 *e*P **P 11 03 07.7 +0.4**
2.6nm,0.5s
H02N1 VAN INLET T-PH 71.26 39 T T 12 21 41.0
H02S1 DAWSON INLET T 71.30 39 T T 12 21 44.2
YKA Yellowknife Ar 79.15 28 P **P 11 03 56.4 0.0**
2.5nm,0.6s,baz=285,slow=5.7,SNR=12
RES Resolute Bay 80.84 14 *e*P **P 11 04 05.3 -0.1**
2.1nm,0.4s
WAKR Walker 82.84 52 *e*P **P 11 04 18.5 +1.7**
4.2nm,0.6s
NVAR Mina Array Bea 83.72 52 P **P 11 04 23.1 +1.7**
5.8nm,0.7s,baz=264,slow=6.0,SNR=47
MFID Camas Ranch 84.03 47 *e*P **P 11 04 23.8 +1.0**
7.6nm,1.0s
ARCES ARCESS Array B 84.15 342 P **P 11 04 22.0 -0.6**
1.0nm,0.6s,baz=70,slow=7.3,SNR=7.2
ARCES PKKPbc **PKKPbc 11 22 35.4 -2.5**
3.0nm,1.1s,baz=264,slow=3.7,SNR=4.3
SLMT Seeley Lake 84.39 42 *e*P **P 11 04 26.4 +1.8**
1.4nm,0.5s
ELK Elko 85.28 49 *e*P **P 11 04 30.2 +1.0**
1.4nm,0.6s
LRM Limekiln Ridge 85.54 43 *e*P **P 11 04 31.2 +0.8**
27nm,0.5s
MCMT McKenzie Canyo 85.61 44 *e*P **P 11 04 31.1 +0.3**
0.6nm,0.4s
HRY Holter Researc 85.64 42 *e*P **P 11 04 31.8 +1.1**
11nm,0.7s
R11A Troy Canyon, C 85.78 51 *e*P **P 11 04 33.0 +1.4**
1.1nm,0.6s
QLMT Earthquake Lak 86.56 44 *e*P **P 11 04 37.0 +1.6**
0.6nm,0.6s
DUG Dugway, Tooele 87.21 49 *e*P **P 11 04 39.6 +1.1**
3.2nm,0.6s
H17A Grant Village 87.29 44 *e*P **P 11 04 40.7 +1.7**
6.2nm,1.0s
FLWY Flagg Ranch 87.32 45 *e*P **P 11 04 40.6 +1.5**
3.8nm,0.8s
FINES FINESS Array B 88.53 335 P **P 11 04 41.6 -2.5**
0.8nm,0.3s,baz=90,slow=3.7,SNR=7.9
BW06 Boulder Array 88.57 46 *e*P **P 11 04 45.5 +0.4**
1.1nm,0.4s
PDAR Pinedale Array 88.57 46 P **P 11 04 45.9 +0.8**
0.7nm,0.4s,baz=61,slow=1.9,SNR=12
SRU San Rafael Swe 89.24 49 *e*P **P 11 04 48.8 +0.6**
2.5nm,0.5s
214A Organ Pipe Nat 90.03 57 *e*P **P 11 04 53.5 +1.6**
4.2nm,0.6s
PV01 Paradox Valley 91.03 50 *e*P **P 11 04 57.7 +1.1**
175nm,0.7s
SMCO Snowmass 91.77 48 *e*P **P 11 05 01.1 +0.9**
2.9nm,0.8s
ISCO Idaho Springs 92.47 47 *e*P **P 11 05 04.7 +1.3**
2.8nm,0.9s
TXAR Lajitas Array 98.31 56 P Pdif 11 05 31.3 +1.4
0.4nm,0.9s,baz=286,slow=5.3,SNR=3.9
TORD Torodi Ar. Bea 133.84 308 PKP **PKPdf 11 11 08.4 -0.8**
0.3nm,0.4s,baz=11,slow=1.6,SNR=5.5
TORD SKPbc **SKPbc 11 14 24.7 -4.2**
1.7nm,0.8s,baz=26,slow=1.5,SNR=9.9
PLCA Paso Flores 140.54 134 PKP **PKPdf 11 11 21.5 +0.5**
1.8nm,0.8s,baz=309,slow=3.6,SNR=4.6
DBIC Dimbokro 142.92 307 PKhKP PKPpre 11 11 21.8
2.3nm,0.5s,baz=13,slow=3.9,SNR=4.8
LCO Las Campanas 144.16 116 *e*PKPdf **PKPdf 11 11 27.8 -0.2**
LPAZ La Paz 147.10 94 PKPbc **PKPab 11 11 37.1 -0.7**
4.5nm,0.3s,baz=194,slow=3.6,SNR=50
LPAZ La Paz 147.10 94 *e*PKPdf **PKPdf 11 11 34.5 +0.8**
LPAZ PKPbc **PKPab 11 11 37.1 -0.7**
SAML Samuel 150.25 78 *e*PKPbc **PKPbc 11 11 43.6 +0.3**
BDFB Brasilia 166.25 86 PKPab **PKPab 11 12 59.0 -0.1**
3.1nm,0.5s,baz=284,slow=5.7,SNR=5.0

MAN 20 11:01:11.17 96N×121.09E, h19km, mb4.5, ML3.4, MS3.2, 2C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.18**	**123**	*e*P		P	Pg	11 01 16.4	+0.7
ABRA	**Dolores**	**0.47**	**229**	*e*P		P	Pg	11 01 20.4	-0.2
ABRA				*e*S		S	Sg	11 01 26.3	-0.8
PIP	**Pasuquin**	**0.58**	**309**	i/P		P	Pg	11 01 23.2	+0.6
PIP				*e*S		S	Sb	11 01 29.1	-1.1
SIPP	**Brgy, Tapao**	**0.60**	**267**	i/P		P	Pn	11 01 25.2	+0.7
SIPP				*e*S		S	Sn	11 01 33.2	-0.5
CVP	**Callao Caves**	**0.74**	**110**	i/P		P	Pg	11 01 25.6	-0.1
CVP				*i* S		S	Sg	11 01 36.0	+0.4
SGCP	**Mt. Cagua**	**0.95**	**73**	*e*P		P	Pn	11 01 29.4	-0.1
SGCP				*e*S		S	Sn	11 01 42.9	+0.4
CAUP	**Cauayan**	**1.23**	**145**	*e*P		P	Pg	11 01 34.5	-0.3
BCPH	**Baguio City Da**	**1.64**	**197**	i/P		P	Pn	11 01 39.0	-0.1
BCPH				*i* S		S	Sn	11 01 59.4	-0.5
BOLP	**Bolinao**	**1.93**	**216**	*e*P		P	Pn	11 01 43.0	+0.2
BALP	**Baler**	**2.25**	**168**	*e*P		P	Pn	11 01 48.2	+0.9
SCZP	**Santa Cruz**	**2.44**	**208**	*e*P		P	Pn	11 01 50.6	+0.7

BJI **20** *11:04:56.8, 1.36S×134.46E, h26km, mb4.8/43, mB4.9/25, Ms4.7/13, Ms7 4.3/14*
MOS **20** *11:05:02.2±1.0, 0.76S×133.94E, h28km, mb5.0/21, MS4.1/6, Error ellipse: s-maj=14.4km s-min=6.5km az=112.3*
IDC **20** *11:05:03.7±4.2, 0.88S×133.93E, h26km±27km, mb4.3/13, mb1 4.4/16, mb1mx4.3/23, mbtmp4.4/16, ML4.0/3, MS3.4/11, Ms1 3.4/11, ms1mx3.2/24, Error ellipse: s-maj=21.4km s-min=9.7km az=82.0*
ISCJB **20** *11:05:03.4±0.2, 0.69S±0.03×134.10E±0.03, h33km, mb4.6/58, MS4.4/128, Error ellipse: s-maj=4.7km s-min=4.1km az=19.5*
NEIC **20** *11:05:06.2±1.0, 0.79S×134.03E, h45km±9km, mb4.6/24, MS4.5/107, Error ellipse: s-maj=7.7km s-min=5.6km az=51.0*
NEIC Felt [III] at Manokwari.
DJA **20** *11:05:07.4±0.2, 1°S±3'×13'4E±', h10km, M4.8/18, mb4.8/18, mB5.4/7, MLv4.7/11, Mw(mB)4.9/7*
ISC 20 11:05:04.3±0.5, **0.74S**±0.04×**134.11E**±0.05, **h28**km±2km, **n258**, σ1**31**/167, **mb4.7**/57, **MS4.4**/128, **5C-2D, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**2.41**	**118**	P		P	**Pn**	**11 05 43.3**	**+1.5**
SRPI				S		S	**Sb**	**11 06 15.4**	**-0.8**
SIJI	**Sorong**	**2.85**	**267**	Pn		P	**Pn**	**11 05 45.6**	**-2.2**
SIJI				Sn		S	**Sn**	**11 06 20.6**	**-0.7**
	9.7nm,0.3s,baz=352,slow=23,SNR=26								
FAKI	**Fak Fak**	**2.85**	**221**	P		P	**Pn**	**11 05 47.9**	**-0.1**
FAKI				S		S	**Sn**	**11 06 23.1**	**+1.7**
FAKI	**Fak Fak**	**2.85**	**221**	*e*Pn		P	**Pn**	**11 05 47.6**	**-0.3**
SMPI	**Sarmi**	**4.76**	**105**	P		P	**Pn**	**11 06 15.3**	**+1.1**
BNDI	**Bandanaira**	**5.63**	**228**	P		P	**Pn**	**11 06 26.6**	**+0.4**
	536nm,0.7s,6µm2.9nm								
MSAI	**Masohi**	**5.79**	**243**	P		P	Pn	11 06 31.9	+3.6
	35nm,0.9s,0.1nm								
MSAI				S		S	**Sn**	**11 07 38.5**	**+4.6**
	35nm,0.9s,0.1nm								
GENI	**Genyem**	**6.33**	**107**	P		P	Pn	11 06 40.9	+5.1
	67nm,0.9s,0.3nm								
JAY	**Jayapura**	**6.82**	**105**	P		P	Pn	11 06 47.5	+4.9
	15nm,0.8s,4µm0.2nm								
JAY	**Jayapura**	**6.82**	**105**	Pn		P	**Pn**	**11 06 45.6**	**+3.0**
	0.9nm,0.3s,baz=260,slow=15,SNR=5.8								
SANI	**Sanana**	**8.22**	**261**	P		P	**Pn**	**11 07 04.3**	**+2.5**
	25nm,0.8s								
KMSI	**Cibinong**	**10.21**	**277**	P		P	Pn	11 07 35.7	+6.6
	103nm,0.9s								
LUWI	**Luwuk**	**11.34**	**268**	P		P	Pn	11 07 50.7	+6.1
	36nm,1.0s,4µm								
MRSI	**Marisa**	**12.23**	**276**	P		P		11 08 04.1	-4.7
	24nm,1.1s								
APSI	**Ampana**	**12.46**	**269**	P		P	Pn	11 08 03.8	+3.9
	76nm,1.1s,700nm								
SOEI	**Soe**	**13.27**	**227**	P		P	**Pn**	**11 08 10.7**	**-0.3**
	55nm,1.0s								
PCI	**Palu**	**14.27**	**269**	P		P	**Pn**	**11 08 31.5**	**-0.1**
	24nm,1.2s								
TTSI	**Tana Toraja**	**14.46**	**261**	P		P	**Pn**	**11 08 34.7**	**+1.0**
BSSI	**Bau Bau, Buton**	**14.61**	**248**	P		P	Pn	11 08 40.3	+5.0
SPSI	**Sidrap Palu**	**14.68**	**257**	P		P	Pn	11 08 40.5	+4.4
BKSI	**Bukukumba**	**14.69**	**252**	P		P	**Pn**	**11 08 34.6**	**-1.6**
	20nm,1.3s,260nm								
EDFI	**Ende, Flores**	**14.71**	**237**	P		P	**Pn**	**11 08 36.1**	**-0.4**
KAPI	**Kappang**	**14.95**	**253**	Pn		P	**Pn**	**11 08 38.4**	**-0.7**
	0.2nm,0.3s,baz=111,slow=15,SNR=2.7								
KAPI	**Kappang**	**14.95**	**253**	*e*Pn		P	**Pn**	**11 08 34.3**	**+0.4**
	33nm,1.2s								
COEN	**Coen**	**15.90**	**146**	*e*Pn		P	**Pn**	**11 08 46.3**	**0.0**
	2.3nm,0.8s								
GUMO	**Guam**	**17.79**	**36**	LR		LR		11 14 32.5	
	comp=Z,57nm,21.6s,baz=199,slow=32								
WRAB	**Tennant Creek**	**19.07**	**179**	*e*P		P		**11 09 23.1**	**-1.6**
WRAB				pmax		pmax			
	comp=Z,26nm,0.7s								
WRAB	**Tennant Creek**	**19.07**	**179**	*e*P		P		**11 09 23.1**	**-1.6**
	comp=Z,26nm,0.7s								
WRA	**Warramunga Arr**	**19.08**	**179**	P		P		**11 09 23.1**	**-1.7**
	comp=Z,1.3nm,0.3s,baz=356,slow=11,SNR=42								
WRA				S		S	**Sn**	**11 12 53.3**	**-5.6**
	comp=Z,0.3nm,0.3s,baz=358,slow=23,SNR=2.9								
SBUM	**Sibu**	**22.11**	**278**	*e*P		P		**11 09 59.6**	**+1.8**
	comp=Z,15nm,1.2s								
SBUM				LR		LR			
	comp=Z,100nm,20.0s								
CTA	**Charters Tower**	**22.60**	**149**	P		P		**11 10 04.8**	**+1.9**
	comp=Z,14nm,0.7s,baz=328,slow=12,SNR=19								
CTAO	**Charters Tower**	**22.60**	**149**	*e*P		P		**11 10 04.2**	**+1.3**
CTAO				pmax		pmax			
	comp=Z,14nm,0.8s								
CTAO	**Charters Tower**	**22.60**	**149**	*e*P		P		**11 10 04.2**	**+1.3**
	comp=Z,14nm,0.8s								
AS31	**Alice Springs**	**22.79**	**180**	*e*P		P		**11 10 03.6**	**-1.3**
ASAR	**Alice Springs**	**22.79**	**180**	P		P		**11 10 03.4**	**-1.5**
	comp=Z,7.9nm,0.7s,baz=5.0,slow=12,SNR=103								
ASAR				S		S		**11 14 10.9**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=0.2,slow=24,SNR=5.0								
KSM	**Kuching**	**23.90**	**275**	*e*P		P		**11 10 15.8**	**-0.2**
	comp=Z,26nm,1.2s								
KSM				LR		LR			
	comp=Z,100nm,18.8s								
MBWA	**Marble Bar**	**24.67**	**214**	*e*P		P		**11 10 23.5**	**+0.6**
	comp=Z,36nm,1.3s								
TWG	**Pinlang**	**26.64**	**332**	PFAKE				11 10 50.0	+9.2
TWG				LR		LR			
	comp=Z,400nm,19.3s								
YULB	**Yu-li**	**27.03**	**333**	PFAKE				11 11 00.0	+16
YULB				LR		LR			
	comp=Z,100nm,18.5s								
LEM	**Lembang**	**27.10**	**256**	LR		LR		11 23 26.3	
	comp=Z,137nm,18.5s,baz=217,slow=41								
TPUB	**Ta-pu**	**27.26**	**332**	PFAKE				11 11 00.0	+14
TPUB				LR		LR			
	comp=Z,100nm,18.4s								
JOW	**Kunigami**	**27.98**	**349**	PFAKE				11 11 10.0	+17
JOW				LR		LR			
	comp=Z,100nm,18.0s								
YHNB	**Yeheng**	**28.12**	**335**	PFAKE				11 11 10.0	+16
YHNB				LR		LR			
	comp=Z,100nm,20.9s								
JCJ	**Chichijima**	**28.75**	**15**	LR		LR		11 20 29.8	
	comp=Z,35nm,18.9s,baz=200,slow=32								
PMBI	**Palembang**	**29.40**	**265**	PFAKE				11 11 20.0	+14
PMBI				LR		LR			
	comp=Z,100nm,20.0s								
STKA	**Stephens Creek**	**31.77**	**168**	P		P		**11 11 24.6**	**-1.6**
	comp=Z,2.9nm,0.7s,baz=344,slow=7.0,SNR=10.0								
STKA				LR		LR		11 24 52.5	
	comp=Z,132nm,21.7s,baz=12,slow=38								
STKA	**Stephens Creek**	**31.77**	**168**	*e*P		P		**11 11 25.5**	**-0.7**
STKA	**Stephens Creek**	**31.77**	**168**	*e*P		P		**11 11 25.5**	**-0.7**
BKNI	**Bangkinang**	**33.09**	**272**	PFAKE				11 11 50.0	+12
BKNI				LR		LR			
	comp=Z,200nm,22.0s								
IPM	**Ipoh**	**33.46**	**279**	PFAKE				11 11 50.0	+8.7
IPM				LR		LR			
	comp=Z,100nm,21.5s								
JNU	**Nakatsue**	**33.82**	**355**	*e*P		P		**11 11 43.7**	**-0.5**
	comp=Z,6.4nm,0.8s								
ARMA	**Armidale**	**33.88**	**152**	*e*P		P		**11 11 45.6**	**+0.7**
SKNT	**Sakolnakorn**	**34.52**	**302**	P		P		**11 11 49.8**	**-0.7**
	comp=Z,37nm,1.1s,comp=Z,591nm								
KHON	**Khomkaen**	**35.23**	**300**	P		P		**11 11 57.1**	**+0.5**
	comp=Z,12nm,1.0s,comp=Z,691nm								
NJ2	**Nanjing**	**35.67**	**337**	*e*P		P		**11 12 01.1**	**+1.0**
NJ2				PMZ					
	comp=Z,50nm,0.7s								
PBKT	**Sadao Pong**	**36.94**	**299**	P		P		**11 12 10.7**	**-0.5**
	comp=Z,8.3nm,0.9s								
MJAR	**Matsushiro Arr**	**37.29**	**5**	LR		LR		11 24 37.4	
	comp=Z,67nm,20.7s,baz=355,slow=31								
MAJO	**Matsushiro**	**37.29**	**5**	PFAKE				11 12 30.0	+16
MAJO				LR		LR			
	comp=Z,100nm,22.0s								
H11S3	**WAKE ISLAND Hy**	**37.29**	**57**	T		T		11 52 09.0	
	baz=240,slow=76,SNR=12								
H11S2	**WAKE ISLAND Hy**	**37.30**	**58**	T		T		11 52 11.1	
	baz=240,slow=76,SNR=6.4								
H11S1	**WAKE ISLAND Hy**	**37.31**	**57**	T		T		11 52 08.0	
	baz=240,slow=76,SNR=11								
UTTA	**Uttaradit**	**37.79**	**301**	P		P		**11 12 17.7**	**-0.7**
	comp=Z,8.2nm,0.8s,comp=Z,71nm								
GYA	**Guiyang**	**37.84**	**318**	*e*P		P		**11 12 21.0**	**+2.1**
GYA				PMZ					
	comp=Z,10.0nm,0.8s								
H11N1	**WAKE ISLAND Hy**	**38.03**	**56**	T		T		11 53 00.1	
	baz=245,slow=74,SNR=15								
H11N2	**WAKE ISLAND Hy**	**38.04**	**56**	T		T		11 53 02.0	
	baz=245,slow=74,SNR=15								
H11N3	**WAKE ISLAND Hy**	**38.05**	**56**	T		T		11 53 02.0	
	baz=245,slow=74,SNR=21								
NANT	**Nan**	**38.13**	**302**	P		P		**11 12 20.9**	**-0.4**
	comp=Z,37nm,1.0s								
KSAR	**Wonju Array Be**	**38.43**	**352**	P		P		**11 12 23.7**	**+0.2**
KSAR								11 14 37.7	
KSAR	**Wonju Array Be**	**38.43**	**352**	P		P		**11 12 23.7**	**+0.2**
KSAR				PcP		PcP		**11 14 37.7**	**+1.2**
KSRS	**Korea Array**	**38.43**	**352**	P		P		**11 12 23.7**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=168,slow=8.7,SNR=7.5								
KSRS				PcP		PcP		**11 14 37.7**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=236,slow=2.3,SNR=4.2								
KSRS				LR		LR		11 28 11.3	
	comp=Z,32nm,20.3s,baz=166,slow=36								
KSRS	**Korea Array**	**38.43**	**352**	P		P		**11 12 23.7**	**+0.2**
KSRS								11 14 37.7	
KSRS				pmax		pmax			
	comp=Z,2.0nm,0.8s								
KSRS				pmax		pmax			
	comp=Z,1.0nm,0.6s								
KSRS				MLR		MLR			
	comp=Z,32nm,20.3s								
INCN	**Inchon**	**38.66**	**350**	PFAKE				11 12 40.0	+14
INCN				LR		LR			
	comp=Z,100nm,22.0s								
ENH	**Enshi**	**38.75**	**325**	PFAKE				11 12 40.0	+14
ENH				LR		LR			
	comp=Z,100nm,20.2s								
LAMP	**Lampang**	**38.92**	**301**	P		P		**11 12 27.8**	**-0.1**
	comp=Z,12nm,0.8s,comp=Z,91nm								
CRAI	**Chiangrai**	**39.06**	**304**	P		P		11 12 25.7	-3.5
	comp=Z,6.7nm,1.1s,comp=Z,954nm								
CM31	**Chiang Mai Arr**	**39.48**	**301**	*e*P		P		**11 12 31.6**	**-1.0**
	comp=Z,2.7nm,0.4s								
CMAR	**Chiang Mai Arr**	**39.48**	**301**	P		P		**11 12 32.1**	**-0.6**
	comp=Z,13nm,0.9s,baz=124,slow=6.7,SNR=71								
CMMT	**Chiang Mai**	**39.63**	**301**	P		P		**11 12 33.0**	**-0.9**
	comp=Z,33nm,1.0s								
CHTO	**Chiang Mai**	**39.63**	**301**	P		P		**11 12 33.1**	**-0.9**
	comp=Z,113nm,1.0s								
CHTO	**Chiang Mai**	**39.63**	**301**	*e*P		P		**11 12 33.0**	**-0.9**
CHTO				pmax		pmax			
	comp=Z,19nm,0.9s								
CHTO				MLR		MLR			
	comp=Z,100nm,18.0s								
CHTO	**Chiang Mai**	**39.63**	**301**	*e*P		P		**11 12 33.0**	**-1.0**
	comp=Z,19nm,0.9s								
CHTO				LR		LR			
	comp=Z,100nm,18.0s								
CMAI	**Chiengmai2**	**40.03**	**303**	P		P		**11 12 37.0**	**-0.4**
	comp=Z,8.3nm,1.1s,comp=Z,716nm								
XAN	**Xi'an**	**41.91**	**328**	P		P		**11 12 51.5**	**-1.0**
XAN				pP		**pP**		**11 12 59.3**	**-1.7**
XAN				PMZ					
	comp=Z,2.0nm,1.0s								
CD2	**Chengdu**	**42.69**	**320**	*e*P		P		**11 12 59.3**	**+0.4**
CD2				PP		**PP**		**11 14 40.6**	**+2.3**
CD2				S		**S**		**11 19 21.9**	**+1.1**
CD2				SS		**SS**		**11 22 28.0**	**-4.0**
CD2				PMZ					
	comp=Z,20nm,0.8s								
CD2				PMZ					
	comp=Z,120nm,8.3s								
CD2				LN					
	comp=Z,130nm,14.3s								
CD2				LZ					
	comp=Z,80nm,14.3s								
ERM	**Erimo**	**43.34**	**10**	PFAKE				11 13 20.0	+16
ERM				LR		LR			
	comp=Z,200nm,21.0s								
TAU	**Tasmania Unive**	**43.62**	**166**	PFAKE				11 13 20.0	+14
TAU				LR		LR			
	comp=Z,994nm,20.3s								
BJT	**Baijiatuau**	**43.75**	**340**	PFAKE				11 13 20.0	+13
BJT				LR		LR			
	comp=Z,100nm,20.0s								
BJI	**Beijing**	**43.77**	**340**	P		P		**11 13 07.1**	**-0.3**
BJI				PMZ					
	comp=Z,30nm,1.0s								
BJI				PMZ					
	comp=Z,57nm,4.0s								
BJI				LZ					
	comp=Z,54nm,32.4s								
USRK	**Ussuriysk Ar.**	**44.78**	**358**	P		P		**11 13 15.4**	**-0.1**
	comp=Z,2.8nm,0.9s,baz=186,slow=10,SNR=4.4								
CN2	**Changchun**	**45.02**	**351**	*e*P		P		**11 13 17.9**	**+0.5**
CN2				PMZ					
	comp=Z,10.0nm,0.7s								
ASAJ	**Asahikawa**	**45.30**	**9**	LR		LR		11 29 54.4	
	comp=Z,33nm,19.9s,baz=318,slow=33								
MDJ	**Mudanjiang**	**45.34**	**355**	P		P		**11 13 19.5**	**-0.4**
MDJ				PMZ					

comp=Z,9.0nm,1.2s
MDJ Mudanjiang 45.34 355 PFAKE 11 13 30.0 +10
MDJ LR LR
comp=Z,100nm,18.0s
HHC Hu-ho-hao-te 46.20 336 *e*P **P** **11 13 29.3 +2.4**
HHC PP **PP** **11 15 18.3 +2.6**
HHC S **S** **11 20 14.8 +3.2**
HHC sS **sS** **11 20 27.1 +1.3**
HHC SS **SS** **11 23 32.8 -4.6**
HHC PMZ
comp=Z,19nm,0.7s
HHC PMZ
comp=Z,120nm,8.6s
HHC LN
comp=Z,470nm,17.3s
HHC LE
comp=Z,390nm,13.6s
HHC LZ
comp=Z,430nm,18.5s
LZH Lanzhou 46.21 326 *e*P **P** **11 13 28.8 +1.6**
LZH pP **pP** **11 13 35.8 +0.1**
LZH sP **sP** **11 13 40.4 +1.2**
LZH PMZ
comp=Z,33nm,1.2s
LZH PMZ
comp=Z,120nm,4.3s
HABR Khabarovsk 49.03 1 *e*P **P** **11 13 46.5 -2.1**
HABR *e* 11 15 09.1
HABR *e* 11 15 40.5
HABR *e* 11 16 32.5
HABR *e*S **S** **11 20 50.1 -1.2**
HABR *e*SS x 11 21 07.8
HABR *e* 11 23 35.1
HABR *e*SS **SS** **11 24 24.0 +1.3**
HABR *e*SSS SSS 11 25 41.4
HABR pmax pmax
comp=Z,62nm,2.0s
HABR pmax pmax
comp=N,118nm,2.8s
HABR pmax pmax
comp=E,132nm,2.8s
HABR MLR MLR
comp=Z,97nm,22.0s
KLR Kul'dur 49.82 358 *e*P P 11 13 58.0 +3.4
GTA Gaotai 50.81 326 *e*P **P** **11 14 02.8 +0.3**
GTA pP **pP** **11 14 10.3 -0.9**
GTA sP **sP** **11 14 13.6 -1.0**
GTA PcP **PcP** **11 15 20.0 +0.8**
GTA S **S** **11 21 17.6 +0.7**
GTA ScS **ScS** **11 23 50.4 -1.3**
GTA SS **SS** **11 24 50.3 -1.7**
GTA PMZ
comp=Z,11nm,1.2s
GTA PMZ
comp=Z,100nm,5.9s
GTA LN
comp=Z,340nm,19.0s
GTA LE
comp=Z,400nm,19.2s
GTA LZ
comp=Z,92nm,16.6s
LSA Lhasa 50.92 310 PFAKE 11 14 20.0 +16
LSA LR LR
comp=Z,100nm,19.5s
HIA Hailar 51.33 348 PFAKE 11 14 20.0 +14
HIA LR LR
comp=Z,100nm,18.4s
ULN Ulaanbaatar 53.84 338⇑ *i*P **P** **11 14 25.2 +0.4**
ULN pmax pmax
comp=Z,7.0nm,1.2s
ULN Ulaanbaatar 53.84 338 *e*P **P** **11 14 25.3 +0.5**
comp=Z,12nm,1.5s
ULN LR LR
comp=Z,100nm,20.4s
SONM Songino Array 54.06 337 P **P** **11 14 26.7 +0.2**
comp=Z,0.8nm,0.5s,baz=159,slow=5.8,SNR=6.2
SONM PcP **PcP** **11 15 31.1 -0.1**
comp=Z,2.1nm,0.7s,baz=130,slow=4.6,SNR=7.6
KNTN Kanton 54.18 93 PFAKE 11 14 40.0 +12
KNTN LR LR
comp=Z,2μm,19.9s
BKZ Black Stump Fm 54.39 140 PFAKE 11 14 40.0 +11
BKZ LR LR
comp=Z,400nm,18.6s
PETK Petropavlovsk- 57.17 17 P **P** **11 14 48.8 +0.3**
comp=Z,5.2nm,0.8s,baz=164,slow=7.7,SNR=17
ZAK Zakamensk 57.33 337⇑ *i*P **P** **11 14 49.6 -0.2**
ZAK pmax pmax
comp=Z,4.0nm,1.5s
PET Petropavlovsk 57.37 17 *i*P **P** **11 14 50.1 +0.2**
PET pmax pmax
comp=Z,7.0nm,1.0s
PET Petropavlovsk 57.37 17 PFAKE 11 15 00.0 +10
PET LR LR
comp=Z,100nm,19.4s
TLY Talaya 58.23 338 *e*P **P** **11 14 56.3 +0.3**
TLY pmax pmax
comp=Z,3.0nm,0.9s
TLY Talaya 58.23 338 PFAKE 11 15 10.0 +14
TLY LR LR
comp=Z,100nm,18.6s
MOY Mondy 59.23 337 *e*P **P** **11 15 03.5 +0.4**
BOD Bodaibo 60.55 348 *e*P **P** **11 15 11.0 -0.9**
BOD pmax pmax
comp=Z,4.0nm,1.9s
WMQ Urumqi 60.65 323 P **P** **11 15 13.8 +0.8**
WMQ pP **pP** **11 15 21.3 -0.5**
WMQ sP **sP** **11 15 24.6 -0.6**
WMQ PcP **PcP** **11 15 57.8 +0.7**
WMQ PMZ
comp=Z,29nm,0.8s
WMQ PMZ
comp=Z,92nm,4.2s
WMQ LN
comp=Z,190nm,20.7s
WMQ LE
comp=Z,110nm,19.2s
WMQ LZ
comp=Z,52nm,21.8s
YAK Yakutsk 62.70 358 *e*P **P** **11 15 25.2 -1.1**
YAK pmax pmax
comp=Z,16nm,0.9s
SEY Seymchan 64.98 9 *i*P **P** **11 15 41.9 +0.6**
MK31 Makanchi Array 65.46 324 *e*P **P** **11 15 44.9 +0.1**
MK31 Makanchi Array 65.46 324 *e*P **P** **11 15 44.9 +0.1**
MKAR Makanchi Array 65.46 324 P **P** **11 15 44.8 -0.1**
comp=Z,10nm,0.8s,baz=131,slow=5.0,SNR=94
MKAR Makanchi Array 65.46 324 *e*P **P** **11 15 45.1 +0.3**
MKAR Makanchi Array 65.46 324 *e*P **P** **11 15 45.1 +0.3**
PDGK Podgornoye 65.57 319 P **P** **11 15 45.1 -0.4**
PDGK pmax pmax
comp=Z,8.0nm,1.0s
KSH Kashi 66.41 314 P **P** **11 15 52.3 +1.1**
KSH sP **sP** **11 16 03.0 -0.5**
KSH PP **PP** **11 18 20.4 +2.7**
KSH PcS 11 20 25.3
KSH S **S** **11 24 37.9 -2.0**
KSH PMZ
comp=Z,12nm,1.0s
KSH PMZ
comp=Z,74nm,3.1s
KSH LN
comp=Z,220nm,10.4s
KSH LE
comp=Z,150nm,9.4s
KSH LZ
comp=Z,130nm,5.3s
ADK Adak 66.75 31 PFAKE 11 16 10.0 +17
ADK LR LR
comp=Z,100nm,18.0s
ZAA0 Zalesovo Array 67.97 331 *e*P **P** **11 15 59.5 -1.1**
ZALV Zalesovo Beam 67.97 331 P **P** **11 15 59.5 -1.1**
comp=Z,3.3nm,0.7s,baz=115,slow=6.7,SNR=14
TKM2 Tokmak 2 67.98 317 *e*P **P** **11 16 01.1 -0.1**
TKM2 pmax pmax
comp=Z,6.0nm,1.0s
TKM2 Tokmak 2 67.98 317 *e*P **P** **11 16 01.1 -0.1**
comp=Z,6.1nm,1.0s
SFK Sufi-Kurgan 68.37 314 P **P** **11 16 03.5 -0.2**
SFK pmax pmax
comp=Z,5.0nm,0.8s
AAK Ala-Archa 68.62 317⇑ *i*P **P** **11 16 05.6 +0.4**
AAK pmax pmax
comp=Z,14nm,1.7s
AAK Ala-Archa 68.62 317 *e*P **P** **11 16 05.7 +0.4**
comp=Z,6.5nm,1.3s
AAK LR LR
comp=Z,100nm,21.0s
EKS2 Erkin-Say 69.12 317 *e*P **P** **11 16 08.2 0.0**
EKS2 pmax pmax
comp=Z,7.0nm,0.9s
EKS2 MLR MLR
comp=Z,100nm,18.0s
EKS2 Erkin-Say 69.12 317 *e*P **P** **11 16 08.2 0.0**
comp=Z,7.5nm,0.9s
EKS2 LR LR
comp=Z,100nm,18.0s
NVS Novosibirsk 69.24 331 *e*P **P** **11 16 07.1 -1.4**
KURK Kurchatov 69.50 326 *e*P **P** **11 16 08.5 -1.7**
KURK pmax pmax
comp=Z,17nm,0.9s
KURK Kurchatov 69.50 326 *e*P **P** **11 16 08.5 -1.7**
comp=Z,17nm,0.9s
MNAS Manas 69.94 316 P **P** **11 16 13.5 +0.2**
MNAS pmax pmax
comp=Z,13nm,1.2s
KK31 Karatay Array 71.53 316 *i*P **P** **11 16 21.7 -1.1**
KK31 pmax pmax
comp=Z,1.0nm,0.3s
KKAR Karatay Array 71.53 316 *e*P **P** **11 16 22.9 +0.1**
KKAR Karatay Array 71.53 316 *e*P **P** **11 16 22.9 +0.1**
BILL Bilibino 72.15 12⇓ *i*P **P** **11 16 25.7 -0.3**
BILL *i* 11 16 44.4
BILL pmax pmax
comp=Z,6.0nm,2.3s
BILL Bilibino 72.15 12 PFAKE 11 16 40.0 +14
BILL LR LR
comp=Z,100nm,20.0s
TIXI Tiksi 72.35 358⇑ *i*P **P** **11 16 25.8 -1.3**
TIXI pmax pmax
comp=Z,5.0nm,1.7s
TIXI Tiksi 72.35 358 *e*P **P** **11 16 26.7 -0.4**
comp=Z,16nm,2.1s
TIXI LR LR
comp=Z,101nm,20.4s
BVA0 Borovoye Array 75.10 326 P **P** **11 16 42.9 -0.7**
BVA0 pmax pmax
comp=Z,8.0nm,0.9s
BRVK Borovoye 75.17 326⇑ *i*P **P** **11 16 43.6 -0.4**
BRVK pmax pmax
comp=Z,10.0nm,1.0s
BRVK Borovoye 75.17 326 *e*P **P** **11 16 43.3 -0.7**
comp=Z,14nm,1.2s
BRVK LR LR
comp=Z,100nm,20.9s
VNDA Vanda 78.17 174 P **P** **11 17 01.0 +0.5**
comp=Z,3.2nm,0.8s,baz=319,slow=6.2,SNR=12
AB31 Akbulak array 80.27 320 *i*P **P** **11 17 11.2 -1.3**
AB31 pmax pmax
comp=Z,6.0nm,0.8s
ABKAR Akbulak array 80.27 320 *e*P **P** **11 17 11.8 -0.7**
ARU Arti 82.65 327⇓ *d i*P **P** **11 17 23.6 -1.4**
ARU 11 20 28.8
ARU S **S** **11 27 40.4 -0.1**
ARU pmax pmax
comp=Z,10.0nm,1.7s
ARU Arti 82.65 327 *e*P **P** **11 17 24.3 -0.7**
comp=Z,4.2nm,0.7s
ARU LR LR
comp=Z,100nm,20.7s
PPLA Purkeypile 83.28 26 P **P** **11 17 28.5 +0.2**
IM04 Indian Mountai 83.45 23 *e*P **P** **11 17 29.6 +0.6**
RC01 Rabbit Creek A 83.97 28 PFAKE 11 17 40.0 +8.3
RC01 LR LR
comp=Z,200nm,19.0s
KTH Kantishna Hill 84.00 26 PFAKE 11 17 40.0 +8.1
KTH LR LR
comp=Z,100nm,19.2s
BPAW Bear Paw Mtn. 84.10 25 *e*P P 11 17 37.2 +4.8
comp=Z,3.6nm,1.6s
TRF Thorofare Moun 84.25 26 PFAKE 11 17 40.0 +6.7
TRF LR LR
comp=Z,100nm,20.9s
MCK McKinley 84.90 26 *e*P **P** **11 17 36.7 +0.3**
MCK pmax pmax
comp=Z,21nm,1.2s
MCK MLR MLR
comp=Z,200nm,18.5s
MCK McKinley 84.90 26 *e*P **P** **11 17 36.7 +0.3**
comp=Z,21nm,1.2s
MCK LR LR
comp=Z,200nm,18.5s
COLD Coldfoot 85.16 22 *e*P **P** **11 17 38.3 +0.7**
comp=Z,3.9nm,1.1s
COLD LR LR
comp=Z,100nm,20.6s
COLA College 85.59 25 *e*P **P** **11 17 38.9 -0.9**
COLA pmax pmax
comp=Z,4.0nm,0.8s
COLA MLR MLR
comp=Z,100nm,20.4s
COLA College 85.59 25 *e*P **P** **11 17 38.9 -0.9**
comp=Z,3.6nm,0.8s
COLA LR LR
comp=Z,100nm,20.4s
DIV Divide 85.87 29 PFAKE 11 17 50.0 +8.6
DIV LR LR
comp=Z,100nm,21.4s
ILAR Eielson Array 85.98 25 P **P** **11 17 40.9 -0.9**
comp=Z,4.3nm,0.9s,baz=254,slow=4.9,SNR=39
ILAR LR LR 11 51 46.7
comp=Z,25nm,20.2s,baz=162,slow=32
PAX Paxson 86.30 27 *e*P **P** **11 17 44.3 +0.8**
PAX pmax pmax
comp=Z,23nm,1.6s
PAX MLR MLR
comp=Z,200nm,18.7s
PAX Paxson 86.30 27 *e*P **P** **11 17 44.3 +0.8**
comp=Z,23nm,1.6s
PAX LR LR
comp=Z,200nm,18.7s
DOT Dot Lake 87.02 26 PFAKE 11 18 00.0 +13
DOT LR LR
comp=Z,1μm,20.5s
RAYN Ar Rayn 89.01 293 *e*P **P** **11 17 56.7 -0.6**
comp=Z,5.4nm,1.0s
RAYN LR LR
comp=Z,100nm,18.0s
DAWY Dawson 89.12 26 *e*P **P** **11 17 57.9 +0.9**
QSPA South Pole Qui 89.19 180 *e*P **P** **11 17 57.7 +0.4**
comp=Z,9.5nm,0.9s
QSPA LR LR
comp=Z,400nm,21.0s
DAMY Dhamar 89.91 284 PFAKE 11 18 10.0 +8.0
DAMY LR LR
comp=Z,100nm,19.0s
KBZ Khabaz 91.39 314 LR LR 12 03 38.5
comp=Z,23nm,18.9s,baz=144,slow=38
OBN Obninsk 94.93 325 *i*P **P** **11 18 24.3 +0.4**
OBN pmax pmax
comp=Z,6.0nm,1.0s
KEV Kevo 96.57 340 PFAKE 11 18 40.0 +8.9
KEV LR LR
comp=Z,100nm,21.9s
ARCES ARCESS Array B 97.14 340 P **P** **11 18 33.0 -0.7**
comp=Z,2.1nm,0.8s,baz=69,slow=6.6,SNR=6.6
ARCES LR LR 12 05 59.5
comp=Z,15nm,20.8s,baz=90,slow=38
ARCES ARCESS Array B 97.14 340 P **P** **11 18 33.0 -0.7**
FINES FINESS Array B 99.21 332 P **Pdif** **11 18 41.4 -1.7**
comp=Z,1.8nm,1.0s,baz=42,slow=6.2,SNR=4.9
FINES LR LR 12 05 21.1
comp=Z,27nm,20.4s,baz=38,slow=36
LTY Liberty 100.85 42 PFAKE 11 19 00.0 +9.1
LTY LR LR
comp=Z,600nm,21.6s
SUW Suwalki 102.78 326 PFAKE 11 19 10.0 +11
SUW LR LR
comp=Z,300nm,18.9s
MBAR Mbarara 103.36 269 PFAKE 11 19 10.0 +7.1
MBAR LR LR
comp=Z,100nm,18.5s
BMN Battle Mountai 104.63 48 PFAKE 11 19 20.0 +12
BMN LR LR
comp=Z,200nm,20.2s
TPH Tonopah 105.10 51 PFAKE 11 23 40.0
TPH LR LR
comp=Z,300nm,21.0s
DAC Darwin (Calif) 105.14 53 PFAKE 11 23 40.0
DAC LR LR
comp=Z,200nm,20.3s
TPNV Topopah Spring 106.08 52 PFAKE 11 23 40.0
TPNV LR LR
comp=Z,100nm,20.6s
PSZ Piszkesteto 106.58 320 PFAKE 11 23 40.0
PSZ LR LR
comp=Z,100nm,18.0s
DLMT Dillon 106.73 43 PFAKE 11 23 40.0
DLMT LR LR
comp=Z,300nm,19.4s
GVD Gavdhos 106.79 306 PFAKE 11 23 40.0
GVD LR LR
comp=Z,200nm,21.8s
BOZ Bozeman (W) 107.30 42 PFAKE 11 23 40.0
BOZ LR LR
comp=Z,300nm,20.0s
MORC Moravsky Berou 107.44 323 PFAKE 11 23 40.0
MORC LR LR
comp=Z,100nm,20.0s
EGMT Eagleton 107.77 39 PFAKE 11 23 40.0
EGMT LR LR
comp=Z,100nm,18.0s
DPC Dobruska-Polom 107.97 323 PFAKE 11 23 40.0
DPC LR LR
comp=Z,400nm,19.0s
YFT Old Faithful 108.19 43 PFAKE 11 23 40.0
YFT LR LR
comp=Z,1μm,19.4s
YNR Norris Junctio 108.22 43 PFAKE 11 23 40.0
YNR LR LR
comp=Z,1μm,18.8s
FXWY Fox Creek 108.31 44 PFAKE 11 23 40.0
FXWY LR LR
comp=Z,100nm,20.1s
H17A Grant Village 108.39 43 PFAKE 11 23 40.0
H17A LR LR
comp=Z,100nm,20.9s
MOOW Moose Ponds 108.47 44 PFAKE 11 23 40.0
MOOW LR LR
comp=Z,100nm,18.4s
AHID Auburn Hatcher 108.51 45 PFAKE 11 23 40.0
AHID LR LR
comp=Z,99nm,18.6s
RUE Ruedersdorf 108.60 326 PFAKE 11 23 40.0
RUE LR LR
comp=Z,100nm,20.4s
LOHW Long Hollow 108.61 44 PFAKE 11 23 40.0
LOHW LR LR
comp=Z,200nm,21.9s
KNB Kanab 108.74 51 PFAKE 11 23 40.0
KNB LR LR
comp=Z,200nm,18.4s
TCUT Toone Canyon 108.75 47 PFAKE 11 23 40.0
TCUT LR LR
comp=Z,500nm,21.7s
MVU Marysvale 108.85 49 PFAKE 11 23 40.0
MVU LR LR
comp=Z,300nm,19.1s
JLU Jordanelle 108.86 47 PFAKE 11 23 40.0
JLU LR LR
comp=Z,200nm,18.8s
MPU Maple Canyon 108.89 48 PFAKE 11 23 40.0
MPU LR LR
comp=Z,2μm,20.9s
TMUT Trail Mountain 109.40 48 PFAKE 11 23 40.0
TMUT LR LR
comp=Z,604nm,19.4s
TRI Trieste 111.29 320 PFAKE 11 23 50.0
TRI LR LR
comp=Z,100nm,19.8s
TIP Timpagrande 111.42 312 PFAKE 11 23 50.0
TIP LR LR
comp=Z,100nm,21.1s
RWWY Rawlins 111.59 45 PFAKE 11 23 50.0
RWWY LR LR
comp=Z,300nm,18.0s
SMCO Snowmass 112.58 47 PFAKE 11 23 50.0
SMCO LR LR
comp=Z,100nm,18.2s
N23A Red Feather La 112.75 45 PFAKE 11 23 50.0
N23A LR LR
comp=Z,100nm,18.1s
STU Stuttgart 112.85 324 PFAKE 11 23 50.0
STU LR LR
comp=Z,100nm,19.5s
PHWY Pilot Hill 112.96 45 PFAKE 11 23 50.0
PHWY LR LR
comp=Z,100nm,18.6s
FUORN Ofenpass-Fuorn 113.15 321 PFAKE 11 23 50.0
FUORN LR LR
comp=Z,100nm,18.8s
TUE Stuetta 113.79 322 PFAKE 11 23 50.0
TUE LR LR
comp=Z,900nm,19.9s
SFJD Kangerlussuaq 113.80 2 PFAKE 11 23 50.0
SFJD LR LR
comp=Z,100nm,18.0s
ANMO Albuquerque 114.27 52 PFAKE 11 23 50.0 +7.9
ANMO LR LR
comp=Z,100nm,20.3s
ULM Lac du Bonnet 115.00 33 PFAKE 11 23 50.0 +7.3
ULM LR LR
comp=Z,200nm,20.9s
EDI Edinburgh 115.10 335 PFAKE 11 23 50.0 +7.3
EDI LR LR
comp=Z,100nm,21.5s
KSCO Kaye Shedlock' 115.81 46 PFAKE 11 24 00.0 +15
KSCO LR LR
comp=Z,100nm,19.5s
AGMN Agassiz Nation 116.04 35 PFAKE 11 24 00.0 +15
AGMN LR LR
comp=Z,100nm,18.3s
BNI Bardonecchia 116.10 321 PFAKE 11 24 00.0 +15
BNI LR LR
comp=Z,100nm,18.0s
ECSD EROS Data Cent 117.89 39 PFAKE 11 24 00.0 +11
ECSD LR LR
comp=Z,200nm,19.2s
TXAR Lajitas Array 118.15 57 PKP **PKPdf** **11 23 49.5 -0.1**
comp=Z,0.4nm,0.8s,baz=260,slow=3.6,SNR=4.6
KSU1 Kansas State U 120.05 44 PFAKE 11 24 00.0 +7.2
KSU1 LR LR
comp=Z,200nm,19.5s
U34A Anderson Ranch 120.53 47 PFAKE 11 24 10.0 +16
U34A LR LR
comp=Z,200nm,20.5s
JCT Junction City 120.99 54 PFAKE 11 24 10.0 +15
JCT LR LR
comp=Z,100nm,18.3s
TUL1 Leonard 122.03 47 PFAKE 11 24 10.0 +13
TUL1 LR LR
comp=Z,100nm,21.1s
JFWS Jewell Farm 122.27 37 PFAKE 11 24 10.0 +13
JFWS LR LR
comp=Z,100nm,18.0s
SCHQ Schefferville 123.42 14 PFAKE 11 24 10.0 +11
SCHQ LR LR
comp=Z,200nm,20.2s
SLM Saint Louis 124.61 42 PFAKE 11 24 10.0 +8.4
SLM LR LR
comp=Z,200nm,19.9s
NATX Nacogdoches 124.62 51 PFAKE 11 24 10.0 +8.2
NATX LR LR
comp=Z,100nm,19.0s
PVMO Portageville 126.13 44 PFAKE 11 24 20.0 +15
PVMO LR LR
comp=Z,200nm,21.3s
UTMT University of 126.75 43 PFAKE 11 24 20.0 +14
UTMT LR LR
comp=Z,200nm,18.4s
OXF Oxford 127.30 46 PFAKE 11 24 20.0 +13
OXF LR LR
comp=Z,200nm,18.0s
MTE Manteigas 127.39 323 PFAKE 11 24 20.0 +13
MTE LR LR
comp=Z,200nm,21.7s
WVT Waverly 127.57 43 PFAKE 11 24 20.0 +13
WVT LR LR
comp=Z,100nm,18.9s
VBMS Vicksburg 127.59 49 PFAKE 11 24 20.0 +13
VBMS LR LR
comp=Z,200nm,18.0s
MMNY Mt. Morris Dam 129.30 30 PFAKE 11 24 20.0 +10
MMNY LR LR
comp=Z,500nm,20.1s
PTN Potsdam (NY) 129.31 27 PFAKE 11 24 20.0 +10

PTN					LR	LR				
	comp=Z,300nm,21.0s									
NCB	**Newcomb**	**130.12**	**27**	PFAKE			11 24 20.0	**+8.0**		
NCB				LR	LR					
	comp=Z,1μm,19.9s									
PQI	**Presque Isle**	**130.33**	**20**	PFAKE			11 24 20.0	**+7.8**		
PQI				LR	LR					
	comp=Z,503nm,21.5s									
SSPA	**Standing Stone**	**130.82**	**32**	PFAKE			11 24 20.0	**+6.6**		
SSPA				LR	LR					
	comp=Z,400nm,18.8s									
ACCN	**Adirondack Com**	**130.83**	**27**	PFAKE			11 24 20.0	**+6.7**		
ACCN				LR	LR					
	comp=Z,200nm,19.3s									
PKME	**Peaks-Kenny Pk**	**131.09**	**22**	PFAKE			11 24 30.0	**+16**		
PKME				LR	LR					
	comp=Z,300nm,18.7s									
TORD	**Torodi Ar. Bea**	**131.29**	**287**	PKP	**PKPdf**		**11 24 15.3**	**+0.4**		
	comp=Z,0.9nm,0.9s,baz=90,slow=1.4,SNR=4.5									
TRY	**Troy**	**131.34**	**27**	PFAKE			11 24 30.0	**+16**		
TRY				LR	LR					
	comp=Z,600nm,21.9s									
FFD	**Franklin Falls**	**131.64**	**25**	PFAKE			11 24 30.0	**+15**		
FFD				LR	LR					
	comp=Z,300nm,21.1s									
GOGA	**Godfrey**	**132.06**	**43**	PFAKE			11 24 30.0	**+14**		
GOGA				LR	LR					
	comp=Z,100nm,20.1s									
ODNJ	**Ogdensburg**	**132.17**	**29**	PFAKE			11 24 30.0	**+14**		
ODNJ				LR	LR					
	comp=Z,200nm,19.6s									
BRYW	**Bryant College**	**132.94**	**26**	PFAKE			11 24 30.0	**+13**		
BRYW				LR	LR					
	comp=Z,400nm,19.0s									
TEIG	**Tepich**	**134.27**	**62**	PFAKE			11 24 30.0	**+10**		
TEIG				LR	LR					
	comp=Z,300nm,18.0s									
OTAV	**Otavalo**	**147.44**	**91**	*e*PKPab	**PKPbc**		**11 24 48.2**	**+0.9**		
LVC	**Limon Verde**	**147.72**	**137**	*e*PKPab	**PKPab**		**11 24 50.2**	**+0.3**		
ROSC	**El Rosal**	**151.31**	**81**	PKPbc	**PKPbc**		**11 24 57.9**	**+1.0**		
	comp=Z,12nm,0.7s,baz=78,slow=22,SNR=5.3									
LPAZ	**La Paz**	**152.28**	**129**	PKPbc	**PKPbc**		**11 25 01.0**	**+1.7**		
	comp=Z,5.4nm,0.9s,baz=312,slow=3.2,SNR=16									
LPAZ				PKPab	**PKPab**		**11 25 07.7**	**-1.4**		
	comp=Z,4.9nm,0.8s,baz=280,slow=9.2,SNR=3.5									
LPAZ	**La Paz**	**152.28**	**129**	*e*PKIKP	**PKPbc**		**11 25 01.0**	**+1.7**		
LPAZ	**La Paz**	**152.28**	**129**	*e*PKPab	**PKPbc**		**11 25 01.0**	**+1.7**		

IDC 20 11:33:58.2±3.6, 54°56N×86°35E, h0km, mb1 2.4/1, mb1mx2.4/38, mbtmp2.4/1, ML2.5/1, Error ellipse: s-maj=26.0km s-min=14.8km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.08**	**236**	*i*			11 41 45.0	
	baz=56,slow=328,SNR=3.9							
ZALV	**Zalesovo Beam**	**1.08**	**236**	Pg		Pg	11 34 17.8	-1.2
	0.5nm,0.3s,baz=53,slow=20,SNR=7.6							
ZALV				Lg		Lg	11 34 34.1	
	3.1nm,0.3s,baz=56,slow=27,SNR=19							
ZALV				Rg		Rg	11 34 48.1	
	18nm,1.0s,baz=59,slow=30,SNR=7.3							
MKAR	**Makanchi Array**	**8.19**	**200**	Pn		Pn	11 35 59.4	+1.1
	0.1nm,0.3s,baz=34,slow=14,SNR=3.3							
MKAR				Sn		Sn	11 37 31.1	-0.3
	0.0nm,0.3s,baz=24,slow=28,SNR=5.9							
MKAR				Lg		Lg	11 38 17.2	
	0.0nm,0.3s,baz=17,slow=30,SNR=4.3							

*IDC **20** 11:41:01.4±3.3, 6°70N×127°01E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/24, mbtmp3.5/4, Error ellipse: s-maj=311.3km s-min=25.6km az=65.0*
*ISCJB **20** 11:41:18.2±0.8, 5°93N±0°08×125°6E±0°1, h150km, mb3.2/4, Error ellipse: s-maj=18.7km s-min=11.6km az=174.9*
*MAN **20** 11:41:18, 6°16N×125°71E, h155km, mb4.6, ML3.5, MS3.5*
ISC 20 11:41:19.4±1.0, 6°0N±0°1×125°7E±0°1, h150km, n7, σ1§45/7, mb3.2/4, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MATI	**Mati**	**1.10**	**32**	*e*P		**Pn**	**11 41 43.7**	**-1.4**
MATI				*e*S		**Sn**	**11 42 05.7**	**+1.0**
BUKP	**Musuan**	**1.95**	**342**	*e*P		Pn	11 41 56.3	+2.3
PAGZ	**Pagadian**	**2.91**	**309**	*e*P		**Pn**	**11 42 04.7**	**-1.0**
WRA	**Warramunga Arr**	**27.16**	**162**	P		**P**	**11 46 50.8**	**+1.8**
	0.2nm,0.4s,baz=349,slow=10,SNR=7.0							
ASAR	**Alice Springs**	**30.57**	**165**	P		**P**	**11 47 18.5**	**-0.6**
	0.1nm,0.3s,baz=345,slow=7.3,SNR=5.8							
STKA	**Stephens Creek**	**40.62**	**159**	P		**P**	**11 48 44.5**	**-0.2**
	1.5nm,0.7s,baz=336,slow=8.6,SNR=4.7							
MKAR	**Makanchi Array**	**55.09**	**325**	P		**P**	**11 50 36.8**	**+0.9**
	0.2nm,0.3s,baz=131,slow=6.5,SNR=5.7							

IDC 20 11:52:26.3±3.5, 54°25N×87°18E, h0km, mb1 2.7/1, mb1mx2.7/29, mbtmp2.7/1, ML2.8/1, Error ellipse: s-maj=30.4km s-min=19.0km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.42**	**259**	*i*			12 01 30.0	
	baz=77,slow=326,SNR=4.1							
ZALV	**Zalesovo Beam**	**1.42**	**259**	Pg		Pn	11 52 51.4	-1.9
	1.2nm,0.3s,baz=78,slow=17,SNR=13							
ZALV				Lg		Lg	11 53 11.9	
	0.9nm,0.3s,baz=79,slow=28,SNR=5.7							
ZALV				Rg		Rg	11 53 27.5	
	1.2nm,0.3s,baz=70,slow=26,SNR=2.1							
MKAR	**Makanchi Array**	**8.09**	**205**	Pn		Pn	11 54 26.6	+1.6
	0.1nm,0.3s,baz=12,slow=10,SNR=4.1							

IDC 20 11:59:17.8±3.0, 53°57N×88°01E, h0km, mb1 2.7/2, mb1mx2.6/47, mbtmp2.7/2, ML2.2/2, Error ellipse: s-maj=28.0km s-min=17.6km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.93**	**283**	*i*			12 11 28.1	
	baz=97,slow=325,SNR=15							
ZALV	**Zalesovo Beam**	**1.93**	**283**	Pn		Pn	11 59 51.9	-0.1
	0.8nm,0.3s,baz=102,slow=11,SNR=19							
ZALV				Lg		Lg	12 00 18.4	
	1.0nm,0.3s,baz=105,slow=24,SNR=12							
KURBB	**Kurchatov Arra**	**6.54**	**247**	Pn		Pn	12 00 56.4	+1.1
	0.0nm,0.3s,baz=62,slow=14,SNR=4.4							
KURBB				Lg		Lg	12 02 46.6	
	0.0nm,0.3s,baz=57,slow=31,SNR=4.7							
MKAR	**Makanchi Array**	**7.71**	**211**	Pn		Pn	12 01 12.0	+0.7
	0.0nm,0.3s,baz=30,slow=17,SNR=3.8							
MKAR				Lg		Lg	12 03 23.0	
	0.1nm,0.3s,baz=38,slow=29,SNR=3.3							

*IDC **20** 12:06:25.8±0.6, 21°67N×145°62E, h0km, mb4.0/19, mb1 4.2/23, mb1mx4.0/43, mbtmp4.0/23, ML4.0/4, MS2.9/1, Ms1 2.9/1, ms1mx2.4/32, Error ellipse: s-maj=19.2km s-min=13.5km az=81.0*
*ISCJB **20** 12:06:30.7±0.4, 21°74N±0°05×145°43E±0°09, h44km, mb4.0/21, MS2.9/1, Error ellipse: s-maj=12.5km s-min=5.9km az=164.3*
*NEIC **20** 12:06:30.3±2.4, 21°61N×145°57E, h31km±17km, mb4.1/2, Error ellipse: s-maj=11.4km s-min=6.1km az=81.0*
ISC 20 12:06:32.4±0.6, 21°76N±0°07×145°5E±0°1, h44km, n34, σ0§84/37, mb4.0/21, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JCJ	**Chichijima**	**6.12**	**331**	Pn		**Pn**	**12 08 00.3**	**-0.1**
	14nm,0.3s,baz=91,slow=22,SNR=25							
JCJ				Sn		**Sn**	**12 09 07.8**	**-1.3**
	26nm,0.3s,baz=110,slow=23,SNR=11							
CBIJ	**Chichi jima**	**6.12**	**331**	Pn		**Pn**	**12 08 00.3**	**-0.1**
CBIJ				Sn		**Sn**	**12 09 07.8**	**-1.3**
GUMO	**Guam**	**8.15**	**184**	Pn		Pn	12 08 24.2	-4.0
	3.4nm,0.3s,baz=98,slow=15,SNR=2.1							
GUMO				Sn		**Sn**	**12 10 00.2**	**+1.1**
	4.9nm,0.3s,baz=102,slow=9.3,SNR=2.4							

MJAR	**Matsushiro Arr**	**16.05**	**338**	Pn		**Pn**	**12 10 15.8**	**+0.8**		
	0.3nm,0.3s,baz=254,slow=26,SNR=3.7									
JNU	**Nakatsue**	**17.21**	**314**	P		**Pn**	**12 10 30.1**	**+0.4**		
	0.2nm,0.3s,baz=124,slow=9.9,SNR=3.5									
KSRS	**Korea Array**	**21.82**	**320**	P		**P**	**12 11 21.8**	**+0.9**		
	1.9nm,0.8s,baz=144,slow=8.6,SNR=10									
KSAR	**Wonju Array Be**	**21.84**	**320**	P		**P**	**12 11 21.8**	**+0.7**		
USRK	**Ussuriysk Ar.**	**25.03**	**337**	P		**P**	**12 11 51.9**	**-0.4**		
	1.2nm,0.6s,baz=232,slow=49,SNR=3.0									
PETK	**Petropavlovsk-**	**32.66**	**14**	LR		LR	12 25 29.9			
	comp=Z,22nm,19.9s,baz=146,slow=35									
SONM	**Songino Array**	**40.69**	**319**	P		**P**	**12 14 09.6**	**+0.9**		
	0.7nm,0.7s,baz=130,slow=8.6,SNR=5.1									
SEY	**Seymchan**	**41.41**	**5**	P		**P**	**12 14 14.5**	**+0.2**		
	1.1nm,0.7s,baz=158,slow=7.2,SNR=5.4									
WRA	**Warramunga Arr**	**42.86**	**196**	P		**P**	**12 14 25.9**	**-0.8**		
	1.2nm,0.5s,baz=15,slow=8.7,SNR=17									
WRA				PcP		**PcP**	**12 16 17.1**	**0.0**		
	0.4nm,0.8s,baz=14,slow=3.6,SNR=3.9									
AS31	**Alice Springs**	**46.55**	**195**	*e*P		**P**	**12 14 54.2**	**-1.7**		
ASAR	**Alice Springs**	**46.55**	**195**	P		**P**	**12 14 54.3**	**-1.6**		
	0.4nm,0.4s,baz=12,slow=6.6,SNR=15									
ZALV	**Zalesovo Beam**	**55.52**	**321**	P		**P**	**12 16 02.9**	**-0.1**		
	0.9nm,0.4s,baz=100,slow=7.9,SNR=5.0									
ZALV				PcP		**PcP**	**12 17 02.5**	**0.0**		
	0.5nm,0.3s,baz=82,slow=3.1,SNR=2.9									
MK31	**Makanchi Array**	**56.26**	**312**	*e*P		**P**	**12 16 08.9**	**+0.4**		
MKAR	**Makanchi Array**	**56.26**	**312**	P		**P**	**12 16 09.1**	**+0.7**		
	1.0nm,0.6s,baz=90,slow=6.6,SNR=12									
MKAR				PcP		**PcP**	**12 17 06.0**	**+0.4**		
	0.8nm,0.7s,baz=90,slow=2.9,SNR=6.2									
KURK	**Kurchatov**	**58.91**	**317**	*e*P		**P**	**12 16 27.3**	**+0.3**		
	3.5nm,0.8s									
KURBB	**Kurchatov Arra**	**58.96**	**317**	P		**P**	**12 16 27.6**	**+0.3**		
	3.2nm,0.5s,baz=92,slow=7.7,SNR=4.4									
BPAW	**Bear Paw Mtn.**	**59.12**	**27**	*e*P		**P**	**12 16 29.2**	**+1.0**		
	1.8nm,1.3s									
ILAR	**Eielson Array**	**61.00**	**27**	P		**P**	**12 16 40.5**	**-0.5**		
	1.7nm,0.8s,baz=259,slow=5.3,SNR=22									
BVAR	**Borovoye Array**	**64.04**	**320**	P		**P**	**12 17 02.5**	**+0.9**		
	2.4nm,0.4s,baz=99,slow=7.4,SNR=16									
INK	**Inuvik**	**66.64**	**24**	P		**P**	**12 17 18.4**	**+0.2**		
	1.1nm,0.9s,baz=358,slow=13,SNR=3.7									
YKA	**Yellowknife Ar**	**75.38**	**28**	P		**P**	**12 18 11.4**	**+0.2**		
	1.1nm,0.5s,baz=290,slow=5.9,SNR=7.8									
ARCES	**ARCESS Array B**	**79.54**	**342**	P		**P**	**12 18 35.3**	**+0.9**		
	2.0nm,0.8s,baz=79,slow=7.7,SNR=6.3									
NVAR	**Mina Array Bea**	**81.40**	**52**	P		**P**	**12 18 45.5**	**+0.4**		
	1.2nm,0.7s,baz=265,slow=6.1,SNR=8.0									
ELK	**Elko**	**82.75**	**49**	P		**P**	**12 18 52.9**	**+0.6**		
	0.5nm,0.5s,baz=243,slow=6.5,SNR=3.7									
FINES	**FINESS Array B**	**84.05**	**335**	P		**P**	**12 18 58.0**	**-0.2**		
	1.5nm,0.4s,baz=76,slow=4.2,SNR=12									
MOOW	**Moose Ponds**	**84.61**	**45**	*e*P		**P**	**12 19 00.4**	**-1.3**		
PDAR	**Pinedale Array**	**85.81**	**46**	P		**P**	**12 19 07.5**	**-0.2**		
	0.9nm,0.6s,baz=14,slow=1.2,SNR=7.9									
TXAR	**Lajitas Array**	**96.25**	**55**	P		**P**	**12 19 56.0**	**-0.6**		
	0.2nm,0.7s,baz=29,slow=2.1,SNR=3.4									
TORD	**Torodi Ar. Bea**	**130.37**	**311**	PKP		**PKPdf**	**12 25 37.2**	**-1.8**		
	0.2nm,0.5s,baz=66,slow=1.1,SNR=4.4									
PLCA	**Paso Flores**	**144.15**	**130**	PKP		PKPbc	12 26 01.7	-0.2		
	1.3nm,0.7s,baz=211,slow=8.1,SNR=2.9									
LPAZ	**La Paz**	**147.77**	**86**	PKPbc		**PKPbc**	**12 26 14.3**	**+0.3**		
	0.9nm,0.7s,baz=225,slow=4.3,SNR=3.2									

*ISCJB **20** 12:12:47.6±0.5, 32°10N±0°03×115°03W±0°04, h21km±5km, Error ellipse: s-maj=5.3km s-min=4.7km az=34.0*
*NEIC **20** 12:12:49.0, 32°07N×115°08W, h9km, ML3.1(PAS), ML3.3(ECX), After ECX.*
*ECX **20** 12:12:49.0±0.5, 32°07N×115°09W, h9km, MD3.3, ML3.5*
*MEX **20** 12:12:50.6±0.9, 32°19N×115°06W, h17km±471km, MD3.8*
ISC 20 12:12:47.2±1.1, 32°07N±0°03×115°07W±0°03, h14km±10km, n26, σ0§69/35, 4C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MBIG	**Mexicali**	**0.35**	**342**	*e*P		**Pb**	**12 12 55.4**	**+0.1**
MBIG				*e*S		**Sg**	**12 12 57.9**	**-1.2**
CPBX	**Cerro Prieto**	**0.40**	**330**	*e*P		**Pb**	**12 12 56.1**	**0.0**
CPBX	**Cerro Prieto**	**0.40**	**330**	*e*P		**Pb**	**12 12 56.1**	**0.0**
CPBX				*e*S		**Sb**	**12 13 02.0**	**-0.1**
CPBX				IAML			12 13 03.8	
	comp=N,12μm,0.2s							
CPBX				⇑*e*			12 13 03.8	
ECBX	**El Chinero**	**0.60**	**179**	*e*P		**Pg**	**12 12 58.5**	**-0.5**
YMD	**Yuma Desert**	**0.65**	**43**	⇑*iP*		**Pg**	**12 13 00.5**	**+0.5**
EMSC	**East Mesa**	**0.67**	**6**	*i*		**Pg**	**12 13 00.8**	**+0.5**
RDX	**Rancho Dawling**	**0.76**	**259**	*e*P		**Pg**	**12 13 02.4**	**+0.4**
RDX				*e*S		**Sg**	**12 13 12.5**	**+0.6**
COA	**Coachella**	**0.79**	**357**	⇓*iP*		**Pb**	**12 13 02.3**	**-0.5**
WESC	**Westside Schoo**	**0.88**	**321**	*e*P		**Pb**	**12 13 04.6**	**+0.2**
RMX	**La Rumorosa**	**1.00**	**302**	*e*P		**Pb**	**12 13 06.3**	**-0.3**
RMX				*e*S		**Sb**	**12 13 19.5**	**-0.2**
SPIG	**San Pedro Mart**	**1.08**	**198**	*e*P		**Pg**	**12 13 08.6**	**+0.5**
SPIG	**San Pedro Mart**	**1.08**	**198**	*e*P		**Pg**	**12 13 08.6**	**+0.5**
SPX	**San Pedro Mart**	**1.08**	**198**	*e*P		**Pg**	**12 13 08.8**	**+0.6**
SPX	**San Pedro Mart**	**1.08**	**198**	*e*P		**Pb**	**12 13 07.8**	**-0.1**
SPX				*e*S		**Sg**	**12 13 22.7**	**+0.5**
SPX				IAML			12 13 23.9	
	comp=E,721nm,0.3s							
SPX				⇓*e*			12 13 23.9	
ZAX	**El Zacaton**	**1.17**	**242**	*e*P		**Pn**	**12 13 08.7**	**-0.6**
ZAX				*e*S		**Sn**	**12 13 24.6**	**-0.5**
ECNX	**Esteban Cantu**	**1.37**	**253**	*e*P		**Pn**	**12 13 12.3**	**+0.2**
ECNX				*e*S		**Sg**	**12 13 30.7**	**-0.6**
CBX	**Cerro Bola**	**1.37**	**280**	*e*P		**Pn**	**12 13 11.8**	**-0.3**
CBX	**Cerro Bola**	**1.37**	**280**	*e*P		**Pn**	**12 13 11.8**	**-0.3**
CBX	**Cerro Bola**	**1.37**	**280**	*e*P		**Pb**	**12 13 12.8**	**-0.1**
CBX				*e*S		**Sb**	**12 13 30.7**	**+0.4**
CBX				IAML			12 13 31.7	
	comp=E,1μm,0.2s							
PBX	**Punta Banda**	**1.45**	**257**	*e*P		**Pb**	**12 13 14.1**	**+0.1**
PBX				*e*S		**Sb**	**12 13 32.6**	**+0.2**
214A	**Organ Pipe Nat**	**1.92**	**93**	*e*Pn		**Pn**	**12 13 18.7**	**-1.0**
PFO	**Pinyon Flats O**	**1.93**	**323**	*e*Pn		**Pn**	**12 13 18.1**	**-1.7**
PASC	**Pasadena Art C**	**3.35**	**309**	*e*Pn		**Pn**	**12 13 38.9**	**-0.3**
GSC	**Goldstone, Bar**	**3.53**	**336**	Pn		**Pn**	**12 13 44.0**	**+2.1**
TUC	**Tucson**	**3.64**	**85**	*e*Pn		**Pn**	**12 13 44.1**	**+0.8**
121A	**Cookes Peak, D**	**6.18**	**84**	*e*Pn		**Pn**	**12 14 18.4**	**0.0**
	comp=E,4.5nm,0.3s							

*OMAN **20** 12:33:18.2±99.0, 31°02N×57°51E, h155km±137km, Error ellipse: s-maj=456.0km s-min=26.6km az=2.0*
*ISCJB **20** 12:33:49.6±0.3, 28°28N±0°03×57°39E±0°04, h10km, mb4.1/29, MS3.1/3, Error ellipse: s-maj=4.5km s-min=4.0km az=179.3*
*CSEM **20** 12:33:52.0±0.2, 28°26N×57°37E, h15km, mb4.6/11, Ms3.9, Error ellipse: s-maj=7.8km s-min=6.1km az=105.0*
*TEH **20** 12:33:53.8, 28°28N×57°25E, h16km, ML4.1*
*NEIC **20** 12:33:53.8, 28°28N×57°25E, h16km, mb4.0/3, MN4.1(TEH), After TEH.*
*THR **20** 12:33:53.7±0.8, 28°31N×57°23E, h15km, ML4.2*
*IDC **20** 12:33:57.2±5.3, 28°27N×57°19E, h61km±48km, mb3.7/20, mb1 3.8/23, mb1mx3.7/35, mbtmp4.0/23, ML4.1/3, MS3.3/5, Ms1 3.3/5, ms1mx2.8/38, Error ellipse: s-maj=22.6km s-min=12.1km az=156.0*
*DSN **20** 12:33:57.8±1.1, 27°74N×57°61E, h15km, mb3.8/9, ML4.5/7, Ms3.9/1, Error ellipse: s-maj=26.3km s-min=8.0km az=134.0*
ISC 20 12:33:50.8±0.5, 28°25N±0°03×57°47E±0°04, h10km, n124, σ1§46/118, mb4.3/29, MS3.0/3, 2C-4D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IBND	**Bandar-abas**	**1.14**	**226**	*e*Pg		**Pg**	**12 34 14.5**	**+1.8**
IBND				*e*Sg		**Sn**	**12 34 29.9**	**+1.3**
IBND				*e*			12 34 36.5	
	comp=E,81μm,0.1s							
IBND	**Bandar-abas**	**1.14**	**226**	*e*Pg		**Pg**	**12 34 14.5**	**+1.8**
IBND				*e*Sg		**Sn**	**12 34 29.9**	**+1.3**
BNDS	**Bandar-Abbas**	**1.43**	**234**	*e*Pg		**Pb**	**12 34 18.0**	**+0.4**
BNDS				AML		AML	12 34 38.3	
	comp=N,7μm,0.5s							
BNDS				AML		AML	12 34 40.3	
	comp=E,4μm,0.5s							
BNDS	**Bandar-Abbas**	**1.43**	**234**	*e*Pg		**Pb**	**12 34 18.0**	**+0.4**
	comp=E,4μm,0.5s							
NGRK	**Negar Kerman**	**1.54**	**335**	*e*Pn		**Pn**	**12 34 19.9**	**+1.2**
NGRK	**Negar Kerman**	**1.54**	**335**	*e*Pn		**Pn**	**12 34 19.9**	**+1.2**

CHMN	**Cheshme madani**	**1.61**	**2**	*e*Pn		**Pb**	**12 34 21.9**	**+1.0**		
CHMN	**Cheshme madani**	**1.61**	**2**	*e*Pn		**Pb**	**12 34 21.9**	**+1.0**		
KRBR	**Kerman**	**1.84**	**340**	*e*Pg		**Pb**	**12 34 25.2**	**+0.5**		
KRBR				AML		AML	12 34 59.7			
	comp=N,2μm,0.4s									
KRBR				AML		AML	12 35 02.4			
	comp=E,2μm,0.7s									
KRBR	**Kerman**	**1.84**	**340**	*e*Pg		**Pb**	**12 34 25.2**	**+0.5**		
	comp=E,2μm,0.7s									
TVBK	**TV Kerman**	**1.84**	**340**	*e*Pn		**Pb**	**12 34 26.3**	**+1.5**		
KHGB	**Koh Gabri**	**2.29**	**338**	*e*Pn		**Pb**	**12 34 32.7**	**+0.3**		
BANOM	**Banah**	**2.54**	**205**	P		**Pn**	**12 34 32.8**	**+0.7**		
	SNR=151									
BANOM				S		**Sn**	**12 35 00.5**	**-2.5**		
BANOM	**Banah**	**2.54**	**205**	P		**Pn**	**12 34 32.9**	**+0.7**		
	SNR=104									
BANOM	**Banah**	**2.54**	**205**	⇓*eP*		**Pn**	**12 34 32.8**	**+0.7**		
	SNR=151									
BANOM				⇓S		**Sn**	**12 35 00.5**	**-2.5**		
ZHSF	**Zahedan**	**3.20**	**64**	*e*Pn		**Pb**	**12 34 47.7**	**-0.1**		
ZHSF	**Zahedan**	**3.20**	**64**	*e*Pn		**Pb**	**12 34 47.7**	**-0.1**		
HATD	**Hatta, Dubai**	**3.61**	**200**	⇑*iP*		**Pn**	**12 34 46.9**	**+0.1**		
	SNR=11									
NAZ	**Nazwa, Dubai**	**3.62**	**207**	⇑P		**Pn**	**12 34 49.0**	**+2.0**		
ASHO	**Ashiyiah**	**3.77**	**200**	P		**Pn**	**12 34 50.5**	**+1.5**		
	SNR=30									
ASHO	**Ashiyiah**	**3.77**	**200**	P		**Pn**	**12 34 51.4**	**+2.4**		
	SNR=27									
ASHO	**Ashiyiah**	**3.77**	**200**	⇓*iP*		**Pn**	**12 34 50.5**	**+1.5**		
	SNR=30									
ISRV	**Sarvestan**	**3.99**	**288**	*e*Pn		**Pn**	**12 34 54.2**	**+1.9**		
ISRV				*e*Sn		**Sn**	**12 35 39.6**	**+0.3**		
ISRV				*e*			12 36 08.7			
	comp=Z,2μm,0.3s									
ISRV	**Sarvestan**	**3.99**	**288**	*e*Pn		**Pn**	**12 34 54.2**	**+1.9**		
ISRV				*e*Sn		**Sn**	**12 35 39.6**	**+0.3**		
IMEH	**Mehriz**	**4.00**	**322**	*e*Pn		Pn	12 34 55.9	+3.5		
IMEH				*e*			12 36 20.1			
	comp=Z,3μm,0.3s									
IMEH	**Mehriz**	**4.00**	**322**	*e*Pn		Pn	12 34 55.9	+3.5		
ASUD	**Al Ashush, Dub**	**4.08**	**209**	⇓*iP*		**Pn**	**12 34 55.0**	**+1.7**		
	SNR=7.0									
IPAR	**Pars**	**4.19**	**293**	*e*Pn		Pn	12 34 59.2	+4.2		
IPAR				*e*Sg		**Sg**	**12 36 05.4**	**+0.1**		
IPAR				*e*			12 36 09.4			
	comp=Z,3μm,0.4s									
IPAR	**Pars**	**4.19**	**293**	*e*Pn		Pn	12 34 59.2	+4.2		
IPAR				*e*Sg		**Sg**	**12 36 05.4**	**+0.1**		
IKOO	**Kooshah**	**4.37**	**17**	*e*		**Pg**	**12 35 13.1**	**-1.5**		
	comp=Z,1μm,0.1s									
IKOO				*e*Pn		Pn	12 35 03.0	+5.5		
IKOO	**Kooshah**	**4.37**	**17**	*e*Pn		Pn	12 35 03.0	+5.5		
ITEG	**Tejag**	**4.77**	**13**	*e*		Pg	12 35 19.8	-2.3		
	comp=Z,1μm,0.2s									
ITEG				*e*Pn		Pn	12 35 09.1	+6.2		
ITEG	**Tejag**	**4.77**	**13**	*e*Pn		Pn	12 35 09.1	+6.2		
ICHK	**Chekchek**	**4.79**	**327**	*e*Pn		Pn	12 35 07.2	+4.0		
ICHK				*e*			12 36 39.7			
	comp=Z,1μm,0.3s									
ICHK	**Chekchek**	**4.79**	**327**	*e*Pn		Pn	12 35 07.2	+4.0		
ISAD	**Sadrabad**	**4.91**	**319**	*e*Pn		Pn	12 35 08.6	+3.6		
ISAD				*e*Sn		**Sn**	**12 36 02.7**	**+0.7**		
ISAD				*e*			12 36 46.0			
	comp=Z,1μm,0.3s									
ISAD	**Sadrabad**	**4.91**	**319**	*e*Pn		Pn	12 35 08.6	+3.6		
ISAD				*e*Sn		**Sn**	**12 36 02.7**	**+0.7**		
IDAH	**Dahanechah**	**4.93**	**24**	*e*Pn		Pn	12 35 11.3	+6.1		
IDAH				*e*			12 36 55.0			
	comp=Z,1μm,0.6s									
IDAH	**Dahanechah**	**4.93**	**24**	*e*Pn		Pn	12 35 11.3	+6.1

SONM	**Songino Array**	**42.40**	**49**	P		**P**	**12 41 46.5**	**+1.0**
	comp=Z,1.3nm,0.6s,baz=287,slow=7.6,SNR=4.7							
SBF	**Sospel**	**42.70**	**305**	*eP*		**P**	**12 41 46.0**	**-1.9**
	comp=Z,25nm,0.8s							
SBF	**Sospel**	**42.70**	**305**	*eP*		**P**	**12 41 46.0**	**-1.9**
	comp=Z,25nm,0.8s							
SBF	**Sospel**	**42.70**	**305**	*eP*		**P**	**12 41 46.0**	**-1.9**
	comp=Z,25nm,0.8s							
MBDF	**Montbardon**	**43.24**	**306**	*eP*		**P**	**12 41 50.5**	**-1.9**
	comp=Z,9.2nm,0.8s							
MBDF	**Montbardon**	**43.24**	**306**	*eP*		**P**	**12 41 50.5**	**-1.9**
	comp=Z,9.2nm,0.8s							
MBDF	**Montbardon**	**43.24**	**306**	*eP*		**P**	**12 41 50.5**	**-1.9**
	comp=Z,9.2nm,0.8s							
LPG	**La Plagne**	**43.32**	**307**	*eP*		**P**	**12 41 51.8**	**-1.4**
	comp=Z,9.4nm,0.7s							
LPG	**La Plagne**	**43.32**	**307**	*eP*		**P**	**12 41 51.8**	**-1.4**
	comp=Z,9.4nm,0.7s							
LPG	**La Plagne**	**43.32**	**307**	*eP*		**P**	**12 41 51.8**	**-1.4**
	comp=Z,9.4nm,0.7s							
LPL	**La Plagne**	**43.34**	**308**	*eP*		**P**	**12 41 51.6**	**-1.7**
	comp=Z,16nm,1.2s							
LPL	**La Plagne**	**43.34**	**308**	*eP*		**P**	**12 41 51.6**	**-1.7**
	comp=Z,16nm,1.2s							
LPL	**La Plagne**	**43.34**	**308**	*eP*		**P**	**12 41 51.6**	**-1.7**
	comp=Z,16nm,1.2s							
HFS	**Hagfors**	**43.41**	**330**	P		**P**	**12 41 52.4**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=121,slow=11,SNR=5.8							
NOA	**NORSAR Array B**	**44.91**	**330**	P		**P**	**12 42 04.1**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=110,slow=7.1,SNR=3.0							
ARCES	**ARCESS Array B**	**45.26**	**345**	P		**P**	**12 42 07.7**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=144,slow=9.0,SNR=6.0							
SMF	**Signal de Mont**	**45.44**	**309**	*eP*		**P**	**12 42 08.6**	**-1.3**
	comp=Z,6.4nm,0.6s							
SMF	**Signal de Mont**	**45.44**	**309**	*eP*		**P**	**12 42 08.6**	**-1.3**
	comp=Z,6.4nm,0.6s							
SMF	**Signal de Mont**	**45.44**	**309**	*eP*		**P**	**12 42 08.6**	**-1.3**
	comp=Z,6.4nm,0.6s							
LOR	**Lormes**	**45.48**	**310**	*eP*		**P**	**12 42 08.9**	**-1.3**
	comp=Z,3.4nm,0.5s							
LOR	**Lormes**	**45.48**	**310**	*eP*		**P**	**12 42 08.9**	**-1.3**
	comp=Z,3.4nm,0.5s							
LOR	**Lormes**	**45.48**	**310**	*eP*		**P**	**12 42 08.9**	**-1.3**
	comp=Z,3.4nm,0.5s							
SSF	**Saint Saulge**	**45.70**	**309**	*eP*		**P**	**12 42 11.0**	**-0.9**
	comp=Z,5.6nm,0.7s							
SSF	**Saint Saulge**	**45.70**	**309**	*eP*		**P**	**12 42 11.0**	**-0.9**
	comp=Z,5.6nm,0.7s							
SSF	**Saint Saulge**	**45.70**	**309**	*eP*		**P**	**12 42 11.0**	**-0.9**
	comp=Z,5.6nm,0.7s							
CAF	**Calviac**	**46.59**	**306**	*eP*		**P**	**12 42 17.9**	**-1.1**
	comp=Z,10nm,0.9s							
CAF	**Calviac**	**46.59**	**306**	*eP*		**P**	**12 42 17.9**	**-1.1**
	comp=Z,10nm,0.9s							
CAF	**Calviac**	**46.59**	**306**	*eP*		**P**	**12 42 17.9**	**-1.1**
	comp=Z,10nm,0.9s							
TORD	**Torodi Ar. Bea**	**53.86**	**266**	P		**P**	**12 43 12.6**	**-1.9**
	comp=Z,3.8nm,0.6s,baz=61,slow=7.0,SNR=39							
KSAR	**Wonju Array Be**	**58.64**	**61**	P		**P**	**12 43 48.2**	**-0.1**
KSAR	**Wonju Array Be**	**58.64**	**61**	P		**P**	**12 43 48.2**	**-0.1**
KSRS	**Korea Array**	**58.67**	**61**	P		**P**	**12 43 48.2**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=283,slow=6.9,SNR=8.8							
BOSA	**Boshof**	**64.41**	**211**	P		**P**	**12 44 26.3**	**-1.0**
	comp=Z,2.4nm,1.1s,baz=49,slow=7.8,SNR=4.2							
SEY	**Seymchan**	**67.41**	**30**	P		**P**	**12 44 46.4**	**+0.2**
	baz=163,slow=20							
WRA	**Warramunga Arr**	**88.34**	**114**	P		**P**	**12 46 43.9**	**+0.7**
	comp=Z,2.3nm,0.7s,baz=319,slow=4.0,SNR=32							
YKA	**Yellowknife Ar**	**89.36**	**356**	P		**P**	**12 46 46.6**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=171,slow=5.5,SNR=4.3							
ASAR	**Alice Springs**	**89.89**	**117**	P		**P**	**12 46 51.4**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=306,slow=4.8,SNR=17							

*IDC **20** 12:55:27.0±1.3,28°.02N×143°.31E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.5/26, mbtmp3.5/5, ML3.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.3/24, Error ellipse: s-maj=36.8km s-min=20.4km az=100.0*

*ISCJB **20** 12:55:28.3±0.9,28°.18N±0°.04×143°.0E±0°.1, h22km, mb3.6/4, Error ellipse: s-maj=18.6km s-min=4.9km az=10.1*

*JMA **20** 12:55:30.4±0.1,28°.22N×142°.76E, h24km±3km, M3.7*

ISC 20 12:55:30.1±1.2, 28°.06N±0°.06×143°.1E±0°.2, h22km, n13, σ1§18/16, mb3.5/4, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.23**	**219**	P	**Pn**	**12 55 52.1**	**+0.1**
CBIJ				S	**Sb**	**12 56 07.9**	**-0.3**
JCJ	**Chichijima**	**1.23**	**219**	Pn	**Pn**	**12 55 52.3**	**+0.2**
	18nm,0.3s,baz=9.8,slow=21,SNR=46						
JCJ				Sn	**Sn**	**12 56 06.9**	**-1.1**
	63nm,0.3s,baz=252,slow=20,SNR=20						
JHHJ	**Haha-jima-NKT**	**1.63**	**209**	P	**Pb**	**12 55 58.7**	**-0.7**
JHHJ				S	**Sb**	**12 56 19.4**	**-0.1**
JOD2	**Odawara 2**	**7.94**	**336**	P	**Pn**	**12 57 24.6**	**+0.4**
JRY	**Ryogami san**	**8.68**	**337**	P	**Pn**	**12 57 35.3**	**+0.9**
JHO	**Hitachi**	**8.78**	**347**	P	**Pn**	**12 57 34.4**	**-1.3**
JAG	**Ashikaga**	**8.88**	**341**	P	**Pn**	**12 57 36.9**	**-0.2**
JAG				*eS*	**Sn**	**12 59 14.2**	**-2.2**
MJAR	**Matsushiro Arr**	**9.40**	**335**	Pn	**Pn**	**12 57 44.8**	**+0.6**
	0.3nm,0.3s,baz=152,slow=5.5,SNR=4.8						
JOW	**Kunigami**	**13.19**	**268**	LR	LR	13 03 24.0	
	comp=Z,148nm,19.8s,slow=36						
SONM	**Songino Array**	**34.57**	**315**	P	**P**	**13 02 19.8**	**+2.5**
	0.5nm,0.7s,baz=106,slow=9.8,SNR=3.2						
WRA	**Warramunga Arr**	**48.46**	**191**	P	**P**	**13 04 12.0**	**+0.9**
	1.9nm,0.7s,baz=13,slow=8.2,SNR=15						
ASAR	**Alice Springs**	**52.18**	**191**	P	**P**	**13 04 39.3**	**+0.1**
	0.2nm,0.7s,baz=7.5,slow=5.1,SNR=4.2						
ILAR	**Eielson Array**	**56.50**	**29**	P	**P**	**13 05 09.4**	**-0.8**
	0.4nm,0.8s,baz=259,slow=6.2,SNR=4.5						

*CRAAG **20** 13:01:30.8, 36°.64N×2°.91E, Ml4.2*

*NEIC **20** 13:01:31.8, 36°.69N×2°.86E, h10km, ML3.8(ALG), After CSEM.*

NEIC Felt [III] at Algiers.

*CSEM **20** 13:01:31.7±0.1, 36°.67N×2°.88E, h10km, mb4.4, Error ellipse: s-maj=4.0km s-min=3.6km az=14.0*

*ISCJB **20** 13:01:32.4±0.6, 36°.82N±0°.03×2°.90E±0°.03, h28km±7km, Error ellipse: s-maj=5.4km s-min=3.9km az=140.2*

*LDG **20** 13:01:32.0±0.1, 36°.64N×2°.97E, h2km, Ml3.4/8, Error ellipse: s-maj=3.0km s-min=2.9km az=155.0*

*MDD **20** 13:01:32.3±0.4, 36°.71N×2°.88E, h0km, mb4.4/22, Error ellipse: s-maj=4.9km s-min=3.9km az=30.0, PRXIMO*

ISC 20 13:01:31.6±1.1, 36°.67N±0°.04×2°.92E±0°.03, h19km±3km, n138, σ1§67/170, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABA	**Alger-Bouzarea**	**0.16**	**36**	P	**Pb**	**13 01 35.4**	**+0.3**
ABA	**Alger-Bouzarea**	**0.16**	**36**	P	**Pb**	**13 01 35.4**	**+0.3**
ABA	**Alger-Bouzarea**	**0.16**	**36**	P	**Pb**	**13 01 35.4**	**+0.3**
ABA	**Alger-Bouzarea**	**0.16**	**36**	P	**Pb**	**13 01 35.4**	**+0.3**
ABMS	**Boumerdes**	**0.46**	**80**	P	**Pg**	**13 01 41.4**	**+0.4**
ABMS	**Boumerdes**	**0.46**	**80**	P	**Pg**	**13 01 41.4**	**+0.4**
ABMS	**Boumerdes**	**0.46**	**80**	P	**Pg**	**13 01 41.4**	**+0.4**
ABMS	**Boumerdes**	**0.46**	**80**	P	**Pg**	**13 01 41.4**	**+0.4**
EMHD	**Djebel Mahouad**	**0.47**	**176**	P	**Pg**	**13 01 40.9**	**-0.3**
EMHD	**Djebel Mahouad**	**0.47**	**176**	P	**Pg**	**13 01 40.9**	**-0.3**
EMHD	**Djebel Mahouad**	**0.47**	**176**	P	**Pg**	**13 01 40.9**	**-0.3**
EMHD	**Djebel Mahouad**	**0.47**	**176**	P	**Pg**	**13 01 40.9**	**-0.3**
ADJB	**Djebel Djouab**	**0.66**	**140**	P	**Pb**	**13 01 44.5**	**-0.1**
ADJB	**Djebel Djouab**	**0.66**	**140**	P	**Pb**	**13 01 44.5**	**-0.1**
ADJB	**Djebel Djouab**	**0.66**	**140**	P	**Pb**	**13 01 44.5**	**-0.1**
ADJB	**Djebel Djouab**	**0.66**	**140**	P	**Pb**	**13 01 44.5**	**-0.1**
AKET	**Djebel Ketaf**	**1.00**	**128**	P	**Pg**	**13 01 51.7**	**+0.7**
AKET	**Djebel Ketaf**	**1.00**	**128**	P	**Pg**	**13 01 51.7**	**+0.7**
EBNR	**Beni Rached**	**1.18**	**252**	P	**Pn**	**13 01 52.6**	**-0.6**
EBNR	**Beni Rached**	**1.18**	**252**	P	**Pn**	**13 01 52.6**	**-0.6**
EBNR	**Beni Rached**	**1.18**	**252**	P	**Pn**	**13 01 52.6**	**-0.6**
ECHA	**Ech Chlef**	**1.35**	**248**	P	**Pg**	**13 01 58.0**	**+0.3**
ECHA	**Ech Chlef**	**1.35**	**248**	P	**Pg**	**13 01 58.0**	**+0.3**
ECHF	**Ech Chlef**	**1.37**	**249**	P	**Pg**	**13 01 58.0**	**0.0**
ECHF	**Ech Chlef**	**1.37**	**249**	P	**Pg**	**13 01 58.0**	**0.0**
EANR	**'Ain N'Sour**	**1.63**	**244**	P	**Pn**	**13 01 58.3**	**-1.1**
EANR	**'Ain N'Sour**	**1.63**	**244**	P	**Pn**	**13 01 58.3**	**-1.1**
EANR	**'Ain N'Sour**	**1.63**	**244**	P	**Pn**	**13 01 58.3**	**-1.1**
EANR	**'Ain N'Sour**	**1.63**	**244**	P	**Pn**	**13 01 58.3**	**-1.1**
ETRT	**Tiaret**	**1.83**	**226**	P	**Pn**	**13 02 02.6**	**+0.4**
ETRT	**Tiaret**	**1.83**	**226**	P	**Pn**	**13 02 02.6**	**+0.4**
ETRT	**Tiaret**	**1.83**	**226**	P	**Pn**	**13 02 02.6**	**+0.4**
OKGL	**Djebel Kef Gue**	**1.94**	**252**	P	**Pg**	**13 02 11.0**	**+2.1**
OKGL	**Djebel Kef Gue**	**1.94**	**252**	P	**Pg**	**13 02 11.0**	**+2.1**
SET	**Setif**	**2.06**	**102**	P	**Pg**	**13 02 14.0**	**+2.9**
SET	**Setif**	**2.06**	**102**	P	**Pg**	**13 02 14.0**	**+2.9**
OJGS	**Djebel Guires**	**2.10**	**237**	P	**Pg**	**13 02 12.0**	**0.0**
OJGS	**Djebel Guires**	**2.10**	**237**	P	**Pg**	**13 02 12.0**	**0.0**
CKHR	**Kef el Ahmar**	**2.19**	**106**	P	**Pg**	**13 02 15.0**	**+1.3**
CKHR	**Kef el Ahmar**	**2.19**	**106**	P	**Pg**	**13 02 15.0**	**+1.3**
DFRA	**Djebel Bou Aff**	**2.38**	**92**	P	**Pb**	**13 02 12.6**	**-1.4**
DFRA	**Djebel Bou Aff**	**2.38**	**92**	P	**Pb**	**13 02 12.6**	**-1.4**
DFRA	**Djebel Bou Aff**	**2.38**	**92**	P	**Pb**	**13 02 12.6**	**-1.4**
EIBI	**Ibiza**	**2.66**	**333**	P	**Pn**	**13 02 14.5**	**+0.9**
	25nm,0.1s,SNR=130						
EIBI				S	**Sn**	**13 02 43.8**	**-1.5**
	86nm,0.2s,SNR=9.3						
EIBI	**Ibiza**	**2.66**	**333**	P	**Pn**	**13 02 14.5**	**+0.9**
	25nm,0.1s,SNR=130						
EIBI	**Ibiza**	**2.66**	**333**	Pn	**Pn**	**13 02 14.4**	**+0.9**
EIBI					Sn	**13 02 43.8**	**-1.5**
ODJA	**Bouhanifia**	**2.82**	**243**	P	**Pn**	**13 02 16.0**	**+0.2**
ODJA	**Bouhanifia**	**2.82**	**243**	P	**Pn**	**13 02 16.0**	**+0.2**
ODJA	**Bouhanifia**	**2.82**	**243**	P	**Pn**	**13 02 16.0**	**+0.2**
ETOS	**Mallorca**	**3.10**	**359**	P	**Pn**	**13 02 20.4**	**+0.9**
	20nm,0.2s,SNR=55						
ETOS				S	**Sn**	**13 02 54.0**	**-2.1**
	30nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**3.10**	**359**	P	**Pn**	**13 02 20.4**	**+0.9**
	20nm,0.2s,SNR=55						
CAEH	**'Ain El Ouahch**	**3.16**	**87**	P	**Pn**	**13 02 23.5**	**+3.1**
CAEH	**'Ain El Ouahch**	**3.16**	**87**	P	**Pn**	**13 02 23.5**	**+3.1**
CAEH	**'Ain El Ouahch**	**3.16**	**87**	P	**Pn**	**13 02 23.5**	**+3.1**
EBEN	**Beniarda**	**3.21**	**310**	P	**Pn**	**13 02 21.5**	**+0.3**
	4.6nm,0.8s,SNR=10						
EBEN				S	**Sn**	**13 02 56.5**	**-2.5**
	5.5nm,0.2s,SNR=7.1						
EBEN	**Beniarda**	**3.21**	**310**	P	**Pn**	**13 02 21.5**	**+0.3**
	4.6nm,0.8s,SNR=10						
EMUR	**La Murta**	**3.52**	**291**	P	**Pn**	**13 02 26.4**	**+1.1**
	2.6nm,0.2s,SNR=8.9						
EMUR				S	**Sn**	**13 03 05.8**	**-0.7**
	4.8nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**3.52**	**291**	P	**Pn**	**13 02 26.4**	**+1.1**
	2.6nm,0.2s,SNR=8.9						
EMUR				S	**Sn**	**13 03 05.8**	**-0.7**
	4.8nm,0.1s,SNR=7.9						
OLHC	**Oulhaca**	**3.79**	**249**	P	Pn	13 02 23.0	-6.1
OLHC	**Oulhaca**	**3.79**	**249**	P	Pn	13 02 23.0	-6.1
ETOB	**Tobarra**	**4.05**	**300**	P	**Pn**	**13 02 33.8**	**+1.1**
	19nm,0.2s,SNR=75						
ETOB				S	**Sn**	**13 03 19.2**	**-0.6**
	23nm,0.2s,SNR=5.1						
ETOB	**Tobarra**	**4.05**	**300**	P	**Pn**	**13 02 33.8**	**+1.1**
	19nm,0.2s,SNR=75						
ETOB				S	**Sn**	**13 03 19.2**	**-0.6**
	23nm,0.2s,SNR=5.1						
EHUE	**Huescar**	**4.54**	**286**	P	**Pn**	**13 02 41.3**	**+1.8**
	2.8nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**13 03 32.8**	**+1.0**
	5.4nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**4.54**	**286**	P	**Pn**	**13 02 41.3**	**+1.8**
	2.8nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**13 03 32.8**	**+1.0**
	5.4nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**4.55**	**325**	P	**Pn**	**13 02 40.6**	**+1.0**
	6.9nm,0.2s,SNR=73						
EMOS				S	**Sn**	**13 03 30.1**	**-1.9**
	11nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.55**	**325**	P	**Pn**	**13 02 40.6**	**+1.0**
	6.9nm,0.2s,SNR=73						
SESP	**Santiago Espad**	**4.58**	**290**	P	**Pn**	**13 02 41.9**	**+1.8**
	7.8nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**13 03 33.0**	**+0.1**
	15nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**4.58**	**290**	P	**Pn**	**13 02 41.9**	**+1.8**
	7.8nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**13 03 33.0**	**+0.1**
	15nm,0.2s,SNR=7.9						
EBER	**Berja**	**4.67**	**275**	P	**Pn**	**13 02 42.0**	**+0.7**
	0.8nm,0.1s,SNR=15						
EBER				S	**Sn**	**13 03 34.8**	**-0.2**
	3.2nm,0.3s,SNR=7.9						
EBER	**Berja**	**4.67**	**275**	P	**Pn**	**13 02 42.0**	**+0.7**
	0.8nm,0.1s,SNR=15						
EBER				S	**Sn**	**13 03 34.8**	**-0.2**
	3.2nm,0.3s,SNR=7.9						
EVIA	**Vianos**	**4.73**	**296**	P	**Pn**	**13 02 42.6**	**+0.6**
	3.8nm,0.2s,SNR=7.9						
EVIA				S	**Sn**	**13 03 34.7**	**-1.7**
	9.8nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**4.73**	**296**	P	**Pn**	**13 02 42.6**	**+0.6**
	3.8nm,0.2s,SNR=7.9						
EVIA				S	**Sn**	**13 03 34.7**	**-1.7**
	9.8nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**4.73**	**336**	P	**Pn**	**13 02 43.1**	**+1.1**
	1.2nm,0.1s,SNR=7.9						
ERTA				S	**Sn**	**13 03 33.6**	**-2.8**
	9.7nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**4.73**	**336**	P	**Pn**	**13 02 43.1**	**+1.1**
	1.2nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**4.89**	**344**	P	**Pn**	**13 02 45.0**	**+0.7**
	1.8nm,0.3s,SNR=9.1						
EPOB				S	**Sn**	**13 03 37.8**	**-2.6**
	2.0nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**4.89**	**344**	P	**Pn**	**13 02 45.0**	**+0.7**
	1.8nm,0.3s,SNR=9.1						
EQES	**Quesada**	**4.91**	**285**	P	**Pn**	**13 02 47.0**	**+2.5**
	5.4nm,0.2s,SNR=23						
EQES				S	**Sn**	**13 03 42.1**	**+1.2**
	7.7nm,0.2s,SNR=7.9						
EQES	**Quesada**	**4.91**	**285**	P	**Pn**	**13 02 47.0**	**+2.5**
	5.4nm,0.2s,SNR=23						
EQES				S	**Sn**	**13 03 42.1**	**+1.2**
	7.7nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**5.10**	**356**	P	**Pn**	**13 02 48.0**	**+0.9**
	9.0nm,0.2s,SNR=18						
CFON				S	**Sn**	**13 03 41.4**	**-4.1**
	29nm,0.3s,SNR=7.9						
CFON	**Fontmartina**	**5.10**	**356**	P	**Pn**	**13 02 48.0**	**+0.9**
	9.0nm,0.2s,SNR=18						
KEST	**Kesra**	**5.28**	**98**	*ePn*	**Pn**	**13 02 51.9**	**+2.3**
KEST	**Kesra**	**5.28**	**98**	*ePn*	**Pn**	**13 02 51.9**	**+2.3**
EMIR	**Miracle**	**5.35**	**349**	P	**Pn**	**13 02 52.7**	**+2.2**
	19nm,0.2s,SNR=31						
EMIR				S	**Sn**	**13 03 49.4**	**-2.2**
	16nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**5.35**	**349**	P	**Pn**	**13 02 52.7**	**+2.2**
	19nm,0.2s,SNR=31						
ESAC	**San Caprasio**	**5.69**	**334**	P	**Pn**	**13 02 57.1**	**+1.9**
	7.7nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**5.69**	**334**	P	**Pn**	**13 02 57.1**	**+1.9**
	7.7nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**5.77**	**360**	P	**Pn**	**13 02 58.8**	**+2.5**
	3.3nm,0.1s,SNR=7.9						
EJON				S	**Sn**	**13 03 59.0**	**-3.0**
	3.2nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**5.77**	**360**	P	**Pn**	**13 02 58.8**	**+2.5**
	3.3nm,0.1s,SNR=7.9						
SJAF	**Saint Jean de**	**5.81**	**360**	P	**Pn**	**13 02 58.4**	**+1.6**
	2.5nm,0.3s,SNR=7.9						
SJAF				S	**Sn**	**13 04 00.8**	**-2.1**
	0.8nm,0.2s,SNR=7.9						
SJAF	**Saint Jean de**	**5.81**	**360**	P	**Pn**	**13 02 58.4**	**+1.6**
	2.5nm,0.3s,SNR=7.9						
CLLI	**Llivia**	**5.85**	**353**	P	**Pn**	**13 02 59.9**	**+2.4**
	2.4nm,0.3s,SNR=5.9						
CLLI				S	**Sn**	**13 04 01.4**	**-2.6**
	3.8nm,0.3s,SNR=7.9						
CLLI	**Llivia**	**5.85**	**353**	P	**Pn**	**13 02 59.9**	**+2.4**
	2.4nm,0.3s,SNR=5.9						
CSOR	**Sort**	**5.86**	**347**	P	**Pn**	**13 02 58.8**	**+1.2**
	5.1nm,0.3s,SNR=6.8						
CSOR				S	**Sn**	**13 04 02.1**	**-2.3**
	6.7nm,0.3s,SNR=7.9						
CSOR	**Sort**	**5.86**	**347**	P	**Pn**	**13 02 58.8**	**+1.2**
	5.1nm,0.3s,SNR=6.8						
ESDC	**Sonseca Array**	**6.20**	**301**	P	**Pn**	**13 03 02.6**	**+0.5**
	3.9nm,0.2s,baz=114,slow=13,SNR=9.0						
ESDC				S	**Sn**	**13 04 09.4**	**-3.1**
	0.9nm,0.2s,baz=114,slow=24,SNR=6.7						
ESDC	**Sonseca Array**	**6.20**	**301**	P	**Pn**	**13 03 02.6**	**+0.5**
	3.9nm,0.2s,SNR=9.0						
PAB	**San Pablo**	**6.41**	**299**	*ePn*	**Pn**	**13 03 05.4**	**+0.3**
PAB	**San Pablo**	**6.41**	**299**	*ePn*	**Pn**	**13 03 05.4**	**+0.3**
EPF	**Esparros**	**6.66**	**343**	*ePn*	**Pn**	**13 03 09.3**	**+0.9**
EPF				*eSn*	**Sn**	**13 04 21.5**	**-2.3**
	6.9nm,0.3s						
EPF	**Esparros**	**6.66**	**343**	*ePn*	**Pn**	**13 03 09.3**	**+0.9**
MTLF	**Montolieu**	**6.69**	**356**	*ePn*	**Pn**	**13 03 09.1**	**+0.3**
MTLF				*eSn*	**Sn**	**13 04 19.8**	**-4.7**
	2.4nm,0.4s						
MTLF	**Montolieu**	**6.69**	**356**	*ePn*	**Pn**	**13 03 09.1**	**+0.3**
ETSF	**Etsaut**	**6.77**	**338**	*ePn*	**Pn**	**13 03 10.9**	**+0.8**
ETSF				*eSn*	**Sn**	**13 04 24.8**	**-1.9**
	4.0nm,0.3s						
ETSF	**Etsaut**	**6.77**	**338**	*ePn*	**Pn**	**13 03 10.9**	**+0.8**
ECAB	**El Cabril**	**6.79**	**284**	P	**Pn**	**13 03 11.0**	**+0.8**
	0.7nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**6.79**	**284**	P	**Pn**	**13 03 11.0**	**+0.8**
	0.7nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**6.81**	**308**	P	**Pn**	**13 03 12.3**	**+1.7**
	1.0nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**13 04 24.0**	**-3.6**
	2.4nm,0.4s,SNR=7.9						
GUD	**Guadarrama**	**6.81**	**308**	P	**Pn**	**13 03 12.3**	**+1.7**
	1.0nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**6.95**	**334**	P	**Pn**	**13 03 14.1**	**+1.7**
	1.6nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**6.95**	**334**	P	**Pn**	**13 03 14.1**	**+1.7**
	1.6nm,0.2s,SNR=7.9						
ATE	**Arette**	**6.99**	**338**	P	**Pn**	**13 03 15.3**	**+2.3**
	2.3nm,0.3s,SNR=7.9						
ATE	**Arette**	**6.99**	**338**	P	**Pn**	**13 03 15.3**	**+2.3**
	2.3nm,0.3s,SNR=7.9						
SJPF	**Ste Jean**	**7.18**	**335**	*ePn*	**Pn**	**13 03 16.8**	**+1.2**
SJPF				*eSn*	Sn	13 04 30.6	-6.0
	3.5nm,0.2s						
SJPF	**Ste Jean**	**7.18**	**335**	*ePn*	**Pn**	**13 03 16.8**	**+1.2**
LMR	**La Mourre**	**7.21**	**21**	*ePn*	**Pn**	**13 03 15.8**	**-0.1**
LMR				*eSn*	**Sn**	**13 04 32.8**	**-4.4**
	2.6nm,0.2s						
LMR	**La Mourre**	**7.21**	**21**	*ePn*	**Pn**	**13 03 15.8**	**-0.1**
LASF	**Ste Croix**	**7.43**	**5**	*ePn*	**Pn**	**13 03 19.8**	**+0.7**
LASF	**Ste Croix**	**7.43**	**5**	*ePn*	**Pn**	**13 03 19.8**	**+0.7**
FRF	**La Foret Royal**	**7.45**	**21**	*ePn*	**Pn**	**13 03 19.9**	**+0.6**
FRF				*eSn*	**Sn**	**13 04 39.9**	**-3.4**
	2.2nm,0.2s						
FRF	**La Foret Royal**	**7.45**	**21**	*ePn*	**Pn**	**13 03 19.9**	**+0.6**
PGF	**Pioggiola**	**7.52**	**37**	*ePn*	**Pn**	**13 03 20.3**	**0.0**
PGF				*eSn*	**Sn**	**13 04 39.7**	**-5.4**
	2.3nm,0.3s						
PGF	**Pioggiola**	**7.52**	**37**	*ePn*	**Pn**	**13 03 20.3**	**0.0**
SMRF	**Simiane la Rot**	**7.58**	**15**	*ePn*	**Pn**	**13 03 21.1**	**+0.1**
SMRF	**Simiane la Rot**	**7.58**	**15**	*ePn*	**Pn**	**13 03 21.1**	**+0.1**
SBF	**Sospel**	**7.97**	**24**	*eSn*	**Sn**	**13 04 51.3**	**-4.9**
	2.0nm,0.2s						
ELAN	**Lanestosa**	**8.17**	**325**	P	**Pn**	**13 03 32.0**	**+2.9**
	2.6nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**8.17**	**325**	P	**Pn**	**13 03 32.0**	**+2.9**
	2.6nm,0.2s,SNR=7.9						
VIVF	**Saint-Julien-l**	**8.29**	**9**	*ePn*	**Pn**	**13 03 31.4**	**+0.6**
VIVF	**Saint-Julien-l**	**8.29**	**9**	*ePn*	**Pn**	**13 03 31.4**	**+0.6**
**

WRA	**Warramunga Arr**	**48.78**	**174**	P		**P**	**13 30 13.6**	**+0.4**
	0.6nm,0.5s,baz=353,slow=7.9,SNR=7.2							
ASAR	**Alice Springs**	**52.44**	**175**	P		**P**	**13 30 42.5**	**+1.7**
	0.4nm,0.5s,baz=351,slow=7.7,SNR=9.5							
YKA	**Yellowknife Ar**	**75.49**	**26**	P		**P**	**13 33 11.4**	**-0.6**
	0.8nm,0.7s,baz=304,slow=5.8,SNR=5.5							
BRTR	**Keskin Array B**	**76.49**	**308**	P		**P**	**13 33 18.3**	**0.0**
	1.1nm,0.9s,baz=79,slow=3.1,SNR=3.7							
RPZ	**Rata Peaks**	**81.58**	**151**	LR		LR	14 04 20.5	
	comp=Z,304nm,20.9s,baz=248,slow=32							

*ISCJB **20** 13:22:35.8±0.5,32°.18N±0°.02×115°.18W±0°.02,h11km±4km, Error ellipse: s-maj=3.7km s-min=3.3km az=166.0*
*MEX **20** 13:22:38.9±0.9,32°.30N×115°.15W,h17km±43km,MD3.5*
*NEIC **20** 13:22:38.0,32°.13N×115°.16W,h9km,ML3.2(PAS), ML3.4(ECX), After ECX.*
*ECX **20** 13:22:38.0±0.5,32°.21N×115°.27W,h6km, MD3.2,ML3.4*

ISC 20 13:22:35.9±1.1,32°.14N±0°.02×115°.25W±0°.02,h8km±9km, n31,σ0°993/53,3C-6D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MBIG	**Mexicali**	**0.27**	**9**	*eP*		**Pg**	**13 22 41.8**	**+0.6**
MBIG				*eS*		**Sg**	**13 22 44.1**	**-0.8**
CPBX	**Cerro Prieto**	**0.28**	**350**	*eP*		**Pg**	**13 22 41.8**	**+0.3**
CPBX	**Cerro Prieto**	**0.28**	**350**	*eP*		**Pg**	**13 22 41.7**	**+0.3**
CPBX				⇓*eP*		**Pg**	**13 22 41.8**	**+0.3**
CPBX				*eS*		**Sg**	**13 22 44.7**	**-0.5**
RDX	**Rancho Dawling**	**0.63**	**250**	⇑*eP*		**Pb**	**13 22 49.5**	**+0.3**
RDX				*eS*		**Sb**	**13 22 58.2**	**-0.1**
EMSC	**East Mesa**	**0.64**	**20**	⇑*iP*		**Pg**	**13 22 48.5**	**+0.3**
SGL	**Mount Signal**	**0.65**	**322**	⇓*iP*		**Pg**	**13 22 48.4**	**0.0**
DREC	**Desert Rsrch C**	**0.68**	**346**	*eP*		**Pg**	**13 22 49.1**	**0.0**
ECBX	**El Chinero**	**0.69**	**166**	⇓*eP*		**Pg**	**13 22 49.5**	**+0.4**
ECBX				*eS*		**Sb**	**13 22 59.8**	**0.0**
ERPC	**Ernies Place**	**0.70**	**330**	⇓*iP*		**Pg**	**13 22 49.5**	**+0.2**
YMD	**Yuma Desert**	**0.72**	**55**	*eP2*		**Pb**	**13 22 50.0**	**-0.8**
COA	**Coachella**	**0.73**	**8**	⇑*iP*		**Pg**	**13 22 49.6**	**-0.3**
WESC	**Westside Schoo**	**0.74**	**327**	*eP*		**Pg**	**13 22 50.2**	**+0.1**
YUH	**Yuha Desert**	**0.76**	**312**	⇓*iP*		**Pg**	**13 22 50.3**	**-0.3**
RMX	**La Rumorosa**	**0.84**	**303**	*eP*		**Pg**	**13 22 51.9**	**-0.2**
RMX				*eS*		**Sg**	**13 23 02.5**	**-0.6**
ZAX	**El Zacaton**	**1.07**	**235**	*eP*		**Pg**	**13 22 56.6**	**+0.1**
ZAX				*eS*		**Sn**	**13 23 12.2**	**-0.3**
SPIG	**San Pedro Mart**	**1.11**	**190**	*eP*		**Pn**	**13 22 58.2**	**+0.2**
SPIG	**San Pedro Mart**	**1.11**	**190**	*eP*		**Pn**	**13 22 58.2**	**+0.2**
SPX	**San Pedro Mart**	**1.11**	**190**	*eP*		**Pn**	**13 22 59.1**	**+1.1**
SPX	**San Pedro Mart**	**1.11**	**190**	*eP*		**Pn**	**13 22 58.2**	**+0.2**
SPX				*eS*		**Sn**	**13 23 14.7**	**+1.1**
SPX				IAML			13 23 15.6	
	comp=E,580nm,0.4s							
SPX				⇓*e*			13 23 15.6	
CBX	**Cerro Bola**	**1.21**	**279**	*eP*		**Pb**	**13 22 58.5**	**-0.6**
CBX	**Cerro Bola**	**1.21**	**279**	*eP*		**Pb**	**13 22 58.5**	**-0.6**
CBX	**Cerro Bola**	**1.21**	**279**	*eP*		**Pb**	**13 22 58.5**	**-0.6**
CBX				*eS*		**Sb**	**13 23 14.7**	**-0.3**
CBX				IAML			13 23 17.4	
	comp=N,1μm,0.3s							
ECNX	**Esteban Cantu**	**1.25**	**248**	*eP*		**Pn**	**13 22 59.6**	**-0.1**
ECNX				*eS*		**Sn**	**13 23 16.9**	**+0.2**
PBX	**Punta Banda**	**1.32**	**253**	*eP*		**Pn**	**13 23 00.8**	**+0.2**
PBX				*eS*		**Sg**	**13 23 18.9**	**+0.7**
PFO	**Pinyon Flats O**	**1.78**	**326**	*ePn*		**Pn**	**13 23 04.8**	**-2.3**
PFO				*eSn*		**Sn**	**13 23 29.1**	**-0.9**
214A	**Organ Pipe Nat**	**2.08**	**94**	*ePn*		**Pn**	**13 23 09.8**	**-1.3**
214A				*eSn*		**Sn**	**13 23 35.6**	**-1.6**
214A				*eSg*		**Sg**	**13 23 42.2**	**-0.5**
LDFC	**Landfair**	**2.93**	**2**	*ePn*		**Pn**	**13 23 25.4**	**+2.4**
LDFC				*ePg*		**Pg**	**13 23 34.4**	**+2.3**
LDFC				*eSn*		**Sn**	**13 23 59.0**	**+0.6**
LDFC				*eSg*		**Sg**	**13 24 12.6**	**+2.5**
TUC	**Tucson**	**3.79**	**86**	*ePn*		**Pn**	**13 23 34.0**	**-0.7**
TUC				*ePg*		**Pg**	**13 23 49.4**	**+0.9**
TUC				*eSn*		**Sn**	**13 24 19.0**	**-0.5**
SHPR	**Sheep Range**	**4.36**	**1**	*ePn*		**Pn**	**13 23 42.4**	**-0.2**
WUAZ	**Wupatki**	**4.66**	**43**	*ePn*		**Pn**	**13 23 47.5**	**+0.8**
WUAZ				*ePg*		**Pg**	**13 24 06.6**	**+1.4**
WUAZ				*eSn*		**Sn**	**13 24 41.7**	**+0.6**
121A	**Cookes Peak, D**	**6.33**	**84**	*ePn*		**Pn**	**13 24 08.3**	**-1.4**
	comp=N,3.1nm,0.5s							
121A				*eSg*		**Sg**	**13 25 58.7**	**-0.4**

GUC 20 13:22:36.7±0.7,34°.80S×72°.43W,h15km±5km,ML3.7,4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TALC	**Talca**	**0.89**	**132**	⇑*iP*		Pb	13 22 52.6	-1.2
TALC				*iS*		Sb	13 23 04.4	-1.0
NICH	**Los Niches**	**1.01**	**102**	⇑*iP*		Pb	13 22 55.1	-0.8
NICH				*iS*		Sb	13 23 08.3	-0.7
LNV	**Longovilo**	**1.20**	**45**	*eP*		Pn	13 22 57.8	-1.0
LNV				*eS*		Sb	13 23 13.2	-1.1
LNCH	**Linares**	**1.25**	**147**	⇑*iP*		Pn	13 22 58.8	-0.8
LNCH				*iS*		Sb	13 23 14.8	-1.0
COCH	**Cobquecura**	**1.36**	**192**	*eP*		Pn	13 22 59.8	-1.3
COCH				*eS*		Sn	13 23 17.7	-1.2
CHCH	**Chadas Angostu**	**1.71**	**60**	⇑*iP*		Pn	13 23 05.2	+0.2
PEL	**Peldehue**	**2.20**	**42**	*eP*		Pn	13 23 14.0	+1.2
PEL				*iS*		Sn	13 23 41.4	+1.6
PEL				AML		AML	13 23 49.4	
	comp=E,711nm,0.4s							

*IDC **20** 13:22:37.9±1.2,27°.97N×143°.03E,h0km, mb3.8/4, mb1 3.9/5,mb1mx3.5/25, mbtmp3.7/5, ML3.3/1, MS2.5/1, Ms1 2.5/1, ms1mx2.1/30, Error ellipse: s-maj=37.6km s-min=17.3km az=112.0*
*ISCJB **20** 13:22:38.7±1.1,28°.08N±0°.09×143°.1E±0°.2, h22km, mb3.8/4, Error ellipse: s-maj=25.4km s-min=10.1km az=21.4*

ISC 20 13:22:41.1±1.3,28°.0N±0°.1×143°.0E±0°.2,h22km,n6, σ0°51/7,mb3.8/4,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**	**1.16**	**218**	Pn		**Pn**	**13 23 01.9**	**-0.1**
	16nm,0.3s,baz=0.3,slow=22,SNR=27							
JCJ				Sn		**Sn**	**13 23 17.5**	**+0.3**
	45nm,0.3s,baz=253,slow=19,SNR=23							
MJAR	**Matsushiro Arr**	**9.42**	**336**	Pn		**Pn**	**13 24 55.0**	**-0.5**
	0.3nm,0.3s,baz=158,slow=12,SNR=4.7							
MJAR				LR		LR	13 28 36.8	
	comp=Z,27nm,19.9s,baz=275,slow=38							
WRA	**Warramunga Arr**	**48.40**	**191**	P		**P**	**13 31 21.4**	**-0.2**
	1.6nm,0.7s,baz=12,slow=8.3,SNR=10.0							
ASAR	**Alice Springs**	**52.12**	**191**	P		**P**	**13 31 49.4**	**-0.4**
	0.1nm,0.5s,baz=9.9,slow=5.9,SNR=2.6							
KURBB	**Kurchatov Arra**	**52.92**	**314**	P		**P**	**13 31 56.0**	**+0.6**
	2.4nm,0.2s,baz=102,slow=7.9,SNR=5.0							
ILAR	**Eielson Array**	**56.57**	**29**	P		**P**	**13 32 22.0**	**+0.3**
	0.3nm,0.8s,baz=277,slow=7.2,SNR=3.6							

GUC 20 13:26:46.0±0.5,34°.77S×72°.48W,h34km±4km,ML3.9,4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TALC	**Talca**	**0.94**	**133**	⇑*iP*		Pn	13 27 02.0	-0.6
TALC				*eS*		Sn	13 27 14.4	-0.5
NICH	**Los Niches**	**1.05**	**103**	*eP*		Pn	13 27 04.5	+0.2
NICH				*eS*		Sn	13 27 18.4	+0.6
LNV	**Longovilo**	**1.20**	**48**	⇑*iP*		Pn	13 27 06.9	+0.7
LNCH	**Linares**	**1.29**	**147**	⇑*iP*		Pn	13 27 08.6	+0.9
LNCH				*eS*		Sb	13 27 25.6	-0.6
COCH	**Cobquecura**	**1.39**	**191**	*eP*		Pn	13 27 09.1	+0.2
COCH				*eS*		Sb	13 27 28.0	-0.7
CHCH	**Chadas Angostu**	**1.72**	**62**	⇑*iP*		Pb	13 27 15.6	-1.5
CHCH				*eS*		Sb	13 27 38.0	-0.5
ROCH	**El Roble**	**2.17**	**35**	*eP*		Pb	13 27 22.5	-2.4
ROCH				*eS*		Sb	13 27 53.7	+2.1
ROCH				AML		AML	13 27 57.4	
	comp=N,802nm,0.5s							
PEL	**Peldehue**	**2.20**	**43**	*eP*		Pn	13 27 22.4	+2.2
PEL				*eS*		Sb	13 27 49.3	-2.8
PEL				AML		AML	13 27 58.2	
	comp=E,1μm,0.7s							

*AWI **20** 13:28:56.5,54°.87S×25°.84W*
*ISCJB **20** 13:28:58.7±1.0,55°.5S±0°.1×26°.3W±0°.4,h10km,mb3.9/3, Error ellipse: s-maj=38.1km s-min=14.3km az=152.7*
*IDC **20** 13:28:58.5±1.2,55°.62S×26°.28W,h0km, mb3.9/3, mb1 4.0/3,mb1mx3.7/18,mbtmp3.9/3, Error ellipse: s-maj=39.2km s-min=30.8km az=74.0*

ISC 20 13:29:00.4±1.0,55°.6S±0°.2×26°.5W±0°.3,h10km,n9,σ1°06/9, mb4.0/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**17.32**	**162**	P		**P**	**13 33 04.2**	**+0.8**
VNA2	**Neumayer--Watz**	**17.50**	**159**	P		**P**	**13 33 07.2**	**+1.8**
	baz=322,slow=14							
SNAA	**Sanae**	**19.03**	**157**	P		**P**	**13 33 21.6**	**-0.7**
LVC	**Limon Verde**	**45.42**	**299**	P		**P**	**13 37 19.7**	**+0.2**
	baz=100,slow=19							
VNDA	**Vanda**	**47.09**	**182**	P		**P**	**13 37 30.6**	**-1.1**
	1.2nm,0.8s,baz=192,slow=8.6,SNR=7.5							
LPAZ	**La Paz**	**50.44**	**304**	P		**P**	**13 37 59.2**	**+0.3**
	0.9nm,0.6s,baz=140,slow=8.1,SNR=4.8							
TORD	**Torodi Ar. Bea**	**72.42**	**29**	P		**P**	**13 40 26.2**	**-0.5**
	0.6nm,0.5s,baz=199,slow=6.4,SNR=8.8							
ZALV	**Zalesovo Beam**	**141.77**	**63**	PKP		**PKPdf**	**13 48 31.7**	**+0.8**
	1.4nm,0.8s,baz=145,slow=3.1,SNR=3.2							
ILAR	**Eielson Array**	**150.10**	**312**	PKPbc		**PKPbc**	**13 48 49.9**	**+0.1**
	0.7nm,0.8s,baz=124,slow=2.1,SNR=8.7							

*ISCJB **20** 13:36:34.4±0.3,7°.19S±0°.03×119°.11E±0°.03,h583km±3km, mb4.5/82, Error ellipse: s-maj=6.0km s-min=4.0km az=140.0*
*MOS **20** 13:36:34.0±1.0,7°.03S×119°.09E,h568km,mb4.4/21, Error ellipse: s-maj=11.5km s-min=6.8km az=113.8*
*NEIC **20** 13:36:34.9±0.3,7°.12S×119°.06E,h569km±3km, mb4.5/19, Error ellipse: s-maj=5.8km s-min=4.4km az=55.0*
*BJI **20** 13:36:35.1,7°.20S×119°.00E,h572km,mb4.6/32,mB4.5/18*
*IDC **20** 13:36:36.0±0.5,7°.13S×119°.15E,h581km±4km, mb3.9/33, mb1 4.0/37,mb1mx4.0/39,mbtmp4.8/37, Error ellipse: s-maj=8.7km s-min=5.2km az=63.0*

ISC 20 13:36:35.2±0.4,7°.17S±0°.04×119°.11E±0°.05,h575km±4km, n204,σ1°23/262,mb4.4/79,5C-4D,Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAPI	**Kappang**	**2.23**	**17**	P		**P**	**13 37 50.0**	**+1.7**
	105nm,0.3s,baz=214,slow=3.3,SNR=431							
KAPI				S		**S**	**13 38 49.0**	**+1.3**
	2.8nm,0.3s,baz=69,slow=21,SNR=24							
KAPI	**Kappang**	**2.23**	**17**	*eP*		**P**	**13 37 49.8**	**+1.4**
KAPI				*eS*		**S**	**13 38 47.4**	**-0.3**
MMRI	**Maumere**	**3.43**	**115**	*eP*		**P**	**13 37 54.1**	**-0.8**
MMRI				*eS*		**S**	**13 38 56.7**	**-3.2**
JAGI	**Jajag, Banyuwa**	**5.07**	**255**	*eP*		**P**	**13 38 05.0**	**-2.2**
	577nm,0.3s							
JAGI				*eS*		**S**	**13 39 20.1**	**-2.2**
SOEI	**Soe**	**5.72**	**117**	*eP*		**P**	**13 38 12.3**	**-0.4**
SOEI				*eS*		**S**	**13 39 32.4**	**0.0**
LUWI	**Luwuk**	**7.10**	**31**	*eP*		**P**	**13 39 26.7**	**+1.5**
LUWI				*eS*		**S**	**13 39 55.0**	**-0.1**
TOLI	**Toli-Toli**	**8.41**	**12**	*eP*		**P**	**13 38 37.3**	**-0.4**
TOLI				*eS*		**S**	**13 40 18.5**	**+0.4**
SMRI	**Semarang**	**8.60**	**270**	*eP*		**P**	**13 38 38.2**	**-1.5**
CISI	**Cisompet, Garu**	**11.20**	**267**	*eP*		**P**	**13 39 04.1**	**-1.8**
LEM	**Lembang**	**11.41**	**271**	P		**P**	**13 39 07.6**	**-0.4**
	9.6nm,0.3s,baz=47,slow=6.3,SNR=12							
LEM				S		**S**	**13 41 15.4**	**+1.7**
	2.3nm,0.3s,baz=333,slow=22,SNR=3.8							
TNTI	**Ternate**	**11.41**	**47**	*eP*		**P**	**13 39 07.4**	**-0.5**
TNTI				*eS*		**S**	**13 41 14.0**	**+0.6**
SBUM	**Sibu**	**11.77**	**324**	*eP*		**P**	**13 39 09.5**	**-2.1**
KSM	**Kuching**	**12.28**	**314**	*eP*		**P**	**13 39 17.6**	**+0.9**
KKM	**Kota Kinabalu**	**13.44**	**348**	*eP*		**P**	**13 39 27.8**	**-1.1**
SIJI	**Sorong**	**13.64**	**63**	P		**P**	**13 39 30.2**	**-0.7**
	7.6nm,0.3s,baz=308,slow=4.9,SNR=19							
SIJI				S		**S**	**13 41 56.0**	**+0.8**
	baz=95,slow=19,SNR=3.7							
FAKI	**Fak Fak**	**13.76**	**73**	*eP*		**P**	**13 39 29.9**	**-2.0**
MBWA	**Marble Bar**	**13.92**	**178**	*eP*		**P**	**13 39 32.8**	**-0.8**
WRA	**Warramunga Arr**	**19.48**	**132**	P		**P**	**13 40 26.1**	**+0.6**
	11nm,0.3s,baz=308,slow=10,SNR=199							
WRA				S		**S**	**13 43 29.5**	**-2.7**
	1.1nm,0.3s,baz=309,slow=16,SNR=10							
WRA				ScP		**ScP**	**13 47 00.3**	**-0.4**
	0.3nm,0.3s,baz=326,slow=2.4,SNR=4.4							
WRA				PKiKP		**PKiKP**	**13 52 06.4**	**-1.2**
	0.1nm,0.3s,baz=301,slow=1.1,SNR=5.9							
WRAB	**Tennant Creek**	**19.49**	**132**	*eP*		**P**	**13 40 26.3**	**+0.8**
WRAB				*eS*		**S**	**13 43 29.5**	**-2.7**
WRAB				pmax		pmax		
	comp=Z,27nm,0.5s							
WRAB	**Tennant Creek**	**19.49**	**132**	*eP*		**P**	**13 40 26.2**	**+0.8**
	comp=Z,27nm,0.5s							
WRAB				*eS*		**S**	**13 43 29.5**	**-2.7**
IPM	**Ipoh**	**21.43**	**302**	*eP*		**P**	**13 40 42.6**	**-0.6**
	comp=Z,16nm,0.9s							
AS31	**Alice Springs**	**21.70**	**141**	*eP*		**P**	**13 40 46.0**	**+0.5**
AS31				*eS*		**S**	**13 44 07.0**	**-0.2**
ASAR	**Alice Springs**	**21.70**	**141**	P		**P**	**13 40 46.1**	**+0.6**
	comp=Z,29nm,0.4s,baz=320,slow=8.7,SNR=1025							
ASAR				S		**S**	**13 44 05.0**	**-2.2**
	comp=Z,15nm,0.8s,baz=308,slow=16,SNR=12							
ASAR				ScP		**ScP**	**13 47 06.0**	**-0.1**
	comp=Z,3.8nm,0.7s,baz=332,slow=2.2,SNR=8.1							
ASAR				PKiKP		**PKiKP**	**13 52 08.0**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=8.5,slow=1.9,SNR=4.2							
JAY	**Jayapura**	**22.01**	**79**	P		**P**	**13 40 47.2**	**-1.2**
	comp=Z,9.3nm,0.7s,baz=242,slow=8.9,SNR=6.9							
KULM	**Kulim**	**22.19**	**303**	*eP*		**P**	**13 40 48.8**	**-1.1**
	comp=Z,47nm,1.8s							
PSI	**Prapat**	**22.44**	**296**	P		**P**	**13 40 51.9**	**-0.4**
	comp=Z,5.5nm,0.6s,baz=100,slow=9.5,SNR=8.7							
TRTT	**Trang**	**24.43**	**307**	P		**P**	**13 41 10.1**	**+0.3**
	comp=Z,23nm,1.0s							
COEN	**Coen**	**24.59**	**108**	*eP*		**P**	**13 41 11.2**	**-0.1**
	comp=Z,14nm,0.7s							
FORT	**Forrest**	**24.94**	**161**	*eP*		**P**	**13 41 14.7**	**+0.6**
	comp=Z,204nm,0.7s							
NWAO	**Narrogin (SRO)**	**25.69**	**184**	P		**P**	**13 41 21.2**	**+0.5**
	comp=Z,122nm,0.5s,baz=329,slow=7.3,SNR=176							
PATY	**Pattaya**	**26.96**	**318**	P		**P**	**13 41 33.3**	**+1.3**
	comp=Z,17nm,0.6s,comp=Z,534nm							
QIZ	**Qiongzhong**	**27.59**	**341**	P		**P**	**13 41 38.1**	**+0.6**
SKNT	**Sakolnakorn**	**28.27**	**328**	P		**P**	**13 41 43.9**	**+0.5**
	comp=Z,56nm,0.7s							
KHON	**Khomkaen**	**28.38**	**326**	P		**P**	**13 41 45.2**	**+0.8**
	comp=Z,14nm,0.7s							
CHAI	**Chaiyaphum**	**28.51**	**324**	P		**P**	**13 41 46.6**	**+1.1**
	comp=Z,11nm,0.8s,comp=Z,117nm							
CTA	**Charters Tower**	**29.28**	**119**	P		**P**	**13 41 53.4**	**+1.1**
	comp=Z,5.9nm,0.8s,baz=279,slow=7.8,SNR=5.7							
CTA				PcP		**PcP**	**13 44 40.9**	**+0.4**
	comp=Z,4.6nm,0.7s,baz=257,slow=5.8,SNR=5.0							
CTA				ScP		**ScP**	**13 47 27.6**	**-0.6**
	comp=Z,4.2nm,0.8s,baz=349,slow=5.2,SNR=3.6							
NONG	**Nongkai**	**29.61**	**328**	P		**P**	**13 41 55.8**	**+0.8**
	comp=Z,18nm,1.5s							
PBKT	**Sadao Pong**	**29.64**	**323**	P		**P**	**13 41 55.8**	**+0.5**
	comp=Z,24nm,0.9s,comp=Z,713nm							
KHLT	**Khaolaem Dam**	**29.84**	**317**	P		**P**	**13 41 58.4**	**+1.4**
	comp=Z,13nm,0.7s							
BBOO	**Buckleboo**	**29.98**	**151**	*eP*		**P**	**13 41 58.6**	**+0.5**
TPUB	**Ta-pu**	**30.32**	**3**	*eP*		**P**	**13 42 01.3**	**+0.2**
	comp=Z,9.1nm,0.3s							
YULB	**Yu-li**	**30.45**	**4**	P		**P**	**13 42 01.6**	**-0.6**
	comp=Z,26nm,0.3s							
UTTA	**Uttaradit**	**30.80**	**324**	P		**P**	**13 42 06.8**	**+1.6**
	comp=Z,4.9nm,0.7s							
SSLB	**Suanglung**	**30.82**	**3**	P		**P**	**13 42 03.8**	**-1.6**
	comp=Z,16nm,0.8s							
LAMP	**Lampang**	**31.95**	**323**	P		**P**	**13 42 16.8**	**+1.7**
	comp=Z,5.9nm,0.9s,comp=Z,56nm							
STKA	**Stephens Creek**	**32.31**	**142**	P		**P**	**13 42 18.8**	**+0.8**
	comp=Z,35nm,0.4s,baz=316,slow=8.6,SNR=48							
STKA				S		**S**	**13 46 52.0**	**0.0**
	comp=Z,12nm,0.8s,baz=144,slow=18,SNR=7.0							
CMAR	**Chiang Mai Arr**	**32.31**	**322**	P		**P**	**13 42 18.3**	**+0.1**
	comp=Z,6.3nm,0.9s,baz=149,slow=6.3,SNR=35							
CMAR				PcP		**PcP**	**13 44 49.7**	**+1.1**
	comp=Z,4.5nm,0.6s,baz=181,slow=3.1,SNR=11							
CMMT	**Chiang Mai**	**32.58**	**323**	P		**P**	**13 42 21.3**	**+0.9**
	comp=Z,19nm,1.4s							
CHTO	**Chiang Mai**	**32.59**	**323**	P		**P**	**13 42 21.3**	**+0.8**
	comp=Z,64nm,1.5s							
CHTO	**Chiang Mai**	**32.59**	**323**	*eP*		**P**	**13 42 19.4**	**-1.0**
CHTO				pmax		pmax		
	comp=Z,15nm,1.2s							
CHTO	**Chiang Mai**	**32.59**	**323**	*eP*		**P**	**13 42 19.4**	**-1.0**
	comp=Z,15nm,1.2s							
GUMO	**Guam**	**32.86**	**51**	P		**P**	**13 42 22.9**	**+0.1**
	comp=Z,133nm,0.3s,baz=190,slow=1.8,SNR=33							
GUMO	**Guam**	**32.86**	**51**	*eP*		**P**	**13 42 23.1**	**+0.3**
GUMO	**Guam**	**32.86**	**51**	*eP*		**P**	**13 42 23.1**	**+0.3**
CRAI	**Chiangrai**	**32.88**	**326**	P		**P**	**13 42 20.8**	**-2.1**
	comp=Z,12nn,1.1s,comp=Z,404nm							
CMAI	**Chiengmai2**	**33.39**	**324**	P		**P**	**13 42 28.4**	**+1.0**
	comp=Z,7.7nm,1.0s							
JOW	**Kunigami**	**34.95**	**14**	P		**P**	**13 42 40.1**	**0.0**
	comp=Z,1.2nn,0.5s,baz=111,slow=23,SNR=7.0							
GYA	**Guiyang**	**35.54**	**341**	*eP*		**P**	**13 42 46.4**	**+1.2**
GYA				pP		**pP**	**13 44 25.0**	**+3.3**
GYA				sP		**sP**	**13 45 28.6**	**+1.0**
GYA				S		**ScP**	**13 47 51.3**	**+1.3**
GYA				ScP		**ScP**	**13 47 51.9**	**+1.9**
GYA				ScS		**ScS**	**13 51 57.0**	**+0.1**
GYA				PMZ				
	comp=Z,10.0nm,0.8s							
KMI	**Kunming**	**35.84**	**334**	P		**P**	**13 42 50.4**	**+2.6**
KMI				PMZ				
	comp=Z,18nm,0.8s							
NJ2	**Nanjing**	**39.00**	**360**	*eP*		**P**	**13 43 13.5**	**+0.3**
NJ2				PMZ				
	comp=Z,50nm,1.0s							
CD2	**Chengdu**	**40.62**	**340**	*eP*		**P**	**13 43 26.8**	**+0.6**
CD2				S		**S**	**13 48 52.6**	**-2.7**
CD2				SS		**SS**	**13 52 15.8**	**-4.6**
CD2				PMZ				
	comp=Z,40nm,0.6s							
CD2				PMZ				
	comp=Z,50nm,4.8s							
CBIJ	**Chichi jima**	**40.74**	**32**	P		**P**	**13 43 26.4**	**-0.7**
JCJ	**Chichijima**	**40.74**	**32**	P		**P**	**13 43 26.4**	**-0.7**
	comp=Z,67nm,0.4s,baz=151,slow=1.9,SNR=27							
JNU	**Nakatsue**	**41.60**	**15**	P		**P**	**13 43 33.1**	**-0.8**
	comp=Z,7.7nm,0.9s,baz=173,slow=3.9,SNR=7.2							
XAN	**Xi'an**	**42.10**	**347**	P		**P**	**13 43 37.8**	**-0.1**
XAN				PMZ				
	comp=Z,2.0nm,0.7s							
KSAR	**Wonju Array Be**	**45.13**	**10**	P		**P**	**13 44 02.2**	**+1.0**
KSAR							13 45 30.2	
KSAR	**Wonju Array Be**	**45.13**	**10**	P		**P**	**13 44 02.1**	**+1.0**
KSAR				PcP		**PcP**	**13 45 30.1**	**+1.0**
KSRS	**Korea Array**	**45.15**	**10**	P		**P**	**13 44 02.1**	**+0.9**
	comp=Z,8.3nm,0.7s,baz=186,slow=8.4,SNR=44							
KSRS				PcP		**PcP**	**13 45 30.1**	**+0.9**
	comp=Z,4.6nm,0.7s,baz=188,slow=3.2,SNR=14							
KSRS	**Korea Array**	**45.15**	**10**	P		**P**	**13 44 02.2**	**+0.9**
KSRS							13 45 30.2	
KSRS				pmax		pmax		
	comp=Z,8.0nm,0.7s							
KSRS				pmax		pmax		
	comp=Z,5.0nm,0.7s							
LSA	**Lhasa**	**45.45**	**325**	P		**P**	**13 44 03.1**	**-1.2**
LSA				pmax		pmax		
	comp=Z,7.0nm,0.4s							
LSA	**Lhasa**	**45.45**	**325**	P		**P**	**13 44 03.1**	**-1.2**
	comp=Z,7.3nm,0.4s							
ODAN	**Odare**	**45.70**	**319**	*eP*		**P**	**13 44 06.2**	**+0.2**
	comp=Z,22nm,0.5s							
TAPN	**Taplejung**	**45.83**	**320**	*eP*		**P**	**13 44 07.6**	**+0.5**
	comp=Z,29nm,0.5s							
RAMN	**Ramite**	**46.28**	**318**	*eP*		**P**	**13 44 11.2**	**+0.8**
	comp=Z,39nm,0.5s							
JIRN	**Jiri**	**47.03**	**319**	*eP*		**P**	**13 44 16.3**	**+0.1**
	comp=Z,42nm,0.6s							

KBL	**Kabul**	**62.88**	**315**	*e*P		**P**		**13 46 05.7**	**-0.6**
KBL				pmax	pmax				
	comp=Z,12nn,0.6s								
KBL	**Kabul**	**62.88**	**315**	*e*P		**P**		**13 46 05.7**	**-0.6**
	comp=Z,12nn,0.6s								
MK31	**Makanchi Array**	**62.89**	**332**	*e*P		**P**		**13 46 05.8**	**0.0**
MK31				*e*				13 46 38.1	
MK31	**Makanchi Array**	**62.89**	**332**	*e*P		**P**		**13 46 05.8**	**0.0**
MK31				*e*PcP		**PcP**		**13 46 38.0**	**+0.4**
MKAR	**Makanchi Array**	**62.89**	**332**	P		**P**		**13 46 05.9**	**+0.1**
	comp=Z,6.5nn,0.7s,baz=170,slow=6.4,SNR=63								
MKAR				PcP		**PcP**		**13 46 38.1**	**+0.5**
	comp=Z,1.8nn,0.4s,baz=121,slow=6.9,SNR=6.5								
MKAR				S		**S**		**13 53 49.7**	**-1.8**
	comp=Z,0.4nn,0.7s,baz=171,slow=8.6,SNR=4.6								
AAK	**Ala-Archa**	**64.05**	**325**	P		**P**		**13 46 13.9**	**+0.4**
	comp=Z,2.8nn,0.7s,baz=137,slow=6.6,SNR=9.0								
AAK				PcP		**PcP**		**13 46 43.3**	**+0.6**
	comp=Z,4.3nn,0.8s,baz=133,slow=4.7,SNR=7.2								
AAK	**Ala-Archa**	**64.05**	**325**	P		**P**		**13 46 13.9**	**+0.4**
AAK								13 46 43.3	
AAK				pmax	pmax				
	comp=Z,1.0nn,0.9s								
AAK	**Ala-Archa**	**64.05**	**325**	P		**P**		**13 46 13.9**	**+0.4**
	comp=Z,0.7nn,0.9s								
AAK				PcP		**PcP**		**13 46 43.3**	**+0.6**
AAK				*e*PcP		PcP		13 46 44.2	+1.6
BOD	**Bodaibo**	**64.90**	**357**	*i*P		**P**		**13 46 18.4**	**+0.1**
BOD				pmax	pmax				
	comp=Z,10.0nn,0.8s								
DZET	**Dzherino**	**65.29**	**319**	P		**P**		**13 46 20.9**	**-0.4**
DZET				pmax	pmax				
	comp=Z,10.0nn,0.7s								
ZAA0	**Zalesovo Array**	**67.38**	**339**	*e*P		**P**		**13 46 33.1**	**-0.6**
ZALV	**Zalesovo Beam**	**67.38**	**339**	P		**P**		**13 46 33.3**	**-0.5**
	comp=Z,11nn,0.3s,baz=144,slow=4.7,SNR=56								
ZALV				S		**S**		**13 54 40.8**	**-3.7**
	comp=Z,2.3nn,0.8s,baz=144,slow=11,SNR=8.5								
KURBB	**Kurchatov Arra**	**67.39**	**333**	P		**P**		**13 46 34.1**	**+0.2**
	comp=Z,4.0nn,0.5s,baz=139,slow=5.2,SNR=58								
KURK	**Kurchatov**	**67.41**	**333**	*e*P		**P**		**13 46 33.3**	**-0.7**
KURK				*e*				13 46 56.4	
KURK				pmax	pmax				
	comp=Z,5.0nn,0.6s								
KURK	**Kurchatov**	**67.41**	**333**	*e*P		**P**		**13 46 33.3**	**-0.7**
	comp=Z,5.4nn,0.6s								
KURK				*e*PcP		**PcP**		**13 46 56.4**	**+0.1**
PEA0B	**Petropavlovsk-**	**68.37**	**24**	*e*PcP		**PcP**		**13 47 00.1**	**-0.2**
PETK	**Petropavlovsk-**	**68.37**	**24**	P		**P**		**13 46 41.1**	**+1.3**
	comp=Z,18nn,0.5s,baz=222,slow=4.3,SNR=201								
NVS	**Novosibirsk**	**68.65**	**339**	*e*P		**P**		**13 46 40.6**	**-0.8**
NVS				*e*S		**S**		**13 54 54.6**	**-4.6**
NVS				pmax	pmax				
	comp=Z,7.0nn,0.8s								
NVS				pmax	pmax				
	comp=N,3.0nn,0.7s								
NVS				pmax	pmax				
	comp=E,4.0nn,0.8s								
NVS				smax	smax				
	comp=E,18nn,1.7s								
NVS				smax	smax				
	comp=N,6.0nn,1.3s								
PET	**Petropavlovsk**	**68.69**	**24**	*i*P		**P**		**13 46 42.9**	**+1.2**
PET				pmax	pmax				
	comp=Z,27nn,0.7s								
YAK	**Yakutsk**	**69.48**	**5**	*e*P		**P**		**13 46 44.6**	**-1.6**
YAK				pmax	pmax				
	comp=Z,17nn,0.9s								
OPO	**Ambohidratompo**	**70.65**	**253**	P		**P**		**13 46 54.9**	**+0.5**
	comp=Z,6.2nn,0.5s,baz=64,slow=3.5,SNR=10								
BVA0	**Borovoye Array**	**72.74**	**332**	*i*P		**P**		**13 47 05.4**	**-0.2**
BVA0				pmax	pmax				
	comp=Z,6.0nn,0.9s								
BRVK	**Borovoye**	**72.81**	**332**	*d*iP		**P**		**13 47 06.0**	**+0.1**
BRVK				pmax	pmax				
	comp=Z,6.0nn,1.1s								
VNDA	**Vanda**	**73.77**	**171**	P		**P**		**13 47 12.2**	**+1.2**
	comp=Z,3.0nn,0.5s,baz=316,slow=5.9,SNR=35								
VNDA	**Vanda**	**73.77**	**171**	P		**P**		**13 47 12.2**	**+1.2**
VNDA				pmax	pmax				
	comp=Z,38nn,2.4s								
VNDA	**Vanda**	**73.77**	**171**	P		**P**		**13 47 12.2**	**+1.2**
	comp=Z,38nn,2.4s								
SEY	**Seymchan**	**74.38**	**15**	*i*P		**P**		**13 47 15.3**	**+0.7**
AB31	**Akbulak array**	**76.14**	**325**	*i*P		**P**		**13 47 24.3**	**-0.4**
AB31				pmax	pmax				
	comp=Z,2.0nn,0.5s								
ABKAR	**Akbulak array**	**76.14**	**325**	*e*P		**P**		**13 47 24.7**	**0.0**
	comp=Z,3.5nn,0.6s								
ABKAR				*e*PcP		**PcP**		**13 47 33.5**	**-0.3**
AKTO	**Aktyubinsk**	**77.79**	**325**	P		**P**		**13 47 33.1**	**-0.6**
AKTO				pmax	pmax				
	comp=Z,8.0nn,0.7s								
TIXI	**Tiksi**	**78.92**	**3**	*i*P		**P**		**13 47 38.4**	**-0.8**
TIXI				pmax	pmax				
	comp=Z,19nn,1.0s								
TIXI	**Tiksi**	**78.92**	**3**	*e*P		**P**		**13 47 38.7**	**-0.5**
	comp=Z,15nn,0.8s								
SVE	**Sverdlovsk**	**79.53**	**332**	*i*P		**P**		**13 47 42.9**	**+0.2**
SVE				pmax	pmax				
	comp=Z,18nn,0.9s								
ARU	**Arti**	**80.33**	**331**	*d*iP		**P**		**13 47 46.1**	**-0.8**
ARU				*PP		**pP**		**13 49 46.3**	**-2.4**
ARU								13 50 54.0	
ARU				S		**S**		**13 57 04.9**	**-0.9**
ARU				pmax	pmax				
	comp=Z,7.0nn,1.2s								
ATKA	**Atka Island**	**81.73**	**35**	*e*P		**P**		**13 47 53.6**	**-0.5**
	comp=Z,7.6nn,0.9s								
KMBO	**Kilima Mbogo**	**81.78**	**270**	P		**P**		**13 47 56.2**	**+0.5**
	comp=Z,2.3nn,0.4s,baz=49,slow=11,SNR=5.0								
BILL	**Bilibino**	**82.02**	**16**	*ce*P		**P**		**13 47 56.0**	**+0.6**
BILL				pmax	pmax				
	comp=Z,4.0nn,0.9s								
GNI	**Garni**	**82.80**	**312**	*i*P		**P**		**13 48 01.9**	**+1.8**
GNI				pmax	pmax				
	comp=Z,13nn,1.7s								
QSPA	**South Pole Qui**	**82.81**	**180**	P		**P**		**13 47 59.6**	**0.0**
	comp=Z,3.7nn,0.5s,baz=294,slow=1.0,SNR=69								
QSPA	**South Pole Qui**	**82.81**	**180**	*e*P		**P**		**13 47 59.9**	**+0.2**
QSPA				*e*PcP		**PcP**		**13 48 02.6**	**-0.3**
ZEI	**Tsey**	**84.11**	**314**	*e*P		**P**		**13 48 06.7**	**+0.1**
ZEI				pmax	pmax				
	comp=Z,9.0nn,0.6s								
KBZ	**Khabaz**	**85.06**	**315**	P		**P**		**13 48 11.4**	**+0.4**
	comp=Z,6.7nn,0.8s,baz=56,slow=24,SNR=16								
MATP	**Matopo**	**86.10**	**250**	P		**P**		**13 48 26.4**	**+0.3**
	comp=Z,8.7nn,0.5s,baz=120,slow=3.1,SNR=16								
BRTR	**Keskin Array B**	**91.06**	**310**	P		**P**		**13 48 38.9**	**-0.5**
	comp=Z,1.8nn,0.8s,baz=122,slow=6.0,SNR=10								
OBN	**Obninsk**	**91.57**	**325**	*e*P		**P**		**13 48 40.9**	**-0.2**
OBN				pmax	pmax				
	comp=Z,7.0nn,0.8s								
SNAA	**Sanae**	**92.78**	**196**	P		**P**		**13 48 46.7**	**+0.2**
	comp=Z,0.6nn,0.7s,baz=201,slow=6.6,SNR=19								
AKASG	**Malin Array Be**	**95.41**	**320**	P		**P**		**13 48 57.4**	**-1.3**
	comp=Z,1.1nn,0.5s,baz=78,slow=4.9,SNR=5.9								
FINES	**FINESS Array B**	**97.69**	**331**	P	Pdif			13 49 08.0	-0.7
	comp=Z,1.6nn,0.8s,baz=111,slow=4.9,SNR=6.3								
FINES				PKiKP		**PKiKP**		**13 53 39.4**	**+0.5**
	comp=Z,0.5nn,0.4s,baz=119,slow=4.5,SNR=8.2								
FINES	**FINESS Array B**	**97.69**	**331**	P	Pdif			13 49 08.0	-0.7
ARCES	**ARCESS Array B**	**97.93**	**339**	P	Pdif			13 49 09.1	-0.5
	comp=Z,1.8nn,0.9s,baz=90,slow=6.1,SNR=7.2								
ARCES				PKiKP		**PKiKP**		**13 53 39.4**	**+0.2**
	comp=Z,0.8nn,0.7s,baz=108,slow=0.4,SNR=6.8								
ILAR	**Eielson Array**	**98.15**	**26**	P	Pdif			13 49 09.7	-1.0
	comp=Z,0.4nn,0.6s,baz=263,slow=4.3,SNR=7.7								
ILAR				PKKPbc		**PKKPbc**		**14 05 40.1**	**-3.0**
	comp=Z,0.2nn,0.6s,baz=117,slow=1.7,SNR=4.2								
KOLS	**Kolonicke sedl**	**99.85**	**318**	*e*P		**Pdif**		**13 49 16.9**	**-1.7**
KOLS	**Kolonicke sedl**	**99.85**	**318**	PDIF		**Pdif**		**13 49 16.9**	**-1.7**
YKA	**Yellowknife Ar**	**112.49**	**24**	PKiKP		**PKiKP**		**13 54 06.3**	**+0.1**
	comp=Z,2.7nn,0.4s,baz=303,slow=1.9,SNR=38								
TORD	**Torodi Ar. Bea**	**118.23**	**281**	PKP		**PKPdf**		**13 54 18.6**	**-0.1**
	comp=Z,5.2nn,0.5s,baz=57,slow=1.9,SNR=67								
TORD				PKKPab		**PKKPab**		**14 04 44.4**	**+0.8**
	comp=Z,0.2nn,0.6s,baz=281,slow=4.0,SNR=5.5								
NVAR	**Mina Array Bea**	**119.77**	**50**	PKP		**PKPdf**		**13 54 22.6**	**+1.3**
	comp=Z,2.8nn,0.7s,baz=270,slow=1.7,SNR=21								
ESDC	**Sonseca Array**	**119.78**	**312**	PKP		**PKPdf**		**13 54 21.7**	**+0.6**
	comp=Z,0.3nn,0.3s,baz=9.1,slow=2.0,SNR=5.4								
CHMT	**Chamberlain Mo**	**120.38**	**39**	*e*PKPdf		**PKPdf**		**13 54 22.5**	**+0.3**
HLID	**Hailey**	**120.93**	**43**	*e*PKPdf		**PKPdf**		**13 54 25.0**	**+1.6**
EGMT	**Eagleton**	**122.01**	**37**	*e*PKPdf		**PKPdf**		**13 54 25.7**	**+0.6**
REDW	**Red Top Meadow**	**123.40**	**42**	*e*PKPdf		**PKPdf**		**13 54 29.7**	**+1.6**
KIC	**Kosan Boka**	**124.26**	**273**	*e*P		**PKPdf**		**13 54 28.5**	**-1.8**
	comp=Z,170nn,2.5s								
DBIC	**Dimbokro**	**124.40**	**273**	PKP		**PKPdf**		**13 54 31.2**	**+0.7**
	comp=Z,3.7nn,0.4s,baz=50,slow=2.9,SNR=8.6								
PDAR	**Pinedale Array**	**124.51**	**42**	PKP		**PKPdf**		**13 54 31.1**	**+0.8**
	comp=Z,0.7nn,0.3s,baz=55,slow=1.9,SNR=11								
PDAR				PKKPbc		**PKKPab**		**14 04 15.1**	**-1.0**
	comp=Z,0.6nn,0.6s,baz=110,slow=7.5,SNR=6.3								
LIC	**Lamto**	**124.53**	**273**	*e*P		**PKPdf**		**13 54 31.0**	**+0.2**
	comp=Z,3.0nn,0.2s								
TIC	**Toumodi**	**124.56**	**273**	*e*P		**PKPdf**		**13 54 31.0**	**+0.1**
	comp=Z,11nn,0.2s								
WUAZ	**Wupatki**	**125.93**	**51**	*e*PKPdf		**PKPdf**		**13 54 35.1**	**+2.0**
RSSD	**Black Hills**	**127.41**	**38**	*e*PKIKP		**PKPdf**		**13 54 36.7**	**+0.9**
RSSD	**Black Hills**	**127.41**	**38**	*e*PKPdf		**PKPdf**		**13 54 36.7**	**+0.9**
ULM	**Lac du Bonnet**	**128.10**	**28**	PKP		**PKPdf**		**13 54 36.3**	**-0.3**
	comp=Z,3.8nn,0.6s,baz=324,slow=1.4,SNR=7.2								
ANMO	**Albuquerque**	**129.90**	**50**	*e*PKIKP		**PKPdf**		**13 54 43.1**	**+2.3**
ANMO	**Albuquerque**	**129.90**	**50**	*e*PKPdf		**PKPdf**		**13 54 43.1**	**+2.3**
PLCA	**Paso Flores**	**131.51**	**170**	PKP		**PKPdf**		**13 54 43.2**	**-0.3**
	comp=Z,0.8nn,0.7s,baz=132,slow=1.8,SNR=3.5								
PLCA				SKPbc		**SKPbc**		**13 57 14.9**	**-0.9**
	comp=Z,2.1nn,0.9s,baz=313,slow=7.1,SNR=4.1								
SCHQ	**Schefferville**	**132.23**	**5**	PKP		**PKPdf**		**13 54 44.5**	**+0.2**
	comp=Z,3.6nn,0.8s,baz=315,slow=2.0,SNR=6.6								
TXAR	**Lajitas Array**	**134.14**	**56**	PKhKP		PKPpre		13 54 38.2	
	comp=Z,0.7nn,0.4s,baz=256,slow=2.2,SNR=15								
TXAR				PKP		**PKiKP**		**13 54 49.8**	**-0.4**
	comp=Z,0.8nn,0.4s,baz=201,slow=2.5,SNR=11								
TXAR				SKP				13 57 25.7	
	comp=Z,0.5nn,0.8s,baz=202,slow=1.3,SNR=4.2								
COWI	**Conover**	**134.21**	**27**	*e*PKPdf		**PKPdf**		**13 54 48.5**	**+0.2**
JCT	**Junction City**	**136.82**	**52**	*e*PKIKP		**PKPdf**		**13 54 54.6**	**+1.0**
JCT	**Junction City**	**136.82**	**52**	*e*PKPdf		**PKPdf**		**13 54 54.6**	**+1.0**
MIAR	**Mount Ida**	**139.41**	**43**	*e*PKIKP		**PKPdf**		**13 54 59.6**	**+1.4**
MIAR	**Mount Ida**	**139.41**	**43**	*e*PKPdf		**PKPdf**		**13 54 59.6**	**+1.4**
OXF	**Oxford**	**142.18**	**40**	*e*PKIKP		**PKPdf**		**13 55 00.5**	**-2.7**
OXF	**Oxford**	**142.18**	**40**	*e*PKPdf		**PKPdf**		**13 55 00.5**	**-2.7**
BINY	**Binghamton**	**142.64**	**19**	*e*PKPdf		**PKPdf**		**13 55 01.6**	**-2.2**
LCO	**Las Campanas**	**142.81**	**166**	*e*PKPdf		**PKPdf**		**13 55 03.3**	**-1.5**
HRV	**Adam Dziewonsk**	**143.57**	**13**	*e*PKIKP		**PKPdf**		**13 55 05.2**	**-0.2**
HRV	**Adam Dziewonsk**	**143.57**	**13**	*e*PKPdf		**PKPdf**		**13 55 05.2**	**-0.2**
LRAL	**Lakeview Retre**	**144.66**	**40**	*e*PKPdf		**PKPab**		**13 55 08.6**	**0.0**
TKL	**Tuckaleechee C**	**144.73**	**33**	*e*PKIKP		**PKPab**		**13 55 08.5**	**-0.3**
TKL	**Tuckaleechee C**	**144.73**	**33**	*e*PKPdf		**PKPab**		**13 55 08.5**	**-0.3**
BLA	**Blacksburg**	**145.22**	**28**	*e*PKP2		**PKPbc**		**13 55 09.9**	**+0.4**
BLA	**Blacksburg**	**145.22**	**28**	*e*PKPbc		**PKPbc**		**13 55 09.9**	**+0.4**
JSRW	**J. Sargeant Re**	**145.93**	**24**	*e*PKPbc		**PKPbc**		**13 55 11.7**	**+0.3**
KMSC	**Kings Mountain**	**146.41**	**31**	*e*PKPbc		**PKPbc**		**13 55 13.4**	**+0.5**
CPUP	**Villa Florida**	**146.52**	**186**	*e*PKP2		**PKPbc**		**13 55 14.2**	**+0.8**
CPUP	**Villa Florida**	**146.52**	**186**	*e*PKPbc		**PKPbc**		**13 55 14.2**	**+0.8**
GOGA	**Godfrey**	**146.55**	**36**	*e*PKP2		**PKPbc**		**13 55 14.0**	**+0.7**
GOGA	**Godfrey**	**146.55**	**36**	*e*PKPbc		**PKPbc**		**13 55 14.0**	**+0.7**
TIGA	**Tifton**	**147.87**	**38**	*e*PKPbc		**PKPbc**		**13 55 17.7**	**+0.9**
LVC	**Limon Verde**	**149.38**	**165**	*e*PKPbc		**PKPbc**		**13 55 22.9**	**+1.8**
LPAZ	**La Paz**	**155.62**	**163**	PKP		**PKPdf**		**13 55 26.1**	**+0.5**
	comp=Z,1.7nn,0.9s,baz=172,slow=2.3,SNR=6.5								
LPAZ				PKPab		**PKPab**		**13 55 56.6**	**+1.5**
	comp=Z,2.1nn,0.5s,baz=188,slow=5.9,SNR=6.3								

IDC 20 13:45:08.2±4.3, 56°29S×141°04W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.9/12, mbtmp4.0/2, MS3.7/2, Ms1 3.6/2, ms1mx3.2/13, Error ellipse: s-maj=607.6km s-min=100.5km az=167.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**32.98**	**285**	LR	LR	14 03 44.9	
	comp=Z,80nn,18.2s,baz=150,slow=34						
ASAR	**Alice Springs**	**67.95**	**260**	P	P	13 56 09.2	+0.4
	1.9nn,0.9s,baz=143,slow=6.3,SNR=13						
WRA	**Warramunga Arr**	**70.69**	**263**	P	P	13 56 25.4	-0.5
	1.4nn,1.1s,baz=138,slow=5.6,SNR=7.0						
BDFB	**Brasilia**	**78.81**	**101**	LR	LR	14 30 30.8	
	comp=Z,53nn,18.0s,baz=214,slow=34						
MKAR	**Makanchi Array**	**151.86**	**269**	PKPbc	PKPbc	14 05 03.9	-0.1
	0.6nn,0.7s,baz=143,slow=2.6,SNR=5.9						

*DDA **20** 13:57:56.6, 38°.94N×26°.14E, h28km, MD3.0*
*ISK **20** 13:57:56.8, 38°.89N×26°.07E, h14km, MD3.0*
*CSEM **20** 13:57:57.3±0.1, 38°.92N×26°.10E, h12km, MD2.9, Error ellipse: s-maj=3.9km s-min=2.3km az=77.0*
*ATH **20** 13:57:57.2, 38°.95N×26°.13E, h23km±1km, MD2.9/6*
*THE **20** 13:57:57.8, 38°.93N×26°.12E, h8km±1km, ML2.4/5, Error ellipse: s-maj=1.4km s-min=0.5km az=266.0*

ISC 20 13:57:57.2±1.0, 38°.93N±0°.02×26°.10E±0°.03, h13km±8km, n53, σ0°59/83, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRK	**Paraskevi**	**0.34**	**22**	P	**Pg**	**13 58 04.3**	**+0.1**
PRK				S	**Sb**	**13 58 09.7**	**-0.9**
PRK	**Paraskevi**	**0.34**	**22**	*e*PB	**Pg**	**13 58 04.3**	**+0.1**
PRK				*e*SB	**Sb**	**13 58 09.7**	**-0.9**
PRK	**Paraskevi**	**0.34**	**22**	P	**Pg**	**13 58 04.3**	**+0.1**
PRK				S	**Sb**	**13 58 09.7**	**-0.9**
SIGR	**SIGRI**	**0.34**	**326**	*e*PG	**Pb**	**13 58 05.0**	**-0.2**
SIGR				*e*SG	**Sb**	**13 58 10.2**	**-0.3**
SIGR	**SIGRI**	**0.34**	**326**	P	**Pb**	**13 58 05.1**	**-0.1**
SIGR				S	**Sb**	**13 58 10.1**	**-0.4**
SIGR	**SIGRI**	**0.34**	**326**	*e*PB	**Pb**	**13 58 05.1**	**-0.1**
SIGR				*e*SB	**Sb**	**13 58 10.9**	**+0.4**
SIGR	**SIGRI**	**0.34**	**326**	P	**Pb**	**13 58 05.1**	**-0.1**
SIGR				S	**Sb**	**13 58 10.1**	**-0.4**
CHOS	**Chios island**	**0.54**	**184**	*e*PG	**Pg**	**13 58 07.1**	**-0.7**
CHOS	**Chios island**	**0.54**	**184**	P	**Pg**	**13 58 07.6**	**-0.2**
CHOS				S	**Sb**	**13 58 16.7**	**+0.4**
CHOS	**Chios island**	**0.54**	**184**	*e*PN	**Pg**	**13 58 07.6**	**-0.2**
CHOS				*e*SN	**Sb**	**13 58 17.5**	**+1.2**
CHOS	**Chios island**	**0.54**	**184**	*e*Pg	**Pg**	**13 58 07.1**	**-0.7**
CHOS	**Chios island**	**0.54**	**184**	P	**Pg**	**13 58 07.6**	**-0.2**
CHOS				S	**Sb**	**13 58 16.7**	**+0.4**
AYVA	**Ayvalik**	**0.59**	**50**	*i*P	**Pg**	**13 58 08.3**	**-0.5**
AYVA				*i*S	**Sg**	**13 58 16.3**	**-0.4**
AYVA	**Ayvalik**	**0.59**	**50**	*i*P	**Pg**	**13 58 08.3**	**-0.5**
AYVA				*i*S	**Sg**	**13 58 16.3**	**-0.4**
URLA	**Izmir**	**0.69**	**146**	*i*P	**Pg**	**13 58 10.0**	**-0.5**
URLA				*i*S	**Sb**	**13 58 20.4**	**0.0**
URLA	**Izmir**	**0.69**	**146**	*i*P	**Pg**	**13 58 10.0**	**-0.5**
URLA				*i*S	**Sb**	**13 58 20.4**	**0.0**
BOZC	**Bozcaada**	**0.91**	**358**	*i*P	**Pb**	**13 58 14.3**	**-0.6**
BOZC				*i*S	**Sg**	**13 58 27.6**	**+0.7**
EZN	**Ezine**	**0.91**	**11**	*e*PG	**Pn**	**13 58 15.6**	**-0.1**
EZN	**Ezine**	**0.91**	**11**	*e*Pg	**Pn**	**13 58 15.6**	**-0.1**
IZM	**Izmir**	**1.05**	**120**	*e*PG	**Pn**	**13 58 17.4**	**-0.2**
IZM	**Izmir**	**1.05**	**120**	*e*Pg	**Pn**	**13 58 17.4**	**-0.2**
LIA	**Limnos Island**	**1.20**	**324**	*e*PN	**Pn**	**13 58 19.5**	**-0.2**
LIA				*e*SN	**Sg**	**13 58 36.5**	**+0.5**
LIA	**Limnos Island**	**1.20**	**324**	*e*Pn	**Pn**	**13 58 19.5**	**-0.2**
LIA				*e*Sn	**Sg**	**13 58 36.5**	**+0.5**
AKS	**Akhisar**	**1.33**	**92**	*e*PN	**Pb**	**13 58 22.1**	**0.0**
AKS	**Akhisar**	**1.33**	**92**	*e*Pn	**Pb**	**13 58 22.1**	**0.0**
AKHS	**Akhisar**	**1.33**	**92**	*i*P	**Pg**	**13 58 23.0**	**+0.1**
AKHS				*i*S	**Sn**	**13 58 38.8**	**-0.4**
AKHS	**Akhisar**	**1.33**	**92**	*i*P	**Pg**	**13 58 23.0**	**+0.1**
AKHS				*i*S	**Sn**	**13 58 38.8**	**-0.4**
SMG	**Samos**	**1.35**	**154**	P	**Pb**	**13 58 21.9**	**-0.4**
SMG				S	**Sn**	**13 58 38.6**	**-0.8**
SMG	**Samos**	**1.35**	**154**	*e*PN	**Pb**	**13 58 22.5**	**+0.2**
SMG				*e*SN	**Sg**	**13 58 42.0**	**+1.4**
SMG	**Samos**	**1.35**	**154**	P	**Pb**	**13 58 21.9**	**-0.4**
SMG	**Samos**	**1.35**	**154**	*e*Pn	**Pb**	**13 58 22.5**	**+0.2**
SMG				S	**Sn**	**13 58 38.6**	**-0.8**
BALY	**Balya**	**1.43**	**55**	*i*P	**Pn**	**13 58 22.1**	**-0.8**
BALY				*i*S	**Sg**	**13 58 42.9**	**-0.4**
BALY	**Balya**	**1.43**	**55**	*i*P	**Pn**	**13 58 22.1**	**-0.8**
BALY				*i*S	**Sg**	**13 58 42.9**	**-0.4**
BALB	**Balikesir**	**1.55**	**62**	*e*PN	**Pn**	**13 58 24.1**	**-0.4**
BALB	**Balikesir**	**1.55**	**62**	*e*Pn	**Pn**	**13 58 24.1**	**-0.4**
SMTH	**Samothraki Isl**	**1.60**	**344**	P	**Pn**	**13 58 25.1**	**-0.2**
SMTH				S	**Sb**	**13 58 47.1**	**+0.2**
SMTH	**Samothraki Isl**	**1.60**	**344**	*e*PN	**Pn**	**13 58 25.9**	**+0.6**
SMTH	**Samothraki Isl**	**1.60**	**344**	P	**Pn**	**13 58 25.1**	**-0.2**
SMTH	**Samothraki Isl**	**1.60**	**344**	*e*Pn	**Pn**	**13 58 25.9**	**+0.6**
SMTH				S	**Sb**	**13 58 47.1**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.71**	**124**	*e*PN	**Pn**	**13 58 27.0**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.71**	**124**	*e*Pn	**Pn**	**13 58 27.0**	**+0.2**
APE	**Apeiranthos**	**1.91**	**194**	*e*PN	**Pn**	**13 58 28.8**	**-0.7**
APE	**Apeiranthos**	**1.91**	**194**	*e*Pn	**Pn**	**13 58 28.8**	**-0.7**
SART	**Tekirdag**	**1.94**	**25**	*i*P	**Pn**	**13 58 29.6**	**-0.4**
SART				*i*S	**Sb**	**13 58 58.1**	**+1.4**
SART	**Tekirdag**	**1.94**	**25**	*i*P	**Pn**	**13 58 29.6**	**-0.4**
SART				*i*S	**Sb**	**13 58 58.1**	**+1.4**
ALN	**Alexandroupoli**	**1.97**	**359**	P	**Pn**	**13 58 30.6**	**+0.4**
ALN				S	**Sn**	**13 58 55.5**	**+0.7**
ALN	**Alexandroupoli**	**1.97**	**359**	P	**Pn**	**13 58 30.6**	**+0.4**
ALN				S	**Sn**	**13 58 55.5**	**+0.7**
KULA	**Kula-Manisa**	**2.04**	**101**	*e*PN	**Pn**	**13 58 32.1**	**+0.8**
KULA	**Kula-Manisa**	**2.04**	**101**	*e*Pn	**Pn**	**13 58 32.1**	**+0.8**
BODT	**Bodrum**	**2.09**	**153**	*e*PN	**Pn**	**13 58 32.3**	**+0.3**
BODT	**Bodrum**	**2.09**	**153**	*e*Pn	**Pn**	**13 58 32.3**	**+0.3**
TVSB	**Tavsanli**	**2.66**	**78**	*e*PN	**Pn**	**13 58 41.2**	**+1.3**
TVSB	**Tavsanli**	**2.66**	**78**	*e*Pn	**Pn**	**13 58 41.2**	**+1.3**

IDC 20 14:04:48.7±2.1, 14°.14S×177°.45W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/19, mbtmp3.7/4, Error ellipse: s-maj=119.3km s-min=28.4km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.33**	**256**	P	P	14 13 16.8	0.0
	0.4nn,0.9s,baz=90,slow=8.4,SNR=3.4						
ASAR	**Alice Springs**	**46.80**	**251**	P	P	14 13 20.2	-0.2
	1.3nn,0.4s,baz=83,slow=8.2,SNR=21						
ILAR	**Eielson Array**	**82.03**	**13**	P	P	14 17 10.7	+0.3
	0.4nn,0.6s,baz=220,slow=5.5,SNR=6.8						
TXAR	**Lajitas Array**	**83.21**	**58**	P	P	14 17 17.1	-0.3
	0.2nn,0.5s,baz=224,slow=5.2,SNR=4.1						

*CSEM **20** 15:01:08.1, 37°.23N×28°.32E, h7km, MD2.6*
DDA 20 15:01:08.1, 37°.23N×28°.32E, h7km, MD2.6, Turkey

| Code | Station Name |

SBJI	**Serang**	**0.39**	**357**	P		**Pn**	15 14 43.0	**+0.1**
SBJI				S		**Sn**	15 14 57.1	**-0.2**
CGJI	**Cibinong**	**0.47**	**258**	P		**Pn**	15 14 43.8	**+0.6**
CGJI				S		**Sn**	15 14 57.8	**-0.1**
TNG	**Tangerang**	**0.60**	**55**	P		**Pn**	15 14 43.8	**-0.2**
SKJI	**Sukabumi**	**0.63**	**141**	P		**Pn**	15 14 43.8	**-0.5**
SKJI				S		**Sn**	15 14 58.6	**-1.1**
CBJI	**Citeko**	**0.70**	**82**	P		**Pn**	15 14 45.4	**+0.7**
CNJI	**Cibinong**	**1.25**	**129**	P		**Pn**	15 14 48.4	**-1.2**
CNJI				S		**Sn**	15 15 06.2	**-3.0**
BLSI	**Bandar Lampung**	**1.45**	**322**	P		**Pn**	15 14 53.6	**+1.8**
LEM	**Lembang**	**1.49**	**102**	P		**Pn**	15 14 52.8	**+0.5**
LEM	**Lembang**	**1.49**	**102**	P		**Pn**	15 14 52.5	**+0.2**
	33nm,0.3s,baz=265,slow=2.9,SNR=20							
LEM				LR		LR	15 15 00.6	
	comp=Z,111nm,20.9s,baz=243,slow=25							
LEM				S		**Sn**	15 15 16.1	**+2.2**
	38nm,0.3s,baz=101,slow=19,SNR=13							
KASI	**Kota Agung**	**1.92**	**301**	P		**Pn**	15 14 59.4	**+2.3**
CISI	**Cisompet, Garu**	**1.95**	**122**	P		**Pn**	15 14 57.0	**-0.6**
CISI				S		**Sn**	15 15 21.3	**-2.0**
CISI	**Cisompet, Garu**	**1.95**	**122**	*e*Pn		**Pn**	15 14 56.7	**-0.9**
CISI				*e*Sn		**Sn**	15 15 19.8	**-3.5**
KLI	**Kotabumi**	**2.09**	**322**	P		**Pn**	15 15 01.4	**+2.2**
LWLI	**Liwa**	**2.56**	**305**	P		**Pn**	15 15 07.5	**+2.3**
CMJI	**Cimerak**	**2.60**	**119**	P		**Pn**	15 15 04.8	**-0.8**
MDSI	**Maura Dua**	**2.81**	**316**	P		**Pn**	15 15 10.8	**+2.5**
LHSI	**Lahat**	**3.74**	**315**	P		Pn	15 15 23.5	+3.1
MNAI	**Manna**	**3.83**	**304**	P		**Pn**	15 15 24.0	**+2.4**
MNAI	**Manna**	**3.83**	**304**	*e*Pn		**Pn**	15 15 23.6	**+2.0**
MNAI				*e*Sn		**Sn**	15 16 06.6	**+0.2**
TPI	**Tanjungpandan**	**4.02**	**22**	P		**Pn**	15 15 25.2	**+1.1**
SMRI	**Semarang**	**4.29**	**97**	P		**Pn**	15 15 28.7	**+1.0**
SMRI	**Semarang**	**4.29**	**97**	*e*Pn		**Pn**	15 15 28.0	**+0.3**
PPBI	**Pangkal Pinang**	**4.32**	**360**	P		**Pn**	15 15 30.7	**+2.6**
UGM	**Wanagama**	**4.55**	**108**	P		**Pn**	15 15 31.0	**-0.2**
PCJI	**Pacitan**	**5.26**	**109**	P		**Pn**	15 15 41.2	**+0.7**
	78nm,0.9s,2µm0.5nm							
JMBI	**JAMBI**	**5.46**	**333**	P		Pn	15 15 46.8	+3.6
	213nm,0.7s,1.1nm							
PWJI	**Pagerwojo**	**5.80**	**105**	P		**Pn**	15 15 47.6	**-0.3**
	55nm,0.7s,0.3nm							
GMJI	**Gumukmas**	**7.44**	**104**	P		**Pn**	15 16 11.4	**+1.5**
	66nm,0.7s,2µm0.3nm							
BLJI	**Banyuglugur**	**7.49**	**100**	P		**Pn**	15 16 13.5	**+3.0**
	126nm,0.4s,3µm0.6nm0.6nm							
KMMI	**Kalianget**	**7.78**	**94**	P		**Pn**	15 16 15.4	**+1.0**
	36nm,0.9s,0.1nm0.1nm							
ABJI	**Asem Bagus**	**8.12**	**100**	P		**Pn**	15 16 21.9	**+2.9**
	473nm,0.8s							
JAGI	**Jajag, Banyuwa**	**8.17**	**104**	P		**Pn**	15 16 19.7	**0.0**
	148nm,0.8s							
JAGI	**Jajag, Banyuwa**	**8.17**	**104**	*e*Pn		**Pn**	15 16 18.9	**-0.8**
	79nm,0.6s							
JAGI				*e*Sn		Sn	15 17 42.0	-8.5
SRBI	**Singaraja**	**9.12**	**100**	P		**Pn**	15 16 33.3	**+0.8**
	71nm,0.5s							
IGBI	**Denpasar**	**9.20**	**105**	P		**Pn**	15 16 33.4	**-0.2**
	75nm,0.6s							
GSI	**Gunungsitoli**	**11.56**	**312**	P		**Pn**	15 17 02.5	**-2.5**
	20nm,2.8s,20nm,2.8s							
PSI	**Prapat**	**11.73**	**322**	LR		LR	15 22 00.9	
	comp=Z,131nm,18.1s,baz=202,slow=39							
KAPI	**Kappang**	**13.61**	**84**	LR		LR	15 23 04.8	
	comp=Z,92nm,19.5s,baz=150,slow=39							
MMRI	**Maumere**	**16.08**	**99**	*e*Pn		**Pn**	15 18 02.3	**-0.3**
	66nm,0.6s							
SOEI	**Soe**	**18.22**	**101**	*e*Pn		**P**	15 18 26.8	**-0.2**
	40nm,0.6s							
SOEI				*e*S		S	15 21 29.1	-20
MBWA	**Marble Bar**	**19.62**	**139**	*e*P		**P**	15 18 42.5	**+0.5**
MBWA				*e*S		S	15 22 08.4	-7.8
CMAR	**Chiang Mai Arr**	**25.81**	**344**	P		**P**	15 19 42.5	**-0.3**
	1.7nm,0.6s,baz=183,slow=8.5,SNR=16							
CHTO	**Chiang Mai**	**26.15**	**344**	*e*P		**P**	15 19 41.9	**-3.9**
	2.5nm,1.2s							
WRA	**Warramunga Arr**	**30.44**	**119**	P		**P**	15 20 24.7	**+0.6**
	1.8nm,0.4s,baz=297,slow=8.9,SNR=42							
WRA				PcP		**PcP**	15 23 21.0	**+0.5**
	0.4nm,0.3s,baz=313,slow=2.1,SNR=5.0							
WRAB	**Tennant Creek**	**30.45**	**119**	*e*P		**P**	15 20 24.5	**+0.3**
	3.0nm,0.4s							
ASAR	**Alice Springs**	**31.65**	**126**	P		**P**	15 20 36.0	**+1.3**
	2.2nm,0.4s,baz=305,slow=8.2,SNR=99							
ASAR				S		**S**	15 25 33.4	**-1.0**
	0.7nm,0.6s,baz=295,slow=16,SNR=8.7							
AS31	**Alice Springs**	**31.66**	**126**	*e*P		**P**	15 20 35.4	**+0.7**
LSA	**Lhasa**	**38.78**	**339**	*e*P		**P**	15 21 35.6	**-0.6**
STKA	**Stephens Creek**	**41.59**	**132**	P		**P**	15 22 00.9	**+2.1**
	10nm,0.4s,baz=313,slow=7.4,SNR=74							
STKA	**Stephens Creek**	**41.59**	**132**	*e*P		**P**	15 22 00.6	**+1.9**
	2.7nm,0.6s							
KSAR	**Wonju Array Be**	**48.21**	**23**	P		**P**	15 22 51.5	**+0.5**
KSRS	**Korea Array**	**48.23**	**23**	P		**P**	15 22 51.5	**+0.3**
	0.4nm,0.5s,baz=213,slow=7.0,SNR=2.7							
SONM	**Songino Array**	**54.11**	**0**	P		**P**	15 23 34.3	**-0.8**
	0.9nm,0.5s,baz=173,slow=13,SNR=2.7							
ULN	**Ulaanbaatar**	**54.15**	**1**	*e*P		**P**	15 23 34.7	**-0.6**
	1.6nm,0.5s							
TKM2	**Tokmak 2**	**56.49**	**333**	*e*P		**P**	15 23 50.0	**-2.2**
	2.4nm,0.5s							
MK31	**Makanchi Array**	**57.15**	**341**	*e*P		**P**	15 23 55.0	**-1.6**
MKAR	**Makanchi Array**	**57.15**	**341**	P		**P**	15 23 55.0	**-1.7**
	0.5nm,0.5s,baz=168,slow=6.2,SNR=7.6							
OPO	**Ambohidratompo**	**58.56**	**252**	P		P	15 24 11.8	+4.6
	4.2nm,0.6s,baz=65,slow=6.2,SNR=5.6							
CASY	**Casey**	**59.74**	**178**	P		**P**	15 24 16.3	**+2.0**
ZALV	**Zalesovo Beam**	**62.86**	**346**	P		**P**	15 24 35.0	**-0.4**
	0.4nm,0.3s,baz=155,slow=8.1,SNR=4.1							
MAW	**Mawson**	**67.59**	**197**	P		P	15 25 09.2	+3.5
	1.8nm,0.3s,baz=64,slow=5.3,SNR=4.1							
ABKAR	**Akbulak array**	**68.57**	**329**	*e*P		**P**	15 25 10.8	**-1.3**
	1.5nm,0.6s							
PETK	**Petropavlovsk-**	**73.58**	**29**	P		**P**	15 25 41.4	**-0.9**
	0.9nm,0.8s,baz=191,slow=6.0,SNR=4.6							
KBZ	**Khabaz**	**75.73**	**318**	P		**P**	15 25 55.1	**+0.3**
	2.4nm,0.8s,baz=236,slow=24,SNR=4.1							
VNDA	**Vanda**	**76.60**	**169**	P		**P**	15 26 01.8	**+2.6**
	1.8nm,1.2s,baz=294,slow=7.4,SNR=3.9							
BR131	**Keskin Array S**	**80.88**	**312**	*e*P		**P**	15 26 23.6	**+0.1**
	1.0nm,0.6s							
BRTR	**Keskin Array B**	**80.88**	**312**	P		**P**	15 26 24.1	**+0.6**
	2.0nm,0.6s,baz=135,slow=7.0,SNR=15							
AKASG	**Malin Array Be**	**86.79**	**322**	P		**P**	15 26 52.6	**-0.4**
	0.6nm,0.3s,baz=82,slow=5.2,SNR=6.0							
SNAA	**Sanae**	**89.74**	**197**	*e*P		**P**	15 27 07.5	**+0.8**
	10nm,1.7s							
FINES	**FINESS Array B**	**90.95**	**332**	P		**P**	15 27 12.0	**-0.4**
	0.4nm,0.6s,baz=129,slow=13,SNR=2.4							
ARCES	**ARCESS Array B**	**92.79**	**340**	P		**P**	15 27 20.5	**-0.3**
	1.1nm,0.9s,baz=105,slow=5.7,SNR=2.8							
HFS	**Hagfors**	**96.83**	**330**	LR		LR	16 15 44.5	
	comp=Z,19nm,19.5s,baz=306,slow=38							
SML	**Sawmill**	**103.03**	**28**	*e*P		**Pdif**	15 27 59.4	**-7.7**
	1.2nm,0.5s							
YKA	**Yellowknife Ar**	**116.70**	**20**	PKP		**PKPdf**	15 32 52.0	**0.0**
	0.4nm,0.6s,baz=339,slow=1.5,SNR=3.3							
IMW	**Indian Meadow**	**130.60**	**35**	P		**Pdif**	15 30 08.6	**-1.9**
PDAR	**Pinedale Array**	**132.09**	**35**	PKP		**PKPdf**	15 33 23.8	**+1.4**
	0.3nm,0.5s,baz=11,slow=3.0,SNR=4.2							
RWWY	**Rawlins**	**134.13**	**35**	*e*P		**PKPdf**	15 33 22.2	**-4.1**
TXAR	**Lajitas Array**	**143.87**	**47**	PKP		**PKPdf**	15 33 44.1	**-0.1**
	0.3nm,0.3s,baz=354,slow=0.9,SNR=3.2							
JCT	**Junction City**	**145.91**	**42**	*e*P		**PKPbc**	15 33 48.4	**-0.1**
TKL	**Tuckaleechee C**	**149.59**	**16**	PKPbc		**PKPbc**	15 33 58.5	**+0.3**
	6.2nm,0.4s,baz=129,slow=3.6,SNR=9.0							

IDC 20 15:17:12.8±2.1, 1°.60N×126°.31E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/32, mbtmp3.4/3, Error ellipse: s-maj=188.1km s-min=25.3km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.81**	**160**	P		P	15 22 16.2	-1.3
	0.8nm,0.5s,baz=338,slow=11,SNR=5.8							
ASAR	**Alice Springs**	**26.18**	**164**	P		P	15 22 50.2	+0.9
	0.4nm,0.5s,baz=345,slow=11,SNR=5.2							
MKAR	**Makanchi Array**	**59.07**	**326**	P		P	15 27 14.9	0.0
	0.2nm,0.4s,baz=124,slow=6.5,SNR=3.7							

IDC 20 15:25:57.1±3.4, 3°.95S×153°.23E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.2/28, mbtmp3.4/2, Error ellipse: s-maj=146.9km s-min=47.5km az=118.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.33**	**228**	P		P	15 31 17.7	+0.9
	1.1nm,0.4s,baz=54,slow=10,SNR=38							
ASAR	**Alice Springs**	**27.06**	**222**	P		P	15 31 41.5	-0.1
	0.1nm,0.6s,baz=54,slow=9.4,SNR=7.4							
TORD	**Torodi Ar. Bea**	**150.44**	**290**	PKPbc		PKPbc	15 45 50.8	-1.0
	0.2nm,0.4s,baz=82,slow=2.2,SNR=3.1							

DJA 20 15:27:29.4±0.8, 7°.S±8°.×10°.5E±°, h48km±11km, M3.9/14, MLv3.9/14, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CGJI	**Cibinong**	**0.70**	**42**	P		Pn	15 27 43.6	+0.6
CGJI				S		Sn	15 27 53.6	+0.7
SKJI	**Sukabumi**	**1.33**	**85**	P		Pn	15 27 52.7	+1.1
SKJI				S		Sn	15 28 10.6	+2.4
TNG	**Tangerang**	**1.71**	**56**	P		Pn	15 27 58.2	+1.5
KASI	**Kota Agung**	**1.75**	**336**	P		Pn	15 27 56.9	-0.4
KASI				S		Sn	15 28 17.8	-0.7
BLSI	**Bandar Lampung**	**1.75**	**1**	P		Pn	15 27 57.4	0.0
BLSI				S		Sn	15 28 18.1	-0.4
CBJI	**Citeko**	**1.77**	**67**	P		Pn	15 27 58.5	+1.0
CNJI	**Cibinong**	**1.90**	**95**	P		Pn	15 27 58.9	-0.5
KLI	**Kotabumi**	**2.28**	**351**	P		Pn	15 28 05.0	+0.4
LWLI	**Liwa**	**2.40**	**331**	P		Pn	15 28 06.1	-0.2
LEM	**Lembang**	**2.40**	**83**	P		Pn	15 28 08.4	+2.0
CISI	**Cisompet, Garu**	**2.61**	**99**	P		Pn	15 28 08.5	-0.7
CISI				S		Sn	15 28 38.0	-1.7
MDSI	**Maura Dua**	**2.82**	**338**	P		Pn	15 28 11.7	-0.4
CMJI	**Cimerak**	**3.27**	**102**	P		Pn	15 28 18.9	+0.8
CMJI				S		Sn	15 28 55.3	-0.5
MNAI	**Manna**	**3.56**	**321**	P		Pn	15 28 21.1	-1.0

*ISCJB **20** 15:43:12.5±0.8, 18°.13S±0°.06×70°.7W±0°.1, h47km, mb3.7/5, MS3.9/1, Error ellipse: s-maj=17.1km s-min=8.1km az=170.8*
*NEIC **20** 15:43:15.0, 18°.41S×70°.71W, h35km, ML4.3(GUC), After GUC.*
NEIC Felt [II] at Arica.
*GUC **20** 15:43:15.6±0.6, 18°.41S×70°.71W, h35km±30km, ML4.3*
*IDC **20** 15:43:17.3±2.7, 18°.27S×70°.60W, h78km±26km, mb3.5/5, mb1 3.8/8, mb1mx3.6/21, mbtmp3.9/8, MS3.8/1, Ms1 3.8/1, ms1mx2.8/19, Error ellipse: s-maj=33.4km s-min=17.0km az=93.0*

ISC 20 15:43:14.3±0.8, 18°.17S±0°.07×70°.8W±0°.1, h47km, n18, σ0°.79/20, mb3.8/5, 2C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB11	**IPOC Station P**	**1.89**	**147**	↑*i* P		**Pn**	**15 43 45.0**	**+0.7**
PB11				*i* S		**Sn**	**15 44 06.7**	**-0.3**
PB11				AML	AML		15 44 12.0	
	comp=N,6µm,0.5s							
PB01	**IPOC Station P**	**3.10**	**158**	↑*i* P		**Pn**	**15 44 01.0**	**+0.2**
PB01				*i* S		**Sn**	**15 44 35.3**	**-1.2**
PB01				AML	AML		15 44 48.8	
	comp=E,295nm,0.6s							
LPAZ	**La Paz**	**3.12**	**54**	P		Pn	15 44 06.0	+4.4
	comp=E,3.0nm,0.3s,baz=228,slow=7.5,SNR=60							
PB07	**IPOC Station P**	**3.63**	**167**	AML	AML		15 45 17.9	
	comp=E,273nm,0.5s							
PB09	**IPOC Station P**	**3.88**	**159**	*e*P		**Pn**	**15 44 12.8**	**+1.2**
PB09				*i* S		**Sn**	**15 44 55.9**	**0.0**
PB09				AML	AML		15 45 13.3	
	comp=N,1µm,0.7s							
LVC	**Limon Verde**	**4.75**	**159**	P		**Pn**	**15 44 24.5**	**+1.0**
	comp=N,155nm,0.3s,baz=342,slow=9.4,SNR=25							
LVC				S		**Sn**	**15 45 17.1**	**-0.3**
	comp=N,238nm,0.3s,baz=114,slow=10.0,SNR=2.6							
LVC	**Limon Verde**	**4.75**	**159**	*e*Pn		**Pn**	**15 44 23.7**	**+0.2**
LVC				S		**Sn**	**15 45 17.1**	**-0.3**
LVC				*e*Sg			15 45 27.6	
SIV	**San Ignacio**	**9.50**	**78**	P		**Pn**	**15 45 29.8**	**+1.2**
	comp=N,1.7nm,0.3s,baz=271,slow=13,SNR=24							
SAML	**Samuel**	**11.75**	**40**	*e*Pn		**Pn**	**15 45 59.9**	**+0.6**
PTGA	**Pitinga**	**20.31**	**33**	P		**P**	**15 47 45.4**	**-1.1**
	comp=N,1.3nm,0.3s,baz=258,slow=20,SNR=4.0							
TRQA	**Tornquist**	**21.25**	**161**	P		**P**	**15 47 56.4**	**0.0**
	comp=N,3.0nm,0.7s							
TXAR	**Lajitas Array**	**56.92**	**326**	P		**P**	**15 52 54.6**	**-0.3**
	comp=N,0.1nm,0.5s,baz=160,slow=12,SNR=3.8							
LPIG	**La Paz**	**57.05**	**316**	LR		LR	16 13 14.8	
	comp=N,82nm,19.0s,baz=116,slow=31							
PDAR	**Pinedale Array**	**70.37**	**331**	P		**P**	**15 54 24.0**	**+0.4**
	comp=N,0.2nm,0.6s,baz=156,slow=4.6,SNR=2.5							
TORD	**Torodi Ar. Bea**	**77.92**	**72**	P		**P**	**15 55 06.5**	**-1.3**
	comp=N,1.2nm,0.8s,baz=261,slow=5.9,SNR=6.8							
YKA	**Yellowknife Ar**	**87.49**	**341**	P		**P**	**15 55 57.0**	**+0.6**
	comp=N,3.0nm,0.6s,baz=135,slow=4.8,SNR=18							
ASAR	**Alice Springs**	**131.96**	**211**	PKP		**PKPdf**	**16 02 22.9**	**-0.5**
	comp=N,0.3nm,1.0s,baz=121,slow=1.8,SNR=5.0							
WRA	**Warramunga Arr**	**134.83**	**214**	PKP		**PKPdf**	**16 02 29.2**	**+0.4**
	comp=N,0.2nm,0.5s,baz=144,slow=1.8,SNR=7.9							

IDC 20 15:45:38.6±8.4, 5°.14S×153°.03E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/26, mbtmp3.5/3, Error ellipse: s-maj=135.7km s-min=88.8km az=20.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.39**	**229**	P		P	15 50 50.2	+0.9
	1.2nm,0.4s,baz=55,slow=10,SNR=37							
ASAR	**Alice Springs**	**26.05**	**223**	P		P	15 51 13.6	-0.4
	0.3nm,0.9s,baz=54,slow=9.3,SNR=8.5							
STKA	**Stephens Creek**	**28.67**	**201**	P		P	15 51 36.8	-0.6
	1.3nm,1.0s,baz=41,slow=9.5,SNR=3.1							

IDC 20 16:03:11.4±5.5, 6°.06S×156°.63E, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.6/37, mbtmp3.9/3, Error ellipse: s-maj=158.6km s-min=38.9km az=109.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**4.70**	**136**	P		Pg	16 04 43.0	+1.4
WRA	**Warramunga Arr**	**25.68**	**235**	P		P	16 08 44.0	+0.6
	4.2nm,0.6s,baz=61,slow=9.4,SNR=65							
ASAR	**Alice Springs**	**28.01**	**229**	P		P	16 09 03.8	-0.6
	0.6nm,0.5s,baz=57,slow=10,SNR=46							
MKAR	**Makanchi Array**	**83.78**	**318**	P		P	16 15 42.8	0.0
	0.3nm,0.8s,baz=106,slow=4.7,SNR=4.0							

*ISCJB **20** 16:06:55.7±0.4, 52°.1N±0°.1×178°.58W±0°.06, h172km±4km, mb3.0/4, Error ellipse: s-maj=22.6km s-min=5.5km az=173.3*
*NEIC **20** 16:06:55.3, 52°.14N×178°.58W, h171km, MG3.1(AEIC), After AEIC.*
*IDC **20** 16:07:13.8±12.0, 52°.88N×178°.76W, h348km±137km, mb2.6/5, mb1 2.9/7, mb1mx2.6/67, mbtmp3.3/7, Error ellipse: s-maj=86.5km s-min=17.9km az=169.0*

ISC 20 16:06:56.5±0.8, 52°.2N±0°.2×178°.60W±0°.05, h167km±7km, n31, σ0°.69/35, mb3.1/4, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TANO	**Tanaga North**	**0.38**	**129**	P		**Pn**	**16 07 19.6**	**+0.3**
GAEA	**Gareloi East**	**0.38**	**194**	P		**Pn**	**16 07 19.6**	**+0.3**
TAFP	**Tanaga Falls P**	**0.46**	**123**	P		**Pn**	**16 07 19.5**	**0.0**
TAFP				S		**Sn**	**16 07 37.4**	**+0.3**
TASE	**Tanaga Southea**	**0.47**	**132**	P		**Pn**	**16 07 19.7**	**+0.1**
TAFL	**Tanaga Flats**	**0.59**	**132**	P		**Pn**	**16 07 20.3**	**+0.2**
KICM	**Kanaga Island**	**0.90**	**104**	P		**Pn**	**16 07 22.2**	**+0.2**
KIKV	**Kanaga Island**	**0.92**	**107**	P		**Pn**	**16 07 22.3**	**+0.1**
CEAP	**Semis' Anvil P**	**1.14**	**263**	P		**Pn**	**16 07 24.2**	**+0.4**
CESW	**Semis' Southwe**	**1.16**	**258**	P		**Pn**	**16 07 24.0**	**-0.1**
CETU	**Semis' Tuman**	**1.19**	**262**	P		**Pn**	**16 07 24.6**	**+0.2**
ETKA	**Kagalaska Isla**	**1.39**	**101**	P		**Pn**	**16 07 26.1**	**-0.1**
GSCK	**Great Sitkin C**	**1.51**	**94**	P		**Pn**	**16 07 27.2**	**-0.2**
GSTD	**Great Sitkin T**	**1.52**	**93**	P		**Pn**	**16 07 27.1**	**-0.4**
GSTD				S		**Sn**	**16 07 51.8**	**+0.4**
AMKA	**Amchitka**	**1.52**	**240**	P		**Pn**	**16 07 27.3**	**-0.1**
AMKA				S		**Sn**	**16 07 51.3**	**0.0**
GSTR	**Great Sitkin T**	**1.57**	**91**	P		**Pn**	**16 07 27.9**	**-0.1**
GSMY	**Great Sitkin M**	**1.57**	**93**	P		**Pn**	**16 07 27.7**	**-0.3**
LSPA	**Little Sitkin**	**1.76**	**265**	P		**Pn**	**16 07 30.4**	**+0.5**
LSPA				S		**Sn**	**16 07 57.4**	**+1.7**
LSNW	**Little Sitkin**	**1.79**	**265**	P		**Pn**	**16 07 30.5**	**+0.2**
LSSA	**Little Sitkin**	**1.79**	**265**	P		**Pn**	**16 07 30.5**	**+0.2**
ATKA	**Atka Island**	**2.71**	**87**	P		**Pn**	**16 07 40.6**	**-0.2**
ATKA				S		**Sn**	**16 08 14.7**	**-0.7**
KOFP	**Korovin Flat P**	**2.77**	**86**	P		**Pn**	**16 07 42.8**	**+1.1**
NIKH	**Nikolski High**	**6.00**	**78**	P		**Pn**	**16 08 23.1**	**-0.1**
MSOM	**Makushin Julie**	**7.23**	**72**	P		**Pn**	**16 08 40.9**	**+1.5**
UNV	**Unalaska Valle**	**7.50**	**72**	P		**Pn**	**16 08 44.1**	**+1.2**
PETK	**Petropavlovsk-**	**14.41**	**283**	P		P	16 10 18.9	+4.1
	0.1nm,0.3s,baz=95,slow=16,SNR=4.1							
SEY	**Seymchan**	**18.76**	**316**	P		**Pn**	**16 11 02.9**	**-1.9**
	0.1nm,0.3s,baz=130,slow=11,SNR=7.8							
ILAR	**Eielson Array**	**20.57**	**40**	P		**P**	**16 11 21.3**	**-0.5**
	0.3nm,0.6s,baz=225,slow=8.9,SNR=4.5							
NVAR	**Mina Array Bea**	**43.34**	**84**	P		**P**	**16 14 43.0**	**+1.0**
	0.2nm,0.3s,baz=281,slow=9.1,SNR=2.8							
TXAR	**Lajitas Array**	**58.41**	**82**	P		**P**	**16 16 34.4**	**-0.2**
	0.3nm,0.6s,baz=308,slow=4.2,SNR=3.5							
WRA	**Warramunga Arr**	**82.66**	**224**	P		**P**	**16 19 00.5**	**-0.5**
	0.1nm,0.6s,baz=36,slow=5.5,SNR=3.0							
ASAR	**Alice Springs**	**86.14**	**223**	P		**P**	**16 19 18.8**	**+0.2**
	0.3nm,1.0s,baz=23,slow=4.7,SNR=6.7							

*IDC **20** 16:11:03.3±5.3, 19°.35N×108°.67W, h0km, mb3.6/5, mb1 4.1/6, mb1mx3.7/40, mbtmp3.7/6, ML3.3/1, MS3.5/7, Ms1 3.5/7, ms1mx3.2/25, Error ellipse: s-maj=86.7km s-min=41.8km az=12.0*

ISC 20 16:11:06.3±4.3, 19°.3N±0°.5×108°.7W±0°.3, h22km, n12, σ0°.74/6, mb3.6/4, MS3.3/5, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H06E1	**SOCORRO T-PHAS**	**2.14**	**256**	T		T	16 14 21.4	
	SNR=15							
TXAR	**Lajitas Array**	**10.99**	**24**	Pn		**Pn**	**16 13 42.4**	**0.0**
	0.1nm,0.3s,baz=203,slow=12,SNR=25							
TXAR				LR		LR	16 17 15.5	
	comp=Z,119nm,19.3s,baz=0.0,slow=34							
CMIG	**Matias Romero**	**13.35**	**97**	LR		LR	16 19 40.9	
	comp=Z,407nm,18.7s,baz=218,slow=39							
NVAR	**Mina Array Bea**	**20.78**	**338**	P		**P**	**16 15 45.5**	**-0.7**
	0.8nm,0.8s,baz=150,slow=12,SNR=3.9							
ELK	**Elko**	**22.08**	**347**	P		**P**	**16 15 59.7**	**-0.3**
	1.5nm,0.9s,baz=165,slow=12,SNR=4.6							
PDAR	**Pinedale Array**	**23.39**	**358**	P		**P**	**16 16 14.6**	**+0.8**
	1.8nm,0.9s,baz=172,slow=7.0,SNR=12							
PDAR				LR		LR	16 24 49.6	
	comp=Z,84nm,18.9s,baz=200,slow=35							
JTS	**JuntasAbangare**	**24.65**	**108**	LR		LR	16 24 23.7	
	comp=Z,86nm,18.6s,baz=256,slow=32							
TKL	**Tuckaleechee C**	**27.37**	**48**	P		**P**	**16 16 49.5**	**-0.5**
	2.5nm,0.3s,baz=214,slow=7.3,SNR=5.6							
ILAR	**Eielson Array**	**52.02**	**340**	P		**P**	**16 20 14.2**	**+0.4**
	0.6nm,0.8s,baz=142,slow=5.9,SNR=6.3							
LPAZ	**La Paz**	**53.35**	**129**	LR		LR	16 40 01.6	
	comp=Z,57nm,20.3s,baz=266,slow=33							
NOA	**NORSAR Array B**	**86.69**	**25**	LR		LR	17 01 18.9	
	comp=Z,14nm,21.4s,baz=300,slow=35							
FINES	**FINESS Array B**	**91.81

comp=Z,1.5nm,0.3s,baz=279,slow=6.8,SNR=3.1

PLCA						LR		LR	16 57 12.3			
	comp=Z,486nm,18.1s,baz=1.0,slow=39											
PLCA	**Paso Flores**		**5.50**	**160**	*e*Pn			**Pn**	**16 55 01.5**	**+0.5**		
	comp=Z,27nm,0.7s											
PLCA						Sn		Sb	16 56 15.8	-5.4		
CFAA	**Coronel Fontan**		**5.64**	**47**	Pn			**Pn**	**16 55 04.2**	**+1.4**		
	comp=Z,0.2nm,0.3s,baz=200,slow=8.9,SNR=18											
CFAA						Sn		**Sb**	**16 56 22.6**	**-2.5**		
	comp=Z,0.5nm,0.3s,baz=102,slow=23,SNR=6.0											
CFAA						LR		LR	16 56 49.7			
	comp=Z,6.1nm,21.1s,baz=248,slow=34											
CFAA	**Coronel Fontan**		**5.64**	**47**	*e*P			**Pn**	**16 55 04.4**	**+1.5**		
RTLL	**Cerro Villicun**		**5.70**	**43**	*e*P			**Pn**	**16 55 04.8**	**+1.0**		
LCO	**Las Campanas**		**6.85**	**17**	*e*Pn			**Pn**	**16 55 19.4**	**-0.3**		
LCO					*e*Sn			**Sn**	**16 56 33.8**	**-3.7**		
LCO					*e*Sg			Sg	16 57 10.1	-10		
TRQA	**Tornquist**		**9.20**	**109**	*e*Pn			**Pn**	**16 55 53.7**	**+1.9**		
	comp=Z,24nm,0.9s											
LVC	**Limon Verde**		**13.42**	**17**	LR			LR	17 02 00.3			
	comp=Z,570nm,21.0s,baz=224,slow=38											
LVC	**Limon Verde**		**13.42**	**17**	P			**Pn**	**16 56 52.5**	**+2.8**		
	comp=Z,9.5nm,1.1s											
LPAZ	**La Paz**		**19.71**	**14**	P			**P**	**16 58 09.9**	**+0.8**		
	comp=Z,0.1nm,0.3s,baz=171,slow=4.2,SNR=15											
SIV	**San Ignacio**		**22.25**	**32**	P			**P**	**16 58 34.8**	**-1.2**		
	comp=Z,3.9nm,0.8s,baz=222,slow=14,SNR=14											
BDFB	**Brasilia**		**29.91**	**55**	LR			LR	17 13 04.3			
	comp=Z,155nm,18.1s,baz=176,slow=39											
PTGA	**Pitinga**		**36.75**	**22**	LR			LR	17 15 27.2			
	comp=Z,28nm,18.1s,baz=230,slow=36											
SDV	**Santo Domingo**		**44.29**	**3**	P			**P**	**17 01 47.0**	**-2.0**		
	comp=Z,4.3nm,0.9s											
RCBR	**Riachuelo**		**45.18**	**58**	LR			LR	17 21 57.7			
	comp=Z,140nm,18.2s,baz=201,slow=38											
RCBR	**Riachuelo**		**45.18**	**58**	P			**P**	**17 01 56.6**	**+0.6**		
	comp=Z,2.5nm,0.6s											
VNA3	**Neumayer Olymp**		**48.21**	**157**	P			**P**	**17 02 19.8**	**+0.7**		
VNA2	**Neumayer--Watz**		**48.88**	**157**	P			**P**	**17 02 24.1**	**-0.1**		
	baz=291,slow=9.3											
SNAA	**Sanae**		**50.44**	**157**	P			**P**	**17 02 34.4**	**-1.8**		
SNAA	**Sanae**		**50.44**	**157**	*e*P			**P**	**17 02 33.8**	**-2.3**		
	comp=Z,8.3nm,1.0s											
QSPA	**South Pole Qui**		**54.66**	**180**	P			**P**	**17 03 08.8**	**+1.2**		
	comp=Z,4.8nm,0.8s,baz=161,slow=0.9,SNR=18											
QSPA	**South Pole Qui**		**54.66**	**180**	*e*P			**P**	**17 03 08.1**	**+0.5**		
	comp=Z,6.3nm,0.9s											
SBA	**Scott Base**		**61.36**	**192**	*e*P			**P**	**17 03 55.8**	**+1.6**		
	comp=Z,1.8nm,0.8s											
VNDA	**Vanda**		**62.39**	**192**	P			**P**	**17 04 02.6**	**+1.5**		
	comp=Z,1.7nm,1.0s											
TXAR	**Lajitas Array**		**70.73**	**332**	P			**P**	**17 04 56.2**	**+1.2**		
	comp=Z,0.7nm,0.6s,baz=151,slow=7.9,SNR=12											
MAW	**Mawson**		**71.89**	**164**	P			**P**	**17 05 02.1**	**+0.6**		
	comp=Z,1.9nm,0.5s,baz=204,slow=9.1,SNR=6.4											
MAW	**Mawson**		**71.89**	**164**	*e*P			P	17 04 57.8	-3.8		
SUR	**Sutherland**		**74.78**	**119**	P			P	17 05 09.8	-10		
	comp=Z,4.9nm,1.3s											
DBIC	**Dimbokro**		**76.46**	**72**	P			P	17 05 23.0	-6.1		
	comp=Z,12nm,1.2s											
ECSD	**EROS Data Cent**		**81.81**	**343**	*e*P			**P**	**17 05 56.6**	**-1.0**		
	comp=Z,2.7nm,0.8s											
ECSD					*e*				17 06 05.8			
NVAR	**Mina Array Bea**		**84.72**	**326**	P			**P**	**17 06 14.2**	**+1.2**		
	comp=Z,0.9nm,0.8s,baz=138,slow=5.2,SNR=6.8											
PDAR	**Pinedale Array**		**84.81**	**334**	P			**P**	**17 06 13.9**	**+0.5**		
	comp=Z,0.4nm,0.5s,baz=202,slow=1.6,SNR=4.1											
TORD	**Torodi Ar. Bea**		**85.52**	**70**	P			**P**	**17 06 17.1**	**-0.1**		
	comp=Z,1.5nm,0.8s,baz=247,slow=4.0,SNR=7.9											
ULM	**Lac du Bonnet**		**87.82**	**346**	P			**P**	**17 06 26.7**	**-1.0**		
	comp=Z,2.9nm,0.8s,baz=192,slow=3.3,SNR=7.1											
ASAR	**Alice Springs**		**115.79**	**207**	PKP			**PKPdf**	**17 12 20.6**	**-1.3**		
	comp=Z,0.3nm,0.9s,baz=122,slow=1.6,SNR=4.1											
WRA	**Warramunga Arr**		**118.98**	**210**	PKP			**PKPdf**	**17 12 27.1**	**-1.1**		
	comp=Z,0.3nm,0.6s,baz=160,slow=1.9,SNR=10											
H11S2	**WAKE ISLAND Hyd**		**124.92**	**269**	T			T	19 30 22.0			
	baz=118,slow=74,SNR=7.3											
H11S1	**WAKE ISLAND Hyd**		**124.93**	**269**	T			T	19 30 14.1			
	baz=118,slow=74,SNR=8.2											
H11S3	**WAKE ISLAND Hyd**		**124.94**	**269**	T			T	19 30 18.3			
	baz=118,slow=74,SNR=5.3											
H11N3	**WAKE ISLAND Hyd**		**125.37**	**270**	T			T	19 30 37.6			
	baz=122,slow=76,SNR=5.8											
H11N1	**WAKE ISLAND Hyd**		**125.38**	**270**	T			T	19 30 39.0			
	baz=122,slow=76,SNR=11											
H11N2	**WAKE ISLAND Hyd**		**125.39**	**270**	T			T	19 30 38.9			
	baz=122,slow=76,SNR=8.5											
ZALV	**Zalesovo Beam**		**156.00**	**33**	PKPab			**PKPab**	**17 14 00.1**	**+0.2**		
	comp=Z,1.9nm,0.9s,baz=279,slow=2.9,SNR=3.7											

MEX 20 16:54:01.1±0.6, 16°63N×96°48W, h60km±11km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
OXBJ	**Oaxaca**	**0.50**	**332**	*i* P		Pn	16 54 11.5			-1.8
OXBJ				*e*S		Sn	16 54 19.9			-2.2
VHO	**Vista Hermosa**	**0.50**	**331**	*i* P		Pn	16 54 11.7			-1.7
VHO				*e*S		Sn	16 54 20.2			-2.1
HUIG	**Huatulco**	**0.93**	**157**	*e*P		Pn	16 54 16.6			-1.6
PNIG	**Pinotepa**	**1.60**	**262**	*e*P		Pn	16 54 26.5			-0.6
CMIG	**Matias Romero**	**1.60**	**73**	*e*P		Pn	16 54 25.6			-1.6
CMIG				*e*P		Pn	16 54 25.7			-1.5
TLIG	**Tlapa**	**2.20**	**295**	*e*P		Pn	16 54 37.0			+1.6
PCIG		**3.27**	**106**	*e*P		Pn	16 54 51.5			+1.7

*IDC **20** 17:12:14.3±1.2,27.°88S×71.°88W,h0km,mb1 4.1/2, mb1mx3.5/37,mbtmp4.1/2,ML3.3/1,Error ellipse: s-maj=58.0km s-min=34.8km az=94.0*
*ISCJB **20** 17:12:25.6±0.8,27.°81S±0.°03×70.°14W±0.°1,h98km±9km, Error ellipse: s-maj=15.7km s-min=5.1km az=5.8*
*GUC **20** 17:12:27.5±0.3,27.°86S×70.°44W,h84km±2km,ML3.7*
*SJA **20** 17:12:29.0±0.4,28.°05S×70.°07W,h157km±33km,ML3.2, MW3.1*

ISC 20 17:12:27.1±0.9, 27.°84S±0.°04×70.°36W±0.°07, h88km±8km, n20,σ1§35/30, 2C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
CPCH	**Copiapo**	**0.48**	**1**	*i* P		**Pn**	**17 12 41.9**			**+0.4**
CPCH				*i* S		**Sn**	**17 12 52.7**			**+0.6**
VACH	**Vallenar**	**0.81**	**205**	*e*P		**Pn**	**17 12 44.2**			**-0.5**
VACH				*e*S		**Sn**	**17 12 57.2**			**-0.4**
CDCH	**Caldera**	**0.87**	**332**	*i* P		**Pn**	**17 12 45.5**			**+0.3**
CDCH				*i* S		**Sn**	**17 12 58.7**			**+0.1**
LCO	**Las Campanas**	**1.21**	**194**	*i* P		**Pn**	**17 12 48.8**			**-0.6**
LCO				*i* S		**Sn**	**17 13 05.6**			**-0.5**
LCO				AML		AML	17 13 06.8			
	comp=E,2μm,0.2s									
LSCH	**La Serena**	**2.20**	**200**	*e*P		**Pn**	**17 13 01.9**			**-0.1**
LSCH				*i* S		**Sn**	**17 13 28.0**			**-0.5**
TLL	**Tololo Astrono**	**2.35**	**189**	*i* P		**Pn**	**17 13 03.2**			**-0.9**
TLL				*i* S		**Sn**	**17 13 31.6**			**-0.9**
TLL				AML		AML	17 13 35.0			
	comp=N,608nm,0.4s									
AMOG	**MOGNA**	**3.49**	**153**	*e*P		**Pn**	**17 13 20.0**			**+0.6**
RTLL	**Cerro Villicun**	**3.85**	**155**	*i* P		**Pn**	**17 13 24.7**			**+0.6**
RTLS	**Leoncito**	**4.05**	**167**	*i* P		**Pn**	**17 13 28.3**			**+1.2**
CYA	**Choya**	**4.07**	**100**	*e*P		**Pn**	**17 13 27.5**			**+0.3**
CYA				*i* S		**Sn**	**17 14 10.8**			**-3.0**
CYA				AML		AML	17 14 14.4			
	comp=Z,30nm,0.3s									
CFAA	**Coronel Fontan**	**4.18**	**154**	Pn		**Pn**	**17 13 29.0**			**+0.4**
	comp=Z,1.3nm,0.3s,baz=319,slow=5.2,SNR=111									
CFAA				Sn		**Sn**	**17 14 17.9**			**+1.5**
	comp=Z,1.6nm,0.3s,baz=195,slow=14,SNR=9.0									
CFAA	**Coronel Fontan**	**4.18**	**154**	*e*P		**Pn**	**17 13 29.1**			**+0.4**
RTCV	**Cerro Valdivia**	**4.31**	**159**	*i* P		**Pn**	**17 13 30.7**			**+0.3**
AUSP	**Uspallata**	**4.45**	**169**	*i* P		**Pn**	**17 13 33.4**			**+0.8**
ASAL	**Salagasta**	**4.92**	**165**	*e*P		**Pn**	**17 13 39.2**			**+0.5**
LVC	**Limon Verde**	**5.37**	**14**	Pn		**Pn**	**17 13 43.5**			**-1.5**
	comp=Z,106nm,0.3s,baz=204,slow=9.3,SNR=32									
LVC				Sn		**Sn**	**17 14 44.0**			**-1.6**
	comp=Z,247nm,0.3s,baz=67,slow=22,SNR=8.6									
ASAR	**Alice Springs**	**123.70**	**207**	PKP		**PKPdf**	**17 31 13.9**			**-1.4**
	comp=Z,0.4nm,1.1s,baz=125,slow=1.2,SNR=4.8									
WRA	**Warramunga Arr**	**126.82**	**209**	PKP		**PKPdf**	**17 31 19.6**			**-1.8**
	comp=Z,0.2nm,0.6s,baz=167,slow=1.3,SNR=6.0									
ZALV	**Zalesovo Beam**	**148.19**	**28**	PKPbc		**PKPbc**	**17 32 02.4**			**-0.1**
	comp=Z,1.3nm,0.6s,baz=298,slow=3.1,SNR=7.1									
MKAR	**Makanchi Array**	**151.40**	**41**	PKPbc		**PKPbc**	**17 32 09.8**			**-0.9**
	comp=Z,0.3nm,0.7s,baz=297,slow=1.3,SNR=3.3									
MKAR				PKPab		**PKPab**	**17 32 23.5**			**+4.3**

comp=Z,0.2nm,0.8s,baz=314,slow=5.3,SNR=2.4

*ISCJB **20** 17:17:38.0±1.3,28.°81N±0.°03×128.°62E±0.°09, h19km±11km,mb3.4/5,MS2.8/4,Error ellipse: s-maj=13.1km s-min=5.3km az=8.9*
*IDC **20** 17:17:37.2±1.2,28.°58N×128.°25E,h0km,mb3.5/5, mb1 3.5/7,mb1mx3.4/34,mbtmp3.5/7,ML3.3/2,MS2.9/6, Ms1 2.9/6,ms1mx2.7/27,Error ellipse: s-maj=46.4km s-min=18.7km az=74.0*
*JMA **20** 17:17:37.5±0.2,28.°81N×128.°62E,h9km±3km,M3.3*

ISC 20 17:17:37.0±1.7, 28.°77N±0.°04×128.°59E±0.°06, h3km±12km, n22,σ0§61/22, mb3.6/5, MS2.7/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
JTAJ	**Takarajima**	**0.66**	**54**	P		**Pg**	**17 17 49.4**			**-0.2**
JTAJ				*e*S		**Sg**	**17 17 57.7**			**-0.5**
JAMN	**Amaminishikomi**	**0.73**	**136**	P		**Pb**	**17 17 52.0**			**-0.4**
JAMN				*e*S		**Sg**	**17 18 01.5**			**+1.0**
JAM	**Amami Oshima**	**0.96**	**112**	P		**Pg**	**17 17 55.6**			**+0.2**
JAM				*e*S		**Sg**	**17 18 07.9**			**+0.1**
JTK	**Tokunoshima**	**1.03**	**162**	P		**Pb**	**17 17 57.2**			**-0.2**
JTK				*e*S		**Sb**	**17 18 11.6**			**+0.3**
JZK	**Kikaishima**	**1.29**	**110**	P		**Pg**	**17 18 01.9**			**+0.1**
JOKE	**Okinoerabujima**	**1.40**	**181**	P		**Pg**	**17 18 03.3**			**-0.6**
JOKE				*e*S		**Sn**	**17 18 22.3**			**-0.2**
JNN	**Nakanoshima**	**1.55**	**46**	P		**Pn**	**17 18 05.4**			**-0.1**
JIH	**Iheya**	**1.81**	**198**	P		**Pb**	**17 18 09.8**			**-1.0**
JOW	**Kunigami**	**1.95**	**188**	P		**Pn**	**17 18 11.3**			**+0.3**
JOW				*e*S		**Sn**	**17 18 35.6**			**-0.4**
JTN	**Tanegashima 3**	**2.80**	**47**	P		**Pn**	**17 18 22.7**			**0.0**
JNU	**Nakatsue**	**4.76**	**24**	Pn		Pb	17 18 55.5			-5.7
	1.8nm,0.3s,baz=294,slow=3.8,SNR=17									
KSRS	**Kona Array**	**8.68**	**356**	Pn		**Pn**	**17 19 44.5**			**+1.1**
	0.1nm,0.3s,baz=177,slow=14,SNR=3.4									
KSRS				LR		LR	17 23 11.1			
	comp=Z,70nm,20.4s,baz=150,slow=38									
ASAJ	**Asahikawa**	**18.97**	**32**	LR		LR	17 30 35.5			
	comp=Z,27nm,19.2s,baz=226,slow=40									
GUMO	**Guam**	**21.37**	**132**	LR		LR	17 30 49.9			
	comp=Z,18nm,18.0s,baz=310,slow=37									
SONM	**Songino Array**	**25.65**	**324**	P		**P**	**17 23 09.0**			**+1.0**
	1.6nm,0.7s,baz=143,slow=8.3,SNR=3.0									
CMAR	**Chiang Mai Arr**	**28.97**	**256**	LR		LR	17 35 00.6			
	comp=Z,18nm,19.6s,baz=200,slow=36									
PETK	**Petropavlovsk-**	**32.39**	**33**	LR		LR	17 37 10.8			
	comp=Z,18nm,19.4s,baz=88,slow=36									
MKAR	**Makanchi Array**	**40.13**	**310**	P		**P**	**17 25 14.2**			**+0.1**
	0.5nm,0.8s,baz=95,slow=7.3,SNR=5.9									
ZALV	**Zalesovo Beam**	**40.46**	**321**	P		**P**	**17 25 16.3**			**-0.3**
	0.9nm,0.5s,baz=107,slow=7.6,SNR=5.4									
WRA	**Warramunga Arr**	**48.74**	**173**	P		**P**	**17 26 23.0**			**-0.2**
	0.5nm,0.3s,baz=353,slow=8.3,SNR=4.2									
ASAR	**Alice Springs**	**52.38**	**174**	P		**P**	**17 26 49.5**			**-1.1**
	0.1nm,0.8s,baz=3.0,slow=8.7,SNR=2.7									
ARCES	**ARCESS Array B**	**67.77**	**338**	LR		LR	18 01 55.6			
	comp=Z,16nm,19.4s,baz=322,slow=39									

*IGQ **20** 17:38:50.0±0.3,2.°03S×78.°38W,h2km±34km,Mb4.7,Error ellipse: s-maj=2.1km s-min=1.2km az=156.2*
*ISCJB **20** 17:38:51.4±0.2,2.°03S±0.°02×78.°40W±0.°04,h141km, mb4.3/42,Error ellipse: s-maj=5.4km s-min=3.5km az=175.5*
*BJI **20** 17:38:51.7,1.°90S×78.°30W,h128km,mB4.6/2*
*IDC **20** 17:38:52.5±0.8,1.°75S×78.°05W,h136km±7km,mb3.9/16, mb1 4.0/21,mb1mx3.9/36,mbtmp4.3/21,MS3.2/2, Ms1 3.2/2,ms1mx2.7/29,Error ellipse: s-maj=18.7km s-min=9.6km az=57.0*
*NEIC **20** 17:38:52.2±0.5,1.°89S×78.°18W,h136km±4km,mb4.5/33, MD4.6(IGQ),Error ellipse: s-maj=7.6km s-min=4.6km az=61.0*
NEIC Felt at Guayaquil and Riobamba. Also felt at Tumbes, Peru.

ISC 20 17:38:52.2±0.4, 1.°96S±0.°04×78.°39W±0.°05, h141km, n166, σ1§10/172, mb4.4/43, 15C-20D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
RIOE	**Riobamba**	**0.32**	**311**	⇓P		**Pn**	**17 39 12.3**			**+0.1**
RIOE	**Riobamba**	**0.32**	**311**	⇓S		**Sn**	**17 39 28.8**			**+1.6**
MACE	**Macas**	**0.35**	**147**	⇓S		**Sn**	**17 39 26.5**			**-0.7**
MACE	**Macas**	**0.35**	**147**	⇓P		**Pn**	**17 39 12.7**			**+0.7**
PAT1	**Patacocha**	**0.46**	**354**	⇓P		**Pn**	**17 39 12.3**			**-0.6**
ARRY	**Arrayan**	**0.46**	**352**	⇓P		**Pn**	**17 39 12.8**			**+0.1**
ULBA	**Ulba**	**0.51**	**358**	⇓P		**Pn**	**17 39 13.7**			**+0.7**
RETU	**Refugio**	**0.51**	**354**	⇓P		**Pn**	**17 39 13.7**			**+0.5**
BIL2	**Estacion Bilba**	**0.52**	**347**	P		**Pn**	**17 39 13.8**			**+0.8**
IGUA	**Igualata**	**0.53**	**332**	⇓P		**Pn**	**17 39 13.1**			**-0.3**
JUI6	**Juive**	**0.54**	**352**	⇓P		**Pn**	**17 39 12.4**			**-0.8**
RUN5	**Runtun**	**0.54**	**356**	P		**Pn**	**17 39 13.6**			**+0.4**
PISA	**Pisayambo**	**0.90**	**0**	⇓P		**Pn**	**17 39 16.7**			**+0.9**
BMOR	**Cotopaxi Volca**	**1.23**	**357**	⇓P		**Pn**	**17 39 19.0**			**+0.2**
BMOR	**Cotopaxi Volca**	**1.23**	**357**	⇓S		**Sn**	**17 39 39.8**			**+0.6**
MOV1	**Cotopaxi Vol s**	**1.24**	**358**	S		**Sn**	**17 39 39.3**			**-0.2**
MOV1	**Cotopaxi Vol s**	**1.24**	**358**	P		**Pn**	**17 39 19.0**			**-0.1**
TAMB	**Tambo**	**1.26**	**1**	⇓P		**Pn**	**17 39 19.5**			**+0.3**
BTAM	**Cotopaxi Volca**	**1.28**	**360**	⇓S		**Sn**	**17 39 41.5**			**+1.5**
BTAM	**Cotopaxi Volca**	**1.28**	**360**	⇓P		**Pn**	**17 39 20.8**			**+1.4**
CAMI	**Rancho Maria**	**1.28**	**355**	P		**Pn**	**17 39 20.7**			**+1.4**
PAST	**Pastocalle**	**1.28**	**349**	P		**Pn**	**17 39 19.4**			**+0.1**
BREF	**Cotopaxi Volca**	**1.28**	**358**	⇓P		**Pn**	**17 39 20.1**			**+0.6**
COV1	**Cotopaxi Volc**	**1.29**	**2**	P		**Pn**	**17 39 20.3**			**+0.7**
BVC2	**Cotopaxi Volca**	**1.30**	**359**	⇓P		**Pn**	**17 39 20.0**			**+0.5**
BVC2	**Cotopaxi Volca**	**1.30**	**359**	S		**Sn**	**17 39 41.3**			**+0.9**
VC1	**Cotopaxi 1**	**1.31**	**359**	⇓P		**Pn**	**17 39 20.2**			**+0.5**
PITA	**Cotopaxi Volc**	**1.40**	**358**	⇓P		**Pn**	**17 39 21.1**			**+0.6**
ANTI	**Antisana**	**1.52**	**9**	⇑P		**Pn**	**17 39 23.0**			**+1.1**
JUA2	**San Juan 2**	**1.75**	**353**	P		**Pn**	**17 39 24.4**			**+0.1**
GGP	**Refugio Guagua**	**1.79**	**353**	⇑P		**Pn**	**17 39 25.8**			**+0.9**
TERV	**Terraza Guagua**	**1.79**	**353**	P		**Pn**	**17 39 25.5**			**+0.6**
PINO	**Pino**	**1.81**	**353**	⇑P		**Pn**	**17 39 25.1**			**0.0**
YANA	**Yana**	**1.84**	**354**	P		**Pn**	**17 39 25.1**			**-0.3**
ELAGU	**Cayambe Volc**	**1.97**	**12**	P		**Pn**	**17 39 27.2**			**+0.2**
CHAR	**Charly**	**2.00**	**21**	⇑P		**Pn**	**17 39 27.3**			**+0.1**
CAYR	**Refugio Cayamb**	**2.00**	**11**	P		**Pn**	**17 39 28.6**			**+1.2**
LAV4	**Lava4-Reventad**	**2.01**	**22**	⇑P		**Pn**	**17 39 27.9**			**+0.8**
LAV4	**Lava4-Reventad**	**2.01**	**22**	⇑S		**Sn**	**17 39 48.6**			**+2.7**
CONE	**Cono NE Rev Vo**	**2.02**	**22**	⇑P		**Pn**	**17 39 27.3**			**-0.1**
PECV	**Mancha de Ca P**	**2.03**	**305**	P		Pn	17 39 30.8			+3.6
CAYA	**Cayambe**	**2.06**	**11**	⇑P		**Pn**	**17 39 28.2**			**+0.1**
OTAV	**Otavalo**	**2.19**	**358**	⇑S		**Sn**	**17 39 58.5**			**+0.4**
OTAV	**Otavalo**	**2.19**	**358**	⇑P		**Pn**	**17 39 29.5**			**0.0**
OTAV	**Otavalo**	**2.19**	**358**	*e*Pn		**Pn**	**17 39 28.8**			**-0.7**
OTAV				*e*Sn		**Sn**	**17 39 56.9**			**-1.2**
GOLV	**Golondrinas**	**2.28**	**341**	P		**Pn**	**17 39 31.0**			**+0.8**
GOLV	**Golondrinas**	**2.28**	**341**	S		**Sn**	**17 40 00.1**			**+0.7**
COTA	**Cotacachi**	**2.28**	**1**	P		**Pn**	**17 39 32.0**			**+1.3**
ARNL	**Arenillas**	**2.30**	**227**	⇑P		**Pn**	**17 39 29.9**			**-0.5**
ARNL	**Arenillas**	**2.30**	**227**	⇑S		**Sn**	**17 39 59.6**			**-0.1**
MAG1	**Magdalena**	**2.33**	**324**	P		**Pn**	**17 39 30.2**			**-0.6**
JAMA	**Jama**	**2.48**	**313**	P		**Pn**	**17 39 31.3**			**-1.4**
CHIS	**Cerro-Chispas-**	**2.50**	**291**	P		**Pn**	**17 39 32.7**			**-0.2**
LITE	**Lita**	**2.75**	**1**	⇑P		**Pn**	**17 39 37.8**			**+1.6**
ISPT	**Isla de la Pla**	**2.77**	**284**	⇑P		**Pn**	**17 39 34.4**			**-1.8**
ISPT	**Isla de la Pla**	**2.77**	**284**	⇑S		**Sn**	**17 40 08.5**			**-1.8**
ATAH	**Atahualpa**	**5.14**	**180**	P		**Pn**	**17 40 09.1**			**+1.4**
	47nm,0.3s,baz=11,slow=11,SNR=100									
ATAH				S		**Sn**	**17 41 07.4**			**+0.9**
	16nm,0.3s,baz=0.1,slow=9.8,SNR=5.3									
ROSC	**El Rosal**	**7.89**	**31**	P		Pn	17 40 38.5			-6.1
	1.5nm,0.3s,baz=90,slow=23,SNR=2.3									
ROSC	**El Rosal**	**7.89**	**31**	*e*Pn		**Pn**	**17 40 42.9**			**-1.7**
NNA	**Nana**	**10.08**	**171**	P		**Pn**	**17 41 13.7**			**+0.2**
	7.4nm,0.3s,baz=350,slow=11,SNR=8.4									
NNA				S		Sn	17 42 55.3			-10
	8.4nm,0.3s,baz=275,slow=19,SNR=4.7									
NNA	**Nana**	**10.08**	**171**	*e*Pn		**Pn**	**17 41 13.1**			**-0.4**
NNA				*e*Sn		Sn	17 42 55.9			-9.1
SDV	**Santo Domingo**	**13.26**	**36**	*e*Pn		**Pn**	**17 41 55.0**			**-0.3**
JTS	**JuntasAbangare**	**13.81**	**332**	LR		LR	17 45 52.6			
	comp=Z,65nm,20.1s,baz=170,slow=30									
SAML	**Samuel**	**16.64**	**115**	*e*Pn		**Pn**	**17 42 34.6**			**-2.7**
	9.5nm,0.7s									
LPAZ	**La Paz**	**17.46**	**145**	P		**Pn**	**17 42 48.2**			**+0.5**
	0.7nm,0.3s,baz=334,slow=13,SNR=30									
LPAZ	**La Paz**	**17.46**	**145**	*e*P		**Pn**	**17 42 48.0**			**+0.2**
	12nm,0.9s									
PCRV	**Puerto La Cruz**	**18.25**	**48**	P		**P**	**17 42 53.4**			**-1.6**
	0.4nm,0.3s,baz=235,slow=3.7,SNR=3.1									
PTGA	**Pitinga**	**18.46**	**86**	P		**P**	**17 42 53.9**			**-3.3**
	0.7nm,0.3s,baz=294,slow=13,SNR=4.4									
PTGA	**Pitinga**	**18.46**	**86**	*e*P		**P**	**17 42 56.0**			**-1.3**
	7.8nm,0.6s									
SIV	**San Ignacio**	**22.03**	**130**	P		**P**	**17 43 34.9**			**-0.7**
	6.2nm,0.7s,baz=322,slow=12,SNR=20									
LVC	**Limon Verde**	**22.50**	**157**	P		**P**	**17 43 42.6**			**+2.2**
	22nm,0.6s,baz=318,slow=8.0,SNR=14									
LVC	**Limon Verde**	**22.50**	**157**	*e*P		**P**	**17 43 42.9**			**+2.5**
	18nm,1.1s									
TEIG	**Tepich**	**24.09**	**337**	P		**P**	**17 43 55.7**			**+0.9**
	5.2nm,0.6s,baz=211,slow=5.9,SNR=5.0									
SMRT	**St. Maarten**	**24.96**	**37**	*e*pP		**pP**	**17 44 27.6**			**-4.7**
SMRT				*e*sP		pP	17 44 28.0			-4.3
CMIG	**Matias Romero**	**24.96**	**320**	P		**P**	**17 44 04.3**			**+1.5**
	4.3nm,0.8s,baz=77,slow=9.9,SNR=7.6									
BDFB	**Brasilia**	**32.88**	**116**	P		**P**	**17 45 12.9**			**-0.3**
	5.0nm,0.5s,baz=270,slow=11,SNR=6.3									
TRQA	**Tornquist**	**38.95**	**159**	*e*P		**P**	**17 46

HHC				PPMZ				
	24nm,7.4s							
WRA	**Warramunga Arr**	**141.21**	**234**	PKhKP	PKPpre	17 58 00.0		
	0.4nm,0.6s,baz=124,slow=2.9,SNR=11							
WRA				PKP	**PKPdf**	**17 58 06.5**	**-0.6**	
	0.8nm,0.6s,baz=118,slow=2.2,SNR=10							
NJ2	**Nanjing**	**145.94**	**333**	*e*PKPbc	**PKPdf**	**17 58 15.3**	**+0.4**	
LZH	**Lanzhou**	**145.98**	**357**	*e*PKPbc	**PKPab**	**17 58 17.6**	**+0.8**	
XAN	**Xi'an**	**147.36**	**349**	PKPbc	**PKPbc**	**17 58 20.1**	**+0.2**	
KOLN	**Koldanda**	**149.09**	**32**	*e*P	**PKPbc**	**17 58 24.9**	**+0.1**	
GKN	**Gorkha**	**149.44**	**31**	*e*P	**PKPbc**	**17 58 25.8**	**+0.2**	
	54nm,1.2s							
KKN	**Kakani**	**149.94**	**30**	*e*P	**PKPbc**	**17 58 27.0**	**+0.1**	
	14nm,0.7s							
DMN	**Daman**	**150.00**	**30**	*e*P	**PKPbc**	**17 58 27.2**	**+0.1**	
GUN	**Gumba**	**150.13**	**29**	*e*P	**PKPbc**	**17 58 27.9**	**+0.3**	
PKI	**Pulchoki**	**150.18**	**30**	*e*P	**PKPbc**	**17 58 27.3**	**-0.4**	
	19nm,0.9s							
TAPN	**Taplejung**	**151.46**	**27**	*e*P	**PKPbc**	**17 58 30.5**	**-0.1**	
CMAR	**Chiang Mai Arr**	**163.40**	**9**	PKP	**PKPdf**	**17 58 39.7**	**+0.6**	
	0.4nm,0.9s,baz=305,slow=2.1,SNR=4.3							
CMAR				pPKP	**pPKPdf**	**17 59 17.4**	**+0.5**	
	0.9nm,1.1s,baz=280,slow=2.1,SNR=2.5							
CMAR				PKPab	**PKPab**	**17 59 29.4**	**-1.0**	
	0.8nm,0.8s,baz=335,slow=4.8,SNR=5.4							

IDC 20 17:39:21.9±25.0, 13°28'S×174°25'W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/41, mbtmp4.0/4, Error ellipse: s-maj=500.6km s-min=49.5km az=53.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**26.04**	**196**	P	P	17 44 56.9	0.0
	17nm,1.0s,baz=22,slow=11,SNR=18						
STKA	**Stephens Creek**	**44.42**	**238**	P	P	17 47 35.1	+0.4
	0.2nm,0.3s,baz=88,slow=3.3,SNR=2.9						
WRA	**Warramunga Arr**	**49.56**	**255**	P	P	17 48 15.5	+0.4
	0.2nm,0.5s,baz=89,slow=7.8,SNR=12						
ASAR	**Alice Springs**	**50.02**	**250**	P	P	17 48 17.5	-1.0
	1.3nm,0.6s,baz=88,slow=7.6,SNR=41						

*SJA **20** 17:41:11.7±1.4, 34°04'S×72°85'W, h4km±24km, ML3.4, MW3.7*
*GUC **20** 17:41:19.1±0.5, 34°31'S×72°08'W, h34km±3km, ML4.0*
*ISCJB **20** 17:41:20.5±1.4, 34°31'S±0°05×72°10'W±0°1, h17km, Error ellipse: s-maj=16.4km s-min=6.6km az=1.6*
ISC 20 17:41:19.5±2.3, 34°26'S±0°05×72°1'W±0°2, h17km, n14, σ1°95/20, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**1.02**	**137**	⇑*i*P	**Pb**	**17 41 36.7**	**-2.0**
NICH				*e*S	**Sb**	**17 41 50.1**	**-1.6**
CLCH	**Cerro Calan**	**1.54**	**57**	⇑*i*P	**Pn**	**17 41 46.5**	**+0.3**
CLCH				*e*S	**Sb**	**17 42 07.1**	**+0.3**
CLCH				AML	AML	17 42 12.7	
	comp=E,2μm,0.6s						
ROCH	**El Roble**	**1.56**	**35**	⇑*i*P	**Pn**	**17 41 46.7**	**+0.1**
ROCH				*e*S	**Sb**	**17 42 07.3**	**-0.2**
PEL	**Peldehue**	**1.60**	**47**	⇑*i*P	**Pn**	**17 41 47.5**	**+0.4**
PEL				*e*S	**Sb**	**17 42 09.0**	**+0.4**
PEL				AML	AML	17 42 13.7	
	comp=N,4μm,0.5s						
AAGR	**Agrelo**	**2.94**	**68**	*e*P	**Pb**	**17 42 10.1**	**-1.5**
ARCO	**CERRO ARCO**	**2.98**	**63**	*e*P	**Pb**	**17 42 10.6**	**-1.5**
AUSP	**Uspallata**	**3.03**	**49**	*e*P	**Pb**	**17 42 11.0**	**-3.1**
AUSP				*e*S	**Sb**	**17 42 51.9**	**+2.0**
ASAL	**Salagasta**	**3.17**	**59**	*e*P	**Pb**	**17 42 12.7**	**-2.8**
ASAL				*e*S	**Sb**	**17 42 57.3**	**+3.4**
RTLS	**Leoncito**	**3.38**	**44**	*e*P	Pb	17 42 15.2	-3.9
RTLS				*e*S	**Sb**	**17 43 00.9**	**+0.9**
CANA	**Caviahue**	**3.71**	**168**	*e*P	**Pn**	**17 42 18.7**	**+2.5**
CANA				AML	AML	17 43 32.5	
	comp=Z,44nm,0.7s						
RTCV	**Cerro Valdivia**	**3.81**	**52**	*e*P	**Pn**	**17 42 19.6**	**+2.2**
CFAA	**Coronel Fontan**	**4.17**	**52**	*e*P	**Pn**	**17 42 24.0**	**+1.7**
RTLL	**Cerro Villicun**	**4.21**	**47**	*e*P	**Pn**	**17 42 24.7**	**+1.8**
AMOG	**MOGNA**	**4.48**	**43**	*e*P	**Pn**	**17 42 28.2**	**+1.6**

*SJA **20** 17:46:30.8±0.5, 34°15'S×72°63'W, h13km±20km, ML3.8, MW3.9*
*GUC **20** 17:46:34.0±0.7, 34°47'S×71°87'W, h6km±4km, ML4.0*
ISC 20 17:46:33.0±1.9, 34°48S±0°04×72°0W±0°1, h9km±11km, n22, σ1°34/29, 3C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.71**	**43**	⇓*i*P	**Pg**	**17 46 46.9**	**+0.2**
NICH	**Los Niches**	**0.81**	**130**	*e*P	**Pg**	**17 46 48.6**	**-0.1**
NICH				*i* S	**Sg**	**17 46 59.4**	**0.0**
TALC	**Talca**	**0.96**	**162**	⇓*i*P	**Pb**	**17 46 52.0**	**+0.2**
TALC				*i* S	**Sn**	**17 47 05.5**	**-1.0**
TACH	**Talagante**	**1.20**	**47**	⇑*i*P	**Pn**	**17 46 54.4**	**-1.6**
CHCH	**Chadas Angostu**	**1.23**	**64**	⇑*i*P	**Pn**	**17 46 55.3**	**-1.2**
LNCH	**Linares**	**1.40**	**167**	*e*P	**Pg**	**17 46 59.7**	**-0.3**
LNCH				*e*S	**Sg**	**17 47 18.3**	**+0.2**
PCH	**Pirque**	**1.50**	**55**	*e*P	**Pn**	**17 46 59.6**	**-0.5**
SAN	**Santiago**	**1.50**	**48**	*e*P	**Pn**	**17 46 60.0**	**-0.2**
SAN				*e*S	**Sn**	**17 47 19.0**	**-0.9**
LACH	**Col Las Americ**	**1.59**	**50**	*e*S	**Sn**	**17 47 21.3**	**-0.7**
CLCH	**Cerro Calan**	**1.62**	**49**	⇓*i*P	**Pn**	**17 47 01.6**	**-0.2**
CLCH				*e*S	**Sn**	**17 47 22.2**	**-0.6**
CLCH				AML	AML	17 47 31.4	
	comp=N,4μm,0.7s						
ROCH	**El Roble**	**1.71**	**29**	⇓*i*P	**Pn**	**17 47 02.3**	**-0.9**
ROCH				*i* S	**Sn**	**17 47 25.3**	**0.0**
ROCH				AML	AML	17 47 30.6	
	comp=E,4μm,0.5s						
PEL	**Peldehue**	**1.72**	**40**	⇑*i*P	**Pn**	**17 47 03.2**	**0.0**
PEL				*i* S	**Sn**	**17 47 25.2**	**0.0**
PEL				AML	AML	17 47 29.8	
	comp=N,5μm,0.6s						
FCH	**Farellones**	**1.82**	**51**	⇓*i*P	**Pg**	**17 47 08.6**	**+0.6**
FCH				*i* S	**Sg**	**17 47 31.8**	**+0.2**
FCH				AML	AML	17 47 34.5	
	comp=N,2μm,0.5s						
AAGR	**Agrelo**	**2.98**	**63**	*i* P	**Pb**	**17 47 25.6**	**-0.6**
ARCO	**CERRO ARCO**	**3.03**	**58**	*e*P	**Pb**	**17 47 26.2**	**-1.0**
ARCO				*i* S	**Sb**	**17 48 06.8**	**+2.5**
ARCO				IAML		17 48 12.2	
	comp=Z,199nm,0.5s						
AUSP	**Uspallata**	**3.13**	**45**	⇓*i*P	**Pb**	**17 47 26.4**	**-2.6**
ASAL	**Salagasta**	**3.24**	**55**	*i* P	**Pb**	**17 47 28.8**	**-2.0**
CANA	**Caviahue**	**3.48**	**168**	*e*P	**Pb**	**17 47 34.3**	**-0.7**
RTCV	**Cerro Valdivia**	**3.90**	**49**	*e*P	Pn	17 47 36.9	+3.8
CFAA	**Coronel Fontan**	**4.26**	**49**	*e*P	Pn	17 47 41.6	+3.6
RTLL	**Cerro Villicun**	**4.31**	**44**	⇓*i*P	**Pn**	**17 47 41.9**	**+3.0**
AMOG	**MOGNA**	**4.60**	**41**	*e*P	**Pn**	**17 47 45.7**	**+2.9**

*ISCJB **20** 18:27:38.8±0.8, 35°3S±0°1×107°3W±0°2, h10km, mb3.9/7, MS3.6/3, Error ellipse: s-maj=26.6km s-min=16.6km az=171.6*
*IDC **20** 18:27:38.1±0.9, 35°38S×107°39W, h0km, mb3.9/6, mb1 4.3/6, mb1mx4.0/25, mbtmp3.9/6, MS3.6/4, Ms1 3.6/4, ms1mx3.3/17, Error ellipse: s-maj=33.7km s-min=24.5km az=13.0*
ISC 20 18:27:40.2±0.8, 35°2S±0°2×107°3W±0°2, h10km, n18, σ1°26/14, mb4.0/7, MS3.7/3, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**8.26**	**348**	LR	LR	18 31 58.5	
	comp=Z,283nm,19.0s,baz=121,slow=31						
PLCA	**Paso Flores**	**29.36**	**112**	P	**P**	**18 33 42.9**	**-0.4**
	4.2nm,0.9s,baz=276,slow=7.9,SNR=6.6						
LPAZ	**La Paz**	**39.71**	**72**	P	**P**	**18 35 14.0**	**+0.4**
	1.4nm,0.5s,baz=244,slow=7.6,SNR=6.5						
LPAZ				LR	LR	18 47 20.3	
	comp=Z,127nm,19.6s,baz=256,slow=30						
PPT	**Papeete**	**41.37**	**284**	LR	LR	18 47 26.7	
	comp=Z,42nm,21.1s,baz=200,slow=29						
SIV	**San Ignacio**	**45.45**	**77**	P	**P**	**18 35 59.1**	**-0.5**
	1.5nm,0.8s,baz=251,slow=4.6,SNR=3.9						
QSPA	**South Pole Qui**	**54.97**	**180**	P	**P**	**18 37 13.2**	**+2.0**
	1.3nm,0.9s,baz=149,slow=6.7,SNR=3.5						
BDFB	**Brasilia**	**56.20**	**86**	LR	LR	18 59 37.6	
	comp=Z,62nm,18.2s,baz=108,slow=34						
VNA3	**Neumayer Olymp**	**59.46**	**158**	P	**P**	**18 37 43.1**	**+0.3**
VNA2	**Neumayer--Watz**	**60.27**	**158**	P	**P**	**18 37 48.9**	**+0.6**
	baz=266,slow=6.1						
SNAA	**Sanae**	**61.31**	**160**	P	**P**	**18 37 53.3**	**-2.1**
TXAR	**Lajitas Array**	**64.32**	**4**	P	**P**	**18 38 16.7**	**+0.8**
	0.2nm,0.7s,baz=191,slow=4.4,SNR=2.6						
NVAR	**Mina Array Bea**	**74.00**	**351**	P	**P**	**18 39 17.1**	**+1.1**
	1.3nm,0.9s,baz=190,slow=8.5,SNR=5.9						
PDAR	**Pinedale Array**	**77.66**	**358**	P	**P**	**18 39 36.6**	**-0.2**
	0.5nm,0.3s,baz=145,slow=5.4,SNR=5.1						
H01W1	**Cape Leeuwin H**	**100.19**	**214**	T	T	20 33 21.8	
	baz=143,slow=76,SNR=35						
H01W2	**Cape Leeuwin H**	**100.20**	**214**	T	T	20 33 15.1	
	baz=143,slow=76,SNR=37						
H01W3	**Cape Leeuwin H**	**100.21**	**214**	T	T	20 33 17.8	
	baz=143,slow=76,SNR=33						
CMAR	**Chiang Mai Arr**	**151.34**	**241**	PKPbc	**PKPbc**	**18 47 34.6**	**0.0**
	0.5nm,0.8s,baz=132,slow=2.1,SNR=3.9						
CMAR				PKPab	**PKPab**	**18 47 41.2**	**-1.4**
	0.8nm,1.0s,baz=218,slow=1.4,SNR=5.4						
SONM	**Songino Array**	**152.02**	**307**	PKPbc	**PKPbc**	**18 47 33.5**	**-2.0**
	0.5nm,0.4s,baz=79,slow=2.1,SNR=2.6						
SONM				PKPab	**PKPab**	**18 47 44.7**	**-0.2**
	1.5nm,0.8s,baz=90,slow=1.4,SNR=3.2						

NNC 20 18:39:54.8±3.2, 37°04N×70°88E, h0km, mb3.5, mpv3.1, 6C-4D, Error ellipse: s-maj=26.0km s-min=10.3km az=173.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.40**	**318**	⇑Pn	Pn	18 40 36.3	+0.8
	1.6nm,0.2s						
DZET				⇓Sn	Sn	18 41 06.5	+0.9
	15nm,0.5s						
SFK	**Sufi-Kurgan**	**3.61**	**34**	⇑Pn	Pn	18 40 51.3	-1.0
	1.8nm,0.3s						
SFK				⇑Sn	Sn	18 41 38.1	+2.2
	4.8nm,0.2s						
MNAS	**Manas**	**5.58**	**12**	⇓Pn	Pn	18 41 18.0	-1.3
	1.4nm,0.8s						
MNAS				⇑Sn	Sn	18 42 24.5	+0.3
KK31	**Karatay Array**	**6.06**	**357**	⇑Pn	Pn	18 41 24.0	-1.7
	1.0nm,0.4s,baz=296,slow=17,SNR=17						
KK31				⇓Sn	Sn	18 42 36.8	+1.0
	0.4nm,0.3s,baz=185,slow=24,SNR=5.8						
AAK	**Ala-Archa**	**6.24**	**25**	⇑Sn	Sn	18 42 39.7	-0.7
	2.6nm,0.7s						
TKM2	**Tokmak 2**	**6.90**	**30**	⇓Sn	Sn	18 42 59.5	+2.7
	2.5nm,0.9s						

*AWI **20** 18:41:46.8, 54°80S×27°76W*
*ISCJB **20** 18:41:57.8±1.1, 55°7S±0°2×28°0W±0°5, h35km, mb3.9/3, Error ellipse: s-maj=43.2km s-min=16.7km az=159.2*
*IDC **20** 18:42:14.9±10.0, 55°91S×28°10W, h187km±99km, mb3.4/3, mb1 3.5/3, mb1mx3.3/15, mbtmp3.9/3, Error ellipse: s-maj=37.0km s-min=24.1km az=77.0*
ISC 20 18:41:58.3±1.0, 55°7S±0°2×27°9W±0°3, h35km, n8, σ2°92/8, mb3.9/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**17.42**	**160**	P	**P**	**18 46 01.0**	**+1.9**
VNA2	**Neumayer--Watz**	**17.63**	**158**	P	**P**	**18 46 03.4**	**+2.0**
	baz=317,slow=12						
SNAA	**Sanae**	**19.18**	**156**	P	**P**	**18 46 16.9**	**-1.7**
VNDA	**Vanda**	**46.87**	**183**	P	**P**	**18 50 24.0**	**-0.3**
	2.0nm,0.8s,baz=186,slow=7.4,SNR=7.9						
LPAZ	**La Paz**	**49.89**	**306**	P	**P**	**18 50 49.8**	**+0.9**
	0.6nm,0.4s,baz=117,slow=4.5,SNR=3.4						
TORD	**Torodi Ar. Bea**	**72.97**	**30**	P	**P**	**18 53 25.1**	**+1.1**
	0.3nm,0.4s,baz=195,slow=6.5,SNR=10						
ILAR	**Eielson Array**	**149.62**	**312**	PKPbc	**PKPbc**	**19 01 40.4**	**-2.2**
	1.1nm,0.8s,baz=124,slow=1.5,SNR=12						
SONM	**Songino Array**	**151.08**	**86**	PKPbc	**PKPbc**	**19 01 44.9**	**-1.9**
	0.8nm,0.5s,baz=219,slow=3.7,SNR=3.8						

GUC 20 19:02:04.5±0.6, 34°91S×72°65W, h35km±4km, ML3.8, 5C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.96**	**121**	⇑*i*P	Pn	19 02 21.7	+0.2
TALC				*i* S	Sn	19 02 33.7	-0.2
NICH	**Los Niches**	**1.17**	**95**	⇑*i*P	Pn	19 02 25.6	+1.3
NICH				*e*S	Sn	19 02 41.0	+2.0
COCH	**Cobquecura**	**1.22**	**185**	*e*P	Pn	19 02 26.3	+1.2
COCH				*e*S	Sn	19 02 42.0	+1.6
LNCH	**Linares**	**1.27**	**138**	⇑*i*P	Pn	19 02 26.6	+0.9
LNCH				*e*S	Sn	19 02 43.3	+1.8
LNV	**Longovilo**	**1.40**	**47**	⇑*i*P	Pn	19 02 27.7	+0.2
CHCH	**Chadas Angostu**	**1.91**	**60**	⇑*i*P	Pn	19 02 36.6	+2.0
CLCH	**Cerro Calan**	**2.31**	**50**	*e*P	Pn	19 02 42.4	+2.2
CLCH				AML	AML	19 03 23.8	
	comp=N,1μm,0.6s						
PEL	**Peldehue**	**2.40**	**43**	*e*P	Pn	19 02 43.4	+2.0
PEL				AML	AML	19 03 19.1	
	comp=N,1μm,0.6s						

*IDC **20** 19:07:20.1±4.2, 57°61S×143°33W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/12, mbtmp3.6/2, MS3.8/2, Ms1 3.7/2, ms1mx3.3/12, Error ellipse: s-maj=364.9km s-min=56.4km az=159.0*
ISC 20 19:07:23.4±1.9, 56°4S±0°4×144°1W±0°4, h10km, n21, σ0°82/7, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**28.10**	**202**	LR	LR	19 21 12.8	
	comp=Z,165nm,19.6s,baz=150,slow=31						
TBI	**Tubuai**	**33.23**	**351**	*e*LR	LR	19 22 28.0	
	190nm,27.2s						
TBI	**Tubuai**	**33.23**	**351**	*e*T	T	19 48 26.3	
	62nm,0.3s						
RKT	**Rikitea**	**33.89**	**15**	*e*LR	LR	19 23 04.4	
	165nm,27.5s						
RKT	**Rikitea**	**33.89**	**15**	*e*T	T	19 49 06.8	
	8.5nm,0.3s						
MEH	**Mehetia**	**38.55**	**354**	*e*T	T	19 55 04.4	
	14nm,0.2s						
TVO	**Taravao**	**38.73**	**352**	*e*T	T	19 55 15.7	
	1.5nm,0.3s						
PAE	**Paea**	**38.87**	**352**	*e*T	T	19 55 27.7	
	2.8nm,0.3s						
PPT2	**Papeete2**	**38.94**	**352**	*e*LR	LR	19 25 01.9	
	219nm,27.8s						
TIAR	**Tiarei**	**38.95**	**352**	*e*T	T	19 55 34.9	
	4.0nm,0.3s						
VAH	**Vaihoa**	**41.15**	**355**	*e*T	T	19 58 19.2	
	32nm,0.3s						
PMOR	**Pomariorio Ree**	**41.40**	**354**	*e*T	T	19 58 37.5	
	4.8nm,0.3s						
VNA3	**Neumayer Olymp**	**48.68**	**162**	P	**P**	**19 16 06.8**	**-0.2**
VNA2	**Neumayer--Watz**	**49.33**	**163**	P	**P**	**19 16 12.2**	**+0.2**
	baz=209,slow=7.3						
SNAA	**Sanae**	**49.38**	**165**	P	P	19 16 09.1	-3.4
VNA1	**Neumayer--Stat**	**49.42**	**162**	P	**P**	**19 16 12.8**	**+0.1**
STKA	**Stephens Creek**	**55.61**	**263**	LR	LR	19 38 25.1	
	comp=Z,79nm,18.2s,baz=201,slow=33						
ASAR	**Alice Springs**	**66.25**	**263**	P	**P**	**19 18 12.2**	**+0.7**
	1.1nm,0.9s,baz=141,slow=6.8,SNR=8.3						
WRA	**Warramunga Arr**	**68.99**	**265**	P	**P**	**19 18 28.6**	**-0.2**
	0.3nm,0.8s,baz=146,slow=5.8,SNR=4.2						
ILAR	**Eielson Array**	**120.84**	**359**	PKP	**PKPdf**	**19 26 14.8**	**+0.7**
	0.4nm,0.8s,baz=180,slow=2.3,SNR=3.4						
MKAR	**Makanchi Array**	**150.16**	**271**	PKPbc	**PKPbc**	**19 27 12.2**	**-1.3**
	0.7nm,0.8s,baz=143,slow=0.7,SNR=5.5						

MAN 20 19:09:10, 10°37N×126°07E, h25km, mb4.5, ML3.3, MS3.2, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**1.21**	**259**	*e*P	Pb	19 09 31.9	-0.4
MSLP				*e*S	Sb	19 09 47.8	+0.3
BESP	**Borongan**	**1.37**	**333**	*e*P	Pb	19 09 35.3	+0.3
BUTP	**Butuan**	**1.46**	**197**	*e*P	Pn	19 09 35.2	+0.4
BUTP				*e*S	Sb	19 09 55.5	+0.7
OCLP	**Ormoc**	**1.58**	**295**	*e*P	Pb	19 09 39.1	+0.5
TBP	**Tagbilaran**	**2.27**	**253**	⇓*e*P	Pn	19 09 47.9	+1.9
TBP				*e*S	Sb	19 10 16.1	-2.0
CNP	**Catarman**	**2.53**	**327**	*e*P	Pn	19 09 50.3	+0.8
BUKP	**Musuan**	**2.67**	**202**	*e*P	Pn	19 09 53.1	+1.6
GUIM	**Jordan**	**3.43**	**275**	*e*P	Pn	19 10 03.5	+1.6
PVCP	**Virac**	**3.71**	**330**	*e*P	Pn	19 10 07.7	+2.0

MAN 20 19:14:41, 13°52N×120°73E, h34km, mb4.3, ML3.1, MS2.9, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.22**	**94**	⇑*i*P	Pb	19 14 49.6	+1.6
PGP				*i* S	Sb	19 14 54.5	+1.9
LUBP	**Lubang**	**0.52**	**295**	*e*P	Pn	19 14 53.8	+1.8
LUBP				*e*S	Sb	19 14 59.2	-0.3
SJMP	**San Jose**	**1.11**	**160**	*e*P	Pb	19 15 02.3	+0.4
BUSP	**Coron**	**1.59**	**199**	*e*P	Pn	19 15 08.3	+1.5
BUSP				*e*S	Sn	19 15 26.3	+0.2
CUYO	**Cuyo Island**	**2.67**	**174**	*e*P	Pn	19 15 22.6	+1.0

*ISCJB **20** 19:30:00.8±0.7, 10°37N±0°04×126°07E±0°07, h77km±7km, mb3.7/13, Error ellipse: s-maj=11.2km s-min=5.9km az=170.0*
*MAN **20** 19:30:00, 10°39N×126°10E, h35km, mb5.0, ML4.0, MS4.1*
*IDC **20** 19:30:03.7±6.0, 10°37N×126°15E, h92km±57km, mb3.5/11, mb1 3.6/11, mb1mx3.5/27, mbtmp3.8/11, MS3.2/1, Ms1 3.2/1, ms1mx2.4/28, Error ellipse: s-maj=25.9km s-min=15.2km az=75.0*
ISC 20 19:30:01.5±1.2, 10°38N±0°04×126°09E±0°08, h67km±11km, n31, σ1°15/36, mb3.8/13, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**1.23**	**259**	*e*P	**Pn**	**19 30 21.5**	**-1.3**
MSLP				*e*S	**Sn**	**19 30 37.5**	**-1.3**
BESP	**Borongan**	**1.37**	**332**	*e*P	**Pn**	**19 30 23.7**	**-0.9**
BESP				*e*S	**Sn**	**19 30 43.4**	**+1.4**
BUTP	**Butuan**	**1.47**	**198**	*e*P	**Pn**	**19 30 24.9**	**-1.1**
BUTP				*e*S	**Sn**	**19 30 45.4**	**+0.9**
OCLP	**Ormoc**	**1.60**	**295**	*e*P	**Pn**	**19 30 27.7**	**0.0**
OCLP				*e*S	**Sn**	**19 30 49.4**	**+1.9**
TBP	**Tagbilaran**	**2.29**	**253**	*e*P	**Pn**	**19 30 36.3**	**-0.7**
TBP				*e*S	**Sn**	**19 31 03.6**	**-0.7**
CNP	**Catarman**	**2.54**	**327**	*e*P	**Pn**	**19 30 39.8**	**-0.5**
BUKP	**Musuan**	**2.68**	**202**	*e*P	**Pn**	**19 30 43.3**	**+0.9**
MATI	**Mati**	**3.41**	**177**	*e*P	**Pn**	**19 30 53.4**	**+1.0**
GUIM	**Jordan**	**3.45**	**274**	*e*P	**Pn**	**19 30 53.1**	**+0.4**
PAGZ	**Pagadian**	**3.67**	**227**	*e*P	**Pn**	**19 30 57.5**	**+1.7**
PVCP	**Virac**	**3.71**	**330**	⇑*i*P	**Pn**	**19 30 57.0**	**+0.6**
PVCP				*i* S	**Sn**	**19 31 40.8**	**+1.8**
OTRP	**Odiongan**	**4.45**	**297**	*e*P	**Pn**	**19 31 07.5**	**+1.1**
CUYO	**Cuyo Island**	**5.00**	**276**	*e*P	**Pn**	**19 31 14.7**	**+0.6**
SJMP	**San Jose**	**5.29**	**294**	*e*P	**Pn**	**19 31 19.8**	**+1.8**
BUSP	**Coron**	**6.00**	**286**	*e*P	**Pn**	**19 31 28.7**	**+1.0**
ENPP	**El Nido**	**6.59**	**278**	*e*P	**Pn**	**19 31 36.8**	**+0.9**
GUMO	**Guam**	**18.65**	**78**	LR	LR	19 39 42.8	
	comp=Z,70nm,21.1s,baz=240,slow=31						
JCJ	**Chichijima**	**22.52**	**40**	P	**P**	**19 34 55.8**	**0.0**
	38nm,0.7s,baz=246,slow=13,SNR=5.1						
KSRS	**Korea Array**	**27.01**	**3**	P	**P**	**19 35 37.3**	**+0.1**
	0.5nm,0.5s,baz=183,slow=10,SNR=2.6						
CMAR	**Chiang Mai Arr**	**27.46**	**290**	P	**P**	**19 35 42.4**	**+0.9**
	2.3nm,0.8s,baz=106,slow=6.8,SNR=20						
WRA	**Warramunga Arr**	**31.21**	**165**	P	**P**	**19 36 13.9**	**-0.7**
	0.6nm,0.8s,baz=344,slow=8.8,SNR=7.9						
ASAR	**Alice Springs**	**34.69**	**167**	P	**P**	**19 36 45.0**	**0.0**
	0.4nm,0.3s,baz=350,slow=7.4,SNR=26						
SONM	**Songino Array**	**40.86**	**340**	P	**P**	**19 37 35.4**	**-1.5**
	0.3nm,0.4s,baz=151,slow=7.7,SNR=2.7						
STKA	**Stephens Creek**	**44.56**	**161**	P	**P**	**19 38 08.9**	**+2.0**
	0.7nm,0.5s,baz=350,slow=8.7,SNR=4.3						
MKAR	**Makanchi Array**	**51.83**	**323**	P	**P**	**19 39 03.3**	**+0.5**
	1.7nm,0.7s,baz=145,slow=4.4,SNR=14						
ZALV	**Zalesovo Beam**	**54.45**	**331**	P	**P**	**19 39 21.3**	**-0.5**
	0.7nm,0.3s,baz=115,slow=6.2,SNR=5.1						
ILAR	**Eielson Array**	**79.42**	**26**	P	**P**	**19 41 59.7**	**-0.5**
	0.3nm,0.7s,baz=244,slow=5.3,SNR=4.2						
ARCES	**ARCESS Array B**	**84.03**	**340**	P	**P**	**19 42 25.2**	**+0.9**
	1.0nm,0.8s,baz=69,slow=6.6,SNR=5.9						
FINES	**FINESS Array B**	**85.71**	**332**	P	**P**	**19 42 33.0**	**+0.1**
	0.4nm,0.4s,baz=79,slow=7.5,SNR=7.8						
AKASG	**Malin Array Be**	**86.37**	**321**	P	**P**	**19 42 34.8**	**-1.6**
	0.2nm,0.3s,baz=63,slow=5.0,SNR=2.8						
TORD	**Torodi Ar. Bea**	**120.06**	**292**	PKP	**PKPdf**	**19 48 43.9**	**-1.7**
	0.2nm,0.4s,baz=54,slow=1.8,SNR=7.2						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.20**	**240**	P	P	20 28 47.6	-0.3
	0.8nm,0.8s,baz=107,slow=14,SNR=2.3						
WRA	**Warramunga Arr**	**50.13**	**257**	P	P	20 29 34.0	-0.4
	0.2nm,0.7s,baz=93,slow=7.1,SNR=5.8						
ASAR	**Alice Springs**	**50.37**	**252**	P	P	20 29 36.5	+0.3
	0.6nm,0.4s,baz=88,slow=8.2,SNR=20						

IDC 20 20:29:26.3±2.7, 13°38S×166°45E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/18, mbtmp3.6/3, Error ellipse: s-maj=132.0km s-min=33.4km az=134.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.30**	**227**	P	P	20 35 30.8	+0.1
	0.6nm,0.6s,baz=70,slow=8.2,SNR=4.2						
WRA	**Warramunga Arr**	**31.41**	**254**	P	P	20 35 49.4	-0.1
	0.2nm,0.5s,baz=86,slow=9.3,SNR=6.0						
ILAR	**Eielson Array**	**85.49**	**18**	P	P	20 42 05.7	0.0
	0.2nm,0.4s,baz=226,slow=5.4,SNR=6.9						

*ISCJB **20** 20:36:04.3±0.3, 1°.96S±0°.04×126°.73E±0°.03, h25km, mb3.9/13, Error ellipse: s-maj=6.0km s-min=3.9km az=32.5*
*NEIC **20** 20:36:05.9±2.2, 1°.99S×126°.82E, h28km±16km, mb4.1/5, Error ellipse: s-maj=10.6km s-min=5.8km az=68.0*
*IDC **20** 20:36:08.4±2.4, 2°.07S×126°.79E, h53km±22km, mb3.6/9, mb1 3.7/12, mb1mx3.6/24, mbtmp3.9/12, ML3.9/3, Error ellipse: s-maj=18.4km s-min=11.4km az=67.0*
*DJA **20** 20:36:08.1±0.3, 2°.S±4°×12°.7E±°, h50km±8km, M4.2/7, mb4.6/5, mB4.8/3, MLv3.9/7, Mw(mB)4.1/3*
ISC 20 20:36:05.6±0.5, 2°.04S±0°.05×126°.76E±0°.05, h25km, n41, σ1§42/47, mb4.0/13, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**0.78**	**269**	P	**Pb**	**20 36 19.6**	**-0.9**
SANI				S	**Sn**	**20 36 34.2**	**+2.4**
NLAI	**Namlea**	**1.24**	**164**	P	**Pb**	**20 36 28.3**	**-0.1**
NLAI				S	**Sb**	**20 36 46.0**	**+2.0**
MSAI	**Masohi**	**2.52**	**121**	P	**Pn**	**20 36 48.1**	**+3.0**
MSAI				S	**Sb**	**20 37 19.3**	**-1.6**
TNTI	**Ternate**	**2.85**	**12**	P	**Pn**	**20 36 52.1**	**+2.5**
TNTI	**Ternate**	**2.85**	**12**	*eP*	**Pn**	**20 36 48.7**	**-0.9**
KMSI	**Cibinong**	**3.80**	**313**	P	Pb	20 37 16.9	+4.8
LUWI	**Luwuk**	**4.11**	**284**	P	**Pn**	**20 37 07.6**	**+0.7**
LUWI	**Luwuk**	**4.11**	**284**	*eP*	**Pn**	**20 37 07.1**	**+0.3**
SIJI	**Sorong**	**4.65**	**76**	P	**Pn**	**20 37 15.1**	**+0.8**
	3.0nm,0.3s,baz=152,slow=22,SNR=8.7						
SIJI				S	**Sn**	**20 38 09.2**	**+1.7**
	2.2nm,0.3s,baz=243,slow=23,SNR=6.1						
APSI	**Ampana**	**5.23**	**282**	P	**Pn**	**20 37 23.1**	**+0.8**
	80nm,0.5s,1μm						
APSI				S	**Sn**	**20 38 20.5**	**-1.4**
	80nm,0.5s,1μm						
MRSI	**Marisa**	**5.43**	**297**	P	**Pn**	**20 37 25.3**	**+0.3**
	34nm,0.5s,558nm						
MRSI				S	**Sn**	**20 38 25.8**	**-1.0**
	34nm,0.5s,558nm						
FAKI	**Fak Fak**	**5.55**	**99**	P	**Pn**	**20 37 28.0**	**+1.3**
PCI	**Palu**	**7.01**	**279**	P	**Pn**	**20 37 47.6**	**+0.8**
	46nm,0.9s,0.2nm						
SPSI	**Sidrap Palu**	**7.24**	**254**	P	Pn	20 37 53.4	+3.4
MPSI	**Mapaga**	**7.26**	**289**	P	**Pn**	**20 37 51.1**	**+0.9**
KAPI	**Kappang**	**7.60**	**247**	P	**Pn**	**20 37 55.8**	**+1.0**
	1.1nm,0.3s,baz=240,slow=18,SNR=2.9						
WRAB	**Tennant Creek**	**19.27**	**158**	*eP*	**P**	**20 40 28.6**	**0.0**
	2.5nm,0.4s						
WRA	**Warramunga Arr**	**19.28**	**158**	P	**P**	**20 40 28.8**	**+0.2**
	0.5nm,0.3s,baz=336,slow=12,SNR=35						
WRA				S	**Sn**	**20 44 00.4**	**-5.0**
	0.0nm,0.3s,baz=348,slow=21,SNR=3.0						
AS31	**Alice Springs**	**22.59**	**163**	*eP*	**P**	**20 41 04.5**	**0.0**
ASAR	**Alice Springs**	**22.59**	**163**	P	**P**	**20 41 04.3**	**-0.1**
	1.6nm,0.6s,baz=343,slow=12,SNR=23						
ASAR				S	**S**	**20 45 08.2**	**-2.6**
	0.5nm,1.0s,baz=349,slow=23,SNR=3.4						
STKA	**Stephens Creek**	**32.81**	**156**	P	**P**	**20 42 37.9**	**+0.7**
	0.7nm,0.7s,baz=333,slow=14,SNR=2.7						
KSAR	**Wonju Array Be**	**39.29**	**1**	P	**P**	**20 43 32.3**	**-0.2**
KSRS	**Korea Array**	**39.30**	**1**	P	**P**	**20 43 32.3**	**-0.3**
	1.1nm,0.9s,baz=179,slow=7.1,SNR=5.1						
USRK	**Ussuriysk Ar.**	**46.27**	**5**	P	**P**	**20 44 28.5**	**-0.5**
	1.0nm,0.4s,baz=199,slow=7.3,SNR=5.2						
LSA	**Lhasa**	**46.41**	**316**	*eP*	**P**	**20 44 32.4**	**+1.4**
	1.8nm,0.4s						
ODAN	**Odare**	**47.60**	**310**	*eP*	**P**	**20 44 41.4**	**+1.4**
RAMN	**Ramite**	**48.25**	**309**	*eP*	**P**	**20 44 46.6**	**+1.5**
	14nm,0.5s						
GUN	**Gumba**	**49.29**	**310**	*eP*	**P**	**20 44 54.1**	**+0.9**
	17nm,0.7s						
DMN	**Daman**	**49.73**	**309**	*eP*	**P**	**20 44 57.8**	**+1.3**
GKN	**Gorkha**	**50.29**	**310**	*eP*	**P**	**20 45 01.2**	**+0.6**
KOLN	**Koldanda**	**50.98**	**309**	*eP*	**P**	**20 45 06.8**	**+1.0**
	17nm,0.6s						
ULN	**Ulaanbaatar**	**52.60**	**343**	*eP*	**P**	**20 45 16.8**	**-0.6**
	1.0nm,0.8s						
SONM	**Songino Array**	**52.76**	**343**	P	**P**	**20 45 18.7**	**0.0**
	1.1nm,0.8s,baz=162,slow=9.0,SNR=4.8						
MK31	**Makanchi Array**	**62.33**	**327**	*eP*	**P**	**20 46 25.9**	**-0.1**
MKAR	**Makanchi Array**	**62.33**	**327**	P	**P**	**20 46 26.0**	**0.0**
	1.4nm,0.7s,baz=119,slow=6.3,SNR=22						
ZALV	**Zalesovo Beam**	**65.74**	**334**	P	**P**	**20 46 46.6**	**-1.5**
	0.5nm,0.5s,baz=108,slow=4.7,SNR=3.2						
KURK	**Kurchatov**	**66.63**	**329**	*eP*	**P**	**20 46 53.6**	**-0.4**
	5.2nm,1.0s						
BVAR	**Borovoye Array**	**72.17**	**328**	P	**P**	**20 47 28.0**	**-0.3**
	0.5nm,0.7s,baz=156,slow=11,SNR=4.6						
BRVK	**Borovoye**	**72.24**	**328**	P	**P**	**20 47 27.8**	**-0.9**
	1.5nm,0.8s						
AKTO	**Aktyubinsk**	**78.20**	**322**	P	**P**	**20 48 02.1**	**-0.9**
	1.6nm,0.7s,baz=107,slow=4.9,SNR=6.0						
TORD	**Torodi Ar. Bea**	**124.56**	**284**	PKP	**PKPdf**	**20 55 03.7**	**-0.2**
	0.3nm,0.7s,baz=33,slow=0.8,SNR=2.3						

NNC 20 20:36:37.5±2.8, 36°.97N×71°.08E, h0km, mb3.7, mpv3.3, 8C-1D, Error ellipse: s-maj=22.3km s-min=9.2km az=173.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.56**	**317**	⇑Pn	Pn	20 37 19.9	-0.5
	5.8nm,0.4s						
DZET				⇑Sn	Sn	20 37 53.9	+1.5
	36nm,0.4s						
SFK	**Sufi-Kurgan**	**3.59**	**31**	⇓Pn	Pn	20 37 35.2	+0.5
	1.8nm,0.2s						
SFK				⇑Sn	Sn	20 38 20.3	+2.3
	13nm,0.2s						
MNAS	**Manas**	**5.62**	**11**	⇑Pn	Pn	20 38 01.3	-1.2
	1.8nm,0.5s						
MNAS				⇑Sn	Sn	20 39 07.2	-0.8
	5.8nm,0.8s						
KK31	**Karatay Array**	**6.15**	**356**	Pn	Pn	20 38 08.5	-1.0
	1.5nm,0.3s,baz=181,slow=13,SNR=29						
KK31				⇑Sn	Sn	20 39 20.7	+0.1
	3.2nm,0.7s,baz=188,slow=22,SNR=8.6						
AAK	**Ala-Archa**	**6.24**	**24**	⇑Pn	Pn	20 38 11.0	0.0
	1.4nm,0.5s						
AAK				⇑Sn	Sn	20 39 23.4	+0.1
	4.6nm,0.7s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**75.45**	**329**	P	P	21 06 39.1	-0.5
	0.3nm,0.4s,baz=115,slow=5.8,SNR=2.6						

*NEIC **20** 21:11:03.3, 20°.35N×98°.90W, h5km, MD3.9(MEX), After MEX.*
NEIC Felt at Actopan.
MEX 20 21:11:03.3±0.8, 20°.35N×98°.90W, h5km, MD3.9, Veracruz

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEIG	**Demacu**	**0.14**	**249**	*i* P	Pg	21 11 05.4	-1.0
DEIG				*eS*	Sg	21 11 07.8	-0.7
DEIG	**Demacu**	**0.14**	**249**	*i* P	Pg	21 11 05.4	-1.0
DEIG				*eS*	Sg	21 11 07.8	-0.7
ZUVM	**ZUMPANGO**	**0.55**	**198**	*i* P	Pg	21 11 13.1	-1.2
ZUVM				*eS*	Sg	21 11 21.2	-0.4
VTVM	**Tizayuca**	**0.59**	**168**	*i* P	Pg	21 11 13.8	-1.3
VTVM				*eS*	Sg	21 11 22.0	-1.0
IIO	**Organos**	**0.77**	**167**	*i* P	Pg	21 11 16.9	-1.8
IIO				*eS*	Sg	21 11 27.8	-1.2
IIO	**Organos**	**0.77**	**167**	*i* P	Pg	21 11 16.9	-1.8
IIO				*eS*	Sg	21 11 27.8	-1.2
PTVM	**Pico Tres Padr**	**0.78**	**195**	*i* P	Pg	21 11 17.0	-1.7
PTVM				*eS*	Sg	21 11 28.1	-1.0
PTVM	**Pico Tres Padr**	**0.78**	**195**	*i* P	Pg	21 11 17.0	-1.7
PTVM				*eS*	Sg	21 11 28.1	-1.0
AZVM	**Cuida Lopez Ma**	**0.84**	**205**	*i* P	Pg	21 11 18.8	-1.1
AZVM				*eS*	Sg	21 11 30.2	-0.9
PBIG	**Penon de los B**	**0.92**	**191**	*i* P	Pn	21 11 27.9	+5.0
PBIG				*eS*	Sn	21 11 38.0	+1.5
ATVM	**ATLACOMULCO**	**1.06**	**237**	*i* P	Pg	21 11 23.4	-0.7
ATVM				*eS*	Sg	21 11 36.0	-2.2
SZVM	**Salazar**	**1.12**	**204**	*i* P	Pg	21 11 23.9	-1.5
SZVM				*eS*	Sg	21 11 37.9	-2.4
SZVM	**Salazar**	**1.12**	**204**	*i* P	Pg	21 11 23.9	-1.5
SZVM				*eS*	Sg	21 11 37.9	-2.4
MZVM		**1.20**	**195**	*i* P	Pg	21 11 24.5	-1.7
MZVM				*eS*	Sg	21 11 38.5	-3.2
AMVM	**AMECAMECA**	**1.22**	**175**	*i* P	Pg	21 11 24.7	-2.4
AMVM				*eS*	Sg	21 11 41.5	-1.6
TOVM	**TOLUCA**	**1.29**	**215**	*i* P	Pn	21 11 27.4	-1.0
TOVM				*eS*	Sg	21 11 42.1	-3.5
YAIG	**Yautepec**	**1.49**	**186**	*i* P	Pn	21 11 30.6	-0.4
YAIG				*eS*	Sn	21 11 49.3	-1.6
YAIG	**Yautepec**	**1.49**	**186**	*i* P	Pn	21 11 30.6	-0.4
YAIG				*eS*	Sn	21 11 49.3	-1.6
MAVM	**Malinalco, Edo**	**1.49**	**202**	*i* P	Pg	21 11 32.1	-0.2
MAVM				*eS*	Sn	21 11 49.2	-2.0
IGIG	**Irapuato, Guan**	**2.31**	**280**	*eP*	Pn	21 11 39.2	-3.1
IGIG				*eS*	Sn	21 12 08.1	-3.3
ARIG	**Puente Sto Nin**	**2.47**	**214**	*eP*	Pn	21 11 44.1	-0.2
ARIG				*eS*	Sn	21 12 11.7	-3.3

IDC 20 21:16:56.2±1.9, 1°.13N×124°.13E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/23, mbtmp3.1/3, Error ellipse: s-maj=205.0km s-min=26.8km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.21**	**155**	P	P	21 22 04.1	-0.9
	0.2nm,0.4s,baz=333,slow=10,SNR=11						
ASAR	**Alice Springs**	**26.41**	**160**	P	P	21 22 35.7	+0.9
	0.1nm,0.4s,baz=334,slow=8.2,SNR=1.2						
MKAR	**Makanchi Array**	**58.26**	**327**	P	P	21 26 52.6	0.0
	0.2nm,0.4s,baz=124,slow=8.2,SNR=4.4						

CASC 20 21:18:55.2±2.4, 13°.81N×91°.55W, h17km±14km, MD3.6, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.51**	**350**	⇓*i*P	Pb	21 19 06.0	+0.2
FUG	**Fuego 3**	**0.93**	**47**	*eP*	Pb	21 19 12.3	-0.8
PCG	**Pacaya**	**1.08**	**57**	*eP*	Pb	21 19 15.2	-0.6
PCG				*eS*	Sn	21 19 30.7	0.0
IXG	**Ixpaco**	**1.12**	**71**	*eP*	Pn	21 19 14.7	-1.6
NBG	**Las Nubes**	**1.40**	**56**	*eP*	Pn	21 19 20.2	-0.1
NBG				*eS*	Sg	21 19 40.0	-0.9
RBDL	**Robledal**	**1.83**	**80**	*eP*	Pn	21 19 25.7	-0.3
RTR	**El Retiro**	**1.85**	**87**	*eP*	Pn	21 19 26.7	+0.4
SBLS	**San Blas**	**1.87**	**89**	*eP*	Pn	21 19 26.5	-0.2
SBLS				*eS*	Sn	21 19 51.0	+0.9
SNJE	**San Jose**	**1.89**	**88**	*eP*	Pn	21 19 26.9	+0.1
MRL	**Marmol**	**2.19**	**55**	*eP*	Pb	21 19 33.6	-0.9
BOQS	**Boqueron**	**2.20**	**92**	*eP*	Pn	21 19 31.9	+0.6
LFRS	**El Faro**	**2.42**	**94**	*eP*	Pn	21 19 34.7	+0.6
LFRS				*eS*	Sn	21 20 04.3	+0.9

*ISCJB **20** 21:44:58.9±0.6, 21°.96S±0°.06×66°.95W±0°.08, h180km, mb3.8/4, Error ellipse: s-maj=10.7km s-min=7.1km az=33.7*
*IDC **20** 21:44:59.5±0.9, 21°.91S×66°.99W, h171km±15km, mb3.6/4, mb1 3.5/8, mb1mx3.3/20, mbtmp4.0/8, MS3.2/1, Ms1 3.2/1, ms1mx2.8/16, Error ellipse: s-maj=24.6km s-min=10.8km az=115.0*
ISC 20 21:44:59.5±0.8, 21°.99S±0°.07×66°.95W±0°.09, h180km, n10, σ1§89/14, mb3.8/4, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.92**	**251**	P	**Pn**	**21 45 36.3**	**+0.4**
	1μm,0.3s,baz=49,slow=6.8,SNR=100						
LVC				S	**Sn**	**21 46 02.9**	**-1.3**
	2μm,0.3s,baz=97,slow=12,SNR=64						
LPAZ	**La Paz**	**5.78**	**349**	P	**Pn**	**21 46 25.0**	**+0.7**
	1.4nm,0.3s,baz=177,slow=4.6,SNR=18						
LPAZ				S	**Sn**	**21 47 28.4**	**-2.5**
	0.4nm,0.3s,baz=68,slow=24,SNR=10						
SIV	**San Ignacio**	**8.16**	**44**	P	**Pn**	**21 46 54.9**	**0.0**
	23nm,0.3s,baz=254,slow=9.7,SNR=144						
SIV				S	**Sn**	**21 48 24.6**	**-1.8**
	1.5nm,0.3s,baz=156,slow=20,SNR=3.8						
CFAA	**Coronel Fontan**	**9.64**	**187**	P	**Pn**	**21 47 14.7**	**+0.4**
	0.1nm,0.3s,baz=350,slow=9.8,SNR=3.6						
CFAA				S	**Sn**	**21 48 57.4**	**-4.4**
	0.2nm,0.3s,baz=236,slow=19,SNR=7.3						
BDFB	**Brasilia**	**19.00**	**74**	P	**Pn**	**21 49 09.9**	**-0.6**
	0.6nm,0.3s,baz=229,slow=12,SNR=3.5						
PTGA	**Pitinga**	**22.20**	**19**	P	**P**	**21 49 40.5**	**-0.9**
	0.9nm,0.4s,baz=180,slow=19,SNR=4.1						
PTGA				LR	LR	21 59 53.0	
	comp=Z,65nm,20.2s,baz=252,slow=40						
SNAA	**Sanae**	**61.22**	**161**	P	**P**	**21 54 57.1**	**+2.1**
	0.3nm,0.6s,baz=270,slow=11,SNR=5.7						
DBIC	**Dimbokro**	**67.14**	**72**	P	**P**	**21 55 35.0**	**+0.8**
	2.5nm,0.9s,baz=233,slow=5.1,SNR=2.5						
TORD	**Torodi Ar. Bea**	**75.81**	**69**	P	**P**	**21 56 27.1**	**+0.9**
	3.7nm,0.4s,baz=255,slow=5.7,SNR=101						
MKAR	**Makanchi Array**	**144.94**	**38**	PKP	**PKPdf**	**22 04 16.0**	**+0.9**
	0.8nm,0.7s,baz=326,slow=2.9,SNR=7.4						

DJA 20 22:01:56.7±0.9, 2°.S±9°×12°.7E±°, h39km±7km, M3.5/4, mb4.1/1, mB4.4/1, MLv3.2/4, Mw(mB)3.5/1, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**0.64**	**269**	P	Pn	22 02 09.0	-0.4
SANI				S	Sn	22 02 20.9	+2.5
NLAI	**Namlea**	**1.28**	**159**	P	Pn	22 02 17.6	-0.5
NLAI				S	Sn	22 02 34.9	+0.9
APSI	**Ampana**	**5.10**	**283**	P	Pn	22 03 12.8	+2.1
APSI				S	Sn	22 04 10.1	+1.7

*BJI **20** 22:02:55.7, 25°.71N×128°.82E, h9km, mb4.7/55, mB4.6/37, Ms4.2/52, Ms7 4.0/47*
*IDC **20** 22:02:58.5±0.5, 25°.89N×128°.54E, h0km, mb4.4/22, mb1 4.5/26, mb1mx4.5/31, mbtmp4.4/26, ML3.6/4, MS3.2/6, Ms1 3.2/6, ms1mx3.0/28, Error ellipse: s-maj=19.0km s-min=11.5km az=77.0*
*ISCJB **20** 22:02:58.5±0.7, 25°.85N±0°.02×128°.63E±0°.02, h11km±4km, mb4.6/65, MS3.8/8, Error ellipse: s-maj=4.1km s-min=3.0km az=43.3*
*NEIC **20** 22:02:59.3±1.3, 25°.85N×128°.50E, h7km±7km, mb4.8/28, MW4.2(NIED), Error ellipse: s-maj=6.3km s-min=4.0km az=130.0*
NEIC Felt at Chatan and Okinawa.
*NIED **20** 22:03:00, 25°.90N×128°.70E, h5km, Mw4.3 Best double couple: M0 2.66000×10^15 NP1:φs193.00000°, δ47.00000°, λ-144.00000°. NP2:φs77.00000°, δ65.00000°, λ-49.00000°.*
*JMA **20** 22:03:01.1±0.2, 25°.88N×128°.69E, h45km, M4.3*
*MOS **20** 22:03:02.0±1.1, 25°.87N×128°.52E, h33km, mb4.9/46, Error ellipse: s-maj=8.7km s-min=5.3km az=110.4*
ISC 20 22:03:00.8±0.5, 25°.87N±0°.03×128°.64E±0°.03, h16km±2km, h16km:pP-P, n253, σ1§51/306, mb4.7/67, MS3.8/8, 27C-18D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**0.85**	**289**	P	**Pn**	**22 03 17.5**	**-0.5**
JJT2				S	**Sn**	**22 03 29.2**	**-0.9**
JNTH	**Nagotoyohara**	**0.86**	**319**	P	**Pb**	**22 03 16.8**	**-0.4**
JNTH				*eS*	**Sn**	**22 03 28.8**	**-1.5**
JOW	**Kunigami**	**1.02**	**341**	P	**Pb**	**22 03 19.5**	**-0.5**
JOW				S	**Sb**	**22 03 31.7**	**-1.4**
JOW	**Kunigami**	**1.02**	**341**	Pn	**Pb**	**22 03 19.6**	**-0.5**
	47nm,0.3s,baz=128,slow=23,SNR=1734						
JOW				Sn	**Sb**	**22 03 30.9**	**-2.2**
	103nm,0.3s,baz=349,slow=19,SNR=26						
JOW	**Kunigami**	**1.02**	**341**	*ePg*	**Pb**	**22 03 19.2**	**-0.8**
JOW				Sn	**Sb**	**22 03 30.9**	**-2.2**
JIH	**Iheya**	**1.31**	**333**	P	**Pn**	**22 03 24.0**	**-0.4**
JIH				S	**Sb**	**22 03 40.2**	**-1.4**
JAGN	**Aguni-jima**	**1.45**	**300**	P	**Pn**	**22 03 25.9**	**-0.4**
JOKE	**Okinoerabujima**	**1.49**	**357**	P	**Pn**	**22 03 26.3**	**-0.6**
JOKE				S	**Sn**	**22 03 43.7**	**-2.3**
JKE	**Kume jima 2**	**1.73**	**286**	P	**Pn**	**22 03 29.4**	**-0.8**
JKE				S	**Sn**	**22 03 49.9**	**-2.0**
JTK	**Tokunoshima**	**1.93**	**8**	P	**Pn**	**22 03 32.3**	**-0.6**
JMZ	**Minamidaito 2**	**2.32**	**91**	P	**Pn**	**22 03 36.3**	**-2.0**
JMZ				S	**Sn**	**22 04 02.4**	**-4.1**
JAMN	**Amaminishikomi**	**2.41**	**11**	P	**Pn**	**22 03 38.8**	**-0.7**
JAM	**Amami Oshima**	**2.67**	**18**	P	**Pn**	**22 03 42.1**	**-1.0**
JAM				S	**Sn**	**22 04 14.3**	**-0.9**
JZK	**Kikaishima**	**2.71**	**26**	P	**Pn**	**22 03 42.7**	**-0.9**
JZK				S	**Sn**	**22 04 14.8**	**-1.3**
JOGS	**Gusukube**	**3.13**	**250**	P	**Pn**	**22 03 49.3**	**-0.1**
JOGS				S	**Sn**	**22 04 25.7**	**-0.8**
JMJ	**Miyako jima 2**	**3.21**	**252**	P	**Pn**	**22 03 49.8**	**-0.7**
JMJ				*eS*	**Sn**	**22 04 27.9**	**-0.5**
JIKM	**Ikemajima**	**3.21**	**254**	P	**Pn**	**22 03 49.8**	**-0.7**
JIKM				S	**Sn**	**22 04 27.3**	**-1.2**
JIRB	**Irabujima**	**3.31**	**253**	P	**Pn**	**22 03 50.4**	**-1.4**
JIRB				S	**Sn**	**22 04 31.5**	**+0.7**
JTAJ	**Takarajima**	**3.31**	**8**	P	**Pn**	**22 03 50.9**	**-1.0**
JTAJ				S	**Sn**	**22 04 29.1**	**-1.8**
JTJ	**Tarama**	**3.77**	**252**	P	**Pn**	**22 03 56.3**	**-1.9**
JISG	**Ishigakijimahi**	**4.13**	**253**	P	**Pn**	**22 04 01.3**	**-1.8**
JISG				S	**Sn**	**22 04 49.2**	**-1.8**
JIJ	**Ishigaki jima**	**4.35**	**251**	P	**Pn**	**22 04 04.2**	**-1.9**
YOJ	**Yonaguni jima**	**5.29**	**256**	P	**Pn**	**22 04 17.3**	**-1.8**
YOJ	**Yonaguni jima**	**5.29**	**256**	*eP*	**Pn**	**22 04 17.1**	**-2.0**
YOJ	**Yonaguni jima**	**5.29**	**256**	*ePn*	**Pn**	**22 04 17.1**	**-2.0**
JYNG	**Yonagunijimaku**	**5.35**	**256**	P	**Pn**	**22 04 18.0**	**-2.0**
TATO	**Taipei**	**6.53**	**264**	*ePn*	**Pn**	**22 04 36.4**	**+0.2**
NACB	**Ninganchiao**	**6.61**	**257**	*ePn*	**Pn**	**22 04 34.4**	**-2.9**
YHNB	**Yeheng**	**6.69**	**261**	*ePn*	**Pn**	**22 04 37.9**	**-0.5**
YULB	**Yu-li**	**7.12**	**251**	*ePn*	Pn	22 04 39.9	-4.5
SSLB	**Suanglung**	**7.29**	**255**	*ePn*	**Pn**	**22 04 43.5**	**-3.1**
JNU	**Nakatsue**	**7.49**	**15**	Pn	**Pn**	**22 04 50.1**	**+0.8**
	3.2nm,0.3s,baz=181,slow=4.4,SNR=31						
JNU				Sn	**Sn**	**22 06 11.0**	**-2.9**
	baz=222,slow=12,SNR=1.5						
JNU				LR	LR	22 08 09.1	
	comp=Z,142nm,20.0s,baz=225,slow=42						
TWG	**Pinlang**	**7.54**	**248**	*ePn*	Pn	22 04 45.6	-4.4
TPUB	**Ta-pu**	**7.73**	**252**	*ePn*	**Pn**	**22 04 50.4**	**-2.2**
NJ2	**Nanjing**	**10.55**	**308**	*eP*	**Pn**	**22 05 31.3**	**0.0**
NJ2				S	**Sn**	**22 07 31.6**	**+2.4**
NJ2				PMZ			
	30nm,0.8s						
NJ2				LN			
	1μm,13.0s						
NJ2				LE			
	1μm,12.2s						
KSAR	**Wonju Array Be**	**11.56**	**357**	P	**Pn**	**22 05 46.0**	**+1.0**
KSAR	**Wonju Array Be**	**11.56**	**357**	Pn	**Pn**	**22 05 46.0**	**+1.0**
KSRS	**Korea Array**	**11.57**	**357**	Pn	**Pn**	**22 05 46.0**	**+0.8**
	0.2nm,0.3s,baz=174,slow=15,SNR=11						
KSRS				LR	LR	22 10 23.7	
	comp=Z,158nm,19.4s,baz=174,slow=39						
MAJO	**Matsushiro**	**13.41**	**35**	P	Pn	22 06 15.0	+4.5
MJAR	**Matsushiro Arr**	**13.41**	**35**	Pn	**Pn**	**22 06 09.8**	**-0.6**
	0.2nm,0.3s,baz=245,slow=14,SNR=3.8						
WHN	**Wuhan**	**13.44**	**294**	P	**Pn**	**22 06 12.3**	**+1.6**
WHN				*eS*	Sn	22 08 48.8	+9.1
WHN				LN			
	920nm,10.4s						
WHN				LE			
	420nm,5.7s						
WHN				LZ			
	1μm,11.6s						
BJT	**Baijiatuan**	**17.55**	**327**	*eP*	**Pn**	**22 07 04.7**	**+0.1**
BJT				pmax	pmax		
	comp=Z,22nm,0.7s						
BJT	**Baijiatuan**	**17.55**	**327**	*ePn*	**Pn**	**22 07 04.7**	**+0.1**
	comp=Z,22nm,0.7s						
BJI	**Beijing**	**17.56**	**327**	P	**P**	**22 07 05.8**	**0.0**
BJI				S	**Sn**	**22 10 21.3**	**+1.4**
BJI				PMZ			
	comp=Z,31nm,0.7s						
BJI				PMZ			
	comp=Z,80nm,3.5s						
BJI				LN			
	comp=Z,720nm,13.2s						
BJI				LE			
	comp=Z,360nm,14.3s						
BJI				LZ			
	comp=Z,160nm,14.3s						
CN2	**Changchun**	**18.08**	**353**	*eP*	**P**	**22 07 12.0**	**+0.5**
CN2				*es*P	**sP**	**22 07 19.0**	**+0.7**
CN2				*eS*	**Sn**	**22 10 30.8**	**-1.7**
CN2

GYA	**Guiyang**	**19.74**	**277**	P	**Pn**	**22 07 31.0**	**-0.5**			
GYA				S	S	22 11 04.5	-7.6			
GYA				PMZ						
	comp=Z,20nm,0.8s									
GYA				PMZ						
	comp=Z,110nm,4.7s									
GYA				LN						
	comp=Z,430nm,13.8s									
GYA				LE						
	comp=Z,390nm,15.2s									
GYA				LZ						
	comp=Z,450nm,14.6s									
ERM	**Erimo**	**20.06**	**33**	P	Pn	22 07 35.0	0.0			
ERM				pmax	pmax					
	comp=Z,102nm,1.9s									
HHC	**Hu-ho-hao-te**	**20.60**	**321**	*e*P	**P**	**22 07 40.1**	**+0.8**			
HHC				PP	**PnPn**	**22 08 00.8**	**+3.7**			
HHC				S	**S**	**22 11 23.1**	**-6.0**			
HHC				PMZ						
	comp=Z,25nm,0.7s									
HHC				PMZ						
	comp=Z,74nm,7.4s									
HHC				LN						
	comp=Z,600nm,13.0s									
HHC				LE						
	comp=Z,530nm,13.8s									
HHC				LZ						
	comp=Z,670nm,13.0s									
ASAJ	**Asahikawa**	**21.44**	**28**	P	**P**	**22 07 48.5**	**+0.3**			
	comp=Z,8.4nm,0.7s,baz=227,slow=5.1,SNR=7.5									
ASAJ				LR	LR	22 16 33.4				
	comp=Z,95nm,19.4s,baz=182,slow=38									
ASAJ	**Asahikawa**	**21.44**	**28**	P	**P**	**22 07 48.5**	**+0.3**			
ASAJ				pmax	pmax					
	comp=Z,8.0nm,0.7s									
ASAJ				MLR	MLR					
	comp=Z,95nm,19.4s									
CD2	**Chengdu**	**22.44**	**289**	P	**P**	**22 07 58.1**	**-1.0**			
CD2				sP	**sP**	**22 08 07.5**	**+1.6**			
CD2				PP	**PnPn**	**22 08 25.8**	**+3.6**			
CD2				S	**S**	**22 11 58.3**	**-6.7**			
CD2				sS	**sS**	**22 12 10.1**	**-2.8**			
CD2				SS	**SnSn**	**22 12 39.8**	**+6.2**			
CD2				PMZ						
	comp=Z,10.0nm,0.7s									
CD2				PMZ						
	comp=Z,110nm,5.9s									
CD2				LN						
	comp=Z,460nm,15.5s									
CD2				LE						
	comp=Z,510nm,13.1s									
CD2				LZ						
	comp=Z,460nm,11.9s									
HABR	**Khabarovsk**	**23.12**	**11**	*e*P	**P**	**22 08 05.1**	**-0.8**			
HABR				*e*SP		22 08 11.5				
HABR				*e*		22 08 30.8				
HABR						22 11 52.7				
HABR				*e*S	**S**	**22 12 17.5**	**+1.0**			
HABR				*e*SS	**SnSn**	**22 12 52.9**	**+3.1**			
HABR				*e*		22 19 16.0				
HABR				pmax	pmax					
	comp=Z,27nm,1.4s									
HABR				MLR	MLR					
	comp=Z,144nm,18.0s									
KMI	**Kunming**	**23.39**	**274**	P	**P**	**22 08 10.0**	**+0.9**			
KMI				pP	**pP**	**22 08 13.6**	**-0.3**			
KMI				S	**S**	**22 12 19.4**	**-2.4**			
KMI				PMZ						
	comp=Z,25nm,1.1s									
KMI				PMZ						
	comp=Z,91nm,5.0s									
KMI				LN						
	comp=Z,230nm,13.9s									
KMI				LE						
	comp=Z,200nm,12.4s									
KMI				LZ						
	comp=Z,220nm,13.9s									
KLR	**Kul'dur**	**23.45**	**5**	*e*P	**P**	**22 08 05.3**	**-3.9**			
KLR				pmax	pmax					
	comp=Z,50nm,1.6s									
LZH	**Lanzhou**	**23.52**	**302**	*e*P	**P**	**22 08 09.6**	**-0.7**			
LZH				pP	**pP**	**22 08 13.9**	**-1.2**			
LZH				sP	**sP**	**22 08 17.1**	**-0.1**			
LZH				PP	**PnPn**	**22 08 42.3**	**+5.3**			
LZH				*e*S	**S**	**22 12 18.3**	**-5.4**			
LZH				PMZ						
	comp=Z,30nm,1.1s									
LZH				PMZ						
	comp=Z,83nm,4.0s									
LZH				LN						
	comp=Z,1μm,13.5s									
LZH				LE						
	comp=Z,1μm,15.0s									
LZH				LZ						
	comp=Z,1μm,15.6s									
YSS	**Yuzh-Sakhalins**	**23.84**	**24**⇓	*i*P	**P**	**22 08 15.6**	**+2.6**			
YSS				*e*		22 08 24.0				
YSS				pmax	pmax					
	comp=Z,80nm,1.0s									
GTA	**Gaotai**	**27.64**	**306**	*e*P	**P**	**22 08 46.5**	**-1.4**			
GTA				S	**S**	**22 13 27.6**	**-1.6**			
GTA				SS	**SnSn**	**22 14 47.9**	**+7.1**			
GTA				PMZ						
	comp=Z,30nm,1.2s									
GTA				PMZ						
	comp=Z,75nm,4.3s									
GTA				LN						
	comp=Z,140nm,13.8s									
GTA				LE						
	comp=Z,140nm,15.2s									
GTA				LZ						
	comp=Z,200nm,12.8s									
ULN	**Ulaanbaatar**	**27.76**	**328**	*e*P	**P**	**22 08 49.4**	**+0.6**			
ULN				pmax	pmax					
	comp=Z,12nm,0.7s									
ULN	**Ulaanbaatar**	**27.76**	**328**	*e*P	**P**	**22 08 49.4**	**+0.6**			
	comp=Z,12nm,0.7s									
SONM	**Songino Array**	**28.06**	**327**	P	**P**	**22 08 50.4**	**-1.1**			
	comp=Z,7.7nm,0.4s,baz=143,slow=11,SNR=70									
SONM				LR	LR	22 19 50.0				
	comp=Z,48nm,20.8s,baz=147,slow=36									
SONM	**Songino Array**	**28.06**	**327**	P	**P**	**22 08 50.4**	**-1.1**			
SONM				pmax	pmax					
	comp=Z,8.0nm,0.4s									
SONM				MLR	MLR					
	comp=Z,48nm,20.8s									
SONA1	**Songino Array**	**28.06**	**327**	*e*P	**P**	**22 08 50.1**	**-1.4**			
CHTO	**Chiang Mai**	**28.31**	**262**	*e*P	**P**	**22 08 53.4**	**-0.4**			
CHTO				pmax	pmax					
	comp=Z,7.0nm,0.8s									
CHTO	**Chiang Mai**	**28.31**	**262**	*e*P	**P**	**22 08 53.4**	**-0.4**			
	comp=Z,7.1nm,0.8s									
CMAR	**Chiang Mai Arr**	**28.43**	**261**	P	**P**	**22 08 53.6**	**-1.3**			
	comp=Z,0.6nm,0.4s,baz=41,slow=5.9,SNR=4.9									
CMAR				PcP	**PcP**	**22 12 08.6**	**+1.5**			
	comp=Z,0.5nm,0.5s,baz=56,slow=2.3,SNR=5.2									
CMAR				LR	LR	22 21 03.9				
	comp=Z,38nm,18.4s,baz=75,slow=38									
CMAR	**Chiang Mai Arr**	**28.43**	**261**	P	**P**	**22 08 53.6**	**-1.3**			
CMAR						22 12 08.6				
CMAR				pmax	pmax					
	comp=Z,1.0nm,0.4s									
CMAR				pmax	pmax					
	comp=Z,1.0nm,0.5s									
CMAR				MLR	MLR					
	comp=Z,38nm,18.4s									
KSM	**Kuching**	**30.00**	**219**	*e*P	**P**	**22 09 09.2**	**+0.4**			
	comp=Z,12nm,0.8s									
TLY	**Talaya**	**32.01**	**330**	P	**P**	**22 09 25.0**	**-1.2**			
	comp=Z,1.4nm,0.6s,baz=292,slow=16,SNR=2.2									
LSA	**Lhasa**	**33.30**	**285**	*e*P	**P**	**22 09 37.3**	**-1.0**			
LSA				pmax	pmax					
	comp=Z,3.0nm,0.9s									
LSA	**Lhasa**	**33.30**	**285**	*e*P	**P**	**22 09 37.3**	**-1.0**			
	comp=Z,3.2nm,0.9s									
PET	**Petropavlovsk**	**35.21**	**32**	*e*P	**P**	**22 09 54.8**	**+0.8**			
PET				pmax	pmax					
	comp=Z,14nm,1.0s									
YAK	**Yakutsk**	**36.16**	**1**	*e*P	**P**	**22 10 01.5**	**-0.5**			
YAK				pmax	pmax					
	comp=Z,43nm,0.6s									
YAK				pmax	pmax					
	comp=N,21nm,1.0s									
TAPN	**Taplejung**	**36.52**	**282**	*e*P	**P**	**22 10 06.3**	**+0.4**			
	comp=N,24nm,0.9s									
ODAN	**Odare**	**36.86**	**281**	*e*P	**P**	**22 10 09.3**	**+0.5**			
	comp=N,53nm,0.6s									
MNSI	**Mandailing Nat**	**37.49**	**233**	P	P	22 10 25.4	+11			
RAMN	**Ramite**	**37.55**	**281**	*e*P	**P**	**22 10 15.0**	**+0.3**			
	comp=N,22nm,0.6s									
WMQ	**Urumqi**	**37.63**	**309**	P	**P**	**22 10 15.3**	**+0.3**			
WMQ				pP	**pP**	**22 10 21.1**	**+1.1**			
WMQ				sP	**sP**	**22 10 24.1**	**+2.0**			
WMQ				PP	**PnPn**	**22 11 41.4**	**-0.4**			
WMQ				PcP	**PcP**	**22 12 34.3**	**+1.9**			
WMQ				S	**S**	**22 16 04.9**	**+0.8**			
WMQ				sS	**sS**	**22 16 13.6**	**+1.2**			
WMQ				ScS	**ScS**	**22 20 25.3**	**-2.4**			
WMQ				PMZ						
	comp=N,16nm,0.7s									
WMQ				PMZ						
	comp=N,99nm,6.0s									
WMQ				LN						
	comp=N,130nm,22.2s									
WMQ				LE						
	comp=N,110nm,21.0s									
WMQ				LZ						
	comp=N,64nm,20.2s									
JIRN	**Jiri**	**37.81**	**282**	*e*P	**P**	**22 10 17.7**	**+0.7**			
	comp=N,10nm,0.5s									
GUN	**Gumba**	**38.06**	**283**	*e*P	**P**	**22 10 19.9**	**+0.8**			
MDSI	**Maura Dua**	**38.38**	**222**	P	**P**	**22 10 23.3**	**+1.9**			
	comp=N,11nm,1.0s									
PKI	**Pulchoki**	**38.51**	**282**	*e*P	**P**	**22 10 23.2**	**+0.3**			
	comp=N,32nm,0.7s									
PKIN	**Phulchoki**	**38.52**	**282**	*e*P	**P**	**22 10 23.1**	**+0.2**			
	comp=N,17nm,0.6s									
KKN	**Kakani**	**38.60**	**283**	*e*P	**P**	**22 10 24.0**	**+0.5**			
	comp=N,34nm,0.8s									
DMN	**Daman**	**38.77**	**283**	*e*P	**P**	**22 10 25.2**	**+0.2**			
	comp=N,22nm,0.7s									
GKN	**Gorkha**	**39.14**	**283**	*e*P	**P**	**22 10 27.9**	**0.0**			
	comp=N,37nm,0.8s									
KOLN	**Koldanda**	**40.08**	**283**	*e*P	**P**	**22 10 36.3**	**+0.5**			
	comp=N,39nm,0.8s									
SEY	**Seymchan**	**40.26**	**17**	*e*P	**P**	**22 10 37.9**	**+1.3**			
MK01	**Makanchi Array**	**42.04**	**312**	*e*P	**P**	**22 10 50.3**	**-1.3**			
MK01				*e*PcP	**PcP**	**22 12 46.7**	**+0.4**			
MKAR	**Makanchi Array**	**42.05**	**312**	P	**P**	**22 10 50.9**	**-0.7**			
	comp=N,3.0nm,0.7s,baz=95,slow=9.1,SNR=32									
MKAR				PcP	**PcP**	**22 12 46.9**	**+0.6**			
	comp=N,1.5nm,0.8s,baz=106,slow=2.6,SNR=4.9									
MKAR	**Makanchi Array**	**42.05**	**312**	P	**P**	**22 10 50.9**	**-0.7**			
MKAR						22 12 46.9				
MKAR				pmax	pmax					
	comp=Z,3.0nm,0.7s									
MKAR				pmax	pmax					
	comp=Z,2.0nm,0.8s									
ZAA0	**Zalesovo Array**	**42.76**	**323**	*e*P	**P**	**22 10 55.9**	**-1.3**			
ZALV	**Zalesovo Beam**	**42.76**	**323**	P	**P**	**22 10 55.9**	**-1.3**			
	comp=Z,3.0nm,0.6s,baz=114,slow=7.7,SNR=17									
ZALV	**Zalesovo Beam**	**42.76**	**323**	P	**P**	**22 10 55.9**	**-1.3**			
ZALV				pmax	pmax					
	comp=Z,3.0nm,0.6s									
KURK	**Kurchatov**	**45.34**	**317**	*e*P	**P**	**22 11 17.5**	**-0.4**			
KURK				pmax	pmax					
	comp=Z,21nm,1.6s									
KURK	**Kurchatov**	**45.34**	**317**	*e*P	**P**	**22 11 17.5**	**-0.4**			
	comp=Z,21nm,1.6s									
KSH	**Kashi**	**45.77**	**301**	P	P	22 11 24.9	+3.2			
KSH				pP	pP	22 11 29.4	+2.6			
KSH				sP	sP	22 11 31.9	+3.0			
KSH				PcS	**PcS**	**22 16 54.8**	**+1.2**			
KSH				S	**S**	**22 18 08.6**	**+3.9**			
KSH				PMZ						
	comp=Z,41nm,4.8s									
KSH				LN						
	comp=Z,90nm,5.1s									
KSH				LE						
	comp=Z,98nm,5.0s									
KSH				LZ						
	comp=Z,140nm,5.3s									
TIXI	**Tiksi**	**45.82**	**0**	*c*e*P*	**P**	**22 11 21.7**	**+0.3**			
TIXI				pmax	pmax					
	comp=Z,9.0nm,1.2s									
TIXI	**Tiksi**	**45.82**	**0**	*e*P	**P**	**22 11 21.1**	**-0.3**			
	comp=Z,5.0nm,0.5s									
WRAB	**Tennant Creek**	**45.86**	**173**	*c i*P	**P**	**22 11 22.8**	**+0.4**			
WRAB				pmax	pmax					
	comp=Z,34nm,0.8s									
WRAB	**Tennant Creek**	**45.86**	**173**	*e*P	**P**	**22 11 22.9**	**+0.6**			
	comp=Z,14nm,0.9s									
WRA	**Warramunga Arr**	**45.87**	**173**	P	**P**	**22 11 22.8**	**+0.4**			
	comp=Z,11nm,0.8s,baz=352,slow=8.2,SNR=91									
WRA	**Warramunga Arr**	**45.87**	**173**	P	**P**	**22 11 22.8**	**+0.4**			
WRA				pmax	pmax					
	comp=Z,11nm,0.8s									
TKM2	**Tokmak 2**	**46.19**	**306**	*e*P	**P**	**22 11 25.0**	**-0.1**			
TKM2				pmax	pmax					
	comp=Z,5.0nm,0.7s									
TKM2	**Tokmak 2**	**46.19**	**306**	*e*P	**P**	**22 11 25.0**	**-0.1**			
	comp=Z,5.2nm,0.7s									
EKS2	**Erkin-Say**	**47.51**	**305**	*e*P	**P**	**22 11 35.2**	**-0.1**			
EKS2				pmax	pmax					
	comp=Z,2.0nm,0.6s									
EKS2	**Erkin-Say**	**47.51**	**305**	*e*P	**P**	**22 11 35.2**	**-0.1**			
	comp=Z,1.9nm,0.6s									
BILL	**Bilibino**	**47.90**	**18**	*i*P	**P**	**22 11 38.5**	**+0.7**			
BILL				*i*		22 11 53.9				
BILL				pmax	pmax					
	comp=Z,7.0nm,1.0s									
BILL				MLR	MLR					
	comp=Z,178nm,19.0s									
BILL	**Bilibino**	**47.90**	**18**	*e*P	**P**	**22 11 37.9**	**+0.1**			
	comp=Z,9.0nm,1.1s									
CTA	**Charters Tower**	**48.78**	**158**	P	**P**	**22 11 46.0**	**+0.9**			
	comp=Z,2.7nm,0.5s,baz=332,slow=8.3,SNR=5.6									
CTA	**Charters Tower**	**48.78**	**158**	P	**P**	**22 11 46.0**	**+0.9**			
CTA				pmax	pmax					
	comp=Z,3.0nm,0.5s									
PALK	**Pallekele**	**49.21**	**257**	*i*P	**P**	**22 11 49.2**	**+0.6**			
ASAR	**Alice Springs**	**49.50**	**174**	P	**P**	**22 11 51.5**	**+0.9**			
	comp=Z,7.1nm,0.8s,baz=0.2,slow=8.1,SNR=80									
ASAR	**Alice Springs**	**49.50**	**174**	P	**P**	**22 11 51.6**	**+0.9**			
ASAR				pmax	pmax					
	comp=Z,7.0nm,0.8s									
AS01	**Alice Springs**	**49.51**	**174**	*e*P	**P**	**22 11 50.6**	**0.0**			
KKAR	**Karatay Array**	**49.92**	**306**	*e*P	**P**	**22 11 52.8**	**-0.9**			
KKAR	**Karatay Array**	**49.92**	**306**	*e*P	**P**	**22 11 52.8**	**-0.9**			
BVAR	**Borovoye Array**	**50.79**	**318**	P	**P**	**22 12 00.1**	**0.0**			
	comp=Z,3.0nm,0.6s,baz=73,slow=8.3,SNR=26									
BVAR				PcP	**PcP**	**22 13 17.4**	**+0.5**			
	comp=Z,2.2nm,0.8s,baz=106,slow=3.7,SNR=5.2									
BVAR	**Borovoye Array**	**50.79**	**318**	P	**P**	**22 12 00.1**	**0.0**			
BVAR						22 13 17.4				
BVAR				pmax	pmax					
	comp=Z,3.0nm,0.6s									
BVAR				pmax	pmax					
	comp=Z,2.0nm,0.8s									
BRVK	**Borovoye**	**50.86**	**319**	*c i*P	**P**	**22 12 00.7**	**0.0**			
BRVK				pmax	pmax					
	comp=Z,9.0nm,1.0s									
BRVK	**Borovoye**	**50.86**	**319**	*e*P	**P**	**22 12 00.6**	**0.0**			
	comp=Z,7.3nm,0.6s									
KBL	**Kabul**	**51.59**	**295**	*e*P	**P**	**22 12 05.2**	**-1.5**			
KBL				pmax	pmax					
	comp=Z,15nm,0.6s									
KBL	**Kabul**	**51.59**	**295**	*e*P	**P**	**22 12 05.2**	**-1.5**			
	comp=Z,15nm,0.6s									
SVE	**Sverdlovsk**	**56.77**	**322**	*e*P	**P**	**22 12 43.9**	**+0.1**			
SVE				pmax	pmax					
	comp=Z,12nm,1.4s									
ABKAR	**Akbulak array**	**57.16**	**313**	*e*P	**P**	**22 12 46.3**	**-0.5**			
ABKAR				*e*PcP	**PcP**	**22 13 40.9**	**-0.3**			
ARU	**Arti**	**57.91**	**322**	*c i*P	**P**	**22 12 52.2**	**+0.4**			
ARU						22 14 55.4				
ARU				S	**S**	**22 20 52.5**	**+1.6**			
ARU				pmax	pmax					
	comp=Z,9.0nm,1.7s									
IMYA	**Miami**	**58.53**	**298**	*e*P	**P**	**22 12 56.9**	**+0.2**			
STKA	**Stephens Creek**	**58.74**	**167**	P	**P**	**22 12 57.5**	**-0.2**			
	comp=Z,1.6nm,0.5s,baz=347,slow=7.8,SNR=10									
STKA	**Stephens Creek**	**58.74**	**167**	P	**P**	**22 12 57.6**	**-0.2**			
STKA				pmax	pmax					
	comp=Z,2.0nm,0.5s									
IKRD	**Kardeh**	**59.70**	**299**	*e*P	P	22 12 59.8	-5.1			
ITEG	**Tejag**	**60.32**	**295**	*e*P	**P**	**22 13 08.9**	**-0.3**			
RSO	**Redoubt South**	**62.28**	**33**	*e*P	**P**	**22 13 24.0**	**+2.0**			
CAST	**Castle Rocks**	**62.42**	**30**	*e*P	**P**	**22 13 22.7**	**0.0**			
	comp=Z,3.7nm,0.9s									
MLY	**Manley**	**62.92**	**28**	*e*P	**P**	**22 13 26.9**	**+0.9**			
	comp=Z,5.2nm,1.0s									
RND	**Reindeer**	**63.87**	**30**	*e*P	**P**	**22 13 31.9**	**-0.5**			
RND				pmax	pmax					
	comp=Z,10.0nm,0.8s									
RND	**Reindeer**	**63.87**	**30**	*e*P	**P**	**22 13 31.9**	**-0.5**			
	comp=Z,10nm,0.8s									
MDM	**Murphy Dome**	**63.99**	**28**	*e*P	**P**	**22 13 33.6**	**+0.6**			
	comp=Z,9.4nm,0.8s									
ISHM	**Shahmirzad**	**64.03**	**299**	*e*P	**P**	**22 13 33.8**	**-0.4**			
COLA	**College**	**64.16**	**28**	P	**P**	**22 13 35.0**	**+0.9**			
COLA				pmax	pmax					
	comp=Z,23nm,1.2s									
CCB	**Clear Creek Bu**	**64.20**	**28**	*e*P	**P**	**22 13 36.0**	**+1.7**			
	comp=Z,62nm,3.0s									
IFIR	**Firoozkooh**	**64.49**	**299**	*e*P	**P**	**22 13 38.2**	**+1.0**			
ILAR	**Eielson Array**	**64.58**	**28**	P	**P**	**22 13 37.0**	**+0.1**			
	comp=Z,1.3nm,0.8s,baz=266,slow=5.9,SNR=15									
ILAR	**Eielson Array**	**64.58**	**28**	P	**P**	**22 13 37.0**	**+0.1**			
ILAR				pmax	pmax					
	comp=Z,1.0nm,0.8s									
SCRK	**Sand Creek**	**65.94**	**29**	*e*P	**P**	**22 13 45.8**	**-0.2**			
	comp=Z,4.3nm,0.9s									
IKLH	**Kolahrood**	**66.04**	**297**	*e*P	**P**	**22 13 47.2**	**0.0**			
IGZV	**Ghazvin**	**66.29**	**300**	*e*P	**P**	**22 13 49.8**	**+1.0**			
IPIR	**Pirpir**	**66.77**	**296**	*e*P	**P**	**22 13 51.0**	**-1.1**			
ISRB	**Sarab**	**67.86**	**302**	*e*P	**P**	**22 13 58.6**	**-0.1**			
IHRS	**Heris**	**68.20**	**303**	*e*P	**P**	**22 14 00.4**	**-0.4**			
APA	**Apatity**	**68.34**	**336**	*e*P	**P**	**22 14 02.0**	**+1.1**			
APA				MLR	MLR					
	comp=Z,300nm,16.0s									
INK	**Inuvik**	**69.08**	**23**	*e*P	**P**	**22 14 05.6**	**+0.2**			
INK				pmax	pmax					
	comp=Z,9.0nm,1.3s									
INK	**Inuvik**	**69.08**	**23**	*e*P	**P**	**22 14 05.6**	**+0.2**			
	comp=Z,9.2nm,1.3s									
IMRD	**Marand**	**69.09**	**304**	*e*P	**P**	**22 14 05.8**	**-0.6**			
GOF	**Gofitskoye**	**69.20**	**311**	*e*P	**P**	**22 14 06.7**	**0.0**			
ZEI	**Tsey**	**69.24**	**308**	*e*P	**P**	**22 14 07.1**	**-0.1**			
ZEI				pmax	pmax					
	comp=Z,15nm,0.9s									
NCK	**Nalchik**	**69.26**	**309**⇑	*i*P	**P**	**22 14 07.8**	**+0.7**			
GNI	**Garni**	**69.39**	**305**	*e*P	**P**	**22 14 07.7**	**-0.4**			
GNI				pmax	pmax					
	comp=Z,9.0nm,1.0s									
GNI	**Garni**	**69.39**	**305**	*e*P	**P**	**22 14 07.7**	**-0.4**			
	comp=Z,8.8nm,1.0s									
KBZ	**Khabaz**	**69.68**	**310**	P	**P**	**22 14 10.7**	**+1.1**			
	comp=Z,16nm,0.8s,baz=236,slow=24,SNR=42									
KBZ	**Khabaz**	**69.68**	**310**	P	**P**	**22 14 10.7**	**+1.1**			
KBZ				pmax	pmax					
	comp=Z,16nm,0.8s									
LPSR	**Galich'ya Gora**	**69.72**	**319**	*e*P	**P**	**22 14 09.7**	**0.0**			
LPSR				pmax	pmax					
	comp=N,4.0nm,0.9s									
LPSR				pmax	pmax					
	comp=E,3.0nm,0.9s									
LPSR				pmax	pmax					
	comp=Z,10.0nm,0.9s									
KIV	**Kislovodsk**	**69.76**	**310**	*e*P	**P**	**22 14 11.3**	**+1.0**			
KIV				pmax	pmax					
	comp=Z,27nm,1.0s									
KIV				MLR	MLR					
	comp=Z,439nm,17.0s									
KIV	**Kislovodsk**	**69.76**	**310**	*e*P	**P**	**22 14 10.0**	**-0.2**			
	comp=Z,21nm,0.9s									
NEY	**Neytrino**	**69.94**	**309**	*i*P	**P**	**22 14 13.3**	**+1.8**			
NEY				pmax	pmax					
	comp=Z,3.0nm,0.9s									
VORD	**Divnogorie**	**69.96**	**318**	*e*P	**P**	**22 14 11.2**	**0.0**			
VORD				pmax	pmax					
	comp=Z,9.0nm,1.1s									
VORD				pmax	pmax					
	comp=N,9.0nm,1.0s									
VORD				pmax	pmax					
	comp=E,8.0nm,0.6s									
VSR	**Storozhevoye**	**69.97**	**318**	*e*P	**P**	**22 14 11.3**	**0.0**			
VSR				pmax	pmax					
	comp=N,5.0nm,0.7s									
VSR				pmax	pmax					
	comp=Z,10.0nm,0.7s									
VSR				pmax	pmax					
	comp=E,10.0nm,1.2s									
OBN	**Obninsk**	**70.34**	**322**	*c i*P	**P**	**22 14 13.1**	**-0.4**			
OBN				*i*		22 14 25.9				
OBN				pmax	pmax					
	comp=Z,14nm,1.2s									
OBN				MLR	MLR					
	comp=Z,164nm,16.0s									
ARCES	**ARCESS Array B**	**70.48**	**339**	P	**P**	**22 14 14.1**	**0.0**			
	comp=Z,3.3nm,0.8s,baz=81,slow=8.7,SNR=11									
ARCES	**ARCESS Array B**	**70.48**	**339**	P	**P**	**22 14 14.1**	**0.0**			
ARCES				pmax	pmax					
	comp=Z,3.0nm,0.8s									
FINES	**FINESS Array B**	**73.36**	**331**	P	**P**	**22 14 31.6**	**+0.1**			
	comp=Z,3.9nm,0.5s,baz=77,slow=5.5,SNR=57									
FINES	**FINESS Array B**	**73.36**	**331**	P	**P**	**22 14 31.6**	**+0.1**			
FINES				pmax	pmax					
	comp=Z,4.0nm,0.5s									
RAYN	**Ar Rayn**	**74.28**	**289**	*e*P	**P**	**22 14 37.1**	**-0.6**			
	comp=Z,3.6nm,0.9s									
MALT	**Malatya**	**74.62**	**305**⇓	P	**P**	**22 14 41.4**	**+1.9**			
MALT	**Malatya**	**74.62**	**305**⇓	*i*P	**P**	**22 14 41.4**	**+1.9**			
SIM	**Simferopol'**	**75.23**	**313**	*d i*P	**P**	**22 14 43.3**	**+0.6**			
SIM				pmax	pmax					
	comp=Z,15nm,0.7s									
RES	**Resolute Bay**	**75.83**	**11**	*e*P	**P**	**22 14 46.1**	**+0.5**			
RES				pmax	pmax					
	comp=Z,4.0nm,0.7s									
RES	**Resolute Bay**	**75.83**	**11**	*e*P	**P**	**22 14 46.0**	**+0.5**			
	comp=Z,3.9nm,0.7s		

comp=Z,8.4nm,0.7s
OJC Ojcow 81.63 322 *e*P **P 22 15 17.9 -0.1**
OJC pmax pmax
comp=Z,7.0nm,0.9s
OJC Ojcow 81.63 322 *e*P **P 22 15 17.9 -0.1**
comp=Z,6.9nm,0.9s
LOT Lotru 81.64 317⇑ *i*P **P 22 15 20.0 +1.7**
DRGR 81.64 318⇓P **P 22 15 19.7 +1.5**
DRGR 81.64 318⇓P **P 22 15 19.7 +1.5**
GZR Gura Zlata 82.28 317⇑P **P 22 15 22.8 +1.2**
GZR Gura Zlata 82.28 317⇑ *i*P **P 22 15 22.8 +1.2**
VYHS Vyhne 83.06 321 *e*P **P 22 15 26.8 +1.3**
VYHS pmax pmax
comp=Z,3.0nm,1.0s
VYHS Vyhne 83.06 321 *e*P **P 22 15 26.8 +1.3**
VTS Vitosha 83.37 314⇑P **P 22 15 28.8 +1.4**
VTS Vitosha 83.37 314⇑ *i*P **P 22 15 28.8 +1.4**
DPC Dobruska-Polom 83.46 323 *e*P **P 22 15 26.4 -1.2**
DPC *ep*P **PcP 22 15 29.5 -2.4**
DPC *es*P **sP 22 15 32.5 -2.5**
DPC Dobruska-Polom 83.46 323 *e*P **P 22 15 26.4 -1.2**
DPC *e* 22 15 38.4
MMB Musomiste 83.51 313⇓P **P 22 15 29.0 +1.0**
MMB Musomiste 83.51 313⇓ *i*P **P 22 15 29.0 +1.0**
VRAC Vranov 83.88 322⇑P **P 22 15 30.7 +1.0**
VRAC Vranov 83.88 322⇑ *i*P **P 22 15 30.7 +1.0**
PVCC Panska Ves 84.29 324 *e*P **P 22 15 32.6 +0.8**
PVCC *ep*P **PcP 22 15 36.4 +0.9**
PVCC Panska Ves 84.29 324 *e*P **P 22 15 32.6 +0.8**
PKSM Moragy 84.36 319⇓P **P 22 15 32.7 +0.5**
PKSM Moragy 84.36 319⇓ *i*P **P 22 15 32.7 +0.5**
PRU Pruhonice 84.61 324 *e*P **P 22 15 33.4 0.0**
PRU Pruhonice 84.61 324 *e*P **P 22 15 33.4 0.0**
DIVS Divibare 84.65 317⇑ *i*P **P 22 15 35.3 +1.5**
CLL Collm 84.66 325 *e*P **P 22 15 34.0 +0.4**
comp=Z,6.0nm,1.0s
CLL Collm 84.66 325 *e*P **P 22 15 33.6 0.0**
CLL pmax pmax
comp=Z,6.0nm,0.9s
CLL Collm 84.66 325 *e*P **P 22 15 33.6 0.0**
comp=Z,5.5nm,0.9s
CONA Conrad Observa 85.04 322⇑ *i*sP **P 22 15 36.9 +1.2**
comp=Z,5.0nm,0.9s
KHC Kasperske Hory 85.61 323 *e*P **P 22 15 39.0 +0.5**
KHC *ex* x 22 15 44.0
KHC *ex* x 22 15 53.7
KHC Kasperske Hory 85.61 323 *e*P **P 22 15 39.0 +0.5**
KHC *e* 22 15 44.0
KHC *e* 22 15 53.7
GERES GERESS Array B 85.71 323 P **P 22 15 40.0 +0.9**
comp=Z,0.9nm,0.7s,baz=53,slow=5.2,SNR=8.0
GERES GERESS Array B 85.71 323 P **P 22 15 40.0 +0.9**
GERES pmax pmax
comp=Z,1.0nm,0.7s
NVAR Mina Array Bea 90.49 46 P **P 22 16 03.0 +0.7**
comp=Z,0.6nm,0.7s,baz=298,slow=5.8,SNR=2.6
PDAR Pinedale Array 93.21 39 P **P 22 16 14.9 +0.1**
comp=Z,0.6nm,0.8s,baz=172,slow=3.0,SNR=4.9
TORD Torodi Ar. Bea 115.44 300 PKP **PKPdf 22 21 41.8 -0.8**
comp=Z,0.5nm,0.8s,baz=23,slow=4.2,SNR=3.5

IDC ***20*** *22:13:05.2±2.9, 34.˚74S×70.˚42W, h0km, mb4.1/2, mb1 3.9/4, mb1mx3.8/16, mbtmp3.8/4, ML3.8/2, MS3.0/1, Ms1 2.9/1, ms1mx2.9/16, Error ellipse: s-maj=131.3km s-min=21.3km az=95.0*
ISCJB ***20*** *22:13:06.8±0.8, 34.˚81S±0.˚04×71.˚8W±0.˚1, h60km±6km, mb4.3/5, Error ellipse: s-maj=17.5km s-min=5.0km az=12.3*
NEIC ***20*** *22:13:07.0, 34.˚79S×71.˚80W, h44km, mb4.1/4, After GUC.*
NEIC Felt [II] at Constitucion and Talca.
GUC ***20*** *22:13:07.2±0.4, 34.˚79S×71.˚80W, h44km±1km, ML4.3*
ISC 20 22:13:07.7±1.1, 34.˚80S±0.˚04×71.˚8W±0.˚1, h50km±11km, n21, σ0.91 s/27, mb4.3/5, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.50**	**115**	*i* P		**Pn**	**22 13 18.5**	**-0.5**
NICH				*i* S		**Sn**	**22 13 27.0**	**-0.1**
TALC	**Talca**	**0.61**	**169**	*e*P		**Pn**	**22 13 20.1**	**-0.3**
TALC				*i* S		**Sn**	**22 13 29.4**	**-0.1**
LNV	**Longovilo**	**0.89**	**20**	⇓ *i*P		**Pn**	**22 13 23.9**	**-0.1**
LNV				*i* S		**Sn**	**22 13 36.5**	**+0.6**
LNCH	**Linares**	**1.06**	**172**	*e*P		**Pn**	**22 13 26.6**	**+0.4**
LNCH				*e*S		**Sn**	**22 13 40.7**	**+0.7**
CHCH	**Chadas Angostu**	**1.27**	**48**	⇑ *i*P		**Pn**	**22 13 29.6**	**+0.5**
CHCH				*i* S		**Sn**	**22 13 46.2**	**+1.1**
TACH	**Talagante**	**1.34**	**32**	*e*P		**Pn**	**22 13 30.3**	**+0.2**
TACH				*i* S		**Sn**	**22 13 47.8**	**+1.1**
PCH	**Pirque**	**1.57**	**42**	*e*P		**Pn**	**22 13 53.9**	**+1.3**
PCH				*i* S		**Sn**	**22 13 53.9**	**+1.3**
SAN	**Santiago**	**1.63**	**35**	*i* P		**Pn**	**22 13 34.4**	**+0.4**
SAN				*e*S		**Sn**	**22 13 55.0**	**+1.1**
CLCH	**Cerro Calan**	**1.74**	**37**	AML	AML	AML	22 14 04.1	
	comp=N,4μm,0.8s							
PEL	**Peldehue**	**1.88**	**29**	AML	AML	AML	22 14 06.3	
	comp=E,4μm,0.4s							
LCO	**Las Campanas**	**5.84**	**9**	*e*Pn		**Pn**	**22 14 30.9**	**-1.1**
PLCA	**Paso Flores**	**6.01**	**171**	Pn		**Pn**	**22 14 35.8**	**+1.7**
	comp=E,0.7nm,0.3s,baz=338,slow=13,SNR=7.1							
PLCA				Lg		Lg	22 16 14.2	
	comp=E,0.4nm,0.3s,baz=269,slow=21,SNR=3.1							
PLCA				LR		LR	22 16 47.8	
	comp=E,116nm,18.6s,baz=193,slow=37							
PLCA	**Paso Flores**	**6.01**	**171**	*e*Pn		**Pn**	**22 14 35.4**	**+1.3**
TRQA	**Tornquist**	**8.54**	**115**	*e*Pn		**Pn**	**22 15 08.1**	**-0.7**
LPAZ	**La Paz**	**18.72**	**11**	P		**Pn**	**22 17 23.8**	**+0.1**
	comp=E,0.1nm,0.3s,baz=180,slow=10,SNR=5.1							
LPAZ	**La Paz**	**18.72**	**11**	*e*P		**P**	**22 17 22.8**	**-0.1**
	comp=E,1.7nm,0.8s							
PTGA	**Pitinga**	**35.64**	**21**	P		**P**	**22 20 00.8**	**-0.1**
	comp=E,3.4nm,0.8s,baz=192,slow=9.5,SNR=4.5							
SNAA	**Sanae**	**50.77**	**158**	*e*P		**P**	**22 22 02.6**	**+0.2**
	comp=E,1.6nm,1.0s							
QSPA	**South Pole Qui**	**55.44**	**180**	*e*P		**P**	**22 22 38.1**	**+1.1**
	comp=E,2.3nm,0.7s							
JLU	**Jordanelle**	**83.45**	**331**	*e*P		**P**	**22 25 28.1**	**-1.9**
	comp=E,7.9nm,0.7s							
TORD	**Torodi Ar. Bea**	**84.28**	**70**	P		**P**	**22 25 34.0**	**-0.5**
	comp=E,0.9nm,0.8s,baz=227,slow=3.3,SNR=5.0							

NEIC ***20*** *22:16:30.7±0.2, 9.˚25N×84.˚30W, h21km, mb5.6/220, ME5.3, MS5.6/297, MW5.8, MW5.9, ML5.9(UCR), Error ellipse: s-maj=3.9km s-min=2.3km az=203.0, Moment Tensor Solution. s72 Moment tensor: Scale 10^17 Nm; Mrr 5.54; Mθθ -2.86; Mφφ -2.68; Mrθ 1.59; Mθφ 2.28; Mφr 0.38; Best double couple: M0 5.60000×10^17 NP1: φs 122.00000°, δ51.00000°, λ75.00000°. NP2: φs 325.00000°, δ41.00000°, λ108.00000°. Principal axes: T 5.9100, Plg77.0000°, Azm334.0000°; N -0.7800, Plg11.0000°, Azm131.0000°; P -5.1300, Plg4.0000°, Azm222.0000°; Broadband fault plane solution: P waves. NP1: φs 305.00000°, δ20.00000°, λ90.00000°. NP2: φs 125.00000°, δ70.00000°, λ90.00000°. Principal axes: T Plg65.0000°, Azm35.0000°; N Plg0.0000°, Azm0.0000°; P Plg25.0000°, Azm215.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [V] at Llorente, Mercedes, Parrita, Quepos and San Isidro del General and [IV] in the Puntarenas-Cartago area. Felt [III] at Bocas del Toro and [II] at Boquete, Panama. Felt in much of Costa Rica and in western Panama.
BJI ***20*** *22:16:30.6, 9.˚20N×84.˚30W, h21km, mB5.7/34, Ms6.2/58, Ms7 6.0/55*
GCMT ***20*** *22:16:30.6±0.1, 9.˚20N×84.˚20W, h24km, MW5.9/127, Moment Tensor Solution. s120, c256; s127, c397; Duration: 2s3 Moment tensor: Scale 10^18 Nm; Mrr 0.75±.01; Mθθ -0.61±.01; Mφφ -0.13±.01; Mrθ 0.60±.01; Mθφ 0.37±.01; Mφr 0.26±.01; Best double couple: M0 1.01700×10^18 NP1: φs 115.00000°, δ65.00000°, λ87.00000°. NP2: φs 303.00000°, δ25.00000°, λ97.00000°. Principal axes: T 0.9850, Plg70.0000°, Azm19.0000°; N 0.0630, Plg3.0000°, Azm117.0000°; P -1.0480, Plg20.0000°, Azm208.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
MOS ***20*** *22:16:31.2±0.9, 9.˚50N×84.˚17W, h26km, mb5.8/86, MS5.6/104 Error ellipse: s-maj=6.0km s-min=4.0km az=87.1*
ISCJB ***20*** *22:16:31.2±0.1, 9.˚53N±0.˚02×84.˚27W±0.˚02, h26km, mb5.6/373, MS5.6/379, Error ellipse: s-maj=3.6km s-min=1.6km az=27.9*
CASC ***20*** *22:16:31.7±2.5, 9.˚24N×84.˚16W, h16km±13km, MD5.0*
IDC ***20*** *22:16:36.4±0.9, 9.˚51N×84.˚14W, h56km±8km, mb5.0/29, mb1 5.1/33, mb1mx5.1/34, mbtmp5.3/33, MS5.5/20, Ms1 5.5/20, ms1mx5.4/23, Error ellipse: s-maj=13.5km s-min=7.3km az=53.0*
NEIC ***20*** *22:17:00.0±0.0, 9.˚69N×83.˚79W, h30km, Moment Tensor Solution. s17 Moment tensor: Scale 10^17 Nm; Mrr 8.57; Mθθ -5.03; Mφφ -3.54; Mrθ 2.37; Mθφ 2.66; Mφr -3.10; Best double couple: M0 8.70000×10^17 NP1: φs 303.00000°, δ32.00000°, λ81.00000°. NP2: φs 133.00000°, δ58.00000°, λ95.00000°. Principal axes: T 9.5200, Plg76.0000°, Azm59.0000°; N -1.6100, Plg4.0000°, Azm310.0000°; P -7.9100, Plg12.0000°, Azm219.0000°;*
ISC 20 22:16:32.3±0.5, 9.˚30N±0.˚03×84.˚22W±0.˚03, h29km±2km, h29km: pP-P, n1793, σ1s48/1850, mb5.7/374, MS5.6/384, 406C-259D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
QCR	**Quepos**	**0.14**	**22**	⇓ *i*P		**Pb**	**22 16 36.2**	**-1.6**
QCR				*e*S		**Sb**	**22 16 41.1**	**-0.5**
BUS	**Buena Vista**	**0.52**	**60**	⇓ *i*P		**Pb**	**22 16 42.1**	**-1.3**
BUS	**Buena Vista**	**0.52**	**60**	⇓ *i*P		**Pb**	**22 16 42.0**	**-1.3**
SJS	**Escuela Geolog**	**0.66**	**14**	⇓ *i*P		**Pb**	**22 16 44.4**	**-1.0**
SJS				*e*S		**Sn**	**22 16 55.6**	**+0.4**
SJS	**Escuela Geolog**	**0.66**	**14**	⇓ *e*P		**Pb**	**22 16 44.4**	**-1.0**
URSC	**Urasca**	**0.69**	**39**	⇓ *i*P		**Pb**	**22 16 45.0**	**-1.0**
URSC	**Urasca**	**0.69**	**39**	⇓ *i*P		**Pb**	**22 16 44.9**	**-1.0**
CGA2	**Cerro Gallo 2**	**0.76**	**341**	⇓ *i*P		**Pb**	**22 16 45.9**	**-1.1**
CGA2				*e*S		**Sn**	**22 16 58.4**	**+0.8**
CGA2	**Cerro Gallo 2**	**0.76**	**341**	⇓ *i*P		**Pb**	**22 16 45.9**	**-1.1**
JCR	**Jicaral**	**1.04**	**302**	⇑ *i*P		**Pn**	**22 16 50.2**	**-0.8**
JCR	**Jicaral**	**1.04**	**302**	⇑ *e*P		**Pn**	**22 16 50.0**	**-0.9**
ACR	**Cerro Adams**	**1.22**	**122**	⇑ *i*P		**Pn**	**22 16 52.4**	**-0.9**
ACR				*e*S		**Sn**	**22 17 07.0**	**-1.9**
ACR	**Cerro Adams**	**1.22**	**122**	*e*P		**Pn**	**22 16 52.4**	**-0.9**
JTS	**JuntasAbangare**	**1.23**	**324**	P		**Pb**	**22 16 54.5**	**-0.4**
	12μm,0.3s,baz=128,slow=7.2,SNR=7564							
JTS				S		**Sb**	**22 17 10.7**	**+0.4**
	5μm,0.3s,baz=323,slow=20,SNR=32							
JTS	**JuntasAbangare**	**1.23**	**324**	*e*P		**Pb**	**22 16 54.4**	**-0.4**
JTS				*e*			22 17 08.9	
JTS	**JuntasAbangare**	**1.23**	**324**	*e*Pn		**Pb**	**22 16 54.4**	**-0.5**
JTS				*e*Sn		**Sn**	**22 17 08.9**	**-0.1**
CASO	**Castillo**	**1.24**	**336**	*i* P		**Pb**	**22 16 54.9**	**-0.2**
CASO				*i* S		**Sb**	**22 17 12.8**	**+2.1**
FORC	**Fortuna**	**1.25**	**339**	*i* P		**Pb**	**22 16 55.8**	**+0.6**
CEDE	**Laguna Cede¯–o**	**1.28**	**338**	*i* P		**Pb**	**22 16 56.4**	**+0.6**
CEDE				*i* S		**Sb**	**22 17 13.1**	**+1.2**
AMAS	**Alto Masis**	**1.51**	**330**	*i* P		**Pb**	**22 16 59.9**	**+0.1**
BRU2	**Volcan**	**1.59**	**108**	*e*P		**Pb**	**22 17 00.4**	**-0.7**
BRU2				*e*S		**Sb**	**22 17 19.9**	**-0.9**
TBS2		**1.62**	**108**	*e*P		**Pb**	**22 17 00.9**	**-0.7**
VCR	**Vista de Mar**	**1.62**	**301**	⇑ *i*P		**Pn**	**22 16 57.9**	**-1.0**
VCR	**Vista de Mar**	**1.62**	**301**	*e*P		**Pn**	**22 16 57.9**	**-1.0**
CUI	**Cuipilapa**	**1.64**	**325**	*i* P		**Pb**	**22 17 00.8**	**-1.2**
COLC	**Colonia**	**1.67**	**325**	*i* P		**Pb**	**22 17 01.5**	**-0.9**
BRU	**Baru**	**1.71**	**106**	⇑ *e*P		**Pn**	**22 17 00.5**	**+0.1**
MESS	**Mesas**	**1.73**	**326**	*i* P		**Pb**	**22 17 02.0**	**-1.4**
MESS				*i* S		**Sb**	**22 17 25.3**	**+0.5**
GPS2	**Hotel Rinc¯‡n**	**1.83**	**322**	*i* P		**Pn**	**22 17 03.3**	**+1.5**
GPS3	**Bodega del ICE**	**1.84**	**322**	*i* P		**Pb**	**22 17 03.6**	**-1.7**
GPS1	**Guardaparques**	**1.84**	**323**	*i* P		**Pb**	**22 17 03.8**	**-1.6**
LAPC	**Finca la Perla**	**1.89**	**321**	*i* P		**Pn**	**22 17 04.1**	**+1.5**
BUEV	**Buena Vista**	**1.90**	**322**	*i* P		**Pb**	**22 17 04.7**	**-1.6**
GB1A	**Bunquen Arri**	**1.91**	**323**	*i* P		**Pn**	**22 17 04.6**	**-1.7**
GBS3	**Finca Las Im¯¡**	**1.92**	**321**	*i* P		**Pb**	**22 17 04.8**	**-1.7**
GBS2	**Las Lilas**	**1.96**	**322**	*i* P		**Pn**	**22 17 05.0**	**+1.5**
HUEN		**3.58**	**328**	*e*P		**Pb**	22 17 39.2	+4.3
BCIP	**Isla Barro Col**	**4.33**	**91**	*e*Pn		**Pn**	**22 17 37.4**	**+1.3**
CNCH	**Conchagua**	**5.31**	**318**	*e*P		Pn	22 17 53.1	+3.3
BLLM	**Bellamira**	**5.70**	**317**	*e*P		Pn	22 17 58.9	+3.8
VSM	**San Miguel**	**5.72**	**316**	*e*P		Pn	22 17 59.0	+3.5
VSM				*e*S		**Sn**	**22 19 02.5**	**+2.2**
LFRS	**El Faro**	**6.41**	**313**	*e*P		Pn	22 18 07.9	+3.1
SNET	**Serv Nac Est T**	**6.57**	**312**	*e*P		**Pn**	**22 18 09.6**	**+2.5**
SNET	**Serv Nac Est T**	**6.57**	**312**	*e*Pn		**Pn**	**22 18 09.7**	**+2.6**
BOQS	**Boqueron**	**6.64**	**312**	*e*P		Pn	22 18 11.8	+3.7
SBLS	**San Blas**	**6.96**	**311**	*e*P		Pn	22 18 16.0	+3.5
RTR	**El Retiro**	**7.01**	**311**	*e*P		Pn	22 18 17.7	+4.5
IXG	**Ixpaco**	**7.80**	**309**	*e*P		Pn	22 18 27.3	+3.3
MCJ	**Malvern**	**10.67**	**36**	*i* P		Pn	22 19 06.5	+6.2
OTAV	**Otavalo**	**10.67**	**147**	*e*Pn		**Pn**	**22 19 06.5**	**+2.8**
OTAV				*e*Sn		**Sn**	**22 21 06.2**	**+3.7**
ROSC	**El Rosal**	**10.76**	**114**	P		Pn	22 19 09.8	+5.1
	2.3nm,0.3s,baz=297,slow=6.6,SNR=83							
ROSC	**El Rosal**	**10.76**	**114**	*e*Pn		Pn	22 19 09.3	+4.5
CVJ	**Coleyville**	**10.99**	**35**	*i* P		Pn	22 19 14.3	+6.6
MTDJ	**Mount Denham**	**10.99**	**35**	*e*Pn		**Pn**	**22 19 10.5**	**+2.8**
BBJ	**Bamboo Saint A**	**11.27**	**36**	*i* P		Pn	22 19 18.5	+7.0
HOJ	**Hope**	**11.29**	**39**	*i* P		Pn	22 19 15.8	+4.0
STH	**Stony Hill**	**11.31**	**39**	*i* P		Pn	22 19 15.5	+3.5
BNJ	**Bonny Gate**	**11.41**	**37**	*i* P		Pn	22 19 19.9	+6.5
TEIG	**Tepich**	**11.55**	**341**	P		Pn	22 19 19.8	+4.6
	3.1nm,0.3s,baz=153,slow=11,SNR=20							
TEIG				LR		LR	22 23 49.6	
	comp=Z,44μm,18.2s,baz=153,slow=38							
TEIG	**Tepich**	**11.55**	**341**	*e*Pn		Pn	22 19 18.9	+3.7
PAYG	**Puerto Ayora**	**11.60**	**212**	*e*Pn		**Pn**	**22 19 18.6**	**+2.6**
CMJ	**Castle Mountai**	**11.63**	**40**	*i* PA			22 18 52.0	
CMIG	**Matias Romero**	**12.95**	**308**	P		**Pn**	**22 19 35.5**	**+1.0**
	4.4nm,0.3s,baz=125,slow=10,SNR=44							
CMIG				S		Sn	22 22 05.3	+7.6
	1.6nm,0.3s,baz=9.5,slow=18,SNR=2.4							
CMIG				LR		LR	22 24 27.7	
	comp=Z,6μm,20.7s,baz=119,slow=37							
SDV	**Santo Domingo**	**13.42**	**91**	*e*Pn		**Pn**	**22 19 42.3**	**+1.2**
GTBY	**Guantanamo Bay**	**13.75**	**39**	*e*Pn		Pn	22 19 49.0	+3.6
JAKH	**Jacmel**	**14.42**	**51**	*e*Pn		**Pn**	**22 19 56.3**	**+1.9**
LGNH	**LØogne**	**14.52**	**50**	*e*Pn		**Pn**	**22 19 58.0**	**+2.2**
WSYH	**La Gonave Hosp**	**14.52**	**48**	*e*Pn		**Pn**	**22 19 57.8**	**+1.9**
SDDR	**Presa de Saban**	**15.80**	**51**	*e*Pn		**P**	**22 20 16.1**	**-0.3**
	2μm,1.8s							
SDD	**Santo Domingo**	**16.59**	**55**	*e*Pn		**Pn**	**22 20 22.7**	**-0.2**
ATAH	**Atahualpa**	**17.32**	**160**	P		**P**	**22 20 36.0**	**+2.3**
	0.6nm,0.3s,baz=324,slow=13,SNR=20							
ATAH				S		**S**	**22 23 55.3**	**+2.4**
	0.3nm,0.3s,baz=22,slow=19,SNR=1.5							
GRTK	**Grand Turk**	**17.49**	**45**	*e*Pn		**Pn**	**22 20 33.5**	**-0.6**
	2μm,1.8s							
SMN1	**Samana, DR**	**17.49**	**54**	*e*Pn		**P**	**22 20 35.3**	**+0.2**
PCDR	**Punta Cana, DR**	**17.88**	**57**	*e*Pn		**Pn**	**22 20 38.7**	**-0.3**
CRPR	**Cabo Rojo, PR**	**18.73**	**61**	*e*P		**Pn**	**22 20 49.2**	**-0.1**
	427nm,1.2s							
MPR	**Mayaguez**	**18.79**	**60**	*e*P		**Pn**	**22 20 50.4**	**+0.3**
	175nm,0.9s							
LSP	**Las Mesas**	**18.82**	**60**	*e*P		**Pn**	**22 20 51.3**	**+0.8**
AGP	**Aguadilla**	**18.88**	**60**	*e*P		**Pn**	**22 20 51.2**	**+0.1**
	1μm,1.0s							
LRS	**Lares**	**19.08**	**60**	*e*P		**Pn**	**22 20 54.4**	**+0.8**
OBIP	**Obispado Ponce**	**19.18**	**61**	*e*P		**Pn**	**22 20 54.6**	**-0.1**
	809nm,1.3s							
AOPR	**Arecibo Observ**	**19.18**	**60**	*e*P		**Pn**	**22 20 55.3**	**+0.5**
	853nm,1.0s							
ICMP	**Isla Caja de M**	**19.18**	**62**	*e*P		**Pn**	**22 20 55.8**	**+1.1**
CELP	**Cerrillos**	**19.21**	**61**	*e*P		**Pn**	**22 20 56.7**	**+1.5**
PCRV	**Puerto La Cruz**	**19.32**	**86**	P		**Pn**	**22 20 57.2**	**+0.7**
	5.7nm,0.3s,baz=133,slow=1.2,SNR=26							
PCRV				S		**Sn**	**22 24 33.1**	**+0.6**
	1.1nm,0.3s,baz=346,slow=12,SNR=3.6							
SJG	**San Juan**	**19.60**	**62**	*e*P		**Pn**	**22 21 00.5**	**+0.7**
SJG					pmax	pmax		
	comp=Z,1μm,0.8s							
SJG	**San Juan**	**19.60**	**62**	*e*P		**Pn**	**22 21 00.5**	**+0.7**
	comp=Z,1μm,0.8s							
HUMP	**Col San Antoni**	**19.88**	**62**	*e*P		**Pn**	**22 21 03.0**	**0.0**
	comp=Z,2μm,1.2s							
CDVI	**St. Croix**	**20.68**	**64**	*e*P		Pn	22 21 12.0	-0.5
	comp=Z,2μm,0.9s							
STVI	**Saint Thomas**	**20.74**	**62**	*e*P		**P**	**22 21 09.3**	**-1.4**
	comp=Z,430nm,1.0s							
STVI				LR		LR		
	comp=Z,23μm,20.0s							

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
035Z	**Hargill**	**21.54**	**324**	⇑P		**P**	**22 21 19.0**	**-0.2**
	baz=22							
BRAL	**Brewton**	**21.77**	**353**	*e*P		**P**	**22 21 23.8**	**+2.2**
	comp=Z,2μm,1.4s							
035A	**Encino**	**21.92**	**325**	⇓P		**P**	**22 21 22.9**	**-0.3**
	baz=22							
SABA	**Saba**	**21.99**	**66**	*e*P		**P**	**22 21 25.6**	**+1.3**
SABA	**Saba**	**21.99**	**66**	*e*P		**P**	**22 21 26.2**	**+2.0**
	comp=Z,2μm,1.9s							
TIGA	**Tifton**	**22.04**	**1**	*e*P		**P**	**22 21 25.8**	**+1.2**
	comp=Z,2μm,2.1s							
TIGA				LR		LR		
	comp=Z,24μm,20.0s							
TIGA	**Tifton**	**22.04**	**1**	⇑P		**P**	**22 21 25.1**	**+0.5**
	baz=22							
738A	**Farr-Stevens R**	**22.21**	**333**	⇑P		**P**	**22 21 26.6**	**+0.2**
	baz=22							
KVTX	**Kingsville**	**22.27**	**326**	*e*P		**P**	**22 21 26.5**	**-0.6**
	comp=Z,437nm,1.4s							
KVTX				LR		LR		
	comp=Z,11μm,22.0s							
SMRT	**St. Maarten**	**22.29**	**65**	*e*P		**P**	**22 21 27.0**	**-0.4**
SMRT	**St. Maarten**	**22.29**	**65**	*e*P		**P**	**22 21 28.0**	**+0.6**
	comp=Z,629nm,0.9s							
GRW	**Mount Saint Ca**	**22.34**	**81**	*e*		P	22 21 32.9	+4.9
GRGR	**Grenville**	**22.34**	**81**	*e*P		**P**	**22 21 29.3**	**+1.3**
GRGR	**Grenville**	**22.34**	**81**	*e*P		**P**	**22 21 31.3**	**+3.3**
	comp=Z,706nm,0.9s							
034A	**Hebbronville**	**22.35**	**324**	⇑P		**P**	**22 21 27.4**	**-0.5**
	baz=22							
NNA	**Nana**	**22.38**	**161**	P		**P**	**22 21 30.8**	**+2.4**
	comp=Z,161nm,1.0s,baz=300,slow=6.4,SNR=10							
NNA				S		**S**	**22 25 37.6**	**+4.8**
	comp=Z,3.9nm,0.4s,baz=217,slow=15,SNR=2.5							
NNA	**Nana**	**22.38**	**161**	*e*P		**P**	**22 21 29.0**	**+0.6**
NNA				*e*S		**S**	**22 25 37.6**	**+4.8**
NNA					pmax	pmax		
	comp=Z,445nm,1.4s							
NNA				MLR		MLR		
	comp=Z,11μm,19.0s							
NNA	**Nana**	**22.38**	**161**	*e*P		**P**	**22 21 29.0**	**+0.6**
	comp=Z,445nm,1.4s							
NNA				*e*S		**S**	**22 25 37.6**	**+4.8**
NNA				LR		LR		
	comp=Z,11μm,19.0s							
TPP	**Pointe-a-Pierr**	**22.46**	**85**	*e*		**P**	**22 21 31.7**	**+2.5**
TRN	**Trinidad (W)**	**22.51**	**85**	*e*		**P**	**22 21 30.8**	**+1.0**
934A	**Benavides**	**22.66**	**325**	⇑P		**P**	**22 21 30.8**	**-0.5**
	baz=23							
MBWH		**22.68**	**69**	*e*P		**P**	**22 21 32.4**	**+0.8**
835A	**Beeville**	**22.83**	**328**	⇓P		**P**	**22 21 32.1**	**-0.8**
	baz=23							
SVB	**Belmont**	**22.86**	**78**	*e*		**P**	**22 21 34.0**	**+0.5**
LZG	**Guadaloupe-1**	**22.91**	**70**	*e*P		**P**	**22 21 35.3**	**+1.3**
539A	**Cross D Ranch,**	**22.92**	**336**	⇓P		**P**	**22 21 33.7**	**-0.2**
	baz=23							
HMG	**Houelmont**	**22.94**	**71**	*e*P		**P**	**22 21 36.1**	**+1.8**
MLG	**Mont-d'or**	**22.95**	**71**	*e*P		**P**	**22 21 35.8**	**+1.3**
TBG	**Guadaloupe-3**	**22.96**	**71**	*e*P		**P**	**22 21 35.7**	**+1.2**
FNG	**Fond-Bernard**	**22.97**	**71**	*e*P		**P**	**22 21 35.3**	**+0.6**
736A	**Circle Diamond**	**22.98**	**330**	⇑P		**P**	**22 21 34.4**	**-0.2**
	baz=23							
SSG	**Sans Toucher**	**22.99**	**71**	*e*P		**P**	**22 21 36.0**	**+1.0**
LKG	**Breislack**	**23.00**	**71**	*e*P		**P**	**22 21 36.5**	**+1.5**
ECG	**Echelle**	**23.00**	**71**	*e*P		**P**	**22 21 36.4**	**+1.4**
PHG	**Guadaloupe-2**	**23.00**	**71**	*e*P		**P**	**22 21 36.5**	**+1.5**
DOG	**Dongo Capester**	**23.03**	**71**	*e*P		**P**	**22 21 37.5**	**+2.2**
834A	**Tilden**	**23.09**	**326**	⇓P		**P**	**22 21 35.1**	**-0.6**
	baz=23							
933A	**Laredo**	**23.11**	**324**	⇑P		**P**	**22 21 35.0**	**-0.8**
	baz=23							
TPR	**Prospect**	**23.14**	**83**	*e*		**P**	**22 21 35.5**	**-0.8**
FDF	**Fort de France**	**23.19**	**74**	*e*P		**P**	**22 21 37.6**	**+0.7**
LPL	**La Plaine**	**23.22**	**73**	*e*		**P**	**22 21 38.0**	**+0.8**
MCLT	**Moule a Chique**	**23.22**	**77**	*e*		**P**	**22 21 37.7**	**+0.5**
SEG	**Port Louis**	**23.23**	**70**	*e*P		**P**	**22 21 39.0**	**+1.8**
HKT	**Hockley**	**23.24**	**334**	*e*P		**P**	**22 21 37.4**	**+0.2**
HKT

336A **Riesel** 24.92 334 ⇑P P 22 21 51.5 -1.4
baz=25
JSC **Jenkinsville** 25.02 6 eP P 22 21 54.0 +0.3
JSC pmax pmax
comp=Z,152nm,1.0s
JSC MLR MLR
comp=Z,21μm,20.0s
JSC **Jenkinsville** 25.02 6 eP P 22 21 54.0 +0.3
comp=Z,152nm,1.0s
JSC LR LR
comp=Z,21μm,20.0s
237A **Washetta, Mont** 25.02 336 ⇓P P 22 21 52.8 -1.0
baz=25
335A **Moody** 25.09 333 ⇑P P 22 21 53.1 -1.3
baz=25
434A **Burnet** 25.10 330 ⇑P P 22 21 53.2 -1.4
baz=25
139A **Bunkhouse Ranc** 25.10 339 ⇓P P 22 21 53.5 -1.0
baz=25
631A **Perdido Creek** 25.21 325 ⇓P P 22 21 54.0 -1.6
baz=25
236A **Katherine and** 25.32 335 ⇓P P 22 21 55.4 -1.0
baz=25
138A **Matatall Enter** 25.33 338 ⇓P P 22 21 55.6 -1.0
baz=25
532A **Rocksprings** 25.39 327 ⇑P P 22 21 56.0 -1.2
baz=26
433A **Art** 25.46 329 ⇓P P 22 21 56.7 -1.1
baz=26
334A **Lometa** 25.51 331 ⇓P P 22 21 57.2 -1.1
baz=26
137A **Heron Place, G** 25.53 337 ⇑P P 22 21 57.4 -1.0
baz=26
Z39A **Irene McRaven,** 25.54 340 ⇑P P 22 21 57.5 -1.0
baz=26
OXF **Oxford** 25.55 350 eP P 22 21 58.2 -0.3
OXF pmax pmax
comp=Z,397nm,1.1s
OXF **Oxford** 25.55 350 eP P 22 21 58.2 -0.3
comp=Z,397nm,1.1s
JCT **Junction City** 25.61 328 eP P 22 21 58.8 -0.4
JCT pmax pmax
comp=Z,109nm,0.8s
JCT **Junction City** 25.61 328 eP P 22 21 58.8 -0.4
comp=Z,109nm,0.8s
JCT **Junction City** 25.61 328 ⇑P P 22 21 58.3 -0.9
baz=26
WHTX **Lake Whitney,** 25.71 333 eP P 22 21 59.3 -0.7
comp=Z,233nm,1.0s
WHTX **Lake Whitney,** 25.71 333 ⇓P P 22 21 58.8 -1.2
baz=26
531A **Rocksprings** 25.77 326 ⇓P P 22 21 59.4 -1.2
baz=26
Z38A **Mt. Pleasant** 25.82 339 ⇓P P 22 22 00.1 -1.0
baz=26
SWET **Sewanee** 25.85 357 eP P 22 22 02.1 +0.8
KMSC **Kings Mountain** 25.86 5 eP P 22 22 02.3 +1.0
comp=Z,147nm,1.3s
KMSC LR LR
comp=Z,23μm,19.0s
KMSC **Kings Mountain** 25.86 5 ⇑P P 22 22 01.2 -0.2
baz=26
333A **Richland Sprin** 25.87 330 ⇑P P 22 22 00.4 -1.1
baz=26
432A **Menard** 25.92 328 ⇑P P 22 22 00.7 -1.3
baz=26
Z37A **Pogue Cattle C** 26.01 338 ⇓P P 22 22 01.8 -1.0
baz=26
234A **Clairette** 26.02 332 ⇓P P 22 22 01.5 -1.5
baz=26
PTGA **Pitinga** 26.12 111 P P 22 22 05.7 +1.7
comp=Z,135nm,1.0s,baz=299,slow=10,SNR=56
PTGA **Pitinga** 26.12 111 eP P 22 22 05.4 +1.4
comp=Z,177nm,0.9s
135A **Vickery Place,** 26.17 334 ⇑P P 22 22 02.5 -1.7
baz=26
431A **Sonora** 26.20 327 ⇓P P 22 22 03.5 -1.1
baz=26
530A **J-C Ranch, Com** 26.20 325 ⇓P P 22 22 03.5 -1.1
baz=26
TKL **Tuckaleechee C** 26.24 1 P P 22 22 05.8 +1.0
comp=Z,28nm,0.9s,baz=174,slow=8.2,SNR=37
TKL **Tuckaleechee C** 26.24 1 P P 22 22 05.8 +1.0
TKL pmax pmax
comp=Z,28nm,0.9s
TKL **Tuckaleechee C** 26.24 1 eP P 22 22 05.4 +0.5
332A **Millersview** 26.29 329 ⇓P P 22 22 04.1 -1.3
baz=26
233A **Rising Star** 26.39 331 ⇑P P 22 22 05.0 -1.3
baz=26
UALR **University of** 26.43 345 eP P 22 22 06.0 -0.5
comp=Z,115nm,0.8s
CNNC **Cliffs of the** 26.46 12 PFAKE 22 22 20.0 +13
CNNC LR LR
comp=Z,15μm,20.0s
134A **White-Moore Ra** 26.48 333 ⇑P P 22 22 05.7 -1.3
baz=27
MIAR **Mount Ida** 26.55 343 eP P 22 22 07.1 -0.6
MIAR pmax pmax
comp=Z,143nm,1.0s
MIAR MLR MLR
comp=Z,9μm,22.0s
MIAR **Mount Ida** 26.55 343 eP P 22 22 07.1 -0.6
comp=Z,143nm,1.0s
MIAR LR LR
comp=Z,9μm,22.0s
331A **San Angelo** 26.59 328 ⇑P P 22 22 06.7 -1.4
baz=27
430A **Baggett Ranch,** 26.62 326 ⇑P P 22 22 06.9 -1.5
baz=27
232A **Coleman** 26.65 330 ⇓P P 22 22 07.1 -1.5
baz=27
529A **Stev Forest Ra** 26.69 323 ⇑P P 22 22 07.9 -1.1
baz=27
Z35A **Perchaven, San** 26.77 335 ⇓P P 22 22 08.5 -1.2
baz=27
429A **Davenport Ranc** 26.87 325 ⇑P P 22 22 09.8 -0.9
baz=27
133A **Hamilton Ranch** 26.89 332 ⇓P P 22 22 09.4 -1.3
baz=27
LTX **Lajitas** 27.01 320 eP P 22 22 12.6 +0.6
LTX e 22 25 35.8
LTX **Lajitas** 27.01 320 eP P 22 22 12.6 +0.6
LTX ePcP PcP 22 25 35.8 +2.7
TX31 **Lajitas Ar. Si** 27.01 320 eP P 22 22 12.5 +0.5
TXAR **Lajitas Array** 27.01 320 P P 22 22 12.6 +0.6
comp=Z,7.6nm,0.6s,baz=143,slow=8.3,SNR=37
TXAR PcP PcP 22 25 35.8 +2.7
comp=Z,5.9nm,0.9s,baz=134,slow=5.2,SNR=3.7
TXAR LR LR 22 35 21.7
comp=Z,4μm,19.6s,baz=0.0,slow=42
TXAR **Lajitas Array** 27.01 320 P P 22 22 12.6 +0.6
TXAR 22 25 35.8
TXAR pmax pmax
comp=Z,8.0nm,0.6s
TXAR pmax pmax
comp=Z,6.0nm,0.9s
TXAR MLR MLR
comp=Z,4μm,19.6s
231A **Bronte** 27.03 329 ⇑P P 22 22 10.6 -1.4
baz=27
330A **Mertzon** 27.07 327 ⇑P P 22 22 11.1 -1.3
baz=27
GNAR **Gosnell** 27.07 350 eP P 22 22 11.7 -0.6
Z34A **Collier Ranch,** 27.08 334 ⇓P P 22 22 11.3 -1.2
baz=27
TZTN **Tazewell** 27.13 1 eP P 22 22 13.6 +0.8
comp=Z,173nm,1.4s
X37A **Clayton** 27.17 340 ⇓P P 22 22 12.3 -1.0
baz=27
GLAT **Glass** 27.24 351 eP P 22 22 13.7 -0.1
ABTX **Abilene, Hawle** 27.25 331 eP P 22 22 13.0 -0.9
comp=Z,115nm,1.0s
ABTX **Abilene, Hawle** 27.25 331 ⇑P P 22 22 12.4 -1.6
baz=27
UTMT **University of** 27.25 352 eP P 22 22 13.8 -0.1
comp=Z,615nm,1.5s
W38A **Poteau** 27.33 341 ⇑P P 22 22 13.6 -1.1
baz=28
Z33A **Whitaker Ranch** 27.39 333 ⇑P P 22 22 13.6 -1.6
baz=28
230A **Sterling City** 27.41 328 ⇓P P 22 22 14.1 -1.3
baz=28
X36A **Centrahoma** 27.51 338 ⇑P P 22 22 14.9 -1.4
baz=28
Y34A **Reagan Ranch,** 27.52 335 ⇓P P 22 22 15.0 -1.4
baz=28

329A **Wagon Wheel Ra** 27.57 326 ⇑P P 22 22 15.6 -1.4
baz=28
X35A **Drake** 27.59 337 ⇑P P 22 22 15.5 -1.5
baz=28
131A **Roby** 27.66 330 ⇑P P 22 22 15.6 -2.0
baz=28
W37A **Quinton** 27.69 340 ⇑P P 22 22 15.9 -2.0
baz=28
SAML **Samuel** 27.70 130 eP P 22 22 18.0 -0.1
comp=Z,38nm,1.0s
SAML LR LR
comp=Z,4μm,19.0s
PARMO **Parma** 27.70 350 eP P 22 22 17.9 -0.1
Z32A **Haskell** 27.73 332 ⇓P P 22 22 16.7 -1.6
baz=28
229A **Bryant Ranch,** 27.84 327 ⇓P P 22 22 17.8 -1.6
baz=28
130A **Snyder** 27.89 329 ⇓P P 22 22 17.9 -1.8
baz=28
PBMO **Poplar Bluff** 27.93 349 eP P 22 22 18.9 -1.1
comp=Z,87nm,1.1s
Y33A **Hilltop Ranch,** 27.93 334 ⇑P P 22 22 18.4 -1.7
baz=28
W36A **Wetumka** 27.97 339 ⇓P P 22 22 18.2 -2.2
baz=28
BLA **Blacksburg** 28.00 6 eP P 22 22 21.1 +0.4
BLA pmax pmax
comp=Z,93nm,1.1s
BLA MLR MLR
comp=Z,20μm,20.0s
BLA **Blacksburg** 28.00 6 eP P 22 22 21.1 +0.4
comp=Z,93nm,1.1s
BLA LR LR
comp=Z,20μm,20.0s
Z31A **Sharp Cattle R** 28.06 331 ⇑P P 22 22 19.2 -2.0
baz=28
VWCC **Virginia Weste** 28.09 7 eP P 22 22 22.3 +0.9
X34A **Smith Ranch, M** 28.11 336 ⇑P P 22 22 19.9 -1.8
baz=28
W35A **Tecumseh** 28.22 338 ⇓P P 22 22 20.3 -2.4
baz=28
Y32A **R-V Farms, Ver** 28.29 333 ⇓P P 22 22 21.6 -1.7
baz=28
X33A **Lawton** 28.34 335 ⇑P P 22 22 21.9 -1.8
baz=28
129A **Stewart Farms,** 28.38 327 ⇑P P 22 22 22.5 -1.7
baz=28
228A **UT Block 9, Go** 28.39 326 ⇑P P 22 22 22.9 -1.4
baz=28
SLBS **Sierra La Lagu** 28.45 303 eP P 22 22 26.4 +1.6
comp=Z,164nm,1.3s
TUL1 **Leonard** 28.52 340 eP P 22 22 23.9 -1.3
comp=Z,91nm,1.0s
TUL1 LR LR
comp=Z,11μm,22.0s
TUL1 **Leonard** 28.52 340 ⇑P P 22 22 23.1 -2.1
baz=29
Z30A **Sanderson Ranc** 28.52 329 ⇑P P 22 22 23.4 -1.9
baz=29
X32A **Elmer** 28.57 333 ⇑P P 22 22 24.1 -1.7
baz=29
WMOK **Wichita Mounta** 28.62 334 eP P 22 22 25.2 -1.0
WMOK pmax pmax
comp=Z,786nm,2.9s
WMOK MLR MLR
comp=Z,6μm,21.0s
WMOK **Wichita Mounta** 28.62 334 eP P 22 22 25.2 -1.0
comp=Z,786nm,2.9s
WMOK LR LR
comp=Z,6μm,21.0s
W34A **Bridge Creek,** 28.64 336 eP P 22 22 25.1 -1.3
comp=Z,99nm,0.9s
W34A LR LR
comp=Z,3μm,20.0s
W34A **Bridge Creek,** 28.64 336 ⇓P P 22 22 24.5 -1.9
baz=29
Y31A **Rekieta Farm,** 28.64 331 ⇑P P 22 22 24.9 -1.5
baz=29
128A **Castleberry Fa** 28.71 327 ⇑P P 22 22 25.0 -2.1
baz=29
USIN **University of** 28.71 354 eP P 22 22 26.2 -0.7
comp=Z,200nm,1.4s
V35A **Meyer Ranch, C** 28.75 338 ⇓P P 22 22 24.7 -2.6
baz=29
URVA **University of** 28.79 11 eP P 22 22 27.9 +0.3
Z29A **Hungry Hill Ra** 28.79 328 ⇓P P 22 22 25.9 -1.9
baz=29
JSRW **J. Sargeant Re** 28.85 10 eP P 22 22 28.8 +0.7
W33A **Caddo, Fort Co** 28.85 335 ⇑P P 22 22 26.4 -1.8
baz=29
WCI **Wyandotte Cave** 28.87 357 eP P 22 22 28.6 +0.2
WCI pmax pmax
comp=Z,187nm,1.3s
WCI **Wyandotte Cave** 28.87 357 eP P 22 22 28.6 +0.2
comp=Z,187nm,1.3s
Y30A **Stafford Cattl** 28.88 330 ⇓P P 22 22 27.1 -1.4
baz=29
LPIG **La Paz** 28.93 304 P P 22 22 32.0 +3.0
comp=Z,30nm,0.4s,baz=359,slow=1.6,SNR=8.3
X31A **McDonald Ranch** 29.06 333 ⇑P P 22 22 28.6 -1.6
baz=29
V34A **Guthrie** 29.07 337 eP P 22 22 29.3 -0.8
comp=Z,70nm,1.1s
V34A LR LR
comp=Z,6μm,21.0s
V34A **Guthrie** 29.07 337 ⇑P P 22 22 27.7 -2.5
baz=29
W32A **Sentinel** 29.15 334 ⇓P P 22 22 29.0 -1.9
baz=29
Z28A **Tucker Farm, M** 29.17 328 ⇓P P 22 22 29.3 -1.9
baz=29
BBSR **BB Station** 29.22 35 PFAKE 22 22 40.0 +8.5
BBSR LR LR
comp=Z,10μm,20.0s
Y29A **Porterfield Fa** 29.25 329 ⇓P P 22 22 30.4 -1.4
baz=29
X30A **Coker Ranch, T** 29.33 331 ⇓P P 22 22 30.8 -1.7
baz=29
V33A **Lossen Ranch,** 29.35 336 ⇑P P 22 22 30.7 -2.0
baz=30
CBN **Corbin Frederi** 29.43 11 eP P 22 22 34.4 +1.1
comp=Z,193nm,1.5s
CBN LR LR
comp=Z,23μm,20.0s
W31A **Holland Ranch,** 29.51 333 ⇑P P 22 22 31.7 -2.4
baz=30
OLIL **Olney** 29.52 354 eP P 22 22 33.1 -1.0
comp=Z,248nm,1.4s
V32A **Arapaho** 29.57 335 ⇓P P 22 22 32.6 -2.0
baz=30
Y28A **McKinney Farm,** 29.58 329 ⇑P P 22 22 33.0 -1.8
baz=30
T36A **Boggs Farm, Ca** 29.59 341 ⇑P P 22 22 32.7 -2.0
baz=30
U34A **Anderson Ranch** 29.60 338 eP P 22 22 33.4 -1.5
comp=Z,216nm,1.5s
U34A LR LR
comp=Z,8μm,22.0s
U34A **Anderson Ranch** 29.60 338 ⇓P P 22 22 32.6 -2.3
baz=30
T35A **Sooner Cattle** 29.67 340 ⇓P P 22 22 33.5 -2.0
baz=30
SLM **Saint Louis** 29.71 350 eP P 22 22 34.8 -1.0
SLM e 22 25 40.8
SLM pmax pmax
comp=Z,87nm,1.1s
SLM **Saint Louis** 29.71 350 eP P 22 22 34.8 -1.0
comp=Z,87nm,1.1s
SLM ePcP PcP 22 25 40.8 +1.3
MNTX **Cornudas Mount** 29.71 322 eP P 22 22 35.8 -0.1
comp=Z,26nm,0.9s
MNTX LR LR
comp=Z,3μm,22.0s
MNTX **Cornudas Mount** 29.71 322 ⇑P P 22 22 34.6 -1.3
baz=30
X29A **Tulia** 29.73 330 ⇑P P 22 22 34.4 -1.7
baz=30
W30A **Crocket Farms** 29.79 332 ⇑P P 22 22 35.2 -1.5
baz=30
U33A **Lingo Farm, Me** 29.82 337 ⇓P P 22 22 34.3 -2.5
baz=30
BLO **Bloomington** 29.82 356 eP P 22 22 36.3 -0.5
BLO pmax pmax
comp=Z,115nm,1.3s
BLO MLR MLR
comp=Z,7μm,22.0s
BLO **Bloomington** 29.82 356 eP P 22 22 36.3 -0.5
comp=Z,115nm,1.3s

BLO LR LR
comp=Z,7μm,22.0s
MSTX **Muleshoe** 29.90 328 eP P 22 22 36.5 -1.2
comp=Z,53nm,1.1s
MSTX ePcP PcP 22 25 42.0 +1.8
MSTX **Muleshoe** 29.90 328 ⇓P P 22 22 35.8 -1.9
baz=30
V31A **Spring Creek L** 29.96 334 ⇓P P 22 22 36.4 -1.7
baz=30
LPAZ **La Paz** 30.00 148 P P 22 22 41.1 +1.9
comp=Z,6.5nm,1.0s,baz=337,slow=10,SNR=19
LPAZ LR LR 22 35 23.8
comp=Z,21μm,21.4s,baz=310,slow=37
LPAZ **La Paz** 30.00 148 P P 22 22 41.1 +1.9
LPAZ pmax pmax
comp=Z,7.0nm,1.0s
LPAZ MLR MLR
comp=Z,21μm,21.4s
LPAZ **La Paz** 30.00 148 eP P 22 22 43.0 +3.8
LPAZ **La Paz** 30.00 148 eP P 22 22 38.1 -1.2
comp=Z,41nm,1.3s
T34A **McClaskey Farm** 30.00 339 ⇑P P 22 22 36.1 -2.3
baz=30
X28A **Dimmitt** 30.03 329 ⇓P P 22 22 36.5 -2.3
baz=30
AMTX **Amarillo** 30.07 330 eP P 22 22 38.4 -0.7
comp=Z,59nm,1.0s
AMTX **Amarillo** 30.07 330 ⇑P P 22 22 37.1 -2.0
baz=30
S36A **Lake Cedric, C** 30.11 342 ⇓P P 22 22 37.7 -1.7
baz=30
U32A **Winter Ranch,** 30.12 336 ⇑P P 22 22 37.8 -1.8
baz=30
W29A **Amarillo** 30.24 331 ⇓P P 22 22 38.8 -1.9
baz=30
S35A **Otter Creek Ra** 30.30 341 ⇑P P 22 22 39.0 -2.0
baz=30
V30A **Spur Ranch, Mi** 30.32 333 ⇓P P 22 22 39.9 -1.5
baz=30
R37A **Teagarden Farm** 30.43 343 ⇑P P 22 22 40.6 -1.5
baz=31
T33A **Patterson Ranc** 30.44 338 ⇑P P 22 22 40.2 -2.1
baz=31
U31A **Nine Bar Ranch** 30.47 335 ⇑P P 22 22 40.3 -2.3
baz=31
S34A **Willow Spring** 30.58 340 ⇑P P 22 22 41.6 -1.9
baz=31
W28A **Vega** 30.62 330 ⇑P P 22 22 42.4 -1.7
baz=31
R36A **Gordon, Harris** 30.63 342 ⇑P P 22 22 42.5 -1.5
baz=31
SDMD **Soldier's Deli** 30.70 11 eP P 22 22 45.5 +1.0
T32A **Huddler Ranch,** 30.79 337 ⇑P P 22 22 43.7 -1.6
baz=31
V29A **Stinnett** 30.80 332 ⇓P P 22 22 44.0 -1.5
baz=31
S33A **Kaszmaul Farm,** 30.80 338 ⇓P P 22 22 43.5 -2.0
baz=31
ACSO **Alum Creek Sta** 30.83 2 eP P 22 22 46.2 +0.6
comp=Z,233nm,1.3s
ACSO LR LR
comp=Z,22μm,19.0s
Q37A **Longview Farm,** 30.85 344 ⇓P P 22 22 44.3 -1.6
baz=31
U30A **WK&E Inc. Balk** 30.95 334 ⇓P P 22 22 45.3 -1.6
baz=31
V28A **Channing** 31.03 331 ⇑P P 22 22 46.2 -1.4
baz=31
SFIN **Lafayette** 31.06 356 eP P 22 22 47.0 -0.7
comp=Z,136nm,1.2s
SFIN ePcP PcP 22 25 44.5 +1.5
SFIN LR LR
comp=Z,5μm,21.0s
SFIN **Lafayette** 31.06 356 ⇓P P 22 22 46.6 -1.0
baz=31
U29A **Oasis Ranch, S** 31.16 333 ⇑P P 22 22 47.2 -1.5
baz=31
Q36A **Arnold C. Orve** 31.21 343 ⇓P P 22 22 47.2 -1.9
baz=31
S32A **Newby Ranch, P** 31.25 337 ⇓P P 22 22 47.5 -1.9
baz=31
Q35A **Mercer Eighty,** 31.29 342 ⇑P P 22 22 48.1 -1.7
baz=31
V27A **Dan Oppiter Fa** 31.33 330 ⇑P P 22 22 48.9 -1.5
baz=31
T30A **Plains** 31.33 334 ⇑P P 22 22 48.7 -1.6
baz=31
MVL **Millersville** 31.37 12 eP P 22 22 51.2 +0.8
comp=Z,99nm,1.4s
MVL ePcP PcP 22 25 45.0 +1.2
S31A **Mullinville** 31.39 336 ⇓P P 22 22 49.2 -1.5
baz=32
R33A **Olander Ranch,** 31.43 339 ⇑P P 22 22 49.6 -1.5
baz=32
HDIL **Hopedale** 31.46 353 eP P 22 22 50.0 -1.2
comp=Z,261nm,1.4s
HDIL LR LR
comp=Z,500nm,18.0s
U28A **Mallet** 31.54 332 ⇓P P 22 22 49.7 -2.4
baz=32
Q34A **Chapman** 31.63 341 ⇓P P 22 22 50.8 -1.9
baz=32
KSU1 **Kansas State U** 31.69 341 eP P 22 22 52.2 -1.0
comp=Z,38nm,0.8s
KSU1 LR LR
comp=Z,7μm,22.0s
KSU1 **Kansas State U** 31.69 341 ⇑P P 22 22 51.5 -1.8
baz=32
MNMC **Minimini** 31.71 153 eP P 22 22 58.9 +4.9
SSPA **Standing Stone** 31.71 9 eP P 22 22 54.4 +0.9
comp=Z,304nm,2.0s
SSPA LR LR
comp=Z,33μm,18.0s
T29A **Hugoton** 31.75 334 ⇓P P 22 22 51.8 -2.1
baz=32
121A **Cookes Peak, D** 31.78 320 ⇓P P 22 22 55.9 +1.5
baz=32
R32A **Long Quarter,** 31.79 338 ⇓P P 22 22 52.9 -1.4
baz=32
S30A **Montezuma** 31.80 335 ⇑P P 22 22 52.7 -1.7
baz=32
U27A **Thompson Grove** 31.86 331 ⇑P P 22 22 53.1 -1.8
baz=32
PSGC **Pisagua** 31.89 154 eP P 22 23 03.8 +8.5
P35A **Duane Minner,** 31.90 343 ⇓P P 22 22 53.6 -1.5
baz=32
R31A **Burdett** 31.98 337 ⇓P P 22 22 54.5 -1.4
baz=32
Q33A **Connelly Farm,** 32.00 340 ⇓P P 22 22 54.6 -1.3
baz=32
319A **Douglas** 32.02 317 ⇑P P 22 22 58.3 +1.9
baz=32
S29A **Ulysses** 32.06 334 ⇑P P 22 22 55.7 -1.0
baz=32
T28A **Walsh** 32.09 332 ⇓P P 22 22 55.0 -1.9
baz=32
LUPA **Lehigh Univers** 32.15 13 eP P 22 22 58.7 +1.4
comp=Z,76nm,2.3s
LUPA LR LR
comp=Z,8μm,19.0s
BNM **Barren Site** 32.18 324 eP P 22 22 58.4 +0.5
PB11 **IPOC Station P** 32.24 154 eP P 22 23 03.6 +5.1
Q32A **Meitler Ranch,** 32.24 339 ⇑P P 22 22 56.6 -1.6
baz=32
R30A **Dighton** 32.28 336 ⇓P P 22 22 57.7 -0.8
baz=32
LPM **Los Pinos Moun** 32.29 324 eP P 22 22 57.8 -1.1
Y22D **IRIS PASSCAL I** 32.30 323 ⇓P P 22 22 59.6 +0.7
baz=32
T27A **Campo** 32.32 332 ⇓P P 22 22 57.3 -1.7
baz=32
P33A **Williams Farm,** 32.34 340 ⇑P P 22 22 57.8 -1.2
baz=32
S28A **Manter** 32.38 333 ⇑P P 22 22 57.8 -1.6
baz=32
LENM **Lemitar** 32.39 323 eP P 22 23 00.2 +0.5
BRNJ **Basking Ridge** 32.41 14 eP P 22 23 00.7 +1.1
comp=Z,122nm,2.0s
ALLY **Alegheny Colle** 32.42 6 eP P 22 23 00.2 +0.5
comp=Z,455nm,2.2s
ALLY LR LR
comp=Z,19μm,20.0s
Q31A **Ellis** 32.56 338 ⇓P P 22 22 59.8 -1.2
baz=33
ANMO **Albuquerque** 32.64 325*c* *i*P P 22 23 02.4 +0.4
ANMO pmax pmax
comp=Z,109nm,1.7s
ANMO MLR MLR

	comp=Z,24µm,19.0s										
ANMO	**Albuquerque**	**32.64**	**325**	*e*P		**P**		**22 23 02.3**	**+0.3**		
	comp=Z,28nm,1.1s										
ANMO				LR		LR					
	comp=Z,4µm,21.0s										
LAZ	**Ladron**	**32.65**	**323**	*e*P		**P**		**22 23 02.1**	**0.0**		
R29A	**Marienthal**	**32.75**	**335**	⇓P		**P**		**22 23 01.7**	**-1.0**		
	baz=33										
ODNJ	**Ogdensburg**	**32.78**	**13**	*e*P		**P**		**22 23 03.4**	**+0.5**		
	comp=Z,155nm,1.9s										
ODNJ				LR		LR					
	comp=Z,30µm,18.0s										
P32A	**Huiting Farm,**	**32.82**	**339**	⇑P		**P**		**22 23 02.2**	**-1.0**		
	baz=33										
T26A	**Comanche Natio**	**32.83**	**331**	⇓P		**P**		**22 23 02.3**	**-1.2**		
	baz=33										
Q30A	**Quinter**	**32.85**	**337**	⇓P		**P**		**22 23 02.9**	**-0.7**		
	baz=33										
PAL	**Palisades**	**32.88**	**14**	*e*P		**P**		**22 23 04.3**	**+0.7**		
PAL				pmax		pmax					
	comp=Z,63nm,1.0s										
PAL				MLR		MLR					
	comp=Z,23µm,19.0s										
PAL	**Palisades**	**32.88**	**14**	*e*P		**P**		**22 23 04.3**	**+0.7**		
	comp=Z,63nm,1.0s										
PAL				LR		LR					
	comp=Z,23µm,19.0s										
AAM	**Ann Arbor**	**32.88**	**1**	*e*P		**P**		**22 23 02.6**	**-1.0**		
AAM				pmax		pmax					
	comp=Z,444nm,2.1s										
AAM				MLR		MLR					
	comp=Z,22µm,18.0s										
AAM	**Ann Arbor**	**32.88**	**1**	*e*P		**P**		**22 23 02.6**	**-1.0**		
	comp=Z,444nm,2.1s										
AAM				LR		LR					
	comp=Z,22µm,18.0s										
S27A	**Las Animas**	**32.91**	**332**	⇑P		**P**		**22 23 03.1**	**-1.1**		
	baz=33										
R28A	**Tribune**	**32.97**	**334**	⇑P		**P**		**22 23 03.6**	**-1.0**		
	baz=33										
PATCX	**Punta Patache**	**32.97**	**155**	*e*P		P		22 23 14.2	+9.5		
KSPA	**Keystone Colle**	**32.99**	**12**	*e*P		**P**		**22 23 05.5**	**+0.9**		
	comp=Z,798nm,2.6s										
KSPA				LR		LR					
	comp=Z,44µm,19.0s										
P31A	**Stockton**	**33.01**	**338**	⇓P		**P**		**22 23 03.7**	**-1.2**		
	baz=33										
Q29A	**Oakley**	**33.08**	**336**	⇓P		**P**		**22 23 04.1**	**-1.5**		
	baz=33										
S26A	**Kim**	**33.13**	**331**	⇑P		**P**		**22 23 05.1**	**-1.0**		
	baz=33										
T25A	**Trinidad**	**33.20**	**330**	*e*P		**P**		**22 23 07.7**	**+0.8**		
	comp=Z,80nm,1.7s										
T25A				LR		LR					
	comp=Z,6µm,21.0s										
T25A	**Trinidad**	**33.20**	**330**	⇑P		**P**		**22 23 06.7**	**-0.1**		
	baz=33										
O32A	**Brockman Farm,**	**33.28**	**340**	⇓P		**P**		**22 23 06.0**	**-1.2**		
	baz=33										
P30A	**Selden**	**33.35**	**337**	⇑P		**P**		**22 23 07.1**	**-0.8**		
	baz=34										
R27A	**Eads**	**33.35**	**333**	⇑P		**P**		**22 23 07.1**	**-0.9**		
	baz=34										
YLE	**Yale**	**33.41**	**16**	PFAKE				22 23 20.0	+12		
YLE				LR		LR					
	comp=Z,20µm,20.0s										
SCIA	**State Center**	**33.44**	**348**	*e*P		**P**		**22 23 07.4**	**-1.1**		
	comp=Z,165nm,1.1s										
SCIA				LR		LR					
	comp=Z,7µm,18.0s										
PB01	**IPOC Station P**	**33.45**	**154**	*e*P		P		22 23 13.7	+4.8		
O31A	**Woolen Ranch,**	**33.54**	**339**	⇓P		**P**		**22 23 08.2**	**-1.4**		
	baz=34										
BINY	**Binghamton**	**33.56**	**11**	*e*P		**P**		**22 23 08.9**	**-0.8**		
	comp=Z,664nm,2.3s										
BINY				LR		LR					
	comp=Z,36µm,20.0s										
Q28A	**Sharon Springs**	**33.58**	**335**	⇑P		**P**		**22 23 09.2**	**-0.8**		
	baz=34										
TUC	**Tucson**	**33.60**	**317**	*e*P		**P**		**22 23 12.1**	**+1.9**		
TUC				pmax		pmax					
	comp=Z,31nm,1.1s										
TUC				MLR		MLR					
	comp=Z,10µm,20.0s										
TUC	**Tucson**	**33.60**	**317**	*e*P		**P**		**22 23 12.1**	**+1.9**		
	comp=Z,31nm,1.1s										
TUC				LR		LR					
	comp=Z,10µm,20.0s										
R26A	**Arlington**	**33.66**	**332**	⇓P		**P**		**22 23 09.6**	**-1.1**		
	baz=34										
P29A	**Atwood**	**33.67**	**336**	⇓P		**P**		**22 23 09.4**	**-1.4**		
	baz=34										
N32A	**Stulken Farm,**	**33.74**	**341**	⇓P		**P**		**22 23 10.1**	**-1.1**		
	baz=34										
MMNY	**Mt. Morris Dam**	**33.76**	**8**	*e*P		**P**		**22 23 11.7**	**+0.4**		
	comp=Z,783nm,1.8s										
MMNY				LR		LR					
	comp=Z,53µm,18.0s										
O30A	**MW Ranch, Wils**	**33.83**	**338**	⇑P		**P**		**22 23 11.3**	**-0.8**		
	baz=34										
KSCO	**Kaye Shedlock'**	**33.88**	**334**	*e*P		**P**		**22 23 11.9**	**-0.7**		
	comp=Z,157nm,1.6s										
KSCO				LR		LR					
	comp=Z,5µm,22.0s										
KSCO	**Kaye Shedlock'**	**33.88**	**334**	⇑P		**P**		**22 23 11.6**	**-1.0**		
	baz=34										
PB07	**IPOC Station P**	**33.89**	**156**	*e*P		P		22 23 17.6	+4.7		
JFWS	**Jewell Farm**	**33.90**	**352**	*e*P		**P**		**22 23 10.8**	**-1.8**		
JFWS				*e*				22 25 51.7			
JFWS				pmax		pmax					
	comp=Z,75nm,0.8s										
JFWS				MLR		MLR					
	comp=Z,7µm,20.0s										
JFWS	**Jewell Farm**	**33.90**	**352**	*e*P		**P**		**22 23 10.8**	**-1.8**		
	comp=Z,75nm,0.8s										
JFWS				*e*PcP		**PcP**		**22 25 51.7**	**+1.0**		
JFWS				LR		LR					
	comp=Z,7µm,20.0s										
P28A	**Saint Francis**	**33.98**	**335**	⇓P		**P**		**22 23 12.4**	**-1.0**		
	baz=34										
N31A	**Bailey Ranch,**	**34.01**	**340**	⇓P		**P**		**22 23 12.2**	**-1.4**		
	baz=34										
O29A	**4D Ranch, Culb**	**34.07**	**337**	⇑P		**P**		**22 23 13.4**	**-0.7**		
	baz=34										
Q26A	**Hugo**	**34.20**	**333**	⇑P		**P**		**22 23 14.4**	**-1.0**		
	baz=34										
PB09	**IPOC Station P**	**34.22**	**155**	*e*P		P		22 23 20.9	+5.2		
SDCO	**Great Sand Dun**	**34.22**	**329**	*e*P		**P**		**22 23 15.8**	**+0.1**		
	comp=Z,14nm,0.8s										
SDCO				LR		LR					
	comp=Z,4µm,22.0s										
SDCO	**Great Sand Dun**	**34.22**	**329**	⇑P		**P**		**22 23 15.3**	**-0.5**		
	baz=34										
BGNE	**Belgrade**	**34.27**	**341**	*e*P		**P**		**22 23 14.6**	**-1.2**		
	comp=Z,67nm,0.6s										
BGNE				LR		LR					
	comp=Z,9µm,20.0s										
BGNE	**Belgrade**	**34.27**	**341**	⇑P		**P**		**22 23 14.1**	**-1.7**		
	baz=34										
P27A	**Ficken Ranch,**	**34.31**	**334**	⇑P		**P**		**22 23 15.4**	**-0.9**		
	baz=34										
BRYW	**Bryant College**	**34.36**	**17**	PFAKE				22 23 30.0	+13		
BRYW				LR		LR					
	comp=Z,18µm,18.0s										
N30A	**Hueftle Ranch,**	**34.39**	**338**	⇓P		**P**		**22 23 15.9**	**-1.1**		
	baz=34										
S23A	**Nye Farm, Mont**	**34.44**	**329**	⇑P		**P**		**22 23 17.6**	**-0.1**		
	baz=34										
X18A	**Snowflake**	**34.45**	**321**	⇓P		**P**		**22 23 19.0**	**+1.3**		
	baz=34										
O28A	**Krutsinger Ran**	**34.45**	**336**	⇓P		**P**		**22 23 16.5**	**-1.0**		
	baz=35										
QUA2	**Belchertown**	**34.47**	**16**	PFAKE				22 23 30.0	+13		
QUA2				LR		LR					
	comp=Z,15µm,20.0s										
M31A	**Lambtecht Ranc**	**34.48**	**340**	⇓P		**P**		**22 23 16.6**	**-1.1**		
	baz=35										
PB04	**IPOC Station P**	**34.53**	**155**	*e*P		P		22 23 22.6	+4.4		
TRY	**Troy**	**34.57**	**14**	*e*P		**P**		**22 23 18.8**	**+0.4**		
	comp=Z,523nm,2.3s										
TRY				LR		LR					
	comp=Z,32µm,19.0s										
N29A	**Votaw Ranch, W**	**34.60**	**338**	⇑P		**P**		**22 23 17.8**	**-1.0**		
	baz=35										
P26A	**Davis Ranch, A**	**34.64**	**334**	⇓P		**P**		**22 23 18.4**	**-0.9**		
	baz=35										
W18A	**Petrified Fore**	**34.70**	**322**	*e*P		**P**		**22 23 20.4**	**+0.6**		
	comp=Z,132nm,1.2s										
W18A				LR		LR					
	comp=Z,3µm,18.0s										
W18A	**Petrified Fore**	**34.70**	**322**	⇑P		**P**		**22 23 20.8**	**+1.0**		
	baz=35										
R23A	**Moffat**	**34.72**	**329**	⇓P		**P**		**22 23 19.9**	**-0.2**		
	baz=35										
214A	**Organ Pipe Nat**	**34.79**	**315**	⇑P		**P**		**22 23 21.8**	**+1.3**		
	baz=35										
O27A	**Beecher Island**	**34.80**	**335**	⇑P		**P**		**22 23 19.9**	**-0.6**		
	baz=35										
N28A	**Pribbeno Ranch**	**34.84**	**337**	⇓P		**P**		**22 23 19.6**	**-1.3**		
	baz=35										
HRV	**Adam Dziewonsk**	**34.90**	**16**	PFAKE				22 23 30.0	+8.8		
HRV				LR		LR					
	comp=Z,12µm,21.0s										
S22A	**4UR Ranch, Cre**	**34.90**	**328**	*e*P		**P**		**22 23 22.0**	**+0.3**		
	comp=Z,57nm,1.5s										
S22A				*e*PcP		**PcP**		**22 25 56.9**	**+2.7**		
S22A				LR		LR					
	comp=Z,5µm,22.0s										
S22A	**4UR Ranch, Cre**	**34.90**	**328**	⇓P		**P**		**22 23 21.0**	**-0.7**		
	baz=35										
M30A	**Dale-Ortello V**	**34.96**	**339**	⇓P		**P**		**22 23 20.3**	**-1.6**		
	baz=35										
Q24A	**Divide**	**34.99**	**331**	*e*P		**P**		**22 23 22.2**	**-0.2**		
	comp=Z,15nm,0.9s										
Q24A				*e*PcP		**PcP**		**22 25 55.1**	**+0.6**		
Q24A				LR		LR					
	comp=Z,4µm,21.0s										
Q24A	**Divide**	**34.99**	**331**	⇑P		**P**		**22 23 21.7**	**-0.7**		
	baz=35										
LVC	**Limon Verde**	**35.08**	**155**	*e*P		**P**		**22 23 26.1**	**+2.9**		
	comp=Z,81nm,1.1s										
LVC				LR		LR					
	comp=Z,8µm,19.0s										
M29A	**Burnside Ranch**	**35.17**	**338**	⇑P		**P**		**22 23 22.5**	**-1.2**		
	baz=35										
ACCN	**Adirondack Com**	**35.19**	**13**	*e*P		**P**		**22 23 24.3**	**+0.6**		
	comp=Z,322nm,2.3s										
ACCN				LR		LR					
	comp=Z,27µm,18.0s										
L31A	**Butterfield Fa**	**35.19**	**341**	⇓P		**P**		**22 23 22.2**	**-1.5**		
	baz=35										
O26A	**Horse Wrangler**	**35.19**	**334**	⇑P		**P**		**22 23 23.0**	**-1.0**		
	baz=35										
PB10	**IPOC Station P**	**35.24**	**158**	*e*P		P		22 23 34.8	+10		
OGNE	**Ogallala**	**35.25**	**336**	⇓P		**P**		**22 23 23.8**	**-0.6**		
	baz=35										
L30A	**Spencer Herefo**	**35.27**	**340**	⇑P		**P**		**22 23 23.4**	**-1.2**		
	baz=35										
Q23A	**Hartsel**	**35.28**	**330**	⇓P		**P**		**22 23 24.3**	**-0.6**		
	baz=35										
X16A	**Lo Mia Camp, P**	**35.32**	**319**	⇑P		**P**		**22 23 26.2**	**+0.9**		
	baz=35										
N27A	**Anderson Farm,**	**35.34**	**336**	⇑P		**P**		**22 23 24.2**	**-0.9**		
	baz=36										
M28A	**Bar X Bar Ranc**	**35.38**	**337**	⇓P		**P**		**22 23 24.4**	**-1.1**		
	baz=36										
GLMI	**Grayling**	**35.40**	**360**	*e*P		**P**		**22 23 24.4**	**-1.1**		
	comp=Z,196nm,1.4s										
GLMI				LR		LR					
	comp=Z,17µm,18.0s										
MVCO	**Mesa Verde**	**35.42**	**325**	*e*P		**P**		**22 23 25.9**	**-0.2**		
	comp=Z,84nm,1.3s										
MVCO				LR		LR					
	comp=Z,3µm,19.0s										
MVCO	**Mesa Verde**	**35.42**	**325**	⇓P		**P**		**22 23 26.1**	**0.0**		
	baz=36										
NCB	**Newcomb**	**35.62**	**12**	PFAKE				22 23 40.0	+13		
NCB				LR		LR					
	comp=Z,31µm,20.0s										
L29A	**Maesberg Ranch**	**35.64**	**339**	⇓P		**P**		**22 23 26.7**	**-1.0**		
	baz=36										
N26A	**Koester Ranch,**	**35.64**	**335**	⇑P		**P**		**22 23 27.3**	**-0.5**		
	baz=36										
P23A	**Jefferson**	**35.65**	**331**	⇑P		**P**		**22 23 28.6**	**+0.4**		
	baz=36										
Z14A	**Wintersburg**	**35.69**	**316**	⇓P		**P**		**22 23 29.6**	**+1.5**		
	baz=36										
FFD	**Franklin Falls**	**35.77**	**16**	PFAKE				22 23 40.0	+11		
FFD				LR		LR					
	comp=Z,13µm,20.0s										
HNH	**Hanover**	**35.82**	**15**	*e*P		**P**		**22 23 30.3**	**+1.2**		
	comp=Z,465nm,2.5s										
HNH				*e*PcP		**PcP**		**22 25 58.0**	**+1.7**		
HNH				LR		LR					
	comp=Z,17µm,18.0s										
ISCO	**Idaho Springs**	**35.87**	**331**	*e*P		**P**		**22 23 29.9**	**-0.1**		
ISCO				*e*				22 25 58.7			
ISCO				pmax		pmax					
	comp=Z,18nm,0.9s										
ISCO				MLR		MLR					
	comp=Z,3µm,21.0s										
ISCO	**Idaho Springs**	**35.87**	**331**	*e*P		**P**		**22 23 29.9**	**-0.1**		
	comp=Z,18nm,0.9s										
ISCO				*e*PcP		**PcP**		**22 25 58.7**	**+1.7**		
ISCO				LR		LR					
	comp=Z,3µm,21.0s										
ISCO	**Idaho Springs**	**35.87**	**331**	⇓P		**P**		**22 23 29.9**	**-0.1**		
	baz=36										
MDV	**Middlebury**	**35.88**	**14**	*e*P		**P**		**22 23 29.7**	**+0.1**		
MDV				*e*PcP		**PcP**		**22 25 56.6**	**+0.2**		
K30A	**Basset**	**35.88**	**340**	⇑P		**P**		**22 23 28.6**	**-1.2**		
	baz=36										
M27A	**Reverse DX Ran**	**35.89**	**336**	⇓P		**P**		**22 23 29.2**	**-0.7**		
	baz=36										
113A	**Mohawk Valley,**	**35.92**	**315**	⇓P		**P**		**22 23 31.4**	**+1.3**		
	baz=36										
ECSD	**EROS Data Cent**	**35.97**	**345**	*e*P		**P**		**22 23 28.4**	**-2.0**		
	comp=Z,46nm,0.7s										
ECSD				*e*PcP		**PcP**		**22 25 57.9**	**+1.1**		
ECSD				LR		LR					
	comp=Z,5µm,22.0s										
ECSD	**EROS Data Cent**	**35.97**	**345**	⇓P		**P**		**22 23 28.5**	**-2.0**		
	baz=36										
L28A	**Connealy Angus**	**35.97**	**338**	⇑P		**P**		**22 23 29.7**	**-0.9**		
	baz=36										
WUAZ	**Wupatki**	**35.98**	**321**	*e*P		**P**		**22 23 31.5**	**+0.7**		
	comp=Z,66nm,1.1s										
WUAZ				*e*PcP		**PcP**		**22 25 57.3**	**+0.1**		
WUAZ				LR		LR					
	comp=Z,5µm,19.0s										
WUAZ	**Wupatki**	**35.98**	**321**	⇓P		**P**		**22 23 32.1**	**+1.3**		
	baz=36										
PTN	**Potsdam (NY)**	**36.04**	**11**	*e*P		**P**		**22 23 31.2**	**+0.2**		
PTN				*e*				22 25 58.2			
PTN				pmax		pmax					
	comp=Z,2µm,3.0s										
PTN				MLR		MLR					
	comp=Z,80µm,20.0s										
PTN	**Potsdam (NY)**	**36.04**	**11**	*e*P		**P**		**22 23 31.2**	**+0.2**		
	comp=Z,2µm,3.0s										
PTN				*e*PcP		**PcP**		**22 25 58.2**	**+1.2**		
PTN				LR		LR					
	comp=Z,80µm,20.0s										
SMCO	**Snowmass**	**36.06**	**329**	*e*P		**P**		**22 23 31.5**	**-0.2**		
	comp=Z,29nm,1.0s										
SMCO				LR		LR					
	comp=Z,6µm,21.0s										
Y14A	**Wickenburg**	**36.06**	**317**	⇓P		**P**		**22 23 32.4**	**+0.9**		
	baz=36										
PV01	**Paradox Valley**	**36.12**	**327**	*e*P		**P**		**22 23 32.2**	**+0.1**		
M26A	**McRoberts Ranc**	**36.14**	**336**	⇑P		**P**		**22 23 30.1**	**-1.9**		
	baz=36										
LONY	**Lake Ozonia**	**36.17**	**12**	*e*P		**P**		**22 23 32.4**	**+0.3**		
	comp=Z,321nm,2.1s										
LONY				LR		LR					
	comp=Z,36µm,20.0s										
K29A	**Lazy Trails An**	**36.20**	**340**	⇓P		**P**		**22 23 30.9**	**-1.6**		
	baz=36										
P22A	**Eagle**	**36.27**	**330**	⇓P		**P**		**22 23 32.4**	**-0.9**		
	baz=36										
L27A	**T5 Ranch, Ells**	**36.34**	**337**	⇑P		**P**		**22 23 32.3**	**-1.4**		
	baz=36										
O23A	**Lake Granby, G**	**36.34**	**331**	⇓P		**P**		**22 23 33.4**	**-0.6**		
	baz=36										
PV05	**Paradox Valley**	**36.37**	**326**	*e*P		**P**		**22 23 34.3**	**+0.1**		
J30A	**Dallas**	**36.43**	**341**	⇑P		**P**		**22 23 32.5**	**-1.9**		
	baz=37										
PV04	**Paradox Valley**	**36.49**	**327**	*e*P		**P**		**22 23 35.8**	**+0.6**		
M25A	**Palm-Egli Farm**	**36.49**	**335**	⇑P		**P**		**22 23 33.9**	**-1.3**		
	baz=37										
K28A	**Ten Mile Ranch**	**36.52**	**339**	⇑P		**P**		**22 23 34.3**	**-1.0**		
	baz=37										
PV10	**Paradox Valley**	**36.55**	**326**	*e*P		**P**		**22 23 35.6**	**-0.2**		
SPMN	**Marine on St.**	**36.56**	**350**	*e*P		**P**		**22 23 33.1**	**-2.3**		
	comp=Z,96nm,1.0s										
SPMN				*e*PcP		**PcP**		**22 25 58.9**	**+0.4**		
SPMN				LR		LR					
	comp=Z,6µm,20.0s										
SPMN	**Marine on St.**	**36.56**	**350**	⇓P		**P**		**22 23 32.9**	**-2.5**		
	baz=37										
L26A	**Underwood Farm**	**36.59**	**336**	⇓P		**P**		**22 23 34.5**	**-1.4**		
	baz=37										
O22A	**Kremmling**	**36.60**	**331**	⇑P		**P**		**22 23 35.4**	**-0.9**		
	baz=37										
PV09	**Paradox Valley**	**36.69**	**326**	*e*P		**P**		**22 23 37.1**	**+0.1**		
J29A	**Okreek**	**36.77**	**340**	⇑P		**P**		**22 23 35.4**	**-1.9**		
	baz=37										
GLA	**Glamis**	**36.82**	**314**	*e*P		**P**		**22 23 39.1**	**+1.3**		
GLA				pmax		pmax					
	comp=Z,524nm,2.2s										
GLA	**Glamis**	**36.82**	**314**	*e*P		**P**		**22 23 39.1**	**+1.3**		
	comp=Z,524nm,2.2s										
GLA	**Glamis**	**36.82**	**314**	⇑P		**P**		**22 23 38.6**	**+0.7**		
	baz=37										
K27A	**Flueckinger Fa**	**36.84**	**338**	⇑P		**P**		**22 23 36.7**	**-1.3**		
	baz=37										
N23A	**Red Feather La**	**36.89**	**332**	*e*P		**P**		**22 23 38.7**	**+0.1**		
	comp=Z,19nm,0.8s										
N23A				LR		LR					
	comp=Z,3µm,20.0s										
N23A	**Red Feather La**	**36.89**	**332**	⇓P		**P**		**22 23 38.3**	**-0.3**		
	baz=37										
COWI	**Conover**	**36.91**	**354**	*e*P		**P**		**22 23 36.5**	**-2.0**		
	comp=Z,161nm,1.8s										
COWI				LR		LR					
	comp=Z,9µm,18.0s										
I30A	**Oacoma**	**36.94**	**342**	⇑P		**P**		**22 23 36.0**	**-2.7**		
	baz=37										
Y12C	**Blythe**	**36.99**	**316**	⇓P		**P**		**22 23 40.8**	**+1.6**		
	baz=37										
PHWY	**Pilot Hill**	**37.00**	**333**	*e*P		**P**		**22 23 38.8**	**-0.8**		
	comp=Z,52nm,1.6s										
PHWY				*e*PcP		**PcP**		**22 26 00.9**	**+0.6**		
PHWY				LR		LR					
	comp=Z,2µm,22.0s										
PDMCI	**Parker Dam,Lak**	**37.04**	**317**	⇑P		**P**		**22 23 40.7**	**+1.0**		
	baz=37										
L25A	**Engebretsen Ra**	**37.05**	**335**	⇑P		**P**		**22 23 39.2**	**-0.6**		
	baz=37										
N22A	**Wattenberg Ran**	**37.06**	**332**	⇑P		**P**		**22 23 39.7**	**-0.3**		
	baz=37										
J28A	**Allard Ranch,**	**37.10**	**339**	⇓P		**P**		**22 23 38.6**	**-1.6**		
	baz=37										
U15A	**North Rim**	**37.13**	**321**	⇑P		**P**		**22 23 41.3**	**+0.6**		
	baz=37										
K26A	**Motz Farm, Whi**	**37.20**	**337**	⇑P		**P**		**22 23 39.7**	**-1.3**		
	baz=37										
J27A	**Elkhorn Farm,**	**37.23**	**338**	⇓P		**P**		**22 23 40.4**	**-0.9**		
	baz=37										
BRSD	**Miller**	**37.27**	**342**	*e*P		**P**		**22 23 40.1**	**-1.4**		
	comp=Z,190nm,0.8s										
BRSD				LR		LR					
	comp=Z,5µm,22.0s										
BRSD	**Miller**	**37.27**	**342**	⇓P		**P**		**22 23 39.0**	**-2.6**		
	baz=37										
I29A	**Vivian Onida**	**37.31**	**341**	⇑P		**P**		**22 23 40.0**	**-1.9**		
	baz=37										
WVL	**Waterville**	**37.33**	**17**	*e*P		**P**		**22 23 42.7**	**+0.7**		
	comp=Z,599nm,2.3s										
WVL				LR		LR					
	comp=Z,14µm,19.0s										
W13A	**Hualapai Mount**	**37.34**	**318**	⇑P		**P**		**22 23 44.0**	**+1.6**		
	baz=37										
K25A	**Mack Ranch, Ha**	**37.40**	**336**	⇑P		**P**		**22 23 42.3**	**-0.5**		
	baz=38										
O20A	**White River Ci**	**37.42**	**329**	*e*P		**P**		**22 23 42.5**	**-0.6**		
	comp=Z,35nm,0.9s										
O20A				LR		LR					
	comp=Z,5µm,20.0s										
O20A	**White River Ci**	**37.42**	**329**	⇑P		**P**		**22 23 42.9**	**-0.2**		
	baz=38										
SWSC	**Sam W. Stewart**	**37.44**	**314**	⇑P		**P**		**22 23 45.2**	**+2.0**		
	baz=38										
IBP	**Imperial Bould**	**37.51**	**313**	⇑P		**P**		**22 23 45.7**	**+1.9**		
	baz=38										
BC3	**Big Chuckawall**	**37.58**	**315**	⇓P		**P**		**22 23 46.4**	**+1.9**		
	baz=38										
I28A	**Midland**	**37.58**	**340**	⇑P		**P**		**22 23 42.9**	**-1.3**		
	baz=38										
NEE2	**Needles Airpor**	**37.63**	**317**	⇑P		**P**		**22 23 46.2**	**+1.5**		
	baz=38										
IRM	**Iron Mountain**	**37.65**	**316**	⇑P		**P**		**22 23 47.0**	**+2.1**		
	baz=38										
J26A	**Sides Ranch, S**	**37.68**	**337**	⇓P		**P**		**22 23 44.5**	**-0.5**		
	baz=38										
H29A	**Onida**	**37.83**	**341**	⇑P		**P**		**22 23 43.7**	**-2.5**		
	baz=38										
KNB	**Kanab**	**37.83**	**321**	*e*P		**P**		**22 23 46.7**	**+0.

MVU	**Marysvale**	**38.44**	**324**	*e*P		**P**	**22 23 52.6**	**+0.9**
	comp=Z,31nm,1.3s								
MVU				*e*PcP		**PcP**	**22 26 06.8**	**+2.1**
MVU				*e*S		S	22 29 54.1	+8.8
MVU				LR		LR			
	comp=Z,8µm,19.0s								
G28A	**Parade**	**38.45**	**341**	⇑P		**P**	**22 23 49.5**	**-2.0**
	baz=39								
H27A	**Howes**	**38.45**	**339**	⇑P		**P**	**22 23 50.0**	**-1.6**
	baz=39								
I25A	**Rochford**	**38.53**	**337**	⇓P		**P**	**22 23 52.4**	**+0.1**
	baz=39								
K22A	**Casper**	**38.55**	**333**	*e*P		**P**	**22 23 52.5**	**-0.1**
	comp=Z,22nm,0.8s								
K22A				LR		LR			
	comp=Z,4µm,22.0s								
K22A	**Casper**	**38.55**	**333**	⇓P		**P**	**22 23 51.4**	**-1.2**
	baz=39								
F30A	**Leola**	**38.57**	**343**	⇓P		**P**	**22 23 50.0**	**-2.5**
	baz=39								
H26A	**Fairpoint**	**38.68**	**339**	⇓P		**P**	**22 23 52.0**	**-1.5**
	baz=39								
RSSD	**Black Hills**	**38.73**	**337**	*e*P		**P**	**22 23 53.1**	**-1.0**
RSSD				*e*			22 26 07.1		
RSSD				pmax		pmax			
	comp=Z,67nm,1.6s								
RSSD				MLR		MLR			
	comp=Z,2µm,22.0s								
RSSD	**Black Hills**	**38.73**	**337**	*e*P		**P**	**22 23 53.1**	**-1.0**
	comp=Z,67nm,1.6s								
RSSD				*e*PcP		**PcP**	**22 26 07.1**	**+1.6**
RSSD				LR		LR			
	comp=Z,2µm,22.0s								
I24A	**Kuemmerle Ranc**	**38.74**	**336**	⇓P		**P**	**22 23 53.2**	**-0.8**
	baz=39								
J23A	**Dilts Ranch, B**	**38.74**	**335**	⇓P		**P**	**22 23 53.2**	**-0.9**
	baz=39								
MURC	**Murrieta**	**38.79**	**314**	⇓P		**P**	**22 23 56.7**	**+2.2**
	baz=39								
F29A	**Eureka**	**38.80**	**343**	⇓P		**P**	**22 23 51.5**	**-2.9**
	baz=39								
HEC	**Hector,Ludlow**	**38.83**	**316**	⇓P		**P**	**22 23 57.0**	**+2.1**
	baz=39								
TUQ	**Turquoise Moun**	**38.89**	**317**	⇓P		**P**	**22 23 57.2**	**+1.8**
	baz=39								
BBRC	**Big Bear Solar**	**38.94**	**315**	⇑P		**P**	**22 23 58.1**	**+2.1**
	baz=39								
H25A	**Fruitdale**	**38.99**	**338**	⇑P		**P**	**22 23 55.1**	**-1.0**
	baz=39								
SHPR	**Sheep Range**	**39.00**	**319**	*e*P		**P**	**22 23 55.7**	**-0.7**
SHPR				*e*PcP		**PcP**	**22 26 08.3**	**+1.9**
SHPR				*e*S		**S**	**22 29 58.4**	**+4.6**
EYMN	**Ely**	**39.01**	**352**	*e*P		**P**	**22 23 54.2**	**-1.9**
	comp=Z,28nm,0.9s								
G27A	**Dupree**	**39.06**	**340**	⇑P		**P**	**22 23 54.9**	**-1.7**
	baz=39								
F28A	**McLaughlin**	**39.11**	**342**	⇓P		**P**	**22 23 54.6**	**-2.4**
	baz=39								
MPU	**Maple Canyon**	**39.13**	**326**	*e*P		**P**	**22 23 57.2**	**-0.3**
	comp=Z,31nm,1.2s								
MPU				*e*PcP		**PcP**	**22 26 09.4**	**+2.6**
MPU				LR		LR			
	comp=Z,4µm,19.0s								
J22A	**Midwest**	**39.14**	**334**	⇑P		**P**	**22 23 56.1**	**-1.4**
	baz=39								
E30A	**Jud**	**39.14**	**344**	⇓P		**P**	**22 23 54.8**	**-2.5**
	baz=39								
I23A	**Meade Ranch, G**	**39.16**	**336**	⇓P		**P**	**22 23 56.2**	**-1.4**
	baz=39								
G26A	**Maurine**	**39.21**	**339**	⇓P		**P**	**22 23 56.3**	**-1.6**
	baz=39								
RRX	**Edison Barstow**	**39.32**	**315**	⇓P		**P**	**22 24 00.9**	**+2.0**
	baz=39								
NLU	**North Lily Min**	**39.34**	**325**	*e*P		**P**	**22 23 58.7**	**-0.5**
	comp=Z,19nm,1.4s								
NLU				*e*PcP		**PcP**	**22 26 08.6**	**+1.1**
NLU				LR		LR			
	comp=Z,4µm,19.0s								
SHOC	**Shoshone, Teco**	**39.39**	**317**	⇑P		**P**	**22 24 00.9**	**+1.4**
	baz=39								
E29A	**Napoleon**	**39.41**	**343**	⇓P		**P**	**22 23 57.5**	**-2.0**
	baz=40								
G25A	**Newell**	**39.41**	**339**	⇓P		**P**	**22 23 58.7**	**-0.9**
	baz=40								
GSC	**Goldstone, Bar**	**39.42**	**316**	*e*P		**P**	**22 24 01.0**	**+1.2**
GSC				pmax		pmax			
	comp=Z,297nm,2.4s								
GSC	**Goldstone, Bar**	**39.42**	**316**	*e*P		**P**	**22 24 01.0**	**+1.2**
	comp=Z,297nm,2.4s								
GSC	**Goldstone, Bar**	**39.42**	**316**	⇑P		**P**	**22 24 01.9**	**+2.0**
	baz=39								
JLU	**Jordanelle**	**39.44**	**327**	*e*P		**P**	**22 23 59.3**	**-0.8**
	comp=Z,78nm,2.0s								
JLU				*e*PcP		**PcP**	**22 26 09.8**	**+2.0**
JLU				LR		LR			
	comp=Z,6µm,20.0s								
BFSC	**Mount Baldy Ra**	**39.45**	**314**	⇓P		**P**	**22 24 01.8**	**+1.7**
	baz=40								
H24A	**Dirks Ranch, A**	**39.46**	**337**	⇓P		**P**	**22 23 59.0**	**-1.1**
	baz=40								
SCI	**San Clemente I**	**39.46**	**312**	⇓P		**P**	**22 23 57.1**	**-3.0**
	baz=40								
J21A	**Lysite**	**39.52**	**333**	⇑P		**P**	**22 23 59.3**	**-1.4**
	baz=40								
F27A	**Lemmon**	**39.52**	**340**	⇓P		**P**	**22 23 58.6**	**-1.8**
	baz=40								
I22A	**9 Mile Ranch,**	**39.53**	**335**	⇑P		**P**	**22 23 59.8**	**-0.9**
	baz=40								
CIS	**Catalina Islan**	**39.56**	**312**	⇓P		**P**	**22 24 03.3**	**+2.4**
	baz=40								
FMP	**Fort Macarthur**	**39.63**	**313**	⇑P		**P**	**22 24 02.9**	**+1.4**
	baz=40								
H23A	**Clabaugh Cattl**	**39.63**	**336**	⇑P		**P**	**22 24 00.3**	**-1.2**
	baz=40								
D30A	**Buchanan**	**39.66**	**344**	⇑P		**P**	**22 23 59.8**	**-1.7**
	baz=40								
CTU	**Camp Tracy**	**39.67**	**327**	PFAKE			22 24 10.0	+8.0
CTU				LR		LR			
	comp=Z,437µm,21.0s								
F26A	**Lodgepole**	**39.72**	**340**	⇓P		**P**	**22 24 00.2**	**-2.0**
	baz=40								
MWC	**Mount Wilson**	**39.72**	**314**	*e*P		**P**	**22 24 03.3**	**+0.8**
MWC	**Mount Wilson**	**39.72**	**314**	*e*P		**P**	**22 24 03.3**	**+0.8**
E28A	**Huff**	**39.73**	**342**	⇑P		**P**	**22 24 00.4**	**-1.8**
	baz=40								
PQI	**Presque Isle**	**39.73**	**17**	PFAKE			22 24 10.0	+7.9
PQI				LR		LR			
	comp=Z,15µm,20.0s								
TCUT	**Toone Canyon**	**39.78**	**327**	PFAKE			22 24 10.0	+7.0
TCUT				LR		LR			
	comp=Z,5µm,20.0s								
PASC	**Pasadena Art C**	**39.79**	**314**	*e*P		**P**	**22 24 02.5**	**-0.3**
	comp=Z,246nm,1.8s								
PASC				LR		LR			
	comp=Z,5µm,22.0s								
J20A	**Shoshoni**	**39.81**	**333**	⇓P		**P**	**22 24 01.7**	**-1.3**
	baz=40								
I21A	**Big Trails, Te**	**39.82**	**334**	⇑P		**P**	**22 24 01.3**	**-1.8**
	baz=40								
D29A	**Pettibone, Tap**	**39.85**	**344**	⇑P		**P**	**22 24 01.0**	**-2.1**
	baz=40								
E27A	**Carson**	**39.86**	**341**	⇑P		**P**	**22 24 01.9**	**-1.4**
	baz=40								
G24A	**Alzada**	**39.90**	**338**	⇓P		**P**	**22 24 02.6**	**-1.0**
	baz=40								
DUG	**Dugway, Tooele**	**39.91**	**325**	*e*P		**P**	**22 24 03.7**	**-0.2**
DUG				pmax		pmax			
	comp=Z,14nm,0.9s								
DUG				MLR		MLR			
	comp=Z,3µm,18.0s								
DUG	**Dugway, Tooele**	**39.91**	**325**	*e*P		**P**	**22 24 03.7**	**-0.2**
	comp=Z,14nm,0.9s								
DUG				LR		LR			
	comp=Z,3µm,18.0s								
DUG	**Dugway, Tooele**	**39.91**	**325**	⇑P		**P**	**22 24 03.9**	**-0.1**
	baz=40								
TPNV	**Topopah Spring**	**39.97**	**319**	*e*P		**P**	**22 24 06.0**	**+1.5**
TPNV				pmax		pmax			
	comp=Z,50nm,0.9s								
TPNV				MLR		MLR			
	comp=Z,5µm,19.0s								
TPNV	**Topopah Spring**	**39.97**	**319**	*e*P		**P**	**22 24 06.0**	**+1.5**
	comp=Z,50nm,0.9s								
TPNV				LR		LR			
	comp=Z,5µm,19.0s								
TPNV	**Topopah Spring**	**39.97**	**319**	⇑P		**P**	**22 24 06.5**	**+2.0**
	baz=40								
EDW2	**Edwards Air Fo**	**40.01**	**315**	⇑P		**P**	**22 24 06.3**	**+1.6**
	baz=40								
H22A	**Clearmont**	**40.05**	**335**	⇓P		**P**	**22 24 03.8**	**-1.1**
	baz=40								
BW06	**Boulder Array**	**40.05**	**331**	*e*P		**P**	**22 24 04.0**	**-1.1**
	comp=Z,16nm,1.0s								
BW06				*e*PcP		**PcP**	**22 26 09.9**	**+0.2**
PD31	**Pinedale Array**	**40.05**	**331**	*e*P		**P**	**22 24 04.6**	**-0.5**
PD31				*e*PcP		**PcP**	**22 26 11.1**	**+1.3**
PDAR	**Pinedale Array**	**40.05**	**331**	P		**P**	**22 24 04.6**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=123,slow=11,SNR=13								
PDAR				PcP		**PcP**	**22 26 11.1**	**+1.3**
	comp=Z,14nm,1.0s,baz=100,slow=6.2,SNR=8.6								
PDAR				LR		LR	22 45 32.9		
	comp=Z,4µm,18.1s,baz=142,slow=44								
F25A	**Bowman**	**40.06**	**339**	⇑P		**P**	**22 24 03.5**	**-1.5**
	baz=40								
AGMN	**Agassiz Nation**	**40.09**	**348**	*e*P		**P**	**22 24 03.4**	**-1.7**
	comp=Z,106nm,1.1s								
AGMN				LR		LR			
	comp=Z,6µm,21.0s								
AGMN	**Agassiz Nation**	**40.09**	**348**	⇑P		**P**	**22 24 03.2**	**-1.9**
	baz=40								
FURC	**Furnace Creek,**	**40.10**	**318**	⇓P		**P**	**22 24 07.3**	**+2.0**
	baz=40								
LRMC	**Laurel Mtn Rad**	**40.12**	**316**	⇑P		**P**	**22 24 07.0**	**+1.3**
	baz=40								
C30A	**Mose, Pekin**	**40.14**	**345**	⇑P		**P**	**22 24 03.7**	**-1.8**
	baz=40								
G23A	**Biddle**	**40.16**	**337**	⇓P		**P**	**22 24 04.9**	**-0.9**
	baz=40								
J19A	**Crowheart**	**40.19**	**332**	⇑P		**P**	**22 24 05.2**	**-1.0**
	baz=40								
E26A	**Carlson Angus**	**40.19**	**340**	⇓P		**P**	**22 24 04.5**	**-1.6**
	baz=40								
HWUT	**Hardware Ranch**	**40.21**	**328**	*e*P		**P**	**22 24 06.0**	**-0.5**
	comp=Z,31nm,0.9s								
HWUT				*e*PcP		**PcP**	**22 26 11.9**	**+1.7**
HWUT				LR		LR			
	comp=Z,5µm,18.0s								
D28A	**Regan**	**40.24**	**343**	⇓P		**P**	**22 24 04.9**	**-1.5**
	baz=40								
LCO	**Las Campanas**	**40.26**	**162**	*e*P		**P**	**22 24 06.5**	**-0.5**
	comp=Z,58nm,0.9s								
I20A	**Worland**	**40.30**	**333**	⇓P		**P**	**22 24 06.4**	**-0.7**
	baz=40								
MPMC	**Manual Prospec**	**40.30**	**317**	⇓P		**P**	**22 24 08.6**	**+1.4**
	baz=40								
F24A	**Ekalaka**	**40.34**	**338**	⇑P		**P**	**22 24 05.6**	**-1.8**
	baz=40								
H21A	**Big Horn, Sher**	**40.36**	**335**	⇓P		**P**	**22 24 06.3**	**-1.3**
	baz=40								
R11A	**Troy Canyon, C**	**40.38**	**321**	*e*P		**P**	**22 24 07.8**	**0.0**
	comp=Z,18nm,0.9s								
R11A				LR		LR			
	comp=Z,7µm,18.0s								
R11A	**Troy Canyon, C**	**40.38**	**321**	⇑P		**P**	**22 24 09.1**	**+1.3**
	baz=40								
BLG	**Laguna Peak, P**	**40.39**	**313**	⇑P		**P**	**22 24 09.9**	**+2.1**
	baz=40								
OSI	**Osito Audit: C**	**40.39**	**314**	⇑P		**P**	**22 24 09.4**	**+1.5**
	baz=40								
D27A	**Center**	**40.46**	**342**	⇑P		**P**	**22 24 06.9**	**-1.3**
	baz=41								
DAC	**Darwin (Calif)**	**40.48**	**317**	*e*P		**P**	**22 24 08.8**	**0.0**
DAC				*e*			22 26 12.9		
DAC				pmax		pmax			
	comp=Z,239nm,2.5s								
DAC				MLR		MLR			
	comp=Z,5µm,21.0s								
DAC	**Darwin (Calif)**	**40.48**	**317**	*e*P		**P**	**22 24 08.8**	**0.0**
	comp=Z,239nm,2.5s								
DAC				*e*PcP		**PcP**	**22 26 12.9**	**+1.7**
DAC				LR		LR			
	comp=Z,5µm,21.0s								
BGU	**Big Grassy Mou**	**40.53**	**326**	*e*P		**P**	**22 24 08.2**	**-0.9**
	comp=Z,42nm,1.0s								
BGU				*e*PcP		**PcP**	**22 26 12.5**	**+1.3**
BGU				LR		LR			
	comp=Z,4µm,19.0s								
G22A	**Birney**	**40.53**	**336**	⇓P		**P**	**22 24 07.7**	**-1.2**
	baz=41								
E25A	**Miller Ranch,**	**40.54**	**340**	⇓P		**P**	**22 24 07.2**	**-1.7**
	baz=41								
MDND	**Maddock**	**40.57**	**344**	*e*P		**P**	**22 24 08.0**	**-1.1**
	comp=Z,2µm,1.3s								
MDND				LR		LR			
	comp=Z,6µm,18.0s								
MDND	**Maddock**	**40.57**	**344**	⇓P		**P**	**22 24 07.2**	**-1.9**
	baz=41								
F23A	**Volborg**	**40.60**	**337**	⇑P		**P**	**22 24 08.3**	**-1.2**
	baz=41								
H20A	**Greybull**	**40.66**	**334**	⇑P		**P**	**22 24 08.4**	**-1.6**
	baz=41								
C28A	**Hausauer Farms**	**40.66**	**343**	⇑P		**P**	**22 24 08.3**	**-1.6**
	baz=41								
D26A	**Manning**	**40.68**	**341**	⇓P		**P**	**22 24 08.6**	**-1.4**
	baz=41								
ARVC	**Arvin**	**40.73**	**314**	⇓P		**P**	**22 24 12.7**	**+2.1**
	baz=41								
GRAC	**Grapevine Rang**	**40.73**	**318**	⇑P		**P**	**22 24 12.6**	**+2.0**
	baz=41								
BSC	**Santa Cruz Isl**	**40.74**	**312**	⇓P		**P**	**22 24 13.0**	**+2.2**
	baz=41								
I19A	**Meeteetse**	**40.75**	**332**	⇑P		**P**	**22 24 10.3**	**-0.7**
	baz=41								
ISA	**Isabella, Lake**	**40.76**	**315**	*e*P		**P**	**22 24 10.9**	**0.0**
ISA				*e*			22 26 12.2		
ISA				pmax		pmax			
	comp=Z,197nm,2.1s								
ISA				MLR		MLR			
	comp=Z,3µm,21.0s								
ISA	**Isabella, Lake**	**40.76**	**315**	*e*P		**P**	**22 24 10.9**	**0.0**
	comp=Z,197nm,2.1s								
ISA				*e*PcP		**PcP**	**22 26 12.2**	**+0.2**
ISA				LR		LR			
	comp=Z,3µm,21.0s								
ISA	**Isabella, Lake**	**40.76**	**315**	⇑P		**P**	**22 24 13.1**	**+2.2**
	baz=41								
B30A	**Myrvik Farm, E**	**40.80**	**346**	⇑P		**P**	**22 24 09.0**	**-2.0**
	baz=41								
AHID	**Auburn Hatcher**	**40.81**	**329**	PFAKE			22 24 20.0	+8.6
AHID				LR		LR			
	comp=Z,4µm,19.0s								
CWC	**Cottonwood Cre**	**40.90**	**317**	⇑P		**P**	**22 24 13.4**	**+1.2**
	baz=41								
E24A	**Baker**	**40.91**	**339**	⇑P		**P**	**22 24 10.8**	**-1.1**
	baz=41								
G21A	**Lodge Grass**	**40.91**	**335**	⇓P		**P**	**22 24 10.9**	**-1.2**
	baz=41								
HVU	**Hansel Valley**	**40.98**	**327**	*e*P		**P**	**22 24 12.3**	**-0.4**
HVU				*e*			22 26 12.4		
HVU				pmax		pmax			
	comp=Z,67nm,2.1s								
HVU				MLR		MLR			
	comp=Z,3µm,20.0s								
HVU	**Hansel Valley**	**40.98**	**327**	*e*P		**P**	**22 24 12.3**	**-0.4**
	comp=Z,66nm,2.1s								
HVU				*e*PcP		**PcP**	**22 26 12.4**	**-0.2**
HVU				LR		LR			
	comp=Z,3µm,20.0s								
F22A	**Rosebud**	**40.98**	**336**	⇑P		**P**	**22 24 11.3**	**-1.3**
	baz=41								
C27A	**Sayler Ranch,**	**40.99**	**342**	⇑P		**P**	**22 24 11.3**	**-1.3**
	baz=41								
SBC	**Santa Barbara**	**41.02**	**313**	⇓P		**P**	**22 24 14.8**	**+1.9**
	baz=41								
B29A	**Wagenman Farm,**	**41.07**	**345**	⇑P		**P**	**22 24 11.8**	**-1.4**
	baz=41								
D25A	**Fairfield**	**41.07**	**340**	⇑P		**P**	**22 24 11.8**	**-1.5**
	baz=41								
REDW	**Red Top Meadow**	**41.12**	**330**	*e*P		**P**	**22 24 13.2**	**-0.8**
	comp=Z,65nm,1.2s								
REDW				LR		LR			
	comp=Z,3µm,20.0s								
SNOW	**Snow King Moun**	**41.15**	**330**	*e*P		**P**	**22 24 13.7**	**-0.6**
	comp=Z,38nm,1.1s								
SNOW				LR		LR			
	comp=Z,3µm,21.0s								
LOHW	**Long Hollow**	**41.19**	**331**	*e*P		**P**	**22 24 13.2**	**-1.3**
	comp=Z,40nm,1.6s								
LOHW				*e*PcP		**PcP**	**22 26 14.4**	**+1.1**
LOHW				LR		LR			
	comp=Z,4µm,22.0s								
E23A	**Ismay**	**41.22**	**338**	⇓P		**P**	**22 24 12.9**	**-1.6**
	baz=41								
H19A	**Powell**	**41.24**	**333**	⇓P		**P**	**22 24 13.4**	**-1.4**
	baz=41								
A30A	**Hoffart Farm,**	**41.24**	**346**	⇓P		**P**	**22 24 12.7**	**-2.0**
	baz=41								
TPH	**Tonopah**	**41.25**	**319**	*e*P		**P**	**22 24 15.7**	**+0.6**
TPH				pmax		pmax			
	comp=Z,51nm,1.3s								
TPH				MLR		MLR			
	comp=Z,7µm,20.0s								
TPH	**Tonopah**	**41.25**	**319**	*e*P		**P**	**22 24 15.7**	**+0.6**
	comp=Z,51nm,1.3s								
TPH				LR		LR			
	comp=Z,7µm,20.0s								
TPAW	**Teton Pass**	**41.27**	**330**	*e*P		**P**	**22 24 14.2**	**-1.0**
	comp=Z,28nm,1.1s								
TPAW				LR		LR			
	comp=Z,3µm,20.0s								
C26A	**Wahner Farm, P**	**41.27**	**342**	⇓P		**P**	**22 24 14.0**	**-0.9**
	baz=41								
VES	**Vestal, Richgr**	**41.27**	**315**	⇓P		**P**	**22 24 17.3**	**+2.3**
	baz=41								
PKM	**Mcpherson Peak**	**41.32**	**314**	⇑P		**P**	**22 24 17.1**	**+1.4**
	baz=41								
B28A	**Dugan Ranch, T**	**41.33**	**344**	⇓P		**P**	**22 24 13.6**	**-1.7**
	baz=42								
G20A	**Bridger**	**41.34**	**334**	⇑P		**P**	**22 24 14.1**	**-1.5**
	baz=41								
TIN	**Tinemaha, Big**	**41.34**	**317**	⇓P		**P**	**22 24 17.2**	**+1.5**
	baz=41								
MOOW	**Moose Ponds**	**41.36**	**331**	*e*P		**P**	**22 24 14.7**	**-1.2**
	comp=Z,13nm,1.0s								
MOOW				*e*PcP		**PcP**	**22 26 16.0**	**+2.1**
MOOW				LR		LR			
	comp=Z,3µm,19.0s								
F21A	**Absaloka Mine,**	**41.37**	**336**	⇓P		**P**	**22 24 14.3**	**-1.4**
	baz=42								
D24A	**Glendive**	**41.39**	**339**	⇑P		**P**	**22 24 15.0**	**-0.9**
	baz=42								
I17A	**Pilgrim Ck.**	**41.41**	**331**	⇑P		**P**	**22 24 16.1**	**-0.2**
	baz=42								
E22A	**Miles City**	**41.41**	**337**	⇑P		**P**	**22 24 14.7**	**-1.4**
	baz=42								
FXWY	**Fox Creek**	**41.41**	**330**	*e*P		**P**	**22 24 15.4**	**-1.0**
	comp=Z,13nm,1.1s								
FXWY				*e*PcP		**PcP**	**22 26 12.8**	**-1.3**
FXWY				LR		LR			
	comp=Z,3µm,20.0s								
A29A	**Manning Farm,**	**41.46**	**345**	⇓P		**P**	**22 24 14.7**	**-1.7**
	baz=42								
B27A	**Peters Farms,**	**41.54**	**343**	⇑P		**P**	**22 24 15.4**	**-1.6**
	baz=42								
C25A	**Freed Ranch, W**	**41.54**	**341**	⇓P		**P**	**22 24 15.8**	**-1.3**
	baz=42								
H18A	**Shoshone NF, C**	**41.55**	**332**	⇓P		**P**	**22 24 16.3**	**-1.2**
	baz=42								
IMW	**Indian Meadow**	**41.56**	**331**	*e*P		**P**	**22 24 16.6**	**-1.1**
	comp=Z,13nm,1.0s								
IMW				*e*PcP		**PcP**	**22 26 14.5**	**-0.2**
IMW				LR		LR			
	comp=Z,3µm,22.0s								
FLWY	**Flagg Ranch**	**41.59**	**331**	*e*P		**P**	**22 24 17.8**	**0.0**
	comp=Z,28nm,1.1s								
RCTC	**Rector, Farmer**	**41.63**	**316**	⇑P		**P**	**22 24 20.0**	**+2.0**
	baz=42								
SMMC	**Simmler**	**41.65**	**314**	⇓P		**P**	**22 24 20.0**	**+1.8**
	baz=42								
ELK	**Elko**	**41.67**	**324**	*e*P		**P**	**22 24 17.8**	**-0.7**
ELK				*e*			22 26 16.1		
ELK				pmax		pmax			
	comp=Z,10.0nm,0.8s								
ELK	**Elko**	**41.67**	**324**	*e*P		**P**	**22 24 17.8**	**-0.7**
	comp=Z,9.9nm,0.8s								
ELK				*e*PcP		**PcP**	**22 26 16.1**	**+1.1**
A28A	**Rude Farm, Bot**	**41.72**	**344**	⇑P		**P**	**22 24 16.7**	**-1.9**
	baz=42								
RLMT	**Red Lodge**	**41.72**	**333**	*e*P		**P**	**22 24 18.0**	**-0.9**
	comp=Z,19nm,1.0s								
RLMT				*e*PcP		**PcP**	**22 26 14.3**	**-0.8**
RLMT				LR		LR			
	comp=Z,5µm,21.0s								
LAO	**LASA Array**	**41.72**	**337**	*e*P		**P**	**22 24 17.9**	**-0.8**
	comp=Z,29nm,0.8s								
LAO				*e*PcP		**PcP**	**22 26 16.2**	**+1.4**
LAO				LR		LR			
	comp=Z,4µm,20.0s								
D23A	**Lindsay**	**41.75**	**338**	⇓P		**P**	**22 24 18.4**	**-0.5**
	baz=42								
H17A	**Grant Village**	**41.76**	**331**	PFAKE			22 24 30.0	+11
H17A				LR		LR			
	comp=Z,6µm,22.0s								
H17A	**Grant Village**	**41.76**	**331**	⇑P		**P**	**22 24 19.1**	**-0.1**
	baz=42								
F20A	**Billings**	**41.77**	**335**	⇑P		**P**	**22 24 17.5**	**-1.6**
	baz=42								
C24A	**Savage**	**41.78**	**339**	⇓P		**P**	**22 24 18.4**	**-0.7**
	baz=42								
B26A	**Jensen Ranch,**	**41.80**	**342**	⇑P		**P**	**22 24 18.2**	**-1.1**
	baz=42								
LKWY	**Lake**	**41.81**	**332**	PFAKE			22 24 30.0	+10
LKWY				LR		LR			
	comp=Z,3µm,19.0s								
YFT	**Old Faithful**	**41.93**	**331**	*e*P		**P**	**22 24 21.9**	**+1.3**
	comp=Z,21nm,0.9s								
YFT				*e*PcP		**PcP**	**22 26 18.3**	**+2.5**
E21A	**Keefer Ranch,**	**41.93**	**336**	⇑P		**P**	**22 24 19.2**	**-1.2**
	baz=42								
ULM	**Lac du Bonnet**	**41.96**	**349**	P		**P**	**22 24 18.3**	**-2.1**
	comp=Z,93nm,0.8s,baz=166,slow=8.0,SNR=82								
ULM				PP		**PP**	**22 26 00.2**	**+2.4**
	comp=Z,12nm,1.0s,baz=165,slow=13,SNR=2.3								
ULM				LR		LR	22 42 38.8		
	comp=Z,6µm,21.6s,baz=161,slow=37								
ULM	**Lac du Bonnet**	**41.96**	**349**	P		**P**	**22 24 18.3**	**-2.1**
ULM							22 26 00.2		
ULM				pmax		pmax			
	comp=Z,93nm,0.8s								
ULM				pmax		pmax			
	comp=Z,13nm,1.0s								
ULM				MLR		MLR			
	comp=Z,6µm,21.6s								
ULM	**Lac du Bonnet**	**41.96**	**349**	*e*P		**P**	**22 24 18.2**	**-2.1**
	comp=Z,106nm,0.8s								
ULM				*e*PP		**PP**	**22 26 00.2**	**+2.4**
B25A	**Knox Farm, Ray

comp=Z,3µm,22.0s
B23A Brockton 42.78 340 ⇑P P 22 24 26.8 -0.4
baz=43
D20A Manuel Ranch, 42.80 336 ⇓P P 22 24 26.6 -0.8
baz=43
A24A Westby 42.84 341 ⇑P P 22 24 27.1 -0.6
baz=43
WAKR Walker 42.93 318 eP P 22 24 29.5 +0.7
B22A Reddig Ranch S 42.99 339 ⇑P P 22 24 28.2 -0.8
baz=43
C21A Desert Coulee 43.00 337 ⇑P P 22 24 28.1 -0.9
baz=43
HLID Hailey 43.08 328 eP P 22 24 28.8 -1.1
comp=Z,12nm,0.8s
HLID ePcP PcP 22 26 21.1 +1.5
HLID LR LR
comp=Z,5µm,19.0s
HLID Hailey 43.08 328 ⇑P P 22 24 29.8 -0.1
baz=43
A23A Redstone 43.16 340 ⇑P P 22 24 29.5 -0.8
baz=43
D19A Cripps Ranch, 43.16 335 ⇓P P 22 24 29.9 -0.5
baz=43
MCMT McKenzie Canyo 43.18 330 eP P 22 24 31.0 +0.2
BOZ Bozeman (W) 43.20 332 eP P 22 24 29.8 -1.0
BOZ pmax pmax
comp=Z,28nm,1.2s
BOZ MLR MLR
comp=Z,4µm,20.0s
BOZ Bozeman (W) 43.20 332 eP P 22 24 29.8 -1.0
comp=Z,28nm,1.2s
BOZ LR LR
comp=Z,4µm,20.0s
C20A Veseth Ranch, 43.26 337 ⇑P P 22 24 30.7 -0.4
baz=43
CMB Columbia Colle 43.31 317 eP P 22 24 31.8 +0.1
CMB e 22 26 21.7
CMB pmax pmax
comp=Z,18nm,1.0s
CMB MLR MLR
comp=Z,4µm,22.0s
CMB Columbia Colle 43.31 317 eP P 22 24 31.8 +0.1
comp=Z,18nm,1.0s
CMB ePP PcP 22 26 21.6 +1.3
CMB LR LR
comp=Z,4µm,22.0s
DLMT Dillon 43.44 331 eP P 22 24 32.2 -0.6
comp=Z,27nm,1.2s
DLMT ePP PcP 22 26 22.0 +1.3
DLMT LR LR
comp=Z,3µm,21.0s
B21A Ellsworth Farm 43.47 338 ⇑P P 22 24 32.5 -0.2
baz=44
A22A Carney Farms, 43.55 339 ⇓P P 22 24 33.2 -0.3
baz=44
BDFB Brasilia 43.59 124 P P 22 24 35.6 +1.4
comp=Z,29nm,1.0s,baz=289,slow=11,SNR=18
BDFB LR LR 22 45 36.6
comp=Z,7µm,18.4s,baz=306,slow=40
BDFB Brasilia 43.59 124 P P 22 24 35.6 +1.4
BDFB pmax pmax
comp=Z,29nm,1.0s
BDFB MLR MLR
comp=Z,7µm,18.4s
BDFB Brasilia 43.59 124 eP P 22 24 35.1 +0.9
RPN Rapa Nui 43.64 213 PFAKE 22 24 40.0 +5.7
RPN LR LR
comp=Z,12µm,20.0s
C19A Slack Wire Ran 43.69 336 ⇓P P 22 24 34.3 -0.3
baz=44
LRM Limekiln Ridge 43.71 331 eP P 22 24 34.4 -0.6
LRM ePcP PcP 22 26 23.8 +2.1
MFID Camas Ranch 43.74 326 eP P 22 24 33.9 -1.3
comp=Z,20nm,1.1s
MFID ePcP PcP 22 26 24.5 +2.8
MFID LR LR
comp=Z,5µm,18.0s
B20A Solberg Farm, 43.85 337 ⇑P P 22 24 35.1 -0.8
baz=44
A21A Bergtoll Ranch 43.90 338 ⇓P P 22 24 36.0 -0.3
baz=44
CPUP Villa Florida 44.01 144 eP P 22 24 37.5 +0.2
CPUP Villa Florida 44.01 144 eP P 22 24 37.5 +0.2
HRY Holter Researc 44.09 333 eP P 22 24 36.9 -1.0
HRY ePP PcP 22 26 25.7 +2.9
A20A Cobblestone Ra 44.18 338 ⇑P P 22 24 38.0 -0.5
baz=44
EGMT Eagleton 44.21 335 eP P 22 24 37.6 -1.2
comp=Z,22nm,0.9s
EGMT ePP PcP 22 26 25.1 +1.9
EGMT LR LR
comp=Z,5µm,20.0s
EGMT Eagleton 44.21 335 ⇓P P 22 24 37.9 -0.9
baz=44
B19A Brinkman Farms 44.23 336 ⇓P P 22 24 37.7 -1.2
baz=44
A19A Klindworth Far 44.53 337 ⇓P P 22 24 40.4 -0.9
baz=45
WVOR Wild Horse Val 44.71 324 eP P 22 24 42.5 -0.5
WVOR e 22 26 28.1
WVOR pmax pmax
comp=Z,68nm,1.0s
WVOR MLR MLR
comp=Z,6µm,18.0s
WVOR Wild Horse Val 44.71 324 eP P 22 24 42.5 -0.5
comp=Z,68nm,1.0s
WVOR ePcP PP 22 26 28.1 +0.4
WVOR LR LR
comp=Z,6µm,18.0s
CHMT Chamberlain Mo 44.89 332 eP P 22 24 43.1 -1.3
CHMT ePcP PcP 22 26 26.9 +1.2
MCCM Marconi Confer 45.06 316 PFAKE 22 25 00.0 +14
MCCM LR LR
comp=Z,3µm,21.0s
MSO Missoula 45.15 331 eP P 22 24 45.5 -0.8
MSO ePcP PcP 22 26 28.9 +2.4
MSO LR LR
comp=Z,5µm,20.0s
MSO Missoula 45.15 331 P P 22 24 46.1 -0.2
baz=45
SLMT Seeley Lake 45.24 332 eP P 22 24 46.6 -0.6
SLMT ePcP PcP 22 26 28.3 +1.5
BMO Blue Mountains 45.49 327 eP P 22 24 48.0 -1.1
BMO ePcP PcP 22 26 27.7 0.0
BMO LR LR
comp=Z,3µm,21.0s
HOPS Hopland Field 45.61 317 PFAKE 22 25 00.0 +10
HOPS LR LR
comp=Z,3µm,20.0s
DRLN Deer Lake 45.66 24 eP P 22 24 49.8 -0.4
comp=Z,94nm,1.0s
DRLN ePcP PcP 22 26 26.6 -1.4
DRLN LR LR
comp=Z,10µm,20.0s
YBMT Yellow Bay 45.94 332 eP P 22 24 52.6 0.0
YBMT ePcP PcP 22 26 30.6 +1.4
JTMT Jette 45.98 332 eP P 22 24 51.2 -1.8
JTMT ePcP PcP 22 26 30.6 +1.2
WDC Whiskeytown Da 46.07 319 PFAKE 22 25 00.0 +6.4
WDC LR LR
comp=Z,3µm,21.0s
F10A Beach Ranch, E 46.19 328 eP P 22 24 53.3 -1.3
F10A ePcP PcP 22 26 30.9 +0.8
I07A Izee 46.22 325 eP P 22 24 53.8 -1.1
I07A ePcP PcP 22 26 27.4 -2.8
I07A LR LR
comp=Z,6µm,18.0s
K05A Summer Lake 46.23 322 eP P 22 24 53.8 -1.2
K05A ePcP PcP 22 26 31.2 +0.8
M04C Macdoel 46.27 321 ⇑P P 22 24 55.7 +0.4
baz=46
BSMT Bassoo Peak 46.29 332 eP P 22 24 54.5 -1.0
BSMT ePcP PcP 22 26 28.8 -1.8
KCPM Cahto Peak 46.30 317 PFAKE 22 25 10.0 +14
KCPM LR LR
comp=Z,2µm,19.0s
KMRM Mail Ridge 46.65 318 eP P 22 24 58.0 -0.3
comp=Z,67nm,1.0s
KMRM LR LR
comp=Z,6µm,21.0s
G08A Pilot Rock 46.67 326 eP P 22 24 59.2 +0.8
G08A ePcP PcP 22 26 33.8 +2.0
K04D Chiloquin, OR 46.69 322 ⇓P P 22 24 58.3 -0.3
baz=47
M02C Callahan 46.70 320 ⇑P P 22 24 59.6 +0.9
baz=47
J05D Fort Rock, OR 46.75 323 ⇓P P 22 24 59.0 -0.1
baz=47
WALA Waterton Lakes 46.77 333 eP P 22 24 58.3 -0.9
WALA ePcP PcP 22 26 32.6 +0.5
WALA LR LR
comp=Z,5µm,22.0s
YBH Yreka Blue Hor 46.79 320 eP P 22 25 00.0 +0.6
YBH pmax pmax
comp=Z,162nm,2.5s
YBH MLR MLR
comp=Z,3µm,21.0s
YBH Yreka Blue Hor 46.79 320 eP P 22 25 00.0 +0.6
comp=Z,162nm,2.5s
YBH LR LR
comp=Z,3µm,21.0s
KHMM Horse Mountain 47.00 319 eP P 22 25 01.5 +0.5
comp=Z,422nm,2.3s
KHMM eScP ScP 22 30 22.0 -3.1
KHMM LR LR
comp=Z,5µm,19.0s
E09A Wood Farm, Sta 47.03 328 eP P 22 25 00.0 -1.0
comp=Z,90nm,1.6s
J04D Umpqua Nationa 47.25 322 ⇑P P 22 25 03.2 +0.1
baz=47
HUMO Hull Mountain 47.42 321 PFAKE 22 25 20.0 +16
HUMO LR LR
comp=Z,4µm,21.0s
I05D Terrebonne, OR 47.43 324 ⇑P P 22 25 05.4 +1.2
baz=48
FFC Flin Flon 47.47 346 P P 22 25 03.0 -1.3
comp=Z,199nm,1.0s,SNR=13
FFC Flin Flon 47.47 346 eP P 22 25 03.3 -1.0
FFC pmax pmax
comp=Z,34nm,0.9s
FFC MLR MLR
comp=Z,5µm,20.0s
FFC Flin Flon 47.47 346 eP P 22 25 03.3 -1.0
comp=Z,34nm,0.9s
FFC LR LR
comp=Z,5µm,20.0s
SCHQ Schefferville 47.48 14 P P 22 25 03.9 -0.5
comp=Z,24nm,0.9s,baz=252,slow=8.9,SNR=20
SCHQ LR LR 22 46 13.0
comp=Z,20µm,18.1s,baz=207,slow=38
SCHQ Schefferville 47.48 14 eP P 22 25 03.7 -0.7
comp=Z,518nm,2.3s
G06A Carlson Farm, 47.56 325 eP P 22 25 03.9 -1.3
comp=Z,364nm,2.6s
L02D Cave Junction, 47.58 320 ⇑P P 22 25 04.7 -0.7
baz=48
HAWA Hanford 47.68 327 eP P 22 25 05.5 -0.6
HAWA ePcP PcP 22 26 37.5 +2.2
NEW Newport 47.69 331 eP P 22 25 04.9 -1.3
NEW e 22 26 36.6
NEW MLR MLR
comp=Z,3µm,20.0s
NEW Newport 47.69 331 eP P 22 25 04.9 -1.3
NEW ePcP PcP 22 26 36.6 +1.3
NEW LR LR
comp=Z,3µm,20.0s
NEW Newport 47.69 331 ⇑P P 22 25 06.0 -0.2
baz=48
I04A Tendick Farm, 47.75 323 ⇓P P 22 25 07.2 +0.5
baz=48
D08A Wollman Farm, 47.78 328 eP P 22 25 07.1 +0.2
D08A ePcP PcP 22 26 37.5 +1.9
D08A LR LR
comp=Z,4µm,22.0s
C09A Chrisman Ranch 47.95 329 eP P 22 25 07.3 -0.9
C09A ePcP PcP 22 26 38.1 +1.9
G05D Wamic, OR 47.95 325 ⇓P P 22 25 08.6 +0.3
baz=48
H04A Detroit Lake 48.12 324 eP P 22 25 09.7 +0.1
comp=Z,171nm,1.8s
I03D Drain, OR 48.26 322 ⇓P P 22 25 10.0 -0.5
baz=48
COR Corvallis 48.72 323 PFAKE 22 25 30.0 +16
COR LR LR
comp=Z,4µm,20.0s
LTY Liberty 48.83 327 eP P 22 25 15.3 +0.2
LTY ePcP PcP 22 26 41.5 +2.1
LTY LR LR
comp=Z,4µm,21.0s
B08A Colville Reser 48.85 329 eP P 22 25 13.9 -1.2
B08A ePcP PcP 22 26 41.0 +1.5
F04A Amboy 48.98 325 PFAKE 22 25 30.0 +14
F04A LR LR
comp=Z,6µm,20.0s
G03D McMinnville, O 49.05 324 ⇑P P 22 25 17.0 +0.4
baz=49
LON Longmire 49.13 326 PFAKE 22 25 30.0 +13
LON LR LR
comp=Z,3µm,19.0s
F04D Rainier, OR 49.41 325 ⇑P P 22 25 19.3 -0.1
baz=50
EDM Edmonton 49.71 337 eP P 22 25 20.1 -1.5
EDM e 22 26 43.4
EDM MLR MLR
comp=Z,8µm,20.0s
EDM Edmonton 49.71 337 eP P 22 25 20.1 -1.5
EDM ePcP PcP 22 26 43.4 +0.9
EDM LR LR
comp=Z,8µm,20.0s
FCC Fort Churchill 49.93 353 eP P 22 25 21.9 -1.2
FCC e 22 26 43.1
FCC MLR MLR
comp=Z,8µm,18.0s
FCC Fort Churchill 49.93 353 eP P 22 25 21.9 -1.2
comp=Z,1µm,0.8s
FCC ePcP PcP 22 26 43.1 +0.1
FCC LR LR
comp=Z,8µm,18.0s
B06A Marblemount 50.05 328 eP P 22 25 24.2 0.0
comp=Z,52nm,1.4s
RCBR Riachuelo 50.44 105 eP P 22 25 27.5 -0.3
comp=Z,157nm,1.8s
RCBR LR LR
comp=Z,6µm,20.0s
NLWA Neilton Lookou 50.65 326 PFAKE 22 25 40.0 +11
NLWA LR LR
comp=Z,5µm,21.0s
PGC Sidney 51.16 327 PFAKE 22 25 40.0 +7.4
PGC LR LR
comp=Z,4µm,22.0s
PLCA Paso Flores 51.35 167 P P 22 25 35.9 +1.7
comp=Z,42nm,1.0s,baz=349,slow=8.6,SNR=33
PLCA LR LR 22 43 20.7
comp=Z,3µm,18.1s,baz=0.5,slow=31
PLCA Paso Flores 51.35 167 P P 22 25 35.9 +1.7
PLCA pmax pmax
comp=Z,42nm,1.0s
PLCA MLR MLR
comp=Z,3µm,18.2s
PLCA Paso Flores 51.35 167 eP P 22 25 35.9 +1.7
comp=Z,200nm,0.8s
TRQA Tornquist 51.49 158 eP P 22 25 36.2 +1.1
comp=Z,33nm,1.1s
TRQA LR LR
comp=Z,3µm,20.0s
H07S1 FLORES T-PHASE 55.83 48 eP P 22 26 06.9 -0.2
H07N1 FLORES T-PHASE 55.99 48 eP P 22 26 07.2 -1.0
PTCN Pitcairn Islan 56.25 232 PFAKE 22 26 20.0 +10
PTCN LR LR
comp=Z,6µm,19.0s
YKA Yellowknife Ar 57.49 344 P P 22 26 17.3 -1.1
comp=Z,17nm,0.9s,baz=138,slow=7.1,SNR=80
YKA PcP PcP 22 27 12.2 +0.4
comp=Z,6.1nm,0.7s,baz=142,slow=5.7,SNR=6.4
YKA Yellowknife Ar 57.49 344 P P 22 26 17.3 -1.1
YKA 22 27 12.2
YKA pmax pmax
comp=Z,17nm,0.9s
YKA pmax pmax
comp=Z,6.0nm,0.7s
YKB5 Yellowknife Ar 57.49 344 eP P 22 26 17.0 -1.4
YKB5 ePcP PcP 22 27 12.1 +0.3
PCAN Candelaria 57.61 50 eP P 22 26 21.4 +1.7
comp=Z,217nm,1.1s
PICO Pico 57.66 50 eP P 22 26 23.0 +2.8
PPNO Prainha do Nor 57.78 50 eP P 22 26 23.8 +2.8
comp=Z,216nm,0.8s
ROSA Rosais 57.86 50 eP P 22 26 22.1 +0.6
comp=Z,212nm,0.9s
PMAN Manadas 57.95 50 eP P 22 26 24.8 +2.7
comp=Z,45nm,0.9s
TAOE Nuku Hiva Isla 58.54 254 eT T 23 29 22.8
comp=Z,185nm,0.3s
ADH Angra Heroismo 58.60 50 eP P 22 26 28.8 +2.1
comp=Z,115nm,1.2s
RKT Rikitea 59.19 236 eP P 22 26 31.1 +0.2
comp=Z,90nm,1.1s
RKT eS S 22 34 31.3 -5.8
comp=Z,6µm,28.0s
RKT eSS SS 22 38 25.2 -6.8
comp=Z,1µm,31.5s
RKT eLQ LQ 22 41 09.8
comp=Z,4µm,34.2s
RKT eLR LR 22 43 38.6
comp=Z,5µm,28.5s,baz=55
RKT Rikitea 59.19 236 eT T 23 29 55.5
comp=Z,16nm,0.3s
SACV Santiago Islan 59.38 78 PFAKE 22 26 50.0 +18
SACV LR LR
comp=Z,3µm,22.0s
PSET Sete Cidades 59.57 52 eP P 22 26 30.4 -3.1
comp=Z,79nm,1.2s
PSMA Santa Maria 59.86 53 eP P 22 26 35.9 +0.5
comp=Z,147nm,1.3s
PSMN Pico do Norte, 59.91 53 eP P 22 26 24.9 -11
comp=Z,95nm,1.5s
BART Pico Bartolome 59.99 52 eP P 22 26 36.7 +0.3
comp=Z,178nm,1.0s
WRAK Wrangell Islan 60.03 331 PFAKE 22 26 50.0 +14
WRAK LR LR
comp=Z,4µm,22.0s
DLBC Dease Lake 60.11 334 eP P 22 26 37.4 +0.6
DLBC LR LR
comp=Z,6µm,20.0s
SFJD Kangerlussuaq 61.92 14 ⇑iP P 22 26 47.4 -1.4
comp=Z,69nm,0.9s
comp=Z,13µm,17.0s
SFJD Kangerlussuaq 61.92 14 eP P 22 26 47.7 -1.1
SFJD pmax pmax
comp=Z,76nm,0.9s
SFJD MLR MLR
comp=Z,15µm,18.0s
SFJD Kangerlussuaq 61.92 14 eP P 22 26 47.6 -1.1
comp=Z,76nm,0.9s
SFJD LR LR
comp=Z,15µm,18.0s
BESE Bessie Mountai 62.31 333 PFAKE 22 27 00.0 +8.3
BESE LR LR
comp=Z,2µm,20.0s
ILULI Ilulissat 63.57 13 ⇑iP P 22 26 58.1 -1.7
comp=Z,139nm,1.3s
comp=Z,14µm,19.0s
HYT Haines Junctio 64.59 334 eP P 22 27 07.4 +0.6
EFI East Falkland 64.78 162 P P 22 27 12.0 +4.1
EFI pmax pmax
comp=Z,157nm,1.0s
EFI MLR MLR
comp=Z,8µm,16.0s
EFI East Falkland 64.78 162 PFAKE 22 27 20.0 +12
EFI LR LR
comp=Z,3µm,20.0s
RES Resolute Bay 65.64 357 eP P 22 27 12.2 -1.0
RES pmax pmax
comp=Z,30nm,0.9s
RES Resolute Bay 65.64 357 eP P 22 27 12.2 -1.0
comp=Z,30nm,0.9s
PMOZ Porto Moniz, M 65.73 58 eP P 22 27 15.5 +0.8
comp=Z,197nm,1.3s
PMOZ eS S 22 36 05.1 +5.7
PMOZ Porto Moniz, M 65.73 58 eLR LR 22 47 04.3
comp=Z,2µm,18.0s
DAWY Dawson 66.92 337 eP P 22 27 20.9 -0.8
KULLO Kullorsuaq 67.05 8 ⇑iP P 22 27 20.8 -1.4
comp=Z,143nm,1.2s
comp=Z,15µm,21.0s
INK Inuvik 67.15 342 LR LR 22 59 37.7
comp=Z,5µm,18.0s,baz=112,slow=38
INK Inuvik 67.15 342 eP P 22 27 22.6 -0.4
INK pmax pmax
comp=Z,53nm,1.3s
INK Inuvik 67.15 342 eP P 22 27 22.6 -0.4
comp=Z,53nm,1.3s
VAH Vaihoa 67.39 249 eP P 22 27 26.2 +0.8
comp=Z,66nm,1.1s
VAH Vaihoa 67.39 249 eT T 23 40 21.4
comp=Z,12nm,0.3s
PMOR Pomariorio Ree 67.56 250 eP P 22 27 27.3 +0.8
comp=Z,67nm,1.1s
PMOR Pomariorio Ree 67.56 250 eT T 23 40 34.8
comp=Z,10nm,0.3s
RAGM Ragged Mountai 67.60 332 PFAKE 22 27 40.0 +14
RAGM LR LR
comp=Z,9µm,18.0s
BMRM Bremner River 67.79 333 eP P 22 27 27.5 +0.2
comp=Z,35nm,1.0s
BMRM LR LR
comp=Z,6µm,21.0s
EGAK Eagle 67.93 337 eP P 22 27 27.3 -0.7
comp=Z,30nm,1.1s
EGAK LR LR
comp=Z,5µm,20.0s
DIV Divide 68.38 333 eP P 22 27 31.3 +0.3
comp=Z,126nm,2.0s
DIV LR LR
comp=Z,6µm,21.0s
DOT Dot Lake 68.60 336 eP P 22 27 31.8 -0.5
comp=Z,30nm,0.8s
SCRK Sand Creek 68.70 336 eP P 22 27 32.9 -0.1
comp=Z,102nm,2.0s
SCRK LR LR
comp=Z,4µm,18.0s
SUMG Summit 68.87 13 ⇑iP P 22 27 33.3 -0.9
comp=Z,282nm,1.1s
comp=Z,13µm,19.0s
SUMG Summit 68.87 13 ⇑iP P 22 27 33.3 -0.9
SUMG pmax pmax
comp=Z,280nm,1.1s
SUMG MLR MLR
comp=Z,13µm,19.0s
SUMG Summit 68.87 13 eP P 22 27 33.0 -1.3
comp=Z,347nm,1.2s
SUMG LR LR
comp=Z,13µm,19.0s
PAX Paxson 68.92 335 eP P 22 27 33.6 -0.8
PAX pmax pmax
comp=Z,19nm,1.0s
PAX MLR MLR
comp=Z,3µm,18.0s
PAX Paxson 68.92 335 eP P 22 27 33.6 -0.8
comp=Z,19nm,1.0s
PAX LR LR
comp=Z,3µm,18.0s
DDM Donnelly Dome 69.39 335 eP P 22 27 36.9 -0.3
comp=Z,45nm,1.1s
POHA Pohakuloa 69.41 288 PFAKE 22 27 50.0 +12
POHA LR LR
comp=Z,4µm,20.0s
TVO Taravao 69.62 247 eP P 22 27 40.1 +0.7
comp=Z,14nm,0.9s
TIAR Tiarei 69.64 247 eP P 22 27 40.0 +0.5
comp=Z,26nm,1.2s
TIAR Tiarei 69.64 247 eT T 23 43 08.3
comp=Z,2.0nm,0.2s
SEW Seward 69.75 331 PFAKE 22 27 50.0 +11
SEW LR LR
comp=Z,3µm,19.0s
SML Sawmill 69.77 333 PFAKE 22 27 50.0 +10
SML LR LR
comp=Z,1µm,19.0s
PPT Papeete 69.85 247 LR LR 22 50 41.5
comp=Z,2µm,18.3s,baz=70,slow=29
PPT2 Papeete2 69.86 247 eP P 22 27 41.5 +0.6
comp=Z,47nm,1.2s
PPT2 eS S 22 36 46.0 -3.2
comp=Z,4µm,26.8s
PPT2 Papeete2 69.86 247 eLR LR 22 48 32.4
comp=Z,4µm,24.0s,baz=56
PAE Paea 69.89 247 eP P 22 27 41.2 +0.2
comp=Z,14nm,1.2s
PMR Palmer 70.06 333 eP P 22 27 40.7 -0.6
PMR pmax pmax
comp=Z,44nm,1.4s
PMR Palmer 70.06 333 eP P 22 27 40.7 -0.6
comp=Z,44nm,1.4s
HDA Harding Lake 70.06 336 PFAKE 22 27 50.0 +8.7
HDA LR LR
comp=Z,4µm,18.0s
IL1 Eielson Array 70.17 336 eP P 22 27 41.6 -0.3
ILAR Eielson Array 70.17 336 P P 22 27 42.0 0.0
comp=Z,8.1nm,1.0s,baz=112,slow=4.2,SNR=60

ILAR PP **PP** 22 30 17.9 +0.7
comp=Z,3.9nm,0.9s,baz=110,slow=5.1,SNR=4.1
ILAR LR LR 23 04 37.0
comp=Z,4µm,18.1s,baz=118,slow=41
ILAR Eielson Array 70.17 336 P **P** **22 27 42.0 0.0**
ILAR 22 30 17.9
ILAR pmax pmax
comp=Z,8.0nm,1.0s
ILAR pmax pmax
comp=Z,4.0nm,0.9s
ILAR MLR MLR
comp=Z,4µm,18.1s
ILB Eielson Array 70.17 336 *e*P **P** **22 27 42.0 0.0**
ILB *e*PP **PP** **22 30 17.9 +0.7**
RC01 Rabbit Creek A 70.18 332 *e*P **P** **22 27 41.8 -0.3**
comp=Z,67nm,1.3s
RC01 LR LR
comp=Z,6µm,22.0s
BORG Borgarnes 70.25 24 P **P** **22 27 42.3 0.0**
comp=Z,36nm,1.0s,baz=261,slow=4.1,SNR=8.1
BORG Borgarnes 70.25 24 *e*P **P** **22 27 42.2 -0.2**
BORG pmax pmax
comp=Z,142nm,1.3s
BORG MLR MLR
comp=Z,4µm,21.0s
BORG Borgarnes 70.25 24 *e*P **P** **22 27 42.2 -0.2**
comp=Z,142nm,1.3s
BORG LR LR
comp=Z,4µm,21.0s
CCB Clear Creek Bu 70.50 336 *e*P **P** **22 27 43.4 -0.5**
comp=Z,67nm,2.1s
CCB LR LR
comp=Z,4µm,18.0s
RND Reindeer 70.51 334 *e*P **P** **22 27 44.3 +0.2**
RND pmax pmax
comp=Z,106nm,1.2s
RND MLR MLR
comp=Z,5µm,21.0s
RND Reindeer 70.51 334 *e*P **P** **22 27 44.3 +0.2**
comp=Z,106nm,1.2s
RND LR LR
comp=Z,5µm,21.0s
WRH Wood River Hil 70.55 336 *e*P **P** **22 27 43.4 -0.8**
comp=Z,12nm,1.0s
WRH LR LR
comp=Z,3µm,19.0s
COLA College 70.59 336 *e*P **P** **22 27 44.0 -0.5**
COLA pmax pmax
comp=Z,160nm,2.2s
COLA MLR MLR
comp=Z,4µm,18.0s
COLA College 70.59 336 *e*P **P** **22 27 44.0 -0.5**
comp=Z,160nm,2.2s
COLA LR LR
comp=Z,4µm,18.0s
MCK McKinley 70.65 335 *e*P **P** **22 27 45.3 +0.4**
MCK pmax pmax
comp=Z,51nm,1.1s
MCK MLR MLR
comp=Z,3µm,18.0s
MCK McKinley 70.65 335 *e*P **P** **22 27 45.3 +0.4**
comp=Z,51nm,1.1s
MCK LR LR
comp=Z,3µm,18.0s
KDAK Kodiak Island 70.70 328 PFAKE 22 28 00.0 +15
KDAK LR LR
comp=Z,4µm,20.0s
SUA Susitna One 70.76 332 *e*P **P** **22 27 45.5 -0.2**
MDM Murphy Dome 70.77 336 *e*P **P** **22 27 45.8 +0.1**
comp=Z,36nm,1.2s
MDM LR LR
comp=Z,4µm,19.0s
OHAK Old Harbor 70.95 327 *e*P **P** **22 27 47.1 +0.4**
comp=Z,466nm,2.3s
BWN Browne 71.02 335 *e*P **P** **22 27 47.1 0.0**
comp=Z,274nm,1.6s
TRF Thorofare Moun 71.14 334 *e*P **P** **22 27 48.1 +0.1**
comp=Z,257nm,2.2s
TRF LR LR
comp=Z,4µm,22.0s
SPU Mount Spurr 71.29 332 *e*P **P** **22 27 47.4 -1.5**
RSO Redoubt South 71.44 331 *e*P **P** **22 27 49.9 -0.1**
KTH Kantishna Hill 71.44 334 *e*P **P** **22 27 49.3 -0.4**
comp=Z,40nm,1.1s
KTH LR LR
comp=Z,4µm,22.0s
TBI Tubuai 71.54 242 *e*S **S** **22 37 04.1 -4.3**
comp=Z,3µm,26.0s
TBI Tubuai 71.54 242 *e*LR LR 22 49 22.2
comp=Z,2µm,25.8s,baz=66
TBI Tubuai 71.54 242 *e*T T 23 45 25.1
comp=Z,14nm,0.2s
ASCN Ascension 71.66 102 PFAKE 22 28 00.0 +8.1
ASCN LR LR
comp=Z,3µm,21.0s
MLY Manley 71.81 336 *e*P **P** **22 27 51.5 -0.4**
comp=Z,26nm,0.7s
MLY LR LR
comp=Z,3µm,19.0s
PPLA Purkeypile 71.81 333 *e*P **P** **22 27 52.0 -0.1**
comp=Z,141nm,1.6s
PPLA LR LR
comp=Z,5µm,19.0s
CAST Castle Rocks 71.90 334 *e*P **P** **22 27 52.0 -0.5**
comp=Z,21nm,1.1s
CAST LR LR
comp=Z,3µm,21.0s
COLD Coldfoot 72.29 338 *e*P **P** **22 27 55.5 +0.8**
comp=Z,25nm,1.2s
COLD LR LR
comp=Z,4µm,20.0s
PMAFR Mafra 72.51 52 *e*P **P** **22 27 58.1 +1.5**
comp=Z,129nm,2.1s
PMAFR *e*S **SKiKP** **22 37 24.9 -4.9**
PMAFR Mafra 72.51 52 *e*LR LR 22 50 12.0
comp=Z,3µm,22.0s
PMST Lisbon--Monsan 72.58 52 *e*P **P** **22 27 59.1 +2.1**
comp=Z,159nm,1.5s
LIS Lisbon 72.61 52 *e*P **P** **22 27 57.5 +0.4**
LIS *e*S **S** **22 37 22.2 +2.0**
LIS AMS AMS 22 53 54.0
comp=Z,4µm,22.3s
LIS Lisbon 72.61 52 *e*P **P** **22 27 57.5 +0.4**
LIS *e*S **S** **22 37 22.2 +2.0**
PFVI Vila Bisbo 72.82 54 *e*P **P** **22 28 00.1 +1.7**
comp=Z,204nm,2.0s
PFVI *e*S **S** **22 37 25.9 +3.2**
PFVI Vila Bisbo 72.82 54 *e*LR LR 22 50 12.0
comp=Z,4µm,22.0s
PACT Alcochete 72.86 52 *e*P **P** **22 27 59.8 +1.2**
comp=Z,342nm,1.2s
VAL Valentia 72.86 39⇓ *i*P **P** **22 27 59.3 +1.0**
VAL Valentia 72.86 39⇓ *i*S **SKSac** **22 38 07.7 +6.0**
PTEO Sao Teotonio 72.91 54 *e*P **P** **22 28 00.8 +1.9**
comp=Z,187nm,1.7s
MORF Marmelete 72.96 54 *e*P **P** **22 27 59.5 +0.2**
MORF *e*S **S** **22 37 26.7 +2.2**
MORF AMS AMS 22 54 12.5
comp=Z,5µm,27.1s
MORF Marmelete 72.96 54 *e*P **P** **22 28 01.1 +1.7**
comp=Z,201nm,1.7s
MORF Marmelete 72.96 54 *e*LR LR 22 50 05.4
comp=Z,5µm,22.0s
MORF Marmelete 72.96 54 *e*P **P** **22 27 59.5 +0.2**
MORF *e*S **S** **22 37 26.7 +2.2**
PNCL Nicolau / Gran 73.08 53 *e*P **P** **22 28 01.2 +1.3**
comp=Z,86nm,1.8s
PNCL *e*S **SKiKP** **22 37 33.3 +2.7**
PNCL Nicolau / Gran 73.08 53 *e*LR LR 22 50 18.6
comp=Z,4µm,20.0s
PTO Porto 73.12 50 *e*P **P** **22 28 01.5 +1.4**
comp=Z,194nm,1.7s
XMAS Kiritimati 73.12 269 PFAKE 22 28 10.0 +9.4
XMAS LR LR
comp=Z,4µm,19.0s
PCAS Casmilo, Conde 73.16 51 *e*P **P** **22 28 01.5 +1.1**
comp=Z,220nm,1.3s
PCAS *e*S **SKiKP** **22 37 31.1 +0.4**
PCAS Casmilo, Conde 73.16 51 *e*LR LR 22 50 25.1
comp=Z,2µm,18.0s
PTOM Tomar 73.21 51 *e*P **P** **22 28 01.8 +1.1**
comp=Z,138nm,1.3s
IM04 Indian Mountai 73.29 336 *e*P **P** **22 28 00.0 -0.7**
MESJ Messejana 73.31 53 *e*P **P** **22 28 01.6 +0.3**
MESJ *e*S **SKiKP** **22 37 30.2 -0.9**
MESJ AMS AMS 22 54 32.4
comp=Z,4µm,19.3s

MESJ Messejana 73.31 53 *e*P **P** **22 28 02.8 +1.5**
comp=Z,89nm,3.1s
MESJ Messejana 73.31 53 *e*P **P** **22 28 01.6 +0.3**
MESJ *e*S **SKiKP** **22 37 30.1 -0.9**
EVOP Sao Brissos 73.40 53 *e*P **P** **22 28 02.3 +0.4**
EVOP Sao Brissos 73.40 53 *e*P **P** **22 28 02.3 +0.4**
PCVE Castro Verde 73.45 54 *e*P **P** **22 28 03.8 +1.6**
comp=Z,34nm,1.8s
PCVE *e*S **SKiKP** **22 37 37.1 +5.9**
PCVE Castro Verde 73.45 54 *e*LR LR 22 50 51.4
comp=Z,16µm,20.0s
EVO Evora 73.49 53 *e*P **P** **22 28 02.3 -0.1**
comp=Z,167nm,0.8s
EVO *e*R
comp=Z,5µm,20.5s
EVO Evora 73.49 53 *e*P **P** **22 28 03.5 +1.1**
comp=Z,85nm,1.9s
PBDV Barranco-do-Ve 73.53 54 *e*P **P** **22 28 04.6 +1.9**
comp=Z,176nm,1.9s
PBDV *e*S **SKiKP** **22 37 34.7 +3.3**
PBDV Barranco-do-Ve 73.53 54 *e*LR LR 22 50 12.0
comp=Z,4µm,22.0s
CHGN Chignik 73.56 326 *e*P **P** **22 28 02.3 0.0**
PCAB Cabril 73.57 49 *e*P **P** **22 28 04.1 +1.2**
comp=Z,104nm,1.3s
PVIS Viseu 73.64 50 *e*P **P** **22 28 04.2 +0.9**
comp=Z,137nm,2.9s
PVAQ Vaqueiros 73.71 54 *e*P **P** **22 28 05.3 +1.6**
comp=Z,119nm,2.9s
PVAQ *e*S **S** **22 37 35.0 +2.2**
PVAQ Vaqueiros 73.71 54 *e*LR LR 22 50 46.7
comp=Z,5µm,22.0s
POLO Lamas de Olo 73.73 50 *e*P **P** **22 28 04.8 +0.9**
comp=Z,68nm,1.2s
POLO *e*S **S** **22 37 33.6 +0.4**
POLO Lamas de Olo 73.73 50 *e*LR LR 22 50 05.4
comp=Z,2µm,20.0s
ALE Alert 73.78 3 P **P** **22 28 02.3 -1.0**
comp=Z,190nm,0.9s,SNR=11
PVRL Vila Real 73.79 50 *e*P **P** **22 28 05.0 +0.8**
comp=Z,132nm,1.4s
PESTR Estremoz 73.83 52 *e*P **P** **22 28 05.3 +0.9**
comp=Z,152nm,1.5s
PESTR *e*S **S** **22 37 35.9 +1.7**
PESTR Estremoz 73.83 52 *e*LR LR 22 50 25.1
comp=Z,3µm,22.0s
MTE Manteigas 73.90 51 *e*P **P** **22 28 05.8 +1.0**
comp=Z,76nm,1.2s
MTE *e*S S 22 37 42.0 +7.0
MTE Manteigas 73.90 51 *e*LR LR 22 50 55.9
comp=Z,2µm,18.0s
MTE Manteigas 73.90 51 *e*P **P** **22 28 04.8 0.0**
comp=Z,55nm,1.1s
MTE LR LR
comp=Z,2µm,20.0s
PCBR Castelo Branco 73.93 51 *e*P **P** **22 28 05.6 +0.6**
comp=Z,92nm,1.1s
PMRV Marv??o 73.99 52 *e*P **P** **22 28 06.2 +0.9**
comp=Z,81nm,1.6s
PMRV *e*S **S** **22 37 37.4 +1.4**
PMRV Marv??o 73.99 52 *e*LR LR 22 50 54.3
comp=Z,2µm,22.0s
PBAR Barrancos 74.25 53 *e*P **P** **22 28 07.9 +1.1**
comp=Z,195nm,1.2s
PBAR *e*S **S** **22 37 44.0 +5.1**
PBAR Barrancos 74.25 53 *e*LR LR 22 50 44.9
comp=Z,7µm,20.0s
MVO Moncorvo 74.31 50 *e*P **P** **22 28 08.3 +1.1**
comp=Z,147nm,1.6s
MVO *e*S S 22 37 45.8 +6.2
MVO Moncorvo 74.31 50 *e*LR LR 22 50 06.2
comp=Z,3µm,20.0s
PBRG Braganca 74.54 49 *e*P **P** **22 28 09.6 +1.1**
comp=Z,167nm,1.3s
PBRG Braganca 74.54 49 *e*LR LR 22 51 17.7
comp=Z,3µm,20.0s
DSB Dublin 75.33 37 *e*P **P** **22 28 12.0 -0.7**
comp=Z,44nm,0.8s
DSB LR LR
comp=Z,2µm,20.0s
GMM Mts of Mourne 75.66 36⇑ *e*P **P** **22 28 14.6 0.0**
CCA1 Carnmenellis 75.87 41⇑ *e*P **P** **22 28 14.4 -1.5**
CCA1 AMB AMB 22 28 17.1
comp=Z,160nm,1.1s
KPL Plockton 76.06 33⇑ *e*P **P** **22 28 15.8 -1.1**
KPL AMB AMB 22 28 17.5
comp=Z,184nm,1.2s
KPL AMS AMS 22 59 42.8
comp=Z,3µm,19.1s
KSB Sheil Bridge 76.17 33⇑ *e*P **P** **22 28 16.9 -0.6**
FALS False Pass 76.24 324 *e*P **P** **22 28 19.8 +1.9**
comp=Z,74nm,1.0s
KAC Achnashellach 76.26 33⇑ *e*P **P** **22 28 17.7 -0.3**
PAB San Pablo 76.35 52 *e*P **P** **22 28 19.4 +0.4**
PAB pmax pmax
comp=Z,250nm,1.8s
PAB MLR MLR
comp=Z,2µm,19.0s
PAB San Pablo 76.35 52 *e*P **P** **22 28 19.4 +0.4**
comp=Z,250nm,1.8s
PAB LR LR
comp=Z,2µm,19.0s
HTL Hartland 76.38 40 *e*P **P** **22 28 18.5 -0.3**
HTL AMS AMS 22 57 32.8
comp=Z,2µm,18.9s
YRC Rhoscolyn 76.41 37⇑ *e*P **P** **22 28 18.7 -0.2**
GAL1 Galloway 76.42 36⇑ *e*P **P** **22 28 17.9 -1.0**
GAL1 AMB AMB 22 28 19.6
comp=Z,174nm,1.0s
GAL1 AMS AMS 23 04 18.1
comp=Z,3µm,18.3s
YRE Yr Eifl 76.49 38⇑ *e*P **P** **22 28 18.8 -0.6**
WLF1 Llynfaes 76.52 37⇑ *e*P **P** **22 28 18.3 -1.2**
WLF1 AMB AMB 22 28 20.1
comp=Z,107nm,2.0s
WLF1 AMS AMS 22 57 28.9
comp=Z,3µm,19.1s
WME Myndd Eilian 76.58 37⇑ *e*P **P** **22 28 18.8 -1.0**
PGBU Glenifferbraes 76.60 35⇑ *e*P **P** **22 28 19.1 -0.8**
PGBU AMB AMB 22 28 20.6
comp=Z,216nm,1.3s
PGBU AMS AMS 23 05 58.9
comp=Z,2µm,17.8s
ESDC Sonseca Array 76.64 51 P **P** **22 28 21.1 +0.5**
comp=Z,87nm,0.9s,baz=279,slow=5.7,SNR=229
ESDC LR LR 22 55 41.0
comp=Z,1µm,21.4s,baz=285,slow=31
YLL Llanberis 76.65 38⇑ *e*P **P** **22 28 19.4 -0.8**
LPW Lampeter 76.67 39⇑ *e*P **P** **22 28 19.7 -0.7**
LPW AMB AMB 22 28 21.4
comp=Z,183nm,1.2s
LPW AMS AMS 22 58 01.9
comp=Z,4µm,20.2s
ES19 SONSECA Array 76.69 51 *e*P **P** **22 28 20.7 -0.2**
EAB Aberfoyle 76.70 34⇑ *e*P **P** **22 28 19.2 -1.3**
DYA Yadsworthy 76.71 40⇑ *e*P **P** **22 28 19.7 -1.0**
DYA AMB AMB 22 28 21.6
comp=Z,104nm,1.7s
DYA AMS AMS 22 55 20.3
comp=Z,2µm,20.9s
DYA Yadsworthy 76.71 40 *e*P **P** **22 28 20.3 -0.4**
comp=Z,139nm,1.4s
DYA LR LR
comp=Z,3µm,22.0s
MDO Dochfour 76.76 33⇑ *e*P **P** **22 28 19.5 -1.3**
WPM1 Penmaenmawr 76.81 37⇑ *e*P **P** **22 28 20.9 -0.3**
GCD Castle Douglas 76.86 36⇑ *e*P **P** **22 28 20.6 -0.8**
MVH1 Achvaich 76.89 33⇑ *e*P **P** **22 28 20.4 -1.1**
BIGH Upper Bighouse 77.06 32⇑ *e*P **P** **22 28 20.9 -1.6**
BIGH AMB AMB 22 28 23.8
comp=Z,202nm,2.0s
ROSF Rostrenen 77.10 43 *e*P **P** **22 28 23.0 0.0**
comp=Z,291nm,1.2s
ROSF Rostrenen 77.10 43 *e*P **P** **22 28 23.0 0.0**
ROSF Rostrenen 77.10 43 *e*P **P** **22 28 23.0 0.0**
QUIF Quistinic 77.17 43 *e*P **P** **22 28 23.4 +0.1**
comp=Z,210nm,0.9s
QUIF Quistinic 77.17 43 *e*P **P** **22 28 23.4 +0.1**
QUIF Quistinic 77.17 43 *e*P **P** **22 28 23.4 +0.1**
FOEL Foel Wylfa 77.23 38⇑ *e*P **P** **22 28 22.3 -1.3**
FOEL AMB AMB 22 28 24.2
comp=Z,127nm,1.0s
FOEL AMS AMS 22 57 31.4
comp=Z,3µm,18.6s
ESK Eskdalemuir 77.30 35 P **P** **22 28 23.0 -0.9**
comp=Z,1µm,0.7s,SNR=37

ESK Eskdalemuir 77.30 35⇑ *e*P **P** **22 28 22.5 -1.4**
ESK AMB AMB 22 28 24.4
comp=Z,203nm,1.1s
ESK AMS AMS 23 02 29.5
comp=Z,2µm,18.0s
ESK Eskdalemuir 77.30 35 *e*P **P** **22 28 23.0 -0.9**
ESK pmax pmax
comp=Z,42nm,0.8s
ESK MLR MLR
comp=Z,3µm,19.0s
ESK Eskdalemuir 77.30 35 *e*P **P** **22 28 23.0 -0.9**
comp=Z,42nm,0.8s
ESK LR LR
comp=Z,3µm,19.0s
EKA Eskdalemuir Ar 77.33 35 P **P** **22 28 23.2 -0.9**
comp=Z,83nm,0.8s,baz=260,slow=4.9,SNR=293
EKA Eskdalemuir Ar 77.33 35 P **P** **22 28 23.2 -0.9**
EKA pmax pmax
comp=Z,83nm,0.8s
MCH1 Michaelchurch 77.33 39⇑ *e*P **P** **22 28 23.0 -1.1**
MCH1 AMB AMB 22 28 25.4
comp=Z,126nm,1.3s
MCH1 AMS AMS 22 58 21.6
comp=Z,5µm,19.7s
EDI Edinburgh 77.33 35 PFAKE 22 28 40.0 +16
EDI LR LR
comp=Z,2µm,20.0s
KESW Keswick, Cumbr 77.33 36⇑ *e*P **P** **22 28 23.3 -0.8**
KESW AMB AMB 22 28 24.9
comp=Z,156nm,1.2s
KESW AMS AMS 23 05 39.4
comp=Z,3µm,17.1s
ECK Cauldkaine Hil 77.34 36⇑ *e*P **P** **22 28 23.0 -1.1**
MLA1 Latheron 77.34 32⇑ *e*P **P** **22 28 23.0 -1.1**
MCD Coleburn Disti 77.36 33⇑ *e*P **P** **22 28 23.1 -1.1**
EBL Broad Law 77.41 35⇑ *e*P **P** **22 28 23.4 -1.1**
HLM1 Long Mynd 77.41 38⇑ *e*P **P** **22 28 24.0 -0.7**
HLM1 AMB AMB 22 28 25.4
comp=Z,185nm,1.2s
HLM1 AMS AMS 22 57 46.8
comp=Z,3µm,18.2s
MONM Monmouth 77.45 39⇑ *e*P **P** **22 28 24.1 -0.6**
MONM AMB AMB 22 28 26.2
comp=Z,174nm,1.2s
MONM AMS AMS 22 58 36.0
comp=Z,5µm,19.5s
EDU Dundee 77.45 34⇑ *e*P **P** **22 28 24.1 -0.6**
MME1 Meikle Cairn 77.51 33⇑ *e*P **P** **22 28 24.2 -0.9**
SGMF Saint Gilles 77.58 43 *e*P **P** **22 28 25.5 -0.1**
comp=Z,209nm,1.2s
SGMF Saint Gilles 77.58 43 *e*P **P** **22 28 25.5 -0.1**
SGMF Saint Gilles 77.58 43 *e*P **P** **22 28 25.5 -0.1**
OLDB Oldbury-Upon-S 77.60 39⇑ *e*P **P** **22 28 25.2 -0.5**
OLDB AMB AMB 22 28 27.1
comp=Z,152nm,1.4s
OLDB AMS AMS 22 59 10.2
comp=Z,5µm,19.8s
ESY Stoneypath 77.66 35⇑ *e*P **P** **22 28 25.1 -0.8**
DRUM Mains of Drumt 77.76 34⇑ *e*P **P** **22 28 25.4 -1.0**
DRUM AMB AMB 22 28 26.9
comp=Z,189nm,1.0s
DRUM AMS AMS 23 03 05.0
comp=Z,3µm,17.9s
JSA Saint Aubin 77.83 42⇑ *e*P **P** **22 28 26.7 -0.3**
JSA AMB AMB 22 28 28.2
comp=Z,134nm,1.3s
JSA AMS AMS 22 58 07.7
comp=Z,5µm,19.4s
STRD Stroud 77.85 39⇑ *e*P **P** **22 28 26.1 -0.9**
STRD AMB AMB 22 28 27.8
comp=Z,251nm,1.2s
STRD AMS AMS 22 58 48.2
comp=Z,5µm,19.4s
UNV Unalaska Valle 78.01 323 *e*P **P** **22 28 29.0 +1.1**
comp=Z,299nm,1.6s
UNV LR LR
comp=Z,2µm,20.0s
LHO Holmfirth 78.05 37⇑ *e*P **P** **22 28 27.6 -0.5**
SWN1 Swindon 78.07 39⇑ *e*P **P** **22 28 27.9 -0.4**
SWN1 AMB AMB 22 28 29.2
comp=Z,276nm,1.4s
SWN1 AMS AMS 22 58 55.0
comp=Z,4µm,19.2s
HPK Haverah Park 78.19 37⇑ *e*P **P** **22 28 28.4 -0.5**
HPK AMB AMB 22 28 29.7
comp=Z,149nm,1.1s
HPK AMS AMS 22 58 29.7
comp=Z,2µm,20.0s
LCP Cassop 78.28 36⇑ *e*P **P** **22 28 28.9 -0.5**
TIC Toumodi 78.33 85 *e*P **P** **22 28 30.9 +0.4**
comp=Z,75nm,0.8s
LIC Lamto 78.38 86 *e*P **P** **22 28 31.2 +0.4**
comp=Z,120nm,0.8s,baz=273
LIC *e*R
comp=Z,2µm,18.8s
LIC Lamto 78.38 86 *e*P **P** **22 28 31.4 +0.6**
comp=Z,188nm,0.8s
LIC Lamto 78.38 86 *e*P **P** **22 28 31.2 +0.4**
WOL Wolverton 78.43 39⇑ *e*P **P** **22 28 29.9 -0.3**
WOL AMB AMB 22 28 31.7
comp=Z,230nm,1.8s
WOL AMS AMS 22 59 34.7
comp=Z,3µm,19.9s
DBIC Dimbokro 78.49 85 P **P** **22 28 31.6 +0.3**
comp=Z,42nm,0.8s,baz=263,slow=5.2,SNR=52
DBIC LR LR 23 01 58.4
comp=Z,849nm,19.8s,baz=246,slow=35
DBIC Dimbokro 78.49 85 P **P** **22 28 31.7 +0.3**
DBIC pmax pmax
comp=Z,42nm,0.8s
DBIC MLR MLR
comp=Z,849nm,19.8s
DBIC Dimbokro 78.49 85 *e*P **P** **22 28 31.1 -0.2**
comp=Z,74nm,0.9s
SAN1 Sandwick 78.50 31⇑ *e*P **P** **22 28 29.5 -1.0**
LRW Lerwick 78.53 30⇑ *e*P **P** **22 28 29.5 -1.1**
LRW AMS AMS 23 01 26.9
comp=Z,4µm,18.8s
OSSF Osses 78.58 48⇑ *e*P **P** **22 28 31.9 +0.6**
SJPF Ste Jean 78.61 48 *e*P **P** **22 28 32.2 +0.7**
comp=Z,464nm,1.4s
SJPF Ste Jean 78.61 48 *e*P **P** **22 28 32.2 +0.7**
SJPF Ste Jean 78.61 48 *e*P **P** **22 28 32.2 +0.7**
KIC Kosan Boka 78.65 85 *e*P **P** **22 28 32.8 +0.6**
comp=Z,133nm,0.8s
SKP1 Kophill 78.69 39⇑ *e*P **P** **22 28 31.2 -0.4**
GRR Gorron 78.71 42 *e*P **P** **22 28 31.9 0.0**
comp=Z,390nm,1.0s
GRR Gorron 78.71 42 *e*P **P** **22 28 31.9 0.0**
GRR Gorron 78.71 42 *e*P **P** **22 28 31.9 0.0**
LARF Larrau 78.79 48⇑ *e*P **P** **22 28 33.9 +1.4**
FLN La Foliniere 78.95 42 *e*P **P** **22 28 33.3 +0.1**
comp=Z,539nm,1.3s
FLN *e*R
comp=Z,8µm,20.8s
FLN La Foliniere 78.95 42 *e*P **P** **22 28 33.3 +0.1**
FLN La Foliniere 78.95 42 *e*P **P** **22 28 33.3 +0.1**
LMK Market Rasen 78.96 37⇑ *e*P **P** **22 28 32.7 -0.4**
LMK AMB AMB 22 28 34.1
comp=Z,257nm,1.1s
LMK AMS AMS 22 58 53.7
comp=Z,2µm,19.3s
TNA Tin City 78.99 335 PFAKE 22 28 40.0 +6.9
TNA LR LR
comp=Z,4µm,19.0s
ATE Arette 79.00 48⇑ *e*P **P** **22 28 33.8 +0.2**
ETSF Etsaut 79.11 48 *e*P **P** **22 28 35.0 +0.7**
comp=Z,352nm,1.7s
ETSF Etsaut 79.11 48 *e*P **P** **22 28 35.0 +0.7**
ETSF Etsaut 79.11 48 *e*P **P** **22 28 35.0 +0.7**
LDF La Druitiere 79.20 42 *e*P **P** **22 28 34.6 0.0**
comp=Z,350nm,1.0s
LDF La Druitiere 79.20 42 *e*P **P** **22 28 34.6 0.0**
LDF La Druitiere 79.20 42 *e*P **P** **22 28 34.6 0.0**
REYF Montagne du Re 79.22 48⇑ *e*P **P** **22 28 35.9 +1.0**
MFF Saint Martin d 79.25 44 *e*P **P** **22 28 34.9 0.0**
comp=Z,308nm,1.2s
MFF Saint Martin d 79.25 44 *e*P **P** **22 28 34.9 0.0**
MFF Saint Martin d 79.25 44 *e*P **P** **22 28 34.9 0.0**
HMNX Herstmonceux 79.42 40⇑ *e*P **P** **22 28 35.2 -0.5**
HMNX AMB AMB 22 28 36.8
comp=Z,181nm,1.2s
HMNX AMS AMS 23 00 17.0
comp=Z,2µm,18.8s
VIEF Viey 79.53 48⇑ *e*P **P** **22 28 37.9 +1.2**

LABF Labassere 79.56 48⇑ eP P 22 28 37.8 +1.0
EPF Esparros 79.76 48 eP P 22 28 38.3 +0.5
comp=Z,350nm,1.3s
EPF Esparros 79.76 48 eP P 22 28 38.3 +0.5
EPF Esparros 79.76 48 eP P 22 28 38.3 +0.5
ELSH Elham, Standar 79.92 40⇑ eP P 22 28 38.0 -0.4
ELSH AMB AMB 22 28 39.4
comp=Z,198nm,1.4s
LFF La Frestale 79.94 46 eP P 22 28 38.8 +0.1
comp=Z,454nm,1.4s
LFF La Frestale 79.94 46 eP P 22 28 38.8 +0.1
LFF La Frestale 79.94 46 eP P 22 28 38.8 +0.1
MELF Melles 80.08 48⇑ eP P 22 28 40.0 +0.4
MLS Moulis 80.32 48⇑ eP P 22 28 41.4 +0.6
SALF Salau 80.40 48⇑ eP P 22 28 42.7 +1.4
RJF Les Rejaudoux 80.47 46 eP P 22 28 41.5 -0.1
comp=Z,404nm,1.4s
RJF eR
comp=Z,5μm,22.8s
RJF Les Rejaudoux 80.47 46 eP P 22 28 41.5 -0.1
RJF Les Rejaudoux 80.47 46 eP P 22 28 41.5 -0.1
MENF Mencas 80.59 40⇑ eP P 22 28 42.3 +0.3
GAMB Gambell 80.62 333 PFAKE 22 28 50.0 +8.1
GAMB LR LR
comp=Z,3μm,21.0s
EANR 'Ain N'Sour 80.84 55 P P 22 28 46.6 +2.8
CAF Calviac 80.88 46 eP P 22 28 43.8 0.0
comp=Z,296nm,1.3s
CAF Calviac 80.88 46 eP P 22 28 43.8 0.0
CAF Calviac 80.88 46 eP P 22 28 43.8 0.0
TCF Toulx Ste Croi 80.89 45 eP P 22 28 43.5 -0.3
comp=Z,158nm,1.2s
TCF Toulx Ste Croi 80.89 45 eP P 22 28 43.5 -0.3
TCF Toulx Ste Croi 80.89 45 eP P 22 28 43.5 -0.3
VALF Valcebollere 81.03 48⇑ eP P 22 28 46.0 +1.2
ECHA Ech Chlef 81.04 55 P P 22 28 45.2 +0.5
ETRT Tiaret 81.05 56 P P 22 28 47.9 +2.9
CARF Carcanieres 81.08 48⇑ eP P 22 28 45.5 +0.5
MTLF Montolieu 81.11 47 eP P 22 28 45.1 +0.1
comp=Z,294nm,1.4s
MTLF Montolieu 81.11 47 eP P 22 28 45.1 +0.1
MTLF Montolieu 81.11 47 eP P 22 28 45.1 +0.1
HYF Humbligny 81.12 43 eP P 22 28 45.0 0.0
HYF Humbligny 81.12 43 eP P 22 28 45.0 0.0
EBNR Beni Rached 81.16 55 P P 22 28 44.5 -1.0
BGF Bois d'Agland 81.31 44 eP P 22 28 45.7 -0.3
comp=Z,216nm,1.2s
BGF Bois d'Agland 81.31 44 eP P 22 28 45.7 -0.3
BGF Bois d'Agland 81.31 44 eP P 22 28 45.7 -0.3
LRDF Laroque-de-Fa 81.38 48⇑ eP P 22 28 47.1 +0.7
FILF Fillols 81.42 48⇑ eP P 22 28 47.0 +0.2
SUE Sulen 81.44 29⇑ iP P 22 28 44.8 -1.6
PYM Petit Puy Mans 81.49 45⇑ eP P 22 28 47.2 +0.1
FOO Floro 81.54 29⇑ iP P 22 28 45.9 -1.0
FOO IVmB_BB 22 28 48.8
comp=Z,476nm,2.5s
SHEL Horse Pasture 81.61 108 PFAKE 22 29 00.0 +12
SHEL LR LR
comp=Z,4μm,20.0s
AVF Avril sur Loir 81.64 44 eP P 22 28 47.1 -0.6
comp=Z,123nm,1.2s
AVF Avril sur Loir 81.64 44 eP P 22 28 47.1 -0.6
AVF Avril sur Loir 81.64 44 eP P 22 28 47.1 -0.6
ASK Askoy 81.69 30 eP P 22 28 48.2 +0.5
LBL Lubilhac 81.70 46 eP P 22 28 48.9 +0.7
SSF Saint Saulge 81.72 44 eP P 22 28 47.5 -0.7
comp=Z,117nm,1.2s
SSF Saint Saulge 81.72 44 eP P 22 28 47.5 -0.7
SSF Saint Saulge 81.72 44 eP P 22 28 47.5 -0.7
BER Bergen 81.77 30⇑ iP P 22 28 47.5 -0.6
BER IVMs_BB IVMs_BB 23 03 48.3
comp=Z,2μm,16.1s
BER IAMs_20 IAMs_20 23 03 55.4
comp=Z,6μm,19.1s
RUND Rundenannen 81.78 30 eP P 22 28 47.1 -1.1
KMY Karmoy 81.81 31 eP P 22 28 48.5 +0.2
PLDF La Plantade 81.89 45⇑ eP P 22 28 49.1 -0.1
BAIF Baives 81.94 41 eP P 22 28 48.8 -0.4
comp=Z,180nm,1.5s
BAIF Baives 81.94 41 eP P 22 28 48.8 -0.4
BAIF Baives 81.94 41 eP P 22 28 48.8 -0.4
LOR Lormes 81.95 43 eP P 22 28 48.8 -0.6
comp=Z,219nm,1.4s
LOR eR
comp=Z,8μm,21.2s
LOR Lormes 81.95 43 eP P 22 28 48.8 -0.6
LOR Lormes 81.95 43 eP P 22 28 48.8 -0.6
SNF Seneffe 81.95 40 P P 22 28 49.6 +0.3
UCC Uccle 81.97 40 P P 22 28 48.5 -0.8
UCC Uccle 81.97 40 eP P 22 28 49.2 -0.2
UCC pmax pmax
comp=Z,97nm,1.2s
UCC MLR MLR
comp=Z,3μm,20.0s
UCC Uccle 81.97 40 eP P 22 28 49.2 -0.2
comp=Z,97nm,1.2s
UCC LR LR
comp=Z,3μm,20.0s
COLF Collangettes 81.99 45⇑ eP P 22 28 50.2 +0.5
SMF Signal de Mont 81.99 44 eP P 22 28 48.9 -0.7
comp=Z,110nm,1.2s
SMF Signal de Mont 81.99 44 eP P 22 28 48.9 -0.7
SMF Signal de Mont 81.99 44 eP P 22 28 48.9 -0.7
HYA Hoyanger 82.13 29 eP P 22 28 50.2 +0.3
KBS Kingsbay 82.13 11⇑ iP P 22 28 50.2 +0.5
KBS IVMs_BB IVMs_BB 23 04 57.0
comp=Z,2μm,17.2s
KBS IAMs_20 IAMs_20 23 05 02.5
comp=Z,7μm,19.5s
KBS Kingsbay 82.13 11 eP P 22 28 49.9 +0.2
KBS pmax pmax
comp=Z,37nm,1.1s
KBS MLR MLR
comp=Z,6μm,20.0s
KBS Kingsbay 82.13 11 eP P 22 28 49.9 +0.2
comp=Z,37nm,1.1s
KBS LR LR
comp=Z,6μm,20.0s
DOU Dourbes 82.19 41 P P 22 28 50.7 +0.2
comp=Z,52nm,1.7s
LASF Ste Croix 82.23 47 eP P 22 28 51.4 +0.5
comp=Z,305nm,1.5s
LASF Ste Croix 82.23 47 eP P 22 28 51.4 +0.5
EMHD Djebel Mahouad 82.31 55 P P 22 28 53.5 +1.8
GIVF Givet 82.33 41 eP P 22 28 51.1 -0.2
comp=Z,158nm,1.1s
GIVF Givet 82.33 41 eP P 22 28 51.1 -0.2
GIVF Givet 82.33 41 eP P 22 28 51.1 -0.2
BLS5 Blasjo 82.41 31⇑ iP P 22 28 51.8 +0.2
AKN Aaknes 82.42 28⇑ iP P 22 28 51.2 -0.4
ODD1 Odda 82.45 31 eP P 22 28 52.6 +0.9
SSB Saint Sauveur 82.60 45⇑ eP P 22 28 53.3 +0.4
BCLA Clavier 82.61 40 P P 22 28 53.4 +0.6
comp=Z,82nm,1.9s
MEZF Maizieres J'vi 82.63 42 eP P 22 28 52.8 -0.1
comp=Z,324nm,1.3s
MEZF Maizieres J'vi 82.63 42 eP P 22 28 52.8 -0.1
SFTF Sexfontaines 82.65 42 eP P 22 28 52.6 -0.4
comp=Z,313nm,1.4s
SFTF Sexfontaines 82.65 42 eP P 22 28 52.6 -0.4
ATKA Atka Island 82.72 322 PFAKE 22 29 00.0 +6.8
ATKA LR LR
comp=Z,300nm,20.0s
VIVF Saint-Julien-l 82.74 46 eP P 22 28 54.1 +0.5
comp=Z,234nm,1.1s
VIVF Saint-Julien-l 82.74 46 eP P 22 28 54.1 +0.5
VIVF Saint-Julien-l 82.74 46 eP P 22 28 54.1 +0.5
BEBN Eben Emael 82.81 40 P P 22 28 54.1 +0.4
SNART Snartemo 82.91 32 eP P 22 28 54.4 +0.3
HGN Heimansgroeve 82.97 40 eP P 22 28 54.2 -0.4
comp=Z,111nm,1.0s
HGN eS SKiKP 22 38 14.8 +29
MEM Membach 83.04 40 P P 22 28 55.5 +0.6
comp=Z,64nm,1.7s
MEM Membach 83.04 40 eP P 22 28 55.0 0.0
MEM pmax pmax
comp=Z,143nm,1.3s
MEM MLR MLR
comp=Z,3μm,20.0s
MEM Membach 83.04 40 eP P 22 28 55.0 0.0
comp=Z,143nm,1.3s
MEM LR LR
comp=Z,3μm,20.0s
PAGF Fort de Pagny 83.07 42 eP P 22 28 55.1 -0.1
comp=Z,136nm,1.5s
PAGF Fort de Pagny 83.07 42 eP P 22 28 55.1 -0.1
SPA0 Spitsbergen Ar 83.13 12⇑ iP P 22 28 54.6 -0.4
SPA0 IAMs_20 IAMs_20 23 06 16.7
comp=Z,16μm,19.0s
SPA0 IVMs_BB IVMs_BB 23 06 30.6
comp=Z,5μm,20.4s
SPA0 Spitsbergen Ar 83.13 12 eP P 22 28 54.7 -0.2
SPITS Spitsbergen Ar 83.13 12 P P 22 28 54.7 -0.2
comp=Z,27nm,0.8s,baz=188,slow=2.5,SNR=30
SPITS Spitsbergen Ar 83.13 12 P P 22 28 54.7 -0.2
SPITS pmax pmax
comp=Z,27nm,0.8s
HSPB Hornsund (broa 83.19 13 eP P 22 28 52.4 -2.8
HSPB IVmB_BB 22 28 57.0
comp=Z,3μm,2.4s
HSP Hornsund 83.20 13 eP P 22 28 56.9 +1.6
OG26 St.-Nazaire-De 83.21 46⇑ eP P 22 28 57.1 +1.0
WLF Walferdange 83.23 41 P P 22 28 57.2 +1.3
WLF Walferdange 83.23 41 eP P 22 28 55.6 -0.4
WLF pmax pmax
comp=Z,129nm,1.1s
WLF MLR MLR
comp=Z,6μm,21.0s
WLF Walferdange 83.23 41 eP P 22 28 55.6 -0.4
comp=Z,129nm,1.1s
WLF LR LR
comp=Z,6μm,21.0s
THEF They Montfort 83.28 42⇑ eP P 22 28 56.2 -0.1
WTSB Winterswijk 83.38 39 eP P 22 28 56.5 -0.2
comp=Z,280nm,1.0s
GRN Grenoble 83.45 45⇑ eP P 22 28 58.1 +0.8
SMRF Simiane la Rot 83.47 47 eP P 22 28 58.0 +0.6
comp=Z,294nm,1.8s
SMRF Simiane la Rot 83.47 47 eP P 22 28 58.0 +0.6
CABF La Chapelle 83.53 44 eP P 22 28 57.6 -0.1
comp=Z,262nm,1.4s
CABF La Chapelle 83.53 44 eP P 22 28 57.6 -0.1
CABF La Chapelle 83.53 44 eP P 22 28 57.6 -0.1
HAU Haudompre 83.55 43 eP P 22 28 57.3 -0.4
comp=Z,219nm,1.4s
HAU eR
comp=Z,7μm,21.0s
HAU Haudompre 83.55 43 eP P 22 28 57.3 -0.4
HAU Haudompre 83.55 43 eP P 22 28 57.3 -0.4
ORIF Oris-en-Rattie 83.58 46 eP P 22 28 58.6 +0.6
comp=Z,214nm,1.6s
ORIF eR
comp=Z,3μm,21.8s
ORIF Oris-en-Rattie 83.58 46 eP P 22 28 58.6 +0.6
ORIF Oris-en-Rattie 83.58 46 eP P 22 28 58.6 +0.6
HOMB Homborsund 83.60 32⇑ iP P 22 28 56.8 -0.9
HOMB IVMs_BB IVMs_BB 23 04 28.9
comp=Z,1μm,22.3s
LEPF PUYLOUBIER 83.62 47⇑ eP P 22 28 58.9 +0.8
TBLU Trondheim 83.78 27⇑ iP P 22 28 58.1 -0.4
TBLU IVmB_BB 22 29 00.7
comp=Z,1μm,1.7s
TBLU IVMs_BB IVMs_BB 23 00 35.8
comp=Z,1μm,21.7s
GSTR Great Sitkin T 83.87 322 eP P 22 29 00.4 +1.2
HINF Hinteralfeld 83.91 43 eP P 22 28 59.0 -0.6
comp=Z,159nm,1.3s
HINF Hinteralfeld 83.91 43 eP P 22 28 59.0 -0.6
HINF Hinteralfeld 83.91 43 eP P 22 28 59.0 -0.6
LOMF Lomont 83.95 43⇑ eP P 22 29 00.1 +0.3
KONO Kongsberg 83.98 31⇑ iP P 22 28 59.4 -0.2
KONO IVmB_BB 22 29 01.9
comp=Z,2μm,3.8s
KONO IAMs_20 IAMs_20 23 00 58.8
comp=Z,3μm,22.1s
KONO Kongsberg 83.98 31 eP P 22 28 59.1 -0.5
KONO pmax pmax
comp=Z,341nm,2.3s
KONO MLR MLR
comp=Z,3μm,21.0s
KONO Kongsberg 83.98 31 eP P 22 28 59.0 -0.5
comp=Z,340nm,2.3s
KONO LR LR
comp=Z,3μm,21.0s
TOA0 Torodi Ar. Sit 83.98 78 eP P 22 28 59.5 -1.0
TOA0 Torodi Ar. Sit 83.98 78 eP P 22 29 00.1 -0.4
TORD Torodi Ar. Bea 83.98 78 P P 22 29 00.1 -0.4
comp=Z,30nm,0.9s,baz=284,slow=4.9,SNR=145
TORD LR LR 23 03 35.9
comp=Z,2μm,21.7s,baz=270,slow=34
ECH Echery 84.06 42⇑ eP P 22 29 00.6 +0.3
MOF Molkenrain 84.09 43⇑ eP P 22 29 00.6 0.0
LPL La Plagne 84.11 45 eP P 22 29 01.2 +0.3
comp=Z,142nm,1.5s
LPL La Plagne 84.11 45 eP P 22 29 01.2 +0.3
LPL La Plagne 84.11 45 eP P 22 29 01.2 +0.3
CDF Champ du Feu 84.11 42 eP P 22 29 00.3 -0.4
comp=Z,339nm,1.7s
CDF Champ du Feu 84.11 42 eP P 22 29 00.3 -0.4
CDF Champ du Feu 84.11 42 eP P 22 29 00.3 -0.4
LPG La Plagne 84.12 45 eP P 22 29 01.5 +0.5
comp=Z,214nm,1.5s
LPG La Plagne 84.12 45 eP P 22 29 01.5 +0.5
LPG La Plagne 84.12 45 eP P 22 29 01.5 +0.5
BNI Bardonecchia 84.13 45 eP P 22 29 00.7 -0.2
BNI pmax pmax
comp=Z,59nm,1.4s
BNI MLR MLR
comp=Z,4μm,22.0s
BNI Bardonecchia 84.13 45 eP P 22 29 00.7 -0.2
comp=Z,59nm,1.4s
BNI LR LR
comp=Z,4μm,22.0s
MUD Monsted U'grnd 84.20 34⇑ iP P 22 29 00.8 +0.1
comp=Z,369nm,1.8s
comp=Z,3μm,18.0s
MUD Monsted U'grnd 84.20 34⇑ iP P 22 29 00.8 +0.1
MUD pmax pmax
comp=Z,370nm,1.8s
MUD MLR MLR
comp=Z,3μm,18.0s
LMR La Mourre 84.22 47 eP P 22 29 01.1 -0.1
comp=Z,173nm,1.3s
LMR La Mourre 84.22 47 eP P 22 29 01.1 -0.1
LMR La Mourre 84.22 47 eP P 22 29 01.1 -0.1
MBDF Montbardon 84.24 46 eP P 22 29 01.8 +0.4
comp=Z,151nm,1.5s
MBDF Montbardon 84.24 46 eP P 22 29 01.8 +0.4
MBDF Montbardon 84.24 46 eP P 22 29 01.8 +0.4
SET Setif 84.28 54 P P 22 29 04.0 +2.2
ADK Adak 84.28 322 eP P 22 29 02.1 +0.8
ADK pmax pmax
comp=Z,888nm,1.5s
ADK MLR MLR
comp=Z,1μm,20.0s
ADK Adak 84.28 322 eP P 22 29 02.1 +0.8
comp=Z,888nm,1.5s
ADK LR LR
comp=Z,1μm,20.0s
FRF La Foret Royal 84.30 47 eP P 22 29 01.5 -0.1
comp=Z,158nm,1.3s
FRF La Foret Royal 84.30 47 eP P 22 29 01.5 -0.1
FRF La Foret Royal 84.30 47 eP P 22 29 01.5 -0.1
SURF Saint Ours 84.30 46⇑ eP P 22 29 03.1 +1.3
NSS Namsos 84.33 26⇑ iP P 22 29 00.9 -0.4
LANF Langenberg 84.39 41⇑ eP P 22 29 02.7 +0.8
CKHR Kef el Ahmar 84.39 55 P P 22 29 03.8 +1.4
NBO02 NORSAR Array S 84.39 29 eP P 22 29 01.9 +0.2
SENIN Lac Senin/Sane 84.39 44 eP P 22 29 02.0 -0.2
CALN Calern 84.45 47⇑ eP P 22 29 03.1 +0.6
STOK Stokkvaagen 84.45 24 eP P 22 29 02.3 +0.4
KONS Konsvik 84.46 24 eP P 22 29 02.6 +0.7
OSL Oslo 84.50 30 eP P 22 29 02.6 +0.4
NB2 NORSAR Subarra 84.56 29 P P 22 29 02.4 -0.2
comp=Z,89nm,1.1s,baz=281,slow=5.1
NB2 NORSAR Subarra 84.56 29 P P 22 29 02.4 -0.2
baz=281,slow=5.1
NB200 NORSAR Array S 84.56 29 eP P 22 29 01.8 -0.8
NOA NORSAR Array B 84.56 29 P P 22 29 01.8 -0.8
comp=Z,22nm,0.8s,baz=278,slow=4.9,SNR=68
NOA LR LR 23 03 39.9
comp=Z,2μm,20.2s,baz=275,slow=34
NOA NORSAR Array B 84.56 29 P P 22 29 01.8 -0.8
NOA pmax pmax
comp=Z,22nm,0.8s
NOA MLR MLR
comp=Z,2μm,20.2s
FLOS Flostrand 84.59 24 eP P 22 29 03.3 +0.8
DFRA Djebel Bou Aff 84.61 54 P P 22 29 04.2 +0.7
MVIF Mont Vial 84.61 47⇑ eP P 22 29 03.7 +0.3
BJO Bjornoya 84.66 15⇑ iP P 22 29 02.6 -0.1
BJO IAMs_20 IAMs_20 23 05 06.6
comp=Z,2μm,20.7s
BJO IVMs_BB IVMs_BB 23 05 45.3
comp=Z,2μm,17.7s
TOUF Mont Tournerai 84.67 46⇑ eP P 22 29 04.0 +0.3
NC602 NORSAR Array S 84.77 29⇑ iP P 22 29 03.6 0.0
NC602 IAMs_20 IAMs_20 23 06 22.9
comp=Z,4μm,18.8s
NC602 IVMs_BB IVMs_BB 23 06 35.7
comp=Z,2μm,16.8s
REVF Revere 84.79 47⇑ eP P 22 29 04.4 +0.3
AUTN L'Aution 84.80 46⇑ eP P 22 29 04.5 +0.1
BFO Black Forest 84.82 42 P P 22 29 03.2 -1.0
comp=Z,276nm,1.2s,SNR=27
BFO Black Forest 84.82 42 eP P 22 29 02.8 -1.4
BFO pmax pmax
comp=Z,79nm,1.2s
BFO MLR MLR
comp=Z,5μm,20.0s
BFO Black Forest 84.82 42 eP P 22 29 02.8 -1.4
comp=Z,79nm,1.2s
BFO LR LR
comp=Z,5μm,20.0s
SBF Sospel 84.82 47 eP P 22 29 04.2 -0.1
comp=Z,317nm,1.3s
SBF Sospel 84.82 47 eP P 22 29 04.2 -0.1
SBF Sospel 84.82 47 eP P 22 29 04.2 -0.1
SAOF Saorge 84.89 46⇑ eP P 22 29 04.9 +0.3
STEI Steigen 84.99 22 eP P 22 29 05.4 +0.8
CTEI Djebel Teioual 85.10 54 P P 22 29 07.3 +1.3
CASM Ain Smara 85.14 54 P P 22 29 07.4 +1.3
CKFL Kef-Lekhel 85.31 54 P P 22 29 08.5 +1.5
STU Stuttgart 85.33 41 eP P 22 29 06.0 -0.6
STU pmax pmax
comp=Z,108nm,1.0s
STU MLR MLR
comp=Z,5μm,19.0s
STU Stuttgart 85.33 41 eP P 22 29 06.0 -0.6
comp=Z,108nm,1.0s
STU LR LR
comp=Z,5μm,19.0s
CAEH 'Ain El Ouahch 85.36 54 P P 22 29 08.1 +1.0
HOPEN Hopen 85.43 13⇑ iP P 22 29 07.0 +0.4
HOPEN IAMs_20 IAMs_20 23 07 27.5
comp=Z,13μm,20.0s
HOPEN IVMs_BB IVMs_BB 23 07 42.9
comp=Z,4μm,18.1s
TUE Stuetta 85.78 44 PFAKE 22 29 20.0 +11
TUE LR LR
comp=Z,4μm,19.0s
CMAH Djebel Manchou 85.83 54 P P 22 29 10.4 +0.9
TRO Tromso 85.89 20⇑ iP P 22 29 07.9 -1.1
TRO IVmB_BB 22 29 09.9
comp=Z,2μm,4.4s
ABSA Djebel Ababsia 85.93 54 P P 22 29 10.7 +0.6
HFS Hagfors 85.93 30 P P 22 29 08.8 -0.6
comp=Z,24nm,0.8s,baz=242,slow=3.2,SNR=71
HFS Hagfors 85.93 30 P P 22 29 08.8 -0.6
HFS pmax pmax
comp=Z,25nm,0.8s
DAVA Damuels 86.01 43⇑ iP P 22 29 10.4 +0.1
comp=Z,606nm,2.3s,SNR=65
LLD Lille Linde 86.07 35 iP P 22 29 10.6 +0.5
LLD Lille Linde 86.07 35 iP P 22 29 10.6 +0.5
DAVOX Davos/Dischmat 86.09 43 P P 22 29 11.5 +0.8
comp=Z,24nm,0.8s,baz=269,slow=1.0,SNR=16
DAVOX Davos/Dischmat 86.09 43 P P 22 29 11.5 +0.8
DAVOX pmax pmax
comp=Z,24nm,0.8s
COP Copenhagen 86.13 34⇑ iP P 22 29 10.6 +0.2
comp=Z,46nm,0.9s
COP Copenhagen 86.13 34 iS S 22 39 46.5 +3.5
comp=Z,800nm,17.0s
COP Copenhagen 86.13 34⇑ iP P 22 29 10.6 +0.2
COP iS S 22 39 46.5 +3.5
COP pmax pmax
comp=Z,46nm,0.9s
COP MLR MLR
comp=Z,810nm,17.0s
PGF Pioggiola 86.15 48 eP P 22 29 10.8 -0.2
comp=Z,115nm,0.9s
PGF Pioggiola 86.15 48 eP P 22 29 10.8 -0.2
PGF Pioggiola 86.15 48 eP P 22 29 10.8 -0.2
FUORN Ofenpass-Fuorn 86.38 44 eP P 22 29 12.3 0.0
comp=Z,415nm,1.9s
FUORN LR LR
comp=Z,4μm,20.0s
GRFO Grafenberg 86.48 40 eP P 22 29 12.7 +0.3
GRFO pmax pmax
comp=Z,69nm,0.8s
GRFO MLR MLR
comp=Z,6μm,20.0s
GRFO Grafenberg 86.48 40 eP P 22 29 12.7 +0.3
comp=Z,69nm,0.8s
GRFO LR LR
comp=Z,6μm,20.0s
RETA Reutte 86.57 43⇓ iP P 22 29 12.7 -0.2
comp=Z,714nm,2.5s,SNR=45
FETA Feichten 86.63 43⇑ iP P 22 29 13.4 0.0
comp=Z,1μm,4.2s,SNR=47
MOTA Moosalm 86.82 43⇓ iP P 22 29 13.6 -0.7
comp=Z,249nm,1.9s,SNR=33
AMKA Amchitka 86.83 321 eP P 22 29 14.8 +0.8
RGN Rugen 86.85 35 eP P 22 29 13.6 -0.4
comp=Z,179nm,0.9s
RGN LR LR
comp=Z,3μm,20.0s
VLC Villacollemand 86.88 46 eP P 22 29 13.1 -1.4
comp=Z,44nm,1.0s
VLC LR LR
comp=Z,2μm,22.0s
VSL Villasalto 86.92 51 eP P 22 29 14.0 -0.8
comp=Z,153nm,1.2s
VSL LR LR
comp=Z,2μm,20.0s
WATA Walderalm 87.14 43⇑ iP P 22 29 15.8 0.0
comp=Z,286nm,2.2s,SNR=11
WTTA Wattenberg 87.19 43⇑ iP P 22 29 15.8 -0.3
comp=Z,1μm,3.9s,SNR=21
CLL Collm 87.30 39 iP P 22 29 16.7 +0.4
comp=Z,115nm,1.0s
CLL ePlp 22 29 21.0
comp=Z,700nm,19.5s
CLL epP pP 22 29 23.0 -2.8
CLL esP sP 22 29 26.0 -3.2
CLL ePP PP 22 32 38.0 -2.4
CLL eSKKSac S 22 39 53.0 -1.6
CLL ePS PnS 22 41 02.0 +4.7
CLL eSS SS 22 45 54.0 +15
CLL eSSS SSS 22 49 30.0
CLL Lm MLR 23 05 00.0
comp=N,800nm,20.5s
CLL Lm MLR 23 05 00.0
comp=E,2μm,20.5s
CLL Lm MLR 23 05 00.0
comp=Z,3μm,20.4s
CLL Collm 87.30 39 iP P 22 29 16.7 +0.4
CLL e 22 29 23.0
CLL eS S 22 39 49.0 -5.6
CLL pmax pmax
comp=Z,115nm,1.0s
CLL MLR MLR
comp=Z,3μm,20.4s
CLL Collm 87.30 39 eP P 22 29 15.9 -0.4
comp=Z,109nm,0.8s
CLL LR LR
comp=Z,4μm,20.0s
KEST Kesra 87.51 54 P P 22 29 18.6 +0.8
comp=Z,10nm,0.9s,baz=276,slow=2.7,SNR=14
KEST Kesra 87.51 54 eP P 22 29 16.5 -1.3
RUE Ruedersdorf 87.54 37 eP P 22 29 15.7 -1.7
comp=Z,65nm,0.7s
RUE LR LR
comp=Z,5μm,20.0s
BSD Bornholm Skovb 87.63 35⇑ iP P 22 29 17.4 -0.4
comp=Z,65nm,1.1s
comp=Z,2μm,22.0s
BSD Bornholm Skovb 87.63 35⇑ iP P 22 29 17.4 -0.4
BSD pmax pmax
comp=Z,65nm,1.1s
BSD MLR MLR
comp=Z,2μm,22.0s
ABTA Abfaltersbach 87.88 43⇑ iP P 22 29 19.2 -0.1
comp=Z,546nm,2.5s,SNR=44

BRG	**Berggiesshubel**	**87.97**	**39**	*i* P	**P**	**22 29 20.3**	**+0.8**		
	comp=Z,85nm,1.1s								
BRG				*i*		22 29 29.0			
	comp=Z,82nm,1.2s								
BRG				PP	**PP**	**22 32 42.0**	**-3.8**		
BRG				SKS	**SKSac**	**22 39 46.0**	**0.0**		
BRG				S	**ScS**	**22 40 10.0**	**+2.6**		
BRG				SS	SS	22 46 08.0	+19		
	comp=N,996nm,19.8s								
	comp=E,2µm,18.8s								
	comp=Z,3µm,19.8s								
BRG	**Berggiesshubel**	**87.97**	**39**	*i* P	**P**	**22 29 20.3**	**+0.8**		
BRG				*i*		22 29 29.0			
BRG						22 32 42.0			
BRG						22 39 46.0			
BRG				pmax	pmax				
	comp=Z,85nm,1.1s								
BRG				pmax	pmax				
	comp=Z,82nm,1.2s								
BRG				MLR	MLR				
	comp=N,996nm,19.8s								
BRG				MLR	MLR				
	comp=E,2µm,18.8s								
BRG				MLR	MLR				
	comp=Z,3µm,19.8s								
KNTN	**Kanton**	**87.98**	**267**	PFAKE		22 29 30.0	+10		
KNTN				LR	LR				
	comp=Z,3µm,19.0s								
ARA0	**ARCESS Array S**	**88.10**	**19**	*e*P	**P**	**22 29 19.5**	**-0.3**		
ARCES	**ARCESS Array B**	**88.10**	**19**	P	**P**	**22 29 19.4**	**-0.3**		
	comp=Z,27nm,0.9s,baz=305,slow=4.3,SNR=45								
ARCES				LR	LR	23 08 54.9			
	comp=Z,2µm,18.5s,baz=298,slow=36								
ARCES	**ARCESS Array B**	**88.10**	**19**	P	**P**	**22 29 19.5**	**-0.3**		
ARCES				pmax	pmax				
	comp=Z,27nm,0.9s								
ARCES				MLR	MLR				
	comp=Z,2µm,18.5s								
ARE0	**ARCESS Array S**	**88.10**	**19**⇑	*i*P	**P**	**22 29 17.8**	**-2.0**		
KHC	**Kasperske Hory**	**88.10**	**41**	*e*P	**P**	**22 29 20.4**	**+0.1**		
KHC				*e*pP	**pP**	**22 29 30.4**	**+0.6**		
KHC				*e*PP	**PP**	**22 32 45.6**	**-1.4**		
KHC				*e*SKS	**SKSac**	**22 39 48.5**	**+1.6**		
KHC				*e*PS	**PS**	**22 41 08.9**	**+0.2**		
KHC				*e*SS	**SS**	**22 45 47.6**	**-3.2**		
KHC				AMS	AMS	23 04 30.0			
	comp=Z,6µm,19.7s								
KHC	**Kasperske Hory**	**88.10**	**41**	*e*P	**P**	**22 29 20.4**	**+0.1**		
KHC				*e*		22 29 30.4			
KHC				*e*		22 32 45.6			
KHC				*e*		22 39 48.5			
KHC				*e*		22 41 08.9			
KHC				*e*SS	SS	22 45 47.6	-3.2		
KHC				MLR	MLR				
	comp=Z,6µm,19.7s								
GEC2	**GERESS Array S**	**88.24**	**41**	*e*P	**P**	**22 29 20.6**	**-0.4**		
GEC2	**GERESS Array S**	**88.24**	**41**	*e*P	**P**	**22 29 20.6**	**-0.4**		
GERES	**GERESS Array B**	**88.24**	**41**	P	**P**	**22 29 20.8**	**-0.2**		
	comp=Z,14nm,0.6s,baz=298,slow=2.9,SNR=150								
GERES				LR	LR	23 03 16.2			
	comp=Z,5µm,21.8s,baz=268,slow=32								
GERES	**GERESS Array B**	**88.24**	**41**	P	**P**	**22 29 20.8**	**-0.2**		
GERES				pmax	pmax				
	comp=Z,15nm,0.6s								
GERES				MLR	MLR				
	comp=Z,5µm,21.8s								
KBA	**Koelnbreinsper**	**88.37**	**43**⇑	*i*P	**P**	**22 29 21.7**	**-0.1**		
	comp=Z,555nm,2.2s,SNR=52								
PVCC	**Panska Ves**	**88.43**	**39**	*e*P	**P**	**22 29 22.8**	**+1.1**		
PVCC				*e*pP	**pP**	**22 29 31.5**	**+0.3**		
PVCC				*ex*	x	22 29 47.8			
PVCC				*e*PP	PP	22 32 42.8	-6.7		
PVCC				*e*SKS	**SKSac**	**22 39 49.2**	**+0.4**		
PVCC				*e*PS	**PS**	**22 41 12.9**	**+0.7**		
PVCC				AMS	AMS	23 11 20.0			
	comp=Z,2µm,18.2s								
PVCC	**Panska Ves**	**88.43**	**39**	*e*P	**P**	**22 29 22.8**	**+1.1**		
PVCC				*e*		22 29 31.5			
PVCC				*e*		22 39 49.2			
PVCC				*e*		22 41 12.9			
PVCC				MLR	MLR				
	comp=Z,2µm,18.2s								
PRA	**Prague**	**88.45**	**40**	*e*P	**P**	**22 29 22.2**	**+0.4**		
PRA				*e*pP	**pP**	**22 29 31.2**	**-0.1**		
PRA				*ex*	x	22 29 47.9			
PRA				*e*PP	**PP**	**22 32 47.5**	**-2.1**		
PRA				*e*SKS	**SKSac**	**22 39 50.9**	**+2.1**		
PRA				*e*PS	**PS**	**22 41 13.6**	**+1.2**		
PRA				*e*SS	**SS**	**22 45 57.6**	**+2.0**		
PRA				AMS	AMS	23 04 30.0			
	comp=Z,4µm,19.4s								
PRA	**Prague**	**88.45**	**40**	*e*P	**P**	**22 29 22.2**	**+0.4**		
PRA				*e*		22 29 31.2			
PRA				*e*		22 32 47.5			
PRA				*e*		22 39 50.9			
PRA				*e*		22 41 13.6			
PRA				*e*SS	SS	22 45 57.6	+2.0		
PRA				MLR	MLR				
	comp=Z,4µm,19.4s								
KEV	**Kevo**	**88.50**	**19**	*e*P	**P**	**22 29 21.0**	**-0.6**		
KEV				pmax	pmax				
	comp=Z,93nm,1.4s								
KEV				MLR	MLR				
	comp=Z,4µm,21.0s								
KEV	**Kevo**	**88.50**	**19**	*e*P	**P**	**22 29 21.0**	**-0.6**		
	comp=Z,93nm,1.4s								
KEV				LR	LR				
	comp=Z,4µm,21.0s								
PRU	**Pruhonice**	**88.53**	**40**	*e*P	**P**	**22 29 22.1**	**-0.1**		
PRU				*e*pP	**pP**	**22 29 31.2**	**-0.5**		
PRU				*ex*	x	22 29 48.2			
PRU				*e*PP	PP	22 32 44.2	-6.1		
PRU				*e*SKS	**SKSac**	**22 39 46.0**	**-3.4**		
PRU				*e*PS	**PS**	**22 41 14.3**	**+0.9**		
PRU				*e*SS	**SS**	**22 45 59.8**	**+2.9**		
PRU				AMS	AMS	23 04 50.0			
	comp=Z,5µm,19.6s								
PRU	**Pruhonice**	**88.53**	**40**	*e*P	**P**	**22 29 22.1**	**-0.1**		
PRU				*e*		22 29 31.2			
PRU				*e*		22 39 46.0			
PRU				*e*		22 41 14.3			
PRU				*e*SS	SS	22 45 59.8	+2.9		
PRU				MLR	MLR				
	comp=Z,5µm,19.6s								
BILL	**Bilibino**	**88.58**	**339***c*	*i*P	**P**	**22 29 22.8**	**+0.7**		
BILL				*i* S	**SKSac**	**22 39 47.5**	**-1.5**		
BILL				pmax	pmax				
	comp=Z,67nm,1.7s								
BILL	**Bilibino**	**88.58**	**339**	*e*P	**P**	**22 29 21.6**	**-0.4**		
	comp=Z,96nm,1.6s								
BILL				LR	LR				
	comp=Z,3µm,22.0s								
MYKA	**Terra Mystica**	**88.67**	**43**⇑	*i*P	**P**	**22 29 22.7**	**-0.3**		
	comp=Z,423nm,2.4s,SNR=38								
GOPC	**GO Pecny, Ondr**	**88.71**	**40**	*e*P	**P**	**22 29 23.6**	**+0.5**		
GOPC				*e*pP	**pP**	**22 29 32.3**	**-0.3**		
GOPC				*ex*	x	22 29 50.3			
GOPC				*e*PP	**PP**	**22 32 47.4**	**-4.3**		
GOPC				*e*SKS	**SKSac**	**22 39 48.0**	**-2.5**		
GOPC				*e*PS	**PS**	**22 41 15.5**	**+0.2**		
GOPC				*e*SS	**SS**	**22 46 00.2**	**+0.8**		
GOPC				AMS	AMS	23 05 40.0			
	comp=Z,5µm,19.4s								
MOA	**Molln**	**88.82**	**42**⇑	*i*P	**P**	**22 29 23.5**	**-0.2**		
	comp=Z,656nm,3.4s,SNR=29								
TRI	**Trieste**	**88.94**	**44**	*e*P	**P**	**22 29 22.1**	**-2.1**		
TRI				pmax	pmax				
	comp=Z,53nm,1.0s								
TRI				MLR	MLR				
	comp=Z,3µm,21.0s								
TRI	**Trieste**	**88.94**	**44**	*e*P	**P**	**22 29 22.1**	**-2.1**		
	comp=Z,53nm,1.0s								
TRI				LR	LR				
	comp=Z,3µm,21.0s								
GORS	**Gorjuse**	**88.97**	**43**	*i* P	**P**	**22 29 24.1**	**-0.4**		
JAVS	**Javornik**	**89.11**	**44**	*i* P	**P**	**22 29 25.2**	**+0.1**		
SKDS	**Skadanscina**	**89.15**	**44**	*i* P	**P**	**22 29 25.4**	**+0.1**		
TREC	**Trest**	**89.29**	**40**	*e*P	**P**	**22 29 25.7**	**-0.1**		
TREC				*e*pP	**pP**	**22 29 35.7**	**+0.4**		
TREC				*e*PP	PP	22 32 49.2	-7.2		
TREC				*e*SKS	**SKSac**	**22 39 52.7**	**-1.3**		
TREC				*e*PS	**PS**	**22 41 22.4**	**+0.6**		
TREC				AMS	AMS	23 05 30.0			
	comp=Z,6µm,19.5s								
TREC	**Trest**	**89.29**	**40**	*e*P	**P**	**22 29 25.7**	**-0.1**		
TREC				*e*		22 29 35.7			
TREC				*e*		22 39 52.7			
TREC				*e*		22 41 22.4			
TREC				MLR	MLR				
	comp=Z,6µm,19.5s								
OBKA	**Obir**	**89.30**	**43**⇑	*i*P	**P**	**22 29 25.8**	**-0.3**		
	comp=Z,474nm,2.6s,SNR=14								
UPC	**Upice**	**89.33**	**39**	*e*P	**P**	**22 29 26.0**	**0.0**		
UPC				*e*pP	**pP**	**22 29 35.1**	**-0.4**		
UPC				*ex*	x	22 29 51.0			
UPC	**Upice**	**89.33**	**39**	*e*P	**P**	**22 29 26.0**	**0.0**		
UPC				*e*		22 29 35.1			
AQU	**L'Aquila**	**89.39**	**47**	PFAKE		22 29 40.0	+14		
AQU				LR	LR				
	comp=Z,4µm,21.0s								
LJU	**Ljubljana**	**89.39**	**44**	*i* P	**P**	**22 29 26.1**	**-0.2**		
LJU				*i*		22 29 34.3			
LJU				*e*S	**SKSac**	**22 39 52.7**	**-1.9**		
LJU				*e*		22 41 29.9			
LJU				*e*		22 46 28.9			
GKP	**Gorka Klasztor**	**89.39**	**36**	*e*P	**P**	**22 29 26.2**	**+0.1**		
GKP				LMZ	LR	23 07 24.9			
GKP	**Gorka Klasztor**	**89.39**	**36**⇑	*e*P	**P**	**22 29 26.2**	**+0.1**		
GKP				MLR	MLR				
	comp=Z,3µm,20.8s								
KSP	**Ksiaz**	**89.43**	**39**	*e*P	**P**	**22 29 26.8**	**+0.4**		
KSP				*e*S	**SKSac**	**22 39 55.1**	**+0.4**		
KSP				LMZ	LR	23 11 06.7			
KSP	**Ksiaz**	**89.43**	**39**⇑	*e*P	**P**	**22 29 26.8**	**+0.4**		
KSP				*e*S	**SKSac**	**22 39 55.1**	**+0.4**		
KSP				MLR	MLR				
	comp=Z,4µm,19.5s								
DPC	**Dobruska-Polom**	**89.57**	**39**	*e*P	**P**	**22 29 27.4**	**+0.3**		
DPC				*e*pP	**pP**	**22 29 36.9**	**+0.3**		
DPC				*ex*	x	22 29 54.1			
DPC				*e*PP	**PP**	**22 32 54.7**	**-3.9**		
DPC				*e*SKS	**SKSac**	**22 39 57.3**	**+1.7**		
DPC				*e*PS	**PS**	**22 41 25.5**	**+0.6**		
DPC				*e*SS	SS	22 46 23.8	+12		
DPC				AMS	AMS	23 09 00.0			
DPC	**Dobruska-Polom**	**89.57**	**39**	*e*P	**P**	**22 29 27.4**	**+0.3**		
DPC				*e*		22 29 36.9			
DPC				*e*		22 32 54.7			
DPC				*e*		22 39 57.3			
DPC				*e*		22 41 25.5			
DPC	**Dobruska-Polom**	**89.57**	**39**	PFAKE		22 29 40.0	+13		
DPC				LR	LR				
	comp=Z,11µm,19.0s								
SOKA	**Soboth**	**89.59**	**43**⇑	*i*P	**P**	**22 29 26.6**	**-0.7**		
	comp=Z,272nm,2.3s,SNR=27								
PERS	**Pernice**	**89.66**	**43**	*i* P	**P**	**22 29 27.0**	**-0.6**		
SMY	**Shemya**	**89.67**	**323**	*e*P	**P**	**22 29 26.9**	**-0.5**		
SMY	**Shemya**	**89.67**	**323**	*e*P	**P**	**22 29 26.9**	**-0.5**		
PDKS	**Podkum**	**89.71**	**43**	*e*P	**P**	**22 29 28.1**	**+0.2**		
ARSA	**Arzberg**	**89.79**	**42**⇑	*i*P	**P**	**22 29 27.7**	**-0.4**		
	comp=Z,666nm,4.0s,SNR=14								
CONA	**Conrad Observa**	**89.85**	**41**	*i* PcP	**P**	**22 29 28.7**	**+0.2**		
	comp=Z,465nm,2.4s,SNR=57								
AFI	**Afiamalu**	**89.86**	**256**	PFAKE		22 29 40.0	+11		
AFI				LR	LR				
	comp=Z,3µm,19.0s								
NVLJ	**Novalja**	**89.95**	**45**	P	**P**	**22 29 29.3**	**+0.3**		
VRAC	**Vranov**	**89.99**	**40**	P	**P**	**22 29 30.0**	**+0.9**		
	comp=Z,22nm,0.8s,baz=283,slow=6.2,SNR=55								
VRAC	**Vranov**	**89.99**	**40**	P	**P**	**22 29 30.0**	**+0.9**		
VRAC				pmax	pmax				
	comp=Z,22nm,0.8s								
VRAC	**Vranov**	**89.99**	**40**⇓	*i*P	**P**	**22 29 29.1**	**0.0**		
BOJS	**Bojanci**	**90.00**	**44**	*i* P	**P**	**22 29 29.2**	**0.0**		
SOP	**Sopron**	**90.36**	**42**⇑	*e*P	**P**	**22 29 31.0**	**+0.2**		
MORC	**Moravsky Berou**	**90.47**	**39**	*e*P	**P**	**22 29 29.8**	**-1.5**		
MORC				pmax	pmax				
	comp=Z,219nm,2.1s								
MORC				MLR	MLR				
	comp=Z,5µm,20.0s								
MORC	**Moravsky Berou**	**90.47**	**39**⇑	*i*P	**P**	**22 29 32.2**	**+0.8**		
MORC	**Moravsky Berou**	**90.47**	**39**	*e*P	**P**	**22 29 29.8**	**-1.5**		
	comp=Z,219nm,2.1s								
MORC				LR	LR				
	comp=Z,5µm,20.0s								
UDBI	**Udbina**	**90.58**	**45**	P	**P**	**22 29 32.6**	**+0.6**		
SMOL	**Smolenice**	**90.72**	**41**	*e*P	**P**	**22 29 34.6**	**+2.1**		
SMOL	**Smolenice**	**90.72**	**41**	*e*P	**P**	**22 29 34.6**	**+2.1**		
SISC	**Sisak**	**90.78**	**44**	P	**P**	**22 29 31.8**	**-1.0**		
RAC	**Raciborz**	**90.80**	**39**	*e*P	**P**	**22 29 33.3**	**+0.5**		
RAC				*e**PP	**pP**	**22 29 40.8**	**-1.5**		
RAC				MLR	MLR				
	comp=Z,3µm,22.1s								
BEHE	**Becsehely**	**90.81**	**43**⇑	*e*P	**P**	**22 29 33.4**	**+0.5**		
OKC	**Ostrava-Krasne**	**90.83**	**39**	*e*P	**P**	**22 29 33.4**	**+0.4**		
OKC				*e*pP	**pP**	**22 29 41.4**	**-1.1**		
OKC				*e*PP	PP	22 33 02.0	-6.6		
OKC				*e*SKS	**SKSac**	**22 40 01.4**	**-1.4**		
OKC				*e*PS	**PnS**	**22 41 43.5**	**+4.4**		
OKC				*e*SS	**SS**	**22 46 29.4**	**-0.7**		
OKC				AMS	AMS	23 07 10.0			
	comp=Z,3µm,18.9s								
OKC	**Ostrava-Krasne**	**90.83**	**39**	*e*P	**P**	**22 29 33.4**	**+0.4**		
OKC				*e*		22 29 41.4			
OKC				*e*		22 40 01.4			
OKC				*e*		22 41 43.5			
OKC				*e*SS	SS	22 46 29.4	-0.8		
OKC				MLR	MLR				
	comp=Z,3µm,18.9s								
FIA0	**FINESS Array S**	**91.36**	**27**	*e*P	**P**	**22 29 34.6**	**-0.5**		
FIA0	**FINESS Array S**	**91.36**	**27**	*e*P	**P**	**22 29 34.6**	**-0.5**		
FINES	**FINESS Array B**	**91.36**	**27**	P	**P**	**22 29 34.6**	**-0.5**		
	comp=Z,12nm,0.8s,baz=256,slow=3.1,SNR=59								
FINES				LR	LR	23 09 49.9			
	comp=Z,3µm,18.9s,baz=294,slow=35								
FINES	**FINESS Array B**	**91.36**	**27**	P	**P**	**22 29 34.6**	**-0.5**		
FINES				pmax	pmax				
	comp=Z,12nm,0.8s								
FINES				MLR	MLR				
	comp=Z,3µm,18.9s								
PKST	**T˜˜s**	**91.44**	**42**⇓	*e*P	**P**	**22 29 36.7**	**+0.8**		
CSKK	**Cs˘ˇtkako**	**91.56**	**42**⇓	*e*P	**P**	**22 29 36.8**	**+0.4**		
APA	**Apatity**	**91.57**	**20**⇑	*i*P	**P**	**22 29 36.0**	**0.0**		
APA				*i*		22 33 10.0			
APA				*i*		22 40 00.0			
APA				*i* S	**S**	**22 40 32.0**	**-1.8**		
APA				*i* PS	**PS**	**22 41 46.0**	**-0.4**		
APA				*i* SS	**SS**	**22 46 42.0**	**+2.2**		
APA				pmax	pmax				
	comp=Z,34nm,1.0s								
APA				MLR	MLR				
	comp=Z,3µm,20.0s								
WDD	**Wield Dalam**	**91.62**	**53**	PFAKE		22 29 50.0	+13		
WDD				LR	LR				
	comp=Z,2µm,21.0s								
VYHS	**Vyhne**	**91.63**	**40**	*e*P	**P**	**22 29 37.8**	**+1.1**		
VYHS				pmax	pmax				
	comp=Z,30nm,1.4s								
VYHS	**Vyhne**	**91.63**	**40**	*e*P	**P**	**22 29 37.8**	**+1.1**		
PKSG		**91.64**	**42**⇓	*e*P	**P**	**22 29 37.7**	**+0.9**		
CUC	**Castrocucco**	**91.68**	**49**	PFAKE		22 29 50.0	+13		
CUC				LR	LR				
	comp=Z,2µm,22.0s								
OJC	**Ojcow**	**91.75**	**39**	*e*P	**P**	**22 29 37.4**	**+0.2**		
OJC				LMZ	LR	23 07 04.7			
OJC	**Ojcow**	**91.75**	**39**	*e*P	**P**	**22 29 36.8**	**-0.4**		
OJC				pmax	pmax				
	comp=Z,40nm,0.8s								
OJC	**Ojcow**	**91.75**	**39**	*e*P	**P**	**22 29 36.8**	**-0.4**		
	comp=Z,40nm,0.8s								
PKS9	**Tamasi**	**91.78**	**42**⇓	*e*P	**P**	**22 29 38.5**	**+1.1**		
BEL	**Belsk**	**91.88**	**37**	*e*P	**P**	**22 29 38.3**	**+0.6**		
BEL				*e*S	**SKSac**	**22 40 07.0**	**-1.6**		
BEL				LMZ	LR	23 06 35.5			
BEL	**Belsk**	**91.88**	**37**⇑	*e*P	**P**	**22 29 38.4**	**+0.7**		
BEL				*e*S	**SKSac**	**22 40 07.1**	**-1.6**		
BEL				MLR	MLR				
	comp=Z,3µm,22.1s								
BUD	**Budapest**	**92.03**	**41**⇑	*e*P	**P**	**22 29 38.6**	**0.0**		
PKSM	**Moragy**	**92.12**	**43**⇑	P	**P**	**22 29 39.1**	**+0.1**		
PKSM	**Moragy**	**92.12**	**43**⇑	*i*P	**P**	**22 29 39.1**	**+0.1**		
PKSM	**Moragy**	**92.12**	**43**⇑	*e*P	**P**	**22 29 39.1**	**+0.1**		
CEL	**Celeste**	**92.14**	**51**	PFAKE		22 29 50.0	+11		
CEL				LR	LR				
	comp=Z,2µm,20.0s								
NIE	**Niedzica**	**92.30**	**39**	*e*P	**P**	**22 29 40.8**	**+1.0**		
NIE				LMZ	LR	23 03 52.1			
NIE	**Niedzica**	**92.30**	**39**⇑	*e*P	**P**	**22 29 40.9**	**+1.1**		
NIE				MLR	MLR				
	comp=Z,2µm,24.6s								
PKS2	**Kecel**	**92.43**	**42**⇓	*e*P	**P**	**22 29 41.5**	**+1.1**		
PSZ	**Piszkesteto**	**92.47**	**41**	*e*P	**P**	**22 29 40.8**	**+0.1**		
PSZ				pmax	pmax				
	comp=Z,195nm,1.7s								
PSZ				MLR	MLR				
	comp=Z,3µm,20.0s								
PSZ	**Piszkesteto**	**92.47**	**41**⇑	*i*P	**P**	**22 29 41.6**	**+0.9**		
PSZ	**Piszkesteto**	**92.47**	**41**	*e*P	**P**	**22 29 40.8**	**+0.1**		
	comp=Z,195nm,1.7s								
PSZ				LR	LR				
	comp=Z,3µm,20.0s								
PSZ	**Piszkesteto**	**92.47**	**41**⇑	*e*P	**P**	**22 29 41.6**	**+0.9**		
SUW	**Suwalki**	**92.56**	**34**	*e*P	**P**	**22 29 40.1**	**-0.7**		
SUW				*e*S	**SKSac**	**22 40 09.9**	**-2.5**		
SUW				LMZ	LR	23 03 01.6			
SUW	**Suwalki**	**92.56**	**34**⇑	*e*P	**P**	**22 29 40.2**	**-0.6**		
SUW				*e*S	**SKSac**	**22 40 09.9**	**-2.5**		
SUW				MLR	MLR				
	comp=Z,2µm,26.3s								
SUW	**Suwalki**	**92.56**	**34**	PFAKE		22 29 50.0	+9.2		
SUW				LR	LR				
	comp=Z,2µm,19.0s								
TIP	**Timpagrande**	**92.58**	**50**	PFAKE		22 29 50.0	+8.6		
TIP				LR	LR				
	comp=Z,2µm,22.0s								
STHS	**Stebnicka Huta**	**92.88**	**39**	*e*P	**P**	**22 29 44.0**	**+1.5**		
STHS				pmax	pmax				
	comp=Z,16nm,0.8s								
STHS	**Stebnicka Huta**	**92.88**	**39**	*e*P	**P**	**22 29 44.0**	**+1.5**		
DIVS	**Divibare**	**93.63**	**44**⇑	*i*P	**P**	**22 29 46.5**	**+0.4**		
KOLS	**Kolonicke sedl**	**93.67**	**39**	*e*P	**P**	**22 29 47.6**	**+1.4**		
KOLS				*e*		22 42 14.7			
KOLS				pmax	pmax				
	comp=Z,37nm,1.5s								
KOLS	**Kolonicke sedl**	**93.67**	**39**	*e*P	**P**	**22 29 47.6**	**+1.4**		
KOLS				*e*		22 33 18.0			
KOLS				*e*S	**S**	**22 40 59.0**	**+5.6**		
KOLS				*e*PS	**PS**	**22 42 14.7**	**+4.3**		
KOLS				*e*SS	SS	22 47 40.4	+29		
KWP	**Kalwaria Pacla**	**93.72**	**39**	*e*P	**P**	**22 29 47.1**	**+0.8**		
KWP				LMZ	LR	23 08 03.8			
KWP	**Kalwaria Pacla**	**93.72**	**39**⇑	*e*P	**P**	**22 29 47.2**	**+0.9**		
KWP				MLR	MLR				
	comp=Z,2µm,21.2s								
UZH	**Uzhgorod**	**93.78**	**40**⇑	*i*P	**P**	**22 29 47.6**	**+1.0**		
UZH				*i*		22 29 54.6			
UZH				*e*PPP	PPP	22 35 35.8			
UZH				*e*		22 40 17.6			
UZH				*e*S	**S**	**22 40 48.8**	**-5.4**		
UZH				*e*PS	**PS**	**22 42 07.4**	**-4.1**		
UZH				*e*SS	**SS**	**22 47 13.4**	**+0.9**		
UZH				MLR	MLR				
	comp=N,590nm,20.0s								
UZH				MLR	MLR				
	comp=E,4µm,20.0s								
UZH				MLR	MLR				
	comp=Z,2µm,20.0s								
VNA3	**Neumayer Olymp**	**93.83**	**162**	P	**P**	**22 29 48.8**	**+2.5**		
PUL	**Pulkovo**	**93.95**	**27**⇑	*e*P	**P**	**22 29 48.2**	**+1.1**		
PUL				pmax	pmax				
	comp=Z,88nm,1.4s								
PUL				MLR	MLR				
	comp=Z,4µm,20.0s								
VNA1	**Neumayer--Stat**	**94.10**	**161**	P	**P**	**22 29 50.0**	**+2.6**		
TRPA	**Tarpa**	**94.10**	**40**⇑	*i*P	**P**	**22 29 48.5**	**+0.4**		
TRPA	**Tarpa**	**94.10**	**40**⇑	*e*P	**P**	**22 29 48.7**	**+0.6**		
SIRR	**Siria**	**94.11**	**42**⇑	*i*P	**P**	**22 29 49.1**	**+0.9**		
NACGM	**Naroch**	**94.20**	**33**	*e*	P	22 29 44.0	-4.4		
BZS	**Buzias**	**94.28**	**43**⇑	P	**P**	**22 29 49.3**	**+0.3**		
BZS	**Buzias**	**94.28**	**43**⇑	*i*P	**P**	**22 29 49.3**	**+0.3**		
TIR	**Tirane**	**94.31**	**47**	PFAKE		22 30 00.0	+11		
TIR				LR	LR				
	comp=Z,2µm,20.0s								
VNA2	**Neumayer--Watz**	**94.45**	**161**	P	**P**	**22 29 52.1**	**+3.0**		
	baz=286,slow=3.7								
LVV	**L'vov**	**94.47**	**38**⇓	*i*P	**P**	**22 29 49.5**	**-0.3**		
LVV				*e*		22 33 35.3			
LVV				*e*		22 40 19.1			
LVV				*e*S	**S**	**22 40 57.5**	**-2.7**		
LVV				*e*		22 42 20.7			
LVV				MLR	MLR				
	comp=N,1µm,18.0s								
LVV				MLR	MLR				
	comp=E,1µm,18.0s								
LVV				MLR	MLR				
	comp=Z,2µm,18.0s								
DRGR		**94.64**	**41**	⇓P	**P**	**22 29 51.0**	**+0.3**		
DRGR		**94.64**	**41**⇓	*i*P	**P**	**22 29 51.0**	**+0.3**		
BMR	**Baia Mare**	**94.86**	**40**⇑	P	**P**	**22 29 52.2**	**+0.6**		
BMR	**Baia Mare**	**94.86**	**40**⇑	*i*P	**P**	**22 29 52.2**	**+0.6**		
TMCR	**Tamitsa**	**94.96**	**22**	*e*P	**P**	**22 29 51.1**	**-0.6**		
TMCR				*e*		22 33 37.9			
TMCR				pmax	pmax				
	comp=Z,25nm,1.2s								
GZR	**Gura Zlata**	**95.13**	**43**	⇑P	**P**	**22 29 53.8**	**+0.8**		
GZR	**Gura Zlata**	**95.13**	**43**⇑	*i*P	**P**	**22 29 53.8**	**+0.8**		
CJR	**Cluj-Napoca**	**95.24**	**41**	⇓P	**P**	**22 29 54.0**	**+0.6**		
CJR	**Cluj-Napoca**	**95.24**	**41**⇓	*i*P	**P**	**22 29 54.0**	**+0.6**		
LOT	**Lotru**	**95.

KIEV Kiev 97.22 36 *e*P **P** 22 30 00.4 -1.8
comp=Z,9.5nm,0.7s
KIEV LR LR
comp=Z,5µm,20.0s
AKASG Malin Array Be 97.23 36 P **P** 22 30 01.1 -1.1
comp=Z,4.9nm,0.7s,baz=291,slow=4.0,SNR=28
AKASG PP **PP** 22 33 57.1 -1.3
comp=Z,0.2nm,0.3s,baz=296,slow=7.3,SNR=6.7
AKASG PKKPbc **PKKPbc** 22 46 42.5 -0.5
comp=Z,0.4nm,0.4s,baz=76,slow=2.6,SNR=4.6
AKASG LR LR 23 11 18.9
comp=Z,4µm,20.3s,baz=325,slow=34
AKBB Malin Array Si 97.23 36 *e*P **P** 22 30 01.2 -1.1
AKBB *e* 22 33 57.1
AKBB Malin Array Si 97.23 36 *e*P **P** 22 30 01.1 -1.1
AKBB *e*PP **PP** 22 33 57.1 -1.3
AKBB *e*PKKPbc **PKKPbc** 22 46 42.5 -0.5
TESR Tescani 97.28 41 ⇓*i*P **P** 22 30 01.6 -1.0
KLMR Klimovskoe 97.38 24*c i*P **P** 22 30 01.8 -0.9
KLMR *e* 22 33 55.5
KLMR *e*S **SKSac** 22 40 35.1 -2.8
KLMR pmax pmax
comp=Z,127nm,1.6s
PLD Plovdiv 97.52 45 *e*P **P** 22 30 03.0 -0.8
PLOR Plostina 97.52 41 ⇑P **P** 22 30 02.8 -1.0
PLOR Plostina 97.52 41 ⇑*i*P **P** 22 30 02.8 -1.0
VRI Vrincioaia 97.57 41 ⇑P Pdif 22 30 05.9 +1.9
VRI Vrincioaia 97.57 41 ⇑*i*P Pdif 22 30 05.9 +1.9
RZN Rozhen 97.67 46 *i* P **P** 22 30 04.0 -0.8
SULR 97.69 42 ⇑*i*P **P** 22 30 03.9 -0.6
SZH Strazhica 97.98 44 *e*P **P** 22 30 05.0 -0.8
MSKU Masuku 97.99 90 *e*P P 22 30 03.2 -3.3
comp=Z,18nm,1.0s
MSKU LR LR
comp=Z,1µm,19.0s
KDZ Kurdzhali 98.18 45 ⇓P **P** 22 30 06.8 0.0
KDZ Kurdzhali 98.18 45 ⇓*i*P **P** 22 30 06.8 0.0
KDZ Kurdzhali 98.18 45 *e*P **P** 22 30 06.0 -0.8
PET Petropavlovsk 98.28 327*c i*P Pdif 22 30 08.1 +1.1
PET *i* 22 34 08.4
PET *i*S **S** **22 41 28.9 -3.9**
PET *e*PS **PS** 22 42 59.0 -1.4
PET *e*PPS PPS 22 43 38.1
PET *e*SS SS 22 48 25.3 +10
PET pmax pmax
comp=Z,300nm,10.5s
PET pmax pmax
comp=Z,400nm,17.1s
PET MLR MLR
comp=Z,2µm,17.0s
PET Petropavlovsk 98.28 327 PFAKE 22 30 20.0 +13
PET LR LR
comp=Z,1µm,21.0s
KIS Kishinev 98.47 40 *e*P Pdif 22 30 08.0 0.0
KIS Kishinev 98.47 40 *e*PP PP 22 34 20.0 +12
KIS Kishinev 98.47 40 *e*PS PS 22 43 04.0 +1.2
KIS Kishinev 98.47 40 *e*P Pdif 22 30 08.0 0.0
KIS *e*PPP PPP 22 36 25.0
KIS *e* 22 40 36.0
KIS *e*PS **PS** **22 43 04.0 +1.2**
KIS MLR MLR
comp=Z,4µm,20.0s
KIS MLR MLR
comp=N,1µm,17.0s
KIS MLR MLR
comp=E,2µm,20.0s
KIS MLR MLR
comp=Z,3µm,22.0s
CFR Carcaliu 98.75 41 ⇑P **P** 22 30 08.1 -1.1
CFR Carcaliu 98.75 41 ⇑*i*P **P** 22 30 08.1 -1.1
TLB Topalu 98.91 42 ⇓P **P** 22 30 08.8 -1.2
TLB Topalu 98.91 42 ⇓*i*P **P** 22 30 08.8 -1.2
PRD Provadia 99.00 43 *e*P Pdif 22 30 09.6 -0.8
OBN Obninsk 99.14 30 P **Pdif** **22 30 08.9 -1.8**
comp=Z,4.6nm,0.4s,baz=184,slow=4.3,SNR=11
OBN PP **PP** **22 34 11.3 -1.6**
comp=Z,2.8nm,0.4s,baz=324,slow=12,SNR=4.4
OBN Obninsk 99.14 30*c i*P **Pdif** **22 30 09.5 -1.2**
OBN *i* 22 30 17.2
OBN *i* 22 34 12.2
OBN pmax pmax
comp=Z,36nm,1.7s
OBN MLR MLR
comp=Z,3µm,18.0s
OBN Obninsk 99.14 30 *e*P **Pdif** **22 30 08.9 -1.8**
OBN *e*PP **PP** **22 34 11.3 -1.6**
OBN LR LR
comp=Z,4µm,22.0s
TIRR Tirgusor 99.20 42 *e*P **Pdif** **22 30 10.3 -1.0**
TIRR pmax pmax
comp=Z,132nm,2.6s
TIRR MLR MLR
comp=Z,4µm,22.0s
TIRR Tirgusor 99.20 42 ⇓*i*P **Pdif** **22 30 11.1 -0.2**
TIRR Tirgusor 99.20 42 *e*P **Pdif** **22 30 10.3 -1.0**
comp=Z,132nm,2.6s
TIRR LR LR
comp=Z,4µm,22.0s
PRGR Permogore 99.26 22⇑*i*P **Pdif** **22 30 10.6 -0.6**
PRGR pmax pmax
comp=Z,88nm,1.6s
QSPA South Pole Qui 99.28 180 PFAKE 22 30 20.0 +8.8
QSPA LR LR
comp=Z,2µm,20.0s
MOS Moscow 99.33 29 *i* P **Pdif** **22 30 08.4 -3.2**
MOS *e* 22 34 11.0
MOS pmax pmax
comp=Z,45nm,1.2s
MOS pmax pmax
comp=Z,300nm,3.2s
PSN Preselentsi 99.35 43 ⇓P **Pdif** **22 30 12.5 +0.5**
PSN Preselentsi 99.35 43 ⇓*i*P **Pdif** **22 30 12.5 +0.5**
PSN Preselentsi 99.35 43 *e*P **Pdif** **22 30 10.0 -2.0**
GVD Gavdhos 99.42 52 PFAKE 22 30 20.0 +7.5
GVD LR LR
comp=Z,3µm,21.0s
SANT Santorini 99.99 51 PFAKE 22 30 30.0 +15
SANT LR LR
comp=Z,1µm,19.0s
SKR Severo-Kuril's 100.78 326 *e*P **Pdif** **22 30 16.0 -2.1**
URZ Urewera 102.48 233 PFAKE 22 30 40.0 +14
URZ LR LR
comp=Z,2µm,19.0s
SIM Simferopol' 102.69 40 *e*P **Pdif** **22 30 27.9 +1.1**
SIM *e* 22 34 41.0
SIM *e* 22 41 07.0
SIM *e* 22 41 54.0
SIM *e*PS **PS** **22 43 45.0 -3.0**
SIM *e*PPS PPS 22 44 31.0
SIM *e*SS SS 22 49 19.0 +1.4
SIM *e*SSS SSS 22 53 18.0
SIM pmax pmax
comp=Z,90nm,8.8s
BKZ Black Stump Fm 102.99 232 PFAKE 22 30 40.0 +12
BKZ LR LR
comp=Z,3µm,22.0s
SBA Scott Base 103.00 192 PFAKE 22 30 40.0 +13
SBA LR LR
comp=Z,1µm,18.0s
ISP Isparta 103.24 48 PFAKE 22 30 40.0 +10
ISP LR LR
comp=Z,2µm,20.0s
ANTO Ankara 104.03 45 PFAKE 22 30 40.0 +7.0
ANTO LR LR
comp=Z,1µm,20.0s
TSUM Tsumeb 104.08 108 PFAKE 22 30 50.0 +16
TSUM LR LR
comp=Z,3µm,21.0s
VNDA Vanda 104.11 192 PP PP 22 34 53.7 +3.5
comp=Z,4.4nm,1.2s,baz=90,slow=5.1,SNR=2.4
YAK Yakutsk 104.17 344 *e*P Pdif 22 30 22.0 -11
YAK pmax pmax
comp=Z,148nm,11.8s
YAK Yakutsk 104.17 344 PFAKE 22 30 40.0 +7.0
YAK LR LR
comp=Z,3µm,18.0s
BR101 Keskin Array S 104.69 45 *e*Pdif **Pdif** **22 30 35.9 -0.1**
BR101 *e*PKiKP **PKiKP** **22 34 52.1 +0.5**
BR101 *e*PKKPbc **PKKPbc** **22 46 21.0 -0.4**
BRTR Keskin Array B 104.69 45 Pdiff **Pdif** **22 30 35.9 -0.1**
comp=Z,0.3nm,0.6s,baz=278,slow=4.2,SNR=3.6
BRTR PKiKP **PKiKP** **22 34 52.1 +0.5**
comp=Z,1.7nm,1.0s,baz=268,slow=3.2,SNR=6.2
BRTR PKKPbc **PKKPbc** **22 46 21.0 -0.4**
comp=Z,0.7nm,0.7s,baz=139,slow=5.5,SNR=5.7
BRTR Keskin Array B 104.69 45 P **Pdif** **22 30 35.9 -0.1**
BRTR *i* 22 34 52.1
BRTR pmax pmax
comp=Z,2.0nm,1.0s
BRTR pmax pmax
comp=Z,1.0nm,0.7s
ANN Anapa 104.83 39 *i* P **Pdif** **22 30 30.1 -6.2**
ANN *e* 22 34 56.1
ANN *e*PS **PS** **22 44 01.0 -9.4**
ANN *e*SS SS 22 49 55.5 +8.5
ANN *e*SSS SSS 22 53 47.8
ANN pmax pmax
comp=Z,65nm,1.2s
ANN pmax pmax
comp=Z,45nm,1.3s
ANN MLR MLR
comp=E,2µm,21.0s
ANN MLR MLR
comp=N,2µm,21.0s
ANN MLR MLR
comp=Z,4µm,21.0s
KWAJ Kwajalein Atol 106.25 282 PFAKE 22 35 10.0
KWAJ LR LR
comp=Z,1µm,19.0s
CSS Prodhromos 106.46 49 PFAKE 22 35 10.0
CSS LR LR
comp=Z,200nm,20.0s
SOC Sochi 106.87 39 *i* P **Pdif** **22 30 44.5 -0.9**
SOC *e* 22 35 08.8
SOC *e* 22 41 19.3
SOC *e*PS PS 22 44 20.9 -11
SOC *e*SS SS 22 50 24.2 +9.5
SOC MLR MLR
comp=Z,2µm,21.0s
ODZ Otahua Downs 107.21 226 PFAKE 22 35 10.0
ODZ LR LR
comp=Z,5µm,18.0s
ARU Arti 107.65 21 P **Pdif** **22 30 49.4 +0.8**
ARU S **SKSac** **22 41 26.5 -0.1**
ARU PS **PS** **22 44 29.5 -9.5**
ARU Arti 107.65 21 PFAKE 22 35 10.0
ARU LR LR
comp=Z,4µm,22.0s
KIV Kislovodsk 108.48 38 *i* P **Pdif** **22 30 52.2 -0.5**
KIV *e* 22 35 21.2
KIV *e*PPP PPP 22 37 39.8
KIV *e* 22 41 32.7
KIV *e*PS **PS** **22 44 48.2 -0.1**
KIV *e*SS SS 22 50 38.7 +1.9
KIV *e*SSS SSS 22 54 42.2
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV MLR MLR
comp=Z,2µm,20.0s
KIV Kislovodsk 108.48 38 PFAKE 22 35 10.0
KIV LR LR
comp=Z,2µm,20.0s
ONI Oni 109.71 38 P **PP** **22 35 30.3 -1.5**
YSS Yuzh-Sakhalins 110.15 328 PFAKE 22 35 10.0
YSS LR LR
comp=Z,1µm,20.0s
TBLG Delisi 110.98 39 P **PP** **22 35 39.5 -1.4**
BOD Bodaibo 111.48 350 *e*PKIKP PKiKP 22 35 16.4 +13
DGRG David-gareji 111.53 39 P PP 22 35 33.6 -11
GNI Garni 111.88 40 PFAKE 22 35 20.0
GNI LR LR
comp=Z,2µm,20.0s
MAK Makhachkala 111.92 36 *i* PKIKP **PKiKP** **22 35 06.5 +1.7**
MAK *e* 22 35 43.3
MAK *e*SP SP 22 45 13.7 -3.2
MAK *e*PS **PS** **22 45 16.8 -4.3**
MAK pmax pmax
comp=Z,206nm,1.5s
ASAJ Asahikawa 112.04 325 PFAKE 22 35 20.0
ASAJ LR LR
comp=Z,2µm,20.0s
AKTO Aktyubinsk 112.06 25 PP PP 22 35 45.1 -3.1
comp=Z,2.2nm,0.9s,baz=329,slow=3.6,SNR=4.1
HABR Khabarovsk 112.88 333 *e*P **Pdif** **22 31 10.5 -1.5**
HABR *i* 22 35 05.7
HABR *i* 22 35 15.9
HABR *e* 22 35 53.1
HABR *e**PP 22 38 16.3
HABR *e*SP SP 22 45 24.0 -1.3
HABR *e*SS **SS** **22 51 35.1 +0.5**
HABR *e*SSS SSS 22 55 47.0
HABR pmax pmax
comp=Z,91nm,2.5s
HABR MLR MLR
comp=Z,1µm,23.0s
ABKAR Akbulak array 113.77 25 *e*PKiKP **PKiKP** **22 35 08.1 -0.1**
ABKAR *e*PP **PP** **22 36 00.3 0.0**
LSZ Lusaka 113.90 103 PFAKE 22 35 20.0
LSZ LR LR
comp=Z,2µm,22.0s
BRVK Borovoye 114.19 17 *i* PKIKP PKPdf 22 35 08.0 -0.9
BRVK pmax pmax
comp=Z,3.0nm,1.7s
BRVK MLR MLR
comp=Z,3µm,31.0s
BRVK Borovoye 114.19 17 PFAKE 22 35 20.0 +11
BRVK LR LR
comp=Z,6µm,20.0s
BVAR Borovoye Array 114.25 17 PKP PKPdf 22 35 09.2 +0.2
comp=Z,0.7nm,0.6s,baz=336,slow=3.2,SNR=4.0
BVAR PP **PP** **22 35 58.7 -4.9**
comp=Z,2.4nm,0.9s,baz=338,slow=3.2,SNR=5.5
BVAR Borovoye Array 114.25 17 PKIKP PKPdf 22 35 09.2 +0.2
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BVAR pmax pmax
comp=Z,2.0nm,0.9s
DRV Dumont d'Urvil 115.40 198 PP PP 22 35 59.0 -13
DRV SKKS 22 41 56.0
DRV SP SP 22 45 26.0 -22
DRV SS **SS** **22 52 13.0 +5.2**
DRV L L 23 03 00.0
DRV R 23 10 00.0
ZAA1 Zalesovo Array 116.31 7 *e*PKPdf **PKPdf** **22 35 12.9 0.0**
ZAA1 *e*PP **PP** **22 36 16.1 -1.8**
ZAA1 *e*PKKPbc **PKKPbc** **22 45 45.6 +1.7**
ZAA1 *e*SP SP 22 45 49.9 -6.3
ZAA0 Zalesovo Array 116.32 7 *e*PKPdf **PKPdf** **22 35 12.1 -0.8**
ZAA0 *e*PP **PP** **22 36 14.9 -3.0**
ZALV Zalesovo Beam 116.32 7 PKP **PKPdf** **22 35 12.9 0.0**
comp=Z,1.9nm,0.7s,baz=309,slow=0.9,SNR=8.6
ZALV PP **PP** **22 36 16.1 -1.8**
comp=Z,12nm,1.1s,baz=339,slow=7.9,SNR=11
ZALV PKKPbc **PKKPbc** **22 45 45.6 +1.7**
comp=Z,1.3nm,0.8s,baz=224,slow=4.0,SNR=3.7
ZALV PKKPab **PKKPab** **22 45 49.9 +1.6**
comp=Z,0.9nm,0.5s,baz=151,slow=3.4,SNR=4.6
ZALV Zalesovo Beam 116.32 7 PKIKP **PKPdf** **22 35 12.9 0.0**
ZALV 22 36 16.1
ZALV 22 45 49.9
ZALV pmax pmax
comp=Z,2.0nm,0.7s
ZALV pmax pmax
comp=Z,12nm,1.1s
ZALV pmax pmax
comp=Z,1.0nm,0.8s
ZALV pmax pmax
comp=Z,1.0nm,0.5s
HNR Honiara 116.78 264 PFAKE 22 35 30.0 +15
HNR LR LR
comp=Z,19µm,18.0s
USRK Ussuriysk Ar. 117.47 331 PKP **PKPdf** **22 35 14.2 -1.3**
comp=Z,0.7nm,0.5s,baz=236,slow=1.6,SNR=2.9
HIA Hailar 118.01 342 PFAKE 22 35 30.0 +14
HIA LR LR
comp=Z,5µm,20.0s
MDJ Mudanjiang 118.25 333 Pdif **Pdif** **22 31 34.6 -1.4**
MDJ PP **PP** **22 36 36.0 +4.1**
MDJ LN
comp=Z,1µm,24.4s
MDJ LE
comp=Z,2µm,23.1s
MDJ LZ
comp=Z,2µm,22.2s
MDJ Mudanjiang 118.25 333 PFAKE 22 35 30.0 +13
MDJ LR LR
comp=Z,3µm,22.0s
KURK Kurchatov 118.40 12 *e*PKIKP **PKPdf** **22 35 17.1 +0.1**
KURK MLR MLR
comp=Z,3µm,20.0s
KURK Kurchatov 118.40 12 *e*PKPdf **PKPdf** **22 35 17.1 +0.1**
KURK LR LR
comp=Z,3µm,20.0s
TLY Talaya 118.89 354 PFAKE 22 35 30.0 +12
TLY LR LR
comp=Z,2µm,18.0s
MJAR Matsushiro Arr 119.45 321 PKP **PKPdf** **22 35 20.1 +0.6**
comp=Z,2.6nm,0.9s,baz=169,slow=1.5,SNR=4.0
MJAR Matsushiro Arr 119.45 321 PKIKP **PKPdf** **22 35 20.1 +0.6**
MJAR pmax pmax
comp=Z,3.0nm,0.9s
MAJO Matsushiro 119.45 321 *e*PKIKP **PKPdf** **22 35 20.1 +0.6**
MAJO MLR MLR
comp=Z,1µm,20.0s
MAJO Matsushiro 119.45 321 *e*PKPdf **PKPdf** **22 35 20.1 +0.6**
MAJO LR LR
comp=Z,1µm,20.0s
ZAK Zakamensk 120.21 354⇑*i*PKIKP **PKPdf** **22 35 21.7 +1.0**
ZAK *e* 22 36 44.2
ZAK pmax pmax
comp=Z,3.0nm,1.4s
IPIR Pirpir 120.23 44 *e*P **PKPdf** **22 35 19.2 -2.3**
FURI Furi 120.33 74 PFAKE 22 35 30.0 +7.8
FURI LR LR
comp=Z,2µm,21.0s
JHJ2 Mitsune 120.55 317 PFAKE 22 35 30.0 +8.3
JHJ2 LR LR
comp=Z,2µm,22.0s
CN2 Changchun 120.69 335 *e*PKP **PKPdf** **22 35 21.6 -0.1**
CN2 *es*PKP 22 35 36.0
CN2 *e*PP **PP** **22 36 52.3 +3.8**
CN2 *e*SS SS 22 53 15.6 -0.7
CN2 PPMZ
comp=Z,200nm,7.0s
CN2 LN
comp=Z,700nm,20.0s
CN2 LE
comp=Z,800nm,20.0s
CN2 LZ
comp=Z,1µm,22.0s
RAYN Ar Rayn 121.02 55 PFAKE 22 35 30.0 +7.1
RAYN LR LR
comp=Z,2µm,22.0s
IZEF Zefreh 121.07 42 *e*P **PKPdf** **22 35 20.8 -2.3**
KMBO Kilima Mbogo 121.22 86 PKP **PKPdf** **22 35 21.9 -1.8**
comp=Z,0.9nm,0.4s,baz=210,slow=20,SNR=2.7
KMBO Kilima Mbogo 121.22 86 PKIKP **PKPdf** **22 35 22.0 -1.8**
KMBO pmax pmax
comp=Z,1.0nm,0.4s
KMBO Kilima Mbogo 121.22 86 *e*PKPdf **PKPdf** **22 35 21.9 -1.8**
KMBO LR LR
comp=Z,8µm,20.0s
CASY Casey 122.20 187 PFAKE 22 35 30.0 +6.2
CASY LR LR
comp=Z,4µm,18.0s
ULN Ulaanbaatar 122.22 351*d i*PKIKP **PKPdf** **22 35 25.9 +1.2**
ULN pmax pmax
comp=Z,15nm,2.5s
ULN MLR MLR
comp=Z,2µm,27.0s
ULN Ulaanbaatar 122.22 351 *e*PKPdf **PKPdf** **22 35 24.7 0.0**
ULN LR LR
comp=Z,2µm,19.0s
CBIJ Chichi jima 122.28 310 PFAKE 22 35 40.0 +15
CBIJ LR LR
comp=Z,1µm,22.0s
SONA1 Songino Array 122.33 352 *e*PKPdf **PKPdf** **22 35 24.2 -0.7**
IKRD Kardeh 122.34 35 *e*P **PKPdf** **22 35 26.3 +0.9**
SONA0 Songino Array 122.35 352 *e*PKPdf **PKPdf** **22 35 24.0 -0.9**
SONA0 *e*PKKPbc **PKKPbc** **22 45 21.0 -0.9**
SONM Songino Array 122.35 352 PKP **PKPdf** **22 35 24.0 -0.9**
comp=Z,3.8nm,0.9s,baz=342,slow=0.5,SNR=22
SONM PKKPbc **PKKPbc** **22 45 21.0 -0.9**
comp=Z,1.5nm,0.9s,baz=200,slow=2.8,SNR=4.8
SONM Songino Array 122.35 352 PKIKP **PKPdf** **22 35 24.0 -0.9**
SONM pmax pmax
comp=Z,4.0nm,0.9s
SONM pmax pmax
comp=Z,2.0nm,0.9s
MK32 Makanchi Array 122.88 11 *e*PKPdf **PKPdf** **22 35 25.6 -0.2**
MK32 *e*PP **PP** **22 36 58.6 -4.5**
MK32 *e*PKKPbc **PKKPab** **22 45 19.8 +0.1**
MKAR Makanchi Array 122.88 11 PKP **PKPdf** **22 35 25.6 -0.2**
comp=Z,2.4nm,0.8s,baz=313,slow=4.3,SNR=16
MKAR PP **PP** **22 36 58.6 -4.5**
comp=Z,0.7nm,0.7s,baz=344,slow=6.7,SNR=5.0
MKAR PKKPab **PKKPab** **22 45 19.8 +0.1**
comp=Z,0.8nm,1.0s,baz=278,slow=4.2,SNR=2.9
MKAR Makanchi Array 122.88 11 PKIKP **PKPdf** **22 35 25.6 -0.2**
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR pmax pmax
comp=Z,1.0nm,1.0s
MK01 Makanchi Array 122.90 11 *e*PKPdf **PKPdf** **22 35 25.2 -0.7**
IMEH Mehriz 123.52 42 *e*P **PKPdf** **22 35 26.0 -1.8**
ISRV Sarvestan 123.72 45 *e*P **PKPdf** **22 35 27.9 -0.5**
DAMY Dhamar 123.79 66 PFAKE 22 35 40.0 +11
DAMY LR LR
comp=Z,1µm,18.0s
ARMA Armidale 124.02 240 PFAKE 22 35 40.0 +11
ARMA LR LR
comp=Z,1µm,21.0s
USP Ospenovka 124.21 19 P **PKPdf** **22 35 30.1 +1.5**
SNR=11
EKS2 Erkin-Say 124.52 20 P **PKPdf** **22 35 31.3 +2.0**
SNR=13
EKS2 Erkin-Say 124.52 20 *e*PKIKP **PKPdf** **22 35 27.3 -2.0**
EKS2 MLR MLR
comp=Z,3µm,20.0s
EKS2 Erkin-Say 124.52 20 *e*PKPdf **PKPdf** **22 35 27.2 -2.0**
EKS2 LR LR
comp=Z,3µm,20.0s
KS01 Wonju Array Si 124.60 329 *e*PKPdf **PKPdf** **22 35 28.9 -0.4**
KSRS Korea Array 124.61 329 PKP **PKPdf** **22 35 29.2 -0.1**
comp=Z,5.7nm,0.7s,baz=14,slow=1.2,SNR=30
KSRS Korea Array 124.61 329 PKIKP **PKPdf** **22 35 29.2 -0.1**
KSRS pmax pmax
comp=Z,6.0nm,0.7s
KS15 Wonju Array Si 124.64 329 *e*PKPdf **PKPdf** **22 35 29.2 -0.2**
FRU Bishkek 124.64 19 *e*PKIKP **PKPdf** **22 35 30.0 +0.7**
FRU *e* 22 37 16.0
FRU pmax pmax
comp=Z,90nm,2.0s
FRU MLR MLR
comp=Z,2µm,19.5s
AAK Ala-Archa 124.78 19 *e*PKIKP **PKPdf** **22 35 30.3 +0.5**
AAK MLR MLR
comp=Z,3µm,20.0s
AAK Ala-Archa 124.78 19 *e*PKPdf **PKPdf** **22 35 30.3 +0.5**
AAK LR LR
comp=Z,3µm,20.0s
TKM2 Tokmak 2 124.86 18 P **PKPdf** **22 35 31.6 +1.6**
SNR=6.8
TKM2 Tokmak 2 124.86 18 *e*PKIKP **PKPdf** **22 35 29.4 -0.6**
TKM2 MLR MLR
comp=Z,4µm,20.0s
TKM2 Tokmak 2 124.86 18 *e*PKPdf **PKPdf** **22 35 29.4 -0.6**
TKM2 LR LR
comp=Z,4µm,20.0s
AAA Alma-Ata 124.94 17 *e*PKIKP **PKPdf** **22 35 30.1 +0.2**
AAA pmax pmax
comp=Z,300nm,4.6s
AAA MLR MLR
comp=Z,3µm,20.0s
AML Almayashu 124.96 20 P **PKPdf** **22 35 31.6 +1.2**
SNR=9.4
UCH Uchtor 125.15 19 P **PKPdf** **22 35 33.1 +2.2**
SNR=12
EIDS Eidsvold 125.22 246 PFAKE 22 35 40.0 +9.2
EIDS LR LR
comp=Z,1µm,19.0s
INCN Inchon 125.23 330 PFAKE 22 35 40.0 +9.4
INCN LR LR
comp=Z,2µm,20.0s
ULHL Ulahol 125.67 18 P **PKPdf** **22 35 33.7 +2.1**
SNR=20
TJN Taejon 125.72 329 *e*PKIKP **PKPdf** **22 35 32.2 +0.7**
JNU Nakatsue 126.19 323 PFAKE 22 35 40.0 +7.4
JNU LR LR
comp=Z,1µm,19.0s
WMQ Urumqi 126.63 7 PKP **PKPdf** **22 35 33.9 +0.7**

WMQ				PP	**PP**	**22 37 33.4**	**+5.1**		
WMQ				PKS	**PKSdf**	**22 39 07.8**	**-2.0**		
WMQ				SKS	**SKSdf**	**22 42 40.5**	**-2.7**		
WMQ				SKKS	**SKKSac**	**22 44 21.0**	**-4.6**		
WMQ				SS	**SS**	**22 54 33.6**	**+2.6**		
WMQ				PPMZ					
	comp=Z,130nm,11.8s								
WMQ				LN					
	comp=Z,6μm,23.2s								
WMQ				LE					
	comp=Z,2μm,20.8s								
WMQ				LZ					
	comp=Z,5μm,23.2s								
BJI	**Beijing**	**127.40**	**340**	PKP	**PKPdf**	**22 35 34.8**	**+0.2**		
BJI				PP	**PP**	**22 37 36.6**	**+3.1**		
BJI				SS	SS	22 54 42.1	+1.2		
BJI				LN					
	comp=Z,4μm,19.4s								
BJI				LE					
	comp=Z,2μm,17.6s								
BJI				LZ					
	comp=Z,3μm,19.3s								
BJT	**Baijiatuau**	**127.43**	**340**	PFAKE		22 35 50.0	+15		
BJT				LR	LR				
	comp=Z,5μm,19.0s								
HHC	**Hu-ho-hao-te**	**128.02**	**345**	*e*PKP	**PKPdf**	**22 35 34.3**	**-1.7**		
HHC				SKS	**SKSdf**	**22 42 40.8**	**-5.2**		
HHC				PPMZ					
	comp=Z,420nm,11.0s								
HHC				LN					
	comp=Z,1μm,23.0s								
HHC				LE					
	comp=Z,2μm,20.6s								
HHC				LZ					
	comp=Z,2μm,22.2s								
BANOM	**Banah**	**128.04**	**47**	⇓P	**PKPdf**	**22 35 36.6**	**+0.3**		
KSH	**Kashi**	**128.07**	**19**	PKP	**PKPdf**	**22 35 38.3**	**+2.2**		
KSH				PKS	**PKSdf**	**22 39 13.4**	**+0.6**		
KSH				PPMZ					
	comp=Z,130nm,4.0s								
KSH				LN					
	comp=Z,2μm,18.1s								
KSH				LE					
	comp=Z,2μm,17.8s								
KSH				LZ					
	comp=Z,3μm,20.6s								
HATD	**Hatta, Dubai**	**128.57**	**48**	⇑*i*P	**PKPdf**	**22 35 37.7**	**+0.3**		
	SNR=8.1								
PMG	**Port Moresby**	**129.35**	**265**	PFAKE		22 35 50.0	+11		
PMG				LR	LR				
	comp=Z,2μm,18.0s								
KBL	**Kabul**	**129.57**	**29**	*e*PKIKP	**PKPdf**	**22 35 38.9**	**-0.3**		
KBL				MLR	MLR				
	comp=Z,2μm,20.0s								
KBL	**Kabul**	**129.57**	**29**	*e*PKPdf	**PKPdf**	**22 35 38.9**	**-0.3**		
KBL				LR	LR				
	comp=Z,2μm,20.0s								
CTAO	**Charters Tower**	**130.19**	**252**	PFAKE		22 35 50.0	+10		
CTAO				LR	LR				
	comp=Z,1μm,21.0s								
TIA	**Tai'an**	**130.47**	**337**	PKP	**PKPdf**	**22 35 42.3**	**+1.7**		
TIA				PP	**PP**	**22 37 54.8**	**+1.1**		
TIA				SKKS		22 44 46.0			
TIA				PPMZ					
	comp=Z,690nm,13.8s								
TIA				LN					
	comp=Z,4μm,18.6s								
TIA				LE					
	comp=Z,3μm,18.6s								
TIA				LZ					
	comp=Z,6μm,18.3s								
TIY	**Taiyuan**	**130.71**	**343**	*e*PKP	**PKPdf**	**22 35 42.5**	**+1.4**		
TIY				PP	**PP**	**22 37 55.9**	**+0.7**		
TIY				PPMZ					
	comp=Z,310nm,8.7s								
TIY				LN					
	comp=Z,3μm,18.3s								
TIY				LE					
	comp=Z,340nm,14.4s								
TIY				LZ					
	comp=Z,4μm,19.5s								
GTA	**Gaotai**	**131.40**	**356**	⇓PKP	**PKPdf**	**22 35 43.9**	**+1.4**		
GTA				SKS	**SKSdf**	**22 42 50.4**	**-1.9**		
GTA				PPMZ					
	comp=Z,540nm,8.9s								
GTA				LN					
	comp=Z,3μm,21.4s								
GTA				LE					
	comp=Z,1μm,20.9s								
GTA				LZ					
	comp=Z,3μm,22.3s								
STKA	**Stephens Creek**	**132.04**	**235**	PKhKP	PKPpre	22 35 36.0			
	comp=Z,1.0nm,0.7s,baz=338,slow=5.4,SNR=2.9								
STKA				PKP	**PKiKP**	**22 35 44.9**	**+0.1**		
	comp=Z,4.4nm,0.8s,baz=116,slow=1.7,SNR=14								
STKA	**Stephens Creek**	**132.04**	**235**	*e*PKPpre	PKPpre	22 35 36.0			
STKA				*e*PKPdf	**PKPdf**	**22 35 41.5**	**-2.2**		
ABPO	**Ambohimpanom**	**132.07**	**107**	PFAKE		22 36 00.0	+16		
ABPO				LR	LR				
	comp=Z,2μm,21.0s								
JOW	**Kunigami**	**132.21**	**320**	PFAKE		22 36 00.0	+16		
JOW				LR	LR				
	comp=Z,1μm,20.0s								
SSE	**Sheshan**	**133.03**	**330**	PKP	**PKPdf**	**22 35 46.8**	**+1.2**		
SSE				PP	PP	22 38 16.6	+6.2		
SSE				PKS	**PKSdf**	**22 39 18.1**	**-4.0**		
SSE				SS	SS	22 55 50.1	-0.5		
SSE				PPMZ					
	comp=Z,170nm,10.4s								
SSE				LN					
	comp=Z,2μm,22.2s								
SSE				LE					
	comp=Z,410nm,22.2s								
SSE				LZ					
	comp=Z,2μm,22.7s								
NJ2	**Nanjing**	**133.34**	**333**	*e*PKP	**PKPdf**	**22 35 44.4**	**-1.7**		
NJ2				sPKP		22 35 56.0			
NJ2				PP	**PP**	**22 38 13.5**	**+1.2**		
NJ2				PKS	PKSdf	22 39 17.0	-5.6		
NJ2				PPMZ					
	comp=Z,860nm,10.4s								
NJ2				LN					
	comp=Z,1μm,22.0s								
NJ2				LE					
	comp=Z,4μm,18.8s								
NJ2				LZ					
	comp=Z,4μm,22.0s								
COEN	**Coen**	**133.41**	**260**	PFAKE		22 36 00.0	+13		
COEN				LR	LR				
	comp=Z,1μm,20.0s								
LZH	**Lanzhou**	**134.23**	**351**	*e*PKP	**PKPdf**	**22 35 49.9**	**+2.0**		
LZH				sPKP		22 36 02.0			
LZH				PKS	**PKSdf**	**22 39 20.1**	**-4.4**		
LZH				SKKS		22 45 11.5			
LZH				SS	SS	22 56 12.0	+7.5		
LZH				PPMZ					
	comp=Z,140nm,4.8s								
LZH				LN					
	comp=Z,3μm,19.8s								
LZH				LE					
	comp=Z,1μm,18.6s								
LZH				LZ					
	comp=Z,3μm,20.3s								
PAF	**Port-aux-Franc**	**134.72**	**157**	PP	PP	22 39 02.0	+41		
PAF				SS	SS	22 56 20.0	+9.2		
PAF				L	L	23 11 00.0			
XAN	**Xi'an**	**135.13**	**344**	PKP	**PKPdf**	**22 35 50.4**	**+0.9**		
XAN				LN					
	comp=Z,2μm,20.5s								
XAN				LZ					
	comp=Z,770nm,20.5s								
BBOO	**Buckleboo**	**136.11**	**232**	*e*PKPdf	**PKPdf**	**22 35 52.0**	**+0.7**		
BBOO				LR	LR				
	comp=Z,2μm,18.0s								
WHN	**Wuhan**	**136.56**	**336**	*i* PKP	**PKPdf**	**22 35 52.1**	**-0.1**		
WHN				PP	**PP**	**22 38 34.0**	**+1.5**		
WHN				PKS	**PKSdf**	**22 39 26.1**	**-2.4**		
WHN				SS	SS	22 56 36.6	+3.9		
WHN				LN					
	comp=Z,4μm,16.8s								
WHN				LE					
	comp=Z,2μm,17.3s								
WHN				LZ					
	comp=Z,5μm,18.6s								
YOJ	**Yonaguni jima**	**137.20**	**322**	PFAKE		22 36 00.0	+6.5		
YOJ				LR	LR				
	comp=Z,2μm,20.0s								
TATO	**Taipei**	**137.71**	**324**	PFAKE		22 36 10.0	+16		
TATO				LR	LR				
	comp=Z,2μm,20.0s								
YHNB	**Yeheng**	**138.01**	**324**	PFAKE		22 36 10.0	+15		
YHNB				LR	LR				
	comp=Z,2μm,20.0s								
NACB	**Ninganchiao**	**138.26**	**323**	PFAKE		22 36 10.0	+14		
NACB				LR	LR				
	comp=Z,2μm,20.0s								
ENH	**Enshi**	**138.51**	**342**	*e*PKPdf	**PKPdf**	**22 35 54.4**	**-1.5**		
ENH				LR	LR				
	comp=Z,3μm,20.0s								
SSLB	**Suanglung**	**138.93**	**324**	*e*PKPpre	PKPpre	22 35 49.1			
SSLB				LR	LR				
	comp=Z,2μm,20.0s								
YULB	**Yu-li**	**139.03**	**323**	PFAKE		22 36 10.0	+13		
YULB				LR	LR				
	comp=Z,2μm,20.0s								
CD2	**Chengdu**	**139.30**	**349**	*e*PKP	**PKPdf**	**22 35 58.9**	**+1.6**		
CD2				PP	**PP**	**22 38 49.3**	**-0.1**		
CD2				PKS	**PKSdf**	**22 39 34.6**	**+1.1**		
CD2				SS	SS	22 57 04.0	-0.7		
CD2				PPMZ					
	comp=Z,380nm,10.1s								
CD2				LN					
	comp=Z,2μm,20.2s								
CD2				LE					
	comp=Z,2μm,17.8s								
CD2				LZ					
	comp=Z,3μm,21.4s								
TPUB	**Ta-pu**	**139.50**	**324**	PFAKE		22 36 10.0	+12		
TPUB				LR	LR				
	comp=Z,1μm,18.0s								
TWG	**Pinlang**	**139.60**	**323**	PFAKE		22 36 10.0	+12		
TWG				LR	LR				
	comp=Z,7μm,20.0s								
MSEY	**Mahe Island**	**139.75**	**86**	PFAKE		22 36 10.0	+11		
MSEY				LR	LR				
	comp=Z,2μm,18.0s								
AS01	**Alice Springs**	**140.86**	**244**	*e*PKPpre	PKPpre	22 35 53.8			
AS01				*e*PKPdf	**PKPdf**	**22 36 01.0**	**+0.7**		
AS12	**Alice Springs**	**140.90**	**244**	*e*PKPpre	PKPpre	22 35 56.0			
AS12				*e*PKPdf	**PKiKP**	**22 36 02.0**	**-1.0**		
ASAR	**Alice Springs**	**140.90**	**244**	PKhKP	PKPpre	22 35 56.0			
	comp=Z,2.8nm,0.8s,baz=111,slow=3.4,SNR=18								
ASAR				PKP	**PKiKP**	**22 36 02.0**	**-1.0**		
	comp=Z,9.4nm,0.9s,baz=113,slow=3.1,SNR=36								
ASAR	**Alice Springs**	**140.90**	**244**	PKHKP	PKPpre	22 35 56.0			
ASAR						22 36 02.0			
ASAR				pmax	pmax				
	comp=Z,3.0nm,0.8s								
ASAR				pmax	pmax				
	comp=Z,9.0nm,0.9s								
LSA	**Lhasa**	**140.97**	**6**	PKP	**PKPdf**	**22 36 02.3**	**+1.4**		
LSA	**Lhasa**	**140.97**	**6**	*e*PKHKP	PKPpre	22 35 53.0			
LSA				*e*		22 36 01.4			
LSA				MLR	MLR				
	comp=Z,3μm,22.0s								
LSA	**Lhasa**	**140.97**	**6**	*e*PKPpre	PKPpre	22 35 53.0			
LSA				*e*PKPdf	**PKPdf**	**22 36 01.4**	**+0.4**		
LSA				LR	LR				
	comp=Z,3μm,22.0s								
WRAB	**Tennant Creek**	**141.30**	**250**	*e*PKHKP	PKPpre	22 35 56.6			
WRAB				MLR	MLR				
	comp=Z,2μm,19.0s								
WRAB	**Tennant Creek**	**141.30**	**250**	*e*PKPpre	PKPpre	22 35 56.6			
WRAB				LR	LR				
	comp=Z,2μm,19.0s								
KOLN	**Koldanda**	**141.31**	**17**	*e*P	**PKPdf**	**22 35 56.6**	**-4.7**		
WRA	**Warramunga Arr**	**141.31**	**250**	PKhKP	PKPpre	22 35 57.3			
	comp=Z,5.4nm,0.7s,baz=106,slow=2.8,SNR=64								
WRA				PKP	**PKiKP**	**22 36 03.4**	**-0.5**		
	comp=Z,11nm,0.8s,baz=98,slow=1.8,SNR=29								
WRA	**Warramunga Arr**	**141.31**	**250**	PKIKP	**PKPdf**	**22 35 57.3**	**-3.9**		
WRA						22 36 03.4			
WRA				pmax	pmax				
	comp=Z,5.0nm,0.7s								
WRA				pmax	pmax				
	comp=Z,11nm,0.8s								
GKN	**Gorkha**	**141.38**	**16**	*e*P	PKPdf	22 35 55.9	-5.4		
KKN	**Kakani**	**141.76**	**15**	*e*P	**PKPdf**	**22 35 57.6**	**-4.5**		
	comp=Z,33nm,0.8s								
GUN	**Gumba**	**141.79**	**14**	*e*P	**PKPdf**	**22 35 57.4**	**-4.9**		
DMN	**Daman**	**141.88**	**15**	*e*P	**PKPdf**	**22 35 58.1**	**-4.3**		
	comp=Z,62nm,1.1s								
PKIN	**Phulchoki**	**141.99**	**15**	*e*P	**PKPdf**	**22 35 57.8**	**-4.8**		
PKIN	**Phulchoki**	**141.99**	**15**	*e*P	**PKPdf**	**22 35 58.0**	**-4.6**		
PKI	**Pulchoki**	**142.00**	**15**	*e*P	**PKPdf**	**22 35 58.1**	**-4.6**		
	comp=Z,34nm,1.0s								
JIRN	**Jiri**	**142.10**	**14**	*e*P	PKPdf	22 35 57.3	-5.6		
	comp=Z,40nm,0.8s								
TAPN	**Taplejung**	**142.74**	**12**	*e*P	**PKPdf**	**22 35 59.2**	**-4.7**		
	comp=Z,7nm,1.1s								
RAMN	**Ramite**	**142.88**	**14**	*e*P	**PKPdf**	**22 35 59.4**	**-4.7**		
	comp=Z,76nm,0.8s								
GYA	**Guiyang**	**142.92**	**344**	PKP	**PKPdf**	**22 36 00.8**	**-3.2**		
GYA				PP	**PP**	**22 39 15.6**	**+3.9**		
GYA				PKS	**PKSdf**	**22 39 38.0**	**-2.1**		
GYA				SKKS		22 46 02.3			
GYA				SS	**SS**	**22 57 47.6**	**+0.3**		
GYA				PPMZ					
	comp=Z,190nm,8.6s								
GYA				LN					
	comp=Z,230nm,23.4s								
GYA				LE					
	comp=Z,190nm,24.0s								
FORT	**Forrest**	**143.13**	**230**	*e*PKPdf	PKPbc	22 36 01.8	+0.9		
FORT				LR	LR				
	comp=Z,2μm,22.0s								
ODAN	**Odare**	**143.15**	**13**	*e*P	PKPab	22 36 00.0	-0.1		
	comp=Z,37nm,0.9s								
FAKI	**Fak Fak**	**143.22**	**278**	PFAKE		22 36 20.0	+15		
FAKI				LR	LR				
	comp=Z,2μm,18.0s								
GZH	**Guangzhou**	**143.51**	**332**	PKP	PKPab	22 36 00.3	-1.0		
GZH				LN					
	comp=Z,2μm,22.3s								
GZH				LE					
	comp=Z,2μm,18.9s								
SZP	**Santa**	**143.86**	**318**	PFAKE		22 36 20.0	+14		
SZP				LR	LR				
	comp=Z,2μm,20.0s								
SAUI	**Saumlaki**	**144.87**	**269**	PFAKE		22 36 20.0	+12		
SAUI				LR	LR				
	comp=Z,2μm,20.0s								
KMI	**Kunming**	**145.12**	**349**	PKPbc	**PKPdf**	**22 36 07.9**	**-0.2**		
KMI				pPKP	**pPKPdf**	**22 36 19.0**	**+1.2**		
KMI				PP	PP	22 39 32.4	+7.5		
KMI				LN					
	comp=Z,2μm,18.2s								
KMI				LE					
	comp=Z,1μm,20.3s								
KMI				LZ					
	comp=Z,2μm,20.3s								
SHL	**Shillong**	**145.14**	**6**	*e*P	**PKPab**	**22 36 07.5**	**0.0**		
SHL				*e*PP	PP	22 39 49.0	+24		
NGP	**Nagpur**	**145.56**	**28**	*e*P	PKPab	22 36 17.3	+8.4		
NGP				*e*S	SKSdf	22 43 08.4	-7.7		
IMP	**Imphal**	**146.08**	**3**	*e*P	**PKPab**	**22 36 11.0**	**+0.1**		
IMP				*e*S	SKiKP	22 39 56.0	+7.9		
DAV	**Davao City (W)**	**146.15**	**298**	PFAKE		22 36 20.0	+8.6		
DAV				LR	LR				
	comp=Z,900nm,20.0s								
TNTI	**Ternate**	**146.99**	**286**	*e*PKPdf	**PKPdf**	**22 36 10.4**	**-0.8**		
TNTI				*e*PKPbc	**PKPab**	**22 36 14.7**	**0.0**		
TNTI				LR	LR				
	comp=Z,1μm,22.0s								
AIS	**Amsterdam Isla**	**147.21**	**153**	PKP	PKPdf	22 35 52.0	-19		
RPR	**Rampur**	**147.64**	**30**	*e*PKPbc	**PKPdf**	**22 36 13.4**	**+1.2**		
RPR				*e*PP	**PP**	**22 39 39.6**	**-0.5**		
HYBB	**Hyderabad (bro**	**148.46**	**33**	*e*PKiKP	**PKPbc**	**22 36 17.1**	**0.0**		
HYBB				*e*PKPab	**PKiKP**	**22 36 18.9**	**+0.2**		
HYBB				*e*PP	**PP**	**22 39 40.5**	**-4.5**		
HYB	**Hyderabad**	**148.46**	**33**	*i* PKP	**PKPbc**	**22 36 18.0**	**+0.9**		
HYB				*e*SKP		22 39 40.0			
HYB				*e*SKS	**SKSdf**	**22 43 14.0**	**-6.4**		
QIZ	**Qiongzhong**	**148.62**	**334**	PKPbc	**PKPdf**	**22 36 14.1**	**+0.3**		
QIZ				pPKP	**PKPab**	**22 36 21.3**	**+0.4**		
QIZ				sPKP		22 36 25.6			
QIZ				PP	**PP**	**22 39 49.0**	**+3.3**		
QIZ				SS	SS	22 58 53.3	+0.7		
QIZ				PPMZ					
	comp=Z,1μm,13.3s								
QIZ				LN					
	comp=Z,1μm,21.6s								
QIZ				LE					
	comp=Z,440nm,21.6s								
QIZ				LZ					
	comp=Z,2μm,20.4s								
QIZ	**Qiongzhong**	**148.62**	**334**	*e*PKPdf	**PKPdf**	**22 36 13.6**	**-0.2**		
QIZ				LR	LR				
	comp=Z,2μm,20.0s								
NJS	**Nagarjunasagar**	**149.58**	**32**	*e*PKiKP	**PKPbc**	**22 36 19.8**	**-0.1**		
NJS				*e*		22 36 24.1			
NJS				*e*PP	**PP**	**22 39 49.1**	**-2.3**		
URV	**Uravakonda**	**149.71**	**38**	*e*PKiKP	**PKPbc**	**22 36 20.1**	**-0.2**		
URV				*e*PP	**PP**	**22 39 52.1**	**-0.4**		
CHLP	**Challavanipeta**	**150.05**	**23**	*e*PKiKP	**PKPbc**	**22 36 20.9**	**-0.1**		
CHLP				*e*		22 36 22.3			
CHLP				*e*PP	**PP**	**22 39 53.1**	**-0.7**		
CRAI	**Chiangrai**	**150.31**	**351**	P	**PKPdf**	**22 36 15.4**	**-1.1**		
	comp=Z,39nm,1.4s								
CMAI	**Chiengmai2**	**150.78**	**354**	P	**PKPbc**	**22 36 23.8**	**+0.9**		
	comp=Z,231nm,1.3s								
CHTO	**Chiang Mai**	**151.89**	**354**	*e*PKiKP	**PKPdf**	**22 36 19.4**	**+0.5**		
CHTO				*e*		22 36 26.0			
CHTO				*e*		22 36 34.2			
CHTO				MLR	MLR				
	comp=Z,2μm,19.0s								
CHTO	**Chiang Mai**	**151.89**	**354**	*e*PKPdf	**PKPdf**	**22 36 19.4**	**+0.5**		
CHTO				*e*PKPbc	**PKiKP**	**22 36 26.0**	**+0.2**		
CHTO				*e*PKPab	**PKPab**	**22 36 34.2**	**-0.1**		
CHTO				LR	LR				
	comp=Z,2μm,19.0s								
SOEI	**Soe**	**151.91**	**267**	*e*PKPdf	**PKPdf**	**22 36 17.9**	**-1.3**		
SOEI				LR	LR				
	comp=Z,2μm,18.0s								
LUWI	**Luwuk**	**151.92**	**285**	*e*PKPdf	**PKPdf**	**22 36 18.4**	**-0.6**		
LUWI				*e*PKPbc	**PKiKP**	**22 36 27.2**	**+1.3**		
LUWI				LR	LR				
	comp=Z,700nm,20.0s								
LAMP	**Lampang**	**152.10**	**352**	P	**PKPbc**	**22 36 26.7**	**+0.9**		
	comp=Z,10nm,0.9s								
SKHT	**Srikalahasti**	**152.10**	**35**	*e*PKiKP	**PKPbc**	**22 36 25.4**	**-0.5**		
SKHT				*e*PP	**PP**	**22 40 06.4**	**+0.4**		
CM31	**Chiang Mai Arr**	**152.25**	**354**	*e*PKPdf	**PKPdf**	**22 36 21.0**	**+1.6**		
CM31				*e*PKPbc	**PKPbc**	**22 36 24.9**	**-1.3**		
CMAR	**Chiang Mai Arr**	**152.25**	**354**	PKP	**PKPdf**	**22 36 21.0**	**+1.6**		
	comp=Z,6.6nm,1.1s,baz=319,slow=1.5,SNR=31								
CMAR				PKPbc	**PKPbc**	**22 36 24.9**	**-1.3**		
	comp=Z,6.1nm,1.1s,baz=320,slow=1.8,SNR=30								
CMAR	**Chiang Mai Arr**	**152.25**	**354**	PKIKP	**PKPdf**	**22 36 21.0**	**+1.6**		
CMAR						22 36 24.9			
CMAR				pmax	pmax				
	comp=Z,7.0nm,1.1s								
CMAR				pmax	pmax				
	comp=Z,6.0nm,1.1s								
CM01	**Chiang Mai Arr**	**152.28**	**354**	*e*PKPdf	**PKPdf**	**22 36 20.3**	**+0.8**		
CM01				*e*PKPbc	**PKiKP**	**22 36 27.3**	**+0.8**		
UTTA	**Uttaradit**	**152.72**	**350**	P	**PKPbc**	**22 36 27.8**	**+0.6**		
	comp=Z,10nm,1.0s								
PBKT	**Sadao Pong**	**153.79**	**349**	P	**PKPdf**	**22 36 23.6**	**+1.9**		
	comp=Z,70nm,1.0s								
MMRI	**Maumere**	**153.86**	**269**	PFAKE		22 36 30.0	+0.2		
MMRI				LR	LR				
	comp=Z,900nm,19.0s								
MBWA	**Marble Bar**	**154.10**	**240**	*e*PKPdf	**PKPdf**	**22 36 22.5**	**+0.4**		
MBWA				LR	LR				
	comp=Z,2μm,18.0s								
CHAI	**Chaiyaphum**	**154.22**	**346**	P	**PKPdf**	**22 36 25.0**	**+2.7**		
	comp=Z,6.8nm,1.2s								
KKM	**Kota Kinabalu**	**154.57**	**306**	PFAKE		22 36 30.0	-1.5		
KKM				LR	LR				
	comp=Z,2μm,22.0s								
DLV	**T Lat**	**155.41**	**329**	*e*PKPdf	**PKPdf**	**22 36 21.5**	**-2.8**		
DLV				*e*PKPab	**PKPab**	**22 36 50.4**	**+0.9**		
KAPI	**Kappang**	**155.85**	**278**	PFAKE		22 36 40.0	-11		
KAPI				LR	LR				
	comp=Z,177nm,21.0s								
KHLT	**Khaolaem Dam**	**155.90**	**353**	P	**PKPab**	**22 36 52.1**	**+0.8**		
SRDT	**SRDT**	**156.28**	**352**	P	**PKPab**	**22 36 53.6**	**+0.7**		
	comp=Z,188nm,0.9s								
PALK	**Pallekele**	**157.71**	**43**	PFAKE		22 36 40.0	+13		
PALK				LR	LR				
	comp=Z,2μm,20.0s								
SBUM	**Sibu**	**159.89**	**305**	PFAKE		22 36 40.0	+10		
SBUM				LR	LR				
	comp=Z,2μm,21.0s								
KSM	**Kuching**	**162.00**	**306**	*e*PKPdf	**PKPdf**	**22 36 29.5**	**-2.4**		
KSM				*e*PKPab	**PKPab**	**22 37 18.8**	**+0.7**		
PSI	**Prapat**	**167.58**	**345**	*e*PKiKP	**PKPdf**	**22 36 32.9**	**-4.0**		
PSI				*e*		22 37 40.5			
PSI	**Prapat**	**167.58**	**345**	*e*PKPdf	**PKPdf**	**22 36 32.9**	**-4.0**		
PSI				*e*PKPab	**PKPab**	**22 37 40.5**	**-2.0**		

*CRAAG **20** 22:19:18.9, 36°.63N × 2°.93E, MI3.0*
*MDD **20** 22:19:20.8 ± 0.5, 36°.69N × 2°.97E, h11 km ± 6km, mb3.7/8,*
Error ellipse: s-maj=7.8km s-min=5.0km az=84.0, PRXIMO
*CSEM **20** 22:19:20.0 ± 0.3, 36°.73N × 2°.92E, h8 km, mb3.7, Error*
ellipse: s-maj=7.3km s-min=6.5km az=57.0

ISC 20 22:19:19.7 ± 1.1, 36°.71N ± 0°.04 × 3°.05E ± 0°.03, h25 km ± 7km,
n48, σ1°.78/70, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
ABA	**Alger-Bouzarea**	**0.10**	**351**	P	**Pb**	**22**	**19**	**23.6**	**-0.8**
ABA	**Alger-Bouzarea**	**0.10**	**351**	P	**Pb**	**22**	**19**	**23.6**	**-0.8**
ABA	**Alger-Bouzarea**	**0.10**	**351**	P	**Pb**	**22**	**19**	**23.6**	**-0.8**
ABMS	**Boumerdes**	**0.34**	**83**	P	**Pn**	**22**	**19**	**29.4**	**+0.3**
ABMS	**Boumerdes**	**0.34**	**83**	P	**Pn**	**22**	**19**	**29.4**	**+0.3**
ABMS	**Boumerdes**	**0.34**	**83**	P	**Pn**	**22**	**19**	**29.4**	**+0.3**
EMHD	**Djebel Mahouad**	**0.51**	**189**	P	**Pb**	**22**	**19**	**28.8**	**-1.4**
EMHD	**Djebel Mahouad**	**0.51**	**189**	P	**Pb**	**22**	**19**	**28.8**	**-1.4**
EMHD	**Djebel Mahouad**	**0.51**	**189**	P	**Pb**	**22**	**19**	**28.8**	**-1.4**
ADJB	**Djebel Djouab**	**0.63**	**150**	P	**Pb**	**22**	**19**	**32.4**	**+0.3**
ADJB	**Djebel Djouab**	**0.63**	**150**	P	**Pb**	**22**	**19**	**32.4**	**+0.3**
ADJB	**Djebel Djouab**	**0.63**	**150**	P	**Pb**	**22**	**19**	**32.4**	**+0.3**
EBNR	**Beni Rached**	**1.30**	**252**	P	**Pn**	**22**	**19**	**42.1**	**-0.1**
EBNR	**Beni Rached**	**1.30**	**252**	P	**Pn**	**22**	**19**	**42.1**	**-0.1**
ECHA	**Ech Chlef**	**1.47**	**248**	P	**Pb**	**22**	**19**	**47.0**	**+0.7**
ECHA	**Ech Chlef**	**1.47**	**248**	P	**Pb**	**22**	**19**	**47.0**	**+0.7**
ECHF	**Ech Chlef**

ETOB	**Tobarra**	**4.13 299**	P	**Pn**	**22 20 21.6**	**+0.4**
	2.3nm,0.2s,SNR=23					
ETOB			S	**Sn**	**22 21 05.6**	**-3.2**
	2.3nm,0.3s,SNR=7.9					
ETOB	**Tobarra**	**4.13 299**	P	**Pn**	**22 20 21.6**	**+0.4**
	2.3nm,0.2s,SNR=23					
ETOB			S	**Sn**	**22 21 05.6**	**-3.2**
	2.3nm,0.3s,SNR=7.9					
EMOS	**Mosqueruela**	**4.58 324**	P	**Pn**	**22 20 28.7**	**+1.2**
	1.0nm,0.1s,SNR=14					
EMOS			S	**Sn**	**22 21 17.2**	**-2.8**
	0.8nm,0.2s,SNR=7.9					
EMOS	**Mosqueruela**	**4.58 324**	P	**Pn**	**22 20 28.7**	**+1.2**
	1.0nm,0.1s,SNR=14					
EMOS			S	**Sn**	**22 21 17.2**	**-2.8**
	0.8nm,0.2s,SNR=7.9					
SESP	**Santiago Espad**	**4.68 289**	P	**Pn**	**22 20 30.5**	**+1.7**
	0.9nm,0.2s,SNR=7.9					
SESP			S	**Sn**	**22 21 20.8**	**-1.5**
	4.5nm,0.8s,SNR=7.9					
SESP	**Santiago Espad**	**4.68 289**	P	**Pn**	**22 20 30.5**	**+1.7**
	0.9nm,0.2s,SNR=7.9					
SESP			S	**Sn**	**22 21 20.8**	**-1.5**
	4.5nm,0.8s,SNR=7.9					
ERTA	**Horta de San J**	**4.75 334**	P	**Pn**	**22 20 30.6**	**+1.0**
	0.9nm,0.3s,SNR=7.9					
ERTA			S	**Sn**	**22 21 20.7**	**-3.2**
	1.8nm,0.4s,SNR=7.9					
ERTA	**Horta de San J**	**4.75 334**	P	**Pn**	**22 20 30.6**	**+1.0**
	0.9nm,0.3s,SNR=7.9					
ERTA			S	**Sn**	**22 21 20.7**	**-3.2**
	1.8nm,0.4s,SNR=7.9					
EQES	**Quesada**	**5.01 284**	P	**Pn**	**22 20 34.8**	**+1.5**
	1.1nm,0.3s,SNR=7.9					
EQES			S	**Sn**	**22 21 29.0**	**-1.4**
	3.5nm,0.7s,SNR=7.9					
EQES	**Quesada**	**5.01 284**	P	**Pn**	**22 20 34.8**	**+1.5**
	1.1nm,0.3s,SNR=7.9					
EQES			S	**Sn**	**22 21 29.0**	**-1.4**
	3.5nm,0.7s,SNR=7.9					
CFON	**Fontmartina**	**5.07 355**	P	**Pn**	**22 20 36.3**	**+2.1**
	1.7nm,0.3s,SNR=5.9					
CFON			S	**Sn**	**22 21 28.2**	**-3.8**
	1.7nm,0.2s,SNR=7.9					
CFON	**Fontmartina**	**5.07 355**	P	**Pn**	**22 20 36.3**	**+2.1**
	1.7nm,0.3s,SNR=5.9					
CFON			S	**Sn**	**22 21 28.2**	**-3.8**
	1.7nm,0.2s,SNR=7.9					
EMIR	**Miracle**	**5.33 348**	P	**Pn**	**22 20 40.5**	**+2.8**
	1.7nm,0.2s,SNR=7.2					
EMIR			S	**Sn**	**22 21 36.4**	**-2.0**
	0.7nm,0.2s,SNR=7.9					
EMIR	**Miracle**	**5.33 348**	P	**Pn**	**22 20 40.5**	**+2.8**
	1.7nm,0.2s,SNR=7.2					
EMIR			S	**Sn**	**22 21 36.4**	**-2.0**
	0.7nm,0.2s,SNR=7.9					

ROM 20 22:27:49.3±0.4, 42°.39N×13°.39E, h7km±5km, Md1.6/3, Ml1.1/1, Error ellipse: s-maj=5.3km s-min=2.1km az=40.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T0104	**Madonna delle**	**0.05**	**232**	Pg	Pg	22 27 51.1	+0.2
T0104				Sg	Sg	22 27 52.5	+0.4
T0106	**Roio Piano**	**0.09**	**185**	Pg	Pg	22 27 51.6	+0.1
T0106				Sg	Sg	22 27 53.5	+0.5
FAGN	**Fagnano**	**0.19**	**132**	Pg	Pg	22 27 54.1	+0.9
FAGN				Sg	Sg	22 27 56.9	+1.0
	37nm,0.3s						

ROM 20 22:27:57.7±0.1, 42°.54N×13°.20E, h11km, Md1.4/3, Ml0.9/3, Error ellipse: s-maj=1.2km s-min=0.4km az=173.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.13**	**47**	Pg	Pg	22 28 01.5	+0.5
SMA1				Sg	Sg	22 28 04.1	+0.7
	25nm,0.2s						
LNSS	**Leonessa**	**0.14**	**298**	Pg	Pg	22 28 01.5	+0.4
LNSS				Sg	Sg	22 28 04.2	+0.8
	29nm,0.2s						
NRCA	**Norcia**	**0.30**	**348**	Pg	Pg	22 28 04.4	+0.5
NRCA				Sg	Sb	22 28 09.3	-1.1
	38nm,1.2s						

*ISCJB **20** 22:37:35.4±1.0, 21°.64N±0°.10×143°.0E±0°.3, h311km, mb3.5/5, Error ellipse: s-maj=44.7km s-min=13.0km az=174.4*

*IDC **20** 22:37:35.8±2.4, 21°.65N×143°.07E, h302km±22km, mb3.2/5, mb1 3.3/7, mb1mx2.9/38, mbtmp3.8/7, Error ellipse: s-maj=48.0km s-min=18.8km az=98.0*

ISC 20 22:37:36.6±1.1, 21°.7N±0°.1×142°.9E±0°.3, h311km, n7, σ0s67/8, mb3.5/5, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.42**	**353**	P	**Pn**	**22 38 59.9**	**+0.5**
	6.0nm,0.3s,baz=302,slow=23,SNR=14						
JCJ				S	**S**	**22 40 05.3**	**-0.8**
	7.6nm,0.3s,baz=302,slow=21,SNR=8.8						
MJAR	**Matsushiro Arr**	**15.36**	**345**	P	**Pn**	**22 40 58.5**	**-0.3**
	0.4nm,0.3s,baz=148,slow=9.6,SNR=3.1						
WRA	**Warramunga Arr**	**42.22**	**192**	P	**P**	**22 44 59.7**	**-0.4**
	0.6nm,0.5s,baz=16,slow=8.7,SNR=8.0						
YKA	**Yellowknife Ar**	**76.57**	**28**	P	**P**	**22 48 52.8**	**0.0**
	0.3nm,0.5s,baz=288,slow=6.1,SNR=2.6						
ARCES	**ARCESS Array B**	**78.86**	**341**	P	**P**	**22 49 06.3**	**+1.0**
	2.3nm,1.0s,baz=76,slow=7.5,SNR=3.6						
FINES	**FINESS Array B**	**83.09**	**334**	P	**P**	**22 49 27.6**	**+0.1**
	0.6nm,0.5s,baz=85,slow=4.0,SNR=7.8						
NVAR	**Mina Array Bea**	**83.33**	**51**	P	**P**	**22 49 29.4**	**-0.2**
	0.4nm,0.5s,baz=263,slow=7.2,SNR=3.0						

IDC 20 22:41:58.0±1.2, 4°.45S×155°.25E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/30, mbtmp3.8/5, Error ellipse: s-maj=39.5km s-min=25.4km az=117.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**20.60**	**149**	P	P	22 46 37.8	-1.2
	2.3nm,0.3s,baz=90,slow=24,SNR=22						
H11S3	**WAKE ISLAND Hy**	**25.43**	**26**	T	T	23 13 59.1	
	baz=201						
H11S2	**WAKE ISLAND Hy**	**25.44**	**26**	T	T	23 14 06.7	
	baz=201						
H11S1	**WAKE ISLAND Hy**	**25.45**	**26**	T	T	23 14 02.6	
	baz=201						
WRA	**Warramunga Arr**	**25.54**	**231**	P	P	22 47 28.5	-0.2
	2.4nm,0.6s,baz=54,slow=10.0,SNR=36						
ASAR	**Alice Springs**	**28.09**	**225**	P	P	22 47 50.9	-0.8
	0.2nm,0.3s,baz=50,slow=8.4,SNR=4.9						
STKA	**Stephens Creek**	**30.14**	**204**	P	P	22 48 10.4	+0.6
	1.4nm,0.7s,baz=37,slow=5.1,SNR=2.7						
ILAR	**Eielson Array**	**80.93**	**22**	P	P	22 54 13.8	-0.2
	0.2nm,0.6s,baz=252,slow=5.3,SNR=3.1						
TORD	**Torodi Ar. Bea**	**152.51**	**290**	PKPbc	PKPbc	23 01 58.7	+1.2
	0.8nm,0.7s,baz=60,slow=2.3,SNR=5.7						

IDC 20 23:08:05.1±5.1, 19°.67S×176°.44W, h0km, mb4.1/2, mb1 4.4/2, mb1mx3.7/37, mbtmp4.1/2, Error ellipse: s-maj=281.6km s-min=59.0km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.14**	**256**	P	P	23 16 31.1	-0.6
	2.2nm,0.5s,baz=97,slow=7.7,SNR=29						
WRA	**Warramunga Arr**	**46.17**	**261**	P	P	23 16 32.2	+0.3
	0.8nm,0.3s,baz=96,slow=7.4,SNR=32						
AKASG	**Malin Array Be**	**142.97**	**333**	PKP	PKPdf	23 27 38.0	-2.7
	1.0nm,0.4s,baz=40,slow=3.6,SNR=5.7						
MMAI	**Mount Meron Ar**	**148.65**	**302**	PKPbc	PKPbc	23 27 54.7	-0.1
	1.1nm,0.5s,baz=63,slow=6.1,SNR=6.8						

IDC 20 23:11:42.1±4.7, 15°.01S×69°.51W, h130km±124km, mb3.0/2, mb1 3.3/2, mb1mx3.0/19, mbtmp3.4/2, Error ellipse: s-maj=356.1km s-min=34.9km az=26.0,

Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.84**	**134**	P	Pn	23 12 16.1	+1.1
	7.3nm,0.3s,baz=340,slow=6.6,SNR=238						
LPAZ				S	Sn	23 12 39.6	-0.3
	1.4nm,0.3s,baz=46,slow=23,SNR=9.7						
TXAR	**Lajitas Array**	**55.06**	**323**	P	P	23 21 00.1	-0.5
	0.3nm,0.8s,baz=155,slow=11,SNR=4.2						
TORD	**Torodi Ar. Bea**	**75.81**	**72**	P	P	23 23 14.7	+0.3
	0.1nm,0.3s,baz=264,slow=4.7,SNR=4.5						

KRSC 20 23:14:58.8±0.8, 54°.48N×161°.71E, h38km±9km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.08**	**8**	*i* P	Pn	23 15 06.4	+1.3
MKZ				*i* S	Sn	23 15 10.2	+0.8
KZV	**Kizimen**	**1.04**	**309**	*e*P	Pn	23 15 17.6	+0.6
KZV				*e*S	Sn	23 15 29.7	-0.8
TUMR	**Tumrok**	**1.21**	**312**	*e*P	Pn	23 15 20.1	+0.7
TUMR				*e*S	Sn	23 15 35.2	+0.5
KII	**Karymskiy**	**1.40**	**253**	*e*P	Pn	23 15 23.4	+1.6
KII				*e*S	Sn	23 15 40.7	+1.6
KMNR	**Kamenistaya**	**1.54**	**327**	*e*P	Pn	23 15 26.0	+2.2
KMNR				*e*S	Sn	23 15 45.2	+2.6
SPN	**Mys Shipunski**	**1.70**	**217**	*e*P	Pn	23 15 27.6	+1.7
SPN				*e*S	Sn	23 15 48.0	+1.6
KBTR	**Krutoberegovo**	**1.85**	**20**	*e*P	Pn	23 15 29.8	+1.9
KBTR				*e*S	Sn	23 15 51.5	+1.5
NLC	**Nalytchevo**	**1.92**	**228**	*e*P	Pn	23 15 31.8	+3.0
NLC				*e*S	Sn	23 15 55.0	+3.4
SDLR	**Sedlovina**	**2.06**	**236**	*e*P	Pn	23 15 34.2	+3.2
SDLR				*e*S	Sn	23 15 59.5	+4.0
SMAR	**Somma**	**2.11**	**236**	*e*P	Pn	23 15 35.2	+3.4
SMAR				*e*S	Sn	23 16 00.8	+3.9
KRER	**Koryakskii**	**2.11**	**237**	*e*P	Pn	23 15 31.7	-0.1
SMKR	**Semkarok**	**2.12**	**356**	*e*P	Pn	23 15 34.4	+2.7
SMKR				*e*S	Sn	23 15 59.8	+3.0
BDR	**Baidarnaya**	**2.12**	**352**	*e*P	Pn	23 15 34.7	+3.0
BDR				*e*S	Sn	23 16 00.2	+3.3
KRX	**Arik**	**2.13**	**240**	*e*P	Pn	23 15 32.2	+0.2
UGLR	**Uglovaya**	**2.13**	**235**	*e*P	Pn	23 15 35.2	+3.3
AVH	**Avacha**	**2.14**	**237**	*e*P	Pn	23 15 35.7	+3.7
AVH				*e*S	Sn	23 16 01.9	+4.6
SRDR	**Sredinnyy**	**2.17**	**329**	*e*P	Pn	23 15 34.8	+2.4
KOK	**Koryaka**	**2.17**	**238**	*e*P	Pn	23 15 32.3	-0.2
SRKR	**Sorokina**	**2.21**	**352**	*e*P	Pn	23 15 35.6	+2.7
ESO	**Esso**	**2.26**	**311**	*e*P	Pn	23 15 36.9	+3.3
PET	**Petropavlovsk**	**2.33**	**233**	*e*P	Pn	23 15 38.0	+3.6
PET				*e*S	Sn	23 16 05.7	+4.0
GNL	**Ganaly**	**2.35**	**252**	*e*P	Pn	23 15 38.1	+3.1
GNL				*e*S	Sn	23 16 05.6	+2.9
BKI	**Bering**	**2.57**	**72**	*e*P	Pn	23 15 40.8	+3.0
BKI				*e*S	Sn	23 16 10.6	+2.9
RUS	**Russkaya**	**2.80**	**224**	*e*P	Pn	23 15 43.7	+2.8
RUS				*e*S	Sn	23 16 15.7	+2.3
MTVR	**Mutnovka**	**2.90**	**228**	*e*P	Pn	23 15 46.3	+3.7
MTVR				*e*S	Sn	23 16 19.9	+3.6
ASAK	**Asacha**	**3.10**	**229**	*e*P	Pn	23 15 49.5	+4.3
ASAK				*e*S	Sn	23 16 25.3	+4.3
APC	**Apacha**	**3.12**	**242**	*e*P	Pn	23 15 49.3	+4.0
MIPR	**Malaya Ipel'ka**	**3.69**	**235**	*e*P	Pn	23 15 57.7	+4.4

*GUC **20** 23:17:35.8±0.5, 36°.75S×73°.65W, h35km±3km, ML3.5*

*IDC **20** 23:17:37.2±1.7, 36°.56S×72°.88W, h0km, mb3.6/4, mb1 3.6/6, mb1mx3.6/17, mbtmp3.5/6, ML3.2/2, Error ellipse: s-maj=60.5km s-min=19.6km az=110.0*

ISC 20 23:17:37.5±1.7, 36°.59S±0°.06×73°.5W±0°.1, h27km, n10, σ1s49/11, mb3.7/3, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.43**	**126**	*i* P	**Pb**	**23 17 45.0**	**-1.7**
CCSP				*i* S	**Sb**	**23 17 52.0**	**-0.9**
CCSP				AML	AML	23 17 53.6	
	comp=E,11μm,0.2s						
COCH	**Cobquecura**	**0.76**	**53**	*i* P	**Pn**	**23 17 52.2**	**-0.2**
COCH				*e*S	**Sn**	**23 18 05.2**	**+2.1**
LNCH	**Linares**	**1.74**	**65**	*i* P	**Pb**	**23 18 07.2**	**-1.5**
LNCH				*e*S	**Sb**	**23 18 31.3**	**+1.3**
TALC	**Talca**	**1.95**	**53**	*i* P	**Pb**	**23 18 10.8**	**-1.5**
PLCA	**Paso Flores**	**4.75**	**151**	Pn	**Pn**	**23 18 49.2**	**+1.8**
	comp=E,0.4nm,0.3s,baz=320,slow=12,SNR=4.5						
PLCA				Lg	Lg	23 19 58.9	
	comp=E,1.3nm,0.3s,baz=358,slow=6.0,SNR=6.7						
CFAA	**Coronel Fontan**	**6.64**	**43**	Pn	**Pn**	**23 19 13.0**	**-0.3**
	comp=E,0.2nm,0.3s,baz=212,slow=10,SNR=9.5						
CFAA				Lg	Lg	23 20 57.4	
	comp=E,0.1nm,0.3s,baz=287,slow=22,SNR=5.5						
LPAZ	**La Paz**	**20.79**	**15**	P	Pn	23 22 19.9	0.0
	comp=E,0.8nm,0.6s,baz=196,slow=9.8,SNR=4.6						
SIV	**San Ignacio**	**23.32**	**32**	P	**P**	**23 22 43.6**	**+0.1**
	comp=E,1.0nm,0.5s,baz=195,slow=8.7,SNR=4.1						
VNDA	**Vanda**	**61.32**	**192**	P	P	23 27 55.6	+5.5
	comp=E,0.7nm,0.5s,baz=135,slow=6.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**86.24**	**71**	P	**P**	**23 30 16.4**	**-0.5**
	comp=E,0.4nm,0.9s,baz=230,slow=3.9,SNR=3.1						

PGC 20 23:26:36.0±14.0, 51°.14N×130°.98W, h10km, ML3.0/11, Mw3.6, 227km Wsw of Bella Bella, Bc Haida Gwaii Region, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**1.51**	**342**	Pn	Pn	23 27 02.0	-1.2
BNB				Sn	Sn	23 27 18.8	-4.2
HOLB	**Holberg**	**1.87**	**104**	Pn	Pn	23 27 06.9	-1.3
BBB	**Bella Bella**	**2.07**	**59**	Pn	Pn	23 27 08.6	-2.2
BBB				Sn	Sn	23 27 35.3	-1.3
MOBC	**Moresby Island**	**2.10**	**344**	Pn	Pn	23 27 10.9	-0.4
MOBC				Sg	Sb	23 27 41.6	+1.3
DIB	**Dawson Inlet,**	**2.26**	**337**	Pn	Pn	23 27 13.9	+0.6
DIB				Sg	Sg	23 27 49.8	+1.2
BPBC	**Brooks Peninsu**	**2.27**	**115**	Pn	Pn	23 27 12.1	-1.5
PHC	**Port Hardy**	**2.29**	**100**	Pn	Pn	23 27 12.1	-1.7
VIB	**Van Inlet**	**2.32**	**336**	Pn	Pn	23 27 13.6	-0.8
MAYB	**Maynard**	**2.53**	**106**	Pn	Pn	23 27 16.5	-0.8
MAYB				Sg	Sg	23 27 59.0	+1.4
WOSB	**Woss**	**2.98**	**108**	Pn	Pn	23 27 23.6	+0.2
NCRB	**Newcastle Ridg**	**3.21**	**101**	Pn	Pn	23 27 26.3	-0.4
RUBB	**Prince Rupert**	**3.22**	**8**	Sg	Sg	23 28 17.6	-1.8

*DHMR **20** 23:34:38.0±1.2, 11°.92N×40°.10E, h0km±949km, ML3.6*

ISC 20 23:34:52.2±2.0, 12°.1N±0°.2×40°.9E±0°.2, h10km, n5, σ1s55/8, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**3.30**	**71**	*i* P	**Pn**	**23 35 45.4**	**+1.3**
TRBA				*i* S	**Sg**	**23 36 37.7**	**-0.6**
TRBA				AML	AML	23 36 45.4	
	comp=N,186nm,0.7s						
FURI	**Furi**	**3.91**	**215**	P	**Pb**	**23 35 59.7**	**-1.8**
FURI				S	**Sb**	**23 36 51.4**	**+2.4**
DHBB	**Dhamar BB**	**4.15**	**54**	*i* P	**Pn**	**23 35 56.7**	**+0.8**
DHBB				*i* S	**Sb**	**23 36 56.7**	**+0.8**
LBOS		**4.55**	**67**	*i* P	**Pn**	**23 36 01.5**	**0.0**
BDHA	**Al Bayda'**	**4.88**	**68**	*i* P	**Pn**	**23 36 05.9**	**-0.1**

*AWI **20** 23:45:22.9, 54°.71S×25°.28W*

*IDC **20** 23:45:25.9±0.7, 55°.51S×26°.32W, h0km, mb4.4/8, mb1 4.4/9, mb1mx4.2/22, mbtmp4.3/9, ML3.6/1, MS4.0/2, Ms1 4.0/2, ms1mx3.5/20, Error ellipse: s-maj=26.1km s-min=17.6km az=98.0*

*NEIC **20** 23:45:27.1±0.4, 55°.51S×26°.34W, h10km, mb4.7/3, Error ellipse: s-maj=10.2km s-min=9.4km az=95.0*

*ISCJB **20** 23:45:29.4±0.6, 55°.48S±0°.08×26°.7W±0°.1, h38km, mb4.4/8, MS4.0/2, Error ellipse: s-maj=11.9km s-min=8.3km az=26.6*

ISC 20 23:45:31.1±0.6, 55°.5S±0°.1×26°.55W±0°.09, h38km, n33, σ1s06/26, mb4.6/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.86**	**278**	*e*Pn	**Pn**	**23 46 55.2**	**-0.1**
HOPE				*e*Sn	**Sn**	**23 47 59.8**	**-1.4**
VNA3	**Neumayer Olymp**	**17.39**	**162**	P	**P**	**23 49 31.5**	**+0.1**
VNA2	**Neumayer--Watz**	**17.57**	**159**	P	**P**	**23 49 33.0**	**-0.3**
	baz=316,slow=15						
SNAA	**Sanae**	**19.10**	**157**	P	**P**	**23 49 48.5**	**-1.7**
SNAA	**Sanae**	**19.10**	**157**	P	**P**	**23 49 50.2**	**0.0**
	0.2nm,0.3s,baz=291,slow=14,SNR=21						
SNAA	**Sanae**	**19.10**	**157**	*e*P	**P**	**23 49 48.2**	**-2.0**
	2.9nm,0.6s						
PMSA	**Palmer Station**	**20.53**	**228**	P	**P**	**23 50 06.6**	**+0.9**
	18nm,0.6s,baz=76,slow=4.2,SNR=3.1						
PMSA				LR	LR	23 56 25.1	
	comp=Z,476nm,18.6s,baz=88,slow=32						
PLCA	**Paso Flores**	**32.27**	**279**	*e*P	P	23 51 42.3	-14
QSPA	**South Pole Qui**	**34.75**	**180**	P	**P**	**23 52 17.5**	**+0.2**
	5.9nm,0.6s,baz=203,slow=3.6,SNR=57						
QSPA	**South Pole Qui**	**34.75**	**180**	*e*P	**P**	**23 52 17.4**	**+0.1**
	5.9nm,0.6s						
LVC	**Limon Verde**	**45.34**	**299**	*e*P	**P**	**23 53 46.0**	**+0.4**
	6.9nm,0.8s						
SBA	**Scott Base**	**46.65**	**184**	*e*P	**P**	**23 53 55.9**	**+1.0**
VNDA	**Vanda**	**47.14**	**182**	P	**P**	**23 53 58.7**	**-0.1**
	4.9nm,0.6s,baz=187,slow=6.4,SNR=22						
VNDA	**Vanda**	**47.14**	**182**	*e*P	**P**	**23 53 59.3**	**+0.5**
	5.2nm,0.7s						
H10S2	**ASCENSION HYDR**	**47.37**	**16**	T	T	00 45 09.0	
	baz=190						
H10S3	**ASCENSION HYDR**	**47.38**	**16**	T	T	00 45 07.8	
	baz=190						
H10S1	**ASCENSION HYDR**	**47.39**	**16**	T	T	00 45 09.1	
	baz=190						
H10N1	**ASCENSION HYDR**	**48.49**	**16**	T	T	00 46 35.1	
	baz=190						
H10N3	**ASCENSION HYDR**	**48.49**	**16**	T	T	00 46 30.8	
	baz=190						
LBTB	**Lobatse**	**48.50**	**73**	P	**P**	**23 54 10.9**	**+0.8**
	1.6nm,0.6s,baz=210,slow=4.4,SNR=4.5						
LBTB	**Lobatse**	**48.50**	**73**	*e*P	**P**	**23 54 09.8**	**-0.3**
H10N2	**ASCENSION HYDR**	**48.51**	**16**	T	T	00 46 31.8	
	baz=190						
LPAZ	**La Paz**	**50.36**	**304**	P	**P**	**23 54 26.5**	**+1.6**
	5.2nm,0.8s,baz=158,slow=5.9,SNR=22						
DBIC	**Dimbokro**	**64.52**	**24**	P	**P**	**23 56 02.8**	**-1.1**
	3.1nm,1.0s,baz=156,slow=18,SNR=2.8						
TOA0	**Torodi Ar. Sit**	**72.40**	**29**	*e*P	**P**	**23 56 53.4**	**+0.3**
TORD	**Torodi Ar. Bea**	**72.40**	**29**	P	**P**	**23 56 53.7**	**+0.7**
	2.5nm,0.6s,baz=198,slow=6.1,SNR=46						
KEST	**Kesra**	**95.92**	**29**	LR	LR	00 37 50.2	
	comp=Z,58nm,19.6s,baz=276,slow=33						
ASAR	**Alice Springs**	**99.40**	**162**	P	**Pdif**	**23 59 08.8**	**-0.6**
	0.6nm,0.8s,baz=178,slow=2.8,SNR=3.3						
PARMO	**Parma**	**106.42**	**312**	*e*Sg	**PKiKP**	**00 03 48.2**	**-2.6**
INK	**Inuvik**	**145.61**	**321**	PKPbc	**PKPab**	**00 05 04.9**	**+0.8**
	2.6nm,0.8s,baz=107,slow=5.6,SNR=7.7						
ILAR	**Eielson Array**	**150.02**	**312**	PKPbc	**PKPbc**	**00 05 16.8**	**+1.0**
	3.6nm,0.8s,baz=126,slow=1.5,SNR=40						
SONM	**Songino Array**	**150.33**	**85**	PKPbc	**PKPbc**	**00 05 16.7**	**-0.6**
	0.5nm,0.5s,baz=300,slow=3.3,SNR=4.5						
BPAW	**Bear Paw Mtn.**	**151.66**	**310**	*e*PKPbc	**PKPbc**	**00 05 20.6**	**+0.8**

*IDC **21** 00:04:40.3±1.1, 52°.95N×163°.40W, h0km, mb3.9/17, mb1 4.1/18, mb1mx3.9/39, mbtmp3.9/18, ML4.0/1, Error ellipse: s-maj=27.4km s-min=13.9km az=12.0*

*ISCJB **21** 00:04:42.2±0.5, 52°.70N±0°.04×163°.47W±0°.05, h33km, mb3.9/17, Error ellipse: s-maj=6.2km s-min=4.3km az=10.2*

*NEIC **21** 00:04:42.4, 52°.74N×163°.47W, h25km, ML3.7(AEIC), After AEIC.*

ISC 21 00:04:44.4±0.8, 52°.75N±0°.08×163°.46W±0°.05, h35km, n52, σ0s85/47, mb4.0/17, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.85**	**339**	P	**Pn**	**00 05 12.7**	**-0.9**
WESP	**Westdahl Peak**	**1.90**	**337**	P	**Pn**	**00 05 13.6**	**-0.8**
WESP				S	**Sn**	**00 05 38.2**	**+1.1**
AKA	**Akutan**	**1.96**	**316**	P	**Pn**	**00 05 14.5**	**-0.5**
AKA				S	**Sn**	**00 05 39.3**	**+1.0**
AKUT	**Akutan**	**1.96**	**316**	P	**Pn**	**00 05 14.3**	**-0.7**
ZRO	**Akutan Zero**	**2.02**	**313**	P	**Pn**	**00 05 15.1**	**-0.8**
SSLW	**Shishaldin Wes**	**2.06**	**349**	P	**Pn**	**00 05 15.5**	**-1.0**
AKRB	**Akutan Reef Bi**	**2.08**	**313**	P	**Pn**	**00 05 16.1**	**-0.7**
AKRB				S	**Sn**	**00 05 42.1**	**+0.7**
SSLN	**Shishaldin Nor**	**2.09**	**352**	P	**Pn**	**00 05 16.6**	**-0.3**
AKGG	**Akutan Green G**	**2.10**	**315**	P	**Pn**	**00 05 16.3**	**-0.6**
AKGG				S	**Sn**	**00 05 42.1**	**+0.4**
FALS	**False Pass**	**2.11**	**1**	P	**Pn**	**00 05 16.1**	**-1.0**
FALS				S	**Sn**	**00 05 41.9**	**-0.2**
UNV	**Unalaska Valle**	**2.13**	**302**	P	**Pn**	**00 05 16.0**	**-1.3**
UNV				S	**Sn**	**00 05 41.9**	**-0.6**
MREP	**Makushin Rep't**	**2.24**	**300**	P	**Pn**	**00 05 18.5**	**-0.5**
MGOD	**Makushin Gods**	**2.30**	**298**	P	**Pn**	**00 05 18.8**	**-1.0**
MSW	**Makushin Switc**	**2.31**	**302**	P	**Pn**	**00 05 19.0**	**-0.9**
MSW				S	**Sn**	**00 05 46.1**	**-0.9**
MCIR	**Makushin Cirqu**	**2.38**	**302**	P	**Pn**	**00 05 20.4**	**-0.6**
DT1	**Dutton Round H**	**2.46**	**16**	P	**Pn**	**00 05 21.6**	**-0.3**
OKFG	**Magazine Ridge**	**2.76**	**286**	P	**Pn**	**00 05 24.7**	**-1.4**
SDPT	**Sand Point**	**3.14**	**33**	P	**Pn**	**00 05 30.3**	**-1.0**
NIKH	**Nikolski High**	**3.27**	**276**	P	**Pn**	**00 05 32.0**	**-1.1**
CHGN	**Chignik**	**4.62**	**38**	P	**Pn**	**00 05 51.6**	**+0.1**
KOFP	**Korovin Flat P**	**6.51**	**270**	P	**Pn**	**00 06 18.2**	**+0.

ellipse: s-maj=33.4km s-min=23.3km az=90.0
NEIC ***21*** *00:06:47.7±1.1,24.90S×70.30W,h39km±10km,mb4.1/3, Error ellipse: s-maj=22.8km s-min=8.1km az=102.0*
ISC 21 00:06:47.8±0.8,**24.86S**±0.06×**70.3W**±0.1,**h38**km,**n23**, σ1§**36**/23,**mb4.2/7**,**Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.56**	**29**	Pn	**Pn**	**00 07 30.2**	**+3.2**
	2µm,0.3s,baz=187,slow=8.4,SNR=163						
LVC				Pg		00 07 32.3	
	3µm,0.3s,baz=223,slow=14,SNR=219						
LVC				Lg	Lg	00 08 05.4	
	20µm,0.3s,baz=92,slow=8.8,SNR=19						
LVC	**Limon Verde**	**2.56**	**29**	*e*Pn	**Pn**	**00 07 27.5**	**+0.4**
LVC				*e*Sb	Sn	00 08 05.8	+8.7
LCO	**Las Campanas**	**4.15**	**185**	*e*Pn	**Pn**	**00 07 47.2**	**-1.7**
LCO				*e*Sn	**Sn**	**00 08 39.2**	**+2.9**
CFAA	**Coronel Fontan**	**6.95**	**165**	Pn	**Pn**	**00 08 28.4**	**+1.2**
	0.1nm,0.3s,baz=349,slow=15,SNR=7.2						
CFAA				Sn	**Sn**	**00 09 45.4**	**+0.4**
	0.2nm,0.3s,baz=356,slow=15,SNR=1.7						
LPAZ	**La Paz**	**8.76**	**14**	Pn	**Pn**	**00 08 53.6**	**+1.0**
	0.7nm,0.3s,baz=174,slow=2.2,SNR=35						
SIV	**San Ignacio**	**12.34**	**46**	Pn	**Pn**	**00 09 39.7**	**-1.3**
	0.5nm,0.3s,baz=255,slow=17,SNR=7.2						
SIV				Sn	**Sn**	**00 11 55.7**	**-1.5**
	0.2nm,0.3s,baz=242,slow=17,SNR=2.2						
SAML	**Samuel**	**17.21**	**24**	*e*P	**P**	**00 10 47.1**	**+0.5**
	2.3nm,0.9s						
BDFB	**Brasilia**	**22.78**	**70**	P	**P**	**00 11 47.4**	**0.0**
	2.2nm,0.4s,baz=245,slow=7.4,SNR=6.7						
VNA3	**Neumayer Olymp**	**57.32**	**160**	P	**P**	**00 16 32.3**	**+0.7**
VNA2	**Neumayer--Watz**	**57.92**	**160**	P	**P**	**00 16 36.0**	**+0.3**
	baz=288,slow=8.0						
SNAA	**Sanae**	**59.54**	**160**	P	**P**	**00 16 45.4**	**-1.6**
SNAA	**Sanae**	**59.54**	**160**	*e*P	**P**	**00 16 45.2**	**-1.9**
	1.6nm,0.4s						
QSPA	**South Pole Qui**	**65.34**	**180**	*e*P	**P**	**00 17 26.5**	**+0.5**
	0.9nm,0.5s						
DBIC	**Dimbokro**	**70.91**	**73**	P	**P**	**00 18 01.7**	**+0.2**
	2.2nm,0.9s,baz=161,slow=4.0,SNR=4.2						
ULM	**Lac du Bonnet**	**78.15**	**344**	P	**P**	**00 18 41.8**	**-1.0**
	0.8nm,0.4s,baz=153,slow=4.5,SNR=3.8						
SCHQ	**Schefferville**	**79.42**	**2**	P	**P**	**00 18 49.5**	**-0.2**
	2.4nm,0.9s,baz=204,slow=7.5,SNR=2.7						
TORD	**Torodi Ar. Bea**	**79.67**	**70**	P	**P**	**00 18 52.5**	**+0.6**
	2.3nm,0.5s,baz=260,slow=5.2,SNR=50						
H11S2	**WAKE ISLAND Hyd**	**26.98**	**275**	T	T	02 45 29.0	
	baz=108,slow=75,SNR=25						
H11S1	**WAKE ISLAND Hyd**	**26.99**	**275**	T	T	02 45 28.7	
	baz=108,slow=75,SNR=26						
H11S3	**WAKE ISLAND Hyd**	**27.00**	**275**	T	T	02 45 28.1	
	baz=108,slow=75,SNR=29						
WRA	**Warramunga Arr**	**129.43**	**210**	PKP	**PKPdf**	**00 25 52.7**	**-0.5**
	0.2nm,0.4s,baz=157,slow=1.6,SNR=4.6						
ZALV	**Zalesovo Beam**	**145.51**	**26**	PKPbc	**PKPab**	**00 26 21.9**	**0.0**
	3.9nm,0.9s,baz=328,slow=5.3,SNR=14						
MKAR	**Makanchi Array**	**149.06**	**38**	PKPbc	**PKPbc**	**00 26 32.0**	**+0.2**
	1.0nm,0.5s,baz=286,slow=6.9,SNR=16						

NIED ***21*** *00:47:00.2,27.30N×128.40E,h35km,Mw4.0 Best double couple: M0 1.07000×10^15 NP1:φ=358.00000°,δ=34.00000°, λ=57.00000°. NP2:φ=216.00000°,δ=62.00000°,λ=110.00000°.*
ISCJB ***21*** *00:47:40.9±0.4,27.26N±0.04×128.50E±0.05,h59km±4km, mb3.6/6,Error ellipse: s-maj=9.0km s-min=4.4km az=38.0*
IDC ***21*** *00:47:42.0±1.6,26.95N×128.34E,h68km±14km,mb3.4/6, mb1 3.5/8,mb1mx3.3/32,mbtmp3.7/8,Error ellipse: s-maj=54.9km s-min=28.9km az=121.0*
JMA ***21*** *00:47:42.3±0.1,27.30N×128.43E,h49km±1km,M3.7*
JMA Felt I J1.
ISC 21 00:47:41.7±0.9,**27.27N**±0.04×**128.48E**±0.05,**h52**km±7km, **n23**,σ0§**90**/32,**mb3.7**/6,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOKE	**Okinoerabujima**	**0.12**	**43**	P	**Pn**	**00 47 50.1**	**+0.2**
JOKE				S	Sn	00 47 55.4	-0.4
JOW	**Kunigami**	**0.47**	**203**	P	**Pn**	**00 47 53.2**	**+0.4**
JOW				S	Sn	00 48 00.7	-0.1
JOW	**Kunigami**	**0.47**	**203**	P	**Pn**	**00 47 53.2**	**+0.4**
	34nm,0.3s,baz=130,slow=18,SNR=1760						
JOW				S	**Sn**	**00 48 00.8**	**+0.1**
	157nm,0.3s,baz=221,slow=19,SNR=74						
JIH	**Iheya**	**0.51**	**243**	P	**Pn**	**00 47 53.3**	**+0.1**
JIH				S	**Sn**	**00 48 00.9**	**-0.6**
JTK	**Tokunoshima**	**0.66**	**39**	P	**Pn**	**00 47 55.8**	**+0.7**
JTK				S	**Sn**	**00 48 04.7**	**-0.1**
JNTH	**Nagotoyohara**	**0.85**	**209**	P	**Pn**	**00 47 57.9**	**+0.4**
JNTH				S	**Sn**	**00 48 09.4**	**+0.3**
JAMN	**Amaminishikomi**	**1.15**	**32**	P	**Pn**	**00 48 01.7**	**+0.2**
JAMN				*e*S	**Sn**	**00 48 15.6**	**-0.8**
JAGN	**Aguni-jima**	**1.29**	**239**	P	**Pn**	**00 48 03.7**	**+0.2**
JAGN				S	**Sn**	**00 48 19.5**	**-0.2**
JJT2	**Tamagusuku 2**	**1.30**	**210**	P	**Pn**	**00 48 04.7**	**+1.1**
JAM	**Amami Oshima**	**1.51**	**41**	P	**Pn**	**00 48 07.9**	**+1.5**
JZK	**Kikaishima**	**1.68**	**52**	P	**Pn**	**00 48 11.2**	**+2.4**
JKE	**Kume jima 2**	**1.78**	**238**	P	**Pn**	**00 48 10.4**	**+0.3**
JTAJ	**Takarajima**	**1.98**	**19**	P	**Pn**	**00 48 13.1**	**+0.3**
JTAJ				S	**Sn**	**00 48 35.9**	**-0.6**
JNN	**Nakanoshima**	**2.84**	**25**	P	**Pn**	**00 48 25.1**	**+0.5**
JNN				S	**Sn**	**00 48 56.0**	**-1.6**
JMZ	**Minamidaito 2**	**2.85**	**120**	P	**Pn**	**00 48 24.6**	**-0.1**
JMZ				S	**Sn**	**00 48 56.3**	**-1.6**
JNU	**Nakatsue**	**6.19**	**19**	P	Pn	00 49 14.0	+3.4
	1.9nm,0.3s,baz=174,slow=11,SNR=2.6						
KSRS	**Korea Array**	**10.16**	**358**	P	Pn	00 50 10.4	+5.5
	0.4nm,0.3s,baz=181,slow=15,SNR=4.1						
SONM	**Songino Array**	**26.81**	**326**	P	**P**	**00 53 18.9**	**+1.8**
	0.6nm,0.5s,baz=146,slow=12,SNR=5.2						
MKAR	**Makanchi Array**	**41.02**	**311**	P	**P**	**00 55 19.2**	**-0.6**
	0.3nm,0.4s,baz=94,slow=9.7,SNR=4.4						
ZALV	**Zalesovo Beam**	**41.56**	**322**	P	**P**	**00 55 23.4**	**-0.6**
	0.7nm,0.5s,baz=105,slow=9.1,SNR=3.4						
BVAR	**Borovoye Array**	**49.65**	**318**	P	**P**	**00 56 28.3**	**+0.3**
	0.4nm,0.5s,baz=86,slow=9.1,SNR=3.7						
FINES	**FINESS Array B**	**72.07**	**330**	P	**P**	**00 58 59.1**	**-1.0**
	0.8nm,0.6s,baz=92,slow=5.7,SNR=5.5						
NOA	**NORSAR Array B**	**78.48**	**334**	P	**P**	**00 59 36.6**	**-0.4**
	0.8nm,0.7s,baz=51,slow=5.5,SNR=3.8						

ISK ***21*** *00:56:49.5,38.88N×40.30E,h5km,ML3.4*
DDA ***21*** *00:56:49.8,38.84N×40.26E,h5km,ML3.7*
CSEM ***21*** *00:56:51.1±0.1,38.87N×40.27E,h2km,ML3.4,Error ellipse: s-maj=3.8km s-min=3.1km az=171.0*
ISC 21 00:56:51.6±1.0,**38.84N**±0.02×**40.28E**±0.01,**h8**km±9km, **n100**,σ1§**17**/133,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BINT	**Bingol**	**0.17**	**79**	*e*Pg	**Pg**	**00 56 56.3**	**+1.1**
BNGB	**Bing^¶l**	**0.35**	**65**	*e*PG	**Pg**	**00 56 56.3**	**-2.1**
BNGB				*e*SG	**Sg**	**00 57 02.0**	**-1.0**
BNGL	**BINGOL**	**0.69**	**81**	*i* P	**Pg**	**00 57 03.1**	**-1.8**
BNGL				*i* S	**Sg**	**00 57 15.0**	**+1.0**
PTK	**Pertek**	**0.69**	**274**	*e*PG	**Pg**	**00 57 03.1**	**-1.9**
PTK				*e*SG	**Sb**	**00 57 15.3**	**-0.5**
PTK	**Pertek**	**0.69**	**274**	*e*Pg	**Pg**	**00 57 03.1**	**-1.9**
PTK				*e*Sg	**Sb**	**00 57 15.3**	**-0.5**
ERZN	**Erzincan**	**0.86**	**330**	*e*PG	**Pg**	**00 57 06.2**	**-1.9**
SVRC	**Sivrice-ELAZID**	**0.89**	**239**	*e*PG	**Pg**	**00 57 08.6**	**-0.1**
SVRC	**Sivrice-ELAZID**	**0.89**	**239**	*e*Pg	**Pg**	**00 57 08.6**	**-0.1**
DYBB	**Diyarbakir**	**0.90**	**187**	*e*PG	**Pb**	**00 57 09.1**	**-0.3**
DIY	**Diyarbakir**	**0.95**	**182**	*e*PG	**Pg**	**00 57 09.1**	**-0.7**
VRTB	**Varto-Mus**	**0.97**	**71**	*e*PG	**Pg**	**00 57 09.5**	**-0.8**
VRTB	**Varto-Mus**	**0.97**	**71**	*e*Pg	**Pg**	**00 57 09.5**	**-0.8**
EUZM	**Uzumlu**	**0.97**	**333**	*i* P	**Pg**	**00 57 08.4**	**-1.9**
EUZM				*i* S	**Sg**	**00 57 22.8**	**-0.1**
EUZM	**Uzumlu**	**0.97**	**333**	*i* P	**Pg**	**00 57 08.4**	**-1.9**
EUZM				*i* S	**Sg**	**00 57 22.8**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.00**	**133**	*e*PG	**Pg**	**00 57 09.4**	**-1.4**
ELZG	**Elazig**	**1.07**	**252**	*i* P	**Pg**	**00 57 09.9**	**-2.2**
ELZG				*i* S	**Sn**	**00 57 27.2**	**-0.9**
ELZG	**Elazig**	**1.07**	**252**	*i* P	**Pg**	**00 57 09.9**	**-2.2**
ELZG				*i* S	**Sn**	**00 57 27.2**	**-0.9**
BTMT	**Batman**	**1.15**	**124**	*e*PN	**Pg**	**00 57 12.5**	**-1.2**
BTMT	**Batman**	**1.15**	**124**	*e*Pn	**Pg**	**00 57 12.5**	**-1.2**
KOPT	**Kop Dagi**	**1.19**	**8**	*i* P	**Pg**	**00 57 13.1**	**-1.2**
KOPT				*i* S	**Sn**	**00 57 31.8**	**+0.7**
KOPT	**Kop Dagi**	**1.19**	**8**	*i* P	**Pg**	**00 57 13.1**	**-1.2**
KOPT				*i* S	**Sn**	**00 57 31.8**	**+0.7**
BEST	**Besiri**	**1.23**	**140**	*i* P	**Pb**	**00 57 13.7**	**-1.4**
BEST				*i* S	**Sb**	**00 57 31.7**	**+0.5**
EZM	**Erzurum**	**1.35**	**38**	*e*PN	**Pn**	**00 57 15.4**	**-1.6**
ERZM	**Erzurum**	**1.35**	**38**	*i* P	**Pn**	**00 57 15.6**	**-1.4**
ERZM	**Erzurum**	**1.35**	**38**	*i* P	**Pn**	**00 57 15.6**	**-1.4**
MAZI	**Mazidag**	**1.39**	**174**	*e*PN	**Pb**	**00 57 17.5**	**-0.3**
MAZI	**Mazidag**	**1.39**	**174**	*e*Pn	**Pb**	**00 57 17.5**	**-0.3**
EKAR	**Karacoban**	**1.45**	**73**	*i* P	**Pn**	**00 57 18.3**	**0.0**
EKAR	**Karacoban**	**1.45**	**73**	*i* P	**Pn**	**00 57 18.3**	**0.0**
EKAR				*i* S	Sg	00 57 44.7	+6.5
ILIC	**ilic-Erzincan**	**1.46**	**295**	*e*PN	**Pn**	**00 57 17.9**	**-0.5**
ILIC	**ilic-Erzincan**	**1.46**	**295**	*e*Pn	**Pn**	**00 57 17.9**	**-0.5**
KELT	**Kelkit**	**1.52**	**329**	*i* P	**Pn**	**00 57 18.6**	**-0.7**
KELT				*i* S	**Sg**	**00 57 41.1**	**+0.5**
KELT	**Kelkit**	**1.52**	**329**	*i* P	**Pn**	**00 57 18.6**	**-0.7**
KELT				*i* S	**Sg**	**00 57 41.1**	**+0.5**
MALT	**Malatya**	**1.54**	**251**	*e*PN	**Pb**	**00 57 19.8**	**-0.6**
MALT	**Malatya**	**1.54**	**251**	*e*Pn	**Pb**	**00 57 19.8**	**-0.6**
BAYT	**Ayd¨¬ntepe-Bay**	**1.55**	**356**	*e*PN	**Pn**	**00 57 19.8**	**+0.2**
BAYT	**Ayd¨¬ntepe-Bay**	**1.55**	**356**	*e*Pn	**Pn**	**00 57 19.8**	**+0.2**
MARD	**Mardin**	**1.58**	**165**	*i* P	**Pn**	**00 57 19.3**	**-0.6**
MARD				*i* S	**Sb**	**00 57 41.7**	**+0.5**
GUMT	**Gumushane**	**1.73**	**339**	*e*PN	**Pn**	**00 57 22.0**	**0.0**
GUMT	**Gumushane**	**1.73**	**339**	*e*Pn	**Pn**	**00 57 22.0**	**0.0**
HOMI	**Horasan**	**1.74**	**46**	*i* P	**Pn**	**00 57 22.2**	**-0.1**
HOMI				*i* S	**Sg**	**00 57 50.9**	**+3.4**
AKCD	**Akcadag**	**1.93**	**254**	*i* P	**Pn**	**00 57 24.4**	**-0.3**
AKCD	**Akcadag**	**1.93**	**254**	*i* P	**Pn**	**00 57 24.4**	**-0.3**
AKCD				*i* S	**Sg**	**00 57 57.6**	**+4.1**
EATA	**Eleskirt**	**2.00**	**59**	*i* P	**Pb**	**00 57 27.4**	**-0.9**
EATA	**Eleskirt**	**2.00**	**59**	*i* P	**Pb**	**00 57 27.4**	**-0.9**
EATA				*i* S	**Sg**	**00 57 59.8**	**+4.1**
TUTA	**Tutak**	**2.05**	**73**	*i* P	**Pg**	**00 57 31.8**	**+0.9**
ATAB	**Bozova**	**2.08**	**229**	*i* P	**Pn**	**00 57 26.7**	**-0.1**
ATAB				*i* S	**Sg**	**00 57 57.1**	**-1.3**
ATAB	**Bozova**	**2.08**	**229**	*i* P	**Pn**	**00 57 26.7**	**-0.1**
ATAB				*i* S	**Sg**	**00 57 57.1**	**-1.3**
SUSE	**Susehri**	**2.10**	**311**	*i* P	**Pn**	**00 57 27.5**	**+0.2**
SUSE	**Susehri**	**2.10**	**311**	*i* P	**Pn**	**00 57 27.5**	**+0.2**
SUSE				*i* S	**Sg**	**00 57 59.8**	**+0.6**
MACK	**Trabzon**	**2.13**	**350**	*i* P	**Pb**	**00 57 30.9**	**+0.4**
MACK	**Trabzon**	**2.13**	**350**	*i* P	**Pb**	**00 57 30.9**	**+0.4**
MACK				*i* S	**Sg**	**00 58 02.3**	**+2.2**
SIRN	**S¨¬rnak**	**2.15**	**128**	*i* P	**Pn**	**00 57 28.5**	**+0.7**
SIRN				*i* S	**Sg**	**00 58 00.0**	**-0.8**
SIRN	**S¨¬rnak**	**2.15**	**128**	*i* P	**Pn**	**00 57 28.5**	**+0.7**
SIRN				*i* S	**Sg**	**00 57 60.0**	**-0.8**
SIRT	**Sirnak**	**2.17**	**128**	*e*PN	**Pn**	**00 57 28.8**	**+0.8**
SIRT	**Sirnak**	**2.17**	**128**	*e*Pn	**Pn**	**00 57 28.8**	**+0.8**
KTUT	**Trabzon**	**2.18**	**350**	*e*PN	**Pn**	**00 57 28.0**	**0.0**
KTUT	**Trabzon**	**2.18**	**350**	*e*Pn	**Pn**	**00 57 28.0**	**0.0**
DARE	**Darende-Malaty**	**2.20**	**264**	*e*PN	**Pn**	**00 57 29.6**	**+1.1**
DARE	**Darende-Malaty**	**2.20**	**264**	*e*Pn	**Pn**	**00 57 29.6**	**+1.1**
AGRB	**Hanur-Agry**	**2.23**	**70**	*e*PN	**Pn**	**00 57 28.9**	**-0.1**
AGRB	**Hanur-Agry**	**2.23**	**70**	*e*Pn	**Pn**	**00 57 28.9**	**-0.1**
GEVA	**Gevas**	**2.24**	**103**	*i* P	**Pb**	**00 57 31.4**	**-1.0**
GEVA	**Gevas**	**2.24**	**103**	*i* P	**Pb**	**00 57 31.4**	**-1.0**
GEVA				*i* S	**Sg**	**00 58 04.7**	**+1.0**
DDEM	**Demirkent**	**2.34**	**29**	*i* P	**Pn**	**00 57 30.4**	**0.0**
DDEM	**Demirkent**	**2.34**	**29**	*i* P	**Pn**	**00 57 30.4**	**0.0**
DDEM				*i* S	**Sg**	**00 58 08.0**	**+1.3**
ESPY	**Espiye-Giresun**	**2.39**	**331**	*e*PN	**Pn**	**00 57 31.5**	**+0.5**
ESPY	**Espiye-Giresun**	**2.39**	**331**	*e*Pn	**Pn**	**00 57 31.5**	**+0.5**
DBAD	**Bademkaya**	**2.43**	**26**	*i* P	**Pn**	**00 57 31.8**	**+0.2**
DBAD	**Bademkaya**	**2.43**	**26**	*i* P	**Pn**	**00 57 31.8**	**+0.2**
DBAD				*i* S	**Sg**	**00 58 08.8**	**-0.9**
VANB	**Van**	**2.45**	**95**	*e*PN	**Pn**	**00 57 32.0**	**+0.1**
VANB	**Van**	**2.45**	**95**	*e*Pn	**Pn**	**00 57 32.0**	**+0.1**
DAGI	**Agillar**	**2.56**	**29**	*i* P	**Pn**	**00 57 33.5**	**+0.1**
DAGI				*i* S	**Sb**	**00 58 10.7**	**+1.2**
GZT	**Gaziantep**	**2.61**	**236**	*i* P	**Pg**	**00 57 42.2**	**+0.6**
ARTV	**Artvin**	**2.66**	**28**	*i* P	**Pn**	**00 57 34.9**	**0.0**
ARTV	**Artvin**	**2.66**	**28**	*i* P	**Pn**	**00 57 34.9**	**0.0**
ARTV				*i* S	**Sg**	**00 58 16.8**	**-0.2**
RSDY	**Resadiye-TOKAT**	**2.76**	**305**	*e*PN	**Pn**	**00 57 36.6**	**+0.5**
RSDY	**Resadiye-TOKAT**	**2.76**	**305**	*e*Pn	**Pn**	**00 57 36.6**	**+0.5**
SVSK	**Karacayir**	**2.76**	**294**	*e*PN	**Pn**	**00 57 36.0**	**0.0**
SVSK	**Karacayir**	**2.76**	**294**	*e*Pn	**Pn**	**00 57 36.0**	**0.0**
BCA	**Borcka**	**2.79**	**21**	*e*PN	**Pn**	**00 57 36.5**	**-0.1**
BCA	**Borcka**	**2.79**	**21**	*e*Pn	**Pn**	**00 57 36.5**	**-0.1**
KARS	**Kars**	**2.80**	**50**	*e*PN	**Pn**	**00 57 37.4**	**+0.6**
KARS	**Kars**	**2.80**	**50**	*e*Pn	**Pn**	**00 57 37.4**	**+0.6**
CLDR	**Caldiran**	**2.85**	**83**	*e*PN	**Pn**	**00 57 38.1**	**+0.6**
CLDR	**Caldiran**	**2.85**	**83**	*e*Pn	**Pn**	**00 57 38.1**	**+0.6**
KMRS	**Kahramanmaras**	**2.98**	**244**	*e*PN	**Pn**	**00 57 40.5**	**+1.4**
KMRS	**Kahramanmaras**	**2.98**	**244**	*e*Pn	**Pn**	**00 57 40.5**	**+1.4**
HAKT	**HAKKARI**	**2.99**	**114**	*i* P	**Pn**	**00 57 40.1**	**+0.6**
HAKT	**HAKKARI**	**2.99**	**114**	*i* P	**Pn**	**00 57 40.1**	**+0.6**
HAKT				*i* S	**Sg**	**00 58 26.2**	**-1.4**
HKR	**Hakkari**	**3.01**	**114**	*e*PN	**Pn**	**00 57 40.0**	**+0.4**
HKR	**Hakkari**	**3.01**	**114**	*e*Pn	**Pn**	**00 57 40.0**	**+0.4**
PINB	**Pinarbasi**	**3.03**	**268**	*i* P	**Pb**	**00 57 46.7**	**+0.7**
HCB	**Kahramanmara¯**	**3.05**	**242**	*i* P	**Pn**	**00 57 39.5**	**-0.6**
HCB				*i* S	**Sg**	**00 58 28.9**	**-0.6**
CUKT	**Cukurca**	**3.07**	**120**	*e*PN	**Pn**	**00 57 41.3**	**+0.8**
CUKT	**Cukurca**	**3.07**	**120**	*e*Pn	**Pn**	**00 57 41.3**	**+0.8**
KUZU	**Kuzuini**	**3.27**	**232**	*i* P	**Pn**	**00 57 44.1**	**+0.9**
KUZU	**Kuzuini**	**3.27**	**232**	*i* P	**Pn**	**00 57 44.1**	**+0.9**
KUZU				*i* S	**Sg**	**00 58 35.3**	**-1.3**
KAMA	**Osmaniye**	**3.30**	**241**	*i* P	**Pg**	**00 57 55.7**	**+1.0**
KAMA				*i* S	**Sg**	**00 58 40.6**	**+3.1**
ANDN	**Andirin**	**3.34**	**249**	*i* P	**Pg**	**00 57 54.9**	**-0.8**
ANDN				*i* S	**Sg**	**00 58 43.0**	**+4.0**

IDC ***21*** *01:05:45.2±0.6,20.40S×173.92W,h0km,mb4.7/17, mb1 4.8/18,mb1mx4.6/31,mbtmp4.7/18,ML4.8/1,MS4.0/18, Ms1 4.0/18,ms1mx3.9/28,Error ellipse: s-maj=21.5km s-min=16.0km az=136.0*
BJI ***21*** *01:05:46.2,20.11S×173.95W,h9km,mb5.3/31,mB5.3/19, Ms5.0/12,Ms7 4.5/13*
ISCJB ***21*** *01:05:49.6±0.2,20.18S±0.06×173.96W±0.04,h33km, mb5.0/76,MS4.0/16,Error ellipse: s-maj=8.9km s-min=5.0km az=161.5*
SZGRF ***21*** *01:05:49.2,20.63S×171.85W,h33km,Tonga Islands region*
NEIC ***21*** *01:05:53.0±2.6,20.20S×174.01W,h52km±22km,mb5.0/54, Error ellipse: s-maj=8.6km s-min=7.2km az=149.0*
MOS ***21*** *01:05:56.0±3.2,19.93S×174.40W,h58km,mb5.1/15, Error ellipse: s-maj=11.7km s-min=11.1km az=62.1*
ISC 21 01:05:52.4±0.7,**20.33S**±0.08×**173.87W**±0.07,**h46**km±6km, **n405**,σ1§**02**/421,**mb4.9**/76,**MS4.1**/17,**50C-30D**,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.69**	**18**	*e*P	Pn	01 07 19.9	-8.3
AFI	**Afiamalu**	**6.69**	**18**	*e*Pn	Pn	01 07 19.9	-8.3
AFI				*e*Sn	Sn	01 08 27.1	-16
MSVF	**Nonsavu**	**8.06**	**287**	Pn	Pn	01 07 51.3	+4.2
	1µm,0.8s,SNR=13						
MSVF	**Nonsavu**	**8.06**	**287**	*e*P	Pn	01 07 51.0	+3.9
MSVF				pmax	pmax		
	comp=Z,132nm,0.8s						
MSVF	**Nonsavu**	**8.06**	**287**	*e*Pn	Pn	01 07 51.0	+3.9
	comp=Z,132nm,0.8s						
RAO	**Raoul Island**	**9.62**	**202**	LR	LR	01 11 57.6	
	comp=Z,1µm,18.4s,baz=240,slow=39						
DZM	**Mont Dzumac**	**18.44**	**261**	P	**Pn**	**01 10 05.2**	**+0.4**
	comp=Z,1.4nm,0.3s,baz=90,slow=23,SNR=12						
DZM				LR	LR	01 16 24.7	
	comp=Z,864nm,19.0s,baz=180,slow=35						
URZ	**Urewera**	**19.51**	**202**	P	**P**	**01 10 14.0**	**-1.7**
	comp=Z,3.0nm,0.3s,baz=24,slow=0.6,SNR=12						
URZ				S	S	01 13 41.6	-12
	comp=Z,0.7nm,0.3s,baz=306,slow=19,SNR=2.9						
URZ	**Urewera**	**19.51**	**202**	*e*P	**P**	**01 10 16.7**	**+1.0**
	comp=Z,373nm,2.0s						
URZ				S	S	01 13 41.6	-12
TBI	**Tubuai**	**22.85**	**102**	*e*LR	LR	01 16 19.2	
	comp=Z,663nm,26.8s,baz=266						
PAE	**Paea**	**23.12**	**88**	*e*T	T	01 34 59.4	
	comp=Z,1.9nm,0.3s						
PPT2	**Papeete2**	**23.13**	**87**	*e*LR	LR	01 16 20.9	
	comp=Z,729nm,25.8s,baz=249						
PPT	**Papeete**	**23.14**	**87**	LR	LR	01 17 26.1	
	comp=Z,258nm,20.0s,baz=275,slow=30						
MEH	**Mehetia**	**24.50**	**89**	*e*T	T	01 36 43.3	
	comp=Z,19nm,0.2s						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**26.51**	**205**	P	**P**	**01 11 27.7**	**+2.1**
	comp=Z,4.7nm,0.4s,baz=71,slow=4.5,SNR=6.1						
RPZ	**Rata Peaks**	**26.51**	**205**	*e*P	**P**	**01 11 26.2**	**+0.7**
	comp=Z,26nm,0.8s						
RKT	**Rikitea**	**36.17**	**102**	*e*LR	LR	01 22 28.6	
	comp=Z,437nm,26.2s						
RKT	**Rikitea**	**36.17**	**102**	*e*T	T	01 51 23.0	
	comp=Z,2.0nm,0.3s						
CTA	**Charters Tower**	**37.36**	**263**	P	**P**	**01 12 59.4**	**-1.5**
	comp=Z,1.1nm,0.4s,baz=88,slow=10,SNR=31						
CTAO	**Charters Tower**	**37.36**	**263**	*e*P	**P**	**01 12 58.8**	**-2.1**
CTAO				pmax	pmax		
	comp=Z,10.0nm,0.4s						
CTAO	**Charters Tower**	**37.36**	**263**	*e*P	**P**	**01 12 58.8**	**-2.1**
	comp=Z,10nm,0.4s						
PMG	**Port Moresby**	**39.10**	**280**	*e*P	**P**	**01 13 13.7**	**-1.9**
PMG				pmax	pmax		
	comp=Z,42nm,1.1s						
PMG	**Port Moresby**	**39.10**	**280**	*e*P	**P**	**01 13 13.7**	**-1.9**
	comp=Z,42nm,1.1s						
STKA	**Stephens Creek**	**41.35**	**245**	P	**P**	**01 13 33.1**	**-1.0**
	comp=Z,4.8nm,0.5s,baz=93,slow=9.7,SNR=18						
STKA				LR	LR	01 29 43.8	
	comp=Z,196nm,18.8s,baz=49,slow=35						
STKA	**Stephens Creek**	**41.35**	**245**	*e*P	**P**	**01 13 32.8**	**-1.2**
STKA	**Stephens Creek**	**41.35**	**245**	*e*P	**P**	**01 13 32.8**	**-1.2**
	comp=Z,1.3nm,0.8s						
COEN	**Coen**	**41.44**	**272**	*e*P	**P**	**01 13 32.8**	**-2.2**
JAY	**Jayapura**	**47.69**	**286**	P	**P**	**01 14 23.2**	**-1.7**
	comp=Z,47nm,0.4s,comp=Z,12µm						
JAY	**Jayapura**	**47.69**	**286**	LR	LR	01 34 32.9	
	comp=Z,133nm,18.1s,baz=296,slow=36						
AS31	**Alice Springs**	**48.32**	**256**	*e*P	**P**	**01 14 26.6**	**-3.1**
AS31				*e*PcP	**PcP**	**01 15 55.5**	**-0.5**
ASAR	**Alice Springs**	**48.32**	**256**	P	**P**	**01 14 27.1**	**-2.5**
	comp=Z,6.7nm,0.6s,baz=100,slow=7.8,SNR=47						
ASAR				PcP	**PcP**	**01 15 56.4**	**+0.4**
	comp=Z,3.8nm,0.7s,baz=100,slow=4.4,SNR=8.6						
ASAR				LR	LR	01 34 31.5	
	comp=Z,222nm,18.4s,baz=102,slow=36						
WRAB	**Tennant Creek**	**48.45**	**261**	P	**P**	**01 14 28.0**	**-2.6**
	comp=Z,73nm,0.7s,SNR=11						

TUC Tucson 79.86 50 eP P 01 17 55.8 -0.7
comp=Z,6.0nm,1.0s
R11A Troy Canyon, C 79.95 43 P P 01 17 56.4 -0.5
comp=Z,5.6nm,1.0s
baz=80
KASI Kota Agung 80.27 268 P P 01 17 59.0 0.0
319A Douglas 80.47 52 P P 01 18 00.1 +0.2
baz=81
X16A Lo Mia Camp, P 80.51 48 P P 01 18 00.6 +0.5
baz=81
WVOR Wild Horse Val 80.56 38 eP P 01 17 59.1 -0.9
WVOR pmax pmax
comp=Z,3.0nm,0.9s
WVOR Wild Horse Val 80.56 38 eP P 01 17 59.1 -0.9
comp=Z,3.4nm,0.9s
MDSI Maura Dua 80.92 269 P P 01 18 01.7 -0.8
U15A North Rim 81.02 46 P P 01 18 03.4 +0.5
baz=81
USRK Ussuriysk Ar. 81.05 324 P P 01 18 02.6 +0.2
comp=Z,3.0nm,0.6s,baz=125,slow=3.8,SNR=21
USRK LR LR 01 49 52.7
comp=Z,163nm,20.0s,baz=134,slow=33
WUAZ Wupatki 81.15 47 P P 01 18 03.8 +0.3
baz=81
MNAI Manna 82.11 268 eP P 01 18 08.1 -0.7
comp=Z,151nm,1.1s
121A Cookes Peak, D 82.15 51 P P 01 18 09.6 +0.8
baz=82
MSU Marysvale 82.24 44 eP P 01 18 09.6 +0.4
MSU pmax pmax
comp=Z,5.0nm,1.1s
MSU Marysvale 82.24 44 eP P 01 18 09.6 +0.4
comp=Z,5.0nm,1.1s
MDJ Mudanjiang 82.65 323 P P 01 18 11.4 +0.5
MDJ pP PcP 01 18 14.4 -1.3
MDJ sP sP 01 18 16.1 -13
MDJ PP PP 01 21 22.1 +0.7
MDJ S SKKSac 01 28 32.9 +0.7
MDJ PMZ
comp=Z,19nm,0.8s
MDJ PMZ
comp=Z,61nm,3.5s
MDJ LN
comp=Z,28nm,28.0s
MDJ LE
comp=Z,53nm,28.0s
MDJ LZ
comp=Z,81nm,24.2s
NJ2 Nanjing 82.79 308 eP P 01 18 10.3 -1.6
NJ2 PMZ
comp=Z,30nm,0.6s
MAW Mawson 83.01 199 P P 01 18 14.4 +2.1
comp=Z,5.9nm,0.9s,baz=99,slow=7.0,SNR=7.8
MAW LR LR 01 54 34.5
comp=Z,166nm,18.3s,baz=56,slow=35
MAW Mawson 83.01 199 eP P 01 18 14.5 +2.1
MAW pmax pmax
comp=Z,2.0nm,1.1s
MAW Mawson 83.01 199 eP P 01 18 14.5 +2.1
comp=Z,2.4nm,1.1s
MNTX Cornudas Mount 83.53 53 eP P 01 18 16.2 +0.5
comp=Z,32nm,2.3s
MNTX Cornudas Mount 83.53 53 P P 01 18 15.8 +0.1
baz=84
SRU San Rafael Swe 83.65 44 eP P 01 18 17.1 +0.7
SRU pmax pmax
comp=Z,9.0nm,1.2s
SRU San Rafael Swe 83.65 44 eP P 01 18 17.1 +0.7
comp=Z,8.5nm,1.2s
HLID Hailey 83.71 39 eP P 01 18 16.1 -0.5
comp=Z,3.0nm,0.8s
HLID Hailey 83.71 39 P P 01 18 17.0 +0.4
baz=84
TXAR Lajitas Array 83.73 56 P P 01 18 17.3 +0.3
comp=Z,1.6nm,0.9s,baz=214,slow=8.7,SNR=12
MVCO Mesa Verde 84.01 47 eP P 01 18 19.2 +0.8
comp=Z,3.7nm,0.8s
MVCO Mesa Verde 84.01 47 P P 01 18 19.1 +0.8
baz=84
ANMO Albuquerque 84.31 50 eP P 01 18 19.4 -0.5
ANMO pmax pmax
comp=Z,7.0nm,1.2s
ANMO Albuquerque 84.31 50 eP P 01 18 19.4 -0.5
comp=Z,7.4nm,1.2s
QIZ Qiongzhong 84.34 293 P P 01 18 18.6 -1.5
PV04 Paradox Valley 84.35 46 eP P 01 18 20.9 +0.9
KLR Kul'dur 84.40 328 eP P 01 18 16.2 -3.5
PV01 Paradox Valley 84.44 46 eP P 01 18 18.4 -2.2
CN2 Changchun 84.57 321 eP P 01 18 20.6 -0.1
PPLA Purkeypile 84.69 10 eP P 01 18 21.1 +0.1
comp=Z,12nm,1.1s
CAST Castle Rocks 85.20 10 eP P 01 18 22.1 -1.3
comp=Z,8.4nm,1.3s
529A Stev Forest Ra 85.21 56 P P 01 18 24.3 0.0
baz=85
S22A 4UR Ranch, Cre 85.43 47 P P 01 18 25.9 +0.3
baz=86
KTH Kantishna Hill 85.52 10 eP P 01 18 24.1 -1.0
comp=Z,15nm,1.4s
TRF Thorofare Moun 85.53 10 eP P 01 18 24.4 -0.8
comp=Z,14nm,0.9s
429A Davenport Ranc 85.68 55 P P 01 18 26.5 -0.2
baz=86
O20A White River Ci 85.69 44 P P 01 18 26.9 +0.2
baz=86
228A UT Block 9, Go 85.82 54 P P 01 18 27.8 +0.5
baz=86
530A J-C Ranch, Com 85.90 56 P P 01 18 28.0 +0.2
baz=86
MCK McKinley 86.02 11 eP P 01 18 26.6 -0.9
MCK pmax pmax
comp=Z,24nm,1.0s
MCK McKinley 86.02 11 eP P 01 18 26.6 -0.9
comp=Z,24nm,1.0s
TIA Tai'an 86.05 311 ⇑P P 01 18 28.9 +0.6
TIA PMZ
comp=Z,30nm,0.9s
128A Castleberry Fa 86.13 53 P P 01 18 29.1 +0.2
baz=86
832A Faith Ranch, C 86.17 58 P P 01 18 28.4 -0.7
baz=86
PDAR Pinedale Array 86.22 42 P P 01 18 28.6 -0.7
comp=Z,0.8nm,0.7s,baz=228,slow=1.8,SNR=6.0
PDAR LR LR 01 57 03.1
comp=Z,88nm,18.1s,baz=176,slow=36
SDCO Great Sand Dun 86.35 48 P P 01 18 29.6 -0.5
baz=86
MSTX Muleshoe 86.53 52 eP P 01 18 31.1 +0.2
comp=Z,91nm,2.3s
MSTX Muleshoe 86.53 52 P P 01 18 30.8 -0.1
baz=87
531A Rocksprings 86.53 56 P P 01 18 30.9 +0.1
baz=87
PLCA Paso Flores 86.55 132 LR LR 01 51 08.2
comp=Z,64nm,18.1s,baz=257,slow=32
O22A Kremmling 86.82 45 P P 01 18 31.7 -0.7
baz=87
632A Uvalde 86.84 57 P P 01 18 32.0 -0.4
baz=87
DOT Dot Lake 86.88 13 eP P 01 18 30.9 -0.9
comp=Z,7.8nm,0.9s
IPM Ipoh 86.96 276 eP P 01 18 34.2 +0.9
comp=Z,36nm,0.8s
532A Rocksprings 87.01 56 P P 01 18 33.0 -0.2
baz=87
SEY Seymchan 87.14 345 P P 01 18 32.3 -0.7
comp=Z,9.6nm,0.9s,baz=150,slow=5.7,SNR=24
N22A Wattenberg Ran 87.20 45 P P 01 18 34.1 0.0
baz=87
834A Tilden 87.24 59 P P 01 18 33.5 -0.8
baz=87
COLA College 87.26 11 eP P 01 18 33.2 -0.3
COLA pmax pmax
comp=Z,28nm,1.0s
COLA College 87.26 11 eP P 01 18 33.1 -0.3
comp=Z,28nm,1.0s
633A Saathoff Ranch 87.30 57 P P 01 18 34.0 -0.6
baz=88
ILAR Eielson Array 87.34 11 P P 01 18 33.0 -0.9
comp=Z,1.9nm,0.9s,baz=219,slow=5.3,SNR=15
ILAR LR LR 01 51 38.0
comp=Z,43nm,20.0s,baz=180,slow=32
IM04 Indian Mountai 87.37 8 eP P 01 18 33.9 -0.2
Z30A Sanderson Ranc 87.44 53 P P 01 18 34.9 -0.3
baz=88
231A Bronte 87.47 55 P P 01 18 35.0 -0.4
baz=88

KULM Kulim 87.59 276 eP P 01 18 36.7 +0.4
comp=Z,18nm,0.8s
332A Millersview 87.67 55 P P 01 18 36.2 -0.1
baz=88
433A Art 87.91 56 P P 01 18 37.1 -0.4
baz=88
232A Coleman 87.97 55 P P 01 18 37.7 0.0
baz=88
VNA3 Neumayer Olymp 88.02 175 P P 01 18 39.0 +1.7
SNAA Sanae 88.03 177 P P 01 18 36.3 -1.2
SNAA Sanae 88.03 177 eP P 01 18 35.8 -1.7
SNAA pmax pmax
comp=Z,6.0nm,1.0s
SNAA Sanae 88.03 177 eP P 01 18 35.8 -1.7
comp=Z,5.6nm,1.0s
534A Blanco 88.09 57 P P 01 18 38.3 0.0
baz=88
Z31A Sharp Cattle R 88.20 54 P P 01 18 38.4 -0.5
baz=88
333A Richland Sprin 88.24 56 P P 01 18 38.9 -0.2
baz=88
SKLT Songkhla 88.28 278 P P 01 18 41.9 +2.3
comp=Z,37nm,1.0s
J22A Midwest 88.49 42 P P 01 18 40.0 -0.1
baz=89
EGAK Eagle 88.49 13 eP P 01 18 39.6 +0.2
comp=Z,6.5nm,0.9s
VNA2 Neumayer-Watz 88.50 176 P P 01 18 41.2 +1.6
baz=198,slow=3.9
Z32A Haskell 88.70 54 P P 01 18 41.1 0.0
baz=89
SKNT Sakolnakorn 88.71 289 P P 01 18 42.2 +0.7
comp=Z,28nm,0.7s
334A Lometa 88.82 56 P P 01 18 40.7 -1.1
baz=89
C19A Slack Wire Ran 89.16 38 P P 01 18 42.9 -0.1
baz=89
ENH Enshi 89.18 303 eP P 01 18 44.3 +0.8
comp=Z,8.0nm,0.7s
BILL Bilibino 89.31 353 ⇓iP P 01 18 42.7 -0.5
BILL pmax pmax
comp=Z,11nm,2.0s
BILL Bilibino 89.31 353 eP P 01 18 42.9 -0.3
comp=Z,4.1nm,0.7s
GYA Guiyang 89.95 298 P P 01 18 47.0 -0.3
GYA PP PP 01 22 21.8 +0.8
GYA SKS SKSac 01 29 16.0 +1.1
GYA S S 01 29 37.4 +0.4
GYA SS SS 01 35 38.3 +2.0
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,5.2s
GYA LN
comp=Z,530nm,20.4s
GYA LE
comp=Z,490nm,21.0s
GYA LZ
comp=Z,550nm,20.5s
PATY Pattaya 90.07 284 P P 01 18 50.9 +3.0
comp=Z,12nm,0.8s
SURT Suratani 90.59 279 P P 01 18 53.7 +3.3
comp=Z,7.0nm,1.1s
XAN Xi'an 91.14 306 P P 01 18 53.4 +0.8
XAN PMZ
comp=Z,4.0nm,0.8s
LCO Las Campanas 91.19 121 eP P 01 18 53.9 +0.5
PBKT Sadao Pong 91.26 287 P P 01 18 54.9 +1.5
comp=Z,15nm,1.1s
HHC Hu-ho-hao-te 92.03 313 eP P 01 18 56.5 -0.2
HHC PP PP 01 22 38.8 +1.7
HHC S S 01 29 55.3 -0.1
HHC sS ScS 01 30 03.3 +5.6
HHC SS SS 01 36 07.3 +1.6
HHC PMZ
comp=Z,10.0nm,0.6s
HHC PMZ
comp=Z,86nm,6.2s
HHC LN
comp=Z,180nm,18.5s
HHC LE
comp=Z,130nm,21.0s
HHC LZ
comp=Z,160nm,21.5s
UTTA Uttaradit 92.04 288 P P 01 18 58.5 +1.5
comp=Z,4.6nm,0.9s
NANT Nan 92.28 289 P P 01 18 59.0 +0.9
comp=Z,36nm,1.1s
JTS JuntasAbangare 92.51 80 eP P 01 19 00.1 +0.8
JTS pmax pmax
comp=Z,38nm,1.3s
JTS JuntasAbangare 92.51 80 eP P 01 19 00.1 +0.8
comp=Z,38nm,1.3s
KMI Kunming 92.74 296 P P 01 19 02.1 +1.7
KMI PMZ
comp=Z,10.0nm,0.5s
KMI LZ
comp=Z,120nm,19.9s
LAMP Lampang 93.13 288 P P 01 19 04.2 +2.1
comp=Z,7.9nm,0.8s
INK Inuvik 93.13 14 eP P 01 19 00.5 -0.4
INK pmax pmax
comp=Z,4.0nm,0.9s
INK Inuvik 93.13 14 eP P 01 19 00.5 -0.4
comp=Z,3.7nm,0.9s
CMAR Chiang Mai Arr 93.72 288 P P 01 19 06.3 +1.5
comp=Z,7.2nm,0.8s,baz=110,slow=3.0,SNR=30
CMAR LR LR 01 58 45.4
comp=Z,33nm,20.4s,baz=120,slow=34
CMMT Chiang Mai 93.84 289 P P 01 19 07.2 +1.8
CHTO Chiang Mai 93.84 289 P P 01 19 07.2 +1.8
comp=Z,50nm,1.0s
CHTO Chiang Mai 93.84 289 eP P 01 19 06.8 +1.4
CHTO pmax pmax
comp=Z,8.0nm,0.9s
CHTO Chiang Mai 93.84 289 eP P 01 19 06.8 +1.4
comp=Z,8.2nm,0.9s
CD2 Chengdu 93.98 301 eP P 01 19 05.0 -0.8
CD2 pP PcP 01 19 09.8 +3.6
CD2 sP sP 01 19 12.0 -13
CD2 SKS SKSac 01 29 38.3 +1.1
CD2 S S 01 30 12.1 -0.8
CD2 sS ScS 01 30 19.8 +5.5
CD2 SS SS 01 36 35.1 +1.2
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.4s
ECSD EROS Data Cent 95.04 45 eP P 01 19 08.8 -1.5
comp=Z,6.7nm,1.3s
OTAV Otavalo 95.17 92 eP P 01 19 10.8 -1.3
comp=Z,2.7nm,0.9s
LVC Limon Verde 95.27 116 eP P 01 19 13.4 +1.2
comp=Z,4.2nm,0.8s
SONM Songino Array 98.19 318 P P 01 19 23.9 -0.8
comp=Z,0.8nm,0.8s,baz=116,slow=4.4,SNR=6.2
LPAZ La Paz 98.53 111 LR LR 01 56 06.5
comp=Z,60nm,20.3s,baz=291,slow=31
ZALV Zalesovo Beam 112.79 321 PKiKP PKiKP 01 24 22.7 -1.1
comp=Z,1.0nm,0.6s,baz=61,slow=1.1,SNR=5.1
MK31 Makanchi Array 113.90 313 ePKiKP PKiKP 01 24 25.3 -0.9
MK31 Makanchi Array 113.90 313 ePKP PKiKP 01 24 25.3 -0.9
KURK Kurchatov 116.49 317 ePKiKP PKPdf 01 24 30.1 -0.9
KURK Kurchatov 116.49 317 ePKPdf PKPdf 01 24 30.1 -0.9
KSH Kashi 117.97 305 ePKP PKPdf 01 24 34.8 +0.4
KSH PP PP 01 25 52.3 +2.9
KSH PKS PKSdf 01 28 10.3 -0.9
KSH SKKS 01 32 44.4
KSH SS SS 01 42 00.8 +0.2
KSH PPMZ
comp=Z,84nm,4.9s
KSH LN
comp=Z,65nm,5.1s
KSH LE
comp=Z,72nm,3.9s
KSH LZ
comp=Z,110nm,4.7s
TKM2 Tokmak 2 118.43 309 ePKiKP PKPdf 01 24 34.6 -0.7
TKM2 Tokmak 2 118.43 309 ePKPdf PKPdf 01 24 34.6 -0.7
EKS2 Erkin-Say 119.76 308 ePKiKP PKPdf 01 24 37.7 -0.1
EKS2 Erkin-Say 119.76 308 ePKPdf PKPdf 01 24 37.7 -0.1
BRVK Borovoye 121.48 320 ePKiKP PKPdf 01 24 40.0 -0.6
BRVK Borovoye 121.48 320 ePKPdf PKPdf 01 24 40.0 -0.6
KBL Kabul 123.21 299 ePKiKP PKPdf 01 24 44.7 0.0
KBL Kabul 123.21 299 ePKPdf PKPdf 01 24 44.7 0.0
ARU Arti 127.23 326 i PKiKP PKPdf 01 24 50.8 -0.6

ARU 01 26 47.1
ARU 01 31 55.5
ARU SS SS 01 43 47.2 -9.4
ARU Arti 127.23 326 ePKPdf PKPdf 01 24 51.4 0.0
ABKAR Akbulak array 128.60 317 ePKPdf PKPdf 01 24 54.1 -0.2
ARCES ARCESS Array B 129.39 351 PKP PKPdf 01 24 54.8 -0.5
comp=Z,1.7nm,0.8s,baz=41,slow=1.1,SNR=14
LBTB Lobatse 131.12 204 ePKiKP PKPdf 01 25 00.5 +0.4
LBTB Lobatse 131.12 204 ePKPdf PKPdf 01 25 00.5 +0.4
FINES FINESS Array B 136.61 346 PKP PKPdf 01 25 09.2 +0.2
comp=Z,1.6nm,0.7s,baz=42,slow=3.1,SNR=9.0
OBN Obninsk 138.38 334 ePKiKP PKPdf 01 25 14.8 +2.4
OBN pmax pmax
comp=Z,3.0nm,0.9s
TSUM Tsumeb 139.14 197 ePKPdf PKPdf 01 25 14.7 -0.5
GOF Gofitskoye 140.84 318 ePKiKP PKPdf 01 25 26.4 +9.1
KIV Kislovodsk 141.56 316 ePKiKP PKPdf 01 25 20.8 +2.1
KIV pmax pmax
comp=Z,3.0nm,1.0s
GNI Garni 141.62 310 ePKiKP PKPdf 01 25 18.7 -0.4
GNI Garni 141.62 310 ePKPdf PKPdf 01 25 18.7 -0.4
KMBO Kilima Mbogo 142.80 239 PKP PKPdf 01 25 19.0 -3.1
comp=Z,1.3nm,0.5s,baz=29,slow=19,SNR=2.7
KMBO Kilima Mbogo 142.80 239 ePKiKP PKPdf 01 25 21.7 -0.3
KMBO Kilima Mbogo 142.80 239 ePKPdf PKPdf 01 25 21.7 -0.3
SUW Suwalki 143.93 343 ePKP PKPab 01 25 18.1 -1.6
ESK Eskdalemuir 144.36 9 ePKPdf PKPab 01 25 21.0 -0.3
AKASG Malin Array Be 144.63 334 PKP PKPab 01 25 21.8 -0.7
comp=Z,8.6nm,0.7s,baz=41,slow=4.3,SNR=59
AKBB Malin Array Si 144.63 334 ePKPdf PKPab 01 25 21.6 -0.8
BSD Bornholm Skovb 144.64 351 ⇓iP PKPab 01 25 22.1 -0.2
comp=Z,7.7nm,0.8s
KIEV Kiev 144.65 334 ePKPdf PKPab 01 25 21.9 -0.6
AK01 Malin Array Si 144.65 334 ePKPdf PKPab 01 25 21.6 -1.0
AK02 Malin Array Si 144.68 334 ePKPdf PKPab 01 25 21.8 -0.8
ASCN Ascension 145.43 142 ePKPbc PKPab 01 25 27.1 +0.6
DSB Dublin 145.75 13 ePKPbc PKPab 01 25 25.7 +0.1
GKP Gorka Klasztor 146.02 348 ePKP PKPbc 01 25 27.0 +0.1
GKP Gorka Klasztor 146.02 348 ePKIKP PKPbc 01 25 27.0 +0.1
SIM Simferopol' 146.27 323 cePKP2 PKPab 01 25 28.4 -0.4
BSEG Bad Segeberg 146.30 356 ePKPbc PKPbc 01 25 27.9 +0.2
BEL Belsk 146.53 343 ePKP PKPbc 01 25 27.8 -0.7
BEL Belsk 146.53 343 ePKIKP PKPbc 01 25 27.8 -0.7
MALT Malatya 146.85 310 ⇑PKP2 PKPab 01 25 30.9 -0.5
MALT Malatya 146.85 310 ⇑iP PKPab 01 25 30.9 -0.5
LVV L'vov 147.30 338 i PKIKP PKPbc 01 25 30.6 -0.2
RUE Ruedersdorf 147.36 351 ePKPbc PKPbc 01 25 30.9 +0.1
NRDL Niedersach Rie 147.74 355 ePKPbc PKPbc 01 25 32.0 +0.2
KWP Kalwaria Pacla 147.91 340 ePKP PKPbc 01 25 32.6 +0.1
KWP Kalwaria Pacla 147.91 340 ePKP2 PKPbc 01 25 32.6 +0.1
IBBN Ibbenburen 148.06 358 ePKPbc PKPbc 01 25 32.8 +0.1
OJC Ojcow 148.26 343 ePKP PKPbc 01 25 33.4 +0.1
OJC Ojcow 148.26 343 ePKIKP PKPbc 01 25 33.5 +0.1
OJC Ojcow 148.26 343 ePKPab PKPbc 01 25 33.5 +0.2
LEOM Leova 148.26 330 ⇓PKP2 PKPbc 01 25 33.7 +0.3
LEOM Leova 148.26 330 ⇓iP PKPbc 01 25 33.7 +0.3
CLZ Clausthal 148.37 355 ePKPbc PKPbc 01 25 34.0 +0.4
KSP Ksiaz 148.51 348 ePKP PKPbc 01 25 34.5 +0.6
KSP Ksiaz 148.51 348 ePKP2 PKPbc 01 25 34.6 +0.6
STHS Stebnicka Huta 148.56 341 ePKP2 PKPbc 01 25 34.5 +0.3
STHS Stebnicka Huta 148.56 341 ePKP PKPbc 01 25 34.5 +0.3
CLL Collm 148.61 352 ePKPbc PKPbc 01 25 34.4 +0.2
CLL Collm 148.61 352 ⇑iPKPbc PKPbc 01 25 34.4 +0.2
comp=Z,15nm,0.9s
CLL iPKPab PKPab 01 25 37.5 -0.3
comp=Z,15nm,0.7s
CLL esPKPbc sPKPbc 01 25 54.0 +0.7
CLL L L 02 29 00.0
comp=Z,100nm,20.2s
CLL Collm 148.61 352 ⇑iPKIKP PKPbc 01 25 34.4 +0.2
CLL i 01 25 37.5
CLL pmax pmax
comp=Z,15nm,0.9s
CLL Collm 148.61 352 ePKPdf PKPbc 01 25 34.0 -0.2
KOLS Kolonicke sedl 148.66 339 ePKP2 PKPbc 01 25 35.0 +0.6
KOLS Kolonicke sedl 148.66 339 ePKP PKPbc 01 25 35.0 +0.6
BUR08 Bucovina Ar. S 148.67 335 ePKPbc PKPbc 01 25 34.9 +0.3
BURAR Bucovina Array 148.69 335 ⇑PKP2 PKPbc 01 25 36.2 +1.5
BURAR Bucovina Array 148.69 335 ⇑iP PKPbc 01 25 36.2 +1.5
NEUB Neuenburg 148.86 353 ePKPbc PKPbc 01 25 35.2 +0.4
UPC Upice 148.88 348 ePKP PKPbc 01 25 35.4 +0.5
UPC ePKPAB PKPab 01 25 38.1 -0.8
UPC Upice 148.88 348 ePKP2 PKPbc 01 25 35.4 +0.5
BRG Berggiesshubel 148.90 350 i PKP PKPbc 01 25 35.3 +0.4
comp=Z,11nm,1.0s
BRG Berggiesshubel 148.90 350 ePKPbc PKPbc 01 25 35.4 +0.4
BRG Berggiesshubel 148.90 350 i PKIKP PKPbc 01 25 35.3 +0.4
BRG pmax pmax
comp=Z,11nm,1.0s
UZH Uzhgorod 148.91 339 ePKP2 PKPbc 01 25 35.4 +0.4
TLCR 148.92 328 ⇑PKP2 PKPbc 01 25 35.6 +0.4
TLCR 148.92 328 ⇑iP PKPbc 01 25 35.6 +0.4
FBE Freiberg 148.94 351 ePKPbc PKPbc 01 25 35.8 +0.7
TESR Tescani 148.96 332 ⇑iP PKPbc 01 25 35.6 +0.3
DPC Dobruska-Polom 148.97 347 ⇑ePKP PKPbc 01 25 35.6 +0.4
DPC ePKPAB PKPab 01 25 39.7 +0.4
DPC Dobruska-Polom 148.97 347 ePKP2 PKPbc 01 25 35.6 +0.4
OKC Ostrava-Krasne 149.04 345 ⇑ePKP PKPbc 01 25 35.3 0.0
OKC ePKPAB PKPab 01 25 40.0 +0.4
OKC epPKP pPKPdf 01 25 46.7 +1.3
OKC Ostrava-Krasne 149.04 345 ePKIKP PKPbc 01 25 35.3 0.0
OKC e 01 25 40.0
OKC e 01 25 46.7
PVCC Panska Ves 149.13 349 ⇑ePKP PKPbc 01 25 35.8 +0.2
PVCC ePKPAB PKPab 01 25 40.1 +0.2
PVCC Panska Ves 149.13 349 ePKIKP PKPbc 01 25 35.8 +0.2
PVCC e 01 25 40.0
TRPA Tarpa 149.26 338 ⇓iP PKPbc 01 25 36.0 +0.1
TRPA Tarpa 149.26 338 ⇑ePKPdf PKPbc 01 25 36.4 +0.5
CFR Carcaliu 149.26 329 ⇑PKIKP PKPbc 01 25 36.2 +0.2
CFR Carcaliu 149.26 329 ⇑iP PKPbc 01 25 36.2 +0.2
BMR Baia Mare 149.30 337 ⇑PKIKP PKPbc 01 25 36.3 +0.2
BMR Baia Mare 149.30 337 ⇑iP PKPbc 01 25 36.3 +0.2
VRI Vrincioaia 149.41 331 ⇓PKP2 PKPbc 01 25 36.7 +0.3
VRI Vrincioaia 149.41 331 ⇓iP PKPbc 01 25 36.7 +0.3
UBBA Unterbreizbach 149.42 355 ePKPbc PKPbc 01 25 36.4 +0.3
PLOR Plostina 149.46 331 ⇓PKIKP PKPbc 01 25 36.6 0.0
PLOR Plostina 149.46 331 ⇓iP PKPbc 01 25 36.6 0.0
BR131 Keskin Array S 149.51 315 ePKPbc PKPbc 01 25 36.5 -0.6
BR131 ePKPab PKPab 01 25 41.9 -0.2
PLN Plauen 149.53 352 ePKPbc PKPbc 01 25 36.9 +0.3
WERD Werda 149.55 352 ePKPbc PKPbc 01 25 37.0 +0.4
TANN Tannenbergstha 149.56 352 ePKPbc PKPbc 01 25 37.0 +0.3
PRA Prague 149.59 349 ⇑ePKP PKPbc 01 25 37.3 +0.6
PRA Prague 149.59 349 ePKIKP PKPbc 01 25 37.3 +0.6
GUNZ Gunzen 149.63 352 ePKPbc PKPbc 01 25 37.3 +0.5
TIRR Tirgusor 149.64 328 ⇑PKIKP PKPbc 01 25 37.1 +0.1
TIRR Tirgusor 149.64 328 ⇑iP PKPbc 01 25 37.0 +0.1
TIRR Tirgusor 149.64 328 ePKPdf PKPdf 01 25 31.8 -0.5
TIRR ePKPbc PKPbc 01 25 36.9 -0.1
PRU Pruhonice 149.66 349 ⇑ePKP PKPbc 01 25 37.0 +0.1
PRU ePKPAB PKPab 01 25 42.3 +0.2
PRU epPKP pPKPdf 01 25 49.8 +3.4
PRU AMS AMS 02 28 20.0
PRU Pruhonice 149.66 349 ePKIKP PKPbc 01 25 37.0 +0.1
PRU e 01 25 42.3
PRU e 01 25 49.8
GRER 149.67 330 ⇓iP PKPbc 01 25 36.1 -1.0
GOPC GO Pecny, Ondr 149.68 349 ⇑ePKP PKPbc 01 25 37.7 +0.7
WERN Wernitzgruen 149.69 352 ePKPbc PKPbc 01 25 37.4 +0.4
TLB Topalu 149.74 328 ⇓PKP2 PKPbc 01 25 37.7 +0.5
TLB Topalu 149.74 328 ⇓iP PKPbc 01 25 37.7 +0.5
MEM Membach 149.78 0 PKPab PKPab 01 25 41.7 -0.9
VRAC Vranov 149.90 346 ⇓PKP2 PKPab 01 25 43.5 +0.4
VRAC Vranov 149.90 346 ⇓iP PKPab 01 25 43.5 +0.4
DOPR Dopca 149.93 333 ⇑iP PKPbc 01 25 38.8 +1.1
BCLA Clavier 149.96 1 PKPab PKPab 01 25 43.0 -0.3
ANTO Ankara 149.99 316 ⇑iP PKPbc 01 25 38.5 +0.4
ANTO Ankara 149.99 316 ePKPbc PKPbc 01 25 38.0 -0.2
ANTO ePKPab PKPab 01 25 43.9 -0.1
MANR Mangalia 150.00 326 ⇑iP PKPbc 01 25 38.4 +0.5
MANZ Manzenberg 150.02 352 ePKPbc PKPbc 01 25 38.2 +0.4
MLR Muntele Rosu 150.05 331 ⇑iP PKPbc 01 25 37.9 -0.3
CJR Cluj-Napoca 150.06 336 ⇓PKP2 PKPbc 01 25 39.2 +1.2
CJR Cluj-Napoca 150.06 336 ⇓iP PKPbc 01 25 39.2 +1.2
ISR Istrita 150.06 330 ⇑iP PKPbc 01 25 38.5 +0.4
VYHS Vyhne 150.09 343 ePKP PKPbc 01 25 38.5 +0.5
TNS Taunus Mts 150.11 357 ePKPbc PKPbc 01 25 38.1 0.0
TREC Trest 150.14 348 ⇑ePKP PKPbc 01 25 38.7 +0.6
ROTZ Rotzenmuhle 150.23 352 ePKPbc PKPbc 01 25 38.7 +0.4
DOU Dourbes 150.27 2 PKPbc PKPbc 01 25 38.8 +0.5

DOU				APKPbc		01 25 51.4		
PSZ	**Piszkesteto**	**150.31 341**		*e*PKIKP	**PKPdf**	**01 25 33.2**	**-0.2**	
PSZ				*e*		01 25 38.4		
PSZ	**Piszkesteto**	**150.31 341**		⇓*i*P	**PKPbc**	**01 25 39.0**	**+0.4**	
PSZ	**Piszkesteto**	**150.31 341**		*e*PKPdf	**PKPdf**	**01 25 33.1**	**-0.2**	
PSZ				*e*PKPbc	**PKPbc**	**01 25 38.4**	**-0.2**	
PSZ	**Piszkesteto**	**150.31 341**	⇑	*e*PKPdf	**PKPbc**	**01 25 38.7**	**+0.1**	
DRGR		**150.33 337**	⇑	*i*P	**PKPbc**	**01 25 39.5**	**+0.8**	
GRFO	**Grafenberg**	**150.42 353**		*e*PKIKP	**PKPdf**	**01 25 33.0**	**-0.4**	
GRFO				*e*		01 25 37.9		
GRFO	**Grafenberg**	**150.42 353**		*e*PKPdf	**PKPdf**	**01 25 33.0**	**-0.4**	
GRFO				*e*PKPbc	**PKPbc**	**01 25 37.9**	**-0.8**	
VOIR		**150.49 332**	⇑	*i*P	**PKPbc**	**01 25 39.5**	**+0.3**	
SULR		**150.53 330**	⇑	*i*P	**PKPbc**	**01 25 39.9**	**+0.8**	
KHC	**Kasperske Hory**	**150.65 350**	⇑	*e*PKP	**PKPbc**	**01 25 39.7**	**+0.3**	
KHC				*e*PKPAB	**PKPab**	**01 25 46.3**	**+0.1**	
KHC				*e*pPKP	**pPKPdf**	**01 25 52.5**	**+4.5**	
KHC	**Kasperske Hory**	**150.65 350**		*e*PKIKP	**PKPbc**	**01 25 39.7**	**+0.3**	
KHC				*e*		01 25 46.3		
KHC				*e*		01 25 52.5		
ARR	**Arges**	**150.73 333**	⇓	*i*P	**PKPbc**	**01 25 40.7**	**+1.0**	
WET	**Wettzell**	**150.74 351**		*e*PKPbc	**PKPbc**	**01 25 39.7**	**+0.1**	
GEC2	**GERESS Array S**	**150.90 350**		*e*PKPbc	**PKPbc**	**01 25 40.3**	**+0.3**	
GERES	**GERESS Array B**	**150.90 350**		PKP	**PKPdf**	**01 25 34.4**	**+0.1**	
	comp=Z,0.1nm,0.3s,baz=40,slow=2.3,SNR=3.4							
GERES				PKPbc	**PKiKP**	**01 25 40.4**	**-0.2**	
	comp=Z,3.3nm,0.8s,baz=48,slow=2.0,SNR=28							
LOT	**Lotru**	**151.03 334**	⇑	*i*P	**PKPbc**	**01 25 39.9**	**-0.6**	
SIRR	**Siria**	**151.16 337**	⇓	*i*P	**PKPbc**	**01 25 41.2**	**+0.6**	
HUMR	**Humele**	**151.23 331**	⇑	*i*P	**PKPbc**	**01 25 41.1**	**+0.3**	
CSKK	**Cs˘tkako**	**151.28 343**	⇓	*e*PKPdf	**PKPbc**	**01 25 40.9**	**+0.1**	
CONA	**Conrad Observa**	**151.36 346**	⇑	*i*PKiKP	**PKiKP**	**01 25 41.5**	**-0.2**	
	comp=Z,11nm,0.7s							
SOP	**Sopron**	**151.43 345**	⇑	*e*PKPdf	**PKPbc**	**01 25 41.6**	**+0.4**	
GZR	**Gura Zlata**	**151.47 335**	⇓	PKIKP	**PKPbc**	**01 25 41.6**	**+0.2**	
GZR	**Gura Zlata**	**151.47 335**	⇓	*i*P	**PKPbc**	**01 25 41.6**	**+0.2**	
BZS	**Buzias**	**151.73 337**	⇑	PKIKP	**PKPbc**	**01 25 41.9**	**0.0**	
BZS	**Buzias**	**151.73 337**	⇑	*i*P	**PKPbc**	**01 25 41.9**	**0.0**	
MOA	**Molln**	**151.76 348**	⇓	*i*PKiKP	**PKiKP**	**01 25 42.4**	**0.0**	
	comp=Z,4.2nm,0.9s							
SRE	**Strehaia**	**151.90 334**	⇓	PKIKP	**PKPbc**	**01 25 42.4**	**+0.1**	
SRE	**Strehaia**	**151.90 334**	⇓	*i*P	**PKPbc**	**01 25 42.4**	**+0.1**	
FUR	**Furstenfeldbru**	**151.92 353**		*e*PKPbc	**PKPbc**	**01 25 42.4**	**+0.1**	
CSS	**Prodhromos**	**151.95 307**		*e*PKPab	**PKPab**	**01 25 52.2**	**0.0**	
BFO	**Black Forest**	**152.01 357**		*e*PKIKP	**PKPdf**	**01 25 35.1**	**-0.9**	
BFO				*e*		01 25 42.4		
BFO				*e*		01 25 51.3		
BFO	**Black Forest**	**152.01 357**		*e*PKPdf	**PKPdf**	**01 25 35.1**	**-0.9**	
BFO				*e*PKPbc	**PKPbc**	**01 25 42.4**	**-0.1**	
BFO				*e*PKPab	**PKPab**	**01 25 51.3**	**-0.6**	
BANR	**Banloc**	**152.11 337**	⇑	*i*P	**PKPbc**	**01 25 42.1**	**-0.7**	
RJOB	**Jochberg**	**152.13 350**		*e*PKPbc	**PKPbc**	**01 25 42.6**	**-0.2**	
ECH	**Echery**	**152.16 359**		*e*PKIKP	**PKPdf**	**01 25 35.4**	**-0.8**	
ECH				*e*		01 25 42.0		
ECH				*e*		01 25 52.0		
ECH	**Echery**	**152.16 359**		*e*PKPdf	**PKPdf**	**01 25 35.4**	**-0.8**	
ECH				*e*PKPbc	**PKPbc**	**01 25 42.0**	**-0.8**	
ECH				*e*PKPab	**PKPab**	**01 25 52.0**	**-0.5**	
PKSM	**Moragy**	**152.22 341**	⇓	PKIKP	**PKPbc**	**01 25 43.1**	**+0.1**	
PKSM	**Moragy**	**152.22 341**	⇓	*i*P	**PKPbc**	**01 25 43.1**	**+0.1**	
PKSM	**Moragy**	**152.22 341**	⇑	*e*PKPdf	**PKPbc**	**01 25 42.6**	**-0.4**	
KBA	**Koelnbreinsper**	**152.67 349**	⇑	*i*PKiKP	**PKPbc**	**01 25 43.5**	**-0.8**	
	comp=Z,4.5nm,0.6s							
SOKA	**Soboth**	**152.72 347**	⇑	*i*PKiKP	**PKPbc**	**01 25 43.5**	**-0.7**	
	comp=Z,4.6nm,0.8s							
WTTA	**Wattenberg**	**152.76 352**	⇑	*i*PKiKP	**PKPbc**	**01 25 44.4**	**0.0**	
	comp=Z,7.7nm,0.8s							
DAVA	**Damuels**	**152.93 354**	⇓	*i*PKiKP	**PKiKP**	**01 25 45.0**	**0.0**	
	comp=Z,6.4nm,0.8s							
FETA	**Feichten**	**153.11 353**	⇓	*i*PKiKP	**PKiKP**	**01 25 45.8**	**+0.5**	
	comp=Z,4.7nm,1.0s							
ABTA	**Abfaltersbach**	**153.13 350**	⇑	*i*PKiKP	**PKPbc**	**01 25 44.5**	**-0.6**	
	comp=Z,7.3nm,0.8s							
KDZ	**Kurdzhali**	**153.19 327**	⇑	*i*P	**PKPab**	**01 25 57.5**	**+0.4**	
VTS	**Vitosha**	**153.55 331**	⇓	*i*P	**PKPab**	**01 25 58.1**	**-0.7**	
DIVS	**Divibare**	**153.63 337**	⇑	*i*P	**PKPbc**	**01 25 46.5**	**+0.2**	
SENIN	**Lac Senin/Sane**	**154.01 358**		*e*PKPab	**PKPab**	**01 26 00.8**	**+0.1**	
BNI	**Bardonecchia**	**155.34 359**		*e*PKIKP	**PKPdf**	**01 25 41.1**	**+0.1**	
BNI				*e*		01 25 49.0		
BNI				*e*		01 26 06.0		
BNI	**Bardonecchia**	**155.34 359**		*e*PKPdf	**PKPdf**	**01 25 41.0**	**+0.1**	
BNI				*e*PKPbc	PKPbc	01 25 49.0		
BNI				*e*PKPab	**PKPab**	**01 26 06.0**	**-0.2**	
TIP	**Timpagrande**	**159.10 336**		*e*PKPab	**PKPab**	**01 26 21.9**	**-0.7**	
TORD	**Torodd Ar. Bea**	**171.69 149**		PKP	**PKPdf**	**01 25 55.6**	**-1.2**	
	comp=Z,0.8nm,0.8s,baz=346,slow=1.3,SNR=5.6							
TORD				PKPab	**PKPab**	**01 27 18.8**	**+0.4**	
	comp=Z,0.4nm,0.8s,baz=197,slow=4.8,SNR=2.4							
TAM	**Tamanrasset**	**177.48 13**		*e*PKIKP	**PKPdf**	**01 25 59.7**	**+1.0**	
TAM	**Tamanrasset**	**177.48 13**		*e*PKPdf	**PKPdf**	**01 25 59.7**	**+1.0**	

*ISCJB **21** 01:17:24.1±1.0, 11°.3S±0°.1×166°.1E±0°.2, h37km, mb4.0/8, Error ellipse: s-maj=27.5km s-min=15.3km az=9.6*
*IDC **21** 01:17:27.5±1.2, 11°.32S×166°.20E, h56km±7km, mb3.7/8, mb1 3.9/9, mb1mx3.6/38, mbtmp4.0/9, Error ellipse: s-maj=38.9km s-min=17.9km az=120.0*

ISC 21 01:17:26.9±1.0, **11°.3S**±0°.1×**166°.1E**±0°.2, **h37**km, **n9, σ2s19/15, mb4.0/8, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.74**	**178**	P		**Pn**		**01 19 59.1**	**+0.8**
	0.3nm,0.3s,baz=90,slow=20,SNR=5.2								
CTA	**Charters Tower**	**21.02**	**243**	P		**P**		**01 22 08.1**	**+0.5**
	3.9nm,0.7s,baz=86,slow=14,SNR=3.6								
STKA	**Stephens Creek**	**30.53**	**224**	P		**P**		**01 23 36.1**	**-0.7**
	2.6nm,0.9s,baz=45,slow=8.6,SNR=5.4								
WRA	**Warramunga Arr**	**31.75**	**250**	P		**P**		**01 23 47.0**	**-0.8**
	2.3nm,0.8s,baz=80,slow=9.1,SNR=17								
WRA				PcP		**PcP**		**01 26 37.0**	**-1.8**
	0.7nm,0.9s,baz=76,slow=3.9,SNR=5.2								
ASAR	**Alice Springs**	**33.02**	**244**	P		**P**		**01 23 57.2**	**-1.6**
	2.4nm,0.8s,baz=75,slow=9.5,SNR=26								
ASAR				pP		**pP**		**01 24 11.9**	**+2.5**
	2.2nm,0.8s,baz=74,slow=9.5,SNR=9.9								
ASAR				PcP		**PcP**		**01 26 39.8**	**-2.5**
	0.6nm,0.8s,baz=70,slow=3.3,SNR=5.8								
USRK	**Ussuriysk Ar.**	**63.31**	**333**	P		**P**		**01 27 51.4**	**-0.7**
	1.6nm,1.0s,baz=118,slow=7.3,SNR=4.5								
SONM	**Songino Array**	**79.06**	**324**	P		**P**		**01 29 27.0**	**-0.5**
	0.2nm,0.4s,baz=136,slow=6.2,SNR=3.7								
SONM				pP		**pP**		**01 29 43.0**	**+4.0**
	0.3nm,0.5s,baz=125,slow=5.7,SNR=2.7								
ILAR	**Eielson Array**	**83.61**	**18**	P		**P**		**01 29 49.1**	**-2.0**
	0.3nm,0.6s,baz=274,slow=5.1,SNR=5.1								
ILAR				pP		**pP**		**01 30 05.3**	**+2.7**
	0.3nm,0.6s,baz=227,slow=5.8,SNR=2.9								
MKAR	**Makanchi Array**	**93.94**	**317**	P		**P**		**01 30 39.6**	**-1.3**
	1.4nm,0.8s,baz=96,slow=3.7,SNR=8.8								
MKAR				pP		**pP**		**01 30 55.4**	**+2.8**
	0.5nm,0.5s,baz=93,slow=7.4,SNR=3.8								

MEX 21 01:20:00.8±0.7, **14°.81N×92°.88W, h77**km±10km, **MD3.7, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THIG		**0.60**	**81**	*i* P		Pn		01 20 13.7	-1.5
THIG				*e*S		Sn		01 20 24.4	-1.5
PCIG		**0.95**	**340**	*i* P		Pn		01 20 17.7	-1.3
PCIG				*e*S		Sn		01 20 30.7	-1.9
CCIG	**Comitan**	**1.63**	**26**	*e*P		Pn		01 20 26.3	-1.6
CCIG				*e*S		Sn		01 20 44.5	-3.9
CMIG	**Matias Romero**	**2.98**	**320**	*e*P		Pn		01 20 45.3	-0.5
HUIG	**Huatulco**	**3.26**	**287**	*e*P		Pn		01 20 46.9	-2.7

*SKHL **21** 02:21:54.4±0.4, 43°.36N×146°.31E, h50km±4km, mb4.8/2*
*JMA **21** 02:21:54.9±0.2, 43°.58N×146°.39E, h74km±2km, M3.1*
*ISCJB **21** 02:21:55.2±0.9, 43°.56N±0°.07×146°.37E±0°.07, h66km±8km, Error ellipse: s-maj=13.1km s-min=5.6km az=145.8*

ISC 21 02:21:56.2±1.6, **43°.55N**±0°.07×**146°.37E**±0°.06, **h58**km±12km, **n13, σ0s81/23, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.46**	**46**	*e*P		**Pn**		**02 22 07.0**	**-0.6**
SHO				AMB		AMB		02 22 07.2	
	220nm,0.1s								
SHO				*e*S		**Sn**		**02 22 16.2**	**+0.3**
SHO				A		A		02 22 16.6	
	790nm,0.2s								
NEM2	**Nemuro 2**	**0.49**	**248**	P		**Pn**		**02 22 08.3**	**+0.4**
NEM2				*e*S		**Sn**		**02 22 18.0**	**+1.6**
YUK	**Yuzh-Kuril'sk**	**0.61**	**323**	*i* P		**Pn**		**02 22 08.1**	**-1.2**
YUK				AMB		AMB		02 22 08.8	
	300nm,0.2s								
YUK				*i* S		**Sn**		**02 22 18.7**	**-0.1**
YUK				A		A		02 22 19.6	
	620nm,0.1s								
YUK				A		A		02 22 19.6	
	300nm,0.1s								
JRA	**Rausu**	**0.99**	**294**	P		**Pn**		**02 22 13.5**	**-0.5**
JRA				*e*S		**Sn**		**02 22 27.6**	**+0.5**
JNK	**Nakash**	**1.20**	**272**	P		**Pn**		**02 22 16.0**	**-0.9**
JNK				*e*S		**Sn**		**02 22 31.2**	**-1.1**
JAK	**Akkeshi**	**1.34**	**246**	P		**Pn**		**02 22 18.3**	**-0.4**
JAK				*e*S		**Sn**		**02 22 35.8**	**+0.2**
JTKR	**Abashiri--Toko**	**1.83**	**284**	P		**Pn**		**02 22 24.8**	**-0.6**
JAR	**Ashorobuto**	**1.91**	**263**	P		**Pn**		**02 22 26.5**	**0.0**
JAR				*e*S		**Sn**		**02 22 50.1**	**+0.7**
JOB	**Onbets**	**1.96**	**252**	P		**Pn**		**02 22 27.1**	**0.0**
JOB				*e*S		**Sn**		**02 22 50.8**	**+0.2**
KUR	**Kuril'sk**	**2.00**	**32**	*e*P		**Pn**		**02 22 27.7**	**+0.1**
KUR				*e*rx		rx		02 22 31.7	
KUR				*e*S		**Sn**		**02 22 50.9**	**-0.5**
KUR				A		A		02 22 52.4	
	90nm,0.6s								
JMP	**Maruseppu**	**2.23**	**283**	P		**Pn**		**02 22 30.5**	**-0.3**
JCH	**Churui**	**2.40**	**248**	P		**Pn**		**02 22 32.6**	**-0.4**
JCH				*e*S		**Sn**		**02 23 00.2**	**-1.0**
YSS	**Yuzh-Sakhalins**	**4.26**	**324**	*e*P		**Pn**		**02 23 00.2**	**+1.7**

*THE **21** 02:29:58.6, 35°.32N×27°.20E, h0km±1km, ML2.8/3, Error ellipse: s-maj=2.3km s-min=0.9km az=137.0*
*CSEM **21** 02:29:58.9±0.4, 35°.33N×27°.17E, h5km, MD3.6, Error ellipse: s-maj=10.4km s-min=3.8km az=151.0*
*ATH **21** 02:29:59.8, 35°.45N×27°.20E, h22km±2km, MD3.6/9*
*DDA **21** 02:30:00.8, 35°.42N×27°.28E, h11km, MD3.2*

ISC 21 02:29:58.9±1.2, **35°.33N**±0°.05×**27°.22E**±0°.03, **h12**km±7km, **n58, σ1s00/83, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.22**	**347**	P		**Pg**		**02 30 03.0**	**-0.7**
KARP				S		**Sg**		**02 30 07.7**	**+0.8**
KARP	**Karpathos**	**0.22**	**347**	*e*PB		**Pg**		**02 30 03.4**	**-0.3**
KARP				*e*SB		**Sg**		**02 30 07.7**	**+0.8**
KARP	**Karpathos**	**0.22**	**347**	P		**Pg**		**02 30 03.0**	**-0.7**
KARP	**Karpathos**	**0.22**	**347**	*e*Pb		**Pg**		**02 30 03.4**	**-0.3**
KARP				S		**Sg**		**02 30 07.7**	**+0.8**
ZKR	**Zakros**	**0.85**	**256**	P		**Pg**		**02 30 14.2**	**-1.2**
ZKR				S		**Sb**		**02 30 28.0**	**+0.9**
ZKR	**Zakros**	**0.85**	**256**	P		**Pg**		**02 30 14.2**	**-1.2**
ZKR				S		**Sb**		**02 30 28.0**	**+0.9**
ARG	**Arkhangelos**	**1.15**	**39**	P		**Pb**		**02 30 20.2**	**-0.6**
ARG				S		**Sn**		**02 30 37.3**	**+0.7**
ARG	**Arkhangelos**	**1.15**	**39**	*e*PN		**Pb**		**02 30 20.9**	**+0.1**
ARG	**Arkhangelos**	**1.15**	**39**	P		**Pb**		**02 30 20.2**	**-0.6**
ARG	**Arkhangelos**	**1.15**	**39**	*e*Pn		**Pb**		**02 30 20.9**	**+0.1**
ARG				S		**Sn**		**02 30 37.3**	**+0.7**
NPS	**Neapolis**	**1.32**	**268**	P		**Pn**		**02 30 23.0**	**-0.3**
NPS				S		**Sg**		**02 30 41.5**	**0.0**
NPS	**Neapolis**	**1.32**	**268**	*e*PN		**Pb**		**02 30 23.8**	**+0.1**
NPS				*e*SN		**Sg**		**02 30 43.1**	**+1.6**
NPS	**Neapolis**	**1.32**	**268**	P		**Pn**		**02 30 23.0**	**-0.3**
NPS	**Neapolis**	**1.32**	**268**	*e*Pn		**Pb**		**02 30 23.8**	**+0.1**
NPS				S		**Sg**		**02 30 41.5**	**0.0**
NPS				*e*Sn		**Sg**		**02 30 43.1**	**+1.6**
LAST	**Lasithi**	**1.44**	**264**	P		**Pn**		**02 30 24.7**	**-0.2**
LAST				S		**Sb**		**02 30 44.2**	**+0.1**
LAST	**Lasithi**	**1.44**	**264**	*e*PB		**Pb**		**02 30 25.7**	**-0.1**
LAST	**Lasithi**	**1.44**	**264**	P		**Pn**		**02 30 24.7**	**-0.2**
LAST	**Lasithi**	**1.44**	**264**	*e*Pb		**Pb**		**02 30 25.7**	**-0.1**
LAST				S		**Sb**		**02 30 44.2**	**+0.1**
BDRM	**Kayabasi**	**1.74**	**6**	*i* P		**Pn**		**02 30 29.1**	**0.0**
BDRM				*i* S		**Sn**		**02 30 51.7**	**+0.5**
BDRM	**Kayabasi**	**1.74**	**6**	*i* P		**Pn**		**02 30 29.1**	**0.0**
BDRM				*i* S		**Sn**		**02 30 51.7**	**+0.5**
SANT	**Santorini**	**1.77**	**306**	P		**Pn**		**02 30 29.3**	**-0.2**
SANT				S		**Sn**		**02 30 52.1**	**+0.1**
SANT	**Santorini**	**1.77**	**306**	*e*PN		**Pn**		**02 30 29.6**	**+0.1**
SANT	**Santorini**	**1.77**	**306**	P		**Pn**		**02 30 29.3**	**-0.2**
SANT	**Santorini**	**1.77**	**306**	*e*Pn		**Pn**		**02 30 29.6**	**+0.1**
SANT				S		**Sn**		**02 30 52.1**	**+0.1**
THR6	**Thira Island,**	**1.80**	**305**	P		**Pn**		**02 30 30.0**	**+0.1**
THR6	**Thira Island,**	**1.80**	**305**	P		**Pn**		**02 30 30.0**	**+0.1**
THR2	**Thira island,**	**1.83**	**308**	P		**Pn**		**02 30 30.3**	**0.0**
THR2	**Thira island,**	**1.83**	**308**	P		**Pn**		**02 30 30.3**	**0.0**
THR5	**Thira Island,**	**1.87**	**306**	P		**Pn**		**02 30 30.4**	**-0.4**
THR5	**Thira Island,**	**1.87**	**306**	P		**Pn**		**02 30 30.4**	**-0.4**
TURN	**Turunc**	**1.90**	**36**	*i* P		Pn		02 30 28.4	-2.8
TURN				*i* S		**Sn**		**02 30 52.4**	**-2.7**
TURN	**Turunc**	**1.90**	**36**	*i* P		Pn		02 30 28.4	-2.8
TURN				*i* S		**Sn**		**02 30 52.4**	**-2.7**
SIVA	**Sivas**	**2.00**	**262**	*e*PN		**Pb**		**02 30 36.3**	**+1.0**
AKAS	**Kas**	**2.13**	**64**	*i* P		**Pn**		**02 30 35.7**	**+1.1**
AKAS				*i* S		**Sb**		**02 31 05.4**	**+1.2**
AKAS	**Kas**	**2.13**	**64**	*i* P		**Pn**		**02 30 35.7**	**+1.1**
AKAS				*i* S		**Sb**		**02 31 05.4**	**+1.2**
APE	**Apeiranthos**	**2.21**	**322**	P		**Pn**		**02 30 35.6**	**+0.1**
APE				S		**Sn**		**02 31 03.9**	**+1.0**
APE	**Apeiranthos**	**2.21**	**322**	*e*PB		**Pn**		**02 30 35.8**	**+0.3**
APE	**Apeiranthos**	**2.21**	**322**	P		**Pn**		**02 30 35.6**	**+0.1**
APE				S		**Sn**		**02 31 03.9**	**+1.0**
GCAM	**G?zelcaml?**	**2.37**	**0**	*i* P		**Pb**		**02 30 40.5**	**-1.0**
GCAM	**G?zelcaml?**	**2.37**	**0**	*i* P		**Pb**		**02 30 40.5**	**-1.0**
GCAM				*i* S		**Sg**		**02 31 12.9**	**-2.0**
AYDN	**Tasoluk**	**2.38**	**13**	*i* P		**Pb**		**02 30 42.1**	**+0.2**
AYDN	**Tasoluk**	**2.38**	**13**	*i* P		**Pb**		**02 30 42.1**	**+0.2**
AYDN				*i* S		**Sg**		**02 31 13.6**	**-2.0**
SMG	**Samos**	**2.39**	**353**	*e*PN		**Pn**		**02 30 38.3**	**+0.3**
SMG	**Samos**	**2.39**	**353**	*e*Pn		**Pn**		**02 30 38.3**	**+0.3**
VAM	**Vamos**	**2.47**	**273**	P		**Pn**		**02 30 38.0**	**-1.1**
VAM	**Vamos**	**2.47**	**273**	*e*PN		**Pn**		**02 30 40.5**	**+1.4**
VAM	**Vamos**	**2.47**	**273**	P		**Pn**		**02 30 38.0**	**-1.1**
VAM	**Vamos**	**2.47**	**273**	*e*Pn		**Pn**		**02 30 40.5**	**+1.4**
GOLH	**Golhisar**	**2.68**	**44**	*i* P		**Pb**		**02 30 45.0**	**-1.9**
GOLH	**Golhisar**	**2.68**	**44**	*i* P		**Pb**		**02 30 45.0**	**-1.9**
GOLH				*i* S		**Sb**		**02 31 21.2**	**+1.3**
KARN	**Karanos**	**2.70**	**272**	P		**Pn**		**02 30 41.2**	**-1.1**
KARN	**Karanos**	**2.70**	**272**	*e*PB		**Pb**		**02 30 45.9**	**-1.4**
KARN	**Karanos**	**2.70**	**272**	P		**Pn**		**02 30 41.2**	**-1.1**
KYTH	**Kithira**	**3.53**	**287**	P		**Pn**		**02 30 53.3**	**-0.4**
KYTH	**Kithira**	**3.53**	**287**	P		**Pn**		**02 30 53.3**	**-0.4**
KHAL	**Karahalli**	**3.54**	**30**	*i* P		Pg		02 31 18.5	+12
KHAL				*i* S		Sg		02 32 02.4	+10
DEMI	**Demirci**	**3.89**	**17**	*i* P		**Pn**		**02 31 00.2**	**+1.5**
DEMI				*i* S		**Sn**		**02 31 46.0**	**+1.6**
DEMI	**Demirci**	**3.89**	**17**	*i* P		**Pn**		**02 31 00.2**	**+1.5**
DEMI				*i* S		**Sn**		**02 31 46.0**	**+1.6**

*JMA **21** 02:29:58.6±0.1, 24°.26N×121°.87E, h65km±2km, M3.3*
*ISCJB **21** 02:29:59.5±0.3, 24°.29N±0°.02×121°.94E±0°.02, h59km±4km, Error ellipse: s-maj=4.0km s-min=2.4km az=143.8*
*TAP **21** 02:29:59.6, 24°.31N×121°.89E, h57km, ML3.7, D*

ISC 21 02:30:00.2±1.2, **24°.29N**±0°.03×**121°.93E**±0°.03, **h54**km±7km, **n49, σ1s02/90, 6C-4D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.17**	**276**	*e*S		**Sn**		**02 30 16.7**	**+1.7**
	baz=267								
ENA	**Nanau**	**0.22**	**308**	*i* P		**Pn**		**02 30 08.7**	**-0.4**
	baz=310								
ENA				S		**Sn**		**02 30 15.7**	**+0.2**
	baz=310								
TWC	**Suao**	**0.33**	**347**	*i* P		**Pn**		**02 30 09.9**	**0.0**
	baz=354								
TWC				*i* S		**Sn**		**02 30 17.3**	**+0.4**
	baz=354								
TWD	**Chiawan**	**0.37**	**235**	*i* P		**Pn**		**02 30 10.1**	**-0.3**
	baz=228								
TWD				S		**Sn**		**02 30 17.8**	**+0.2**
	baz=228								
HWA	**Hwalien**	**0.43**	**224**	*i* P		**Pn**		**02 30 10.8**	**-0.1**
	baz=216								
HWA				*e*S		**Sn**		**02 30 20.0**	**+1.4**
	baz=216								
ENTT	**Nioudou**	**0.48**	**316**	⇓*i* P		**Pn**		**02 30 10.9**	**-0.6**
	baz=318								
ENTT				*e*S		**Sn**		**02 30 19.9**	**+0.3**
	baz=318								
ILA	**Ilan**	**0.50**	**341**	*e*S		**Sn**		**02 30 21.8**	**+1.8**
	baz=344								
NNS	**Nan Shan**	**0.53**	**286**	⇓*i* P		**Pn**		**02 30 11.5**	**-0.7**
	baz=284								
NNS				S		**Sn**		**02 30 20.2**	**-0.6**
	baz=284								
WHF	**Hehuan Shan**	**0.62**	**257**	⇑*i* P		**Pn**		**02 30 12.9**	**-0.7**
	baz=253								
WHF				S		**Sn**		**02 30 22.1**	**-1.2**
	baz=253								
NSK	**Sanguang**	**0.65**	**306**	⇓*i* P		**Pn**		**02 30 12.8**	**-0.7**
	baz=306								
NSK				*e*S		**Sn**		**02 30 22.2**	**-1.1**
	baz=306								
ESL	**Shilin**	**0.66**	**224**	⇑*e*P		**Pn**		**02 30 12.3**	**-1.3**
	baz=219								
ESL				*e*S		**Sn**		**02 30 21.9**	**-1.4**
	baz=219								
TEGC	**Jichi Village**	**0.68**	**212**	*e*S		**Sn**		**02 30 25.3**	**+1.5**
	baz=207								
TWT	**Tachien**	**0.69**	**267**	⇑*i* P		**Pn**		**02 30 14.1**	**-0.1**
	baz=264								
TWT				*i* S		**Sn**		**02 30 23.9**	**-0.4**
	baz=264								
TWB1	**Santiao Chiao**	**0.72**	**4**	⇑*i* P		**Pn**		**02 30 13.9**	**-0.4**
	baz=7.0								
TWB1				*i* S		**Sn**		**02 30 24.2**	**-0.4**
	baz=7.0								
TWA	**Mucha**	**0.76**	**335**	⇓*i* P		**Pn**		**02 30 14.5**	**-0.4**
	baz=337								
TWA				*i* S		**Sn**		**02 30 25.6**	**0.0**
	baz=337								
NWF	**Wu-fen Shan**	**0.79**	**350**	*i* P		**Pn**		**02 30 15.3**	**0.0**
	baz=352								
NWF				S		**Sn**		**02 30 26.7**	**+0.3**
	baz=352								
WDT	**Danda**	**0.90**	**234**	⇑*i* P		**Pn**		**02 30 16.2**	**-0.8**
	baz=230								
WDT				*e*S		**Sn**		**02 30 28.0**	**-1.3**
	baz=230								
NSTT	**Nanjuang**	**0.91**	**292**	*i* P		**Pn**		**02 30 16.8**	**-0.1**
	baz=291								
NSTT				S		**Sn**		**02 30 28.8**	**-0.4**
	baz=291								
TWS1	**Kuangyinshan**	**0.93**	**330**	*i* P		**Pn**		**02 30 16.4**	**-0.7**
	baz=331								
TWS1				*i* S		**Sn**		**02 30 29.3**	**-0.2**
	baz=331								
JYNG	**Yonagunijimaku**	**0.94**	**80**	P		**Pn**		**02

*ISCJB **21** 02:37:35.3±0.5, 1.64S±0.03×120.54E±0.05, h23km, mb3.4/3, Error ellipse: s-maj=7.1km s-min=4.5km az=21.5*
*DJA **21** 02:37:35.0±0.2, 2.2°S±2.2°×12.1°E±°, h10km, M3.9/13, MLv3.9/13*

ISC 21 02:37:35.6±0.9, 1.59S±0.04×120.55E±0.05, h23km, n12, σ1°61/19, mb3.5/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.99**	**314**	P			**Pn**	**02 37 53.6**	**-0.5**
PCI				S			**Sn**	**02 38 07.7**	**+0.4**
APSI	**Ampana**	**1.29**	**58**	P			**Pb**	**02 37 58.2**	**-0.9**
APSI				S			**Sb**	**02 38 17.5**	**+2.3**
TTSI	**Tana Toraja**	**1.62**	**207**	P			**Pn**	**02 38 01.5**	**-1.2**
TTSI				S			**Sn**	**02 38 21.9**	**-1.0**
MPSI	**Mapaga**	**2.02**	**341**	P			**Pn**	**02 38 09.1**	**+0.8**
LUWI	**Luwuk**	**2.28**	**76**	P			**Pn**	**02 38 11.1**	**-0.8**
LUWI				S			**Sb**	**02 38 44.6**	**+0.7**
MRSI	**Marisa**	**2.48**	**34**	P			**Pn**	**02 38 15.8**	**+1.2**
MRSI				S			**Sb**	**02 38 47.4**	**-2.2**
SPSI	**Sidrap Palu**	**2.48**	**198**	P			**Pn**	**02 38 15.4**	**+0.8**
SPSI				S			**Sn**	**02 38 45.3**	**+1.0**
KAPI	**Kappang**	**3.49**	**193**	Pn			**Pn**	**02 38 28.8**	**+0.3**
	4.1nm,0.3s,baz=32,slow=3.8,SNR=8.1								
KAPI				Sn			**Sn**	**02 39 12.7**	**+3.5**
	4.0nm,0.3s,baz=163,slow=20,SNR=3.7								
BKSI	**Bulukumba**	**3.73**	**187**	P			**Pn**	**02 38 32.0**	**+0.2**
WRA	**Warramunga Arr**	**22.68**	**144**	P			**P**	**02 42 33.1**	**-2.5**
	1.5nm,0.9s,baz=319,slow=12,SNR=13								
ASAR	**Alice Springs**	**25.47**	**151**	P			**P**	**02 43 00.7**	**-1.5**
	0.4nm,0.5s,baz=342,slow=15,SNR=5.9								
MKAR	**Makanchi Array**	**58.72**	**330**	P			**P**	**02 47 33.0**	**+1.4**
	0.4nm,0.6s,baz=145,slow=3.0,SNR=4.2								

*ISCJB **21** 02:42:43.9±0.3, 10.95N±0.03×62.31W±0.03, h94km±3km, mb3.7/9, Error ellipse: s-maj=5.3km s-min=3.1km az=141.4*
*IDC **21** 02:42:46.8±1.3, 11.05N×62.61W, h113km±13km, mb3.4/9, mb1 3.7/10, mb1mx3.4/34, mbtmp3.8/10, Error ellipse: s-maj=25.0km s-min=13.4km az=150.0*
*NEIC **21** 02:42:46.3, 10.97N×62.25W, h79km, MD3.8(TRN), MW3.7(CAR), After CAR.*
NEIC Felt on Trinidad.
*FUNV **21** 02:42:46.3, 10.97N×62.25W, h79km, MW3.7*
*TRN **21** 02:42:49.0, 11.04N×62.12W, h62km, MD3.8*

ISC 21 02:42:44.2±0.7, 10.95N±0.03×62.32W±0.03, h90km±6km, n53, σ1°66/88, mb3.9/9, 4C-9D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.31**	**163**	*e*P			**Pn**	**02 42 59.2**	**+1.4**
GUIV				*e*S			**Sn**	**02 43 07.1**	**-0.6**
TCE	**Chacachacare**	**0.61**	**114**	*e*P			**Pn**	**02 43 01.6**	**+1.7**
TCE				*e*S			**Sn**	**02 43 09.6**	**-2.0**
TCE	**Chacachacare**	**0.61**	**114**	*e*P			**Pn**	**02 43 01.6**	**+1.7**
TCE				*e*S			**Sn**	**02 43 09.6**	**-2.0**
CRUV	**Carupano**	**0.94**	**253**	*e*P			**Pn**	**02 43 04.7**	**+1.4**
CRUV				*e*S			**Sn**	**02 43 17.9**	**+0.3**
TRN	**Trinidad (W)**	**0.94**	**108**	⇑*i*P			**Pn**	**02 43 04.9**	**+1.7**
TRN				*e*S			**Sn**	**02 43 16.9**	**-0.7**
TRN	**Trinidad (W)**	**0.94**	**108**	⇑*i*P			**Pn**	**02 43 04.9**	**+1.7**
TRN				*e*S			**Sn**	**02 43 16.9**	**-0.7**
GUNV	**Guanoco**	**1.00**	**218**	*e*P			**Pn**	**02 43 05.7**	**+1.9**
GUNV				*e*S			**Sn**	**02 43 20.5**	**+1.9**
TPP	**Pointe-a-Pierr**	**1.06**	**126**	*e*P			**Pn**	**02 43 07.3**	**+2.7**
TPP				*e*S			**Sn**	**02 43 19.2**	**-0.7**
TPP	**Pointe-a-Pierr**	**1.06**	**126**	*e*P			**Pn**	**02 43 07.3**	**+2.7**
TPP				*e*S			**Sn**	**02 43 19.2**	**-0.7**
TBH	**Brigand Hill**	**1.31**	**111**	⇓*i*P			**Pn**	**02 43 09.5**	**+1.9**
TBH				*e*S			**Sn**	**02 43 24.1**	**-1.2**
TBH	**Brigand Hill**	**1.31**	**111**	⇓*i*P			**Pn**	**02 43 09.5**	**+1.9**
TBH				*e*S			**Sn**	**02 43 24.1**	**-1.2**
GRGR	**Grenville**	**1.34**	**29**	*e*Pn			**Pn**	**02 43 09.4**	**+1.4**
GRGR				*e*Sn			**Sn**	**02 43 27.0**	**+1.0**
GRW	**Mount Saint Ca**	**1.36**	**28**	*e*P			**Pn**	**02 43 10.1**	**+1.8**
GRW				*e*S			**Sn**	**02 43 24.7**	**-1.8**
GRW	**Mount Saint Ca**	**1.36**	**28**	*e*P			**Pn**	**02 43 10.1**	**+1.8**
GRW				*e*S			**Sn**	**02 43 24.7**	**-1.8**
GRHS	**Sauteurs**	**1.43**	**27**	⇓*e*P			**Pn**	**02 43 11.6**	**+2.6**
GRHS				*e*S			**Sn**	**02 43 27.4**	**-0.5**
GRHS	**Sauteurs**	**1.43**	**27**	⇓*e*P			**Pn**	**02 43 11.6**	**+2.6**
GRHS				*e*S			**Sn**	**02 43 27.4**	**-0.5**
GRSS	**Sisters**	**1.51**	**27**	⇑*e*P			**Pn**	**02 43 12.8**	**+2.7**
GRSS				*e*S			**Sn**	**02 43 28.2**	**-1.4**
GRSS	**Sisters**	**1.51**	**27**	⇑*e*P			**Pn**	**02 43 12.8**	**+2.7**
GRSS				*e*S			**Sn**	**02 43 28.2**	**-1.4**
TPR	**Prospect**	**1.53**	**81**	⇓*i*P			**Pn**	**02 43 12.1**	**+1.7**
TPR				*e*S			**Sn**	**02 43 28.7**	**-1.5**
TPR	**Prospect**	**1.53**	**81**	⇓*i*P			**Pn**	**02 43 12.1**	**+1.7**
TPR				*e*S			**Sn**	**02 43 28.7**	**-1.5**
BOT	**Bacolet**	**1.58**	**82**	⇓*i*P			**Pn**	**02 43 12.5**	**+1.5**
BOT				*e*S			**Sn**	**02 43 30.4**	**-0.9**
BOT	**Bacolet**	**1.58**	**82**	⇓*i*P			**Pn**	**02 43 12.5**	**+1.5**
BOT				*e*S			**Sn**	**02 43 30.4**	**-0.9**
TOSP	**Speyside**	**1.78**	**79**	⇓*i*P			**Pn**	**02 43 14.6**	**+1.1**
TOSP				*e*S			**Sn**	**02 43 33.2**	**-2.7**
ORIV	**Oritupano**	**2.16**	**210**	*e*P			**Pn**	**02 43 20.4**	**+1.9**
ORIV				*e*S			**Sn**	**02 43 45.7**	**+1.0**
PCRV	**Puerto La Cruz**	**2.41**	**252**	P			**Pn**	**02 43 23.5**	**+1.6**
	16nm,0.3s,baz=50,slow=5.9,SNR=203								
PCRV				S			**Sn**	**02 43 48.6**	**-2.1**
	22nm,0.3s,baz=269,slow=16,SNR=14								
PCRV	**Puerto La Cruz**	**2.41**	**252**	*e*P			**Pn**	**02 43 23.7**	**+1.8**
PCRV				*e*S			**Sn**	**02 43 50.7**	**0.0**
SVB	**Belmont**	**2.53**	**24**	*e*P			**Pn**	**02 43 25.1**	**+1.6**
SVB				*e*S			**Sn**	**02 43 53.7**	**+0.1**
SVB	**Belmont**	**2.53**	**24**	*e*P			**Pn**	**02 43 25.1**	**+1.6**
SVB				*e*S			**Sn**	**02 43 53.7**	**+0.1**
MCLT	**Moule a Chique**	**3.05**	**26**	*e*P			**Pn**	**02 43 32.5**	**+2.0**
MCLT				*e*S			**Sn**	**02 44 05.0**	**-1.1**
MCLT	**Moule a Chique**	**3.05**	**26**	*e*P			**Pn**	**02 43 32.5**	**+2.0**
MCLT				*e*S			**Sn**	**02 44 05.0**	**-1.1**
PRGV	**PARIAGUAN**	**3.16**	**227**	*e*S			**Sn**	**02 44 08.7**	**-0.1**
CUPV	**Cœpira**	**3.53**	**256**	*e*P			**Pn**	**02 43 39.0**	**+2.1**
CUPV				*e*S			**Sn**	**02 44 18.0**	**+0.3**
H05S1	**Guadeloupe/Mar**	**3.74**	**23**	P			**Pn**	**02 43 42.4**	**+2.7**
H05S1				S			**Sn**	**02 44 23.9**	**+1.0**
BIRV	**Birongo**	**3.91**	**263**	*e*P			**Pn**	**02 43 44.5**	**+2.4**
BIRV				*e*S			**Sn**	**02 44 26.0**	**-1.0**
FDF	**Fort de France**	**3.93**	**17**	*e*Pn			**Pn**	**02 43 43.4**	**+1.1**
MERV	**Las Mercedes**	**4.27**	**247**	*e*S			**Sn**	**02 44 35.0**	**-0.6**
LUEV	**Luepa**	**5.14**	**170**	*e*P			**Pn**	**02 43 58.8**	**-0.2**
H05N1	**Guadeloupe/Mar**	**5.47**	**13**	P			**Pn**	**02 44 05.8**	**+2.5**
MAPV	**Macapo**	**6.14**	**260**	*e*P			**Pn**	**02 44 13.1**	**+0.6**
SDV	**Santo Domingo**	**8.45**	**257**	*e*Pn			**Pn**	**02 44 43.5**	**-0.6**
SDV				*e*Sn			**Sn**	**02 46 14.2**	**-3.7**
PTGA	**Pitinga**	**11.84**	**168**	P			**Pn**	**02 45 29.6**	**-0.3**
	2.6nm,0.3s,baz=349,slow=18,SNR=20								
PTGA				S			Sn	02 47 33.0	-7.3
	3.0nm,0.3s,baz=251,slow=17,SNR=7.4								
SAML	**Samuel**	**19.79**	**183**	*e*P			**Pn**	**02 47 11.7**	**+2.0**
	1.6nm,0.9s								
TXAR	**Lajitas Array**	**42.64**	**302**	P			**P**	**02 50 30.7**	**-1.3**
	0.2nm,0.6s,baz=108,slow=9.5,SNR=4.8								
TXAR				PcP			**PcP**	**02 52 20.7**	**-2.0**
	0.2nm,0.5s,baz=132,slow=5.3,SNR=5.7								
SCHQ	**Schefferville**	**43.92**	**356**	P			**P**	**02 50 41.8**	**-0.1**
	1.6nm,0.5s,baz=218,slow=12,SNR=3.6								
PDAR	**Pinedale Array**	**51.78**	**317**	P			**P**	**02 51 41.0**	**-2.1**
	0.8nm,0.7s,baz=108,slow=9.4,SNR=6.9								
ESDC	**Sonseca Array**	**58.82**	**50**	P			**P**	**02 52 35.1**	**+1.6**
	0.5nm,0.7s,baz=262,slow=8.1,SNR=4.0								
TORD	**Torodi Ar. Bea**	**62.49**	**81**	P			**P**	**02 53 00.1**	**+1.4**
	0.4nm,0.5s,baz=290,slow=7.0,SNR=19								
YKA	**Yellowknife Ar**	**63.51**	**336**	P			**P**	**02 53 02.1**	**-2.6**
	0.2nm,0.4s,baz=111,slow=7.3,SNR=4.0								
NB2	**NORSAR Subarra**	**72.52**	**29**	P			**P**	**02 54 02.4**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=261,slow=6.2								
NOA	**NORSAR Array B**	**72.52**	**29**	P			**P**	**02 54 02.0**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=262,slow=6.0,SNR=6.6								
ARCES	**ARCESS Array B**	**79.06**	**21**	P			**P**	**02 54 38.5**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=286,slow=8.7,SNR=3.8								
FINES	**FINESS Array B**	**79.70**	**29**	P			**P**	**02 54 42.4**	**+0.5**
	comp=Z,1.9nm,0.4s,baz=258,slow=4.3,SNR=29								
CMAR	**Chiang Mai Arr**	**145.42**	**33**	PKPbc			**PKPdf**	**03 02 12.9**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=326,slow=5.4,SNR=5.3								

*ISCJB **21** 03:01:25.6±0.3, 24.38N±0.02×121.77E±0.02, h67km±3km, Error ellipse: s-maj=3.4km s-min=2.0km az=142.6*

*JMA **21** 03:01:25.0±0.1, 24.30N×121.72E, h62km±2km, M3.4*
*TAP **21** 03:01:25.8, 24.35N×121.72E, h63km, ML4.2, B*

ISC 21 03:01:26.3±1.2, 24.37N±0.02×121.76E±0.02, h63km±5km, n71, σ0°89/139, 11C-5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.06**	**198**	*e*P			**Pn**	**03 01 35.4**	**-0.1**
	baz=146								
EHP				*e*S			**Sn**	**03 01 43.3**	**+1.1**
	baz=146								
ENA	**Nanau**	**0.06**	**343**	⇓*i*P			**Pn**	**03 01 35.5**	**-0.1**
	baz=21								
ENA				S			**Sn**	**03 01 42.6**	**+0.3**
	baz=21								
TWC	**Suao**	**0.25**	**18**	⇓*i*P			**Pn**	**03 01 36.6**	**+0.2**
	baz=22								
TWC				*i* S			**Sn**	**03 01 44.5**	**+0.8**
	baz=22								
TWD	**Chiawan**	**0.32**	**208**	⇑*i*P			**Pn**	**03 01 36.0**	**-0.9**
	baz=211								
TWD				*e*S			**Sn**	**03 01 42.9**	**-1.6**
	baz=211								
ENTT	**Nioudou**	**0.33**	**327**	⇑*i*P			**Pn**	**03 01 36.8**	**-0.1**
	baz=340								
ENTT				*e*S			**Sn**	**03 01 45.2**	**+0.6**
	baz=340								
NNS	**Nan Shan**	**0.36**	**282**	⇑*i*P			**Pn**	**03 01 36.9**	**-0.4**
	baz=286								
NNS				S			**Sn**	**03 01 44.9**	**-0.4**
	baz=286								
ILA	**Ilan**	**0.40**	**358**	P			**Pn**	**03 01 37.9**	**+0.4**
	baz=358								
ILA				S			**Sn**	**03 01 46.9**	**+1.4**
	baz=358								
HWA	**Hwalien**	**0.41**	**200**	*e*P			**Pn**	**03 01 37.0**	**-0.6**
	baz=203								
HWA				*e*S			**Sn**	**03 01 46.4**	**+0.6**
	baz=203								
NSK	**Sanguang**	**0.48**	**310**	⇑*i*P			**Pn**	**03 01 38.0**	**-0.3**
	baz=315								
NSK				*i* S			**Sn**	**03 01 46.3**	**-0.8**
	baz=315								
EGS		**0.50**	**18**	⇓*i*P			**Pn**	**03 01 39.3**	**+0.8**
	baz=30								
EGS				S			**Sn**	**03 01 49.2**	**+1.9**
	baz=30								
WHF	**Hehuan Shan**	**0.50**	**244**	⇑*i*P			**Pn**	**03 01 38.5**	**-0.5**
	baz=243								
WHF				*i* S			**Sn**	**03 01 47.1**	**-1.1**
	baz=243								
ESF	**Shoufeng Towns**	**0.55**	**205**	*e*P			**Pn**	**03 01 38.2**	**-0.7**
	baz=207								
ESF				*e*S			**Sn**	**03 01 48.5**	**+0.3**
	baz=207								
TWT	**Tachien**	**0.55**	**258**	⇑*i*P			**Pn**	**03 01 39.2**	**+0.1**
	baz=256								
TWT				S			**Sn**	**03 01 48.1**	**-0.4**
	baz=256								
ESL	**Shilin**	**0.63**	**209**	*e*P			**Pn**	**03 01 38.3**	**-1.6**
	baz=205								
ESL				*e*S			**Sn**	**03 01 48.0**	**-1.8**
	baz=205								
TWA	**Mucha**	**0.63**	**345**	*i* P			**Pn**	**03 01 39.7**	**-0.2**
	baz=340								
TWA				S			**Sn**	**03 01 49.9**	**0.0**
	baz=340								
TWB1	**Santiao Chiao**	**0.67**	**18**	*i* P			**Pn**	**03 01 40.9**	**+0.6**
	baz=21								
TWB1				*i* S			**Sn**	**03 01 51.6**	**+0.9**
	baz=21								
TEGC	**Jichi Village**	**0.69**	**197**	*e*P			**Pn**	**03 01 41.2**	**+0.7**
	baz=194								
TEGC				*e*S			**Sn**	**03 01 53.2**	**+2.3**
	baz=194								
NWF	**Wu-fen Shan**	**0.70**	**1**	⇑*i*P			**Pn**	**03 01 41.0**	**+0.1**
	baz=353								
NWF				S			**Sn**	**03 01 52.3**	**+0.9**
	baz=353								
TAP1	**Taipei**	**0.70**	**342**	*e*P			**Pn**	**03 01 39.9**	**-0.8**
	baz=345								
TAP1				*e*S			**Sn**	**03 01 50.0**	**-1.3**
	baz=345								
TAP	**Taipei**	**0.71**	**341**	*e*P			**Pn**	**03 01 40.2**	**-0.6**
	baz=345								
TAP				*e*S			**Sn**	**03 01 50.9**	**-0.6**
	baz=345								
NSTT	**Nanjuang**	**0.74**	**291**	*e*P			**Pn**	**03 01 40.8**	**-0.4**
	baz=293								
NSTT				S			**Sn**	**03 01 51.9**	**-0.2**
	baz=293								
TWS1	**Kuangyinshan**	**0.80**	**337**	⇑*i*P			**Pn**	**03 01 41.6**	**-0.2**
	baz=340								
TWS1				S			**Sn**	**03 01 53.3**	**0.0**
	baz=340								
NCU	**National Centr**	**0.80**	**319**	⇑*i*P			**Pn**	**03 01 41.6**	**-0.2**
	baz=322								
NCU				*i* S			**Sn**	**03 01 53.1**	**-0.2**
	baz=322								
WDT	**Danda**	**0.84**	**224**	⇑*i*P			**Pn**	**03 01 42.2**	**-0.5**
	baz=216								
WDT				*e*S			**Sn**	**03 01 53.9**	**-0.8**
	baz=216								
HSN	**Hsinchu**	**0.84**	**301**	P			**Pn**	**03 01 42.0**	**-0.4**
	baz=318								
HSN				*e*S			**Sn**	**03 01 54.0**	**-0.3**
	baz=318								
TWQ1	**Liyutan**	**0.90**	**269**	*e*P			**Pn**	**03 01 43.0**	**-0.1**
	baz=270								
TWQ1				*e*S			**Sn**	**03 01 55.4**	**-0.3**
	baz=270								
NSY	**Sanyi**	**0.91**	**273**	*e*P			**Pn**	**03 01 42.9**	**-0.4**
	baz=275								
NSY				*e*S			**Sn**	**03 01 55.7**	**-0.3**
	baz=275								
TWY	**Chenhua**	**0.92**	**351**	P			**Pn**	**03 01 43.0**	**-0.4**
	baz=343								
TWY				*e*S			**Sn**	**03 01 56.3**	**+0.3**
	baz=343								
SMLT	**Sun Moon Lake**	**0.92**	**239**	*e*P			**Pn**	**03 01 44.0**	**-0.4**
	baz=234								
SMLT				*e*S			**Sn**	**03 01 57.4**	**+1.1**
	baz=234								
EHY	**Hungye**	**0.95**	**205**	*e*P			**Pn**	**03 01 42.2**	**-1.5**
	baz=204								
EHY				*e*S			**Sn**	**03 01 56.4**	**-0.3**
	baz=204								
TYC	**Yuchr**	**0.95**	**241**	*i* P			**Pn**	**03 01 44.1**	**+0.4**
	baz=244								
TYC				*e*S			**Sn**	**03 01 57.4**	**+0.8**
	baz=244								
JYNG	**Yonagunijimaku**	**1.08**	**85**	P			**Pn**	**03 01 45.3**	**-0.2**
JYNG				S			**Sn**	**03 01 59.8**	**0.0**
TWF1	**Yuli**	**1.10**	**203**	*e*P			**Pn**	**03 01 44.2**	**-1.5**
	baz=206								
WNT	**Mingjian**	**1.10**	**244**	*e*P			**Pn**	**03 01 45.8**	**+0.1**
	baz=255								
WNT				*e*S			**Sn**	**03 02 00.5**	**+0.3**
	baz=255								
YOJ	**Yonaguni jima**	**1.14**	**85**	P			**Pn**	**03 01 46.2**	**-0.1**
YOJ				S			**Sn**	**03 02 00.9**	**-0.2**
YOJ	**Yonaguni jima**	**1.14**	**85**	⇑*i*P			**Pn**	**03 01 46.1**	**-0.1**
	baz=75								
YOJ				*e*S			**Sn**	**03 02 01.0**	**-0.2**
	baz=75								
YUS	**Yu-Shan**	**1.15**	**220**	*e*P			**Pn**	**03 01 46.6**	**-0.2**
	baz=212								
YUS				*e*S			**Sn**	**03 02 02.5**	**+0.5**
	baz=212								
ALS	**Alishan**	**1.22**	**226**	⇓P			**Pn**	**03 01 48.5**	**+0.8**
	baz=218								
ALS				*e*S			**Sn**	**03 02 05.0**	**+1.5**
	baz=218								
CHN5	**Tsauling**	**1.25**	**233**	⇓*i*P			**Pn**	**03 01 48.3**	**+0.5**
	baz=243								
CHN5				*e*S			**Sn**	**03 02 05.1**	**+1.2**
	baz=243								
PCYT	**Pengchaiyu**	**1.29**	**13**	*i* P			**Pn**	**03 01 48.5**	**+0.2**
	baz=14								
PCYT				*i* S			**Sn**	**03 02 05.9**	**+1.3**
	baz=14								
WGK	**Gukeng**	**1.29**	**239**	*e*P			**Pn**	**03 01 48.5**	**+0.3**
	baz=250								
WGK				*e*S			**Sn**	**03 02 05.8**	**+1.2**
	baz=250								
ELDTW	**Lidau**	**1.36**	**210**	*e*P			**Pn**	**03 01 49.3**	**0.0**
	baz=202								
ELDTW				*e*S			**Sn**	**03 02 06.7**	**+0.3**
	baz=202								
CHN2	**Minshiung**	**1.44**	**235**	*e*P			**Pn**	**03 01 50.6**	**+0.4**
	baz=247								
CHN2				*e*S			**Sn**	**03 02 09.6**	**+1.4**
	baz=247								
WTCT	**Ta-ch'eng**	**1.44**	**250**	*e*P			**Pn**	**03 01 49.6**	**-0.6**
	baz=260								
WTCT				*e*S			**Sn**	**03 02 07.5**	**-0.7**
	baz=260								
CHN4	**Tsaushan**	**1.47**	**227**	*e*P			**Pn**	**03 01 51.3**	**+0.6**
	baz=227								
CHN4				*e*S			**Sn**	**03 02 10.8**	**+1.8**
	baz=227								
CHY	**Chiayi**	**1.50**	**235**	P			**Pn**	**03 01 51.2**	**+0.2**
	baz=246								
CHY				*e*S			**Sn**	**03 02 10.0**	**+0.4**
	baz=246								
STYT	**Tauyuan**	**1.51**	**218**	*e*P			**Pn**	**03 01 52.0**	**+0.8**
	baz=209								
STYT				*e*S			**Sn**	**03 02 11.3**	**+1.2**
	baz=209								
WTP	**Ta-pu**	**1.53**	**224**	*e*P			**Pn**	**03 01 51.7**	**+0.2**
	baz=236								
WTP				*e*S			**Sn**	**03 02 11.6**	**+1.1**
	baz=236								
WSF	**Szhu**	**1.58**	**243**	*e*P			**Pn**	**03 01 52.2**	**+0.1**
	baz=253								
WSF				*e*S			**Sn**	**03 02 11.8**	**+0.1**
	baz=253								
TWK	**Hsinying**	**1.60**	**227**	*e*P			**Pn**	**03 01 52.7**	**+0.3**
	baz=241								
TWK				*e*S			**Sn**	**03 02 13.8**	**+1.6**
	baz=241								
CHN1	**Nanshi**	**1.63**	**224**	*e*P			**Pn**	**03 01 53.1**	**+0.3**
	baz=236								
CHN1				*e*S			**Sn**	**03 02 13.3**	**+0.4**
	baz=236								
TWG	**Pinlang**	**1.66**	**202**	*e*P			**Pn**	**03 01 52.6**	**-0.7**
	baz=195								
SGST	**Jiashian**	**1.67**	**220**	*e*P			**Pn**	**03 01 53.8**	**+0.4**
	baz=221								
SGST				*e*S			**Sn**	**03 02 14.8**	**+1.0**
	baz=221								
CHN8	**Yiju**	**1.75**	**235**	*e*P			**Pn**	**03 01 54.3**	**0.0**
	baz=247								
CHN8				*e*S			**Sn**	**03 02 16.2**	**+0.6**
	baz=247								
IRIF	**Iriomote-Funau**	**1.80**	**91**	P			**Pn**	**03 01 54.5**	**-0.5**
IRIF				S			**Sn**	**03 02 16.0**	**-0.8**
CHN3	**Shinhua**	**1.81**	**225**	*e*P			**Pn**	**03 01 55.6**	**+0.4**
	baz=237								
CHN3				*e*S			**Sn**	**03 02 20.3**	**+3.1**
	baz=237								
SCLT	**Jiali**	**1.86**	**231**	*e*P			**Pn**	**03 01 57.0**	**+1.1**
	baz=244								
SCLT				*e*S			**Sn**	**03 02 19.1**	**+0.7**
	baz=244								
HATJ	**Hateruma jima**	**1.89**	**99**	P			**Pn**	**03 01 56.6**	**+0.3**
HATJ				S			**Sn**	**03 02 19.4**	**+0.3**
SSD	**Sandimen**	**1.92**	**213**	*e*P			**Pn**	**03 01 57.5**	**+0.8**
	baz=213								
SSD				*e*S			**Sn**	**03 02 20.9**	**+1.1**
	baz=213								
JKRS	**Kuro-shima**	**2.06**	**93**	P			**Pn**	**03 01 58.9**	**+0.4**
JKRS				S			**Sn**	**03 02 22.9**	**-0.2**
EAST	**Anshuo**	**2.15**	**203**	*e*P			**Pn**	**03 01 59.8**	**0.0**
	baz=197								
EAST				*e*S			**Sn**	**03 02 26.4**	**+1.1**
	baz=197								
PNG	**Penghu**	**2.17**	**249**	*e*P			**Pn**	**03 01 58.5**	**-1.6**
	baz=250								
PNG				*e*S			**Sn**	**03 02 24.0**	**-1.9**
	baz=250								
JIJ	**Ishigaki jima**	**2.17**	**90**	P			**Pn**	**03 01 59.7**	**-0.4**
JIJ				S			**Sn**	**03 02 25.3**	**-0.6**
WDGT	**Dungji**	**2.22**	**241**	*e*P			**Pn**	**03 01 59.8**	**-0.9**
	baz=242								
WDGT				*e*S			**Sn**	**03 02 24.6**	**-2.5**
	baz=242								
SCZT	**Fangliau**	**2.25**	**208**	*e*P			**Pn**	**03 02 01.4**	**+0.3**
	baz=219								
SCZT				*e*S			**Sn**	**03 02 29.2**	**+1.5**
	baz=219								
LAY	**Lan-yu**	**2.33**	**185**	*e*P			**Pn**	**03 01 59.4**	**-2.8**
	baz=179								
JISG	**Ishigakijimahi**	**2.33**	**84**	P			**Pn**	**03 02 01.6**	**-0.7**
JISG				S			**Sn**	**03 02 28.7**	**-1.2**
TWK1	**Hengchun**	**2.57**	**200**	*e*P			**Pn**	**03 02 06.1**	**+0.6**
	baz=193								
TWK1				*e*S			**Sn**	**03 02 35.8**	**+0.2**
	baz=193								
TSEB	**Hengchuen, Pin**	**2.58**	**198**	*e*P			**Pn**	**03 02 06.3**	**+0.6**
	baz=193								
TSEB

BDFB	**Brasilia**	**44.12**	**330**	P		**P**	**04 19 16.8**	**-1.2**
	1.5nm,0.5s,baz=165,slow=4.3,SNR=4.2							
VNDA	**Vanda**	**45.80**	**183**	P		**P**	**04 19 30.9**	**+0.4**
	1.1nm,0.6s,baz=192,slow=5.2,SNR=8.6							
VNDA	**Vanda**	**45.80**	**183**	*eP*		**P**	**04 19 30.6**	**+0.2**
	1.2nm,0.6s							
H10S2	**ASCENSION HYDR**	**48.70**	**16**	T		T	05 12 35.1	
	baz=189,slow=75,SNR=16							
H10S3	**ASCENSION HYDR**	**48.71**	**16**	T		T	05 12 35.3	
	baz=189,slow=75,SNR=13							
H10S1	**ASCENSION HYDR**	**48.72**	**16**	T		T	05 12 36.4	
	baz=189,slow=75,SNR=16							
LBTB	**Lobatse**	**49.09**	**72**	*eP*		**P**	**04 19 56.6**	**-0.1**
H10N1	**ASCENSION HYDR**	**49.82**	**16**	T		T	05 13 59.4	
	baz=80,slow=75,SNR=3.8							
H10N3	**ASCENSION HYDR**	**49.82**	**16**	T		T	05 13 59.7	
	baz=80,slow=75,SNR=13							
H10N2	**ASCENSION HYDR**	**49.84**	**16**	T		T	05 14 00.6	
	baz=80,slow=75,SNR=6.5							
LPAZ	**La Paz**	**50.96**	**305**	P		**P**	**04 20 12.4**	**+1.0**
	5.1nm,0.4s,baz=103,slow=4.1,SNR=38							
LPAZ					PcP	**PcP**	**04 21 27.4**	**+1.0**
	1.0nm,0.5s,baz=311,slow=0.3,SNR=3.1							
SAML	**Samuel**	**55.46**	**315**	*eP*		**P**	**04 20 44.0**	**+0.3**
	3.0nm,1.0s							
DBIC	**Dimbokro**	**65.81**	**24**	P		**P**	**04 21 54.4**	**+0.5**
	1.4nm,0.5s,baz=243,slow=4.5,SNR=5.7							
DBIC	**Dimbokro**	**65.81**	**24**	*eP*		**P**	**04 21 53.5**	**-0.4**
	9.1nm,1.3s							
TOA0	**Torodi Ar. Sit**	**73.66**	**29**	*eP*		**P**	**04 22 42.2**	**+0.2**
TORD	**Torodi Ar. Bea**	**73.66**	**29**	P		**P**	**04 22 42.9**	**+0.9**
	0.5nm,0.3s,baz=200,slow=6.2,SNR=38							
DUG	**Dugway, Tooele**	**120.46**	**298**	*e*PKPdf		**PKPdf**	**04 29 59.0**	**+0.4**
PDAR	**Pinedale Array**	**120.89**	**302**	PKP		**PKPdf**	**04 29 58.5**	**-0.9**
	0.2nm,0.5s,baz=95,slow=6.1,SNR=4.7							
ULM	**Lac du Bonnet**	**120.92**	**316**	PKP		**PKPdf**	**04 29 57.9**	**-0.9**
	1.5nm,0.7s,baz=100,slow=6.1,SNR=3.0							
HWUT	**Hardware Ranch**	**120.95**	**299**	*e*PKPdf		**PKPdf**	**04 29 59.8**	**+0.3**
NVAR	**Mina Array Bea**	**121.84**	**292**	PKP		**PKPdf**	**04 30 02.1**	**+0.7**
	0.3nm,0.5s,baz=170,slow=6.0,SNR=4.8							
LOHW	**Long Hollow**	**122.03**	**302**	*e*PKPdf		**PKPdf**	**04 30 01.2**	**-0.3**
TPAW	**Teton Pass**	**122.10**	**301**	*e*PKPdf		**PKPdf**	**04 30 01.9**	**+0.1**
MOOW	**Moose Ponds**	**122.20**	**302**	*e*PKPdf		**PKPdf**	**04 30 01.9**	**0.0**
FINES	**FINESS Array B**	**125.00**	**28**	PKP		**PKPdf**	**04 30 05.8**	**-0.4**
	0.6nm,0.5s,baz=177,slow=3.4,SNR=4.5							
NEW	**Newport**	**128.53**	**301**	*e*PKPdf		**PKPdf**	**04 30 15.1**	**+1.5**
TKM2	**Tokmak 2**	**130.86**	**71**	*e*PKPdf		**PKPdf**	**04 30 19.0**	**+0.6**
ARCES	**ARCESS Array B**	**131.61**	**22**	PKP		**PKPdf**	**04 30 18.2**	**-0.5**
	2.5nm,0.9s,baz=258,slow=1.8,SNR=4.7							
YKA	**Yellowknife Ar**	**136.85**	**317**	PKP		**PKPdf**	**04 30 28.8**	**+0.1**
	1.2nm,0.4s,baz=130,slow=2.2,SNR=15							
BMRM	**Bremner River**	**148.63**	**304**	*e*PKPbc		**PKPbc**	**04 30 54.0**	**+0.5**
SONM	**Songino Array**	**150.61**	**88**	PKPbc		**PKPbc**	**04 30 58.6**	**-0.2**
	1.4nm,0.5s,baz=226,slow=4.9,SNR=8.0							
ILAR	**Eielson Array**	**150.75**	**311**	PKPbc		**PKPbc**	**04 30 58.4**	**0.0**
	4.1nm,0.6s,baz=133,slow=4.0,SNR=62							
RC01	**Rabbit Creek A**	**151.03**	**303**	*e*PKPbc		**PKPbc**	**04 31 00.2**	**+1.0**
COLA	**College**	**151.17**	**311**	*e*PKPbc		**PKPbc**	**04 30 59.4**	**0.0**
COLA				*e*PKPab		**PKPab**	**04 31 07.9**	**+0.2**
MCK	**McKinley**	**151.38**	**308**	*e*PKPbc		**PKPbc**	**04 31 00.2**	**+0.3**
MCK				*e*PKPab		**PKPab**	**04 31 09.4**	**+0.7**
TRF	**Thorofare Moun**	**151.91**	**307**	*e*PKPbc		**PKPbc**	**04 31 01.1**	**-0.2**
TRF				*e*PKPab		**PKPab**	**04 31 11.7**	**+0.6**
BPAW	**Bear Paw Mtn.**	**152.34**	**308**	*e*PKPbc		**PKPbc**	**04 31 01.8**	**-0.3**

WEL 21 04:17:14.9±0.2, 41°25'S × 172°38'E, h142km ±1km, ML3.6/10, 4C-3D, Error ellipse: s-maj=1.7km s-min=1.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QRZ	**Quartz Range**	**0.48**	**331**	PN	Pn	04 17 35.1	-0.2
QRZ				SN	Sn	04 17 49.1	-1.6
THZ	**Tophouse**	**0.51**	**174**	↑PN	Pn	04 17 35.4	-0.1
THZ				SN	Sn	04 17 50.4	-0.8
TUWZ	**Tuamarina**	**0.85**	**102**	↓PN	Pn	04 17 37.9	+0.2
TUWZ				SN	Sn	04 17 53.9	-1.0
TUWZ				AML	AML	04 17 54.8	
BSWZ	**Blackbirch Sta**	**0.91**	**121**	PN	Pn	04 17 38.3	+0.2
BSWZ				SN	Sn	04 17 55.6	-0.2
DSZ	**Denniston Nort**	**0.92**	**237**	↑PN	Pn	04 17 37.9	-0.4
DUWZ	**D'Urville Isla**	**0.94**	**62**	PN	Pn	04 17 38.8	+0.4
DUWZ				SN	Sn	04 17 56.3	0.0
TCW	**Tory Channel**	**1.09**	**88**	PN	Pn	04 17 40.0	+0.3
TCW				AML	AML	04 17 58.6	
TCW				AML	AML	04 17 59.0	
KHZ	**Kahutara**	**1.28**	**156**	↑PN	Pn	04 17 41.0	0.0
LTZ	**Lake Taylor**	**1.59**	**195**	PN	Pn	04 17 44.6	-0.3
KIW	**Kapiti Island**	**1.62**	**77**	PN	Pn	04 17 44.9	-0.2
KIW				SN	Sn	04 18 06.9	-1.4
KIW				AML	AML	04 18 08.7	
CAW	**Cannon Point**	**1.69**	**86**	PN	Pn	04 17 45.6	-0.4
CAW				AML	AML	04 18 09.8	
CAW				AML	AML	04 18 11.6	
OGWZ	**Otaki Gorge**	**1.82**	**77**	↑PN	Pn	04 17 47.2	-0.3
MSWZ	**Moikau Station**	**1.83**	**96**	PN	Pn	04 17 47.1	-0.4
MSWZ				AML	AML	04 18 11.8	
MSWZ				AML	AML	04 18 12.2	
PLWZ	**Palliser**	**1.85**	**101**	PN	Pn	04 17 47.3	-0.6
PAWZ	**Paruwai Farm**	**1.96**	**95**	PN	Pn	04 17 48.3	-0.7
PAWZ				AML	AML	04 18 14.5	
PAWZ				AML	AML	04 18 14.7	
NMEZ	**Namu Road**	**2.00**	**24**	PN	Pn	04 17 50.7	+1.1
MTW	**Mount Morrison**	**2.02**	**88**	PN	Pn	04 17 49.2	-0.5
MTW				AML	AML	04 18 15.5	
MTW				AML	AML	04 18 15.8	
HOWZ	**Holdsworth Sta**	**2.06**	**81**	PN	Pn	04 17 49.5	-0.7
OXZ	**Oxford**	**2.15**	**196**	PN	Pn	04 17 50.8	-0.6
TRWZ	**Traveller**	**2.15**	**95**	AML	AML	04 18 19.6	
KHEZ	**Kahui Hut**	**2.15**	**25**	PN	Pn	04 17 52.5	+1.0
MRZ	**Mangatainoka R**	**2.16**	**75**	PN	Pn	04 17 50.6	-0.9
MRZ				AML	AML	04 18 19.2	
MRZ				AML	AML	04 18 19.6	
WAZ	**Wanganui**	**2.22**	**48**	PN	Pn	04 17 53.3	+1.1
PKE	**Pukeiti**	**2.24**	**24**	PN	Pn	04 17 53.2	+0.7
TMWZ	**Te Maipa**	**2.31**	**87**	PN	Pn	04 17 53.0	-0.3
TIWZ	**Tintock**	**2.36**	**79**	AML	AML	04 18 23.7	
TIWZ				AML	AML	04 18 23.9	
WVZ	**Waitaha Valley**	**2.40**	**220**	↓PN	Pn	04 17 53.6	-0.7
MQZ	**McQueen's Vall**	**2.46**	**183**	PN	Pn	04 17 54.1	-0.9
PRWZ	**Pori Road**	**2.48**	**75**	PN	Pn	04 17 54.6	-0.8
VRZ	**Vera Road**	**2.58**	**35**	PN	Pn	04 17 57.2	+0.5
BFZ	**Birch Farm**	**2.65**	**79**	PN	Pn	04 17 56.8	-0.7
TSZ	**Takapari Road**	**2.66**	**64**	PN	Pn	04 17 55.6	-2.1
PKVZ	**Pokaka**	**2.74**	**45**	PN	Pn	04 17 59.3	+0.4
RPZ	**Rata Peaks**	**2.79**	**208**	PN	Pn	04 17 58.5	-0.8
WNVZ	**Wahianoa**	**2.86**	**49**	↓PN	Pn	04 18 00.6	+0.2
ANWZ	**Angora Road**	**2.87**	**75**	PN	Pn	04 17 59.8	-0.5
FWVZ	**Far West T-bar**	**2.88**	**47**	PN	Pn	04 18 00.7	0.0
PNHZ	**Pukenui**	**2.89**	**64**	PN	Pn	04 17 59.4	-1.2
WPVZ	**Whakapapa**	**2.91**	**46**	PN	Pn	04 18 01.0	-0.1
TUVZ	**Tukino**	**2.93**	**48**	PN	Pn	04 18 01.3	+0.1
OTVZ	**Oturere**	**3.01**	**47**	PN	Pn	04 18 02.1	-0.2
BHHZ	**Black Hill Sta**	**3.03**	**56**	PN	Pn	04 18 01.6	-0.9
KRHZ	**Kereru**	**3.14**	**60**	PN	Pn	04 18 02.5	-1.3
HIZ	**Hauiti**	**3.15**	**30**	PN	Pn	04 18 03.7	-0.2
FOZ	**Fox Glacier**	**3.28**	**224**	PN	Pn	04 18 03.3	-2.2
KAHZ	**Kahuranaki**	**3.41**	**66**	PN	Pn	04 18 06.4	-0.9
BKZ	**Black Stump Fm**	**3.49**	**55**	PN	Pn	04 18 07.3	-1.0
LBZ	**Lake Benmore**	**3.69**	**211**	PN	Pn	04 18 09.6	-1.3
ODZ	**Otahua Downs**	**4.12**	**202**	PN	Pn	04 18 15.4	-1.0
JCZ	**Jackson Bay**	**4.12**	**225**	PN	Pn	04 18 15.2	-1.5
WKZ	**Wanaka**	**4.54**	**217**	PN	Pn	04 18 20.2	-1.9
RIGZ	**Rimuhau**	**4.56**	**58**	PN	Pn	04 18 20.4	-2.0

*CSEM **21** 04:23:32.8, 38°26N × 22°73E, h5km*
ATH 21 04:23:32.8, 38°26N × 22°73E, h5km, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DSF	**Desfina**	**0.22**	**313**	*e*PG	Pg	04 23 37.2	0.0
DSF	**Desfina**	**0.22**	**313**	*e*Pg	Pg	04 23 37.2	0.0
GUR	**Goura**	**0.45**	**224**	*e*PB	Pg	04 23 41.5	-0.1
GUR	**Goura**	**0.45**	**224**	*e*Pb	Pg	04 23 41.5	-0.1
KALE	**Kalithea**	**0.48**	**286**	*e*PB	Pg	04 23 42.1	-0.1
KALE	**Kalithea**	**0.48**	**286**	*e*PG	Pn	04 23 47.6	+1.1
KALE	**Kalithea**	**0.48**	**286**	*e*Pb	Pg	04 23 42.1	-0.1
KLV	**Kalavryta, Ach**	**0.51**	**245**	*e*PB	Pg	04 23 42.7	+0.1
KLV	**Kalavryta, Ach**	**0.51**	**245**	*e*PG	Pn	04 23 48.9	+2.1
KLV	**Kalavryta, Ach**	**0.51**	**245**	*e*Pb	Pg	04 23 42.7	+0.1
EFP	**Efpalio**	**0.67**	**285**	*e*PG	Pb	04 23 47.2	+0.2
EFP				*e*SG	Sg	04 23 49.0	-5.4

*IDC **21** 05:29:59.7±2.6, 19°.52N × 120°.41E, h31km ±7km, mb3.6/4, mb1 3.8/4, mb1mx3.3/41, mbtmp3.7/4, Error ellipse: s-maj=254.3km s-min=15.9km az=62.0*
ISC 21 05:29:59.4±2.1, 19°.4N±0°.5 × 12°.0E±°, h23km, n6, σ1§25/9, mb3.7/4,1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**1.13**	**164**	↑*i*P	**Pn**	**05 30 19.2**	**-0.6**
PIP				*e*S	**Sn**	**05 30 34.8**	**+0.2**
MKAR	**Makanchi Array**	**41.31**	**320**	P	**P**	**05 37 42.4**	**-0.9**
	0.2nm,0.5s,baz=110,slow=8.0,SNR=2.4						
MKAR				pP	**pP**	**05 37 51.7**	**+1.4**
	1.2nm,0.9s,baz=145,slow=4.4,SNR=4.4						
WRA	**Warramunga Arr**	**41.47**	**160**	P	**P**	**05 37 44.0**	**-0.7**
	0.6nm,0.4s,baz=341,slow=9.0,SNR=22						
ZALV	**Zalesovo Beam**	**43.87**	**330**	pP	pP	05 38 11.1	+0.2
	0.7nm,0.5s,baz=106,slow=3.7,SNR=2.2						
ASAR	**Alice Springs**	**44.83**	**162**	P	**P**	**05 38 11.8**	**-0.1**
	1.8nm,0.4s,baz=339,slow=6.9,SNR=34						
ASAR				pP	**pP**	**05 38 20.9**	**+1.8**
	0.7nm,0.4s,baz=342,slow=7.0,SNR=6.0						
KURBB	**Kurchatov Arra**	**45.31**	**323**	P	**P**	**05 38 14.3**	**-1.1**
	0.8nm,0.7s,baz=122,slow=7.7,SNR=6.3						
KURBB				pP	**pP**	**05 38 23.5**	**+1.0**
	1.9nm,0.6s,baz=119,slow=7.7,SNR=13						

*KRSC **21** 05:44:10.8±1.8, 57°.35N × 162°.46E, h7km ±26km, ML4.4*
*MOS **21** 05:44:11.0±1.7, 57°.45N × 162°.33E, h8km, mb4.1/10, Error ellipse: s-maj=20.7km s-min=7.4km az=83.4*
*ISCJB **21** 05:44:12.2±0.3, 57°.42N±0°.03 × 162°.31E±0°.08, h10km, mb3.8/16, MS3.1/1, Error ellipse: s-maj=6.5km s-min=3.2km az=23.3*
*IDC **21** 05:44:12.2±1.0, 57°.47N × 162°.11E, h0km, mb3.7/15, mb1 3.9/16, mb1mx3.8/49, mbtmp3.7/16, ML2.7/1, MS3.1/2, Ms1 3.1/2, ms1mx2.6/40, Error ellipse: s-maj=28.7km s-min=14.9km az=166.0*
ISC 21 05:44:12.7±0.5, 57°.36N±0°.03 × 162°.31E±0°.04, h10km, n73, σ1§17/70, mb3.8/16, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMKR	**Semkarok**	**0.90**	**211**	*e*P	**Pg**	**05 44 29.1**	**-0.9**
SMKR				*e*S	**Sb**	**05 44 43.3**	**+0.8**
SRKR	**Sorokina**	**0.94**	**222**	*e*P	**Pg**	**05 44 28.9**	**-1.9**
BDR	**Baidarnaya**	**0.99**	**218**	*e*P	**Pg**	**05 44 29.9**	**-1.9**
KBTR	**Krutoberegovo**	**1.19**	**166**	*e*P	**Pn**	**05 44 34.2**	**-1.1**
KBTR				*e*S	**Sn**	**05 44 51.5**	**+0.1**
KBTR	**Krutoberegovo**	**1.19**	**166**	PN	**Pn**	**05 44 34.2**	**-1.1**
KBTR				S	**Sn**	**05 44 51.5**	**+0.1**
KRSR	**Krestovskiy**	**1.49**	**221**	*e*P	**Pn**	**05 44 38.4**	**-1.2**
LGNR	**Loginova**	**1.56**	**216**	*e*P	**Pn**	**05 44 39.7**	**-1.0**
ZLN	**Zelenaya**	**1.58**	**212**	*e*P	**Pn**	**05 44 39.9**	**-0.9**
BZGR	**Bezymyannyi-Gr**	**1.68**	**213**	*e*P	**Pn**	**05 44 42.2**	**+0.1**
BZWR	**Bezymyannyi-We**	**1.72**	**216**	*e*P	**Pn**	**05 44 42.3**	**-0.5**
BZWR				*e*S	**Sb**	**05 45 05.7**	**-0.4**
BZMR	**Bezymyannaya**	**1.74**	**216**	*e*P	**Pb**	**05 44 43.7**	**-1.1**
SRDR	**Sredinnyy**	**1.76**	**235**	*e*P	**Pn**	**05 44 42.0**	**-1.3**
SRDR				*e*S	**Sn**	**05 45 05.6**	**-0.2**
KIRR	**Kirishev**	**1.78**	**218**	*e*P	**Pn**	**05 44 43.1**	**-0.5**
KIRR				*e*S	**Sb**	**05 45 07.5**	**-0.3**
KPT	**Kopyto**	**1.81**	**220**	*e*P	**Pn**	**05 44 44.4**	**+0.5**
KPT				*e*S	**Sg**	**05 45 09.8**	**-0.9**
KOZR	**Kozyr**	**1.85**	**227**	PN	**Pn**	**05 44 44.5**	**0.0**
KOZR				S	**Sb**	**05 45 09.7**	**-0.2**
KOZ	**Kozyrevsk**	**1.87**	**227**	*e*P	**Pn**	**05 44 44.5**	**-0.2**
KOZ				*e*S	**Sb**	**05 45 09.7**	**-0.6**
OSSR	**Ossora**	**1.94**	**11**	*e*P	**Pn**	**05 44 45.2**	**-0.4**
OSSR				*e*S	**Sb**	**05 45 11.1**	**-1.2**
KMNR	**Kamenistaya**	**1.97**	**216**	*e*P	**Pn**	**05 44 46.1**	**-0.1**
KMNR				*e*S	**Sb**	**05 45 12.6**	**-0.7**
PALN	**Palana**	**2.13**	**325**	*e*P	**Pb**	**05 44 48.6**	**-2.8**
PALN				*e*S	**Sb**	**05 45 17.7**	**-0.2**
TUMR	**Tumrok**	**2.40**	**211**	*e*P	**Pb**	**05 44 54.6**	**-1.4**
KZV	**Kizimen**	**2.51**	**207**	*e*P	**Pb**	**05 44 56.3**	**-1.7**
MKZ	**Mys Kozlova**	**2.83**	**187**	*e*P	**Pn**	**05 44 58.3**	**+0.5**
MKZ	**Mys Kozlova**	**2.83**	**187**	PN	**Pn**	**05 44 58.3**	**+0.5**
BKI	**Bering**	**2.97**	**135**	*e*P	**Pn**	**05 44 58.1**	**-1.7**
BKI				*e*S	**Sn**	**05 45 33.3**	**-2.1**
BKI	**Bering**	**2.97**	**135**	PN	**Pn**	**05 44 58.1**	**-1.7**
GNL	**Ganaly**	**4.43**	**216**	*e*P	**Pn**	**05 45 22.4**	**+2.4**
SPN	**Mys Shipunski**	**4.46**	**198**	*e*P	**Pn**	**05 45 21.0**	**+0.7**
SPN	**Mys Shipunski**	**4.46**	**198**	PN	**Pn**	**05 45 21.0**	**+0.7**
KRX	**Arik**	**4.52**	**209**	*e*P	Pn	05 45 24.7	+3.5
NLC	**Nalytchevo**	**4.52**	**203**	*e*P	**Pn**	**05 45 23.6**	**+2.5**
NLC	**Nalytchevo**	**4.52**	**203**	PN	**Pn**	**05 45 23.6**	**+2.5**
SDLR	**Sedlovina**	**4.53**	**207**	*e*P	Pn	05 45 24.6	+3.2
KRER	**Koryakskii**	**4.54**	**208**	*e*P	Pn	05 45 25.1	+3.5
SMAR	**Somma**	**4.56**	**207**	*e*P	Pn	05 45 25.1	+3.2
AVH	**Avacha**	**4.58**	**208**	*e*P	Pn	05 45 25.7	+3.7
KOK	**Kozyaka**	**4.58**	**209**	*e*P	Pn	05 45 25.9	+3.9
UGLR	**Uglovaya**	**4.61**	**207**	*e*P	Pn	05 45 26.9	+4.5
PET	**Petropavlovsk**	**4.82**	**207**	*e*PN	Pn	05 45 30.6	+5.4
PET				pmax	pmax		
	comp=Z,46nm,0.7s						
PET				MLR	MLR		
	comp=Z,400nm,16.0s						
PETK	**Petropavlovsk-**	**5.01**	**214**	Pn	Pn	05 45 31.2	+3.4
	comp=Z,1.5nm,0.3s,baz=63,slow=15,SNR=23						
PETK	**Petropavlovsk-**	**5.01**	**214**	PN	Pn	05 45 31.2	+3.4
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
APC	**Apacha**	**5.33**	**216**	*e*P	Pn	05 45 36.3	+4.1
RUS	**Russkaya**	**5.40**	**206**	*e*P	Pn	05 45 36.5	+3.4
RUS	**Russkaya**	**5.40**	**206**	PN	Pn	05 45 36.5	+3.4
MTVR	**Mutnovka**	**5.43**	**208**	*e*P	Pn	05 45 38.8	+5.0
ASAK	**Asacha**	**5.59**	**209**	*e*P	Pn	05 45 39.9	+4.0
ASAJ	**Asahikawa**	**18.11**	**231**	LR	LR	05 54 29.5	
	comp=Z,52nm,20.1s,baz=164,slow=34						
ILAR	**Eielson Array**	**25.03**	**52**	P	**P**	**05 49 37.1**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=259,slow=7.8,SNR=12						
ILAR	**Eielson Array**	**25.03**	**52**	P	**P**	**05 49 37.2**	**+0.7**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**29.78**	**42**	P	**P**	**05 50 20.0**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=293,slow=15,SNR=2.8						
INK				LR	LR	06 03 24.2	
	comp=Z,41nm,18.3s,baz=326,slow=39						
INK	**Inuvik**	**29.78**	**42**	P	**P**	**05 50 20.0**	**+1.0**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK				MLR	MLR		
	comp=Z,41nm,18.3s						
SONM	**Songino Array**	**34.34**	**278**	P	**P**	**05 50 59.5**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=55,slow=9.2,SNR=6.5						
SONM	**Songino Array**	**34.34**	**278**	P	**P**	**05 50 59.5**	**+0.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**39.23**	**47**	P	**P**	**05 51 42.5**	**+1.9**
	comp=Z,0.5nm,0.7s,baz=300,slow=7.6,SNR=3.2						
YKA	**Yellowknife Ar**	**39.23**	**47**	P	**P**	**05 51 42.5**	**+1.9**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SPITS	**Spitsbergen Ar**	**43.13**	**350**	P	**P**	**05 52 13.8**	**+1.3**
	comp=Z,3.9nm,0.8s,baz=81,slow=9.5,SNR=8.0						
SPITS	**Spitsbergen Ar**	**43.13**	**350**	P	**P**	**05 52 13.8**	**+1.3**
SPITS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KURK	**Kurchatov**	**46.64**	**300**	P	**P**	**05 52 42.1**	**+1.4**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KURBB	**Kurchatov Arra**	**46.74**	**300**	P	**P**	**05 52 42.1**	**+0.5**
	comp=Z,4.0nm,0.8s,baz=54,slow=8.0,SNR=38						
MKAR	**Makanchi Array**	**47.53**	**293**	P	**P**	**05 52 48.1**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=56,slow=5.9,SNR=3.6						
BVAR	**Borovoye Array**	**48.79**	**307**	P	**P**	**05 52 58.0**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=46,slow=10,SNR=5.0						
BVAR	**Borovoye Array**	**48.79**	**307**	P	**P**	**05 52 58.0**	**+0.6**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PDAR	**Pinedale Array**	**54.44**	**65**	P	**P**	**05 53 41.7**	**+1.6**
	comp=Z,0.3nm,0.8s,baz=348,slow=3.1,SNR=3.5						
AKTO	**Aktyubinsk**	**55.91**	**312**	P	**P**	**05 53 50.4**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=26,slow=7.2,SNR=5.2						
AKTO	**Aktyubinsk**	**55.91**	**312**	P	**P**	**05 53 50.4**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s						

FINES	**FINESS Array B**	**56.70**	**337**	P	**P**	**05 53 54.8**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=38,slow=7.6,SNR=2.6						
FINES	**FINESS Array B**	**56.70**	**337**	P	**P**	**05 53 54.8**	**-1.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NB2	**NORSAR Subarra**	**59.79**	**344**	P	**P**	**05 54 17.5**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=18,slow=6.9						
NOA	**NORSAR Array B**	**59.79**	**344**	P	**P**	**05 54 16.2**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=18,slow=6.9,SNR=4.6						
NOA	**NORSAR Array B**	**59.79**	**344**	P	**P**	**05 54 16.2**	**-1.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**60.32**	**258**	P	**P**	**05 54 20.5**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=17,slow=6.5,SNR=5.1						
CMAR	**Chiang Mai Arr**	**60.32**	**258**	P	**P**	**05 54 20.5**	**-1.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**65.60**	**329**	P	**P**	**05 54 56.2**	**0.0**
	comp=Z,0.1nm,0.3s,baz=16,slow=6.3,SNR=3.7						
TXAR	**Lajitas Array**	**67.89**	**70**	P	**P**	**05 55 12.5**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=316,slow=5.2,SNR=4.4						

*ISCJB **21** 05:48:54.2±1.5, 20°.88S±0°.09 × 168°.48E±0°.07, h42km ±13km, mb4.3/17, Error ellipse: s-maj=16.1km s-min=10.0km az=154.4*
*SZGRF **21** 05:48:54.5, 20°.57S × 170°.01E, h38km, Vanuatu Islands*
*IDC **21** 05:48:55.0±1.0, 20°.80S × 168°.55E, h36km ±3km, mb4.1/10, mb1 4.3/11, mb1mx4.0/26, mbtmp4.3/11, ML4.1/1, Error ellipse: s-maj=33.1km s-min=14.6km az=142.0*
*BJI **21** 05:48:55.4, 20°.60S × 168°.40E, h35km, mb4.9/15, mB5.0/11, Ms4.8/9, Ms7 4.4/6*
*NEIC **21** 05:48:55.4±0.5, 20°.65S × 168°.43E, h35km, mb4.5/10, Error ellipse: s-maj=14.6km s-min=10.4km az=154.0*
ISC 21 05:48:55.1±0.5, 20°.85S±0°.08 × 168°.47E±0°.07, h34km ±1km, h35km: pP-P, n69, σ1§11/87, mb4.4/17, 8C, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.25**	**237**	Pn	**Pn**	**05 49 29.6**	**-0.3**
	45nm,0.3s,baz=269,slow=23,SNR=237						
DZM				Sn	**Sn**	**05 49 55.9**	**-0.5**
	125nm,0.3s,baz=341,slow=23,SNR=6.4						
DZM	**Mont Dzumac**	**2.25**	**237**	*e*Pn	**Pn**	**05 49 29.0**	**-0.9**
DZM				Sn	**Sn**	**05 49 55.9**	**-0.5**
MSVF	**Nonsavu**	**9.56**	**73**	*e*Pn	**Pn**	**05 51 12.8**	**+2.4**
OUZ	**Omahuta**	**15.01**	**164**	*e*P	**P**	**05 52 29.6**	**0.0**
	237nm,2.2s						
ARMA	**Armidale**	**17.91**	**234**	*e*P	**P**	**05 53 05.1**	**+3.1**
	14nm,1.3s						
CTA	**Charters Tower**	**20.83**	**268**	P	P

WMQ PMZ
9.0nm,0.5s
WMQ PMZ
85nm,5.2s
WMQ LN
150nm,30.8s
WMQ LE
490nm,23.4s
WMQ LZ
61nm,19.2s
ARCES ARCESS Array B 126.43 345 PKP **PKPdf 06 07 51.6 -2.1**
1.1nm,0.8s,baz=93,slow=2.4,SNR=4.4
ARCES pPKP **pPKPdf 06 08 03.5 -1.5**
4.7nm,1.2s,baz=328,slow=5.7,SNR=1.5
BRG Berggiesshubel 143.98 332 *e*PKPbc PKPab 06 08 24.3 +0.2
NEUB Neuenburg 144.63 335 *e*PKPbc **PKPab 06 08 26.8 +0.2**
CLZ Clausthal 144.68 336 *e*PKPbc **PKPab 06 08 26.9 +0.1**
TANN Tannenbergstra 144.95 333 *e*PKPbc **PKPab 06 08 27.8 -0.1**
TANN *ep*PKPbc **pPKPdf 06 08 39.2 -0.7**
WERD Werda 144.99 333 *e*PKPbc **PKPbc 06 08 28.0 0.0**
WERD *ep*PKPbc 06 08 39.4
PLN Plauen 145.03 333 *e*PKPbc **PKPbc 06 08 28.2 +0.1**
PLN *ep*PKPbc pPKPbc 06 08 39.5 +0.1
GUNZ Gunzen 145.04 333 *e*PKPbc **PKPbc 06 08 28.3 +0.1**
GUNZ *ep*PKPbc pPKPbc 06 08 39.6 +0.1
WERN Wernitzgruen 145.08 333 *e*PKPbc **PKPbc 06 08 28.5 +0.2**
WERN *ep*PKPbc pPKPbc 06 08 39.8 +0.2
CONA Conrad Observa 145.12 327⇑*i*PKPdf **PKPab 06 08 28.9 +0.3**
15nm,1.3s
IBBN Ibbenburen 145.22 339 *e*PKPbc **PKPbc 06 08 28.4 -0.2**
MANZ Manzenberg 145.42 333 *e*PKPbc **PKPdf 06 08 29.5 +0.1**
MANZ *ep*PKPbc pPKPbc 06 08 41.0 +0.4
ROTZ Rotzenmuhle 145.55 333 *e*PKPbc **PKPab 06 08 30.2 +0.2**
ROTZ *ep*PKPbc pPKPbc 06 08 41.5 +0.6
GEC2 GERESS Array S 145.55 330 *e*PKPbc **PKPdf 06 08 29.8 +0.1**
GEC2 *ep*PKPbc pPKPbc 06 08 41.3 +0.2
GEC2 GERESS Array S 145.55 330 *e*PKPdf **PKPdf 06 08 29.5 -0.3**
GERES GERESS Array B 145.55 330 PKPbc **PKPdf 06 08 29.3 -0.4**
3.7nm,0.9s,baz=41,slow=2.6,SNR=22
GERES pPKPbc pPKPbc 06 08 41.0 -0.1
2.0nm,0.8s,baz=29,slow=3.0,SNR=5.3
UBBA Unterbreizbach 145.64 336 *e*PKPbc **PKPbc 06 08 29.9 +0.1**
UBBA *ep*PKPbc pPKPbc 06 08 41.1 +0.1
WET Wettzell 145.71 331 *e*PKPbc **PKPbc 06 08 30.5 +0.2**
ARSA Arzberg 145.74 327⇑*i*PKPab **PKPdf 06 08 30.4 +0.4**
16nm,1.4s
MOA Molln 145.97 328⇑*i*PKPab **PKPbc 06 08 31.3 +0.2**
16nm,1.2s
GRF Grafenberg Arr 146.02 333 *e*PKPbc **PKPbc 06 08 31.5 +0.3**
TNS Taunus Mts 146.71 336 *e*PKPbc **PKPbc 06 08 33.3 0.0**
KBA Koelnbreinsper 146.96 328⇑*i*PKPab **PKPbc 06 08 33.8 -0.5**
5.0nm,1.1s
ABTA Abfaltersbach 147.60 328⇑*i*PKPbc **PKPbc 06 08 34.9 -1.0**
4.9nm,1.0s
WTTA Wattenberg 147.65 330⇑*i*PKPab **PKPbc 06 08 36.1 0.0**
13nm,1.6s
MOTA Moosalm 147.84 331⇑*i*PKPbc **PKPbc 06 08 36.1 -0.6**
10nm,1.2s
FETA Feichten 148.25 331⇑*i*PKPbc **PKPbc 06 08 36.8 -1.0**
7.5nm,1.1s
BFO Black Forest 148.28 334 *e*PKPbc **PKPbc 06 08 37.2 -0.4**
BFO Black Forest 148.28 334 *e*PKPbc **PKPbc 06 08 37.0 -0.7**
DAVOX Davos/Dischmat 148.81 331 PKPbc **PKPbc 06 08 38.6 -0.7**
5.6nm,0.7s,baz=81,slow=3.1,SNR=8.3
DAVOX pPKPbc **pPKPbc 06 08 50.1 -0.4**
3.6nm,0.5s,baz=217,slow=8.7,SNR=2.9
BNI Bardonecchia 151.57 332 *e*PKPbc **PKPbc 06 08 44.2 -1.7**
TORD Torodi Ar. Bea 165.22 241 PKP **PKPdf 06 08 56.2 -0.5**
0.6nm,0.9s,baz=76,slow=2.7,SNR=4.9
TORD pPKP **pPKPdf 06 09 07.8 -0.2**
0.6nm,0.8s,baz=17,slow=1.5,SNR=3.1

*ISCJB **21** 05:49:26.2±0.4,20.°68S±0.°07×168.°39E±0.°08, h26km, mb4.4/22, MS4.2/2, Error ellipse: s-maj=11.1km s-min=8.3km az=36.8*
*BJI **21** 05:49:27.6,20.°70S×168.°40E, h35km, mb4.9/4, mB4.9/2, Ms4.7/2, Ms7 4.4/2*
*IDC **21** 05:49:29.2±0.9,20.°82S×168.°43E, h35±4km, mb4.1/11, mb1 4.3/11, mb1mx4.1/26, mbtmp4.3/11, MS4.3/2, Ms1 4.2/2, ms1mx3.4/21, Error ellipse: s-maj=26.2km s-min=17.6km az=136.0*
*SZGRF **21** 05:49:29.2, 20.°22S×169.°90E, h39km, Vanuatu Islands*
*NEIC **21** 05:49:29.1±0.3,20.°68S×168.°41E, h35km, mb4.6/11, Error ellipse: s-maj=11.3km s-min=9.7km az=90.0*
ISC 21 05:49:28.5±0.5,20.°82S±0.°08×168.°33E±0.°09, h26km, n55, σ1°34/57, mb4.4/22, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.15**	**234**	Sn	**Sb**	**05 50 31.4**	**-1.8**
179nm,0.3s,baz=307,slow=20,SNR=4.2							
DZM	**Mont Dzumac**	**2.15**	**234**	*e*Pn	Pn	05 49 58.9	-3.9
DZM				Sn	**Sb**	**05 50 31.4**	**-1.8**
URZ	**Urewera**	**18.97**	**158**	*e*P	**Pn**	**05 53 50.1**	**+1.5**
RPZ	**Rata Peaks**	**22.95**	**175**	P	**P**	**05 54 30.9**	**+0.1**
8.2nm,0.8s,baz=48,slow=2.9,SNR=4.1							
ODZ	**Otahua Downs**	**24.24**	**176**	*e*P	**P**	**05 54 43.6**	**+0.3**
12nm,1.0s							
STKA	**Stephens Creek**	**26.30**	**240**	P	**P**	**05 55 01.8**	**-0.3**
3.4nm,0.8s,baz=80,slow=11,SNR=4.5							
STKA				LR	LR	06 05 18.2	
comp=Z,552nm,19.4s,baz=31,slow=36							
STKA	**Stephens Creek**	**26.30**	**240**	*e*P	**P**	**05 55 03.9**	**+1.9**
4.3nm,1.3s							
WRAB	**Tennant Creek**	**31.83**	**266**	*e*P	**P**	**05 55 49.6**	**-1.8**
5.7nm,1.0s							
WRA	**Warramunga Arr**	**31.84**	**265**	P	**P**	**05 55 51.8**	**+0.2**
1.4nm,0.9s,baz=96,slow=8.1,SNR=3.5							
WRA				pP	**pP**	**05 56 01.6**	**+2.4**
3.9nm,1.0s,baz=96,slow=8.9,SNR=4.6							
WRA				LR	LR	06 08 46.3	
comp=Z,556nm,18.8s,baz=100,slow=36							
AS31	**Alice Springs**	**31.94**	**258**	*e*P	**P**	**05 55 52.2**	**-0.2**
ASAR	**Alice Springs**	**31.94**	**258**	P	**P**	**05 55 52.4**	**-0.1**
8.7nm,0.8s,baz=83,slow=9.0,SNR=8.5							
ASAR				pP	**pP**	**05 56 03.1**	**+3.0**
9.7nm,0.6s,baz=90,slow=8.7,SNR=5.7							
TBI	**Tubuai**	**39.10**	**102**	*e*LR	LR	06 07 05.9	
264nm,35.2s							
PPT2	**Papeete2**	**39.81**	**93**	*e*LR	LR	06 07 28.9	
400nm,29.8s							
MBWA	**Marble Bar**	**45.23**	**260**	*e*P	**P**	**05 57 44.5**	**+0.7**
20nm,1.3s							
SBA	**Scott Base**	**57.08**	**180**	*e*P	**P**	**05 59 12.6**	**+0.6**
3.3nm,0.8s							
MJAR	**Matsushiro Arr**	**63.76**	**333**	P	**P**	**05 59 56.9**	**-1.2**
1.4nm,0.7s,baz=170,slow=7.4,SNR=3.4							
MJAR				pP	**pP**	**06 00 08.0**	**+1.6**
2.1nm,0.8s,baz=171,slow=7.2,SNR=2.7							
QSPA	**South Pole Qui**	**69.24**	**180**	*e*P	**P**	**06 00 32.2**	**-0.9**
13nm,1.4s							
NJ2	**Nanjing**	**70.75**	**317**	*e*P	**P**	**06 00 41.3**	**-1.3**
NJ2				PMZ			
40nm,0.8s							
USRK	**Ussuriysk Ar.**	**72.75**	**333**	P	**P**	**06 00 54.4**	**+0.1**
4.1nm,0.9s,baz=173,slow=4.8,SNR=5.8							
USRK				pP	**pP**	**06 01 06.2**	**+3.5**
4.4nm,1.0s,baz=152,slow=6.5,SNR=2.9							
PETK	**Petropavlovsk-**	**74.19**	**353**	P	**P**	**06 01 01.8**	**-0.8**
4.5nm,0.8s,baz=159,slow=8.7,SNR=5.1							
PETK				pP	**pP**	**06 01 13.0**	**+2.0**
3.4nm,0.8s,baz=150,slow=9.9,SNR=3.1							
CMAR	**Chiang Mai Arr**	**78.38**	**295**	P	**P**	**06 01 28.1**	**+0.9**
0.8nm,0.3s,baz=140,slow=4.3,SNR=4.4							
XAN	**Xi'an**	**78.55**	**313**	P	P	06 01 36.8	+8.9
XAN				pmax	pmax		
comp=Z,1.0nm,0.5s							
CD2	**Chengdu**	**80.52**	**308**	*e*P	**P**	**06 01 38.0**	**-0.7**
SNAA	**Sanae**	**87.55**	**183**	*e*P	**P**	**06 02 14.4**	**+0.5**
comp=Z,7.3nm,1.3s							
ULN	**Ulaanbaatar**	**87.62**	**324**	*e*P	**P**	**06 02 14.4**	**-0.2**
comp=Z,1.4nm,0.6s							
SONM	**Songino Array**	**87.97**	**323**	P	**P**	**06 02 15.1**	**-1.1**
comp=Z,1.8nm,0.8s,baz=152,slow=5.0,SNR=5.4							
SONM				pP	**pP**	**06 02 27.0**	**+2.3**
comp=Z,1.7nm,0.7s,baz=144,slow=5.0,SNR=3.8							
CMB	**Columbia Colle**	**88.84**	**48**	*e*P	**P**	**06 02 18.0**	**-2.5**
comp=Z,15nm,1.3s							
NVAR	**Mina Array Bea**	**90.48**	**49**	P	**P**	**06 02 26.4**	**-2.0**
comp=Z,3.0nm,0.8s,baz=228,slow=8.4,SNR=8.4							
NVAR				pP	**pP**	**06 02 37.9**	**+1.0**
comp=Z,5.6nm,0.8s,baz=226,slow=8.2,SNR=11							
TPH	**Tonopah**	**91.09**	**50**	*e*P	**P**	**06 02 29.0**	**-2.2**
comp=Z,4.5nm,0.9s							
ILAR	**Eielson Array**	**91.99**	**18**	P	**P**	**06 02 35.1**	**+0.7**
comp=Z,0.6nm,0.7s,baz=231,slow=5.8,SNR=5.1							
WVOR	**Wild Horse Val**	**92.03**	**45**	*e*P	**P**	**06 02 32.9**	**-2.5**
comp=Z,5.8nm,0.9s							
ARCES	**ARCESS Array B**	**126.36**	**345**	pPKP	pPKPdf	06 08 38.2	+1.2
comp=Z,1.3nm,0.8s,baz=354,slow=3.7,SNR=1.2							
BRG	**Berggiesshubel**	**143.88**	**332**	*e*PKPbc	PKPab	06 08 58.2	-0.3
BRG				*ep*PKPbc	PKiKP	06 09 11.3	+6.5
NRDL	**Niedersach Rie**	**144.17**	**337**	*e*PKPbc	**PKPab**	**06 08 58.8**	**-0.6**
NEUB	**Neuenburg**	**144.54**	**334**	*e*PKPbc	**PKPab**	**06 09 00.6**	**-0.3**
TANN	**Tannenbergstha**	**144.86**	**333**	*e*PKPbc	**PKPab**	**06 09 01.8**	**-0.4**
TANN				*ep*PKPbc	PKiKP	06 09 13.4	+6.5
WERD	**Werda**	**144.90**	**333**	*e*PKPbc	**PKPab**	**06 09 01.9**	**-0.4**
WERD				*ep*PKPbc	PKiKP	06 09 13.6	+6.6
PLN	**Plauen**	**144.94**	**333**	*e*PKPbc	**PKPab**	**06 09 02.0**	**-0.4**
PLN				*ep*PKPbc	PKiKP	06 09 13.4	+6.4
GUNZ	**Gunzen**	**144.95**	**333**	*e*PKPbc	**PKPab**	**06 09 02.2**	**-0.3**
GUNZ				*ep*PKPbc	PKiKP	06 09 13.7	+6.6
WERN	**Wernitzgruen**	**144.99**	**333**	*e*PKPbc	**PKPab**	**06 09 02.4**	**-0.3**
WERN				*ep*PKPbc	PKiKP	06 09 13.8	+6.6
IBBN	**Ibbenburen**	**145.14**	**339**	*e*PKPbc	**PKPbc**	**06 09 02.3**	**-0.7**
MANZ	**Manzenberg**	**145.33**	**333**	*e*PKPbc	**PKPbc**	**06 09 03.4**	**-0.4**
MANZ				*ep*PKPbc	pPKPbc	06 09 14.7	+2.2
GEC2	**GERESS Array S**	**145.45**	**330**	*e*PKPbc	**PKPbc**	**06 09 03.7**	**-0.6**
GEC2				*ep*PKPbc	pPKPbc	06 09 15.1	+2.1
GEC2	**GERESS Array S**	**145.45**	**330**	*e*PKPdf	**PKPbc**	**06 09 03.5**	**-0.8**
GERES	**GERESS Array B**	**145.45**	**330**	PKPbc	**PKPbc**	**06 09 03.5**	**-0.8**
comp=Z,4.1nm,0.9s,baz=46,slow=3.9,SNR=8.9							
ROTZ	**Rotzenmuhle**	**145.45**	**332**	*e*PKPbc	**PKPbc**	**06 09 04.0**	**-0.1**
ROTZ				*ep*PKPbc	pPKPbc	06 09 15.2	+2.4
UBBA	**Unterbreizbach**	**145.55**	**336**	*e*PKPbc	**PKPdf**	**06 09 03.6**	**-0.5**
UBBA				*ep*PKPbc	pPKPbc	06 09 15.2	+2.3
WET	**Wettzell**	**145.61**	**331**	*e*PKPbc	**PKPdf**	**06 09 04.4**	**-0.1**
TNS	**Taunus Mts**	**146.62**	**336**	*e*PKPbc	**PKPbc**	**06 09 07.3**	**-0.4**
WLF	**Walferdange**	**147.91**	**338**	*e*PKPbc	**PKPbc**	**06 09 11.1**	**-0.2**
DOU	**Dourbes**	**148.07**	**340**	PKPbc	**PKPbc**	**06 09 10.8**	**-0.9**
BFO	**Black Forest**	**148.19**	**334**	*e*PKPbc	**PKPbc**	**06 09 10.6**	**-1.4**
DAVOX	**Davos/Dischmat**	**148.72**	**331**	PKPbc	**PKPbc**	**06 09 12.6**	**-1.1**
comp=Z,6.5nm,0.6s,baz=345,slow=3.7,SNR=5.5							
BNI	**Bardonecchia**	**151.48**	**332**	*e*PKPbc	**PKPbc**	**06 09 19.4**	**-1.0**
TORD	**Torodi Ar. Bea**	**165.12**	**241**	PKP	**PKPdf**	**06 09 29.6**	**-1.8**
comp=Z,0.9nm,0.8s,baz=77,slow=1.3,SNR=4.9							

*ISCJB **21** 05:50:55.3±5.7,20.°85S±0.°09×168.°59E±0.°10, h17km±39km, mb4.6/23, MS4.0/1, Error ellipse: s-maj=17.4km s-min=13.2km az=42.2*
*IDC **21** 05:50:60.0±1.1,20.°81S×168.°50E, h36km±4km, mb4.3/12, mb1 4.5/13, mb1mx4.3/25, mbtmp4.5/13, MS4.1/1, Ms1 4.1/1, ms1mx3.2/20, Error ellipse: s-maj=35.2km s-min=15.0km az=142.0*
*NEIC **21** 05:50:59.7±0.4,20.°70S×168.°54E, h35km, mb4.8/12, Error ellipse: s-maj=13.7km s-min=9.7km az=143.0*
*SZGRF **21** 05:51:00.1,20.°60S×169.°63E, h40km, Vanuatu Islands*
*BJI **21** 05:51:01.7,20.°29S×168.°19E, h35km, mb4.9/14, mB4.9/9, Ms4.8/4, Ms7 4.3/5*
ISC 21 05:51:00.1±0.6,20.°77S±0.°10×168.°5E±0.°1, h37km±2km, h38km:pP-P, n72, σ1°15/84, mb4.7/23, 7C-2D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.28**	**235**	Pn	**Pn**	**05 51 34.2**	**-1.1**
baz=93,slow=15,SNR=2.5							
DZM				Sn	**Sn**	**05 52 02.0**	**-0.1**
305nm,0.3s,baz=344,slow=18,SNR=5.9							
CTA	**Charters Tower**	**20.82**	**268**	P	Pn	05 55 40.7	-0.5
12nm,1.0s,baz=94,slow=14,SNR=3.4							
CTA				LR	LR	06 02 47.4	
comp=Z,560nm,19.1s,baz=94,slow=34							
CTAO	**Charters Tower**	**20.82**	**268**	*e*P	Pn	05 55 40.6	-0.6
21nm,0.9s							
RPZ	**Rata Peaks**	**22.98**	**175**	*e*P	**P**	**05 56 03.5**	**+2.1**
59nm,1.6s							
STKA	**Stephens Creek**	**26.42**	**240**	P	**P**	**05 56 34.2**	**+0.8**
3.3nm,0.7s,baz=71,slow=9.7,SNR=5.8							
STKA	**Stephens Creek**	**26.42**	**240**	*e*P	**P**	**05 56 35.2**	**+1.8**
2.4nm,1.1s							
WRAB	**Tennant Creek**	**31.95**	**265**	*e*P	**P**	**05 57 22.2**	**-0.5**
7.2nm,1.2s							
WRA	**Warramunga Arr**	**31.96**	**265**	P	**P**	**05 57 21.6**	**-1.2**
2.1nm,0.8s,baz=95,slow=8.6,SNR=3.7							
WRA				pP	**pP**	**05 57 32.7**	**-0.7**
5.3nm,0.9s,baz=91,slow=9.6,SNR=8.3							
AS31	**Alice Springs**	**32.07**	**258**	*e*P	**P**	**05 57 23.6**	**-0.1**
ASAR	**Alice Springs**	**32.07**	**258**	P	**P**	**05 57 24.0**	**+0.2**
10.0nm,0.8s,baz=82,slow=9.1,SNR=7.7							
ASAR				pP	**pP**	**05 57 34.5**	**+0.1**
21nm,0.9s,baz=82,slow=8.9,SNR=10							
MBWA	**Marble Bar**	**45.35**	**260**	*e*P	**P**	**05 59 15.5**	**+0.5**
22nm,1.0s							
SBA	**Scott Base**	**57.13**	**180**	*e*P	**P**	**06 00 43.6**	**+1.1**
19nm,1.3s							
MJAR	**Matsushiro Arr**	**63.77**	**333**	P	**P**	**06 01 27.4**	**-0.9**
2.4nm,0.8s,baz=167,slow=7.6,SNR=4.9							
MJAR				pP	**pP**	**06 01 37.7**	**-1.9**
3.4nm,0.9s,baz=167,slow=6.7,SNR=3.7							
ASAJ	**Asahikawa**	**68.78**	**340**	P	**P**	**06 02 01.0**	**+0.8**
14nm,1.0s,baz=117,slow=2.3,SNR=4.0							
QSPA	**South Pole Qui**	**69.29**	**180**	*e*P	**P**	**06 02 03.3**	**-0.1**
10.0nm,1.1s							
NJ2	**Nanjing**	**70.80**	**317**	*e*P	**P**	**06 02 14.3**	**+1.4**
NJ2				PMZ			
80nm,0.6s							
USRK	**Ussuriysk Ar.**	**72.76**	**333**	P	**P**	**06 02 25.2**	**+0.8**
7.7nm,0.9s,baz=173,slow=4.9,SNR=8.6							
USRK				pP	**pP**	**06 02 36.5**	**+0.6**
8.1nm,1.0s,baz=151,slow=4.8,SNR=6.5							
MDJ	**Mudanjiang**	**74.12**	**332**	P	**P**	**06 02 33.8**	**+1.4**
MDJ				PMZ			
9.0nm,0.6s							
MDJ				PMZ			
39nm,6.5s							
PETK	**Petropavlovsk-**	**74.16**	**353**	P	**P**	**06 02 32.8**	**+0.3**
7.0nm,0.8s,baz=157,slow=10,SNR=9.4							
KMI	**Kunming**	**78.46**	**303**	P	**P**	**06 02 59.8**	**+2.0**
KMI				PMZ			
15nm,0.9s							
CMAR	**Chiang Mai Arr**	**78.47**	**295**	P	**P**	**06 02 59.5**	**+1.7**
5.0nm,0.9s,baz=132,slow=4.3,SNR=8.6							
CMAR				pP	**pP**	**06 03 10.4**	**+1.1**
1.9nm,0.6s,baz=126,slow=4.4,SNR=2.1							
CHTO	**Chiang Mai**	**78.62**	**295**	*e*P	**P**	**06 02 60.0**	**+1.4**
4.9nm,0.8s							
CD2	**Chengdu**	**80.59**	**308**	*e*P	**P**	**06 03 09.3**	**+0.2**
CD2				pP	**pP**	**06 03 20.3**	**-0.3**
CD2				sP	**sP**	**06 03 24.3**	**-0.6**
CD2				PP	**PP**	**06 06 15.5**	**+2.3**
CD2				S	**S**	**06 13 13.1**	**-0.6**
CD2				SKS	**SKSac**	**06 13 20.1**	**-4.6**
CD2				sS	**sS**	**06 13 31.4**	**-1.5**
CD2				PMZ			
10.0nm,0.5s							
CD2				PMZ			
120nm,5.6s							
HHC	**Hu-ho-hao-te**	**80.91**	**320**	*e*P	**P**	**06 03 13.4**	**+2.8**
HHC				S	**S**	**06 13 14.0**	**-2.7**
HHC				PMZ			
24nm,0.9s							
HHC				PMZ			
62nm,7.4s							
HHC				LN			
180nm,17.0s							
HHC				LE			
110nm,16.0s							
HHC				LZ			
130nm,17.3s							
LZH	**Lanzhou**	**83.21**	**313**	*e*P	**P**	**06 03 24.5**	**+1.6**
LZH				pP	**pP**	**06 03 35.0**	**+0.5**
LZH				sP	**sP**	**06 03 40.8**	**+2.0**
LZH				PMZ			
44nm,1.2s							
SYO	**Syowa Base**	**83.26**	**196**⇓	*e*P	**P**	**06 03 21.0**	**-1.4**
SNAA	**Sanae**	**87.61**	**183**	*e*P	**P**	**06 03 41.6**	**-2.5**
6.0nm,1.3s							
GTA	**Gaotai**	**87.64**	**314**	*e*P	P	06 03 48.1	+3.2
GTA				pP	pP	06 03 52.5	-4.1
GTA				PMZ			
3.0nm,1.3s							
ULN	**Ulaanbaatar**	**87.65**	**324**	*e*P	**P**	**06 03 45.3**	**+0.6**
4.5nm,1.1s							
SONM	**Songino Array**	**88.00**	**323**	P	**P**	**06 03 46.9**	**+0.5**
2.8nm,0.8s,baz=146,slow=5.4,SNR=6.3							
SONM				pP	**pP**	**06 03 58.1**	**+0.1**
1.5nm,0.8s,baz=134,slow=4.3,SNR=4.0							
CMB	**Columbia Colle**	**88.72**	**48**	*e*P	**P**	**06 03 48.9**	**-1.0**
10.0nm,1.3s							
NVAR	**Mina Array Bea**	**90.36**	**49**	P	**P**	**06 03 57.2**	**-0.6**
5.6nm,0.9s,baz=226,slow=8.5,SNR=11							
NVAR				pP	**pP**	**06 04 09.3**	**-0.2**
5.8nm,0.8s,baz=225,slow=8.1,SNR=10							
TPH	**Tonopah**	**90.97**	**49**	*e*P	**P**	**06 03 59.8**	**-0.9**
9.2nm,1.2s							
TLY	**Talaya**	**91.60**	**326**	P	**P**	**06 04 01.6**	**-1.3**
2.0nm,0.6s,baz=233,slow=3.7,SNR=3.8							
ILAR	**Eielson Array**	**91.91**	**18**	P	P	06 04 01.4	-2.7
0.8nm,0.8s,baz=234,slow=6.1,SNR=4.4							
WVOR	**Wild Horse Val**	**91.91**	**45**	*e*P	**P**	**06 04 04.0**	**-0.8**
6.3nm,1.2s							
ARCES	**ARCESS Array B**	**126.35**	**345**	PKP	**PKPdf**	**06 09 56.8**	**-1.5**
2.5nm,1.0s,baz=56,slow=2.3,SNR=3.5							
KOLS	**Kolonicke sedl**	**141.05**	**324**	*e*PKP	**PKPdf**	**06 10 27.0**	**+0.7**
KOLS				*e*		06 22 28.1	
BRG	**Berggiesshubel**	**143.90**	**332**	*e*PKPbc	PKPbc	06 10 29.4	+0.3
BRG				*ep*PKPbc	pPKPdf	06 10 41.0	-2.4
FBE	**Freiberg**	**144.12**	**333**	*e*PKPbc	PKPbc	06 10 30.2	+0.4
FBE				*ep*PKPbc	pPKPdf	06 10 42.2	-1.5
CLZ	**Clausthal**	**144.60**	**336**	*e*PKPbc	PKPbc	06 10 31.9	+0.6
TANN	**Tannenbergstha**	**144.87**	**333**	*e*PKPbc	**PKPdf**	**06 10 32.9**	**-0.2**
TANN				*ep*PKPbc	**pPKPdf**	**06 10 44.9**	**-0.3**
WERD	**Werda**	**144.91**	**333**	*e*PKPbc	**PKPdf**	**06 10 33.0**	**-0.1**
WERD				*ep*PKPbc	PKiKP	06 10 45.1	+8.2
PLN	**Plauen**	**144.95**	**333**	*e*PKPbc	**PKPdf**	**06 10 33.1**	**-0.1**
PLN				*ep*PKPbc	PKiKP	06 10 45.1	+8.1
GUNZ	**Gunzen**	**144.97**	**333**	*e*PKPbc	**PKPdf**	**06 10 33.3**	**+0.1**
GUNZ				*ep*PKPbc	PKiKP	06 10 45.4	+8.3
WERN	**Wernitzgruen**	**145.00**	**333**	*e*PKPbc	**PKPdf**	**06 10 33.5**	**+0.2**
WERN				*ep*PKPbc	pPKPbc	06 10 45.5	+0.7
CONA	**Conrad Observa**	**145.05**	**327**⇑*i*PKPdf		**PKPdf**	**06 10 33.8**	**+0.3**
28nm,1.7s							
IBBN	**Ibbenburen**	**145.14**	**339**	*e*PKPbc	**PKPdf**	**06 10 33.4**	**0.0**
IBBN				*ep*PKPbc	pPKPbc	06 10 45.4	+0.3
MANZ	**Manzenberg**	**145.34**	**333**	*e*PKPbc	**PKPab**	**06 10 34.6**	**+0.7**
MANZ				*ep*PKPbc	pPKPbc	06 10 46.5	+0.7
ROTZ	**Rotzenmuhle**	**145.47**	**333**	*e*PKPbc	**PKPab**	**06 10 35.3**	**+0.9**
ROTZ				*ep*PKPbc	pPKPbc	06 10 47.1	+0.9
GEC2	**GERESS Array S**	**145.47**	**330**	*e*PKPbc	**PKPab**	**06 10 34.9**	**+0.4**
GEC2				*ep*PKPbc	pPKPbc	06 10 46.8	+0.5
GEC2	**GERESS Array S**	**145.47**	**330**	*e*PKPdf	**PKPdf**	**06 10 34.0**	**-0.2**
GERES	**GERESS Array B**	**145.47**	**330**	PKPbc	**PKPab**	**06 10 34.6**	**+0.1**
6.5nm,0.9s,baz=29,slow=3.0,SNR=8.3							
GERES				pPKP	**pPKPdf**	**06 10 45.8**	**-0.5**
4.4nm,0.9s,baz=37,slow=3.3,SNR=5.1							
UBBA	**Unterbreizbach**	**145.56**	**336**	*e*PKPbc	**PKPab**	**06 10 34.8**	**+0.3**
UBBA				*ep*PKPbc	pPKPbc	06 10 46.7	+0.5
WET	**Wettzell**	**145.63**	**331**	*e*PKPbc	**PKPab**	**06 10 35.5**	**+0.5**
ARSA	**Arzberg**	**145.67**	**327**⇑*i*PKPab		**PKPab**	**06 10 35.6**	**+0.4**
14nm,1.4s							
MOA	**Molln**	**145.90**	**328**⇑*i*PKPab		**PKPab**	**06 10 36.0**	**0.0**
22nm,1.2s							
GRF	**Grafenberg Arr**	**145.94**	**333**	*e*PKPbc	**PKPab**	**06 10 36.6**	**+0.5**
BUG	**Bochum--Univer**	**146.03**	**339**	*e*PKPbc	**PKPab**	**06 10 36.3**	**-0.1**
TNS	**Taunus Mts**	**146.62**	**336**	*e*PKPbc	**PKPbc**	**06 10 38.3**	**+0.6**
RJOB	**Jochberg**	**146.68**	**330**	*e*PKPbc	**PKPbc**	**06 10 38.3**	**+0.3**
KBA	**Koelnbreinsper**	**146.88**	**328**⇑*i*PKPab		**PKPbc**	**06 10 38.2**	**-0.5**
8.8nm,1.1s							
STU	**Stuttgart**	**147.50**	**334**	*e*PKPbc	**PKPbc**	**06 10 40.8**	**+0.7**
ABTA	**Abfaltersbach**	**147.52**	**329**⇑*i*PKPbc		**PKPbc**	**06 10 39.9**	**-0.4**
6.0nm,0.9s							
WTTA	**Wattenberg**	**147.57**	**330**⇑*i*PKPab		**PKPbc**	**06 10 40.6**	**0.0**
19nm,1.2s							
MOTA	**Moosalm**	**147.76**	**331**⇑*i*PKPbc		**PKPbc**	**06 10 41.0**	**-0.1**
8.8nm,0.8s							
WLF	**Walferdange**	**147.92**	**338**	*e*PKPbc	**PKPbc**	**06 10 42.3**	**+1.1**
FETA	**Feichten**	**148.17**	**331**⇓*i*PKPbc		**PKPbc**	**06 10 42.1**	**-0.1**
12nm,1.1s							
BFO	**Black Forest**	**148.20**	**335**	*e*PKPbc	**PKPbc**	**06 10 42.2**	**+0.2**
BFO	**Black Forest**	**148.20**	**335**	*e*PKPbc	**PKPbc**	**06 10 41.6**	**-0.4**
BNI

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.63**	**53**	P	**Pb**	**06 12 45.9**	**-0.3**
JTAJ				S	**Sb**	**06 12 54.6**	**-0.8**
JAMN	**Amaminishikomi**	**0.71**	**137**	P	**Pb**	**06 12 47.5**	**-0.1**
JAMN				S	**Sb**	**06 12 57.7**	**0.0**
JAM	**Amami Oshima**	**0.93**	**112**	P	**Pb**	**06 12 51.4**	**+0.1**
JAM				S	**Sg**	**06 13 03.0**	**+0.4**
JTK	**Tokunoshima**	**1.02**	**164**	P	**Pg**	**06 12 52.1**	**-0.2**
JTK				S	**Sb**	**06 13 06.6**	**0.0**
JZK	**Kikaishima**	**1.27**	**111**	P	**Pn**	**06 12 57.7**	**+0.6**
JZK				S	**Sn**	**06 13 15.0**	**+0.5**
JOKE	**Okinoerabujima**	**1.41**	**182**	P	**Pn**	**06 12 58.2**	**-0.8**
JOKE				S	**Sb**	**06 13 16.2**	**-1.5**
JNN	**Nakanoshima**	**1.52**	**45**	P	**Pn**	**06 13 00.2**	**-0.4**
JIH	**Iheya**	**1.83**	**199**	P	**Pn**	**06 13 04.6**	**-0.2**
JOW	**Kunigami**	**1.96**	**189**	P	**Pn**	**06 13 06.2**	**-0.4**
JOW	**Kunigami**	**1.96**	**189**	Pn	**Pn**	**06 13 06.2**	**-0.4**
	3.3nm,0.3s,baz=79,slow=21,SNR=47						
JOW				Sn	**Sn**	**06 13 32.0**	**+0.5**
	2.0nm,0.3s,baz=102,slow=25,SNR=6.4						
JKC	**Kuchinoerabu**	**2.17**	**39**	P	**Pn**	**06 13 09.5**	**0.0**
JYAK	**Yakushimahirau**	**2.20**	**48**	P	**Pn**	**06 13 09.8**	**-0.1**
JAGN	**Aguni-jima**	**2.50**	**210**	P	**Pn**	**06 13 14.3**	**+0.3**
JTN	**Tanegashima 3**	**2.78**	**47**	P	**Pn**	**06 13 18.5**	**+0.6**
JKE	**Kume jima 2**	**2.93**	**214**	P	**Pn**	**06 13 20.8**	**+0.8**
JMZ	**Minamidaito 2**	**3.74**	**141**	P	**Pn**	**06 13 31.1**	**+0.1**
JMZ				eS	**Sn**	**06 14 14.2**	**-1.2**
JNU	**Nakatsue**	**4.75**	**23**	Pn	Pn	06 13 51.0	+6.0
	2.2nm,0.3s,baz=168,slow=6.6,SNR=41						
KSRS	**Korea Array**	**8.68**	**356**	Pn	Pn	06 14 46.9	+8.0
	0.3nm,0.3s,baz=181,slow=16,SNR=3.1						
KSRS				LR	LR	06 18 08.6	
	comp=Z,212nm,20.2s,baz=175,slow=39						
USRK	**Ussuriysk Ar.**	**15.63**	**9**	LR	LR	06 21 34.7	
	comp=Z,61nm,20.2s,baz=224,slow=35						
GUMO	**Guam**	**21.35**	**132**	LR	LR	06 24 23.7	
	comp=Z,60nm,19.7s,baz=344,slow=33						
SONM	**Songino Array**	**25.66**	**324**	P	**P**	**06 18 04.7**	**+1.1**
	1.8nm,0.8s,baz=135,slow=10,SNR=10						
SONM				LR	LR	06 29 00.7	
	comp=Z,24nm,19.4s,baz=110,slow=38						
SEY	**Seymchan**	**37.50**	**18**	P	**P**	**06 19 47.8**	**+0.6**
	0.5nm,0.3s,baz=198,slow=20,SNR=3.8						
ZALV	**Zalesovo Beam**	**40.48**	**321**	P	**P**	**06 20 12.5**	**+0.4**
	0.7nm,0.5s,baz=92,slow=7.2,SNR=2.4						
KURBB	**Kurchatov Arra**	**43.30**	**315**	P	**P**	**06 20 35.6**	**+0.3**
	0.3nm,0.3s,baz=103,slow=9.1,SNR=4.1						
BVAR	**Borovoye Array**	**48.65**	**317**	P	**P**	**06 21 17.6**	**+0.1**
	1.6nm,0.7s,baz=99,slow=7.4,SNR=9.2						
WRA	**Warramunga Arr**	**48.74**	**173**	P	**P**	**06 21 19.0**	**+0.5**
	0.9nm,0.6s,baz=354,slow=8.3,SNR=9.0						
ASAR	**Alice Springs**	**52.38**	**174**	P	**P**	**06 21 47.8**	**+1.8**
	0.2nm,0.3s,baz=5.6,slow=14,SNR=6.5						
AKTO	**Aktyubinsk**	**56.33**	**314**	LR	LR	06 47 45.9	
	comp=Z,33nm,18.7s,slow=38						
OBN	**Obninsk**	**68.05**	**322**	LR	LR	06 54 39.4	
	comp=Z,48nm,20.0s,baz=90,slow=37						
FINES	**FINESS Array B**	**70.84**	**330**	P	**P**	**06 23 49.4**	**-0.8**
	0.5nm,0.5s,baz=17,slow=12,SNR=2.9						
YKA	**Yellowknife Ar**	**76.08**	**25**	P	**P**	**06 24 19.2**	**-1.9**
	1.4nm,0.8s,baz=298,slow=5.7,SNR=5.6						
NVAR	**Mina Array Bea**	**88.50**	**46**	P	**P**	**06 25 28.2**	**+1.4**
	0.3nm,0.6s,baz=322,slow=2.8,SNR=3.4						
PDAR	**Pinedale Array**	**90.97**	**39**	P	**P**	**06 25 37.0**	**-1.3**
	0.3nm,0.8s,baz=298,slow=3.2,SNR=3.5						

*ISCJB **21** 06:21:12.2±0.5,50.09N±0.03×19.01E±0.04,h0km, Error ellipse: s-maj=4.5km s-min=3.3km az=7.4*
*PRU **21** 06:21:12.9,50.16N×19.05E,h0km*
*CSEM **21** 06:21:12.5±0.2,50.14N×19.04E,h2km, ML2.5/4, Error ellipse: s-maj=6.1km s-min=3.0km az=3.0*

ISC 21 06:21:12.7±0.8, 50.09N±0.03×19.07E±0.02, h0km, n21, σ0.91/33, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.20**	**346**	*e*Pg	**Pg**	**06 21 18.7**	**+2.0**
CHZP				eSg	**Sg**	**06 21 19.8**	**+0.5**
OJC	**Ojcow**	**0.49**	**75**	*e*Pg	**Pg**	**06 21 22.0**	**-0.1**
OJC				*i* Sg	**Sg**	**06 21 27.4**	**-1.0**
OJC	**Ojcow**	**0.49**	**75**	*e*Pg	**Pg**	**06 21 22.0**	**-0.1**
OJC				*i* Sg	**Sg**	**06 21 27.4**	**-1.0**
OKC	**Ostrava-Krasne**	**0.65**	**247**	*e*PG	**Pg**	**06 21 25.9**	**+0.8**
OKC				eSG	**Sg**	**06 21 34.4**	**+0.9**
	comp=Z,12nm,0.6s						
OKC	**Ostrava-Krasne**	**0.65**	**247**	Pg	**Pg**	**06 21 25.9**	**+0.8**
OKC				Sg	**Sg**	**06 21 34.4**	**+0.9**
	12nm,0.6s						
LANS	**Liptovska Anna**	**0.98**	**164**	*e*Pg	**Pg**	**06 21 31.9**	**+0.4**
LANS				eSg	**Sg**	**06 21 45.3**	**+1.2**
KRLC	**Kraliky**	**1.47**	**270**	eSG	**Sb**	**06 22 00.1**	**-0.2**
KRLC	**Kraliky**	**1.47**	**270**	Sg	**Sb**	**06 22 00.1**	**-0.2**
STHS	**Stebnicka Huta**	**1.56**	**115**	*e*Pn	**Pb**	**06 21 42.7**	**+0.1**
STHS				eSn	**Sb**	**06 22 03.5**	**+0.5**
STHS	**Stebnicka Huta**	**1.56**	**115**	*e*PN	**Pb**	**06 21 42.7**	**+0.1**
STHS				eSN	**Sb**	**06 22 03.4**	**+0.5**
VYHS	**Vyhne**	**1.61**	**185**	*e*Pn	**Pn**	**06 21 42.1**	**-0.3**
VYHS				eSn	**Sn**	**06 22 04.0**	**+0.2**
VYHS	**Vyhne**	**1.61**	**185**	*e*PN	**Pn**	**06 21 42.1**	**-0.3**
VYHS				eSN	**Sn**	**06 22 04.0**	**+0.2**
DPC	**Dobruska-Polom**	**1.78**	**279**	*e*PG	**Pb**	**06 21 45.6**	**-0.7**
DPC				eSG	**Sb**	**06 22 09.1**	**-0.1**
	comp=Z,8.8nm,0.4s						
DPC	**Dobruska-Polom**	**1.78**	**279**	Pg	**Pb**	**06 21 45.6**	**-0.7**
DPC				Sg	**Sb**	**06 22 09.1**	**-0.1**
	8.8nm,0.4s						
VRAC	**Vranov**	**1.79**	**245**	eSg	**Sb**	**06 22 09.2**	**-0.1**
UPC	**Upice**	**2.00**	**283**	eSG	**Sg**	**06 22 17.4**	**+0.4**
UPC	**Upice**	**2.00**	**283**	Sg	**Sg**	**06 22 17.4**	**+0.4**
PRU	**Pruhonice**	**2.92**	**270**	eSG	**Sg**	**06 22 44.2**	**-2.3**
	comp=Z,2.9nm,0.4s						
PRU	**Pruhonice**	**2.92**	**270**	Sg	**Sg**	**06 22 44.2**	**-2.3**
	2.9nm,0.4s						
KHC	**Kasperske Hory**	**3.70**	**257**	eSG	**Sg**	**06 23 10.5**	**-0.9**
	comp=Z,2.6nm,0.4s						
KHC	**Kasperske Hory**	**3.70**	**257**	Sg	**Sg**	**06 23 10.5**	**-0.9**
	2.6nm,0.4s						

IDC 21 06:38:20.1±2.7, 4.52S×133.74E, h0km, mb3.6/1, mb1 3.7/3, mb1mx3.4/32, mbtmp3.5/3, ML2.9/2, Error ellipse: s-maj=124.9km s-min=30.1km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.34**	**178**	Pn	Pn	06 41 57.6	-0.6
	0.0nm,0.3s,baz=357,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**19.04**	**180**	P	P	06 42 44.2	+0.2
	0.1nm,0.3s,baz=6.8,slow=9.5,SNR=26						
MKAR	**Makanchi Array**	**68.28**	**325**	P	P	06 49 23.1	0.0
	0.6nm,0.9s,baz=126,slow=7.3,SNR=3.3						

*IDC **21** 06:40:21.5±0.7,4.50S×134.22E,h0km, mb4.1/11, mb1 4.3/16, mb1mx4.1/34, mbtmp4.2/16, ML4.1/5, MS3.8/10, Ms1 3.8/10, ms1mx3.5/23, Error ellipse: s-maj=28.7km s-min=15.3km az=79.0*
*ISCJB **21** 06:40:24.0±0.3,4.61S±0.03×133.99E±0.03, h21km, mb4.2/20, MS3.5/6, Error ellipse: s-maj=4.7km s-min=4.6km az=7.7*
*BJI **21** 06:40:24.5,4.50S×134.00E, h13km, mb4.6/14, mB4.7/8, Ms4.4/4, Ms7 4.1/4*
*NEIC **21** 06:40:24.5±2.6,4.51S×134.05E, h13km±17km, mb4.6/12, Error ellipse: s-maj=8.5km s-min=5.8km az=56.0*
*DJA **21** 06:40:29.0±0.4,4°S±3°×13°4E±°, h45km±10km, M4.8/19, mb4.8/19, mB5.2/11, MLv4.9/12, Mw(mB)4.7/11*

ISC 21 06:40:26.2±0.4, 4.65S±0.04×134.05E±0.05, h21km, n71, σ1.71/79, mb4.2/20, MS3.6/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.49**	**314**	P	Pn	06 41 01.9	-3.5
FAKI	**Fak Fak**	**2.49**	**314**	*e*Pn	**Pn**	**06 41 02.3**	**-3.1**
FAKI				eS	**Sb**	**06 41 41.8**	**+1.5**
RKPI	**Ransiki, Papua**	**3.12**	**2**	P	**Pn**	**06 41 13.2**	**-0.9**
RKPI				S	**Sn**	**06 41 49.8**	**-0.9**
SRPI	**Serui, Papua**	**3.52**	**38**	S	**Sn**	**06 41 57.4**	**-3.2**
BNDI	**Bandanaira**	**4.14**	**272**	P	**Pn**	**06 41 27.4**	**-0.7**
BNDI				S	**Sn**	**06 42 14.5**	**-1.4**
SAUI	**Saumlaki**	**4.30**	**219**	P	Pn	06 41 35.1	+4.7
SIJI	**Sorong**	**4.67**	**323**	Pn	**Pn**	**06 41 32.9**	**-2.7**
	1.9nm,0.3s,baz=114,slow=20,SNR=6.1						
SIJI				Sn	Sn	06 42 22.3	-6.9
	7.2nm,0.3s,baz=136,slow=21,SNR=5.5						
SIJI				LR	LR	06 43 59.3	
	comp=Z,2μm,18.1s,baz=143,slow=47						
SWI	**Sorong**	**4.68**	**323**	P	**Pn**	**06 41 35.4**	**-0.2**
SMPI	**Sarmi**	**5.35**	**61**	P	**Pn**	**06 41 46.6**	**+1.8**
	31nm,0.7s,2μm0.2nm						
AAI	**Ambon**	**5.92**	**279**	P	**Pn**	**06 41 51.8**	**-0.9**
	274nm,0.8s,3μm1.1nm						
GENI	**Genyem**	**6.43**	**72**	P	**Pn**	**06 42 00.8**	**+1.1**
	76nm,0.8s,0.4nm						
JAY	**Jayapura**	**6.97**	**73**	Pn	**Pn**	**06 42 06.9**	**-0.2**
	1.7nm,0.3s,baz=237,slow=12,SNR=6.9						
NLAI	**Namlea**	**7.08**	**281**	P	**Pn**	**06 42 08.3**	**-0.2**
	94nm,1.0s,3μm0.3nm						
NLAI				S	**Sn**	**06 43 25.0**	**-3.4**
	94nm,1.0s,3μm0.3nm						
SANI	**Sanana**	**8.45**	**288**	P	Pn	06 42 23.8	-3.7
	57nm,0.9s,690nm						
TNTI	**Ternate**	**8.58**	**309**	*e*Pn	**Pn**	**06 42 28.5**	**-0.7**
SOEI	**Soe**	**10.95**	**242**	P	**Pn**	**06 43 00.6**	**-1.3**
	125nm,1.0s,960nm						
SOEI				S	**Sn**	**06 45 03.4**	**-0.5**
	125nm,1.0s,960nm						
SOEI	**Soe**	**10.95**	**242**	*e*Pn	**Pn**	**06 43 00.3**	**-1.6**
	112nm,0.9s						
SOEI				*e*Sn	**Sn**	**06 45 02.2**	**-1.7**
BATI	**Baumata**	**11.69**	**241**	P	**Pn**	**06 43 13.0**	**+1.2**
	39nm,0.8s						
BATI	**Baumata**	**11.69**	**241**	Pn	**Pn**	**06 43 11.8**	**0.0**
	10nm,0.3s,baz=122,slow=2.4,SNR=5.9						
BATI				Sn	**Sn**	**06 45 17.4**	**-4.4**
	7.3nm,0.3s,baz=79,slow=19,SNR=2.7						
COEN	**Coen**	**12.90**	**136**	*e*Pn	**Pn**	**06 43 28.5**	**0.0**
	27nm,1.1s						
APSI	**Ampana**	**12.93**	**286**	P	**Pn**	**06 43 27.0**	**-1.8**
	80nm,1.2s,828nm						
EDFI	**Ende, Flores**	**12.94**	**251**	P	**Pn**	**06 43 30.7**	**+1.7**
	22nm,1.3s,4μm						
MRSI	**Marisa**	**13.13**	**293**	P	**Pn**	**06 43 29.0**	**-2.5**
	40nm,1.2s,1μm						
PMG	**Port Moresby**	**13.84**	**111**	*e*Pn	**P**	**06 43 47.3**	**-2.1**
	57nm,1.0s						
BKSI	**Bulukumba**	**13.89**	**267**	P	**Pn**	**06 43 44.1**	**+2.1**
KAPI	**Kappang**	**14.26**	**268**	Pn	**Pn**	**06 43 48.1**	**+1.1**
	0.4nm,0.3s,baz=100,slow=19,SNR=4.1						
MPSI	**Mapaga**	**14.98**	**289**	P	**Pn**	**06 43 56.0**	**-0.8**
WRAB	**Tennant Creek**	**15.20**	**179**	*e*P	**Pn**	**06 44 00.3**	**+0.7**
	28nm,0.8s						
WRA	**Warramunga Arr**	**15.21**	**179**	Pn	**Pn**	**06 43 57.5**	**-2.3**
	0.7nm,0.3s,baz=356,slow=12,SNR=16						
WRA				Sn	Sn	06 46 38.3	-9.5
	0.7nm,0.3s,baz=359,slow=22,SNR=4.9						
WRA				LR	LR	06 51 12.2	
	comp=Z,344nm,20.0s,baz=0.0,slow=42						
AS31	**Alice Springs**	**18.91**	**180**	*e*P	**Pn**	**06 44 46.6**	**+0.3**
ASAR	**Alice Springs**	**18.91**	**180**	P	**P**	**06 44 45.6**	**-0.1**
	1.1nm,0.3s,baz=8.4,slow=11,SNR=45						
ASAR				S	Sn	06 48 08.4	-9.2
	0.3nm,0.3s,baz=3.9,slow=29,SNR=3.6						
ASAR				LR	LR	06 52 54.3	
	comp=Z,349nm,19.1s,baz=360,slow=40						
CTA	**Charters Tower**	**19.41**	**143**	P	**Pn**	**06 44 53.0**	**+0.6**
	0.6nm,0.3s,baz=319,slow=11,SNR=8.4						
CTA				LR	LR	06 53 34.4	
	comp=Z,1μm,18.0s,baz=330,slow=41						
CTAO	**Charters Tower**	**19.41**	**143**	*e*P	**Pn**	**06 44 53.5**	**+1.1**
	40nm,1.1s						
KMMI	**Kalianget**	**20.12**	**262**	P	Pn	06 44 59.6	-1.2
	84nm,1.1s						
KKM	**Kota Kinabalu**	**20.74**	**301**	*e*P	**P**	**06 45 04.8**	**-1.0**
	35nm,1.1s						
GUMO	**Guam**	**21.06**	**31**	LR	LR	06 54 24.8	
	comp=Z,97nm,18.0s,baz=214,slow=40						
MBWA	**Marble Bar**	**21.51**	**219**	*e*P	**P**	**06 45 14.6**	**+0.7**
	48nm,0.8s						
LEM	**Lembang**	**26.39**	**264**	LR	LR	06 58 23.4	
	comp=Z,201nm,19.5s,baz=79,slow=41						
FORT	**Forrest**	**26.60**	**192**	*e*P	**P**	**06 46 04.0**	**+0.9**
	31nm,0.8s						
STKA	**Stephens Creek**	**28.00**	**166**	P	**P**	**06 46 14.5**	**-1.2**
	1.4nm,0.7s,baz=327,slow=11,SNR=5.2						
STKA				LR	LR	06 58 00.7	
	comp=Z,222nm,19.3s,baz=344,slow=38						
STKA	**Stephens Creek**	**28.00**	**166**	*e*P	**P**	**06 46 16.4**	**+0.8**
	0.4nm,0.5s						
BBOO	**Buckleboo**	**28.08**	**176**	*e*P	**P**	**06 46 17.1**	**+0.6**
	12nm,0.8s						
JNU	**Nakatsue**	**37.68**	**356**	P	**P**	**06 47 38.1**	**-2.0**
	4.4nm,0.9s,baz=225,slow=4.3,SNR=3.7						
NJ2	**Nanjing**	**39.26**	**339**	*e*P	**P**	**06 47 54.6**	**+1.3**
NJ2				PMZ			
	20nm,0.7s						
MJAR	**Matsushiro Arr**	**41.16**	**5**	LR	LR	07 02 31.5	
	comp=Z,70nm,20.8s,baz=175,slow=32						
CMAR	**Chiang Mai Arr**	**41.53**	**305**	P	**P**	**06 48 12.5**	**+0.1**
	1.0nm,0.3s,baz=133,slow=6.2,SNR=4.3						
CMAR				LR	LR	07 07 39.1	
	comp=Z,30nm,20.5s,baz=100,slow=39						
CD2	**Chengdu**	**45.69**	**323**	*e*P	**P**	**06 48 47.3**	**+1.5**
CD2				pP	**pP**	**06 48 53.9**	**+1.5**
CD2				sP	**sP**	**06 48 56.9**	**+2.0**
CD2				PP	**PP**	**06 50 34.8**	**+1.8**
CD2				PcS	**PcS**	**06 54 18.3**	**+0.3**
CD2				S	**S**	**06 55 28.5**	**+0.6**
CD2				sS	**sS**	**06 55 39.5**	**+0.7**
CD2				SS	**ScS**	**06 58 44.3**	**+3.0**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.4s						
LZH	**Lanzhou**	**49.42**	**328**	*e*P	P	06 49 20.0	+5.1
LZH				pP	pP	06 49 27.1	+5.6
LZH				PMZ			
	15nm,1.0s						
HHC	**Hu-ho-hao-te**	**49.74**	**338**	*e*P	P	06 49 21.0	+3.8
HHC				PP	**PP**	**06 51 16.8**	**+4.8**
HHC				S	**S**	**06 56 27.8**	**+2.4**
HHC				SS	**SS**	**06 59 57.0**	**-1.2**
HHC				PMZ			
	13nm,1.1s						
HHC				PMZ			
	56nm,8.6s						
HHC				LN			
	170nm,19.7s						
HHC				LE			
	180nm,17.4s						
HHC				LZ			
	150nm,22.2s						
GTA	**Gaotai**	**54.02**	**327**	*e*P	**P**	**06 49 50.8**	**+1.6**
GTA				pP	pP	06 50 01.8	+6.0
GTA				PMZ			
	3.0nm,1.6s						
SONM	**Songino Array**	**57.63**	**338**	P	**P**	**06 50 11.9**	**-3.0**
	0.3nm,0.4s,baz=168,slow=7.4,SNR=2.6						
PETK	**Petropavlovsk-**	**60.90**	**16**	P	**P**	**06 50 34.9**	**-2.3**
	1.3nm,0.7s,baz=200,slow=7.4,SNR=3.5						
MK31	**Makanchi Array**	**68.57**	**325**	*e*P	**P**	**06 51 26.4**	**-1.1**
MKAR	**Makanchi Array**	**68.57**	**325**	P	**P**	**06 51 26.6**	**-0.9**
	4.0nm,0.9s,baz=144,slow=4.6,SNR=15						
ZALV	**Zalesovo Beam**	**71.35**	**332**	P	**P**	**06 51 41.8**	**-2.6**
	0.9nm,0.7s,baz=127,slow=3.8,SNR=3.4						
AAK	**Ala-Archa**	**71.43**	**318**	*e*P	**P**	**06 51 45.9**	**+0.6**
	1.1nm,0.3s						
EKS2	**Erkin-Say**	**71.93**	**318**	*e*P	**P**	**06 51 48.5**	**+0.3**
	3.7nm,1.0s						
KURK	**Kurchatov**	**72.70**	**327**	*e*P	**P**	**06 51 51.7**	**-0.8**
	4.8nm,1.0s						
VNDA	**Vanda**	**74.32**	**174**	P	**P**	**06 52 01.8**	**+0.2**
	0.6nm,0.7s,baz=305,slow=5.1,SNR=3.5						
PPT	**Papeete**	**75.63**	**107**	LR	LR	07 22 46.4	
	comp=Z,42nm,21.8s,baz=118,slow=34						
MAW	**Mawson**	**78.61**	**202**	P	**P**	**06 52 26.2**	**+0.2**
	5.5nm,1.0s,baz=36,slow=9.3,SNR=4.4						
MAW	**Mawson**	**78.61**	**202**	*e*P	**P**	**06 52 27.8**	**+1.8**
	1.4nm,1.2s						
ABKAR	**Akbulak array**	**83.22**	**321**	*e*P	**P**	**06 52 50.6**	**-0.4**
	1.0nm,0.6s						
AKTO	**Aktyubinsk**	**84.72**	**321**	P	**P**	**06 52 57.2**	**-1.5**
	0.9nm,0.6s,baz=131,slow=4.5,SNR=5.0						
QSPA	**South Pole Qui**	**85.31**	**180**	*e*P	**P**	**06 53 02.1**	**+0.6**
	5.6nm,1.1s						
ILAR	**Eielson Array**	**89.52**	**25**	P	**P**	**06 53 19.4**	**-2.3**
	0.6nm,0.7s,baz=271,slow=4.4,SNR=7.2						
RAYN	**Ar Rayn**	**90.50**	**293**	*e*P	**P**	**06 53 27.0**	**-0.2**
	3.5nm,1.0s						
TORD	**Torodi Ar. Bea**	**132.25**	**283**	PKP	**PKPdf**	**06 59 39.5**	**-0.2**
	0.2nm,0.5s,baz=67,slow=3.7,SNR=3.4						
LPAZ	**La Paz**	**149.77**	**134**	PKPbc	**PKPbc**	**07 00 17.9**	**+1.6**
	3.7nm,0.9s,baz=18,slow=3.1,SNR=9.2						
LPAZ	**La Paz**	**149.77**	**134**	*e*PKPbc	**PKPbc**	**07 00 17.6**	**+1.2**
LPAZ				*e*PKPab	**PKPab**	**07 00 24.3**	**+2.7**
ROSC	**El Rosal**	**151.72**	**88**	PKPbc	**PKPbc**	**07 00 19.9**	**-0.9**
	4.2nm,0.7s,baz=134,slow=7.0,SNR=4.6						

*IDC **21** 06:40:17.1±1.4,56.86N×160.47E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.4/43, mbtmp3.6/6, ML2.8/1, Error ellipse: s-maj=34.7km s-min=32.5km az=4.0*
*MOS **21** 06:40:31.7±1.0,55.63N×160.16E, h191km, mb3.9/2, Error ellipse: s-maj=27.8km s-min=11.9km az=86.2*
*ISCJB **21** 06:40:32.2±0.5,55.54N±0.03×160.44E±0.10, h195km±4km, mb3.2/5, Error ellipse: s-maj=9.6km s-min=4.2km az=24.8*
*KRSC **21** 06:40:32.2±1.2,55.53N×160.50E, h189km±11km, ML4.2*

ISC 21 06:40:32.8±0.8, 55.53N±0.04×160.43E±0.05, h191km±5km, n49, σ1.21/74, mb3.4/5, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMNR	**Kamenistaya**	**0.25**	**335**	*e*P	**Pn**	**06 40 58.7**	**+0.5**
TUMR	**Tumrok**	**0.29**	**214**	*e*P	**Pn**	**06 40 59.2**	**+0.8**
TUMR				eS	**Sn**	**06 41 19.3**	**+1.3**
BZMR	**Bezymyannaya**	**0.41**	**5**	*e*P	**Pn**	**06 40 59.0**	**+0.3**
KZV	**Kizimen**	**0.42**	**191**	*e*P	**Pn**	**06 40 59.5**	**+0.7**
BZWR	**Bezymyannyi-We**	**0.44**	**5**	*e*P	**Pn**	**06 40 59.0**	**+0.2**
BZGR	**Bezymyannyi-Gr**	**0.44**	**20**	*e*P	**Pn**	**06 40 59.0**	**+0.3**
KPT	**Kopyto**	**0.46**	**345**	*e*P	**Pn**	**06 40 58.5**	**-0.2**
ZLN	**Zelenaya**	**0.54**	**23**	*e*P	**Pn**	**06 40 59.7**	**+0.6**
KOZ	**Kozyrevsk**	**0.62**	**330**	*e*P	**Pn**	**06 40 59.0**	**-0.3**
KOZR	**Kozyr**	**0.62**	**331**	PN	**Pn**	**06 40 59.0**	**-0.3**
KLY	**Klyuchi**	**0.80**	**9**	*e*P	**Pn**	**06 41 00.5**	**+0.3**
KLY				eS	**Sn**	**06 41 21.7**	**+0.1**
KLY	**Klyuchi**	**0.80**	**9**	PN	**Pn**	**06 41 00.5**	**+0.3**
KLY				S	**Sn**	**06 41 21.7**	**+0.1**
BDR	**Baidarnaya**	**1.13**	**22**	*e*P	**Pn**	**06 41 03.2**	**+0.6**
BDR				eS	**Sn**	**06 41 25.8**	**0.0**
SRKR	**Sorokina**	**1.20**	**20**	*e*P	**Pn**	**06 41 03.4**	**+0.2**
SRKR				eS	**Sn**	**06 41 26.6**	**-0.2**
SMKR	**Semkarok**	**1.21**	**28**	*e*P	**Pn**	**06 41 03.4**	**+0.2**
SMKR				eS	**Sn**	**06 41 26.7**	**-0.2**
MKZ	**Mys Kozlova**	**1.23**	**142**	*e*P	**Pn**	**06 41 03.4**	**+0.1**
MKZ				eS	**Sn**	**06 41 26.6**	**-0.2**
MKZ	**Mys Kozlova**	**1.23**	**142**	PN	**Pn**	**06 41 03.4**	**+0.1**
MKZ				S	**Sn**	**06 41 26.6**	**-0.2**
KBTR	**Krutoberegovo**	**1.51**	**62**	*e*P	**Pn**	**06 41 05.9**	**+0.2**
KBTR				eS	**Sn**	**06 41 30.6**	**-0.7**
KBTR	**Krutoberegovo**	**1.51**	**62**	PN	**Pn**	**06 41 05.9**	**+0.2**
KBTR				S	**Sn**	**06 41 30.6**	**-0.7**
GNL	**Ganaly**	**2.34**	**219**	*e*P	**Pn**	**06 41 15.3**	**+0.9**
KRX	**Arik**	**2.41**	**206**	*e*P	**Pn**	**06 41 16.4**	**+1.2**
SDLR	**Sedlovina**	**2.43**	**202**	*e*P	**Pn**	**06 41 16.5**	**+1.1**
SDLR				eS	**Sn**	**06 41 49.7**	**+1.1**
KRER	**Koryakskii**	**2.43**	**204**	*e*P	**Pn**	**06 41 17.0**	**+1.4**
NLC	**Nalytchevo**	**2.44**	**195**	*e*P	**Pn**	**06 41 15.6**	**+0.1**
NLC				eS	**Sn**	**06 41 47.7**	**-0.9**
NLC	**Nalytchevo**	**2.44**	**195**	PN	**Pn**	**06 41 15.6**	**+0.1**
NLC				S	**Sn**	**06 41 47.7**	**-0.9**
SPN	**Mys Shipunski**	**2.45**	**186**	*e*P	**Pn**	**06 41 14.8**	**-0.7**
SPN				eS	**Sn**	**06 41 46.2**	**-2.5**
SPN	**Mys Shipunski**	**2.45**	**186**	PN	**Pn**	**06 41 14.8**	**-0.7**
SPN				S	**Sn**	**06 41 46.2**	**-2.5**
SMAR	**Somma**	**2.46**	**203**	*e*P	**Pn**	**06 41 17.0**	**+1.1**
AVH	**Avacha**	**2.47**	**204**	*e*P	**Pn**	**06 41 17.3**	**+1.4**
KOK	**Koryaka**	**2.47**	**206**	*e*P	**Pn**	**06 41 17.5**	**+1.6**
UGLR	**Uglovaya**	**2.51**	**203**	*e*P	**Pn**	**06 41 17.4**	**+1.1**
UGLR				eS	**Sn**	**06 41 50.5**	**+0.4**
PET	**Petropavlovsk**	**2.72**	**203**	*e*P	**Pn**	**06 41 18.8**	**

0.9nm,0.5s,baz=59,slow=7.2,SNR=7.7
FINES FINESS Array B 83.14 334 P **P 07 05 12.2 -0.2**
0.4nm,0.4s,baz=333,slow=5.3,SNR=5.5
NVAR Mina Array Bea 83.16 51 P **P 07 05 14.4 +1.1**
0.7nm,0.7s,baz=279,slow=5.1,SNR=6.1
PLCA Paso Flores 145.80 131 PKPbc **PKPbc 07 12 24.8 +0.5**
3.7nm,0.7s,baz=232,slow=6.4,SNR=10
LPAZ La Paz 149.98 85 PKPbc **PKPbc 07 12 37.2 +0.7**
1.2nm,0.5s,baz=331,slow=4.1,SNR=8.5

IDC 21 07:16:13.8±11.0, 5.79S×129.00E, h228km±122km, mb3.2/3, mb1 3.4/5, mb1mx3.0/35, mbtmp4.0/5, Error ellipse: s-maj=134.4km s-min=34.6km az=61.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.99**	**160**	P	Pn	07 19 34.4	-0.5
	0.6nm,0.3s,baz=340,slow=12,SNR=32						
ASAR	**Alice Springs**	**18.39**	**166**	P	P	07 20 12.9	+0.8
	0.8nm,0.3s,baz=348,slow=12,SNR=83						
STKA	**Stephens Creek**	**28.50**	**157**	P	P	07 21 47.6	-0.5
	0.5nm,0.5s,baz=324,slow=8.7,SNR=2.4						
MKAR	**Makanchi Array**	**66.68**	**327**	P	P	07 26 41.0	+0.8
	0.4nm,0.4s,baz=118,slow=5.6,SNR=8.9						
ZALV	**Zalesovo Beam**	**70.07**	**334**	P	P	07 27 00.1	-0.9
	0.7nm,0.5s,baz=125,slow=7.2,SNR=3.4						

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*IDC **21** 07:18:03.6±5.3, 2.32S×139.17E, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.6/32, mbtmp4.1/3, ML4.3/1, Error ellipse: s-maj=81.4km s-min=16.1km az=165.0*
*DJA **21** 07:18:05.4±0.7, 2.5S×13.9E±*, h12km±4km, M4.3/6, mb4.4/1, MLv4.2/6*
ISC 21 07:17:57.9±1.8, 1.4S±0.1×139.13E±0.06, h10km, n10, σ1977/10, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.71**	**216**	P	**Pb**	**07 18 14.0**	**+1.7**
SMPI				S	**Sb**	**07 18 22.0**	**-0.1**
GENI	**Genyem**	**1.56**	**138**	P	**Pn**	**07 18 26.8**	**+1.1**
GENI				S	**Sn**	**07 18 46.5**	**+0.4**
JAY	**Jayapura**	**1.92**	**125**	P	**Pb**	**07 18 33.7**	**+0.7**
JAY	**Jayapura**	**1.92**	**125**	Pg	**Pn**	**07 18 32.6**	**+2.0**
	31nm,0.3s,baz=272,slow=9.6,SNR=83						
JAY				Lg	Lg	07 18 52.5	
	30nm,0.3s,baz=287,slow=24,SNR=6.5						
SRPI	**Serui, Papua**	**2.92**	**261**	P	**Pb**	**07 18 51.3**	**+1.2**
RKPI	**Ransiki, Papua**	**4.95**	**269**	P	Pn	07 19 08.3	-4.0
FAKI	**Fak Fak**	**7.04**	**258**	P	Pn	07 19 46.6	+5.6
WRA	**Warramunga Arr**	**19.00**	**194**	P	**P**	**07 22 17.5**	**-2.4**
	1.1nm,0.3s,baz=19,slow=12,SNR=25						
WRA				S	Sn	07 25 28.7	-25
	0.0nm,0.3s,baz=6.7,slow=22,SNR=2.6						
ASAR	**Alice Springs**	**22.69**	**192**	P	**P**	**07 22 58.1**	**-1.7**
	2.5nm,0.6s,baz=24,slow=10,SNR=28						
STKA	**Stephens Creek**	**30.39**	**176**	P	**P**	**07 24 08.4**	**-1.8**
	1.7nm,0.7s,baz=357,slow=8.5,SNR=5.1						

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*ISCJB **21** 07:21:55.2±1.4, 28.50S±0.08×177.7W±0.3, h54km, mb3.9/6, Error ellipse: s-maj=34.1km s-min=11.6km az=1.7*
*IDC **21** 07:21:56.5±2.1, 28.62S×177.60W, h55km±16km, mb3.6/6, mb1 3.8/6, mb1mx3.6/26, mbtmp3.9/6, Error ellipse: s-maj=31.3km s-min=26.1km az=68.0*
ISC 21 07:21:56.7±1.1, 28.6S±0.1×177.7W±0.2, h54km, n13, σ0996/12, mb3.9/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.72**	**199**	P	**Pn**	**07 22 10.9**	**0.0**
	617nm,0.3s,baz=103,slow=23,SNR=37						
RAO				S	**Sn**	**07 22 22.0**	**+0.8**
	2μm,0.3s,baz=32,slow=23,SNR=44						
URZ	**Urewera**	**10.61**	**203**	S	Sn	07 26 13.5	-10
	1.6nm,0.3s,baz=235,slow=14,SNR=7.4						
STKA	**Stephens Creek**	**35.23**	**254**	P	**P**	**07 28 45.6**	**-0.4**
	0.8nm,0.7s,baz=75,slow=9.3,SNR=3.5						
ASAR	**Alice Springs**	**43.54**	**265**	P	**P**	**07 29 55.4**	**-0.1**
	1.0nm,0.4s,baz=101,slow=6.8,SNR=17						
WRA	**Warramunga Arr**	**44.37**	**270**	P	**P**	**07 30 02.1**	**+0.1**
	1.0nm,0.4s,baz=109,slow=7.9,SNR=28						
QSPA	**South Pole Qui**	**61.53**	**180**	P	**P**	**07 32 07.1**	**-0.9**
	0.5nm,0.6s,baz=90,slow=4.0,SNR=3.7						
MJAR	**Matsushiro Arr**	**76.92**	**325**	P	**P**	**07 33 43.5**	**+0.2**
	1.1nm,0.6s,baz=169,slow=6.9,SNR=3.8						
PETK	**Petropavlovsk-**	**84.12**	**345**	P	**P**	**07 34 22.2**	**+0.8**
	1.4nm,0.7s,baz=134,slow=8.5,SNR=3.5						
FINES	**FINESS Array B**	**143.53**	**341**	PKhKP	PKPpre	07 41 19.9	
	1.0nm,0.7s,baz=97,slow=6.0,SNR=4.4						
NB2	**NORSAR Subarra**	**146.99**	**352**	PKP	**PKPdf**	**07 41 31.4**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**146.99**	**352**	PKPbc	**PKPdf**	**07 41 31.8**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=15,slow=4.6,SNR=4.3						
AKASG	**Malin Array Be**	**150.01**	**325**	PKPbc	**PKPbc**	**07 41 38.8**	**-2.0**
	comp=Z,0.8nm,0.4s,baz=43,slow=3.1,SNR=5.0						
TORD	**Torodi Ar. Bea**	**164.64**	**178**	PKPab	**PKPab**	**07 42 50.8**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=183,slow=3.3,SNR=4.8						

DJA 21 07:41:18.3±0.5, 9.5S±4.2×112.2E±*, h10km, M3.5/5, MLv3.5/5, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDFI	**Ende, Flores**	**0.21**	**158**	P	Pg	07 41 23.6	+0.7
EDFI				S	Sg	07 41 27.3	+1.3
MMRI	**Maumere**	**0.63**	**98**	P	Pg	07 41 30.5	0.0
MMRI				S	Sg	07 41 39.4	+0.7
WSI	**Waingapu**	**1.71**	**229**	P	Pn	07 41 47.6	-0.6
WSI				S	Sn	07 42 10.4	+0.3
SOEI	**Soe**	**2.88**	**115**	P	Pn	07 42 06.8	+2.3

IDC 21 07:44:31.2±3.0, 4.42S×154.00E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/38, mbtmp3.8/3, Error ellipse: s-maj=100.8km s-min=46.1km az=109.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.59**	**230**	P	P	07 49 54.4	+1.1
	3.6nm,0.8s,baz=53,slow=9.9,SNR=27						
ASAR	**Alice Springs**	**27.24**	**223**	P	P	07 50 16.1	-1.1
	0.2nm,0.5s,baz=61,slow=9.3,SNR=4.4						
STKA	**Stephens Creek**	**29.69**	**202**	P	P	07 50 38.7	-0.2
	1.2nm,0.6s,baz=25,slow=12,SNR=4.2						
TORD	**Torodi Ar. Bea**	**151.32**	**289**	PKPbc	PKPbc	08 04 27.6	-0.4
	1.0nm,0.7s,baz=57,slow=2.2,SNR=7.1						

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*NIED **21** 07:47:00, 46.20N×153.50E, h32km, Mw4.2 Best double couple: M0 2.19000×10^15 NP1:ϕ=280.00000°, δ=21.00000°, λ=119.00000°. NP2:ϕ=69.00000°, δ=72.00000°, λ=80.00000°.*
*IDC **21** 07:47:45.8±0.6, 45.67N×153.95E, h0km, mb4.0/18, mb1 4.2/22, mb1mx4.0/48, mbtmp4.0/22, ML3.3/4, MS3.1/9, Ms1 3.1/9, ms1mx2.8/38, Error ellipse: s-maj=18.4km s-min=13.2km az=146.0*
*ISCJB **21** 07:47:46.9±0.3, 45.65N±0.06×153.83E±0.05, h20km, mb4.3/32, MS3.3/7, Error ellipse: s-maj=8.6km s-min=3.6km az=158.2*
*BJI **21** 07:47:48.8, 45.80N×154.00E, h30km, mb4.2/10, mB4.3/5*
*MOS **21** 07:47:49.2±1.2, 45.76N×153.89E, h34km, mb4.4/22, Error ellipse: s-maj=9.9km s-min=8.5km az=50.5*
*JMA **21** 07:47:50.3±0.7, 46.24N×153.45E, h30km, M4.7*
*NEIC **21** 07:47:50.8±1.8, 45.75N×153.96E, h30km±12km, mb4.6/14, Error ellipse: s-maj=8.3km s-min=4.4km az=147.0*
*SKHL **21** 07:47:52.7±0.8, 46.12N×153.54E, h60km±5km, mb4.7/4, Ms4.1/1*
ISC 21 07:47:49.3±0.5, 45.69N±0.08×153.87E±0.06, h20km, n160, σ1933/147, mb4.3/33, MS3.3/7, 1C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.25**	**266**	⇑*i*P	**Pn**	**07 48 53.3**	**+0.5**
KUR				pmax	pmax		
	comp=Z,66nm,0.3s						
KUR				pmax	pmax		
	comp=N,27nm,0.2s						
KUR				pmax	pmax		
	comp=E,22nm,0.1s						
KUR	**Kuril'sk**	**4.25**	**266**	*i*P	**Pn**	**07 48 53.7**	**+0.9**
KUR				AMB	AMB	07 48 53.9	
	comp=E,30nm,0.3s						
KUR				AMB	AMB	07 48 53.9	
	comp=E,70nm,0.3s						
KUR				*i*S	**Sn**	**07 49 40.1**	**-1.6**
KUR				A	A	07 49 44.0	
	comp=E,530nm,0.4s						
KUR				A	A	07 49 44.0	
	comp=E,300nm,0.4s						
SKR	**Severo-Kuril's**	**5.21**	**16**	*e*PN	Pn	07 48 59.5	-6.5
SKR				pmax	pmax		
	comp=E,20nm,0.5s						
SKR				pmax	pmax		
	comp=E,30nm,0.5s						
SKR	**Severo-Kuril's**	**5.21**	**16**	*e*P	**Pn**	**07 49 03.8**	**-2.2**
SKR				AMB	AMB	07 49 06.7	
	comp=E,20nm,0.5s						
SKR				AMB	AMB	07 49 06.7	
	comp=E,30nm,0.5s						
SKR				*e*S	Sn	07 49 56.5	-9.0
SKR				A	A	07 50 04.4	
	comp=Z,170nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**5.93**	**257**	*d i*PN	**Pn**	**07 49 15.5**	**-0.4**
YUK				pmax	pmax		
	comp=N,8.0nm,0.2s						
YUK				pmax	pmax		
	comp=E,7.0nm,0.2s						
YUK				pmax	pmax		
	comp=Z,26nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**5.93**	**257**	*i*P	**Pn**	**07 49 16.6**	**+0.7**
YUK				AMB	AMB	07 49 17.3	
	comp=Z,10.0nm,0.2s						
YUK				AMB	AMB	07 49 17.3	
	comp=Z,30nm,0.2s						
YUK				*i*S	**Sn**	**07 50 20.6**	**-2.5**
YUK				A	A	07 50 24.0	
	comp=Z,70nm,0.4s						
YUK				A	A	07 50 24.0	
	comp=Z,100nm,0.4s						
YUK				A	A	07 50 24.1	
	comp=Z,100nm,0.4s						
NEM2	**Nemuro 2**	**6.26**	**251**	P	**Pn**	**07 49 19.0**	**-1.4**
NEM2				*e*S	Sn	07 50 24.1	-7.1
JRA	**Rausu**	**6.46**	**257**	P	**Pn**	**07 49 23.4**	**+0.2**
JNK	**Nakash**	**6.86**	**255**	P	**Pn**	**07 49 28.2**	**-0.5**
JAK	**Akkeshi**	**7.11**	**251**	P	**Pn**	**07 49 30.4**	**-1.6**
JAK				*e*S	Sn	07 50 44.9	-7.3
JTKR	**Abashiri--Toko**	**7.29**	**260**	P	**Pn**	**07 49 34.7**	**+0.2**
JAR	**Ashorobuto**	**7.61**	**255**	P	**Pn**	**07 49 38.8**	**-0.1**
JAR				*e*S	**Sn**	**07 51 00.3**	**-4.2**
JMP	**Maruseppu**	**7.66**	**261**	P	**Pn**	**07 49 40.7**	**+1.1**
JOB	**Onbets**	**7.72**	**252**	*e*S	Sn	07 51 00.8	-6.4
YSS	**Yuzh-Sakhalins**	**7.80**	**283**	*e*PN	**Pn**	**07 49 40.8**	**-0.7**
YSS	**Yuzh-Sakhalins**	**7.80**	**283**	*e*P	**Pn**	**07 49 40.8**	**-0.7**
YSS				*e*S	Sn	07 51 02.4	-6.7
PEA0	**Petropavlovsk-**	**7.83**	**17**	*e*Pn	**Pn**	**07 49 41.9**	**0.0**
PETK	**Petropavlovsk-**	**7.83**	**17**	Pn	**Pn**	**07 49 40.2**	**-1.7**
	comp=Z,1.1nm,0.3s,baz=276,slow=12,SNR=12						
PETK				LR	LR	07 52 51.6	
	comp=Z,25nm,18.5s,baz=199,slow=39						
PEA2	**Petropavlovsk-**	**7.83**	**17**	*e*Pn	**Pn**	**07 49 40.2**	**-1.8**
JKA	**Kamikawa-asahi**	**8.15**	**263**	*e*P	**Pn**	**07 49 47.2**	**+0.8**
JKA				AMS	AMS	07 53 23.0	
	comp=Z,100nm,19.0s						
ASAJ	**Asahikawa**	**8.16**	**263**	Pn	**Pn**	**07 49 47.2**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=86,slow=18,SNR=3.9						
ASAJ				LR	LR	07 53 23.0	
	comp=Z,85nm,18.8s,baz=132,slow=41						
ASAJ	**Asahikawa**	**8.16**	**263**	PN	**Pn**	**07 49 47.2**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,85nm,18.8s						
ASAJ	**Asahikawa**	**8.16**	**263**	*e*Pn	**Pn**	**07 49 48.0**	**+1.5**
JCH	**Churui**	**8.16**	**252**	P	**Pn**	**07 49 45.3**	**-1.2**
JCH				*e*S	Sn	07 51 11.5	-6.5
MYR	**Moyori**	**8.35**	**250**	*e*P	**Pn**	**07 49 48.2**	**-0.9**
ERM	**Erimo**	**8.57**	**248**	*e*PN	**Pn**	**07 49 53.9**	**+1.8**
ERM	**Erimo**	**8.57**	**248**	*e*P	**Pn**	**07 49 53.9**	**+1.8**
ERM	**Erimo**	**8.57**	**248**	*e*Pn	**Pn**	**07 49 53.9**	**+1.8**
JEM	**Erimo**	**8.57**	**248**	*e*S	Sn	07 51 18.4	-10
JNBK	**Urakawa-nobuka**	**8.71**	**251**	*e*S	Sn	07 51 20.7	-11
TYV	**Tymovskoe**	**9.09**	**309**	*e*P	**Pn**	**07 49 56.2**	**-3.0**
JKB	**Kayabe**	**10.03**	**252**	P	**Pn**	**07 50 09.9**	**-2.2**
JKB				*e*S	Sn	07 51 54.2	-10
JANG	**Nango**	**10.49**	**244**	P	Pn	07 50 14.7	-3.7
JANG				*e*S	Sn	07 52 03.4	-12
JTM	**Tenmabayashi**	**10.54**	**247**	P	Pn	07 50 16.9	-2.3
JTM				*e*S	Sn	07 52 06.6	-11
OFUJ	**Ofunato**	**11.18**	**238**	*e*S	Sn	07 52 20.0	-12
NKL	**Nikolayevsk**	**11.37**	**316**	AMS	AMS	07 57 09.0	
	comp=Z,400nm,14.0s						
NKL				AMS	AMS	07 57 09.0	
	comp=Z,500nm,14.0s						
JIO	**Ouri**	**11.78**	**237**	*e*S	Sn	07 52 33.6	-13
MAJO	**Matsushiro**	**14.91**	**238**	*e*P	**Pn**	**07 51 21.8**	**+3.0**
MAJO	**Matsushiro**	**14.91**	**238**	*e*Pn	**Pn**	**07 51 21.8**	**+3.0**
MAT	**Matsushiro**	**14.91**	**238**	P	**Pn**	**07 51 21.8**	**+3.0**
MJAR	**Matsushiro Arr**	**14.91**	**238**	Pn	**Pn**	**07 51 21.6**	**+2.8**
	comp=Z,0.2nm,0.3s,baz=38,slow=10.0,SNR=3.7						
KLR	**Kul'dur**	**15.36**	**291**	*e*P	**Pn**	**07 51 24.2**	**-0.5**
KLR	**Kul'dur**	**15.36**	**291**	*e*P	**Pn**	**07 51 24.2**	**-0.5**
EKMR	**Ekimchan**	**15.46**	**306**	*e*P	**Pn**	**07 51 26.6**	**+0.6**
EKMR				AMB	AMB	07 51 32.6	
	comp=Z,10.0nm,0.7s						
USRK	**Ussuriysk Ar.**	**15.56**	**272**	Pn	**Pn**	**07 51 27.2**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=83,slow=15,SNR=5.5						
SEY	**Seymchan**	**17.30**	**358**	P	**P**	**07 51 49.5**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=227,slow=13,SNR=3.6						
AMKA	**Amchitka**	**17.73**	**62**	*e*Pn	P	07 52 01.3	+5.8
BMKR	**Bomnak**	**18.30**	**309**	*e*P	**Pn**	**07 51 59.0**	**-2.7**
YASR	**Yasnyy**	**18.38**	**304**	*e*P	**Pn**	**07 52 00.5**	**-2.2**
KROS	**Kirovskiy**	**19.25**	**307**	*e*P	**P**	**07 52 11.5**	**-0.7**
KROS				AMB	AMB	07 52 14.6	
	comp=Z,10.0nm,0.8s						
KSRS	**Korea Array**	**21.02**	**256**	P	**P**	**07 52 33.1**	**+1.7**
	comp=Z,1.1nm,0.5s,baz=64,slow=9.9,SNR=5.4						
KSRS	**Korea Array**	**21.02**	**256**	P	**P**	**07 52 33.2**	**+1.7**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KS15	**Wonju Array Si**	**21.05**	**256**	*e*P	**P**	**07 52 33.1**	**+1.3**
KSAR	**Wonju Array Be**	**21.05**	**256**	P	**P**	**07 52 33.2**	**+1.3**
KSAR	**Wonju Array Be**	**21.05**	**256**	*e*P	**P**	**07 52 33.2**	**+1.3**
KSAR	**Wonju Array Be**	**21.05**	**256**	P	**P**	**07 52 33.1**	**+1.3**
BILL	**Bilibino**	**23.31**	**12**	*e*P	**P**	**07 52 59.0**	**+3.4**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.2s						
BILL	**Bilibino**	**23.31**	**12**	*e*P	**P**	**07 52 59.0**	**+3.4**
BILL	**Bilibino**	**23.31**	**12**	*e*P	**P**	**07 52 58.5**	**+2.9**
	comp=Z,7.8nm,1.4s						
H11S1	**WAKE ISLAND Hy**	**29.13**	**154**	T	T	08 24 17.0	
	baz=342,slow=76,SNR=3.8						
H11S3	**WAKE ISLAND Hy**	**29.14**	**154**	T	T	08 24 17.7	
	baz=342,slow=76,SNR=3.7						
H11S2	**WAKE ISLAND Hy**	**29.15**	**154**	T	T	08 24 14.0	
	baz=342,slow=76,SNR=4.1						
SONA1	**Songino Array**	**32.18**	**291**	*e*P	**P**	**07 54 17.5**	**+1.8**
SONA0	**Songino Array**	**32.19**	**291**	*e*P	**P**	**07 54 14.1**	**-1.7**
SONM	**Songino Array**	**32.19**	**291**	P	**P**	**07 54 14.1**	**-1.7**
	comp=Z,1.3nm,0.9s,baz=94,slow=4.3,SNR=2.5						
SONM				LR	LR	08 09 45.5	
	comp=Z,34nm,18.4s,baz=101,slow=41						
SONM	**Songino Array**	**32.19**	**291**	P	**P**	**07 54 14.1**	**-1.7**
SONM				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SONM				MLR	MLR		
	comp=Z,34nm,18.4s						
IM04	**Indian Mountai**	**34.31**	**35**	*e*P	**P**	**07 54 34.1**	**+0.2**
KTH	**Kantishna Hill**	**35.23**	**40**	*e*P	**P**	**07 54 43.0**	**+1.0**
	comp=Z,11nm,1.4s						
ILAR	**Eielson Array**	**37.06**	**38**	P	**P**	**07 54 56.5**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=254,slow=8.0,SNR=5.2						
ILB	**Eielson Array**	**37.06**	**38**	*e*P	**P**	**07 54 56.5**	**-1.0**
MENT	**Mentasta**	**38.49**	**41**	*e*P	**P**	**07 55 10.2**	**+0.6**
EGAK	**Eagle**	**39.51**	**38**	*e*P	**P**	**07 55 18.3**	**+0.2**
	comp=Z,17nm,1.8s						
GTA	**Gaotai**	**39.67**	**281**	*e*P	**P**	**07 55 22.3**	**+2.4**
GTA				pP	**pP**	**07 55 27.3**	**+1.2**
GTA				sP	**sP**	**07 55 30.8**	**+2.2**
GTA				PMZ			
	comp=Z,5.0nm,1.4s						
INK	**Inuvik**	**42.27**	**32**	P	**P**	**07 55 41.0**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=304,slow=6.4,SNR=4.6						
INK	**Inuvik**	**42.27**	**32**	*e*P	**P**	**07 55 41.0**	**+0.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	**Inuvik**	**42.27**	**32**	*e*P	**P**	**07 55 41.0**	**+0.3**
	comp=Z,33nm,2.5s						
ZALV	**Zalesovo Beam**	**43.66**	**307**	LR	LR	08 17 01.1	
	comp=Z,31nm,18.8s,baz=72,slow=40						
MK32	**Makanchi Array**	**47.90**	**299**	*e*P	**P**	**07 56 26.0**	**+0.1**
MKAR	**Makanchi Array**	**47.90**	**299**	P	**P**	**07 56 26.0**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=59,slow=4.8,SNR=10						
MKAR	**Makanchi Array**	**47.90**	**299**	P	**P**	**07 56 26.0**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**47.90**	**299**	*e*P	**P**	**07 56 26.3**	**+0.4**
MK01	**Makanchi Array**	**47.90**	**298**	*e*P	**P**	**07 56 26.2**	**+0.3**
KURK	**Kurchatov**	**48.39**	**305**	*e*P	**P**	**07 56 30.3**	**+0.8**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KURK	**Kurchatov**	**48.39**	**305**	*e*P	**P**	**07 56 30.3**	**+0.8**
KURK	**Kurchatov**	**48.39**	**305**	*e*P	**P**	**07 56 30.3**	**+0.8**
	comp=Z,3.1nm,0.8s						
KKH	**Kailua Kona**	**48.54**	**105**	*e*P	**P**	**07 56 29.2**	**-1.8**
KKH	**Kailua Kona**	**48.54**	**105**	*e*P	**P**	**07 56 29.2**	**-1.8**
YKA	**Yellowknife Ar**	**51.46**	**36**	P	**P**	**07 56 51.7**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=295,slow=7.1,SNR=5.5						
YKA	**Yellowknife Ar**	**51.46**	**36**	P	**P**	**07 56 51.7**	**-0.9**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKB5	**Yellowknife Ar**	**51.46**	**36**	*e*P	**P**	**07 56 51.7**	**-0.9**
CM31	**Chiang Mai Arr**	**52.65**	**258**	*e*P	**P**	**07 57 01.3**	**-0.8**
CMAR	**Chiang Mai Arr**	**52.65**	**258**	P	**P**	**07 57 01.3**	**-0.8**
	comp=Z,1.0nm,0.3s,baz=47,slow=8.4,SNR=6.4						
CMAR	**Chiang Mai Arr**	**52.65**	**258**	P	**P**	**07 57 01.3**	**-0.8**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AAK	**Ala-Archa**	**54.78**	**297**	*e*P	**P**	**07 57 18.3**	**+0.7**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AAK	**Ala-Archa**	**54.78**	**297**	*e*P	**P**	**07 57 18.3**	**+0.7**
AAK	**Ala-Archa**	**54.78**	**297**	*e*P	**P**	**07 57 18.3**	**+0.7**
	comp=Z,2.6nm,0.8s						
EKS2	**Erkin-Say**	**55.21**	**298**	*e*P	**P**	**07 57 21.8**	**+1.1**
EKS2				pmax	pmax		
	comp=Z,3.0nm,0.9s						
EKS2	**Erkin-Say**	**55.21**	**298**	*e*P	**P**	**07 57 21.8**	**+1.1**
	comp=Z,2.9nm,0.9s						
ARA0	**ARCESS Array S**	**59.02**	**341**	*e*P	**P**	**07 57 48.4**	**+1.3**
ARCES	**ARCESS Array B**	**59.02**	**341**	P	**P**	**07 57 48.4**	**+1.3**
	comp=Z,1.7nm,0.8s,baz=22,slow=6.9,SNR=3.8						
ARCES	**ARCESS Array B**	**59.02**	**341**	P	**P**	**07 57 48.4**	**+1.3**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ABKAR	**Akbulak array**	**59.51**	**311**	*e*P	**P**	**07 57 52.0**	**+1.2**
MSO	**Missoula**	**59.99**	**52**	*e*P	**P**	**07 57 54.1**	**-0.1**
	comp=Z,48nm,2.5s						
SLMT	**Seeley Lake**	**59.99**	**52**	*e*P	**P**	**07 57 54.1**	**-0.2**
BOZ	**Bozeman (W)**	**61.98**	**52**	*e*P	**P**	**07 58 07.5**	**-0.4**
BOZ				pmax	pmax		
	comp=Z,36nm,2.7s						
BOZ	**Bozeman (W)**	**61.98**	**52**	*e*P	**P**	**07 58 07.5**	**-0.4**
BOZ	**Bozeman (W)**	**61.98**	**52**	*e*P	**P**	**07 58 07.5**	**-0.4**
	comp=Z,36nm,2.7s						
NV01	**Mina Array Sit**	**62.46**	**62**	*e*P	**P**	**07 58 11.1**	**-0.2**
NVAR	**Mina Array Bea**	**62.46**	**62**	P	**P**	**07 58 11.1**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=287,slow=7.3,SNR=7.2						
KBL	**Kabul**	**62.95**	**293**	*e*P	**P**	**07 58 14.2**	**-0.3**
KBL				pmax	pmax		
	comp=Z,30nm,2.3s						
KBL	**Kabul**	**62.95**	**293**	*e*P	**P**	**07 58 14.2**	**-0.3**
	comp=Z,30nm,2.3s						
R11A	**Troy Canyon, C**	**64.19**	**61**	*e*P	**P**	**07 58 23.0**	**+0.4**
	comp=Z,29nm,2.8s						
BW06	**Boulder Array**	**64.94**	**54**	*e*P	**P**	**07 58 27.2**	**-0.4**
PD31	**Pinedale Array**	**64.95**	**54**	*e*P	**P**	**07 58 26.7**	**-0.9**
PDAR	**Pinedale Array**	**64.95**	**54**	P	**P**	**07 58 26.7**	**-0.9**
	comp=Z,0.9nm,0.9s,baz=329,slow=1.7,SNR=7.3						
FIA0	**FINESS Array S**	**65.22**	**335**	*e*P	**P**	**07 58 28.9**	**+0.2**
FIA0	**FINESS Array S**	**65.22**	**335**	*e*P	**P**	**07 58 28.9**	**+0.2**
FINES	**FINESS Array B**	**65.22**	**335**	P	**P**	**07 58 28.9**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=58,slow=7.2,SNR=9.2						
FINES	**FINESS Array B**	**65.22**	**335**	P	**P**	**07 58 28.9**	**+0.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
OBN	**Obninsk**	**66.48**	**326**	*e*P	**P**	**07 58 38.7**	**+1.8**
OBN				pmax	pmax		
	comp=Z,8.0nm,1.1s						
OBN	**Obninsk**	**66.48**	**326**	*e*P	**P**	**07 58 38.7**	**+1.8**
ULM	**Lac du Bonnet**	**66.98**	**41**	P	**P**	**07 58 39.6**	**-0.6**

PLCA	**Paso Flores**	**147.57**	**97**	PKPbc	**PKPbc**	**08 07 31.3**	**-0.4**
	comp=Z,1.6nm,0.6s,baz=277,slow=3.8,SNR=7.9						
PLCA	**Paso Flores**	**147.57**	**97**	PKP2	**PKPbc**	**08 07 31.3**	**-0.4**
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
PLCA	**Paso Flores**	**147.57**	**97**	*e*PKPbc	**PKPbc**	**08 07 31.2**	**-0.5**
SNAA	**Sanae**	**151.68**	**195**	*e*PKIKP	**PKPdf**	**08 07 36.8**	**+2.3**
SNAA	**Sanae**	**151.68**	**195**	*e*PKPdf	**PKPdf**	**08 07 36.8**	**+2.3**

NEIC 21 07:59:35.7, 9.41N×84.35W, h40km, MD4.3 (CASC), **1C-5D, After CASC., Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJS	**Escuela Geolog**	**0.60**	**29**	⇓*e*P	Pn	07 59 48.0	-0.1
SJS				*e*S	Sn	07 59 57.4	+0.5
BUS	**Buena Vista**	**0.61**	**76**	⇓*i*P	Pn	07 59 48.4	-0.1
CGA2	**Cerro Gallo 2**	**0.61**	**350**	⇑*i*P	Pn	07 59 48.0	-0.2
CGA2				*e*S	Sn	07 59 58.0	+0.8
URSC	**Urasca**	**0.71**	**53**	⇓*i*P	Pn	07 59 49.4	-0.2
JCR	**Jicaral**	**0.87**	**300**	⇓*e*P	Pn	07 59 51.5	-0.1
JCR				*e*S	Sn	08 00 02.9	-0.2
JTS	**JuntasAbangare**	**1.06**	**326**	*e*Pn	Pn	07 59 54.3	+0.2
JTS				*e*Sn	Sn	08 00 08.7	+1.0
ACR	**Cerro Adams**	**1.39**	**123**	⇓*i*P	Pn	07 59 58.9	+0.2
ACR				*e*S	Sn	08 00 16.3	+0.3
VCR	**Vista de Mar**	**1.45**	**300**	*e*P	Pn	07 59 59.6	0.0

IDC 21 08:49:05.9±8.1, 2.84N×127.23E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/36, mbtmp3.4/3, Error ellipse: s-maj=195.7km s-min=126.5km az=76.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.70**	**163**	P	P	08 54 19.3	-0.4
	0.3nm,0.6s,baz=340,slow=10,SNR=5.1						
ASAR	**Alice Springs**	**27.14**	**166**	P	P	08 54 52.5	+1.4
	0.2nm,0.5s,baz=355,slow=7.2,SNR=4.8						
STKA	**Stephens Creek**	**37.13**	**160**	P	P	08 56 17.4	-1.1
	1.0nm,0.6s,baz=346,slow=7.0,SNR=4.6						

*IDC **21** 08:52:41.9±0.8, 20.53S×168.40E, h0km, mb4.5/17, mb1 4.6/18, mb1mx4.4/34, mbtmp4.5/18, ML3.8/1, MS3.7/15, Ms1 3.7/15, ms1mx3.6/25, Error ellipse: s-maj=22.3km s-min=18.0km az=132.0*

*BJI **21** 08:52:43.0, 20.60S×168.50E, h13km, mb4.9/27, mB5.0/19, Ms5.0/7, Ms7 4.7/7*

*NEIC **21** 08:52:43.3±3.4, 20.61S×168.54E, h13km±21km, mb4.9/23, Error ellipse: s-maj=8.9km s-min=7.4km az=195.0*

*ISCJB **21** 08:52:44.5±0.3, 20.71S±0.05×168.50E±0.05, h32km, mb4.6/34, MS3.7/14, Error ellipse: s-maj=7.6km s-min=6.8km az=135.7*

*SZGRF **21** 08:52:46.8, 20.75S×170.04E, h41km, Vanuatu Islands*

ISC 21 08:52:46.1±0.4, 20.77S±0.07×168.56E±0.06, h32km, n111, σ1§52/106, mb4.7/33, MS3.7/14, 6C-1D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.36**	**236**	*e*Pn	**Pn**	**08 53 20.9**	**-1.8**
DZM				*e*Sn	**Sn**	**08 53 49.7**	**-1.0**
MSVF	**Nonsavu**	**9.46**	**73**	Pn	**Pn**	**08 54 58.9**	**-1.4**
HNR	**Honiara**	**14.00**	**322**	*e*Pn	**Pn**	**08 56 00.5**	**-1.9**
URZ	**Urewera**	**18.93**	**159**	P	**Pn**	**08 57 06.7**	**+1.5**
	0.3nm,0.3s,baz=14,slow=19,SNR=2.5						
URZ				LR	LR	09 02 15.0	
	comp=Z,162nm,19.3s,baz=354,slow=30						
BKZ	**Black Stump Fm**	**19.56**	**161**	*e*Pn	**Pn**	**08 57 15.1**	**+2.3**
	606nm,2.8s						
BFZ	**Birch Farm**	**20.90**	**163**	*e*P	**P**	**08 57 26.6**	**+0.8**
	663nm,2.3s						
CTA	**Charters Tower**	**20.92**	**268**	P	**P**	**08 57 24.5**	**-1.6**
	7.6nm,1.0s,baz=85,slow=14,SNR=4.5						
CTAO	**Charters Tower**	**20.92**	**268**	*e*P	**P**	**08 57 27.2**	**+1.1**
	21nm,1.0s						
RPZ	**Rata Peaks**	**22.98**	**175**	LR	LR	09 06 03.5	
	comp=Z,333nm,18.4s,baz=349,slow=34						
PMG	**Port Moresby**	**23.52**	**296**	*e*P	**P**	**08 57 53.8**	**+0.2**
	19nm,0.9s						
COEN	**Coen**	**25.14**	**282**	*e*P	**P**	**08 58 08.8**	**+0.3**
	9.9nm,1.0s						
STKA	**Stephens Creek**	**26.51**	**240**	P	**P**	**08 58 21.6**	**+0.8**
	3.2nm,0.6s,baz=77,slow=10.0,SNR=13						
STKA				LR	LR	09 08 07.2	
	comp=Z,400nm,20.1s,baz=36,slow=35						
STKA	**Stephens Creek**	**26.51**	**240**	*e*P	**P**	**08 58 22.0**	**+1.2**
	24nm,2.2s						
WRAB	**Tennant Creek**	**32.05**	**265**	*e*P	**P**	**08 59 10.0**	**-0.2**
	15nm,1.3s						
WRA	**Warramunga Arr**	**32.06**	**265**	P	**P**	**08 59 08.6**	**-1.7**
	2.0nm,0.9s,baz=94,slow=8.5,SNR=15						
AS31	**Alice Springs**	**32.17**	**258**	*e*P	**P**	**08 59 10.4**	**-0.9**
ASAR	**Alice Springs**	**32.17**	**258**	P	**P**	**08 59 10.3**	**-0.9**
	18nm,1.0s,baz=81,slow=9.0,SNR=86						
ASAR				LR	LR	09 12 23.2	
	comp=Z,298nm,18.2s,baz=92,slow=37						
JAY	**Jayapura**	**32.66**	**300**	P	**P**	**08 59 13.3**	**-2.3**
	14nm,0.9s,baz=143,slow=5.7,SNR=4.0						
JAY				LR	LR	09 11 19.3	
	comp=Z,118nm,19.7s,baz=150,slow=34						
TBI	**Tubuai**	**38.89**	**102**	*e*LR	LR	09 10 52.5	
	240nm,32.5s						
FAKI	**Fak Fak**	**39.56**	**292**	*e*P	**P**	**09 00 12.9**	**-1.7**
	11nm,0.7s						
PPT2	**Papeete2**	**39.59**	**93**	*e*LR	LR	09 11 13.4	
	381nm,29.8s						
PPT	**Papeete**	**39.59**	**93**	LR	LR	09 11 34.7	
	comp=Z,50nm,20.9s,baz=273,slow=28						
GUMO	**Guam**	**41.33**	**324**	LR	LR	09 16 39.1	
	comp=Z,33nm,21.5s,baz=132,slow=35						
SIJI	**Sorong**	**41.44**	**294**	P	P	09 00 27.4	-2.8
	15nm,0.8s,baz=73,slow=4.8,SNR=5.9						
SIJI				LR	LR	09 18 33.7	
	comp=Z,98nm,18.6s,baz=94,slow=38						
BATI	**Baumata**	**44.39**	**277**	LR	LR	09 19 30.5	
	comp=Z,226nm,19.4s,baz=217,slow=36						
MBWA	**Marble Bar**	**45.45**	**260**	*e*P	**P**	**09 01 02.5**	**0.0**
	21nm,1.2s						
LUWI	**Luwuk**	**48.79**	**288**	*e*P	**P**	**09 01 28.6**	**0.0**
	190nm,2.1s						
KAPI	**Kappang**	**49.87**	**281**	P	**P**	**09 01 36.6**	**-0.2**
	5.4nm,0.5s,baz=231,slow=16,SNR=3.9						
KAPI	**Kappang**	**49.87**	**281**	*e*P	**P**	**09 01 35.6**	**-1.2**
	4.7nm,1.1s						
VNDA	**Vanda**	**56.89**	**182**	LR	LR	09 24 37.3	
	comp=Z,54nm,18.2s,baz=303,slow=34						
SBA	**Scott Base**	**57.13**	**180**	*e*P	**P**	**09 02 30.5**	**+1.3**
	5.0nm,1.1s						
KSM	**Kuching**	**61.10**	**284**	*e*P	**P**	**09 02 57.5**	**-0.1**
	20nm,1.1s						
MJAR	**Matsushiro Arr**	**63.81**	**333**	P	**P**	**09 03 13.3**	**-2.0**
	3.4nm,1.0s,baz=172,slow=6.7,SNR=7.5						
ASAJ	**Asahikawa**	**68.81**	**340**	P	**P**	**09 03 47.4**	**+0.3**
	14nm,1.0s,baz=185,slow=7.7,SNR=4.8						
ASAJ	**Asahikawa**	**68.81**	**340**	*e*P	**P**	**09 03 47.5**	**+0.3**
	7.2nm,1.1s						
QSPA	**South Pole Qui**	**69.29**	**180**	*e*P	**P**	**09 03 50.3**	**+0.2**
	12nm,1.2s						
NJ2	**Nanjing**	**70.87**	**317**	*e*P	**P**	**09 03 59.8**	**-0.3**
NJ2				PMZ			
	40nm,1.1s						
USRK	**Ussuriysk Ar.**	**72.81**	**333**	P	**P**	**09 04 11.3**	**-0.1**
	9.2nm,1.0s,baz=148,slow=4.4,SNR=22						
MDJ	**Mudanjiang**	**74.17**	**332**	P	**P**	**09 04 19.4**	**0.0**
MDJ				PMZ			
	10.0nm,1.0s						
MDJ				PMZ			
	20nm,3.6s						
PETK	**Petropavlovsk-**	**74.17**	**353**	P	**P**	**09 04 18.0**	**-1.2**
	6.0nm,0.9s,baz=141,slow=9.6,SNR=9.8						
PETK				LR	LR	09 34 25.5	
	comp=Z,21nm,18.1s,baz=124,slow=34						
GYA	**Guiyang**	**76.18**	**305**	*e*P	**P**	**09 04 33.0**	**+1.4**
GYA				PP	**PP**	**09 07 27.3**	**+4.2**
GYA				S	**S**	**09 14 13.3**	**-0.6**
GYA				SKS	**SKSac**	**09 14 35.5**	**-5.2**
GYA				SS	**SS**	**09 19 10.3**	**+2.1**
GYA				PMZ			
	10.0nm,1.0s						
GYA				PMZ			
	90nm,5.4s						
GYA				LN			
	480nm,19.6s						
GYA				LE			
	440nm,20.0s						
GYA				LZ			
	490nm,18.8s						
MAW	**Mawson**	**76.78**	**202**	P	P	09 04 37.8	+3.6
	2.2nm,0.9s,baz=276,slow=1.3,SNR=3.5						
BJI	**Beijing**	**77.73**	**322**	P	**P**	**09 04 40.6**	**+0.8**
BJI				PMZ			
	17nm,0.5s						
KMI	**Kunming**	**78.55**	**302**	⇑P	**P**	**09 04 46.3**	**+1.3**
KMI				PMZ			
	17nm,1.3s						
CMAR	**Chiang Mai Arr**	**78.56**	**295**	P	**P**	**09 04 46.3**	**+1.4**
	4.1nm,0.8s,baz=134,slow=4.3,SNR=16						
CMAR				LR	LR	09 39 42.8	
	comp=Z,28nm,20.0s,baz=186,slow=36						
XAN	**Xi'an**	**78.68**	**313**	P	**P**	**09 04 45.5**	**+0.2**
XAN				PMZ			
	1.0nm,0.5s						
CHTO	**Chiang Mai**	**78.71**	**295**	*e*P	**P**	**09 04 46.9**	**+1.1**
	12nm,1.1s						
CD2	**Chengdu**	**80.67**	**308**	*e*P	**P**	**09 04 57.0**	**+0.8**
CD2				PP	**PP**	**09 08 03.8**	**+3.3**
CD2				S	**S**	**09 15 00.1**	**-1.6**
CD2				SKS	**SKSac**	**09 15 06.8**	**-5.7**
CD2				SS	**SS**	**09 20 17.3**	**+1.8**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.4s						
HHC	**Hu-ho-hao-te**	**80.97**	**320**	*e*P	**P**	**09 05 00.0**	**+2.3**
HHC				PP	**PP**	**09 08 07.6**	**+4.7**
HHC				S	**S**	**09 15 04.8**	**+0.2**
HHC				SS	**SS**	**09 20 23.3**	**+3.5**
HHC				PMZ			
	23nm,0.9s						
HHC				PMZ			
	55nm,7.4s						
HHC				LN			
	170nm,21.0s						
HHC				LE			
	120nm,22.2s						
HHC				LZ			
	150nm,21.0s						
LZH	**Lanzhou**	**83.28**	**312**	*e*P	**P**	**09 05 11.5**	**+1.5**
LZH				PMZ			
	49nm,1.4s						
SEY	**Seymchan**	**84.40**	**353**	P	**P**	**09 05 14.4**	**-0.4**
	1.0nm,0.7s,baz=81,slow=4.0,SNR=4.1						
SNAA	**Sanae**	**87.61**	**183**	P	P	09 05 28.4	-2.6
SNAA	**Sanae**	**87.61**	**183**	*e*P	P	09 05 28.1	-2.8
	8.6nm,1.2s						
ULN	**Ulaanbaatar**	**87.71**	**324**	*e*P	**P**	**09 05 32.2**	**+0.4**
	18nm,1.4s						
GTA	**Gaotai**	**87.72**	**314**	*e*P	P	09 05 35.8	+3.9
GTA				PMZ			
	3.0nm,1.1s						
SONM	**Songino Array**	**88.06**	**323**	P	**P**	**09 05 33.1**	**-0.3**
	2.1nm,0.8s,baz=141,slow=3.9,SNR=15						
VNA3	**Neumayer Olymp**	**88.22**	**181**	P	**P**	**09 05 33.0**	**-0.8**
VNA2	**Neumayer--Watz**	**88.51**	**181**	P	**P**	**09 05 34.4**	**-0.7**
	baz=175,slow=4.4						
BILL	**Bilibino**	**88.56**	**359**	*e*P	**P**	**09 05 34.0**	**-1.1**
	5.2nm,1.2s						
CMB	**Columbia Colle**	**88.64**	**48**	*e*P	**P**	**09 05 35.5**	**-0.8**
	5.7nm,1.1s						
DAC	**Darwin (Calif)**	**89.84**	**51**	*e*P	**P**	**09 05 41.5**	**-0.7**
	7.3nm,1.1s						
NVAR	**Mina Array Bea**	**90.28**	**49**	P	**P**	**09 05 43.4**	**-0.8**
	5.3nm,1.1s,baz=228,slow=7.8,SNR=12						
WVOR	**Wild Horse Val**	**91.84**	**45**	*e*P	**P**	**09 05 50.1**	**-1.1**
	6.7nm,1.1s						
ILAR	**Eielson Array**	**91.88**	**18**	P	P	09 05 48.0	-2.7
	0.8nm,0.9s,baz=199,slow=5.3,SNR=5.1						
ILAR				LR	LR	09 49 03.8	
	comp=Z,38nm,18.1s,baz=204,slow=37						
I07A	**Izee**	**92.02**	**43**	*e*P	**P**	**09 05 52.2**	**+0.2**
TUC	**Tucson**	**93.37**	**57**	*e*P	**P**	**09 05 58.0**	**-0.4**
	4.8nm,1.4s						
WMQ	**Urumqi**	**97.80**	**314**	P	Pdif	09 06 19.8	+1.4
WMQ				PMZ			
	98nm,4.0s						
WMQ				LN			
	82nm,24.8s						
WMQ				LE			
	42nm,22.8s						
WMQ				LZ			
	24nm,20.6s						
TXAR	**Lajitas Array**	**98.05**	**62**	LR	LR	09 45 37.1	
	comp=Z,51nm,18.1s,baz=0.0,slow=32						
PDAR	**Pinedale Array**	**98.12**	**47**	P	Pdif	09 06 22.2	+2.1
	0.3nm,0.6s,baz=29,slow=3.4,SNR=4.1						
PDAR				LR	LR	09 48 06.8	
	comp=Z,24nm,18.9s,baz=208,slow=34						
KSH	**Kashi**	**104.84**	**307**	*e*Pdif	**Pdif**	**09 06 53.9**	**+4.0**
KSH				PP	PP	09 11 17.5	+7.0
KSH				S	**Sdif**	**09 18 41.8**	**+0.4**
KSH				PPMZ			
	28nm,4.7s						
KSH				LN			
	180nm,10.4s						
KSH				LE			
	130nm,7.1s						
KSH				LZ			
	93nm,5.4s						
KOLS	**Kolonicke sedl**	**141.11**	**324**	*e*PKP	**PKPdf**	**09 12 14.6**	**+1.4**
BRG	**Berggiesshubel**	**143.94**	**333**	*e*	PKPab	09 12 15.4	0.0
	8.7nm,1.3s						
CLL	**Collm**	**144.02**	**334**	*e*PKPdf	PKPbc	09 12 18.0	+1.8
CLL				*es*PKiKP	sPKiKP	09 12 27.0	-8.9
FBE	**Freiberg**	**144.16**	**333**	*e*PKPbc	**PKPab**	**09 12 16.9**	**+0.7**
NRDL	**Niedersach Rie**	**144.21**	**337**	*e*PKPbc	PKPbc	09 12 17.6	+1.0
NEUB	**Neuenburg**	**144.59**	**335**	*e*PKPbc	**PKPab**	**09 12 18.3**	**+0.5**
CLZ	**Clausthal**	**144.64**	**337**	*e*PKPbc	**PKPab**	**09 12 18.5**	**+0.5**
CLZ				*ep*PKPbc	PKiKP	09 12 30.8	+7.7
TANN	**Tannenbergstha**	**144.91**	**333**	*e*PKPbc	**PKPab**	**09 12 19.4**	**+0.3**
TANN				*ep*PKPbc	PKiKP	09 12 31.8	+8.1
WERD	**Werda**	**144.96**	**333**	*e*PKPbc	**PKPab**	**09 12 19.6**	**+0.4**
WERD				*ep*PKPbc	PKiKP	09 12 31.9	+8.1
PLN	**Plauen**	**144.99**	**334**	*e*PKPbc	PKPbc	09 12 19.7	+0.4
PLN				*ep*PKPbc	PKiKP	09 12 31.9	+8.1
GUNZ	**Gunzen**	**145.01**	**333**	*e*PKPbc	**PKPbc**	**09 12 19.9**	**+0.5**
GUNZ				*ep*PKPbc	PKiKP	09 12 32.3	+8.4
WERN	**Wernitzgruen**	**145.05**	**333**	*e*PKPbc	**PKPbc**	**09 12 20.2**	**+0.7**
WERN				*ep*PKPbc	PKiKP	09 12 32.4	+8.4
CONA	**Conrad Observa**	**145.10**	**327**	⇑*i*PKPdf	**PKPbc**	**09 12 20.5**	**+0.6**
	22nm,1.3s,SNR=11						
IBBN	**Ibbenburen**	**145.17**	**339**	*e*PKPbc	**PKPbc**	**09 12 19.9**	**+0.1**
IBBN				*ep*PKPbc	PKiKP	09 12 32.2	+8.1
MANZ	**Manzenberg**	**145.39**	**333**	*e*PKPbc	**PKPbc**	**09 12 21.2**	**+0.6**
MANZ				*ep*PKPbc	PKiKP	09 12 33.4	+8.7
ROTZ	**Rotzenmuhle**	**145.51**	**333**	*e*PKPbc	**PKPdf**	**09 12 21.8**	**+0.9**
ROTZ				*ep*PKPbc	pPKPbc	09 12 34.1	+2.6
GEC2	**GERESS Array S**	**145.52**	**330**	*e*PKPbc	**PKPdf**	**09 12 21.4**	**+0.3**
GEC2				*ep*PKPbc	pPKPbc	09 12 33.8	+2.1
GEC2	**GERESS Array S**	**145.52**	**330**	*e*PKPdf	**PKPdf**	**09 12 20.6**	**-0.4**
GERES	**GERESS Array B**	**145.52**	**330**	PKPbc	**PKPdf**	**09 12 20.9**	**-0.2**
	4.7nm,0.9s,baz=29,slow=3.0,SNR=27						
UBBA	**Unterbreizbach**	**145.59**	**336**	*e*PKPbc	**PKPdf**	**09 12 21.4**	**+0.5**
UBBA				*ep*PKPbc	pPKPbc	09 12 33.8	+2.2
WET	**Wettzell**	**145.68**	**331**	*e*PKPbc	**PKPdf**	**09 12 22.1**	**+0.9**
WET				*ep*PKPbc	pPKPbc	09 12 34.4	+2.3
ARSA	**Arzberg**	**145.72**	**327**	*i* PKPab	**PKPdf**	**09 12 22.4**	**+1.0**
	15nm,1.2s,SNR=5.6						
MOA	**Molln**	**145.95**	**329**	⇑*i*PKPab	**PKPdf**	**09 12 22.8**	**+1.0**
	21nm,1.3s,SNR=11						
GRF	**Grafenberg Arr**	**145.99**	**333**	*e*PKPbc	**PKPdf**	**09 12 23.0**	**+1.3**
TNS	**Taunus Mts**	**146.66**	**337**	*e*PKPbc	**PKPbc**	**09 12 24.9**	**+0.3**
RJOB	**Jochberg**	**146.73**	**330**	*e*PKPbc	**PKPdf**	**09 12 24.8**	**+1.7**
KBA	**Koelnbreinsper**	**146.93**	**328**	⇑*i*PKPbc	**PKPdf**	**09 12 24.1**	**+0.4**
	7.2nm,1.0s						
FUR	**Furstenfeldbru**	**147.12**	**332**	*e*PKPbc	**PKPbc**	**09 12 26.3**	**+0.4**
BCLA	**Clavier**	**147.59**	**340**	PKPab	**PKPab**	**09 12 29.8**	**+0.6**
WTTA	**Wattenberg**	**147.62**	**330**	⇑*i*PKPdf	**PKPbc**	**09 12 27.5**	**0.0**
	16nm,1.5s						
MOTA	**Moosalm**	**147.80**	**331**	⇑*i*PKPbc	**PKPdf**	**09 12 27.5**	**+2.4**
	9.8nm,1.0s						
WLF	**Walferdange**	**147.95**	**338**	PKPbc	**PKPbc**	**09 12 29.2**	**+1.2**
WLF	**Walferdange**	**147.95**	**338**	*e*PKPbc	**PKPbc**	**09 12 28.7**	**+0.6**
DOU	**Dourbes**	**148.10**	**340**	PKPbc	**PKPbc**	**09 12 28.2**	**-0.2**
FETA	**Feichten**	**148.22**	**331**	*i* pPKPdf	**PKPbc**	**09 12 28.9**	**-0.2**
	13nm,1.2s,SNR=6.3						
BFO	**Black Forest**	**148.24**	**335**	*e*PKPbc	**PKPbc**	**09 12 28.8**	**-0.1**
BFO	**Black Forest**	**148.24**	**335**	*e*PKPbc	**PKPbc**	**09 12 28.5**	**-0.4**
DAVA	**Damuels**	**148.40**	**332**	⇓*i*pPKPdf	**PKPbc**	**09 12 29.4**	**-0.2**
	7.1nm,1.1s						
FUORN	**Ofenpass-Fuorn**	**148.73**	**331**	*e*PKPbc	**PKPbc**	**09 12 30.5**	**0.0**
BNI	**Bardonecchia**	**151.53**	**332**	*e*PKPdf	**PKPdf**	**09 12 30.0**	**-1.1**
BNI				*e*PKPbc	**PKPbc**	**09 12 36.9**	**-0.3**
TORD	**Torodi Ar. Bea**	**165.34**	**241**	PKP	**PKPdf**	**09 12 47.5**	**-0.7**
	1.7nm,1.0s,baz=251,slow=2.7,SNR=8.2						
TORD				PKPab	**PKPab**	**09 13 45.0**	**-1.0**
	1.0nm,1.2s,baz=64,slow=3.7,SNR=2.5						

*ISCJB **21** 08:54:06.7±0.7, 59.30N±0.03×26.99E±0.10, h0km, Error ellipse: s-maj=7.1km s-min=3.9km az=5.7*

*NAO **21** 08:54:06.5±1.3, 59.30N×27.13E, ML2.6*

*HEL **21** 08:54:06.8±0.3, 59.35N×27.26E, h0km, ML1.9, Explosion*

*CSEM **21** 08:54:07.5±0.5, 59.29N×26.96E, h2km, ML1.8, Error ellipse: s-maj=10.1km s-min=6.0km az=104.0, Mining explosion.*

*BER **21** 08:54:08.4±1.7, 59.32N×27.09E, h0km, ML2.6(NAO), Suspected explosion*

ISC 21 08:54:07.6±0.9, 59.31N±0.02×26.97E±0.05, h0km, n27, σ1§21/44, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VSU	**Vasula**	**0.86**	**188**	Pg	**Pg**	**08 54 24.0**	**0.0**
VSU				Lg	Lg	08 54 34.7	
VSU	**Vasula**	**0.86**	**188**	Pg	**Pg**	**08 54 24.0**	**0.0**
VSU				Lg	Lg	08 54 34.7	
VSU	**Vasula**	**0.86**	**188**	*e*PB	**Pg**	**08 54 24.0**	**0.0**
VSU				*e*S	**Sg**	**08 54 34.3**	**-0.8**
VSU	**Vasula**	**0.86**	**188**	Pb	**Pg**	**08 54 24.0**	**0.0**
VSU				S	**Sg**	**08 54 34.3**	**-0.8**
VJF	**Virojoki**	**1.27**	**13**	*e*P	**Pg**	**08 54 30.6**	**-1.3**
VJF				*e*SB	**Sg**	**08 54 47.3**	**-1.0**
VJF	**Virojoki**	**1.27**	**13**	P	**Pg**	**08 54 30.6**	**-1.3**
VJF				Sb	**Sg**	**08 54 47.3**	**-1.0**
SRPE	**Suurupi**	**1.33**	**278**	*e*PG	**Pb**	**08 54 33.6**	**+0.2**
SRPE				*e*SN	**Sn**	**08 54 54.4**	**+2.5**
SRPE	**Suurupi**	**1.33**	**278**	Pg	**Pb**	**08 54 33.6**	**+0.2**
PVF	**Pernaja**	**1.36**	**336**	*e*PG	**Pg**	**08 54 33.2**	**-0.5**
PVF				*e*S	**Sg**	**08 54 51.0**	**-0.3**
PVF				MSG		08 54 51.4	
	comp=Z,9.8nm,0.3s						
PVF	**Pernaja**	**1.36**	**336**	Pg	**Pg**	**08 54 33.1**	**-0.5**
PVF				S	**Sg**	**08 54 50.9**	**-0.3**
MEF	**Metsahovi**	**1.59**	**306**	*e*PG	**Pb**	**08 54 37.8**	**-0.1**
MEF				*e*SG	**Sg**	**08 54 58.9**	**+0.3**
MEF				MSG		08 54 59.7	
	comp=Z,6.0nm,0.2s						
MEF	**Metsahovi**	**1.59**	**306**	Pg	**Pb**	**08 54 37.7**	**-0.1**
MEF				Sg	**Sg**	**08 54 58.8**	**+0.3**
MTSE	**Matsula**	**1.74**	**251**	*e*PG	**Pb**	**08 54 40.5**	**+0.1**
MTSE				*e*S	**Sb**	**08 55 02.6**	**-0.1**
MTSE	**Matsula**	**1.74**	**251**	Pg	**Pb**	**08 54 40.4**	**+0.1**
MTSE				S	**Sb**	**08 55 02.5**	**-0.1**
FIA0	**FINESS Array S**	**2.19**	**349**	Pn	**Pn**	**08 54 45.5**	**+0.3**
	baz=162,slow=18						
FIA0				Lg	Lg	08 55 16.1	
	baz=169,slow=37						
FIA0				Rg	Rg	08 55 28.4	
	baz=165,slow=56						
FIA0	**FINESS Array S**	**2.19**	**349**	Pn	**Pn**	**08 54 45.5**	**+0.3**
	baz=162,slow=18						
FIA0				Lg	Lg	08 55 16.1	
	baz=169,slow=37						
FIA0				Rg	Rg	08 55 28.4	
	baz=165,slow=56						
FIA0	**FINESS Array S**	**2.19**	**349**	*e*P	**Pn**	**08 54 45.3**	**+0.1**
FIA0				*e*S	**Sn**	**08 55 13.5**	**+0.5**
FIA0				*e*SG	**Sb**	**08 55 16.0**	**+0.4**
FIA0				MSG		08 55 16.6	
	comp=Z,4.4nm,0.2s						
FIA0	**FINESS Array S**	**2.19**	**349**	P	**Pn**	**08 54 45.3**	**+0.1**
FIA0				S	**Sn**	**08 55 13.4**	**+0.5**
FIA0				Sg	**Sb**	**08 55 15.9**	**+0.4**
FIA0				Lg	Lg	08 55 16.1	
	SNR=50						
KAF	**Kangasniemi**	**2.83**	**354**	*e*P	**Pn**	**08 54 55.3**	**+1.2**
KAF				*e*SG	**Sb**	**08 55 35.4**	**+1.3**
KAF				MSG		08 55 36.2	
	comp=Z,3.4nm,0.3s						
KAF	**Kangasniemi**	**2.83**	**354**	P	**Pn**	**08 54 55.2**	**+1.2**
KEF	**Keuruu**	**3.05**	**341**	*e*P	**Pn**	**08 54 58.8**	**+1.6**
KEF				*e*SG	**Sb**	**08 55 41.9**	**+1.6**
KEF	**Keuruu**	**3.05**	**341**	P	**Pn**	**08 54 58.8**	**+1.8**
SUF	**Sumiainen**	**3.44**	**354**	*e*P	**Pn**	**08 55 03.7**	**+1.3**
SUF	**Sumiainen**	**3.44**	**354**	P	**Pn**	**08 55 03.7**	**+1.3**
HFS	**Hagfors**	**6.76**	**283**	Sn	**Sn**	**08 57 02.6**	**-3.1**
	baz=92,slow=28						
HFS				Lg	Lg	08 57 38.4	
	baz=93,slow=37						
HFS	**Hagfors**	**6.76**	**283**	Sn	**Sn**	**08 57 02.6**	**-3.1**
	baz=92,slow=28						
HF

DSN 21 10:22:56.7±4.2, 26°39N×57°31E, h35km, mb3.5/6, ML3.7/4, 4C-2D, Error ellipse: s-maj=4.7km s-min=2.5km az=21.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**1.02**	**243**	⇑*eP*	Pn	10 23 13.6	-1.0
	SNR=16						
BANOM				⇑S	Sn	10 23 27.8	0.0
NAZ	**Nazwa, Dubai**	**2.04**	**227**	⇓*eP*	Pn	10 23 28.0	-0.6
	SNR=38						
ASHO	**Ashiyiah**	**2.04**	**214**	⇑*eP*	Pn	10 23 27.4	-1.2
	SNR=15						
FAQ	**Al Faqa, Dubai**	**2.26**	**224**	⇓*eP*	Pn	10 23 32.2	+0.7
	SNR=26						
ASUD	**Al Ashush, Dub**	**2.51**	**226**	⇑*eP*	Pn	10 23 36.1	+1.1
	SNR=8.8						

*IDC **21** 11:49:18.0±2.2, 4°24N×94°04E, h0km, mb3.3/4, mb1 3.5/6, mb1mx3.3/45, mbtmp3.4/6, ML4.0/2, Error ellipse: s-maj=62.0km s-min=21.0km az=56.0*
*ISCJB **21** 11:49:19.5±1.4, 4°3N±0°1×94°0E±0°1, h26km, mb3.3/4, Error ellipse: s-maj=27.0km s-min=10.9km az=41.6*

ISC 21 11:49:21.4±1.8, 4°3N±0°2×94°0E±0°2, h26km, n12, σ1§17/7, mb3.3/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.15**	**106**	Pn	**Pn**	**11 50 36.0**	**-1.1**
	1.1nm,0.3s,baz=268,slow=9.9,SNR=3.2						
PSI				Sn	**Sn**	**11 51 37.0**	**+1.3**
	3.3nm,0.3s,baz=45,slow=17,SNR=4.3						
CMAR	**Chiang Mai Arr**	**14.91**	**19**	Pn	**Pn**	**11 52 49.8**	**-0.9**
	0.7nm,0.3s,baz=198,slow=15,SNR=4.2						
H08S2	**Diego Garcia H**	**24.49**	**241**	T	T	12 19 33.6	
	baz=61,slow=76,SNR=1012						
H08S3	**Diego Garcia H**	**24.49**	**241**	T	T	12 19 30.6	
	baz=61,slow=76,SNR=1159						
H08S1	**Diego Garcia H**	**24.50**	**241**	T	T	12 19 33.1	
	baz=61,slow=76,SNR=271						
H01W3	**Cape Leeuwin H**	**43.32**	**156**	T	T	12 43 26.4	
	baz=331,slow=76,SNR=28						
H01W2	**Cape Leeuwin H**	**43.34**	**156**	T	T	12 43 27.3	
	baz=331,slow=76,SNR=25						
H01W1	**Cape Leeuwin H**	**43.34**	**156**	T	T	12 43 24.3	
	baz=331,slow=76,SNR=17						
MKAR	**Makanchi Array**	**43.55**	**348**	P	**P**	**11 57 23.1**	**0.0**
	0.4nm,0.6s,baz=160,slow=6.8,SNR=3.5						
SONM	**Songino Array**	**44.69**	**12**	P	**P**	**11 57 33.7**	**+1.4**
	0.4nm,0.4s,baz=205,slow=6.4,SNR=2.8						
WRA	**Warramunga Arr**	**46.39**	**123**	P	**P**	**11 57 45.9**	**-0.1**
	0.2nm,0.6s,baz=298,slow=9.1,SNR=3.1						
ASAR	**Alice Springs**	**47.81**	**127**	P	**P**	**11 57 57.0**	**-0.1**
	0.1nm,0.5s,baz=306,slow=7.8,SNR=3.3						

*ISCJB **21** 12:00:04.1±0.5, 59°72N±0°03×24°51E±0°06, h0km, Error ellipse: s-maj=5.6km s-min=3.5km az=143.6*
*UPP **21** 12:00:05.6, 59°85N×24°59E, h0km, ML2.5, Suspected Mining explosion.*
*NAO **21** 12:00:06.2±1.0, 59°78N×24°42E, ML2.6*
*BER **21** 12:00:06.7±3.5, 59°77N×24°41E, h0km, ML2.6(NAO), Suspected explosion*
*HEL **21** 12:00:06.6±0.1, 59°78N×24°40E, h0km, ML2.7, ML2.5(UPP), Explosion*
*IDC **21** 12:00:08.5±1.0, 59°90N×24°42E, h0km, mb1 3.7/4, mb1mx3.2/37, mbtmp3.7/4, ML3.8/4, Error ellipse: s-maj=11.6km s-min=6.1km az=137.0*
*CSEM **21** 12:00:10.0±0.1, 60°15N×23°96E, h2km, ML2.7, Error ellipse: s-maj=4.2km s-min=3.7km az=167.0, Mining explosion.*

ISC 21 12:00:05.2±0.7, 59°82N±0°03×24°31E±0°03, h0km, n70, σ1§79/96, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.41**	**6**	*eP*	**Pb**	**12 00 14.5**	**-0.8**
MEF				*eS*	**Sg**	**12 00 19.9**	**+1.7**
MEF	**Metsahovi**	**0.41**	**6**	P	**Pb**	**12 00 14.4**	**-0.8**
PVF	**Pernaja**	**1.07**	**46**	*eP*	**Pg**	**12 00 25.4**	**-0.3**
PVF				*eS*	**Sg**	**12 00 39.4**	**0.0**
VJF	**Virojoki**	**1.78**	**65**	*eP*	**Pn**	**12 00 37.3**	**+0.2**
VJF				*eS*	**Sn**	**12 00 59.0**	**-1.4**
VSU	**Vasula**	**1.85**	**136**	Pg	**Pn**	**12 00 38.2**	**+0.1**
VSU				Lg	Lg	12 01 01.9	
VSU	**Vasula**	**1.85**	**136**	Pg	**Pn**	**12 00 38.2**	**+0.1**
VSU				Lg	Lg	12 01 01.9	
FIA0	**FINESS Array S**	**1.85**	**27**	Pg	**Pb**	**12 00 39.9**	**0.0**
	baz=195,slow=18						
FIA0				Lg	Lg	12 01 03.5	
	baz=203,slow=37						
FIA0	**FINESS Array S**	**1.85**	**27**	Pg	**Pb**	**12 00 39.9**	**0.0**
	baz=195,slow=18						
FIA0				Lg	Lg	12 01 03.5	
	baz=203,slow=37						
FIA0	**FINESS Array S**	**1.85**	**27**	*eP*	**Pb**	**12 00 39.8**	**-0.1**
FIA0				*eS*	**Sn**	**12 01 02.4**	**+0.1**
FIA0				MSG		12 01 06.7	
	comp=Z,34nm,0.2s						
FIA0	**FINESS Array S**	**1.85**	**27**	P	**Pb**	**12 00 39.8**	**-0.1**
FIA0				S	**Sn**	**12 01 02.3**	**+0.1**
FIA0				Lg	Lg	12 01 03.5	
	SNR=90						
FINES	**FINESS Array B**	**1.85**	**27**	Pg	**Pb**	**12 00 39.9**	**0.0**
	comp=Z,22nm,0.3s,baz=204,slow=15,SNR=767						
FINES				Lg	Lg	12 01 03.2	
	comp=Z,17nm,0.3s,baz=205,slow=29,SNR=23						
AAL	**Aland**	**2.20**	**281**	*eP*	**Pb**	**12 00 45.0**	**-0.7**
AAL				*eS*	**Sb**	**12 01 12.9**	**-0.5**
AAL	**Aland**	**2.20**	**281**	P	**Pb**	**12 00 45.0**	**-0.7**
AAL	**Aland**	**2.20**	**281**	P	**Pb**	**12 00 45.3**	**-0.4**
AAL				S	**Sb**	**12 01 15.1**	**+1.7**
KEF	**Keuruu**	**2.38**	**6**	*eP*	**Pb**	**12 00 48.8**	**0.0**
KEF				*eS*	**Sn**	**12 01 16.9**	**+1.7**
KEF				MSG		12 01 21.7	
	comp=Z,61nm,0.2s						
KAF	**Kangasniemi**	**2.50**	**22**	*eP*	**Pb**	**12 00 50.1**	**-0.9**
KAF				*eS*	**Sn**	**12 01 20.2**	**+1.9**
KAF				MSG		12 01 24.9	
	comp=Z,33nm,0.2s						
KAF	**Kangasniemi**	**2.50**	**22**	P	**Pb**	**12 00 50.0**	**-0.9**
NRTU	**Norrtaelje**	**2.88**	**270**	*eP*	**Pn**	**12 00 54.6**	**+2.4**
NRTU	**Norrtaelje**	**2.88**	**270**	P	**Pn**	**12 00 54.6**	**+2.4**
NRTU	**Norrtaelje**	**2.88**	**270**	P	**Pn**	**12 00 54.6**	**+2.4**
GRAU	**Graesoe**	**2.94**	**283**	*eP*	**Pn**	**12 00 54.6**	**+1.5**
GRAU	**Graesoe**	**2.94**	**283**	P	**Pn**	**12 00 54.5**	**+1.5**
GRAU	**Graesoe**	**2.94**	**283**	P	**Pn**	**12 00 54.6**	**+1.5**
FORU	**Forsmark**	**3.12**	**283**	*eP*	**Pn**	**12 00 57.9**	**+2.4**
FORU	**Forsmark**	**3.12**	**283**	P	**Pn**	**12 00 57.9**	**+2.4**
FORU	**Forsmark**	**3.12**	**283**	P	**Pn**	**12 00 57.9**	**+2.4**
FLYU	**Flymyra**	**3.24**	**278**	*eP*	**Pn**	**12 00 59.1**	**+1.9**
FLYU	**Flymyra**	**3.24**	**278**	P	**Pn**	**12 00 59.1**	**+1.9**
FLYU	**Flymyra**	**3.24**	**278**	P	**Pn**	**12 00 59.1**	**+1.9**
NYNU	**Nynaeshamn**	**3.32**	**259**	*eP*	**Pn**	**12 01 00.6**	**+2.3**
NYNU	**Nynaeshamn**	**3.32**	**259**	P	**Pn**	**12 01 00.6**	**+2.3**
NYNU	**Nynaeshamn**	**3.32**	**259**	P	**Pn**	**12 01 00.6**	**+2.3**
UPP	**Uppsala**	**3.37**	**274**	*eP*	**Pn**	**12 01 01.2**	**+2.2**
UPP	**Uppsala**	**3.37**	**274**	P	**Pn**	**12 01 01.2**	**+2.2**
UPP	**Uppsala**	**3.37**	**274**	P	**Pn**	**12 01 01.2**	**+2.2**
OSTU	**Oestervaala**	**3.62**	**280**	*eP*	**Pn**	**12 01 04.4**	**+2.0**
OSTU	**Oestervaala**	**3.62**	**280**	P	**Pn**	**12 01 04.4**	**+2.0**
OSTU	**Oestervaala**	**3.62**	**280**	P	**Pn**	**12 01 04.4**	**+2.0**
IGGU	**Iggoen**	**3.63**	**290**	*eP*	**Pn**	**12 01 04.7**	**+2.1**
IGGU	**Iggoen**	**3.63**	**290**	P	**Pn**	**12 01 04.6**	**+2.1**
IGGU	**Iggoen**	**3.63**	**290**	P	**Pn**	**12 01 04.7**	**+2.1**
BACU	**Backbrunna**	**3.63**	**274**	*eP*	**Pn**	**12 01 04.9**	**+2.3**
BACU	**Backbrunna**	**3.63**	**274**	P	**Pn**	**12 01 04.8**	**+2.3**
BACU	**Backbrunna**	**3.63**	**274**	P	**Pn**	**12 01 04.9**	**+2.3**
FALU	**Falun**	**4.29**	**283**	*eP*	**Pn**	**12 01 13.7**	**+2.1**
FALU	**Falun**	**4.29**	**283**	P	**Pn**	**12 01 13.6**	**+2.1**
FALU	**Falun**	**4.29**	**283**	P	**Pn**	**12 01 13.7**	**+2.1**
ISAL	**Salakas**	**4.37**	**166**	*eP*	**Pb**	**12 01 22.2**	**-0.5**
ISAL				*eS*	**Sb**	**12 02 16.8**	**+0.9**
ISAL	**Salakas**	**4.37**	**166**	*eP*	**Pb**	**12 01 22.2**	**-0.5**
	SNR=45						
ISAL				*eS*	**Sb**	**12 02 16.8**	**+0.9**
	SNR=45						
IIGN	**Ignalina**	**4.59**	**166**	*eP*	**Pb**	**12 01 25.7**	**-0.9**
IIGN				*eS*	**Sb**	**12 02 26.0**	**+3.6**
IIGN	**Ignalina**	**4.59**	**166**	*eP*	**Pb**	**12 01 25.7**	**-0.9**
	SNR=45						
IIGN				*eS*	**Sb**	**12 02 26.0**	**+3.6**
	SNR=45						
IDID	**Didziasalis**	**4.70**	**163**	*eP*	**Pb**	**12 01 26.9**	**-1.5**
IDID	**Didziasalis**	**4.70**	**163**	*eP*	**Pb**	**12 01 26.9**	**-1.5**
	SNR=45						
HFS	**Hagfors**	**5.34**	**278**	Pn	**Pn**	**12 01 27.5**	**+1.5**
	baz=94,slow=14						
HFS				Sn	**Sn**	**12 02 27.8**	**-0.4**
	baz=100,slow=37						
HFS				Lg	Lg	12 02 50.4	
	baz=86,slow=37						
HFS	**Hagfors**	**5.34**	**278**	Pn	**Pn**	**12 01 27.5**	**+1.5**
	baz=94,slow=14						
HFS				Sn	**Sn**	**12 02 27.8**	**-0.4**
	baz=100,slow=37						
HFS				Lg	Lg	12 02 50.4	
	baz=86,slow=37						
HFS	**Hagfors**	**5.34**	**278**	Pn	**Pn**	**12 01 27.9**	**+1.9**
	comp=Z,1.5nm,0.3s,baz=92,slow=12,SNR=53						
HFS				Sn	**Sn**	**12 02 29.1**	**+1.0**
	comp=Z,1.7nm,0.3s,baz=92,slow=22,SNR=8.9						
HFS				Lg	Lg	12 02 51.6	
	comp=Z,2.7nm,0.3s,baz=84,slow=30,SNR=7.5						
HFS	**Hagfors**	**5.34**	**278**	Pn	**Pn**	**12 01 27.5**	**+1.5**
	SNR=50						
HFS				Sn	**Sn**	**12 02 27.8**	**-0.4**
	SNR=50						
NB2	**NORSAR Subarra**	**6.60**	**286**	Pn	**Pn**	**12 01 43.9**	**+0.5**
	baz=94,slow=14						
NB2				Sn	**Sn**	**12 02 57.7**	**-1.5**
	baz=97,slow=28						
NB2				Lg	Lg	12 03 30.9	
	baz=110,slow=37						
NB2	**NORSAR Subarra**	**6.60**	**286**	Pn	**Pn**	**12 01 43.9**	**+0.5**
	baz=94,slow=14						
NB2				Sn	**Sn**	**12 02 57.7**	**-1.5**
	baz=97,slow=28						
NB2				Lg	Lg	12 03 30.9	
	baz=110,slow=37						
NB2	**NORSAR Subarra**	**6.60**	**286**	Pn	**Pn**	**12 01 43.8**	**+0.5**
	SNR=50						
NB2				Sn	**Sn**	**12 02 57.7**	**-1.5**
	SNR=50						
NB2				Lg	Lg	12 03 30.9	
	SNR=50						
NOA	**NORSAR Array B**	**6.60**	**286**	Pn	**Pn**	**12 01 44.5**	**+1.2**
	comp=Z,1.6nm,0.3s,baz=93,slow=13,SNR=36						
NOA				Sn	**Sn**	**12 02 58.1**	**-1.0**
	comp=Z,1.1nm,0.3s,baz=99,slow=19,SNR=5.2						
BSD	**Bornholm Skovb**	**6.92**	**231**	*i* P	**Pn**	**12 01 47.6**	**0.0**
BSD				*i* S	**Sn**	**12 03 05.5**	**-1.4**
APA0	**Apatity Array**	**8.71**	**22**	Pn	**Pn**	**12 02 13.3**	**+1.1**
	baz=222,slow=11						
APA0	**Apatity Array**	**8.71**	**22**	Pn	**Pn**	**12 02 13.3**	**+1.1**
	baz=222,slow=11						
APA0	**Apatity Array**	**8.71**	**22**	Pn	**Pn**	**12 02 13.3**	**+1.1**
	SNR=50						
AKASG	**Malin Array Be**	**9.55**	**161**	Pn	**Pn**	**12 02 23.1**	**-0.7**
	comp=Z,1.9nm,0.3s,baz=340,slow=12,SNR=4.7						
ARA0	**ARCESS Array S**	**9.77**	**2**	Pn	**Pn**	**12 02 26.6**	**-0.2**
	baz=173,slow=16						
ARA0				Sn	**Sn**	**12 04 12.7**	**-4.4**
	baz=188,slow=22						
ARA0	**ARCESS Array S**	**9.77**	**2**	Pn	**Pn**	**12 02 26.6**	**-0.2**
	baz=173,slow=16						
ARA0				Sn	**Sn**	**12 04 12.7**	**-4.4**
	baz=188,slow=22						
ARA0	**ARCESS Array S**	**9.77**	**2**	Pn	**Pn**	**12 02 26.6**	**-0.2**
	SNR=50						
ARA0				Sn	**Sn**	**12 04 12.7**	**-4.4**
	SNR=50						
ARCES	**ARCESS Array B**	**9.77**	**2**	Pn	**Pn**	**12 02 26.6**	**-0.2**
	comp=Z,1.6nm,0.3s,baz=180,slow=12,SNR=51						
ARCES				Sn	**Sn**	**12 04 12.1**	**-5.0**
	comp=Z,0.3nm,0.3s,baz=187,slow=21,SNR=2.7						
ARCES				Lg	Lg	12 05 06.8	
	comp=Z,0.5nm,0.3s,baz=178,slow=33,SNR=3.1						

*CSEM **21** 12:16:18.4, 35°94N×4°09E, h0km, ML3.6*

CRAAG 21 12:16:18.4, 35°94N×4°09E, MI3.6, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAF	**Djebel Tarf**	**0.17**	**113**	P	Pg	12 16 22.5	+0.8
ATAF	**Djebel Tarf**	**0.17**	**113**	P	Pg	12 16 22.5	+0.8
AKET	**Djebel Ketaf**	**0.20**	**302**	P	Pg	12 16 23.8	+1.3
AKET	**Djebel Ketaf**	**0.20**	**302**	P	Pg	12 16 23.8	+1.3
EMHD	**Djebel Mahouad**	**0.96**	**286**	P	Pn	12 16 39.5	+0.2
EMHD	**Djebel Mahouad**	**0.96**	**286**	P	Pn	12 16 39.5	+0.2
CKHR	**Kef el Ahmar**	**1.16**	**86**	P	Pn	12 16 42.1	+0.1
CKHR	**Kef el Ahmar**	**1.16**	**86**	P	Pn	12 16 42.1	+0.1
ABA	**Alger-Bouzarea**	**1.21**	**316**	P	Pn	12 16 43.5	+0.9
ABA	**Alger-Bouzarea**	**1.21**	**316**	P	Pn	12 16 43.5	+0.9
DFRA	**Djebel Bou Aff**	**1.57**	**67**	P	Pg	12 16 49.3	+0.7
DFRA	**Djebel Bou Aff**	**1.57**	**67**	P	Pg	12 16 49.3	+0.7
CASM	**Ain Smara**	**1.97**	**80**	P	Pn	12 16 54.0	+0.9
CASM	**Ain Smara**	**1.97**	**80**	P	Pn	12 16 54.0	+0.9
EBNR	**Beni Rached**	**2.10**	**280**	P	Pg	12 17 03.5	+4.7
EBNR	**Beni Rached**	**2.10**	**280**	P	Pg	12 17 03.5	+4.7
ECHA	**Ech Chlef**	**2.22**	**276**	P	Pg	12 17 04.0	+3.1
ECHA	**Ech Chlef**	**2.22**	**276**	P	Pg	12 17 04.0	+3.1
ETRT	**Tiaret**	**2.34**	**257**	P	Pn	12 16 59.6	+1.3
ETRT	**Tiaret**	**2.34**	**257**	P	Pn	12 16 59.6	+1.3
EANR	**'Ain N'Sour**	**2.43**	**271**	P	Pg	12 17 04.8	-0.2
EANR	**'Ain N'Sour**	**2.43**	**271**	P	Pg	12 17 04.8	-0.2
OJGS	**Djebel Guires**	**2.75**	**262**	P	Pg	12 17 35.0	+24
OJGS	**Djebel Guires**	**2.75**	**262**	P	Pg	12 17 35.0	+24
ODJA	**Bouhanifia**	**3.51**	**261**	P	Pg	12 17 37.0	+11
ODJA	**Bouhanifia**	**3.51**	**261**	P	Pg	12 17 37.0	+11
OTSS	**Djebel Tessala**	**4.03**	**262**	P	Pg	12 17 38.0	+2.1
OTSS	**Djebel Tessala**	**4.03**	**262**	P	Pg	12 17 38.0	+2.1

*KRNET **21** 12:24:06.1±0.1, 41°27N×75°95E, h1km, mb4.2*
*IDC **21** 12:24:07.0±1.1, 40°90N×75°74E, h0km, mb3.6/7, mb1 3.8/12, mb1mx3.6/44, mbtmp3.6/12, ML3.2/5, MS2.9/5, Ms1 3.0/5, ms1mx2.5/40, Error ellipse: s-maj=19.0km s-min=15.7km az=152.0*
*BJI **21** 12:24:10.4, 41°54N×75°73E, h25km, ML3.8/6*
*NNC **21** 12:24:11.6±1.1, 41°41N×75°76E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=11.1km s-min=7.1km az=125.0*
*MOS **21** 12:24:15.0±1.3, 41°41N×75°71E, h62km, mb4.0/2, Error ellipse: s-maj=10.7km s-min=7.6km az=80.8*

ISC 21 12:24:08.7±1.3, 41°32N±0°04×75°88E±0°03, h2km±8km, n67, σ1§58/78, mb3.6/8, MS3.2/4, 29C-15D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**0.89**	**328**	P	**Pg**	**12 24 24.7**	**-1.1**
	SNR=321						
KZA	**Kyzart**	**0.89**	**328**	*eP*	**Pg**	**12 24 24.7**	**-1.1**
	baz=327						
KZA				*i* S	**Sg**	**12 24 38.3**	**+0.9**
	baz=327						
ULHL	**Ulahol**	**0.96**	**16**	P	**Pg**	**12 24 26.4**	**-0.8**
	SNR=870						
ULHL	**Ulahol**	**0.96**	**16**	*eP*	**Pg**	**12 24 26.4**	**-0.8**
	baz=13						
ULHL				*i* S	**Sg**	**12 24 40.3**	**+0.6**
	baz=13						
KDJ	**Kajisay**	**1.27**	**50**	*i* P	Pg	12 24 30.0	-3.0
	baz=47						
KDJ				*eS*	**Sg**	**12 24 47.0**	**-2.4**
	baz=47						
UCH	**Uchtor**	**1.37**	**312**	P	**Pn**	**12 24 33.0**	**-2.2**
	SNR=110						
UCH	**Uchtor**	**1.37**	**312**	⇑*iP*	**Pn**	**12 24 32.9**	**-2.3**
	baz=312						
UCH				⇑*iS*	**Sg**	**12 24 52.5**	**-0.1**
	baz=312						
KBK	**Karagaybulak**	**1.51**	**333**	P	**Pn**	**12 24 36.1**	**-0.8**
	SNR=89						
KBK	**Karagaybulak**	**1.51**	**333**	⇓*iP*	**Pn**	**12 24 36.1**	**-0.8**
	baz=332						
KBK				⇓*iS*	**Sb**	**12 24 56.4**	**-0.7**
	baz=332						
TKM2	**Tokmak 2**	**1.61**	**353**	P	**Pn**	**12 24 38.1**	**-0.4**
	SNR=38						
TKM2	**Tokmak 2**	**1.61**	**353**	⇓P	**Pn**	**12 24 38.1**	**-0.4**
	155nm,0.4s						
TKM2				⇑S	**Sg**	**12 25 02.4**	**+1.8**
	863nm,0.5s						
TKM2	**Tokmak 2**	**1.61**	**353**	P	**Pn**	**12 24 38.0**	**-0.4**
TKM2				S	**Sg**	**12 25 02.4**	**+1.8**
TKM2				pmax	pmax		
	comp=Z,155nm,0.4s						
TKM2				smax	smax		
	comp=N,863nm,0.5s						
TKM2	**Tokmak 2**	**1.61**	**353**	⇑*iP*	**Pn**	**12 24 38.0**	**-0.4**
	baz=351						
TKM2				⇑*iS*	**Sg**	**12 25 01.0**	**+0.4**
	baz=351						
AAK	**Ala-Archa**	**1.67**	**322**	P	**Pn**	**12 24 38.8**	**-0.4**
	SNR=82						
AAK	**Ala-Archa**	**1.67**	**322**	Pn	**Pn**	**12 24 38.2**	**-0.9**
	comp=N,200nm,0.6s						
AAK				⇑Sn	**Sg**	**12 25 02.5**	**+0.1**
	comp=N,721nm,0.5s						
AAK	**Ala-Archa**	**1.67**	**322**	⇑*iP*	**Pn**	**12 24 38.7**	**-0.4**
	baz=322						
AAK				⇑*iS*	**Sg**	**12 25 02.2**	**-0.2**
	baz=322						
FRU	**Bishkek**	**1.78**	**329**	*e*PN	**Pn**	**12 24 41.0**	**+0.5**
FRU				*i* S	**Sg**	**12 25 08.0**	**+2.1**
FRU				pmax	pmax		
	comp=Z,800nm,1.0s						
FRU				smax	smax		
	comp=E,2μm,1.2s						
FRU	**Bishkek**	**1.78**	**329**	*eP*	**Pg**	**12 24 43.1**	**+0.3**
	baz=328						
FRU				*eS*	**Sg**	**12 25 08.5**	**+2.6**
	baz=328						
KSH	**Kashi**	**1.80**	**178**	Pn	Pg	12 24 49.0	+5.8
KSH				Sn	Sg	12 25 20.6	+14
KSH				SMN			
	comp=E,1μm,0.6s						
KSH				SME			
	comp=E,1μm,0.7s						
AML	**Almayashu**	**1.83**	**297**	P	**Pn**	**12 24 41.4**	**-0.1**
	SNR=80						
AML	**Almayashu**	**1.83**	**297**	⇑*iP*	**Pn**	**12 24 41.3**	**-0.1**
	baz=298						
AML				⇑*iS*	**Sb**	**12 25 06.5**	**0.0**
	baz=298						
CHMS	**Chumysh**	**1.88**	**334**	P	**Pn**	**12 24 42.6**	**+0.8**
	SNR=167						
CHMS	**Chumysh**	**1.88**	**334**	⇑*iP*	**Pn**	**12 24 42.5**	**+0.7**
	baz=333						
CHMS				⇑*iS*	**Sg**	**12 25 08.2**	**-0.8**
	baz=333						
ANVS	**Anan'yevo**	**1.98**	**42**	⇓*iP*	**Pb**	**12 24 45.8**	**+0.3**
	baz=40						
ANVS				⇓*eS*	**Sb**	**12 25 12.5**	**+1.8**
	baz=40						
KNDC	**Almaty**	**2.06**	**23**	⇓Pn	**Pb**	**12 24 47.2**	**+0.3**
KNDC				⇓Sn	**Sg**	**12 25 15.6**	**+0.7**
EKS	**Erkin-Say**	**2.06**	**312**	*eP*	**Pb**	**12 24 46.4**	**-0.5**
	baz=312						
EKS				*eS*	**Sg**	**12 25 15.8**	**+0.9**
	baz=312						
EKS2	**Erkin-Say**	**2.06**	**311**	P	**Pb**	**12 24 46.3**	**-0.6**
	SNR=89						
AAA	**Alma-Ata**	**2.11**	**22**	*e*PN	**Pb**	**12 24 48.6**	**+1.0**
AAA				*eS*	**Sb**	**12 25 15.3**	**+1.1**
AAA				pmax	pmax		
	comp=Z,2μm,0.3s						
AAA				smax	smax		
	comp=N,705nm,0.2s						
USP	**Ospenovka**	**2.20**	**333**	P	**Pb**	**12 24 48.3**	**-0.9**
	SNR=232						
SFK	**Sufi-Kurgan**	**2.23**	**235**	⇓Pn	**Pn**	**12 24 47.5**	**+0.6**
	comp=N,18nm,0.4s						
SFK				⇑Sn	**Sg**	**12 25 20.9**	**+0.6**
	comp=N,1μm,0.7s						
SFK	**Sufi-Kurgan**	**2.23**	**235**	PN	**Pn**	**12 24 47.4**	**+0.6**
SFK						12 25 20.8	
SFK				pmax	pmax		
	comp=Z,83nm,0.5s						
SFK				smax	smax		
	comp=N,1μm,0.7s						
MNAS	**Manas**	**2.78**	**296**	⇑Pn	**Pb**	**12 24 57.8**	**-1.3**
	comp=N,110nm,0.7s						
MNAS				⇓Lg	Lg	12 25 35.1	
	comp=N,270nm,0.5s						
MNAS	**Manas**	**2.78**	**296**	PN	**Pb**	**12 24 57.8**	**-1.3**
MNAS						12 25 34.4	
MNAS				pmax	pmax		
	comp=Z,110nm,0.7s						
PDGK	**Podgornoye**	**3.34**	**52**	⇑Pn	**Pb**	**12 25 06.6**	**-2.0**
	comp=Z,50nm,0.6s						
PDGK				⇑Lg	Lg	12 25 55.3	
	comp=Z,281nm,0.7s						
PDGK	**Podgornoye**	**3.34**	**52**	PN	**Pb**	**12 25 06.6**	**-2.0**
PDGK						12 25 51.5	
PDGK				pmax	pmax		
	comp=Z,50nm,0.6s						
KK31	**Karatay Array**	**4.37**	**296**	⇑Pn	**Pn**	**12 25 18.3**	**+2.3**
	comp=Z,0.7nm,0.3s,baz=127,slow=33,SNR=91						
KK31				⇑Pg	**Pb**	**12 25 28.0**	**+1.9**
	comp=Z,8.3nm,0.4s,baz=118,slow=16,SNR=28						
KK31				⇓Lg	Lg	12 26 24.5	
	comp=Z,31nm,0.5s,baz=113,slow=28,SNR=6.2						
KK31	**Karatay Array**	**4.37**	**296**	PN	Pn	12 25 20.3	+4.3
KK31				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DZET	**Dzherino**	**5.96**	**247**	⇓Pn	**Pn**	**12 25 40.2**	**+2.1**
	comp=Z,11nm,0.5s						
DZET				⇑Lg	Lg	12 27 21.7	
	comp=Z,49nm,0.7s						
DZET	**Dzherino**	**5.96**	**247**	PN	Pn	12 25 42.5	+4.4
DZET				pmax	pmax		
	comp=Z,13nm,0.6s						
DZET				pmax	pmax		
	comp=N,47nm,0.6s						
MK31	**Makanchi Array**	**7.16**	**38**	⇓Pn	Pn	12 26 01.9	+7.6
	comp=N,1.3nm,0.5s,baz=226,slow=16,SNR=23						
MK31				⇑Pg	**Pb**	**12 26 16.2**	**+2.5**
	comp=N

NVS					*e*S	**Sn**	**12 30 08.4**	**-4.7**
NVS					pmax	pmax			
	comp=N,1.0nm,0.5s								
NVS					pmax	pmax			
	comp=E,1.0nm,0.5s								
NVS					pmax	pmax			
	comp=Z,2.0nm,0.5s								
NVS					smax	smax			
	comp=N,2.0nm,0.9s								
NVS					smax	smax			
	comp=E,4.0nm,1.1s								
AKTO	**Aktyubinsk**	**15.39**	**312**	⇑Pn	**P**		**12 27 50.3**	**-1.2**
	comp=E,4.0nm,0.7s								
AKTO				⇑Sn	**Sn**		**12 30 43.0**	**+5.4**
	comp=E,2.6nm,0.8s								
AKTO	**Aktyubinsk**	**15.39**	**312**	Pn	**Pn**		**12 27 45.7**	**-1.1**
	comp=E,0.1nm,0.3s,baz=97,slow=14,SNR=2.7								
AKTO				LR	LR		12 34 07.5		
	comp=E,32nm,20.5s,baz=124,slow=38								
SONM	**Songino Array**	**22.59**	**63**	P	**P**		**12 29 12.3**	**+1.8**
	comp=E,0.2nm,0.3s,baz=272,slow=8.5,SNR=2.6								
SONM				LR	LR		12 39 05.3		
	comp=E,43nm,20.0s,baz=264,slow=39								
HHC	**Hu-ho-hao-te**	**26.79**	**79**	*e*P	P		12 29 54.9	+4.8	
HHC				PP	PnPn		12 30 39.5	+8.5	
HHC				S	**S**		**12 34 30.1**	**+3.2**	
HHC				SS	SnSn		12 35 41.5	+11	
HHC				pmax	pmax				
	comp=Z,23nm,1.0s								
HHC				pmax	pmax				
	comp=Z,66nm,7.4s								
HHC				LR	LR				
	comp=N,170nm,17.3s								
HHC				LR	LR				
	comp=E,180nm,16.0s								
HHC				LR	LR				
	comp=Z,130nm,19.7s								
FINES	**FINESS Array B**	**35.86**	**321**	P	**P**		**12 31 09.6**	**+0.1**	
	comp=Z,0.8nm,0.7s,baz=104,slow=12,SNR=3.0								
FINES	**FINESS Array B**	**35.86**	**321**	P	**P**		**12 31 09.6**	**+0.1**	
FINES				pmax	pmax				
	comp=Z,1.0nm,0.7s								
KSRS	**Korea Array**	**39.92**	**78**	LR	LR		12 48 59.3		
	comp=Z,44nm,19.5s,baz=192,slow=37								
NOA	**NORSAR Array B**	**42.99**	**320**	P	**P**		**12 32 09.9**	**+0.8**	
	comp=Z,0.2nm,0.5s,baz=68,slow=8.4,SNR=2.3								
NOA				LR	LR		12 50 38.9		
	comp=Z,19nm,18.9s,baz=290,slow=37								
GERES	**GERESS Array B**	**43.45**	**302**	P	**P**		**12 32 12.7**	**-0.2**	
	comp=Z,0.5nm,0.5s,baz=61,slow=6.6,SNR=5.2								
GERES	**GERESS Array B**	**43.45**	**302**	P	**P**		**12 32 12.7**	**-0.2**	
GERES				pmax	pmax				
	comp=Z,1.0nm,0.5s								
ILAR	**Eielson Array**	**69.07**	**18**	P	**P**		**12 35 15.4**	**-0.1**	
	comp=Z,0.3nm,0.8s,baz=289,slow=3.4,SNR=4.3								
TORD	**Torodi Ar. Bea**	**69.60**	**270**	P	**P**		**12 35 17.4**	**-2.2**	
	comp=Z,1.0nm,0.5s,baz=48,slow=5.1,SNR=18								
WRA	**Warramunga Ar**	**81.51**	**126**	P	**P**		**12 36 26.4**	**-1.3**	
	comp=Z,0.4nm,0.7s,baz=327,slow=5.0,SNR=4.3								

*IDC **21** 12:45:43.2±1.6,38.26°S×91.41°W,h0km,mb3.9/6, mb1 4.2/7,mb1mx4.0/28,mbtmp3.9/7,ML3.5/1,MS3.7/4, Ms1 3.7/4,ms1mx3.4/20,Error ellipse: s-maj=45.3km s-min=24.7km az=179.0*

*NEIC **21** 12:45:44.7±0.4,38.29°S×91.35°W,h10km,mb4.5/5,Error ellipse: s-maj=10.7km s-min=8.9km az=185.0*

ISC 21 12:45:43.1±0.8,38.7°S±0.1×91.4°W±0.1,h10km,n29, σ1°§35/24,mb4.1/12,MS4.1/3,West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PLCA	**Paso Flores**	**16.15**	**104**	Pn		**P**	**12 49 32.4**	**-1.0**
	0.0nm,0.3s,baz=298,slow=9.2,SNR=4.4							
PLCA				LR		LR	12 54 42.0	
	comp=Z,91nm,18.8s,baz=270,slow=33							
PLCA	**Paso Flores**	**16.15**	**104**	*e*Pn		**P**	**12 49 32.9**	**-0.5**
CFAA	**Coronel Fontan**	**20.15**	**77**	P		**P**	**12 50 17.5**	**0.0**
	0.6nm,0.9s,baz=242,slow=10,SNR=5.8							
USHA	**Ushuaia**	**22.39**	**144**	LR		LR	12 57 31.1	
	comp=Z,673nm,19.9s,baz=262,slow=31							
LVC	**Limon Verde**	**24.98**	**57**	P		**P**	**12 51 07.4**	**+0.3**
	39nm,1.1s,baz=237,slow=8.8,SNR=7.5							
LVC	**Limon Verde**	**24.98**	**57**	*e*P		**P**	**12 51 07.6**	**+0.4**
LPAZ	**La Paz**	**30.19**	**49**	P		**P**	**12 51 54.5**	**+0.1**
	0.9nm,0.6s,baz=217,slow=8.7,SNR=6.1							
LPAZ	**La Paz**	**30.19**	**49**	*e*P		**P**	**12 51 53.2**	**-1.2**
	14nm,1.6s							
CPUP	**Villa Florida**	**31.05**	**77**	*e*P		**P**	**12 52 02.4**	**+1.3**
	0.3nm,1.1s							
ATAH	**Atahualpa**	**33.50**	**24**	P		**P**	**12 52 22.6**	**-0.6**
	2.8nm,0.6s,baz=126,slow=19,SNR=3.1							
PTGA	**Pitinga**	**47.46**	**45**	LR		LR	13 12 04.0	
	comp=Z,223nm,20.7s,baz=215,slow=34							
VNA3	**Neumayer Olymp**	**51.29**	**156**	P		**P**	**12 54 43.9**	**-2.9**
VNA1	**Neumayer--Stat**	**51.83**	**155**	P		**P**	**12 54 49.0**	**-1.8**
VNA2	**Neumayer--Watz**	**52.07**	**156**	P		**P**	**12 54 50.9**	**-1.7**
	baz=258,slow=7.5							
SNAA	**Sanae**	**53.37**	**157**	P		P	12 54 57.2	-5.1
SNAA	**Sanae**	**53.37**	**157**	LR		LR	13 14 01.4	
	comp=Z,27nm,20.6s,baz=230,slow=32							
SNAA	**Sanae**	**53.37**	**157**	*e*P		**P**	**12 55 02.3**	**0.0**
	4.0nm,0.9s							
SBA	**Scott Base**	**54.98**	**195**	*e*P		P	12 55 17.7	+3.9
	4.8nm,1.1s							
TXAR	**Lajitas Array**	**68.62**	**348**	P		**P**	**12 56 45.9**	**-0.4**
	0.9nm,0.9s,baz=161,slow=8.0,SNR=6.7							
ANMO	**Albuquerque**	**74.57**	**347**	P		**P**	**12 57 20.0**	**-2.1**
	0.6nm,0.6s,baz=304,slow=3.6,SNR=2.7							
ANMO	**Albuquerque**	**74.57**	**347**	*e*P		**P**	**12 57 21.6**	**-0.5**
NVAR	**Mina Array Bea**	**80.62**	**339**	P		**P**	**12 57 55.8**	**-0.1**
	0.3nm,0.6s,baz=179,slow=5.9,SNR=2.9							
DUG	**Dugway, Tooele**	**80.90**	**344**	*e*P		**P**	**12 57 57.0**	**-0.3**
DUG				*e*PcP		**PcP**	**12 58 04.5**	**+0.7**
PDAR	**Pinedale Array**	**82.72**	**347**	P		**P**	**12 58 06.4**	**-0.5**
	0.4nm,0.4s,baz=151,slow=3.4,SNR=4.4							
LBTB	**Lobatse**	**93.46**	**126**	P		**P**	**12 59 02.0**	**+2.8**
	8.0nm,1.4s							
STKA	**Stephens Creek**	**94.26**	**223**	*e*P		P	12 59 05.9	+3.2
	0.6nm,1.1s							
USRK	**Ussuriysk Ar.**	**147.32**	**294**	PKPbc		**PKPab**	**13 05 27.6**	**-0.8**
	1.8nm,0.9s,baz=120,slow=7.5,SNR=4.2							
KSRS	**Korea Array**	**149.21**	**280**	PKPbc		**PKPbc**	**13 05 33.2**	**+1.6**
	0.5nm,0.4s,baz=131,slow=4.0,SNR=7.1							
KSAR	**Wonju Array Be**	**149.23**	**280**	PKPbc		**PKPbc**	**13 05 33.2**	**+1.5**

NNC 21 12:47:50.1±4.3,39.06°N×76.01°E,h0km,mb3.7,mpv3.3, 4C-6D,Error ellipse: s-maj=33.1km s-min=26.2km az=134.0,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SFK	**Sufi-Kurgan**	**2.16**	**297**	⇓Pn		Pn	12 48 27.4	-0.3
	20nm,0.3s							
SFK				⇓Lg		Lg	12 48 58.8	
	81nm,0.3s							
AAK	**Ala-Archa**	**3.75**	**343**	⇑Pg		Pb	12 48 57.9	+0.4
	5.4nm,0.6s							
AAK				⇑Lg		Lg	12 49 49.8	
	17nm,0.8s							
TKM2	**Tokmak 2**	**3.87**	**356**	⇑Pg		Pb	12 49 00.2	+0.6
	2.7nm,0.4s							
TKM2				⇑Lg		Lg	12 49 52.5	
	9.8nm,0.4s							
MNAS	**Manas**	**4.34**	**323**	⇓Pg		Pg	12 49 14.9	+1.4
	1.1nm,0.4s							
MNAS				⇓Lg		Lg	12 50 11.1	
	7.3nm,0.8s							
KK31	**Karatay Array**	**5.80**	**316**	⇓Pn		Pn	12 49 16.7	-0.7
	0.6nm,0.3s,baz=135,slow=14,SNR=8.6							
KK31				⇓Sn		Sn	12 50 23.8	-0.8
	1.7nm,0.5s,baz=131,slow=25							

*KRNET **21** 13:01:52.2±0.1,42.08°N×76.08°E,h12km,mb3.1*
*KNET **21** 13:01:53.4±0.3,42.16°N×75.99°E,h0km,ml2.2,Error ellipse: s-maj=2.8km s-min=1.2km az=170.0*
*NNC **21** 13:01:55.3±2.9,42.18°N×75.97°E,h0km,mb3.0,mpv2.9, Error ellipse: s-maj=17.3km s-min=14.6km az=154.0*

ISC 21 13:01:52.6±1.0,42.09°N±0.05×76.08°E±0.03,h17km±7km, n26,σ0°§90/48,26C-19D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
ULHL	**Ulahol**	**0.20**	**39**	⇑P		**Pg**	**13 01 57.6**	**0.0**
	45nm,0.1s,SNR=605							
ULHL				⇑S		**Sg**	**13 02 00.7**	**-0.3**
	232nm,0.1s							
ULHL	**Ulahol**	**0.20**	**39**	⇑*i*P		**Pg**	**13 01 57.4**	**-0.2**
	baz=36							
ULHL				⇑*i*S		**Sg**	**13 02 00.6**	**-0.3**
	baz=36							
KZA	**Kyzart**	**0.61**	**269**	⇓P		**Pg**	**13 02 04.5**	**-0.3**
	21nm,0.1s,SNR=93							
KZA				⇓S		**Sg**	**13 02 13.0**	**-0.1**
	169nm,0.3s							
KZA	**Kyzart**	**0.61**	**269**	⇓*i*P		**Pg**	**13 02 04.4**	**-0.5**
	baz=270							
KZA				⇓*i*S		**Sg**	**13 02 12.9**	**-0.2**
	baz=270							
KDJ	**Kajisay**	**0.82**	**87**	*e*P		**Pg**	**13 02 07.6**	**-1.1**
	baz=87							
KDJ				*e*S		**Sg**	**13 02 19.1**	**-0.5**
	baz=87							
TKM2	**Tokmak 2**	**0.90**	**337**	⇓P		**Pb**	**13 02 10.1**	**+0.1**
	58nm,0.2s,SNR=32							
TKM2				⇑S		**Sb**	**13 02 22.4**	**+0.6**
	83nm,0.1s							
TKM2	**Tokmak 2**	**0.90**	**337**	⇓P		**Pb**	**13 02 10.0**	**+0.1**
	11nm,0.2s							
TKM2				⇑S		**Sb**	**13 02 22.3**	**+0.5**
	19nm,0.2s							
TKM2	**Tokmak 2**	**0.90**	**337**	*e*P		**Pb**	**13 02 09.9**	**-0.1**
	baz=337							
TKM2				*i* S		**Sb**	**13 02 21.9**	**+0.1**
	baz=337							
KBK	**Karagaybulak**	**1.01**	**304**	⇓P		**Pb**	**13 02 12.1**	**+0.4**
	44nm,0.1s,SNR=45							
KBK				⇓S		**Sg**	**13 02 25.9**	**+0.5**
	58nm,0.2s							
KBK	**Karagaybulak**	**1.01**	**304**	⇑*i*P		**Pb**	**13 02 12.0**	**+0.3**
	baz=305							
KBK				⇑*i*S		**Sb**	**13 02 25.3**	**+0.5**
	baz=305							
UCH	**Uchtor**	**1.17**	**277**	⇑P		**Pn**	**13 02 14.6**	**-0.1**
	5.7nm,0.2s,SNR=12							
UCH				⇓S		**Sb**	**13 02 30.3**	**+0.6**
	29nm,0.3s							
UCH	**Uchtor**	**1.17**	**277**	⇑*i*P		**Pn**	**13 02 14.6**	**-0.1**
	baz=278							
UCH				⇑*i*S		**Sb**	**13 02 29.9**	**+0.2**
	baz=278							
AAK	**Ala-Archa**	**1.29**	**295**	⇓P		**Pb**	**13 02 16.8**	**+0.3**
	26nm,0.2s,SNR=25							
AAK				⇓S		**Sb**	**13 02 33.7**	**+0.8**
	39nm,0.2s							
AAK	**Ala-Archa**	**1.29**	**295**	⇓P		**Pb**	**13 02 16.7**	**+0.1**
	13nm,0.3s							
AAK				⇑S		**Sb**	**13 02 33.5**	**+0.6**
	12nm,0.3s							
AAK	**Ala-Archa**	**1.29**	**295**	⇑*i*P		**Pb**	**13 02 16.7**	**+0.1**
	baz=296							
AAK				⇑*i*S		**Sb**	**13 02 33.5**	**+0.6**
	baz=296							
CHMS	**Chumysh**	**1.33**	**313**	⇑P		**Pb**	**13 02 17.6**	**+0.3**
	11nm,0.2s,SNR=8.6							
CHMS				⇑S		**Sb**	**13 02 35.3**	**+1.3**
	25nm,0.2s							
CHMS	**Chumysh**	**1.33**	**313**	⇓*i*P		**Pb**	**13 02 17.5**	**+0.3**
	baz=314							
CHMS				⇓*i*S		**Sb**	**13 02 35.0**	**+1.0**
	baz=314							
USP	**Ospenovka**	**1.65**	**316**	⇓P		**Pb**	**13 02 23.2**	**+0.6**
	18nm,0.2s,SNR=73							
USP	**Ospenovka**	**1.65**	**316**	⇑*i*P		**Pb**	**13 02 23.4**	**+0.8**
	baz=316							
USP				⇑*i*S		**Sg**	**13 02 45.4**	**-0.5**
	baz=316							
AML	**Almayashu**	**1.77**	**272**	⇑P		**Pb**	**13 02 25.8**	**+0.9**
	4.6nm,0.1s,SNR=19							
AML	**Almayashu**	**1.77**	**272**	⇓*i*P		**Pb**	**13 02 25.6**	**+0.7**
	baz=272							
AML				⇓*i*S		**Sb**	**13 02 49.0**	**+2.0**
	baz=272							
EKS2	**Erkin-Say**	**1.79**	**289**	⇑P		**Pg**	**13 02 26.6**	**-0.6**
	7.6nm,0.2s,SNR=10							
EKS2	**Erkin-Say**	**1.79**	**289**	⇑*i*P		**Pb**	**13 02 26.3**	**+1.2**
	baz=290							
EKS2				⇑*i*S		**Sg**	**13 02 50.7**	**+0.2**
	baz=290							
MNAS	**Manas**	**2.68**	**280**	⇓Pn		Pb	13 02 40.5	+0.3
	4.0nm,0.6s							
MNAS				⇓Sn		**Sg**	**13 03 16.9**	**-1.8**
	8.8nm,0.5s							
PDGK	**Podgornoye**	**2.80**	**63**	⇑Pn		Pn	13 02 38.0	+1.4
	1.5nm,0.7s							
PDGK				⇑Sn		**Sg**	**13 03 20.5**	**-2.0**
	22nm,0.7s							
KK31	**Karatay Array**	**4.23**	**286**	⇑Pg		**Pg**	**13 03 10.5**	**-3.1**
	0.4nm,0.3s,baz=95,slow=16,SNR=7.3							
KK31				⇑Lg		Lg	13 04 07.0	
	1.4nm,0.5s,baz=102,slow=27,SNR=4.9							

*IDC **21** 13:02:20.4±0.6,25.82°S×66.69W,h0km,mb4.1/11, mb1 4.2/16,mb1mx4.2/30,mbtmp4.1/16,ML3.9/4,MS4.3/14, Ms1 4.3/14,ms1mx4.1/22,Error ellipse: s-maj=21.8km s-min=13.1km az=85.0*

*NEIC **21** 13:02:21.7±0.3,25.81°S×66.74W,h10km,mb4.6/12, MD4.7(SJA),Error ellipse: s-maj=8.9km s-min=5.7km az=86.0*

NEIC Felt [III] in the epicentral area.

*GCMT **21** 13:02:21.7±0.3,25.90°S×67.06W,h17km±1km,MW5.1/78, Moment Tensor Solution. s37,c41; s78,c111; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.49±.20; Mθθ=4.57±.18; Mϕϕ=-4.08±.17; Mrθ=3.23±.55; Mrϕ=-0.13±.14; Mθϕ=2.49±.52; Best double couple: Mw=5.9 3800×10^16 NP1:ϕs=228.00000°,δ88.00000°,λ=-136.00000°. NP2: ϕs=136.00000°,δ46.00000°,λ=-3.00000°. Principal axes: T 6.2410, Plg27.0000°, Azm354.0000°; N -0.6080, Plg46.0000°, Azm231.0000°; P -5.6350, Plg31.0000°, Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*ISCJB **21** 13:02:22.9±0.4,25.86°S±0.04×66.59W±0.05,h33km, mb4.2/21,MS4.4/10 Error ellipse: s-maj=6.9km s-min=5.7km az=163.3*

ISC 21 13:02:25.2±0.5,25.88°S±0.06×66.68°W±0.07,h35km,n53, σ1°§43/49,mb4.4/21,MS4.4/10,Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
LVC	**Limon Verde**	**3.84**	**327**	Pn		**Pn**	**13 03 22.0**	**-0.1**
	248nm,0.3s,baz=166,slow=7.5,SNR=53							
LVC				Sn		**Sn**	**13 04 07.6**	**+1.5**
	baz=198,slow=19,SNR=1.5							
LVC				LR		LR	13 04 54.6	
	comp=Z,9μm,20.2s,baz=330,slow=41							
LCO	**Las Campanas**	**4.75**	**228**	Pn		**Pn**	**13 03 33.4**	**-1.1**
CFAA	**Coronel Fontan**	**5.87**	**193**	Pn		**Pn**	**13 03 51.4**	**+1.6**
	1.8nm,0.3s,baz=4.5,slow=14,SNR=37							
CFAA				Lg		Lg	13 05 21.8	
	2.1nm,0.3s,baz=80,slow=8.9,SNR=3.9							
CFAA				LR		LR	13 06 15.5	
	comp=Z,414nm,19.9s,baz=36,slow=40							
CPUP	**Villa Florida**	**8.41**	**95**	*e*Pn		**Pn**	**13 04 24.9**	**+0.3**
	16nm,1.4s							
CPUP				*e*Sn		**Sn**	**13 05 57.3**	**-1.1**
LPAZ	**La Paz**	**9.64**	**352**	Pn		**Pn**	**13 04 42.2**	**+0.2**
	1.0nm,0.3s,baz=173,slow=8.9,SNR=50							
LPAZ				LR		LR	13 08 38.4	
	comp=Z,968nm,21.2s,baz=182,slow=39							
LPAZ	**La Paz**	**9.64**	**352**	*e*Pn		**Pn**	**13 04 39.6**	**-2.4**
	14nm,0.7s							
SIV	**San Ignacio**	**11.14**	**29**	Pn		**Pn**	**13 05 02.2**	**+0.1**
	0.8nm,0.3s,baz=225,slow=14,SNR=23							
SIV				Sn		**Sn**	**13 07 07.4**	**+1.9**
	0.2nm,0.3s,baz=186,slow=19,SNR=1.6							
SIV				Lg		Lg	13 08 13.8	
	0.7nm,0.3s,baz=312,slow=18,SNR=1.7							
TRQA	**Tornquist**	**12.78**	**163**	*e*Pn		**Pn**	**13 05 22.8**	**-1.6**
	8.8nm,0.6s							
PLCA	**Paso Flores**	**15.16**	**191**	Pn		**Pn**	**13 05 57.7**	**+0.9**
	0.1nm,0.3s,baz=7.0,slow=11,SNR=3.0							
PLCA				Lg		Lg	13 10 23.6	
	0.1nm,0.3s,baz=162,slow=4.3,SNR=3.0							
PLCA				LR		LR	13 12 07.0	
	comp=Z,3μm,19.3s,baz=360,slow=39							
SAML	**Samuel**	**17.16**	**12**	*e*Pn		**Pn**	**13 06 20.2**	**-2.2**
	12nm,1.2s							
BDFB	**Brasilia**	**20.18**	**63**	LR		LR	13 16 07.6	
	comp=Z,3μm,18.2s,baz=237,slow=41							
ATAH	**Atahualpa**	**21.73**	**327**	P		**P**	**13 07 13.2**	**-0.9**
	1.3nm,0.6s,baz=253,slow=20,SNR=3.1							
PTGA	**Pitinga**	**25.82**	**16**	P		**P**	**13 07 53.4**	**+0.1**
	1.3nm,0.6s,baz=201,slow=8.2,SNR=4.2							
USHA	**Ushuaia**	**28.95**	**182**	LR		LR	13 21 25.6	
	comp=Z,1μm,19.8s,baz=9.5,slow=40							
VNA3	**Neumayer Olymp**	**55.29**	**161**	P		P	13 11 58.2	+3.4
VNA2	**Neumayer--Watz**	**55.86**	**160**	P		P	13 12 02.9	+4.1
	baz=307,slow=8.2							
SNAA	**Sanae**	**57.49**	**160**	P		**P**	**13 12 10.1**	**-0.4**
SNAA	**Sanae**	**57.49**	**160**	P		**P**	**13 12 11.4**	**+0.9**
	0.7nm,0.8s,baz=294,slow=8.7,SNR=6.3							
QSPA	**South Pole Qui**	**64.33**	**180**	P		**P**	**13 12 58.6**	**+1.5**
	3.4nm,0.6s,baz=158,slow=2.3,SNR=33							
QSPA	**South Pole Qui**	**64.33**	**180**	*e*P		**P**	**13 12 57.8**	**+0.7**
	8.7nm,1.1s							
JCT	**Junction City**	**64.39**	**328**	P		**P**	**13 12 56.2**	**-1.6**
	4.6nm,0.7s							
WVT	**Waverly**	**64.83**	**341**	*e*P		**P**	**13 12 59.5**	**-1.0**
	12nm,1.1s							
MIAR	**Mount Ida**	**65.28**	**336**	*e*P		**P**	**13 13 02.5**	**-1.0**
	8.7nm,1.2s							
TXAR	**Lajitas Array**	**65.37**	**325**	P		**P**	**13 13 04.1**	**-0.2**
	0.8nm,0.8s,baz=144,slow=7.1,SNR=9.0							
DBIC	**Dimbokro**	**68.13**	**71**	P		**P**	**13 13 22.2**	**+0.1**
	6.5nm,0.8s,baz=220,slow=7.6,SNR=5.7							
DBIC				LR		LR	13 41 53.8	
	comp=Z,251nm,19.2s,baz=220,slow=35							
MNTX	**Cornudas Mount**	**68.15**	**325**	*e*P		**P**	**13 13 20.6**	**-1.3**
	3.7nm,1.1s							
VNDA	**Vanda**	**72.91**	**190**	LR		LR	13 46 07.3	
	comp=Z,212nm,18.2s,baz=142,slow=36							
SRU	**San Rafael Swe**	**76.54**	**326**	*e*P		**P**	**13 14 10.3**	**-1.7**
	6.9nm,1.3s							
MVU	**Marysvale**	**76.94**	**325**	*e*P		**P**	**13 14 15.1**	**+0.8**
	3.9nm,0.9s							
TOA0	**Torodi Ar. Sit**	**76.98**	**68**	*e*P		**P**	**13 14 14.8**	**+0.1**
TORD	**Torodi Ar. Bea**	**76.98**	**68**	P		**P**	**13 14 14.8**	**+0.1**
	5.2nm,0.7s,baz=252,slow=5.6,SNR=32							
TORD				LR		LR	13 47 26.0	
	comp=Z,158nm,19.1s,baz=245,slow=35							
R11A	**Troy Canyon, C**	**78.62**	**323**	*e*P		**P**	**13 14 24.3**	**+0.7**
	3.0nm,1.1s							
PDAR	**Pinedale Array**	**78.91**	**329**	P		**P**	**13 14 24.5**	**-0.7**
	0.6nm,0.8s,baz=129,slow=7.1,SNR=4.8							
ULM	**Lac du Bonnet**	**80.09**	**341**	P		**P**	**13 14 32.0**	**+0.9**
	0.8nm,0.4s,baz=137,slow=13,SNR=2.8							
ULM				LR		LR	13 53 49.8	
	comp=Z,129nm,19.1s,baz=230,slow=39							
TPAW	**Teton Pass**	**80.11**	**329**	P		**P**	**13 14 31.9**	**+0.1**
	11nm,1.4s							
ELK	**Elko**	**80.17**	**325**	*e*P		**P**	**13 14 32.0**	**0.0**
	2.2nm,0.8s							
NVAR	**Mina Array Bea**	**80.18**	**321**	P		**P**	**13 14 32.4**	**+0.2**
	0.7nm,0.8s,baz=145,slow=3.3,SNR=2.7							
SCHQ	**Schefferville**	**80.38**	**360**	LR		LR	13 54 23.4	
	comp=Z,76nm,18.1s,baz=272,slow=39							
IMW	**Indian Meadow**	**80.42**	**329**	*e*P		**P**	**13 14 32.8**	**-0.6**
	4.1nm,0.9s							
ESDC	**Sonseca Array**	**87.55**	**43**	LR		LR	13 50 43.3	
	comp=Z,101nm,21.8s,baz=215,slow=33							
KEST	**Kesra**	**94.32**	**52**	LR		LR	13 58 28.6	
	comp=Z,186nm,21.1s,baz=196,slow=36							
YKA	**Yellowknife Ar**	**95.98**	**340**	P		**P**	**13 15 48.2**	**+0.2**
	0.5nm,0.7s,baz=139,slow=4.6,SNR=3.5							
DAVOX	**Davos/Dischmat**	**99.87**	**43**	LR		LR	14 02 45.6	
	comp=Z,96nm,18.3s,baz=262,slow=36							
ASAR	**Alice Springs**	**126.87**	**204**	PKP		**PKPdf**	**13 21 25.6**	**-0.3**
	0.5nm,0.6s,baz=127,slow=1.8,SNR=7.3							
WRA	**Warramunga Arr**	**130.09**	**206**	PKP		**PKPdf**	**13 21 32.2**	**0.0**
	0.5nm,0.8s,baz=159,slow=1.8,SNR=5.9							
PETK	**Petropavlovsk-**	**137.27**	**322**	PKP		**PKPdf**	**13 21 45.5**	**+1.0**
	1.5nm,0.8s,baz=134,slow=11,SNR=4.2							
BVAR	**Borovoye Array**	**138.10**	**38**	PKP		**PKPdf**	**13 21 48.7**	**+2.6**
	0.2nm,0.3s,baz=282,slow=2.8,SNR=2.2							
TKM2	**Tokmak 2**	**144.88**	**51**	*e*PKPdf		**PKPdf**	**13 21 59.6**	**+0.8**
ZAA0	**Zalesovo Array**	**144.89**	**29**	*e*PKPdf		**PKPdf**	**13 21 58.5**	**+0.3**
ZALV	**Zalesovo Beam**	**144.89**	**29**	PKP		**PKPdf**	**13 21 58.6**	**+0.5**
	12nm,0.7s,baz=305,slow=4.7,SNR=46							
MK31	**Makanchi Array**	**147.75**	**42**	*e*PKPbc		**PKPab**	**13 22 07.4**	**-1.2**
MKAR	**Makanchi Array**	**147.75**	**42**	PKPbc		**PKPbc**	**13 22 07.1**	**+0.9**
	2.7nm,0.7s,baz=288,slow=6.0,SNR=18							
HHC	**Hu-ho-hao-te**	**165.00**	**5**	*e*PKP		**PKPdf**	**13 22 23.3**	**-2.5**
HHC				PP		**PP**	**13 27 10.3**	**+2.4**
HHC				SKS		**SKSdf**	**13 29 22.1**	**-5.5**

*ISCJB **21** 13:08:06.7±0.7,38.98°S±0.09×91.74°W±0.2,h10km,mb4.1/9, MS3.6/3,Error ellipse: s-maj=21.6km s-min=12.7km az=8.9*

*IDC **21** 13:08:06.8±0.8,38.97°S×91.47°W,h0km,mb4.1/9, mb1 4.3/9,mb1mx4.2/

*NEIC **21** 13:57:25.2, 50˚.95N×179˚.42W, h2km, ML3.6(AEIC), After AEIC.*

ISC 21 13:57:28.3±0.9, 50˚.9N±0˚.1×179˚.50W±0˚.04, h43km, n34, σ1§23/38, mb3.8/12, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**0.88**	**301**	P	**Pn**	**13 57 43.0**	**-1.3**
AMKA				S	**Sn**	**13 57 57.2**	**+1.3**
GALAA	**Gareloi Lava P**	**0.95**	**28**	P	**Pn**	**13 57 43.9**	**-1.4**
GAEA	**Gareloi East**	**0.98**	**28**	P	**Pn**	**13 57 43.9**	**-1.7**
CESW	**Semis' Southwe**	**1.14**	**329**	P	**Pn**	**13 57 47.3**	**-0.5**
CEPE	**Semis' Perret**	**1.17**	**333**	P	**Pn**	**13 57 47.8**	**-0.5**
CETU	**Semis' Tuman**	**1.22**	**329**	P	**Pn**	**13 57 49.4**	**+0.5**
CEAP	**Semis' Anvil P**	**1.23**	**332**	P	**Pn**	**13 57 49.0**	**+0.1**
TASE	**Tanaga Southea**	**1.29**	**45**	P	**Pn**	**13 57 48.8**	**-1.2**
TAFL	**Tanaga Flats**	**1.30**	**50**	P	**Pn**	**13 57 49.4**	**-0.7**
LSPA	**Little Sitkin**	**1.59**	**311**	P	**Pn**	**13 57 54.5**	**+0.5**
LSPA				S	**Sn**	**13 58 17.2**	**+3.9**
LSSA	**Little Sitkin**	**1.61**	**310**	P	**Pn**	**13 57 54.8**	**+0.5**
LSNW	**Little Sitkin**	**1.63**	**311**	P	**Pn**	**13 57 54.7**	**+0.2**
KIKV	**Kanaga Island**	**1.74**	**56**	P	**Pn**	**13 57 55.5**	**-0.5**
GSCK	**Great Sitkin C**	**2.35**	**61**	P	**Pn**	**13 58 04.4**	**0.0**
GSTD	**Great Sitkin T**	**2.38**	**60**	P	**Pn**	**13 58 05.2**	**+0.3**
GSTD				S	**Sn**	**13 58 35.6**	**+2.7**
GSMY	**Great Sitkin M**	**2.42**	**61**	P	**Pn**	**13 58 05.7**	**+0.3**
GSTR	**Great Sitkin T**	**2.45**	**60**	*e*Pn	**Pn**	**13 58 05.5**	**-0.3**
GSTR				*e*Sn	**Sn**	**13 58 34.5**	**+0.1**
ATKA	**Atka Island**	**3.55**	**67**	P	**Pn**	**13 58 20.6**	**-0.1**
ATKA				S	**Sn**	**13 59 04.3**	**+2.9**
KOFP	**Korovin Flat P**	**3.63**	**66**	P	**Pn**	**13 58 22.2**	**+0.2**
SMY	**Shemya**	**4.36**	**297**	P	Pn	13 58 35.3	+3.3
NIKH	**Nikolski High**	**6.89**	**69**	P	**Pn**	**13 59 07.3**	**+0.6**
PETK	**Petropavlovsk-** baz=106,slow=14,SNR=1.7	**14.20**	**288**	Pn	**Pn**	**14 00 44.4**	**-2.2**
ILAR	**Eielson Array** 0.2nm,0.6s,baz=231,slow=7.7,SNR=5.7	**21.87**	**38**	P	**P**	**14 02 16.7**	**-0.4**
YKA	**Yellowknife Ar** 0.4nm,0.5s,baz=283,slow=7.5,SNR=3.6	**35.86**	**46**	P	**P**	**14 04 22.9**	**-0.6**
SONM	**Songino Array** 0.4nm,0.6s,baz=66,slow=8.4,SNR=2.7	**46.46**	**297**	P	**P**	**14 05 52.1**	**+1.3**
PDAR	**Pinedale Array** 0.7nm,0.8s,baz=347,slow=6.1,SNR=6.8	**46.87**	**71**	P	**P**	**14 05 55.3**	**+1.1**
SPITS	**Spitsbergen Ar** 0.8nm,0.4s,baz=36,slow=7.5,SNR=13	**50.80**	**356**	P	**P**	**14 06 22.9**	**-0.7**
ARCES	**ARCESS Array B** 1.3nm,0.9s,baz=22,slow=8.1,SNR=3.3	**58.46**	**350**	P	**P**	**14 07 18.5**	**-0.8**
MKAR	**Makanchi Array** 0.9nm,0.4s,baz=15,slow=3.9,SNR=22	**59.97**	**308**	P	**P**	**14 07 30.4**	**+0.4**
FINES	**FINESS Array B** 3.2nm,1.1s,baz=12,slow=9.9,SNR=4.8	**66.13**	**347**	P	**P**	**14 08 09.6**	**-0.9**
NOA	**NORSAR Array B** 0.2nm,0.6s,baz=27,slow=7.5,SNR=3.4	**68.06**	**354**	P	**P**	**14 08 23.2**	**+0.3**
AKASG	**Malin Array Be** 1.1nm,0.4s,baz=20,slow=6.3,SNR=5.3	**75.84**	**342**	P	**P**	**14 09 09.3**	**-0.3**
GERES	**GERESS Array B** 0.8nm,0.5s,baz=2.8,slow=8.1,SNR=3.9	**79.97**	**351**	P	**P**	**14 09 32.5**	**-0.1**
WRA	**Warramunga Arr** 0.1nm,0.8s,baz=33,slow=5.8,SNR=2.7	**81.38**	**223**	P	**P**	**14 09 40.2**	**-0.2**

*IDC **21** 14:36:36.5±2.0, 10˚.79S×118˚.62E, h0km, mb3.4/1, mb1 3.5/5, mb1mx3.3/40, mbtmp3.4/5, ML3.3/4, Error ellipse: s-maj=53.1km s-min=25.0km az=48.0*

*ISCJB **21** 14:36:41.8±0.8, 10˚.69S±0˚.07×118˚.95E±0˚.06, h41km, mb3.4/1, Error ellipse: s-maj=10.2km s-min=7.2km az=25.0*

*DJA **21** 14:36:45.2±0.6, 11˚S±6˚×11˚9E±˚, h87km±15km, M3.9/4, mb4.5/1, mB4.6/1, MLv3.6/4, Mw(mB)3.8/1*

ISC 21 14:36:43.4±1.2, 10.71S±0.09×118.93E±0.06, h41km, n14, σ1§50/17, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BASI	**Baing, Sumba**	**1.69**	**73**	S	**Sn**	**14 37 32.4**	**+1.5**
WSI	**Waingapu**	**1.70**	**52**	P	**Pn**	**14 37 11.8**	**+1.3**
WSI				S	**Sn**	**14 37 35.0**	**+4.0**
EDFI	**Ende, Flores**	**3.34**	**55**	P	**Pn**	**14 37 31.7**	**-1.6**
MMRI	**Maumere**	**3.86**	**58**	P	**Pn**	**14 37 40.3**	**+0.1**
IGBI	**Denpasar**	**4.18**	**296**	P	**Pn**	**14 37 45.9**	**+1.2**
SRBI	**Singaraja**	**4.50**	**305**	P	**Pn**	**14 37 50.0**	**+0.9**
BATI	**Baumata**	**4.68**	**84**	P	**Pn**	**14 37 52.7**	**+1.1**
BATI	**Baumata** 1.9nm,0.3s,baz=265,slow=16,SNR=5.3	**4.68**	**84**	Pn	**Pn**	**14 37 52.2**	**+0.7**
BATI				Sn	**Sn**	**14 38 43.8**	**-0.9**
BSSI	**Bau Bau, Buton** 5.2nm,0.3s,baz=34,slow=22,SNR=9.7	**4.79**	**19**	P	**Pn**	**14 37 52.4**	**-0.7**
BKSI	**Bulukumba**	**5.48**	**12**	P	**Pn**	**14 38 02.8**	**+0.2**
KAPI	**Kappang** 1.5nm,0.3s,baz=185,slow=7.5,SNR=3.9	**5.72**	**8**	Pn	**Pn**	**14 38 05.7**	**-0.1**
KAPI				Sn	**Sn**	**14 39 10.4**	**+0.1**
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=298,slow=13,SNR=6.8	**17.45**	**124**	P	**Pn**	**14 40 43.0**	**-0.9**
ASAR	**Alice Springs** 0.1nm,0.3s,baz=312,slow=11,SNR=14	**19.22**	**134**	P	**Pn**	**14 41 05.5**	**+0.1**
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=142,slow=7.3,SNR=2.8	**65.94**	**333**	P	**P**	**14 47 23.7**	**-1.6**

*IDC **21** 14:41:25.6±0.7, 21˚.62S×175˚.12W, h0km, mb4.0/10, mb1 4.2/11, mb1mx4.0/39, mbtmp4.0/11, ML4.0/1, MS3.2/3, Ms1 3.2/3, ms1mx2.9/32, Error ellipse: s-maj=29.9km s-min=16.8km az=139.0*

*ISCJB **21** 14:41:31.4±0.7, 21˚.7S±0˚.1×175˚.2W±0˚.2, h53km, mb3.9/10, MS3.2/3, Error ellipse: s-maj=25.0km s-min=13.4km az=39.1*

ISC 21 14:41:32.9±0.7, 21˚.7S±0˚.2×175˚.1W±0˚.2, h53km, n23, σ0§82/18, mb3.9/10, MS3.4/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera** 0.5nm,0.3s,baz=339,slow=8.6,SNR=4.9	**17.81**	**200**	P	**P**	**14 45 36.8**	**-0.3**
PAE	**Paea** 5.3nm,0.3s	**24.39**	**85**	*e*T	T	15 11 08.8	
PPT2	**Papeete2** 114nm,24.8s	**24.41**	**85**	*e*LR	LR	14 52 19.9	
PPT2	**Papeete2** 3.9nm,0.4s	**24.41**	**85**	*e*T	T	15 11 13.4	
PPT	**Papeete** comp=Z,37nm,19.2s,baz=339,slow=35	**24.41**	**85**	LR	LR	14 55 40.8	
RPZ	**Rata Peaks** 4.5nm,0.8s,baz=341,slow=14,SNR=3.7	**24.78**	**204**	P	**P**	**14 46 48.5**	**-1.3**
CTA	**Charters Tower** 2.9nm,0.6s,baz=110,slow=8.9,SNR=8.2	**36.04**	**265**	P	**P**	**14 48 30.1**	**+0.6**
RKT	**Rikitea** 2.1nm,0.3s	**37.08**	**100**	*e*T	T	15 26 46.4	
STKA	**Stephens Creek** 0.9nm,0.5s,baz=94,slow=10,SNR=8.7	**39.71**	**246**	P	**P**	**14 49 01.4**	**+1.1**
ASAR	**Alice Springs** 0.9nm,0.6s,baz=95,slow=7.5,SNR=16	**46.86**	**257**	P	**P**	**14 49 57.5**	**-0.6**
WRA	**Warramunga Arr** 1.2nm,0.7s,baz=102,slow=7.8,SNR=20	**47.09**	**263**	P	**P**	**14 49 58.8**	**-1.1**
RPN	**Rapa Nui** comp=Z,28nm,18.1s,baz=306,slow=33	**59.58**	**109**	LR	LR	15 14 37.9	
PETK	**Petropavlovsk-** 1.6nm,0.7s,baz=134,slow=8.4,SNR=9.4	**78.13**	**344**	P	**P**	**14 53 26.4**	**+0.3**
PETK				LR	LR	15 20 17.3	
NVAR	**Mina Array Bea** 1.3nm,0.7s,baz=230,slow=8.1,SNR=8.1	**80.09**	**42**	P	**P**	**14 53 37.9**	**+0.5**
TXAR	**Lajitas Array** 0.3nm,0.9s,baz=231,slow=5.7,SNR=3.3	**85.47**	**56**	P	**P**	**14 54 05.6**	**+0.2**
PDAR	**Pinedale Array** 0.5nm,0.8s,baz=164,slow=2.8,SNR=4.2	**88.02**	**42**	P	**P**	**14 54 17.8**	**0.0**
ILAR	**Eielson Array** 0.3nm,0.8s,baz=226,slow=6.2,SNR=3.9	**88.91**	**12**	P	**P**	**14 54 19.7**	**-1.3**
AKASG	**Malin Array Be** 1.3nm,0.5s,baz=38,slow=4.0,SNR=4.6	**145.32**	**333**	PKPbc	**PKPbc**	**15 01 04.0**	**-0.6**
EKA	**Eskdalemuir Ar** 0.3nm,0.5s,baz=331,slow=3.1,SNR=3.7	**145.87**	**8**	PKPbc	**PKPbc**	**15 01 06.2**	**+0.1**
BRTR	**Keskin Array B** 1.5nm,0.8s,baz=117,slow=1.9,SNR=7.2	**149.61**	**313**	PKPbc	**PKPbc**	**15 01 17.3**	**+0.3**
BRG	**Berggiesshubel** 8.5nm,1.6s	**150.02**	**348**	*e*(P)	**PKPbc**	**15 01 18.6**	**+1.2**
GERES	**GERESS Array B** 0.4nm,0.5s,baz=340,slow=2.0,SNR=3.7	**152.00**	**348**	PKPbc	**PKPbc**	**15 01 22.2**	**-0.1**
TORD	**Torodi Ar. Bea** 0.4nm,0.9s,baz=159,slow=4.5,SNR=2.8	**170.98**	**160**	PKP	**PKPdf**	**15 01 35.7**	**-0.4**
TORD				PKPab	**PKPab**	**15 02 55.9**	**+1.0**

*BJI **21** 14:52:58.7, 6˚.16S×130˚.73E, h176km, mb4.7/51, mB4.6/36*

*MOS **21** 14:53:01.6±1.0, 5˚.80S×130˚.34E, h172km, mb5.0/26, Error ellipse: s-maj=10.7km s-min=6.8km az=110.1*

*NEIC **21** 14:53:02.6±0.5, 5˚.82S×130˚.34E, h172km±5km, mb4.8/29, Error ellipse: s-maj=6.0km s-min=4.9km az=62.0*

NEIC Felt on Ambon, Indonesia.

*ISCJB **21** 14:53:02.4±0.3, 5˚.83S±0˚.02×130˚.46E±0˚.02, h180km±2km, mb4.8/75, Error ellipse: s-maj=3.8km s-min=3.5km az=167.0*

*IDC **21** 14:53:03.1±1.4, 5˚.85S×130˚.41E, h170km±12km, mb4.4/27, mb1 4.4/32, mb1mx4.4/37, mbtmp4.9/32, MS3.6/9, Ms1 3.6/9, ms1mx3.2/38, Error ellipse: s-maj=11.3km s-min=7.1km az=82.0*

*DJA **21** 14:53:04.3±0.2, 6˚S±2˚×13˚0E±˚, h159km±2km, M4.8/61, mb4.9/61, mB5.3/34, MLv5.3/10, Mw(mB)4.7/34, Mwp5.4/2*

ISC 21 14:53:03.2±0.3, 5.89S±0.03×130.46E±0.04, h176km±2km, h177km:pP-P, n267, σ1§52/343, mb4.8/75, 10C-9D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.47**	**338**	P	**Pn**	**14 53 34.5**	**-0.1**
BNDI				S	**Sn**	**14 53 58.3**	**-0.6**
SAUI	**Saumlaki**	**2.24**	**158**	P	**Pn**	**14 53 43.7**	**+0.9**
SAUI				S	**Sn**	**14 54 16.1**	**+2.6**
SAUI	**Saumlaki**	**2.24**	**158**	*e*Pn	**Pn**	**14 53 43.9**	**+1.2**
MSAI	**Masohi**	**2.95**	**329**	S	**Sn**	**14 54 24.7**	**-3.9**
FAKI	**Fak Fak**	**3.45**	**31**	P	**Pn**	**14 53 57.0**	**-0.4**
FAKI				S	**Sn**	**14 54 36.4**	**-3.2**
FAKI	**Fak Fak**	**3.45**	**31**	*e*Pn	**Pn**	**14 53 56.6**	**-0.7**
FAKI				*e*Sn	**Sn**	**14 54 37.2**	**-2.4**
NLAI	**Namlea**	**4.26**	**308**	P	**Pn**	**14 54 07.2**	**-0.4**
NLAI				S	**Sn**	**14 55 02.0**	**+4.0**
SIJI	**Sorong** 117nm,0.3s,baz=210,slow=14,SNR=594	**5.05**	**9**	P	**Pn**	**14 54 16.8**	**-1.2**
SIJI				S	**Sn**	**14 55 11.3**	**-5.3**
	140nm,0.3s,baz=53,slow=22,SNR=6.4						
SIJI				LR	LR	14 56 41.9	
	comp=Z,338nm,21.2s,baz=210,slow=44						
RKPI	**Ransiki, Papua**	**5.72**	**41**	P	**Pn**	**14 54 27.8**	**+1.2**
RKPI				S	**Sn**	**14 55 28.7**	**-3.5**
SANI	**Sanana** 559nm,0.6s,10μm2.5nm	**5.87**	**310**	P	**Pn**	**14 54 26.2**	**-2.3**
SOEI	**Soe** 156nm,1.1s,3μm1.4nm	**7.23**	**238**	P	**Pn**	**14 54 45.7**	**-0.9**
SOEI	**Soe**	**7.23**	**238**	*e*Pn	**Pn**	**14 54 45.2**	**-1.4**
SOEI				*e*Sn	**Sn**	**14 56 06.1**	**-2.1**
TNTI	**Ternate** 716nm,0.9s,7μm4μm2.3nm	**7.30**	**335**	P	**Pn**	**14 54 45.5**	**-1.9**
TNTI	**Ternate**	**7.30**	**335**	*e*Pn	**Pn**	**14 54 46.1**	**-1.3**
TNTI				*e*Sn	**Sn**	**14 56 07.2**	**-2.6**
BATI	**Baumata** 102nm,0.9s,1μm	**7.97**	**237**	P	**Pn**	**14 54 54.4**	**-1.9**
BATI	**Baumata** 21nm,0.3s,baz=132,slow=6.9,SNR=24	**7.97**	**237**	P	**Pn**	**14 54 54.8**	**-1.5**
BATI				S	Sn	14 56 19.2	-6.5
	27nm,0.3s,baz=211,slow=23,SNR=9.4						
WAMI	**Wamena** 320nm,0.9s,2μm19μm	**8.46**	**77**	P	Pn	14 55 06.2	+3.5
MMRI	**Maumere**	**8.60**	**251**	P	Pn	14 55 11.3	+6.8
LUWI	**Luwuk** 238nm,0.8s,2μm	**9.06**	**302**	P	**Pn**	**14 55 09.0**	**-1.6**
LUWI	**Luwuk**	**9.06**	**302**	*e*Pn	**Pn**	**14 55 08.2**	**-2.4**
LUWI				*e*Sn	**Sn**	**14 56 48.8**	**-2.8**
SMPI	**Sarmi** 29nm,1.4s,2μm	**9.10**	**65**	P	**Pn**	**14 55 13.1**	**+2.0**
KMSI	**Cibinong** 1μm,1.2s,11μm	**9.11**	**315**	P	**Pn**	**14 55 09.6**	**-1.7**
EDFI	**Ende, Flores**	**9.15**	**251**	P	**Pn**	**14 55 13.5**	**+1.7**
BSSI	**Bau Bau, Buton** 149nm,1.3s,2μm	**9.91**	**268**	P	**Pn**	**14 55 21.5**	**-0.3**
APSI	**Ampana** 528nm,1.0s,4μm	**10.09**	**299**	P	**Pn**	**14 55 24.2**	**+0.1**
GENI	**Genyem**	**10.22**	**72**	P	**Pn**	**14 55 26.9**	**+1.0**
BKSI	**Bulukumba**	**10.30**	**273**	P	**Pn**	**14 55 28.9**	**+2.0**
MRSI	**Marisa** 1μm,1.0s,12μm	**10.60**	**306**	P	**Pn**	**14 55 30.2**	**-0.5**
KAPI	**Kappang** 2.4nm,0.3s,baz=143,slow=9.8,SNR=5.3	**10.69**	**274**	P	**Pn**	**14 55 32.5**	**+0.5**
KAPI	**Kappang**	**10.69**	**274**	*e*Pn	Pn	14 55 28.2	-3.8
KAPI				Sn	**Sn**	**14 57 27.4**	**-3.5**
SGSI	**Sangihe**	**10.71**	**333**	P	**Pn**	**14 55 32.3**	**+0.1**
JAY	**Jayapura**	**10.76**	**72**	P	**P**	**14 55 39.0**	**-1.6**
JAY	**Jayapura** 0.3nm,0.3s,baz=303,slow=8.1,SNR=6.8	**10.76**	**72**	P	**Pn**	**14 55 32.9**	**0.0**
JAY				S	**S**	**14 57 34.7**	**+1.5**
	0.6nm,0.3s,baz=125,slow=19,SNR=3.8						
SPSI	**Sidrap Palu** 71nm,1.2s,1μm	**10.82**	**280**	P	**Pn**	**14 55 34.3**	**+0.7**
TTSI	**Tana Toraja** 143nm,1.1s,1μm	**10.97**	**284**	P	**Pn**	**14 55 37.2**	**+1.6**
PCI	**Palu** 146nm,1.0s,2μm	**11.70**	**295**	P	**Pn**	**14 55 45.1**	**+0.1**
TOLI	**Toli-Toli**	**11.90**	**306**	Pn	**Pn**	**14 55 47.0**	**-0.6**
MPSI	**Mapaga** 54nm,0.9s,1μm	**12.22**	**300**	P	**Pn**	**14 55 50.7**	**-1.1**
BKB	**Balikpapan** 135nm,1.4s,2μm	**14.29**	**288**	P	**P**	**14 56 20.4**	**+0.5**
CTBH	**Cotabato--PC H**	**14.43**	**334**	‖*i*P	**Pn**	**14 56 19.1**	**-0.4**
WRAB	**Tennant Creek**	**14.46**	**165**	*e*P	**Pn**	**14 56 17.1**	**-2.8**
WRAB				*e*		14 58 58.1	
WRAB	**Tennant Creek**	**14.46**	**165**	*e*Pn	**Pn**	**14 56 17.1**	**-2.8**
WRAB				*e*Sn	**Sn**	**14 58 58.1**	**-3.0**
WRA	**Warramunga Arr** 2.6nm,0.3s,baz=348,slow=12,SNR=181	**14.47**	**165**	P	Pn	14 56 16.6	-3.5
WRA				S	Sn	14 58 50.8	-11
	6.1nm,0.3s,baz=340,slow=22,SNR=9.7						
WRA				PKiKP	**PKiKP**	**15 09 17.1**	**-1.0**
	0.1nm,0.3s,baz=315,slow=1.1,SNR=7.1						
KBKI	**Kotabaru** 76nm,1.1s,972nm	**14.47**	**280**	P	**Pn**	**14 56 20.7**	**+0.6**
BUKP	**Musuan**	**14.70**	**338**	*e*P	**Pn**	**14 56 22.9**	**0.0**
COEN	**Coen**	**14.86**	**124**	*e*Pn	**Pn**	**14 56 24.7**	**-0.3**
SRBI	**Singaraja** 44nm,0.8s	**15.29**	**261**	P	**Pn**	**14 56 29.8**	**-0.3**
PAGZ	**Pagadian**	**15.37**	**333**	*e*P	**Pn**	**14 56 30.8**	**-0.3**
BBKI	**Banjar Baru** 142nm,1.0s,2μm	**15.75**	**278**	P	**P**	**14 56 37.5**	**+1.4**
TSM	**Tawau**	**16.13**	**309**	‖P	**P**	**14 56 39.5**	**-0.8**
MTKI	**Muara Teweh, K** 73nm,1.0s,4μm	**16.29**	**287**	P	**Pn**	**14 56 42.6**	**+0.3**
KMMI	**Kalianget** 171nm,1.1s,2μm	**16.43**	**265**	P	**Pn**	**14 56 45.9**	**+1.9**
BLJI	**Banyuglugur** 94nm,0.7s	**16.84**	**263**	P	**Pn**	**14 56 48.7**	**-0.3**
MSLP	**Maasin**	**16.87**	**341**	*e*P	**Pn**	**14 56 49.4**	**+0.1**
PMG	**Port Moresby**	**16.92**	**103**	*c i*P	**Pn**	**14 56 50.6**	**+0.7**
PMG				pmax	pmax		
	comp=Z,500nm,1.0s						
PMG	**Port Moresby** comp=Z,131nm,0.8s	**16.92**	**103**	*e*P	**P**	**14 56 49.5**	**+0.5**
AS31	**Alice Springs**	**17.98**	**170**	*e*P	**Pn**	**14 57 02.0**	**-0.4**
AS31				*e*S	**S**	**15 00 19.1**	**+1.3**
ASAR	**Alice Springs** comp=Z,6.0nm,0.3s,baz=345,slow=8.9,SNR=393	**17.98**	**170**	P	**Pn**	**14 57 02.1**	**-0.3**
ASAR				S	**S**	**15 00 16.3**	**-1.5**
	comp=Z,1.3nm,0.3s,baz=351,slow=17,SNR=14						
ASAR				PKiKP	**PKiKP**	**15 09 18.5**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=5.7,slow=0.9,SNR=9.5						
GUIM	**Jordan**	**18.18**	**334**	*e*P	**P**	**14 57 03.7**	**+0.9**
MBWA	**Marble Bar** comp=Z,12nm,0.6s	**18.39**	**213**	*e*P	**P**	**14 57 03.5**	**-1.6**
MBWA				*e*S	**S**	**15 00 22.5**	**-3.5**
KDM	**Kudat**	**18.62**	**313**	‖P	**Pn**	**14 57 09.1**	**-0.8**
PWJI	**Pagerwojo** comp=Z,44nm,0.9s	**18.64**	**262**	P	**P**	**14 57 08.9**	**+1.2**
RCP	**Roxas**	**18.96**	**336**	‖*e*P	**P**	**14 57 12.1**	**+0.9**
PBKI	**Pangkalan Bun** comp=Z,137nm,1.2s,comp=Z,1μm	**19.00**	**279**	P	**Pn**	**14 57 16.2**	**+1.8**
PCJI	**Pacitan** comp=Z,53nm,0.5s	**19.27**	**262**	P	**Pn**	**14 57 20.0**	**+2.4**
STKI	**Sintang** comp=Z,49nm,1.4s,comp=Z,7μm	**19.85**	**287**	P	**P**	**14 57 21.1**	**+0.2**
SBUM	**Sibu**	**20.01**	**294**	‖P	**P**	**14 57 22.9**	**+0.3**
SBUM	**Sibu** comp=Z,23nm,0.8s	**20.01**	**294**	*e*P	**P**	**14 57 21.3**	**-1.2**
CTA	**Charters Tower** comp=Z,11nm,0.8s,baz=312,slow=12,SNR=14	**20.85**	**134**	P	**P**	**14 57 33.7**	**+2.2**
CTAO	**Charters Tower** comp=Z,49nm,1.4s	**20.85**	**134**	*e*P	**P**	**14 57 31.4**	**-0.1**
CTAO				pmax	pmax		
CTAO	**Charters Tower** comp=Z,49nm,1.4s	**20.85**	**134**	*e*P	**P**	**14 57 31.4**	**-0.1**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSM	**Kuching**	**21.41**	**289**	‖P	**P**	**14 57 37.6**	**+0.1**
KSM	**Kuching** comp=Z,62nm,1.7s	**21.41**	**289**	P	**P**	**14 57 34.8**	**-2.7**
CMJI	**Cimerak** comp=Z,86nm,0.9s	**21.93**	**264**	P	**P**	**14 57 42.9**	**0.0**
CISI	**Cisompet, Garu** 2.97nm,0.7s	**22.55**	**265**	P	**P**	**14 57 52.0**	**+3.2**
CISI	**Cisompet, Garu** comp=Z,61nm,0.6s	**22.55**	**265**	*e*P	**P**	**14 57 44.7**	**-4.1**
LEM	**Lembang** comp=Z,57nm,0.8s	**22.72**	**266**	P	**P**	**14 57 52.7**	**+2.2**
LEM	**Lembang** comp=Z,19nm,0.6s,baz=52,slow=12,SNR=5.1	**22.72**	**266**	P	**P**	**14 57 49.8**	**-0.7**
CNJI	**Cibinong** comp=Z,119nm,0.9s,comp=Z,973nm	**23.21**	**265**	P	**P**	**14 57 57.2**	**+2.4**
CBJI	**Citeko** comp=Z,72nm,0.8s	**23.48**	**267**	P	**P**	**14 57 58.0**	**+0.8**
GUMO	**Guam** comp=Z,24nm,0.5s,baz=188,slow=19,SNR=3.6	**24.07**	**36**	P	**P**	**14 58 02.2**	**-0.3**
PPBI	**Pangkal Pinang** comp=Z,17nm,1.1s	**24.54**	**278**	P	**P**	**14 58 09.4**	**+2.5**
FORT	**Forest** comp=Z,48nm,0.7s	**24.86**	**185**	*e*P	**P**	**14 58 08.7**	**-0.9**
MYKOM	**Kota Tinggi**	**27.64**	**285**	‖P	**P**	**14 58 36.9**	**+2.1**
STKA	**Stephens Creek** comp=Z,4.7nm,0.5s,baz=339,slow=8.5,SNR=38	**27.87**	**159**	P	**P**	**14 58 37.3**	**+0.7**
STKA				S	**S**	**15 03 05.3**	**-1.6**
	comp=Z,2.5nm,0.9s,baz=252,slow=20,SNR=2.1						
STKA				LR	LR	15 11 04.7	
	comp=Z,354nm,19.8s,baz=358,slow=39						
STKA	**Stephens Creek**	**27.87**	**159**	P	**P**	**14 58 37.3**	**+0.7**
STKA				S	**S**	**15 03 05.4**	**-1.6**
STKA	comp=Z,21nm,0.8s			pmax	pmax		
STKA	**Stephens Creek** comp=Z,21nm,0.8s	**27.87**	**159**	P	**P**	**14 58 37.3**	**+0.7**
STKA				S	**S**	**15 03 05.3**	**-1.6**
NWAO	**Narrogin (SRO)** comp=Z,10nm,0.7s,baz=325,slow=5.0,SNR=9.6	**29.58**	**203**	P	**P**	**14 58 51.9**	**+0.1**
PPI	**Padang Panjang** comp=Z,48nm,0.8s,comp=Z,3μm	**30.48**	**279**	P	**P**	**14 59 01.6**	**+1.7**
MNSI	**Mandailing Nat**	**31.54**	**281**	P	P	14 59 16.8	+7.7
JOW	**Kunigami** comp=Z,1.5nm,0.6s,baz=122,slow=9.2,SNR=3.9	**32.60**	**356**	P	**P**	**14 59 19.1**	**+0.9**
CBIJ	**Chichi jima**	**34.70**	**19**	*e*P	**P**	**14 59 34.9**	**-1.5**
JCJ	**Chichijima** comp=Z,37nm,0.3s,baz=112,slow=7.4,SNR=37	**34.70**	**19**	P	**P**	**14 59 34.9**	**-1.5**
KHON	**Khomkaen** comp=Z,13nm,0.8s	**35.15**	**309**	P	**P**	**14 59 40.8**	**+0.4**
UTTA	**Uttaradit** comp=Z,7.3nm,1.0s	**37.73**	**309**	P	**P**	**15 00 02.8**	**+0.6**
DZM	**Mont Dzumac** comp=Z,5.9nm,0.7s,baz=271,slow=23,SNR=5.5	**38.30**	**118**	P	**P**	**15 00 08.8**	**+1.7**
JNU	**Nakatsue** comp=Z,10nm,0.8s,baz=172,slow=3.3,SNR=12	**38.80**	**1**	P	**P**	**15 00 11.1**	**+0.1**
JNU	**Nakatsue** comp=Z,1.7nm,1.4s	**38.80**	**1**	P	**P**	**15 00 11.1**	**+0.1**
LAMP	**Lampang** comp=Z,4.4nm,0.8s	**38.89**	**309**	P	**P**	**15 00 12.8**	**+0.9**
NJ2	**Nanjing**	**39.32**	**344**	*e*P	**P**	**15 00 14.3**	**-0.9**
NJ2				PMZ			
	comp=Z,50nm,1.0s						
CM31	**Chiang Mai Arr** comp=Z,11nm,0.8s	**39.39**	**309**	*e*P	**P**	**15 00 13.5**	**-2.5**
CMAR	**Chiang Mai Arr** comp=Z,6.8nm,0.8s,baz=137,slow=7.0,SNR=45	**39.39**	**309**	P	**P**	**15 00 16.2**	**+0.2**
CMAR				PcP	**PcP**	**15 02 22.3**	**+1.5**
	comp=Z,3.4nm,0.7s,baz=162,slow=2.5,SNR=11						
CMAR				ScP	**ScP**	**15 05 53.9**	**+1.0**
	comp=Z,2.0nm,0.7s,baz=159,slow=2.5,SNR=9.2						
GYA	**Guiyang**	**39.58**	**325**	P	**P**	**15 00 18.3**	**+0.7**
GYA				pP	**pP**	**15 00 55.4**	**-0.1**
GYA				sP	**sP**	**15 01 15.3**	**-0.2**
GYA				PP	**PnPn**	**15 01 55.4**	**-1.9**
GYA				PcP	**PcP**	**15 02 21.8**	**+0.4**
GYA				S	**S**	**15 06 08.8**	**+1.5**
GYA				sS	**sS**	**15 07 14.3**	**+0.5**
GYA	comp=Z,10.0nm,0.8s			PMZ			
GYA				PMZ			
	comp=Z,90nm,4.9s						
CMMT	**Chiang Mai** comp=Z,24nm,0.9s	**39.59**	**309**	P	**P**	**15 00 17.9**	**+0.2**
CHTO	**Chiang Mai** comp=Z,82nm,0.9s	**39.59**	**309**	P	**P**	**15 00 18.0**	**+0.3**
CHTO	**Chiang Mai**	**39.59**	**309**	P	**P**	**15 00 15.4**	**-2.3**
CHTO	comp=Z,19nm,1.1s			pmax	pmax		
CHTO	**Chiang Mai** comp=Z,19nm,1.1s	**39.59**	**309**	P	**P**	**15 00 15.4**	**-2.3**
KSJDO	**Jindo** SNR=6.4

comp=Z,55nm,7.4s
HHC LN
comp=Z,95nm,18.5s
HHC LE
comp=Z,68nm,14.8s
HHC LZ
comp=Z,66nm,19.7s
USRK Ussuriysk Ar. 49.88 1 P **P** **15 01 39.1 +0.5**
comp=Z,8.7nm,0.6s,baz=189,slow=6.9,SNR=21
MDJ Mudanjiang 50.28 359 P **P** **15 01 42.3 +0.7**
MDJ pP **pP** **15 02 19.3 -1.9**
MDJ sP **sP** **15 02 38.5 -2.3**
MDJ PcP **PcP** **15 02 59.0 +1.1**
MDJ ScP **ScP** **15 06 34.9 -2.3**
MDJ PcS **PcS** **15 06 54.0 -1.1**
MDJ S **S** **15 08 44.6 +4.1**
MDJ SS **SS** **15 12 17.6 +0.9**
MDJ PMZ
comp=Z,15nm,0.7s
MDJ PMZ
comp=Z,52nm,3.7s
ASAJ Asahikawa 50.97 11 P **P** **15 01 46.9 +0.1**
comp=Z,5.4nm,0.4s,baz=224,slow=11,SNR=13
ASAJ LR LR 15 23 01.0
comp=Z,51nm,20.9s,baz=110,slow=35
ASAJ Asahikawa 50.97 11 P **P** **15 01 46.9 +0.1**
comp=Z,2.8nm,1.9s
LSA Lhasa 51.73 315 *e*P **P** **15 01 51.2 -2.1**
LSA pmax pmax
comp=Z,6.0nm,0.6s
LSA Lhasa 51.73 315 *e*P **P** **15 01 51.2 -2.1**
comp=Z,6.4nm,0.6s
RPZ Rata Peaks 51.84 143 P **P** **15 01 55.9 +2.6**
comp=Z,13nm,1.0s,baz=22,slow=10,SNR=4.3
RPZ LR LR 15 23 53.2
comp=Z,115nm,19.0s,baz=240,slow=36
ODAN Odare 52.89 310 *e*P **P** **15 02 01.4 -0.2**
comp=Z,39nm,0.8s
TAPN Taplejung 52.90 311 *e*P **P** **15 02 01.6 -0.2**
comp=Z,27nm,0.4s
URZ Urewera 53.10 134 P **P** **15 02 03.5 +0.8**
comp=Z,7.4nm,0.7s,baz=262,slow=10,SNR=8.6
GTA Gaotai 53.23 330 *e*P **P** **15 02 04.8 +1.0**
GTA pP **pP** **15 02 44.8 +1.0**
GTA sP **sP** **15 03 03.6 +0.4**
GTA PcP **PcP** **15 03 10.3 +1.0**
GTA ScP **ScP** **15 06 51.4 +1.1**
GTA S **S** **15 09 23.8 +2.5**
GTA sS **sS** **15 10 34.1 +3.2**
GTA ScS **ScS** **15 11 35.1 -0.4**
GTA SS **SS** **15 13 07.3 +3.6**
GTA PMZ
comp=Z,8.0nm,1.4s
GTA PMZ
comp=Z,76nm,4.4s
GTA LN
comp=Z,43nm,18.1s
GTA LE
comp=Z,43nm,17.6s
GTA LZ
comp=Z,61nm,17.1s
RAMN Ramite 53.54 310 *e*P **P** **15 02 06.4 +0.1**
comp=Z,111nm,0.7s
YSS Yuzh-Sakhalins 53.73 10 *e*P **P** **15 02 06.0 -1.1**
JIRN Jiri 54.21 310 *e*P **P** **15 02 11.2 -0.2**
comp=Z,33nm,0.7s
HABR Khabarovsk 54.29 4*ce*P **P** **15 02 09.7 -1.3**
HABR *e*SP 15 02 44.6
HABR 15 03 12.4
HABR 15 04 12.0
HABR *e*S **S** **15 09 39.5 +4.7**
HABR *e*SS **SS** **15 13 23.2 +3.5**
HABR *e*SSS SSS 15 15 31.3
HABR pmax pmax
comp=Z,36nm,1.2s
HABR pmax pmax
comp=N,15nm,1.8s
HABR pmax pmax
comp=E,20nm,1.8s
GUN Gumba 54.58 310 *e*P **P** **15 02 13.8 -0.2**
comp=E,66nm,0.7s
PKI Pulchoki 54.76 310 *e*P **P** **15 02 14.7 -0.6**
comp=E,20nm,0.6s
PKIN Phulchoki 54.78 310 *e*P **P** **15 02 14.7 -0.6**
comp=E,15nm,0.6s
KLR Kul'dur 54.91 1 *e*P **P** **15 02 12.7 -2.8**
KLR pmax pmax
comp=Z,48nm,1.6s
KKN Kakani 54.97 310 *e*P **P** **15 02 16.3 -0.4**
DMN Daman 55.01 310 *e*P **P** **15 02 16.8 -0.2**
comp=Z,23nm,0.7s
GKN Gorkha 55.57 310 *e*P **P** **15 02 20.7 -0.2**
comp=Z,34nm,0.4s
KOLN Koldanda 56.25 309 *e*P **P** **15 02 25.7 -0.1**
ULN Ulaanbaatar 57.36 341 *d i*P **P** **15 02 32.1 -1.0**
ULN pmax pmax
comp=Z,20nm,1.1s
ULN Ulaanbaatar 57.36 341 P **P** **15 02 33.2 0.0**
comp=Z,20nm,0.8s
SONM Songino Array 57.55 341 P **P** **15 02 35.2 +0.8**
comp=Z,7.0nm,0.6s,baz=159,slow=6.9,SNR=53
SONM PcP **PcP** **15 03 26.1 +0.3**
comp=Z,3.5nm,0.6s,baz=163,slow=3.6,SNR=6.0
ZAK Zakamensk 60.78 340↓ *i*P **P** **15 02 57.3 +0.8**
ZAK *e* 15 03 39.1
ZAK pmax pmax
comp=Z,7.0nm,1.1s
TLY Talaya 61.77 341 P **P** **15 03 04.4 +1.3**
comp=Z,4.1nm,0.5s,baz=162,slow=5.4,SNR=5.6
TLY Talaya 61.77 341 *e*P **P** **15 03 03.8 +0.7**
TLY pmax pmax
comp=Z,6.0nm,0.6s
TLY Talaya 61.77 341 *e*P **P** **15 03 03.8 +0.7**
comp=Z,6.1nm,0.6s
CASY Casey 61.86 189 *e*P **P** **15 03 03.4 0.0**
comp=Z,7.3nm,0.7s
MOY Mondy 62.64 340 *e*P **P** **15 03 10.4 +1.5**
MOY pmax pmax
comp=Z,24nm,1.7s
WMQ Urumqi 62.72 326 P **P** **15 03 10.6 +1.0**
WMQ PcP **PcP** **15 03 47.6 +1.0**
WMQ pP **pP** **15 03 51.1 +0.2**
WMQ sP **sP** **15 04 10.9 +0.9**
WMQ PP **PP** **15 05 32.5 +2.5**
WMQ S **S** **15 11 23.9 -0.4**
WMQ sS **sS** **15 12 34.9 -1.1**
WMQ ScS **SKSac** **15 12 41.3 -3.7**
WMQ SS **SS** **15 15 34.3 +1.7**
WMQ PMZ
comp=Z,32nm,0.9s
WMQ PMZ
comp=Z,93nm,4.4s
PEA0B Petropavlovsk- 63.14 18 *e*P **P** **15 03 12.0 0.0**
PETK Petropavlovsk- 63.14 18 P **P** **15 03 13.2 +1.1**
comp=Z,22nm,0.7s,baz=184,slow=6.6,SNR=102
PETK PcP **PcP** **15 03 48.0 0.0**
comp=Z,4.4nm,0.7s,baz=198,slow=3.9,SNR=5.5
PET Petropavlovsk 63.36 19 *e*P **P** **15 03 14.7 +1.2**
PET pmax pmax
comp=Z,35nm,0.8s
PET Petropavlovsk 63.36 19 P **P** **15 03 12.0 -1.5**
BOD Bodaibo 64.89 350 *e*P **P** **15 03 23.4 +0.1**
BOD pmax pmax
comp=Z,11nm,0.8s
KSH Kashi 67.52 317 P **P** **15 03 41.8 +1.1**
KSH pP **pP** **15 04 23.5 +1.0**
KSH PP **PP** **15 06 15.3 +3.3**
KSH PcS 15 08 10.6
KSH S **S** **15 12 23.0 -0.1**
KSH sS **sS** **15 13 35.1 -0.6**
KSH PMZ
comp=Z,8.0nm,0.9s
KSH PMZ
comp=Z,77nm,5.3s
KSH LN
comp=Z,130nm,4.3s
KSH LE
comp=Z,76nm,2.6s
KSH LZ
comp=Z,140nm,5.4s
MK31 Makanchi Array 67.56 326 *i*P **P** **15 03 41.4 +0.8**
MK31 pmax pmax
comp=Z,19nm,0.4s
MK31 Makanchi Array 67.56 326 *e*P **P** **15 03 41.5 +0.9**
MKAR Makanchi Array 67.56 326 P **P** **15 03 41.4 +0.8**
comp=Z,30nm,0.5s,baz=114,slow=8.0,SNR=422
MKAR LR LR 15 33 14.2
comp=Z,27nm,21.6s,baz=108,slow=36
YAK Yakutsk 67.73 360*d i*P **P** **15 03 41.5 +0.2**
YAK *e* 15 04 05.3
YAK *e**PP **pP** **15 04 27.6 +4.4**
YAK *e*PPP PPP 15 07 50.0
YAK *e*S **S** **15 12 23.4 -0.9**
YAK *e* 15 13 18.2
YAK *e*SSS SSS 15 19 50.0
YAK pmax pmax
comp=Z,47nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=N,16nm,1.2s
YAK smax smax
comp=E,39nm,1.5s
YAK smax smax
comp=N,30nm,1.6s
YAK Yakutsk 67.73 360 *e*P **P** **15 03 40.2 -1.1**
KZA Kyzart 69.24 319 P **P** **15 03 53.2 +1.5**
SNR=12
TKM2 Tokmak 2 69.43 320 P **P** **15 03 53.4 +0.9**
SNR=20
TKM2 Tokmak 2 69.43 320 *e*P **P** **15 03 51.5 -1.1**
TKM2 pmax pmax
comp=Z,18nm,0.7s
TKM2 Tokmak 2 69.43 320 *e*P **P** **15 03 51.5 -1.1**
comp=Z,18nm,0.7s
KBK Karagaybulak 69.71 320 P **P** **15 03 55.5 +1.2**
SNR=10
UCH Uchtor 69.79 319 P **P** **15 03 56.5 +1.4**
SNR=24
AAK Ala-Archa 70.00 319 P **P** **15 03 57.1 +1.1**
SNR=15
CHMS Chumysh 70.01 320 P **P** **15 03 56.4 +0.5**
SNR=5.6
AML Almayashu 70.28 319 P **P** **15 03 59.4 +1.4**
SNR=20
USP Ospenovka 70.30 320 P **P** **15 03 58.6 +1.0**
SNR=19
KBL Kabul 70.41 310 P **P** **15 03 57.4 -1.3**
KBL pmax pmax
comp=Z,14nm,1.0s
KBL Kabul 70.41 310 P **P** **15 03 57.4 -1.3**
comp=Z,14nm,1.0s
EKS2 Erkin-Say 70.47 319 P **P** **15 04 00.1 +1.3**
SNR=20
EKS2 Erkin-Say 70.47 319 *e*P **P** **15 03 58.4 -0.5**
EKS2 pmax pmax
comp=Z,20nm,0.8s
EKS2 Erkin-Say 70.47 319 *e*P **P** **15 03 58.4 -0.5**
comp=Z,20nm,0.8s
ZAA0 Zalesovo Array 70.80 333 *e*P **P** **15 03 57.5 -2.8**
ZALV Zalesovo Beam 70.80 333 P **P** **15 04 00.1 -0.2**
comp=Z,18nm,0.7s,baz=124,slow=5.2,SNR=74
ZALV LR LR 15 37 05.8
comp=Z,30nm,20.4s,baz=70,slow=37
KURBB Kurchatov Arra 71.81 328 P **P** **15 04 07.0 +0.4**
comp=Z,30nm,0.8s,baz=128,slow=4.9,SNR=259
KURK Kurchatov 71.82 328 P **P** **15 04 07.0 +0.4**
KURK Kurchatov 71.82 328 P **P** **15 04 07.0 +0.4**
NVS Novosibirsk 72.08 333 *e*P **P** **15 04 06.7 -1.3**
NVS *e*S **S** **15 13 10.7 -4.7**
NVS pmax pmax
comp=N,9.0nm,0.9s
NVS pmax pmax
comp=E,12nm,0.9s
NVS pmax pmax
comp=Z,21nm,0.9s
NVS smax smax
comp=N,24nm,2.2s
NVS smax smax
comp=E,25nm,1.6s
KK31 Karatay Array 72.81 318 *i*P **P** **15 04 13.2 +0.5**
KK31 pmax pmax
comp=Z,2.0nm,0.4s
VNDA Vanda 73.48 173 P **P** **15 04 16.9 +0.9**
comp=Z,7.8nm,0.8s,baz=319,slow=6.7,SNR=35
VNDA LR LR 15 35 35.4
comp=Z,28nm,18.8s,baz=350,slow=35
VNDA Vanda 73.48 173 P **P** **15 04 16.9 +0.9**
VNDA pmax pmax
comp=Z,6.0nm,1.1s
VNDA Vanda 73.48 173 P **P** **15 04 16.9 +0.9**
comp=Z,6.2nm,1.1s
SBA Scott Base 74.37 173 *e*P **P** **15 04 23.1 +2.0**
SBA pmax pmax
comp=Z,17nm,1.4s
SBA Scott Base 74.37 173 *e*P **P** **15 04 23.1 +2.0**
comp=Z,17nm,1.4s
ATKA Atka Island 74.47 32 *e*P **P** **15 04 22.0 0.0**
comp=Z,32nm,1.8s
MAW Mawson 76.14 201 P **P** **15 04 32.3 +1.0**
comp=Z,13nm,0.7s,baz=84,slow=5.2,SNR=27
MAW Mawson 76.14 201 *e*P **P** **15 04 31.4 +0.1**
MAW pmax pmax
comp=Z,10.0nm,1.4s
MAW Mawson 76.14 201 *e*P **P** **15 04 31.4 +0.1**
comp=Z,10nm,1.4s
BVA0 Borovoye Array 77.38 328 *i*P **P** **15 04 38.5 0.0**
BVA0 pmax pmax
comp=Z,19nm,0.8s
TIXI Tiksi 77.39 359*d i*P **P** **15 04 37.6 -0.6**
TIXI pmax pmax
comp=Z,9.0nm,0.8s
TIXI Tiksi 77.39 359 P **P** **15 04 37.3 -0.9**
comp=Z,12nm,0.6s
BRVK Borovoye 77.45 328*d i*P **P** **15 04 39.2 +0.3**
BRVK pmax pmax
comp=Z,30nm,1.3s
BRVK Borovoye 77.45 328 P P 15 04 35.4 -3.5
comp=Z,20nm,0.8s
BILL Bilibino 77.94 13 *e*P **P** **15 04 41.3 0.0**
BILL *e* 15 04 50.9
BILL Bilibino 77.94 13 *e*P **P** **15 04 38.9 -2.5**
comp=Z,6.0nm,1.1s
PPT Papeete 78.70 107 LR LR 15 38 08.7
comp=Z,54nm,19.3s,baz=52,slow=34
OPO Ambohidratompo 81.78 252 P **P** **15 05 03.8 +0.6**
comp=Z,8.0nm,0.9s,baz=148,slow=6.0,SNR=4.8
AB31 Akbulak array 81.93 321 *e*P **P** **15 05 02.6 -0.5**
AB31 pmax pmax
comp=Z,8.0nm,0.6s
ABKAR Akbulak array 81.93 321 *e*P **P** **15 05 01.5 -1.6**
SDPT Sand Point 83.15 32 *e*P **P** **15 05 09.8 +0.5**
comp=Z,719nm,2.4s
AKTO Aktyubinsk 83.48 322 LR LR 15 47 08.7
comp=Z,8.6nm,19.3s,slow=39
SVE Sverdlovsk 84.06 329*ce*P **P** **15 05 14.2 +0.3**
SVE pmax pmax
comp=Z,51nm,1.2s
QSPA South Pole Qui 84.08 180 P **P** **15 05 14.0 0.0**
comp=Z,16nm,0.8s,baz=279,slow=0.7,SNR=76
QSPA South Pole Qui 84.08 180 *e*P **P** **15 05 13.1 -0.9**
comp=Z,17nm,0.8s
SYO Syowa Base 84.85 201↑ *e*P **P** **15 05 17.0 -0.7**
ARU Arti 85.01 328*c i*P **P** **15 05 18.2 -0.5**
ARU S **S** **15 15 32.2 -0.5**
ARU SS **SS** **15 21 05.3 -4.9**
ARU pmax pmax
comp=Z,22nm,1.0s
ARU Arti 85.01 328 *e*P **P** **15 05 16.7 -2.0**
SVW2 Sparrevohn 87.46 28 *e*P **P** **15 05 30.2 -0.3**
RAYN Ar Rayn 87.72 294 *e*P **P** **15 05 32.3 -0.3**
comp=Z,20nm,0.9s
KDAK Kodiak Island 88.05 31*ce*P **P** **15 05 34.3 +1.0**
KTH Kantishna Hill 90.19 26 *e*P **P** **15 05 42.7 -0.7**
GNI Garni 90.49 310 *e*P **P** **15 05 43.9 -1.6**
GNI pmax pmax
comp=Z,3.0nm,0.8s
MCK McKinley 91.09 26 *e*P **P** **15 05 46.9 -0.6**
MCK McKinley 91.09 26 *e*P **P** **15 05 46.9 -0.6**
COLD Coldfoot 91.28 22 *e*P **P** **15 05 46.9 -1.4**
COLA College 91.77 25 *e*P **P** **15 05 50.8 +0.3**
COLA pmax pmax
comp=Z,18nm,1.0s
ILAR Eielson Array 92.16 25 P **P** **15 05 50.9 -1.6**
comp=Z,4.2nm,0.7s,baz=269,slow=4.3,SNR=39
PAX Paxson 92.51 27 *e*P **P** **15 05 53.4 -0.8**
PAX pmax pmax
comp=Z,16nm,1.5s
PAX Paxson 92.51 27 *e*P **P** **15 05 53.4 -0.8**
comp=Z,16nm,1.5s
DOT Dot Lake 93.23 26 P P **15 05 55.0 -2.4**
comp=Z,5.3nm,1.0s
EGAK Eagle 94.60 25 P **P** **15 06 02.1 -1.5**
comp=Z,10nm,0.9s
KLMR Klimovskoe 95.56 331 *e*P **P** **15 06 05.2 -2.9**
KLMR pmax pmax
comp=Z,11nm,0.9s
SNAA Sanae 96.84 193 P **P** **15 06 12.8 -1.0**
OBN Obninsk 97.02 325 *i*P **P** **15 06 13.6 -1.2**
OBN *e* 15 10 09.9
OBN pmax pmax
comp=Z,7.0nm,0.8s
VNA2 Neumayer--Watz 98.40 193 P Pdif 15 06 22.5 +1.7
baz=123,slow=3.5
VNA3 Neumayer Olymp 98.65 192 P Pdif 15 06 22.9 +1.0
BRTR Keskin Array B 98.97 309 P **P** **15 06 23.1 -1.1**
comp=Z,0.4nm,0.3s,baz=130,slow=5.3,SNR=4.9
ARCES ARCESS Array B 100.70 340 P **Pdif** **15 06 29.7 -1.3**
comp=Z,3.5nm,0.9s,baz=76,slow=5.1,SNR=7.6
ARCES PKIKP **PKiKP** **15 10 56.5 +0.4**
comp=Z,0.4nm,0.3s,baz=104,slow=1.3,SNR=13
FINES FINESS Array B 102.01 332 P **Pdif** **15 06 35.5 -1.4**
comp=Z,1.4nm,0.6s,baz=87,slow=6.5,SNR=8.2
FINES PKiKP **PKiKP** **15 10 57.6 -0.9**
comp=Z,1.5nm,0.8s,baz=111,slow=3.6,SNR=4.1
NVAR Mina Array Bea 110.25 51 PKiKP **PKiKP** **15 11 15.5 +0.6**
comp=Z,0.5nm,0.7s,baz=231,slow=5.7,SNR=3.4
GERES GERESS Array B 111.86 321 PKiKP **PKiKP** **15 11 17.4 0.0**
comp=Z,1.4nm,0.4s,baz=90,slow=1.3,SNR=14
PDAR Pinedale Array 115.79 45 PKP **PKPdf** **15 11 25.9 +0.6**
comp=Z,0.8nm,0.8s,baz=64,slow=3.4,SNR=6.2
PDAR PKKPbc **PKKPbc** **15 21 57.4 -1.6**
comp=Z,0.3nm,0.5s,baz=73,slow=3.0,SNR=3.8
ANMO Albuquerque 120.28 53 *i* PKIKP **PKPdf** **15 11 34.4 +0.2**
ANMO pmax pmax
comp=Z,11nm,1.2s
ULM Lac du Bonnet 121.28 33 PKP **PKPdf** **15 11 35.0 -0.4**
comp=Z,2.4nm,0.6s,baz=337,slow=3.7,SNR=5.3
ULM Lac du Bonnet 121.28 33 PKIKP **PKPdf** **15 11 35.0 -0.4**
TXAR Lajitas Array 123.97 59 PKP **PKPdf** **15 11 42.0 +0.7**
comp=Z,0.4nm,0.4s,baz=214,slow=3.0,SNR=9.7
TXAR Lajitas Array 123.97 59 PKIKP **PKPdf** **15 11 42.0 +0.7**
JCT Junction City 126.91 56 *e*PKIKP **PKPdf** **15 11 47.6 +0.8**
JCT Junction City 126.91 56 *e*PKPdf **PKPdf** **15 11 47.6 +0.8**
TORD Torodi Ar. Bea 129.03 282 PKP **PKPdf** **15 11 51.0 -0.2**
comp=Z,3.5nm,0.6s,baz=68,slow=1.9,SNR=22
TORD SKPbc SKPab 15 14 55.0 -0.2
comp=Z,2.9nm,0.8s,baz=74,slow=3.7,SNR=14
PLCA Paso Flores 129.75 159 PKP **PKPdf** **15 11 52.2 +0.2**
comp=Z,1.0nm,0.6s,baz=279,slow=4.2,SNR=4.3
DBIC Dimbokro 135.59 274 PKP **PKPdf** **15 12 03.5 -0.1**
comp=Z,4.4nm,1.1s,baz=336,slow=2.0,SNR=4.2
JTS JuntasAbangare 144.69 81 *e*PKIKP **PKPdf** **15 12 21.0 +1.0**
JTS JuntasAbangare 144.69 81 *e*PKPdf **PKPdf** **15 12 21.0 +1.0**
LVC Limon Verde 145.91 147 *e*PKPbc **PKPab** **15 12 25.3 +1.4**
CPUP Villa Florida 147.09 167 *e*PKP2 **PKPbc** **15 12 26.5 +0.4**
CPUP Villa Florida 147.09 167 *e*PKPbc **PKPbc** **15 12 26.5 +0.4**
LPAZ La Paz 151.29 140 PKPbc **PKPbc** **15 12 38.6 +0.9**
comp=Z,5.2nm,0.4s,baz=283,slow=1.3,SNR=24
LPAZ La Paz 151.29 140 *e*PKIKP **PKPbc** **15 12 38.7 +1.0**
LPAZ La Paz 151.29 140 *e*PKPbc **PKPbc** **15 12 38.7 +1.0**

*CSEM **21** 14:54:31.7±0.2, 39.°77N×24.°19E, h18km±1km, ML2.4, Error ellipse: s-maj=5.0km s-min=3.9km az=150.0*
*ATH **21** 14:54:31.8, 39.°79N×24.°18E, h26km±1km, MD3.0/10*
*THE **21** 14:54:32.2, 39.°78N×24.°14E, h30km±1km, ML2.4/5, Error ellipse: s-maj=1.5km s-min=0.8km az=297.0*
ISC 21 14:54:31.9±1.0, **39.°77N**±0.°03×**24.°17E**±0.°03, **h27**km±10km, **n44**, σ0**s55**/63, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAIG	**Paliouri**	**0.41**	**293**	P	**Pb**	**14 54 40.5**	**-0.3**
PAIG				S	**Sb**	**14 54 47.3**	**+0.4**
PAIG	**Paliouri**	**0.41**	**293**	*e*PB	**Pb**	**14 54 40.8**	**0.0**
PAIG				*e*SB	**Sb**	**14 54 47.2**	**+0.4**
PAIG	**Paliouri**	**0.41**	**293**	P	**Pb**	**14 54 40.5**	**-0.3**
PAIG	**Paliouri**	**0.41**	**293**	*e*Pb	**Pb**	**14 54 40.8**	**0.0**
PAIG				*e*Sb	**Sb**	**14 54 47.2**	**+0.4**
OUR	**Ouranopolis**	**0.59**	**346**	P	**Pb**	**14 54 43.6**	**-0.1**
OUR				S	**Sb**	**14 54 52.0**	**+0.4**
OUR	**Ouranopolis**	**0.59**	**346**	*e*PN	**Pn**	**14 54 43.9**	**-0.6**
OUR				*e*SN	**Sb**	**14 54 52.0**	**+0.4**
OUR	**Ouranopolis**	**0.59**	**346**	P	**Pb**	**14 54 43.6**	**-0.1**
OUR	**Ouranopolis**	**0.59**	**346**	*e*Pn	**Pn**	**14 54 43.9**	**-0.6**
OUR				S	**Sb**	**14 54 52.0**	**+0.4**
AOS	**Alonnisos**	**0.64**	**201**	P	**Pb**	**14 54 43.8**	**-0.7**
AOS				S	**Sn**	**14 54 54.1**	**-0.3**
AOS	**Alonnisos**	**0.64**	**201**	P	**Pb**	**14 54 43.8**	**-0.7**
AOS				S	**Sn**	**14 54 54.1**	**-0.3**
LIA	**Limnos Island**	**0.79**	**80**	P	**Pn**	**14 54 47.1**	**-0.2**
LIA				S	**Sn**	**14 54 58.0**	**-0.1**
LIA	**Limnos Island**	**0.79**	**80**	*e*PN	**Pn**	**14 54 47.5**	**+0.2**
LIA				*e*SN	**Sn**	**14 54 58.1**	**-0.1**
LIA	**Limnos Island**	**0.79**	**80**	P	**Pn**	**14 54 47.1**	**-0.2**
LIA	**Limnos Island**	**0.79**	**80**	*e*Pn	**Pn**	**14 54 47.5**	**+0.2**
LIA				*e*Sn	**Sn**	**14 54 58.1**	**-0.1**
PLG	**Polygyros**	**0.82**	**318**	P	**Pb**	**14 54 46.8**	**-0.9**
PLG				S	**Sb**	**14 54 57.9**	**-0.5**
PLG	**Polygyros**	**0.82**	**318**	*e*PN	**Pn**	**14 54 47.7**	**-0.1**
PLG	**Polygyros**	**0.82**	**318**	P	**Pb**	**14 54 46.8**	**-0.9**
PLG	**Polygyros**	**0.82**	**318**	*e*Pn	**Pn**	**14 54 47.7**	**-0.1**
PLG				S	**Sb**	**14 54 57.9**	**-0.5**
XOR	**Xorichti**	**0.86**	**242**	P	**Pb**	**14 54 47.8**	**-0.4**
XOR				S	**Sb**	**14 54 58.9**	**-0.4**
XOR	**Xorichti**	**0.86**	**242**	*e*PN	**Pn**	**14 54 48.6**	**+0.4**
XOR				*e*SN	**Sn**	**14 55 00.9**	**+1.0**
XOR	**Xorichti**	**0.86**	**242**	P	**Pb**	**14 54 47.8**	**-0.4**
XOR	**Xorichti**	**0.86**	**242**	*e*Pn	**Pn**	**14 54 48.6**	**+0.4**
XOR				S	**Sb**	**14 54 58.9**	**-0.4**
XOR				*e*Sn	**Sn**	**14 55 00.9**	**+1.0**
MRKA	**Markates**	**1.15**	**203**	P	**Pn**	**14 54 51.8**	**-0.5**
MRKA	**Markates**	**1.15**	**203**	P	**Pn**	**14 54 51.8**	**-0.5**
SOH	**Sokhos**	**1.23**	**330**	*e*PN	**Pb**	**14 54 54.8**	**+0.3**
SOH	**Sokhos**	**1.23**	**330**	*e*Pn	**Pb**	**14 54 54.8**	**+0.3**
KAVA	**Kavala**	**1.26**	**12**	*e*PN	**Pb**	**14 54 54.6**	**-0.4**
KAVA	**Kavala**	**1.26**	**12**	*e*Pn	**Pb**	**14 54 54.6**	**-0.4**
SMTH	**Samothraki Isl**	**1.26**	**56**	P	**Pn**	**14 54 54.0**	**+0.3**
SMTH				S	**Sn**	**14 55 09.2**	**-0.6**
SMTH	**Samothraki Isl**	**1.26**	**56**	*e*PN	**Pb**	**14 54 54.7**	**-0.3**
SMTH	**Samothraki Isl**	**1.26**	**56**	P	**Pn**	**14 54 54.0**	**+0.3**
SMTH	**Samothraki Isl**	**1.26**	**56**	*e*Pn	**Pb**	**14 54 54.7**	**-0.3**
SMTH				S	**Sn**	**14 55 09.2**	**-0.6**
LIT	**Litokhoron**	**1.34**	**285**	*e*PN	**Pb**	**14 54 57.1**	**+0.8**
LIT	**Litokhoron**	**1.34**	**285**	*e*Pn	**Pb**	**14 54 57.1**	**+0.8**
SIGR	**SIGRI**	**1.42**	**113**	*e*PN	**Pb**	**14 54 58.0**	**+0.4**
SIGR	**SIGRI**	**1.42**	**113**	*e*Pn	**Pb**	**14 54 58.0**	**+0.4**
SRS	**Serrai**	**1.42**	**342**	*e*PN	**Pb**	**14 54 57.5**	**-0.3**
SRS	**Serrai**	**1.42**	**342**	*e*Pn	**Pb**	**14 54 57.5**	**-0.3**
NVR	**Nevrokopi**	**1.60**	**352**	*e*PB	**Pb**	**14 54 59.7**	**-1.1**
NVR	**Nevrokopi**	**1.60**	**352**	*e*Pb	**Pb**	**14 54 59.7**	**-1.1**
AGG	**Agios Georgios**	**1.61**	**243**	*e*PN	**Pb**	**14 55 01.0**	**0.0**
AGG	**Agios Georgios**	**1.61**	**243**	*e*Pn	**Pb**	**14 55 01.0**	**0.0**
ALN	**Alexandroupoli**	**1.82**	**51**	*e*PB	**Pn**	**14 55 02.8**	**+1.3**
ALN	**Alexandroupoli**	**1.82**	**51**	*e*Pb	**Pn**	**14 55 02.8**	**+1.3**

*ISCJB **21** 15:04:32.0±0.6, 16.°8S±0.°1×174.°1W±0.°1, h10km, mb4.5/17, MS2.8/1, Error ellipse: s-maj=21.4km s-min=13.3km az=34.7*
*IDC **21** 15:04:31.7±0.7, 16.°78S×173.°97W, h0km, mb4.4/16, mb1 4.6/16, mb1mx4.4/29, mbtmp4.4/16, MS3.0/1, Ms1 3.0/1, ms1mx2.5/33, Error ellipse: s-maj=25.6km s-min=15.3km az=133.0*
ISC 21 15:04:33.0±0.7, **16.°8S**±0.°2×**174.°0W**±0.°2, **h10**km, **n41**, σ0**s97**/36, **mb4.5**/17, **10C-3D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**19.22**	**251**	P	Pn	15 09 03.8	+5.4
	0.8nm,0.3s,baz=90,slow=20,SNR=37						
URZ	**Urewera**	**22.80**	**198**	P	**P**	**15 09 36.1**	**+0.3**
	24nm,0.3s,baz=326,slow=3.7,SNR=61						
URZ				S	S	15 13 32.9	-12
	2.0nm,0.5s,baz=270,slow=19,SNR=3.8						
PPT	**Papeete**	**23.30**	**96**	LR	LR	15 17 18.5	
	comp=Z,36nm,19.6s,baz=1.0,slow=33						
RPZ	**Rata Peaks**	**29.71**	**202**	P	**P**	**15 10 40.3**	**+1.0**
	2.9nm,0.5s,baz=263,slow=1.7,SNR=5.5						
H11S2	**WAKE ISLAND Hy**	**39.88**	**331**	T	T	15 53 36.9	
	baz=147,slow=74						
H11S3	**WAKE ISLAND Hy**	**39.89**	**331**	T	T	15 53 39.4	

baz=147,slow=74
H11S1 **WAKE ISLAND Hy** 39.90 331 T T 15 53 41.9
baz=147
STKA **Stephens Creek** 42.90 241 P P 15 12 32.2 +0.3
11nm,0.9s,baz=86,slow=8.8,SNR=19
WRA **Warramunga Arr** 49.03 258 P P 15 13 19.4 -1.1
1.8nm,0.6s,baz=96,slow=7.7,SNR=44
ASAR **Alice Springs** 49.19 253 P P 15 13 21.4 -0.4
41nm,0.6s,baz=88,slow=8.4,SNR=1018
SIJI **Sorong** 56.17 280 P P 15 14 14.1 +0.5
15nm,0.7s,baz=91,slow=4.6,SNR=14
BATI **Baumata** 60.82 268 P P 15 14 46.3 +0.3
16nm,0.6s,baz=105,slow=3.1,SNR=6.8
MJAR **Matsushiro Arr** 69.65 320 P P 15 15 42.6 -0.2
1.2nm,0.7s,baz=162,slow=6.4,SNR=5.6
ASAJ **Asahikawa** 72.43 329 P P 15 16 00.9 +1.4
4.6nm,0.7s,baz=201,slow=7.6,SNR=5.1
PETK **Petropavlovsk-** 73.78 343 P P 15 16 07.8 +0.5
4.8nm,0.8s,baz=138,slow=11,SNR=12
NVAR **Mina Array Bea** 75.70 42 P P 15 16 19.9 +0.9
3.4nm,0.7s,baz=226,slow=9.8,SNR=22
KSRS **Korea Array** 76.77 316 P P 15 16 26.1 +1.3
2.1nm,1.0s,baz=132,slow=6.6,SNR=14
TXAR **Lajitas Array** 81.81 56 P P 15 16 54.0 +1.2
0.4nm,0.8s,baz=233,slow=6.7,SNR=4.1
PDAR **Pinedale Array** 83.64 42 P P 15 17 02.0 -0.1
2.1nm,0.8s,baz=243,slow=1.4,SNR=17
ILAR **Eielson Array** 83.89 11 P P 15 17 01.6 -1.0
1.2nm,0.9s,baz=211,slow=5.5,SNR=7.7
CMAR **Chiang Mai Arr** 92.54 288 P P 15 17 45.4 +0.2
0.9nm,0.4s,baz=102,slow=2.5,SNR=9.5
SONM **Songino Array** 95.51 318 P P 15 17 58.8 +0.5
0.4nm,0.8s,baz=108,slow=4.7,SNR=2.9
MALT **Malatya** 144.44 314 ⇓*iP* PKPdf 15 24 09.4 -0.7
KMBO **Kilima Mbogo** 144.45 243 PKP PKPdf 15 24 09.3 -1.7
3.1nm,0.5s,baz=80,slow=5.4,SNR=6.9
CLL **Collm** 145.11 352 ⇑*iP*KP PKPdf 15 24 09.3 -1.3
comp=Z,6.0nm,0.9s
STHS **Stebnicka Huta** 145.19 343 *e* PKPdf 15 24 10.8 -0.1
KOLS **Kolonicke sedl** 145.31 341 *e* PKPdf 15 24 10.4 -0.7
BRG **Berggiesshubel** 145.40 351 *e*PKP PKPab 15 24 10.3 -1.0
comp=Z,5.2nm,0.9s
TESR **Tescani** 145.77 334 ⇑*iP* PKPab 15 24 12.3 -0.5
CFR **Carcaliu** 146.16 331 ⇑*iP* PKPab 15 24 14.4 +0.2
VRAC **Vranov** 146.44 347 ⇑*iP* PKPab 15 24 14.8 -0.4
TIRR **Tirgusor** 146.58 330 ⇑*iP* PKPab 15 24 14.5 -1.4
TLB **Topalu** 146.66 331 ⇑*iP* PKPab 15 24 15.4 -0.8
BRTR **Keskin Array B** 146.87 319 PKPbc PKPab 15 24 15.5 -1.9
comp=Z,5.3nm,0.8s,baz=132,slow=2.1,SNR=20
MLR **Muntele Rosu** 146.88 334 ⇑*iP* PKPab 15 24 15.9 -1.3
PSZ **Piszkesteto** 146.92 343 ⇑*iP* PKPab 15 24 18.1 +0.9
DRGR 147.04 339 ⇓*iP* PKPab 15 24 15.7 -2.0
GERES **GERESS Array B** 147.41 351 PKPbc PKPbc 15 24 16.6 -0.7
comp=Z,0.6nm,0.6s,baz=354,slow=1.3,SNR=5.9
ARR **Arges** 147.52 335 ⇑*iP* PKPab 15 24 18.6 -1.0
BZS **Buzias** 148.43 339 ⇑*iP* PKPbc 15 24 19.8 -0.1
PKSM **Moragy** 148.83 343 ⇓*iP* PKPbc 15 24 20.5 -0.4

IDC 21 15:21:39.0±2.2,20.96S×176.08W,h0km,mb3.8/6, mb1 4.0/6,mb1mx3.7/33,mbtmp3.8/6,MS3.5/1,Ms1 3.5/1, ms1mx2.7/23,Error ellipse: s-maj=88.2km s-min=24.5km az=145.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.23**	**265**	P		P	15 28 36.0	+0.5
	1.2nm,0.4s,baz=90,slow=15,SNR=3.1							
STKA	**Stephens Creek**	**39.22**	**245**	P		P	15 29 10.1	+0.8
	0.7nm,0.7s,baz=85,slow=11,SNR=2.5							
ASAR	**Alice Springs**	**46.16**	**257**	P		P	15 30 05.2	-0.6
	1.0nm,0.8s,baz=93,slow=6.7,SNR=10							
WRA	**Warramunga Arr**	**46.32**	**262**	P		P	15 30 06.5	-0.5
	0.4nm,0.6s,baz=102,slow=8.7,SNR=9.5							
SIJI	**Sorong**	**55.09**	**284**	LR		LR	15 54 01.8	
	comp=Z,40nm,18.8s,baz=81,slow=35							
PETK	**Petropavlovsk-**	**77.18**	**344**	P		P	15 33 35.0	+0.6
	1.0nm,0.8s,baz=153,slow=3.1,SNR=3.3							
NVAR	**Mina Array Bea**	**80.13**	**42**	P		P	15 33 52.0	+0.6
	0.7nm,0.8s,baz=215,slow=7.5,SNR=4.8							
BRTR	**Keskin Array B**	**148.47**	**313**	PKPbc		PKPdf	15 41 25.4	+0.8
	0.4nm,0.4s,baz=159,slow=4.5,SNR=4.6							

*IDC **21** 15:30:13.2±0.9,43.66N×85.08E,h0km,mb3.6/5, mb1 3.7/9,mb1mx3.4/43,mbtmp3.5/9,ML3.1/4,Error ellipse: s-maj=48.5km s-min=13.7km az=56.0*
*NNC **21** 15:30:18.4±4.4,43.87N×85.28E,h0km,mb3.9,mpv3.7, Error ellipse: s-maj=42.0km s-min=23.0km az=122.0*
ISC 21 15:30:15.7±0.8,43.92N±0.07×85.24E±0.10,h10km,n27, σ1§67/23,mb3.5/5,11C-8D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**3.55**	**325**	⇑Pn		Pn	15 31 13.1	+2.2
	1.2nm,0.3s,baz=142,slow=12,SNR=384							
MK31				⇓Pg		Pg	15 31 23.5	-0.2
	44nm,0.5s,baz=147,slow=15,SNR=193							
MK31				⇓Lg		Lg	15 32 15.6	
	50nm,0.4s,baz=145,slow=25,SNR=6.0							
MKAR	**Makanchi Array**	**3.55**	**325**	Pn		Pn	15 31 13.3	+2.5
	1.3nm,0.3s,baz=142,slow=15,SNR=66							
MKAR				Pg		Pb	15 31 20.4	+1.8
	8.2nm,0.3s,baz=145,slow=14,SNR=53							
MKAR				Lg		Lg	15 32 09.4	
	38nm,0.3s,baz=141,slow=29,SNR=9.3							
PDGK	**Podgornoye**	**4.22**	**264**	⇓Pn		Pn	15 31 21.6	+1.5
	19nm,0.9s							
PDGK				⇑Lg		Lg	15 32 31.8	
	82nm,0.6s							
TKM2	**Tokmak 2**	**7.09**	**265**	⇑Pn		Pb	15 32 10.3	-8.8
	2.2nm,0.6s							
TKM2				⇑Lg		Lg	15 34 04.6	
	16nm,0.6s							
AAK	**Ala-Archa**	**7.94**	**264**	⇑Pg		Pb	15 32 39.4	+5.8
	3.5nm,0.7s							
AAK				⇓Lg		Lg	15 34 35.3	
	14nm,0.8s							
KURBB	**Kurchatov Arra**	**8.11**	**328**	⇑Pn		Pn	15 32 19.1	+5.7
	1.5nm,0.3s							
KURBB				⇓Lg		Lg	15 34 38.2	
	71nm,0.7s							
KURBB	**Kurchatov Arra**	**8.11**	**328**	Pn		Pn	15 32 14.1	+0.7
	0.1nm,0.3s,baz=137,slow=13,SNR=10							
KURBB				Sn		Sn	15 33 42.0	-3.1
	0.1nm,0.3s,baz=151,slow=22,SNR=3.8							
KURBB				Lg		Lg	15 34 33.3	
	0.4nm,0.3s,baz=154,slow=34,SNR=6.0							
KURK	**Kurchatov**	**8.15**	**329**	⇓Pn		Pn	15 32 21.0	+7.0
	2.3nm,0.7s							
KURK				⇑Lg		Lg	15 34 36.9	
	58nm,1.4s							
MNAS	**Manas**	**9.41**	**266**	⇑Pn		Pn	15 32 40.0	+8.5
	0.7nm,0.5s							
MNAS				⇓Lg		Lg	15 35 19.9	
	5.7nm,0.9s							
ZALV	**Zalesovo Beam**	**10.04**	**359**	Pn		Pn	15 32 40.7	+0.8
	1.2nm,0.3s,baz=178,slow=12,SNR=9.8							
ZALV				Sn		Sn	15 34 30.6	-2.0
	1.6nm,0.3s,baz=177,slow=26,SNR=7.1							
ZALV				Lg		Lg	15 35 34.7	
	baz=198,slow=23,SNR=2.1							
KK31	**Karatay Array**	**10.73**	**271**	⇑Lg		Lg	15 36 07.6	
	3.5nm,0.7s,baz=76,slow=26,SNR=3.9							
BVA0	**Borovoye Array**	**13.39**	**318**	⇑Pn		P	15 33 33.1	-2.2
	1.7nm,0.6s,baz=109,slow=13,SNR=7.5							
BVA0				⇑Lg		Lg	15 37 29.0	
	8.0nm,1.1s,baz=112,slow=33,SNR=4.2							
BVAR	**Borovoye Array**	**13.39**	**318**	Pn		Pn	15 33 25.9	+0.1
	0.1nm,0.3s,baz=110,slow=12,SNR=3.0							
BVAR				Lg		Lg	15 37 17.8	
	0.2nm,0.3s,baz=100,slow=25,SNR=3.3							
TLY	**Talaya**	**14.58**	**51**	Lg		Lg	15 38 05.7	
	0.0nm,0.3s,baz=270,slow=19,SNR=2.2							
SONM	**Songino Array**	**15.24**	**68**	Pn		P	15 33 58.6	+2.7
	baz=274,slow=12,SNR=2.7							
SONM				Lg		Lg	15 38 33.5	
	0.1nm,0.3s,baz=258,slow=26,SNR=2.9							
GUN	**Gumba**	**15.98**	**178**	*eP*		P	15 34 04.1	-0.4
	30nm,0.7s							
KKN	**Kakani**	**16.09**	**180**	*eP*		P	15 34 05.1	-0.5
	9.4nm,0.5s							
JIRN	**Jiri**	**16.24**	**177**	*eP*		P	15 34 07.5	+0.1
	39nm,0.7s							
PKIN	**Phulchoki**	**16.31**	**179**	*eP*		P	15 34 07.8	-0.3
	6.5nm,0.4s							
TAPN	**Taplejung**	**16.65**	**172**	*eP*		P	15 34 11.6	-0.3
	18nm,0.6s							
AB31	**Akbulak array**	**18.15**	**296**	⇓Pn		P	15 34 30.0	+2.0
	0.3nm,0.5s							
AKTO	**Aktyubinsk**	**19.55**	**299**	Lg		Lg	15 40 38.2	
	0.1nm,0.3s,baz=194,slow=17,SNR=2.2							
FINES	**FINESS Array B**	**38.35**	**318**	P		P	15 37 36.3	-0.2
	0.8nm,0.9s,baz=132,slow=8.4,SNR=2.6							
ARCES	**ARCESS Array B**	**39.18**	**331**	P		P	15 37 44.3	+0.9
	1.5nm,0.9s,baz=89,slow=7.5,SNR=2.5							
TORD	**Torodi Ar. Bea**	**76.39**	**275**	P		P	15 42 03.5	-2.0
	0.2nm,0.4s,baz=41,slow=4.7,SNR=3.0							
WRA	**Warramunga Arr**	**77.83**	**133**	P		P	15 42 12.3	-1.1
	0.5nm,0.5s,baz=332,slow=5.1,SNR=18							
ASAR	**Alice Springs**	**80.69**	**136**	P		P	15 42 27.6	-1.3
	0.3nm,0.7s,baz=336,slow=6.1,SNR=6.2							

*IDC **21** 15:39:58.4±0.8,22.10N×145.38E,h0km,mb3.5/7, mb1 3.8/8,mb1mx3.6/30,mbtmp3.6/8,ML3.9/1,MS2.8/1, Ms1 2.8/1,ms1mx2.4/19,Error ellipse: s-maj=31.7km s-min=19.5km az=86.0*
*ISCJB **21** 15:40:01.8±0.8,22.19N±0.06×145.2E±0.2,h36km, mb3.6/7,MS2.6/1,Error ellipse: s-maj=26.6km s-min=7.8km az=172.5*
ISC 21 15:40:03.9±0.8,22.25N±0.07×145.3E±0.2,h36km,n10, σ1§19/12,mb3.6/7,North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.58**	**331**	Pn		Pn	15 41 24.6	+0.2
	3.5nm,0.3s,baz=54,slow=10,SNR=7.2							
JCJ				Sn		Sn	15 42 25.2	-2.0
	14nm,0.3s,baz=306,slow=23,SNR=11							
GUMO	**Guam**	**8.62**	**183**	Pn		Pn	15 42 06.4	+0.2
	baz=18,slow=20,SNR=1.6							
GUMO				Sn		Sn	15 43 41.6	-0.5
	2.1nm,0.3s,baz=0.0,slow=20,SNR=3.3							
KSRS	**Korea Array**	**21.30**	**319**	P		P	15 44 49.8	+2.4
	0.8nm,0.7s,baz=148,slow=9.4,SNR=8.7							
KSRS				LR		LR	15 53 07.6	
	comp=Z,23nm,20.0s,baz=265,slow=37							
WRA	**Warramunga Arr**	**43.27**	**195**	P		P	15 48 01.6	-0.5
	0.4nm,0.3s,baz=13,slow=8.7,SNR=40							
ASAR	**Alice Springs**	**46.95**	**194**	P		P	15 48 30.6	-0.8
	0.2nm,0.4s,baz=12,slow=6.9,SNR=12							
MKAR	**Makanchi Array**	**55.75**	**312**	P		P	15 49 37.7	+0.6
	0.3nm,0.7s,baz=95,slow=9.6,SNR=2.7							
ILAR	**Eielson Array**	**60.68**	**27**	P		P	15 50 10.4	-0.7
	0.6nm,0.8s,baz=265,slow=5.2,SNR=5.7							
NVAR	**Mina Array Bea**	**81.29**	**52**	P		P	15 52 17.4	+0.5
	0.8nm,0.8s,baz=254,slow=8.5,SNR=4.8							
FINES	**FINESS Array B**	**83.51**	**335**	P		P	15 52 27.2	-0.5
	0.6nm,0.7s,baz=150,slow=3.1,SNR=3.4							
LPAZ	**La Paz**	**147.97**	**85**	PKPbc		PKPbc	15 59 47.5	+0.4
	0.5nm,0.4s,baz=346,slow=4.6,SNR=3.4							

KRSC 21 15:43:09.8±0.9,52.86N×159.10E,h100km±8km,ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**0.32**	**302**	*i* P		Pn	15 43 25.4	+1.0
PET				*e*S		Sn	15 43 35.6	+0.3
NLC	**Nalytchevo**	**0.35**	**25**	*e*P		Pn	15 43 26.0	+1.5
NLC				*e*S		Sn	15 43 36.5	+0.9
UGLR	**Uglovaya**	**0.39**	**335**	*i* P		Pn	15 43 26.2	+1.2
UGLR				*e*S		Sn	15 43 37.3	+1.0
SDLR	**Sedlovina**	**0.44**	**343**	*i* P		Pn	15 43 26.4	+1.1
SDLR				*e*S		Sn	15 43 37.4	+0.5
SMAR	**Somma**	**0.44**	**336**	*e*P		Pn	15 43 26.4	+1.0
SMAR				*e*S		Sn	15 43 37.5	+0.3
AVH	**Avacha**	**0.46**	**332**	*i* P		Pn	15 43 26.8	+1.4
AVH				*e*S		Sn	15 43 38.6	+1.5
KRER	**Koryakskii**	**0.49**	**335**	*i* P		Pn	15 43 27.1	+1.3
KRER				*e*S		Sn	15 43 38.6	+0.9
KOK	**Koryaka**	**0.52**	**328**	*i* P		Pn	15 43 27.0	+1.2
KOK				*e*S		Sn	15 43 38.4	+0.6
RUS	**Russkaya**	**0.55**	**220**	*i* P		Pn	15 43 27.2	+1.3
RUS				*e*S		Sn	15 43 39.1	+1.1
KRX	**Arik**	**0.57**	**332**	*i* P		Pn	15 43 27.1	+0.8
KRX				*e*S		Sn	15 43 38.8	+0.2
SPN	**Mys Shipunski**	**0.61**	**66**	*i* P		Pn	15 43 28.6	+2.2
SPN				*e*S		Sn	15 43 41.4	+2.6
MTVR	**Mutnovka**	**0.67**	**236**	*e*P		Pn	15 43 28.6	+1.5
MTVR				*e*S		Sn	15 43 41.3	+1.2
GRL	**Gorelyy**	**0.69**	**244**	*e*P		Pn	15 43 28.9	+1.6
GRL				*e*S		Sn	15 43 42.8	+2.4
ASAK	**Asacha**	**0.87**	**237**	*i* P		Pn	15 43 30.5	+1.6
ASAK				*e*S		Sn	15 43 45.4	+2.1
GNL	**Ganaly**	**1.09**	**321**	*e*P		Pn	15 43 31.7	+0.4
APC	**Apacha**	**1.18**	**274**	*e*P		Pn	15 43 33.2	+1.1
APC				*e*S		Sn	15 43 49.6	+0.6
KII	**Karymskiy**	**1.20**	**10**	*e*P		Pn	15 43 33.9	+1.4
MIPR	**Malaya Ipel'ka**	**1.54**	**249**	*e*P		Pn	15 43 37.9	+1.4
MIPR				*e*S		Sn	15 43 57.4	+0.6
PAU	**Pauzhetka**	**1.98**	**226**	*e*P		Pn	15 43 44.4	+2.4
PAU				*e*S		Sn	15 44 08.7	+2.0
MKZ	**Mys Kozlova**	**2.31**	**42**	*e*P		Pn	15 43 48.0	+1.7
MKZ				*e*S		Sn	15 44 14.4	+0.1
KZV	**Kizimen**	**2.37**	**17**	*e*P		Pn	15 43 49.6	+2.3
TUMR	**Tumrok**	**2.51**	**14**	*e*P		Pn	15 43 51.8	+2.7
SKR	**Severo-Kuril's**	**2.86**	**222**	*e*P		Pn	15 43 55.8	+2.3
SKR				*e*S		Sn	15 44 28.6	+1.4
KMNR	**Kamenistaya**	**2.98**	**13**	*e*P		Pn	15 43 58.6	+3.3
ESO	**Esso**	**3.08**	**356**	*e*P		Pn	15 43 58.1	+1.5
BDR	**Baidarnaya**	**3.92**	**17**	*e*P		Pn	15 44 11.5	+3.7
SMKR	**Semkarok**	**3.98**	**19**	*e*P		Pn	15 44 12.9	+4.2
SRKR	**Sorokina**	**3.99**	**17**	*e*P		Pn	15 44 11.6	+2.8
KBTR	**Krutoberegovo**	**4.00**	**31**	*e*P		Pn	15 44 11.5	+2.7
KBTR				*e*S		Sn	15 44 55.1	+0.5
BKI	**Bering**	**4.69**	**57**	*e*P		Pn	15 44 19.1	+1.0
BKI				*e*S		Sn	15 45 08.3	-2.9

MEX 21 15:44:32.4±0.3,15.63N×95.99W,h6km±4km,MD3.8,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.18**	**320**	*i* P		Pg	15 44 35.7	-0.4
HUIG				*e*S		Sg	15 44 38.2	-0.4
VHO	**Vista Hermosa**	**1.61**	**334**	*i* P		Pn	15 44 57.4	-4.3
VHO				*e*S		Sn	15 45 18.0	-5.0
CMIG	**Matias Romero**	**1.80**	**36**	*i* P		Pn	15 45 00.1	-3.9
CMIG				*e*S		Sn	15 45 22.4	-4.9
PNIG	**Pinotepa**	**2.20**	**291**	*e*P		Pn	15 45 06.2	-3.3
PNIG				*e*S		Sn	15 45 32.0	-5.0

*ISCJB **21** 15:50:34.7±0.4,38.42N±0.02×21.84E±0.03,h10km±3km, Error ellipse: s-maj=4.1km s-min=3.1km az=17.3*
*CSEM **21** 15:50:34.7±0.1,38.42N×21.86E,h10km,MD2.7,Error ellipse: s-maj=2.6km s-min=2.0km az=116.0*
*THE **21** 15:50:34.9,38.42N×21.84E,h12km±1km,ML2.2/7,Error ellipse: s-maj=1.9km s-min=0.6km az=134.0*
*ATH **21** 15:50:35.3,38.41N×21.86E,h8km±1km,MD2.7/12*
ISC 21 15:50:35.0±0.8,38.42N±0.02×21.86E±0.02,h11km±4km, n45,σ0§51/76,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.04**	**81**	P		Pg	15 50 36.9	-0.1
EFP				S		Sg	15 50 38.5	0.0
EFP	**Efpalio**	**0.04**	**81**	*e*PG		Pg	15 50 36.8	-0.2
EFP				*e*SG		Sg	15 50 38.2	-0.3
EFP	**Efpalio**	**0.04**	**81**	*e*Pg		Pg	15 50 36.8	-0.2
EFP				*e*Sg		Sg	15 50 38.2	-0.3
UPR	**University Cam**	**0.15**	**203**	P		Pg	15 50 38.2	-0.2
UPR	**University Cam**	**0.15**	**203**	P		Pg	15 50 38.2	-0.2
KALE	**Kalithea**	**0.22**	**98**	P		Pg	15 50 39.8	+0.1
KALE				S		Sg	15 50 44.0	+1.1
KALE	**Kalithea**	**0.22**	**98**	*e*PG		Pg	15 50 39.8	+0.1
KALE	**Kalithea**	**0.22**	**98**	P		Pg	15 50 39.8	+0.1
KALE				S		Sg	15 50 44.0	+1.1
KLV	**Kalavryta, Ach**	**0.44**	**149**	P		Pg	15 50 43.6	-0.1
KLV				S		Sb	15 50 50.8	-0.7
KLV	**Kalavryta, Ach**	**0.44**	**149**	*e*PB		Pg	15 50 43.6	-0.1
KLV				*e*SB		Sg	15 50 50.3	+0.8
KLV	**Kalavryta, Ach**	**0.44**	**149**	P		Pg	15 50 43.6	-0.1
KLV				*e*Sb		Sg	15 50 50.3	+0.8
RLS	**Riolos of Patr**	**0.48**	**221**	P		Pg	15 50 44.1	-0.2
RLS				S		Sg	15 50 51.4	+0.8
RLS	**Riolos of Patr**	**0.48**	**221**	*e*PB		Pg	15 50 44.4	+0.1
RLS				*e*SB		Sg	15 50 51.1	+0.5
RLS	**Riolos of Patr**	**0.48**	**221**	P		Pg	15 50 44.1	-0.2
RLS	**Riolos of Patr**	**0.48**	**221**	*e*Pb		Pg	15 50 44.4	+0.1
RLS				*e*Sb		Sg	15 50 51.1	+0.5
EVR	**Evrytania**	**0.50**	**355**	P		Pg	15 50 44.3	-0.4
EVR				S		Sg	15 50 52.2	+0.9
EVR	**Evrytania**	**0.50**	**355**	*e*PB		Pg	15 50 44.6	-0.1
EVR				*e*SB		Sb	15 50 52.6	-0.6
EVR	**Evrytania**	**0.50**	**355**	P		Pg	15 50 44.3	-0.4
EVR	**Evrytania**	**0.50**	**355**	*e*Pb		Pg	15 50 44.6	-0.1
EVR				S		Sg	15 50 52.2	+0.9
DSF	**Desfina**	**0.53**	**91**	P		Pg	15 50 44.5	-0.7
DSF				S		Sb	15 50 53.5	-0.4
DSF	**Desfina**	**0.53**	**91**	*e*PB		Pg	15 50 45.0	-0.2
DSF				*e*SB		Sb	15 50 53.2	-0.7
DSF	**Desfina**	**0.53**	**91**	P		Pg	15 50 44.5	-0.7
DSF	**Desfina**	**0.53**	**91**	*e*Pb		Pg	15 50 45.0	-0.2
DSF				*e*Sb		Sb	15 50 53.2	-0.7
GUR	**Goura**	**0.62**	**142**	P		Pg	15 50 46.3	-0.7
GUR				S		Sg	15 50 55.6	+0.5
GUR	**Goura**	**0.62**	**142**	*e*PB		Pg	15 50 46.5	-0.5
GUR	**Goura**	**0.62**	**142**	*e*Pb		Pg	15 50 46.5	-0.5
GUR				S		Sg	15 50 55.6	+0.5
MAKR	**Makrakomi, Fth**	**0.63**	**20**	P		Pg	15 50 47.2	0.0
MAKR				S		Sb	15 50 56.9	0.0
MAKR	**Makrakomi, Fth**	**0.63**	**20**	*e*PG		Pg	15 50 47.2	0.0
MAKR				*e*SB		Sb	15 50 56.6	-0.3
MAKR	**Makrakomi, Fth**	**0.63**	**20**	P		Pg	15 50 47.2	0.0
MAKR				*e*Sb		Sb	15 50 56.6	-0.3
AGG	**Agios Georgios**	**0.70**	**31**	P		Pg	15 50 47.8	-0.8
AGG				S		Sb	15 50 59.0	-0.1
AGG	**Agios Georgios**	**0.70**	**31**	*e*PB		Pg	15 50 48.8	+0.2
AGG				*e*SB		Sb	15 50 59.2	+0.1
AGG	**Agios Georgios**	**0.70**	**31**	P		Pg	15 50 47.8	-0.8
AGG	**Agios Georgios**	**0.70**	**31**	*e*Pb		Pg	15 50 48.8	+0.2
AGG				S		Sb	15 50 59.0	-0.1
AXAR	**Agios Charalam**	**0.71**	**61**	P		Pg	15 50 47.8	-1.0
AXAR				S		Sb	15 51 00.3	+0.9
AXAR	**Agios Charalam**	**0.71**	**61**	*e*PG		Pg	15 50 48.6	-0.2
AXAR				*e*SB		Sb	15 50 59.2	-0.2
AXAR	**Agios Charalam**	**0.71**	**61**	P		Pg	15 50 47.8	-1.0
AXAR	**Agios Charalam**	**0.71**	**61**	*e*Pg		Pg	15 50 48.6	-0.2
AXAR				*e*Sb		Sb	15 50 59.2	-0.2
AXAR				S		Sb	15 51 00.3	+0.9
AMT	**Artemida-Makis**	**0.90**	**188**	*e*PB		Pb	15 50 52.7	+0.1
AMT				*e*SB		Sg	15 51 04.0	+0.1
AMT	**Artemida-Makis**	**0.90**	**188**	*e*Pb		Pb	15 50 52.7	+0.1
AMT				*e*Sb		Sg	15 51 04.0	+0.1
LKR	**Lokris**	**0.92**	**75**	*e*PG		Pg	15 50 52.3	-0.5
LKR	**Lokris**	**0.92**	**75**	*e*Pg		Pg	15 50 52.3	-0.5
LKD2	**Lefkada island**	**1.01**	**292**	*e*PG		Pg	15 50 53.9	-0.5
LKD2	**Lefkada island**	**1.01**	**292**	*e*Pg		Pg	15 50 53.9	-0.5
VLS	**Valsamata**	**1.03**	**257**	*e*PN		Pn	15 50 55.3	-0.1
VLS	**Valsamata**	**1.03**	**257**	*e*Pn		Pn	15 50 55.3	-0.1

*CSEM **21** 15:51:29.5,40.62N×26.57E,h13km,MD2.3*
ISK 21 15:51:29.5,40.62N×26.57E,h13km,MD2.3,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ERIK	**Erikli-Kesan**	**0.07**	**318**	*e*PG		Pg	15 51 32.1	0.0
ERIK	**Erikli-Kesan**	**0.07**	**318**	*e*Pg		Pg	15 51 32.1	0.0
GELI	**Tayfur-Gelibol**	**0.23**	**199**	*e*PG		Pg	15 51 35.0	+0.5
GELI				*e*SG		Sg	15 51 38.8	+0.8
GELI	**Tayfur-Gelibol**	**0.23**	**199**	*e*Pg		Pg	15 51 35.0	+0.5
GELI				*e*Sg		Sg	15 51 38.8	+0.9
LPK	**Lapseki**	**0.29**	**150**	*e*PG		Pg	15 51 35.7	+0.3
LPK	**Lapseki**	**0.29**	**150**	*e*Pg		Pg	15 51 35.7	+0.2
ENEZ	**Enez**	**0.34**	**290**	*e*PG		Pb	15 51 37.0	-0.5
ENEZ	**Enez**	**0.34**	**290**	*e*Pg		Pb	15 51 37.0	-0.4
RKY	**Sarkoy-Tekirda**	**0.47**	**82**	*e*PG		Pb	15 51 39.3	-0.4
RKY	**Sarkoy-Tekirda**	**0.47**	**82**	*e*Pg		Pb	15 51 39.3	-0.4
ALN	**Alexandroupoli**	**0.49**	**305**	*e*PG		Pg	15 51 39.4	+0.3
ALN	**Alexandroupoli**	**0.49**	**305**	*e*Pg		Pg	15 51 39.4	+0.3
GADA	**Gvkgeada**	**0.67**	**230**	*e*PG		Pb	15 51 43.1	+0.1
GADA	**Gvkgeada**	**0.67**	**230**	*e*Pg		Pb	15 51 43.1	+0.1
MRMT	**Marmara Adasi**	**0.78**	**91**	*e*PG		Pb	15 51 45.0	-0.1
MRMT	**Marmara Adasi**	**0.78**	**91**	*e*Pg		Pb	15 51 45.0	0.0
EDRB	**Edirne**	**1.23**	**6**	*e*PN		Pb	15 51 52.7	0.0
EDRB	**Edirne**	**1.23**	**6**	*e*Pn		Pb	15 51 52.7	0.0
SIGR	**SIGRI**	**1.51**	**202**	*e*PN		Pn	15 51 56.7	+0.5
SIGR	**SIGRI**	**1.51**	**202**

SONM	**Songino Array**	**164.11**	**311**	PKPab	**PKPab**	**16**	**17**	**26.9**	**-0.8**
	0.2nm,0.4s,baz=66,slow=4.9,SNR=3.2								

IDC 21 16:24:30.1±50.0, 18.74S×176.61W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/24, mbtmp3.8/3, MS3.6/2, Ms1 3.6/2, ms1mx2.9/22, Error ellipse: s-maj=930.8km s-min=167.7km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h	m	s	Res ISC
STKA	**Stephens Creek**	**39.74**	**242**	P		P		16	32	04.8	+0.1
	1.1nm,0.7s,baz=83,slow=8.1,SNR=4.0										
WRA	**Warramunga Arr**	**46.17**	**260**	P		P		16	32	56.8	-0.2
	0.3nm,0.3s,baz=95,slow=8.3,SNR=12										
ASAR	**Alice Springs**	**46.22**	**255**	P		P		16	32	57.1	-0.2
	1.3nm,0.6s,baz=92,slow=8.2,SNR=36										
ASAR						LR	LR	16	52	46.4	
	comp=Z,66nm,18.0s,baz=133,slow=37										
PDAR	**Pinedale Array**	**86.79**	**43**	LR		LR		17	09	59.1	
	comp=Z,27nm,19.3s,baz=200,slow=31										

SJA 21 16:28:58.0±0.8, 25.88S×66.73W, h16km±14km, ML3.3, MW3.5, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h	m	s	Res ISC
FSA	**Cafayete**	**0.68**	**109**	*i* P		P	Pn	16	29	12.6	-0.7
FSA				*i* S		S	Sn	16	29	23.0	-0.8
FSA				IAML				16	29	25.5	
	comp=Z,2μm,0.3s										
SLA	**San Lorenzo**	**1.60**	**44**	*i* P		P	Pb	16	29	27.5	+0.1
SLA				IAML				16	29	57.9	
	comp=Z,283nm,0.8s										
CYA	**Choya**	**2.69**	**162**	*e*P		P	Pb	16	29	43.5	-2.3
CYA				AML		AML		16	30	24.7	
	comp=Z,102nm,0.5s										
HJA	**Humahuaca**	**2.92**	**25**	*i* P		P	Pb	16	29	47.5	-2.7
ALOL	**LOMAS DE OLMED**	**3.24**	**51**	*i* P		P	Pn	16	29	51.3	+3.0

*IDC **21** 16:45:44.3±1.8, 1.84N×126.22E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/29, mbtmp3.6/4, Error ellipse: s-maj=171.5km s-min=22.9km az=65.0*
*ISCJB **21** 16:45:46.7±1.2, 2.6N±0.1×127.8E±0.2, h47km, mb3.5/4, Error ellipse: s-maj=32.4km s-min=13.3km az=152.3*
*DJA **21** 16:45:55.0±1.2, 2.1N±5×12.7E±, h22km±19km, M4.1/6, mb4.6/1, mB4.5/1, MLv3.8/6, Mw(mB)3.6/1*

ISC 21 16:45:48.7±1.4, 2.7N±0.1×127.8E±0.2, h47km, n9, σ1§78/7, mb3.6/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h	m	s	Res ISC
TNTI	**Ternate**	**1.92**	**192**	P		P	**Pn**	**16**	**46**	**20.8**	**+1.9**
TNTI				S		S	**Sn**	**16**	**46**	**40.7**	**-1.2**
SGSI	**Sangihe**	**2.47**	**295**	P		P	**Pn**	**16**	**46**	**26.7**	**+0.3**
KMSI	**Cibinong**	**4.32**	**241**	P		P	Pn	16	46	43.8	-8.1
SANI	**Sanana**	**5.01**	**201**	P		P	Pn	16	46	55.8	-5.5
MRSI	**Marisa**	**6.22**	**250**	P		P	Pn	16	47	10.8	-7.2
WRA	**Warramunga Arr**	**23.37**	**164**	P		P	**P**	**16**	**50**	**51.5**	**-1.8**
	0.9nm,0.3s,baz=339,slow=10,SNR=18										
ASAR	**Alice Springs**	**26.84**	**167**	P		P	**P**	**16**	**51**	**23.1**	**-1.9**
	0.4nm,0.5s,baz=345,slow=8.0,SNR=15										
STKA	**Stephens Creek**	**36.77**	**160**	P		P	**P**	**16**	**52**	**52.1**	**+0.2**
	0.8nm,0.7s,baz=332,slow=7.6,SNR=5.4										
MKAR	**Makanchi Array**	**59.03**	**325**	P		P	**P**	**16**	**55**	**44.8**	**+0.9**
	0.3nm,0.6s,baz=138,slow=5.0,SNR=3.5										

IDC 21 17:03:47.2±1.6, 16.44S×178.58W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/32, mbtmp3.7/4, Error ellipse: s-maj=152.2km s-min=28.6km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h	m	s	Res ISC
STKA	**Stephens Creek**	**39.21**	**240**	P		P	P	17	11	17.7	+0.4
	0.5nm,0.4s,baz=86,slow=10,SNR=9.2										
WRA	**Warramunga Arr**	**44.76**	**258**	P		P	P	17	12	02.5	-0.4
	0.2nm,0.3s,baz=93,slow=8.0,SNR=17										
ASAR	**Alice Springs**	**45.05**	**253**	P		P	P	17	12	04.9	-0.3
	1.7nm,0.3s,baz=89,slow=7.8,SNR=104										
TXAR	**Lajitas Array**	**85.35**	**58**	P		P	P	17	16	26.8	0.0
	0.2nm,0.6s,baz=225,slow=5.0,SNR=3.2										

MEX 21 17:44:33.0±0.4, 18.09N×101.66W, h8km±9km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h	m	s	Res ISC
ZIIG	**Zihuatanejo**	**0.52**	**159**	*i* P		Pg		17	44	42.5	-0.5
ZIIG				*e*S		Sg		17	44	50.0	+0.1
ARIG	**Puente Sto Nin**	**1.26**	**81**	*e*P		Pn		17	44	53.5	-3.5
ARIG				*e*S		Sb		17	45	09.3	-4.2
MMIG	**Aquila**	**1.61**	**277**	*i* P		Pn		17	44	57.9	-3.9
MMIG				*e*S		Sn		17	45	17.6	-5.2
CAIG	**El Cayaco**	**1.69**	**128**	*e*P		Pb		17	45	04.0	-0.3
PLIG	**Platanillo**	**2.07**	**81**	*i* P		Pn		17	45	04.2	-4.0
PLIG				*e*S		Sn		17	45	29.6	-4.7
EZ5V		**2.30**	**307**	*i* P		Pn		17	45	09.0	-2.5
EZ5V				*e*S		Sn		17	45	36.7	-3.5
R15V		**2.45**	**296**	*i* P		Pn		17	45	09.8	-3.6
R15V				*e*S		Sn		17	45	38.6	-4.9
YAIG	**Yautepec**	**2.58**	**72**	*i* P		Pn		17	45	11.5	-3.7
YAIG				*e*S		Sn		17	45	42.0	-4.9
TLIG	**Tlapa**	**2.99**	**100**	*i* P		Pn		17	45	17.6	-3.3

*IDC **21** 17:52:17.8±0.8, 8.26N×103.14W, h0km, mb4.3/9, mb1 4.5/11, mb1mx4.3/27, mbtmp4.3/11, ML3.9/2, MS4.3/26, Ms1 4.3/26, ms1mx4.3/28, Error ellipse: s-maj=31.0km s-min=15.2km az=60.0*
*ISCJB **21** 17:52:19.3±0.4, 8.33N±0.06×102.95W±0.06, h19km, mb4.7/64, MS4.2/22, Error ellipse: s-maj=11.2km s-min=5.7km az=137.6*
*BJI **21** 17:52:19.9, 8.30N×103.00W, h10km, mB5.1/4, Ms4.8/6, Ms7 4.4/6*
*GCMT **21** 17:52:19.5±0.3, 8.47N×103.04W, h18km±1km, MW5.2/96, Moment Tensor Solution. s53,c60; s96,c135; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.56±.16; $M_{\theta\theta}$-2.43±.15; $M_{\phi\phi}$2.99±.17; $M_{r\theta}$-3.05±.42; $M_{r\phi}$-5.00±.16; $M_{\theta\phi}$0.04±.32; Best double couple: $M_0$6.46900×10^{16} NP1:ϕ_s12.00000°, δ63.00000°, λ-8.00000°. Principal axes: T 6.3680, Plg14.0000°, Azm236.0000°; N 0.2050, Plg62.0000°, Azm118.0000°; P -6.5710, Plg24.0000°, Azm332.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **21** 17:52:19.4±0.4, 8.27N×102.97W, h10km, mb4.8/59 Error ellipse: s-maj=10.2km s-min=5.8km az=50.0*

ISC 21 17:52:21.5±0.4, 8.36N±0.07×102.86W±0.08, h19km, n125, σ1§63/102, mb4.8/64, MS4.2/22, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h	m	s	Res ISC
CMIG	**Matias Romero**	**11.64**	**41**	Pn		Pn	**Pn**	**17**	**55**	**07.0**	**+0.2**
	0.7nm,0.3s,baz=205,slow=4.0,SNR=5.2										
CMIG						LR	LR	17	58	43.4	
	comp=Z,3μm,18.3s,baz=220,slow=32										
H06E1	**SOCORRO T-PHASE**	**12.98**	**324**	T		T	T	18	08	28.0	
	SNR=23										
TGUH	**Tegucigalpa,Un**	**16.29**	**68**	Pn		Pn	**Pn**	**17**	**56**	**08.1**	**-1.4**
	48nm,1.4s										
LPIG	**La Paz**	**17.20**	**336**	LR		LR	LR	18	01	20.3	
	comp=Z,3μm,19.7s,baz=164,slow=32										
JTS	**JuntasAbangare**	**17.77**	**82**	LR		LR	LR	18	01	26.2	
	comp=Z,3μm,21.6s,baz=263,slow=30										
JTS	**JuntasAbangare**	**17.77**	**82**	Pn		Pn	**Pn**	**17**	**56**	**27.6**	**-0.4**
	30nm,1.2s										
TEIG	**Tepich**	**18.38**	**49**	P		P	**Pn**	**17**	**56**	**36.8**	**+1.4**
	0.3nm,0.3s,baz=263,slow=18,SNR=2.4										
TEIG						LR	LR	18	02	47.0	
	comp=Z,2μm,21.1s,baz=236,slow=34										
TEIG	**Tepich**	**18.38**	**49**	P		P	**Pn**	**17**	**56**	**36.6**	**+1.1**
	31nm,1.1s										
TXAR	**Lajitas Array**	**20.88**	**358**	P		P	Pn	17	57	03.9	-1.4
	3.5nm,0.9s,baz=184,slow=9.0,SNR=16										
TXAR						LR	LR	18	04	12.9	
	comp=Z,526nm,21.1s,baz=0.0,slow=34										

TX31	**Lajitas Ar. Si**	**20.88**	**358**	*e*P		Pn	17	57	04.2	-1.0
JCT	**Junction City**	**22.19**	**7**	*e*P		**P**	**17**	**57**	**19.0**	**+2.3**
	28nm,1.0s									
HKT	**Hockley**	**22.46**	**16**	*e*P		**P**	**17**	**57**	**19.6**	**0.0**
	139nm,2.1s									
BCIP	**Isla Barro Col**	**22.76**	**86**	P		**P**	**17**	**57**	**23.7**	**+0.7**
	50nm,1.3s									
MNTX	**Cornudas Mount**	**23.34**	**355**	*e*P		**P**	**17**	**57**	**28.8**	**+0.1**
	14nm,1.3s									
ABTX	**Abilene, Hawle**	**24.32**	**7**	*e*P		**P**	**17**	**57**	**37.9**	**-0.3**
	23nm,1.1s									
TUC	**Tucson**	**24.94**	**344**	*e*P		**P**	**17**	**57**	**44.8**	**+1.1**
	16nm,1.3s									
MSTX	**Muleshoe**	**25.48**	**0**	*e*P		**P**	**17**	**57**	**46.8**	**-2.0**
	24nm,1.4s									
OTAV	**Otavalo**	**25.62**	**107**	*e*P		**P**	**17**	**57**	**52.5**	**+2.0**
	24nm,1.2s									
WMOK	**Wichita Mounta**	**26.52**	**8**	*e*P		**P**	**17**	**57**	**54.6**	**-3.4**
	6.3nm,0.9s									
GLA	**Glamis**	**26.95**	**337**	*e*P		**P**	**17**	**57**	**60.0**	**-2.0**
	42nm,1.6s									
MIAR	**Mount Ida**	**27.42**	**17**	*e*P		**P**	**17**	**58**	**06.7**	**+0.6**
	19nm,1.3s									
PFO	**Pinyon Flats O**	**28.09**	**335**	LR		LR	18	07	45.2	
	comp=Z,868nm,18.0s,baz=162,slow=33									
ROSC	**El Rosal**	**28.54**	**95**	LR		LR	18	06	59.4	
	comp=Z,472nm,22.0s,baz=304,slow=31									
ROSC	**El Rosal**	**28.54**	**95**	P		**P**	**17**	**58**	**18.2**	**+1.4**
ATAH	**Atahualpa**	**28.84**	**122**	P		**P**	**17**	**58**	**22.0**	**+2.6**
	5.9nm,0.6s,baz=23,slow=2.5,SNR=4.2									
SHPR	**Sheep Range**	**30.17**	**340**	*e*P		P	17	58	27.2	-3.6
GOGA	**Godfrey**	**30.69**	**33**	*e*P		**P**	**17**	**58**	**36.3**	**+1.1**
	9.9nm,1.1s									
WVT	**Waverly**	**30.85**	**24**	*e*P		**P**	**17**	**58**	**35.9**	**-0.6**
	10nm,1.2s									
WVT					*e*pP		**pP**	**17**	**58**	**43.1**	**+0.8**
SDV	**Santo Domingo**	**31.86**	**87**	*e*P		**P**	**17**	**58**	**47.4**	**+1.5**
	13nm,1.0s									
R11A	**Troy Canyon, C**	**31.99**	**341**	*e*P		**P**	**17**	**58**	**46.4**	**-0.4**
	14nm,1.6s									
TKL	**Tuckaleechee C**	**32.28**	**30**	*e*P		**P**	**17**	**58**	**48.9**	**-0.3**
TPH	**Tonopah**	**32.30**	**339**	*e*P		**P**	**17**	**58**	**48.2**	**-1.3**
	40nm,1.9s									
LRV	**Little Rabbit**	**32.46**	**332**	*e*PP		PP	18	00	07.2	+2.8
MPU	**Maple Canyon**	**32.48**	**347**	*e*P		**P**	**17**	**58**	**52.5**	**+1.4**
	22nm,1.5s									
DUG	**Dugway, Tooele**	**32.92**	**346**	*e*P		**P**	**17**	**58**	**54.3**	**-0.5**
	15nm,1.3s									
NV01	**Mina Array Sit**	**33.02**	**337**	*e*P		**P**	**17**	**58**	**57.3**	**+1.5**
NVAR	**Mina Array Bea**	**33.02**	**337**	P		**P**	**17**	**58**	**56.4**	**+0.6**
	2.1nm,0.9s,baz=166,slow=8.2,SNR=8.2									
CMB	**Columbia Colle**	**33.52**	**334**	P		**P**	**17**	**58**	**57.5**	**-2.5**
HWUT	**Hardware Ranch**	**33.99**	**348**	*e*P		**P**	**17**	**59**	**04.0**	**-0.3**
	13nm,1.4s									
ELK	**Elko**	**34.08**	**343**	*e*P		**P**	**17**	**59**	**05.4**	**+0.3**
	69nm,2.8s									
BMN	**Battle Mountai**	**34.41**	**340**	*e*P		**P**	**17**	**59**	**07.5**	**-0.3**
	49nm,2.0s									
BW06	**Boulder Array**	**34.77**	**351**	*e*P		**P**	**17**	**59**	**11.4**	**+0.4**
PDAR	**Pinedale Array**	**34.77**	**351**	P		**P**	**17**	**59**	**11.3**	**+0.3**
	2.8nm,0.9s,baz=167,slow=7.4,SNR=12									
PDAR						LR	LR	18	12	30.8	
	comp=Z,361nm,20.0s,baz=186,slow=35									
REDW	**Red Top Meadow**	**35.56**	**350**	*e*P		**P**	**17**	**59**	**18.7**	**+0.9**
	18nm,1.4s									
LOHW	**Long Hollow**	**35.76**	**350**	*e*P		**P**	**17**	**59**	**19.6**	**+0.1**
	67nm,2.7s									
FXWY	**Fox Creek**	**35.86**	**350**	*e*P		**P**	**17**	**59**	**22.0**	**+1.6**
	11nm,1.6s									
FLWY	**Flagg Ranch**	**36.23**	**350**	*e*P		**P**	**17**	**59**	**22.9**	**-0.7**
	12nm,0.6s									
HLID	**Hailey**	**36.49**	**346**	*e*P		**P**	**17**	**59**	**26.9**	**+1.2**
	11nm,1.5s									
MCMT	**McKenzie Canyo**	**37.35**	**348**	*e*P		**P**	**17**	**59**	**34.1**	**+1.0**
	12nm,1.8s									
YBH	**Yreka Blue Hor**	**37.59**	**335**	LR		LR	18	12	49.8	
	comp=Z,406nm,21.3s,baz=166,slow=33									
DLMT	**Dillon**	**37.81**	**349**	*e*P		**P**	**17**	**59**	**38.1**	**+1.2**
	58nm,2.1s									
BOZ	**Bozeman (W)**	**37.91**	**350**	*e*P		**P**	**17**	**59**	**39.7**	**+2.0**
	22nm,1.8s									
LRM	**Limekiln Ridge**	**38.23**	**349**	*e*P		**P**	**17**	**59**	**41.2**	**+0.7**
	28nm,1.0s									
BMO	**Blue Mountains**	**38.45**	**343**	*e*P		**P**	**17**	**59**	**41.1**	**-1.1**
	17nm,1.9s									
SLMT	**Sevey Lake**	**39.79**	**349**	*e*P		**P**	**17**	**59**	**52.0**	**-1.5**
	13nm,1.4s									
AGMN	**Agassiz Nation**	**40.24**	**7**	*e*P		**P**	**17**	**59**	**56.8**	**-0.2**
	17nm,1.2s									
TAOE	**Nuku Hiva Isla**	**40.90**	**246**	*e*T		T	18	43	12.3	
	271nm,0.2s									
NEW	**Newport**	**41.56**	**346**	LR		LR	18	16	11.2	
	comp=Z,253nm,18.2s,baz=166,slow=34									
NEW	**Newport**	**41.56**	**346**	*e*P		**P**	**18**	**00**	**08.3**	**+0.4**
	15nm,1.4s									
WALA	**Waterton Lakes**	**41.61**	**349**	P		**P**	**18**	**00**	**11.1**	**+2.7**
	5.2nm,0.8s									
ULM	**Lac du Bonnet**	**42.16**	**7**	LR		LR	18	16	26.9	
	comp=Z,172nm,19.4s,baz=252,slow=34									
LPAZ	**La Paz**	**42.20**	**125**	P		**P**	**18**	**00**	**15.3**	**+1.0**
	9.3nm,0.9s,baz=323,slow=8.7,SNR=29									
LPAZ						LR	LR	18	16	14.0	
	comp=Z,155nm,18.8s,baz=318,slow=34									
LPAZ	**La Paz**	**42.20**	**125**	*e*P		**P**	**18**	**00**	**15.3**	**+1.0**
	22nm,1.1s									
SAML	**Samuel**	**43.10**	**113**	*e*P		**P**	**18**	**00**	**20.7**	**-0.2**
	26nm,1.1s									
RKT	**Rikitea**	**44.35**	**224**	*e*LR		LR	18	12	49.4	
	1μm,27.5s									
RKT	**Rikitea**	**44.35**	**224**	*e*T		T	18	47	30.4	
	10nm,0.2s									
LVC	**Limon Verde**	**45.31**	**133**	P		**P**	**18**	**00**	**39.6**	**+0.8**
	49nm,1.9s									
EDM	**Edmonton**	**45.53**	**351**	*e*P		**P**	**18**	**00**	**40.3**	**+0.5**
	46nm,1.5s									
BBB	**Bella Bella**	**48.33**	**339**	LR		LR	18	19	43.7	
	comp=Z,307nm,21.1s,baz=173,slow=34									
VAH	**Vaihoa**	**50.18**	**242**	*e*T		T	18	54	51.4	
	4.9nm,0.3s									
PMOR	**Pomariorio Ree**	**50.32**	**243**	*e*T		T	18	55	01.1	
	4.1nm,0.2s									
PPT	**Papeete**	**52.86**	**241**	LR		LR	18	18	15.5	
	comp=Z,464nm,18.2s,baz=51,slow=30									
PPT2	**Papeete2**	**52.87**	**241**	*e*S		**S**	**18**	**09**	**07.5**	**+2.5**
	222nm,27.2s									
PPT2					*e*LR	LR	18	16	30.0	
	1μm,25.0s,baz=53									
DLBC	**Dease Lake**	**54.13**	**343**	LR		LR	18	23	57.0	
	comp=Z,342nm,18.5s,baz=153,slow=35									
DLBC	**Dease Lake**	**54.13**	**343**	P		**P**	**18**	**01**	**44.0**	**-1.2**
SCHQ	**Schefferville**	**54.49**	**25**	LR		LR	18	27	01.7	
	comp=Z,370nm,18.6s,baz=247,slow=38									
YKA	**Yellowknife Ar**	**54.71**	**353**	P		**P**	**18**	**01**	**48.2**	**-1.0**
	0.6nm,0.6s,baz=159,slow=6.3,SNR=4.6									
TBI	**Tubuai**	**55.40**	**234**	*e*S		**S**	**18**	**09**	**42.3**	**+3.5**
	193nm,28.2s									
TBI					*e*LR	LR	18	17	58.2	
	911nm,26.8s,baz=65									
CPUP	**Villa Florida**	**56.06**	**129**	*e*P		**P**	**18**	**01**	**59.3**	**-0.2**
	0.6nm,1.1s									
PLCA	**Paso Flores**	**57.20**	**151**	P		**P**	**18**	**02**	**07.8**	**+0.3**
	4.1nm,0.9s,baz=329,slow=10,SNR=7.0									
PLCA						LR	LR	18	21	23.8	
	comp=Z,491nm,19.3s,baz=304,slow=30									
PLCA	**Paso Flores**	**57.20**	**151**	*e*P		**P**	**18**	**02**	**07.5**	**0.0**
	6.1nm,0.9s									
BDFB	**Brasilia**	**59.32**	**114**	P		**P**	**18**	**02**	**22.3**	**-0.5**
	9.2nm,0.8s,baz=278,slow=8.0,SNR=11									
BDFB						LR	LR	18	27	08.6	
	comp=Z,295nm,18.2s,baz=294,slow=35									
BDFB	**Brasilia**	**59.32**	**114**	*e*P		**P**	**18**	**02**	**22.8**	**-0.1**
TRQA	**Tornquist**	**59.87**	**143**	*e*P		**P**	**18**	**02**	**25.6**	**-0.5**
	4.5nm,0.8s									
FRB	**Frobisher Bay**	**60.47**	**17**	LR		LR	18	31	05.7	
	comp=Z,104nm,19.4s,baz=196,slow=38									
DAWY	**Dawson**	**61.35**	**343**	*e*P		**P**	**18**	**02**	**35.8**	**-0.1**
	6.7nm,1.0s									
OHAK	**Old Harbor**	**62.35**	**332**	P		P	18	02	47.3	+4.7
	72nm,1.7s									
EGAK	**Eagle**	**62.40**	**343**	*e*P		**P**	**18**	**02**	**42.3**	**-0.5**
	9.0nm,1.3s									
DOT	**Dot Lake**	**62.51**	**341**	*e*P		**P**	**18**	**02**	**43.1**	**-0.6**
	7.5nm,1.0s									
SCRK	**Sand Creek**	**62.71**	**341**	*e*P		**P**	**18**	**02**	**44.9**	**-0.2**
	17nm,1.6s									
INK	**Inuvik**	**63.22**	**348**	LR		LR	18	28	38.1	
	comp=Z,287nm,21.2s,baz=125,slow=34									
INK	**Inuvik**	**63.22**	**348**	*e*P		**P**	**18**	**02**	**48.0**	**-0.2**

RND	**Reindeer**	**64.00**	**339**	*e*P		**P**	**18**	**02**	**53.9**	**+0.3**
	35nm,1.4s									
IL1	**Eielson Array**	**64.19**	**341**	*e*P		**P**	**18**	**02**	**52.8**	**-1.8**
ILAR	**Eielson Array**	**64.19**	**341**	P		**P**	**18**	**02**	**53.5**	**-1.2**
	4.8nm,1.0s,baz=152,slow=4.8,SNR=25									
ILAR					LR	LR	18	30	37.7	
	comp=Z,116nm,19.0s,baz=128,slow=36									
MCK	**McKinley**	**64.23**	**339**	*e*P		**P**	**18**	**02**	**53.9**	**-1.1**
	9.0nm,1.0s									
CCB	**Clear Creek Bu**	**64.41**	**340**	*e*P		**P**	**18**	**02**	**55.3**	**-0.9**
	8.5nm,1.3s									
TRF	**Thorofare Moun**	**64.54**	**338**	*e*P		P	18	03	03.3	+6.1
	34nm,1.7s									
PPLA	**Purkeypile**	**64.92**	**337**	*e*P		**P**	**18**	**02**	**58.5**	**-1.2**
	67nm,1.6s									
SVW2	**Sparrevohn**	**65.33**	**335**	*e*P		**P**	**18**	**03**	**00.5**	**-1.7**
MLY	**Manley**	**65.64**	**340**	*e*P		**P**	**18**	**03**	**03.5**	**-0.7**
	26nm,1.6s									
COLD	**Coldfoot**	**66.79**	**342**	*e*P		**P**	**18**	**03**	**10.1**	**-1.4**
	32nm,1.9s									
RCBR	**Riachuelo**	**68.23**	**100**	*e*P		**P**	**18**	**03**	**22.1**	**+0.5**
	24nm,1.1s									
EFI	**East Falkland**	**71.08**	**152**	P		**P**	**18**	**03**	**35.7**	**-2.6**
	39nm,1.1s									
MIDW	**Midway**	**72.48**	**297**	P		**P**	**18**	**03**	**49.0**	**+1.7**
SUMG	**Summit**	**74.54**	**16**	P		**P**	**18**	**03**	**58.8**	**-0.3**
	11nm,1.1s									
PETK	**Petropavlovsk-**	**89.00**	**324**	LR		LR	18	37	11.8	
	comp=Z,55nm,21.5s,baz=91,slow=30									
ESDC	**Sonseca Array**	**91.50**	**50**	LR		LR	18	40	29.5	
	comp=Z,111nm,21.8s,baz=300,slow=32									
TIXI	**Tiksi**	**93.27**	**346**	*e*P		**P**	**18**	**05**	**33.0**	**-1.6**
	9.3nm,1.1s									
NOA	**NORSAR Array B**	**94.02**	**26**	LR		LR	18	46	04.5	
	comp=Z,124nm,21.4s,baz=285,slow=34									
ARCES	**ARCESS Array B**	**94.63**	**16**	LR		LR	18	48	17.8	
	comp=Z,109nm,21.6s,baz=308,slow=35									
DBIC	**Dimbokro**	**96.90**	**82**	LR		LR	18	47	15.2	
	comp=Z,64nm,19.9s,baz=306,slow=34									
BJI	**Beijing**	**119.84**	**326**	PKP		**PKPdf**	**18**	**11**	**10.4**	**-0.6**
BJI				SS		SS	18	28	57.8	+0.2
BJI				LN						
	72nm,17.6s									
BJI				LE						
	76nm,20.2s									
BJI				LZ						
	59nm,25.0s									
HHC	**Hu-ho-hao-te**	**121.67**	**330**	*e*PKP		**PKPdf**	**18**	**11**	**14.1**	**-0.6**
HHC				PP		**PP**	**18**	**12**	**49.8**	**+3.5**
HHC				SKS		**SKSdf**	**18**	**18**	**21.1**	**-5.0**
HHC				SS		**SS**	**18**	**29**	**26.9**	**+5.6**
HHC				PPMZ						
	48nm,9.9s									
HHC				LN						
	94nm,18.5s									
HHC				LE						
	67nm,14.8s									
HHC				LZ						
	66nm,19.7s									
NJ2	**Nanjing**	**123.43**	**317**	*e*PKP		**PKPdf**	**18**	**11**	**18.8**	**+0.7**
WRA	**Warramunga Arr**	**123.60**	**252**	PKP		**PKPdf**	**18**	**11**	**16.8**	**-2.0**
	0.6nm,0.9s,baz=90,slow=2.7,SNR=4.4									
ASAR	**Alice Springs**	**123.71**	**247**	PKP		**PKPdf**	**18**	**11**	**16.2**	**-2.7**
	0.5nm,0.9s,baz=79,slow=2.0,SNR=5.0									
WMQ	**Urumqi**	**127.19**	**350**	*e*PKP		**PKPdf**	**18**	**11**	**25.1**	**0.0**
WMQ				LN						
	86nm,22.2s									
WMQ				LE						
	69nm,23.6s									
WMQ				LZ						
	60nm,22.2s								

ILB	**Eielson Array**	**2.72**	**29**	P		**Pn**	**18 12 29.7**	**+0.3**
WASW	**Wrangell South**	**2.78**	**98**	P		**Pn**	**18 12 31.2**	**+0.7**
TT01	**Tatalina**	**2.81**	**282**	P		**Pn**	**18 12 30.2**	**-0.5**
ILW	**Iliamna West**	**2.83**	**214**	P		**Pn**	**18 12 31.2**	**0.0**
MENT	**Mentasta**	**2.94**	**78**	*e*Pn		**Pn**	**18 12 32.9**	**+0.4**
DOT	**Dot Lake**	**2.96**	**63**	P		**Pn**	**18 12 33.7**	**+0.9**
BMRM	**Bremner River**	**2.97**	**118**	P		**Pn**	**18 12 32.4**	**-0.5**
SVW2	**Sparrevohn**	**2.98**	**245**	P		**Pn**	**18 12 32.5**	**-0.5**
SCRK	**Sand Creek**	**3.13**	**58**	P		**Pn**	**18 12 36.1**	**+1.1**
GOAT	**Goat Mountain**	**3.15**	**124**	P		**Pn**	**18 12 34.6**	**-0.7**
OPT	**Oil Point**	**3.21**	**211**	P		**Pn**	**18 12 36.5**	**+0.3**
VRDI	**Verde Repeater**	**3.34**	**109**	P		**Pn**	**18 12 37.9**	**-0.1**
PS06	**TAPS Pump Stn6**	**3.42**	**2**	P		**Pn**	**18 12 40.0**	**+1.0**
AUP	**Augustine Pinn**	**3.52**	**210**	P		**Pn**	**18 12 41.7**	**+1.3**
AUW	**Augustine West**	**3.52**	**210**	P		**Pn**	**18 12 40.9**	**+0.5**
AUI	**Augustine Isla**	**3.54**	**210**	P		**Pn**	**18 12 42.2**	**+1.5**
PTPK	**Patty Peak**	**3.79**	**106**	P		**Pn**	**18 12 44.5**	**+0.2**
BCA3	**Beaver Creek A**	**3.83**	**77**	P		**Pn**	**18 12 45.2**	**+0.6**
IM04	**Indian Mountai**	**3.91**	**337**	*e*Pn		**Pn**	**18 12 45.7**	**+0.1**
IM04				*e*Sn		**Sn**	**18 13 28.3**	**-1.9**
IM3	**Indian Mountai**	**3.91**	**337**	P		**Pn**	**18 12 46.0**	**+0.4**
KIAG	**Kiagna River**	**3.95**	**109**	P		**Pn**	**18 12 45.6**	**-0.8**
ISLE	**Juniper Island**	**4.11**	**113**	P		**Pn**	**18 12 47.8**	**-0.7**
BARK	**Barkley Ridge**	**4.15**	**116**	P		**Pn**	**18 12 49.0**	**0.0**
BARN	**Barnard Glacie**	**4.20**	**106**	P		**Pn**	**18 12 50.1**	**+0.3**
GRNC	**Granite Creek**	**4.30**	**110**	P		**Pn**	**18 12 51.5**	**+0.4**
PS05	**TAPS Pump Stn5**	**4.39**	**357**	P		**Pn**	**18 12 53.4**	**+1.2**
EGAK	**Eagle**	**4.59**	**55**	*e*Pn		**Pn**	**18 12 55.5**	**+0.6**
RKAV	**Rock Avalanche**	**4.69**	**114**	P		**Pn**	**18 12 56.0**	**-0.4**
COLD	**Coldfoot**	**4.80**	**359**	P		**Pn**	**18 12 58.7**	**+1.0**
KVTA	**Katmai Vly 10**	**4.85**	**215**	P		**Pn**	**18 12 59.1**	**+0.6**
KDAK	**Kodiak Island**	**4.86**	**197**	P		**Pn**	**18 12 58.7**	**+0.2**
KCE	**Katmai Mt Cerb**	**4.94**	**214**	P		**Pn**	**18 13 00.0**	**+0.3**
KABR	**Katmai Barrier**	**4.99**	**212**	P		**Pn**	**18 13 00.5**	**+0.1**
DAWY	**Dawson**	**5.06**	**67**	P		**Pn**	**18 13 02.4**	**+1.0**
BM3	**Burnt Mountain**	**5.49**	**22**	P		**Pn**	**18 13 08.1**	**+0.8**
OHAK	**Old Harbor**	**5.50**	**199**	P		**Pn**	**18 13 05.4**	**-1.9**
TNA	**Tin City**	**8.46**	**299**	*e*Pn		**Pn**	**18 13 48.0**	**+0.3**
INK	**Inuvik**	**9.02**	**42**	P		**Pn**	**18 13 57.2**	**+1.9**
	0.1nm,0.3s,baz=248,slow=15,SNR=2.5							
INK				S		**Sn**	**18 15 33.8**	**-1.3**
	0.2nm,0.3s,baz=19,slow=18,SNR=3.2							
RES	**Resolute Bay**	**22.45**	**35**	P		**P**	**18 16 40.1**	**-0.6**
	1.9nm,0.9s,baz=281,slow=5.2,SNR=3.1							
SEY	**Seymchan**	**25.69**	**297**	P		**P**	**18 17 11.8**	**+0.9**
	0.3nm,0.3s,baz=58,slow=9.5,SNR=5.9							
NVAR	**Mina Array Bea**	**30.83**	**126**	P		**P**	**18 17 57.8**	**+0.6**
	0.3nm,0.5s,baz=308,slow=4.4,SNR=2.4							
ARCES	**ARCESS Array B**	**48.26**	**2**	P		**P**	**18 20 20.9**	**-0.2**
	3.4nm,1.0s,baz=346,slow=10,SNR=3.0							
SONM	**Songino Array**	**54.51**	**306**	P		**P**	**18 21 09.0**	**+0.7**
	0.3nm,0.5s,baz=46,slow=6.2,SNR=3.9							
MKAR	**Makanchi Array**	**63.39**	**323**	P		**P**	**18 22 08.3**	**-1.2**
	0.3nm,0.5s,baz=30,slow=4.0,SNR=6.6							
AKASG	**Malin Array Be**	**67.20**	**1**	P		**P**	**18 22 33.1**	**-0.9**
	0.5nm,0.4s,baz=2.7,slow=6.1,SNR=3.9							

SKHL 21 18:15:35.9±0.4, 52°30N×122°62E, h27km±5km, mb3.6/5, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUP	**Tupik**	**2.66**	**324**	*e*Pn	Pn	18 16 18.2	+1.1
TUP				*e*Pg	Pb	18 16 24.7	+1.8
TUP				AMB	AMB	18 16 25.9	
	12nm,0.3s						
TUP				*e*Sg	Sb	18 16 59.8	+4.6
TUP				A	A	18 17 04.5	
	25nm,0.6s						
TNDR	**Tynda**	**3.11**	**23**	*e*Pn	Pn	18 16 24.1	+0.9
TNDR				*e*Sn	Sn	18 17 01.4	+1.8
TNDR				*e*Sg	Sb	18 17 14.4	+6.3
ZEA	**Zeya**	**3.15**	**61**	*e*Pn	Pn	18 16 23.4	-0.2
ZEA				*e*Pg	Pb	18 16 33.4	+2.3
ZEA				AMB	AMB	18 16 34.5	
	10.0nm,0.4s						
ZEA				*e*Sg	Sb	18 17 15.0	+6.0
ZEA				A	A	18 17 19.3	
	39nm,0.6s						
ZEA				A	A	18 17 19.3	
	19nm,0.6s						
ZEA				A	A	18 17 19.3	
	10.0nm,0.6s						
KROS	**Kirovskiy**	**3.37**	**49**	*e*Pn	Pn	18 16 26.0	-0.8
KROS				*e*Pg	Pb	18 16 36.4	+1.5
KROS				AMB	AMB	18 16 37.7	
	10.0nm,0.4s						
KROS				*e*rx	rx	18 16 42.0	
KROS				pPg		18 16 43.5	
KROS				*e*Sn	Sn	18 17 06.2	+0.3
KROS				*e*Sg	Sb	18 17 20.0	+4.5
KROS				A	A	18 17 23.0	
	18nm,0.5s						
IENR	**Iengra**	**4.14**	**18**	*e*Sg	Sb	18 17 46.9	+9.1
YKLR	**Yuktali**	**4.34**	**353**	*e*Sg	Sb	18 17 51.9	+8.7
BMKR	**Bomnak**	**4.43**	**55**	*e*Pn	Pn	18 16 40.4	-0.9
BMKR				*e*Pg	Pb	18 16 55.5	+2.5
BMKR				AMB	AMB	18 16 56.4	
	4.0nm,0.5s						
BMKR				pPg		18 17 03.5	
BMKR				*e*Sn	Sn	18 17 30.8	-1.1
BMKR				*e*Sg	Sb	18 17 54.0	+8.1
BMKR				A	A	18 17 57.7	
	11nm,0.4s						
KHN	**Khani**	**4.91**	**342**	*e*rx	rx	18 16 48.3	
KHN				*e*Sg	Sb	18 18 08.2	+8.3
CRS	**Chara**	**5.26**	**333**	*e*Pg	Pb	18 17 12.8	+5.7
CRS				AMB	AMB	18 17 14.9	
	5.0nm,0.8s						
CRS				*e*Sg	Sb	18 18 20.6	+11
CRS				A	A	18 18 27.3	
	14nm,1.3s						
NLYR	**Nelyaty**	**5.83**	**319**	*e*Pg	Pb	18 17 22.6	+5.9
NLYR				*e*Sg	Sb	18 18 38.5	+12
UKT	**Uakit**	**6.20**	**305**	*e*Pn	Pn	18 17 05.7	0.0
UKT				*e*Pg	Pb	18 17 28.2	+5.0
UKT				*e*Sn	Sn	18 18 17.8	+2.0
UKT				*e*Sg	Sb	18 18 49.1	+12
EKMR	**Ekimchan**	**6.33**	**79**	*e*Sg	Sb	18 18 52.0	+11
EKMR				A	A	18 19 03.5	
	4.0nm,0.5s						
YLYR	**Ulyunkhan**	**7.29**	**295**	*e*Pn	Pn	18 17 21.6	+1.0
YLYR				*e*Pg	Pb	18 17 46.9	+5.2
YLYR				*e*Sg	Sb	18 19 22.5	+14

*MAN **21** 18:41:36.5°84N×125°42E, h41km, mb4.9, ML3.8, MS3.9*
*ISCJB **21** 18:41:38.0±0.4, 6°04N±0.03×125°39E±0.06, h111km, mb3.8/13, Error ellipse: s-maj=9.1km s-min=4.0km az=5.4*
*DJA **21** 18:41:39.8±2.9, 6°N±15°×12°5E±°, h22km±56km, M4.7/7, mb4.5/7, mB5.0/4, MLv4.9/7, Mw(mB)4.4/4*
*IDC **21** 18:41:40.2±6.3, 5.98N×125°.50E, h111km±66km, mb3.5/12, mb1 3.6/13, mb1mx3.4/32, mbtmp3.9/13, Error ellipse: s-maj=26.7km s-min=12.8km az=88.0*

ISC 21 18:41:39.8±0.6, 6°01N±0.04×125°35E±0.08, h111km, n29, σ2^{9}09/34, mb3.9/13, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.29**	**44**	*e*P	Pn	18 41 60.0	-4.3
CTBH	**Cotabato--PC H**	**1.63**	**318**	↓*i*P	**Pn**	**18 42 05.4**	**-2.8**
BUKP	**Musuan**	**1.88**	**351**	*e*P	**Pn**	**18 42 09.3**	**-2.1**
BUKP				*e*S	**Sn**	**18 42 33.9**	**-1.5**
SGSI	**Sangihe**	**2.32**	**176**	P	**Pn**	**18 42 14.8**	**-2.2**
SGSI				S	**Sn**	**18 42 41.4**	**-4.0**
BIPH	**Bislig**	**2.38**	**25**	↑*i*P	**Pn**	**18 42 15.0**	**-2.6**
BIPH				*i* S	**Sn**	**18 42 42.7**	**-4.0**
CGP	**Cagayan de Oro**	**2.51**	**345**	*e*P	**Pn**	**18 42 17.6**	**-1.9**
PAGZ	**Pagadian**	**2.67**	**313**	*e*P	**Pn**	**18 42 20.9**	**-0.7**
PAGZ				*e*S	**Sn**	**18 42 50.1**	**-3.5**
BUTP	**Butuan**	**2.95**	**5**	*e*P	**Pn**	**18 42 24.4**	**-0.8**
BUTP				*e*S	**Sn**	**18 43 01.0**	**+0.9**
KMSI	**Cibinong**	**5.58**	**194**	P	**Pn**	**18 43 03.0**	**+2.5**
	99nm,0.9s,0.9nm						
MRSI	**Marisa**	**6.47**	**212**	P	**Pn**	**18 43 11.3**	**-1.3**
	59nm,0.7s,2μm1.4nm						
MRSI				S	**Sn**	**18 44 20.0**	**-5.0**
	59nm,0.7s,2μm1.4nm						
LUWI	**Luwuk**	**7.47**	**200**	P	**Pn**	**18 43 27.8**	**+1.7**
	55nm,1.0s,1μm0.7nm						
LUWI				S	**Sn**	**18 44 52.2**	**+2.9**
	55nm,1.0s,1μm0.7nm						
APSI	**Ampana**	**7.81**	**208**	P	**Pn**	**18 43 31.2**	**+0.4**
	33nm,0.7s,683nm0.5nm						
SANI	**Sanana**	**8.04**	**175**	P	Pn	18 43 30.0	-3.8
	15nm,0.7s,849nm0.1nm						
PCI	**Palu**	**8.81**	**219**	P	**Pn**	**18 43 43.1**	**-1.2**
	18nm,1.3s						
MSAI	**Masohi**	**9.96**	**159**	P	**Pn**	**18 44 00.6**	**+0.7**
BATI	**Baumata**	**16.20**	**186**	P	**Pn**	**18 45 21.6**	**+0.4**
	1.4nm,0.3s,baz=349,slow=4.3,SNR=10						
LEM	**Lembang**	**21.82**	**234**	P	**P**	**18 46 25.7**	**+2.3**
	16nm,0.7s,baz=342,slow=20,SNR=6.1						
JCJ	**Chichijima**	**26.39**	**36**	P	**P**	**18 47 05.3**	**-0.7**
	18nm,0.6s,baz=266,slow=16,SNR=7.8						
WRA	**Warramunga Arr**	**27.27**	**161**	P	**P**	**18 47 13.1**	**-0.8**
	0.9nm,0.7s,baz=339,slow=9.7,SNR=11						
ASAR	**Alice Springs**	**30.66**	**164**	P	**P**	**18 47 43.5**	**-0.4**
	0.3nm,0.5s,baz=340,slow=7.1,SNR=14						
KSRS	**Korea Array**	**31.38**	**4**	P	**P**	**18 47 50.9**	**+0.8**
	1.4nm,0.7s,baz=184,slow=10,SNR=17						
MJAR	**Matsushiro Arr**	**32.59**	**19**	P	**P**	**18 47 60.0**	**-0.7**
	0.5nm,0.5s,baz=193,slow=9.4,SNR=4.1						
USRK	**Ussuriysk Ar.**	**38.48**	**8**	P	**P**	**18 48 51.3**	**+0.3**
	1.5nm,0.8s,baz=171,slow=12,SNR=4.0						
STKA	**Stephens Creek**	**40.74**	**159**	P	**P**	**18 49 09.9**	**0.0**
	2.1nm,0.8s,baz=192,slow=15,SNR=4.0						
ASAJ	**Asahikawa**	**40.86**	**19**	P	**P**	**18 49 12.4**	**+1.7**
	2.5nm,0.8s,baz=252,slow=20,SNR=3.4						
SONM	**Songino Array**	**44.71**	**342**	P	**P**	**18 49 42.8**	**+0.9**
	0.1nm,0.5s,baz=191,slow=4.4,SNR=2.1						
PETK	**Petropavlovsk-**	**53.87**	**24**	P	**P**	**18 50 52.4**	**+1.0**
	1.5nm,0.6s,baz=207,slow=5.2,SNR=8.4						
MKAR	**Makanchi Array**	**54.91**	**325**	P	**P**	**18 50 59.2**	**+0.1**
	0.3nm,0.5s,baz=123,slow=4.5,SNR=4.8						
ILAR	**Eielson Array**	**83.64**	**26**	P	**P**	**18 53 55.8**	**0.0**
	1.0nm,0.7s,baz=240,slow=4.9,SNR=11						

*ISCJB **21** 18:44:05.6±0.8, 6°.52S±0°.06×130°.10E±0°.09, h146km, mb3.5/3, Error ellipse: s-maj=12.2km s-min=7.9km az=10.1*
*IDC **21** 18:44:08.4±2.2, 6°.52S×129°.99E, h152km±22km, mb3.3/3, mb1 3.3/6, mb1mx3.0/28, mbtmp3.7/6, Error ellipse: s-maj=23.4km s-min=17.3km az=86.0*

ISC 21 18:44:06.7±0.9, 6°57S±0°.07×130°.2E±0°.1, h146km, n7, σ2^{9}98/9, mb3.7/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.77**	**11**	P	**Pn**	**18 45 31.7**	**+1.4**
	1.0nm,0.3s,baz=207,slow=2.3,SNR=26						
SIJI				S	**Sn**	**18 46 32.3**	**-3.4**
	3.8nm,0.3s,baz=253,slow=23,SNR=13						
BATI	**Baumata**	**7.38**	**240**	P	**Pn**	**18 45 53.3**	**+1.4**
	2.2nm,0.3s,baz=90,slow=7.1,SNR=5.5						
BATI				S	**Sn**	**18 47 12.5**	**-1.8**
	2.8nm,0.3s,baz=175,slow=22,SNR=7.2						
WRA	**Warramunga Arr**	**13.90**	**163**	S	Sn	18 49 44.7	-6.8
	1.0nm,0.3s,baz=330,slow=23,SNR=11						
ASAR	**Alice Springs**	**17.38**	**168**	P	**P**	**18 48 00.6**	**+1.1**
	0.1nm,0.3s,baz=346,slow=11,SNR=10						
ASAR				S	**S**	**18 51 08.0**	**-5.2**
	0.1nm,0.3s,baz=357,slow=28,SNR=3.5						
STKA	**Stephens Creek**	**27.35**	**158**	P	**P**	**18 49 40.6**	**+2.4**
	0.6nm,0.3s,baz=333,slow=12,SNR=6.7						
CMAR	**Chiang Mai Arr**	**39.58**	**309**	P	**P**	**18 51 23.6**	**-0.5**
	0.2nm,0.4s,baz=133,slow=7.0,SNR=4.1						
MKAR	**Makanchi Array**	**67.96**	**327**	P	**P**	**18 54 50.1**	**+0.2**
	0.9nm,0.6s,baz=123,slow=5.6,SNR=9.8						

*ISCJB **21** 18:46:51.0±0.8, 13°57N±0°.07×91°.32W±0°.04, h29km, mb3.6/1, MS3.0/1, Error ellipse: s-maj=10.5km s-min=4.4km az=27.5*
*CASC **21** 18:46:53.2±1.7, 13°.68N×91°.13W, h13km±10km, MD4.0, ML4.1*
*IDC **21** 18:46:54.8±2.2, 13°.78N×91°.13W, h62km±21km, mb3.3/1, mb1 4.0/5, mb1mx3.5/38, mbtmp3.9/5, MS3.2/1, Ms1 3.2/1, ms1mx2.6/27, Error ellipse: s-maj=27.8km s-min=13.0km az=36.0*

ISC 21 18:46:52.6±1.0, 13°72N±0°.07×91°24W±0°.05, h29km, n26, σ1^{9}25/33, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.71**	**327**	*e*P	**Pn**	**18 47 07.9**	**+1.2**
FUG	**Fuego 3**	**0.82**	**28**	*e*P	**Pb**	**18 47 08.7**	**+0.2**
IXG	**Ixpaco**	**0.88**	**59**	*e*P	**Pn**	**18 47 08.4**	**-0.8**
PCG	**Pacaya**	**0.91**	**42**	*e*P	**Pb**	**18 47 10.6**	**+0.6**
NBG	**Las Nubes**	**1.22**	**45**	*e*P	**Pb**	**18 47 15.5**	**+0.2**
NBG				*e*S	**Sb**	**18 47 31.9**	**+1.1**
RBDL	**Robledal**	**1.55**	**75**	*e*P	**Pn**	**18 47 18.8**	**+0.3**
RTR	**El Retiro**	**1.55**	**83**	*e*P	**Pn**	**18 47 18.7**	**+0.2**
SBLS	**San Blas**	**1.57**	**85**	*e*P	**Pn**	**18 47 18.7**	**-0.1**
SNJE	**San Jose**	**1.59**	**84**	*e*P	**Pn**	**18 47 18.9**	**-0.1**
BOQS	**Boqueron**	**1.90**	**89**	*e*P	**Pn**	**18 47 23.6**	**+0.3**
BOQS				*e*S	**Sn**	**18 47 47.3**	**+0.8**
SNET	**Serv Nac Est T**	**1.95**	**91**	*e*P	**Pn**	**18 47 24.2**	**+0.3**
SNET				*e*S	**Sn**	**18 47 47.6**	**+0.2**
SNET				AML	AML	18 47 53.1	
	comp=Z,3μm,0.2s						
MRL	**Marmol**	**2.01**	**48**	*e*P	**Pn**	**18 47 26.4**	**+1.6**
LFRS	**El Faro**	**2.12**	**92**	*e*P	**Pn**	**18 47 26.8**	**+0.6**
LBRS	**Las Brisas**	**2.13**	**89**	*e*P	**Pn**	**18 47 27.2**	**+0.8**
SNVI	**San Vicente**	**2.33**	**92**	*e*P	**Pn**	**18 47 30.3**	**+1.1**
SNVI				*e*S	**Sn**	**18 47 58.4**	**+1.4**
VSM	**San Miguel**	**2.89**	**95**	*e*P	**Pn**	**18 47 38.3**	**+1.3**
CNCH	**Conchagua**	**3.34**	**97**	*e*P	**Pn**	**18 47 44.7**	**+1.7**
CNCH				*e*S	**Sn**	**18 48 23.6**	**+1.8**
COPN	**Copaltepe**	**4.78**	**108**	*e*P	**Pn**	**18 48 03.7**	**+1.0**
CMIG	**Matias Romero**	**4.86**	**314**	P	**Pn**	**18 48 04.2**	**+0.4**
	comp=Z,7.1nm,0.3s,baz=134,slow=8.6,SNR=30						
CMIG				S	**Sn**	**18 49 01.9**	**+2.7**
	comp=Z,14nm,0.3s,baz=82,slow=23,SNR=6.5						
JTS	**JuntasAbangare**	**7.03**	**118**	P	**Pn**	**18 48 35.6**	**+2.0**
	comp=Z,2.0nm,0.3s,baz=277,slow=14,SNR=6.5						
JTS				S	**Sn**	**18 49 52.6**	**-0.1**
	comp=Z,1.5nm,0.3s,baz=180,slow=20,SNR=1.8						
TEIG	**Tepich**	**7.06**	**23**	P	**Pn**	**18 48 34.0**	**-0.1**
	comp=Z,6.5nm,0.3s,baz=209,slow=13,SNR=25						
TEIG				S	**Sn**	**18 49 52.4**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=216,slow=23,SNR=5.7						
TEIG				Lg	Lg	18 50 36.5	
	baz=294,slow=20,SNR=2.2						
TXAR	**Lajitas Array**	**19.34**	**325**	P	**P**	**18 51 16.2**	**+0.2**
	baz=142,slow=12,SNR=4.7						
TKL	**Tuckaleechee C**	**22.86**	**16**	LR	LR	19 00 46.6	
	comp=Z,63nm,21.3s,baz=286,slow=36						
NVAR	**Mina Array Bea**	**34.36**	**321**	P	**P**	**18 53 36.9**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=128,slow=9.6,SNR=3.6						
WRA	**Warramunga Arr**	**136.04**	**255**	PKP	**PKPdf**	**19 06 08.8**	**-3.1**
	comp=Z,0.4nm,0.8s,baz=85,slow=3.0,SNR=3.7						
CMAR	**Chiang Mai Arr**	**146.49**	**342**	PKPbc	**PKPdf**	**19 06 28.6**	**-2.1**
	comp=Z,1.5nm,0.9s,baz=339,slow=3.1,SNR=10						

*ISCJB **21** 18:48:02.1±1.1, 43°.3N±0°.2×69°.8E±0°.1, h10km, Error ellipse: s-maj=29.0km s-min=5.2km az=30.3*
*NNC **21** 18:48:03.0±2.9, 43°.50N×69°.88E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=57.5km s-min=14.6km az=43.0*

ISC 21 18:48:04.0±1.1, 43°46N±0°.08×69°.94E±0°.07, h10km, n23, σ1^{9}60/33, 15C-17D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK09	**Karatay Array**	**0.53**	**130**	↑P	**Pg**	**18 48 13.0**	**-1.3**
KK09				↓S	**Sg**	**18 48 20.1**	**-1.3**
KK08	**Karatay Array**	**0.54**	**132**	↓P	**Pg**	**18 48 12.9**	**-1.6**
KK08				↑S	**Sg**	**18 48 19.9**	**-1.6**
KK04	**Karatay Array**	**0.54**	**130**	↑P	**Pg**	**18 48 13.1**	**-1.5**
KK04				↓S	**Sg**	**18 48 20.5**	**-1.2**
KK03	**Karatay Array**	**0.55**	**131**	↓P	**Pg**	**18 48 13.0**	**-1.6**
KK03				↓S	**Sg**	**18 48 20.7**	**-1.1**
KK01	**Karatay Array**	**0.55**	**131**	↓P	**Pg**	**18 48 13.1**	**-1.5**
KK01				↓S	**Sg**	**18 48 20.6**	**-1.2**
KK05	**Karatay Array**	**0.55**	**129**	↑P	**Pg**	**18 48 13.2**	**-1.5**
KK05				↑S	**Sg**	**18 48 20.7**	**-1.2**
KK02	**Karatay Array**	**0.55**	**131**	↑P	**Pg**	**18 48 13.1**	**-1.6**
KK02				↑S	**Sg**	**18 48 20.9**	**-1.1**
KK31	**Karatay Array**	**0.55**	**131**	↑P	**Pg**	**18 48 13.2**	**-1.5**
	20nm,0.3s,baz=258,slow=8.7,SNR=1505						
KK31				↑S	**Sg**	**18 48 20.6**	**-1.3**
	64nm,0.3s,baz=288,slow=29,SNR=58						
KK07	**Karatay Array**	**0.56**	**132**	↑P	**Pg**	**18 48 13.1**	**-1.7**
KK07				↑S	**Sg**	**18 48 20.1**	**-2.0**
KK06	**Karatay Array**	**0.56**	**131**	↑P	**Pg**	**18 48 13.3**	**-1.7**
KK06				↑S	**Sg**	**18 48 21.2**	**-1.2**
MNAS	**Manas**	**2.12**	**117**	↑Pn	**Pn**	**18 48 40.9**	**+1.3**
	5.3nm,0.4s						
MNAS				↑Sn	**Sb**	**18 49 10.1**	**+1.0**
	43nm,0.5s						
EKS2	**Erkin-Say**	**2.92**	**105**	P	**Pg**	**18 48 59.2**	**-0.8**
	SNR=5.7						
USP	**Ospenovka**	**3.33**	**92**	P	**Pg**	**18 49 05.8**	**-2.1**
	SNR=7.8						
AAK	**Ala-Archa**	**3.44**	**102**	P	**Pb**	**18 49 06.8**	**+1.7**
	SNR=14						
AAK	**Ala-Archa**	**3.44**	**102**	↓Pg	**Pg**	**18 49 08.0**	**-1.9**
	5.0nm,0.4s						
AAK				↓Lg	Lg	18 49 52.1	
	15nm,0.5s						
CHMS	**Chumysh**	**3.55**	**96**	P	**Pg**	**18 49 12.4**	**+0.5**
	SNR=7.5						
UCH	**Uchtor**	**3.58**	**109**	P	**Pb**	**18 49 08.6**	**+0.8**
	SNR=6.1						
TKM2	**Tokmak 2**	**4.17**	**96**	P	**Pg**	**18 49 23.3**	**-0.6**
	SNR=6.9						
TKM2	**Tokmak 2**	**4.17**	**96**	↓Pg	**Pg**	**18 49 22.2**	**-1.8**
	3.0nm,0.6s						
TKM2				↓Lg	Lg	18 50 16.3	
	6.5nm,0.5s						
SFK	**Sufi-Kurgan**	**4.36**	**141**	↓Pg	**Pb**	**18 49 23.4**	**+2.6**
	0.7nm,0.3s						
SFK				↓Lg	Lg	18 50 16.8	
	2.8nm,0.4s						
PDGK	**Podgornoye**	**6.96**	**88**	↓Lg	Lg	18 51 44.8	
	6.4nm,0.9s						
AB31	**Akbulak array**	**9.02**	**313**	↓Pn	**Pn**	**18 50 15.3**	**+1.1**
	0.2nm,0.3s,baz=326,slow=12,SNR=3.2						
AB31				↓Sn	**Sn**	**18 51 52.8**	**-2.8**
	0.3nm,0.4s,baz=113,slow=25,SNR=3.4						
MK31	**Makanchi Array**	**9.34**	**65**	↓Pn	Pn	18 50 21.9	+3.2
	0.8nm,0.6s,baz=253,slow=15,SNR=12						

*SJA **21** 18:52:06.7±1.1, 34°.48S×72°.51W, h190km±31km, ML5.4, Fault plane solution: NP1:φs25.00000°, δ8.00000°, λ91.00000°.*
*IDC **21** 18:52:06.5±0.3, 34°.56S×71°.72W, h0km, mb5.3/33, mb1 5.4/35, mb1mx5.4/39, mbtmp5.3/35, ML5.1/2, MS4.8/16, Ms1 4.8/16, ms1mx4.6/19, Error ellipse: s-maj=13.8km s-min=9.6km az=85.0*
*NEIC **21** 18:52:06.0, 34°.64S×71°.97W, h7km, mb5.7/186, MS4.9/128, ML5.6(GUC), After GUC.*
NEIC Felt [V] at Constitucion, Paredones and Pichilemu; [IV] at Curepto, Curico, Linares, Longavi, Molina, Navidad, Rancagua, Rio Claro, San Fernando, Santa Cruz and Valparaiso; [III] at Algarrobo, Casablanca, Chimbarongo, San Clemente, San Felipe, San Javier, Santiago and Talca; [II] at Cauquenes, Coelemu, Concepcion, Puchuncavi and Vina del Mar. Felt in much of central Chile and at San Rafael, Argentina.
*GUC **21** 18:52:07.2±0.7, 34°.64S×71°.98W, h26km±15km*
*ISCJB **21** 18:52:09.5±0.8, 34°.49S±0°.02×71°.68W±0°.05, h29km±5km, mb5.6/217, MS4.8/160, Error ellipse: s-maj=6.5km s-min=4.0km az=168.9*
*MOS **21** 18:52:11.2±1.1, 34°.35S×71°.74W, h33km, mb5.7/71, MS4.8/47, Error ellipse: s-maj=13.3km s-min=6.6km az=100.2*
*BJI **21** 18:52:11.7, 34°.50S×71°.60W, h33km, mB5.5/48, Ms5.3/47, Ms7 5.1/47*
*GCMT **21** 18:52:12.1±0.1, 34°.75S×72°.09W, h12km, MW5.3/111, Moment Tensor Solution. s72,c110; s111,c210; Duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; Mrr-1.13±.01; Mθθ0.17±.01; Mφφ0.95±.02; Mrθ0.13±.04; Mrφ0.49±.01; Mθφ0.25±.04; Best double couple: Mo1.19700×10^{17} NP1:φs206.00000°, δ52.00000°, λ-90.00000°. NP2:φs25.00000°, δ38.00000°, λ-91.00000°. Principal axes: T 1.2300, Plg7.0000°, Azm296.0000°; N -0.0640, Plg0.0000°, Azm26.0000°; P -1.1640, Plg83.0000°, Azm118.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 21 18:52:10.6±0.7, 34°.55S±0°.03×71°.70W±0°.05, h27km±4km, n1247, σ1^{9}01/1241, mb5.7/217, MS4.9/160, 248C-241D, Near coast of central Chile

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

LPAZ **La Paz** 18.46 11 *e*Pn P 18 56 24.2 -0.7
comp=Z,81nm,0.9s
EFI **East Falkland** 19.75 154 P P 18 56 38.2 0.0
comp=Z,749nm,0.6s,SNR=7.1
EFI **East Falkland** 19.75 154 *c i*P P 18 56 37.5 -0.7
EFI pmax pmax
comp=Z,265nm,1.0s
EFI **East Falkland** 19.75 154 *e*P P 18 56 37.7 -0.5
comp=Z,87nm,0.7s
USHA **Ushuaia** 20.41 175 P P 18 56 44.8 -0.5
comp=Z,74nm,0.9s,baz=345,slow=10,SNR=18
USHA LR LR 19 05 39.5
comp=Z,2μm,19.3s,baz=334,slow=40
SIV **San Ignacio** 20.80 30 P P 18 56 50.1 +0.2
comp=Z,47nm,0.8s,baz=225,slow=12,SNR=89
SIV LR LR 19 05 44.8
comp=Z,1μm,20.0s,baz=228,slow=39
NNA **Nana** 22.94 347 P P 18 57 13.2 +0.5
comp=Z,607nm,0.9s,SNR=5.4
NNA **Nana** 22.94 347 P P 18 57 13.3 +0.5
comp=Z,83nm,0.9s,baz=178,slow=11,SNR=20
NNA LR LR 19 04 32.3
comp=Z,2μm,18.9s,baz=173,slow=32
NNA **Nana** 22.94 347 *e*P P 18 57 11.1 -1.7
NNA pmax pmax
comp=Z,104nm,0.9s
NNA **Nana** 22.94 347 *e*P P 18 57 11.1 -1.7
comp=Z,104nm,0.9s
SAML **Samuel** 26.65 19 *e*P P 18 57 47.2 +0.1
comp=Z,27nm,0.9s
SAML LR LR
comp=Z,2μm,20.0s
BDFB **Brasilia** 28.42 54 P P 18 58 02.3 -0.9
comp=Z,17nm,0.6s,baz=212,slow=8.3,SNR=12
BDFB LR LR 19 10 53.7
comp=Z,2μm,18.6s,baz=222,slow=40
BDFB **Brasilia** 28.42 54 P P 18 58 02.3 -0.9
BDFB pmax pmax
comp=Z,17nm,0.6s
BDFB MLR MLR
comp=Z,2μm,18.7s
BDFB **Brasilia** 28.42 54 *e*P P 18 58 02.9 -0.3
PMSA **Palmer Station** 30.62 174 P P 18 58 22.1 +0.1
HOPE **Hope Point** 31.50 140 PFAKE 18 58 40.0 +10
HOPE LR LR
comp=Z,4μm,19.0s
RPN **Rapa Nui** 33.00 273 LR LR 19 08 39.8
comp=Z,1μm,19.6s,baz=104,slow=30
OTAV **Otavalo** 35.17 348 *e*P P 18 59 04.8 +1.9
comp=Z,125nm,1.8s
OTAV *e*PcP PcP 19 01 34.8 +1.0
OTAV LR LR
comp=Z,1μm,20.0s
PTGA **Pitinga** 35.38 21 P P 18 59 03.9 -0.3
comp=Z,48nm,0.7s,baz=202,slow=9.7,SNR=88
PTGA PcP PcP 19 01 34.1 +0.2
comp=Z,14nm,0.9s,baz=222,slow=4.5,SNR=4.0
PTGA **Pitinga** 35.38 21 *e*P P 18 59 04.1 0.0
comp=Z,54nm,0.8s
PTGA PcP PcP 19 01 34.1 +0.2
PAYG **Puerto Ayora** 37.91 329 *e*P P 18 59 25.3 -0.4
comp=Z,279nm,1.6s
PAYG LR LR
comp=Z,2μm,20.0s
ROSC **El Rosal** 39.27 356 P P 18 59 40.2 +2.7
comp=Z,15nm,0.6s,baz=255,slow=3.4,SNR=10
ROSC LR LR 19 16 53.1
comp=Z,1μm,18.1s,baz=191,slow=38
ROSC **El Rosal** 39.27 356 P P 18 59 36.8 -0.7
SDV **Santo Domingo** 43.20 2 *e*P P 19 00 09.0 -0.6
comp=Z,23nm,0.9s
SDV *e*PcP PcP 19 01 58.6 -0.1
SDV LR LR
comp=Z,965nm,20.0s
RCBR **Riachuelo** 43.70 57 P P 19 00 14.5 +1.0
comp=Z,21nm,0.9s,baz=218,slow=12,SNR=14
RCBR PcP PcP 19 02 01.3 +1.0
comp=Z,6.5nm,0.7s,baz=190,slow=4.2,SNR=3.2
RCBR **Riachuelo** 43.70 57 *e*P P 19 00 13.1 -0.4
comp=Z,94nm,1.4s
RCBR PcP PcP 19 02 01.3 +1.0
RCBR LR LR
comp=Z,2μm,21.0s
BCIP **Isla Barro Col** 44.15 348 *e*P P 19 00 16.1 -0.9
comp=Z,75nm,1.3s
BCIP LR LR
comp=Z,720nm,19.0s
PCRV **Puerto La Cruz** 44.98 10 P P 19 00 23.5 -0.1
comp=Z,38nm,0.9s,baz=60,slow=6.2,SNR=7.9
PCRV PcP PcP 19 02 06.3 +1.7
comp=Z,24nm,1.0s,baz=149,slow=2.1,SNR=3.1
JTS **JuntasAbangare** 46.33 342 P P 19 00 35.1 +0.8
comp=Z,12nm,1.0s,baz=113,slow=6.2,SNR=5.1
JTS PcP PcP 19 02 09.7 +0.4
comp=Z,13nm,0.9s,baz=329,slow=23,SNR=3.7
JTS **JuntasAbangare** 46.33 342 *e*P P 19 00 33.3 -1.0
JTS pmax pmax
comp=Z,26nm,1.1s
JTS **JuntasAbangare** 46.33 342 *e*P P 19 00 35.4 +1.1
comp=Z,32nm,1.2s
JTS PcP PcP 19 02 09.7 +0.4
JTS LR LR
comp=Z,536nm,20.0s
GRGR **Grenville** 47.39 13 PFAKE 19 00 50.0 +7.4
GRGR LR LR
comp=Z,686nm,20.0s
TRIS **Tristan da Cun** 47.55 111 PFAKE 19 01 00.0 +16
TRIS LR LR
comp=Z,3μm,22.0s
VNA3 **Neumayer Olymp** 48.75 158 P P 19 00 52.8 +0.2
VNA1 **Neumayer--Stat** 49.06 157 P P 19 00 55.6 +0.7
VNA2 **Neumayer--Watz** 49.40 157 P P 19 00 57.8 +0.3
baz=295,slow=9.6
FDF **Fort de France** 50.02 13 *e*P P 19 01 00.1 -2.7
FDF MLR MLR
comp=Z,1μm,20.0s
FDF **Fort de France** 50.02 13 *e*P P 19 01 00.1 -2.7
FDF LR LR
comp=Z,1μm,20.0s
TGUH **Tegucigalpa,Un** 50.55 340 *e*P P 19 01 07.0 +0.3
comp=Z,182nm,1.2s
TGUH LR LR
comp=Z,454nm,19.0s
SNAA **Sanae** 50.98 158 P P 19 01 07.4 -2.1
SNAA **Sanae** 50.98 158 ⇓ *i*P P 19 01 06.8 -2.7
SNAA **Sanae** 50.98 158 P P 19 01 09.2 -0.3
comp=Z,21nm,0.8s,baz=290,slow=6.4,SNR=74
SNAA **Sanae** 50.98 158 *e*P P 19 01 06.3 -3.2
SNAA pmax pmax
comp=Z,78nm,1.0s
SNAA **Sanae** 50.98 158 *e*P P 19 01 06.3 -3.2
comp=Z,78nm,1.0s
ICMP **Isla Caja de M** 52.37 6 *e*P P 19 01 19.8 -0.5
CRPR **Cabo Rojo, PR** 52.44 6 *e*P P 19 01 20.0 -0.8
comp=Z,71nm,1.1s
SABA **Saba** 52.50 10 *e*P P 19 01 20.6 -0.7
comp=Z,145nm,0.9s
OBIP **Obispado Ponce** 52.52 6 *e*P P 19 01 21.2 -0.3
comp=Z,294nm,1.9s
CELP **Cerrillos** 52.55 6 *e*P P 19 01 20.7 -1.0
LSP **Las Mesas** 52.61 6 *e*P P 19 01 21.3 -0.9
SJG **San Juan** 52.63 7 *e*P P 19 01 21.2 -1.1
SJG pmax pmax
comp=Z,45nm,1.1s
SJG MLR MLR
comp=Z,405nm,20.0s
SJG **San Juan** 52.63 7 *e*P P 19 01 21.2 -1.1
comp=Z,45nm,1.1s
SJG LR LR
comp=Z,405nm,20.0s
HUMP **Col San Antoni** 52.69 7 *e*P P 19 01 21.2 -1.4
comp=Z,47nm,1.4s
LRS **Lares** 52.74 6 *e*P P 19 01 22.3 -0.9
MTDJ **Mount Denham** 52.77 353 *e*P P 19 01 22.8 -0.6
comp=Z,132nm,1.5s
MTDJ LR LR
comp=Z,503nm,20.0s
ANWB **Willy Bob** 52.77 12 *e*P P 19 01 22.6 -0.8
comp=Z,118nm,0.6s
ANWB LR LR
comp=Z,502nm,21.0s
STVI **Saint Thomas** 52.99 8 *e*P P 19 01 20.7 -4.2
STVI *e*PcP PcP 19 02 35.6 +2.2
SDDR **Presa de Saban** 53.23 0 *e*P P 19 01 26.3 -0.5
comp=Z,18nm,0.9s
SDDR LR LR
comp=Z,583nm,20.0s

GTBY **Guantanamo Bay** 54.27 356 *e*P P 19 01 33.5 -0.8
comp=Z,51nm,1.2s
GTBY LR LR
comp=Z,664nm,20.0s
QSPA **South Pole Qui** 55.69 180 P P 19 01 44.1 -0.3
comp=Z,123nm,1.1s,baz=145,slow=4.7,SNR=5.1
QSPA **South Pole Qui** 55.69 180 *e*P P 19 01 43.7 -0.7
comp=Z,113nm,1.1s
QSPA LR LR
comp=Z,362nm,20.0s
NVL **N'lazarevskaya** 55.71 157 *e*P P 19 01 36.5 -7.7
NVL *e**PP pP 19 01 47.3 -5.3
NVL *e* 19 02 48.7
NVL pmax pmax
comp=Z,34nm,0.6s
GRTK **Grand Turk** 55.75 1 PFAKE 19 02 00.0 +15
GRTK LR LR
comp=Z,454nm,20.0s
RKT **Rikitea** 55.79 264 *e*S S 19 09 29.8 -1.1
comp=Z,488nm,26.2s
RKT *e*LR LR 19 17 46.8
comp=Z,1μm,30.0s,baz=112
RKT **Rikitea** 55.79 264 *e*T T 20 01 29.3
comp=Z,2.6nm,0.2s
CMIG **Matias Romero** 55.88 333 P P 19 01 45.4 -0.6
comp=Z,9.4nm,0.8s,baz=146,slow=2.3,SNR=12
CMIG PcP PcP 19 02 44.8 +0.2
comp=Z,6.5nm,0.9s,baz=120,slow=1.5,SNR=4.2
TEIG **Tepich** 56.70 341 P P 19 01 51.5 -0.3
comp=Z,78nm,1.0s,baz=143,slow=2.5,SNR=14
TEIG **Tepich** 56.70 341 *e*P P 19 01 51.6 -0.3
comp=Z,150nm,1.3s
TEIG LR LR
comp=Z,612nm,20.0s
ASCN **Ascension** 58.76 77 PFAKE 19 02 20.0 +13
ASCN LR LR
comp=Z,2μm,21.0s
SHEL **Horse Pasture** 61.46 90 PFAKE 19 02 40.0 +15
SHEL LR LR
comp=Z,2μm,19.0s
SBA **Scott Base** 62.60 192 *e*P P 19 02 33.0 +1.2
SBA pmax pmax
comp=Z,85nm,1.5s
SBA **Scott Base** 62.60 192 *e*P P 19 02 33.0 +1.2
comp=Z,85nm,1.5s
VNDA **Vanda** 63.62 191 P P 19 02 39.4 +0.8
comp=Z,19nm,0.8s,baz=128,slow=6.5,SNR=35
VNDA LR LR 19 26 20.5
comp=Z,201nm,21.4s,baz=125,slow=32
VNDA PKPPKP P'P'df 19 31 36.4 -3.8
comp=Z,3.0nm,1.1s,baz=292,slow=5.1,SNR=7.0
VNDA **Vanda** 63.62 191 *e*P P 19 02 39.1 +0.6
comp=Z,33nm,1.0s
VNDA P'P' 19 31 36.4
SYO **Syowa Base** 65.26 158 ⇑ *e*P P 19 02 47.2 -2.1
035Z **Hargill** 65.62 334 ⇓P P 19 02 51.8 -0.3
baz=66
035A **Encino** 66.06 334 ⇑P P 19 02 55.1 +0.1
baz=66
936A **North Padre Is** 66.23 335 ⇓P P 19 02 58.3 +2.3
baz=66
034A **Hebbronville** 66.39 334 ⇓P P 19 02 57.5 +0.4
baz=67,SNR=19
KVTX **Kingsville** 66.55 335 PFAKE 19 03 10.0 +12
KVTX LR LR
comp=Z,384nm,19.0s
TIGA **Tifton** 66.58 349 *e*P P 19 02 57.6 -0.6
comp=Z,104nm,1.3s
TIGA **Tifton** 66.58 349 ⇑P P 19 02 57.8 -0.4
baz=67
934A **Benavides** 66.82 334 ⇑P P 19 03 00.8 +1.0
baz=67
BBSR **BB Station** 66.89 6 *e*P P 19 03 00.6 +0.4
comp=Z,24nm,0.8s
BBSR LR LR
comp=Z,286nm,20.0s
933A **Laredo** 67.10 334 ⇓P P 19 03 02.1 +0.4
baz=67,SNR=15
SACV **Santiago Islan** 67.17 51 PFAKE 19 03 10.0 +7.6
SACV LR LR
comp=Z,861nm,19.0s
835A **Beeville** 67.20 335 ⇓P P 19 03 03.3 +1.0
baz=68,SNR=5.3
834A **Tilden** 67.31 334 ⇑P P 19 03 04.0 +1.1
baz=68,SNR=29
TBI **Tubuai** 67.46 257 *e*P P 19 03 05.9 +1.7
comp=Z,261nm,1.2s
TBI *e*S S 19 11 55.5 -3.3
comp=Z,1μm,28.0s
TBI **Tubuai** 67.46 257 *e*LR LR 19 23 17.4
comp=Z,2μm,28.5s,baz=118
736A **Circle Diamond** 67.55 336 ⇑P P 19 03 05.9 +1.5
baz=68,SNR=8.3
735A **Kenedy** 67.71 335 ⇑P P 19 03 05.8 +0.3
baz=68,SNR=9.7
NHSC **New Hope** 67.77 352 *e*P P 19 03 05.8 +0.1
comp=Z,216nm,1.3s
NHSC LR LR
comp=Z,389nm,19.0s
833A **Chaparral WMA,** 67.79 334 ⇑P P 19 03 06.4 +0.5
baz=68,SNR=11
539A **Cross D Ranch,** 67.88 339 ⇑P P 19 03 07.7 +1.2
baz=68
734A **La Parita Cree** 67.97 335 ⇓P P 19 03 07.5 +0.4
baz=68
832A **Faith Ranch, C** 67.97 333 ⇓P P 19 03 07.2 +0.1
baz=68,SNR=25
636A **Smothers Creek** 68.03 336 ⇓P P 19 03 08.6 +1.1
baz=68,SNR=13
HKT **Hockley** 68.07 338 *e*P P 19 03 08.4 +0.8
HKT pmax pmax
comp=Z,102nm,1.6s
HKT **Hockley** 68.07 338 *e*P P 19 03 08.4 +0.8
comp=Z,102nm,1.6s
733A **Divot King Ran** 68.11 334 ⇓P P 19 03 08.4 +0.4
baz=68,SNR=5.1
635A **Leesville** 68.19 336 ⇑P P 19 03 08.6 +0.2
baz=68
538A **Harpers Horsep** 68.22 338 ⇑P P 19 03 09.3 +0.7
baz=68
537A **Green Hill Far** 68.35 337 ⇓P P 19 03 10.1 +0.6
baz=69,SNR=7.6
SLBS **Sierra La Lagu** 68.35 322 *e*P P 19 03 09.8 +0.1
comp=Z,44nm,1.0s
732A **Laon Ranch,** 68.37 333 ⇑P P 19 03 09.6 0.0
baz=69,SNR=22
634A **China Grove, S** 68.38 335 ⇑P P 19 03 09.5 -0.2
baz=69
GOGA **Godfrey** 68.50 349 *e*P P 19 03 09.7 -0.6
GOGA pmax pmax
comp=Z,135nm,1.6s
GOGA MLR MLR
comp=Z,517nm,21.0s
GOGA **Godfrey** 68.50 349 *e*P P 19 03 09.7 -0.6
comp=Z,136nm,1.6s
GOGA LR LR
comp=Z,517nm,21.0s
439A **Center Grove,** 68.53 339 ⇓P P 19 03 11.1 +0.6
baz=69,SNR=6.5
536A **Bastrop** 68.59 336 ⇓P P 19 03 11.0 +0.1
baz=69,SNR=5.5
438A **Sam Houston St** 68.70 338 ⇓P P 19 03 11.3 -0.3
baz=69
535A **Dale** 68.71 336 ⇑P P 19 03 11.4 -0.3
baz=69
VBMS **Vicksburg** 68.73 343 *e*P P 19 03 12.5 +0.7
comp=Z,267nm,1.5s
LRAL **Lakeview Retre** 68.74 346 *e*P P 19 03 11.5 -0.3
comp=Z,64nm,1.2s
633A **Saathoff Ranch** 68.75 334 ⇑P P 19 03 12.1 +0.1
baz=69,SNR=16
340A **Bronson** 68.86 340 ⇓P P 19 03 12.8 +0.3
baz=69
339A **Huntington** 68.97 339 ⇓P P 19 03 13.8 +0.5
baz=69
437A **Phantom Ranch,** 68.98 338 ⇑P P 19 03 13.8 +0.4
baz=69
632A **Uvalde** 69.01 334 ⇑P P 19 03 14.2 +0.6
baz=69,SNR=34
534A **Blanco** 69.02 335 ⇑P P 19 03 13.4 -0.2
baz=69,SNR=7.1
MEH **Mehetia** 69.05 262 *e*P P 19 03 16.6 +2.3
comp=Z,29nm,1.1s
MEH **Mehetia** 69.05 262 *e*T T 20 18 02.7
comp=Z,106nm,0.2s
JSC **Jenkinsville** 69.05 352 *e*P P 19 03 14.0 +0.3
JSC **Jenkinsville** 69.05 352 *e*P P 19 03 14.0 +0.3
436A **Wall Ranch, Ga** 69.14 337 ⇑P P 19 03 14.6 +0.3
baz=70
631A **Perdido Creek** 69.21 333 ⇑P P 19 03 14.8 -0.1
baz=70,SNR=18
338A **Crockett** 69.22 339 ⇓P P 19 03 15.9 +1.1
baz=70
533A **Kerrville** 69.25 335 ⇓P P 19 03 15.4 +0.2
baz=70,SNR=14
435B **Jarrell** 69.41 336 ⇑P P 19 03 16.3 +0.2
baz=70
239A **Gary** 69.59 339 ⇑P P 19 03 17.5 +0.4
baz=70
532A **Rocksprings** 69.61 334 ⇓P P 19 03 17.4 +0.1
baz=70,SNR=75
CNNC **Cliffs of the** 69.66 355 PFAKE 19 03 30.0 +13
CNNC LR LR
comp=Z,314nm,20.0s
434A **Burnet** 69.67 336 ⇓P P 19 03 17.3 -0.3
baz=70,SNR=27
336A **Riesel** 69.72 337 ⇓P P 19 03 18.5 +0.5
baz=70,SNR=16
238A **Jacksonville** 69.77 339 ⇑P P 19 03 18.8 +0.6
baz=70
335A **Moody** 69.82 337 ⇓P P 19 03 18.8 +0.3
baz=70,SNR=12
531A **Rocksprings** 69.88 334 ⇓P P 19 03 19.4 +0.4
baz=70,SNR=56
433A **Art** 69.89 335 ⇑P P 19 03 19.0 -0.1
baz=70,SNR=55
JCT **Junction City** 69.89 334 *e*P P 19 03 19.3 +0.2
JCT pmax pmax
comp=Z,119nm,1.0s
JCT MLR MLR
comp=Z,362nm,22.0s
JCT **Junction City** 69.89 334 *e*P P 19 03 19.3 +0.2
comp=Z,119nm,1.0s
JCT LR LR
comp=Z,362nm,22.0s
JCT **Junction City** 69.89 334 ⇓P P 19 03 19.1 0.0
baz=70,SNR=41
KMSC **Kings Mountain** 69.91 352 *e*P P 19 03 18.8 -0.3
comp=Z,53nm,1.1s
KMSC **Kings Mountain** 69.91 352 ⇓P P 19 03 18.7 -0.3
baz=70,SNR=13
237A **Washetta, Mont** 69.97 338 ⇓P P 19 03 19.9 +0.5
baz=70
VAH **Vaihoa** 70.05 265 *e*P P 19 03 22.9 +2.5
comp=Z,93nm,1.0s
334A **Lometa** 70.13 336 ⇑P P 19 03 20.9 +0.4
baz=70,SNR=28
530A **J-C Ranch, Com** 70.16 333 ⇓P P 19 03 20.8 0.0
baz=70,SNR=82
139A **Bunkhouse Ranc** 70.19 340 ⇑P P 19 03 21.3 +0.5
baz=70
236A **Katherine and** 70.19 338 ⇑P P 19 03 21.0 +0.2
baz=70,SNR=8.9
432A **Menard** 70.25 335 ⇑P P 19 03 20.9 -0.4
baz=71,SNR=23
TIAR **Tiarei** 70.26 262 *e*P P 19 03 24.1 +2.4
comp=Z,31nm,1.1s
TIAR **Tiarei** 70.26 262 *e*T T 20 19 34.7
comp=Z,15nm,0.2s
TX31 **Lajitas Ar. Si** 70.34 331 *e*P P 19 03 21.4 -0.6
TXAR **Lajitas Array** 70.34 331 P P 19 03 22.1 +0.2
comp=Z,13nm,0.5s,baz=152,slow=8.5,SNR=204
TXAR LR LR 19 29 47.3
comp=Z,917nm,18.6s,baz=0.0,slow=32
TXAR PKPPKP P'P'df 19 31 23.4 +5.3
comp=Z,0.6nm,0.8s,baz=306,slow=4.3,SNR=3.7
431A **Sonora** 70.37 334 ⇑P P 19 03 22.2 +0.2
baz=71,SNR=32
138A **Matatall Enter** 70.37 339 ⇓P P 19 03 21.8 -0.1
baz=71
333A **Richland Sprin** 70.38 335 ⇓P P 19 03 21.6 -0.5
baz=71,SNR=38
PMOR **Pomariorio Ree** 70.39 265 *e*P P 19 03 24.9 +2.4
comp=Z,36nm,0.9s
PAE **Paea** 70.40 262 *e*P P 19 03 25.0 +2.5
comp=Z,29nm,1.2s
PPT2 **Papeete2** 70.43 262 *e*P P 19 03 25.0 +2.2
comp=Z,124nm,1.1s
PPT2 *e*S S 19 12 32.6 -1.7
comp=Z,626nm,23.0s
PPT2 **Papeete2** 70.43 262 *e*LR LR 19 24 43.0
comp=Z,3μm,29.2s,baz=120
PPT **Papeete** 70.44 262 P P 19 03 23.8 +1.0
comp=Z,108nm,0.9s,baz=160,slow=1.1,SNR=7.8
PPT LR LR 19 26 44.8
comp=Z,336nm,18.5s,baz=132,slow=30
PPT **Papeete** 70.44 262 P P 19 03 23.8 +1.0
PPT pmax pmax
comp=Z,108nm,0.9s
PPT MLR MLR
comp=Z,336nm,18.5s
529A **Stev Forest Ra** 70.47 332 ⇓P P 19 03 22.9 +0.2
baz=71,SNR=54
WHTX **Lake Whitney,** 70.48 337 *e*P P 19 03 21.9 -0.7
comp=Z,199nm,0.8s
WHTX **Lake Whitney,** 70.48 337 ⇓P P 19 03 22.6 0.0
baz=71,SNR=9.8
137A **Heron Place, G** 70.51 339 ⇓P P 19 03 23.4 +0.6
baz=71
Z39A **Irene McRaven,** 70.66 340 ⇓P P 19 03 24.3 +0.7
baz=71
SWET **Sewanee** 70.66 348 *e*P P 19 03 23.2 -0.5
comp=Z,208nm,1.3s
OXF **Oxford** 70.67 345 *e*P P 19 03 23.4 -0.2
OXF pmax pmax
comp=Z,287nm,1.2s
OXF **Oxford** 70.67 345 *e*P P 19 03 23.4 -0.2
comp=Z,287nm,1.2s
332A **Millersview** 70.69 335 ⇓P P 19 03 23.7 -0.2
baz=71,SNR=21
430A **Baggett Ranch,** 70.69 333 ⇓P P 19 03 23.8 -0.2
baz=71,SNR=48
234A **Clairette** 70.71 336 ⇑P P 19 03 24.4 +0.4
baz=71,SNR=12
TKL **Tuckaleechee C** 70.75 350 P P 19 03 23.5 -0.6
comp=Z,60nm,1.2s,baz=165,slow=7.3,SNR=18
TKL **Tuckaleechee C** 70.75 350 P P 19 03 23.5 -0.6
TKL pmax pmax
comp=Z,60nm,1.2s
429A **Davenport Ranc** 70.80 333 ⇑P P 19 03 24.8 +0.1
baz=71,SNR=59
331A **San Angelo** 70.87 334 ⇓P P 19 03 24.9 -0.2
baz=71,SNR=30
Z38A **Mt. Pleasant** 70.89 339 ⇑P P 19 03 25.2 +0.2
baz=71
233A **Rising Star** 70.98 336 ⇑P P 19 03 25.5 -0.2
baz=71,SNR=23
135A **Vickery Place,** 70.99 337 ⇑P P 19 03 25.2 -0.5
baz=71
Z37A **Pogue Cattle C** 71.03 339 ⇑P P 19 03 26.2 +0.3
baz=71
232A **Coleman** 71.12 335 ⇓P P 19 03 26.4 -0.1
baz=71,SNR=37
134A **White-Moore Ra** 71.22 337 ⇑P P 19 03 27.0 -0.1
baz=72,SNR=8.4
330A **Mertzon** 71.23 334 ⇑P P 19 03 26.7 -0.6
baz=72,SNR=16
231A **Bronte** 71.40 335 ⇓P P 19 03 27.7 -0.5
baz=72,SNR=31
133A **Hamilton Ranch** 71.53 336 ⇑P P 19 03 28.9 0.0
baz=72,SNR=20
TZTN **Tazewell** 71.58 350 *e*P P 19 03 29.1 -0.1
comp=Z,92nm,1.4s
329A **Wagon Wheel Ra** 71.60 333 ⇑P P 19 03 29.4 -0.1
baz=72,SNR=19
UALR **University of** 71.61 342 *e*P P 19 03 29.7 +0.3
comp=Z,71nm,1.3s
230A **Sterling City** 71.64 334 ⇓P P 19 03 29.2 -0.6
baz=72,SNR=8.3
Z35A **Perchaven, San** 71.65 338 ⇓P P 19 03 29.9 +0.2
baz=72,SNR=21
MIAR **Mount Ida** 71.72 341 *e*P P 19 03 29.7 -0.3
MIAR pmax pmax
comp=Z,95nm,1.4s
MIAR MLR MLR
comp=Z,284nm,19.0s
MIAR **Mount Ida** 71.72 341 *e*P P 19 03 29.7 -0.3
comp=Z,95nm,1.4s
MIAR LR LR
comp=Z,284nm,19.0s
ABTX **Abilene, Hawle** 71.79 335 *e*P P 19 03 30.1 -0.4
comp=Z,172nm,1.3s
ABTX **Abilene, Hawle** 71.79 335 ⇑P P 19 03 30.7 +0.2
baz=72,SNR=15
VWCC **Virginia Weste** 71.84 353 *e*P P 19 03 29.4 -1.3
BLA **Blacksburg** 71.85 353 *e*P P 19 03 30.7 -0.1

BLA pmax pmax
comp=Z,122nm,1.8s
BLA MLR MLR
comp=Z,211nm,19.0s
BLA Blacksburg 71.85 353 *eP* **P 19 03 30.7 -0.1**
comp=Z,122nm,1.8s
BLA LR LR
comp=Z,211nm,19.0s
Z34A Collier Ranch, 71.90 337 ⇑P **P 19 03 33.8 +2.6**
baz=72
WVT Waverly 71.90 346 *eP* **P 19 03 30.5 -0.6**
WVT pmax pmax
comp=Z,305nm,1.2s
WVT Waverly 71.90 346 *eP* **P 19 03 30.5 -0.6**
comp=Z,305nm,1.2s
URVA University of 71.95 355 *eP* **P 19 03 32.3 +0.9**
229A Bryant Ranch, 71.97 333 ⇓P **P 19 03 31.6 -0.1**
baz=72
131A Roby 72.09 335 ⇓P **P 19 03 32.5 +0.1**
baz=72,SNR=14
Z33A Whitaker Ranch 72.10 336 ⇓P **P 19 03 32.1 -0.2**
baz=72,SNR=35
JSRW J. Sargeant Re 72.10 355 *eP* **P 19 03 32.8 +0.6**
130A Snyder 72.23 334 ⇑P **P 19 03 32.9 -0.3**
baz=72,SNR=13
X37A Clayton 72.26 340 ⇑P **P 19 03 33.2 -0.1**
baz=73,SNR=9.4
UTMT University of 72.32 346 *eP* **P 19 03 33.6 0.0**
comp=Z,405nm,1.1s
GLAT Glass 72.33 345 *eP* **P 19 03 33.4 -0.3**
Z32A Haskell 72.36 336 ⇑P **P 19 03 33.5 -0.4**
baz=73,SNR=52
Y34A Reagan Ranch, 72.39 337 ⇑P **P 19 03 33.8 -0.3**
baz=73,SNR=23
228A UT Block 9, Go 72.39 333 ⇓P **P 19 03 33.8 -0.5**
baz=73,SNR=42
W38A Poteau 72.47 341 ⇑P **P 19 03 34.8 +0.3**
baz=73,SNR=18
X36A Centrahoma 72.53 339 ⇓P **P 19 03 34.0 -0.9**
baz=73,SNR=26
X35A Drake 72.55 338 ⇓P **P 19 03 34.4 -0.6**
baz=73,SNR=18
CBN Corbin Frederi 72.57 355 *eP* **P 19 03 35.3 +0.3**
comp=Z,46nm,0.9s
CBN LR LR
comp=Z,291nm,19.0s
MAW Mawson 72.58 163 P **P 19 03 35.1 +0.3**
comp=Z,53nm,1.1s,baz=208,slow=6.2,SNR=32
MAW LR LR 19 33 43.6
comp=Z,903nm,21.6s,baz=232,slow=34
MAW Mawson 72.58 163 P **P 19 03 35.1 +0.3**
MAW pmax pmax
comp=Z,53nm,1.1s
MAW MLR MLR
comp=Z,903nm,21.6s
MAW Mawson 72.58 163 *eP* **P 19 03 34.7 -0.1**
comp=Z,14nm,1.0s
129A Stewart Farms, 72.58 334 ⇑P **P 19 03 35.3 -0.1**
baz=73
Z31A Sharp Cattle R 72.59 335 ⇓P **P 19 03 35.1 -0.2**
baz=73,SNR=20
Y33A Hilltop Ranch, 72.71 337 ⇓P **P 19 03 35.6 -0.5**
baz=73,SNR=14
CER Ceres 72.73 119 *eP* **P 19 03 37.0 +0.6**
CER AMB AMB 19 03 44.2
comp=Z,64nm,4.9s
CER Ceres 72.73 119 P **P 19 03 37.0 +0.6**
comp=Z,64nm,4.9s
W37A Quinton 72.79 340 ⇑P **P 19 03 35.8 -0.6**
baz=73,SNR=23
128A Castleberry Fa 72.81 333 ⇑P **P 19 03 36.7 0.0**
baz=73,SNR=21
PARMO Parma 72.81 345 *eP* **P 19 03 36.4 -0.1**
Z30A Sanderson Ranc 72.91 334 ⇓P **P 19 03 36.7 -0.5**
baz=73,SNR=47
Y32A R-V Farms, Ver 72.98 336 ⇓P **P 19 03 37.1 -0.5**
baz=73,SNR=16
X34A Smith Ranch, M 73.01 338 ⇑P **P 19 03 37.7 -0.1**
baz=73,SNR=25
W36A Wetumka 73.02 339 ⇓P **P 19 03 37.2 -0.6**
baz=73,SNR=15
CLNB Carlsbad 73.02 332 *eP* **P 19 03 38.6 +0.6**
comp=Z,3.2nm,0.5s
PBMO Poplar Bluff 73.07 344 *eP* **P 19 03 37.7 -0.4**
comp=Z,141nm,1.4s
Z29A Hungry Hill Ra 73.09 334 ⇓P **P 19 03 37.7 -0.7**
baz=73,SNR=35
MNTX Cornudas Mount 73.12 330 *eP* **P 19 03 37.1 -1.3**
comp=Z,59nm,0.9s
MNTX LR LR
comp=Z,1μm,19.0s
MNTX Cornudas Mount 73.12 330 ⇓P **P 19 03 37.8 -0.7**
baz=73,SNR=89
X33A Lawton 73.16 337 ⇓P **P 19 03 38.2 -0.5**
baz=74
KOMG Komaggas 73.19 115 *eP* **P 19 03 39.3 +0.1**
KOMG AMB AMB 19 03 51.8
comp=Z,49nm,5.0s
KOMG Komaggas 73.19 115 P **P 19 03 39.3 +0.1**
comp=Z,49nm,5.0s
Y31A Rekieta Farm, 73.22 335 ⇓P **P 19 03 38.7 -0.3**
baz=74,SNR=23
W35A Tecumseh 73.22 339 ⇓P **P 19 03 38.0 -1.0**
baz=74,SNR=13
X32A Elmer 73.31 336 ⇑P **P 19 03 38.8 -0.7**
baz=74,SNR=9.5
Y30A Stafford Cattl 73.36 335 ⇑P **P 19 03 39.3 -0.6**
baz=74,SNR=8.6
Z28A Tucker Farm, M 73.37 334 ⇑P **P 19 03 39.2 -0.9**
baz=74
WMOK Wichita Mounta 73.43 337 *eP* **P 19 03 39.7 -0.6**
WMOK pmax pmax
comp=Z,30nm,0.7s
WMOK Wichita Mounta 73.43 337 *eP* **P 19 03 39.7 -0.6**
comp=Z,30nm,0.7s
W34A Bridge Creek, 73.57 338 *eP* **P 19 03 40.9 -0.3**
comp=Z,117nm,1.2s
W34A Bridge Creek, 73.57 338 ⇑P **P 19 03 40.8 -0.3**
baz=74
TUL1 Leonard 73.61 340 *eP* **P 19 03 41.0 -0.3**
comp=Z,112nm,1.1s
TUL1 Leonard 73.61 340 ⇑P **P 19 03 40.6 -0.7**
baz=74,SNR=16
Y29A Porterfield Fa 73.62 334 ⇓P **P 19 03 41.2 -0.3**
baz=74,SNR=11
USIN University of 73.65 347 *eP* **P 19 03 40.8 -0.6**
comp=Z,264nm,1.4s
WCI Wyandotte Cave 73.66 348 *eP* **P 19 03 40.4 -1.1**
WCI pmax pmax
comp=Z,116nm,1.7s
WCI Wyandotte Cave 73.66 348 *eP* **P 19 03 40.4 -1.1**
comp=Z,116nm,1.7s
W33A Caddo, Fort Co 73.72 337 ⇑P **P 19 03 42.1 +0.2**
baz=74,SNR=16
X31A McDonald Ranch 73.73 336 ⇑P **P 19 03 41.3 -0.8**
baz=74,SNR=24
SDMD Soldier's Deli 73.74 356 *eP* **P 19 03 42.6 +0.7**
V35A Meyer Ranch, C 73.78 339 ⇑P **P 19 03 41.5 -0.7**
baz=74,SNR=24
X30A Coker Ranch, T 73.87 335 ⇑P **P 19 03 42.8 -0.1**
baz=74,SNR=10.0
Y28A McKinney Farm, 73.87 334 ⇓P **P 19 03 41.8 -1.2**
baz=74,SNR=6.7
W32A Sentinel 73.94 337 ⇑P **P 19 03 43.1 -0.1**
baz=74,SNR=60
V34A Guthrie 74.05 338 *eP* **P 19 03 43.7 -0.2**
comp=Z,126nm,1.1s
V34A Guthrie 74.05 338 ⇑P **P 19 03 43.8 0.0**
baz=74,SNR=12
MSTX Muleshoe 74.12 334 *eP* **P 19 03 44.2 -0.2**
comp=Z,94nm,1.1s
MSTX Muleshoe 74.12 334 ⇓P **P 19 03 44.1 -0.4**
baz=74,SNR=22
X29A Tulia 74.16 335 ⇓P **P 19 03 44.8 +0.2**
baz=74
W31A Holland Ranch, 74.23 336 ⇓P **P 19 03 44.4 -0.5**
baz=75,SNR=15
V33A Lossen Ranch, 74.27 338 ⇑P **P 19 03 45.2 +0.1**
baz=75,SNR=25
MVL Millersville 74.30 356 *eP* **P 19 03 46.2 +1.1**
comp=Z,107nm,1.4s
SUR Sutherland 74.33 119 *eP* **P 19 03 47.6 +1.5**
SUR AMB AMB 19 04 12.3
comp=Z,49nm,6.7s
SUR AMS AMS 19 29 35.7
comp=Z,450nm,6.2s
SUR Sutherland 74.33 119 P **P 19 03 47.5 +1.5**
comp=Z,134nm,0.8s,SNR=13
SUR Sutherland 74.33 119 *eP* **P 19 03 47.6 +1.5**
comp=Z,24nm,1.8s
SUR LR LR
comp=Z,1μm,21.0s
X28A Dimmitt 74.40 334 ⇓P **P 19 03 46.0 -0.1**
baz=75
V32A Arapaho 74.42 337 ⇑P **P 19 03 46.6 +0.5**
baz=75,SNR=9.6
W30A Crocket Farms 74.43 336 ⇑P **P 19 03 46.2 0.0**
baz=75
OLIL Olney 74.48 347 *eP* **P 19 03 45.6 -0.6**
comp=Z,83nm,1.1s
319A Douglas 74.51 327 ⇓P **P 19 03 47.3 +0.6**
baz=75,SNR=48
AMTX Amarillo 74.55 335 *eP* **P 19 03 45.7 -1.2**
comp=Z,153nm,1.1s
AMTX Amarillo 74.55 335 ⇑P **P 19 03 46.5 -0.4**
baz=75
U34A Anderson Ranch 74.61 339 *eP* **P 19 03 47.2 +0.1**
comp=Z,175nm,1.3s
U34A Anderson Ranch 74.61 339 ⇓P **P 19 03 46.7 -0.4**
baz=75,SNR=14
BLO Bloomington 74.62 348 *eP* **P 19 03 46.4 -0.7**
BLO pmax pmax
comp=Z,70nm,1.0s
BLO Bloomington 74.62 348 *eP* **P 19 03 46.4 -0.7**
comp=Z,70nm,1.0s
LIC Lamb 74.69 71 *eP* **P 19 03 48.4 +0.3**
comp=Z,156nm,1.2s
T36A Boggs Farm, Ca 74.71 340 ⇑P **P 19 03 47.4 -0.3**
baz=75,SNR=29
V31A Spring Creek L 74.73 337 ⇑P **P 19 03 48.3 +0.5**
baz=75,SNR=6.2
W29A Amarillo 74.75 335 ⇓P **P 19 03 47.9 -0.2**
baz=75,SNR=22
T35A Sooner Cattle 74.76 340 ⇓P **P 19 03 47.7 -0.2**
baz=75,SNR=32
U33A Lingo Farm, Me 74.78 338 ⇓P **P 19 03 47.3 -0.8**
baz=75,SNR=7.0
SLM Saint Louis 74.81 345 *eP* **P 19 03 48.0 -0.2**
SLM pmax pmax
comp=Z,195nm,1.2s
SLM Saint Louis 74.81 345 *eP* **P 19 03 48.0 -0.2**
comp=Z,195nm,1.2s
121A Cookes Peak, D 74.84 329 *eP* **P 19 03 49.5 +0.7**
comp=Z,114nm,1.1s
121A Cookes Peak, D 74.84 329 ⇓P **P 19 03 49.4 +0.6**
baz=75,SNR=77
LUPA Lehigh Univers 74.85 357 *eP* **P 19 03 49.6 +1.2**
comp=Z,6.3nm,1.1s
BRNJ Basking Ridge 74.90 358 *eP* **P 19 03 48.9 +0.2**
comp=Z,18nm,1.0s
TIC Toumodi 74.95 71 *eP* **P 19 03 49.8 +0.2**
comp=Z,88nm,1.1s
KIC Kosan Boka 74.99 71 *eP* **P 19 03 49.6 -0.3**
comp=Z,242nm,1.1s
V30A Spur Ranch, Mi 75.00 336 ⇓P **P 19 03 50.0 +0.5**
baz=75,SNR=8.7
U32A Winter Ranch, 75.01 337 ⇓P **P 19 03 49.9 +0.4**
baz=75,SNR=13
SSPA Standing Stone 75.03 355 *eP* **P 19 03 49.2 -0.2**
comp=Z,91nm,1.5s
T34A McClaskey Farm 75.05 339 ⇓P **P 19 03 49.2 -0.5**
baz=75,SNR=45
W28A Vega 75.07 335 ⇑P **P 19 03 50.2 +0.3**
baz=75
DBIC Dimbokro 75.09 71 ⇓*c*P **P 19 03 51.4 +0.9**
DBIC Dimbokro 75.09 71 P **P 19 03 51.7 +1.3**
comp=Z,44nm,0.9s,baz=212,slow=5.1,SNR=39
DBIC LR LR 19 34 13.8
comp=Z,899nm,19.9s,baz=212,slow=34
DBIC Dimbokro 75.09 71 P **P 19 03 51.7 +1.3**
DBIC pmax pmax
comp=Z,44nm,0.9s
DBIC MLR MLR
comp=Z,899nm,19.9s
DBIC Dimbokro 75.09 71 *eP* **P 19 03 51.5 +1.1**
comp=Z,71nm,1.0s
ACSO Alum Creek Sta 75.13 351 *eP* **P 19 03 49.5 -0.5**
comp=Z,133nm,1.1s
ACSO LR LR
comp=Z,483nm,21.0s
PAL Palisades 75.21 358 *eP* **P 19 03 52.9 +2.5**
PAL Palisades 75.21 358 *eP* **P 19 03 52.9 +2.5**
S36A Lake Cedric, C 75.25 341 ⇑P **P 19 03 50.2 -0.5**
baz=76,SNR=26
U31A Nine Bar Ranch 75.28 337 ⇓P **P 19 03 50.9 -0.1**
baz=76
ODNJ Ogdensburg 75.31 358 *eP* **P 19 03 52.0 +1.0**
comp=Z,89nm,1.4s
V29A Stinnett 75.38 335 ⇓P **P 19 03 51.2 -0.5**
baz=76
S35A Otter Creek Ra 75.42 340 ⇑P **P 19 03 51.5 -0.2**
baz=76,SNR=26
T33A Patterson Ranc 75.42 338 ⇑P **P 19 03 51.9 +0.1**
baz=76,SNR=39
YLE Yale 75.50 359 *eP* **P 19 03 53.4 +1.4**
comp=Z,130nm,1.0s
V28A Channing 75.52 335 ⇑P **P 19 03 53.1 +0.6**
baz=76,SNR=14
R37A Teagarden Farm 75.60 341 ⇓P **P 19 03 51.8 -1.0**
baz=76,SNR=9.3
S34A Willow Spring 75.66 339 ⇑P **P 19 03 52.7 -0.5**
baz=76
U30A WK&E Inc. Balk 75.68 336 ⇓P **P 19 03 53.3 -0.1**
baz=76,SNR=15
T32A Huddler Ranch, 75.72 338 ⇑P **P 19 03 53.8 +0.3**
baz=76,SNR=15
V27A Dan Oppiter Fa 75.74 334 ⇓P **P 19 03 53.8 0.0**
baz=76,SNR=11
BNM Barren Site 75.77 331 *eP* **P 19 03 54.7 +0.6**
R36A Gordon, Harris 75.79 341 ⇑P **P 19 03 53.3 -0.5**
baz=76,SNR=12
Y22D IRIS PASSCAL I 75.82 330 ⇑P **P 19 03 54.3 0.0**
baz=76
U29A Oasis Ranch, S 75.82 336 ⇑P **P 19 03 53.8 -0.3**
baz=76
KSPA Keystone Colle 75.82 357 *eP* **P 19 03 54.8 +0.8**
comp=Z,48nm,1.3s
S33A Kaszmaul Farm, 75.82 339 ⇑P **P 19 03 53.8 -0.3**
baz=76,SNR=5.7
SFIN Lafayette 75.89 348 *eP* **P 19 03 53.5 -0.8**
comp=Z,67nm,1.3s
SFIN Lafayette 75.89 348 ⇑P **P 19 03 54.7 +0.4**
baz=76,SNR=10
LPM Los Pinos Moun 75.91 331 *eP* **P 19 03 55.6 +0.8**
LENM Lemitar 75.92 330 *eP* **P 19 03 55.8 +0.8**
TUC Tucson 75.97 327 *eP* **P 19 03 55.9 +0.7**
TUC pmax pmax
comp=Z,73nm,1.2s
TUC MLR MLR
comp=Z,466nm,21.0s
TUC Tucson 75.97 327 *eP* **P 19 03 55.9 +0.7**
comp=Z,73nm,1.2s
TUC LR LR
comp=Z,466nm,21.0s
Q37A Longview Farm, 76.03 342 ⇓P **P 19 03 55.1 -0.1**
baz=76
U28A Mallet 76.08 335 ⇑P **P 19 03 55.9 +0.2**
baz=76
BRYW Bryant College 76.09 0 *eP* **P 19 03 55.6 +0.2**
comp=Z,107nm,1.3s
T30A Plains 76.12 337 ⇓P **P 19 03 55.9 +0.1**
baz=76
LAZ Ladron 76.19 330 *eP* **P 19 03 57.6 +1.1**
S32A Newby Ranch, P 76.20 338 ⇓P **P 19 03 56.2 0.0**
baz=77,SNR=13
ALLY Alegheny Colle 76.22 353 *eP* **P 19 03 56.2 0.0**
comp=Z,109nm,1.3s
DRV Dumont d'Urvil 76.23 192 SS SS 19 18 37.0 +6.0
DRV L L 19 23 00.0
DRV R 19 28 00.0
S31A Mullinville 76.30 338 ⇓P **P 19 03 56.7 -0.1**
baz=77,SNR=12
U27A Thompson Grove 76.33 335 ⇓P **P 19 03 57.1 -0.1**
baz=77,SNR=17
Q36A Arnold C. Orve 76.38 341 ⇑P **P 19 03 56.0 -1.1**
baz=77,SNR=5.8
ANMO Albuquerque 76.39 331 P **P 19 03 58.4 +0.7**
comp=Z,51nm,1.0s,baz=162,slow=8.2,SNR=39
ANMO Albuquerque 76.39 331 *c*P **P 19 03 57.9 +0.3**
ANMO pmax pmax
comp=Z,277nm,1.3s
ANMO Albuquerque 76.39 331 *eP* **P 19 03 58.2 +0.6**
comp=Z,86nm,1.2s
ANMO LR LR
comp=Z,943nm,20.0s
Q35A Mercer Eighty, 76.44 341 ⇑P **P 19 03 56.9 -0.7**
baz=77,SNR=11
QUA2 Belchertown 76.45 360 *eP* **P 19 03 57.2 -0.3**
comp=Z,74nm,1.2s
T29A Hugoton 76.47 336 ⇑P **P 19 03 57.6 -0.2**
baz=77,SNR=8.3
HDIL Hopedale 76.47 346 *eP* **P 19 03 57.3 -0.4**
comp=Z,199nm,1.4s
BINY Binghamton 76.47 357 *eP* **P 19 03 56.9 -0.7**
comp=Z,29nm,1.0s
BINY LR LR
comp=Z,226nm,19.0s
R33A Olander Ranch, 76.48 339 ⇑P **P 19 03 57.8 0.0**
baz=77,SNR=14
214A Organ Pipe Nat 76.62 325 *eP* **P 19 03 59.1 +0.3**
comp=Z,100nm,1.2s
214A Organ Pipe Nat 76.62 325 ⇓P **P 19 03 58.8 +0.1**
baz=77,SNR=38
S30A Montezuma 76.63 337 ⇑P **P 19 03 58.7 0.0**
baz=77,SNR=13
HRV Adam Dziewonsk 76.68 0 *eP* **P 19 03 59.2 +0.5**
HRV pmax pmax
comp=Z,89nm,1.4s
HRV Adam Dziewonsk 76.68 0 *eP* **P 19 03 59.2 +0.5**
comp=Z,89nm,1.4s
T28A Walsh 76.71 335 ⇑P **P 19 03 58.7 -0.5**
baz=77,SNR=64
Q34A Chapman 76.75 340 ⇑P **P 19 03 59.0 -0.3**
baz=77,SNR=11
UPI Upington 76.75 115 *eP* **P 19 04 00.6 +0.7**
UPI AMB AMB 19 04 01.4
comp=Z,60nm,1.9s
UPI Upington 76.75 115 P **P 19 04 00.6 +0.7**
comp=Z,60nm,1.9s
RAR Rarotonga 76.76 253 PFAKE 19 04 10.0 +10
RAR LR LR
comp=Z,2.0nm,19.0s
R32A Long Quarter, 76.80 339 ⇑P **P 19 03 59.6 0.0**
baz=77,SNR=20
KSU1 Kansas State U 76.82 340 *eP* **P 19 03 58.4 -1.3**
comp=Z,52nm,0.8s
KSU1 LR LR
comp=Z,492nm,19.0s
KSU1 Kansas State U 76.82 340 ⇑P **P 19 03 58.9 -0.8**
baz=77
S29A Ulysses 76.83 336 ⇑P **P 19 03 59.9 +0.1**
baz=77,SNR=25
T27A Campo 76.87 335 ⇑P **P 19 03 59.6 -0.6**
baz=77,SNR=48
TRY Troy 76.92 359 *eP* **P 19 04 01.0 +0.8**
comp=Z,110nm,1.1s
R31A Burdett 76.93 338 ⇑P **P 19 04 00.2 -0.2**
baz=77,SNR=26
P35A Duane Minner, 77.06 341 ⇑P **P 19 04 00.2 -0.8**
baz=77,SNR=36
S28A Manter 77.06 336 ⇑P **P 19 04 01.3 +0.1**
baz=77,SNR=28
Q33A Connelly Farm, 77.07 339 ⇓P **P 19 04 00.6 -0.5**
baz=77,SNR=18
MMNY Mt. Morris Dam 77.11 355 *eP* **P 19 04 01.8 +0.6**
comp=Z,250nm,1.2s
R30A Dighton 77.16 337 ⇓P **P 19 04 01.7 0.0**
baz=78,SNR=14
AAM Ann Arbor 77.26 351 *eP* **P 19 04 01.5 -0.5**
AAM pmax pmax
comp=Z,55nm,0.7s
AAM Ann Arbor 77.26 351 *eP* **P 19 04 01.5 -0.5**
comp=Z,54nm,0.7s
T26A Comanche Natio 77.28 334 ⇓P **P 19 04 02.8 +0.2**
baz=78,SNR=26
Q32A Meitler Ranch, 77.28 339 ⇓P **P 19 04 02.5 +0.2**
baz=78,SNR=34
P33A Williams Farm, 77.44 340 ⇓P **P 19 04 02.9 -0.2**
baz=78,SNR=5.4
X18A Snowflake 77.48 328 ⇑P **P 19 04 04.4 +0.7**
baz=78,SNR=13
S27A Las Animas 77.49 335 ⇓P **P 19 04 03.6 -0.1**
baz=78
T25A Trinidad 77.54 334 *eP* **P 19 04 05.0 +0.9**
comp=Z,188nm,1.1s
T25A Trinidad 77.54 334 ⇓P **P 19 04 04.9 +0.9**
baz=78,SNR=74
Q31A Ellis 77.55 338 ⇑P **P 19 04 04.0 +0.2**
baz=78,SNR=23
SOE Somerset East 77.55 121 *eP* **P 19 04 05.2 +0.9**
SOE AMB AMB 19 04 05.6
comp=Z,46nm,1.1s
SOE Somerset East 77.55 121 P **P 19 04 05.2 +0.9**
comp=Z,46nm,1.1s
R29A Marienthal 77.57 337 ⇓P **P 19 04 03.8 -0.2**
baz=78,SNR=8.9
ACCN Adirondack Com 77.58 359 *eP* **P 19 04 04.0 +0.2**
comp=Z,102nm,1.4s
S26A Kim 77.64 335 ⇑P **P 19 04 04.8 +0.3**
baz=78,SNR=92
FFD Franklin Falls 77.64 0 *eP* **P 19 04 05.7 +1.6**
comp=Z,128nm,1.2s
R28A Tribune 77.71 336 ⇓P **P 19 04 05.1 +0.3**
baz=78,SNR=54
113A Mohawk Valley, 77.75 325 ⇑P **P 19 04 05.4 +0.4**
baz=78,SNR=7.4
Q30A Quinter 77.78 338 ⇑P **P 19 04 05.1 0.0**
baz=78,SNR=55
Z14A Wintersburg 77.85 326 ⇑P **P 19 04 04.7 -0.8**
baz=78,SNR=7.7
P32A Huiting Farm, 77.88 339 ⇑P **P 19 04 05.5 -0.1**
baz=78,SNR=14
HNH Hanover 77.88 360 *eP* **P 19 04 06.7 +1.3**
comp=Z,102nm,1.4s
GRM Grahamstown 77.89 122 *eP* **P 19 04 06.8 +0.7**
GRM AMB AMB 19 04 07.9
comp=Z,105nm,4.2s
GRM Grahamstown 77.89 122 P **P 19 04 06.8 +0.7**
GRM pmax pmax
comp=Z,105nm,4.2s
GRM Grahamstown 77.89 122 P **P 19 04 06.8 +0.7**
comp=Z,105nm,4.2s
W18A Petrified Fore 77.89 329 *eP* **P 19 04 07.3 +1.3**
comp=Z,154nm,1.3s
W18A Petrified Fore 77.89 329 ⇓P **P 19 04 06.6 +0.6**
baz=78,SNR=19
Q29A Oakley 77.94 337 ⇑P **P 19 04 06.0 0.0**
baz=78,SNR=19
R27A Eads 78.00 335 ⇑P **P 19 04 06.5 +0.1**
baz=78,SNR=79
P31A Stockton 78.01 338 ⇓P **P 19 04 06.6 +0.2**
baz=78,SNR=33
X16A Lo Mia Camp, P 78.04 327 ⇑P **P 19 04 07.7 +0.9**
baz=78,SNR=71
NCB Newcomb 78.18 358 PFAKE 19 04 20.0 +13
NCB LR LR
comp=Z,2μm,22.0s
MDV Middlebury 78.18 359 *eP* **P 19 04 08.0 +0.9**
R26A Arlington 78.23 335 ⇓P **P 19 04 08.2 +0.4**
baz=79,SNR=65
P30A Selden 78.30 338 ⇓P **P 19 04 08.4 +0.4**
baz=79,SNR=16
Y14A Wickenburg 78.35 326 ⇑P **P 19 04 09.0 +0.6**
baz=79,SNR=24
O32A Brockman Farm, 78.37 340 ⇑P **P 19 04 08.2 -0.1**
baz=79,SNR=7.9
Q28A Sharon Springs 78.37 336 ⇓P **P 19 04 09.0 +0.5**
baz=79,SNR=23
SDCO Great Sand Dun 78.48 333 *eP* **P 19 04 10.2 +0.8**
comp=Z,37nm,1.0s
SDCO LR LR
comp=Z,531nm,20.0s
SDCO Great Sand Dun 78.48 333 ⇓P **P 19 04 09.6 +0.3**
baz=79,SNR=11
GLA Glamis 78.49 324 *eP* **P 19 04 10.3 +1.1**
GLA pmax pmax
comp=Z,71nm,1.3s
GLA Glamis 78.49 324 *eP* **P 19 04 10.3 +1.1**
comp=Z,71nm,1.3s
GLA Glamis 78.49 324 ⇓P **P 19 04 10.0 +0.8**
baz=79
MIR Mirnyy 78.54 174 *eP* P 19 04 17.0 +8.0
P29A Atwood 78.57 337 ⇑P **P 19 04 09.4 -0.1**
baz=79,SNR=18
O31A Woolen Ranch, 78.58 339 ⇑P **P 19 04 09.3 -0.2**
baz=79,SNR=15
KSCO Kaye Shedlock' 78.59 336 *eP* **P 19 04 10.5 +0.8**
KSCO Kaye Shedlock' 78.59 336 ⇓P **P 19 04 10.4 +0.8**
baz=79,SNR=23
SCIA State Center 78.60 344 *eP* **P 19 04 09.7 +0.2**
comp=Z,70nm,0.7s
S23A Nye Farm, Mont 78.63 333 ⇑P **P 19 04 10.8 +0.7**
baz=79
WVL Waterville 78.76 1 *eP* **P 19 04 10.7 +0.4**

comp=Z,117nm,1.2s
PTN Potsdam (NY) 78.80 358 eP P 19 04 10.8 +0.3
PTN Potsdam (NY) 78.80 358 eP P 19 04 10.8 +0.3
TSUM Tsumeb 78.80 106 ⇓iP P 19 04 12.5 +1.1
TSUM Tsumeb 78.80 106 eP P 19 04 12.2 +0.8
comp=Z,39nm,1.1s
TSUM LR LR
comp=Z,1µm,22.0s
P28A Saint Francis 78.81 337 ⇓P P 19 04 11.0 +0.2
baz=79,SNR=8.8
Q26A Hugo 78.82 335 ⇓P P 19 04 11.2 +0.2
baz=79,SNR=25
O30A MW Ranch, Wils 78.82 338 ⇑P P 19 04 11.5 +0.7
baz=79,SNR=7.4
LONY Lake Ozonia 78.84 358 eP P 19 04 11.0 +0.3
comp=Z,85nm,1.2s
N32A Stulken Farm, 78.84 340 ⇑P P 19 04 11.1 +0.1
baz=79
SWSC Sam W. Stewart 78.87 323 ⇓P P 19 04 12.0 +0.8
baz=79,SNR=6.6
Y12C Blythe 78.91 325 ⇑P P 19 04 12.7 +1.2
baz=79,SNR=22
JFWS Jewell Farm 78.93 346 eP P 19 04 11.1 -0.2
JFWS pmax pmax
comp=Z,110nm,0.9s
JFWS MLR MLR
comp=Z,339nm,20.0s
JFWS Jewell Farm 78.93 346 eP P 19 04 11.1 -0.2
comp=Z,110nm,0.9s
JFWS LR LR
comp=Z,339nm,20.0s
WUAZ Wupatki 78.94 328 eP P 19 04 13.1 +1.3
comp=Z,93nm,1.1s
WUAZ LR LR
comp=Z,418nm,19.0s
WUAZ Wupatki 78.94 328 ⇑P P 19 04 12.6 +0.8
baz=79,SNR=16
EMMW East Machias 78.98 3 eP P 19 04 09.0 -2.5
comp=Z,94nm,1.0s
S22A 4UR Ranch, Cre 78.98 332 eP P 19 04 09.8 -2.4
comp=Z,24nm,0.9s
S22A 4UR Ranch, Cre 78.98 332 ⇓P P 19 04 12.5 +0.3
baz=79,SNR=12
R23A Moffat 78.99 333 ⇓P P 19 04 12.8 +0.7
baz=79,SNR=21
O29A 4D Ranch, Culb 79.00 338 ⇓P P 19 04 12.1 +0.3
baz=79
P27A Ficken Ranch, 79.06 336 ⇑P P 19 04 13.4 +1.1
baz=79,SNR=7.6
N31A Bailey Ranch, 79.09 339 ⇑P P 19 04 12.6 +0.4
baz=79
BAR Barrett 79.09 323 eP P 19 04 13.4 +0.9
comp=Z,16nm,1.1s
MVCO Mesa Verde 79.17 331 eP P 19 04 13.5 +0.4
comp=Z,97nm,1.2s
MVCO LR LR
comp=Z,1µm,20.0s
MVCO Mesa Verde 79.17 331 ⇓P P 19 04 13.5 +0.4
baz=80,SNR=28
PDMCI Parker Dam,Lak 79.18 325 ⇓P P 19 04 13.5 +0.6
baz=79
SADO Sadowa 79.23 355 P P 19 04 12.8 -0.1
comp=Z,47nm,1.0s,baz=190,slow=5.0,SNR=18
BC3 Big Chuckawall 79.28 324 ⇑P P 19 04 14.5 +0.9
baz=80,SNR=32
O28A Krutsinger Ran 79.32 337 ⇑P P 19 04 14.3 +0.7
baz=80,SNR=9.5
P26A Davis Ranch, A 79.33 336 ⇓P P 19 04 14.0 +0.2
baz=80,SNR=16
BGNE Belgrade 79.40 340 eP P 19 04 14.2 +0.2
comp=Z,190nm,1.1s
BGNE Belgrade 79.40 340 ⇑P P 19 04 13.7 -0.2
baz=80,SNR=6.2
N30A Hueftle Ranch, 79.40 338 ⇓P P 19 04 14.4 +0.4
baz=80
Q24A Divide 79.43 334 eP P 19 04 15.6 +1.1
Q24A Divide 79.43 334 ⇓P P 19 04 15.1 +0.5
baz=80,SNR=24
PKME Peaks-Kenny Pk 79.47 2 eP P 19 04 14.7 +0.5
comp=Z,31nm,1.1s
PKME LR LR
comp=Z,596nm,19.0s
109C Camp Elliot, M 79.48 322 ⇓P P 19 04 14.4 -0.1
baz=80
CASY Casey 79.48 181 eP P 19 04 14.3 +0.1
comp=Z,107nm,1.1s
CASY LR LR
comp=Z,967nm,21.0s
IRM Iron Mountain 79.55 325 ⇓P P 19 04 15.8 +0.9
baz=80
BOSA Boshof 79.57 117 ⇓iP P 19 04 15.9 +0.3
BOSA AMB AMB 19 04 16.8
comp=Z,59nm,4.5s
BOSA AMS AMS 19 33 25.3
comp=Z,561nm,19.2s
BOSA Boshof 79.57 117 P P 19 04 15.9 +0.3
comp=Z,32nm,0.7s,baz=234,slow=3.9,SNR=79
BOSA LR LR 19 37 40.5
comp=Z,284nm,18.0s,baz=236,slow=34
BOSA Boshof 79.57 117 P P 19 04 15.9 +0.3
BOSA pmax pmax
comp=Z,32nm,0.7s
BOSA MLR MLR
comp=Z,284nm,18.0s
BOSA Boshof 79.57 117 eP P 19 04 15.8 +0.2
M31A Lambtecht Ranc 79.57 339 ⇓P P 19 04 15.0 +0.1
baz=80,SNR=16
N29A Votaw Ranch, W 79.58 338 ⇑P P 19 04 15.5 +0.5
baz=80,SNR=12
O27A Beecher Island 79.60 337 ⇑P P 19 04 16.0 +0.8
baz=80,SNR=11
Q23A Hartsel 79.62 334 ⇑P P 19 04 15.6 0.0
baz=80
W13A Hualapai Mount 79.72 326 ⇑P P 19 04 16.9 +0.8
baz=80
PFO Pinyon Flats O 79.73 323 P P 19 04 17.2 +1.1
comp=Z,421nm,0.9s,SNR=19
PFO Pinyon Flats O 79.73 323 P P 19 04 17.4 +1.3
comp=Z,78nm,1.1s,baz=129,slow=4.5,SNR=22
PFO Pinyon Flats O 79.73 323 eP P 19 04 17.0 +0.9
PFO pmax pmax
comp=Z,101nm,1.1s
PFO MLR MLR
comp=Z,728nm,22.0s
PFO Pinyon Flats O 79.73 323 eP P 19 04 17.0 +0.9
comp=Z,100nm,1.1s
PFO LR LR
comp=Z,728nm,22.0s
PFO Pinyon Flats O 79.73 323 ⇑P P 19 04 17.4 +1.3
baz=80,SNR=7.3
N28A Pribbeno Ranch 79.75 337 ⇑P P 19 04 16.1 +0.1
baz=80,SNR=5.7
NEE2 Needles Airpor 79.79 325 ⇓P P 19 04 16.6 +0.4
baz=80
BELC Belle Mtn. Jos 79.83 324 ⇓P P 19 04 17.5 +0.9
baz=80,SNR=12
GLMI Grayling 79.86 351 PFAKE 19 04 30.0 +14
GLMI LR LR
comp=Z,547nm,20.0s
O26A Horse Wrangler 79.93 336 ⇑P P 19 04 17.8 +0.8
baz=80,SNR=11
M30A Dale-Ortello V 80.01 339 ⇑P P 19 04 17.3 -0.1
baz=80,SNR=15
P23A Jefferson 80.04 334 ⇓P P 19 04 19.0 +1.1
baz=80,SNR=11
MURC Murrieta 80.09 323 ⇑P P 19 04 18.8 +0.8
baz=80,SNR=12
U15A North Rim 80.11 328 ⇓P P 19 04 19.1 +0.9
baz=80,SNR=17
OGNE Ogallala 80.14 337 eP P 19 04 18.0 -0.1
comp=Z,56nm,0.9s
OGNE LR LR
comp=Z,383nm,21.0s
OGNE Ogallala 80.14 337 ⇑P P 19 04 18.6 +0.6
baz=80
PV05 Paradox Valley 80.16 331 eP P 19 04 19.8 +1.4
M29A Burnside Ranch 80.17 338 ⇑P P 19 04 18.9 +0.6
baz=80,SNR=7.0
N27A Anderson Farm, 80.18 337 ⇓P P 19 04 19.0 +0.6
baz=80,SNR=18
SCI San Clemente I 80.28 322 ⇓P P 19 04 18.8 -0.2
baz=80
SMCO Snowmass 80.29 333 eP P 19 04 20.7 +1.4
comp=Z,83nm,1.0s
GMRC Granite Mounta 80.29 325 ⇓P P 19 04 20.1 +0.9
baz=80,SNR=28
L31A Butterfield Fa 80.30 340 ⇑P P 19 04 19.6 +0.7
baz=81,SNR=17

ISCO Idaho Springs 80.33 334 eP P 19 04 20.0 +0.6
ISCO MLR MLR
comp=Z,317nm,22.0s
ISCO Idaho Springs 80.33 334 eP P 19 04 20.0 +0.6
ISCO LR LR
comp=Z,317nm,22.0s
ISCO Idaho Springs 80.33 334 ⇑P P 19 04 19.7 +0.3
baz=81,SNR=42
M28A Bar X Bar Ranc 80.34 338 ⇑P P 19 04 20.1 +1.0
baz=81
L30A Spencer Herefo 80.35 339 ⇑P P 19 04 19.3 +0.2
baz=81,SNR=18
N26A Koester Ranch, 80.42 336 ⇓P P 19 04 19.9 +0.2
baz=81
BBRC Big Bear Solar 80.49 323 ⇓P P 19 04 21.2 +0.9
baz=81
CIS Catalina Islan 80.55 322 ⇑P P 19 04 18.7 -1.7
baz=81
P22A Eagle 80.57 333 ⇓P P 19 04 21.5 +0.8
baz=81,SNR=12
HEC Hector,Ludlow 80.66 324 ⇓P P 19 04 22.0 +1.0
baz=81,SNR=12
L29A Maesberg Ranch 80.68 339 ⇑P P 19 04 21.7 +0.8
baz=81,SNR=24
FMP Fort Macarthur 80.73 322 ⇓P P 19 04 21.3 0.0
baz=81
M27A Reverse DX Ran 80.78 337 ⇑P P 19 04 21.9 +0.4
baz=81,SNR=11
KNB Kanab 80.83 328 eP P 19 04 23.6 +1.6
KNB pmax pmax
comp=Z,97nm,1.0s
KNB Kanab 80.83 328 eP P 19 04 23.6 +1.6
comp=Z,97nm,1.0s
BFSC Mount Baldy Ra 80.83 323 ⇑P P 19 04 22.6 +0.6
baz=81,SNR=14
PQI Presque Isle 80.91 3 eP P 19 04 22.9 +1.0
comp=Z,188nm,1.7s
L28A Connealy Angus 80.94 338 ⇑P P 19 04 22.6 +0.2
baz=81
TUQ Turquoise Moun 80.95 325 ⇑P P 19 04 23.2 +0.6
baz=81
M26A McRoberts Ranc 80.97 337 ⇑P P 19 04 23.3 +0.7
baz=81
K30A Basset 80.98 340 ⇑P P 19 04 22.8 +0.3
baz=81,SNR=35
O22A Kremmling 80.99 334 ⇑P P 19 04 23.3 +0.4
baz=81,SNR=44
RRX Edison Barstow 81.02 324 ⇑P P 19 04 23.6 +0.8
baz=81
PASC Pasadena Art C 81.04 323 eP P 19 04 24.0 +1.0
ECSD EROS Data Cent 81.15 342 eP P 19 04 23.2 -0.1
comp=Z,179nm,1.0s
ECSD LR LR
comp=Z,384nm,22.0s
ECSD EROS Data Cent 81.15 342 ⇓P P 19 04 23.2 -0.1
baz=82,SNR=83
DECC Green Verdugo 81.18 322 ⇓P P 19 04 23.7 0.0
baz=81
M25A Palm-Egli Farm 81.25 336 ⇓P P 19 04 24.5 +0.4
baz=82
L27A T5 Ranch, Ells 81.26 337 ⇓P P 19 04 24.4 +0.3
baz=82
GSC Goldstone, Bar 81.27 324 eP P 19 04 25.3 +1.1
GSC pmax pmax
comp=Z,44nm,1.0s
GSC Goldstone, Bar 81.27 324 eP P 19 04 25.3 +1.1
comp=Z,44nm,1.0s
GSC Goldstone, Bar 81.27 324 ⇓P P 19 04 25.3 +1.1
baz=82,SNR=16
K29A Lazy Trails An 81.27 339 ⇓P P 19 04 24.1 +0.1
baz=82,SNR=14
N23A Red Feather La 81.42 334 eP P 19 04 25.6 +0.5
comp=Z,76nm,1.1s
N23A Red Feather La 81.42 334 ⇓P P 19 04 25.4 +0.2
baz=82,SNR=40
BLG Laguna Peak, P 81.44 322 ⇑P P 19 04 25.7 +0.6
baz=82
SEK Senekal 81.46 118 eP P 19 04 26.4 +0.6
SEK AMB AMB 19 04 29.2
comp=Z,82nm,1.6s
SEK Senekal 81.46 118 P P 19 04 26.4 +0.6
comp=Z,82nm,1.6s
L26A Underwood Farm 81.46 337 ⇓P P 19 04 25.4 +0.3
baz=82
SHPR Sheep Range 81.46 326 eP P 19 04 26.2 +0.8
KSD Kokstad 81.49 121 eP P 19 04 27.3 +1.4
KSD AMB AMB 19 04 31.3
comp=Z,17nm,1.6s
KSD Kokstad 81.49 121 P P 19 04 27.3 +1.4
comp=Z,17nm,1.6s
SHOC Shoshone, Teco 81.50 325 ⇑P P 19 04 26.3 +0.9
baz=82
EDW2 Edwards Air Fo 81.51 323 ⇓P P 19 04 26.0 +0.5
baz=82,SNR=17
N22A Watenerg Ran 81.52 334 ⇓P P 19 04 26.3 +0.6
baz=82,SNR=20
K28A Ten Mile Ranch 81.54 338 ⇓P P 19 04 26.0 +0.5
baz=82
J30A Dallas 81.55 340 ⇑P P 19 04 25.3 -0.1
baz=82,SNR=5.7
O20A White River Ci 81.60 333 eP P 19 04 26.2 +0.2
O20A White River Ci 81.60 333 ⇓P P 19 04 26.3 +0.2
baz=82,SNR=12
PHWY Pilot Hill 81.61 335 eP P 19 04 26.5 +0.3
comp=Z,66nm,1.1s
SRU San Rafael Swe 81.62 330 eP P 19 04 26.5 +0.3
SRU pmax pmax
comp=Z,45nm,0.9s
SRU San Rafael Swe 81.62 330 eP P 19 04 26.4 +0.3
comp=Z,45nm,0.9s
BSC Santa Cruz Isl 81.64 321 ⇓P P 19 04 26.3 +0.2
baz=82
OSI Osito Audit: C 81.67 322 eP P 19 04 27.0 +0.7
comp=Z,110nm,1.0s
SPMN Marine on St. 81.67 345 eP P 19 04 25.3 -0.7
comp=Z,74nm,1.0s
SPMN Marine on St. 81.67 345 ⇓P P 19 04 27.1 +1.1
baz=82,SNR=9.4
K27A Flueckinger Fa 81.80 338 ⇓P P 19 04 27.4 +0.6
baz=82,SNR=12
COWI Conover 81.80 348 eP P 19 04 26.7 0.0
comp=Z,62nm,1.2s
COWI LR LR
comp=Z,359nm,20.0s
MSU Marysvale 81.80 329 eP P 19 04 28.3 +1.1
MSU Marysvale 81.80 329 eP P 19 04 28.2 +1.1
MVU Marysvale 81.81 329 eP P 19 04 28.2 +1.0
LBTB Lobatse 81.83 115 ⇓iP P 19 04 28.2 +0.5
LBTB AMB AMB 19 04 28.4
comp=Z,64nm,2.1s
LBTB AMS AMS 19 40 07.9
comp=Z,699nm,18.3s
LBTB Lobatse 81.83 115 eP P 19 04 28.1 +0.5
LBTB pmax pmax
comp=Z,294nm,2.0s
LBTB Lobatse 81.83 115 eP P 19 04 28.1 +0.5
comp=Z,294nm,2.0s
LRMC Laurel Mtn Rad 81.84 324 ⇑P P 19 04 27.3 0.0
baz=82
L25A Engebretsen Ra 81.86 336 ⇑P P 19 04 27.8 +0.6
baz=82
J29A Okreek 81.86 339 ⇑P P 19 04 27.2 +0.1
baz=82,SNR=48
SBC Santa Barbara 82.03 322 ⇑P P 19 04 28.8 +0.6
baz=82
TMUT Trail Mountain 82.06 330 eP P 19 04 27.7 -0.9
comp=Z,178nm,1.7s
PRYS Parys 82.06 117 ⇓iP P 19 04 28.8 -0.2
PRYS AMB AMB 19 04 32.5
comp=Z,29nm,1.7s
PRYS Parys 82.06 117 P P 19 04 28.8 -0.2
comp=Z,29nm,1.7s
I30A Oacoma 82.07 340 ⇑P P 19 04 28.2 0.0
baz=82,SNR=13
K26A Motz Farm, Whi 82.09 337 ⇑P P 19 04 29.1 +0.7
baz=82,SNR=8.4
ARVC Arvin 82.12 323 ⇑P P 19 04 29.4 +0.8
baz=82
J28A Allard Ranch, 82.15 339 ⇑P P 19 04 29.3 +0.7
baz=82,SNR=61
MPMC Manual Prospec 82.21 324 ⇓P P 19 04 29.7 +0.4
baz=82,SNR=14
N20A Spence Gulch, 82.22 333 ⇑P P 19 04 29.4 +0.1
baz=82,SNR=16
J27A Elkhorn Farm, 82.22 338 ⇑P P 19 04 29.9 +0.8
baz=83,SNR=35
FURC Furnace Creek, 82.23 325 ⇓P P 19 04 30.0 +0.9
baz=82,SNR=8.0

K25A Mack Ranch, Ha 82.24 337 ⇑P P 19 04 29.7 +0.5
baz=83,SNR=9.0
TPNV Topopah Spring 82.33 325 eP P 19 04 31.5 +1.6
TPNV pmax pmax
comp=Z,51nm,1.0s
TPNV Topopah Spring 82.33 325 eP P 19 04 31.5 +1.6
comp=Z,51nm,1.0s
TPNV Topopah Spring 82.33 325 ⇓P P 19 04 31.1 +1.2
baz=83,SNR=17
ISA Isabella, Lake 82.37 323 eP P 19 04 31.3 +1.3
ISA pmax pmax
comp=Z,50nm,1.0s
ISA Isabella, Lake 82.37 323 eP P 19 04 31.3 +1.3
comp=Z,50nm,1.0s
ISA Isabella, Lake 82.37 323 ⇓P P 19 04 30.8 +0.8
baz=83,SNR=14
I29A Vivian Onida 82.42 340 ⇓P P 19 04 29.7 -0.3
baz=83
BRSD Miller 82.43 341 eP P 19 04 29.6 -0.4
comp=Z,178nm,1.3s
BRSD Miller 82.43 341 ⇓P P 19 04 29.8 -0.2
baz=83
DAC Darwin (Calif) 82.43 324 eP P 19 04 31.4 +0.9
DAC pmax pmax
comp=Z,63nm,1.0s
DAC Darwin (Calif) 82.43 324 eP P 19 04 31.4 +0.9
comp=Z,63nm,1.0s
PKM Mcpherson Peak 82.44 322 ⇑P P 19 04 31.4 +0.8
baz=83,SNR=15
J26A Sides Ranch, S 82.61 337 ⇓P P 19 04 31.8 +0.7
baz=83,SNR=27
K24A Anderson Ranch 82.65 336 ⇓P P 19 04 31.7 +0.3
baz=83,SNR=15
I28A Midland 82.65 339 ⇓P P 19 04 31.4 +0.2
baz=83,SNR=41
CWC Cottonwood Cre 82.80 324 ⇓P P 19 04 33.3 +1.0
baz=83,SNR=11
VES Vestal, Richgr 82.81 323 ⇓P P 19 04 32.7 +0.5
baz=83,SNR=11
MPU Maple Canyon 82.84 330 eP P 19 04 33.2 +0.7
comp=Z,73nm,1.2s
SMMC Simmler 82.86 322 ⇓P P 19 04 32.9 +0.4
baz=83
GRAC Grapevine Rang 82.90 325 ⇓P P 19 04 33.9 +1.1
baz=83
KHZ Kahutara 82.91 223 eP P 19 04 35.2 +2.3
comp=Z,52nm,1.0s
J25A Sunshine Ranch 82.91 337 ⇓P P 19 04 33.1 +0.4
baz=83,SNR=17
H29A Onida 82.95 340 ⇓P P 19 04 32.3 -0.4
baz=83,SNR=38
NLU North Lily Min 82.97 330 eP P 19 04 34.1 +0.9
comp=Z,106nm,1.7s
I27A Quinn 82.98 338 ⇑P P 19 04 33.3 +0.4
baz=83,SNR=23
G30A Faulkton 83.11 341 ⇓P P 19 04 33.1 -0.5
baz=84
J24A Dixon Ranch, L 83.14 336 ⇑P P 19 04 34.7 +0.8
baz=84,SNR=18
R11A Troy Canyon, C 83.16 327 eP P 19 04 35.1 +0.8
comp=Z,68nm,1.1s
R11A Troy Canyon, C 83.16 327 ⇓P P 19 04 34.9 +0.7
baz=83,SNR=78
K22A Casper 83.17 335 eP P 19 04 34.6 +0.4
comp=Z,137nm,1.3s
K22A Casper 83.17 335 ⇓P P 19 04 34.5 +0.4
baz=84,SNR=24
I26A New Underwood 83.19 338 ⇓P P 19 04 34.3 +0.2
baz=84
H28A Mission Ridge 83.22 339 ⇓P P 19 04 34.4 +0.2
baz=84,SNR=11
RCTC Rector, Farmer 83.26 323 ⇑P P 19 04 33.9 -0.6
baz=84
JLU Jordanelle 83.26 331 eP P 19 04 33.9 -0.9
BKZ Black Stump Fm 83.30 227 eP P 19 04 36.8 +1.8
comp=Z,60nm,1.2s
TIN Tinemaha, Big 83.36 324 ⇓P P 19 04 35.6 +0.4
baz=84
G29A Hoven 83.39 340 ⇑P P 19 04 34.7 -0.3
baz=84,SNR=10
RPZ Rata Peaks 83.41 220 P P 19 04 35.0 -0.5
comp=Z,83nm,1.1s,baz=139,slow=3.8,SNR=18
RPZ Rata Peaks 83.41 220 eP P 19 04 35.0 -0.5
comp=Z,96nm,1.1s
SLR Silverton 83.42 117 ⇓iP P 19 04 36.1 +0.1
SLR AMB AMB 19 04 38.9
comp=Z,56nm,1.2s
SLR AMS AMS 19 38 11.1
comp=Z,951nm,13.9s
SLR Silverton 83.42 117 P P 19 04 36.1 +0.1
SLR pmax pmax
comp=Z,56nm,1.2s
SLR Silverton 83.42 117 P P 19 04 36.1 +0.1
comp=Z,56nm,1.2s
I25A Rochford 83.45 337 ⇑P P 19 04 35.9 +0.3
baz=84,SNR=46
DUG Dugway, Tooele 83.48 330 eP P 19 04 35.9 +0.1
DUG pmax pmax
comp=Z,114nm,1.3s
DUG MLR MLR
comp=Z,496nm,20.0s
DUG Dugway, Tooele 83.48 330 eP P 19 04 35.9 +0.1
comp=Z,114nm,1.3s
DUG LR LR
comp=Z,496nm,20.0s
DUG Dugway, Tooele 83.48 330 ⇓P P 19 04 36.1 +0.4
baz=84,SNR=65
H27A Howes 83.50 339 ⇑P P 19 04 35.6 0.0
baz=84,SNR=37
URZ Urewera 83.50 228 P P 19 04 36.3 +0.3
comp=Z,20nm,0.9s,baz=200,slow=3.7,SNR=5.7
URZ Urewera 83.50 228 eP P 19 04 35.2 -0.8
comp=Z,35nm,2.9s
J23A Dilts Ranch, B 83.50 336 ⇑P P 19 04 35.8 0.0
baz=84
WHZ Wether Hill Ro 83.53 217 eP P 19 04 36.9 +0.9
comp=Z,111nm,1.4s
G28A Parade 83.56 340 ⇓P P 19 04 36.1 +0.2
baz=84,SNR=14
I24A Kuemmerle Ranc 83.60 337 ⇑P P 19 04 36.2 0.0
baz=84,SNR=13
RSSD Black Hills 83.64 337 eP P 19 04 36.6 0.0
RSSD pmax pmax
comp=Z,52nm,1.0s
RSSD Black Hills 83.64 337 eP P 19 04 36.6 0.0
comp=Z,52nm,1.0s
TCUT Toone Canyon 83.68 331 eP P 19 04 37.3 +0.4
comp=Z,132nm,1.3s
H26A Fairpoint 83.69 338 ⇓P P 19 04 36.4 -0.3
baz=84
TPH Tonopah 83.69 325 eP P 19 04 37.8 +0.8
TPH pmax pmax
comp=Z,77nm,1.1s
TPH Tonopah 83.69 325 eP P 19 04 37.8 +0.8
comp=Z,77nm,1.1s
F30A Leola 83.73 341 ⇑P P 19 04 36.4 -0.4
baz=84
J22A Midwest 83.83 335 ⇑P P 19 04 36.8 -0.6
baz=84,SNR=25
F29A Eureka 83.95 341 ⇓P P 19 04 37.7 -0.1
baz=84,SNR=11
H25A Fruitdale 83.95 338 ⇑P P 19 04 38.0 +0.1
baz=84,SNR=20
I23A Meade Ranch, G 83.97 336 ⇑P P 19 04 37.4 -0.7
baz=84
EYMN Ely 84.01 347 eP P 19 04 37.7 -0.4
comp=Z,86nm,1.2s
EYMN LR LR
comp=Z,304nm,20.0s
J21A Lysite 84.11 335 ⇑P P 19 04 38.7 -0.2
baz=84,SNR=24
MLAC Mammoth, Mammo 84.11 324 ⇑P P 19 04 39.5 +0.4
baz=84
G27A Dupree 84.13 339 ⇓P P 19 04 38.6 -0.2
baz=84,SNR=34
TOA0 Torodi Ar. Sit 84.14 70 eP P 19 04 39.0 -0.5
TOA0 Torodi Ar. Sit 84.14 70 eP P 19 04 38.9 -0.7
TORD Torodi Ar. Bea 84.14 70 P P 19 04 39.2 -0.3
comp=Z,52nm,1.0s,baz=251,slow=3.9,SNR=115
TORD PKKPbc **PKKPbc 19 22 52.9 +0.6**
comp=Z,1.2nm,1.1s,baz=61,slow=3.5,SNR=5.0
TORD LR LR 19 40 19.2
comp=Z,593nm,19.3s,baz=225,slow=34
HWUT Hardware Ranch 84.16 331 eP P 19 04 39.2 0.0
comp=Z,49nm,0.9s
HWUT LR LR
comp=Z,873nm,20.0s
BGU Big Grassy Mou 84.18 330 eP P 19 04 39.5 +0.2

comp=Z,150nm,1.4s
F28A McLaughlin 84.23 340 ⇑P P 19 04 39.1 -0.2
baz=85,SNR=11
I22A 9 Mile Ranch, 84.25 336 ⇑P P 19 04 39.1 -0.5
baz=85,SNR=29
G26A Maurine 84.25 339 ⇓P P 19 04 39.7 +0.2
baz=85,SNR=9.8
E30A Jud 84.32 341 ⇑P P 19 04 39.0 -0.7
baz=85,SNR=5.5
J20A Shoshoni 84.34 334 ⇓P P 19 04 40.3 +0.2
baz=85,SNR=53
H24A Dirks Ranch, A 84.37 337 ⇓P P 19 04 39.7 -0.4
baz=85,SNR=18
BW06 Boulder Array 84.37 333 eP P 19 04 39.1 -1.2
BW06 LR LR
comp=Z,698nm,19.0s
PDAR Pinedale Array 84.37 333 P P 19 04 39.7 -0.7
comp=Z,12nm,0.7s,baz=130,slow=6.3,SNR=60
PDAR PKKPbc PKKPbc 19 22 51.1 -2.6
comp=Z,0.8nm,0.5s,baz=66,slow=3.3,SNR=6.4
PDAR LR LR 19 38 37.2
comp=Z,616nm,19.3s,baz=157,slow=33
DRLN Deer Lake 84.38 9 eP P 19 04 41.2 +1.3
comp=Z,131nm,1.2s
G25A Newell 84.41 338 ⇑P P 19 04 40.2 0.0
baz=85,SNR=18
I21A Big Trails, Te 84.46 335 ⇓P P 19 04 40.1 -0.5
baz=85,SNR=39
H23A Clabaugh Cattl 84.48 337 ⇑P P 19 04 40.2 -0.5
baz=85
NV01 Mina Array Sit 84.49 325 eP P 19 04 41.6 +0.6
NVAR Mina Array Bea 84.49 325 P P 19 04 41.7 +0.7
comp=Z,11nm,0.7s,baz=150,slow=5.4,SNR=42
E29A Napoleon 84.58 341 ⇑P P 19 04 40.5 -0.5
baz=85
F27A Lemmon 84.61 339 ⇓P P 19 04 41.4 +0.1
baz=85,SNR=48
J19A Crowheart 84.61 334 ⇓P P 19 04 41.1 -0.4
baz=85,SNR=62
F26A Lodgepole 84.78 339 ⇑P P 19 04 41.7 -0.4
baz=85,SNR=5.5
HVU Hansel Valley 84.79 330 eP P 19 04 42.5 +0.1
HVU pmax pmax
comp=Z,45nm,1.1s
HVU Hansel Valley 84.79 330 eP P 19 04 42.5 +0.1
comp=Z,45nm,1.1s
H22A Clearmont 84.82 336 ⇓P P 19 04 41.4 -1.1
baz=85,SNR=16
D30A Buchanan 84.84 342 ⇓P P 19 04 42.2 -0.1
baz=85,SNR=6.7
G24A Alzada 84.84 337 ⇑P P 19 04 42.4 -0.1
baz=85,SNR=8.5
E28A Huff 84.87 340 ⇑P P 19 04 42.3 -0.2
baz=85,SNR=6.7
I20A Worland 84.87 334 ⇑P P 19 04 42.1 -0.6
baz=85,SNR=48
AHID Auburn Hatcher 84.96 332 eP P 19 04 43.5 +0.3
comp=Z,92nm,1.4s
AHID LR LR
comp=Z,580nm,20.0s
ELK Elko 84.97 328 P P 19 04 44.7 +1.3
comp=Z,25nm,1.0s,baz=154,slow=3.2,SNR=38
ELK Elko 84.97 328 eP P 19 04 43.8 +0.3
ELK pmax pmax
comp=Z,49nm,1.3s
ELK Elko 84.97 328 eP P 19 04 43.8 +0.3
comp=Z,49nm,1.3s
E27A Carson 84.98 340 ⇑P P 19 04 42.6 -0.5
baz=85,SNR=7.2
D29A Pettibone, Tap 85.02 341 ⇑P P 19 04 43.1 -0.1
baz=85
F25A Bowman 85.08 338 ⇓P P 19 04 43.9 +0.2
baz=85
H21A Big Horn, Sher 85.09 336 ⇑P P 19 04 42.7 -1.1
baz=85,SNR=7.5
WAKR Walker 85.09 324 eP P 19 04 45.4 +1.4
CMB Columbia Colle 85.18 323 eP P 19 04 44.4 +0.1
CMB pmax pmax
comp=Z,56nm,1.4s
CMB Columbia Colle 85.18 323 eP P 19 04 44.4 +0.1
comp=Z,56nm,1.4s
MSKU Masuku 85.21 89 eP P 19 04 46.6 +1.6
MSKU LR LR
comp=Z,3.0nm,20.0s
AGMN Agassiz Nation 85.25 344 eP P 19 04 44.0 -0.4
comp=Z,160nm,1.5s
AGMN LR LR
comp=Z,284nm,19.0s
AGMN Agassiz Nation 85.25 344 ⇓P P 19 04 43.7 -0.6
baz=86,SNR=23
I19A Meeteetse 85.26 334 ⇑P P 19 04 44.2 -0.5
baz=86,SNR=5.5
E26A Carlson Angus 85.28 339 ⇓P P 19 04 43.9 -0.7
baz=86
H20A Greybull 85.30 335 ⇑P P 19 04 44.7 -0.1
baz=86,SNR=39
F24A Ekalaka 85.31 338 ⇓P P 19 04 44.6 -0.2
baz=86,SNR=22
C30A Mose, Pekin 85.32 342 ⇓P P 19 04 44.9 +0.2
baz=86,SNR=12
G22A Birney 85.36 336 ⇑P P 19 04 44.0 -1.0
baz=86,SNR=11
REDW Red Top Meadow 85.37 332 eP P 19 04 45.1 -0.3
comp=Z,52nm,1.1s
D28A Regan 85.40 341 ⇑P P 19 04 45.0 -0.2
baz=86
SNOW Snow King Moun 85.42 333 eP P 19 04 46.0 +0.3
comp=Z,39nm,0.9s
LOHW Long Hollow 85.49 333 eP P 19 04 46.0 0.0
F23A Volborg 85.51 337 ⇓P P 19 04 45.6 -0.2
baz=86,SNR=40
TPAW Teton Pass 85.52 332 eP P 19 04 46.0 -0.1
comp=Z,50nm,1.0s
E25A Miller Ranch, 85.58 339 ⇑P P 19 04 46.1 0.0
baz=86,SNR=16
D27A Center 85.59 340 ⇓P P 19 04 45.9 -0.2
baz=86
MOOW Moose Ponds 85.66 333 eP P 19 04 46.5 -0.3
G21A Lodge Grass 85.67 336 ⇓P P 19 04 46.6 -0.1
baz=86,SNR=14
FXWY Fox Creek 85.67 333 eP P 19 04 47.1 +0.2
comp=Z,31nm,1.1s
I17A Pilgrim Ck. 85.74 333 ⇓P P 19 04 46.8 -0.4
baz=86
MDND Maddock 85.75 342 eP P 19 04 47.1 +0.2
MDND Maddock 85.75 342 ⇓P P 19 04 46.3 -0.5
baz=86,SNR=8.3
D26A Manning 85.78 339 ⇑P P 19 04 46.6 -0.5
baz=86,SNR=29
H19A Powell 85.81 334 ⇑P P 19 04 47.2 -0.2
baz=86,SNR=21
C28A Hausauer Farms 85.83 341 ⇓P P 19 04 47.5 +0.2
baz=86
F22A Rosebud 85.84 337 ⇑P P 19 04 46.7 -0.7
baz=86,SNR=35
IMW Indian Meadow 85.86 333 eP P 19 04 47.7 -0.1
E24A Baker 85.91 338 ⇓P P 19 04 47.8 +0.1
baz=86,SNR=18
FLWY Flagg Ranch 85.93 333 eP P 19 04 48.8 +0.7
comp=Z,92nm,1.1s
B30A Myrvik Farm, E 85.98 343 ⇓P P 19 04 47.9 -0.1
baz=86,SNR=11
G20A Bridger 86.01 335 ⇓P P 19 04 47.4 -1.0
baz=86,SNR=54
H18A Shoshone NF, C 86.06 334 ⇓P P 19 04 49.0 +0.3
baz=86,SNR=89
C27A Sayler Ranch, 86.14 340 ⇓P P 19 04 49.0 +0.2
baz=86,SNR=17
D25A Fairfield 86.14 339 ⇓P P 19 04 49.0 +0.1
baz=86,SNR=23
H17A Grant Village 86.15 333 eP P 19 04 50.0 +0.7
comp=Z,20nm,0.9s
H17A Grant Village 86.15 333 ⇑P P 19 04 50.0 +0.7
baz=86,SNR=16
F21A Absaloka Mine, 86.16 336 ⇑P P 19 04 48.9 -0.2
baz=86
E23A Ismay 86.17 337 ⇑P P 19 04 48.7 -0.3
baz=86,SNR=29
LKWY Lake 86.23 333 eP P 19 04 50.9 +1.2
LKWY pmax pmax
comp=Z,52nm,1.3s
LKWY MLR MLR
comp=Z,704nm,20.0s
LKWY Lake 86.23 333 eP P 19 04 50.9 +1.2
comp=Z,52nm,1.3s
LKWY LR LR
comp=Z,704nm,20.0s
B29A Wagenman Farm, 86.25 342 ⇑P P 19 04 49.2 -0.1
baz=87
YFT Old Faithful 86.29 333 eP P 19 04 51.0 +1.1
comp=Z,141nm,1.7s
RLMT Red Lodge 86.30 334 eP P 19 04 49.7 -0.2
comp=Z,123nm,1.3s
RLMT LR LR
comp=Z,351nm,20.0s
E22A Miles City 86.32 337 ⇓P P 19 04 49.2 -0.6
baz=87,SNR=17
C26A Wahner Farm, P 86.40 340 ⇓P P 19 04 49.3 -0.8
baz=87
D24A Glendive 86.42 338 ⇑P P 19 04 50.2 0.0
baz=87,SNR=26
A30A Hoffart Farm, 86.43 343 ⇑P P 19 04 49.8 -0.3
baz=87
YNR Norris Junctio 86.46 333 eP P 19 04 50.6 -0.1
comp=Z,38nm,1.4s
F20A Billings 86.49 335 ⇑P P 19 04 50.3 -0.4
baz=87,SNR=11
B28A Dugan Ranch, T 86.50 341 ⇑P P 19 04 49.9 -0.6
baz=87,SNR=21
LAO LASA Array 86.63 337 eP P 19 04 51.1 -0.2
comp=Z,145nm,1.1s
C25A Freed Ranch, W 86.63 339 ⇑P P 19 04 51.2 0.0
baz=87,SNR=6.0
A29A Manning Farm, 86.64 342 ⇑P P 19 04 50.9 -0.4
baz=87,SNR=17
MSNA Messina 86.67 115 ⇓/P P 19 04 53.2 +0.9
MSNA AMB AMB 19 04 54.6
comp=Z,71nm,4.4s
MSNA AMS AMS 19 43 03.7
comp=Z,490nm,15.5s
MSNA Messina 86.67 115 P P 19 04 53.2 +0.9
comp=Z,71nm,4.4s
B27A Peters Farms, 86.70 341 ⇑P P 19 04 51.7 +0.2
baz=87
E21A Keefer Ranch, 86.78 336 ⇑P P 19 04 51.5 -0.5
baz=87,SNR=33
F19A Roth Farm, Mol 86.81 335 ⇑P P 19 04 51.5 -0.8
baz=87,SNR=27
C24A Savage 86.82 338 ⇓P P 19 04 51.9 -0.3
baz=87,SNR=69
QLMT Earthquake Lak 86.84 333 eP P 19 04 53.4 +0.9
A28A Rude Farm, Bot 86.90 342 ⇓P P 19 04 52.6 +0.1
baz=87
B26A Jensen Ranch, 86.94 340 ⇑P P 19 04 52.8 0.0
baz=87
HLID Hailey 86.94 330 eP P 19 04 53.5 +0.4
HLID LR LR
comp=Z,322nm,19.0s
HLID Hailey 86.94 330 ⇑P P 19 04 52.8 -0.3
baz=87,SNR=64
GCMT Greycliff 87.02 334 eP P 19 04 53.2 -0.1
D22A Cohagen 87.02 337 ⇑P P 19 04 52.8 -0.4
baz=87,SNR=41
ULM Lac du Bonnet 87.09 345 P P 19 04 52.9 -0.5
comp=Z,43nm,0.9s,baz=165,slow=3.8,SNR=27
ULM Lac du Bonnet 87.09 345 P P 19 04 52.9 -0.5
ULM pmax pmax
comp=Z,43nm,0.9s
E20A Meyer Farm, Mu 87.10 336 ⇑P P 19 04 53.7 +0.1
baz=87,SNR=78
B25A Knox Farm, Ray 87.11 340 ⇑P P 19 04 53.9 +0.4
baz=88,SNR=9.6
A27A Ledoux Ranch, 87.19 341 ⇑P P 19 04 53.5 -0.4
baz=88,SNR=14
D21A La Casta Ranch 87.21 337 ⇑P P 19 04 53.7 -0.4
baz=88,SNR=14
HOPS Hopland Field 87.26 322 eP P 19 04 55.8 +1.4
comp=Z,18nm,1.4s
E19A Rath Farm, Rou 87.29 335 ⇓P P 19 04 54.2 -0.4
baz=88,SNR=73
C23A Lambert 87.29 338 ⇑P P 19 04 54.0 -0.4
baz=88,SNR=13
A26A Wade Farm, Ken 87.36 341 ⇓P P 19 04 54.2 -0.6
baz=88
MCMT McKenzie Canyo 87.38 332 eP P 19 04 55.6 +0.4
comp=Z,54nm,1.1s
MFID Camas Ranch 87.41 329 eP P 19 04 55.6 +0.4
comp=Z,47nm,1.1s
DGMT Dagmar 87.59 339 eP P 19 04 56.5 +0.6
comp=Z,284nm,1.0s
DGMT LR LR
comp=Z,423nm,19.0s
DGMT Dagmar 87.59 339 ⇑P P 19 04 55.7 -0.2
baz=88,SNR=13
BOZ Bozeman (W) 87.61 333 eP P 19 04 55.8 -0.4
BOZ pmax pmax
comp=Z,25nm,1.1s
BOZ MLR MLR
comp=Z,425nm,21.0s
BOZ Bozeman (W) 87.61 333 eP P 19 04 55.8 -0.4
comp=Z,25nm,1.1s
BOZ LR LR
comp=Z,425nm,21.0s
D20A Manuel Ranch, 87.61 336 ⇑P P 19 04 55.2 -0.8
baz=88,SNR=58
A25A Svangstu Ranch 87.70 340 ⇓P P 19 04 56.0 -0.4
baz=88,SNR=8.0
DLMT Dillon 87.73 332 eP P 19 04 57.2 +0.4
comp=Z,93nm,1.3s
B23A Brockton 87.82 339 ⇑P P 19 04 56.5 -0.4
baz=88,SNR=23
WVOR Wild Horse Val 87.83 327 eP P 19 04 57.3 0.0
WVOR pmax pmax
comp=Z,46nm,1.3s
WVOR MLR MLR
comp=Z,349nm,20.0s
WVOR Wild Horse Val 87.83 327 eP P 19 04 57.3 0.0
comp=Z,46nm,1.3s
WVOR LR LR
comp=Z,349nm,20.0s
LCCM Lewis and Clar 87.86 333 P P 19 04 58.0 +0.6
C21A Desert Coulee 87.92 337 ⇓P P 19 04 56.9 -0.5
baz=88,SNR=40
D19A Cripps Ranch, 87.93 336 ⇓P P 19 04 57.0 -0.6
baz=88,SNR=25
A24A Westby 87.94 339 ⇑P P 19 04 57.1 -0.4
baz=88,SNR=11
B22A Reddig Ranch S 87.98 338 ⇑P P 19 04 57.0 -0.7
baz=88,SNR=21
KCPM Cahto Peak 88.04 323 eP P 19 05 00.8 +2.5
comp=Z,54nm,1.3s
LRM Limekiln Ridge 88.06 333 eP P 19 04 58.8 +0.3
comp=Z,689nm,1.3s
KIPM Iron Peak 88.08 323 eP P 19 05 01.7 +3.1
C20A Veseth Ranch, 88.11 336 ⇑P P 19 04 58.1 -0.3
baz=88,SNR=48
WDC Whiskeytown Da 88.21 324 eP P 19 04 58.5 -0.5
WDC pmax pmax
comp=Z,39nm,0.9s
WDC Whiskeytown Da 88.21 324 eP P 19 04 58.5 -0.5
comp=Z,39nm,0.9s
A23A Redstone 88.23 339 ⇓P P 19 04 58.2 -0.7
baz=89
B21A Ellsworth Farm 88.42 337 ⇓P P 19 04 59.3 -0.5
baz=89,SNR=19
C19A Slack Wire Ran 88.48 336 ⇓P P 19 04 59.3 -0.8
baz=89,SNR=30
KMRM Mail Ridge 88.51 323 eP P 19 05 02.9 +2.4
comp=Z,98nm,1.2s
A22A Carney Farms, 88.57 338 ⇑P P 19 05 00.2 -0.4
baz=89,SNR=37
HRY Holter Researc 88.58 334 eP P 19 05 00.9 +0.1
N02D Trinity Center 88.59 324 ⇑P P 19 05 00.2 -0.6
baz=89,SNR=5.5
B20A Solberg Farm, 88.75 337 ⇓P P 19 05 00.2 -1.2
baz=89,SNR=32
M04C Macdoel 88.80 325 ⇓P P 19 05 01.6 -0.3
baz=89,SNR=20
A21A Bergtoll Ranch 88.89 338 ⇑P P 19 05 01.6 -0.4
baz=89
EGMT Eagleton 88.97 336 eP P 19 05 01.9 -0.6
comp=Z,47nm,1.1s
EGMT LR LR
comp=Z,313nm,21.0s
EGMT Eagleton 88.97 336 ⇓P P 19 05 01.7 -0.8
baz=89,SNR=12
M02C Callahan 88.98 324 ⇑P P 19 05 02.2 -0.5
baz=89,SNR=9.2
KHMM Horse Mountain 89.02 323 eP P 19 05 04.7 +1.7
comp=Z,67nm,1.2s
B19A Brinkman Farms 89.07 336 ⇓P P 19 05 02.1 -0.8
baz=89,SNR=8.2
K05A Summer Lake 89.09 326 eP P 19 05 04.7 +1.3
comp=Z,96nm,1.0s
A20A Cobblestone Ra 89.11 337 ⇑P P 19 05 02.6 -0.4
baz=89,SNR=28
SCHQ Schefferville 89.11 3 P P 19 05 02.1 -0.8
comp=Z,20nm,1.1s,baz=198,slow=1.6,SNR=7.0
SCHQ Schefferville 89.11 3 eP P 19 05 02.8 -0.1
YBH Yreka Blue Hor 89.17 324 P P 19 05 03.4 -0.2
comp=Z,26nm,1.1s,baz=110,slow=4.6,SNR=12
YBH Yreka Blue Hor 89.17 324 eP P 19 05 03.3 -0.3
YBH pmax pmax
comp=Z,40nm,1.1s
YBH Yreka Blue Hor 89.17 324 eP P 19 05 03.3 -0.3
comp=Z,40nm,1.1s
BMO Blue Mountains 89.20 329 eP P 19 05 03.9 +0.2
comp=Z,22nm,1.1s
BMO LR LR
comp=Z,413nm,21.0s
CHMT Chamberlain Mo 89.28 333 eP P 19 05 04.5 +0.3
LSZ Lusaka 89.37 108 ⇓/P P 19 05 06.5 +1.2
LSZ Lusaka 89.37 108 eP P 19 05 07.2 +1.9
LSZ MLR MLR
comp=Z,1μm,21.0s
LSZ Lusaka 89.37 108 P P 19 05 08.1 +2.8
SNR=11
LSZ Lusaka 89.37 108 eP P 19 05 07.2 +1.9
LSZ LR LR
comp=Z,1μm,21.0s
K04D Chiloquin, OR 89.41 326 ⇓P P 19 05 03.9 -0.8
baz=90
A19A Klindworth Far 89.41 337 ⇓P P 19 05 03.8 -0.7
baz=90,SNR=13
MSO Missoula 89.47 333 eP P 19 05 06.5 +1.7
MSO Missoula 89.47 333 ⇑P P 19 05 05.0 +0.1
baz=90
I07A Izee 89.53 328 eP P 19 05 06.3 +1.1
comp=Z,49nm,1.3s
SLMT Seeley Lake 89.64 333 eP P 19 05 05.8 +0.1
J05D Fort Rock, OR 89.68 326 ⇑P P 19 05 06.3 +0.3
baz=90,SNR=11
PAF Port-aux-Franc 89.88 156 PP PP 19 08 29.0 -10
PAF SS SS 19 21 53.0 -0.5
PAF R 19 34 00.0
L02D Cave Junction, 89.93 324 ⇓P P 19 05 06.1 -0.9
baz=90
J04D Umpqua Nationa 90.05 326 ⇓P P 19 05 06.9 -0.9
baz=90
SWMT Swartz Lake 90.06 333 eP P 19 05 07.7 +0.1
F10A Beach Ranch, E 90.07 330 eP P 19 05 08.0 +0.3
comp=Z,41nm,1.3s
YBMT Yellow Bay 90.36 333 eP P 19 05 09.1 0.0
JTMT Jette 90.36 333 eP P 19 05 09.2 +0.2
I05D Terrebonne, OR 90.55 327 ⇓P P 19 05 10.4 +0.5
baz=91,SNR=7.2
BLMT Blacktail Moun 90.61 333 eP P 19 05 10.5 +0.1
I04A Tendick Farm, 90.61 326 ⇑P P 19 05 09.0 -1.2
baz=91
BSMT Bassoo Peak 90.64 333 eP P 19 05 10.5 0.0
VTHM Trough 90.86 328 P P 19 05 12.6 +1.3
E09A Wood Farm, Sta 90.88 330 eP P 19 05 13.4 +2.1
I03D Drain, OR 90.98 325 ⇑P P 19 05 11.0 -0.8
baz=91
H04A Detroit Lake 91.20 327 eP P 19 05 13.7 +0.8
G05D Wamic, OR 91.24 327 ⇑P P 19 05 12.1 -1.0
baz=92
WALA Waterton Lakes 91.32 334 eP P 19 05 12.4 -1.0
HAWA Hanford 91.37 329 eP P 19 05 14.2 +0.6
comp=Z,62nm,1.2s
HAWA LR LR
comp=Z,442nm,19.0s
RSW Rattlesnake Hi 91.39 329 P P 19 05 14.8 +0.9
D08A Wollman Farm, 91.64 330 eP P 19 05 15.5 +0.6
comp=Z,51nm,1.2s
NEW Newport 91.88 332 P P 19 05 15.2 -0.7
comp=Z,23nm,1.2s,baz=169,slow=7.4,SNR=10
NEW Newport 91.88 332 eP P 19 05 14.8 -1.2
NEW MLR MLR
comp=Z,410nm,20.0s
NEW Newport 91.88 332 eP P 19 05 14.8 -1.2
NEW LR LR
comp=Z,410nm,20.0s
NEW Newport 91.88 332 ⇑P P 19 05 14.7 -1.2
baz=92,SNR=11
C09A Chrisman Ranch 91.97 331 eP P 19 05 16.1 -0.2
G03D McMinnville, O 92.09 326 ⇑P P 19 05 15.7 -1.3
baz=92
EBG Ellensburg 92.21 329 P P 19 05 18.3 +0.7
F04A Amboy 92.26 327 eP P 19 05 20.6 +2.9
comp=Z,32nm,0.9s
LTY Liberty 92.53 329 eP P 19 05 19.3 +0.2
LON Longmire 92.62 328 eP P 19 05 19.0 -0.5
LON Longmire 92.62 328 eP P 19 05 19.0 -0.5
F04D Rainier, OR 92.64 327 ⇑P P 19 05 18.6 -0.9
baz=93
FFC Flin Flon 92.65 343 eP P 19 05 20.0 +0.7
FFC Flin Flon 92.65 343 eP P 19 05 20.0 +0.7
ETW Entiat 92.66 329 P P 19 05 19.7 0.0
TAM Tamanrasset 92.81 64 eP P 19 05 22.0 +0.9
TAM pmax pmax
comp=Z,17nm,1.1s
TAM MLR MLR
comp=Z,326nm,20.0s
TAM Tamanrasset 92.81 64 eP P 19 05 22.0 +0.9
comp=Z,17nm,1.1s
TAM LR LR
comp=Z,326nm,20.0s
B08A Colville Reser 92.84 330 eP P 19 05 21.1 +0.6
D05A Enumclaw 93.04 328 eP P 19 05 23.2 +1.9
NLWA Neilton Lookou 94.02 327 PFAKE 19 05 40.0 +14
NLWA LR LR
comp=Z,612nm,22.0s
A05A Maple Falls 94.48 329 eP P 19 05 29.1 +1.2
PMRV Marv??o 94.58 44 eP P 19 05 28.5 -0.2
comp=Z,15nm,2.3s
EDM Edmonton 94.59 336 eP P 19 05 26.6 -1.8
EDM Edmonton 94.59 336 eP P 19 05 26.6 -1.8
MTE Manteigas 95.14 44 PFAKE 19 05 40.0 +8.7
MTE LR LR
comp=Z,368nm,20.0s
MVO Moncorvo 95.94 43 eP P 19 05 36.0 +1.1
comp=Z,27nm,1.4s
PAB San Pablo 96.44 46 PFAKE 19 05 50.0 +13
PAB LR LR
comp=Z,400nm,19.0s
PBRG Braganca 96.53 43 eP P 19 05 37.3 -0.2
comp=Z,18nm,1.4s
ESDC Sonseca Array 96.75 46 P P 19 05 39.1 +0.5
comp=Z,2.1nm,0.8s,baz=249,slow=3.4,SNR=10
ESDC LR LR 19 50 26.3
comp=Z,232nm,18.1s,baz=240,slow=36
ES19 SONSECA Array 96.81 46 eP P 19 05 39.2 +0.4
ABPO Ambohimpanom 101.24 122 PFAKE 19 06 10.0 +11
ABPO LR LR
comp=Z,676nm,21.0s
YKA Yellowknife Ar 102.66 341 Pdiff Pdif 19 06 03.2 -1.1
comp=Z,1.6nm,0.7s,baz=138,slow=4.5,SNR=10.0
YKA PP PP 19 10 20.4 +2.0
comp=Z,2.2nm,1.1s,baz=138,slow=8.3,SNR=5.4
YKA Yellowknife Ar 102.66 341 P Pdif 19 06 03.2 -1.1
YKA 19 10 20.4
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA pmax pmax
comp=Z,2.0nm,1.1s
KMBO Kilima Mbogo 104.90 102 PFAKE 19 10 40.0
KMBO LR LR
comp=Z,674nm,20.0s
VSL Villasalto 104.98 52 PFAKE 19 10 40.0
VSL LR LR
comp=Z,532nm,20.0s
SSB Saint Sauveur 105.14 45 PFAKE 19 10 40.0
SSB LR LR
comp=Z,452nm,21.0s
BNI Bardonecchia 106.28 46 PFAKE 19 10 40.0
BNI LR LR
comp=Z,614nm,20.0s
WDD Wield Dalam 106.57 58 PFAKE 19 10 40.0
WDD LR LR
comp=Z,1μm,19.0s
ESK Eskdalemuir 106.87 34 PFAKE 19 10 40.0
ESK LR LR
comp=Z,419nm,19.0s
VLC Villacollemand 108.07 49 PFAKE 19 10 50.0
VLC LR LR
comp=Z,168nm,21.0s
ECH Echery 108.24 44 PFAKE 19 10 50.0
ECH LR LR
comp=Z,478nm,21.0s

WLF Walferdange 108.44 42 PFAKE 19 10 50.0
WLF LR LR
comp=Z,650nm,20.0s
TUE Stuetta 108.61 46 PFAKE 19 10 50.0
TUE LR LR
comp=Z,1µm,21.0s
CEL Celeste 108.71 56 PFAKE 19 10 50.0
CEL LR LR
comp=Z,1µm,20.0s
BFO Black Forest 108.97 44 PFAKE 19 10 50.0
BFO LR LR
comp=Z,301nm,22.0s
AQU L'Aquila 109.07 51 PFAKE 19 10 50.0
AQU LR LR
comp=Z,496nm,22.0s
CUC Castrocucco 109.51 55 PFAKE 19 10 50.0
CUC LR LR
comp=Z,647nm,20.0s
TIP Timpagrande 109.75 56 PFAKE 19 10 50.0
TIP LR LR
comp=Z,610nm,21.0s
NKC Novy Kostel 112.25 44 AMS AMS 19 57 30.0
comp=Z,200nm,22.4s
GERES GERESS Array B 112.34 45 PKiKP **PKiKP 19 10 43.6 0.0**
comp=Z,1.8nm,0.9s,baz=243,slow=1.5,SNR=9.4
GERES PKKPab **PKKPab 19 21 42.0 +1.7**
comp=Z,1.5nm,0.8s,baz=48,slow=4.0,SNR=9.3
KHC Kasperske Hory 112.40 45 *e*PKP **PKiKP 19 10 44.5 +0.9**
KHC AMS AMS 19 58 00.0
comp=Z,300nm,20.1s
KHC Kasperske Hory 112.40 45 *e*PKIKP **PKiKP 19 10 44.5 +0.9**
KHC MLR MLR
comp=Z,300nm,20.1s
EGAK Eagle 112.70 334 *e*PKPdf **PKiKP 19 10 43.1 -0.5**
EGAK LR LR
comp=Z,308nm,19.0s
TIR Tirane 112.86 55 PFAKE 19 11 00.0
TIR LR LR
comp=Z,1µm,20.0s
CLL Collm 113.06 43 *e*PKiKP **PKiKP 19 10 47.0 +2.3**
CLL *e*PS **PS 19 21 11.0 +1.2**
CLL *e*PPS PPS 19 22 28.0
CLL *e*SS SS 19 27 18.0 +0.7
CLL *e*SSS SSS 19 31 37.0
CLL *e*SSSS 19 35 00.0
CLL LmV 20 01 00.0
comp=Z,300nm,19.0s
CLL LmH 20 01 00.0
comp=N,100nm,19.0s
CLL LmH 20 01 00.0
comp=E,300nm,20.2s
CLL Collm 113.06 43 *e*PKIKP **PKiKP 19 10 47.0 +2.3**
CLL MLR MLR
comp=Z,300nm,19.0s
PRU Pruhonice 113.34 45 AMS AMS 19 59 10.0
comp=Z,300nm,25.1s
BRG Berggiesshubel 113.39 43 *e*PKP **PKiKP 19 10 47.2 +1.8**
comp=Z,3.8nm,1.1s
BRG Berggiesshubel 113.39 43 *e*P **PKKPab 19 21 37.7 +2.4**
comp=Z,3.9nm,1.0s
comp=N,289nm,18.5s
comp=E,219nm,22.8s
comp=Z,380nm,23.9s
BRG Berggiesshubel 113.39 43 *e*PKIKP **PKiKP 19 10 47.2 +1.8**
BRG pmax pmax
comp=Z,4.0nm,1.1s
GOPC GO Pecny, Ondr 113.45 45 AMS AMS 20 04 30.0
comp=Z,200nm,17.0s
PVCC Panska Ves 113.60 44 AMS AMS 19 58 50.0
comp=Z,500nm,23.6s
KDAK Kodiak Island 113.99 325 PFAKE 19 11 00.0
KDAK LR LR
comp=Z,383nm,20.0s
PKSM Moragy 114.18 50 ⇓ *i*P PKPdf 19 10 47.3 +0.3
HNR Honiara 114.42 238 PFAKE 19 11 00.0 +11
HNR LR LR
comp=Z,223nm,19.0s
DPC Dobruska-Polom 114.53 45 *e*PKP PKPdf 19 10 48.2 +0.5
DPC AMS AMS 20 01 10.0
comp=Z,200nm,19.5s
DPC Dobruska-Polom 114.53 45 *e*PKIKP PKPdf 19 10 48.2 +0.5
DPC MLR MLR
comp=Z,200nm,19.5s
SANT Santorini 114.60 62 PFAKE 19 11 00.0 +12
SANT LR LR
comp=Z,102nm,20.0s
CTAO Charters Tower 114.77 220 PFAKE 19 11 00.0 +11
CTAO LR LR
comp=Z,206nm,20.0s
ILAR Eielson Array 114.80 333 PKP PKPdf 19 10 47.9 +0.2
comp=Z,2.7nm,1.1s,baz=175,slow=1.3,SNR=14
ILAR PKKPbc **PKKPbc 19 21 25.9 -0.5**
comp=Z,0.5nm,0.7s,baz=306,slow=3.6,SNR=4.3
ILAR PKPPKP **P'P'df 19 29 56.5 +0.3**
comp=Z,0.4nm,0.9s,baz=249,slow=2.8,SNR=4.1
KONO Kongsberg 115.02 34 PFAKE 19 11 00.0 +12
KONO LR LR
comp=Z,346nm,19.0s
COLA College 115.22 333 *i* PKIKP **PKPdf 19 10 49.6 +1.2**
COLA College 115.22 333 PFAKE 19 11 00.0 +12
COLA LR LR
comp=Z,232nm,20.0s
VYHS Vyhne 115.25 47 *e*PKIKP **PKPdf 19 10 49.4 +0.3**
VYHS Vyhne 115.25 47 *e*PKP **PKPdf 19 10 49.4 +0.3**
OKC Ostrava-Krasne 115.39 46 *e*PKP **PKPdf 19 10 47.7 -1.6**
OKC AMS AMS 20 03 20.0
comp=Z,300nm,18.6s
OKC Ostrava-Krasne 115.39 46 *e*PKIKP **PKPdf 19 10 47.7 -1.6**
OKC MLR MLR
comp=Z,300nm,18.6s
PSZ Piszkesteto 115.67 48 ⇓ *i*P **PKPdf 19 10 52.8 +2.8**
PSZ Piszkesteto 115.67 48 PFAKE 19 11 00.0 +10
PSZ LR LR
comp=Z,375nm,19.0s
KTH Kantishna Hill 115.82 331 *e*PKPdf **PKPdf 19 10 49.9 +0.1**
BZS Buzias 115.83 51 ⇓ *i*P **PKPdf 19 10 49.6 -0.6**
BPAW Bear Paw Mtn. 116.08 331 *e*PKPdf **PKPdf 19 10 49.7 -0.5**
BPAW *e*PP **PP 19 11 55.0 -0.8**
NB2 NORSAR Subarra1 116.33 33 PKPdf **PKPdf 19 10 50.3 -0.5**
comp=Z,2.1nm,0.8s,baz=248,slow=1.9
NOA NORSAR Array B 116.33 33 PKP **PKPdf 19 10 50.5 -0.4**
comp=Z,1.5nm,0.9s,baz=253,slow=2.2,SNR=5.2
NOA PKKPab **PKKPab 19 21 22.4 +0.5**
comp=Z,1.8nm,0.9s,baz=68,slow=4.4,SNR=5.0
OJC Ojcow 116.52 46 *e*PKP **PKPdf 19 10 52.0 +0.5**
OJC Ojcow 116.52 46 *e*PKIKP **PKPdf 19 10 52.0 +0.5**
KDZ Kurdzhali 116.77 56 ⇑ *i*P **PKPdf 19 10 48.9 -3.3**
MSEY Mahe Island 116.84 117 PFAKE 19 11 00.0 +6.7
MSEY LR LR
comp=Z,558nm,19.0s
DRGR 116.99 50 ⇑ *i*P **PKPdf 19 10 52.9 +0.3**
STHS Stebnicka Huta 117.08 47 *e*PKIKP **PKPdf 19 10 52.4 -0.2**
STHS Stebnicka Huta 117.08 47 *e*PKP **PKPdf 19 10 52.4 -0.2**
COLD Coldfoot 117.12 335 *e*PKPdf **PKPdf 19 10 51.8 -0.3**
ASAR Alice Springs 117.21 206 PKP **PKPdf 19 10 52.0 -1.8**
comp=Z,2.6nm,0.9s,baz=154,slow=2.0,SNR=20
ASAR PKKPbc **PKKPbc 19 21 17.9 +0.7**
comp=Z,1.6nm,0.7s,baz=338,slow=2.8,SNR=29
ASAR Alice Springs 117.21 206 PKIKP **PKPdf 19 10 52.0 -1.8**
ASAR pmax pmax
comp=Z,3.0nm,0.9s
TRPA Tarpa 117.39 49 ⇓ *i*P **PKPdf 19 10 53.1 0.0**
UZH Uzhgorod 117.42 48 *e*PKIKP **PKPdf 19 10 54.6 +1.4**
UZH *e* 19 11 03.8
KOLS Kolonicke sedl 117.52 48 *e*PKIKP **PKPdf 19 10 55.1 +1.7**
KOLS Kolonicke sedl 117.52 48 *e* **PKPdf 19 10 55.0 +1.6**
ARR Arges 117.68 52 ⇓ *i*P **PKPdf 19 10 54.0 +0.1**
JMB Yambol 117.89 56 ⇓ *i*P **PKPdf 19 10 53.2 -1.1**
IM04 Indian Mountai 117.93 333 *e*PKPdf **PKPdf 19 10 53.7 0.0**
VOIR 117.98 52 ⇓ *i*P **PKPdf 19 10 55.1 +0.6**
KWP Kalwaria Pacla 118.04 47 *e*PKP **PKPdf 19 10 55.8 +1.4**
KWP Kalwaria Pacla 118.04 47 *e*PKIKP **PKPdf 19 10 55.8 +1.4**
MLR Muntele Rosu 118.59 53 ⇑ *i*P **PKPdf 19 10 55.5 -0.3**
BUR08 Bucovina Ar. S 118.88 50 *e*PKPdf **PKPdf 19 10 56.2 0.0**
BURAR Bucovina Array 118.88 50 ⇓ *i*P **PKPdf 19 10 57.3 +1.1**
ISP Isparta 118.89 62 PFAKE 19 11 10.0 +13
ISP LR LR
comp=Z,300nm,22.0s
PLOR Plostina 119.18 52 ⇓ *i*P **PKPdf 19 10 55.5 -1.3**
VRI Vrincioaia 119.23 52 ⇓ *i*P **PKPdf 19 10 56.8 0.0**
TESR Tescani 119.41 52 ⇑ *i*P **PKPdf 19 10 57.2 +0.1**
PSN Preselentsi 119.43 55 ⇓ *i*P **PKPdf 19 10 56.9 -0.3**
TLB Topalu 119.65 54 ⇓ *i*P **PKPdf 19 10 57.2 -0.4**
SUW Suwalki 119.81 43 *e*PKP **PKPdf 19 10 57.7 +0.1**
SUW Suwalki 119.81 43 *e*PKIKP **PKPdf 19 10 56.6 -1.0**
SUW Suwalki 119.81 43 *e*PKPdf **PKPdf 19 10 56.6 -1.0**
TIRR Tirgusor 119.86 54 *e*PKIKP **PKPdf 19 10 57.7 -0.3**
TIRR Tirgusor 119.86 54 ⇑ *i*P **PKPdf 19 10 57.6 -0.4**
TIRR Tirgusor 119.86 54 *e*PKPdf **PKPdf 19 10 57.7 -0.3**
CSS Prodhromos 119.86 66 PFAKE 19 11 10.0 +12
CSS LR LR
comp=Z,59nm,20.0s
CFR Carcaliu 119.92 54 ⇓ *i*P **PKPdf 19 10 58.4 +0.3**
TLCR 120.38 54 ⇑ *i*P **PKPdf 19 10 58.5 -0.5**
WRA Warramunga Arr 120.42 209 PKP **PKPdf 19 10 58.6 -1.4**
comp=Z,9.4nm,1.0s,baz=160,slow=1.7,SNR=47
WRA PKKPbc **PKKPbc 19 21 06.4 +0.9**
comp=Z,1.2nm,0.8s,baz=344,slow=4.4,SNR=10
WRAB Tennant Creek 120.42 209 *e*PKIKP **PKPdf 19 10 58.7 -1.3**
WRAB MLR MLR
comp=Z,475nm,21.0s
WRAB Tennant Creek 120.42 209 *e*PKPdf **PKPdf 19 10 58.7 -1.3**
WRAB LR LR
comp=Z,475nm,21.0s
ANTO Ankara 121.30 61 PFAKE 19 11 10.0 +8.9
ANTO LR LR
comp=Z,216nm,21.0s
BR131 Keskin Array S 121.86 61 *e*PKPdf **PKPdf 19 11 01.9 -0.4**
BRTR Keskin Array B 121.86 61 PKP **PKPdf 19 11 02.2 -0.1**
comp=Z,4.8nm,0.9s,baz=201,slow=3.0,SNR=21
BRTR Keskin Array B 121.86 61 PKIKP **PKPdf 19 11 02.2 -0.1**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
AK02 Malin Array Si 122.33 48 *e*PKPdf **PKPdf 19 11 01.8 -0.8**
KIEV Kiev 122.34 48 *e*PKIKP **PKPdf 19 11 01.6 -1.0**
KIEV MLR MLR
comp=Z,241nm,19.0s
KIEV Kiev 122.34 48 *e*PKPdf **PKPdf 19 11 01.6 -1.0**
KIEV LR LR
comp=Z,241nm,19.0s
AK01 Malin Array Si 122.34 48 *e*PKPdf **PKPdf 19 11 01.8 -0.8**
AKASG Malin Array Be 122.35 48 PKP **PKPdf 19 11 01.6 -1.0**
comp=Z,4.6nm,0.8s,baz=268,slow=2.6,SNR=18
AKASG Malin Array Be 122.35 48 PKIKP **PKPdf 19 11 01.6 -1.0**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
KBS Kingsbay 122.42 13 PFAKE 19 11 10.0 +8.0
KBS LR LR
comp=Z,198nm,22.0s
PMG Port Moresby 122.86 227 PFAKE 19 11 10.0 +5.2
PMG LR LR
comp=Z,242nm,21.0s
VSU Vasula 122.95 38 ⇑ *i*PKIKP **PKPdf 19 11 03.3 -0.2**
SPITS Spitsbergen Ar 123.14 14 PKP **PKPdf 19 11 03.4 0.0**
comp=Z,7.1nm,0.7s,baz=164,slow=3.3,SNR=14
SPITS Spitsbergen Ar 123.14 14 PKIKP **PKPdf 19 11 03.4 0.0**
SPITS pmax pmax
comp=Z,7.0nm,0.7s
FINES FINESS Array B 123.28 35 PKP **PKPdf 19 11 03.8 -0.3**
comp=Z,5.1nm,0.9s,baz=168,slow=3.5,SNR=13
FINES PKKPab **PKKPab 19 20 52.7 +0.8**
comp=Z,0.6nm,0.5s,baz=95,slow=4.0,SNR=6.6
MBWA Marble Bar 123.55 193 PFAKE 19 11 20.0 +14
MBWA LR LR
comp=Z,592nm,22.0s
SIM Simferopol' 123.86 55*c* *i*PKIKP **PKPdf 19 11 07.9 +2.2**
SIM *e* 19 12 48.0
SIM *e* 19 18 18.0
SIM pmax pmax
comp=Z,11nm,0.8s
SIM pmax pmax
comp=Z,50nm,8.0s
ARCES ARCESS Array B 124.39 25 PKP **PKPdf 19 11 06.0 0.0**
comp=Z,3.1nm,0.6s,baz=279,slow=2.6,SNR=15
ARCES ARCESS Array B 124.39 25 PKIKP **PKPdf 19 11 06.0 0.0**
ARCES pmax pmax
comp=Z,3.0nm,0.6s
ARE0 ARCESS Array S 124.39 25 *e*PKPdf **PKPdf 19 11 05.6 -0.4**
RAYN Ar Rayn 124.78 84 *e*PKPdf **PKPdf 19 11 07.6 -0.6**
MALT Malatya 124.89 64 ⇓ *i*P **PKPdf 19 11 09.4 +1.3**
KEV Kevo 124.94 25 PFAKE 19 11 20.0 +13
KEV LR LR
comp=Z,270nm,22.0s
H11S2 WAKE ISLAND Hyl 126.04 269 T T 21 29 27.9
baz=119,slow=75,SNR=118
H11S1 WAKE ISLAND Hyl 126.05 269 T T 21 29 27.6
baz=119,slow=75,SNR=123
H11S3 WAKE ISLAND Hyl 126.05 269 T T 21 29 29.3
baz=119,slow=75,SNR=71
ANN Anapa 126.09 56 *i* PKIKP **PKPdf 19 11 09.5 -0.5**
ANN *e* 19 13 05.3
ANN *e* 19 18 10.7
ANN pmax pmax
comp=Z,22nm,1.0s
H11N3 WAKE ISLAND Hyl 126.46 270 T T 21 29 59.1
baz=115,slow=78,SNR=80
H11N1 WAKE ISLAND Hyl 126.48 270 T T 21 30 00.1
baz=115,slow=78,SNR=178
H11N2 WAKE ISLAND Hyl 126.48 270 T T 21 29 59.2
baz=115,slow=78,SNR=79
APA Apatity 127.14 28 *i* PKIKP **PKPdf 19 11 14.0 +2.7**
APA MLR MLR
comp=Z,400nm,19.0s
SOC Sochi 127.36 58 *i* PKIKP **PKPdf 19 11 13.0 +0.5**
SOC *e* 19 13 11.7
SOC *e*SSS SSS 19 35 09.5
SOC pmax pmax
comp=Z,26nm,1.1s
LVZ Lovozero 127.62 27 *i* PKIKP **PKPdf 19 11 12.0 -0.3**
LVZ Lovozero 127.62 27 PFAKE 19 11 20.0 +7.7
LVZ LR LR
comp=Z,174nm,20.0s
OBN Obninsk 127.64 44 PKP **PKPdf 19 11 12.1 -0.4**
comp=Z,10nm,0.5s,baz=191,slow=3.7,SNR=9.1
OBN Obninsk 127.64 44 *i* PKIKP **PKPdf 19 11 12.6 0.0**
OBN pmax pmax
comp=Z,41nm,1.3s
OBN MLR MLR
comp=Z,329nm,21.0s
OBN Obninsk 127.64 44 *e*PKPdf **PKPdf 19 11 11.9 -0.7**
OBN LR LR
comp=Z,354nm,21.0s
MOS Moscow 128.32 43 *e*PKIKP **PKPdf 19 11 13.8 -0.1**
MOS *e* 19 13 19.9
MOS pmax pmax
comp=Z,43nm,0.9s
VSR Storozhevoye 128.59 49 *e*PKIKP **PKPdf 19 11 13.9 -0.7**
VSR pmax pmax
comp=Z,20nm,1.2s
VSR pmax pmax
comp=N,6.0nm,0.7s
VSR pmax pmax
comp=E,4.0nm,0.8s
VORD Divnogorie 128.63 49 *e*PKIKP **PKPdf 19 11 14.4 -0.2**
VORD pmax pmax
comp=Z,20nm,1.4s
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.9s
LPSR Galich'ya Gora 128.66 47 *e*PKIKP **PKPdf 19 11 14.8 +0.2**
LPSR pmax pmax
comp=Z,30nm,1.3s
LPSR pmax pmax
comp=N,10.0nm,1.0s
LPSR pmax pmax
comp=E,5.0nm,0.7s
TMCR Tamitsa 129.02 32 *e*PKIKP **PKPdf 19 11 16.9 +2.0**
TMCR pmax pmax
comp=Z,49nm,1.2s
KIV Kislovodsk 129.54 59 *e*PKIKP **PKPdf 19 11 16.7 -0.1**
KIV *e* 19 13 32.0
KIV pmax pmax
comp=Z,35nm,1.2s
KIV Kislovodsk 129.54 59 *e*PKPdf **PKPdf 19 11 16.9 +0.2**
KIV LR LR
comp=Z,121nm,20.0s
KBZ Khabaz 129.64 59 PKP **PKPdf 19 11 17.9 +1.1**
comp=Z,10nm,1.0s,baz=53,slow=20,SNR=14
KBZ Khabaz 129.64 59 PKIKP **PKPdf 19 11 17.9 +1.1**
KBZ pmax pmax
comp=Z,10.0nm,1.0s
KLMR Klimovskoe 129.68 36*c* *i*PKIKP **PKPdf 19 11 14.1 -2.2**
KLMR MLR MLR
comp=Z,424nm,22.0s
GOF Gofitskoye 130.02 57 *e*PKIKP **PKPdf 19 11 18.3 +0.8**
GOF pmax pmax
comp=Z,40nm,1.3s
NCK Nalchik 130.08 59 *i* PKIKP **PKPdf 19 11 17.7 0.0**
GNI Garni 130.11 64 PKP **PKPdf 19 11 19.3 +1.2**
comp=Z,7.5nm,0.8s,baz=173,slow=5.5,SNR=9.7
GNI Garni 130.11 64 *e*PKIKP **PKPdf 19 11 18.5 +0.4**
GNI MLR MLR
comp=Z,272nm,22.0s
GNI Garni 130.11 64 P **PKPdf 19 11 19.7 +1.7**
SNR=7.3
GNI Garni 130.11 64 *e*PKPdf **PKPdf 19 11 18.5 +0.4**
GNI LR LR
comp=Z,272nm,22.0s
ZEI Tsey 130.14 60 *i* PKIKP **PKPdf 19 11 17.9 -0.2**
ZEI pmax pmax
comp=Z,24nm,1.4s
JAY Jayapura 132.19 226 PKP **PKPdf 19 11 22.7 0.0**
comp=Z,12nm,1.1s,baz=311,slow=6.0,SNR=3.8
JAY Jayapura 132.19 226 PKIKP **PKPdf 19 11 22.7 0.0**
JAY pmax pmax
comp=Z,13nm,1.1s
PRGR Permogore 132.60 35 *e*PKIKP **PKPdf 19 11 20.9 -0.9**
PRGR *PP PP 19 13 55.5 +8.9
PRGR pmax pmax
comp=Z,21nm,0.9s
MAK Makhachkala 132.77 61 *i* PKIKP **PKPdf 19 11 25.1 +2.4**
MAK *e* 19 13 46.2
MAK *e* 19 18 33.6
MAK pmax pmax
comp=Z,57nm,1.2s
BATI Baumata 133.17 201 PKP **PKPdf 19 11 25.6 +1.2**
comp=Z,12nm,0.9s,baz=13,slow=5.7,SNR=4.0
SOEI Soe 133.41 202 *e*PKPpre PKPpre 19 11 20.7
BILL Bilibino 133.44 334*d* *i*PKIKP **PKPdf 19 11 22.9 -0.4**
BILL pmax pmax
comp=Z,24nm,1.3s
BILL MLR MLR
comp=Z,237nm,22.0s
BILL Bilibino 133.44 334 *e*PKPdf **PKPdf 19 11 21.5 -1.8**
BILL LR LR
comp=Z,225nm,20.0s
LEM Lembang 138.85 179 PKhKP PKPpre 19 11 27.5
comp=Z,8.4nm,0.5s,baz=21,slow=14,SNR=4.3
LEM PKP **PKiKP 19 11 36.8 -0.7**
comp=Z,26nm,0.7s,baz=16,slow=5.4,SNR=9.4
LEM Lembang 138.85 179 PKHKP PKPpre 19 11 27.5
LEM 19 11 36.8
LEM pmax pmax
comp=Z,8.0nm,0.5s
LEM pmax pmax
comp=Z,26nm,0.7s
KAPI Kappang 139.20 198 PFAKE 19 11 50.0 +14
KAPI LR LR
comp=Z,592nm,21.0s
ARU Arti 139.97 41 *i* PKIKP **PKPdf 19 11 37.2 +1.5**
ARU 19 14 31.7
ARU SS SS 19 32 46.7 -6.3
ARU MLR MLR
comp=Z,368nm,21.0s
ARU Arti 139.97 41 *e*PKPpre PKPpre 19 11 26.6
ARU LR LR
comp=Z,390nm,21.0s
PET Petropavlovsk 140.17 313 *i* PKIKP **PKPdf 19 11 35.2 -0.9**
PET MLR MLR
comp=Z,100nm,15.0s
PET Petropavlovsk 140.17 313 PFAKE 19 11 50.0 +14
PET LR LR
comp=Z,142nm,19.0s
AKTO Aktyubinsk 140.47 51 PKhKP PKPpre 19 11 29.4
comp=Z,4.2nm,0.8s,baz=263,slow=4.4,SNR=14
AKTO Aktyubinsk 140.47 51 PKHKP PKPpre 19 11 29.4
AKTO pmax pmax
comp=Z,4.0nm,0.8s
SEY Seymchan 140.64 330 PKhKP PKPpre 19 11 28.8
comp=Z,4.0nm,0.8s,baz=100,slow=1.8,SNR=16
SEY PKP **PKPdf 19 11 36.3 -0.4**
comp=Z,21nm,1.0s,baz=135,slow=3.8,SNR=16
SEY Seymchan 140.64 330 PKHKP PKPpre 19 11 28.8
SEY 19 11 36.3
SEY pmax pmax
comp=Z,4.0nm,0.8s
SEY pmax pmax
comp=Z,21nm,1.0s
PEA0B Petropavlovsk- 140.73 314 *e*PKPpre PKPpre 19 11 29.5
PETK Petropavlovsk- 140.73 314 PKhKP PKPpre 19 11 29.2
comp=Z,2.7nm,0.6s,baz=104,slow=6.8,SNR=13
PETK Petropavlovsk- 140.73 314 PKHKP PKPpre 19 11 29.2
PETK pmax pmax
comp=Z,3.0nm,0.6s
SVE Sverdlovsk 141.00 40 *i* PKIKP **PKPdf 19 11 33.1 -4.4**
SVE pmax pmax
comp=Z,10.0nm,0.9s
SVE MLR MLR
comp=Z,457nm,23.0s
TIXI Tiksi 141.28 350 *e*PKHKP PKPpre 19 11 28.8
TIXI MLR MLR
comp=Z,167nm,19.0s
TIXI Tiksi 141.28 350 *e*PKPpre PKPpre 19 11 28.8
TIXI LR LR
comp=Z,167nm,19.0s
AB31 Akbulak array 141.80 52 *i* PKHKP PKPpre 19 11 33.6
AB31 pmax pmax
comp=Z,18nm,0.8s
ABKAR Akbulak array 141.80 52 *e*PKPpre PKPpre 19 11 33.4
GOA Goa 143.70 113 *e*P PKPab 19 11 40.8 +0.5
GOA AMS AMS 19 57 02.4
comp=Z,150nm,0.0s
BHJ Bhuj 144.54 98 *e*P **PKPab 19 11 41.2 -2.1**
BHJ AMS AMS 19 53 28.6
comp=Z,123nm,5.4s
BKNI Bangkinang 145.29 167 *e*PKPdf **PKPbc 19 11 44.9 -1.3**
GSI Gunungsitoli 145.45 161 *e*PKPdf **PKPab 19 11 47.4 +0.5**
POO Poona 145.50 109 *e*P **PKPdf 19 11 45.7 -1.1**
POO AMS AMS 19 55 22.4
comp=Z,84nm,6.2s
URV Uravakonda 145.93 117 *e*PKPab **PKPdf 19 11 46.7 -0.8**
MDRS Chennai 146.79 123 *e*P **PKPdf 19 11 46.8 -2.1**
MDRS AMS AMS 19 53 12.3
comp=Z,150nm,4.6s
SKHT Srikalahasti 146.89 122 *e*PKPdf **PKPdf 19 11 47.6 -1.4**
SKHT *e*PKIKP **PKPab 19 11 51.8 -0.5**
KSM Kuching 147.04 184 *e*PKPdf **PKPdf 19 11 50.5 +1.1**
KSM LR LR
comp=Z,820nm,20.0s
PSI Prapat 147.23 163 PKPbc **PKPbc 19 11 51.4 -0.8**
comp=Z,84nm,0.9s,baz=201,slow=4.1,SNR=28
PSI Prapat 147.23 163 PKIKP **PKPbc 19 11 51.4 -0.8**
PSI pmax pmax
comp=Z,84nm,0.9s
BRVK Borovoye 147.41 44 *e*PKIKP **PKPdf 19 11 49.6 +0.8**
BRVK *e* 19 11 52.3
BRVK MLR MLR
comp=Z,363nm,22.0s
BRVK Borovoye 147.41 44 P **PKPbc 19 11 50.3 -1.0**
SNR=47
BRVK Borovoye 147.41 44 *e*PKPdf **PKPdf 19 11 49.6 +0.8**
BRVK *e*PKPbc **PKPbc 19 11 52.3 +1.0**
BRVK LR LR
comp=Z,363nm,22.0s
BVA0 Borovoye Array 147.49 44 *i* PKIKP **PKPdf 19 11 49.3 +0.3**
BVA0 pmax pmax
comp=Z,73nm,1.2s
BVAR Borovoye Array 147.49 44 PKP **PKPdf 19 11 49.6 +0.6**
comp=Z,22nm,0.7s,baz=276,slow=2.8,SNR=98
BVAR PKPbc **PKPbc 19 11 52.5 +0.9**
comp=Z,22nm,0.7s,baz=300,slow=2.9,SNR=58
BVAR Borovoye Array 147.49 44 PKIKP **PKPdf 19 11 49.6 +0.6**
BVAR 19 11 52.5
BVAR pmax pmax
comp=Z,22nm,0.7s
BVAR pmax pmax
comp=Z,22nm,0.7s
KBL Kabul 147.81 79 *e*PKIKP **PKPdf 19 11 50.2 -0.2**
KBL *e* 19 11 54.5
KBL Kabul 147.81 79 *e*PKPdf **PKPdf 19 11 50.2 -0.2**
KBL *e*PKPbc **PKiKP 19 11 54.5 -0.8**
DAV Davao City (W) 148.35 214 PFAKE 19 12 00.0 +1.9
DAV LR LR
comp=Z,325nm,21.0s
HYB Hyderabad 148.45 115 *i* PKP **PKPdf 19 11 49.0 -2.7**
comp=Z,120nm,1.0s
HYB *e*PKP **pPKPdf 19 12 03.0 +2.3**
HYB *e*SKS **SKSdf 19 18 52.0 -6.4**
HYB *e* 19 19 16.0
HYB Hyderabad 148.45 115 *e*P **PKPdf 19 11 52.0 +0.4**
HYB AMS AMS 19 59 51.9
comp=Z,122nm,5.0s
HYBB Hyderabad (bro 148.45 115 *e*PKPdf **PKPdf 19 11 48.5 -3.1**
HYBB *e*PKiKP **PKPbc 19 11 55.2 0.0**

NJS	**Nagarjunasagar**	**148.47**	**117**	*e*P		**PKPbc**	**19 11 54.3**	**-0.9**
LHMI	**Lhok Sumawe**	**148.99**	**158**	*e*PKPdf		**PKPbc**	**19 11 55.9**	**-0.8**
IPM	**Ipoh**	**149.33**	**166**	*e*PKPdf		**PKPdf**	**19 11 52.0**	**-1.3**
IPM				*e*PKPbc		**PKPbc**	**19 11 57.0**	**-0.6**
YAK	**Yakutsk**	**149.34**	**340**	PKP		**PKPdf**	**19 11 50.4**	**-1.3**
	comp=Z,4.2nm,0.3s,baz=45,slow=1.4,SNR=3.1							
YAK				PKPbc		**PKPbc**	**19 11 56.0**	**0.0**
	comp=Z,6.4nm,0.5s,baz=220,slow=19,SNR=15							
YAK	**Yakutsk**	**149.34**	**340**	*e*PKHKP		**PKPdf**	**19 11 50.6**	**-1.0**
YAK				*e*			19 15 26.0	
YAK				*e*SS	SS		19 35 14.6	+36
YAK				pmax	pmax			
	comp=Z,235nm,1.5s							
YAK				pmax	pmax			
	comp=E,23nm,1.5s							
YAK				pmax	pmax			
	comp=N,20nm,1.3s							
YAK				pmax	pmax			
	comp=Z,154nm,2.7s							
YAK				pmax	pmax			
	comp=E,36nm,2.3s							
YAK				pmax	pmax			
	comp=N,15nm,2.1s							
YAK	**Yakutsk**	**149.34**	**340**	*e*PKPdf		**PKPdf**	**19 11 50.9**	**-0.7**
YAK				*e*PKPbc		**PKPbc**	**19 11 55.6**	**-0.4**
YAK				LR	LR			
	comp=Z,251nm,20.0s							
KK31	**Karatay Array**	**149.56**	**62**	*i* PKHKP		PKPpre	19 11 53.4	
KK31				pmax	pmax			
	comp=Z,25nm,0.9s							
KKAR	**Karatay Array**	**149.56**	**62**	*e*PKPdf		**PKPdf**	**19 11 53.4**	**+0.7**
KKAR				*e*PKPbc		**PKPbc**	**19 11 57.1**	**-0.2**
CMBY	**CAMPBELL BAY**	**149.56**	**151**	*e*P		**PKPdf**	**19 11 54.2**	**+0.7**
CMBY				AMS	AMS		19 55 24.3	
	comp=Z,744nm,3.7s							
YUK	**Yuzh-Kuril'sk**	**149.64**	**300**	*e*PKHKP		PKPpre	19 11 53.7	
YUK				*e*PPP		PPP	19 18 48.4	
YUK				*e*SSS		SSS	19 40 20.3	
YUK				MLR	MLR			
	comp=Z,286nm,20.0s							
RPR	**Rampur**	**149.89**	**114**	*e*PKPdf		**PKPdf**	**19 11 52.5**	**-1.4**
RPR				*e*PKiKP		**PKPbc**	**19 11 58.1**	**-0.6**
AJM	**Ajmer**	**150.02**	**96**	*ex*		**PKPbc**	**19 11 59.0**	**+0.1**
KULM	**Kulim**	**150.04**	**165**	*e*PKPbc		**PKPbc**	**19 11 58.7**	**-0.6**
BHPL	**Bhopal**	**150.83**	**104**	*ex*		**PKPbc**	**19 11 57.2**	**-3.7**
BHPL				AMS	AMS		19 50 24.8	
	comp=Z,125nm,3.3s							
YSS	**Yuzh-Sakhalins**	**151.34**	**306**	*i* PKIKP		**PKPbc**	**19 11 59.5**	**-1.8**
YSS				*e*			19 12 11.0	
YSS				pmax	pmax			
	comp=Z,130nm,1.2s							
YSS	**Yuzh-Sakhalins**	**151.34**	**306**	*e*PKPdf		**PKPdf**	**19 11 55.5**	**+0.2**
YSS				*e*PKPbc		**PKPbc**	**19 12 00.8**	**-0.5**
YSS				*e*PKPab		**PKPab**	**19 12 10.6**	**+1.0**
YSS				*e*SKP			19 15 14.6	
YSS				LR	LR			
	comp=Z,74nm,20.0s							
ERM	**Erimo**	**151.78**	**296**	PFAKE			19 12 10.0	-1.6
ERM				LR	LR			
	comp=Z,417nm,21.0s							
AML	**Almayashu**	**151.97**	**64**	P		**PKPdf**	**19 11 58.1**	**+1.2**
	SNR=10							
ASAJ	**Asahikawa**	**151.97**	**300**	PKP		**PKPdf**	**19 11 56.4**	**0.0**
	comp=Z,20nm,1.1s,baz=86,slow=5.6,SNR=6.5							
ASAJ				PKPbc		**PKPbc**	**19 12 02.6**	**-0.3**
	comp=Z,35nm,0.9s,baz=80,slow=5.1,SNR=13							
ASAJ	**Asahikawa**	**151.97**	**300**	PKIKP		**PKPdf**	**19 11 56.4**	**0.0**
ASAJ							19 12 02.6	
ASAJ				pmax	pmax			
	comp=Z,20nm,1.1s							
ASAJ	**Asahikawa**	**151.97**	**300**	*e*PKPdf		**PKPdf**	**19 11 57.2**	**+0.9**
ASAJ				*e*PKPbc		**PKPbc**	**19 12 03.1**	**+0.2**
ASAJ				*e*PKPab		**PKPab**	**19 12 13.6**	**+1.2**
EKS2	**Erkin-Say**	**151.98**	**63**	P		**PKPbc**	**19 12 00.8**	**-2.4**
	SNR=17							
EKS2	**Erkin-Say**	**151.98**	**63**	*e*PKIKP		**PKPdf**	**19 11 56.4**	**-0.2**
EKS2				*e*			19 12 04.1	
EKS2				*e*			19 15 42.8	
EKS2				MLR	MLR			
	comp=Z,290nm,20.0s							
EKS2	**Erkin-Say**	**151.98**	**63**	*e*PKPdf		**PKPdf**	**19 11 56.4**	**-0.2**
EKS2				*e*PKPbc		**PKiKP**	**19 12 04.1**	**+0.6**
EKS2				*e*PP		**PP**	**19 15 42.8**	**-2.0**
EKS2				LR	LR			
	comp=Z,290nm,20.0s							
VIS	**Vishakhapatnam**	**152.13**	**121**	*e*P		**PKPdf**	**19 11 54.5**	**-2.8**
VIS				AMS	AMS		19 57 20.8	
	comp=Z,205nm,0.0s							
USP	**Ospenovka**	**152.45**	**61**	P		**PKPdf**	**19 11 58.1**	**+0.9**
	SNR=13							
AAK	**Ala-Archa**	**152.51**	**63**	P		**PKPdf**	**19 11 58.7**	**+1.2**
	SNR=10							
UCH	**Uchtor**	**152.56**	**64**	P		**PKPdf**	**19 11 59.3**	**+1.4**
	SNR=20							
FRU	**Bishkek**	**152.58**	**62**	*e*PKIKP		**PKPdf**	**19 12 00.0**	**+2.6**
FRU				*i*			19 12 05.0	
FRU				*e*			19 15 48.0	
CHMS	**Chumysh**	**152.66**	**62**	P		**PKPbc**	**19 12 04.4**	**-0.1**
	SNR=8.5							
KBK	**Karagaybulak**	**152.84**	**63**	P		**PKPbc**	**19 12 06.2**	**+1.0**
	SNR=7.0							
NDI	**New Delhi**	**152.96**	**94**	*e*P		**PKPdf**	**19 11 56.0**	**-2.3**
KURBB	**Kurchatov Arra**	**153.07**	**44**	PP		PP	19 15 54.0	+3.7
	comp=Z,3.0nm,1.0s,baz=282,slow=6.0,SNR=4.6							
KURK	**Kurchatov**	**153.08**	**44**	*e*PKIKP		**PKPdf**	**19 11 58.0**	**+0.2**
KURK				*e*			19 12 05.7	
KURK							19 15 54.0	
KURK				MLR	MLR			
	comp=Z,398nm,22.0s							
KURK	**Kurchatov**	**153.08**	**44**	P		**PKPdf**	**19 11 58.7**	**+0.9**
	SNR=12							
KURK	**Kurchatov**	**153.08**	**44**	*e*PKPdf		**PKPdf**	**19 11 58.0**	**+0.2**
KURK				*e*PKPbc		**PKiKP**	**19 12 05.7**	**+0.4**
KURK				PP		**PP**	**19 15 54.0**	**+3.7**
KURK				LR	LR			
	comp=Z,398nm,22.0s							
PBA	**Port Blair**	**153.17**	**144**	*e*P		PKPdf	19 11 57.6	-1.3
PBA				AMS	AMS		19 55 23.5	
	comp=Z,348nm,7.0s							
DHRM	**DHARAMSHALA**	**153.25**	**86**	*e*P		**PKPdf**	**19 11 57.1**	**-1.8**
DHRM				AMS	AMS		20 01 52.8	
	comp=Z,86nm,8.7s							
NVS	**Novosibirsk**	**153.25**	**33**	⇓ *i* PKIKP		**PKPdf**	**19 11 56.6**	**-1.2**
NVS				pmax	pmax			
	comp=N,9.0nm,1.2s							
NVS				pmax	pmax			
	comp=E,24nm,1.2s							
NVS				pmax	pmax			
	comp=Z,79nm,1.2s							
TKM2	**Tokmak 2**	**153.29**	**62**	P		**PKPdf**	**19 11 59.2**	**+0.6**
	SNR=9.0							
TKM2	**Tokmak 2**	**153.29**	**62**	*e*PKIKP		**PKPdf**	**19 11 57.9**	**-0.7**
TKM2				*e*			19 12 06.0	
TKM2				*e*			19 15 49.7	
TKM2				MLR	MLR			
	comp=Z,311nm,20.0s							
TKM2	**Tokmak 2**	**153.29**	**62**	*e*PKPdf		**PKPdf**	**19 11 57.9**	**-0.7**
TKM2				*e*PKPbc		**PKPbc**	**19 12 06.0**	**-0.2**
TKM2				*e*PP		**PP**	**19 15 49.7**	**-2.6**
TKM2				LR	LR			
	comp=Z,311nm,20.0s							
SMLA	**Simla**	**153.68**	**89**	*e*P		**PKPdf**	**19 11 59.8**	**+0.5**
SMLA				AMB	AMB		20 01 49.1	
	comp=Z,13nm,6.6s							
KSH	**Kashi**	**153.81**	**70**	PKPbc		**PKPdf**	**19 11 59.8**	**+0.4**
KSH				PKS		**PKSdf**	**19 15 32.8**	**-0.9**
KSH				PP		**PP**	**19 15 51.3**	**-4.0**
KSH				SKS		**SKSdf**	**19 19 05.8**	**+1.3**
KSH				PPMZ				
	comp=Z,320nm,4.3s							
KSH				LN				
	comp=Z,310nm,9.5s							
KSH				LE				
	comp=Z,190nm,8.7s							
KSH				LZ				
	comp=Z,590nm,25.7s							
ULHL	**Ulahol**	**153.84**	**63**	P		**PKPbc**	**19 12 08.7**	**+1.3**
	SNR=5.7							
DDI	**Dehra Dun**	**154.18**	**91**	*e*P		**PKPdf**	**19 11 58.7**	**-1.4**
DDI				AMS	AMS		20 02 02.4	
	comp=Z,97nm,7.1s							
ZAA0	**Zalesovo Array**	**154.53**	**33**	*e*PKPdf		**PKPdf**	**19 11 58.9**	**-0.8**
ZAA0				*e*PKPbc		**PKiKP**	**19 12 08.5**	**+0.3**
ZAA0				*e*PKPab		**PKPab**	**19 12 21.1**	**-1.7**
ZALV	**Zalesovo Beam**	**154.53**	**33**	PKP		**PKPdf**	**19 11 58.8**	**-0.9**
	comp=Z,11nm,1.0s,baz=277,slow=2.2,SNR=19							
ZALV				PKPbc		**PKPbc**	**19 12 07.8**	**-0.3**
	comp=Z,25nm,0.9s,baz=299,slow=3.2,SNR=20							
ZALV				PKPab		**PKPab**	**19 12 22.9**	**+0.1**
	comp=Z,11nm,0.7s,baz=296,slow=5.1,SNR=7.3							
ZALV	**Zalesovo Beam**	**154.53**	**33**	PKIKP		**PKPdf**	**19 11 58.8**	**-0.9**
ZALV							19 12 07.8	
ZALV							19 12 22.9	
ZALV				pmax	pmax			
	comp=Z,11nm,1.0s							
ZALV				pmax	pmax			
	comp=Z,11nm,0.7s							
DGPR	**DIGLIPUR**	**154.57**	**143**	*e*P		**PKPdf**	**19 12 00.4**	**-0.6**
DGPR				AMS	AMS		19 50 55.5	
	comp=Z,441nm,4.2s							
MJAR	**Matsushiro Arr**	**155.62**	**283**	PKP		**PKPdf**	**19 12 00.6**	**-1.2**
	comp=Z,5.5nm,1.0s,baz=201,slow=0.9,SNR=17							
MJAR				PKPab		**PKPab**	**19 12 29.2**	**+1.1**
	comp=Z,9.5nm,1.1s,baz=117,slow=2.8,SNR=8.9							
MAJO	**Matsushiro**	**155.62**	**283**	*e*PKIKP		**PKPdf**	**19 12 00.3**	**-1.5**
MAJO				MLR	MLR			
	comp=Z,214nm,22.0s							
MAJO	**Matsushiro**	**155.62**	**283**	*e*PKPdf		**PKPdf**	**19 12 00.3**	**-1.5**
MAJO				LR	LR			
	comp=Z,214nm,22.0s							
MAT	**Matsushiro**	**155.62**	**283**	PKP		**PKPdf**	**19 12 00.4**	**-1.4**
HABR	**Khabarovsk**	**155.76**	**313**	*ce*PKIKP		**PKPdf**	**19 11 59.3**	**-2.2**
HABR				*e*			19 12 10.3	
HABR				*e*			19 12 25.7	
HABR				*e*			19 16 03.3	
HABR				*e*			19 19 03.2	
HABR				*e*SS	SS		19 35 47.6	-3.3
HABR				pmax	pmax			
	comp=E,31nm,2.8s							
HABR				pmax	pmax			
	comp=N,23nm,2.5s							
HABR				pmax	pmax			
	comp=Z,38nm,2.5s							
BOD	**Bodaibo**	**156.40**	**352**	*e*PKP2		**PKPab**	**19 12 29.8**	**-0.8**
BOD				pmax	pmax			
	comp=Z,38nm,1.4s							
MK31	**Makanchi Array**	**156.91**	**50**	*e*PKIKP		**PKPdf**	**19 12 00.4**	**-2.8**
MK31				*e*			19 16 11.7	
MK31	**Makanchi Array**	**156.91**	**50**	*e*PKPdf		**PKPdf**	**19 12 00.4**	**-2.8**
MK31				*e*PKPab		**PKPab**	**19 12 34.0**	**+0.7**
MK31				*e*PP		**PP**	**19 16 11.7**	**-0.3**
MKAR	**Makanchi Array**	**156.91**	**50**	PKP		**PKPdf**	**19 12 02.7**	**-0.5**
	comp=Z,4.6nm,1.0s,baz=276,slow=4.3,SNR=15							
MKAR				PKPab		**PKPab**	**19 12 33.7**	**+0.4**
	comp=Z,11nm,0.9s,baz=278,slow=8.2,SNR=10.0							
MKAR				PP		**PP**	**19 16 13.7**	**+1.6**
	comp=Z,3.5nm,1.0s,baz=257,slow=11,SNR=4.6							
KLR	**Kul'dur**	**157.32**	**317**	*e*PKIKP		**PKPdf**	**19 11 58.8**	**-4.8**
KLR				pmax	pmax			
	comp=Z,48nm,1.6s							
BOK	**Bokaro**	**157.74**	**113**	*e*P		**PKPdf**	**19 12 02.3**	**-2.6**
BOK				AMS	AMS		19 56 28.8	
	comp=Z,80nm,0.0s							
KOLN	**Koldanda**	**157.84**	**101**	*e*P		**PKPdf**	**19 12 04.6**	**-0.6**
GKN	**Gorkha**	**158.78**	**101**	*e*P		**PKPdf**	**19 12 04.7**	**-1.6**
	comp=Z,76nm,1.3s							
DMN	**Daman**	**158.99**	**103**	*e*P		**PKPdf**	**19 12 06.4**	**-0.3**
	comp=Z,82nm,1.5s							
KKN	**Kakani**	**159.21**	**103**	*e*P		**PKPdf**	**19 12 06.4**	**-0.5**
PKIN	**Phulchoki**	**159.21**	**103**	*e*P		**PKPdf**	**19 12 05.5**	**-1.4**
	comp=Z,42nm,1.5s							
PKI	**Pulchoki**	**159.22**	**103**	*e*P		**PKPdf**	**19 12 06.3**	**-0.7**
USRK	**Ussuriysk Ar.**	**159.36**	**305**	PKP		**PKPdf**	**19 12 07.6**	**+1.4**
	comp=Z,1.7nm,0.9s,baz=66,slow=4.9,SNR=4.8							
USRK				PKPab		**PKPab**	**19 12 44.3**	**+0.3**
	comp=Z,12nm,1.0s,baz=61,slow=4.8,SNR=13							
GUN	**Gumba**	**159.74**	**103**	*e*P		**PKPdf**	**19 12 07.2**	**-0.4**
	comp=Z,68nm,1.5s							
JIRN	**Jiri**	**159.89**	**104**	*e*P		**PKPdf**	**19 12 07.1**	**-0.7**
	comp=Z,26nm,1.1s							
RAMN	**Ramite**	**159.90**	**106**	*e*P		**PKPdf**	**19 12 07.5**	**-0.2**
	comp=Z,146nm,1.6s							
ODAN	**Odare**	**160.48**	**107**	*e*P		**PKPdf**	**19 12 08.1**	**-0.2**
	comp=Z,64nm,1.5s							
MDJ	**Mudanjiang**	**160.80**	**308**	PKP		**PKPdf**	**19 12 05.9**	**-1.9**
MDJ				PKS		**PKSdf**	**19 15 41.4**	**+0.4**
MDJ				PPMZ				
	comp=Z,74nm,8.7s							
MDJ				LN				
	comp=Z,44nm,24.0s							
MDJ				LE				
	comp=Z,210nm,24.0s							
MDJ				LZ				
	comp=Z,350nm,24.0s							
MDJ	**Mudanjiang**	**160.80**	**308**	*e*PKPdf		**PKPdf**	**19 12 05.8**	**-1.9**
MDJ				*e*PKPab		**PKPab**	**19 12 50.2**	**0.0**
MDJ				LR	LR			
	comp=Z,239nm,21.0s							
TAPN	**Taplejung**	**160.96**	**107**	*e*P		**PKPdf**	**19 12 08.9**	**0.0**
	comp=Z,50nm,1.4s							
JNU	**Nakatsue**	**161.19**	**272**	PKPab		**PKPab**	**19 12 52.6**	**+0.2**
	comp=Z,15nm,1.1s,baz=97,slow=5.1,SNR=6.2							
WMQ	**Urumqi**	**161.58**	**54**	PKP		**PKPdf**	**19 12 09.1**	**+0.3**
WMQ				pPKP		**pPKPdf**	**19 12 15.3**	**-2.5**
WMQ				sPKP			19 12 19.3	
WMQ				PKS		**PKSdf**	**19 15 41.4**	**-0.6**
WMQ				PP		**PP**	**19 16 38.3**	**+0.8**
WMQ				SKS		**SKSdf**	**19 19 13.6**	**+1.8**
WMQ				SS		**SS**	**19 36 54.8**	**+1.5**
WMQ				PPMZ				
	comp=Z,300nm,4.2s							
WMQ				LN				
	comp=Z,280nm,24.4s							
WMQ				LE				
	comp=Z,320nm,25.8s							
WMQ				LZ				
	comp=Z,330nm,22.0s							
CM31	**Chiang Mai Arr**	**161.94**	**150**	*e*PKPdf		**PKPdf**	**19 12 09.1**	**-0.7**
CM31				*e*PKPab		**PKPab**	**19 12 55.3**	**-0.4**
CMAR	**Chiang Mai Arr**	**161.94**	**150**	PKP		**PKPdf**	**19 12 08.9**	**-0.8**
	comp=Z,8.5nm,1.1s,baz=252,slow=2.1,SNR=22							
CMAR				PKPab		**PKPab**	**19 12 55.5**	**-0.2**
	comp=Z,5.2nm,0.9s,baz=219,slow=5.9,SNR=12							
CMAR	**Chiang Mai Arr**	**161.94**	**150**	PKIKP		**PKPdf**	**19 12 09.0**	**-0.8**
CMAR							19 12 55.5	
CMAR				pmax	pmax			
	comp=Z,9.0nm,1.1s							
CMAR				pmax	pmax			
	comp=Z,5.0nm,0.9s							
MOY	**Mondy**	**162.09**	**15**	*e*PKIKP		**PKPdf**	**19 12 09.2**	**+0.1**
CIT	**Chita**	**162.13**	**349**	*e*PKIKP		**PKPdf**	**19 12 08.8**	**-0.2**
CHTO	**Chiang Mai**	**162.26**	**150**	*e*PKIKP		**PKPdf**	**19 12 09.8**	**-0.3**
CHTO				*e*			19 12 55.8	
CHTO				MLR	MLR			
	comp=Z,307nm,21.0s							
CHTO	**Chiang Mai**	**162.26**	**150**	*e*PKPdf		**PKPdf**	**19 12 09.8**	**-0.3**
CHTO				*e*PKPab		**PKPab**	**19 12 55.8**	**-1.3**
CHTO				LR	LR			
	comp=Z,307nm,21.0s							
TLY	**Talaya**	**162.54**	**10**	PKP		**PKPdf**	**19 12 09.3**	**-0.1**
	comp=Z,1.9nm,0.4s,baz=185,slow=6.8,SNR=5.0							
TLY				PKPab		**PKPab**	**19 12 58.4**	**+0.9**
	comp=Z,5.9nm,0.8s,baz=344,slow=5.0,SNR=7.3							
TLY	**Talaya**	**162.54**	**10**	*e*PKIKP		**PKPdf**	**19 12 09.3**	**-0.1**
TLY				pmax	pmax			
	comp=Z,17nm,1.5s							
TLY	**Talaya**	**162.54**	**10**	P		**PKPdf**	**19 12 09.9**	**+0.5**
	SNR=7.7							
TLY	**Talaya**	**162.54**	**10**	*e*PKPdf		**PKPdf**	**19 12 09.1**	**-0.3**
TLY				*e*PKPab		**PKPab**	**19 12 58.3**	**+0.8**
TLY				LR	LR			
	comp=Z,464nm,21.0s							
KSULJ	**Uljin**	**162.70**	**283**	P		**PKPab**	**19 12 58.7**	**-0.1**
	SNR=5.8							
HIA	**Hailar**	**163.03**	**334**	PFAKE			19 12 20.0	+10
HIA				LR	LR			
	comp=Z,237nm,20.0s							
KSDAG	**Daegu**	**163.11**	**280**	P		**PKPab**	**19 13 02.1**	**+1.4**
	SNR=6.2							
SHL	**Shillong**	**163.23**	**118**	*e*P		**PKPdf**	**19 12 09.7**	**-1.4**
SHL				AMS	AMS		19 54 51.6	
	comp=Z,56nm,3.7s							
KSDGY	**Daegwallycong**	**163.24**	**287**	P		**PKPab**	**19 13 03.1**	**+1.9**
	SNR=9.0							
KSIJA	**INJE**	**163.66**	**288**	P		**PKPab**	**19 13 04.7**	**+1.7**
	SNR=7.4							
ZAK	**Zakamensk**	**163.75**	**12**	*e*PKIKP		**PKPdf**	**19 12 09.7**	**-1.0**
ZAK				*e*			19 13 03.7	
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.6s							
CN2	**Changchun**	**163.83**	**310**	*e*PKP		**PKPdf**	**19 12 12.8**	**+1.9**
KSRS	**Korea Array**	**163.85**	**286**	PKP		**PKPdf**	**19 12 10.1**	**-1.0**
	comp=Z,22nm,1.3s,baz=120,slow=0.3,SNR=35							
KSRS				PKPab		**PKPab**	**19 13 03.8**	**0.0**
	comp=Z,12nm,1.0s,baz=101,slow=4.3,SNR=19							
KSRS	**Korea Array**	**163.85**	**286**	PKIKP		**PKPdf**	**19 12 10.1**	**-1.0**
KSRS							19 13 03.8	
KSRS				pmax	pmax			
	comp=Z,22nm,1.3s							
KSRS				pmax	pmax			
	comp=Z,12nm,1.0s							
KSAR	**Wonju Array Be**	**163.88**	**286**	PKIKP		**PKPdf**	**19 12 10.1**	**-1.0**
KSAR							19 13 03.8	
KSAR	**Wonju Array Be**	**163.88**	**286**	PKP		**PKPdf**	**19 12 10.1**	**-1.0**
KSAR				PKPab		**PKPab**	**19 13 03.8**	**-0.2**
KSCHC	**Chuncheon**	**163.91**	**287**	P		**PKPab**	**19 13 06.1**	**+2.0**
	SNR=8.9							
KSCWO	**Cheorwon**	**164.11**	**288**	P		**PKPab**	**19 13 06.4**	**+1.4**
	SNR=5.1							
KSCEA	**Cheonan**	**164.42**	**284**	P		**PKPab**	**19 13 07.4**	**+1.1**
	SNR=5.6							
QIZ	**Qiongzhong**	**164.49**	**185**	PKP		**PKPdf**	**19 12 11.8**	**-0.4**
QIZ				PKS		**PKSdf**	**19 15 46.1**	**+0.8**
QIZ				PP		**PP**	**19 16 52.4**	**+0.7**
QIZ				SS	SS		19 37 26.9	+5.8
QIZ				PPMZ				
	comp=Z,180nm,3.7s							
QIZ				LN				
	comp=Z,200nm,25.8s							
QIZ				LZ				
	comp=Z,280nm,29.3s							
QIZ	**Qiongzhong**	**164.49**	**185**	PFAKE			19 12 20.0	+7.8
QIZ				LR	LR			
	comp=Z,302nm,21.0s							
LSA	**Lhasa**	**164.69**	**104**	PKP		**PKPdf**	**19 12 12.0**	**-0.7**
LSA	**Lhasa**	**164.69**	**104**	*e*PKIKP		**PKPdf**	**19 12 13.4**	**+0.7**
LSA				*e*			19 13 09.6	
LSA				*e*			19 16 54.0	
LSA				MLR	MLR			
	comp=Z,503nm,22.0s							
LSA	**Lhasa**	**164.69**	**104**	*e*PKPdf		**PKPdf**	**19 12 13.4**	**+0.7**
LSA				*e*PKPab		**PKPab**	**19 13 09.6**	**+1.3**
LSA				*e*PP		**PP**	**19 16 54.0**	**-1.1**
LSA				LR	LR			
	comp=Z,503nm,22.0s							
INCN	**Inchon**	**164.87**	**286**	PFAKE			19 12 20.0	+8.0
INCN				LR	LR			
	comp=Z,255nm,22.0s							
YHNB	**Yeheng**	**164.97**	**233**	PFAKE			19 12 20.0	+7.4
YHNB				LR	LR			
	comp=Z,233nm,21.0s							
KSSES	**Seosan**	**165.07**	**284**	P		**PKPab**	**19 13 10.4**	**+1.2**
	SNR=7.4							
TATO	**Taipei**	**165.11**	**234**	PFAKE			19 12 20.0	+7.4
TATO				LR	LR			
	comp=Z,307nm,21.0s							
SONM	**Songino Array**	**166.65**	**6**	PKP		**PKPdf**	**19 12 12.5**	**-0.8**
	comp=Z,2.4nm,0.8s,baz=210,slow=0.3,SNR=16							
SONM				PKPab		**PKPab**	**19 13 15.8**	**+0.1**
	comp=Z,10nm,1.1s,baz=338,slow=3.7,SNR=18							
SONM				PP		**PP**	**19 17 03.4**	**+0.4**
	comp=Z,6.8nm,1.2s,baz=355,slow=4.2,SNR=8.3							
SONM	**Songino Array**	**166.65**	**6**	PKIKP		**PKPdf**	**19 12 12.5**	**-0.8**
SONM							19 13 15.8	
SONM							19 17 03.4	
SONM				pmax	pmax			
	comp=Z,2.0nm,0.9s							
SONM				pmax	pmax			
	comp=Z,10.0nm,1.1s							
SONM				pmax	pmax			
	comp=Z,7.0nm,1.2s							
ULN	**Ulaanbaatar**	**166.66**	**4**	*e*PKIKP		**PKPdf**	**19 12 11.7**	**-1.7**
ULN				*e*			19 16 59.1	
ULN				MLR	MLR			
	comp=Z,330nm,21.0s							
ULN	**Ulaanbaatar**	**166.66**	**4**	P		**PKPdf**	**19 12 13.3**	**0.0**
	SNR=7.1							
ULN	**Ulaanbaatar**	**166.66**	**4**	*e*PKPdf		**PKPdf**	**19 12 11.7**	**-1.7**
ULN				*e*PKPab		**PKPab**	**19 13 16.7**	**+0.8**
ULN				*e*PP		**PP**	**19 16 59.1**	**-4.1**
ULN				LR	LR			
	comp=Z,330nm,21.0s							
KMI	**Kunming**	**169.45**	**151**	PKP		**PKPdf**	**19 12 15.8**	**-0.3**
NJ2	**Nanjing**	**170.82**	**257**	*e*PKP		**PKPdf**	**19 12 17.6**	**+1.3**
NJ2				PP		**PP**	**19 17 24.0**	**-1.8**
NJ2				PPMZ				
	comp=Z,1μm,6.6s							
NJ2				LN				
	comp=Z,300nm,23.0s							
NJ2				LE				
	comp=Z,690nm,23.7s							
GTA	**Gaotai**	**171.66**	**52**	*e*PKP		**PKPdf**	**19 12 16.6**	**-0.1**
GTA				PKPab		**PKPab**	**19 13 39.6**	**+1.2**
GTA				PP		**PP**	**19 17 30.3**	**+0.8**
GTA				SKS		**SKSdf**	**19 19 17.9**	**-0.3**
GTA				SS		**SS**	**19 38 34.3**	**-1.1**
GTA				PPMZ				
	comp=Z,310nm,7.6s							
GTA				LN				
	comp=Z,190nm,20.9s							
GTA				LE				
	comp=Z,270nm,20.4s							
GTA				LZ				
	comp=Z,410nm,22.8s							
BJI	**Beijing**	**171.66**	**313**	PKP		**PKPdf**	**19 12 16.3**	**-0.2**
BJI

LZH sPKP 19 12 32.1
LZH PKPab **PKPab** **19 13 59.4 +1.3**
LZH PP **PP** **19 17 52.5 +1.2**
LZH SKKS 19 24 32.5
LZH SS **SS** **19 39 18.5 -0.2**
LZH PPMZ
comp=Z,350nm,4.0s
LZH LN
comp=Z,1μm,15.2s
LZH LE
comp=Z,1μm,10.4s
LZH LZ
comp=Z,1μm,16.8s
XAN Xi'an 179.28 226 PKP **PKPdf** **19 12 18.6 -0.2**
XAN LN
comp=Z,110nm,20.9s
XAN LE
comp=Z,69nm,23.7s

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*ISK **21** 19:07:38.3,38.°67N×38.°59E,h5km,MD2.2*
*CSEM **21** 19:07:39.6±0.4,38.°67N×38.°61E,h15km,MD2.5,Error ellipse: s-maj=10.0km s-min=4.0km az=156.0*
*DDA **21** 19:07:42.3,38.°46N×38.°68E,h7km,MD2.5*
ISC 21 19:07:39.7±1.4,38.°68N±0.°07×38.°59E±0.°04,h13km±12km, n10,σ0°40/20,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ELZG	**Elazig**	**0.36**	**121**	*i* P		**Pg**	**19 07 47.1**	**0.0**
ELZG				*i* S		**Sg**	**19 07 52.0**	**0.0**
ELZG	**Elazig**	**0.36**	**121**	*i* P		**Pg**	**19 07 47.1**	**0.0**
ELZG				*i* S		**Sg**	**19 07 52.0**	**0.0**
MALT	**Malatya**	**0.39**	**199**	*e*PG		**Pg**	**19 07 47.1**	**-0.5**
MALT				*e*SG		**Sg**	**19 07 53.5**	**+0.6**
MALT	**Malatya**	**0.39**	**199**	*e*Pg		**Pg**	**19 07 47.1**	**-0.5**
MALT				*e*Sg		**Sg**	**19 07 53.5**	**+0.6**
SVRC	**Sivrice-ELAZID**	**0.64**	**118**	*e*PG		**Pg**	**19 07 51.6**	**-0.7**
SVRC				*e*SG		**Sb**	**19 08 02.1**	**+0.4**
SVRC	**Sivrice-ELAZID**	**0.64**	**118**	*e*Pg		**Pg**	**19 07 51.6**	**-0.7**
SVRC				*e*Sg		**Sb**	**19 08 02.2**	**+0.4**
AKCD	**Akcadag**	**0.65**	**234**	*i* P		**Pb**	**19 07 53.0**	**-0.1**
AKCD				*i* S		**Sb**	**19 08 02.2**	**+0.2**
AKCD	**Akcadag**	**0.65**	**234**	*i* P		**Pb**	**19 07 53.0**	**-0.1**
AKCD				*i* S		**Sb**	**19 08 02.2**	**+0.2**
PTK	**Pertek**	**0.66**	**71**	*e*PG		**Pg**	**19 07 52.6**	**-0.1**
PTK				*e*SG		**Sb**	**19 08 02.4**	**0.0**
PTK	**Pertek**	**0.66**	**71**	*e*Pg		**Pg**	**19 07 52.6**	**-0.1**
PTK				*e*Sg		**Sb**	**19 08 02.4**	**0.0**

SJA 21 19:11:17.9±0.6,31.°08S×71.°47W,h94km±99km,MD3.7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RTLS	**Leoncito**	**1.99**	**112**	*e*P		Pn	19 11 52.2	+1.7
RTLS				*e*S		Sn	19 12 17.4	+2.0
AUSP	**Uspallata**	**2.11**	**123**	*e*P		Pn	19 11 53.6	+1.5
AUSP				*e*S		Sn	19 12 20.4	+2.2
AMOG	**MOGNA**	**2.56**	**88**	*e*P		Pn	19 11 59.5	+1.7
RTLL	**Cerro Villicun**	**2.58**	**96**	*e*P		Pn	19 11 59.0	+1.0

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*IDC **21** 19:41:54.8±1.6,52.°82S×13.°46E,h0km,mb3.9/3, mb1 4.2/3,mb1mx3.7/22,mbtmp3.9/3,MS3.7/1,Ms1 3.8/1, ms1mx3.1/20,Error ellipse: s-maj=136.2km s-min=36.3km az=18.0*
*NEIC **21** 19:41:57.1±0.7,52.°54S×13.°82E,h10km,mb4.3/5,Error ellipse: s-maj=25.7km s-min=19.0km az=110.0*
ISC 21 19:41:56.3±1.1,52.°2S±0.°2×13.°9E±0.°2,h10km,n19, σ1§28/15,mb4.2/7,Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SUR	**Sutherland**	**20.42**	**17**	*e*P		Pn	19 46 39.9	+4.1
	2.2nm,0.7s							
SNAA	**Sanae**	**20.93**	**195**	P		**P**	**19 46 37.9**	**-0.8**
SNAA	**Sanae**	**20.93**	**195**	*e*P		**P**	**19 46 37.7**	**-1.0**
	16nm,1.2s							
VNA1	**Neumayer--Stat**	**21.10**	**200**	P		**P**	**19 46 42.7**	**+2.2**
VNA2	**Neumayer--Watz**	**21.13**	**199**	P		**P**	**19 46 42.0**	**+1.2**
	baz=23,slow=12							
VNA3	**Neumayer Olymp**	**21.85**	**200**	P		**P**	**19 46 49.7**	**+1.1**
PMSA	**Palmer Station**	**39.91**	**221**	P		**P**	**19 49 29.8**	**-0.1**
	125nm,1.2s							
VNDA	**Vanda**	**49.03**	**171**	LR		LR	20 10 12.1	
	comp=Z,84nm,18.5s,baz=214,slow=35							
VNDA	**Vanda**	**49.03**	**171**	P		P	19 50 39.1	-3.5
	6.5nm,1.5s							
PLCA	**Paso Flores**	**56.13**	**246**	P		**P**	**19 51 36.0**	**+0.2**
	2.8nm,1.0s							
CPUP	**Villa Florida**	**58.31**	**267**	*e*P		**P**	**19 51 50.9**	**-0.4**
LPAZ	**La Paz**	**72.46**	**266**	P		**P**	**19 53 21.9**	**-1.8**
	1.8nm,0.9s,baz=153,slow=6.8,SNR=2.2							
SAML	**Samuel**	**75.08**	**275**	P		**P**	**19 53 38.5**	**+0.1**
	2.4nm,1.0s							
ASAR	**Alice Springs**	**88.14**	**127**	P		**P**	**19 54 48.1**	**+0.7**
	1.2nm,0.9s,baz=208,slow=5.0,SNR=8.0							
WRA	**Warramunga Arr**	**91.49**	**126**	P		**P**	**19 55 01.0**	**-2.1**
	0.3nm,0.8s,baz=214,slow=3.9,SNR=3.1							
RLMT	**Red Lodge**	**142.66**	**282**	*e*PKPdf		PKPdf	20 01 21.6	-7.5
HLID	**Hailey**	**144.96**	**277**	*e*PKPdf		**PKPdf**	**20 01 34.1**	**+0.9**
TIXI	**Tiksi**	**146.07**	**31**	*e*PKPdf		**PKPab**	**20 01 36.5**	**+1.0**
YKA	**Yellowknife Ar**	**151.16**	**311**	PKPbc		**PKPbc**	**20 01 48.8**	**+0.5**
	1.0nm,0.8s,baz=87,slow=2.0,SNR=6.0							

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*MOS **21** 19:56:51.4±0.9,9.°30S×112.°94E,h40km,mb4.9/24,Error ellipse: s-maj=13.0km s-min=7.1km az=122.9*
*BJI **21** 19:56:52.9,9.°50S×112.°80E,h62km,mb4.7/27,mB4.9/16, Ms4.4/11,Ms7 4.1/10*
*NEIC **21** 19:56:53.9±0.6,9.°46S×112.°84E,h51km±5km,mb4.6/29, Error ellipse: s-maj=7.0km s-min=5.0km az=210.0*
*ISCJB **21** 19:56:54.0±0.5,9.°49S±0.°04×112.°80E±0.°02,h68km±3km, mb4.4/59,Error ellipse: s-maj=6.0km s-min=3.3km az=14.0*
*IDC **21** 19:56:54.0±0.7,9.°37S×112.°96E,h47km±6km,mb4.2/28, mb1 4.3/30,mb1mx4.2/37,mbtmp4.4/30,MS3.9/9, Ms1 3.9/9,ms1mx3.5/33,Error ellipse: s-maj=13.3km s-min=9.9km az=72.0*
*KLM **21** 19:56:54.2,9.°78S×112.°97E,h68km,mb4.6,MS5.9*
*DJA **21** 19:56:55.4±0.3,10.°S±2.°×11.°3E±.°,h46km±7km,M4.8/46, mb5.0/46,mB5.3/30,MLv5.2/27,Mw(mB)4.7/30*
ISC 21 19:56:54.1±0.5,9.°54S±0.°05×112.°79E±0.°04,h51km±4km, h51km:pP-P,n237,σ1§46/228,mb4.6/59,MS4.1/9,3C-15D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GMJI	**Gumukmas**	**1.42**	**27**	P		**Pn**	**19 57 16.6**	**-0.9**
PWJI	**Pagerwojo**	**1.80**	**327**	P		**Pn**	**19 57 21.9**	**-0.8**
PWJI				S		**Sn**	**19 57 43.2**	**-1.2**
BLJI	**Banyuglugur**	**1.95**	**24**	P		**Pn**	**19 57 26.0**	**+1.1**
PCJI	**Pacitan**	**2.08**	**310**	P		**Pn**	**19 57 26.7**	**+0.1**
PCJI				S		**Sn**	**19 57 51.6**	**+0.2**
ABJI	**Asem Bagus**	**2.25**	**40**	P		**Pn**	**19 57 30.0**	**+1.1**
IGBI	**Denpasar**	**2.43**	**73**	P		**Pn**	**19 57 31.5**	**+0.1**
IGBI				S		**Sn**	**19 58 01.7**	**+1.7**
DNP	**Denpasar**	**2.54**	**70**	P		**Pn**	**19 57 33.1**	**+0.2**
DNP				S		**Sn**	**19 58 04.3**	**+1.7**
GRJI	**Gresik**	**2.63**	**353**	P		Pn	19 57 47.0	+13
UGM	**Wanagama**	**2.77**	**306**	P		**Pn**	**19 57 36.2**	**+0.2**
UGM				S		**Sn**	**19 58 10.7**	**+2.5**
UGM	**Wanagama**	**2.77**	**306**	*e*Pn		**Pn**	**19 57 36.6**	**+0.6**
UGM				*e*Sn		**Sn**	**19 58 05.3**	**-3.0**
SRBI	**Singaraja**	**2.80**	**59**	P		**Pn**	**19 57 36.5**	**+0.1**
SRBI				S		**Sn**	**19 58 11.6**	**+2.6**
TBJI	**Tambak Boyo**	**2.86**	**341**	P		**Pn**	**19 57 38.8**	**+1.5**
TBJI				S		**Sn**	**19 58 15.0**	**+4.4**
SMRI	**Semarang**	**3.40**	**317**	P		**Pn**	**19 57 46.4**	**+1.7**
SMRI	**Semarang**	**3.40**	**317**	*e*Pn		**Pn**	**19 57 44.7**	**0.0**
SMRI				*e*Sn		**Sn**	**19 58 25.7**	**+1.9**
UWJI	**Ujung Watu**	**3.60**	**329**	P		**Pn**	**19 57 47.4**	**-0.1**
UWJI				S		**Sn**	**19 58 30.9**	**+2.2**
CMJI	**Cimerak**	**4.63**	**292**	P		**Pn**	**19 58 01.7**	**0.0**
CISI	**Cisompet, Garu**	**5.30**	**291**	P		Pn	**19 58 11.2**	**+0.3**
	718nm,1.1s,8μm3.9nm							
CISI	**Cisompet, Garu**	**5.30**	**291**	*e*Pn		**Pn**	**19 58 10.5**	**-0.3**
CISI				*e*Sn		**Sn**	**19 59 06.3**	**-4.4**

LEM Lembang 5.79 297 P **Pn** **19 58 20.3 +2.7**
273nm,1.3s,3μm1.5nm
LEM Lembang 5.79 297 P **Pn** **19 58 18.8 +1.2**
16nm,0.3s,baz=21,slow=19,SNR=20
LEM S Sn 19 59 31.7 +8.9
baz=223,slow=19,SNR=2.0
LEM LR LR 20 00 43.8
comp=Z,550nm,21.0s,baz=202,slow=39
CNJI Cibinong 6.02 291 P **Pn** **19 58 22.4 +1.7**
292nm,1.0s,3μm2.0nm
SKJI Sukabumi 6.67 292 P **Pn** **19 58 31.3 +1.8**
351nm,0.7s,4μm2.4nm
PBKI Pangkalan Bun 6.88 351 P **Pn** **19 58 34.5 +2.0**
292nm,0.9s,3μm1.0nm
KBKI Kotabaru 7.05 29 P **Pn** **19 58 36.7 +1.9**
54nm,1.0s,577nm0.2nm
XMIS Christmas Isla 7.09 262 *e*Pn **Pn** **19 58 32.8 -2.6**
124nm,0.6s
XMIS *e*Sn Sn 19 59 41.4 -13
WSI Waingapu 7.40 92 P Pn 19 58 47.7 +8.0
SBJI Serang 7.42 297 P Pn 19 58 54.9 +15
CGJI Cibinong 7.61 292 P **Pn** **19 58 43.3 +0.9**
271nm,0.9s,3μm1.1nm
KAPI Kappang 8.24 57 P **Pn** **19 58 51.2 +0.1**
5.7nm,0.3s,baz=218,slow=5.9,SNR=27
KAPI S **Sn** **20 00 19.6 -3.3**
0.2nm,0.3s,baz=266,slow=13,SNR=2.7
KAPI LR LR 20 02 25.8
comp=Z,608nm,19.8s,baz=276,slow=41
KAPI Kappang 8.24 57 *e*Pn **Pn** **19 58 51.6 +0.5**
KAPI *e*Sn Sn 20 00 09.4 -14
KAPI S **Sn** **20 00 19.6 -3.3**
BSSI Bau Bau, Buton 8.34 67 P **Pn** **19 58 52.0 -0.5**
122nm,0.8s,1μm
BKSI Bulukumba 8.39 61 P **Pn** **19 58 52.7 -0.5**
75nm,0.8s,635nm
TPI Tanjungpandan 8.46 323 P **Pn** **19 58 55.3 +1.2**
32nm,1.1s
BLSI Bandar Lampung 8.55 298 P Pn 19 59 07.5 +12
MTKI Muara Teweh, K 8.80 14 P Pn 19 59 02.1 +3.3
173nm,0.8s,4μm
EDFI Ende, Flores 8.82 86 P **Pn** **19 59 00.4 +1.2**
49nm,0.8s,879nm
SPSI Sidrap Palu 8.87 52 P **Pn** **19 59 00.9 +1.1**
27nm,1.0s
KASI Kota Agung 9.14 295 P **Pn** **19 59 04.9 +1.4**
77nm,0.7s,1μm
BKB Balikpapan 9.19 27 P **Pn** **19 59 05.3 +1.2**
97nm,1.2s,1μm
MMRI Maumere 9.37 85 P **Pn** **19 59 08.4 +1.7**
132nm,1.3s,1μm
MMRI Maumere 9.37 85 *e*Pn **Pn** **19 59 04.1 -2.5**
MMRI *e*Sn Sn 20 00 35.4 -15
TTSI Tana Toraja 9.51 48 P Pn 19 59 12.5 +4.0
67nm,1.2s,628nm
STKI Sintang 9.63 352 P **Pn** **19 59 12.7 +2.5**
44nm,0.8s,4μm
LWLI Liwa 9.76 297 P **Pn** **19 59 13.2 +1.2**
103nm,0.8s,4μm
PPBI Pangkal Pinang 9.88 318 P **Pn** **19 59 16.6 +3.1**
37nm,0.9s,498nm
MDSI Maura Dua 9.91 300 P **Pn** **19 59 15.3 +1.3**
34nm,1.1s
BATI Baumata 10.73 94 P **Pn** **19 59 25.8 +0.5**
31nm,0.7s,528nm
BATI Baumata 10.73 94 P **Pn** **19 59 24.5 -0.8**
6.9nm,0.3s,baz=37,slow=1.0,SNR=27
BATI S Sn 20 01 16.7 -7.4
4.2nm,0.3s,baz=323,slow=20,SNR=2.6
LHSI Lahat 10.81 301 P **Pn** **19 59 28.5 +2.1**
56nm,0.8s
MNAI Manna 11.03 297 P **Pn** **19 59 29.0 -0.4**
418nm,0.7s
MNAI Manna 11.03 297 *e*Pn **Pn** **19 59 28.5 -1.0**
PCI Palu 11.08 40 P **Pn** **19 59 29.5 -0.5**
113nm,1.2s,1μm
KSM Kuching 11.22 347 ⇓P **Pn** **19 59 34.6 +2.7**
KSM Kuching 11.22 347 *e*Pn **Pn** **19 59 33.1 +1.2**
SOEI Soe 11.32 92 P **Pn** **19 59 34.7 +1.3**
112nm,1.0s,1μm
SOEI Soe 11.32 92 *e*Pn **Pn** **19 59 33.2 -0.2**
SBUM Sibu 11.93 357 ⇓P Pn 19 59 45.1 +3.5
SBUM Sibu 11.93 357 *e*Pn **Pn** **19 59 44.1 +2.6**
MPSI Mapaga 12.10 36 P **Pn** **19 59 45.5 +1.6**
28nm,1.4s
MASI Maura Aman, Be 12.26 301 P **Pn** **19 59 44.6 -1.6**
285nm,1.0s
APSI Ampana 12.30 46 P P 20 00 09.4 +12
TOLI Toli-Toli 13.26 37 Pn Pn 20 00 03.6 +3.9
MBWA Marble Bar 13.34 151 *e*Pn Pn 19 59 54.8 -6.1
MBWA *e*Sn Sn 20 02 05.7 -22
MRSI Marisa 13.49 43 P **P** **20 00 11.6 +0.8**
TSM Tawau 14.65 20 ⇑P **P** **20 00 21.4 -2.2**
KGM Kluang 14.86 320 ⇑P **P** **20 00 27.8 +1.8**
KMSI Cibinong 15.00 49 P **P** **20 00 27.2 -0.4**
176nm,1.2s,2μm
SANI Sanana 15.09 61 P Pn **20 00 25.1 +0.9**
70nm,1.2s,676nm
NLAI Namlea 15.53 67 P **P** **20 00 35.7 +2.2**
MSAI Masohi 17.17 70 P **P** **20 00 55.2 +3.5**
BNDI Bandanaira 17.70 75 P **P** **20 00 59.4 +1.9**
192nm,1.0s,2μm
TNTI Ternate 17.77 56 P pP 20 01 12.4 +2.7
TNTI Ternate 17.77 56 *e*Pn **Pn** **20 00 57.4 -0.6**
61nm,1.0s
SIJI Sorong 20.30 66 P **P** **20 01 24.1 -1.9**
16nm,0.9s,baz=228,slow=3.0,SNR=6.5
FAKI Fak Fak 20.42 72 P Pn 20 01 37.7 +7.9
FAKI Fak Fak 20.42 72 *e*P **P** **20 01 23.9 -3.4**
201nm,1.4s
RKPI Ransiki, Papua 22.72 71 P **P** **20 01 55.0 +3.0**
64nm,0.8s
WRA Warramunga Arr 23.23 119 P **P** **20 01 56.1 -1.1**
12nm,0.9s,baz=291,slow=11,SNR=60
WRA S **S** **20 06 06.8 +1.2**
0.7nm,0.7s,baz=291,slow=24,SNR=3.2
WRA LR LR 20 11 27.1
comp=Z,285nm,21.9s,baz=105,slow=38
WRAB Tennant Creek 23.24 119 *e*P **P** **20 01 56.8 -0.4**
WRAB pmax pmax
comp=Z,56nm,1.2s
WRAB Tennant Creek 23.24 119 *e*P **P** **20 01 56.4 -0.9**
comp=Z,15nm,0.9s
NWAO Narrogin (SRO) 23.63 171 P **P** **20 02 01.6 +0.8**
comp=Z,7.3nm,1.0s,baz=328,slow=12,SNR=3.7
NWAO S S 20 06 19.1 +7.3
comp=Z,5.4nm,0.8s,baz=150,slow=20,SNR=2.3
SRPI Serui, Papua 24.53 73 P P 20 02 21.7 +12
AS31 Alice Springs 24.58 127 *e*P **P** **20 02 09.7 +0.1**
AS31 *e*Sn S 20 06 42.8 +15
ASAR Alice Springs 24.58 127 P **P** **20 02 09.8 +0.2**
comp=Z,20nm,0.7s,baz=305,slow=9.3,SNR=220
ASAR S S 20 06 40.4 +13
comp=Z,1.3nm,0.7s,baz=304,slow=22,SNR=5.7
ASAR LR LR 20 11 38.6
comp=Z,162nm,21.8s,baz=281,slow=36
AS01 Alice Springs 24.61 127 *e*P **P** **20 02 09.2 -0.7**
FORT Forrest 25.47 148 *e*P **P** **20 02 18.1 +0.5**
comp=Z,58nm,0.7s
QIZ Qiongzhong 28.54 354 P **P** **20 02 45.5 +0.3**
QIZ pP **pP** **20 03 00.5 +2.2**
QIZ S **S** **20 07 30.6 +0.8**
QIZ PMZ
comp=Z,11nm,1.2s
QIZ LN
comp=Z,200nm,20.8s
QIZ LZ
comp=Z,250nm,23.8s
CM01 Chiang Mai Arr 30.96 334 *e*P **P** **20 03 07.1 +0.5**
CM31 Chiang Mai Arr 31.00 334 P **P** **20 03 06.8 -0.2**
comp=Z,3.4nm,0.8s
CMAR Chiang Mai Arr 31.00 334 P **P** **20 03 07.3 +0.3**
comp=Z,1.8nm,0.7s,baz=166,slow=8.3,SNR=14
CMAR LR LR 20 16 39.9
comp=Z,205nm,18.1s,baz=200,slow=38
CHTO Chiang Mai 31.31 334 *e*P **P** **20 03 08.4 -1.4**
CHTO Chiang Mai 31.31 334 *e*P **P** **20 03 08.4 -1.4**
CTA Charters Tower 33.94 112 P **P** **20 03 32.3 -0.5**
comp=Z,3.5nm,0.9s,baz=307,slow=12,SNR=5.9
CTAO Charters Tower 33.94 112 *e*P **P** **20 03 33.6 +0.7**
CTAO pmax pmax
comp=Z,10.0nm,1.0s
CTAO Charters Tower 33.94 112 *e*P **P** **20 03 33.6 +0.7**
comp=Z,10nm,1.0s
STKA Stephens Creek 34.73 134 P **P** **20 03 39.9 +0.4**
comp=Z,8.9nm,0.7s,baz=307,slow=9.3,SNR=22
STKA LR LR 20 18 24.1
comp=Z,360nm,21.1s,baz=306,slow=37
STKA Stephens Creek 34.73 134 *e*P **P** **20 03 40.0 +0.5**
STKA pmax pmax
comp=Z,2.0nm,0.8s
STKA Stephens Creek 34.73 134 *e*P **P** **20 03 40.0 +0.5**
comp=Z,2.3nm,0.8s
YHNB Yeheng 35.02 14 *e*P **P** **20 03 40.8 -1.3**
H08S2 Diego Garcia H 39.87 269 T T 20 46 58.2
baz=95,slow=75,SNR=5.0
H08S3 Diego Garcia H 39.89 270 T T 20 47 02.2
baz=95,slow=75,SNR=12
H08S1 Diego Garcia H 39.89 269 T T 20 47 02.2
baz=95,slow=75,SNR=5.2
HYB Hyderabad 43.16 308 *i* P **P** **20 04 49.0 -1.2**
HYB *e*pP **pP** **20 05 03.0 -0.7**
ODAN Odare 43.78 326 *e*P **P** **20 04 56.4 +1.0**
comp=Z,19nm,0.7s
TAPN Taplejung 44.00 327 *e*P **P** **20 04 57.5 +0.4**
comp=Z,21nm,0.7s
LSA Lhasa 44.23 333 P **P** **20 04 59.5 +0.3**
LSA Lhasa 44.23 333 *e*P **P** **20 04 59.7 +0.5**
LSA pmax pmax
comp=Z,7.0nm,0.6s
LSA Lhasa 44.23 333 *e*P **P** **20 04 59.7 +0.5**
comp=Z,7.1nm,0.6s
RAMN Ramite 44.29 326 *e*P **P** **20 04 59.9 +0.5**
JIRN Jiri 45.07 326 *e*P **P** **20 05 05.6 -0.2**
comp=Z,25nm,0.8s
GUN Gumba 45.44 326 *e*P **P** **20 05 08.4 -0.3**
comp=Z,31nm,0.7s
PKI Pulchoki 45.44 325 *e*P **P** **20 05 08.5 -0.2**
PKIN Phulchoki 45.45 325 *e*P **P** **20 05 08.4 -0.3**
DMN Daman 45.64 325 *e*P **P** **20 05 09.8 -0.4**
KKN Kakani 45.68 325 *e*P **P** **20 05 10.5 +0.1**
TIA Tai'an 45.69 5 ⇓P **P** **20 05 09.3 -0.8**
TIA PMZ
comp=Z,10.0nm,0.7s
JNU Nakatsue 45.79 21 P **P** **20 05 09.0 -2.0**
comp=Z,2.8nm,0.6s,baz=227,slow=4.2,SNR=4.8
GKN Gorkha 46.21 325 *e*P **P** **20 05 14.2 -0.3**
CBIJ Chichi jima 46.25 37 *e*P **P** **20 05 12.5 -2.2**
comp=Z,82nm,1.2s
KOLN Koldanda 46.63 324 *e*P **P** **20 05 17.5 -0.4**
comp=Z,19nm,0.5s
KSAR Wonju Array Be 48.83 16 P **P** **20 05 34.4 -0.1**
KSAR Wonju Array Be 48.83 16 P **P** **20 05 34.4 -0.1**
KSRS Korea Array 48.85 16 P **P** **20 05 34.4 -0.3**
comp=Z,2.8nm,0.8s,baz=199,slow=6.6,SNR=20
KS01 Wonju Array Si 48.87 16 *e*P **P** **20 05 34.2 -0.5**
HHC Hu-ho-hao-te 50.15 359 *e*P **P** **20 05 47.4 +2.8**
HHC PP **PP** **20 07 45.0 +4.6**
HHC S **S** **20 12 53.6 +0.7**
HHC PMZ
comp=Z,14nm,0.9s
HHC PMZ
comp=Z,67nm,7.4s
HHC LN
comp=Z,130nm,16.0s
HHC LE
comp=Z,190nm,18.5s
HHC LZ
comp=Z,130nm,18.5s
GTA Gaotai 50.17 347 *e*P **P** **20 05 45.8 +0.9**
GTA PMZ
comp=Z,3.0nm,0.9s
MAJO Matsushiro 51.70 26 *d* P **P** **20 05 53.7 -2.5**
MAJO pmax pmax
comp=Z,49nm,1.2s
MAJO Matsushiro 51.70 26 *e*P **P** **20 05 53.1 -3.1**
comp=Z,15nm,1.3s
MAT Matsushiro 51.70 26 P **P** **20 05 53.8 -2.4**
MJAR Matsushiro Arr 51.70 26 P **P** **20 05 54.1 -2.2**
comp=Z,5.7nm,0.6s,baz=199,slow=8.1,SNR=26
MDJ Mudanjiang 56.01 14 P **P** **20 06 26.2 -1.3**
comp=Z,6.7nm,0.8s
USRK Ussuriysk Ar. 56.25 17 P **P** **20 06 28.2 -1.1**
comp=Z,8.8nm,0.9s,baz=176,slow=5.6,SNR=13
CASY Casey 56.68 181 *e*P **P** **20 06 32.4 +0.4**
comp=Z,7.3nm,0.9s
ULN Ulaanbaatar 57.38 355 *d* i P **P** **20 06 36.1 -1.3**
ULN pmax pmax
comp=Z,5.0nm,0.8s
ULN Ulaanbaatar 57.38 355 *e*P **P** **20 06 36.9 -0.5**
comp=Z,5.5nm,0.8s
SONM Songino Array 57.40 355 P **P** **20 06 37.2 -0.4**
comp=Z,3.4nm,0.6s,baz=179,slow=8.3,SNR=22
SONM ScP **ScP** **20 11 26.1 -0.7**
comp=Z,0.3nm,0.7s,baz=145,slow=5.3,SNR=3.7
SONA1 Songino Array 57.41 355 *e*P **P** **20 06 36.9 -0.7**
ASAJ Asahikawa 59.85 24 P **P** **20 06 53.3 -1.2**
comp=Z,4.8nm,0.7s,baz=240,slow=8.4,SNR=6.6
ZAK Zakamensk 60.25 353 *e*P **P** **20 06 56.8 -0.4**
ZAK *e* 20 07 39.3
ZAK pmax pmax
comp=Z,2.0nm,1.2s
KLR Kul'dur 60.85 14 *e*P P 20 06 56.8 -4.4
TKM2 Tokmak 2 62.26 330 *e*P **P** **20 07 10.0 -1.2**
TKM2 pmax pmax
comp=Z,6.0nm,1.0s
TKM2 Tokmak 2 62.26 330 *e*P **P** **20 07 10.0 -1.2**
comp=Z,5.7nm,1.0s
YSS Yuzh-Sakhalins 62.27 23 *e*P P 20 07 06.0 -4.8
MK01 Makanchi Array 62.31 337 *e*P **P** **20 07 10.6 -0.6**
MK31 Makanchi Array 62.34 337 *e*P **P** **20 07 10.6 -0.8**
MK31 Makanchi Array 62.34 337 *e*P **P** **20 07 10.6 -0.8**
MKAR Makanchi Array 62.34 337 P **P** **20 07 10.6 -0.7**
comp=Z,3.9nm,0.5s,baz=168,slow=6.1,SNR=69
MKAR Makanchi Array 62.34 337 *e*P **P** **20 07 10.3 -1.0**
MKAR Makanchi Array 62.34 337 *e*P **P** **20 07 10.3 -1.0**
AAK Ala-Archa 62.60 329 *e*P **P** **20 07 12.7 -0.7**
AAK pmax pmax
comp=Z,3.0nm,0.7s
AAK Ala-Archa 62.60 329 *e*P **P** **20 07 12.7 -0.7**
comp=Z,3.1nm,0.7s
EKS2 Erkin-Say 62.99 329 *e*P **P** **20 07 15.0 -0.9**
EKS2 pmax pmax
comp=Z,6.0nm,0.8s
EKS2 Erkin-Say 62.99 329 *e*P **P** **20 07 15.0 -0.9**
comp=Z,5.7nm,0.8s
OPO Ambohidratompo 63.98 254 P **P** **20 07 25.6 +2.5**
comp=Z,3.7nm,0.8s,baz=82,slow=14,SNR=3.2
MAW Mawson 66.70 199 P **P** **20 07 40.4 +0.9**
comp=Z,2.9nm,0.9s,baz=28,slow=12,SNR=3.5
MAW LR LR 20 29 45.6
comp=Z,128nm,21.9s,baz=57,slow=30
MAW Mawson 66.70 199 P **P** **20 07 37.9 -1.6**
MAW Mawson 66.70 199 P **P** **20 07 37.9 -1.6**
comp=Z,0.7nm,0.9s
KURK Kurchatov 66.94 337 *e*P **P** **20 07 40.2 -1.0**
KURK pmax pmax
comp=Z,3.0nm,0.8s
KURK Kurchatov 66.94 337 *e*P **P** **20 07 40.2 -1.0**
comp=Z,3.2nm,0.8s
BOD Bodaibo 67.13 1 *e*P P 20 07 51.8 +10
BOD pmax pmax
comp=Z,5.0nm,1.3s
ZAA0 Zalesovo Array 67.54 343 *e*P **P** **20 07 43.4 -1.6**
ZALV Zalesovo Beam 67.54 343 P **P** **20 07 43.8 -1.1**
comp=Z,3.8nm,0.5s,baz=164,slow=5.3,SNR=21
BVAR Borovoye Array 72.02 335 P **P** **20 08 11.3 -1.3**
comp=Z,0.9nm,0.6s,baz=142,slow=8.6,SNR=8.1
BRVK Borovoye 72.09 335 *e*P **P** **20 08 11.7 -1.2**
BRVK pmax pmax
comp=Z,2.0nm,1.5s
VNDA Vanda 72.46 170 P **P** **20 08 15.8 +1.0**
comp=Z,3.9nm,0.9s,baz=298,slow=6.8,SNR=5.7
VNDA LR LR 20 39 32.4
comp=Z,129nm,18.0s,baz=312,slow=35
VNDA Vanda 72.46 170 *e*P **P** **20 08 15.7 +0.8**
VNDA pmax pmax
comp=Z,6.0nm,1.0s
VNDA Vanda 72.46 170 *e*P **P** **20 08 15.7 +0.8**
comp=Z,6.0nm,1.0s
YAK Yakutsk 72.56 8 *e*P **P** **20 08 14.0 -1.5**
YAK *e* 20 08 29.3
YAK *e*PPP PPP 20 12 46.9
YAK *e*S **S** **20 17 35.7 -0.3**
YAK *e* 20 18 17.9
YAK pmax pmax
comp=Z,10.0nm,1.2s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK smax smax
comp=N,27nm,2.8s
YAK Yakutsk 72.56 8 *e*P **P** **20 08 13.4 -2.1**

comp=N,15nm,0.6s
PEA0 Petropavlovsk- 73.16 26 *e*P **P** **20 08 18.5 -0.8**
PETK Petropavlovsk- 73.16 26 P **P** **20 08 17.7 -1.6**
comp=N,2.0nm,0.6s,baz=214,slow=2.1,SNR=7.9
RAYN Ar Rayn 73.49 298 *e*P **P** **20 08 21.6 -0.4**
comp=N,4.1nm,1.1s
SBA Scott Base 73.51 170 P **P** **20 08 23.0 +2.0**
SBA Scott Base 73.51 170 P **P** **20 08 23.0 +2.0**
ABKAR Akbulak array 74.58 327 *e*P **P** **20 08 27.3 -0.4**
SYO Syowa Base 75.15 201‖ *e*P **P** **20 08 30.4 -0.3**
KMBO Kilima Mbogo 75.55 271 P **P** **20 08 36.5 +2.1**
comp=N,0.7nm,0.3s,baz=49,slow=19,SNR=3.7
SVE Sverdlovsk 78.75 334 *e*P **P** **20 08 51.5 +0.4**
SVE pmax pmax
comp=Z,18nm,1.5s
ARU Arti 79.43 333 *d i*P **P** **20 08 54.1 -0.8**
ARU 20 11 49.4
ARU S **S** **20 18 55.0 +3.1**
ARU pmax pmax
comp=Z,4.0nm,1.0s
ARU Arti 79.43 333 *e*P **P** **20 08 54.0 -0.8**
comp=Z,8.1nm,1.1s
QSPA South Pole Qui 80.46 180 P **P** **20 09 01.0 +0.5**
comp=Z,4.7nm,1.1s,baz=296,slow=1.7,SNR=9.2
QSPA pP **pP** **20 09 15.8 +0.7**
comp=Z,6.3nm,1.0s,baz=313,slow=2.6,SNR=7.2
QSPA South Pole Qui 80.46 180 *e*P **P** **20 08 59.3 -1.2**
comp=Z,9.1nm,1.1s
ZEI Tsey 81.37 316 *e*P P 20 09 09.8 +4.0
ZEI pmax pmax
comp=Z,14nm,1.5s
TIXI Tiksi 81.72 5 *i*P **P** **20 09 05.4 -1.3**
TIXI pmax pmax
comp=Z,6.0nm,1.0s
TIXI Tiksi 81.72 5 *e*P **P** **20 09 05.0 -1.8**
comp=Z,5.1nm,0.9s
NCK Nalchik 81.84 317 *e*P **P** **20 09 07.1 -0.9**
MBAR Mbarara 82.06 271 *e*P **P** **20 09 11.6 +1.5**
MBAR Mbarara 82.06 271 *e*P **P** **20 09 11.6 +1.5**
LSZ Lusaka 82.38 256 *e*P **P** **20 09 10.9 -0.7**
LSZ pmax pmax
comp=Z,9.0nm,1.3s
LSZ Lusaka 82.38 256 *e*P **P** **20 09 10.9 -0.7**
comp=Z,8.8nm,1.3s
KBZ Khabaz 82.39 317 *e*P **P** **20 09 11.4 +0.5**
comp=Z,3.6nm,1.1s,baz=53,slow=20,SNR=5.1
KIV Kislovodsk 82.62 317 *e*P **P** **20 09 10.8 -1.4**
KIV pmax pmax
comp=Z,2.0nm,1.0s
KIV MLR MLR
comp=Z,51nm,19.0s
GOF Gofitskoye 82.77 318 *e*P **pP** **20 09 26.8 -0.7**
GOF pmax pmax
comp=Z,10.0nm,1.3s
BOSA Boshof 83.35 242 P **P** **20 09 18.2 +1.7**
comp=Z,1.1nm,0.7s,baz=79,slow=6.2,SNR=6.8
BOSA LR LR 20 40 37.2
comp=Z,78nm,18.4s,baz=76,slow=31
BOSA Boshof 83.35 242 *e*P **P** **20 09 16.6 +0.1**
BOSA pmax pmax
comp=Z,7.0nm,1.0s
BOSA Boshof 83.35 242 *e*P **P** **20 09 16.6 +0.1**
comp=Z,6.6nm,1.0s
LBTB Lobatse 83.51 246 P **P** **20 09 17.2 -0.1**
LBTB pmax pmax
comp=Z,7.0nm,1.1s
LBTB Lobatse 83.51 246 P **P** **20 09 17.2 -0.1**
comp=Z,6.5nm,1.1s
BILL Bilibino 86.09 18 *e*P **P** **20 09 28.4 -0.7**
BILL pmax pmax
comp=Z,2.0nm,1.4s
BILL MLR MLR
comp=Z,98nm,18.0s
VORD Divnogorie 87.16 323 *e*P **P** **20 09 34.8 +0.1**
VORD pmax pmax
comp=E,10.0nm,0.8s
VORD pmax pmax
comp=Z,3.0nm,0.8s
VORD pmax pmax
comp=N,10.0nm,0.9s
VSR Storozhevoye 87.31 323 *e*P **P** **20 09 34.1 -1.4**
VSR pmax pmax
comp=Z,8.0nm,0.7s
VSR pmax pmax
comp=N,9.0nm,1.4s
VSR pmax pmax
comp=E,4.0nm,0.5s
BR131 Keskin Array S 87.80 311 *e*P **P** **20 09 38.4 +0.1**
comp=E,6.7nm,0.9s
BRTR Keskin Array B 87.80 311 P **P** **20 09 38.5 +0.3**
comp=E,2.2nm,0.9s,baz=116,slow=6.6,SNR=12
BRTR pP **pP** **20 09 52.6 -0.5**
comp=E,8.1nm,0.9s,baz=123,slow=2.9,SNR=19
BR231 Keskin MP Arra 88.48 311 *e*P **P** **20 09 38.6 -2.8**
SNAA Sanae 88.78 197 P **P** **20 09 41.7 -0.6**
SNAA Sanae 88.78 197 P **P** **20 09 43.6 +1.4**
comp=E,2.5nm,0.7s,baz=160,slow=5.0,SNR=37
SNAA Sanae 88.78 197 *e*P **P** **20 09 40.5 -1.7**
SNAA pmax pmax
comp=Z,9.0nm,1.2s
SNAA Sanae 88.78 197 *e*P **P** **20 09 41.3 -1.0**
comp=Z,12nm,1.2s
OBN Obninsk 89.99 326 *e*P **P** **20 09 47.5 -0.5**
OBN *e* 20 13 21.0
OBN pmax pmax
comp=Z,6.0nm,1.4s
KLMR Klimovskoe 90.27 332 P P 20 09 56.3 +7.2
KLMR pmax pmax
comp=Z,14nm,1.5s
VNA2 Neumayer--Watz 90.43 197 P **P** **20 09 52.0 +2.1**
baz=100,slow=4.8
VNA3 Neumayer Olymp 90.88 196 P **P** **20 09 53.9 +1.9**
TLB Topalu 92.91 315‖ *i*P pP 20 10 15.3 -1.3
CFR Carcaliu 92.95 315‖ *i*P pP 20 10 16.8 0.0
AKASG Malin Array Be 93.26 321 P **P** **20 10 02.5 -0.7**
comp=Z,0.2nm,0.3s,baz=81,slow=4.5,SNR=4.3
AKASG pP **pP** **20 10 16.8 -1.3**
comp=Z,1.5nm,0.7s,baz=81,slow=4.7,SNR=2.8
VRI Vrincioaia 94.04 316‖ *i*P pP 20 10 21.4 -0.5
PLOR Plostina 94.09 316‖ *i*P pP 20 10 19.5 -2.7
PLOR Plostina 94.09 316‖ *i*P pP 20 10 19.5 -2.7
MLR Muntele Rosu 94.52 315‖ *i*P pP 20 10 27.0 +2.7
VOIR 95.14 315‖ *i*P pP 20 10 32.7 +5.7
BURAR Bucovina Array 95.34 317‖ *i*P pP 20 10 27.3 -0.6
BUR04 Bucovina Ar. S 95.34 317 *e*P P 20 10 09.7 -3.3
FINES FINESS Array B 96.73 331 P **P** **20 10 18.1 -0.8**
comp=Z,0.5nm,0.7s,baz=141,slow=9.0,SNR=2.3
SUW Suwalki 97.41 323 *e*P P 20 10 18.4 -3.7
SUW Suwalki 97.41 323 *e*P P 20 10 18.4 -3.7
KOLS Kolonicke sedl 97.45 318 *e*P Pdif 20 10 22.7 +0.2
KOLS *e* 20 10 38.1
KOLS Kolonicke sedl 97.45 318 *e*P Pdif 20 10 22.7 +0.2
KOLS *e*pP pP 20 10 38.1 +0.7
TORD Torodi Ar. Bea 112.52 280 PKiKP **PKiKP** **20 15 25.8 0.0**
comp=Z,0.5nm,0.5s,baz=30,slow=1.9,SNR=8.6
SHEL Horse Pasture 114.10 248 *i* PKiKP PKPdf 20 15 24.8 -4.0
DBIC Dimbokro 118.27 272 PKP **PKPdf** **20 15 37.5 +0.6**
comp=Z,2.0nm,0.6s,baz=69,slow=5.0,SNR=5.3
PDAR Pinedale Array 130.41 41 SKPbc **SKPbc** **20 19 19.9 +1.0**
comp=Z,0.9nm,0.8s,baz=180,slow=0.1,SNR=6.7
TXAR Lajitas Array 140.62 55 PKhKP PKPpre 20 16 12.4
comp=Z,0.4nm,0.7s,baz=270,slow=1.8,SNR=2.7
TXAR PKP **PKPdf** **20 16 17.0 -1.8**
comp=Z,0.3nm,0.5s,baz=242,slow=2.7,SNR=5.2
MIAR Mount Ida 145.33 40 *e*PKIKP **PKPbc** **20 16 26.8 0.0**
MIAR Mount Ida 145.33 40 *e*PKPdf **PKPbc** **20 16 26.8 0.0**
BDFB Brasilia 148.57 217 PKPbc **PKPbc** **20 16 37.7 +1.1**
comp=Z,3.8nm,0.8s,baz=105,slow=8.5,SNR=3.5
TKL Tuckaleechee C 149.94 28 PKPbc **PKPbc** **20 16 40.4 +1.0**
comp=Z,4.8nm,0.6s,baz=41,slow=2.2,SNR=3.2
LPAZ La Paz 154.32 178 PKP **PKPdf** **20 16 43.4 +1.1**
comp=Z,0.7nm,0.3s,baz=281,slow=3.0,SNR=6.6
LPAZ PKPbc **PKiKP** **20 16 52.2 +1.5**
comp=Z,1.3nm,1.1s,baz=198,slow=10,SNR=2.6

IDC 21 20:10:48.7±65.0, 20°74S×178°66W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/37, mbtmpb3.8/3, Error ellipse: s-maj=1177.0km s-min=161.2km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.13**	**244**	P	P	20 17 59.4	-1.8
	0.8nm,0.5s,baz=83,slow=7.0,SNR=4.2						
ASAR	**Alice Springs**	**43.86**	**257**	P	P	20 18 57.4	+0.3
	0.5nm,0.4s,baz=95,slow=7.4,SNR=20						
WRA	**Warramunga Arr**	**43.96**	**262**	P	P	20 18 58.4	+0.6
	0.7nm,0.4s,baz=92,slow=8.4,SNR=56						

*IDC **21** 20:19:50.0±1.1, 12°.65N×144°.06E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/31, mbtmpb3.5/5, MS3.1/1, Ms1 3.1/1, ms1mx2.7/23, Error ellipse: s-maj=28.5km s-min=16.6km az=117.0*
*ISCJB **21** 20:19:52.4±0.8, 12°.6N±0°.1×144°.0E±0°.1, h27km, mb3.5/5, Error ellipse: s-maj=22.8km s-min=9.4km az=41.4*
ISC 21 20:19:53.8±1.1, 12°.6N±0°.1×144°.1E±0°.2, h27km, n13, σ0s45/7, mb3.6/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.22**	**39**	Pn	**Pn**	**20 20 14.6**	**-0.6**
	266nm,0.3s,baz=221,slow=9.3,SNR=186						
GUMO				Sn	**Sb**	**20 20 32.2**	**+0.6**
	456nm,0.3s,baz=17,slow=19,SNR=44						
GUMO				LR	LR	20 20 53.4	
	comp=Z,433nm,18.1s,baz=305,slow=52						
JAY	**Jayapura**	**15.42**	**193**	LR	LR	20 29 00.9	
	comp=Z,80nm,21.7s,baz=288,slow=36						
H11S3	**WAKE ISLAND Hy 22.53**	**72**		T	T	20 47 57.5	
	baz=258,slow=75,SNR=27						
H11S1	**WAKE ISLAND Hy 22.55**	**72**		T	T	20 47 56.9	
	baz=258,slow=75,SNR=26						
H11S2	**WAKE ISLAND Hy 22.55**	**72**		T	T	20 47 57.5	
	baz=258,slow=75,SNR=22						
H11N1	**WAKE ISLAND Hy 22.99**	**69**		T	T	20 48 29.2	
	baz=255,slow=75,SNR=79						
H11N2	**WAKE ISLAND Hy 23.00**	**69**		T	T	20 48 30.4	
	baz=255,slow=75,SNR=73						
H11N3	**WAKE ISLAND Hy 23.01**	**69**		T	T	20 48 31.6	
	baz=255,slow=75,SNR=79						
WRA	**Warramunga Arr**	**33.76**	**197**	P	**P**	**20 26 33.5**	**0.0**
	0.8nm,0.7s,baz=19,slow=9.5,SNR=11						
ASAR	**Alice Springs**	**37.43**	**195**	P	**P**	**20 27 05.2**	**+0.2**
	0.7nm,0.8s,baz=19,slow=12,SNR=12						
CMAR	**Chiang Mai Arr**	**43.78**	**284**	P	**P**	**20 27 57.8**	**+0.2**
	0.5nm,0.6s,baz=80,slow=6.7,SNR=3.0						
SONM	**Songino Array**	**47.07**	**326**	P	**P**	**20 28 23.4**	**-0.1**
	0.1nm,0.4s,baz=140,slow=7.5,SNR=2.3						
MKAR	**Makanchi Array**	**61.65**	**317**	P	**P**	**20 30 09.4**	**0.0**
	0.4nm,0.6s,baz=94,slow=5.8,SNR=3.8						

DJA 21 20:21:31.1±0.5, 9°S±0°.8×111°E±°, h56km±24km, M3.7/15, MLv3.7/15, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PWJI	**Pagerwojo**	**1.72**	**326**	P	Pn	20 21 56.9	-1.8
PWJI				S	Sn	20 22 18.2	-1.3
BLJI	**Banyuglugur**	**1.88**	**26**	P	Pn	20 22 00.2	-0.6
BLJI				S	Sn	20 22 24.9	+1.5
PCJI	**Pacitan**	**2.02**	**308**	P	Pn	20 22 01.2	-1.5
PCJI				S	Sn	20 22 25.9	-0.9
ABJI	**Asem Bagus**	**2.18**	**41**	P	Pn	20 22 04.9	-0.1
IGBI	**Denpasar**	**2.42**	**75**	P	Pn	20 22 08.0	-0.2
DNP	**Denpasar**	**2.52**	**72**	P	Pn	20 22 10.2	+0.6
UGM	**Wanagama**	**2.70**	**304**	P	Pn	20 22 11.8	-0.4
SRBI	**Singaraja**	**2.76**	**61**	P	Pn	20 22 12.5	-0.4
SMRI	**Semarang**	**3.32**	**316**	P	Pn	20 22 21.1	+0.4
UWJI	**Ujung Watu**	**3.52**	**329**	P	Pn	20 22 23.1	-0.2
CMJI	**Cimerak**	**4.59**	**291**	P	Pn	20 22 38.0	0.0

NNC 21 20:22:44.6±7.1, 36°86N×70°55E, h0km, mb3.6, mpv3.2, 6C-2D, Error ellipse: s-maj=56.2km s-min=27.7km az=1.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.38**	**325**	↑Pg	Pb	20 23 29.0	+0.5
	5.0nm,0.3s						
DZET				↑Lg	Lg	20 24 03.1	
	31nm,0.6s						
SFK	**Sufi-Kurgan**	**3.91**	**35**	↑Pn	Pn	20 23 45.9	-0.4
	2.5nm,0.4s						
SFK				↑Sn	Sn	20 24 35.7	+2.5
	3.8nm,0.4s						
MNAS	**Manas**	**5.82**	**14**	↑Pn	Pn	20 24 11.3	-1.1
	0.7nm,0.4s						
MNAS				↓Sn	Sn	20 25 19.4	-0.6
	2.7nm,0.5s						
KK31	**Karatay Array**	**6.24**	**360**	↑Pn	Pn	20 24 16.4	-1.6
	0.6nm,0.3s,baz=181,slow=13,SNR=4.6						
KK31				↓Sn	Sn	20 25 28.2	-1.8
	1.0nm,0.3s,baz=188,slow=22,SNR=14						

*KRSC **21** 20:36:48.8±0.6, 54°.28N×160°.33E, h121km±7km, ML3.9*
*ISCJB **21** 20:36:49.3±0.5, 54°.26N±0°.03×160°.36E±0°.08, h123km±4km, mb3.3/2, Error ellipse: s-maj=8.8km s-min=3.4km az=32.7*
*IDC **21** 20:36:50.0±8.8, 51°.50N×159°.13E, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.2/37, mbtmpb3.7/2, Error ellipse: s-maj=354.2km s-min=22.9km az=74.0*
*MOS **21** 20:36:50.1±0.3, 54°.30N×160°.27E, h111km, mb4.0/1, Error ellipse: s-maj=21.0km s-min=7.0km az=73.4*
ISC 21 20:36:50.0±0.9, 54°28N±0°.03×160°30E±0°.04, h123km±7km, n54, σ0s64/87, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KII	**Karymskiy**	**0.55**	**245**	*e*P	**Pn**	**20 37 08.4**	**-0.3**
KII	**Karymskiy**	**0.55**	**245**	PN	**Pn**	**20 37 08.4**	**-0.3**
KZV	**Kizimen**	**0.84**	**360**	*e*P	**Pn**	**20 37 10.7**	**-0.2**
KZV				*e*S	**Sn**	**20 37 26.0**	**-0.8**
MKZ	**Mys Kozlova**	**0.88**	**71**	*e*P	**Pn**	**20 37 11.4**	**+0.3**
MKZ				*e*S	**Sn**	**20 37 26.7**	**-0.4**
MKZ	**Mys Kozlova**	**0.88**	**71**	PN	**Pn**	**20 37 11.4**	**+0.3**
MKZ				S	**Sn**	**20 37 26.7**	**-0.4**
TUMR	**Tumrok**	**1.01**	**355**	*e*P	**Pn**	**20 37 12.5**	**0.0**
TUMR				*e*S	**Sn**	**20 37 29.1**	**-0.5**
TUMR	**Tumrok**	**1.01**	**355**	PN	**Pn**	**20 37 12.5**	**0.0**
TUMR				S	**Sn**	**20 37 29.1**	**-0.5**
SPN	**Mys Shipunski**	**1.19**	**188**	*e*P	**Pn**	**20 37 14.0**	**-0.2**
SPN				*e*S	**Sn**	**20 37 31.7**	**-0.8**
SPN	**Mys Shipunski**	**1.19**	**188**	PN	**Pn**	**20 37 14.0**	**-0.2**
SPN				S	**Sn**	**20 37 31.7**	**-0.8**
NLC	**Nalytchevo**	**1.24**	**207**	*e*P	**Pn**	**20 37 14.8**	**+0.1**
NLC				*e*S	**Sn**	**20 37 33.2**	**-0.2**
NLC	**Nalytchevo**	**1.24**	**207**	PN	**Pn**	**20 37 14.8**	**+0.1**
NLC				S	**Sn**	**20 37 33.2**	**-0.2**
SDLR	**Sedlovina**	**1.30**	**221**	*e*P	**Pn**	**20 37 15.7**	**+0.2**
SDLR				*e*S	**Sn**	**20 37 34.6**	**-0.3**
SDLR	**Sedlovina**	**1.30**	**221**	PN	**Pn**	**20 37 15.7**	**+0.2**
SDLR				S	**Sn**	**20 37 34.6**	**-0.3**
KRER	**Koryakskii**	**1.34**	**224**	*e*P	**Pn**	**20 37 16.2**	**+0.2**
KRER				*e*S	**Sn**	**20 37 35.8**	**+0.1**
KRX	**Arik**	**1.34**	**227**	*e*P	**Pn**	**20 37 16.2**	**+0.3**
KRX				*e*S	**Sn**	**20 37 35.8**	**+0.2**
SMAR	**Somma**	**1.35**	**222**	*e*P	**Pn**	**20 37 16.3**	**+0.2**
SMAR				*e*S	**Sn**	**20 37 35.7**	**-0.2**
SMAR	**Somma**	**1.35**	**222**	PN	**Pn**	**20 37 16.3**	**+0.2**
SMAR				S	**Sn**	**20 37 35.7**	**-0.2**
AVH	**Avacha**	**1.37**	**223**	*e*P	**Pn**	**20 37 16.6**	**+0.4**
AVH				*e*S	**Sn**	**20 37 36.5**	**+0.4**
AVH	**Avacha**	**1.37**	**223**	PN	**Pn**	**20 37 16.6**	**+0.4**
AVH				S	**Sn**	**20 37 36.5**	**+0.4**
UGLR	**Uglovaya**	**1.38**	**220**	*e*P	**Pn**	**20 37 16.7**	**+0.3**
UGLR				*e*S	**Sn**	**20 37 36.4**	**+0.1**
KOK	**Koryaka**	**1.39**	**226**	*e*P	**Pn**	**20 37 16.8**	**+0.3**
KOK				*e*S	**Sn**	**20 37 36.7**	**+0.1**
KOK	**Koryaka**	**1.39**	**226**	PN	**Pn**	**20 37 16.8**	**+0.3**
KOK				S	**Sn**	**20 37 36.7**	**+0.1**
KMNR	**Kamenistaya**	**1.48**	**359**	*e*P	**Pn**	**20 37 17.9**	**+0.4**
KMNR				*e*S	**Sn**	**20 37 38.6**	**+0.2**
KMNR	**Kamenistaya**	**1.48**	**359**	PN	**Pn**	**20 37 17.9**	**+0.4**
KMNR				S	**Sn**	**20 37 38.6**	**+0.2**
GNL	**Ganaly**	**1.51**	**248**	*e*P	**Pn**	**20 37 17.5**	**-0.3**
GNL	**Ganaly**	**1.51**	**248**	PN	**Pn**	**20 37 17.5**	**-0.3**
PET	**Petropavlovsk**	**1.59**	**219**	*e*P	**Pn**	**20 37 19.0**	**+0.4**
PET				*e*S	**Sn**	**20 37 40.4**	**0.0**
PET	**Petropavlovsk**	**1.59**	**219**	PN	**Pn**	**20 37 19.0**	**+0.4**
PET				S	**Sn**	**20 37 40.4**	**0.0**
KOZ	**Kozyrevsk**	**1.80**	**352**	*e*P	**Pn**	**20 37 20.8**	**-0.4**
KOZ	**Kozyrevsk**	**1.80**	**352**	PN	**Pn**	**20 37 20.8**	**-0.4**
ESO	**Esso**	**1.89**	**332**	*e*P	**Pn**	**20 37 21.3**	**-0.9**
ESO	**Esso**	**1.89**	**332**	PN	**Pn**	**20 37 21.3**	**-0.9**
PETK	**Petropavlovsk-**	**1.94**	**234**	Pn	**Pn**	**20 37 22.8**	**-0.1**
	2.7nm,0.3s,baz=82,slow=16,SNR=34						
PETK				Sn	**Sn**	**20 37 47.9**	**+0.1**
	3.5nm,0.3s,baz=76,slow=20,SNR=5.7						
PETK	**Petropavlovsk-**	**1.94**	**234**	PN	**Pn**	**20 37 22.8**	**0.0**
PETK						20 37 47.9	
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PETK				smax	smax		
	comp=N,4.0nm,0.3s						
SRDR	**Sredinnyy**	**2.07**	**351**	*e*P	**Pn**	**20 37 23.7**	**-0.8**
SRDR	**Sredinnyy**	**2.07**	**351**	PN	**Pn**	**20 37 23.7**	**-0.8**
RUS	**Russkaya**	**2.13**	**211**	*e*P	**Pn**	**20 37 25.0**	**-0.2**
RUS				*e*S	**Sn**	**20 37 50.7**	**-1.4**
RUS	**Russkaya**	**2.13**	**211**	PN	**Pn**	**20 37 25.0**	**-0.2**
RUS				S	**Sn**	**20 37 50.7**	**-1.4**
MTVR	**Mutnovka**	**2.20**	**216**	*e*P	**Pn**	**20 37 26.6**	**+0.4**
MTVR				*e*S	**Sn**	**20 37 53.6**	**-0.2**
APC	**Apacha**	**2.31**	**235**	*e*P	**Pn**	**20 37 28.1**	**+0.7**
APC	**Apacha**	**2.31**	**235**	PN	**Pn**	**20 37 28.1**	**+0.7**
ASAK	**Asacha**	**2.38**	**218**	*e*P	**Pn**	**20 37 29.0**	**+0.6**
ASAK				*e*S	**Sn**	**20 37 57.7**	**-0.1**
KBTR	**Krutoberegovo**	**2.42**	**36**	*e*P	**Pn**	**20 37 29.3**	**+0.5**
KBTR				*e*S	**Sn**	**20 37 58.0**	**-0.5**
KBTR	**Krutoberegovo**	**2.42**	**36**	PN	**Pn**	**20 37 29.3**	**+0.5**
KBTR				S	**Sn**	**20 37 58.0**	**-0.5**
SRKR	**Sorokina**	**2.44**	**11**	*e*P	**Pn**	**20 37 29.9**	**+0.8**
SRKR	**Sorokina**	**2.44**	**11**	PN	**Pn**	**20 37 29.9**	**+0.8**
BKI	**Bering**	**3.42**	**72**	*e*P	**Pn**	**20 37 42.3**	**+0.5**
BKI				*e*S	**Sn**	**20 38 20.3**	**-1.5**
BKI	**Bering**	**3.42**	**72**	PN	**Pn**	**20 37 42.3**	**+0.5**
BKI				S	**Sn**	**20 38 20.3**	**-1.5**
SKR	**Severo-Kuril's**	**4.41**	**217**	*e*PN	**Pn**	**20 37 52.5**	**-2.5**
MJA0	**Matsu Arr-Jizo**	**23.37**	**230**	*e*P	**P**	**20 41 49.6**	**+2.1**
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**77.20**	**205**	P	**P**	**20 48 29.4**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=18,slow=6.0,SNR=15						
WRA	**Warramunga Arr**	**77.20**	**205**	P	**P**	**20 48 29.4**	**-0.8**
ASAR	**Alice Springs**	**80.89**	**204**	P	**P**	**20 48 50.3**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=18,slow=5.0,SNR=12						
ASAR	**Alice Springs**	**80.89**	**204**	P	**P**	**20 48 50.3**	**+0.1**

IDC 21 20:46:20.8±3.2, 5°65S×133°77E, h0km, mb3.9/1, mb1 3.7/4, mb1mx3.4/26, mbtmpb3.6/4, ML3.0/3, Error ellipse: s-maj=169.7km s-min=29.7km az=72.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.37**	**332**	Pn	Pn	20 47 42.3	0.0
	0.7nm,0.3s,baz=149,slow=18,SNR=3.1						
WRA	**Warramunga Arr**	**14.22**	**178**	Pn	Pn	20 49 43.3	-0.4
	0.1nm,0.3s,baz=356,slow=12,SNR=7.4						
ASAR	**Alice Springs**	**17.92**	**180**	P	Pn	20 50 31.4	-0.3
	0.1nm,0.3s,baz=5.8,slow=11,SNR=13						
STKA	**Stephens Creek**	**27.10**	**165**	P	P	20 52 05.7	+0.2
	2.6nm,1.1s,baz=353,slow=8.1,SNR=3.1						

*IDC **21** 21:21:54.2±2.6, 10°.20S×111°.74E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/25, mbtmpb3.5/4, Error ellipse: s-maj=115.4km s-min=21.8km az=49.0*
*ISCJB **21** 21:22:05.6±1.1, 9°.6S±0°.1×112°.74E±0°.04, h78km±14km, mb3.4/4, Error ellipse: s-maj=17.3km s-min=6.9km az=5.9*
*DJA **21** 21:22:06.3±0.6, 10°S±9°×111°E±°, h64km±28km, M4.1/14, mb4.4/2, mB4.8/1, MLv4.0/14, Mw(mB)4.1/1*
ISC 21 21:22:06.3±1.8, 9°.6S±0°.1×112°.74E±0°.05, h63km±22km, n13, σ1s08/17, mb3.5/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PWJI	**Pagerwojo**	**1.83**	**330**	P	**Pn**	**21 22 34.4**	**-1.3**
PWJI				S	**Sn**	**21 22 55.6**	**-2.3**
BLJI	**Banyuglugur**	**2.04**	**24**	P	**Pn**	**21 22 38.3**	**-0.1**
BLJI				S	**Sn**	**21 23 04.5**	**+1.7**
PCJI	**Pacitan**	**2.10**	**312**	P	**Pn**	**21 22 39.2**	**0.0**
PCJI				S	**Sn**	**21 23 04.8**	**+0.6**
ABJI	**Asem Bagus**	**2.33**	**39**	P	**Pn**	**21 22 42.7**	**+0.3**
IGBI	**Denpasar**	**2.50**	**72**	P	**Pn**	**21 22 44.5**	**-0.2**
UGM	**Wanagama**	**2.77**	**307**	P	**Pn**	**21 22 48.0**	**-0.4**
UGM				S	**Sn**	**21 23 22.8**	**+2.0**
SRBI	**Singaraja**	**2.87**	**58**	P	**Pn**	**21 22 49.7**	**-0.1**
SRBI				S	**Sn**	**21 23 23.0**	**-0.2**
SMRI	**Semarang**	**3.42**	**318**	P	**Pn**	**21 22 58.0**	**+0.7**
CISI	**Cisompet, Garu**	**5.29**	**292**	P	**Pn**	**21 23 23.0**	**+0.1**
	50nm,0.6s,995nm0.3nm						
WRA	**Warramunga Arr**	**23.24**	**119**	P	**P**	**21 27 08.4**	**-0.1**
	0.5nm,0.5s,baz=295,slow=9.9,SNR=9.9						
ASAR	**Alice Springs**	**24.57**	**127**	P	**P**	**21 27 20.4**	**-0.2**
	1.9nm,0.7s,baz=304,slow=9.1,SNR=30						
SONM	**Songino Array**	**57.47**	**355**	P	**P**	**21 31 48.7**	**-0.2**
	0.3nm,0.6s,baz=187,slow=5.8,SNR=2.8						
MKAR	**Makanchi Array**	**62.39**	**337**	P	P	21 32 20.2	-2.4
	0.1nm,0.3s,baz=140,slow=8.1,SNR=4.8						

MEX 21 21:26:23.7±0.5, 14°61N×92°33W, h83km±6km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.30**	**13**	*i*P	Pn	21 26 34.9	-1.5
THIG				*e*S	Sn	21 26 44.1	-1.6
PCIG		**1.38**	**322**	*e*P	Pn	21 26 46.5	-1.1
PCIG				*i*S	Sn	21 27 03.9	-1.8
CCIG	**Comitan**	**1.67**	**7**	*e*P	Pn	21 26 50.6	-1.0
CCIG				*e*S	Sn	21 27 10.9	-1.9

*CSEM **21** 21:50:55.0, 42°.29N×13°.46E, h9km, MD2.1/16*
ROM 21 21:50:55.0±0.1, 42°29N×13°46E, h9km, Md2.1/16, MI1.5/7, Error ellipse: s-maj=1.2km s-min=0.8km az=49.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T0106	**Roio Piano**	**0.06**	**292**	Pg	Pg	21 50 57.5	+0.4
T0106				Sg	Sg	21 50 58.8	+0.1
	632nm,0.2s						
AQU	**L'Aquila**	**0.08**	**329**	Pg	Pg	21 50 57.6	+0.3
AQU				Sg	Sg	21 50 59.1	+0.1
	245nm,0.3s						
AQU	**L'Aquila**	**0.08**	**329**	Pg	Pg	21 50 57.6	+0.3
AQU				Sg	Sg	21 50 59.1	+0.1
	245nm,0.3s						
FAGN	**Fagnano**	**0.10**	**101**	Pg	Pg	21 50 58.0	+0.5
FAGN				Sg	Sg	21 51 00.4	+1.1
	770nm,0.3s						
FAGN	**Fagnano

INTR	**Introdacqua**	**0.43**	**129**	Pg	Pg	21 51 03.8	+0.3
INTR				Sg	Sb	21 51 10.5	-1.1
VVLD	**Villa Vallelon**	**0.43**	**164**	Pg	Pb	21 51 04.3	-0.6
VVLD				Sg	Sb	21 51 10.5	-1.1
VVLD	**Villa Vallelon**	**0.43**	**164**	Pg	Pb	21 51 04.3	-0.6
VVLD				Sg	Sb	21 51 10.5	-1.1
LNSS	**Leonessa**	**0.44**	**316**	Pg	Pg	21 51 04.4	+0.6
LNSS				Sg	Sb	21 51 12.0	-0.1
	20nm,0.5s						
LNSS	**Leonessa**	**0.44**	**316**	Pg	Pg	21 51 04.4	+0.6
LNSS				Sg	Sb	21 51 12.0	-0.1
	20nm,0.5s						
CERT	**Cerreto**	**0.49**	**227**	Pg	Pg	21 51 04.9	+0.3
CERT	**Cerreto**	**0.49**	**227**	Pg	Pg	21 51 04.9	+0.3
LPEL	**Lama dei Pelig**	**0.59**	**114**	Pg	Pg	21 51 06.7	+0.2
LPEL				Sg	Sb	21 51 15.5	-0.6
LPEL	**Lama dei Pelig**	**0.59**	**114**	Pg	Pg	21 51 06.7	+0.2
LPEL				Sg	Sb	21 51 15.5	-0.6
NRCA	**Norcia**	**0.60**	**335**	Pg	Pg	21 51 06.6	-0.3
NRCA				Sg	Sb	21 51 15.9	-0.7
	16nm,0.1s						
NRCA	**Norcia**	**0.60**	**335**	Pg	Pg	21 51 06.6	-0.3
NRCA				Sg	Sb	21 51 15.9	-0.7
	16nm,0.1s						
SDI	**San Donato**	**0.63**	**155**	Pg	Pg	21 51 07.8	+0.5
SDI				Sg	Sb	21 51 17.1	-0.2
	7.0nm,0.2s						
SDI	**San Donato**	**0.63**	**155**	Pg	Pg	21 51 07.8	+0.5
SDI				Sg	Sb	21 51 17.1	-0.2
	7.0nm,0.2s						

*ISCJB **21** 21:52:03.3±0.3,38.07N±0.02×21.29E±0.01,h4km±3km, Error ellipse: s-maj=3.0km s-min=2.4km az=36.2*
*CSEM **21** 21:52:03.3±0.2,38.08N×21.29E,h2km,ML3.3, Error ellipse: s-maj=3.5km s-min=2.7km az=47.0*
*ATH **21** 21:52:03.2,38.10N×21.26E,h5km±1km,MD2.9/31,ML3.0*
*THE **21** 21:52:04.0,38.08N×21.30E,h6km±1km,ML3.3/14, Error ellipse: s-maj=1.8km s-min=0.8km az=216.0*

ISC 21 21:52:03.8±0.8,**38.08N**±0.01×**21.29E**±0.01,**h10**km±6km, **n138,σ1s01**/212,**Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
RLS	**Riolos of Patr**	**0.14**	**100**	P		**Pg**	**21 52 06.5**	**-0.5**
RLS	**Riolos of Patr**	**0.14**	**100**	*e*PG		**Pg**	**21 52 06.6**	**-0.5**
RLS				*e*SG		**Sg**	**21 52 09.1**	**-0.2**
RLS	**Riolos of Patr**	**0.14**	**100**	*e*Pg		**Pg**	**21 52 06.6**	**-0.5**
RLS				*e*Sg		**Sg**	**21 52 09.1**	**-0.2**
VTN	**Vitineika**	**0.18**	**205**	P		**Pg**	**21 52 08.1**	**+0.4**
VTN	**Vitineika**	**0.18**	**205**	P		**Pg**	**21 52 08.1**	**+0.4**
DRO	**Drossia**	**0.36**	**111**	P		**Pg**	**21 52 10.1**	**-0.8**
DRO				S		**Sg**	**21 52 16.6**	**+0.9**
DRO	**Drossia**	**0.36**	**111**	*e*PG		**Pg**	**21 52 10.1**	**-0.8**
DRO				*e*SB		**Sg**	**21 52 15.8**	**+0.1**
DRO	**Drossia**	**0.36**	**111**	P		**Pg**	**21 52 10.1**	**-0.8**
DRO				*e*Sb		**Sg**	**21 52 15.8**	**+0.1**
DRO				S		**Sg**	**21 52 16.6**	**+0.9**
KFL	**Anninata**	**0.39**	**274**	P		**Pg**	**21 52 11.4**	**-0.1**
KFL				S		**Sb**	**21 52 18.2**	**-0.7**
KFL	**Anninata**	**0.39**	**274**	P		**Pg**	**21 52 11.4**	**-0.1**
UPR	**University Cam**	**0.44**	**63**	P		**Pg**	**21 52 12.5**	**0.0**
UPR	**University Cam**	**0.44**	**63**	P		**Pg**	**21 52 12.5**	**0.0**
PDO	**Prodromos**	**0.52**	**351**	P		**Pg**	**21 52 13.5**	**-0.4**
PDO				S		**Sb**	**21 52 23.0**	**+0.4**
PDO	**Prodromos**	**0.52**	**351**	*e*PB		**Pg**	**21 52 13.7**	**-0.2**
PDO				*e*SB		**Sg**	**21 52 21.0**	**+0.2**
PDO	**Prodromos**	**0.52**	**351**	P		**Pg**	**21 52 13.5**	**-0.4**
PDO				*e*Sb		**Sg**	**21 52 21.0**	**+0.2**
ZKS	**Zakynthos**	**0.55**	**226**	P		**Pg**	**21 52 13.6**	**-0.9**
ZKS	**Zakynthos**	**0.55**	**226**	P		**Pg**	**21 52 13.6**	**-0.9**
VLS	**Valsamata**	**0.56**	**280**	P		**Pg**	**21 52 13.8**	**-0.8**
VLS				S		**Sb**	**21 52 23.8**	**+0.1**
VLS	**Valsamata**	**0.56**	**280**	*e*PB		**Pg**	**21 52 13.8**	**-0.8**
VLS				*e*SB		**Sg**	**21 52 22.0**	**+0.1**
VLS	**Valsamata**	**0.56**	**280**	P		**Pg**	**21 52 13.8**	**-0.8**
VLS				*e*Sb		**Sg**	**21 52 22.0**	**+0.1**
PVO	**Paravola**	**0.56**	**19**	P		**Pg**	**21 52 14.4**	**-0.4**
PVO				S		**Sb**	**21 52 24.9**	**+1.0**
PVO	**Paravola**	**0.56**	**19**	P		**Pg**	**21 52 14.4**	**-0.4**
EFP	**Efpalio**	**0.60**	**55**	P		**Pg**	**21 52 14.7**	**-0.7**
EFP				S		**Sb**	**21 52 24.3**	**-0.6**
EFP	**Efpalio**	**0.60**	**55**	*e*PB		**Pg**	**21 52 14.9**	**-0.5**
EFP				*e*SB		**Sb**	**21 52 24.2**	**-0.6**
EFP	**Efpalio**	**0.60**	**55**	*e*Pb		**Pg**	**21 52 14.9**	**-0.5**
EFP				*e*Sb		**Sb**	**21 52 24.2**	**-0.6**
AMT	**Artemida-Makis**	**0.64**	**148**	P		**Pg**	**21 52 16.0**	**-0.3**
AMT				S		**Sb**	**21 52 26.0**	**-0.2**
AMT	**Artemida-Makis**	**0.64**	**148**	*e*PB		**Pg**	**21 52 16.2**	**-0.1**
AMT				*e*SB		**Sb**	**21 52 26.4**	**+0.2**
AMT	**Artemida-Makis**	**0.64**	**148**	P		**Pg**	**21 52 16.0**	**-0.3**
AMT				S		**Sb**	**21 52 26.0**	**-0.2**
KLV	**Kalavryta, Ach**	**0.68**	**93**	P		**Pg**	**21 52 15.3**	**-1.7**
KLV				S		**Sb**	**21 52 26.8**	**-0.6**
KLV	**Kalavryta, Ach**	**0.68**	**93**	*e*PG		**Pg**	**21 52 16.4**	**-0.6**
KLV				*e*SB		**Sb**	**21 52 27.2**	**-0.2**
KLV	**Kalavryta, Ach**	**0.68**	**93**	P		**Pg**	**21 52 15.3**	**-1.7**
KLV	**Kalavryta, Ach**	**0.68**	**93**	*e*Pg		**Pg**	**21 52 16.4**	**-0.6**
KLV				S		**Sb**	**21 52 26.8**	**-0.6**
KLV				*e*Sb		**Sb**	**21 52 27.2**	**-0.2**
KALE	**Kalithea**	**0.74**	**65**	P		**Pg**	**21 52 17.1**	**-1.0**
KALE				S		**Sg**	**21 52 28.1**	**+0.3**
KALE	**Kalithea**	**0.74**	**65**	*e*PG		**Pg**	**21 52 17.2**	**-0.9**
KALE				*e*SB		**Sb**	**21 52 28.5**	**-0.5**
KALE	**Kalithea**	**0.74**	**65**	*e*Pg		**Pg**	**21 52 17.2**	**-0.9**
KALE				S		**Sg**	**21 52 28.1**	**+0.3**
GUR	**Goura**	**0.85**	**100**	P		**Pg**	**21 52 18.2**	**-1.9**
GUR				S		**Sb**	**21 52 32.3**	**+0.2**
GUR	**Goura**	**0.85**	**100**	*e*PB		**Pg**	**21 52 18.9**	**-1.2**
GUR				*e*SB		**Sb**	**21 52 32.6**	**+0.5**
GUR	**Goura**	**0.85**	**100**	P		**Pg**	**21 52 18.2**	**-1.9**
GUR	**Goura**	**0.85**	**100**	*e*Pb		**Pg**	**21 52 18.9**	**-1.2**
GUR				S		**Sb**	**21 52 32.3**	**+0.2**
LKD2	**Lefkada island**	**0.86**	**325**	P		**Pg**	**21 52 19.2**	**-1.2**
LKD2				S		**Sn**	**21 52 34.3**	**-0.3**
LKD2	**Lefkada island**	**0.86**	**325**	*e*PB		**Pg**	**21 52 19.2**	**-1.2**
LKD2	**Lefkada island**	**0.86**	**325**	P		**Pg**	**21 52 19.2**	**-1.2**
EVR	**Evrytania**	**0.93**	**26**	P		**Pg**	**21 52 20.6**	**-1.1**
EVR				S		**Sb**	**21 52 35.4**	**+0.9**
EVR	**Evrytania**	**0.93**	**26**	*e*PB		**Pg**	**21 52 20.8**	**-0.9**
EVR				*e*SB		**Sb**	**21 52 34.5**	**0.0**
EVR	**Evrytania**	**0.93**	**26**	P		**Pg**	**21 52 20.6**	**-1.1**
EVR				*e*Sb		**Sb**	**21 52 34.5**	**0.0**
EVR				S		**Sb**	**21 52 35.4**	**+0.9**
DSF	**Desfina**	**1.03**	**71**	P		**Pg**	**21 52 21.9**	**-1.7**
DSF	**Desfina**	**1.03**	**71**	*e*PB		**Pg**	**21 52 21.9**	**-1.7**
DSF	**Desfina**	**1.03**	**71**	P		**Pg**	**21 52 21.9**	**-1.7**
ITM	**Ithomi**	**1.04**	**150**	P		**Pg**	**21 52 23.3**	**-0.4**
ITM				S		**Sn**	**21 52 39.2**	**+0.3**
ITM	**Ithomi**	**1.04**	**150**	*e*PN		**Pg**	**21 52 23.4**	**-0.3**
ITM				*e*SB		**Sn**	**21 52 38.6**	**-0.3**
ITM	**Ithomi**	**1.04**	**150**	P		**Pg**	**21 52 23.3**	**-0.4**
ITM				*e*Sb		**Sn**	**21 52 38.6**	**-0.3**
ITM				S		**Sn**	**21 52 39.2**	**+0.3**
DSL	**Palaion Diasel**	**1.06**	**352**	P		**Pg**	**21 52 22.7**	**-1.5**
DSL	**Palaion Diasel**	**1.06**	**352**	*e*PB		**Pg**	**21 52 23.1**	**-1.1**
DSL	**Palaion Diasel**	**1.06**	**352**	P		**Pg**	**21 52 22.7**	**-1.5**
DSL	**Palaion Diasel**	**1.06**	**352**	*e*Pb		**Pg**	**21 52 23.1**	**-1.1**
VLX	**Vlachokerasia**	**1.12**	**129**	P		**Pg**	**21 52 24.6**	**-0.8**
VLX				S		**Sn**	**21 52 42.4**	**+1.2**
VLX	**Vlachokerasia**	**1.12**	**129**	*e*PB		**Pg**	**21 52 25.0**	**-0.4**
VLX				*e*SB		**Sb**	**21 52 40.9**	**+0.9**
VLX	**Vlachokerasia**	**1.12**	**129**	P		**Pg**	**21 52 24.6**	**-0.8**
VLX	**Vlachokerasia**	**1.12**	**129**	*e*Pb		**Pg**	**21 52 25.0**	**-0.4**
VLX				*e*Sb		**Sb**	**21 52 40.9**	**+0.9**
VLX				S		**Sn**	**21 52 42.4**	**+1.2**
MAKR	**Makrakomi, Fth**	**1.14**	**35**	P		**Pg**	**21 52 25.0**	**-0.7**
MAKR				S		**Sn**	**21 52 43.0**	**+1.4**
MAKR	**Makrakomi, Fth**	**1.14**	**35**	*e*PB		**Pg**	**21 52 25.2**	**-0.5**
MAKR				*e*SB		**Sb**	**21 52 41.4**	**+0.9**
MAKR	**Makrakomi, Fth**	**1.14**	**35**	P		**Pg**	**21 52 25.0**	**-0.7**
MAKR				*e*Sb		**Sb**	**21 52 41.4**	**+0.9**
MAKR				S		**Sn**	**21 52 43.0**	**+1.4**
PYL	**PYLOS**	**1.24**	**163**	*e*PG		**Pg**	**21 52 26.8**	**-0.8**
PYL	**PYLOS**	**1.24**	**163**	*e*Pg		**Pg**	**21 52 26.8**	**-0.8**
AGG	**Agios Georgios**	**1.25**	**41**	*e*PN		**Pg**	**21 52 27.0**	**-0.7**
AGG	**Agios Georgios**	**1.25**	**41**	P		**Pg**	**21 52 27.0**	**-0.7**
AGG				S		**Sb**	**21 52 43.9**	**+0.4**
AGG	**Agios Georgios**	**1.25**	**41**	*e*PB		**Pg**	**21 52 27.2**	**-0.5**
AGG				*e*SB		**Sn**	**21 52 44.6**	**+0.5**
AGG	**Agios Georgios**	**1.25**	**41**	P		**Pg**	**21 52 27.0**	**-0.7**
AGG				S		**Sb**	**21 52 43.9**	**+0.4**
AGG				*e*Sb		**Sn**	**21 52 44.6**	**+0.5**
AXAR	**Agios Charalam**	**1.28**	**57**	P		**Pn**	**21 52 26.3**	**-1.4**
AXAR				S		**Sn**	**21 52 45.1**	**+0.2**
AXAR	**Agios Charalam**	**1.28**	**57**	*e*PN		**Pn**	**21 52 26.8**	**-0.9**
AXAR				*e*SB		**Sn**	**21 52 46.1**	**+1.2**
AXAR	**Agios Charalam**	**1.28**	**57**	P		**Pn**	**21 52 26.3**	**-1.4**
AXAR	**Agios Charalam**	**1.28**	**57**	*e*Pn		**Pn**	**21 52 26.8**	**-0.9**
AXAR				S		**Sn**	**21 52 45.1**	**+0.2**
AXAR				*e*Sb		**Sn**	**21 52 46.1**	**+1.2**
LKR	**Lokris**	**1.46**	**67**	P		**Pn**	**21 52 29.8**	**-0.4**
LKR	**Lokris**	**1.46**	**67**	*e*PG		**Pn**	**21 52 29.9**	**-0.3**
LKR	**Lokris**	**1.46**	**67**	P		**Pn**	**21 52 29.8**	**-0.4**
THL	**Klokotos Trika**	**1.58**	**21**	P		**Pn**	**21 52 32.0**	**+0.1**
THL				S		**Sg**	**21 52 54.9**	**+0.1**
THL	**Klokotos Trika**	**1.58**	**21**	*e*PB		**Pg**	**21 52 33.8**	**-0.4**
THL				*e*SB		**Sg**	**21 52 55.4**	**+0.6**
THL	**Klokotos Trika**	**1.58**	**21**	P		**Pn**	**21 52 32.0**	**+0.1**
THL	**Klokotos Trika**	**1.58**	**21**	*e*Pb		**Pg**	**21 52 33.8**	**-0.4**
THL				S		**Sg**	**21 52 54.9**	**+0.1**
THL				*e*Sb		**Sg**	**21 52 55.4**	**+0.6**
JAN	**Janina**	**1.61**	**348**	*e*PB		**Pg**	**21 52 34.0**	**-0.6**
JAN	**Janina**	**1.61**	**348**	*e*Pb		**Pg**	**21 52 34.0**	**-0.6**
IGT	**Igoumenitsa**	**1.63**	**333**	*e*PN		**Pg**	**21 52 34.7**	**-0.3**
IGT				*e*SN		**Sg**	**21 52 59.7**	**+3.6**
IGT	**Igoumenitsa**	**1.63**	**333**	P		**Pn**	**21 52 32.7**	**+0.2**
IGT	**Igoumenitsa**	**1.63**	**333**	*e*PB		**Pb**	**21 52 34.1**	**+0.2**
IGT	**Igoumenitsa**	**1.63**	**333**	P		**Pn**	**21 52 32.7**	**+0.2**
IGT	**Igoumenitsa**	**1.63**	**333**	*e*Pb		**Pb**	**21 52 34.1**	**+0.2**
IGT	**Igoumenitsa**	**1.63**	**333**	*e*Pn		**Pg**	**21 52 34.7**	**-0.3**
DID	**Didima**	**1.65**	**110**	P		**Pn**	**21 52 33.0**	**+0.2**
DID				S		**Sb**	**21 52 55.1**	**0.0**
DID	**Didima**	**1.65**	**110**	*e*PG		**Pb**	**21 52 34.6**	**+0.3**
DID				*e*SB		**Sg**	**21 52 58.5**	**+1.7**
DID	**Didima**	**1.65**	**110**	P		**Pn**	**21 52 33.0**	**+0.2**
DID	**Didima**	**1.65**	**110**	*e*Pb		**Pb**	**21 52 34.6**	**+0.3**
DID				S		**Sb**	**21 52 55.1**	**0.0**
DID				*e*Sb		**Sg**	**21 52 58.5**	**+1.7**
SMIA	**Simia**	**1.71**	**62**	P		**Pn**	**21 52 33.4**	**-0.2**
SMIA	**Simia**	**1.71**	**62**	*e*PG		**Pb**	**21 52 34.9**	**-0.3**
SMIA				*e*SN		**Sg**	**21 52 58.6**	**-0.1**
SMIA	**Simia**	**1.71**	**62**	P		**Pn**	**21 52 33.4**	**-0.2**
SMIA				*e*Sn		**Sg**	**21 52 58.6**	**-0.1**
SGD	**Sagiada**	**1.73**	**332**	P		**Pb**	**21 52 34.9**	**-0.8**
SGD	**Sagiada**	**1.73**	**332**	P		**Pb**	**21 52 34.9**	**-0.8**
VLI	**Veliai**	**1.89**	**136**	*e*PN		**Pg**	**21 52 39.7**	**-0.4**
VLI				*e*SN		**Sg**	**21 53 06.1**	**+1.5**
VLI	**Veliai**	**1.89**	**136**	*e*Pn		**Pg**	**21 52 39.7**	**-0.4**
MRKA	**Markates**	**1.91**	**70**	*e*PG		**Pb**	**21 52 38.2**	**-0.6**
MRKA				*e*SN		**Sg**	**21 53 06.1**	**+0.8**
MRKA	**Markates**	**1.91**	**70**	*e*Pg		**Pb**	**21 52 38.2**	**-0.6**
MRKA				*e*Sn		**Sg**	**21 53 06.1**	**+0.8**
ATH	**Athens Observa**	**1.92**	**93**	*e*PG		**Pb**	**21 52 39.2**	**+0.3**
ATH	**Athens Observa**	**1.92**	**93**	*e*Pg		**Pb**	**21 52 39.2**	**+0.3**
NEO	**Neokhori**	**1.95**	**51**	*e*PG		**Pb**	**21 52 38.8**	**-0.6**
NEO	**Neokhori**	**1.95**	**51**	*e*Pg		**Pb**	**21 52 38.8**	**-0.6**
PTL	**Penteli**	**2.04**	**90**	*e*PN		**Pb**	**21 52 39.6**	**-1.3**
PTL				*e*SN		**Sg**	**21 53 08.5**	**-0.7**
PTL	**Penteli**	**2.04**	**90**	*e*Pn		**Pb**	**21 52 39.6**	**-1.3**
PTL				*e*Sn		**Sg**	**21 53 08.5**	**-0.7**
LIT	**Litokhoron**	**2.22**	**25**	*e*PN		**Pb**	**21 52 43.2**	**-0.9**
LIT				*e*SN		**Sb**	**21 53 13.0**	**+1.4**
LIT	**Litokhoron**	**2.22**	**25**	*e*Pn		**Pb**	**21 52 43.2**	**-0.9**
LIT				*e*Sn		**Sb**	**21 53 13.0**	**+1.4**
AOS	**Alonnisos**	**2.30**	**61**	*e*PN		**Pn**	**21 52 41.1**	**-0.7**
AOS	**Alonnisos**	**2.30**	**61**	*e*PN		**Pn**	**21 52 45.5**	**+1.7**
AOS	**Alonnisos**	**2.30**	**61**	*e*Pn		**Pn**	**21 52 43.5**	**+1.7**
FNA	**Florina**	**2.70**	**1**	*e*PN		**Pn**	**21 52 49.3**	**+2.0**
FNA	**Florina**	**2.70**	**1**	*e*PB		**Pn**	**21 52 49.2**	**+1.9**
FNA	**Florina**	**2.70**	**1**	*e*Pn		**Pn**	**21 52 49.3**	**+2.0**
HORT	**Hortiatis**	**2.88**	**29**	*e*PN		**Pn**	**21 52 51.1**	**+1.4**
HORT	**Hortiatis**	**2.88**	**29**	*e*Pn		**Pn**	**21 52 51.2**	**+1.4**
OHR	**Ohrid**	**3.05**	**353**	*e*Pn		**Pb**	**21 52 58.1**	**0.0**
OUR	**Ouranopolis**	**3.07**	**42**	*e*PN		**Pn**	**21 52 53.3**	**+0.9**
OUR	**Ouranopolis**	**3.07**	**42**	*e*Pn		**Pn**	**21 52 53.3**	**+1.0**
SOH	**Sokhos**	**3.17**	**30**	*e*PB		**Pn**	**21 52 55.7**	**+2.0**
SOH	**Sokhos**	**3.17**	**30**	*e*Pb		**Pn**	**21 52 55.7**	**+2.0**
KNT	**Kendrikon**	**3.32**	**22**	*e*PN		**Pn**	**21 52 57.6**	**+1.9**
KNT	**Kendrikon**	**3.32**	**22**	*e*PB		**Pn**	**21 52 58.0**	**+2.2**
KNT	**Kendrikon**	**3.32**	**22**	*e*Pn		**Pn**	**21 52 57.6**	**+1.9**
KNT	**Kendrikon**	**3.32**	**22**	*e*Pb		**Pn**	**21 52 58.0**	**+2.2**
SRS	**Serrai**	**3.52**	**30**	*e*PN		**Pn**	**21 53 00.6**	**+2.1**
SRS	**Serrai**	**3.52**	**30**	*e*Pn		**Pn**	**21 53 00.6**	**+2.1**
SIGRI	**SIGRI**	**3.75**	**71**	*e*PN		**Pn**	**21 53 01.6**	**-0.9**
CHOS	**Chios island**	**3.77**	**84**	*e*PN		**Pn**	**21 53 01.5**	**-0.9**
CHOS	**Chios island**	**3.77**	**84**	*e*Pn		**Pn**	**21 53 01.1**	**-0.9**
GADA	**Gvkgeada**	**4.16**	**58**	*e*PN		**Pn**	**21 53 08.0**	**+0.7**
GADA	**Gvkgeada**	**4.16**	**58**	*e*Pn		**Pn**	**21 53 08.0**	**+0.7**
ALN	**Alexandroupoli**	**4.63**	**51**	*e*PN		**Pn**	**21 53 15.2**	**+1.4**
ALN	**Alexandroupoli**	**4.63**	**51**	*e*Pn		**Pn**	**21 53 15.2**	**+1.4**
GELI	**Tayfur-Gelibol**	**4.64**	**59**	*e*PN		**Pn**	**21 53 15.0**	**+1.0**
GELI	**Tayfur-Gelibol**	**4.64**	**59**	*e*Pn		**Pn**	**21 53 15.0**	**+1.0**
STON	**Ston**	**5.51**	**331**	*e*PN		**Pn**	**21 53 23.5**	**-2.4**
STON				Sn		**Sn**	**21 54 25.7**	**-3.5**
STON	**Ston**	**5.51**	**331**	*e*Pn		**Pn**	**21 53 23.4**	**-2.4**

*ISCJB **21** 21:57:38.0±0.5,22.34N±0.02×121.47E±0.02,h9km±3km, Error ellipse: s-maj=4.0km s-min=2.9km az=167.8*
*JMA **21** 21:57:38.1±0.1,22.51N×121.55E,h0km,M3.6*
*TAP **21** 21:57:39.0,22.39N×121.32E,h6km,ML3.8,C*

ISC 21 21:57:38.2±1.2,**22.42N**±0.02×**121.44E**±0.03,**h5**km±10km, **n60,σ0s75**/104,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
LAY	**Lan-yu** baz=147	**0.39**	**165**	*e*P		**Pb**	**21 57 48.2**	**+0.6**
LAY	baz=147			*e*S		**Sb**	**21 57 55.1**	**+1.1**
TTN	**Taitung** baz=336	**0.43**	**321**	*e*P		**Pb**	**21 57 48.5**	**+0.2**
ECL	**Taimali** baz=302	**0.49**	**292**	P		**Pg**	**21 57 48.1**	**+0.5**
TAW	**Tawu** baz=265	**0.51**	**263**	*e*P		**Pg**	**21 57 48.0**	**-0.1**
TAW	baz=265			*e*S		**Sg**	**21 57 54.2**	**-0.5**
TWG	**Pinlang** baz=332	**0.53**	**319**	P		**Pb**	**21 57 49.4**	**-0.6**
TWG	baz=332			*e*S		**Sb**	**21 57 56.7**	**-1.2**
EAST	**Anshuo** baz=269	**0.55**	**267**	*e*P		**Pg**	**21 57 49.2**	**+0.3**
EAST	baz=269			*e*S		**Sg**	**21 57 55.9**	**-0.2**
CHKT	**Chengkung** baz=3.0	**0.68**	**354**	*e*P		**Pb**	**21 57 53.2**	**+0.6**
TSEB	**Hengchuen, Pin** baz=222	**0.72**	**224**	*e*P		**Pb**	**21 57 52.9**	**-0.4**
TSEB	baz=222			*e*S		**Sb**	**21 58 02.8**	**-0.7**
TWK1	**Hengchun** baz=226	**0.76**	**232**	*e*P		**Pg**	**21 57 52.9**	**+0.1**
TWK1	baz=226			*e*S		**Sg**	**21 58 02.4**	**-0.3**
SCZT	**Fangliau** baz=268	**0.76**	**267**	P		**Pg**	**21 57 52.6**	**-0.3**
SCZT	baz=268			*e*S		**Sg**	**21 58 03.9**	**+1.0**
HEN	**Hengchun** baz=234	**0.77**	**238**	*e*P		**Pg**	**21 57 53.2**	**+0.1**
HEN	baz=234			*e*S		**Sg**	**21 58 02.7**	**-0.4**
SSD	**Sandimen** baz=299	**0.82**	**294**	*e*P		**Pg**	**21 57 53.4**	**-0.6**
ELDTW	**Lidau** baz=340	**0.86**	**333**	*e*P		**Pb**	**21 57 55.6**	**-0.2**
SGLT	**Jiouru** baz=293	**0.93**	**289**	*e*P		**Pb**	**21 57 56.6**	**-0.3**
SGLT	baz=293			*e*S		**Sg**	**21 58 08.0**	**-0.2**
TWF1	**Yuli** baz=358	**0.94**	**352**	*e*P		**Pb**	**21 57 57.4**	**+0.3**
TWF1	baz=358			*e*S		**Sn**	**21 58 12.5**	**+0.5**
STYT	**Tauyuan** baz=326	**0.98**	**320**	*e*P		**Pg**	**21 57 56.6**	**-0.4**
STYT	baz=326			*e*S		**Sb**	**21 58 11.9**	**+1.1**
TWP	**Hsiaoliuchiu**	**1.00**	**266**	*e*P		**Pn**	**21 57 59.3**	**+0.3**
	baz=267							
TWM1	**Shoushan** baz=297	**1.03**	**293**	*e*P		**Pb**	**21 57 58.6**	**+0.1**
TWM1	baz=297			*e*S		**Sg**	**21 58 11.6**	**+0.3**
SGST	**Jiashian** baz=315	**1.03**	**310**	*e*P		**Pb**	**21 57 58.5**	**-0.1**
SGST	baz=315			*e*S		**Sb**	**21 58 12.8**	**+0.3**
EHY	**Hungye**	**1.09**	**354**	*e*P		**Pn**	**21 57 60.0**	**-0.2**
WTP	**Ta-pu** baz=322	**1.12**	**317**	*e*P		**Pg**	**21 57 60.0**	**+0.1**
WTP	baz=322			*e*S		**Sb**	**21 58 15.2**	**0.0**
CHN1	**Nanshi** baz=317	**1.14**	**312**	*e*P		**Pb**	**21 58 00.5**	**0.0**
CHN1	baz=317			*e*S		**Sb**	**21 58 15.7**	**+0.1**
YUS	**Yu-Shan** baz=342	**1.16**	**337**	*e*P		**Pn**	**21 58 01.4**	**-0.2**
CHN3	**Shinhua** baz=307	**1.19**	**304**	*e*P		**Pn**	**21 58 02.0**	**+0.5**
CHN3	baz=307			*e*S		**Sn**	**21 58 18.0**	**-0.1**
CHN4	**Tsaushan** baz=325	**1.22**	**320**	*e*P		**Pg**	**21 58 01.6**	**0.0**
CHN4	baz=325			*e*S		**Sb**	**21 58 18.1**	**+0.3**
TWK	**Hsinying** baz=319	**1.22**	**314**	*e*P		**Pg**	**21 58 01.7**	**0.0**
TWK	baz=319			*e*S		**Sb**	**21 58 18.6**	**+0.7**
ALS	**Alishan** baz=337	**1.24**	**332**	*e*P		**Pg**	**21 58 01.8**	**-0.2**
ALS	baz=337			*e*S		**Sn**	**21 58 20.7**	**+1.0**
TAI1	**Yung-k'ang** baz=302	**1.28**	**299**	*e*S		**Sn**	**21 58 20.4**	**+0.2**
CHN5	**Tsauling** baz=333	**1.37**	**329**	*e*P		**Pg**	**21 58 04.6**	**+0.1**
CHN5	baz=333			*e*S		**Sn**	**21 58 23.8**	**+1.2**
SCLT	**Jiali** baz=307	**1.38**	**303**	*e*S		**Sb**	**21 58 22.3**	**0.0**
ESL	**Shilin** baz=4.0	**1.39**	**360**	*e*P		**Pg**	**21 58 05.7**	**+0.8**
ESL	baz=4.0			*e*S		**Sn**	**21 58 26.2**	**+3.1**
CHN2	**Minshiung** baz=325	**1.42**	**321**	*e*P		**Pg**	**21 58 05.6**	**0.0**
CHN2	baz=325			*e*S		**Sn**	**21 58 24.6**	**+0.8**
CHY	**Chiayi** baz=323	**1.43**	**319**	*e*P		**Pb**	**21 58 05.2**	**-0.2**
CHY	baz=323			*e*S		**Sb**	**21 58 23.9**	**+0.1**
WGK	**Gukeng** baz=331	**1.50**	**327**	*e*P		**Pn**	**21 58 05.5**	**-0.3**
WGK	baz=331			*e*S		**Sg**	**21 58 26.6**	**+0.1**
SMLT	**Sun Moon Lake** baz=345	**1.54**	**341**	*e*P		**Pb**	**21 58 07.3**	**0.0**
SMLT	baz=345			*e*S		**Sg**	**21 58 27.5**	**-0.4**
TYC	**Yuchr** baz=344	**1.57**	**340**	*e*P		**Pb**	**21 58 07.9**	**+0.1**
TYC	baz=344			*e*S		**Sb**	**21 58 28.4**	**+0.3**
WSF	**Szhu** baz=321	**1.66**	**317**	*e*S		**Sn**	**21 58 29.1**	**-0.5**
TWD	**Chiawan** baz=8.0	**1.66**	**5**	*e*P		**Pg**	**21 58 10.3**	**+0.2**
WHF	**Hehuan Shan** baz=358	**1.73**	**355**	*e*P		**Pb**	**21 58 10.5**	**-0.2**
WHF	baz=358			*e*S		**Sg**	**21 58 35.8**	**+2.0**
TWT	**Tachien** baz=355	**1.84**	**352**	*e*P		**Pb**	**21 58 12.3**	**-0.3**

1.0nm,0.8s,baz=101,slow=4.6,SNR=7.4
ILAR Eielson Array 64.40 26 P P 22 11 07.4 +0.1
1.0nm,0.5s,baz=250,slow=5.8,SNR=11

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*IDC **21** 22:34:11.3±0.6,53˚.43N×108˚.53E, h0km, mb4.0/20, mb1 4.2/25, mb1mx4.1/45, mbtmp4.0/25, ML3.6/5, MS3.2/14, Ms1 3.2/14, ms1mx3.1/38, Error ellipse: s-maj=13.1km s-min=9.8km az=146.0*

*NEIC **21** 22:34:12.8±0.7, 53˚.35N×108˚.46E, h7km±4km, mb4.6/22, Error ellipse: s-maj=4.6km s-min=3.6km az=167.0*

NEIC Felt [III] at Ust'-Barguzin and [II] at Onguren.

*MOS **21** 22:34:12.4±1.1, 53˚.32N×108˚.59E, h16km, mb4.8/20, Error ellipse: s-maj=6.6km s-min=5.3km az=82.5*

MOS Felt (II-III) at Ust'-Barguzin; (II) at Onguryeny.

*BJI **21** 22:34:13.2, 53˚.41N×108˚.75E, h18km, mb4.3/37, mB4.3/28, Ms4.4/37, Ms7 4.2/33*

*ISCJB **21** 22:34:13.4±0.6, 53˚.36N±0˚.02×108˚.54E±0˚.03, h21km±4km, mb4.3/55, MS3.5/21, Error ellipse: s-maj=3.4km s-min=2.9km az=147.9*

*BYKL **21** 22:34:13.4±0.2, 53˚.30N×108˚.50E, #FAULT_PLANE Typ Strike Dip Rake NP NS Plane Author # FM 35.00 66.00 -97.00 16 0 IEC + 232.00 25.00 -75.00 IEC #PRINAX sc T_val T_azim T_pl B_val B_azim B_pl P_val P_azim P_pl Author + eTv eTa eTp eBv eBa eBp ePv ePa ePp fCLVD # 130.00 21.00 37.00 7.00 291.00 68.00 IEC + 0.00 0.00 0.00 00.00 0.00 0.00 IEC FELT I=III MSK at Ust-barguzin, Onguren*

ISC 21 22:34:14.5±0.4, 53˚.35N±0˚.02×108˚.58E±0˚.02, h17km±2km, h16km:pP-P, n229, σ1§78/311, mb4.4/55, MS3.5/21, 23C-25D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OGRR	**Ongureny**	**0.66**	**297**	⇑*i*Pg		**Pg**	**22 34 25.8**	**-1.6**
	8μm,0.5s							
OGRR				⇓*i*Pg		**Pg**	**22 34 25.8**	**-1.6**
	8μm,0.5s							
OGRR				⇑*i*Pg		**Pg**	**22 34 25.8**	**-1.6**
	13μm,0.5s							
OGRR				Pmax			22 34 26.1	
	9μm,0.2s							
OGRR				*i* Sg		**Sg**	**22 34 34.6**	**-1.6**
OGRR				Smax			22 34 35.2	
	28μm,0.3s							
OGRR	**Ongureny**	**0.66**	**297**	⇑*i*PG		**Pg**	**22 34 25.9**	**-1.5**
OGRR				*e*			22 34 34.7	
OGRR				pmax	pmax			
	comp=Z,9μm,0.3s							
OGRR				smax	smax			
	comp=N,28μm,0.3s							
OGRR	**Ongureny**	**0.66**	**297**	⇑*i*Pg		**Pg**	**22 34 25.9**	**-1.5**
OGRR				*e*Sg		**Sg**	**22 34 34.7**	**-1.5**
SYVR	**Suvo**	**0.90**	**70**	⇑*i*Pg		**Pb**	**22 34 30.8**	**-0.9**
	comp=N,191nm,0.5s							
SYVR				⇑*i*Pg		**Pb**	**22 34 30.8**	**-0.9**
	comp=N,308nm,0.5s							
SYVR				⇑*i*Pg		**Pb**	**22 34 30.8**	**-0.9**
	comp=N,499nm,0.5s							
SYVR				Pmax			22 34 31.9	
	comp=N,755nm,0.5s							
SYVR				*i* Sg		**Sg**	**22 34 43.9**	**+0.1**
SYVR				*e*Sb		**Sn**	**22 34 48.1**	**+3.0**
SYVR				max			22 34 48.4	
	comp=N,7μm,0.4s							
SYVR	**Suvo**	**0.90**	**70**	*e*PG		**Pb**	**22 34 30.8**	**-0.9**
SYVR				*e*			22 34 43.7	
SYVR				pmax	pmax			
	comp=Z,1μm,0.4s							
SYVR				smax	smax			
	comp=E,6μm,0.3s							
SYVR	**Suvo**	**0.90**	**70**	*e*Pg		**Pb**	**22 34 30.8**	**-0.9**
SYVR				*e*Sg		**Sb**	**22 34 43.7**	**+0.3**
ZRHB	**Zarechye**	**1.18**	**228**	*e*Pg		**Pn**	**22 34 34.1**	**-2.1**
ZRHB				Pmax			22 34 35.6	
	comp=E,2μm,0.4s							
ZRHB				*e*Sg		**Sb**	**22 34 49.8**	**-1.6**
ZRHB				*e*Sb		**Sg**	**22 34 53.8**	**+1.2**
ZRHB				max			22 34 55.9	
	comp=E,29μm,1.0s							
TRG	**Tyrgan**	**1.47**	**247**	⇓*i*Pg		**Pn**	**22 34 38.7**	**-1.6**
	comp=E,160nm,0.4s							
TRG				⇓*i*Pg		**Pn**	**22 34 38.7**	**-1.6**
	comp=E,195nm,0.4s							
TRG				⇑*i*Pg		**Pn**	**22 34 38.7**	**-1.6**
	comp=E,213nm,0.4s							
TRG				Pmax			22 34 45.1	
	comp=E,1μm,0.3s							
TRG				*e*Sg		**Sn**	**22 34 57.7**	**-1.5**
TRG				Smax			22 35 00.6	
	comp=E,11μm,0.2s							
TRG	**Tyrgan**	**1.47**	**247**	⇑*i*PN		**Pn**	**22 34 38.7**	**-1.6**
TRG				*e*			22 34 57.5	
TRG				pmax	pmax			
	comp=Z,1μm,0.2s							
TRG				smax	smax			
	comp=N,10μm,0.3s							
TRG	**Tyrgan**	**1.47**	**247**	⇑*i*Pg		**Pn**	**22 34 38.7**	**-1.6**
TRG				*e*Sg		**Sn**	**22 34 57.5**	**-1.7**
UUDB	**Ulan-Yde**	**1.59**	**201**	⇓*i*Pg		**Pn**	**22 34 41.3**	**-0.6**
	comp=N,829nm,0.6s							
UUDB				⇓*i*Pg		**Pn**	**22 34 41.3**	**-0.6**
	comp=N,237nm,0.6s							
UUDB				⇑*i*Pg		**Pn**	**22 34 41.3**	**-0.6**
	comp=N,948nm,0.6s							
UUDB				Pmax			22 34 44.4	
	comp=N,3μm,0.5s							
UUDB				*e*Sg		**Sn**	**22 35 01.7**	**-0.4**
UUDB				*e*Sb		**Sb**	**22 35 03.4**	**+0.1**
UUDB				max			22 35 04.1	
	comp=N,19μm,0.4s							
UUDB				*e*			22 35 07.8	
KAB	**Kabansk**	**1.75**	**223**	*e*Pg		**Pn**	**22 34 44.4**	**+0.2**
KAB				Pmax			22 34 50.4	
	comp=N,2μm,0.5s							
KAB				*e*Sg		**Sn**	**22 35 06.9**	**+0.8**
KAB				Smax			22 35 13.6	
	comp=N,17μm,0.9s							
KAB	**Kabansk**	**1.75**	**223**	*e*PN		**Pb**	**22 34 45.9**	**-0.3**
YLYR	**Ulyunkhan**	**2.15**	**44**	⇓*i*Pn		**Pn**	**22 34 50.8**	**+1.1**
	comp=N,197nm,0.7s							
YLYR				⇓*i*Pn		**Pn**	**22 34 50.8**	**+1.1**
	comp=N,205nm,0.7s							
YLYR				⇓*i*Pn		**Pn**	**22 34 50.8**	**+1.1**
	comp=N,402nm,0.7s							
YLYR				⇓*i*Pg		**Pb**	**22 34 52.7**	**-0.3**
YLYR				Pmax			22 34 53.2	
	comp=N,787nm,0.9s							
YLYR				*i* Sg		**Sg**	**22 35 22.0**	**-1.7**
YLYR				Smax			22 35 25.1	
	comp=N,3μm,1.1s							
YLYR	**Ulyunkhan**	**2.15**	**44**	*e*PN		**Pn**	**22 34 50.8**	**+1.1**
YLYR				*e*			22 34 52.8	
YLYR				*e*			22 35 22.4	
YLYR				pmax	pmax			
	comp=Z,777nm,0.6s							
YLYR				smax	smax			
	comp=N,3μm,1.1s							
YLYR	**Ulyunkhan**	**2.15**	**44**	*e*Pn		**Pn**	**22 34 50.8**	**+1.1**
YLYR				*e*Pg		**Pb**	**22 34 52.8**	**-0.3**
YLYR				*e*Sg		**Sg**	**22 35 22.4**	**-1.3**
NIZ	**Nizh Angarsk**	**2.49**	**13**	⇓*i*Pn		**Pn**	**22 34 55.6**	**+1.3**
NIZ				*e*Pg		**Pb**	**22 34 58.9**	**+0.1**
NIZ				Pmax			22 35 00.1	
	comp=N,481nm,0.7s							
NIZ				*e*Sn		**Sb**	**22 35 28.7**	**-0.5**
NIZ				*e*Sg		**Sg**	**22 35 32.0**	**-2.5**
NIZ				Smax			22 35 34.6	
	comp=N,5μm,0.5s							
NIZ	**Nizh Angarsk**	**2.49**	**13**	*e*PN		**Pn**	**22 34 55.6**	**+1.3**
NIZ				*e*			22 34 59.9	
NIZ				*e*S		**Sn**	**22 35 26.2**	**+1.9**
NIZ				*e*			22 35 31.9	
NIZ				pmax	pmax			
	comp=Z,426nm,0.4s							
NIZ				smax	smax			
	comp=N,4μm,0.5s							
LSTR	**Listvyanka**	**2.73**	**238**	⇓*i*Pn		**Pn**	**22 34 56.6**	**-1.0**
LSTR				*e*Pg		**Pb**	**22 35 00.5**	**-2.3**
LSTR				*e*			22 35 06.2	
LSTR				max			22 35 10.0	
	comp=N,233nm,0.4s							
LSTR				*e*Sn		**Sn**	**22 35 28.1**	**-2.0**
LSTR				*e*Sg		**Sb**	**22 35 35.3**	**-0.7**
LSTR				Smax			22 35 40.6	
	comp=N,3μm,1.3s							
LSTR	**Listvyanka**	**2.73**	**238**	*e*PN		**Pn**	**22 34 56.5**	**-1.0**
LSTR				*e*			22 35 00.9	
LSTR				*e*			22 35 35.3	
LSTR				pmax	pmax			
	comp=Z,207nm,0.3s							
LSTR				smax	smax			
	comp=E,3μm,1.3s							
IRK	**Irkutsk**	**2.84**	**249**	*e*Pn		**Pn**	**22 35 00.6**	**+1.5**
IRK				*e*Pg		**Pb**	**22 35 01.8**	**-3.0**
IRK				Pmax			22 35 15.7	
	comp=E,713nm,0.3s							
IRK				*i* Sg		**Sb**	**22 35 38.8**	**-0.5**
IRK				Smax			22 35 45.1	
	comp=E,8μm,0.5s							
IRK	**Irkutsk**	**2.84**	**249**	*e*PN		**Pn**	**22 34 58.8**	**-0.3**
IRK				*e*			22 35 03.7	
IRK				*e*			22 35 39.1	
IRK				pmax	pmax			
	comp=Z,447nm,0.2s							
IRK				smax	smax			
	comp=E,9μm,0.5s							
KMO	**Kumora**	**2.96**	**30**	⇓*i*Pn		**Pn**	**22 35 02.1**	**+1.4**
KMO				⇓*i*Pg		**Pb**	**22 35 07.2**	**+0.4**
KMO				Pmax			22 35 13.6	
	comp=E,965nm,0.5s							
KMO				*i* Sg		**Sg**	**22 35 47.4**	**-2.1**
KMO				Smax			22 35 55.5	
	comp=E,4μm,1.0s							
KMO	**Kumora**	**2.96**	**30**	*e*PN		**Pn**	**22 35 01.8**	**+1.1**
KMO				*e*			22 35 06.6	
KMO				*e*S		**Sn**	**22 35 36.2**	**+0.3**
CIT	**Chita**	**3.31**	**112**	*e*Pn		**Pn**	**22 35 05.6**	**+0.1**
CIT				*e*Pg		**Pb**	**22 35 12.3**	**-0.4**
CIT				Pmax			22 35 15.7	
	comp=E,1μm,0.8s							
CIT				*e*Sg		**Sg**	**22 35 56.9**	**-3.7**
CIT				Smax			22 36 04.3	
	comp=E,4μm,1.0s							
CIT	**Chita**	**3.31**	**112**	*e*PN		**Pn**	**22 35 05.1**	**-0.4**
CIT				*e*			22 35 14.3	
CIT				*e*			22 35 57.0	
CIT				pmax	pmax			
	comp=Z,1μm,0.7s							
CIT				smax	smax			
	comp=E,4μm,0.6s							
YOA	**Uoyan**	**3.33**	**32**	*e*Pn		**Pn**	**22 35 07.7**	**+1.9**
YOA				*e*Pg		**Pb**	**22 35 15.1**	**+2.1**
YOA				Pmax			22 35 27.9	
	comp=E,2μm,1.2s							
YOA				*e*Sg		**Sg**	**22 35 59.9**	**-1.4**
YOA				Smax			22 36 17.5	
	comp=E,10μm,1.3s							
YOA	**Uoyan**	**3.33**	**32**	*e*PN		**Pb**	**22 35 13.4**	**+0.4**
YOA				*i*			22 36 00.0	
YOA				pmax	pmax			
	comp=Z,576nm,0.5s							
YOA				smax	smax			
	comp=N,10μm,1.3s							
TLY	**Talaya**	**3.45**	**243**	⇓*i*Pn		**Pn**	**22 35 06.4**	**-1.0**
TLY				*e*Pg		**Pb**	**22 35 13.6**	**-1.5**
TLY				Pmax			22 35 20.7	
	comp=N,194nm,0.4s							
TLY				*e*			22 35 51.4	
TLY				*e*Sg		**Sb**	**22 35 57.1**	**+0.3**
TLY				Smax			22 36 05.1	
	comp=N,1μm,0.6s							
TLY	**Talaya**	**3.45**	**243**	Pn		**Pn**	**22 35 05.8**	**-1.7**
	comp=N,0.2nm,0.3s,baz=44,slow=9.5,SNR=61							
TLY				Pg		**Pb**	**22 35 13.1**	**-2.1**
	comp=N,0.4nm,0.3s,baz=54,slow=13,SNR=28							
TLY				Lg	Lg		22 35 56.2	
	comp=N,1.1nm,0.3s,baz=239,slow=22,SNR=4.0							
TLY				LR	LR		22 36 32.8	
	comp=N,263nm,19.9s,baz=44,slow=41							
TLY	**Talaya**	**3.45**	**243**	*e*PN		**Pn**	**22 35 06.5**	**-1.0**
TLY							22 35 13.1	
TLY							22 35 56.2	
TLY	**Talaya**	**3.45**	**243**	*e*Pn		**Pn**	**22 35 06.5**	**-1.0**
TLY				Pg		**Pb**	**22 35 13.1**	**-2.1**
TLY				Lg	Lg		22 35 56.2	
UKT	**Uakit**	**3.64**	**52**	⇓*i*Pn		**Pn**	**22 35 11.4**	**+1.2**
UKT				*e*Pg		**Pb**	**22 35 19.8**	**+1.4**
UKT				Pmax			22 35 22.3	
	comp=N,325nm,1.3s							
UKT				*e*Sn		**Sn**	**22 35 50.7**	**-2.1**
UKT				*e*Sg		**Sg**	**22 36 07.8**	**-3.6**
UKT				Smax			22 36 22.2	
	comp=N,1μm,1.4s							
UKT	**Uakit**	**3.64**	**52**	*e*PN		**Pn**	**22 35 10.7**	**+0.5**
UKT				*e*			22 35 19.9	
UKT				*e*			22 36 08.7	
UKT				pmax	pmax			
	comp=Z,317nm,0.6s							
UKT				smax	smax			
	comp=N,1μm,1.3s							
SVKR	**Severomuysk**	**4.00**	**44**	*e*Pg		**Pb**	**22 35 27.3**	**+2.8**
SVKR				Pmax			22 35 29.1	
	comp=N,671nm,1.1s							
SVKR				*e*Sn		**Sn**	**22 36 04.0**	**+2.5**
SVKR				*e*Sg		**Sg**	**22 36 20.7**	**-2.1**
SVKR				Smax			22 36 31.3	
	comp=N,4μm,1.1s							
ARS	**Arshan**	**4.02**	**252**	*e*Pn		**Pn**	**22 35 14.3**	**-1.0**
ARS				*e*Pg		**Pb**	**22 35 24.0**	**-0.8**
ARS				Pmax			22 35 39.2	
	comp=N,503nm,0.8s							
ARS				*e*Sg		**Sb**	**22 36 14.5**	**+1.4**
ARS				*e*SgSg		**SbSb**	**22 36 20.6**	**+2.4**
ARS				max			22 36 21.9	
	comp=N,5μm,0.6s							
ARS	**Arshan**	**4.02**	**252**	*e*PN		**Pb**	**22 35 26.2**	**+1.4**
ARS				*e*			22 36 13.7	
ARS				pmax	pmax			
	comp=Z,389nm,0.4s							
ARS				smax	smax			
	comp=E,5μm,0.6s							
KPC	**Khapcheranga**	**4.36**	**146**	⇑*i*Pn		**Pn**	**22 35 18.7**	**-1.3**
KPC				*e*Pg		**Pb**	**22 35 30.9**	**+0.3**
KPC				Pmax			22 35 36.7	
	comp=E,558nm,0.9s							
KPC				*e*Sn		**Sn**	**22 36 08.8**	**-1.5**
KPC				*e*Sg		**Sb**	**22 36 26.4**	**+3.6**
KPC				Smax			22 36 37.7	
	comp=E,1μm,1.3s							
KPC	**Khapcheranga**	**4.36**	**146**	*e*PN		**Pn**	**22 35 18.7**	**-1.3**
KPC				*e*			22 35 31.3	
KPC				*e*S		**Sn**	**22 36 09.7**	**-0.6**
KPC				*e*			22 36 26.6	
KPC				pmax	pmax			
	comp=Z,559nm,1.1s							
KPC				smax	smax			
	comp=E,1μm,0.9s							
ZAK	**Zakamensk**	**4.43**	**230**	⇓*i*Pn		**Pn**	**22 35 20.8**	**-0.3**
ZAK				*e*Pg		**Pb**	**22 35 33.0**	**+1.1**
ZAK				Pmax			22 35 42.8	
	comp=E,85nm,0.7s							
ZAK				*e*Sg		**Sb**	**22 36 30.1**	**+5.0**
ZAK				Smax			22 36 37.3	
	comp=E,487nm,0.8s							
ZAK	**Zakamensk**	**4.43**	**230**	*e*PN		**Pn**	**22 35 20.7**	**-0.3**
ZAK				*e*			22 35 33.2	
ZAK				*e*			22 36 28.5	
ZAK				pmax	pmax			
	comp=Z,89nm,0.7s							
ZAK				smax	smax			
	comp=N,490nm,0.9s							
MOY	**Mondy**	**4.93**	**253**	*e*Pn		**Pn**	**22 35 28.5**	**+0.6**
MOY				*e*			22 35 38.5	
MOY				max			22 35 58.4	
	comp=N,236nm,0.8s							
MOY				*e*			22 36 28.9	
MOY				*e*Sg		**Sb**	**22 36 43.1**	**+3.6**
MOY				Smax			22 36 45.0	
	comp=N,2μm,0.5s							
MOY	**Mondy**	**4.93**	**253**	*e*PN		**Pn**	**22 35 29.4**	**+1.5**
MOY				*e*			22 35 41.5	
MOY				*e*S		**Sn**	**22 36 28.3**	**+3.7**
MOY				pmax	pmax			
	comp=Z,154nm,0.4s							
MOY				smax	smax			
	comp=N,2μm,1.1s							
ORL	**Orlik**	**5.37**	**265**	*e*Pn		**Pn**	**22 35 34.4**	**+0.5**
ORL				max			22 35 47.7	
	comp=N,292nm,1.4s							
ORL				*e*			22 36 35.8	
ORL				*e*Sg		**Sb**	**22 36 57.4**	**+5.4**
ORL				Smax			22 37 07.2	
	comp=N,2μm,2.2s							
ORL	**Orlik**	**5.37**	**265**	*e*PN		**Pn**	**22 35 34.3**	**+0.4**
ORL				*e*			22 35 49.7	
ORL				*e*			22 36 57.3	
ORL				pmax	pmax			
	comp=Z,296nm,0.8s							
ORL				smax	smax			
	comp=N,2μm,0.6s							
BOD	**Bodaibo**	**5.43**	**32**	*e*Pn		**Pn**	**22 35 35.2**	**+0.6**
BOD				*e*Pg		**Pb**	**22 35 51.5**	**+2.7**
BOD				Pmax			22 35 56.4	
	comp=N,87nm,1.4s							
BOD				*e*			22 36 41.6	
BOD				*e*Sg		**Sg**	**22 37 03.0**	**-5.6**
BOD				Smax			22 37 12.4	
	comp=N,839nm,1.7s							
BOD				*e*			22 37 19.7	
BOD	**Bodaibo**	**5.43**	**32**	*e*PN		**Pn**	**22 35 34.4**	**-0.2**
BOD				*e*			22 35 50.4	
BOD				*e*S		**Sn**	**22 36 36.0**	**-0.6**
BOD				*e*			22 37 03.2	
BOD				pmax	pmax			
	comp=Z,85nm,1.4s							
BOD				smax	smax			
	comp=E,836nm,1.6s							
ULN	**Ulaanbaatar**	**5.58**	**191**	⇑*i*Pn		**Pn**	**22 35 36.5**	**-0.3**
ULN				*e*			22 35 38.8	
ULN				*e*Pg		**Pb**	**22 35 53.4**	**+1.9**
ULN				*e*Sg		Sg	22 37 06.2	-7.3
ULN	**Ulaanbaatar**	**5.58**	**191**	*c i*PN		**Pn**	**22 35 36.6**	**-0.3**
ULN				pmax	pmax			
	comp=Z,28nm,0.6s							
ULN	**Ulaanbaatar**	**5.58**	**191**	*e*Pn		**Pn**	**22 35 36.9**	**0.0**
SONA1	**Songino Array**	**5.69**	**195**	*e*Pn		**Pn**	**22 35 38.2**	**-0.1**
SONM	**Songino Array**	**5.70**	**195**	Pn		**Pn**	**22 35 38.3**	**-0.2**
	comp=Z,5.7nm,0.3s,baz=7.3,slow=14,SNR=90							
SONM				Sn		**Sn**	**22 36 45.5**	**+2.0**
	comp=Z,32nm,0.3s,baz=9.2,slow=20,SNR=5.1							
SONM				Lg	Lg		22 37 09.9	
	comp=Z,115nm,0.3s,baz=8.7,slow=30,SNR=13							
SONM				LR	LR		22 38 13.8	
	comp=Z,341nm,21.6s,baz=6.0,slow=42							
SONM	**Songino Array**	**5.70**	**195**	PN		**Pn**	**22 35 38.3**	**-0.2**
SONM							22 36 45.5	
SONM				pmax	pmax			
	comp=Z,6.0nm,0.3s							
SONM				smax	smax			
	comp=N,32nm,0.3s							
SONM				MLR	MLR			
	comp=Z,341nm,21.6s							
CRS	**Chara**	**6.59**	**54**	*e*Pn		**Pn**	**22 35 51.3**	**+0.7**
CRS				*e*			22 36 01.0	
CRS				*e*Pg		Pb	22 36 13.4	+4.8
CRS				Pmax			22 36 20.4	
	comp=Z,140nm,0.9s							
CRS				*e*Sg		**Sg**	**22 37 40.4**	**-5.5**
CRS				Smax			22 37 57.8	
	comp=Z,1μm,1.6s							
CRS	**Chara**	**6.59**	**54**	*e*PN		**Pn**	**22 35 51.9**	**+1.3**
CRS				*e*			22 36 15.2	
CRS				*e*			22 37 40.6	
CRS				pmax	pmax			
	comp=Z,139nm,0.9s							
CRS				smax	smax			
	comp=N,1μm,1.6s							
TUP	**Tupik**	**6.81**	**76**	*e*Pn		**Pn**	**22 35 53.3**	**-0.3**
TUP				*e*Pg		Pb	22 36 16.5	+4.2
TUP				Pmax			22 36 21.2	
	comp=N,94nm,1.4s							
TUP				*e*			22 37 29.5	
TUP				*e*Sg		Sg	22 37 45.5	-7.3
TUP				Smax			22 37 53.4	
	comp=N,3μm,1.6s							
TUP	**Tupik**	**6.81**	**76**	*e*PN		**Pn**	**22 35 54.3**	**+0.7**
TUP				*e*			22 36 16.2	
TUP				*e*S		**Sn**	**22 37 10.9**	**+0.2**
TUP				*e*			22 37 44.8	
TUP				pmax	pmax			
	comp=Z,94nm,1.0s							
TUP				smax	smax			
	comp=N,2μm,1.1s							
KHNR	**Khani**	**7.45**	**57**	*e*Sg		Sg	22 38 06.5	-6.6
HIA	**Hailar**	**8.10**	**116**	*e*		Sn	22 37 34.3	-8.1
HIA				*e*Sg		Sb	22 38 23.4	+13
HIA	**Hailar**	**8.10**	**116**	*e*PN		**Pn**	**22 36 09.3**	**-2.0**
HIA	**Hailar**	**8.10**	**116**	*e*Pn		**Pn**	**22 36 09.3**	**-2.0**
YKLR	**Yuktali**	**8.19**	**61**	*e*Sg		Sb	22 38 29.4	+16
KRAR	**Krasnoyarsk**	**9.48**	**293**	*e*P		**Pn**	**22 36 30.5**	**+0.4**
CLNS	**Chul'man**	**9.97**	**63**	*e*		x	22 38 51.4	
CLNS				*e*Sg		Sn	22 39 23.5	+55
CLNS	**Chul'man**	**9.97**	**63**	*e*P		Pn	22 36 32.8	-4.2
CLNS				pmax	pmax			
	comp=N,2.0nm,0.8s							
CLNS				pmax	pmax			
	comp=E,3.0nm,0.9s							
CLNS				pmax	pmax			
	comp=Z,2.0nm,0.8s							
CLNS				MLR	MLR			
	comp=N,88nm,10.0s							
CLNS				MLR	MLR			
	comp=Z,125nm,10.0s							
CLNS				MLR	MLR			
	comp=E,146nm,12.0s							
HHC	**Hu-ho-hao-te**	**12.67**	**170**	*e*P		**Pn**	**22 37 15.1**	**+1.1**
HHC				sP			22 37 23.3	
HHC				PP		**P**	**22 37 25.3**	**+0.1**
HHC				S		**Sn**	**22 39 36.1**	**+1.5**
HHC				PMZ				
	comp=E,24nm,0.6s							
HHC				PMZ				
	comp=E,67nm,7.4s							
HHC				LN				
	comp=E,880nm,9.4s							
HHC				LE				
	comp=E,860nm,9.1s							
HHC				LZ				
	comp=E,970nm,9.1s							
ZAA0	**Zalesovo Array**	**14.09**	**282**	*e*Pn		**Pn**	**22 37 32.1**	**-1.1**
ZALV	**Zalesovo Beam**	**14.09**	**282**	Pn		**Pn**	**22 37 31.5**	**-1.7**
	comp=E,0.3nm,0.3s,baz=83,slow=9.6,SNR=10							
ZALV				Lg	Lg		22 41 27.0	
	comp=E,0.5nm,0.3s,baz=101,slow=20,SNR=4.0							
ZALV				LR	LR		22 43 46.2	
	comp=E,40nm,18.3s,baz=70,slow=41							
YAK	**Yakutsk**	**14.18**	**44**	Lg	Lg		22 41 35.8	
	comp=E,0.0nm,0.3s,baz=170,slow=24,SNR=7.3							
YAK	**Yakutsk**	**14.18**	**44**	*e*P		**Pn**	**22 37 31.1**	**-3.2**
YAK				pmax	pmax			
	comp=Z,14nm,1.0s							
YAK				pmax	pmax			
	comp=E,12nm,1.1s							
YAK				pmax	pmax			
	comp=N,6.0nm,0.9s							
YAK				MLR	MLR			
	comp=N,92nm,9.0s							
YAK				MLR	MLR			
	comp=E,158nm,9.0s							
YAK				MLR	MLR			
	comp=Z,250nm,9.0s							
BJI	**Beijing**	**14.29**	**156**	P		**Pn**	**22 37 35.8**	**-0.1**
BJI				PMZ				
	comp=Z,90nm,3.7s							
BJI				LN				
	comp=Z,1μm,7.7s							
BJI				LE				
	comp=Z,350nm,11.6s							
BJI				LZ				
	comp=Z,150nm,11.2s							
BJT	**Baijiatuau**	**14.31**	**156**	*e*P		**Pn**	**22 37 35.2**	**-1.0**
BJT	**Baijiatuau**	**14.31**	**156**	*e*Pn		**Pn**	**22 37 35.2**	**-1.0**
NVS	**Novosibirsk**	**14.92**	**286**	*e*P		**Pn**	**22 37 41.4**	**-3.0**
NVS				*e*S		Sn	22 40 35.4	+6.2
NVS				pmax	pmax			
	comp=N,1.0nm,0.7s							
NVS				pmax	pmax			

NVS smax smax
comp=N,5.0nm,1.2s
NVS smax smax
comp=E,8.0nm,1.2s
GTA Gaotai 15.18 207 *e*P **P 22 37 53.0 -0.2**
GTA pP **pP 22 37 56.4 -1.4**
GTA sP **sP 22 38 00.0 0.0**
GTA S **Sn 22 40 42.8 +6.9**
GTA sS **S 22 40 47.5 -5.3**
GTA SS SnSn 22 40 59.4 +11
GTA PMZ
comp=E,3.0nm,1.0s
GTA PMZ
comp=E,34nm,5.5s
GTA LN
comp=E,810nm,9.0s
GTA LE
comp=E,490nm,9.5s
GTA LZ
comp=E,920nm,10.9s
MDJ Mudanjiang 16.28 114 P **P 22 38 04.5 -0.6**
MDJ S **Sn 22 41 02.8 +0.6**
MDJ PMZ
comp=E,7.0nm,1.0s
MDJ PMZ
comp=E,30nm,3.3s
MDJ LN
comp=E,380nm,9.5s
MDJ LE
comp=E,460nm,8.4s
MDJ LZ
comp=E,690nm,9.5s
WMQ Urumqi 16.73 244 P **P 22 38 11.8 +1.6**
WMQ pP **pP 22 38 16.5 +1.6**
WMQ sP **sP 22 38 20.3 +3.2**
WMQ PP PnPn 22 38 25.8 +8.6
WMQ S **Sn 22 41 15.1 +1.7**
WMQ SS **SnSn 22 41 35.1 +8.8**
WMQ PcP PcP 22 43 03.1 +6.9
WMQ ScP **ScP 22 46 34.8 +5.0**
WMQ PMZ
comp=E,15nm,0.9s
WMQ PMZ
comp=E,96nm,4.2s
WMQ LN
comp=E,410nm,9.6s
WMQ LE
comp=E,380nm,6.6s
HABR Khabarovsk 17.34 96 *e*P **Pn 22 38 13.8 -1.7**
HABR *e*S **Sn 22 41 27.5 -0.4**
HABR pmax pmax
comp=Z,7.0nm,0.9s
HABR MLR MLR
comp=Z,135nm,15.0s
LZH Lanzhou 17.58 193 *e*P **P 22 38 23.4 +3.6**
LZH pP **pP 22 38 27.4 +3.0**
LZH sP **sP 22 38 29.9 +3.3**
LZH *e*S **S 22 41 38.3 -3.5**
LZH SS SnSn 22 41 57.8 +10
LZH PMZ
comp=Z,31nm,1.3s
LZH PMZ
comp=Z,57nm,5.2s
LZH LN
comp=Z,890nm,8.1s
LZH LE
comp=Z,360nm,8.4s
LZH LZ
comp=Z,930nm,9.5s
USRK Ussuriysk Ar. 17.87 111 Lg Lg 22 43 35.1
comp=Z,0.1nm,0.3s,baz=315,slow=27,SNR=8.8
MK31 Makanchi Array 18.04 259‖ *e*P **Pn 22 38 23.0 -1.3**
MK31 pmax pmax
comp=Z,2.0nm,0.4s
MKAR Makanchi Array 18.04 259 P **Pn 22 38 22.5 -1.8**
comp=Z,0.4nm,0.3s,baz=57,slow=9.1,SNR=22
MKAR Lg Lg 22 43 45.8
comp=Z,0.1nm,0.3s,baz=74,slow=32,SNR=3.1
MKAR Makanchi Array 18.04 259 *e*P **Pn 22 38 23.4 -0.9**
MKAR Makanchi Array 18.04 259 *e*Pn **Pn 22 38 23.4 -0.9**
MKAR Lg Lg 22 43 45.8
KURK Kurchatov 18.56 274 *e*P **P 22 38 27.1 -3.1**
KURK pmax pmax
comp=Z,7.0nm,0.7s
KURK Kurchatov 18.56 274 *e*P **P 22 38 27.1 -3.1**
comp=Z,7.2nm,0.7s
KURK Lg Lg 22 44 02.0
KURBB Kurchatov Arra 18.64 274 P **P 22 38 29.0 -2.2**
comp=Z,0.2nm,0.3s,baz=72,slow=12,SNR=7.6
KURBB Lg Lg 22 44 02.0
comp=Z,0.0nm,0.3s,baz=74,slow=31,SNR=8.4
XAN Xi'an 19.31 179 P **P 22 38 37.3 -1.3**
XAN LN
comp=Z,240nm,13.2s
XAN LE
comp=Z,170nm,15.6s
TIXI Tiksi 20.40 18*d i*P P **22 38 49.7 -0.5**
TIXI pmax pmax
comp=Z,31nm,1.0s
TIXI Tiksi 20.40 18 *e*P **P 22 38 49.9 -0.3**
comp=Z,24nm,0.9s
KS01 Wonju Array Si 20.77 132 *e*P **P 22 38 54.9 +0.5**
KSAR Wonju Array Be 20.79 132 P **P 22 38 55.3 +0.6**
KSAR Wonju Array Be 20.79 132 P **P 22 38 55.2 +0.6**
KSRS Korea Array 20.80 132 P **P 22 38 55.2 +0.5**
comp=Z,1.6nm,0.6s,baz=330,slow=11,SNR=28
KSRS LR LR 22 48 09.3
comp=Z,93nm,18.1s,baz=313,slow=40
TJN Taejon 21.46 135 *e*P **P 22 39 02.6 +0.7**
NJ2 Nanjing 22.54 157 *e*P **P 22 39 14.0 +0.5**
NJ2 PMZ
comp=Z,20nm,1.0s
CD2 Chengdu 22.70 191 *e*P **P 22 39 14.3 -1.0**
CD2 pP **pP 22 39 19.5 -0.5**
CD2 sP **sP 22 39 22.8 +0.6**
CD2 PP **PnPn 22 39 42.8 +3.7**
CD2 S **S 22 43 16.5 -6.4**
CD2 SS **SnSn 22 43 59.0 +6.0**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,160nm,5.4s
CD2 LN
comp=Z,420nm,11.0s
CD2 LE
comp=Z,300nm,9.6s
CD2 LZ
comp=Z,480nm,9.8s
BVAR Borovoye Array 22.71 285 P **P 22 39 13.5 -1.7**
comp=Z,3.2nm,0.4s,baz=73,slow=14,SNR=24
BVAR Borovoye Array 22.71 285 P **P 22 39 13.5 -1.7**
BVAR pmax pmax
comp=Z,3.0nm,0.4s
BRVK Borovoye 22.76 285*d i*P **P 22 39 15.6 -0.1**
BRVK pmax pmax
comp=Z,11nm,1.0s
BRVK Borovoye 22.76 285 *e*P **P 22 39 13.9 -1.8**
comp=Z,20nm,1.1s
ASAJ Asahikawa 24.06 99 LR LR 22 47 57.3
comp=Z,54nm,20.5s,baz=131,slow=34
TKM2 Tokmak 2 24.15 258 *e*P **P 22 39 28.9 -0.9**
TKM2 pmax pmax
comp=Z,3.0nm,0.8s
TKM2 Tokmak 2 24.15 258 *e*P **P 22 39 28.9 -0.9**
comp=Z,3.1nm,0.8s
SEY Seymchan 24.54 50 P **P 22 39 32.7 -0.2**
comp=Z,1.2nm,0.6s,baz=237,slow=11,SNR=5.4
SEY Lg Lg 22 47 03.4
comp=Z,0.8nm,0.5s,baz=346,slow=15,SNR=4.8
AAK Ala-Archa 24.97 258 *e*P **P 22 39 36.3 -0.9**
AAK pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 24.97 258 *e*P **P 22 39 36.3 -0.9**
comp=Z,2.6nm,0.8s
EKS2 Erkin-Say 25.38 259 *e*P **P 22 39 40.5 -0.3**
EKS2 pmax pmax
comp=Z,7.0nm,1.1s
EKS2 Erkin-Say 25.38 259 *e*P **P 22 39 40.5 -0.3**
comp=Z,6.9nm,1.1s
KSH Kashi 26.12 251 *e*P P 22 39 55.8 +8.2
KSH PP PnPn 22 40 41.3 +15
KSH S S 22 44 29.0 +11
KSH sS sS 22 44 38.3 +12
KSH SS SnSn 22 45 41.8 +25
KSH PMZ
comp=Z,110nm,4.5s
KSH LN
comp=Z,81nm,5.5s
KSH LE
comp=Z,140nm,4.6s
KSH LZ
comp=Z,180nm,5.0s
MJAR Matsushiro Arr 26.60 117 LR LR 22 50 20.4
comp=Z,23nm,21.9s,baz=315,slow=36
GYA Guiyang 26.90 184 P **P 22 39 55.8 +1.1**
GYA PMZ
comp=Z,10.0nm,0.8s
KK31 Karatay Array 27.05 263‖ *e*P **P 22 39 58.1 +2.3**
KK31 pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 27.05 263 *e*P **P 22 39 56.3 +0.5**
KKAR Karatay Array 27.05 263 *e*P **P 22 39 56.3 +0.5**
SVE Sverdlovsk 27.21 297‖ *e*P **P 22 39 57.6 +0.6**
SVE *e* 22 40 57.5
SVE *e*S **S 22 44 34.8 -0.1**
SVE pmax pmax
comp=Z,15nm,0.9s
SVE MLR MLR
comp=Z,215nm,14.0s
ARU Arti 28.42 297*d i*P **P 22 40 08.1 +0.2**
ARU 22 40 53.6
ARU S **S 22 44 57.1 +3.1**
ARU SS **SnSn 22 46 14.2 +2.2**
ARU pmax pmax
comp=Z,3.0nm,0.8s
ARU Arti 28.42 297 *e*P **P 22 40 07.2 -0.6**
comp=Z,4.9nm,0.9s
KMI Kunming 28.53 191 P **P 22 40 12.4 +3.0**
KMI PMZ
comp=Z,4.0nm,0.5s
KMI LZ
comp=Z,75nm,15.9s
PETK Petropavlovsk- 28.94 70 LR LR 22 50 51.6
comp=Z,25nm,20.9s,baz=305,slow=35
ABKAR Akbulak array 30.21 282 *e*P **P 22 40 23.0 -0.8**
BILL Bilibino 30.44 39 *i*P **P 22 40 27.3 +1.6**
BILL *e* 22 41 26.7
BILL *e* 22 43 29.8
BILL pmax pmax
comp=Z,3.0nm,1.0s
BILL MLR MLR
comp=Z,79nm,16.0s
QIZ Qiongzhong 34.27 178 P **P 22 41 00.5 +0.9**
QIZ S **S 22 46 29.0 +3.1**
QIZ PMZ
comp=Z,10.0nm,1.2s
QIZ LN
comp=Z,240nm,7.5s
QIZ LZ
comp=Z,220nm,8.8s
CMAR Chiang Mai Arr 35.62 196 P **P 22 41 11.3 0.0**
comp=Z,0.8nm,0.7s,baz=3.9,slow=8.7,SNR=7.6
CMAR Chiang Mai Arr 35.62 196 P **P 22 41 11.3 0.0**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
JCJ Chichijima 36.12 123 LR LR 22 55 32.6
comp=Z,29nm,18.9s,baz=326,slow=35
KLMR Klimovskoe 36.60 310 P **P 22 41 16.8 -2.5**
KLMR pmax pmax
comp=Z,10.0nm,1.0s
APA Apatity 37.06 322 *e*P **P 22 41 23.0 -0.1**
APA MLR MLR
comp=Z,200nm,12.0s
ARCES ARCESS Array B 39.22 326 P **P 22 41 40.1 -1.2**
comp=Z,2.0nm,0.8s,baz=64,slow=8.8,SNR=5.8
ARCES LR LR 22 59 30.2
comp=Z,15nm,20.6s,baz=48,slow=39
ARCES ARCESS Array B 39.22 326 P **P 22 41 40.1 -1.2**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES MLR MLR
comp=Z,15nm,20.6s
OBN Obninsk 40.41 303 *e*P **P 22 41 51.8 +0.5**
OBN *e* 22 43 27.6
OBN *e* 22 43 57.6
OBN pmax pmax
comp=Z,6.0nm,1.3s
FINES FINESS Array B 42.31 315 P **P 22 42 05.0 -1.7**
comp=Z,2.2nm,0.7s,baz=81,slow=7.7,SNR=12
FINES FINESS Array B 42.31 315 P **P 22 42 05.1 -1.7**
FINES pmax pmax
comp=Z,2.0nm,0.7s
KIV Kislovodsk 43.08 285*c i*P **P 22 42 15.4 +2.0**
KIV pmax pmax
comp=Z,13nm,1.0s
KIV MLR MLR
comp=Z,27nm,16.0s
KBZ Khabaz 43.09 285 P **P 22 42 11.9 -1.5**
comp=Z,1.1nm,0.6s,baz=56,slow=24,SNR=4.4
KBZ Khabaz 43.09 285 P **P 22 42 11.9 -1.5**
KBZ pmax pmax
comp=Z,1.0nm,0.6s
VSU Vasula 43.48 311 *e*P **P 22 42 16.1 -0.2**
VSU pmax pmax
comp=Z,19nm,1.3s
VSU MLR MLR
comp=Z,254nm,16.0s
NEY Neytrino 43.48 284 *e*P **P 22 42 18.2 +1.4**
NEY pmax pmax
comp=Z,2.0nm,0.8s
ANN Anapa 45.58 289 *e*P **P 22 42 31.3 -1.9**
ANN *e**PP **pP 22 42 35.1 -3.4**
ANN *e* 22 44 10.3
ANN *e*S **S 22 49 14.2 -0.3**
ANN pmax pmax
comp=Z,21nm,0.9s
COLD Coldfoot 46.22 32 *e*P **P 22 42 38.6 +0.5**
comp=Z,32nm,2.5s
AKASG Malin Array Be 46.52 301 P **P 22 42 39.5 -1.1**
comp=Z,1.6nm,0.6s,baz=48,slow=8.6,SNR=14
AKASG LR LR 23 03 45.4
comp=Z,78nm,18.5s,baz=75,slow=38
AKASG Malin Array Be 46.52 301 P **P 22 42 39.5 -1.1**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG MLR MLR
comp=Z,79nm,18.5s
KIEV Kiev 46.53 301 *e*P **P 22 42 40.0 -0.7**
COLA College 48.41 34 *e*P **P 22 42 55.7 +0.6**
COLA pmax pmax
comp=Z,12nm,0.9s
NB2 NORSAR Subarra 48.56 320 P **P 22 42 56.2 -0.2**
comp=Z,1.3nm,0.7s,baz=50,slow=7.4
NOA NORSAR Array B 48.56 320 P **P 22 42 54.8 -1.6**
comp=Z,1.1nm,0.7s,baz=54,slow=7.6,SNR=3.9
NOA LR LR 23 04 49.7
comp=Z,26nm,19.2s,baz=220,slow=38
NOA NORSAR Array B 48.56 320 P **P 22 42 54.8 -1.6**
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA MLR MLR
comp=Z,26nm,19.2s
CCB Clear Creek Bu 48.57 34 *e*P **P 22 42 57.8 +1.5**
comp=Z,2.3nm,0.9s
IL1 Eielson Array 48.80 33 *e*P **P 22 42 59.8 +1.7**
ILAR Eielson Array 48.80 33 P **P 22 42 58.2 0.0**
comp=Z,2.2nm,0.6s,baz=302,slow=6.3,SNR=27
ILAR LR LR 23 05 06.7
comp=Z,38nm,18.6s,baz=135,slow=38
ILAR Eielson Array 48.80 33 P **P 22 42 58.2 0.0**
ILAR pmax pmax
comp=Z,2.0nm,0.6s
ILAR MLR MLR
comp=Z,38nm,18.7s
PAX Paxson 50.45 35 *e*P **P 22 43 11.9 +1.0**
PAX Paxson 50.45 35 *e*P **P 22 43 11.9 +1.0**
comp=Z,22nm,0.4s
BUR04 Bucovina Ar. S 50.49 299 *e*P **P 22 43 11.1 -0.3**
BURAR Bucovina Array 50.49 299 ‖P **P 22 43 13.2 +1.8**
BURAR Bucovina Array 50.49 299 ‖*i*P **P 22 43 13.2 +1.8**
CFR Carcaliu 50.49 295 ‖P **P 22 43 11.8 +0.6**
CFR Carcaliu 50.49 295 ‖*i*P **P 22 43 11.8 +0.6**
VRI Vrincioaia 50.81 297 ‖P **P 22 43 14.6 +0.9**
VRI Vrincioaia 50.81 297 ‖*i*P **P 22 43 14.6 +0.9**
TLB Topalu 50.92 295‖ P **P 22 43 16.0 +1.5**
TLB Topalu 50.92 295‖ *i*P **P 22 43 16.0 +1.5**
BRTR Keskin Array B 50.98 287 P **P 22 43 14.4 -0.8**
comp=Z,2.3nm,0.8s,baz=74,slow=5.6,SNR=14
BRTR LR LR 23 10 04.1
comp=Z,11nm,18.4s,baz=62,slow=42
BRTR Keskin Array B 50.98 287 P **P 22 43 14.4 -0.8**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR MLR MLR
comp=Z,11nm,18.4s
KOLS Kolonicke sedl 51.16 302 *e*P **P 22 43 15.3 -1.0**
KOLS Kolonicke sedl 51.16 302 *e*P **P 22 43 15.3 -1.0**
BR231 Keskin MP Arra 51.40 287 *e*P **P 22 43 16.9 -1.4**
MLR Muntele Rosu 51.47 297‖ P **P 22 43 20.6 +1.8**
MLR Muntele Rosu 51.47 297‖ *i*P **P 22 43 20.6 +1.8**
ARR Arges 52.25 298‖ *i*P **P 22 43 25.6 +1.1**
OKC Ostrava-Krasne 52.63 305 AMS AMS 23 08 00.0
comp=Z,200nm,13.1s
DPC Dobruska-Polom 53.17 307 *e*P **P 22 43 31.9 +0.6**
DPC *e*pP **pP 22 43 35.6 -0.9**
DPC AMS AMS 23 08 40.0
comp=Z,200nm,14.2s
DPC Dobruska-Polom 53.17 307 *e*P **P 22 43 31.2 -0.1**
DPC pmax pmax
comp=Z,14nm,0.9s
DPC Dobruska-Polom 53.17 307 *e*P **P 22 43 31.2 -0.1**
comp=Z,14nm,0.9s
VYHS Vyhne 53.17 304 *e*P **P 22 43 32.1 +0.8**
VYHS pmax pmax
comp=Z,1.0nm,1.0s
VYHS Vyhne 53.17 304 *e*P **P 22 43 32.1 +0.8**
CLL Collm 54.09 310 *e*P **P 22 43 38.0 +0.1**
CLL Collm 54.09 310 *e*P **P 22 43 38.0 +0.1**
PRU Pruhonice 54.26 308 AMS AMS 23 09 30.0
comp=Z,200nm,11.7s
TREC Trest 54.28 306 AMS AMS 23 09 20.0
comp=Z,200nm,9.4s
NKC Novy Kostel 55.08 309 AMS AMS 23 09 50.0
comp=Z,100nm,13.6s
KHC Kasperske Hory 55.31 307 *e*P **P 22 43 48.1 +1.3**
KHC *ex* x 22 43 53.4
KHC AMS AMS 23 10 10.0
comp=Z,100nm,15.3s
KHC Kasperske Hory 55.31 307 *e*P **P 22 43 48.1 +1.3**
KHC *e* 22 43 53.4
KHC MLR MLR
comp=Z,100nm,15.3s
GERES GERESS Array B 55.45 307 P **P 22 43 46.9 -1.0**
comp=Z,0.2nm,0.3s,baz=25,slow=7.3,SNR=4.7
GERES LR LR 23 09 34.7
comp=Z,52nm,18.3s,baz=60,slow=38
RAYN Ar Rayn 55.48 263 *e*P **P 22 43 47.8 -0.6**
comp=Z,5.1nm,1.3s
ESK Eskdalemuir 58.02 321 *i*P **P 22 44 08.3 +2.3**
YKA Yellowknife Ar 59.60 22 P **P 22 44 15.3 -1.5**
comp=Z,2.1nm,0.8s,baz=330,slow=6.7,SNR=7.9
YKA Yellowknife Ar 59.60 22 P **P 22 44 15.3 -1.5**
YKA pmax pmax
comp=Z,2.0nm,0.8s
LPL La Plagne 61.14 308 *e*P **P 22 44 27.4 -0.5**
LPG La Plagne 61.15 308 *e*P **P 22 44 27.4 -0.6**
SMF Signal de Mont 61.64 311 *e*P **P 22 44 30.8 -0.2**
LDF La Druitiere 61.91 315 *e*P **P 22 44 32.2 -0.5**
comp=Z,6.1nm,0.6s
FLN La Foliniere 61.93 315 *e*P **P 22 44 32.3 -0.6**
comp=Z,7.0nm,0.6s
GRR Gorron 62.38 315 *e*P **P 22 44 35.1 -0.8**
TCF Toulx Ste Croi 62.64 311 *e*P **P 22 44 37.9 +0.1**
comp=Z,2.2nm,0.5s
FRF La Foret Royal 62.65 307 *e*P **P 22 44 37.7 -0.1**
comp=Z,3.7nm,0.6s
SGMF Saint Gilles 63.20 316 *e*P **P 22 44 41.1 -0.2**
ROSF Rostrenen 63.43 316 *e*P **P 22 44 43.4 +0.5**
MFF Saint Martin d 63.45 313 *e*P **P 22 44 43.1 +0.1**
comp=Z,3.1nm,0.7s
QUIF Quistinic 63.72 316 *e*P **P 22 44 44.6 -0.2**
EPF Esparros 66.01 310 *e*P **P 22 44 59.7 -0.2**
ES19 SONSECA Array 70.59 311 *e*P **P 22 45 29.3 +0.7**
ESDC Sonseca Array 70.64 311 P **P 22 45 28.6 -0.3**
comp=Z,2.8nm,0.8s,baz=30,slow=6.4,SNR=21
SCHQ Schefferville 72.11 357 P **P 22 45 36.6 -0.9**
comp=Z,2.9nm,0.9s,baz=343,slow=11,SNR=3.7
SLMT Seeley Lake 73.58 28 *e*P **P 22 45 47.5 +0.9**
MSO Missoula 73.83 29 *e*P **P 22 45 48.5 +0.6**
comp=Z,4.7nm,0.8s
BMO Blue Mountains 74.58 32 *e*P **P 22 45 53.2 +0.8**
comp=Z,6.5nm,0.8s
WRA Warramunga Arr 76.32 155 P **P 22 46 01.8 -0.5**
comp=Z,4.7nm,0.8s,baz=347,slow=6.2,SNR=21
WRA Warramunga Arr 76.32 155 P **P 22 46 01.8 -0.5**
WRA pmax pmax
comp=Z,5.0nm,0.8s
MFID Camas Ranch 76.34 32 *e*P **P 22 46 03.9 +1.4**
comp=Z,30nm,2.2s
HLID Hailey 76.65 31 *e*P **P 22 46 04.9 +0.6**
comp=Z,34nm,2.7s
IMW Indian Meadow 77.36 28 *e*P **P 22 46 09.2 +0.7**
comp=Z,3.9nm,0.5s
MOOW Moose Ponds 77.56 28 *e*P **P 22 46 10.0 +0.5**
comp=Z,24nm,2.0s
TPAW Teton Pass 77.74 28 *e*P **P 22 46 10.8 +0.3**
comp=Z,5.4nm,0.8s
PDAR Pinedale Array 78.80 28 P **P 22 46 15.4 -0.9**
comp=Z,0.7nm,0.8s,baz=13,slow=4.4,SNR=7.0
RSSD Black Hills 78.95 23 *e*P **P 22 46 17.4 +0.2**
RSSD pmax pmax
comp=Z,3.0nm,0.7s
RSSD Black Hills 78.95 23 *e*P **P 22 46 17.4 +0.2**
comp=Z,2.5nm,0.7s
HWUT Hardware Ranch 79.29 29 *e*P **P 22 46 19.9 +0.9**
comp=Z,6.6nm,0.8s
WAKR Walker 79.53 36 *e*P **P 22 46 20.9 +0.5**
ASAR Alice Springs 79.78 157 P **P 22 46 21.4 -0.1**
comp=Z,2.5nm,0.6s,baz=352,slow=5.7,SNR=16
ASAR Alice Springs 79.78 157 P **P 22 46 21.4 -0.1**
ASAR pmax pmax
comp=Z,3.0nm,0.6s
AS01 Alice Springs 79.79 156 *e*P **P 22 46 21.7 +0.1**
PHWY Pilot Hill 81.26 25 *e*P **P 22 46 28.3 -1.5**
comp=Z,16nm,0.8s
TOA0 Torodi Ar. Sit 89.35 291 *e*P **P 22 47 09.8 -0.3**
TORD Torodi Ar. Bea 89.35 291 P **P 22 47 09.5 -0.7**
comp=Z,1.0nm,0.7s,baz=33,slow=5.1,SNR=8.9
TXAR Lajitas Array 93.01 28 P **P 22 47 26.8 -0.3**
comp=Z,0.4nm,0.7s,baz=46,slow=3.6,SNR=3.6
SNAA Sanae 145.95 212 P **PKPdf 22 53 48.9 -1.9**
VNA2 Neumayer--Watz 147.38 213 P **PKPbc 22 53 55.6 -0.1**
baz=55,slow=3.1
VNA3 Neumayer Olymp 148.12 213 P **PKPbc 22 53 57.2 -0.5**

*IDC **21** 22:36:39.4±0.6, 7.16N×127.13E, h0km, mb4.0/16, mb1 4.1/16, mb1mx4.0/34, mbtmp4.0/16, MS2.9/1, Ms1 2.9/1, ms1mx2.3/34, Error ellipse: s-maj=39.7km s-min=13.9km az=72.0*
*ISCJB **21** 22:36:42.7±0.5, 7.24N±0.08×127.48E±0.08, h35km, mb4.0/16, Error ellipse: s-maj=14.6km s-min=7.1km az=41.0*
ISC 21 22:36:44.7±0.6, 7.27N±0.09×127.5E±0.1, h35km, n22, σ1s40/25, mb4.0/16, 1C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**1.43**	**309**‖	*i*P	**Pn**	**22 37 06.2**	**-1.9**
BIPH				*i* S	**Sn**	**22 37 22.9**	**-2.8**
CGP	**Cagayan de Oro**	**3.00**	**293**‖	*e*P	**Pn**	**22 37 30.1**	**+0.4**
CGP				*i* S	**Sn**	**22 38 04.8**	**+0.5**
SCPH	**Surigao**	**3.17**	**322**	*e*S	**Sn**	**22 38 12.7**	**+3.9**
CTBH	**Cotabato--PC H**	**3.20**	**269**‖	*i*P	**Pn**	**22 37 34.8**	**+2.3**
KAPI	**Kappang**	**14.43**	**212**	LR	LR	22 46 24.9	
	1.0nm,0.6s,baz=350,slow=9.7,SNR=12						
WRA	**Warramunga Arr**	**27.87**	**166**	P	**P**	**22 42 30.8**	**-0.5**
	2.54nm,19.9s,baz=359,slow=41						
WRA				PcP	**PcP**	**22 45 47.2**	**+0.4**
	0.1nm,0.3s,baz=338,slow=2.5,SNR=6.7						
KSRS	**Korea Array**	**30.05**	**1**	P	**P**	**22 42 51.0**	**+0.6**
	0.5nm,0.3s,baz=171,slow=8.9,SNR=4.1						
ASAR	**Alice Springs**	**31.38**	**169**	P	**P**	**22 43 01.6**	**-0.8**
	0.6nm,0.8s,baz=347,slow=7.4,SNR=6.1						
ASAR				PcP	**PcP**	**22 45 56.4**	**+0.6**
	1.0nm,0.5s,baz=345,slow=2.5,SNR=14						
STKA	**Stephens Creek**	**41.20**	**162**	P	**P**	**22 44 25.8**	**-0.3**
	2.0nm,0.6s,baz=344,slow=8.2,SNR=8.7						
SONM	**Songino Array**	**44.23**	**340**	P	**P**	**22 44 50.5**	**-0.1**
	1.9nm,0.9s,baz=158,slow=8.6,SNR=3.3						
PETK	**Petropavlovsk-**	**51.90**	**23**	P	**P**	**22 45 51.5**	**+1.8**
	2.4nm,0.7s,baz=190,slow=7.3,SNR=5.0						
MKAR	**Makanchi Array**	**55.12**	**324**	P	**P**	**22 46 12.7**	**-0.8**
	1.5nm,0.6s,baz=131,slow=6.0,SNR=11						
KURBB	**Kurchatov Arra**	**59.20**	**326**	P	**P**	**22 46 41.9**	**-0.3**
	0.6nm,0.5s,baz=124,slow=7.2,SNR=3.9						

BVAR	Borovoye Array	64.80	326	P		P	22 47 19.5	-0.3
	1.0nm,0.6s,baz=140,slow=11,SNR=3.9							
KBZ	Khabaz	81.11	313	P		P	22 48 56.3	-0.2
	1.7nm,0.7s,baz=233,slow=20,SNR=3.6							
ILAR	Eielson Array	81.61	26	P		P	22 49 00.4	+1.6
	0.4nm,0.5s,baz=262,slow=4.9,SNR=4.8							
VNDA	Vanda	86.83	173	P		P	22 49 24.6	-0.3
	0.6nm,0.6s,baz=307,slow=5.8,SNR=4.4							
ARCES	ARCESS Array B	87.40	340	P		P	22 49 27.3	-0.7
	2.1nm,0.9s,baz=64,slow=8.2,SNR=5.6							
BRTR	Keskin Array B	88.35	310	P		P	22 49 32.6	-0.8
	0.9nm,0.7s,baz=72,slow=5.4,SNR=7.7							
FINES	FINESS Array B	89.08	332	P		P	22 49 35.4	-0.7
	1.3nm,0.9s,baz=113,slow=5.0,SNR=4.3							
AKASG	Malin Array Be	89.63	321	P		P	22 49 37.9	-1.0
	0.2nm,0.3s,baz=67,slow=4.9,SNR=4.9							
TORD	Torodi Ar. Bea	122.45	291	PKP		PKPdf	22 55 36.9	-0.5
	0.5nm,0.7s,baz=60,slow=1.5,SNR=5.7							

IDC 21 22:41:13.2 ± 2.1, 2°84N × 127°61E, h0 km, mb3.6/3, mb1 3.9/3, mb1mx3.4/23, mbtmp3.6/3, Error ellipse: s-maj=138.2km s-min=26.6km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	23.59	164	P	P	22 46 26.5	+0.6
	1.4nm,0.5s,baz=344,slow=11,SNR=13						
ASAR	Alice Springs	27.05	167	P	P	22 46 57.2	-0.4
	0.5nm,0.4s,baz=343,slow=7.1,SNR=4.7						
MKAR	Makanchi Array	58.78	325	P	P	22 51 13.1	-0.3
	0.3nm,0.6s,baz=123,slow=6.3,SNR=4.5						

SJA 21 23:12:44.7 ± 0.7, 31°95S × 67°72W, h9 km ± 4km, ML2.3, MW3.5, 1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACAN	Cantantal	0.56	125	*e*P		Pb	23 12 56.2	-0.5
ACAN				*i* S		Sb	23 13 04.3	-0.6
CFAA	Coronel Fontan	0.56	308	*i* P		Pg	23 12 55.8	+0.2
RTCV	Cerro Valdivia	0.70	277	*e*P		Pg	23 12 58.5	+0.1
RTCV				*e*S		Sb	23 13 09.3	+0.3
RTLL	Cerro Villicun	0.89	314	*i* P		Pg	23 13 02.2	+0.2
RTLL				*e*S		Sb	23 13 14.9	+0.3
ASAL	Salagasta	1.14	236	*e*P		Pb	23 13 06.7	0.0
AMOG	MOGNA	1.21	327	*e*P		Pb	23 13 07.8	0.0
RTLS	Leoncito	1.35	276	*e*P		Pg	23 13 11.0	0.0
RTLS				*i* S		Sg	23 13 30.1	+1.3
ARCO	CERRO ARCO	1.35	229	⇓*i* P		Pn	23 13 10.0	-0.1
ARCO				IAML			23 13 35.5	
	comp=Z,48nm,0.3s							
ARCO				AML	AML		23 13 35.6	
	comp=Z,53nm,0.3s							
AAGR	Agrelo	1.47	219	*i* P		Pg	23 13 12.8	-0.3

*LDG **21** 23:18:29.1±0.3, 38°63N×14°44E, h280km, Ml2.8/3, Error ellipse: s-maj=10.4km s-min=6.6km az=26.0*
*ISCJB **21** 23:18:30.8±0.3, 38°76N±0°03×14°95E±0°04, h276km±2km, mb3.6/12, Error ellipse: s-maj=4.9km s-min=4.2km az=34.1*
*ROM **21** 23:18:30.2±0.2, 38°80N×15°06E, h275km±3km, Ml3.5/31, Error ellipse: s-maj=3.3km s-min=2.0km az=114.0*
*CSEM **21** 23:18:31.3±0.2, 38°74N×14°99E, h274km±2km, ML4.1/9, Error ellipse: s-maj=6.4km s-min=4.7km az=152.0*
*IDC **21** 23:18:33.5±1.3, 39°00N×14°84E, h291km±16km, mb3.3/13, mb1 3.3/23, mb1mx3.2/38, mbtmp3.9/23, Error ellipse: s-maj=12.0km s-min=11.1km az=52.0*

ISC 21 23:18:31.3 ± 0.5, 38°84N ± 0°06 × 15°03E ± 0°06, h267 km ± 5km, n275, σ 1s 28/283, mb3.7/12, 16C-17D, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STR4	STROMBOLI 4	0.16	115	Pg	Pn	23 19 06.6	+1.1
STR4	STROMBOLI 4	0.16	115	Pg	Pn	23 19 06.6	+1.1
STR3	STROMBOLI 3	0.17	105	Pg	Pn	23 19 06.4	+0.9
STR3	STROMBOLI 3	0.17	105	Pg	Pn	23 19 06.4	+0.9
LLI	Lipari	0.40	189	Pg	Pn	23 19 07.0	+1.0
LLI	Lipari	0.40	189	Pg	Pn	23 19 07.0	+1.0
VPL	Vulcano Piano	0.46	184	Pg	Pn	23 19 06.7	+0.6
VPL	Vulcano Piano	0.46	184	Pg	Pn	23 19 06.7	+0.6
MILZ	Milazzo	0.59	164	Pg	Pn	23 19 06.4	0.0
	451nm,0.6s						
MILZ	Milazzo	0.59	164	Pg	Pn	23 19 06.4	0.0
	451nm,0.6s						
IACL	Alicudi	0.61	240	Pg	Pn	23 19 07.1	+0.6
IACL	Alicudi	0.61	240	Pg	Pn	23 19 07.1	+0.6
MSRU	Castanea	0.69	147	Pg	Pn	23 19 06.7	-0.1
MSRU				Sg	S	23 19 34.4	-0.5
	684nm,0.3s						
MSRU	Castanea	0.69	147	Pg	Pn	23 19 06.7	-0.1
MSRU				Sg	S	23 19 34.4	-0.5
	684nm,0.3s						
CEL	Celeste	0.90	130	Pg	Pn	23 19 07.6	-0.1
CEL				Sg	S	23 19 34.7	-1.8
	449nm,0.5s						
CEL	Celeste	0.90	130	Pg	Pn	23 19 07.6	-0.1
CEL				Sg	S	23 19 34.7	-1.8
	449nm,0.5s						
MMME	Mongiuffi-Meli	0.92	169	Pg	Pn	23 19 08.7	+0.8
	376nm,0.5s						
MMME	Mongiuffi-Meli	0.92	169	Pg	Pn	23 19 08.7	+0.8
	376nm,0.5s						
MTTG	Motta San Giov	0.99	148	Pg	Pn	23 19 08.6	+0.4
MTTG				Sg	S	23 19 36.9	-0.4
	609nm,0.6s						
MTTG	Motta San Giov	0.99	148	Pg	Pn	23 19 08.6	+0.4
MTTG				Sg	S	23 19 36.9	-0.4
	609nm,0.6s						
GRI	Girifalco	1.09	91	Pg	Pn	23 19 09.2	+0.6
GRI				Sg	S	23 19 37.4	-0.7
	452nm,0.3s						
GRI	Girifalco	1.09	91	Pg	Pn	23 19 09.2	+0.6
GRI				Sg	S	23 19 37.4	-0.7
	452nm,0.3s						
PLLN	Pollina	1.09	219	Pg	Pn	23 19 09.1	+0.3
	263nm,0.9s						
PLLN	Pollina	1.09	219	Pg	Pn	23 19 09.1	+0.3
	263nm,0.9s						
SOI	Samo	1.11	133	Pg	Pn	23 19 09.0	+0.2
SOI				Sg	S	23 19 37.5	-0.9
	240nm,0.4s						
SOI	Samo	1.11	133	Pg	Pn	23 19 09.0	+0.2
SOI				Sg	S	23 19 37.5	-0.9
	240nm,0.4s						
GIB	Gibilmanna	1.16	223	Pg	Pn	23 19 09.4	+0.2
	191nm,0.5s						
GIB	Gibilmanna	1.16	223	Pg	Pn	23 19 09.4	+0.2
	191nm,0.5s						
PLAC	Placanica	1.17	109	Pg	Pn	23 19 09.4	+0.3
PLAC				Sg	S	23 19 37.5	-1.6
	515nm,0.3s						
PLAC	Placanica	1.17	109	Pg	Pn	23 19 09.4	+0.3
PLAC				Sg	S	23 19 37.5	-1.6
	515nm,0.3s						
MPAZ	Palizzi	1.18	139	Pg	Pn	23 19 09.5	+0.3
MPAZ				Sg	S	23 19 38.7	-0.4
	598nm,0.3s						
MPAZ	Palizzi	1.18	139	Pg	Pn	23 19 09.5	+0.3
MPAZ				Sg	S	23 19 38.7	-0.4
	598nm,0.3s						
CSLB	Castelbuono	1.18	220	Pg	Pn	23 19 09.4	+0.2
	80nm,0.2s						
CSLB	Castelbuono	1.18	220	Pg	Pn	23 19 09.4	+0.2
	80nm,0.2s						
GALF	Gagliano Caste	1.19	198	Pg	Pn	23 19 11.0	+1.7
GALF	Gagliano Caste	1.19	198	Pg	Pn	23 19 11.0	+1.7
ECNV	Catenanuova	1.27	191	Pg	Pn	23 19 10.9	+1.1
	217nm,0.4s						
ECNV	Catenanuova	1.27	191	Pg	Pn	23 19 10.9	+1.1
	217nm,0.4s						
MMN	Mormanno	1.29	35	Pg	Pn	23 19 10.6	+0.9
	25nm,0.2s						
MMN	Mormanno	1.29	35	Pg	Pn	23 19 10.6	+0.9
	25nm,0.2s						
CUC	Castrocucco	1.30	28	Pg	Pn	23 19 10.9	+1.0
	72nm,1.1s						
CUC	Castrocucco	1.30	28	Pg	Pn	23 19 10.9	+1.0
	72nm,1.1s						
SERS	Sersale	1.31	81	Pg	Pn	23 19 10.7	+0.6
SERS				Sg	S	23 19 40.4	-0.3
	374nm,0.4s						
SERS	Sersale	1.31	81	Pg	Pn	23 19 10.7	+0.6
SERS				Sg	S	23 19 40.4	-0.3
	374nm,0.4s						
TIP	Timpagrande	1.39	75	Pg	Pn	23 19 11.3	+0.8
TIP				Sg	S	23 19 40.8	-0.8
	299nm,0.8s						
TIP	Timpagrande	1.39	75	Pg	Pn	23 19 11.3	+0.8
TIP				Sg	S	23 19 40.8	-0.8
	299nm,0.8s						
RESU	Resuttano	1.42	213	Pg	Pn	23 19 12.1	+1.3
	89nm,0.5s						
RESU	Resuttano	1.42	213	Pg	Pn	23 19 12.1	+1.3
	89nm,0.5s						
USI	Ustica	1.45	265	Pg	Pn	23 19 11.8	+1.0
USI	Ustica	1.45	265	Pg	Pn	23 19 11.8	+1.0
SALB	San Lorenzo Be	1.46	44	Pg	Pn	23 19 12.3	+1.3
	58nm,0.3s						
SALB	San Lorenzo Be	1.46	44	Pg	Pn	23 19 12.3	+1.3
	58nm,0.3s						
ALJA	Alia	1.48	223	Pg	Pn	23 19 12.2	+1.0
	206nm,0.3s						
ALJA	Alia	1.48	223	Pg	Pn	23 19 12.2	+1.0
	206nm,0.3s						
MTSN	Montesano sull	1.53	21	Pg	Pn	23 19 12.3	+0.8
MTSN	Montesano sull	1.53	21	Pg	Pn	23 19 12.3	+0.8
PIPA	Pietrapaola	1.53	65	Pg	Pn	23 19 12.5	+1.1
	58nm,0.2s						
PIPA	Pietrapaola	1.53	65	Pg	Pn	23 19 12.5	+1.1
	58nm,0.2s						
HCRL	Carlentini	1.56	180	Pg	Pn	23 19 12.0	+0.3
	315nm,0.4s						
HCRL	Carlentini	1.56	180	Pg	Pn	23 19 12.0	+0.3
	315nm,0.4s						
SCHR	S. Chirico Rap	1.58	31	Pg	Pn	23 19 13.5	+1.7
	11nm,0.4s						
LADO	San Nicola del	1.58	73	Pg	Pn	23 19 12.5	+0.7
LADO	San Nicola del	1.58	73	Pg	Pn	23 19 12.5	+0.7
AGST	Augusta-Monte	1.59	174	Pg	Pn	23 19 11.9	0.0
	114nm,0.3s						
AGST	Augusta-Monte	1.59	174	Pg	Pn	23 19 11.9	0.0
	114nm,0.3s						
ORI	Oriolo Calabro	1.65	42	Pg	Pn	23 19 13.8	+1.6
	133nm,0.4s						
ORI	Oriolo Calabro	1.65	42	Pg	Pn	23 19 13.8	+1.6
	133nm,0.4s						
CORL	Corleone	1.65	236	Pg	Pn	23 19 12.8	+0.4
	46nm,0.3s						
CORL	Corleone	1.65	236	Pg	Pn	23 19 12.8	+0.4
	46nm,0.3s						
HVZN	Vizzini	1.68	188	Pg	Pn	23 19 13.2	+0.5
	360nm,0.4s						
HVZN	Vizzini	1.68	188	Pg	Pn	23 19 13.2	+0.5
	360nm,0.4s						
SSY	Sortino	1.69	179	Pg	Pn	23 19 13.0	+0.3
SSY	Sortino	1.69	179	Pg	Pn	23 19 13.0	+0.3
CRAC	Craco	1.87	35	Pg	Pn	23 19 15.6	+1.6
	117nm,0.2s						
CRAC	Craco	1.87	35	Pg	Pn	23 19 15.6	+1.6
	117nm,0.2s						
HAVL	Avola	1.88	178	Pg	Pn	23 19 14.6	+0.3
HAVL	Avola	1.88	178	Pg	Pn	23 19 14.6	+0.3
HMDC	Modica	1.89	186	Pg	Pn	23 19 15.1	+0.7
HMDC	Modica	1.89	186	Pg	Pn	23 19 15.1	+0.7
CRJA	Costa Raja	1.90	237	Pg	Pn	23 19 15.0	+0.6
	282nm,0.3s						
CRJA	Costa Raja	1.90	237	Pg	Pn	23 19 15.0	+0.6
	282nm,0.3s						
MFNL	Monte Finestre	1.96	238	Pg	Pn	23 19 15.7	+0.8
	459nm,0.2s						
MFNL	Monte Finestre	1.96	238	Pg	Pn	23 19 15.7	+0.8
	459nm,0.2s						
CSSN	Cassano Irpino	2.02	360	Pg	Pn	23 19 17.0	+1.7
	22nm,0.7s						
CSSN	Cassano Irpino	2.02	360	Pg	Pn	23 19 17.0	+1.7
	22nm,0.7s						
MTGR	Montagna Grand	2.02	243	Pg	Pn	23 19 15.6	+0.2
	3µm,1.5s						
MTGR	Montagna Grand	2.02	243	Pg	Pn	23 19 15.6	+0.2
	3µm,1.5s						
MATE	Matera	2.22	35	Pg	Pn	23 19 17.2	+0.2
MATE	Matera	2.22	35	Pg	Pn	23 19 17.2	+0.2
TAR1	Taranto	2.42	45	*e*Pn	Pn	23 19 18.8	-0.1
TAR1					Sn	S	23 19 55.1	-1.7
MODR	Mondragone	2.46	339	Pg	Pn	23 19 20.9	+1.6
	29nm,0.4s						
MODR	Mondragone	2.46	339	Pg	Pn	23 19 20.9	+1.6
	29nm,0.4s						
MSC	Monte Massico	2.48	341	Pg	Pn	23 19 21.3	+1.8
MSC	Monte Massico	2.48	341	Pg	Pn	23 19 21.3	+1.8
PTRJ	Pietraroja	2.55	352	Pg	Pn	23 19 22.1	+1.9
	47nm,0.6s						
PTRJ	Pietraroja	2.55	352	Pg	Pn	23 19 22.1	+1.9
	47nm,0.6s						
SGG	Gregorio Mates	2.59	349	Pg	Pn	23 19 22.6	+2.0
	13nm,0.6s						
SGG	Gregorio Mates	2.59	349	Pg	Pn	23 19 22.6	+2.0
	13nm,0.6s						
SCTE	Santa Cesarea	2.94	64	Pg	Pn	23 19 24.2	+0.2
SCTE	Santa Cesarea	2.94	64	Pg	Pn	23 19 24.2	+0.2
SDI	San Donato	3.01	342	Pg	Pn	23 19 26.7	+1.8
	60nm,1.3s						
SDI	San Donato	3.01	342	Pg	Pn	23 19 26.7	+1.8
	60nm,1.3s						
GIUL	Giuliano Di Ro	3.03	334	Pg	Pn	23 19 26.8	+1.7
GIUL	Giuliano Di Ro	3.03	334	Pg	Pn	23 19 26.8	+1.7
POFI	Posta Fibreno	3.04	341	Pg	Pn	23 19 27.1	+1.8
	17nm,0.8s						
POFI	Posta Fibreno	3.04	341	Pg	Pn	23 19 27.1	+1.8
	17nm,0.8s						
VVLD	Villa Vallelon	3.21	341	Pg	Pn	23 19 29.1	+2.1
VVLD	Villa Vallelon	3.21	341	Pg	Pn	23 19 29.1	+2.1
INTR	Introdacqua	3.28	345	Pg	Pn	23 19 30.0	+2.2
INTR	Introdacqua	3.28	345	Pg	Pn	23 19 30.0	+2.2
RDP	Rocca di Papa	3.41	330	Pg	Pn	23 19 31.5	+2.4
RDP	Rocca di Papa	3.41	330	Pg	Pn	23 19 31.5	+2.4
CERT	Cerreto	3.47	334	Pg	Pn	23 19 31.5	+1.6
CERT	Cerreto	3.47	334	Pg	Pn	23 19 31.5	+1.6
FAGN	Fagnano	3.59	343	Pg	Pn	23 19 34.0	+2.8
	35nm,0.5s						
FAGN	Fagnano	3.59	343	Pg	Pn	23 19 34.0	+2.8
	35nm,0.5s						
FIAM	Fiamignano	3.72	338	Pg	Pn	23 19 35.2	+2.6
FIAM	Fiamignano	3.72	338	Pg	Pn	23 19 35.2	+2.6
MNS	Montasola	3.96	334	Pg	Pn	23 19 37.3	+1.9
MNS	Montasola	3.96	334	Pg	Pn	23 19 37.3	+1.9
NRCA	Norcia	4.24	341	Pg	Pn	23 19 41.0	+2.4
NRCA	Norcia	4.24	341	Pg	Pn	23 19 41.0	+2.4
FSSB	Fossombrone	5.13	341	Pg	Pn	23 19 51.2	+2.1
FSSB	Fossombrone	5.13	341	Pg	Pn	23 19 51.2	+2.1
GRFL	Gerfalco	5.28	326	Pg	Pn	23 19 53.1	+2.2
GRFL	Gerfalco	5.28	326	Pg	Pn	23 19 53.1	+2.2
KEST	Kesra	5.49	237	P	Pn	23 19 56.1	+2.5
	0.2nm,0.3s,baz=316,slow=4.7,SNR=9.6						
PGF	Pioggiola	5.89	311	*e*Pn	Pn	23 19 57.2	-1.2
MMB	Musomiste	7.20	65	⇑*i* P	Pn	23 20 16.4	+1.8
MMB	Musomiste	7.20	65	⇑*i* P	Pn	23 20 16.4	+1.8
LJU	Ljubljana	7.21	357	*e*Pn	Pn	23 20 16.0	+1.5
LJU				*i*		23 20 22.4	
VTS	Vitosha	7.26	56	⇓*i* P	Pn	23 20 20.9	+5.5
SBF	Sospel	7.60	314	*e*Pn	Pn	23 20 18.8	-0.7
SBF	Sospel	7.60	314	*e*Pn	Pn	23 20 18.8	-0.7
MAGA	Magasa	7.66	336	Pg	Pn	23 20 23.9	+3.6
MAGA	Magasa	7.66	336	Pg	Pn	23 20 23.9	+3.6
PERS	Pernice	7.79	0	*i* Pn	Pn	23 20 23.0	+1.1
PERS				*i*		23 20 29.3	
SOKA	Soboth	7.83	0	⇑*i* Pn	Pn	23 20 23.6	+1.1
	SNR=6.9						
SOKA	Soboth	7.83	0	Pn	Pn	23 20 23.6	+1.1
	SNR=6.9						
LMR	La Mourre	7.84	308	*e*Pn	Pn	23 20 22.7	+0.2
LMR				*e*Sn	S	23 21 43.6	-8.7
	0.2nm,0.2s						
LMR	La Mourre	7.84	308	*e*Pn	Pn	23 20 22.7	+0.2
FRF	La Foret Royal	7.88	309	*e*Pn	Pn	23 20 23.4	+0.4
FRF	La Foret Royal	7.88	309	*e*Pn	Pn	23 20 23.4	+0.4
MABI	Malga Bissina	7.94	337	Pg	Pn	23 20 27.9	+4.0
MABI	Malga Bissina	7.94	337	Pg	Pn	23 20 27.9	+4.0
BZS	Buzias	8.35	34	⇑*i* P	Pn	23 20 30.4	+1.6
BZS	Buzias	8.35	34	⇑*i* P	Pn	23 20 30.4	+1.6
ARSA	Arzberg	8.41	2	⇑*i* Pn	Pn	23 20 35.8	+6.1
	SNR=6.4						
MBDF	Montbardon	8.52	316	*e*Pn	Pn	23 20 31.3	+0.2
MBDF				*e*Sn	S	23 21 59.6	-8.5
	2.1nm,0.4s						
MBDF	Montbardon	8.52	316	*e*Pn	Pn	23 20 31.3	+0.2
IDI	Anoyia	8.64	111	P	Pn	23 20 34.5	+1.7
	2.2nm,0.3s,baz=289,slow=12,SNR=20						
IDI				S	S	23 22 22.1	+11
	0.3nm,0.3s,baz=342,slow=20,SNR=1.9						
SMRF	Simiane la Rot	8.76	309	*e*Pn	Pn	23 20 33.0	-1.0
FETA	Feichten	8.76	340	⇓*i* Pn	Pn	23 20 36.7	+2.5
	SNR=11						
FETA	Feichten	8.76	340	Pn	Pn	23 20 36.7	+2.5
	SNR=11						
WTTA	Wattenberg	8.78	345	⇑*i* Pn	Pn	23 20 38.0	+3.7
	SNR=5.6						
WTTA	Wattenberg	8.78	345	Pn	Pn	23 20 38.0	+3.7
	SNR=5.6						
DAVOX	Davos/Dischmat	8.79	336	P	Pn	23 20 34.4	-0.1
	0.3nm,0.3s,baz=120,slow=20,SNR=5.1						
WATA	Walderalm	8.86	345	⇓*i* Pn	Pn	23 20 38.4	+3.1
	SNR=15						
WATA	Walderalm	8.86	345	Pn	Pn	23 20 38.4	+3.1
	SNR=15						
MOTA	Moosalm	8.97	343	⇓*i* Pn	Pn	23 20 39.9	+3.1
	SNR=7.1						
MOTA	Moosalm	8.97	343	Pn	Pn	23 20 39.9	+3.1
	SNR=7.1						
LPG	La Plagne	9.05	320	*e*Pn	Pn	23 20 39.3	+1.4
LPG	La Plagne	9.05	320	*e*Pn	Pn	23 20 39.3	+1.4
LPL	La Plagne	9.07	320	*e*Pn	Pn	23 20 39.2	+1.1
LPL				*e*Sn	S	23 22 13.7	-7.2
	0.5nm,0.3s						
LPL	La Plagne	9.07	320	*e*Pn	Pn	23 20 39.2	+1.1
ORIF	Oris-en-Rattie	9.13	315	*e*Pn	Pn	23 20 38.9	+0.2
ORIF	Oris-en-Rattie	9.13	315	*e*Pn	Pn	23 20 38.9	+0.2
DAVA	Damuels	9.24	338	⇑*i* Pn	Pn	23 20 42.6	+2.5
DAVA	Damuels	9.24	338	Pn	Pn	23 20 42.6	+2.5
LOT	Lotru	9.26	42	⇑*i* P	P	23 20 44.8	-1.6
ARR	Arges	9.66	44	⇓*i* P	P	23 20 51.0	+0.1
DRGR		9.74	33	⇓*i* P	P	23 20 51.5	-0.2
DRGR		9.74	33	⇓*i* P	P	23 20 51.5	-0.2
VIVF	Saint-Julien-l	9.78	311	*e*Pn	Pn	23 20 46.5	-0.3
VIVF	Saint-Julien-l	9.78	311	*e*Pn	Pn	23 20 46.5	-0.3
LASF	Ste Croix	9.88	306	*e*P	Pn	23 20 43.6	-4.4
LASF	Ste Croix	9.88	306	*e*Pn	Pn	23 20 47.0	-1.0
LASF	Ste Croix	9.88	306	*e*Pn	Pn	23 20 47.0	-1.0
VOIR		9.94	45	⇓*i* P	P	23 20 54.4	+0.5
VOIR		9.94	45	⇓*i* P	P	23 20 54.4	+0.5
VYHS	Vyhne	10.03	15	*e*P	Pn	23 20 50.5	+0.6
GERES	GERESS Array B	10.05	355	P	Pn	23 20 50.3	+0.2
	0.6nm,0.3s,baz=168,slow=13,SNR=16						
CABF	La Chapelle	10.17	323	*e*Pn	Pn	23 20 51.9	+0.2
CABF	La Chapelle	10.17	323	*e*Pn	Pn	23 20 51.9	+0.2
KHC	Kasperske Hory	10.34	355	*e*PN	Pn	23 20 54.0	+0.3
KHC	Kasperske Hory	10.34	355	Pn	Pn	23 20 54.0	+0.3
DOPR	Dopca	10.46	44	⇓*i* P	P	23 21 00.1	+0.5
DOPR	Dopca	10.46	44	⇓*i* P	P	23 21 00.1	+0.5
MLR	Muntele Rosu	10.47	47	P	Pn	23 20 58.4	+2.9
	0.1nm,0.3s,baz=228,slow=1.7,SNR=5.7						
MLR	Muntele Rosu	10.47	47	⇑*i* P	P	23 21 00.0	+0.1
MLR	Muntele Rosu	10.47	47	⇑*i* P	P	23 21 00.0	+0.1
VRAC	Vranov	10.53	6	P	Pn	23 20 56.9	+0.9
	0.7nm,0.3s,baz=186,slow=12,SNR=8.3						
VRAC	Vranov	10.53	6	⇓*i* P	Pn	23 20 57.1	+1.1
VRAC	Vranov	10.53	6	*e*Pn	Pn	23 20 57.3	+1.3
MTLF	Montolieu	10.66	299	*e*Pn	Pn	23 20 58.5	+0.8
MTLF	Montolieu	10.66	299	*e*Pn	Pn	23 20 58.5	+0.8
HINF	Hinteralfeld	10.76	329	*e*P	Pn	23 20 58.0	-1.0
MSAB	Monastry St. A	10.94	57	⇑*i* P	P	23 21 07.7	+2.8
PSN	Preselentsi	11.02	60	⇑*i* P	P	23 21 07.2	+1.4
CDF	Champ du Feu	11.09	332	*e*Pn	Pn	23 21 02.6	-0.5
CDF	Champ du Feu	11.09	332	*e*Pn	Pn	23 21 02.6	-0.5
PLOR	Plostina	11.09	47	⇑*i* P	P	23 21 07.2	+0.6
PLOR	Plostina	11.09	47	⇑*i* P	P	23 21 07.2	+0.6
HAU	Haudompre	11.12	328	*e*P	Pn	23 21 01.3	-2.1
VRI	Vrincioaia	11.14	47	⇓*i* P	P	23 21 08.6	+1.4
VRI	Vrincioaia	11.14	47	⇓*i* P	P	23 21 08.6	+1.4
PRU	Pruhonice	11.15	358	*e*PN	Pn	23 21 05.2	+1.5
PRU	Pruhonice	11.15	358	Pn	Pn	23 21 05.2	+1.5
TLB	Topalu	11.29	55	⇓*i* P	P	23 21 11.3	+2.5
SMF	Signal de Mont	11.32	317	*e*Pn	Pn	23 21 04.9	-1.1
KOLS	Kolonicke sedl	11.36	25	*e*P	Pn	23 21 08.0	+1.7
KOLS	Kolonicke sedl	11.36	25	*e*P	Pn	23 21 08.0	+1.7
KOLS				*i*		23 21 12.1	
CAF	Calviac	11.41	306	*e*Pn	Pn	23 21 07.6	+0.5
CAF	Calviac	11.41	306	*e*Pn	Pn	23 21 07.6	+0.5
STHS	Stebnicka Huta	11.47	21	*e*P	P	23 21 11.3	+0.4
STHS	Stebnicka Huta	11.47	21	*e*P	P	23 21 11.2	+0.4
TIRR	Tirgusor	11.48	56	⇓*i* P	P	23 21 13.1

comp=Z,1.0nm,0.5s,baz=194,slow=8.9,SNR=21
DBIC Dimbokro 36.72 214 P P 23 25 13.6 +0.2
comp=Z,3.2nm,1.1s,baz=18,slow=9.8,SNR=3.0
ZALV Zalesovo Beam 48.45 48 P P 23 26 47.1 +0.3
comp=Z,2.0nm,0.3s,baz=282,slow=6.8,SNR=11
MKAR Makanchi Array 48.61 58 P P 23 26 48.8 +0.6
comp=Z,1.4nm,0.4s,baz=284,slow=9.1,SNR=34
SCHQ Schefferville 55.01 316 P P 23 27 34.2 -0.9
comp=Z,3.7nm,1.0s,baz=56,slow=11,SNR=3.8
SONM Songino Array 63.32 49 P P 23 28 32.4 +0.3
comp=Z,1.0nm,0.7s,baz=288,slow=7.6,SNR=7.4
YKA Yellowknife Ar 71.22 338 P P 23 29 20.2 -0.8
comp=Z,0.4nm,0.5s,baz=37,slow=6.2,SNR=3.1
CMAR Chiang Mai Arr 74.03 79 P P 23 29 37.3 -1.0
comp=Z,0.9nm,0.6s,baz=250,slow=4.3,SNR=4.8

FUNV 21 23:29:10.5, 6.80N×73.03W, h169km, MW3.5, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.28**	**34**	*i*P	Pn	23 29 38.8	-1.0
CAPV				*e*S	Sn	23 29 59.7	-2.6
SOCV	**Socops**	**2.61**	**55**	*e*P	Pn	23 30 53.6	-0.4
SOCV				*e*S	Sn	23 30 24.9	-2.9
VIGV	**El Vigia**	**2.62**	**39**	*e*P	Pn	23 29 53.4	-0.7
VIGV				*e*S	Sn	23 30 24.1	-3.8
VIRV	**Villa del Rosa**	**3.74**	**9**	*e*P	Pn	23 30 06.0	-2.0
VIRV				*e*S	Sn	23 30 48.3	-4.5
CURV	**Curarigua**	**4.41**	**43**	*e*P	Pn	23 30 15.3	-1.4
CURV				*e*S	Sn	23 31 03.2	-5.2
BAUV	**El Baul**	**5.38**	**66**	*e*P	Pn	23 30 27.2	-2.1
BAUV				*e*S	Sn	23 31 23.9	-7.2

IDC 21 23:48:59.9±2.1, 1.03N×126.08E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/22, mbtmp3.4/3, Error ellipse: s-maj=194.8km s-min=25.5km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.36**	**159**	P	P	23 53 58.0	-1.8
	0.5nm,0.6s,baz=337,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**25.70**	**163**	P	P	23 54 33.1	+1.1
	0.4nm,0.4s,baz=342,slow=11,SNR=7.0						
MKAR	**Makanchi Array**	**59.41**	**326**	P	P	23 59 04.3	-0.1
	0.5nm,0.5s,baz=135,slow=5.6,SNR=8.4						

*ISCJB **22** 00:11:21.8±1.1, 34.75N±0.08×70.4E±0.1, h42km, mb3.5/6, MS3.6/1, Error ellipse: s-maj=17.3km s-min=9.1km az=31.8*
*NNC **22** 00:11:24.6±3.3, 34.60N×70.66E, h101km±35km, mb3.2, mpv3.8, Error ellipse: s-maj=25.8km s-min=21.2km az=174.0*
*IDC **22** 00:11:24.9±6.4, 34.81N×70.60E, h56km±52km, mb3.3/6, mb1 3.4/11, mb1mx3.2/32, mbtmp3.5/11, ML3.4/5, MS3.6/1, Ms1 3.6/1, ms1mx2.3/28, Error ellipse: s-maj=60.0km s-min=35.3km az=140.0*
ISC 22 00:11:23.3±1.6, 34.7N±0.1×70.3E±0.2, h42km, n22, σ1s45/25, mb3.6/6, 10C-5D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**4.28**	**344**	↓P	Pn	00 12 29.8	+3.8
	4.2nm,0.3s						
DZET				↑S	Sn	00 13 22.2	+7.5
	67nm,0.5s						
SFK	**Sufi-Kurgan**	**5.90**	**25**	↑P	**Pn**	**00 12 50.0**	**+1.7**
	5.3nm,0.8s						
SFK				↓S	**Sn**	**00 13 57.5**	**+2.8**
	4.0nm,0.3s						
MNAS	**Manas**	**7.98**	**12**	↓P	**Pn**	**00 13 16.9**	**+0.1**
	3.3nm,0.8s						
MNAS				↑S	**Sn**	**00 14 45.7**	**-0.1**
	4.4nm,0.6s						
KK31	**Karatay Array**	**8.41**	**1**	↓P	**Pn**	**00 13 23.1**	**+0.6**
	4.1nm,0.7s,baz=181,slow=13,SNR=34						
KK31				↑S	**Sn**	**00 14 56.8**	**+0.7**
	1.6nm,0.5s,baz=190,slow=24,SNR=4.4						
AAK	**Ala-Archa**	**8.59**	**21**	↑P	**Pn**	**00 13 25.1**	**0.0**
	3.1nm,0.6s						
AAK				↑S	**Sn**	**00 15 00.5**	**-0.2**
	2.6nm,0.7s						
AAK	**Ala-Archa**	**8.59**	**21**	P	**Pn**	**00 13 25.5**	**+0.4**
	1.2nm,0.3s,baz=190,slow=11,SNR=7.1						
AAK				S	**Sn**	**00 15 02.5**	**+1.8**
	0.5nm,0.3s,baz=127,slow=20,SNR=3.5						
TKM2	**Tokmak 2**	**9.20**	**25**	↑P	**Pn**	**00 13 32.8**	**-0.8**
	3.2nm,0.6s						
MK31	**Makanchi Array**	**15.11**	**33**	↑P	**Pn**	**00 14 54.8**	**+1.1**
	0.4nm,0.4s,baz=223,slow=14,SNR=9.4						
MKAR	**Makanchi Array**	**15.11**	**33**	P	**Pn**	**00 14 51.7**	**-2.0**
	0.2nm,0.3s,baz=220,slow=14,SNR=10						
AB31	**Akbulak array**	**16.45**	**335**	↓P	**Pn**	**00 15 10.8**	**-0.1**
	1.2nm,0.7s,baz=138,slow=14,SNR=14						
KURBB	**Kurchatov Array**	**17.02**	**18**	P	**Pn**	**00 15 14.6**	**-3.5**
	0.1nm,0.3s,baz=203,slow=11,SNR=6.7						
AKTO	**Aktyubinsk**	**18.12**	**334**	↑P	**P**	**00 15 30.5**	**-1.0**
	2.3nm,1.1s						
AKTO	**Aktyubinsk**	**18.12**	**334**	P	**P**	**00 15 31.4**	**-0.1**
	0.1nm,0.3s,baz=132,slow=14,SNR=4.2						
BVA0	**Borovoye Array**	**18.34**	**0**	↑P	**P**	**00 15 32.9**	**-1.0**
	1.8nm,0.9s,baz=152,slow=6.3,SNR=5.2						
BVAR	**Borovoye Array**	**18.34**	**0**	P	**P**	**00 15 32.9**	**-1.0**
	0.3nm,0.3s,baz=178,slow=12,SNR=5.1						
ZALV	**Zalesovo Beam**	**21.80**	**24**	P	**P**	**00 16 09.3**	**-2.2**
	1.5nm,0.5s,baz=219,slow=12,SNR=8.2						
FINES	**FINESS Array B**	**38.69**	**328**	P	**P**	**00 18 41.9**	**-0.8**
	0.4nm,0.7s,baz=122,slow=18,SNR=2.5						
ARCES	**ARCESS Array B**	**42.61**	**339**	P	**P**	**00 19 16.0**	**+1.1**
	0.9nm,0.7s,baz=104,slow=8.0,SNR=6.2						
NOA	**NORSAR Array B**	**45.50**	**324**	P	**P**	**00 19 39.3**	**+1.0**
	0.2nm,0.4s,baz=103,slow=6.0,SNR=2.1						
SEY	**Seymchan**	**56.24**	**33**	LR	LR	00 46 12.6	
	comp=Z,47nm,19.4s,baz=76,slow=37						
TORD	**Torodi Ar. Bea**	**65.11**	**269**	P	**P**	**00 22 01.6**	**+1.6**
	0.5nm,0.6s,baz=49,slow=6.0,SNR=16						
YKA	**Yellowknife Ar**	**83.08**	**2**	P	**P**	**00 23 43.5**	**-0.6**
	0.4nm,0.6s,baz=352,slow=4.8,SNR=3.6						

*IDC **22** 00:13:21.9±1.4, 21.48S×175.05W, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.9/21, mbtmp3.9/7, ML3.8/1, MS4.1/1, Ms1 4.1/1, ms1mx3.0/30, Error ellipse: s-maj=59.2km s-min=24.3km az=136.0*
*ISCJB **22** 00:13:27.0±1.0, 21.6S±0.2×175.0W±0.2, h53km, mb3.8/6, MS4.2/1, Error ellipse: s-maj=34.7km s-min=17.1km az=32.8*
ISC 22 00:13:28.7±1.1, 21.5S±0.2×175.1W±0.3, h53km, n15, σ1s99/16, mb3.9/6, 4C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**18.04**	**200**	P	**P**	**00 17 34.9**	**-0.6**
	0.3nm,0.3s,baz=72,slow=3.2,SNR=2.6						
STKA	**Stephens Creek**	**39.85**	**246**	P	**P**	**00 20 58.3**	**+1.0**
	1.1nm,0.8s,baz=90,slow=13,SNR=2.5						
ASAR	**Alice Springs**	**46.96**	**257**	P	**P**	**00 21 54.2**	**-0.5**
	1.2nm,0.7s,baz=93,slow=7.5,SNR=16						
ASAR				PcP	**PcP**	**00 23 27.4**	**+0.8**
	0.5nm,0.8s,baz=87,slow=4.1,SNR=3.6						
WRA	**Warramunga Arr**	**47.17**	**262**	P	**P**	**00 21 55.5**	**-0.9**
	1.0nm,0.7s,baz=98,slow=8.1,SNR=5.9						
WRA				PcP	**PcP**	**00 23 28.2**	**+0.8**
	0.3nm,0.7s,baz=96,slow=3.1,SNR=2.2						
BATI	**Baumata**	**59.67**	**271**	LR	LR	00 46 50.5	
	comp=Z,159nm,19.2s,baz=272,slow=34						
PETK	**Petropavlovsk-**	**77.93**	**344**	P	**P**	**00 25 22.6**	**+1.8**
	1.1nm,0.6s,baz=146,slow=11,SNR=4.6						
NVAR	**Mina Array Bea**	**79.88**	**42**	P	**P**	**00 25 31.5**	**-0.6**
	0.8nm,0.6s,baz=202,slow=4.5,SNR=2.2						
ILAR	**Eielson Array**	**88.68**	**12**	P	**P**	**00 26 15.5**	**-0.3**
	0.2nm,0.5s,baz=188,slow=4.3,SNR=3.2						
AKASG	**Malin Array Be**	**145.15**	**333**	PKPbc	**PKPdf**	**00 33 00.9**	**+0.7**
	1.4nm,0.5s,baz=40,slow=4.2,SNR=17						
BURAR	**Bucovina Array**	**149.21**	**333**	*i*P	**PKPab**	**00 33 15.1**	**-0.9**
BRTR	**Keskin Array B**	**149.50**	**313**	PKPbc	**PKPab**	**00 33 14.2**	**-3.3**
	1.2nm,0.7s,baz=138,slow=4.7,SNR=9.4						
CFR	**Carcaliu**	**149.62**	**327**	*i*P	**PKPab**	**00 33 14.6**	**-3.0**
BRG	**Berggiesshubel**	**149.81**	**349**	*e*(P)	**PKPbc**	**00 33 12.7**	**+0.1**
	4.8nm,1.5s						
MLR	**Muntele Rosu**	**150.48**	**329**	*i*P	**PKPab**	**00 33 17.5**	**-3.8**
ARR	**Arges**	**151.19**	**330**	*i*P	**PKPbc**	**00 33 19.2**	**+3.0**

IGQ 22 00:27:41.0±1.1, 1.06S×78.75W, h2km±174km, Mb4.2, 15C-17D, Error ellipse: s-maj=1.1km s-min=0.4km az=5.1, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PISA	**Pisayambo**	**0.36**	**90**	↓P	Pg	00 27 49.7	+1.1
PAST	**Pastocalle**	**0.38**	**16**	P	Pb	00 27 50.8	-0.2
BMOR	**Cotopaxi Volca**	**0.43**	**41**	↓P	Pg	00 27 50.4	+0.3
IGUA	**Igualata**	**0.44**	**166**	↑P	Pg	00 27 50.5	+0.2
CAMI	**Rancho Maria**	**0.45**	**32**	↑P	Pg	00 27 51.1	+0.8
JUI6	**Juive**	**0.46**	**143**	↑P	Pg	00 27 50.2	0.0
MOV1	**Cotopaxi Vol s**	**0.46**	**42**	↓P	Pb	00 27 51.6	-1.0
BIL2	**Estacion Bilba**	**0.46**	**148**	P	Pg	00 27 50.5	+0.2
BBIL	**Ulba Tungurahu**	**0.47**	**147**	↓P	Pb	00 27 51.8	-0.6
RUN5	**Runtun**	**0.48**	**138**	↑P	Pb	00 27 51.6	-0.9
RUN5	**Runtun**	**0.48**	**138**	↑S	Sg	00 27 57.8	+0.7
BRUN	**Tungurahua Vol**	**0.49**	**137**	↑S	Sg	00 27 57.1	-0.5
BRUN	**Tungurahua Vol**	**0.49**	**137**	↑S	Pg	00 27 51.6	+0.7
RETU	**Refugio**	**0.49**	**143**	P	Pg	00 27 51.1	0.0
BREF	**Cotopaxi Volca**	**0.49**	**38**	↓P	Pb	00 27 52.9	-0.4
NAS2	**Nasa**	**0.49**	**34**	P	Pb	00 27 52.9	-0.2
BULB	**Ulba Tungurahu**	**0.50**	**138**	↑P	Pg	00 27 51.1	-0.1
BULB	**Ulba Tungurahu**	**0.50**	**138**	↑S	Sg	00 27 58.9	+0.8
ULBA	**Ulba**	**0.51**	**139**	↑P	Pg	00 27 51.1	-0.3
BMAS	**Trigal station**	**0.52**	**149**	↑P	Pg	00 27 51.4	0.0
BMAS	**Trigal station**	**0.52**	**149**	↑S	Sb	00 28 00.1	-1.5
BTAM	**Cotopaxi Volca**	**0.52**	**42**	↓P	Pb	00 27 52.9	-0.6
BVC2	**Cotopaxi Volca**	**0.52**	**40**	↓S	Sb	00 28 00.8	-1.3
BVC2	**Cotopaxi Volca**	**0.52**	**40**	↓P	Pg	00 27 52.0	+0.3
TAMB	**Tambo**	**0.52**	**46**	↓P	Pg	00 27 52.0	+0.3
ARRY	**Arrayan**	**0.53**	**147**	↑P	Pg	00 27 51.4	-0.3
VC1	**Cotopaxi 1**	**0.54**	**40**	↓P	Pg	00 27 52.5	+0.4
BPAT	**Tungurahua Vol**	**0.54**	**145**	↑P	Pg	00 27 52.8	+0.7
PAT1	**Patacocha**	**0.54**	**145**	↓P	Pg	00 27 52.9	+0.8
COV1	**Cotopaxi Volc**	**0.56**	**46**	↓P	Pg	00 27 52.8	+0.1
PITA	**Cotopaxi Volc**	**0.59**	**32**	↓P	Pb	00 27 54.5	-0.1
RIOE	**Riobamba**	**0.70**	**171**	P	Pg	00 27 54.5	-0.4
ANTI	**Antisana**	**0.84**	**44**	↓P	Pg	00 27 57.2	-0.7
JUA2	**San Juan 2**	**0.85**	**9**	P	Pb	00 27 59.0	-0.2
TERV	**Terraza Guagua**	**0.89**	**9**	P	Pb	00 27 59.7	-0.2
GGP	**Refugio Guagua**	**0.89**	**10**	↓P	Pb	00 27 59.5	-0.4
PINO	**Pino**	**0.91**	**9**	↓P	Pb	00 27 60.0	-0.2
YANA	**Yana**	**0.95**	**11**	*i*P	Pg	00 27 59.4	-0.5
YANA	**Yana**	**0.95**	**11**	S	Sb	00 28 13.8	-0.6
CAYR	**Refugio Cayamb**	**1.30**	**35**	P	Pn	00 28 07.8	+0.8
CAYR	**Refugio Cayamb**	**1.30**	**35**	S	Sn	00 28 25.2	-0.3
MACE	**Macas**	**1.31**	**155**	P	Pn	00 28 06.5	0.0
MACE	**Macas**	**1.31**	**155**	S	Sn	00 28 24.5	-0.3
GOLV	**Golondrinas**	**1.32**	**343**	P	Pg	00 28 06.2	-0.2
GOLV	**Golondrinas**	**1.32**	**343**	S	Sn	00 28 25.2	+0.5
OTAV	**Otavalo**	**1.32**	**13**	↓P	Pg	00 28 06.9	0.0
CAYA	**Cayambe**	**1.35**	**34**	P	Pn	00 28 07.3	-0.3
MAG1	**Magdalena**	**1.42**	**314**	P	Pg	00 28 09.5	+1.2
MAG1	**Magdalena**	**1.42**	**314**	S	Sn	00 28 31.2	+4.0
COTA	**Cotacachi**	**1.44**	**16**	P	Pn	00 28 08.1	-0.7
CHAR	**Charly**	**1.44**	**48**	P	Pg	00 28 10.0	+0.7
LAV4	**Lava4-Reventad**	**1.47**	**49**	↑P	Pn	00 28 09.1	+0.2
CONE	**Cono NE Rev Vo**	**1.48**	**48**	P	Pn	00 28 09.0	0.0
URCU	**Urcuqui**	**1.56**	**18**	P	Pn	00 28 10.4	0.0
JAMA	**Jama**	**1.66**	**298**	P	Pn	00 28 11.2	-0.1
LITE	**Lita**	**1.89**	**12**	P	Pn	00 28 15.5	+1.0
CHIS	**Cerro-Chispas-**	**1.98**	**270**	P	Pn	00 28 16.7	+1.1

*CSEM **22** 00:31:28.3, 11.98N×43.67E, h10km, ML3.8*
DHMR 22 00:31:28.3±1.5, 11.98N×43.67E, h10km±9km, ML3.8, 2C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**1.32**	**19**	*i*P	Pn	00 31 52.2	-0.9
TRBA				*i*S	Sg	00 32 12.0	+0.6
TRBA				AML	AML	00 32 14.9	
	comp=Z,2μm,0.5s						
LBOS		**2.44**	**39**	*i*P	Pn	00 32 10.2	+1.6
LBOS				*i*S	Sb	00 32 43.7	+0.7
DHBB	**Dhamar BB**	**2.67**	**15**	*i*P	Pb	00 32 15.4	-1.3
DHBB				*i*S	Sb	00 32 50.2	+0.4
BDHA	**Al Bayda'**	**2.72**	**43**	↑*i*P	Pn	00 32 14.5	+2.2
BDHA				*i*S	Sb	00 32 51.9	+0.9
BDHA				AML	AML	00 33 05.8	
	comp=N,379nm,0.5s						
BDHA	**Al Bayda'**	**2.72**	**43**	↑*i*P	Pn	00 32 14.5	+2.1
BDHA				*i*S	Sb	00 32 51.9	+0.9
	comp=N,189nm,0.5s						
HAJJ	**Hajjah**	**3.70**	**359**	*i*P	Pn	00 32 28.9	+3.0
HAJJ				*i*S	Sb	00 33 14.5	-4.7
HAJJ				AML	AML	00 33 34.9	
	comp=Z,433nm,0.5s						
HAJJ	**Hajjah**	**3.70**	**359**	*i*P	Pn	00 32 28.9	+3.1
HAJJ				*i*S	Sb	00 33 14.5	-4.7
	comp=Z,217nm,0.5s						

DHMR 22 00:34:24.2±1.8, 11.87N×43.61E, h4km±12km, ML4.1, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**1.44**	**20**	*i*P	Pn	00 34 49.9	-1.5
TRBA				*i*S	Sg	00 35 12.4	+1.5
TRBA				AML	AML	00 35 15.3	
	comp=Z,4μm,0.5s						
LBOS		**2.55**	**39**	*i*S	Sb	00 35 43.4	+0.5
BDHA	**Al Bayda'**	**2.83**	**42**	*i*P	Pb	00 35 13.4	-2.3
BDHA				*i*S	Sb	00 35 51.4	+0.5
BDHA				AML	AML	00 36 06.1	
	comp=N,1μm,0.5s						
HAJJ	**Hajjah**	**3.80**	**360**	*i*P	Pn	00 35 26.9	+3.1
HAJJ				*i*S	Sb	00 36 14.1	-4.7
HAJJ				AML	AML	00 36 35.3	
	comp=Z,1μm,0.6s						

*ISCJB **22** 00:36:37.3±0.7, 21.83N±0.09×145.2E±0.2, h44km, mb3.9/16, MS3.4/9, Error ellipse: s-maj=21.2km s-min=12.9km az=171.8*
*IDC **22** 00:36:38.4±4.6, 21.83N×145.18E, h38km±37km, mb3.7/16, mb1 3.9/18, mb1mx3.9/27, mbtmp3.9/18, ML4.1/2, MS3.3/10, Ms1 3.4/10, ms1mx3.1/29, Error ellipse: s-maj=26.3km s-min=16.6km az=91.0*
ISC 22 00:36:39.3±0.7, 22.0N±0.1×145.1E±0.2, h44km, n31, σ1s25/23, mb3.9/16, MS3.4/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.77**	**333**	Pn	**Pn**	**00 38 01.4**	**-0.9**
	8.1nm,0.3s,baz=251,slow=20,SNR=12						
JCJ				Sn	**Sn**	**00 39 04.2**	**-3.1**
	0.7nm,0.3s,baz=148,slow=22,SNR=2.0						
MJAR	**Matsushiro Arr**	**15.72**	**339**	Pn	**Pn**	**00 40 18.5**	**+0.7**
	0.5nm,0.3s,baz=155,slow=10,SNR=3.5						
MJAR				LR	LR	00 45 59.9	
	comp=Z,50nm,21.7s,baz=190,slow=35						
H11N1	**WAKE ISLAND Hy 20.49**	**92**		T	T	01 02 17.8	
	baz=292,slow=76						
H11N2	**WAKE ISLAND Hy 20.50**	**92**		T	T	01 02 17.3	
	baz=292,slow=76,SNR=6.0						
H11N3	**WAKE ISLAND Hy 20.51**	**92**		T	T	01 02 15.6	
	baz=292,slow=76,SNR=6.7						
H11S3	**WAKE ISLAND Hy 20.55**	**96**		T	T	01 02 15.4	
	baz=284,SNR=24						
H11S1	**WAKE ISLAND Hy 20.56**	**96**		T	T	01 02 13.1	
	baz=284,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy 20.57**	**96**		T	T	01 02 15.4	
	baz=284,slow=76,SNR=12						
KSRS	**Korea Array**	**21.42**	**320**	P	**P**	**00 41 25.9**	**+2.4**
	0.6nm,0.3s,baz=144,slow=8.9,SNR=11						
KSRS				LR	LR	00 50 05.8	
	comp=Z,108nm,19.1s,baz=122,slow=37						
ASAJ	**Asahikawa**	**22.20**	**355**	LR	LR	00 49 08.6	
	comp=Z,57nm,21.8s,baz=170,slow=34						
USRK	**Ussuriysk Ar.**	**24.69**	**337**	P	**P**	**00 41 58.2**	**+2.1**
	2.9nm,0.8s,baz=167,slow=12,SNR=5.8						
PETK	**Petropavlovsk-**	**32.57**	**14**	LR	LR	00 55 50.9	
	comp=Z,29nm,20.0s,baz=179,slow=35						
SONM	**Songino Array**	**40.29**	**319**	P	**P**	**00 44 13.5**	**+1.1**
	0.3nm,0.5s,baz=119,slow=12,SNR=3.3						
SONM				LR	LR	01 01 16.7	
	comp=Z,84nm,19.6s,baz=92,slow=37						
WRA	**Warramunga Arr**	**42.94**	**195**	P	**P**	**00 44 32.8**	**-1.3**
	1.2nm,0.5s,baz=16,slow=8.9,SNR=12						
CMAR	**Chiang Mai Arr**	**43.33**	**274**	P	**P**	**00 44 38.2**	**+0.8**
	0.4nm,0.3s,baz=62,slow=9.9,SNR=4.2						
ASAR	**Alice Springs**	**46.63**	**194**	P	**P**	**00 45 02.0**	**-1.4**
	0.7nm,0.6s,baz=19,slow=8.4,SNR=11						
ZALV	**Zalesovo Beam**	**55.12**	**321**	PcP	**PcP**	**00 47 08.3**	**+0.5**
	0.6nm,0.5s,baz=105,slow=3.4,SNR=3.8						
ZALV				LR	LR	01 09 58.5	
	comp=Z,61nm,19.2s,baz=70,slow=36						
MKAR	**Makanchi Array**	**55.84**	**312**	P	**P**	**00 46 12.8**	**+0.5**
	1.2nm,0.9s,baz=84,slow=5.0,SNR=7.3						
MKAR				PcP	**PcP**	**00 47 11.3**	**+0.5**
	0.4nm,0.6s,baz=96,slow=2.9,SNR=2.4						
ILAR	**Eielson Array**	**61.01**	**27**	P	**P**	**00 46 47.8**	**-0.2**
	1.3nm,0.9s,baz=252,slow=4.8,SNR=12						
YKA	**Yellowknife Ar**	**75.40**	**28**	P	**P**	**00 48 18.7**	**+0.6**
	0.7nm,0.8s,baz=282,slow=5.7,SNR=4.0						
ARCES	**ARCESS Array B**	**79.24**	**342**	P	**P**	**00 48 40.6**	**+1.0**
	2.0nm,0.9s,baz=73,slow=8.6,SNR=10						
ARCES				LR	LR	01 28 05.9	
	comp=Z,27nm,20.3s,baz=42,slow=39						
KBZ	**Khabaz**	**83.46**	**315**	P	**P**	**00 49 02.8**	**+0.4**
	4.9nm,0.9s,baz=53,slow=20,SNR=8.6						
FINES	**FINESS Array B**	**83.71**	**335**	P	**P**	**00 49 03.0**	**-0.4**
	1.4nm,0.4s,baz=86,slow=4.5,SNR=20						
PDAR	**Pinedale Array**	**85.96**	**45**	P	**P**	**00 49 15.2**	**-0.1**
	0.4nm,0.7s,baz=229,slow=2.0,SNR=3.2						
AKASG	**Malin Array Be**	**88.32**	**325**	P	**P**	**00 49 25.4**	**-0.9**
	0.4nm,0.5s,baz=46,slow=5.1,SNR=7.1						
NOA	**NORSAR Array B**	**89.34**	**339**	P	**P**	**00 49 30.6**	**-0.4**
	1.0nm,0.8s,baz=46,slow=4.5,SNR=3.3						
NOA				LR	LR	01 34 30.7	
	comp=Z,14nm,19.9s,baz=45,slow=39						
BRTR	**Keskin Array B**	**91.45**	**314**	P	**P**	**00 49 40.5**	**-0.9**
	0.9nm,1.0s,baz=90,slow=4.9,SNR=4.2						
BRTR				LR	LR	01 34 57.4	
	comp=Z,8.4nm,18.1s,baz=42,slow=38						
GERES	**GERESS Array B**	**97.27**	**330**	LR	LR	01 38 37.7	
	comp=Z,28nm,19.3s,baz=319,slow=38						
TORD	**Torodi Ar. Bea**	**129.94**	**311**	PKP	**PKPdf**	**00 55 44.5**	**-0.6**
	0.3nm,0.8s,baz=28,slow=4.1,SNR=4.1						
PLCA	**Paso Flores**	**144.58**	**130**	PKP	PKPbc	00 56 10.1	0.0
	2.7nm,0.8s,baz=234,slow=4.1,SNR=5.7						
LPAZ	**La Paz**	**148.15**	**86**	PKPbc	**PKPbc**	**00 56 21.9**	**-0.1**
	4.0nm,1.0s,baz=207,slow=4.5,SNR=7.1						

IDC 22 00:37:38.5±4.0, 15.72S×173.06W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/21, mbtmp4.0/4, MS3.1/1, Ms1 3.1/1, ms1mx2.7/21, Error ellipse: s-maj=139.6km s-min=36.6km az=127.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPT	**Papeete**	**22.58**	**98**	LR	LR	00 50 39.9	
	comp=Z,43nm,18.2s,baz=318,slow=35						
H11S2	**WAKE ISLAND Hy 39.40**	**329**		T	T	01 26 36.6	
	baz=149,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy 39.41**	**329**		T	T	01 26 37.2	
	baz=149,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy 39.42**	**329**		T	T	01 26 38.3	
	baz=149,slow=76,SNR=4.8						
H11N3	**WAKE ISLAND Hy 40.34**	**330**		T	T	01 27 51.5	
	baz=150,slow=76,SNR=16						
H11N1	**WAKE ISLAND Hy 40.35**	**330**		T	T	01 27 53.2	
	baz=150,slow=76,SNR=15						
H11N2	**WAKE ISLAND Hy 40.36**	**330**		T	T	01 27 52.7	
	baz=150,slow=76,SNR=17						
STKA	**Stephens Creek**	**44.16**	**240**	P	P	00 45 49.8	+0.6
	1.4nm,0.7s,baz=69,slow=8.6,SNR=3.5						
WRA	**Warramunga Arr**	**50.09**	**257**	P	P	00 46 35.5	-0.2
	0.9nm,0.5s,baz=92,slow=7.3,SNR=13						
WRA				PcP	PcP	00 47 54.1	-1.4
	0.5nm,0.4s,baz=104,slow=3.5,SNR=5.6						
ASAR	**Alice Springs**	**50.32**	**252**	P	P	00 46 37.3	-0.2
	2.8nm,0.8s,baz=89,slow=8.4,SNR=26						
PETK	**Petropavlovsk-**	**73.03**	**342**	P	P	00 49 10.1	0.0
	1.1nm,0.7s,baz=119,slow=9.2,SNR=3.5						
BRTR	**Keskin Array B**	**146.60**	**321**	PKPbc	PKPbc	00 57 22.3	-0.2
	0.7nm,0.7s,baz=114,slow=3.6,SNR=4.9						

*ISCJB **22** 01:05:53.9±1.0, 38.31N±0.07×39.00E±0.05, h7km±9km

PUK				*i* Sg	Sg	01 56 50.8	+0.4	
	SNR=108							
BCI	**Bajram Curri**	**0.50**	**334**	*i* PG	Pg	01 56 46.3	-1.4	
BCI				*i* SG	Sn	01 56 58.2	-1.7	
BCI	**Bajram Curri**	**0.50**	**334**	*i* Pg	Pg	01 56 46.3	-1.4	
	SNR=101							
TIR	**Tirane**	**0.68**	**214**	*i* PG	Pg	01 56 47.9	-3.0	
TIR				*i* SG	Sb	01 57 00.5	-0.6	
TIR	**Tirane**	**0.68**	**214**	*e*Pg	Pb	01 56 51.4	-0.3	
TIR				*e*Sg	Sb	01 57 00.9	-0.2	
TIR	**Tirane**	**0.68**	**214**	*e*Pg	Pb	01 56 51.4	-0.3	
TIR				*i* Sg	Sb	01 57 00.5	-0.6	
	SNR=99							
SKO	**Skopje**	**0.81**	**85**	*e*Sg	Sb	01 57 05.9	+1.0	
SKO	**Skopje**	**0.81**	**85**	*e*Sg	Sb	01 57 05.9	+1.0	
PDG	**Podgorica**	**0.97**	**302**	*e*Pg	Pn	01 56 57.3	-0.2	
PDG				*e*Sg	Sn	01 57 10.8	-0.5	
PDG	**Podgorica**	**0.97**	**302**	*e*Pg	Pn	01 56 57.3	-0.2	
PDG				*e*Sg	Sn	01 57 10.8	-0.5	
BARS	**Barje**	**1.41**	**50**	*e*Sg	Sg	01 57 23.7	+0.6	
BARS	**Barje**	**1.41**	**50**	*e*Sg	Sg	01 57 23.7	+0.6	
SELS	**Selova**	**1.42**	**23**	*e*Pg	Pg	01 57 05.7	+0.5	
SELS				*e*Sg	Sg	01 57 25.3	+1.6	
IVAS	**Ivanjica**	**1.67**	**355**	*e*Pg	Pg	01 57 09.5	-0.5	
IVAS	**Ivanjica**	**1.67**	**355**	*e*Pg	Pg	01 57 09.5	-0.5	
TREB	**Trebinje**	**1.69**	**299**	*e*Pg	Pg	01 57 11.2	+0.8	
TREB	**Trebinje**	**1.69**	**299**	*e*Pg	Pg	01 57 11.2	+0.8	
TEKS	**Tekeris**	**2.71**	**347**	*e*Pg	Pb	01 57 27.9	+1.6	
TEKS	**Tekeris**	**2.71**	**347**	*e*Pg	Pb	01 57 27.9	+1.6	
FRGS	**Fruska Gora**	**3.27**	**353**	*e*Pn	Pb	01 57 32.6	-3.3	

ISK ***22*** *02:03:37.0,38°.70N×38°.04E, h5km, ML3.7*
CSEM ***22*** *02:03:38.8±0.1, 38°.70N×38°.07E, h2km, MD3.9, Error ellipse: s-maj=3.4km s-min=3.0km az=170.0*
DDA ***22*** *02:03:38.5, 38°.71N×38°.09E, h15km, MD3.9*

ISC 22 02:03:38.6±1.0,**38°.71N**±0°.02×**38°.07E**±0°.02,**h7**km±12km, **n109,σ1§31**/130,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.43**	**196**	*i* P	**Pg**	**02 03 46.6**	**-0.4**
AKCD				*i* S	**Sg**	**02 03 54.0**	**+1.4**
AKCD	**Akcadag**	**0.43**	**196**	*i* P	**Pg**	**02 03 46.6**	**-0.4**
AKCD				*i* S	**Sg**	**02 03 54.0**	**+1.4**
DARE	**Darende-Malaty**	**0.48**	**253**	*e*PG	**Pg**	**02 03 46.7**	**-1.2**
DARE				*e*SG	**Sg**	**02 03 53.8**	**-0.5**
DARE	**Darende-Malaty**	**0.48**	**253**	*e*Pg	**Pg**	**02 03 46.7**	**-1.2**
MALT	**Malatya**	**0.48**	**145**	*e*PG	**Pg**	**02 03 47.8**	**-0.2**
MALT				*e*SG	**Sg**	**02 03 55.0**	**+0.7**
MALT	**Malatya**	**0.48**	**145**	*e*Pg	**Pg**	**02 03 47.8**	**-0.2**
MALT				*e*Sg	**Sg**	**02 03 55.0**	**+0.7**
ELZG	**Elazig**	**0.75**	**106**	*i* P	**Pg**	**02 03 52.6**	**-0.3**
ELZG				*i* S	**Sb**	**02 04 03.9**	**-0.6**
ELZG	**Elazig**	**0.75**	**106**	*i* P	**Pg**	**02 03 52.6**	**-0.3**
ELZG				*i* S	**Sb**	**02 04 03.9**	**-0.6**
ILIC	**ilic-Erzincan**	**0.83**	**27**	*e*PG	**Pb**	**02 03 53.5**	**-2.1**
ILIC	**ilic-Erzincan**	**0.83**	**27**	*e*Pg	**Pb**	**02 03 53.5**	**-2.1**
SVRC	**Sivrice-ELAZID**	**1.02**	**108**	*e*PG	**Pb**	**02 03 57.2**	**-1.5**
SVRC	**Sivrice-ELAZID**	**1.02**	**108**	*e*Pg	**Pb**	**02 03 57.2**	**-1.5**
PTK	**Pertek**	**1.05**	**80**	*e*PG	**Pb**	**02 03 57.9**	**-1.3**
PTK	**Pertek**	**1.05**	**80**	*e*Pg	**Pb**	**02 03 57.9**	**-1.3**
ATAB	**Bozova**	**1.25**	**172**	*i* P	**Pg**	**02 04 02.4**	**-0.2**
ATAB				*i* S	**Sg**	**02 04 20.4**	**+1.6**
ATAB	**Bozova**	**1.25**	**172**	*i* P	**Pg**	**02 04 02.4**	**-0.2**
ATAB				*i* S	**Sg**	**02 04 20.4**	**+1.6**
PINB	**Pinarbasi**	**1.31**	**269**	*i* P	**Pn**	**02 04 02.2**	**-1.3**
PINB				*i* S	**Sg**	**02 04 23.2**	**+2.6**
PINB	**Pinarbasi**	**1.31**	**269**	*i* P	**Pn**	**02 04 02.2**	**-1.3**
PINB				*i* S	**Sg**	**02 04 23.2**	**+2.6**
URFA	**Urfa**	**1.40**	**155**	*e*PN	**Pg**	**02 04 05.0**	**-0.4**
URFA	**Urfa**	**1.40**	**155**	*e*Pn	**Pg**	**02 04 05.0**	**-0.4**
GZT	**Gaziantep**	**1.41**	**197**	*i* P	**Pg**	**02 04 05.9**	**+0.3**
GZT				*i* S	**Sg**	**02 04 25.6**	**+1.6**
EZC	**Erzincan**	**1.44**	**43**	*e*Pn	**Pg**	**02 04 06.8**	**+0.6**
SVSK	**Karacayir**	**1.47**	**326**	*e*PN	**Pn**	**02 04 04.2**	**-1.3**
SVSK	**Karacayir**	**1.47**	**326**	*e*Pn	**Pn**	**02 04 04.2**	**-1.3**
SUSE	**Susehri**	**1.50**	**4**	*i* P	**Pb**	**02 04 06.5**	**-0.4**
SUSE				*i* S	**Sg**	**02 04 28.3**	**+1.5**
SUSE	**Susehri**	**1.50**	**4**	*i* P	**Pb**	**02 04 06.5**	**-0.4**
SUSE				*i* S	**Sg**	**02 04 28.3**	**+1.5**
KMRS	**Kahramanmaras**	**1.52**	**218**	*e*PN	**Pb**	**02 04 06.3**	**-0.8**
KMRS	**Kahramanmaras**	**1.52**	**218**	*e*Pn	**Pb**	**02 04 06.3**	**-0.8**
ERZN	**Erzincan**	**1.55**	**55**	*e*PN	**Pb**	**02 04 06.8**	**-0.9**
EUZM	**Uzumlu**	**1.61**	**51**	*i* P	**Pb**	**02 04 08.6**	**-0.1**
EUZM				*i* S	**Sg**	**02 04 32.6**	**+2.3**
EUZM	**Uzumlu**	**1.61**	**51**	*i* P	**Pb**	**02 04 08.6**	**-0.1**
EUZM				*i* S	**Sg**	**02 04 32.6**	**+2.3**
HCB	**Kahramanmara¯**	**1.65**	**214**	*i* P	**Pb**	**02 04 09.5**	**+0.2**
HCB				*i* S	**Sg**	**02 04 31.7**	**+0.3**
KELT	**Kelkit**	**1.70**	**32**	*i* P	**Pb**	**02 04 10.1**	**-0.3**
KELT				*i* S	**Sg**	**02 04 33.5**	**+0.1**
KELT	**Kelkit**	**1.70**	**32**	*i* P	**Pb**	**02 04 10.1**	**-0.3**
KELT				*i* S	**Sg**	**02 04 33.5**	**+0.1**
ANDN	**Andirin**	**1.77**	**231**	*i* P	**Pb**	**02 04 10.2**	**-1.2**
ANDN	**Andirin**	**1.77**	**231**	*i* P	**Pb**	**02 04 10.2**	**-1.2**
ANDN				*i* S	**Sg**	**02 04 36.4**	**+1.0**
RSDY	**Resadiye-TOKAT**	**1.78**	**341**	*e*PN	**Pb**	**02 04 10.1**	**-1.5**
RSDY	**Resadiye-TOKAT**	**1.78**	**341**	*e*Pn	**Pb**	**02 04 10.1**	**-1.5**
DYBB	**Diyarbakir**	**1.79**	**114**	*e*PN	**Pb**	**02 04 11.0**	**-0.9**
DIY	**Diyarbakir**	**1.88**	**115**	*e*Pn	**Pn**	**02 04 11.0**	**-0.3**
KAMA	**Osmaniye**	**1.88**	**217**	*i* P	**Pb**	**02 04 12.5**	**-0.8**
KAMA				*i* S	**Sg**	**02 04 38.7**	**-0.4**
BINT	**Bingol**	**1.90**	**84**	*e*Pn	**Pg**	**02 04 15.0**	**+0.1**
TOKA	**Tokat**	**2.03**	**323**	*i* P	**Pb**	**02 04 15.0**	**-0.8**
TOKA	**Tokat**	**2.03**	**323**	*i* P	**Pb**	**02 04 15.0**	**-0.8**
TOKA				*i* S	**Sg**	**02 04 43.5**	**-0.3**
BNGB	**Bing¯¶l**	**2.06**	**81**	*e*PN	**Pb**	**02 04 15.0**	**-1.3**
GUMT	**Gumushane**	**2.06**	**31**	*e*PN	**Pb**	**02 04 14.6**	**-1.8**
GUMT	**Gumushane**	**2.06**	**31**	*e*Pn	**Pb**	**02 04 14.6**	**-1.8**
KOZT	**Kozan**	**2.15**	**236**	*e*PN	**Pn**	**02 04 15.4**	**+0.4**
KOZT	**Kozan**	**2.15**	**236**	*e*Pn	**Pn**	**02 04 15.4**	**+0.4**
MAZI	**Mazidag**	**2.25**	**123**	*e*PN	**Pb**	**02 04 17.1**	**-2.6**
MAZI	**Mazidag**	**2.25**	**123**	*e*Pn	**Pb**	**02 04 17.1**	**-2.6**
ESPY	**Espiye-Giresun**	**2.26**	**13**	*e*PN	**Pb**	**02 04 17.3**	**-2.5**
ESPY	**Espiye-Giresun**	**2.26**	**13**	*e*Pn	**Pb**	**02 04 17.3**	**-2.5**
BAYT	**Ayd¯¬ntepe-Bay**	**2.32**	**43**	*e*PN	**Pb**	**02 04 18.5**	**-2.4**
BAYT	**Ayd¯¬ntepe-Bay**	**2.32**	**43**	*e*Pn	**Pb**	**02 04 18.5**	**-2.4**
YOZ	**Yozgat**	**2.33**	**294**	*e*PN	**Pn**	**02 04 17.8**	**+0.3**
YOZ	**Yozgat**	**2.33**	**294**	*e*Pn	**Pn**	**02 04 17.8**	**+0.3**
BNGL	**BINGOL**	**2.42**	**83**	*i* P	**Pb**	**02 04 22.7**	**+0.2**
BNGL				*i* S	Sg	02 05 02.1	+5.9
CEYT	**Ceyhan**	**2.50**	**228**	*e*PN	**Pn**	**02 04 20.9**	**+1.2**
CEYT	**Ceyhan**	**2.50**	**228**	*e*Pn	**Pn**	**02 04 20.9**	**+1.2**
SVAN	**Silvan-Diyarba**	**2.52**	**102**	*e*PN	**Pb**	**02 04 21.3**	**-2.8**
KTUT	**Trabzon**	**2.62**	**29**	*e*PN	**Pb**	**02 04 23.1**	**-2.8**
BEST	**Besiri**	**2.65**	**107**	*i* P	**Pb**	**02 04 23.5**	**-2.9**
BEST				*i* S	**Sg**	**02 05 04.5**	**+0.9**
VRTB	**Varto-Mus**	**2.68**	**79**	*e*PN	**Pn**	**02 04 23.4**	**+1.1**
VRTB	**Varto-Mus**	**2.68**	**79**	*e*Pn	**Pn**	**02 04 23.4**	**+1.1**
BTMT	**Batman**	**2.73**	**100**	*e*PN	**Pn**	**02 04 23.6**	**+0.6**
BTMT	**Batman**	**2.73**	**100**	*e*Pn	**Pn**	**02 04 23.6**	**+0.6**
NIG	**Nigde**	**2.79**	**259**	*e*PN	**Pn**	**02 04 24.8**	**+0.9**
NIG	**Nigde**	**2.79**	**259**	*e*Pn	**Pn**	**02 04 24.8**	**+0.9**
KARA	**Karaisali**	**2.79**	**240**	*e*PN	**Pn**	**02 04 23.8**	**+0.1**
KARA	**Karaisali**	**2.79**	**240**	*e*Pn	**Pn**	**02 04 23.8**	**+0.1**
EZM	**Erzurum**	**2.82**	**64**	*e*PN	Pb	02 04 26.1	-3.3
KVT	**Kavak**	**2.83**	**327**	*e*PN	**Pn**	**02 04 25.8**	**+1.4**
KVT	**Kavak**	**2.83**	**327**	*e*Pn	**Pn**	**02 04 25.8**	**+1.4**
KRTS	**Karatas**	**3.02**	**226**	*e*PN	**Pn**	**02 04 28.2**	**+1.3**
KRTS	**Karatas**	**3.02**	**226**	*e*Pn	**Pn**	**02 04 28.2**	**+1.3**
CORM	**Corum**	**3.04**	**300**	*e*PN	**Pn**	**02 04 28.0**	**+0.7**
CORM	**Corum**	**3.04**	**300**	*e*Pn	**Pn**	**02 04 28.0**	**+0.7**
MERS	**Mersin**	**3.36**	**238**	*e*PN	**Pn**	**02 04 32.8**	**+1.2**
MERS	**Mersin**	**3.36**	**238**	*e*Pn	**Pn**	**02 04 32.8**	**+1.2**
KAMT	**Kaman**	**3.46**	**282**	*e*PN	**Pn**	**02 04 33.0**	**0.0**
KAMT	**Kaman**	**3.46**	**282**	*e*Pn	**Pn**	**02 04 33.0**	**0.0**
SULT	**Sultanhani-AKS**	**3.61**	**263**	*e*PN	**Pn**	**02 04 35.4**	**+0.3**
SULT	**Sultanhani-AKS**	**3.61**	**263**	*e*Pn	**Pn**	**02 04 35.4**	**+0.3**
DIKM	**Dikmen**	**3.64**	**325**	*e*PN	**Pn**	**02 04 36.4**	**+1.0**
DIKM	**Dikmen**	**3.64**	**325**	*e*Pn	**Pn**	**02 04 36.4**	**+1.0**
SIRT	**Sirnak**	**3.65**	**108**	*e*PN	**Pn**	**02 04 35.8**	**+0.2**
SIRT	**Sirnak**	**3.65**	**108**	*e*Pn	**Pn**	**02 04 35.8**	**+0.2**
BYBT	**Boyabat**	**3.74**	**318**	*e*PN	**Pn**	**02 04 38.5**	**+1.7**
BYBT	**Boyabat**	**3.74**	**318**	*e*Pn	**Pn**	**02 04 38.5**	**+1.7**
BCA	**Borcka**	**3.86**	**44**	*e*PN	**Pn**	**02 04 40.0**	**+1.6**
BCA	**Borcka**	**3.86**	**44**	*e*Pn	**Pn**	**02 04 40.0**	**+1.6**
TOS	**Tosya**	**3.89**	**308**	*e*PN	**Pn**	**02 04 39.7**	**+0.9**
TOS	**Tosya**	**3.89**	**308**	*e*Pn	**Pn**	**02 04 39.7**	**+0.9**
AGRB	**Hanur-Agry**	**3.92**	**76**	*e*PN	Pn	02 04 41.5	+2.1
AFSR	**Af¯ar-Bala (A**	**3.96**	**282**	*e*PN	**Pn**	**02 04 41.2**	**+1.3**
AFSR	**Af¯ar-Bala (A**	**3.96**	**282**	*e*Pn	**Pn**	**02 04 41.2**	**+1.3**
ANTO	**Ankara**	**4.26**	**287**	*e*PN	**Pn**	**02 04 44.9**	**+1.0**
ANTO	**Ankara**	**4.26**	**287**	*e*Pn	**Pn**	**02 04 44.9**	**+1.0**
BZK	**Bozkurt**	**4.49**	**318**	*e*PN	**Pn**	**02 04 48.9**	**+1.8**
BZK	**Bozkurt**	**4.49**	**318**	*e*Pn	**Pn**	**02 04 48.9**	**+1.8**
KONT	**Konya--Tatoy**	**4.56**	**262**	*e*PN	**Pn**	**02 04 49.6**	**+1.7**
KONT	**Konya--Tatoy**	**4.56**	**262**	*e*Pn	**Pn**	**02 04 49.7**	**+1.7**
HWQ	**Hawqa**	**4.74**	**202**	*e*P	**Pn**	**02 04 52.2**	**+1.6**
HWQ	**Hawqa**	**4.74**	**202**	*e*P	**Pn**	**02 04 52.2**	**+1.6**
KIZT	**Kizilcal**	**4.84**	**274**	*e*PN	**Pn**	**02 04 53.2**	**+1.2**
KIZT	**Kizilcal**	**4.84**	**274**	*e*Pn	**Pn**	**02 04 53.2**	**+1.2**
BHL	**Bhannes**	**5.18**	**203**	*e*P	**Pn**	**02 04 57.1**	**+0.5**
BHL	**Bhannes**	**5.18**	**203**	*e*P	**Pn**	**02 04 57.1**	**+0.5**

ISCJB ***22*** *02:14:39.6±1.0, 8°.9N×0°.2×58°.3E±0°.1, h10km, mb3.7/9, MS3.3/5, Error ellipse: s-maj=28.6km s-min=19.1km az=21.8*
IDC ***22*** *02:14:39.8±1.2, 8°.83N×58°.35E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.6/26, mbtmp3.7/9, MS3.3/5, Ms1 3.3/5, ms1mx2.9/36, Error ellipse: s-maj=36.0km s-min=23.5km az=18.0*

ISC 22 02:14:41.4±1.2,**8°.8N**±0°.3×**58°.4E**±0°.2,**h10**km,**n15,σ0§98**/9, **mb3.9**/9,**MS3.3**/5,**Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**19.65**	**140**	T	T	02 38 54.7	
	baz=320,slow=76,SNR=15						
H08N3	**Diego Garcia H**	**19.66**	**140**	T	T	02 38 56.2	
	baz=320,slow=76,SNR=14						
H08N1	**Diego Garcia H**	**19.67**	**140**	T	T	02 38 56.5	
	baz=320,slow=76,SNR=16						
AAK	**Ala-Archa**	**36.52**	**20**	LR	LR	02 36 56.0	
	comp=Z,51nm,21.9s,baz=228,slow=37						
CMAR	**Chiang Mai Arr**	**40.51**	**72**	P	**P**	**02 22 21.3**	**+0.4**
	0.9nm,0.3s,baz=255,slow=6.3,SNR=2.6						
CMAR				LR	LR	02 36 57.0	
	comp=Z,25nm,20.3s,baz=185,slow=33						
KURBB	**Kurchatov Arra**	**44.88**	**18**	P	**P**	**02 22 57.0**	**+1.0**
	0.3nm,0.7s,baz=212,slow=7.8,SNR=3.9						
BOSA	**Boshof**	**49.06**	**219**	LR	LR	02 41 12.1	
	comp=Z,52nm,21.1s,baz=11,slow=32						
ZALV	**Zalesovo Beam**	**49.75**	**20**	P	**P**	**02 23 32.8**	**-1.1**
	0.7nm,0.5s,baz=214,slow=7.0,SNR=4.0						
ZALV				LR	LR	02 45 15.5	
	comp=Z,28nm,21.1s,baz=248,slow=37						
TORD	**Torodi Ar. Bea**	**55.69**	**280**	P	**P**	**02 24 18.8**	**+0.3**
	1.2nm,0.9s,baz=83,slow=6.1,SNR=8.0						
FINES	**FINESS Array B**	**57.62**	**342**	P	**P**	**02 24 31.7**	**+0.2**
	0.8nm,0.7s,baz=77,slow=3.0,SNR=3.8						
NOA	**NORSAR Array B**	**62.57**	**336**	P	**P**	**02 25 05.1**	**-0.4**
	0.6nm,0.7s,baz=117,slow=7.4,SNR=2.4						
ESDC	**Sonseca Array**	**63.16**	**310**	P	**P**	**02 25 09.7**	**-0.2**
	1.1nm,0.8s,baz=93,slow=6.3,SNR=7.9						
WRA	**Warramunga Arr**	**80.02**	**112**	P	**P**	**02 26 50.4**	**-1.4**
	0.4nm,0.8s,baz=291,slow=4.6,SNR=2.7						
ASAR	**Alice Springs**	**80.50**	**116**	P	**P**	**02 26 55.3**	**+1.0**
	0.3nm,0.6s,baz=292,slow=4.9,SNR=3.1						
QSPA	**South Pole Qui**	**98.78**	**180**	LR	LR	03 07 49.5	
	comp=Z,10nm,19.4s,baz=66,slow=32						

CSEM ***22*** *02:16:48.3±0.4, 38°.62N×38°.05E, h5km, MD2.6, Error ellipse: s-maj=11.0km s-min=9.5km az=126.0*
ISK ***22*** *02:16:48.5, 38°.71N×38°.03E, h6km, MD2.6*
DDA ***22*** *02:16:50.0, 38°.70N×38°.08E, h7km, MD2.6*

ISC 22 02:16:49.4±1.1,**38°.70N**±0°.02×**38°.05E**±0°.03,**h8**km±14km, **n18,σ1§06**/30,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.41**	**194**	*i* P	**Pg**	**02 16 56.5**	**-0.9**
AKCD				*i* S	**Sb**	**02 17 05.9**	**+0.5**
AKCD	**Akcadag**	**0.41**	**194**	*i* P	**Pg**	**02 16 56.5**	**-0.9**
AKCD				*i* S	**Sb**	**02 17 05.9**	**+0.5**
DARE	**Darende-Malaty**	**0.46**	**255**	*e*PG	**Pg**	**02 16 57.5**	**-0.9**
DARE				*e*SG	**Sg**	**02 17 04.7**	**+0.3**
DARE	**Darende-Malaty**	**0.46**	**255**	*e*Pg	**Pg**	**02 16 57.5**	**-0.9**
DARE				*e*Sg	**Sg**	**02 17 04.7**	**+0.3**
MALT	**Malatya**	**0.48**	**142**	*e*PG	**Pg**	**02 16 57.9**	**-0.8**
MALT				*e*SG	**Sb**	**02 17 07.0**	**-0.4**
MALT	**Malatya**	**0.48**	**142**	*e*Pg	**Pg**	**02 16 57.9**	**-0.8**
MALT				*e*Sg	**Sb**	**02 17 07.0**	**-0.4**
ILIC	**ilic-Erzincan**	**0.86**	**28**	*e*PG	**Pg**	**02 17 05.3**	**-0.6**
ILIC				*e*SG	**Sb**	**02 17 17.9**	**-0.4**
ILIC	**ilic-Erzincan**	**0.86**	**28**	*e*Pg	**Pg**	**02 17 05.3**	**-0.6**
ILIC				*e*Sg	**Sb**	**02 17 17.9**	**-0.4**
SVRC	**Sivrice-ELAZID**	**1.03**	**107**	*e*PG	**Pg**	**02 17 08.7**	**-0.5**
SVRC	**Sivrice-ELAZID**	**1.03**	**107**	*e*Pg	**Pg**	**02 17 08.7**	**-0.5**
PTK	**Pertek**	**1.07**	**79**	*e*PN	**Pg**	**02 17 09.3**	**-0.5**
PTK	**Pertek**	**1.07**	**79**	*e*Pn	**Pg**	**02 17 09.3**	**-0.5**
GZT	**Gaziantep**	**1.39**	**196**	*i* P	**Pg**	**02 17 15.4**	**-0.7**
GZT				*i* S	**Sg**	**02 17 37.2**	**+3.1**
SVSK	**Karacayir**	**1.47**	**327**	*e*PN	**Pb**	**02 17 16.0**	**-0.9**
SVSK	**Karacayir**	**1.47**	**327**	*e*Pn	**Pb**	**02 17 16.0**	**-0.9**
SUSE	**Susehri**	**1.52**	**4**	*i* P	**Pg**	**02 17 18.5**	**0.0**
SUSE				*i* S	**Sg**	**02 17 40.0**	**+1.9**
SUSE	**Susehri**	**1.52**	**4**	*i* P	**Pg**	**02 17 18.5**	**0.0**
SUSE				*i* S	**Sg**	**02 17 40.0**	**+1.9**
HCB	**Kahramanmara¯**	**1.62**	**214**	*i* P	**Pg**	**02 17 21.0**	**+0.5**
HCB				*i* S	**Sg**	**02 17 43.2**	**+1.7**

CSEM ***22*** *02:23:07.4, 43°.48N×12°.41E, h6km, ML0.3/2*

ROM 22 02:23:07.4±0.2,**43°.48N×12°.41E,h6**km±1km,**Ml0.3**/2, **Error ellipse: s-maj=1.0km s-min=0.9km az=22.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPI	**Pietralunga -**	**0.03**	**196**	Pg	Pg	02 23 08.7	+0.1
ATPI				Sg	Sg	02 23 09.6	+0.1
	36nm,0.1s						
ATPI	**Pietralunga -**	**0.03**	**196**	Pg	Pg	02 23 08.7	+0.1
ATPI				Sg	Sg	02 23 09.6	+0.1
	36nm,0.1s						
ATPC	**Poggio Castell**	**0.03**	**87**	Pg	Pg	02 23 08.8	+0.1
ATPC				Sg	Sg	02 23 09.9	+0.3
	82nm,0.1s						
ATPC	**Poggio Castell**	**0.03**	**87**	Pg	Pg	02 23 08.8	+0.1
ATPC				Sg	Sg	02 23 09.9	+0.3
	82nm,0.1s						
ATVO	**AVT- Monte Val**	**0.10**	**183**	Pg	Pg	02 23 09.8	+0.2
ATVO				Sg	Sg	02 23 11.8	+0.7
	9.0nm,0.3s						
ATVO	**AVT- Monte Val**	**0.10**	**183**	Pg	Pg	02 23 09.8	+0.2
ATVO				Sg	Sg	02 23 11.8	+0.7
	9.0nm,0.3s						
BADI	**Badiali**	**0.13**	**284**	Pg	Pg	02 23 10.4	+0.3
BADI				Sg	Sg	02 23 12.8	+0.9
	10.0nm,0.1s						
BADI	**Badiali**	**0.13**	**284**	Pg	Pg	02 23 10.4	+0.3
BADI				Sg	Sg	02 23 12.8	+0.9
	10.0nm,0.1s						

VIE ***22*** *02:23:44.8±0.2, 46°.23N×11°.98E, h12km±1km, mb2.3/12, ML2.9/14, Error ellipse: s-maj=1.7km s-min=0.7km az=12.0 20 km S of Alleghe*
ISCJB ***22*** *02:23:44.6±0.2, 46°.22N±0°.01×11°.98E±0°.01, h11km±1km, Error ellipse: s-maj=2.1km s-min=1.4km az=4.5*
ROM ***22*** *02:23:45.3±0.1, 46°.26N×11°.97E, h6km±1km, Ml2.7/16, Error ellipse: s-maj=2.5km s-min=1.0km az=15.0*
PRU ***22*** *02:23:45.3, 46°.22N×12°.09E, h0km*
CSEM ***22*** *02:23:45.3±0.1, 46°.22N×12°.01E, h5km, ML3.3/32*
ZUR ***22*** *02:23:46.5, 46°.28N×11°.91E, h13km±3km, ML2.7/3*
LDG ***22*** *02:23:46.7±0.1, 46°.22N×12°.11E, h10km, Ml2.8/21, Error ellipse: s-maj=4.2km s-min=2.2km az=4.0*
GEN ***22*** *02:23:46.4, 46°.34N×12°.09E, h25km, ML2.7*
STR ***22*** *02:23:49.2±0.4, 46°.19N×11°.64E, h10km, Ml3.1, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 22 02:23:45.3±0.8,**46°.22N**±0°.01×**11°.99E**±0°.01,**h7**km±5km, **n202,σ1§24**/340,**36C-14D,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGOR	**Agordo**	**0.07**	**34**	*e*Pg	**Pg**	**02 23 47.0**	**-0.2**
AGOR				*e*Sg	**Sg**	**02 23 48.3**	**-0.3**
AGOR	**Agordo**	**0.07**	**34**	Pg	**Pg**	**02 23 47.0**	**-0.2**
AGOR				Sg	**Sg**	**02 23 48.4**	**-0.2**
	3µm,0.3s						
CIMO	**Cimolais**	**0.33**	**74**	*e*Pg	**Pg**	**02 23 50.6**	**-1.1**
CIMO	**Cimolais**	**0.33**	**74**	*e*Pg	**Pg**	**02 23 50.6**	**-1.1**
CAE	**Caneva**	**0.38**	**124**	*e*Pg	**Pg**	**02 23 51.7**	**-1.0**
CAE				*e*Sg	**Sg**	**02 23 58.5**	**+0.8**
CAE	**Caneva**	**0.38**	**124**	*e*Pg	**Pg**	**02 23 51.7**	**-1.0**
CAE				*e*Sg	**Sg**	**02 23 58.5**	**+0.8**
POLC	**Polcenigo**	**0.41**	**118**	*e*Pg	**Pg**	**02 23 52.4**	**-0.8**
POLC				*e*Sg	**Sg**	**02 23 59.4**	**+0.9**
MLNI	**Malnisio**	**0.44**	**99**	*e*Pg	**Pg**	**02 23 52.4**	**-1.4**
MLNI	**Malnisio**	**0.44**	**99**	*e*Pg	**Pg**	**02 23 52.4**	**-1.4**
KOSI	**Kohlern**	**0.49**	**300**	Pg	**Pg**	**02 23 54.8**	**+0.1**
KOSI				Sg	**Sg**	**02 24 01.7**	**+0.6**
	382nm,0.3s						
KOSI	**Kohlern**	**0.49**	**300**	*e*Pg	**Pg**	**02 23 55.0**	**+0.3**
KOSI				*e*Sg	**Sg**	**02 24 01.5**	**+0.4**
PANI	**Panarotta**	**0.50**	**250**	*e*Pg	**Pg**	**02 23 55.0**	**0.0**
PANI				*e*Sg	**Sg**	**02 24 02.0**	**+0.4**
PANI	**Panarotta**	**0.50**	**250**	*e*Pg	**Pg**	**02 23 55.0**	**0.0**
PANI				*e*Sg	**Sg**	**02 24 02.0**	**+0.4**
BOSI	**Bolzano**	**0.54**	**301**	Pg	**Pg**	**02 23 56.0**	**+0.3**
BOSI				Sg	**Sg**	**02 24 03.7**	**+1.0**
	784nm,0.6s						
BOSI	**Bolzano**	**0.54**	**301**	Pg	**Pg**	**02 23 56.0**	**+0.3**
BOSI				Sg	**Sg**	**02 24 03.7**	**+1.0**
	784nm,0.6s						
CSMI	**Casera Mimoias**	**0.55**	**58**	*e*Pg	**Pg**	**02 23 55.6**	**-0.3**
CSMI				*e*Sg	**Sg**	**02 24 03.4**	**+0.4**
CSMI	**Casera Mimoias**	**0.55**	**58**	*e*Pg	**Pg**	**02 23 55.6**	**-0.3**
CSMI				*e*Sg	**Sg**	**02 24 03.4**	**+0.4**
APPI	**Appiano**	**0.58**	**296**	Pg	**Pg**	**02 23 56.9**	**+0.3**
APPI				Sg	**Sg**	**02 24 04.7**	**+0.5**
	204nm,0.3s						
APPI	**Appiano**	**0.58**	**296**	Pg	**Pg**	**02 23 56.9**	**+0.3**
APPI				Sg	**Sg**	**02 24 04.7**	**+0.5**
	204nm,0.3s						
ABTA	**Abfaltersbach**	**0

	comp=Z,25nm,0.2s							
FETA	**Feichten**	**1.18**	**313**		Pg	**Pb**	**02 24 07.3**	**-0.8**
	SNR=58							
FETA					Sg	**Sb**	**02 24 23.2**	**-0.5**
	comp=Z,25nm,0.2s							
ADRI	**Adria, Italy**	**1.18**	**179**		*e*Pg	**Pb**	**02 24 08.6**	**+0.6**
ADRI	**Adria, Italy**	**1.18**	**179**		*e*Pg	**Pb**	**02 24 08.6**	**+0.6**
MYKA	**Terra Mystica**	**1.22**	**70**	⇑	*i*Pn	**Pb**	**02 24 08.1**	**-0.6**
MYKA				⇑	*e*Pg	**Pb**	**02 24 08.9**	**+0.3**
	SNR=18							
MYKA				⇓	*i*Sg	**Sg**	**02 24 25.5**	**+1.1**
	comp=Z,66nm,0.3s							
MYKA	**Terra Mystica**	**1.22**	**70**		Pn	**Pb**	**02 24 08.1**	**-0.6**
MYKA	**Terra Mystica**	**1.22**	**70**		Pg	**Pb**	**02 24 08.9**	**+0.3**
	SNR=18							
MYKA					Sg	**Sg**	**02 24 25.5**	**+1.1**
	comp=Z,66nm,0.3s							
FUORN	**Ofenpass-Fuorn**	**1.26**	**289**	⇓	*i*P	**Pn**	**02 24 09.0**	**-0.5**
	comp=Z,268nm,0.3s							
FUORN	**Ofenpass-Fuorn**	**1.26**	**289**		Pg	**Pn**	**02 24 09.0**	**-0.5**
FUORN					Sg	**Sb**	**02 24 25.1**	**-0.9**
FUORN	**Ofenpass-Fuorn**	**1.26**	**289**	⇓	*i*P	**Pn**	**02 24 09.0**	**-0.5**
	comp=Z,268nm,0.3s							
FUORN					Sg	**Sb**	**02 24 25.1**	**-0.9**
KBA	**Koelnbreinsper**	**1.27**	**47**	⇑	*i*Pn	**Pn**	**02 24 08.7**	**-0.9**
KBA				⇑	*e*Pg	**Pb**	**02 24 09.4**	**-0.2**
	SNR=15							
KBA				⇑	*i*Sg	**Sg**	**02 24 27.2**	**+1.1**
	comp=Z,41nm,0.4s							
KBA	**Koelnbreinsper**	**1.27**	**47**		Pn	**Pn**	**02 24 08.7**	**-0.9**
MOTA	**Moosalm**	**1.28**	**332**		*e*Pg	**Pn**	**02 24 09.3**	**-0.4**
	SNR=29							
MOTA				⇑	*i*Sg	**Sn**	**02 24 27.9**	**+0.7**
	comp=Z,18nm,0.2s							
MOTA	**Moosalm**	**1.28**	**332**		Pg	**Pn**	**02 24 09.3**	**-0.4**
	SNR=29							
MOTA					Sg	**Sn**	**02 24 27.9**	**+0.7**
	comp=Z,18nm,0.2s							
VOJS	**Vojsko**	**1.33**	**98**	⇑	*i*Pg	**Pn**	**02 24 10.4**	**0.0**
VOJS					*i* Sg	**Sg**	**02 24 29.0**	**+0.9**
	comp=Z,59nm,0.2s							
VOJS	**Vojsko**	**1.33**	**98**	⇑	*i*Pg	**Pn**	**02 24 10.4**	**0.0**
VOJS					*i* Sg	**Sg**	**02 24 29.0**	**+0.9**
	comp=Z,59nm,0.2s							
TRI	**Trieste**	**1.34**	**112**		*e*Pg	**Pn**	**02 24 10.0**	**-0.4**
TRI					*e*Sg	**Sb**	**02 24 28.4**	**+0.3**
TRI	**Trieste**	**1.34**	**112**		Pg	**Pn**	**02 24 10.1**	**-0.3**
TRI					Sg	**Sn**	**02 24 28.9**	**+0.4**
	comp=Z,118nm,0.3s							
TRI	**Trieste**	**1.34**	**112**		Pg	**Pn**	**02 24 10.1**	**-0.3**
TRI					Sg	**Sn**	**02 24 28.9**	**+0.4**
	comp=Z,118nm,0.3s							
BERNI	**Berninapass**	**1.38**	**279**	⇓	*i*P	**Pn**	**02 24 11.1**	**0.0**
	comp=Z,98nm,0.3s							
BERNI	**Berninapass**	**1.38**	**279**		Pg	**Pn**	**02 24 11.1**	**0.0**
BERNI	**Berninapass**	**1.38**	**279**	⇓	*i*P	**Pn**	**02 24 11.1**	**0.0**
	comp=Z,98nm,0.3s							
GORS	**Gorjuse**	**1.40**	**85**	⇑	*i*Pn	**Pn**	**02 24 11.2**	**-0.1**
GORS					*i* Sg	**Sg**	**02 24 31.2**	**+1.0**
	comp=Z,20nm,0.3s							
GORS	**Gorjuse**	**1.40**	**85**	⇑	*i*Pn	**Pn**	**02 24 11.2**	**-0.1**
GORS					*i* Sg	**Sg**	**02 24 31.2**	**+1.0**
	comp=Z,20nm,0.3s							
JAVS	**Javornik**	**1.48**	**102**	⇑	*i*Pn	**Pn**	**02 24 12.3**	**-0.2**
JAVS					*i* Sg	**Sg**	**02 24 33.6**	**+0.6**
	comp=Z,20nm,0.1s							
JAVS	**Javornik**	**1.48**	**102**	⇑	*i*Pn	**Pn**	**02 24 12.3**	**-0.2**
JAVS					*i* Sg	**Sg**	**02 24 33.6**	**+0.6**
	comp=Z,20nm,0.1s							
RETA	**Reutte**	**1.52**	**327**		*e*Pg	**Pn**	**02 24 13.7**	**+0.7**
	SNR=32							
RETA				⇓	*i*Sg	**Sg**	**02 24 35.1**	**+1.0**
	comp=Z,15nm,0.3s							
RETA	**Reutte**	**1.52**	**327**		Pg	**Pn**	**02 24 13.7**	**+0.7**
	SNR=32							
RETA					Sg	**Sg**	**02 24 35.1**	**+1.0**
	comp=Z,15nm,0.3s							
DAVOX	**Davos/Dischmat**	**1.56**	**292**		*e*P	**Pn**	**02 24 14.4**	**+0.8**
	comp=Z,201nm,0.4s							
DAVOX	**Davos/Dischmat**	**1.56**	**292**		Pg	**Pn**	**02 24 14.2**	**+0.6**
DAVOX					Sg	**Sn**	**02 24 34.8**	**+0.6**
DAVOX	**Davos/Dischmat**	**1.56**	**292**		*e*P	**Pn**	**02 24 14.4**	**+0.8**
	comp=Z,201nm,0.4s							
DAVOX					Sg	**Sn**	**02 24 34.8**	**+0.6**
SKDS	**Skadanscina**	**1.57**	**115**	⇑	*i*Pn	**Pn**	**02 24 13.3**	**-0.3**
SKDS					*i* Sg	**Sn**	**02 24 34.6**	**+0.4**
	comp=Z,100nm,0.2s							
SKDS	**Skadanscina**	**1.57**	**115**	⇑	*i*Pn	**Pn**	**02 24 13.3**	**-0.3**
SKDS					*i* Sg	**Sn**	**02 24 34.6**	**+0.4**
	comp=Z,100nm,0.2s							
CEY	**Cerknica**	**1.77**	**105**		*i* Pn	**Pn**	**02 24 16.1**	**-0.2**
CEY					*i* Sn	**Sb**	**02 24 40.8**	**+0.3**
	comp=Z,27nm,0.2s							
CEY	**Cerknica**	**1.77**	**105**		*i* Pn	**Pn**	**02 24 16.1**	**-0.2**
CEY					*i* Sn	**Sb**	**02 24 40.8**	**+0.3**
	comp=Z,27nm,0.2s							
OBKA	**Obir**	**1.80**	**80**	⇑	*e*Pn	**Pn**	**02 24 16.0**	**-0.8**
	SNR=9.6							
OBKA				⇑	*i*Pg	**Pb**	**02 24 19.4**	**+0.8**
OBKA				⇑	*i*Sn	**Sn**	**02 24 39.2**	**-0.7**
OBKA				⇑	*i*Sg	**Sg**	**02 24 44.0**	**+1.0**
	comp=Z,30nm,0.3s							
OBKA	**Obir**	**1.80**	**80**		Pn	**Pn**	**02 24 16.0**	**-0.8**
	SNR=9.6							
OBKA	**Obir**	**1.80**	**80**		Pg	**Pb**	**02 24 19.4**	**+0.8**
OBKA					Sn	**Sn**	**02 24 39.2**	**-0.7**
OBKA					Sg	**Sg**	**02 24 44.0**	**+1.0**
	comp=Z,30nm,0.3s							
DAVA	**Damuels**	**1.80**	**307**	⇓	*i*Pn	**Pn**	**02 24 16.1**	**-0.8**
DAVA				⇓	*i*Pg	**Pb**	**02 24 20.0**	**+1.4**
DAVA				⇑	*i*Sn	**Sn**	**02 24 38.8**	**-1.2**
DAVA				⇑	*i*Sg	**Sg**	**02 24 44.5**	**+1.4**
	comp=Z,48nm,0.3s							
DAVA	**Damuels**	**1.80**	**307**		Pn	**Pn**	**02 24 16.1**	**-0.8**
VALM	**Valbona**	**2.24**	**214**		P	**Pn**	**02 24 22.8**	**0.0**
VALM					S	**Sn**	**02 24 47.8**	**-2.9**
MOA	**Molln**	**2.25**	**43**	⇑	*e*Pn	**Pn**	**02 24 22.2**	**-0.8**
	SNR=9.8							
MOA	**Molln**	**2.25**	**43**		Pn	**Pn**	**02 24 22.2**	**-0.8**
	SNR=9.8							
POPM	**Popiglio**	**2.34**	**202**		P	**Pn**	**02 24 24.3**	**+0.1**
BACM	**Baccana**	**2.37**	**216**		P	**Pn**	**02 24 24.7**	**+0.1**
BACM					S	**Sn**	**02 24 50.8**	**-3.0**
SC2M	**Scurtabo**	**2.51**	**224**		P	**Pn**	**02 24 27.0**	**+0.5**
SC2M					S	**Sn**	**02 24 54.2**	**-3.2**
MAIM	**Mastiano**	**2.54**	**205**		P	**Pn**	**02 24 27.1**	**+0.2**
NVLJ	**Novalja**	**2.62**	**128**		*e*Pn	**Pn**	**02 24 28.2**	**+0.2**
NVLJ					Sn	**Sn**	**02 24 59.9**	**-0.2**
KHC	**Kasperske Hory**	**3.10**	**20**		*e*PN	**Pn**	**02 24 35.5**	**+0.8**
KHC					*e*PG	**Pb**	**02 24 42.5**	**+1.7**
KHC					*e*SN	**Sn**	**02 25 12.6**	**+0.6**
KHC					*e*SG	**Sb**	**02 25 22.7**	**+3.8**
	comp=Z,10nm,0.5s							
KHC	**Kasperske Hory**	**3.10**	**20**		Pn	**Pn**	**02 24 35.5**	**+0.8**
KHC					Sn	**Sn**	**02 25 12.6**	**+0.6**
KHC					Sg	**Sb**	**02 25 22.7**	**+3.8**
	comp=Z,10nm,0.5s							
UDBI	**Udbina**	**3.15**	**121**		*e*Pn	**Pn**	**02 24 34.8**	**-0.6**
UDBI					Sn	**Sn**	**02 25 12.3**	**-1.0**
UDBI	**Udbina**	**3.15**	**121**		*e*Pn	**Pn**	**02 24 34.8**	**-0.6**
UDBI					Sn	**Sn**	**02 25 12.3**	**-1.0**
FELD	**Feldberg im Sc**	**3.19**	**303**		P	**Pn**	**02 24 37.5**	**+1.6**
FELD					S	**Sn**	**02 25 15.7**	**+1.5**
BBS	**Basel-Blauen**	**3.31**	**294**		P	**Pn**	**02 24 38.8**	**+1.2**
MOF	**Molkenrain**	**3.70**	**298**		P	**Pn**	**02 24 44.2**	**+1.3**
MOF	**Molkenrain**	**3.70**	**298**		P	**Pn**	**02 24 44.2**	**+1.3**
LPG	**La Plagne**	**3.73**	**261**		*e*Pn	**Pn**	**02 24 44.8**	**+1.3**
	SNR=1.0							
LPG					*e*Sn	**Sn**	**02 25 26.2**	**-1.6**
	comp=Z,6.0nm,0.5s							
LPG	**La Plagne**	**3.73**	**261**		*e*Pn	**Pn**	**02 24 44.8**	**+1.3**
	SNR=1.0							
LPG					*e*Sn	**Sn**	**02 25 26.2**	**-1.6**
	comp=Z,3.0nm,0.5s							
LPL	**La Plagne**	**3.74**	**261**		*e*Pn	**Pn**	**02 24 44.0**	**+0.4**
LPL					*e*Sn	**Sn**	**02 25 26.4**	**-1.5**
	comp=Z,3.1nm,0.4s							
LPL	**La Plagne**	**3.74**	**261**		*e*Pn	**Pn**	**02 24 44.0**	**+0.4**
LPL					*e*Sn	**Sn**	**02 25 26.4**	**-1.5**
	comp=Z,1.5nm,0.4s							
ECH	**Echery**	**3.85**	**303**		P	**Pn**	**02 24 46.2**	**+1.3**
ECH					S	**Sn**	**02 25 32.3**	**+1.9**
ECH	**Echery**	**3.85**	**303**		P	**Pn**	**02 24 46.2**	**+1.3**
ECH					S	**Sn**	**02 25 32.3**	**+1.9**
SAOF	**Saorge**	**3.85**	**236**		P	**Pn**	**02 24 45.1**	**+0.1**
SAOF	**Saorge**	**3.85**	**236**		P	**Pn**	**02 24 45.1**	**+0.1**
HINF	**Hinteralfeld**	**3.86**	**296**		*e*Pn	**Pn**	**02 24 46.1**	**+1.0**
	SNR=1.0							
HINF					*e*Sn	**Sn**	**02 25 27.9**	**-2.7**
	comp=Z,4.1nm,0.2s,SNR=1.0							
HINF	**Hinteralfeld**	**3.86**	**296**		*e*Pn	**Pn**	**02 24 46.1**	**+1.0**
	SNR=1.0							
HINF					*e*Sn	**Sn**	**02 25 27.9**	**-2.7**
	comp=Z,2.0nm,0.2s,SNR=1.0							
CDF	**Champ du Feu**	**3.88**	**306**		*e*Pn	**Pn**	**02 24 46.9**	**+1.5**
	SNR=1.0							
CDF					*e*Sn	**Sn**	**02 25 28.2**	**-3.1**
	comp=Z,7.2nm,0.6s,SNR=1.0							
CDF	**Champ du Feu**	**3.88**	**306**		*e*Pn	**Pn**	**02 24 46.9**	**+1.5**
	SNR=1.0							
CDF					*e*Sn	**Sn**	**02 25 28.2**	**-3.1**
	comp=Z,3.6nm,0.6s,SNR=1.0							
MBDF	**Montbardon**	**3.96**	**250**		*e*Pn	**Pn**	**02 24 47.0**	**+0.4**
	SNR=1.0							
MBDF					*e*Sn	**Sn**	**02 25 31.7**	**-1.7**
	comp=Z,2.6nm,0.5s							
MBDF	**Montbardon**	**3.96**	**250**		*e*Pn	**Pn**	**02 24 47.0**	**+0.4**
	SNR=1.0							
MBDF					*e*Sn	**Sn**	**02 25 31.7**	**-1.7**
	comp=Z,1.3nm,0.5s							
SBF	**Sospel**	**4.00**	**235**		*e*Pn	**Pn**	**02 24 47.9**	**+0.9**
	SNR=1.0							
SBF					*e*Sn	**Sn**	**02 25 32.7**	**-1.4**
	comp=Z,6.3nm,0.3s							
SBF	**Sospel**	**4.00**	**235**		*e*Pn	**Pn**	**02 24 47.9**	**+0.9**
	SNR=1.0							
TOD	**Tromm**	**4.01**	**329**		P	**Pn**	**02 24 48.8**	**+1.7**
TOUF	**Mont Tournerai**	**4.01**	**238**		P	**Pn**	**02 24 47.7**	**+0.3**
TOUF	**Mont Tournerai**	**4.01**	**238**		P	**Pn**	**02 24 47.7**	**+0.3**
NKC	**Novy Kostel**	**4.03**	**4**		*e*PN	**Pn**	**02 24 47.4**	**0.0**
NKC					*e*SN	**Sn**	**02 25 35.4**	**+0.6**
NKC	**Novy Kostel**	**4.03**	**4**		Pn	**Pn**	**02 24 47.4**	**0.0**
NKC					Sn	**Sn**	**02 25 35.4**	**+0.6**
CABF	**La Chapelle**	**4.10**	**278**		*e*Pn	**Pn**	**02 24 50.4**	**+2.0**
	SNR=1.0							
CABF	**La Chapelle**	**4.10**	**278**		*e*Pn	**Pn**	**02 24 50.4**	**+2.0**
	SNR=1.0							
REVF	**Revere**	**4.11**	**235**		P	**Pn**	**02 24 49.0**	**+0.5**
REVF	**Revere**	**4.11**	**235**		P	**Pn**	**02 24 49.0**	**+0.5**
PRU	**Pruhonice**	**4.14**	**23**		*e*PN	**Pn**	**02 24 48.8**	**-0.1**
PRU					*e*SN	**Sn**	**02 25 37.5**	**0.0**
PRU					*e*SG	**Sg**	**02 25 56.5**	**-1.7**
	comp=Z,5.2nm,0.5s							
PRU	**Pruhonice**	**4.14**	**23**		Pn	**Pn**	**02 24 48.8**	**-0.1**
PRU					Sn	**Sn**	**02 25 37.5**	**0.0**
PRU					Sg	**Sg**	**02 25 56.5**	**-1.7**
	comp=Z,5.2nm,0.5s							
HAU	**Haudompre**	**4.24**	**297**		*e*Pn	**Pn**	**02 24 51.3**	**+0.9**
	SNR=1.0							
HAU					*e*Sn	**Sn**	**02 25 37.0**	**-3.1**
	comp=Z,7.8nm,0.4s,SNR=1.0							
HAU	**Haudompre**	**4.24**	**297**		*e*Pn	**Pn**	**02 24 51.3**	**+0.9**
	SNR=1.0							
HAU					*e*Sn	**Sn**	**02 25 37.0**	**-3.1**
	comp=Z,3.9nm,0.4s,SNR=1.0							
ORIF	**Oris-en-Rattie**	**4.48**	**255**		*e*Pn	**Pn**	**02 24 55.1**	**+1.4**
	SNR=1.0							
ORIF					*e*Sn	**Sn**	**02 25 43.9**	**-2.2**
	comp=Z,5.5nm,0.5s,SNR=1.0							
ORIF	**Oris-en-Rattie**	**4.48**	**255**		*e*Pn	**Pn**	**02 24 55.1**	**+1.4**
	SNR=1.0							
ORIF					*e*Sn	**Sn**	**02 25 43.9**	**-2.2**
	comp=Z,2.8nm,0.5s,SNR=1.0							
THEF	**They Montfort**	**4.55**	**298**		P	**Pn**	**02 24 55.7**	**+1.1**
THEF					S	**Sn**	**02 25 50.2**	**+2.4**
THEF	**They Montfort**	**4.55**	**298**		P	**Pn**	**02 24 55.7**	**+1.1**
THEF					S	**Sn**	**02 25 50.2**	**+2.4**
FRF	**La Foret Royal**	**4.63**	**237**		*e*Pn	**Pn**	**02 24 56.4**	**+0.7**
	SNR=1.0							
FRF					*e*Sn	**Sn**	**02 25 47.8**	**-1.9**
	comp=Z,1.6nm,0.3s							
FRF	**La Foret Royal**	**4.63**	**237**		*e*Pn	**Pn**	**02 24 56.4**	**+0.7**
	SNR=1.0							
FRF					*e*Sn	**Sn**	**02 25 47.8**	**-1.9**
	comp=Z,0.8nm,0.3s							
PVCC	**Panska Ves**	**4.64**	**21**		*e*SN	**Sn**	**02 25 49.2**	**-0.7**
PVCC	**Panska Ves**	**4.64**	**21**		Sn	**Sn**	**02 25 49.2**	**-0.7**
RUP	**Ruppelstein**	**4.80**	**318**		P	**Pn**	**02 24 59.0**	**+0.9**
BRG	**Berggiesshubel**	**4.83**	**15**		PG	**Pg**	**02 25 15.7**	**-2.1**
BRG					SN	**Sn**	**02 25 54.6**	**0.0**
BRG					SG	**Sg**	**02 26 17.1**	**-3.3**
	comp=Z,3.6nm,0.7s							
PAGF	**Fort de Pagny**	**4.85**	**301**		*e*Pn	**Pn**	**02 25 00.9**	**+2.2**
	baz=120							
PAGF	**Fort de Pagny**	**4.85**	**301**		*e*Pn	**Pn**	**02 25 00.9**	**+2.2**
LMR	**La Mourre**	**4.85**	**235**		*e*Pn	**Pn**	**02 24 58.9**	**+0.2**
	SNR=1.0							
LMR					*e*Sn	**Sn**	**02 25 53.0**	**-2.1**
	comp=Z,2.4nm,0.5s							
LMR	**La Mourre**	**4.85**	**235**		*e*Pn	**Pn**	**02 24 58.9**	**+0.2**
	SNR=1.0							
LMR					*e*Sn	**Sn**	**02 25 53.0**	**-2.1**
	comp=Z,1.2nm,0.5s							
DPC	**Dobruska-Polom**	**5.04**	**33**		*e*SG	**Sg**	**02 26 23.0**	**-4.2**
	comp=Z,17nm,0.6s							
DPC	**Dobruska-Polom**	**5.04**	**33**		Sg	**Sg**	**02 26 23.0**	**-4.2**
	comp=Z,17nm,0.6s							
SMRF	**Simiane la Rot**	**5.06**	**246**		*e*Pn	**Pn**	**02 25 03.9**	**+2.3**
	SNR=1.0							
SMRF					*e*Sn	**Sn**	**02 25 58.1**	**-2.3**
	comp=Z,1.3nm,0.4s,SNR=1.0							
SMRF	**Simiane la Rot**	**5.06**	**246**		*e*Pn	**Pn**	**02 25 03.9**	**+2.3**
	SNR=1.0							
SMRF					*e*Sn	**Sn**	**02 25 58.1**	**-2.3**
	comp=Z,0.6nm,0.4s,SNR=1.0							
SFTF	**Sexfontaines**	**5.13**	**295**		*e*Sn	**Sn**	**02 25 58.2**	**-3.8**
	comp=Z,3.5nm,0.4s							
SFTF	**Sexfontaines**	**5.13**	**295**		*e*Sn	**Sn**	**02 25 58.2**	**-3.8**
	comp=Z,1.8nm,0.4s							
CLL	**Collm**	**5.13**	**7**		*e*Pn	**Pn**	**02 25 05.0**	**+2.5**
CLL					*e*Pg	**Pg**	**02 25 24.0**	**+0.4**
CLL					*e*Sn	**Sn**	**02 26 00.0**	**-2.0**
CLL					*i* Sg	**Sg**	**02 26 31.8**	**+1.7**
	comp=Z,14nm,1.3s							
LEPF	**PUYLOUBIER**	**5.22**	**241**		P	**Pn**	**02 25 03.6**	**-0.1**
LEPF	**PUYLOUBIER**	**5.22**	**241**		P	**Pn**	**02 25 03.6**	**-0.1**
STON	**Ston**	**5.28**	**127**		*e*Pn	**Pn**	**02 25 04.4**	**-0.1**
STON					Sn	**Sn**	**02 26 03.8**	**-1.9**
STON	**Ston**	**5.28**	**127**		*e*Pn	**Pn**	**02 25 04.4**	**-0.1**
STON					Sn	**Sn**	**02 26 03.7**	**-1.9**
VIVF	**Saint-Julien-l**	**5.32**	**258**		*e*Pn	**Pn**	**02 25 06.1**	**+1.0**
	SNR=1.0							
VIVF					*e*Sn	**Sn**	**02 26 03.9**	**-2.7**
	comp=Z,1.3nm,0.3s							
VIVF	**Saint-Julien-l**	**5.32**	**258**		*e*Pn	**Pn**	**02 25 06.1**	**+1.0**
	SNR=1.0							
SMF	**Signal de Mont**	**5.65**	**277**		*e*Pn	**Pn**	**02 25 10.1**	**+0.5**
	SNR=1.0							
SMF					*e*Sn	**Sn**	**02 26 11.2**	**-3.5**
	comp=Z,1.4nm,0.3s							
SMF	**Signal de Mont**	**5.65**	**277**		*e*Pn	**Pn**	**02 25 10.1**	**+0.5**
	SNR=1.0							
LOR	**Lormes**	**5.68**	**284**		*e*Pn	**Pn**	**02 25 11.4**	**+1.3**
	baz=109,SNR=1.0							
LOR					*e*Sn	**Sn**	**02 26 12.0**	**-3.6**
	comp=Z,1.9nm,0.3s							
LOR	**Lormes**	**5.68**	**284**		*e*Pn	**Pn**	**02 25 11.4**	**+1.3**
	SNR=1.0							
PLDF	**La Plantade**	**5.82**	**271**		P	**Pn**	**02 25 12.2**	**+0.1**
PLDF	**La Plantade**	**5.82**	**271**		P	**Pn**	**02 25 12.2**	**+0.1**
AVF	**Avril sur Loir**	**5.99**	**279**		*e*Pn	**Pn**	**02 25 15.0**	**+0.7**
	SNR=1.0							
AVF	**Avril sur Loir**	**5.99**	**279**		*e*Pn	**Pn**	**02 25 15.0**	**+0.7**
	SNR=1.0							
LASF	**Ste Croix**	**6.14**	**252**		*e*Pn	**Pn**	**02 25 17.1**	**+0.7**
	SNR=1.0							
LASF					*e*Sn	**Sn**	**02 26 23.6**	**-3.2**
	comp=Z,1.9nm,0.5s							
LASF	**Ste Croix**	**6.14**	**252**		*e*Pn	**Pn**	**02 25 17.1**	**+0.7**
	SNR=1.0							
BGF	**Bois d'Agland**	**6.33**	**276**		*e*Pn	**Pn**	**02 25 20.4**	**+1.4**
	SNR=1.0							
BGF					*e*Sn	**Sn**	**02 26 27.5**	**-4.1**
	comp=Z,3.5nm,0.4s,SNR=1.0							
BGF	**Bois d'Agland**	**6.33**	**276**		*e*Pn	**Pn**	**02 25 20.4**	**+1.4**
	SNR=1.0							
HYF	**Humbligny**	**6.51**	**283**		*e*Pn	**Pn**	**02 25 22.9**	**+1.5**
HYF	**Humbligny**	**6.51**	**283**		*e*Pn	**Pn**	**02 25 22.9**	**+1.5**

PGC 22 02:25:48.6±11.0,**50°95N**×**131°00W,h10**km,**MLSn2.5/5,**

Mw3.1/5,240km Wsw of Bella Bella, Bc Vancouver Island, Canada Region,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.85**	**99**	Pn	Pn	02 26 18.4	-2.0
HOLB	**Holberg**	**1.85**	**99**	P	Pn	02 26 18.4	-2.0
BBB	**Bella Bella**	**2.19**	**54**	Pn	Pn	02 26 23.1	-1.8
BBB				Sn	Sn	02 26 48.2	-3.8
BBB	**Bella Bella**	**2.19**	**54**	Pn	Pg	02 26 30.2	-0.3
BBB				Sn	Sn	02 26 48.4	-3.6
BPBC	**Brooks Peninsu**	**2.21**	**110**	Pn	Pn	02 26 23.3	-2.0
BPBC	**Brooks Peninsu**	**2.21**	**110**	P	Pn	02 26 23.9	-1.5
PHC	**Port Hardy**	**2.27**	**95**	Pn	Pn	02 26 23.8	-2.4
PHC	**Port Hardy**	**2.27**	**95**	P	Pn	02 26 23.8	-2.4
MAYB	**Maynard**	**2.50**	**101**	Pn	Pn	02 26 27.7	-1.7
MAYB	**Maynard**	**2.50**	**101**	Pn	Pn	02 26 27.3	-2.2
WOSB	**Woss**	**2.93**	**104**	Pn	Pn	02 26 34.0	-1.4
WOSB	**Woss**	**2.93**	**104**	Pn	Pn	02 26 33.2	-2.2

ISK ***22*** *02:30:32.7,39°.31N×41°.13E,h5km,ML4.1*
IDC ***22*** *02:30:33.9±0.7,39°.41N×41°.14E,h0km,mb3.8/12, mb1 3.8/19,mb1mx3.7/35,mbtmp3.7/19,ML3.2/5,MS3.2/21, Ms1 3.2/21,ms1mx3.1/42,Error ellipse: s-maj=13.5km s-min=8.7km az=159.0*
ISCJB ***22*** *02:30:33.6±0.5,39°.30N±0°.02×41°.16E±0°.02,h2km×3km, mb3.9/31,MS3.2/17,Error ellipse: s-maj=2.7km s-min=2.4km az=42.7*
DDA ***22*** *02:30:33.6,39°.34N×41°.11E,h14km,MD4.2*
NEIC ***22*** *02:30:33.6,39°.32N×41°.21E,h4km,mb4.1/12,ML4.1(ISK), After ISK.*
TEH ***22*** *02:30:34.6,39°.33N×41°.25E,h1km,ML4.2*
CSEM ***22*** *02:30:34.2±0.1,39°.31N×41°.15E,h2km,mb4.2/10,Error ellipse: s-maj=3.7km s-min=3.1km az=169.0*
MOS ***22*** *02:30:34.4±1.6,39°.24N×41°.16E,h15km,mb4.2/21,Error ellipse: s-maj=6.6km s-min=4.5km az=110.3*

ISC 22 02:30:34.9±0.9,**39°34N**±0°.02×**41°15E**±0°.02,**h5**km,6km, **n330,**σ**1&37/331,mb4.0/31,MS3.1/17,17C-4D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRTB	**Varto-Mus**	**0.30**	**126**	*e*PG	**Pg**	**02 30 39.9**	**-0.8**
VRTB				*e*SG	**Sg**	**02 30 45.2**	**+0.5**
VRTB	**Varto-Mus**	**0.30**	**126**	*e*Pg	**Pg**	**02 30 39.9**	**-0.8**
VRTB				*e*Sg	**Sg**	**02 30 45.2**	**+0.5**
BNGL	**BINGOL**	**0.38**	**179**	*i* P	**Pg**	**02 30 41.2**	**-1.2**
BNGB	**Bing¶ll**	**0.50**	**227**	*e*PG	**Pg**	**02 30 42.8**	**-1.7**
BNGB				*e*SG	**Sg**	**02 30 50.4**	**-0.6**
EZM	**Erzurum**	**0.59**	**16**	*e*PG	**Pg**	**02 30 45.4**	**-0.9**
EZM	**Erzurum**	**0.59**	**16**	Pg	**Pg**	**02 30 45.5**	**-0.8**
ERZM	**Erzurum**	**0.59**	**17**	*i* P	**Pg**	**02 30 45.2**	**-1.2**
ERZM	**Erzurum**	**0.59**	**17**	*i* P	**Pg**	**02 30 45.2**	**-1.2**
EKAR	**Karacoban**	**0.72**	**96**	*i* P	**Pg**	**02 30 47.9**	**-0.8**
EKAR	**Karacoban**	**0.72**	**96**	*i* P	**Pg**	**02 30 47.9**	**-0.8**
EKAR				*i* S	**Sn**	**02 31 03.1**	**-0.3**
KOPT	**Kop Dagi**	**0.85**	**324**	*i* P	**Pg**	**02 30 50.1**	**-1.0**
KOPT				*i* S	**Sg**	**02 31 03.6**	**+1.4**
KOPT	**Kop Dagi**	**0.85**	**324**	*i* P	**Pg**	**02 30 50.1**	**-1.0**
KOPT				*i* S	**Sg**	**02 31

URFA	**Urfa**	**2.63**	**225**	Pn		**Pn**	**02 31 18.8**	**+0.8**
HAKT	**HAKKARI**	**2.68**	**131**	*i* P		**Pn**	**02 31 19.5**	**+0.6**
HAKT	**HAKKARI**	**2.68**	**131**	*i* P		**Pn**	**02 31 19.5**	**+0.6**
HAKT				*i* S		**Sg**	**02 32 01.2**	**+0.1**
GRSN	**GIRESUNGRSN**	**2.72**	**307**	*i* P		**Pb**	**02 31 23.1**	**-0.9**
GRSN	**GIRESUNGRSN**	**2.72**	**307**	*i* P		**Pb**	**02 31 23.1**	**-0.9**
AKCD	**Akcadag**	**2.72**	**249**	*i* P		**Pn**	**02 31 19.4**	**0.0**
AKCD	**Akcadag**	**2.72**	**249**	*i* P		**Pn**	**02 31 19.4**	**0.0**
AKH	**Akhalkalaki**	**2.74**	**40**	P		**Pn**	**02 31 21.9**	**+2.2**
AKH	**Akhalkalaki**	**2.74**	**40**	P		**Pn**	**02 31 21.9**	**+2.2**
GNI	**Garni**	**2.89**	**73**	Pn		**Pn**	**02 31 21.9**	**+0.2**
	comp=E,7.5nm,0.3s,baz=308,slow=4.0,SNR=34							
GNI				LR		LR	02 32 45.4	
	comp=E,645nm,19.7s,baz=295,slow=46							
GNI	**Garni**	**2.89**	**73**	P		**Pn**	**02 31 21.9**	**+0.2**
GNI				pmax	pmax			
	comp=Z,8.0nm,0.3s							
GNI				MLR	MLR			
	comp=Z,645nm,19.7s							
GNI	**Garni**	**2.89**	**73**	*e*Pn		**Pn**	**02 31 21.4**	**-0.3**
GNI	**Garni**	**2.89**	**73**	*e*Pn		**Pn**	**02 31 21.4**	**-0.3**
ATAB	**Bozova**	**2.91**	**231**	*i* P		**Pn**	**02 31 21.0**	**-0.9**
ATAB	**Bozova**	**2.91**	**231**	*i* P		**Pn**	**02 31 21.0**	**-0.9**
ATAB				*i* S		**Sb**	**02 32 04.1**	**+0.9**
DARE	**Darende-Malaty**	**2.96**	**256**	*e*PN		**Pn**	**02 31 22.4**	**-0.1**
DARE	**Darende-Malaty**	**2.96**	**256**	*e*Pn		**Pn**	**02 31 22.4**	**-0.1**
RSDY	**Resadiye-TOKAT**	**3.12**	**291**	*e*PN		**Pn**	**02 31 25.7**	**+0.9**
RSDY	**Resadiye-TOKAT**	**3.12**	**291**	*e*Pn		**Pn**	**02 31 25.7**	**+0.9**
RSDY	**Resadiye-TOKAT**	**3.12**	**291**	Pn		**Pn**	**02 31 26.4**	**+1.6**
SVSK	**Karacayir**	**3.25**	**282**	*e*PN		**Pn**	**02 31 26.1**	**-0.4**
SVSK	**Karacayir**	**3.25**	**282**	*e*Pn		**Pn**	**02 31 26.1**	**-0.4**
SVSK	**Karacayir**	**3.25**	**282**	Pn		**Pn**	**02 31 28.1**	**+1.5**
CHVG	**Ch'k'valeri**	**3.45**	**12**	P		**Pb**	**02 31 34.2**	**-2.4**
TBLG	**Delisi**	**3.64**	**48**	P		**Pn**	**02 31 29.9**	**-1.9**
TBLG	**Delisi**	**3.64**	**48**	P		**Pn**	**02 31 29.9**	**-1.9**
ONI	**Oni**	**3.69**	**28**	P		**Pn**	**02 31 34.7**	**+2.0**
KMRS	**Kahramanmaras**	**3.80**	**243**	*e*PN		**Pn**	**02 31 34.5**	**+0.3**
KMRS	**Kahramanmaras**	**3.80**	**243**	*e*Pn		**Pn**	**02 31 34.5**	**+0.3**
KMRS	**Kahramanmaras**	**3.80**	**243**	Pn		**Pn**	**02 31 35.5**	**+1.4**
DGRG	**David-gareji**	**3.86**	**55**	P		**Pn**	**02 31 36.2**	**+1.3**
DGRG	**David-gareji**	**3.86**	**55**	P		**Pn**	**02 31 36.2**	**+1.3**
ZEI	**Tsey**	**4.03**	**30**	*e*P		**Pn**	**02 31 39.7**	**+2.3**
ZEI				pmax	pmax			
	comp=E,66nm,1.0s							
NEY	**Neytrino**	**4.09**	**16**	*e*P		**Pn**	**02 31 39.9**	**+1.7**
NEY	**Neytrino**	**4.09**	**16**	*e*P		**Pn**	**02 31 39.9**	**+1.7**
KUZU	**Kuzuini**	**4.11**	**233**	*i* P		Pb	02 31 44.3	-3.4
KAMA	**Osmaniye**	**4.12**	**240**	*i* P		**Pb**	**02 31 50.0**	**+1.9**
IAZR	**Azarshahr**	**4.14**	**112**	*e*P		**Pb**	**02 31 49.8**	**+1.4**
KVT	**Kavak**	**4.28**	**296**	*e*PN		**Pn**	**02 31 41.2**	**+0.6**
KVT	**Kavak**	**4.28**	**296**	P		**Pn**	**02 31 43.0**	**+2.4**
KVT	**Kavak**	**4.28**	**296**	*e*Pn		**Pn**	**02 31 41.3**	**+0.6**
KVT	**Kavak**	**4.28**	**296**	P		**Pn**	**02 31 43.0**	**+2.4**
KVT	**Kavak**	**4.28**	**296**	Pn		**Pn**	**02 31 43.0**	**+2.4**
SOC	**Sochi**	**4.38**	**346**	*d* iP		**Pn**	**02 31 41.8**	**-0.2**
SOC				*e*			02 32 29.5	
SOC				pmax	pmax			
	comp=Z,57nm,0.6s							
SOC				MLR	MLR			
	comp=Z,111nm,9.0s							
SOC				MLR	MLR			
	comp=N,157nm,10.0s							
SOC				MLR	MLR			
	comp=E,85nm,9.0s							
SOC	**Sochi**	**4.38**	**346**	*i* P		**Pn**	**02 31 41.8**	**-0.2**
	comp=E,111nm,9.0s							
SOC				*e*S		**Sn**	**02 32 29.5**	**-3.9**
	comp=E,157nm,10.0s							
HAVZ	**Havza**	**4.50**	**294**	*i* P		**Pb**	**02 31 56.8**	**+2.3**
NCK	**Nalchik**	**4.55**	**23**	*e*P		**Pn**	**02 31 45.3**	**+0.9**
NCK	**Nalchik**	**4.55**	**23**	*e*P		**Pn**	**02 31 45.3**	**+0.9**
KOZT	**Kozan**	**4.57**	**248**	*e*PN		**Pn**	**02 31 45.5**	**+0.9**
KOZT	**Kozan**	**4.57**	**248**	*e*Pn		**Pn**	**02 31 45.5**	**+0.9**
KBZ	**Khabaz**	**4.58**	**16**	Pn		**Pn**	**02 31 45.0**	**+0.3**
	comp=E,0.2nm,0.3s,baz=233,slow=20,SNR=3.8							
KBZ				Lg		Lg	02 32 57.8	
	comp=E,0.1nm,0.3s,baz=52,slow=20,SNR=1.6							
KBZ				LR		LR	02 33 51.8	
	comp=E,270nm,20.1s,baz=264,slow=44							
IHRS	**Heris**	**4.72**	**101**	*e*P		**Pb**	**02 31 57.8**	**-0.4**
KIV	**Kislovodsk**	**4.76**	**14**	*e*P		**Pn**	**02 31 47.0**	**-0.3**
KIV	**Kislovodsk**	**4.76**	**14**	*e*P		**Pn**	**02 31 47.0**	**-0.3**
KIV	**Kislovodsk**	**4.76**	**14**	*e*Pn		**Pn**	**02 31 47.0**	**-0.3**
KIV				*e*Pg		**Pb**	**02 32 01.4**	**+2.5**
DIKM	**Dikmen**	**5.05**	**299**	*e*PN		**Pn**	**02 31 52.7**	**+1.5**
DIKM	**Dikmen**	**5.05**	**299**	*e*Pn		**Pn**	**02 31 52.7**	**+1.5**
CORM	**Corum**	**5.09**	**282**	*e*PN		**Pn**	**02 31 52.7**	**+0.7**
CORM	**Corum**	**5.09**	**282**	*e*Pn		**Pn**	**02 31 52.7**	**+0.7**
CORM	**Corum**	**5.09**	**282**	Pn		**Pn**	**02 31 54.0**	**+2.1**
CDAG	**Cicekdag**	**5.25**	**275**	*i* P		**Pb**	**02 32 05.5**	**-1.7**
NIG	**Nigde**	**5.25**	**259**	*e*PN		**Pn**	**02 31 55.8**	**+1.5**
NIG	**Nigde**	**5.25**	**259**	*e*Pn		**Pn**	**02 31 55.8**	**+1.5**
NIG	**Nigde**	**5.25**	**259**	Pn		Pn	02 31 57.6	+3.3
BYBT	**Boyabat**	**5.32**	**296**	*e*PN		**Pn**	**02 31 57.2**	**+2.3**
BYBT	**Boyabat**	**5.32**	**296**	Pn		**Pn**	**02 31 57.9**	**+3.1**
BYBT	**Boyabat**	**5.32**	**296**	Pn		**Pn**	**02 31 57.9**	**+3.1**
ISRB	**Sarab**	**5.33**	**104**	*e*P		**Pn**	**02 31 56.5**	**+1.2**
ISRB	**Sarab**	**5.33**	**104**	*e*P		**Pn**	**02 31 56.5**	**+1.2**
TOS	**Tosya**	**5.71**	**290**	*e*PN		**Pn**	**02 32 03.1**	**+2.7**
TOS	**Tosya**	**5.71**	**290**	Pn		**Pn**	**02 32 03.1**	**+2.7**
KAMT	**Kaman**	**5.76**	**273**	*e*PN		**Pn**	**02 32 02.6**	**+1.5**
KAMT	**Kaman**	**5.76**	**273**	*e*Pn		**Pn**	**02 32 02.6**	**+1.5**
KAMT	**Kaman**	**5.76**	**273**	Pn		**Pn**	**02 32 03.8**	**+2.7**
BR131	**Keskin Array S**	**5.82**	**276**	*e*Pn		**Pn**	**02 32 02.2**	**+0.3**
	comp=E,6.7nm,0.6s							
BR131	**Keskin Array S**	**5.82**	**276**	*e*Pn		**Pn**	**02 32 02.1**	**+0.3**
	comp=E,6.7nm,0.6s							
BR131				*e*Pg		**Pg**	**02 32 23.4**	**-2.9**
BR131				*e*Sg		Sb	02 33 34.3	+7.4
BRTR	**Keskin Array B**	**5.82**	**276**	Pn		**Pn**	**02 32 02.6**	**+0.7**
	comp=E,0.3nm,0.3s,baz=106,slow=14,SNR=17							
BRTR				Lg		Lg	02 33 39.8	
	baz=99,slow=25,SNR=1.8							
GOF	**Gofitskoye**	**5.89**	**13**	*e*P		Pb	02 32 12.3	-5.7
GOF				pmax	pmax			
	comp=Z,20nm,1.0s							
SULT	**Sultanhani-AKS**	**6.07**	**262**	*e*PN		**Pn**	**02 32 07.3**	**+2.0**
SULT	**Sultanhani-AKS**	**6.07**	**262**	*e*Pn		**Pn**	**02 32 07.3**	**+2.0**
SULT	**Sultanhani-AKS**	**6.07**	**262**	Pn		Pn	02 32 07.7	+2.3
ANN	**Anapa**	**6.12**	**334**	*e*P		**Pn**	**02 32 08.6**	**+2.7**
ANN				*e*S		**Sn**	**02 33 14.1**	**-2.1**
ANN				pmax	pmax			
	comp=Z,7.0nm,0.6s							
ANN				MLR	MLR			
	comp=Z,220nm,14.0s							
ANN				MLR	MLR			
	comp=N,231nm,14.0s							
AFSR	**Af'ar-Bala (A**	**6.26**	**274**	*e*PN		**Pn**	**02 32 09.7**	**+1.8**
AFSR	**Af'ar-Bala (A**	**6.26**	**274**	*e*Pn		**Pn**	**02 32 09.7**	**+1.8**
ANTO	**Ankara**	**6.47**	**277**	*e*P		**Pn**	**02 32 09.9**	**-1.0**
ANTO				pmax	pmax			
	comp=Z,27nm,0.8s							
ANTO	**Ankara**	**6.47**	**277**	*e*P		**Pn**	**02 32 09.9**	**-1.0**
	comp=Z,27nm,0.8s							
ANTO	**Ankara**	**6.47**	**277**	*e*Pn		**Pn**	**02 32 09.9**	**-1.0**
	comp=Z,27nm,0.8s							
ANTO				*e*Pg		Pg	02 32 34.3	-4.6
HWQ	**Hawqa**	**6.55**	**221**	*e*P		**Pn**	**02 32 12.7**	**+0.8**
HWQ	**Hawqa**	**6.55**	**221**	*e*P		**Pn**	**02 32 12.7**	**+0.8**
BHL	**Bhannes**	**6.99**	**221**	*e*P		**Pn**	**02 32 17.6**	**-0.4**
BHL	**Bhannes**	**6.99**	**221**	*e*P		**Pn**	**02 32 17.6**	**-0.4**
FEO	**Feodosiya**	**7.11**	**325**	*e*P		Pn	02 32 27.2	+7.8
FEO				*e*S		Sn	02 33 51.6	+11
SUDU	**Sudak**	**7.19**	**323**	*e*P		Pn	02 32 25.9	+5.3
SUDU				*e*S		Sn	02 33 49.1	+6.6
YAL	**Yalta**	**7.33**	**317**	*e*P		Pn	02 32 29.0	+6.6
YAL				*e*S		Sn	02 33 52.5	+6.6
ALU	**Alushta**	**7.33**	**319**	*e*P		Pn	02 32 28.1	+5.6
ALU				*e*S		Sn	02 33 52.8	+6.8
SEV	**Sevastopol'**	**7.62**	**315**	*e*P		Pn	02 32 33.5	+6.9
SIM	**Simferopol'**	**7.66**	**319**	*e*P		Pn	02 32 20.9	-6.2
SIM				MLR	MLR			
	comp=Z,100nm,13.0s							
MMAI	**Mount Meron Ar**	**7.83**	**218**	Pn		**Pn**	**02 32 30.8**	**+1.3**
	comp=Z,1.6nm,0.3s,baz=58,slow=14,SNR=12							
MMAI				Lg		Lg	02 34 45.9	
	comp=Z,1.1nm,0.3s,baz=35,slow=23,SNR=2.9							
ASF	**Jabal al Asfar**	**7.94**	**207**	Pn		**Pn**	**02 32 33.2**	**+2.2**
	comp=Z,0.3nm,0.3s,baz=29,slow=5.5,SNR=14							
ASF				Lg		Lg	02 34 50.1	
	comp=Z,1.0nm,0.3s,baz=342,slow=19,SNR=4.8							
ISP	**Isparta**	**8.46**	**263**	*e*P		Pb	02 32 50.3	-12

TIRR	**Tirgusor**	**10.78**	**302**	*e*P		**Pn**	**02 33 09.3**	**-0.5**
TIRR					pmax	pmax				
	comp=Z,5.0nm,0.7s									
TIRR	**Tirgusor**	**10.78**	**302**	⇑*i*P		Pn	02 33 13.0	+3.2		
TIRR	**Tirgusor**	**10.78**	**302**	*e*P		**Pn**	**02 33 09.3**	**-0.5**		
	comp=Z,5.0nm,0.7s									
TIRR	**Tirgusor**	**10.78**	**302**	*e*Pn		**Pn**	**02 33 09.3**	**-0.5**		
	comp=Z,4.9nm,0.7s									
TLCR		**10.84**	**307**	⇓P		Pn	02 33 14.3	+3.6		
TLCR		**10.84**	**307**	⇓*i*P		Pn	02 33 14.3	+3.6		
EIL	**Elat**	**10.91**	**210**	LR		LR	02 37 56.9			
	comp=Z,85nm,20.9s,baz=232,slow=40									
TLB	**Topalu**	**11.07**	**302**	⇑P		Pn	02 33 18.8	+5.0		
TLB	**Topalu**	**11.07**	**302**	⇑*i*P		Pn	02 33 18.8	+5.0		
CFR	**Carcaliu**	**11.27**	**305**	⇑P		**Pn**	**02 33 19.3**	**+2.9**		
CFR	**Carcaliu**	**11.27**	**305**	⇑*i*P		**Pn**	**02 33 19.3**	**+2.9**		
VORD	**Divnogorie**	**11.70**	**354**	*e*P		Pn	02 33 26.0	+3.6		
VORD					pmax	pmax				
	comp=N,4.0nm,0.5s									
VORD					pmax	pmax				
	comp=E,5.0nm,0.5s									
VORD					pmax	pmax				
	comp=Z,3.0nm,0.5s									
VSR	**Storozhevoye**	**11.96**	**354**	*e*P		**Pn**	**02 33 26.8**	**+0.8**		
VSR					pmax	pmax				
	comp=N,10.0nm,0.8s									
VSR					pmax	pmax				
	comp=E,5.0nm,0.8s									
VSR					pmax	pmax				
	comp=Z,7.0nm,0.8s									
VSR	**Storozhevoye**	**11.96**	**354**	*e*P		**Pn**	**02 33 26.8**	**+0.8**		
VRI	**Vrincioaia**	**12.46**	**306**	⇑P		Pn	02 33 42.4	+10		
MLR	**Muntele Rosu**	**12.80**	**304**	Pn		**Pn**	**02 33 37.4**	**-0.1**		
	baz=114,slow=20									
MLR	**Muntele Rosu**	**12.80**	**304**	⇑*i*P		Pn	02 33 42.4	+4.9		
TESR	**Tescani**	**12.81**	**309**	⇑*i*P		Pn	02 33 43.3	+5.8		
VOIR		**13.36**	**302**	⇑P		P	02 33 51.2	-3.7		
VOIR		**13.36**	**302**	⇑*i*P		P	02 33 51.2	-3.7		
ISFR	**Sfrayin**	**13.45**	**94**	*e*P		**Pn**	**02 33 46.9**	**+0.2**		
ISFR	**Sfrayin**	**13.45**	**94**	*e*P		**Pn**	**02 33 46.9**	**+0.2**		
IDI	**Anoyia**	**13.55**	**258**	LR		LR	02 40 06.4			
	comp=Z,136nm,21.2s,baz=78,slow=42									
VTS	**Vitosha**	**13.94**	**289**	⇑P		**P**	**02 34 04.2**	**+2.8**		
VTS	**Vitosha**	**13.94**	**289**	⇑*i*P		**P**	**02 34 04.2**	**+2.8**		
AKASG	**Malin Array Be**	**14.13**	**327**	Pn		**Pn**	**02 33 53.5**	**-2.1**		
	comp=Z,0.4nm,0.3s,baz=132,slow=14,SNR=18									
KIEV	**Kiev**	**14.13**	**327**	*e*P		**Pn**	**02 33 54.6**	**-0.9**		
KIEV					pmax	pmax				
	comp=Z,4.0nm,0.7s									
KIEV	**Kiev**	**14.13**	**327**	*e*Pn		**Pn**	**02 33 54.6**	**-0.9**		
	comp=Z,3.7nm,0.7s									
KIEV	**Kiev**	**14.13**	**327**	*e*Pn		**Pn**	**02 33 54.6**	**-0.9**		
	comp=Z,3.7nm,0.7s									
BURAR	**Bucovina Array**	**14.20**	**311**	⇑P		P	02 34 00.6	-3.7		
BURAR	**Bucovina Array**	**14.20**	**311**	⇑*i*P		P	02 34 00.6	-3.7		
BURAR	**Bucovina Array**	**14.20**	**311**	⇑*i*P		P	02 34 00.6	-3.7		
BUR08	**Bucovina Ar. S**	**14.23**	**311**	*e*Pn		**Pn**	**02 33 55.4**	**-1.6**		
BUR08	**Bucovina Ar. S**	**14.23**	**311**	*e*Pn		**Pn**	**02 33 55.4**	**-1.6**		
IPAY	**Payeh**	**14.39**	**96**	*e*P		**Pn**	**02 34 02.0**	**+2.6**		
OBN	**Obninsk**	**16.08**	**350**	LR		LR	02 41 05.7			
	comp=Z,129nm,21.9s,baz=93,slow=40									
OBN	**Obninsk**	**16.08**	**350**	⇑*e*P		**P**	**02 34 24.1**	**-0.8**		
OBN				*e*S		**Sn**	**02 37 20.8**	**+0.7**		
OBN					pmax	pmax				
	comp=Z,13nm,1.1s									
OBN					MLR	MLR				
	comp=Z,94nm,16.0s									
OBN	**Obninsk**	**16.08**	**350**	*e*P		**P**	**02 34 24.1**	**-0.8**		
	comp=Z,94nm,16.0s									
AKTO	**Aktyubinsk**	**16.27**	**41**	Pn		**Pn**	**02 34 22.8**	**-1.3**		
	comp=Z,0.1nm,0.3s,baz=235,slow=14,SNR=3.9									
AKTO				LR		LR	02 42 26.7			
	comp=Z,79nm,18.4s,baz=231,slow=44									
UZH	**Uzhgorod**	**16.41**	**311**	*e*P		**Pn**	**02 34 25.7**	**-0.1**		
KOLS	**Kolonicke sedl**	**16.56**	**312**	*e*P		**P**	**02 34 32.8**	**+2.4**		
KOLS	**Kolonicke sedl**	**16.56**	**312**	*e*P		**P**	**02 34 32.8**	**+2.4**		
ABKAR	**Akbulak array**	**16.68**	**47**	*e*Pn		**Pn**	**02 34 29.7**	**+0.6**		
	comp=Z,1.7nm,0.6s									
ABKAR	**Akbulak array**	**16.68**	**47**	*e*Pn		**Pn**	**02 34 29.7**	**+0.6**		
	comp=Z,1.7nm,0.6s									
VYHS	**Vyhne**	**18.44**	**307**	*e*P		**Pn**	**02 34 53.3**	**+2.1**		
VYHS	**Vyhne**	**18.44**	**307**	*e*P		**Pn**	**02 34 53.3**	**+2.1**		
VYHS	**Vyhne**	**18.44**	**307**	*e*P		**Pn**	**02 34 53.3**	**+2.1**		
VRAC	**Vranov**	**20.12**	**308**	P		**P**	**02 35 09.1**	**-0.3**		
	comp=Z,3.2nm,0.3s,baz=224,slow=6.9,SNR=3.5									
VRAC				LR		LR	02 45 37.1			
	comp=Z,39nm,18.1s,baz=162,slow=45									
VRAC	**Vranov**	**20.12**	**308**	P		**P**	**02 35 09.1**	**-0.3**		
VRAC					pmax	pmax				
	comp=Z,3.0nm,0.3s									
VRAC					MLR	MLR				
	comp=Z,39nm,18.2s									
ARU	**Arti**	**20.61**	**28**	*c* *i*P		Pn	02 35 15.6	-1.3		
ARU					S	**S**	**02 39 02.8**	**-2.5**		
ARU					pmax	pmax				
	comp=Z,5.0nm,1.7s									
ARU	**Arti**	**20.61**	**28**	*i* P		Pn	02 35 15.6	-1.3		
	comp=Z,5.0nm,1.7s									
DPC	**Dobruska-Polom**	**20.66**	**310**	*e*P		Pn	02 35 20.5	+2.8		
DPC	**Dobruska-Polom**	**20.66**	**310**	*e*P		Pn	02 35 20.5	+2.8		
AQU	**L'Aquila**	**21.17**	**287**	*e*P		**P**	**02 35 19.4**	**-1.5**		
AQU					pmax	pmax				
	comp=Z,24nm,1.1s									
AQU	**L'Aquila**	**21.17**	**287**	*e*P		**P**	**02 35 19.4**	**-1.5**		
	comp=Z,24nm,1.1s									
AQU	**L'Aquila**	**21.17**	**287**	*e*P		**P**	**02 35 19.4**	**-1.5**		
	comp=Z,24nm,1.1s									
VSU	**Vasula**	**21.27**	**339**	*e*P		**P**	**02 35 26.0**	**+4.2**		
VSU					pmax	pmax				
	comp=Z,17nm,0.6s									
PRU	**Pruhonice**	**21.60**	**308**	*e*P		**P**	**02 35 26.2**	**+0.7**		
PRU	**Pruhonice**	**21.60**	**308**	*e*P		**P**	**02 35 26.2**	**+0.7**		
PRU	**Pruhonice**	**21.60**	**308**	*e*P		**P**	**02 35 26.2**	**+0.7**		
SVE	**Sverdlovsk**	**21.68**	**30**	*e*P		**P**	**02 35 29.7**	**+3.5**		
SVE					pmax	pmax				
	comp=Z,12nm,1.2s									
GERES	**GERESS Array B**	**21.78**	**305**	P		**P**	**02 35 27.2**	**-0.3**		
	comp=Z,0.7nm,0.7s,baz=111,slow=9.2,SNR=6.8									
GERES				LR		LR	02 44 38.9			
	comp=Z,35nm,18.3s,baz=92,slow=39									
KHC	**Kasperske Hory**	**21.94**	**306**	*e*P		**P**	**02 35 30.7**	**+1.6**		
KHC	**Kasperske Hory**	**21.94**	**306**	*e*P		**P**	**02 35 30.7**	**+1.6**		
KHC	**Kasperske Hory**	**21.94**	**306**	*e*P		**P**	**02 35 30.7**	**+1.6**		
BRG	**Berggiesshubel**	**22.27**	**310**	*e*P		P	02 35 47.2	+15		
	comp=Z,4.9nm,1.2s									
BRG	**Berggiesshubel**	**22.27**	**310**	*e*P		P	02 35 47.2	+15		
BRG					pmax	pmax				
	comp=Z,5.0nm,1.2s									
KKAR	**Karatay Array**	**22.35**	**71**	*e*P		**P**	**02 35 33.5**	**-0.2**		
KKAR					pmax	pmax				
	comp=Z,3.0nm,0.8s									
KKAR	**Karatay Array**	**22.35**	**71**	*e*P		**P**	**02 35 33.5**	**-0.2**		
	comp=Z,2.7nm,0.8s									
KKAR	**Karatay Array**	**22.35**	**71**	*e*P		**P**	**02 35 33.5**	**-0.2**		
	comp=Z,2.7nm,0.8s									
CLL	**Collm**	**22.97**	**311**	*e*(P)		**P**	**02 35 41.0**	**+0.9**		
	comp=Z,3.0nm,0.9s									
CLL				*e*			02 35 48.0			
CLL				*e*S		**S**	**02 39 48.0**	**-2.8**		
CLL	**Collm**	**22.97**	**311**	*e*P		**P**	**02 35 41.0**	**+0.9**		
CLL				*e*			02 35 48.0			
CLL				*e*S		**S**	**02 39 48.0**	**-2.8**		
CLL					pmax	pmax				
	comp=Z,3.0nm,0.9s									
CLL	**Collm**	**22.97**	**311**	*e*P		**P**	**02 35 41.0**	**+0.9**		
	comp=Z,3.0nm,0.9s									
DAVOX	**Davos/Dischmat**	**23.91**	**298**	LR		LR	02 46 20.4			
	comp=Z,55nm,18.7s,baz=73,slow=40									
FINES	**FINESS Array B**	**24.01**	**342**	P		**P**	**02 35 49.7**	**-0.6**		
	comp=Z,3.7nm,0.7s,baz=140,slow=12,SNR=15									
FINES				LR		LR	02 46 09.6			
	comp=Z,84nm,18.6s,baz=170,slow=39									
FINES	**FINESS Array B**	**24.01**	**342**	P		**P**	**02 35 49.7**	**-0.6**		
FINES					pmax	pmax				
	comp=Z,4.0nm,0.7s									
FINES					MLR	MLR				
	comp=Z,85nm,18.6s									
BRVK	**Borovoye**	**24.19**	**46**	*e*P		**P**	**02 35 54.1**	**+2.1**		
BRVK	**Borovoye**	**24.19**	**46**	*e*P		**P**	**02 35 50.7**	**-1.3**		
	comp=Z,1.6nm,0.7s									
BVAR	**Borovoye Array**	**24.23**	**46**	P		**P**	**02 35 52.3**	**-0.2**		
	comp=Z,0.9nm,0.6s,baz=214,slow=4.9,SNR=4.3									
BVAR	**Borovoye Array**	**24.23**	**46**	P		**P**	**02 35 52.3**	**-0.2**		
BVAR					pmax	pmax				
	comp=Z,1.0nm,0.6s									

EKS2	**Erkin-Say**	**24.77**	**72**	*e*P		**P**	**02 35 55.2**	**-2.4**		
EKS2					pmax	pmax				
	comp=Z,6.0nm,0.8s									
EKS2	**Erkin-Say**	**24.77**	**72**	*e*P		**P**	**02 35 55.2**	**-2.4**		
	comp=Z,6.2nm,0.8s									
AAK	**Ala-Archa**	**25.30**	**72**	LR		LR	02 47 39.9			
	comp=Z,57nm,19.6s,baz=269,slow=41									
KEST	**Kesra**	**25.40**	**272**	P		**P**	**02 36 04.2**	**+0.9**		
	comp=Z,1.5nm,0.8s,baz=4.2,slow=14,SNR=6.2									
KEST				LR		LR	02 47 01.4			
	comp=Z,25nm,20.6s,baz=297,slow=39									
KEST	**Kesra**	**25.40**	**272**	*e*P		**P**	**02 36 02.2**	**-1.1**		
CDF	**Champ du Feu**	**25.87**	**302**	*e*P		**P**	**02 36 06.9**	**-0.5**		
MBDF	**Montbardon**	**25.97**	**293**	*e*P		**P**	**02 36 08.6**	**+0.2**		
	comp=Z,9.2nm,0.8s									
MBDF	**Montbardon**	**25.97**	**293**	*e*P		**P**	**02 36 08.6**	**+0.2**		
MBDF					pmax	pmax				
	comp=Z,9.0nm,0.8s									
MBDF	**Montbardon**	**25.97**	**293**	*e*P		**P**	**02 36 08.6**	**+0.2**		
	comp=Z,9.2nm,0.8s									
LPG	**La Plagne**	**25.99**	**295**	*e*P		**P**	**02 36 07.4**	**-1.4**		
	comp=Z,6.1nm,0.8s									
LPG	**La Plagne**	**25.99**	**295**	*e*P		**P**	**02 36 07.4**	**-1.4**		
LPG					pmax	pmax				
	comp=Z,6.0nm,0.8s									
LPG	**La Plagne**	**25.99**	**295**	*e*P		**P**	**02 36 07.4**	**-1.4**		
	comp=Z,6.1nm,0.8s									
LPL	**La Plagne**	**26.00**	**295**	*e*P		**P**	**02 36 08.4**	**-0.5**		
LPL	**La Plagne**	**26.00**	**295**	*e*P		**P**	**02 36 08.4**	**-0.5**		
LPL	**La Plagne**	**26.00**	**295**	*e*P		**P**	**02 36 08.4**	**-0.5**		
BNI	**Bardonecchia**	**26.03**	**294**	*e*P		**P**	**02 36 09.4**	**+0.3**		
BNI					pmax	pmax				
	comp=Z,3.0nm,0.9s									
BNI	**

T0104					Sg	Sg	02 31 49.4	+0.3
AQU	**L'Aquila**	**0.09**	**43**		Pg	Pg	02 31 48.3	+0.5
	104nm,0.3s							
AQU	**L'Aquila**	**0.09**	**43**		Pg	Pg	02 31 48.3	+0.5
	104nm,0.3s							
FIAM	**Fiamignano**	**0.15**	**261**		Pg	Pg	02 31 49.6	+0.7
FIAM					Sg	Sg	02 31 52.2	+0.9
	69nm,0.6s							
FIAM	**Fiamignano**	**0.15**	**261**		Pg	Pg	02 31 49.6	+0.7
FIAM					Sg	Sg	02 31 52.2	+0.9
	69nm,0.6s							
FAGN	**Fagnano**	**0.20**	**97**		Pg	Pg	02 31 50.4	+0.8
FAGN					Sg	Sg	02 31 53.9	+1.5
	58nm,0.3s							
FAGN	**Fagnano**	**0.20**	**97**		Pg	Pg	02 31 50.4	+0.8
FAGN					Sg	Sg	02 31 53.9	+1.5
	58nm,0.3s							
CAMP	**Campotosto**	**0.25**	**15**		Pg	Pg	02 31 51.5	+0.7
	35nm,0.9s							
CAMP	**Campotosto**	**0.25**	**15**		Pg	Pg	02 31 51.5	+0.7
	35nm,0.9s							
PTQR	**Pietraquaria**	**0.28**	**168**		Pg	Pg	02 31 51.5	+0.4
PTQR					Sg	Sb	02 31 56.6	-1.1
	3.0nm,0.2s							
PTQR	**Pietraquaria**	**0.28**	**168**		Pg	Pg	02 31 51.5	+0.4
PTQR					Sg	Sb	02 31 56.6	-1.1
	3.0nm,0.2s							
SMA1	**SAN MARTINO**	**0.34**	**2**		Pg	Pg	02 31 53.1	+0.7
	24nm,0.5s							
SMA1	**SAN MARTINO**	**0.34**	**2**		Pg	Pg	02 31 53.1	+0.7
	24nm,0.5s							
LNSS	**Leonessa**	**0.38**	**326**		Pg	Pg	02 31 53.5	+0.5
LNSS	**Leonessa**	**0.38**	**326**		Pg	Pg	02 31 53.5	+0.5

*ISCJB **22** 03:00:28.3±0.3,4.3°93S±0.0°06×152.14E±0.0°06,h70km, mb4.4/33,Error ellipse: s-maj=10.2km s-min=6.9km az=35.4*

*IDC **22** 03:00:32.5±2.7,5.5°04S×152.20E,h100km×23km,mb4.1/16, mb1 4.2/16,mb1mx4.0/22,mbtmp4.4/16,MS2.5/1, Ms1 2.5/1,ms1mx2.3/25,Error ellipse: s-maj=17.8km s-min=11.3km az=114.0*

*NEIC **22** 03:00:33.9±0.9,5.10S×152.18E,h115km±9km,mb4.6/18, Error ellipse: s-maj=8.2km s-min=6.0km az=148.0*

ISC 22 03:00:29.6±0.5,4.97S±0.08×152.12E±0.08,h70km,n58, σ0§94/52,mb4.5/32,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.60**	**228**	*e*Pn	Pn	03 02 08.8	+4.7
HNR	**Honiara**	**8.94**	**120**	*e*Pn	**Pn**	**03 02 38.1**	**+2.1**
COEN	**Coen**	**12.55**	**224**	*e*Pn	**Pn**	**03 03 27.1**	**+1.8**
GUMO	**Guam**	**19.80**	**339**	LR	LR	03 13 46.7	
	comp=Z,12nm,18.2s,baz=117,slow=40						
SIJI	**Sorong**	**21.22**	**280**	P	**P**	**03 05 11.9**	**+2.0**
	8.5nm,0.5s,baz=108,slow=19,SNR=3.2						
DZM	**Mont Dzumac**	**21.94**	**142**	P	**P**	**03 05 17.9**	**+0.3**
	20nm,0.6s,baz=270,slow=24,SNR=26						
DZM	**Mont Dzumac**	**21.94**	**142**	*e*P	**P**	**03 05 17.9**	**+0.3**
	21nm,0.6s						
WRAB	**Tennant Creek**	**22.81**	**228**	*e*P	**P**	**03 05 26.9**	**+0.1**
	13nm,0.9s						
WRA	**Warramunga Arr**	**22.82**	**228**	P	**P**	**03 05 26.8**	**-0.2**
	5.0nm,0.4s,baz=52,slow=10.0,SNR=86						
WRA				S	**S**	**03 09 29.7**	**-1.4**
	0.8nm,0.8s,baz=42,slow=16,SNR=3.5						
AS01	**Alice Springs**	**25.54**	**222**	*e*P	**P**	**03 05 52.5**	**+0.5**
AS31	**Alice Springs**	**25.57**	**222**	*e*P	**P**	**03 05 52.2**	**-0.1**
ASAR	**Alice Springs**	**25.57**	**222**	P	**P**	**03 05 52.2**	**-0.1**
	1.6nm,0.4s,baz=57,slow=8.6,SNR=22						
ASAR				S	**S**	**03 10 14.4**	**-0.8**
	0.4nm,0.8s,baz=34,slow=20,SNR=2.7						
H11S3	**WAKE ISLAND Hy**	**27.39**	**31**	T	T	03 35 00.2	
	baz=208,slow=76,SNR=6.1						
H11S2	**WAKE ISLAND Hy**	**27.39**	**31**	T	T	03 34 59.1	
	baz=208,slow=76,SNR=7.3						
H11S1	**WAKE ISLAND Hy**	**27.41**	**31**	T	T	03 34 59.6	
	baz=208,slow=76,SNR=5.2						
STKA	**Stephens Creek**	**28.53**	**199**	P	**P**	**03 06 17.4**	**-1.2**
	1.3nm,0.7s,baz=41,slow=12,SNR=3.3						
FORT	**Forrest**	**34.23**	**219**	*e*P	**P**	**03 07 08.2**	**-0.6**
	8.5nm,0.5s						
MBWA	**Marble Bar**	**35.30**	**240**	*e*P	**P**	**03 07 17.5**	**-0.7**
	8.5nm,0.5s						
KKM	**Kota Kinabalu**	**37.48**	**287**	*e*P	**P**	**03 07 37.1**	**+0.1**
	9.4nm,0.7s						
JOW	**Kunigami**	**39.14**	**325**	P	**P**	**03 07 51.0**	**+0.5**
	2.1nm,0.8s,baz=143,slow=17,SNR=3.7						
BKZ	**Black Stump Fm**	**40.57**	**150**	*e*P	P	03 08 08.1	+5.7
	330nm,2.8s						
JNU	**Nakatsue**	**42.91**	**333**	P	**P**	**03 08 21.6**	**+0.1**
	7.5nm,0.8s,baz=163,slow=4.5,SNR=5.8						
CMAR	**Chiang Mai Arr**	**57.34**	**296**	P	**P**	**03 10 12.6**	**+1.6**
	3.6nm,0.6s,baz=107,slow=5.6,SNR=11						
CHTO	**Chiang Mai**	**57.45**	**296**	*e*P	**P**	**03 10 12.8**	**+1.1**
	4.3nm,0.5s						
PETK	**Petropavlovsk-**	**58.05**	**4**	P	**P**	**03 10 15.4**	**+0.1**
	0.9nm,0.6s,baz=171,slow=10,SNR=2.3						
SONM	**Songino Array**	**66.11**	**328**	P	**P**	**03 11 10.1**	**+0.6**
	2.1nm,0.6s,baz=146,slow=5.8,SNR=11						
LSA	**Lhasa**	**67.78**	**305**	*e*P	**P**	**03 11 21.3**	**+0.4**
	5.7nm,0.5s						
BILL	**Bilibino**	**73.53**	**6**	*e*P	**P**	**03 11 55.0**	**+0.5**
	3.3nm,0.8s						
MK31	**Makanchi Array**	**80.01**	**319**	*e*P	**P**	**03 12 31.5**	**-0.1**
MKAR	**Makanchi Array**	**80.01**	**319**	P	**P**	**03 12 31.2**	**-0.3**
	2.5nm,0.8s,baz=118,slow=2.7,SNR=23						
TRF	**Thorofare Moun**	**80.62**	**23**	*e*P	**P**	**03 12 33.6**	**-1.0**
	5.3nm,0.6s						
BPAW	**Bear Paw Mtn.**	**80.70**	**22**	*e*P	**P**	**03 12 34.1**	**-0.8**
	1.6nm,1.1s						
IM04	**Indian Mountai**	**80.76**	**20**	*e*P	**P**	**03 12 35.0**	**-0.1**
ZALV	**Zalesovo Beam**	**80.92**	**326**	P	**P**	**03 12 35.3**	**-0.9**
	3.0nm,0.6s,baz=114,slow=5.8,SNR=11						
MCK	**McKinley**	**81.28**	**23**	*e*P	**P**	**03 12 37.2**	**-0.8**
	27nm,0.9s						
COLA	**College**	**82.26**	**22**	*e*P	**P**	**03 12 42.1**	**-0.9**
	12nm,0.8s						
ILAR	**Eielson Array**	**82.57**	**22**	P	**P**	**03 12 43.5**	**-1.2**
	7.8nm,0.7s,baz=247,slow=5.5,SNR=130						
DOT	**Dot Lake**	**83.16**	**24**	*e*P	**P**	**03 12 47.8**	**0.0**
	14nm,0.9s						
KURK	**Kurchatov**	**83.49**	**322**	*e*P	**P**	**03 12 49.4**	**-0.3**
	5.5nm,1.1s						
TKM2	**Tokmak 2**	**83.56**	**314**	*e*P	**P**	**03 12 50.7**	**+0.2**
	2.6nm,0.6s						
EGAK	**Eagle**	**84.78**	**23**	*e*P	**P**	**03 12 55.9**	**0.0**
	11nm,0.9s						
EKS2	**Erkin-Say**	**84.82**	**313**	*e*P	**P**	**03 12 57.4**	**+0.6**
	4.1nm,1.1s						
HYT	**Haines Junctio**	**84.90**	**28**	*e*P	**P**	**03 12 57.6**	**+0.8**
DAWY	**Dawson**	**85.22**	**24**	*e*P	**P**	**03 12 58.6**	**+0.3**
DLBC	**Dease Lake**	**87.88**	**31**	*e*P	**P**	**03 13 12.5**	**+1.1**
NVAR	**Mina Array Bea**	**92.72**	**52**	P	**P**	**03 13 34.0**	**-0.6**
	0.6nm,0.4s,baz=242,slow=7.1,SNR=4.6						
YKA	**Yellowknife Ar**	**95.89**	**28**	P	**P**	**03 13 48.5**	**+0.2**
	1.3nm,0.7s,baz=272,slow=5.1,SNR=6.9						
PDAR	**Pinedale Array**	**99.47**	**48**	P	**Pdif**	**03 14 04.5**	**-0.6**
	0.3nm,0.5s,baz=242,slow=3.2,SNR=3.5						
AKASG	**Malin Array Be**	**114.24**	**324**	PKP	PKPdf	03 18 59.8	-1.3
	0.3nm,0.4s,baz=65,slow=2.4,SNR=3.1						
NOA	**NORSAR Array B**	**116.84**	**340**	PKP	**PKPdf**	**03 19 04.6**	**-1.4**
	0.4nm,0.6s,baz=56,slow=2.1,SNR=3.0						
GERES	**GERESS Array B**	**123.84**	**328**	PKP	**PKPdf**	**03 19 19.4**	**-0.5**
	0.9nm,0.6s,baz=67,slow=1.5,SNR=10						
DAVOX	**Davos/Dischmat**	**127.15**	**328**	PKP	**PKPdf**	**03 19 26.6**	**+0.3**
	1.1nm,0.6s,baz=315,slow=4.3,SNR=3.1						
KEST	**Kesra**	**134.07**	**317**	PKP	**PKPdf**	**03 19 38.9**	**-0.8**
	0.5nm,0.8s,baz=63,slow=2.3,SNR=3.3						
LPAZ	**La Paz**	**134.93**	**119**	PKP	**PKPdf**	**03 19 40.2**	**-2.3**
	0.6nm,0.6s,baz=333,slow=0.4,SNR=3.5						
TAM	**Tamanrasset**	**143.20**	**302**	*e*PKPdf	PKPbc	03 19 53.5	-0.4
MDT	**Midelt**	**144.80**	**325**	PKP	**PKPab**	**03 19 56.9**	**-1.4**
	1.3nm,0.5s,baz=329,slow=1.7,SNR=9.8						
TOA0	**Torodi Ar. Sit**	**149.71**	**288**	*e*PKPbc	**PKPbc**	**03 20 11.3**	**-1.2**
TORD	**Torodi Ar. Bea**	**149.71**	**288**	PKPbc	**PKPbc**	**03 20 11.6**	**-0.9**
	6.4nm,0.7s,baz=65,slow=2.1,SNR=65						

*IDC **22** 03:11:31.0±0.6,31.17S×176.87W,h0km,mb4.4/15, mb1 4.6/16,mb1mx4.5/21,mbtmp4.4/16,ML4.9/1,MS3.5/5, Ms1 3.5/5,ms1mx3.2/22,Error ellipse: s-maj=19.9km s-min=16.0km az=78.0*

*NEIC **22** 03:11:30.8±3.6,31.31S×176.87W,h3km±21km,mb4.7/16, Error ellipse: s-maj=9.9km s-min=7.6km az=88.0*

*ISCJB **22** 03:11:34.0±0.4,31.49S±0.04×177.05W±0.09,h33km, mb4.6/25,MS3.5/4,Error ellipse: s-maj=11.2km s-min=4.2km az=22.8*

ISC 22 03:11:36.1±0.4,31.30S±0.05×177.02W±0.09,h35km, n100,σ1§32/101,mb4.6/25,MS3.5/4,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.18**	**339**	Pn	**Pn**	**03 12 08.7**	**-1.2**
	349nm,0.3s,baz=87,slow=17,SNR=13						
RAO				Sn	**Sn**	**03 12 33.7**	**-1.9**
	2µm,0.3s,baz=107,slow=19,SNR=6.3						
MXZ	**Matakaoa Point**	**7.34**	**210**	PN	**Pn**	**03 13 17.9**	**-2.9**
MXZ				SN	**Sn**	**03 14 42.8**	**-0.1**
WMGZ	**Waiomatatini S**	**7.51**	**209**	PN	**Pn**	**03 13 21.5**	**-1.7**
WMGZ				SN	**Sn**	**03 14 47.7**	**+0.6**
HAZ	**Te Kaha**	**7.74**	**212**	PN	**Pn**	**03 13 25.0**	**-1.2**
HAZ				SN	**Sn**	**03 14 52.7**	**+0.2**
PUZ	**Puketiti**	**7.80**	**209**	PN	**Pn**	**03 13 24.1**	**-2.9**
PUZ				SN	**Sn**	**03 14 54.3**	**+0.2**
TWGZ	**Tauwhareparae**	**8.00**	**210**	PN	**Pn**	**03 13 27.9**	**-2.0**
MWZ	**Matawai**	**8.33**	**211**	PN	**Pn**	**03 13 32.2**	**-2.2**
MWZ				SN	**Sn**	**03 15 05.2**	**-2.0**
URZ	**Urewera**	**8.46**	**213**	Pn	**Pn**	**03 13 34.7**	**-1.4**
	1.6nm,0.3s,baz=24,slow=20,SNR=31						
URZ				Sn	**Sn**	**03 15 08.4**	**-1.8**
	20nm,0.3s,baz=72,slow=20,SNR=14						
URZ	**Urewera**	**8.46**	**213**	PN	**Pn**	**03 13 33.8**	**-2.3**
URZ				SN	**Sn**	**03 15 10.1**	**-0.1**
RAGZ	**Rawiri**	**8.51**	**211**	PN	**Pn**	**03 13 34.5**	**-2.4**
RIGZ	**Rimuhau**	**8.54**	**209**	PN	Pn	03 13 34.1	-3.1
SNGZ	**Shannon Statio**	**8.78**	**210**	PN	**Pn**	**03 13 38.6**	**-1.9**
KNZ	**Kokohu**	**8.84**	**208**	PN	Pn	03 13 37.2	-4.1
RAHZ	**Arahi**	**9.00**	**211**	PN	**Pn**	**03 13 42.0**	**-1.5**
WHHZ	**Waihua**	**9.07**	**210**	PN	**Pn**	**03 13 42.2**	**-2.3**
NMHZ	**Naumai**	**9.28**	**211**	PN	**Pn**	**03 13 45.5**	**-1.9**
ARHZ	**Aropaoanui**	**9.33**	**210**	PN	**Pn**	**03 13 45.0**	**-3.0**
BKZ	**Black Stump Fm**	**9.47**	**212**	PN	Pn	03 13 46.9	-3.2
KAHZ	**Kahuranaki**	**9.83**	**209**	PN	Pn	03 13 50.3	-4.6
KRHZ	**Kereru**	**9.92**	**211**	PN	**Pn**	**03 13 54.7**	**-1.4**
BHHZ	**Black Hill Sta**	**9.93**	**213**	PN	**Pn**	**03 13 54.3**	**-2.0**
PNHZ	**Pukenui**	**10.21**	**211**	PN	**Pn**	**03 13 57.7**	**-2.5**
BFZ	**Birch Farm**	**10.83**	**208**	PN	Pn	03 14 03.0	-5.6
TIWZ	**Tintock**	**11.06**	**209**	PN	**Pn**	**03 14 09.1**	**-2.7**
MRZ	**Mangatainoka R**	**11.10**	**211**	PN	Pn	03 14 07.8	-4.4
MTW	**Mount Morrison**	**11.54**	**209**	PN	Pn	03 14 13.5	-4.8
KIW	**Kapiti Island**	**11.56**	**212**	PN	Pn	03 14 14.2	-4.4
TCW	**Tory Channel**	**12.13**	**213**	PN	Pn	03 14 20.9	-5.4
RPZ	**Rata Peaks**	**15.57**	**214**	Pn	**Pn**	**03 15 09.0**	**-3.9**
	3.3nm,0.3s,baz=55,slow=1.2,SNR=12						
RPZ				Sn	Sn	03 17 50.5	-14
	1.8nm,0.3s,baz=112,slow=19,SNR=6.5						
ODZ	**Otahua Downs**	**16.78**	**212**	*e*Pn	**Pn**	**03 15 26.3**	**-1.9**
	39nm,1.1s						
DZM	**Mont Dzumac**	**17.38**	**298**	LR	LR	03 20 53.7	
	comp=Z,132nm,18.5s,baz=181,slow=32						
TBI	**Tubuai**	**25.69**	**79**	*e*LR	LR	03 23 17.5	
	249nm,29.0s						
TBI	**Tubuai**	**25.69**	**79**	*e*T	T	03 42 38.7	
	12nm,0.3s						
PAE	**Paea**	**28.33**	**68**	*e*T	T	03 45 58.5	
	4.2nm,0.3s						
PPT2	**Papeete2**	**28.38**	**68**	*e*LR	LR	03 24 31.5	
	183nm,23.5s						
PPT2	**Papeete2**	**28.38**	**68**	*e*T	T	03 46 02.8	
	3.4nm,0.3s						
PPT	**Papeete**	**28.39**	**68**	LR	LR	03 25 22.8	
	comp=Z,88nm,20.5s,baz=229,slow=30						
VAH	**Vaihoa**	**31.25**	**66**	*e*T	T	03 49 37.7	
	18nm,0.2s						
CTA	**Charters Tower**	**34.77**	**280**	P	**P**	**03 18 25.4**	**+2.0**
	7.7nm,0.5s,baz=101,slow=10,SNR=21						
CTAO	**Charters Tower**	**34.77**	**280**	*e*P	**P**	**03 18 25.5**	**+2.0**
	9.7nm,0.6s						
STKA	**Stephens Creek**	**35.10**	**258**	P	**P**	**03 18 28.2**	**+2.0**
	6.2nm,0.7s,baz=101,slow=9.8,SNR=17						
STKA				LR	LR	03 33 09.4	
	comp=Z,92nm,18.0s,baz=37,slow=37						
STKA	**Stephens Creek**	**35.10**	**258**	*e*P	**P**	**03 18 28.0**	**+1.8**
	1.5nm,0.8s						
RKT	**Rikitea**	**38.09**	**88**	*e*LR	LR	03 28 53.7	
	216nm,27.0s						
PMG	**Port Moresby**	**39.75**	**295**	*e*P	**P**	**03 19 06.1**	**+0.5**
	18nm,1.0s						
AS31	**Alice Springs**	**43.90**	**267**	*e*P	**P**	**03 19 39.9**	**+0.3**
ASAR	**Alice Springs**	**43.90**	**267**	P	**P**	**03 19 40.0**	**+0.4**
	3.3nm,0.6s,baz=105,slow=7.7,SNR=38						
ASAR				PcP	**PcP**	**03 21 26.1**	**+0.7**
	1.0nm,0.7s,baz=113,slow=3.7,SNR=4.5						
ASAR				ScP	ScP	03 25 22.1	+7.7
	0.6nm,0.9s,baz=111,slow=4.2,SNR=3.7						
WRAB	**Tennant Creek**	**44.97**	**273**	*e*P	**P**	**03 19 48.2**	**+0.1**
	8.7nm,0.9s						
WRA	**Warramunga Arr**	**44.97**	**273**	P	**P**	**03 19 47.8**	**-0.3**
	4.7nm,0.5s,baz=112,slow=7.9,SNR=65						
WRA				PcP	**PcP**	**03 21 29.5**	**+0.5**
	1.5nm,0.9s,baz=118,slow=3.0,SNR=4.2						
FORT	**Forrest**	**46.63**	**256**	*e*P	**P**	**03 20 00.7**	**-0.4**
	23nm,0.9s						
VNDA	**Vanda**	**47.29**	**186**	P	**P**	**03 20 07.0**	**+1.3**
	0.4nm,0.6s,baz=352,slow=7.5,SNR=3.5						
VNDA				PcP	**PcP**	**03 21 37.1**	**+0.9**
	0.7nm,0.8s,baz=321,slow=3.9,SNR=4.4						
VNDA	**Vanda**	**47.29**	**186**	*e*P	**P**	**03 20 05.6**	**0.0**
	1.0nm,0.8s						
VNDA				PcP	**PcP**	**03 21 37.1**	**+0.9**
JAY	**Jayapura**	**49.05**	**297**	P	**P**	**03 20 19.4**	**-0.7**
	164nm,0.9s,baz=155,slow=19,SNR=2.9						
QSPA	**South Pole Qui**	**58.82**	**180**	P	**P**	**03 21 32.4**	**+1.6**
	9.1nm,1.0s,baz=33,slow=1.4,SNR=21						
QSPA	**South Pole Qui**	**58.82**	**180**	*e*P	**P**	**03 21 32.2**	**+1.4**
	12nm,1.1s						
MAW	**Mawson**	**71.76**	**200**	P	**P**	**03 22 55.0**	**+0.6**
	1.0nm,0.3s,baz=122,slow=9.2,SNR=4.5						
MAW	**Mawson**	**71.76**	**200**	*e*P	**P**	**03 22 56.0**	**+1.7**
	2.8nm,1.4s						
SNAA	**Sanae**	**77.24**	**178**	P	**P**	**03 23 24.4**	**-1.8**
SNAA	**Sanae**	**77.24**	**178**	*e*P	**P**	**03 23 23.8**	**-2.4**
	18nm,1.4s						
VNA3	**Neumayer Olymp**	**77.35**	**176**	P	**P**	**03 23 27.1**	**+0.2**
VNA2	**Neumayer--Watz**	**77.80**	**177**	P	**P**	**03 23 29.9**	**+0.6**
	baz=173,slow=4.9						
VNA1	**Neumayer--Stat**	**78.02**	**176**	P	**P**	**03 23 31.3**	**+0.8**
IPM	**Ipoh**	**85.45**	**278**	*e*P	**P**	**03 24 11.3**	**+0.7**
	15nm,0.9s						
KSRS	**Korea Array**	**85.57**	**319**	P	**P**	**03 24 11.0**	**+0.4**
	0.9nm,0.7s,baz=137,slow=5.2,SNR=5.2						
KSAR	**Wonju Array Be**	**85.59**	**319**	P	**P**	**03 24 11.0**	**+0.3**
KULM	**Kulim**	**86.19**	**278**	*e*P	**P**	**03 24 13.7**	**-0.6**
	16nm,1.1s						
PETK	**Petropavlovsk-**	**86.89**	**345**	P	**P**	**03 24 17.3**	**+0.6**
	3.7nm,0.8s,baz=131,slow=8.1,SNR=9.4						
NVAR	**Mina Array Bea**	**88.33**	**42**	P	**P**	**03 24 24.3**	**0.0**
	0.7nm,0.5s,baz=217,slow=9.1,SNR=4.1						
USRK	**Ussuriysk Ar.**	**88.37**	**326**	P	**P**	**03 24 25.2**	**+1.2**
	2.3nm,0.7s,baz=192,slow=8.6,SNR=4.4						
TUC	**Tucson**	**89.02**	**51**	*e*P	**P**	**03 24 28.2**	**+0.6**
	1.1nm,0.6s						
ELK	**Elko**	**91.64**	**42**	*e*P	**P**	**03 24 39.0**	**-0.7**
	1.0nm,0.6s						
TXAR	**Lajitas Array**	**92.17**	**57**	P	**P**	**03 24 42.2**	**-0.1**
	0.7nm,1.0s,baz=223,slow=6.8,SNR=4.3						
TXAR				LR	LR	04 00 04.2	
	comp=Z,68nm,19.3s,baz=0.0,slow=32						
NNA	**Nana**	**92.37**	**105**	*e*P	**P**	**03 24 42.8**	**-0.8**
	13nm,0.8s						
HLID	**Hailey**	**93.94**	**40**	*e*P	**P**	**03 24 49.2**	**-1.0**
	1.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**94.49**	**289**	P	**P**	**03 24 54.3**	**+1.2**
	1.9nm,0.3s,baz=136,slow=3.3,SNR=5.6						
CMAR				LR	LR	04 08 53.6	
	comp=Z,6.3nm,20.0s,baz=195,slow=36						
ILAR	**Eielson Array**	**98.61**	**13**	P	**P**	**03 25 10.2**	**-0.5**
	0.4nm,0.7s,baz=221,slow=5.3,SNR=6.6						
MK31	**Makanchi Array**	**118.99**	**309**	*e*PKPdf	**PKPdf**	**03 30 20.6**	**-0.2**
MKAR	**Makanchi Array**	**118.99**	**309**	PKP	**PKPdf**	**03 30 19.6**	**-1.2**
	0.4nm,0.8s,baz=225,slow=1.8,SNR=3.7						
KURK	**Kurchatov**	**122.27**	**313**	*e*PKPdf	**PKPdf**	**03 30 26.2**	**-0.6**
TKM2	**Tokmak 2**	**122.59**	**304**	*e*PKPdf	**PKPdf**	**03 30 27.9**	**-0.2**
BRVK	**Borovoye**	**127.70**	**315**	*e*PKPdf	**PKPdf**	**03 30 37.8**	**+0.6**
TSUM	**Tsumeb**	**127.87**	**198**	*e*PKPdf	**PKPdf**	**03 30 39.3**	**+0.5**
ABKAR	**Akbulak array**	**134.13**	**310**	*e*PKPdf	**PKPdf**	**03 30 49.6**	**+0.1**
ARCES	**ARCESS Array B**	**139.64**	**348**	PKP	**PKPdf**	**03 30 58.9**	**-0.2**
	1.4nm,0.6s,baz=74,slow=1.3,SNR=10						
GNI	**Garni**	**145.23**	**296**	*e*PKPbc	**PKPdf**	**03 31 10.8**	**+0.6**
FINES	**FINESS Array B**	**146.27**	**340**	PKPbc	**PKPbc**	**03 31 11.8**	**-0.4**
	9.0nm,0.6s,baz=76,slow=3.0,SNR=52						
KBZ	**Khabaz**	**146.31**	**303**	PKPbc	**PKPab**	**03 31 13.8**	**+0.1**
	2.1nm,0.6s,baz=173,slow=2.7,SNR=5.8						
NB2	**NORSAR Subarra**	**149.76**	**352**	PKP	**PKPbc**	**03 31 20.9**	**-0.7**
	comp=Z,3.7nm,0.8s,baz=12,slow=2.6						
NOA	**NORSAR Array B**	**149.76**	**352**	PKPbc	**PKPbc**	**03 31 21.3**	**-0.3**
	comp=Z,3.3nm,0.8s,baz=14,slow=4.2,SNR=9.8						
NAO01	**NORSAR Array S**	**149.99**	**352**	*e*PKPdf	**PKPdf**	**03 31 16.8**	**-0.3**
NAO01				*e*PKPbc	**PKPbc**	**03 31 21.9**	**-0.2**
HFS	**Hagfors**	**150.28**	**349**	PKPbc	**PKPbc**	**03 31 22.3**	**-0.6**
	comp=Z,5.3nm,0.7s,baz=37,slow=0.7,SNR=20						
HFS				PKPab	**PKPab**	**03 31 28.7**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=17,slow=6.5,SNR=15						
AKASG	**Malin Array Be**	**152.52**	**322**	PKPbc	**PKPbc**	**03 31 28.3**	**0.0**
	comp=Z,0.5nm,0.3s,baz=48,slow=2.7,SNR=12						
AKASG				PKPab	**PKPab**	**03 31 38.4**	**-0.4**
	comp=Z,1.7nm,0.4s,baz=47,slow=4.8,SNR=12						
AKBB	**Malin Array Si**	**152.52**	**322**	*e*PKPbc	**PKPbc**	**03 31 28.3**	**0.0**
AKBB				*e*PKPab	**PKPab**	**03 31 38.2**	**-0.5**
KIEV	**Kiev**	**152.53**	**322**	*e*PKPbc	**PKPbc**	**03 31 28.3**	**0.0**
KIEV				*e*PKPab	**PKPab**	**03 31 38.4**	**-0.4**
BRTR	**Keskin Array B**	**153.76**	**297**	PKPbc	**PKPbc**	**03 31 31.6**	**0.0**
	comp=Z,0.5nm,0.5s,baz=106,slow=4.4,SNR=4.4						
BRTR				PKPab	**PKPab**	**03 31 45.0**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=125,slow=4.1,SNR=5.6						
BUR08	**Bucovina Ar. S**	**156.44**	**320**	*e*PKPab	**PKPab**	**03 31 56.1**	**+0.3**
CLL	**Collm**	**158.67**	**343**	*i* PKPab	**PKPab**	**03 32 04.8**	**-0.2**
BRG	**Berggiesshubel**	**158.81**	**341**	*e*P	**PKPab**	**03 32 05.8**	**+0.1**
	comp=Z,5.2nm,1.4s						
GERES	**GERESS Array B**	**160.68**	**338**	PKPab	**PKPab**	**03 32 13.6**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=7.4,slow=3.1,SNR=6.8						
TOA0	**Torodi Ar. Sit**	**161.90**	**176**	*e*PKPab	**PKPbc**	**03 32 20.0**	**+0.1**
TORD	**Torodi Ar. Bea**	**161.90**	**176**	PKP	**PKPdf**	**03 31 33.6**	**-0.7**
	comp=Z,1.2nm,1.1s,baz=201,slow=2.5,SNR=4.2						
TORD				PKPab	**PKPab**	**03 32 20.2**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=192,slow=3.2,SNR=17						

*ISCJB **22** 03:35:47.9±1.1,44.42N±0.06×148.39E±0.10,h55km, Error ellipse: s-maj=11.5km s-min=6.0km az=34.2*

*SKHL **22** 03:35:49.3±0.6,44.46N×148.44E,h33km±2km,mb4.1/4*

*JMA **22** 03:35:50.8±0.5,44.39N×148.12E,h92km,M2.9*

ISC 22 03:35:48.2±1.9,44.32N±0.08×148.5E±0.1,h55km,n13, σ1§98/23,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.00**	**336**	*i* P	**Pn**	**03 36 04.5**	**-1.5**
KUR				AMB	AMB	03 36 05.0	
	110nm,0.5s						
KUR				*i* S	**Sn**	**03 36 16.0**	**-3.2**
KUR				A	A	03 36 17.5	
	250nm,0.5s						
KUR				A	A	03 36 17.5	

BDRM				*i* S		**Sn**	**04 08 29.0**	**-0.7**
KARP	**Karpathos**	**1.14**	**237**	*e*P		**Pn**	**04 08 15.6**	**+1.0**
KARP				*e*S		**Sn**	**04 08 30.5**	**+0.7**
KARP	**Karpathos**	**1.14**	**237**	*e*P		**Pn**	**04 08 15.6**	**+1.0**
KARP				*e*S		**Sn**	**04 08 30.5**	**+0.7**
BODT	**Bodrum**	**1.21**	**317**	*e*PN		**Pn**	**04 08 15.5**	**+0.1**
BODT	**Bodrum**	**1.21**	**317**	*e*Pn		**Pn**	**04 08 15.5**	**+0.1**
ELL	**Elmali**	**1.39**	**65**	*e*PN		**Pn**	**04 08 19.2**	**+1.2**
ELL	**Elmali**	**1.39**	**65**	*e*Pn		**Pn**	**04 08 19.2**	**+1.2**
GOLH	**Golhisar**	**1.45**	**43**	*i* P		**Pn**	**04 08 20.1**	**+1.5**
GOLH				*i* S		**Sn**	**04 08 38.9**	**+1.9**
GOLH	**Golhisar**	**1.45**	**43**	*i* P		**Pn**	**04 08 20.1**	**+1.5**
GOLH				*i* S		**Sn**	**04 08 38.9**	**+1.9**
DNZL	**Cakiroluk**	**1.61**	**21**	*i* P		**Pn**	**04 08 21.5**	**+0.6**
DNZL				*i* S		**Sn**	**04 08 40.6**	**-0.5**
DNZL	**Cakiroluk**	**1.61**	**21**	*i* P		**Pn**	**04 08 21.5**	**+0.6**
DNZL				*i* S		**Sn**	**04 08 40.6**	**-0.5**
DENT	**Denizli**	**1.67**	**19**	*e*PN		**Pn**	**04 08 22.1**	**+0.6**
DENT	**Denizli**	**1.67**	**19**	*e*Pn		**Pn**	**04 08 22.1**	**+0.6**
GCAM	**G?zelcaml?**	**1.76**	**330**	*i* P		**Pn**	**04 08 23.0**	**+0.4**
GCAM				*i* S		**Sn**	**04 08 43.2**	**-0.9**
GCAM	**G?zelcaml?**	**1.76**	**330**	*i* P		**Pn**	**04 08 23.0**	**+0.4**
GCAM				*i* S		**Sn**	**04 08 43.2**	**-0.9**
AYDB	**Zeytinkoy-Aydi**	**1.80**	**349**	*e*PN		**Pn**	**04 08 23.6**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**1.80**	**349**	*e*Pn		**Pn**	**04 08 23.6**	**+0.3**
SMG	**Samos**	**1.94**	**322**	*e*P		**Pn**	**04 08 25.3**	**+0.2**
SMG				*e*S		**Sn**	**04 08 47.2**	**-1.4**
SMG	**Samos**	**1.94**	**322**	*e*P		**Pn**	**04 08 25.3**	**+0.2**
SMG				*e*S		**Sn**	**04 08 47.2**	**-1.4**
ANTB	**Antalya**	**2.00**	**68**	*e*PN		**Pn**	**04 08 27.7**	**+1.8**
ANTB	**Antalya**	**2.00**	**68**	*e*Pn		**Pn**	**04 08 27.7**	**+1.8**
BCK	**Bucak**	**2.22**	**54**	*e*PN		**Pn**	**04 08 30.6**	**+1.7**
BCK	**Bucak**	**2.22**	**54**	*e*Pn		**Pn**	**04 08 30.6**	**+1.7**
SANT	**Santorini**	**2.33**	**276**	*e*P		**Pn**	**04 08 31.1**	**+0.7**
SANT	**Santorini**	**2.33**	**276**	*e*P		**Pn**	**04 08 31.1**	**+0.7**
KULA	**Kula-Manisa**	**2.35**	**6**	*e*PN		**Pn**	**04 08 30.7**	**0.0**
KULA	**Kula-Manisa**	**2.35**	**6**	*e*Pn		**Pn**	**04 08 30.7**	**0.0**
IZM	**Izmir**	**2.37**	**339**	*e*PN		**Pn**	**04 08 31.2**	**+0.2**
IZM	**Izmir**	**2.37**	**339**	*e*Pn		**Pn**	**04 08 31.2**	**+0.2**
NPS	**Neapolis**	**2.39**	**248**	*e*P		**Pn**	**04 08 31.9**	**+0.7**
NPS				*e*S		**Sn**	**04 08 58.4**	**-1.1**
NPS	**Neapolis**	**2.39**	**248**	*e*P		**Pn**	**04 08 31.9**	**+0.7**
NPS				*e*S		**Sn**	**04 08 58.4**	**-1.1**
ISP	**Isparta**	**2.40**	**46**	*e*PN		**Pn**	**04 08 32.9**	**+1.5**
ISP	**Isparta**	**2.40**	**46**	*e*Pn		**Pn**	**04 08 32.9**	**+1.5**
APE	**Apeiranthos**	**2.42**	**292**	*e*PN		**Pn**	**04 08 32.7**	**+1.1**
APE	**Apeiranthos**	**2.42**	**292**	*e*P		**Pn**	**04 08 32.2**	**+0.6**
APE	**Apeiranthos**	**2.42**	**292**	*e*P		**Pn**	**04 08 32.2**	**+0.6**
APE	**Apeiranthos**	**2.42**	**292**	*e*Pn		**Pn**	**04 08 32.7**	**+1.1**
BLCB	**Balcova**	**2.43**	**335**	*e*PN		**Pn**	**04 08 31.6**	**-0.1**
BLCB	**Balcova**	**2.43**	**335**	*e*Pn		**Pn**	**04 08 31.6**	**-0.1**
LAST	**Lasithi**	**2.54**	**247**	*e*P		**Pn**	**04 08 34.2**	**+1.0**
LAST				*e*S		**Sn**	**04 09 02.3**	**-0.8**
LAST	**Lasithi**	**2.54**	**247**	*e*P		**Pn**	**04 08 34.2**	**+1.0**
LAST				*e*S		**Sn**	**04 09 02.3**	**-0.8**
CHOS	**Chios island**	**2.86**	**321**	*e*PN		**Pn**	**04 08 38.6**	**+1.1**
CHOS	**Chios island**	**2.86**	**321**	*e*Pn		**Pn**	**04 08 38.6**	**+1.1**
SHUT	**Suhut-Afyon**	**2.96**	**36**	*e*PN		**Pn**	**04 08 40.4**	**+1.4**
SHUT	**Suhut-Afyon**	**2.96**	**36**	*e*Pn		**Pn**	**04 08 40.4**	**+1.4**
GAZI	**Gazipasa**	**3.22**	**88**	*i* P		**Pn**	**04 08 42.0**	**-0.5**
GAZI				*i* S		**Sn**	**04 09 18.0**	**-1.8**
GAZI	**Gazipasa**	**3.22**	**88**	*i* P		**Pn**	**04 08 42.0**	**-0.5**
GAZI				*i* S		**Sn**	**04 09 18.0**	**-1.8**
TVSB	**Tavsanli**	**3.39**	**15**	*e*PN		**Pn**	**04 08 45.3**	**+0.5**
TVSB	**Tavsanli**	**3.39**	**15**	*e*Pn		**Pn**	**04 08 45.3**	**+0.5**
VAM	**Vamos**	**3.45**	**258**	*e*P		**Pn**	**04 08 45.5**	**0.0**
VAM	**Vamos**	**3.45**	**258**	*e*P		**Pn**	**04 08 45.5**	**0.0**
AKMC	**Akamas** baz=302	**3.46**	**108**	P		**Pn**	**04 08 46.2**	**+0.6**
AKMC	**Akamas**	**3.46**	**108**	P		**Pn**	**04 08 46.2**	**+0.6**
PPCY	**Paphos** baz=304	**3.52**	**110**	P		**Pn**	**04 08 47.3**	**+0.8**
PPCY	**Paphos**	**3.52**	**110**	P		**Pn**	**04 08 47.3**	**+0.8**
ALFC	**Alevga** baz=298	**3.62**	**105**	P		**Pn**	**04 08 48.1**	**+0.2**
ALFC				S		**Sn**	**04 09 26.5**	**-3.0**
ALFC	**Alevga**	**3.62**	**105**	P		**Pn**	**04 08 48.1**	**+0.2**
ALFC				S		**Sn**	**04 09 26.5**	**-3.0**
KARN	**Karanos**	**3.67**	**259**	*e*P		**Pn**	**04 08 48.8**	**+0.2**
KARN	**Karanos**	**3.67**	**259**	*e*P		**Pn**	**04 08 48.8**	**+0.2**
KONT	**Konya--Tatoy**	**3.67**	**60**	*e*PN		**Pn**	**04 08 51.1**	**+2.5**
KONT	**Konya--Tatoy**	**3.67**	**60**	*e*Pn		**Pn**	**04 08 51.1**	**+2.5**
SZAC	**Souni-Zanaja** baz=302	**3.98**	**110**	P		**Pn**	**04 08 53.6**	**+0.8**
SZAC	**Souni-Zanaja**	**3.98**	**110**	P		**Pn**	**04 08 53.6**	**+0.8**
CSS	**Prodhromos** baz=296	**4.25**	**105**	P		**Pn**	**04 08 56.5**	**0.0**
CSS	**Prodhromos**	**4.25**	**105**	P		**Pn**	**04 08 56.5**	**0.0**
KYTH	**Kithira**	**4.28**	**273**	*e*P		**Pn**	**04 08 58.5**	**+1.6**
KYTH	**Kithira**	**4.28**	**273**	*e*P		**Pn**	**04 08 58.5**	**+1.6**

IDC 22 04:10:33.1±2.7, 12°.82S×122°.94E, h82km±25km, mb3.5/5, mb1 3.7/8, mb1mx3.5/28, mbtmp3.9/8, MS3.2/2, Ms1 3.2/2, ms1mx2.6/18, Error ellipse: s-maj=37.0km s-min=12.3km az=76.0, South of Timor

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.69**	**15**	P	Pn	04 11 13.3	-1.0
	33nm,0.3s,baz=214,slow=3.0,SNR=18						
BATI				S	Sn	04 11 46.8	+0.8
	42nm,0.3s,baz=118,slow=23,SNR=16						
WRA	**Warramunga Arr**	**13.03**	**124**	P	Pn	04 13 34.4	-0.6
	0.6nm,0.3s,baz=296,slow=13,SNR=25						
WRA				S	Sn	04 15 56.5	-1.6
	0.9nm,0.3s,baz=296,slow=24,SNR=7.5						
ASAR	**Alice Springs**	**14.98**	**138**	P	Pn	04 14 00.9	+0.4
	0.8nm,0.3s,baz=314,slow=12,SNR=62						
ASAR				S	Sn	04 16 42.0	-3.7
	0.3nm,0.3s,baz=317,slow=26,SNR=5.6						
ASAR				LR	LR	04 18 46.9	
	comp=Z,38nm,21.5s,baz=298,slow=33						
NWAO	**Narrogin (SRO)**	**20.69**	**194**	P	Pn	04 15 08.3	-1.3
	2.2nm,0.3s,baz=330,slow=9.0,SNR=6.2						
STKA	**Stephens Creek**	**25.57**	**141**	P	P	04 15 54.7	+0.2
	2.9nm,1.1s,baz=322,slow=13,SNR=2.6						
PSI	**Prapat**	**28.45**	**301**	LR	LR	04 28 06.9	
	comp=Z,95nm,18.4s,baz=214,slow=37						
MJAR	**Matsushiro Arr**	**51.16**	**16**	P	P	04 19 29.1	+1.2
	0.5nm,0.4s,baz=192,slow=8.5,SNR=3.3						
MKAR	**Makanchi Array**	**69.62**	**331**	P	P	04 21 32.5	-1.0
	0.2nm,0.6s,baz=134,slow=8.3,SNR=3.0						
ZALV	**Zalesovo Beam**	**73.99**	**338**	P	P	04 21 59.0	-0.5
	0.4nm,0.3s,baz=144,slow=3.2,SNR=2.0						

ISCJB 22 04:48:58.0±1.2, 32°.70S±0°.06×70°.18W±0°.06, h109km±10km, Error ellipse: s-maj=11.3km s-min=4.9km az=139.6
GUC 22 04:48:57.6±0.4, 32°.62S×70°.21W, h110km±5km, ML3.1
SJA 22 04:48:58.1±0.8, 32°.68S×70°.11W, h110km±8km, ML3.0, MW3.8

ISC 22 04:48:58.0±2.5, 32°.70S±0°.07×70°.20W±0°.06, h110km±20km, n17, σ0s47/34, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEL	**Peldehue**	**0.60**	**223**	*e*P	Pn	**04 49 15.4**	**-0.3**
PEL				*e*S	Sn	**04 49 28.6**	**-0.4**
PEL				AML	AML	04 49 30.6	
	comp=N,873nm,0.3s						
ROCH	**El Roble**	**0.73**	**248**	*e*P	Pn	**04 49 16.9**	**0.0**
ROCH				*e*S	Sn	**04 49 31.2**	**0.0**
ROCH				AML	AML	04 49 32.3	
	comp=E,1μm,0.2s						
CLCH	**Cerro Calan**	**0.75**	**202**	*e*P	Pn	**04 49 16.9**	**-0.1**
CLCH				*e*S	Sn	**04 49 31.5**	**+0.3**
CLCH				AML	AML	04 49 32.0	
	comp=N,540nm,0.4s						
STL	**Santa Lucia**	**0.82**	**207**	*e*P	Pn	**04 49 16.8**	**-0.7**
STL				*e*S	Sn	**04 49 31.8**	**-0.4**
FSR	**Penalolen**	**0.82**	**199**	*e*S	Pn	**04 49 17.3**	**-0.3**
FSR				*e*P	Pn	**04 49 17.3**	**-0.3**
FSR				*e*S	Sn	**04 49 32.6**	**+0.3**
AUSP	**Uspallata**	**0.84**	**56**	*e*P	Pn	**04 49 17.8**	**-0.2**
SAN	**Santiago**	**0.84**	**207**	*e*P	Pn	**04 49 18.0**	**+0.2**
SAN				*e*S	Sn	**04 49 32.9**	**+0.3**
SJCH	**San Jose de Ma**	**0.95**	**188**	*e*P	Pn	**04 49 18.9**	**+0.1**
SJCH				*e*S	Sn	**04 49 35.3**	**+0.8**
ARCO	**CERRO ARCO**	**1.08**	**98**	*e*P	Pn	**04 49 20.2**	**0.0**
ARCO				*e*S	Sn	**04 49 36.7**	**-0.2**
ARCO				AML	AML	04 49 38.7	
	comp=Z,252nm,0.5s						
TACH	**Talagante**	**1.13**	**213**	*e*P	Pn	**04 49 20.4**	**-0.2**
TACH				*e*S	Sn	**04 49 38.2**	**+0.4**
ASAL	**Salagasta**	**1.16**	**85**	*e*P	Pn	**04 49 21.2**	**+0.2**
ASAL				*e*S	Sn	**04 49 38.4**	**0.0**
RTLS	**Leoncito**	**1.18**	**41**	*e*P	Pn	**04 49 22.0**	**+0.6**
RTLS				*e*S	Sn	**04 49 40.0**	**+0.8**
AAGR	**Agrelo**	**1.22**	**109**	*e*P	Pn	**04 49 22.1**	**+0.4**
AAGR				*e*S	Sn	**04 49 39.2**	**-0.4**
RTCV	**Cerro Valdivia**	**1.64**	**60**	*e*P	Pn	**04 49 26.6**	**+0.1**
RTCV				*e*S	Sn	**04 49 48.0**	**-0.2**
CFAA	**Coronel Fontan**	**1.99**	**57**	*e*P	Pn	**04 49 30.9**	**0.0**
CFAA				*e*S	Sn	**04 49 55.0**	**-1.1**
RTLL	**Cerro Villicun**	**2.00**	**47**	*e*P	Pn	**04 49 31.5**	**+0.3**
RTLL				*e*S	Sn	**04 49 56.2**	**-0.2**
AMOG	**MOGNA**	**2.28**	**40**	*e*P	Pn	**04 49 35.3**	**+0.6**
AMOG				*e*S	Sn	**04 50 01.7**	**-1.0**

SJA 22 04:53:05.4±0.9, 35°.90S×73°.50W, h20km, ML3.6, MW4.2
ISCJB 22 04:53:09.6±1.4, 35°.91S±0°.04×73°.06W±0°.08, h13km±8km, Error ellipse: s-maj=11.3km s-min=6.5km az=19.1
GUC 22 04:53:11.4±0.4, 36°.01S×72°.93W, h26km±2km, ML4.0

ISC 22 04:53:09.5±2.1, 36°.04S±0°.06×72°.90W±0°.09, h1km±15km, n13, σ0s94/16, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.12**	**136**	*e*P	Pg	04 53 16.9	+5.0
COCH				*e*S	Sg	04 53 20.7	+7.1
CCSP	**San Pedro de C**	**0.82**	**192**	*e*P	**Pb**	**04 53 26.6**	**0.0**
CCSP				*e*S	**Sb**	**04 53 38.1**	**-0.1**
CCSP				AML	AML	04 53 40.3	
	comp=E,10μm,0.4s						
LNCH	**Linares**	**1.07**	**80**	*e*P	**Pb**	**04 53 30.6**	**-0.2**
LNCH				*e*S	**Sb**	**04 53 45.2**	**0.0**
TALC	**Talca**	**1.21**	**58**	*e*P	**Pg**	**04 53 32.6**	**-0.2**
TALC				*e*S	**Sg**	**04 53 48.6**	**+0.2**
TALC				AML	AML	04 53 51.7	
	comp=E,7μm,0.4s						
NICH	**Los Niches**	**1.71**	**53**	*e*P	**Pn**	**04 53 40.7**	**+0.2**
NICH				*e*S	**Sn**	**04 54 02.7**	**-0.2**
CANA	**Caviahue**	**2.36**	**142**	*e*P	**Pb**	**04 53 51.9**	**-1.0**
CANA				*e*S	**Sg**	**04 54 25.9**	**+0.6**
CANA				AML	AML	04 54 41.5	
	comp=Z,233nm,0.7s						
AAGR	**Agrelo**	**4.47**	**50**	*e*P	**Pn**	**04 54 20.8**	**+2.3**
AUSP	**Uspallata**	**4.79**	**38**	*e*P	**Pn**	**04 54 24.2**	**+1.0**
ASAL	**Salagasta**	**4.81**	**45**	*e*P4	Pn	04 54 27.4	+4.2
RTLS	**Leoncito**	**5.18**	**36**	*e*P	**Pn**	**04 54 29.3**	**+0.8**
CFAA	**Coronel Fontan**	**5.88**	**43**	*e*P	**Pn**	**04 54 38.1**	**+0.2**
RTLL	**Cerro Villicun**	**5.97**	**39**	*e*P	**Pn**	**04 54 38.8**	**-0.3**
AMOG	**MOGNA**	**6.28**	**37**	*e*P	**Pn**	**04 54 41.9**	**-1.4**

IDC 22 04:53:15.0±2.3, 32°.70N×115°.84W, h0km, mb1 3.3/4, mb1mx3.2/34, mbtmp2.9/4, ML3.4/4, Error ellipse: s-maj=33.1km s-min=9.7km az=38.0
IASPEI 22 04:53:17.6±0.8, 32°.72N±0°.02×115°.95W±0°.02, h17km±5km, Error ellipse: s-maj=3.8km s-min=2.8km az=140.8
NEIC 22 04:53:18.8, 32°.71N×115°.96W, h10km, ML4.0(PAS), ML4.1(ECX), After PAS.
NEIC Felt at Brawley, Calexico, Campo, Carlsbad, Cathedral City, El Cajon, El Centro, National City, Ocotillo, San Diego and Spring Valley.
ECX 22 04:53:19.3±0.6, 32°.69N×115°.95W, h4km, MD3.9, ML4.1

ISC 22 04:53:18.8±0.8, 32°.71N±0°.02×115°.93W±0°.02, h17km±4km, n81, σ1s85/117, 10C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.06**	**176**	⇓*i*P	**Pg**	**04 53 20.6**	**-1.3**
IBP	**Imperial Bould** baz=0.1	**0.15**	**252**	P	**Pg**	**04 53 21.8**	**-1.2**
IBP				S	**Sg**	**04 53 24.1**	**-1.6**
	baz=0.1						
RMX	**La Rumorosa**	**0.16**	**231**	*i* P	**Pg**	**04 53 22.1**	**-1.2**
RMX				*e*S	**Sg**	**04 53 24.6**	**-1.6**
RMX	**La Rumorosa**	**0.16**	**231**	⇓*i*P	**Pg**	**04 53 22.1**	**-1.2**
RMX				*e*S	**Sg**	**04 53 24.6**	**-1.6**
WESC	**Westside Schoo**	**0.17**	**72**	⇑*i*P	**Pg**	**04 53 22.8**	**-0.4**
WESC				*e*S	**Sg**	**04 53 26.4**	**+0.3**
SGL	**Mount Signal**	**0.18**	**108**	⇑*i*P	**Pg**	**04 53 22.7**	**-0.6**
COK	**Cook Ranch**	**0.22**	**50**	⇑*i*P	**Pg**	**04 53 23.6**	**-0.3**
SWSC	**Sam W. Stewart** baz=0.3	**0.26**	**25**	P	**Pg**	**04 53 23.6**	**-0.9**
SWSC				S	**Sg**	**04 53 27.5**	**-1.0**
	baz=0.3						
DREC	**Desert Rsrch C**	**0.42**	**76**	⇑*e*P	**Pb**	**04 53 27.6**	**-0.2**
CPBX	**Cerro Prieto**	**0.60**	**118**	*e*P9		04 53 29.3	
CPBX				*e*S	**Sg**	**04 53 37.2**	**-1.5**
CPBX				IAML		04 53 38.5	
	comp=E,40μm,0.5s						
CPBX				⇑*e*		04 53 41.1	
CPBX				IAML		04 53 41.1	
	comp=N,37μm,0.4s						
BAR	**Barrett**	**0.63**	**268**	*e*Pg	**Pg**	**04 53 29.9**	**-1.3**
BAR				*e*Sg	**Sg**	**04 53 38.1**	**-1.5**
BAR	**Barrett**	**0.63**	**268**	⇑*i*P	**Pg**	**04 53 30.0**	**-1.2**
CBX	**Cerro Bola**	**0.73**	**238**	*i* P	**Pg**	**04 53 32.1**	**-1.1**
CBX				*e*S	**Sg**	**04 53 41.8**	**-1.2**
CBX	**Cerro Bola**	**0.73**	**238**	⇑*i*P	**Pg**	**04 53 32.1**	**-1.1**
CBX				*e*S	**Sg**	**04 53 41.8**	**-1.2**
RDX	**Rancho Dawling**	**0.78**	**181**	*e*P	**Pg**	**04 53 32.7**	**-1.3**
RDX				*e*S	**Sg**	**04 53 42.9**	**-1.4**
RDX	**Rancho Dawling**	**0.78**	**181**	⇓*e*P	**Pg**	**04 53 32.7**	**-1.3**
RDX				*e*S	**Sg**	**04 53 42.9**	**-1.4**
RDX				⇑*e*		04 53 47.0	
	comp=N,4μm,0.7s						
SDRC	**San Diego Road**	**0.86**	**272**	*e*P	**Pg**	**04 53 33.7**	**-1.8**
GLA	**Glamis**	**0.99**	**69**	*e*Pg	**Pg**	**04 53 35.7**	**-2.3**
GLA				*e*Sg	**Sg**	**04 53 49.1**	**-1.8**
GLA	**Glamis** baz=1.0	**0.99**	**69**	P	**Pg**	**04 53 36.0**	**-2.0**
PFO	**Pinyon Flats O**	**1.00**	**334**	Pg	**Pg**	**04 53 36.0**	**-2.3**
	comp=N,316nm,0.3s,baz=153,slow=15,SNR=1235						
PFO				Lg	Lg	04 53 49.5	
	comp=N,244nm,0.3s,baz=244,slow=21,SNR=9.7						
PFO	**Pinyon Flats O**	**1.00**	**334**	*e*Pg	**Pg**	**04 53 35.7**	**-2.6**
PFO				Lg	Lg	04 53 49.5	
PFO				*e*Sg	**Sg**	**04 53 49.6**	**-1.9**
PFO	**Pinyon Flats O** baz=1.0	**1.00**	**334**	P	**Pg**	**04 53 36.0**	**-2.3**
109C	**Camp Elliot, M** baz=1.0	**1.01**	**281**	P	**Pg**	**04 53 36.3**	**-2.1**
109C				S	**Sg**	**04 53 48.9**	**-2.7**
	baz=1.0						
BC3	**Big Chuckawall** baz=1.1	**1.03**	**23**	P	**Pg**	**04 53 36.4**	**-2.3**
BC3				S	**Sg**	**04 53 49.1**	**-3.1**
	baz=1.1						
PBX	**Punta Banda**	**1.18**	**215**	*e*P	**Pg**	**04 53 39.7**	**-1.8**
PBX				*e*S	**Sg**	**04 53 54.7**	**-2.2**
PBX	**Punta Banda**	**1.18**	**215**	*e*P	**Pg**	**04 53 39.7**	**-1.8**
PBX				*e*S	**Sg**	**04 53 54.7**	**-2.2**
ECNX	**Esteban Cantu**	**1.19**	**209**	*e*P	**Pg**	**04 53 40.0**	**-1.8**
ECNX				*e*S	**Sg**	**04 53 55.4**	**-2.0**
ZAX	**El Zacaton**	**1.22**	**194**	*e*P	**Pg**	**04 53 40.7**	**-1.8**
ZAX				*e*S	**Sg**	**04 53 56.6**	**-1.9**
BELC	**Belle Mtn. Jos** baz=1.3	**1.29**	**357**	P	Pn	04 53 40.3	-2.0
MURC	**Murrieta** baz=1.4	**1.39**	**310**	P	Pn	04 53 41.8	-1.8
MURC				S	**Sb**	**04 54 00.7**	**-1.2**
	baz=1.4						
ECBX	**El Chinero**	**1.44**	**149**	*e*P9		04 53 41.2	
ECBX				*e*S	**Sb**	**04 54 00.4**	**-2.7**
ECBX				⇑*e*		04 54 06.0	
	comp=N,1μm,0.9s						
Y12C	**Blythe** baz=1.6	**1.57**	**48**	P	Pn	**04 53 44.4**	**-1.6**
Y12C				S	**Sn**	**04 54 04.9**	**-1.0**
	baz=1.6						
IRM	**Iron Mountain** baz=1.6	**1.59**	**24**	Sg	**Sn**	**04 54 08.0**	**+1.5**
SPX	**San Pedro Mart**	**1.70**	**166**	*e*P	Pn	**04 53 47.9**	**-0.2**
SPX				*e*S	**Sn**	**04 54 11.4**	**+1.7**
SPX	**San Pedro Mart**	**1.70**	**166**	*e*P	Pn	**04 53 47.9**	**-0.2**
SPX				*e*S	**Sn**	**04 54 11.4**	**+1.7**
BBRC	**Big Bear Solar** baz=1.8	**1.76**	**332**	P	**Pn**	**04 53 47.7**	**-1.1**
BBRC				Sg	**Sn**	**04 54 13.0**	**+2.0**
	baz=1.8						
113A	**Mohawk Valley,** baz=1.8	**1.82**	**87**	P	**Pn**	**04 53 48.0**	**-1.4**
GMRC	**Granite Mounta** baz=2.1	**2.08**	**6**	Pg	**Pb**	**04 53 56.6**	**+0.3**
GMRC				Sg	**Sb**	**04 54 24.1**	**+2.2**
	baz=2.1						
BFSC	**Mount Baldy Ra** baz=2.1	**2.10**	**317**	Sb	Sn	**04 54 21.8**	**+2.5**
CIS	**Catalina Islan** baz=2.2	**2.19**	**289**	P	**Pn**	**04 53 54.9**	**+0.3**
FMP	**Fort Macarthur** baz=2.2	**2.22**	**297**	Sb	**Sn**	**04 54 25.4**	**+3.4**
MWC	**Mount Wilson**	**2.34**	**311**	*e*Pn	**Pn**	**04 53 59.3**	**+2.6**
MWC				*e*Sg	**Sb**	**04 54 29.5**	**+0.2**
RRX	**Edison Barstow** baz=2.3	**2.34**	**338**	P	**Pb**	**04 54 01.2**	**+0.6**
PASC	**Pasadena Art C**	**2.39**	**308**	*e*Pn	**Pn**	**04 53 58.8**	**+1.5**
PASC				*e*Sg	**Sb**	**04 54 30.7**	**+0.1**
LDFC	**Landfair**	**2.46**	**16**	*e*Pg	**Pg**	**04 54 04.8**	**-1.2**
Z14A	**Wintersburg** baz=2.6	**2.59**	**75**	P	**Pn**	**04 53 58.7**	**-1.3**
GSC	**Goldstone, Bar**	**2.69**	**345**	*e*Pg	**Pb**	**04 54 07.9**	**+1.3**
GSC				*e*Sg	**Sb**	**04 54 43.2**	**+3.8**
Y14A	**Wickenburg** baz=2.8	**2.74**	**63**	P	**Pn**	**04 54 01.1**	**-1.0**
214A	**Organ Pipe Nat**	**2.74**	**105**	*e*Pn	**Pn**	**04 54 00.0**	**-2.1**
214A				*e*Sg	**Sg**	**04 54 44.0**	**-3.0**
214A	**Organ Pipe Nat** baz=2.8	**2.74**	**105**	P	**Pn**	**04 54 00.2**	**-1.9**
EDW2	**Edwards Air Fo** baz=2.8	**2.77**	**322**	P	**Pb**	**04 54 07.8**	**-0.1**
OSI	**Osito Audit: C**	**3.01**	**310**	*e*Pn	**Pn**	**04 54 06.5**	**+0.6**
OSI				*e*Pg	**Pb**	**04 54 13.1**	**+1.1**
OSI				*e*Sn	**Sn**	**04 54 43.2**	**+1.6**
OSI				*e*Sg	**Sb**	**04 54 52.1**	**+3.6**
ISA	**Isabella, Lake**	**3.63**	**325**	*e*Pn	**Pn**	**04 54 14.0**	**-0.3**
ISA				*e*Pg	**Pb**	**04 54 24.5**	**+1.9**
ISA				*e*Sg	**Sb**	**04 55 09.5**	**+3.2**
DAC	**Darwin (Calif)**	**3.82**	**339**	*e*Pn	**Pn**	**04 54 16.3**	**-0.8**
DAC				*e*Pg	**Pb**	**04 54 28.2**	**+2.3**
DAC				*e*Sg	**Sb**	**04 55 17.1**	**+5.2**
SHPR	**Sheep Range**	**3.84**	**9**	*e*Pn	**Pn**	**04 54 17.1**	**-0.3**
SHPR				*e*Pg	**Pg**	**04 54 30.5**	**-1.9**
SHPR				*e*Sg	**Sg**	**04 55 20.5**	**-1.8**
X16A	**Lo Mia Camp, P** baz=4.1	**4.12**	**64**	P	**Pn**	**04 54 21.0**	**-0.1**
TUC	**Tucson**	**4.36**	**94**	*e*Pn	**Pn**	**04 54 22.9**	**-1.5**
TUC				*e*Pg	**Pb**	**04 54 38.2**	**+3.1**
TUC				*e*Sg	**Sb**	**04 55 31.2**	**+3.7**
WUAZ	**Wupatki**	**4.70**	**52**	*e*Pn	Pn	04 54 26.7	-2.5
WUAZ				*e*Pg	Pb	04 54 44.8	+3.8
U15A	**North Rim** baz=4.8	**4.77**	**38**	P	**Pn**	**04 54 30.9**	**+0.7**
X18A	**Snowflake** baz=5.3	**5.31**	**68**	P	**Pn**	**04 54 38.0**	**+0.5**
TPH	**Tonopah**	**5.46**	**349**	*e*Pn	**Pn**	**04 54 40.1**	**+0.5**
TPH				*e*Pg	Pb	04 54 57.8	+3.9
TPH				*e*Sg	**Sg**	**04 56 09.6**	**-4.5**
R11A	**Troy Canyon, C**	**5.64**	**3**	*e*Pn	**Pn**	**04 54 41.2**	**-0.8**
R11A				*e*Pg	**Pg**	**04 55 04.0**	**-2.8**
R11A				*e*Sg	Sg	04 56 13.5	-6.2
W18A	**Petrified Fore**	**5.68**	**63**	*e*Pn	**Pn**	**04 54 43.6**	**+0.9**
W18A				*e*Pg	Pb	04 55 02.0	+4.4
W18A	**Petrified Fore** baz=5.7	**5.68**	**63**	P	**Pn**	**04 54 43.6**	**+0.9**
NVAR	**Mina Array Bea**	**6.03**	**342**	Pn	**Pn**	**04 54 46.7**	**-0.8**
	comp=N,0.3nm,0.3s,baz=163,slow=17,SNR=3.0						
NVAR				Pg	Pb	04 55 08.5	+4.9
	comp=N,2.0nm,0.3s,baz=152,slow=17,SNR=15						
CMB	**Columbia Colle**	**6.44**	**327**	*e*Pn	**Pn**	**04 54 52.9**	**-0.1**
CM

Luzon

*ISCJB **22** 05:46:22.2±0.8,3°.81S±0°.09×134°.2E±0°.1,h13km,mb3.7/2, Error ellipse: s-maj=18.5km s-min=8.9km az=141.7*
*IDC **22** 05:46:23.1±1.7,3°.82S×134°.29E,h0km,mb3.8/2, mb1 4.3/5,mb1mx3.9/18,mbtmp4.1/5,ML4.1/3,Error ellipse: s-maj=91.8km s-min=22.5km az=63.0*
*DJA **22** 05:46:39.9±1.9,2°.S±10°×13°.4E±1°.0,h50km±23km,M3.4/3, MLv3.4/3*
ISC 22 05:46:24.1±1.0,3°.6S±0°.1×134°.3E±0°.1,h13km,n8,σ1§82/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**2.12**	**357**	P	**Pn**	**05 46 58.3**	**-1.0**
RKPI				S	Sn	05 47 10.4	-15
FAKI	**Fak Fak**	**2.17**	**289**	P	**Pb**	**05 47 02.7**	**-0.6**
FAKI				S	**Sn**	**05 47 24.5**	**-2.3**
SIJI	**Sorong**	**4.09**	**312**	Pn	**Pn**	**05 47 28.4**	**+1.9**
	6.0nm,0.3s,baz=195,slow=22,SNR=11						
WRA	**Warramunga Arr**	**16.21**	**180**	Pn	Pn	05 50 06.8	-4.9
	0.2nm,0.3s,baz=8.2,slow=13,SNR=10.0						
ASAR	**Alice Springs**	**19.92**	**181**	P	**P**	**05 50 55.3**	**-0.5**
	2.4nm,0.3s,baz=6.3,slow=11,SNR=248						
CTA	**Charters Tower**	**20.08**	**145**	P	**P**	**05 50 57.6**	**+0.1**
	0.3nm,0.3s,baz=330,slow=15,SNR=5.4						
MKAR	**Makanchi Array**	**67.90**	**324**	P	**P**	**05 57 24.8**	**+2.3**
	0.7nm,0.7s,baz=106,slow=5.3,SNR=8.0						
VNDA	**Vanda**	**75.29**	**174**	P	**P**	**05 58 05.7**	**-0.8**
	0.7nm,0.8s,baz=332,slow=6.7,SNR=4.7						

*ISCJB **22** 05:48:10.8±0.2,13°.28S±0°.03×69°.75W±0°.04,h600km, mb4.4/79,Error ellipse: s-maj=5.3km s-min=3.2km az=154.0*
*IDC **22** 05:48:11.2±0.5,13°.34S×69°.72W,h592km±6km,mb3.5/17, mb1 3.6/22,mb1mx3.5/36,mbtmp4.5/22,Error ellipse: s-maj=11.9km s-min=8.2km az=46.0*
*NEIC **22** 05:48:11.6±0.3,13°.34S×69°.75W,h595km±4km,mb4.6/59, Error ellipse: s-maj=8.3km s-min=4.8km az=75.0*
*BJI **22** 05:48:12.7,13°.30S×69°.80W,h600km,mB4.6/1*
ISC 22 05:48:11.7±0.3,13°.39S±0°.05×69°.81W±0°.06,h600km, n340,σ1§03/365,mb4.4/81,79C-75D,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.30**	**151**	P	**P**	**05 49 33.8**	**+0.4**
	23nm,0.3s,baz=341,slow=3.9,SNR=820						
LPAZ				S	**S**	**05 50 36.8**	**-3.1**
	2.9nm,0.3s,baz=193,slow=22,SNR=16						
LPAZ	**La Paz**	**3.30**	**151**	*e*P	**P**	**05 49 33.4**	**0.0**
LPAZ	**La Paz**	**3.30**	**151**	*e*P	**P**	**05 49 33.6**	**+0.2**
LPAZ				*e*S	**S**	**05 50 38.1**	**-1.8**
ARE	**Arequipa**	**3.46**	**208**	*e*P	**P**	**05 49 33.0**	**-1.0**
MNMC	**Minimini**	**5.71**	**178**	*e*P	**P**	**05 49 50.4**	**-0.3**
PSGC	**Pisagua**	**6.18**	**183**	*e*P	**P**	**05 49 54.0**	**-0.5**
NNA	**Nana**	**7.01**	**281**	P	**P**	**05 50 01.6**	**-0.3**
	11nm,0.3s,baz=110,slow=6.0,SNR=24						
NNA				S	**S**	**05 51 30.1**	**-2.0**
	1.1nm,0.3s,baz=330,slow=18,SNR=11						
NNA	**Nana**	**7.01**	**281**	*e*P	**P**	**05 50 01.6**	**-0.3**
NNA				*e*S	**S**	**05 51 31.1**	**-0.9**
PATCX	**Punta Patache**	**7.39**	**183**	*e*P	**P**	**05 50 05.7**	**+0.3**
PB01	**IPOC Station P**	**7.61**	**178**	*e*P	**P**	**05 50 07.3**	**-0.2**
SAML	**Samuel**	**7.86**	**56**	*e*P	**P**	**05 50 10.4**	**+0.6**
SAML				*e*S	**S**	**05 51 48.2**	**+1.7**
PB07	**IPOC Station P**	**8.29**	**181**	*e*P	**P**	**05 50 13.8**	**-0.2**
PB09	**IPOC Station P**	**8.37**	**176**	*e*P	**P**	**05 50 15.2**	**+0.4**
PB04	**IPOC Station P**	**8.83**	**178**	*e*P	**P**	**05 50 20.4**	**+1.5**
SIV	**San Ignacio**	**8.84**	**108**	P	**P**	**05 50 19.6**	**+0.4**
	14nm,0.3s,baz=294,slow=11,SNR=216						
LVC	**Limon Verde**	**9.21**	**175**	P	**P**	**05 50 23.6**	**+0.6**
	293nm,0.3s,baz=1.8,slow=6.2,SNR=99						
LVC				S	**S**	**05 52 11.1**	**+0.5**
	84nm,0.3s,baz=275,slow=20,SNR=6.7						
LVC	**Limon Verde**	**9.21**	**175**	*e*P	**P**	**05 50 23.6**	**+0.6**
LVC				*e*S	**S**	**05 52 12.9**	**+2.3**
PB06	**IPOC Station P**	**9.26**	**179**	*e*P	**P**	**05 50 23.1**	**-0.3**
PB10	**IPOC Station P**	**10.09**	**184**	*e*P	**P**	**05 50 32.6**	**+1.3**
ATAH	**Atahualpa**	**10.49**	**306**	P	**P**	**05 50 36.8**	**+0.8**
	4.5nm,0.3s,baz=136,slow=8.2,SNR=19						
ATAH				S	**S**	**05 52 33.7**	**-0.5**
	0.4nm,0.3s,baz=258,slow=19,SNR=5.2						
LCO	**Las Campanas**	**15.56**	**183**	*e*P	**P**	**05 51 26.8**	**+1.5**
LCO	**Las Campanas**	**15.56**	**183**	*e*P	**P**	**05 51 25.8**	**+0.5**
	34nm,1.1s						
OTAV	**Otavalo**	**16.02**	**327**	*e*P	**P**	**05 51 31.0**	**+1.0**
	47nm,1.7s						
CPUP	**Villa Florida**	**17.40**	**140**	*e*P	**P**	**05 51 42.0**	**+0.2**
CFAA	**Coronel Fontan**	**18.18**	**176**	P	**P**	**05 51 49.4**	**+0.4**
	0.1nm,0.3s,baz=19,slow=7.2,SNR=14						
ROSC	**El Rosal**	**18.68**	**346**	P	**P**	**05 51 53.1**	**-1.0**
	1.6nm,0.3s,baz=96,slow=3.0,SNR=5.9						
ROSC	**El Rosal**	**18.68**	**346**	*e*P	**P**	**05 51 55.4**	**+1.3**
BDFB	**Brasilia**	**21.21**	**99**	P	**P**	**05 52 15.4**	**-1.3**
	2.4nm,0.7s,baz=264,slow=8.8,SNR=5.3						
BDFB	**Brasilia**	**21.21**	**99**	*e*P	**P**	**05 52 17.3**	**+0.6**
SDV	**Santo Domingo**	**22.15**	**358**	*e*P	**P**	**05 52 24.6**	**-0.5**
	5.1nm,0.8s						
PCRV	**Puerto La Cruz**	**23.97**	**13**	P	**P**	**05 52 41.3**	**+0.2**
	6.1nm,0.6s,baz=256,slow=2.0,SNR=6.0						
BCIP	**Isla Barro Col**	**24.53**	**336**	*e*P	**P**	**05 52 47.0**	**+1.1**
	225nm,2.4s						
TRQA	**Tornquist**	**25.53**	**166**	*e*P	**P**	**05 52 54.3**	**-0.2**
	9.7nm,1.3s						
PLCA	**Paso Flores**	**27.24**	**181**	P	**P**	**05 53 09.5**	**-0.1**
	1.1nm,0.7s,baz=329,slow=7.9,SNR=3.4						
PLCA				PcP	**PcP**	**05 56 09.5**	**+0.5**
	1.3nm,0.9s,baz=330,slow=3.9,SNR=3.8						
PLCA	**Paso Flores**	**27.24**	**181**	*e*P	**P**	**05 53 10.0**	**+0.5**
	94nm,2.7s						
PLCA				*e*PcP	**PcP**	**05 56 10.0**	**+1.0**
JTS	**JuntasAbangare**	**27.92**	**327**	P	**P**	**05 53 16.1**	**+0.4**
	1.7nm,0.5s,baz=272,slow=13,SNR=6.0						
JTS	**JuntasAbangare**	**27.92**	**327**	*e*P	**P**	**05 53 17.7**	**+1.9**
	51nm,1.8s						
CRPR	**Cabo Rojo, PR**	**31.32**	**5**	*e*P	**P**	**05 53 44.1**	**-0.6**
	23nm,0.9s						
OBIP	**Obispado Ponce**	**31.40**	**6**	*e*P	**P**	**05 53 45.0**	**-0.5**
	20nm,1.0s						
SABA	**Saba**	**31.49**	**12**	*e*P	**P**	**05 53 46.9**	**+0.6**
	148nm,1.4s						
SJG	**San Juan**	**31.51**	**7**	*e*P	**P**	**05 53 46.0**	**-0.5**
	24nm,0.9s						
MPR	**Mayaguez**	**31.52**	**5**	*e*P	**P**	**05 53 45.9**	**-0.6**
	17nm,1.0s						
HUMP	**Col San Antoni**	**31.58**	**7**	*e*P	**P**	**05 53 47.7**	**+0.7**
	29nm,1.4s						
LRS	**Lares**	**31.62**	**5**	*e*P	**P**	**05 53 46.8**	**-0.7**
AOPR	**Arecibo Observ**	**31.68**	**6**	*e*P	**P**	**05 53 47.3**	**-0.6**
	53nm,1.5s						
AGP	**Aguadilla**	**31.71**	**5**	*e*P	**P**	**05 53 47.9**	**-0.3**
	190nm,1.4s						
STVI	**Saint Thomas**	**31.91**	**9**	*e*P	**P**	**05 53 49.5**	**-0.3**
	42nm,1.3s						
SMRT	**St. Maarten**	**31.94**	**12**	*e*P	**P**	**05 53 48.4**	**-1.7**
	78nm,0.8s						
SDDR	**Presa de Saban**	**32.20**	**357**	*e*P	**P**	**05 53 52.9**	**+0.4**
	17nm,1.3s						
MTDJ	**Mount Denham**	**32.33**	**346**	*e*P	**P**	**05 53 53.6**	**0.0**
	54nm,1.1s						
RCBR	**Riachuelo**	**34.23**	**81**	P	**P**	**05 54 10.1**	**+0.5**
	15nm,1.0s,baz=258,slow=8.1,SNR=5.7						
RCBR	**Riachuelo**	**34.23**	**81**	*e*P	**P**	**05 54 10.4**	**+0.8**
	19nm,1.0s						
TEIG	**Tepich**	**38.03**	**331**	P	**P**	**05 54 40.0**	**-0.5**
	7.8nm,0.7s,baz=58,slow=3.4,SNR=5.5						
TEIG	**Tepich**	**38.03**	**331**	*e*P	**P**	**05 54 40.3**	**-0.2**
	43nm,1.3s						
CMIG	**Matias Romero**	**39.13**	**320**	P	**P**	**05 54 49.8**	**+0.4**
	6.7nm,0.6s,baz=105,slow=7.4,SNR=7.9						
BBSR	**BB Station**	**45.77**	**6**	*e*P	**P**	**05 55 40.6**	**-0.3**
	169nm,2.0s						
RGRS	**Roger Stewart**	**47.10**	**348**	*e*P	**P**	**05 55 51.2**	**+0.3**
LRAL	**Lakeview Retre**	**49.00**	**341**	*e*P	**P**	**05 56 04.1**	**-0.9**
	8.7nm,1.2s						
KMSC	**Kings Mountain**	**49.49**	**348**	*e*P	**P**	**05 56 08.4**	**-0.2**
	11nm,1.0s						
KMSC	**Kings Mountain**	**49.49**	**348**	⇓P	**P**	**05 56 08.8**	**+0.2**
	baz=50						
736A	**Circle Diamond**	**49.66**	**328**	⇓P	**P**	**05 56 11.4**	**+1.4**
	baz=50						
933A	**Laredo**	**49.78**	**325**	⇓P	**P**	**05 56 11.8**	**+0.9**
	baz=50						
834A	**Tilden**	**49.78**	**326**	⇓P	**P**	**05 56 11.6**	**+0.7**
	baz=50						
636A	**Smothers Creek**	**50.09**	**329**	⇑P	**P**	**05 56 13.7**	**+0.6**
	baz=50						
833A	**Chaparral WMA,**	**50.40**	**326**	⇑P	**P**	**05 56 15.8**	**+0.5**
	baz=51						
CPCT	**Cooper Cave**	**50.54**	**344**	*e*P	**P**	**05 56 15.5**	**-0.8**
TKL	**Tuckaleechee C**	**50.55**	**345**	*e*P	**P**	**05 56 16.0**	**-0.4**
733A	**Divot King Ran**	**50.65**	**326**	⇓P	**P**	**05 56 17.4**	**+0.1**
	baz=51						
832A	**Faith Ranch, C**	**50.69**	**325**	⇑P	**P**	**05 56 17.5**	**0.0**
	baz=51						
SWET	**Sewanee**	**50.70**	**343**	*e*P	**P**	**05 56 16.1**	**-1.4**
732A	**Laxson Ranch,**	**51.03**	**325**	⇓P	**P**	**05 56 20.1**	**+0.1**
	baz=51						
633A	**Saathoff Ranch**	**51.17**	**327**	⇓P	**P**	**05 56 20.9**	**-0.1**
	baz=51,SNR=6.7						
VWCC	**Virginia Weste**	**51.27**	**350**	*e*P	**P**	**05 56 22.0**	**+0.5**
336A	**Riesel**	**51.54**	**330**	⇑P	**P**	**05 56 23.6**	**+0.1**
	baz=52						
632A	**Uvalde**	**51.54**	**326**	⇑P	**P**	**05 56 23.7**	**+0.1**
	baz=52						
533A	**Kerrville**	**51.58**	**327**	⇑P	**P**	**05 56 23.4**	**-0.6**
	baz=52						
434A	**Burnet**	**51.78**	**329**	⇓P	**P**	**05 56 25.2**	**-0.1**
	baz=52						
138A	**Matatall Enter**	**51.78**	**333**	⇑P	**P**	**05 56 25.7**	**+0.5**
	baz=52						
236A	**Katherine and**	**51.89**	**331**	⇓P	**P**	**05 56 26.8**	**+0.8**
	baz=52						
631A	**Perdido Creek**	**51.90**	**325**	⇑P	**P**	**05 56 26.0**	**-0.1**
	baz=52						
137A	**Heron Place, G**	**52.03**	**332**	⇑P	**P**	**05 56 27.9**	**+0.8**
	baz=52						
532A	**Rocksprings**	**52.09**	**327**	⇑P	**P**	**05 56 27.9**	**+0.4**
	baz=52						
WVT	**Waverly**	**52.12**	**341**	*e*P	**P**	**05 56 26.1**	**-1.4**
	74nm,3.0s						
334A	**Lometa**	**52.18**	**329**	⇓P	**P**	**05 56 28.1**	**-0.1**
	baz=52						
Z38A	**Mt. Pleasant**	**52.24**	**333**	⇑P	**P**	**05 56 28.8**	**+0.3**
	baz=52						
WHTX	**Lake Whitney,**	**52.33**	**330**	*e*P	**P**	**05 56 29.6**	**+0.4**
	7.9nm,0.6s						
WHTX	**Lake Whitney,**	**52.33**	**330**	⇓P	**P**	**05 56 29.2**	**0.0**
	baz=52						
531A	**Rocksprings**	**52.46**	**326**	⇓P	**P**	**05 56 30.6**	**+0.4**
	baz=53,SNR=5.4						
333A	**Richland Sprin**	**52.55**	**328**	⇓P	**P**	**05 56 30.8**	**0.0**
	baz=53						
432A	**Menard**	**52.62**	**327**	⇑P	**P**	**05 56 31.4**	**0.0**
	baz=53,SNR=5.8						
234A	**Clairette**	**52.67**	**330**	⇓P	**P**	**05 56 31.6**	**-0.1**
	baz=53,SNR=8.4						
530A	**J-C Ranch, Com**	**52.88**	**325**	⇓P	**P**	**05 56 33.2**	**0.0**
	baz=53						
431A	**Sonora**	**52.90**	**326**	⇑P	**P**	**05 56 33.1**	**-0.3**
	baz=53						
332A	**Millersview**	**52.99**	**328**	⇑P	**P**	**05 56 33.8**	**-0.2**
	baz=53,SNR=9.4						
233A	**Rising Star**	**53.06**	**329**	⇑P	**P**	**05 56 34.4**	**-0.1**
	baz=53,SNR=6.4						
134A	**White-Moore Ra**	**53.11**	**330**	⇑P	**P**	**05 56 34.6**	**-0.2**
	baz=53						
331A	**San Angelo**	**53.29**	**327**	⇑P	**P**	**05 56 35.8**	**-0.3**
	baz=54						
430A	**Baggett Ranch,**	**53.32**	**326**	⇑P	**P**	**05 56 35.9**	**-0.4**
	baz=54,SNR=5.5						
Z35A	**Perchaven, San**	**53.34**	**331**	⇓P	**P**	**05 56 36.5**	**+0.2**
	baz=54						
232A	**Coleman**	**53.34**	**328**	⇑P	**P**	**05 56 36.3**	**-0.2**
	baz=54,SNR=6.9						
529A	**Stev Forest Ra**	**53.36**	**325**	⇑P	**P**	**05 56 36.8**	**+0.1**
	baz=54,SNR=20						
X37A	**Clayton**	**53.55**	**334**	⇑P	**P**	**05 56 37.4**	**-0.3**
	baz=54						
133A	**Hamilton Ranch**	**53.55**	**329**	⇓P	**P**	**05 56 37.8**	**-0.1**
	baz=54,SNR=6.6						
429A	**Davenport Ranc**	**53.55**	**325**	⇑P	**P**	**05 56 38.1**	**+0.1**
	baz=54,SNR=6.9						
PBMO	**Poplar Bluff**	**53.56**	**339**	*e*P	**P**	**05 56 36.8**	**-1.0**
	9.4nm,0.6s						
W38A	**Poteau**	**53.60**	**335**	⇑P	**P**	**05 56 37.8**	**-0.3**
	baz=54						
TXAR	**Lajitas Array**	**53.60**	**323**	P	**P**	**05 56 38.0**	**-0.4**
	0.8nm,0.6s,baz=150,slow=9.1,SNR=15						
TX31	**Lajitas Ar. Si**	**53.60**	**323**	*e*P	**P**	**05 56 37.9**	**-0.5**
Z34A	**Collier Ranch,**	**53.68**	**331**	⇑P	**P**	**05 56 38.9**	**+0.1**
	baz=54						
330A	**Mertzon**	**53.76**	**327**	⇓P	**P**	**05 56 39.3**	**-0.1**
	baz=54						
ABTX	**Abilene, Hawle**	**53.92**	**329**	⇑P	**P**	**05 56 41.3**	**+0.8**
	baz=54						
Z33A	**Whitaker Ranch**	**54.02**	**330**	⇓P	**P**	**05 56 41.6**	**+0.5**
	baz=54,SNR=7.7						
W37A	**Quinton**	**54.04**	**334**	⇑P	**P**	**05 56 41.4**	**+0.2**
	baz=54						
Y34A	**Reagan Ranch,**	**54.09**	**331**	⇑P	**P**	**05 56 41.5**	**-0.1**
	baz=54						
329A	**Wagon Wheel Ra**	**54.26**	**326**	⇓P	**P**	**05 56 42.9**	**0.0**
	baz=54						
SSPA	**Standing Stone**	**54.27**	**352**	*e*P	**P**	**05 56 42.1**	**-0.6**
	100nm,2.8s						
131A	**Roby**	**54.34**	**328**	⇓P	**P**	**05 56 43.7**	**+0.2**
	baz=54						
W36A	**Wetumka**	**54.38**	**333**	⇑P	**P**	**05 56 43.3**	**-0.4**
	baz=55						
Z32A	**Haskell**	**54.39**	**329**	⇑P	**P**	**05 56 43.6**	**-0.2**
	baz=55						
Y33A	**Hilltop Ranch,**	**54.54**	**331**	⇓P	**P**	**05 56 44.9**	**+0.1**
	baz=55						
130A	**Snyder**	**54.58**	**328**	⇓P	**P**	**05 56 45.2**	**+0.1**
	baz=55						
X34A	**Smith Ranch, M**	**54.65**	**332**	⇑P	**P**	**05 56 45.9**	**+0.3**
	baz=55						
Z31A	**Sharp Cattle R**	**54.73**	**329**	⇓P	**P**	**05 56 46.0**	**-0.1**
	baz=55,SNR=5.2						
ACSO	**Alum Creek Sta**	**54.74**	**348**	*e*P	**P**	**05 56 45.5**	**-0.5**
	9.5nm,0.9s						
TUL1	**Leonard**	**54.85**	**334**	⇑P	**P**	**05 56 47.0**	**+0.2**
	baz=55						
X33A	**Lawton**	**54.92**	**331**	⇑P	**P**	**05 56 47.5**	**+0.2**
	baz=55						
Y32A	**R-V Farms, Ver**	**54.93**	**330**	⇑P	**P**	**05 56 47.9**	**+0.3**
	baz=55						
BRYW	**Bryant College**	**55.06**	**358**	*e*P	**P**	**05 56 48.2**	**0.0**
	19nm,0.8s						
228A	**UT Block 9, Go**	**55.08**	**326**	⇓P	**P**	**05 56 48.4**	**-0.3**
	baz=55						
129A	**Stewart Farms,**	**55.08**	**327**	⇓P	**P**	**05 56 48.7**	**0.0**
	baz=55						
Z30A	**Sanderson Ranc**	**55.21**	**328**	⇑P	**P**	**05 56 49.3**	**-0.2**
	baz=55						
WMOK	**Wichita Mounta**	**55.21**	**331**	*e*P	**P**	**05 56 49.5**	**+0.1**
WMOK				*e*pP	**pP**	**05 58 47.0**	**+4.5**
Y31A	**Rekieta Farm,**	**55.30**	**329**	⇑P	**P**	**05 56 50.0**	**-0.1**
	baz=56						
W33A	**Caddo, Fort Co**	**55.40**	**331**	⇓P	**P**	**05 56 51.0**	**+0.3**
	baz=56						
128A	**Castleberry Fa**	**55.41**	**326**	⇑P	**P**	**05 56 50.6**	**-0.3**
	baz=56						
Z29A	**Hungry Hill Ra**	**55.49**	**327**	⇑P	**P**	**05 56 51.6**	**+0.2**
	baz=56						
T37A	**Cheneyville 18**	**55.53**	**336**	⇑P	**P**	**05 56 51.1**	**-0.5**
	baz=56						
V34A	**Guthrie**	**55.53**	**333**	⇑P	**P**	**05 56 51.3**	**-0.4**
	baz=56						
ALLY	**Alegheny Colle**	**55.59**	**351**	*e*P	**P**	**05 56 51.7**	**-0.2**
	17nm,0.8s						
BINY	**Binghamton**	**55.61**	**354**	*e*P	**P**	**05 56 52.1**	**0.0**
	11nm,0.8s						
HRV	**Adam Dziewonsk**	**55.65**	**358**	*e*P	**P**	**05 56 51.6**	**-0.6**
	12nm,0.8s						
X31A	**McDonald Ranch**	**55.70**	**330**	⇑P	**P**	**05 56 53.0**	**+0.2**
	baz=56						
W32A	**Sentinel**	**55.74**	**331**	⇓P	**P**	**05 56 53.4**	**+0.3**
	baz=56,SNR=6.1						
T36A	**Boggs Farm, Ca**	**55.87**	**335**	⇑P	**P**	**05 56 53.7**	**-0.2**
	baz=56						
Z28A	**Tucker Farm, M**	**55.87**	**327**	⇓P	**P**	**05 56 53.6**	**-0.5**
	baz=56						
V33A	**Lossen Ranch,**	**55.87**	**332**	⇓P	**P**	**05 56 53.9**	**-0.1**
	baz=56						
TRY	**Troy**	**55.96**	**357**	*e*P	**P**	**05 56 54.8**	**+0.5**
	11nm,0.9s						
X30A	**Coker Ranch, T**	**55.99**	**329**	⇓P	**P**	**05 56 54.4**	**-0.5**
	baz=56						
T35A	**Sooner Cattle**	**56.01**	**334**	⇓P	**P**	**05 56 54.4**	**-0.5**
	baz=56						
U34A	**Anderson Ranch**	**56.05**	**333**	*e*P	**P**	**05 56 55.5**	**+0.3**
	8.7nm,0.6s						
U34A	**Anderson Ranch**	**56.05**	**333**	⇑P	**P**	**05 56 55.0**	**-0.1**
	baz=56						
V32A	**Arapaho**	**56.14**	**331**	⇓P	**P**	**05 56 56.1**	**+0.3**
	baz=56						
S36A	**Lake Cedric, C**	**56.32**	**336**	⇓P	**P**	**05 56 56.7**	**-0.3**
	baz=56						
MNTX	**Cornudas Mount**	**56.34**	**323**	*e*P	**P**	**05 56 56.6**	**-0.7**
	39nm,2.7s						
MNTX				*e*S	**S**	**06 04 03.0**	**-0.3**
MNTX	**Cornudas Mount**	**56.34**	**323**	⇓P	**P**	**05 56 57.2**	**-0.1**
	baz=56						
MMNY	**Mt. Morris Dam**	**56.34**	**353**	*e*P	**P**	**05 56 57.0**	**0.0**
	259nm,2.7s						
X29A	**Tulia**	**56.41**	**328**	⇑P	**P**	**05 56 57.3**	**-0.6**
	baz=57						
S35A	**Otter Creek Ra**	**56.58**	**335**	⇓P	**P**	**05 56 58.6**	**-0.2**
	baz=57,SNR=5.0						
R36A	**Gordon, Harris**	**56.80**	**336**	⇑P	**P**	**05 56 59.8**	**-0.5**
	baz=57						
W29A	**Amarillo**	**56.92**	**329**	⇑P	**P**	**05 57 00.7**	**-0.5**
	baz=57						
S34A	**Willow Spring**	**56.93**	**334**	⇓P	**P**	**05 57 00.8**	**-0.3**
	baz=57						
MDV	**Middlebury**	**57.20**	**357**	*e*P	**P**	**05 57 03.5**	**+0.7**
U30A	**WK&E Inc. Balk**	**57.55**	**331**	⇓P	**P**	**05 57 05.1**	**-0.4**
	baz=58						
R33A	**Olander Ranch,**	**57.81**	**334**	⇓P	**P**	**05 57 07.7**	**+0.5**
	baz=58						
Q34A	**Chapman**	**57.89**	**335**	⇑P	**P**	**05 57 07.3**	**-0.4**
	baz=58						
121A	**Cookes Peak, D**	**58.35**	**322**	⇓P	**P**	**05 57 12.0**	**+0.9**
	baz=58						
S29A	**Ulysses**	**58.65**	**331**	⇓P	**P**	**05 57 13.6**	**+0.7**
	baz=59						
T27A	**Campo**	**58.98**	**330**	⇓P	**P**	**05 57 15.1**	**0.0**
	baz=59						
S28A	**Manter**	**58.99**	**331**	⇓P	**P**	**05 57 15.3**	**0.0**
	baz=59						
JFWS	**Jewell Farm**	**59.09**	**343**	*e*P	**P**	**05 57 14.6**	**-1.0**
JFWS				*e*PcP	**PcP**	**05 57 56.7**	**+0.4**
O33A	**Hebron**	**59.13**	**335**	⇑P	**P**	**05 57 16.2**	**+0.2**
	baz=59						
Q30A	**Quinter**	**59.34**	**333**	⇑P	**P**	**05 57 17.7**	**+0.3**
	baz=60						
GLMI	**Grayling**	**59.48**	**348**	*e*pP	pP	05 59 06.9	-6.9
T26A	**Comanche Natio**	**59.50**	**329**	⇑P	**P**	**05 57 19.1**	**+0.4**
	baz=60						
O32A	**Brockman Farm,**	**59.57**	**335**	⇑P	**P**	**05 57 18.6**	**-0.3**
	baz=60						
Q29A	**Oakley**	**59.61**	**332**	⇑P	**P**	**05 57 19.5**	**+0.3**
	baz=60						
S26A	**Kim**	**59.79**	**329**	⇑P	**P**	**05 57 20.9**	**+0.4**
	baz=60						
R26A	**Arlington**	**60.31**	**330**	⇓P	**P**	**05 57 24.3**	**+0.4**
	baz=60						
Q26A	**Hugo**	**60.83**	**330**	⇓P	**P**	**05 57 27.7**	**+0.3**
	baz=61						
SDCO	**Great Sand Dun**	**60.91**	**328**	*e*P	**P**	**05 57 28.9**	**+0.8**
	3.0nm,0.8s						
SDCO	**Great Sand Dun**	**60.91**	**328**	⇑P	**P**	**05 57 28.7**	**+0.6**
	baz=61						
X18A	**Snowflake**	**61.03**	**323**	⇑P	**P**	**05 57 29.8**	**+1.0**
	baz=61						
214A	**Organ Pipe Nat**	**61.07**	**319**	⇓P	**P**	**05 57 29.8**	**+0.8**
	baz=61						
O27A	**Beecher Island**	**61.34**	**332**	⇑P	**P**	**05 57 31.7**	**+1.0**
	baz=62						
L31A	**Butterfield Fa**	**61.41**	**336**	⇓P	**P**	**05 57 32.4**	**+1.4**
	baz=62						
R23A	**Moffat**	**61.41**	**328**	⇑P	**P**	**05 57 31.7**	**+0.3**
	baz=62						
S22A	**4UR Ranch, Cre**	**61.60**	**327**	⇑P	**P**	**05 57 33.8**	**+1.2**
	baz=62						
Q24A	**Divide**	**61.66**	**329**	⇓P	**P**	**05 57 33.5**	**+0.5**
	baz=62						
ECSD	**EROS Data Cent**	**61.90**	**338**	*e*P	**P**	**05 57 33.5**	**-0.6**
	19nm,1.8s						
ECSD	**EROS Data Cent**	**61.90**	**338**	⇓P	**P**	**05 57 33.9**	**-0.1**
	baz=62						
MVCO	**Mesa Verde**	**62.11**	**326**	⇑P	**P**	**05 57 36.4**	**+0.6**
	baz=62						
P23A	**Jefferson**	**62.32**	**329**	⇑P	**P**	**05 57 37.7**	**+0.4**
	baz=62						
K29A	**Lazy Trails An**	**62.50**	**335**	⇑P	**P**	**05 57 38.8**	**+0.8**
	baz=63						
ISCO	**Idaho Springs**	**62.53**	**329**	⇑P	**P**	**05 57 39.0**	**+0.4**
	baz=63						
J30A	**Dallas**	**62.64**	**336**	⇓P	**P**	**05 57 39.2**	**+0.4**
	baz=63						
K28A	**Ten Mile Ranch**	**62.90**	**334**

TIC	Toumodi	67.34	77	eP		P		05 58 08.3	-0.6
	2.4nm,0.2s								
ULM	Lac du Bonnet	67.38	342	P		P		05 58 07.3	-1.0
	2.9nm,0.4s,baz=144,slow=7.1,SNR=14								
ULM	Lac du Bonnet	67.38	342	eP		P		05 58 07.3	-1.0
	51nm,2.3s								
I19A	Meeteetse	67.38	330	⇑P		P		05 58 09.4	+0.7
	baz=68								
C26A	Wahner Farm, P	67.40	337	⇑P		P		05 58 09.7	+1.1
	baz=68								
DBIC	Dimbokro	67.50	77	P		P		05 58 08.8	-1.0
	11nm,0.8s,baz=241,slow=7.3,SNR=14								
DBIC	Dimbokro	67.50	77	eP		P		05 58 09.2	-0.6
	15nm,0.9s								
KIC	Kosan Boka	67.52	77	eP		P		05 58 09.6	-0.4
	49nm,0.9s								
HVU	Hansel Valley	67.68	327	eP		P		05 58 11.7	+1.1
	8.9nm,1.5s								
REDW	Red Top Meadow	67.80	329	eP		P		05 58 12.4	+1.1
	40nm,2.5s								
E22A	Miles City	67.84	334	⇓P		P		05 58 12.8	+1.5
	baz=68								
VNA3	Neumayer Olymp	68.00	162	P		P		05 58 12.7	+0.8
C24A	Savage	68.07	335	⇓P		P		05 58 13.5	+0.8
	baz=68								
H18A	Shoshone NF, C	68.18	330	⇑P		P		05 58 13.9	+0.2
	baz=68								
D22A	Cohagen	68.50	334	⇑P		P		05 58 17.1	+1.8
	baz=69								
VNA2	Neumayer--Watz	68.56	162	P		P		05 58 16.1	+0.9
	baz=261,slow=6.2								
F19A	Roth Farm, Mol	68.72	332	⇓P		P		05 58 16.9	+0.2
	baz=69								
E20A	Meyer Farm, Mu	68.84	333	⇓P		P		05 58 18.4	+1.0
	baz=69								
E19A	Rath Farm, Rou	69.11	332	⇑P		P		05 58 19.7	+0.7
	baz=69								
C21A	Desert Coulee	69.41	334	⇑P		P		05 58 21.4	+0.7
	baz=70								
HLID	Hailey	69.78	327	⇓P		P		05 58 24.2	+1.0
	baz=70								
A22A	Carney Farms,	69.84	336	⇓P		P		05 58 24.5	+1.3
	baz=70								
SNAA	Sanae	70.20	162	P		P		05 58 23.5	-1.5
SNAA	Sanae	70.20	162	eP		P		05 58 23.5	-1.5
	11nm,1.1s								
WVOR	Wild Horse Val	71.37	324	eP		P		05 58 35.8	+3.3
	60nm,0.6s								
I07A	Izee	72.90	325	eP		P		05 58 41.2	-0.1
	29nm,2.0s								
DBO	Dodson Butte	74.47	322	ePKiKP		PKiKP		06 04 36.4	+0.8
TOA0	Torodi Ar. Sit	75.60	73	eP		P		05 58 55.2	-1.6
TOA0	Torodi Ar. Sit	75.60	73	eP		P		05 58 56.4	-0.4
TOA0				epP		pP		06 01 02.8	+2.0
TORD	Torodi Ar. Bea	75.60	73	P		P		05 58 56.4	-0.5
	21nm,0.8s,baz=258,slow=5.2,SNR=116								
TORD				pP		pP		06 01 00.4	-0.3
	1.8nm,0.8s,baz=254,slow=6.1,SNR=5.1								
TORD				S		S		06 07 47.1	-3.6
	1.2nm,0.9s,baz=252,slow=12,SNR=5.5								
QSPA	South Pole Qui	76.75	180	eP		P		05 59 03.3	+0.9
	7.7nm,0.9s								
PNCL	Nicolau / Gran	76.86	45	eP		P		05 59 05.4	+2.2
	24nm,1.7s								
EVO	Evora	77.41	45	eP		P		05 59 05.2	-1.1
	19nm,1.2s								
PESTR	Estremoz	77.86	45	eP		P		05 59 09.8	+1.1
	28nm,1.6s								
PCBR	Castelo Branco	78.40	44	eP		P		05 59 12.6	+1.1
	15nm,2.0s								
MVO	Moncorvo	79.33	43	eP		P		05 59 17.6	+1.1
	16nm,1.7s								
PBRG	Braganca	79.82	43	eP		P		05 59 19.1	0.0
	15nm,1.4s								
PAB	San Pablo	80.41	46	eP		P		05 59 23.3	+1.1
	15nm,1.1s								
ESDC	Sonseca Array	80.74	46	P		P		05 59 23.7	-0.2
	6.0nm,0.9s,baz=249,slow=5.0,SNR=24								
ES19	SONSECA Array	80.79	46	eP		P		05 59 24.7	+0.5
TSUM	Tsumeb	83.27	108	eP		P		05 59 38.3	+1.0
	10nm,1.4s								
YKA	Yellowknife Ar	83.30	341	P		P		05 59 35.9	-0.3
	0.8nm,0.4s,baz=133,slow=4.9,SNR=14								
SBA	Scott Base	83.61	190	eP		P		05 59 39.4	+1.8
	84nm,2.5s								
SJPF	Ste Jean	84.06	43	eP		P		05 59 40.0	-0.4
ETSF	Etsaut	84.42	44	eP		P		05 59 40.8	-1.5
VNDA	Vanda	84.64	190	P		P		05 59 44.2	+1.6
	1.8nm,0.8s,baz=123,slow=3.7,SNR=10								
VNDA	Vanda	84.64	190	eP		P		05 59 44.3	+1.6
	41nm,2.6s								
LFF	La Frestale	86.09	42	eP		P		05 59 49.2	-0.9
	15nm,1.0s								
MFF	Saint Martin d	86.19	40	eP		P		05 59 49.4	-1.1
MFF	Saint Martin d	86.19	40	eP		P		05 59 49.4	-1.1
MTLF	Montolieu	86.46	44	eP		P		05 59 50.8	-1.2
	10nm,1.2s								
RJF	Les Rejaudoux	86.74	42	eP		P		05 59 51.9	-1.3
	12nm,1.0s								
RJF	Les Rejaudoux	86.74	42	eP		P		05 59 51.9	-1.3
	12nm,1.0s								
CAF	Calviac	86.96	43	eP		P		05 59 53.1	-1.2
	22nm,1.3s								
TCF	Toulx Ste Croi	87.56	41	eP		P		05 59 55.5	-1.6
	6.3nm,1.0s								
TCF	Toulx Ste Croi	87.56	41	eP		P		05 59 55.5	-1.6
	6.3nm,1.0s								
LASF	Ste Croix	87.84	44	eP		P		05 59 56.9	-1.5
BGF	Bois d'Agland	88.07	41	eP		P		05 59 58.2	-1.2
	14nm,0.9s								
BGF	Bois d'Agland	88.07	41	eP		P		05 59 58.2	-1.2
	14nm,0.9s								
SUMG	Summit	88.23	9	eP		P		06 00 00.7	+0.7
	157nm,3.0s								
AVF	Avril sur Loir	88.48	41	eP		P		06 00 00.6	-0.7
AVF	Avril sur Loir	88.48	41	eP		P		06 00 00.6	-0.7
VIVF	Saint-Julien-l	88.66	43	eP		P		06 00 01.5	-0.7
	16nm,1.3s								
SSF	Saint Saulge	88.68	41	eP		P		06 00 01.4	-0.8
SSF	Saint Saulge	88.68	41	eP		P		06 00 01.4	-0.8
SMF	Signal de Mont	88.74	41	eP		P		06 00 01.2	-1.3
	15nm,1.0s								
SMF	Signal de Mont	88.74	41	eP		P		06 00 01.2	-1.3
	15nm,1.0s								
LOR	Lormes	88.98	41	eP		P		06 00 01.9	-1.7
ORIF	Oris-en-Rattie	89.49	44	eP		P		06 00 05.8	-0.3
	11nm,0.9s								
CABF	La Chapelle	90.19	42	eP		P		06 00 07.9	-1.4
CABF	La Chapelle	90.19	42	eP		P		06 00 07.9	-1.4
LPL	La Plagne	90.25	43	eP		P		06 00 09.4	-0.4
LPG	La Plagne	90.26	43	eP		P		06 00 09.6	-0.3
	10nm,1.1s								
PAGF	Fort de Pagny	90.60	40	eP		P		06 00 09.9	-1.2
PAGF	Fort de Pagny	90.60	40	eP		P		06 00 09.9	-1.2
CDF	Champ du Feu	91.53	41	eP		P		06 00 13.9	-1.6
CDF	Champ du Feu	91.53	41	eP		P		06 00 13.9	-1.6
MAW	Mawson	92.30	164	P		P		06 00 18.6	0.0
	2.2nm,0.7s,baz=73,slow=1.6,SNR=4.5								
MAW	Mawson	92.30	164	eP		P		06 00 19.2	+0.6
	9.3nm,2.0s								
GERES	GERESS Array B	95.75	41	P		P		06 00 34.4	-0.3
	0.2nm,0.3s,baz=240,slow=7.5,SNR=4.2								
ABKAR	Akbulak array	125.56	38	ePKPdf		PKPdf		06 06 06.6	+0.8
STKA	Stephens Creek	125.85	213	PKP		PKPdf		06 06 07.3	+0.4
	1.9nm,0.6s,baz=140,slow=4.7,SNR=8.0								
BVAR	Borovoye Array	129.42	30	SKPbc		SKPbc		06 08 39.8	+0.2
	1.5nm,0.8s,baz=284,slow=0.6,SNR=6.5								
ZAA0	Zalesovo Array	134.86	21	ePKPdf		PKPdf		06 06 23.6	+0.3
ZALV	Zalesovo Beam	134.86	21	PKP		PKPdf		06 06 23.7	+0.5
	4.3nm,0.7s,baz=287,slow=2.4,SNR=18								
AS01	Alice Springs	136.45	212	ePKPdf		PKPdf		06 06 26.6	-0.6
ASAR	Alice Springs	136.47	212	PKhKP		PKPpre		06 06 21.3	
	0.2nm,0.5s,baz=137,slow=3.0,SNR=5.2								
ASAR				PKP		PKPdf		06 06 27.1	-0.2
	1.2nm,0.6s,baz=131,slow=1.4,SNR=12								
ASAR				SKPbc		SKPbc		06 06 09.3	-0.7
	0.6nm,0.6s,baz=133,slow=3.8,SNR=6.1								
AAK	Ala-Archa	137.61	40	eSKPbc		SKiKP		06 09 09.1	-1.9
WRA	Warramunga Arr	139.23	216	PKhKP		PKPpre		06 06 23.3	
	0.6nm,0.5s,baz=141,slow=2.7,SNR=15								
WRA				PKP		PKPdf		06 06 31.8	-0.5
	1.3nm,0.4s,baz=137,slow=1.8,SNR=19								
WRA				SKPbc		SKPbc		06 09 11.3	-0.7
	1.3nm,0.6s,baz=148,slow=2.4,SNR=17								
MKAR	Makanchi Array	139.30	30	PKP		PKPdf		06 06 31.3	-0.4
	0.4nm,0.6s,baz=329,slow=1.7,SNR=1.8								
MKAR				SKPbc		SKPbc		06 09 11.1	-0.3
	1.5nm,0.8s,baz=309,slow=3.9,SNR=9.2								
MKAR	Makanchi Array	139.30	30	eSKPbc		SKPbc		06 09 12.4	+1.0
MK01	Makanchi Array	139.32	30	eSKPdf		SKPbc		06 09 11.5	+0.1
KSH	Kashi	140.20	43	ePKP		PKPdf		06 06 33.3	-0.4
KSH				PP		PP		06 09 43.5	+4.1
KSH				sPKP				06 09 49.0	
KSH				SKS		SKSdf		06 12 45.4	-2.6
KSH				SKKS		SKKSac		06 15 33.4	+0.3
WMQ	Urumqi	144.06	28	ePKP		PKPbc		06 06 38.9	-1.0
USRK	Ussuriysk Ar.	144.08	333	PKP		PKPdf		06 06 40.4	+0.2
	3.0nm,0.7s,baz=42,slow=5.0,SNR=7.0								
MBWA	Marble Bar	144.41	195	ePKPdf		PKPab		06 06 41.8	-0.3
SONA1	Songino Array	145.51	5	ePKPdf		PKPbc		06 06 44.4	+0.2
SONM	Songino Array	145.52	5	PKPbc		PKPbc		06 06 43.9	-0.3
	3.3nm,0.5s,baz=343,slow=0.7,SNR=4.5								
ULN	Ulaanbaatar	145.53	4	ePKPdf		PKPab		06 06 45.2	-0.7
MJAR	Matsushiro Arr	145.93	318	PKPbc		PKPbc		06 06 44.8	-0.8
	4.7nm,0.8s,baz=122,slow=1.0,SNR=15								
MAJO	Matsushiro	145.93	318	ePKPdf		PKPbc		06 06 45.6	0.0
MAT	Matsushiro	145.93	318	PKP		PKPbc		06 06 45.5	-0.1
KS01	Wonju Array Si	151.28	330	ePKPdf		PKPdf		06 06 52.2	+0.1
KS01				ePKPbc		PKiKP		06 06 58.8	-0.3
KS01				ePKPab		PKPab		06 07 07.3	-2.4
HHC	Hu-ho-hao-te	152.62	358	ePKPbc		PKPdf		06 06 50.5	-3.7
HHC				pPKP		pPKPdf		06 09 10.4	-3.1
HHC				PP		PP		06 10 56.4	+6.1
HHC				SKS		SKSdf		06 12 59.8	-5.6
HHC				SKKS		SKKSac		06 16 40.5	-1.6
HHC				SS		SS		06 29 33.4	+0.7
HHC				PPMZ					
	54nm,8.6s								
CMAR	Chiang Mai Arr	168.07	64	PKP		PKPdf		06 07 11.2	0.0
	0.8nm,0.3s,baz=253,slow=2.6,SNR=4.6								
CMAR				PKPab		PKPab		06 08 23.3	-0.2
	1.0nm,0.3s,baz=305,slow=5.0,SNR=6.9								
CM01	Chiang Mai Arr	168.10	64	ePKPdf		PKPdf		06 07 11.0	-0.2

AWI **22** *06:15:10.7,55˚.47S×138˚.45W*
IDC **22** *06:15:14.5±0.4,56˚.13S×139˚.39W,h0km,mb4.7/13, mb1 4.8/13,mb1mx4.7/25,mbtmp4.7/13,MS5.3/17, Ms1 5.3/17,ms1mx5.2/22,Error ellipse: s-maj=20.2km s-min=14.3km az=166.0*
MOS **22** *06:15:15.9±0.9,56˚.29S×139˚.32W,h10km,mb5.4/15, MS5.4/25,Error ellipse: s-maj=22.6km s-min=16.6km az=76.3*
ISCJB **22** *06:15:15.5±0.3,56˚.44S±0˚.07×139˚.2W±0˚.1,h10km, mb5.1/41,MS5.4/179,Error ellipse: s-maj=10.7km s-min=8.5km az=140.3*
NEIC **22** *06:15:17.4±0.2,56˚.24S×139˚.16W,h15km,mb5.4/29, MS5.4/161,MW5.7,Error ellipse: s-maj=13.2km s-min=8.8km az=160.0,Moment Tensor Solution. s6 Moment tensor: Scale 10¹⁷Nm; Mrr0.28; Mθθ3.38; Mφφ-3.67; Mrθ-0.29; Mrφ3.60; Mθφ0.89; Best double couple: Ms5.10000×10¹⁷ NP1:φs203.00000°,δ84.00000°, λ-173.00000°. NP2:φs112.00000°,δ83.00000°, λ-6.00000°. Principal axes: T 4.8900, Plg0.0000°, Azm337.0000°; N 0.4400, Plg80.0000°, Azm241.0000°; P -5.3400, Plg9.0000°, Azm67.0000°;*
GCMT **22** *06:15:17.4±0.1,56˚.52S×139˚.14W,h16km,MW5.7/127, Moment Tensor Solution. s109,c198; s127,c345; Duration: 1s8 Moment tensor: Scale 10¹⁷Nm; Mrr-0.66±.05; Mθθ4.14±.06; Mφφ-3.48±.05; Mrθ0.38±.14; Mrφ3.00±.05; Mθφ0.84±.13; Best double couple: Mo4.94100×10¹⁷ NP1:φs206.00000°,δ88.00000°, λ-169.00000°. NP2:φs116.00000°,δ79.00000°, λ-2.00000°. Principal axes: T 5.2480, Plg6.0000°, Azm340.0000°; N -0.6170, Plg78.0000°, Azm218.0000°; P -4.6330, Plg10.0000°, Azm72.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
BJI **22** *06:15:18.3,56˚.30S×139˚.10W,h15km,mB5.5/26, Ms5.5/29,Ms7 5.2/28*

ISC 22 06:15:17.0±0.2,56˚.24S±0˚.08×138˚.99W±0˚.06,h10km, n561,σ1§59/411,mb5.2/41,MS5.4/179,34C-14D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SBA	Scott Base	28.37	201	eP	P	P	06 21 12.0	+1.3
SBA				pmax	pmax			
	comp=Z,139nm,1.8s							
SBA				MLR	MLR			
	comp=Z,9μm,19.0s							
SBA	Scott Base	28.37	201	eP	P	P	06 21 12.0	+1.3
	comp=Z,139nm,1.8s							
SBA				LR	LR			
	comp=Z,9μm,19.0s							
VNDA	Vanda	29.30	202	P	P	P	06 21 19.4	+0.4
	comp=Z,8.9nm,1.2s,baz=71,slow=8.3,SNR=24							
VNDA				PcP	PcP	PcP	06 24 24.8	-0.2
	comp=Z,6.5nm,0.9s,baz=54,slow=3.5,SNR=4.3							
VNDA				LR	LR	LR	06 29 59.0	
	comp=Z,7μm,20.2s,baz=82,slow=30							
VNDA	Vanda	29.30	202	eP	P	P	06 21 19.8	+0.8
VNDA							06 24 24.8	
VNDA				pmax	pmax			
	comp=Z,79nm,1.7s							
VNDA	Vanda	29.30	202	eP	P	P	06 21 19.8	+0.8
	comp=Z,79nm,1.7s							
VNDA				PcP	PcP	PcP	06 24 24.8	-0.2
PTCN	Pitcairn Islan	31.81	15	PFAKE			06 21 50.0	+8.4
PTCN				LR	LR			
	comp=Z,6μm,20.0s							
RKT	Rikitea	33.22	7	eLQ	LQ		06 29 15.1	
	comp=Z,6μm,29.2s							
RKT				eLR	LR		06 30 40.1	
	comp=Z,17μm,28.0s,baz=182							
RKT	Rikitea	33.22	7	eT	T		06 56 48.7	
	comp=Z,9.0nm,0.3s							
SNZO	South Karori	33.27	277	PFAKE			06 22 00.0	+5.8
SNZO				LR	LR			
	comp=Z,5μm,20.0s							
TBI	Tubuai	33.75	342	eS	S		06 27 18.1	-3.7
	comp=Z,932nm,31.5s							
TBI				eLQ	LQ		06 29 21.4	
	comp=Z,3μm,27.5s							
TBI				eLR	LR		06 30 44.8	
	comp=Z,27μm,28.0s,baz=170							
TBI	Tubuai	33.75	342	eT	T		06 57 20.2	
	comp=Z,16nm,0.3s							
BKZ	Black Stump Fm	33.77	281	eP	P		06 22 08.1	+9.4
QSPA	South Pole Qui	33.92	180	P	P		06 22 00.3	+0.4
	comp=Z,18nm,1.0s,baz=83,slow=3.9,SNR=34							
QSPA				PcP	PcP		06 24 38.3	+0.4
	comp=Z,11nm,1.0s,baz=139,slow=0.5,SNR=3.9							
QSPA	South Pole Qui	33.92	180	eP	P		06 21 59.5	-0.4
	comp=Z,379nm,2.0s							
QSPA				PcP	PcP		06 24 38.3	+0.4
QSPA				LR	LR			
	comp=Z,11μm,21.0s							
PMSA	Palmer Station	35.73	135	PFAKE			06 22 30.0	+15
PMSA				LR	LR			
	comp=Z,6μm,19.0s							
RPN	Rapa Nui	36.03	49	PFAKE			06 22 30.0	+12
RPN				LR	LR			
	comp=Z,6μm,19.0s							
DRV	Dumont d'Urvil	37.27	221	P	P		06 22 07.0	-21
DRV				PP	PP		06 23 52.0	-1.1
DRV				S	S		06 27 47.0	-28
DRV				L	L		06 30 00.0	
DRV				R			06 32 00.0	
OUZ	Omahuta	38.22	283	eP	P		06 22 43.4	+6.6
	comp=Z,57nm,1.5s							
USHA	Ushuaia	38.35	118	P	P		06 22 38.3	+0.7
	comp=Z,20nm,1.1s,baz=236,slow=7.4,SNR=4.1							
RAO	Raoul Island	38.48	298	LR	LR		06 34 42.6	
	comp=Z,2μm,20.4s,baz=263,slow=31							
MEH	Mehetia	38.91	346	eT	T		07 03 51.7	
	comp=Z,8.0nm,0.2s							
TVO	Taravao	39.17	344	eT	T		07 04 11.0	
	comp=Z,1.6nm,0.3s							
PAE	Paea	39.34	344	eT	T		07 04 23.5	
	comp=Z,1.0nm,0.3s							
PPT2	Papeete2	39.41	344	eS	S		06 28 45.1	-3.4
	comp=Z,2μm,26.5s							
PPT2				eLQ	LQ		06 31 45.3	
	comp=Z,2μm,25.0s							
PPT2				eLR	LR		06 33 23.6	
	comp=Z,25μm,25.5s,baz=177							
PPT2	Papeete2	39.41	344	eT	T		07 04 28.6	
	comp=Z,2.0nm,0.3s							
PPT	Papeete	39.43	344	LR	LR		06 34 37.7	
	comp=Z,7μm,20.3s,baz=168,slow=30							
VAH	Vaihoa	41.46	347	eT	T		07 07 02.6	
	comp=Z,23nm,0.3s							
EFI	East Falkland	45.25	120	eP	P		06 23 34.3	+0.2
EFI	East Falkland	45.25	120	PFAKE			06 23 50.0	+16
EFI				LR	LR			
	comp=Z,4μm,21.0s							
PLCA	Paso Flores	45.95	101	P	P		06 23 40.5	+0.5
	comp=Z,21nm,1.2s,baz=225,slow=7.3,SNR=11							
PLCA				PcP	PcP		06 25 17.1	+0.5
	comp=Z,5.2nm,1.0s,baz=251,slow=9.9,SNR=2.5							
PLCA				LR	LR		06 38 14.0	
	comp=Z,4μm,19.6s,baz=230,slow=30							
PLCA	Paso Flores	45.95	101	eP	P		06 23 40.8	+0.8
PLCA							06 25 17.2	
PLCA				pmax	pmax			
	comp=Z,81nm,1.6s							
PLCA	Paso Flores	45.95	101	eP	P		06 23 40.8	+0.8
	comp=Z,82nm,1.6s							
PLCA				PcP	PcP		06 25 17.1	+0.5
CASY	Casey	47.18	211	eP	P		06 23 49.8	+0.8
	comp=Z,59nm,1.3s							
CASY				LR	LR			
	comp=Z,3μm,20.0s							
TAU	Tasmania Unive	47.31	254	PFAKE			06 24 00.0	+10
TAU				LR	LR			
	comp=Z,6μm,22.0s							
VNA3	Neumayer Olymp	47.88	160	P	P		06 23 53.0	-1.6
VNA2	Neumayer--Watz	48.57	161	P	P		06 23 58.3	-1.5
	baz=213,slow=7.6							
VNA1	Neumayer--Stat	48.64	160	P	P		06 23 59.0	-1.3
SNAA	Sanae	48.73	163	P	P		06 23 57.5	-3.6
SNAA	Sanae	48.73	163	c iP	P		06 23 57.0	-4.1
SNAA				pmax	pmax			
	comp=Z,75nm,1.2s							
SNAA	Sanae	48.73	163	eP	P		06 23 57.0	-4.1
	comp=Z,122nm,1.3s							
AFI	Afiamalu	49.16	316	PFAKE			06 24 20.0	+15
AFI				LR	LR			
	comp=Z,4μm,22.0s							
MSVF	Nonsavu	50.17	302	PFAKE			06 24 20.0	+7.3
MSVF				LR	LR			
	comp=Z,3μm,20.0s							
MIR	Mirnyy	51.48	204	eP	P		06 24 32.0	+10
MIR				pmax	pmax			
	comp=Z,8.0nm,2.0s							
NVL	N'lazarevskaya	51.59	168	⇓iP	P		06 24 14.8	-7.9
NVL				e			06 26 18.9	
NVL				i S	S		06 31 32.8	-10
NVL				eSS	SS		06 35 20.2	+2.1
NVL				pmax	pmax			
	comp=Z,27nm,1.1s							
NVL				MLR	MLR			
	comp=Z,2μm,11.0s							
CAN	Canberra	51.80	262	PFAKE			06 24 40.0	+15
CAN				LR	LR			
	comp=Z,4μm,19.0s							
TRQA	Tornquist	52.53	104	eP	P		06 24 29.8	-0.4
	comp=Z,79nm,1.3s							
TRQA				LR	LR			
	comp=Z,2μm,20.0s							
HOPE	Hope Point	53.04	134	PFAKE			06 24 50.0	+16
HOPE				LR	LR			
	comp=Z,4μm,19.0s							
LCO	Las Campanas	54.46	90	PFAKE			06 25 00.0	+15
LCO				LR	LR			
	comp=Z,3μm,21.0s							
SYO	Syowa Base	55.05	179	⇑eP	P		06 24 44.6	-3.5
MAW	Mawson	55.40	190	P	P		06 24 50.0	-0.7
	comp=Z,18nm,1.0s,baz=175,slow=9.1,SNR=18							
MAW				LR	LR		06 46 10.6	
	comp=Z,3μm,20.2s,baz=159,slow=34							
MAW	Mawson	55.40	190	eP	P		06 24 50.3	-0.4
MAW				pmax	pmax			
	comp=Z,12nm,1.3s							
MAW	Mawson	55.40	190	eP	P		06 24 50.2	-0.4
	comp=Z,12nm,1.3s							
EIDS	Eidsvold	58.21	271	eP	P		06 25 15.7	+4.5
	comp=Z,39nm,1.3s							
STKA	Stephens Creek	58.45	259	P	P		06 25 10.0	-2.8
	comp=Z,3.6nm,0.7s,baz=152,slow=5.8,SNR=8.3							
STKA				LR	LR		06 46 14.0	
	comp=Z,5μm,19.5s,baz=131,slow=32							
STKA	Stephens Creek	58.45	259	eP	P		06 25 12.6	-0.3
STKA				pmax	pmax			
	comp=Z,5.0nm,1.2s							
STKA	Stephens Creek	58.45	259	eP	P		06 25 12.6	-0.3
	comp=Z,5.0nm,1.2s							
XMAS	Kiritimati	60.01	339	PFAKE			06 25 40.0	+16
XMAS				LR	LR			
	comp=Z,4μm,19.0s							
LVC	Limon Verde	60.46	87	eP	P		06 25 27.5	+0.4
	comp=Z,37nm,1.1s							
LVC				LR	LR			
	comp=Z,3μm,22.0s							
BBOO	Buckleboo	60.74	254	eP	P		06 25 34.4	+5.8
	comp=Z,93nm,1.5s							
CPUP	Villa Florida	63.98	99	eP	P		06 25 49.7	-0.6
CPUP	Villa Florida	63.98	99	eP	P		06 25 49.7	-0.6
	comp=Z,2.5nm,1.5s							
NNA	Nana	64.76	73	eP	P		06 25 56.6	+1.0
NNA	Nana	64.76	73	eP	P		06 25 56.6	+1.0
	comp=Z,45nm,1.1s							
NNA				LR	LR			
	comp=Z,6μm,20.0s							
CTA	Charters Tower	65.09	271	LR	LR		06 50 57.4	
	comp=Z,1μm,18.3s,baz=135,slow=33							
CTAO	Charters Tower	65.09	271	eP	P		06 25 57.1	-0.6
CTAO				pmax	pmax			
	comp=Z,44nm,1.1s							
CTAO				MLR	MLR			
	comp=Z,992nm,20.0s							
CTAO	Charters Tower	65.09	271	eP	P		06 25 57.1	-0.6
	comp=Z,44nm,1.1s							
CTAO				LR	L

comp=Z,800nm,19.0s
OTAV Otavalo 74.27 65 *e*P **P 06 26 55.4 +0.6**
comp=Z,36nm,1.3s
OTAV LR LR
comp=Z,1μm,21.0s
SAML Samuel 74.72 83 *e*P **P 06 26 56.2 -0.8**
comp=Z,26nm,1.2s
SAML LR LR
comp=Z,2μm,22.0s
POHA Pohakuloa 76.98 344 PFAKE 06 27 20.0 +10
POHA LR LR
comp=Z,4μm,20.0s
CRZF Crozet Islands 77.29 188 S S 06 36 48.0 -13
CRZF SS SS 06 41 41.0 -16
CRZF R 06 51 00.0
BDFB Brasilia 77.69 100 P **P 06 27 14.2 +0.2**
comp=Z,10nm,1.0s,baz=195,slow=4.9,SNR=10
BDFB LR LR 06 58 29.0
comp=Z,2μm,19.0s,baz=197,slow=33
MBWA Marble Bar 78.71 249 *e*P **P 06 27 17.8 -1.7**
comp=Z,52nm,1.3s
MBWA LR LR
comp=Z,2μm,19.0s
KIP Kipapa 79.02 342 PFAKE 06 27 30.0 +9.2
KIP LR LR
comp=Z,2μm,19.0s
JTS JuntasAbangare 79.90 54 *d iP* **P 06 27 27.3 +1.4**
JTS pmax pmax
comp=Z,23nm,1.0s
JTS JuntasAbangare 79.90 54 *e*P **P 06 27 27.0 +1.1**
comp=Z,26nm,1.1s
JTS LR LR
comp=Z,4μm,21.0s
ROSC El Rosal 80.31 66 P **P 06 27 28.9 +0.3**
comp=Z,18nm,0.9s,baz=108,slow=1.0,SNR=17
ROSC LR LR 06 57 19.0
comp=Z,2μm,18.4s,baz=204,slow=31
ROSC El Rosal 80.31 66 *e*P **P 06 27 30.7 +2.1**
BCIP Isla Barro Col 81.29 59 PFAKE 06 27 40.0 +6.7
BCIP LR LR
comp=Z,3μm,20.0s
TGUH Tegucigalpa,Un 82.22 50 *e*P **P 06 27 40.4 +2.2**
comp=Z,44nm,1.0s
TGUH LR LR
comp=Z,1μm,21.0s
SDV Santo Domingo 85.63 67 *e*P **P 06 27 53.2 -2.7**
comp=Z,13nm,1.1s
SDV LR LR
comp=Z,2μm,19.0s
BATI Baumata 85.66 258 P P 06 28 02.3 +6.4
comp=Z,33nm,1.2s
SOEI Soe 85.70 259 P **P 06 27 57.7 +1.4**
comp=Z,38nm,1.3s
SOEI Soe 85.70 259 *e*P **P 06 27 56.4 +0.1**
comp=Z,74nm,1.4s
TEIG Tepich 87.31 47 *e*P P 06 28 08.3 +4.6
comp=Z,49nm,1.1s
TEIG LR LR
comp=Z,1μm,19.0s
WAKE Wake Island 88.00 310 PFAKE 06 28 20.0 +13
WAKE LR LR
comp=Z,1μm,20.0s
SUR Sutherland 90.06 163 *e*P **P 06 28 17.4 +0.3**
comp=Z,6.0nm,1.0s
SUR LR LR
comp=Z,3μm,20.0s
MIDW Midway 90.23 327 PFAKE 06 28 30.0 +13
MIDW LR LR
comp=Z,1μm,21.0s
MTDJ Mount Denham 90.25 57 PFAKE 06 28 30.0 +12
MTDJ LR LR
comp=Z,2μm,19.0s
TXAR Lajitas Array 90.38 30 P **P 06 28 18.0 -0.1**
comp=Z,0.9nm,1.1s,baz=165,slow=5.2,SNR=4.9
TXAR PKKPbc **PKKPbc 06 45 45.3 -0.1**
comp=Z,0.8nm,1.0s,baz=108,slow=2.9,SNR=4.4
TXAR LR LR 07 00 21.8
comp=Z,425nm,20.6s,baz=0.0,slow=30
KVTX Kingsville 90.46 36 PFAKE 06 28 30.0 +12
KVTX LR LR
comp=Z,519nm,19.0s
732A Laxson Ranch, 90.90 34 P **P 06 28 22.6 +2.1**
baz=91
TUC Tucson 91.42 24 *e*P P 06 28 28.2 +5.3
TUC pmax pmax
comp=Z,34nm,2.0s
TUC MLR MLR
comp=Z,1μm,20.0s
TUC Tucson 91.42 24 *e*P P 06 28 28.2 +5.3
comp=Z,34nm,2.0s
TUC LR LR
comp=Z,1μm,20.0s
PFO Pinyon Flats O 91.53 19 LR LR 07 00 47.1
comp=Z,2μm,18.6s,baz=191,slow=30
632A Uvalde 91.69 33 P **P 06 28 25.5 +1.4**
baz=92
KAPI Kappang 92.10 258 PFAKE 06 28 40.0 +14
KAPI LR LR
comp=Z,3μm,20.0s
MNTX Cornudas Mount 92.15 28 *e*P **P 06 28 26.9 +0.7**
comp=Z,22nm,1.6s
MNTX LR LR
comp=Z,2μm,20.0s
MNTX Cornudas Mount 92.15 28 P **P 06 28 27.0 +0.8**
baz=92
532A Rocksprings 92.23 33 P **P 06 28 28.0 +1.3**
baz=93
RCBR Riachuelo 92.41 104 PFAKE 06 28 40.0 +12
RCBR LR LR
comp=Z,949nm,21.0s
431A Sonora 92.53 32 P **P 06 28 29.4 +1.3**
baz=93
JCT Junction City 92.59 33 *e*P P 06 28 32.3 +4.0
JCT pmax pmax
comp=Z,17nm,1.3s
JCT MLR MLR
comp=Z,632nm,20.0s
JCT Junction City 92.59 33 *e*P P 06 28 32.3 +4.0
comp=Z,17nm,1.3s
JCT LR LR
comp=Z,632nm,20.0s
GTBY Guantanamo Bay 92.86 58 PFAKE 06 28 40.0 +10
GTBY LR LR
comp=Z,1μm,19.0s
432A Menard 92.96 33 P **P 06 28 31.2 +1.2**
baz=93
330A Mertzon 93.04 32 P **P 06 28 31.2 +0.8**
baz=93
GRGR Grenville 93.07 73 PFAKE 06 28 40.0 +9.2
GRGR LR LR
comp=Z,2μm,20.0s
331A San Angelo 93.17 32 P **P 06 28 32.2 +1.3**
baz=94
332A Millersview 93.45 33 P **P 06 28 33.1 +0.9**
baz=94
GUMO Guam 93.65 289 PFAKE 06 28 40.0 +6.5
GUMO LR LR
comp=Z,38nm,19.0s
SDDR Presa de Saban 93.89 61 PFAKE 06 28 50.0 +15
SDDR LR LR
comp=Z,1μm,19.0s
WUAZ Wupatki 94.38 22 PFAKE 06 28 50.0 +13
WUAZ LR LR
comp=Z,2μm,22.0s
BOSA Boshof 94.42 166 P **P 06 28 36.2 -1.0**
comp=Z,2.4nm,1.0s,baz=213,slow=8.8,SNR=3.7
BOSA LR LR 07 09 51.9
comp=Z,3μm,18.2s,baz=178,slow=35
ANMO Albuquerque 94.96 26 *e*P **P 06 28 40.8 +1.5**
ANMO pmax pmax
comp=Z,3.0nm,1.2s
ANMO Albuquerque 94.96 26 PFAKE 06 28 50.0 +11
ANMO LR LR
comp=Z,1μm,19.0s
BBGH Gun Hill 95.03 74 PFAKE 06 28 50.0 +10
BBGH LR LR
comp=Z,2μm,20.0s
FDF Fort de France 95.50 72 PFAKE 06 28 50.0 +8.0
FDF LR LR
comp=Z,3μm,20.0s
SJG San Juan 95.72 66 PFAKE 06 28 50.0 +7.1
SJG LR LR
comp=Z,747nm,19.0s
GRTK Grand Turk 96.11 60 PFAKE 06 29 00.0 +15
GRTK LR LR
comp=Z,1μm,20.0s
MVCO Mesa Verde 96.63 24 PFAKE 06 29 00.0 +13
MVCO LR LR
comp=Z,1μm,21.0s
WMOK Wichita Mounta 96.86 32 PFAKE 06 29 00.0 +12
WMOK LR LR
comp=Z,1μm,19.0s
BRAL Brewton 97.46 43 PFAKE 06 29 00.0 +9.5
BRAL LR LR
comp=Z,799nm,20.0s
ANWB Willy Bob 97.61 70 PFAKE 06 29 00.0 +8.5
ANWB LR LR
comp=Z,646nm,21.0s
SDCO Great Sand Dun 97.85 26 PFAKE 06 29 00.0 +7.5
SDCO LR LR
comp=Z,2μm,19.0s
SHEL Horse Pasture 98.12 135 PFAKE 06 29 10.0 +16
SHEL LR LR
comp=Z,1μm,20.0s
MIAR Mount Ida 98.33 36 PFAKE 06 29 10.0 +16
MIAR LR LR
comp=Z,673nm,20.0s
YBH Yreka Blue Hor 98.57 12 LR LR 07 03 36.8
comp=Z,2μm,20.1s,baz=166,slow=30
DUG Dugway, Tooele 98.60 20 PFAKE 06 29 10.0 +14
DUG LR LR
comp=Z,1μm,19.0s
ELK Elko 98.69 18 LR LR 07 06 03.3
comp=Z,1μm,18.6s,baz=199,slow=31
DAV Davao City (W) 98.86 269 PFAKE 06 29 10.0 +13
DAV LR LR
comp=Z,722nm,22.0s
ISCO Idaho Springs 99.78 25 PFAKE 06 29 10.0 +8.9
ISCO LR LR
comp=Z,2μm,22.0s
WVOR Wild Horse Val 99.80 15 PFAKE 06 29 10.0 +9.1
WVOR LR LR
comp=Z,2μm,20.0s
HWUT Hardware Ranch 100.21 21 PFAKE 06 29 10.0 +7.2
HWUT LR LR
comp=Z,1μm,21.0s
H10S3 ASCENSION HYDR 100.53 124 T T 08 21 47.9
baz=207,slow=75,SNR=95
H10S2 ASCENSION HYDR 100.53 124 T T 08 21 38.9
baz=207,slow=75,SNR=95
H10S1 ASCENSION HYDR 100.55 124 T T 08 21 50.1
baz=207,slow=75,SNR=74
GOGA Godfrey 100.97 45 PFAKE 06 29 20.0 +14
GOGA LR LR
comp=Z,859nm,20.0s
AHID Auburn Hatcher 101.42 21 PFAKE 06 29 20.0 +12
AHID LR LR
comp=Z,1μm,20.0s
KSU1 Kansas State U 101.55 32 PFAKE 06 29 20.0 +11
KSU1 LR LR
comp=Z,893nm,19.0s
ASCN Ascension 101.56 124 PFAKE 06 29 20.0 +11
ASCN LR LR
comp=Z,2μm,20.0s
HLID Hailey 101.58 18 PFAKE 06 29 20.0 +11
HLID LR LR
comp=Z,2μm,20.0s
BW06 Boulder Array 101.73 22 PFAKE 06 29 20.0 +10
BW06 LR LR
comp=Z,2μm,21.0s
OGNE Ogallala 101.75 28 PFAKE 06 29 20.0 +10
OGNE LR LR
comp=Z,2μm,20.0s
RER Riviere de l'E 101.90 194 PFAKE 06 29 20.0 +9.1
RER LR LR
comp=Z,2μm,19.0s
NHSC New Hope 102.03 47 PFAKE 06 29 20.0 +9.2
NHSC LR LR
comp=Z,516nm,20.0s
TSUM Tsumeb 102.29 157 PFAKE 06 29 20.0 +7.3
TSUM LR LR
comp=Z,4μm,21.0s
BMO Blue Mountains 102.37 16 PFAKE 06 29 20.0 +7.8
BMO LR LR
comp=Z,2μm,20.0s
KKM Kota Kinabalu 103.22 261 PFAKE 06 29 30.0 +13
KKM LR LR
comp=Z,911nm,20.0s
LKWY Lake 103.28 21 PFAKE 06 29 30.0 +14
LKWY LR LR
comp=Z,1μm,19.0s
HAWA Hanford 103.56 14 PFAKE 06 29 30.0 +13
HAWA LR LR
comp=Z,2μm,19.0s
NLWA Neilton Lookou 104.04 11 PFAKE 06 29 30.0 +11
NLWA LR LR
comp=Z,2μm,20.0s
RLMT Red Lodge 104.05 21 PFAKE 06 29 30.0 +10
RLMT LR LR
comp=Z,1μm,20.0s
BOZ Bozeman (W) 104.09 19 PFAKE 06 29 30.0 +10
BOZ LR LR
comp=Z,716nm,19.0s
CNNC Cliffs of the 104.81 48 PFAKE 06 29 30.0 +6.9
CNNC LR LR
comp=Z,804nm,20.0s
ABPO Ambohimpanom 104.85 186 PFAKE 06 29 30.0 +5.8
ABPO LR LR
comp=Z,2μm,20.0s
SCIA State Center 105.15 34 PFAKE 06 33 50.0
SCIA LR LR
comp=Z,911nm,20.0s
HDIL Hopedale 105.20 37 PFAKE 06 33 50.0
HDIL LR LR
comp=Z,745nm,19.0s
BLA Blacksburg 105.50 45 PFAKE 06 33 50.0
BLA LR LR
comp=Z,634nm,19.0s
NEW Newport 105.73 15 PFAKE 06 33 50.0
NEW LR LR
comp=Z,1μm,19.0s
ECSD EROS Data Cent 105.82 31 PFAKE 06 33 50.0
ECSD LR LR
comp=Z,2μm,20.0s
LAO LASA Array 106.18 23 PFAKE 06 33 50.0
LAO LR LR
comp=Z,1μm,20.0s
EGMT Eagleton 106.73 20 PFAKE 06 33 50.0
EGMT LR LR
comp=Z,947nm,19.0s
JFWS Jewell Farm 107.00 35 PFAKE 06 33 50.0
JFWS LR LR
comp=Z,974nm,22.0s
ACSO Alum Creek Sta 107.14 42 PFAKE 06 33 50.0
ACSO LR LR
comp=Z,845nm,20.0s
CBN Corbin Frederi 107.57 47 PFAKE 06 33 50.0
CBN LR LR
comp=Z,1μm,20.0s
LSZ Lusaka 107.94 167 PFAKE 06 34 00.0
LSZ LR LR
comp=Z,3μm,19.0s
DGMT Dagmar 108.31 24 PFAKE 06 34 00.0
DGMT LR LR
comp=Z,1μm,19.0s
BBSR BB Station 108.31 59 PFAKE 06 34 00.0
BBSR LR LR
comp=Z,455nm,21.0s
AAM Ann Arbor 108.71 40 PFAKE 06 34 00.0
AAM LR LR
comp=Z,543nm,19.0s
COWI Conover 110.21 35 PFAKE 06 34 00.0
COWI LR LR
comp=Z,841nm,19.0s
AGMN Agassiz Nation 110.21 29 PFAKE 06 34 00.0
AGMN LR LR
comp=Z,1μm,20.0s
GLMI Grayling 110.58 38 PFAKE 06 34 00.0
GLMI LR LR
comp=Z,684nm,19.0s
EYMN Ely 111.14 32 PFAKE 06 34 00.0
EYMN LR LR
comp=Z,2μm,20.0s
DGAR Diego Garcia 111.47 214 PFAKE 06 34 00.0
DGAR LR LR
comp=Z,503nm,19.0s
BINY Binghamton 111.53 45 PFAKE 06 34 00.0
BINY LR LR
comp=Z,2μm,20.0s
ADK Adak 112.17 336 PFAKE 06 34 00.0
ADK LR LR
comp=Z,2μm,22.0s
WRAK Wrangell Islan 112.43 4 PFAKE 06 34 00.0
WRAK LR LR
comp=Z,2μm,20.0s
NCB Newcomb 113.71 46 PFAKE 06 34 10.0
NCB LR LR
comp=Z,1μm,19.0s
LONY Lake Ozonia 114.11 45 PFAKE 06 34 10.0 +15
LONY LR LR
comp=Z,969nm,22.0s
KDAK Kodiak Island 114.20 352 PFAKE 06 34 10.0 +15
KDAK LR LR
comp=Z,4μm,21.0s
FFC Flin Flon 114.66 23 PFAKE 06 34 10.0 +14
FFC LR LR
comp=Z,1μm,20.0s
YHNB Yeheng 115.43 277 PFAKE 06 34 10.0 +11
YHNB LR LR
comp=Z,445nm,20.0s
TATO Taipei 115.61 277 PFAKE 06 34 10.0 +11
TATO LR LR
comp=Z,433nm,19.0s
MAJO Matsushiro 115.82 297 PFAKE 06 34 10.0 +11
MAJO LR LR
comp=Z,598nm,22.0s
SACV Santiago Islan 116.37 103 PFAKE 06 34 10.0 +9.3
SACV LR LR
comp=Z,728nm,19.0s
PKME Peaks-Kenny Pk 116.78 48 PFAKE 06 34 10.0 +9.4
PKME LR LR
comp=Z,634nm,19.0s
QIZ Qiongzhong 117.36 263 PKP **PKPdf 06 34 02.3 -0.2**
QIZ PP **PP 06 35 14.1 +0.2**
QIZ SS SS 06 51 25.3 +1.1
QIZ LN
comp=Z,320nm,23.1s
QIZ LZ
comp=Z,500nm,27.3s
QIZ Qiongzhong 117.36 263 PFAKE 06 34 10.0 +7.5
QIZ LR LR
comp=Z,330nm,20.0s
ERM Erimo 117.76 305 PFAKE 06 34 10.0 +7.5
ERM LR LR
comp=Z,1μm,21.0s
MSEY Mahe Island 118.14 196 PFAKE 06 34 20.0 +16
MSEY LR LR
comp=Z,2μm,21.0s
DBIC Dimbokro 118.81 126 PKP **PKPdf 06 34 05.4 -0.1**
comp=Z,7.4nm,1.1s,baz=153,slow=2.3,SNR=1.9
KTH Kantishna Hill 119.82 354 *e*PKPdf **PKPdf 06 34 06.7 +0.8**
YKA Yellowknife Ar 119.92 13 PKP **PKPdf 06 34 05.5 -0.6**
comp=Z,1.0nm,0.9s,baz=207,slow=1.1,SNR=3.6
DAWY Dawson 119.98 360 *e*PKPdf **PKPdf 06 34 07.5 +1.3**
PET Petropavlovsk 120.31 322 PFAKE 06 34 20.0 +13
PET LR LR
comp=Z,2μm,20.0s
BPAW Bear Paw Mtn. 120.37 354 *e*PKPdf **PKPdf 06 34 07.0 +0.1**
SSE Sheshan 120.54 281 *e*PKP **PKPdf 06 34 11.3 +3.0**
SSE PP PP 06 35 42.6 +6.7
SSE SS SS 06 52 06.3 +1.0
SSE PPMZ
comp=Z,41nm,12.0s
SSE LN
comp=Z,220nm,22.0s
SSE LE
comp=Z,77nm,22.0s
SSE LZ
comp=Z,370nm,24.2s
EGAK Eagle 120.70 359 *e*PKPdf **PKPdf 06 34 08.7 +1.2**
EGAK LR LR
comp=Z,3μm,19.0s
PETK Petropavlovsk- 120.72 321 PKP **PKPdf 06 34 07.5 -0.5**
comp=Z,3.0nm,0.8s,baz=104,slow=4.7,SNR=6.0
ILAR Eielson Array 120.84 356 PKP **PKPdf 06 34 07.2 -0.6**
comp=Z,8.0nm,1.1s,baz=224,slow=1.6,SNR=40
COLA College 120.98 356 *e*PKIKP **PKPdf 06 34 07.6 -0.4**
COLA MLR MLR
comp=Z,2μm,19.0s
COLA College 120.98 356 *e*PKPdf **PKPdf 06 34 07.5 -0.4**
COLA LR LR
comp=Z,2μm,19.0s
KSRS Korea Array 121.76 291 PKP **PKPdf 06 34 09.8 -0.6**
comp=Z,0.6nm,0.4s,baz=209,slow=2.2,SNR=4.5
KSAR Wonju Array Be 121.77 291 PKIKP **PKPdf 06 34 09.8 -0.7**
KSAR Wonju Array Be 121.77 291 PKP **PKPdf 06 34 09.8 -0.7**
YSS Yuzh-Sakhalins 121.78 308 PFAKE 06 34 20.0 +10
YSS LR LR
comp=Z,397nm,22.0s
IM04 Indian Mountai 122.41 353 *e*PKPdf **PKPdf 06 34 10.9 +0.1**
INCN Inchon 122.46 290 PFAKE 06 34 20.0 +8.2
INCN LR LR
comp=Z,395nm,22.0s
MBAR Mbarara 122.73 168 PFAKE 06 34 20.0 +6.7
MBAR LR LR
comp=Z,1μm,21.0s
KMBO Kilima Mbogo 122.73 176 PFAKE 06 34 20.0 +6.6
KMBO LR LR
comp=Z,2μm,20.0s
CMAR Chiang Mai Arr 122.85 253 PKP **PKPdf 06 34 12.0 -1.1**
comp=Z,1.2nm,0.3s,baz=169,slow=4.2,SNR=10
CHTO Chiang Mai 123.14 253 PFAKE 06 34 20.0 +6.3
CHTO LR LR
comp=Z,646nm,20.0s
COLD Coldfoot 123.44 355 *e*PKPdf **PKPdf 06 34 13.2 +0.5**
GYA Guiyang 125.03 266 *e*Pdif **Pdif 06 30 53.8 +0.3**
GYA PKP **PKPdf 06 34 17.0 -0.2**
GYA PP **PP 06 36 10.3 +3.9**
GYA PKS **PKSdf 06 37 52.6 -1.4**
GYA SKKS 06 43 01.0
GYA SS **SS 06 53 02.4 -0.1**
GYA PPMZ
comp=Z,140nm,7.9s
GYA LN
comp=Z,160nm,22.7s
GYA LE
comp=Z,140nm,23.0s
GYA LZ
comp=Z,180nm,21.8s
KMI Kunming 126.16 261 PKP **PKPdf 06 34 20.3 +0.7**
KMI PP **PP 06 36 18.5 +4.5**
KMI SS SS 06 53 18.0 +1.1
KMI PPMZ
comp=Z,110nm,3.6s
KMI LN
comp=Z,320nm,17.7s
KMI LE
comp=Z,330nm,14.4s
KMI LZ
comp=Z,590nm,21.3s
MDJ Mudanjiang 126.20 298 PKP **PKPdf 06 34 19.4 +0.7**
MDJ sPKP 06 34 23.9
MDJ PP **PP 06 36 16.3 +2.3**
MDJ PKS **PKSdf 06 37 50.4 -4.7**
MDJ SS SS 06 53 20.8 +3.9
MDJ PPMZ
comp=Z,48nm,5.2s
MDJ LN
comp=Z,290nm,21.2s
MDJ LE
comp=Z,420nm,20.4s
MDJ LZ
comp=Z,830nm,21.2s
MDJ Mudanjiang 126.20 298 PFAKE 06 34 30.0 +11
MDJ LR LR
comp=Z,913nm,22.0s
ENH Enshi 126.40 271 PFAKE 06 34 30.0 +10
ENH LR LR
comp=Z,144nm,20.0s
TOA0 Torodi Ar. Sit 127.46 129 *e*PKPdf **PKPdf 06 34 21.3 -0.8**
TORD Torodi Ar. Bea 127.46 129 PKP **PKPdf 06 34 20.6 -1.4**
comp=Z,4.7nm,1.1s,baz=248,slow=1.6,SNR=17
KLR Kul'dur 128.45 303 *e*PKIKP **PKPdf 06 34 19.8 -3.0**
BJT Baijiatuau 129.88 285 PFAKE 06 34 40.0 +14
BJT LR LR
comp=Z,422nm,22.0s
BJI Beijing 129.90 285 PKP **PKPdf 06 34 26.4 +0.5**
BJI PP **PP 06 36 40.3 +2.0**
BJI LN
comp=Z,460nm,23.4s
BJI LE
comp=Z,220nm,19.8s
BJI LZ
comp=Z,410nm,33.9s
CD2 Chengdu 130.08 267 PKP **PKPdf 06 34 29.3 +2.7**
CD2 PP **PP 06 36 44.3 +4.7**
CD2 PKS **PKSdf 06 38 04.3 +1.1**

CD2 SKS **SKSdf** **06 41 38.3 +0.3**
CD2 SKKS **SKKSac** **06 43 38.3 +2.4**
CD2 PPMZ
comp=Z,140nm,5.5s
CD2 LN
comp=Z,570nm,26.9s
CD2 LE
comp=Z,520nm,23.5s
CD2 LZ
comp=Z,530nm,23.5s
BILL Bilibino 130.35 336⇑ *e*PKIKP **PKPdf** **06 34 25.5 -0.4**
BILL *e* 06 36 41.3
BILL *e*PPP PPP 06 39 37.2
BILL pmax pmax
comp=Z,4.0nm,1.1s
BILL Bilibino 130.35 336 PFAKE 06 34 40.0 +14
BILL LR LR
comp=Z,2µm,20.0s
HHC Hu-ho-hao-te 132.97 282 *e*PKP **PKPdf** **06 34 35.1 +3.2**
HHC PP PP 06 37 04.3 +6.0
HHC PKS **PKSdf** **06 38 10.8 +2.5**
HHC SKS **SKSdf** **06 41 45.4 +2.5**
HHC PPMZ
comp=Z,56nm,8.6s
HHC LN
comp=Z,260nm,23.4s
HHC LE
comp=Z,370nm,25.9s
HHC LZ
comp=Z,350nm,23.4s
LZH Lanzhou 133.87 272 *e*PKP **PKPdf** **06 34 31.1 -2.7**
LZH sPKP 06 34 40.0
LZH PP **PP** **06 37 05.8 +1.6**
LZH PKS PKSdf 06 38 04.3 -6.0
LZH SKS **SKSdf** **06 41 41.1 -3.8**
LZH SS **SS** **06 54 51.8 +0.2**
LZH PPMZ
comp=Z,130nm,4.0s
LZH LN
comp=Z,550nm,19.0s
LZH LE
comp=Z,260nm,15.3s
LZH LZ
comp=Z,550nm,19.9s
HIA Hailar 134.30 296 PFAKE 06 34 40.0 +6.0
HIA LR LR
comp=Z,558nm,19.0s
LSA Lhasa 136.08 254 PFAKE 06 34 50.0 +11
LSA LR LR
comp=Z,515nm,20.0s
YAK Yakutsk 137.54 316 *e*PKIKP PKPdf 06 34 46.4 +6.9
YAK pmax pmax
comp=Z,30nm,9.1s
YAK MLR MLR
comp=E,466nm,20.0s
YAK MLR MLR
comp=Z,630nm,17.0s
YAK Yakutsk 137.54 316 PFAKE 06 34 50.0 +11
YAK LR LR
comp=Z,719nm,19.0s
TAM Tamanrasset 137.65 127 *e*PKIKP **PKPdf** **06 34 41.7 +0.5**
TAM MLR MLR
comp=Z,721nm,20.0s
TAM Tamanrasset 137.65 127 *e*PKPdf **PKPdf** **06 34 41.7 +0.5**
TAM LR LR
comp=Z,721nm,20.0s
GTA Gaotai 138.47 272 *e*PKP **PKPdf** **06 34 43.5 +1.3**
GTA PP **PP** **06 37 37.3 +4.3**
GTA SKS **SKSdf** **06 41 51.5 -1.1**
GTA SKKS **SKKSac** **06 44 27.1 +0.5**
GTA SS **SS** **06 55 49.3 +2.7**
GTA PPMZ
comp=Z,93nm,7.4s
GTA LN
comp=Z,190nm,21.6s
GTA LE
comp=Z,330nm,20.9s
GTA LZ
comp=Z,380nm,22.3s
SFJD Kangerlussuaq 139.17 37 PFAKE 06 34 50.0 +7.7
SFJD LR LR
comp=Z,2µm,22.0s
ULN Ulaanbaatar 140.00 287 *e*PKIKP **PKPdf** **06 34 47.2 +2.5**
ULN MLR MLR
comp=Z,496nm,20.0s
ULN Ulaanbaatar 140.00 287 *e*PKPdf **PKPdf** **06 34 47.1 +2.5**
ULN LR LR
comp=Z,496nm,20.0s
SONM Songino Array 140.33 286 PKP **PKPdf** **06 34 44.2 -1.1**
comp=Z,1.1nm,0.4s,baz=105,slow=3.4,SNR=3.2
BOD Bodaibo 142.02 304 *e*PKHKP PKPpre 06 34 42.2
BOD pmax pmax
comp=Z,9.0nm,1.6s
PBDV Barranco-do-Ve 142.43 99 *e*LR LR 07 26 11.4
comp=Z,524nm,22.0s
TIXI Tiksi 142.52 329 *e*PKHKP PKPpre 06 34 43.6
TIXI *i* 06 34 46.6
TIXI Tiksi 142.52 329 *e*PKPpre PKPpre 06 34 43.8
TIXI LR LR
comp=Z,988nm,22.0s
PCVE Castro Verde 142.65 99 *e*PKP **PKPdf** **06 34 50.9 +1.3**
PCVE Castro Verde 142.65 99 *e*LR LR 07 24 27.7
comp=Z,2µm,18.0s
PVAQ Vaqueiros 142.66 99 *e*LQ LQ 07 14 42.4
PVAQ Vaqueiros 142.66 99 *e*LR LR 07 26 29.9
comp=Z,455nm,22.0s
PNCL Nicolau / Gran 142.72 98 *e*LR LR 07 26 45.9
comp=Z,612nm,20.0s
PMAFR Mafra 142.90 96 *e*LR LR 07 26 20.0
comp=Z,602nm,22.0s
ZAK Zakamensk 143.48 288 *e*PKHKP PKPpre 06 34 45.0
ZAK *e* 06 38 10.0
PBAR Barrancos 143.59 99 *e*LR LR 07 25 10.9
comp=Z,1µm,22.0s
PESTR Estremoz 143.77 98 *e*LR LR 07 25 19.5
comp=Z,682nm,20.0s
TLY Talaya 144.00 290 *e*PKIKP **PKPab** **06 34 48.1 -0.9**
TLY pmax pmax
comp=Z,19nm,1.2s
TLY Talaya 144.00 290 *e*PKPdf **PKPdf** **06 34 53.7 +2.1**
TLY LR LR
comp=Z,426nm,19.0s
PCAS Casmilo, Conde 144.10 95 *e*LR LR 07 27 11.8
comp=Z,588nm,22.0s
PMRV Marv??o 144.28 97 *e*PKP PKPbc 06 34 51.3 +0.5
PMRV Marv??o 144.28 97 *e*LQ LQ 07 15 14.8
PMRV Marv??o 144.28 97 *e*LR LR 07 26 32.5
comp=Z,527nm,18.0s
PCBR Castelo Branco 144.52 97 *e*PKP **PKPdf** **06 34 52.3 -0.5**
MTE Manteigas 144.87 96 *e*PKP **PKPab** **06 34 52.5 -0.1**
MTE Manteigas 144.87 96 *e*LQ LQ 07 14 10.7
MTE Manteigas 144.87 96 *e*LR LR 07 27 05.9
comp=Z,568nm,20.0s
MTE Manteigas 144.87 96 *e*PKPdf PKPbc 06 34 52.9 +0.3
MTE LR LR
comp=Z,669nm,20.0s
PVIS Viseu 144.89 95 *e*PKP **PKPab** **06 34 52.6 -0.1**
BHK Bhakra 145.02 240 *e*P **PKPbc** **06 34 48.2 -5.2**
ODJA Bouhanifia 145.21 109 P **PKPdf** **06 34 55.5 +1.3**
SUMG Summit 145.27 31 *i* P **PKPdf** **06 34 53.7 +0.1**
comp=Z,81nm,1.4s
SUMG Summit 145.27 31 *i* PKIKP **PKPdf** **06 34 53.7 +0.1**
SUMG pmax pmax
comp=Z,81nm,1.4s
SUMG Summit 145.27 31 *e*PKPdf **PKPbc** **06 34 53.1 -0.3**
PVRL Vila Real 145.36 95 *e*PKP **PKPbc** **06 34 54.1 -0.1**
POLO Lamas de Olo 145.39 94 *e*PKP **PKPbc** **06 34 54.3 -0.1**
POLO Lamas de Olo 145.39 94 *e*LR LR 07 28 55.5
comp=Z,304nm,20.0s
MOY Mondy 145.39 288 *e*PKIKP **PKPab** **06 34 54.2 -0.1**
MOY pmax pmax
comp=Z,129nm,3.7s
PCAB Cabril 145.48 94 *e*PKP **PKPab** **06 34 55.5 +0.7**
MVO Moncorvo 145.67 95 *e*PKP **PKPab** **06 34 55.8 +0.2**
MVO Moncorvo 145.67 95 *e*LQ LQ 07 16 19.1
MVO Moncorvo 145.67 95 *e*LR LR 07 27 58.0
comp=Z,427nm,22.0s
OJGS Djebel Guires 145.82 110 P **PKPdf** **06 34 55.0 -0.3**
ETRT Tiaret 146.02 111 P **PKPab** **06 34 57.4 +0.3**
PAB San Pablo 146.04 100 *e*PKP2 **PKPbc** **06 34 56.7 +0.3**
PAB MLR MLR
comp=Z,741nm,21.0s
PAB San Pablo 146.04 100 *e*PKPdf **PKPbc** **06 34 56.7 +0.3**
PAB LR LR
comp=Z,741nm,21.0s
PBRG Braganca 146.26 95 *e*PKP **PKPab** **06 34 57.6 -0.2**
PBRG Braganca 146.26 95 *e*LR LR 07 29 04.2
comp=Z,526nm,22.0s
ESDC Sonseca Array 146.34 100 PKPbc **PKPbc** **06 34 57.0 -0.4**
comp=Z,7.5nm,0.8s,baz=236,slow=2.4,SNR=43
ESLA Sonseca Array 146.34 100 *e*PKPdf **PKPbc** **06 34 57.6 +0.3**
ASHO Ashiyiah 146.62 205⇑P **PKPdf** **06 34 56.6 -0.4**
ASUD Al Ashush, Dub 146.73 204⇓P **PKPbc** **06 34 58.0 -0.8**
HATD Hatta, Dubai 146.73 206⇓P **PKPdf** **06 34 56.9 -0.2**
FAQ Al Faqa, Dubai 146.78 205⇓P **PKPdf** **06 34 57.7 +0.5**
EBNR Ebani Rached 146.83 110 P PKPab 06 35 07.0 +6.9
NAZ Nazwa, Dubai 147.00 205⇓P **PKPdf** **06 34 58.1 +0.6**
RAYN Ar Rayn 147.15 188 *e*PKPdf **PKPbc** **06 34 59.5 -0.6**
EMHD Djebel Mahouad 147.50 112 P **PKPbc** **06 35 00.5 -0.3**
BANOM Banah 147.75 206⇑P **PKPdf** **06 34 59.7 +0.9**
ABA Alger-Bouzarea 148.00 111 P **PKPdf** **06 35 00.0 +1.2**
WMQ Urumqi 148.18 267 PKPbc **PKPbc** **06 35 02.3 0.0**
WMQ PP **PP** **06 38 30.0 -1.3**
WMQ PKS **PKSdf** **06 38 35.9 +1.9**
WMQ SKS **SKSdf** **06 42 09.1 +2.0**
WMQ SKKS **SKKSac** **06 45 26.4 +4.4**
WMQ PPMZ
comp=Z,31nm,10.6s
WMQ LN
comp=Z,470nm,24.6s
WMQ LE
comp=Z,410nm,22.6s
WMQ LZ
comp=Z,660nm,23.6s
SET Setif 148.75 115 P **PKPab** **06 35 06.0 -1.9**
CASM Ain Smara 149.35 116 P **PKPbc** **06 35 05.4 -0.1**
BORG Borgarnes 149.39 48 PFAKE 06 35 10.0 +0.6
BORG LR LR
comp=Z,1µm,21.0s
CKFL Kef-Lekhel 149.57 116 P **PKPbc** **06 35 06.2 +0.1**
ABSA Djebel Ababsia 149.85 117 P **PKPbc** **06 35 07.2 +0.4**
CMAH Djebel Manchou 150.10 117 P **PKPbc** **06 35 07.6 +0.3**
VAL Valentia 150.21 76 *e*P **PKPbc** **06 35 05.6 -1.3**
KEST Kesra 150.34 120 PKPbc **PKPbc** **06 35 08.1 +0.2**
comp=Z,6.2nm,1.1s,baz=169,slow=4.9,SNR=8.5
ETSF Etsaut 150.41 99 *e*PKIKP **PKPdf** **06 35 00.9 -1.7**
comp=Z,71nm,1.1s
ETSF Etsaut 150.41 99 *e*PKIKP **PKPdf** **06 35 00.9 -1.7**
ETSF Etsaut 150.41 99 *e*PKPdf **PKPdf** **06 35 00.9 -1.7**
KBL Kabul 151.05 233 *e*PKIKP **PKPbc** **06 35 09.0 -0.9**
KBL Kabul 151.05 233 *e*PKPbc **PKPbc** **06 35 09.0 -0.9**
KSH Kashi 151.61 249 PKPbc **PKPdf** **06 35 04.6 0.0**
KSH PKS **PKSdf** **06 38 38.3 -1.0**
KSH SKS **SKSdf** **06 42 11.4 -0.5**
KSH SKKS **SKKSac** **06 45 36.1 -5.2**
KSH PPMZ
comp=Z,120nm,5.2s
KSH LN
comp=Z,370nm,14.2s
KSH LE
comp=Z,120nm,9.6s
KSH LZ
comp=Z,530nm,21.2s
MTLF Montolieu 152.23 101 *e*PKIKP **PKPdf** **06 35 03.7 -1.6**
comp=Z,40nm,1.3s
MTLF Montolieu 152.23 101 *e*PKIKP **PKPdf** **06 35 03.7 -1.6**
MTLF Montolieu 152.23 101 *e*PKPdf **PKPdf** **06 35 03.7 -1.6**
WDD Wield Dalam 152.85 127 PFAKE 06 35 20.0 -4.6
WDD LR LR
comp=Z,942nm,19.0s
MFF Saint Martin d 152.96 93 *e*PKIKP **PKPdf** **06 35 05.0 -1.2**
comp=Z,56nm,1.4s
MFF Saint Martin d 152.96 93 *e*PKIKP **PKPdf** **06 35 05.0 -1.2**
MFF Saint Martin d 152.96 93 *e*PKPdf **PKPdf** **06 35 05.0 -1.2**
MK31 Makanchi Array 153.01 267 *e*PKIKP **PKPbc** **06 35 11.7 -2.0**
MK31 Makanchi Array 153.01 267 *e*PKPdf **PKPbc** **06 35 11.7 -2.0**
MKAR Makanchi Array 153.01 267 PKP **PKPdf** **06 35 04.5 -1.9**
comp=Z,0.3nm,0.8s,baz=64,slow=5.5,SNR=4.2
MKAR PKPbc **PKPbc** **06 35 12.2 -1.5**
comp=Z,6.2nm,1.0s,baz=96,slow=2.4,SNR=28
MKAR PP **PP** **06 39 02.1 +3.0**
comp=Z,4.1nm,1.1s,baz=163,slow=4.7,SNR=6.4
RJF Les Rejaudoux 153.10 97 *e*PKIKP **PKPdf** **06 35 05.3 -1.2**
RJF *e*R
comp=Z,1µm,22.0s
RJF Les Rejaudoux 153.10 97 *e*PKIKP **PKPdf** **06 35 05.3 -1.2**
RJF Les Rejaudoux 153.10 97 *e*PKPdf **PKPdf** **06 35 05.3 -1.2**
VSL Villasalto 153.30 115 PFAKE 06 35 20.0 +5.5
VSL LR LR
comp=Z,656nm,20.0s
LASF Ste Croix 153.61 102 *e*PKIKP **PKPdf** **06 35 06.0 -1.3**
comp=Z,19nm,1.0s
LASF Ste Croix 153.61 102 *e*PKPdf **PKPdf** **06 35 06.0 -1.3**
TCF Toulx Ste Croi 154.09 96 *e*PKIKP **PKPdf** **06 35 06.2 -1.7**
comp=Z,25nm,1.2s
TCF Toulx Ste Croi 154.09 96 *e*PKIKP **PKPdf** **06 35 06.2 -1.7**
TCF Toulx Ste Croi 154.09 96 *e*PKPdf **PKPdf** **06 35 06.2 -1.7**
LDF La Druitiere 154.10 90 *e*PKIKP **PKPdf** **06 35 06.1 -1.7**
comp=Z,72nm,1.7s
LDF La Druitiere 154.10 90 *e*PKIKP **PKPdf** **06 35 06.1 -1.7**
LDF La Druitiere 154.10 90 *e*PKPdf **PKPdf** **06 35 06.1 -1.7**
TKM2 Tokmak 2 154.24 254 *e*PKIKP **PKPdf** **06 35 07.4 -1.1**
TKM2 MLR MLR
comp=Z,838nm,21.0s
TKM2 Tokmak 2 154.24 254 *e*PKPdf **PKPdf** **06 35 07.4 -1.1**
TKM2 LR LR
comp=Z,838nm,21.0s
SMRF Simiane la Rot 154.48 104 *e*PKIKP **PKPdf** **06 35 07.9 -0.6**
comp=Z,40nm,1.2s
SMRF Simiane la Rot 154.48 104 *e*PKPdf **PKPdf** **06 35 07.9 -0.6**
LMR La Mourre 154.56 106 *e*PKIKP **PKPdf** **06 35 07.5 -1.1**
comp=Z,42nm,1.4s
LMR La Mourre 154.56 106 *e*PKIKP **PKPdf** **06 35 07.5 -1.1**
LMR La Mourre 154.56 106 *e*PKPdf **PKPdf** **06 35 07.5 -1.1**
VIVF Saint-Julien-l 154.56 101 *e*PKIKP **PKPdf** **06 35 07.4 -1.2**
comp=Z,32nm,1.4s
VIVF Saint-Julien-l 154.56 101 *e*PKIKP **PKPdf** **06 35 07.4 -1.2**
VIVF Saint-Julien-l 154.56 101 *e*PKPdf **PKPdf** **06 35 07.4 -1.2**
BGF Bois d'Agland 154.60 96 *e*PKIKP **PKPdf** **06 35 07.4 -1.2**
BGF Bois d'Agland 154.60 96 *e*PKIKP **PKPdf** **06 35 07.4 -1.2**
BGF Bois d'Agland 154.60 96 *e*PKPdf **PKPdf** **06 35 07.4 -1.2**
FRU Bishkek 154.70 252 *e*PKIKP **PKPbc** **06 35 17.5 +0.1**
FRU *e* 06 35 29.0
FRU pmax pmax
comp=Z,65nm,2.3s
SSB Saint Sauveur 154.76 100 *e*PKIKP **PKPdf** **06 35 09.2 +0.3**
SSB *e* 06 35 32.8
SSB MLR MLR
comp=Z,716nm,20.0s
SSB Saint Sauveur 154.76 100 *e*PKPdf **PKPdf** **06 35 09.2 +0.3**
SSB *e*PKPab **PKPab** **06 35 32.8 +0.1**
SSB LR LR
comp=Z,716nm,20.0s
FRF La Foret Royal 154.78 106 *e*PKIKP **PKPdf** **06 35 07.7 -1.2**
comp=Z,68nm,1.5s
FRF La Foret Royal 154.78 106 *e*PKIKP **PKPdf** **06 35 07.7 -1.2**
FRF La Foret Royal 154.78 106 *e*PKPdf **PKPdf** **06 35 07.7 -1.2**
AVF Avril sur Loir 155.02 96 *e*PKIKP **PKPdf** **06 35 07.5 -1.6**
comp=Z,38nm,1.4s
AVF Avril sur Loir 155.02 96 *e*PKIKP **PKPdf** **06 35 07.5 -1.6**
AVF Avril sur Loir 155.02 96 *e*PKPdf **PKPdf** **06 35 07.5 -1.6**
EKS2 Erkin-Say 155.02 251 *e*PKPbc PKPdf 06 35 18.1 +8.6
EKS2 LR LR
comp=Z,681nm,20.0s
ZAA0 Zalesovo Array 155.14 283 *e*PKPdf **PKPdf** **06 35 13.1 +4.1**
ZALV Zalesovo Beam 155.14 283 PKPbc PKPdf 06 35 15.9 +6.9
comp=Z,0.4nm,0.3s,baz=177,slow=2.7,SNR=4.8
ZALV PKPab **PKPab** **06 35 30.3 -3.6**
comp=Z,3.9nm,0.9s,baz=90,slow=4.4,SNR=7.6
ZALV PP PP 06 39 19.5 +8.5
comp=Z,0.5nm,0.4s,baz=56,slow=3.7,SNR=4.3
SMF Signal de Mont 155.21 97 *e*PKIKP **PKPdf** **06 35 07.8 -1.6**
comp=Z,35nm,1.1s
SMF Signal de Mont 155.21 97 *e*PKIKP **PKPdf** **06 35 07.8 -1.6**
SMF Signal de Mont 155.21 97 *e*PKPdf **PKPdf** **06 35 07.8 -1.6**
ORIF Oris-en-Rattie 155.26 102 *e*PKIKP **PKPdf** **06 35 08.5 -1.1**
comp=Z,20nm,1.1s
ORIF *e*R
comp=Z,1µm,21.2s
ORIF Oris-en-Rattie 155.26 102 *e*PKIKP **PKPdf** **06 35 08.5 -1.1**
ORIF Oris-en-Rattie 155.26 102 *e*PKPdf **PKPdf** **06 35 08.5 -1.1**
SSF Saint Saulge 155.26 96 *e*PKIKP **PKPdf** **06 35 07.9 -1.5**
comp=Z,23nm,1.2s
SSF Saint Saulge 155.26 96 *e*PKIKP **PKPdf** **06 35 07.9 -1.5**
SSF Saint Saulge 155.26 96 *e*PKPdf **PKPdf** **06 35 07.9 -1.5**
KBS Kingsbay 155.28 13 PFAKE 06 35 20.0 +11
KBS LR LR
comp=Z,1µm,20.0s
PGF Pioggiola 155.34 110 *e*PKIKP **PKPdf** **06 35 08.7 -1.1**
comp=Z,78nm,1.6s
PGF Pioggiola 155.34 110 *e*PKIKP **PKPdf** **06 35 08.7 -1.1**
PGF Pioggiola 155.34 110 *e*PKPdf **PKPdf** **06 35 08.7 -1.1**
SBF Sospel 155.41 106 *e*PKIKP **PKPdf** **06 35 08.4 -1.4**
comp=Z,62nm,1.4s
SBF Sospel 155.41 106 *e*PKIKP **PKPdf** **06 35 08.4 -1.4**
SBF Sospel 155.41 106 *e*PKPdf **PKPdf** **06 35 08.4 -1.4**
ESK Eskdalemuir 155.43 73 PFAKE 06 35 20.0 +11
ESK LR LR
comp=Z,1µm,21.0s
CEL Celeste 155.44 126 PFAKE 06 35 20.0 +10
CEL LR LR
comp=Z,1µm,22.0s
LOR Lormes 155.58 96 *e*PKIKP **PKPdf** **06 35 08.6 -1.3**
comp=Z,45nm,1.5s
LOR *e*R
comp=Z,1µm,22.5s
LOR Lormes 155.58 96 *e*PKIKP **PKPdf** **06 35 08.6 -1.3**
LOR Lormes 155.58 96 *e*PKPdf **PKPdf** **06 35 08.6 -1.3**
BNI Bardonecchia 155.78 103 PFAKE 06 35 20.0 +10
BNI LR LR
comp=Z,1µm,19.0s
LPG La Plagne 156.10 102 *e*PKIKP **PKPdf** **06 35 10.4 -0.6**
comp=Z,35nm,1.1s
LPG La Plagne 156.10 102 *e*PKIKP **PKPdf** **06 35 10.4 -0.6**
LPG La Plagne 156.10 102 *e*PKPdf **PKPdf** **06 35 10.4 -0.6**
LPL La Plagne 156.10 102 *e*PKIKP **PKPdf** **06 35 10.3 -0.6**
comp=Z,60nm,1.3s
LPL La Plagne 156.10 102 *e*PKIKP **PKPdf** **06 35 10.3 -0.6**
LPL La Plagne 156.10 102 *e*PKPdf **PKPdf** **06 35 10.3 -0.6**
NVS Novosibirsk 156.34 284 *e*PKIKP PKPdf 06 35 17.4 +6.8
CABF La Chapelle 156.43 99 *e*PKIKP **PKPdf** **06 35 09.1 -2.0**
comp=Z,57nm,1.5s
CABF La Chapelle 156.43 99 *e*PKIKP **PKPdf** **06 35 09.1 -2.0**
CABF La Chapelle 156.43 99 *e*PKPdf **PKPdf** **06 35 09.1 -2.0**
TIP Timpagrande 156.58 127 PFAKE 06 35 20.0 +8.4
TIP LR LR
comp=Z,798nm,21.0s
SFTF Sexfontaines 156.77 95 *e*PKIKP **PKPdf** **06 35 10.1 -1.3**
comp=Z,58nm,1.2s
SFTF Sexfontaines 156.77 95 *e*PKPdf **PKPdf** **06 35 10.1 -1.3**
CUC Castrocucco 156.81 124 PFAKE 06 35 20.0 +8.2
CUC LR LR
comp=Z,680nm,20.0s
MEZF Maizieres J'vi 156.94 94 *e*PKIKP **PKPdf** **06 35 10.7 -0.9**
comp=Z,68nm,1.4s
MEZF Maizieres J'vi 156.94 94 *e*PKPdf **PKPdf** **06 35 10.7 -0.9**
KURK Kurchatov 157.16 272 *e*PKIKP **PKPdf** **06 35 14.3 +2.5**
KURK MLR MLR
comp=Z,874nm,19.0s
KURK Kurchatov 157.16 272 *e*PKPdf **PKPdf** **06 35 14.3 +2.5**
KURK LR LR
comp=Z,874nm,19.0s
VLC Villacollemand 157.18 109 PFAKE 06 35 20.0 +7.9
VLC LR LR
comp=Z,733nm,21.0s
BAIF Baives 157.28 90 *e*PKIKP **PKPdf** **06 35 10.8 -1.2**
comp=Z,28nm,1.2s
BAIF Baives 157.28 90 *e*PKIKP **PKPdf** **06 35 10.8 -1.2**
BAIF Baives 157.28 90 *e*PKPdf **PKPdf** **06 35 10.8 -1.2**
THEF They Montfort 157.31 96 PKP **PKPdf** **06 35 11.6 -0.5**
PAGF Fort de Pagny 157.34 95 *e*PKIKP **PKPdf** **06 35 11.1 -1.0**
comp=Z,17nm,1.4s
PAGF Fort de Pagny 157.34 95 *e*PKPdf **PKPdf** **06 35 11.1 -1.0**
HAU Haudompre 157.38 97 *e*PKIKP **PKPdf** **06 35 11.1 -1.1**
comp=Z,41nm,1.5s
HAU *e*R
comp=Z,939nm,23.0s
HAU Haudompre 157.38 97 *e*PKIKP **PKPdf** **06 35 11.1 -1.1**
HAU Haudompre 157.38 97 *e*PKPdf **PKPdf** **06 35 11.1 -1.1**
AQU L'Aquila 157.46 116 PFAKE 06 35 20.0 +7.5
AQU LR LR
comp=Z,1µm,22.0s
SANT Santorini 157.51 146 PFAKE 06 35 20.0 +7.2
SANT LR LR
comp=Z,867nm,20.0s
DOU Dourbes 157.52 90 PKP **PKPdf** **06 35 13.0 +0.7**
HINF Hinteralfeld 157.56 98 *e*PKIKP **PKPdf** **06 35 11.3 -1.2**
comp=Z,51nm,1.5s
HINF Hinteralfeld 157.56 98 *e*PKIKP **PKPdf** **06 35 11.3 -1.2**
HINF Hinteralfeld 157.56 98 *e*PKPdf **PKPdf** **06 35 11.3 -1.2**
GIVF Givet 157.65 91 *e*PKIKP **PKPdf** **06 35 11.2 -1.2**
comp=Z,51nm,1.4s
GIVF Givet 157.65 91 *e*PKIKP **PKPdf** **06 35 11.2 -1.2**
GIVF Givet 157.65 91 *e*PKPdf **PKPdf** **06 35 11.2 -1.2**
MOF Molkenrain 157.73 98 PKP **PKPdf** **06 35 12.5 -0.3**
ECH Echery 157.95 97 PKP **PKPdf** **06 35 12.5 -0.4**
ECH Echery 157.95 97 *e*PKIKP **PKPdf** **06 35 13.2 +0.3**
ECH MLR MLR
comp=Z,657nm,20.0s
ECH Echery 157.95 97 *e*PKPdf **PKPdf** **06 35 13.2 +0.3**
ECH LR LR
comp=Z,657nm,20.0s
BCLA Clavier 158.07 90 PKP **PKPdf** **06 35 13.8 +0.8**
CSS Prodhromos 158.08 163 PFAKE 06 35 20.0 +6.5
CSS LR LR
comp=Z,296nm,21.0s
CDF Champ du Feu 158.13 97 *e*PKIKP **PKPdf** **06 35 12.0 -1.2**
CDF Champ du Feu 158.13 97 *e*PKIKP **PKPdf** **06 35 12.0 -1.2**
CDF Champ du Feu 158.13 97 *e*PKPdf **PKPdf** **06 35 12.0 -1.2**
TUE Stuetta 158.13 103 *e*PKPdf **PKPdf** **06 35 13.7 +0.3**
TUE LR LR
comp=Z,1µm,20.0s
WLF Walferdange 158.17 93 *e*PKPdf **PKPdf** **06 35 13.9 +0.8**
WLF Walferdange 158.17 93 PFAKE 06 35 20.0 +6.9
WLF LR LR
comp=Z,858nm,20.0s
BFO Black Forest 158.66 98 *e*PKPdf **PKPdf** **06 35 13.9 +0.1**
BFO Black Forest 158.66 98 *e*PKIKP **PKPdf** **06 35 14.5 +0.7**
BFO MLR MLR
comp=Z,808nm,21.0s
BFO Black Forest 158.66 98 *e*PKPdf **PKPdf** **06 35 14.5 +0.7**
BFO LR LR
comp=Z,808nm,21.0s
LANF Langenberg 158.73 96 PKP **PKPdf** **06 35 14.4 +0.6**
DAVA Damuels 158.91 102⇑ *i* PKPdf **PKPdf** **06 35 15.0 +0.7**
comp=Z,7.2nm,1.1s
FETA Feichten 159.21 104 *i* PKPdf **PKPdf** **06 35 14.7 +0.1**
comp=Z,11nm,1.3s,SNR=7.9
RETA Reutte 159.51 103⇑ *i* PKPdf **PKPdf** **06 35 15.4 +0.5**
comp=Z,13nm,1.2s,SNR=5.9
MOTA Moosalm 159.61 103⇓ *i* PKPdf **PKPdf** **06 35 15.8 +0.7**
comp=Z,24nm,1.4s
BUG Bochum--Univer 159.65 89 *e*PKPdf **PKPdf** **06 35 14.8 +0.1**
TIR Tirane 159.72 128 PFAKE 06 35 30.0 +15
TIR LR LR
comp=Z,1µm,21.0s
WTTA Wattenberg 159.85 104⇓ *i* PKPdf **PKPdf** **06 35 15.8 +0.4**
comp=Z,29nm,1.7s,SNR=12
OHR Ohrid 159.93 130⇑ *i* PKP **PKPdf** **06 35 15.3 -0.3**
FUR Furstenfeldbru 160.19 102 *e*PKPdf **PKPdf** **06 35 15.4 -0.1**
ISP Isparta 160.28 155 PFAKE 06 35 30.0 +14
ISP LR LR
comp=Z,935nm,20.0s
MYKA Terra Mystica 160.53 108⇓ *i* PKPdf **PKPdf** **06 35 16.2 +0.1**
comp=Z,10.0nm,1.4s
RJOB Jochberg 160.77 104 *e*PKPdf **PKPdf** **06 35 15.8 -0.4**
VAY Valandovo 160.84 133 *e*PKP **PKPdf** **06 35 16.3 -0.1**
OBKA Obir 160.94 110⇑ *i* PKPdf **PKPdf** **06 35 17.1 +0.6**
comp=Z,15nm,0.9s
GRF Grafenberg Arr 161.00 98 *e*PKPdf **PKPdf** **06 35 16.5 +0.1**
GRF *e*L L 07 54 53.6
comp=Z,761nm,21.6s
SOKA Soboth 161.30 110⇓ *i* PKPdf **PKPdf** **06 35 17.1 +0.2**
comp=Z,19nm,1.3s,SNR=12
MMB Musomiste 161.53 135⇑ PKIKP PKPdf 06 35 11.8 -5.4
MMB Musomiste 161.53 135⇑ *i* P PKPdf 06 35 11.8 -5.4
WET Wettzell 161.62 101 *e*PKPdf **PKPdf** **06 35 15.0 -2.1**
MANZ Manzenberg 161.65 98 *e*PKPdf **PKPdf** **06 35 16.4 -0.7**
GEC2 GERESS Array S 161.90 103 *e*PKPdf **PKPdf** **06 35 16.6 -0.9**
GERES GERESS Array B 161.90 103 PKP **PKPdf** **06 35 17.2 -0.2**
comp=Z,4.7nm,1.1s,baz=180,slow=3.9,SNR=12
PLN Plauen 161.93 96 *e*PKPdf **PKPdf** **06 35 16.7 -0.6**
WERN Wernitzgruen 161.95 97 *e*PKPdf **PKPdf** **06 35 15.4 -2.0**
WERN *e*PKPab **PKPab** **06 36 04.6 +1.0**
DIVS Divibare 161.95 123⇑ *i* P **PKPdf** **06 35 18.6 +1.0**
GUNZ Gunzen 161.96 97 *e*PKPab **PKPab** **06 36 04.8 +1.1**
WERD Werda 161.99 97 *e*PKPdf **PKPdf** **06 35 16.8 -0.6**
WERD *e*PKPab **PKPab** **06 36 04.9 +1.1**
KHC Kasperske Hory 162.00 102 *e*PKPDF **PKPdf** **06 35 17.2 -0.3**
KHC *e*pPKP **pPKPdf** **06 35 25.5 +4.6**
KHC *e*PP **PP** **06 39 50.6 +2.1**
KHC *e*SS SS 07 00 13.8 +6.0
KHC AMS AMS 07 56 30.0

	comp=Z,800nm,19.3s								
KHC	**Kasperske Hory**	**162.00**	**102**	*e*PKIKP		**PKPdf**	**06 35 17.2**	**-0.3**
KHC				*e*			06 35 25.5	
KHC				*e*			06 39 50.6	
KHC				*e*			07 00 13.8	
KHC				MLR	MLR			
	comp=Z,800nm,19.3s								
TANN	**Tannenbergstha**	**162.06**	**97**	*e*PKPdf		**PKPdf**	**06 35 17.0**	**-0.5**
TANN				*e*PKPab		**PKPab**	**06 36 05.1**	**+0.9**
NEUB	**Neuenburg**	**162.06**	**94**	*e*PKPab		**PKPab**	**06 36 05.0**	**+1.0**
VTS	**Vitosha**	**162.17**	**132**	⇑PKIKP		**PKPdf**	**06 35 17.2**	**-0.8**
VTS	**Vitosha**	**162.17**	**132**	⇑*i*P		**PKPdf**	**06 35 17.2**	**-0.8**
KDZ	**Kurdzhali**	**162.23**	**139**	⇑PKIKP		**PKPdf**	**06 35 17.1**	**-0.9**
KDZ	**Kurdzhali**	**162.23**	**139**	⇑*i*P		**PKPdf**	**06 35 17.0**	**-0.9**
BSEG	**Bad Segeberg**	**162.35**	**85**	*e*PKPab		**PKPab**	**06 36 06.3**	**+1.1**
CONA	**Conrad Observa**	**162.53**	**108**	⇑*i*PKPdf		**PKPdf**	**06 35 17.4**	**-0.7**
	comp=Z,11nm,1.6s								
ANTO	**Ankara**	**162.74**	**158**	PFAKE			06 35 30.0	+11
ANTO				LR	LR			
	comp=Z,719nm,21.0s								
BR131	**Keskin Array S**	**162.77**	**160**	*e*PKPdf		**PKPdf**	**06 35 17.9**	**-0.8**
BRTR	**Keskin Array B**	**162.77**	**160**	PKP		**PKPdf**	**06 35 17.2**	**-1.5**
	comp=Z,2.6nm,1.1s,baz=219,slow=1.8,SNR=13								
BRTR				PKPab		**PKPab**	**06 36 05.5**	**-2.1**
	comp=Z,2.6nm,1.0s,baz=175,slow=5.4,SNR=3.2								
CLL	**Collm**	**162.79**	**95**	*e*PKPdf		**PKPdf**	**06 35 17.3**	**-0.8**
CLL				*e*PKPab		**PKPab**	**06 36 07.9**	**+0.7**
CLL				*e*PP		**PP**	**06 39 53.1**	**+0.5**
CLL	**Collm**	**162.79**	**95**	*e*PKPdf		**PKPdf**	**06 35 17.0**	**-1.1**
	comp=Z,9.0nm,1.5s								
CLL				*ep*PKPdf		**pPKPdf**	**06 35 23.0**	**+1.5**
CLL				*i* sPKPdf		**sPKPdf**	**06 35 27.8**	**+5.1**
	comp=Z,9.0nm,1.3s								
CLL				*i*			06 36 01.1	
	comp=Z,9.0nm,1.4s								
CLL				⇓*i*PKPab		**PKPab**	**06 36 07.3**	**+0.1**
	comp=Z,13nm,1.3s								
CLL				*i* pPKPab		**pPKPab**	**06 36 12.5**	**+1.9**
CLL				*i*			06 36 26.0	
CLL				*e*			06 37 22.0	
CLL				*e*PP		**PP**	**06 39 52.0**	**-0.6**
	comp=Z,23nm,1.8s								
CLL				*e*SPP			06 40 01.0	
CLL				*e*PSKS			06 50 24.0	
CLL				*e*			06 54 06.0	
CLL				*e*SS		**SS**	**07 00 15.0**	**-1.0**
CLL				*e*(PSS)			07 01 05.0	
CLL				*e*SSS	SSS		07 06 39.0	
CLL				*e*SSSS			07 11 02.0	
CLL				LmH			07 56 00.0	
	comp=N,900nm,20.1s								
CLL				LmH			07 56 00.0	
	comp=E,700nm,20.4s								
CLL				LmV			07 58 00.0	
	comp=Z,800nm,18.9s								
CLL	**Collm**	**162.79**	**95**	⇓*e*PKIKP		**PKPdf**	**06 35 17.0**	**-1.1**
CLL				*i*			06 36 07.3	
CLL				*e*			06 39 52.0	
CLL				pmax	pmax			
	comp=Z,9.0nm,1.5s								
CLL				pmax	pmax			
	comp=Z,23nm,1.8s								
CLL				MLR	MLR			
	comp=Z,800nm,18.9s								
FBE	**Freiberg**	**162.80**	**96**	*e*PKPdf		**PKPdf**	**06 35 17.8**	**-0.3**
FBE				*e*PKPab		**PKPab**	**06 36 08.2**	**+0.9**
FBE				*e*PP		**PP**	**06 39 53.3**	**+0.6**
BRVK	**Borovoye**	**162.83**	**272**	*e*PKIKP		**PKPdf**	**06 35 17.8**	**-0.3**
BRVK				MLR	MLR			
	comp=Z,2μm,21.0s								
BRVK	**Borovoye**	**162.83**	**272**	*e*PKPdf		**PKPdf**	**06 35 17.8**	**-0.3**
BRVK				LR	LR			
	comp=Z,2μm,21.0s								
PKSM	**Moragy**	**162.84**	**116**	⇑PKIKP		**PKPdf**	**06 35 16.9**	**-1.4**
PKSM	**Moragy**	**162.84**	**116**	⇑*i*P		**PKPdf**	**06 35 16.9**	**-1.4**
PRA	**Prague**	**162.97**	**100**	AMS	AMS		07 52 20.0	
	comp=Z,1μm,19.9s								
PRU	**Pruhonice**	**162.99**	**100**	*e*PKPDF		**PKPdf**	**06 35 22.1**	**+3.7**
PRU				*e*PP		**PP**	**06 39 51.7**	**-2.0**
PRU				*e*SS		SS	07 00 22.1	+4.1
PRU				AMS	AMS		07 56 50.0	
	comp=Z,800nm,17.8s								
PRU	**Pruhonice**	**162.99**	**100**	*e*PKIKP		**PKPdf**	**06 35 22.1**	**+3.7**
PRU				*e*			06 39 51.7	
PRU				*e*			07 00 22.1	
PRU				MLR	MLR			
	comp=Z,800nm,17.8s								
KONO	**Kongsberg**	**163.07**	**65**	PFAKE			06 35 30.0	+12
KONO				LR	LR			
	comp=Z,1μm,19.0s								
GOPC	**GO Pecny, Ondr**	**163.08**	**101**	*e*PP		PP	06 39 50.6	-3.6
GOPC				*e*SS		SS	07 00 23.4	+4.3
GOPC				AMS	AMS		07 52 20.0	
	comp=Z,900nm,22.8s								
BRG	**Berggiesshubel**	**163.11**	**97**	*e*PKP		**PKPdf**	**06 35 17.7**	**-0.8**
	comp=Z,17nm,1.8s								
BRG				*e*			06 35 29.3	
	comp=Z,13nm,1.4s								
BRG				PP		**PP**	**06 39 52.0**	**-2.3**
BRG				SS	SS		07 00 20.0	+0.7
	comp=N,651nm,19.9s								
	comp=E,502nm,16.7s								
	comp=Z,905nm,21.5s								
BRG	**Berggiesshubel**	**163.11**	**97**	*e*PKPdf		**PKPdf**	**06 35 17.5**	**-0.9**
BRG	**Berggiesshubel**	**163.11**	**97**	*e*PKIKP		**PKPdf**	**06 35 17.7**	**-0.8**
BRG				*e*			06 39 52.0	
BRG				SS	SS		07 00 20.0	+0.7
BRG				pmax	pmax			
	comp=Z,17nm,1.8s								
BRG				MLR	MLR			
	comp=N,651nm,19.9s								
BRG				MLR	MLR			
	comp=E,502nm,16.7s								
BRG				MLR	MLR			
	comp=Z,905nm,21.5s								
PVCC	**Panska Ves**	**163.28**	**99**	*e*PKPDF		**PKPdf**	**06 35 18.7**	**+0.1**
PVCC				AMS	AMS		07 57 40.0	
	comp=Z,1μm,20.1s								
PVCC	**Panska Ves**	**163.28**	**99**	*e*PKIKP		**PKPdf**	**06 35 18.7**	**+0.1**
PVCC				MLR	MLR			
	comp=Z,1μm,20.1s								
JMB	**Yambol**	**163.37**	**140**	⇑PKIKP		**PKPdf**	**06 35 22.3**	**+3.3**
JMB	**Yambol**	**163.37**	**140**	⇑*i*P		**PKPdf**	**06 35 22.3**	**+3.3**
GNI	**Garni**	**163.71**	**190**	PFAKE			06 35 30.0	+10
GNI				LR	LR			
	comp=Z,1μm,20.0s								
NOA	**NORSAR Array B**	**163.85**	**60**	PKPab		**PKPab**	**06 36 10.0**	**-1.7**
	comp=Z,0.6nm,0.7s,baz=270,slow=4.4,SNR=2.0								
BZS	**Buzias**	**163.86**	**123**	⇑PKIKP		**PKPdf**	**06 35 19.7**	**+0.4**
BZS	**Buzias**	**163.86**	**123**	⇑*i*P		**PKPdf**	**06 35 19.6**	**+0.3**
DPC	**Dobruska-Polom**	**164.15**	**101**	*e*PKPDF		**PKPdf**	**06 35 18.9**	**-0.6**
DPC				*e*SS		SS	07 00 33.0	+2.8
DPC				AMS	AMS		07 53 20.0	
	comp=Z,1μm,21.4s								
DPC	**Dobruska-Polom**	**164.15**	**101**	*e*PKIKP		**PKPdf**	**06 35 18.9**	**-0.6**
DPC				*e*			07 00 33.0	
DPC				MLR	MLR			
	comp=Z,1μm,21.4s								
VYHS	**Vyhne**	**164.44**	**111**	*e*PKIKP		**PKPdf**	**06 35 19.4**	**-0.4**
VYHS	**Vyhne**	**164.44**	**111**	*e*PKP		**PKPdf**	**06 35 19.4**	**-0.4**
PSZ	**Piszkesteto**	**164.62**	**114**	PFAKE			06 35 30.0	+10
PSZ				LR	LR			
	comp=Z,1μm,21.0s								
OKC	**Ostrava-Krasne**	**164.87**	**105**	*e*SS		SS	07 00 38.7	+1.4
OKC				AMS	AMS		07 55 20.0	
	comp=Z,900nm,19.3s								
ARR	**Arges**	**165.02**	**130**	⇑*i*P		**PKPdf**	**06 35 20.3**	**-0.2**
KEV	**Kevo**	**165.09**	**19**	PFAKE			06 35 30.0	+10
KEV				LR	LR			
	comp=Z,987nm,20.0s								
DRGR		**165.24**	**122**	⇑PKIKP		PKPdf	06 35 26.3	+5.7
DRGR		**165.24**	**122**	⇑*i*P		PKPdf	06 35 26.3	+5.7
VOIR		**165.25**	**130**	⇑PKIKP		**PKPdf**	**06 35 20.0**	**-0.7**
VOIR		**165.25**	**130**	⇑*i*P		**PKPdf**	**06 35 20.0**	**-0.7**
MLR	**Muntele Rosu**	**165.67**	**132**	⇓PKIKP		**PKPdf**	**06 35 20.4**	**-0.7**
MLR	**Muntele Rosu**	**165.67**	**132**	⇓*i*P		**PKPdf**	**06 35 20.4**	**-0.7**
TLB	**Topalu**	**165.73**	**139**	⇑PKIKP		**PKPdf**	**06 35 18.2**	**-2.7**
TLB	**Topalu**	**165.73**	**139**	⇑*i*P		**PKPdf**	**06 35 18.2**	**-2.7**
TIRR	**Tirgusor**	**165.75**	**141**	*e*PKIKP		**PKPdf**	**06 35 20.0**	**-1.0**
TIRR	**Tirgusor**	**165.75**	**141**	*e*PKPdf		**PKPdf**	**06 35 20.0**	**-1.0**
MAK	**Makhachkala**	**166.07**	**200**	*e*PKIKP		**PKPdf**	**06 35 21.3**	**0.0**
MAK				*e*			06 40 15.5	
MAK				pmax	pmax			
	comp=Z,17nm,0.3s								
CFR	**Carcaliu**	**166.27**	**138**	⇑PKIKP		**PKPdf**	**06 35 21.2**	**-0.2**
CFR	**Carcaliu**	**166.27**	**138**	⇑*i*P		**PKPdf**	**06 35 21.2**	**-0.2**
UZH	**Uzhgorod**	**166.30**	**116**	*i* PKIKP		**PKPdf**	**06 35 24.3**	**+3.0**
ABKAR	**Akbulak array**	**166.60**	**246**	*e*PKPdf		**PKPdf**	**06 35 20.1**	**-1.4**
ABKAR				*e*PKPab		**PKPab**	**06 36 25.9**	**+1.9**
BURAR	**Bucovina Array**	**167.00**	**125**	⇑PKIKP		**PKPdf**	**06 35 26.5**	**+4.5**
BURAR	**Bucovina Array**	**167.00**	**125**	⇑*i*P		**PKPdf**	**06 35 26.5**	**+4.5**
BUR08	**Bucovina Ar. S**	**167.02**	**125**	*e*PKPdf		**PKPdf**	**06 35 26.5**	**+4.4**
BUR08				*e*PKPab		**PKPab**	**06 36 25.8**	**-0.3**
SOC	**Sochi**	**167.30**	**176**	*e*PKIKP		**PKPdf**	**06 35 20.5**	**-1.7**
SOC				*e*SS		SS	07 00 54.0	-6.6
KIV	**Kislovodsk**	**167.65**	**186**	PFAKE			06 35 30.0	+7.4
KIV				LR	LR			
	comp=Z,1μm,21.0s								
SIM	**Simferopol'**	**167.88**	**156**	*i* PKIKP		**PKPdf**	**06 35 21.3**	**-1.3**
SIM				*e*SS		SS	07 01 10.0	+3.3
SIM				pmax	pmax			
	comp=Z,81nm,1.5s								
LVZ	**Lovozero**	**167.94**	**12**	PFAKE			06 35 30.0	+8.0
LVZ				LR	LR			
	comp=Z,912nm,21.0s								
KIS	**Kishinev**	**168.06**	**136**	*e*PKP		**PKPdf**	**06 35 22.0**	**-0.6**
KIS	**Kishinev**	**168.06**	**136**	*e*PKIKP		**PKPdf**	**06 35 22.0**	**-0.6**
KIS				*e*			06 36 28.0	
KIS				*e*			06 44 22.0	
APA	**Apatity**	**168.09**	**14**	*e*PKIKP		**PKPdf**	**06 35 21.0**	**-1.0**
ANN	**Anapa**	**168.32**	**167**	*e*PKP2		**PKPab**	**06 36 29.5**	**-2.1**
ANN				*e*			06 40 16.5	
ARU	**Arti**	**170.25**	**278**	*i* PKIKP		**PKPdf**	**06 35 26.5**	**+2.8**
ARU	**Arti**	**170.25**	**278**	*e*PKPdf		**PKPdf**	**06 35 25.9**	**+2.2**
ARU				LR	LR			
	comp=Z,2μm,21.0s								
FINES	**FINESS Array B**	**170.68**	**50**	PKPab		**PKPab**	**06 36 40.5**	**-1.2**
	comp=Z,2.7nm,1.0s,baz=262,slow=4.1,SNR=5.5								
AK02	**Malin Array Si**	**171.01**	**124**	*e*PKPdf		**PKPdf**	**06 35 26.8**	**+2.6**
AK01	**Malin Array Si**	**171.04**	**123**	*e*PKPdf		**PKPdf**	**06 35 26.8**	**+2.5**
KIEV	**Kiev**	**171.04**	**123**	*e*PKIKP		**PKPdf**	**06 35 26.8**	**+2.5**
KIEV				MLR	MLR			
	comp=Z,795nm,19.0s								
KIEV	**Kiev**	**171.04**	**123**	*e*PKPdf		**PKPdf**	**06 35 26.8**	**+2.5**
KIEV				LR	LR			
	comp=Z,795nm,19.0s								
AKASG	**Malin Array Be**	**171.05**	**123**	PKP		**PKPdf**	**06 35 22.7**	**-1.6**
	comp=Z,3.8nm,1.0s,baz=308,slow=0.5,SNR=12								
AKASG				PKPab		**PKPab**	**06 36 42.2**	**-1.5**
	comp=Z,1.2nm,0.7s,baz=233,slow=3.9,SNR=9.3								
VORD	**Divnogorie**	**174.62**	**168**	*e*PKP2		**PKPab**	**06 36 56.8**	**-2.6**
VORD				pmax	pmax			
	comp=N,20nm,0.6s								
VORD				pmax	pmax			
	comp=E,10.0nm,0.6s								
VORD				pmax	pmax			
	comp=Z,10.0nm,0.6s								
VSR	**Storozhevoye**	**174.85**	**167**	*e*PKP2		**PKPab**	**06 36 57.7**	**-2.7**
VSR				pmax	pmax			
	comp=N,20nm,1.5s								
VSR				pmax	pmax			
	comp=E,7.0nm,1.5s								
VSR				pmax	pmax			
	comp=Z,30nm,1.5s								
KLMR	**Klimovskoe**	**175.31**	**9**	PKIKP		**PKPdf**	**06 35 20.5**	**-5.1**
KLMR				pmax	pmax			
	comp=Z,21nm,1.9s								
OBN	**Obninsk**	**177.24**	**112**	*e*PKIKP		**PKPdf**	**06 35 25.3**	**-0.9**
OBN				pmax	pmax			
	comp=Z,9.0nm,1.5s								
OBN	**Obninsk**	**177.24**	**112**	PFAKE			06 35 40.0	+14
OBN				LR	LR			
	comp=Z,1μm,20.0s								
MOS	**Moscow**	**178.03**	**103**	*e*PKIKP		PKPdf	06 35 36.8	+10
MOS				*e*			06 37 13.7	
MOS				*e*			06 41 05.2	
MOS				pmax	pmax			
	comp=Z,40nm,0.9s								

*IDC **22** 06:29:31.5±0.7, 8.27S×129.02E, h0km, mb4.2/11, mb1 4.3/16, mb1mx4.2/34, mbtmp4.3/16, ML4.3/5, MS3.5/1, Ms1 3.5/1, ms1mx2.8/32, Error ellipse: s-maj=20.6km s-min=15.8km az=73.0*
*ISCJB **22** 06:29:33.8±0.3, 8.48S±0.03×129.09E±0.04, h33km, mb4.4/17, Error ellipse: s-maj=6.3km s-min=4.9km az=177.8*
*NEIC **22** 06:29:36.3±0.3, 8.41S×129.06E, h35km, mb4.8/7, Error ellipse: s-maj=8.2km s-min=7.0km az=62.0*
*DJA **22** 06:29:39.7±0.4, 8.5S×12.9E×, h10km, M4.9/10, mb5.2/7, mB5.4/4, MLv4.7/10, Mw(mB)4.9/4, Mwp5.5/1*

ISC 22 06:29:36.3±0.5, 8.45S±0.06×129.06E±0.06, h35km, n47, σ29s18/47, mb4.4/17, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.27**	**78**	P		**Pn**		06 30 16.6	+5.3
SAUI				S		Sn		06 30 46.7	+8.7
BNDI	**Bandanaira**	**3.99**	**12**	P		**Pn**		**06 30 37.1**	**+2.0**
BNDI				S		Sn		06 31 11.5	-9.2
SOEI	**Soe**	**4.91**	**254**	P		**Pn**		06 30 54.6	+6.8
SOEI	**Soe**	**4.91**	**254**	*e*Pn		**Pn**		**06 30 50.4**	**+2.6**
MSAI	**Masohi**	**5.07**	**359**	P		**Pn**		**06 30 51.8**	**+1.8**
NLAI	**Namlea**	**5.53**	**339**	P		**Pn**		**06 30 59.3**	**+3.0**
	150nm,0.9s,5μm15μm0.5nm								
BATI	**Baumata**	**5.61**	**251**	P		Pn		06 31 04.0	+6.7
	84nm,0.6s,1μm0.5nm								
BATI	**Baumata**	**5.61**	**251**	Pn		**Pn**		**06 30 58.4**	**+1.1**
	16nm,0.3s,baz=83,slow=5.8,SNR=5.0								
BATI				Sn		**Sn**		**06 32 02.4**	**+1.9**
	18nm,0.3s,baz=180,slow=20,SNR=3.8								
FAKI	**Fak Fak**	**6.35**	**30**	P		**Pn**		**06 31 08.0**	**+0.5**
	210nm,0.5s,3μm0.9nm								
FAKI	**Fak Fak**	**6.35**	**30**	*e*Pn		**Pn**		**06 31 06.4**	**-1.0**
	148nm,0.4s								
SANI	**Sanana**	**7.06**	**334**	P		**Pn**		**06 31 18.9**	**+1.7**
	52nm,0.7s,0.2nm								
SIJI	**Sorong**	**7.85**	**16**	Pn		**Pn**		**06 31 26.6**	**-1.5**
	6.7nm,0.3s,baz=338,slow=24,SNR=9.9								
SIJI				LR				06 35 15.5	
	comp=Z,350nm,18.2s,baz=240,slow=45								
RKPI	**Ransiki, Papua**	**8.57**	**37**	P		**Pn**		**06 31 39.1**	**+1.1**
	132nm,0.6s,7μm								
KAPI	**Kappang**	**9.86**	**290**	Pn		**Pn**		**06 31 54.4**	**-1.3**
	0.5nm,0.3s,baz=104,slow=17,SNR=1.8								
WRAB	**Tennant Creek**	**12.51**	**156**	*e*Pn		**Pn**		**06 32 31.6**	**-0.4**
	17nm,0.6s								
WRAB				*e*Sn		**Sn**		**06 34 49.0**	**-1.1**
WRA	**Warramunga Arr**	**12.51**	**156**	Pn		**Pn**		**06 32 32.0**	**0.0**
	2.3nm,0.3s,baz=336,slow=13,SNR=39								
WRA				Sn		**Sn**		**06 34 46.0**	**-4.3**
	3.3nm,0.3s,baz=330,slow=24,SNR=15								
COEN	**Coen**	**14.88**	**113**	*e*Pn		**Pn**		**06 33 05.0**	**+0.6**
	17nm,0.8s								
MBWA	**Marble Bar**	**15.51**	**214**	*e*P		**Pn**		**06 33 11.5**	**-1.0**
	14nm,0.9s								
MBWA				*e*S		Sn		06 35 55.6	-7.7
AS31	**Alice Springs**	**15.82**	**164**	*e*P		**Pn**		**06 33 16.5**	**-0.1**
AS31				*e*S		**Sn**		**06 36 06.4**	**-4.7**
ASAR	**Alice Springs**	**15.82**	**164**	Pn		**Pn**		**06 33 16.4**	**-0.2**
	1.1nm,0.3s,baz=338,slow=9.9,SNR=49								
ASAR				Sn		**Sn**		**06 36 05.4**	**-5.6**
	0.8nm,0.3s,baz=326,slow=18,SNR=4.4								
CTA	**Charters Tower**	**20.26**	**127**	P		Pn		06 34 10.2	-0.9
	1.4nm,0.4s,baz=312,slow=11,SNR=1.8								
CISI	**Cisompet, Garu**	**21.06**	**271**	*e*P		**P**		**06 34 17.4**	**-0.3**
	28nm,0.3s								
FORT	**Forrest**	**22.23**	**182**	*e*P		**P**		**06 34 34.7**	**+4.6**
	30nm,0.6s								
BBOO	**Buckleboo**	**25.09**	**166**	*e*P		**P**		**06 35 02.0**	**+4.2**
	16nm,0.8s								
STKA	**Stephens Creek**	**26.06**	**155**	P		**P**		**06 35 09.1**	**+2.5**
	2.0nm,0.4s,baz=344,slow=15,SNR=4.9								
STKA	**Stephens Creek**	**26.06**	**155**	*e*P		**P**		**06 35 11.1**	**+4.5**
	1.3nm,0.6s								
PSI	**Prapat**	**32.06**	**289**	P		**P**		**06 35 57.8**	**-2.5**
	5.4nm,0.7s,baz=76,slow=5.2,SNR=4.7								
MJAR	**Matsushiro Arr**	**45.57**	**10**	P		**P**		**06 37 50.8**	**-2.2**
	1.3nm,0.6s,baz=184,slow=8.7,SNR=5.0								
KSAR	**Wonju Array Be**	**45.67**	**359**	P		**P**		**06 37 52.5**	**-1.1**
KSRS	**Korea Array**	**45.68**	**359**	P		**P**		**06 37 52.5**	**-1.2**
	1.0nm,0.4s,baz=178,slow=9.0,SNR=4.4								
USRK	**Ussuriysk Ar.**	**52.47**	**3**	P		**P**		**06 38 44.7**	**-1.0**
	0.9nm,0.5s,baz=189,slow=6.6,SNR=5.2								
ASAJ	**Asahikawa**	**53.74**	**12**	P		**P**		**06 38 54.6**	**-0.4**
	2.1nm,0.4s,baz=157,slow=7.7,SNR=3.5								
PETK	**Petropavlovsk-**	**65.99**	**18**	P		**P**		**06 40 18.5**	**-0.6**
	2.2nm,0.6s,baz=181,slow=7.6,SNR=7.1								
MK31	**Makanchi Array**	**68.93**	**328**	*e*P		**P**		**06 40 38.1**	**+0.3**
MKAR	**Makanchi Array**	**68.93**	**328**	P		**P**		**06 40 37.8**	**0.0**
	1.1nm,0.4s,baz=122,slow=7.2,SNR=26								
MRIV	**Mauritius Mete**	**69.88**	**252**	*e*P		**P**		**06 40 41.6**	**-2.7**
ZALV	**Zalesovo Beam**	**72.47**	**334**	P		**P**		**06 40 58.2**	**-1.0**
	1.0nm,0.4s,baz=149,slow=6.0,SNR=4.9								
KURK	**Kurchatov**	**73.27**	**329**	*e*P		**P**		**06 41 04.1**	**+0.1**
	14nm,1.2s								
QSPA	**South Pole Qui**	**81.53**	**180**	*e*P		P		06 41 54.4	+4.2
	4.4km,1.1s								
KTH	**Kantishna Hill**	**93.08**	**26**	*e*P		**P**		**06 42 46.5**	**+0.2**
	6.9nm,1.1s								
PMR	**Palmer**	**93.49**	**28**	*e*P		**P**		**06 42 48.8**	**+0.7**
	10nm,1.3s								
ILAR	**Eielson Array**	**95.05**	**25**	P		**P**		**06 42 54.6**	**-0.6**
	0.9nm,0.6s,baz=269,slow=4.1,SNR=9.3								
REDW	**Red Top Meadow**	**117.49**	**45**	*e*PKPdf		**PKPdf**		**06 48 21.2**	**+2.2**
TXAR	**Lajitas Array**	**126.46**	**60**	PKP		**PKPdf**		**06 48 37.5**	**+1.0**
	0.1nm,0.3s,baz=138,slow=2.7,SNR=3.7								
TORD	**Torodi Ar. Bea**	**128.16**	**280**	PKP		**PKPdf**		**06 48 40.5**	**+0.6**
	0.5nm,0.7s,baz=31,slow=2.6,SNR=5.6								
LPAZ	**La Paz**	**150.10**	**145**	PKPbc		**PKPbc**		**06 49 26.1**	**+0.9**
	1.4nm,0.7s,baz=81,slow=4.0,SNR=5.5								
LPAZ	**La Paz**	**150.10**	**145**	*e*PKPbc		**PKPbc**		**06 49 25.8**	**+0.6**

*ISCJB **22** 06:45:27.5±0.9, 56.1S±0.2×139.3W±0.2, h10km, mb4.3/13, MS4.4/2, Error ellipse: s-maj=23.7km s-min=14.5km az=152.0*
*IDC **22** 06:45:27.6±0.8, 55.96S×139.52W, h0km, mb4.1/7, mb1 4.3/7, mb1mx4.1/29, mbtmp4.1/7, MS4.4/2, Ms1 4.3/2, ms1mx3.8/17, Error ellipse: s-maj=30.4km s-min=22.1km az=161.0*
*NEIC **22** 06:45:29.1±0.5, 55.89S×139.37W, h10km, mb4.7/8, Error ellipse: s-maj=20.3km s-min=12.8km az=150.0*

ISC 22 06:45:29.1±0.8, 56.0S±0.2×139.3W±0.1, h10km, n46, σ0s96/25, mb4.4/13, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**28.51**	**201**	*e*P		**P**		**06 51 25.3**	**+1.2**
	11nm,1.3s								
VNDA	**Vanda**	**29.44**	**202**	P		**P**		**06 51 32.6**	**+0.2**
	0.7nm,0.8s,baz=54,slow=4.3,SNR=3.6								
VNDA	**Vanda**	**29.44**	**202**	*e*P		**P**		**06 51 33.8**	**+1.5**
	11nm,1.8s								
RKT	**Rikitea**	**33.01**	**7**	*e*LR		LR		07 00 52.0	
	650nm,28.0s,baz=182								
RKT	**Rikitea**	**33.01**	**7**	*e*T		T		07 26 41.5	
	2.4nm,0.4s								
TBI	**Tubuai**	**33.47**	**343**	*e*LR		LR		07 00 56.8	
	1μm,27.8s,baz=177								
TBI	**Tubuai**	**33.47**	**343**	*e*T		T		07 27 13.9	
	7.9nm,0.4s								
QSPA	**South Pole Qui**	**34.15**	**180**	P		**P**		**06 52 14.7**	**+0.7**
	6.3nm,1.1s,baz=87,slow=4.1,SNR=8.6								
QSPA	**South Pole Qui**	**34.15**	**180**	*e*P		**P**		**06 52 14.6**	**+0.6**
	105nm,2.3s								
MEH	**Mehetia**	**38.64**	**347**	*e*T		T		07 33 37.0	
	6.6nm,0.2s								
PPT2	**Papeete2**	**39.14**	**344**	*e*LR		LR		07 03 43.9	
	983nm,25.8s,baz=174								
PPT	**Papeete**	**39.16**	**344**	LR		LR		07 04 37.7	
	comp=Z,426nm,18.6s,baz=192,slow=29								
VAH	**Vaihoa**	**41.19**	**348**	*e*T		T		07 36 52.5	
	4.8nm,0.3s								
CASY	**Casey**	**47.27**	**211**	*e*P		P		06 54 04.8	+2.8
	7.0nm,0.7s								
VNA3	**Neumayer Olymp**	**48.17**	**160**	P		**P**		**06 54 07.5**	**-1.4**
VNA2	**Neumayer--Watz**	**48.85**	**161**	P		**P**		**06 54 12.8**	**-1.3**
	baz=217,slow=7.6								
VNA1	**Neumayer--Stat**	**48.92**	**161**	P		**P**		**06 54 13.6**	**-1.0**
SNAA	**Sanae**	**49.00**	**163**	P		P		06

	SNR=16							
EKS2	**Erkin-Say**	**2.52**	**24**	⇑*i*P	**Pb**	**06 54 03.2**	**-1.0**	
	baz=23							
EKS2				⇑*i*S	**Sb**	**06 54 37.8**	**+1.9**	
	baz=23							
EKS	**Erkin-Say**	**2.53**	**24**	⇓*i*P	**Pb**	**06 54 03.7**	**-0.7**	
	baz=23							
EKS				⇓*e*S	**Sb**	**06 54 37.3**	**+1.2**	
	baz=23							
KZA	**Kyzart**	**2.75**	**50**	P	**Pb**	**06 54 06.6**	**-1.6**	
	SNR=28							
KZA	**Kyzart**	**2.75**	**50**	⇑*i*P	**Pb**	**06 54 06.6**	**-1.6**	
	baz=50							
KZA				⇑*i*S	**Sb**	**06 54 41.6**	**-1.0**	
	baz=50							
AAK	**Ala-Archa**	**2.76**	**34**	P	**Pb**	**06 54 06.7**	**-1.7**	
	SNR=6.1							
AAK	**Ala-Archa**	**2.76**	**34**	⇓*i*P	**Pb**	**06 54 06.5**	**-1.9**	
	baz=34							
AAK				⇓*i*S	**Sb**	**06 54 42.5**	**-0.3**	
	baz=34							
FRU	**Bishkek**	**2.98**	**33**	*e*P	**Pg**	**06 54 14.0**	**-1.2**	
	baz=33							
FRU				*e*S	**Sg**	**06 54 53.0**	**-0.8**	
	baz=33							
KBK	**Karagaybulak**	**2.99**	**39**	P	**Pg**	**06 54 14.3**	**-1.1**	
	SNR=36							
KK31	**Karatay Array**	**3.09**	**333**	⇑Pn	**Pn**	**06 54 10.2**	**+2.1**	
	0.9nm,0.4s,baz=255,slow=38,SNR=78							
KK31				⇓Pg	**Pg**	**06 54 16.3**	**-1.1**	
	4.5nm,0.3s,baz=146,slow=16,SNR=48							
KK31				⇓Lg	Lg	06 54 55.6		
	24nm,0.3s,baz=149,slow=30,SNR=5.4							
CHMS	**Chumysh**	**3.17**	**33**	P	**Pb**	**06 54 16.2**	**+1.0**	
	SNR=7.4							
DZET	**Dzherino**	**3.17**	**242**	⇑Pn	**Pb**	**06 54 16.2**	**+0.9**	
	22nm,0.4s							
DZET				⇑Sn	**Sb**	**06 54 52.7**	**-1.8**	
	24nm,0.5s							
DZET				⇑Lg	Lg	06 55 00.7		
	88nm,0.5s							
USP	**Ospenovka**	**3.30**	**28**	P	**Pn**	**06 54 13.6**	**+2.6**	
	SNR=6.1							
TKM2	**Tokmak 2**	**3.50**	**42**	P	**Pb**	**06 54 23.1**	**+2.0**	
	SNR=8.8							
TKM2	**Tokmak 2**	**3.50**	**42**	⇑Pn	Pn	06 54 16.5	+2.6	
	2.4nm,0.7s							
TKM2				⇑Pg	**Pb**	**06 54 22.6**	**+1.5**	
	6.9nm,0.3s							
TKM2				⇑Sn	**Sn**	**06 54 59.3**	**+3.2**	
	18nm,0.7s							
TKM2				⇓Lg	Lg	06 55 06.6		
	20nm,0.5s							
PDGK	**Podgornoye**	**6.06**	**58**	⇓Pg	**Pg**	**06 55 13.9**	**-0.2**	
	4.1nm,0.7s							
PDGK				⇓Lg	Lg	06 56 28.0		
	15nm,0.9s							
MK31	**Makanchi Array**	**9.63**	**45**	⇑Pn	Pn	06 55 59.0	+21	
	0.8nm,0.6s,baz=237,slow=15,SNR=4.0							
MKAR	**Makanchi Array**	**9.63**	**45**	Pn	Pn	06 55 47.8	+10	
	0.1nm,0.3s,baz=230,slow=11,SNR=5.3							
MKAR				LR	LR	07 00 15.4		
	comp=Z,88nm,18.9s,baz=233,slow=40							
ZALV	**Zalesovo Beam**	**15.97**	**27**	Pn	P	06 57 11.5	+4.0	
	0.2nm,0.3s,baz=223,slow=17,SNR=2.8							
BRTR	**Keskin Array B**	**29.53**	**282**	P	**P**	**06 59 24.1**	**-0.1**	
	0.2nm,0.4s,baz=92,slow=6.8,SNR=5.7							
ARCES	**ARCESS Array B**	**38.06**	**335**	P	P	07 00 43.0	+5.3	
	3.0nm,1.1s,baz=108,slow=8.0,SNR=4.6							
JCJ	**Chichijima**	**58.15**	**80**	LR	LR	07 31 23.9		
	comp=Z,284nm,18.1s,baz=128,slow=39							
TORD	**Torodi Ar. Bea**	**66.94**	**268**	P	**P**	**07 04 10.5**	**-2.0**	
	0.3nm,0.4s,baz=44,slow=4.9,SNR=5.6							
WRA	**Warramunga Arr**	**83.13**	**123**	P	**P**	**07 05 44.0**	**-1.8**	
	0.3nm,0.9s,baz=328,slow=4.9,SNR=4.0							

*ISCJB **22** 06:56:40.1±0.6,22.°52N±0.°02×122.°22E±0.°02,h15km±5km, Error ellipse: s-maj=4.3km s-min=2.8km az=162.0*
*TAP **22** 06:56:41.0,22.°53N×122.°06E,h7km±1km,ML3.7,D*
*JMA **22** 06:56:41.5±0.2,22.°52N×122.°16E,h33km,M4.0*
ISC 22 06:56:39.9±1.9,**22.°48N**±0.°04×**122.°20E**±0.°03,**h15**km±14km, **n61**,σ1**8**13/108,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.74**	**234**	*i* P			**Pb**	**06 56 55.0**	**+0.5**
	baz=223								
LAY				*e*S			**Sg**	**06 57 03.8**	**-0.3**
	baz=223								
CHKT	**Chengkung**	**0.98**	**309**	*i* P			**Pb**	**06 56 58.2**	**-0.4**
	baz=311								
CHKT				*e*S			**Sb**	**06 57 09.6**	**-1.9**
	baz=311								
TTN	**Taitung**	**1.01**	**286**	*e*S			**Sb**	**06 57 11.1**	**-1.1**
	baz=284								
TWG	**Pinlang**	**1.09**	**288**	P			**Pb**	**06 57 00.1**	**-0.4**
	baz=287								
TWG				*e*S			**Sb**	**06 57 13.7**	**-0.9**
	baz=287								
ECL	**Taimali**	**1.16**	**276**	*e*P			**Pn**	**06 57 01.4**	**-0.1**
	baz=273								
ECL				*e*S			**Sb**	**06 57 14.5**	**-1.9**
	baz=273								
TWF1	**Yuli**	**1.20**	**316**	P			**Pn**	**06 57 01.7**	**-0.5**
	baz=319								
TWF1				*e*S			**Sb**	**06 57 16.4**	**-1.3**
	baz=319								
EAST	**Anshuo**	**1.25**	**266**	*e*P			**Pn**	**06 57 03.0**	**+0.1**
	baz=262								
EAST				*e*S			**Sb**	**06 57 18.8**	**-0.4**
	baz=262								
ELDTW	**Lidau**	**1.30**	**303**	P			**Pn**	**06 57 03.1**	**-0.4**
	baz=304								
ELDTW				*e*S			**Sb**	**06 57 18.1**	**-2.5**
	baz=304								
EHY	**Hungye**	**1.30**	**322**	*e*P			**Pn**	**06 57 03.3**	**-0.3**
	baz=324								
EHY				*e*S			**Sb**	**06 57 19.6**	**-1.0**
	baz=324								
TSEB	**Hengchuen, Pin**	**1.33**	**245**	*e*S			**Sn**	**06 57 20.7**	**-0.7**
	baz=240								
TWK1	**Hengchun**	**1.40**	**248**	*e*P			**Pb**	**06 57 06.0**	**+0.4**
	baz=242								
TWK1				*e*S			**Sn**	**06 57 21.3**	**-1.7**
	baz=242								
HEN	**Hengchun**	**1.43**	**251**	*e*P			**Pb**	**06 57 06.7**	**+0.4**
	baz=246								
HEN				*e*S			**Sn**	**06 57 22.5**	**-1.4**
	baz=246								
SCZT	**Fangliau**	**1.46**	**266**	*e*P			**Pb**	**06 57 06.9**	**+0.1**
	baz=263								
SCZT				*e*S			**Sn**	**06 57 25.3**	**+0.6**
	baz=263								
SSD	**Sandimen**	**1.47**	**281**	*e*P			**Pn**	**06 57 06.2**	**+0.4**
	baz=279								
STYT	**Tauyuan**	**1.49**	**297**	*e*P			**Pn**	**06 57 07.0**	**+0.7**
	baz=297								
STYT				*e*S			**Sn**	**06 57 24.3**	**-1.1**
	baz=297								
ESL	**Shilin**	**1.50**	**332**	*e*P			**Pn**	**06 57 05.4**	**-0.9**
	baz=335								
ESL				*e*S			**Sn**	**06 57 23.9**	**-1.8**
	baz=335								
YUS	**Yu-Shan**	**1.53**	**311**	P			**Pn**	**06 57 07.7**	**+0.6**
	baz=313								
YUS				*e*S			**Sn**	**06 57 25.5**	**-1.4**
	baz=313								
WDT	**Danda**	**1.60**	**323**	P			**Pn**	**06 57 08.3**	**+0.3**
	baz=325								
WDT				*e*S			**Sn**	**06 57 27.1**	**-1.5**
	baz=325								
SGST	**Jiashian**	**1.61**	**292**	*e*P			**Pn**	**06 57 09.6**	**+0.4**
	baz=291								
ALS	**Alishan**	**1.64**	**309**	*e*P			**Pn**	**06 57 09.7**	**+1.2**
	baz=310								
ALS				*e*S			**Sn**	**06 57 30.7**	**+1.2**
	baz=310								
WTP	**Ta-pu**	**1.65**	**298**	*e*P			**Pb**	**06 57 10.0**	**0.0**
	baz=298								
WTP				*e*S			**Sb**	**06 57 30.9**	**+0.3**
	baz=298								
TWM1	**Shoushan**	**1.68**	**282**	*e*P			**Pb**	**06 57 11.4**	**+0.9**
	baz=280								
TWD	**Chiawan**	**1.69**	**341**	*e*P			**Pn**	**06 57 08.9**	**+0.1**
	baz=344								
TWD				*e*S			**Sn**	**06 57 28.0**	**-2.2**
	baz=344								
CHN1	**Nanshi**	**1.69**	**295**	*e*P			**Pb**	**06 57 11.0**	**+0.3**
	baz=294								
CHN1				*e*S			**Sn**	**06 57 31.4**	**+1.0**
	baz=294								
TWP	**Hsiaoliuchiu**	**1.70**	**266**	*e*P			**Pb**	**06 57 10.6**	**-0.2**
	baz=263								
CHN4	**Tsaushan**	**1.71**	**301**	*e*P			**Pb**	**06 57 11.2**	**+0.1**
	baz=301								
CHN4				*e*S			**Sn**	**06 57 32.1**	**+1.2**
	baz=301								
TWK	**Hsinying**	**1.76**	**297**	*e*P			**Pb**	**06 57 12.0**	**+0.1**
	baz=296								
TWK				*e*S			**Sb**	**06 57 34.5**	**+0.6**
	baz=296								
CHN5	**Tsauling**	**1.79**	**309**	*e*P			**Pb**	**06 57 12.5**	**+0.1**
	baz=309								
CHN5				*e*S			**Sn**	**06 57 34.3**	**+1.5**
	baz=309								
SMLT	**Sun Moon Lake**	**1.84**	**320**	*e*P			**Pn**	**06 57 12.4**	**+1.4**
	baz=321								
SMLT				*e*S			**Sn**	**06 57 34.2**	**+0.2**
	baz=321								
WHF	**Hehuan Shan**	**1.87**	**333**	P			**Pn**	**06 57 12.0**	**+0.3**
	baz=335								
WHF				*e*S			**Sn**	**06 57 34.0**	**-1.2**
	baz=335								
TYC	**Yuchr**	**1.88**	**319**	*e*P			**Pn**	**06 57 13.3**	**+1.9**
	baz=321								
TYC				*e*S			**Sn**	**06 57 36.0**	**+1.1**
	baz=321								
CHY	**Chiayi**	**1.92**	**302**	*e*P			**Pn**	**06 57 12.4**	**+0.3**
	baz=302								
CHY				*e*S			**Sb**	**06 57 38.4**	**0.0**
	baz=302								
WNT	**Mingjian**	**1.97**	**315**	*e*P			**Pb**	**06 57 15.2**	**-0.2**
	baz=316								
WNT				*e*S			**Sb**	**06 57 39.8**	**0.0**
	baz=316								
ENA	**Nanau**	**1.98**	**348**	*e*P			**Pn**	**06 57 13.9**	**+1.0**
	baz=351								
ENA				*e*S			**Sn**	**06 57 36.1**	**-1.4**
	baz=351								
TWT	**Tachien**	**2.00**	**332**	*e*S			**Sn**	**06 57 37.7**	**-0.5**
	baz=334								
JYNG	**Yonaguni jima**	**2.08**	**19**	P			**Pn**	**06 57 15.3**	**+1.1**
JYNG				*e*S			**Sn**	**06 57 38.8**	**-1.1**
NNS	**Nan Shan**	**2.09**	**339**	*e*P			**Pn**	**06 57 15.8**	**+1.2**
	baz=341								
NNS				*e*S			**Sn**	**06 57 39.1**	**-1.3**
	baz=341								
YOJ	**Yonaguni jima**	**2.11**	**21**	P			**Pn**	**06 57 16.0**	**+1.4**
YOJ				*e*S			**Sn**	**06 57 40.7**	**+0.1**
TWC	**Suao**	**2.14**	**351**	*e*P			**Pn**	**06 57 17.1**	**+2.0**
	baz=354								
TWC				*e*S			**Sn**	**06 57 41.4**	**-0.1**
	baz=354								
WSF	**Szhu**	**2.15**	**303**	*e*S			**Sn**	**06 57 43.0**	**+1.3**
	baz=303								
HATJ	**Hateruma jima**	**2.16**	**43**	P			**Pn**	**06 57 16.4**	**+1.1**
HATJ				S			**Sn**	**06 57 41.3**	**-0.5**
TCU	**Taichung**	**2.17**	**320**	*e*P			**Pn**	**06 57 16.4**	**+1.0**
	baz=321								
TCU				*e*S			**Sn**	**06 57 43.9**	**+1.8**
	baz=321								
ENTT	**Nioudou**	**2.23**	**345**	*e*S			**Sn**	**06 57 43.3**	**-0.2**
	baz=347								
TWQ1	**Liyutan**	**2.27**	**325**	*e*P			**Pb**	**06 57 20.0**	**-0.7**
	baz=326								
TWQ1				*e*S			**Sn**	**06 57 47.2**	**+2.5**
	baz=326								
TWE	**Neicheng**	**2.28**	**348**	*e*P			**Pn**	**06 57 19.1**	**+2.1**
	baz=350								
TWE				*e*S			**Sn**	**06 57 45.5**	**+0.6**
	baz=350								
NSK	**Sanguang**	**2.32**	**341**	*e*P			**Pn**	**06 57 19.3**	**+1.7**
	baz=343								
NSK				*e*S			**Sn**	**06 57 45.6**	**-0.3**
	baz=343								
IRIF	**Iriomote-Funau**	**2.32**	**37**	P			**Pn**	**06 57 18.9**	**+1.4**
IRIF				*e*S			**Sn**	**06 57 45.2**	**-0.6**
NSY	**Sanyi**	**2.34**	**326**	*e*P			**Pb**	**06 57 20.7**	**-1.0**
	baz=327								
NSY				*e*S			**Sb**	**06 57 49.2**	**-1.2**
	baz=327								
EGS		**2.37**	**354**	*e*S			**Sn**	**06 57 47.3**	**+0.4**
	baz=357								
NSTT	**Nanjuang**	**2.41**	**333**	*e*S			**Sn**	**06 57 48.9**	**+0.9**
	baz=335								
JKRS	**Kuro-shima**	**2.42**	**43**	P			**Pn**	**06 57 20.2**	**+1.4**
JKRS				S			**Sn**	**06 57 47.5**	**-0.6**
WDGT	**Dungji**	**2.47**	**289**	*e*P			**Pn**	**06 57 21.0**	**+1.5**
	baz=288								
TWB1	**Santiao Chiao**	**2.52**	**356**	*e*P			**Pn**	**06 57 21.9**	**+1.6**
	baz=358								
TWB1				*e*S			**Sn**	**06 57 50.6**	**-0.2**
	baz=358								
TWA	**Mucha**	**2.55**	**347**	*e*P			**Pn**	**06 57 21.2**	**+0.5**
	baz=349								
TWA				*e*S			**Sn**	**06 57 52.7**	**+1.1**
	baz=349								
JIJ	**Ishigaki jima**	**2.59**	**43**	P			**Pn**	**06 57 22.1**	**+0.9**
JIJ				S			**Sn**	**06 57 50.8**	**-1.7**
NWF	**Wu-fen Shan**	**2.61**	**352**	*e*P			**Pn**	**06 57 24.3**	**+2.7**
	baz=354								
NWF				*e*S			**Sn**	**06 57 54.5**	**+1.5**
	baz=354								
PNG	**Penghu**	**2.66**	**294**	*e*P			**Pn**	**06 57 23.9**	**+1.6**
	baz=294								
TWS1	**Kuangyinshan**	**2.71**	**345**	*e*S			**Sn**	**06 57 56.6**	**+1.3**
	baz=347								
JISG	**Ishigakijimahi**	**2.86**	**42**	P			**Pn**	**06 57 25.7**	**+0.8**
JISG				S			**Sn**	**06 57 58.4**	**-0.6**
JTJ	**Tarama**	**3.15**	**46**	P			**Pn**	**06 57 30.2**	**+1.3**
JTJ				*e*S			**Sn**	**06 58 05.4**	**-0.8**
JIRB	**Irabujima**	**3.59**	**49**	P			**Pn**	**06 57 36.3**	**+1.3**
JIRB				*e*S			**Sn**	**06 58 16.7**	**-0.5**

*IDC **22** 07:02:27.2±8.1,26.°61N×130.°29E,h0km,mb3.4/3, mb1 3.7/3,mb1mx3.4/30,mbtmp3.4/3,Error ellipse: s-maj=389.8km s-min=28.0km az=62.0*
*ISCJB **22** 07:02:33.1±0.6,26.°07N±0.°05×129.°43E±0.°04,h30km, mb3.4/3,Error ellipse: s-maj=6.9km s-min=4.7km az=20.2*
*JMA **22** 07:02:34.0±0.1,26.°11N×129.°44E,h43km,M3.5*
ISC 22 07:02:34.1±1.0,**26.°08N**±0.°06×**129.°43E**±0.°04,**h30**km,**n13**, σ0**84**/23,**mb3.6**/3,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.28**	**306**	P			**Pn**	**07 02 55.9**	**0.0**
JOW				S			**Sn**	**07 03 11.3**	**-0.8**
JNTH	**Nagotoyohara**	**1.34**	**289**	P			**Pn**	**07 02 56.7**	**0.0**
JNTH				S			**Sn**	**07 03 12.0**	**-1.5**
JOKE	**Okinoerabujima**	**1.49**	**329**	P			**Pn**	**07 02 58.9**	**+0.1**
JOKE				S			**Sn**	**07 03 17.6**	**+0.3**
JJT2	**Tamagusuku 2**	**1.52**	**273**	P			**Pn**	**07 03 00.1**	**+1.0**
JJT2				S			**Sn**	**07 03 18.1**	**+0.2**
JIH	**Iheya**	**1.62**	**306**	P			**Pn**	**07 03 01.1**	**+0.5**
JIH				S			**Sn**	**07 03 19.8**	**-0.7**
JMZ	**Minamidaito 2**	**1.63**	**99**	P			**Pn**	**07 03 00.8**	**+0.1**
JMZ				S			**Sn**	**07 03 19.3**	**-1.4**
JTK	**Tokunoshima**	**1.75**	**346**	P			**Pn**	**07 03 02.5**	**+0.1**
JTK				S			**Sn**	**07 03 23.0**	**-0.7**
JAGN	**Aguni-jima**	**2.03**	**285**	P			**Pn**	**07 03 07.0**	**+0.8**
JAGN				S			**Sn**	**07 03 30.3**	**-0.3**
JAMN	**Amaminishikomi**	**2.17**	**354**	P			**Pn**	**07 03 08.4**	**+0.3**
JAMN				S			**Sn**	**07 03 34.2**	**+0.3**
JKE	**Kume jima 2**	**2.39**	**276**	P			**Pn**	**07 03 10.4**	**-0.8**
JKE				S			**Sn**	**07 03 37.7**	**-1.8**
MKAR	**Makanchi Array**	**42.44**	**312**	P			**P**	**07 10 25.5**	**-0.7**
	0.2nm,0.6s,baz=98,slow=7.4,SNR=2.6								
WRA	**Warramunga Arr**	**46.00**	**174**	P			**P**	**07 10 55.8**	**+1.0**
	0.8nm,0.7s,baz=354,slow=8.2,SNR=9.4								
ASAR	**Alice Springs**	**49.64**	**175**	P			**P**	**07 11 23.9**	**+0.9**
	0.4nm,0.7s,baz=5.2,slow=11,SNR=7.1								

JMA 22 07:06:53.0±0.6,**22.°29N**×**123.°68E**,**h54**km,**M3.6**, **Southeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.76**	**4**	P			**Pn**	**07 07 22.2**	**+1.1**
HATJ				S			**Sn**	**07 07 42.7**	**+0.3**
JKRS	**Kuro-shima**	**1.96**	**9**	P			**Pn**	**07 07 25.2**	**+1.3**
JKRS				S			**Sn**	**07 07 48.1**	**+0.8**
IRIF	**Iriomote-Funau**	**2.04**	**1**	P			**Pn**	**07 07 26.4**	**+1.5**
IRIF				S			**Sn**	**07 07 49.3**	**+0.2**
JIJ	**Ishigaki jima**	**2.11**	**12**	P			**Pn**	**07 07 26.4**	**+0.5**
JIJ				S			**Sn**	**07 07 49.4**	**-1.5**
JYNG	**Yonagunijimaku**	**2.25**	**343**	P			**Pn**	**07 07 29.8**	**+1.9**
JYNG				S			**Sn**	**07 07 55.8**	**+1.3**
JISG	**Ishigakijimahi**	**2.36**	**14**	P			**Pn**	**07 07 30.0**	**+0.7**
JISG				S			**Sn**	**07 07 56.3**	**-0.8**
JTJ	**Tarama**	**2.52**	**22**	S			**Sn**	**07 08 00.4**	**-0.6**
JIRB	**Irabujima**	**2.87**	**28**	*e*S			**Sn**	**07 08 08.6**	**-1.1**

*ISCJB **22** 07:12:21.6±0.3,20.°74S±0.°05×168.°48E±0.°06,h30km, mb4.6/24,MS4.0/7,Error ellipse: s-maj=8.8km s-min=6.3km az=135.4*
*IDC **22** 07:12:24.4±0.7,20.°77S×168.°54E,h40km±4km,mb4.0/12, mb1 4.2/14,mb1mx3.9/30,mbtmp4.2/14,ML3.7/2,MS4.1/8, Ms1 4.0/8,ms1mx3.8/23,Error ellipse: s-maj=20.7km s-min=14.8km az=136.0*
*NEIC **22** 07:12:24.2±0.2,20.°65S×168.°50E,h35km,mb4.7/16,Error ellipse: s-maj=6.6km s-min=5.4km az=142.0*
*SZGRF **22** 07:12:26.1,20.°41S×169.°47E,h38km,Vanuatu Islands*
ISC 22 07:12:23.8±0.4,**20.°76S**±0.°07×**168.°50E**±0.°07,**h30**km, **h30**:**pP-P**,**n90**,σ1**8**15/96,**mb4.6**/24,**MS4.2**/7,**3C**, **Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.32**	**235**	Pn			**Pn**	**07 12 59.1**	**-0.9**
	9.4nm,0.3s,baz=90,slow=24,SNR=60								
DZM				Sn			**Sn**	**07 13 24.7**	**-2.9**
	93nm,0.3s,baz=103,slow=16,SNR=9.0								
DZM				LR			LR	07 13 37.7	
	comp=Z,2μm,19.0s,baz=0.0,slow=31								
URZ	**Urewera**	**18.96**	**159**	P			**P**	**07 16 41.9**	**-0.7**
	0.4nm,0.3s,baz=297,slow=3.4,SNR=8.0								
URZ	**Urewera**	**18.96**	**159**	*e*P			**Pn**	**07 16 44.1**	**+0.7**
BKZ	**Black Stump Fm**	**19.59**	**161**	*e*P			**Pn**	**07 16 51.7**	**+0.6**
CTA	**Charters Tower**	**20.86**	**268**	P			**P**	**07 17 04.0**	**+0.6**
	3.7nm,0.7s,baz=84,slow=13,SNR=4.8								
CTAO	**Charters Tower**	**20.86**	**268**	*e*P			**P**	**07 17 04.3**	**+0.9**
	20nm,1.0s								
BFZ	**Birch Farm**	**20.93**	**163**	*e*P			**P**	**07 17 04.4**	**+0.4**
RPZ	**Rata Peaks**	**22.99**	**175**	LR			LR	07 24 18.1	
	comp=Z,372nm,20.4s,baz=337,slow=31								
PMG	**Port Moresby**	**23.46**	**296**	*e*P			**P**	**07 17 31.4**	**+0.5**
STKA	**Stephens Creek**	**26.46**	**240**	P			**P**	**07 17 58.4**	**+0.1**
	2.2nm,0.6s,baz=91,slow=11,SNR=9.0								
STKA				LR			LR	07 27 56.9	
	comp=Z,592nm,19.0s,baz=39,slow=35								
STKA	**Stephens Creek**	**26.46**	**240**	*e*P			**P**	**07 17 58.4**	**+0.1**
	9.5nm,1.7s								
WRAB	**Tennant Creek**	**32.00**	**265**	*e*P			**P**	**07 18 47.1**	**-0.6**
	4.4nm,0.8s								
WRA	**Warramunga Arr**	**32.01**	**265**	P			**P**	**07 18 46.8**	**-1.0**
	0.5nm,0.5s,baz=96,slow=8.3,SNR=13								
WRA				pP			**pP**	**07 18 57.4**	**+0.9**
	3.3nm,0.9s,baz=91,slow=8.2,SNR=14								
WRA				LR			LR	07 31 32.8	
	comp=Z,451nm,19.3s,baz=100,slow=36								
AS31	**Alice Springs**	**32.11**	**258**	*e*P			**P**	**07 18 48.4**	**-0.2**
AS12	**Alice Springs**	**32.11**	**258**	*e*P			**P**	**07 18 48.5**	**-0.2**
AS12				*e*pP			**pP**	**07 18 59.2**	**+1.7**
ASAR	**Alice Springs**	**32.11**	**258**	P			**P**	**07 18 48.5**	**-0.2**
	8.0nm,0.9s,baz=86,slow=9.1,SNR=24								
ASAR				pP			**pP**	**07 18 59.2**	**+1.7**
	17nm,0.9s,baz=82,slow=9.0,SNR=28								
ASAR				LR			LR	07 31 32.4	
	comp=Z,486nm,19.6s,baz=93,slow=36								
FAKI	**Fak Fak**	**39.51**	**292**	*e*P			**P**	**07 19 51.5**	**-0.5**
FAKI				*e*pP			**pP**	**07 20 01.9**	**+0.9**
PPT	**Papeete**	**39.65**	**93**	LR			LR	07 34 56.9	
	comp=Z,135nm,19.1s,baz=320,slow=34								
GUMO	**Guam**	**41.29**	**324**	LR			LR	07 36 03.5	
	comp=Z,134nm,18.8s,baz=52,slow=34								
MBWA	**Marble Bar**	**45.40**	**260**	*e*P			**P**	**07 20 40.9**	**+1.0**
	9.5nm,0.8s								
PTCN	**Pitcairn Islan**	**56.31**	**107**	*e*P			**P**	**07 22 02.9**	**+0.8**
VNDA	**Vanda**	**56.90**	**182**	P			**P**	**07 22 05.3**	**-0.1**
	0.6nm,0.7s,baz=9.1,slow=6.5,SNR=3.8								
VNDA	**Vanda**	**56.90**	**182**	*e*P			**P**	**07 22 05.9**	**+0.4**
	19nm,2.0s								
SBA	**Scott Base**	**57.14**	**180**	*e*P			**P**	**07 22 07.8**	**+0.6**
SBA				*e*pP			**pP**	**07 22 20.0**	**+3.6**
ASAJ	**Asahikawa**	**68.78**	**340**	P			**P**	**07 23 24.0**	**-0.9**
	4.0nm,0.7s,baz=237,slow=7.9,SNR=4.5								
ASAJ	**Asahikawa**	**68.78**	**340**	*e*P			**P**	**07 23 24.0**	**-0.9**
	3.1nm,1.0s								
QSPA	**South Pole Qui**	**69.30**	**180**	*e*P			**P**	**07 23 27.8**	**-0.3**
	7.8nm,1.3s								
USRK	**Ussuriysk Ar.**	**72.77**	**333**	P			**P**	**07 23 48.9**	**-0.3**
	2.6nm,0.7s,baz=151,slow=4.4,SNR=6.7								
USRK				pP			**pP**	**07 24 01.2**	**+2.6**
	2.1nm,0.6s,baz=138,slow=4.1,SNR=4.0								
SMY	**Shemya**	**73.34**	**4**	*e*P			**P**	**07 23 51.8**	**-0.5**
ADK	**Adak**	**73.49**	**10**	*e*P			**P**	**07 23 52.9**	**-0.3**
	82nm,1.6s								
PEA2	**Petropavlovsk-**	**74.15**	**353**	*e*P			**P**	**07 23 56.5**	**-0.6**
PETK	**Petropavlovsk-**	**74

WERD	**Werda**	**144.92**	**333**	*e*PKPbc	**PKPdf**	**07 31 57.8**	**-0.1**
WERD				*ep*PKPbc	**pPKPdf**	**07 32 09.1**	**+1.3**
PLN	**Plauen**	**144.96**	**333**	*e*PKPbc	**PKPdf**	**07 31 57.9**	**0.0**
PLN				*ep*PKPbc	**pPKPdf**	**07 32 09.1**	**+1.3**
GUNZ	**Gunzen**	**144.97**	**333**	*e*PKPbc	**PKPdf**	**07 31 58.2**	**+0.2**
GUNZ				*ep*PKPbc	**pPKPdf**	**07 32 09.5**	**+1.6**
WERN	**Wernitzgruen**	**145.01**	**333**	*e*PKPbc	**PKPdf**	**07 31 58.4**	**+0.3**
WERN				*ep*PKPbc	pPKPbc	07 32 09.7	+2.2
CONA	**Conrad Observa**	**145.06**	**327**	*i* PKPdf	**PKPdf**	**07 31 58.6**	**+0.3**
	comp=Z,28nm,1.7s,SNR=15						
IBBN	**Ibbenburen**	**145.15**	**339**	*e*PKPbc	**PKPdf**	**07 31 58.2**	**+0.1**
IBBN				*ep*PKPbc	pPKPbc	07 32 09.5	+1.8
MANZ	**Manzenberg**	**145.35**	**333**	*e*PKPbc	**PKPab**	**07 31 59.3**	**+0.6**
MANZ				*ep*PKPbc	pPKPbc	07 32 10.6	+2.1
ROTZ	**Rotzenmuhle**	**145.48**	**333**	*e*PKPbc	**PKPab**	**07 32 00.0**	**+0.9**
ROTZ				*ep*PKPbc	pPKPbc	07 32 11.2	+2.4
GEC2	**GERESS Array S**	**145.48**	**330**	*e*PKPbc	**PKPab**	**07 31 59.7**	**+0.4**
GEC2				*ep*PKPbc	pPKPbc	07 32 10.9	+1.9
GERES	**GERESS Array B**	**145.48**	**330**	PKPbc	**PKPbc**	**07 31 59.0**	**0.0**
	comp=Z,2.6nm,0.7s,baz=29,slow=3.0,SNR=22						
GERES				*p*PKPbc	pPKPbc	07 32 10.8	+1.8
	comp=Z,1.9nm,0.7s,baz=46,slow=3.9,SNR=8.4						
UBBA	**Unterbreizbach**	**145.56**	**336**	*e*PKPbc	**PKPab**	**07 31 59.7**	**+0.5**
WET	**Wettzell**	**145.64**	**331**	*e*PKPbc	**PKPab**	**07 32 00.4**	**+0.6**
ARSA	**Arzberg**	**145.68**	**327**	*i* PKPab	**PKPab**	**07 32 00.5**	**+0.6**
	comp=Z,16nm,1.6s,SNR=7.0						
MOA	**Molln**	**145.91**	**329**	*i* PKPab	**PKPab**	**07 32 00.8**	**0.0**
	comp=Z,18nm,1.6s,SNR=6.9						
GRF	**Grafenberg Arr**	**145.95**	**333**	*e*PKPbc	**PKPab**	**07 32 01.3**	**+0.4**
GRFO	**Grafenberg**	**145.95**	**333**	*e*PKPdf	**PKPab**	**07 32 00.6**	**-0.3**
TNS	**Taunus Mts**	**146.63**	**337**	*e*PKPbc	**PKPab**	**07 32 03.2**	**-0.3**
RJOB	**Jochberg**	**146.69**	**330**	*e*PKPbc	**PKPbc**	**07 32 03.0**	**+0.3**
FUR	**Furstenfeldbru**	**147.08**	**332**	*e*PKPbc	**PKPab**	**07 32 04.5**	**-0.8**
WLF	**Walferdange**	**147.92**	**338**	*e*PKPbc	**PKPbc**	**07 32 07.0**	**+1.1**
TOA0	**Torodi Ar. Sit**	**165.29**	**241**	*e*PKPdf	**PKPdf**	**07 32 26.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**165.29**	**241**	PKP	**PKPdf**	**07 32 25.2**	**-0.9**
	comp=Z,1.5nm,1.2s,baz=175,slow=0.9,SNR=5.5						
TORD				*p*PKP	**pPKPdf**	**07 32 36.6**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=7.8,slow=1.3,SNR=5.0						

IDC 22 07:15:44.8±2.7, 20.46S×168.02E, h35km±8km, mb3.4/2, mb1 3.6/3, mb1mx3.4/26, mbtmp3.5/3, ML2.9/1, Error ellipse: s-maj=75.2km s-min=27.4km az=131.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.17**	**222**	Pn	Pn	07 16 16.8	-1.8
	3.5nm,0.3s,baz=90,slow=20,SNR=7.5						
DZM				Sn	Sn	07 16 45.9	+1.5
	28nm,0.3s,baz=107,slow=19,SNR=9.6						
WRA	**Warramunga Arr**	**31.58**	**265**	P	P	07 22 04.0	-0.4
	0.2nm,0.6s,baz=92,slow=8.2,SNR=2.4						
WRA				pP	pP	07 22 13.7	-0.8
	1.0nm,0.9s,baz=92,slow=8.2,SNR=3.9						
ASAR	**Alice Springs**	**31.73**	**258**	P	P	07 22 06.0	+0.3
	1.9nm,0.8s,baz=82,slow=9.0,SNR=4.9						
ASAR				pP	pP	07 22 16.6	+0.8
	4.0nm,0.8s,baz=79,slow=9.2,SNR=14						
GERES	**GERESS Array B**	**145.00**	**330**	PKPbc	PKPbc	07 35 17.4	-0.4
	0.8nm,0.8s,baz=54,slow=2.3,SNR=4.4						
GERES				*p*PKPbc	pPKPbc	07 35 28.4	-1.0
	0.5nm,0.6s,baz=42,slow=4.2,SNR=2.9						

IGQ 22 07:16:03±0.3, 1.68S×80.34W, h3km±129km, Mb4.1, 15C-2D, Error ellipse: s-maj=2.5km s-min=1.7km az=8.3, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHIS	**Cerro-Chispas-**	**0.73**	**328**	S	Sb	07 16 30.4	+1.4
CHIS	**Cerro-Chispas-**	**0.73**	**328**	P	Pn	07 16 19.7	-0.6
ISPT	**Isla de la Pla**	**0.84**	**299**	⇑P	Pg	07 16 18.9	-0.3
ISPT	**Isla de la Pla**	**0.84**	**299**	⇑S	Sg	07 16 29.4	-0.8
PECV	**Mancha de Ca P**	**0.94**	**18**	⇑P	Pg	07 16 21.4	+0.3
JAMA	**Jama**	**1.41**	**5**	P	Pg	07 16 30.6	+0.4
MAG1	**Magdalena**	**1.69**	**20**	P	Pn	07 16 33.3	-0.2
MAG1	**Magdalena**	**1.69**	**20**	S	Sb	07 16 56.9	+0.3
RIOE	**Riobamba**	**1.71**	**93**	⇓P	Pb	07 16 35.6	+0.1
IGUA	**Igualata**	**1.71**	**84**	S	Sb	07 16 58.7	+0.4
IGUA	**Igualata**	**1.71**	**84**	P	Pb	07 16 35.4	-0.4
BIL2	**Estacion Bilba**	**1.85**	**83**	P	Pg	07 16 38.8	-0.1
BBIL	**Ulba Tungurahu**	**1.86**	**83**	⇑S	Sg	07 17 04.0	+0.2
BBIL	**Ulba Tungurahu**	**1.86**	**83**	⇑P	Pg	07 16 38.8	-0.4
BMAS	**Trigal station**	**1.87**	**85**	⇑S	Sg	07 17 03.4	-0.5
BMAS	**Trigal station**	**1.87**	**85**	⇑P	Pg	07 16 38.8	-0.5
JUI6	**Juive**	**1.89**	**82**	P	Pb	07 16 38.4	-0.1
ARRY	**Arrayan**	**1.89**	**85**	⇑P	Pb	07 16 39.0	+0.3
RETU	**Refugio**	**1.91**	**83**	P	Pb	07 16 39.6	+0.5
RETU	**Refugio**	**1.91**	**83**	S	Sg	07 17 05.6	+0.1
PAT1	**Patacocha**	**1.91**	**85**	⇑P	Pb	07 16 38.5	-0.6
PAT1	**Patacocha**	**1.91**	**85**	⇑S	Sg	07 17 04.8	-0.6
BPAT	**Tungurahua Vol**	**1.91**	**85**	P	Pb	07 16 38.5	-0.7
BPAT	**Tungurahua Vol**	**1.91**	**85**	S	Sg	07 17 04.8	-0.8
RUN5	**Runtun**	**1.93**	**82**	P	Pb	07 16 39.1	-0.2
RUN5	**Runtun**	**1.93**	**82**	S	Sg	07 17 05.6	-0.3
BRUN	**Tungurahua Vol**	**1.94**	**83**	P	Pb	07 16 39.5	0.0
BRUN	**Tungurahua Vol**	**1.94**	**83**	S	Sb	07 17 04.5	0.0
BULB	**Ulba Tungurahu**	**1.94**	**83**	P	Pb	07 16 39.0	-0.6
BULB	**Ulba Tungurahu**	**1.94**	**83**	S	Sg	07 17 05.8	-0.6
ULBA	**Ulba**	**1.94**	**83**	S	Sg	07 17 05.9	-0.5
ULBA	**Ulba**	**1.94**	**83**	P	Pb	07 16 39.2	-0.4
PAST	**Pastocalle**	**1.96**	**60**	P	Pb	07 16 40.0	+0.1
PISA	**Pisayambo**	**2.05**	**73**	P	Pb	07 16 41.1	-0.4
CAMI	**Rancho Maria**	**2.08**	**62**	P	Pg	07 16 42.9	-0.7
BMOR	**Cotopaxi Volca**	**2.10**	**63**	⇑P	Pb	07 16 41.4	-1.2
MOV1	**Cotopaxi Vol s**	**2.12**	**63**	P	Pb	07 16 42.7	-0.3
NAS2	**Nasa**	**2.13**	**61**	P	Pb	07 16 43.5	+0.5
BREF	**Cotopaxi Volca**	**2.15**	**62**	⇑P	Pb	07 16 42.4	-1.0
BVC2	**Cotopaxi Volca**	**2.18**	**62**	⇑P	Pb	07 16 43.7	-0.1
BTAM	**Cotopaxi Volca**	**2.18**	**63**	⇑P	Pb	07 16 43.6	-0.2
VC1	**Cotopaxi 1**	**2.19**	**62**	P	Pb	07 16 43.5	-0.5
TAMB	**Tambo**	**2.20**	**64**	P	Pb	07 16 43.1	-1.0
PITA	**Cotopaxi Volc**	**2.21**	**60**	P	Pn	07 16 42.3	+1.1
MACE	**Macas**	**2.21**	**105**	⇑P	Pb	07 16 43.6	-0.4
GOLV	**Golondrinas**	**2.22**	**33**	P	Pn	07 16 41.5	+0.6
COV1	**Cotopaxi Volc**	**2.23**	**63**	P	Pn	07 16 43.2	+1.4
JUA2	**San Juan 2**	**2.26**	**50**	P	Pb	07 16 43.9	-1.2
TERV	**Terraza Guagua**	**2.29**	**49**	S	Sg	07 17 16.8	-1.0
TERV	**Terraza Guagua**	**2.29**	**49**	P	Pb	07 16 44.9	-0.8
GGP	**Refugio Guagua**	**2.29**	**49**	P	Pn	07 16 43.9	+1.3
PINO	**Pino**	**2.30**	**49**	P	Pn	07 16 43.8	+1.2
YANA	**Yana**	**2.35**	**49**	P	Pn	07 16 44.7	+1.5
ANTI	**Antisana**	**2.50**	**61**	P	Pb	07 16 48.8	-0.5
OTAV	**Otavalo**	**2.68**	**45**	P	Pn	07 16 48.9	+1.3
COTA	**Cotacachi**	**2.83**	**45**	S	Sb	07 17 29.8	-0.5
COTA	**Cotacachi**	**2.83**	**45**	P	Pb	07 16 52.4	-2.4
CAYR	**Refugio Cayamb**	**2.87**	**54**	P	Pb	07 16 54.0	-1.8
CAYA	**Cayambe**	**2.92**	**54**	P	Pb	07 16 54.1	-2.3
URCU	**Urcuqui**	**2.96**	**45**	⇓P	Pb	07 16 55.5	-1.5
LITE	**Lita**	**3.16**	**39**	P	Pn	07 16 55.9	+2.0

IDC 22 07:16:50.4±2.7, 54.17N×86.54E, h0km, mb1 2.9/2, mb1mx2.8/40, mbtmp2.9/2, ML2.8/2, Error ellipse: s-maj=21.8km s-min=13.6km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.03**	**259**	*i*		07 23 20.0	
	baz=79,slow=316,SNR=0.7						
ZALV	**Zalesovo Beam**	**1.03**	**259**	Pg	Pg	07 17 09.0	-1.3
	1.3nm,0.3s,baz=75,slow=16,SNR=9.5						
ZALV				Lg	Lg	07 17 24.9	
	3.0nm,0.3s,baz=79,slow=30,SNR=11						
ZALV				Rg	Rg	07 17 29.0	
	3.8nm,0.3s,baz=80,slow=28,SNR=13						
KURBB	**Kurchatov Arra**	**6.05**	**237**	Pn	Pn	07 18 21.1	0.0
	0.2nm,0.3s,baz=54,slow=13,SNR=11						
KURBB				Lg	Lg	07 20 06.8	
	0.0nm,0.3s,baz=59,slow=32,SNR=4.7						
MKAR	**Makanchi Array**	**7.86**	**202**	Pn	Pn	07 18 47.6	+1.6
	0.2nm,0.3s,baz=24,slow=11,SNR=7.5						

JMA 22 07:18:16.3±0.2, 29.96N×131.04E, h34km±2km, M2.5, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYAK	**Yakushimahirau**	**0.54**	**301**	P	Pn	07 18 27.0	-0.5
JYAK				*e*S	Sb	07 18 35.2	-0.1
JTN	**Tanegashima 3**	**0.69**	**356**	P	Pn	07 18 29.6	-0.1
JKC	**Kuchinoerabu**	**0.89**	**305**	P	Pb	07 18 32.9	-0.4
JNN	**Nakanoshima**	**1.02**	**264**	P	Pn	07 18 34.5	+0.3
JTSR	**Tashiro 2**	**1.21**	**355**	P	Pn	07 18 37.5	+0.7
JTSR				*e*S	Sn	07 18 52.6	+0.5
JNAR	**Kushima--Naru**	**1.57**	**7**	P	Pn	07 18 42.8	+1.0
JTZ	**Takazaki**	**1.94**	**1**	P	Pn	07 18 48.2	+1.4
JAM	**Amami Oshima**	**1.99**	**219**	P	Pn	07 18 49.0	+1.5
JAM				*e*S	Sn	07 19 12.3	+1.1

ISCJB 22 07:18:16.4±0.2, 31.32N±0.03×137.99E±0.04, h392km, mb3.8/45, Error ellipse: s-maj=4.5km s-min=4.3km az=139.4
IDC 22 07:18:17.8±0.9, 31.45N×138.04E, h397km±9km, mb3.4/20, mb1 3.6/25, mb1mx3.5/40, mbtmp4.2/25, Error ellipse: s-maj=12.5km s-min=9.4km az=80.0
JMA 22 07:18:17.6±0.2, 31.49N×138.30E, h429km, M3.8
NEIC 22 07:18:18.3±0.5, 31.33N×137.99E, h401km±5km, mb4.0/28, Error ellipse: s-maj=9.8km s-min=6.6km az=163.0
BJI 22 07:18:19.9, 31.51N×137.53E, h401km, mb4.4/11, mB4.4/5
ISC 22 07:18:17.3±0.5, 31.38N±0.06×138.05E±0.06, h392km, n102, σ1§28/107, mb3.9/45, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**2.25**	**41**	P	**Pn**	**07 19 17.1**	**+3.0**
JHCJ				*e*S	**S**	**07 20 02.1**	**+2.1**
JHJ2	**Mitsune**	**2.29**	**40**	P	**Pn**	**07 19 17.4**	**+3.0**
JHJ2	**Mitsune**	**2.29**	**40**	*e*Pn	**Pn**	**07 19 16.4**	**+2.1**
TTO1	**TONANKAI O.B.S**	**2.48**	**335**	P	Pn	07 19 20.0	+4.6
JWZ	**Kozaga**	**2.92**	**318**	P	Pn	07 19 22.8	+3.6
JKO	**Kozu shima**	**2.95**	**18**	P	**Pn**	**07 19 22.3**	**+2.9**
JKN2	**Miekihoku**	**3.22**	**333**	P	Pn	07 19 25.1	+3.4
JOD2	**Odawara 2**	**3.97**	**12**	P	**Pn**	**07 19 30.1**	**+1.5**
JNY	**Yasuok**	**3.98**	**358**	P	**Pn**	**07 19 31.8**	**+3.1**
BSO3	**Boso 3**	**3.99**	**30**	S	**S**	**07 20 25.8**	**-0.3**
BSO4	**Boso 4**	**4.08**	**27**	P	**Pn**	**07 19 30.4**	**+0.9**
BSO4				S	**S**	**07 20 28.7**	**+0.7**
BSO1	**Boso 1**	**4.09**	**36**	P	**Pn**	**07 19 29.7**	**+0.7**
BSO1				S	**S**	**07 20 28.3**	**+0.9**
JHU	**Hanno**	**4.58**	**13**	P	**Pn**	**07 19 35.5**	**+1.0**
JRY	**Ryogami san**	**4.68**	**8**	P	**Pn**	**07 19 37.4**	**+1.8**
JRY				*e*S	**S**	**07 20 38.1**	**-1.1**
JTO	**Tosashimizu**	**4.70**	**290**	P	Pn	07 19 39.3	+3.5
MJAR	**Matsushiro Arr**	**5.15**	**1**	P	**Pn**	**07 19 41.7**	**+1.2**
	1.7nm,0.3s,baz=176,slow=11,SNR=23						
MJAR				S	**S**	**07 20 44.8**	**-3.3**
	0.7nm,0.3s,baz=107,slow=5.2,SNR=4.7						
MAJO	**Matsushiro**	**5.16**	**1**	*e*Pn	**Pn**	**07 19 41.7**	**+1.2**
MAT	**Matsushiro**	**5.16**	**1**	P	**Pn**	**07 19 41.6**	**+1.1**
MAT				S	**S**	**07 20 46.3**	**-1.8**
JHS	**Saijyo**	**5.49**	**312**	P	Pn	07 19 47.4	+3.3
CBIJ	**Chichi jima**	**5.59**	**139**	P	**Pn**	**07 19 45.8**	**+0.5**
CBIJ				S	**S**	**07 20 53.1**	**-3.6**
CBIJ	**Chichi jima**	**5.59**	**139**	*e*Pn	**Pn**	**07 19 45.1**	**-0.1**
CBIJ				*e*S	**S**	**07 20 54.8**	**-1.9**
JCJ	**Chichijima**	**5.59**	**139**	P	**Pn**	**07 19 44.9**	**-0.4**
	23nm,0.3s,baz=352,slow=21,SNR=19						
JCJ				S	**S**	**07 20 53.9**	**-2.8**
	94nm,0.3s,baz=108,slow=23,SNR=21						
JNU	**Nakatsue**	**6.32**	**288**	P	**Pn**	**07 19 55.2**	**+1.9**
	0.9nm,0.3s,baz=91,slow=6.3,SNR=12						
JNU	**Nakatsue**	**6.32**	**288**	*e*Pn	Pn	07 19 56.8	+3.6
JMK	**Ichinoseki**	**7.99**	**18**	P	**Pn**	**07 20 12.4**	**+0.5**
JMK				*e*S	S	07 21 40.2	-5.6
JOW	**Kunigami**	**9.68**	**245**	P	**Pn**	**07 20 33.9**	**+2.2**
	0.2nm,0.3s,baz=8.8,slow=5.6,SNR=4.1						
KSCPR	**CHUPUNGNYEONG**	**9.68**	**303**	P	**Pn**	**07 20 33.7**	**+2.2**
	SNR=5.5						
KSJMJ	**Jumunjin**	**10.04**	**313**	P	**Pn**	**07 20 36.8**	**+1.2**
	SNR=6.1						
KSJEU	**Jeongeup**	**10.16**	**297**	P	**Pn**	**07 20 39.2**	**+2.0**
	SNR=6.2						
KSRS	**Korea Array**	**10.33**	**309**	P	**Pn**	**07 20 40.2**	**+1.2**
	1.9nm,0.3s,baz=122,slow=10.0,SNR=45						
KSCEA	**Cheonan**	**10.47**	**304**	P	**Pn**	**07 20 42.3**	**+1.6**
	SNR=8.2						
KSIJA	**INJE**	**10.51**	**312**	P	**Pn**	**07 20 43.0**	**+1.9**
	SNR=7.1						
SEHB	**SEOHWA**	**10.59**	**313**	P	**Pn**	**07 20 43.3**	**+1.3**
	SNR=12						
KSCWO	**Cheorwon**	**10.95**	**311**	P	**Pn**	**07 20 47.3**	**+1.0**
	SNR=9.8						
YNCB	**YEONCHEON**	**11.31**	**309**	P	**Pn**	**07 20 51.3**	**+0.9**
	SNR=8.1						
USRK	**Ussuriysk Ar.**	**13.66**	**341**	P	**P**	**07 21 15.4**	**0.0**
	0.2nm,0.3s,baz=153,slow=11,SNR=5.4						
YHNB	**Yeheng**	**16.16**	**250**	*e*P	**P**	**07 21 42.0**	**-0.8**
	16nm,0.7s						
YULB	**Yu-li**	**16.86**	**246**	*e*P	**P**	**07 21 50.7**	**+0.4**
	17nm,0.9s						
SSLB	**Suanglung**	**16.93**	**248**	*e*P	**P**	**07 21 51.3**	**+0.3**
	11nm,0.7s						
ULN	**Ulaanbaatar**	**28.75**	**314**	*e*P	**P**	**07 23 41.1**	**+0.4**
	5.6nm,0.8s						
SONM	**Songino Array**	**29.15**	**313**	P	**P**	**07 23 43.3**	**-0.8**
	2.5nm,0.5s,baz=129,slow=12,SNR=3.4						
GTA	**Gaotai**	**32.00**	**295**	*e*P	**P**	**07 24 08.9**	**-0.2**
GTA				PMZ			
	10.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**37.53**	**259**	P	**P**	**07 24 56.0**	**0.0**
	2.0nm,0.4s,baz=53,slow=6.9,SNR=10						
BILL	**Bilibino**	**40.22**	**16**	*e*P	**P**	**07 25 17.6**	**+0.4**
	8.0nm,1.0s						
TAPN	**Taplejung**	**43.76**	**278**	*e*P	**P**	**07 25 46.3**	**-0.1**
	19nm,0.7s						
ZALV	**Zalesovo Beam**	**43.90**	**317**	P	**P**	**07 25 45.5**	**-1.3**
	1.6nm,0.4s,baz=92,slow=8.0,SNR=7.8						
ZALV				PcP	**PcP**	**07 27 24.0**	**-0.8**
	1.5nm,0.5s,baz=130,slow=4.9,SNR=5.9						
ODAN	**Odare**	**44.18**	**278**	*e*P	**P**	**07 25 49.5**	**-0.2**
RAMN	**Ramite**	**44.82**	**278**	*e*P	**P**	**07 25 54.5**	**-0.2**
	39nm,0.6s						
JIRN	**Jiri**	**44.95**	**279**	*e*P	**P**	**07 25 56.1**	**+0.3**
	39nm,0.3s						
MK31	**Makanchi Array**	**45.00**	**307**	*e*P	**P**	**07 25 55.2**	**-0.3**
MKAR	**Makanchi Array**	**45.00**	**307**	P	**P**	**07 25 55.1**	**-0.4**
	4.9nm,0.7s,baz=92,slow=6.3,SNR=52						
MKAR				ScP	**ScP**	**07 30 40.2**	**-2.9**
	0.6nm,0.6s,baz=90,slow=1.2,SNR=7.2						
MKAR	**Makanchi Array**	**45.00**	**307**	*e*P	**P**	**07 25 55.4**	**-0.2**
GUN	**Gumba**	**45.13**	**280**	*e*P	**P**	**07 25 57.3**	**+0.1**
	44nm,0.7s						
PKI	**Pulchoki**	**45.63**	**279**	*e*P	**P**	**07 26 00.6**	**-0.5**
PKIN	**Phulchoki**	**45.64**	**279**	*e*P	**P**	**07 26 00.4**	**-0.7**
KKN	**Kakani**	**45.68**	**280**	*e*P	**P**	**07 26 01.1**	**-0.2**
DMN	**Daman**	**45.88**	**279**	*e*P	**P**	**07 26 02.6**	**-0.3**
GKN	**Gorkha**	**46.15**	**280**	*e*P	**P**	**07 26 04.7**	**-0.2**
KOLN	**Koldanda**	**47.10**	**280**	*e*P	**P**	**07 26 12.2**	**0.0**
KURK	**Kurchatov**	**47.43**	**312**	*e*P	**P**	**07 26 13.2**	**-0.8**
	5.9nm,0.6s						
WRAB	**Tennant Creek**	**51.14**	**184**	*e*P	**P**	**07 26 42.1**	**0.0**
	3.1nm,0.9s						
WRA	**Warramunga Arr**	**51.15**	**184**	P	**P**	**07 26 42.2**	**0.0**
	1.1nm,0.5s,baz=2.1,slow=7.6,SNR=27						
BVAR	**Borovoye Array**	**52.47**	**315**	P	**P**	**07 26 51.1**	**-0.3**
	4.2nm,0.5s,baz=96,slow=8.1,SNR=20						
BRVK	**Borovoye**	**52.53**	**315**	*e*P	**P**	**07 26 50.5**	**-1.4**
	4.0nm,0.9s						
IM04	**Indian Mountai**	**52.92**	**28**	*e*P	**P**	**07 26 55.0**	**+0.5**
KKAR	**Karatay Array**	**53.70**	**303**	*e*P	**P**	**07 27 00.3**	**-0.2**
	4.4nm,0.3s						
PMR	**Palmer**	**54.84**	**34**	*e*P	**P**	**07 27 08.8**	**+0.5**
	3.1nm,0.7s						
ASAR	**Alice Springs**	**54.88**	**185**	P	**P**	**07 27 09.3**	**+0.3**
	0.8nm,0.6s,baz=16,slow=13,SNR=11						
MCK	**McKinley**	**54.89**	**31**	*e*P	**P**	**07 27 09.2**	**+0.6**
	7.6nm,1.1s						
COLA	**College**	**55.35**	**30**	*e*P	**P**	**07 27 12.7**	**+1.0**
	2.8nm,0.6s						
ILAR	**Eielson Array**	**55.76**	**30**	P	**P**	**07 27 14.3**	**-0.4**
	0.9nm,0.6s,baz=261,slow=5.7,SNR=16						
KBL	**Kabul**	**56.95**	**293**	*e*P	**P**	**07 27 23.5**	**-0.3**
	5.8nm,0.5s						
DOT	**Dot Lake**	**57.06**	**31**	*e*P	**P**	**07 27 23.6**	**-0.2**
	4.0nm,0.6s						
BMRM	**Bremner River**	**57.06**	**35**	*e*P	**P**	**07 27 25.2**	**+1.3**
	15nm,0.8s						
ABKAR	**Akbulak array**	**59.55**	**312**	*e*P	**P**	**07 27 40.3**	**-0.6**
	4.4nm,0.5s						
AKTO	**Aktyubinsk**	**60.47**	**314**	P	**P**	**07 27 46.5**	**-0.7**
	2.2nm,0.6s,baz=77,slow=13,SNR=10						
STKA	**Stephens Creek**	**63.00**	**177**	P	**P**	**07 28 03.9**	**0.0**
	0.6nm,0.4s,baz=310,slow=9.0,SNR=3.3						
ARCES	**ARCESS Array B**	**68.31**	**340**	P	**P**	**07 28 36.6**	**-0.4**
	0.9nm,0.5s,baz=65,slow=9.3,SNR=13						
YKA	**Yellowknife Ar**	**70.09**	**28**	P	**P**	**07 28 47.9**	**0.0**
	1.1nm,0.6s,baz=299,slow=6.2,SNR=6.6						
KBZ	**Khabaz**	**72.47**	**311**	P	**P**	**07 29 02.3**	**0.0**
	5.5nm,0.8s,baz=236,slow=24,SNR=16						
FINES	**FINESS Array B**	**72.51**	**332**	P	**P**	**07 29 01.1**	**-1.2**
	1.9nm,0.4s,baz=78,slow=5.4,SNR=36						
NEW	**Newport**	**76.16**	**42**	*e*P	**P**	**07 29 23.9**	**+0.5**
	2.3nm,0.6s						
AKASG	**Malin Array Be**	**77.04**	**322**	P	**P**	**07 29 27.2**	**-0.9**
	1.4nm,0.4s,baz=51,slow=5.8,SNR=14						
KIEV	**Kiev**	**77.05**	**322**	*e*P	**P**	**07 29 27.4**	**-0.8**
	3.7nm,0.7s						
WALA	**Waterton Lakes**	**77.52**	**40**	*e*P	**P**	**07 29 31.6**	**+0.6**
	3.8nm,0.8s						
NOA	**NORSAR Array B**	**78.29**	**337**	P	**P**	**07 29 34.0**	**-0.8**
	0.8nm,0.7s,baz=44,slow=5.5,SNR=4.0						
SLMT	**Seeley Lake**	**78.77**	**41**	*e*P	**P**	**07 29 37.9**	**0.0**
	2.3nm,0.7s						
CMB	**Columbia Colle**	**79.48**	**52**	*e*P	**P**	**07 29 42.0**	**+0.2**
	2.9nm,0.8s						
LRM	**Limekiln Ridge**	**80.17**	**42**	*e*P	**P**	**07 29 46.7**	**+1.2**
HLID	**Hailey**	**80.30**	**45**	*e*P	**P**	**07 29 46.9**	**+0.8**
	1.9nm,0.9s						
DLMT	**Dillon**	**80.35**	**42**	*e*P	**P**	**07 29 47.2**	**+0.9**
	2.2nm,0.8s						
BR131	**Keskin Array S**	**80.47**	**311**	*e*P	**P**	**07 29 46.6**	**-0.5**
	1.2nm,0.7s						
BRTR	**Keskin Array B**	**80.47**	**311**	P	**P**	**07 29 46.9**	**-0.2**
	2.0nm,0.7s,baz=99,slow=4.0,SNR=11						
NVAR	**Mina Array Bea**	**80.66**	**51**	P	**P**	**07 29 48.9**	**+0.7**
	1.2nm,0.6s,baz=288,slow=5.0,SNR=5.8						
ELK	**Elko**	**81.37**	**47**	*e*P	**P**	**07 29 52.5**	**+0.6**
	1.9nm,0.9s						
H17A	**Grant Village**	**82.08**	**42**	*e*P	**P**	**07 29 57.9**	**+2.4**
	4.7nm,1.1s						
R11A	**Troy Canyon, C**	**82.49**	**50**	*e*P	**P**	**07 29 58.1**	**+0.5**
	1.7nm,0.9s						
HWUT	**Hardware Ranch**	**83.14**	**45**	*e*P	**P**	**07 30 02.1**	**+1.2**
	3.6nm,0.8s						
DUG	**Dugway, Tooele**	**83.20**	**47**	*e*P	**P**	**07 30 02.0**	**+0.9**
	3.9nm,0.7s						
PDAR	**Pinedale Array**	**83.65**	**43**	P	**P**	**07 30 03.9**	**+0.4**
	0.9nm,0.7s,baz=341,slow=1.7,SNR=8.1						
TXAR	**Lajitas Array**	**95.81**	**51**	P	**P**	**07 31 01.6**	**+1.1**
	0.2nm,0.6s,baz=284,slow=5.0,SNR=4.3	

TALC	**Talca**	**2.16**	**49**	*eP*		**Pn**	**07 34 01.9**	**+1.2**
TALC				*eS*		**Sb**	**07 34 31.5**	**+0.6**
CANA	**Caviahue**	**2.29**	**118**	*eP*		**Pb**	**07 34 05.2**	**-0.8**
CANA				*eS*		**Sb**	**07 34 34.0**	**-0.9**
CANA				AML		AML	07 34 39.6	
	comp=Z,689nm,0.7s							
NICH	**Los Niches**	**2.68**	**47**	*eP*		**Pn**	**07 34 09.1**	**+1.3**
NICH				*eS*		**Sb**	**07 34 44.4**	**-1.2**
PLCA	**Paso Flores**	**4.57**	**149**	Pn		**Pn**	**07 34 34.6**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=331,slow=11,SNR=17							
PLCA				LR		LR	07 35 48.0	
	comp=Z,89nm,18.5s,baz=273,slow=31							
PLCA				Lg		Lg	07 35 51.6	
	comp=Z,4.4nm,0.3s,baz=241,slow=20,SNR=6.9							
AAGR	**Agrelo**	**5.44**	**48**	*eP*		**Pn**	**07 34 47.7**	**+1.8**
AUSP	**Uspallata**	**5.79**	**38**	*eP*		**Pn**	**07 34 51.9**	**+1.1**
ASAL	**Salagasta**	**5.79**	**44**	*eP*		**Pn**	**07 34 51.8**	**+1.0**
RTLS	**Leoncito**	**6.18**	**37**	*eP*		**Pn**	**07 34 57.2**	**+1.1**
RTCV	**Cerro Valdivia**	**6.51**	**42**	*eP*		**Pn**	**07 35 00.4**	**-0.2**
CFAA	**Coronel Fontan**	**6.87**	**42**	Pn		**Pn**	**07 35 05.0**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=214,slow=13,SNR=15							
CFAA				Sn		**Sn**	**07 36 23.8**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=246,slow=19,SNR=2.2							
CFAA				Lg		Lg	07 37 03.9	
	comp=Z,0.1nm,0.3s,baz=302,slow=22,SNR=6.8							
CFAA				LR		LR	07 37 54.1	
	comp=Z,38nm,21.3s,baz=260,slow=39							
CFAA	**Coronel Fontan**	**6.87**	**42**	*eP*		**Pn**	**07 35 05.0**	**-0.5**
RTLL	**Cerro Villicun**	**6.96**	**39**	*eP*		**Pn**	**07 35 06.6**	**-0.2**
AMOG	**MOGNA**	**7.27**	**37**	*eP*		**Pn**	**07 35 10.6**	**-0.5**
LPAZ	**La Paz**	**21.05**	**15**	P		**P**	**07 38 10.5**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=192,slow=4.7,SNR=5.8							
SIV	**San Ignacio**	**23.57**	**32**	P		**P**	**07 38 36.7**	**+1.0**
	comp=Z,1.7nm,0.9s,baz=228,slow=12,SNR=3.2							
TXAR	**Lajitas Array**	**71.61**	**333**	P		**P**	**07 44 46.0**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=151,slow=9.7,SNR=4.3							
TORD	**Torodi Ar. Bea**	**86.38**	**71**	P		**P**	**07 46 06.8**	**-1.0**
	comp=Z,0.5nm,1.0s,baz=238,slow=8.0,SNR=2.5							
ZALV	**Zalesovo Beam**	**157.31**	**34**	PKPab		**PKPab**	**07 53 52.3**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=343,slow=4.5,SNR=2.8							
MKAR	**Makanchi Array**	**159.56**	**53**	PKPab		**PKPab**	**07 54 01.6**	**-0.2**
	comp=Z,0.6nm,0.9s,baz=282,slow=7.3,SNR=4.2							

NNC 22 07:38:58.0±4.5, 35°.94N×67°.50E, h0km, mb3.6, mpv3.3, 6C-6D, Error ellipse: s-maj=45.1km s-min=31.8km az=108.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**3.05**	**20**	⇓Pn			Pn	07 39 48.6	+0.9
	1.9nm,0.3s								
DZET				⇓Pg			Pb	07 39 54.7	+1.3
	11nm,0.5s								
DZET				⇑Sn			Sn	07 40 26.6	+1.5
	15nm,0.5s								
DZET				⇓Lg			Lg	07 40 37.0	
	35nm,0.5s								
SFK	**Sufi-Kurgan**	**6.25**	**48**	⇓Pn			Pn	07 40 31.8	0.0
	0.7nm,0.3s								
SFK				⇑Sn			Sn	07 41 46.3	+2.1
	3.1nm,0.4s								
KK31	**Karatay Array**	**7.53**	**17**	⇓Pn			Pn	07 40 48.8	-0.2
	0.4nm,0.3s,baz=194,slow=14,SNR=8.1								
KK31				⇑Sn			Sn	07 42 13.6	-1.5
	1.4nm,0.6s,baz=205,slow=22,SNR=3.6								
MNAS	**Manas**	**7.61**	**29**	⇓Pn			Pn	07 40 49.5	-0.8
	0.5nm,0.3s								
MNAS				⇑Sn			Sn	07 42 17.7	+0.3
	3.0nm,0.7s								
AAK	**Ala-Archa**	**8.61**	**37**	⇑Pn			Pn	07 41 01.2	-2.8
	0.3nm,0.2s								
AAK				⇑Sn			Sn	07 42 39.2	-2.8
	1.9nm,0.6s								

ISCJB 22 07:57:22.3±0.4, 0°.03S±0°.05×123°.38E±0°.04, h157km, mb3.7/9, Error ellipse: s-maj=7.0km s-min=5.5km az=154.7
IDC 22 07:57:24.6±3.2, 0°.05S×123°.30E, h168km±33km, mb3.4/9, mb1 3.6/10, mb1mx3.3/30, mbtmp3.9/10, Error ellipse: s-maj=27.0km s-min=13.4km az=61.0
DJA 22 07:57:24.5±0.4, 0°.3S±3°×12°.3E±°, h128km±5km, M4.2/13, mb4.0/3, mB5.0/1, MLv4.2/13, Mw(mB)4.3/1

ISC 22 07:57:23.1±0.7, 0°.08S±0°.05×123°.44E±0°.04, h157km, n22, σ1§56/30, mb3.8/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.85**	**40**	P			Pn	**07 57 47.1**	**-0.3**
KMSI				S			Sn	**07 58 06.2**	**+0.2**
LUWI	**Luwuk**	**1.16**	**215**	P			Pn	**07 57 49.3**	**-0.7**
LUWI				S			Sn	**07 58 07.9**	**-2.7**
MRSI	**Marisa**	**1.60**	**290**	P			Pn	**07 57 53.2**	**-1.0**
MRSI				S			Sn	**07 58 15.2**	**-2.9**
APSI	**Ampana**	**1.97**	**245**	P			Pn	**07 57 58.4**	**+0.1**
SANI	**Sanana**	**3.21**	**128**	P			Pn	**07 58 12.1**	**-1.4**
SANI				S			Sn	**07 58 48.0**	**-4.5**
MPSI	**Mapaga**	**3.56**	**277**	P			Pn	**07 58 18.4**	**+0.5**
MPSI				S			Sn	**07 59 00.0**	**-0.5**
PCI	**Palu**	**3.69**	**257**	P			Pn	**07 58 19.5**	**-0.1**
TNTI	**Ternate**	**4.02**	**78**	P			Pn	**07 58 26.4**	**+2.6**
TTSI	**Tana Toraja**	**4.66**	**231**	P			Pn	**07 58 32.5**	**+0.2**
TTSI				S			Sn	**07 59 25.5**	**-0.7**
NLAI	**Namlea**	**4.82**	**131**	P			Pn	**07 58 35.6**	**+1.3**
SPSI	**Sidrap Palu**	**5.32**	**223**	P			Pn	**07 58 40.8**	**-0.1**
	29nm,0.6s,2µm0.1nm								
KAPI	**Kappang**	**6.13**	**217**	P			Pn	**07 58 53.2**	**+1.5**
	1.4nm,0.3s,baz=302,slow=3.1,SNR=4.4								
KAPI				S			Sn	**08 00 01.0**	**0.0**
	0.1nm,0.3s,baz=75,slow=20,SNR=4.0								
WRA	**Warramunga Arr**	**22.44**	**152**	P			**P**	**08 02 10.2**	**+1.0**
	4.6nm,0.6s,baz=332,slow=10,SNR=110								
ASAR	**Alice Springs**	**25.55**	**157**	P			**P**	**08 02 39.3**	**+1.7**
	0.4nm,0.5s,baz=342,slow=14,SNR=11								
CMAR	**Chiang Mai Arr**	**30.31**	**309**	P			**P**	**08 03 20.4**	**+0.4**
	0.8nm,0.3s,baz=134,slow=6.4,SNR=4.9								
STKA	**Stephens Creek**	**35.99**	**153**	P			**P**	**08 04 10.2**	**+1.2**
	1.0nm,0.5s,baz=330,slow=12,SNR=3.7								
MJAR	**Matsushiro Arr**	**38.93**	**19**	P			**P**	**08 04 32.9**	**-0.9**
	0.5nm,0.4s,baz=206,slow=10,SNR=4.6								
SONM	**Songino Array**	**49.98**	**345**	P			**P**	**08 06 01.2**	**-0.1**
	1.6nm,0.8s,baz=161,slow=8.3,SNR=3.8								
MKAR	**Makanchi Array**	**58.91**	**328**	P			**P**	**08 07 06.0**	**+0.2**
	0.8nm,0.5s,baz=134,slow=5.9,SNR=16								
MKAR				PcP			**PcP**	**08 07 53.0**	**-0.3**
	0.4nm,0.4s,baz=135,slow=4.1,SNR=6.9								
PETK	**Petropavlovsk-**	**60.19**	**23**	P			**P**	**08 07 16.1**	**+1.7**
	1.2nm,0.5s,baz=184,slow=1.8,SNR=7.1								
ZALV	**Zalesovo Beam**	**62.57**	**335**	P			**P**	**08 07 28.2**	**-2.1**
	0.4nm,0.4s,baz=104,slow=6.1,SNR=2.3								
TORD	**Torodi Ar. Bea**	**120.85**	**285**	PKP			**PKPdf**	**08 15 56.9**	**-0.9**
	0.3nm,0.7s,baz=92,slow=1.7,SNR=2.4								

IDC 22 08:05:59.9±2.5, 9°.89S×112°.31E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/44, mbtmp3.6/3, MS3.4/1, Ms1 3.6/1, ms1mx2.7/26, Error ellipse: s-maj=122.5km s-min=27.1km az=47.0
ISCJB 22 08:06:07.9±1.2, 9°.6S±0°.1×112°.67E±0°.04, h70km±16km, mb3.4/3, Error ellipse: s-maj=18.3km s-min=6.2km az=8.9
DJA 22 08:06:08.5±0.7, 9°.5S±8°×11°.3E±°, h122km±12km, M3.9/12, MLv3.9/12

ISC 22 08:06:09.9±1.6, 9°.5S±0°.1×112°.70E±0°.05, h75km±19km, n14, σ1§12/18, mb3.6/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BLJI	**Banyuglugur**	**1.93**	**27**	P			Pn	**08 06 40.0**	**-0.7**
BLJI				S			Sn	**08 07 05.0**	**+0.9**
PCJI	**Pacitan**	**1.96**	**310**	P			Pn	**08 06 41.2**	**0.0**
PCJI				S			Sn	**08 07 07.2**	**+2.2**
ABJI	**Asem Bagus**	**2.25**	**43**	P			Pn	**08 06 44.2**	**-0.8**
IGBI	**Denpasar**	**2.50**	**75**	P			Pn	**08 06 47.9**	**-0.5**
IGBI				S			Sn	**08 07 18.9**	**+0.9**
GRJI	**Gresik**	**2.54**	**355**	P			Pn	08 06 56.7	+7.7
DNP	**Denpasar**	**2.60**	**73**	P			Pn	**08 06 49.5**	**-0.3**
DNP				S			Sn	**08 07 20.7**	**+0.3**
UGM	**Wanagama**	**2.65**	**305**	P			Pn	**08 06 49.4**	**-1.0**
UGM				S			Sn	**08 07 21.4**	**-0.2**
TBJI	**Tambak Boyo**	**2.76**	**342**	P			Pn	**08 06 50.6**	**-1.4**
SRBI	**Singaraja**	**2.84**	**61**	P			Pn	**08 06 52.3**	**-0.7**
SRBI				S			Sn	**08 07 26.6**	**+0.4**
UWJI	**Ujung Watu**	**3.49**	**330**	P			Pn	**08 07 00.1**	**-1.8**
WRA	**Warramunga Arr**	**23.35**	**119**	P			**P**	**08 11 11.3**	**-0.7**
	1.0nm,0.9s,baz=291,slow=11,SNR=7.0								
ASAR	**Alice Springs**	**24.70**	**127**	P			**P**	**08 11 23.5**	**-0.7**
	1.8nm,0.7s,baz=304,slow=8.9,SNR=22								
CMAR	**Chiang Mai Arr**	**30.89**	**334**	LR			LR	08 25 23.3	
	comp=Z,74nm,19.5s,baz=255,slow=37								
MKAR	**Makanchi Array**	**62.23**	**337**	P			**P**	**08 16 25.0**	**+1.2**
	0.2nm,0.4s,baz=157,slow=6.6,SNR=4.7								

BJI 22 08:15:01.9, 36°.54N×70°.51E, h195km, mb4.4/19, mB4.8/10
ISCJB 22 08:15:02.5±0.2, 36°.38N±0°.02×70°.72E±0°.03, h204km, mb4.3/56, Error ellipse: s-maj=3.6km s-min=2.4km az=153.3
MOS 22 08:15:03.0±0.9, 36°.40N×70°.74E, h210km, mb4.4/27, Error ellipse: s-maj=9.5km s-min=4.9km az=91.6
NEIC 22 08:15:04.4±0.5, 36°.42N×70°.71E, h206km±4km, mb4.6/40, Error ellipse: s-maj=6.1km s-min=5.0km az=120.0
IDC 22 08:15:05.1±2.1, 36°.35N×70°.78E, h222km±19km, mb3.7/18, mb1 3.9/22, mb1mx3.6/50, mbtmp4.4/22, Error ellipse: s-maj=11.7km s-min=10.0km az=146.0
NNC 22 08:15:08.0±5.0, 36°.85N×70°.98E, h0km, mb5.2, mpv5.0, Error ellipse: s-maj=40.9km s-min=18.1km az=177.0

ISC 22 08:15:03.8±0.3, 36°.42N±0°.04×70°.73E±0°.04, h204km, n222, σ1§46/252, mb4.4/57, 10C-15D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.32**	**217**	*e*PN			**Pn**	**08 15 46.8**	**+0.5**
KBL				*e*				08 16 18.7	
KBL	**Kabul**	**2.32**	**217**	*e*Pn			**Pn**	**08 15 46.8**	**+0.5**
KBL				*e*Sn			**S**	**08 16 18.7**	**-0.1**
CEP	**Cherat**	**2.76**	**159**	⇑P			**Pn**	**08 15 51.9**	**+0.8**
CEP				S			**S**	**08 16 28.0**	**+0.6**
DZET	**Dzherino**	**2.82**	**328**	⇑Pn			**Pn**	**08 15 51.9**	**+0.2**
	299nm,0.4s								
DZET				⇓Sn			**S**	**08 16 25.2**	**-3.4**
	251nm,0.4s								
DZET	**Dzherino**	**2.82**	**328**	PN			**Pn**	**08 15 51.7**	**0.0**
DZET				S			**S**	**08 16 27.9**	**-0.7**
DZET				pmax		pmax			
	comp=Z,299nm,0.4s								
DZET				smax		smax			
	comp=N,251nm,0.4s								
CHCP	**Chirah Chowk**	**3.45**	**142**	⇑P			**Pn**	**08 16 00.1**	**+1.0**
CHCP				S			**S**	**08 16 42.0**	**+0.2**
THW	**Thamme Wali**	**3.71**	**167**	⇓P			**Pn**	**08 16 02.7**	**+0.4**
SFK	**Sufi-Kurgan**	**4.20**	**30**	⇓Pn			**Pn**	**08 16 09.0**	**+0.5**
	comp=N,217nm,0.5s								
SFK				⇓Sn			**S**	**08 16 56.6**	**-2.2**
	comp=N,240nm,0.4s								
SARP	**Sargodha**	**4.76**	**160**	⇓P			**Pn**	**08 16 15.2**	**-0.2**
KSH	**Kashi**	**5.17**	**52**	P			Pn	08 16 16.1	-4.5
KSH				S			S	08 17 07.9	-13
KSH				SMN					
	comp=N,340nm,0.4s								
KSH				SME					
	comp=N,300nm,0.7s								
DLH	**Dalhousie**	**5.80**	**130**	*e*P			**Pn**	**08 16 28.0**	**-0.8**
DLH				*ex*			**S**	**08 17 33.0**	**-2.6**
AML	**Almayashu**	**6.15**	**21**	P			**Pn**	**08 16 33.4**	**0.0**
	SNR=1064								
DHRM	**DHARAMSHALA**	**6.21**	**130**	*e*P			**Pn**	**08 16 33.5**	**-0.5**
DHRM				*e*S			**S**	**08 17 41.4**	**-3.7**
DHRM				AML		AML		08 17 44.7	
	comp=N,2µm,0.2s								
DHRM				AML		AML		08 17 45.0	
	comp=E,2µm,0.4s								
PONG	**Pong**	**6.21**	**134**	*e*P			Pn	08 16 30.0	-3.8
PONG				*e*S			**S**	**08 17 40.0**	**-4.8**
MNAS	**Manas**	**6.22**	**12**	⇑Pn			**Pn**	**08 16 33.8**	**-0.2**
	comp=E,63nm,0.7s								
MNAS				⇑Sn			**S**	**08 17 41.2**	**-4.0**
	comp=E,169nm,0.5s								
UCH	**Uchtor**	**6.50**	**26**	P			**Pn**	**08 16 38.1**	**+0.1**
	SNR=341								
KZA	**Kyzart**	**6.65**	**30**	P			**Pn**	**08 16 39.5**	**-0.4**
	SNR=68								
EKS2	**Erkin-Say**	**6.67**	**20**	P			**Pn**	**08 16 40.0**	**+0.3**
	SNR=119								
EKS2	**Erkin-Say**	**6.67**	**20**	*e*PN			**Pn**	**08 16 40.3**	**+0.5**
EKS2	**Erkin-Say**	**6.67**	**20**	*e*Pn			**Pn**	**08 16 40.3**	**+0.5**
KK31	**Karatay Array**	**6.68**	**359**	Pn			**Pn**	**08 16 39.7**	**-0.1**
	comp=E,26nm,0.3s,baz=175,slow=12,SNR=474								
KK31				⇑Sn			**S**	**08 17 51.0**	**-5.0**
	comp=E,31nm,0.4s,baz=182,slow=20								
KK31	**Karatay Array**	**6.68**	**359**	*e*PN			**Pn**	**08 16 39.7**	**-0.1**
KK31				pmax		pmax			
	comp=Z,62nm,0.3s								
KKAR	**Karatay Array**	**6.68**	**359**	*e*PN			**Pn**	**08 16 40.0**	**+0.1**
KKAR	**Karatay Array**	**6.68**	**359**	*e*Pn			**Pn**	**08 16 40.0**	**+0.1**
AAK	**Ala-Archa**	**6.86**	**24**	P			**Pn**	**08 16 42.8**	**+0.6**
	SNR=84								
AAK	**Ala-Archa**	**6.86**	**24**	⇓Pn			**Pn**	**08 16 42.5**	**+0.2**
	comp=Z,101nm,0.8s								
AAK				⇑Sn			**S**	**08 17 57.4**	**-2.9**
	comp=Z,50nm,0.7s								
AAK	**Ala-Archa**	**6.86**	**24**	PN			**Pn**	**08 16 42.5**	**+0.2**
AAK				S			**S**	**08 17 59.2**	**-1.1**
AAK				pmax		pmax			
	comp=Z,50nm,0.4s								
AAK				smax		smax			
	comp=N,50nm,0.7s								
AAK	**Ala-Archa**	**6.86**	**24**	*e*Pn			**Pn**	**08 16 42.9**	**+0.6**
BHK	**Bhakra**	**6.87**	**135**	*e*S			**S**	**08 17 55.6**	**-5.0**
KBK	**Karagaybulak**	**7.03**	**26**	P			**Pn**	**08 16 45.2**	**+0.7**
	SNR=21								
FRU	**Bishkek**	**7.08**	**24**	⇓*i*PN			**Pn**	**08 16 45.0**	**0.0**
FRU				*i* S			**S**	**08 18 03.0**	**-2.3**
FRU				pmax		pmax			
	comp=Z,160nm,0.7s								
FRU				smax		smax			
	comp=N,180nm,1.0s								
SDNR	**Sundarnagar**	**7.13**	**132**	*e*P			**Pn**	**08 16 43.0**	**-2.9**
SDNR				*ex*			x	08 17 59.0	
ULHL	**Ulahol**	**7.22**	**35**	P			**Pn**	**08 16 47.1**	**+0.1**
	SNR=28								
CHMS	**Chumysh**	**7.27**	**24**	P			**Pn**	**08 16 48.0**	**+0.5**
	SNR=19								
USP	**Ospenovka**	**7.43**	**22**	P			**Pn**	**08 16 50.0**	**+0.4**
	SNR=8.5								
TKM2	**Tokmak 2**	**7.50**	**29**	P			**Pn**	**08 16 50.9**	**+0.2**
	SNR=182								
TKM2	**Tokmak 2**	**7.50**	**29**	⇑Pn			**Pn**	**08 16 50.6**	**0.0**
	comp=N,176nm,0.7s								
TKM2	**Tokmak 2**	**7.50**	**29**	*e*PN			**Pn**	**08 16 51.2**	**+0.5**
TKM2	**Tokmak 2**	**7.50**	**29**	*e*Pn			**Pn**	**08 16 51.2**	**+0.5**
SMLA	**Simla**	**7.52**	**133**	*i* P			**Pn**	**08 16 50.4**	**-0.4**
SMLA				*e*S			**S**	**08 18 11.6**	**-4.2**
SMLA				AML		AML		08 18 13.4	
	comp=N,732nm,0.7s								
SMLA				AML		AML		08 18 14.2	
	comp=E,328nm,0.3s								
KHET	**Khetri**	**9.36**	**151**	*e*P			**Pn**	**08 17 12.0**	**-2.8**
KHET				*e*S			S	08 18 47.8	-12
KHET				AML		AML		08 18 54.6	
	comp=N,546nm,0.5s								
KHET				AML		AML		08 18 54.8	
	comp=E,646nm,0.2s								
NDI	**New Delhi**	**9.45**	**143**	*e*P			Pn	08 17 12.5	-3.5
NDI				*e*S			S	08 18 51.5	-11
AYAN	**Aya Nagar**	**9.58**	**144**	*e*P			**Pn**	**08 17 15.1**	**-2.5**
AYAN				*ex*			x	08 18 56.1	
PDGK	**Podgornoye**	**9.63**	**42**	⇓Pn			**Pn**	**08 17 17.2**	**-1.0**
	comp=E,11nm,0.8s								
PDGK				⇓Sn			**S**	**08 19 03.2**	**-2.9**
	comp=E,9.3nm,1.1s								
PDGK	**Podgornoye**	**9.63**	**42**	P			**Pn**	**08 17 17.1**	**-1.0**
PDGK				pmax		pmax			
	comp=Z,11nm,0.8s								
KALG	**Kalgarh**	**9.64**	**133**	*e*P			**Pn**	**08 17 16.6**	**-1.7**
KALG				*ex*			x	08 18 58.6	
SONA	**Sohna**	**9.75**	**145**	*e*P			**Pn**	**08 17 17.3**	**-2.5**
SONA				*e*S			S	08 18 58.5	-11
SONA				AML		AML		08 19 06.0	
	comp=N,65nm,0.4s								
SONA				AML		AML		08 19 06.6	
	comp=E,107nm,0.2s								
AJM	**Ajmer**	**10.45**	**160**	*ex*			**Pn**	**08 17 28.0**	**-0.9**
AJM				*ex*			S	08 19 17.0	-9.1
AGRA	**Agra**	**11.02**	**144**	*e*S			S	08 19 28.7	-10
AGRA				AML		AML		08 19 51.0	
	comp=N,134nm,0.6s								
AGRA				AML		AML		08 19 55.0	
	comp=E,122nm,0.6s								
MK01	**Makanchi Array**	**13.47**	**36**	*e*Pn			**Pn**	**08 18 07.5**	**+0.6**
MK31	**Makanchi Array**	**13.49**	**36**	*e*P			**Pn**	**08 18 08.2**	**+1.1**
MK31				pmax		pmax			
	comp=Z,9.0nm,0.5s								
MKAR	**Makanchi Array**	**13.49**	**36**	P			**Pn**	**08 18 07.5**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=232,slow=17,SNR=26								
MKAR				S			**S**	**08 20 42.1**	**+5.2**
	comp=Z,0.1nm,0.3s,baz=225,slow=28,SNR=2.7								
MKAR	**Makanchi Array**	**13.49**	**36**	*e*Pn			**Pn**	**08 18 08.0**	**+0.9**
KOLN	**Koldanda**	**13.89**	**125**	*e*P			**Pn**	**08 18 10.8**	**-1.7**
	comp=Z,14nm,0.3s								
GKN	**Gorkha**	**14.44**	**122**	*e*P			**Pn**	**08 18 18.4**	**-0.9**
	comp=Z,82nm,0.5s								
WMQ	**Urumqi**	**14.92**	**55**	*e*P			**P**	**08 18 26.3**	**+0.8**
WMQ				sP				08 19 15.5	
WMQ				PMZ					
	comp=Z,13nm,0.4s								
WMQ				PMZ					
	comp=Z,180nm,5.8s								
DMN	**Daman**	**15.01**	**122**	*e*P			**Pn**	**08 18 25.6**	**-0.7**
	comp=Z,61nm,0.7s								
KKN	**Kakani**	**15.02**	**121**	*e*P			**Pn**	**08 18 25.3**	**-1.1**
	comp=Z,53nm,0.6s								
AB31	**Akbulak array**	**15.05**	**332**	P			**Pn**	**08 18 26.0**	**-0.3**
AB31				S			**S**	**08 21 06.2**	**-6.9**
AB31				pmax		pmax			
	comp=Z,5.0nm,0.3s								
AB31				smax		smax			
	comp=N,1.0nm,0.4s								
ABKAR	**Akbulak array**	**15.05**	**332**	*e*Pn			**Pn**	**08 18 26.0**	**-0.3**
PKIN	**Phulchoki**	**15.23**	**121**	*e*P			**Pn**	**08 18 28.1**	**-0.9**
	comp=N,38nm,0.5s								
PKI	**Pulchoki**	**15.25**	**121**	*e*P			**Pn**	**08 18 28.2**	**-1.0**
	comp=N,65nm,0.6s								
KURBB	**Kurchatov Arra**	**15.27**	**19**	P			**Pn**	**08 18 28.1**	**-0.8**
	comp=N,0.6nm,0.3s,baz=209,slow=9.8,SNR=46								
GUN	**Gumba**	**15.37**	**119**	*e*P			**Pn**	**08 18 29.7**	**-1.0**
	comp=N,33nm,0.4s								
KURK	**Kurchatov**	**15.38**	**19**	P			**Pn**	**08 18 29.0**	**-1.3**
KURK				pmax		pmax			
	comp=Z,2.0nm,0.5s								
KURK	**Kurchatov**	**15.38**	**19**	*e*Pn			**Pn**	**08 18 30.0**	**-0.2**
	comp=Z,5.6nm,0.5s								
JIRN	**Jiri**	**15.74**	**119**	*e*P			**P**	**08 18 34.9**	**-0.1**
	comp=Z,96nm,0.6s								
RAMN	**Ramite**	**16.46**	**121**	*e*P			**P**	**08 18 43.1**	**+0.3**
	comp=Z,38nm,0.6s								
BVA0	**Borovoye Array**	**16.61**	**359**	*e*P			**Pn**	**08 18 45.6**	**+0.6**
BVA0				pmax		pmax			
	comp=Z,6.0nm,0.6s								
BVAR	**Borovoye Array**	**16.61**	**359**	P			**P**	**08 18 43.7**	**-0.2**
	comp=Z,2.3nm,0.3s,baz=154,slow=8.9,SNR=21								
BVAR				S			**S**	**08 21 43.9**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=189,slow=16,SNR=3.0								
BVAR	**Borovoye Array**	**16.61**	**359**	P			**P**	**08 18 43.7**	**-0.2**
BVAR				S			**S**	**08 21 43.9**	**-3.1**
BVAR				pmax		pmax			
	comp=Z,2.0nm,0.3s								
BRVK	**Borovoye**	**16.64**	**359**	*e*P			**Pn**	**08 18 45.5**	**+0.1**
BRVK				*e*S			**S**	**08 21 50.0**	**+2.3**
BRVK				pmax		pmax			
	comp=Z,9.0nm,0.8s								
BRVK	**Borovoye**	**16.64**	**359**	*e*P			**Pn**	**08 18 45.5**	**+0.1**
	comp=Z,9.3nm,0.8s								
BRVK				*e*S			**S**	**08 21 50.0**	**+2.3**
AKTO	**Aktyubinsk**	**16.75**	**331**	P			**Pn**	**08 18 46.9**	**+0.2**
	comp=Z,5.7nm,0.3s,baz=141,slow=11,SNR=94								
AKTO	**Aktyubinsk**	**16.75**	**331**	P			**Pn**	**08 18 46.2**	**-0.5**
AKTO				pmax		pmax			
	comp=Z,21nm,0.5s								
TAPN	**Taplejung**	**17.00**	**117**	*e*P			**Pn**	**08 18 50.9**	**+0.7**
	comp=Z,17nm,0.4s								
ODAN	**Odare**	**17.07**	**119**	*e*P			**Pn**	**08 18 51.4**	**+0.4**
	comp=Z,44nm,0.6s								
POO	**Poona**	**18.03**	**170**	*ex*			P	08 18 54.0	-5.8
ZAA0	**Zalesovo Array**	**20.08**	**25**	*e*P			**P**	**08 19 20.2**	**-1.3**
ZALV	**Zalesovo Beam**	**20.08**	**25**	P			**P**	**08 19 22.0**	**+0.5**

comp=Z,3.7nm,0.5s
AK11 Malin Array Si 32.86 309 *e*P **P 08 21 18.7 +0.5**
CFR Carcaliu 33.09 299 ⇓P **P** 08 21 19.0 -1.2
VRI Vrincioaia 34.08 300 ⇑P **P** 08 21 34.5 +5.7
PLOR Plostina 34.13 300 ⇓P **P 08 21 29.8 +0.5**
MLR Muntele Rosu 34.63 299 ⇓P **P 08 21 34.0 +0.3**
BURAR Bucovina Array 35.15 303 ⇑P **P 08 21 37.0 -1.0**
BUR04 Bucovina Ar. S 35.15 303 *e*P **P 08 21 38.6 +0.5**
VOIR 35.26 299 ⇓P **P 08 21 39.5 +0.5**
BJI Beijing 35.59 70 P **P 08 21 40.6 -1.1**
BJI PMZ
comp=Z,7.0nm,0.8s
DRGR 36.85 302 ⇓P **P 08 21 52.5 0.0**
UZH Uzhgorod 37.13 305 *e*P **P 08 21 56.3 +1.6**
FINES FINESS Array B 37.43 326 P **P 08 21 57.6 +0.6**
comp=Z,3.5nm,0.4s,baz=124,slow=10,SNR=57
FINES FINESS Array B 37.43 326 P **P 08 21 57.6 +0.6**
FINES pmax pmax
comp=Z,4.0nm,0.4s
BZS Buzias 37.66 300 ⇓P **P 08 21 57.9 -1.3**
OJC Ojcow 38.78 307 *e*P **P 08 22 09.2 +0.7**
OJC pmax pmax
comp=Z,3.0nm,0.8s
OJC Ojcow 38.78 307 *e*P **P 08 22 09.2 +0.7**
comp=Z,2.9nm,0.8s
NJ2 Nanjing 39.70 82 *e*P **P 08 22 19.3 +3.0**
NJ2 PMZ
comp=Z,30nm,0.9s
KEV Kevo 40.80 338 *e*P **P 08 22 25.7 +0.9**
KEV pmax pmax
comp=Z,83nm,2.2s
KEV Kevo 40.80 338 *e*P **P 08 22 25.6 +0.9**
comp=Z,84nm,2.2s
DPC Dobruska-Polom 41.01 307 *e*P **P 08 22 28.0 +1.1**
DPC pmax pmax
comp=Z,13nm,0.6s
DPC Dobruska-Polom 41.01 307 *e*P **P 08 22 28.0 +1.1**
comp=Z,13nm,0.6s
ARA0 ARCESS Array S 41.14 338 *e*P **P 08 22 28.3 +0.7**
ARCES ARCESS Array B 41.14 338 P **P 08 22 28.4 +0.8**
comp=Z,9.3nm,0.8s,baz=110,slow=7.4,SNR=44
ARCES ARCESS Array B 41.14 338 P **P 08 22 28.4 +0.8**
ARCES pmax pmax
comp=Z,9.0nm,0.8s
GERES GERESS Array B 42.80 305 P **P 08 22 41.6 +0.2**
comp=Z,0.4nm,0.4s,baz=115,slow=4.4,SNR=3.4
NB2 NORSAR Subarra 44.32 323 P **P 08 22 52.9 -0.3**
comp=Z,2.0nm,0.3s,baz=97,slow=7.9
NOA NORSAR Array B 44.32 323 P **P 08 22 52.9 -0.3**
comp=Z,3.4nm,0.6s,baz=97,slow=7.7,SNR=24
NOA NORSAR Array B 44.32 323 P **P 08 22 52.9 -0.3**
NOA pmax pmax
comp=Z,3.0nm,0.6s
NBO02 NORSAR Array S 44.49 323 *e*P **P 08 22 54.1 -0.5**
TIXI Tiksi 45.93 22 *e*P **P 08 23 06.3 +0.6**
TIXI pmax pmax
comp=Z,13nm,0.4s
TIXI Tiksi 45.93 22 *e*P **P 08 23 06.3 +0.6**
comp=Z,13nm,0.4s
PGF Pioggiola 47.11 297 *e*P **P 08 23 14.9 -0.6**
comp=Z,6.1nm,0.8s
SENIN Lac Senin/Sane 47.45 303 *e*P **P 08 23 18.1 -0.1**
SBF Sospel 47.91 299 *e*P **P 08 23 21.3 -0.2**
comp=Z,6.1nm,0.6s
LPG La Plagne 48.01 302 *e*P **P 08 23 22.6 +0.1**
MBDF Montbardon 48.17 301 *e*P **P 08 23 23.1 -0.5**
comp=Z,5.6nm,0.5s
CABF La Chapelle 48.22 303 *e*P **P 08 23 24.3 +0.4**
KBS Kingsbay 48.65 347 *e*P **P 08 23 26.6 +0.1**
KBS pmax pmax
comp=Z,70nm,1.8s
KBS Kingsbay 48.65 347 *e*P **P 08 23 26.6 +0.1**
comp=Z,70nm,1.8s
KEST Kesra 48.85 288 P **P 08 23 30.0 +1.1**
comp=Z,1.1nm,0.4s,baz=306,slow=1.2,SNR=5.6
KEST Kesra 48.85 288 *e*P **P 08 23 27.3 -1.6**
VIVF Saint-Julien-l 49.59 301 *e*P **P 08 23 33.7 -0.5**
comp=Z,4.3nm,0.6s
AVF Avril sur Loir 50.01 304 *e*P **P 08 23 36.5 -0.8**
ETSF Etsaut 53.77 300 *e*P **P 08 24 05.4 +0.2**
comp=Z,5.5nm,0.5s
SEY Seymchan 54.61 34 P **P 08 24 11.7 +0.9**
comp=Z,0.8nm,0.4s,baz=293,slow=12,SNR=4.6
SEY Seymchan 54.61 34 P **P 08 24 11.7 +0.9**
SEY pmax pmax
comp=Z,1.0nm,0.4s
ESDC Sonseca Array 57.30 298 P **P 08 24 29.9 -0.5**
comp=Z,0.8nm,0.5s,baz=57,slow=7.6,SNR=8.2
BILL Bilibino 58.78 26 *e*P **P 08 24 41.1 +1.0**
BILL pmax pmax
comp=Z,7.0nm,1.2s
BILL Bilibino 58.78 26 *e*P **P 08 24 41.1 +1.0**
comp=Z,6.6nm,1.2s
SUMG Summit 61.07 341 *i* P **P 08 24 57.4 +1.3**
comp=Z,6.4nm,0.7s
SUMG Summit 61.07 341 *i* P **P 08 24 57.4 +1.3**
SUMG pmax pmax
comp=Z,6.0nm,0.7s
SUMG Summit 61.07 341 *e*P **P 08 24 56.6 +0.5**
comp=Z,197nm,3.0s
TOA0 Torodi Ar. Sit 65.50 269 *e*P **P 08 25 23.9 -1.7**
TORD Torodi Ar. Bea 65.50 269 P **P 08 25 23.8 -1.7**
comp=Z,4.5nm,0.5s,baz=50,slow=5.8,SNR=55
COLD Coldfoot 72.11 16 *e*P **P 08 26 06.3 +0.9**
comp=Z,2.6nm,0.7s
IM04 Indian Mountai 72.32 18 *e*P **P 08 26 06.7 0.0**
MLY Manley 73.82 17 *e*P **P 08 26 16.2 +0.6**
comp=Z,5.3nm,1.2s
INK Inuvik 74.02 9 P **P 08 26 17.3 +0.7**
comp=Z,4.1nm,0.7s,baz=4.3,slow=5.9,SNR=22
INK Inuvik 74.02 9 P **P 08 26 17.3 +0.7**
INK pmax pmax
comp=Z,4.0nm,0.7s
INK Inuvik 74.02 9 *e*P **P 08 26 17.3 +0.7**
comp=Z,6.2nm,0.9s
LBTB Lobatse 74.47 222 *e*P **P 08 26 20.7 +0.8**
LBTB *e* 08 26 31.9
LBTB Lobatse 74.47 222 *e*P **P 08 26 20.7 +0.8**
LBTB *e* 08 26 31.9
COLA College 74.62 16 *e*P **P 08 26 20.7 +0.6**
COLA pmax pmax
comp=Z,7.0nm,0.8s
COLA College 74.62 16 *e*P **P 08 26 20.7 +0.6**
comp=Z,6.9nm,0.8s
CCB Clear Creek Bu 74.82 16 *e*P **P 08 26 21.5 +0.2**
comp=Z,42nm,3.0s
WRH Wood River Hil 74.91 16 *e*P **P 08 26 21.4 -0.4**
comp=Z,16nm,1.9s
IL1 Eielson Array 74.92 16 *e*P **P 08 26 21.6 -0.2**
ILAR Eielson Array 74.92 16 P **P 08 26 21.4 -0.4**
comp=Z,1.7nm,0.8s,baz=315,slow=4.7,SNR=25
ILAR Eielson Array 74.92 16 P **P 08 26 21.5 -0.4**
ILAR pmax pmax
comp=Z,2.0nm,0.9s
KTH Kantishna Hill 75.01 18 *e*P **P 08 26 22.6 +0.1**
comp=Z,5.0nm,0.9s
PPLA Purkeypile 75.23 19 *e*P **P 08 26 24.1 +0.2**
comp=Z,25nm,1.8s
TRF Thorofare Moun 75.25 18 *e*P **P 08 26 25.4 +1.4**
comp=Z,66nm,2.9s
MCK McKinley 75.34 17 *e*P **P 08 26 25.1 +0.8**
MCK pmax pmax
comp=Z,12nm,0.3s
MCK McKinley 75.34 17 *e*P **P 08 26 25.1 +0.8**
comp=Z,12nm,0.3s
RND Reindeer 75.64 17 *e*P **P 08 26 25.9 -0.2**
RND pmax pmax
comp=Z,3.0nm,0.7s
RND Reindeer 75.64 17 *e*P **P 08 26 25.9 -0.2**
comp=Z,3.3nm,0.7s
DDM Donnelly Dome 76.00 16 *e*P **P 08 26 27.9 -0.1**
comp=Z,7.7nm,0.7s
EGAK Eagle 76.08 13 *e*P **P 08 26 29.7 +1.3**
comp=Z,53nm,2.7s
SCRK Sand Creek 76.23 15 *e*P **P 08 26 30.0 +0.5**
comp=Z,4.1nm,0.6s
DOT Dot Lake 76.51 15 *e*P **P 08 26 31.1 +0.1**
comp=Z,12nm,1.5s
PAX Paxson 76.80 16 *e*P **P 08 26 32.6 0.0**
PAX pmax pmax
comp=Z,4.0nm,0.6s
PAX Paxson 76.80 16 *e*P **P 08 26 32.6 0.0**
comp=Z,4.4nm,0.6s
DAWY Dawson 77.05 13 *e*P **P 08 26 34.4 +0.4**
comp=Z,4.7nm,1.0s
PMR Palmer 77.11 18 *e*P **P 08 26 34.2 -0.1**
PMR pmax pmax
comp=Z,16nm,1.7s
PMR Palmer 77.11 18 *e*P **P 08 26 34.2 -0.1**
comp=Z,16nm,1.7s
SCM Sheep Creek Mo 77.36 17 *e*P **P 08 26 35.8 +0.1**
SCM pmax pmax
comp=Z,27nm,1.6s
SCM Sheep Creek Mo 77.36 17 *e*P **P 08 26 35.8 +0.1**
comp=Z,27nm,1.6s
BOSA Boshof 77.54 220 P **P 08 26 37.0 -0.2**
comp=Z,2.6nm,0.6s,baz=268,slow=1.1,SNR=5.5
BOSA Boshof 77.54 220 P **P 08 26 37.0 -0.2**
BOSA pmax pmax
comp=Z,3.0nm,0.6s
BOSA Boshof 77.54 220 *e*P **P 08 26 37.3 +0.1**
SEW Seward 78.30 19 *e*P **P 08 26 40.7 -0.1**
comp=Z,20nm,1.4s
BMRM Bremner River 78.76 17 *e*P **P 08 26 44.5 +1.1**
comp=Z,32nm,1.8s
RAGM Ragged Mountai 79.25 17 *e*P **P 08 26 47.3 +1.2**
comp=Z,96nm,2.1s
KDAK Kodiak Island 79.36 22 *e*P **P 08 26 47.1 +0.5**
KDAK Kodiak Island 79.36 22 *e*P **P 08 26 47.1 +0.5**
comp=Z,95nm,2.3s
OHAK Old Harbor 79.60 23 *e*P **P 08 26 48.1 +0.2**
comp=Z,65nm,1.9s
HYT Haines Junctio 80.38 14 *e*P **P 08 26 53.3 +1.0**
YKA Yellowknife Ar 81.34 3 P **P 08 26 57.3 +0.2**
comp=Z,2.9nm,0.5s,baz=350,slow=5.3,SNR=27
YKA Yellowknife Ar 81.34 3 P **P 08 26 57.3 +0.2**
YKA pmax pmax
comp=Z,3.0nm,0.5s
YKB5 Yellowknife Ar 81.34 3 *e*P **P 08 26 57.2 +0.1**
WRA Warramunga Arr 82.13 122 P **P 08 27 00.5 -1.4**
comp=Z,0.8nm,0.4s,baz=325,slow=5.0,SNR=33
WRA Warramunga Ar 82.13 122 P **P 08 27 00.5 -1.4**
WRA pmax pmax
comp=Z,1.0nm,0.4s
WRAB Tennant Creek 82.13 122 *e*P **P 08 27 00.8 -1.1**
WRAB pmax pmax
comp=Z,12nm,1.4s
WRAB Tennant Creek 82.13 122 *e*P **P 08 27 00.8 -1.1**
comp=Z,12nm,1.4s
DLBC Dease Lake 83.92 11 *e*P **P 08 27 11.4 +0.8**
comp=Z,58nm,2.3s
SIT Sitka 84.31 14 *e*P **P 08 27 11.9 -0.6**
SIT Sitka 84.31 14 *e*P **P 08 27 11.9 -0.6**
FCC Fort Churchill 84.33 352 *e*P **P 08 27 12.2 -0.3**
FCC Fort Churchill 84.33 352 *e*P **P 08 27 12.2 -0.3**
comp=Z,118nm,2.8s
ASAR Alice Springs 84.39 125 P **P 08 27 11.6 -1.8**
comp=Z,0.8nm,0.5s,baz=311,slow=4.9,SNR=17
ASAR Alice Springs 84.39 125 P **P 08 27 11.6 -1.8**
ASAR pmax pmax
comp=Z,1.0nm,0.5s
AS01 Alice Springs 84.42 125 *e*P **P 08 27 12.3 -1.2**
WRAK Wrangell Islan 85.47 13 *e*P **P 08 27 19.2 +1.0**
comp=Z,77nm,2.0s
DAC Darwin (Calif) 107.26 7 *e*P **Pdif 08 29 00.2 +1.9**
DAC Darwin (Calif) 107.26 7 *e*Pdif **Pdif 08 29 00.1 +1.9**
VNDA Vanda 125.47 165 PKP **PKPdf 08 33 36.5 -2.7**
comp=Z,0.5nm,0.6s,baz=162,slow=3.2,SNR=4.7
VNDA Vanda 125.47 165 PKIKP **PKPdf 08 33 36.5 -2.7**
VNDA pmax pmax
comp=Z,1.0nm,0.6s
QSPA South Pole Qui 126.21 180 PKP **PKPdf 08 33 38.6 -2.4**
comp=Z,0.8nm,0.7s,baz=245,slow=1.4,SNR=6.6
QSPA South Pole Qui 126.21 180 *e*PKPdf **PKPdf 08 33 40.4 -0.6**
TRQA Tornquist 142.63 253 *e*PKPdf **PKPdf 08 34 12.6 +0.2**
PLCA Paso Flores 149.59 250 *e*PKPdf **PKPdf 08 34 24.7 +0.6**
PLCA *e*PKPbc **PKPbc 08 34 29.0 0.0**

IDC 22 08:20:46.7±27.0, 20°.31S×178°.20W, h520km±309km, mb3.0/5, mb1 3.2/5, mb1mx2.8/39, mbtmp4.0/5, Error ellipse: s-maj=143.8km s-min=86.8km az=118.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.33**	**264**	P	P	08 26 41.7	+0.2
	1.7nm,0.5s,baz=91,slow=11,SNR=5.7						
STKA	**Stephens Creek**	**37.70**	**244**	P	P	08 27 17.6	-0.2
	0.7nm,0.5s,baz=98,slow=12,SNR=2.9						
ASAR	**Alice Springs**	**44.38**	**257**	P	P	08 28 10.9	-0.2
	1.9nm,0.6s,baz=96,slow=7.7,SNR=30						
WRA	**Warramunga Arr**	**44.45**	**262**	P	P	08 28 11.2	-0.3
	1.2nm,0.5s,baz=97,slow=7.6,SNR=26						
ILAR	**Eielson Array**	**88.17**	**13**	P	P	08 32 41.5	-0.1
	0.2nm,0.6s,baz=212,slow=5.6,SNR=4.3						

WEL 22 08:32:55.8±0.5, 44°.25S×167°.02E, h5km, ML3.6/9, 1D, Error ellipse: s-maj=4.1km s-min=2.3km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.78**	**123**	P*	Pg	08 33 11.0	+0.2
MSZ				S*	Sg	08 33 21.3	+0.5
MSZ				AML	AML	08 33 21.5	
MSZ				AML	AML	08 33 21.7	
MSZ				AML	AML	08 33 21.8	
DCZ	**Deep Cove**	**1.23**	**176**	P*	Pg	08 33 18.9	-0.5
DCZ				S*	Sg	08 33 34.0	-1.3
DCZ				AML	AML	08 33 36.9	
DCZ				AML	AML	08 33 44.5	
JCZ	**Jackson Bay**	**1.27**	**83**	P*	Pg	08 33 19.1	-1.1
JCZ				S*	Sn	08 33 37.6	-0.2
JCZ				AML	AML	08 33 41.3	
MLZ	**Mavora Lakes**	**1.37**	**144**	⇓PN	Pn	08 33 21.2	-0.5
MLZ				S*	Sb	08 33 38.9	-1.0
MLZ				AML	AML	08 33 41.0	
WKZ	**Wanaka**	**1.54**	**113**	PN	Pn	08 33 23.9	-0.1
WKZ				SN	Sn	08 33 44.3	-0.2
WKZ				AML	AML	08 33 45.1	
WKZ				AML	AML	08 33 45.1	
WKZ				AML	AML	08 33 45.3	
WHZ	**Wether Hill Ro**	**1.77**	**158**	PN	Pn	08 33 25.9	-1.2
WHZ				AML	AML	08 33 55.3	
EAZ	**Earnscleugh**	**1.90**	**122**	PN	Pn	08 33 28.2	-0.8
EAZ				AML	AML	08 33 56.2	
EAZ				AML	AML	08 33 56.2	
EAZ				AML	AML	08 33 57.3	
EAZ				AML	AML	08 33 57.3	
FOZ	**Fox Glacier**	**2.05**	**71**	PN	Pn	08 33 30.2	-0.7
FOZ				AML	AML	08 34 07.8	
FOZ				AML	AML	08 34 07.8	
FOZ				AML	AML	08 34 08.8	
FOZ				AML	AML	08 34 13.2	
LBZ	**Lake Benmore**	**2.28**	**94**	PN	Pn	08 33 33.7	-0.4
LBZ				AML	AML	08 34 17.1	
LBZ				AML	AML	08 34 17.2	
TUZ	**Tuapeka**	**2.52**	**134**	PN	Pn	08 33 37.4	0.0
APZ	**The Paps**	**2.67**	**166**	PN	Pn	08 33 39.2	-0.3
ODZ	**Otahua Downs**	**2.71**	**108**	PN	Pn	08 33 40.1	+0.1
SYZ	**Scrubby Hill**	**2.73**	**148**	PN	Pn	08 33 40.1	-0.2
WVZ	**Waitaha Valley**	**2.94**	**68**	PN	Pn	08 33 41.1	-2.1
RPZ	**Rata Peaks**	**2.96**	**81**	PN	Pn	08 33 42.6	-0.9
HHSZ	**Highcliff Hill**	**3.02**	**124**	PN	Pn	08 33 43.2	-1.1
DSZ	**Denniston Nort**	**4.31**	**56**	PN	Pn	08 33 59.9	-2.2

*ISCJB **22** 09:03:10.7±0.5, 27°.28N×107°.06×127°.74E±0°.06, h98km±5km, mb3.6/3, Error ellipse: s-maj=12.7km s-min=4.8km az=136.6*
*IDC **22** 09:03:10.7±2.2, 27°.21N×127°.49E, h76km±28km, mb3.3/3, mb1 3.5/4, mb1mx3.1/57, mbtmp3.6/4, Error ellipse: s-maj=67.8km s-min=20.3km az=70.0*
*JMA **22** 09:03:11.6±0.2, 27°.31N×127°.69E, h89km±2km, M3.4*
ISC 22 09:03:11.6±1.0, 27°.25N±0°.06×127°.79E±0°.05, h97km±7km, n17, σ1s07/30, mb3.6/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIH	**Iheya**	**0.26**	**144**	P	**Pn**	**09 03 25.5**	**-0.2**
JIH				S	**Sn**	**09 03 35.3**	**-0.9**
JOW	**Kunigami**	**0.59**	**134**	P	**Pn**	**09 03 28.1**	**+0.2**
JOW				S	**Sn**	**09 03 40.1**	**+0.1**
JOW	**Kunigami**	**0.59**	**134**	P	**Pn**	**09 03 28.2**	**+0.3**
	baz=310,slow=10						
JOW				S	**Sn**	**09 03 40.2**	**+0.1**
	32nm,0.3s,baz=164,slow=20,SNR=22						
JOKE Okinoerabujima 0.70 80 P **Pn 09 03 28.9 +0.1**
JOKE S **Sn 09 03 41.3 -0.4**
JNTH Nagotoyohara 0.75 164 P **Pn 09 03 29.7 +0.4**
JNTH S **Sn 09 03 42.8 +0.3**
JAGN Aguni-jima 0.82 217 P **Pn 09 03 29.3 -0.6**
JAGN S **Sn 09 03 42.4 -1.2**
JJT2 Tamagusuku 2 1.10 182 P **Pn 09 03 33.5 +0.5**
JJT2 S **Sn 09 03 50.5 +1.4**
JKE Kume jima 2 1.29 225 P **Pn 09 03 34.5 -0.6**
JKE S **Sn 09 03 52.3 -0.6**
JAMN Amaminishikomi 1.58 51 P **Pn 09 03 38.5 -0.2**
JAMN S **Sn 09 03 58.8 -0.4**
JAM Amami Oshima 1.98 54 P **Pn 09 03 44.1 +0.3**
JAM S **Sn 09 04 08.5 +0.1**
JMZ Minamidaito 2 3.38 114 P **Pn 09 04 01.8 -0.6**
JMZ *e*S **Sn 09 04 38.4 -3.3**
JTJ Tarama 3.81 228 P **Pn 09 04 06.9 -1.2**
JTJ *e*S **Sn 09 04 52.7 +0.8**
JKRS Kuro-shima 4.54 230 P **Pn 09 04 17.5 -0.6**
JKRS *e*S **Sn 09 05 10.4 +0.6**
JNU Nakatsue 6.43 24 P **Pn 09 04 45.8 +2.0**
0.4nm,0.3s,baz=114,slow=19,SNR=4.2
MKAR Makanchi Array 40.57 311 P **P 09 10 40.4 -1.1**
0.4nm,0.6s,baz=108,slow=7.8,SNR=5.3
WRA Warramunga Arr 47.34 172 P **P 09 11 36.5 +0.7**
1.1nm,0.7s,baz=354,slow=8.5,SNR=13
ASAR Alice Springs 50.96 173 P **P 09 12 05.2 +1.8**
0.4nm,0.6s,baz=0.3,slow=14,SNR=8.5

CASC 22 09:04:46.9±2.0, 9°.49N×82°.56W, h20km±12km, MD3.5, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNI	**Changuinola**	**0.09**	**149**	*e*P	Pg	09 04 51.5	+0.8
CNI				*e*S	Sg	09 04 53.3	0.0
TBS2		**0.70**	**188**	*e*P	Pb	09 04 59.5	-1.2
TBS2				*e*S	Sb	09 05 09.8	-0.2
BRU2	**Volcan**	**0.70**	**190**	*e*P	Pb	09 05 00.6	-0.1
BRU2				*e*S	Sn	09 05 11.8	-0.6
ACR	**Cerro Adams**	**1.02**	**216**	*e*P	Pg	09 05 06.6	-0.3
ACR				*e*S	Sn	09 05 19.6	-0.5
BUS	**Buena Vista**	**1.18**	**273**	*e*P	Pn	09 05 08.5	-0.4
BUS				*e*S	Sn	09 05 25.3	+0.5
URSC	**Urasca**	**1.25**	**286**	*e*P	Pn	09 05 09.4	-0.1
URSC				*e*S	Sn	09 05 26.1	+0.2

*ISK **22** 09:07:05.0, 38°.71N×38°.04E, h5km, MD3.1*
*DDA **22** 09:07:06.0, 38°.75N×38°.06E, h7km, ML3.6*
*CSEM **22** 09:07:06.5±0.1, 38°.71N×38°.04E, h2km, MD3.1, Error ellipse: s-maj=3.2km s-min=2.8km az=147.0*
ISC 22 09:07:06.8±1.0, 38°.72N±0°.02×38°.04E±0°.02, h8km±9km, n47, σ0s77/70, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKCD	**Akcadag**	**0.44**	**193**	*i* P	**Pg**	**09 07 14.9**	**-0.5**
AKCD				*i* S	**Sg**	**09 07 22.2**	**+1.1**
AKCD	**Akcadag**	**0.44**	**193**	*i* P	**Pg**	**09 07 14.9**	**-0.5**
AKCD				*i* S	**Sg**	**09 07 22.2**	**+1.1**
DARE	**Darende-Malaty**	**0.47**	**251**	*e*PG	**Pg**	**09 07 15.2**	**-0.7**
DARE				*e*SG	**Sg**	**09 07 22.4**	**+0.4**
DARE	**Darende-Malaty**	**0.47**	**251**	*e*Pg	**Pg**	**09 07 15.2**	**-0.7**
DARE				*e*Sg	**Sg**	**09 07 22.4**	**+0.4**
MALT	**Malatya**	**0.51**	**144**	*e*PG	**Pg**	**09 07 16.2**	**-0.4**
MALT				*e*SG	**Sg**	**09 07 23.6**	**+0.3**
MALT	**Malatya**	**0.51**	**144**	*e*Pg	**Pg**	**09 07 16.3**	**-0.4**
MALT				*e*Sg	**Sg**	**09 07 23.6**	**+0.3**
ELZG	**Elazig**	**0.77**	**107**	*i* P	**Pg**	**09 07 21.0**	**-0.7**
ELZG				*i* S	**Sg**	**09 07 32.0**	**+0.3**
ELZG	**Elazig**	**0.77**	**107**	*i* P	**Pg**	**09 07 21.0**	**-0.7**
ELZG				*i* S	**Sg**	**09 07 32.0**	**+0.3**
ILIC	**ilic-Erzincan**	**0.83**	**29**	*e*PG	**Pg**	**09 07 22.1**	**-0.8**
ILIC	**ilic-Erzincan**	**0.83**	**29**	*e*Pg	**Pg**	**09 07 22.1**	**-0.8**
SVRC	**Sivrice-ELAZID**	**1.05**	**109**	*e*PG	**Pg**	**09 07 25.7**	**-1.3**
SVRC	**Sivrice-ELAZID**	**1.05**	**109**	*e*Pg	**Pg**	**09 07 25.7**	**-1.3**
PTK	**Pertek**	**1.07**	**80**	*e*PG	**Pg**	**09 07 26.4**	**-1.0**
PTK				*e*SG	**Sn**	**09 07 42.8**	**-0.7**
PTK	**Pertek**	**1.07**	**80**	*e*Pg	**Pg**	**09 07 26.4**	**-1.0**
PTK				*e*Sg	**Sn**	**09 07 42.8**	**-0.7**
ATAB	**Bozova**	**1.27**	**171**	*i* P	**Pb**	**09 07 31.0**	**0.0**
ATAB	**Bozova**	**1.27**	**171**	*i* P	**Pb**	**09 07 31.0**	**0.0**
ATAB				*i* S	**Sn**	**09 07 49.0**	**+0.9**
PINB	**Pinarbasi**	**1.28**	**268**	*i* P	**Pn**	**09 07 30.2**	**-1.2**
PINB				*i* S	**Sg**	**09 07 48.8**	**+0.6**
PINB	**Pinarbasi**	**1.28**	**268**	*i* P	**Pn**	**09 07 30.2**	**-1.2**
PINB				*i* S	**Sg**	**09 07 48.8**	**+0.6**
GZT	**Gaziantep**	**1.42**	**196**	*i* P	**Pg**	**09 07 34.2**	**+0.1**
GZT				*i* S	**Sg**	**09 07 55.1**	**+2.7**
URFA	**Urfa**	**1.42**	**154**	*e*PN	**Pn**	**09 07 33.0**	**-0.1**
URFA	**Urfa**	**1.42**	**154**	*e*Pn	**Pn**	**09 07 33.0**	**-0.1**
SVSK	**Karacayir**	**1.44**	**326**	*e*PN	**Pb**	**09 07 33.7**	**-0.2**
SVSK	**Karacayir**	**1.44**	**326**	*e*Pn	**Pb**	**09 07 33.7**	**-0.2**
EZC	**Erzincan**	**1.45**	**44**	*e*Pn	**Pg**	**09 07 35.4**	**+0.8**
SUSE	**Susehri**	**1.49**	**5**	*i* P	**Pb**	**09 07 35.0**	**+0.1**
SUSE	**Susehri**	**1.49**	**5**	*i* P	**Pb**	**09 07 35.0**	**+0.1**
SUSE				*i* S	**Sg**	**09 07 56.7**	**+2.0**
KMRS	**Kahramanmaras**	**1.51**	**217**	*e*PN	**Pn**	**09 07 34.5**	**+0.2**
KMRS	**Kahramanmaras**	**1.51**	**217**	*e*Pn	**Pn**	**09 07 34.5**	**+0.2**
ERZN	**Erzincan**	**1.56**	**56**	*e*PN	**Pn**	**09 07 35.4**	**+0.3**
HCB	**Kahramanmara¯**	**1.64**	**213**	*i* P	**Pb**	**09 07 36.8**	**-0.6**
HCB				*i* S	**Sg**	**09 07 59.3**	**-0.3**
KELT	**Kelkit**	**1.71**	**33**	*i* P	**Pn**	**09 07 37.6**	**+0.5**
KELT				*i* S	**Sg**	**09 08 01.5**	**-0.2**
KELT	**Kelkit**	**1.71**	**33**	*i* P	**Pn**	**09 07 37.6**	**+0.5**
KELT				*i* S	**Sg**	**09 08 01.5**	**-0.2**
ANDN	**Andirin**	**1.76**	**230**	*i* P	**Pn**	**09 07 38.3**	**+0.5**
ANDN				*i* S	**Sg**	**09 08 04.1**	**+0.7**
ANDN	**Andirin**	**1.76**	**230**	*i* P	**Pn**	**09 07 38.3**	**+0.5**
ANDN				*i* S	**Sg**	**09 08 04.1**	**+0.7**
KAMA	**Osmaniye**	**1.88**	**216**	*i* P	**Pn**	**09 07 39.7**	**+0.3**
KAMA				*i* S	**Sb**	**09 08 05.5**	**+0.3**
GUMT	**Gumushane**	**2.06**	**32**	*e*PN	**Pn**	**09 07 42.8**	**+0.9**
GUMT	**Gumushane**	**2.06**	**32**	*e*Pn	**Pn**	**09 07 42.8**	**+0.9**
KUZU	**Kuzuini**	**2.09**	**202**	*i* P	**Pn**	**09 07 42.0**	**-0.3**
KUZU				*i* S	**Sb**	**09 08 10.5**	**-0.8**
KUZU	**Kuzuini**	**2.09**	**202**	*i* P	**Pn**	**09 07 42.0**	**-0.3**
KUZU				*i* S	**Sb**	**09 08 10.5**	**-0.8**
KOZT	**Kozan**	**2.14**	**235**	*e*PN	**Pn**	**09 07 43.4**	**+0.4**
KOZT	**Kozan**	**2.14**	**235**	*e*Pn	**Pn**	**09 07 43.4**	**+0.4**
ESPY	**Espiye-Giresun**	**2.25**	**13**	*e*PN	**Pn**	**09 07 45.0**	**+0.6**
ESPY	**Espiye-Giresun**	**2.25**	**13**	*e*Pn	**Pn**	**09 07 45.1**	**+0.6**
MAZI	**Mazidag**	**2.28**	**123**	*e*PN	**Pn**	**09 07 46.0**	**+1.1**
MAZI	**Mazidag**	**2.28**	**123**	*e*Pn	**Pn**	**09 07 46.0**	**+1.1**
YOZ	**Yozgat**	**2.31**	**294**	*e*PN	**Pn**	**09 07 45.7**	**+0.4**
YOZ	**Yozgat**	**2.31**	**294**	*e*Pn	**Pn**	**09 07 45.7**	**+0.4**

IDC 22 09:07:12.7±2.9, 54°.13N×87°.35E, h0km, mb1 3.0/2, mb1mx2.9/59, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=25.8km s-min=17.3km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.50**	**264**	*i*		09 16 30.0	
	baz=81,slow=324,SNR=3.4						
ZALV	**Zalesovo Beam**	**1.50**	**264**	Pg	Pn	09 07 40.1	-0.7
	1.6nm,0.3s,baz=83,slow=17,SNR=14						
ZALV				Lg	Lg	09 08 00.9	
	2.9nm,0.3s,baz=86,slow=29,SNR=9.9						
KURBB	**Kurchatov Arra**	**6.44**	**240**	Pn	Pn	09 08 47.9	-0.8
	0.3nm,0.3s,baz=49,slow=13,SNR=11						
KURBB				Lg	Lg	09 10 39.6	
	0.0nm,0.3s,baz=60,slow=29,SNR=4.6						
MKAR	**Makanchi Array**	**8.02**	**206**	Pn	Pn	09 09 12.8	+2.4
	0.1nm,0.3s,baz=29,slow=14,SNR=7.4						
MKAR				Lg	Lg	09 11 26.3	
	0.1nm,0.3s,baz=26,slow=27,SNR=5.1						

*ISCJB **22** 09:13:56.9±1.2, 56°.5S±0°.2×139°.6W±0°.3, h10km, mb4

NEIC ***22*** *09:13:58.0±0.6, 56.33S×139.44W, h10km, mb4.6/1, Error ellipse: s-maj=19.9km s-min=19.0km az=112.0*

ISC 22 09:13:58.2±0.9, 56.4S±0.2×139.5W±0.2, h10km, n30, σ1=03/17, mb4.2/7, MS3.9/8, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**29.07**	**202**	P	**P**	**09 19 57.9**	**-0.3**
	0.6nm,0.6s,baz=85,slow=17,SNR=7.6						
VNDA				LR	LR	09 28 47.9	
	comp=Z,154nm,18.1s,baz=96,slow=31						
RKT	**Rikitea**	**33.38**	**8**	*e*LR	LR	09 29 16.2	
	471nm,28.0s,baz=182						
RKT	**Rikitea**	**33.38**	**8**	*e*T	T	09 55 29.9	
	2.0nm,0.3s						
RPZ	**Rata Peaks**	**33.44**	**271**	LR	LR	09 30 45.4	
	comp=Z,146nm,19.2s,baz=206,slow=30						
TBI	**Tubuai**	**33.79**	**343**	*e*LR	LR	09 29 28.6	
	874nm,28.0s,baz=175						
TBI	**Tubuai**	**33.79**	**343**	*e*T	T	09 56 12.7	
	5.9nm,0.3s						
QSPA	**South Pole Qui**	**33.79**	**180**	P	**P**	**09 20 40.3**	**+0.3**
	2.6nm,0.9s,baz=39,slow=3.0,SNR=6.2						
RPN	**Rapa Nui**	**36.33**	**49**	LR	LR	09 31 54.2	
	comp=Z,216nm,20.8s,baz=109,slow=30						
PPT2	**Papeete2**	**39.46**	**345**	*e*LR	LR	09 32 06.8	
	789nm,25.5s,baz=176						
PPT	**Papeete**	**39.48**	**345**	LR	LR	09 34 11.0	
	comp=Z,197nm,19.1s,baz=151,slow=31						
VNA3	**Neumayer Olymp**	**47.86**	**160**	P	**P**	**09 22 35.3**	**-0.3**
VNA2	**Neumayer--Watz**	**48.54**	**161**	P	**P**	**09 22 40.0**	**-0.8**
	baz=217,slow=7.3						
VNA1	**Neumayer--Stat**	**48.61**	**160**	P	**P**	**09 22 41.3**	**-0.1**
SNAA	**Sanae**	**48.69**	**163**	P	**P**	**09 22 39.5**	**-2.5**
SNAA	**Sanae**	**48.69**	**163**	P	**P**	**09 22 41.5**	**-0.5**
	2.2nm,1.1s,baz=232,slow=8.7,SNR=8.7						
SNAA	**Sanae**	**48.69**	**163**	P	**P**	**09 22 41.5**	**-0.5**
	0.2nm,1.2s						
MAW	**Mawson**	**55.23**	**190**	P	**P**	**09 23 32.1**	**+1.5**
	4.1nm,0.9s,baz=201,slow=7.1,SNR=6.2						
MAW				LR	LR	09 44 38.7	
	comp=Z,99nm,19.7s,baz=236,slow=33						
LPAZ	**La Paz**	**66.28**	**84**	P	**P**	**09 24 48.0**	**+0.7**
	4.0nm,1.2s,baz=216,slow=8.7,SNR=6.0						
LPAZ				LR	LR	09 46 14.4	
	comp=Z,86nm,21.4s,baz=202,slow=29						
ASAR	**Alice Springs**	**68.78**	**259**	P	**P**	**09 25 02.9**	**+0.5**
	2.2nm,1.0s,baz=135,slow=6.3,SNR=12						
H01W1	**Cape Leeuwin H**	**69.85**	**237**	T	T	10 42 20.2	
	baz=144,slow=76,SNR=6.7						
H01W2	**Cape Leeuwin H**	**69.86**	**237**	T	T	10 42 20.7	
	baz=144,slow=76,SNR=12						
H01W3	**Cape Leeuwin H**	**69.87**	**237**	T	T	10 42 21.6	
	baz=144,slow=76,SNR=13						
WRA	**Warrnunga Arr**	**71.53**	**262**	P	**P**	**09 25 19.0**	**-0.3**
	1.8nm,1.0s,baz=147,slow=5.7,SNR=9.8						
BDFB	**Brasilia**	**77.95**	**100**	LR	LR	09 57 05.8	
	comp=Z,117nm,19.0s,baz=197,slow=33						
BOSA	**Boshof**	**94.36**	**167**	LR	LR	10 08 02.0	
	comp=Z,99nm,18.2s,baz=198,slow=34						
ILAR	**Eielson Array**	**120.95**	**356**	PKP	**PKPdf**	**09 32 49.5**	**+0.2**
	1.1nm,1.0s,baz=180,slow=2.3,SNR=6.5						
TORD	**Torodi Ar. Bea**	**137.60**	**130**	PKP	**PKPdf**	**09 33 01.6**	**-2.0**
	0.4nm,0.9s,baz=202,slow=1.6,SNR=3.1						
ESDC	**Sonseca Array**	**146.60**	**101**	PKPbc	**PKPdf**	**09 33 38.2**	**+0.5**
	0.1nm,0.3s,baz=195,slow=2.3,SNR=4.8						
MKAR	**Makanchi Array**	**152.72**	**267**	PKPbc	**PKPbc**	**09 33 53.9**	**-0.3**
	1.9nm,1.0s,baz=207,slow=2.4,SNR=9.0						
BVAR	**Borovoye Array**	**162.48**	**272**	PKPab	**PKPab**	**09 34 47.0**	**-0.1**
	0.7nm,0.5s,baz=103,slow=5.2,SNR=3.6						

IDC ***22*** *09:20:25.6±10.0, 17.62S×178.62W, h572km±97km, mb3.2/6, mb1 3.5/6, mb1mx3.0/26, mbtmp4.2/6, Error ellipse: s-maj=85.4km s-min=27.4km az=115.0*

ISC 22 09:20:22.4±2.1, 17.7S±0.4×178.4W±0.4, h547km, n8, σ0=57/10, mb3.7/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.74**	**241**	P	**P**	**09 27 00.7**	**+0.6**
	1.5nm,0.6s,baz=82,slow=11,SNR=5.4						
WRA	**Warramunga Arr**	**44.69**	**259**	P	**P**	**09 27 46.9**	**-0.3**
	1.4nm,0.5s,baz=96,slow=6.9,SNR=5.5						
WRA				PcP	**PcP**	**09 29 17.0**	**-1.0**
	0.5nm,0.6s,baz=89,slow=3.9,SNR=4.8						
ASAR	**Alice Springs**	**44.86**	**254**	P	**P**	**09 27 48.6**	**0.0**
	12nm,0.6s,baz=88,slow=8.4,SNR=240						
ASAR				PcP	**PcP**	**09 29 18.3**	**-0.3**
	0.7nm,0.5s,baz=100,slow=4.1,SNR=6.4						
MJAR	**Matsushiro Arr**	**67.76**	**323**	P	**P**	**09 30 25.6**	**-0.3**
	1.4nm,0.6s,baz=144,slow=6.8,SNR=6.3						
PETK	**Petropavlovsk-**	**73.49**	**345**	P	**P**	**09 30 59.9**	**+0.6**
	1.4nm,0.6s,baz=126,slow=9.9,SNR=4.1						
ILAR	**Eielson Array**	**85.69**	**13**	P	**P**	**09 32 03.0**	**-0.1**
	0.4nm,0.6s,baz=225,slow=5.9,SNR=5.9						
BRTR	**Keskin Array B**	**144.66**	**315**	PKP	**PKPdf**	**09 38 57.2**	**-0.3**
	1.2nm,0.7s,baz=141,slow=3.0,SNR=7.1						
GERES	**GERESS Array B**	**147.43**	**345**	PKPbc	**PKPbc**	**09 39 05.7**	**+0.5**
	1.1nm,0.5s,baz=7.4,slow=3.1,SNR=10						

UCC ***22*** *09:33:08.7, 50.20N×1.10E, h0km, ML3.5, Suspected Mining explosion.*
ISCJB ***22*** *09:33:26.1±0.6, 50.30N±0.06×1.13E±0.06, h0km, Error ellipse: s-maj=8.1km s-min=5.3km az=10.2*
CSEM ***22*** *09:33:26.9±0.3, 50.31N×1.17E, h1km, ML2.1, Error ellipse: s-maj=9.6km s-min=5.3km az=9.0, Mining explosion.*
BGS ***22*** *09:33:28.9±1.0, 50.38N×1.15E, h6km±18km, ML2.1*

ISC 22 09:33:26.8±1.1, 50.33N±0.06×1.17E±0.04, h0km, n26, σ0=79/30, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HMNX	**Herstmonceux**	**0.76**	**316**	*e*P	**Pb**	**09 33 42.7**	**-0.1**
HMNX				AML	AML	09 33 44.7	
	comp=N,87nm,0.2s						
HMNX				AML	AML	09 33 45.4	
	comp=E,112nm,0.3s						
HMNX				*e*S	**Sg**	**09 33 51.4**	**+0.4**
HMNX	**Herstmonceux**	**0.76**	**316**	*e*P	**Pb**	**09 33 42.7**	**-0.1**
	comp=E,112nm,0.3s						
HMNX				*e*S	**Sg**	**09 33 51.4**	**+0.4**
ELSH	**Elham, Standar**	**0.82**	**359**	*e*P	**Pg**	**09 33 42.9**	**+0.4**
ELSH				AML	AML	09 33 45.6	
	comp=N,41nm,0.2s						
ELSH				AML	AML	09 33 57.2	
	comp=E,56nm,0.3s						
ELSH	**Elham, Standar**	**0.82**	**359**	*e*P	**Pg**	**09 33 42.9**	**+0.4**
	comp=E,18nm,0.3s						
BOST	**Ostende**	**1.45**	**50**	P	**Pn**	**09 33 53.5**	**-0.7**
BBOU	**Bougnies**	**1.78**	**87**	P	**Pn**	**09 33 58.9**	**+0.1**
WOL	**Wolverton**	**1.81**	**304**	*e*P	**Pn**	**09 33 59.0**	**-0.1**
WOL				AML	AML	09 34 29.9	
	comp=E,13nm,0.3s						
WOL				AML	AML	09 34 32.1	
	comp=N,18nm,0.3s						
WOL	**Wolverton**	**1.81**	**304**	*e*P	**Pn**	**09 33 59.0**	**-0.1**
DOU	**Dourbes**	**2.22**	**95**	P	**Pn**	**09 34 05.8**	**+1.1**
DOU	**Dourbes**	**2.22**	**95**	P	**Pn**	**09 34 05.8**	**+1.1**
JSA	**Saint Aubin**	**2.45**	**243**	*e*P	**Pn**	**09 34 08.0**	**+0.1**
JSA				*e*S	**Sn**	**09 34 37.6**	**-0.9**
JSA	**Saint Aubin**	**2.45**	**243**	*e*P	**Pn**	**09 34 08.0**	**+0.1**
JSA				*e*S	**Sn**	**09 34 37.6**	**-0.9**
STRD	**Stroud**	**2.55**	**306**	*e*P	**Pn**	**09 34 10.0**	**+0.6**
STRD				AML	AML	09 35 09.9	
	comp=E,22nm,0.6s						
STRD				AML	AML	09 35 11.7	
	comp=N,17nm,0.7s						
STRD	**Stroud**	**2.55**	**306**	*e*P	**Pn**	**09 34 10.0**	**+0.6**
	comp=N,17nm,0.7s						
BCLA	**Clavier**	**2.65**	**86**	P	**Pn**	**09 34 12.0**	**+1.3**
BCLA	**Clavier**	**2.65**	**86**	P	**Pn**	**09 34 12.0**	**+1.3**
MONM	**Monmouth**	**2.92**	**303**	*e*P	**Pn**	**09 34 14.8**	**+0.3**
MONM				AML	AML	09 34 26.9	
	comp=E,4.7nm,0.2s						
MONM				AML	AML	09 35 08.7	
	comp=N,5.8nm,0.5s						
MONM	**Monmouth**	**2.92**	**303**	*e*P	**Pn**	**09 34 14.8**	**+0.3**
	comp=N,5.8nm,0.5s						
MEM	**Membach**	**3.11**	**83**	P	**Pn**	**09 34 15.1**	**-2.0**
MEM	**Membach**	**3.11**	**83**	P	**Pn**	**09 34 15.0**	**-2.0**
MCH1	**Michaelchurch**	**3.11**	**304**	*e*P	**Pn**	**09 34 16.9**	**-0.1**
MCH1				AML	AML	09 34 56.1	
	comp=N,3.3nm,0.2s						
MCH1				AML	AML	09 34 57.5	
	comp=E,3.0nm,0.5s						
MCH1	**Michaelchurch**	**3.11**	**304**	*e*P	**Pn**	**09 34 16.9**	**-0.1**
	comp=E,3.0nm,0.5s						
DYA	**Yadsworthy**	**3.26**	**274**	*e*P	**Pn**	**09 34 19.2**	**0.0**
DYA				AML	AML	09 34 30.4	
	comp=E,7.7nm,0.4s						
DYA				AML	AML	09 34 32.6	
	comp=N,3.8nm,0.9s						
DYA	**Yadsworthy**	**3.26**	**274**	*e*P	**Pn**	**09 34 19.2**	**0.0**
	comp=N,3.8nm,0.9s						
HLM1	**Long Mynd**	**3.35**	**312**	*e*P	**Pn**	**09 34 20.3**	**-0.1**
HLM1				AML	AML	09 35 03.2	
	comp=E,4.6nm,0.2s						
HLM1				AML	AML	09 35 04.4	
	comp=N,4.9nm,0.3s						
HLM1	**Long Mynd**	**3.35**	**312**	*e*P	**Pn**	**09 34 20.3**	**-0.1**
	comp=N,4.9nm,0.3s						

JMA 22 09:37:30.0, 34.11N×133.69E, h15km±1km, M0.5, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJS	**Sakaide**	**0.33**	**37**	P	Pg	09 37 36.6	-0.3
JJS				S	Sg	09 37 41.4	-0.2

ISCJB ***22*** *09:39:31.2±0.5, 41.68N±0.06×135.58E±0.07, h400km, mb3.1/6, Error ellipse: s-maj=8.1km s-min=6.8km az=12.9*
JMA ***22*** *09:39:31.2±0.3, 41.70N×135.71E, h412km, M3.2*
IDC ***22*** *09:39:32.0±1.1, 41.71N×135.36E, h386km±14km, mb2.9/6, mb1 3.1/10, mb1mx2.8/38, mbtmp3.6/10, Error ellipse: s-maj=27.5km s-min=15.8km az=0.0*

ISC 22 09:39:32.4±0.8, 41.65N±0.09×135.65E±0.08, h400km, n26, σ1=58/30, mb3.1/6, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOSM	**Okushiri--Mats**	**2.89**	**80**	P	**Pn**	**09 40 33.7**	**-0.9**
JOG2	**Oga 2**	**3.59**	**117**	P	**Pn**	**09 40 40.9**	**+0.2**
USRK	**Ussuriysk Ar.**	**3.71**	**315**	P	**Pn**	**09 40 39.4**	**-2.2**
	0.3nm,0.3s,baz=118,slow=7.8,SNR=7.9						
JSK	**Shakotan**	**3.95**	**63**	P	**Pn**	**09 40 43.7**	**-0.2**
JKB	**Kayabe**	**4.03**	**85**	P	**Pn**	**09 40 44.2**	**-0.5**
JOT	**Ohata**	**4.06**	**92**	P	**Pn**	**09 40 44.8**	**-0.2**
JRG	**Rokugo**	**4.41**	**119**	P	**Pn**	**09 40 48.7**	**+0.2**
JRG				*e*S	**S**	**09 41 49.1**	**-1.2**
JANG	**Nango**	**4.62**	**104**	P	**Pn**	**09 40 50.0**	**-0.5**
JANG				*e*S	**S**	**09 41 52.2**	**-1.7**
JMK	**Ichinoseki**	**5.04**	**120**	P	**Pn**	**09 40 53.8**	**-1.0**
JMK				*e*S	**S**	**09 42 00.0**	**-1.8**
JHK	**Hiroka**	**5.11**	**148**	P	**Pn**	**09 40 57.5**	**+1.9**
JMM	**Marumori**	**5.47**	**132**	P	**Pn**	**09 40 58.1**	**-1.3**
MJAR	**Matsushiro Arr**	**5.47**	**158**	P	**Pn**	**09 41 00.9**	**+1.5**
	0.4nm,0.3s,baz=308,slow=10,SNR=5.6						
ASAJ	**Asahikawa**	**5.67**	**62**	P	**Pn**	**09 41 01.0**	**-0.3**
	2.4nm,0.3s,baz=240,slow=9.2,SNR=47						
JCH	**Churui**	**5.81**	**78**	P	**Pn**	**09 41 01.7**	**-1.2**
JCH				*e*S	**S**	**09 42 12.3**	**-4.4**
JWK2	**Keihoku**	**5.84**	**49**	P	**Pn**	**09 41 04.8**	**+1.7**
JKSM	**Kasumi**	**6.10**	**188**	P	**Pn**	**09 41 05.6**	**-0.6**
JRY	**Ryogami san**	**6.17**	**155**	P	**Pn**	**09 41 07.3**	**+0.3**
JTKR	**Abashiri--Toko**	**6.50**	**66**	P	**Pn**	**09 41 10.0**	**-0.4**
JHS	**Saijyo**	**6.93**	**198**	P	**Pn**	**09 41 15.4**	**0.0**
KSRS	**Korea Array**	**7.29**	**237**	P	**Pn**	**09 41 17.0**	**-2.4**
	baz=50,slow=11,SNR=8.7						
ZALV	**Zalesovo Beam**	**35.53**	**308**	P	**P**	**09 45 52.0**	**-1.2**
	0.6nm,0.4s,baz=91,slow=15,SNR=3.5						
MKAR	**Makanchi Array**	**37.97**	**296**	P	**P**	**09 46 12.0**	**-1.6**
	0.2nm,0.4s,baz=79,slow=7.5,SNR=5.8						
ILAR	**Eielson Array**	**48.09**	**34**	P	**P**	**09 47 34.8**	**+1.6**
	0.3nm,0.4s,baz=273,slow=6.8,SNR=6.6						
NVAR	**Mina Array Bea**	**75.69**	**51**	P	**P**	**09 50 37.2**	**+1.8**
	0.4nm,0.6s,baz=318,slow=3.9,SNR=2.9						
PDAR	**Pinedale Array**	**77.50**	**43**	P	**P**	**09 50 46.6**	**+1.3**
	0.4nm,0.7s,baz=4.6,slow=3.7,SNR=4.7						
TXAR	**Lajitas Array**	**90.64**	**49**	P	**P**	**09 51 52.8**	**+1.8**
	0.1nm,0.5s,baz=279,slow=2.7,SNR=3.6						

ISCJB ***22*** *09:55:24.5±2.7, 20.75S±0.07×168.55E±0.07, h30km±20km, mb4.5/18, Error ellipse: s-maj=11.9km s-min=10.5km az=13.5*
NEIC ***22*** *09:55:27.6±0.4, 20.78S×168.51E, mb4.7/6, Error ellipse: s-maj=10.9km s-min=9.2km az=158.0*
IDC ***22*** *09:55:27.8±0.7, 20.67S×168.48E, h38km±4km, mb4.1/14, mb1 4.2/16, mb1mx4.1/22, mbtmp4.3/16, ML3.7/2, Error ellipse: s-maj=20.4km s-min=14.2km az=135.0*
SZGRF ***22*** *09:55:29.0, 20.11S×170.50E, h38km, Vanuatu Islands*
BJI ***22*** *09:55:43.4, 20.50S×168.50E, h80km, mb4.7/7, mB4.8/6, Ms4.8/3, Ms7 4.4/3*

ISC 22 09:55:27.1±0.4, 20.79S±0.08×168.54E±0.07, h35km±5km, h36km:pP-P, n71, σ1=98/73, mb4.5/18, 3C, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.33**	**237**	Pn	**Pn**	**09 56 02.4**	**-0.7**
	20nm,0.3s,baz=270,slow=24,SNR=86						
MSVF	**Nonsavu**	**9.48**	**73**	*e*Pn	**Pn**	**09 57 42.5**	**+1.1**
	17nm,0.9s						
HNR	**Honiara**	**14.01**	**322**	*e*Pn	**Pn**	**09 58 43.2**	**0.0**
	80nm,0.4s						
RAO	**Raoul Island**	**14.88**	**127**	*e*Pn	**Pn**	**09 58 53.4**	**-1.5**
URZ	**Urewera**	**18.92**	**159**	P	**Pn**	**09 59 47.1**	**+1.4**
	0.3nm,0.3s,baz=319,slow=6.2,SNR=5.4						
CTA	**Charters Tower**	**20.90**	**268**	P	**P**	**10 00 07.7**	**+1.1**
	3.8nm,0.8s,baz=80,slow=11,SNR=4.6						
CTAO	**Charters Tower**	**20.90**	**268**	*e*P	Pn	10 00 08.1	-1.2
	60nm,1.7s						
STKA	**Stephens Creek**	**26.48**	**240**	P	**P**	**10 01 02.3**	**+1.1**
	2.6nm,0.7s,baz=66,slow=10,SNR=7.3						
STKA	**Stephens Creek**	**26.48**	**240**	P	**P**	**10 00 59.9**	**-1.2**
	9.7nm,1.5s						
WRAB	**Tennant Creek**	**32.03**	**265**	*e*P	**P**	**10 01 50.0**	**-0.6**
	16nm,1.2s						
WRA	**Warramunga Arr**	**32.04**	**265**	P	**P**	**10 01 49.8**	**-0.9**
	1.1nm,0.9s,baz=92,slow=8.5,SNR=12						
WRA				pP	**pP**	**10 02 00.7**	**-0.2**
	7.9nm,1.0s,baz=92,slow=9.4,SNR=32						
AS31	**Alice Springs**	**32.15**	**258**	*e*P	**P**	**10 01 52.0**	**+0.3**
ASAR	**Alice Springs**	**32.15**	**258**	P	**P**	**10 01 51.6**	**0.0**
	7.1nm,0.8s,baz=82,slow=9.0,SNR=52						
ASAR				pP	**pP**	**10 02 02.3**	**+0.5**
	30nm,0.9s,baz=85,slow=8.6,SNR=49						
KAPI	**Kappang**	**49.85**	**281**	P	**P**	**10 04 15.5**	**-1.8**
	6.6nm,0.6s,baz=105,slow=9.3,SNR=3.2						
VNDA	**Vanda**	**56.87**	**182**	P	**P**	**10 05 08.9**	**+1.1**
	2.3nm,1.2s,baz=21,slow=5.3,SNR=4.8						
KSM	**Kuching**	**61.09**	**284**	*e*P	**P**	**10 05 40.2**	**+2.1**
	22nm,0.9s						
MJAR	**Matsushiro Arr**	**63.82**	**333**	P	**P**	**10 05 54.6**	**-1.3**
	2.6nm,1.1s,baz=162,slow=7.5,SNR=5.7						
MJAR				pP	**pP**	**10 06 05.7**	**-1.0**
	2.7nm,0.9s,baz=162,slow=6.6,SNR=6.3						
ASAJ	**Asahikawa**	**68.83**	**340**	P	**P**	**10 06 27.6**	**-0.2**
	6.6nm,1.0s,baz=207,slow=15,SNR=4.8						
QSPA	**South Pole Qui**	**69.27**	**180**	*e*P	**P**	**10 06 29.8**	**-0.8**
	8.6nm,1.2s						
USRK	**Ussuriysk Ar.**	**72.82**	**333**	P	**P**	**10 06 51.1**	**-0.9**
	3.5nm,0.8s,baz=144,slow=4.2,SNR=6.4						
USRK				pP	**pP**	**10 07 03.2**	**+0.2**
	7.7nm,1.0s,baz=116,slow=4.4,SNR=8.9						
PEA0B	**Petropavlovsk-**	**74.19**	**353**	*e*P	**P**	**10 06 59.9**	**0.0**
PETK	**Petropavlovsk-**	**74.19**	**353**	P	**P**	**10 07 00.1**	**+0.2**
	2.8nm,0.7s,baz=134,slow=8.5,SNR=8.4						
PETK				pP	**pP**	**10 07 10.9**	**0.0**
	6.4nm,0.8s,baz=145,slow=11,SNR=10						
CMAR	**Chiang Mai Arr**	**78.55**	**295**	P	**P**	**10 07 26.9**	**+1.5**
	0.8nm,0.3s,baz=132,slow=4.1,SNR=12						
HHC	**Hu-ho-hao-te**	**80.97**	**320**	*e*P	P	10 07 52.4	+14
HHC				PP	PP	10 11 00.4	+17
HHC				S	S	10 17 53.9	+9.0
HHC				sS	sS	10 18 29.0	+26
HHC				PMZ			
	37nm,0.7s						
HHC				PMZ			
	69nm,7.4s						
HHC				LN			
	140nm,18.5s						
HHC				LE			
	130nm,21.0s						
HHC				LZ			

SZGRF ***22*** *09:58:49.4, 20.22S×171.52E, h39km, Vanuatu Islands region*
ISCJB ***22*** *09:58:53.4±0.2, 20.64S±0.04×168.42E±0.04, h30km, mb4.7/44, MS4.3/27, Error ellipse: s-maj=6.6km s-min=5.3km az=152.0*
MOS ***22*** *09:58:53.6±1.3, 20.66S×168.41E, h33km, mb5.2/16, MS4.5/4, Error ellipse: s-maj=10.8km s-min=9.6km az=10.7*
IDC ***22*** *09:58:55.9±0.5, 20.68S×168.44E, h40km±3km, mb4.2/22, mb1 4.3/24, mb1mx4.2/38, mbtmp4.4/24, ML4.3/2, MS4.3/25, Ms1 4.3/25, ms1mx4.2/35, Error ellipse: s-maj=14.8km s-min=12.3km az=132.0*
NEIC ***22*** *09:58:56.3±0.2, 20.61S×168.42E, mb5.2/23, Error ellipse: s-maj=7.4km s-min=6.1km az=152.0*
GCMT ***22*** *09:58:56.3±0.2, 20.62S×168.41E, h15km, MW5.2/102, Moment Tensor Solution. s56,c66; s102,c157; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=6.05±.24; Mθθ=0.58±.14; Mφφ=5.46±.16; Mrθ=-2.11±.51; Mφθ=-1.72±.10; Mφr=3.71±.44; Best double couple: Mo=7.38500×10^16 NP1:ϕs=156.00000°, δ63.00000°, λ=-96.00000°. NP2: ϕs=349.00000°, δ28.00000°, λ=-78.00000°. Principal axes: T 7.3200, Plg17.0000°, Azm250.0000°; N 0.1240, Plg6.0000°, Azm158.0000°; P -7.4510, Plg72.0000°, Azm51.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***22*** *09:58:56.2, 19.91S×168.83E, h30km, mb4.8/34, mB5.2/24, Ms5.0/23, Ms7 4.5/25*

ISC 22 09:58:55.5±0.3, 20.78S±0.05×168.48E±0.05, h30km, h30km:pP-P, n247, σ1=46/288, mb4.8/44, MS4.4/28, 1C-5D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.29**	**235**	*e*Pn	**Pn**	**09 59 30.0**	**-1.4**
	150nm,0.2s						
DZM				*e*Sn	Sn	09 59 50.5	-8.2
	1μm,0.3s						
DZM	**Mont Dzumac**	**2.29**	**235**	Pn	**Pn**	**09 59 30.3**	**-1.1**
	50nm,0.3s,baz=60,slow=21,SNR=14						
DZM				Sn	**Sn**	**09 59 58.3**	**-0.5**
	412nm,0.3s,baz=100,slow=22,SNR=12						
DZM				LR	LR	10 00 09.4	
	comp=Z,7μm,18.6s,baz=0.0,slow=32						
MSVF	**Nonsavu**	**9.53**	**73**	*e*P	**Pn**	**10 01 12.4**	**+1.5**
MSVF	**Nonsavu**	**9.53**	**73**	*e*Pn	**Pn**	**10 01 12.4**	**+1.5**
OUZ	**Omahuta**	**15.08**	**164**	*e*Pn	**P**	**10 02 30.0**	**-1.4**
	85nm,2.4s						
URZ	**Urewera**	**18.96**	**159**	P	**Pn**	**10 03 15.1**	**+0.1**
	1.5nm,0.3s,baz=323,slow=6.0,SNR=15						
URZ				LR	LR	10 09 46.6	
	comp=Z,1μm,18.3s,baz=340,slow=34						
URZ	**Urewera**	**18.96**	**159**	*e*P	**Pn**	**10 03 16.7**	**+1.6**
	525nm,2.5s						
BKZ	**Black Stump Fm**	**19.58**	**161**	*e*P	**Pn**	**10 03 23.7**	**+1.1**
	27nm,0.9s						
CTA	**Charters Tower**	**20.84**	**268**	P	**P**	**10 03 35.1**	**+0.2**
	5.9nm,0.7s,baz=94,slow=11,SNR=7.3						
CTA				LR	LR	10 10 43.5	
	comp=Z,1μm,21.4s,baz=102,slow=34						
CTAO	**Charters Tower**	**20.84**	**268**	*e*P	**P**	**10 03 35.4**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,640nm,3.0s						
CTAO	**Charters Tower**	**20.84**	**268**	*e*P	**P**	**10 03 35.4**	**+0.4**
	comp=Z,640nm,3.0s						
RPZ	**Rata Peaks**	**22.98**	**175**	P	**P**	**10 03 58.5**	**+0.9**
	comp=Z,12nm,0.8s,baz=187,slow=2.5,SNR=5.5						
RPZ				LR	LR	10 12 22.7	
	comp=Z,2μm,18.2s,baz=350,slow=35						
RPZ	**Rata Peaks**	**22.98**	**175**	*e*P	**P**	**10 03 59.6**	**+2.0**

comp=Z,187nm,1.9s
PMG Port Moresby 23.45 296 *e*P **P 10 04 00.6 -2.0**
PMG pmax pmax
comp=Z,197nm,1.7s
PMG Port Moresby 23.45 296 *e*P **P 10 04 00.9 -1.6**
comp=Z,23nm,0.9s
STKA Stephens Creek 26.44 240 P **P 10 04 30.4 +0.5**
comp=Z,8.9nm,0.8s,baz=72,slow=9.6,SNR=17
STKA LR LR 10 14 17.0
comp=Z,2µm,20.1s,baz=61,slow=35
STKA Stephens Creek 26.44 240 *e*P **P 10 04 31.0 +1.1**
STKA pmax pmax
comp=Z,38nm,2.2s
STKA Stephens Creek 26.44 240 *e*P **P 10 04 31.0 +1.1**
comp=Z,38nm,2.2s
WRAB Tennant Creek 31.98 265 *e*P **P 10 05 16.8 -2.4**
WRAB pmax pmax
comp=Z,7.0nm,1.0s
WRAB Tennant Creek 31.98 265 *e*P **P 10 05 17.4 -1.8**
comp=Z,5.3nm,0.8s
WRA Warramunga Arr 31.99 265 P **P 10 05 17.7 -1.6**
comp=Z,2.2nm,0.8s,baz=92,slow=8.5,SNR=18
WRA LR LR 10 18 04.8
comp=Z,1µm,19.3s,baz=90,slow=36
AS01 Alice Springs 32.05 258 *e*P **P 10 05 19.0 -0.9**
AS31 Alice Springs 32.09 258 *e*P **P 10 05 19.6 -0.7**
ASAR Alice Springs 32.09 258 P **P 10 05 18.7 -1.6**
comp=Z,18nm,0.8s,baz=82,slow=8.2,SNR=30
ASAR pP **pP 10 05 29.8 +0.8**
comp=Z,21nm,0.7s,baz=72,slow=8.1,SNR=14
ASAR LR LR 10 17 53.5
comp=Z,1µm,19.9s,baz=91,slow=36
JAY Jayapura 32.59 300 P **P 10 05 22.7 -2.0**
comp=Z,12nm,1.0s,baz=207,slow=9.8,SNR=4.4
JAY pP **pP 10 05 33.7 +0.2**
comp=Z,21nm,0.7s,baz=197,slow=5.6,SNR=7.5
JAY LR LR 10 17 17.4
comp=Z,543nm,19.6s,baz=150,slow=34
TBI Tubuai 38.97 102 *e*S S 10 12 26.6 +10
comp=Z,199nm,28.2s
TBI *e*LQ LQ 10 15 11.1
comp=Z,1µm,31.0s
TBI *e*LR LR 10 17 04.2
comp=Z,902nm,31.5s
FAKI Fak Fak 39.49 292 *e*P **P 10 06 22.5 -1.2**
comp=Z,22nm,0.7s
PPT2 Papeete2 39.66 93 *e*S S 10 12 40.5 +14
comp=Z,167nm,23.0s
PPT2 *e*LQ LQ 10 15 46.7
comp=Z,1µm,26.5s
PPT2 *e*LR LR 10 17 27.3
comp=Z,2µm,29.2s
PPT Papeete 39.67 93 LR LR 10 19 58.8
comp=Z,83nm,20.6s,baz=262,slow=32
GUMO Guam 41.29 324 LR LR 10 21 16.2
comp=Z,126nm,19.1s,baz=136,slow=32
SIJI Sorong 41.37 294 P **P 10 06 36.8 -2.5**
comp=Z,9.7nm,0.7s,baz=13,slow=7.5,SNR=3.9
VAH Vaihoa 42.01 90 *e*T T 10 05 51.1
comp=Z,9.1nm,0.3s
BATI Baumata 44.32 277 LR LR 10 25 06.3
comp=Z,614nm,21.9s,baz=138,slow=36
MBWA Marble Bar 45.38 260 *e*P **P 10 07 11.2 -0.3**
comp=Z,255nm,2.5s
DRV Dumont d'Urvil 49.37 194 S S 10 14 37.0 -10
DRV L L 10 19 00.0
DRV R 10 21 00.0
KAPI Kappang 49.79 281 P **P 10 07 43.9 -2.0**
comp=Z,5.0nm,0.5s,baz=98,slow=9.0,SNR=5.4
KAPI Kappang 49.79 281 *e*P **P 10 07 45.5 -0.4**
comp=Z,71nm,2.5s
RKT Rikitea 52.22 104 *e*S S 10 15 38.6 +11
comp=Z,246nm,29.0s
RKT *e*LR LR 10 23 11.5
comp=Z,524nm,31.0s
JCJ Chichijima 53.98 331 LR LR 10 34 31.0
comp=Z,101nm,18.0s,baz=136,slow=40
VNDA Vanda 56.88 182 P **P 10 08 35.6 -1.4**
comp=Z,1.1nm,0.7s,baz=6.2,slow=6.4,SNR=8.2
VNDA LR LR 10 30 38.6
comp=Z,207nm,18.3s,baz=17,slow=33
VNDA Vanda 56.88 182 *e*P **P 10 08 36.8 -0.3**
VNDA pmax pmax
comp=Z,40nm,2.2s
VNDA Vanda 56.88 182 *e*P **P 10 08 36.8 -0.3**
comp=Z,40nm,2.2s
SBA Scott Base 57.13 180 *e*P **P 10 08 39.6 +0.8**
SBA pmax pmax
comp=Z,215nm,2.9s
SBA Scott Base 57.13 180 *e*P **P 10 08 39.6 +0.8**
comp=Z,215nm,2.9s
LEM Lembang 60.39 274 P **P 10 09 00.9 -1.8**
comp=Z,16nm,0.4s,baz=139,slow=8.6,SNR=3.6
LEM LR LR 10 39 00.5
comp=Z,88nm,18.1s,baz=76,slow=40
KSM Kuching 61.03 284 *e*P **P 10 09 06.7 -0.2**
KSM *e*pP **pP 10 09 17.8 +1.6**
MJAR Matsushiro Arr 63.78 333 P **P 10 09 23.4 -1.4**
comp=Z,1.4nm,0.8s,baz=163,slow=6.5,SNR=4.7
MJAR LR LR 10 40 43.3
comp=Z,122nm,18.0s,baz=155,slow=39
MAJO Matsushiro 63.78 333 *e*P **P 10 09 23.6 -1.2**
MAJO pmax pmax
comp=Z,37nm,1.7s
MAJO Matsushiro 63.78 333 *e*P **P 10 09 23.7 -1.0**
MAT Matsushiro 63.78 333 P **P 10 09 23.1 -1.7**
MAT S **S 10 17 52.6 -5.2**
JNU Nakatsue 64.51 325 LR LR 10 35 19.4
comp=Z,72nm,19.3s,baz=182,slow=34
ERM Erimo 66.72 340 *e*P P 10 09 40.4 -3.3
ERM pmax pmax
comp=Z,26nm,1.2s
ASAJ Asahikawa 68.79 340 P **P 10 09 54.8 -1.9**
comp=Z,4.3nm,0.9s,baz=193,slow=10,SNR=3.8
ASAJ LR LR 10 37 00.0
comp=Z,199nm,19.8s,baz=138,slow=33
QSPA South Pole Qui 69.29 180 LR LR 10 39 20.0
comp=Z,474nm,18.0s,baz=21,slow=35
QSPA South Pole Qui 69.29 180 *e*P **P 10 09 59.4 -0.4**
QIZ Qiongzhong 69.73 301 P **P 10 10 03.8 +0.7**
QIZ S **S 10 19 11.3 +0.9**
QIZ PMZ
comp=Z,16nm,1.6s
QIZ LN
comp=Z,260nm,14.5s
QIZ LZ
comp=Z,170nm,13.2s
NJ2 Nanjing 70.82 317 *e*P **P 10 10 09.1 -0.4**
NJ2 PMZ
comp=Z,20nm,0.7s
YSS Yuzh-Sakhalins 71.30 342 *e*P **P 10 10 12.0 0.0**
YSS *e* 10 10 24.0
YSS MLR MLR
comp=N,600nm,18.0s
YSS MLR MLR
comp=Z,500nm,18.0s
YSS Yuzh-Sakhalins 71.30 342 *e*P **P 10 10 11.9 0.0**
comp=Z,14nm,0.8s
USRK Ussurisk Ar. 72.78 333 P **P 10 10 19.6 -1.3**
comp=Z,2.3nm,0.7s,baz=131,slow=5.8,SNR=8.4
USRK pP **pP 10 10 31.1 +0.8**
comp=Z,8.3nm,0.8s,baz=135,slow=5.1,SNR=10.0
WHN Wuhan 72.86 313 P **P 10 10 23.0 +1.3**
WHN LZ
comp=Z,390nm,20.5s
PET Petropavlovsk 73.98 354 *e*P **P 10 10 25.8 -2.0**
PET *e**PP **PcP 10 10 47.0 +4.0**
PET *e*S **SKiKP 10 19 55.4 +1.2**
PET pmax pmax
comp=Z,30nm,1.1s
PET MLR MLR
comp=Z,200nm,17.0s
MDJ Mudanjiang 74.14 332 P **P 10 10 28.9 0.0**
MDJ pP **pP 10 10 38.4 0.0**
MDJ sP **sP 10 10 41.6 -0.3**
MDJ PcP **PcP 10 10 43.8 -0.1**
MDJ PP **PP 10 13 14.3 -0.7**
MDJ S **S 10 20 00.4 +0.4**
MDJ sS **sS 10 20 15.5 -0.2**
MDJ ScS **ScS 10 20 36.3 -0.8**
MDJ PMZ
comp=Z,14nm,1.6s
MDJ PMZ
comp=Z,110nm,5.0s
MDJ LN
comp=Z,130nm,11.0s
MDJ LE
comp=Z,70nm,10.1s
MDJ LZ
comp=Z,180nm,11.9s
PEA0B Petropavlovsk- 74.17 353 *e*P **P 10 10 27.7 -1.2**
PETK Petropavlovsk- 74.17 353 P **P 10 10 28.1 -0.8**
comp=Z,5.0nm,0.7s,baz=154,slow=10,SNR=12
PETK pP **pP 10 10 39.6 +1.2**
comp=Z,15nm,0.8s,baz=160,slow=9.0,SNR=16
HABR Khabarovsk 75.14 338 *e*P **P 10 10 32.5 -2.1**
HABR *e**PP **pP 10 10 42.5 -1.6**
HABR 10 10 45.4
HABR *e*SP 10 10 46.6
HABR *e* 10 15 06.3
HABR *e*S **S 10 20 08.4 -2.6**
HABR *e* 10 20 42.2
HABR SS **SS 10 24 59.3 -1.9**
HABR pmax pmax
comp=Z,31nm,1.6s
HABR MLR MLR
comp=Z,98nm,17.0s
NIKH Nikolski High 76.03 14 *e*P **P 10 10 37.3 -2.3**
NIKH *e*pP **pP 10 10 49.6 +0.5**
GYA Guiyang 76.12 306 P **P 10 10 42.8 +1.8**
GYA pP **PcP 10 10 53.6 +0.6**
GYA sP **sP 10 10 58.0 +4.1**
GYA PP **PP 10 13 35.8 +3.5**
GYA S **S 10 20 23.0 -0.1**
GYA SKS SKSac 10 20 43.4 -6.7
GYA SS **SS 10 25 19.3 +2.1**
GYA PMZ
comp=Z,30nm,1.0s
GYA PMZ
comp=Z,120nm,5.0s
GYA LN
comp=Z,660nm,19.7s
GYA LE
comp=Z,540nm,20.0s
GYA LZ
comp=Z,620nm,20.8s
MAW Mawson 76.75 202 P **P 10 10 44.0 +0.3**
comp=Z,1.7nm,0.7s,baz=63,slow=13,SNR=3.6
MAW LR LR 10 39 46.3
comp=Z,105nm,21.6s,baz=64,slow=32
KLR Kul'dur 76.98 336 *e*P P 10 10 41.2 -3.9
KLR *e* 10 10 53.2
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,70nm,1.8s
UNV Unalaska Valle 77.39 15 *e*P **P 10 10 45.3 -2.0**
UNV *e*pP **pP 10 10 56.0 -0.8**
BJI Beijing 77.68 322 P **P 10 10 50.6 +1.3**
BJI PMZ
comp=Z,9.0nm,1.0s
BJI PMZ
comp=Z,140nm,3.6s
CM01 Chiang Mai Arr 78.46 295 *e*P **P 10 10 54.8 +0.7**
KMI Kunming 78.48 302 P **P 10 10 55.4 +1.0**
KMI PcP **pP 10 11 05.5 +1.6**
KMI pP **pwP 10 11 06.8 +2.9**
KMI PP **PP 10 13 56.8 +4.4**
KMI S **S 10 20 47.8 -1.3**
KMI SS **SS 10 25 56.1 +2.9**
KMI PMZ
comp=Z,13nm,1.1s
KMI PMZ
comp=Z,140nm,3.1s
KMI LN
comp=Z,170nm,21.0s
KMI LE
comp=Z,130nm,18.3s
KMI LZ
comp=Z,170nm,16.4s
CM31 Chiang Mai Arr 78.49 295 *e*P **P 10 10 55.2 +0.9**
comp=Z,12nm,0.9s
CMAR Chiang Mai Arr 78.49 295 P **P 10 10 54.0 -0.3**
comp=Z,6.3nm,1.1s,baz=134,slow=4.2,SNR=16
CMAR pP **pP 10 11 05.8 +2.0**
comp=Z,7.7nm,0.8s,baz=138,slow=3.8,SNR=8.2
CMAR LR LR 10 49 09.6
comp=Z,43nm,18.1s,baz=148,slow=38
XAN Xi'an 78.63 313 P **P 10 10 54.6 -0.1**
XAN PMZ
comp=Z,3.0nm,0.7s
CHTO Chiang Mai 78.65 295 *e*P **P 10 10 55.8 +0.7**
CHTO Chiang Mai 78.65 295 *e*P **P 10 10 55.8 +0.7**
SDPT Sand Point 80.30 17 *e*P **P 10 11 00.5 -2.7**
CD2 Chengdu 80.61 308 *e*P **P 10 11 06.8 +1.2**
CD2 pP **pP 10 11 17.8 +2.7**
CD2 sP **sP 10 11 22.1 +3.5**
CD2 PP **PP 10 14 12.6 +2.9**
CD2 S **S 10 21 10.0 -1.0**
CD2 SKS **SKSac 10 21 17.3 -4.7**
CD2 sS **sS 10 21 28.8 +2.0**
CD2 SS **SS 10 26 26.3 +1.8**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,180nm,5.6s
CD2 LN
comp=Z,440nm,16.2s
CD2 LE
comp=Z,250nm,13.2s
CD2 LZ
comp=Z,190nm,15.2s
HHC Hu-ho-hao-te 80.92 320 *e*P **P 10 11 09.1 +2.0**
HHC pP **pP 10 11 19.1 +2.4**
HHC sP **sP 10 11 23.3 +3.1**
HHC PP **PP 10 14 14.6 +2.4**
HHC S **S 10 21 15.1 +1.1**
HHC sS **sS 10 21 31.3 +1.5**
HHC PMZ
comp=Z,18nm,1.6s
HHC PMZ
comp=Z,86nm,4.9s
HHC LN
comp=Z,240nm,18.5s
HHC LE
comp=Z,250nm,24.7s
HHC LZ
comp=Z,250nm,22.2s
LZH Lanzhou 83.23 313 *e*P P 10 11 24.6 +5.2
LZH pP pP 10 11 32.1 +3.1
LZH sP sP 10 11 36.9 +4.4
LZH PMZ
comp=Z,27nm,1.1s
OHAK Old Harbor 84.03 20 *e*P **P 10 11 20.9 -1.9**
SEY Seymchan 84.39 353 P **P 10 11 22.6 -1.9**
comp=Z,0.4nm,0.4s,baz=100,slow=3.9,SNR=8.1
SEY LR LR 10 46 21.7
comp=Z,232nm,19.1s,baz=188,slow=34
KDAK Kodiak Island 84.71 20 *i*P **P 10 11 27.0 +0.8**
PMSA Palmer Station 85.72 160 LR LR 10 47 05.0
comp=Z,303nm,18.2s,baz=205,slow=34
KCPM Cahto Peak 87.31 46 *e*P **P 10 11 39.7 0.0**
comp=Z,14nm,0.8s
SNAA Sanae 87.60 183 P P 10 11 37.1 -3.5
SNAA Sanae 87.60 183 *e*P P 10 11 36.8 -3.8
SNAA pmax pmax
comp=Z,6.0nm,1.0s
SNAA Sanae 87.60 183 *e*P P 10 11 36.4 -4.2
comp=Z,11nm,1.3s
ULN Ulaanbaatar 87.67 324 *e*P **P 10 11 40.8 -0.5**
ULN pmax pmax
comp=Z,6.0nm,1.7s
ULN Ulaanbaatar 87.67 324 *e*P **P 10 11 41.2 -0.1**
comp=Z,5.2nm,0.7s
KHMM Horse Mountain 87.80 45 *e*P **P 10 11 42.4 +0.4**
comp=Z,12nm,0.6s
SONM Songino Array 88.02 323 P **P 10 11 41.1 -1.8**
comp=Z,2.1nm,0.9s,baz=74,slow=5.4,SNR=5.2
SONM pP **pP 10 11 53.0 +0.5**
comp=Z,4.9nm,0.8s,baz=133,slow=3.7,SNR=7.3
YAK Yakutsk 88.12 343 *e*P **P 10 11 41.3 -1.5**
YAK *e**PP **pP 10 11 54.2 +1.8**
YAK *e* 10 15 07.2
YAK *e*S **SKSac 10 22 07.0 -1.8**
YAK *e**SS **S 10 22 24.5 0.0**
YAK *e*SS **SS 10 28 16.9 +2.9**
YAK *e*SSS SSS 10 31 50.2
YAK pmax pmax
comp=Z,3.0nm,0.7s
YAK pmax pmax
comp=E,4.0nm,1.5s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=Z,95nm,5.9s
YAK smax smax
comp=N,68nm,4.2s
YAK smax smax
comp=E,68nm,4.2s
YAK MLR MLR
comp=Z,318nm,18.0s
YAK MLR MLR
comp=E,135nm,19.0s
YAK MLR MLR
comp=N,282nm,18.0s
VNA3 Neumayer Olymp 88.22 181 P **P 10 11 42.2 -1.2**
WDC Whiskeytown Da 88.44 45 *e*P **P 10 11 44.8 -0.1**
WDC Whiskeytown Da 88.44 45 *e*P **P 10 11 44.8 -0.1**
VNA2 Neumayer--Watz 88.50 181 P **P 10 11 43.8 -0.9**
baz=180,slow=5.3
N02D Trinity Center 88.53 45 P **P 10 11 44.9 -0.5**
baz=89
BILL Bilibino 88.57 359 *i*P **P 10 11 43.0 -1.8**
BILL *i* 10 15 17.5
BILL *i* PPP PPP 10 17 13.0
BILL pmax pmax
comp=Z,7.0nm,1.7s
BILL Bilibino 88.57 359 *e*P **P 10 11 43.3 -1.5**
comp=Z,25nm,1.6s
M02C Callahan 88.63 45 P **P 10 11 45.1 -0.8**
baz=89
CMB Columbia Colle 88.70 48 P P 10 11 43.3 -3.0
CMB *e**PP pP 10 11 55.1 -0.8
CMB pmax pmax
comp=Z,25nm,1.6s
CMB Columbia Colle 88.70 48 P P 10 11 43.3 -3.0
comp=Z,25nm,1.6s
CMB *e*pP pP 10 11 55.1 -0.8
ISA Isabella, Lake 89.00 51 P **P 10 11 46.9 -0.8**
baz=89
EDW2 Edwards Air Fo 89.00 52 P **P 10 11 46.4 -1.4**
baz=89
HUMO Hull Mountain 89.16 43 *e*P **P 10 11 47.5 -0.8**
comp=Z,14nm,0.8s
HUMO *e*pP **pP 10 11 59.8 +1.8**
WAKR Walker 89.58 48 *e*P **P 10 11 51.0 +0.4**
WAKR *e*pP **pP 10 12 01.8 +1.5**
CWC Cottonwood Cre 89.62 51 P **P 10 11 49.6 -1.2**
baz=90
MPMC Manual Prospec 89.89 51 P **P 10 11 51.0 -1.1**
baz=90
J04D Umpqua Nationa 90.01 43 P **P 10 11 51.7 -0.8**
baz=90
GSC Goldstone, Bar 90.06 52 P **P 10 11 51.5 -1.2**
baz=90
I04A Tendick Farm, 90.09 43 P **P 10 11 51.2 -1.4**
baz=90
BELC Belle Mtn. Jos 90.11 54 P **P 10 11 52.0 -1.1**
baz=90
NVAR Mina Array Bea 90.35 49 P **P 10 11 52.5 -1.7**
comp=Z,2.3nm,0.7s,baz=227,slow=8.3,SNR=17
NVAR pP **pP 10 12 04.8 +0.9**
comp=Z,6.1nm,0.7s,baz=224,slow=8.3,SNR=17
GRAC Grapevine Rang 90.38 50 P **P 10 11 53.4 -0.8**
baz=90
BOD Bodaibo 90.40 334 *e*P **P 10 11 51.7 -1.9**
BOD pmax pmax
comp=Z,8.0nm,1.9s
FURC Furnace Creek, 90.52 51 P **P 10 11 53.7 -1.0**
baz=91
J05D Fort Rock, OR 90.59 43 P **P 10 11 54.3 -0.9**
baz=91
H04A Detroit Lake 90.66 42 *e*P **P 10 11 53.9 -1.4**
TPH Tonopah 90.95 49 *e*P **P 10 11 55.8 -1.2**
TPH *e**PP **pP 10 12 07.7 +1.0**
TPH Tonopah 90.95 49 *e*P **P 10 11 55.8 -1.2**
TPH *e*pP **pP 10 12 07.7 +1.0**
Y12C Blythe 91.12 54 P **P 10 11 56.9 -0.7**
baz=91
TPNV Topopah Spring 91.17 51 *e*P **P 10 11 57.0 -1.0**
TPNV Topopah Spring 91.17 51 *e*P **P 10 11 57.0 -1.0**
TPNV Topopah Spring 91.17 51 P **P 10 11 56.8 -1.1**
baz=91
WRH Wood River Hil 91.34 17 *e*P **P 10 11 59.7 +1.8**
CCB Clear Creek Bu 91.55 17 *e*P **P 10 11 59.7 +0.9**
TLY Talaya 91.62 326 *e*P **P 10 11 59.1 -0.4**
TLY pmax pmax
comp=Z,8.0nm,1.4s
SHPR Sheep Range 91.78 52 *e*P **P 10 12 00.2 -0.6**
ILAR Eielson Array 91.90 18 P P 10 11 57.2 -3.3
comp=Z,0.7nm,0.8s,baz=238,slow=5.4,SNR=9.2
ILAR LR LR 10 53 27.6
comp=Z,206nm,18.0s,baz=220,slow=36
D05A Enumclaw 91.99 40 *e*P **P 10 12 02.4 +1.1**
I07A Izee 92.08 43 *e*P **P 10 12 00.9 -1.1**
I07A *e*pP **pP 10 12 11.8 +0.2**
W13A Hualapai Mount 92.15 53 P **P 10 12 01.7 -0.9**
baz=92
R11A Troy Canyon, C 92.24 50 *e*P **P 10 12 01.2 -1.7**
R11A Troy Canyon, C 92.24 50 P **P 10 12 01.3 -1.7**
baz=92
Y14A Wickenburg 92.35 55 P **P 10 12 01.9 -1.5**
baz=92
G08A Pilot Rock 92.97 42 *e*P **P 10 12 04.7 -1.4**
TUC Tucson 93.44 57 *e*P **P 10 12 07.1 -1.4**
TUC pmax pmax
comp=Z,7.0nm,1.4s
TUC Tucson 93.44 57 *e*P **P 10 12 07.1 -1.4**
comp=Z,6.7nm,1.4s
EGAK Eagle 93.60 19 *e*P **P 10 12 06.8 -1.5**
DAWY Dawson 93.67 20 *e*P **P 10 12 06.5 -2.2**
X16A Lo Mia Camp, P 93.73 55 P **P 10 12 08.9 -1.1**
baz=94
MVU Marysvale 94.73 51 *e*P P 10 12 17.9 +3.5
MNTX Cornudas Mount 97.51 59 P **P 10 12 25.3 -1.7**
baz=98
WMQ Urumqi 97.75 314 *e*P **P 10 12 27.8 0.0**
WMQ pP **pP 10 12 38.4 +0.9**
WMQ sP **sP 10 12 42.4 +1.4**
WMQ PP **PP 10 16 29.3 +2.9**
WMQ SKS **SKSac 10 23 01.8 -1.5**
WMQ S S 10 23 44.0 -7.6
WMQ SS **SS 10 30 31.3 -1.8**
WMQ PMZ
comp=Z,10.0nm,0.6s
WMQ PMZ
comp=Z,100nm,4.6s
WMQ LN
comp=Z,200nm,22.2s
WMQ LE
comp=Z,280nm,23.8s
WMQ LZ
comp=Z,120nm,20.2s
TXAR Lajitas Array 98.12 62 P **P 10 12 29.2 -0.7**
comp=Z,0.2nm,0.6s,baz=197,slow=3.8,SNR=3.6
TXAR pP **pP 10 12 41.4 +1.8**
comp=Z,0.4nm,0.7s,baz=224,slow=5.5,SNR=4.9
TXAR LR LR 10 51 38.4
comp=Z,231nm,18.1s,baz=0.0,slow=32
PDAR Pinedale Array 98.17 47 P **P 10 12 28.9 -1.1**
comp=Z,0.3nm,0.6s,baz=222,slow=2.0,SNR=3.5
PDAR LR LR 10 55 55.4
comp=Z,102nm,18.1s,baz=254,slow=35
MKAR Makanchi Array 102.33 315 P **Pdif 10 12 46.4 -1.8**
comp=Z,0.4nm,0.7s,baz=77,slow=1.9,SNR=3.4
YKA Yellowknife Ar 102.35 28 P **Pdif 10 12 46.0 -1.7**
comp=Z,0.5nm,0.6s,baz=253,slow=4.9,SNR=3.1
KSH Kashi 104.78 307 P **Pdif 10 13 02.3 +2.9**
KSH pP 10 13 13.0
KSH PP PP 10 17 25.9 +6.2
KSH Kashi 104.78 307 SS SS 10 32 14.8 +3.7
KSH pmax pmax
comp=Z,81nm,4.7s
KSH LR LR
comp=N,350nm,14.6s
KSH LR LR
comp=E,130nm,8.1s
KSH LR LR
comp=Z,130nm,5.4s
ARU Arti 118.06 324 *i* PKIKP **PKPdf 10 17 37.4 -1.7**
ARU 10 18 50.0
ARU 10 24 27.0
ARCES ARCESS Array B 126.36 345 PKP **PKPdf 10 17 52.6 -2.1**
comp=Z,1.6nm,0.8s,baz=62,slow=2.9,SNR=6.2
ARCES pPKP **pPKPdf 10 18 06.0 +1.4**
comp=Z,0.9nm,0.5s,baz=64,slow=2.8,SNR=2.0
AKASG Malin Array Be 136.30 323 PKP **PKPdf 10 18 11.8 -2.2**

	comp=Z,0.2nm,0.3s,baz=69,slow=2.2,SNR=3.5							
KIEV	**Kiev**	**136.31 323**	*e*PKIKP	**PKPdf**	**10 18 14.0**	**0.0**		
VYHS	**Vyhne**	**143.17 326**	*e*PKIKP	PKPab	10 18 22.6	+0.4		
VYHS	**Vyhne**	**143.17 326**	*e*PKP	PKPab	10 18 22.6	+0.4		
DPC	**Dobruska-Polom**	**143.21 330**	*e*PKP	**PKPdf**	**10 18 26.1**	**-0.6**		
DPC	**Dobruska-Polom**	**143.21 330**	*e*PKIKP	**PKPdf**	**10 18 26.1**	**-0.6**		
UPC	**Upice**	**143.25 330**	*e*PKP	PKPab	10 18 21.5	-0.9		
UPC	**Upice**	**143.25 330**	*e*PKIKP	PKPab	10 18 21.5	-0.9		
PVCC	**Panska Ves**	**143.89 332**	*e*PKP	PKPbc	10 18 26.9	+1.4		
PVCC	**Panska Ves**	**143.89 332**	*e*PKIKP	PKPbc	10 18 26.9	+1.4		
BRG	**Berggiesshubel**	**143.91 332**	*e*PKPbc	PKPab	10 18 24.9	-0.1		
BRG			*ep*PKPbc	pPKPdf	10 18 36.3	-1.5		
BRG	**Berggiesshubel**	**143.91 332**	*e*	pPKPdf	10 18 36.2	-1.5		
	comp=Z,9.8nm,1.2s							
CLL	**Collm**	**143.99 334**	*e*PKPbc	PKPab	10 18 24.7	-0.6		
CLL			*ep*PKPbc	pPKPdf	10 18 36.3	-1.6		
CLL	**Collm**	**143.99 334**	*i* PKPdf	PKPab	10 18 24.9	-0.4		
	comp=Z,63nm,2.5s							
CLL			*i* pPKPdf	pPKPdf	10 18 36.2	-1.6		
CLL			LmV		11 29 00.0			
	comp=Z,100nm,19.5s							
CLL	**Collm**	**143.99 334**	*i* PKIKP	PKPab	10 18 24.9	-0.4		
CLL			*i*		10 18 36.2			
CLL			pmax	pmax				
	comp=Z,63nm,2.5s							
PKSG		**144.08 325**	*e*PP	**PKPab**	**10 18 26.0**	**+0.3**		
FBE	**Freiberg**	**144.13 333**	*e*PKPbc	**PKPab**	**10 18 25.5**	**-0.3**		
FBE			*ep*PKPbc	**pPKPdf**	**10 18 37.6**	**-0.5**		
PKS2	**Kecel**	**144.16 323**⇑	*e*PP	**PKPab**	**10 18 27.3**	**+1.3**		
NRDL	**Niedersach Rie**	**144.18 337**	*e*PKPbc	**PKPab**	**10 18 25.2**	**-0.7**		
GOPC	**GO Pecny, Ondr**	**144.22 331**	*e*PKP	PKPbc	10 18 27.1	+0.5		
PRU	**Pruhonice**	**144.28 331**	*e*PKP	**PKPab**	**10 18 25.9**	**-0.5**		
PRU	**Pruhonice**	**144.28 331**	*e*PKIKP	**PKPab**	**10 18 25.9**	**-0.5**		
PKST	**T''s**	**144.35 325**⇓	*e*PP	**PKPab**	**10 18 26.3**	**-0.5**		
NEUB	**Neuenburg**	**144.56 335**	*e*PKPbc	**PKPab**	**10 18 27.1**	**-0.3**		
CLZ	**Clausthal**	**144.61 336**	*e*PKPbc	**PKPab**	**10 18 27.1**	**-0.5**		
CLZ			*ep*PKPbc	**pPKPdf**	**10 18 39.0**	**0.0**		
PKS9	**Tamasi**	**144.63 324**	*e*PP	**PKPab**	**10 18 27.5**	**-0.3**		
PKSM	**Moragy**	**144.64 323**⇓	*e*PP	**PKPab**	**10 18 27.3**	**-0.6**		
VAY	**Valandovo**	**144.65 313**	*e*PKP	**PKPab**	**10 18 26.8**	**-1.3**		
SOP	**Sopron**	**144.87 306**⇓	*e*PP	**PKPab**	**10 18 28.8**	**+0.1**		
TANN	**Tannenbergstha**	**144.89 333**	*e*PKPbc	**PKPab**	**10 18 28.3**	**-0.4**		
WERD	**Werda**	**144.93 333**	*e*PKPbc	**PKPab**	**10 18 28.4**	**-0.4**		
WERD			*ep*PKPbc	**pPKPdf**	**10 18 40.2**	**+0.6**		
PLN	**Plauen**	**144.96 333**	*e*PKPbc	**PKPab**	**10 18 28.3**	**-0.6**		
GUNZ	**Gunzen**	**144.98 333**	*e*PKPbc	**PKPab**	**10 18 28.7**	**-0.3**		
GUNZ			*ep*PKPbc	**pPKPdf**	**10 18 40.2**	**+0.5**		
WERN	**Wernitzgruen**	**145.02 333**	*e*PKPbc	**PKPbc**	**10 18 28.9**	**-0.3**		
WERN			*ep*PKPbc	**pPKPdf**	**10 18 40.3**	**+0.6**		
NKC	**Novy Kostel**	**145.03 333**	*e*PKP	**PKPbc**	**10 18 28.5**	**-0.7**		
NKC			*ep*PKP	**pPKPdf**	**10 18 40.2**	**+0.5**		
NKC	**Novy Kostel**	**145.03 333**	*e*PKIKP	**PKPbc**	**10 18 28.5**	**-0.7**		
NKC			*e*		10 18 40.2			
CONA	**Conrad Observa**	**145.06 327**	*i* PKPdf	**PKPbc**	**10 18 29.5**	**+0.1**		
	comp=Z,36nm,1.5s,SNR=24							
SKO	**Skopje**	**145.13 315**	*i* PKP	**PKPbc**	**10 18 30.0**	**+0.2**		
IBBN	**Ibbenburen**	**145.15 339**	*e*PKPbc	**PKPbc**	**10 18 28.5**	**-0.9**		
IBBN			*ep*PKPbc	pPKPbc	10 18 40.3	+0.8		
KHC	**Kasperske Hory**	**145.34 331**	*e*PKP	**PKPbc**	**10 18 29.7**	**-0.5**		
KHC			*ep*PKP	**pPKPdf**	**10 18 41.8**	**+1.5**		
KHC	**Kasperske Hory**	**145.34 331**	*e*PKIKP	**PKPbc**	**10 18 29.7**	**-0.5**		
KHC			*e*		10 18 41.8			
MANZ	**Manzenberg**	**145.36 333**	*e*PKPbc	**PKPbc**	**10 18 29.8**	**-0.5**		
ROTZ	**Rotzenmuhle**	**145.48 333**	*e*PKPbc	**PKPdf**	**10 18 30.6**	**0.0**		
GEC2	**GERESS Array S**	**145.48 330**	*e*PKPbc	**PKPdf**	**10 18 30.3**	**-0.4**		
GERES	**GERESS Array B**	**145.48 330**	PKPbc	**PKPdf**	**10 18 30.2**	**-0.6**		
	comp=Z,3.0nm,0.8s,baz=33,slow=3.2,SNR=15							
GERES			*ep*PKPbc	pPKPbc	10 18 42.2	+1.5		
	comp=Z,5.0nm,0.9s,baz=39,slow=2.6,SNR=8.9							
BEHE	**Becsehely**	**145.52 325**	*e*PP	**PKPdf**	**10 18 31.5**	**+0.8**		
UBBA	**Unterbreizbach**	**145.57 336**	*e*PKPbc	**PKPdf**	**10 18 30.3**	**-0.2**		
WET	**Wettzell**	**145.65 331**	*e*PKPbc	**PKPdf**	**10 18 30.9**	**0.0**		
ARSA	**Arzberg**	**145.68 327**	*i* PKPab	**PKPdf**	**10 18 31.5**	**+0.5**		
	comp=Z,30nm,1.6s,SNR=14							
MOA	**Molln**	**145.91 328**	*i* PKPab	**PKPdf**	**10 18 31.6**	**+0.2**		
	comp=Z,31nm,1.5s,SNR=11							
OHR	**Ohrid**	**145.95 314**	*i* PKP	**PKPdf**	**10 18 30.1**	**-1.6**		
GRF	**Grafenberg Arr**	**145.96 333**	*e*PKPbc	**PKPdf**	**10 18 31.9**	**+0.5**		
GRF			*ep*PKPbc	pPKPbc	10 18 44.2	+2.2		
GRFO	**Grafenberg**	**145.96 333**	*e*PKP2	**PKPbc**	**10 18 32.2**	**+0.1**		
GRFO	**Grafenberg**	**145.96 333**	*e*PKPbc	**PKPbc**	**10 18 32.2**	**+0.1**		
BUG	**Bochum--Univer**	**146.05 339**	*e*PKPbc	**PKPdf**	**10 18 31.2**	**-0.2**		
BUG			*ep*PKPbc	pPKPbc	10 18 43.0	+0.9		
PERS	**Pernice**	**146.30 326**	*i* PKPdf	**PKPdf**	**10 18 32.1**	**0.0**		
PERS			*i*		10 18 43.6			
SOKA	**Soboth**	**146.31 326**	*i* PKPab	**PKPdf**	**10 18 32.1**	**-0.1**		
	comp=Z,22nm,2.1s,SNR=11							
TNS	**Taunus Mts**	**146.64 336**	*e*PKPbc	**PKPdf**	**10 18 31.5**	**-1.1**		
RJOB	**Jochberg**	**146.70 330**	*e*PKPbc	**PKPdf**	**10 18 33.5**	**+0.7**		
BOJS	**Bojanci**	**146.95 324**	*e*PKPdf	**PKPbc**	**10 18 34.6**	**-0.5**		
BOJS			*e*		10 18 46.2			
LJU	**Ljubljana**	**146.99 326**	*i* PKPdf	**PKPdf**	**10 18 33.7**	**+0.5**		
LJU			*e*		10 18 45.5			
FUR	**Furstenfeldbru**	**147.09 331**	*e*PKPbc	**PKPbc**	**10 18 35.0**	**-0.5**		
MEM	**Membach**	**147.18 339**	PKP	**PKPbc**	**10 18 34.9**	**-0.7**		
MEM			APKP	**pPKPdf**	**10 18 46.9**	**+3.6**		
JAVS	**Javornik**	**147.34 326**	*i* PKPdf	**PKPdf**	**10 18 35.2**	**+1.2**		
JAVS			*i*		10 18 46.7			
STU	**Stuttgart**	**147.51 334**	*e*PKPbc	**PKPbc**	**10 18 36.1**	**-0.5**		
BCLA	**Clavier**	**147.57 340**	PKP	**PKPdf**	**10 18 35.6**	**+1.6**		
WTTA	**Wattenberg**	**147.58 330**	*i* PKPab	**PKPbc**	**10 18 36.3**	**-0.8**		
	comp=Z,24nm,1.4s,SNR=6.4							
SNF	**Seneffe**	**147.81 341**	PKP	**PKPdf**	**10 18 35.8**	**+1.4**		
LANF	**Langenberg**	**147.89 336**	PKP	**PKPbc**	**10 18 37.7**	**0.0**		
WLF	**Walferdange**	**147.93 338**	PKP	**PKPbc**	**10 18 37.7**	**+0.1**		
WLF			APKP	**pPKPdf**	**10 18 49.7**	**+5.1**		
WLF	**Walferdange**	**147.93 338**	*e*PKPbc	**PKPbc**	**10 18 37.7**	**+0.1**		
WLF			*ep*PKPbc	**pPKPbc**	**10 18 49.4**	**+1.8**		
WLF	**Walferdange**	**147.93 338**	*e*PKP2	**PKPbc**	**10 18 37.8**	**+0.1**		
WLF	**Walferdange**	**147.93 338**	*e*PKPbc	**PKPbc**	**10 18 37.8**	**+0.1**		
DOU	**Dourbes**	**148.07 340**	PKP	**PKPbc**	**10 18 37.4**	**-0.6**		
DOU			APKP	**pPKPdf**	**10 18 48.8**	**+4.0**		
FETA	**Feichten**	**148.18 331**⇓	*i* PKIKP	**PKPbc**	**10 18 38.0**	**-0.7**		
	comp=Z,9.0nm,1.0s,SNR=6.4							
BFO	**Black Forest**	**148.21 335**	*e*PKPbc	**PKPbc**	**10 18 37.4**	**-1.1**		
BFO			*ep*PKPbc	**pPKPbc**	**10 18 49.4**	**+1.0**		
BFO	**Black Forest**	**148.21 335**	*i* PKP2	**PKPbc**	**10 18 37.9**	**-0.6**		
BFO	**Black Forest**	**148.21 335**	*e*PKPbc	**PKPbc**	**10 18 37.5**	**-1.1**		
ECH	**Echery**	**148.76 336**	PKP	**PKPbc**	**10 18 39.4**	**-0.6**		
MOF	**Molkenrain**	**149.07 335**	PKP	**PKPbc**	**10 18 40.2**	**-0.7**		
THEF	**They Montfort**	**149.20 337**	PKP	**PKPbc**	**10 18 40.7**	**-0.4**		
LOMF	**Lomont**	**149.60 335**	PKP	**PKPbc**	**10 18 41.9**	**-0.3**		
AQU	**L'Aquila**	**149.97 321**	*e*PKP2	**PKPbc**	**10 18 44.1**	**+0.9**		
AQU	**L'Aquila**	**149.97 321**	*e*PKPbc	**PKPbc**	**10 18 44.1**	**+0.9**		
BNI	**Bardonecchia**	**151.50 332**	*e*PKIKP	**PKPbc**	**10 18 46.3**	**-0.5**		
BNI	**Bardonecchia**	**151.50 332**	*e*PKPbc	**PKPbc**	**10 18 46.3**	**-0.5**		
SAOF	**Saorge**	**151.94 330**	PKP	**PKPbc**	**10 18 46.8**	**-0.9**		
AUTN	**L'Aution**	**151.99 330**	PKP	**PKPbc**	**10 18 47.3**	**-0.8**		
TOUF	**Mont Tournerai**	**152.06 330**	PKP	**PKPbc**	**10 18 47.4**	**-0.8**		
MVIF	**Mont Vial**	**152.19 330**	PKP	**PKPbc**	**10 18 47.8**	**-0.7**		
TORD	**Torodi Ar. Bea**	**165.27 241**	PKP	**PKPdf**	**10 18 56.6**	**-1.2**		
	comp=Z,0.9nm,0.8s,baz=334,slow=0.8,SNR=6.6							
TORD			*ep*PKP	**pPKPdf**	**10 19 08.4**	**+0.6**		
	comp=Z,1.1nm,0.8s,baz=6.8,slow=0.7,SNR=5.5							

*IDC **22** 10:02:45.1±1.0,20.°91S×168.°75E, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.9/38, mbtmp4.0/8, Error ellipse: s-maj=32.5km s-min=22.9km az=133.0*

*ISCJB **22** 10:02:47.2±0.9,20.°9S±0.°2×168.°7E±0.°2, h25km, mb3.9/8, Error ellipse: s-maj=26.0km s-min=19.9km az=40.0*

ISC 22 10:02:48.8±1.0,20.°9S±0.°2×168.°7E±0.°2,h25km,n9, σ1§39/9,mb4.1/8,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**22.80**	**176**	P		**P**		**10 07 49.4**	**-0.3**
	9.0nm,1.0s,baz=360,slow=17,SNR=2.5								
STKA	**Stephens Creek**	**26.58**	**240**	P		**P**		**10 08 24.4**	**-0.7**
	1.9nm,0.9s,baz=73,slow=11,SNR=2.6								
WRA	**Warramunga Arr**	**32.22**	**266**	P		**P**		**10 09 14.5**	**-0.9**
	0.3nm,0.6s,baz=93,slow=8.2,SNR=3.0								
ASAR	**Alice Springs**	**32.30**	**259**	P		**P**		**10 09 16.5**	**+0.4**
	2.0nm,0.7s,baz=83,slow=8.7,SNR=7.6								
PETK	**Petropavlovsk-**	**74.35**	**353**	P		**P**		**10 14 22.6**	**-1.4**
	2.5nm,0.7s,baz=160,slow=11,SNR=5.4								
CMAR	**Chiang Mai Arr**	**78.78**	**295**	P		**P**		**10 14 51.8**	**+1.9**
	0.6nm,0.3s,baz=114,slow=4.4,SNR=4.3								
NVAR	**Mina Array Bea**	**90.26**	**49**	P		**P**		**10 15 49.2**	**+1.4**
	1.3nm,0.8s,baz=224,slow=9.5,SNR=6.6								
ILAR	**Eielson Array**	**91.98**	**17**	P		**P**		**10 15 53.5**	**-1.4**
	0.5nm,0.9s,baz=232,slow=4.4,SNR=3.8								
GERES	**GERESS Array B**	**145.74**	**330**	PKPbc		**PKPab**		**10 22 27.0**	**+0.9**
	0.6nm,0.6s,baz=27,slow=3.3,SNR=4.2								

*NIED **22** 10:03:00,28.°80N×128.°60E, h5km, Mw4.3 Best double couple: M0 2.93000×10^15 NP1:φ=250.00000°, δ=34.00000°, λ=-79.00000°. NP2:φ=57.00000°, δ=56.00000°, λ=-97.00000°.*

*ISCJB **22** 10:03:09.3±0.5,28.°79N±0.°04×128.°56E±0.°05, h10km, mb3.7/7, MS3.6/7, Error ellipse: s-maj=6.0km s-min=5.1km az=17.8*

*JMA **22** 10:03:10.4±0.2,28.°76N×128.°60E, h13km±3km, M3.5*

JMA Felt I J1.

*IDC **22** 10:03:10.5±1.2,28.°62N×127.°96E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/28, mbtmp3.7/7, ML3.3/1, MS3.4/12, Ms1 3.4/12, ms1mx3.3/38, Error ellipse: s-maj=46.1km s-min=15.8km az=71.0*

ISC 22 10:03:10.9±0.8,28.°74N±0.°04×128.°64E±0.°06,h10km,n28, σ1§14/23,mb3.6/7,MS3.4/7,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.64**	**50**	P		**Pg**		**10 03 23.0**	**-0.3**
JTAJ				*e*S		**Sg**		**10 03 31.4**	**-0.3**
JAMN	**Amaminishikomi**	**0.68**	**136**	P		**Pg**		**10 03 24.3**	**+0.2**
JAM	**Amami Oshima**	**0.91**	**111**	P		**Pg**		**10 03 28.1**	**-0.3**
JAM				*e*S		**Sg**		**10 03 40.4**	**+0.2**
JTK	**Tokunoshima**	**0.99**	**164**	P		**Pg**		**10 03 29.4**	**-0.5**
JTK				*e*S		**Sg**		**10 03 43.3**	**+0.5**
JZK	**Kikaishima**	**1.25**	**110**	P		**Pb**		**10 03 34.7**	**+0.2**
JOKE	**Okinoerabujima**	**1.37**	**183**	P		**Pn**		**10 03 35.5**	**-0.6**
JIH	**Iheya**	**1.80**	**200**	P		**Pn**		**10 03 41.8**	**-0.2**
JOW	**Kunigami**	**1.93**	**190**	P		**Pn**		**10 03 43.2**	**-0.5**
JOW	**Kunigami**	**1.93**	**190**	Pn		**Pn**		**10 03 43.6**	**-0.1**
	2.9nm,0.3s,baz=351,slow=14,SNR=40								
JOW				Sn		**Sn**		**10 04 07.1**	**-0.9**
	2.1nm,0.3s,baz=354,slow=19,SNR=5.2								
JOW				LR		LR		10 04 36.6	
	comp=Z,53nm,20.0s,baz=107,slow=48								
JYAK	**Yakushimahirau**	**2.21**	**47**	P		**Pn**		**10 03 47.6**	**0.0**
JNTH	**Nagotoyohara**	**2.28**	**194**	P		**Pn**		**10 03 48.6**	**0.0**
JNU	**Nakatsue**	**4.77**	**23**	Pn		Pb		10 04 28.5	-6.1
	1.2nm,0.3s,baz=212,slow=12,SNR=11								
JNU				LR		LR		10 06 26.3	
	comp=Z,390nm,19.4s,baz=224,slow=38								
KSRS	**Korea Array**	**8.71**	**356**	LR		LR		10 08 46.0	
	comp=Z,252nm,20.5s,baz=170,slow=38								
MJAR	**Matsushiro Arr**	**11.20**	**44**	LR		LR		10 10 00.6	
	comp=Z,92nm,18.1s,baz=205,slow=35								
JCJ	**Chichijima**	**12.09**	**95**	LR		LR		10 09 41.8	
	comp=Z,71nm,21.6s,baz=135,slow=31								
USRK	**Ussuriysk Ar.**	**15.66**	**9**	LR		LR		10 12 24.4	
	comp=Z,91nm,21.7s,baz=145,slow=35								
SONM	**Songino Array**	**25.70**	**324**	LR		LR		10 20 54.8	
	comp=Z,71nm,18.1s,baz=116,slow=42								
GTA	**Gaotai**	**26.04**	**302**	*e*P		**P**		**10 08 46.1**	**+1.6**
GTA				pP		**pP**		**10 08 50.5**	**+3.0**
GTA				sP		sP		10 08 54.1	+5.3
GTA				pmax		pmax			
	comp=Z,7.0nm,0.9s								
TLY	**Talaya**		**29.56**	**328**	LR		LR	10 22 19.9	
	comp=Z,86nm,19.3s,baz=132,slow=39								
YAK	**Yakutsk**		**33.30**	**1**	LR		LR	10 22 58.1	
	comp=Z,63nm,19.4s,baz=172,slow=36								
MKAR	**Makanchi Array**		**40.18**	**310**	P		**P**	**10 10 46.5**	**-0.8**
	comp=Z,0.4nm,0.9s,baz=103,slow=3.1,SNR=2.6								
MKAR					LR		LR	10 29 14.3	
	comp=Z,46nm,18.5s,baz=86,slow=39								
ZALV	**Zalesovo Beam**		**40.51**	**321**	P		**P**	**10 10 48.9**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=103,slow=4.6,SNR=2.3								
KURBB	**Kurchatov Arra**		**43.33**	**315**	P		**P**	**10 11 10.0**	**-2.9**
	comp=Z,0.3nm,0.5s,baz=96,slow=8.5,SNR=5.8								
BVAR	**Borovoye Array**		**48.67**	**317**	P		**P**	**10 11 53.9**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=95,slow=8.7,SNR=6.1								
BVAR					LR		LR	10 34 07.3	
	comp=Z,80nm,20.2s,baz=72,slow=38								
WRA	**Warramunga Arr**		**48.71**	**173**	P		**P**	**10 11 55.6**	**0.0**
	comp=Z,1.5nm,0.9s,baz=347,slow=8.2,SNR=4.5								
ASAR	**Alice Springs**		**52.35**	**174**	P		**P**	**10 12 23.8**	**+0.7**
	comp=Z,0.7nm,1.0s,baz=1.6,slow=12,SNR=4.4								
OBN	**Obninsk**		**68.08**	**322**	LR		LR	10 46 14.8	
	comp=Z,98nm,20.1s,baz=89,slow=38								
AKASG	**Malin Array Be**		**73.87**	**319**	LR		LR	10 50 06.4	
	comp=Z,57nm,19.5s,baz=0.0,slow=38								

TAP 22 10:22:01.1,24.°24N×121.°69E,h6km±1km,ML1.7,D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.18**	**209**	P		Pg		10 22 05.7	+1.0
	baz=206								
TWD				S		Sg		10 22 08.6	+1.5
	baz=206								
ENA	**Nanau**	**0.19**	**13**	P		Pg		10 22 05.9	+0.9
	baz=15								
ENA				S		Sg		10 22 09.4	+1.9
	baz=15								
NNS	**Nan Shan**	**0.35**	**305**	*e*P		Pb		10 22 09.3	-0.7
	baz=304								
NNS				*e*S		Sg		10 22 14.4	+1.5
	baz=304								
TWC	**Suao**	**0.40**	**21**	*e*P		Pb		10 22 09.8	-0.7
	baz=22								
TWC				*e*S		Sb		10 22 16.9	0.0
	baz=22								
WHF	**Hehuan Shan**	**0.40**	**257**	*e*P		Pg		10 22 10.3	+0.8
	baz=255								
WHF				*e*S		Sb		10 22 16.7	-1.3
	baz=255								
ENTT	**Nioudou**	**0.41**	**344**	*e*P		Pb		10 22 10.6	-0.4
	baz=344								
TWE	**Neicheng**	**0.48**	**357**	*e*P		Pb		10 22 11.9	-0.1
	baz=359								
NSK	**Sanguang**	**0.53**	**325**	*e*P		Pb		10 22 13.0	0.0
	baz=325								
NSK				*e*S		Sb		10 22 21.5	+0.5
	baz=325								

*MAN **22** 10:22:49, 15.°00N×121.°72E, h16km, mb5.3, ML4.3, MS4.5*

MAN INTENSITY IV - INFANTA QUEZON; INTENSITY III - POLILIO; INTENSITY II - CALOOCAN CITY.

*ISCJB **22** 10:22:50.7±0.3, 15.°03N±0.°02×121.°77E±0.°03, h37km±3km, mb4.3/44, MS3.8/1, Error ellipse: s-maj=4.9km s-min=3.3km az=164.8*

*MOS **22** 10:22:50.9±1.0, 15.°03N×121.°74E, h41km, mb4.7/10, Error ellipse: s-maj=14.0km s-min=7.4km az=102.5*

*IDC **22** 10:22:51.9±4.3, 14.°88N×121.°80E, h41km±40km, mb4.0/26, mb1 4.1/27, mb1mx4.0/35, mbtmp4.2/27, ML3.7/1, Error ellipse: s-maj=17.0km s-min=11.5km az=80.0*

*BJI **22** 10:22:52.2, 14.°95N×121.°61E, h38km, mb4.6/27, mB4.5/23, Ms4.1/22, Ms7 3.8/22*

*NEIC **22** 10:22:53.7±0.3, 15.°13N×121.°77E, mb4.7/9, Error ellipse: s-maj=8.8km s-min=5.1km az=92.0*

NEIC Felt [IV PIVS] at Infanta, [III PIVS] at Polillo and [II PIVS] at Caloocan. Felt [II] at Manila. Also felt at Angeles and Magalang.

ISC 22 10:22:49.9±0.9,14.°98N±0.°03×121.°76E±0.°04,h17km±5km, n128,σ1§52/141,mb4.5/44,6C-6D,Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.78**	**347**	*e*P		**Pb**		**10 23 03.7**	**-1.3**
PCPH	**Palayan**	**0.86**	**312**⇓	*e*P		**Pb**		**10 23 04.9**	**-1.5**
PCPH				*i* S		**Sn**		**10 23 18.5**	**-1.0**
TGY	**Tagaytay City**	**1.18**	**223**⇑	*i* P		**Pn**		**10 23 11.1**	**-0.8**
TGY				*i* S		**Sn**		**10 23 26.1**	**-0.8**
GQP	**Guinayangan**	**1.26**	**148**⇓	*e*P		**Pn**		**10 23 10.3**	**-2.4**
GQP				*i* S		**Sb**		**10 23 27.2**	**-1.8**
PGP	**Puerto Galera**	**1.66**	**208**⇑	*e*P		**Pn**		**10 23 17.9**	**-0.3**
PGP				*i* S		**Sb**		**10 23 40.5**	**-0.2**
BCPH	**Baguio City Da**	**1.80**	**321**⇑	*i* P		**Pb**		**10 23 20.1**	**-2.3**
BCPH				*i* S		**Sb**		**10 23 44.3**	**-0.5**
AUQP	**San Andres**	**1.87**	**151**	*e*P		**Pn**		**10 23 22.0**	**+0.9**
AUQP				*e*S		**Sb**		**10 23 46.6**	**0.0**
LUBP	**Lubang**	**1.92**	**230**	*e*P		**Pn**		**10 23 21.4**	**-0.4**
LUBP				*e*S		**Sb**		**10 23 46.1**	**-2.0**
SCZP	**Santa Cruz**	**1.95**	**294**	*e*P		**Pn**		**10 23 21.5**	**-0.7**
SCZP				*e*S		**Sn**		**10 23 45.4**	**-0.9**
CAUP	**Cauayan**	**1.96**	**2**	*e*P		**Pn**		**10 23 22.4**	**+0.1**
BOLP	**Bolinao**	**2.26**	**308**	*e*P		**Pb**		**10 23 27.1**	**-3.2**
SJMP	**San Jose**	**2.58**	**194**	*e*P		**Pn**		**10 23 31.7**	**+0.8**
PVCP	**Virac**	**2.70**	**120**⇓	*i* P		**Pn**		**10 23 33.4**	**+0.9**
CVP	**Callao Caves**	**2.71**	**1**⇑	*i* P		**Pn**		**10 23 32.1**	**-0.6**
CVP				*e*S		**Sn**		**10 24 04.0**	**-1.1**
ABRA	**Dolores**	**2.84**	**339**	*e*P		**Pn**		**10 23 35.6**	**+1.2**
SZP	**Santa**	**2.85**	**334**	*e*Pn		**Pn**		**10 23 35.5**	**+0.9**
APYP	**Conner**	**2.91**	**350**	*e*P		**Pn**		**10 23 35.8**	**+0.4**
BUSP	**Coron**	**3.32**	**207**	*e*P		**Pn**		**10 23 42.5**	**+1.4**
PIP	**Pasuquin**	**3.50**	**342**⇑	*e*P		**Pn**		**10 23 44.5**	**+0.9**
RCP	**Roxas**	**3.53**	**164**⇑	*e*P		**Pn**		**10 23 45.5**	**+1.5**
CNP	**Catarman**	**3.74**	**131**	*e*P		**Pn**		**10 23 47.9**	**+1.1**
CUYO	**Cuyo Island**	**4.17**	**190**	*e*P		**Pn**		**10 23 53.8**	**+1.1**
GUIM	**Jordan**	**4.40**	**169**	*e*P		Pn		10 23 59.8	+3.9
TPUB	**Ta-pu**	**8.35**	**353**	*e*Pn		**Pn**		**10 24 50.8**	**+0.6**
	23nm,0.8s								
YULB	**Yu-li**		**8.38**	**357**	*e*Pn		**Pn**	**10 24 50.0**	**-0.6**
DAV	**Davao City (W)**		**8.71**	**154**	*e*Pn		Pn	10 25 02.8	+7.7
SSLB	**Suanglung**		**8.80**	**355**	*e*Pn		**Pn**	**10 24 56.5**	**+0.1**
NACB	**Ninganchiao**		**9.15**	**359**	*e*Pn		**Pn**	**10 25 00.5**	**-0.7**
YOJ	**Yonaguni jima**		**9.51**	**7**	*e*P		**Pn**	**10 25 05.8**	**-0.3**
YOJ	**Yonaguni jima**		**9.51**	**7**	*e*Pn		**Pn**	**10 25 05.8**	**-0.3**
YHNB	**Yeheng**		**9.65**	**358**	*e*Pn		**Pn**	**10 25 08.7**	**+0.6**
QIZ	**Qiongzhong**		**12.09**	**291**	P		**Pn**	**10 25 41.0**	**-0.4**
QIZ					S		**Sn**	**10 27 55.4**	**-0.5**
QIZ					PMZ				
	17nm,2.0s								
QIZ					LN				
	260nm,13.8s								
QIZ					LZ				
	170nm,14.8s								
SBUM	**Sibu**		**15.60**	**218**	*e*Pn		**P**	**10 26 35.1**	**+1.8**
	20nm,1.1s								
LUWI	**Luwuk**		**15.95**	**176**	*e*Pn		**P**	**10 26 39.0**	**+1.9**
LUWI					*e*			10 26 47.7	
WHN	**Wuhan**		**16.92**	**338**	P		**P**	**10 26 51.0**	**+3.2**
NJ2	**Nanjing**		**17.20**	**352**	*e*P		**Pn**	**10 26 47.9**	**-1.5**

	comp=Z,110nm,20.2s								
H11S3	**WAKE ISLAND Hy**	**43.09**	**79**	T		T		11 17 32.9	
	baz=274,slow=74,SNR=156								
H11S1	**WAKE ISLAND Hy**	**43.10**	**79**	T		T		11 17 35.5	
	baz=274,slow=74,SNR=102								
H11S2	**WAKE ISLAND Hy**	**43.10**	**79**	T		T		11 17 36.0	
	baz=274,slow=74,SNR=153								
BOD	**Bodaibo**	**43.16**	**354**	*e*P		**P**		**10 30 49.1**	**-0.3**
BOD					pmax		pmax		
	comp=Z,4.0nm,1.7s								
MK01	**Makanchi Array**	**45.62**	**322**	*e*P		**P**		**10 31 09.6**	**+0.3**
MK31	**Makanchi Array**	**45.64**	**322**	*e*P		**P**		**10 31 09.9**	**+0.4**
MK31	**Makanchi Array**	**45.64**	**322**	*e*P		**P**		**10 31 09.8**	**+0.4**
MKAR	**Makanchi Array**	**45.64**	**322**	P		**P**		**10 31 09.9**	**+0.5**
	comp=Z,7.4nm,0.8s,baz=142,slow=6.1,SNR=66								
MKAR	**Makanchi Array**	**45.64**	**322**	*e*P		**P**		**10 31 10.0**	**+0.5**
MKAR	**Makanchi Array**	**45.64**	**322**	*e*P		**P**		**10 31 10.0**	**+0.5**
KSH	**Kashi**	**46.84**	**311**	*e*P		P		10 31 21.5	+2.3
KSH					pP		pP	10 31 31.4	+6.8
KSH					PP		**PP**	**10 33 11.3**	**+1.9**
KSH					PcS		**PcS**	**10 36 48.5**	**+1.4**
KSH					S		**S**	**10 38 08.8**	**-0.3**
KSH					sS		sS	10 38 25.1	+7.1
KSH					PMZ				
	comp=Z,90nm,5.5s								
KSH					LN				
	comp=Z,200nm,8.7s								
KSH					LE				
	comp=Z,160nm,12.0s								
KSH					LZ				
	comp=Z,110nm,7.2s								
PEA0	**Petropavlovsk-**	**47.42**	**29**	*e*P		**P**		**10 31 22.8**	**-0.5**
PEA0B	**Petropavlovsk-**	**47.42**	**29**	*e*P		**P**		**10 31 22.9**	**-0.4**
PETK	**Petropavlovsk-**	**47.42**	**29**	P		**P**		**10 31 22.9**	**-0.4**
	comp=Z,9.2nm,0.7s,baz=197,slow=7.3,SNR=31								
PETK	**Petropavlovsk-**	**47.42**	**29**	P		**P**		**10 31 23.0**	**-0.4**
ZAA0	**Zalesovo Array**	**48.41**	**332**	*e*P		**P**		**10 31 30.6**	**-0.4**
ZALV	**Zalesovo Beam**	**48.41**	**332**	P		**P**		**10 31 29.8**	**-1.2**
	comp=Z,3.1nm,0.7s,baz=126,slow=7.5,SNR=13								
NVS	**Novosibirsk**	**49.70**	**332**	*e*P		P		10 31 37.6	-3.2
KURK	**Kurchatov**	**49.72**	**325**	*e*P		**P**		**10 31 40.9**	**-0.1**
KURK					pmax		pmax		
	comp=Z,25nm,0.9s								
KURK	**Kurchatov**	**49.72**	**325**	*e*P		**P**		**10 31 40.9**	**-0.1**
	comp=Z,24nm,0.9s								
KURBB	**Kurchatov Arra**	**49.72**	**325**	P		**P**		**10 31 40.3**	**-0.7**
	comp=Z,9.6nm,0.8s,baz=120,slow=8.3,SNR=74								
STKA	**Stephens Creek**	**50.32**	**158**	P		**P**		**10 31 44.2**	**-1.6**
	comp=Z,10nm,0.7s,baz=335,slow=7.2,SNR=12								
STKA	**Stephens Creek**	**50.32**	**158**	P		**P**		**10 31 45.3**	**-0.5**
STKA					pmax		pmax		
	comp=Z,2.0nm,0.7s								
STKA	**Stephens Creek**	**50.32**	**158**	P		**P**		**10 31 45.3**	**-0.5**
	comp=Z,2.1nm,0.7s								
SEY	**Seymchan**	**52.50**	**17**	P		**P**		**10 32 01.9**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=212,slow=6.6,SNR=6.7								
BVAR	**Borovoye Array**	**55.31**	**325**	P		**P**		**10 32 22.7**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=116,slow=3.4,SNR=3.9								
BRVK	**Borovoye**	**55.38**	**325**	*e*P		**P**		**10 32 22.0**	**-1.0**
BRVK					pmax		pmax		
	comp=Z,12nm,2.5s								
TIXI	**Tiksi**	**56.81**	**3**	*e*P		**P**		**10 32 31.8**	**-1.1**
TIXI					pmax		pmax		
	comp=Z,7.0nm,0.8s								
TIXI	**Tiksi**	**56.81**	**3**	*e*P		**P**		**10 32 31.7**	**-1.2**
	comp=Z,6.6nm,0.9s								
BILL	**Bilibino**	**60.19**	**18**	⇓*e*P		**P**		**10 32 56.2**	**-0.3**
BILL				*e*				10 35 11.6	
BILL				*e*S		S		10 41 38.0	+29
BILL					pmax		pmax		
	comp=Z,9.0nm,2.5s								
BILL	**Bilibino**	**60.19**	**18**	*e*P		**P**		**10 32 55.8**	**-0.7**
	comp=Z,1.6nm,0.5s								
ABKAR	**Akbulak array**	**60.46**	**318**	*e*P		**P**		**10 32 58.4**	**-0.3**
AKTO	**Aktyubinsk**	**61.91**	**319**	P		**P**		**10 33 07.2**	**-1.3**
	comp=Z,1.6nm,0.8s,baz=94,slow=10,SNR=6.1								
ARU	**Arti**	**62.89**	**326**	*d*	*i*P		**P**	**10 33 14.1**	**-0.9**
ARU								10 35 27.4	
ARU					S		**S**	**10 41 41.7**	**-2.2**
ARU					pmax		pmax		
	comp=Z,6.0nm,1.0s								
ZEI	**Tsey**	**71.13**	**310**	*e*P		**P**		**10 34 06.4**	**-1.5**
ZEI					pmax		pmax		
	comp=Z,3.0nm,0.4s								
KBZ	**Khabaz**	**71.81**	**312**	P		**P**		**10 34 10.8**	**-0.8**
	comp=Z,1.9nm,0.9s,baz=138,slow=8.5,SNR=4.2								
OBN	**Obninsk**	**75.12**	**324**	⇓*e*P		**P**		**10 34 31.1**	**+0.2**
OBN				*e*				10 37 16.9	
OBN					pmax		pmax		
	comp=Z,6.0nm,0.8s								
OBN					MLR		MLR		
	comp=Z,38nm,17.0s								
BPAW	**Bear Paw Mtn.**	**75.46**	**27**	*e*P		**P**		**10 34 33.0**	**+0.2**
	comp=Z,1.4nm,1.0s								
BPAW					*e*pP		**PcP**	**10 34 44.8**	**-1.0**
MLY	**Manley**	**75.50**	**26**	*e*P		**P**		**10 34 33.2**	**+0.1**
	comp=Z,5.8nm,1.0s								
MCK	**McKinley**	**76.40**	**27**	*e*P		**P**		**10 34 37.5**	**-0.7**
MCK					pmax		pmax		
	comp=Z,7.0nm,1.0s								
MCK	**McKinley**	**76.40**	**27**	*e*P		**P**		**10 34 37.5**	**-0.7**
	comp=Z,6.8nm,1.0s								
COLA	**College**	**76.74**	**26**	*e*P		**P**		**10 34 40.0**	**0.0**
ILAR	**Eielson Array**	**77.16**	**26**	P		**P**		**10 34 40.8**	**-1.6**
	comp=Z,0.4nm,0.7s,baz=232,slow=5.6,SNR=6.0								
ARCES	**ARCESS Array B**	**78.27**	**339**	P		**P**		**10 34 47.8**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=80,slow=7.5,SNR=10								
SPITS	**Spitsbergen Ar**	**78.56**	**348**	P		**P**		**10 34 49.7**	**-0.3**
	comp=Z,4.6nm,0.7s,baz=94,slow=6.9,SNR=7.9								
BRTR	**Keskin Array B**	**79.17**	**308**	P		**P**		**10 34 53.9**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=33,slow=3.4,SNR=2.8								
EGAK	**Eagle**	**79.57**	**26**	*e*P		**P**		**10 34 54.9**	**-0.8**
	comp=Z,43nm,2.5s								
FINES	**FINESS Array B**	**79.67**	**331**	P		**P**		**10 34 55.3**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=62,slow=4.9,SNR=9.5								
AKASG	**Malin Array Be**	**80.15**	**320**	P		**P**		**10 34 57.4**	**-1.8**
	comp=Z,0.4nm,0.4s,baz=66,slow=5.0,SNR=5.6								
KIEV	**Kiev**	**80.16**	**320**	*e*P		P		10 34 55.8	-3.4
BUR04	**Bucovina Ar. S**	**83.42**	**317**	*e*P		**P**		**10 35 15.7**	**-0.9**
HFS	**Hagfors**	**85.85**	**332**	P		**P**		**10 35 27.1**	**-1.4**
	comp=Z,1.8nm,0.6s,baz=116,slow=6.8,SNR=7.9								
NB2	**NORSAR Subarra**	**86.60**	**333**	P		**P**		**10 35 30.5**	**-1.7**
	comp=Z,2.0nm,0.8s,baz=70,slow=4.6								
NOA	**NORSAR Array B**	**86.60**	**333**	P		**P**		**10 35 30.7**	**-1.5**
	comp=Z,1.3nm,0.7s,baz=67,slow=4.9,SNR=5.4								
VYHS	**Vyhne**	**87.25**	**320**	*e*P		**P**		**10 35 35.6**	**-0.1**
VYHS	**Vyhne**	**87.25**	**320**	*e*P		**P**		**10 35 35.5**	**-0.1**
VYHS				*e*				10 36 28.6	
RES	**Resolute Bay**	**87.62**	**9**	P		**P**		**10 35 35.7**	**-1.1**
	comp=Z,4.1nm,0.7s,baz=327,slow=6.5,SNR=6.1								
YKA	**Yellowknife Ar**	**91.21**	**23**	P		**P**		**10 35 53.6**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=310,slow=5.5,SNR=6.5								
YKB5	**Yellowknife Ar**	**91.21**	**23**	*e*P		**P**		**10 35 53.2**	**-0.7**
TXAR	**Lajitas Array**	**117.85**	**45**	PKP		**PKPdf**		**10 41 35.3**	**-1.0**
	comp=Z,0.2nm,0.8s,baz=347,slow=3.7,SNR=2.3								
SHEL	**Horse Pasture**	**129.51**	**262**	*i* PKIKP		**PKPdf**		**10 42 00.4**	**+1.6**

WEL 22 10:25:45.0±0.1, 40.73S×175.02E, h44km±1km, ML3.5/17, 7C-11D, Error ellipse: s-maj=0.9km s-min=0.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OGWZ	**Otaki Gorge**	**0.14**	**126**	⇑P*	Pn	10 25 51.5	-0.8
OGWZ				S*	Sn	10 25 56.8	-0.7
KIW	**Kapiti Island**	**0.15**	**212**	⇑P*	Pn	10 25 51.2	-1.2
KIW				S*	Sn	10 25 55.9	-1.7
KIW				AML	AML	10 25 56.9	
CAW	**Cannon Point**	**0.38**	**174**	P*	Pn	10 25 54.0	-0.5
CAW				S*	Sn	10 26 01.6	+0.5
CAW				AML	AML	10 26 03.9	
HOWZ	**Holdsworth Sta**	**0.41**	**114**	⇓P*	Pn	10 25 54.8	-0.1
HOWZ				S*	Sn	10 26 02.7	+0.8
MRZ	**Mangatainoka R**	**0.43**	**81**	⇓P*	Pn	10 25 54.6	-0.5
MRZ				S*	Sn	10 26 02.9	+0.6
MRZ				AML	AML	10 26 03.7	
MTW	**Mount Morrison**	**0.56**	**139**	⇓P*	Pn	10 25 56.6	-0.1
MTW				S*	Sn	10 26 06.2	+1.1
MTW				AML	AML	10 26 07.8	
WEL	**Wellington**	**0.58**	**199**	P*	Pn	10 25 56.6	-0.4
WEL				AML	AML	10 26 08.6	
WEL				AML	AML	10 26 08.8	
TIWZ	**Tintock**	**0.66**	**94**	⇓P*	Pn	10 25 57.9	-0.2
TIWZ				S*	Sn	10 26 08.2	+0.8
TIWZ				AML	AML	10 26 09.8	
POWZ	**Post Office Ro**	**0.67**	**60**	P*	Pn	10 25 57.7	-0.4
BHW	**Baring Head**	**0.68**	**189**	⇑P*	Pn	10 25 58.3	0.0
BHW				AML	AML	10 26 10.6	
BHW				AML	AML	10 26 10.7	
MSWZ	**Moikau Station**	**0.70**	**166**	PN	Pn	10 25 58.5	-0.2
MSWZ				AML	AML	10 26 11.1	
MSWZ				AML	AML	10 26 11.1	
PAWZ	**Paruwai Farm**	**0.72**	**155**	PN	Pn	10 25 58.6	-0.2
PAWZ				AML	AML	10 26 11.7	
PAWZ				AML	AML	10 26 11.7	
TCW	**Tory Channel**	**0.74**	**229**	⇑PN	Pn	10 25 58.1	-0.9
TCW				AML	AML	10 26 11.4	
TCW				AML	AML	10 26 12.0	
PRWZ	**Pori Road**	**0.75**	**77**	PN	Pn	10 25 59.0	-0.2
TMWZ	**Te Maipa**	**0.76**	**120**	PN	Pn	10 25 59.1	-0.3
DUWZ	**D'Urville Isla**	**0.83**	**265**	PN	Pn	10 25 59.2	-1.2
TRWZ	**Traveller**	**0.84**	**143**	PN	Pn	10 26 01.1	+0.7
TRWZ				AML	AML	10 26 18.1	
TRWZ				AML	AML	10 26 18.7	
PLWZ	**Palliser**	**0.86**	**168**	PN	Pn	10 26 00.8	+0.1
CPWZ	**Castlepoint**	**0.92**	**101**	PN	Pn	10 26 01.4	-0.1
BFZ	**Birch Farm**	**0.94**	**87**	PN	Pn	10 26 01.0	-0.7
WAZ	**Wanganui**	**0.98**	**359**	⇑PN	Pn	10 26 01.8	-0.5
DVHZ	**Dannevirke**	**0.98**	**64**	⇓PN	Pn	10 26 01.5	-0.8
TSZ	**Takapari Road**	**0.99**	**47**	⇓PN	Pn	10 26 02.0	-0.4
TSZ				AML	AML	10 26 17.5	
TSZ				AML	AML	10 26 18.5	
TUWZ	**Tuamarina**	**1.07**	**229**	PN	Pn	10 26 03.2	-0.3
TUWZ				AML	AML	10 26 19.9	
TUWZ				AML	AML	10 26 21.0	
ANWZ	**Angora Road**	**1.14**	**77**	PN	Pn	10 26 03.7	-0.8
CMWZ	**Cape Campbell**	**1.18**	**211**	PN	Pn	10 26 06.9	+1.8
CMWZ				AML	AML	10 26 29.4	
CMWZ				AML	AML	10 26 33.2	
PNHZ	**Pukenui**	**1.22**	**48**	PN	Pn	10 26 04.9	-0.8
WPHZ	**Waipukurau**	**1.27**	**59**	PN	Pn	10 26 05.2	-1.2
BSWZ	**Blackbirch Sta**	**1.30**	**221**	PN	Pn	10 26 06.8	0.0
BSWZ				AML	AML	10 26 29.4	
BSWZ				AML	AML	10 26 31.4	
PRHZ	**Porangahau**	**1.32**	**70**	PN	Pn	10 26 05.8	-1.1
LREZ	**Lake Rotokare**	**1.36**	**339**	PN	Pn	10 26 07.2	-0.2
MTVZ	**Mangateitei**	**1.39**	**15**	PN	Pn	10 26 07.9	-0.1
MOVZ	**Moawhango**	**1.44**	**23**	⇓PN	Pn	10 26 08.0	-0.7
PKVZ	**Pokaka**	**1.46**	**10**	⇓PN	Pn	10 26 08.6	-0.4
WNVZ	**Wahianoa**	**1.47**	**18**	⇓PN	Pn	10 26 08.9	-0.4
BHHZ	**Black Hill Sta**	**1.48**	**33**	PN	Pn	10 26 08.7	-0.6
TRVZ	**Turoa**	**1.49**	**16**	PN	Pn	10 26 09.3	-0.3
KRHZ	**Kereru**	**1.50**	**44**	PN	Pn	10 26 08.8	-0.7
WHVZ	**Whangaehu Hut**	**1.51**	**17**	PN	Pn	10 26 09.7	-0.2
DRZ	**Dome Shelter**	**1.52**	**16**	⇑PN	Pn	10 26 10.0	0.0
FWVZ	**Far West T-bar**	**1.53**	**16**	PN	Pn	10 26 09.8	-0.4
PREZ	**Palmer Road**	**1.54**	**334**	⇓PN	Pn	10 26 10.1	+0.1
TUVZ	**Tukino**	**1.54**	**19**	PN	Pn	10 26 09.9	-0.3
PXZ	**Pawanui**	**1.57**	**64**	PN	Pn	10 26 09.1	-1.3
PXZ				AML	AML	10 26 43.4	
PXZ				AML	AML	10 26 47.2	
WPVZ	**Whakapapa**	**1.58**	**15**	PN	Pn	10 26 10.6	-0.1
NMEZ	**Namu Road**	**1.58**	**326**	PN	Pn	10 26 10.5	0.0
COVZ	**Chateau Observ**	**1.58**	**15**	⇑PN	Pn	10 26 10.6	-0.1
VRZ	**Vera Road**	**1.62**	**353**	PN	Pn	10 26 10.6	-0.4
NGZ	**Ngauruhoe**	**1.62**	**16**	PN	Pn	10 26 11.1	-0.2
NEZ	**North Egmont**	**1.62**	**334**	PN	Pn	10 26 11.1	-0.1
KHEZ	**Kahui Hut**	**1.63**	**332**	PN	Pn	10 26 11.3	-0.1
OTVZ	**Oturere**	**1.64**	**18**	PN	Pn	10 26 11.4	-0.2
DREZ	**Durham Road**	**1.66**	**338**	PN	Pn	10 26 11.8	+0.1
WTVZ	**West Tongariro**	**1.67**	**15**	PN	Pn	10 26 11.8	-0.2
TWVZ	**Taurewa**	**1.69**	**11**	PN	Pn	10 26 11.7	-0.5
KAHZ	**Kahuranaki**	**1.70**	**57**	PN	Pn	10 26 11.1	-1.2
NWEZ	**Newall Road**	**1.70**	**328**	PN	Pn	10 26 12.3	0.0
KRVZ	**Karewarewa**	**1.70**	**17**	PN	Pn	10 26 12.2	-0.2
PKE	**Pukeiti**	**1.73**	**332**	PN	Pn	10 26 12.5	-0.1
MHEZ	**Mangahewa**	**1.74**	**342**	PN	Pn	10 26 13.0	+0.3
KATZ	**Kakaramea**	**1.83**	**17**	PN	Pn	10 26 14.6	+0.4
RITZ	**Rihia Road**	**1.87**	**21**	PN	Pn	10 26 15.1	+0.6
THZ	**Tophouse**	**1.90**	**236**	PN	Pn	10 26 14.1	-0.8
BKZ	**Black Stump Fm**	**1.93**	**36**	PN	Pn	10 26 14.3	-1.1
BKZ				AML	AML	10 26 47.1	
BKZ				AML	AML	10 26 48.1	
RATZ	**Rangitukua**	**1.95**	**18**	PN	Pn	10 26 16.3	+0.6
KHZ	**Kahutara**	**2.02**	**213**	PN	Pn	10 26 16.1	-0.4
HATZ	**Hinemaiaia**	**2.02**	**25**	PN	Pn	10 26 15.1	-1.4
MRHZ	**Matea Rd**	**2.18**	**30**	⇓PN	Pn	10 26 17.2	-1.7
HIZ	**Hauiti**	**2.22**	**357**	PN	Pn	10 26 19.1	-0.2
TLZ	**Tolley Road**	**2.43**	**10**	PN	Pn	10 26 22.0	-0.3
DSZ	**Denniston Nort**	**2.63**	**246**	PN	Pn	10 26 24.9	-0.1
LTZ	**Lake Taylor**	**2.90**	**224**	PN	Pn	10 26 27.6	-1.2
MWZ	**Matawai**	**3.08**	**40**	PN	Pn	10 26 28.6	-2.6
OXZ	**Oxford**	**3.41**	**220**	PN	Pn	10 26 33.4	-2.3
MQZ	**McQueen's Vall**	**3.45**	**210**	PN	Pn	10 26 33.6	-2.6
ODZ	**Otahua Downs**	**5.37**	**215**	PN	Pn	10 27 00.4	-2.1

*IDC **22** 10:29:54.6±2.5, 39.30N×141.23E, h0km, mb3.5/2, mb1 3.6/5, mb1mx3.3/27, mbtmp3.4/5, ML2.7/3, Error ellipse: s-maj=45.3km s-min=34.0km az=45.0*
*ISCJB **22** 10:29:58.7±0.5, 38.99N×140.88E±0.0, h20km±6km, mb3.6/2, Error ellipse: s-maj=6.3km s-min=5.1km az=14.8*
*JMA **22** 10:29:58.7, 38.98N×140.83E, h7km±1km, M3.4*
Broadband fault plane solution: P waves. NP1: φs244.00000°, δ78.00000°, λ137.00000°. NP2: φs345.00000°, δ48.00000°, λ16.00000°. Principal axes: T Plg38.0000°, Azm195.0000°; N Plg46.0000°, Azm52.0000°; P Plg19.0000°, Azm301.0000°;
JMA Felt I J1.

ISC 22 10:29:57.6±1.3, 39.05N±0.04×140.86E±0.04, h3km±10km, n21, σ1°27/22, 4C-4D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMK	**Ichinoseki**	**0.30**	**109**	⇓P	**Pb**	**10 30 04.7**	**-0.8**
JMK				S	**Sg**	**10 30 08.9**	**+1.8**
JRG	**Rokugo**	**0.39**	**333**	⇓P	**Pb**	**10 30 07.5**	**+0.4**
JRG				S	**Sb**	**10 30 14.0**	**+0.5**
JYK	**Kaneyama**	**0.41**	**252**	⇑P	**Pg**	**10 30 06.7**	**+0.6**
JOM	**Ohasama**	**0.54**	**38**	⇑P	**Pb**	**10 30 10.3**	**+0.6**
JOM				S	**Sb**	**10 30 18.5**	**+0.7**
JOU	**Okura**	**0.70**	**193**	⇑P	**Pg**	**10 30 10.9**	**-0.1**
JOU				S	**Sg**	**10 30 19.0**	**-1.0**
JIO	**Ouri**	**0.70**	**147**	⇓P	**Pg**	**10 30 11.0**	**-0.1**
JIO				S	**Sg**	**10 30 20.0**	**-0.2**
JYA	**Atsumi**	**1.00**	**243**	⇑P	**Pg**	**10 30 16.9**	**+0.1**
JYS	**Shirataka**	**1.03**	**217**	⇑P	**Pg**	**10 30 17.0**	**-0.4**
JYS				S	**Sg**	**10 30 30.0**	**-0.8**
MAT	**Matsushiro**	**3.27**	**221**	P	**Pn**	**10 30 50.9**	**+1.2**
MAT				*e*S	**Sn**	**10 31 31.9**	**+2.8**
MJAR	**Matsushiro Arr**	**3.27**	**221**	Pn	**Pn**	**10 30 50.9**	**+1.2**
	0.6nm,0.3s,baz=28,slow=13,SNR=13						
MJAR				Sn	**Sb**	**10 31 37.9**	**+1.5**
	0.5nm,0.3s,baz=23,slow=16,SNR=2.5						
USRK	**Ussuriysk Ar.**	**8.40**	**311**	Pn	**Pn**	**10 31 57.3**	**-2.8**
	0.2nm,0.3s,baz=126,slow=14,SNR=4.2						
KSRS	**Korea Array**	**10.30**	**265**	Pn	Pn	10 32 30.1	+3.9
	0.3nm,0.3s,baz=80,slow=14,SNR=11						
H11N2	**WAKE ISLAND Hy**	**29.58**	**123**	T	T	11 06 33.2	
	baz=317,slow=75,SNR=89						
H11N1	**WAKE ISLAND Hy**	**29.59**	**123**	T	T	11 06 33.8	
	baz=317,slow=75,SNR=102						
H11N3	**WAKE ISLAND Hy**	**29.60**	**123**	T	T	11 06 34.2	
	baz=317,slow=75,SNR=92						
H11S1	**WAKE ISLAND Hy**	**30.34**	**125**	T	T	11 07 26.1	
	baz=318,slow=76,SNR=39						
H11S3	**WAKE ISLAND Hy**	**30.35**	**125**	T	T	11 07 23.4	
	baz=318,slow=76,SNR=55						
H11S2	**WAKE ISLAND Hy**	**30.36**	**125**	T	T	11 07 24.3	
	baz=318,slow=76,SNR=18						
WRA	**Warramunga Arr**	**59.00**	**187**	P	**P**	**10 39 57.8**	**-0.7**
	0.3nm,0.5s,baz=4.5,slow=7.1,SNR=14						
ASAR	**Alice Springs**	**62.73**	**187**	P	**P**	**10 40 23.8**	**0.0**
	0.5nm,1.0s,baz=4.5,slow=5.9,SNR=4.5						
KIS	**Kishinev**	**75.08**	**319**	*e*	**P**	**10 41 40.0**	**-0.6**
KIS					LRM	MLR	11 58 30.0	
	300nm,22.0s						

*ISCJB **22** 10:32:16.7±0.5, 39.71N±0.03×30.69E±0.04, h1km±7km, Error ellipse: s-maj=6.3km s-min=4.2km az=37.3*
*DDA **22** 10:32:16.1, 39.72N×30.68E, h7km, MD2.7*
*ISK **22** 10:32:16.5, 39.63N×30.76E, h24km, MD2.7*
*CSEM **22** 10:32:17.1±0.2, 39.69N×30.69E, h2km, MD2.7, Error ellipse: s-maj=4.7km s-min=3.8km az=46.0*

ISC 22 10:32:16.6±1.0, 39.71N±0.03×30.70E±0.03, h7km±9km, n27, σ0°71/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESKT	**Eskisehir**	**0.22**	**150**	PG	**Pg**	**10 32 21.2**	**+0.1**
ESKT				*e*SG	**Sg**	**10 32 25.5**	**+1.4**
ESKT	**Eskisehir**	**0.22**	**150**	*i* Pg	**Pg**	**10 32 21.2**	**+0.1**
ESKT				*e*Sg	**Sg**	**10 32 25.5**	**+1.4**
SEYT	**Eskypehyr**	**0.22**	**150**	*i* P	**Pg**	**10 32 21.1**	**0.0**
SEYT				*i* S	**Sg**	**10 32 24.6**	**+0.5**
SEYT	**Eskypehyr**	**0.22**	**150**	*i* P	**Pg**	**10 32 21.1**	**0.0**
SEYT				*i* S	**Sg**	**10 32 24.6**	**+0.5**
BORA	**Eskisehir**	**0.25**	**311**	*i* P	**Pg**	**10 32 21.6**	**-0.1**
BORA				*i* S	**Sg**	**10 32 24.7**	**-0.4**
BORA	**Eskisehir**	**0.25**	**311**	*i* P	**Pg**	**10 32 21.6**	**-0.1**
BORA				*i* S	**Sg**	**10 32 24.7**	**-0.4**
SVRH	**Sivrihisar-ESK**	**0.69**	**113**	*e*PG	**Pg**	**10 32 29.6**	**-0.3**
SVRH				*e*SG	**Sg**	**10 32 38.9**	**+0.1**
SVRH	**Sivrihisar-ESK**	**0.69**	**113**	*e*Pg	**Pg**	**10 32 29.6**	**-0.3**
SVRH				*e*Sg	**Sg**	**10 32 38.9**	**+0.1**
GULT	**Gulveren**	**0.73**	**349**	*e*PG	**Pn**	**10 32 33.4**	**-0.1**
GULT	**Gulveren**	**0.73**	**349**	*e*Pg	**Pn**	**10 32 33.4**	**-0.1**
ALT	**Altintas**	**0.80**	**215**	*e*PG	**Pb**	**10 32 32.6**	**-0.4**
ALT				*e*SG	**Sb**	**10 32 43.4**	**-0.7**
ALT	**Altintas**	**0.80**	**215**	*e*Pg	**Pb**	**10 32 32.6**	**-0.4**
ALT				*e*Sg	**Sb**	**10 32 43.4**	**-0.7**
CAVI	**Cavuskoy**	**0.82**	**307**	*e*PG	**Pb**	**10 32 33.4**	**+0.1**
CAVI	**Cavuskoy**	**0.82**	**307**	*e*Pg	**Pb**	**10 32 33.4**	**+0.1**
MDUB	**Mudurnu**	**0.85**	**26**	*e*PG	**Pb**	**10 32 33.8**	**+0.1**
MDUB	**Mudurnu**	**0.85**	**26**	*e*Pg	**Pb**	**10 32 33.8**	**+0.1**
TVSB	**Tavsanli**	**1.00**	**255**	*e*PG	**Pg**	**10 32 35.5**	**-0.2**
TVSB	**Tavsanli**	**1.00**	**255**	*e*Pg	**Pg**	**10 32 35.5**	**-0.2**
BOLV	**Bolvadin**	**1.01**	**169**	*i* P	**Pn**	**10 32 37.3**	**-0.1**
BOLV				*i* S	**Sn**	**10 32 53.6**	**+1.6**
BOLV	**Bolvadin**	**1.01**	**169**	*i* P	**Pn**	**10 32 37.3**	**-0.1**
BOLV				*i* S	**Sn**	**10 32 53.6**	**+1.6**
IZI	**Iznik**	**1.13**	**304**	*e*PN	**Pn**	**10 32 39.1**	**+0.1**
IZI	**Iznik**	**1.13**	**304**	*e*Pn	**Pn**	**10 32 39.1**	**+0.1**
GDZ	**Gediz**	**1.14**	**237**	*i* P	**Pg**	**10 32 38.1**	**-0.3**
GDZ				*i* S	**Sb**	**10 32 53.3**	**-0.4**
GDZ	**Gediz**	**1.14**	**237**	*i* P	**Pg**	**10 32 38.1**	**-0.3**
GDZ				*i* S	**Sb**	**10 32 53.3**	**-0.4**
KIZT	**Kizilcal**	**1.24**	**132**	*e*PN	**Pb**	**10 32 37.6**	**-2.8**
KDHN	**Kadinhani**	**1.62**	**137**	*i* P	**Pb**	**10 32 46.9**	**0.0**
KDHN				*i* S	**Sg**	**10 33 08.4**	**-0.3**
KDHN	**Kadinhani**	**1.62**	**137**	*i* P	**Pb**	**10 32 46.9**	**0.0**
KDHN				*i* S	**Sg**	**10 33 08.4**	**-0.3**

DDA 22 10:32:53.2, 36.36N×36.94E, h7km, MD2.7, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s

GUR	Goura	1.74	72	ePN	Pb	10 34 20.7	-0.5
GUR	Goura	1.74	72	P	Pb	10 34 20.5	-0.7
GUR				S	Sb	10 34 43.3	+0.1
KALE	Kalithea	1.79	56	P	Pn	10 34 21.0	+0.9
KALE				S	Sb	10 34 44.7	+0.2
KALE	Kalithea	1.79	56	ePN	Pb	10 34 22.2	+0.2
KALE				eSN	Sb	10 34 45.0	+0.5
KALE	Kalithea	1.79	56	P	Pn	10 34 21.0	+0.9
KALE	Kalithea	1.79	56	ePN	Pb	10 34 22.2	+0.2
KALE				S	Sb	10 34 44.7	+0.2
KALE				eSn	Sb	10 34 45.0	+0.5
DSL	Palaion Diasel	1.85	21	P	Pb	10 34 22.5	-0.5
DSL				S	Sb	10 34 47.0	+0.7
DSL	Palaion Diasel	1.85	21	ePN	Pb	10 34 22.5	-0.2
DSL	Palaion Diasel	1.85	21	P	Pb	10 34 22.5	-0.5
DSL	Palaion Diasel	1.85	21	ePn	Pb	10 34 22.8	-0.2
DSL				S	Sb	10 34 47.0	+0.7
EVR	Evrytania	1.95	39	ePN	Pb	10 34 24.5	-0.2
EVR	Evrytania	1.95	39	ePn	Pb	10 34 24.5	-0.2
DSF	Desfina	2.06	60	P	Pb	10 34 25.3	-1.3
DSF				S	Sb	10 34 51.1	-1.3
DSF	Desfina	2.06	60	ePN	Pb	10 34 25.3	-1.3
DSF	Desfina	2.06	60	P	Pb	10 34 25.3	-1.3
DSF				S	Sb	10 34 51.1	-1.3
IGT	Igoumenitsa	2.13	2	ePN	Pb	10 34 26.8	-0.9
IGT	Igoumenitsa	2.13	2	ePn	Pb	10 34 26.8	-0.9
MAKR	Makrakomi, Fth	2.19	42	ePN	Pb	10 34 27.8	-0.9
MAKR	Makrakomi, Fth	2.19	42	ePn	Pb	10 34 27.8	-0.9
SGD	Sagiada	2.21	360	ePB	Pn	10 34 27.4	+1.6
SGD	Sagiada	2.21	360	ePn	Pn	10 34 27.4	+1.6
JAN	Janina	2.30	12	ePN	Pb	10 34 29.3	-1.3
JAN	Janina	2.30	12	ePn	Pb	10 34 29.3	-1.3
AGG	Agios Georgios	2.30	45	P	Pn	10 34 28.6	+1.5
AGG				S	Sb	10 34 58.2	-1.0
AGG	Agios Georgios	2.30	45	ePN	Pb	10 34 29.1	-1.6
AGG	Agios Georgios	2.30	45	P	Pn	10 34 28.6	+1.5
AGG	Agios Georgios	2.30	45	ePn	Pb	10 34 29.1	-1.6
AGG				S	Sb	10 34 58.2	-1.0
KEK	Kerkira	2.33	351	ePN	Pb	10 34 30.0	-1.2
KEK	Kerkira	2.33	351	ePn	Pb	10 34 30.0	-1.2
AXAR	Agios Charalam	2.34	54	P	Pn	10 34 29.3	+1.7
AXAR				S	Sn	10 34 57.9	+1.5
AXAR	Agios Charalam	2.34	54	ePN	Pn	10 34 29.3	+1.7
AXAR	Agios Charalam	2.34	54	P	Pn	10 34 29.3	+1.7
AXAR				S	Sn	10 34 57.9	+1.5
DID	Didima	2.38	87	ePN	Pb	10 34 30.3	-1.7
DID	Didima	2.38	87	ePn	Pb	10 34 30.3	-1.7
KYTH	Kithira	2.50	116	P	Pn	10 34 31.5	+1.8
KYTH	Kithira	2.50	116	ePB	Pn	10 34 31.6	+1.8
KYTH	Kithira	2.50	116	P	Pn	10 34 31.5	+1.8
LKR	Lokris	2.50	59	ePN	Pn	10 34 31.2	+1.4
LKR				eSN	Sn	10 35 01.8	+1.4
LKR	Lokris	2.50	59	ePn	Pn	10 34 31.2	+1.4
LKR				eSn	Sn	10 35 01.8	+1.4
THL	Klokotos Trika	2.56	32	ePB	Pn	10 34 32.8	+2.1
THL	Klokotos Trika	2.56	32	ePb	Pn	10 34 32.8	+2.1
NAIG	Nisos Aigina	2.60	81	ePB	Pn	10 34 33.1	+2.0
NAIG	Nisos Aigina	2.60	81	ePb	Pn	10 34 33.1	+2.0
SMIA	Simia	2.76	57	ePN	Pn	10 34 34.3	+0.9
SMIA	Simia	2.76	57	ePn	Pn	10 34 34.3	+0.9
ATH	Athens Observa	2.81	77	ePN	Pn	10 34 35.6	+1.6
ATH	Athens Observa	2.81	77	ePn	Pn	10 34 35.6	+1.6
ANKY	Antikythira Is	2.89	121	ePN	Pn	10 34 37.2	+2.0
ANKY	Antikythira Is	2.89	121	ePn	Pn	10 34 37.2	+2.0
PTL	Penteli	2.94	76	ePN	Pn	10 34 37.2	+1.4
PTL	Penteli	2.94	76	ePn	Pn	10 34 37.2	+1.4
NEO	Neokhori	3.01	50	ePN	Pn	10 34 37.6	+0.7
NEO				eSN	Sn	10 35 14.3	+1.2
NEO	Neokhori	3.01	50	ePn	Pn	10 34 37.6	+0.7
NEO				eSn	Sn	10 35 14.3	+1.2
XOR	Xorichti	3.03	49	ePN	Pn	10 34 38.4	+1.3
XOR	Xorichti	3.03	49	ePn	Pn	10 34 38.4	+1.3
NEST	Nestorio	3.07	11	ePN	Pn	10 34 40.2	+2.4
NEST	Nestorio	3.07	11	ePn	Pn	10 34 40.2	+2.4
KZN	Kozani	3.13	22	ePN	Pn	10 34 40.5	+1.9
KZN	Kozani	3.13	22	ePn	Pn	10 34 40.5	+1.9
LIT	Litokhoron	3.21	32	ePN	Pn	10 34 40.5	+0.9
LIT	Litokhoron	3.21	32	ePn	Pn	10 34 40.5	+0.9
FNA	Florina	3.49	14	ePN	Pn	10 34 44.9	+1.5
FNA	Florina	3.49	14	ePn	Pn	10 34 44.9	+1.5
KARN	Karanos	3.57	123	ePN	Pn	10 34 46.5	+2.0
PAIG	Paliouri	3.68	46	ePN	Pn	10 34 46.5	+0.5
PAIG	Paliouri	3.68	46	ePn	Pn	10 34 46.5	+0.5
OHR	Ohrid	3.73	6	*i* Pn	Pn	10 34 47.7	+1.0
OHR	Ohrid	3.73	6	*i* Pn	Pn	10 34 47.7	+1.0
OHR	Ohrid	3.73	6	*i* Pn	Pn	10 34 47.7	+1.0
VAM	Vamos	3.75	121	ePN	Pn	10 34 49.7	+2.7
VAM	Vamos	3.75	121	ePn	Pn	10 34 49.7	+2.7
THE	Thessaloniki	3.86	32	ePN	Pn	10 34 49.9	+1.5
THE	Thessaloniki	3.86	32	ePn	Pn	10 34 49.9	+1.5
PLG	Polygyros	3.88	39	ePN	Pn	10 34 49.3	+0.6
PLG	Polygyros	3.88	39	ePn	Pn	10 34 49.3	+0.6
HORT	Hortiatis	3.89	34	ePN	Pn	10 34 49.8	+0.9
HORT	Hortiatis	3.89	34	ePn	Pn	10 34 49.8	+0.9
GRG	Griva	3.92	25	ePN	Pn	10 34 50.2	+0.8
GRG	Griva	3.92	25	ePn	Pn	10 34 50.2	+0.8
OUR	Ouranopolis	4.13	44	ePN	Pn	10 34 53.4	+1.2
OUR	Ouranopolis	4.13	44	ePn	Pn	10 34 53.4	+1.2
SOH	Sokhos	4.18	34	ePN	Pn	10 34 54.5	+1.6
SOH	Sokhos	4.18	34	ePn	Pn	10 34 54.5	+1.6
APE	Apeiranthos	4.23	93	ePN	Pn	10 34 55.6	+2.0
APE	Apeiranthos	4.23	93	ePn	Pn	10 34 55.6	+2.0
KNT	Kendrikon	4.28	28	ePN	Pn	10 34 55.3	+1.0
KNT	Kendrikon	4.28	28	ePn	Pn	10 34 55.3	+1.0
IDI	Anoyia	4.30	118	Pn	Pn	10 34 55.4	+0.8
	0.3nm,0.3s,baz=291,slow=8.6,SNR=2.6						
IDI				Sn	Sn	10 35 41.8	-3.0
	5.8nm,0.3s,baz=335,slow=23,SNR=10.0						
SIGR	SIGRI	4.76	66	ePN	Pn	10 35 03.0	+2.1
SIGR	SIGRI	4.76	66	ePn	Pn	10 35 03.0	+2.1
NVR	Nevrokopi	4.83	34	ePN	Pn	10 35 02.7	+0.8
NVR	Nevrokopi	4.83	34	ePn	Pn	10 35 02.7	+0.8
KAVA	Kavala	4.88	41	ePN	Pn	10 35 03.5	+1.0
KAVA	Kavala	4.88	41	ePn	Pn	10 35 03.5	+1.0
MMB	Musomiste	4.97	32	⇓*i* P	Pn	10 35 04.3	+0.5
MMB	Musomiste	4.97	32	P	Pn	10 35 04.6	+0.8
MMB	Musomiste	4.97	32	⇓*i* P	Pn	10 35 04.3	+0.5
PRK	Paraskevi	5.08	67	ePN	Pn	10 35 06.8	+1.6
PRK	Paraskevi	5.08	67	ePn	Pn	10 35 06.8	+1.6
SMG	Samos	5.24	85	ePN	Pn	10 35 08.9	+1.4
SMG	Samos	5.24	85	ePn	Pn	10 35 08.9	+1.4
RZN	Rozhen	5.50	37	P	Pn	10 35 12.7	+1.5
RZN	Rozhen	5.50	37	P	Pn	10 35 12.7	+1.5
VTS	Vitosha	5.66	23	⇑*i* P	Pn	10 35 14.9	+1.6
VTS	Vitosha	5.66	23	S	Sn	10 36 20.5	+2.0
VTS	Vitosha	5.66	23	P	Pn	10 35 14.8	+1.5
VTS	Vitosha	5.66	23	P	Pn	10 35 14.8	+1.5
STON	Ston	5.80	341	ePn	Pn	10 35 14.8	-0.4
STON				Sn	Sn	10 36 16.5	-5.3
STON	Ston	5.80	341	ePn	Pn	10 35 14.7	-0.4
KDZ	Kurdzhali	5.83	42	⇓*i* P	Pn	10 35 15.5	0.0
KDZ	Kurdzhali	5.83	42	⇓*i* P	Pn	10 35 15.5	0.0
IVAS	Ivanjica	6.17	359	ePn	Pn	10 35 19.2	-1.1
DIVS	Divibare	6.69	358	P	Pn	10 35 25.2	-2.3
DIVS	Divibare	6.69	358	ePn	Pn	10 35 26.9	-0.6
JMB	Yambol	7.02	42	⇑*i* P	Pn	10 35 33.5	+1.7
JMB	Yambol	7.02	42	⇑*i* P	Pn	10 35 33.5	+1.7
GZR	Gura Zlata	8.21	13	⇓*i* P	Pn	10 35 47.6	-0.6
GZR	Gura Zlata	8.21	13	S	Sn	10 37 20.6	-0.5
GZR	Gura Zlata	8.21	13	⇓*i* P	Pn	10 35 47.6	-0.6
BZS	Buzias	8.27	7	⇑*i* P	Pn	10 35 47.8	-1.2
BZS	Buzias	8.27	7	⇑*i* P	Pn	10 35 47.8	-1.2
ARR	Arges	8.61	21	⇓*i* P	Pn	10 35 53.8	0.0
ARR	Arges	8.61	21	⇓*i* P	Pn	10 35 53.8	0.0
VOIR		8.80	23	⇑*i* P	Pn	10 35 57.1	+0.8
VOIR		8.80	23	⇑*i* P	Pn	10 35 57.1	+0.8
ISR	Istrita	9.05	30	⇑*i* P	Pn	10 36 01.3	+1.6
ISR	Istrita	9.05	30	⇑*i* P	Pn	10 36 01.3	+1.6
MLR	Muntele Rosu	9.14	26	Pn	Pn	10 36 00.4	-0.7
	0.1nm,0.3s,baz=180,slow=13,SNR=7.6						
MLR	Muntele Rosu	9.14	26	⇓*i* P	Pn	10 36 02.9	+1.8
MLR	Muntele Rosu	9.14	26	⇓*i* P	Pn	10 36 02.9	+1.8
PLOR	Plostina	9.70	28	⇑*i* P	Pn	10 36 10.7	+2.0
PLOR	Plostina	9.70	28	⇑*i* P	Pn	10 36 10.7	+2.0
VRI	Vrincioaia	9.74	28	⇑*i* P	Pn	10 36 10.4	+1.2
VRI	Vrincioaia	9.74	28	⇑*i* P	Pn	10 36 10.4	+1.2
TRPA	Tarpa	10.85	8	⇓*i* P	Pn	10 36 19.6	-4.8
GERES	GERESS Array B	12.39	339	Pn	Pn	10 36 42.7	-2.9
	0.2nm,0.3s,baz=171,slow=13,SNR=2.4						
KHC	Kasperske Hory	12.69	340	*e*P	Pn	10 36 50.4	+0.9
KHC				AMS	AMS	10 42 50.0	
	comp=Z,100nm,12.4s						
MMAI	Mount Meron Ar	13.14	105	Pn	Pn	10 36 56.1	+0.4
	1.8nm,0.3s,baz=280,slow=8.5,SNR=6.6						
DPC	Dobruska-Polom	13.25	349	*e*P	P	10 37 08.5	+1.4
DPC				AMS	AMS	10 43 00.0	
	comp=Z,100nm,12.6s						
AKASG	Malin Array Be	14.76	23	Pn	Pn	10 37 16.0	-1.7
	0.2nm,0.3s,baz=212,slow=13,SNR=5.8						
HFS	Hagfors	23.14	352	P	P	10 38 54.4	-0.7
	1.1nm,0.5s,baz=155,slow=11,SNR=8.9						
EKA	Eskdalemuir Ar	23.95	326	P	P	10 39 03.9	+0.7
	0.4nm,0.5s,baz=119,slow=8.7,SNR=5.8						
NB2	NORSAR Subarra	24.34	349	P	P	10 39 06.4	-0.5
	comp=Z,4.5nm,1.0s,baz=161,slow=11						
NB2	NORSAR Subarra	24.34	349	P	P	10 39 06.4	-0.5
	comp=Z,4.5nm,1.0s,SNR=6.4						
NOA	NORSAR Array B	24.34	349	P	P	10 39 05.8	-1.0
	comp=Z,1.1nm,0.9s,baz=160,slow=9.8,SNR=3.3						
FINES	FINESS Array B	24.34	7	P	P	10 39 06.0	-0.8
	comp=Z,1.3nm,0.6s,baz=187,slow=14,SNR=7.2						
TORD	Torodi Ar. Bea	29.29	219	P	P	10 39 53.0	+1.3
	comp=Z,1.4nm,0.6s,baz=30,slow=9.0,SNR=13						
ARCES	ARCESS Array B	32.32	3	P	P	10 40 14.7	-3.2
	comp=Z,0.6nm,0.7s,baz=165,slow=5.0,SNR=6.2						
KURBB	Kurchatov Arra	42.87	53	P	P	10 41 45.4	-1.9
	comp=Z,0.5nm,0.6s,baz=282,slow=8.6,SNR=4.7						
MKAR	Makanchi Array	45.89	58	P	P	10 42 09.9	-1.8
	comp=Z,0.3nm,0.5s,baz=271,slow=9.8,SNR=5.4						
ZALV	Zalesovo Beam	46.37	48	P	P	10 42 14.0	-1.3
	comp=Z,0.9nm,0.4s,baz=275,slow=8.5,SNR=3.3						
SONM	Songino Array	61.12	50	P	P	10 44 00.3	-3.2
	comp=Z,1.1nm,0.5s,baz=297,slow=6.3,SNR=3.2						
ILAR	Eielson Array	77.66	354	P	P	10 45 44.5	-0.8
	comp=Z,0.1nm,0.5s,baz=8.9,slow=6.4,SNR=3.2						

*SJA **22** 10:36:22.3±0.6,35.86S×73.75W,h10km,MD3.8*
*ISCJB **22** 10:36:23.9±1.3,36.12S±0.05×73.6W±0.1,h10km, Error ellipse: s-maj=11.9km s-min=6.8km az=177.1*
*GUC **22** 10:36:25.5±0.6,36.17S×73.46W,h5km±3km, ML4.0*

ISC 22 10:36:26.4±1.8,36.16S±0.05×73.44W±0.10,h10km,n16,σ1§55/22,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
COCH	Cobquecura	0.53	88	*e*P		Pb		10 36 37.0	-0.8
COCH				*e*S		Sb		10 36 45.2	-0.3
CCSP	San Pedro de C	0.74	159	*e*P		Pb		10 36 40.4	-0.9
CCSP				*e*S		Sb		10 36 51.6	+0.2
LNCH	Linares	1.53	79	*e*P		Pn		10 36 53.5	-0.2
LNCH				*e*S		Sg		10 37 14.8	-0.6
LNCH				AML		AML		10 37 28.2	
	comp=N,2μm,0.6s								
TALC	Talca	1.66	63	*e*P		Pn		10 36 55.5	+0.1
NICH	Los Niches	2.14	58	*e*S		Sb		10 37 32.4	+0.6
NICH				AML		AML		10 37 42.4	
	comp=E,2μm,0.6s								
CANA	Caviahue	2.57	133	*e*P		Pb		10 37 12.1	-0.6
CANA				*e*S		Sg		10 37 49.0	0.0
LNV	Longovilo	2.76	38	*e*P		Pn		10 37 12.4	+1.8
CHCH	Chadas Angostu	3.19	47	*e*P		Pb		10 37 20.8	-2.3
CHCH				*e*S		Sb		10 38 01.6	-0.4
CLCH	Cerro Calan	3.65	42	*e*P		Pn		10 37 24.7	+1.8
CLCH				*e*S		Sn		10 38 10.2	+4.1
CLCH				AML		AML		10 38 34.7	
	comp=N,314nm,0.8s								
ARCO	CERRO ARCO	4.98	50	*e*P4		Pn		10 37 43.8	+2.5
AUSP	Uspallata	5.17	42	*e*P		Pn		10 37 43.8	-0.2
ASAL	Salagasta	5.21	48	*e*P		Pn		10 37 43.7	-0.8
RTLS	Leoncito	5.54	40	*e*P		Pn		10 37 48.9	-0.4
CFAA	Coronel Fontan	6.27	45	*e*P		Pn		10 37 57.9	-1.1
RTLL	Cerro Villicun	6.35	42	*e*P		Pn		10 37 58.3	-1.8
AMOG	MOGNA	6.64	40	*e*P		Pn		10 38 02.3	-1.8

*IDC **22** 10:47:13.9±0.4,21.82S×70.22W,h26km±2km,mb4.2/12, mb1 4.4/14,mb1mx4.3/18,mbtmp4.4/14,ML4.2/2,MS3.8/5, Ms1 3.8/5,ms1mx3.5/19,Error ellipse: s-maj=16.9km s-min=11.6km az=50.0*
*GUC **22** 10:47:13.9±0.9,21.90S×70.36W,h31km±9km,ML4.7*
*ISCJB **22** 10:47:14.3±0.6,21.86S±0.03×70.26W±0.05,h43km±5km, mb4.7/73,MS4.0/2,Error ellipse: s-maj=7.3km s-min=5.1km az=156.3*
*NEIC **22** 10:47:14.3±0.2,21.81S×70.20W,mb4.8/64,ML4.7(GUC), Error ellipse: s-maj=7.6km s-min=4.6km az=57.0*
NEIC Felt [III] at Tocopilla and [II] at Maria Elena and Mejillones.
*BJI **22** 10:47:17.1,21.70S×70.20W,h35km, mB4.9/6,Ms5.3/4, Ms7 5.0/4*

ISC 22 10:47:13.9±0.4,21.88S±0.03×70.33W±0.04,h27km±2km, h26km:pP-P,n421,σ1§07/468,mb4.8/74,140C-129D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB07	IPOC Station P	0.44	69	⇓*i* P		Pn		10 47 24.1	-0.5
PB07				*i* S		Sn		10 47 31.0	-0.8
PB04	IPOC Station P	0.87	116	⇓*i* P		Pn		10 47 33.8	-6.5
PB04				*i* S		Sb		10 47 30.8	-11
PB04				AML		AML		10 47 31.4	
	comp=E,81μm,0.5s								
PATCX	Punta Patache	1.07	9	⇓*i* P		Pn		10 47 33.2	0.0
PATCX				*i* S		Sn		10 47 47.2	0.0
PATCX				AML		AML		10 47 51.1	
	comp=E,43μm,0.4s								
PB06	IPOC Station P	1.08	139	⇓*i* P		Pn		10 47 32.8	-0.6
PB06				*e*S		Sn		10 47 47.4	-0.1
PB06				AML		AML		10 47 51.8	
	comp=E,8μm,0.3s								
PB01	IPOC Station P	1.15	43	⇓*i* P		Pb		10 47 34.9	-0.3
PB01				*i* S		Sb		10 47 49.9	+0.2
PB01				AML		AML		10 47 50.8	
	comp=E,26μm,0.3s								
LVC	Limon Verde	1.50	119	Pn		Pn		10 47 40.2	+0.9
	comp=E,6μm,0.3s,baz=291,slow=11,SNR=294								
LVC				Sn		Sb		10 48 00.3	+0.3
	comp=E,21μm,0.3s,baz=227,slow=18,SNR=17								
LVC				LR		LR		10 48 09.5	
	comp=E,7μm,20.9s,baz=250,slow=38								
PB10	IPOC Station P	1.64	187	AML		AML		10 48 05.8	
	comp=E,13μm,0.6s								
ANCH	Antofagasta	1.79	182	⇓*i* P		Pn		10 47 41.8	-1.3
ANCH				*i* S		Sn		10 48 03.9	-1.0
PSGC	Pisagua	2.28	5	⇑*i* P		Pn		10 47 50.1	+0.2
PSGC				AML		AML		10 48 30.4	
	comp=N,8μm,0.4s								
MNMC	Minimini	2.82	14	⇑*i* P		Pn		10 47 58.4	+0.9
MNMC				AML		AML		10 48 46.0	
	comp=N,11μm,0.6s								
ARE	Arequipa	5.50	348	⇓*i* P		Pn		10 48 34.6	+0.2
ARE				*i* S		Sn		10 49 32.1	-4.9
LPAZ	La Paz	5.94	21	Pn		Pn		10 48 45.3	+4.6
	comp=N,3.8nm,0.3s,baz=197,slow=7.8,SNR=77								
LPAZ				LR		LR		10 51 21.5	
	comp=N,803nm,20.9s,baz=204,slow=42								
LPAZ	La Paz	5.94	21	*e*Pn		Pn		10 48 45.1	+4.4
LCO	Las Campanas	7.11	183	*e*Pn		Pn		10 49 05.1	+8.8
	comp=N,72nm,0.9s								
CFAA	Coronel Fontan	9.86	170	Pn		Pn		10 49 33.2	-0.8
	comp=N,0.0nm,0.3s,baz=346,slow=14,SNR=6.8								
CFAA				Sn		Sn		10 51 34.8	+11
	comp=N,0.1nm,0.3s,baz=342,slow=20,SNR=4.0								
CFAA				LR		LR		10 53 36.2	
	comp=N,78nm,19.1s,baz=334,slow=39								
SIV	San Ignacio	10.54	58	Pn		Pn		10 49 43.7	+0.4
	comp=N,5.8nm,0.3s,baz=250,slow=13,SNR=183								
SIV				Sn		Sn		10 51 41.9	+1.4
	comp=N,0.5nm,0.3s,baz=313,slow=15,SNR=6.1								
SIV				LR		LR		10 54 38.9	
	comp=N,809nm,18.2s,baz=263,slow=43								
NNA	Nana	11.64	327	Pn		Pn		10 50 01.4	+2.9
	comp=N,0.9nm,0.3s,baz=135,slow=11,SNR=3.8								
NNA				Sn		Sn		10 52 01.4	-6.3
	comp=N,2.3nm,0.3s,baz=234,slow=18,SNR=2.9								
CPUP	Villa Florida	12.67	113	*e*Pn		Pn		10 50 12.4	0.0
SAML	Samuel	14.58	29	*e*Pn		Pn		10 50 36.1	-2.4
SAML				*e*Sn		Sn		10 53 21.7	+2.3
TRQA	Tornquist	17.65	158	*e*Pn		P		10 51 19.1	+0.5
	comp=N,113nm,1.6s								
PLCA	Paso Flores	18.79	181	P		P		10 51 31.6	+0.3
	comp=N,0.1nm,0.3s,baz=4.3,slow=13,SNR=9.4								
PLCA	Paso Flores	18.79	181	*e*P		P		10 51 31.3	+0.1
	comp=N,21nm,1.0s								
BDFB	Brasilia	22.01	77	P		P		10 52 04.8	-1.6
	comp=N,4.3nm,0.5s,baz=245,slow=9.9,SNR=7.1								
BDFB				LR		LR		11 02 04.2	
	comp=N,461nm,18.2s,baz=249,slow=41								
BDFB	Brasilia	22.01	77	*e*P		P		10 52 06.9	+0.5
OTAV	Otavalo	23.37	339	*e*P		P		10 52 22.1	+1.1
SDV	Santo Domingo	30.58	359	*e*P		P		10 53 23.9	-1.8
	comp=N,6.9nm,1.0s								
RCBR	Riachuelo	36.91	69	*e*P		P		10 54 20.5	-0.3
	comp=N,24nm,1.1s								
CELP	Cerrillos	39.88	6	*e*P		P		10 54 43.6	-1.9
CELP				*e*pP		pP		10 54 51.5	-2.2
SJG	San Juan	39.96	6	*e*P		P		10 54 44.0	-2.1
	comp=N,22nm,0.8s								
LRS	Lares	40.07	5	*e*P		P		10 54 45.1	-2.1
933A	Laredo	56.61	329	⇓P		P		10 56 55.2	+0.7
	baz=57								
834A	Tilden	56.70	330	⇓P		P		10 56 55.8	+0.7
	baz=57								
736A	Circle Diamond	56.74	332	⇓P		P		10 56 56.4	+1.0
	baz=57								
636A	Smothers Creek	57.19	332	⇑P		P		10 56 59.4	+0.8
	baz=57								
833A	Chaparral WMA,	57.26	329	⇓P		P		10 56 59.4	+0.3
	baz=58								
734A	La Parita Cree	57.31	330	⇓P		P		10 56 59.7	+0.2
	baz=58								
635A	Leesville	57.42	331	⇑P		P		10 57 00.5	+0.2
	baz=58								
832A	Faith Ranch, C	57.50	329	⇓P		P		10 57 01.5	+0.7
	baz=58								
733A	Divot King Ran	57.55	330	⇑P		P		10 57 01.3	+0.2
	baz=58								
732A	Laxson Ranch,	57.87	329	⇓P		P		10 57 03.8	+0.3
	baz=58								
535A	Dale	57.88	332	⇑P		P		10 57 03.7	+0.2
	baz=58								
338A	Crockett	58.10	335	⇑P		P		10 57 05.8	+0.8
	baz=58								
633A	Saathoff Ranch	58.12	330	⇑P		P		10 57 05.6	+0.4
	baz=58								
534A	Blanco	58.28	331	⇑P		P		10 57 05.9	-0.4
	baz=58								
632A	Uvalde	58.44	330	⇑P		P		10 57 07.7	+0.3
	baz=59								
CPCT	Cooper Cave	58.59	346	*e*P		P		10 57 07.4	-0.9
238A	Jacksonville	58.60	335	⇑P		P		10 57 10.1	+1.6
	baz=59								
TKL	Tuckaleechee C	58.63	347	*e*P		P		10 57 07.8	-0.8
SWET	Sewanee	58.69	345	*e*P		P		10 57 08.2	-0.9
SWET				*e*pP		pP		10 57 15.5	-2.0
631A	Perdido Creek	58.73	329	⇓P		P		10 57 10.2	+0.7
	baz=59								
336A	Riesel	58.75	333	⇑P		P		10 57 09.4	-0.1
	baz=59								
237A	Washetta, Mont	58.87	335	⇓P		P		10 57 11.5	+1.1
	baz=59								
OXF	Oxford	58.95	342	*e*P		P		10 57 09.9	-0.9
	comp=N,21nm,1.1s								
532A	Rocksprings	59.02	330	⇑P		P		10 57 12.1	+0.7
	baz=59								
236A	Katherine and	59.16	334	⇑P		P		10 57 12.5	+0.2
	baz=59								
433A	Art	59.18	331	⇑P		P		10 57 12.4	-0.2
	baz=59								
JCT	Junction City	59.27	330	⇑P		P		10 57 13.5	+0.3
	baz=60								
334A	Lometa	59.30	332	⇑P

128A Castleberry Fa 62.30 330 ⇓P P 10 57 33.4 -0.4
baz=63
TUL1 Leonard 62.33 337 eP P 10 57 33.1 -0.7
comp=N,13nm,0.9s
TUL1 Leonard 62.33 337 ⇓P P 10 57 33.8 0.0
baz=63
SNAA Sanae 62.35 161 P P 10 57 31.1 -2.6
SNAA Sanae 62.35 161 eP P 10 57 31.3 -2.4
comp=N,11nm,1.0s
X32A Elmer 62.40 333 ⇑P P 10 57 34.3 -0.1
baz=63
Y31A Rekieta Farm, 62.42 332 ⇑P P 10 57 34.7 +0.2
baz=63,SNR=6.9
Z29A Hungry Hill Ra 62.48 331 ⇓P P 10 57 34.7 -0.3
baz=63
W34A Bridge Creek, 62.49 335 ⇓P P 10 57 35.0 +0.1
baz=63
OLIL Olney 62.56 344 eP P 10 57 34.0 -1.3
comp=N,10nm,0.8s
V35A Meyer Ranch, C 62.59 336 ⇑P P 10 57 35.3 -0.3
baz=63
BLO Bloomington 62.60 346 eP P 10 57 34.5 -1.1
comp=N,11nm,0.6s
W33A Caddo, Fort Co 62.69 334 ⇑P P 10 57 36.4 +0.1
baz=63
Z28A Tucker Farm, M 62.81 330 ⇑P P 10 57 37.1 -0.2
baz=63
X31A McDonald Ranch 62.87 333 ⇑P P 10 57 37.3 -0.2
baz=63,SNR=7.8
ACSO Alum Creek Sta 62.91 349 eP P 10 57 36.9 -0.7
comp=N,15nm,0.8s
ACSO epP pP 10 57 45.3 -0.9
V34A Guthrie 62.91 335 ⇓P P 10 57 37.2 -0.5
baz=63
Y29A Porterfield Fa 62.96 331 ⇓P P 10 57 38.0 -0.3
baz=63
MNTX Cornudas Mount 62.98 327 eP P 10 57 37.8 -0.5
comp=N,32nm,1.8s
MNTX Cornudas Mount 62.98 327 ⇓P P 10 57 37.8 -0.5
baz=63,SNR=11
W32A Sentinel 62.99 334 ⇑P P 10 57 38.0 -0.3
baz=63,SNR=8.0
X30A Coker Ranch, T 63.10 332 ⇑P P 10 57 38.9 -0.2
baz=63
T37A Cheneyville 18 63.10 338 ⇑P P 10 57 38.9 -0.1
baz=63
V33A Lossen Ranch, 63.20 335 ⇓P P 10 57 39.4 -0.3
baz=64,SNR=5.6
Y28A McKinney Farm, 63.26 331 ⇓P P 10 57 40.0 -0.3
baz=64
W31A Holland Ranch, 63.33 333 ⇑P P 10 57 40.2 -0.5
baz=64
T36A Boggs Farm, Ca 63.39 337 ⇑P P 10 57 40.5 -0.4
baz=64,SNR=7.2
U34A Anderson Ranch 63.45 336 ⇓P P 10 57 40.9 -0.4
baz=64
X29A Tulia 63.47 331 ⇑P P 10 57 41.5 0.0
baz=64
BRYW Bryant College 63.49 359 eP P 10 57 42.1 +0.6
BRYW epP pP 10 57 50.5 +0.5
T35A Sooner Cattle 63.49 337 ⇓P P 10 57 41.7 +0.1
baz=64
MSTX Muleshoe 63.56 330 eP P 10 57 42.2 0.0
MSTX Muleshoe 63.56 330 ⇓P P 10 57 42.5 +0.3
baz=64
U33A Lingo Farm, Me 63.67 335 ⇓P P 10 57 42.1 -0.7
baz=64
T34A McClaskey Farm 63.83 336 ⇑P P 10 57 43.5 -0.4
baz=64
S36A Lake Cedric, C 63.88 338 ⇓P P 10 57 44.0 -0.1
baz=64,SNR=7.6
SFIN Lafayette 63.88 346 eP P 10 57 42.4 -1.7
comp=N,9.5nm,0.8s
SFIN epP pP 10 57 50.1 -2.4
SFIN Lafayette 63.88 346 ⇑P P 10 57 42.6 -1.5
baz=64
S35A Otter Creek Ra 64.10 337 ⇑P P 10 57 45.3 -0.3
baz=64,SNR=6.3
R37A Teagarden Farm 64.15 339 ⇓P P 10 57 45.4 -0.5
baz=64,SNR=7.4
TRY Troy 64.36 357 eP P 10 57 48.1 +0.9
comp=N,21nm,1.1s
R36A Gordon, Harris 64.39 338 ⇑P P 10 57 47.1 -0.4
baz=65
Q37A Longview Farm, 64.53 339 ⇑P P 10 57 48.4 0.0
baz=65
R35A Emporia Munici 64.63 338 ⇑P P 10 57 49.2 +0.1
baz=65
T32A Huddler Ranch, 64.64 335 ⇑P P 10 57 49.6 +0.4
baz=65
V28A Channing 64.79 332 ⇓P P 10 57 50.6 +0.3
baz=65
319A Douglas 64.80 324 ⇓P P 10 57 51.0 +0.6
baz=65,SNR=5.1
T31A Randall Ranch, 64.86 334 ⇓P P 10 57 51.1 +0.4
baz=65
121A Cookes Peak, D 64.88 325 eP P 10 57 52.1 +1.1
comp=N,3.1nm,0.9s
121A Cookes Peak, D 64.88 325 ⇑P P 10 57 51.6 +0.6
baz=65
R34A Isabella, Hill 64.98 337 ⇑P P 10 57 51.2 -0.1
baz=65
Q35A Mercer Eighty, 65.05 338 ⇓P P 10 57 51.8 0.0
baz=65
U28A Mallet 65.32 332 ⇑P P 10 57 54.3 +0.6
baz=66
BNM Barren Site 65.56 327 eP P 10 57 56.8 +1.4
BNM epP pP 10 58 05.1 +1.1
R32A Long Quarter, 65.64 336 ⇓P P 10 57 55.8 +0.2
baz=66
P35A Duane Minner, 65.64 338 ⇑P P 10 57 55.4 -0.2
baz=66
LPM Los Pinos Moun 65.69 327 eP P 10 57 57.6 +1.3
comp=N,2.3nm,0.8s
Q33A Connelly Farm, 65.81 337 ⇓P P 10 57 57.0 +0.3
baz=66
T28A Walsh 65.90 333 ⇓P P 10 57 57.5 +0.1
baz=66
LAZ Ladron 66.02 327 eP P 10 57 59.8 +1.4
comp=N,5.7nm,1.4s
ANMO Albuquerque 66.11 328 eP P 10 57 59.8 +0.8
comp=N,27nm,2.0s
S28A Manter 66.20 333 ⇓P P 10 57 59.8 +0.5
baz=66
TUC Tucson 66.34 323 eP P 10 58 01.7 +1.3
TUC epP pP 10 58 10.0 +1.2
Q31A Ellis 66.41 336 ⇑P P 10 58 01.5 +1.0
baz=67
T26A Comanche Natio 66.59 331 ⇑P P 10 58 02.3 +0.4
baz=67
O33A Hebron 66.68 338 ⇑P P 10 58 02.5 +0.3
baz=67
Q30A Quinter 66.70 335 ⇓P P 10 58 03.4 +0.9
baz=67
R28A Tribune 66.80 333 ⇑P P 10 58 03.4 +0.3
baz=67
P31A Stockton 66.85 336 ⇓P P 10 58 04.2 +0.8
baz=67
S26A Kim 66.90 332 ⇑P P 10 58 04.3 +0.4
baz=67,SNR=6.6
Q29A Oakley 66.93 334 ⇓P P 10 58 04.2 +0.3
baz=67
N34A Lincoln 66.98 339 ⇑P P 10 58 04.3 +0.2
baz=67
JFWS Jewell Farm 67.04 344 eP P 10 58 03.5 -1.0
comp=N,9.9nm,0.8s
JFWS epP pP 10 58 11.9 -1.2
O32A Brockman Farm, 67.09 337 ⇓P P 10 58 05.0 +0.1
baz=67
P30A Selden 67.20 335 ⇓P P 10 58 06.8 +1.2
baz=68
214A Organ Pipe Nat 67.23 321 ⇓P P 10 58 06.8 +0.8
baz=68
Q28A Sharon Springs 67.42 334 ⇓P P 10 58 07.9 +0.8
baz=68
R26A Arlington 67.46 332 ⇓P P 10 58 08.2 +0.8
baz=68
X18A Snowflake 67.57 325 ⇓P P 10 58 09.6 +1.3
baz=68
O30A MW Ranch, Wils 67.68 336 ⇓P P 10 58 09.5 +0.8
baz=68
P28A Saint Francis 67.82 334 ⇓P P 10 58 10.7 +1.0
baz=68
N31A Bailey Ranch, 67.83 337 ⇓P P 10 58 10.9 +1.4
baz=68
W18A Petrified Fore 67.91 326 ⇓P P 10 58 11.7 +1.3
baz=68
SDCO Great Sand Dun 67.92 330 eP P 10 58 10.6 +0.1
comp=N,10nm,1.0s
SDCO Great Sand Dun 67.92 330 ⇓P P 10 58 11.5 +1.0
baz=68,SNR=13
Q26A Hugo 68.01 333 ⇓P P 10 58 11.9 +1.1
baz=68
X16A Lo Mia Camp, P 68.28 324 ⇓P P 10 58 14.4 +1.7
baz=68
QSPA South Pole Qui 68.31 180 eP P 10 58 13.2 +0.8
comp=N,14nm,1.0s
113A Mohawk Valley, 68.37 321 ⇑P P 10 58 14.5 +1.4
baz=69
R23A Moffat 68.43 331 ⇑P P 10 58 14.9 +1.3
baz=69
N29A Votaw Ranch, W 68.45 336 ⇓P P 10 58 14.6 +1.1
baz=69
P26A Davis Ranch, A 68.47 333 ⇓P P 10 58 14.9 +1.2
baz=69
S22A 4UR Ranch, Cre 68.53 330 eP P 10 58 15.6 +1.2
comp=N,50nm,2.8s
S22A 4UR Ranch, Cre 68.53 330 ⇓P P 10 58 15.2 +0.9
baz=69
O27A Beecher Island 68.64 334 ⇑P P 10 58 15.8 +1.0
baz=69
Q24A Divide 68.75 331 ⇓P P 10 58 16.9 +1.1
baz=69
MVCO Mesa Verde 68.91 328 eP P 10 58 17.9 +1.3
comp=N,9.7nm,0.8s
MVCO Mesa Verde 68.91 328 ⇑P P 10 58 18.1 +1.4
baz=69,SNR=6.0
L31A Butterfield Fa 68.97 338 ⇓P P 10 58 17.8 +1.1
baz=69
O26A Horse Wrangler 69.03 333 ⇑P P 10 58 18.8 +1.6
baz=69
N27A Anderson Farm, 69.19 334 ⇑P P 10 58 19.8 +1.6
baz=70
GLA Glamis 69.19 321 ⇓P P 10 58 19.8 +1.6
baz=69
P23A Jefferson 69.40 331 ⇑P P 10 58 21.7 +1.9
baz=70
Y12C Blythe 69.52 322 ⇑P P 10 58 21.6 +1.4
baz=70
ECSD EROS Data Cent 69.61 340 eP P 10 58 19.9 -0.7
comp=N,10nm,1.3s
ECSD EROS Data Cent 69.61 340 ⇓P P 10 58 20.1 -0.4
baz=70,SNR=5.5
ISCO Idaho Springs 69.64 332 eP P 10 58 21.9 +0.7
comp=N,18nm,1.8s
ISCO Idaho Springs 69.64 332 ⇓P P 10 58 22.2 +1.0
baz=70
LIC Lamto 69.76 74 eP P 10 58 20.8 -1.4
comp=N,33nm,1.5s
COWI Conover 69.78 346 eP P 10 58 21.0 -0.6
COWI epP pP 10 58 29.8 -0.3
SPMN Marine on St. 69.86 343 eP P 10 58 21.2 -0.8
comp=N,8.3nm,0.9s
SPMN Marine on St. 69.86 343 ⇓P P 10 58 21.5 -0.5
baz=70
TIC Toumodi 69.95 74 eP P 10 58 20.9 -2.4
BC3 Big Chuckawall 69.99 321 ⇑P P 10 58 24.6 +1.4
baz=70
P22A Eagle 69.99 331 ⇑P P 10 58 24.5 +1.2
baz=70
K29A Lazy Trails An 70.02 337 ⇑P P 10 58 24.1 +1.0
baz=70
KIC Kosan Boka 70.08 74 eP P 10 58 23.0 -1.1
comp=N,15nm,0.8s
DBIC Dimbokro 70.11 74 P P 10 58 23.1 -1.2
comp=N,8.6nm,0.7s,baz=230,slow=6.3,SNR=9.2
DBIC pP pP 10 58 32.1 -0.7
comp=N,6.4nm,0.8s,baz=190,slow=3.0,SNR=3.9
DBIC Dimbokro 70.11 74 eP P 10 58 23.7 -0.6
comp=N,11nm,0.8s
DBIC pP pP 10 58 32.1 -0.7
O23A Lake Granby, G 70.11 332 ⇓P P 10 58 25.4 +1.3
baz=70,SNR=6.7
W13A Hualapai Mount 70.13 323 ⇑P P 10 58 25.5 +1.3
baz=70
IRM Iron Mountain 70.17 322 ⇑P P 10 58 26.1 +1.8
baz=70
J30A Dallas 70.21 338 ⇑P P 10 58 24.8 +0.5
baz=70
U15A North Rim 70.25 325 ⇓P P 10 58 26.3 +1.3
baz=70
O22A Kremmling 70.35 331 ⇑P P 10 58 26.1 +0.5
baz=71,SNR=5.4
J29A Okreek 70.58 337 ⇓P P 10 58 26.7 +0.1
baz=71,SNR=6.7
K27A Flueckinger Fa 70.68 336 ⇑P P 10 58 28.3 +1.0
baz=71
N23A Red Feather La 70.69 332 eP P 10 58 28.6 +1.1
N23A epP pP 10 58 37.1 +0.9
N23A Red Feather La 70.69 332 ⇓P P 10 58 28.5 +0.9
baz=71
GMRC Granite Mounta 70.91 322 ⇑P P 10 58 30.3 +1.4
baz=71
J28A Allard Ranch, 70.92 337 ⇓P P 10 58 29.2 +0.5
baz=71,SNR=5.8
J27A Elkhorn Farm, 71.06 336 ⇑P P 10 58 30.8 +1.2
baz=71
O20A White River Ci 71.10 330 eP P 10 58 31.1 +1.1
comp=N,14nm,0.9s
O20A White River Ci 71.10 330 ⇓P P 10 58 31.3 +1.2
baz=71,SNR=6.3
I29A Vivian Onida 71.11 338 ⇓P P 10 58 30.6 +0.9
baz=71
J26A Sides Ranch, S 71.52 335 ⇓P P 10 58 33.3 +0.9
baz=72
N20A Spence Gulch, 71.67 331 ⇑P P 10 58 34.4 +1.0
baz=72,SNR=5.7
MVU Marysvale 71.77 327 eP P 10 58 36.1 +1.9
SHPR Sheep Range 71.87 323 eP P 10 58 36.2 +1.5
J25A Sunshine Ranch 71.87 335 ⇓P P 10 58 35.5 +1.0
baz=72
EYMN Ely 72.06 345 eP P 10 58 34.9 -0.5
comp=N,6.3nm,0.8s
EYMN epP pP 10 58 43.0 -1.0
K23A Bowen Ranch, D 72.08 333 ⇑P P 10 58 36.9 +1.1
baz=72
J24A Dixon Ranch, L 72.16 334 ⇓P P 10 58 37.5 +1.3
baz=72
H27A Howes 72.27 337 ⇓P P 10 58 37.6 +0.9
baz=72
EDW2 Edwards Air Fo 72.34 320 ⇓P P 10 58 38.0 +0.6
baz=73
K22A Casper 72.37 333 ⇓P P 10 58 38.7 +1.2
baz=73
I25A Rochford 72.38 335 ⇓P P 10 58 38.8 +1.2
baz=73,SNR=11
RSSD Black Hills 72.58 335 eP P 10 58 39.6 +0.8
comp=N,6.4nm,0.8s
MPU Maple Canyon 72.63 328 eP P 10 58 40.8 +1.6
comp=N,14nm,1.2s
TPNV Topopah Spring 72.79 323 eP P 10 58 42.3 +2.1
comp=N,37nm,1.9s
TPNV Topopah Spring 72.79 323 ⇓P P 10 58 42.0 +1.8
baz=73
FURC Furnace Creek, 72.80 322 ⇓P P 10 58 41.8 +1.8
baz=73
H25A Fruitdale 72.83 336 ⇑P P 10 58 40.6 +0.5
baz=73
G27A Dupree 72.86 337 ⇓P P 10 58 40.4 +0.1
baz=73,SNR=5.8
MPMC Manual Prospec 72.87 322 ⇑P P 10 58 41.8 +1.1
baz=73
J22A Midwest 72.98 333 ⇑P P 10 58 41.6 +0.5
baz=73,SNR=6.7
G26A Maurine 73.03 337 ⇓P P 10 58 41.1 -0.1
baz=73,SNR=5.6
DAC Darwin (Calif) 73.08 322 eP P 10 58 43.5 +1.6
comp=N,4.7nm,0.9s
ISA Isabella, Lake 73.17 321 ⇓P P 10 58 44.0 +1.7
baz=73
H24A Dirks Ranch, A 73.31 335 ⇑P P 10 58 43.4 +0.4
baz=74,SNR=7.4
F27A Lemmon 73.32 337 ⇑P P 10 58 43.5 +0.5
baz=74
J21A Lysite 73.33 333 ⇑P P 10 58 44.2 +0.9
baz=74
DUG Dugway, Tooele 73.35 327 eP P 10 58 45.0 +1.6
comp=N,7.7nm,0.9s
DUG Dugway, Tooele 73.35 327 ⇑P P 10 58 44.5 +1.0
baz=74,SNR=6.3
I22A 9 Mile Ranch, 73.37 334 ⇓P P 10 58 43.9 +0.5
baz=74,SNR=5.6
R11A Troy Canyon, C 73.43 324 eP P 10 58 45.6 +1.6
comp=N,16nm,1.8s
R11A Troy Canyon, C 73.43 324 ⇑P P 10 58 45.6 +1.6
baz=74,SNR=6.4
GRAC Grapevine Rang 73.46 322 ⇑P P 10 58 45.6 +1.6
baz=74
E28A Huff 73.47 339 ⇓P P 10 58 46.3 +2.5
baz=74
AGMN Agassiz Nation 73.51 343 eP P 10 58 43.5 -0.4
comp=N,152nm,3.0s
AGMN Agassiz Nation 73.51 343 ⇓P P 10 58 43.6 -0.4
baz=74
F26A Lodgepole 73.53 337 ⇑P P 10 58 44.8 +0.6
baz=74,SNR=8.8
I21A Big Trails, Te 73.64 333 ⇑P P 10 58 45.5 +0.5
baz=74,SNR=12
VES Vestal, Richgr 73.65 320 ⇑P P 10 58 46.6 +1.5
baz=74
G24A Alzada 73.74 336 ⇓P P 10 58 46.2 +0.7
baz=74,SNR=5.4
PDAR Pinedale Array 73.79 331 P P 10 58 46.4 +0.3
comp=N,0.8nm,0.5s,baz=132,slow=7.0,SNR=10
PDAR pP pP 10 58 54.8 +0.1
comp=N,2.3nm,1.0s,baz=101,slow=7.7,SNR=10
HWUT Hardware Ranch 73.82 329 eP P 10 58 47.1 +0.9
comp=N,6.4nm,0.7s
F25A Bowman 73.89 337 ⇑P P 10 58 46.9 +0.6
baz=74
H22A Clearmont 73.89 334 ⇑P P 10 58 47.5 +1.0
baz=74
J19A Crowheart 73.96 332 ⇑P P 10 58 48.0 +1.0
baz=74,SNR=6.1
E26A Carlson Angus 73.99 338 ⇓P P 10 58 47.6 +0.8
baz=74
I20A Worland 74.11 333 ⇓P P 10 58 48.4 +0.6
baz=74
TPH Tonopah 74.14 323 eP P 10 58 48.0 -0.2
comp=N,2.6nm,0.3s
F24A Ekalaka 74.19 336 ⇑P P 10 58 48.8 +0.7
baz=74,SNR=12
H21A Big Horn, Sher 74.20 334 ⇑P P 10 58 48.7 +0.4
baz=74
E25A Miller Ranch, 74.35 337 ⇑P P 10 58 49.6 +0.6
baz=75
B30A Myrvik Farm, E 74.37 341 ⇓P P 10 58 48.9 0.0
baz=75,SNR=5.3
F23A Volborg 74.45 335 ⇓P P 10 58 49.8 +0.2
baz=75,SNR=7.5
D26A Manning 74.46 338 ⇑P P 10 58 50.2 +0.7
baz=75
H20A Greybull 74.49 333 ⇑P P 10 58 50.6 +0.6
baz=75,SNR=5.3
HVU Hansel Valley 74.53 328 eP P 10 58 51.2 +0.9
comp=N,5.3nm,0.9s
I19A Meeteetse 74.55 332 ⇑P P 10 58 50.9 +0.5
baz=75
B29A Wagenman Farm, 74.69 340 ⇑P P 10 58 51.2 +0.3
baz=75,SNR=7.6
E24A Baker 74.74 336 ⇓P P 10 58 52.0 +0.7
baz=75,SNR=6.7
G21A Lodge Grass 74.76 334 ⇓P P 10 58 51.6 +0.2
baz=75
A30A Hoffart Farm, 74.80 341 ⇓P P 10 58 51.0 -0.4
baz=75
F22A Rosebud 74.83 335 ⇑P P 10 58 52.4 +0.6
baz=75
REDW Red Top Meadow 74.85 331 eP P 10 58 52.9 +0.8
comp=N,5.5nm,0.8s
D25A Fairfield 74.88 337 ⇑P P 10 58 52.9 +0.9
baz=75
LOHW Long Hollow 74.93 331 eP P 10 58 53.5 +0.8
comp=N,4.1nm,0.8s
NV01 Mina Array Sit 74.99 323 eP P 10 58 54.1 +1.0
NVAR Mina Array Bea 74.99 323 P P 10 58 54.2 +1.1
comp=N,3.0nm,0.8s,baz=152,slow=6.3,SNR=16
NVAR pP pP 10 59 02.4 +0.6
comp=N,1.9nm,0.9s,baz=126,slow=7.5,SNR=6.0
TPAW Teton Pass 74.99 331 eP P 10 58 54.2 +1.2
comp=N,6.3nm,0.8s
B28A Dugan Ranch, T 75.00 340 ⇑P P 10 58 53.3 +0.7
baz=75
ELK Elko 75.00 326 eP P 10 58 54.4 +1.3
comp=N,3.3nm,0.8s
C26A Wahner Farm, P 75.03 338 ⇓P P 10 58 53.1 +0.3
baz=75
H19A Powell 75.06 333 ⇑P P 10 58 53.7 +0.5
baz=75
A29A Manning Farm, 75.06 341 ⇑P P 10 58 52.8 -0.2
baz=75,SNR=16
MOOW Moose Ponds 75.10 331 eP P 10 58 54.2 +0.6
comp=N,3.0nm,0.8s
I17A Pilgrim Ck. 75.16 331 ⇓P P 10 58 55.3 +1.4
baz=75
G20A Bridger 75.17 333 ⇓P P 10 58 54.1 +0.2
baz=75
D24A Glendive 75.21 337 ⇓P P 10 58 54.6 +0.6
baz=76
F21A Absaloka Mine, 75.21 334 ⇑P P 10 58 54.5 +0.4
baz=76
E22A Miles City 75.26 335 ⇑P P 10 58 55.0 +0.7
baz=76
ULM Lac du Bonnet 75.29 343 P P 10 58 53.0 -1.2
comp=N,4.0nm,0.6s,baz=142,slow=6.1,SNR=12
ULM pP pP 10 59 01.4 -1.6
comp=N,3.3nm,0.7s,baz=195,slow=6.1,SNR=5.2
ULM Lac du Bonnet 75.29 343 eP P 10 58 53.2 -1.1
comp=N,4.3nm,0.7s
ULM epP pP 10 59 00.8 -2.1
IMW Indian Meadow 75.30 331 eP P 10 58 55.8 +0.9
C25A Freed Ranch, W 75.33 338 ⇑P P 10 58 55.8 +1.1
baz=76
H18A Shoshone NF, C 75.35 332 ⇑P P 10 58 55.8 +0.7
baz=76,SNR=17
H17A Grant Village 75.53 331 ⇓P P 10 58 57.8 +1.7
baz=76
RLMT Red Lodge 75.54 333 eP P 10 58 57.0 +0.9
comp=N,35nm,1.7s
B26A Jensen Ranch, 75.55 339 ⇑P P 10 58 57.0 +1.2
baz=76
LAO LASA Array 75.57 335 eP P 10 58 56.6 +0.6
LAO epP pP 10 59 05.4 +0.7
D23A Lindsay 75.59 336 ⇑P P 10 58 57.2 +1.1
baz=76,SNR=7.7
C24A Savage 75.60 337 ⇓P P 10 58 57.0 +0.9
baz=76,SNR=7.1
F20A Billings 75.61 334 ⇑P P 10 58 57.0 +0.7
baz=76
A26A Wade Farm, Ken 75.94 339 ⇑P P 10 58 58.6 +0.6
baz=76
D22A Cohagen 75.94 336 ⇑P P 10 58 59.0 +0.9
baz=76,SNR=9.7
F19A Roth Farm, Mol 75.98 333 ⇑P P 10 58 58.9 +0.4
baz=76,SNR=7.3
C23A Lambert 76.11 337 ⇓P P 10 59 00.1 +1.0
baz=76
E20A Meyer Farm, Mu 76.17 334 ⇑P P 10 59 00.5 +1.0
baz=76,SNR=13
D21A La Casta Ranch 76.18 335 ⇓P P 10 59 00.5 +1.0
baz=76
GCMT Greycliff 76.24 333 eP P 10 59 00.9 +1.0
GCMT epP pP 10 59 09.5 +0.9
VNDA Vanda 76.24 190 P P 10 59 00.5 +1.0
comp=N,1.1nm,0.8s,baz=139,slow=7.7,SNR=6.7
VNDA pP pP 10 59 08.9 +0.8
comp=N,1.9nm,0.9s,baz=144,slow=4.8,SNR=4.5
DGMT Dagmar 76.31 338 ⇑P P 10 59 01.1 +0.9
baz=77
A25A Svangstu Ranch 76.33 338 ⇑P P 10 59 01.3 +1.0
baz=77
E19A Rath Farm, Rou 76.41 334 ⇑P P 10 59 01.8 +0.9
baz=77,SNR=17
B23A Brockton 76.59 337 ⇑P P 10 59 02.4 +0.6
baz=77
SYO Syowa Base 76.61 160 ⇑iP P 10 59 00.4 -1.2
SYO Syowa Base 76.61 160 ⇓eX 10 59 09.2
A24A Westby 76.63 338 ⇓P P 10 59 03.0 +1.0
baz=77,SNR=5.3
D20A Manuel Ranch, 76.65 335 ⇑P P 10 59 02.9 +0.7
baz=77,SNR=12
HLID Hailey 76.67 329 eP P 10 59 04.0 +1.4
comp=N,8.6nm,1.1s
HLID Hailey 76.67 329 ⇑P P 10 59 04.2 +1.6
baz=77,SNR=9.5
C21A Desert Coulee 76.85 336 ⇓P P 10 59 03.7 +0.5
baz=77,SNR=6.0
MCMT McKenzie Canyo 76.89 330 eP P 10 59 05.2 +1.4
D19A Cripps Ranch, 77.01 334 ⇓P P 10 59 04.9 +0.7
baz=77,SNR=8.6
C20A Veseth Ranch, 77.11 335 ⇑P P 10 59 05.0 +0.2
baz=77,SNR=7.8
MFID Camas Ranch 77.25 328 eP P 10 59 07.3 +1.6
comp=N,10nm,1.4s

A22A	**Carney Farms,** baz=78,SNR=9.6	**77.37**	**337**	⇑P		**P**	**10 59 07.4**	**+1.2**
C19A	**Slack Wire Ran** baz=78,SNR=5.7	**77.54**	**334**	⇓P		**P**	**10 59 08.0**	**+0.8**
B20A	**Solberg Farm,** baz=78	**77.70**	**335**	⇑P		**P**	**10 59 08.3**	**+0.2**
A21A	**Bergtoll Ranch** baz=78	**77.74**	**336**	⇓P		**P**	**10 59 08.8**	**+0.6**
A20A	**Cobblestone Ra** baz=78,SNR=8.4	**78.03**	**336**	⇑P		**P**	**10 59 10.6**	**+0.7**
EGMT	**Eagleton** comp=N,12nm,1.1s	**78.06**	**334**	*e*P		**P**	**10 59 10.3**	**+0.3**
EGMT				*e*pP		**pP**	**10 59 19.1**	**+0.4**
EGMT	**Eagleton** baz=78	**78.06**	**334**	⇑P		**P**	**10 59 10.4**	**+0.3**
B19A	**Brinkman Farms** baz=78,SNR=13	**78.08**	**335**	⇓P		**P**	**10 59 10.9**	**+0.7**
CHMT	**Chamberlain Mo** comp=N,1.5nm,1.0s	**78.67**	**332**	*e*P		**P**	**10 59 14.3**	**+0.6**
TOA0	**Torodi Ar. Sit**	**78.73**	**71**	*e*P		**P**	**10 59 13.2**	**-1.2**
TORD	**Torodi Ar. Bea** comp=N,6.3nm,0.6s,baz=253,slow=5.4,SNR=77	**78.73**	**71**	P		**P**	**10 59 13.4**	**-1.0**
TORD				pP		**pP**	**10 59 22.4**	**-0.7**
MSO	**Missoula** comp=N,8.0nm,0.8s,baz=244,slow=4.1,SNR=11	**78.91**	**331**	*e*P		**P**	**10 59 16.9**	**+2.0**
MSO				*e*pP		**pP**	**10 59 26.2**	**+2.6**
SLMT	**Seeley Lake**	**79.03**	**332**	*e*P		**P**	**10 59 16.6**	**+1.1**
SLMT				*e*pP		**pP**	**10 59 24.8**	**+0.5**
BMO	**Blue Mountains** comp=N,4.6nm,0.9s	**79.03**	**328**	*e*P		**P**	**10 59 16.6**	**+1.1**
SWMT	**Swartz Lake** comp=N,5.5nm,1.1s	**79.45**	**332**	*e*P		**P**	**10 59 18.3**	**+0.5**
YBMT	**Yellow Bay** comp=N,4.7nm,0.8s	**79.73**	**332**	*e*P		**P**	**10 59 20.3**	**+1.0**
JTMT	**Jette** comp=N,2.9nm,0.9s	**79.76**	**332**	*e*P		**P**	**10 59 20.4**	**+0.9**
J05D	**Fort Rock, OR** baz=80	**79.95**	**325**	⇑P		**P**	**10 59 21.7**	**+1.1**
BSMT	**Bassoo Peak** comp=N,5.4nm,0.9s	**80.06**	**331**	*e*P		**P**	**10 59 21.8**	**+0.6**
G08A	**Pilot Rock**	**80.16**	**327**	*e*P		**P**	**10 59 22.9**	**+1.2**
WALA	**Waterton Lakes**	**80.59**	**333**	*e*P		**P**	**10 59 24.6**	**+0.6**
WALA				*e*pP		**PcP**	**10 59 31.6**	**+0.9**
I05D	**Terrebonne, OR** baz=81,SNR=7.3	**80.72**	**326**	⇑P		**P**	**10 59 26.4**	**+1.7**
FFC	**Flin Flon** comp=N,55nm,2.8s	**80.98**	**342**	*e*P		**P**	**10 59 25.6**	**0.0**
TSUM	**Tsumeb** comp=N,9.7nm,0.8s	**81.19**	**107**	*e*P		**P**	**10 59 27.9**	**0.0**
C09A	**Chrisman Ranch**	**81.62**	**330**	*e*P		**P**	**10 59 30.4**	**+1.1**
B08A	**Colville Reser** comp=N,5.8nm,1.1s	**82.52**	**329**	*e*P		**P**	**10 59 34.8**	**+0.8**
FCC	**Fort Churchill** comp=N,5.3nm,0.6s	**82.72**	**348**	*e*P		**P**	**10 59 34.5**	**-0.2**
EDM	**Edmonton** comp=N,14nm,0.7s	**83.56**	**336**	*e*P		**P**	**10 59 38.5**	**-0.8**
MSKU	**Masuku**	**83.76**	**89**	*e*P		**P**	**10 59 41.7**	**+0.4**
MAW	**Mawson** comp=N,7.7nm,0.9s,baz=209,slow=4.3,SNR=12	**84.34**	**164**	P		**P**	**10 59 43.3**	**+0.1**
MAW				pP		**pP**	**10 59 52.2**	**+0.3**
	comp=N,4.4nm,0.8s,baz=262,slow=11,SNR=4.7							
MAW				LR		LR	11 38 36.0	
	comp=N,61nm,18.1s,baz=239,slow=36							
MAW	**Mawson**	**84.34**	**164**	*e*P		**P**	**10 59 43.8**	**+0.6**
MAW				pP		**pP**	**10 59 52.2**	**+0.3**
BOSA	**Boshof** comp=N,6.1nm,0.8s,baz=290,slow=4.0,SNR=10	**84.43**	**118**	P		**P**	**10 59 43.8**	**-0.8**
BOSA				pP		**pP**	**10 59 53.0**	**-0.4**
	comp=N,5.2nm,0.9s,baz=198,slow=8.5,SNR=5.2							
TAM	**Tamanrasset** comp=N,5.1nm,0.9s	**86.17**	**64**	*e*P		**P**	**10 59 53.9**	**+0.6**
ESDC	**Sonseca Array** comp=N,0.2nm,0.3s,baz=254,slow=4.5,SNR=4.5	**87.03**	**45**	P		**P**	**10 59 57.2**	**+0.2**
ESDC				pP		**pP**	**11 00 06.2**	**+0.3**
	comp=N,0.5nm,0.6s,baz=241,slow=4.1,SNR=2.3							
YKA	**Yellowknife Ar** comp=N,2.0nm,0.6s,baz=138,slow=4.6,SNR=14	**91.11**	**341**	P		**P**	**11 00 15.2**	**-0.4**
YKA				pP		**pP**	**11 00 24.1**	**-0.3**
	comp=N,2.4nm,0.6s,baz=137,slow=4.3,SNR=9.3							
H11S2	**WAKE ISLAND Hyl** baz=103,slow=74,SNR=628	**26.61**	**277**	T		T	13 25 47.3	
H11S1	**WAKE ISLAND Hyl** baz=103,slow=74,SNR=464	**26.62**	**277**	T		T	13 25 52.6	
H11S3	**WAKE ISLAND Hyl** baz=103,slow=74,SNR=621	**26.63**	**277**	T		T	13 25 48.6	
H11N3	**WAKE ISLAND Hyl** baz=103,slow=74,SNR=698	**26.71**	**279**	T		T	13 25 40.9	
H11N2	**WAKE ISLAND Hyl** baz=103,slow=74,SNR=441	**26.72**	**279**	T		T	13 25 42.0	
H11N1	**WAKE ISLAND Hyl** baz=103,slow=74,SNR=427	**26.73**	**279**	T		T	13 25 43.5	
ASAR	**Alice Springs** comp=N,1.7nm,0.9s,baz=139,slow=2.3,SNR=15	**128.95**	**209**	PKP		**PKPdf**	**11 06 19.4**	**-0.5**
ASAR				pPKP		**pPKPdf**	**11 06 28.0**	**-1.0**
	comp=N,1.6nm,0.9s,baz=154,slow=2.0,SNR=8.2							
WRA	**Warramunga Arr** comp=N,3.2nm,1.1s,baz=144,slow=1.7,SNR=16	**131.94**	**212**	PKP		**PKPdf**	**11 06 25.1**	**-0.6**
PETK	**Petropavlovsk-** comp=N,0.5nm,0.5s,baz=108,slow=4.7,SNR=3.8	**132.08**	**323**	PKP		**PKPdf**	**11 06 25.4**	**+0.6**
PETK				pPKP		**pPKPdf**	**11 06 33.7**	**-0.1**
	comp=N,2.2nm,0.9s,baz=63,slow=10,SNR=3.3							
ABKAR	**Akbulak array**	**132.32**	**43**	*e*PKPdf		**PKPdf**	**11 06 26.0**	**+0.6**
ZAA0	**Zalesovo Array**	**142.85**	**24**	PKPdf		**PKPdf**	**11 06 44.6**	**0.0**
ZALV	**Zalesovo Beam** comp=N,3.5nm,0.6s,baz=282,slow=2.9,SNR=14	**142.85**	**24**	PKhKP		PKPpre	11 06 40.7	
ZALV				PKP		**PKPdf**	**11 06 45.2**	**+0.6**
	comp=N,1.8nm,0.7s,baz=279,slow=2.9,SNR=4.1							
ASAJ	**Asahikawa**	**144.94**	**317**	*e*PKPbc		**PKPdf**	**11 06 48.3**	**-0.3**
SOEI	**Soe**	**145.45**	**206**	*e*PKPbc		**PKPab**	**11 06 51.6**	**+1.0**
KSH	**Kashi**	**146.37**	**51**	PKPbc		**PKPbc**	**11 06 52.4**	**-0.2**
KSH				pPKP		**pPKPdf**	**11 07 03.0**	**+2.6**
KSH				sPKP			11 07 06.6	
KSH				PP		PP	11 10 20.8	+5.3
KSH				PPMZ				
	comp=N,61nm,4.8s							
KSH				LN				
	comp=N,140nm,7.5s							
KSH				LE				
	comp=N,96nm,5.3s							
KSH				LZ				
	comp=N,150nm,6.3s							
MK31	**Makanchi Array**	**146.71**	**35**	*e*PKPbc		**PKPdf**	**11 06 51.8**	**+0.2**
MKAR	**Makanchi Array** comp=N,3.5nm,0.7s,baz=288,slow=5.0,SNR=26	**146.71**	**35**	PKPbc		**PKPdf**	**11 06 51.5**	**0.0**
USRK	**Ussuriysk Ar.** comp=N,5.6nm,0.8s,baz=182,slow=0.6,SNR=12	**151.10**	**326**	PKPbc		**PKPbc**	**11 07 04.8**	**+0.3**
USRK				PKPab		**PKPab**	**11 07 12.3**	**+0.1**
	comp=N,4.8nm,0.8s,baz=29,slow=2.0,SNR=6.5							
MJAR	**Matsushiro Arr** comp=N,5.0nm,0.8s,baz=94,slow=1.1,SNR=16	**151.26**	**307**	PKPbc		**PKPbc**	**11 07 05.2**	**0.0**
MJAR				PKPab		**PKPab**	**11 07 13.5**	**+0.3**
	comp=N,4.0nm,0.8s,baz=102,slow=2.4,SNR=7.4							
MAJO	**Matsushiro**	**151.26**	**307**	*e*PKPdf		**PKPdf**	**11 07 00.3**	**+1.1**
MAJO				*e*PKPbc		**PKPbc**	**11 07 05.2**	**+0.1**
MAT	**Matsushiro**	**151.26**	**307**	PKP		**PKPbc**	**11 07 04.9**	**-0.3**
WMQ	**Urumqi**	**151.54**	**35**	*e*PKPbc		**PKPdf**	**11 06 59.1**	**-0.4**
WMQ				PP		**PP**	**11 10 48.0**	**+3.2**
WMQ				SKS		**SKSdf**	**11 14 04.3**	**-0.9**
WMQ				SKKS		**SKKSac**	**11 17 35.8**	**+1.7**
WMQ				SS		**SS**	**11 30 11.3**	**+3.4**
WMQ				PPMZ				
	comp=N,13nm,8.8s							
SONM	**Songino Array** comp=N,1.8nm,1.0s,baz=159,slow=4.5,SNR=6.9	**153.97**	**5**	PKP		**PKPdf**	**11 07 03.5**	**+0.5**
SONM				PKPbc		**PKPbc**	**11 07 11.1**	**0.0**
	comp=N,2.0nm,0.9s,baz=90,slow=1.5,SNR=6.3							
SONM				PKPab		**PKPab**	**11 07 24.7**	**+0.4**
	comp=N,1.3nm,0.6s,baz=334,slow=4.8,SNR=4.5							
ULN	**Ulaanbaatar**	**153.99**	**4**	*e*PKPdf		**PKPdf**	**11 07 02.9**	**-0.1**
ULN				*e*PKPab		**PKPab**	**11 07 25.1**	**+0.7**
HHC	**Hu-ho-hao-te**	**161.02**	**356**	*e*PKP		**PKPdf**	**11 07 11.4**	**-0.6**
HHC				PKS		**PKSdf**	**11 10 43.4**	**-1.9**
HHC				PP		**PP**	**11 11 41.4**	**+4.7**
HHC				SKS		**SKSdf**	**11 14 10.6**	**-4.8**
HHC				SKKS		**SKKSac**	**11 18 22.3**	**-2.2**
HHC				PPMZ				
	comp=N,65nm,8.6s							
HHC				LN				
	comp=N,130nm,18.5s							
HHC				LE				
	comp=N,130nm,16.0s							
HHC				LZ				
	comp=N,110nm,16.0s							
LZH	**Lanzhou**	**164.96**	**18**	*e*PKP		**PKPdf**	**11 07 19.8**	**+3.8**
LZH				pPKP		**pPKPdf**	**11 07 28.9**	**+3.8**
LZH				sPKP			11 07 35.3	

CMAR	**Chiang Mai Arr** comp=N,0.5nm,0.3s,baz=283,slow=1.6,SNR=5.1	**169.37**	**107**	PKP		**PKPdf**	**11 07 19.5**	**-0.1**
CMAR				PKPab		**PKPab**	**11 08 32.5**	**+0.2**
	comp=N,0.8nm,0.3s,baz=245,slow=3.7,SNR=4.4							
CD2	**Chengdu**	**169.57**	**29**	PKP		**PKPdf**	**11 07 17.3**	**-2.1**
KMI	**Kunming**	**172.87**	**62**	PKP		**PKPdf**	**11 07 20.1**	**-1.3**

MEX 22 10:57:36.7±0.4, 18°15N×103°51W, h5km, MD3.5, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.21**	**50**	*i* P	Pg	10 57 40.5	-0.3
MMIG				*e*S	Sg	10 57 43.2	-0.4
R15V		**1.10**	**336**	*i* P	Pg	10 57 54.8	-3.2
R15V				*e*S	Sg	10 58 08.4	-4.1
EZ5V		**1.32**	**356**	*i* P	Pn	10 57 58.5	-3.7
EZ5V				*e*S	Sg	10 58 15.9	-3.9

MEX 22 10:59:55.6±0.3, 14°82N×93°05W, h16±999km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.90**	**349**	*i* P	Pb	11 00 09.8	-2.9
PCIG				*e*S	Sb	11 00 20.4	-4.1
CCIG	**Comitan**	**1.70**	**31**	*i* P	Pn	11 00 21.8	-3.0
CCIG				*e*S	Sn	11 00 41.6	-4.8

*IDC **22** 11:00:08.2±0.9, 20°.61S×168°.47E, h0km, mb4.0/7, mb1 4.3/9, mb1mx4. 1/19, mbtmp4. 1/9, ML4.2/2, MS3.3/2, Ms1 3.2/2, ms1mx2.8/21, Error ellipse: s-maj=27.9km s-min=21.4km az=132.0*

*ISCJB **22** 11:00:10.3±0.7, 20°.67S±0°.10×168°.48E±0°.09, h26km, mb4.1/7, MS3.4/1, Error ellipse: s-maj=16.2km s-min=10.1km az=142.8*

ISC 22 11:00:11.6±0.7, 20°.6S±0°.1×168°.4E±0°.1, h26km, n16, σ1°57/15, mb4.0/7, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac** 65nm,0.3s,baz=90,slow=24,SNR=61	**2.34**	**232**	Pn	**Pn**	**11 00 48.0**	**-0.5**
DZM				Sn	**Sn**	**11 01 16.5**	**-0.1**
	246nm,0.3s,baz=87,slow=23,SNR=11						
DZM				LR	LR	11 01 26.7	
	comp=Z,347nm,19.0s,baz=0.0,slow=33						
URZ	**Urewera** 0.6nm,0.3s,baz=355,slow=13,SNR=6.3	**19.12**	**159**	P	**Pn**	**11 04 34.2**	**+0.6**
CTA	**Charters Tower** 8.3nm,0.9s,baz=97,slow=14,SNR=6.2	**20.79**	**268**	P	Pn	11 04 55.4	+1.8
STKA	**Stephens Creek** comp=Z,90nm,18.5s,baz=28,slow=35	**26.47**	**239**	LR	LR	11 15 46.2	
WRA	**Warramunga Arr** 1.2nm,0.7s,baz=90,slow=8.5,SNR=10	**31.95**	**265**	P	**P**	**11 06 35.2**	**-0.4**
ASAR	**Alice Springs** 3.3nm,0.8s,baz=82,slow=9.4,SNR=24	**32.07**	**258**	P	**P**	**11 06 38.1**	**+1.4**
VNDA	**Vanda** 1.0nm,0.9s,baz=352,slow=4.3,SNR=3.4	**57.03**	**182**	P	**P**	**11 09 55.0**	**+0.1**
PETK	**Petropavlovsk-** 2.6nm,0.7s,baz=148,slow=8.5,SNR=8.6	**74.01**	**353**	P	**P**	**11 11 46.2**	**+1.5**
CMAR	**Chiang Mai Arr** 0.8nm,0.5s,baz=126,slow=4.7,SNR=4.0	**78.38**	**295**	P	**P**	**11 12 11.7**	**+1.4**
VNA3	**Neumayer Olymp**	**88.37**	**181**	P	**P**	**11 13 00.6**	**-0.3**
VNA2	**Neumayer--Watz** baz=178,slow=5.6	**88.65**	**181**	P	**P**	**11 13 01.8**	**-0.4**
NVAR	**Mina Array Bea** 2.3nm,0.8s,baz=226,slow=9.1,SNR=12	**90.29**	**49**	P	**P**	**11 13 10.6**	**0.0**
ILAR	**Eielson Array** 0.4nm,0.8s,baz=232,slow=4.5,SNR=4.7	**91.77**	**18**	P	**P**	**11 13 15.6**	**-1.0**
ARCES	**ARCESS Array B** 0.9nm,0.8s,baz=344,slow=3.0,SNR=3.7	**126.20**	**345**	PKP	**PKPdf**	**11 19 11.6**	**+0.5**
GERES	**GERESS Array B** 1.4nm,0.8s,baz=54,slow=3.4,SNR=11	**145.32**	**330**	PKPbc	**PKPab**	**11 19 48.1**	**+1.0**
CMAH	**Djebel Manchou**	**157.00**	**318**	P	**PKPab**	**11 20 31.0**	**-4.5**

MAN 22 11:22:03, 13°62N×119°69E, h78km, mb4.4, ML3.3, MS3.1, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.55**	**78**	*e*P	Pn	11 22 19.9	+2.9
LUBP				*e*S	Sn	11 22 25.2	-2.3
PGP	**Puerto Galera**	**1.24**	**95**	*e*P	Pn	11 22 26.4	+1.5
PGP				*i* S	Sn	11 22 36.1	-5.2
BUSP	**Coron**	**1.68**	**163**	*e*P	Pn	11 22 32.4	+1.8
BUSP				*e*S	Sn	11 22 53.7	+2.1
SJMP	**San Jose**	**1.81**	**129**	*e*P	Pn	11 22 35.3	+3.0
SJMP				*e*S	Sn	11 22 48.8	-5.8
CUYO	**Cuyo Island**	**3.04**	**155**	*e*P	Pn	11 22 47.6	-1.3

MEX 22 11:34:29.7±0.6, 15°.40N×98°.34W, h16km±74km, MD3.6, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**1.01**	**12**	*i* P	Pb	11 34 45.2	-3.7
PNIG				*e*S	Sb	11 34 58.5	-3.4
HUIG	**Huatulco**	**2.18**	**80**	*i* P	Pn	11 35 02.3	-3.1
HUIG				*e*S	Sn	11 35 26.9	-5.2
VHO	**Vista Hermosa**	**2.27**	**43**	*i* P	Pn	11 35 04.4	-2.4
VHO				*e*S	Sn	11 35 31.2	-3.4

IDC 22 11:58:43.3±1.6, 28°.50S×62°.63E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/33, mbtmp3.9/4, Error ellipse: s-maj=48.6km s-min=33.7km az=106.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr** 0.6nm,0.3s,baz=235,slow=8.4,SNR=6.7	**58.41**	**41**	P	P	12 08 41.2	+0.3
QSPA	**South Pole Qui** 1.0nm,0.7s,baz=270,slow=3.0,SNR=6.5	**61.66**	**180**	P	P	12 09 03.1	+0.3
ASAR	**Alice Springs** 1.0nm,0.7s,baz=244,slow=6.1,SNR=16	**63.35**	**104**	P	P	12 09 14.5	-0.2
WRA	**Warramunga Arr** 1.4nm,0.8s,baz=247,slow=5.9,SNR=12	**65.11**	**100**	P	P	12 09 26.2	-0.1
YKA	**Yellowknife Ar** 0.5nm,0.5s,baz=349,slow=3.2,SNR=6.5	**145.95**	**358**	PKPbc	PKPdf	12 18 22.7	-0.7

*IDC **22** 12:13:32.9±1.5, 60°.38S×26°.21W, h0km, mb4.3/3, mb1 4.4/3, mb1mx3.9/19, mbtmp4.3/3, Error ellipse: s-maj=69.8km s-min=32.2km az=2.0*

*ISCJB **22** 12:13:34.3±0.9, 60°.3S±0°.2×26°.3W±0°.4, h16km, mb4.2/3, Error ellipse: s-maj=36.7km s-min=11.6km az=145.0*

ISC 22 12:13:36.2±0.8, 60°.2S±0°.2×26°.2W±0°.2, h16km, n16, σ1°22/13, mb4.0/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**12.78**	**152**	P	**Pn**	**12 16 37.9**	**+1.1**
VNA3	**Neumayer Olymp**	**12.91**	**156**	P	**Pn**	**12 16 38.7**	**-0.1**
VNA3	**Neumayer Olymp**	**12.91**	**156**	S	Sn	12 18 49.8	-12
VNA2	**Neumayer--Watz** baz=310,slow=16	**13.18**	**152**	P	**Pn**	**12 16 43.1**	**+0.8**
VNA2	**Neumayer--Watz** baz=306,slow=22	**13.18**	**152**	S	Sn	12 18 57.2	-11
SNAA	**Sanae**	**14.77**	**151**	P	**Pn**	**12 17 02.4**	**-1.7**
SNAA	**Sanae**	**14.77**	**151**	S	Sn	12 19 29.6	-18
PLCA	**Paso Flores** 0.7nm,0.5s,baz=151,slow=8.7,SNR=5.7	**33.44**	**285**	P	**P**	**12 20 14.1**	**0.0**
LPAZ	**La Paz** 0.9nm,0.4s,baz=146,slow=3.6,SNR=8.8	**53.26**	**307**	P	**P**	**12 22 54.2**	**-0.4**
TORD	**Torodi Ar. Bea** 4.2nm,0.4s,baz=201,slow=6.3,SNR=66	**76.46**	**28**	P	**P**	**12 25 25.3**	**+0.4**
FINES	**FINESS Array B** 0.7nm,0.6s,baz=233,slow=0.7,SNR=3.4	**127.81**	**29**	PKP	**PKPdf**	**12 32 38.8**	**-0.4**
ARCES	**ARCESS Array B** 1.6nm,0.9s,baz=202,slow=1.0,SNR=4.1	**134.61**	**23**	PKP	**PKPdf**	**12 32 51.1**	**-0.8**
YKA	**Yellowknife Ar** 0.6nm,0.5s,baz=132,slow=2.2,SNR=6.6	**139.55**	**314**	PKP	**PKPdf**	**12 33 00.8**	**-0.4**
INK	**Inuvik** 1.1nm,0.7s,baz=106,slow=2.7,SNR=4.8	**149.28**	**316**	PKPbc	**PKPdf**	**12 33 20.7**	**+2.8**
SONM	**Songino Array** 1.7nm,0.8s,baz=172,slow=4.4,SNR=4.6	**150.21**	**93**	PKPbc	**PKPbc**	**12 33 24.7**	**-0.7**
ILAR	**Eielson Array** 0.3nm,0.5s,baz=148,slow=2.6,SNR=8.1	**153.14**	**305**	PKPbc	**PKPbc**	**12 33 30.8**	**-0.6**

*ISCJB **22** 12:19:07.4±0.6, 4°.50S±0°.08×153°.63E±0°.09, h150km, mb4.0/13, Error ellipse: s-maj=14.0km s-min=10.7km az=143.5*

*IDC **22** 12:19:09.3±4.1, 4°.51S×153°.60E, h154km±37km, mb3.8/13, mb1 3.9/15, mb1mx3.8/23, mbtmp4.2/15, Error ellipse: s-maj=20.9km s-min=13.5km az=74.0*

ISC 22 12:19:08.8±0.7, 4°.5S±0°.1×153°.6E±0°.1, h150km, n18, σ0°70/21, mb4.0/13, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.95**	**128**	P	**Pn**	**12 21 02.0**	**+0.3**
HNR				S	x	12 21 29.0	
JAY	**Jayapura** 0.5nm,0.3s,baz=155,slow=3.6,SNR=4.9	**13.06**	**278**	P	**Pn**	**12 22 10.1**	**+1.2**
CTA	**Charters Tower** 0.1nm,0.3s,baz=33,slow=9.0,SNR=4.1	**17.09**	**204**	P	**Pn**	**12 22 58.8**	**-0.1**
DZM	**Mont Dzumac** 4.5nm,0.8s,baz=90,slow=20,SNR=3.2	**21.43**	**146**	P	**P**	**12 23 46.6**	**+1.2**
SIJI	**Sorong** 6.0nm,0.6s,baz=38,slow=18,SNR=3.2	**22.63**	**279**	P	**P**	**12 23 57.7**	**+0.2**
WRA	**Warramunga Arr** 13nm,0.6s,baz=54,slow=9.9,SNR=121	**24.27**	**229**	P	**P**	**12 24 11.5**	**-0.9**
WRA				PcP	**PcP**	**12 27 48.4**	**-0.2**
	1.1nm,0.7s,baz=53,slow=2.7,SNR=5.0						
ASAR	**Alice Springs** 2.1nm,0.7s,baz=55,slow=8.7,SNR=34	**26.94**	**223**	P	**P**	**12 24 35.4**	**-1.1**
ASAR				PcP	**PcP**	**12 27 54.6**	**-0.1**
	0.8nm,0.7s,baz=75,slow=2.0,SNR=6.0						
STKA	**Stephens Creek** 5.9nm,0.6s,baz=14,slow=9.4,SNR=14	**29.49**	**201**	P	**P**	**12 24 58.6**	**-0.4**
RPZ	**Rata Peaks** 8.3nm,0.9s,baz=350,slow=17,SNR=4.5	**41.98**	**161**	P	**P**	**12 26 44.7**	**-0.4**
PETK	**Petropavlovsk-** 0.6nm,0.6s,baz=198,slow=13,SNR=5.8	**57.49**	**3**	P	**P**	**12 28 42.5**	**+0.4**
CMAR	**Chiang Mai Arr** 1.4nm,0.5s,baz=108,slow=5.3,SNR=9.9	**58.51**	**295**	P	**P**	**12 28 49.8**	**0.0**
VNDA	**Vanda** 2.5nm,0.7s,baz=329,slow=6.5,SNR=17	**73.10**	**178**	P	**P**	**12 30 23.0**	**+0.7**
MKAR	**Makanchi Array** 1.4nm,0.9s,baz=135,slow=2.7,SNR=10	**80.65**	**319**	P	**P**	**12 31 05.3**	**+0.2**
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=159,slow=30,SNR=3.5	**81.37**	**326**	P	**P**	**12 31 07.6**	**-1.1**
ILAR	**Eielson Array** 0.9nm,0.8s,baz=256,slow=5.4,SNR=11	**81.56**	**22**	P	**P**	**12 31 08.7**	**-0.9**
AAK	**Ala-Archa** baz=124,slow=4.7	**85.07**	**313**	P	**P**	**12 31 28.8**	**+0.7**
MAW	**Mawson** 2.4nm,0.8s,baz=102,slow=8.0,SNR=4.7	**86.17**	**203**	P	**P**	**12 31 32.6**	**-0.2**
TORD	**Torodi Ar. Bea** 4.1nm,0.7s,baz=71,slow=1.9,SNR=29	**151.00**	**289**	PKPbc	**PKPbc**	**12 38 44.8**	**-0.3**
TORD				PKPab	**PKPab**	**12 38 52.8**	**-0.3**
	1.4nm,0.8s,baz=90,slow=3.8,SNR=5.5						

*IDC **22** 12:24:20.8±1.0, 32°.00N×141°.92E, h0km, mb3.7/6, mb1 3.8/9, mb1mx3.6/27, mbtmp3.6/9, ML3.4/2, MS3.4/4, Ms1 3.4/4, ms1mx2.9/34, Error ellipse: s-maj=31.6km s-min=18.1km az=74.0*

*ISCJB **22** 12:24:22.3±0.7, 32°.12N±0°.05×142°.0E±0°.1, h29km, mb3.8/6, MS3.4/3, Error ellipse: s-maj=16.0km s-min=5.6km az=160.0*

*JMA **22** 12:24:22.8±0.5, 32°.29N×141°.86E, h0km, M3.4*

ISC 22 12:24:24.4±0.8, 32°.04N±0°.06×142°.0E±0°.1, h29km, n22, σ1°57/26, mb3.8/6, MS3.5/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**2.09**	**300**	P	**Pn**	**12 24 57.1**	**-0.4**
BSO1	**Boso 1**	**2.73**	**343**	P	**Pn**	**12 25 05.3**	**-0.5**
JOD2	**Odawara 2**	**4.00**	**324**	*e*S	**Sn**	**12 26 09.0**	**-0.8**
JHU	**Hanno**	**4.40**	**330**	P	**Pn**	**12 25 29.5**	**+0.3**
JHU				S	**Sn**	**12 26 19.4**	**-0.1**
JHO	**Hitachi**	**4.70**	**346**	P	**Pn**	**12 25 32.0**	**-1.3**
JHO				S	**Sn**	**12 26 23.7**	**-3.2**
JRY	**Ryogami san**	**4.71**	**328**	P	**Pn**	**12 25 33.1**	**-0.3**
JRY				S	**Sn**	**12 26 27.2**	**+0.1**
JAG	**Ashikaga**	**4.84**	**335**	P	**Pn**	**12 25 35.6**	**+0.4**
JAG				S	**Sn**	**12 26 29.0**	**-1.3**
JCJ	**Chichijima** 3.7nm,0.3s,baz=86,slow=22,SNR=6.0	**4.93**	**178**	Pn	**Pn**	**12 25 36.1**	**-0.5**
JCJ				Sn	**Sn**	**12 26 30.0**	**-2.7**
	6.5nm,0.3s,baz=288,slow=20,SNR=3.7						
MJAR	**Matsushiro Arr** 0.6nm,0.3s,baz=151,slow=11,SNR=14	**5.46**	**326**	Pn	**Pn**	**12 25 44.3**	**+0.5**
MJAR				Sn	**Sn**	**12 26 45.4**	**-0.1**
	0.6nm,0.3s,baz=33,slow=18,SNR=4.9						
MAT	**Matsushiro**	**5.46**	**326**	P	**Pn**	**12 25 43.8**	**0.0**
MAT				*e*S	**Sn**	**12 26 41.2**	**-4.4**
JFT	**Otama**	**5.62**	**347**	P	**Pn**	**12 25 46.1**	**+0.1**
JFT				S	**Sn**	**12 26 47.2**	**-2.5**
JNU	**Nakatsue** comp=Z,160nm,18.4s,baz=208,slow=38	**9.41**	**280**	LR	LR	12 30 22.4	
KSRS	**Korea Array** baz=112,slow=13,SNR=2.6	**12.74**	**299**	Pn	**Pn**	**12 27 24.9**	**+1.5**
CMAR	**Chiang Mai Arr** comp=Z,26n

JMP	**Maruseppu**	**2.73 279**	P		**Pn**	**12 26 40.2**	**+1.7**
JCH	**Churui**	**2.92 251**	P		**Pn**	**12 26 41.7**	**+0.7**
JCH			*e*S		**Sn**	**12 27 13.7**	**-1.4**
YSS	**Yuzh-Sakhalins**	**4.52 319**	*e*P		**Pn**	**12 27 04.1**	**+1.1**
YSS			AMB	AMB		12 27 06.2	
	40nm,0.2s						
YSS			*i* S		**Sn**	**12 27 53.8**	**-0.8**
YSS			A	A		12 27 56.7	
	100nm,0.3s						

IDC 22 12:27:00.9±1.9, 18°69'S×175°52'W, h0km, mb4.5/5, mb1 4.7/5, mb1mx4.0/34, mbtmp4.5/5, Error ellipse: s-maj=48.7km s-min=31.3km az=113.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.53**	**197**	P	Pn	12 31 42.7	-0.3
	4.3nm,0.3s,baz=265,slow=5.1,SNR=29						
CTA	**Charters Tower**	**36.04**	**261**	P	P	12 34 05.2	+1.0
	7.2nm,0.4s,baz=89,slow=10,SNR=31						
WRA	**Warramunga Arr**	**47.20**	**260**	P	P	12 35 34.5	-1.2
	3.3nm,0.5s,baz=97,slow=7.3,SNR=117						
ASAR	**Alice Springs**	**47.23**	**255**	P	P	12 35 34.9	-1.2
	6.3nm,0.6s,baz=91,slow=8.5,SNR=103						
MJAR	**Matsushiro Arr**	**70.19**	**322**	P	P	12 38 17.3	+1.7
	1.3nm,0.6s,baz=152,slow=5.9,SNR=7.8						
ARCES	**ARCESS Array B**	**127.54**	**351**	PKP	PKPdf	12 46 05.6	-1.8
	1.4nm,1.1s,baz=358,slow=2.7,SNR=3.6						
BRTR	**Keskin Array B**	**147.26**	**316**	PKPbc	PKPdf	12 46 45.1	+0.6
	0.7nm,0.7s,baz=68,slow=2.7,SNR=2.9						

*IDC **22** 12:31:07.6±2.6, 32°.19N×139°.41E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/36, mbtmp3.3/4, ML3.0/1, Error ellipse: s-maj=102.4km s-min=24.6km az=73.0*
*ISCJB **22** 12:31:11.5±0.9, 32°.76N±0'.05×140°.65E±0'.09, h79km±8km, mb3.4/3, Error ellipse: s-maj=12.5km s-min=8.1km az=14.3*
*JMA **22** 12:31:13.1±0.2, 32°.82N×140°.65E, h64km±5km, M3.3*
ISC 22 12:31:11.4±1.7, 32.72N±0'.09×140.77E±0'.09, h62km±15km, n25, σ1§77/32, mb3.3/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**0.89**	**293**	P	**Pn**	**12 31 28.5**	**+0.4**
JHCJ				S	**Sn**	**12 31 39.8**	**-0.7**
JHJ2	**Mitsune**	**0.89**	**296**	P	**Pn**	**12 31 28.5**	**+0.4**
JHJ2				S	**Sn**	**12 31 38.6**	**-1.9**
BSO1	**Boso 1**	**1.93**	**5**	P	**Pn**	**12 31 43.0**	**+1.6**
BSO1				S	**Sn**	**12 32 06.2**	**+1.8**
JKO	**Kozu shima**	**2.00**	**317**	P	**Pn**	**12 31 43.4**	**+0.5**
JKO				S	**Sn**	**12 32 05.8**	**-1.0**
BSO2	**Boso 2**	**2.02**	**360**	S	**Sn**	**12 32 07.5**	**+0.6**
JNIO	**Niijimaoohara**	**2.05**	**323**	P	**Pn**	**12 31 44.7**	**+1.1**
JNIO				*e*S	**Sn**	**12 32 06.6**	**-1.5**
BSO3	**Boso 3**	**2.08**	**354**	P	**Pn**	**12 31 44.3**	**+0.5**
BSO3				S	**Sn**	**12 32 08.9**	**+0.4**
JIM2	**Oshima 3**	**2.28**	**331**	P	**Pn**	**12 31 46.6**	**-0.1**
JIM2				S	**Sn**	**12 32 12.2**	**-1.5**
JIZS	**Izushimoda**	**2.54**	**322**	P	**Pn**	**12 31 51.0**	**+0.8**
JIZS				S	**Sn**	**12 32 19.0**	**-1.0**
TK02	**Tokai 2**	**2.80**	**297**	P	**Pn**	**12 31 55.7**	**+2.1**
TK02				S	**Sn**	**12 32 29.3**	**+3.2**
JOD2	**Odawara 2**	**2.89**	**332**	P	**Pn**	**12 31 55.4**	**+0.3**
JOD2				S	**Sn**	**12 32 26.3**	**-2.4**
SHZ3	**Shizuoka 3**	**3.16**	**318**	P	**Pn**	**12 32 00.8**	**+2.0**
TTO2	**TONANKAI O.B.S**	**3.30**	**289**	P	**Pn**	**12 32 02.5**	**+2.2**
JYN	**Shimob**	**3.33**	**327**	P	**Pn**	**12 32 02.6**	**+1.6**
JYN				S	**Sn**	**12 32 44.0**	**+4.6**
MJAR	**Matsushiro Arr**	**4.36**	**332**	Pn	**Pn**	**12 32 15.6**	**+0.5**
	0.7nm,0.3s,baz=166,slow=12,SNR=10						
MJAR				Sn	**Sn**	**12 33 04.8**	**+0.2**
	1.0nm,0.3s,baz=57,slow=34,SNR=5.3						
MAT	**Matsushiro**	**4.36**	**332**	P	**Pn**	**12 32 15.7**	**+0.6**
MAT				S	**Sn**	**12 33 01.0**	**-3.6**
H11N2	**WAKE ISLAND Hy**	**26.68**	**113**	T	T	13 05 40.7	
	baz=302						
H11N1	**WAKE ISLAND Hy**	**26.69**	**113**	T	T	13 05 42.6	
	baz=302						
H11N3	**WAKE ISLAND Hy**	**26.70**	**113**	T	T	13 05 49.6	
	baz=302						
H11S3	**WAKE ISLAND Hy**	**27.23**	**115**	T	T	13 06 12.2	
	baz=303						
H11S1	**WAKE ISLAND Hy**	**27.24**	**115**	T	T	13 06 22.0	
	baz=303						
H11S2	**WAKE ISLAND Hy**	**27.25**	**115**	T	T	13 06 25.5	
	baz=303						
MKAR	**Makanchi Array**	**46.08**	**306**	P	**P**	**12 39 28.4**	**-0.7**
	1.0nm,0.7s,baz=94,slow=6.4,SNR=13						
WRA	**Warramunga Arr**	**52.73**	**188**	P	**P**	**12 40 19.0**	**-0.9**
	0.1nm,0.4s,baz=2.6,slow=7.6,SNR=5.0						
ASAR	**Alice Springs**	**56.46**	**188**	P	**P**	**12 40 46.5**	**-0.4**
	0.2nm,0.7s,baz=3.6,slow=7.4,SNR=3.4						

*IDC **22** 12:40:23.9±1.4, 59°.81N×150°.41W, h0km, mb3.6/6, mb1 4.0/10, mb1mx3.7/29, mbtmp3.7/10, ML3.7/4, MS3.0/4, Ms1 3.1/4, ms1mx2.7/36, Error ellipse: s-maj=27.5km s-min=15.5km az=62.0*
*NEIC **22** 12:40:28.4, 60°.13N×150°.50W, h45km, ML3.8(AEIC), After AEIC.*
NEIC Felt [II] at Homer. Also felt at Anchorage, Cooper Landing, Kasilof, Seward and Soldotna.
ISC 22 12:40:27.9±0.8, 60°.11N±0'.03×150°.47W±0'.03, h30km±5km, n123, σ1§02/136, mb3.7/7, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLK	**Bradley Lake**	**0.40**	**211**	P	**Pn**	**12 40 37.9**	**+0.2**
BRLK				S	**Sn**	**12 40 45.4**	**+1.1**
NNL	**Nnilchik**	**0.42**	**262**	P	**Pn**	**12 40 38.1**	**+0.2**
SLKM	**Skilak Lake**	**0.42**	**17**	P	**Pb**	**12 40 37.5**	**+0.4**
SEW	**Seward**	**0.51**	**90**	P	**Pn**	**12 40 39.1**	**0.0**
SEW				S	**Sn**	**12 40 48.5**	**+1.6**
HOM	**Homer**	**0.74**	**233**	P	**Pb**	**12 40 42.1**	**-0.1**
HOM				S	**Sn**	**12 40 53.6**	**+1.1**
NKA	**Nikishka**	**0.74**	**330**	P	**Pb**	**12 40 42.5**	**+0.2**
PTE	**Portage**	**1.05**	**43**	P	**Pn**	**12 40 46.0**	**-0.4**
RC01	**Rabbit Creek A**	**1.05**	**20**	P	**Pn**	**12 40 46.0**	**-0.6**
RC01				S	**Sn**	**12 40 59.7**	**-0.5**
FIB	**Fire Island**	**1.07**	**8**	P	**Pn**	**12 40 46.9**	**0.0**
REF	**Redoubt East F**	**1.18**	**290**	P	**Pn**	**12 40 47.0**	**-1.5**
RSO	**Redoubt South**	**1.19**	**288**	*e*Pn	**Pn**	**12 40 47.3**	**-1.4**
DFR	**Drift River**	**1.20**	**295**	P	**Pn**	**12 40 47.3**	**-1.4**
RDN	**Redoubt North**	**1.21**	**291**	P	**Pn**	**12 40 47.4**	**-1.5**
NCT	**North Crescent**	**1.30**	**292**	P	**Pn**	**12 40 48.8**	**-1.4**
ILS	**Iliamna Low So**	**1.31**	**265**	P	**Pn**	**12 40 49.4**	**-0.8**
SPU	**Mount Spurr**	**1.33**	**325**	*e*Pb	**Pn**	**12 40 49.4**	**-1.1**
ILW	**Iliamna West**	**1.34**	**269**	P	**Pn**	**12 40 49.6**	**-1.1**
SUA	**Susitna One**	**1.37**	**355**	P	**Pn**	**12 40 50.1**	**-0.9**
SUA				S	**Sn**	**12 41 07.7**	**-0.5**
CKN	**Chakachatna No**	**1.40**	**324**	P	**Pn**	**12 40 50.5**	**-0.9**
CKL	**Chakachamna La**	**1.43**	**321**	P	**Pn**	**12 40 50.8**	**-1.1**
OPT	**Oil Point**	**1.46**	**253**	P	**Pn**	**12 40 51.7**	**-0.6**
SPBG	**Spurr Blockage**	**1.49**	**322**	P	**Pn**	**12 40 51.7**	**-1.0**
SPBG				S	**Sn**	**12 41 10.3**	**-0.9**
BGL	**Barrier Glacie**	**1.50**	**322**	P	**Pn**	**12 40 51.8**	**-1.0**
STLK	**Strandline Lak**	**1.55**	**335**	P	**Pn**	**12 40 53.0**	**-0.5**
PMR	**Palmer**	**1.63**	**23**	P	**Pn**	**12 40 53.9**	**-0.6**
AUP	**Augustine Pinn**	**1.67**	**245**	P	**Pn**	**12 40 55.2**	**+0.1**
AUI	**Augustine Isla**	**1.69**	**244**	P	**Pn**	**12 40 55.3**	**0.0**
AUI				S	**Sn**	**12 41 16.9**	**+1.1**
GLI	**Glacier Island**	**1.84**	**64**	P	**Pn**	**12 40 56.4**	**-1.1**
PDB	**Pedro Bay**	**1.90**	**262**	P	**Pn**	**12 40 57.9**	**-0.3**
SKT	**Skwentna**	**1.95**	**345**	P	**Pn**	**12 40 58.5**	**-0.4**
SKT				S	**Sn**	**12 41 23.0**	**+0.5**
JPK	**Jack Peak**	**2.14**	**62**	P	**Pn**	**12 41 00.7**	**-0.9**
MCNL	**McNeil River**	**2.17**	**246**	P	**Pn**	**12 41 02.3**	**+0.3**
MID	**Middleton Isla**	**2.20**	**106**	P	**Pn**	**12 41 02.9**	**+0.5**
VMT	**TAPS TI Valdez**	**2.25**	**62**	P	**Pn**	**12 41 02.5**	**-0.5**
VLZ	**Valdez**	**2.29**	**61**	P	**Pn**	**12 41 02.9**	**-0.6**
CUT	**Chulitna**	**2.31**	**2**	P	**Pn**	**12 41 03.7**	**-0.1**
EYAK	**Cordova Ski Ar**	**2.39**	**77**	P	**Pn**	**12 41 03.8**	**-1.2**
DIV	**Divide**	**2.54**	**64**	P	**Pn**	**12 41 06.5**	**-0.6**
KDAK	**Kodiak Island**	**2.57**	**206**	P	**Pn**	**12 41 07.7**	**+0.2**
KLU	**Klutina**	**2.63**	**56**	P	**Pn**	**12 41 08.2**	**-0.2**
SVW2	**Sparrevohn**	**2.71**	**294**	P	**Pn**	**12 41 07.7**	**-1.7**
GOAT	**Goat Mountain**	**2.90**	**78**	P	**Pn**	**12 41 10.9**	**-1.1**
RAGM	**Ragged Mountai**	**2.91**	**82**	P	**Pn**	**12 41 10.7**	**-1.4**
PPLA	**Purkeypile**	**2.92**	**344**	P	**Pn**	**12 41 12.2**	**-0.2**
PS12	**TAPS Pump St12**	**2.95**	**60**	P	**Pn**	**12 41 12.4**	**-0.3**
KAKN	**Katmai Knife C**	**2.98**	**234**	P	**Pn**	**12 41 13.1**	**0.0**
KVTA	**Katmai Vly 10**	**3.02**	**237**	P	**Pn**	**12 41 13.9**	**+0.3**
BMRM	**Bremner River**	**3.03**	**71**	P	**Pn**	**12 41 12.6**	**-1.2**
KABR	**Katmai Barrier**	**3.05**	**231**	P	**Pn**	**12 41 13.6**	**-0.5**
KCE	**Katmai Mt Cerb**	**3.06**	**234**	P	**Pn**	**12 41 14.6**	**+0.4**
PS11	**TAPS Pump St11**	**3.13**	**49**	P	**Pn**	**12 41 15.7**	**+0.5**
KELA	**Mount Kelaz**	**3.18**	**241**	P	**Pn**	**12 41 15.9**	**0.0**
OHAK	**Old Harbor**	**3.24**	**208**	P	**Pn**	**12 41 15.3**	**-1.3**
NICHA	**Nichawak Mount**	**3.25**	**85**	P	**Pn**	**12 41 15.5**	**-1.4**
DHY	**Denali Highway**	**3.33**	**25**	P	**Pn**	**12 41 18.7**	**+0.7**
TRF	**Thorofare Moun**	**3.36**	**1**	P	**Pn**	**12 41 19.0**	**+0.5**
BERG	**Berg Lake**	**3.39**	**82**	P	**Pn**	**12 41 16.9**	**-1.8**
RNDI	**Reindeer**	**3.40**	**12**	P	**Pn**	**12 41 19.1**	**+0.2**
CAST	**Castle Rocks**	**3.41**	**348**	*e*Pb	Pn	12 41 23.2	+4.1
HARP	**HAARP**	**3.45**	**46**	P	**Pn**	**12 41 19.9**	**+0.3**
KTH	**Kantishna Hill**	**3.47**	**357**	P	**Pn**	**12 41 20.9**	**+1.0**
GLB	**Gilahina Butte**	**3.53**	**65**	P	**Pn**	**12 41 20.0**	**-0.7**
WASW	**Wrangell South**	**3.57**	**56**	P	**Pn**	**12 41 21.5**	**+0.1**
GRIN	**Grindle Hills**	**3.58**	**84**	P	**Pn**	**12 41 21.9**	**+0.6**
KHIT	**Khitrov Hills**	**3.61**	**82**	P	**Pn**	**12 41 20.0**	**-1.8**
VRDI	**Verde Repeater**	**3.63**	**69**	P	**Pn**	**12 41 21.2**	**-1.0**
MCK	**McKinley**	**3.71**	**11**	P	**Pn**	**12 41 23.9**	**+0.7**
PAX	**Paxson**	**3.74**	**38**	P	**Pn**	**12 41 23.9**	**+0.3**
TT01	**Tatalina**	**3.87**	**319**	P	**Pn**	**12 41 24.3**	**-1.0**
KULT	**Kultieth River**	**3.88**	**85**	P	**Pn**	**12 41 23.9**	**-1.5**
MCARA	**McCarthy VSAT**	**3.88**	**67**	P	**Pn**	**12 41 24.5**	**-0.9**
BARK	**Barkley Ridge**	**3.99**	**82**	P	**Pn**	**12 41 25.5**	**-1.5**
BPAW	**Bear Paw Mtn.**	**4.02**	**357**	P	**Pn**	**12 41 27.1**	**-0.3**
ISLE	**Juniper Island**	**4.07**	**79**	P	**Pn**	**12 41 26.6**	**-1.6**
PTPK	**Patty Peak**	**4.09**	**71**	P	**Pn**	**12 41 27.7**	**-0.8**
KIAG	**Kiagna River**	**4.09**	**75**	P	**Pn**	**12 41 27.0**	**-1.5**
BWN	**Browne**	**4.11**	**6**	P	**Pn**	**12 41 29.7**	**+1.1**
BAGL	**Bagley Icefiel**	**4.19**	**81**	P	**Pn**	**12 41 28.7**	**-0.9**
MESA	**MESA**	**4.26**	**85**	P	**Pn**	**12 41 30.0**	**-0.9**
GRNC	**Granite Creek**	**4.37**	**78**	P	**Pn**	**12 41 31.0**	**-1.4**
BARN	**Barnard Glacie**	**4.45**	**74**	P	**Pn**	**12 41 32.9**	**-0.6**
WRH	**Wood River Hil**	**4.52**	**13**	P	**Pn**	**12 41 34.2**	**0.0**
RKAV	**Rock Avalanche**	**4.56**	**84**	P	**Pn**	**12 41 34.6**	**-0.3**
HDA	**Harding Lake**	**4.62**	**19**	P	**Pn**	**12 41 35.7**	**+0.1**
TABL	**Table Mountain**	**4.66**	**82**	P	**Pn**	**12 41 35.2**	**-1.1**
DOT	**Dot Lake**	**4.67**	**38**	P	**Pn**	**12 41 36.2**	**-0.1**
CHX	**Chaix Hills**	**4.69**	**86**	P	**Pn**	**12 41 35.9**	**-0.6**
CCB	**Clear Creek Bu**	**4.72**	**14**	P	**Pn**	**12 41 36.8**	**-0.2**
PS08	**TAPS Pump Stn8**	**4.77**	**19**	P	**Pn**	**12 41 38.1**	**+0.6**
SAMH	**Samovar Hills**	**4.85**	**86**	P	**Pn**	**12 41 38.0**	**-0.9**
COLA	**College**	**4.94**	**13**	P	**Pn**	**12 41 39.6**	**-0.3**
SCRK	**Sand Creek**	**4.94**	**35**	P	**Pn**	**12 41 39.5**	**-0.6**
MLY	**Manley**	**4.95**	**359**	P	**Pn**	**12 41 40.0**	**-0.1**
ILAR	**Eielson Array**	**4.97**	**18**	Pn	**Pn**	**12 41 40.5**	**+0.1**
	3.3nm,0.3s,baz=199,slow=14,SNR=86						
ILAR				Sn	Sb	12 42 46.7	-6.6
	4.6nm,0.3s,baz=190,slow=19,SNR=3.6						
ILAR				LR	LR	12 43 55.1	
	comp=Z,82nm,21.7s,baz=196,slow=40						
ILB	**Eielson Array**	**4.97**	**18**	P	**Pn**	**12 41 40.5**	**+0.1**
IL1	**Eielson Array**	**4.97**	**18**	P	**Pn**	**12 41 40.5**	**+0.1**
BCA3	**Beaver Creek A**	**5.10**	**51**	P	**Pn**	**12 41 42.2**	**0.0**
CHGN	**Chignik**	**5.67**	**231**	Pn	**Pn**	**12 41 50.2**	**+0.2**
CHGN				*e*Sn	**Sn**	**12 42 50.5**	**-3.5**
PS06	**TAPS Pump Stn6**	**5.78**	**3**	P	**Pn**	**12 41 51.6**	**+0.1**
IM04	**Indian Mountai**	**6.08**	**347**	*e*Pn	**Pn**	**12 41 54.9**	**-0.7**
IM3	**Indian Mountai**	**6.08**	**347**	P	**Pn**	**12 41 54.8**	**-0.9**
EGAK	**Eagle**	**6.37**	**39**	P	**Pn**	**12 41 59.3**	**-0.3**
HYT	**Haines Junctio**	**6.46**	**78**	P	**Pn**	**12 41 59.9**	**-1.1**
DAWY	**Dawson**	**6.54**	**48**	P	**Pn**	**12 42 01.8**	**-0.2**
COLD	**Coldfoot**	**7.15**	**1**	*e*Pn	**Pn**	**12 42 10.2**	**-0.1**
	9.9nm,0.6s						
COLD				*e*Sn	**Sn**	**12 43 31.5**	**+1.1**
SKAG	**Skagway**	**7.67**	**88**	P	**Pn**	**12 42 16.7**	**-0.7**
BM3	**Burnt Mountain**	**7.78**	**17**	P	**Pn**	**12 42 18.6**	**-0.5**
DLBC	**Dease Lake**	**10.59**	**90**	Pn	**Pn**	**12 42 56.6**	**-0.9**
	0.8nm,0.3s,baz=263,slow=10,SNR=16						
DLBC				Sn	**Sn**	**12 44 53.0**	**-1.9**
	0.3nm,0.3s,baz=168,slow=19,SNR=2.3						
DLBC				LR	LR	12 47 28.2	
	comp=Z,78nm,18.2s,baz=190,slow=40						
DLBC	**Dease Lake**	**10.59**	**90**	*e*Pn	**Pn**	**12 42 57.5**	**0.0**
DLBC				Sn	**Sn**	**12 44 53.0**	**-1.9**
INK	**Inuvik**	**11.01**	**35**	Pn	**Pn**	**12 43 04.8**	**+1.7**
	0.1nm,0.3s,baz=340,slow=32,SNR=7.0						
INK				Sn	Sn	12 45 14.6	+10
	0.2nm,0.3s,baz=135,slow=17,SNR=2.3						
H02N1	**VAN INLET T-PH**	**11.99**	**117**	Pn	**Pn**	**12 43 14.4**	**-2.2**
H02N1				Sn	Sn	12 45 22.9	-6.2
	SNR=24						
H02S1	**DAWSON INLET T**	**12.05**	**117**	Pn	**Pn**	**12 43 15.1**	**-2.2**
H02S1				Sn	Sn	12 45 24.2	-6.3
BBB	**Bella Bella**	**14.71**	**113**	LR	LR	12 48 15.9	
	comp=Z,64nm,18.9s,baz=34,slow=32						
YKA	**Yellowknife Ar**	**17.25**	**67**	Pn	**Pn**	**12 44 24.3**	**-1.9**
	0.2nm,0.3s,baz=277,slow=12,SNR=7.7						
NVAR	**Mina Array Bea**	**29.69**	**122**	P	**P**	**12 46 30.0**	**-1.1**
	0.4nm,0.6s,baz=318,slow=8.2,SNR=4.1						
NVAR				PcP	**PcP**	**12 49 33.0**	**-1.6**
	0.5nm,0.6s,baz=294,slow=1.5,SNR=4.0						
PDAR	**Pinedale Array**	**30.20**	**106**	P	**P**	**12 46 35.9**	**+0.3**
	0.3nm,0.6s,baz=334,slow=6.0,SNR=3.0						
TXAR	**Lajitas Array**	**43.84**	**113**	P	**P**	**12 48 31.3**	**+0.1**
	0.8nm,0.8s,baz=329,slow=6.0,SNR=8.7						
ARCES	**ARCESS Array B**	**50.62**	**2**	P	P	12 49 26.9	+3.5
	0.6nm,0.6s,baz=7.0,slow=8.2,SNR=3.1						
ARCES				LR	LR	13 12 48.9	
	comp=Z,35nm,18.7s,baz=40,slow=38						
ZALV	**Zalesovo Beam**	**59.03**	**325**	P	**P**	**12 50 19.8**	**+2.4**
	0.5nm,0.4s,baz=38,slow=7.3,SNR=2.8						
FINES	**FINESS Array B**	**58.75**	**2**	P	**P**	**12 50 23.2**	**+0.9**
	0.4nm,0.6s,baz=15,slow=7.2,SNR=2.4						
HHC	**Hu-ho-hao-te**	**59.25**	**299**	*e*P	**P**	**12 50 27.4**	**+1.1**
HHC				sP	**sP**	**12 50 38.8**	**-0.1**
HHC				PP	PP	12 52 29.8	-7.1
HHC				PcS	**PcS**	**12 55 14.9**	**-1.4**
HHC				S	**S**	**12 58 32.3**	**+0.2**
HHC				ScS	**ScS**	**13 00 12.3**	**-1.6**
HHC	**Hu-ho-hao-te**	**59.25**	**299**	SS	SS	13 02 24.1	-2.1
HHC				pmax	pmax		
	comp=Z,25nm,1.5s						
HHC				pmax	pmax		
	comp=Z,63nm,7.4s						
HHC				LR	LR		
	comp=N,190nm,17.3s						
HHC				LR	LR		
	comp=E,100nm,19.7s						
HHC				LR	LR		
	comp=Z,110nm,17.3s						
WMQ	**Urumqi**	**66.05**	**318**	*e*P	**P**	**12 51 13.5**	**+2.0**

WEL 22 12:49:34.5±0.4, 37°.61S×176°.56E, h176km±2km, ML3.9/14, 20C-7D, Error ellipse: s-maj=3.0km s-min=2.0km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.24**	**181**	PN	Pn	12 49 58.0	0.0
OPRZ				SN	Sn	12 50 15.9	-0.3
MARZ	**Manawahe**	**0.39**	**166**	↑PN	Pn	12 49 58.6	+0.2
MARZ				SN	Sn	12 50 17.5	+0.5
RRRZ	**Republican Roa**	**0.73**	**183**	↑PN	Pn	12 50 00.1	+0.1
HSRZ	**Hossack Road**	**0.74**	**199**	PN	Pn	12 50 00.5	+0.4
URZ	**Urewera**	**0.78**	**146**	PN	Pn	12 49 59.9	-0.4
URZ				SN	Sn	12 50 18.8	-1.4
URZ				AML	AML	12 50 19.6	
PRRZ	**Plateau Road**	**0.90**	**188**	↑PN	Pn	12 50 01.1	+0.1
WPRZ	**Whakapapataran**	**0.96**	**199**	↑PN	Pn	12 50 01.9	+0.4
HAZ	**Te Kaha**	**0.98**	**99**	↓PN	Pn	12 50 01.1	-0.5
HAZ				SN	Sn	12 50 21.3	-1.3
MWZ	**Matawai**	**1.05**	**134**	PN	Pn	12 50 01.7	-0.5
MWZ				AML	AML	12 50 23.6	
MWZ				AML	AML	12 50 23.6	
MWZ				AML	AML	12 50 24.3	
MWZ				AML	AML	12 50 25.5	
RAGZ	**Rawiri**	**1.11**	**143**	PN	Pn	12 50 02.7	0.0
TWGZ	**Tauwhareparae**	**1.26**	**117**	PN	Pn	12 50 04.1	+0.2
TWGZ				SN	Sn	12 50 27.0	+0.2
TKGZ	**Te Karaka**	**1.31**	**130**	↑PN	Pn	12 50 04.4	+0.1
SNGZ	**Shannon Statio**	**1.32**	**153**	PN	Pn	12 50 04.6	+0.1
HATZ	**Hinemaiaia**	**1.33**	**196**	↑PN	Pn	12 50 04.4	-0.1
RAHZ	**Arahi**	**1.37**	**163**	↓PN	Pn	12 50 05.2	+0.3
MXZ	**Matakaoa Point**	**1.39**	**89**	↑PN	Pn	12 50 05.1	+0.1
RATZ	**Rangitukua**	**1.40**	**206**	PN	Pn	12 50 05.3	+0.1
PUZ	**Puketiti**	**1.42**	**110**	PN	Pn	12 50 05.0	-0.4
PUZ				AML	AML	12 50 34.7	
PUZ				AML	AML	12 50 35.5	
RIGZ	**Rimuhau**	**1.45**	**139**	↑PN	Pn	12 50 05.9	+0.3
RITZ	**Rihia Road**	**1.48**	**202**	↓PN	Pn	12 50 06.3	+0.4
WMGZ	**Waiomatatini S**	**1.49**	**99**	PN	Pn	12 50 05.9	0.0
WMGZ				SN	Sn	12 50 29.2	-1.1
NMHZ	**Naumai**	**1.50**	**173**	↓PN	Pn	12 50 06.6	+0.4
KATZ	**Kakaramea**	**1.53**	**206**	PN	Pn	12 50 06.3	-0.1
BKZ	**Black Stump Fm**	**1.56**	**182**	↑PN	Pn	12 50 06.0	-0.7
BKZ				AML	AML	12 50 31.3	
BKZ				AML	AML	12 50 36.3	
WHHZ	**Waihua**	**1.56**	**160**	PN	Pn	12 50 06.7	+0.1
CNGZ	**Carnagh Statio**	**1.57**	**124**	PN	Pn	12 50 07.3	+0.6
HIZ	**Hauiti**	**1.62**	**236**	PN	Pn	12 50 07.5	+0.3
KNZ	**Kokohu**	**1.66**	**148**	↑PN	Pn	12 50 07.5	-0.1
PRGZ	**Paritu Road**	**1.68**	**142**	PN	Pn	12 50 07.9	+0.1
ARHZ	**Aropaoanui**	**1.69**	**168**	PN	Pn	12 50 08.0	+0.1
OTVZ	**Oturere**	**1.71**	**204**	PN	Pn	12 50 08.4	+0.1
TWVZ	**Taurewa**	**1.71**	**211**	PN	Pn	12 50 07.6	-0.7
NGZ	**Ngauruhoe**	**1.74**	**205**	PN	Pn	12 50 08.5	-0.1
COVZ	**Chateau Observ**	**1.78**	**206**	PN	Pn	12 50 08.2	-0.8
WPVZ	**Whakapapa**	**1.78**	**206**	PN	Pn	12 50 08.8	-0.3
TUVZ	**Tukino**	**1.80**	**203**	↑PN	Pn	12 50 09.1	-0.2
FWVZ	**Far West T-bar**	**1.82**	**205**	PN	Pn	12 50 09.2	-0.5
MCHZ	**McNeill Hill**	**1.84**	**177**	PN	Pn	12 50 09.5	0.0
WHVZ	**Whangaehu Hut**	**1.84**	**204**	↑PN	Pn	12 50 09.5	-0.3
TRVZ	**Turoa**	**1.87**	**205**	PN	Pn	12 50 09.7	-0.4
WNVZ	**Wahianoa**	**1.88**	**203**	↑PN	Pn	12 50 09.7	-0.4
MOVZ	**Moawhango**	**1.91**	**199**	PN	Pn	12 50 09.5	-0.8
BHHZ	**Black Hill Sta**	**1.92**	**192**	↑PN	Pn	12 50 09.6	-0.9
PKVZ	**Pokaka**	**1.93**	**209**	↑PN	Pn	12 50 10.3	-0.2
MTVZ	**Mangateitei**	**1.97**	**205**	PN	Pn	12 50 10.4	-0.3
KRHZ	**Kereru**	**2.04**	**184**	PN	Pn	12 50 10.9	-0.7
CKHZ	**Cape Kidnapper**	**2.09**	**169**	↓PN	Pn	12 50 12.0	-0.2
KAHZ	**Kahuranaki**	**2.20**	**174**	↑PN	Pn	12 50 13.0	-0.4
PNHZ	**Pukenui**	**2.32**	**187**	↓PN	Pn	12 50 13.8	-1.1
PXZ	**Pawanui**	**2.43**	**175**	↑PN	Pn	12 50 15.1	-1.0
PXZ				AML	AML	12 50 48.2	
PXZ				AML	AML	12 50 48.2	
PXZ				AML	AML	12 50 48.7	
PXZ				AML	AML	12 50 48.7	
WPHZ	**Waipukurau**	**2.46**	**182**	PN	Pn	12 50 15.1	-1.2
TSZ	**Takapari Road**	**2.49**	**191**	PN	Pn	12 50 15.6	-1.3
PRHZ	**Porangahau**	**2.66**	**179**	PN	Pn	12 50 17.4	-1.3
DVHZ	**Dannevirke**	**2.71**	**186**	PN	Pn	12 50 17.5	-1.8
ANWZ	**Angora Road**	**2.85**	**181**	PN	Pn	12 50 19.6

TSI	**Tuntungan**	**0.59**	**86**	P	**Pn**	**13 00 50.9**	**+0.3**
TSI				S	**Sn**	**13 01 01.6**	**+2.6**
PSI	**Prapat**	**1.15**	**125**	Pg	**Pn**	**13 01 00.0**	**+1.5**
	75nm,0.3s,baz=311,slow=15,SNR=131						
PSI				Lg	Lg	13 01 20.0	
	164nm,0.3s,baz=183,slow=15,SNR=33						
SNSI	**Sinabang, Aceh**	**1.95**	**238**	P	**Pn**	**13 01 10.2**	**+0.9**
LHMI	**Lhok Sumawe**	**2.03**	**330**	P	**Pn**	**13 01 12.4**	**+2.0**
LHMI				S	**Sn**	**13 01 38.2**	**+3.6**
GSI	**Gunungsitoli**	**2.18**	**191**	P	**Pn**	**13 01 12.7**	**+0.2**
GSI				S	**Sn**	**13 01 41.0**	**+2.7**
MNSI	**Mandailing Nat**	**3.10**	**149**	P	**Pn**	**13 01 26.3**	**+1.2**
BSI	**Banda Aceh**	**3.35**	**307**	P	**Pn**	**13 01 30.4**	**+1.8**
PPI	**Padang Panjang**	**4.58**	**148**	P	**Pn**	**13 01 46.5**	**+0.9**
CMAR	**Chiang Mai Arr**	**14.94**	**4**	Pn	**P**	**13 04 10.9**	**-1.7**
	0.1nm,0.3s,baz=201,slow=12,SNR=3.9						
CMAR				Lg	Lg	13 08 31.2	
	0.2nm,0.3s,baz=178,slow=31,SNR=4.5						
CMAR				LR	LR	13 10 07.8	
	comp=Z,76nm,19.1s,baz=195,slow=38						
KAPI	**Kappang**	**23.33**	**111**	P	**P**	**13 05 46.1**	**+2.1**
	4.4nm,0.5s,baz=342,slow=4.5,SNR=4.8						
WRA	**Warramunga Arr**	**42.62**	**125**	P	**P**	**13 08 31.6**	**-0.3**
	3.6nm,0.7s,baz=300,slow=9.3,SNR=54						
KSRS	**Korea Array**	**43.56**	**35**	LR	LR	13 28 13.8	
	comp=Z,320nm,18.1s,baz=238,slow=38						
ASAR	**Alice Springs**	**44.18**	**129**	P	**P**	**13 08 44.1**	**-0.4**
	1.1nm,0.6s,baz=300,slow=8.1,SNR=34						
ASAR				ScP	**ScP**	**13 14 21.6**	**+3.0**
	0.2nm,0.9s,baz=316,slow=3.9,SNR=4.6						
MKAR	**Makanchi Array**	**45.26**	**345**	P	**P**	**13 08 53.5**	**+0.8**
	0.4nm,0.4s,baz=179,slow=8.1,SNR=7.4						
ZALV	**Zalesovo Beam**	**51.47**	**350**	P	**P**	**13 09 39.7**	**-0.8**
	1.2nm,0.5s,baz=169,slow=6.3,SNR=6.4						
STKA	**Stephens Creek**	**54.32**	**134**	P	**P**	**13 10 01.9**	**0.0**
	3.4nm,0.7s,baz=291,slow=7.0,SNR=9.6						
STKA				LR	LR	13 35 04.1	
	comp=Z,26nm,18.1s,baz=199,slow=38						
BVAR	**Borovoye Array**	**54.39**	**340**	P	**P**	**13 10 00.3**	**-1.8**
	0.9nm,0.5s,baz=144,slow=10.0,SNR=6.1						
BRTR	**Keskin Array B**	**68.19**	**312**	P	**P**	**13 11 34.6**	**-1.3**
	1.5nm,0.6s,baz=127,slow=7.6,SNR=10						
FINES	**FINESS Array B**	**78.37**	**332**	P	**P**	**13 12 34.5**	**-0.8**
	1.0nm,0.5s,baz=108,slow=6.7,SNR=13						
ARCES	**ARCESS Array B**	**80.68**	**340**	P	**P**	**13 12 47.2**	**-0.6**
	0.4nm,0.5s,baz=77,slow=5.4,SNR=10						
GERES	**GERESS Array B**	**83.64**	**319**	P	**P**	**13 13 02.8**	**-1.0**
	0.2nm,0.3s,baz=29,slow=3.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**95.32**	**283**	P	**P**	**13 13 59.2**	**-0.8**
	0.4nm,0.9s,baz=70,slow=2.1,SNR=3.8						
TXAR	**Lajitas Array**	**141.35**	**31**	PKP	**PKPdf**	**13 20 06.0**	**-0.8**
	0.1nm,0.5s,baz=214,slow=0.3,SNR=3.0						

IDC 22 13:09:50.3±1.5, 0.°25N×122.°39E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/34, mbtmp3.2/3, Error ellipse: s-maj=220.9km s-min=24.3km az=61.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.24**	**150**	P	P	13 14 59.0	-0.5
	0.2nm,0.3s,baz=327,slow=11,SNR=20						
ASAR	**Alice Springs**	**26.28**	**156**	P	P	13 15 28.0	+0.3
	0.2nm,0.7s,baz=337,slow=9.1,SNR=2.8						
MKAR	**Makanchi Array**	**58.08**	**329**	P	P	13 19 45.5	0.0
	0.2nm,0.5s,baz=131,slow=5.9,SNR=3.5						

IDC 22 13:46:57.4±2.0, 20.°65S×168.°42E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.7/18, mbtmp3.7/4, ML3.6/1, MS2.9/2, Ms1 3.0/2, ms1mx2.7/20, Error ellipse: s-maj=88.7km s-min=24.7km az=145.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.32**	**232**	Pn	Pn	13 47 36.5	-0.5
	15nm,0.3s,baz=90,slow=20,SNR=214						
DZM				Sn	Sn	13 48 05.8	-0.5
	32nm,0.3s,baz=90,slow=24,SNR=20						
DZM				LR	LR	13 48 35.0	
	comp=Z,150nm,19.4s,baz=0.0,slow=42						
WRA	**Warramunga Arr**	**31.94**	**265**	P	P	13 53 24.8	-0.3
	0.4nm,1.0s,baz=91,slow=8.3,SNR=3.0						
ASAR	**Alice Springs**	**32.06**	**258**	P	P	13 53 26.6	+0.3
	1.2nm,0.8s,baz=81,slow=9.1,SNR=17						
VNDA	**Vanda**	**57.01**	**182**	LR	LR	14 16 57.5	
	comp=Z,18nm,19.3s,baz=218,slow=32						
NVAR	**Mina Array Bea**	**90.31**	**49**	P	P	13 59 59.9	-0.8
	0.5nm,0.6s,baz=224,slow=6.3,SNR=4.5						
GERES	**GERESS Array B**	**145.34**	**330**	PKPbc	PKPbc	14 06 37.2	+0.1
	0.2nm,0.3s,baz=27,slow=4.6,SNR=5.1						

*ISCJB **22** 13:47:10.5±0.5, 17.°92S×178.°4W±0.°1, h579km, mb3.9/14, Error ellipse: s-maj=17.2km s-min=12.8km az=152.7*
*IDC **22** 13:47:17.5±2.4, 17.°92S×178.°52W, h649km, 30km, mb3.3/14, mb1 3.6/14, mb1mx3.4/23, mbtmp4.3/14, Error ellipse: s-maj=19.1km s-min=11.0km az=151.0*
ISC 22 13:47:11.6±0.7, 17.°9S±0.°1×178.°4W±0.°1, h579km, n21, σ1°54/22, mb4.0/14, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.43**	**260**	P	**P**	**13 53 05.2**	**+1.4**
	2.5nm,0.7s,baz=78,slow=11,SNR=3.7						
STKA	**Stephens Creek**	**38.62**	**241**	P	**P**	**13 53 48.0**	**+1.6**
	4.8nm,0.8s,baz=97,slow=6.9,SNR=11						
JAY	**Jayapura**	**42.89**	**286**	P	**P**	**13 54 21.3**	**+0.8**
	6.4nm,0.7s,baz=121,slow=8.0,SNR=4.4						
WRA	**Warramunga Arr**	**44.62**	**260**	P	**P**	**13 54 34.1**	**+0.3**
	0.7nm,0.4s,baz=93,slow=7.5,SNR=22						
WRA				S	**S**	**14 00 23.7**	**-5.0**
	0.4nm,0.8s,baz=98,slow=13,SNR=3.9						
ASAR	**Alice Springs**	**44.78**	**254**	P	**P**	**13 54 35.6**	**+0.7**
	3.1nm,0.5s,baz=92,slow=8.2,SNR=31						
ASAR				S	**S**	**14 00 29.1**	**-1.8**
	1.3nm,0.8s,baz=92,slow=17,SNR=7.9						
SIJI	**Sorong**	**52.22**	**283**	P	**P**	**13 55 31.0**	**+0.9**
	5.5nm,0.7s,baz=107,slow=14,SNR=4.3						
MJAR	**Matsushiro Arr**	**67.89**	**323**	P	**P**	**13 57 13.6**	**+0.3**
	0.9nm,0.5s,baz=155,slow=6.4,SNR=7.6						
QSPA	**South Pole Qui**	**72.16**	**180**	P	**P**	**13 57 38.0**	**-0.3**
	4.2nm,0.9s,baz=50,slow=2.3,SNR=12						
PETK	**Petropavlovsk-**	**73.66**	**345**	P	**P**	**13 57 47.0**	**+0.3**
	3.3nm,0.6s,baz=124,slow=8.3,SNR=18						
NVAR	**Mina Array Bea**	**79.42**	**44**	P	**P**	**13 58 19.6**	**+0.7**
	2.5nm,0.7s,baz=224,slow=8.8,SNR=12						
ILAR	**Eielson Array**	**85.88**	**13**	P	**P**	**13 58 49.1**	**-1.2**
	1.4nm,0.5s,baz=229,slow=5.7,SNR=22						
TXAR	**Lajitas Array**	**86.00**	**58**	P	**P**	**13 58 53.2**	**+1.3**
	2.4nm,0.8s,baz=218,slow=6.3,SNR=25						
PDAR	**Pinedale Array**	**87.35**	**43**	P	**P**	**13 58 58.0**	**0.0**
	1.4nm,0.6s,baz=221,slow=1.3,SNR=16						
SNAA	**Sanae**	**90.61**	**179**	P	P	13 59 08.9	-3.7
VNA3	**Neumayer Olymp**	**90.75**	**176**	P	**P**	**13 59 12.3**	**-0.9**
VNA2	**Neumayer--Watz**	**91.19**	**177**	P	**P**	**13 59 14.1**	**-1.1**
	baz=178,slow=5.0						
VNA1	**Neumayer--Stat**	**91.42**	**177**	P	**P**	**13 59 16.2**	**+0.1**
YKA	**Yellowknife Ar**	**94.32**	**25**	P	**P**	**13 59 27.4**	**-2.0**
	0.6nm,0.6s,baz=232,slow=5.3,SNR=4.3						
BRTR	**Keskin Array B**	**144.76**	**315**	PKP	**PKPdf**	**14 05 43.6**	**0.0**
	0.6nm,0.4s,baz=111,slow=3.9,SNR=3.7						
CLL	**Collm**	**145.44**	**347**	*iP*	**PKPbc**	**14 05 45.1**	**-0.4**
	comp=Z,7.0nm,0.8s						
GERES	**GERESS Array B**	**147.59**	**345**	PKPbc	**PKPbc**	**14 05 51.1**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=28,slow=3.2,SNR=14						

*IDC **22** 14:08:13.7±2.0, 9.°83S×120.°82E, h0km, mb3.8/1, mb1 3.5/4, mb1mx3.3/27, mbtmp3.4/4, ML3.4/3, Error ellipse: s-maj=80.7km s-min=25.9km az=41.0*
*ISCJB **22** 14:08:19.0±0.7, 9.°72S±0.°07×121.°32E±0.°06, h33km, mb3.8/1, Error ellipse: s-maj=10.2km s-min=8.4km az=173.6*
*DJA **22** 14:08:20.9±0.4, 9.°5±4.°×12.°1E±.°, h17km±6km, M4.0/10, mb4.1/2, MLv3.9/10*
ISC 22 14:08:19.8±1.0, 9.°58S±0.°07×121.°22E±0.°06, h35km, n12, σ1°64/10, Savu Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BASI	**Baing, Sumba**	**0.90**	**225**	P	**Pn**	**14 08 36.8**	**+0.8**
WSI	**Waingapu**	**0.91**	**264**	P	**Pn**	**14 08 36.9**	**+0.7**
WSI				S	**Sn**	**14 08 49.0**	**+0.9**
EDFI	**Ende, Flores**	**0.94**	**30**	P	**Pn**	**14 08 37.1**	**+0.4**
MMRI	**Maumere**	**1.37**	**47**	P	**Pn**	**14 08 43.0**	**+0.4**
BATI	**Baumata**	**2.49**	**105**	P	Pn	14 09 01.7	+3.8
BATI	**Baumata**	**2.49**	**105**	Pn	**Pn**	**14 09 00.5**	**+2.6**
	5.8nm,0.3s,baz=288,slow=3.3,SNR=12						
SOEI	**Soe**	**3.01**	**94**	P	Pn	14 09 10.2	+5.0
BSSI	**Bau Bau, Buton**	**3.49**	**348**	P	**Pn**	**14 09 13.4**	**+1.8**
SPSI	**Sidrap Palu**	**5.76**	**345**	P	Pn	14 09 48.4	+5.5
WRA	**Warramunga Arr**	**16.33**	**131**	Pn	**Pn**	**14 12 04.2**	**-2.5**
	0.1nm,0.3s,baz=306,slow=14,SNR=14						
WRA				Sn	Sn	14 14 53.4	-14
	0.2nm,0.3s,baz=311,slow=22,SNR=6.9						
ASAR	**Alice Springs**	**18.53**	**141**	P	**P**	**14 12 33.2**	**-0.3**
	0.1nm,0.3s,baz=319,slow=12,SNR=12						
ASAR				S	Sn	14 15 48.4	-12
	0.1nm,0.3s,baz=315,slow=21,SNR=4.5						
MKAR	**Makanchi Array**	**65.98**	**332**	P	**P**	**14 19 02.1**	**-0.6**
	0.7nm,0.7s,baz=145,slow=5.3,SNR=7.1						

*ISCJB **22** 14:22:20.5±1.0, 31.°48S±0.°03×70.°51W±0.°05, h108km±11km, Error ellipse: s-maj=6.6km s-min=4.9km az=165.8*
*GUC **22** 14:22:20.8±0.4, 31.°52S×70.°54W, h110km±5km, ML3.6*
*SJA **22** 14:22:20.6±1.3, 31.°41S×70.°49W, h78km±29km, ML3.4, MW3.7*
ISC 22 14:22:21.0±2.0, 31.°49S±0.°04×70.°52W±0.°04, h105km±24km, n18, σ0°75/34, 1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLS	**Leoncito**	**1.09**	**107**	*eP*	**Pn**	**14 22 42.9**	**-0.1**
AUSP	**Uspallata**	**1.21**	**127**	*eP*	**Pn**	**14 22 44.2**	**-0.1**
AUSP				*eS*	**Sn**	**14 23 01.4**	**-0.6**
TLL	**Tololo Astrono**	**1.34**	**349**	*eP*	**Pn**	**14 22 46.4**	**+0.5**
TLL				*eS*	**Sn**	**14 23 05.6**	**+0.9**
TLL				AML	AML	14 23 07.5	
	comp=N,3μm,0.6s						
ROCH	**El Roble**	**1.53**	**196**	*eP*	**Pn**	**14 22 47.6**	**-0.6**
ROCH				*eS*	**Sn**	**14 23 09.0**	**+0.3**
ROCH				AML	AML	14 23 17.3	
	comp=N,410nm,0.3s						
PEL	**Peldehue**	**1.65**	**185**	*eP*	**Pn**	**14 22 49.1**	**-0.3**
PEL				*eS*	**Sn**	**14 23 10.8**	**-0.3**
PEL				AML	AML	14 23 13.7	
	comp=E,884nm,0.3s						
SJA	**San Juan**	**1.68**	**92**	*eP*	**Pn**	**14 22 49.7**	**+0.1**
SJA				*eS*	**Sn**	**14 23 11.1**	**-0.4**
LSCH	**La Serena**	**1.70**	**338**	*eP*	**Pn**	**14 22 50.1**	**+0.2**
LSCH				*eS*	**Sn**	**14 23 11.9**	**0.0**
RTCV	**Cerro Valdivia**	**1.73**	**103**	*eP*	**Pn**	**14 22 50.1**	**-0.2**
RTCV				*eS*	**Sn**	**14 23 13.3**	**+0.5**
RTLL	**Cerro Villicun**	**1.75**	**85**	*eP*	**Pn**	**14 22 50.1**	**-0.5**
RTLL				*eS*	**Sn**	**14 23 12.2**	**-1.2**
ASAL	**Salagasta**	**1.80**	**128**	*eP*	**Pn**	**14 22 51.8**	**+0.5**
ASAL				*eS*	**Sn**	**14 23 15.5**	**+1.1**
AMOG	**MOGNA**	**1.82**	**73**	*eP*	**Pn**	**14 22 51.8**	**+0.3**
AMOG				⇓*eS*	**Sn**	**14 23 13.8**	**-1.0**
CLCH	**Cerro Calan**	**1.90**	**180**	*eP*	**Pn**	**14 22 52.4**	**-0.1**
CLCH				*eS*	**Sn**	**14 23 16.0**	**-0.6**
CLCH				AML	AML	14 23 20.4	
	comp=E,556nm,0.6s						
ARCO	**CERRO ARCO**	**1.90**	**135**	*eP*	**Pn**	**14 22 53.8**	**+1.2**
ARCO				*eS*	**Sn**	**14 23 18.5**	**+1.7**
ARCO				AML	AML	14 23 21.9	
	comp=Z,295nm,0.7s						
CFAA	**Coronel Fontan**	**1.95**	**94**	*eP*	**Pn**	**14 22 52.8**	**-0.3**
CFAA				*eP*	**Pn**	**14 22 52.8**	**-0.3**
CFAA				*eS*	**Sn**	**14 23 16.6**	**-1.1**
CFAA				*eS*	**Sn**	**14 23 16.9**	**-0.8**
AAGR	**Agrelo**	**2.14**	**138**	*eP*	**Pn**	**14 22 56.7**	**+1.0**
AAGR				*eS*	**Sn**	**14 23 23.4**	**+1.3**
CHCH	**Chadas Angostu**	**2.44**	**183**	*eP*	**Pn**	**14 22 58.9**	**-0.6**
LNV	**Longovilo**	**2.57**	**197**	*eP*	**Pn**	**14 23 00.4**	**-0.7**
VACH	**Vallenar**	**2.91**	**356**	*eS*	**Sn**	**14 23 40.1**	**-0.1**

*IDC **22** 14:25:56.6±1.5, 32.°64S×178.°38W, h0km, mb4.4/1, mb1 4.6/2, mb1mx3.8/26, mbtmp4.4/2, ML4.1/1, Error ellipse: s-maj=62.9km s-min=31.2km az=126.0*
*ISCJB **22** 14:25:59.4±1.1, 32.°8S±0.°1×178.°4W±0.°2, h33km, mb4.2/1, Error ellipse: s-maj=30.3km s-min=9.2km az=30.4*
ISC 22 14:26:01.4±1.0, 32.°7S±0.°1×178.°3W±0.°2, h33km, n20, σ0°98/26, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**5.96**	**212**	PN	**Pn**	**14 27 26.9**	**-0.4**
HAZ				SN	**Sn**	**14 28 35.6**	**+1.2**
TWGZ	**Tauwhareparae**	**6.24**	**208**	PN	**Pn**	**14 27 29.8**	**-1.3**
TWGZ				SN	**Sn**	**14 28 41.8**	**+0.5**
CNGZ	**Carnagh Statio**	**6.42**	**205**	PN	**Pn**	**14 27 32.0**	**-1.6**
MWZ	**Matawai**	**6.56**	**210**	PN	**Pn**	**14 27 34.8**	**-0.8**
MWZ				SN	**Sn**	**14 28 50.0**	**+0.8**
URZ	**Urewera**	**6.68**	**213**	Pn	**Pn**	**14 27 35.5**	**-1.7**
	3.9nm,0.3s,baz=266,slow=4.6,SNR=41						
URZ				Sn	**Sn**	**14 28 52.1**	**0.0**
	6.9nm,0.3s,baz=273,slow=18,SNR=9.9						
URZ	**Urewera**	**6.68**	**213**	PN	**Pn**	**14 27 36.9**	**-0.3**
URZ				SN	**Sn**	**14 28 53.5**	**+1.5**
RIGZ	**Rimuhau**	**6.78**	**207**	PN	**Pn**	**14 27 37.3**	**-1.2**
SNGZ	**Shannon Statio**	**7.01**	**209**	PN	**Pn**	**14 27 40.4**	**-1.3**
SNGZ				SN	**Sn**	**14 29 00.3**	**0.0**
KNZ	**Kokohu**	**7.09**	**206**	PN	**Pn**	**14 27 41.8**	**-1.0**
WRA	**Warramunga Arr**	**43.99**	**275**	P	**P**	**14 34 05.7**	**-0.2**
	2.4nm,0.5s,baz=113,slow=8.2,SNR=26						
SNAA	**Sanae**	**75.85**	**179**	P	**P**	**14 37 43.1**	**-0.8**
VNA3	**Neumayer Olymp**	**76.01**	**176**	P	**P**	**14 37 45.9**	**+1.1**
VNA2	**Neumayer--Watz**	**76.44**	**177**	P	**P**	**14 37 48.6**	**+1.4**
	baz=182,slow=2.8						
KURBB	**Kurchatov Arra**	**122.49**	**313**	PKP	**PKPdf**	**14 44 52.6**	**-0.3**
	1.3nm,0.2s,baz=118,slow=1.9,SNR=4.0						
FINES	**FINESS Array B**	**147.22**	**339**	PKPbc	**PKPbc**	**14 45 40.3**	**-0.2**
	4.2nm,0.8s,baz=45,slow=2.6,SNR=13						
NB2	**NORSAR Subarra**	**151.00**	**350**	PKP	**PKPab**	**14 45 57.8**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=36,slow=2.1						
NOA	**NORSAR Array B**	**151.00**	**350**	PKPbc	**PKPbc**	**14 45 50.4**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=20,slow=4.2,SNR=3.3						
MMAI	**Mount Meron Ar**	**151.77**	**280**	PKPbc	**PKPbc**	**14 45 54.0**	**+1.2**
	comp=Z,4.1nm,0.9s,baz=126,slow=4.2,SNR=3.9						
AKASG	**Malin Array Be**	**152.95**	**320**	PKPbc	**PKPbc**	**14 45 54.4**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=57,slow=3.2,SNR=4.6						
BRTR	**Keskin Array B**	**153.41**	**294**	PKPbc	**PKPbc**	**14 45 56.3**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=64,slow=3.4,SNR=4.9						

*IDC **22** 14:27:02.3±0.5, 14.°18S×167.°04E, h0km, mb4.7/20, mb1 4.8/21, mb1mx4.7/31, mbtmp4.7/21, ML4.8/1, MS3.8/24, Ms1 3.8/24, ms1mx3.7/32, Error ellipse: s-maj=19.0km s-min=12.9km az=87.0*
*ISCJB **22** 14:27:06.1±0.3, 14.°21S±0.°04×166.°92E±0.°06, h33km, mb4.8/60, MS3.8/24, Error ellipse: s-maj=8.0km s-min=4.8km az=160.0*
*MOS **22** 14:27:06.3±1.0, 14.°13S×166.°85E, h33km, mb5.0/10, Error ellipse: s-maj=12.2km s-min=9.2km az=32.0*
*NEIC **22** 14:27:07.4±0.3, 14.°15S×167.°00E, h35km, mb4.9/22, Error ellipse: s-maj=7.4km s-min=6.1km az=84.0*
*BJI **22** 14:27:09.2, 13.°66S×166.°77E, h35km, mb5.1/51, mB5.0/28, Ms4.9/22, Ms7 4.5/13*
ISC 22 14:27:07.7±0.4, 14.°18S±0.°05×167.°00E±0.°07, h35km, n188, σ1°28/214, mb4.9/59, MS3.8/25, 6C-5D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.87**	**184**	*e*Pn	**Pn**	**14 29 00.8**	**+1.0**
	31nm,0.2s						
DZM				*e*Sn	**Sn**	**14 30 26.1**	**-1.6**
	12nm,0.3s						
DZM				eLR	LR	14 30 48.9	
	3μm,25.1s						
DZM	**Mont Dzumac**	**7.87**	**184**	Pn	**Pn**	**14 28 59.8**	**0.0**
	12nm,0.3s,baz=270,slow=24,SNR=14						
DZM				Sn	**Sn**	**14 30 26.8**	**-0.9**
	1.5nm,0.3s,baz=270,slow=20,SNR=1.9						
DZM				LR	LR	14 31 41.8	
	comp=Z,2μm,22.0s,baz=0.0,slow=36						
DZM	**Mont Dzumac**	**7.87**	**184**	*e*P	**Pn**	**14 28 60.0**	**+0.2**
DZM	**Mont Dzumac**	**7.87**	**184**	*e*Pn	**Pn**	**14 29 00.1**	**+0.2**
DZM				*e*Sn	**Sn**	**14 30 28.2**	**+0.5**
BAYA	**Yate Dam**	**7.94**	**181**	*e*P	**Pn**	**14 29 02.2**	**+1.7**
HNR	**Honiara**	**8.36**	**304**	*e*P	**Pn**	**14 29 07.1**	**+0.6**
HNR				*e*		14 30 39.0	
HNR	**Honiara**	**8.36**	**304**	*e*P	**Pn**	**14 29 09.0**	**+2.5**
HNR				*e*S	**Sn**	**14 30 39.0**	**-0.8**
HNR	**Honiara**	**8.36**	**304**	*e*Pn	**Pn**	**14 29 07.1**	**+0.6**
HNR				*e*Sn	**Sn**	**14 30 39.0**	**-0.8**
EIDS	**Eidsvold**	**18.65**	**231**	*e*P	**Pn**	**14 31 23.5**	**+0.4**
	23nm,1.1s						
PMG	**Port Moresby**	**19.99**	**282**	⇑*iP*	**Pn**	**14 31 39.2**	**0.0**
PMG				pmax	pmax		
	comp=Z,925nm,1.4s						
PMG	**Port Moresby**	**19.99**	**282**	*e*P	**P**	**14 31 37.5**	**+0.1**
	comp=Z,132nm,0.9s						
CTA	**Charters Tower**	**20.67**	**251**	P	**P**	**14 31 45.1**	**+0.4**
	comp=Z,17nm,0.7s,baz=85,slow=13,SNR=18						
CTAO	**Charters Tower**	**20.67**	**251**	*e*P	**P**	**14 31 44.5**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,17nm,0.8s						
CTAO	**Charters Tower**	**20.67**	**251**	*e*P	**P**	**14 31 44.5**	**-0.3**
	comp=Z,17nm,0.8s						
OUZ	**Omahuta**	**21.78**	**165**	*e*P	**P**	**14 31 56.8**	**+0.3**
	comp=Z,6.8nm,1.0s						
COEN	**Coen**	**23.11**	**268**	*e*P	**P**	**14 32 10.7**	**-0.1**
	comp=Z,5.7nm,1.0s						
URZ	**Urewera**	**25.61**	**161**	P	**P**	**14 32 33.4**	**-0.4**
	comp=Z,8.3nm,0.8s,baz=94,slow=16,SNR=2.8						
URZ				LR	LR	14 41 07.3	
	comp=Z,462nm,20.3s,baz=341,slow=33						
JAY	**Jayapura**	**28.44**	**292**	P	**P**	**14 32 59.8**	**+0.2**
	comp=Z,5.7nm,0.8s,baz=73,slow=8.2,SNR=2.9						
JAY				LR	LR	14 43 54.4	
	comp=Z,121nm,21.6s,baz=159,slow=36						
STKA	**Stephens Creek**	**29.16**	**229**	P	**P**	**14 33 06.8**	**+1.1**
	comp=Z,6.4nm,0.6s,baz=48,slow=8.5,SNR=27						
STKA				PcP	**PcP**	**14 36 11.2**	**-1.6**
	comp=Z,5.5nm,0.9s,baz=30,slow=2.3,SNR=4.0						
STKA				LR	LR	14 44 47.8	
	comp=Z,544nm,18.6s,baz=52,slow=36						
STKA	**Stephens Creek**	**29.16**	**229**	*e*P	**P**	**14 33 06.0**	**+0.3**
STKA						14 36 11.2	
STKA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
STKA	**Stephens Creek**	**29.16**	**229**	*e*P	**P**	**14 33 06.0**	**+0.3**
	comp=Z,4.9nm,1.3s						
STKA				PcP	**PcP**	**14 36 11.2**	**-1.6**
RPZ	**Rata Peaks**	**29.64**	**174**	P	**P**	**14 33 10.4**	**+0.6**
	comp=Z,6.3nm,0.6s,baz=304,slow=3.6,SNR=3.1						
RPZ				LR	LR	14 43 41.6	
	comp=Z,431nm,21.8s,baz=2.5,slow=34						
SMPI	**Sarmi**	**30.46**	**291**	P	**P**	**14 33 17.4**	**0.0**
	comp=Z,28nm,1.3s,comp=Z,37μm						
WRAB	**Tennant Creek**	**31.70**	**255**	P	**P**	**14 33 26.2**	**-2.1**
	comp=Z,81nm,0.6s,SNR=11						
WRAB	**Tennant Creek**	**31.70**	**255**	*e*P	**P**	**14 33 27.3**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,60nm,2.5s						
WRAB	**Tennant Creek**	**31.70**	**255**	*e*P	**P**	**14 33 26.9**	**-1.5**
	comp=Z,10nm,0.8s						
WRA	**Warramunga Arr**	**31.71**	**255**	P	**P**	**14 33 27.1**	**-1.4**
	comp=Z,10nm,0.8s,baz=86,slow=9.3,SNR=108						
WRA				PcP	**PcP**	**14 36 19.4**	**-0.3**
	comp=Z,2.1nm,0.9s,baz=94,slow=2.7,SNR=6.4						
WRA				LR	LR	14 45 23.2	
	comp=Z,232nm,19.7s,baz=180,slow=35						
AS31	**Alice Springs**	**32.63**	**248**	*e*P	**P**	**14 33 35.1**	**-1.4**
ASAR	**Alice Springs**	**32.63**	**248**	P	**P**	**14 33 35.4**	**-1.1**
	comp=Z,9.3nm,0.7s,baz=73,slow=9.5,SNR=162						
ASAR				PcP	**PcP**	**14 36 21.6**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=80,slow=1.9,SNR=4.8						
ASAR				LR	LR	14 45 34.1	
	comp=Z,266nm,20.9s,baz=80,slow=34						
BBOO	**Buckleboo**	**33.72**	**231**	*e*P	**P**	**14 33 46.1**	**+0.2**
GUMO	**Guam**	**35.23**	**321**	P	**P**	**14 33 58.6**	**-0.4**
	comp=Z,32nm,0.6s,baz=173,slow=12,SNR=4.3						
SIJI	**Sorong**	**37.73**	**287**	LR	LR	14 50 19.4	
	comp=Z,187nm,21.5s,baz=97,slow=37						
BNDI	**Bandanaira**	**37.79**	**281**	P	**P**	**14 34 21.4**	**+0.5**

comp=Z,38nm,9.4s
MDJ LZ
comp=Z,59nm,7.0s
IPM Ipoh 67.99 281 *e*P **P 14 38 04.2 +0.3**
comp=Z,17nm,0.8s
KULM Kulim 68.58 282 *e*P **P 14 38 07.5 -0.1**
comp=Z,55nm,1.8s
TIA Tai'an 68.76 318 ⇓P **P 14 38 08.6 +0.4**
TIA PMZ
comp=Z,30nm,0.8s
CN2 Changchun 69.04 329 *e*P **P 14 38 12.6 +2.8**
SKNT Sakolnakorn 69.48 294 P **P 14 38 13.7 +0.6**
comp=Z,39nm,1.1s
ENH Enshi 70.82 309 *e*P **P 14 38 20.6 -0.5**
comp=Z,7.0nm,0.7s
GYA Guiyang 71.19 305 ⇑*i*P **P 14 38 24.0 +0.5**
GYA pP **pP 14 38 36.4 +2.0**
GYA S **S 14 47 38.0 -0.6**
GYA sS **sS 14 47 55.8 -0.7**
GYA SKS **SKSac 14 48 21.6 -2.6**
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,5.4s
GYA LN
comp=Z,560nm,19.4s
GYA LE
comp=Z,520nm,20.0s
GYA LZ
comp=Z,580nm,19.6s
BJI Beijing 71.67 321 P **P 14 38 27.1 +1.1**
BJI PMZ
comp=Z,28nm,0.8s
BJI PMZ
comp=Z,110nm,4.6s
BJI LN
comp=Z,140nm,30.1s
BJI LE
comp=Z,110nm,26.4s
PBKT Sadao Pong 72.01 293 P **P 14 38 29.7 +1.2**
comp=Z,16nm,1.2s
LOEI Loei 72.09 294 P **P 14 38 27.7 -1.3**
comp=Z,14nm,1.1s
UTTA Uttaradit 72.81 294 P **P 14 38 35.4 +2.2**
comp=Z,3.9nm,1.1s
UTHA Uthaitani 73.02 291 P **P 14 38 36.0 +1.5**
comp=Z,5.5nm,1.0s
NANT Nan 73.06 295 P **P 14 38 35.4 +0.7**
comp=Z,47nm,0.7s
XAN Xi'an 73.13 313 P **P 14 38 35.5 +0.6**
XAN PMZ
comp=Z,7.0nm,0.8s
KMI Kunming 73.80 302 ⇑P **P 14 38 40.8 +1.6**
KMI pP **pP 14 38 51.6 +1.5**
KMI sP **sP 14 38 55.5 +1.3**
KMI PP **PP 14 41 27.6 +3.3**
KMI S **S 14 48 07.8 -0.8**
KMI sS **sS 14 48 25.6 -1.1**
KMI SS **SS 14 52 49.0 -4.3**
KMI PMZ
comp=Z,32nm,0.8s
KMI PMZ
comp=Z,56nm,3.1s
KMI LN
comp=Z,94nm,14.4s
KMI LE
comp=Z,81nm,15.9s
CRAI Chiangrai 73.88 296 P **P 14 38 37.6 -1.9**
comp=Z,19nm,1.1s
LAMP Lampang 73.90 294 P **P 14 38 41.1 +1.4**
comp=Z,19nm,0.8s,comp=Z,137nm
CMAR Chiang Mai Arr 74.49 294 P **P 14 38 44.5 +1.4**
comp=Z,15nm,0.9s,baz=123,slow=4.5,SNR=67
CMAR LR LR 15 11 21.0
comp=Z,14nm,19.7s,baz=190,slow=36
CMMT Chiang Mai 74.61 294 P **P 14 38 44.8 +1.0**
comp=Z,32nm,1.3s
CHTO Chiang Mai 74.62 294 P **P 14 38 44.8 +0.9**
comp=Z,109nm,1.3s
CHTO Chiang Mai 74.62 294 P **P 14 38 42.1 -1.8**
CHTO Chiang Mai 74.62 294 P **P 14 38 42.1 -1.8**
CMAI Chiengmai2 74.93 295 P **P 14 38 47.9 +2.1**
comp=Z,57nm,0.9s
MHMT Maesarieng 75.29 293 P P 14 38 59.2 +11
CD2 Chengdu 75.47 308 *e*P **P 14 38 49.4 +0.8**
CD2 pP **pP 14 39 00.1 +0.6**
CD2 sP **sP 14 39 04.3 +0.7**
CD2 PP **PP 14 41 40.8 +2.6**
CD2 S **S 14 48 26.1 -0.7**
CD2 sS **sS 14 48 44.0 -0.8**
CD2 SKS **SKSac 14 48 51.4 -4.7**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,160nm,5.4s
QSPA South Pole Qui 75.85 180 *e*P **P 14 38 49.5 -0.8**
comp=Z,8.9nm,0.9s
LZH Lanzhou 77.76 312 *e*P **P 14 39 03.8 +2.2**
LZH pP **pP 14 39 13.4 +0.8**
LZH sP **sP 14 39 16.9 +0.3**
LZH PMZ
comp=Z,63nm,1.1s
IMP Imphal 81.07 298 *e*P **P 14 39 19.0 -0.7**
YAK Yakutsk 81.43 343 *e*P **P 14 39 19.7 -1.0**
YAK pmax pmax
comp=Z,12nm,1.0s
YAK pmax pmax
comp=N,5.0nm,1.3s
YAK Yakutsk 81.43 343 *e*P **P 14 39 20.4 -0.3**
ULN Ulaanbaatar 81.54 324 *e*P **P 14 39 22.7 +0.9**
ULN pmax pmax
comp=Z,15nm,0.7s
ULN Ulaanbaatar 81.54 324 *e*P **P 14 39 21.4 -0.4**
comp=Z,15nm,0.7s
SONM Songino Array 81.90 324 P **P 14 39 24.3 +0.6**
comp=Z,4.2nm,0.8s,baz=146,slow=6.2,SNR=11
BILL Bilibino 81.99 360 ⇑*i*P **P 14 39 23.6 0.0**
BILL *e* 14 39 28.9
BILL *e* 14 42 28.5
BILL *e*SS SS 14 55 02.5 +7.8
BILL pmax pmax
comp=Z,7.0nm,1.0s
BILL Bilibino 81.99 360 *e*P **P 14 39 23.5 0.0**
GTA Gaotai 82.10 314 *e*P **P 14 39 26.3 +1.3**
GTA pP **pP 14 39 35.3 -0.7**
GTA sP **sP 14 39 40.0 0.0**
GTA PMZ
comp=Z,22nm,1.1s
MAW Mawson 82.30 202 LR LR 15 10 32.8
comp=Z,116nm,21.5s,baz=62,slow=32
BOD Bodaibo 83.87 335 *e*P **P 14 39 32.9 -0.6**
BOD pmax pmax
comp=Z,3.0nm,1.3s
ZAK Zakamensk 84.95 325 *e*P **P 14 39 38.9 -0.4**
ZAK pmax pmax
comp=Z,9.0nm,1.2s
LSA Lhasa 85.05 302 P **P 14 39 39.4 -1.3**
LSA pmax pmax
comp=Z,10.0nm,0.8s
LSA Lhasa 85.05 302 P **P 14 39 39.4 -1.3**
comp=Z,9.6nm,0.8s
TLY Talaya 85.39 326 *e*P **P 14 39 41.3 -0.1**
TLY pmax pmax
comp=Z,11nm,0.9s
TLY Talaya 85.39 326 *e*P **P 14 39 39.8 -1.6**
COLA College 85.87 18 *e*P **P 14 39 43.5 +0.1**
COLA pmax pmax
comp=Z,7.0nm,1.2s
COLA College 85.87 18 *e*P **P 14 39 43.5 +0.1**
comp=Z,7.3nm,1.2s
ILAR Eielson Array 86.08 18 P **P 14 39 43.9 -0.6**
comp=Z,2.0nm,0.7s,baz=237,slow=5.5,SNR=23
ILAR LR LR 15 12 30.4
comp=Z,111nm,20.5s,baz=248,slow=32
NVAR Mina Array Bea 87.11 49 P **P 14 39 52.0 +1.6**
comp=Z,0.8nm,0.8s,baz=232,slow=8.7,SNR=3.1
TAPN Taplejung 87.19 299 *e*P **P 14 39 51.4 +0.3**
comp=Z,34nm,1.0s
ODAN Odare 87.31 298 *e*P **P 14 39 52.0 +0.3**
comp=Z,56nm,0.9s
RAMN Ramite 88.02 298 *e*P **P 14 39 55.0 0.0**
comp=Z,19nm,0.7s
JIRN Jiri 88.57 299 *e*P **P 14 39 57.9 +0.1**
comp=Z,30nm,0.6s
GUN Gumba 88.90 299 *e*P **P 14 39 59.4 0.0**
comp=Z,39nm,0.8s
PKI Pulchoki 89.21 299 *e*P **P 14 40 00.6 -0.2**
comp=Z,41nm,0.7s
PKIN Phulchoki 89.22 299 *e*P **P 14 40 00.4 -0.3**
comp=Z,32nm,0.7s
KKN Kakani 89.38 299 *e*P **P 14 40 01.2 -0.2**
comp=Z,36nm,0.6s
TIXI Tiksi 89.38 349 *e*P **P 14 39 59.6 -0.5**
TIXI pmax pmax
comp=Z,2.0nm,0.8s
TIXI Tiksi 89.38 349 *e*P **P 14 39 59.1 -1.0**
comp=Z,1.7nm,0.6s
DMN Daman 89.48 299 *e*P **P 14 40 02.1 +0.2**
comp=Z,70nm,0.8s
GKN Gorkha 89.98 299 *e*P **P 14 40 03.6 -0.6**
KOLN Koldanda 90.81 298 *e*P **P 14 40 07.1 -1.0**
comp=Z,5.9nm,0.6s
WMQ Urumqi 92.16 315 *e*P **P 14 40 14.8 +1.0**
WMQ pP **pP 14 40 25.3 +0.4**
WMQ sP **sP 14 40 29.3 +0.4**
WMQ PP **PP 14 43 56.5 +2.1**
WMQ SKS **SKSac 14 50 42.8 -1.7**
WMQ S **S 14 51 11.4 -2.6**
WMQ sS **sS 14 51 29.1 -3.5**
WMQ PMZ
comp=Z,14nm,0.5s
WMQ PMZ
comp=Z,78nm,5.0s
WMQ LN
comp=Z,34nm,22.8s
WMQ LE
comp=Z,48nm,22.2s
SNAA Sanae 94.08 183 P P 14 40 18.6 -3.6
VNA3 Neumayer Olymp 94.76 181 P **P 14 40 24.1 -1.2**
PDAR Pinedale Array 94.76 47 LR LR 15 18 18.5
comp=Z,30nm,18.9s,baz=239,slow=32
VNA2 Neumayer--Watz 95.02 182 P **P 14 40 25.5 -0.9**
baz=157,slow=3.8
MK31 Makanchi Array 96.63 316 *e*P **P 14 40 31.5 -2.7**
MK31 Makanchi Array 96.63 316 *e*P **P 14 40 31.4 -2.7**
MKAR Makanchi Array 96.63 316 P **P 14 40 34.3 +0.1**
comp=Z,4.5nm,0.7s,baz=104,slow=3.1,SNR=31
MKAR LR LR 15 23 09.7
comp=Z,30nm,22.0s,baz=87,slow=35
ZALV Zalesovo Beam 96.80 324 P **P 14 40 33.8 -0.9**
comp=Z,2.3nm,0.7s,baz=113,slow=4.7,SNR=13
ZALV LR LR 15 23 10.3
comp=Z,32nm,19.8s,baz=70,slow=35
KSH Kashi 99.66 308 *e*P **Pdif 14 40 50.3 +2.2**
KSH pP **pP 14 41 00.9 +1.6**
KSH PP **PP 14 44 57.5 +4.9**
KSH S **S 14 52 17.8 -1.4**
KSH sS **sS 14 52 35.3 -2.5**
KSH SS **SS 14 59 14.3 +3.1**
KSH PMZ
comp=Z,79nm,7.1s
KSH LN
comp=Z,650nm,12.0s
KSH LE
comp=Z,300nm,10.4s
KSH LZ
comp=Z,100nm,5.1s
KURK Kurchatov 99.81 320 P **Pdif 14 40 46.7 -1.6**
KURK Kurchatov 99.81 320 P **Pdif 14 40 46.6 -1.6**
KURBB Kurchatov Arra 99.85 300 P **Pdif 14 40 46.7 -1.8**
comp=Z,0.3nm,0.2s,baz=90,slow=4.9,SNR=4.2
ARU Arti 111.89 325 PKIKP 14 45 33.7
ARCES ARCESS Array B 119.66 345 PKP **PKPdf 14 45 52.8 -0.6**
comp=Z,2.0nm,0.5s,baz=64,slow=2.1,SNR=21
BOSA Boshof 123.62 221 PKP **PKPdf 14 46 02.1 -0.3**
comp=Z,1.9nm,1.0s,baz=140,slow=15,SNR=2.8
SIV San Ignacio 123.83 121 PKP **PKPdf 14 46 01.7 -1.3**
comp=Z,0.3nm,0.3s,baz=213,slow=1.3,SNR=3.6
OBN Obninsk 124.10 328 *i*PKIKP **PKPdf 14 46 02.0 -0.2**
OBN *e* 14 47 47.6
OBN *e*PPP PPP 14 50 27.7
OBN pmax pmax
comp=Z,9.0nm,0.6s
OBN MLR MLR
comp=Z,49nm,23.0s
NOA NORSAR Array B 130.03 345 PKP **PKPdf 14 46 12.3 -1.2**
comp=Z,1.2nm,0.7s,baz=348,slow=1.8,SNR=4.5
AKASG Malin Array Be 130.13 326 PKP **PKPdf 14 46 11.9 -2.0**
comp=Z,0.4nm,0.4s,baz=58,slow=4.3,SNR=5.3
ASF Jabal al Asfar 131.21 300 PKP **PKPdf 14 46 17.3 +0.6**
comp=Z,1.6nm,0.6s,baz=106,slow=7.4,SNR=3.4
MMAI Mount Meron Ar 132.30 302 PKP **PKPdf 14 46 17.8 -0.9**
comp=Z,3.5nm,0.8s,baz=79,slow=7.5,SNR=3.8
KOLS Kolonicke sedl 134.84 328 *e*PKIKP **PKPdf 14 46 22.7 -0.2**
KOLS Kolonicke sedl 134.84 328 *e*PKP **PKPdf 14 46 22.7 -0.2**
DPC Dobruska-Polom 136.77 333 *e*PKPdf **PKPdf 14 46 28.5 +2.0**
DPC Dobruska-Polom 136.77 333 *e*PKIKP **PKPdf 14 46 28.5 +2.0**
VYHS Vyhne 136.88 329 *e*PKIKP **PKPdf 14 46 27.2 +0.5**
VYHS Vyhne 136.88 329 *e*PKP **PKPdf 14 46 27.2 +0.5**
CLL Collm 137.45 336 *e*PKPdf **PKPdf 14 46 29.0 +1.4**
CLL LmV 15 47 00.0
comp=Z,100nm,20.4s
CLL LmH 18 18 00.0
comp=N,400nm,21.5s
CLL LmH 18 18 00.0
comp=E,400nm,20.7s
CLL Lm MLR 18 20 00.0
comp=N,400nm,18.9s
CLL Lm MLR 18 20 00.0
comp=E,300nm,18.8s
CLL Collm 137.45 336 *e*PKIKP **PKPdf 14 46 29.0 +1.4**
CONA Conrad Observa 138.71 331 ⇑*i*PKIKP **PKPdf 14 46 30.6 +0.4**
comp=Z,2.1nm,0.6s
KHC Kasperske Hory 138.88 333 *e*PKPdf **PKPdf 14 46 30.7 +0.3**
KHC Kasperske Hory 138.88 333 *e*PKIKP **PKPdf 14 46 30.7 +0.3**
GERES GERESS Array B 139.04 333 PKP **PKPdf 14 46 29.7 -1.1**
comp=E,1.3nm,0.7s,baz=75,slow=1.5,SNR=9.2
BNI Bardonecchia 144.99 335 *e*PKIKP **PKPdf 14 46 41.5 -0.1**
BNI Bardonecchia 144.99 335 *e*PKPbc **PKPdf 14 46 41.5 -0.1**
PLDF La Plantade 145.35 339 PKP **PKPbc 14 46 41.3 -0.6**
AGO Saint Agoulin 145.44 340 PKP **PKPbc 14 46 41.3 -0.8**
SAOF Saorge 145.49 333 PKP **PKPdf 14 46 42.3 0.0**
AUTN L'Auton 145.53 334 PKP **PKPbc 14 46 42.8 0.0**
TOUF Mont Tournerai 145.60 334 PKP **PKPbc 14 46 42.9 0.0**
SSB Saint Sauveur 145.62 338 PKP **PKPab 14 46 43.3 +0.2**
SSB Saint Sauveur 145.62 338 *e*PKP2 **PKPab 14 46 43.0 -0.1**
SSB Saint Sauveur 145.62 338 *e*PKPbc **PKPab 14 46 43.0 -0.1**
MVIF Mont Vial 145.73 334 PKP **PKPdf 14 46 43.0 +0.1**
PYM Petit Puy Mans 145.75 340 PKP **PKPdf 14 46 42.6 -0.2**
LBL Lubilhac 146.12 339 PKP **PKPbc 14 46 43.9 -0.5**
KEST Kesra 150.62 321 PKPbc **PKPbc 14 46 57.0 +0.4**
comp=E,5.3nm,0.7s,baz=228,slow=1.7,SNR=21
PBRG Braganca 151.94 350 *e*PKPbc **PKPbc 14 46 59.2 -0.2**
POLO Lamas de Olo 152.53 351 *e*PKPbc **PKPbc 14 47 00.3 -0.5**
PVRL Vila Real 152.61 351 *e*PKPbc **PKPbc 14 47 01.3 +0.4**
ESDC Sonseca Array 153.39 344 PKPbc **PKPbc 14 47 02.1 -0.5**
comp=E,0.4nm,0.4s,baz=55,slow=1.6,SNR=6.0
PNCL Nicolau / Gran 155.83 351 *e*PKPdf **PKPdf 14 46 57.7 -0.7**
TORD Torodi Ar. Bea 165.69 268 PKP **PKPdf 14 47 09.1 -0.6**
comp=E,0.8nm,0.7s,baz=77,slow=1.2,SNR=5.4
TORD PKPab **PKPab 14 48 08.8 -0.1**
comp=E,4.4nm,1.0s,baz=89,slow=3.5,SNR=18

IDC ***22*** *14:37:46.2±0.9, 32.89S×72.23W, h0km, mb3.6/4, mb1 3.8/8, mb1mx3.7/19, mbtmp3.5/8, ML3.5/4, MS3.0/2, Ms1 3.1/2, ms1mx2.7/21, Error ellipse: s-maj=23.7km s-min=20.6km az=146.0*
GUC ***22*** *14:37:48.8±0.6, 33.00S×72.23W, h38km±3km, ML4.4*
SJA ***22*** *14:37:48.7±0.5, 32.56S×72.46W, h30km, ML3.8, MW4.1*
ISC 22 14:37:46.4±2.1, 33.02S±0.06×72.25W±0.06, h2km±12km, n33, σ1§31/39, mb3.7/4, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**1.04**	**88**	*e*P	**Pg**	**14 38 06.2**	**-0.2**
ROCH				*e*S	**Sb**	**14 38 21.1**	**-0.4**
ROCH				AML	AML	14 38 22.6	
	comp=E,21μm,0.8s						
TACH	**Talagante**	**1.27**	**120**	*e*P	**Pg**	**14 38 11.1**	**+0.4**
PEL	**Peldehue**	**1.32**	**96**	*e*P	**Pn**	**14 38 11.8**	**-0.1**
PEL				*e*S	**Sg**	**14 38 29.1**	**+0.3**
PEL				AML	AML	14 38 32.1	
	comp=N,16μm,0.5s						
SAN	**Santiago**	**1.40**	**108**	*e*P	**Pn**	**14 38 13.1**	**+0.1**
SAN				*e*S	**Sg**	**14 38 31.1**	**-0.2**
STL	**Santa Lucia**	**1.41**	**107**	*e*P	**Pg**	**14 38 13.5**	**0.0**
STL				*e*S	**Sg**	**14 38 32.2**	**+0.5**
CLCH	**Cerro Calan**	**1.48**	**105**	*e*P	**Pn**	**14 38 14.2**	**0.0**
CLCH				*e*S	**Sg**	**14 38 33.5**	**-0.6**
CLCH				AML	AML	14 38 40.1	
	comp=N,6μm,0.7s						
PCH	**Pirque**	**1.57**	**113**	*e*P	**Pn**	**14 38 15.4**	**0.0**
SJCH	**San Jose de Ma**	**1.70**	**112**	*e*P	**Pn**	**14 38 17.6**	**+0.4**
SJCH				*e*S	**Sn**	**14 38 39.0**	**-0.7**
AUSP	**Uspallata**	**2.54**	**73**	*i*P	**Pb**	**14 38 32.1**	**-0.9**
RTLS	**Leoncito**	**2.78**	**65**	*e*P	**Pn**	**14 38 34.1**	**+2.0**
ARCO	**CERRO ARCO**	**2.80**	**87**	*e*P	**Pb**	**14 38 37.0**	**-0.2**
ARCO				*i*S	**Sb**	**14 39 12.6**	**+0.7**
ARCO				IAML		14 39 20.5	
	comp=Z,310nm,0.6s						
AAGR	**Agrelo**	**2.88**	**92**	*e*P	**Pb**	**14 38 38.6**	**+0.1**
ASAL	**Salagasta**	**2.91**	**82**	*e*P	**Pb**	**14 38 37.9**	**-1.1**
COCH	**Cobquecura**	**3.13**	**188**	*e*P	**Pn**	**14 38 37.0**	**+0.3**
COCH				*e*S	**Sn**	**14 39 13.9**	**-0.9**
RTCV	**Cerro Valdivia**	**3.34**	**71**	*e*P	**Pn**	**14 38 42.5**	**+2.8**
RTLL	**Cerro Villicun**	**3.62**	**63**	*i*P	**Pn**	**14 38 45.8**	**+2.3**
CFAA	**Coronel Fontan**	**3.68**	**69**	Pn	**Pn**	**14 38 45.2**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=240,slow=12,SNR=35						
CFAA				Lg	Lg	14 39 40.9	
	comp=Z,1.4nm,0.3s,baz=313,slow=18,SNR=6.0						
CFAA				LR	LR	14 40 30.3	
	comp=Z,40nm,21.6s,baz=258,slow=45						
AMOG	**MOGNA**	**3.81**	**58**	⇓*i*P	**Pn**	**14 38 47.9**	**+1.7**
PLCA	**Paso Flores**	**7.82**	**170**	Pn	**Pn**	**14 39 43.6**	**+2.4**
	comp=Z,0.3nm,0.3s,baz=334,slow=11,SNR=9.1						
LPAZ	**La Paz**	**17.07**	**14**	Pn	**Pn**	**14 41 44.8**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=188,slow=7.7,SNR=8.3						
SIV	**San Ignacio**	**19.75**	**33**	P	**P**	**14 42 16.6**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=220,slow=12,SNR=3.6						
SNAA	**Sanae**	**52.56**	**158**	P	**P**	**14 47 01.9**	**+1.0**
	comp=Z,0.4nm,1.0s,baz=288,slow=14,SNR=4.1						
TXAR	**Lajitas Array**	**68.80**	**331**	P	**P**	**14 48 52.0**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=152,slow=8.2,SNR=12						
NVAR	**Mina Array Bea**	**82.98**	**325**	P	**P**	**14 50 13.6**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=149,slow=7.2,SNR=3.0						
TORD	**Torodi Ar. Bea**	**84.05**	**70**	P	**P**	**14 50 18.7**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=239,slow=5.1,SNR=3.0						
SCHQ	**Schefferville**	**87.62**	**3**	LR	LR	15 30 47.2	
	comp=Z,53nm,21.6s,baz=295,slow=36						
WRA	**Warramunga Arr**	**121.53**	**210**	PKP	**PKPdf**	**14 56 42.3**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=156,slow=1.8,SNR=3.6						
H11S2	**WAKE ISLAND Hyl**	**25.60**	**270**	T	T	17 16 00.4	
	baz=123						
H11S1	**WAKE ISLAND Hyl**	**25.61**	**270**	T	T	17 16 00.6	
	baz=123						
H11S3	**WAKE ISLAND Hyl**	**25.62**	**270**	T	T	17 16 02.7	
	baz=123						
KURBB	**Kurchatov Arra**	**152.27**	**42**	PKPbc	**PKPbc**	**14 57 42.8**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=297,slow=3.0,SNR=3.6						
KURBB				PKPab	**PKPab**	**14 57 51.4**	**-1.8**
	comp=Z,0.5nm,0.6s,baz=302,slow=3.2,SNR=6.3						
ZALV	**Zalesovo Beam**	**153.49**	**31**	PKPbc	**PKPbc**	**14 57 45.3**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=302,slow=3.2,SNR=3.3						
ZALV				PKPab	**PKPab**	**14 57 57.5**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=291,slow=1.2,SNR=3.0						
MKAR	**Makanchi Array**	**156.24**	**47**	PKPab	**PKPab**	**14 58 14.6**	**+4.2**
	comp=Z,0.6nm,0.7s,baz=295,slow=7.7,SNR=4.7						

ISCJB ***22*** *14:40:57.8±0.5, 36.58N±0.04×70.85E±0.07, h188km, mb3.7/11, Error ellipse: s-maj=7.6km s-min=4.7km az=167.4*
IDC ***22*** *14:40:57.8±3.0, 36.43N×71.15E, h191km±27km, mb3.5/11, mb1 3.6/17, mb1mx3.3/48, mbtmp4.1/17, Error ellipse: s-maj=20.6km s-min=14.3km az=2.0*
NNC ***22*** *14:41:06.1±5.3, 37.06N×71.29E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=44.0km s-min=17.6km az=169.0*
ISC 22 14:40:58.7±0.6, 36.59N±0.06×71.06E±0.06, h188km, n45, σ1§49/50, mb3.9/11, 8C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.84**	**322**	⇑P	Pn	14 41 49.6	+3.7
	14nm,0.3s						
DZET				⇑S	**Sn**	**14 42 24.5**	**+1.8**
	156nm,0.3s						
SFK	**Sufi-Kurgan**	**3.92**	**29**	⇑P	Pn	14 42 02.6	+3.3
	28nm,0.4s						
SFK				⇓S	**Sn**	**14 42 47.3**	**+0.5**
	98nm,0.4s						
DLH	**Dalhousie**	**5.71**	**133**	*e*P	**Sn**	**14 43 29.0**	**+0.9**
AML	**Almayashu**	**5.90**	**19**	P	Pn	14 42 27.0	+2.2
	SNR=231						
MNAS	**Manas**	**6.00**	**10**	⇓P	**Pn**	**14 42 27.9**	**+2.1**
	12nm,0.4s						
MNAS				⇑S	**Sn**	**14 43 32.6**	**-2.0**
	53nm,0.6s						
UCH	**Uchtor**	**6.24**	**24**	P	**Pn**	**14 42 31.5**	**+2.3**
	SNR=64						
KZA	**Kyzart**	**6.37**	**29**	P	Pn	14 42 32.5	+1.5
	SNR=21						
EKS2	**Erkin-Say**	**6.42**	**18**	P	**Pn**	**14 42 33.5**	**+2.2**
	SNR=29						
KK31	**Karatay Array**	**6.52**	**356**	⇑P	**Pn**	**14 42 34.3**	**+1.7**
	1.2nm,0.2s,baz=177,slow=12,SNR=110						
KK31				S	**Sn**	**14 43 45.3**	**-1.5**
	28nm,0.7s,baz=176,slow=20,SNR=20						
AAK	**Ala-Archa**	**6.59**	**23**	P	**Pn**	**14 42 36.0**	**+2.4**
	SNR=43						
AAK	**Ala-Archa**	**6.59**	**23**	⇓P	**Pn**	**14 42 35.8**	**+2.2**
	30nm,0.7s						
AAK				⇑S	**Sn**	**14 43 46.4**	**-2.3**
	36nm,0.6s						
AAK	**Ala-Archa**	**6.59**	**23**	P	**Pn**	**14 42 36.0**	**+2.4**
	12nm,0.3s,baz=184,slow=6.1,SNR=108						
AAK				S	**Sn**	**14 43 48.3**	**-0.4**
	3.9nm,0.3s,baz=318,slow=23,SNR=21						
KBK	**Karagaybulak**	**6.76**	**25**	P	**Pn**	**14 42 38.3**	**+2.4**
	SNR=21						
ULHL	**Ulahol**	**6.93**	**34**	P	**Pn**	**14 42 40.1**	**+2.1**
	SNR=33						
CHMS	**Chumysh**	**7.00**	**23**	P	**Pn**	**14 42 40.4**	**+1.6**
	SNR=22						
USP	**Ospenovka**	**7.17**	**21**	P	**Pn**	**14 42 42.3**	**+1.2**
	SNR=19						
TKM2	**Tokmak 2**	**7.22**	**28**	P	**Pn**	**14 42 43.9**	**+2.0**
	SNR=53						
TKM2	**Tokmak 2**	**7.22**	**28**	⇑P	**Pn**	**14 42 43.2**	**+1.3**
	28nm,0.5s						
TKM2				⇑S	**Sn**	**14 44 02.7**	**-1.0**
	14nm,0.9s						
MK31	**Makanchi Array**	**13.19**	**36**	⇓S	**S**	**14 46 28.1**	**-0.1**
	2.3nm,0.9s						
MKAR	**Makanchi Array**	**13.19**	**36**	P	**Pn**	**14 43 59.5**	**+0.7**
	0.5nm,0.3s,baz=224,slow=18,SNR=15						
KOLN	**Koldanda**	**13.77**	**126**	*e*P	**P**	**14 44 09.8**	**+0.8**
	3.7nm,0.2s						
GKN	**Gorkha**	**14.31**	**123**	*e*P	**P**	**14 44 16.7**	**+1.8**
	13nm,0.5s						
KKN	**Kakani**	**14.88**	**122**	*e*P	**Pn**	**14 44 21.1**	**+0.9**
KURBB	**Kurchatov Arra**	**15.03**	**19**	P	**Pn**	**14 44 20.7**	**-0.8**
	0.2nm,0.3s,baz=205,slow=11,SNR=6.2						
PKIN	**Phulchoki**	**15.10**	**122**	*e*P	**P**	**14 44 24.3**	**+0.6**
	9.8nm,0.4s						
PKI	**Pulchoki**	**15.11**	**122**	*e*P	**P**	**14 44 24.3**	**+0.4**
	9.2nm,0.4s						
GUN	**Gumba**	**15.22**	**120**	*e*P	**P**	**14 44 27.2**	**+2.1**
JIRN	**Jiri**	**15.59**	**121**	*e*P	**P**	**14 44 30.6**	**+1.3**
	15nm,0.5s						
RAMN	**Ramite**	**16.32**	**122**	*e*P	**Pn**	**14 44 38.2**	**+0.5**
	5.7nm,0.4s						
BVAR	**Borovoye Array**	**16.44**	**359**	P	**Pn**	**14 44 39.4**	**+0.7**
	0.5nm,0.3s,baz=164,slow=12,SNR=5.3						
AKTO	**Aktyubinsk**	**16.73**	**330**	P	**P**	**14 44 41.2**	**-0.1**
	0.9nm,0.3s,baz=143,slow=9.4,SNR=5.8						
TAPN	**Taplejung**	**16.84**	**118**	*e*P	**Pn**	**14 44 44.7**	**+0.7**
ZALV	**Zalesovo Beam**	**19.82**	**24**	P	**P**	**14 45 14.9**	**+0.3**
	0.6nm,0.3s,baz=214,slow=12,SNR=12						
ASF	**Jabal al Asfar**	**28.45**	**271**	P	**P**	**14 46 35.9**	**-0.2**
	0.9nm,0.3s,baz=72,slow=9.6,SNR=2.2						
AKASG	**Malin Array Be**	**32.93**	**309**	P	**P**	**14 47 15.6**	**+0.5**
	0.6nm,0.4s,baz=105,slow=9.0,SNR=5.6						
FINES	**FINESS Array B**	**37.44**	**326**	P	**P**	**14 47 54.0**	**+0.5**
	1.8nm,0.4s,baz=120,slow=12,SNR=13						
ARCES	**ARCESS Array B**	**41.08**	**338**	P	**P**	**14 48 24.2**	**+0.7**
	2.3nm,0.5s,baz=112,slow=8.2,SNR=21						
YAK	**Yakutsk**	**43.87**	**36**	P	**P**	**14 48 45.0**	**-0.9**
	1.9nm,0.4s,baz=186,slow=2.9,SNR=1.8						
NB2	**NORSAR Subarra**	**44.34**	**323**	P	**P**	**14 48 49.2**	**-0.6**
	comp=Z,1.9nm,0.4s,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**44.34**	**323**	P	**P**	**14 48 49.8**	**0.0**
	comp=Z,2.9nm,0.6s,baz=96,slow=7.7,SNR=14						
TORD	**Torodi Ar. Bea**	**65.77**	**269**	P	**P**	**14 51 22.1**	**-1.7**
	comp=Z,1.4nm,0.6s,baz=51,slow=6.4,SNR=16						

ILAR	**Eielson Array**	**74.68**	**16**	P		**P**	**14 52 16.0**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=328,slow=4.3,SNR=4.4							
YKA	**Yellowknife Ar**	**81.16**	**3**	P		**P**	**14 52 52.4**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=350,slow=5.2,SNR=5.0							
WRA	**Warramunga Arr**	**81.99**	**122**	P		**P**	**14 52 55.9**	**-1.9**
	comp=Z,0.3nm,0.6s,baz=325,slow=4.9,SNR=5.3							
ASAR	**Alice Springs**	**84.26**	**125**	P		**P**	**14 53 07.8**	**-1.5**
	comp=Z,0.6nm,0.8s,baz=311,slow=5.2,SNR=9.3							

*IDC **22** 14:45:27.4±1.4,28°.08N×57°.30E,h0km,mb3.6/6, mb1 3.7/6,mb1mx3.3/44,mbtmp3.6/6,Error ellipse: s-maj=36.4km s-min=26.2km az=156.0*
*OMAN **22** 14:45:54.9±99.0,26°.58N×56°.85E,h10km,Error ellipse: s-maj=95.3km s-min=13.7km az=350.0*

ISC 22 14:45:28.6±1.0,28°.0N±0°.1×57°.3E±0°.2,h10km,n9,σ1§16/8, mb3.4/6,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BANOM	**Banah**	**2.26**	**204**	P		**Pb**	**14 46 10.7**	**+1.2**
	SNR=33							
ASHO	**Ashiyiah**	**3.49**	**199**	P		**Pb**	**14 46 29.0**	**-1.5**
	SNR=15							
ARQ	**Araqi**	**4.69**	**189**	P		Pb	14 46 46.0	-5.2
	SNR=15							
BRTR	**Keskin Array B**	**22.82**	**307**	P		**P**	**14 50 32.4**	**+0.5**
	0.9nm,0.7s,baz=117,slow=14,SNR=5.9							
BVAR	**Borovoye Array**	**26.82**	**18**	P		**P**	**14 51 09.0**	**0.0**
	0.4nm,0.5s,baz=216,slow=8.3,SNR=2.8							
KURBB	**Kurchatov Arra**	**27.74**	**30**	P		**P**	**14 51 16.5**	**-0.7**
	0.2nm,0.3s,baz=229,slow=8.6,SNR=4.9							
ZALV	**Zalesovo Beam**	**32.83**	**30**	P		**P**	**14 52 01.4**	**-0.8**
	0.9nm,0.3s,baz=230,slow=10,SNR=5.3							
TORD	**Torodi Ar. Bea**	**53.72**	**266**	P		**P**	**14 54 50.6**	**-0.6**
	0.6nm,0.5s,baz=64,slow=7.8,SNR=6.0							
WRA	**Warramunga Arr**	**88.36**	**113**	P		**P**	**14 58 22.3**	**+1.2**
	0.1nm,0.5s,baz=314,slow=4.4,SNR=3.7							

*DDA **22** 14:49:06.7,36°.75N×42°.24E,h41km,MD3.0*
*ISN **22** 14:49:10.3±1.9,36°.76N×42°.44E,h35km±999km,ML3.3*
*CSEM **22** 14:49:13.8±0.4,37°.49N×42°.35E,h5km,MD2.9,Error ellipse: s-maj=17.1km s-min=5.9km az=13.0*
*ISK **22** 14:49:13.4,37°.49N×42°.33E,h6km,MD2.9*

ISC 22 14:49:14.9±1.0,37°.53N±0°.06×42°.37E±0°.03,h5km±7km, n23,σ1§43/31,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIRN	**S¨–rnak**	**0.04**	**132**	*i* P		**Pg**	**14 49 15.7**	**-0.5**
SIRN				*i* S		**Sg**	**14 49 18.9**	**+1.8**
SIRN	**S¨–rnak**	**0.04**	**132**	*i* P		**Pg**	**14 49 15.7**	**-0.5**
SIRN				*i* S		**Sg**	**14 49 18.9**	**+1.8**
SIRT	**Sirnak**	**0.06**	**115**	*e*Pg		**Pg**	**14 49 15.1**	**-1.3**
SIRT				*e*SG		**Sg**	**14 49 17.4**	**0.0**
SIRT	**Sirnak**	**0.06**	**115**	*e*Pg		**Pg**	**14 49 15.1**	**-1.3**
SIRT				*e*Sg		**Sg**	**14 49 17.4**	**0.0**
BEST	**Besiri**	**0.95**	**293**	*i* P		**Pg**	**14 49 31.5**	**-1.5**
BEST				*i* S		**Sn**	**14 49 50.5**	**+1.6**
BTMT	**Batman**	**0.96**	**314**	*e*PG		**Pg**	**14 49 33.0**	**-0.4**
BTMT	**Batman**	**0.96**	**314**	*e*Pg		**Pg**	**14 49 33.0**	**-0.4**
CUKT	**Cukurca**	**1.02**	**105**	*e*PG		**Pg**	**14 49 33.7**	**-0.9**
CUKT				*e*SG		**Sg**	**14 49 49.7**	**+1.9**
CUKT	**Cukurca**	**1.02**	**105**	*e*Pg		**Pg**	**14 49 33.7**	**-0.9**
CUKT				*e*Sg		**Sg**	**14 49 49.7**	**+1.9**
HAKT	**HAKKARI**	**1.06**	**88**	*i* P		**Pg**	**14 49 33.3**	**-2.0**
HAKT				*i* S		**Sg**	**14 49 51.0**	**+1.9**
HAKT	**HAKKARI**	**1.06**	**88**	*i* P		**Pg**	**14 49 33.3**	**-2.0**
HAKT				*i* S		**Sg**	**14 49 51.0**	**+1.9**
SVAN	**Silvan-Diyarba**	**1.12**	**304**	*e*PN		**Pg**	**14 49 35.3**	**-1.1**
MSL	**Mosul**	**1.27**	**152**	*e*Pg		x	14 49 23.0	
	baz=303							
MSL				*e*Sg		x	14 49 33.0	
MARD	**Mardin**	**1.28**	**261**	*i* P		**Pg**	**14 49 39.0**	**-0.5**
MARD				*i* S		**Sn**	**14 49 59.3**	**+1.9**
MAZI	**Mazidag**	**1.53**	**268**	*e*PN		**Pn**	**14 49 41.3**	**-1.8**
MAZI	**Mazidag**	**1.53**	**268**	*e*Pn		**Pn**	**14 49 41.3**	**-1.8**
DIY	**Diyarbakir**	**1.74**	**283**	*e*Pn		**Pn**	**14 49 45.6**	**-0.3**
DYBB	**Diyarbakir**	**1.82**	**284**	*e*PN		**Pn**	**14 49 45.6**	**-1.4**
BNGB	**Bing¨ll**	**1.98**	**318**	*e*PN		**Pn**	**14 49 48.4**	**-0.8**
BINT	**Bingol**	**2.00**	**313**	*e*Pn		**Pn**	**14 49 48.4**	**-1.2**
AGRB	**Hanur-Agry**	**2.10**	**13**	*e*PN		**Pn**	**14 49 50.7**	**-0.3**
AGRB	**Hanur-Agry**	**2.10**	**13**	*e*Pn		**Pn**	**14 49 50.7**	**-0.3**
IKRK	**Kirkuk**	**2.65**	**143**	*e*Pg		x	14 49 45.0	
IKRK				*e*Sg		x	14 50 12.0	

*CSEM **22** 14:49:26.0,36°.88N×39°.52E,h4km,MD2.9*

ISK 22 14:49:26.0,36°.88N×39°.52E,h4km,MD2.9,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URFA	**Urfa**	**0.79**	**316**	*e*PG		Pg	14 49 41.7	+0.3
URFA				*e*SG		Sb	14 49 53.2	-0.4
URFA	**Urfa**	**0.79**	**316**	*e*Pg		Pg	14 49 41.7	+0.4
URFA				*e*Sg		Sb	14 49 53.3	-0.3
MAZI	**Mazidag**	**0.94**	**52**	*e*PG		Pg	14 49 44.3	0.0
MAZI	**Mazidag**	**0.94**	**52**	*e*Pg		Pg	14 49 44.3	0.0
ATAB	**Bozova**	**1.14**	**302**	*i* P		Pg	14 49 47.5	-0.5
ATAB				*i* S		Sg	14 50 02.0	-0.8
ATAB	**Bozova**	**1.14**	**302**	*i* P		Pg	14 49 47.5	-0.5
ATAB				*i* S		Sg	14 50 02.0	-0.8
DIY	**Diyarbakir**	**1.16**	**29**	*e*Pn		Pn	14 49 49.9	+0.7
DYBB	**Diyarbakir**	**1.18**	**25**	*e*PN		Pn	14 49 49.9	+0.4
SVRC	**Sivrice-ELAZID**	**1.51**	**354**	*e*PN		Pg	14 49 55.1	-0.1
SVRC	**Sivrice-ELAZID**	**1.51**	**354**	*e*Pn		Pg	14 49 55.1	-0.1
MALT	**Malatya**	**1.67**	**329**	*e*PN		Pb	14 49 57.3	-0.3
MALT	**Malatya**	**1.67**	**329**	*e*Pn		Pb	14 49 57.3	-0.3

*SJA **22** 14:55:45.3±1.1,35°.92S×73°.35W,h6km±46km,ML3.2, MW3.1*
*ISCJB **22** 14:55:46.5±1.6,36°.15S±0°.06×73°.36W±0°.1,h33km,Error ellipse: s-maj=16.0km s-min=8.3km az=3.7*
*GUC **22** 14:55:46.6±0.4,36°.12S×73°.55W,h30km±4km,ML3.6*

ISC 22 14:55:49.5±2.6,36°.25S±0°.08×73°.4W±0°.2,h35km,n10, σ1§26/11,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
COCH	**Cobquecura**	**0.49**	**77**	*e*P		**Pn**	**14 55 58.3**	**-1.7**
COCH				*e*S		**Sn**	**14 56 07.3**	**+0.1**
CCSP	**San Pedro de C**	**0.64**	**160**	*e*P		**Pn**	**14 56 01.3**	**-0.7**
CCSP				*e*S		**Sn**	**14 56 12.3**	**+1.3**
TALC	**Talca**	**1.65**	**60**	*e*P		**Pn**	**14 56 15.9**	**-0.1**
TALC				*e*S		**Sn**	**14 56 37.8**	**+1.9**
CANA	**Caviahue**	**2.47**	**132**	*e*P		Pn	14 56 31.9	+4.4
CANA				*e*S		Sn	14 57 06.3	+10
CHCH	**Chadas Angostu**	**3.21**	**45**	*e*P		**Pn**	**14 56 36.5**	**-0.9**
AAGR	**Agrelo**	**4.90**	**51**	*e*P		**Pn**	**14 56 59.6**	**-1.2**
ARCO	**CERRO ARCO**	**5.00**	**48**	AML		AML	14 58 40.0	
	comp=Z,20nm,0.7s							
AUSP	**Uspallata**	**5.20**	**41**	*e*P		**Pn**	**14 57 04.8**	**-0.2**
ASAL	**Salagasta**	**5.23**	**47**	*e*P		**Pn**	**14 57 06.0**	**+0.7**
RTLS	**Leoncito**	**5.58**	**39**	*e*P		**Pn**	**14 57 09.3**	**-0.9**

*AWI **22** 15:06:52.4,51°.97S×24°.55W*
*ISCJB **22** 15:07:36.1±0.8,56°.08S±0°.09×27°.3W±0°.3,h112km, mb4.1/7,Error ellipse: s-maj=22.8km s-min=13.4km az=177.0*
*IDC **22** 15:07:41.1±6.4,56°.14S×27°.37W,h147km±59km,mb3.7/7, mb1 3.8/8,mb1mx3.6/19,mbtmp4.1/8,Error ellipse: s-maj=21.7km s-min=20.1km az=105.0*

ISC 22 15:07:37.1±0.8,56°.1S±0°.1×27°.4W±0°.2,h112km,n16, σ1§04/16,mb4.0/7,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**17.02**	**160**	P		**P**	**15 11 29.3**	**+1.5**
VNA2	**Neumayer--Watz**	**17.23**	**158**	P		**P**	**15 11 30.1**	**0.0**
	baz=315,slow=12							
SNAA	**Sanae**	**18.78**	**156**	P		**P**	**15 11 45.7**	**-1.5**
SNAA	**Sanae**	**18.78**	**156**	P		**P**	**15 11 47.5**	**+0.3**
	0.4nm,0.3s,baz=305,slow=11,SNR=83							
QSPA	**South Pole Qui**	**34.18**	**180**	P		**P**	**15 14 11.2**	**-0.1**
	3.0nm,0.5s,baz=213,slow=1.9,SNR=45							
VNDA	**Vanda**	**46.55**	**183**	P		**P**	**15 15 53.0**	**+0.4**
	1.9nm,0.8s,baz=208,slow=5.6,SNR=8.6							
LBTB	**Lobatse**	**49.15**	**73**	P		**P**	**15 16 13.9**	**+0.4**
	1.6nm,0.7s,baz=225,slow=5.7,SNR=3.1							
LPAZ	**La Paz**	**50.27**	**305**	P		**P**	**15 16 23.5**	**+0.9**
	1.7nm,0.3s,baz=136,slow=3.4,SNR=17							
MATP	**Matopo**	**54.42**	**73**	P		**P**	**15 16 51.9**	**-0.8**
	1.2nm,0.6s,baz=201,slow=14,SNR=2.9							
TORD	**Torodi Ar. Bea**	**73.14**	**30**	P		**P**	**15 18 56.0**	**+0.8**
	0.9nm,0.5s,baz=198,slow=6.6,SNR=15							
KMBO	**Kilima Mbogo**	**75.18**	**69**	P		**P**	**15 19 08.2**	**+0.8**
	0.8nm,0.3s,baz=233,slow=20,SNR=3.0							
FINES	**FINESS Array B**	**124.47**	**28**	PKP		**PKPdf**	**15 26 20.7**	**-0.7**
	0.8nm,0.5s,baz=255,slow=2.7,SNR=6.6							
ARCES	**ARCESS Array B**	**131.01**	**22**	PKP		**PKPdf**	**15 26 32.8**	**-0.9**
	0.9nm,0.8s,baz=241,slow=2.5,SNR=4.2							
YKA	**Yellowknife Ar**	**136.09**	**318**	PKP		**PKPdf**	**15 26 41.2**	**-2.2**
	0.3nm,0.5s,baz=134,slow=2.0,SNR=4.2							
ILAR	**Eielson Array**	**150.03**	**312**	PKPbc		**PKPbc**	**15 27 12.4**	**-0.4**
	4.1nm,0.8s,baz=135,slow=2.0,SNR=36							
SONM	**Songino Array**	**150.87**	**87**	PKPbc		**PKPbc**	**15 27 15.1**	**-0.5**
	2.7nm,0.6s,baz=208,slow=2.9,SNR=3.9							

IDC 22 15:23:31.7±2.0,0°.21N×125°.97E,h0km,mb3.2/3, mb1 3.4/3,mb1mx3.2/28,mbtmp3.3/3,Error ellipse: s-maj=173.2km s-min=26.4km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.64**	**158**	P		P	15 28 23.8	-0.1
	0.2nm,0.5s,baz=337,slow=11,SNR=5.1							
ASAR	**Alice Springs**	**24.95**	**163**	P		P	15 28 57.1	0.0
	0.3nm,0.3s,baz=341,slow=7.4,SNR=8.5							
MKAR	**Makanchi Array**	**60.03**	**327**	P		P	15 33 40.4	-0.1
	0.1nm,0.4s,baz=122,slow=5.4,SNR=5.1							

SJA 22 15:23:39.8±1.1,28°.46S×67°.57W,h133km±8km,ML3.7, MW4.2,La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CYA	**Choya**	**1.55**	**90**	*e*P		Pn	15 24 10.0	+1.2
CYA				*e*S		Sn	15 24 30.5	-0.3
AHML	**Horco Molle**	**2.59**	**50**	*e*P		Pn	15 24 21.8	+0.5
AMOG	**MOGNA**	**2.60**	**198**	*e*P		Pn	15 24 22.7	+1.2
AMOG				*e*S		Sn	15 24 54.0	+0.4
FSA	**Cafayete**	**2.73**	**31**	*e*P		Pn	15 24 25.1	+1.7
LCO	**Las Campanas**	**2.81**	**258**	*e*P		Pn	15 24 25.3	+0.9
LCO				*e*S		Sn	15 24 58.7	-0.1
LCO				AML		AML	15 25 00.7	
	comp=E,226nm,0.5s							
RTLL	**Cerro Villicun**	**2.97**	**195**	*e*P		Pn	15 24 27.3	+1.1
CFAA	**Coronel Fontan**	**3.19**	**190**	*e*P		Pn	15 24 30.1	+1.1
CFAA				*e*S		Sn	15 25 07.1	0.0
RTCV	**Cerro Valdivia**	**3.49**	**194**	*e*P		Pn	15 24 34.2	+1.2
RTLS	**Leoncito**	**3.65**	**204**	*e*P		Pn	15 24 36.4	+1.1

IDC 22 15:33:57.3±11.0,22°.26S×179°.38W,h538km±147km, mb3.2/4,mb1 3.3/5,mb1mx2.9/20,mbtmp4.2/5,Error ellipse: s-maj=224.2km s-min=42.6km az=65.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**16.23**	**190**	P		P	15 37 19.2	-0.1
	0.8nm,0.3s,baz=310,slow=3.5,SNR=9.9							
URZ				S		S	15 40 02.2	-2.2
	0.2nm,0.3s,baz=246,slow=20,SNR=4.1							
CTA	**Charters Tower**	**32.08**	**267**	P		P	15 39 41.0	+0.4
	1.1nm,0.5s,baz=94,slow=10,SNR=7.2							
STKA	**Stephens Creek**	**35.89**	**246**	P		P	15 40 10.9	-1.4
	2.8nm,0.8s,baz=88,slow=8.7,SNR=2.6							
ASAR	**Alice Springs**	**42.89**	**259**	P		P	15 41 09.2	+0.3
	2.8nm,0.8s,baz=97,slow=8.0,SNR=36							
WRA	**Warramunga Arr**	**43.12**	**264**	P		P	15 41 10.2	-0.4
	1.2nm,0.3s,baz=93,slow=8.0,SNR=73							

*IDC **22** 15:41:31.9±2.0,34°.65S×179°.67W,h0km,mb3.7/2, mb1 4.0/3,mb1mx3.6/17,mbtmp3.8/3,ML3.8/1,Error ellipse: s-maj=46.9km s-min=42.0km az=52.0*
*ISCJB **22** 15:41:37.5±1.3,35°.02S±0°.09×179°.7W±0°.2,h61km, mb3.5/2,Error ellipse: s-maj=28.0km s-min=10.3km az=19.1*

ISC 22 15:41:40.2±1.7,35°.0S±0°.1×179°.8W±0°.2,h61km,n25, σ1§00/29,East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.96**	**210**	PN		**Pn**	**15 42 24.3**	**-0.5**
MXZ				SN		**Sn**	**15 42 59.9**	**+0.8**
WMGZ	**Waiomatatini S**	**3.14**	**206**	PN		**Pn**	**15 42 26.7**	**-0.6**
WMGZ				SN		**Sn**	**15 43 02.9**	**-0.7**
HAZ	**Te Kaha**	**3.35**	**214**	PN		**Pn**	**15 42 30.2**	**+0.1**
HAZ				SN		**Sn**	**15 43 09.7**	**+1.0**
PUZ	**Puketiti**	**3.42**	**206**	PN		**Pn**	**15 42 31.0**	**-0.1**
TWGZ	**Tauwhareparae**	**3.62**	**208**	PN		**Pn**	**15 42 33.9**	**+0.1**
CNGZ	**Carnagh Station**	**3.81**	**209**	PN		**Pn**	**15 42 36.5**	**+0.1**
TKGZ	**Te Karaka**	**3.90**	**208**	PN		**Pn**	**15 42 36.9**	**-0.7**
MWZ	**Matawai**	**3.94**	**212**	PN		**Pn**	**15 42 37.6**	**-0.7**
URZ	**Urewera**	**4.07**	**216**	Pn		**Pn**	**15 42 39.8**	**-0.2**
	4.5nm,0.3s,baz=281,slow=2.3,SNR=47							
URZ				Sn		**Sn**	**15 43 26.7**	**+0.3**
	6.1nm,0.3s,baz=261,slow=22,SNR=7.7							
URZ	**Urewera**	**4.07**	**216**	PN		**Pn**	**15 42 39.4**	**-0.6**
RIGZ	**Rimuhau**	**4.17**	**207**	PN		**Pn**	**15 42 41.4**	**+0.1**
PRGZ	**Paritu Road**	**4.32**	**204**	PN		**Pn**	**15 42 42.6**	**-0.8**
SNGZ	**Shannon Statio**	**4.40**	**210**	PN		**Pn**	**15 42 44.8**	**+0.4**
KNZ	**Kokohu**	**4.48**	**206**	PN		**Pn**	**15 42 44.9**	**-0.5**
WHHZ	**Waihua**	**4.69**	**209**	PN		**Pn**	**15 42 49.1**	**+0.6**
MRHZ	**Matea Rd**	**4.86**	**217**	PN		**Pn**	**15 42 50.0**	**-0.8**
BKZ	**Black Stump Fm**	**5.09**	**214**	PN		**Pn**	**15 42 52.3**	**-1.7**
MCHZ	**McNeill Hill**	**5.22**	**211**	PN		**Pn**	**15 42 55.3**	**-0.9**
KAHZ	**Kahuranaki**	**5.45**	**208**	PN		**Pn**	**15 42 56.2**	**-2.7**
WNVZ	**Wahianoa**	**5.65**	**219**	PN		**Pn**	**15 43 01.1**	**-0.6**
TSZ	**Takapari Road**	**6.05**	**212**	PN		**Pn**	**15 43 05.1**	**-2.0**
ASAR	**Alice Springs**	**41.55**	**273**	P		**P**	**15 49 23.2**	**+1.2**
	0.5nm,0.4s,baz=117,slow=7.3,SNR=30							
WRA	**Warramunga Arr**	**42.96**	**278**	P		**P**	**15 49 32.7**	**-0.8**
	0.5nm,0.5s,baz=117,slow=7.8,SNR=13							
FINES	**FINESS Array B**	**148.82**	**336**	PKPbc		**PKPbc**	**16 01 19.3**	**-0.7**
	1.0nm,0.8s,baz=41,slow=4.4,SNR=4.0							
TORD	**Torodi Ar. Bea**	**158.19**	**184**	PKPab		**PKPab**	**16 02 06.3**	**+1.6**
	0.4nm,0.6s,baz=182,slow=4.0,SNR=3.3							

*IDC **22** 16:15:42.1±1.4,14°.26N×92°.85E,h0km,mb3.5/4, mb1 3.6/5,mb1mx3.3/32,mbtmp3.4/5,ML3.5/1,MS3.5/2, Ms1 3.5/2,ms1mx2.7/27,Error ellipse: s-maj=53.2km s-min=24.0km az=57.0*
*ISCJB **22** 16:15:45.4±1.1,14°.4N±0°.1×93°.1E±0°.1,h33km,mb3.5/4, MS3.5/2,Error ellipse: s-maj=20.5km s-min=13.2km az=140.2*

ISC 22 16:15:47.7±1.2,14°.4N±0°.2×93°.0E±0°.1,h35km,n11, σ1§11/7,mb3.5/4,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**6.99**	**53**	Pn		**Pn**	**16 17 27.7**	**0.0**
	0.2nm,0.3s,baz=242,slow=15,SNR=6.2							
CMAR				Sn		**Sn**	**16 18 45.7**	**-0.3**
	baz=244,slow=28,SNR=2.5							
H08S3	**Diego Garcia H**	**29.87**	**224**	T		T	16 53 07.8	
	baz=41							
H08S2	**Diego Garcia H**	**29.88**	**224**	T		T	16 53 13.1	
	baz=41							
H08S1	**Diego Garcia H**	**29.89**	**224**	T		T	16 53 11.5	
	baz=41							
MKAR	**Makanchi Array**	**33.57**	**347**	P		**P**	**16 22 25.8**	**+1.4**
	0.3nm,0.7s,baz=170,slow=7.4,SNR=4.7							
JCJ	**Chichijima**	**47.42**	**66**	LR		LR	16 44 24.6	
	comp=Z,168nm,21.2s,baz=250,slow=36							
GUMO	**Guam**	**50.23**	**84**	LR		LR	16 44 23.4	
	comp=Z,18nm,18.4s,baz=96,slow=34							
WRA	**Warramunga Arr**	**53.03**	**129**	P		**P**	**16 25 01.4**	**-0.2**
	0.4nm,0.8s,baz=312,slow=8.1,SNR=5.6							
ASAR	**Alice Springs**	**55.00**	**133**	P		**P**	**16 25 16.5**	**+0.6**
	0.3nm,0.5s,baz=307,slow=6.6,SNR=11							
FINES	**FINESS Array B**	**66.53**	**331**	P		**P**	**16 26 32.2**	**-1.5**
	0.8nm,0.9s,baz=125,slow=4.1,SNR=4.2							
BDFB	**Brasilia**	**142.38**	**263**	PKP		**PKPdf**	**16 35 17.8**	**0.0**
	1.5nm,0.5s,baz=86,slow=13,SNR=2.6							

*IDC **22** 16:26:57.5±2.8,23°.57S×180°.00E,h497km±31km,mb3.3/7, mb1 3.5/8,mb1mx3.2/19,mbtmp4.1/8,Error ellipse: s-maj=42.0km s-min=19.7km az=164.0*
*ISCJB **22** 16:26:58.9±0.8,23°.7S±0°.2×179°.9E±0°.2,h526km,mb3.7/7, Error ellipse: s-maj=24.9km s-min=17.0km az=150.4*

ISC 22 16:26:59.6±0.9,23°.8S±0°.2×180°.0E±0°.2,h526km,n10, σ1§24/11,mb3.8/7,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**14.67**	**189**	P		**P**	**16 30 05.2**	**-0.6**
	0.4nm,0.3s,baz=107,slow=17,SNR=5.0							
STKA	**Stephens Creek**	**34.77**	**248**	P		**P**	**16 33 06.3**	**+0.4**
	2.1nm,0.7s,baz=94,slow=14,SNR=2.4							
ASAR	**Alice Springs**	**42.05**	**260**	P		**P**	**16 34 05.7**	**+0.4**
	2.9nm,0.8s,baz=99,slow=7.3,SNR=26							
ASAR				ScP		**ScP**	**16 38 51.2**	**+2.8**
	0.9nm,0.8s,baz=104,slow=4.1,SNR=8.9							
WRA	**Warramunga Arr**	**42.41**	**266**	P		**P**	**16 34 08.0**	**-0.1**
	2.3nm,0.4s,baz=94,slow=8.5,SNR=82							
JAY	**Jayapura**	**43.45**	**293**	P		**P**	**16 34 15.4**	**-0.9**
	3.1nm,0.5s,baz=296,slow=5.0,SNR=4.6							
NVAR	**Mina Array Bea**	**84.65**	**44**	P		**P**	**16 38 36.9**	**-1.0**
	0.3nm,0.5s,baz=236,slow=6.4,SNR=3.0							
TXAR	**Lajitas Array**	**90.36**	**58**	P		**P**	**16 39 05.8**	**+0.9**
	0.6nm,0.7s,baz=226,slow=4.8,SNR=8.1							
PDAR	**Pinedale Array**	**92.59**	**44**	P		**P**	**16 39 15.3**	**+0.3**
	0.5nm,0.8s,baz=208,slow=3.1,SNR=4.3							
ARCES	**ARCESS Array B**	**131.74**	**348**	PKP		**PKPdf**	**16 45 11.1**	**-0.8**
	0.9nm,0.7s,baz=56,slow=2.2,SNR=4.8							
AKASG	**Malin Array Be**	**144.84**	**327**	PKP		**PKPdf**	**16 45 36.0**	**-0.3**
	0.3nm,0.4s,baz=45,slow=4.4,SNR=4.1							

*CSEM **22** 16:30:13.1±0.5,38°.12N×20°.68E,h30km,MD2.8,Error ellipse: s-maj=13.9km s-min=10.7km az=82.0*

ATH 22 16:30:12.8,38°.13N×20°.56E,h28km,MD2.8/4,Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VLS	**Valsamata**	**0.05**	**26**	*e*PB		Pb	16 30 18.0	+0.3
VLS	**Valsamata**	**0.05**	**26**	*e*Pb		Pb	16 30 18.0	+0.3
ZKS	**Zakynthos**	**0.47**	**158**	*e*PB		Pb	16 30 22.9	+0.2
ZKS	**Zakynthos**	**0.47**	**158**	*e*Pb		Pb	16 30 22.9	+0.2
LKD2	**Lefkada island**	**0.66**	**7**	*e*PN		Pb	16 30 26.1	+0.2
LKD2	**Lefkada island**	**0.66**	**7**	*e*Pn		Pb	16 30 26.1	+0.2
PDO	**Prodromos**	**0.68**	**46**	*e*PN		Pn	16 30 26.4	-0.2
PDO				*e*SN		Sn	16 30 36.3	+0.1
PDO	**Prodromos**	**0.68**	**46**	*e*Pn		Pn	16 30 26.4	-0.2
PDO				*e*Sn		Sn	16 30 36.3	+0.1
DSL	**Palaion Diasel**	**1.09**	**23**	*e*PN		Pb	16 30 33.6	+0.5
DSL	**Palaion Diasel**	**1.09**	**23**	*e*Pn		Pb	16 30 33.6	+0.5

*ISCJB **22** 16:30:23.7±0.5,38°.42N±0°.02×21°.81E±0°.04,h11km±3km, Error ellipse: s-maj=5.4km s-min=3.7km az=170.6*
*CSEM **22** 16:30:23.7±0.2,38°.43N×21°.84E,h10km,MD2.8,Error ellipse: s-maj=4.2km s-min=2.6km az=96.0*
*ATH **22** 16:30:24.0,38°.44N×21°.81E,h9km±2km,MD2.8/12*
*THE **22** 16:30:24.0,38°.42N×21°.82E,h11km±1km,ML1.9/6,Error ellipse: s-maj=1.1km s-min=0.3km az=85.0*

ISC 22 16:30:24.1±0.9,38°.43N±0°.02×21°.83E±0°.02,h10km±5km, n44,σ0§47/68,Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EFP	**Efpalio**	**0.06**	**90**	P		**Pg**	**16 30 26.1**	**-0.2**
EFP				S		**Sg**	**16 30 28.0**	**+0.3**
EFP	**Efpalio**	**0.06**	**90**	*e*PG		**Pg**	**16 30 26.0**	**-0.2**
EFP				*e*SG		**Sg**	**16 30 27.7**	**0.0**
EFP	**Efpalio**	**0.06**	**90**	*e*Pg		**Pg**	**16 30 26.0**	**-0.2**
EFP				*e*Sg		**Sg**	**16 30 27.7**	**0.0**
EFP				S		**Sg**	**16 30 28.0**	**+0.3**
KALE	**Kalithea**	**0.25**	**98**	P		**Pg**

NEIC Felt [III] at June Lake. Also felt at Mammoth Lakes.
ISC 22 17:06:06.2±1.1, 37°.84N±0°.03×118°.99W±0°.03, h2km±11km, n29, σ0s88/31, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLAC	**Mammoth, Mammo**	**0.24**	**150**	P	**Pg**	**17 06 11.7**	**+0.9**
	baz=0.2						
MLAC				S	**Sg**	**17 06 15.1**	**+1.1**
	baz=0.2						
WAKR	**Walker**	**0.75**	**332**	*e*Pg	**Pg**	**17 06 21.8**	**+1.2**
TIN	**Tinemaha, Big**	**0.99**	**142**	P	**Pg**	**17 06 25.6**	**+0.5**
	baz=1.0						
CMB	**Columbia Colle**	**1.12**	**280**	*e*Pg	**Pg**	**17 06 27.6**	**-0.2**
TPH	**Tonopah**	**1.42**	**80**	*e*Pn	**Pn**	**17 06 33.4**	**+0.3**
RCTC	**Rector, Farmer**	**1.54**	**188**	P	**Pb**	**17 06 35.0**	**-0.3**
	baz=1.5						
RCTC				S	**Sb**	**17 06 55.1**	**-0.1**
	baz=1.5						
CWC	**Cottonwood Cre**	**1.57**	**152**	Pb	**Pb**	**17 06 36.0**	**0.0**
	baz=1.6						
CWC				S	**Sb**	**17 06 56.1**	**-0.4**
	baz=1.6						
DAC	**Darwin (Calif)**	**1.92**	**144**	*e*Pn	**Pb**	**17 06 41.3**	**-0.6**
VES	**Vestal, Richgr**	**2.00**	**182**	Pb	**Pb**	**17 06 43.0**	**-0.2**
	baz=2.0						
VES				Sb	**Sg**	**17 07 09.6**	**-0.7**
	baz=2.0						
MPMC	**Manual Prospec**	**2.14**	**145**	Pb	**Pb**	**17 06 46.2**	**+0.3**
	baz=2.1						
ISA	**Isabella, Lake**	**2.21**	**169**	Pb	**Pb**	**17 06 47.1**	**+0.2**
	baz=2.2						
ISA				Sb	**Sb**	**17 07 15.7**	**+1.0**
	baz=2.2						
TPNV	**Topopah Spring**	**2.35**	**111**	Pb	**Pb**	**17 06 50.1**	**+0.7**
	baz=2.3						
SMMC	**Simmler**	**2.65**	**198**	P	**Pn**	**17 06 51.7**	**+1.8**
	baz=2.6						
ARVC	**Arvin**	**2.71**	**177**	Sb	**Sb**	**17 07 29.5**	**+0.6**
	baz=2.7						
R11A	**Troy Canyon, C**	**2.73**	**78**	*e*Pn	**Pn**	**17 06 51.8**	**+0.6**
R11A	**Troy Canyon, C**	**2.73**	**78**	Pb	**Pb**	**17 06 56.4**	**+0.5**
	baz=2.7						
R11A				Sb	**Sg**	**17 07 33.2**	**-0.8**
	baz=2.7						
SAC	**San Andreas**	**2.73**	**266**	*e*Pn	**Pn**	**17 06 51.2**	**+0.2**
BMN	**Battle Mountai**	**2.93**	**27**	*e*Pn	**Pn**	**17 06 54.6**	**+0.7**
OSI	**Osito Audit: C**	**3.22**	**176**	*e*Pn	**Pn**	**17 06 58.1**	**+0.2**
SHPR	**Sheep Range**	**3.33**	**112**	*e*Pn	**Pn**	**17 07 00.8**	**+1.3**
MWC	**Mount Wilson**	**3.69**	**168**	*e*Pn	**Pn**	**17 07 03.7**	**-0.6**
PASC	**Pasadena Art C**	**3.72**	**170**	*e*Pn	**Pn**	**17 07 02.2**	**-2.3**
WDC	**Whiskeytown Da**	**3.89**	**316**	Pn	**Pn**	**17 07 06.3**	**-0.6**
ELK	**Elko**	**4.11**	**44**	*e*Pn	**Pn**	**17 07 10.9**	**+0.7**
DUG	**Dugway, Tooele**	**5.35**	**62**	Pn	Pn	17 07 31.1	+3.9
HUMO	**Hull Mountain**	**5.65**	**329**	Pn	Pn	17 07 34.6	+3.5
MFID	**Camas Ranch**	**6.07**	**22**	*e*Pb	Pb	17 07 49.6	-3.0
MPU	**Maple Canyon**	**6.13**	**67**	*e*Pg	**Pg**	**17 08 02.7**	**-1.0**
HLID	**Hailey**	**6.69**	**30**	*e*Pn	Pn	17 07 49.0	+3.5

*IDC **22** 17:08:26.5±2.7, 12°.50N×91°.34W, h0km, mb3.7/6, mb1 4.1/8, mb1mx3.8/24, mbtmp3.8/8, ML3.9/2, Error ellipse: s-maj=50.3km s-min=37.0km az=154.0*
*ISCJB **22** 17:08:29.9±0.9, 12°.52N±0°.09×91°.79W±0°.05, h33km, mb4.0/9, Error ellipse: s-maj=12.3km s-min=6.6km az=174.2*
*NEIC **22** 17:08:29.0±0.9, 12°.62N×91°.38W, h10km, mb4.1/5, Error ellipse: s-maj=16.9km s-min=11.4km az=206.0*
*CASC **22** 17:08:31.8±2.9, 12°.74N×91°.85W, h37km±999km, MD3.9*
*MEX **22** 17:08:36.9±0.4, 13°.21N×92°.18W, h102km±154km, MD3.8*
ISC 22 17:08:32.7±1.1, 12°.72N±0°.09×91°.79W±0°.06, h35km, n31, σ1s43/34, mb4.1/9, 2C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**1.59**	**5**	*e*P	**Pn**	**17 08 58.5**	**0.0**
IXG	**Ixpaco**	**1.94**	**42**	⇓*i*P	**Pn**	**17 09 01.6**	**-1.8**
FUG	**Fuego 3**	**1.95**	**28**	*e*P	**Pn**	**17 09 03.2**	**-0.2**
THIG		**2.22**	**348**	*i* P	**Pn**	**17 09 04.4**	**-2.7**
THIG		**2.22**	**348**	*i* P	**Pn**	**17 09 04.4**	**-2.7**
NBG	**Las Nubes**	**2.32**	**37**	*e*P	**Pn**	**17 09 09.0**	**+0.3**
SBLS	**San Blas**	**2.38**	**62**	⇑*e*P	**Pn**	**17 09 09.0**	**-0.5**
SBLS				*e*S	**Sn**	**17 09 37.8**	**+0.2**
RTR	**El Retiro**	**2.39**	**60**	⇑*e*P	**Pn**	**17 09 09.3**	**-0.3**
RTR				*e*S	**Sn**	**17 09 37.7**	**-0.1**
SNJE	**San Jose**	**2.41**	**61**	*e*P	**Pn**	**17 09 09.4**	**-0.4**
RBDL	**Robledal**	**2.47**	**56**	⇓*e*P	**Pn**	**17 09 10.5**	**-0.2**
BOQS	**Boqueron**	**2.64**	**67**	*e*P	**Pn**	**17 09 13.3**	**+0.3**
BOQS				*e*S	**Sn**	**17 09 44.8**	**+0.8**
LFRS	**El Faro**	**2.80**	**71**	*e*P	**Pn**	**17 09 16.0**	**+0.8**
MTO2	**Montecristo 2**	**2.89**	**54**	*e*P	**Pn**	**17 09 16.4**	**-0.1**
MRL	**Marmol**	**3.09**	**41**	*e*P	**Pn**	**17 09 20.1**	**+0.9**
MRL				*e*S	**Sn**	**17 09 59.6**	**+4.4**
VSM	**San Miguel**	**3.49**	**78**	*e*P	**Pn**	**17 09 26.1**	**+1.3**
TGUH	**Tegucigalpa,Un**	**4.59**	**73**	Pn	Pn	17 09 32.7	-7.0
CMIG	**Matias Romero**	**5.28**	**326**	Pn	**Pn**	**17 09 52.1**	**+3.0**
	1.0nm,0.3s,baz=132,slow=7.9,SNR=4.1						
CMIG				Sn	Sn	17 10 57.1	+8.3
	1.5nm,0.3s,baz=205,slow=21,SNR=4.2						
TEIG	**Tepich**	**8.19**	**24**	Pn	**Pn**	**17 10 28.9**	**-0.2**
	5.2nm,0.3s,baz=262,slow=1.7,SNR=17						
TEIG				Sn	**Sn**	**17 12 00.4**	**-0.1**
	0.4nm,0.3s,baz=229,slow=20,SNR=2.9						
TEIG	**Tepich**	**8.19**	**24**	*e*Pn	**Pn**	**17 10 28.3**	**-0.8**
	59nm,0.6s						
TEIG				Sn	**Sn**	**17 12 00.4**	**-0.1**
TXAR	**Lajitas Array**	**19.88**	**328**	P	**Pn**	**17 13 03.8**	**+0.8**
	0.4nm,0.6s,baz=146,slow=12,SNR=7.3						
LRAL	**Lakeview Retre**	**20.69**	**11**	*e*P	**P**	**17 13 09.8**	**0.0**
	2.8nm,0.7s						
SDV	**Santo Domingo**	**21.12**	**98**	P	P	17 13 06.5	-8.4
	4.0nm,0.6s						
GOGA	**Godfrey**	**21.95**	**19**	*e*P	**P**	**17 13 22.4**	**-1.0**
	6.5nm,0.6s						
TKL	**Tuckaleechee C**	**23.96**	**16**	P	**P**	**17 13 44.4**	**+0.5**
	5.6nm,0.7s,baz=181,slow=12,SNR=3.5						
KMSC	**Kings Mountain**	**24.25**	**21**	P	**P**	**17 13 46.7**	**+0.2**
	12nm,1.0s						
NVAR	**Mina Array Bea**	**34.80**	**322**	P	P	17 15 24.0	+3.6
	0.5nm,0.5s,baz=142,slow=8.0,SNR=5.0						
SAML	**Samuel**	**35.65**	**126**	P	**P**	**17 15 25.4**	**-2.3**
	2.4nm,1.0s						
SCHQ	**Schefferville**	**46.35**	**20**	P	**P**	**17 16 53.6**	**-1.6**
	1.5nm,0.5s,baz=238,slow=13,SNR=5.0						
YKA	**Yellowknife Ar**	**52.31**	**347**	P	**P**	**17 17 41.8**	**+1.1**
	0.9nm,0.7s,baz=151,slow=7.5,SNR=3.7						
ILAR	**Eielson Array**	**64.09**	**337**	P	**P**	**17 19 04.1**	**+1.0**
	0.8nm,1.0s,baz=141,slow=4.5,SNR=5.7						
CMAR	**Chiang Mai Arr**	**147.26**	**341**	PKPbc	**PKPbc**	**17 28 13.4**	**0.0**
	0.7nm,0.8s,baz=354,slow=1.1,SNR=5.7						

WEL 22 17:12:13.5±0.7, 35°.49S×179°.69E, h33km, ML3.6/8, 2D, Error ellipse: s-maj=10.9km s-min=5.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.35**	**208**	P*	Pn	17 12 49.5	-0.3
MXZ				S*	Sn	17 13 16.9	-0.6
WMGZ	**Waiomatatini S**	**2.54**	**204**	PN	Pn	17 12 52.8	+0.4
WMGZ				SN	Sn	17 13 20.4	-1.8
HAZ	**Te Kaha**	**2.73**	**214**	P*	Pn	17 12 55.9	+0.9
HAZ				S*	Sn	17 13 26.7	-0.2
PUZ	**Puketiti**	**2.82**	**204**	⇓PN	Pn	17 12 55.9	-0.4
PUZ				SN	Sn	17 13 25.0	-4.2
TWGZ	**Tauwhareparae**	**3.01**	**207**	PN	Pn	17 12 58.7	-0.3
TWGZ				SN	Sn	17 13 31.7	-2.3
CNGZ	**Carnagh Statio**	**3.22**	**201**	PN	Pn	17 13 01.3	-0.4
TKGZ	**Te Karaka**	**3.29**	**206**	PN	Pn	17 13 02.0	-0.7
MWZ	**Matawai**	**3.33**	**211**	P*	Pn	17 13 02.5	-0.7
OPRZ	**Ohinepanea**	**3.45**	**226**	P*	Pn	17 13 05.3	+0.5
URZ	**Urewera**	**3.45**	**216**	⇓P*	Pn	17 13 04.4	-0.6
RIGZ	**Rimuhau**	**3.56**	**205**	PN	Pn	17 13 05.0	-1.5
SNGZ	**Shannon Statio**	**3.78**	**209**	PN	Pn	17 13 08.5	-1.0
BKZ	**Black Stump Fm**	**4.47**	**214**	AML	AML	17 14 47.4	
TSZ	**Takapari Road**	**5.43**	**212**	AML	AML	17 13 21.2	
MRZ	**Mangatainoka R**	**6.10**	**211**	AML	AML	17 14 25.0	

MEX 22 17:13:29.1±0.5, 17°.19N×99°.54W, h20km±480km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEIG	**Mezcala**	**0.73**	**354**	*e*P	Pb	17 13 41.1	-2.3
MEIG				*e*S	Sb	17 13 49.9	-3.2
TLIG	**Tlapa**	**1.00**	**68**	*i* P	Pb	17 13 45.4	-2.6
TLIG				*e*S	Sb	17 13 56.8	-4.2
PLIG	**Platanillo**	**1.19**	**2**	*i* P	Pn	17 13 47.9	-3.0
PLIG				*e*S	Sb	17 14 02.4	-4.0
ARIG	**Puente Sto Nin**	**1.33**	**325**	*i* P	Pn	17 13 49.3	-3.3
ARIG				*e*S	Sn	17 14 04.3	-5.5
PNIG	**Pinotepa**	**1.57**	**120**	*i* P	Pn	17 13 52.9	-3.1
PNIG				*e*S	Sn	17 14 10.9	-5.0
YAIG	**Yautepec**	**1.72**	**15**	*e*P	Pn	17 13 56.1	-2.1

*CSEM **22** 17:13:56.0, 42°.82N×12°.98E, h10km, ML1.0/4*
ROM 22 17:13:56.0±0.3, 42°.82N×12°.98E, h10km±4km, Ml1.0/4, Error ellipse: s-maj=2.8km s-min=1.1km az=82.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.10**	**84**	Pg	Pg	17 13 59.1	+0.4
NRCA				Sg	Sg	17 14 01.1	+0.5
	97nm,0.1s						
NRCA	**Norcia**	**0.10**	**84**	Pg	Pg	17 13 59.1	+0.4
NRCA				Sg	Sg	17 14 01.1	+0.5
	97nm,0.1s						
CESI	**CESI - Serrava**	**0.19**	**342**	Pg	Pg	17 14 00.8	+0.6
CESI				Sg	Sg	17 14 04.1	+1.1
	7.0nm,0.2s						
CESI	**CESI - Serrava**	**0.19**	**342**	Pg	Pg	17 14 00.8	+0.6
CESI				Sg	Sg	17 14 04.1	+1.1
	7.0nm,0.2s						
LNSS	**Leonessa**	**0.23**	**169**	Pg	Pg	17 14 01.6	+0.8
LNSS				Sg	Sg	17 14 04.9	+0.9
	12nm,0.2s						
LNSS	**Leonessa**	**0.23**	**169**	Pg	Pg	17 14 01.6	+0.8
LNSS				Sg	Sg	17 14 04.9	+0.9
	12nm,0.2s						
FDMO	**Fiordimonte**	**0.23**	**20**	Pg	Pg	17 14 01.3	+0.6
FDMO				Sg	Sg	17 14 05.0	+1.1
	28nm,0.1s						
FDMO	**Fiordimonte**	**0.23**	**20**	Pg	Pg	17 14 01.3	+0.6
FDMO				Sg	Sg	17 14 05.0	+1.1
	28nm,0.1s						

*ISCJB **22** 17:29:15.3±0.7, 7°.52S±0°.05×128°.78E±0°.07, h131km, mb3.7/4, Error ellipse: s-maj=10.5km s-min=6.6km az=6.9*
*IDC **22** 17:29:18.6±1.7, 7°.45S×128°.67E, h152km±16km, mb3.5/4, mb1 3.6/8, mb1mx3.3/21, mbtmp4.1/8, Error ellipse: s-maj=25.6km s-min=13.6km az=125.0*
ISC 22 17:29:16.9±0.7, 7°.59S±0°.06×128°.86E±0°.09, h131km, n8, σ2s58/13, mb3.7/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.76**	**243**	P	**Pn**	**17 30 42.5**	**+2.2**
	19nm,0.3s,baz=36,slow=0.8,SNR=48						
BATI				S	**Sn**	**17 31 44.5**	**-0.8**
	25nm,0.3s,baz=69,slow=12,SNR=12						
SIJI	**Sorong**	**7.09**	**20**	P	**Pn**	**17 30 59.9**	**+1.8**
	3.8nm,0.3s,baz=241,slow=21,SNR=53						
SIJI				S	**Sn**	**17 32 17.4**	**0.0**
	1.3nm,0.3s,baz=233,slow=20,SNR=4.6						
WRA	**Warramunga Arr**	**13.38**	**157**	P	**Pn**	**17 32 23.7**	**+2.0**
	0.7nm,0.3s,baz=340,slow=11,SNR=46						
WRA				S	**Sn**	**17 34 46.6**	**-2.9**
	1.7nm,0.3s,baz=329,slow=22,SNR=10						
ASAR	**Alice Springs**	**16.71**	**164**	P	**P**	**17 33 07.0**	**+3.6**
	0.6nm,0.3s,baz=331,slow=10,SNR=78						
ASAR				S	**Sn**	**17 36 05.4**	**-4.2**
	0.3nm,0.3s,baz=335,slow=17,SNR=5.2						
SONM	**Songino Array**	**58.65**	**342**	P	**P**	**17 38 59.1**	**-1.4**
	0.2nm,0.3s,baz=133,slow=6.1,SNR=2.3						
SONM				PcP	**PcP**	**17 39 51.1**	**+2.0**
	0.6nm,0.6s,baz=140,slow=4.8,SNR=3.9						
PETK	**Petropavlovsk-**	**65.23**	**19**	P	**P**	**17 39 42.6**	**-1.6**
	0.7nm,0.6s,baz=181,slow=8.3,SNR=3.3						
MKAR	**Makanchi Array**	**68.10**	**327**	P	**P**	**17 40 00.7**	**-1.9**
	0.5nm,0.4s,baz=117,slow=8.8,SNR=14						
KMBO	**Kilima Mbogo**	**91.45**	**269**	P	**P**	**17 42 07.7**	**-1.8**
	0.9nm,0.4s,baz=34,slow=2.3,SNR=3.4						

*BJI **22** 17:30:56.3, 32°.60N×115°.80W, h5km, mb4.5/2, mB4.2/1, Ms4.8/2, Ms7 4.7/4*
*ISCJB **22** 17:30:56.9±0.2, 32°.62N±0°.01×115°.74W±0°.01, h11km±1km, mb4.3/46, MS4.4/20, Error ellipse: s-maj=2.2km s-min=1.7km az=6.3*
*IDC **22** 17:30:56.9±0.8, 32°.61N×115°.76W, h0km, mb4.0/17, mb1 4.2/23, mb1mx4.1/34, mbtmp4.0/23, ML4.1/6, MS4.3/20, Ms1 4.3/20, ms1mx4.2/28, Error ellipse: s-maj=15.4km s-min=7.3km az=45.0*
*IASPEI **22** 17:30:57.3±0.9, 32°.62N±0°.02×115°.76W±0°.02, h18km±3km, mb4.4/46, MS4.5/20, Error ellipse: s-maj=2.7km s-min=2.4km az=147.6*
*NEIC **22** 17:30:58.8, 32°.62N×115°.77W, h4km, mb4.6/44, ML5.0(ECX), After ECX.*
NEIC Felt [IV] at Mexicali and Tecate, [III] at Ensenada and Tijuana and [II] at Rosarito. Felt in much of northern Baja California and at San Luis Rio Colorado, Sonora. Felt [V] at El Centro; [IV] at Brawley, Calexico, Calipatria, Heber, Imperial, Mountain Center and San Diego; [III] in much of San Diego County, California. Felt from the Los Angeles Basin and Blythe to the U.S.-Mexico border. Felt [II] at Yuma and Somerton, Arizona. Also felt at Wellton.
*MEX **22** 17:30:58.3±1.4, 32°.78N×115°.70W, h16km±667km, MD3.6*
*GCMT **22** 17:30:58.8±0.3, 32°.58N×115°.83W, h19km±1km, MW5.1/96, Moment Tensor Solution. s37,c42; s96,c134; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=1.64±.17; Mθθ=2.14±.15; Mφφ=3.78±.15; Mrθ=-1.01±.33; Mrφ=-3.42±.14; Mθφ=0.76±.29; Best double couple: Mw=4.8 1900×10^16 NP1:φs=113.00000°, δ71.00000°, λ=163.00000°. NP2: φs=113.00000°, δ71.00000°, λ=-20.00000°. Principal axes: T 5.3540, Plg2.0000°, Azm66.0000°; N -1.0710, Plg65.0000°, Azm161.0000°; P -4.2830, Plg25.0000°, Azm335.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ECX **22** 17:30:58.7±0.6, 32°.61N×115°.77W, h3km, MD4.9, ML5.1*
ISC 22 17:30:58.2±0.7, 32°.61N±0°.02×115°.76W±0°.01, h11km±4km, n359, σ1s52/390, mb4.4/46, MS4.5/20, 63C-49D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.05**	**36**	⇑*i*P	**Pg**	**17 30 59.6**	**-0.8**
YUH	**Yuha Desert**	**0.14**	**287**	*e*Pg	**Pg**	**17 31 01.2**	**-0.3**
YUH	**Yuha Desert**	**0.14**	**287**	⇑*i*PC	**Pg**	**17 31 01.1**	**-0.4**
WESC	**Westside Schoo**	**0.15**	**10**	*e*Pg	**Pg**	**17 31 01.4**	**-0.3**
WESC	**Westside Schoo**	**0.15**	**10**	⇑*e*P	**Pg**	**17 31 01.6**	**-0.2**
WESC				*e*S	**Sg**	**17 31 04.4**	**+0.2**
ERPC	**Ernies Place**	**0.16**	**31**	*e*Pg	**Pg**	**17 31 01.8**	**0.0**
RMX	**La Rumorosa**	**0.27**	**269**	*i* P	**Pg**	**17 31 03.5**	**-0.3**
RMX				*e*S	**Sg**	**17 31 07.6**	**+0.1**
IBP	**Imperial Bould**	**0.28**	**281**	⇓P	**Pg**	**17 31 03.9**	**-0.2**
	baz=0.3						
IBP				⇓S	**Sg**	**17 31 08.1**	**+0.2**
	baz=0.3						
IBP				⇓S	**Sg**	**17 31 08.1**	**+0.2**
	baz=0.3						
CRR	**Carrizo Plain**	**0.33**	**328**	*e*Pg	**Pg**	**17 31 04.6**	**-0.3**
DREC	**Desert Rsrch C**	**0.33**	**53**	*e*P	**Pg**	**17 31 05.2**	**+0.3**
SWSC	**Sam W. Stewart**	**0.34**	**355**	*e*Pg	**Pg**	**17 31 04.6**	**-0.4**
SWSC	**Sam W. Stewart**	**0.34**	**355**	⇓P	**Pg**	**17 31 04.6**	**-0.4**
	baz=0.4						
SWSC				⇑S	**Sg**	**17 31 09.0**	**-0.5**
	baz=0.4						
SWSC				⇑S	**Sg**	**17 31 09.0**	**-0.5**
	baz=0.4						
SWSC	**Sam W. Stewart**	**0.34**	**355**	⇓*i*P	**Pg**	**17 31 04.6**	**-0.4**
CPBX	**Cerro Prieto**	**0.43**	**116**	*i* P	**Pg**	**17 31 06.7**	**0.0**
CPBX				*e*S	**Sb**	**17 31 14.2**	**-0.1**
CPBX	**Cerro Prieto**	**0.43**	**116**	*e*P9	**Pg**	**17 31 06.6**	**0.0**
CPBX				*e*P	**Pg**	**17 31 06.7**	**0.0**
CPBX				*e*S	**Sg**	**17 31 12.7**	**+0.3**
CPBX				⇓*e*		17 31 17.3	
CPBX				IAML		17 31 17.3	
	comp=E,462μm,0.3s						
CBKC	**Canebrake**	**0.51**	**305**	*e*Pg	**Pg**	**17 31 07.9**	**-0.2**
CBKC	**Canebrake**	**0.51**	**305**	⇓*i*P	**Pg**	**17 31 08.0**	**-0.1**
MBIG	**Mexicali**	**0.52**	**112**	*e*P	**Pg**	**17 31 08.4**	**+0.1**
MBIG				*i* S	**Sg**	**17 31 15.1**	**0.0**
CLIC	**Calipatria**	**0.57**	**20**	*e*Pg	**Pg**	**17 31 09.4**	**+0.1**
COA	**Coachella**	**0.60**	**64**	*e*Pg	**Pg**	**17 31 09.4**	**-0.4**
COA	**Coachella**	**0.60**	**64**	⇑*i*P	**Pg**	**17 31 09.5**	**-0.4**
BTCC	**Brunts Corner**	**0.61**	**48**	*e*Pg	**Pg**	**17 31 09.6**	**-0.5**
EMSC	**East Mesa**	**0.67**	**78**	*e*Pg	**Pg**	**17 31 10.7**	**-0.5**
EMSC	**East Mesa**	**0.67**	**78**	⇑*i*P	**Pg**	**17 31 10.7**	**-0.5**
RDX	**Rancho Dawling**	**0.69**	**193**	*e*P	**Pg**	**17 31 10.8**	**-0.9**
RDX				*i* S	**Sg**	**17 31 20.3**	**-0.5**
BAR	**Barrett**	**0.77**	**276**	*e*Pg	**Pg**	**17 31 12.5**	**-0.6**
BAR				*e*Sg	**Sg**	**17 31 22.4**	**-0.8**
BAR	**Barrett**	**0.77**	**276**	*e*P	**Pg**	**17 31 12.5**	**-0.6**
FRK	**Frink**	**0.80**	**7**	*e*Pg	**Pg**	**17 31 12.4**	**-1.3**
CBX	**Cerro Bola**	**0.82**	**249**	*e*P	**Pg**	**17 31 12.7**	**-1.3**
CBX				*e*S	**Sg**	**17 31 24.2**	**-0.4**
CBX	**Cerro Bola**	**0.82**	**249**	*e*P	**Pg**	**17 31 12.7**	**-1.3**
CBX				*e*S	**Sg**	**17 31 24.2**	**-0.4**
CBX	**Cerro Bola**	**0.82**	**249**	⇑*e*P	**Pg**	**17 31 13.5**	**-0.5**
CBX				*e*S	**Sg**	**17 31 24.3**	**-0.4**
CBX				IAML		17 31 26.0	
	comp=N,92μm,0.6s						
CBX				⇓*e*		17 31 26.0	
BATC	**Bat Cave Butte**	**0.85**	**356**	*e*Pg	**Pg**	**17 31 14.0**	**-0.7**
GLA	**Glamis**	**0.90**	**60**	*e*Pg	**Pg**	**17 31 13.7**	**-2.0**
GLA				*e*Sg	**Sg**	**17 31 24.9**	**-2.6**
GLA	**Glamis**	**0.90**	**60**	⇓P	**Pg**	**17 31 13.9**	**-1.7**
	baz=0.9						
GLA				⇑S	**Sg**	**17 31 26.1**	**-1.3**
	baz=0.9						
GLA				⇑S	**Sg**	**17 31 26.1**	**-1.3**
	baz=0.9						
EML	**El Monte Cty P**	**0.96**	**288**	*e*Pg	**Pg**	**17 31 15.7**	**-1.0**
SDRC	**San Diego Road**	**1.00**	**278**	⇑*e*P	**Pb**	**17 31 16.5**	**-1.1**
CTCC	**Cactus City**	**1.06**	**350**	*e*Pg	**Pb**	**17 31 17.4**	**-1.4**
DPP	**Dos Picos Cty**	**1.07**	**292**	*e*Pg	**Pb**	**17 31 17.5**	**-1.2**
CTW	**Cottonwood Mou**	**1.07**	**355**	*e*Pg	**Pb**	**17 31 17.8**	**-1.1**
BC3	**Big Chuckawall**	**1.08**	**14**	⇑P	**Pb**	**17 31 16.7**	**-2.3**
	baz=1.1						
BC3				⇓S	**Sb**	**17 31 30.6**	**-2.6**
	baz=1.1						
BC3				⇓S	**Sb**	**17 31 30.6**	**-2.6**
	baz=1.1						
HWB	**Hans Werner Br**	**1.09**	**293**	*e*Pg	**Pb**	**17 31 17.9**	**-1.2**
HAY	**Hayfield**	**1.10**	**3**	*e*Pg	**Pb**	**17 31 18.2**	**-1.1**
FRD	**Ford Ranch, An**	**1.13**	**322**	*e*Pg	**Pb**	**17 31 18.6**	**-1.4**
PFO	**Pinyon Flats O**	**1.16**	**330**	Pn	**Pb**	**17 31 18.1**	**-2.3**
	comp=N,856nm,0.3s,baz=151,slow=15,SNR=1731						
PFO				Pg	**Pn**	**17 31 19.6**	**-0.9**
	comp=N,856nm,0.3s,baz=153,slow=14,SNR=523						
PFO				Lg	Lg	17 31 32.8	
	comp=N,7μm,0.3s,baz=90,slow=20,SNR=58						
PFO	**Pinyon Flats O**	**1.16**	**330**	*e*Pg	**Pb**	**17 31 17.8**	**-2.6**
PFO				*e*Sg	**Sb**	**17 31 31.5**	**-4.0**
PFO	**Pinyon Flats O**	**1.16**	**330**	⇓P	**Pb**	**17 31 17.9**	**-2.5**
	baz=1.2						
PFO				⇑S	**Sb**	**17 31 33.0**	**-2.4**
	baz=1.2						
PFO				⇑S	**Sb**	**17 31 33.0**	**-2.4**
	baz=1.2						
109C	**Camp Elliot, M**	**1.17**	**284**	⇑P	**Pb**	**17 31 19.1**	**-1.3**
	baz=1.2						
109C				⇓S	**Sb**	**17 31 34.2**	**-1.3**
	baz=1.2						
109C				⇓S	**Sb**	**17 31 34.2**	**-1.3**
	baz=1.2						
ZAX	**El Zacaton**	**1.17**	**202**	*e*P	**Pn**	**17 31 19.6**	**-1.1**
ZAX				*e*S	**Sb**	**17 31 35.4**	**-0.4**
ECNX	**Esteban Cantu**	**1.18**	**217**	⇑*e*P	**Pb**	**17 31 19.7**	**-1.0**
ECNX				P	Pn	17 31 17.4	-3.4
ECNX				S	**Sb**	**17 31 32.0**	**-4.1**
ECNX				*e*S	**Sg**	**17 31 35.4**	**-0.9**
SNDA	**J Saunders Pla**	**1.18**	**323**	*e*Pg	**Pb**	**17 31 19.4**	**-1.4**
PBX	**Punta Banda**	**1.19**	**224**	⇑*e*P	**Pn**	**17 31 19.8**	**-1.0**
PBX				*e*S	**Sb**	**17 31 35.5**	**-0.6**
PLM	**Palomar**	**1.19**	**309**	*e*Pg	**Pb**	**17 31 19.8**	**-1.1**
DNR	**Dunn Ranch,Anz**	**1.20**	**323**	*e*Pg	**Pn**	**17 31 19.8**	**-1.4**
CRY	**Cary Ranch**	**1.26**	**320**	*e*Pg	**Pn**	**17 31 20.7**	**-1.2**
ECBX	**El Chinero**	**1.28**	**152**	*e*P9		17 31 16.7	
ECBX				*e*S	**Sb**	**17 31 34.3**	**-4.6**
BELC	**Belle Mtn. Jos**	**1.41**	**352**	*e*Pg	**Pn**	**17 31 23.1**	**-0.9**
BELC	**Belle Mtn. Jos**	**1.41**	**352**	⇑P	**

MWC ePg Pb 17 31 42.7 -0.7
MWC eSn Sn 17 32 10.5 +0.7
LDFC Landfair 2.52 12 ePn Pn 17 31 38.1 -1.2
HOLC Holcomb Ridge 2.54 317 ePn Pn 17 31 39.3 -0.2
PASC Pasadena Art C 2.56 308 ePn Pn 17 31 38.1 -1.6
PASC eSn Sb 17 32 15.4 -0.2
214A Organ Pipe Nat 2.58 104 ePn Pn 17 31 37.2 -2.8
214A Organ Pipe Nat 2.58 104 ⇑P Pn 17 31 37.4 -2.6
baz=2.6
Y14A Wickenburg 2.67 59 ⇓P Pn 17 31 39.3 -1.9
baz=2.7
LRRC Littlerock Res 2.69 316 ePn Pn 17 31 41.5 0.0
DECC Green Verdugo 2.70 308 ePn Pn 17 31 41.7 0.0
DECC Green Verdugo 2.70 308 ⇓P Pn 17 31 40.3 -1.4
baz=2.7
DECC ⇓Sb Sb 17 32 21.2 +1.4
baz=2.7
DECC ⇓Sb Sb 17 32 21.2 +1.4
baz=2.7
BLKC Black Mountain 2.76 334 ePn Pn 17 31 42.4 -0.1
GSC Goldstone, Bar 2.83 342 ePn Pn 17 31 41.9 -1.6
GSC Goldstone, Bar 2.83 342 ⇓P Pn 17 31 41.6 -1.9
baz=2.8
TUQ Turquoise Moun 2.83 357 ⇓P Pn 17 31 41.9 -1.6
baz=2.8
EDW2 Edwards Air Fo 2.93 321 ePn Pn 17 31 44.9 +0.1
EDW2 Edwards Air Fo 2.93 321 ⇑P Pn 17 31 43.4 -1.5
baz=2.9
EDW2 ⇑Sb Sb 17 32 28.0 +1.5
baz=2.9
EDW2 ⇑Sb Sb 17 32 28.0 +1.5
baz=2.9
W13A Hualapai Mount 2.94 32 ⇓P Pn 17 31 43.8 -1.3
baz=2.9
BLG Laguna Peak, P 3.14 299 ⇓P Pn 17 31 45.9 -1.8
baz=3.2
OSI Osito Audit: C 3.18 310 ePn Pn 17 31 46.5 -1.8
OSI ePg Pb 17 31 53.0 -1.8
OSI Osito Audit: C 3.18 310 ⇑P Pn 17 31 47.0 -1.3
baz=3.2
CLC China Lake 3.54 335 ePn Pn 17 31 53.6 +0.3
ARVC Arvin 3.58 315 ePn Pn 17 31 54.1 +0.4
ARVC Arvin 3.58 315 ⇑P Pn 17 31 52.4 -1.4
baz=3.6
ARVC ⇑Sb Sb 17 32 47.9 +2.7
baz=3.6
ARVC ⇑Sb Sb 17 32 47.9 +2.7
baz=3.6
MPMC Manual Prospec 3.73 338 ⇑P Pn 17 31 54.3 -1.7
baz=3.7
SBC Santa Barbara 3.77 300 ⇓P Pn 17 31 54.8 -1.6
baz=3.8
ISA Isabella, Lake 3.79 324 ePn Pn 17 31 54.9 -1.8
ISA Isabella, Lake 3.79 324 ⇓P Pn 17 31 55.4 -1.3
baz=3.8
MARC Maricopa 3.82 310 ePn Pn 17 31 57.7 +0.6
BAKC Calstate 3.90 315 ePn Pn 17 31 58.7 +0.6
SHPR Sheep Range 3.92 7 ePn Pn 17 31 57.4 -1.2
SHPR ePg Pg 17 32 13.4 +0.1
FURC Furnace Creek, 3.96 347 ⇓Pg Pg 17 32 12.6 -1.5
baz=4.0
DAC Darwin (Calif) 3.96 338 ePn Pn 17 31 57.4 -1.7
DAC ePg Pb 17 32 10.9 +2.7
X16A Lo Mia Camp, P 4.04 62 ⇑P Pn 17 31 59.2 -1.0
baz=4.0
PKM Mcpherson Peak 4.08 305 ⇓P Pn 17 31 59.6 -1.1
baz=4.1
TUC Tucson 4.22 93 ePn Pn 17 31 59.6 -3.0
TUC ePg Pg 17 32 18.6 -0.4
VES Vestal, Richgr 4.24 320 ⇓P Pn 17 32 01.7 -1.1
baz=4.3
CWC Cottonwood Cre 4.28 334 ⇑Pg Pg 17 32 18.0 -2.1
baz=4.3
TPNV Topopah Spring 4.35 355 ePn Pn 17 32 04.3 -0.2
TPNV Topopah Spring 4.35 355 ⇑P Pn 17 32 04.1 -0.4
baz=4.4
SMMC Simmler 4.44 309 ⇑P Pn 17 32 05.2 -0.3
baz=4.4
GRAC Grapevine Rang 4.58 344 ⇑P Pn 17 32 07.3 -0.2
baz=4.6
WUAZ Wupatki 4.66 50 ePn Pn 17 32 08.6 -0.2
WUAZ ePg Pg 17 32 27.7 +0.3
WUAZ Wupatki 4.66 50 ⇓P Pn 17 32 08.5 -0.2
baz=4.7
U15A North Rim 4.77 36 ⇓P Pn 17 32 10.0 -0.3
baz=4.8
PTRM Twissleman Ran 4.78 311 ePn Pn 17 32 08.0 -2.3
KNB Kanab 5.02 28 ePn Pn 17 32 13.9 +0.2
X18A Snowflake 5.22 67 ⇓P Pn 17 32 15.8 -0.6
baz=5.2
TPH Tonopah 5.59 348 ePn Pn 17 32 19.1 -2.3
W18A Petrified Fore 5.60 62 ePn Pn 17 32 21.7 -0.1
W18A Petrified Fore 5.60 62 ⇑P Pn 17 32 22.1 +0.4
baz=5.6
319A Douglas 5.64 101 ⇑P Pn 17 32 20.7 -1.5
baz=5.6
R11A Troy Canyon, C 5.73 1 ePn Pn 17 32 23.1 -0.4
R11A eSg Sg 17 33 57.5 -4.7
R11A Troy Canyon, C 5.73 1 ⇓P Pn 17 32 23.6 +0.2
baz=5.8
NV01 Mina Array Sit 6.17 341 ePn Pn 17 32 29.6 +0.1
NVAR Mina Array Bea 6.17 341 Pn Pn 17 32 29.8 +0.3
comp=E,1.3nm,0.3s,baz=167,slow=13,SNR=16
NVAR Lg Lg 17 34 14.9
comp=E,4.2nm,0.3s,baz=301,slow=28,SNR=3.9
MVU Marysvale 6.56 25 ePn Pn 17 32 32.9 -1.9
MSU Marysvale 6.58 25 eP Pn 17 32 35.2 +0.1
WAKR Walker 6.60 334 ePn Pn 17 32 37.3 +1.9
WAKR eSg Sg 17 34 23.4 -6.7
CMB Columbia Colle 6.60 326 ePn Pn 17 32 32.8 -2.5
121A Cookes Peak, D 6.74 88 ePn Pn 17 32 35.8 -1.4
comp=E,230nm,1.0s
121A eSg Sg 17 34 35.4 +1.0
121A Cookes Peak, D 6.74 88 ⇑P Pn 17 32 36.3 -1.0
baz=6.7
LAZ Ladron 7.42 74 ePn Pn 17 32 46.3 -0.4
LENM Lemitar 7.51 76 ePn Pn 17 32 47.2 -0.8
MVCO Mesa Verde 7.53 50 ePn Pn 17 32 49.6 +1.4
MVCO Mesa Verde 7.53 50 ⇑P Pn 17 32 49.9 +1.7
baz=7.5
Y22D IRIS PASSCAL I 7.54 76 ⇑P Pn 17 32 47.9 -0.4
baz=7.5
TMUT Trail Mountain 7.63 28 ePn Pn 17 32 50.4 +0.8
PV05 Paradox Valley 7.71 43 ePn Pn 17 32 55.2 +4.5
SRU San Rafael Swe 7.76 32 ePn Pn 17 32 51.8 +0.5
BNM Barren Site 7.79 76 ePn Pn 17 32 51.5 -0.4
LPM Los Pinos Moun 7.82 75 ePn Pn 17 32 51.7 -0.4
BMN Battle Mountai 7.90 352 ePn Pn 17 32 52.5 -0.6
BMN ePg Pg 17 33 29.4 0.0
NLU North Lily Min 7.91 21 ePn Pn 17 32 55.0 +1.6
DUG Dugway, Tooele 7.94 17 ePn Pn 17 32 53.7 -0.1
DUG ePg Pg 17 33 27.0 -3.2
DUG Dugway, Tooele 7.94 17 ⇓P Pn 17 32 56.5 +2.7
baz=8.0
PV10 Paradox Valley 7.95 42 ePg Pg 17 33 29.1 -1.3
PV09 Paradox Valley 7.98 41 ePn Pn 17 32 56.7 +2.2
PV04 Paradox Valley 8.04 42 ePn Pn 17 32 57.3 +2.2
PV04 ePg Pg 17 33 27.6 -4.5
PV01 Paradox Valley 8.06 45 Pn Pn 17 32 56.8 +1.3
comp=E,10μm,0.6s
ANMO Albuquerque 8.09 71 Pn Pn 17 32 56.5 +0.6
comp=E,1.8nm,0.3s,baz=261,slow=11,SNR=41
ANMO Lg Lg 17 35 15.7
comp=E,2.0nm,0.3s,baz=162,slow=12,SNR=4.3
ANMO LR LR 17 36 09.3
comp=E,3μm,21.9s,baz=268,slow=39
MPU Maple Canyon 8.11 23 Pn Pn 17 32 56.0 -0.1
ELK Elko 8.13 3 Pn Pn 17 32 58.6 +2.1
comp=E,0.3nm,0.3s,baz=175,slow=12,SNR=6.9
ELK Pg Pb 17 33 07.5 -12
comp=E,0.5nm,0.3s,baz=191,slow=14,SNR=12
ELK Lg Lg 17 35 13.5
comp=E,0.1nm,0.3s,baz=297,slow=14,SNR=1.7
ELK LR LR 17 36 36.4
comp=E,3μm,18.1s,baz=178,slow=42
ELK Elko 8.13 3 ePn Pn 17 32 55.4 -1.1
ELK Pg Pb 17 33 07.5 -12
ELK Lg Lg 17 35 13.5
BGU Big Grassy Mou 8.59 14 ePn Pn 17 33 03.3 +0.7
JLU Jordanelle 8.70 22 ePn Pn 17 33 06.1 +1.8
MNTX Cornudas Mount 8.85 93 ePn Pn 17 33 05.3 -0.8
MNTX Cornudas Mount 8.85 93 ⇑P Pn 17 33 05.3 -0.8
baz=8.8
S22A 4UR Ranch, Cre 8.93 52 ePn Pn 17 33 09.1 +1.6
S22A 4UR Ranch, Cre 8.93 52 ⇑P Pn 17 33 08.7 +1.3
baz=8.9
TCUT Toone Canyon 9.18 21 ePn Pn 17 33 13.5 +2.7
comp=E,58nm,0.9s
HVU Hansel Valley 9.46 14 ePn Pn 17 33 14.4 -0.2
S23A Nye Farm, Mont 9.47 55 ⇓P Pn 17 33 15.3 +0.5
baz=9.5
HWUT Hardware Ranch 9.59 19 ePn Pn 17 33 13.9 -2.5
O20A White River Ci 9.65 37 ePn Pn 17 33 18.2 +0.9
O20A White River Ci 9.65 37 ⇓P Pn 17 33 17.9 +0.7
baz=9.7
SMCO Snowmass 9.68 45 ePn Pn 17 33 18.4 +0.5
LPIG La Paz 9.74 149 LR LR 17 37 17.0
comp=E,2μm,18.7s,baz=342,slow=39
R23A Moffat 9.84 53 ⇓P Pn 17 33 20.6 +0.8
baz=9.8
SDCO Great Sand Dun 9.84 56 ePn Pn 17 33 17.4 -2.5
SDCO Great Sand Dun 9.84 56 ⇑P Pn 17 33 20.4 +0.5
baz=9.8
CPRX Cap Rock 10.02 84 ePn Pn 17 33 23.5 +1.2
P22A Eagle 10.08 44 ⇓P Pn 17 33 24.8 +1.6
baz=10
N20A Spence Gulch, 10.18 34 ⇓P Pn 17 33 25.6 +1.1
baz=10
SLBS Sierra La Lagu 10.26 149 ePn Pn 17 33 31.2 +5.6
T25A Trinidad 10.36 61 ePn Pn 17 33 30.7 +3.7
T25A Trinidad 10.36 61 ⇓P Pn 17 33 27.3 +0.3
baz=10
O22A Kremmling 10.58 42 ⇓P Pn 17 33 31.0 +0.9
baz=11
YBH Yreka Blue Hor 10.66 331 Pn Pn 17 33 35.5 +4.5
comp=E,0.1nm,0.3s,baz=128,slow=5.1,SNR=5.9
YBH Lg Lg 17 36 37.9
comp=E,0.1nm,0.3s,baz=284,slow=8.3,SNR=5.0
YBH LR LR 17 38 09.5
comp=E,2μm,18.8s,baz=230,slow=41
YBH Yreka Blue Hor 10.66 331 Pn Pn 17 33 33.2 +2.2
YBH Lg Lg 17 36 37.9
Q24A Divide 10.70 51 ePn Pn 17 33 33.7 +2.0
Q24A Divide 10.70 51 ⇑P Pn 17 33 32.1 +0.4
baz=11
AHID Auburn Hatcher 10.79 19 ePn Pn 17 33 34.9 +2.1
MFID Camas Ranch 10.79 360 Pn Pn 17 33 33.4 +0.6
TX31 Lajitas Ar. Si 10.88 104 ePn Pn 17 33 34.3 +0.3
TXAR Lajitas Array 10.88 104 Pn Pn 17 33 34.5 +0.4
comp=E,0.8nm,0.3s,baz=289,slow=13,SNR=34
TXAR Sn Sn 17 35 34.5 -1.4
comp=E,0.2nm,0.3s,baz=288,slow=15,SNR=2.7
TXAR LR LR 17 37 56.1
comp=E,1μm,18.4s,baz=0.0,slow=38
ISCO Idaho Springs 10.89 46 ePn Pn 17 33 35.9 +1.5
ISCO Idaho Springs 10.89 46 ⇓P Pn 17 33 35.8 +1.5
baz=11
MSTX Muleshoe 10.96 79 ePn Pn 17 33 36.2 +1.1
MSTX Muleshoe 10.96 79 ⇑P Pn 17 33 36.3 +1.1
baz=11
T26A Comanche Natio 10.98 62 ⇑P Pn 17 33 36.9 +1.4
baz=11
HLID Hailey 10.99 5 ePn Pn 17 33 37.7 +2.2
228A UT Block 9, Go 11.15 89 ⇑P Pn 17 33 39.8 +2.1
baz=11
128A Castleberry Fa 11.20 86 ⇑P Pn 17 33 40.1 +1.7
baz=11
S26A Kim 11.24 60 ⇓P Pn 17 33 40.3 +1.4
baz=11
BW06 Boulder Array 11.27 24 ePn Pn 17 33 40.4 +1.0
PDAR Pinedale Array 11.27 24 Pn Pn 17 33 41.8 +2.4
comp=E,0.3nm,0.3s,baz=188,slow=9.4,SNR=49
PDAR LR LR 17 37 33.3
comp=E,478nm,19.1s,baz=216,slow=35
REDW Red Top Meadow 11.41 18 ePn Pn 17 33 43.0 +1.6
HUMO Hull Mountain 11.49 332 ePn Pn 17 33 43.4 +1.1
TPAW Teton Pass 11.51 18 ePn Pn 17 33 46.2 +3.5
SNOW Snowking Moun 11.53 19 ePn Pn 17 33 47.1 +4.1
FXWY Fox Creek 11.62 17 ePn Pn 17 33 48.5 +4.2
LOHW Long Hollow 11.71 19 ePn Pn 17 33 48.5 +3.1
MOOW Moose Ponds 11.80 18 ePn Pn 17 33 50.2 +3.5
IMW Indian Meadow 11.89 17 P Pn 17 33 50.0 +2.1
AMTX Amarillo 11.94 75 ePn Pn 17 33 50.9 +2.4
PHWY Pilot Hill 11.96 41 eSn Sn 17 36 05.6 +3.1
DBO Dodson Butte 12.04 333 eSn Sn 17 36 05.1 +1.0
FLWY Flagg Ranch 12.12 18 Pn Pn 17 33 50.3 -0.8
FLWY eSn Sn 17 36 20.2 +14
K22A Casper 12.41 33 ePn Pn 17 33 59.6 +4.7
MCMT McKenzie Canyo 12.41 10 ePn Pn 17 33 56.2 +1.2
H17A Grant Village 12.45 17 Pn Pn 17 33 54.0 -1.6
YNR Norris Junctio 12.72 17 Pn Pn 17 33 58.2 -1.1
DLMT Dillon 12.97 10 Pn Pn 17 34 00.9 -1.7
H04A Detroit Lake 13.06 339 ePn P 17 34 08.9 -5.1
BOZ Bozeman (W) 13.41 13 ePn Pn 17 34 12.9 +4.4
LRM Limekiln Ridge 13.44 10 ePn Pn 17 34 11.6 +2.5
LRM eSn Sn 17 36 33.2 -5.5
RLMT Red Lodge 13.48 20 ePn Pn 17 34 11.1 +1.6
RLMT eSn Sn 17 36 37.9 -1.6
ABTX Abilene, Hawle 13.59 86 Pn Pn 17 34 10.1 -0.9
JCT Junction City 13.78 95 Pn Pn 17 34 11.9 -1.6
HAWA Hanford 14.07 349 ePn P 17 34 21.8 -3.5
MSO Missoula 14.27 5 ePn P 17 34 24.8 -2.9
MSO eSn Sn 17 36 53.5 -5.3
HRY Holter Researc 14.41 11 ePn Pn 17 34 23.8 +1.6
CHMT Chamberlain Mo 14.42 7 Pn Pn 17 34 19.7 -2.8
CHMT eSn Sn 17 36 55.7 -6.7
D08A Wollman Farm, 14.63 351 eP P 17 34 30.5 -1.1
RSSD Black Hills 14.71 35 ePn Pn 17 34 24.2 -2.1
SLMT Seeley Lake 14.72 6 Pn Pn 17 34 29.0 +2.5
SLMT eSn Sn 17 36 57.6 -12
LON Longmire 14.87 344 ePn Pn 17 34 27.9 -0.5
SWMT Swartz Lake 14.95 5 ePn P 17 34 33.8 -1.3
JTMT Jette 15.16 4 Pn Pn 17 34 30.7 -1.7
W34A Bridge Creek, 15.16 75 ePn Pn 17 34 33.8 +1.3
comp=E,21nm,0.9s
BSMT Bassoo Peak 15.25 2 ePn P 17 34 40.5 +2.0
C09A Chrisman Ranch 15.30 354 ePn P 17 34 42.4 +3.4
comp=E,7.6nm,0.8s
YBMT Yellow Bay 15.30 4 ePn Pn 17 34 33.5 -0.7
BLMT Blacktail Moun 15.42 4 ePn Pn 17 34 32.5 -3.4
V34A Guthrie 15.43 73 Pn Pn 17 34 33.0 -3.0
comp=E,25nm,1.1s
WHTX Lake Whitney, 15.50 87 Pn Pn 17 34 36.2 -0.6
U34A Anderson Ranch 15.50 71 Pn Pn 17 34 36.2 -0.6
comp=E,57nm,1.2s
NEW Newport 15.68 357 Pn P 17 34 41.8 -1.4
comp=E,0.3nm,0.3s,baz=169,slow=9.3,SNR=11
NEW Newport 15.68 357 ePn Pn 17 34 39.6 +0.5
comp=E,32nm,0.9s
LAO LASA Array 15.85 25 ePn Pn 17 34 34.3 -7.0
comp=E,35nm,0.9s
SCCW Shoreline CC 15.93 344 eSn Sn 17 37 35.5 -3.4
B08A Colville Reser 15.96 351 ePn P 17 34 49.6 +3.2
comp=E,12nm,1.2s
WALA Waterton Lakes 16.50 4 ePn P 17 34 53.2 +0.9
comp=E,7μm,2.3s
KSU1 Kansas State U 16.81 62 ePn Pn 17 34 53.9 +0.3
comp=E,63nm,1.2s
TUL1 Leonard 16.83 73 Pn Pn 17 34 51.6 -2.3
comp=E,48nm,1.3s
PGC Sidney 17.04 342 ePn Pn 17 34 55.7 -0.7
comp=E,423nm,1.0s
HKT Hockley 17.24 94 ePn P 17 35 01.2 +0.7
comp=E,30nm,1.4s
DGMT Dagmar 18.09 25 ePn P 17 35 10.5 +0.7
comp=E,33nm,1.0s
MIAR Mount Ida 18.59 78 ePn Pn 17 35 16.3 +0.6
comp=E,41nm,1.1s
ECSD EROS Data Cent 18.66 48 eP Pn 17 35 16.7 +0.2
comp=E,23nm,1.1s
EDM Edmonton 20.68 4 eP P 17 35 37.4 -0.7
PBMO Poplar Bluff 21.22 72 eP P 17 35 45.5 +1.4
comp=E,21nm,1.3s
BBB Bella Bella 21.53 339 LR LR 17 45 20.2
comp=E,558nm,18.5s,baz=166,slow=40
AGMN Agassiz Nation 21.70 38 eP P 17 35 49.7 +0.6
comp=E,44nm,1.3s
SPMN Marine on St. 21.77 48 eP P 17 35 51.6 +1.7
comp=E,28nm,1.1s
OXF Oxford 22.03 78 eP P 17 35 52.9 +0.1
comp=E,48nm,1.1s
JFWS Jewell Farm 22.57 56 eP P 17 35 59.4 +0.9
comp=E,39nm,1.0s
HDIL Hopedale 22.63 62 eP P 17 35 58.1 -1.0
comp=E,52nm,1.4s
ULM Lac du Bonnet 22.97 34 P P 17 36 02.9 +0.3
comp=E,13nm,0.9s,baz=232,slow=9.8,SNR=18
ULM LR LR 17 46 25.6
comp=E,396nm,18.9s,baz=232,slow=40
ULM Lac du Bonnet 22.97 34 eP P 17 36 02.4 -0.2
comp=E,15nm,0.9s
OLIL Olney 23.24 67 eP P 17 36 05.2 -0.4
comp=E,24nm,1.1s
WVT Waverly 23.29 74 eP P 17 36 09.0 +2.9
comp=E,6.8nm,0.8s
EYMN Ely 23.89 43 eP P 17 36 11.6 -0.3
comp=E,9.4nm,0.9s
LRAL Lakeview Retre 24.15 81 eP P 17 36 16.4 +2.0
comp=E,36nm,1.6s
FFC Flin Flon 24.17 20 eP P 17 36 14.2 -0.2
comp=E,87nm,2.5s
SFIN Lafayette 24.24 63 eP P 17 36 16.7 +1.5
comp=E,59nm,1.8s
CMIG Matias Romero 24.37 124 P P 17 36 17.8 +1.3
comp=E,5.7nm,0.6s,baz=328,slow=9.5,SNR=3.2
CMIG LR LR 17 46 51.3
comp=E,2μm,18.5s,baz=284,slow=39
COWI Conover 24.47 49 eP P 17 36 16.3 -1.0
comp=E,10nm,0.7s
TKL Tuckaleechee C 26.59 75 LR LR 17 47 29.5
comp=E,1μm,18.8s,baz=266,slow=37
ACSO Alum Creek Sta 27.34 64 eP P 17 36 44.1 +0.9
comp=E,63nm,1.3s
TEIG Tepich 27.44 110 LR LR 17 48 52.0
comp=E,525nm,21.1s,baz=248,slow=39
DLBC Dease Lake 27.58 344 P P 17 36 47.3 +2.1
comp=E,6.2nm,1.0s,baz=208,slow=3.4,SNR=8.4
DLBC LR LR 17 48 33.2
comp=E,1μm,19.8s,baz=153,slow=38
DLBC Dease Lake 27.58 344 P P 17 36 46.8 +1.5
BLA Blacksburg 29.24 71 eP P 17 36 58.8 -1.4
comp=E,17nm,0.7s
VWCC Virginia Weste 29.59 71 esP sP 17 37 11.3 +3.4
ALLY Allegheny Colle 29.62 62 eP P 17 37 05.0 +1.5
comp=E,20nm,1.1s
YKA Yellowknife Ar 29.91 1 P P 17 37 07.3 +1.5
comp=E,0.4nm,0.7s,baz=180,slow=8.5,SNR=2.7
FCC Fort Churchill 29.95 23 eP P 17 37 08.3 +2.1
comp=E,6.9nm,1.1s
BINY Binghamton 32.76 61 eP P 17 37 33.1 +1.8
comp=E,13nm,1.1s
LUPA Lehigh Univers 33.16 64 eP P 17 37 36.3 +1.6
comp=E,1.6nm,0.9s
PTN Potsdam (NY) 33.71 57 eP P 17 37 41.6 +2.2
comp=E,19nm,0.9s
ACCN Adirondack Com 34.55 60 eP P 17 37 46.0 -0.7
comp=E,9.9nm,0.8s
DAWY Dawson 34.75 342 P P 17 37 48.2 0.0
EGAK Eagle 35.78 342 P P 17 37 59.0 +1.9
comp=E,5.8nm,1.1s
SCRK Sand Creek 35.97 339 eP P 17 38 03.4 +4.5
comp=E,4.4nm,1.0s
SCRK ePcP PcP 17 40 24.2 -1.1
PMR Palmer 36.09 333 ePcP PcP 17 40 25.5 -0.1
INK Inuvik 37.18 349 P P 17 38 10.8 +1.8
comp=E,1.1nm,0.2s,baz=145,slow=9.6,SNR=7.7
INK Inuvik 37.18 349 eP P 17 38 11.9 +2.9
MCK McKinley 37.38 336 eP P 17 38 16.5 +5.7
comp=E,8.2nm,1.0s
ILAR Eielson Array 37.42 339 P P 17 38 12.2 +1.2
comp=E,2.8nm,0.9s,baz=155,slow=7.3,SNR=12
ILAR LR LR 17 54 47.1
comp=E,382nm,18.8s,baz=146,slow=38
TRF Thorofare Moun 37.67 335 eP P 17 38 13.9 +0.6
comp=E,7.5nm,1.0s
KTH Kantishna Hill 37.95 335 eP P 17 38 14.2 -1.4
comp=E,5.4nm,1.0s
PPLA Purkeypile 38.02 334 eP P 17 38 17.7 +1.4
comp=E,9.7nm,1.0s
BPAW Bear Paw Mtn. 38.31 336 eP P 17 38 19.5 +0.8
comp=E,1.3nm,0.9s
COLD Coldfoot 40.10 340 esP sP 17 38 40.9 +2.8
IM04 Indian Mountai 40.40 337 eP P 17 38 36.3 +0.2
SCHQ Schefferville 40.69 42 LR LR 17 55 57.8
comp=E,804nm,18.4s,baz=268,slow=37
ROSC El Rosal 47.49 117 LR LR 18 01 37.1
comp=E,178nm,19.7s,baz=10.0,slow=39
OTAV Otavalo 47.66 125 eP P 17 39 35.5 0.0
SDV Santo Domingo 47.88 109 eP P 17 39 38.5 +1.7
SUMG Summit 55.44 21 eP P 17 40 33.2 +0.4
comp=E,108nm,2.8s
BILL Bilibino 55.73 334 eP P 17 40 36.0 +1.5
RKT Rikitea 58.37 201 eLR LR 17 58 12.3
comp=E,321nm,25.2s
PPT2 Papeete2 59.48 218 eS S 17 49 09.1 -2.0
comp=E,392nm,25.8s
PPT2 eLR LR 17 58 28.4
comp=E,518nm,25.5s,baz=18
SEY Seymchan 62.33 329 P P 17 41 22.4 +2.0
comp=E,0.9nm,0.5s,baz=18,slow=7.9,SNR=4.2
PETK Petropavlovsk- 62.70 317 P P 17 41 22.6 -0.4
comp=E,1.3nm,0.8s,baz=90,slow=10,SNR=4.6
TBI Tubuai 64.28 214 eS S 17 50 10.2 -1.2
comp=E,82nm,28.5s
TBI Tubuai 64.28 214 eLR LR 18 00 33.1
comp=E,345nm,28.8s
LPAZ La Paz 66.62 129 LR LR 18 10 42.2
comp=E,154nm,19.3s,baz=319,slow=36
TIXI Tiksi 66.79 342 eP P 17 41 50.6 +1.3
ARCES ARCESS Array B 74.31 13 P P 17 42 35.0 -0.3
comp=E,1.2nm,0.9s,baz=326,slow=11,SNR=2.6
ARCES LR LR 18 17 53.4
comp=E,261nm,18.7s,baz=327,slow=38
NOA NORSAR Array B 77.21 23 P P 17 42 52.8 +0.7
comp=E,0.5nm,0.8s,baz=319,slow=5.7,SNR=2.1
NOA LR LR 18 16 02.5
comp=E,92nm,21.3s,baz=315,slow=35
BDFB Brasilia 80.55 115 LR LR 18 25 05.5
comp=E,112nm,18.8s,baz=288,slow=40
FINES FINESS Array B 81.29 17 P P 17 43 15.4 +1.2
comp=E,0.7nm,0.6s,baz=294,slow=1.4,SNR=6.1
MJAR Matsushiro Arr 82.52 309 P P 17 43 21.8 +0.6
comp=E,0.2nm,0.3s,baz=59,slow=3.7,SNR=3.1
ESDC Sonseca Array 84.31 46 P P 17 43 31.0 +0.5
comp=E,0.1nm,0.3s,baz=324,slow=6.3,SNR=3.8
NKC Novy Kostel 85.65 30 AMS AMS 18 20 30.0
comp=E,300nm,17.0s
PRU Pruhonice 86.72 30 AMS AMS 18 21 00.0
comp=E,200nm,18.4s
GOPC GO Pecny, Ondr 86.88 29 AMS AMS 18 21 00.0
comp=E,300nm,17.8s
KHC Kasperske Hory 86.97 31 AMS AMS 18 22 50.0
comp=E,400nm,21.9s
DPC Dobruska-Polom 87.17 28 AMS AMS 18 20 10.0
comp=E,200nm,18.6s
GERES GERESS Array B 87.24 31 LR LR 18 23 35.5
comp=E,474nm,19.6s,baz=324,slow=36
OKC Ostrava-Krasne 88.30 28 AMS AMS 18 20 40.0
comp=E,200nm,29.1s
AKASG Malin Array Be 91.47 21 P P 17 44 04.7 +0.1
comp=E,0.1nm,0.2s,baz=338,slow=4.0,SNR=2.9
ZALV Zalesovo Beam 91.98 348 P P 17 44 08.0 +1.1
comp=E,0.6nm,0.5s,baz=29,slow=3.3,SNR=4.0
BJI Beijing 93.20 323 P P 17 44 12.0 -0.8
BVAR Borovoye Array 94.56 356 P P 17 44 20.9 +2.1
comp=E,1.7nm,1.1s,baz=267,slow=5.6,SNR=5.1
KURK Kurchatov 96.07 351 P P 17 44 27.4 +1.7
KURBB Kurchatov Arra 96.17 351 P P 17 44 27.4 +1.3
comp=E,0.6nm,0.8s,baz=14,slow=4.0,SNR=3.1
NJ2 Nanjing 97.57 316 eP Pdif 17 44 34.1 +1.1
KSH Kashi 107.42 351 ePdif Pdif 17 45 19.1 +2.3
KSH PP PP 17 49 49.8 +6.8
KSH S Sdif 17 57 20.3 -0.3
KSH LZ
comp=E,100nm,4.9s
KMI Kunming 111.86 323 PKP PKiKP 17 49 32.1 -2.0
KMI LZ
comp=E,88nm,18.0s
QIZ Qiongzhong 112.63 313 Pdif Pdif 17 45 39.6 -0.6
STKA Stephens Creek 116.04 248 PKP PKPdf 17 49 41.0 -0.5
comp=E,2.6nm,1.0s,baz=331,slow=13,SNR=2.1
AS31 Alice Springs 118.88 259 ePKPdf PKPdf 17 49 48.6 +1.4
ASAR Alice Springs 118.88 259 PKP PKPdf 17 49 47.2 0.0
comp=E,0.5nm,0.7s,baz=73,slow=2.3,SNR=9.6
BOSA Boshof 146.34 94 PKPbc PKPdf 17 50 38.1 -0.3
comp=E,0.7nm,0.6s,baz=233,slow=5.1,SNR=1.7

IASPEI ***22*** *17:33:16.0₀1.1, 32°.61N₀.0°.02ₓ115°.74W₀.0°.02, h19km±3km, mb4.6/37, Error ellipse: s-maj=3.4km s-min=2.9km az=140.6*

BJI ***22*** *17:33:16.0, 32°.60Nₓ115°.80W, h5km, mb5.0/4, mB5.4/3, Ms5.0/3, Ms7 4.7/3*

ISCJB ***22*** *17:33:17.0₀0.2, 32°.63N₀.0°.02ₓ115°.74W₀.0°.02, h10km, mb4.4/37, MS4.0/1, Error ellipse: s-maj=2.5km s-min=1.9km az=154.0*

*ECX **22** 17:33:18.3±0.6,32°.61N×115°.78W,h4km,MD4.9,ML5.1*
*IDC **22** 17:33:18.2±0.9,32°.41N×115°.68W,h0km,mb4.2/17,*
mb1 4.3/19,mb1mx4.1/31,mbtmp4.1/19,ML4.4/2,MS4.0/1,
Ms1 4.0/1,ms1mx3.3/27,Error ellipse: s-maj=27.4km
s-min=14.8km az=37.0
*NEIC **22** 17:33:18.3,32°.62N×115°.78W,h4km,mb4.5/13,*
ML4.9(ECX),ML4.9(PAS),After ECX.
NEIC Felt [II] at Tijuana. Also felt at Ensenada, Mexicali and Tecate. Felt [IV] at El Centro and [III] at Alpine, El Cajon, Escondido, La Jolla, Lakeside, Poway, San Diego and Spring Valley, California. Felt in much of Southern California and at Wellton and Yuma, Arizona.

ISC 22 17:33:18.7±0.3,32°.60N±0°.02×115°.79W±0°.02,h10km, n172,σ1°83/145,mb4.6/37,8C-7D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.07**	**46**	*e*P3	**Pg**	**17 33 19.0**	**-2.0**
YUH	**Yuha Desert**	**0.12**	**294**	*e*P2	**Pg**	**17 33 20.7**	**-1.0**
WESC	**Westside Schoo**	**0.17**	**17**	⇓*i*P	**Pg**	**17 33 21.1**	**-1.3**
WESC				*e*S	**Sg**	**17 33 24.1**	**-0.9**
RMX	**La Rumorosa**	**0.24**	**271**	⇑*i*P	**Pg**	**17 33 23.0**	**-0.8**
RMX				*e*S	**Sg**	**17 33 27.1**	**-0.1**
COK	**Cook Ranch**	**0.26**	**12**	⇓*i*P	**Pg**	**17 33 22.8**	**-1.2**
IBP	**Imperial Bould**	**0.26**	**284**	P	**Pg**	**17 33 23.3**	**-0.9**
	baz=0.2						
IBP				S	**Sg**	**17 33 27.4**	**-0.4**
	baz=0.2						
SWSC	**Sam W. Stewart**	**0.34**	**359**	P	**Pg**	**17 33 24.0**	**-1.5**
	baz=0.3						
SWSC				S	**Sg**	**17 33 28.4**	**-1.7**
	baz=0.3						
SWSC	**Sam W. Stewart**	**0.34**	**359**	⇓*i*P	**Pg**	**17 33 24.1**	**-1.5**
CPBX	**Cerro Prieto**	**0.45**	**113**	*e*P	**Pg**	**17 33 26.3**	**-1.1**
CPBX	**Cerro Prieto**	**0.45**	**113**	⇑*i*P	**Pg**	17 33 19.4	-8.1
CPBX				*e*S	**Sg**	17 33 25.6	-7.8
CPBX				⇑*i*P	**Pg**	**17 33 26.4**	**-1.1**
CPBX				IAML		17 33 42.0	
	comp=N,812μm,0.4s						
CPBX				⇑*e*		17 33 42.0	
COA	**Coachella**	**0.62**	**65**	⇑*i*P	**Pg**	**17 33 29.5**	**-1.3**
RDX	**Rancho Dawling**	**0.68**	**191**	⇓*i*P	**Pg**	**17 33 30.5**	**-1.5**
RDX				⇓*e*S	**Sg**	**17 33 40.5**	**-0.3**
BAR	**Barrett**	**0.75**	**277**	*e*Pg	**Pg**	**17 33 31.7**	**-1.5**
BAR				*e*Sg	**Sg**	**17 33 42.0**	**-1.0**
BAR	**Barrett**	**0.75**	**277**	⇑*i*P	**Pg**	**17 33 31.9**	**-1.3**
BAR				*e*S	**Sg**	**17 33 41.6**	**-1.4**
CBX	**Cerro Bola**	**0.79**	**249**	*i*P	**Pg**	**17 33 33.0**	**-1.1**
CBX	**Cerro Bola**	**0.79**	**249**	⇑*i*P	**Pg**	**17 33 33.0**	**-1.1**
CBX				*e*S	**Sg**	**17 33 44.0**	**-0.4**
CBX				IAML		17 33 48.2	
	comp=E,52μm,0.9s						
CBX				⇓*e*		17 33 48.2	
GLA	**Glamis**	**0.93**	**60**	*e*Pg	**Pg**	**17 33 33.5**	**-3.1**
GLA				*e*Sg	**Sg**	**17 33 45.3**	**-3.4**
GLA	**Glamis**	**0.93**	**60**	P	**Pg**	**17 33 33.5**	**-3.1**
	baz=0.9						
GLA				S	**Sg**	**17 33 45.0**	**-3.7**
	baz=0.9						
SDRC	**San Diego Road**	**0.98**	**278**	⇑*i*P	**Pg**	**17 33 35.9**	**-1.8**
BC3	**Big Chuckawall**	**1.09**	**15**	S	**Sg**	**17 33 49.5**	**-4.5**
	baz=1.1						
HAY	**Hayfield**	**1.11**	**5**	*e*Pg	Pb	17 33 35.7	-4.4
109C	**Camp Elliot, M**	**1.15**	**285**	P	**Pb**	**17 33 38.5**	**-2.2**
	baz=1.1						
109C				S	**Sb**	**17 33 53.3**	**-2.3**
	baz=1.1						
PFO	**Pinyon Flats O**	**1.15**	**331**	Pg	Pb	17 33 37.5	-3.4
	comp=E,662nm,0.3s,baz=135,slow=15,SNR=12						
PFO				Lg	Lg	17 33 52.1	
	comp=E,3μm,0.3s,baz=70,slow=4.3,SNR=16						
PFO	**Pinyon Flats O**	**1.15**	**331**	*e*Pn	Pb	17 33 37.3	-3.6
PFO				*e*Sg	**Sb**	**17 33 50.2**	**-5.8**
PFO	**Pinyon Flats O**	**1.15**	**331**	P	Pb	17 33 37.3	-3.6
	baz=1.1						
PFO				S	**Sb**	**17 33 51.8**	**-4.2**
	baz=1.1						
ZAX	**El Zacaton**	**1.16**	**201**	⇓*e*P	**Pb**	**17 33 39.2**	**-1.6**
ZAX				*e*S	**Sb**	**17 33 54.7**	**-1.2**
ECNX	**Esteban Cantu**	**1.16**	**216**	*e*P	**Pg**	**17 33 39.0**	**-2.1**
ECNX				P4	Pg	17 33 37.5	-3.5
ECNX				S4	**Sg**	**17 33 51.3**	**-4.9**
ECNX				*e*S	**Sg**	**17 33 54.9**	**-1.3**
PBX	**Punta Banda**	**1.17**	**223**	*e*P	**Pb**	**17 33 39.2**	**-1.8**
PBX				*e*S	**Sb**	**17 33 54.5**	**-1.6**
ECBX	**El Chinero**	**1.28**	**151**	*e*Pg	Pg	17 33 35.0	-8.5
ECBX				*e*S	Sb	17 33 52.5	-7.0
MURC	**Murrieta**	**1.55**	**311**	P	**Pn**	**17 33 43.6**	**-2.9**
	baz=1.5						
MURC				Sg	**Sn**	**17 34 05.3**	**-1.4**
	baz=1.5						
Y12C	**Blythe**	**1.56**	**42**	P	Pn	17 33 43.2	-3.4
	baz=1.6						
SPIG	**San Pedro Mart**	**1.57**	**170**	*e*P	**Pn**	**17 33 47.0**	**-0.1**
SPX	**San Pedro Mart**	**1.57**	**170**	*e*P	**Pn**	**17 33 46.7**	**-0.4**
SPX	**San Pedro Mart**	**1.57**	**170**	*e*P	**Pn**	**17 33 45.4**	**-1.6**
SPX				*e*S	**Sn**	**17 34 07.2**	**-0.5**
IRM	**Iron Mountain**	**1.65**	**19**	Pb	**Pn**	**17 33 45.8**	**-2.0**
	baz=1.6						
113A	**Mohawk Valley,**	**1.71**	**84**	P	Pn	17 33 45.1	-3.6
	baz=1.7						
RVR	**Riverside**	**1.92**	**317**	*e*Pn	**Pn**	**17 33 52.0**	**+0.4**
PDMCI	**Parker Dam,Lak**	**2.19**	**39**	Sb	**Sb**	**17 34 23.5**	**-2.1**
	baz=2.2						
BFSC	**Mount Baldy Ra**	**2.26**	**317**	Pg	**Pb**	**17 33 58.5**	**-1.3**
	baz=2.2						
BFSC				Sb	**Sb**	**17 34 26.0**	**-1.9**
	baz=2.2						
CIAC	**Catalina I. Ai**	**2.35**	**291**	*e*Pn	**Pn**	**17 33 56.3**	**-1.1**
SCI	**San Clemente I**	**2.35**	**280**	P	**Pn**	**17 33 56.5**	**-1.0**
	baz=2.3						
SCI				S	**Sn**	**17 34 26.3**	**-0.2**
	baz=2.3						
FMP	**Fort Macarthur**	**2.38**	**299**	Pb	**Pb**	**17 33 59.3**	**-2.3**
	baz=2.4						
MWC	**Mount Wilson**	**2.50**	**311**	*e*Pn	**Pb**	**17 34 01.7**	**-2.1**
LDFC	**Landfair**	**2.54**	**13**	*e*Pn	**Pn**	**17 33 59.8**	**-0.3**
PASC	**Pasadena Art C**	**2.55**	**309**	*e*Pn	**Pb**	**17 34 01.9**	**-2.6**
FLSC	**Flash Two Peak**	**2.59**	**337**	*e*Pn	**Pb**	**17 34 06.0**	**+0.7**
214A	**Organ Pipe Nat**	**2.60**	**103**	*e*Pn	**Pn**	**17 33 58.6**	**-2.4**
214A	**Organ Pipe Nat**	**2.60**	**103**	P	Pn	17 33 57.4	-3.6
	baz=2.6						
DECC	**Green Verdugo**	**2.69**	**308**	Pb	**Pn**	**17 34 03.9**	**+1.8**
	baz=2.7						
GSC	**Goldstone, Bar**	**2.83**	**343**	*e*Pn	Pb	17 34 06.2	-3.2
LEOC	**Leona Valley**	**2.92**	**315**	*e*Pn	**Pb**	**17 34 11.0**	**0.0**
W13A	**Hualapai Mount**	**2.96**	**32**	P	**Pn**	**17 34 03.5**	**-2.4**
	baz=2.9						
CCAC	**Calif City Air**	**3.15**	**325**	*e*Pn	**Pb**	**17 34 15.0**	**+0.1**
OSI	**Osito Audit: C**	**3.17**	**310**	*e*Pn	Pb	17 34 11.7	-3.5
RCWM	**Renegade Canyo**	**3.68**	**336**	*e*Pg	**Pb**	**17 34 25.5**	**+1.5**
ISA	**Isabella, Lake**	**3.78**	**325**	*e*Pg	**Pb**	**17 34 26.5**	**+0.8**
ISA				*e*Sg	**Sb**	**17 35 13.8**	**+2.2**
SHPR	**Sheep Range**	**3.93**	**7**	Pn	Pn	17 34 22.4	+3.1
SHPR				*e*Pg	**Pg**	**17 34 36.4**	**+2.3**
DAC	**Darwin (Calif)**	**3.96**	**338**	*e*Pg	**Pb**	**17 34 29.6**	**+0.8**
TUC	**Tucson**	**4.24**	**93**	*e*Pn	**Pn**	**17 34 25.1**	**+1.7**
TPNV	**Topopah Spring**	**4.36**	**355**	*e*Pg	**Pg**	**17 34 40.6**	**-1.7**
WUAZ	**Wupatki**	**4.68**	**50**	Pg	Pg	17 34 44.5	-4.0
PTRM	**Twissleman Ran**	**4.77**	**311**	*e*Pn	Pn	17 34 33.9	+3.2
KNB	**Kanab**	**5.04**	**28**	*e*Pn	**Pn**	**17 34 33.0**	**-1.6**
X18A	**Snowflake**	**5.24**	**67**	P	**Pn**	**17 34 35.7**	**-1.6**
	baz=5.2						
W18A	**Petrified Fore**	**5.63**	**62**	*e*Pn	**Pn**	**17 34 41.3**	**-1.4**
W18A	**Petrified Fore**	**5.63**	**62**	P	**Pn**	**17 34 41.5**	**-1.1**
	baz=5.6						
MSU	**Marysvale**	**6.59**	**25**	Pn	Pn	**17 34 54.0**	**-1.9**
121A	**Cookes Peak, D**	**6.76**	**88**	P	**Pn**	**17 34 56.1**	**-2.0**
	baz=6.8						
LENM	**Lemitar**	**7.54**	**76**	*e*Pn	**Pn**	**17 35 06.0**	**-2.8**
MVCO	**Mesa Verde**	**7.55**	**50**	Pn	Pn	**17 35 08.2**	**-0.9**
Y22D	**IRIS PASSCAL I**	**7.57**	**76**	P	Pn	**17 35 08.0**	**-1.2**
	baz=7.6						
BNM	**Barren Site**	**7.82**	**76**	*e*Pn	**Pn**	**17 35 11.4**	**-1.3**
LPM	**Los Pinos Moun**	**7.84**	**75**	*e*Pn	**Pn**	**17 35 11.3**	**-1.7**
BMN	**Battle Mountai**	**7.90**	**352**	Pn	Pn	17 35 08.2	-5.6
PV01	**Paradox Valley**	**8.08**	**45**	*e*P	**Pn**	**17 35 17.1**	**+0.8**
ANMO	**Albuquerque**	**8.11**	**71**	*e*Pn	**Pn**	**17 35 15.8**	**-1.1**
ELK	**Elko**	**8.14**	**3**	*e*Pn	**Pn**	**17 35 16.6**	**-0.6**
MNTX	**Cornudas Mount**	**8.87**	**93**	*e*Pn	**Pn**	**17 35 25.2**	**-1.8**
MNTX	**Cornudas Mount**	**8.87**	**93**	P	**Pn**	**17 35 25.3**	**-1.8**
	baz=8.9						
S22A	**4UR Ranch, Cre**	**8.95**	**53**	*e*Pn	**Pn**	**17 35 28.4**	**0.0**
SDCO	**Great Sand Dun**	**9.86**	**56**	*e*Pn	**Pn**	**17 35 40.4**	**-0.5**
CPRX	**Cap Rock**	**10.04**	**84**	Pn	**Pn**	**17 35 42.5**	**-0.8**
YBH	**Yreka Blue Hor**	**10.65**	**331**	*e*Pn	**Pn**	**17 35 51.4**	**-0.1**
TXAR	**Lajitas Array**	**10.90**	**104**	Pn	**Pn**	**17 35 54.4**	**-0.5**
	comp=E,0.9nm,0.3s,baz=285,slow=13,SNR=5.8						
TXAR				Lg	Lg	17 39 00.5	
	comp=E,0.4nm,0.3s,baz=271,slow=25,SNR=3.4						
HUMO	**Hull Mountain**	**11.49**	**332**	Pn	Pn	17 36 09.0	+6.1
DLMT	**Dillon**	**12.98**	**10**	Pn	**Pn**	**17 36 23.3**	**-0.1**
HAWA	**Hanford**	**14.07**	**349**	*e*P	**Pn**	**17 36 36.3**	**-1.8**
	comp=E,65nm,1.8s						
WMOK	**Wichita Mounta**	**14.33**	**77**	*e*Pn	**Pn**	**17 36 38.8**	**-2.9**
	comp=E,20nm,1.0s						
CHMT	**Chamberlain Mo**	**14.43**	**7**	*e*Pn	**Pn**	**17 36 45.6**	**+2.4**
LON	**Longmire**	**14.87**	**344**	*e*Pn	**P**	**17 36 51.8**	**-3.0**
	comp=E,8.9nm,1.1s						
SWMT	**Swartz Lake**	**14.96**	**5**	*e*Pn	**P**	**17 36 56.3**	**+0.5**
	comp=E,13nm,0.8s						
JTMT	**Jette**	**15.18**	**4**	Pn	**Pn**	**17 36 55.1**	**+1.9**
BSMT	**Bassoo Peak**	**15.26**	**3**	*e*Pn	**P**	**17 37 01.9**	**+2.6**
YBMT	**Yellow Bay**	**15.31**	**5**	Pn	**P**	**17 36 57.9**	**-2.0**
NEW	**Newport**	**15.68**	**357**	Pn	**P**	**17 37 04.3**	**+0.4**
	comp=E,0.3nm,0.3s,baz=169,slow=9.9,SNR=7.4						
NEW	**Newport**	**15.68**	**357**	*e*Pn	**Pn**	**17 36 59.5**	**-0.2**
WALA	**Waterton Lakes**	**16.50**	**4**	*e*Pn	**Pn**	**17 37 09.6**	**-0.8**
PGC	**Sidney**	**17.04**	**342**	*e*Pn	**Pn**	**17 37 16.9**	**-0.1**
	comp=E,35nm,1.3s						
HKT	**Hockley**	**17.26**	**93**	*e*Pn	**P**	**17 37 20.1**	**-1.2**
	comp=E,39nm,1.4s						
MIAR	**Mount Ida**	**18.61**	**78**	*e*P	**Pn**	**17 37 36.2**	**-0.4**
EDM	**Edmonton**	**20.69**	**4**	*e*P	**P**	**17 37 58.2**	**-0.6**
SPMN	**Marine on St.**	**21.80**	**48**	*e*P	**P**	**17 38 10.4**	**-0.4**
	comp=E,26nm,1.0s						
JFWS	**Jewell Farm**	**22.59**	**56**	*e*P	**P**	**17 38 19.0**	**-0.3**
	comp=E,31nm,1.3s						
ULM	**Lac du Bonnet**	**22.99**	**34**	P	**P**	**17 38 26.1**	**+2.7**
	comp=E,8.8nm,0.9s,baz=228,slow=6.5,SNR=4.5						
ULM	**Lac du Bonnet**	**22.99**	**34**	*e*P	**P**	**17 38 22.0**	**-1.4**
FFC	**Flin Flon**	**24.18**	**20**	*e*P	**P**	**17 38 35.1**	**0.0**
CMIG	**Matias Romero**	**24.39**	**124**	P	**P**	**17 38 38.1**	**+0.8**
	comp=E,4.1nm,0.7s,baz=324,slow=12,SNR=3.4						
COWI	**Conover**	**24.49**	**49**	*e*P	**P**	**17 38 36.4**	**-1.6**
DLBC	**Dease Lake**	**27.58**	**344**	P	**P**	**17 39 10.1**	**+4.2**
	comp=E,4.2nm,0.9s,baz=173,slow=8.2,SNR=4.6						
ACCN	**Adirondack Com**	**34.57**	**60**	*e*P	**P**	**17 40 07.0**	**-0.5**
	comp=E,20nm,1.3s						
DAWY	**Dawson**	**34.75**	**342**	P	**P**	**17 40 07.5**	**-1.4**
	comp=E,1.3nm,0.6s						
INK	**Inuvik**	**37.19**	**349**	P	P	17 40 33.5	+3.8
	comp=E,1.5nm,0.3s,baz=153,slow=9.1,SNR=4.0						
INK	**Inuvik**	**37.19**	**349**	*e*P	**P**	**17 40 26.8**	**-2.9**
	comp=E,9.6nm,1.2s						
ILAR	**Eielson Array**	**37.42**	**339**	P	P	17 40 35.2	+3.5
	comp=E,2.4nm,0.9s,baz=154,slow=6.9,SNR=7.1						
TRF	**Thorofare Moun**	**37.66**	**335**	*e*P	P	17 40 30.3	-3.7
	comp=E,5.8nm,1.1s						
PPLA	**Purkeypile**	**38.02**	**334**	*e*P	**P**	**17 40 37.1**	**+0.1**
	comp=E,6.2nm,0.9s						
BPAW	**Bear Paw Mtn.**	**38.31**	**336**	*e*P	**P**	**17 40 38.6**	**-0.7**
IM04	**Indian Mountai**	**40.40**	**337**	*e*P	**P**	**17 40 57.5**	**+0.8**
OTAV	**Otavalo**	**47.67**	**125**	*e*P	P	17 42 00.0	+3.9
	comp=E,11nm,1.3s						
SDV	**Santo Domingo**	**47.90**	**109**	*e*P	**P**	**17 41 59.9**	**+2.3**
	comp=E,5.4nm,1.0s						
SUMG	**Summit**	**55.46**	**21**	*e*P	**P**	**17 42 55.3**	**+1.7**
	comp=E,7.7nm,1.0s						
RPN	**Rapa Nui**	**59.71**	**173**	LR	LR	18 03 21.4	
	comp=E,121nm,20.6s,baz=54,slow=30						
SEY	**Seymchan**	**62.33**	**329**	P	P	17 43 43.9	+3.0
	comp=E,1.8nm,0.9s,baz=82,slow=9.0,SNR=3.6						
PETK	**Petropavlovsk-**	**62.70**	**317**	P	**P**	**17 43 45.2**	**+1.6**
	comp=E,4.4nm,0.9s,baz=91,slow=12,SNR=6.6						
TIXI	**Tiksi**	**66.79**	**342**	*e*P	**P**	**17 44 11.9**	**+2.0**
	comp=E,1.0nm,0.2s						
YAK	**Yakutsk**	**72.08**	**333**	P	**P**	**17 44 43.5**	**+0.7**
	comp=E,5.1nm,0.3s,baz=148,slow=0.4,SNR=4.3						
NOA	**NORSAR Array B**	**77.22**	**23**	P	**P**	**17 45 14.5**	**+1.7**
	comp=E,0.6nm,0.9s,baz=318,slow=5.6,SNR=2.5						
FINES	**FINESS Array B**	**81.31**	**17**	P	**P**	**17 45 36.3**	**+1.3**
	comp=E,1.1nm,0.7s,baz=1.4,slow=5.8,SNR=4.9						
MFF	**Saint Martin d**	**82.16**	**39**	*e*P	P	17 45 43.5	+3.7
	comp=E,21nm,1.2s						
MFF	**Saint Martin d**	**82.16**	**39**	*e*P	P	17 45 43.5	+3.7
	comp=E,21nm,1.2s						
MJAR	**Matsushiro Arr**	**82.50**	**309**	P	**P**	**17 45 43.9**	**+2.1**
	comp=E,1.1nm,0.9s,baz=49,slow=5.9,SNR=4.2						
TCF	**Toulx Ste Croi**	**83.60**	**38**	*e*P	**P**	**17 45 49.8**	**+2.5**
TCF	**Toulx Ste Croi**	**83.60**	**38**	*e*P	**P**	**17 45 49.8**	**+2.5**
LFF	**La Frestade**	**83.70**	**40**	*e*P	P	17 45 51.8	+4.0
LFF	**La Frestade**	**83.70**	**40**	*e*P	P	17 45 51.8	+4.0
SFTF	**Sexfontaines**	**83.73**	**35**	*e*P	P	17 45 51.7	+3.8
SFTF	**Sexfontaines**	**83.73**	**35**	*e*P	P	17 45 51.7	+3.8
SSF	**Saint Saulge**	**83.75**	**37**	*e*P	P	17 45 51.9	+3.9
	comp=E,19nm,1.3s						
SSF	**Saint Saulge**	**83.75**	**37**	*e*P	P	17 45 51.9	+3.9
	comp=E,19nm,1.3s						
LOR	**Lormes**	**83.78**	**37**	*e*P	P	17 45 52.2	+4.0
	comp=E,14nm,1.0s						
LOR	**Lormes**	**83.78**	**37**	*e*P	P	17 45 52.2	+4.0
	comp=E,14nm,1.0s						
PAGF	**Fort de Pagny**	**83.82**	**35**	*e*P	P	17 45 52.5	+4.1
PAGF	**Fort de Pagny**	**83.82**	**35**	*e*P	P	17 45 52.5	+4.1
AVF	**Avril sur Loir**	**83.85**	**37**	*e*P	P	17 45 52.0	+3.5
	comp=E,8.5nm,1.1s						
AVF	**Avril sur Loir**	**83.85**	**37**	*e*P	P	17 45 52.0	+3.5
	comp=E,8.5nm,1.1s						
RJF	**Les Rejaudoux**	**83.88**	**39**	*e*P	P	17 45 52.4	+3.7
	comp=E,22nm,1.2s						
RJF	**Les Rejaudoux**	**83.88**	**39**	*e*P	P	17 45 52.4	+3.7
	comp=E,22nm,1.2s						
SMF	**Signal de Mont**	**84.20**	**37**	*e*P	P	17 45 53.7	+3.4
	comp=E,13nm,1.1s						
SMF	**Signal de Mont**	**84.20**	**37**	*e*P	P	17 45 53.7	+3.4
	comp=E,13nm,1.1s						
ETSF	**Etsaut**	**84.30**	**42**	*e*P	P	17 45 55.3	+4.3
ETSF	**Etsaut**	**84.30**	**42**	*e*P	P	17 45 55.3	+4.3
ESDC	**Sonseca Array**	**84.33**	**46**	P	**P**	**17 45 53.9**	**+2.6**
	comp=E,1.0nm,0.9s,baz=319,slow=4.3,SNR=6.4						
CAF	**Calviac**	**84.42**	**39**	*e*P	P	17 45 55.1	+3.6
	comp=E,17nm,1.2s						
CAF	**Calviac**	**84.42**	**39**	*e*P	P	17 45 55.1	+3.6
	comp=E,17nm,1.2s						
HAU	**Haudompre**	**84.51**	**35**	*e*P	P	17 45 55.7	+3.8
	comp=E,18nm,1.1s						
HAU	**Haudompre**	**84.51**	**35**	*e*P	P	17 45 55.7	+3.8
	comp=E,18nm,1.1s						
CDF	**Champ du Feu**	**84.66**	**34**	*e*P	P	17 45 56.5	+3.7
	comp=E,12nm,1.3s						
CDF	**Champ du Feu**	**84.66**	**34**	*e*P	P	17 45 56.5	+3.7
	comp=E,12nm,1.3s						
HINF	**Hinteralfeld**	**84.88**	**35**	*e*P	P	17 45 57.5	+3.7
	comp=E,8.4nm,1.1s						
HINF	**Hinteralfeld**	**84.88**	**35**	*e*P	P	17 45 57.5	+3.7
	comp=E,8.4nm,1.1s						
SONM	**Songino Array**	**91.44**	**333**	P	**P**	**17 46 25.5**	**+0.2**
	comp=E,0.3nm,0.3s,baz=35,slow=16,SNR=2.3						
AKASG	**Malin Array Be**	**91.49**	**21**	P	**P**	**17 46 25.6**	**+0.3**
	comp=E,0.6nm,0.7s,baz=320,slow=3.6,SNR=4.4						
ZALV	**Zalesovo Beam**	**91.98**	**348**	P	**P**	**17 46 29.6**	**+2.1**
	comp=E,0.6nm,0.7s,baz=15,slow=6.0,SNR=3.0						
BVAR	**Borovoye Array**	**94.57**	**356**	P	P	17 46 42.3	+2.8
	comp=E,0.7nm,0.6s,baz=26,slow=3.7,SNR=4.7						
KURK	**Kurchatov**	**96.08**	**351**	P	**P**	**17 46 47.9**	**+1.5**
KURBB	**Kurchatov Arra**	**96.18**	**351**	P	**P**	**17 46 47.9**	**+1.1**
	comp=E,0.2nm,0.7s,baz=290,slow=41,SNR=2.9						
NJ2	**Nanjing**	**97.56**	**316**	*e*P	Pdif	17 46 53.4	-0.2
NJ2				PMZ			
	comp=E,10.0nm,0.7s						
KSH	**Kashi**	**107.42**	**350**	*e*Pdif	**Pdif**	**17 47 38.8**	**+1.3**
KSH				PP	PP	17 52 09.9	+6.3
KSH				S	**Sdif**	**17 59 40.5**	**-0.9**
KSH				PPMZ			
	comp=E,63nm,4.5s						
KSH				LN			
	comp=E,200nm,7.8s						
KSH				LE			
	comp=E,140nm,5.5s						
KSH				LZ			
	comp=E,98nm,6.4s						
KMI	**Kunming**	**111.85**	**323**	PKP	**PKiKP**	**17 51 53.5**	**-1.2**
WRA	**Warramunga Arr**	**116.86**	**263**	PKP	**PKPdf**	**17 52 05.8**	**+1.8**
	comp=E,1.0nm,0.8s,baz=61,slow=2.2,SNR=7.2						
ASAR	**Alice Springs**	**118.86**	**259**	PKP	**PKPdf**	**17 52 08.6**	**+0.7**
	comp=E,1.0nm,0.8s,baz=83,slow=2.3,SNR=7.6						
CMAR	**Chiang Mai Arr**	**119.32**	**322**	PKP	**PKPdf**	**17 52 11.5**	**+2.6**
	comp=E,0.6nm,0.8s,baz=359,slow=2.1,SNR=5.7						

MEX 22 17:33:43.3±0.5,16°.87N×100°.30W,h14km±5km,MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.18**	**10**	*i*P	Pg	17 33 46.9	-0.6
CAIG				*e*S	Sg	17 33 50.1	-0.2
MEIG	**Mezcala**	**1.23**	**32**	*i*P	Pn	17 34 02.2	-4.1
MEIG				*e*S	Sb	17 34 17.2	-5.3
ARIG	**Puente Sto Nin**	**1.40**	**358**	*i*P	Pn	17 34 05.6	-2.9
ARIG				*e*S	Sn	17 34 21.6	-5.3
PLIG	**Platanillo**	**1.69**	**27**	*i*P	Pn	17 34 09.8	-2.9
PLIG				*e*S	Sn	17 34 29.8	-4.5
TLIG	**Tlapa**	**1.79**	**67**	*i*P	Pn	17 34 11.3	-2.8
TLIG				*e*S	Sn	17 34 32.3	-4.6

*IDC **22** 17:40:25.5±1.0,13°.89N×92°.76E,h0km,mb3.9/10,*
mb1 4.0/11,mb1mx3.7/28,mbtmp3.9/11,ML4.0/1,MS2.6/1,
Ms1 2.8/1,ms1mx2.5/35,Error ellipse: s-maj=42.1km
s-min=16.1km az=59.0
*ISCJB **22** 17:40:28.9±0.4,14°.13N±0°.05×92°.75E±0°.06,h35km,*
mb4.0/16,Error ellipse: s-maj=9.0km s-min=5.6km
az=152.4
*NEIC **22** 17:40:31.1±1.0,14°.06N×92°.76E,h35km±11km,mb4.3/5,*
Error ellipse: s-maj=11.2km s-min=8.7km az=80.0

ISC 22 17:40:31.1±0.6,14°.16N±0°.06×92°.76E±0°.07,h35km,n38, σ1°54/37,mb4.0/16,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CM31	**Chiang Mai Arr**	**7.31**	**53**	*e*Pn	**Pn**	**17 42 16.1**	**+0.6**
	4.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**7.31**	**53**	Pn	**Pn**	**17 42 15.4**	**0.0**
	0.6nm,0.3s,baz=243,slow=15,SNR=16						
CMAR				Sn	**Sn**	**17 43 33.6**	**-3.7**
	0.8nm,0.3s,baz=238,slow=28,SNR=5.7						
CMAR				LR	LR	17 45 40.5	
	comp=Z,400nm,18.4s,baz=245,slow=42						
CHTO	**Chiang Mai**	**7.52**	**51**	*e*Pn	**Pn**	**17 42 19.3**	**+0.9**
	5.9nm,0.6s						
CHTO				*e*Sn	Sn	17 43 36.9	-5.6
KULM	**Kulim**	**11.75**	**138**	*e*Pn	**Pn**	**17 43 16.6**	**+0.3**
	9.2nm,0.8s						
PSI	**Prapat**	**12.82**	**151**	Pn	**Pn**	**17 43 33.0**	**+1.8**
	baz=320,slow=10,SNR=4.5						
ODAN	**Odare**	**13.60**	**339**	*e*P	**Pn**	**17 43 40.2**	**-1.5**
	9.5nm,0.2s						
PALK	**Pallekele**	**13.68**	**241**	*e*Pn	**Pn**	**17 43 41.4**	**-1.4**
PALK				*e*Sn	Sn	17 46 00.4	-13
TAPN	**Taplejung**	**13.94**	**341**	*e*P	**Pn**	**17 43 45.0**	**-1.5**
	6.8nm,0.2s						
RAMN	**Ramite**	**13.96**	**337**	*e*P	**Pn**	**17 43 45.8**	**-1.0**
	15nm,0.4s						
JIRN	**Jiri**	**14.76**	**337**	*e*P	**Pn**	**17 43 56.4**	**-1.3**
	8.1nm,0.2s				

0.3nm,0.2s,baz=192,slow=8.6,SNR=4.6
NOA NORSAR Array B 68.56 336 P P 18 03 40.2 +0.2
1.1nm,0.9s,baz=121,slow=6.8,SNR=3.7
ESDC Sonseca Array 69.48 311 P P 18 03 46.2 +0.1
1.4nm,0.8s,baz=86,slow=5.7,SNR=9.2
ARCES ARCESS Array B 69.67 347 P P 18 03 45.8 -0.8
1.7nm,0.7s,baz=140,slow=7.8,SNR=7.5
WRA Warramunga Arr 74.23 112 P P 18 04 15.3 +0.3
2.2nm,1.0s,baz=286,slow=6.0,SNR=8.2
ASAR Alice Springs 74.55 116 P P 18 04 16.6 -0.2
0.9nm,1.0s,baz=285,slow=5.6,SNR=5.3
ASAR LR LR 18 35 14.9
comp=Z,88nm,19.5s,baz=86,slow=34
CTA Charters Tower 85.33 110 P P 18 05 14.2 -1.0
6.9nm,1.1s,baz=305,slow=4.6,SNR=2.1
TXAR Lajitas Array 144.19 339 PKP PKPbc 18 12 12.7 +0.4
0.3nm,0.7s,baz=24,slow=3.1,SNR=3.5

*BJI **22** 17:55:26.9, 39˚.07N×89˚.96E, h10km, mb3.5/2, ML3.6/12, Ms3.2/3, Ms7 3.1/2*
*IDC **22** 17:55:28.1±4.0, 38˚.60N×88˚.81E, h0km, mb3.5/1, mb1 3.7/4, mb1mx3.2/39, mbtmp3.7/4, ML3.6/3, Error ellipse: s-maj=66.1km s-min=40.5km az=44.0*
ISC 22 17:55:29.9±3.0, 38˚.9N±0˚.3×89˚.0E±0˚.2, h10km, n6, σ1s 07/5, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GTA	Gaotai	8.43	83	eP	n		Pn	17 57 23.8	-8.4
GTA					S	g	Sn	17 59 22.5	+15
GTA	83nm,8.1s				L	N			
GTA	120nm,8.3s				L	E			
GTA	81nm,7.6s				L	Z			
MKAR	Makanchi Array 1.1nm,0.3s,baz=143,slow=14,SNR=45	9.34	330	Pn			Pn	17 57 43.8	-0.8
MKAR	0.8nm,0.3s,baz=142,slow=23,SNR=3.7				S	n	Sn	17 59 29.6	0.0
MKAR	0.4nm,0.3s,baz=148,slow=27,SNR=4.0				L	g	Lg	18 00 30.0	
CD2	Chengdu	14.47	119	eP			Pn	17 58 46.0	-8.8
ZALV	Zalesovo Beam 0.5nm,0.3s,baz=172,slow=12,SNR=16	15.37	351	Pn			Pn	17 59 07.7	+1.0
SONM	Songino Array 0.3nm,0.3s,baz=233,slow=14,SNR=2.0	15.50	49	Pn			P	17 59 12.4	-0.6
FINES	FINESS Array B 0.4nm,0.6s,baz=112,slow=11,SNR=1.3	44.05	322	P			P	18 03 38.1	+0.6

*IDC **22** 17:57:52.9±0.5, 15˚.15S×172˚.32W, h0km, mb4.3/13, mb1 4.6/13, mb1mx4.3/29, mbtmp4.3/13, MS3.8/9, Ms1 3.8/9, ms1mx3.5/32, Error ellipse: s-maj=25.5km s-min=14.4km az=127.0*
*ISCJB **22** 17:57:56.4±0.2, 15˚.13S±0˚.05×172˚.42W±0˚.05, h33km, mb4.5/51, MS3.9/9, Error ellipse: s-maj=9.2km s-min=5.0km az=135.8*
*NEIC **22** 17:57:59.7±2.0, 15˚.15S×172˚.40W, h48km±18km, mb4.6/40, Error ellipse: s-maj=12.8km s-min=5.6km az=138.0*
NEIC Felt at Iliili, American Samoa.
*BJI **22** 17:58:01.2, 15˚.03S×173˚.18W, h37km, mb4.9/12, mB4.9/7, Ms4.8/5, Ms7 4.4/8*
ISC 22 17:57:59.2±0.5, 15˚.14S±0˚.08×172˚.39W±0˚.08, h41km±4km, h45km:pP-P, n249, σ0s98/236, mb4.5/51, MS3.9/9, 63C-48D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.36	26	eP	n		Pn	17 58 16.9	-4.9
AFI				e	S	n	Sn	17 58 36.3	-2.5
MSVF	Nonsavu	9.52	253	eP	n		Pn	18 00 18.5	+4.6
RAR	Rarotonga	13.42	119	P	n		Pn	18 01 07.5	+0.3
DZM	Mont Dzumac 239nm,26.2s	21.19	248	eLR			LR	18 07 55.1	
DZM	Mont Dzumac comp=Z,159nm,21.1s,baz=1.0,slow=34	21.19	248	LR			LR	18 09 45.8	
PPT2	Papeete2 313nm,25.2s	22.02	99	eLR			LR	18 07 40.4	
TBI	Tubuai 292nm,26.2s	23.11	114	eLR			LR	18 08 12.9	
OUZ	Omahuta 153nm,2.0s	23.62	210	eP			P	18 03 05.3	-1.2
URZ	Urewera 20nm,0.5s,baz=309,slow=2.8,SNR=41	24.82	200	P			P	18 03 18.6	+1.1
URZ	Urewera 28nm,0.9s	24.82	200	eP			P	18 03 17.0	-0.5
BKZ	Black Stump Fm 12nm,0.8s	25.85	200	eP			P	18 03 28.6	+1.7
HNR	Honiara 8.1nm,0.6s	27.60	279	eP			P	18 03 33.4	-9.4
RPZ	Rata Peaks 5.5nm,0.6s,baz=240,slow=20,SNR=4.9	31.79	203	P			P	18 04 21.1	+1.4
WHZ	Wether Hill Ro 41nm,0.8s	34.82	204	eP			P	18 04 48.5	+2.5
RKT	Rikitea 176nm,28.2s	36.15	109	eLR			LR	18 14 10.5	
H11S2	WAKE ISLAND Hy baz=145,slow=76,SNR=104	39.26	328	T			T	18 47 58.0	
H11S3	WAKE ISLAND Hy baz=145,slow=76,SNR=65	39.27	328	T			T	18 47 59.5	
H11S1	WAKE ISLAND Hy baz=145,slow=76,SNR=54	39.27	328	T			T	18 47 59.4	
H11N3	WAKE ISLAND Hy baz=145,slow=75,SNR=16	40.18	329	T			T	18 48 44.1	
H11N1	WAKE ISLAND Hy baz=145,slow=75,SNR=80	40.19	329	T			T	18 48 44.6	
H11N2	WAKE ISLAND Hy baz=145,slow=75,SNR=15	40.20	329	T			T	18 48 45.5	
STKA	Stephens Creek 11nm,0.7s,baz=93,slow=9.8,SNR=16	45.01	240	P			P	18 06 09.7	-1.1
STKA	Stephens Creek 46nm,2.5s	45.01	240	eP			P	18 06 09.4	-1.4
WRAB	Tennant Creek	50.84	256	eP			P	18 06 54.5	-1.6
WRA	Warramunga Arr 2.6nm,0.9s,baz=95,slow=7.1,SNR=60	50.85	256	P			P	18 06 54.8	-1.4
AS01	Alice Springs	51.07	252	eP			P	18 06 56.6	-1.3
AS31	Alice Springs	51.11	252	eP			P	18 06 56.9	-1.3
ASAR	Alice Springs 19nm,0.7s,baz=89,slow=7.8,SNR=464	51.11	252	P			P	18 06 57.3	-0.9
BATI	Baumata comp=Z,127nm,20.8s,baz=162,slow=34	62.40	266	LR			LR	18 33 40.0	
SBA	Scott Base 5.1nm,1.0s	63.59	185	eP			P	18 08 25.6	+0.4
VNDA	Vanda 0.8nm,0.5s,baz=47,slow=7.2,SNR=3.9	63.73	186	P			P	18 08 25.7	-0.5
MBWA	Marble Bar 12nm,1.1s	64.36	254	eP			P	18 08 31.3	0.0
MJAR	Matsushiro Arr 1.0nm,0.8s,baz=154,slow=5.2,SNR=5.5	69.38	319	P			P	18 09 04.0	+1.2
MJAR	comp=Z,46nm,21.9s,baz=55,slow=31				L	R	LR	18 33 47.3	
BLG	Laguna Peak, P baz=71	70.51	45	⇑P			P	18 09 10.3	+0.4
DECC	Green Verdugo baz=71	71.09	45	⇑P			P	18 09 13.0	-0.5
ARVC	Arvin baz=71	71.25	44	⇑P			P	18 09 13.9	-0.4
VES	Vestal, Richgr baz=72	71.49	43	⇓P			P	18 09 15.4	-0.3
EDW2	Edwards Air Fo baz=72	71.68	45	⇓P			P	18 09 16.4	-0.6
TSM	Tawau	71.68	280	⇑P			P	18 09 14.4	-3.0
ISA	Isabella, Lake	71.79	44	P			P	18 09 13.8	-3.9
CMB	Columbia Colle	71.93	41	eP			P	18 09 17.6	-0.9
M02C	Callahan baz=73	72.51	37	⇑P			P	18 09 22.0	+0.2
MPMC	Manual Prospec baz=73	72.68	44	⇓P			P	18 09 23.0	-0.1
PETK	Petropavlovsk- 1.4nm,0.7s,baz=146,slow=8.2,SNR=5.1	72.69	342	P			P	18 09 23.5	+1.0
DAC	Darwin (Calif) 6.0nm,1.3s	72.73	44	eP			P	18 09 22.6	-0.8
SDKM	Sandakan	72.73	281	⇑P			P	18 09 20.6	-3.2
YBH	Yreka Blue Hor 18nm,1.3s	72.81	37	eP			P	18 09 23.7	+0.1
WAKR	Walker	72.81	41	eP			P	18 09 23.7	-0.2
GMRC	Granite Mounta baz=73	73.22	46	⇓P			P	18 09 26.3	0.0
IRM	Iron Mountain baz=73	73.25	47	⇓P			P	18 09 26.3	0.0
GRAC	Grapevine Rang baz=74	73.28	43	⇓P			P	18 09 27.0	+0.5
FURC	Furnace Creek, baz=74	73.33	44	⇓P			P	18 09 26.6	-0.1
M04C	Macdoel baz=74	73.35	37	⇑P			P	18 09 27.4	+0.5
KDM	Kudat	73.46	282	⇑P			P	18 09 25.1	-2.8
Y12C	Blythe baz=74	73.48	47	⇓P			P	18 09 27.5	-0.1
NV01	Mina Array Sit	73.49	42	eP			P	18 09 27.6	-0.3
NVAR	Mina Array Bea 3.7nm,0.8s,baz=228,slow=10,SNR=18	73.49	42	P			P	18 09 28.0	+0.1
113A	Mohawk Valley, baz=74	73.52	49	⇑P			P	18 09 27.8	0.0
TPH	Tonopah 12nm,1.0s	73.99	42	eP			P	18 09 29.9	-0.9
TPNV	Topopah Spring 4.3nm,0.8s	74.00	44	eP			P	18 09 31.0	+0.2
TPNV	Topopah Spring baz=74	74.00	44	⇑P			P	18 09 30.8	-0.1
PDMCI	Parker Dam,Lak baz=74	74.04	47	⇑P			P	18 09 31.0	+0.2
J04D	Umpqua Nationa baz=74	74.11	36	⇓P			P	18 09 31.7	+0.3
Z14A	Wintersburg baz=75	74.41	48	⇑P			P	18 09 33.4	+0.3
K05A	Summer Lake 64nm,1.9s	74.48	37	eP			P	18 09 34.2	+0.6
SHPR	Sheep Range 4.3nm,1.1s	74.49	45	eP			P	18 09 33.6	-0.2
W13A	Hualapai Mount baz=75	74.63	46	⇓P			P	18 09 34.3	-0.4
J05D	Fort Rock, OR baz=75	74.64	36	⇑P			P	18 09 34.8	+0.4
Y14A	Wickenburg baz=75	74.66	48	⇓P			P	18 09 34.6	0.0
G03D	McMinnville, O baz=75	74.75	34	⇓P			P	18 09 35.8	+1.1
QSPA	South Pole Qui 4.3nm,0.8s	74.90	180	eP			P	18 09 34.0	-1.5
R11A	Troy Canyon, C 5.5nm,1.1s	75.21	43	eP			P	18 09 37.4	-0.5
R11A	Troy Canyon, C baz=75	75.21	43	⇑P			P	18 09 38.3	+0.4
I05D	Terrebonne, OR baz=75	75.24	35	⇑P			P	18 09 38.5	+0.8
TUC	Tucson 3.6nm,0.9s	75.48	50	eP			P	18 09 38.4	-1.0
WVOR	Wild Horse Val 8.0nm,1.0s	75.63	38	eP			P	18 09 39.5	-0.7
BTM	Bintulu	75.94	277	⇑P			P	18 09 38.9	-3.5
319A	Douglas baz=76	76.17	52	⇓P			P	18 09 43.4	-0.1
SBUM	Sibu	76.56	276	⇑P			P	18 09 42.5	-3.3
ELK	Elko 4.0nm,1.0s	76.75	41	eP			P	18 09 46.8	+0.1
G08A	Pilot Rock 6.0nm,0.9s	77.16	36	eP			P	18 09 49.0	+0.3
HAWA	Hanford 6.0nm,0.9s	77.52	34	eP			P	18 09 51.0	+0.5
MSU	Marysvale	77.56	44	eP			P	18 09 51.8	+0.5
121A	Cookes Peak, D baz=78	77.83	51	⇓P			P	18 09 52.4	-0.4
BMO	Blue Mountains 9.6nm,1.6s	77.84	37	eP			P	18 09 52.5	0.0
MFID	Camas Ranch 4.8nm,1.0s	77.88	38	eP			P	18 09 52.5	-0.3
DUG	Dugway, Tooele 7.2nm,1.3s	78.02	42	eP			P	18 09 52.7	-0.9
DUG	Dugway, Tooele baz=78	78.02	42	⇓P			P	18 09 53.1	-0.5
F10A	Beach Ranch, E	78.54	36	eP			P	18 09 55.5	-0.8
TMUT	Trail Mountain 13nm,0.9s	78.61	44	eP			P	18 09 57.5	+0.4
HLID	Hailey 5.8nm,0.9s	78.82	39	eP			P	18 09 58.2	+0.2
HLID				e				18 10 11.0	
HLID	Hailey baz=79,SNR=8.9	78.82	39	⇑P			P	18 09 58.1	+0.1
JLU	Joanelle 5.5nm,0.9s	79.12	43	eP			P	18 09 59.4	-0.4
MNTX	Cornudas Mount 2.0nm,1.0s	79.30	53	eP			P	18 10 00.2	-0.5
MNTX	Cornudas Mount baz=79	79.30	53	⇓P			P	18 10 00.6	-0.1
TX31	Lajitas Ar. Si	79.66	56	eP			P	18 10 02.4	-0.5
TXAR	Lajitas Array 1.4nm,0.9s,baz=226,slow=6.8,SNR=11	79.66	56	P			P	18 10 02.2	-0.7
TXAR	comp=Z,76nm,18.5s,baz=0.0,slow=31				L	R	LR	18 39 01.5	
ANMO	Albuquerque	79.89	50	P			P	18 10 01.7	-2.4
NEW	Newport baz=80	79.95	34	⇓P			P	18 10 04.4	+0.4
TRF	Thorofare Moun 52nm,2.4s	80.20	10	eP			P	18 10 03.0	-2.1
MCMT	McKenzie Canyo	80.45	38	eP			P	18 10 06.7	-0.3
MCK	McKinley	80.69	10	eP			P	18 10 06.8	-0.8
NJ2	Nanjing	80.79	307	eP			P	18 10 09.4	+0.7
NJ2	10.0nm,0.6s					PMZ			
MSO	Missoula baz=81	80.90	36	⇑P			P	18 10 09.2	+0.1
TPAW	Teton Pass 5.3nm,0.9s	80.91	40	eP			P	18 10 09.7	+0.2
FXWY	Fox Creek 5.8nm,1.2s	80.94	40	eP			P	18 10 09.9	+0.3
BSMT	Bassoo Peak	80.99	35	eP			P	18 10 09.5	-0.2
IMW	Indian Meadow 3.7nm,0.8s	81.13	40	eP			P	18 10 11.1	+0.4
529A	Stev Forest Ra baz=81	81.13	56	⇓P			P	18 10 10.5	-0.2
N20A	Spence Gulch, baz=82	81.34	44	⇓P			P	18 10 11.7	-0.1
CHMT	Chamberlain Mo	81.34	37	eP			P	18 10 11.2	-0.4
FLWY	Flagg Ranch 10nm,1.2s	81.37	40	eP			P	18 10 12.1	+0.2
BW06	Boulder Array	81.43	41	eP			P	18 10 11.4	-0.8
PDAR	Pinedale Array 1.2nm,0.8s,baz=208,slow=1.5,SNR=8.5	81.43	41	P			P	18 10 11.1	-1.2
PDAR	comp=Z,91nm,19.7s,baz=246,slow=32				L	R	LR	18 40 35.1	
WRH	Wood River Hil 8.1nm,1.0s	81.52	10	eP			P	18 10 12.2	+0.3
429A	Davenport Ranc baz=82,SNR=10.0	81.59	55	⇑P			P	18 10 12.4	-0.7
BOZ	Bozeman (W) 47nm,2.7s	81.61	38	eP			P	18 10 13.1	+0.1
HDA	Harding Lake 26nm,2.1s	81.67	11	eP			P	18 10 13.5	+0.8
CCB	Clear Creek Bu 5.5nm,1.2s	81.73	10	eP			P	18 10 13.1	+0.1
530A	J-C Ranch, Com baz=82	81.84	56	⇓P			P	18 10 14.3	-0.1
329A	Wagon Wheel Ra baz=82	81.86	54	⇓P			P	18 10 14.3	-0.3
128A	Castleberry Fa baz=82	81.91	53	⇑P			P	18 10 14.2	-0.6
COLA	College	81.93	10	P			P	18 10 13.2	-0.8
IL1	Eielson Array	82.01	11	eP			P	18 10 13.5	-0.9
ILAR	Eielson Array 0.9nm,1.0s,baz=204,slow=5.6,SNR=6.0	82.01	11	P			P	18 10 13.7	-0.8
ILAR	comp=Z,47nm,19.1s,baz=145,slow=32				L	R	LR	18 41 54.6	
430A	Baggett Ranch, baz=82	82.17	55	⇑P			P	18 10 15.4	-0.8
229A	Bryant Ranch, baz=82	82.18	54	⇓P			P	18 10 15.6	-0.6
631A	Perdido Creek baz=82,SNR=5.1	82.18	57	⇑P			P	18 10 15.3	-0.8
832A	Faith Ranch, C baz=82	82.25	58	⇓P			P	18 10 15.8	-0.8
I19A	Meeteetse baz=83	82.41	41	⇓P			P	18 10 17.3	-0.1
330A	Mertzon baz=83	82.46	55	⇑P			P	18 10 16.9	-0.8
531A	Rocksprings baz=83,SNR=10.0	82.48	56	⇑P			P	18 10 17.2	-0.6
933A	Laredo baz=83	82.58	59	⇑P			P	18 10 18.0	-0.3
Q24A	Divide baz=83	82.61	46	⇑P			P	18 10 18.8	+0.2
431A	Sonora baz=83	82.63	56	⇑P			P	18 10 18.0	-0.5
ISCO	Idaho Springs baz=83	82.66	46	⇑P			P	18 10 18.7	-0.1
H19A	Powell baz=83	82.73	40	⇑P			P	18 10 19.2	+0.3
833A	Chaparral WMA, baz=83	82.74	58	⇑P			P	18 10 18.8	-0.3
632A	Uvalde baz=83	82.85	57	⇓P			P	18 10 19.8	+0.1
034A	Hebbronville baz=83	82.87	60	⇑P			P	18 10 19.6	-0.2
I20A	Worland baz=83	82.92	41	⇓P			P	18 10 19.7	-0.1
733A	Divot King Ran baz=83	82.96	58	⇓P			P	18 10 19.5	-0.8
532A	Rocksprings baz=83,SNR=6.3	82.99	56	⇓P			P	18 10 19.8	-0.6
331A	San Angelo baz=83	83.01	55	⇑P			P	18 10 20.0	-0.5
J21A	Lysite baz=83,SNR=7.4	83.06	42	⇑P			P	18 10 20.5	-0.2
JCT	Junction City baz=83	83.20	56	⇓P			P	18 10 20.8	-0.7
Z30A	Sanderson Ranc baz=83	83.22	53	⇑P			P	18 10 21.0	-0.6
S26A	Kim baz=83	83.22	48	⇓P			P	18 10 21.3	-0.3
H20A	Greybull baz=83	83.25	41	⇓P			P	18 10 21.9	+0.3
035A	Encino baz=83	83.31	60	⇓P			P	18 10 21.9	-0.2
633A	Saathoff Ranch baz=84	83.33	57	⇓P			P	18 10 21.2	-0.9
231A	Bronte baz=84	83.34	55	⇑P			P	18 10 21.2	-1.0
F19A	Roth Farm, Mol baz=84	83.34	39	⇓P			P	18 10 21.4	-0.5
432A	Menard baz=84	83.35	56	⇓P			P	18 10 21.5	-0.8
834A	Tilden baz=84,SNR=5.4	83.36	59	⇑P			P	18 10 21.9	-0.4
I21A	Big Trails, Te baz=84,SNR=5.8	83.38	41	⇑P			P	18 10 21.4	-0.9
R26A	Arlington baz=84	83.53	48	⇑P			P	18 10 22.8	-0.3
W29A	Amarillo baz=84	83.55	51	⇓P			P	18 10 22.6	-0.7
131A	Roby baz=84	83.56	54	⇑P			P	18 10 22.5	-0.8
332A	Millersview baz=84	83.58	55	⇑P			P	18 10 22.8	-0.6
533A	Kerrville baz=84	83.67	57	⇑P			P	18 10 23.4	-0.6
QIZ	Qiongzhong	83.71	292	P			P	18 10 25.4	+1.1
QIZ				S			S	18 20 45.4	+0.9
QIZ	7.0nm,1.3s			PMZ					
QIZ	140nm,19.0s			LZ					
J22A	Midwest baz=84	83.72	42	⇑P			P	18 10 23.8	-0.2
E19A	Rath Farm, Rou baz=84	83.73	39	⇑P			P	18 10 23.7	-0.2
COLD	Coldfoot 45nm,2.8s	83.74	9	eP			P	18 10 24.4	+1.0
F20A	Billings baz=84	83.80	39	⇑P			P	18 10 24.3	0.0
232A	Coleman baz=84,SNR=5.4	83.85	55	⇑P			P	18 10 23.9	-0.9
433A	Art baz=84	83.87	56	⇓P			P	18 10 24.2	-0.8
I22A	9 Mile Ranch, baz=84	83.94	42	⇑P			P	18 10 25.2	+0.1
D19A	Cripps Ranch, baz=84	84.02	38	⇓P			P	18 10 25.7	+0.3
534A	Blanco baz=84	84.10	57	⇓P			P	18 10 25.4	-0.7
ABTX	Abilene, Hawle 15nm,0.9s	84.12	54	eP			P	18 10 25.7	-0.5
ABTX	Abilene, Hawle baz=84	84.12	54	⇑P			P	18 10 25.6	-0.5
936A	North Padre Is baz=84	84.14	60	⇑P			P	18 10 25.7	-0.6
E20A	Meyer Farm, Mu baz=84	84.15	39	⇑P			P	18 10 26.1	0.0
333A	Richland Sprin baz=84	84.16	56	⇓P			P	18 10 26.0	-0.4
C19A	Slack Wire Ran baz=84	84.21	37	⇑P			P	18 10 26.6	+0.3
H22A	Clearmont baz=84	84.34	41	⇑P			P	18 10 27.1	0.0
Z32A	Haskell baz=85,SNR=5.9	84.51	54	⇓P			P	18 10 27.1	-1.0
V30A	Spur Ranch, Mi baz=85	84.52	51	⇑P			P	18 10 28.4	+0.2
434A	Burnet baz=85	84.55	56	⇓P			P	18 10 27.7	-0.7
133A	Hamilton Ranch baz=85	84.69	54	⇑P			P	18 10 28.8	-0.2
334A	Lometa baz=85	84.76	56	⇑P			P	18 10 29.3	-0.1
Y32A	R-V Farms, Ver baz=85	84.80	53	⇑P			P	18 10 29.7	+0.2
C20A	Veseth Ranch, baz=85	84.81	38	⇑P			P	18 10 29.5	+0.2
L25A	Engebretsen Ra baz=85	84.81	44	⇓P			P	18 10 30.1	+0.5
F22A	Rosebud baz=85	84.95	40	⇑P			P	18 10 30.5	+0.4
Z33A	Whitaker Ranch baz=85	85.06	54	⇓P			P	18 10 30.5	-0.3
X32A	Elmer baz=85	85.07	53	⇑P			P	18 10 30.5	-0.4
V31A	Spring Creek L baz=85	85.16	51	⇑P			P	18 10 31.3	0.0
134A	White-Moore Ra baz=86	85.33	55	⇓P			P	18 10 32.0	-0.2
F23A	Volborg baz=86	85.46	40	⇑P			P	18 10 32.6	0.0
H24A	Dirks Ranch, A baz=86	85.56	41	⇑P			P	18 10 33.1	-0.1
RSSD	Black Hills 7.2nm,1.1s	85.62	42	eP			P	18 10 32.8	-0.9
I25A	Rochford baz=86	85.77	42	⇓P			P	18 10 34.2	-0.1
135A	Vickery Place, baz=86	85.86	55	⇓P			P	18 10 34.6	-0.2
BJI	Beijing	86.00	313	P			P	18 10 37.3	+2.0
BJI	6.0nm,0.7s			PMZ					
BJI	110nm,21.5s			LZ					
438A	Sam Houston St baz=87	86.78	57	⇓P			P	18 10 39.5	+0.1
ENH	Enshi	87.61	302	P			P	18 10 44.6	+1.1
GYA	Guiyang	88.78	298	eP			P	18 10 51.0	+1.8
GYA	10.0nm,1.0s			PMZ					
YAK	Yakutsk comp=Z,26nm,21.5s,baz=79,slow=30	89.27	336	LR			LR	18 42 57.6	
XAN	Xi'an	89.27	305	P			P	18 10 48.5	-2.8
YKA	Yellowknife Ar 0.9nm,0.9s,baz=233,slow=4.3,SNR=7.2	89.48	23	P			P	18 10 50.9	-0.6
HHC	Hu-ho-hao-te	89.57	313	eP			P	18 10 54.3	+1.7
HHC				SKS			SKSac	18 21 18.1	-1.8
HHC				S			S	18 21 42.8	+2.1
HHC				sS			sS	18 22 02.5	+0.7
HHC	17nm,1.5s			PMZ					
HHC	80nm,8.6s			PMZ					
HHC	200nm,19.7s			LN					
HHC	120nm,18.5s			LE					
HHC	180nm,21.0s			LZ					
KMI	Kunming	91.79	295	P			P	18 11 04.9	+1.5
KMI				S			S	18 22 04.9	+2.9
KMI	8.0nm,0.6s			PMZ					
KMI	56nm,16.8s			LZ					
CD2	Chengdu	92.51	301	eP			P	18 11 06.6	+0.2
CD2				pP			pP	18 11 19.1	+0.1
CD2				sP			sP	18 11 23.9	+0.2
CD2				PP			PP	18 14 51.1	+2.8
CD2				SKS			SKSac	18 21 35.1	-1.9
CD2				S			S	18 22 05.3	-2.5
CD2				sS			sS	18 22 26.4	-2.6
CD2	10.0nm,0.5s			PMZ					
CD2	120nm,5.4s			PMZ					
SYO	Syowa Base	93.04	191	⇑es	P		sP	18 11 22.4	-2.9
ULM	Lac du Bonnet	93.12	39	LR			LR	18 46 25.2	

comp=Z,98nm,19.8s,baz=286,slow=31
WCI Wyandotte Cave 96.21 52 *e*P **P 18 11 25.1 +1.9**
13nm,0.7s
TLY Talaya 98.04 321 LR LR 18 50 25.3
comp=Z,26nm,20.7s,baz=13,slow=32
WMQ Urumqi 107.42 312 *e*Pdif **Pdif 18 12 14.9 +1.7**
WMQ LN
67nm,20.6s
WMQ LE
52nm,22.2s
WMQ LZ
44nm,19.0s
KSH Kashi 116.10 307 *e*PKP **PKPdf 18 16 40.9 +2.6**
KSH PPMZ
31nm,3.1s
KSH LN
120nm,7.7s
KSH LE
83nm,4.4s
KSH LZ
120nm,6.2s
ARCES ARCESS Array B 124.49 352 PKP **PKPdf 18 16 52.8 -0.5**
1.5nm,0.8s,baz=15,slow=3.9,SNR=4.1
FINES FINESS Array B 131.90 348 PKP **PKPdf 18 17 07.0 -0.6**
0.3nm,0.4s,baz=150,slow=14,SNR=4.0
AKASG Malin Array Be 140.47 338 PKP **PKPdf 18 17 23.6 -0.2**
0.1nm,0.4s,baz=29,slow=3.8,SNR=3.4
STHS Stebnicka Huta 144.05 345 *e* PKPab 18 17 21.5 -6.3
DPC Dobruska-Polom 144.18 350 *e*PKP PKPbc 18 17 29.3 +0.6
DPC *ex* x 18 17 36.7
DPC Dobruska-Polom 144.18 350 *e*PKPdf PKPbc 18 17 28.8 +0.1
KOLS Kolonicke sedl 144.22 343 *e*PKP PKPbc 18 17 29.5 +0.7
OKC Ostrava-Krasne 144.35 348 *e*PKP PKPbc 18 17 29.9 +0.7
BUR08 Bucovina Ar. S 144.46 339 *e*PKPdf **PKPab 18 17 28.9 -0.6**
BUR04 Bucovina Ar. S 144.48 339 *e*PKPdf PKPbc 18 17 30.2 +0.4
TSUM Tsumeb 144.49 196 *e*PKPdf **PKPab 18 17 30.4 0.0**
SNF Seneffe 144.62 4 PKP PKPbc 18 17 30.6 +0.6
BCLA Clavier 144.77 3 PKP PKPbc 18 17 30.5 0.0
PRU Pruhonice 144.79 352 *e*PKP **PKPdf 18 17 31.2 -0.4**
PRU *ex* x 18 17 38.3
GOPC GO Pecny, Ondr 144.83 352 *e*PKP **PKPdf 18 17 31.9 +0.2**
DOU Dourbes 145.05 3 PKP **PKPdf 18 17 31.9 -0.1**
GRFO Grafenberg 145.42 356 *e*PKPbc **PKPab 18 17 33.2 +0.3**
VYHS Vyhne 145.48 347 *e* **PKPab 18 17 33.8 +0.7**
WLF Walferdange 145.55 2 PKP **PKPab 18 17 34.1 +0.8**
WLF APKP **pPKPdf 18 17 48.5 +2.6**
WLF Walferdange 145.55 2 *e*PKPdf **PKPab 18 17 34.1 +0.8**
KHC Kasperske Hory 145.75 353 *e*PKP **PKPab 18 17 34.0 -0.1**
KHC *ex* x 18 17 39.7
KHC *ep*PKP **pPKPdf 18 17 48.8 +2.4**
GEC2 GERESS Array S 146.02 353 *e*PKPdf **PKPab 18 17 35.2 -0.1**
GERES GERESS Array B 146.02 353 PKPbc **PKPbc 18 17 34.8 +0.1**
1.2nm,0.8s,baz=73,slow=1.8,SNR=14
BR131 Keskin Array S 146.56 322 *e*PKPbc **PKPbc 18 17 36.5 -0.2**
BRTR Keskin Array B 146.56 322 PKPbc **PKPbc 18 17 37.1 +0.5**
1.5nm,0.7s,baz=121,slow=2.0,SNR=11
BFO Black Forest 146.90 359 *e*PKPbc **PKPbc 18 17 37.0 -0.2**
BR231 Keskin MP Arra 146.99 323 *e*PKPdf **PKPbc 18 17 37.1 -0.7**
BNI Bardonecchia 150.18 1 *e*PKPdf **PKPdf 18 17 40.6 -0.2**
BNI *e*PKPbc **PKiKP 18 17 47.0 +0.2**
POLO Lamas de Olo 150.65 24 *e*PKPbc **PKPbc 18 17 47.2 +0.1**
PBRG Braganca 150.68 22 *e*PKPbc **PKPbc 18 17 46.8 -0.3**
MVO Moncorvo 151.13 23 *e*PKPbc **PKPbc 18 17 48.6 +0.4**
PVIS Viseu 151.17 25 *e*PKPbc **PKPbc 18 17 48.1 -0.2**
PTOM Tomar 151.87 27 *e*PKPbc **PKPbc 18 17 50.3 +0.4**
PMRV Marv??o 152.46 26 *e*PKPbc **PKPbc 18 17 51.3 +0.1**
ES19 SONSECA Array 153.54 20 *e*PKPbc **PKPbc 18 17 53.2 -0.5**
ESDC Sonseca Array 153.54 20 PKPbc **PKPbc 18 17 53.8 +0.1**
1.3nm,0.7s,baz=330,slow=2.4,SNR=12
ESDC PKPab **PKPab 18 18 07.8 +1.7**
0.7nm,0.6s,baz=335,slow=2.8,SNR=6.9
TORD Torodi Ar. Bea 173.93 108 PKP **PKPdf 18 18 03.3 -1.9**
0.5nm,1.0s,baz=259,slow=3.0,SNR=4.0
TORD PKPab **PKPab 18 19 33.7 -2.4**
1.2nm,0.9s,baz=279,slow=4.7,SNR=5.8

*ISCJB **22** 17:59:45.2s 0.3, 32°.61N s 0°.02 × 115°.73W s 0°.03, h18km s 4km, Error ellipse: s-maj=3.6km s-min=3.6km az=35.9*
*NEIC **22** 17:59:46.6, 32°.63N × 115°.79W, h4km, ML3.5(PAS), After ECX.*
NEIC Felt [II] at Tijuana. Also felt at Mexicali. Felt at El Centro and in the San Diego area, California. Also felt at Yuma, Arizona.
*MEX **22** 17:59:46.7s 0.7, 32°.69N × 115°.68W, h16km s 653km, MD3.9*
*ECX **22** 17:59:46.5s 0.6, 32°.62N × 115°.79W, h3km, MD3.3, ML3.5*

ISC 22 17:59:44.2s 0.9, 32°.60N s 0°.02 × 115°.72W s 0°.02, h16km s 6km, n35, σ 0°.91/53, 7C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.04**	**354**	↑*i*	*e*P	**Pg**	**17 59 47.4**	**+0.2**
WESC	**Westside Schoo**	**0.15**	**356**	↓*i*	*e*P	**Pb**	**17 59 49.3**	**+0.6**
WESC					*e*S	**Sb**	**17 59 52.1**	**+0.4**
YUH	**Yuha Desert**	**0.18**	**284**	↑*i*	*e*P	**Pb**	**17 59 48.8**	**-0.2**
COK	**Cook Ranch**	**0.24**	**359**	↓*i*	*e*P	**Pb**	**17 59 51.1**	**+0.9**
RMX	**La Rumorosa**	**0.30**	**270**	↑↑	*e*P	**Pb**	**17 59 51.2**	**-0.1**
RMX					*e*S	**Sg**	**17 59 55.3**	**+0.1**
DREC	**Desert Rsrch C**	**0.30**	**49**		*e*P	**Pn**	**17 59 53.1**	**-0.8**
SWSC	**Sam W. Stewart**	**0.34**	**349**	↓	*i*P	**Pb**	**17 59 52.4**	**+0.5**
CPBX	**Cerro Prieto**	**0.40**	**118**		*i*P	**Pn**	**17 59 54.7**	**-0.5**
CPBX					*i* S	**Sb**	**18 00 01.3**	**+2.7**
CPBX	**Cerro Prieto**	**0.40**	**118**		*e*P9	**Pg**	**17 59 50.5**	**-1.8**
CPBX					*e*S	**Sg**	**17 59 57.1**	**-0.6**
CPBX				↑↑	*e*		18 00 00.3	
CPBX					IAML		18 00 00.3	
	comp=E,14μm,0.3s							
CPBX					IAML		18 00 04.0	
	comp=N,15μm,0.3s							
CPBX				↓↓	*e*		18 00 04.0	
MBIG	**Mexicali**	**0.48**	**114**		*e*P	**Pb**	**17 59 55.7**	**+1.4**
MBIG					*i* S	**Sb**	**18 00 01.9**	**+0.9**
RDX	**Rancho Dawling**	**0.70**	**196**	↓↓	*e*P	**Pb**	**17 59 58.7**	**+0.6**
BAR	**Barrett**	**0.81**	**276**		*e*Pg	**Pb**	**17 59 59.9**	**+0.1**
BAR					*e*Sg	**Sg**	**18 00 09.9**	**-0.7**
BAR	**Barrett**	**0.81**	**276**	↑↑	*e*P	**Pb**	**18 00 00.2**	**+0.4**
CBX	**Cerro Bola**	**0.85**	**250**		*i* P	**Pb**	**18 00 01.2**	**+0.6**
CBX					*e*S	**Sb**	**18 00 12.1**	**+0.3**
CBX	**Cerro Bola**	**0.85**	**250**		*i* P	**Pb**	**18 00 01.2**	**+0.6**
CBX					*e*S	**Sb**	**18 00 12.1**	**+0.3**
CBX	**Cerro Bola**	**0.85**	**250**	↑↑	*e*P	**Pb**	**18 00 01.3**	**+0.6**
CBX					*e*S	**Sb**	**18 00 12.1**	**+0.3**
CBX					*e*		18 00 16.0	
CBX					IAML		18 00 16.0	
	comp=E,1μm,0.4s							
GLA	**Glamis**	**0.87**	**59**		*e*Pg	**Pg**	**18 00 01.6**	**+0.4**
GLA					*e*Sg	**Sg**	**18 00 14.0**	**+1.3**
SDRC	**San Diego Road**	**1.04**	**278**		*e*P	**Pn**	**18 00 04.0**	**0.0**
PFO	**Pinyon Flats O**	**1.18**	**329**		*e*Pg	**Pn**	**18 00 05.2**	**-0.9**
PFO					*e*Sg	**Sb**	**18 00 20.5**	**-0.7**
ZAX	**El Zacaton**	**1.19**	**204**		*e*P	**Pg**	**18 00 07.4**	**+0.4**
ZAX					*e*S	**Sg**	**18 00 23.2**	**+0.7**
ECNX	**Esteban Cantu**	**1.20**	**218**		*e*P	**Pg**	**18 00 07.3**	**-0.1**
ECNX					*e*S	**Sg**	**18 00 23.4**	**+0.3**
PBX	**Punta Banda**	**1.21**	**225**		*e*P	**Pb**	**18 00 06.9**	**+0.2**
PBX					*e*S	**Sg**	**18 00 23.1**	**-0.3**
ECBX	**El Chinero**	**1.26**	**153**	↑↑	*e*P	**Pn**	**18 00 05.3**	**-1.8**
ECBX					*e*S	**Sb**	**18 00 22.8**	**-0.8**
SPIG	**San Pedro Mart**	**1.57**	**172**		*i* P	**Pn**	**18 00 12.0**	**+0.3**
SPIG					*i* S	**Sn**	**18 00 31.4**	**-0.4**
SPIG	**San Pedro Mart**	**1.57**	**172**		*i* P	**Pn**	**18 00 12.0**	**+0.3**
SPIG					*i* S	**Sn**	**18 00 31.4**	**-0.4**
SPX	**San Pedro Mart**	**1.57**	**172**		*e*P	**Pn**	**18 00 10.9**	**-0.8**
SPX					*i* S	**Sn**	**18 00 31.6**	**-0.2**
SPX	**San Pedro Mart**	**1.57**	**172**		*e*P	**Pg**	**18 00 14.7**	**+0.3**
LDFC	**Landfair**	**2.52**	**11**		Pn	**Pb**	**18 00 27.8**	**-1.3**
214A	**Organ Pipe Nat**	**2.55**	**104**		*e*Pn	**Pn**	**18 00 25.4**	**+0.6**
PASC	**Pasadena Art C**	**2.59**	**308**		*e*Pn	**Pb**	**18 00 29.7**	**-0.5**
PASC					*e*Sn	**Sb**	**18 01 01.5**	**-0.2**
GSC	**Goldstone, Bar**	**2.84**	**342**		*e*Pn	**Pn**	**18 00 29.6**	**+0.8**
ISA	**Isabella, Lake**	**3.81**	**324**		*e*Pn	**Pn**	**18 00 44.3**	**+2.1**
SHPR	**Sheep Range**	**3.92**	**7**		*e*Pn	Pn	18 00 47.7	+3.9
DAC	**Darwin (Calif)**	**3.98**	**338**		Pn	**Pn**	**18 00 44.9**	**+0.2**
TUC	**Tucson**	**4.18**	**93**		*e*Pn	**Pn**	**18 00 45.0**	**-2.4**

*IDC **22** 18:16:30.6s 0.8, 9°.28N × 126°.15E, h0km, mb3.8/10, mb1 3.9/10, mb1mx3.7/24, mbtmp3.8/10, Error ellipse: s-maj=38.0km s-min=16.1km az=71.0*

*ISCJB **22** 18:16:44.0s 0.5, 9°.19N s 0°.04 × 126°.08E s 0°.05, h125km s 3km, mb3.8/14, Error ellipse: s-maj=9.6km s-min=4.7km az=155.0*
*NEIC **22** 18:16:44.9s 1.6, 9°.24N × 126°.18E, h122km s 15km, mb4.2/3, Error ellipse: s-maj=22.0km s-min=8.9km az=57.0*
*MAN **22** 18:16:45, 9°.16N × 126°.00E, h114km, mb4.6, ML3.5, MS3.5*

ISC 22 18:16:44.9s 0.8, 9°.18N s 0°.04 × 126°.07E s 0°.06, h122km s 6km, n49, σ 0°.83/52, mb3.7/14, 3C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.49**	**244**		*e*P	**Pn**	**18 17 03.2**	**+0.2**
SCPH	**Surigao**	**0.82**	**316**	↑	*i*P	**Pn**	**18 17 06.8**	**+1.3**
SCPH					*i* S	**Sn**	**18 17 21.4**	**+0.4**
BIPH	**Bislig**	**1.03**	**164**	↓↓	*e*P	**Pn**	**18 17 06.9**	**-0.6**
BIPH					*e*S	**Sn**	**18 17 23.6**	**-0.9**
MSLP	**Maasin**	**1.52**	**309**		*e*P	**Pn**	**18 17 13.1**	**+0.4**
MSLP					*e*S	**Sn**	**18 17 34.3**	**+0.4**
CGP	**Cagayan de Oro**	**1.54**	**242**	↓↓	*e*P	**Pn**	**18 17 12.7**	**-0.2**
CGP					*e*S	**Sn**	**18 17 32.5**	**-1.7**
BUKP	**Musuan**	**1.63**	**218**		*e*P	**Pn**	**18 17 14.9**	**+0.8**
BUKP					*e*S	**Sn**	**18 17 36.7**	**+0.4**
DAV	**Davao City (W)**	**2.15**	**193**		*e*Pn	**Pn**	**18 17 21.5**	**+1.0**
MATI	**Mati**	**2.23**	**175**		*e*P	**Pn**	**18 17 22.0**	**+0.6**
MATI					*e*S	**Sn**	**18 17 49.7**	**+0.4**
TBP	**Tagbilaran**	**2.23**	**283**		*e*P	**Pn**	**18 17 21.4**	**0.0**
TBP					*e*S	**Sn**	**18 17 48.4**	**-1.0**
PLP	**Palo**	**2.24**	**332**	↑↑	*i*P	**Pn**	**18 17 21.2**	**-0.3**
PLP					*e*S	**Sn**	**18 17 48.7**	**-0.9**
OCLP	**Ormoc**	**2.35**	**322**		*e*P	**Pn**	**18 17 23.6**	**+0.7**
OCLP					*e*S	**Sn**	**18 17 52.4**	**+0.4**
CTBH	**Cotabato--PC H**	**2.66**	**223**	↓	*i*P	**Pn**	**18 17 27.0**	**+0.2**
DCPH	**Dipolog City**	**2.75**	**258**	↓↓	*e*P	**Pn**	**18 17 28.3**	**+0.3**
SNPH	**Sibulan**	**2.80**	**273**	↓↓	*e*P	Pn	18 17 23.3	-5.4
SNPH					*e*S	**Sn**	**18 18 01.0**	**-1.5**
PAGZ	**Pagadian**	**2.97**	**244**		*e*P	**Pn**	**18 17 31.6**	**+0.7**
GUIM	**Jordan**	**3.72**	**293**		*e*P	**Pn**	**18 17 40.7**	**0.0**
RCP	**Roxas**	**4.03**	**306**	↑↑	*e*P	**Pn**	**18 17 45.8**	**+0.8**
CM31	**Chiang Mai Arr**	**27.87**	**292**		*e*P	**P**	**18 22 24.9**	**+1.4**
	2.1nm,0.7s							
CMAR	**Chiang Mai Arr**	**27.87**	**292**		P	**P**	**18 22 24.1**	**+0.6**
	0.7nm,0.7s,baz=87,slow=7.1,SNR=9.2							
PMG	**Port Moresby**	**27.96**	**131**		*e*P	**P**	**18 22 25.4**	**+1.2**
	19nm,1.0s							
WRAB	**Tennant Creek**	**30.06**	**164**		*e*P	**P**	**18 22 42.4**	**-0.4**
	13nm,1.5s							
WRA	**Warramunga Arr**	**30.07**	**164**		P	**P**	**18 22 42.6**	**-0.2**
	0.5nm,0.6s,baz=340,slow=7.8,SNR=20							
ASAR	**Alice Springs**	**33.53**	**167**		P	**P**	**18 23 13.8**	**+0.5**
	0.4nm,0.3s,baz=349,slow=7.0,SNR=48							
USRK	**Ussuriysk Ar.**	**35.26**	**7**		P	**P**	**18 23 27.3**	**-0.5**
	1.2nm,0.7s,baz=197,slow=5.8,SNR=4.7							
LSA	**Lhasa**	**38.51**	**307**		*e*P	**P**	**18 23 57.8**	**+1.7**
	2.1nm,0.6s							
H11S3	**WAKE ISLAND Hy**	**40.43**	**72**		T	T	19 07 37.0	
	baz=262,slow=75,SNR=25							
TAPN	**Taplejung**	**40.44**	**302**		*e*P	**P**	**18 24 12.8**	**+0.8**
	6.2nm,0.4s							
H11S1	**WAKE ISLAND Hy**	**40.44**	**72**		T	T	19 07 37.9	
	baz=262,slow=75,SNR=10							
H11S2	**WAKE ISLAND Hy**	**40.45**	**72**		T	T	19 07 33.4	
	baz=262,slow=75,SNR=14							
ODAN	**Odare**	**40.55**	**301**		*e*P	**P**	**18 24 13.7**	**+0.8**
	11nm,0.5s							
H11N1	**WAKE ISLAND Hy**	**40.79**	**71**		T	T	19 08 10.5	
	baz=265,slow=74,SNR=7.8							
H11N2	**WAKE ISLAND Hy**	**40.80**	**70**		T	T	19 08 07.0	
	baz=265,slow=74,SNR=5.7							
H11N3	**WAKE ISLAND Hy**	**40.81**	**71**		T	T	19 08 12.8	
	baz=265,slow=74,SNR=7.9							
RAMN	**Ramite**	**41.25**	**301**		*e*P	**P**	**18 24 19.8**	**+1.2**
	5.6nm,0.5s							
JIRN	**Jiri**	**41.82**	**301**		*e*P	**P**	**18 24 24.0**	**+0.7**
	14nm,0.5s							
GUN	**Gumba**	**42.16**	**302**		*e*P	**P**	**18 24 27.0**	**+0.9**
	14nm,0.7s							
PKI	**Pulchoki**	**42.45**	**301**		*e*P	**P**	**18 24 28.9**	**+0.5**
PKIN	**Phulchoki**	**42.46**	**301**		*e*P	**P**	**18 24 28.7**	**+0.2**
KKN	**Kakani**	**42.62**	**301**		*e*P	**P**	**18 24 30.3**	**+0.6**
STKA	**Stephens Creek**	**43.45**	**161**		P	**P**	**18 24 35.1**	**-0.8**
	1.4nm,0.3s,baz=329,slow=6.2,SNR=6.6							
KOLN	**Koldanda**	**44.04**	**301**		*e*P	**P**	**18 24 42.0**	**+0.9**
	12nm,0.6s							
TLY	**Talaya**	**46.19**	**341**		P	**P**	**18 24 55.5**	**-1.9**
PETK	**Petropavlovsk-**	**50.70**	**24**		P	**P**	**18 25 31.8**	**-0.2**
	0.5nm,0.6s,baz=189,slow=8.3,SNR=3.0							
MKAR	**Makanchi Array**	**52.77**	**323**		P	**P**	**18 25 47.4**	**-0.2**
	0.8nm,0.7s,baz=111,slow=8.0,SNR=10							
ZALV	**Zalesovo Beam**	**55.48**	**332**		P	**P**	**18 26 06.6**	**-0.4**
	0.4nm,0.5s,baz=128,slow=2.4,SNR=2.9							
KURK	**Kurchatov**	**56.85**	**326**		P	**P**	**18 26 17.0**	**+0.2**
ARCES	**ARCESS Array B**	**85.14**	**340**		P	**P**	**18 29 07.1**	**0.0**
	1.0nm,0.9s,baz=73,slow=8.2,SNR=4.3							
FINES	**FINESS Array B**	**86.75**	**332**		P	**P**	**18 29 14.6**	**-0.6**
	0.2nm,0.4s,baz=83,slow=4.6,SNR=5.3							
TORD	**Torodi Ar. Bea**	**120.48**	**291**		PKP	**PKPdf**	**18 35 24.0**	**+0.9**
	0.3nm,0.8s,baz=207,slow=1.3,SNR=2.3							

IDC 22 18:37:05.6s 1.3, 33°.27N × 96°.11E, h0km, mb3.2/4, mb1 3.4/7, mb1mx3.2/41, mbtmp3.3/7, ML3.2/3, MS3.5/1, Ms1 3.5/1, ms1mx2.6/23, Error ellipse: s-maj=70.1km s-min=19.3km az=64.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.97**	**170**		Pn	Pn	18 40 39.9	+1.3
	0.0nm,0.3s,baz=344,slow=13,SNR=2.3							
SONM	**Songino Array**	**16.49**	**25**		Pn	P	18 41 00.1	-1.2
	0.2nm,0.3s,baz=214,slow=14,SNR=6.6							
MKAR	**Makanchi Array**	**17.12**	**326**		P	Pn	18 41 07.0	+0.7
	0.0nm,0.3s,baz=134,slow=12,SNR=3.2							
KURBB	**Kurchatov Arra**	**21.62**	**329**		P	P	18 41 58.0	+0.9
	0.5nm,0.8s,baz=134,slow=11,SNR=8.8							
ZALV	**Zalesovo Beam**	**22.17**	**342**		P	P	18 42 01.6	-1.4
	0.2nm,0.3s,baz=132,slow=8.5,SNR=2.6							
EIL	**Elat**	**51.64**	**284**		LR	LR	19 11 46.1	
	comp=Z,44nm,18.4s,baz=255,slow=40							
WRA	**Warramunga Arr**	**64.28**	**140**		P	P	18 47 42.8	-0.2
	0.3nm,0.6s,baz=310,slow=12,SNR=5.0							
ASAR	**Alice Springs**	**67.11**	**142**		P	P	18 48 01.1	-0.1
	0.4nm,0.7s,baz=322,slow=6.7,SNR=11							

*KRSC **22** 18:38:37.9s 0.7, 55°.69N × 162°.89E, h47km s 15km, ML4.4*
*ISCJB **22** 18:38:39.0s 0.3, 55°.70N s 0°.02 × 162°.89E s 0°.04, h28km, mb3.6/17, MS3.0/2, Error ellipse: s-maj=3.2km s-min=2.7km az=25.7*
*MOS **22** 18:38:39.5s 1.3, 55°.79N × 162°.72E, h36km, mb3.9/11, Error ellipse: s-maj=13.4km s-min=6.7km az=70.7*
*IDC **22** 18:38:43.4s 3.4, 55°.86N × 162°.34E, h59km s 33km, mb3.3/14, mb1 3.6/16, mb1mx3.4/42, mbtmp3.6/16, ML3.6/2, MS3.0/3, Ms1 3.0/3, ms1mx2.8/19, Error ellipse: s-maj=21.2km s-min=13.3km az=154.0*

ISC 22 18:38:40.2s 0.5, 55°.73N s 0°.03 × 162°.77E s 0°.03, h28km, n94, σ 1°.26/121, mb3.7/17, 1C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.48**	**3**		*e*P	**Pb**	**18 38 49.3**	**-0.9**
KBTR	**Krutoberegovo**	**0.48**	**3**		PN	**Pb**	**18 38 49.3**	**-0.9**
KBG	**Krutoberegovo**	**0.53**	**356**		*e*P	**Pb**	**18 38 49.8**	**-1.1**
KBG					*e*S	**Sn**	**18 38 58.7**	**-1.1**
KBG	**Krutoberegovo**	**0.53**	**356**		PN	**Pb**	**18 38 49.8**	**-1.1**
KBG					S	**Sn**	**18 38 58.7**	**-1.1**
SMKR	**Semkarok**	**1.12**	**320**		*e*P	**Pn**	**18 39 59.2**	**-0.9**
BZGR	**Bezymyannyi-Gr**	**1.19**	**281**		*e*P	**Pn**	**18 39 00.2**	**-0.8**
BZGR					*e*S	**Sb**	**18 39 17.0**	**-0.2**
CIRR	**Tsirk**	**1.20**	**290**		*e*P	**Pb**	**18 39 02.1**	**-0.3**
BDR	**Baidarnaya**	**1.21**	**314**		*e*S	**Sb**	**18 39 17.1**	**-0.7**
SRKR	**Sorokina**	**1.29**	**317**		*e*P	**Pn**	**18 39 02.1**	**-0.3**
SRKR					*e*S	**Sb**	**18 39 19.6**	**-0.4**
BZMR	**Bezymyannaya**	**1.30**	**280**		*e*P	**Pn**	**18 39 02.2**	**-0.4**
BZMR					*e*S	**Sb**	**18 39 20.6**	**+0.1**
BZWR	**Bezymyannyi-We**	**1.30**	**281**		*e*P	**Pn**	**18 39 02.2**	**-0.5**
BZWR					*e*S	**Sb**	**18 39 19.8**	**-0.7**
MKZ	**Mys Kozlova**	**1.32**	**207**		*e*P	**Pn**	**18 39 01.4**	**-1.3**
MKZ					*e*S	**Sn**	**18 39 19.0**	**-0.3**
MKZ	**Mys Kozlova**	**1.32**	**207**		PN	**Pn**	**18 39 01.4**	**-1.3**
MKZ					S	**Sn**	**18 39 19.0**	**-0.3**
KIRR	**Kirishev**	**1.39**	**280**		*e*P	**Pn**	**18 39 03.6**	**-0.2**
KIRR					*e*S	**Sb**	**18 39 22.8**	**-0.1**
KMNR	**Kamenistaya**	**1.43**	**272**		*e*P	**Pn**	**18 39 04.3**	**-0.1**
KMNR					*e*S	**Sb**	**18 39 24.5**	**+0.4**
KPT	**Kopyto**	**1.46**	**280**		*e*P	**Pn**	**18 39 03.7**	**-1.0**
KPT					*e*S	**Sb**	**18 39 22.8**	**-2.0**
KZV	**Kizimen**	**1.54**	**247**		*e*P	**Pn**	**18 39 05.7**	**-0.2**
KZV					*e*S	**Sb**	**18 39 26.6**	**-0.7**
TUMR	**Tumrok**	**1.56**	**254**		*e*P	**Pn**	**18 39 06.6**	**+0.5**
TUMR					*e*S	**Sb**	**18 39 27.4**	**-0.4**
KOZR	**Kozyr**	**1.66**	**283**		PN	**Pb**	**18 39 08.1**	**-1.9**
KOZR					S	**Sb**	**18 39 30.4**	**0.0**
KOZ	**Kozyrevsk**	**1.67**	**283**		*e*P	**Pn**	**18 39 08.1**	**+0.6**
KOZ					*e*S	**Sb**	**18 39 30.4**	**-0.3**
SRDR	**Sredinnyy**	**1.81**	**290**		*e*P	**Pn**	**18 39 10.0**	**+0.5**
SRDR					*e*S	**Sb**	**18 39 33.5**	**-1.5**
BKI	**Bering**	**1.90**	**105**		*e*P	**Pn**	**18 39 10.5**	**-0.1**
BKI					*e*S	**Sn**	**18 39 33.2**	**-0.3**
BKI	**Bering**	**1.90**	**105**		PN	**Pn**	**18 39 10.5**	**-0.1**
BKI					S	**Sn**	**18 39 33.2**	**-0.3**
ESO	**Esso**	**2.31**	**277**		*e*P	**Pn**	**18 39 16.3**	**0.0**
ESO					*e*S	**Sn**	**18 39 44.9**	**+1.2**
ESO	**Esso**	**2.31**	**277**		PN	**Pn**	**18 39 16.3**	**0.0**
ESO					S	**Sn**	**18 39 44.9**	**+1.2**
KII	**Karymskiy**	**2.56**	**230**		*e*P	**Pn**	**18 39 20.4**	**+0.5**
KII					*e*S	**Sn**	**18 39 51.3**	**+1.2**
SPN	**Mys Shipunski**	**3.09**	**212**		*e*P	**Pn**	**18 39 26.5**	**-0.5**
SPN					*e*S	**Sn**	**18 40 02.3**	**-0.7**
SPN	**Mys Shipunski**	**3.09**	**212**		PN	**Pn**	**18 39 26.5**	**-0.5**
SPN					S	**Sn**	**18 40 02.3**	**-0.7**
NLC	**Nalytchevo**	**3.25**	**219**		*e*P	**Pn**	**18 39 29.6**	**+0.4**
NLC					*e*S	**Sn**	**18 40 07.4**	**+0.4**
NLC	**Nalytchevo**	**3.25**	**219**		PN	**Pn**	**18 39 29.6**	**+0.4**
NLC					S	**Sn**	**18 40 07.4**	**+0.4**
SDLR	**Sedlovina**	**3.34**	**224**		*e*P	**Pn**	**18 39 31.3**	**+0.7**
SDLR					*e*S	**Sn**	**18 40 10.4**	**+1.0**
KRER	**Koryakskii**	**3.38**	**226**		*e*P	**Pn**	**18 39 31.9**	**+0.7**
KRX	**Arik**	**3.38**	**227**		*e*P	**Pn**	**18 39 32.0**	**+0.9**
SMAR	**Somma**	**3.39**	**225**		*e*P	**Pn**	**18 39 32.0**	**+0.7**
AVH	**Avacha**	**3.41**	**225**		*e*P	**Pn**	**18 39 32.6**	**+1.1**
AVH					*e*S	**Sn**	**18 40 13.0**	**+2.0**
UGLR	**Uglovaya**	**3.42**	**224**		*e*P	**Pn**	**18 39 32.5**	**+0.8**
KOK	**Koryaka**	**3.43**	**226**		*e*P	**Pn**	**18 39 32.5**	**+0.7**
GNL	**Ganaly**	**3.47**	**236**		*e*P	**Pn**	**18 39 33.4**	**+1.1**
OSSR	**Ossora**	**3.53**	**2**		*e*P	**Pn**	**18 39 33.6**	**+0.5**
PET	**Petropavlovsk**	**3.63**	**223**		*e*P	**Pn**	**18 39 35.2**	**+0.8**
PET					*e*S	**Sn**	**18 40 17.6**	**+1.4**
PET	**Petropavlovsk**	**3.63**	**223**		*e*PN	**Pn**	**18 39 34.9**	**+0.5**
PET					MLR	MLR		
	comp=Z,200nm,14.0s							
PALN	**Palana**	**3.69**	**337**		*e*P	Pn	18 39 37.7	+2.4
PALN					*e*S	Sb	18 40 22.2	-6.7
PETK	**Petropavlovsk-**	**3.96**	**231**		P	**Pn**	**18 39 40.2**	**+1.2**
	comp=Z,3.5nm,0.3s,baz=69,slow=16,SNR=57							
PETK					S	**Sb**	**18 40 32.5**	**-4.1**
	comp=Z,1.2nm,0.3s,baz=71,slow=14,SNR=2.1							
PETK					LR	LR	18 41 22.7	
	comp=Z,128nm,18.8s,baz=76,slow=41							
PETK	**Petropavlovsk-**	**3.96**	**231**		PN	**Pn**	**18 39 40.2**	**+1.2**
PETK					S	**Sb**	**18 40 32.5**	**-4.1**
PETK					pmax	pmax		
	comp=Z,4.0nm,0.3s							
PETK					smax	smax		
	comp=N,1.0nm,0.3s							
PETK					MLR	MLR		
	comp=Z,128nm,18.8s							
RUS	**Russkaya**	**4.15**	**219**		*e*P	**Pn**	**18 39 42.0**	**+0.5**
RUS					*e*S	**Sn**	**18 40 29.5**	**+0.5**
RUS	**Russkaya**	**4.15**	**219**		PN	**

TXAR	**Lajitas Array**	**68.21**	**70**	P	**P**	**18 49 39.3 +1.3**
TXAR				pmax	pmax	
	comp=Z,1.0nm,0.7s					
BRTR	**Keskin Array B**	**75.55**	**322**	P	**P**	**18 50 21.0 -1.0**
	comp=Z,0.6nm,0.7s,baz=48,slow=3.7,SNR=4.5					
BRTR	**Keskin Array B**	**75.55**	**322**	P	**P**	**18 50 21.0 -1.0**
BRTR				pmax	pmax	
	comp=Z,1.0nm,0.7s					
WRA	**Warramunga Arr**	**79.14**	**207**	P	**P**	**18 50 41.0 -0.9**
	comp=Z,0.3nm,0.6s,baz=19,slow=6.1,SNR=6.0					
WRA	**Warramunga Arr**	**79.14**	**207**	*e*P	**P**	**18 50 44.9 +2.9**
ASAR	**Alice Springs**	**82.82**	**206**	P	**P**	**18 51 00.9 -0.5**
	comp=Z,0.6nm,0.9s,baz=18,slow=4.8,SNR=6.3					
ASAR	**Alice Springs**	**82.82**	**206**	P	**P**	**18 51 01.0 -0.5**
ASAR				pmax	pmax	
	comp=Z,1.0nm,0.9s					

*IDC **22** 18:56:21.5±1.2, 1.°88N×96.°50E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.7/25, mbtmp3.9/9, ML3.4/2, Error ellipse: s-maj=37.0km s-min=19.7km az=51.0*

*ISCJB **22** 18:56:24.6±0.8, 1.°94N±0.°09×96.°64E±0.°09, h28km, mb3.8/8, Error ellipse: s-maj=17.3km s-min=6.3km az=138.4*

*DJA **22** 18:56:25.9±0.6, 2.°N±7.°×97.°7E±.°, h29km±9km, M3.9/10, mb4.2/2, MLv3.8/10*

ISC 22 18:56:25.7±0.9, 1.°92N±0.°07×96.°60E±0.°07, h28km, n24, σ1§11/20, mb3.9/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.56**	**331**	P	**Pn**	**18 56 37.9**	**+0.1**
GSI	**Gunungsitoli**	**1.15**	**122**	P	**Pn**	**18 56 46.2**	**+0.3**
GSI				S	**Sn**	**18 56 58.2**	**-2.5**
PSI	**Prapat**	**2.48**	**69**	Pn	**Pn**	**18 57 03.8**	**-0.6**
	1.2nm,0.3s,baz=251,slow=7.5,SNR=5.0						
PSI				Sn	**Sb**	**18 57 40.6**	**+0.8**
	1.6nm,0.3s,baz=330,slow=18,SNR=4.2						
TSI	**Tuntungan**	**2.51**	**51**	P	**Pn**	**18 57 04.6**	**-0.1**
MNSI	**Mandailing Nat**	**3.18**	**110**	P	**Pn**	**18 57 13.0**	**0.0**
LHMI	**Lhok Sukmawe**	**3.31**	**6**	P	**Pn**	**18 57 16.7**	**+1.1**
BSI	**Banda Aceh**	**3.79**	**340**	P	**Pn**	**18 57 21.0**	**-1.3**
PPI	**Padang Panjang**	**4.47**	**122**	P	**Pn**	**18 57 32.0**	**+0.4**
CMAR	**Chiang Mai Arr**	**16.60**	**8**	Pn	**Pn**	**19 00 14.9**	**-1.6**
	0.2nm,0.3s,baz=198,slow=11,SNR=31						
H08S2	**Diego Garcia H**	**25.86**	**248**	T	T	19 28 40.9	
	baz=69,slow=76,SNR=457						
H08S3	**Diego Garcia H**	**25.86**	**248**	T	T	19 28 41.1	
	baz=69,slow=76,SNR=413						
H08S1	**Diego Carcia H**	**25.88**	**248**	T	T	19 28 42.2	
	baz=69,slow=76,SNR=251						
H01W3	**Cape Leeuwin H**	**40.13**	**157**	T	T	19 46 46.2	
	baz=334,slow=76,SNR=9.7						
H01W2	**Cape Leeuwin H**	**40.14**	**157**	T	T	19 46 52.7	
	baz=334,slow=76,SNR=11						
H01W1	**Cape Leeuwin H**	**40.15**	**157**	T	T	19 46 53.5	
	baz=334,slow=76,SNR=6.8						
WRA	**Warramunga Arr**	**42.92**	**122**	P	**P**	**19 04 22.7**	**+0.4**
	0.7nm,0.7s,baz=300,slow=9.3,SNR=13						
ASAR	**Alice Springs**	**44.30**	**127**	P	**P**	**19 04 34.4**	**+0.9**
	0.6nm,0.9s,baz=297,slow=8.1,SNR=4.3						
KSRS	**Korea Array**	**45.61**	**35**	P	**P**	**19 04 43.5**	**-0.1**
	0.9nm,0.6s,baz=231,slow=7.8,SNR=3.6						
MKAR	**Makanchi Array**	**46.41**	**346**	P	**P**	**19 04 50.3**	**+0.5**
	2.1nm,0.7s,baz=196,slow=6.9,SNR=23						
SONM	**Songino Array**	**46.52**	**9**	P	**P**	**19 04 51.7**	**+0.9**
	1.0nm,0.8s,baz=200,slow=7.7,SNR=3.9						
ZALV	**Zalesovo Beam**	**52.76**	**351**	P	**P**	**19 05 38.3**	**+0.2**
	2.9nm,0.8s,baz=189,slow=5.6,SNR=16						
FINES	**FINESS Array B**	**79.09**	**333**	P	**P**	**19 08 27.1**	**-0.2**
	0.5nm,0.7s,baz=89,slow=6.1,SNR=4.0						
ARCES	**ARCESS Array B**	**81.66**	**340**	P	**P**	**19 08 41.9**	**+0.8**
	1.0nm,0.9s,baz=76,slow=5.1,SNR=5.2						
DBIC	**Dimbokro**	**101.15**	**277**	P	**Pdif**	**19 10 12.0**	**-2.2**
	1.9nm,0.7s,baz=117,slow=4.5,SNR=2.5						

WEL 22 19:08:19.4±0.4, 38.°21S×175.°92E, h165km±3km, ML3.7/14, 9C-8D, Error ellipse: s-maj=2.7km s-min=2.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIZ	**Hauiti**	**0.89**	**250**	⇑P	Pn	19 08 45.0	+0.2
HIZ				SN	Sn	19 09 04.7	+0.4
URZ	**Urewera**	**0.94**	**94**	PN	Pn	19 08 44.7	-0.4
URZ				SN	Sn	19 09 04.3	-0.5
TWVZ	**Taurewa**	**0.94**	**204**	⇓PN	Pn	19 08 45.5	+0.2
TWVZ				SN	Sn	19 09 04.3	-1.0
WTVZ	**West Tongariro**	**0.94**	**196**	PN	Pn	19 08 45.1	-0.2
OTVZ	**Oturere**	**0.98**	**192**	PN	Pn	19 08 45.9	+0.3
OTVZ				SN	Sn	19 09 04.6	-0.5
NGZ	**Ngauruhoe**	**1.00**	**195**	PN	Pn	19 08 45.7	-0.1
NGZ				SN	Sn	19 09 04.6	-1.7
WPVZ	**Whakapapa**	**1.04**	**196**	⇑PN	Pn	19 08 46.1	0.0
BKZ	**Black Stump Fm**	**1.06**	**155**	⇑PN	Pn	19 08 46.0	-0.1
BKZ				AML	AML	19 09 07.7	
BKZ				AML	AML	19 09 07.9	
TUVZ	**Tukino**	**1.08**	**191**	PN	Pn	19 08 46.4	0.0
FWVZ	**Far West T-bar**	**1.09**	**195**	PN	Pn	19 08 46.8	+0.2
WHVZ	**Whangaehu Hut**	**1.10**	**194**	⇓PN	Pn	19 08 46.8	0.0
TRVZ	**Turoa**	**1.13**	**195**	PN	Pn	19 08 47.0	+0.1
WNVZ	**Wahianoa**	**1.15**	**193**	PN	Pn	19 08 46.9	-0.1
RAHZ	**Arahi**	**1.15**	**128**	⇓PN	Pn	19 08 47.6	+0.6
PKVZ	**Pokaka**	**1.17**	**202**	PN	Pn	19 08 47.0	-0.2
MOVZ	**Moawhango**	**1.21**	**186**	⇑PN	Pn	19 08 46.9	-0.5
MTVZ	**Mangateitei**	**1.23**	**197**	PN	Pn	19 08 47.4	-0.2
SNGZ	**Shannon Statio**	**1.25**	**118**	⇓PN	Pn	19 08 48.1	+0.4
MWZ	**Matawai**	**1.27**	**96**	⇓PN	Pn	19 08 47.8	-0.2
BHHZ	**Black Hill Sta**	**1.28**	**175**	PN	Pn	19 08 47.6	-0.5
VRZ	**Vera Road**	**1.29**	**225**	PN	Pn	19 08 48.1	0.0
WHHZ	**Waihua**	**1.34**	**131**	PN	Pn	19 08 48.9	+0.3
ARHZ	**Aropaoanui**	**1.35**	**142**	PN	Pn	19 08 49.1	+0.5
MCHZ	**McNeill Hill**	**1.37**	**154**	PN	Pn	19 08 49.4	+0.6
KRHZ	**Kereru**	**1.48**	**166**	⇑PN	Pn	19 08 49.6	-0.3
RIGZ	**Rimuhau**	**1.53**	**110**	⇓PN	Pn	19 08 50.5	+0.1
TKGZ	**Te Karaka**	**1.53**	**99**	⇓PN	Pn	19 08 50.5	0.0
TKGZ				SN	Sn	19 09 14.6	+0.3
HAZ	**Te Kaha**	**1.54**	**73**	⇑PN	Pn	19 08 49.7	-0.8
KNZ	**Kokohu**	**1.59**	**121**	PN	Pn	19 08 50.9	-0.1
TWGZ	**Tauwhareparae**	**1.62**	**90**	PN	Pn	19 08 51.5	+0.1
PRGZ	**Paritu Road**	**1.69**	**116**	PN	Pn	19 08 52.0	-0.1
CKHZ	**Cape Kidnapper**	**1.71**	**149**	PN	Pn	19 08 52.3	+0.1
WAZ	**Wanganui**	**1.71**	**205**	PN	Pn	19 08 51.7	-0.6
PNHZ	**Pukenui**	**1.72**	**173**	PN	Pn	19 08 51.5	-0.9
KAHZ	**Kahuranaki**	**1.75**	**155**	⇓PN	Pn	19 08 52.7	-0.1
CNGZ	**Carnagh Statio**	**1.82**	**99**	PN	Pn	19 08 53.7	+0.3
TSZ	**Takapari Road**	**1.85**	**179**	⇑PN	Pn	19 08 52.8	-1.0
WPHZ	**Waipukurau**	**1.90**	**168**	PN	Pn	19 08 53.5	-0.8
MXZ	**Matakaoa Point**	**1.99**	**72**	PN	Pn	19 08 55.1	-0.2
DVHZ	**Dannevirke**	**2.10**	**175**	PN	Pn	19 08 55.1	-1.5
PRHZ	**Porangahau**	**2.13**	**165**	PN	Pn	19 08 55.9	-1.1
POWZ	**Post Office Ro**	**2.19**	**183**	PN	Pn	19 08 55.9	-1.6
ANWZ	**Angora Road**	**2.29**	**169**	⇑PN	Pn	19 08 57.5	-1.2
PRWZ	**Pori Road**	**2.34**	**179**	PN	Pn	19 08 57.8	-1.6
MRZ	**Mangatainoka R**	**2.46**	**186**	⇑PN	Pn	19 08 58.6	-2.2
MRZ				AML	AML	19 09 31.5	
MRZ				AML	AML	19 09 31.5	
BFZ	**Birch Farm**	**2.48**	**174**	PN	Pn	19 08 59.1	-1.9
TIWZ	**Tintock**	**2.57**	**181**	PN	Pn	19 08 59.9	-2.1
OGWZ	**Otaki Gorge**	**2.67**	**192**	PN	Pn	19 09 01.1	-2.2
HOWZ	**Holdsworth Sta**	**2.71**	**187**	PN	Pn	19 09 01.1	-2.6
KIW	**Kapiti Island**	**2.76**	**196**	PN	Pn	19 09 01.7	-2.7
TMWZ	**Te Maipa**	**2.90**	**188**	PN	Pn	19 09 03.5	-2.6
MTW	**Mount Morrison**	**2.96**	**186**	PN	Pn	19 09 03.8	-3.1
CAW	**Cannon Point**	**2.97**	**193**	PN	Pn	19 09 04.1	-2.8
DUWZ	**D'Urville Isla**	**3.02**	**210**	PN	Pn	19 09 04.7	-2.9
TRWZ	**Traveller**	**3.19**	**183**	PN	Pn	19 09 06.7	-3.1
WEL	**Wellington**	**3.20**	**196**	PN	Pn	19 09 06.7	-3.1
MSWZ	**Moikau Station**	**3.25**	**189**	PN	Pn	19 09 06.9	-3.5
TCW	**Tory Channel**	**3.26**	**202**	PN	Pn	19 09 07.3	-3.2
PLWZ	**Palliser**	**3.40**	**188**	PN	Pn	19 09 08.6	-3.8
TUWZ	**Tuamarina**	**3.56**	**205**	PN	Pn	19 09 10.9	-3.5
QRZ	**Quartz Range**	**3.71**	**224**	PN	Pn	19 09 12.0	-4.2
THZ	**Tophouse**	**4.24**	**212**	PN	Pn	19 09 20.2	-3.0
LTZ	**Lake Taylor**	**5.35**	**210**	PN	Pn	19 09 32.9	-4.7

MAN 22 19:16:26, 12.°46N×120.°45E, h5km, mb4.7, ML3.6, MS3.5, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUSP	**Coron**	**0.52**	**208**	*e*P	Pb	19 16 37.0	-0.5
BUSP				*e*S	Sb	19 16 45.3	0.0
SJMP	**San Jose**	**0.66**	**90**	*e*P	Pb	19 16 39.5	-0.4
PGP	**Puerto Galera**	**1.15**	**25**	⇑*e*P	Pb	19 16 48.3	-0.1
PGP				*i* S	Sb	19 17 04.0	+0.3
LUBP	**Lubang**	**1.28**	**351**	*e*P	Pb	19 16 50.8	+0.2
LUBP				*e*S	Sg	19 17 06.1	-1.1
OTRP	**Odiongan**	**1.54**	**93**	*e*P	Pb	19 16 54.6	-0.4
ENPP	**El Nido**	**1.60**	**219**	*e*P	Pn	19 16 54.7	-0.3
ENPP				*e*S	Sn	19 17 12.3	-3.6
CUYO	**Cuyo Island**	**1.70**	**161**	*e*P	Pn	19 16 54.5	-1.8
CUYO				*e*S	Sb	19 17 20.0	+0.6

IDC 22 19:32:10.3±1.6, 3.°63N×125.°90E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.3/27, mbtmp3.3/4, Error ellipse: s-maj=91.4km s-min=24.8km az=60.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.99**	**130**	Pn	Pn	19 33 53.0	-1.0
	baz=315,slow=17						
SIJI				Sn	Sn	19 35 09.4	-4.8
	0.3nm,0.3s,baz=252,slow=19,SNR=2.9						
WRA	**Warramunga Arr**	**24.85**	**161**	P	P	19 37 34.5	-0.2
	0.5nm,0.7s,baz=338,slow=11,SNR=11						
ASAR	**Alice Springs**	**28.23**	**164**	P	P	19 38 05.8	+0.5
	0.2nm,0.5s,baz=343,slow=6.8,SNR=6.8						
MKAR	**Makanchi Array**	**57.16**	**326**	P	P	19 41 59.0	-0.1
	0.1nm,0.4s,baz=127,slow=3.2,SNR=5.6						

IDC 22 19:34:19.7±3.6, 4.°10S×153.°35E, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.4/18, mbtmp3.7/2, Error ellipse: s-maj=133.1km s-min=43.9km az=114.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.32**	**228**	P	P	19 39 40.3	+1.0
	2.2nm,0.4s,baz=55,slow=10,SNR=36						
ASAR	**Alice Springs**	**27.04**	**222**	P	P	19 40 03.8	-0.2
	0.3nm,0.6s,baz=56,slow=9.1,SNR=8.8						
TORD	**Torodi Ar. Bea**	**150.60**	**290**	PKPbc	PKPbc	19 54 13.6	-1.2
	0.4nm,0.7s,baz=78,slow=1.9,SNR=3.4						
TORD				PKPab	PKPab	19 54 21.0	-0.5
	0.4nm,0.7s,baz=79,slow=4.1,SNR=3.8						

MAN 22 19:46:49, 7.°25N×124.°38E, h17km, mb4.5, ML3.4, MS3.3, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.13**	**257**	⇓*e*P	Pb	19 46 56.4	+3.3
BUKP	**Musuan**	**0.92**	**47**	*e*P	Pb	19 47 06.7	+0.1
BUKP				*e*S	Sn	19 47 21.0	+0.8
PAGZ	**Pagadian**	**1.15**	**301**	*e*P	Pn	19 47 09.4	-1.0
PAGZ				*e*S	Sg	19 47 27.0	+0.6
MATI	**Mati**	**1.89**	**99**	*e*P	Pn	19 47 21.3	+0.8

*NIED **22** 19:55:00, 32.°60N×141.°90E, h8km, Mw3.9 Best double couple: M0 7.74000×10^14 NP1:φs 319.00000°, δ 9.00000°, λ -87.00000°. NP2:φs 136.00000°, δ 81.00000°, λ -91.00000°.*

*IDC **22** 19:55:16.5±0.6, 32.°47N×141.°78E, h0km, mb3.9/14, mb1 4.1/16, mb1mx3.9/27, mbtmp3.9/16, ML4.0/2, MS3.5/1, Ms1 3.5/1, ms1mx2.4/33, Error ellipse: s-maj=21.5km s-min=15.9km az=80.0*

*JMA **22** 19:55:18.1±0.3, 32.°60N×141.°90E, h14km, M3.7*

*ISCJB **22** 19:55:19.7±0.4, 32.°49N±0.°04×141.°86E±0.°06, h39km, mb4.0/21, MS3.6/1, Error ellipse: s-maj=8.7km s-min=4.1km az=146.5*

*NEIC **22** 19:55:19.6±2.5, 32.°44N×141.°75E, h21km±18km, mb4.2/7, Error ellipse: s-maj=11.9km s-min=6.7km az=69.0*

ISC 22 19:55:21.9±0.6, 32.°46N±0.°05×141.°83E±0.°08, h39km, n46, σ1§14/53, mb4.0/21, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.81**	**292**	P	**Pn**	**19 55 49.8**	**-0.8**
JHJ2				*e*S	**Sn**	**19 56 12.7**	**+0.3**
JHCJ	**Hachijojimakas**	**1.82**	**290**	P	**Pn**	**19 55 49.6**	**-1.0**
JHCJ				*e*S	**Sn**	**19 56 13.5**	**+1.1**
BSO1	**Boso 1**	**2.30**	**342**	P	**Pn**	**19 55 55.0**	**-1.8**
BSO1				*e*S	**Sn**	**19 56 22.0**	**-1.6**
BSO3	**Boso 3**	**2.58**	**335**	P	**Pn**	**19 55 59.8**	**-1.1**
BSO4	**Boso 4**	**2.81**	**334**	P	**Pn**	**19 56 03.9**	**-0.3**
JIM2	**Oshima 3**	**3.01**	**319**	P	**Pn**	**19 56 06.4**	**-0.7**
JIM2				*e*S	**Sn**	**19 56 41.1**	**-0.8**
JIZS	**Izushimoda**	**3.34**	**313**	P	**Pn**	**19 56 11.1**	**-0.4**
JIZS				*e*S	**Sn**	**19 56 50.0**	**+0.1**
JOD2	**Odawara 2**	**3.61**	**322**	P	**Pn**	**19 56 13.7**	**-1.6**
JOD2				*e*S	**Sn**	**19 56 55.8**	**-0.8**
JYN	**Shimob**	**4.08**	**319**	P	**Pn**	**19 56 21.1**	**-0.7**
JRY	**Ryogami san**	**4.30**	**326**	P	**Pn**	**19 56 23.0**	**-1.7**
JRY				*e*S	**Sn**	**19 57 13.2**	**-0.4**
JAG	**Ashikaga**	**4.42**	**334**	P	**Pn**	**19 56 24.4**	**-1.9**
MJAR	**Matsushiro Arr**	**5.05**	**325**	Pn	**Pn**	**19 56 34.0**	**-1.1**
	1.5nm,0.3s,baz=148,slow=12,SNR=26						
MJAR				Sn	**Sn**	**19 57 31.6**	**-0.6**
	0.7nm,0.3s,baz=153,slow=24,SNR=2.6						
MAJO	**Matsushiro**	**5.05**	**325**	*e*Pn	**Pn**	**19 56 34.0**	**-1.1**
	15nm,0.9s						
MAT	**Matsushiro**	**5.05**	**325**	P	**Pn**	**19 56 34.2**	**-0.9**
MAT				*e*S	**Sn**	**19 57 31.5**	**-0.7**
CBIJ	**Chichi jima**	**5.35**	**177**	Pn	**Pn**	**19 56 37.7**	**-1.6**
CBIJ				Sn	**Sn**	**19 57 36.9**	**-2.8**
JCJ	**Chichijima**	**5.36**	**177**	Pn	**Pn**	**19 56 37.7**	**-1.6**
	22nm,0.3s,baz=215,slow=12,SNR=69						
JCJ				Sn	**Sn**	**19 57 36.9**	**-2.8**
	8.6nm,0.3s,baz=299,slow=19,SNR=3.3						
ASAJ	**Asahikawa**	**11.65**	**3**	Pn	Pn	19 58 00.7	-4.8
	1.3nm,0.3s,baz=203,slow=9.3,SNR=11						
H11N2	**WAKE ISLAND Hy**	**25.76**	**113**	T	T	20 27 48.1	
	baz=305,slow=74,SNR=2.8						
H11N1	**WAKE ISLAND Hy**	**25.77**	**113**	T	T	20 27 47.1	
	baz=305,slow=74,SNR=3.6						
H11N3	**WAKE ISLAND Hy**	**25.78**	**113**	T	T	20 27 48.2	
	baz=305,slow=74,SNR=3.6						
ULN	**Ulaanbaatar**	**30.40**	**311**	*e*P	**P**	**20 01 31.2**	**+0.8**
	3.5nm,0.8s						
SONM	**Songino Array**	**30.82**	**310**	P	**P**	**20 01 35.1**	**+1.0**
	2.5nm,0.8s,baz=106,slow=9.4,SNR=7.6						
ZALV	**Zalesovo Beam**	**45.34**	**316**	P	**P**	**20 03 34.4**	**-1.5**
	1.1nm,0.7s,baz=88,slow=9.0,SNR=5.5						
MK31	**Makanchi Array**	**46.96**	**306**	*e*P	**P**	**20 03 49.2**	**+0.4**
MKAR	**Makanchi Array**	**46.96**	**306**	P	**P**	**20 03 48.8**	**0.0**
	1.8nm,0.7s,baz=94,slow=4.9,SNR=14						
KURK	**Kurchatov**	**49.11**	**311**	*e*P	**P**	**20 04 04.5**	**-0.9**
	3.5nm,0.9s						
TKM2	**Tokmak 2**	**52.21**	**302**	*e*P	**P**	**20 04 29.3**	**+0.1**
	1.6nm,0.6s						
WRAB	**Tennant Creek**	**52.59**	**189**	*e*P	**P**	**20 04 31.5**	**-0.2**
	9.2nm,1.2s						
WRA	**Warramunga Arr**	**52.60**	**189**	P	**P**	**20 04 32.1**	**+0.3**
	2.8nm,0.7s,baz=6.2,slow=7.7,SNR=57						
WRA				LR	LR	20 26 24.9	
	comp=Z,56nm,21.7s,baz=245,slow=36						
ILAR	**Eielson Array**	**53.21**	**30**	P	**P**	**20 04 35.9**	**-0.1**
	1.0nm,0.8s,baz=264,slow=6.7,SNR=10						
BRVK	**Borovoye**	**54.03**	**315**	P	**P**	**20 04 39.3**	**-2.7**
KKAR	**Karatay Array**	**55.80**	**303**	*e*P	**P**	**20 04 55.2**	**+0.1**
	1.0nm,0.6s						
ASAR	**Alice Springs**	**56.32**	**189**	P	**P**	**20 04 59.1**	**+0.3**
	0.3nm,0.4s,baz=3.8,slow=7.0,SNR=16						
INK	**Inuvik**	**58.32**	**26**	P	**P**	**20 05 12.8**	**+0.4**
	0.6nm,0.5s,baz=292,slow=3.2,SNR=4.6						
ARU	**Arti**	**60.05**	**320**	*e*P	**P**	**20 05 24.3**	**-0.3**
	2.1nm,0.6s						
ABKAR	**Akbulak array**	**61.20**	**312**	*e*P	**P**	**20 05 32.4**	**-0.2**
	0.9nm,0.5s						
STKA	**Stephens Creek**	**63.99**	**180**	P	**P**	**20 05 51.0**	**-0.2**
YKA	**Yellowknife Ar**	**67.60**	**29**	P	**P**	**20 06 14.3**	**+0.1**
	0.5nm,0.6s,baz=294,slow=6.8,SNR=4.1						
FINES	**FINESS Array B**	**73.03**	**333**	P	**P**	**20 06 47.3**	**0.0**
	0.5nm,0.6s,baz=88,slow=8.8,SNR=3.6						
NVAR	**Mina Array Bea**	**77.48**	**52**	P	**P**	**20 07 14.8**	**+1.1**
	0.6nm,0.7s,baz=308,slow=4.4,SNR=4.1						
NOA	**NORSAR Array B**	**78.53**	**338**	P	**P**	**20 07 19.3**	**+0.4**
	0.9nm,0.8s,baz=45,slow=5.0,SNR=3.2						
PDAR	**Pinedale Array**	**80.64**	**45**	P	**P**	**20 07 32.2**	**+1.3**
	0.6nm,0.8s,baz=246,slow=1.5,SNR=3.9						
BRTR	**Keskin Array B**	**82.16**	**312**	P	**P**	**20 07 39.5**	**+0.6**
	0.5nm,0.7s,baz=125,slow=3.6,SNR=4.4						
TXAR	**Lajitas Array**	**92.63**	**53**	P	**P**	**20 08 31.1**	**+1.2**
	0.7nm,0.7s,baz=309,slow=3.1,SNR=6.4						
TORD	**Torodi Ar. Bea**	**120.75**	**313**	PKP	**PKPdf**	**20 14 10.0**	**-0.4**
	0.3nm,0.6s,baz=48,slow=2.1,SNR=3.1						
LPAZ	**La Paz**	**148.46**	**66**	PKPbc	**PKPbc**	**20 15 06.2**	**+0.6**
	0.9nm,0.7s,baz=30,slow=5.2,SNR=4.8						

MAN 22 19:56:01, 16.°21N×121.°29E, h35km, mb4.8, ML3.7, MS3.7, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.54**	**150**	*e*P	Pn	19 56 13.9	+1.6
BALP				*e*S	Sn	19 56 21.7	+1.6
CAUP	**Cauayan**	**0.89**	**35**	*e*P	Pn	19 56 17.4	+0.4
CAUP				*e*S	Sn	19 56 28.5	-0.2
ABRA	**Dolores**	**1.53**	**339**	*e*P	Pn	19 56 26.2	+0.3
APYP	**Conner**	**1.64**	**358**	*e*P	Pn	19 56 29.5	+2.1
APYP				*e*S	Sn	19 56 44.0	-3.3

*IASPEI **22** 20:15:52.1±0.9, 32.°62N±0.°03×115.°76W±0.°03, h16km±6km, Error ellipse: s-maj=4.2km s-min=3.9km az=170.9*

*ISCJB **22** 20:15:52.1±0.3, 32.°64N±0.°02×115.°73W±0.°02, h19km±3km, mb3.3/1, Error ellipse: s-maj=3.5km s-min=3.3km az=138.7*

*IDC **22** 20:15:54.0±2.7, 32.°80N×115.°86W, h0km, mb3.3/1, mb1 3.5/3, mb1mx3.3/25, mbtmp3.1/3, ML3.3/2, Error ellipse: s-maj=55.2km s-min=11.2km az=38.0*

*NEIC **22** 20:15:53.4, 32.°61N×115.°77W, h3km, ML3.9(PAS), ML4.0(ECX), After ECX.*

NEIC Felt at Tijuana. Felt in parts of Imperial and San Diego Counties, California.

*ECX **22** 20:15:53.4±0.5, 32.°62N×115.°77W, h3km, MD3.8, ML4.0*

ISC 22 20:15:52.2±0.9, 32.°61N±0.°02×115.°75W±0.°02, h13km±6km, n62, σ1§11/73, 8C-8D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.04**	**28**	⇑*i*P	**Pg**	**20 15 54.4**	**-0.3**
WESC	**Westside Schoo**	**0.15**	**6**	⇓*e*P	**Pg**	**20 15 56.3**	**+0.4**
YUH	**Yuha Desert**	**0.15**	**284**	⇑*i*P	**Pg**	**20 15 55.9**	**0.0**
COK	**Cook Ranch**	**0.24**	**4**	⇓*i*P	**Pg**	**20 15 58.1**	**-0.3**
RMX	**La Rumorosa**	**0.28**	**268**	*e*P	**Pg**	**20 15 58.3**	**+0.1**
RMX				*e*S	**Sg**	**20 16 02.5**	**+0.4**
IBP	**Imperial Bould**	**0.29**	**280**	P	**Pg**	**20 15 58.6**	**+0.2**
	baz=0.3						
IBP				S	**Sg**	**20 16 02.8**	**+0.3**
	baz=0.3						
DREC	**Desert Rsrch C**	**0.32**	**53**	⇑*i*P	**Pb**	**20 15 59.9**	**+0.1**
SWSC	**Sam W. Stewart**	**0.33**	**353**	P	**Pg**	**20 15 59.4**	**+0.4**
	baz=0.4						
SWSC	**Sam W. Stewart**	**0.33**	**353**	⇓*i*P	**Pg**	**20 15 59.4**	**+0.4**
CRR	**Carrizo Plain**	**0.33**	**326**	⇓*i*P	**Pg**	**20 15 59.3**	**+0.3**
CPBX	**Cerro Prieto**	**0.42**	**117**	*e*P9	**Pg**	**20 16 01.6**	**+0.9**
CPBX				*e*S	**Sb**	**20 16 08.1**	**+0.4**
CPBX				⇑*e*		20 16 11.1	
CPBX				IAML		20 16 11.1	
	comp=E,43μm,0.3s						
CPBX				⇓*e*		20 16 11.8	
CPBX				IAML		20 16 11.8	
	comp=N,40μm,0.2s						
RDX	**Rancho Dawling**	**0.70**	**194**	*e*P	**Pg**	**20 16 05.5**	**-0.3**
RDX				⇓*e*		20 16 16.4	
	comp=N,5μm,0.3s						
BAR	**Barrett**	**0.78**	**275**	*e*Pg	**Pg**	**20 16 07.2**	**-0.2**
BAR				*e*Sg	**Sg**	**20 16 17.0**	**-0.7**
BAR	**Barrett**	**0.78**	**275**	⇑*e*P	**Pg**	**20 16 07.3**	**-0.1**
CBX	**Cerro Bola**	**0.83**	**249**	⇑*i*P	**Pg**	**20 16 08.3**	**0.0**
CBX				*e*S	**Sg**	**20 16 19.3**	**+0.2**
CBX		

comp=E,23nm,0.7s
ANMO Albuquerque 8.08 71 *e*Pn **Pn 20 17 50.7 +1.4**
SDCO Great Sand Dun 9.82 56 *e*Pn Pn 20 18 07.0 -6.4
TXAR Lajitas Array 10.87 104 Pn Pn 20 18 34.3 +6.7
comp=E,0.1nm,0.3s,baz=279,slow=13,SNR=6.0
TXAR Lg Lg 20 21 40.4
comp=E,0.0nm,0.3s,baz=290,slow=27,SNR=3.1
ILAR Eielson Array 37.42 339 P **P 20 23 07.0 +2.3**
comp=E,0.3nm,0.6s,baz=146,slow=8.3,SNR=3.7

ISK ***22*** *20:17:05.9,37.˝68N×29.˝13E,h8km,MD2.8*
ISCJB ***22*** *20:17:06.1±0.5,37.˝68N±0.˝04×29.˝13E±0.˝06,h8km±6km, Error ellipse: s-maj=7.9km s-min=5.4km az=150.7*
CSEM ***22*** *20:17:06.0±0.1,37.˝68N×29.˝16E,h5km,MD2.8,Error ellipse: s-maj=3.5km s-min=2.8km az=73.0*
DDA ***22*** *20:17:06.1,37.˝66N×29.˝13E,h5km,MD2.7*
ISC 22 20:17:06.4±0.9, 37.˚68N±0.˚03×29.˚14E±0.˚03, h6km±7km, n26, σ0°34/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	**0.07**	**275**	*i* P		**Pg**		**20 17 08.0**	**-0.2**
DNZL				*i* S		**Sg**		**20 17 09.8**	**+0.3**
DNZL	**Cakiroluk**	**0.07**	**275**	*i* P		**Pg**		**20 17 08.0**	**-0.2**
DNZL				*i* S		**Sg**		**20 17 09.8**	**+0.3**
DENT	**Denizli**	**0.11**	**310**	*e*PG		**Pg**		**20 17 08.6**	**-0.1**
DENT	**Denizli**	**0.11**	**310**	*e*Pg		**Pg**		**20 17 08.6**	**-0.1**
GOLH	**Golhisar**	**0.56**	**143**	*i* P		**Pg**		**20 17 17.1**	**0.0**
GOLH				*i* S		**Sb**		**20 17 27.5**	**+0.6**
GOLH	**Golhisar**	**0.56**	**143**	*i* P		**Pg**		**20 17 17.1**	**0.0**
GOLH				*i* S		**Sb**		**20 17 27.5**	**+0.6**
KHL	**Karahalli**	**0.71**	**25**	*e*PG		**Pg**		**20 17 19.4**	**-0.6**
KHL	**Karahalli**	**0.71**	**25**	*e*Pg		**Pg**		**20 17 19.4**	**-0.6**
YER	**Yerkesik**	**0.87**	**231**	*e*PG		**Pg**		**20 17 22.9**	**-0.2**
YER	**Yerkesik**	**0.87**	**231**	*e*Pg		**Pg**		**20 17 22.9**	**-0.2**
KULA	**Kula-Manisa**	**0.91**	**336**	*e*PG		**Pg**		**20 17 24.2**	**+0.3**
KULA				*e*SG		**Sb**		**20 17 37.1**	**0.0**
KULA	**Kula-Manisa**	**0.91**	**336**	*e*Pg		**Pg**		**20 17 24.2**	**+0.3**
KULA				*e*Sg		**Sb**		**20 17 37.1**	**0.0**
DALY	**Dalyan (Mu¨la**	**0.95**	**204**	*e*PG		**Pg**		**20 17 24.5**	**0.0**
DALY	**Dalyan (Mu¨la**	**0.95**	**204**	*e*Pg		**Pg**		**20 17 24.5**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.02**	**285**	*e*PG		**Pg**		**20 17 25.6**	**-0.3**
AYDB				*e*SG		**Sb**		**20 17 40.8**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.02**	**285**	*e*Pg		**Pg**		**20 17 25.7**	**-0.3**
AYDB				*e*Sg		**Sb**		**20 17 40.8**	**+0.5**
FETY	**Fethiye**	**1.05**	**182**	*e*PG		**Pg**		**20 17 26.3**	**-0.1**
FETY	**Fethiye**	**1.05**	**182**	*e*Pg		**Pg**		**20 17 26.3**	**-0.1**
ISP	**Isparta**	**1.11**	**82**	*e*PN		**Pb**		**20 17 27.7**	**-0.3**
ISP	**Isparta**	**1.11**	**82**	*e*Pn		**Pb**		**20 17 27.7**	**-0.3**
ELL	**Elmali**	**1.12**	**146**	*e*PN		**Pb**		**20 17 28.0**	**-0.2**
ELL	**Elmali**	**1.12**	**146**	*e*Pn		**Pb**		**20 17 28.0**	**-0.2**
BODT	**Bodrum**	**1.58**	**247**	*e*PN		**Pn**		**20 17 34.6**	**-0.4**
BODT	**Bodrum**	**1.58**	**247**	*e*Pn		**Pn**		**20 17 34.6**	**-0.4**
TVSB	**Tavsanli**	**1.78**	**8**	*e*PN		**Pn**		**20 17 38.1**	**+0.3**
TVSB	**Tavsanli**	**1.78**	**8**	*e*Pn		**Pn**		**20 17 38.2**	**+0.3**

DJA 22 20:29:27.9±0.3, 1˚S±2˚×12˚2E±˚, h10km, M3.6/10, MLv3.6/10, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**0.31**	**186**	P		P	Pg	20 29 33.2	-0.9
APSI				S		S	Sg	20 29 38.7	+0.4
MRSI	**Marisa**	**1.10**	**14**	P		P	Pb	20 29 44.1	-5.0
MRSI				S		S	Sg	20 30 01.4	-2.0
LUWI	**Luwuk**	**1.18**	**112**	P		P	Pb	20 29 49.1	-1.2
LUWI				S		S	Sb	20 30 05.2	-0.5
PCI	**Palu**	**1.87**	**261**	P		P	Pn	20 30 00.1	+0.1
MPSI	**Mapaga**	**2.01**	**298**	P		P	Pn	20 30 02.0	+0.1
KMSI	**Cibinong**	**2.58**	**63**	P		P	Pn	20 30 09.6	-0.1
KMSI				S		S	Sn	20 30 42.5	+1.3
TTSI	**Tana Toraja**	**3.06**	**217**	P		P	Pn	20 30 16.6	+0.2
SPSI	**Sidrap Palu**	**3.85**	**210**	P		P	Pn	20 30 28.0	+0.8

GUC ***22*** *20:34:49.9±2.4,27.˝83S×70.˝97W,h44km±33km,ML3.2*
SJA ***22*** *20:34:49.6±0.8,27.˝92S×70.˝50W,h19km±11km,ML3.3, MW4.3*
ISCJB ***22*** *20:34:50.4±0.7,27.˝81S±0.˝04×70.˝6W±0.˝1,h31km±10km, Error ellipse: s-maj=16.6km s-min=6.9km az=7.0*
ISC 22 20:34:50.8±1.2, 27.˚79S±0.˚05×70.˚8W±0.˚1, h30km±16km, n13, σ0°92/18, 1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CDCH	**Caldera**	**0.73**	**356**	*e*P		**Pn**		**20 35 04.6**	**-0.4**
CDCH				*e*S		**Sb**		**20 35 15.5**	**-0.9**
VACH	**Vallenar**	**0.78**	**180**	*e*P		**Pn**		**20 35 05.0**	**-0.8**
VACH				*e*S		**Sb**		**20 35 15.9**	**-0.3**
LCO	**Las Campanas**	**1.21**	**178**	*e*P		**Pn**		**20 35 10.9**	**-1.1**
LCO				⇓*e*S		**Sn**		**20 35 26.4**	**-1.2**
LCO				AML		AML		20 35 27.4	
comp=E,734nm,0.4s									
LSCH	**La Serena**	**2.15**	**191**	*e*P		**Pb**		**20 35 29.2**	**+0.2**
LSCH				*e*S		**Sn**		**20 35 52.0**	**+1.8**
LSCH				AML		AML		20 36 03.1	
comp=N,94nm,0.4s									
TLL	**Tololo Astrono**	**2.37**	**181**	*e*P		**Pn**		**20 35 27.0**	**-0.8**
TLL				*e*S		**Sn**		**20 35 55.7**	**-0.3**
TLL				AML		AML		20 36 16.4	
comp=E,475nm,0.9s									
AMOG	**MOGNA**	**3.71**	**148**	*e*P		**Pn**		**20 35 46.6**	**+0.5**
RTLL	**Cerro Villicun**	**4.04**	**151**	*e*P		**Pn**		**20 35 51.1**	**+0.3**
RTLS	**Leoncito**	**4.19**	**163**	*e*P		**Pn**		**20 35 54.1**	**+1.1**
CFAA	**Coronel Fontan**	**4.39**	**151**	*e*P		**Pn**		**20 35 55.2**	**-0.2**
CYA	**Choya**	**4.43**	**100**	*e*P		**Pn**		**20 35 55.5**	**-0.5**
RTCV	**Cerro Valdivia**	**4.49**	**155**	*e*P		**Pn**		**20 35 57.0**	**+0.1**
AUSP	**Uspallata**	**4.57**	**165**	*e*P		**Pn**		**20 35 59.5**	**+1.3**
ASAL	**Salagasta**	**5.06**	**161**	*e*P		**Pn**		**20 36 05.2**	**+0.4**

IDC 22 21:38:34.8±4.1, 19.˚88S×169.˚12E, h0km, mb3.9/2, mb1 4.0/3, mb1mx3.6/37, mbtmp3.8/3, ML3.2/1, Error ellipse: s-maj=122.9km s-min=34.8km az=132.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.32**	**228**	Pn		Pn	Pn	21 39 29.9	+1.8
2.4nm,0.3s,baz=90,slow=24,SNR=35									
DZM				Sn		Sn	Sn	21 40 08.3	-0.1
9.9nm,0.3s,baz=90,slow=24,SNR=34									
WRA	**Warramunga Arr**	**32.67**	**264**	P		P	P	21 45 07.9	-1.0
0.5nm,0.9s,baz=95,slow=9.1,SNR=5.9									
ASAR	**Alice Springs**	**32.87**	**257**	P		P	P	21 45 10.9	+0.2
3.0nm,0.6s,baz=86,slow=8.9,SNR=38									
GERES	**GERESS Array B**	**145.00**	**331**	PKPbc		PKPab		21 58 12.4	-1.0
0.3nm,0.6s,baz=29,slow=2.2,SNR=2.8									

ISCJB ***22*** *21:40:08.6±1.2,44.˝17N±0.˝06×128.˝9W±0.˝1,h15km, mb2.9/2,MS3.4/1,Error ellipse: s-maj=12.6km s-min=7.7km az=163.4*
IDC ***22*** *21:40:08.2±3.0,44.˝22N×128.˝80W,h0km,mb3.1/3, mb1 3.6/5,mb1mx3.4/28,mbtmp3.2/5,ML3.5/2,MS3.2/3, Ms1 3.2/3,ms1mx2.7/13,Error ellipse: s-maj=65.0km s-min=22.4km az=51.0*
NEIC ***22*** *21:40:08.6±1.7,44.˝11N×129.˝04W,h10km,ML2.8,Error ellipse: s-maj=22.7km s-min=10.9km az=64.0*
ISC 22 21:40:09.2±1.8, 44.˚10N±0.˚08×129.˚0W±0.˚1, h15km, n24, σ1°16/18, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**3.62**	**108**	*e*Pn		**Pn**		**21 41 02.1**	**-2.6**
HSO	**Harness Mounta**	**4.32**	**96**	P		**Pn**		**21 41 14.3**	**-0.1**
HUMO	**Hull Mountain**	**4.66**	**107**	*e*Pn		**Pn**		**21 41 17.8**	**-1.2**
HUMO				*e*S		**Sn**		**21 42 12.6**	**-0.2**
HBO	**Huckleberry Mo**	**4.83**	**91**	P		**Pn**		**21 41 23.3**	**+1.7**
NLWA	**Neilton Lookou**	**4.88**	**46**	*e*Pn		**Pn**		**21 41 21.2**	**-0.8**
NLWA				*e*S		**Sn**		**21 42 17.7**	**-0.5**
OBC	**Olympics--Boni**	**5.22**	**39**	P		**Pn**		**21 41 26.6**	**-0.2**
OSD	**Olympics--Snow**	**5.25**	**43**	P		**Pn**		**21 41 27.1**	**-0.2**
LON	**Longmire**	**5.72**	**60**	*e*Pn		**Pn**		**21 41 33.9**	**+0.3**
8.4nm,0.9s									
PGC	**Sidney**	**5.96**	**38**	*e*Pn		**Pn**		**21 41 36.1**	**-0.7**
13nm,0.6s									
PGC				*e*S		**Sn**		**21 42 43.0**	**-1.7**
JCW	**Jim Creek**	**6.40**	**48**	P		**Pn**		**21 41 43.6**	**+0.7**
RPW	**Rockport**	**6.77**	**47**	P		**Pn**		**21 41 48.9**	**+0.8**
NEW	**Newport**	**9.24**	**59**	LR		LR		21 45 48.6	
comp=Z,90nm,18.8s,baz=231,slow=38									
NVAR	**Mina Array Bea**	**9.85**	**121**	Pn		**Pn**		**21 42 31.9**	**+1.5**
0.1nm,0.3s,baz=293,slow=12,SNR=3.3									
PDAR	**Pinedale Array**	**14.20**	**89**	Pn		Pn		21 43 32.7	+2.8
0.1nm,0.3s,baz=282,slow=9.0,SNR=2.8									
PDAR				LR		LR		21 49 08.2	
comp=Z,76nm,18.3s,baz=250,slow=38									
YKA	**Yellowknife Ar**	**20.25**	**19**	P		**P**		**21 44 43.9**	**+0.3**
0.9nm,1.0s,baz=208,slow=11,SNR=4.2									
ILAR	**Eielson Array**	**23.01**	**340**	P		**P**		**21 45 13.2**	**0.0**
0.2nm,0.6s,baz=149,slow=11,SNR=4.8									
TXAR	**Lajitas Array**	**24.96**	**118**	P		**P**		**21 45 33.1**	**+0.9**
0.5nm,0.9s,baz=319,slow=9.0,SNR=4.9									
SCHQ	**Schefferville**	**40.52**	**52**	LR		LR		22 04 08.3	
comp=Z,52nm,20.2s,baz=34,slow=36									
H11N3	**WAKE ISLAND Hy**	**58.05**	**267**	T		T		22 52 29.1	
baz=49,slow=75,SNR=1042									
H11N2	**WAKE ISLAND Hy**	**58.05**	**267**	T		T		22 52 29.1	
baz=49,slow=75,SNR=510									
H11N1	**WAKE ISLAND Hy**	**58.06**	**267**	T		T		22 52 30.2	
baz=49,slow=75,SNR=517									
H11S1	**WAKE ISLAND Hy**	**58.98**	**266**	T		T		22 53 42.3	
baz=48,slow=75,SNR=84									
H11S2	**WAKE ISLAND Hy**	**58.98**	**266**	T		T		22 53 45.6	
baz=48,slow=75,SNR=68									
H11S3	**WAKE ISLAND Hy**	**58.99**	**266**	T		T		22 53 45.0	
baz=48,slow=75,SNR=69									

NEIC ***22*** *22:06:51.0,13.˝34S×76.˝60W,h60km,mb4.1/2,After ARE.*
NEIC Felt [II] at Chincha Alta, San Vicente de Canete and Tambo de Mora.
IDC ***22*** *22:06:56.2±1.4,13.˝20S×76.˝36W,h68km±11km,mb3.5/6, mb1 4.0/9,mb1mx3.7/21,mbtmp4.0/9,MS2.7/2,Ms1 2.8/2, ms1mx2.6/15,Error ellipse: s-maj=42.6km s-min=11.1km az=58.0*
ISC 22 22:06:55.4±0.6, 13.˚16S±0.˚07×76.˚39W±0.˚09, h59km, n25, σ1°89/26, mb3.9/8, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.25**	**339**	P		**Pn**		**22 07 17.3**	**+0.6**
59nm,0.3s,baz=168,slow=10,SNR=133									
NNA				S		**Sn**		**22 07 35.0**	**+2.4**
242nm,0.3s,baz=175,slow=19,SNR=16									
NNA	**Nana**	**1.25**	**339**	*e*Pn		**Pn**		**22 07 16.7**	**0.0**
NNA				*e*Sn		**Sn**		**22 07 32.5**	**-0.1**
ARE	**Arequipa**	**5.77**	**125**	*e*P		Pn		22 08 23.0	+4.3
ARE				*e*S		Sn		22 09 36.0	+12
ATAH	**Atahualpa**	**6.30**	**342**	P		**Pn**		**22 08 27.9**	**+1.8**
4.2nm,0.3s,baz=164,slow=4.8,SNR=14									
ATAH				S		Sn		22 09 46.4	+9.4
2.4nm,0.3s,baz=71,slow=21,SNR=3.8									
LPAZ	**La Paz**	**8.58**	**112**	P		**Pn**		**22 08 59.2**	**+1.7**
2.3nm,0.3s,baz=301,slow=9.2,SNR=36									
LPAZ				S		**Sn**		**22 10 38.5**	**+5.3**
0.3nm,0.3s,baz=216,slow=19,SNR=2.7									
LPAZ				LR		LR		22 12 30.3	
comp=Z,48nm,20.2s,baz=278,slow=39									
LPAZ	**La Paz**	**8.58**	**112**	*e*Pn		**Pn**		**22 08 59.7**	**+2.2**
LVC	**Limon Verde**	**11.79**	**144**	P		**Pn**		**22 09 40.6**	**-0.4**
63nm,0.3s,baz=333,slow=10,SNR=11									
LVC				S		**Sn**		**22 11 50.9**	**-0.3**
59nm,0.3s,baz=350,slow=18,SNR=4.6									
LVC	**Limon Verde**	**11.79**	**144**	*e*Pn		**Pn**		**22 09 40.7**	**-0.4**
LVC				*e*Sn		**Sn**		**22 11 52.2**	**+1.0**
OTAV	**Otavalo**	**13.47**	**351**	*e*Pn		**Pn**		**22 10 02.6**	**-1.6**
SAML	**Samuel**	**13.62**	**73**	*e*Pn		Pn		22 10 01.3	-4.6
SAML				*e*Sn		**Sn**		**22 12 30.6**	**-5.0**
SIV	**San Ignacio**	**15.10**	**103**	LR		LR		22 16 04.2	
comp=Z,34nm,20.1s,baz=356,slow=36									
CFAA	**Coronel Fontan**	**19.83**	**159**	P		**P**		**22 11 22.0**	**+0.6**
0.0nm,0.3s,baz=338,slow=19,SNR=2.1									
SDV	**Santo Domingo**	**22.64**	**15**	*e*P		P		22 11 47.7	-4.2
2.8nm,0.6s									
TXAR	**Lajitas Array**	**49.78**	**328**	P		**P**		**22 15 43.0**	**+0.6**
1.1nm,0.7s,baz=150,slow=8.7,SNR=15									
PDAR	**Pinedale Array**	**63.42**	**333**	P		**P**		**22 17 19.2**	**0.0**
0.3nm,0.6s,baz=146,slow=5.3,SNR=3.0									
NVAR	**Mina Array Bea**	**64.58**	**324**	P		**P**		**22 17 27.5**	**+0.6**
0.9nm,0.7s,baz=168,slow=5.7,SNR=5.4									
SNAA	**Sanae**	**72.43**	**161**	P		**P**		**22 18 14.9**	**-0.3**
baz=297,slow=11									
SNAA	**Sanae**	**72.43**	**161**	*e*P		P		22 18 11.7	-3.4
4.1nm,1.2s									
YKA	**Yellowknife Ar**	**81.08**	**343**	P		**P**		**22 19 03.7**	**-0.1**
0.5nm,0.8s,baz=139,slow=5.4,SNR=5.6									
TORD	**Torodi Ar. Bea**	**81.68**	**74**	P		**P**		**22 19 07.2**	**-0.8**
1.3nm,0.8s,baz=253,slow=4.8,SNR=8.6									
ILAR	**Eielson Array**	**93.73**	**336**	P		**P**		**22 20 05.2**	**-0.1**
0.5nm,0.8s,baz=150,slow=3.4,SNR=4.9									
ASAR	**Alice Springs**	**132.91**	**219**	PKP		**PKPdf**		**22 26 03.8**	**-1.1**
0.2nm,0.4s,baz=160,slow=3.0,SNR=3.4									
WRA	**Warramunga Arr**	**135.31**	**223**	PKP		**PKPdf**		**22 26 07.3**	**-2.2**
0.2nm,0.5s,baz=133,slow=2.2,SNR=7.4									
ZALV	**Zalesovo Beam**	**136.68**	**16**	PKP		**PKPdf**		**22 26 10.8**	**-0.1**
0.3nm,0.4s,baz=319,slow=5.7,SNR=2.6									
SONM	**Songino Array**	**145.35**	**357**	PKPbc		**PKPbc**		**22 26 26.4**	**-0.3**
1.7nm,0.7s,baz=323,slow=3.8,SNR=6.8									

IDC ***22*** *22:37:21.1±2.1,20.˝93S×168.˝64E,h0km,mb4.1/7, mb1 4.3/8,mb1mx4.1/18,mbtmp4.1/8,ML3.1/1,MS3.3/3, Ms1 3.3/3,ms1mx2.8/33,Error ellipse: s-maj=76.3km s-min=23.4km az=142.0*
ISCJB ***22*** *22:37:24.2±1.6,20.˝9S±0.˝3×168.˝6E±0.˝3,h30km,mb4.0/7, MS3.3/2,Error ellipse: s-maj=57.2km s-min=10.9km az=140.7*
ISC 22 22:37:25.4±1.8, 21.˚0S±0.˚4×168.˚6E±0.˚3, h30km, n9, σ0°88/10, mb4.1/7, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.28**	**242**	Pn		**Pn**		**22 38 00.5**	**-0.6**
4.9nm,0.3s,baz=103,slow=14,SNR=98									
DZM				Sn		**Sn**		**22 38 28.1**	**-0.2**
56nm,0.3s,baz=92,slow=23,SNR=13									
DZM				LR		LR		22 38 51.0	
comp=Z,428nm,22.0s,baz=0.0,slow=38									
STKA	**Stephens Creek**	**26.43**	**240**	P		**P**		**22 43 01.1**	**+1.4**
3.0nm,0.9s,baz=68,slow=16,SNR=2.6									
STKA				LR		LR		22 52 46.2	
comp=Z,84nm,18.8s,baz=25,slow=35									
WRA	**Warramunga Arr**	**32.10**	**266**	P		**P**		**22 43 49.1**	**-1.0**
0.9nm,0.9s,baz=94,slow=9.1,SNR=4.7									
ASAR	**Alice Springs**	**32.17**	**259**	P		**P**		**22 43 51.1**	**+0.3**
6.7nm,0.8s,baz=82,slow=9.0,SNR=50									
ASAR				LR		LR		22 56 12.7	
comp=Z,57nm,19.2s,baz=128,slow=35									
PETK	**Petropavlovsk-**	**74.42**	**353**	P		**P**		**22 48 60.0**	**-0.3**
1.2nm,0.7s,baz=120,slow=8.8,SNR=3.7									
CMAR	**Chiang Mai Arr**	**78.71**	**295**	P		**P**		**22 49 26.0**	**+0.7**
0.6nm,0.3s,baz=128,slow=4.1,SNR=5.2									
SONM	**Songino Array**	**88.28**	**323**	P		**P**		**22 50 14.8**	**+0.8**
0.8nm,0.5s,baz=114,slow=6.5,SNR=3.4									
NVAR	**Mina Array Bea**	**90.41**	**49**	P		**P**		**22 50 23.8**	**-0.6**
0.6nm,0.6s,baz=227,slow=8.5,SNR=3.7									
GERES	**GERESS Array B**	**145.75**	**330**	PKPbc		**PKPab**		**22 57 01.4**	**-0.5**
1.2nm,0.9s,baz=28,slow=3.8,SNR=11									

MEX 22 22:51:05.9±0.3, 14.˚59N×92.˚74W, h51km±88km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		**1.20**	**337**	*i* P		Pn		22 51 24.6	-1.8
PCIG				*e*S		Sn		22 51 39.9	-1.8
CCIG	**Comitan**	**1.78**	**19**	*e*P		Pn		22 51 28.6	-5.9

ISCJB ***22*** *22:55:01.9±0.5,18.˝90N±0.˝05×145.˝5E±0.˝2,h214km, mb3.4/13,Error ellipse: s-maj=20.0km s-min=7.4km az=0.7*
IDC ***22*** *22:55:02.0±1.7,18.˝89N×145.˝57E,h200km±17km, mb3.3/13,mb1 3.5/16,mb1mx3.4/28,mbtmp3.9/16,MS1.9/1, Ms1 1.9/1,ms1mx1.8/17,Error ellipse: s-maj=20.7km s-min=11.3km az=91.0*
ISC 22 22:55:03.2±0.7, 18.˚87N±0.˚07×145.˚5E±0.˚2, h214km, n17, σ1°20/18, mb3.5/13, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC

GUMO	**Guam**	**5.28**	**187**	P		**Pn**		**22 56 19.6**	**-1.9**
11nm,0.3s,baz=16,slow=15,SNR=4.3									
GUMO				S		**S**		**22 57 23.9**	**+0.5**
7.7nm,0.3s,baz=183,slow=17,SNR=3.0									
GUMO				LR		LR		22 57 51.0	
comp=Z,12nm,20.5s,baz=150,slow=32									
JCJ	**Chichijima**	**8.74**	**340**	P		**Pn**		**22 57 02.9**	**-3.0**
4.2nm,0.3s,baz=161,slow=20,SNR=8.2									
JCJ				S		S		22 58 37.0	-7.4
3.2nm,0.3s,baz=72,slow=20,SNR=4.5									
MJAR	**Matsushiro Arr**	**18.74**	**341**	P		**P**		**22 59 05.6**	**-0.4**
1.1nm,0.3s,baz=169,slow=9.8,SNR=11									
MAT	**Matsushiro**	**18.74**	**341**	P		**P**		**22 59 06.9**	**+0.9**
KSRS	**Korea Array**	**24.07**	**324**	P		**P**		**22 59 60.0**	**+1.1**
1.4nm,0.6s,baz=142,slow=8.5,SNR=4.6									
PETK	**Petropavlovsk-**	**35.47**	**13**	P		**P**		**23 01 39.5**	**+0.4**
0.9nm,0.6s,baz=196,slow=9.0,SNR=2.8									
WRA	**Warramunga Arr**	**40.09**	**196**	P		**P**		**23 02 18.1**	**0.0**
0.9nm,0.7s,baz=6.5,slow=8.6,SNR=14									
SONM	**Songino Array**	**42.89**	**321**	P		**P**		**23 02 41.5**	**+0.8**
0.4nm,0.4s,baz=150,slow=6.1,SNR=3.6									
ASAR	**Alice Springs**	**43.76**	**195**	P		**P**		**23 02 47.8**	**+0.1**
0.4nm,0.8s,baz=22,slow=12,SNR=4.4									
CMAR	**Chiang Mai Arr**	**44.00**	**277**	P		**P**		**23 02 51.4**	**+1.6**
0.8nm,0.4s,baz=68,slow=6.8,SNR=8.5									
MKAR	**Makanchi Array**	**58.20**	**314**	P		**P**		**23 04 35.5**	**+0.5**
0.6nm,0.6s,baz=85,slow=5.1,SNR=7.1									
ILAR	**Eielson Array**	**63.58**	**26**	P		**P**		**23 05 10.6**	**-0.2**
0.4nm,0.4s,baz=260,slow=5.7,SNR=6.4									
INK	**Inuvik**	**69.30**	**23**	P		**P**		**23 05 47.6**	**+0.8**
0.4nm,0.3s,baz=288,slow=3.2,SNR=3.5									
YKA	**Yellowknife Ar**	**77.94**	**28**	P		**P**		**23 06 37.8**	**+0.5**
0.4nm,0.4s,baz=291,slow=5.5,SNR=5.6									
ARCES	**ARCESS Array B**	**82.27**	**342**	P		**P**		**23 07 00.4**	**+0.1**
0.5nm,0.5s,baz=71,slow=7.8,SNR=9.0									
NVAR	**Mina Array Bea**	**83.19**	**52**	P		**P**		**23 07 06.6**	**+0.6**
0.5nm,0.5s,baz=262,slow=5.2,SNR=3.0									
FINES	**FINESS Array B**	**86.65**	**335**	P		**P**		**23 07 20.9**	**-1.4**
1.2nm,0.3s,baz=83,slow=4.0,SNR=39									

ISCJB ***22*** *22:58:24.0±0.9,4.˚6S±0.˚1×153.˚9E±0.˚2,h100km,mb3.7/11, Error ellipse: s-maj=21.5km s-min=16.9km az=12.0*
IDC ***22*** *22:58:28.5±8.7,4.˚52S×153.˚66E,h120km±70km,mb3.6/11, mb1 3.8/12,mb1mx3.6/22,mbtmp4.0/12,Error ellipse: s-maj=49.0km s-min=19.6km az=78.0*
ISC 22 22:58:25.4±1.0, 4.˚6S±0.˚2×153.˚9E±0.˚2, h100km, n14, σ0°73/16, mb3.8/11, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**13.32**	**278**	P		**Pn**		**23 01 31.4**	**+0.8**
0.5nm,0.3s,baz=150,slow=20,SNR=3.7									
SIJI	**Sorong**	**22.89**	**279**	P		**P**		**23 03 20.9**	**+0.1**
3.4nm,0.6s,baz=119,slow=19,SNR=3.3									
WRA	**Warramunga Arr**	**24.41**	**230**	P		**P**		**23 03 34.9**	**+0.2**
4.5nm,0.5s,baz=54,slow=10.0,SNR=50									
WRA				PcP		**PcP**		**23 07 12.6**	**+1.0**
0.4nm,0.6s,baz=60,slow=2.5,SNR=4.9									
ASAR	**Alice Springs**	**27.05**	**224**	P		**P**		**23 03 58.2**	**-0.3**
0.7nm,0.6s,baz=56,slow=9.0,SNR=11									
ASAR				PcP		**PcP**		**23 07 18.3**	**+0.7**
0.7nm,1.0s,baz=56,slow=2.3,SNR=4.6									
STKA	**Stephens Creek**	**29.50**	**202**	P		**P**		**23 04 20.0**	**-0.2**
2.8nm,0.6s,baz=32,slow=11,SNR=7.6									
CMAR	**Chiang Mai Arr**	**58.77**	**295**	P		**P**		**23 08 13.1**	**-0.

PCIG		**1.65**	**110**	*i* P	Pn	23 24 20.5	-1.8
PCIG				*e*S	Sn	23 24 40.6	-1.8
PCIG		**1.65**	**110**	*i* P	Pn	23 24 20.5	-1.8
PCIG				*e*S	Sn	23 24 40.6	-1.8
VHO	**Vista Hermosa**	**1.99**	**294**	*i* P	Pn	23 24 26.0	-1.2
VHO				*e*S	Sn	23 24 48.1	-3.0
VHO	**Vista Hermosa**	**1.99**	**294**	*i* P	Pn	23 24 26.0	-1.2
VHO				*e*S	Sn	23 24 48.1	-3.0
PNIG	**Pinotepa**	**3.16**	**273**	*i* P	Pn	23 24 41.5	-1.4
PNIG				*e*S	Sn	23 25 17.7	-1.9
PNIG	**Pinotepa**	**3.16**	**273**	*i* P	Pn	23 24 41.5	-1.4
PNIG				*e*S	Sn	23 25 17.7	-1.9
TLIG	**Tlapa**	**3.80**	**290**	*i* P	Pn	23 24 51.1	-0.7
TLIG				*e*S	Sn	23 25 32.8	-2.6
TEIG	**Tepich**	**7.37**	**57**	*e*Pn	Pn	23 25 37.0	-3.6
TEIG				*e*S	Sn	23 26 53.2	-10

SKHL ***22*** *23:28:35.1±1.0, 44.°20N×147.°75E, h30km±4km, mb4.7/3*
JMA ***22*** *23:28:35.0±0.3, 43.°91N×147.°62E, h17km, M3.6*

ISC 22 23:28:32.5±2.6, 44.°1N±0.°1×148.°0E±0.°2, h63km, n12, σ1§50/22, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.85**	**255**	*e*P		**Pn**		**23 28 48.7**	**0.0**
SHO					AMB		AMB	23 28 48.8	
	910nm,0.3s								
SHO				*i* S		**Sn**		**23 28 58.1**	**-2.5**
SHO				A		A		23 28 58.7	
	970nm,0.7s								
KUR	**Kuril'sk**	**1.15**	**357**	*e*P		**Pn**		**23 28 52.7**	**+0.2**
KUR					AMB	AMB		23 28 53.8	
	40nm,0.1s								
KUR				*e*S		**Sn**		**23 29 06.2**	**-1.2**
KUR				A		A		23 29 08.5	
	770nm,0.3s								
KUR				A		A		23 29 08.5	
	450nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**1.52**	**269**	*i* P		**Pn**		**23 28 57.4**	**0.0**
YUK					AMB	AMB		23 28 58.8	
	30nm,0.2s								
YUK					AMB	AMB		23 28 58.8	
	160nm,0.2s								
YUK				*e*S		**Sn**		**23 29 14.7**	**-1.5**
YUK				A		A		23 29 18.3	
	140nm,0.3s								
YUK				A		A		23 29 18.3	
	210nm,0.3s								
NEM2	**Nemuro 2**	**1.77**	**247**	P		**Pn**		**23 29 01.0**	**+0.2**
NEM2				*e*S		**Sn**		**23 29 19.9**	**-2.3**
JRA	**Rausu**	**2.06**	**267**	P		**Pn**		**23 29 05.8**	**+1.1**
JRA				*e*S		**Sn**		**23 29 28.9**	**-0.3**
JNK	**Nakash**	**2.40**	**259**	P		**Pn**		**23 29 10.6**	**+1.2**
JNK				*e*S		**Sn**		**23 29 36.2**	**-1.5**
JAK	**Akkeshi**	**2.61**	**246**	P		**Pn**		**23 29 13.1**	**+0.8**
JAK				*e*S		**Sn**		**23 29 41.0**	**-1.9**
JAR	**Ashorobuto**	**3.14**	**257**	P		**Pn**		**23 29 21.5**	**+2.0**
JAR				*e*S		**Sn**		**23 29 56.3**	**+0.5**
JOB	**Onbets**	**3.23**	**250**	P		**Pn**		**23 29 22.3**	**+1.6**
JOB				*e*S		**Sn**		**23 29 56.9**	**-1.0**
JCH	**Churui**	**3.67**	**248**	P		**Pn**		**23 29 28.1**	**+1.4**
JCH				*e*S		**Sn**		**23 30 07.7**	**-0.9**
JNBK	**Urakawa-nobuka**	**4.22**	**246**	P		**Pn**		**23 29 36.4**	**+2.2**
YSS	**Yuzh-Sakhalins**	**4.65**	**310**	*e*P		**Pn**		**23 29 41.8**	**+1.7**

ISCJB ***22*** *23:36:10.4±1.2, 38.°8N±0.°2×91.°7E±0.°2, h10km, Error ellipse: s-maj=36.0km s-min=10.8km az=138.8*
BJI ***22*** *23:36:12.8, 39.°04N×92.°10E, h5km, ML3.5/12, Ms3.0/4, Ms7 2.7/1*

ISC 22 23:36:13.2±1.4, 38.°8N±0.°2×91.°7E±0.°2, h10km, n4, σ1§01/5, 2C, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**5.82**	**330**			**Pn**		**23 37 38.8**	**-0.8**
WMQ						Sn		**23 38 47.5**	**+1.0**
WMQ					SMN				
	84nm,0.8s								
WMQ					SME				
	79nm,0.7s								
MK31	**Makanchi Array**	**10.53**	**322**	Pn		**Pn**		**23 38 43.8**	**-0.4**
	1.0nm,0.4s,baz=139,slow=13,SNR=62								
MK31				⇑Sn		Sn		23 40 35.2	-7.0
	1.4nm,0.6s,baz=139,slow=23,SNR=5.0								
CD2	**Chengdu**	**12.66**	**125**	*e*P		**Pn**		**23 39 13.6**	**+0.2**
TKM2	**Tokmak 2**	**12.86**	**294**	⇑Pn		**Pn**		**23 39 15.9**	**-0.3**
	1.7nm,0.5s								

ISCJB ***22*** *23:46:23.7±0.5, 39.°08N±0.°07×91.°88E±0.°08, h10km, mb3.6/11, MS3.1/3, Error ellipse: s-maj=11.5km s-min=5.7km az=39.8*
IDC ***22*** *23:46:23.5±0.8, 38.°94N×92.°00E, h0km, mb3.7/12, mb1 3.8/16, mb1mx3.7/32, mbtmp3.7/16, ML3.3/4, MS3.1/5, Ms1 3.1/5, ms1mx2.7/40, Error ellipse: s-maj=25.7km s-min=14.9km az=51.0*
BJI ***22*** *23:46:24.4, 39.°04N×92.°08E, h6km, mb4.3/2, ML4.1/14, Ms3.5/6, Ms7 3.3/3*
NNC ***22*** *23:46:33.8±4.2, 39.°42N×91.°19E, h0km, mb4.1, Error ellipse: s-maj=41.4km s-min=35.1km az=20.0*

ISC 22 23:46:25.5±0.6, 39.°19N±0.°07×92.°11E±0.°06, h10km, n29, σ2§81/31, mb3.7/11, MS3.1/3, 5C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**5.70**	**326**			**Pn**		**23 47 53.3**	**+3.2**
WMQ						Sn		**23 48 59.3**	**+3.7**
WMQ					SMN				
	380nm,0.7s								
WMQ					SME				
	380nm,0.7s								
GTA	**Gaotai**	**5.98**	**85**	*e*Pn		Pn		23 47 58.8	+4.7
GTA				Sg		**Sg**		**23 49 32.0**	**-5.4**
GTA				LN					
	430nm,8.5s								
GTA				LE					
	220nm,8.8s								
GTA				LZ					
	250nm,10.7s								
PDGK	**Podgornoye**	**10.37**	**298**	⇑Pn		**Pn**		**23 48 52.5**	**-1.6**
	1.9nm,0.5s								
PDGK				⇑Sn		**Sn**		**23 50 45.3**	**-5.0**
	7.9nm,0.5s								
MK31	**Makanchi Array**	**10.46**	**320**	Pn		**Pn**		**23 48 55.0**	**-0.4**
	2.3nm,0.5s,baz=138,slow=12,SNR=107								
MK31				⇓Sn		Sn		23 50 46.9	-5.8
	2.1nm,0.4s,baz=137,slow=23,SNR=8.6								
MKAR	**Makanchi Array**	**10.46**	**320**	Pn		**Pn**		**23 48 55.4**	**0.0**
	2.2nm,0.3s,baz=143,slow=11,SNR=71								
MKAR				Sn		**Sn**		**23 50 48.8**	**-3.9**
	1.9nm,0.3s,baz=137,slow=24,SNR=6.5								
MKAR				LR		LR		23 53 36.5	
	comp=Z,53nm,20.4s,baz=176,slow=41								
KSH	**Kashi**	**12.50**	**277**	P		Pn		23 49 27.4	+3.9
KSH				S		**Sn**		**23 51 47.0**	**+4.2**
CD2	**Chengdu**	**12.61**	**127**	*e*P		Pn		23 49 29.3	+4.4
CD2				pP				23 49 32.6	
CD2				sP				23 49 35.8	
CD2				PP		PnPn		23 49 39.4	+6.7
CD2				S		**Sn**		**23 51 49.5**	**+4.0**
CD2				sS				23 51 54.4	
CD2				SS		**SnSn**		**23 52 04.0**	**+6.5**
CD2				LN					
	150nm,10.3s								
TKM2	**Tokmak 2**	**13.01**	**292**	⇑Pn		**Pn**		**23 49 29.1**	**-1.4**
	5.9nm,0.5s								
TKM2				⇑Sn		Sn		23 51 49.0	-6.4
	5.2nm,0.7s								
SONM	**Songino Array**	**13.48**	**45**	Pn		**Pn**		**23 49 37.5**	**+0.7**
	0.2nm,0.3s,baz=238,slow=14,SNR=3.7								
SONM				Lg		Lg		23 53 30.8	
	0.1nm,0.3s,baz=236,slow=29,SNR=3.6								
SHL	**Shillong**	**13.58**	**181**	*e*PN		**Pn**		**23 49 37.0**	**-1.3**
SHL				*e*SN				23 50 11.0	
AAK	**Ala-Archa**	**13.76**	**290**	LR		LR		23 56 05.6	
	comp=Z,68nm,20.1s,baz=75,slow=42								
KURBB	**Kurchatov Arra**	**14.92**	**324**	⇓P		**P**		**23 50 00.4**	**-1.5**
	3.0nm,0.8s								
KURBB	**Kurchatov Arra**	**14.92**	**324**	Pn		**Pn**		**23 49 53.6**	**-2.6**
	0.1nm,0.3s,baz=130,slow=13,SNR=4.4								
KURBB				Lg		Lg		23 54 22.4	
	baz=135,slow=29,SNR=3.3								
KURK	**Kurchatov**	**14.94**	**325**	⇑P		**P**		**23 49 59.8**	**-2.4**
	2.8nm,1.2s								
ZALV	**Zalesovo Beam**	**15.58**	**344**	Pn		**Pn**		**23 50 05.3**	**+0.2**
	0.1nm,0.3s,baz=160,slow=13,SNR=3.7								
KK31	**Karatay Array**	**16.72**	**290**	P		**Pn**		**23 50 19.9**	**+0.2**
	1.6nm,0.9s,baz=71,slow=10,SNR=9.1								
BVAR	**Borovoye Array**	**20.34**	**320**	P		**P**		**23 51 01.9**	**+0.1**
	0.8nm,0.6s,baz=132,slow=9.3,SNR=4.7								
CMAR	**Chiang Mai Arr**	**21.49**	**162**	P		**P**		**23 51 10.4**	**-4.0**
	0.9nm,0.5s,baz=341,slow=11,SNR=3.2								
AKTO	**Aktyubinsk**	**26.44**	**306**	LR		LR		00 03 00.2	
	comp=Z,38nm,21.4s,baz=61,slow=38								
BRTR	**Keskin Array B**	**44.44**	**290**	P		**P**		**23 54 36.9**	**+0.3**
	0.8nm,0.8s,baz=94,slow=8.9,SNR=5.8								
FINES	**FINESS Array B**	**45.29**	**322**	P		**P**		**23 54 43.2**	**+0.3**
	0.4nm,0.5s,baz=127,slow=5.0,SNR=4.6								
FINES					LR	LR		00 14 25.3	
	comp=Z,24nm,20.0s,baz=72,slow=37								
ARCES	**ARCESS Array B**	**45.76**	**333**	P		**P**		**23 54 47.2**	**+0.6**
	0.7nm,0.7s,baz=81,slow=7.5,SNR=4.5								
ARCES					LR	LR		00 15 48.5	
	comp=Z,39nm,18.8s,baz=170,slow=38								
PETK	**Petropavlovsk-**	**45.92**	**50**	P		**P**		**23 54 51.0**	**+2.9**
	1.8nm,0.8s,baz=316,slow=6.2,SNR=4.0								
NOA	**NORSAR Array B**	**52.44**	**323**	P		**P**		**23 55 38.3**	**+0.4**
	0.3nm,0.6s,baz=77,slow=7.4,SNR=2.6								
ILAR	**Eielson Array**	**66.61**	**24**	P		**P**		**23 57 17.0**	**+1.4**
	0.7nm,0.7s,baz=302,slow=4.4,SNR=8.0								
WRA	**Warramunga Arr**	**70.85**	**138**	P		**P**		**23 57 41.4**	**-1.1**
	0.6nm,0.7s,baz=332,slow=5.7,SNR=5.6								
ASAR	**Alice Springs**	**73.73**	**140**	P		**P**		**23 57 59.0**	**-0.7**
	0.6nm,0.7s,baz=333,slow=5.6,SNR=5.6								
YKA	**Yellowknife Ar**	**76.41**	**12**	P		**P**		**23 58 14.9**	**+0.2**
	0.4nm,0.7s,baz=340,slow=6.3,SNR=4.0								
TORD	**Torodi Ar. Bea**	**82.14**	**280**	P		**P**		**23 58 46.2**	**-0.5**
	0.8nm,0.5s,baz=49,slow=4.7,SNR=20								

IDC ***22*** *23:50:55.9±1.4, 27.°02N×54.°92E, h0km, mb3.6/8, mb1 3.7/8, mb1mx3.4/37, mbtmp3.6/8, MS3.1/1, Ms1 3.2/1, ms1mx2.4/35, Error ellipse: s-maj=30.9km s-min=27.3km az=163.0*
ISCJB ***22*** *23:50:58.7±0.6, 27.°23N±0.°05×54.°77E±0.°10, h17km, mb3.6/8, MS3.1/1, Error ellipse: s-maj=12.6km s-min=6.8km az=162.5*
THR ***22*** *23:51:00.1±0.3, 27.°21N×54.°86E, h15km, ML3.6*
CSEM ***22*** *23:51:02.2±0.2, 27.°15N×54.°99E, h20km, ML3.0, Error ellipse: s-maj=6.6km s-min=4.3km az=78.0*
OMAN ***22*** *23:51:12.8, 26.°32N×55.°40E, h6km*
DSN ***22*** *23:51:13.2±15.0, 26.°30N×55.°38E, h8km±2km, mb2.7/8, ML3.0/7, Error ellipse: s-maj=8.1km s-min=3.0km az=315.0*

ISC 22 23:51:00.2±0.9, 27.°15N±0.°05×54.°97E±0.°06, h17km, n31, σ1§44/29, mb3.6/8, 4C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.10**	**77**	*e*Pg		**Pg**		**23 51 22.2**	**+0.6**
BNDS					AML	AML		23 51 41.8	
	comp=E,4μm,0.4s								
BNDS					AML	AML		23 51 42.0	
	comp=N,4μm,0.0s								
BNDS	**Bandar-Abbas**	**1.10**	**77**	*e*Pg		**Pg**		**23 51 22.2**	**+0.6**
	comp=N,4μm,0.4s								
BANOM	**Banah**	**1.71**	**135**	P		**Pn**		**23 51 30.1**	**+0.8**
	SNR=78								
BANOM	**Banah**	**1.71**	**135**	P		**Pn**		**23 51 30.1**	**+0.8**
	SNR=78								
BANOM	**Banah**	**1.71**	**135**	⇑*e*P		**Pn**		**23 51 30.1**	**+0.8**
	SNR=6.9								
GHIR	**Ghir-Karzin**	**2.09**	**303**	*e*Pg		**Pn**		**23 51 36.2**	**+1.6**
GHIR					AML	AML		23 52 08.9	
	comp=E,298nm,0.4s								
GHIR					AML	AML		23 52 19.2	
	comp=N,425nm,0.4s								
GHIR	**Ghir-Karzin**	**2.09**	**303**	*e*Pg		**Pn**		**23 51 36.2**	**+1.6**
	comp=N,425nm,0.4s								
NAZ	**Nazwa, Dubai**	**2.24**	**164**	P		**Pn**		**23 51 38.2**	**+1.6**
NAZ	**Nazwa, Dubai**	**2.24**	**164**	⇑P		**Pn**		**23 51 38.2**	**+1.6**
FAQ	**Al Faqa, Dubai**	**2.46**	**167**	P		**Pn**		**23 51 41.2**	**+1.6**
	SNR=7.5								
FAQ	**Al Faqa, Dubai**	**2.46**	**167**	⇓*e*P		**Pn**		**23 51 41.2**	**+1.6**
	SNR=7.5								
ASUD	**Al Ashush, Dub**	**2.53**	**173**	P		**Pn**		**23 51 42.7**	**+2.1**
	SNR=12								
ASUD	**Al Ashush, Dub**	**2.53**	**173**	*e*P		**Pn**		**23 51 42.7**	**+2.1**
	SNR=12								
HATD	**Hatta, Dubai**	**2.54**	**155**	P		**Pn**		**23 51 41.9**	**+1.2**
	SNR=8.4								
HATD	**Hatta, Dubai**	**2.54**	**155**	⇑*e*P		**Pn**		**23 51 41.9**	**+1.2**
	SNR=8.4								
ASHO	**Ashiyiah**	**2.64**	**158**	P		**Pn**		**23 51 43.5**	**+1.3**
	SNR=55								
ASHO	**Ashiyiah**	**2.64**	**158**	*e*P		**Pn**		**23 51 43.5**	**+1.3**
	SNR=55								
ASHO	**Ashiyiah**	**2.64**	**158**	⇑*e*P		**Pn**		**23 51 43.5**	**+1.3**
	SNR=55								
KRBR	**Kerman**	**3.23**	**29**	*e*Pn		**Pn**		**23 51 52.6**	**+2.1**
KRBR					AML	AML		23 52 48.5	
	comp=E,68nm,1.4s								
KRBR					AML	AML		23 53 00.2	
	comp=N,86nm,0.7s								
KRBR	**Kerman**	**3.23**	**29**	*e*Pn		**Pn**		**23 51 52.6**	**+2.1**
	comp=N,86nm,0.7s								
SMDO	**Samad**	**4.94**	**145**	P		**Pn**		**23 52 15.3**	**+1.5**
	SNR=8.3								
SMDO	**Samad**	**4.94**	**145**	P		**Pn**		**23 52 15.3**	**+1.5**
	SNR=8.3								
BRTR	**Keskin Array B**	**21.71**	**311**	P		**P**		**23 55 50.5**	**-0.2**
	comp=N,0.5nm,0.6s,baz=134,slow=12,SNR=4.8								
AKTO	**Aktyubinsk**	**23.37**	**5**	P		**P**		**23 56 07.6**	**-0.2**
	comp=N,1.1nm,0.5s,baz=181,slow=8.1,SNR=4.2								
BVAR	**Borovoye Array**	**28.29**	**20**	P		**P**		**23 56 51.2**	**-1.4**
	comp=N,0.4nm,0.4s,baz=214,slow=7.0,SNR=3.8								
ZALV	**Zalesovo Beam**	**34.62**	**31**	P		**P**		**23 57 47.3**	**-1.0**
	comp=N,0.6nm,0.3s,baz=245,slow=11,SNR=5.1								
FINES	**FINESS Array B**	**39.38**	**339**	P		**P**		**23 58 27.6**	**-1.0**
	comp=N,0.8nm,0.5s,baz=155,slow=11,SNR=8.7								
NOA	**NORSAR Array B**	**44.79**	**331**	P		**P**		**23 59 12.1**	**-0.7**
	comp=N,0.4nm,0.8s,baz=120,slow=8.1,SNR=2.8								
ESDC	**Sonseca Array**	**49.95**	**300**	LR		LR		00 23 39.1	
	comp=N,17nm,18.2s,baz=260,slow=39								
TORD	**Torodi Ar. Bea**	**51.56**	**265**	P		P		00 00 02.9	-2.9
	comp=N,0.7nm,0.5s,baz=62,slow=7.5,SNR=8.8								
WRA	**Warramunga Arr**	**89.96**	**112**	P		**P**		**00 03 58.2**	**-0.9**
	comp=N,0.4nm,1.0s,baz=316,slow=4.2,SNR=2.7								

IDC 22 23:52:17.5±8.4, 2.°44N×97.°85E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/25, mbtmp3.4/3, Error ellipse: s-maj=403.5km s-min=32.6km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**27.21**	**248**	T		T	T	00 24 28.2	
	baz=68								
H08S3	**Diego Garcia H**	**27.21**	**248**	T		T	T	00 24 26.9	
	baz=68								
H08S1	**Diego Carcia H**	**27.23**	**248**	T		T	T	00 24 29.4	
	baz=68								
H01W3	**Cape Leeuwin H**	**40.15**	**159**	T		T	T	00 43 03.8	
	baz=331								
H01W2	**Cape Leeuwin H**	**40.16**	**159**	T		T	T	00 43 03.8	
	baz=331								
H01W1	**Cape Leeuwin H**	**40.17**	**159**	T		T	T	00 43 04.4	
	baz=331								
WRA	**Warramunga Arr**	**42.15**	**124**	P		P	P	00 00 12.0	-0.2
	0.2nm,0.9s,baz=302,slow=9.1,SNR=2.5								
MKAR	**Makanchi Array**	**46.21**	**345**	P		P	P	00 00 43.8	-0.5
	0.6nm,0.7s,baz=156,slow=9.3,SNR=5.6								
ZALV	**Zalesovo Beam**	**52.45**	**350**	P		P	P	00 01 32.2	+0.4
	0.5nm,0.5s,baz=166,slow=6.7,SNR=3.5								

IDC ***23*** *00:03:36.6±0.9, 18.°44N×147.°10E, h0km, mb4.0/14, mb1 4.2/17, mb1mx4.1/41, mbtmp4.1/17, ML4.1/2, MS3.6/14, Ms1 3.6/14, ms1mx3.3/42, Error ellipse: s-maj=22.8km s-min=20.0km az=101.0*
NEIC ***23*** *00:03:41.7±1.2, 18.°39N×147.°03E, h35km±11km, mb4.4/6, Error ellipse: s-maj=13.2km s-min=8.4km az=89.0*
ISCJB ***23*** *00:03:42.5±0.5, 18.°55N±0.°06×146.°85E±0.°10, h52km, mb4.0/19, MS3.6/13, Error ellipse: s-maj=13.6km s-min=7.5km az=168.3*

ISC 23 00:03:44.0±0.7, 18.°52N±0.°06×146.°9E±0.°1, h52km, n43, σ1§28/33, mb4.0/19, MS3.7/13, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.29**	**202**			**Pn**		**00 04 57.6**	**-2.9**
	4.3nm,0.3s,baz=16,slow=18,SNR=2.3								
GUMO						Sn		**00 05 59.0**	**-1.1**
	6.0nm,0.3s,baz=17,slow=19,SNR=2.0								
GUMO	**Guam**	**5.29**	**202**	*e*Pn		Pn		00 04 56.7	-3.8
GUMO				*e*S		**Sn**		**00 06 04.8**	**+4.7**
CBIJ	**Chichi jima**	**9.59**	**334**	Pn		**Pn**		**00 05 59.0**	**-0.4**
CBIJ				Sn		**Sn**		**00 07 44.8**	**-1.1**
JCJ	**Chichijima**	**9.59**	**334**	Pn		**Pn**		**00 05 59.0**	**-0.4**
	baz=163,slow=19								
JCJ						Sn		**00 07 44.8**	**-1.1**
	2.7nm,0.3s,baz=307,slow=20,SNR=2.1								
H11S3	**WAKE ISLAND Hy**	**18.74**	**87**	T		T	T	00 26 57.3	
	baz=267,slow=77,SNR=50								
H11S1	**WAKE ISLAND Hy**	**18.75**	**87**	T		T	T	00 26 57.9	
	baz=267,slow=77,SNR=40								
H11S2	**WAKE ISLAND Hy**	**18.75**	**87**	T		T	T	00 26 58.0	
	baz=267,slow=77,SNR=48								
H11N1	**WAKE ISLAND Hy**	**18.90**	**83**	T		T	T	00 27 06.4	
	baz=266,slow=74,SNR=7.5								
H11N2	**WAKE ISLAND Hy**	**18.91**	**83**	T		T	T	00 27 07.1	
	baz=266,slow=74,SNR=1.2								
H11N3	**WAKE ISLAND Hy**	**18.92**	**83**	T		T	T	00 27 09.3	
	baz=266,slow=74,SNR=7.3								
JOW	**Kunigami**	**19.08**	**299**	LR		LR		00 14 13.3	
	comp=Z,29nm,21.8s,baz=252,slow=33								
MJAR	**Matsushiro Arr**	**19.53**	**339**	P		**Pn**		**00 08 08.6**	**-0.3**
	0.8nm,0.3s,baz=165,slow=10,SNR=28								
MAJO	**Matsushiro**	**19.53**	**339**	*e*P		**Pn**		**00 08 08.9**	**0.0**
	16nm,0.8s								
MAT	**Matsushiro**	**19.53**	**339**	P		**Pn**		**00 08 08.2**	**-0.7**
MAT				S		**Sn**		**00 11 47.0**	**-0.4**
JNU	**Nakatsue**	**20.46**	**318**	LR		LR		00 15 50.6	
	comp=Z,120nm,18.7s,baz=137,slow=36								
KSRS	**Korea Array**	**25.16**	**322**	P		**P**		**00 09 05.2**	**+0.8**
	3.9nm,0.7s,baz=145,slow=8.7,SNR=7.7								
KSRS					LR	LR		00 18 58.3	
	comp=Z,259nm,19.6s,baz=131,slow=36								
KSAR	**Wonju Array Be**	**25.18**	**322**	P		**P**		**00 09 05.2**	**+0.7**
USRK	**Ussuriysk Ar.**	**28.51**	**337**	P		**P**		**00 09 36.5**	**+2.0**
	2.3nm,0.7s,baz=144,slow=10,SNR=4.4								
PETK	**Petropavlovsk-**	**35.53**	**11**	LR		LR		00 30 44.7	
	comp=Z,30nm,18.0s,baz=181,slow=46								
BATI	**Baumata**	**36.63**	**221**	LR		LR		00 26 19.1	
	comp=Z,73nm,18.5s,baz=49,slow=37								
WRA	**Warramunga Arr**	**40.17**	**199**	P		**P**		**00 11 14.5**	**-0.8**
	2.4nm,0.6s,baz=22,slow=8.6,SNR=4.7								
SONM	**Songino Array**	**44.02**	**321**	P		**P**		**00 11 47.9**	**+1.2**
	2.3nm,0.6s,baz=144,slow=7.3,SNR=6.0								
CMAR	**Chiang Mai Arr**	**45.40**	**278**	P		**P**		**00 11 58.8**	**+0.9**
	0.8nm,0.8s,baz=77,slow=7.5,SNR=5.0								
CMAR					LR	LR		00 28 34.5	
	comp=Z,31nm,21.8s,baz=220,slow=33								
PSI	**Prapat**	**49.50**	**257**	LR		LR		00 31 11.2	
	comp=Z,68nm,21.8s,slow=33								
ZAA0	**Zalesovo Array**	**58.87**	**322**	*e*P		**P**		**00 13 37.4**	**0.0**
ZALV	**Zalesovo Beam**	**58.87**	**322**	P		**P**		**00 13 37.3**	**-0.1**
	2.7nm,0.6s,baz=99,slow=6.5,SNR=14								
ZALV					LR	LR		00 40 05.6	
	comp=Z,75nm,18.4s,baz=70,slow=37								
MKAR	**Makanchi Array**	**59.43**	**314**	P		**P**		**00 13 41.5**	**0.0**
	0.8nm,0.7s,baz=88,slow=6.9,SNR=8.2								
MKAR					LR	LR		00 40 03.2	
	comp=Z,72nm,20.2s,baz=26,slow=37								
KTH	**Kantishna Hill**	**61.27**	**27**	*e*P		**P**		**00 13 53.2**	**-0.6**
	5.7nm,1.2s								
BPAW	**Bear Paw Mtn.**	**61.40**	**26**	*e*P		**P**		**00 13 54.3**	**-0.3**
	0.8nm,0.9s								
ILAR	**Eielson Array**	**63.29**	**26**	P		**P**		**00 14 06.0**	**-1.2**
	0.8nm,0.9s,baz=258,slow=5.0,SNR=7.4								
BRVK	**Borovoye**	**67.42**	**321**	*e*P		**P**		**00 14 34.6**	**+0.5**
	2.8nm,0.6s								
INK	**Inuvik**	**69.08**	**23**	P		**P**		**00 14 43.9**	**-0.2**
	0.7nm,0.7s,baz=278,slow=3.2,SNR=3.2								
PPT	**Papeete**	**71.99**	**116**	LR		LR		00 41 47.7	
	comp=Z,99nm,20.5s,baz=328,slow=32								
ARU	**Arti**	**73.89**	**325**	*e*P		**P**		**00 15 12.9**	**-0.5**
	4.6nm,0.9s								
ABKAR	**Akbulak array**	**74.27**	**317**	*e*P		**P**		**00 15 15.6**	**-0.1**
	0.8nm,0.4s								
YKA	**Yellowknife Ar**	**77.60**	**28**	P		**P**		**00 15 34.1**	**-0.3**
	0.8nm,0.8s,baz=289,slow=5.4,SNR=4.9								
NVAR	**Mina Array Bea**	**82.33**	**52**	P		**P**		**00 16 01.3**	**+0.5**
	0.6nm,0.6s,baz=283,slow=7.1,SNR=3.9	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.41**	**242**	*e*P	**Pn**	**00 14 04.1**	**-1.0**
SPN				*e*S	**Sn**	**00 14 10.5**	**-1.6**
SPN	**Mys Shipunski**	**0.41**	**242**	PN	**Pn**	**00 14 04.1**	**-1.0**
SPN				S	**Sn**	**00 14 10.5**	**-1.6**
NLC	**Nalytchevo**	**0.78**	**262**	*e*P	**Pn**	**00 14 08.5**	**-1.2**
NLC				*e*S	**Sn**	**00 14 18.4**	**-1.9**
NLC	**Nalytchevo**	**0.78**	**262**	PN	**Pn**	**00 14 08.5**	**-1.2**
NLC				S	**Sn**	**00 14 18.4**	**-1.9**
KII	**Karymskiy**	**1.02**	**317**	*e*P	**Pn**	**00 14 11.8**	**-1.4**
KII				*e*S	**Sn**	**00 14 24.1**	**-2.3**
SDLR	**Sedlovina**	**1.04**	**270**	*e*P	**Pn**	**00 14 12.5**	**-1.0**
SDLR				*e*S	**Sn**	**00 14 24.7**	**-2.3**
UGLR	**Uglovaya**	**1.08**	**266**	*e*P	**Pn**	**00 14 13.4**	**-0.6**
UGLR				*e*S	**Sn**	**00 14 27.2**	**-0.7**
SMAR	**Somma**	**1.09**	**269**	*e*P	**Pn**	**00 14 13.1**	**-1.2**
SMAR				*e*S	**Sn**	**00 14 26.0**	**-2.3**
KRER	**Koryakskii**	**1.12**	**271**	*e*P	**Pn**	**00 14 13.9**	**-0.8**
KRER				*e*S	**Sn**	**00 14 28.1**	**-0.9**
AVH	**Avacha**	**1.13**	**269**	*e*P	**Pn**	**00 14 14.0**	**-0.6**
AVH				*e*S	**Sn**	**00 14 27.7**	**-1.3**
KRX	**Arik**	**1.18**	**274**	*e*P	**Pn**	**00 14 14.3**	**-1.1**
KRX				*e*S	**Sn**	**00 14 28.1**	**-2.4**
KOK	**Koryaka**	**1.19**	**271**	*e*P	**Pn**	**00 14 14.6**	**-0.9**
KOK				*e*S	**Sn**	**00 14 28.8**	**-1.8**
PET	**Petropavlovsk**	**1.21**	**258**	*e*P	**Pn**	**00 14 14.6**	**-1.1**
PET				*e*S	**Sn**	**00 14 28.9**	**-2.0**
PET	**Petropavlovsk**	**1.21**	**258**	⇓*i*PN	**Pn**	**00 14 14.7**	**-1.0**
PET				*e*S	**Sn**	**00 14 28.8**	**-2.1**
PET	comp=Z,144nm,0.3s			pmax	pmax		
PET	comp=E,413nm,0.5s			smax	smax		
PET	comp=N,728nm,0.6s			smax	smax		
MKZ	**Mys Kozlova**	**1.43**	**27**	*e*P	**Pn**	**00 14 17.8**	**-0.8**
MKZ				*e*S	**Sn**	**00 14 33.7**	**-2.5**
MKZ	**Mys Kozlova**	**1.43**	**27**	PN	**Pn**	**00 14 17.8**	**-0.8**
MKZ				S	**Sn**	**00 14 33.7**	**-2.5**
RUS	**Russkaya**	**1.54**	**237**	*e*P	**Pn**	**00 14 19.1**	**-1.0**
RUS				*e*S	**Sn**	**00 14 36.9**	**-2.0**
RUS	**Russkaya**	**1.54**	**237**	PN	**Pn**	**00 14 19.1**	**-1.0**
RUS				S	**Sn**	**00 14 36.9**	**-2.0**
GNL	**Ganaly**	**1.65**	**285**	*e*P	**Pn**	**00 14 21.2**	**-0.6**
GNL				*e*S	**Sn**	**00 14 40.9**	**-0.9**
MTVR	**Mutnovka**	**1.68**	**242**	*e*P	**Pn**	**00 14 21.8**	**-0.5**
MTVR				*e*S	**Sn**	**00 14 41.2**	**-1.5**
GRL	**Gorelyy**	**1.71**	**245**	*e*P	**Pn**	**00 14 22.4**	**-0.2**
GRL				*e*S	**Sn**	**00 14 42.2**	**-1.1**
PETK	**Petropavlovsk-**	**1.77**	**265**	P	**Pn**	**00 14 23.0**	**-0.3**
PETK	comp=N,66nm,0.3s,baz=92,slow=21,SNR=1958			S	**Sn**	**00 14 44.2**	**-0.3**
PETK	comp=N,31nm,0.3s,baz=99,slow=26,SNR=12			LR	LR	00 15 15.1	
PETK	comp=N,52nm,20.6s,baz=97,slow=52 **Petropavlovsk-**	**1.77**	**265**	PN	**Pn**	**00 14 23.0**	**-0.3**
PETK				S	**Sn**	**00 14 44.2**	**-0.3**
PETK	comp=Z,66nm,0.3s			pmax	pmax		
PETK	comp=N,31nm,0.3s			smax	smax		
KZV	**Kizimen**	**1.83**	**354**	*e*P	**Pn**	**00 14 24.3**	**-0.1**
KZV				*e*S	**Sn**	**00 14 45.7**	**-0.8**
ASAK	**Asacha**	**1.88**	**242**	*e*P	**Pn**	**00 14 25.2**	**+0.2**
ASAK				*e*S	**Sn**	**00 14 47.5**	**0.0**
TUMR	**Tumrok**	**2.02**	**352**	*e*P	**Pn**	**00 14 27.3**	**+0.5**
TUMR				*e*S	**Sn**	**00 14 51.1**	**+0.3**
APC	**Apacha**	**2.12**	**261**	*e*P	**Pn**	**00 14 28.6**	**+0.5**
APC				*e*S	**Sn**	**00 14 53.7**	**+0.6**
KMNR	**Kamenistaya**	**2.48**	**355**	*e*P	**Pn**	**00 14 34.5**	**+1.3**
KMNR				*e*S	**Sn**	**00 15 02.7**	**+0.5**
MIPR	**Malaya Ipel'ka**	**2.56**	**248**	*e*P	**Pn**	**00 14 34.9**	**+0.8**
ESO	**Esso**	**2.87**	**338**	*e*P	**Pn**	**00 14 38.4**	**0.0**
ESO	**Esso**	**2.87**	**338**	PN	**Pn**	**00 14 38.4**	**0.0**
PAU	**Pauzhetka**	**2.96**	**233**	*e*P	Pn	00 14 41.9	+2.2
PAU				*e*S	**Sn**	**00 15 15.5**	**+1.6**
PAU	**Pauzhetka**	**2.96**	**233**	PN	Pn	00 14 41.9	+2.2
PAU				S	**Sn**	**00 15 15.5**	**+1.6**
SRDR	**Sredinnyy**	**3.08**	**351**	*e*P	**Pn**	**00 14 41.5**	**+0.2**
KBTR	**Krutoberegovo**	**3.19**	**23**	*e*P	**Pn**	**00 14 43.6**	**+0.8**
KBTR				*e*S	**Sn**	**00 15 19.5**	**0.0**
KBTR	**Krutoberegovo**	**3.19**	**23**	PN	**Pn**	**00 14 43.6**	**+0.8**
KBTR				S	**Sn**	**00 15 19.5**	**0.0**
SMKR	**Semkarok**	**3.33**	**8**	*e*P	Pn	00 14 47.1	+2.3
SMKR				*e*S	**Sn**	**00 15 24.5**	**+1.3**
SRKR	**Sorokina**	**3.38**	**5**	*e*P	**Pn**	**00 14 47.4**	**+1.9**
SRKR				*e*S	**Sn**	**00 15 25.2**	**+0.8**
BKI	**Bering**	**3.68**	**56**	*e*P	**Pn**	**00 14 49.9**	**+0.4**
BKI				*e*S	**Sn**	**00 15 28.3**	**-3.2**
BKI	**Bering**	**3.68**	**56**	PN	**Pn**	**00 14 49.9**	**+0.4**
SKR	**Severo-Kuril's**	**3.82**	**229**	*e*P	**Pn**	**00 14 52.1**	**+0.7**
SKR				*e*S	**Sn**	**00 15 34.2**	**-0.7**
SKR	**Severo-Kuril's**	**3.82**	**229**	*e*PN	Pn	00 14 46.9	-4.5
BILL	**Bilibino**	**15.04**	**8**	P	**Pn**	**00 17 23.0**	**-1.4**
BILL	comp=Z,8.0nm,2.7s			pmax	pmax		
ERM	**Erimo**	**16.25**	**233**	*e*P	**Pn**	**00 17 38.7**	**-1.3**
MJA0	**Matsu Arr-Jizo**	**22.90**	**232**	*e*P	**P**	**00 18 54.3**	**-0.6**
MAJO	**Matsushiro**	**22.92**	**232**	*e*P	**P**	**00 18 54.6**	**-0.5**
MJAR	**Matsushiro Arr**	**22.92**	**232**	P	**P**	**00 18 54.6**	**-0.4**
COLA	comp=Z,1.3nm,0.6s,baz=16,slow=11,SNR=7.6 **College**	**28.04**	**45**	*e*P	P	00 19 36.3	-5.3
H11N2	**WAKE ISLAND Hy**	**33.85**	**169**	T	T	00 57 01.4	
H11N3	baz=353,slow=76,SNR=74 **WAKE ISLAND Hy**	**33.86**	**169**	T	T	00 57 02.7	
H11N1	baz=353,slow=76,SNR=61 **WAKE ISLAND Hy**	**33.87**	**169**	T	T	00 57 02.6	
H11S1	baz=353,slow=76,SNR=59 **WAKE ISLAND Hy**	**35.03**	**170**	T	T	00 58 30.7	
H11S3	baz=352,slow=76,SNR=8.0 **WAKE ISLAND Hy**	**35.05**	**170**	T	T	00 58 24.6	
H11S2	baz=352,slow=76,SNR=21 **WAKE ISLAND Hy**	**35.05**	**170**	T	T	00 58 26.4	
MKAR	baz=352,slow=76,SNR=4.0 **Makanchi Array**	**48.35**	**296**	P	P	00 22 26.7	-5.3
MKAR	comp=Z,0.1nm,0.3s,baz=52,slow=9.3,SNR=5.7 **Makanchi Array**	**48.35**	**296**	*e*P	**P**	**00 22 32.0**	**0.0**
ARCES	**ARCESS Array B**	**53.20**	**342**	P	**P**	**00 23 05.5**	**-2.6**
ARCES	comp=Z,0.7nm,0.8s,baz=50,slow=8.4,SNR=2.8			pmax	pmax		
FINES	comp=Z,1.0nm,0.8s **FINESS Array B**	**60.06**	**337**	P	**P**	**00 23 54.6**	**-2.2**
FINES	comp=Z,0.4nm,0.3s,baz=47,slow=6.3,SNR=11 **FINESS Array B**	**60.06**	**337**	*e*P	**P**	**00 23 54.9**	**-2.0**
NOA	**NORSAR Array B**	**63.44**	**344**	P	**P**	**00 24 17.9**	**-1.8**
WRA	comp=Z,0.2nm,0.5s,baz=15,slow=5.4,SNR=2.6 **Warramunga Arr**	**76.39**	**205**	P	**P**	**00 25 39.1**	**-0.4**
WRA	comp=Z,0.3nm,0.7s,baz=23,slow=6.2,SNR=5.1 **Warramunga Arr**	**76.39**	**205**	*e*P	**P**	**00 25 38.8**	**-0.7**
ASAR	**Alice Springs** comp=Z,0.3nm,0.5s,baz=15,slow=5.5,SNR=4.8	**80.07**	**205**	P	**P**	**00 26 00.0**	**+0.2**

*ISCJB **23** 00:25:21.4±0.4, 32°.59N±0°.03×115°.73W±0°.03, h9km±4km, Error ellipse: s-maj=4.3km s-min=4.2km az=157.9*
*MEX **23** 00:25:21.6±0.7, 32°.79N×115°.65W, h13km±25km, MD3.6*
*NEIC **23** 00:25:22.6, 32°.62N×115°.78W, h3km, ML3.0(PAS), ML3.2(ECX), After ECX.*
*ECX **23** 00:25:22.6±0.8, 32°.61N×115°.78W, h3km, MD3.0, ML3.2*

ISC 23 00:25:21.3±0.8, 32°.60N±0°.03×115°.76W±0°.02, h13km±6km, n27, σ0°75/43, 4C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.06**	**33**	⇑*i*P	**Pg**	**00 25 23.5**	**-0.4**
WESC	**Westside Schoo**	**0.16**	**10**	⇓*i*P	**Pg**	**00 25 25.4**	**+0.3**
WESC				*e*S	**Sg**	**00 25 28.4**	**+0.6**
COK	**Cook Ranch**	**0.25**	**7**	⇓*i*P	**Pb**	**00 25 27.3**	**-0.5**
RMX	**La Rumorosa**	**0.27**	**271**	⇑*i*P	**Pg**	**00 25 27.4**	**+0.4**
RMX				*e*S	**Sg**	**00 25 31.3**	**+0.5**
CRR	**Carrizo Plain**	**0.34**	**329**	⇓*i*P	**Pg**	**00 25 28.4**	**+0.3**
DREC	**Desert Rsrch C**	**0.34**	**52**	⇑*i*P	**Pb**	**00 25 29.2**	**0.0**
SWSC	**Sam W. Stewart**	**0.34**	**355**	⇓*i*P	**Pg**	**00 25 28.5**	**+0.2**
CPBX	**Cerro Prieto**	**0.43**	**115**	*e*P	**Pb**	**00 25 30.5**	**-0.3**
CPBX				*e*S	**Sb**	**00 25 38.9**	**+1.7**
CPBX	**Cerro Prieto**	**0.43**	**115**	*e*P9	**Pg**	**00 25 30.9**	**+1.0**
CPBX				*e*S	**Sb**	**00 25 37.7**	**+0.6**
CPBX	comp=N,7μm,0.1s			IAML		00 25 40.6	
MBIG	**Mexicali**	**0.52**	**112**	*e*P	Pg	00 25 27.4	-4.1
RDX	**Rancho Dawling**	**0.69**	**193**	*e*P	**Pg**	**00 25 34.9**	**+0.1**
RDX				*e*S	**Sg**	**00 25 44.0**	**+0.2**
RDX				*i*S	**Sb**	**00 25 44.2**	**-0.5**
RDX	comp=N,567nm,0.3s			⇓*e*		00 25 45.7	
BAR	**Barrett**	**0.77**	**276**	*e*P	**Pg**	**00 25 36.4**	**+0.1**
CBX	**Cerro Bola**	**0.81**	**250**	*i*P	**Pg**	**00 25 37.4**	**+0.3**
CBX				*e*S	**Sb**	**00 25 48.6**	**+0.3**
CBX	**Cerro Bola**	**0.81**	**250**	*i*P	**Pg**	**00 25 37.4**	**+0.3**
CBX				*e*S	**Sb**	**00 25 48.6**	**+0.3**
CBX	**Cerro Bola**	**0.81**	**250**	⇑*i*P	**Pg**	**00 25 37.5**	**+0.3**
CBX				*e*S	**Sg**	**00 25 47.9**	**+0.1**
GLA	**Glamis**	**0.91**	**60**	*e*Pg	**Pg**	**00 25 38.0**	**-0.9**
GLA				*e*S	**Sg**	**00 25 50.2**	**-0.6**
PFO	**Pinyon Flats O**	**1.16**	**330**	*e*Pg	**Pb**	**00 25 43.2**	**-0.2**
PFO				*e*S	**Sb**	**00 25 58.6**	**+0.1**
ZAX	**El Zacaton**	**1.17**	**202**	*e*P	**Pn**	**00 25 43.6**	**+0.1**
ZAX				*e*S	**Sn**	**00 25 59.4**	**+0.1**
ECNX	**Esteban Cantu**	**1.18**	**217**	*e*P	**Pn**	**00 25 43.6**	**0.0**
ECNX				*e*S	**Sb**	**00 25 59.2**	**+0.5**
PBX	**Punta Banda**	**1.18**	**224**	*e*P	**Pn**	**00 25 43.5**	**-0.1**
PBX				*e*S	**Sg**	**00 25 59.3**	**-0.2**
ECBX	**El Chinero**	**1.28**	**152**	*e*P9	Pn	00 25 41.7	-3.2
ECBX				*e*S	**Sb**	**00 25 59.5**	**-2.1**
ECBX	comp=E,188nm,0.3s			IAML		00 26 01.0	
ECBX				*e*		00 26 01.0	
ECBX	comp=N,290nm,0.3s			IAML		00 26 01.4	
ECBX				*e*		00 26 01.4	
SPIG	**San Pedro Mart**	**1.57**	**171**	*i*P	**Pn**	**00 25 48.1**	**-1.1**
SPIG				*i*S	**Sn**	**00 26 10.0**	**+0.4**
SPIG	**San Pedro Mart**	**1.57**	**171**	*i*P	**Pn**	**00 25 48.1**	**-1.1**
SPIG				*i*S	**Sn**	**00 26 10.0**	**+0.4**
SPX	**San Pedro Mart**	**1.57**	**171**	*e*P	**Pn**	**00 25 49.8**	**+0.5**
MWC	**Mount Wilson**	**2.51**	**311**	*e*Pn	**Pb**	**00 26 05.1**	**-1.3**
MWC				*e*S	**Sb**	**00 26 37.6**	**+0.3**
214A	**Organ Pipe Nat**	**2.58**	**104**	*e*Pn	**Pn**	**00 26 01.7**	**-1.2**
TUC	**Tucson**	**4.22**	**93**	*e*Pn	**Pn**	**00 26 27.4**	**+1.9**

*IDC **23** 00:27:07.0±1.5, 3°.65S×127°.25E, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.5/36, mbtmp3.7/4, ML3.4/2, Error ellipse: s-maj=45.9km s-min=26.9km az=71.0*
*ISCJB **23** 00:27:10.2±0.9, 3°.76S±0°.08×127°.24E±0°.07, h42km, mb3.6/1, Error ellipse: s-maj=12.5km s-min=7.7km az=33.5*
*DJA **23** 00:27:10.9±1.1, 4°S±12°×12°7E±°, h15km±5km, M3.1/5, MLv3.1/5*

ISC 23 00:27:11.9±1.1, 3°.6S±0°.1×127°.29E±0°.06, h42km, n7, σ2s0°01/10, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.42**	**334**	P	**Pn**	**00 27 19.4**	**-2.4**
MSAI	**Masohi**	**1.66**	**81**	P	**Pn**	**00 27 39.2**	**+0.7**
MSAI				S	**Sn**	**00 28 00.5**	**+1.8**
SANI	**Sanana**	**2.03**	**320**	P	**Pn**	**00 27 44.4**	**+0.8**
SANI				S	**Sn**	**00 28 09.6**	**+1.8**
SIJI	**Sorong**	**4.82**	**56**	Pn	**Pn**	**00 28 22.3**	**+0.3**
SIJI	4.2nm,0.3s,baz=229,slow=20,SNR=8.5			Sn	**Sn**	**00 29 14.2**	**-2.5**
WRA	3.9nm,0.3s,baz=267,slow=23,SNR=6.6 **Warramunga Arr**	**17.62**	**158**	Pn	**Pn**	**00 31 11.8**	**-2.7**
ASAR	0.1nm,0.3s,baz=339,slow=12,SNR=9.0 **Alice Springs**	**20.93**	**163**	P	**P**	**00 31 52.0**	**+0.8**
MKAR	4.5nm,0.8s,baz=343,slow=10,SNR=38 **Makanchi Array**	**63.94**	**327**	P	**P**	**00 37 41.8**	**+1.1**
	0.5nm,0.8s,baz=115,slow=6.1,SNR=3.3						

*ISCJB **23** 00:39:11.4±1.3, 17°.6S±0°.4×178°.8W±0°.3, h539km, mb3.7/7, Error ellipse: s-maj=59.2km s-min=17.8km az=146.7*
*IDC **23** 00:39:15.2±5.3, 17°.69S×178°.82W, h573km±63km, mb3.3/7, mb1 3.6/8, mb1mx3.2/32, mbtmp4.2/8, Error ellipse: s-maj=53.2km s-min=25.8km az=148.0*

ISC 23 00:39:12.1±1.4, 17°.6S±0°.4×178°.8W±0°.3, h539km, n10, σ0s70/8, mb3.7/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.60**	**250**	P	P	00 42 21.4	+3.6
STKA	0.8nm,0.3s,baz=90,slow=20,SNR=8.2 **Stephens Creek**	**38.47**	**241**	P	**P**	**00 45 48.5**	**+0.3**
WRA	3.8nm,0.6s,baz=103,slow=10,SNR=7.0 **Warramunga Arr**	**44.35**	**259**	P	**P**	**00 46 34.2**	**-0.7**
ASAR	1.2nm,0.5s,baz=97,slow=7.0,SNR=51 **Alice Springs**	**44.54**	**254**	P	**P**	**00 46 36.5**	**+0.1**
PETK	19nm,0.6s,baz=88,slow=8.2,SNR=328 **Petropavlovsk-**	**73.34**	**345**	P	**P**	**00 49 49.7**	**+0.9**
NVAR	2.5nm,0.8s,baz=141,slow=9.3,SNR=5.8 **Mina Array Bea**	**79.46**	**44**	P	**P**	**00 50 23.1**	**0.0**
ILAR	0.7nm,0.6s,baz=230,slow=7.0,SNR=4.8 **Eielson Array**	**85.70**	**13**	P	**P**	**00 50 52.8**	**-0.8**
TXAR	0.2nm,0.5s,baz=218,slow=2.8,SNR=4.7 **Lajitas Array**	**86.14**	**58**	P	**P**	**00 50 57.0**	**+0.3**
BRTR	1.1nm,0.9s,baz=226,slow=4.8,SNR=8.2 **Keskin Array B**	**144.36**	**315**	PKP	PKPbc	00 57 47.4	+0.2
GERES	0.6nm,0.8s,baz=134,slow=4.2,SNR=3.4 **GERESS Array B**	**147.27**	**345**	PKPbc	**PKPbc**	**00 57 54.7**	**-0.5**
	0.5nm,0.6s,baz=28,slow=3.2,SNR=8.4						

*IDC **23** 00:41:36.6±3.0, 26°.67S×177°.36W, h212km±28km, mb3.9/4, mb1 4.0/7, mb1mx3.6/28, mbtmp4.4/7, MS3.0/1, Ms1 3.0/1, ms1mx2.5/28, Error ellipse: s-maj=44.8km s-min=23.3km az=179.0*

ISC 23 00:41:36.4±1.0, 26°.5S±0°.1×177°.5W±0°.2, h200km, n18, σ1s82/20, mb4.2/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.78**	**188**	P	**Pn**	**00 42 22.6**	**-0.8**
RAO	186nm,0.3s,baz=75,slow=20,SNR=10			S	**Sn**	**00 43 02.8**	**+2.5**
URZ	139nm,0.3s,baz=73,slow=19,SNR=4.8 **Urewera**	**12.60**	**200**	P	**Pn**	**00 44 25.5**	**-3.2**
URZ	0.3nm,0.3s,baz=112,slow=5.4,SNR=3.3			S	Sn	00 46 40.1	-9.0
URZ	3.0nm,0.3s,baz=125,slow=16,SNR=8.9			LR	LR	00 48 52.4	
DZM	comp=Z,61nm,18.8s,baz=270,slow=35 **Mont Dzumac**	**15.30**	**283**	P	**P**	**00 45 04.6**	**+1.8**
CTA	0.5nm,0.3s,baz=90,slow=20,SNR=4.1 **Charters Tower**	**33.84**	**273**	P	**P**	**00 48 00.8**	**+0.8**
STKA	9.0nm,0.6s,baz=98,slow=13,SNR=16 **Stephens Creek**	**35.98**	**252**	P	**P**	**00 48 18.8**	**+0.6**
ASAR	1.7nm,0.5s,baz=97,slow=12,SNR=6.3 **Alice Springs**	**43.92**	**263**	P	**P**	**00 49 22.9**	**-0.7**
WRA	2.5nm,0.7s,baz=95,slow=7.4,SNR=24 **Warramunga Arr**	**44.55**	**268**	P	**P**	**00 49 27.3**	**-1.4**
SNAA	5.7nm,0.4s,baz=103,slow=7.6,SNR=109 **Sanae**	**82.04**	**178**	P	**P**	**00 53 33.7**	**-0.1**
VNA3	**Neumayer Olymp**	**82.17**	**176**	P	**P**	**00 53 36.4**	**+1.9**
VNA2	**Neumayer--Watz** baz=182,slow=2.5	**82.61**	**177**	P	**P**	**00 53 39.2**	**+2.5**
VNA1	**Neumayer--Stat**	**82.83**	**176**	P	**P**	**00 53 40.5**	**+2.7**
ARCES	**ARCESS Array B**	**134.86**	**349**	PKP	**PKPdf**	**01 00 29.5**	**-1.1**
FINES	0.7nm,0.6s,baz=318,slow=3.4,SNR=6.0 **FINESS Array B**	**141.61**	**342**	PKhKP	PKPpre	01 00 36.1	
NB2	0.5nm,0.6s,baz=42,slow=2.3,SNR=5.1 **NORSAR Subarra**	**144.95**	**353**	PKP	**PKPbc**	**01 00 47.0**	**-1.8**
NOA	comp=Z,1.0nm,0.5s,baz=11,slow=3.5 **NORSAR Array B**	**144.95**	**353**	PKPbc	**PKPbc**	**01 00 47.0**	**-1.8**
AKASG	comp=Z,1.7nm,0.7s,baz=8.0,slow=2.3,SNR=7.1 **Malin Array Be**	**148.37**	**327**	PKPbc	**PKPdf**	**01 00 57.2**	**+2.2**
BRTR	comp=Z,0.6nm,0.4s,baz=44,slow=3.6,SNR=4.3 **Keskin Array B**	**150.94**	**305**	PKPbc	**PKPbc**	**01 01 04.9**	**-0.7**
BRTR	comp=Z,1.1nm,0.7s,baz=121,slow=5.1,SNR=7.1			PKPab	**PKPab**	**01 01 13.1**	**-0.6**
TORD	comp=Z,1.1nm,0.7s,baz=93,slow=2.9,SNR=5.9 **Torodi Ar. Bea**	**166.71**	**176**	PKP	**PKPdf**	**01 01 18.0**	**-0.6**
TORD	comp=Z,0.2nm,0.6s,baz=57,slow=2.7,SNR=3.3			PKPab	**PKPab**	**01 02 23.5**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=174,slow=2.6,SNR=4.1						

GUC 23 00:54:14.2±0.5, 33°.96S×72°.14W, h23km±3km, ML3.5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.61**	**90**	*e*P	Pb	00 54 25.3	-0.9
CHCH	**Chadas Angostu**	**1.24**	**89**	*e*P	Pn	00 54 35.0	-1.1
NICH	**Los Niches**	**1.29**	**144**	*e*P	Pn	00 54 35.8	-0.9
NICH				*e*S	Sn	00 54 52.2	-1.0
ROCH	**El Roble**	**1.36**	**44**	*e*P	Pn	00 54 37.2	-0.9
ROCH				*e*S	Sn	00 54 55.5	-0.2
ROCH	comp=N,1μm,0.5s			AML	AML	00 55 06.5	
PCH	**Pirque**	**1.40**	**77**	*e*P	Pn	00 54 37.6	-0.8
CLCH	**Cerro Calan**	**1.45**	**68**	*e*P	Pn	00 54 38.5	-0.6
CLCH				*e*S	Sn	00 54 57.1	-0.4
CLCH	comp=E,1μm,0.6s			AML	AML	00 55 02.9	
PEL	**Peldehue**	**1.46**	**57**	*e*P	Pn	00 54 39.0	-0.3
PEL				*e*S	Sn	00 54 57.5	-0.3
PEL	comp=E,2μm,0.2s			AML	AML	00 55 03.6	
TALC	**Talca**	**1.50**	**164**	*e*P	Pn	00 54 39.1	-0.6
TALC				*e*S	Sn	00 54 58.3	-0.1
LNCH	**Linares**	**1.94**	**167**	*e*P	Pn	00 54 46.2	+0.5
LNCH				*e*S	Sn	00 55 10.5	+1.1

*ISCJB **23** 01:20:07.5±0.4, 54°.42S±0°.06×5°.7E±0°.1, h10km, mb4.5/21, MS3.7/10, Error ellipse: s-maj=12.1km s-min=7.5km az=17.2*
*IDC **23** 01:20:07.8±0.6, 54°.41S×5°.74E, h0km, mb4.4/12, mb1 4.5/13, mb1mx4.2/33, mbtmp4.4/13, ML3.9/1, MS3.7/11, Ms1 3.6/11, ms1mx3.5/28, Error ellipse: s-maj=20.6km s-min=14.4km az=105.0*
*NEIC **23** 01:20:09.1±0.3, 54°.46S×5°.71E, h10km, mb4.8/14, Error ellipse: s-maj=9.7km s-min=7.2km az=115.0*

ISC 23 01:20:09.3±0.5, 54°.45S±0°.08×5°.7E±0°.1, h10km, n54, σ0s76/39, mb4.5/21, MS3.7/10, Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.39**	**196**	P	**P**	**01 24 12.4**	**-0.5**
VNA2	**Neumayer--Watz** baz=20,slow=15	**17.51**	**194**	P	**P**	**01 24 13.9**	**-0.4**
VNA2	**Neumayer--Watz** baz=28,slow=24	**17.51**	**194**	S	Sn	01 27 11.6	-16
SNAA	**Sanae**	**17.67**	**189**	P	**Pn**	**01 24 13.8**	**-1.4**
SNAA	**Sanae**	**17.67**	**189**	S	Sn	01 27 10.7	-21
SNAA	**Sanae**	**17.67**	**189**	P	**Pn**	**01 24 14.5**	**-0.8**
SNAA	0.4nm,0.3s,baz=41,slow=17,SNR=48			S	Sn	01 27 13.0	-19
SNAA	0.1nm,0.3s,baz=347,slow=18,SNR=4.5			LR	LR	01 29 54.0	
SNAA	comp=Z,149nm,18.1s,baz=23,slow=33 **Sanae**	**17.67**	**189**	*e*Pn	**Pn**	**01 24 12.6**	**-2.6**
SNAA	51nm,0.9s			S	Sn	01 27 13.0	-19
VNA3	**Neumayer Olymp**	**18.14**	**196**	P	**Pn**	**01 24 20.8**	**-0.2**
VNA3	**Neumayer Olymp**	**18.14**	**196**	S	Sn	01 27 26.1	-17
SUR	**Sutherland**	**24.54**	**32**	LR	LR	01 32 40.8	
SUR	comp=Z,176nm,18.6s,baz=191,slow=31 **Sutherland**	**24.54**	**32**	*e*P	**P**	**01 25 29.6**	**+0.4**
MAW	4.4nm,1.4s **Mawson**	**29.41**	**139**	P	**P**	**01 26 12.7**	**+0.4**
MAW	3.7nm,0.9s,baz=281,slow=9.7,SNR=5.6			LR	LR	01 35 56.8	
BOSA	comp=Z,83nm,20.0s,baz=243,slow=32 **Boshof**	**29.48**	**37**	P	**P**	**01 26 13.2**	**-0.3**
BOSA	3.2nm,1.1s,baz=202,slow=9.0,SNR=4.3			LR	LR	01 35 33.0	
LBTB	comp=Z,160nm,21.3s,baz=198,slow=31 **Lobatse**	**32.91**	**35**	P	**P**	**01 26 43.0**	**-0.7**
LBTB	3.6nm,0.7s,baz=212,slow=12,SNR=9.1 **Lobatse**	**32.91**	**35**	*e*P	**P**	**01 26 43.0**	**-0.7**
QSPA	8.9nm,1.2s **South Pole Qui**	**35.78**	**180**	P	**P**	**01 27 08.6**	**+0.3**
TSUM	7.9nm,0.8s,baz=224,slow=2.2,SNR=37 **Tsumeb**	**36.35**	**19**	P	**P**	**01 27 13.5**	**+0.1**
TSUM	6.4nm,1.0s,baz=183,slow=8.6,SNR=17 **Tsumeb**	**36.35**	**19**	*e*P	**P**	**01 27 13.2**	**-0.3**
MATP	7.4nm,1.1s **Matopo**	**38.14**	**36**	P	**P**	**01 27 28.0**	**-0.7**
LSZ	2.3nm,0.6s,baz=206,slow=8.7,SNR=10 **Lusaka**	**42.84**	**33**	*e*P	**P**	**01 28 06.8**	**-0.7**
CASY	4.6nm,1.1s **Casey**	**47.01**	**148**	*e*P	**P**	**01 28 40.8**	**+0.7**
VNDA	12nm,1.1s **Vanda**	**47.46**	**173**	P	**P**	**01 28 44.5**	**+1.0**
VNDA	9.1nm,0.9s,baz=216,slow=6.8,SNR=30			LR	LR	01 48 15.1	
VNDA	comp=Z,158nm,19.8s,baz=192,slow=36 **Vanda**	**47.46**	**173**	*e*P	**P**	**01 28 44.3**	**+0.9**
TRQA	11nm,1.0s **Tornquist**	**47.66**	**261**	*e*P	**P**	**01 28 45.4**	**-0.2**
H10S2	15nm,1.2s **ASCENSION HYDR**	**48.20**	**333**	T	T	02 20 40.5	
H10S3	baz=164,slow=75,SNR=7.5 **ASCENSION HYDR**	**48.21**	**333**	T	T	02 20 44.7	
H10S1	baz=164,slow=75,SNR=8.4 **ASCENSION HYDR**	**48.22**	**333**	T	T

ZIIG	**Zihuatanejo**	**1.19**	**247**	*i* P	Pn	01 22 07.5	-2.2
ZIIG				*e*S	Sn	01 22 22.1	-2.8
YAIG	**Yautepec**	**1.42**	**57**	*i* P	Pn	01 22 11.4	-1.9
YAIG				*i* S	Sn	01 22 29.0	-2.0
TLIG	**Tlapa**	**1.75**	**107**	*i* P	Pn	01 22 16.7	-0.9
TLIG				*e*S	Sn	01 22 36.7	-2.2
EZ5V		**3.41**	**295**	*e*P	Pn	01 22 41.3	+0.8
R15V		**3.64**	**288**	*e*P	Pn	01 22 42.4	-1.0

IDC 23 01:30:26.3±1.3, 54°90S×31°74W, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/21, mbtmp3.6/4, Error ellipse: s-maj=42.8km s-min=31.5km az=65.0, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**20.87**	**155**	P	P	01 35 09.8	+0.2
	0.3nm,0.7s,baz=311,slow=13,SNR=4.3						
LPAZ	**La Paz**	**47.62**	**310**	P	P	01 39 04.8	+0.1
	0.8nm,0.5s,baz=140,slow=7.9,SNR=4.9						
H10S2	**ASCENSION HYDR**	**47.80**	**23**	T	T	02 31 09.2	
	baz=193,slow=75,SNR=12						
H10S3	**ASCENSION HYDR**	**47.80**	**23**	T	T	02 31 07.1	
	baz=193,slow=75,SNR=8.5						
H10S1	**ASCENSION HYDR**	**47.82**	**23**	T	T	02 31 08.1	
	baz=191,slow=75,SNR=7.9						
H10N1	**ASCENSION HYDR**	**48.91**	**23**	T	T	02 32 36.7	
	baz=191,slow=75,SNR=13						
H10N3	**ASCENSION HYDR**	**48.91**	**23**	T	T	02 32 30.4	
	baz=191,slow=75,SNR=12						
H10N2	**ASCENSION HYDR**	**48.93**	**23**	T	T	02 32 36.9	
	baz=191,slow=75,SNR=12						
DBIC	**Dimbokro**	**65.32**	**30**	P	P	01 41 10.1	+0.1
	1.9nm,0.9s,baz=194,slow=12,SNR=2.7						
TORD	**Torodi Ar. Bea**	**73.44**	**34**	P	P	01 42 00.3	+0.1
	0.6nm,0.8s,baz=198,slow=6.4,SNR=8.6						
ZALV	**Zalesovo Beam**	**144.21**	**65**	PKP	PKPbc	01 50 01.8	+0.7
	0.5nm,0.4s,baz=262,slow=2.9,SNR=3.3						
ILAR	**Eielson Array**	**147.43**	**314**	PKPbc	PKPbc	01 50 09.4	-1.1
	0.7nm,0.7s,baz=131,slow=2.3,SNR=7.4						

IDC 23 01:31:58.4±9.1, 25°03S×179°88E, h361km±92km, mb3.1/5, mb1 3.3/6, mb1mx3.1/42, mbtmp3.9/6, Error ellipse: s-maj=47.5km s-min=41.0km az=162.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**13.40**	**189**	P	P	01 34 53.6	-1.3
	0.9nm,0.3s,baz=59,slow=18,SNR=4.9						
URZ				S	S	01 37 25.9	+4.9
	0.2nm,0.3s,baz=21,slow=18,SNR=4.9						
STKA	**Stephens Creek**	**34.21**	**250**	P	P	01 38 13.3	+1.8
	0.8nm,0.4s,baz=84,slow=10,SNR=3.7						
ASAR	**Alice Springs**	**41.75**	**262**	P	P	01 39 13.7	-0.3
	0.4nm,0.3s,baz=87,slow=7.4,SNR=12						
WRA	**Warramunga Arr**	**42.23**	**267**	P	P	01 39 17.1	-0.8
	1.0nm,0.3s,baz=104,slow=8.3,SNR=70						
MJAR	**Matsushiro Arr**	**72.76**	**326**	P	P	01 42 47.5	-0.8
	0.6nm,0.6s,baz=90,slow=7.9,SNR=3.1						
PETK	**Petropavlovsk-**	**80.17**	**347**	P	P	01 43 30.0	+1.1
	1.0nm,0.7s,baz=146,slow=6.4,SNR=3.1						
FINES	**FINESS Array B**	**139.47**	**341**	PKP	PKPdf	01 50 44.0	+1.3
	0.6nm,0.9s,baz=85,slow=3.3,SNR=4.2						
AKASG	**Malin Array Be**	**145.85**	**326**	PKPbc	PKPdf	01 50 54.5	+0.2
	0.6nm,0.4s,baz=46,slow=4.1,SNR=7.1						
BRTR	**Keskin Array B**	**148.15**	**306**	PKPbc	PKPbc	01 51 01.4	-1.1
	0.4nm,0.7s,baz=86,slow=4.1,SNR=3.6						

MAN 23 01:39:35, 8°82N×122°55E, h1km, mb4.8, ML3.8, MS3.8, 2C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCPH	**Dipolog City**	**0.82**	**106**	*e*P	Pg	01 39 50.7	-0.1
SNPH	**Sibulan**	**0.85**	**52**	*i*P	Pg	01 39 46.4	-5.1
SNPH				*i* S	Sg	01 39 58.0	-4.7
PAGZ	**Pagadian**	**1.26**	**139**	*e*P	Pn	01 39 59.9	+0.1
PAGZ				*e*S	Sg	01 40 12.9	-2.8
TBP	**Tagbilaran**	**1.56**	**56**	*e*P	Pn	01 40 03.1	-0.7
TBP				*e*S	Sg	01 40 26.0	+0.8
GUIM	**Jordan**	**1.80**	**1**	*e*P	Pn	01 40 07.8	+0.6
GUIM				*e*S	Sn	01 40 26.3	-4.4
CGP	**Cagayan de Oro**	**2.15**	**99**	*e*P	Pn	01 40 11.4	-0.5
CGP				*i* S	Sn	01 40 38.0	-1.3
CTBH	**Cotabato--PC H**	**2.31**	**133**	*i*P	Pn	01 40 15.2	+1.0
CUYO	**Cuyo Island**	**2.52**	**323**	*e*P	Pn	01 40 18.1	+0.9
MSLP	**Maasin**	**2.62**	**60**	*e*P	Pn	01 40 14.2	-4.4
BUKP	**Musuan**	**2.65**	**110**	*e*P	Pb	01 40 21.4	-2.0
RCP	**Roxas**	**2.73**	**4**	*e*P	Pb	01 40 22.7	-2.1
RCP				*e*S	Sb	01 40 58.1	-0.7
ENPP	**El Nido**	**3.89**	**308**	*e*P	Pn	01 40 37.4	+1.5

ISCJB 23 01:40:02.6±1.7, 36°11S±0°07×73°56W±0°09, h18km±13km, mb3.6/2, Error ellipse: s-maj=14.2km s-min=7.7km az=43.1

IDC 23 01:40:02.1±1.4, 36°11S×73°57W, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.6/21, mbtmp3.4/5, ML2.4/2, MS2.2/1, Ms1 2.2/1, ms1mx2.2/16, Error ellipse: s-maj=47.8km s-min=25.3km az=95.0

GUC 23 01:40:04.3±0.3, 36°15S×73°50W, h12km±1km, ML4.1

ISC 23 01:40:03.6±2.0, 36°16S±0°06×73°49W±0°09, h13km±11km, n11, σ0°91/18, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.57**	**88**	*e*P	**Pg**	**01 40 14.8**	**+0.1**
COCH				*e*S	**Sg**	**01 40 22.7**	**+0.4**
CCSP	**San Pedro de C**	**0.75**	**156**	*e*P	**Pg**	**01 40 17.7**	**-0.4**
CCSP				*e*S	**Sb**	**01 40 28.0**	**-0.7**
CCSP				AML	AML	01 40 29.9	
	comp=N,18μm,0.4s						
LNCH	**Linares**	**1.56**	**79**	*e*P	**Pn**	**01 40 30.6**	**-0.5**
LNCH				*e*S	**Sn**	**01 40 50.6**	**-0.6**
TALC	**Talca**	**1.69**	**64**	*e*P	**Pn**	**01 40 32.5**	**-0.3**
TALC				*e*S	**Sn**	**01 40 54.0**	**-0.3**
NICH	**Los Niches**	**2.17**	**59**	*e*P	**Pn**	**01 40 40.4**	**+0.9**
NICH				*e*S	**Sn**	**01 41 07.7**	**+1.4**
CLCH	**Cerro Calan**	**3.67**	**42**	*e*P	**Pn**	**01 40 58.6**	**-1.6**
CLCH				*e*S	**Sn**	**01 41 42.0**	**-1.4**
PLCA	**Paso Flores**	**5.12**	**154**	Pn	**Pn**	**01 41 20.4**	**+0.4**
	comp=N,0.0nm,0.3s,baz=327,slow=13,SNR=3.0						
PLCA				Lg	Lg	01 42 41.4	
	comp=N,1.1nm,0.3s,baz=312,slow=9.8,SNR=4.8						
CFAA	**Coronel Fontan**	**6.30**	**45**	Pn	**Pn**	**01 41 36.5**	**+0.2**
	comp=N,0.1nm,0.3s,baz=219,slow=14,SNR=14						
CFAA				Sn	**Sn**	**01 42 47.1**	**-1.1**
	comp=N,0.1nm,0.3s,baz=360,slow=19,SNR=2.4						
CFAA				LR	LR	01 44 23.8	
	comp=N,21nm,21.0s,baz=242,slow=42						
LPAZ	**La Paz**	**20.36**	**15**	P	**P**	**01 44 40.9**	**+0.4**
	comp=N,1.0nm,0.9s,baz=217,slow=10,SNR=2.7						
VNDA	**Vanda**	**61.76**	**192**	P	**P**	**01 50 22.4**	**+1.1**
	comp=N,0.8nm,0.9s,baz=124,slow=4.3,SNR=3.2						
TXAR	**Lajitas Array**	**71.06**	**332**	P	**P**	**01 51 21.4**	**-0.1**
	comp=N,0.4nm,0.7s,baz=153,slow=8.8,SNR=5.0						

IDC 23 01:46:05.1±2.3, 1°92N×99°50E, h158km±15km, mb3.3/4, mb1 3.5/4, mb1mx3.0/39, mbtmp3.8/4, Error ellipse: s-maj=184.7km s-min=18.5km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**1.05**	**327**	P	Pn	01 46 30.9	-0.3
	7.4nm,0.3s,baz=166,slow=8.3,SNR=17						
PSI				S	Sn	01 46 50.1	-1.0
	1.1nm,0.3s,baz=65,slow=18,SNR=4.9						
WRA	**Warramunga Arr**	**40.50**	**124**	P	P	01 53 28.6	-0.2
	1.0nm,0.5s,baz=302,slow=9.1,SNR=17						
MKAR	**Makanchi Array**	**47.15**	**344**	P	P	01 54 21.4	-0.1
	0.4nm,0.4s,baz=165,slow=8.4,SNR=7.9						
KURBB	**Kurchatov Arra**	**51.68**	**343**		P	01 54 55.6	-0.1
	0.3nm,0.3s,baz=161,slow=7.6,SNR=5.2						
ZALV	**Zalesovo Beam**	**53.25**	**349**	P	P	01 55 07.1	-0.1
	1.0nm,0.5s,baz=165,slow=6.0,SNR=6.1						

SJA 23 01:46:24.5±0.7, 35°94S×73°77W, h10km, ML3.4, MW3.1

IDC 23 01:46:26.1±1.2, 36°10S×73°43W, h0km, mb3.8/7, mb1 3.9/9, mb1mx3.8/23, mbtmp3.8/9, ML3.7/2, Error ellipse: s-maj=33.7km s-min=21.0km az=88.0

GUC 23 01:46:28.2±0.5, 36°13S×73°62W, h18km±3km, ML4.5

NEIC 23 01:46:32.6±1.4, 36°21S×73°09W, h48km±13km, mb4.1/8, Error ellipse: s-maj=18.0km s-min=8.1km az=86.0

ISC 23 01:46:30.5±1.9, 36°19S±0°04×73°40W±0°09, h31km±13km, n40, σ1°30/45, mb4.1/13, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.69**	**161**	*i*P	**Pb**	**01 46 42.9**	**-1.1**
CCSP				*i* S	**Sn**	**01 46 54.2**	**+0.4**
CCSP				AML	AML	01 46 55.3	
	comp=N,27μm,0.5s						
LNCH	**Linares**	**1.50**	**77**	*i*P	**Pb**	**01 46 56.5**	**-1.1**
LNCH				*i* S	**Sb**	**01 47 17.9**	**+1.7**
TALC	**Talca**	**1.64**	**62**	*e*P	**Pn**	**01 46 57.9**	**+0.8**
TALC				*i* S	**Sb**	**01 47 20.9**	**+0.6**
NICH	**Los Niches**	**2.13**	**57**	*i*P	**Pn**	**01 47 05.9**	**+2.0**
NICH				*i* S	**Sb**	**01 47 34.0**	**-0.3**
CANA	**Caviahue**	**2.52**	**133**	*e*P	**Pb**	**01 47 13.8**	**-1.3**
CANA				*e*S	**Sb**	**01 47 49.9**	**+4.2**
CLCH	**Cerro Calan**	**3.65**	**41**	*i*P	**Pn**	**01 47 24.6**	**-0.3**
CLCH				*i* S	**Sn**	**01 48 08.2**	**+1.3**
PEL	**Peldehue**	**3.77**	**37**	AML	AML	01 48 48.6	
	comp=E,545nm,0.5s						
AAGR	**Agrelo**	**4.88**	**52**	*e*P	**Pn**	**01 47 43.6**	**+1.8**
ARCO	**CERRO ARCO**	**4.97**	**49**	*e*P	**Pn**	**01 47 44.7**	**+1.5**
ARCO				AML	AML	01 48 44.9	
	comp=Z,24nm,0.7s						
PLCA	**Paso Flores**	**5.05**	**155**	Pn	**Pn**	**01 47 46.0**	**+1.9**
	comp=Z,1.5nm,0.3s,baz=326,slow=11,SNR=29						
PLCA				Lg	Lg	01 49 06.2	
	comp=Z,1.8nm,0.3s,baz=77,slow=22,SNR=4.4						
PLCA	**Paso Flores**	**5.05**	**155**	*e*Pn	**Pn**	**01 47 45.1**	**+1.0**
PLCA				Lg	Lg	01 49 06.2	
AUSP	**Usapallata**	**5.17**	**41**	*e*P	**Pn**	**01 47 46.1**	**+0.1**
ASAL	**Salagasta**	**5.21**	**48**	*e*P	**Pn**	**01 47 47.4**	**+1.1**
RTLS	**Leoncito**	**5.55**	**39**	*e*P	**Pn**	**01 47 51.9**	**+0.7**
RTCV	**Cerro Valdivia**	**5.91**	**44**	*e*P	**Pn**	**01 47 56.3**	**+0.4**
CFAA	**Coronel Fontan**	**6.27**	**45**	Pn	**Pn**	**01 48 00.3**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=204,slow=13,SNR=21						
CFAA				Sn	**Sn**	**01 49 11.9**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=315,slow=14,SNR=4.3						
CFAA	**Coronel Fontan**	**6.27**	**45**	*e*P	**Pn**	**01 48 00.5**	**-0.4**
RTLL	**Cerro Villicun**	**6.35**	**42**	*e*P	**Pn**	**01 48 01.6**	**-0.4**
ACAN	**Cantantal**	**6.46**	**55**	*e*P	**Pn**	**01 48 04.1**	**+0.7**
AMOG	**MOGNA**	**6.65**	**39**	*e*P	**Pn**	**01 48 05.4**	**-0.7**
TRQA	**Tornquist**	**9.30**	**105**	*e*Pn	**Pn**	**01 48 39.5**	**-3.0**
	comp=Z,14nm,1.3s						
LVC	**Limon Verde**	**14.08**	**17**	*e*Pn	**Pn**	**01 49 49.2**	**+1.1**
CPUP	**Villa Florida**	**16.87**	**59**	*e*Pn	**Pn**	**01 50 22.4**	**-1.9**
LPAZ	**La Paz**	**20.37**	**15**	P	**P**	**01 51 04.9**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=214,slow=4.1,SNR=3.0						
LPAZ	**La Paz**	**20.37**	**15**	*e*P	Pn	01 51 07.0	-0.7
	comp=Z,1.1nm,0.6s						
SIV	**San Ignacio**	**22.92**	**32**	P	**P**	**01 51 31.8**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=220,slow=13,SNR=6.3						
SAML	**Samuel**	**28.67**	**21**	*e*P	**P**	**01 52 23.1**	**-1.5**
	comp=Z,1.3nm,0.7s						
PMSA	**Palmer Station**	**29.16**	**172**	*e*P	**P**	**01 52 27.9**	**-0.6**
	comp=Z,161nm,1.4s						
OTAV	**Otavalo**	**36.55**	**351**	*e*P	**P**	**01 53 34.1**	**+0.1**
	comp=Z,9.7nm,1.5s						
SDV	**Santo Domingo**	**44.91**	**4**	*e*P	**P**	**01 54 42.3**	**-0.4**
	comp=Z,2.2nm,0.7s						
SNAA	**Sanae**	**49.99**	**157**	P	**P**	**01 55 22.5**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=274,slow=8.0						
SNAA	**Sanae**	**49.99**	**157**	*e*P	**P**	**01 55 20.5**	**-0.9**
	comp=Z,4.3nm,1.1s						
TXAR	**Lajitas Array**	**71.13**	**332**	P	**P**	**01 57 46.4**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=151,slow=8.8,SNR=6.8						
SWET	**Sewanee**	**72.00**	**349**	*e*P	**P**	**01 57 51.0**	**-0.1**
WVT	**Waverly**	**73.20**	**348**	*e*P	**P**	**01 57 58.3**	**+0.2**
	comp=Z,1.3nm,0.6s						
DBIC	**Dimbokro**	**76.93**	**72**	P	**P**	**01 58 19.6**	**-0.6**
	comp=Z,4.6nm,1.1s,baz=188,slow=7.1,SNR=2.2						
ISCO	**Idaho Springs**	**81.23**	**335**	*e*P	**P**	**01 58 44.2**	**+0.7**
	comp=Z,0.7nm,0.4s						
DUG	**Dugway, Tooele**	**84.22**	**331**	*e*P	**P**	**01 59 00.7**	**+1.9**
	comp=Z,4.8nm,1.4s						
TORD	**Torodi Ar. Bea**	**85.99**	**71**	P	**P**	**01 59 08.6**	**+0.5**
	comp=Z,0.3nm,0.9s,baz=256,slow=5.8,SNR=3.3						
ULM	**Lac du Bonnet**	**88.33**	**346**	P	**P**	**01 59 17.9**	**-0.7**
	comp=Z,2.7nm,0.8s,baz=192,slow=20,SNR=3.7						

SJA 23 01:51:35.5±9.3, 33°10S×73°03W, h10km, ML4.2, MW4.3

GUC 23 01:51:36.6±0.7, 33°89S×72°56W, h7km±8km, ML4.5

IDC 23 01:51:36.0±0.6, 33°85S×72°26W, h0km, mb4.4/16, mb1 4.5/19, mb1mx4.4/32, mbtmp4.4/19, ML4.3/3, MS4.0/7, Ms1 4.0/7, ms1mx3.7/18, Error ellipse: s-maj=23.4km s-min=15.0km az=72.0

ISCJB 23 01:51:36.1±1.5, 33°88S±0°03×72°58W±0°04, h9km±9km, mb4.5/53, MS4.1/8, Error ellipse: s-maj=5.4km s-min=5.0km az=11.8

NEIC 23 01:51:40.3±2.0, 33°84S×72°22W, h26km±14km, mb4.6/44, Error ellipse: s-maj=9.1km s-min=5.1km az=74.0

NEIC Felt at San Antonio, Santiago and Villa Alemana.

BJI 23 01:51:41.7, 33°90S×72°20W, h35km, mB4.4/1, Ms5.1/3, Ms7 4.8/3

ISC 23 01:51:40.0±1.4, 33°87S±0°04×72°37W±0°07, h26km±9km, n129, σ1°27/132, mb4.6/54, MS4.1/8, 8C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.80**	**96**	*i*P	**Pb**	**01 51 54.9**	**-0.5**
IHA	**Instituto Hidr**	**1.04**	**36**	*i*P	**Pn**	**01 51 57.9**	**-1.0**
TACH	**Talagante**	**1.21**	**80**	*i*P	**Pn**	**01 52 00.8**	**-0.5**
CHCH	**Chadas Angostu**	**1.43**	**93**	*i*P	**Pn**	**01 52 04.6**	**+0.3**
ROCH	**El Roble**	**1.45**	**52**	*i*P	**Pn**	**01 52 04.4**	**-0.3**
ROCH				*e*S	**Sb**	**01 52 26.1**	**+1.6**
ROCH				AML	AML	01 52 39.1	
	comp=N,8μm,0.6s						
NICH	**Los Niches**	**1.47**	**140**	*i*P	**Pn**	**01 52 04.9**	**+0.1**
NICH				*i* S	**Sb**	**01 52 25.9**	**+0.9**
SAN	**Santiago**	**1.48**	**74**	*i*P	**Pn**	**01 52 05.6**	**+0.5**
SAN				*e*S	**Sb**	**01 52 27.2**	**+1.8**
PCH	**Pirque**	**1.57**	**81**	*i*P	**Pn**	**01 52 06.7**	**+0.4**
PEL	**Peldehue**	**1.58**	**63**	*i*P	**Pn**	**01 52 07.0**	**+0.5**
PEL				AML	AML	01 52 38.0	
	comp=N,17μm,0.6s						
CLCH	**Cerro Calan**	**1.60**	**73**	*i*P	**Pn**	**01 52 07.0**	**+0.4**
CLCH				*e*S	**Sb**	**01 52 30.9**	**+2.1**
CLCH				AML	AML	01 52 45.8	
	comp=N,6μm,0.6s						
TALC	**Talca**	**1.64**	**158**	*i*P	**Pn**	**01 52 06.2**	**-0.9**
TALC				*i* S	**Sb**	**01 52 30.2**	**+0.5**
YECH	**El Yeso**	**1.92**	**84**	*i*P	**Pn**	**01 52 10.5**	**-0.8**
YECH				*i* S	**Sb**	**01 52 38.1**	**0.0**
LNCH	**Linares**	**2.07**	**162**	*i*P	**Pn**	**01 52 12.9**	**-0.2**
AUSP	**Usapallata**	**3.00**	**58**	*e*P	Pn	01 52 29.1	+3.0
ARCO	**CERRO ARCO**	**3.05**	**71**	*e*P	**Pb**	**01 52 31.3**	**-2.5**
ARCO				AML	AML	01 53 26.8	
	comp=Z,543nm,0.6s						
AAGR	**Agrelo**	**3.06**	**76**	*e*P	**Pb**	**01 52 33.3**	**-0.6**
RTLS	**Leoncito**	**3.31**	**52**	*e*P	Pn	01 52 33.4	+3.0
RTCV	**Cerro Valdivia**	**3.79**	**59**	*e*P	**Pn**	**01 52 39.0**	**+2.1**
CANA	**Caviahue**	**4.14**	**166**	*e*S	Sb	01 53 54.1	+12
CFAA	**Coronel Fontan**	**4.15**	**58**	Pn	**Pn**	**01 52 43.3**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=232,slow=12,SNR=17						
CFAA				Lg	Lg	01 53 46.7	
	comp=Z,1.0nm,0.3s,baz=241,slow=17,SNR=3.1						
CFAA	**Coronel Fontan**	**4.15**	**58**	*e*P9	**Pn**	**01 52 43.1**	**+1.3**
CFAA				*e*S	Sb	01 53 48.9	+6.7
RTLL	**Cerro Villicun**	**4.15**	**53**	*e*P	**Pn**	**01 52 43.8**	**+2.1**
AMOG	**MOGNA**	**4.39**	**49**	*e*P	**Pn**	**01 52 47.0**	**+1.9**
LCO	**Las Campanas**	**5.05**	**17**	*e*Pn	**Pn**	**01 52 53.0**	**-1.4**
LCO				*e*Lg	Lg	01 54 12.0	
PLCA	**Paso Flores**	**7.00**	**169**	Pn	**Pn**	**01 53 20.7**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=341,slow=11,SNR=9.6						
PLCA				Lg	Lg	01 55 10.6	
	comp=Z,0.5nm,0.3s,baz=47,slow=2.9,SNR=3.0						
PLCA	**Paso Flores**	**7.00**	**169**	*e*Pn	**Pn**	**01 53 20.8**	**-0.1**
PLCA				Lg	Lg	01 55 10.6	
PLCA				*e*Lg	Lg	01 55 10.6	
TRQA	**Tornquist**	**9.40**	**119**	*e*Pn	**Pn**	**01 53 53.6**	**-0.1**
TRQA				*e*Lg	Lg	01 56 46.1	
LVC	**Limon Verde**	**11.62**	**16**	Pn	**Pn**	**01 54 22.5**	**-2.0**
	comp=Z,7.3nm,0.3s,baz=163,slow=16,SNR=3.2						
LVC				LR	LR	01 58 59.2	
	comp=Z,2μm,19.9s,baz=213,slow=38						
LVC	**Limon Verde**	**11.62**	**16**	*e*Pn	Pn	01 54 19.0	-5.5
LVC				*e*Lg	Lg	01 57 07.9	
CPUP	**Villa Florida**	**15.02**	**64**	*e*Pn	**Pn**	**01 55 08.7**	**-1.9**
LPAZ	**La Paz**	**17.92**	**13**	P	**Pn**	**01 55 48.1**	**0.0**
	comp=Z,0.4nm,0.3s,baz=177,slow=8.1,SNR=33						
LPAZ	**La Paz**	**17.92**	**13**	*e*Pn	**Pn**	**01 55 48.1**	**0.0**
	comp=Z,21nm,1.1s						
SIV	**San Ignacio**	**20.51**	**33**	P	**P**	**01 56 15.3**	**-1.0**
	comp=Z,15nm,0.8s,baz=232,slow=12,SNR=20						
EFI	**East Falkland**	**20.59**	**154**	*e*P	**P**	**01 56 15.6**	**-1.3**
	comp=Z,13nm,0.6s						
USHA	**Ushuaia**	**21.14**	**174**	P	**P**	**01 56 26.0**	**+3.3**
	comp=Z,10nm,1.0s,baz=349,slow=10,SNR=2.8						
ATAH	**Atahualpa**	**27.18**	**347**	LR	LR	02 06 42.3	
	comp=Z,195nm,21.7s,baz=193,slow=33						
BDFB	**Brasilia**	**28.49**	**56**	P	**P**	**01 57 32.2**	**-1.2**
	comp=Z,4.8nm,0.7s,baz=211,slow=12,SNR=10						
BDFB				LR	LR	02 10 27.0	
	comp=Z,493nm,19.0s,baz=226,slow=40						
OTAV	**Otavalo**	**34.41**	**349**	*e*P	**P**	**01 58 26.1**	**+0.4**
	comp=Z,6.7nm,1.1s						
SDV	**Santo Domingo**	**42.55**	**3**	*e*P	**P**	**01 59 34.1**	**+0.2**
	comp=Z,6.4nm,1.0s						
VNA3	**Neumayer Olymp**	**49.58**	**158**	P	**P**	**02 00 29.3**	**+0.9**
VNA1	**Neumayer--Stat**	**49.90**	**157**	P	**P**	**02 00 32.5**	**+1.7**
VNA2	**Neumayer--Watz**	**50.23**	**157**	P	**P**	**02 00 34.3**	**+0.9**
	baz=289,slow=8.8						
PTCN	**Pitcairn Islan**	**50.46**	**264**	*e*P	**P**	**02 00 35.8**	**+0.1**
	comp=Z,280nm,0.8s						
SNAA	**Sanae**	**51.81**	**158**	P	**P**	**02 00 43.8**	**-1.4**
SNAA	**Sanae**	**51.81**	**158**	P	**P**	**02 00 45.6**	**+0.3**
	comp=Z,4.6nm,0.8s,baz=274,slow=9.4,SNR=48						
SNAA	**Sanae**	**51.81**	**158**	*e*P	**P**	**02 00 43.2**	**-2.1**
	comp=Z,14nm,0.9s						
OBIP	**Obispado Ponce**	**51.92**	**7**	*e*P	**P**	**02 00 45.9**	**-0.6**
SDDR	**Presa de Saban**	**52.57**	**1**	*e*P	**P**	**02 00 52.2**	**+0.7**
QSPA	**South Pole Qui**	**56.36**	**180**	*e*P	**P**	**02 01 19.3**	**+0.7**
	comp=Z,10nm,1.0s						
VNDA	**Vanda**	**64.17**	**191**	*e*P	**P**	**02 02 12.2**	**+0.5**
	comp=Z,6.0nm,1.3s						
TBI	**Tubuai**	**67.08**	**257**	*e*S	S	02 11 34.3	+10
	comp=Z,69nm,25.2s						
TBI	**Tubuai**	**67.08**	**257**	*e*LR	LR	02 22 55.0	
	comp=Z,194nm,27.2s						
HKT	**Hockley**	**67.24**	**338**	*e*P	**P**	**02 02 33.0**	**+1.1**
	comp=Z,9.0nm,1.2s						
GOGA	**Godfrey**	**67.74**	**350**	*e*P	**P**	**02 02 34.1**	**-0.9**
	comp=Z,11nm,1.4s						
LRAL	**Lakeview Retre**	**67.96**	**347**	*e*P	**P**	**02 02 36.3**	**-0.2**
	comp=Z,2.2nm,0.7s						
JCT	**Junction City**	**69.05**	**335**	*e*P	**P**	**02 02 44.0**	**+0.6**
	comp=Z,21nm,1.2s						
KMSC	**Kings Mountain**	**69.17**	**352**	*e*P	**P**	**02 02 43.6**	**-0.4**
	comp=Z,3.2nm,0.9s						
TXAR	**Lajitas Array**	**69.49**	**331**	P	**P**	**02 02 46.7**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=155,slow=8.0,SNR=13						
TXAR				LR	LR	02 28 43.5	
	comp=Z,106nm,18.8s,baz=0.0,slow=32						
WHTX	**Lake Whitney,**	**69.65**	**337**	*e*P	**P**	**02 02 47.7**	**+0.7**
	comp=Z,18nm,1.1s						
OXF	**Oxford**	**69.88**	**345**	*e*P	**P**	**02 02 48.5**	**+0.2**
	comp=Z,29nm,1.2s						
SWET	**Sewanee**	**69.89**	**348**	*e*P	**P**	**02 02 48.6**	**+0.1**
	comp=Z,9.7nm,1.0s						
PPT2	**Papeete2**	**69.98**	**262**	*e*LR	LR	02 24 05.9	
	comp=Z,142nm,28.8s						
TKL	**Tuckaleechee C**	**69.99**	**350**	P	**P**	**02 02 48.6**	**-0.5**
	comp=Z,5.5nm,0.9s,baz=164,slow=7.4						
PPT	**Papeete**	**69.99**	**262**	LR	LR	02 26 39.7	
	comp=Z,70nm,20.0s,baz=141,slow=30						
MIAR	**Mount Ida**	**70.91**	**342**	*e*P	**P**	**02 02 55.0**	**+0.3**
	comp=Z,8.5nm,1.2s						
ABTX

comp=Z,0.9nm,0.6s,baz=328,slow=8.4,SNR=4.7
ABKAR **Akbulak array** 141.82 52 *e*PKPdf **PKPdf** 02 11 03.9 -4.9
BVAR **Borovoye Array** 147.37 43 PKP **PKPdf** 02 11 18.3 0.0
comp=Z,2.3nm,0.6s,baz=278,slow=4.2,SNR=11
BVAR PKPbc **PKPbc** 02 11 21.6 +0.8
comp=Z,3.0nm,0.7s,baz=298,slow=3.2,SNR=15
PSI **Prapat** 148.03 163 PKPbc **PKPbc** 02 11 22.9 -1.0
comp=Z,2.4nm,0.5s,baz=166,slow=8.0,SNR=3.6
KKAR **Karatay Array** 149.72 61 *e*PKPbc **PKPbc** 02 11 27.5 +0.3
EKS2 **Erkin-Say** 152.16 62 *e*PKPbc **PKPbc** 02 11 34.2 +1.0
KURK **Kurchatov** 152.97 43 *e*PKPbc **PKPbc** 02 11 34.4 0.0
TKM2 **Tokmak 2** 153.45 61 *e*PKPbc **PKPbc** 02 11 36.1 0.0
ZAA0 **Zalesovo Array** 154.26 32 *e*PKPbc **PKPbc** 02 11 36.9 -0.2
ZALV **Zalesovo Beam** 154.26 32 PKPbc **PKPbc** 02 11 37.5 +0.3
comp=Z,3.0nm,0.6s,baz=292,slow=3.2,SNR=11
MKAR **Makanchi Array** 156.89 49 PKPab **PKPab** 02 12 02.9 +0.1
comp=Z,1.5nm,0.6s,baz=277,slow=6.4,SNR=8.1
WMQ **Urumqi** 161.61 51 *e*PKP **PKPdf** 02 11 37.8 -0.6
WMQ PP **PP** 02 16 11.8 +4.6
WMQ SKS **SKSdf** 02 18 39.9 -1.6
WMQ SKKS **SKKSac** 02 22 52.8 -0.8
WMQ SS **SS** 02 36 21.4 -1.8
WMQ LN
comp=Z,57nm,23.2s
WMQ LE
comp=Z,110nm,24.8s
WMQ LZ
comp=Z,44nm,22.8s
ULN **Ulaanbaatar** 166.01 2 *e*PKPdf **PKPdf** 02 11 42.8 +0.4
SONM **Songino Array** 166.02 3 PKPab **PKPab** 02 12 42.0 -0.6
comp=Z,0.8nm,0.6s,baz=342,slow=0.5,SNR=3.1
HHC **Hu-ho-hao-te** 172.37 337 *e*PKP **PKPdf** 02 11 46.3 -0.2
HHC PKS **PKSdf** 02 15 18.3 -0.5
HHC PP **PP** 02 17 05.3 +3.6
HHC SKS **SKSdf** 02 18 49.8 +1.8
HHC PPMZ
comp=Z,43nm,10.0s
HHC LN
comp=Z,170nm,17.4s
HHC LE
comp=Z,190nm,14.9s
HHC LZ
comp=Z,180nm,17.4s
CD2 **Chengdu** 175.59 131 PKP **PKPdf** 02 11 46.0 -1.9
LZH **Lanzhou** 176.19 54 *e*PKP **PKPdf** 02 11 48.3 +0.3
LZH LN
comp=Z,180nm,18.5s
LZH LE
comp=Z,180nm,18.0s
LZH LZ
comp=Z,200nm,20.2s
XAN **Xi'an** 178.91 279 PKP **PKPdf** 02 11 47.0 -1.3

MAN 23 02:18:34,12°.54N×123°.48E,h5km,mb4.4,ML3.3,MS3.1, Luzon

DDA ***23*** *02:19:55.6,37°.33N×38°.57E,h11km,MD3.2*
ISK ***23*** *02:19:55.7,37°.41N×38°.53E,h9km,MD3.5*
CSEM ***23*** *02:19:56.9±0.2,37°.42N×38°.55E,h10km,MD3.2, Error ellipse: s-maj=5.8km s-min=3.7km az=161.0*
ISC 23 02:19:56.9±1.0,37°.40N±0°.03×38°.54E±0°.02,h11km±7km, n60,σ0°.95/90, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAB	**Bozova**	**0.21**	**290**	*i* P		**Pg**	**02 20 00.8**	**-0.5**
ATAB				*i* S		**Sg**	**02 20 04.9**	**+0.6**
ATAB	**Bozova**	**0.21**	**290**	*i* P		**Pg**	**02 20 00.8**	**-0.5**
ATAB				*i* S		**Sg**	**02 20 04.9**	**+0.6**
GZT	**Gaziantep**	**0.78**	**267**	*i* P		**Pg**	**02 20 11.3**	**-0.7**
GZT				*i* S		**Sn**	**02 20 25.9**	**+0.2**
MALT	**Malatya**	**0.92**	**354**	*e*PG		**Pg**	**02 20 13.9**	**-0.7**
MALT				*e*SG		**Sg**	**02 20 26.0**	**-0.6**
MALT	**Malatya**	**0.92**	**354**	*e*Pg		**Pg**	**02 20 13.9**	**-0.7**
MALT				*e*Sg		**Sg**	**02 20 26.0**	**-0.6**
AKCD	**Akcadag**	**1.02**	**332**	*i* P		**Pb**	**02 20 16.9**	**+0.2**
AKCD	**Akcadag**	**1.02**	**332**	*i* P		**Pb**	**02 20 16.9**	**+0.2**
AKCD				*i* S		**Sn**	**02 20 32.9**	**+1.2**
SVRC	**Sivrice-ELAZID**	**1.15**	**32**	*e*PN		**Pb**	**02 20 17.8**	**-1.1**
SVRC				*e*SN		**Sb**	**02 20 33.8**	**-0.1**
SVRC	**Sivrice-ELAZID**	**1.15**	**32**	*e*Pn		**Pb**	**02 20 17.8**	**-1.1**
SVRC				*e*Sn		**Sb**	**02 20 33.8**	**-0.1**
ELZG	**Elazig**	**1.15**	**18**	*i* P		**Pb**	**02 20 18.2**	**-0.7**
ELZG	**Elazig**	**1.15**	**18**	*i* P		**Pb**	**02 20 18.2**	**-0.7**
ELZG				*i* S		**Sn**	**02 20 36.0**	**+0.9**
HCB	**Kahramanmara¯**	**1.30**	**268**	*i* P		**Pn**	**02 20 19.7**	**-1.3**
HCB				*i* S		**Sg**	**02 20 39.1**	**+0.4**
KMRS	**Kahramanmaras**	**1.31**	**275**	*e*PN		**Pn**	**02 20 19.8**	**-1.4**
KMRS				*e*SN		**Sb**	**02 20 38.4**	**0.0**
KMRS	**Kahramanmaras**	**1.31**	**275**	*e*Pn		**Pn**	**02 20 19.8**	**-1.4**
KMRS				*e*Sn		**Sb**	**02 20 38.4**	**0.0**
KUZU	**Kuzuini**	**1.33**	**242**	*i* P		**Pn**	**02 20 21.6**	**+0.2**
KUZU				*i* S		**Sg**	**02 20 40.3**	**+0.7**
KUZU	**Kuzuini**	**1.33**	**242**	*i* P		**Pn**	**02 20 21.6**	**+0.2**
KUZU				*i* S		**Sg**	**02 20 40.3**	**+0.7**
DIYA	**Diyarbakir**	**1.36**	**67**	*i* P		**Pb**	**02 20 22.1**	**-0.3**
DIYA				*i* S		**Sg**	**02 20 41.4**	**+0.7**
DIYA	**Diyarbakir**	**1.36**	**67**	*i* P		**Pb**	**02 20 22.1**	**-0.3**
DIYA				*i* S		**Sg**	**02 20 41.4**	**+0.7**
DYBB	**Diyarbakir**	**1.39**	**66**	*e*PN		**Pb**	**02 20 22.4**	**-0.4**
DYBB				*e*SN		**Sn**	**02 20 40.6**	**-0.1**
DIY	**Diyarbakir**	**1.43**	**69**	*e*Pn		**Pn**	**02 20 22.4**	**-0.5**
DIY				*e*Sn		**Sn**	**02 20 40.6**	**-1.1**
DARE	**Darende-Malaty**	**1.44**	**325**	*e*PN		**Pn**	**02 20 22.5**	**-0.5**
DARE	**Darende-Malaty**	**1.44**	**325**	*e*Pn		**Pn**	**02 20 22.5**	**-0.5**
KAMA	**Osmaniye**	**1.51**	**262**	*i* P		**Pn**	**02 20 22.8**	**-1.1**
KAMA				*i* S		**Sb**	**02 20 44.8**	**+0.7**
MAZI	**Mazidag**	**1.52**	**87**	*e*PN		**Pn**	**02 20 23.6**	**-0.5**
MAZI	**Mazidag**	**1.52**	**87**	*e*Pn		**Pn**	**02 20 23.6**	**-0.5**
PTK	**Pertek**	**1.64**	**24**	*e*PN		**Pn**	**02 20 25.9**	**+0.1**
PTK	**Pertek**	**1.64**	**24**	*e*Pn		**Pn**	**02 20 25.9**	**+0.1**
ANDN	**Andirin**	**1.75**	**277**	*i* P		**Pn**	**02 20 26.2**	**-1.2**
ANDN	**Andirin**	**1.75**	**277**	*i* P		**Pn**	**02 20 26.2**	**-1.2**
ANDN				*i* S		**Sg**	**02 20 55.1**	**+1.8**
MARD	**Mardin**	**1.79**	**92**	*i* P		**Pn**	**02 20 26.7**	**-1.1**
MARD				*i* S		**Sb**	**02 20 52.4**	**+0.2**
ILIC	**ilic-Erzincan**	**2.05**	**1**	*e*PN		**Pn**	**02 20 31.6**	**+0.2**
ILIC	**ilic-Erzincan**	**2.05**	**1**	*e*Pn		**Pn**	**02 20 31.7**	**+0.2**
PINB	**Pinarbasi**	**2.12**	**308**	*i* P		**Pn**	**02 20 32.9**	**+0.4**
PINB	**Pinarbasi**	**2.12**	**308**	*i* P		**Pn**	**02 20 32.9**	**+0.4**
PINB				*i* S		**Sg**	**02 21 06.5**	**+1.7**
BINT	**Bingol**	**2.13**	**46**	*e*Pn		**Pb**	**02 20 35.6**	**0.0**
KOZT	**Kozan**	**2.16**	**273**	*e*PN		**Pn**	**02 20 33.3**	**+0.4**
KOZT	**Kozan**	**2.16**	**273**	*e*Pn		**Pn**	**02 20 33.3**	**+0.4**
BEST	**Besiri**	**2.22**	**76**	*i* P		**Pb**	**02 20 35.3**	**-1.8**
BEST				*i* S		**Sb**	**02 21 06.1**	**+1.4**
SVAN	**Silvan-Diyarba**	**2.24**	**70**	*e*PN		**Pn**	**02 20 34.5**	**+0.6**
CEYT	**Ceyhan**	**2.26**	**261**	*e*PN		**Pn**	**02 20 34.6**	**+0.4**
CEYT	**Ceyhan**	**2.26**	**261**	*e*Pn		**Pn**	**02 20 34.6**	**+0.4**
BNGB	**Bing¨l**	**2.32**	**46**	*e*PN		**Pn**	**02 20 35.6**	**+0.5**
ERZN	**Erzincan**	**2.37**	**23**	*e*PN		**Pn**	**02 20 36.6**	**+0.8**
YAYL	**Yayladag**	**2.38**	**236**	*i* P		**Pn**	**02 20 37.8**	**+1.8**
YAYL	**Yayladag**	**2.38**	**236**	*i* P		**Pn**	**02 20 37.8**	**+1.8**
YAYL				*i* S		**Sb**	**02 21 09.2**	**-0.1**
EZC	**Erzincan**	**2.43**	**15**	*e*Pn		**Pn**	**02 20 36.7**	**-0.1**
BTMT	**Batman**	**2.47**	**70**	*e*PN		**Pn**	**02 20 37.2**	**+0.1**
BTMT	**Batman**	**2.47**	**70**	*e*Pn		**Pn**	**02 20 37.2**	**+0.1**
BNGL	**BINGOL**	**2.58**	**52**	*i* P		**Pg**	**02 20 48.2**	**+1.9**
BNGL				*i* S		**Sg**	**02 21 21.4**	**+1.7**
SVSK	**Karacayir**	**2.79**	**335**	*e*PN		**Pn**	**02 20 42.1**	**+0.6**
SVSK	**Karacayir**	**2.79**	**335**	*e*Pn		**Pn**	**02 20 42.1**	**+0.6**
KELT	**Kelkit**	**2.80**	**11**	*i* P		**Pg**	**02 20 50.7**	**+0.1**
KELT				*i* S		**Sg**	**02 21 27.5**	**+0.6**
SUSE	**Susehri**	**2.82**	**355**	*i* P		**Pn**	**02 20 43.7**	**+1.6**
SUSE				*i* S		**Sn**	**02 21 13.6**	**-2.5**
SUSE	**Susehri**	**2.82**	**355**	*i* P		**Pn**	**02 20 43.7**	**+1.6**
SUSE				*i* S		**Sn**	**02 21 13.6**	**-2.5**
GULE	**Gulek**	**3.00**	**269**	*i* P		**Pn**	**02 20 45.8**	**+1.2**
GULE	**Gulek**	**3.00**	**269**	*i* P		**Pn**	**02 20 45.8**	**+1.2**
GULE				*i* S		**Sg**	**02 21 31.9**	**-1.4**
SIRN	**S¨¨rnak**	**3.08**	**87**	*i* P		**Pn**	**02 20 45.8**	**+0.2**
SIRN	**S¨¨rnak**	**3.08**	**87**	*i* P		**Pn**	**02 20 45.8**	**+0.2**
SIRN				*i* S		**Sg**	**02 21 35.0**	**-0.9**
SIRT	**Sirnak**	**3.10**	**87**	*e*PN		**Pn**	**02 20 45.6**	**-0.3**
SIRT	**Sirnak**	**3.10**	**87**	*e*Pn		**Pn**	**02 20 45.6**	**-0.3**

WEL 23 02:24:06.2±0.4,37°.97S×175°.83E,h184km±4km,ML3.6/17,

4C-1D,Error ellipse: s-maj=3.7km s-min=3.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**1.05**	**106**	PN		Pn	02 24 34.8	+0.1
URZ				SN		Sn	02 24 56.5	-0.2
BKZ	**Black Stump Fm**	**1.30**	**157**	⇑PN		Pn	02 24 36.8	0.0
BKZ				SN		Sn	02 24 59.7	-1.0
TRVZ	**Turoa**	**1.35**	**189**	PN		Pn	02 24 37.9	+0.4
RAHZ	**Arahi**	**1.37**	**134**	PN		Pn	02 24 38.0	+0.7
RAHZ				*e*SN		Sn	02 25 01.0	-0.5
WNVZ	**Wahianoa**	**1.37**	**187**	⇑PN		Pn	02 24 37.7	+0.2
MWZ	**Matawai**	**1.39**	**106**	AML		AML	02 24 38.4	
MOVZ	**Moawhango**	**1.44**	**182**	PN		Pn	02 24 37.8	-0.3
SNGZ	**Shannon Statio**	**1.44**	**125**	PN		Pn	02 24 38.3	+0.3
BHHZ	**Black Hill Sta**	**1.53**	**173**	PN		Pn	02 24 38.5	-0.4
HAZ	**Te Kaha**	**1.56**	**83**	PN		Pn	02 24 38.7	-0.4
WHHZ	**Waihua**	**1.56**	**135**	*e*PN		Pn	02 24 39.1	0.0
ARHZ	**Aropaoanui**	**1.58**	**145**	PN		Pn	02 24 39.6	+0.3
MCHZ	**McNeill Hill**	**1.62**	**155**	PN		Pn	02 24 40.1	+0.4
RIGZ	**Rimuhau**	**1.69**	**116**	PN		Pn	02 24 40.4	0.0
TWGZ	**Tauwhareparae**	**1.71**	**98**	PN		Pn	02 24 41.0	+0.4
KRHZ	**Kereru**	**1.73**	**166**	PN		Pn	02 24 40.4	-0.4
KNZ	**Kokohu**	**1.79**	**127**	PN		Pn	02 24 41.1	-0.2
PRGZ	**Paritu Road**	**1.88**	**121**	PN		Pn	02 24 41.9	-0.3
WAZ	**Wanganui**	**1.90**	**200**	PN		Pn	02 24 42.3	-0.2
CKHZ	**Cape Kidnapper**	**1.95**	**150**	PN		Pn	02 24 42.7	-0.3
PNHZ	**Pukenui**	**1.96**	**172**	PN		Pn	02 24 42.3	-1.0
KAHZ	**Kahuranaki**	**2.00**	**156**	PN		Pn	02 24 43.2	-0.4
WMGZ	**Waiomatatini S**	**2.05**	**87**	⇓PN		Pn	02 24 43.8	-0.3
TSZ	**Takapari Road**	**2.09**	**177**	⇑PN		Pn	02 24 43.5	-1.1
WPHZ	**Waipukurau**	**2.15**	**167**	PN		Pn	02 24 44.1	-1.1
PXZ	**Pawanui**	**2.21**	**159**	PN		Pn	02 24 45.0	-0.8
DVHZ	**Dannevirke**	**2.34**	**174**	PN		Pn	02 24 45.6	-1.7
PRHZ	**Porangahau**	**2.38**	**165**	PN		Pn	02 24 46.3	-1.4
POWZ	**Post Office Ro**	**2.42**	**181**	PN		Pn	02 24 46.4	-1.8
ANWZ	**Angora Road**	**2.54**	**169**	PN		Pn	02 24 47.9	-1.6
PRWZ	**Pori Road**	**2.59**	**178**	PN		Pn	02 24 48.5	-1.6
MRZ	**Mangatainoka R**	**2.70**	**184**	⇑PN		Pn	02 24 49.1	-2.3
BFZ	**Birch Farm**	**2.73**	**173**	PN		Pn	02 24 49.5	-2.3
TIWZ	**Tintock**	**2.81**	**179**	PN		Pn	02 24 50.5	-2.2
OGWZ	**Otaki Gorge**	**2.89**	**190**	PN		Pn	02 24 51.4	-2.3
HOWZ	**Holdsworth Sta**	**2.94**	**185**	PN		Pn	02 24 51.6	-2.7
KIW	**Kapiti Island**	**2.98**	**194**	PN		Pn	02 24 52.1	-2.7
TMWZ	**Te Maipa**	**3.14**	**179**	PN		Pn	02 24 54.1	-2.6
CAW	**Cannon Point**	**3.19**	**190**	PN		Pn	02 24 54.5	-2.9
DUWZ	**D'Urville Isla**	**3.19**	**207**	PN		Pn	02 24 54.9	-2.5
MTW	**Mount Morrison**	**3.20**	**184**	PN		Pn	02 24 54.0	-3.4
TRWZ	**Traveller**	**3.43**	**182**	PN		Pn	02 24 57.1	-3.2
TCW	**Tory Channel**	**3.46**	**200**	PN		Pn	02 24 57.6	-3.0
MSWZ	**Moikau Station**	**3.47**	**187**	PN		Pn	02 24 57.3	-3.5
BHW	**Baring Head**	**3.51**	**192**	PN		Pn	02 24 57.9	-3.4
PLWZ	**Palliser**	**3.62**	**187**	PN		Pn	02 24 58.9	-3.8
TUWZ	**Tuamarina**	**3.75**	**202**	PN		Pn	02 25 01.1	-3.1
QRZ	**Quartz Range**	**3.83**	**221**	PN		Pn	02 25 02.3	-3.0
BSWZ	**Blackbirch Sta**	**4.03**	**201**	PN		Pn	02 25 04.6	-3.3
THZ	**Tophouse**	**4.41**	**210**	*e*PN		Pn	02 25 09.0	-3.7
KHZ	**Kahutara**	**4.78**	**201**	PN		Pn	02 25 13.7	-3.6

ISCJB ***23*** *02:36:00.9±0.4,14°.86S±0°.08×66°.52E±0°.06,h10km, mb4.5/79,MS4.0/20,Error ellipse: s-maj=12.1km s-min=8.1km az=156.9*
IDC ***23*** *02:36:00.6±0.7,14°.78S×66°.54E,h0km,mb4.1/17, mb1 4.2/17,mb1mx4.1/30,mbtmp4.1/17,MS4.0/20, Ms1 4.0/20,ms1mx3.8/29,Error ellipse: s-maj=22.3km s-min=16.9km az=175.0*
NEIC ***23*** *02:36:02.4±0.2,14°.81S×66°.57E,h10km,mb4.5/18,Error ellipse: s-maj=7.7km s-min=6.2km az=177.0*
SZGRF ***23*** *02:36:05.9,14°.17S×65°.45E,h10km,mb4.7,MS4.4, Mid-Indian Ridge*
ISC 23 02:36:02.1±1.1,14°.9S±0°.1×66°.5E±0°.1,h8km±5km, h8km:pP-P,n202,σ0°64/193,mb4.7/79,MS4.0/22,15C-3D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**9.24**	**40**	T		T	02 47 40.8	
	baz=219,slow=76,SNR=2932							
H08S2	**Diego Garcia H**	**9.25**	**40**	T		T	02 47 42.8	
	baz=219,slow=76,SNR=5750							
H08S3	**Diego Garcia H**	**9.26**	**40**	T		T	02 47 41.7	
	baz=219,slow=76,SNR=4120							
H08N3	**Diego Garcia H**	**9.53**	**28**	T		T	02 48 03.1	
	baz=207,slow=76,SNR=9493							
H08N1	**Diego Garcia H**	**9.54**	**28**	T		T	02 48 04.1	
	baz=207,slow=76							
H08N2	**Diego Garcia H**	**9.55**	**28**	T		T	02 48 05.0	
	baz=207,slow=76							
OPO	**Ambohidratompo**	**18.90**	**256**	P		Pn	02 40 29.0	+5.0
	0.2nm,0.3s,baz=86,slow=18,SNR=3.2							
OPO					LR	LR	02 46 05.4	
	comp=Z,1µm,19.0s,baz=66,slow=32							
KMBO	**Kilima Mbogo**	**31.99**	**293**	LR		LR	02 52 20.5	
	comp=Z,131nm,21.6s,baz=144,slow=31							
KMBO	**Kilima Mbogo**	**31.99**	**293**	*e*P		**P**	**02 42 28.6**	**-0.8**
	4.7nm,1.0s							
LSZ	**Lusaka**	**37.00**	**264**	*e*P		**P**	**02 43 13.5**	**+0.8**
	2.5nm,0.8s							
LBTB	**Lobatse**	**39.66**	**249**	P		**P**	**02 43 35.6**	**+0.7**
	3.8nm,0.8s,baz=55,slow=12,SNR=5.6							
LBTB	**Lobatse**	**39.66**	**249**	*e*P		**P**	**02 43 35.8**	**+0.8**
	3.9nm,0.8s							
BOSA	**Boshof**	**40.51**	**243**	P		**P**	**02 43 42.9**	**+0.9**
	4.8nm,0.8s,baz=92,slow=8.9,SNR=8.9							
BOSA					LR	LR	02 57 52.6	
	comp=Z,312nm,19.0s,baz=78,slow=32							
BOSA	**Boshof**	**40.51**	**243**	*e*P		**P**	**02 43 42.7**	**+0.6**
	8.0nm,1.0s							
KOLN	**Koldanda**	**45.50**	**21**	*e*P		**P**	**02 44 23.4**	**+1.0**
	14nm,0.7s							
DMN	**Daman**	**45.90**	**23**	*e*P		**P**	**02 44 26.7**	**+1.0**
RAMN	**Ramite**	**45.91**	**25**	*e*P		**P**	**02 44 26.7**	**+1.0**
	25nm,0.9s							
PKI	**Pulchoki**	**45.98**	**24**	*e*P		**P**	**02 44 27.5**	**+1.1**
PKIN	**Phulchoki**	**45.98**	**24**	*e*P		**P**	**02 44 27.6**	**+1.2**
CMAR	**Chiang Mai Arr**	**46.00**	**45**	P		**P**	**02 44 27.0**	**+0.7**
	0.5nm,0.3s,baz=232,slow=8.9,SNR=5.9							
CMAR					LR	LR	03 01 07.6	
	comp=Z,227nm,20.8s,baz=214,slow=33							
GKN	**Gorkha**	**46.08**	**22**	*e*P		**P**	**02 44 28.0**	**+1.0**
	22nm,0.9s							
KKN	**Kakani**	**46.13**	**23**	*e*P		**P**	**02 44 28.3**	**+0.8**
ODAN	**Odare**	**46.16**	**26**	*e*P		**P**	**02 44 28.3**	**+0.6**
	6.8nm,0.6s							
JIRN	**Jiri**	**46.37**	**24**	*e*P		**P**	**02 44 30.0**	**+0.5**
GUN	**Gumba**	**46.47**	**24**	*e*P		**P**	**02 44 30.9**	**+0.6**
TSUM	**Tsumeb**	**46.89**	**258**	*e*P		**P**	**02 44 35.6**	**+2.1**
	3.0nm,1.0s							
H01W3	**Cape Leeuwin H**	**47.06**	**124**	T		T	03 35 12.4	
	baz=283,slow=75,SNR=58							
H01W2	**Cape Leeuwin H**	**47.06**	**124**	T		T	03 35 12.5	
	baz=283,slow=75,SNR=59							
H01W1	**Cape Leeuwin H**	**47.08**	**124**	T		T	03 35 13.7	
	baz=283,slow=75,SNR=64							
MAW	**Mawson**	**52.75**	**182**	LR		LR	03 02 07.8	
	comp=Z,296nm,21.5s,baz=55,slow=30							
GNI	**Garni**	**58.37**	**340**	LR		LR	03 10 10.0	
	comp=Z,83nm,18.3s,baz=116,slow=35							
KBZ	**Khabaz**	**62.19**	**341**	P		**P**	**02 46 23.2**	**-0.8**
	2.5nm,0.9s,baz=53,slow=20,SNR=4.5							
KBZ					LR	LR	03 12 49.7	
	comp=Z,86nm,19.1s,baz=146,slow=36							
BR131	**Keskin Array S**	**62.37**	**332**	*e*P		**P**	**02 46 25.2**	**-0.3**
	2.2nm,0.9s							
BRTR	**Keskin Array B**	**62.37**	**332**	P		**P**	**02 46 24.8**	**-0.7**
	1.7nm,0.9s,baz=150,slow=6.7,SNR=9.0							
BRTR					LR	LR	03 11 07.3	
	comp=Z,51nm,21.8s,baz=120,slow=34							
MK31	**Makanchi Array**	**62.99**	**12**	*e*P		**P**	**02 46 29.5**	**+0.1**
MKAR	**Makanchi Array**	**62.99**	**12**	P		**P**	**02 46 28.7**	**-0.7**
	0.3nm,0.4s,baz=145,slow=5.3,SNR=5.6							
ASAR	**Alice Springs**	**63.70**	**109**	P		**P**	**02 46 34.0**	**-0.7**
	0.4nm,0.7s,baz=279,slow=5.7,SNR=5.1							
ABKAR	**Akbulak array**	**64.11**	**355**	*e*P		**P**	**02 46 35.9**	**-0.8**
	1.2nm,0.6s							
WRA	**Warramunga Arr**	**64.52**	**105**	P		**P**	**02 46 40.0**	**-0.1**
	1.3nm,0.9s,baz=267,slow=6.0,SNR=9.2							
WRA					LR	LR	03 12 41.6	
	comp=Z,62nm,19.9s,baz=285,slow=34							
WRAB	**Tennant Creek**	**64.53**	**105**	*e*P		**P**	**02 46 40.6**	**+0.4**
	5.5nm,1.0s							

TIRR	**Tirgusor**	**68.49**	**332**	⇓*i*P		**P**	**02 47 04.7**	**-0.1**
TLB	**Topalu**	**68.75**	**331**	⇑*i*P		**P**	**02 47 06.6**	**+0.1**
CFR	**Carcaliu**	**69.16**	**332**	⇑*i*P		**P**	**02 47 09.1**	**0.0**
HHC	**Hu-ho-hao-te**	**69.37**	**35**	*e*P		P	02 47 15.0	+4.4
HHC					PP	PP	02 49 50.6	+6.4
HHC					S	**S**	**02 56 20.8**	**+2.9**
HHC					sS	sS	02 56 28.9	+6.6
HHC	**Hu-ho-hao-te**	**69.37**	**35**		SS	SS	03 00 49.9	+4.5
HHC					pmax	pmax		
	comp=Z,19nm,0.7s							
HHC					pmax	pmax		
	comp=Z,61nm,9.9s							
HHC					LR	LR		
	comp=N,130nm,19.7s							
HHC					LR	LR		
	comp=E,180nm,18.5s							
HHC					LR	LR		
	comp=Z,180nm,19.7s							
SNAA	**Sanae**	**69.54**	**198**	*e*P		**P**	**02 47 10.9**	**-0.3**
	comp=Z,3.9nm,1.2s							
VTS	**Vitosha**	**69.67**	**327**	⇑*i*P		**P**	**02 47 11.3**	**-1.2**
STKA	**Stephens Creek**	**69.75**	**119**	LR		LR	03 13 21.2	
	comp=Z,71nm,20.8s,baz=208,slow=32							
TOA0	**Torodi Ar. Sit**	**69.96**	**290**	*e*P		**P**	**02 47 14.7**	**0.0**
TORD	**Torodi Ar. Bea**	**69.96**	**290**	P		**P**	**02 47 13.7**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=88,slow=4.7,SNR=5.9							
TORD					LR	LR	03 16 52.8	
	comp=Z,56nm,18.7s,baz=170,slow=35							
ZALV	**Zalesovo Beam**	**70.30**	**11**	P		**P**	**02 47 14.8**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=224,slow=8.2,SNR=3.7							
ZALV					LR	LR	03 16 04.6	
	comp=Z,144nm,20.2s,baz=250,slow=34							
VRI	**Vrincioaia**	**70.33**	**332**	⇑*i*P		**P**	**02 47 17.1**	**+0.8**
PLOR	**Plostina**	**70.36**	**332**	⇑*i*P		**P**	**02 47 17.2**	**+0.7**
MLR	**Muntele Rosu**	**70.41**	**331**	⇑*i*P		**P**	**02 47 17.6**	**+0.6**
VOIR		**70.80**	**330**	⇑*i*P		**P**	**02 47 19.0**	**-0.2**
ARR	**Arges**	**70.95**	**330**	⇑*i*P		**P**	**02 47 19.7**	**-0.4**
DOPR	**Dopca**	**71.03**	**331**	⇑*i*P		**P**	**02 47 20.2**	**-0.4**
SONM	**Songino Array**	**71.84**	**27**	P		**P**	**02 47 25.0**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=208,slow=7.3,SNR=3.8							
SONM					LR	LR	03 18 00.7	
	comp=Z,257nm,19.8s,baz=244,slow=35							
GZR	**Gura Zlata**	**71.87**	**329**	⇓*i*P		**P**	**02 47 25.9**	**+0.2**
BURAR	**Bucovina Array**	**72.33**	**332**	⇑*i*P		**P**	**02 47 28.6**	**+0.1**
BUR08	**Bucovina Ar. S**	**72.36**	**332**	*e*P		**P**	**02 47 28.7**	**0.0**
DIVS	**Divibare**	**72.40**	**327**	⇓*i*P		**P**	**02 47 29.5**	**+0.5**
BZS	**Buzias**	**72.61**	**329**	⇑*i*P		**P**	**02 47 30.3**	**+0.3**
DRGR		**72.90**	**330**	⇑*i*P		**P**	**02 47 32.3**	**+0.5**
AKASG	**Malin Array Be**	**73.01**	**336**	P		**P**	**02 47 31.4**	**-0.8**
	comp=Z,4.3nm,0.7s,baz=137,slow=5.1,SNR=9.4							
SIRR	**Siria**	**73.04**	**329**	⇑*i*P		**P**	**02 47 33.1**	**+0.5**
TLY	**Talaya**	**73.70**	**23**	LR		LR	03 19 07.7	
	comp=Z,205nm,20.2s,baz=229,slow=35							
KIC	**Kosan Boka**	**73.72**	**281**	*e*P		**P**	**02 47 37.3**	**0.0**
	comp=Z,13nm,0.9s							
DBIC	**Dimbokro**	**73.92**	**282**	P		**P**	**02 47 37.6**	**-0.9**
	comp=Z,3.4nm,0.8s,baz=139,slow=9.2,SNR=3.3							
DBIC					LR	LR	03 18 11.8	
	comp=Z,69nm,21.9s,baz=102,slow=34							
DBIC	**Dimbokro**	**73.92**	**282**	*e*P		**P**	**02

LPL	**La Plagne**	**80.76**	**322**	*e*P		**P**	**02 48 15.6**	**-0.8**
	comp=Z,7.3nm,0.9s								
LPL	**La Plagne**	**80.76**	**322**	*e*P		**P**	**02 48 15.6**	**-0.8**
	comp=Z,7.3nm,0.9s								
ORIF	**Oris-en-Rattie**	**80.96**	**321**	*e*P		**P**	**02 48 17.5**	**+0.2**
	comp=Z,11nm,0.8s								
ORIF	**Oris-en-Rattie**	**80.96**	**321**	*e*P		**P**	**02 48 17.5**	**+0.2**
	comp=Z,11nm,0.8s								
STU	**Stuttgart**	**81.14**	**326**	*e*P		**P**	**02 48 17.7**	**-0.4**
	comp=Z,8.0nm,0.9s								
STU	**Stuttgart**	**81.14**	**326**	*e*P		**P**	**02 48 17.6**	**-0.5**
	comp=Z,5.4nm,0.8s								
NEUB	**Neuenburg**	**81.22**	**329**	*e*P		**P**	**02 48 18.9**	**+0.5**
	comp=Z,10.0nm,0.8s								
BFO	**Black Forest**	**81.37**	**325**	*e*P		**P**	**02 48 19.2**	**-0.2**
	comp=Z,4.0nm,0.9s								
BFO	**Black Forest**	**81.37**	**325**	*e*P		**P**	**02 48 18.5**	**-0.9**
	comp=Z,3.9nm,1.1s								
VIVF	**Saint-Julien-l**	**81.66**	**321**	*e*P		**P**	**02 48 21.1**	**+0.1**
	comp=Z,7.2nm,0.8s								
VIVF	**Saint-Julien-l**	**81.66**	**321**	*e*P		**P**	**02 48 21.1**	**+0.1**
	comp=Z,7.2nm,0.8s								
CABF	**La Chapelle**	**81.72**	**323**	*e*P		**P**	**02 48 21.3**	**0.0**
	comp=Z,14nm,1.0s								
CABF	**La Chapelle**	**81.72**	**323**	*e*P		**P**	**02 48 21.3**	**0.0**
	comp=Z,14nm,1.0s								
LASF	**Ste Croix**	**81.78**	**320**	*e*P		**P**	**02 48 21.9**	**+0.3**
	comp=Z,6.2nm,0.8s								
LASF	**Ste Croix**	**81.78**	**320**	*e*P		**P**	**02 48 21.9**	**+0.3**
	comp=Z,6.2nm,0.8s								
HINF	**Hinteralfeld**	**81.92**	**324**	*e*P		**P**	**02 48 21.7**	**-0.6**
	comp=Z,5.2nm,0.8s								
HINF	**Hinteralfeld**	**81.92**	**324**	*e*P		**P**	**02 48 21.7**	**-0.6**
	comp=Z,5.2nm,0.8s								
SSB	**Saint Sauveur**	**81.95**	**321**	*e*P		**P**	**02 48 22.6**	**+0.1**
	comp=Z,5.3nm,0.8s								
CDF	**Champ du Feu**	**82.00**	**325**	*e*P		**P**	**02 48 22.4**	**-0.4**
	comp=Z,6.9nm,0.8s								
CDF	**Champ du Feu**	**82.00**	**325**	*e*P		**P**	**02 48 22.4**	**-0.4**
	comp=Z,6.9nm,0.8s								
CLZ	**Clausthal**	**82.30**	**329**	*e*P		**P**	**02 48 24.6**	**+0.4**
	comp=Z,8.0nm,0.9s								
HAU	**Haudompre**	**82.31**	**324**	*e*P		**P**	**02 48 23.9**	**-0.4**
	comp=Z,6.1nm,0.8s								
HAU	**Haudompre**	**82.31**	**324**	*e*P		**P**	**02 48 23.9**	**-0.4**
	comp=Z,6.1nm,0.8s								
MTLF	**Montolieu**	**82.46**	**318**	*e*P		**P**	**02 48 25.4**	**+0.2**
	comp=Z,7.3nm,0.8s								
MTLF	**Montolieu**	**82.46**	**318**	*e*P		**P**	**02 48 25.4**	**+0.2**
	comp=Z,7.3nm,0.8s								
FINES	**FINESS Array B**	**82.54**	**342**	P		**P**	**02 48 24.6**	**-0.5**
	comp=Z,1.9nm,1.0s,baz=170,slow=18,SNR=3.2								
PAGF	**Fort de Pagny**	**82.95**	**324**	*e*P		**P**	**02 48 27.7**	**+0.1**
	comp=Z,2.3nm,0.7s								
PAGF	**Fort de Pagny**	**82.95**	**324**	*e*P		**P**	**02 48 27.7**	**+0.1**
	comp=Z,2.3nm,0.7s								
SMF	**Signal de Mont**	**83.07**	**322**	*e*P		**P**	**02 48 27.9**	**-0.4**
	comp=Z,9.6nm,0.9s								
SMF	**Signal de Mont**	**83.07**	**322**	*e*P		**P**	**02 48 27.9**	**-0.4**
	comp=Z,9.6nm,0.9s								
SFTF	**Sexfontaines**	**83.16**	**324**	*e*P		**P**	**02 48 28.8**	**+0.1**
	comp=Z,9.3nm,0.9s								
SFTF	**Sexfontaines**	**83.16**	**324**	*e*P		**P**	**02 48 28.8**	**+0.1**
	comp=Z,9.3nm,0.9s								
MEZF	**Maizieres J'vi**	**83.31**	**324**	*e*P		**P**	**02 48 29.6**	**+0.2**
	comp=Z,9.2nm,0.8s								
MEZF	**Maizieres J'vi**	**83.31**	**324**	*e*P		**P**	**02 48 29.6**	**+0.2**
	comp=Z,9.2nm,0.8s								
CAF	**Calviac**	**83.31**	**320**	*e*P		**P**	**02 48 29.9**	**+0.3**
	comp=Z,4.2nm,0.7s								
CAF	**Calviac**	**83.31**	**320**	*e*P		**P**	**02 48 29.9**	**+0.3**
	comp=Z,4.2nm,0.7s								
LOR	**Lormes**	**83.37**	**322**	*e*P		**P**	**02 48 29.6**	**-0.2**
	comp=Z,5.3nm,0.9s								
LOR	**Lormes**	**83.37**	**322**	*e*P		**P**	**02 48 29.6**	**-0.2**
	comp=Z,5.3nm,0.9s								
AVF	**Avril sur Loir**	**83.43**	**322**	*e*P		**P**	**02 48 29.8**	**-0.3**
AVF	**Avril sur Loir**	**83.43**	**322**	*e*P		**P**	**02 48 29.8**	**-0.3**
SSF	**Saint Saulge**	**83.47**	**322**	*e*P		**P**	**02 48 30.3**	**-0.1**
	comp=Z,7.6nm,0.8s								
SSF	**Saint Saulge**	**83.47**	**322**	*e*P		**P**	**02 48 30.3**	**-0.1**
	comp=Z,7.6nm,0.8s								
EPF	**Esparros**	**83.53**	**318**	*e*P		**P**	**02 48 31.6**	**+0.8**
EPF	**Esparros**	**83.53**	**318**	*e*P		**P**	**02 48 31.6**	**+0.8**
USRK	**Ussuriysk Ar.**	**83.58**	**41**	LR		LR	03 23 38.9	
	comp=Z,53nm,22.0s,baz=228,slow=34								
BGF	**Bois d'Agland**	**83.62**	**322**	*e*P		**P**	**02 48 31.4**	**+0.3**
	comp=Z,14nm,0.9s								
BGF	**Bois d'Agland**	**83.62**	**322**	*e*P		**P**	**02 48 31.4**	**+0.3**
	comp=Z,14nm,0.9s								
BUG	**Bochum--Univer**	**83.66**	**327**	*e*P		**P**	**02 48 31.6**	**+0.4**
	comp=Z,5.0nm,0.9s								
RJF	**Les Rejaudoux**	**83.83**	**320**	*e*P		**P**	**02 48 32.4**	**+0.2**
	comp=Z,16nm,0.9s								
RJF	**Les Rejaudoux**	**83.83**	**320**	*e*P		**P**	**02 48 32.4**	**+0.2**
	comp=Z,16nm,0.9s								
TCF	**Toulx Ste Croi**	**83.87**	**321**	*e*P		**P**	**02 48 31.6**	**-0.9**
	comp=Z,14nm,1.3s								
TCF	**Toulx Ste Croi**	**83.87**	**321**	*e*P		**P**	**02 48 31.6**	**-0.9**
	comp=Z,14nm,1.3s								
IBBN	**Ibbenburen**	**83.89**	**328**	*e*P		**P**	**02 48 32.5**	**+0.2**
	comp=Z,16nm,1.6s								
ETSF	**Etsaut**	**84.06**	**317**	*e*P		**P**	**02 48 34.0**	**+0.5**
	comp=Z,4.8nm,0.7s								
ETSF	**Etsaut**	**84.06**	**317**	*e*P		**P**	**02 48 34.0**	**+0.5**
	comp=Z,4.8nm,0.7s								
LFF	**La Frestale**	**84.14**	**319**	*e*P		**P**	**02 48 34.3**	**+0.5**
	comp=Z,6.2nm,0.7s								
LFF	**La Frestale**	**84.14**	**319**	*e*P		**P**	**02 48 34.3**	**+0.5**
	comp=Z,6.2nm,0.7s								
BAIF	**Baives**	**84.58**	**325**	*e*P		**P**	**02 48 36.4**	**+0.5**
	comp=Z,12nm,1.0s								
BAIF	**Baives**	**84.58**	**325**	*e*P		**P**	**02 48 36.4**	**+0.5**
	comp=Z,12nm,1.0s								
SJPF	**Ste Jean**	**84.59**	**317**	*e*P		**P**	**02 48 36.7**	**+0.5**
	comp=Z,20nm,1.1s								
SJPF	**Ste Jean**	**84.59**	**317**	*e*P		**P**	**02 48 36.7**	**+0.5**
	comp=Z,20nm,1.1s								
MAJO	**Matsushiro**	**84.62**	**50**	*e*P		**P**	**02 48 37.0**	**+0.5**
	comp=Z,5.8nm,0.8s								
MJAR	**Matsushiro Arr**	**84.62**	**50**	P		**P**	**02 48 36.7**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=236,slow=5.8,SNR=6.7								
MJAR					LR	LR	03 23 48.9		
	comp=Z,38nm,21.8s,baz=215,slow=34								
ESDC	**Sonseca Array**	**85.01**	**313**	P		**P**	**02 48 38.3**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=105,slow=4.0,SNR=13								
MFF	**Saint Martin d**	**85.46**	**321**	*e*P		**P**	**02 48 39.4**	**-1.0**
	comp=Z,8.4nm,0.9s								
MFF	**Saint Martin d**	**85.46**	**321**	*e*P		**P**	**02 48 39.4**	**-1.0**
	comp=Z,8.4nm,0.9s								
SAML	**Samuel**	**124.83**	**248**	*e*PKPdf		**PKPdf**	**02 55 03.2**	**-0.5**
ILAR	**Eielson Array**	**125.19**	**17**	PKP		**PKPdf**	**02 55 01.3**	**-1.6**
	comp=Z,0.4nm,0.9s,baz=289,slow=3.5,SNR=2.9								
YKA	**Yellowknife Ar**	**132.43**	**1**	PKP		**PKPdf**	**02 55 15.1**	**-1.6**
	comp=Z,0.2nm,0.6s,baz=337,slow=1.9,SNR=3.6								
OTAV	**Otavalo**	**142.47**	**250**	*e*PKPdf		**PKPdf**	**02 55 36.8**	**-0.5**
JFWS	**Jewell Farm**	**145.68**	**329**	*e*PKPbc		**PKPdf**	**02 55 40.6**	**-0.8**
SLMT	**Seeley Lake**	**147.72**	**0**	*e*PKPbc		**PKPbc**	**02 55 47.3**	**-0.4**
CHMT	**Chamberlain Mo**	**148.05**	**360**	*e*PKPbc		**PKPbc**	**02 55 47.5**	**-1.2**
DLMT	**Dillon**	**149.59**	**359**	*e*PKPbc		**PKPbc**	**02 55 51.9**	**-0.7**
HUMO	**Hull Mountain**	**151.17**	**15**	*e*PKPbc		**PKPbc**	**02 55 57.0**	**+0.7**
PDAR	**Pinedale Array**	**152.00**	**354**	*e*PKPbc		**PKPbc**	**02 55 58.0**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=60,slow=4.4,SNR=12								
NVAR	**Mina Array Bea**	**156.14**	**9**	PKPab		**PKPab**	**02 56 26.1**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=286,slow=3.7,SNR=3.4								
TXAR	**Lajitas Array**	**163.00**	**329**	PKPab		**PKPab**	**02 56 54.7**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=72,slow=4.1,SNR=7.8								

*LDG **23** 03:02:15.1±0.1,39.94N×78.25E,h10km,Mb4.5/27, Ms3.5/7,Error ellipse: s-maj=5.5km s-min=4.4km az=77.0*
*IDC **23** 03:02:16.3±0.7,39.94N×78.32E,h0km,mb4.3/22, mb1 4.4/27,mb1mx4.3/40,mbtmp4.3/27,ML3.7/5,MS3.7/7, Ms1 3.8/7,ms1mx3.3/31,Error ellipse: s-maj=15.1km s-min=13.4km az=164.0*
*KRNET **23** 03:02:17.0±0.1,39.98N×77.54E,h2km,mb3.6*
*BJI **23** 03:02:17.4,40.02N×78.28E,h12km,mb4.5/34,mB4.6/25, ML4.6/9,Ms4.3/26,Ms7 3.8/25*
*ISCJB **23** 03:02:18.7±0.8,39.97N±0.02×78.35E±0.02,h27km±5km, mb4.5/115,MS3.9/21,Error ellipse: s-maj=3.4km s-min=2.9km az=28.1*
*MOS **23** 03:02:20.5±1.0,40.14N×78.23E,h35km,mb4.7/63,Error ellipse: s-maj=7.0km s-min=4.2km az=121.7*
*NNC **23** 03:02:21.1±1.5,40.10N×78.05E,h0km,mb5.0,mpv4.8, Error ellipse: s-maj=15.3km s-min=7.0km az=142.0*

*NEIC **23** 03:02:22.6±0.6,40.09N×78.27E,h41km±4km,mb4.6/40, Error ellipse: s-maj=4.7km s-min=3.6km az=188.0*
*SZGRF **23** 03:02:25.3,39.38N×77.40E,h33km,mb4.6,Southern Xinjiang, China*
ISC 23 03:02:21.6**±0.4,**40.06N**±0.03×**78.28E**±0.02,**h33**km±1km, **h33**km**:pP-P,n480,**σ1s**54**/521,mb4.6**/115,**MS3.9**/22, **55C-22D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.86**	**254**	⇑*i*	Pn	**Pb**	**03 02 58.1**	**+3.1**
KSH					Sn	Sb	03 03 28.8	+11
KSH					SMN			
	12μm,0.9s							
KSH					SME			
	6μm,0.5s							
NRN	**Naryn**	**2.21**	**309**	⇓*i*	P	Pn	03 02 51.7	-4.6
	baz=321							
NRN				⇓*e*	S	**Sn**	**03 03 17.6**	**-5.1**
	baz=321							
KDJ	**Kajisay**	**2.23**	**339**	*e*P		**Pn**	**03 02 54.9**	**-1.6**
	baz=353							
KDJ				*e*S		**Sn**	**03 03 23.6**	**+0.6**
	baz=353							
ULHL	**Ulahol**	**2.68**	**326**	P		**Pn**	**03 03 05.4**	**+2.9**
	SNR=415							
ULHL	**Ulahol**	**2.68**	**326**	⇑*i*	P	**Pn**	**03 03 05.4**	**+2.9**
	baz=337							
ULHL				⇑*i*	S	**Sb**	**03 03 41.6**	**+0.2**
	baz=337							
ANVS	**Anan'yevo**	**2.77**	**351**	*i*	P	**Pb**	**03 03 08.0**	**-2.4**
	baz=2.0							
ANVS				*e*	S	**Sb**	**03 03 47.2**	**+3.2**
	baz=2.0							
KZA	**Kyzart**	**3.06**	**312**	P		**Pn**	**03 03 10.3**	**+2.4**
	SNR=628							
KZA	**Kyzart**	**3.06**	**312**	⇑*i*	P	**Pn**	**03 03 10.2**	**+2.2**
	baz=321							
KZA				⇑*i*	S	**Sb**	**03 03 53.2**	**+0.7**
	baz=321							
KNDC	**Almaty**	**3.31**	**343**	⇑Pn		**Pn**	**03 03 14.1**	**+3.0**
KNDC				⇑Lg		Lg	03 04 02.4	
AAA	**Alma-Ata**	**3.37**	**343**	*i* PN		**Pb**	**03 03 19.0**	**-1.6**
PDGK	**Podgornoye**	**3.39**	**15**	⇑Pn		**Pn**	**03 03 14.5**	**+2.3**
	391nm,0.8s							
PDGK				⇓Sn		**Sb**	**03 03 58.1**	**-3.6**
	1μm,0.8s							
TKM2	**Tokmak 2**	**3.50**	**326**	P		**Pn**	**03 03 16.6**	**+2.8**
	SNR=116							
TKM2	**Tokmak 2**	**3.50**	**326**	⇑Pn		**Pn**	**03 03 16.7**	**+2.8**
	320nm,0.6s							
TKM2				⇑Lg		Lg	03 04 07.9	
	495nm,0.6s							
TKM2	**Tokmak 2**	**3.50**	**326**	PN		**Pn**	**03 03 16.8**	**+2.9**
TKM2				pmax		pmax		
	comp=Z,320nm,0.6s							
TKM2	**Tokmak 2**	**3.50**	**326**	⇑*i*	P	**Pn**	**03 03 16.9**	**+3.0**
	baz=334							
TKM2				⇑*i*	S	**Sb**	**03 04 07.8**	**+2.6**
	baz=334							
TKM2	**Tokmak 2**	**3.50**	**326**	*e*Pn		**Pn**	**03 03 16.8**	**+2.8**
TKM2				*e*Lg		Lg	03 04 08.1	
UCH	**Uchtor**	**3.58**	**309**	P		**Pn**	**03 03 17.5**	**+2.3**
	SNR=197							
UCH	**Uchtor**	**3.58**	**309**	⇑*i*	P	**Pn**	**03 03 17.4**	**+2.2**
	baz=315							
UCH				⇑*i*	S	**Sb**	**03 04 10.3**	**+2.7**
	baz=315							
KBK	**Karagaybulak**	**3.61**	**317**	P		**Pn**	**03 03 18.4**	**+3.1**
	SNR=150							
KBK	**Karagaybulak**	**3.61**	**317**	⇑*i*	P	**Pn**	**03 03 18.5**	**+3.1**
	baz=325							
SFK	**Sufi-Kurgan**	**3.67**	**271**	⇑Pn		**Pn**	**03 03 17.8**	**+1.6**
	comp=Z,405nm,0.7s							
SFK				⇑Lg		Lg	03 04 11.0	
	comp=Z,583nm,0.6s							
AAK	**Ala-Archa**	**3.84**	**313**	P		**Pn**	**03 03 21.4**	**+2.9**
	SNR=59							
AAK	**Ala-Archa**	**3.84**	**313**	⇑Pn		**Pn**	**03 03 21.4**	**+2.9**
	comp=Z,551nm,0.7s							
AAK				⇓Lg		Lg	03 04 18.0	
	comp=Z,3μm,1.4s							
AAK	**Ala-Archa**	**3.84**	**313**	PN		**Pn**	**03 03 21.4**	**+2.9**
AAK				pmax		pmax		
	comp=Z,551nm,0.7s							
AAK	**Ala-Archa**	**3.84**	**313**	⇓*i*	P	**Pn**	**03 03 21.3**	**+2.8**
	baz=320							
FRU	**Bishkek**	**3.91**	**316**	⇑*i*	PN	**Pn**	**03 03 22.0**	**+2.6**
FRU				*e*			03 04 06.0	
FRU				pmax		pmax		
	comp=Z,1μm,1.9s							
CHMS	**Chumysh**	**3.96**	**319**	P		**Pn**	**03 03 23.0**	**+3.0**
	SNR=29							
CHMS	**Chumysh**	**3.96**	**319**	⇑*i*	P	**Pn**	**03 03 22.7**	**+2.7**
	baz=326							
AML	**Almayashu**	**4.04**	**302**	P		**Pn**	**03 03 24.0**	**+2.5**
	SNR=112							
AML	**Almayashu**	**4.04**	**302**	⇑*i*	P	**Pn**	**03 03 23.8**	**+2.3**
	baz=308							
EKS2	**Erkin-Say**	**4.27**	**309**	P		**Pn**	**03 03 27.6**	**+3.1**
	SNR=80							
EKS2	**Erkin-Say**	**4.27**	**309**	*e*PN		**Pn**	**03 03 27.4**	**+3.0**
EKS2	**Erkin-Say**	**4.27**	**309**	⇑*i*	P	**Pn**	**03 03 27.5**	**+3.1**
	baz=315							
EKS2	**Erkin-Say**	**4.27**	**309**	*e*Pn		**Pn**	**03 03 27.4**	**+3.0**
EKS2				*e*Lg		Lg	03 04 33.7	
USP	**Ospenovka**	**4.28**	**320**	P		Pn	03 03 27.9	+3.5
	SNR=8.8							
USP	**Ospenovka**	**4.28**	**320**	⇑*i*	P	**Pn**	**03 03 26.9**	**+2.5**
	baz=326							
MNAS	**Manas**	**4.99**	**301**	⇓Pn		**Pn**	**03 03 35.8**	**+1.6**
	comp=Z,16nm,0.5s							
MNAS				⇑Pg		**Pb**	**03 03 48.7**	**+0.5**
	comp=Z,157nm,0.9s							
MNAS				⇓Lg		Lg	03 04 53.0	
	comp=Z,513nm,0.7s							
KK31	**Karatay Array**	**6.57**	**300**	⇑Pn		**Pn**	**03 03 58.1**	**+2.1**
	comp=Z,2.8nm,0.4s,baz=119,slow=14,SNR=56							
KK31				⇓Pg		**Pb**	**03 04 17.0**	**+1.9**
	comp=Z,77nm,0.8s,baz=131,slow=14,SNR=48							
KK31				⇑Lg		Lg	03 05 41.6	
	comp=Z,272nm,1.1s,baz=112,slow=26,SNR=5.2							
KK31	**Karatay Array**	**6.57**	**300**	*i* PN		**Pn**	**03 03 58.0**	**+2.1**
KK31				pmax		pmax		
	comp=Z,21nm,0.4s							
KKAR	**Karatay Array**	**6.57**	**300**	*e*PN		**Pn**	**03 03 56.6**	**+0.7**
KKAR	**Karatay Array**	**6.57**	**300**	*e*Pn		**Pn**	**03 03 56.5**	**+0.7**
KKAR				*e*Lg		Lg	03 05 44.1	
MK31	**Makanchi Array**	**7.34**	**22**	⇑Pn		**Pn**	**03 04 07.6**	**+1.1**
	comp=Z,5.2nm,0.5s,baz=209,slow=13,SNR=177							
MK31				⇑Lg		Lg	03 06 16.1	
	comp=Z,198nm,1.3s							
MK31	**Makanchi Array**	**7.34**	**22**	P		**Pn**	**03 04 07.5**	**+1.1**
MK31				pmax		pmax		
	comp=Z,9.0nm,0.5s							
MK31	**Makanchi Array**	**7.34**	**22**	*e*Pn		**Pn**	**03 04 07.5**	**+1.1**
MKAR	**Makanchi Array**	**7.34**	**22**	Pn		**Pn**	**03 04 07.5**	**+1.1**
	comp=Z,3.9nm,0.3s,baz=198,slow=12,SNR=142							
MKAR				Sn		**Sn**	**03 05 31.6**	**+3.1**
	comp=Z,2.9nm,0.3s,baz=210,slow=22,SNR=4.0							
MKAR				Lg		Lg	03 06 04.2	
	comp=Z,2.2nm,0.3s,baz=214,slow=31,SNR=3.3							
MKAR	**Makanchi Array**	**7.34**	**22**	P		**Pn**	**03 04 07.5**	**+1.1**
MKAR							03 05 31.7	
MKAR				pmax		pmax		
	comp=Z,4.0nm,0.3s							
MKAR				smax		smax		
	comp=N,3.0nm,0.3s							
DZET	**Dzherino**	**7.42**	**263**	⇑Pn		**Pn**	**03 04 07.0**	**-0.7**
	comp=N,360nm,0.8s							
DZET				⇑Sn		**Sn**	**03 05 30.6**	**-0.2**
	comp=N,208nm,0.9s							
CHCP	**Chirah Chowk**	**7.54**	**214**	⇓P		**Pn**	**03 04 11.2**	**+1.9**
DLH	**Dalhousie**	**7.73**	**195**	*e*P		**Pn**	**03 04 10.0**	**-2.0**
DLH				*ex*		**Sn**	**03 05 37.0**	**-1.4**
DHRM	**DHARAMSHALA**	**7.95**	**192**	*e*P		**Pn**	**03 04 14.5**	**-0.6**
DHRM				*e*S		**Sn**	**03 05 40.0**	**-3.9**
DHRM				AML		AML	03 06 17.7	
	comp=E,293nm,0.6s							
DHRM				AML		AML	03 06 22.0	
	comp=N,166nm,0.5s							
WMQ	**Urumqi**	**7.96**	**59**	P		**Pn**	**03 04 15.3**	**+0.3**
WMQ				pP		pP	03 04 22.3	
WMQ				sP		sP	03 04 27.3	
WMQ				S		**Sn**	**03 05 45.6**	**+1.7**
WMQ				sS		sS	03 05 56.4	
WMQ				PcP		**PcP**	**03 10 50.5**	**-0.3**
WMQ				ScP		**ScP**	**03 14 17.5**	**-2.4**
WMQ				PcS		**PcS**	**03 14 22.3**	**-1.4**
WMQ				ScS		**ScS**	**03 17 50.8**	**-2.8**
WMQ				PMZ				
	comp=N,17nm,0.9s							
WMQ				LN				
	comp=N,2μm,5.6s							
WMQ				LE				
	comp=N,1μm,5.0s							
CEP	**Cherat**	**8.04**	**221**	⇓P		**Pn**	**03 04 17.3**	**+1.1**
CEP				S		**Sn**	**03 05 46.0**	**-0.1**
SDNR	**Sundarnagar**	**8.60**	**188**	*e*P		**Pn**	**03 04 25.0**	**+1.2**
SDNR				*ex*		**Sn**	**03 06 03.0**	**+3.3**
BHK	**Bhakra**	**8.75**	**191**	*ex*		**Sn**	**03 06 03.4**	**+0.1**
SMLA	**Simla**	**8.95**	**186**	*e*P		**Pn**	**03 04 28.3**	**-0.2**
SMLA				*e*S		**Sn**	**03 06 02.4**	**-5.8**
SMLA				AML		AML	03 06 11.2	
	comp=E,244nm,0.4s							
SMLA				AML		AML	03 06 14.4	
	comp=N,189nm,0.4s							
THW	**Thamme Wali**	**8.96**	**218**	P		**Pn**	**03 04 28.1**	**-0.5**
KBL	**Kabul**	**9.19**	**236**	*e*P		**Pn**	**03 04 31.9**	**-0.1**
KBL				*e*			03 06 11.7	
KBL	**Kabul**	**9.19**	**236**	*e*Pn		**Pn**	**03 04 31.9**	**-0.1**
KBL				*e*Sn		**Sn**	**03 06 11.7**	**-2.6**
SARP	**Sargodha**	**9.30**	**211**	P		**Pn**	**03 04 32.5**	**-0.8**
JOSI	**Joshimath**	**9.54**	**173**	*e*P		**Pn**	**03 04 37.1**	**+0.3**
JOSI				*ex*		**Sn**	**03 06 20.8**	**-2.1**
JOSI				AML		AML	03 07 06.8	
	comp=N,182nm,0.8s							
JOSI				AML		AML	03 07 12.4	
	comp=E,156nm,0.9s							
KALG	**Kalgarh**	**10.53**	**178**	*ex*		**Sn**	**03 06 50.1**	**+3.1**
KURBB	**Kurchatov Arra**	**10.57**	**1**	⇓Pn		**Pn**	**03 04 51.6**	**+1.0**
	comp=E,21nm,0.7s							
KURBB				⇓Lg		Lg	03 07 49.6	
	comp=E,670nm,1.4s							
KURBB	**Kurchatov Arra**	**10.57**	**1**	Pn		**Pn**	**03 04 51.1**	**+0.5**
	comp=E,0.5nm,0.3s,baz=188,slow=12,SNR=52							
KURBB				Sn		Sn	03 06 41.7	-6.0
	comp=E,0.2nm,0.3s,baz=193,slow=28,SNR=4.9							
KURBB				Lg		Lg	03 07 47.5	
	comp=E,0.3nm,0.3s,baz=203,slow=28,SNR=5.1							
KURK	**Kurchatov**	**10.66**	**1**	⇓Pn		**Pn**	**03 04 52.3**	**+0.4**
	comp=E,32nm,0.9s							
KURK				⇓Lg		Lg	03 07 51.8	
	comp=E,93nm,1.4s							
KURK	**Kurchatov**	**10.66**	**1**	P		**Pn**	**03 04 52.8**	**+0.9**
KURK				pmax		pmax		
	comp=Z,32nm,0.9s							
KURK	**Kurchatov**	**10.66**	**1**	*e*Pn		**Pn**	**03 04 52.6**	**+0.7**
KURK				*e*Sn		**Sn**	**03 06 49.3**	**-0.8**
KURK				Lg		Lg	03 07 47.5	
KURK				*e*Lg		Lg	03 07 51.9	
NDI	**New Delhi**	**11.38**	**185**	*e*P		Pn	03 04 56.0	-5.8
NDI				*e*S		Sn	03 06 54.0	-14
BISR	**Bishrakh**	**11.48**	**184**	*ex*		**Sn**	**03 07 09.9**	**-0.2**
SONA	**Sohna**	**11.82**	**185**	*ex*		**Pn**	**03 05 05.0**	**-2.8**
SONA				*e*S		Sn	03 07 09.7	-8.7
KHET	**Khetri**	**12.12**	**190**	*ex*		Pn	03 05 08.9	-3.2
KHET				*e*S		Sn	03 07 15.0	-11
KHET				AML		AML	03 07 40.5	
	comp=N,116nm,0.8s							
KHET				AML		AML	03 07 40.8	
	comp=E,105nm,0.3s							
AGRA	**Agra**	**12.79**	**181**	*e*S		Sn	03 07 33.5	-8.9
AGRA				AML		AML	03 08 05.2	
	comp=N,65nm,0.6s							
AGRA				AML		AML	03 08 06.5	
	comp=E,78nm,0.5s							
KOLN	**Koldanda**	**13.02**	**159**	*e*P		Pn	03 05 20.7	-3.8
	comp=E,17nm,0.4s							
GKN	**Gorkha**	**13.12**	**154**	*e*P		Pn	03 05 22.2	-3.6
	comp=E,23nm,0.3s							
KKN	**Kakani**	**13.54**	**153**	*e*P		**Pn**	**03 05 28.7**	**-2.8**
	comp=E,19nm,0.5s							
DMN	**Daman**	**13.64**

comp=Z,31nm,1.7s
IGLO Ghaloghah 19.50 267 *e*P **P** **03 06 46.5 +0.3**
IKIA Kiasar 19.71 267 *e*P **P** **03 06 49.2 +0.8**
IANJ Anjilo 19.78 264 *e*P **Pn** **03 06 50.5 -0.4**
ZAK Zakamensk 20.32 51 *e*P **P** **03 06 54.5 -0.3**
ZAK pmax pmax
comp=Z,9.0nm,1.1s
SVE Sverdlovsk 20.36 331 *e*P **P** **03 06 55.6 +0.6**
SVE *e*S Sn 03 10 44.4 -1.0
SVE pmax pmax
comp=Z,26nm,1.2s
SVE MLR MLR
comp=Z,576nm,17.0s
LZH Lanzhou 20.49 93 *e*P **P** **03 06 57.1 +0.3**
LZH pP **pP** **03 07 07.5 +1.9**
LZH sP **sP** **03 07 10.8 +1.0**
LZH *e*PP **PnPn** **03 07 17.3 +2.7**
LZH *e*S **S** **03 10 38.6 -5.8**
LZH sS Sn 03 10 52.5 +3.3
LZH *e*SS **SnSn** **03 11 09.4 +5.7**
LZH PMZ
comp=Z,21nm,1.0s
LZH PMZ
comp=Z,110nm,4.3s
LZH LN
comp=Z,510nm,13.0s
LZH LE
comp=Z,470nm,14.2s
LZH LZ
comp=Z,700nm,16.0s
ARU Arti 20.87 328 *c i*P **P** **03 07 01.6 +1.0**
ARU 03 07 19.4
ARU S **S** **03 10 54.3 +2.9**
ARU SS **SnSn** **03 11 14.2 +1.5**
ARU pmax pmax
comp=Z,52nm,1.2s
ARU Arti 20.87 328 *e*P **P** **03 07 01.4 +0.8**
comp=Z,62nm,1.3s
IMEH Mehriz 21.02 253 *e*P **P** **03 07 03.8 +1.0**
TLY Talaya 21.03 48 P **P** **03 07 02.9 +0.6**
comp=Z,0.8nm,0.4s,baz=228,slow=15,SNR=4.8
TLY Talaya 21.03 48 *e*P **P** **03 07 04.4 +2.0**
TLY pmax pmax
comp=Z,4.0nm,1.1s
TLY MLR MLR
comp=Z,99nm,11.0s
IDMV Damavand 21.18 266 *e*P **P** **03 07 07.2 +2.7**
ISAD Sadrabad 21.45 255 *e*P **P** **03 07 07.7 +0.4**
SONM Songino Array 21.60 60 P **P** **03 07 09.9 +1.3**
comp=Z,9.4nm,0.8s,baz=257,slow=11,SNR=34
SONM Songino Array 21.60 60 P **P** **03 07 09.9 +1.3**
SONM pmax pmax
comp=Z,9.0nm,0.8s
IZEF Zefreh 22.01 259 *e*P **P** **03 07 14.9 +1.6**
ULN Ulaanbaatar 22.04 60 *e*P **P** **03 07 14.8 +1.4**
ULN pmax pmax
comp=Z,36nm,1.7s
ULN Ulaanbaatar 22.04 60 *e*P **P** **03 07 14.2 +0.8**
comp=Z,19nm,1.0s
IGZV Ghazvin 22.31 270 *e*P **P** **03 07 18.6 +2.1**
IKLH Kolahrood 22.39 261 *e*P **P** **03 07 19.2 +1.8**
HYB Hyderabad 22.56 179 *i* P **P** **03 07 18.0 -1.0**
HYB Hyderabad 22.56 179 *e*P **P** **03 07 18.0 -1.0**
HYB Hyderabad 22.56 179 *e*P **P** **03 07 18.0 -1.0**
CD2 Chengdu 22.60 106 *e*P **P** **03 07 19.4 -0.1**
CD2 pP **pP** **03 07 23.6 -4.7**
CD2 PP **PnPn** **03 07 47.3 +3.8**
CD2 S **S** **03 11 22.0 -3.0**
CD2 SS **SnSn** **03 12 03.4 +7.8**
CD2 PMZ
comp=Z,10.0nm,0.5s
IKAZ Kazeroun 23.90 253 *e*P **P** **03 07 32.0 -0.7**
DGRG David-gareji 24.89 284 P **P** **03 07 43.6 +2.3**
HHC Hu-ho-hao-te 25.26 77 *e*P **P** **03 07 46.1 +1.4**
HHC pP **pP** **03 07 56.3 +2.1**
HHC sP **sP** **03 07 59.4 +1.2**
HHC PP **PnPn** **03 08 25.0 +5.3**
HHC S **S** **03 12 06.4 -1.9**
HHC sS **sS** **03 12 22.0 -2.0**
HHC PMZ
comp=Z,25nm,0.6s
HHC PMZ
comp=Z,110nm,5.4s
HHC LN
comp=Z,280nm,12.6s
HHC LE
comp=Z,280nm,9.4s
HHC LZ
comp=Z,290nm,17.1s
KMI Kunming 25.31 119 P **P** **03 07 42.8 -2.7**
KMI pP pP 03 07 49.3 -5.6
KMI sP sP 03 07 52.3 -6.7
KMI PMZ
comp=Z,12nm,0.6s
GNI Garni 25.57 281 P **P** **03 07 48.5 +0.8**
comp=Z,9.8nm,0.9s,baz=156,slow=11,SNR=5.9
GNI Garni 25.57 281 P **P** **03 07 48.5 +0.8**
GNI pmax pmax
comp=Z,10.0nm,0.9s
ZEI Tsey 25.82 287 *e*P **P** **03 07 51.0 +1.1**
ZEI pmax pmax
comp=Z,3.0nm,0.5s
ONI Oni 26.17 287 P **P** **03 07 55.2 +2.3**
KBZ Khabaz 26.47 290 P **P** **03 07 56.2 +0.7**
comp=Z,3.1nm,0.8s,baz=53,slow=20,SNR=7.2
KBZ Khabaz 26.47 290 P **P** **03 07 56.2 +0.7**
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KIV Kislovodsk 26.61 290 *e*P **P** **03 07 56.1 -0.8**
KIV *e*S **S** **03 12 29.1 -0.4**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,70nm,14.0s
GYA Guiyang 27.20 111 *e*P **P** **03 08 03.3 +0.9**
GYA pP **pP** **03 08 12.8 +0.9**
GYA S **S** **03 12 38.0 -1.2**
GYA sS **sS** **03 12 55.8 +0.8**
GYA SS **SnSn** **03 13 54.0 +5.8**
GYA ScP **ScP** **03 15 00.4 +0.5**
GYA ScS **ScS** **03 18 50.3 -1.1**
GYA PMZ
comp=Z,10.0nm,0.8s
GYA PMZ
comp=Z,90nm,4.8s
GYA LN
comp=Z,460nm,15.4s
GYA LE
comp=Z,420nm,16.0s
GYA LZ
comp=Z,440nm,15.2s
CMAR Chiang Mai Arr 27.94 134 P **P** **03 08 11.7 +2.7**
comp=Z,1.4nm,0.4s,baz=316,slow=11,SNR=11
CMAR LR LR 03 20 57.1
comp=Z,87nm,19.9s,baz=237,slow=40
CMAR Chiang Mai Arr 27.94 134 P **P** **03 08 11.7 +2.7**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR MLR MLR
comp=Z,87nm,19.9s
BJI Beijing 28.87 78 P **P** **03 08 17.3 +0.3**
BJI S **S** **03 13 05.6 +0.6**
BJI PMZ
comp=Z,9.0nm,0.6s
BJI PMZ
comp=Z,54nm,3.5s
BJI LN
comp=Z,210nm,13.9s
BJI LE
comp=Z,210nm,13.3s
BJI LZ
comp=Z,140nm,22.8s
BOD Bodaibo 28.96 40 *e*P **P** **03 08 17.3 -0.4**
BOD pmax pmax
comp=Z,3.0nm,1.9s
VSR Storozhevoye 29.20 306 *e*P **P** **03 08 20.4 +0.5**
VSR pmax pmax
comp=N,3.0nm,0.5s
VSR pmax pmax
comp=E,6.0nm,0.5s
VSR pmax pmax
comp=Z,7.0nm,0.5s
PRGR Permogore 29.33 328 P **P** **03 08 19.4 -1.5**
PRGR pmax pmax
comp=Z,5.0nm,0.7s
LPSR Galich'ya Gora 29.55 308 *e*P **P** **03 08 20.3 -2.6**
LPSR pmax pmax
comp=Z,7.0nm,0.5s
LPSR pmax pmax
comp=N,4.0nm,0.4s
LPSR pmax pmax
comp=E,9.0nm,0.3s
LPSR MLR MLR
comp=N,210nm,18.0s
LPSR MLR MLR
comp=E,200nm,18.0s
LPSR MLR MLR
comp=Z,190nm,18.0s
WHN Wuhan 30.75 97 *e*P **P** **03 08 33.9 +0.1**
OBN Obninsk 31.37 313 P **P** **03 08 39.6 +0.6**
comp=Z,5.4nm,0.3s,baz=79,slow=8.8,SNR=4.5
OBN Obninsk 31.37 313 ⇓*i*P **P** **03 08 39.8 +0.9**
OBN *e**PP **pP** **03 08 47.1 -1.4**
OBN pmax pmax
comp=Z,22nm,2.0s
OBN MLR MLR
comp=Z,157nm,24.0s
KLMR Klimovskoe 31.58 324 *e*P P 03 08 34.3 -6.4
KLMR pmax pmax
comp=Z,18nm,2.0s
KLMR MLR MLR
comp=Z,308nm,13.0s
RAYN Ar Rayn 32.14 249 *e*P **P** **03 08 46.5 +0.4**
comp=Z,15nm,1.3s
SIM Simferopol' 32.62 293 *d i*P **P** **03 08 51.0 +0.9**
SIM pmax pmax
comp=Z,14nm,0.9s
SIM MLR MLR
comp=Z,190nm,21.2s
NJ2 Nanjing 33.53 91 *e*P **P** **03 08 58.5 +0.4**
NJ2 PMZ
comp=Z,30nm,0.5s
BR131 Keskin Array S 33.98 284 *e*P **P** **03 09 03.5 +1.3**
comp=Z,11nm,0.8s
BRTR Keskin Array B 33.98 284 P **P** **03 09 03.5 +1.3**
comp=Z,14nm,0.8s,baz=91,slow=8.5,SNR=88
BRTR Keskin Array B 33.98 284 P **P** **03 09 03.6 +1.4**
BRTR pmax pmax
comp=Z,14nm,0.8s
QIZ Qiongzhong 34.26 118 P **P** **03 09 05.4 +0.8**
AKASG Malin Array Be 35.46 304 P **P** **03 09 14.4 -0.2**
comp=Z,1.5nm,0.8s,baz=76,slow=7.9,SNR=9.2
AKASG LR LR 03 24 37.2
comp=Z,132nm,18.3s,baz=70,slow=38
AKASG Malin Array Be 35.46 304 P **P** **03 09 14.4 -0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG MLR MLR
comp=Z,132nm,18.3s
AKBB Malin Array Si 35.46 304 *e*P **P** **03 09 15.0 +0.4**
AKBB Malin Array Si 35.46 304 *e*P **P** **03 09 15.0 +0.4**
KIEV Kiev 35.47 304 *e*P **P** **03 09 15.3 +0.6**
KIEV pmax pmax
comp=Z,5.0nm,0.8s
KIEV Kiev 35.47 304 *e*P **P** **03 09 15.3 +0.6**
comp=Z,5.4nm,0.8s
TLCR 36.30 295 ⇓*i*P **P** **03 09 22.7 +0.8**
TIRR Tirgusor 36.71 294 *e*P **P** **03 09 25.5 +0.1**
TIRR pmax pmax
comp=Z,19nm,1.5s
TIRR Tirgusor 36.71 294 *e*P **P** **03 09 25.5 +0.1**
comp=Z,19nm,1.5s
CFR Carcaliu 36.77 295 ⇑*i*P **P** **03 09 26.9 +1.0**
TLB Topalu 36.95 294 ⇑*i*P **P** **03 09 28.8 +1.4**
MSAB Monastry St. A 37.20 293 ⇑*i*P **P** **03 09 31.4 +1.9**
TESR Tescani 37.57 297 ⇑*i*P **P** **03 09 33.5 +0.8**
VRI Vrincioaia 37.62 296 ⇑*i*P **P** **03 09 35.6 +2.4**
PLOR Plostina 37.68 296 ⇑*i*P **P** **03 09 36.2 +2.5**
YAK Yakutsk 37.72 37 *e*P **P** **03 09 34.9 +1.2**
YAK pmax pmax
comp=Z,9.0nm,1.3s
FINES FINESS Array B 37.98 322 P **P** **03 09 36.7 +0.7**
comp=Z,2.6nm,0.6s,baz=119,slow=10,SNR=22
FINES FINESS Array B 37.98 322 P **P** **03 09 36.7 +0.7**
FINES pmax pmax
comp=Z,3.0nm,0.6s
BURAR Bucovina Array 38.37 299 ⇑*i*P **P** **03 09 40.8 +1.3**
BUR08 Bucovina Ar. S 38.37 299 *e*P **P** **03 09 40.7 +1.2**
DOPR Dopca 38.53 297 ⇑*i*P **P** **03 09 42.4 +1.6**
DLV T Lat 39.65 128 *e*P **P** **03 09 42.4 +0.1**
PVL Pavlikeni 39.15 292 *e*P **P** **03 09 48.5 +2.5**
ARR Arges 39.16 296 ⇑*i*P **P** **03 09 47.8 +1.6**
SMG Samos 39.66 284 *e*P **P** **03 09 48.5 -1.9**
KULM Kulim 40.05 144 *e*P **P** **03 09 53.7 0.0**
comp=Z,5.0nm,0.9s
TRPA Tarpa 40.06 301 ⇑*i*P **P** **03 09 55.3 +1.8**
KOLS Kolonicke sedl 40.11 302 *e*P **P** **03 09 54.6 +0.7**
KOLS pmax pmax
comp=Z,13nm,2.2s
KOLS Kolonicke sedl 40.11 302 *e*P **P** **03 09 54.6 +0.7**
KOLS *e*PP **PnPn** **03 11 29.5 -0.5**
PGB Panagyurishte 40.15 292 *e*P **P** **03 09 56.1 +1.7**
DRGR 40.19 299 ⇓*i*P **P** **03 09 56.0 +1.3**
KARP Karpathos 40.19 280 *e*P P 03 10 09.0 +14
ARCES ARCESS Array B 40.24 334 P **P** **03 09 55.2 +0.4**
comp=Z,3.2nm,0.8s,baz=97,slow=9.9,SNR=11
ARCES ARCESS Array B 40.24 334 P **P** **03 09 55.2 +0.4**
ARCES pmax pmax
comp=Z,3.0nm,0.8s
MPEP Malo Peshtene 40.25 293 *e*P **P** **03 09 56.9 +1.8**
TIXI Tiksi 40.33 22 *e*P **P** **03 09 55.3 -0.1**
TIXI pmax pmax
comp=Z,5.0nm,1.0s
TIXI Tiksi 40.33 22 *e*P **P** **03 09 54.7 -0.8**
comp=Z,3.9nm,0.9s
KAVA Kavala 40.33 289 *e*P **P** **03 09 57.0 +1.1**
STHS Stebnicka Huta 40.70 303 *e*P **P** **03 09 59.8 +1.0**
STHS *e* 03 11 35.1
STHS Stebnicka Huta 40.70 303 *e*P **P** **03 09 59.8 +1.0**
STHS *e*PP **PP** **03 11 35.1 +2.4**
NVR Nevrokopi 40.70 290 *e*P **P** **03 10 00.5 +1.5**
VTS Vitosha 40.82 292 ⇑*i*P **P** **03 10 01.7 +1.6**
VTS Vitosha 40.82 292 *e*P **P** **03 10 00.1 0.0**
APE Apeiranthos 40.86 283 *e*P **P** **03 10 01.5 +1.2**
OUR Ouranopolis 40.92 289 *e*P **P** **03 10 02.0 +1.3**
IPM Ipoh 40.93 144 *e*P **P** **03 10 00.6 -0.5**
comp=Z,6.1nm,0.8s
SRS Serrai 40.96 290 *e*P **P** **03 10 02.5 +1.4**
SIRR Siria 41.01 298 ⇑*i*P **P** **03 10 03.2 +1.8**
BZS Buzias 41.18 297 ⇑*i*P **P** **03 10 04.2 +1.4**
PAIG Paliouri 41.27 288 *e*P **P** **03 10 05.0 +1.4**
PLG Polygyros 41.30 289 *e*P **P** **03 10 05.5 +1.6**
KNT Kendrikon 41.45 290 *e*P **P** **03 10 06.0 +0.9**
HORT Hortiatis 41.48 289 *e*P **P** **03 10 06.0 +0.6**
OJC Ojcow 41.50 304 *e*P **P** **03 10 06.0 +0.6**
OJC pmax pmax
comp=Z,6.0nm,0.8s
OJC Ojcow 41.50 304 *e*P **P** **03 10 06.0 +0.6**
comp=Z,5.5nm,0.8s
THE Thessaloniki 41.56 289 *e*P **P** **03 10 07.0 +1.0**
NEO Neokhori 41.80 287 *e*P **P** **03 10 09.0 +1.0**
ATH Athens Observa 41.89 285 *e*P **P** **03 10 10.0 +1.3**
LIT Litokhoron 42.08 289 *e*P **P** **03 10 09.0 -1.2**
AXAR Agios Charalam 42.39 287 *e*P **P** **03 10 14.0 +1.2**
DID Didima 42.41 285 *e*P **P** **03 10 12.0 -1.0**
VYHS Vyhne 42.42 302 *e*P **P** **03 10 14.1 +1.1**
VYHS pmax pmax
comp=Z,9.0nm,1.9s
VYHS Vyhne 42.42 302 *e*P **P** **03 10 14.1 +1.1**
VYHS *e*PP **PP** **03 11 51.2 -0.2**
OKC Ostrava-Krasne 42.61 304 *e*P **P** **03 10 16.1 +1.7**
OKC *ex* x 03 10 19.6
OKC *e*PP **PP** **03 11 54.1 +0.7**
OKC *ex* x 03 12 01.2
OKC AMS AMS 03 29 00.0
comp=Z,100nm,14.6s
OKC Ostrava-Krasne 42.61 304 *e*P **P** **03 10 16.1 +1.7**
OKC *e* 03 11 54.1
OKC *e* 03 12 01.2
OKC MLR MLR
comp=Z,100nm,14.6s
DSF Desfina 42.61 286 *e*P **P** **03 10 14.0 -0.7**
FNA Florina 42.66 290 *e*P **P** **03 10 15.5 +0.4**
DIVS Divibare 42.68 295 ⇓*i*P **P** **03 10 16.5 +1.3**
MAKR Makrakomi, Fth 42.70 287 *e*P **P** **03 10 16.5 +1.2**
GVD Gavdhos 42.79 281 *e*P **P** **03 10 16.3 +0.3**
comp=Z,113nm,0.7s
KALE Kalithea 42.91 287 *e*P **P** **03 10 17.0 -0.1**
GUR Goura 42.92 286 *e*P **P** **03 10 16.0 -1.2**
KYTH Kithira 43.01 283 *e*P **P** **03 10 18.0 +0.1**
NEST Nestorio 43.02 290 *e*P **P** **03 10 20.0 +2.0**
PKSM Moragy 43.06 299 ⇑*i*P **P** **03 10 19.0 +0.9**
EFP Efpalio 43.06 287 *e*P **P** **03 10 18.0 -0.3**
VLX Vlachokerasia 43.09 285 *e*P **P** **03 10 18.0 -0.6**
DSL Palaion Diasel 43.41 288 *e*P **P** **03 10 21.5 +0.4**
JAN Janina 43.41 289 *e*P **P** **03 10 22.0 +0.9**
KRLC Kraliky 43.43 305 *e*P **P** **03 10 21.8 +0.7**
KRLC *ex* x 03 10 26.5
KRLC *e*PP **PP** **03 12 04.3 +2.1**
KRLC Kraliky 43.43 305 *e*P **P** **03 10 21.8 +0.7**
KRLC *e* 03 12 04.3
ITM Ithomi 43.50 285 *e*P **P** **03 10 21.0 -0.8**
DPC Dobruska-Polom 43.67 305 *e*P **P** **03 10 23.8 +0.8**
DPC *ex* x 03 10 28.2
DPC *e*PP **PP** **03 12 06.5 +1.7**
DPC AMS AMS 03 29 40.0
comp=Z,200nm,19.2s
DPC Dobruska-Polom 43.67 305 *e*P **P** **03 10 23.6 +0.6**
DPC pmax pmax
comp=Z,19nm,0.8s
DPC Dobruska-Polom 43.67 305 *e*P **P** **03 10 23.6 +0.6**
comp=Z,19nm,0.8s
VRAC Vranov 43.71 303 ⇑*i*P **P** **03 10 24.6 +1.3**
IGT Igoumenitsa 43.83 289 *e*P **P** **03 10 24.0 -0.4**
UPC Upice 43.83 305 *e*P **P** **03 10 25.5 +1.0**
UPC *ex* x 03 10 29.7
UPC Upice 43.83 305 *e*P **P** **03 10 25.3 +1.0**
LKD2 Lefkada island 43.85 288 *e*P **P** **03 10 24.0 -0.7**
TREC Trest 44.42 304 AMS AMS 03 30 10.0
comp=Z,100nm,13.6s
CONA Conrad Observa 44.49 302 ⇑*i*P **P** **03 10 30.8 +1.1**
comp=Z,5.0nm,0.9s
GOPC GO Pecny, Ondr 44.73 305 AMS AMS 03 30 20.0
comp=Z,200nm,16.1s
PRU Pruhonice 44.86 305 *e*P **P** **03 10 32.5 0.0**
PRU *e*PP **PP** **03 12 21.7 +4.2**
PRU AMS AMS 03 30 20.0
comp=Z,200nm,15.8s
PRU Pruhonice 44.86 305 *e*P **P** **03 10 32.5 0.0**
PRU *e* 03 12 21.7
PRU MLR MLR
comp=Z,200nm,15.8s
BRG Berggiesshubel 45.05 306 *e*P **P** **03 10 34.8 +0.8**
comp=Z,4.7nm,1.2s
BRG *e* 03 12 49.1
comp=Z,5.7nm,1.6s
comp=N,91nm,14.4s
comp=E,129nm,15.5s
comp=Z,193nm,19.8s
BRG Berggiesshubel 45.05 306 *e*P **P** **03 10 34.8 +0.8**
comp=Z,5.0nm,1.2s
BRG Berggiesshubel 45.05 306 *e*P **P** **03 10 34.8 +0.8**
BRG pmax pmax
comp=Z,5.0nm,1.2s
BRG MLR MLR
comp=N,91nm,14.4s
BRG MLR MLR
comp=E,129nm,15.5s
BRG MLR MLR
comp=Z,193nm,19.8s
NB2 NORSAR Subarra 45.13 321 P **P** **03 10 34.3 -0.3**
comp=Z,32nm,2.0s,baz=85,slow=7.9
NOA NORSAR Array B 45.13 321 P **P** **03 10 34.6 +0.1**
comp=Z,1.7nm,0.6s,baz=87,slow=7.9,SNR=11
NOA LR LR 03 30 13.8
comp=Z,93nm,18.4s,baz=80,slow=37
NOA NORSAR Array B 45.13 321 P **P** **03 10 34.6 +0.1**
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA MLR MLR
comp=Z,93nm,18.4s
GOLS Golise 45.14 299 *i* P **P** **03 10 35.7 +0.9**
NAO01 NORSAR Array S 45.30 321 *e*P **P** **03 10 35.6 -0.3**
comp=Z,3.6nm,0.7s
PERS Pernice 45.31 300 *i* P **P** **03 10 36.9 +0.7**
CLL Collm 45.53 307 *e*P **P** **03 10 38.5 +0.7**
comp=Z,6.0nm,1.1s
CLL Collm 45.53 307 *e*P **P** **03 10 38.0 +0.2**
comp=Z,7.0nm,1.1s
CLL *i* P(2) 03 10 40.1
CLL *e*PP **PP** **03 12 28.0 +3.5**
CLL Lm MLR 03 30 00.0
comp=Z,100nm,19.1s
CLL Collm 45.53 307 *e*P **P** **03 10 38.1 +0.2**
CLL pmax pmax
comp=Z,7.0nm,1.1s
CLL Collm 45.53 307 *e*P **P** **03 10 38.0 +0.2**
comp=Z,7.3nm,1.1s
GEC2 GERESS Array S 45.66 303 *e*P **P** **03 10 40.4 +1.4**
comp=Z,6.0nm,0.9s
GEC2 GERESS Array S 45.66 303 *e*P **P** **03 10 40.1 +1.1**
GEC2 GERESS Array S 45.66 303 *e*P **P** **03 10 40.1 +1.1**
GERES GERESS Array B 45.66 303 P **P** **03 10 39.9 +0.9**
comp=Z,2.9nm,0.8s,baz=75,slow=7.1,SNR=38
GERES LR LR 03 31 17.8
comp=Z,146nm,20.5s,baz=79,slow=38
GERES GERESS Array B 45.66 303 P **P** **03 10 39.9 +0.9**
GERES pmax pmax
comp=Z,3.0nm,0.8s
GERES MLR MLR
comp=Z,146nm,20.5s
KHC Kasperske Hory 45.67 304 *e*P **P** **03 10 40.1 +1.1**
KHC *ex* x 03 10 45.5
KHC *e*PP **PP** **03 12 30.4 +4.3**
KHC AMS AMS 03 30 50.0
comp=Z,200nm,14.4s
KHC Kasperske Hory 45.67 304 *e*P **P** **03 10 40.1 +1.1**
KHC *e* 03 12 30.4
KHC MLR MLR
comp=Z,200nm,14.4s
LJU Ljubljana 45.86 299 *i* P **P** **03 10 41.6 +1.1**
CEY Cerknica 46.02 299 *i* P **P** **03 10 42.5 +0.8**
TANN Tannenbergstha 46.07 306 *e*P **P** **03 10 43.0 +0.8**
comp=Z,5.0nm,1.1s
WET Wettzell 46.12 304 *e*P **P** **03 10 43.5 +1.0**
comp=Z,8.0nm,1.5s
NKC Novy Kostel 46.12 306 AMS AMS 03 31 10.0
PLN Plauen 46.24 306 *e*P **P** **03 10 44.2 +0.7**
comp=Z,8.0nm,1.5s
TRI Trieste 46.47 299 *e*P **P** **03 10 45.8 +0.5**
TRI pmax pmax
comp=Z,14nm,0.9s
TRI Trieste 46.47 299 *e*P **P** **03 10 45.8 +0.5**
comp=Z,14nm,0.9s
TIP Timpagrande 46.55 290 *e*P **P** **03 10 46.2 +0.1**
comp=Z,20nm,1.6s
BSEG Bad Segeberg 46.59 311 *e*P **P** **03 10 47.5 +1.4**
comp=Z,12nm,1.1s
GRF Grafenberg Arr 47.02 305 *e*P **P** **03 10 51.2 +1.6**
comp=Z,8.0nm,0.9s
GRFO Grafenberg 47.02 305 *e*P **P** **03 10 51.2 +1.6**
GRFO pmax pmax
comp=Z,54nm,2.2s
GRFO Grafenberg 47.02 305 *e*P **P** **03 10 51.2 +1.6**
comp=Z,54nm,2.2s
NRDL Niedersach Rie 47.02 309 *e*P **P** **03 10 50.8 +1.4**
comp=Z,11nm,1.1s
CEL Celeste 47.52 289 *e*P **P** **03 10 54.8 +1.1**
comp=Z,12nm,0.8s
AQU L'Aquila 47.79 295 *e*P **P** **03 10 56.8 +1.1**
AQU pmax pmax
comp=Z,10.0nm,0.8s
AQU L'Aquila 47.79 295 *e*P **P** **03 10 56.8 +1.1**
comp=Z,9.9nm,0.8s
RETA Reutte 47.92 302 ⇑*i*P **P** **03 10 57.4 +0.7**
comp=Z,5.1nm,0.9s
FUORN Ofenpass-Fuorn 48.51 301 *e*P **P** **03 11 01.9 +0.4**
comp=Z,7.2nm,0.8s
DAVA Damuels 48.56 302 ⇑*i*P **P** **03 11 02.0 +0.3**
comp=Z,10nm,1.1s
BFO Black Forest 49.23 304 *e*P **P** **03 11 07.3 +0.5**
comp=Z,4.0nm,1.1s
BFO Black Forest 49.23 304 *e*P **P** **03 11 07.2 +0.5**
BFO pmax pmax
comp=Z,4.0nm,1.0s
BFO Black Forest 49.23 304 *e*P **P** **03 11 07.2 +0.5**
comp=Z,3.7nm,1.0s
MNAI Manna 49.68 147 *e*P **P** **03 11 10.7 +0.4**
comp=Z,126nm,1.1s
CDF Champ du Feu 49.88 305 *e*P **P** **03 11 11.4 -0.3**
comp=Z,10nm,1.0s
CDF Champ du Feu 49.88 305 *e*P **P** **03 11 11.4 -0.3**
CDF pmax pmax
comp=Z,10.0nm,1.0s
CDF Champ du Feu 49.88 305 *e*P **P** **03 11 11.4 -0.3**

comp=Z,10nm,1.0s
WLF Walferdange 50.19 306 *e*P **P 03 11 14.9 +1.0**
WLF pmax pmax
comp=Z,4.0nm,0.8s
WLF Walferdange 50.19 306 *e*P **P 03 11 14.9 +1.0**
comp=Z,4.4nm,0.8s
HINF Hinteralfeld 50.34 304 *e*P **P 03 11 14.8 -0.3**
comp=Z,18nm,1.1s
HINF Hinteralfeld 50.34 304 *e*P **P 03 11 14.8 -0.3**
HINF pmax pmax
comp=Z,18nm,1.1s
HINF Hinteralfeld 50.34 304 *e*P **P 03 11 14.8 -0.3**
comp=Z,18nm,1.1s
HAU Haudompre 50.59 304 *e*P **P 03 11 16.6 -0.4**
comp=Z,14nm,1.1s
HAU *e*R
comp=Z,106nm,19.0s
HAU Haudompre 50.59 304 *e*P **P 03 11 16.6 -0.4**
HAU pmax pmax
comp=Z,14nm,1.1s
HAU Haudompre 50.59 304 *e*P **P 03 11 16.6 -0.4**
comp=Z,14nm,1.1s
PGF Pioggiola 50.76 297 *e*P **P 03 11 18.1 -0.4**
comp=Z,14nm,1.0s
PGF Pioggiola 50.76 297 *e*P **P 03 11 18.1 -0.4**
PGF pmax pmax
comp=Z,14nm,1.0s
PGF Pioggiola 50.76 297 *e*P **P 03 11 18.1 -0.4**
comp=Z,14nm,1.0s
PAGF Fort de Pagny 50.81 305 *e*P **P 03 11 17.5 -1.1**
comp=Z,3.6nm,1.2s
PAGF Fort de Pagny 50.81 305 *e*P **P 03 11 17.5 -1.1**
comp=Z,3.6nm,1.2s
LPG La Plagne 51.19 301 *e*P **P 03 11 22.0 +0.1**
comp=Z,17nm,1.0s
LPG La Plagne 51.19 301 *e*P **P 03 11 22.0 +0.1**
LPG pmax pmax
comp=Z,17nm,1.0s
LPG La Plagne 51.19 301 *e*P **P 03 11 22.0 +0.1**
comp=Z,17nm,1.0s
LPL La Plagne 51.20 301 *e*P **P 03 11 22.0 +0.1**
LPL La Plagne 51.20 301 *e*P **P 03 11 22.0 +0.1**
LPL La Plagne 51.20 301 *e*P **P 03 11 22.0 +0.1**
CABF La Chapelle 51.23 303 *e*P **P 03 11 21.6 -0.3**
comp=Z,6.7nm,0.9s
CABF La Chapelle 51.23 303 *e*P **P 03 11 21.6 -0.3**
CABF pmax pmax
comp=Z,7.0nm,0.9s
CABF La Chapelle 51.23 303 *e*P **P 03 11 21.6 -0.3**
comp=Z,6.7nm,0.9s
MEZF Maizieres J'vi 51.25 305 *e*P **P 03 11 21.9 0.0**
comp=Z,20nm,1.1s
MEZF Maizieres J'vi 51.25 305 *e*P **P 03 11 21.9 0.0**
comp=Z,20nm,1.1s
BAIF Baives 51.26 307 *e*P **P 03 11 22.1 +0.2**
comp=Z,13nm,1.0s
BAIF Baives 51.26 307 *e*P **P 03 11 22.1 +0.2**
BAIF pmax pmax
comp=Z,13nm,1.0s
BAIF Baives 51.26 307 *e*P **P 03 11 22.1 +0.2**
comp=Z,13nm,1.0s
SBF Sospel 51.33 299 *e*P **P 03 11 22.6 -0.1**
comp=Z,17nm,0.8s
SBF Sospel 51.33 299 *e*P **P 03 11 22.6 -0.1**
SBF pmax pmax
comp=Z,17nm,0.8s
SBF Sospel 51.33 299 *e*P **P 03 11 22.6 -0.1**
comp=Z,17nm,0.8s
SFTF Sexfontaines 51.35 305 *e*P **P 03 11 22.4 -0.3**
comp=Z,17nm,1.0s
SFTF Sexfontaines 51.35 305 *e*P **P 03 11 22.4 -0.3**
comp=Z,17nm,1.0s
BNI Bardonecchia 51.40 301 *e*P **P 03 11 23.8 +0.5**
BNI pmax pmax
comp=Z,7.0nm,1.0s
BNI Bardonecchia 51.40 301 *e*P **P 03 11 23.8 +0.5**
comp=Z,7.2nm,1.0s
MBDF Montbardon 51.46 300 *e*P **P 03 11 23.0 -0.7**
comp=Z,16nm,1.0s
MBDF Montbardon 51.46 300 *e*P **P 03 11 23.0 -0.7**
MBDF pmax pmax
comp=Z,16nm,1.0s
MBDF Montbardon 51.46 300 *e*P **P 03 11 23.0 -0.7**
comp=Z,16nm,1.0s
FRF La Foret Royal 51.98 299 *e*P **P 03 11 26.9 -0.5**
comp=Z,20nm,1.1s
FRF La Foret Royal 51.98 299 *e*P **P 03 11 26.9 -0.5**
FRF pmax pmax
comp=Z,20nm,1.1s
FRF La Foret Royal 51.98 299 *e*P **P 03 11 26.9 -0.5**
comp=Z,20nm,1.1s
ORIF Oris-en-Rattie 51.98 301 *e*P **P 03 11 26.8 -0.7**
comp=Z,9.9nm,0.8s
ORIF *e*R
comp=Z,174nm,20.5s
ORIF Oris-en-Rattie 51.98 301 *e*P **P 03 11 26.8 -0.7**
ORIF pmax pmax
comp=Z,10.0nm,0.8s
ORIF Oris-en-Rattie 51.98 301 *e*P **P 03 11 26.8 -0.7**
comp=Z,9.9nm,0.8s
LMR La Mourre 52.16 299 *e*P **P 03 11 28.5 -0.2**
LMR La Mourre 52.16 299 *e*P **P 03 11 28.5 -0.2**
LMR La Mourre 52.16 299 *e*P **P 03 11 28.5 -0.2**
LOR Lormes 52.43 304 *e*P **P 03 11 29.7 -1.1**
comp=Z,11nm,1.2s
LOR *e*R
comp=Z,100nm,23.0s
LOR Lormes 52.43 304 *e*P **P 03 11 29.7 -1.1**
LOR pmax pmax
comp=Z,11nm,1.2s
LOR Lormes 52.43 304 *e*P **P 03 11 29.7 -1.1**
comp=Z,11nm,1.2s
SMRF Simiane la Rot 52.54 300 *e*P **P 03 11 31.1 -0.5**
comp=Z,8.8nm,1.0s
SMRF Simiane la Rot 52.54 300 *e*P **P 03 11 31.1 -0.5**
comp=Z,8.8nm,1.0s
SMF Signal de Mont 52.67 303 *e*P **P 03 11 31.8 -0.7**
comp=Z,14nm,1.0s
SMF Signal de Mont 52.67 303 *e*P **P 03 11 31.8 -0.7**
SMF pmax pmax
comp=Z,15nm,1.0s
SMF Signal de Mont 52.67 303 *e*P **P 03 11 31.8 -0.7**
comp=Z,14nm,1.0s
SSF Saint Saulge 52.73 304 *e*P **P 03 11 32.3 -0.6**
SSF Saint Saulge 52.73 304 *e*P **P 03 11 32.3 -0.6**
SSF Saint Saulge 52.73 304 *e*P **P 03 11 32.3 -0.6**
VIVF Saint-Julien-l 52.80 301 *e*P **P 03 11 33.2 -0.3**
comp=Z,8.1nm,0.8s
VIVF Saint-Julien-l 52.80 301 *e*P **P 03 11 33.2 -0.3**
VIVF pmax pmax
comp=Z,8.0nm,0.8s
VIVF Saint-Julien-l 52.80 301 *e*P **P 03 11 33.2 -0.3**
comp=Z,8.1nm,0.8s
BILL Bilibino 52.84 28‖ *e*P **P 03 11 34.2 +0.7**
BILL *e* 03 11 39.7
BILL 03 12 48.0
BILL pmax pmax
comp=Z,3.0nm,1.2s
BILL Bilibino 52.84 28 *e*P **P 03 11 33.6 +0.1**
DRUM Mains of Drumt 52.88 317 *e*P **P 03 11 33.0 -0.8**
MLA1 Latheron 52.90 319 *e*P **P 03 11 34.2 +0.2**
AVF Avril sur Loir 52.92 304 *e*P **P 03 11 33.8 -0.6**
comp=Z,23nm,0.9s
AVF Avril sur Loir 52.92 304 *e*P **P 03 11 33.8 -0.6**
AVF pmax pmax
comp=Z,23nm,0.9s
AVF Avril sur Loir 52.92 304 *e*P **P 03 11 33.8 -0.6**
comp=Z,23nm,0.9s
MCD Coleburn Disti 53.06 318 *e*P **P 03 11 35.2 0.0**
BIGH Upper Bighouse 53.11 319 *e*P **P 03 11 35.6 +0.1**
KEST Kesra 53.34 289 P **P 03 11 37.8 +0.1**
comp=Z,1.3nm,0.8s,baz=80,slow=1.3,SNR=8.0
HPK Haverah Park 53.37 314 *e*P **P 03 11 38.0 +0.5**
HPK AMB AMB 03 11 40.3
comp=Z,24nm,1.1s
LASF Ste Croix 53.64 300 *e*P **P 03 11 39.6 -0.1**
comp=Z,9.4nm,1.0s
LASF Ste Croix 53.64 300 *e*P **P 03 11 39.6 -0.1**
comp=Z,9.4nm,1.0s
ESK Eskdalemuir 53.78 316 *e*P **P 03 11 40.6 +0.1**
ESK AMB AMB 03 11 43.0
comp=Z,11nm,1.2s
ESK Eskdalemuir 53.78 316 *i*P **P 03 11 43.4 +2.9**
ESK Eskdalemuir 53.78 316 *e*P **P 03 11 40.4 -0.2**
comp=Z,10nm,1.0s
ECK Cauldkaine Hil 53.78 315 *e*P **P 03 11 40.3 -0.3**

TCF Toulx Ste Croi 53.85 304 *e*P **P 03 11 40.9 -0.3**
comp=Z,17nm,1.2s
TCF Toulx Ste Croi 53.85 304 *e*P **P 03 11 40.9 -0.3**
TCF pmax pmax
comp=Z,17nm,1.2s
TCF Toulx Ste Croi 53.85 304 *e*P **P 03 11 40.9 -0.3**
comp=Z,17nm,1.2s
PGBU Glenifferbraes 54.29 316 *e*P **P 03 11 44.4 +0.1**
GCD Castle Douglas 54.33 315 *e*P **P 03 11 44.6 +0.1**
KPL Plockton 54.37 318 *e*P **P 03 11 44.8 0.0**
KPL AMB AMB 03 11 48.6
comp=Z,11nm,2.2s
LDF La Druitiere 54.42 307 *e*P **P 03 11 44.5 -0.8**
LDF La Druitiere 54.42 307 *e*P **P 03 11 44.5 -0.8**
LDF La Druitiere 54.42 307 *e*P **P 03 11 44.5 -0.8**
CAF Calviac 54.48 302 *e*P **P 03 11 45.8 0.0**
comp=Z,11nm,1.1s
CAF Calviac 54.48 302 *e*P **P 03 11 45.8 0.0**
CAF pmax pmax
comp=Z,11nm,1.1s
CAF Calviac 54.48 302 *e*P **P 03 11 45.8 0.0**
comp=Z,11nm,1.1s
HLM1 Long Mynd 54.59 312 *e*P **P 03 11 46.6 +0.1**
RJF Les Rejaudoux 54.68 303 *e*P **P 03 11 47.3 0.0**
RJF *e*R
comp=Z,93nm,20.8s
RJF Les Rejaudoux 54.68 303 *e*P **P 03 11 47.3 0.0**
RJF Les Rejaudoux 54.68 303 *e*P **P 03 11 47.3 0.0**
GAL1 Galloway 54.75 315 *e*P **P 03 11 47.7 +0.1**
GAL1 AMB AMB 03 11 53.9
comp=Z,12nm,1.8s
MCH1 Michaelchurch 54.85 312 *e*P **P 03 11 48.4 +0.1**
MCH1 AMB AMB 03 11 51.5
comp=Z,16nm,1.5s
WPM1 Penmaenmawr 54.89 313 *e*P **P 03 11 49.3 +0.6**
GRR Gorron 54.95 307 *e*P **P 03 11 48.4 -0.8**
comp=Z,21nm,1.0s
GRR Gorron 54.95 307 *e*P **P 03 11 48.4 -0.8**
GRR pmax pmax
comp=Z,21nm,1.0s
GRR Gorron 54.95 307 *e*P **P 03 11 48.4 -0.8**
comp=Z,21nm,1.0s
MTLF Montolieu 55.02 300 *e*P **P 03 11 49.5 -0.3**
MTLF Montolieu 55.02 300 *e*P **P 03 11 49.5 -0.3**
MTLF Montolieu 55.02 300 *e*P **P 03 11 49.5 -0.3**
WLF1 Llynfaes 55.16 313 *e*P **P 03 11 50.8 +0.2**
WLF1 AMB AMB 03 11 51.3
comp=Z,11nm,1.6s
MFF Saint Martin d 55.22 305 *e*P **P 03 11 50.1 -1.0**
MFF Saint Martin d 55.22 305 *e*P **P 03 11 50.1 -1.0**
MFF Saint Martin d 55.22 305 *e*P **P 03 11 50.1 -1.0**
LFF La Frestale 55.33 303 *e*P **P 03 11 51.9 0.0**
LFF La Frestale 55.33 303 *e*P **P 03 11 51.9 0.0**
LFF La Frestale 55.33 303 *e*P **P 03 11 51.9 0.0**
KMBO Kilima Mbogo 55.50 233 P **P 03 11 54.2 +0.5**
comp=Z,1.5nm,0.5s,baz=21,slow=8.6,SNR=4.1
KMBO Kilima Mbogo 55.50 233 P **P 03 11 54.3 +0.5**
KMBO pmax pmax
comp=Z,2.0nm,0.5s
GMM Mts of Mourne 55.65 315 *e*P **P 03 11 54.1 0.0**
SGMF Saint Gilles 56.05 307 *e*P **P 03 11 56.4 -0.6**
SGMF Saint Gilles 56.05 307 *e*P **P 03 11 56.4 -0.6**
SGMF Saint Gilles 56.05 307 *e*P **P 03 11 56.4 -0.6**
EPF Esparros 56.40 301 *e*P **P 03 11 59.4 -0.3**
EPF Esparros 56.40 301 *e*P **P 03 11 59.4 -0.3**
EPF Esparros 56.40 301 *e*P **P 03 11 59.4 -0.3**
QUIF Quistinic 56.56 307 *e*P **P 03 11 59.9 -0.8**
comp=Z,21nm,0.9s
QUIF Quistinic 56.56 307 *e*P **P 03 11 59.9 -0.8**
QUIF pmax pmax
comp=Z,21nm,0.9s
QUIF Quistinic 56.56 307 *e*P **P 03 11 59.9 -0.8**
comp=Z,21nm,0.9s
ETSF Etsaut 57.05 301 *e*P **P 03 12 04.3 -0.1**
ETSF Etsaut 57.05 301 *e*P **P 03 12 04.3 -0.1**
ETSF Etsaut 57.05 301 *e*P **P 03 12 04.3 -0.1**
KAPI Kappang 58.85 130 *e*P **P 03 12 17.7 +0.6**
comp=Z,12nm,1.1s
ESDC Sonseca Array 60.82 299 P **P 03 12 30.1 -0.4**
comp=Z,1.0nm,0.6s,baz=54,slow=6.5,SNR=11
ESDC LR LR 03 42 52.5
comp=Z,27nm,18.3s,baz=310,slow=40
TAM Tamanrasset 62.81 278 *e*P **P 03 12 44.3 0.0**
TAM pmax pmax
comp=Z,1.0nm,0.6s
TAM Tamanrasset 62.81 278 *e*P **P 03 12 44.3 0.0**
comp=Z,1.0nm,0.6s
COLD Coldfoot 66.90 18 *e*P **P 03 13 10.3 +0.3**
comp=Z,5.4nm,0.8s
IM04 Indian Mountai 66.95 21 *e*P **P 03 13 09.9 -0.4**
BPAW Bear Paw Mtn. 69.15 21 *e*P **P 03 13 24.5 +0.3**
comp=Z,0.8nm,0.8s
COLA College 69.36 19 *e*P **P 03 13 25.0 -0.4**
COLA pmax pmax
comp=Z,6.0nm,0.9s
COLA College 69.36 19 *e*P **P 03 13 25.0 -0.4**
comp=Z,5.6nm,0.9s
INK Inuvik 69.36 12 *e*P **P 03 13 25.2 -0.2**
INK pmax pmax
comp=Z,3.0nm,1.0s
INK Inuvik 69.36 12 *e*P **P 03 13 25.2 -0.2**
comp=Z,3.3nm,1.0s
KTH Kantishna Hill 69.60 21 *e*P **P 03 13 26.9 -0.2**
comp=Z,9.3nm,0.9s
ILAR Eielson Array 69.68 19 P **P 03 13 26.9 -0.6**
comp=Z,2.2nm,0.8s,baz=319,slow=4.8,SNR=34
ILAR Eielson Array 69.68 19 P **P 03 13 26.9 -0.6**
ILAR pmax pmax
comp=Z,2.0nm,0.8s
PPLA Purkeypile 69.76 22 *e*P **P 03 13 28.1 0.0**
comp=Z,5.9nm,0.8s
TRF Thorsfare Moun 69.86 21 *e*P **P 03 13 28.5 -0.3**
comp=Z,9.9nm,1.4s
TOA0 Torodi Ar. Sit 71.44 272 *e*P **P 03 13 38.5 -0.4**
TOA0 Torodi Ar. Sit 71.44 272 *e*P **P 03 13 38.2 -0.7**
TORD Torodi Ar. Bea 71.44 272 P **P 03 13 38.5 -0.5**
comp=Z,8.2nm,0.7s,baz=46,slow=5.2,SNR=151
BMRM Bremner River 73.43 20 *e*P **P 03 13 50.3 +0.2**
comp=Z,8.6nm,1.1s
HYT Haines Junctio 75.31 17 *e*P **P 03 14 02.0 +0.8**
YKA Yellowknife Ar 77.27 6 P **P 03 14 11.7 -0.4**
comp=Z,1.6nm,0.6s,baz=345,slow=5.6,SNR=20
YKA Yellowknife Ar 77.27 6 P **P 03 14 11.7 -0.4**
YKA pmax pmax
comp=Z,2.0nm,0.6s
WRAB Tennant Creek 79.29 127 *e*P **P 03 14 24.6 +0.8**
WRAB pmax pmax
comp=Z,4.0nm,1.0s
WRAB Tennant Creek 79.29 127 *e*P **P 03 14 24.6 +0.8**
comp=Z,3.9nm,1.0s
WRA Warramunga Arr 79.29 127 P **P 03 14 23.7 -0.1**
comp=Z,1.6nm,0.9s,baz=326,slow=5.1,SNR=7.9
WRA Warramunga Arr 79.29 127 P **P 03 14 23.7 -0.1**
WRA pmax pmax
comp=Z,2.0nm,0.9s
DBIC Dimbokro 80.50 271 P **P 03 14 29.8 -0.9**
comp=Z,3.3nm,0.7s,baz=29,slow=6.5,SNR=7.4
DBIC Dimbokro 80.50 271 *e*P **P 03 14 29.7 -0.9**
DBIC pmax pmax
comp=Z,4.0nm,0.6s
DBIC Dimbokro 80.50 271 *e*P **P 03 14 29.7 -0.9**
comp=Z,4.0nm,0.6s
KIC Kosan Boka 80.61 270 *e*P **P 03 14 30.7 -0.5**
comp=Z,35nm,1.2s
TIC Toumodi 80.64 271 *e*P **P 03 14 30.6 -0.8**
comp=Z,6.6nm,0.5s
SCHQ Schefferville 80.88 340 LR LR 03 54 41.3
comp=Z,46nm,18.2s,baz=350,slow=39
LBTB Lobatse 81.22 227 *e*P **P 03 14 34.3 +0.1**
LBTB pmax pmax
comp=Z,2.0nm,0.8s
LBTB Lobatse 81.22 227 *e*P **P 03 14 34.3 +0.1**
comp=Z,2.1nm,0.8s
TSUM Tsumeb 81.64 236 *e*P **P 03 14 36.9 +0.2**
comp=Z,4.4nm,1.3s
ASAR Alice Springs 81.86 130 P **P 03 14 37.6 +0.1**
comp=Z,1.4nm,0.7s,baz=323,slow=5.4,SNR=15
ASAR Alice Springs 81.86 130 P **P 03 14 37.7 +0.1**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
FFC Flin Flon 85.59 0 *e*P **P 03 14 55.6 -0.7**
FFC Flin Flon 85.59 0 *e*P **P 03 14 55.6 -0.7**
CTAO Charters Tower 87.04 119 *e*P **P 03 15 04.9 +1.0**
CTAO pmax pmax
comp=Z,19nm,1.4s
CTAO Charters Tower 87.04 119 *e*P **P 03 15 04.9 +1.0**
comp=Z,19nm,1.4s
ULM Lac du Bonnet 89.93 356 P **P 03 15 16.0 -1.2**
comp=Z,3.1nm,0.8s,baz=37,slow=1.0,SNR=4.1
ULM LR LR 03 59 25.1
comp=Z,80nm,18.8s,baz=309,slow=38
ULM Lac du Bonnet 89.93 356 P **P 03 15 16.0 -1.2**
ULM pmax pmax
comp=Z,3.0nm,0.8s
ULM MLR MLR
comp=Z,80nm,18.8s
BSMT Bassoo Peak 91.71 9 *e*P **P 03 15 26.6 +0.8**
comp=Z,3.2nm,0.9s
BOZ Bozeman (W) 94.22 7 *e*P **P 03 15 37.8 +0.5**
BOZ pmax pmax
comp=Z,2.0nm,1.0s
BOZ Bozeman (W) 94.22 7 *e*P **P 03 15 37.8 +0.5**
comp=Z,1.7nm,1.0s
PDAR Pinedale Array 97.25 6 P **P 03 15 50.9 -0.4**
comp=Z,0.5nm,0.7s,baz=31,slow=6.1,SNR=4.0
LPAZ La Paz 142.44 299 *e*PKIKP **PKPdf 03 21 52.0 0.0**
LPAZ La Paz 142.44 299 *e*PKPdf **PKPdf 03 21 52.0 0.0**
LVC Limon Verde 147.26 292 *e*PKPbc **PKPbc 03 22 02.4 +0.3**
TRQA Tornquist 149.25 261 *e*PKPbc **PKPbc 03 22 06.1 -0.5**
LCO Las Campanas 152.30 284 *e*PKPbc **PKPbc 03 22 14.3 -0.1**

*IDC **23** 03:04:25.6±11.0, 17°.55N×104°.21W, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.5/24, mbtmp3.3/4, ML3.4/1, Error ellipse: s-maj=320.8km s-min=97.4km az=115.0*
*MEX **23** 03:04:36.5±0.4, 18°.26N×104°.98W, h16km±999km, MD4.0*
ISC 23 03:04:37.7±1.7, 18°.3N±0°.1×104°.8W±0°.1, h35km, n8, σ1°34/10, mb3.3/3, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
R15V		**1.19**	**41**	*i* P		**Pn**	**03 04 56.5**	**-1.6**
R15V				*e*S		**Sn**	**03 05 12.1**	**-0.9**
MMIG	**Aquila**	**1.39**	**89**	*i* P		**Pn**	**03 05 00.4**	**-0.3**
MMIG				*e*S		**Sn**	**03 05 18.2**	**+0.3**
EZ5V		**1.66**	**43**	*i* P		**Pn**	**03 05 04.3**	**-0.4**
EZ5V				*e*S		**Sn**	**03 05 25.0**	**+0.1**
H06E1	**SOCORRO T-PHAS** SNR=32	**5.82**	**276**	T		T	03 11 26.7	
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=183,slow=14,SNR=4.3	**11.06**	**5**	Pn		**Pn**	**03 07 16.3**	**+2.7**
PDAR	**Pinedale Array** 0.4nm,0.8s,baz=152,slow=12,SNR=2.7	**24.75**	**352**	P		**P**	**03 09 56.8**	**+0.5**
YKA	**Yellowknife Ar** 0.3nm,0.7s,baz=166,slow=8.0,SNR=5.0	**44.71**	**354**	P		**P**	**03 12 46.2**	**-0.9**
ILAR	**Eielson Array** 0.3nm,0.8s,baz=153,slow=7.0,SNR=5.2	**54.28**	**339**	P		**P**	**03 13 59.2**	**-0.9**

*CSEM **23** 03:12:39.2±0.2, 38°.90N×30°.21E, h25km±2km, MD2.6, Error ellipse: s-maj=8.1km s-min=6.0km az=42.0*
ISK 23 03:12:38.7, 38°.89N×30°.21E, h22km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ALT	**Altintas**	**0.18**	**337**	*e*PG		Pb	03 12 44.7	+0.3
ALT				*e*SG		Sb	03 12 47.6	-0.7
ALT	**Altintas**	**0.18**	**337**	*e*Pg		Pb	03 12 44.7	+0.3
ALT				*e*Sg		Sb	03 12 47.6	-0.7
SHUT	**Suhut-Afyon**	**0.43**	**141**	*e*PG		Pn	03 12 48.9	-0.8
SHUT				*e*SG		Sb	03 12 54.4	+0.5
SHUT	**Suhut-Afyon**	**0.43**	**141**	*e*Pg		Pn	03 12 48.9	-0.8
SHUT				*e*Sg		Sb	03 12 54.4	+0.5
KHL	**Karahalli**	**0.78**	**224**	*e*PG		Pb	03 12 53.9	+0.2
KHL	**Karahalli**	**0.78**	**224**	*e*Pg		Pb	03 12 53.9	+0.3
TVSB	**Tavsanli**	**0.81**	**315**	*e*PG		Pn	03 12 55.5	+0.6
TVSB	**Tavsanli**	**0.81**	**315**	*e*Pg		Pn	03 12 55.5	+0.6
SVRH	**Sivrihisar-ESK**	**1.17**	**61**	*e*PN		Pn	03 12 59.5	-0.3
SVRH	**Sivrihisar-ESK**	**1.17**	**61**	*e*Pn		Pn	03 12 59.6	-0.3
KULA	**Kula-Manisa**	**1.26**	**253**	*e*PN		Pb	03 13 01.6	-0.3
KULA	**Kula-Manisa**	**1.26**	**253**	*e*Pn		Pb	03 13 01.6	-0.4

MAN 23 03:27:46, 9°.13N×125°.45E, h1km, mb4.8, ML3.7, MS3.7, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.23**	**132**	*e*P		Pg	03 27 50.3	-0.2
BUTP				*e*S		Sg	03 27 55.5	+2.0
SCPH	**Surigao**	**0.65**	**4**	*e*P		Pg	03 27 57.8	-0.7
SCPH				*e*S		Sg	03 28 07.3	+0.2
CGP	**Cagayan de Oro**	**1.00**	**228**‖	*e*P		Pb	03 28 06.0	-0.2
CGP				*i* S		Sn	03 28 21.4	-0.5
BUKP	**Musuan**	**1.30**	**197**	*e*P		Pn	03 28 11.4	+0.1
BUKP				*e*S		Sn	03 28 29.0	-0.4
TBP	**Tagbilaran**	**1.66**	**290**‖	*e*P		Pn	03 28 15.7	-0.7
TBP				*e*S		Sb	03 28 38.9	-0.1
PAGZ	**Pagadian**	**2.41**	**238**	*e*P		Pn	03 28 27.8	+1.3
PAGZ				*e*S		Sb	03 28 59.4	-0.9

IDC 23 04:12:45.9±5.9, 43°.34S×39°.14E, h0km, mb3.9/1, mb1 4.1/2, mb1mx3.5/20, mbtmp4.1/2, ML4.4/1, MS3.5/7, Ms1 3.5/7, ms1mx3.2/28, Error ellipse: s-maj=316.4km s-min=58.0km az=66.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
BOSA	**Boshof** 0.9nm,0.3s,baz=154,slow=14,SNR=12	**18.46**	**318**	P		Pn	04 17 03.4	+0.1
BOSA				LR		LR	04 23 09.1	
MAW	**Mawson** comp=Z,74nm,21.4s,baz=241,slow=30	**27.42**	**160**	LR		LR	04 26 32.5	
VNDA	**Vanda** comp=Z,51nm,18.6s,baz=220,slow=34	**54.42**	**167**	LR		LR	04 43 44.1	
H01W2	**Cape Leeuwin H** baz=238,slow=75,SNR=15	**56.99**	**109**	T		T	05 23 46.5	
H01W3	**Cape Leeuwin H** baz=238,slow=75,SNR=16	**57.00**	**109**	T		T	05 23 52.7	
H01W1	**Cape Leeuwin H** baz=238,slow=75,SNR=18	**57.00**	**109**	T		T	05 23 50.5	
DBIC	**Dimbokro** comp=Z,20nm,20.6s,baz=121,slow=33	**63.74**	**310**	LR		LR	04 47 31.4	
TORD	**Torodi Ar. Bea** 1.3nm,1.0s,baz=148,slow=5.5,SNR=7.7	**65.82**	**320**	P		P	04 23 33.0	-0.1
TORD				LR		LR	04 50 57.4	
PLCA	**Paso Flores** comp=Z,49nm,21.9s,baz=214,slow=32	**75.06**	**228**	LR		LR	04 52 36.1	
KEST	**Kesra** comp=Z,24nm,18.5s,baz=264,slow=37	**83.25**	**336**	LR		LR	05 04 30.5	
TXAR	**Lajitas Array** 0.2nm,0.6s,baz=146,slow=3.9,SNR=2.7	**147.23**	**257**	PKPbc		PKPbc	04 32 30.5	-0.7

SKHL 23 04:37:30.2±0.5, 43°.92N×149°.79E, h25km±3km, mb4.3/3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk** 50nm,0.5s	**1.90**	**314**	*e*P		Pn	04 38 00.7	-0.3
KUR					AMB	AMB	04 38 04.3	
KUR				*i* S		Sn	04 38 23.9	-0.2
KUR	220nm,0.6s			A		A	04 38 28.1	
KUR	100nm,0.6s			A		A	04 38 28.1	
SHO	**Shikotan**	**2.14**	**270**	*e*P		Pn	04 38 04.0	-0.3
SHO	130nm,0.7s				AMB	AMB	04 38 08.3	
SHO				*e*S		Sn	04 38 28.9	-1.1
SHO	100nm,0.1s			A		A	04 38 33.7	
YUK	**Yuzh-Kuril'sk**	**2.84**	**274**	*i* P		Pn	04 38 14.3	+0.4
YUK				*i* S		Sn	04 38 47.5	+0.3
YUK	30nm,0.6s			A		A	04 38 50.7	
YUK	50nm,0.6s			A		A	04 38 50.7	
YSS	**Yuzh-Sakhalins** 10.0nm,0.1s	**5.80**	**304**	*e*P		Pn	04 38 56.6	+2.0
YSS					AMB	AMB	04 38 58.4	
YSS				*e*S		Sn	04 40 00.5	+0.1
YSS	20nm,0.2s			A		A	04 40 03.1	

*CSEM **23** 04:41:31.5±0.6, 50.°39N×18.°85E, h2km, ML1.9/5, Error ellipse: s-maj=13.2km s-min=4.6km az=12.0*

PRU 23 04:41:32.5, 50.°33N×18.°87E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.09**	**116**	*e*Pg	Pg	04 41 33.7	-0.5
CHZP				*e*Sg	Sg	04 41 35.2	-0.2
OJC	**Ojcow**	**0.61**	**100**	*e*Pg	Pg	04 41 42.9	-1.3
OJC				*e*Sg	Sg	04 41 51.7	-0.3
OKC	**Ostrava-Krasne**	**0.68**	**224**	*e*PG	Pg	04 41 44.8	-0.7
OKC				*e*SG	Sg	04 41 54.3	0.0
	comp=Z,1.8nm,0.2s						
OKC	**Ostrava-Krasne**	**0.68**	**224**	Pg	Pg	04 41 44.8	-0.7
OKC				Sg	Sg	04 41 54.3	0.0
	1.8nm,0.2s						
NIE	**Niedzica**	**1.30**	**134**	*e*Pg	Pg	04 41 57.4	-0.2
NIE				*e*Sg	Sn	04 42 16.2	0.0
NIE	**Niedzica**	**1.30**	**134**	*e*Pg	Pg	04 41 57.4	-0.2
NIE				*e*Sg	Sn	04 42 16.2	0.0
KRLC	**Kraliky**	**1.37**	**260**	*e*PG	Pg	04 41 57.2	-1.6
KRLC				*e*SG	Sg	04 42 16.2	-0.4
KRLC	**Kraliky**	**1.37**	**260**	Pg	Pg	04 41 57.2	-1.6
KRLC				Sg	Sg	04 42 16.2	-0.4
DPC	**Dobruska-Polom**	**1.63**	**272**	*e*PG	Pn	04 42 01.8	-0.8
DPC				*e*SG	Sb	04 42 24.7	-0.1
	comp=Z,1.0nm,0.3s						
DPC	**Dobruska-Polom**	**1.63**	**272**	Pg	Pn	04 42 01.8	-0.8
DPC				Sg	Sb	04 42 24.7	-0.1
	1.0nm,0.3s						
VRAC	**Vranov**	**1.79**	**236**	*e*Pn	Pb	04 42 05.6	-0.7
VRAC				*e*Sg	Sb	04 42 29.7	+0.4
UPC	**Upice**	**1.84**	**277**	*e*SG	Sg	04 42 31.2	-0.4
	comp=Z,0.6nm,0.2s						
UPC	**Upice**	**1.84**	**277**	Sg	Sg	04 42 31.2	-0.4
	0.6nm,0.2s						
PRU	**Pruhonice**	**2.80**	**265**	*e*SG	Sg	04 43 01.5	-1.1
	comp=Z,0.9nm,0.4s						
PRU	**Pruhonice**	**2.80**	**265**	Sg	Sg	04 43 01.5	-1.1
	0.9nm,0.4s						
BRG	**Berggiesshubel**	**3.19**	**282**	SG	Sg	04 43 16.6	+1.7
	1.2nm,0.2s						
KHC	**Kasperske Hory**	**3.64**	**253**	*e*SG	Sg	04 43 28.0	-1.5
	comp=Z,0.8nm,0.5s						
KHC	**Kasperske Hory**	**3.64**	**253**	Sg	Sg	04 43 28.0	-1.5
	0.8nm,0.5s						

*ISCJB **23** 04:47:22.7±0.7, 35.°24S±0.°07×71.°9W±0.°1, h29km, mb4.1/11, Error ellipse: s-maj=14.7km s-min=9.9km az=18.9*

*IDC **23** 04:47:27.6±0.8, 35.°05S×71.°77W, h44km±5km, mb3.5/6, mb1 3.7/9, mb1mx3.6/28, mbtmp3.7/9, ML3.8/2, Error ellipse: s-maj=29.6km s-min=15.3km az=94.0*

*NEIC **23** 04:47:29.6±1.3, 35.°12S×71.°57W, h70km±11km, mb4.4/9, Error ellipse: s-maj=18.1km s-min=9.4km az=88.0*

NEIC Felt [III] at Curico, Linares and Romeral; [II] at Cauquenes, San Clemente, San Javier and Talca.

ISC 23 04:47:26.9±0.7, 35.°10S±0.°07×71.°8W±0.°1, h29km, n22, σ2§46/25, mb4.2/11, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**4.58**	**41**	P	**Pn**	**04 48 35.2**	**+0.9**
	0.2nm,0.3s,baz=173,slow=16,SNR=50						
CFAA				S	**Sn**	**04 49 30.4**	**+3.8**
	0.1nm,0.3s,baz=215,slow=16,SNR=2.2						
PLCA	**Paso Flores**	**5.71**	**170**	P	**Pn**	**04 48 52.2**	**+2.4**
	0.6nm,0.3s,baz=335,slow=11,SNR=18						
PLCA				Lg	Lg	04 50 27.0	
	0.1nm,0.3s,baz=66,slow=20,SNR=2.0						
PLCA	**Paso Flores**	**5.71**	**170**	*e*Pn	**Pn**	**04 48 51.7**	**+1.9**
	9.4nm,0.7s						
PLCA				Lg	Lg	04 50 27.0	
TRQA	**Tornquist**	**8.42**	**113**	*e*Pn	**Pn**	**04 49 26.0**	**-1.0**
LPAZ	**La Paz**	**19.02**	**11**	P	**Pn**	**04 51 47.7**	**-0.4**
	0.2nm,0.3s,baz=177,slow=7.2,SNR=9.1						
LPAZ	**La Paz**	**19.02**	**11**	*e*P	**P**	**04 51 47.0**	**-0.2**
	2.6nm,0.8s						
SIV	**San Ignacio**	**21.32**	**29**	P	**P**	**04 52 09.3**	**-2.2**
	2.8nm,0.7s,baz=233,slow=9.9,SNR=9.3						
SIV				pP	**pP**	**04 52 21.0**	**+1.6**
	1.6nm,0.9s,baz=252,slow=4.9,SNR=2.1						
SNAA	**Sanae**	**50.49**	**157**	P	**P**	**04 56 20.8**	**-1.1**
	0.4nm,0.8s,baz=254,slow=9.1,SNR=3.5						
SNAA	**Sanae**	**50.49**	**157**	*e*P	P	04 56 15.2	-6.7
	14nm,1.6s						
QSPA	**South Pole Qui**	**55.14**	**180**	P	**P**	**04 56 56.3**	**0.0**
	1.4nm,0.9s,baz=164,slow=3.4,SNR=4.0						
QSPA				sP	**sP**	**04 57 13.3**	**+4.6**
	1.4nm,0.8s,baz=100,slow=3.4,SNR=3.1						
QSPA	**South Pole Qui**	**55.14**	**180**	*e*P	**P**	**04 56 54.2**	**-2.1**
	5.7nm,1.3s						
QSPA				sP	**sP**	**04 57 13.3**	**+4.6**
TXAR	**Lajitas Array**	**70.79**	**331**	P	**P**	**04 58 39.7**	**-1.0**
	0.2nm,0.5s,baz=156,slow=8.9,SNR=3.0						
TXAR				pP	**pP**	**04 58 51.7**	**+1.9**
	0.3nm,0.5s,baz=157,slow=8.4,SNR=4.1						
WVT	**Waverly**	**72.43**	**346**	*e*P	**P**	**04 58 48.2**	**-2.0**
	3.6nm,0.8s						
WMOK	**Wichita Mounta**	**73.92**	**337**	*e*P	**P**	**04 58 57.2**	**-1.9**
	5.3nm,0.9s						
SUR	**Sutherland**	**74.12**	**119**	*e*P	**P**	**04 58 59.4**	**-1.5**
	2.2nm,1.1s						
BOSA	**Boshof**	**79.38**	**117**	P	**P**	**04 59 29.1**	**-1.5**
	2.7nm,1.0s,baz=240,slow=4.5,SNR=4.0						
BOSA	**Boshof**	**79.38**	**117**	*e*P	**P**	**04 59 28.2**	**-2.4**
	3.0nm,0.9s						
LBTB	**Lobatse**	**81.66**	**115**	*e*P	P	04 59 38.8	-4.0
	3.1nm,1.0s						
TOA0	**Torodi Ar. Sit**	**84.39**	**70**	*e*P	**P**	**04 59 55.0**	**-1.9**
TORD	**Torodi Ar. Bea**	**84.39**	**70**	P	**P**	**04 59 55.1**	**-1.7**
	1.2nm,0.7s,baz=280,slow=5.0,SNR=15						
TORD				sP	**sP**	**05 00 13.5**	**+4.0**
	0.9nm,0.8s,baz=244,slow=3.9,SNR=5.1						
LSZ	**Lusaka**	**89.27**	**108**	*e*P	P	05 00 16.1	-4.7
	1.8nm,0.6s						
WRA	**Warramunga Arr**	**119.90**	**209**	PKP	**PKPdf**	**05 06 12.3**	**-2.7**
	0.5nm,0.9s,baz=143,slow=1.6,SNR=3.4						

*IDC **23** 04:58:34.8±1.0, 30.°67S×177.°98W, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/34, mbtmp3.9/6, ML3.4/1, Error ellipse: s-maj=29.6km s-min=20.4km az=89.0*

*ISCJB **23** 04:58:40.1±1.0, 30.°60S±0.°08×178.°1W±0.°2, h46km, mb3.9/5, Error ellipse: s-maj=27.6km s-min=10.0km az=13.6*

ISC 23 04:58:41.0±0.9, 30.°64S±0.°09×178.°1W±0.°2, h46km, n11, σ1§77/12, mb4.0/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.39**	**6**	Pn	**Pn**	**04 59 03.3**	**-0.7**
	140nm,0.3s,baz=270,slow=20,SNR=8.3						
RAO				Sn	**Sn**	**04 59 19.7**	**-1.5**
	588nm,0.3s,baz=309,slow=23,SNR=19						
URZ	**Urewera**	**8.57**	**206**	Pn	Pn	05 00 38.7	-3.8
	0.4nm,0.3s,baz=342,slow=9.6,SNR=6.1						
URZ				Sn	**Sn**	**05 02 13.8**	**-4.0**
	1.3nm,0.3s,baz=89,slow=22,SNR=13						
STKA	**Stephens Creek**	**34.36**	**257**	P	**P**	**05 05 25.9**	**+2.3**
	6.0nm,0.7s,baz=96,slow=12,SNR=6.9						
ASAR	**Alice Springs**	**43.03**	**267**	P	**P**	**05 06 36.7**	**+0.3**
	0.8nm,0.7s,baz=104,slow=7.4,SNR=7.6						
WRA	**Warramunga Arr**	**44.04**	**272**	P	**P**	**05 06 44.7**	**+0.1**
	1.2nm,0.3s,baz=111,slow=8.1,SNR=39						
QSPA	**South Pole Qui**	**59.47**	**180**	P	**P**	**05 08 40.8**	**+1.7**
	1.3nm,1.0s,baz=58,slow=2.2,SNR=3.9						
SNAA	**Sanae**	**77.92**	**178**	P	**P**	**05 10 33.9**	**+0.2**
	0.3nm,0.9s,baz=207,slow=11,SNR=5.2						
FINES	**FINESS Array B**	**145.35**	**340**	PKPbc	**PKPbc**	**05 18 12.2**	**-0.8**
	2.4nm,0.5s,baz=74,slow=3.8,SNR=33						
AKASG	**Malin Array Be**	**151.45**	**322**	PKPbc	**PKPbc**	**05 18 28.9**	**-0.5**
	0.8nm,0.6s,baz=55,slow=3.0,SNR=4.1						
BRTR	**Keskin Array B**	**152.66**	**298**	PKPbc	**PKPbc**	**05 18 33.0**	**+0.2**
	0.5nm,0.9s,baz=92,slow=4.9,SNR=3.8						
TORD	**Torodi Ar. Bea**	**162.59**	**179**	PKPab	**PKPab**	**05 19 26.4**	**-0.1**
	0.6nm,0.7s,baz=155,slow=3.5,SNR=4.6						

*ISCJB **23** 05:00:14.6±1.3, 15.°6S±0.°2×176.°6W±0.°3, h150km, mb4.0/5, Error ellipse: s-maj=41.4km s-min=22.1km az=18.9*

*IDC **23** 05:00:14.4±10.0, 15.°64S×176.°53W, h138km±92km, mb3.9/5, mb1 4.1/5, mb1mx3.5/38, mbtmp4.3/5, Error ellipse: s-maj=40.2km s-min=27.3km az=115.0*

ISC 23 05:00:15.4±1.2, 15.°6S±0.°2×176.°5W±0.°3, h150km, n11, σ1§06/12, mb4.1/5, 3C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**23.24**	**193**	P	**P**	**05 05 08.9**	**-0.4**
	5.9nm,0.9s,baz=353,slow=16,SNR=4.4						
WRA	**Warramunga Arr**	**46.85**	**257**	P	**P**	**05 08 30.4**	**-0.4**
	0.3nm,0.3s,baz=82,slow=5.9,SNR=12						
WRA				PcP	**PcP**	**05 10 01.2**	**-0.1**
	0.9nm,0.8s,baz=91,slow=3.5,SNR=4.6						
ASAR	**Alice Springs**	**47.17**	**252**	P	**P**	**05 08 34.2**	**+1.1**
	9.0nm,0.4s,baz=84,slow=8.6,SNR=133						
ASAR				PcP	**PcP**	**05 10 02.8**	**+0.3**
	0.6nm,0.5s,baz=100,slow=4.0,SNR=4.8						
PETK	**Petropavlovsk-**	**71.96**	**344**	P	**P**	**05 11 22.0**	**-0.4**
	2.1nm,0.6s,baz=134,slow=8.5,SNR=8.3						
ILAR	**Eielson Array**	**83.28**	**12**	P	**P**	**05 12 26.2**	**+1.4**
	1.6nm,0.6s,baz=223,slow=5.9,SNR=24						
ARCES	**ARCESS Array B**	**124.38**	**351**	PKP	**PKPdf**	**05 18 56.2**	**+0.2**
	2.0nm,0.7s,baz=0.0,slow=2.4,SNR=10						
BRTR	**Keskin Array B**	**144.37**	**318**	PKP	PKPbc	05 19 32.3	-0.7
	2.0nm,0.9s,baz=90,slow=1.2,SNR=8.4						
GERES	**GERESS Array B**	**145.82**	**348**	PKPbc	**PKPab**	**05 19 37.0**	**-0.8**
	1.4nm,0.6s,baz=20,slow=4.1,SNR=14						
CONA	**Conrad Observa**	**146.19**	**345**	⇑*i*PKPab	**PKPab**	**05 19 39.0**	**-0.3**
	3.7nm,1.0s						
DAVA	**Damuels**	**147.98**	**352**	⇑*i*PKPab	**PKPab**	**05 19 44.0**	**-2.4**
	2.8nm,0.7s						
ABTA	**Abfaltersbach**	**148.06**	**348**	⇑*i*PKPbc	**PKPbc**	**05 19 43.4**	**-0.2**
	6.6nm,1.2s						

MAN 23 05:05:40, 18.°01N×120.°64E, h52km, mb4.1, ML2.9, MS2.7, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.31**	**357**	⇑*i*P	Pn	05 05 51.9	+2.4
PIP				*e*S	Sn	05 06 00.3	+4.1
ABRA	**Dolores**	**0.37**	**169**	*e*P	Pn	05 05 52.4	+2.4
ABRA				*e*S	Sn	05 06 01.1	+4.0
APYP	**Conner**	**0.60**	**104**	*e*P	Pn	05 05 55.2	+2.6
APYP				*e*S	Sn	05 06 05.5	+3.9

*IDC **23** 05:11:16.2±2.4, 54.°13N×87.°21E, h0km, mb1 3.1/3, mb1mx3.0/31, mbtmp3.1/3, ML3.0/3, Error ellipse: s-maj=20.8km s-min=13.6km az=61.0*

*NNC **23** 05:11:23.4±3.0, 53.°49N×86.°92E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=23.6km s-min=18.9km az=13.0*

ISC 23 05:11:19.2±4.1, 54.°3N±0.°2×87.°1E±0.°2, h35km, n8, σ1§33/12, 5C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.38**	**257**	*i*		05 20 20.0	
	baz=80,slow=321,SNR=3.1						
ZALV	**Zalesovo Beam**	**1.38**	**257**	Pg	**Pn**	**05 11 41.4**	**-0.6**
	5.9nm,0.3s,baz=82,slow=16,SNR=58						
ZALV				Lg	Lg	05 12 02.5	
	1.6nm,0.3s,baz=80,slow=29,SNR=5.3						
KURK	**Kurchatov**	**6.29**	**239**	⇑Pn	**Pn**	**05 12 50.5**	**+1.2**
	0.9nm,0.8s						
KURK				⇑Sn	**Sn**	**05 13 59.1**	**-0.7**
	1.3nm,0.9s						
KURK				⇑Lg	Lg	05 14 31.0	
	5.1nm,0.9s						
KURBB	**Kurchatov Arra**	**6.39**	**238**	⇑Pn	**Pn**	**05 12 51.7**	**+0.9**
	0.7nm,0.3s						
KURBB				⇓Sn	**Sn**	**05 14 02.2**	**-0.1**
	4.6nm,0.6s						
KURBB				⇓Lg	Lg	05 14 32.4	
	9.8nm,0.8s						
KURBB	**Kurchatov Array**	**6.39**	**238**	Pn	**Pn**	**05 12 52.0**	**+1.3**
	0.2nm,0.3s,baz=56,slow=14,SNR=7.6						
KURBB				Sn	**Sn**	**05 14 03.7**	**+1.4**
	0.1nm,0.3s,baz=52,slow=21,SNR=4.8						
KURBB				Lg	Lg	05 14 38.1	
	0.0nm,0.3s,baz=56,slow=34,SNR=5.8						
MK31	**Makanchi Array**	**8.10**	**204**	⇓Pn	**Pn**	**05 13 13.4**	**-0.8**
	0.9nm,0.8s,baz=31,slow=14,SNR=16						
MK31				⇓Sn	Sn	05 14 35.9	-8.6
	1.2nm,0.7s						
MK31				⇑Lg	Lg	05 15 17.5	
	10nm,1.4s,baz=17,slow=30,SNR=6.2						
MKAR	**Makanchi Array**	**8.10**	**204**	Pn	**Pn**	**05 13 14.4**	**+0.2**
	0.2nm,0.3s,baz=26,slow=16,SNR=13						
MKAR				Sn	**Sn**	**05 14 44.0**	**-0.5**
	0.1nm,0.3s,baz=26,slow=31,SNR=3.0						
MKAR				Lg	Lg	05 15 29.1	
	0.1nm,0.3s,baz=24,slow=26,SNR=2.4						
BVAR	**Borovoye Array**	**10.00**	**270**	Pn	**Pn**	**05 13 42.0**	**+1.9**
	0.2nm,0.3s,baz=78,slow=14,SNR=3.1						
BVAR				Sn	**Sn**	**05 15 28.8**	**-2.2**
	0.1nm,0.3s,baz=79,slow=23,SNR=3.7						

*CSEM **23** 05:12:19.7±0.1, 39.°32N×25.°46E, h10km, ML2.6, Error ellipse: s-maj=2.6km s-min=2.2km az=27.0*

*ISCJB **23** 05:12:19.3±0.5, 39.°32N±0.°02×25.°51E±0.°02, h1km±4km, Error ellipse: s-maj=3.3km s-min=2.5km az=23.3*

*ISK **23** 05:12:19.1, 39.°35N×25.°47E, h13km, MD3.4*

*ATH **23** 05:12:20.6, 39.°33N×25.°49E, h6km±1km, MD3.3/15*

*THE **23** 05:12:20.4, 39.°31N×25.°49E, h10km, ML2.6/7, Error ellipse: s-maj=1.0km s-min=0.4km az=105.0*

*DDA **23** 05:12:20.3, 39.°38N×25.°47E, h20km, MD3.1*

ISC 23 05:12:20.3±0.9, 39.°34N±0.°02×25.°49E±0.°02, h10km±8km, n120, σ0§72/159, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.32**	**115**	*e*PG	**Pg**	**05 12 26.3**	**-0.3**
SIGR				*e*SG	**Sg**	**05 12 30.8**	**0.0**
SIGR	**SIGRI**	**0.32**	**115**	P	**Pg**	**05 12 26.4**	**-0.2**
SIGR				S	**Sg**	**05 12 30.9**	**+0.1**
SIGR	**SIGRI**	**0.32**	**115**	*e*PG	**Pg**	**05 12 26.4**	**-0.2**
SIGR				*e*SB	**Sg**	**05 12 30.9**	**+0.1**
SIGR	**SIGRI**	**0.32**	**115**	P	**Pg**	**05 12 26.4**	**-0.2**
SIGR				S	**Sg**	**05 12 30.9**	**+0.1**
LIA	**Limnos Island**	**0.60**	**337**	P	**Pg**	**05 12 32.5**	**+0.5**
LIA				S	**Sb**	**05 12 41.5**	**0.0**
LIA	**Limnos Island**	**0.60**	**337**	*e*PB	**Pg**	**05 12 32.5**	**+0.5**
LIA				*e*SB	**Sb**	**05 12 41.2**	**-0.3**
LIA	**Limnos Island**	**0.60**	**337**	P	**Pg**	**05 12 32.5**	**+0.5**
LIA				*e*Sb	**Sb**	**05 12 41.2**	**-0.3**
PRK	**Paraskevi**	**0.62**	**99**	P	**Pg**	**05 12 32.2**	**-0.1**
PRK				S	**Sg**	**05 12 40.6**	**+0.2**
PRK	**Paraskevi**	**0.62**	**99**	*e*PB	**Pg**	**05 12 32.2**	**-0.1**
PRK				*e*SB	**Sg**	**05 12 41.2**	**+0.8**
PRK	**Paraskevi**	**0.62**	**99**	P	**Pg**	**05 12 32.2**	**-0.1**
PRK				S	**Sg**	**05 12 40.6**	**+0.2**
PRK				Sb	**Sg**	**05 12 41.2**	**+0.8**
BOZC	**Bozcaada**	**0.66**	**41**	*i* P	**Pg**	**05 12 32.5**	**-0.7**
BOZC				*i* S	**Sb**	**05 12 43.2**	**-0.1**
EZN	**Ezine**	**0.81**	**53**	*e*PG	**Pg**	**05 12 35.5**	**-0.4**
EZN				*e*SG	**Sb**	**05 12 47.7**	**+0.3**
EZN	**Ezine**	**0.81**	**53**	*e*Pg	**Pg**	**05 12 35.5**	**-0.4**
EZN				*e*Sg	**Sb**	**05 12 47.7**	**+0.3**
GADA	**Gvkgeada**	**0.90**	**20**	*e*PG	**Pg**	**05 12 37.0**	**-0.7**
GADA				*e*SG	**Sg**	**05 12 50.3**	**+0.8**
GADA	**Gvkgeada**	**0.90**	**20**	*e*Pg	**Pg**	**05 12 37.0**	**-0.7**
GADA				*e*Sg	**Sg**	**05 12 50.3**	**+0.8**
AYVA	**Ayvalik**	**0.93**	**92**	*i* P	**Pg**	**05 12 38.0**	**-0.3**
AYVA				*i* S	**Sb**	**05 12 51.3**	**+0.2**
AYVA	**Ayvalik**	**0.93**	**92**	*i* P	**Pg**	**05 12 38.0**	**-0.3**
AYVA				*i* S	**Sb**	**05 12 51.3**	**+0.2**
CHOS	**Chios island**	**1.05**	**155**	*e*PG	**Pg**	**05 12 40.0**	**-0.6**
CHOS	**Chios island**	**1.05**	**155**	P	**Pg**	**05 12 39.8**	**-0.8**
CHOS				S	**Sg**	**05 12 54.0**	**-0.3**
CHOS	**Chios island**	**1.05**	**155**	*e*PB	**Pg**	**05 12 40.3**	**-0.3**
CHOS				*e*SB	**Sg**	**05 12 54.4**	**+0.1**
CHOS	**Chios island**	**1.05**	**155**	*e*Pg	**Pg**	**05 12 40.0**	**-0.6**
CHOS	**Chios island**	**1.05**	**155**	*e*Pb	**Pg**	**05 12 40.3**	**-0.3**
CHOS				S	**Sg**	**05 12 54.0**	**-0.3**
SMTH	**Samothraki Isl**	**1.13**	**2**	P	**Pb**	**05 12 41.5**	**-0.4**
SMTH				S	**Sn**	**05 12 58.1**	**+0.3**
SMTH	**Samothraki Isl**	**1.13**	**2**	*e*PG	**Pb**	**05 12 41.6**	**-0.4**
SMTH	**Samothraki Isl**	**1.13**	**2**	P	**Pb**	**05 12 41.5**	**-0.4**
SMTH				S	**Sn**	**05 12 58.1**	**+0.3**
AOS	**Alonnisos**	**1.26**	**263**	*e*PN	**Pn**	**05 12 43.4**	**-0.6**
AOS	**Alonnisos**	**1.26**	**263**	P	**Pn**	**05 12 43.0**	**-1.0**
AOS				S	**Sn**	**05 13 01.0**	**0.0**
AOS	**Alonnisos**	**1.26**	**263**	*e*PG	**Pg**	**05 12 44.1**	**-0.4**
AOS	**Alonnisos**	**1.26**	**263**	P	**Pn**	**05 12 43.0**	**-1.0**
AOS	**Alonnisos**	**1.26**	**263**	*e*Pn	**Pn**	**05 12 43.4**	**-0.6**
AOS				S	**Sn**	**05 13 01.0**	**0.0**
GELI	**Tayfur-Gelibol**	**1.30**	**36**	*e*PN	**Pn**	**05 12 43.8**	**-0.8**
GELI	**Tayfur-Gelibol**	**1.30**	**36**	*e*Pn	**Pn**	**05 12 43.8**	**-0.8**
ENEZ	**Enez**	**1.48**	**20**	*e*PN	**Pn**	**05 12 45.8**	**-1.3**
ENEZ	**Enez**	**1.48**	**20**	*e*Pn	**Pn**	**05 12 45.8**	**-1.3**
PAIG	**Paliouri**	**1.51**	**293**	*e*PG	**Pb**	**05 12 48.6**	**+0.1**
PAIG				*e*SB	**Sg**	**05 13 10.4**	**+1.4**
PAIG	**Paliouri**	**1.51**	**293**	*e*Pg	**Pb**	**05 12 48.6**	**+0.1**
PAIG				*e*Sb	**Sg**	**05 13 10.4**	**+1.4**
OUR	**Ouranopolis**	**1.52**	**311**	*e*PN	**Pn**	**05 12 46.0**	**-1.6**
OUR	**Ouranopolis**	**1.52**	**311**	*e*PG	**Pg**	**05 12 49.2**	**-0.4**
OUR				*e*SB	**Sg**	**05 13 10.1**	**+0.8**
OUR	**Ouranopolis**	**1.52**	**311**	*e*Pn	**Pn**	**05 12 46.0**	**-1.6**
OUR	**Ouranopolis**	**1.52**	**311**	*e*Pg	**Pg**	**05 12 49.2**	**-0.4**
OUR				*e*Sb	**Sg**	**05 13 10.1**	**+0.8**
ERIK	**Erikli-Kesan**	**1.54**	**30**	*e*PN	**Pn**	**05 12 46.9**	**-1.0**
ERIK	**Erikli-Kesan**	**1.54**	**30**	*e*Pn	**Pn**	**05 12 46.9**	**-1.0**
BLCB	**Balcova**	**1.55**	**128**	*e*PN	**Pn**	**05 12 47.8**	**-0.1**
BLCB	**Balcova**	**1.55**	**128**	*e*Pn	**Pn**	**05 12 47.8**	**-0.1**
ALN	**Alexandroupoli**	**1.61**	**15**	*e*PN	**Pn**	**05 12 47.8**	**-1.0**
ALN	**Alexandroupoli**	**1.61**	**15**	P	**Pn**	**05 12 48.5**	**-0.3**
ALN				S	**Sn**	**05 13 09.7**	**0.0**
ALN	**Alexandroupoli**	**1.61**	**15**	*e*PN	**Pn**	**05 12 48.6**	**-0.3**
ALN				*e*SB	**Sg**	**05 13 13.0**	**+0.9**
ALN	**Alexandroupoli**	**1.61**	**15**	*e*Pn	**Pn**	**05 12 47.8**	**-1.0**
ALN	**Alexandroupoli**	**1.61**	**15**	P	**Pn**	**05 12 48.5**	**-0.3**
ALN				S	**Sn**	**05 13 09.7**	**0.0**
ALN				*e*Sb	**Sg**	**05 13 13.0**	**+0.9**
MRKA	**Markates**	**1.61**	**247**	*e*PB	**Pn**	**05 12 47.7**	**-1.2**
MRKA	**Markates**	**1.61**	**247**	*e*Pb	**Pn**	**05 12 47.7**	**-1.2**
IZM	**Izmir**	**1.68**	**124**	*e*PN	**Pn**	**05 12 49.3**	**-0.5**
IZM	**Izmir**	**1.68**	**124**	*e*Pn	**Pn**	**05 12 49.3**	**-0.5**
BALY	**Balya**	**1.70**	**76**	*i* P	**Pb**	**05 12 51.3**	**-0.4**
BALY				*i* S	**Sn**	**05 13 12.2**	**+0.3**
BALY	**Balya**	**1.70**	**76**	*i* P	**Pb**	**05 12 51.3**	**-0.4**
BALY				*i* S	**Sn**	**05 13 12.2**	**+0.3**
NEO	**Neokhori**	**1.76**	**270**	*e*PN	**Pg**	**05 12 54.4**	**+0.4**
NEO	**Neokhori**	**1.76**	**270**	*e*Pn	**Pg**	**05 12 54.4**	**+0.4**
XOR	**Xorichti**	**1.78**	**271**	*e*PN	**Pg**	**05 12 54.9**	**+0.4**
XOR	**Xorichti**	**1.78**	**271**	*e*Pn	**Pg**	**05 12 54.9**	**+0.4**
PTL	**Penteli**	**1.81**	**225**	*e*PG	**Pb**	**05 12 54.0**	**+0.4**
PTL	**Penteli**	**1.81**	**225**	*e*Pg	**Pb**	**05 12 54.0**	**+0.4**
KAVA	**Kavala**	**1.81**	**336**	*e*PN	**Pg**	**05 12 54.7**	**-0.4**
KAVA	**Kavala**	**1.81**	**336**	*e*Pn	**Pg**	**05 12 54.7**	**-0.4**
SMIA	**Simia**	**1.83**	**256**	*e*PB	**Pb**	**05 12 52.8**	**-1.1**
SMIA	**Simia**	**1.83**	**256**	*e*Pb	**Pb**	**05 12 52.8**	**-1.1**
RKY	**Sarkoy-Tekirda**	**1.87**	**44**	*e*PN	**Pn**	**05 12 52.0**	**-0.4**
RKY	**Sarkoy-Tekirda**	**1.87**	**44**	*e*Pn	**Pn**	**05 12 52.0**	**-0.4**
SART	**Tekirdag**	**1.87**	**44**	*i* P	**Pn**	**05 12 53.3**	**+0.8**
SART				*i* S	**Sn**	**05 13 15.5**	**-0.7**
SART	**Tekirdag**	**1.87**	**44**	*i* P	**Pn**	**05 12 53.3**	**+0.8**
SART				*i* S	**Sn**	**05 13 15.5**	**-0.7**
BALB	**Balikesir**	**1.88**	**80**	*e*PN	**Pn**	**05 12 52.0**	**-0.5**
BALB	**Balikesir**	**1.88**	**80**	*e*Pn	**Pn**	**05 12 52.0**	**-0.5**
PLG	**Polygyros**	**1.88**	**304**	*e*PN	**Pb**	**05 12 55.1**	**+0.3**
PLG	**Polygyros**	**1.88**	**304**	*e*Pn	**Pb**	**05 12 55.1**	**+0.3**
SMG	**Samos**	**1.95**	**147**	*e*PG	**Pb**	**05 12 56.3**	**+0.4**
SMG				*e*SN	**Sb**	**05 13 21.4**	**+1.2**
SMG	**Samos**	**1.95**	**147**	*e*Pg	**Pb**	**05 12 56.3**	**+0.4**
SMG				*e*Sn	**Sb**	**05 13 21.4**	**+1.2**
MRMT	**Marmara Adasi**	**2.05**	**52**	*e*PN	**Pn**	**05 12 54.4**

GERES GERESS Array B 147.37 345 PKPbc **PKPbc** 05 39 50.4 +0.4
comp=Z,1.3nm,0.5s,baz=31,slow=3.4,SNR=17

*MOS **23** 06:04:42.3±1.6, 49°.23N×96°.89E, h10km, mb4.0/1, Error ellipse: s-maj=24.8km s-min=15.1km az=13.3*
*IDC **23** 06:04:43.0±1.1, 49°.27N×97°.00E, h0km, mb3.6/4, mb1 3.5/9, mb1mx3.3/39, mbtmp3.4/9, ML3.1/4, MS2.6/1, Ms1 2.6/1, ms1mx2.2/29, Error ellipse: s-maj=42.7km s-min=12.1km az=14.0*
*ASRS **23** 06:04:49.6±1.7, 49°.53N×96°.49E, h15km, Ms3.4/5*
ISC 23 06:04:45.3±0.7, 49°.37N±0°.08×97°.08E±0°.05, h10km, n24, σ2s 11/27, mb3.6/4, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MOY	**Mondy**	**3.39**	**46**	*e*PN		**Pb**	**06 05 47.5**	**+1.9**
MOY				*e*			06 06 34.1	
MOY				pmax		pmax		
	comp=Z,94nm,0.6s							
MOY				smax		smax		
	comp=E,515nm,0.5s							
ORL	**Orlik**	**3.61**	**28**	*e*PN		**Pb**	**06 05 50.4**	**+1.1**
ORL				*e*			06 06 38.8	
ORL				pmax		pmax		
	comp=Z,26nm,0.3s							
ORL				smax		smax		
	comp=E,287nm,0.9s							
ZAK	**Zakamensk**	**4.14**	**73**	*e*PN		**Pn**	**06 05 50.5**	**+1.9**
ZAK				*e*			06 06 00.0	
ZAK				pmax		pmax		
	comp=Z,48nm,0.4s							
ARS	**Arshan**	**4.25**	**51**	*e*PN		**Pg**	**06 06 04.0**	**-2.7**
ARS				*e*			06 07 01.1	
ARS				pmax		pmax		
	comp=Z,45nm,0.3s							
ARS				smax		smax		
	comp=E,523nm,1.0s							
TLY	**Talaya**	**4.78**	**59**	*e*PN		Pb	06 06 12.8	+3.6
TLY				*e*			06 07 17.6	
TLY				pmax		pmax		
	comp=Z,287nm,0.9s							
TLY				smax		smax		
	comp=E,150nm,1.6s							
CERR	**Cheremushki**	**4.99**	**316**	*e*Pn		**Pn**	**06 06 01.2**	**+1.0**
CERR				*e*Pg		**Pb**	**06 06 13.9**	**+1.2**
CERR				*e*Sg		**Sb**	**06 07 13.4**	**+0.8**
IRK	**Irkutsk**	**5.39**	**55**	*e*PN		**Pb**	**06 06 22.2**	**+2.7**
IRK				*e*			06 07 35.2	
IRK				pmax		pmax		
	comp=Z,132nm,0.1s							
IRK				smax		smax		
	comp=E,487nm,1.2s							
LSTR	**Listvyanka**	**5.53**	**60**	*e*PN		**Pn**	**06 06 07.8**	**+0.2**
LSTR				*e*			06 06 25.5	
LSTR				pmax		pmax		
	comp=Z,22nm,1.4s							
AKAR	**Aktash**	**6.19**	**282**	*e*Pg		**Pb**	**06 06 34.9**	**+1.7**
AKAR				*e*Sg		**Sb**	**06 07 50.2**	**+2.8**
SONM	**Songino Array**	**6.37**	**100**	Pn		**Pn**	**06 06 19.7**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=289,slow=15,SNR=17							
SONM				Pg		**Pb**	**06 06 38.8**	**+2.6**
	comp=Z,1.0nm,0.3s,baz=283,slow=18,SNR=5.3							
SONM				Lg		Lg	06 08 07.4	
	comp=Z,8.4nm,0.3s,baz=282,slow=33,SNR=9.5							
SONM	**Songino Array**	**6.37**	**100**	PN		**Pn**	**06 06 19.7**	**+0.5**
SONM							06 06 38.8	
SONM				pmax		pmax		
	comp=Z,1.0nm,0.3s							
SONM				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ELT	**Yel'tsovka**	**7.83**	**304**	*e*Sg		**Sb**	**06 08 38.8**	**+4.6**
UKR	**Ust'-Kan**	**8.06**	**286**	*e*Pg		**Pb**	**06 07 06.7**	**+1.7**
UKR				*e*Sg		Sb	06 08 47.9	+6.7
ZALV	**Zalesovo Beam**	**8.89**	**306**	Pn		**Pn**	**06 06 52.4**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=98,slow=10,SNR=2.9							
ZALV				Lg		Lg	06 09 11.7	
	comp=Z,0.8nm,0.3s,baz=112,slow=23,SNR=9.2							
NVS	**Novosibirsk**	**10.12**	**308**	*e*Sn		**Sn**	**06 09 00.0**	**-3.9**
NVS				*e*Sg			06 09 52.4	
MKAR	**Makanchi Array**	**10.23**	**261**	Pn		**Pn**	**06 07 10.5**	**-1.6**
	baz=69,slow=17,SNR=1.6							
MKAR				Lg		Lg	06 10 05.9	
	comp=Z,0.7nm,0.3s,baz=73,slow=28,SNR=8.2							
MKAR				LR		LR	06 11 02.5	
	comp=Z,34nm,18.4s,baz=37,slow=37							
KURK	**Kurchatov**	**11.95**	**283**	P		**Pn**	**06 07 33.7**	**-1.8**
KURBB	**Kurchatov Arra**	**12.01**	**283**	Pn		**Pn**	**06 07 33.7**	**-2.6**
	comp=Z,0.0nm,0.3s,baz=92,slow=14,SNR=3.5							
KURBB				Lg		Lg	06 10 58.5	
	comp=Z,0.1nm,0.3s,baz=94,slow=31,SNR=8.5							
BVAR	**Borovoye Array**	**17.08**	**293**	P		**Pn**	**06 08 44.2**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=82,slow=11,SNR=5.6							
AKTO	**Aktyubinsk**	**24.39**	**287**	P		**P**	**06 10 06.5**	**-2.4**
	comp=Z,0.6nm,0.4s,baz=90,slow=9.1,SNR=3.6							
BRTR	**Keskin Array B**	**45.00**	**283**	P		**P**	**06 13 01.4**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=57,slow=5.3,SNR=5.2							
BRTR	**Keskin Array B**	**45.00**	**283**	P		**P**	**06 13 01.4**	**+0.6**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
WRA	**Warramunga Arr**	**76.53**	**144**	P		**P**	**06 16 34.3**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=341,slow=6.6,SNR=3.3							
ASAR	**Alice Springs**	**79.76**	**146**	P		**P**	**06 16 52.2**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=345,slow=4.8,SNR=2.4							

IDC 23 06:07:30.4±4.1, 20°.04N×147°.02E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/29, mbtmp3.6/4, Error ellipse: s-maj=196.4km s-min=27.5km az=86.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**41.63**	**198**	P		P	06 15 20.5	-0.1
	0.6nm,0.5s,baz=20,slow=9.0,SNR=11							
ASAR	**Alice Springs**	**45.28**	**197**	P		P	06 15 49.9	-0.2
	0.3nm,0.5s,baz=18,slow=8.0,SNR=6.1							
BVAR	**Borovoye Array**	**66.25**	**320**	P		P	06 18 20.2	-0.1
	0.7nm,0.5s,baz=99,slow=8.0,SNR=4.3							
FINES	**FINESS Array B**	**86.19**	**336**	P		P	06 20 13.5	0.0
	0.2nm,0.4s,baz=28,slow=6.3,SNR=3.9							

*IDC **23** 06:16:02.5±1.1, 13°.90N×147°.33E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/30, mbtmp3.6/5, ML3.8/1, MS2.3/2, Ms1 2.3/2, ms1mx2.2/21, Error ellipse: s-maj=33.6km s-min=24.2km az=110.0*
*ISCJB **23** 06:16:05.0±1.1, 13°.9N±0°.2×147°.32E±0°.10, h33km, mb3.6/4, MS2.4/1, Error ellipse: s-maj=23.3km s-min=12.9km az=169.8*
ISC 23 06:16:07.4±1.1, 13°.9N±0°.2×147°.3E±0°.1, h35km, n7, σ1s 34/7, mb3.6/4, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**2.35**	**263**	Pn		**Pn**	**06 16 42.4**	**-1.1**
	22nm,0.3s,baz=138,slow=9.1,SNR=10							
GUMO				Sn		**Sn**	**06 17 11.5**	**+0.3**
	25nm,0.3s,baz=354,slow=22,SNR=11							
GUMO				LR		LR	06 18 27.2	
	comp=Z,27nm,19.0s,baz=64,slow=60							
MJAR	**Matsushiro Arr**	**23.98**	**342**	LR		LR	06 31 42.8	
	comp=Z,12nm,18.1s,baz=75,slow=39							
WRA	**Warramunga Arr**	**35.94**	**201**	P		**P**	**06 23 05.2**	**+0.4**
	1.5nm,0.8s,baz=25,slow=9.6,SNR=9.9							
ASAR	**Alice Springs**	**39.55**	**199**	P		**P**	**06 23 35.1**	**-0.1**
	0.3nm,0.6s,baz=23,slow=9.6,SNR=6.0							
MKAR	**Makanchi Array**	**62.90**	**316**	P		**P**	**06 26 31.9**	**+1.8**
	0.4nm,0.5s,baz=99,slow=3.5,SNR=8.2							
ILAR	**Eielson Array**	**67.31**	**25**	P		**P**	**06 26 57.0**	**-1.4**
	0.2nm,0.5s,baz=255,slow=6.4,SNR=4.3							
LPAZ	**La Paz**	**145.76**	**99**	PKPbc		**PKPab**	**06 35 45.5**	**+0.7**
	0.3nm,0.5s,baz=270,slow=1.0,SNR=3.5							

*ISCJB **23** 06:37:46.2±0.5, 31°.49S±0°.06×68°.7W±0°.1, h117km±5km, mb3.5/3, Error ellipse: s-maj=19.4km s-min=8.6km az=17.7*
*IDC **23** 06:37:46.2±1.1, 31°.46S×68°.78W, h101km±9km, mb3.4/3, mb1 3.6/7, mb1mx3.4/27, mbtmp3.8/7, Error ellipse: s-maj=33.9km s-min=22.3km az=85.0*
*SJA **23** 06:37:48.4±1.3, 31°.55S×68°.75W, h95km±11km, ML3.9, MW4.1*
ISC 23 06:37:46.9±0.8, 31°.46S±0°.07×68°.7W±0°.1, h109km±7km, n19, σ0s 87/25, mb3.4/3, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SJA	**San Juan**	**0.16**	**115**	*e*P		**Pn**	**06 38 02.6**	**+0.5**
RTLL	**Cerro Villicun**	**0.25**	**59**	*e*P		**Pn**	**06 38 02.7**	**+0.3**
RTCV	**Cerro Valdivia**	**0.43**	**159**	*e*P		**Pn**	**06 38 03.7**	**+0.4**
CFAA	**Coronel Fontan**	**0.44**	**109**	P		**Pn**	**06 38 03.1**	**-0.1**
	37nm,0.3s,baz=252,slow=4.3							
CFAA				S		**Sn**	**06 38 15.7**	**0.0**
	135nm,0.3s,baz=142,slow=19,SNR=176							
CFAA	**Coronel Fontan**	**0.44**	**109**	*e*P		**Pn**	**06 38 03.7**	**+0.4**
CFAA				*e*S		**Sn**	**06 38 15.9**	**+0.3**
RTLS	**Leoncito**	**0.59**	**235**	*e*P		**Pn**	**06 38 05.3**	**+0.7**
AUSP	**Uspallata**	**0.95**	**216**	*e*P		**Pn**	**06 38 08.4**	**+0.6**
AUSP				*e*S		**Sn**	**06 38 23.7**	**+0.2**
ASAL	**Salagasta**	**1.13**	**185**	*e*P		**Pn**	**06 38 10.3**	**+0.8**
ASAL				*e*S		**Sn**	**06 38 24.6**	**-2.0**
ARCO	**CERRO ARCO**	**1.39**	**187**	*e*P		**Pn**	**06 38 13.3**	**+0.8**
ARCO				*e*S		**Sn**	**06 38 32.1**	**+0.2**
ARCO				AML		AML	06 38 34.5	
	comp=Z,1μm,0.2s							
AAGR	**Agrelo**	**1.62**	**183**	*e*P		**Pn**	**06 38 16.1**	**+0.8**
AAGR				*e*S		**Sn**	**06 38 36.4**	**-0.4**
LVC	**Limon Verde**	**8.81**	**359**	P		**Pn**	**06 39 49.8**	**-1.8**
	comp=Z,62nm,0.3s,baz=165,slow=9.6,SNR=24							
LVC				S		Sn	06 41 22.2	-7.2
	comp=Z,9.6nm,0.3s,baz=252,slow=20,SNR=2.9							
PLCA	**Paso Flores**	**9.37**	**189**	P		**Pn**	**06 39 57.9**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=356,slow=10,SNR=8.2							
LPAZ	**La Paz**	**15.11**	**2**	P		**Pn**	**06 41 15.7**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=170,slow=4.7,SNR=5.1							
SIV	**San Ignacio**	**16.91**	**26**	P		**Pn**	**06 41 36.0**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=216,slow=9.6,SNR=3.2							
TXAR	**Lajitas Array**	**68.99**	**328**	P		**P**	**06 48 41.5**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=150,slow=8.5,SNR=6.5							
TORD	**Torodi Ar. Bea**	**80.70**	**68**	P		**P**	**06 49 48.9**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=279,slow=7.1,SNR=9.0							
PDAR	**Pinedale Array**	**82.83**	**331**	P		**P**	**06 49 58.9**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=105,slow=5.8,SNR=3.1							
WRA	**Warramunga Arr**	**124.31**	**206**	PKP		**PKPdf**	**06 56 32.9**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=162,slow=1.6,SNR=7.9							
ZALV	**Zalesovo Beam**	**150.59**	**32**	PKPbc		**PKPbc**	**06 57 26.0**	**+0.6**
	comp=Z,1.1nm,0.4s,baz=316,slow=4.1,SNR=5.6							

*IDC **23** 07:22:44.1±0.9, 12°.56S×165°.64E, h0km, mb4.1/12, mb1 4.2/13, mb1mx4.0/38, mbtmp4.1/13, ML3.5/1, MS3.6/4, Ms1 3.5/4, ms1mx3.0/23, Error ellipse: s-maj=29.9km s-min=18.9km az=126.0*
*ISCJB **23** 07:22:47.9±0.6, 12°.78S±0°.06×165°.68E±0°.08, h40km, mb4.1/14, MS3.5/4, Error ellipse: s-maj=12.3km s-min=7.7km az=152.1*
*NEIC **23** 07:22:49.0±0.5, 12°.66S×165°.75E, h35km, mb4.7/2, Error ellipse: s-maj=13.8km s-min=11.3km az=91.0*
ISC 23 07:22:49.5±0.7, 12°.73S±0°.08×165°.8E±0°.1, h40km, n24, σ0s 97/22, mb4.1/14, MS3.5/4, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**6.58**	**299**	P		**Pn**	**07 24 25.0**	**+1.2**
HNR	**Honiara**	**6.58**	**299**	*e*Pn		**Pn**	**07 24 24.4**	**+0.6**
	186nm,0.8s							
HNR				*e*Sn		**Sn**	**07 25 37.8**	**+0.2**
DZM	**Mont Dzumac**	**9.31**	**176**	Pn		**Pn**	**07 25 02.4**	**+1.0**
	0.5nm,0.3s,baz=90,slow=24,SNR=6.2							
DZM				Sn		**Sn**	**07 26 43.7**	**-1.2**
	0.2nm,0.3s,baz=270,slow=20,SNR=2.9							
CTA	**Charters Tower**	**20.08**	**246**	P		Pn	07 27 22.7	+0.9
	4.0nm,0.9s,baz=80,slow=12,SNR=3.5							
STKA	**Stephens Creek**	**29.25**	**225**	P		**P**	**07 28 48.5**	**+0.6**
	2.7nm,0.7s,baz=51,slow=10,SNR=4.7							
STKA				LR		LR	07 40 50.6	
	comp=Z,174nm,18.3s,baz=30,slow=37							
WRAB	**Tennant Creek**	**30.94**	**252**	*e*P		**P**	**07 29 03.1**	**+0.1**
	35nm,1.9s							
WRA	**Warramunga Arr**	**30.95**	**252**	P		**P**	**07 29 03.5**	**+0.4**
	1.3nm,0.8s,baz=83,slow=9.2,SNR=11							
ASAR	**Alice Springs**	**32.08**	**246**	P		**P**	**07 29 12.1**	**-0.9**
	2.1nm,0.7s,baz=75,slow=9.3,SNR=21							
ASAR				LR		LR	07 41 56.2	
	comp=Z,64nm,18.3s,baz=96,slow=36							
GUMO	**Guam**	**33.35**	**321**	LR		LR	07 42 22.9	
	comp=Z,50nm,20.2s,baz=98,slow=36							
PPT	**Papeete**	**43.31**	**102**	LR		LR	07 48 13.3	
	comp=Z,88nm,18.1s,baz=267,slow=35							
MJAR	**Matsushiro Arr**	**55.47**	**333**	P		**P**	**07 32 18.4**	**-1.9**
	1.7nm,0.8s,baz=160,slow=9.1,SNR=6.1							
ASAJ	**Asahikawa**	**60.38**	**341**	P		**P**	**07 32 53.4**	**-1.2**
	6.0nm,0.6s,baz=174,slow=10,SNR=6.3							
USRK	**Ussuriysk Ar.**	**64.45**	**334**	P		**P**	**07 33 21.9**	**+0.1**
	2.2nm,0.7s,baz=151,slow=10,SNR=4.3							
CMAR	**Chiang Mai Arr**	**72.80**	**294**	P		**P**	**07 34 14.7**	**+0.2**
	0.7nm,0.4s,baz=137,slow=4.3,SNR=4.4							
QSPA	**South Pole Qui**	**77.28**	**180**	*e*P		**P**	**07 34 39.5**	**-0.2**
	5.5nm,1.0s							
SONM	**Songino Array**	**80.03**	**324**	P		**P**	**07 34 54.8**	**-0.2**
	0.6nm,0.7s,baz=140,slow=7.0,SNR=3.4							
YBH	**Yreka Blue Hor**	**85.06**	**45**	P		**P**	**07 35 22.3**	**+1.0**
	0.6nm,0.6s,baz=225,slow=2.9,SNR=6.6							
ILAR	**Eielson Array**	**85.10**	**18**	P		**P**	**07 35 21.9**	**+1.0**
	0.6nm,0.6s,baz=238,slow=5.3,SNR=10							
MKAR	**Makanchi Array**	**94.75**	**317**	P		**P**	**07 36 05.5**	**-1.4**
	1.1nm,0.7s,baz=103,slow=3.9,SNR=8.2							
TXAR	**Lajitas Array**	**96.62**	**62**	P		**P**	**07 36 16.6**	**+0.6**
	0.1nm,0.5s,baz=198,slow=5.7,SNR=3.4							
ARCES	**ARCESS Array B**	**117.96**	**345**	PKhKP		PKPpre	07 41 28.8	
	1.9nm,0.9s,baz=101,slow=1.8,SNR=4.5							
GERES	**GERESS Array B**	**137.21**	**333**	PKP		**PKPdf**	**07 42 08.2**	**-0.5**
	0.3nm,0.5s,baz=93,slow=2.7,SNR=4.7							
ESDC	**Sonseca Array**	**151.67**	**343**	PKPbc		**PKPbc**	**07 42 38.6**	**-1.5**
	0.8nm,0.6s,baz=9.3,slow=2.5,SNR=9.3							
TORD	**Torodi Ar. Bea**	**164.46**	**273**	PKPab		**PKPab**	**07 43 45.2**	**+0.5**
	0.7nm,0.9s,baz=82,slow=3.5,SNR=4.6							

*IDC **23** 07:24:15.3±1.9, 8°.87N×125°.79E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.5/40, mbtmp3.8/5, MS3.2/1, Ms1 3.2/1, ms1mx2.4/31, Error ellipse: s-maj=217.6km s-min=26.1km az=69.0*
*ISCJB **23** 07:24:22.4±1.0, 9°.70N±0°.06×126°.58E±0°.09, h43km, mb3.9/5, MS3.0/1, Error ellipse: s-maj=13.0km s-min=7.6km az=158.4*
ISC 23 07:24:23.5±1.3, 9°.68N±0°.07×126°.6E±0°.1, h43km, n10, σ0s 90/11, mb3.9/5, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BIPH	**Bislig**	**1.50**	**188**	↓*e*P		**Pn**	**07 24 48.5**	**+0.6**
BIPH				*i* S		**Sn**	**07 25 06.1**	**-0.2**
PLP	**Palo**	**2.16**	**313**	↑*i*P		**Pn**	**07 24 57.0**	**0.0**
PLP				*i* S		**Sn**	**07 25 22.4**	**-0.2**
TBP	**Tagbilaran**	**2.68**	**271**	↓*e*P		**Pn**	**07 25 04.1**	**0.0**
TBP				*e*S		**Sn**	**07 25 34.9**	**-0.5**
RCP	**Roxas**	**4.21**	**297**	↑*e*P		**Pn**	**07 25 27.0**	**+1.8**
JCJ	**Chichijima**	**22.75**	**38**	LR		LR	07 38 01.6	
	comp=Z,56nm,19.7s,baz=140,slow=35							
ASAR	**Alice Springs**	**33.91**	**168**	P		P	07 30 54.8	-7.8
	0.6nm,0.5s,baz=344,slow=10,SNR=11							
MKAR	**Makanchi Array**	**52.68**	**323**	P		**P**	**07 33 33.2**	**-0.5**
	0.4nm,0.5s,baz=122,slow=5.4,SNR=4.2							
KURBB	**Kurchatov Arra**	**56.73**	**325**	P		**P**	**07 34 01.5**	**-1.4**
	0.3nm,0.3s,baz=126,slow=6.6,SNR=4.0							
ARCES	**ARCESS Array B**	**84.85**	**340**	P		**P**	**07 36 53.6**	**+0.3**
	1.0nm,0.7s,baz=63,slow=5.6,SNR=5.1							
FINES	**FINESS Array B**	**86.55**	**332**	P		**P**	**07 37 02.5**	**+0.6**
	0.5nm,0.4s,baz=81,slow=5.7,SNR=12							

NNC 23 07:35:21.9±0.8, 50°.10N×78°.98E, h0km, mb3.5, mpv3.3, 6C-4D, Error ellipse: s-maj=12.8km s-min=3.8km az=64.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KUR07	**Kurchatov Arra**	**0.57**	**329**	P		Pg	07 35 32.9	+0.1
KUR07				S		Sg	07 35 41.7	+1.5
KUR14	**Kurchatov Arra**	**0.57**	**334**	P		Pg	07 35 33.3	+0.4
KUR14				S		Sb	07 35 41.9	-1.6
KUR06	**Kurchatov Arra**	**0.58**	**330**	P		Pg	07 35 33.4	+0.3
KUR06				S		Sg	07 35 41.8	+1.2
KUR15	**Kurchatov Arra**	**0.58**	**333**	P		Pg	07 35 33.4	+0.2
KUR15				S		Sb	07 35 42.5	-1.4
KURBB	**Kurchatov Arra**	**0.60**	**331**	↑P		Pg	07 35 33.6	+0.3
	87nm,0.2s							
KURBB				↑S		Sg	07 35 42.4	+1.2
	133nm,0.2s							
KUR16	**Kurchatov Arra**	**0.61**	**330**	P		Pg	07 35 33.8	+0.1
KUR16				S		Sg	07 35 42.6	+1.0
KUR05	**Kurchatov Arra**	**0.61**	**333**	P		Pg	07 35 33.9	+0.3
KUR05				S		Sg	07 35 42.8	+1.1
KUR17	**Kurchatov Arra**	**0.63**	**329**	P		Pg	07 35 34.3	+0.3
KUR17				S		Sg	07 35 43.2	+1.1
KUR04	**Kurchatov Arra**	**0.63**	**334**	P		Pg	07 35 34.3	+0.3
KUR04				S		Sg	07 35 43.4	+1.2
KURK	**Kurchatov**	**0.66**	**340**	↓P		Pg	07 35 34.9	+0.3
	30nm,0.3s							
KURK				↑S		Sg	07 35 43.4	+0.3
	42nm,0.3s							
MK31	**Makanchi Array**	**3.97**	**145**	Pn		Pn	07 36 25.9	+1.8
	0.6nm,0.3s,baz=329,slow=10,SNR=42							
MK31				Pg		Pb	07 36 33.9	+1.1
	1.9nm,0.4s,baz=329,slow=12,SNR=21							
MK31				↓Lg		Lg	07 37 26.6	
	12nm,0.5s,baz=324,slow=27,SNR=16							
BVA0	**Borovoye Array**	**6.11**	**302**	Pn		Pn	07 36 53.0	-0.3
	2.5nm,1.0s,baz=108,slow=15,SNR=3.6							
BVA0				↓Sn		Sn	07 38 01.2	-2.6
	3.4nm,0.5s,baz=276,slow=36,SNR=3.5							
BVA0				↓Lg		Lg	07 38 34.2	
	6.1nm,0.7s							
BRVK	**Borovoye**	**6.18**	**302**	↑Pn		Pn	07 36 53.6	-0.7
	4.3nm,0.9s							
BRVK				↑Sn		Sn	07 38 02.5	-3.1
	7.9nm,0.7s							
BRVK				↑Lg		Lg	07 38 36.1	
	5.1nm,0.5s							

IDC 23 07:35:24.6±10.0, 15°.48S×172°.91W, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.7/29, mbtmp3.7/3, Error ellipse: s-maj=496.0km s-min=34.6km az=139.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**50.28**	**257**	P		P	07 44 23.4	+0.1
	0.8nm,1.0s,baz=87,slow=6.7,SNR=4.0							
ASAR	**Alice Springs**	**50.53**	**252**	P		P	07 44 24.6	-0.7
	1.4nm,0.6s,baz=87,slow=8.1,SNR=18							
ILAR	**Eielson Array**	**82.44**	**11**	P		P	07 47 47.7	-0.7
	0.4nm,0.7s,baz=211,slow=6.8,SNR=6.2							
BRTR	**Keskin Array B**	**146.51**	**321**	PKPbc		PKPab	07 55 09.0	-0.4
	0.5nm,0.7s,baz=27,slow=6.8,SNR=3.0							

IDC 23 08:10:24.1±5.3, 14°.95S×173°.47W, h53km±7km, mb3.2/3, mb1 3.5/3, mb1mx3.2/26, mbtmp3.4/3, Error ellipse: s-maj=253.0km s-min=29.6km az=139.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**49.88**	**256**	P		P	08 19 12.3	-0.4
	0.4nm,0.8s,baz=90,slow=7.0,SNR=4.6							
ASAR	**Alice Springs**	**50.19**	**252**	P		P	08 19 14.2	-0.9
	0.7nm,0.7s,baz=89,slow=8.4,SNR=2.8							
ILAR	**Eielson Array**	**82.02**	**11**	P		P	08 22 37.8	-0.4
	0.3nm,0.9s,baz=201,slow=7.3,SNR=2.7							
ILAR				pP		pP	08 22 51.4	-1.9
	0.7nm,1.0s,baz=207,slow=5.7,SNR=3.9							
GERES	**GERESS Array B**	**145.69**	**352**	PKPbc		PKPdf	08 29 56.8	-0.1
	0.2nm,0.5s,baz=33,slow=5.1,SNR=4.1							
GERES				pPKP		pPKPdf	08 30 11.8	-1.0
	0.7nm,0.8s,baz=18,slow=2.1,SNR=4.5							
BRTR	**Keskin Array B**	**145.76**	**321**	PKPbc		PKPab	08 29 58.4	+0.1
	0.5nm,0.5s,baz=51,slow=4.6,SNR=3.3							
BRTR				pPKPbc		pPKPbc	08 30 13.8	+0.3
	1.7nm,0.8s,baz=89,slow=2.1,SNR=7.7							

*IDC **23** 08:11:29.4±1.0, 53°.82N×161°.74E, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.5/37, mbtmp3.6/7, ML2.9/1, MS2.8/4, Ms1 2.8/4, ms1mx2.6/26, Error ellipse: s-maj=51.3km s-min=18.6km az=143.0*
*KRSC **23** 08:11:33.0±1.2, 54°.05N×161°.31E, h55km±16km, ML4.2*
*ISCJB **23** 08:11:34.8±0.4, 54°.04N±0°.02×161°.30E±0°.05, h46km±5km, mb3.5/7, MS2.8/3, Error ellipse: s-maj=6.0km s-min=2.2km az=27.7*
*MOS **23** 08:11:34.0±0.9, 54°.03N×161°.37E, h44km, mb4.0/4, Error ellipse: s-maj=16.0km s-min=7.3km az=69.9*
ISC 23 08:11:35.6±0.9, 54°.04N±0°.03×161°.34E±0°.03, h42km±9km, n77, σ1s 20/120, mb3.5/7, MS2.6/3, 1C-2D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MKZ	**Mys Kozlova**	**0.57**	**23**	*e*P		**Pn**	**08 11 46.4**	**-0.9**
MKZ				*e*S		**

	13nm,0.3s,baz=88,slow=18,SNR=62						
PETK				Sn	**Sn**	08 12 39.4	-0.2
	22nm,0.3s,baz=62,slow=18,SNR=14						
PETK				LR	LR	08 13 17.1	
	comp=Z,96nm,21.0s,baz=57,slow=43						
PETK	**Petropavlovsk-**	**2.36**	**248**	PN	**Pn**	08 12 12.0	+0.1
PETK						08 12 39.4	
PETK				pmax	pmax		
	comp=Z,13nm,0.3s						
PETK				smax	smax		
	comp=N,22nm,0.3s						
ESO	**Esso**	**2.43**	**322**	*e*P	**Pn**	08 12 11.9	-0.9
ESO				*e*S	**Sn**	08 12 38.6	-2.7
ESO	**Esso**	**2.43**	**322**	PN	**Pn**	08 12 11.9	-0.9
ESO				S	**Sn**	08 12 38.6	-2.7
MTVR	**Mutnovka**	**2.46**	**232**	*e*P	**Pn**	08 12 13.6	+0.3
MTVR				*e*S	**Sn**	08 12 41.6	-0.5
GRL	**Gorelyy**	**2.46**	**234**	*e*P	**Pn**	08 12 14.0	+0.7
GRL				*e*S	**Sn**	08 12 42.2	0.0
SRDR	**Sredinnyy**	**2.47**	**338**	*e*P	**Pn**	08 12 12.7	-0.7
SRDR				*e*S	**Sn**	08 12 40.1	-2.2
BDR	**Baidarnaya**	**2.54**	**358**	*e*P	**Pn**	08 12 15.7	+1.4
BDR				*e*S	**Sn**	08 12 46.2	+2.2
SMKR	**Semkarok**	**2.55**	**2**	*e*P	**Pn**	08 12 15.2	+0.7
SMKR				*e*S	**Sn**	08 12 44.7	+0.3
SRKR	**Sorokina**	**2.62**	**358**	*e*P	**Pn**	08 12 15.4	-0.1
SRKR				*e*S	**Sn**	08 12 44.6	-1.6
ASAK	**Asacha**	**2.65**	**233**	*e*P	**Pn**	08 12 16.7	+0.8
ASAK				*e*S	**Sn**	08 12 47.1	+0.3
APC	**Apacha**	**2.74**	**248**	*e*P	**Pn**	08 12 17.9	+0.9
APC				*e*S	**Sn**	08 12 49.5	+0.7
BKI	**Bering**	**2.94**	**65**	*e*P	**Pn**	08 12 20.1	+0.4
BKI				*e*S	**Sn**	08 12 51.2	-2.4
BKI	**Bering**	**2.94**	**65**	PN	**Pn**	08 12 20.1	+0.4
BKI				S	**Sn**	08 12 51.2	-2.4
MIPR	**Malaya Ipel'ka**	**3.27**	**239**	*e*P	**Pn**	08 12 24.9	+0.5
PAU	**Pauzhetka**	**3.77**	**229**	*e*P	**Pn**	08 12 32.8	+1.7
PAU				*e*S	**Sn**	08 13 16.1	+1.9
PAU	**Pauzhetka**	**3.77**	**229**	PN	**Pn**	08 12 32.8	+1.7
PAU				S	**Sn**	08 13 16.1	+1.9
SKR	**Severo-Kuril's**	**4.64**	**226**	*e*P	**Pn**	08 12 44.5	+1.4
SKR				*e*S	**Sn**	08 13 35.5	-0.1
SKR	**Severo-Kuril's**	**4.64**	**226**	*e*PN	**Pn**	08 12 41.0	-2.1
SKR				pmax	pmax		
	comp=E,20nm,0.5s						
SKR				pmax	pmax		
	comp=E,20nm,0.3s						
OSSR	**Ossora**	**5.31**	**10**	*e*P	**Pn**	08 12 52.7	+0.4
OSSR				*e*S	**Sn**	08 13 50.5	-1.6
YUK	**Yuzh-Kuril'sk**	**14.22**	**232**	P	Pn	08 14 50.5	-3.7
YUK				S	**Sn**	08 17 31.4	+0.9
YUK				pmax	pmax		
	comp=E,37nm,1.2s						
YUK				pmax	pmax		
	comp=Z,56nm,1.2s						
YUK				pmax	pmax		
	comp=N,24nm,0.4s						
ERM	**Erimo**	**17.04**	**233**⇓	*e*P	**Pn**	08 15 29.8	-0.8
YAK	**Yakutsk**	**18.41**	**308**	*e*P	**P**	08 15 45.8	-1.0
YAK				pmax	pmax		
	comp=Z,11nm,0.8s						
TIXI	**Tiksi**	**22.55**	**334**⇑	*e*P	**P**	08 16 32.2	+0.6
TIXI				*i* *PP	**pP**	08 16 45.7	+3.7
TIXI				pmax	pmax		
	comp=Z,4.0nm,2.5s						
MJA0	**Matsu Arr-Jizo**	**23.70**	**232**	*e*P	**P**	08 16 44.3	+0.9
MJA0				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MAJO	**Matsushiro**	**23.72**	**232**⇓	*e*P	**P**	08 16 43.0	-0.6
MJAR	**Matsushiro Arr**	**23.72**	**232**	P	**P**	08 16 43.6	+0.1
	comp=Z,1.7nm,0.7s,baz=16,slow=11,SNR=4.7						
MJAR				LR	LR	08 26 30.9	
	comp=Z,21nm,18.1s,baz=350,slow=38						
MJAR	**Matsushiro Arr**	**23.72**	**232**	P	**P**	08 16 43.6	+0.1
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MJAR				MLR	MLR		
	comp=Z,21nm,18.1s						
ILAR	**Eielson Array**	**27.62**	**47**	P	**P**	08 17 17.3	-1.4
	comp=Z,0.6nm,1.0s,baz=263,slow=7.8,SNR=7.0						
ILAR	**Eielson Array**	**27.62**	**47**	*e*P	**P**	08 17 17.5	-1.2
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KSRS	**Korea Array**	**28.26**	**248**	LR	LR	08 29 13.1	
	comp=Z,14nm,18.3s,baz=106,slow=37						
H11N2	**WAKE ISLAND Hy**	**34.51**	**171**	T	T	08 55 34.1	
	baz=355,slow=76,SNR=273						
H11N3	**WAKE ISLAND Hy**	**34.52**	**171**	T	T	08 55 35.6	
	baz=355,slow=76,SNR=258						
H11N1	**WAKE ISLAND Hy**	**34.53**	**171**	T	T	08 55 34.1	
	baz=355,slow=76,SNR=332						
H11S1	**WAKE ISLAND Hy**	**35.70**	**171**	T	T	08 57 01.3	
	baz=68,slow=74,SNR=13						
H11S3	**WAKE ISLAND Hy**	**35.71**	**171**	T	T	08 57 06.2	
	baz=68,slow=74,SNR=15						
H11S2	**WAKE ISLAND Hy**	**35.72**	**171**	T	T	08 57 38.2	
	baz=68,SNR=17						
YKA	**Yellowknife Ar**	**41.96**	**44**	P	**P**	08 19 21.8	0.0
	comp=Z,0.2nm,0.5s,baz=296,slow=8.0,SNR=3.2						
ZALV	**Zalesovo Beam**	**42.90**	**302**	LR	LR	08 37 40.4	
	comp=Z,19nm,18.2s,baz=70,slow=36						
TXAR	**Lajitas Array**	**69.59**	**68**	P	**P**	08 22 40.0	-0.3
	comp=Z,0.5nm,0.7s,baz=305,slow=3.9,SNR=6.3						
TXAR	**Lajitas Array**	**69.59**	**68**	P	**P**	08 22 40.0	-0.3
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**77.25**	**206**	P	**P**	08 23 24.3	-0.8
	comp=Z,0.3nm,0.6s,baz=21,slow=6.1,SNR=6.6						
ESDC	**Sonseca Array**	**85.81**	**349**	P	**P**	08 24 11.6	+1.2
	comp=Z,0.8nm,0.8s,baz=0.3,slow=6.0,SNR=3.1						

JMA 23 08:25:44.3±0.2, 28°.19N×128°.14E, h120km±4km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTK	**Tokunoshima**	**0.82**	**119**	P	Pn	08 26 04.8	+0.1
JTK				S	Sn	08 26 20.5	+0.5
JOKE	**Okinoerabujima**	**0.91**	**155**	P	Pn	08 26 05.5	0.0
JOKE				*e*S	Sn	08 26 21.9	+0.4
JAMN	**Amaminishikomi**	**0.92**	**86**	P	Pn	08 26 05.4	-0.1
JAMN				S	Sn	08 26 21.7	+0.2
JIH	**Iheya**	**1.16**	**188**	P	Pn	08 26 08.6	+0.6
JIH				*e*S	Sn	08 26 26.4	+0.5
JAM	**Amami Oshima**	**1.31**	**80**	P	Pn	08 26 09.5	0.0
JAM				*e*S	Sn	08 26 28.6	-0.1
JTAJ	**Takarajima**	**1.34**	**44**	P	Pn	08 26 10.3	+0.4
JTAJ				*e*S	Sn	08 26 30.1	+0.8
JOW	**Kunigami**	**1.36**	**175**	P	Pn	08 26 10.3	+0.2
JOW				S	Sn	08 26 29.5	-0.2
JZK	**Kikaishima**	**1.62**	**85**	P	Pn	08 26 14.2	+1.1
JZK				*e*S	Sn	08 26 37.1	+2.0
JNTH	**Nagotoyohara**	**1.67**	**184**	P	Pn	08 26 14.0	+0.3
JNTH				*e*S	Sn	08 26 35.6	-0.5
JAGN	**Aguni-jima**	**1.78**	**207**	P	Pn	08 26 15.5	+0.4
JAGN				S	Sn	08 26 38.4	-0.2
JJT2	**Tamagusuku 2**	**2.07**	**190**	*e*S	Sn	08 26 45.6	+0.6
JKE	**Kume jima 2**	**2.21**	**213**	P	Pn	08 26 20.4	0.0
JKE				*e*S	Sn	08 26 47.4	-0.7
JYAK	**Yakushimahirau**	**2.91**	**45**	P	Pn	08 26 28.8	-0.6
JYAK				*e*S	Sn	08 27 02.0	-2.1
JTN	**Tanegashima 3**	**3.49**	**45**	P	Pn	08 26 36.5	-0.5

IDC 23 08:57:57.3±7.9, 30°.47S×178°.03W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.4/17, mbtmp3.4/2, Error ellipse: s-maj=328.0km s-min=61.5km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.08**	**267**	P	P	09 05 60.0	+0.6
	0.3nm,0.8s,baz=113,slow=7.6,SNR=4.6						
WRA	**Warramunga Arr**	**44.07**	**272**	P	P	09 06 06.4	-0.9
	0.3nm,0.3s,baz=111,slow=8.0,SNR=5.5						
FINES	**FINESS Array B**	**145.20**	**340**	PKPbc	PKPbc	09 17 35.0	-0.8
	0.5nm,0.6s,baz=40,slow=2.4,SNR=4.3						

TAP 23 08:58:17.9, 21°.52N×121°.67E, h101km±1km, ML3.5, 1C-1D, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.52**	**348**	*e*P	Pn	08 58 33.8	-0.3
	baz=348						
LAY				*e*S	Sn	08 58 46.4	+0.3
	baz=348						
TSEB	**Hengchuen, Pin**	**0.81**	**298**	*e*S	Sn	08 58 51.5	+1.2
	baz=296						
TWK1	**Hengchun**	**0.90**	**298**	*e*P	Pn	08 58 38.2	+0.8
	baz=297						
TWK1				*e*S	Sn	08 58 52.2	+0.2
	baz=297						
HEN	**Hengchun**	**0.99**	**299**	*e*P	Pn	08 58 39.1	+0.9
	baz=299						
HEN				*e*S	Sn	08 58 53.2	-0.4
	baz=299						
EAST	**Anshuo**	**1.14**	**319**	*e*P	Pn	08 58 40.1	0.0
	baz=318						
EAST				*e*S	Sn	08 58 57.6	+0.8
	baz=318						
ECL	**Taimali**	**1.26**	**328**	*e*P	Pn	08 58 41.3	0.0
	baz=328						
ECL				*e*S	Sn	08 58 58.1	-0.9
	baz=328						
SCZT	**Fangliau**	**1.29**	**311**⇑	*i*P	Pn	08 58 42.1	+0.4
	baz=311						
SCZT				*e*S	Sn	08 58 59.1	-0.6
	baz=311						
TWG	**Pinlang**	**1.40**	**337**	*e*P	Pn	08 58 43.0	-0.1
	baz=337						
TWG				*e*S	Sn	08 59 02.1	-0.1
	baz=337						
SSD	**Sandimen**	**1.55**	**322**	*e*P	Pn	08 58 45.4	+0.5
	baz=321						
SSD				*e*S	Sn	08 59 05.3	0.0
	baz=321						
CHKT	**Chengkung**	**1.59**	**350**	*e*P	Pn	08 58 45.9	+0.5
	baz=350						
CHKT				*e*S	Sn	08 59 06.6	+0.3
	baz=350						
TWM1	**Shoushan**	**1.73**	**319**	*e*P	Pn	08 58 49.0	+1.8
	baz=318						
TWM1				*e*S	Sn	08 59 12.9	+3.5
	baz=318						
STYT	**Tauyuan**	**1.83**	**333**	⇓P	Pn	08 58 49.7	+1.1
	baz=332						
SGST	**Jiashian**	**1.85**	**327**	*e*P	Pn	08 58 49.5	+0.8
	baz=327						
SGST				*e*S	Sn	08 59 13.2	+1.2
	baz=327						
TWF1	**Yuli**	**1.85**	**349**	*e*P	Pn	08 58 49.3	+0.6
	baz=349						
TWF1				*e*S	Sn	08 59 14.4	+2.3
	baz=349						
CHN1	**Nanshi**	**1.96**	**328**	*e*P	Pn	08 58 50.8	+0.7
	baz=327						
CHN1				*e*S	Sn	08 59 14.6	0.0
	baz=327						
WTP	**Ta-pu**	**1.97**	**331**	P	Pn	08 58 50.9	+0.7
	baz=330						
WTP				*e*S	Sn	08 59 14.7	-0.3
	baz=330						
EHY	**Hungye**	**2.00**	**351**	*e*P	Pn	08 58 51.1	+0.5
	baz=350						
EHY				*e*S	Sn	08 59 16.3	+0.9
	baz=350						
TWK	**Hsinying**	**2.05**	**328**	*e*P	Pn	08 58 52.0	+0.7
	baz=328						
TWK				*e*S	Sn	08 59 17.3	+0.5
	baz=328						
CHN4	**Tsaushan**	**2.07**	**332**	*e*P	Pn	08 58 52.3	+0.8
	baz=331						
CHN4				*e*S	Sn	08 59 18.5	+1.4
	baz=331						
ALS	**Alishan**	**2.13**	**338**	*e*P	Pn	08 58 53.7	+1.1
	baz=338						
ALS				*e*S	Sn	08 59 20.6	+1.4
	baz=338						
SCLT	**Jiali**	**2.13**	**321**	*e*P	Pn	08 58 53.2	+0.9
	baz=320						
SCLT				*e*S	Sn	08 59 18.6	0.0
	baz=320						
CHN5	**Tsauling**	**2.26**	**336**	*e*P	Pn	08 58 54.8	+0.7
	baz=336						
WDT	**Danda**	**2.27**	**348**	*e*P	Pn	08 58 52.5	-2.1
	baz=347						
WDT				*e*S	Sn	08 59 24.2	+1.6
	baz=347						
TYC	**Yuchr**	**2.48**	**343**	*e*P	Pn	08 58 57.9	+1.0
	baz=342						
PNG	**Penghu**	**2.82**	**317**	*e*P	Pn	08 59 01.1	-0.2
	baz=316						

*MOS **23** 09:28:49.4±1.3, 50°.24N×157°.73E, h49km, mb4.2/1, Error ellipse: s-maj=36.8km s-min=12.7km az=80.4*
KRSC 23 09:28:49.4±2.1, 50°.24N×157°.73E, h49km±25km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.12**	**294**	*e*P	Pn	09 29 02.9	+0.2
SKR				*e*S	Sn	09 29 21.3	-1.7
SKR	**Severo-Kuril's**	**1.12**	**294**	*e*PN	Pn	09 29 03.0	-5.7
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
PAU	**Pauzhetka**	**1.36**	**335**	*e*P	Pn	09 29 14.0	+2.1
PAU				*e*S	Sn	09 29 29.9	+1.1
PAU	**Pauzhetka**	**1.36**	**335**	PN	Pn	09 29 14.0	+2.1
PAU				S	Sn	09 29 29.9	+1.1
MIPR	**Malaya Ipel'ka**	**2.13**	**344**	*e*P	Pn	09 29 25.5	+3.0
ASAK	**Asacha**	**2.15**	**3**	*e*P	Pn	09 29 25.8	+2.9
ASAK				*e*S	Sn	09 29 51.3	+2.9
RUS	**Russkaya**	**2.25**	**12**	*e*P	Pn	09 29 26.8	+2.7
RUS				*e*S	Sn	09 29 52.7	+2.1
RUS	**Russkaya**	**2.25**	**12**	PN	Pn	09 29 26.8	+2.7
RUS				S	Sn	09 29 52.7	+2.1
MTVR	**Mutnovka**	**2.26**	**7**	*e*P	Pn	09 29 27.1	+3.0
MTVR				*e*S	Sn	09 29 53.8	+2.5
GRL	**Gorelyy**	**2.32**	**5**	*e*P	Pn	09 29 29.0	+3.7
APC	**Apacha**	**2.71**	**353**	*e*P	Pn	09 29 33.9	+3.5
PET	**Petropavlovsk**	**2.85**	**11**	*e*P	Pn	09 29 35.3	+3.0
PET				*e*S	Sn	09 30 07.3	+2.0
PET	**Petropavlovsk**	**2.85**	**11**	PN	Pn	09 29 35.3	+3.0
PET				S	Sn	09 30 07.3	+2.0
UGLR	**Uglovaya**	**3.05**	**13**	*e*P	Pn	09 29 39.8	+4.5
AVH	**Avacha**	**3.09**	**11**	*e*P	Pn	09 29 40.3	+4.5
KOK	**Koryaka**	**3.11**	**10**	*e*P	Pn	09 29 40.6	+4.6
SDLR	**Sedlovina**	**3.13**	**13**	*e*P	Pn	09 29 39.6	+3.3
KRER	**Koryakskii**	**3.13**	**11**	*e*P	Pn	09 29 40.7	+4.2
KRER				*e*S	Sn	09 30 17.6	+4.8
KRX	**Arik**	**3.17**	**10**	*e*P	Pn	09 29 41.3	+4.3
KRX				*e*S	Sn	09 30 18.6	+4.9
SPN	**Mys Shipunski**	**3.20**	**26**	*e*P	Pn	09 29 40.0	+2.9
SPN	**Mys Shipunski**	**3.20**	**26**	PN	Pn	09 29 40.0	+2.9
GNL	**Ganaly**	**3.46**	**2**	*e*P	Pn	09 29 45.1	+4.2
MKZ	**Mys Kozlova**	**4.97**	**28**	*e*P	Pn	09 30 04.3	+2.9
MKZ	**Mys Kozlova**	**4.97**	**28**	PN	Pn	09 30 04.3	+2.9
TUMR	**Tumrok**	**5.26**	**15**	*e*P	Pn	09 30 09.7	+4.1
KBTR	**Krutoberegovo**	**6.71**	**25**	*e*P	Pn	09 30 28.9	+3.6
KBTR	**Krutoberegovo**	**6.71**	**25**	PN	Pn	09 30 28.9	+3.6
BKI	**Bering**	**7.05**	**42**	*e*P	Pn	09 30 33.3	+3.4
BKI	**Bering**	**7.05**	**42**	PN	Pn	09 30 33.3	+3.4

*IDC **23** 09:46:08.3±1.1, 12°.29S×165°.63E, h0km, mb4.3/13, mb1 4.4/13, mb1mx4.1/36, mbtmp4.3/13, MS3.4/4, Ms1 3.4/4, ms1mx2.9/30, Error ellipse: s-maj=41.8km s-min=18.5km az=126.0*
*ISCJB **23** 09:46:11.5±0.6, 12°.29S±0°.08×165°.58E±0°.08, h33km, mb4.3/16, MS3.4/4, Error ellipse: s-maj=11.7km s-min=10.5km az=156.4*
*NEIC **23** 09:46:13.9±0.6, 12°.23S×165°.59E, h35km, mb4.3/7, Error ellipse: s-maj=17.2km s-min=8.6km az=133.0*
ISC 23 09:46:13.7±0.7, 12°.3S±0°.1×165°.6E±0°.1, h35km, n33, σ0°.86/35, mb4.3/16, MS3.5/4, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.26**	**296**	P	**Pn**	**09 47 44.0**	**+0.4**
HNR				S	**Sn**	**09 48 54.0**	**-0.1**
HNR	**Honiara**	**6.26**	**296**	*e*Pn	**Pn**	**09 47 43.9**	**+0.2**
	117nm,0.6s						
EIDS	**Eidsvold**	**18.92**	**224**	*e*P	**Pn**	**09 50 33.5**	**+1.1**
	20nm,1.3s						
CTA	**Charters Tower**	**20.15**	**245**	P	**P**	**09 50 45.6**	**+0.6**
	11nm,0.9s,baz=63,slow=11,SNR=7.0						
CTAO	**Charters Tower**	**20.15**	**245**	*e*P	**P**	**09 50 45.2**	**+0.2**
	14nm,1.1s						
COEN	**Coen**	**21.93**	**263**	*e*P	**P**	**09 51 05.0**	**+0.6**
	15nm,0.9s						
STKA	**Stephens Creek**	**29.48**	**225**	P	**P**	**09 52 12.8**	**-1.7**
	4.2nm,0.9s,baz=3.0,slow=16,SNR=3.1						
STKA				LR	LR	10 03 09.5	
	comp=Z,134nm,19.7s,baz=29,slow=35						
STKA	**Stephens Creek**	**29.48**	**225**	*e*P	**P**	**09 52 14.6**	**+0.1**
	2.2nm,1.2s						
WRAB	**Tennant Creek**	**30.96**	**252**	*e*P	**P**	**09 52 26.8**	**-1.0**
	4.5nm,0.9s						
WRA	**Warramunga Arr**	**30.97**	**252**	P	**P**	**09 52 27.1**	**-0.8**
	3.3nm,0.7s,baz=85,slow=9.0,SNR=28						
WRA				PcP	**PcP**	**09 55 24.1**	**+0.4**
	1.1nm,0.9s,baz=79,slow=3.3,SNR=6.9						
AS31	**Alice Springs**	**32.15**	**245**	*e*P	**P**	**09 52 37.0**	**-1.3**
ASAR	**Alice Springs**	**32.15**	**245**	P	**P**	**09 52 36.9**	**-1.4**
	5.7nm,0.8s,baz=71,slow=9.3,SNR=59						
ASAR				PcP	**PcP**	**09 55 26.9**	**0.0**
	1.4nm,0.9s,baz=63,slow=2.7,SNR=8.4						
ASAR				LR	LR	10 04 49.3	
	comp=Z,109nm,18.6s,baz=104,slow=35						
GUMO	**Guam**	**32.94**	**321**	LR	LR	10 07 09.7	
	comp=Z,24nm,18.2s,baz=110,slow=38						
PPT	**Papeete**	**43.52**	**103**	LR	LR	10 08 44.0	
	comp=Z,45nm,19.0s,baz=341,slow=31						
MJAR	**Matsushiro Arr**	**55.02**	**333**	P	**P**	**09 55 40.3**	**-1.5**
	1.7nm,0.8s,baz=168,slow=8.1,SNR=4.0						
MAJO	**Matsushiro**	**55.02**	**333**	*e*P	**P**	**09 55 40.7**	**-1.1**
	6.8nm,0.8s						
USRK	**Ussuriysk Ar.**	**64.00**	**334**	P	**P**	**09 56 43.5**	**-0.1**
	2.2nm,0.8s,baz=118,slow=6.0,SNR=4.5						
PETK	**Petropavlovsk-**	**65.49**	**355**	P	**P**	**09 56 53.3**	**+0.2**
	2.8nm,0.8s,baz=150,slow=9.9,SNR=6.4						
CMAR	**Chiang Mai Arr**	**72.51**	**294**	P	**P**	**09 57 39.0**	**+1.5**
	4.4nm,0.8s,baz=122,slow=4.4,SNR=17						
SEY	**Seymchan**	**75.69**	**354**	P	**P**	**09 57 55.1**	**+0.1**
	2.9nm,0.8s,baz=162,slow=7.3,SNR=8.6						
SONM	**Songino Array**	**79.60**	**324**	P	**P**	**09 58 17.7**	**+0.3**
	0.8nm,0.9s,baz=140,slow=4.9,SNR=5.4						
BILL	**Bilibino**	**80.12**	**0**	*e*P	**P**	**09 58 19.5**	**-0.1**
COLA	**College**	**84.50**	**18**	*e*P	**P**	**09 58 43.2**	**+0.7**
	2.2nm,0.8s						
ILAR	**Eielson Array**	**84.72**	**18**	P	**P**	**09 58 43.1**	**-0.6**
	1.5nm,1.0s,baz=221,slow=6.5,SNR=10.0						
MKAR	**Makanchi Array**	**94.35**	**317**	P	**P**	**09 59 30.0**	**+0.2**
	2.8nm,0.8s,baz=93,slow=2.7,SNR=16						
ZALV	**Zalesovo Beam**	**94.49**	**324**	P	**P**	**09 59 28.6**	**-1.6**
	1.3nm,0.7s,baz=108,slow=4.8,SNR=4.6						
ARCES	**ARCESS Array B**	**117.50**	**345**	PKP	**PKPdf**	**10 04 56.3**	**+1.1**
	2.3nm,0.8s,baz=78,slow=1.9,SNR=10						
FINES	**FINESS Array B**	**122.88**	**338**	PKP	**PKPdf**	**10 05 07.4**	**+1.7**
	0.9nm,0.8s,baz=47,slow=6.1,SNR=3.4						
AKASG	**Malin Array Be**	**127.83**	**326**	PKP	**PKPdf**	**10 05 15.3**	**-0.2**
	0.4nm,0.6s,baz=56,slow=2.2,SNR=4.4						
GERES	**GERESS Array B**	**136.76**	**333**	PKP	**PKPdf**	**10 05 32.6**	**0.0**
	0.3nm,0.5s,baz=277,slow=2.2,SNR=4.8						
KEST	**Kesra**	**148.32**	**321**	PKPbc	**PKPbc**	**10 05 56.7**	**-0.2**
	1.7nm,0.9s,baz=222,slow=4.1,SNR=5.5						
ESDC	**Sonseca Array**	**151.21**	**343**	PKPbc	**PKPbc**	**10 06 04.0**	**+0.2**
	0.4nm,0.6s,baz=14,slow=2.9,SNR=7.4						
TORD	**Torodi Ar. Bea**	**164.31**	**275**	PKP	**PKPdf**	**10 06 14.6**	**0.0**
	0.9nm,0.9s,baz=158,slow=0.8,SNR=4.7						
TORD				PKPab	**PKPab**	**10 07 09.2**	**+0.3**
	1.2nm,0.9s,baz=66,slow=3.6,SNR=5.9						

*NNC **23** 10:10:04.0±1.1, 40°.97N×69°.98E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=14.1km s-min=8.0km az=113.0*
ISC 23 10:10:04.3±1.4, 41°.05N±0°.07×70°.11E±0°.10, h10km, n12, σ1°.05/12, 5C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**2.07**	**8**	Pg	**Pb**	**10 10 42.5**	**+0.5**
	12nm,0.5s,baz=202,slow=15,SNR=117						
KK31				⇓Lg	Lg	10 11 12.1	
	54nm,0.5s,baz=202,slow=25,SNR=5.3						
MNAS	**Manas**	**2.30**	**51**	⇑Pn	**Pb**	**10 10 46.5**	**+0.5**
	9.7nm,0.7s						
MNAS				⇑Lg	Lg	10 11 21.9	
	18nm,0.6s						
DZET	**Dzherino**	**2.45**	**204**	⇑Pn	**Pn**	**10 10 44.3**	**-0.1**
	14nm,0.7s						
DZET				⇓Lg	Lg	10 11 16.9	
	42nm,0.5s						
SFK	**Sufi-Kurgan**	**2.79**	**111**	⇑Pg	**Pb**	**10 10 54.7**	**+0.3**
	9.1nm,1.0s						
SFK				⇑Lg	Lg	10 11 33.3	
	27nm,0.9s						
AML	**Almayashu**	**2.90**	**67**	P	**Pg**	**10 11 01.3**	**+1.4**
	SNR=14						
EKS2	**Erkin-Say**	**3.18**	**58**	P	**Pg**	**10 11 05.7**	**+0.4**
	SNR=14						
UCH	**Uchtor**	**3.51**	**69**	P	**Pg**	**10 11 11.8**	**+0.3**
	SNR=11						
AAK	**Ala-Archa**	**3.64**	**63**	P	**Pg**	**10 11 14.1**	**0.0**
	SNR=10.0						
USP	**Ospenovka**	**3.95**	**54**	P	**Pg**	**10 11 19.2**	**-0.7**
	SNR=7.5						
CHMS	**Chumysh**	**3.97**	**59**	P	**Pg**	**10 11 19.0**	**-1.4**
	SNR=5.2						
TKM2	**Tokmak 2**	**4.50**	**64**	P	**Pg**	**10 11 28.8**	**-1.7**
	SNR=5.9						
TKM2	**Tokmak 2**	**4.50**	**64**	⇓Pg	**Pg**	**10 11 29.1**	**-1.3**
	3.6nm,0.6s						
TKM2				⇓Lg	Lg	10 12 32.5	
	13nm,0.6s						

*IDC **23** 10:20:36.7±0.8, 22°.

WTP					*e*S		**Sn**	**10 20 57.5**	**-1.1**
	baz=355								
TTN	**Taitung**	**0.45**	**99**	*i* P			**Pn**	**10 20 51.2**	**-0.7**
	baz=89								
TTN				*i* S			**Sn**	**10 20 59.3**	**+0.3**
	baz=89								
SCZT	**Fangliau**	**0.45**	**186**	⇑*i* P			**Pb**	**10 20 50.2**	**-0.6**
	baz=181								
SCZT				*e*S			**Sb**	**10 20 56.7**	**-0.5**
	baz=181								
TAI1	**Yung-k'ang**	**0.46**	**298**	P			**Pn**	**10 20 51.7**	**-0.4**
	baz=299								
EAST	**Anshuo**	**0.47**	**159**	⇑*i* P			**Pb**	**10 20 50.8**	**-0.3**
	baz=153								
EAST				*i* S			**Sb**	**10 20 57.7**	**0.0**
	baz=153								
TWK	**Hsinying**	**0.47**	**339**	⇑*i* P			**Pb**	**10 20 50.9**	**-0.3**
	baz=352								
TWK				*e*S			**Sn**	**10 20 59.3**	**-0.6**
	baz=352								
TPUB	**Ta-pu**	**0.48**	**356**	*e*Pg			**Pb**	**10 20 50.5**	**-0.8**
TPUB				*e*Sg			**Sn**	**10 21 00.1**	**+0.2**
ELDTW	**Lidau**	**0.49**	**41**	P			**Pb**	**10 20 51.1**	**-0.4**
	baz=53								
ELDTW				*e*S			**Sb**	**10 20 58.5**	**+0.1**
	baz=53								
TAW	**Tawu**	**0.51**	**156**	⇑*i* P			**Pb**	**10 20 51.5**	**-0.3**
	baz=150								
TAW				*i* S			**Sb**	**10 20 58.8**	**0.0**
	baz=150								
CHN4	**Tsaushan**	**0.53**	**352**	P			**Pb**	**10 20 51.7**	**-0.5**
	baz=353								
CHN4				*i* S			**Sn**	**10 21 01.4**	**+0.2**
	baz=353								
TWP	**Hsiaoliuchiu**	**0.55**	**211**	*e*P			**Pn**	**10 20 54.3**	**+1.0**
	baz=209								
TWP				*e*S			**Sn**	**10 21 05.2**	**+3.5**
	baz=209								
SCLT	**Jiali**	**0.56**	**309**	*i* P			**Pn**	**10 20 52.9**	**-0.6**
	baz=310								
SCLT				*i* S			**Sn**	**10 21 02.8**	**+0.9**
	baz=310								
CHN8	**Yiju**	**0.67**	**321**	⇑*i* P			**Pb**	**10 20 54.2**	**-0.3**
	baz=323								
CHN8				*e*S			**Sn**	**10 21 05.0**	**+0.4**
	baz=323								
ALS	**Alishan**	**0.70**	**10**	*e*P			**Pb**	**10 20 54.7**	**-0.4**
	baz=5.0								
ALS				*e*S			**Sn**	**10 21 05.7**	**0.0**
	baz=5.0								
CHKT	**Chengkung**	**0.70**	**67**	P			**Pn**	**10 20 55.0**	**-0.4**
	baz=79								
CHY	**Chiayi**	**0.71**	**341**	⇑*i* P			**Pn**	**10 20 55.2**	**-0.3**
	baz=343								
CHY				*e*S			**Sn**	**10 21 05.7**	**+0.1**
	baz=343								
YUS	**Yu-Shan**	**0.71**	**21**	⇓P			**Pn**	**10 20 55.5**	**-0.5**
	baz=22								
YUS				*e*S			**Sn**	**10 21 06.0**	**-0.3**
	baz=22								
CHN2	**Minshiung**	**0.73**	**346**	⇑*i* P			**Pn**	**10 20 55.6**	**-0.2**
	baz=347								
CHN2				S			**Sn**	**10 21 07.3**	**+1.3**
	baz=347								
CHN5	**Tsauling**	**0.77**	**1**	⇑*i* P			**Pn**	**10 20 56.1**	**-0.4**
	baz=1.0								
CHN5				*e*S			**Sn**	**10 21 07.9**	**+0.7**
	baz=1.0								
TWF1	**Yuli**	**0.78**	**47**	⇓*i* P			**Pn**	**10 20 56.2**	**-0.4**
	baz=48								
TWF1				*e*S			**Sn**	**10 21 08.7**	**+1.3**
	baz=48								
YULB	**Yu-li**	**0.81**	**45**	*e*Pg			**Pb**	**10 20 56.0**	**-0.8**
YULB				*e*Sg			**Sn**	**10 21 07.9**	**-0.2**
HEN	**Hengchun**	**0.81**	**176**	⇑*e*P			**Pn**	**10 20 57.2**	**+0.3**
	baz=165								
HEN				*i* S			**Sn**	**10 21 09.9**	**+1.8**
	baz=165								
WGK	**Gukeng**	**0.87**	**353**	P			**Pn**	**10 20 57.7**	**0.0**
	baz=355								
WGK				*e*S			**Sn**	**10 21 11.3**	**+1.8**
	baz=355								
TWK1	**Hengchun**	**0.88**	**172**	⇓P			**Pn**	**10 20 58.0**	**+0.1**
	baz=170								
TWK1				*e*S			**Sn**	**10 21 11.5**	**+1.7**
	baz=170								
EHY	**Hungye**	**0.91**	**41**	P			**Pn**	**10 20 58.1**	**-0.2**
	baz=47								
EHY				S			**Sn**	**10 21 10.1**	**-0.4**
	baz=47								
WSF	**Szhu**	**0.91**	**333**	*e*P			**Pb**	**10 20 57.8**	**-0.7**
	baz=334								
WSF				*e*S			**Sn**	**10 21 11.5**	**+1.0**
	baz=334								
TSEB	**Hengchuen, Pin**	**0.94**	**167**	*e*P			**Pn**	**10 20 58.8**	**+0.1**
	baz=168								
TSEB				*i* S			**Sn**	**10 21 13.9**	**+2.7**
	baz=168								
SSLB	**Suanglung**	**1.00**	**15**	*e*Pn			**Pn**	**10 20 59.5**	**0.0**
SSLB				*e*Sg			**Sn**	**10 21 14.3**	**+1.6**
WDGT	**Dungji**	**1.03**	**295**	⇑*i* P			**Pn**	**10 20 58.7**	**-1.2**
	baz=296								
WNT	**Mingjian**	**1.05**	**1**	*e*P			**Pb**	**10 21 00.3**	**-0.6**
	baz=2.0								
WNT				*e*S			**Sn**	**10 21 15.7**	**+1.7**
	baz=2.0								
SMLT	**Sun Moon Lake**	**1.08**	**11**	*e*P			**Pb**	**10 21 01.4**	**0.0**
	baz=12								
SMLT				*i* S			**Sn**	**10 21 16.8**	**+2.0**
	baz=12								
TYC	**Yuchr**	**1.09**	**9**	⇑P			**Pb**	**10 21 01.4**	**-0.2**
	baz=10.0								
TYC				*e*S			**Sn**	**10 21 16.9**	**+2.0**
	baz=10.0								
WTCT	**Ta-ch'eng**	**1.10**	**341**	*e*P			**Pn**	**10 21 00.6**	**-0.2**
	baz=342								
WTCT				*e*S			**Sn**	**10 21 16.1**	**+1.0**
	baz=342								
LAY	**Lan-yu**	**1.13**	**134**	*e*P			**Pn**	**10 20 59.4**	**-2.0**
	baz=133								
ESL	**Shilin**	**1.21**	**35**	P			**Pb**	**10 21 03.2**	**-0.3**
	baz=36								
ESL				*e*S			**Sb**	**10 21 20.6**	**+1.8**
	baz=36								
PNG	**Penghu**	**1.27**	**306**	⇑*i* P			**Pn**	**10 21 02.1**	**-1.1**
	baz=307								
TCU	**Taichung**	**1.32**	**0**	*e*P			**Pb**	**10 21 04.3**	**-1.1**
	baz=360								
WHF	**Hehuan Shan**	**1.43**	**22**	P			**Pb**	**10 21 07.3**	**-0.2**
	baz=33								
WHF				*e*S			**Sb**	**10 21 26.3**	**+0.9**
	baz=33								
HWA	**Hwalien**	**1.44**	**37**	*e*P			**Pb**	**10 21 06.8**	**-0.6**
	baz=30								
HWA				*e*S			**Sb**	**10 21 28.5**	**+3.2**
	baz=30								
TWT	**Tachien**	**1.50**	**18**	*e*P			**Pb**	**10 21 07.3**	**-1.3**
	baz=18								
TWT				*e*S			**Sb**	**10 21 27.2**	**-0.1**
	baz=18								
TWD	**Chiawan**	**1.51**	**34**	*e*P			**Pb**	**10 21 07.7**	**-1.0**
	baz=35								
TWD				*e*S			**Sb**	**10 21 29.1**	**+1.6**
	baz=35								
TWQ1	**Liyutan**	**1.52**	**4**	*e*P			**Pb**	**10 21 07.6**	**-1.3**
	baz=3.0								
NSY	**Sanyi**	**1.59**	**3**	*e*P			**Pn**	**10 21 08.4**	**+0.7**
	baz=346								
NACB	**Ninganchiao**	**1.59**	**32**	*e*Pn			**Pn**	**10 21 08.1**	**+0.5**
NACB				*e*Sn			**Sb**	**10 21 31.3**	**+1.5**
NNS	**Nan Shan**	**1.74**	**22**	*e*P			**Pb**	**10 21 10.7**	**-1.9**
	baz=23								
NNS				*e*S			**Sb**	**10 21 33.0**	**-1.0**
	baz=23								
NSTT	**Nanjuang**	**1.83**	**10**	*e*P			**Pn**	**10 21 11.6**	**+0.7**
	baz=352								
ENA	**Nanau**	**1.88**	**31**	P			**Pn**	**10 21 12.6**	**+1.0**
	baz=30								
YHNB	**Yeheng**	**1.95**	**19**	*e*Pn			**Pb**	**10 21 14.4**	**-1.8**
YHNB				*e*Sn			**Sb**	**10 21 41.5**	**+1.4**
NSK	**Sanguang**	**1.95**	**19**	*e*P			**Pb**	**10 21 14.4**	**-1.8**
	baz=20								
NSK				*e*S			**Sb**	**10 21 39.2**	**-0.9**
	baz=20								
ENTT	**Nioudou**	**1.99**	**24**	*e*P			**Pb**	**10 21 15.6**	**-1.3**
	baz=26								
ENTT				*e*S			**Sb**	**10 21 41.4**	**+0.2**
	baz=26								
TWC	**Suao**	**2.08**	**31**	*e*P			**Pn**	**10 21 15.9**	**+1.5**
	baz=32								
TWC				*e*S			**Sb**	**10 21 42.1**	**-1.7**
	baz=32								
TWE	**Neicheng**	**2.10**	**26**	*e*P			**Pb**	**10 21 16.5**	**-2.2**
	baz=15								
TWE				*e*S			**Sb**	**10 21 45.0**	**+0.7**
	baz=15								
TATO	**Taipei**	**2.27**	**19**	*e*Pn			**Pb**	**10 21 20.8**	**-0.9**
TATO				*e*Sg			**Sb**	**10 21 54.1**	**+4.9**
TWA	**Mucha**	**2.31**	**21**	*e*P			**Pb**	**10 21 20.6**	**-1.6**
	baz=23								
TWA				*e*S			**Sb**	**10 21 48.9**	**-1.5**
	baz=23								
EGS		**2.32**	**30**	*e*P			**Pb**	**10 21 20.3**	**-2.2**
	baz=29								
TWS1	**Kuangyinshan**	**2.37**	**17**	*e*P			**Pb**	**10 21 23.2**	**-0.1**
	baz=18								
NWF	**Wu-fen Shan**	**2.46**	**24**	*e*P			**Pn**	**10 21 21.2**	**+1.6**
	baz=7.0								
TWB1	**Santiao Chiao**	**2.49**	**29**	*e*P			**Pn**	**10 21 20.5**	**+0.5**
	baz=28								
KNM	**Kinmen**	**2.59**	**308**	*e*P			**Pn**	**10 21 21.8**	**+0.3**
	baz=307								
JYNG	**Yonaguni jima**	**2.64**	**52**	P			**Pn**	**10 21 24.0**	**+1.9**
JYNG				S			**Sb**	**10 21 56.6**	**-3.4**
YOJ	**Yonaguni jima**	**2.70**	**52**	P			**Pn**	**10 21 24.6**	**+1.8**
YOJ				S			**Sn**	**10 21 57.4**	**+2.8**
YOJ	**Yonaguni jima**	**2.70**	**52**	*e*P			**Pn**	**10 21 24.6**	**+1.8**
	baz=52								
YOJ	**Yonaguni jima**	**2.70**	**52**	*e*Pn			**Pn**	**10 21 24.8**	**+1.9**
QZH	**Quanzhou**	**2.84**	**318**	Pn			**Pn**	**10 21 24.1**	**-0.8**
QZH				Sn			**Sn**	**10 22 00.3**	**+2.1**
QZH				smax		smax			
	comp=N,310nm,1.0s								
QZH				smax		smax			
	comp=E,280nm,0.8s								
HATJ	**Hateruma jima**	**3.13**	**66**	P			**Pn**	**10 21 30.4**	**+1.6**
HATJ				*e*S			**Sn**	**10 22 06.9**	**+1.6**
IRIF	**Iriomote-Funau**	**3.19**	**61**	P			**Pn**	**10 21 31.6**	**+2.0**
IRIF				S			**Sn**	**10 22 09.4**	**+2.7**
JKRS	**Kuro-shima**	**3.37**	**65**	P			**Pn**	**10 21 33.5**	**+1.3**
JKRS				S			**Sn**	**10 22 13.1**	**+1.8**
JIJ	**Ishigaki jima**	**3.54**	**64**	P			**Pn**	**10 21 35.2**	**+0.8**
JIJ				S			**Sn**	**10 22 16.3**	**+1.0**
JISG	**Ishigakijimahi**	**3.77**	**62**	P			**Pn**	**10 21 38.4**	**+0.8**
JISG				*e*S			**Sn**	**10 22 22.2**	**+1.1**
JTJ	**Tarama**	**4.12**	**63**	P			**Pn**	**10 21 43.4**	**+1.0**
JTJ				*e*S			**Sn**	**10 22 31.4**	**+1.8**
JIRB	**Irabujima**	**4.58**	**63**	P			**Pn**	**10 21 50.1**	**+1.3**
JIRB				*e*S			**Sn**	**10 22 41.9**	**+0.8**
JMJ	**Miyako jima 2**	**4.68**	**64**	P			**Pn**	**10 21 51.9**	**+1.8**
JIKM	**Ikemajima**	**4.68**	**63**	P			**Pn**	**10 21 51.7**	**+1.5**
JOGS	**Gusukube**	**4.75**	**65**	P			**Pn**	**10 21 52.8**	**+1.7**
JKE	**Kume jima 2**	**6.57**	**57**	P			**Pn**	**10 22 16.7**	**+0.6**
CD2	**Chengdu**	**17.09**	**302**	*e*P			**P**	**10 24 40.0**	**+0.1**
MJAR	**Matsushiro Arr**	**20.43**	**44**	P			Pn	10 25 18.5	-0.1
	comp=E,27nm,0.7s,baz=227,slow=8.6,SNR=12								
CMAR	**Chang Mai Arr**	**20.79**	**262**	LR			LR	10 34 33.8	
	comp=E,84nm,18.7s,baz=110,slow=40								
USRK	**Ussuriysk Ar.**	**23.27**	**21**	LR			LR	10 36 09.1	
	comp=E,35nm,18.7s,baz=159,slow=40								
SONM	**Songino Array**	**27.45**	**339**	P			**P**	**10 26 26.7**	**+1.7**
	comp=E,0.5nm,0.7s,baz=161,slow=9.4,SNR=3.7								
SONM				LR			LR	10 38 28.8	
	comp=E,79nm,19.0s,baz=108,slow=39								
MKAR	**Makanchi Array**	**39.00**	**317**	P			**P**	**10 28 05.9**	**+0.6**
	comp=E,0.7nm,0.7s,baz=130,slow=5.7,SNR=5.9								
ZALV	**Zalesovo Beam**	**41.14**	**328**	P			**P**	**10 28 24.2**	**+1.3**
	comp=E,0.6nm,0.4s,baz=108,slow=7.7,SNR=3.3								
ZALV				LR			LR	10 46 32.6	
	comp=E,21nm,19.9s,baz=70,slow=38								
H11N1	**WAKE ISLAND Hy**	**43.05**	**85**	T			T	11 14 20.6	
	baz=283,slow=74,SNR=4.8								
H11N2	**WAKE ISLAND Hy**	**43.05**	**85**	T			T	11 14 21.1	
	baz=283,slow=74,SNR=7.0								
H11N3	**WAKE ISLAND Hy**	**43.07**	**85**	T			T	11 14 22.4	
	baz=283,slow=74,SNR=7.9								
H11S3	**WAKE ISLAND Hy**	**43.14**	**87**	T			T	11 14 35.4	
	baz=284,slow=74,SNR=18								
H11S1	**WAKE ISLAND Hy**	**43.15**	**87**	T			T	11 14 23.6	
	baz=284,slow=74,SNR=7.9								
H11S2	**WAKE ISLAND Hy**	**43.16**	**87**	T			T	11 14 26.7	
	baz=284,slow=74,SNR=8.5								
WRAB	**Tennant Creek**	**44.54**	**162**	*e*P			**P**	**10 28 48.6**	**-2.2**
	comp=E,4.4nm,1.0s								
WRA	**Warrnunga Arr**	**44.55**	**162**	P			**P**	**10 28 48.6**	**-2.3**
	comp=E,2.2nm,0.8s,baz=343,slow=8.3,SNR=18								
ASAR	**Alice Springs**	**47.97**	**164**	P			**P**	**10 29 16.6**	**-1.1**
	comp=E,0.5nm,0.3s,baz=339,slow=7.2,SNR=44								
STKA	**Stephens Creek**	**57.96**	**159**	P			**P**	**10 30 28.8**	**-2.6**
	comp=E,2.6nm,1.0s,baz=297,slow=6.8,SNR=3.0								
STKA	**Stephens Creek**	**57.96**	**159**	*e*P			**P**	**10 30 30.4**	**-1.0**
	comp=E,16nm,2.2s								
ILAR	**Eielson Array**	**70.64**	**27**	P			**P**	**10 31 55.1**	**+1.1**
	comp=E,0.3nm,0.8s,baz=282,slow=7.0,SNR=5.0								
FINES	**FINESS Array B**	**72.38**	**330**	P			**P**	**10 32 04.9**	**+0.3**
	comp=E,1.1nm,1.0s,baz=95,slow=9.6,SNR=3.7								
INK	**Inuvik**	**74.66**	**22**	*e*P			**P**	**10 32 17.5**	**-0.3**
	comp=E,3.2nm,1.1s								
YKA	**Yellowknife Ar**	**84.40**	**23**	P			**P**	**10 33 10.6**	**-0.3**
	comp=E,0.4nm,0.5s,baz=310,slow=4.6,SNR=7.3								

TRN 23 10:37:32.2,13°.99N×60°.44W,h28km,MD3.6,M3.2(FDF), 6C-6D,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLW	**Petit Monier**	**0.48**	**274**	⇓*i* P	Pn	10 37 45.3	+2.0
MCLT	**Moule a Chique**	**0.56**	**240**	⇓*i* P	Pn	10 37 45.5	+1.2
MCLT				*e*S	Sn	10 37 54.7	+2.1
MVM	**Montagne Vaucl**	**0.71**	**322**	⇑*i* P	Pn	10 37 47.8	+1.2
LPMF	**Morne Lapointe**	**0.77**	**319**	*e*P	Pn	10 37 48.5	+1.2
TRMF	**Trois Ilets**	**0.80**	**313**	*e*P	Pn	10 37 48.9	+1.2
BIM	**Bigot**	**0.81**	**311**	*e*P	Pn	10 37 49.4	+1.6
BIM				*e*S	Sn	10 38 00.8	+2.0
ZAM	**Aeronautique**	**0.81**	**316**	⇓*i* P	Pn	10 37 49.1	+1.3
SVV	**Soufriere Volc**	**1.00**	**229**	⇓*e*P	Pb	10 37 52.3	+1.3
SVV				*e*S	Sb	10 38 04.7	+0.9
FDF	**Fort de France**	**1.01**	**317**	⇑*i* P	Pb	10 37 51.5	+0.3
FDF				*e*S	Sb	10 38 05.1	+1.0
SVB	**Belmont**	**1.06**	**228**	⇓*i* P	Pb	10 37 52.4	+0.5
SVB				*e*S	Sb	10 38 06.6	+1.2
SVN	**Savane Anatole**	**1.10**	**321**	*e*P	Pb	10 37 53.1	+0.4
FCV	**Fort Charlotte**	**1.13**	**223**	⇓*i* P	Pb	10 37 53.7	+0.6
FCV				*e*S	Sb	10 38 09.0	+1.5
DLPL	**La Plaine**	**1.55**	**330**	*e*P	Pn	10 37 58.5	+0.6
DLPL				*e*S	Sb	10 38 18.9	-0.6
BBL	**Barber's Block**	**1.82**	**327**	*e*P	Pn	10 38 02.5	+0.7
GRSS	**Sisters**	**2.03**	**214**	*e*P	Pn	10 38 05.9	+1.4
GRSS				*e*S	Sb	10 38 31.4	-1.8
MGG	**Marie-Galante**	**2.10**	**336**	⇑*i* P	Pn	10 38 05.7	+0.2
GRHS	**Sauteurs**	**2.10**	**214**	*e*P	Pn	10 38 06.5	+0.9
GRHS				*e*S	Sn	10 38 33.0	+2.1
GRW	**Mount Saint Ca**	**2.17**	**213**	*e*P	Pn	10 38 07.8	+1.2
GRW				*e*S	Sn	10 38 34.0	+1.3
GRGR	**Grenville**	**2.19**	**213**	⇑*e*P	Pn	10 38 08.1	+1.3
TBG	**Guadaloupe-3**	**2.19**	**328**	*e*P	Pn	10 38 08.1	+1.4
HMG	**Houelmont**	**2.33**	**329**	*e*P	Pn	10 38 10.2	+1.4
DOG	**Dongo Capester**	**2.33**	**331**	*e*P	Pn	10 38 10.2	+1.4
SCG	**Saint Claude**	**2.36**	**330**	*e*P	Pn	10 38 10.2	+1.0
SCG				*e*S	Sn	10 38 38.2	+0.9
LKG	**Breislack**	**2.36**	**330**	*e*P	Pn	10 38 10.6	+1.2
TAG	**Tarade**	**2.36**	**330**	*e*P	Pn	10 38 10.3	+1.1
FNG	**Fond-Bernard**	**2.39**	**330**	*e*P	Pn	10 38 10.5	+0.9
SSG	**Sans Toucher**	**2.41**	**330**	⇑*i* P	Pn	10 38 10.7	+0.7
SEG	**Port Louis**	**2.61**	**337**	⇑*e*P	Pn	10 38 13.7	+1.1
TOSP	**Speyside**	**2.67**	**182**	*e*P	Pn	10 38 14.5	+1.1
TOSP				*e*S	Sn	10 38 46.3	+1.4
TRN	**Trinidad (W)**	**3.45**	**196**	*e*P	Pn	10 38 26.7	+2.6
TRN				*e*S	Sn	10 39 04.5	+0.5
TBH	**Brigand Hill**	**3.53**	**190**	*e*P	Pn	10 38 26.6	+1.4

*LDG **23** 10:45:14.4±0.4, 19°.18N×61°.83W, h10km, Mb4.6/14, Ms3.4/5, Error ellipse: s-maj=27.7km s-min=9.6km az=99.0*
*IDC **23** 10:45:15.7±0.4, 19°.15N×61°.56W, h0km, mb4.3/26, mb1 4.5/28, mb1mx4.4/45, mbtmp4.4/28, ML4.1/2, MS3.4/16, Ms1 3.4/16, ms1mx3.3/32, Error ellipse: s-maj=12.2km s-min=10.7km az=99.0*
*BJI **23** 10:45:17.9, 19°.10N×61°.70W, h10km, mB5.2/1, Ms5.1/3, Ms7 4.7/3*
*NEIC **23** 10:45:17.6±0.1, 19°.14N×61°.64W, h10km, mb4.7/111, MW4.3, Error ellipse: s-maj=2.9km s-min=2.5km az=82.0, Moment Tensor Solution. s14 Moment tensor: Scale 10^{15}Nm; M_{rr}-3.74; $M_{\theta\theta}$1.64; $M_{\phi\phi}$2.10; $M_{r\theta}$-1.08; $M_{\theta\phi}$-1.81; $M_{\phi r}$-0.16; Best double couple: $M_0$3.90000×10^{15} NP1: ϕ_s331.00000°, δ42.00000°, λ-71.00000°. NP2: ϕ_s126.00000°, δ51.00000°, λ-106.00000°. Principal axes: T 3.7400, Plg4.0000°, Azm227.0000°; N 0.2500, Plg12.0000°, Azm136.0000°; P -3.9900, Plg76.0000°, Azm337.0000°;*
*ISCJB **23** 10:45:18.7±1.0, 19°.09N±0°.02×61°.65W±0°.02, h31km±7km, mb4.6/134, MS3.4/15 Error ellipse: s-maj=3.6km s-min=2.6km az=139.9*
*TRN **23** 10:45:18.3, 19°.14N×61°.48W, h37km, MD5.1*
ISC 23 10:45:19.1±1.9, 19°.15N±0°.04×61°.62W±0°.04, h20km±12km, n603, σ0s81/645, mb4.7/134, MS3.5/15, 185C-170D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**1.48**	**186**	⇑*i* P	**Pn**	**10 45 43.5**	**-1.1**
ANWB	**Willy Bob**	**1.48**	**186**	*e*Pn	**Pn**	**10 45 43.4**	**-1.2**
SMRT	**St. Maarten**	**1.76**	**232**	*e*P	**Pn**	**10 45 48.0**	**-0.5**
SMRT	**St. Maarten**	**1.76**	**232**	*e*Pn	**Pn**	**10 45 47.8**	**-0.6**
SMRT				*e*Sn	**Sn**	**10 46 08.5**	**-1.8**
BPA	**Boggy Peak**	**2.10**	**186**	*e*P	**Pn**	**10 45 52.5**	**-0.7**
BPA				*e*S	**Sn**	**10 46 17.9**	**-0.9**
SABA	**Saba**	**2.16**	**226**	*e*P	**Pn**	**10 45 54.5**	**+0.4**
SABA				*e*S	**Sn**	**10 46 22.0**	**+1.7**
SABA	**Saba**	**2.16**	**226**	*e*Pn	**Pn**	**10 45 54.5**	**+0.4**
SABA				*e*Sn	**Sn**	**10 46 20.6**	**+0.3**
MBWH		**2.45**	**193**	⇑*i* P	**Pn**	**10 45 58.3**	**+0.2**
MBWH				*e*S	**Sn**	**10 46 27.7**	**+0.2**
SEG	**Port Louis**	**2.73**	**178**	⇑*i* P	**Pn**	**10 46 01.7**	**-0.1**
H05N1	**Guadeloupe/Mar**	**2.87**	**169**	Pn	**Pn**	**10 46 02.5**	**-1.2**
H05N1				Sn	**Sn**	**10 46 35.2**	**-2.5**
LZG	**Guadaloupe-1**	**2.99**	**183**	⇑*i* P	**Pn**	**10 46 05.5**	**0.0**
SSG	**Sans Toucher**	**3.04**	**181**	⇑*e*P	**Pn**	**10 46 06.1**	**-0.1**
FNG	**Fond-Bernard**	**3.07**	**181**	⇑*e*P	**Pn**	**10 46 06.2**	**-0.4**
CRG	**Carmichael**	**3.08**	**181**	⇑*i* P	**Pn**	**10 46 06.5**	**-0.3**
LKG	**Breislack**	**3.09**	**181**	⇑*i* P	**Pn**	**10 46 06.6**	**-0.3**
LKG				*e*S	**Sn**	**10 46 42.1**	**-1.2**
ECG	**Echelle**	**3.09**	**181**	⇑*i* P	**Pn**	**10 46 06.6**	**-0.3**
TAG	**Tarade**	**3.09**	**181**	⇑*i* P	**Pn**	**10 46 06.8**	**-0.1**
DOG	**Dongo Capester**	**3.10**	**180**	⇑*i* P	**Pn**	**10 46 06.7**	**-0.2**
SCG	**Saint Claude**	**3.10**	**181**	*e*P	**Pn**	**10 46 06.8**	**-0.2**
PHG	**Guadaloupe-2**	**3.12**	**180**	⇑*i* P	**Pn**	**10 46 07.1**	**-0.2**
HMG	**Houelmont**	**3.15**	**181**	*e*P	**Pn**	**10 46 07.8**	**-0.2**
MGG	**Marie-Galante**	**3.23**	**175**	⇑*i* P	**Pn**	**10 46 08.7**	**0.0**
STVI	**Saint Thomas**	**3.26**	**256**	*e*Pn	**Pn**	**10 46 07.7**	**-1.3**
STVI				*e*Sn	**Sn**	**10 46 43.7**	**-3.5**
TBG	**Guadaloupe-3**	**3.28**	**180**	⇑*i* P	**Pn**	**10 46 09.2**	**-0.2**
CDVI	**St. Croix**	**3.29**	**246**	*e*Pn	**Pn**	**10 46 09.2**	**-0.4**
CDVI				*e*Sn	**Sn**	**10 46 47.1**	**-1.0**
BBL	**Barber's Block**	**3.60**	**178**	⇑*i* P	**Pn**	**10 46 13.4**	**-0.5**
DLPL	**La Plaine**	**3.81**	**175**	*e*P	**Pn**	**10 46 17.0**	**+0.3**
DLPL				*e*S	Sn	10 46 57.1	-3.9
MDN	**Morne-Daniel**	**3.81**	**177**	*e*P	**Pn**	**10 46 15.2**	**-1.5**
MDN				*e*S	**Sn**	**10 46 58.5**	**-2.6**
MDN	**Morne-Daniel**	**3.81**	**177**	*e*P	**Pn**	**10 46 15.2**	**-1.5**
MDN				*e*S	**Sn**	**10 46 58.5**	**-2.6**
DBCT	**Belle View Cho**	**3.87**	**176**	*e*P	**Pn**	**10 46 16.3**	**-1.2**
DBCT				*e*S	**Sn**	**10 46 59.4**	**-2.9**
DBCT	**Belle View Cho**	**3.87**	**176**	*e*P	**Pn**	**10 46 16.3**	**-1.2**
DSHT	**Scott's Head**	**3.92**	**177**	*e*P	**Pn**	**10 46 16.7**	**-1.5**
DSHT				*e*S	**Sn**	**10 47 00.8**	**-2.8**
DSHT	**Scott's Head**	**3.92**	**177**	*e*P	**Pn**	**10 46 16.7**	**-1.5**
DSHT				*e*S	Sn	10 46 59.6	-4.0
SVN	**Savane Anatole**	**4.30**	**174**	*e*P	**Pn**	**10 46 23.3**	**-0.3**
FDF	**Fort de France**	**4.41**	**174**	⇑*i* P	**Pn**	**10 46 23.8**	**-1.3**
FDF

JTS			LR	LR	10 59 38.1	
	comp=Z,45nm,18.0s,baz=74,slow=36					
JTS	**JuntasAbangare**	**24.20 252**	*eP*	**P**	**10 50 33.5**	**-1.1**
	19nm,1.3s					
BLA	**Blacksburg**	**24.38 321**	*eP*	**P**	**10 50 36.8**	**+0.7**
	11nm,0.7s					
LUPA	**Lehigh Univers**	**24.42 334**	*eP*	**P**	**10 50 38.2**	**+1.9**
	3.8nm,0.9s					
ODNJ	**Ogdensburg**	**24.52 336**	*eP*	**P**	**10 50 37.5**	**+0.3**
	38nm,1.5s					
ODNJ			*e*		10 50 57.4	
OTAV	**Otavalo**	**25.02 223**	*eP*	**P**	**10 50 44.1**	**+1.7**
	13nm,0.8s					
TEIG	**Tepich**	**25.11 277**	P	**P**	**10 50 43.7**	**+0.9**
	8.6nm,0.6s,baz=95,slow=2.9,SNR=9.7					
KSPA	**Keystone Colle**	**25.39 335**	*eP*	**P**	**10 50 47.1**	**+2.1**
	19nm,1.1s					
TKL	**Tuckaleechee C**	**25.55 315**	P	**P**	**10 50 46.9**	**+0.2**
	4.4nm,0.7s,baz=132,slow=12,SNR=11					
TKL			LR	LR	11 02 10.9	
	comp=Z,107nm,18.3s,baz=156,slow=40					
TKL	**Tuckaleechee C**	**25.55 315**	*eP*	**P**	**10 50 46.4**	**-0.2**
TKL			*e*		10 51 12.9	
TKL			*eS*	S	10 55 30.3	+17
SSPA	**Standing Stone**	**25.56 330**	*eP*	**P**	**10 50 46.9**	**+0.3**
	10.0nm,1.2s					
LRAL	**Lakeview Retre**	**26.57 306**	*eP*	**P**	**10 50 56.7**	**+0.8**
	11nm,1.4s					
ACSO	**Alum Creek Sta**	**27.90 323**	*eP*	**P**	**10 51 08.3**	**+0.5**
	9.7nm,1.0s					
SAML	**Samuel**	**27.96 183**	*eP*	**P**	**10 51 11.0**	**+2.6**
	21nm,1.9s					
WVT	**Waverly**	**28.59 312**	*eP*	**P**	**10 51 12.5**	**-1.5**
	1.7nm,0.8s					
WCI	**Wyandotte Cave**	**28.66 317**	*eP*	**P**	**10 51 15.4**	**+0.7**
	3.5nm,0.9s					
OXF	**Oxford**	**29.01 307**	*eP*	**P**	**10 51 17.9**	**+0.2**
	19nm,1.1s					
BLO	**Bloomington**	**29.35 318**	*eP*	**P**	**10 51 21.2**	**+0.5**
	9.1nm,0.7s					
SADO	**Sadowa**	**29.43 334**	P	**P**	**10 51 21.1**	**-0.2**
	5.7nm,0.7s,baz=173,slow=7.6,SNR=13					
SADO			LR	LR	11 00 49.2	
	comp=Z,81nm,20.1s,baz=49,slow=32					
OLIL	**Olney**	**30.12 316**	*eP*	**P**	**10 51 27.8**	**+0.3**
	4.3nm,0.4s					
SFIN	**Lafayette**	**30.42 320**	⇑P	**P**	**10 51 30.6**	**+0.5**
	baz=30					
PBMO	**Poplar Bluff**	**30.75 311**	*eP*	**P**	**10 51 33.1**	**0.0**
	4.2nm,0.8s					
ATAH	**Atahualpa**	**30.91 214**	P	**P**	**10 51 36.5**	**+1.4**
	9.5nm,0.8s,baz=284,slow=11,SNR=3.9					
339A	**Huntington**	**32.04 299**	⇓P	**P**	**10 51 44.2**	**-0.4**
	baz=32					
239A	**Gary**	**32.15 300**	⇑P	**P**	**10 51 43.9**	**-1.5**
	baz=32					
338A	**Crockett**	**32.67 298**	⇑P	**P**	**10 51 51.0**	**+0.9**
	baz=33					
W38A	**Poteau**	**33.11 305**	⇓P	**P**	**10 51 54.8**	**+0.9**
	baz=33					
137A	**Heron Place, G**	**33.35 301**	⇓P	**P**	**10 51 58.1**	**+2.1**
	baz=33					
X37A	**Clayton**	**33.62 304**	⇑P	**P**	**10 51 58.8**	**+0.4**
	baz=34					
636A	**Smothers Creek**	**33.77 295**	⇓P	**P**	**10 51 59.6**	**-0.1**
	baz=34					
436A	**Wall Ranch, Ga**	**33.79 297**	⇓P	**P**	**10 51 59.6**	**-0.3**
	baz=34					
JFWS	**Jewell Farm**	**33.82 321**	*eP*	**P**	**10 52 00.4**	**+0.4**
	8.2nm,0.8s					
W37A	**Quinton**	**33.84 305**	⇓P	**P**	**10 52 00.3**	**0.0**
	baz=34					
T37A	**Cheneyville 18**	**34.16 309**	⇑P	**P**	**10 52 03.0**	**0.0**
	baz=34					
535A	**Dale**	**34.31 295**	⇑P	**P**	**10 52 04.4**	**0.0**
	baz=34					
735A	**Kenedy**	**34.33 293**	⇑P	**P**	**10 52 04.8**	**+0.3**
	baz=34					
635A	**Leesville**	**34.38 294**	⇓P	**P**	**10 52 05.1**	**+0.2**
	baz=34					
TUL1	**Leonard**	**34.38 306**	*eP*	**P**	**10 52 05.0**	**+0.1**
	14nm,1.3s					
TUL1	**Leonard**	**34.38 306**	⇑P	**P**	**10 52 05.3**	**+0.4**
	baz=34					
X36A	**Centrahoma**	**34.38 304**	⇑P	**P**	**10 52 05.2**	**+0.2**
	baz=34					
335A	**Moody**	**34.42 298**	⇑P	**P**	**10 52 05.3**	**-0.1**
	baz=34					
435B	**Jarrell**	**34.46 297**	⇓P	**P**	**10 52 06.2**	**+0.5**
	baz=34					
W36A	**Wetumka**	**34.46 305**	⇑P	**P**	**10 52 05.7**	**+0.1**
	baz=34					
Q37A	**Longview Farm,**	**34.53 312**	⇑P	**P**	**10 52 06.0**	**-0.2**
	baz=34					
R37A	**Teagarden Farm**	**34.56 311**	⇓P	**P**	**10 52 06.3**	**-0.2**
	baz=35,SNR=5.1					
135A	**Vickery Place,**	**34.69 300**	⇑P	**P**	**10 52 08.0**	**+0.3**
	baz=35					
934A	**Benavides**	**34.80 291**	⇓P	**P**	**10 52 09.1**	**+0.5**
	baz=35					
X35A	**Drake**	**34.82 303**	⇑P	**P**	**10 52 08.0**	**-0.8**
	baz=35					
T36A	**Boggs Farm, Ca**	**34.85 308**	⇓P	**P**	**10 52 08.5**	**-0.4**
	baz=35					
834A	**Tilden**	**34.88 292**	⇓P	**P**	**10 52 09.0**	**-0.4**
	baz=35					
S36A	**Lake Cedric, C**	**34.88 309**	⇑P	**P**	**10 52 09.0**	**-0.3**
	baz=35,SNR=5.8					
034A	**Hebbronville**	**34.89 290**	⇑P	**P**	**10 52 08.6**	**-0.8**
	baz=35					
SIV	**San Ignacio**	**34.92 179**	P	**P**	**10 52 10.0**	**+0.2**
	6.9nm,0.6s,baz=23,slow=10,SNR=18					
W35A	**Tecumseh**	**34.97 304**	⇑P	**P**	**10 52 10.1**	**+0.1**
	baz=35					
434A	**Burnet**	**35.04 297**	⇑P	**P**	**10 52 10.7**	**0.0**
	baz=35					
R36A	**Gordon, Harris**	**35.05 310**	⇑P	**P**	**10 52 10.1**	**-0.6**
	baz=35					
534A	**Blanco**	**35.08 295**	⇑P	**P**	**10 52 10.0**	**-1.1**
	baz=35					
334A	**Lometa**	**35.11 297**	⇑P	**P**	**10 52 09.8**	**-1.5**
	baz=35					
V35A	**Meyer Ranch, C**	**35.13 305**	⇑P	**P**	**10 52 11.2**	**-0.2**
	baz=35					
234A	**Clairette**	**35.17 299**	⇓P	**P**	**10 52 11.0**	**-0.8**
	baz=35					
134A	**White-Moore Ra**	**35.25 300**	⇓P	**P**	**10 52 11.3**	**-1.2**
	baz=35					
T35A	**Sooner Cattle**	**35.27 307**	⇓P	**P**	**10 52 12.3**	**-0.3**
	baz=35,SNR=8.1					
Z34A	**Collier Ranch,**	**35.30 301**	⇑P	**P**	**10 52 12.7**	**-0.2**
	baz=35					
S35A	**Otter Creek Ra**	**35.40 309**	⇓P	**P**	**10 52 13.5**	**-0.3**
	baz=35					
O36A	**Bolckow**	**35.43 313**	⇑P	**P**	**10 52 14.0**	**0.0**
	baz=35					
933A	**Laredo**	**35.46 291**	⇑P	**P**	**10 52 13.9**	**-0.4**
	baz=35					
X34A	**Smith Ranch, M**	**35.56 303**	⇑P	**P**	**10 52 15.0**	**-0.2**
	baz=36					
533A	**Kerrville**	**35.57 295**	⇓P	**P**	**10 52 14.6**	**-0.7**
	baz=36					
633A	**Saathoff Ranch**	**35.60 294**	⇑P	**P**	**10 52 15.4**	**-0.1**
	baz=36,SNR=8.7					
833A	**Chaparral WMA,**	**35.64 292**	⇑P	**P**	**10 52 15.0**	**-1.0**
	baz=36					
Q35A	**Mercer Eighty,**	**35.65 311**	⇓P	**P**	**10 52 15.4**	**-0.5**
	baz=36					
V34A	**Guthrie**	**35.68 305**	⇑P	**P**	**10 52 15.5**	**-0.6**
	baz=36					
W34A	**Bridge Creek,**	**35.70 304**	*eP*	**P**	**10 52 16.3**	**0.0**
	5.2nm,0.4s					
W34A	**Bridge Creek,**	**35.70 304**	⇓P	**P**	**10 52 15.9**	**-0.4**
	baz=36					
433A	**Art**	**35.73 296**	⇑P	**P**	**10 52 16.4**	**-0.2**
	baz=36					
333A	**Richland Sprin**	**35.74 297**	⇓P	**P**	**10 52 16.5**	**-0.2**
	baz=36,SNR=6.6					
LPAZ	**La Paz**	**35.79 191**	P	**P**	**10 52 17.3**	**-0.6**
	0.6nm,0.6s,baz=17,slow=7.9,SNR=4.1					
LPAZ			LR	LR	11 09 36.1	
	comp=Z,92nm,20.5s,baz=1.5,slow=41					
LPAZ	**La Paz**	**35.79 191**	*eP*	**P**	**10 52 19.1**	**+1.2**
	3.8nm,0.9s					
233A	**Rising Star**	**35.80 298**	⇑P	**P**	**10 52 17.2**	**-0.1**
	baz=36,SNR=6.7					
T34A	**McClaskey Farm**	**35.81 307**	⇑P	**P**	**10 52 17.0**	**-0.3**
	baz=36					
SCHQ	**Schefferville**	**35.84 355**	P	**P**	**10 52 18.0**	**+0.7**
	6.7nm,0.6s,baz=174,slow=6.8,SNR=19					
SCHQ			PcP	PcP	10 54 44.1	-0.3
	2.9nm,0.7s,baz=94,slow=3.7,SNR=4.4					
SCHQ			LR	LR	11 05 22.9	
	comp=Z,84nm,18.6s,baz=74,slow=34					
SCHQ	**Schefferville**	**35.84 355**	*eP*	**P**	**10 52 17.9**	**+0.6**
	12nm,0.8s					
SCHQ			PcP	PcP	10 54 44.1	-0.3
U34A	**Anderson Ranch**	**35.88 306**	⇓P	**P**	**10 52 17.9**	**+0.1**
	baz=36					
P35A	**Duane Minner,**	**35.91 312**	⇓P	**P**	**10 52 17.2**	**-0.9**
	baz=36					
Z33A	**Whitaker Ranch**	**35.97 301**	⇓P	**P**	**10 52 18.6**	**-0.1**
	baz=36					
S34A	**Willow Spring**	**35.99 308**	⇑P	**P**	**10 52 19.1**	**+0.2**
	baz=36					
Y33A	**Hilltop Ranch,**	**36.04 302**	⇓P	**P**	**10 52 20.0**	**+0.7**
	baz=36					
X33A	**Lawton**	**36.08 303**	⇓P	**P**	**10 52 19.2**	**-0.3**
	baz=36					
632A	**Uvalde**	**36.13 294**	⇑P	**P**	**10 52 19.6**	**-0.6**
	baz=36,SNR=6.3					
O35A	**Humboldt**	**36.14 313**	⇓P	**P**	**10 52 19.5**	**-0.5**
	baz=36					
832A	**Faith Ranch, C**	**36.15 292**	⇓P	**P**	**10 52 19.0**	**-1.2**
	baz=36					
KSU1	**Kansas State U**	**36.15 311**	*eP*	**P**	**10 52 19.3**	**-0.8**
	13nm,0.6s					
KSU1	**Kansas State U**	**36.15 311**	⇓P	**P**	**10 52 20.1**	**-0.1**
	baz=36					
732A	**Laxson Ranch,**	**36.19 293**	⇓P	**P**	**10 52 19.5**	**-1.1**
	baz=36					
W33A	**Caddo, Fort Co**	**36.22 304**	⇓P	**P**	**10 52 19.9**	**-0.9**
	baz=36					
N35A	**Tabor**	**36.22 314**	⇑P	**P**	**10 52 21.3**	**+0.6**
	baz=36					
V33A	**Lossen Ranch,**	**36.27 305**	⇑P	**P**	**10 52 21.7**	**+0.5**
	baz=36					
JCT	**Junction City**	**36.29 296**	*eP*	**P**	**10 52 21.3**	**-0.2**
	15nm,1.2s					
JCT	**Junction City**	**36.29 296**	⇓P	**P**	**10 52 20.8**	**-0.7**
	baz=36,SNR=5.1					
R34A	**Isabella, Hill**	**36.31 309**	⇓P	**P**	**10 52 21.0**	**-0.6**
	baz=36					
532A	**Rocksprings**	**36.32 295**	⇑P	**P**	**10 52 20.9**	**-0.9**
	baz=36,SNR=5.7					
Q34A	**Chapman**	**36.32 310**	⇓P	**P**	**10 52 21.5**	**-0.1**
	baz=36					
U33A	**Lingo Farm, Me**	**36.32 306**	⇓P	**P**	**10 52 21.5**	**-0.1**
	baz=36					
432A	**Menard**	**36.34 296**	⇓P	**P**	**10 52 21.1**	**-0.8**
	baz=36					
WMOK	**Wichita Mounta**	**36.35 303**	*eP*	**P**	**10 52 21.5**	**-0.4**
332A	**Millersview**	**36.39 297**	⇓P	**P**	**10 52 22.1**	**-0.2**
	baz=36,SNR=7.5					
232A	**Coleman**	**36.40 298**	⇓P	**P**	**10 52 22.3**	**-0.1**
	baz=36,SNR=6.2					
Z32A	**Haskell**	**36.56 300**	⇑P	**P**	**10 52 23.7**	**0.0**
	baz=36					
SPMN	**Marine on St.**	**36.66 322**	*eP*	**P**	**10 52 24.6**	**+0.2**
	42nm,1.4s					
SPMN	**Marine on St.**	**36.66 322**	⇑P	**P**	**10 52 24.4**	**0.0**
	baz=37,SNR=6.2					
X32A	**Elmer**	**36.67 302**	⇓P	**P**	**10 52 24.6**	**-0.1**
	baz=37					
Y32A	**R-V Farms, Ver**	**36.69 302**	⇓P	**P**	**10 52 24.7**	**-0.1**
	baz=37					
N34A	**Lincoln**	**36.79 314**	⇑P	**P**	**10 52 25.6**	**0.0**
	baz=37					
631A	**Perdido Creek**	**36.80 294**	⇓P	**P**	**10 52 25.4**	**-0.4**
	baz=37,SNR=10					
W32A	**Sentinel**	**36.82 303**	⇑P	**P**	**10 52 25.6**	**-0.3**
	baz=37					
V32A	**Arapaho**	**36.83 304**	⇓P	**P**	**10 52 26.6**	**+0.6**
	baz=37					
R33A	**Olander Ranch,**	**36.85 309**	⇑P	**P**	**10 52 26.1**	**0.0**
	baz=37,SNR=5.0					
531A	**Rocksprings**	**36.88 295**	⇓P	**P**	**10 52 26.3**	**-0.2**
	baz=37					
331A	**San Angelo**	**36.95 297**	⇓P	**P**	**10 52 27.3**	**+0.1**
	baz=37					
231A	**Bronte**	**36.97 298**	⇓P	**P**	**10 52 26.9**	**-0.4**
	baz=37					
U32A	**Winter Ranch,**	**36.99 305**	⇑P	**P**	**10 52 26.8**	**-0.6**
	baz=37					
Q33A	**Connelly Farm,**	**36.99 310**	⇑P	**P**	**10 52 27.1**	**-0.3**
	baz=37,SNR=5.9					
431A	**Sonora**	**37.00 296**	⇑P	**P**	**10 52 27.4**	**-0.2**
	baz=37,SNR=6.0					
P33A	**Williams Farm,**	**37.06 311**	⇑P	**P**	**10 52 27.5**	**-0.4**
	baz=37					
BDFB	**Brasilia**	**37.07 158**	LR	LR	11 09 02.2	
	comp=Z,64nm,20.4s,baz=16,slow=38					
Z31A	**Sharp Cattle R**	**37.10 300**	⇑P	**P**	**10 52 27.5**	**-0.9**
	baz=37					
131A	**Roby**	**37.17 299**	⇓P	**P**	**10 52 28.8**	**-0.2**
	baz=37					
T32A	**Huddler Ranch,**	**37.18 307**	⇓P	**P**	**10 52 29.2**	**+0.3**
	baz=37					
O33A	**Hebron**	**37.23 312**	⇑P	**P**	**10 52 28.9**	**-0.5**
	baz=37					
X31A	**McDonald Ranch**	**37.28 302**	⇑P	**P**	**10 52 29.6**	**-0.3**
	baz=37,SNR=5.8					
Y31A	**Rekieta Farm,**	**37.34 301**	⇑P	**P**	**10 52 30.0**	**-0.4**
	baz=37					
S32A	**Newby Ranch, P**	**37.35 308**	⇑P	**P**	**10 52 30.3**	**-0.1**
	baz=37					
W31A	**Holland Ranch,**	**37.39 303**	⇑P	**P**	**10 52 30.7**	**-0.1**
	baz=37					
R32A	**Long Quarter,**	**37.43 309**	⇑P	**P**	**10 52 31.3**	**+0.2**
	baz=37					
V31A	**Spring Creek L**	**37.47 304**	⇓P	**P**	**10 52 31.4**	**-0.1**
	baz=37					
Q32A	**Meitler Ranch,**	**37.52 310**	⇓P	**P**	**10 52 31.6**	**-0.2**
	baz=38					
530A	**J-C Ranch, Com**	**37.55 295**	⇓P	**P**	**10 52 31.9**	**-0.3**
	baz=38,SNR=6.3					
EYMN	**Ely**	**37.58 327**	*eP*	**P**	**10 52 33.4**	**+1.2**
	8.7nm,1.0s					
330A	**Mertzon**	**37.60 297**	⇓P	**P**	**10 52 32.7**	**+0.1**
	baz=38					
230A	**Sterling City**	**37.63 298**	⇑P	**P**	**10 52 32.7**	**-0.1**
	baz=38					
T31A	**Randall Ranch,**	**37.72 306**	⇓P	**P**	**10 52 34.1**	**+0.5**
	baz=38					
S31A	**Mullinville**	**37.74 307**	⇓P	**P**	**10 52 33.8**	**0.0**
	baz=38					
P32A	**Hitting Farm,**	**37.78 311**	⇑P	**P**	**10 52 34.0**	**0.0**
	baz=38					
O32A	**Brockman Farm,**	**37.79 312**	⇑P	**P**	**10 52 33.8**	**-0.3**
	baz=38					
Z30A	**Sanderson Ranc**	**37.90 300**	⇑P	**P**	**10 52 34.8**	**-0.4**
	baz=38,SNR=6.5					
R31A	**Burdett**	**37.99 308**	⇑P	**P**	**10 52 35.8**	**0.0**
	baz=38					
429A	**Davenport Ranc**	**38.09 295**	⇑P	**P**	**10 52 35.9**	**-0.9**
	baz=38,SNR=6.8					
Q31A	**Ellis**	**38.13 309**	⇑P	**P**	**10 52 36.9**	**-0.1**
	baz=38					
BGNE	**Belgrade**	**38.16 314**	*eP*	**P**	**10 52 37.5**	**+0.2**
	48nm,0.8s					
BGNE	**Belgrade**	**38.16 314**	⇓P	**P**	**10 52 36.9**	**-0.3**
	baz=38					
ECSD	**EROS Data Cent**	**38.19 318**	*eP*	**P**	**10 52 36.7**	**-0.7**
	11nm,0.7s					
ECSD			*eP*	PcP	10 54 51.6	-0.1
ECSD	**EROS Data Cent**	**38.19 318**	⇓P	**P**	**10 52 37.5**	**+0.1**
	baz=38,SNR=18					
229A	**Bryant Ranch,**	**38.23 298**	⇑P	**P**	**10 52 37.4**	**-0.6**
	baz=38					
329A	**Wagon Wheel Ra**	**38.29 297**	⇑P	**P**	**10 52 38.2**	**-0.3**
	baz=38					
P31A	**Stockton**	**38.30 310**	⇓P	**P**	**10 52 38.1**	**-0.3**
	baz=38					
U30A	**WK&E Inc. Balk**	**38.30 305**	⇑P	**P**	**10 52 38.6**	**+0.1**
	baz=38					
529A	**Stev Forest Ra**	**38.31 295**	⇓P	**P**	**10 52 38.1**	**-0.5**
	baz=38,SNR=10					
Z29A	**Hungry Hill Ra**	**38.37 300**	⇓P	**P**	**10 52 38.8**	**-0.4**
	baz=38					
129A	**Stewart Farms,**	**38.39 299**	⇓P	**P**	**10 52 39.0**	**-0.3**
	baz=38,SNR=5.1					
Y29A	**Porterfield Fa**	**38.47 301**	⇑P	**P**	**10 52 40.2**	**+0.2**
	baz=38,SNR=8.2					
S30A	**Montezuma**	**38.48 307**	⇑P	**P**	**10 52 40.5**	**+0.5**
	baz=38					
O31A	**Woolen Ranch,**	**38.49 311**	⇓P	**P**	**10 52 40.2**	**+0.2**
	baz=38					
R30A	**Dighton**	**38.54 308**	⇓P	**P**	**10 52 40.6**	**+0.1**
	baz=38					
X29A	**Tulia**	**38.62 302**	⇓P	**P**	**10 52 41.0**	**-0.2**
	baz=39,SNR=7.4					
AMTX	**Amarillo**	**38.70 302**	⇓P	**P**	**10 52 41.9**	**0.0**
	baz=39					
M31A	**Lambtecht Ranc**	**38.71 313**	⇓P	**P**	**10 52 42.2**	**+0.4**
	baz=39					
Q30A	**Quinter**	**38.73 309**	⇑P	**P**	**10 52 42.1**	**0.0**
	baz=39					
U29A	**Oasis Ranch, S**	**38.76 305**	⇑P	**P**	**10 52 42.7**	**+0.2**
	baz=39					
V29A	**Stinnett**	**38.81 304**	⇑P	**P**	**10 52 43.4**	**+0.6**
	baz=39					
228A	**UT Block 9, Go**	**38.90 298**	⇑P	**P**	**10 52 43.3**	**-0.4**
	baz=39					
Z28A	**Tucker Farm, M**	**38.94 300**	⇑P	**P**	**10 52 43.6**	**-0.3**
	baz=39					
P30A	**Selden**	**38.94 310**	⇑P	**P**	**10 52 43.7**	**-0.1**
	baz=39,SNR=6.7					
Y28A	**McKinney Farm,**	**38.95 301**	⇓P	**P**	**10 52 43.9**	**-0.1**
	baz=39					
L31A	**Butterfield Fa**	**38.95 314**	⇓P	**P**	**10 52 44.0**	**+0.1**
	baz=39,SNR=6.4					
S29A	**Ulysses**	**38.97 307**	⇓P	**P**	**10 52 44.4**	**+0.2**
	baz=39					
T29A	**Hugoton**	**38.98 306**	⇑P	**P**	**10 52 44.3**	**+0.1**
	baz=39					
O30A	**MW Ranch, Wils**	**39.02 311**	⇓P	**P**	**10 52 44.2**	**-0.3**
	baz=39,SNR=5.5					
X28A	**Dimmitt**	**39.03 301**	⇓P	**P**	**10 52 44.6**	**-0.1**
	baz=39					
R29A	**Marienthal**	**39.23 308**	⇓P	**P**	**10 52 46.4**	**+0.1**
	baz=39,SNR=7.4					
Q29A	**Oakley**	**39.26 309**	⇓P	**P**	**10 52 46.3**	**-0.2**
	baz=39,SNR=6.0					
MSTX	**Muleshoe**	**39.38 300**	⇑P	**P**	**10 52 47.4**	**-0.3**
	baz=39					
P29A	**Atwood**	**39.46 310**	⇑P	**P**	**10 52 48.1**	**-0.1**
	baz=39					
L30A	**Spencer Herefo**	**39.46 314**	⇑P	**P**	**10 52 48.3**	**+0.2**
	baz=39					
TXAR	**Lajitas Array**	**39.48 293**	P	**P**	**10 52 48.5**	**0.0**
	2.2nm,0.6s,baz=109,slow=8.8,SNR=40					
TXAR			PcP	PcP	10 54 57.1	+0.9
	1.0nm,0.8s,baz=116,slow=6.1,SNR=5.6					
U28A	**Mallet**	**39.49 304**	⇑P	**P**	**10 52 48.9**	**+0.4**
	baz=40					
O29A	**4D Ranch, Culb**	**39.54 310**	⇓P	**P**	**10 52 48.6**	**-0.2**
	baz=40					
S28A	**Manter**	**39.56 306**	⇑P	**P**	**10 52 48.7**	**-0.3**
	baz=40					
T28A	**Walsh**	**39.59 305**	⇓P	**P**	**10 52 49.1**	**-0.3**
	baz=40					
N29A	**Votaw Ranch, W**	**39.66 312**	⇑P	**P**	**10 52 49.6**	**-0.2**
	baz=40					
K30A	**Basset**	**39.68 315**	⇓P	**P**	**10 52 49.5**	**-0.4**
	baz=40					
R28A	**Tribune**	**39.71 307**	⇓P	**P**	**10 52 50.1**	**-0.2**
	baz=40,SNR=5.8					
V27A	**Dan Oppiter Fa**	**39.82 303**	⇓P	**P**	**10 52 50.7**	**-0.6**
	baz=40					
J30A	**Dallas**	**39.87 316**	⇑P	**P**	**10 52 51.5**	**0.0**
	baz=40,SNR=25					
M29A	**Burnside Ranch**	**39.93 312**	⇑P	**P**	**10 52 51.8**	**-0.3**
	baz=40					
Q28A	**Sharon Springs**	**39.94 308**	⇑P	**P**	**10 52 52.0**	**-0.3**
	baz=40					
U27A	**Thompson Grove**	**39.97 304**	⇑P	**P**	**10 52 52.1**	**-0.4**
	baz=40					
BRSD	**Miller**	**40.01 317**	*eP*	**P**	**10 52 52.6**	**-0.1**
	33nm,1.0s					
BRSD	**Miller**	**40.01 317**	⇑P	**P**	**10 52 52.5**	**-0.1**
	baz=40					
L29A	**Maesberg Ranch**	**40.02 313**	⇓P	**P**	**10 52 52.7**	**-0.2**
	baz=40					
P28A	**Saint Francis**	**40.05 309**	⇑P	**P**	**10 52 52.7**	**-0.4**
	baz=40					
T27A	**Campo**	**40.05 305**	⇓P	**P**	**10 52 52.6**	**-0.6**
	baz=40,SNR=6.9					
I30A	**Oacoma**	**40.08 317**	⇓P	**P**	**10 52 53.1**	**-0.1**
	baz=40					
AGMN	**Agassiz Nation**	**40.13 324**	*eP*	**P**	**10 52 53.4**	**-0.2**
	29nm,1.4s					
AGMN	**Agassiz Nation**	**40.13 324**	⇑P	**P**	**10 52 53.4**	**-0.2**
	baz=40,SNR=6.1					
K29A	**Lazy Trails An**	**40.19 314**	⇑P	**P**	**10 52 54.4**	**+0.2**
	baz=40					
O28A	**Krutsinger Ran**	**40.24 310**	⇑P	**P**	**10 52 54.7**	**0.0**
	baz=40					
N28A	**Pribbeno Ranch**	**40.26 311**	⇓P	**P**	**10 52 54.8**	**-0.1**
	baz=40					
M28A	**Bar X Bar Ranc**	**40.39 312**	⇓P	**P**	**10 52 56.4**	**+0.4**
	baz=40					
R27A	**Eads**	**40.44 307**	⇑P	**P**	**10 52 56.0**	**-0.4**
	baz=40,SNR=5.7					
G30A	**Faulkton**	**40.44 318**	⇓P	**P**	**10 52 56.4**	**+0.2**
	baz=40					
J29A	**Okreek**	**40.45 315**	⇑P	**P**	**10 52 56.7**	**+0.3**
	baz=40,SNR=32					
KSCO	**Kaye Shedlock'**	**40.52 308**	*eP*	**P**	**10 52 57.5**	**+0.4**
	16nm,1.1s					
KSCO	**Kaye Shedlock'**	**40.52 308**	⇑P	**P**	**10 52 57.3**	**+0.2**
	baz=40					
P27A	**Ficken Ranch,**	**40.65 309**	⇑P	**P**	**10 52 58.2**	**+0.1**
	baz=41					
I29A	**Vivian Onida**	**40.70 316**	⇓P	**P**	**10 52 58.1**	**-0.2**
	baz=41					
OGNE	**Ogallala**	**40.70 311**	⇓P	**P**	**10 52 58.2**	**-0.3**
	baz=41					
T26A	**Comanche Natio**	**40.75 305**	⇑P	**P**	**10 52 58.6**	**-0.5**
	baz=41					
S26A	**Kim**	**40.77 306**	⇓P	**P**	**10 52 59.0**	**-0.2**
	baz=41					
O27A	**Beecher Island**	**40.77 310**	⇓P	**P**	**10 52 59.1**	**0.0**
	baz=41					
K28A	**Ten Mile Ranch**	**40.88 314**	⇓P	**P**	**10 53 00.0**	**+0.1**
	baz=41					
H29A	**Onida**	**40.90 317**	⇑P	**P**	**10 53 00.0**	**+0.1**
	baz=41					
R26A	**Arlington**	**40.93 307**	⇓P	**P**	**10 53 00.5**	**0.0**
	baz=41,SNR=5.6					
E30A	**Jud**	**40.95 320**	⇓P	**P**	**10 53 00.8**	**+0.4**
	baz=41					
G29A	**Hoven**	**40.96 318**	⇓P	**P**	**10 53 00.5**	**0.0**

B30A **Myrvik Farm, E** 41.59 323 ⇑P P 10 53 05.5 -0.1
baz=42
F28A **McLaughlin** 41.81 319 ⇓P P 10 53 06.5 -0.9
baz=42
A30A **Hoffart Farm,** 41.84 324 ⇓P P 10 53 07.4 -0.2
baz=42
I27A **Quinn** 41.87 316 ⇓P P 10 53 08.2 +0.1
baz=42,SNR=6.1
MDND **Maddock** 42.02 322 ⇑P P 10 53 09.2 0.0
baz=42
E28A **Huff** 42.07 320 ⇑P P 10 53 09.6 0.0
baz=42
H27A **Howes** 42.11 316 ⇑P P 10 53 09.9 0.0
baz=42,SNR=10
LVC **Limon Verde** 42.11 190 P P 10 53 09.0 -1.4
16nm,0.5s,baz=351,slow=6.2,SNR=12
LVC LR LR 11 12 22.3
comp=Z,271nm,18.2s,baz=348,slow=39
K26A **Motz Farm, Whi** 42.12 313 ⇓P P 10 53 09.7 -0.4
baz=42
B29A **Wagenman Farm,** 42.19 323 ⇓P P 10 53 10.7 +0.2
baz=42
J26A **Sides Ranch, S** 42.27 314 ⇑P P 10 53 11.1 -0.2
baz=42
M25A **Palm-Egli Farm** 42.30 311 ⇑P P 10 53 11.5 -0.3
baz=42
G27A **Dupree** 42.32 317 ⇓P P 10 53 12.0 +0.4
baz=42,SNR=8.4
A29A **Manning Farm,** 42.35 323 ⇓P P 10 53 11.4 -0.4
baz=42,SNR=6.4
SDCO **Great Sand Dun** 42.36 305 eP P 10 53 12.6 +0.2
5.9nm,0.9s
SDCO ePcP PcP 10 55 06.1 +0.5
SDCO **Great Sand Dun** 42.36 305 ⇑P P 10 53 12.4 0.0
baz=42,SNR=8.6
I26A **New Underwood** 42.39 315 ⇓P P 10 53 12.5 +0.2
baz=42,SNR=8.7
Q24A **Divide** 42.39 307 ⇓P P 10 53 12.6 -0.1
baz=42
C28A **Hausauer Farms** 42.42 321 ⇓P P 10 53 12.8 +0.4
baz=42
L25A **Engebretsen Ra** 42.48 312 ⇓P P 10 53 13.0 -0.1
baz=42
E27A **Carson** 42.54 319 ⇑P P 10 53 13.7 +0.3
baz=42
H26A **Fairpoint** 42.56 316 ⇓P P 10 53 13.9 +0.2
baz=42
K25A **Mack Ranch, Ha** 42.56 313 ⇓P P 10 53 14.2 +0.4
baz=42
F27A **Lemmon** 42.59 318 ⇓P P 10 53 14.1 +0.2
baz=43
R23A **Moffat** 42.72 306 ⇓P P 10 53 15.2 -0.1
baz=43
G26A **Maurine** 42.72 317 ⇑P P 10 53 15.0 +0.1
baz=43,SNR=16
B28A **Dugan Ranch, T** 42.76 322 ⇓P P 10 53 15.6 +0.5
baz=43
J25A **Sunshine Ranch** 42.79 314 ⇓P P 10 53 15.7 +0.2
baz=43,SNR=5.4
D27A **Center** 42.82 320 ⇓P P 10 53 16.0 +0.3
baz=43
ISCO **Idaho Springs** 42.96 308 eP P 10 53 17.8 +0.5
7.1nm,1.3s
ISCO **Idaho Springs** 42.96 308 ⇑P P 10 53 17.5 +0.3
baz=43,SNR=6.1
I25A **Rochford** 42.97 315 ⇑P P 10 53 17.4 +0.3
baz=43,SNR=5.8
F26A **Lodgepole** 42.99 318 ⇑P P 10 53 17.5 +0.4
baz=43
P23A **Jefferson** 43.02 308 ⇑P P 10 53 17.8 0.0
baz=43
C27A **Sayler Ranch,** 43.08 321 ⇓P P 10 53 18.2 +0.4
baz=43
H25A **Fruitdale** 43.10 316 ⇑P P 10 53 18.3 +0.2
baz=43,SNR=13
G25A **Newell** 43.21 316 ⇑P P 10 53 19.5 +0.6
baz=43
RSSD **Black Hills** 43.21 315 eP P 10 53 19.7 +0.6
7.0nm,1.0s
RSSD ePcP PcP 10 55 07.5 -0.8
PHWY **Pilot Hill** 43.27 310 eP P 10 53 19.8 +0.1
7.9nm,1.0s
O23A **Lake Granby, G** 43.30 309 ⇓P P 10 53 20.6 +0.6
baz=43
121A **Cookes Peak, D** 43.32 297 eP P 10 53 21.2 +1.1
13nm,0.9s
121A **Cookes Peak, D** 43.32 297 ⇓P P 10 53 21.4 +1.3
baz=43,SNR=12
S22A **4UR Ranch, Cre** 43.39 305 ⇓P P 10 53 21.1 +0.3
baz=43
N23A **Red Feather La** 43.50 310 ⇓P P 10 53 22.0 +0.4
baz=44
I24A **Kuemmerle Ranc** 43.51 314 ⇓P P 10 53 21.9 +0.5
baz=44
E25A **Miller Ranch,** 43.72 318 ⇓P P 10 53 23.3 +0.3
baz=44
O22A **Kremmling** 43.75 308 ⇓P P 10 53 24.4 +0.8
baz=44,SNR=8.2
P22A **Eagle** 43.76 308 ⇑P P 10 53 23.9 +0.3
baz=44
H24A **Dirks Ranch, A** 43.78 315 ⇓P P 10 53 23.5 -0.1
baz=44,SNR=12
SMCO **Snowmass** 43.82 307 eP P 10 53 24.5 +0.2
4.6nm,1.0s
K23A **Bowen Ranch, D** 43.83 312 ⇑P P 10 53 24.5 +0.4
baz=44
N22A **Wattenberg Ran** 43.85 309 ⇑P P 10 53 25.6 +1.2
baz=44,SNR=5.5
G24A **Alzada** 43.91 316 ⇑P P 10 53 25.2 +0.6
baz=44,SNR=5.9
D25A **Fairfield** 43.94 319 ⇑P P 10 53 25.1 +0.3
baz=44
F24A **Ekalaka** 44.12 317 ⇓P P 10 53 26.5 +0.2
baz=44
E24A **Baker** 44.32 318 ⇓P P 10 53 28.5 +0.7
baz=44
B25A **Knox Farm, Ray** 44.33 321 ⇑P P 10 53 28.5 +0.6
baz=44
K22A **Casper** 44.43 312 eP P 10 53 29.2 +0.3
13nm,1.0s
K22A **Casper** 44.43 312 ⇑P P 10 53 29.5 +0.6
baz=44,SNR=6.2
319A **Douglas** 44.48 296 ⇓P P 10 53 30.6 +1.2
baz=44,SNR=5.2
D24A **Glendive** 44.55 319 ⇓P P 10 53 29.9 +0.2
baz=44
MVCO **Mesa Verde** 44.58 304 ⇓P P 10 53 30.7 +0.4
baz=44
A25A **Svangstu Ranch** 44.60 322 ⇓P P 10 53 30.2 +0.2
baz=45
J22A **Midwest** 44.63 313 ⇓P P 10 53 30.5 0.0
baz=45
F23A **Volborg** 44.70 316 ⇓P P 10 53 31.2 +0.3
baz=45,SNR=5.4
C24A **Savage** 44.78 319 ⇓P P 10 53 31.8 +0.3
baz=45
I22A **9 Mile Ranch,** 44.79 314 ⇓P P 10 53 31.9 +0.2
baz=45
PV01 **Paradox Valley** 44.81 305 eP P 10 53 33.1 +1.0
E23A **Ismay** 44.93 317 ⇑P P 10 53 33.0 +0.3
baz=45
O20A **White River Ci** 45.00 308 eP P 10 53 34.0 +0.5
4.1nm,0.9s
O20A **White River Ci** 45.00 308 ⇑P P 10 53 33.7 +0.2
baz=45
DGMT **Dagmar** 45.04 320 ⇑P P 10 53 34.0 +0.6
baz=45
G22A **Birney** 45.10 315 ⇓P P 10 53 34.5 +0.4
baz=45,SNR=14
A24A **Westby** 45.12 321 ⇓P P 10 53 34.8 +0.7
baz=45
D23A **Lindsay** 45.13 318 ⇑P P 10 53 34.8 +0.6
baz=45
N20A **Spence Gulch,** 45.18 309 ⇑P P 10 53 34.9 0.0
baz=45
PV10 **Paradox Valley** 45.22 305 eP P 10 53 35.6 +0.2
69nm,0.8s
F22A **Rosebud** 45.28 316 ⇓P P 10 53 36.0 +0.5
baz=45,SNR=7.2
J21A **Lysite** 45.28 313 ⇑P P 10 53 35.7 0.0
baz=45,SNR=6.1
E22A **Miles City** 45.32 317 ⇑P P 10 53 36.0 +0.2
baz=45,SNR=9.8
I21A **Big Trails, Te** 45.32 313 ⇑P P 10 53 35.9 0.0
baz=45
X18A **Snowflake** 45.34 300 ⇑P P 10 53 36.5 +0.2
baz=45
C23A **Lambert** 45.36 319 ⇑P P 10 53 36.6 +0.5
baz=45
CPUP **Villa Florida** 45.40 175 eP P 10 53 37.0 +0.6
0.2nm,1.2s
H21A **Big Horn, Sher** 45.41 314 ⇑P P 10 53 36.7 +0.1
baz=45,SNR=7.4
B23A **Brockton** 45.52 320 ⇓P P 10 53 37.9 +0.7
baz=46
LAO **LASA Array** 45.59 317 eP P 10 53 38.4 +0.5
14nm,1.1s
G21A **Lodge Grass** 45.72 315 ⇓P P 10 53 39.3 +0.4
baz=46
D22A **Cohagen** 45.73 318 ⇑P P 10 53 39.8 +0.8
baz=46,SNR=8.9
J20A **Shoshoni** 45.73 312 ⇑P P 10 53 39.6 +0.4
baz=46,SNR=14
TUC **Tucson** 45.82 297 eP P 10 53 39.5 -0.5
9.2nm,0.9s
I20A **Worland** 45.94 313 ⇓P P 10 53 40.9 +0.1
baz=46
H20A **Greybull** 46.01 314 ⇓P P 10 53 40.9 -0.5
baz=46,SNR=6.1
FCC **Fort Churchill** 46.06 337 eP P 10 53 41.0 -0.3
16nm,1.0s
FCC ePcP PcP 10 55 16.8 -0.6
B22A **Reddig Ranch S** 46.06 320 ⇓P P 10 53 42.2 +0.6
baz=46
E21A **Keefer Ranch,** 46.08 317 ⇑P P 10 53 42.4 +0.6
baz=46
D21A **La Casta Ranch** 46.22 318 ⇓P P 10 53 44.0 +1.2
baz=46
A22A **Carney Farms,** 46.29 320 ⇑P P 10 53 43.8 +0.4
baz=46
J19A **Crowheart** 46.38 312 ⇓P P 10 53 44.4 0.0
baz=46,SNR=30
G20A **Bridger** 46.39 315 ⇓P P 10 53 44.4 0.0
baz=46,SNR=14
SRU **San Rafael Swe** 46.50 306 eP P 10 53 46.2 +0.8
4.3nm,0.6s
SRU ePcP PcP 10 55 20.2 +0.5
F20A **Billings** 46.53 316 ⇓P P 10 53 45.8 +0.4
baz=46,SNR=9.9
X16A **Lo Mia Camp, P** 46.55 300 ⇓P P 10 53 46.1 +0.3
baz=46
C21A **Desert Coulee** 46.56 319 ⇓P P 10 53 46.6 +1.1
baz=46
I19A **Meeteetse** 46.56 313 ⇑P P 10 53 46.1 +0.3
baz=46
PDAR **Pinedale Array** 46.61 311 P P 10 53 46.2 0.0
4.5nm,0.9s,baz=104,slow=10,SNR=32
PDAR PcP PcP 10 55 20.1 +0.1
1.8nm,0.9s,baz=106,slow=6.7,SNR=5.7
PDAR LR LR 11 14 37.5
comp=Z,66nm,18.6s,baz=103,slow=38
BW06 **Boulder Array** 46.61 311 eP P 10 53 46.2 -0.1
10nm,1.4s
BW06 ePcP PcP 10 55 20.2 +0.2
H19A **Powell** 46.74 314 ⇑P P 10 53 47.2 +0.1
baz=47,SNR=8.5
E20A **Meyer Farm, Mu** 46.75 317 ⇑P P 10 53 47.7 +0.6
baz=47,SNR=13
A21A **Bergtoll Ranch** 46.90 320 ⇑P P 10 53 48.9 +0.7
baz=47,SNR=7.1
D20A **Manuel Ranch,** 46.95 317 ⇑P P 10 53 49.3 +0.7
baz=47,SNR=16
RLMT **Red Lodge** 47.06 314 eP P 10 53 49.9 +0.2
25nm,1.5s
F19A **Roth Farm, Mol** 47.07 315 ⇓P P 10 53 50.1 +0.4
baz=47,SNR=8.3
C20A **Veseth Ranch,** 47.09 318 ⇓P P 10 53 50.4 +0.7
baz=47,SNR=5.4
E19A **Rath Farm, Rou** 47.16 316 ⇓P P 10 53 51.1 +0.8
baz=47,SNR=16
H18A **Shoshone NF, C** 47.20 314 ⇑P P 10 53 50.5 -0.4
baz=47,SNR=10
B20A **Solberg Farm,** 47.36 319 ⇑P P 10 53 52.7 +0.9
baz=47
D19A **Cripps Ranch,** 47.46 317 ⇑P P 10 53 53.2 +0.6
baz=47,SNR=10
A20A **Cobblestone Ra** 47.47 320 ⇓P P 10 53 53.3 +0.7
baz=47,SNR=6.5
U15A **North Rim** 47.47 302 ⇓P P 10 53 53.3 +0.2
baz=47
JLU **Jordanelle** 47.49 308 eP P 10 53 54.3 +1.1
9.9nm,0.8s
214A **Organ Pipe Nat** 47.52 296 ⇑P P 10 53 53.7 +0.5
baz=48
GCMT **Greycliff** 47.53 315 eP P 10 53 54.0 +0.7
4.1nm,1.0s
LOHW **Long Hollow** 47.57 312 eP P 10 53 54.0 +0.3
3.8nm,0.6s
TCUT **Toone Canyon** 47.57 309 eP P 10 53 49.9 -3.9
5.6nm,0.6s
SNOW **Snow King Moun** 47.63 312 eP P 10 53 54.7 +0.5
3.2nm,0.4s
MSU **Marysvale** 47.67 305 eP P 10 53 55.4 +0.8
5.9nm,1.2s
REDW **Red Top Meadow** 47.68 312 eP P 10 53 55.1 +0.6
35nm,2.0s
MOOW **Moose Ponds** 47.70 312 eP P 10 53 54.9 +0.2
2.2nm,0.9s
C19A **Slack Wire Ran** 47.76 318 ⇑P P 10 53 55.7 +0.8
baz=48
TPAW **Teton Pass** 47.78 312 eP P 10 53 55.5 +0.2
6.3nm,1.0s
TPAW ePcP PcP 10 55 24.8 +0.6
HWUT **Hardware Ranch** 47.78 309 eP P 10 53 55.6 +0.2
8.9nm,1.0s
Y14A **Wickenburg** 47.80 299 ⇓P P 10 53 56.0 +0.6
baz=48
FXWY **Fox Creek** 47.87 312 eP P 10 53 56.7 +0.6
2.2nm,0.8s
IMW **Indian Meadow** 47.87 312 eP P 10 53 56.5 +0.4
2.5nm,0.7s
B19A **Brinkman Farms** 47.94 319 ⇑P P 10 53 56.9 +0.6
baz=48
A19A **Klindworth Far** 47.99 319 ⇑P P 10 53 57.6 +0.9
baz=48
EGMT **Eagleton** 48.30 318 eP P 10 54 00.0 +0.9
10nm,1.1s
EGMT **Eagleton** 48.30 318 ⇓P P 10 53 59.7 +0.6
baz=48
SFJD **Kangerlussuaq** 48.35 6 P P 10 53 59.0 0.0
7.2nm,0.9s,baz=197,slow=14,SNR=3.3
113A **Mohawk Valley,** 48.37 297 ⇓P P 10 54 00.2 +0.5
baz=48
DUG **Dugway, Tooele** 48.44 307 eP P 10 54 00.8 +0.4
9.1nm,0.9s
DUG **Dugway, Tooele** 48.44 307 ⇓P P 10 54 00.9 +0.5
baz=48,SNR=8.9
QLMT **Earthquake Lak** 48.46 313 eP P 10 54 02.1 +1.6
2.2nm,0.9s
W13A **Hualapai Mount** 48.62 300 ⇓P P 10 54 03.1 +1.1
baz=49,SNR=5.4
HVU **Hansel Valley** 48.71 309 eP P 10 54 03.1 +0.6
64µm,0.7s
BOZ **Bozeman (W)** 48.81 314 eP P 10 54 03.6 +0.4
2.2nm,0.8s
Y12C **Bhne** 49.05 298 ⇓P P 10 54 05.8 +0.8
baz=49
HRY **Holter Researc** 49.24 316 eP P 10 54 07.1 +0.7
2.4nm,0.7s
DLMT **Dillon** 49.39 314 eP P 10 54 08.9 +1.3
7.5nm,0.9s
LRM **Limekiln Ridge** 49.41 314 eP P 10 54 08.4 +0.5
38nm,1.3s
MCMT **McKenzie Canyo** 49.43 313 eP P 10 54 09.2 +1.1
IRM **Iron Mountain** 49.59 299 ⇑P P 10 54 09.8 +0.6
baz=50
GMRC **Granite Mounta** 50.05 300 ⇑P P 10 54 13.6 +0.8
baz=50
SWSC **Sam W. Stewart** 50.08 297 ⇑P P 10 54 13.4 +0.6
baz=50
HLID **Hailey** 50.25 311 eP P 10 54 14.7 +0.5
4.9nm,1.1s
HLID **Hailey** 50.25 311 ⇓P P 10 54 14.9 +0.7
baz=50,SNR=6.2
R11A **Troy Canyon, C** 50.30 304 eP P 10 54 15.3 +0.6
2.5nm,1.0s
R11A ePcP PcP 10 55 34.5 +1.1
R11A **Troy Canyon, C** 50.30 304 ⇓P P 10 54 15.3 +0.6
baz=50
TUQ **Turquoise Moun** 50.31 300 ⇑P P 10 54 15.5 +0.7
baz=50
SLMT **Seeley Lake** 50.48 316 eP P 10 54 16.1 +0.2
3.9nm,0.9s
SHOC **Shoshone, Teco** 50.63 301 ⇑P P 10 54 16.9 -0.1
baz=51
PFO **Pinyon Flats O** 50.65 298 ⇑P P 10 54 17.3 0.0
baz=51
MSO **Missoula** 50.67 315 ⇓P P 10 54 17.1 -0.1
baz=51
TPNV **Topopah Spring** 50.69 302 ⇑P P 10 54 17.6 0.0
baz=51,SNR=7.3
CFAA **Coronel Fontan** 50.86 187 LR LR 11 17 50.6
comp=Z,4.8nm,20.4s,slow=38
GSC **Goldstone, Bar** 51.02 300 ⇓P P 10 54 20.5 +0.5
baz=51
BBRC **Big Bear Solar** 51.06 299 ⇑P P 10 54 20.6 +0.1
baz=51
FURC **Furnace Creek,** 51.14 302 ⇑P P 10 54 21.6 +0.8
baz=51
RRX **Edison Barstow** 51.16 300 ⇓P P 10 54 21.5 +0.5
baz=51
109C **Camp Elliot, M** 51.18 297 ⇓P P 10 54 21.5 +0.3
baz=51
MFID **Camas Ranch** 51.23 311 eP P 10 54 22.1 +0.5
1.2nm,0.6s
WALA **Waterton Lakes** 51.25 318 eP P 10 54 21.0 -0.6
3.9nm,1.1s
MURC **Murrieta** 51.27 298 ⇑P P 10 54 22.4 +0.4
baz=51
TPH **Tonopah** 51.56 304 eP P 10 54 24.7 +0.5
2.8nm,0.8s
TPH e 10 54 37.5
MPMC **Manual Prospec** 51.62 301 ⇑P P 10 54 24.9 +0.3
baz=52
BFSC **Mount Baldy Ra** 51.67 299 ⇓P P 10 54 25.1 +0.1
baz=52
DAC **Darwin (Calif)** 51.72 301 eP P 10 54 26.4 +1.1
7.6nm,0.9s
DAC e 10 54 38.9
BMN **Battle Mountai** 51.81 307 eP P 10 54 25.6 -0.4
7.5nm,0.7s
EDW2 **Edwards Air Fo** 51.97 300 ⇓P P 10 54 28.0 +0.8
baz=52
EDM **Edmonton** 52.22 323 eP P 10 54 28.1 -0.6
9.8nm,0.7s
NVAR **Mina Array Bea** 52.44 304 P P 10 54 31.6 +0.8
2.9nm,0.7s,baz=94,slow=7.5,SNR=19
MDT **Midelt** 52.46 63 P P 10 54 31.0 +0.1
1.3nm,0.8s,baz=301,slow=8.5,SNR=4.0
RCTC **Rector, Farmer** 53.05 301 ⇑P P 10 54 35.4 +0.4
baz=53
NEW **Newport** 53.11 316 eP P 10 54 35.1 -0.2
8.3nm,0.8s
NEW e 10 54 46.9
NEW **Newport** 53.11 316 ⇑P P 10 54 35.1 -0.2
baz=53,SNR=11
ESDC **Sonseca Array** 53.30 54 P P 10 54 36.3 -0.6
0.2nm,0.4s,baz=259,slow=6.9,SNR=5.1
ESDC PcP PcP 10 55 42.9 -1.5
0.4nm,0.6s,baz=284,slow=5.1,SNR=3.1
I07A **Izee** 53.97 311 eP P 10 54 42.0 +0.3
6.0nm,0.9s
OHCM **Honcut** 54.98 305 eP P 10 54 49.8 +0.7
SUMG **Summit** 55.06 8 i P P 10 54 50.0 +0.4
17nm,1.0s
SUMG **Summit** 55.06 8 eP P 10 54 49.6 +0.1
17nm,1.0s
J05D **Fort Rock, OR** 55.11 310 ⇑P P 10 54 49.8 -0.4
baz=55
M04C **Macdoel** 55.42 308 ⇓P P 10 54 52.8 +0.4
baz=55
K04D **Chiloquin, OR** 55.43 309 ⇓P P 10 54 53.0 +0.6
baz=55
SJPF **Ste Jean** 55.66 50 eP P 10 54 54.4 +0.4
12nm,0.7s
SJPF **Ste Jean** 55.66 50 eP P 10 54 54.4 +0.4
12nm,0.7s
J04D **Umpqua Nationa** 55.75 310 ⇑P P 10 54 54.8 0.0
baz=56
N02D **Trinity Center** 56.01 307 ⇑P P 10 54 55.7 -0.8
baz=56
M02C **Callahan** 56.15 307 ⇑P P 10 54 57.0 -0.5
baz=56
TIC **Toumodi** 56.33 95 eP P 10 54 58.6 -0.6
YKA **Yellowknife Ar** 56.43 334 P P 10 54 58.4 -0.6
7.9nm,0.6s,baz=107,slow=7.5,SNR=70
YKA PcP PcP 10 55 55.3 -0.5
1.9nm,0.7s,baz=108,slow=5.1,SNR=9.2
LIC **Lamto** 56.45 95 eP P 10 54 59.9 -0.1
12nm,0.8s
LIC **Lamto** 56.45 95 eP P 10 54 59.8 -0.2
54nm,1.5s
LIC **Lamto** 56.45 95 eP P 10 54 59.9 -0.1
12nm,0.8s
DBIC **Dimbokro** 56.48 95 P P 10 55 00.1 -0.1
4.5nm,0.6s,baz=283,slow=6.8,SNR=9.2
DBIC **Dimbokro** 56.48 95 eP P 10 55 00.0 -0.1
5.5nm,0.6s
GRR **Gorron** 56.58 44 eP P 10 55 00.3 -0.1
GRR **Gorron** 56.58 44 eP P 10 55 00.3 -0.1
KIC **Kosan Boka** 56.68 95 eP P 10 55 01.5 -0.1
52nm,1.5s
EPF **Esparros** 56.80 51 eP P 10 55 02.6 +0.5
12nm,0.8s
EPF **Esparros** 56.80 51 eP P 10 55 02.6 +0.5
12nm,0.8s
MFF **Saint Martin d** 56.81 46 eP P 10 55 02.3 +0.2
12nm,1.1s
MFF **Saint Martin d** 56.81 46 eP P 10 55 02.3 +0.2
12nm,1.1s
LDF **La Druitiere** 57.09 44 eP P 10 55 03.9 -0.1
LDF **La Druitiere** 57.09 44 eP P 10 55 03.9 -0.1
RJF **Les Rejaudoux** 57.83 48 eP P 10 55 09.1 -0.2
12nm,1.0s
RJF eR
51nm,17.5s
RJF **Les Rejaudoux** 57.83 48 eP P 10 55 09.1 -0.2
12nm,1.0s
MTLF **Montolieu** 58.19 50 eP P 10 55 11.9 0.0
9.2nm,0.8s
MTLF **Montolieu** 58.19 50 eP P 10 55 11.9 0.0
9.2nm,0.8s
TCF **Toulx Ste Croi** 58.40 47 eP P 10 55 13.3 0.0
TCF **Toulx Ste Croi** 58.40 47 eP P 10 55 13.3 0.0
AVF **Avril sur Loir** 59.22 46 eP P 10 55 18.6 -0.4
6.9nm,0.9s
AVF **Avril sur Loir** 59.22 46 eP P 10 55 18.6 -0.4
6.9nm,0.9s
SSF **Saint Saulge** 59.35 46 eP P 10 55 19.5 -0.4
8.4nm,1.1s
SSF **Saint Saulge** 59.35 46 eP P 10 55 19.5 -0.4
8.4nm,1.0s
SMF **Signal de Mont** 59.55 47 eP P 10 55 21.0 -0.3
SMF **Signal de Mont** 59.55 47 eP P 10 55 21.0 -0.3
LOR **Lormes** 59.61 46 eP P 10 55 21.2 -0.5
5.0nm,0.7s
LOR eR
48nm,17.8s
LOR **Lormes** 59.61 46 eP P 10 55 21.2 -0.5
5.0nm,0.7s
VIVF **Saint-Julien-l** 60.03 49 eP P 10 55 25.4 +0.8
5.7nm,0.9s
VIVF **Saint-Julien-l** 60.03 49 eP P 10 55 25.4 +0.8
5.7nm,0.9s
SFTF **Sexfontaines** 60.47 45 eP P 10 55 27.3 -0.2
SFTF **Sexfontaines** 60.47 45 eP P 10 55 27.3 -0.2
MEZF **Maizieres J'vi** 60.50 45 eP P 10 55 27.6 -0.1
MEZF **Maizieres J'vi** 60.50 45 eP P 10 55 27.6 -0.1
TOA0 **Torodi Ar. Sit** 60.84 85 eP P 10 55 29.7 -0.9
TORD **Torodi Ar. Bea** 60.84 85 P P 10 55 29.5 -1.1
3.2nm,0.6s,baz=290,slow=7.0,SNR=25
TORD LR LR 11 19 01.5
comp=Z,40nm,18.4s,baz=265,slow=33
DLBC **Dease Lake** 62.59 327 eP P 10 55 42.6 +0.9
19nm,1.4s
NB2 **NORSAR Subarra** 65.13 31 P P 10 55 58.5 +0.1
comp=Z,1.8nm,0.7s,baz=266,slow=6.9
NOA **NORSAR Array B** 65.13 31 P P 10 55 59.0 +0.6
comp=Z,1.4nm,0.7s,baz=266,slow=6.6,SNR=4.4
NOA LR LR 11 21 08.7
comp=Z,28nm,18.7s,baz=245,slow=33
INK **Inuvik** 65.68 337 eP P 10 56 01.0 -0.8
comp=Z,9.7nm,0.8s
CLL **Collm** 65.72 42 eP P 10 56 02.0 -0.3
comp=Z,8.0nm,1.4s
GERES **GERESS Array B** 66.23 44 P P 10 56 05.4 -0.4
comp=Z,0.6nm,0.7s,baz=287,slow=5.4,SNR=7.4
GERES LR LR 11 20 30.5
comp=Z,14nm,19.9s,baz=282,slow=32
BRG **Berggiesshubel** 66.32 42 eP P 10 56 06.1 -0.2
comp=Z,3.0nm,0.9s
HYT **Haines Junctio** 66.60 329 eP P 10 56 08.8 +0.8
comp=Z,11nm,1.2s

DAWY	Dawson	67.61	332	*e*P		P	10 56 14.3	0.0
	comp=Z,7.8nm,1.2s							
EGAK	Eagle	68.40	333	*e*P		P	10 56 19.1	0.0
	comp=Z,3.4nm,0.7s							
BMRM	Bremner River	70.06	329	*e*P		P	10 56 30.2	+0.6
	comp=Z,9.6nm,1.1s							
PAX	Paxson	70.35	331	*e*P		P	10 56 31.3	-0.1
	comp=Z,9.1nm,1.1s							
ILAR	Eielson Array	70.85	333	P		P	10 56 33.5	-0.7
	comp=Z,5.5nm,0.7s,baz=103,slow=4.7,SNR=82							
COLA	College	71.25	333	*e*P		P	10 56 36.2	-0.5
	comp=Z,11nm,1.1s							
MCK	McKinley	71.84	332	*e*P		P	10 56 39.7	-0.6
	comp=Z,9.7nm,1.5s							
PMR	Palmer	72.18	330	*e*P		P	10 56 42.3	0.0
	comp=Z,13nm,1.3s							
FINES	FINESS Array B	72.29	30	P		P	10 56 42.7	-0.3
	comp=Z,1.1nm,0.6s,baz=248,slow=1.5,SNR=3.9							
FINES				LR		LR	11 25 22.1	
	comp=Z,32nm,19.0s,baz=328,slow=33							
TRF	Thorofare Moun	72.47	332	*e*P		P	10 56 43.9	-0.4
	comp=Z,14nm,0.7s							
BPAW	Bear Paw Mtn.	72.69	333	*e*P		P	10 56 44.5	-0.8
	comp=Z,1.9nm,0.8s							
KTH	Kantishna Hill	72.74	332	*e*P		P	10 56 45.3	-0.5
	comp=Z,20nm,1.2s							
PPLA	Purkeypile	73.41	331	*e*P		P	10 56 49.1	-0.7
	comp=Z,9.9nm,1.1s							
BUR08	Bucovina Ar. S	74.00	45	*e*P		P	10 56 53.7	+0.2
AKASG	Malin Array Be	75.95	41	P		P	10 57 03.7	-0.9
	comp=Z,0.3nm,0.2s,baz=274,slow=4.8,SNR=4.2							
AKASG				LR		LR	11 27 59.7	
	comp=Z,36nm,18.8s,baz=355,slow=34							
BR131	Keskin Array S	81.91	51	*e*P		P	10 57 37.8	+0.1
	comp=Z,2.2nm,0.8s							
BRTR	Keskin Array B	81.91	51	P		P	10 57 37.6	-0.1
	comp=Z,1.7nm,0.7s,baz=274,slow=3.4,SNR=9.9							
BRTR				LR		LR	11 31 10.6	
	comp=Z,12nm,19.1s,baz=286,slow=34							
UNV	Unalaska Valle	83.18	325	*e*P		P	10 57 44.3	+0.5
	comp=Z,16nm,1.1s							
TSUM	Tsumeb	86.52	112	*e*P		P	10 58 01.7	+0.3
	comp=Z,5.0nm,1.1s							
AKTO	Aktyubinsk	92.77	34	P		P	10 58 29.4	-0.7
	comp=Z,0.8nm,0.6s,baz=262,slow=10,SNR=3.6							
KSH	Kashi	109.47	34	*e*Pdif		Pdif	10 59 46.5	+1.0
KSH				PP		PP	11 04 22.3	+4.3
KSH				S		Sdif	11 11 53.3	-3.0
KSH				LN				
	comp=Z,500nm,7.7s							
KSH				LE				
	comp=Z,220nm,6.9s							
KSH				LZ				
	comp=Z,75nm,8.1s							
HHC	Hu-ho-hao-te	119.98	6	*e*PKP		PKPdf	11 04 10.3	+1.6
HHC				PP		PP	11 05 37.5	+6.0
HHC				SKS		SKSdf	11 11 21.3	+1.3
HHC				SKKS		SKKSac	11 12 30.9	-1.1
HHC				SS		SKKSdf	11 22 00.6	+0.3
HHC				PPMZ				
	comp=Z,41nm,5.3s							
HHC				LN				
	comp=Z,81nm,17.3s							
HHC				LE				
	comp=Z,200nm,19.2s							
HHC				LZ				
	comp=Z,48nm,16.4s							
LZH	Lanzhou	123.37	14	*e*PKP		PKPdf	11 04 16.4	+0.9
LZH				sPKP			11 04 21.0	
LZH				LN				
	comp=Z,130nm,18.0s							
LZH				LE				
	comp=Z,140nm,17.8s							
LZH				LZ				
	comp=Z,160nm,20.0s							
CD2	Chengdu	128.28	16	PKP		PKPdf	11 04 23.8	-1.0
CMAR	Chiang Mai Arr	138.04	28	PKP		PKPdf	11 04 43.5	+0.1
	comp=Z,0.7nm,0.3s,baz=312,slow=3.0,SNR=7.2							
KULM	Kulim	150.09	37	*e*PKPbc		PKPbc	11 05 09.0	-0.4
IPM	Ipoh	150.96	38	*e*PKPbc		PKPbc	11 05 11.5	0.0
ASAR	Alice Springs	164.86	250	PKP		PKPdf	11 05 21.8	-0.8
	comp=Z,1.8nm,0.9s,baz=98,slow=1.3,SNR=13							
ASAR				PKPab		PKPab	11 06 17.9	-0.7
	comp=Z,0.9nm,0.9s,baz=107,slow=4.2,SNR=6.0							
WRA	Warramunga Arr	164.93	264	PKP		PKPdf	11 05 21.4	-1.2
	comp=Z,1.8nm,0.9s,baz=45,slow=0.6,SNR=8.5							
WRA				PKPab		PKPab	11 06 18.7	-0.4
	comp=Z,1.2nm,0.7s,baz=85,slow=4.1,SNR=9.9							

SJA ***23*** *10:51:00.7±0.3,36°.66S×77°.48W,h274km±999km, ML4.8, MW4.7*

GUC ***23*** *10:51:37.1±0.5,36°.15S×73°.46W,h18km±2km, ML4.3*

ISC 23 10:51:36.4±2.4,36°.18S±0°.06×73°.5W±0°.1,h12km±13km, n15,σ1§17/21,1C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	Cobquecura	0.57	85	⇓*i*P	Pb	10 51 48.5	+0.2
COCH				*i* S	Sb	10 51 56.7	+0.3
CCSP	San Pedro de C	0.73	155	⇓*i*P	Pg	10 51 51.8	+1.2
CCSP				*i* S	Sg	10 52 02.9	-0.6
LNCH	Linares	1.57	78	*e*P	Pb	10 52 05.4	+0.1
LNCH				*i* S	Sg	10 52 26.7	-0.2
TALC	Talca	1.70	63	⇓*i*P	Pb	10 52 06.6	-0.9
TALC				*i* S	Sg	10 52 29.3	-1.9
NICH	Los Niches	2.19	58	*e*P	Pb	10 52 14.5	-1.4
NICH				*i* S	Sb	10 52 43.0	+0.1
CANA	Caviahue	2.59	132	*e*P	Pb	10 52 21.1	-1.7
CANA				AML	AML	10 53 06.9	
	comp=Z,344nm,0.7s						
CHCH	Chadas Angostu	3.23	47	*e*P	Pn	10 52 28.2	+1.2
CLCH	Cerro Calan	3.69	42	⇑*i*P	Pn	10 52 33.1	-0.2
CLCH				*i* S	Sn	10 53 17.5	+0.7
CLCH				AML	AML	10 53 36.5	
	comp=N,352nm,0.8s						
PEL	Peldehue	3.81	38	*e*P	Pn	10 52 34.8	-0.1
AUSP	Uspallata	5.21	42	*e*P	Pn	10 52 54.9	+0.5
ASAL	Salagasta	5.26	48	*e*P	Pn	10 52 57.3	+2.5
RTLS	Leoncito	5.59	40	*e*P	Pn	10 53 00.7	+1.2
RTLS				*e*S	Sb	10 54 27.4	+6.3
RTCV	Cerro Valdivia	5.95	45	*e*P	Pn	10 53 04.8	+0.4
CFAA	Coronel Fontan	6.32	45	*e*P	Pn	10 53 09.1	-0.3
RTLL	Cerro Villicun	6.39	42	*e*P	Pn	10 53 08.9	-1.5

NNC ***23*** *10:55:50.1±1.8,49°.97N×81°.16E,h0km,mb2.7,mpv2.4, Error ellipse: s-maj=27.3km s-min=6.1km az=47.0*

IDC ***23*** *10:55:51.4±1.4,49°.83N×80°.95E,h0km,mb1 2.6/2, mb1mx2.6/29,mbtmp2.6/2,ML1.9/2,Error ellipse: s-maj=25.7km s-min=9.4km az=51.0*

ISCJB ***23*** *10:55:54.6±0.9,49°.91N±0°.06×81°.1E±0°.1,h33km, Error ellipse: s-maj=13.7km s-min=5.5km az=143.1*

ISC 23 10:55:56.7±1.4,49°.85N±0°.07×80°.94E±0°.08,h35km,n7, σ1§68/10,3C-3D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	Kurchatov	1.72	301	⇑Pn	Pn	10 56 22.7	-1.5
	2.6nm,0.7s						
KURK				⇑Sn	Sn	10 56 46.7	+1.8
	5.6nm,0.8s						
KURBB	Kurchatov Arra	1.73	298	⇑Pn	Pn	10 56 22.9	-1.3
	4.1nm,0.5s						
KURBB				⇓Sn	Sn	10 56 46.7	+1.7
	20nm,0.7s						
KURBB	Kurchatov Arra	1.73	298	Pn	Pn	10 56 23.1	-1.1
	0.3nm,0.3s,baz=114,slow=18,SNR=22						
KURBB				Lg	Lg	10 56 46.7	
	0.5nm,0.3s,baz=116,slow=35,SNR=17						
MK31	Makanchi Array	3.19	163	⇓Pn	Pn	10 56 42.9	-1.4
	0.1nm,0.2s,baz=352,slow=14,SNR=18						
MK31				⇓Sn	Sn	10 57 22.7	+1.6
	0.5nm,0.3s,baz=349,slow=27,SNR=6.9						
MKAR	Makanchi Array	3.19	163	Pn	Pn	10 56 43.3	-1.0
	0.2nm,0.3s,baz=346,slow=14,SNR=14						
MKAR				Sn	Sn	10 57 22.6	+1.5
	0.3nm,0.3s,baz=336,slow=21,SNR=4.9						
I46RU	ZALESOVO INFRA	4.76	29	*i*		11 24 10.0	
	baz=211,slow=328,SNR=1.9						
ZALV	Zalesovo Beam	4.76	29	Pn	Pn	10 57 05.2	-0.7
	0.3nm,0.3s,baz=218,slow=14,SNR=3.2						

BJI ***23*** *11:02:12.7,53°.40N×163°.70W,h10km,mb4.6/2,mB4.7/2, Ms4.4/2,Ms7 4.0/2*

IDC ***23*** *11:02:17.7±1.3,53°.66N×163°.87W,h0km,mb4.0/16, mb1 4.1/17,mb1mx3.9/41,mbtmp3.9/17,ML3.4/1,MS3.4/7, Ms1 3.4/7,ms1mx3.0/33,Error ellipse: s-maj=33.1km s-min=16.1km az=167.0*

NEIC ***23*** *11:02:19.7,53°.37N×163°.66W,h29km,mb4.2/14, ML3.7(AEIC),After AEIC.*

ISC 23 11:02:17.5±1.1,53°.39N±0°.06×163°.76W±0°.04,h8km±5km, n90,σ1§30/87,mb4.2/24,MS3.5/6,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	West Dahl East	1.19	336	P	Pn	11 02 40.4	-0.1
WESD	Westdahl Peak	1.25	333	P	Pb	11 02 41.6	+0.3
WESP				S	Sg	11 02 59.0	+1.5
WEBT	Westdahl Beart	1.34	334	P	Pg	11 02 43.7	+0.5
AKSA	Akutan Strait	1.37	304	P	Pb	11 02 43.5	0.0
AKSA				S	Sb	11 03 01.8	+0.7
SSLW	Shishaldin Wes	1.40	351	P	Pn	11 02 43.7	+0.3
AKUT	Akutan	1.41	303	*e*Pn	Pb	11 02 44.3	+0.3
AKUT				*e*Sn	Sb	11 03 03.0	+0.9
SSLN	Shishaldin Nor	1.43	354	P	Pb	11 02 44.6	+0.1
ISNN	Isanotski Nort	1.45	360	P	Pb	11 02 45.0	+0.2
FALS	False Pass	1.49	8	P	Pn	11 02 44.6	+0.1
FALS				S	Sb	11 03 04.4	+0.1
ZRO	Akutan Zero	1.50	299	P	Pb	11 02 45.6	+0.1
AKGG	Akutan Green G	1.55	302	P	Pb	11 02 46.4	-0.1
AKRB	Akutan Reef Bi	1.56	299	P	Pb	11 02 46.6	0.0
AKRB				S	Sg	11 03 08.4	+0.7
UNV	Unalaska Valle	1.70	287	*e*Pn	Pn	11 02 48.0	+0.6
DRIA	Deer Island	1.81	28	P	Pn	11 02 48.6	-0.3
DRIA				S	Sn	11 03 10.8	-1.3
MREP	Makushin Rep't	1.83	285	P	Pn	11 02 51.0	-0.2
MSW	Makushin Switc	1.88	288	P	Pn	11 02 50.9	+1.1
MSW				S	Sn	11 03 14.1	+0.4
DT1	Dutton Round H	1.93	26	P	Pn	11 02 50.7	+0.1
OKFG	Magazine Ridge	2.49	272	P	Pn	11 02 59.7	+1.5
SDPT	Sand Point	2.75	43	*e*Pn	Pn	11 03 02.5	+0.7
NIKH	Nikolski High	3.09	264	*e*Pn	Pn	11 03 07.9	+1.3
CHGN	Chignik	4.25	44	*e*Pn	Pn	11 03 23.5	+1.0
CHGN				*e*Sn	Sn	11 04 10.4	-1.7
KOFP	Korovin Flat P	6.37	264	P	Pn	11 03 55.0	+3.4
ATKA	Atka Island	6.44	264	P	Pn	11 03 54.8	+2.2
KABR	Katmai Barrier	6.87	43	P	Pn	11 03 59.0	+0.5
OHAK	Old Harbor	7.10	53	P	Pn	11 04 00.4	-1.2
GSCK	Great Sitkin C	7.66	265	P	Pn	11 04 11.7	+2.3
KDAK	Kodiak Island	7.71	51	*e*Pn	Pn	11 04 09.2	-0.7
SVW2	Sparrevohn	8.90	27	*e*Pn	Pn	11 04 27.7	+1.4
RSO	Redoubt South	9.29	36	*e*Pn	Pn	11 04 35.0	+3.2
	15nm,0.7s						
SEW	Seward	10.33	44	*e*Pn	Pn	11 04 46.2	+0.4
RC01	Rabbit Creek A	10.81	39	*e*Pn	Pn	11 04 52.4	0.0
GAMB	Gambell	11.20	342	*e*Pn	Pn	11 05 03.3	+5.7
PPLA	Purkeypile	11.30	28	*e*Pn	Pn	11 05 02.4	+3.2
	14nm,1.2s						
PMR	Palmer	11.36	38	*e*Pn	Pn	11 04 58.9	-0.9
	4.6nm,0.6s						
TRF	Thorofare Moun	12.28	29	*e*Pn	Pn	11 05 14.2	+1.6
BPAW	Bear Paw Mtn.	12.59	26	*e*Pn	Pn	11 05 18.2	+1.5
BMRM	Bremner River	12.83	46	*e*Pn	Pn	11 05 14.5	-5.5
MCK	McKinley	12.89	31	*e*Pn	Pn	11 05 22.9	+2.0
PAX	Paxson	13.56	38	*e*Pn	Pn	11 05 28.9	-1.0
ILAR	Eielson Array	14.27	30	Pn	Pn	11 05 36.5	-3.1
	0.1nm,0.3s,baz=225,slow=11,SNR=6.5						
COLD	Coldfoot	15.36	20	*e*Pn	Pn	11 05 56.0	+1.7
	12nm,1.4s						
HYT	Haines Junctio	16.00	52	*e*P	P	11 06 07.8	+1.5
EGAK	Eagle	16.16	36	*e*P	Pn	11 06 06.0	+1.3
	3.4nm,0.8s						
DAWY	Dawson	16.44	40	*e*Pn	Pn	11 06 08.3	0.0
SKAG	Skagway	16.77	57	*e*P	P	11 06 14.9	+0.2
	6.1nm,0.7s						
DLBC	Dease Lake	19.43	61	LR	LR	11 14 26.1	
	comp=Z,128nm,18.1s,baz=215,slow=38						
BILL	Bilibino	20.42	327	*e*P	Pn	11 06 56.1	-0.8
	4.7nm,0.8s						
INK	Inuvik	20.65	32	P	P	11 06 55.5	-1.7
	0.9nm,0.4s,baz=214,slow=11,SNR=12						
INK	Inuvik	20.65	32	*e*P	P	11 06 55.0	-2.2
	13nm,1.5s						
PETK	Petropavlovsk-	22.88	285	P	P	11 07 21.4	+0.1
	4.3nm,0.6s,baz=86,slow=11,SNR=26						
PETK				LR	LR	11 16 06.1	
	comp=Z,52nm,20.9s,baz=68,slow=36						
SEY	Seymchan	24.54	310	P	P	11 07 36.5	-0.8
	2.1nm,0.9s,baz=130,slow=5.9,SNR=4.8						
YKA	Yellowknife Ar	26.99	51	P	P	11 08 00.4	+1.1
	0.4nm,0.5s,baz=270,slow=8.6,SNR=8.1						
TIXI	Tiksi	33.64	328	*e*P	P	11 08 57.5	-0.5
	2.2nm,0.8s						
RLMT	Red Lodge	35.72	81	*e*P	P	11 09 09.5	-7.1
	1.9nm,0.6s						
PHWY	Pilot Hill	40.21	83	*e*P	P	11 09 50.5	-4.1
	30nm,1.1s						
PV01	Paradox Valley	40.35	89	*e*P	P	11 09 56.4	+0.7
H11N2	WAKE ISLAND Hy	40.48	225	T	T	11 53 32.3	
	baz=26,slow=76,SNR=88						
H11N3	WAKE ISLAND Hy	40.49	225	T	T	11 53 24.5	
	baz=26,slow=76,SNR=105						
H11N1	WAKE ISLAND Hy	40.50	225	T	T	11 53 33.6	
	baz=26,slow=76,SNR=97						
H11S1	WAKE ISLAND Hy	41.66	225	T	T	11 54 58.0	
	baz=26,slow=76,SNR=80						
H11S2	WAKE ISLAND Hy	41.67	225	T	T	11 55 01.7	
	baz=26,slow=76,SNR=55						
H11S3	WAKE ISLAND Hy	41.67	225	T	T	11 54 58.6	
	baz=26,slow=76,SNR=96						
KSRS	Korea Array	48.62	280	P	P	11 11 01.6	+0.1
	2.6nm,0.8s,baz=45,slow=8.7,SNR=5.3						
KSRS				LR	LR	11 32 42.5	
	comp=Z,13nm,18.7s,baz=49,slow=38						
KSAR	Wonju Array Be	48.65	280	P	P	11 11 01.6	-0.1
SUMG	Summit	48.76	19	*i* P	P	11 11 03.8	+1.2
	6.6nm,1.1s						
SUMG	Summit	48.76	19	*e*P	P	11 11 03.6	+1.0
	8.9nm,1.1s						
TXAR	Lajitas Array	49.38	94	P	P	11 11 09.3	+1.8
	0.2nm,0.5s,baz=292,slow=5.6,SNR=9.1						
ULN	Ulaanbaatar	53.29	303	*e*P	P	11 11 37.1	+0.4
	10nm,0.8s						
SONM	Songino Array	53.64	303	P	P	11 11 40.0	+0.8
	3.0nm,0.7s,baz=40,slow=7.7,SNR=23						
HHC	Hu-ho-hao-te	55.67	294	*e*P	P	11 11 49.8	-4.3
HHC				pP	pP	11 11 54.6	-2.0
HHC				sP	sP	11 11 57.3	-0.3
HHC				PP	PP	11 13 56.0	-2.0
HHC				S	S	11 19 34.4	-6.0
HHC				ScS	ScS	11 21 35.5	-7.9
HHC				PMZ			
	79nm,5.6s						
HHC				LN			
	79nm,14.7s						
HHC				LE			
	95nm,13.4s						
HHC				LZ			
	44nm,12.9s						
ARCES	ARCESS Array B	57.20	356	P	P	11 12 03.4	-1.0
	1.2nm,0.7s,baz=4.1,slow=6.3,SNR=5.3						
ARCES				LR	LR	11 38 38.9	
	comp=Z,31nm,18.1s,baz=341,slow=38						
ZALV	Zalesovo Beam	58.90	320	P	P	11 12 16.5	0.0
	1.0nm,0.4s,baz=28,slow=7.4,SNR=5.3						
ZALV				LR	LR	11 40 46.1	
	comp=Z,36nm,19.1s,baz=70,slow=39						
LZH	Lanzhou	63.30	295	*e*P	P	11 12 45.3	-1.6
LZH				pP	pP	11 12 47.0	-2.5
LZH				*e*PP	PP	11 15 06.5	+0.9
LZH				PMZ			
	16nm,1.4s						
LZH				PMZ			
	53nm,7.2s						
LZH				LN			
	130nm,15.3s						
LZH				LE			
	140nm,16.0s						
LZH				LZ			
	170nm,18.7s						
KURK	Kurchatov	63.79	321	*e*P	P	11 12 50.1	+0.5
BRVK	Borovoye	64.78	327	*e*P	P	11 12 56.6	+0.6
	3.4nm,0.6s						
FINES	FINESS Array B	65.25	355	P	P	11 12 57.6	-1.4
	2.7nm,0.8s,baz=0.0,slow=5.7,SNR=9.0						
MKAR	Makanchi Array	65.50	316	P	P	11 13 00.6	-0.3
	1.1nm,0.7s,baz=352,slow=3.7,SNR=6.1						
MKAR				LR	LR	11 45 14.5	
	comp=Z,37nm,18.8s,baz=4.0,slow=40						
WMQ	Urumqi	65.50	311	*e*P	P	11 13 00.9	-0.1
NOA	NORSAR Array B	65.85	3	P	P	11 13 02.5	-0.4
	1.7nm,0.9s,baz=356,slow=5.9,SNR=3.8						
CD2	Chengdu	67.23	291	*e*P	P	11 13 10.0	-2.3
ABKAR	Akbulak array	71.26	331	*e*P	P	11 13 37.4	+0.5
	3.4nm,0.6s						
PPT	Papeete	71.72	166	LR	LR	11 43 07.2	
	comp=Z,28nm,18.5s,baz=332,slow=34						
EKS2	Erkin-Say	72.33	319	*e*P	P	11 13 44.7	+1.1
	2.5nm,0.9s						
KKAR	Karatay Array	73.20	322	*e*P	P	11 13 48.6	0.0
	1.3nm,0.6s						
AKASG	Malin Array Be	75.71	352	P	P	11 14 02.6	-0.4
	0.8nm,0.3s,baz=12,slow=5.6,SNR=6.4						
DPC	Dobruska-Polom	76.64	360	*e*P		11 14 09.4	+1.0
DPC				*e*pP	PcP	11 14 18.6	-1.2
KHC	Kasperske Hory	77.83	2	*e*P	P	11 14 15.8	+0.7
KHC				*e*x	x	11 14 19.4	
KHC				*e*pP	PcP	11 14 26.4	+1.4
GERES	GERESS Array B	78.12	2	P	P	11 14 17.5	+0.7
	0.6nm,0.6s,baz=12,slow=5.1,SNR=3.5						
CMAR	Chiang Mai Arr	79.64	287	P	P	11 14 26.1	+0.6
	1.6nm,0.8s,baz=25,slow=6.3,SNR=8.2						
BRTR	Keskin Array B	86.05	347	P	P	11 14 59.2	+0.6
	2.0nm,0.9s,baz=24,slow=2.4,SNR=7.1						

ATH ***23*** *11:15:01.2,36°.08N×21°.48E,h16km±2km,MD3.8/18*

CSEM ***23*** *11:15:02.7±0.5,36°.12N×21°.60E,h2km,ML3.3,Error ellipse: s-maj=9.5km s-min=5.7km az=38.0*

THE ***23*** *11:15:04.1,36°.16N×21°.68E,h0km±2km,ML3.3/4,Error ellipse: s-maj=3.1km s-min=1.3km az=205.0*

ISC 23 11:15:01.9±1.5,36°.08N±0°.05×21°.44E±0°.05,h21km±5km, n64,σ1§39/84,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	0.85	17	P	Pb	11 15 17.4	-0.5
PYL				S	Sb	11 15 28.9	0.0
PYL	PYLOS	0.85	17	*e*PN	Pb	11 15 17.5	-0.5
PYL				*e*SN	Sb	11 15 29.0	0.0
PYL	PYLOS	0.85	17	*e*Pn	Pb	11 15 17.5	-0.5
PYL				S	Sb	11 15 28.9	0.0
ITM	Ithomi	1.17	20	P	Pb	11 15 23.1	+0.3
ITM				S	Sn	11 15 39.5	+1.2
ITM	Ithomi	1.17	20	*e*PN	Pb	11 15 23.1	-0.3
ITM				*e*SN	Sn	11 15 38.9	+0.6
ITM	Ithomi	1.17	20	P	Pb	11 15 23.1	-0.3
ITM				*e*Sn	Sn	11 15 38.9	+0.6
ITM				S	Sn	11 15 39.5	+1.2
KYTH	Kithira	1.31	81	P	Pb	11 15 25.1	-0.7
KYTH	Kithira	1.31	81	*e*PN	Pb	11 15 25.3	-0.5
KYTH	Kithira	1.31	81	P	Pb	11 15 25.1	-0.7
VLI	Veliai	1.37	62	P	Pb	11 15 25.5	-1.3
VLI				S	Sb	11 15 42.4	-1.4
VLI	Veliai	1.37	62	*e*PB	Pb	11 15 25.6	-1.3
VLI				*e*SN	Sb	11 15 45.3	+1.5
VLI	Veliai	1.37	62	P	Pb	11 15 25.5	-1.3
VLI				S	Sb	11 15 42.4	-1.4
VLI				*e*Sn	Sb	11 15 45.3	+1.5
AMT	Artemida-Makis	1.47	8	P	Pb	11 15 29.3	+0.8
AMT	Artemida-Makis	1.47	8	*e*PN	Pb	11 15 29.1	+0.6
AMT	Artemida-Makis	1.47	8	P	Pb	11 15 29.3	+0.8
VLX	Vlachokerasia	1.49	30	P	Pb	11 15 28.2	-0.8
VLX				S	Sb	11 15 48.8	+1.2
VLX	Vlachokerasia	1.49	30	*e*PN	Pb	11 15 28.5	-0.5
VLX				*e*SN	Sb	11 15 49.7	+2.1
VLX	Vlachokerasia	1.49	30	P	Pb	11 15 28.2	-0.8
VLX	Vlachokerasia	1.49	30	*e*Pn	Pb	11 15 28.5	-0.5
VLX				S	Sb	11 15 48.8	+1.2
VLX				*e*Sn	Sb	11 15 49.7	+2.1
ANKY	Antikythira Is	1.53	97	P	Pb	11 15 29.8	+0.3
ANKY	Antikythira Is	1.53	97	*e*PN	Pb	11 15 29.6	+0.1
ANKY				*e*SN	Sb	11 15 50.6	+2.2
ANKY	Antikythira Is	1.53	97	*e*Pn	Pb	11 15 29.6	+0.1
ANKY				*e*Sn	Sb	11 15 50.6	+2.2
ZKS	Zakynthos	1.70	342	*e*PN	Pb	11 15 32.4	0.0
ZKS	Zakynthos	1.70	342	*e*Pn	Pb	11 15 32.4	0.0
DRO	Drossia	1.88	7	P	Pb	11 15 35.9	+0.3
DRO	Drossia	1.88	7	*e*PN	Pb	11 15 35.8	+0.2
DRO	Drossia	1.88	7	*e*Pn	Pb	11 15 35.8	+0.2
GUR	Goura	1.99	21	P	Pb	11 15 37.3	-0.2
GUR	Goura	1.99	21	*e*PN	Pb	11 15 37.2	-0.2
GUR	Goura	1.99	21	*e*Pn	Pb	11 15 37.2	-0.2
DID	Didima	2.03	45	P	Pb	11 15 36.3	-1.8
DID				S	Sb	11 16 01.5	-1.4
DID	Didima	2.03	45	*e*PN	Pb	11 15 36.4	-1.7
DID	Didima	2.03	45	P	Pb	11 15 36.3	-1.8
DID				S	Sb	11 16 01.5	-1.4
KLV	Kalavryta, Ach	2.04	16	P	Pb	11 15 37.8	-0.5
KLV	Kalavryta, Ach	2.04	16	*e*PN	Pb	11 15 37.9	-0.4
KLV	Kalavryta, Ach	2.04	16	P	Pb	11 15 37.8	-0.5
KFL	Anninata	2.09	346	P	Pb	11 15 39.7	+0.6
KFL	Anninata	2.09	346	P	Pb	11 15 39.7	+0.6
KARN	Karanos	2.13	108	P	Pb	11 15 38.0	-1.8
KARN	Karanos	2.13	108	*e*PN	Pb	11 15 38.0	-1.8
KARN	Karanos	2.13	108	P	Pb	11 15 38.0	-1.8
VLS	Valsamata	2.20	342	P	Pb	11 15 40.6	-0.4
VLS				S

GDZ				*i* S		**Sg**	**11 34 18.4**	**+1.1**
TVSB	**Tavsanli**	**0.42**	**60**	*e*PG		**Pb**	**11 34 14.8**	**+0.4**
TVSB				*e*SG		**Sb**	**11 34 21.0**	**-0.4**
TVSB	**Tavsanli**	**0.42**	**60**	*e*Pg		**Pb**	**11 34 14.9**	**+0.4**
TVSB				*e*Sg		**Sb**	**11 34 21.0**	**-0.4**
DURS	**Dursunbey**	**0.54**	**312**	*i* P		**Pn**	**11 34 19.8**	**+0.6**
DURS				*i* S		**Sn**	**11 34 28.7**	**-0.4**
DURS	**Dursunbey**	**0.54**	**312**	*i* P		**Pn**	**11 34 19.8**	**+0.6**
DURS				*i* S		**Sn**	**11 34 28.7**	**-0.4**
KULA	**Kula-Manisa**	**0.77**	**200**	*e*PG		**Pg**	**11 34 19.3**	**+0.3**
KULA				*e*SG		**Sg**	**11 34 28.0**	**-1.0**
KULA	**Kula-Manisa**	**0.77**	**200**	*e*Pg		**Pg**	**11 34 19.3**	**+0.3**
KULA				*e*Sg		**Sg**	**11 34 28.0**	**-1.0**
MANT	**Manisa**	**0.83**	**205**	*i* P		**Pg**	**11 34 20.5**	**+0.5**
MANT				*i* S		**Sg**	**11 34 29.8**	**-0.9**
MANT	**Manisa**	**0.83**	**205**	*i* P		**Pg**	**11 34 20.5**	**+0.5**
MANT				*i* S		**Sg**	**11 34 29.8**	**-0.9**
ALT	**Altintas**	**0.89**	**102**	*e*PG		**Pb**	**11 34 22.7**	**+0.2**
ALT	**Altintas**	**0.89**	**102**	*e*Pg		**Pb**	**11 34 22.7**	**+0.2**
IZI	**Iznik**	**1.15**	**18**	*e*PN		**Pg**	**11 34 26.5**	**+0.2**
IZI	**Iznik**	**1.15**	**18**	*e*Pn		**Pg**	**11 34 26.5**	**+0.2**
CAVI	**Cavuskoy**	**1.16**	**34**	*e*PN		**Pb**	**11 34 27.2**	**+0.1**
CAVI	**Cavuskoy**	**1.16**	**34**	*e*Pn		**Pb**	**11 34 27.2**	**+0.1**
ADVT	**Abdulvahap**	**1.32**	**25**	*e*PN		**Pg**	**11 34 28.8**	**-0.7**
ADVT	**Abdulvahap**	**1.32**	**25**	*e*Pn		**Pg**	**11 34 28.8**	**-0.7**
ARMT	**Armutlu**	**1.32**	**356**	*e*PN		**Pg**	**11 34 28.8**	**-0.8**
ARMT	**Armutlu**	**1.32**	**356**	*e*Pn		**Pg**	**11 34 28.8**	**-0.8**

*SJA **23** 11:39:51.6±1.0, 35°.56S×75°.29W, h30km, ML3.9, MW3.8*
*IDC **23** 11:40:07.6±1.1, 36°.18S×74°.37W, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.8/16, mbtmp3.6/6, ML3.7/1, MS3.2/2, Ms1 3.1/2, ms1mx2.8/21, Error ellipse: s-maj=40.5km s-min=19.6km az=70.0*

ISC 23 11:40:09.7±1.1, 36°.0S±0°.1×73°.9W±0°.2, h10km, n14, σ1♀95/8, mb3.9/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CANA	**Caviahue**	**2.96**	**130**	*e*P		**Pn**	**11 40 56.0**	**-0.9**
CANA					AML	AML	11 41 47.1	
	comp=Z,154nm,0.6s							
AAGR	**Agrelo**	**5.11**	**57**	*e*P		Pn	11 41 20.9	-5.4
AUSP	**Uspallata**	**5.32**	**46**	*e*P		Pn	11 41 21.8	-7.7
AUSP				*e*S		**Sn**	**11 42 29.3**	**-1.6**
ASAL	**Salagasta**	**5.41**	**52**	*e*P		Pn	11 41 23.7	-6.8
ASAL				*e*S		Sn	11 42 30.4	-2.5
PLCA	**Paso Flores**	**5.41**	**152**	Pn		**Pn**	**11 41 31.4**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=333,slow=9.8,SNR=19							
PLCA				Lg		Lg	11 42 57.7	
	comp=Z,0.5nm,0.3s,baz=268,slow=22,SNR=4.8							
PLCA				LR		LR	11 43 50.9	
	comp=Z,150nm,21.3s,baz=305,slow=41							
RTLS	**Leoncito**	**5.68**	**44**	*e*P		Pn	11 41 25.3	-9.3
RTLL	**Cerro Villicun**	**6.50**	**46**	*e*P		Pn	11 41 36.1	-9.4
AMOG	**MOGNA**	**6.78**	**43**	*e*P		Pn	11 41 39.8	-10
LPAZ	**La Paz**	**20.30**	**16**	P		**P**	**11 44 47.6**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=202,slow=11,SNR=4.0							
VNDA	**Vanda**	**61.84**	**192**	P		**P**	**11 50 25.7**	**-2.7**
	comp=Z,0.5nm,0.4s,baz=98,slow=7.1,SNR=6.8							
TXAR	**Lajitas Array**	**70.77**	**333**	P		**P**	**11 51 25.8**	**-0.5**
	comp=Z,0.2nm,0.7s,baz=148,slow=7.4,SNR=3.5							
SUR	**Sutherland**	**75.20**	**119**	LR		LR	12 20 56.3	
	comp=Z,21nm,18.9s,baz=114,slow=32							
BOSA	**Boshof**	**80.49**	**118**	P		**P**	**11 52 24.6**	**+2.3**
	comp=Z,1.7nm,0.8s,baz=232,slow=11,SNR=2.6							
TORD	**Torodi Ar. Bea**	**86.33**	**71**	P		**P**	**11 52 53.2**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=246,slow=3.8,SNR=3.2							

GUC 23 11:43:46.1±0.6, 34°.22S×72°.25W, h12km±2km, ML3.6, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.74**	**70**	⇓*i*P		Pg	11 43 59.6	-0.9
NICH	**Los Niches**	**1.15**	**133**	⇑*i*P		Pb	11 44 05.9	-2.1
NICH				*i* S		Sb	11 44 20.7	-2.1
TACH	**Talagante**	**1.23**	**63**	⇑*i*P		Pn	11 44 06.7	-2.4
TALC	**Talca**	**1.28**	**157**	⇑*i*P		Pn	11 44 07.7	-2.1
TALC				*i* S		Sb	11 44 24.2	-2.5
CHCH	**Chadas Angostu**	**1.35**	**78**	*e*P		Pn	11 44 08.9	-2.0
CHCH				*e*S		Sb	11 44 26.7	-2.2
SAN	**Santiago**	**1.52**	**60**	*e*S		Sn	11 44 31.3	-1.8
PCH	**Pirque**	**1.56**	**68**	*e*P		Pn	11 44 12.6	-1.2
PCH				*i* S		Sn	11 44 32.5	-1.6
ROCH	**El Roble**	**1.61**	**40**	*e*P		Pn	11 44 13.7	-1.0
ROCH				*i* S		Sn	11 44 34.6	-1.1
ROCH					AML	AML	11 44 42.4	
	comp=N,1μm,0.5s							
CLCH	**Cerro Calan**	**1.64**	**61**	⇑*i*P		Pn	11 44 13.7	-1.3
CLCH				*e*S		Sn	11 44 34.7	-1.4
CLCH					AML	AML	11 44 44.6	
	comp=E,1μm,0.6s							
SJCH	**San Jose de Ma**	**1.68**	**70**	*e*P		Pn	11 44 13.5	-1.9
SJCH				*i* S		Sn	11 44 35.0	-1.9
PEL	**Peldehue**	**1.69**	**51**	*e*P		Pn	11 44 14.7	-0.8
PEL				*i* S		Sn	11 44 36.3	-0.8
PEL					AML	AML	11 44 44.2	
	comp=N,2μm,0.6s							
LNCH	**Linares**	**1.71**	**162**	⇓*i*P		Pn	11 44 14.8	-1.0
LNCH				*i* S		Sn	11 44 37.0	-0.6
COCH	**Cobquecura**	**1.96**	**193**	*e*P		Pn	11 44 16.8	-2.3
COCH				*e*S		Sn	11 44 41.6	-2.0

SKHL 23 11:46:14.0±1.3, 43°.99N×149°.75E, h35km±3km, mb3.9/2, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.83**	**313**	*e*P		Pn	11 46 42.8	-0.1
KUR					AMB	AMB	11 46 45.0	
	10.0nm,0.5s							
KUR					AMB	AMB	11 46 45.0	
	20nm,0.5s							
KUR				*i* S		Sn	11 47 05.4	+0.5
KUR				A		A	11 47 10.0	
	150nm,0.6s							
KUR				A		A	11 47 10.0	
	90nm,0.6s							
SHO	**Shikotan**	**2.11**	**268**	*e*P		Pn	11 46 46.9	+0.1
SHO					AMB	AMB	11 46 49.5	
	121nm,0.9s							
SHO				*e*S		Sn	11 47 10.6	-1.2
SHO				A		A	11 47 18.4	
	150nm,0.8s							
YUK	**Yuzh-Kuril'sk**	**2.81**	**272**	*e*P		Pn	11 46 57.4	+1.1
YUK				*e*S		Sn	11 47 28.6	-0.3
YUK				A		A	11 47 32.5	
	20nm,0.4s							
MYR	**Moyori**	**5.03**	**252**	*e*P		Pn	11 47 28.2	+1.3
YSS	**Yuzh-Sakhalins**	**5.74**	**304**	*e*P		Pn	11 47 39.0	+2.3

*IDC **23** 12:08:29.1±0.9, 37°.49S×74°.79W, h0km, mb3.9/8, mb1 4.2/10, mb1mx4.0/31, mbtmp3.9/10, ML3.9/2, MS3.4/5, Ms1 3.4/5, ms1mx3.0/21, Error ellipse: s-maj=32.3km s-min=18.1km az=83.0*
*GUC **23** 12:08:31.4±0.3, 37°.65S×74°.62W, h20km±2km, ML4.4*
*ISCJB **23** 12:08:32.8±0.4, 37°.60S±0°.04×74°.65W±0°.06, h33km, mb4.2/20, MS3.3/4, Error ellipse: s-maj=6.4km s-min=5.1km az=4.8*
*NEIC **23** 12:08:34.5±0.4, 37°.52S×74°.62W, h35km, mb4.4/15, Error ellipse: s-maj=11.5km s-min=8.7km az=62.0*

ISC 23 12:08:33.9±0.7, 37°.54S±0°.05×74°.76W±0°.09, h35km, n43, σ1♀41/48, mb4.3/20, MS3.5/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**1.49**	**63**	*e*P		**Pn**	**12 08 56.1**	**-2.1**
CCSP				*e*S		**Sn**	**12 09 15.0**	**-1.4**
CCSP					AML	AML	12 09 16.4	
	comp=E,6μm,0.3s							
PSCH	**Puerto Saavedr**	**1.65**	**140**	*e*P		**Pn**	**12 08 58.5**	**-1.9**
PSCH				*e*S		**Sn**	**12 09 17.9**	**-2.5**
PSCH					AML	AML	12 09 23.6	
	comp=N,18μm,0.4s							
COCH	**Cobquecura**	**2.12**	**49**	*e*P		**Pn**	**12 09 05.4**	**-1.4**
COCH				*e*S		**Sn**	**12 09 32.2**	**+0.3**
VLCH	**Valdivia**	**2.55**	**153**	*e*P		**Pn**	**12 09 10.8**	**-1.9**
VLCH				*e*S		**Sn**	**12 09 40.3**	**-2.2**

LNCH	**Linares**	**3.05**	**57**	*e*P		**Pn**	**12 09 19.1**	**-0.6**
LNCH					AML	AML	12 09 59.6	
	comp=N,775nm,0.8s							
TALC	**Talca**	**3.31**	**51**	*e*P		**Pn**	**12 09 22.7**	**-0.4**
TALC				*e*S		**Sn**	**12 10 01.9**	**+0.7**
PLCA	**Paso Flores**	**4.57**	**136**	Pn		**Pn**	**12 09 40.5**	**-0.1**
	comp=N,1.8nm,0.3s,baz=309,slow=8.3,SNR=74							
PLCA					Sn	**Sn**	**12 10 36.4**	**+4.0**
	comp=N,5.5nm,0.3s,baz=208,slow=23,SNR=5.9							
PLCA					LR	LR	12 11 36.4	
	comp=N,585nm,20.2s,baz=341,slow=40							
PLCA	**Paso Flores**	**4.57**	**136**	*e*Pn		**Pn**	**12 09 40.3**	**-0.2**
CFAA	**Coronel Fontan**	**8.00**	**44**	Pn		**Pn**	**12 10 26.4**	**-1.2**
	comp=N,1.0nm,0.3s,baz=223,slow=9.7,SNR=33							
CFAA					Sn	**Sn**	**12 11 55.5**	**-1.5**
	comp=N,0.4nm,0.3s,baz=90,slow=20,SNR=4.1							
LCO	**Las Campanas**	**9.16**	**23**	*e*Pn		**Pn**	**12 10 41.4**	**-2.4**
LCO				*e*Sn		**Sn**	**12 12 23.1**	**-2.8**
TRQA	**Tornquist**	**10.13**	**97**	*e*Pn		**Pn**	**12 10 57.7**	**+0.8**
LPAZ	**La Paz**	**21.97**	**17**	P		**P**	**12 13 25.2**	**-0.2**
	comp=N,2.1nm,0.8s,baz=210,slow=4.6,SNR=6.7							
LPAZ	**La Paz**	**21.97**	**17**	*e*P		**P**	**12 13 25.5**	**+0.1**
	comp=N,6.3nm,1.0s							
SIV	**San Ignacio**	**24.64**	**33**	P		**P**	**12 13 51.2**	**-0.1**
	comp=N,1.6nm,0.8s,baz=210,slow=9.5,SNR=3.6							
SIV					LR	LR	12 25 01.5	
	comp=N,32nm,20.1s,baz=34,slow=40							
BDFB	**Brasilia**	**32.17**	**55**	LR		LR	12 27 45.6	
	comp=N,112nm,19.4s,baz=215,slow=36							
VNA3	**Neumayer Olymp**	**46.96**	**156**	P		**P**	**12 17 01.9**	**+1.0**
VNA2	**Neumayer--Watz**	**47.65**	**156**	P		**P**	**12 17 07.1**	**+0.9**
	baz=279,slow=7.8							
SNAA	**Sanae**	**49.18**	**157**	P		**P**	**12 17 17.0**	**-1.1**
SNAA	**Sanae**	**49.18**	**157**	P		**P**	**12 17 18.8**	**+0.7**
	comp=N,2.1nm,0.9s,baz=277,slow=6.4,SNR=18							
SNAA	**Sanae**	**49.18**	**157**	*e*P		**P**	**12 17 16.5**	**-1.6**
	comp=N,16nm,1.4s							
QSPA	**South Pole Qui**	**52.70**	**180**	P		**P**	**12 17 45.5**	**+0.8**
	comp=N,3.4nm,0.9s,baz=153,slow=0.6,SNR=19							
QSPA	**South Pole Qui**	**52.70**	**180**	*e*P		**P**	**12 17 45.3**	**+0.6**
	comp=N,2.7nm,0.7s							
TXAR	**Lajitas Array**	**71.83**	**334**	P		**P**	**12 19 53.3**	**+0.3**
	comp=N,1.3nm,1.0s,baz=155,slow=8.3,SNR=8.7							
WVT	**Waverly**	**74.30**	**349**	*e*P		**P**	**12 20 07.6**	**+0.3**
	comp=N,3.5nm,1.0s							
ANMO	**Albuquerque**	**77.90**	**334**	*e*P		**P**	**12 20 29.7**	**+1.5**
	comp=N,4.0nm,1.5s							
SDCO	**Great Sand Dun**	**80.11**	**336**	*e*P		**P**	**12 20 41.4**	**+1.1**
	comp=N,2.3nm,1.1s							
BOSA	**Boshof**	**80.36**	**119**	LR		LR	12 52 35.7	
	comp=N,23nm,18.4s,baz=216,slow=33							
LBTB	**Lobatse**	**82.79**	**116**	*e*P		**P**	**12 20 55.1**	**+0.3**
	comp=N,4.1nm,0.7s							
MPU	**Maple Canyon**	**84.28**	**332**	*e*P		**P**	**12 21 02.8**	**+0.8**
	comp=N,5.7nm,1.0s							
JLU	**Jordanelle**	**84.72**	**333**	*e*P		**P**	**12 21 05.5**	**+1.2**
	comp=N,5.9nm,1.3s							
RSSD	**Black Hills**	**85.50**	**339**	*e*P		**P**	**12 21 08.4**	**+0.4**
	comp=N,2.0nm,0.9s							
NVAR	**Mina Array Bea**	**85.59**	**327**	P		**P**	**12 21 09.7**	**+1.0**
	comp=N,0.8nm,0.8s,baz=139,slow=8.1,SNR=4.1							
HWUT	**Hardware Ranch**	**85.65**	**333**	*e*P		**P**	**12 21 09.7**	**+0.9**
	comp=N,4.5nm,1.2s							
PDAR	**Pinedale Array**	**85.98**	**335**	P		**P**	**12 21 10.4**	**-0.1**
	comp=N,1.1nm,0.8s,baz=134,slow=4.3,SNR=6.9							
TPAW	**Teton Pass**	**87.09**	**335**	*e*P		**P**	**12 21 16.8**	**+0.9**
	comp=N,2.1nm,0.7s							
TORD	**Torodi Ar. Bea**	**87.47**	**71**	P		**P**	**12 21 18.6**	**+0.5**
	comp=N,0.8nm,0.6s,baz=222,slow=4.4,SNR=5.6							
TORD					LR	LR	12 57 41.2	
	comp=N,17nm,20.7s,baz=220,slow=34							
FLWY	**Flagg Ranch**	**87.53**	**335**	*e*P		**P**	**12 21 19.4**	**+1.5**
	comp=N,4.7nm,0.8s							
HLID	**Hailey**	**88.39**	**332**	*e*P		**P**	**12 21 23.8**	**+1.7**
	comp=N,2.1nm,1.0s							
MCMT	**McKenzie Canyo**	**88.92**	**334**	*e*P		**P**	**12 21 26.2**	**+1.6**
	comp=N,0.4nm,0.5s							
TIXI	**Tiksi**	**143.73**	**348**	*e*PKPdf		PKPab	12 28 01.0	+0.2
ABKAR	**Akbulak array**	**145.56**	**55**	*e*PKPdf		**PKPab**	**12 28 08.6**	**+0.2**
BRVK	**Borovoye**	**151.28**	**46**	*e*PKPbc		**PKPbc**	**12 28 23.9**	**+0.9**
TATO	**Taipei**	**161.33**	**232**	*e*PKPdf		**PKPdf**	**12 28 29.2**	**-1.8**

*ISCJB **23** 12:19:38.7±0.2, 59°.77N±0°.02×152°.62W±0°.04, h100km±2km, mb4.0/17, Error ellipse: s-maj=3.8km s-min=2.8km az=142.6*
*IDC **23** 12:19:42.0±2.6, 60°.06N×152°.82W, h95km±25km, mb3.7/17, mb1 3.9/22, mb1mx3.7/41, mbtmp4.1/22, Error ellipse: s-maj=22.2km s-min=9.7km az=25.0*
*NEIC **23** 12:19:41.2, 59°.77N×152°.67W, h82km, MG3.8(AEIC), After AEIC.*
NEIC Felt at Anchor Point and Homer.

ISC 23 12:19:40.0±0.6, 59°.80N±0°.03×152°.70W±0°.03, h87km±5km, n132, σ1♀10/150, mb3.9/17, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ILS	**Iliamna Low So**	**0.25**	**311**	P		**Pn**	**12 19 53.1**	**+0.2**
IVS	**Iliamna South**	**0.29**	**318**	P		**Pn**	**12 19 53.6**	**+0.2**
OPT	**Oil Point**	**0.31**	**243**	P		**Pn**	**12 19 53.5**	**+0.3**
ILW	**Iliamna West**	**0.35**	**320**	P		**Pn**	**12 19 53.6**	**+0.1**
HOM	**Homer**	**0.55**	**104**	P		**Pn**	**12 19 55.5**	**+0.7**
HOM				S		**Sn**	**12 20 07.0**	**+1.2**
AUL	**Augustine Lava**	**0.56**	**223**	P		**Pn**	**12 19 55.3**	**+0.3**
AUL				S		**Sn**	**12 20 06.3**	**+0.3**
AUP	**Augustine Pinn**	**0.57**	**221**	P		**Pn**	**12 19 55.4**	**+0.3**
AUI	**Augustine Isla**	**0.59**	**219**	P		**Pn**	**12 19 55.4**	**+0.2**
RDN	**Redoubt North**	**0.72**	**357**	P		**Pn**	**12 19 57.1**	**+0.5**
NNL	**Ninilchik**	**0.75**	**70**	P		**Pn**	**12 19 58.2**	**+1.6**
PDB	**Pedro Bay**	**0.76**	**270**	P		**Pn**	**12 19 56.9**	**+0.1**
NCT	**North Crescent**	**0.78**	**351**	P		**Pn**	**12 19 57.5**	**+0.3**
NCT				S		**Sn**	**12 20 10.8**	**+0.9**
DFR	**Drift River**	**0.80**	**0**	P		**Pn**	**12 19 57.8**	**+0.5**
BRLK	**Bradley Lake**	**0.92**	**91**	P		**Pn**	**12 19 58.7**	**+0.1**
BRLK				S		**Sn**	**12 20 13.0**	**+0.6**
MCNL	**McNeil River**	**1.04**	**235**	P		**Pn**	**12 19 59.8**	**-0.1**
NKA	**Nikishka**	**1.20**	**37**	P		**Pn**	**12 20 04.2**	**+2.4**
CKL	**Chakachamna La**	**1.42**	**7**	P		**Pn**	**12 20 05.3**	**+0.6**
SPU	**Mount Spurr**	**1.43**	**13**	*e*Pn		**Pn**	**12 20 05.3**	**+0.6**
SPU				*e*Sn		**Sn**	**12 20 23.6**	**+0.2**
SLKM	**Skilak Lake**	**1.43**	**59**	P		**Pn**	**12 20 04.5**	**-0.2**
CKN	**Chakachatna No**	**1.46**	**10**	P		**Pn**	**12 20 05.9**	**+0.8**
SPBG	**Spurr Blockage**	**1.48**	**6**	P		**Pn**	**12 20 06.1**	**+0.7**
SPBG				S		**Sn**	**12 20 25.4**	**+0.8**
BGL	**Barrier Glacie**	**1.48**	**6**	P		**Pn**	**12 20 06.2**	**+0.7**
SEW	**Seward**	**1.66**	**78**	P		**Pn**	**12 20 07.0**	**-0.6**
SEW				S		**Sn**	**12 20 28.1**	**-0.4**
STLK	**Strandline Lak**	**1.76**	**14**	P		**Pn**	**12 20 09.8**	**+0.8**
FIB	**Fire Island**	**1.86**	**41**	P		**Pn**	**12 20 12.0**	**+1.9**
SUA	**Susitna One**	**1.93**	**29**	P		**Pn**	**12 20 12.1**	**+0.8**
SUA				S		**Sn**	**12 20 36.2**	**+1.2**
KAKN	**Katmai Knife C**	**1.94**	**220**	P		**Pn**	**12 20 11.5**	**+0.1**
KAKN				S		**Sn**	**12 20 34.1**	**-1.1**
SVW2	**Sparrevohn**	**1.94**	**314**	P		**Pn**	**12 20 11.2**	**0.0**
SVW2				S		**Sn**	**12 20 33.7**	**-1.3**
KVTA	**Katmai Vly 10**	**1.95**	**225**	P		**Pn**	**12 20 11.7**	**+0.3**
RC01	**Rabbit Creek A**	**1.96**	**47**	P		**Pn**	**12 20 11.8**	**+0.3**
RC01				S		**Sn**	**12 20 36.0**	**+0.5**
KCE	**Katmai Mt Cerb**	**2.02**	**221**	P		**Pn**	**12 20 13.1**	**+0.7**
KDAK	**Kodiak Island**	**2.02**	**178**	P		**Pn**	**12 20 12.2**	**0.0**
KDAK				S		**Sn**	**12 20 36.1**	**-0.8**
KABR	**Katmai Barrier**	**2.04**	**216**	P		**Pn**	**12 20 12.9**	**+0.2**
KELA	**Mount Kelaz**	**2.08**	**230**	P		**Pn**	**12 20 13.3**	**+0.2**
PTE	**Portage**	**2.12**	**58**	P		**Pn**	**12 20 13.9**	**+0.3**
SKT	**Skwentna**	**2.27**	**14**	P		**Pn**	**12 20 16.0**	**+0.4**
PMR	**Palmer**	**2.52**	**43**	P		**Pn**	**12 20 18.8**	**-0.1**
PMR				S		**Sn**	**12 20 47.0**	**-1.6**
PLWL	**Peulik Whale M**	**2.58**	**229**	P		**Pn**	**12 20 19.8**	**+0.1**
OHAK	**Old Harbor**	**2.60**	**187**	P		**Pn**	**12 20 18.8**	**-1.2**
TRAP	**Trapper Creek**	**2.81**	**24**	P		**Pn**	**12 20 23.5**	**+0.7**
PLK5	**Peulik 5**	**2.82**	**232**	P		**Pn**	**12 20 23.9**	**+0.9**
CUT	**Chuliitna**	**2.87**	**23**	P		**Pn**	**12 20 24.4**	**+0.8**
PLK4	**Peulik 4**	**2.89**	**223**	P		**Pn**	**12 20 24.2**	**+0.2**
GLI	**Glacier Island**	**2.99**	**66**	P		**Pn**	**12 20 23.8**	**-1.5**
PPLA	**Purkeypile**	**3.12**	**4**	P		**Pn**	**12 20 28.4**	**+1.3**
MID	**Middleton Isla**	**3.25**	**94**	P		**Pn**	**12 20 28.5**	**-0.3**
JPK	**Jack Peak**	**3.28**	**65**	P		**Pn**	**12 20 28.4**	**-0.8**
SCM	**Sheep Creek Mo**	**3.33**	**50**	P		**Pn**	**12 20 29.7**	**-0.2**
VLZ	**Valdez**	**3.42**	**64**	P		**Pn**	**12 20 30.4**	**-0.7**
TT01	**Tatalina**	**3.51**	**334**	P		**Pn**	**12 20 32.5**	**+0.3**
EYAK	**Cordova Ski Ar**	**3.55**	**75**	P		**Pn**	**12 20 31.6**	**-1.2**
DIV	**Divide**	**3.68**	**66**	P		**Pn**	**12 20 33.9**	**-0.7**

KLU	**Klutina**	**3.75**	**60**	P		**Pn**	**12 20 35.1**	**-0.4**
TRF	**Thorofare Moun**	**3.84**	**16**	P		**Pn**	**12 20 37.3**	**+0.3**
KTH	**Kantishna Hill**	**3.87**	**12**	P		**Pn**	**12 20 37.6**	**+0.5**
GOAT	**Goat Mountain**	**4.06**	**75**	P		**Pn**	**12 20 38.8**	**-1.0**
RAGM	**Ragged Mountai**	**4.06**	**78**	P		**Pn**	**12 20 38.5**	**-1.2**
RND	**Reindeer**	**4.06**	**25**	P		**Pn**	**12 20 40.3**	**+0.5**
CHUM	**Lake Minchumin**	**4.11**	**2**	P		**Pn**	**12 20 41.1**	**+0.8**
DHY	**Denali Highway**	**4.17**	**36**	P		**Pn**	**12 20 41.7**	**+0.4**
KAIM	**Kayak Island**	**4.18**	**85**	P		**Pn**	**12 20 41.4**	**+0.1**
BMRM	**Bremner River**	**4.18**	**70**	P		**Pn**	**12 20 40.3**	**-1.2**
PS11	**TAPS Pump St11**	**4.20**	**54**	P		**Pn**	**12 20 41.6**	**0.0**
MCK	**McKinley**	**4.34**	**23**	P		**Pn**	**12 20 44.2**	**+0.7**
BPAW	**Bear Paw Mtn.**	**4.40**	**10**	P		**Pn**	**12 20 44.2**	**0.0**
NICHA	**Nichawak Mount**	**4.40**	**80**	P		**Pn**	**12 20 43.4**	**-1.0**
SUCK	**Suckling Hills**	**4.50**	**83**	P		**Pn**	**12 20 45.0**	**-0.6**
HARP	**HAARP**	**4.50**	**51**	P		**Pn**	**12 20 45.6**	**-0.1**
BWN	**Browne**	**4.65**	**18**	P		**Pn**	**12 20 49.1**	**+1.4**
GLB	**Gilahina Butte**	**4.68**	**66**	P		**Pn**	**12 20 47.4**	**-0.8**
WASW	**Wrangell South**	**4.68**	**59**	P		**Pn**	**12 20 48.4**	**0.0**
PAX	**Paxson**	**4.71**	**44**	P		**Pn**	**12 20 48.8**	**+0.2**
KHIT	**Khitrov Hills**	**4.77**	**78**	P		**Pn**	**12 20 47.9**	**-1.5**
VRDI	**Verde Repeater**	**4.79**	**69**	P		**Pn**	**12 20 48.7**	**-1.1**
KULT	**Kultieth River**	**5.02**	**81**	P		**Pn**	**12 20 51.8**	**-1.1**
BARK	**Barkley Ridge**	**5.14**	**79**	P		**Pn**	**12 20 53.6**	**-0.9**
DDM	**Donnelly Dome**	**5.15**	**36**	P		**Pn**	**12 20 56.3**	**+1.7**
ISLE	**Juniper Island**	**5.23**	**77**	P		**Pn**	**12 20 54.7**	**-1.0**
PTPK	**Patty Peak**	**5.25**	**70**	P		**Pn**	**12 20 55.7**	**-0.4**
KIAG	**Kiagna River**	**5.25**	**73**	P		**Pn**	**12 20 54.9**	**-1.2**
BAGL	**Bagley Icefiel**	**5.35**	**78**	P		**Pn**	**12 20 56.3**	**-0.8**
HDA	**Harding Lake**	**5.35**	**28**	P		**Pn**	**12 20 57.7**	**+0.5**
CCB	**Clear Creek Bu**	**5.38**	**23**	P		**Pn**	**12 20 57.6**	**0.0**
PS08	**TAPS Pump Stn8**	**5.50**	**27**	P		**Pn**	**12 20 59.7**	**+0.4**
GRNC	**Granite Creek**	**5.53**	**76**	P		**Pn**	**12 20 59.0**	**-0.9**
COLA	**College**	**5.57**	**22**	P		**Pn**	**12 21 00.3**	**+0.1**
DOT	**Dot Lake**	**5.64**	**43**	P		**Pn**	**12 21 01.3**	**+0.1**
IL1	**Eielson Array**	**5.68**	**26**	P		**Pn**	**12 21 01.5**	**-0.2**
ILAR	**Eielson Array**	**5.68**	**26**	P		**Pn**	**12 21 01.5**	**-0.2**
	5.0nm,0.3s,baz=207,slow=14,SNR=222							
ILAR					S	**Sn**	**12 22 02.4**	**-3.0**
	6.8nm,0.3s,baz=205,slow=23,SNR=7.5							
RKAV	**Rock Avalanche**	**5.71**	**80**	P		**Pn**	**12 21 02.5**	**+0.2**
TABL	**Table Mountain**	**5.81**	**79**	P		**Pn**	**12 21 03.1**	**-0.6**
SCRK	**Sand Creek**	**5.88**	**41**	P		**Pn**	**12 21 03.9**	**-0.6**
SDPT	**Sand Point**	**6.11**	**227**	P		**Pn**	**12 21 06.9**	**-0.7**
BCA3	**Beaver Creek A**	**6.17**	**53**	P		**Pn**	**12 21 08.2**	**-0.4**
IM04	**Indian

1.3nm,0.7s,baz=238,slow=1.2,SNR=11
NVAR Mina Array Bea 75.25 42 P **P 12 49 46.4 +0.3**
0.6nm,0.6s,baz=234,slow=7.7,SNR=3.0
PMR Palmer 79.90 12 *e*P **P 12 50 12.0 +0.9**
27nm,1.9s
TXAR Lajitas Array 81.51 56 P **P 12 50 21.4 +0.8**
0.7nm,0.9s,baz=226,slow=8.3,SNR=6.0
SEY Seymchan 83.00 345 P **P 12 50 27.9 +0.5**
baz=155,slow=19
PDAR Pinedale Array 83.18 42 P **P 12 50 29.4 +0.2**
0.6nm,0.5s,baz=157,slow=2.9,SNR=5.6
ILAR Eielson Array 83.22 11 P **P 12 50 28.8 +0.2**
0.2nm,0.4s,baz=203,slow=5.7,SNR=6.4
MAW Mawson 86.96 199 P **P 12 50 47.4 +0.1**
2.4nm,0.9s,baz=108,slow=9.6,SNR=4.3
AKASG Malin Array Be 140.71 337 PKP **PKPdf 12 57 29.1 -2.4**
0.1nm,0.2s,baz=32,slow=4.0,SNR=3.1
KMBO Kilima Mbogo 144.68 244 PKP PKPbc 12 57 39.3 +0.2
2.6nm,0.6s,baz=32,slow=4.0,SNR=5.7
KMBO Kilima Mbogo 144.68 244 *e*PKPdf PKPbc 12 57 39.2 +0.1
KMBO PKP **PKPab 12 57 39.3 +0.3**
DPC Dobruska-Polom 144.79 348 *e*PKP **PKPdf 12 57 38.6 -0.2**
DPC *ex* x 12 57 42.2
PRU Pruhonice 145.46 350 *e*PKP **PKPab 12 57 41.0 +0.6**
BR131 Keskin Array S 146.27 320 *e*PKPbc **PKPab 12 57 43.6 -0.5**
BRTR Keskin Array B 146.27 320 PKPbc **PKPab 12 57 43.6 -0.5**
2.1nm,0.7s,baz=86,slow=2.3,SNR=9.7
KHC Kasperske Hory 146.44 351 *e*PKP **PKPab 12 57 45.6 +1.3**
GERES GERESS Array B 146.70 351 PKPbc **PKPbc 12 57 43.7 -0.3**
0.7nm,0.7s,baz=29,slow=3.0,SNR=5.7

IDC ***23*** *12:41:36.7±8.4, 16°.16S×174°.19W, h86km±74km, mb3.8/9, mb1 3.9/10, mb1mx3.7/32, mbtmp4.1/10, ML3.6/1, MS3.1/2, Ms1 3.1/2, ms1mx2.7/26, Error ellipse: s-maj=30.2km s-min=21.7km az=126.0*
ISCJB ***23*** *12:41:38.2±0.6, 16°.1S±0°.1×174°.3W±0°.1, h115km, mb4.1/11, Error ellipse: s-maj=23.0km s-min=11.0km az=139.2*
NEIC ***23*** *12:41:38.8±1.3, 16°.11S×174°.23W, h105km±13km, mb4.1/3, Error ellipse: s-maj=18.6km s-min=10.0km az=139.0*
ISC 23 12:41:39.4±0.6, 16°.1S±0°.2×174°.1W±0°.2, h115km, n18, σ1§17/20, mb4.1/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.12**	**47**	*e*Pn		**Pn**		**12 42 27.7**	**+0.5**
AFI				*e*Sn		**Sn**		**12 43 01.1**	**-3.0**
DZM	**Mont Dzumac**	**19.30**	**249**	P		**P**		**12 45 55.6**	**0.0**
0.2nm,0.3s,baz=90,slow=24,SNR=5.6									
URZ	**Urewera**	**23.42**	**198**	P		**P**		**12 46 36.4**	**-1.9**
7.2nm,0.3s,baz=27,slow=6.0,SNR=17									
URZ				LR		LR		12 54 50.8	
comp=Z,36nm,20.7s,baz=184,slow=34									
STKA	**Stephens Creek**	**43.10**	**240**	P		**P**		**12 49 27.4**	**-1.0**
4.2nm,0.8s,baz=90,slow=9.1,SNR=4.1									
STKA	**Stephens Creek**	**43.10**	**240**	*e*P		**P**		**12 49 28.5**	**+0.1**
1.2nm,0.8s									
JAY	**Jayapura**	**46.43**	**282**	LR		LR		13 10 05.2	
comp=Z,26nm,18.4s,baz=182,slow=37									
WRAB	**Tennant Creek**	**49.00**	**257**	*e*P		**P**		**12 50 13.8**	**-1.1**
133nm,2.7s									
WRA	**Warramunga Arr**	**49.01**	**257**	P		**P**		**12 50 14.2**	**-0.8**
0.5nm,0.4s,baz=93,slow=7.4,SNR=17									
WRA				PcP		**PcP**		**12 51 37.8**	**+0.5**
0.6nm,1.1s,baz=94,slow=3.6,SNR=3.3									
AS31	**Alice Springs**	**49.24**	**252**	*e*P		**P**		**12 50 16.0**	**-0.6**
ASAR	**Alice Springs**	**49.24**	**252**	P		**P**		**12 50 16.1**	**-0.5**
3.7nm,0.5s,baz=92,slow=7.1,SNR=42									
ASAR				PcP		**PcP**		**12 51 38.0**	**-0.1**
0.3nm,0.6s,baz=97,slow=4.0,SNR=3.0									
SBA	**Scott Base**	**62.54**	**184**	*e*P		**P**		**12 51 51.8**	**+1.2**
4.2nm,1.0s									
VNDA	**Vanda**	**62.65**	**186**	P		**P**		**12 51 52.0**	**+0.7**
1.5nm,0.8s,baz=4.6,slow=6.1,SNR=7.9									
VNDA	**Vanda**	**62.65**	**186**	*e*P		**P**		**12 51 52.0**	**+0.7**
2.8nm,1.0s									
YBH	**Yreka Blue Hor**	**74.55**	**37**	P		**P**		**12 53 07.4**	**+1.6**
1.2nm,0.8s,baz=179,slow=4.5,SNR=4.2									
PDAR	**Pinedale Array**	**83.22**	**42**	P		**P**		**12 53 54.1**	**+0.7**
0.6nm,0.7s,baz=132,slow=2.2,SNR=4.6									
ILAR	**Eielson Array**	**83.22**	**11**	P		**P**		**12 53 53.3**	**+0.7**
0.2nm,0.5s,baz=213,slow=5.4,SNR=4.6									
MAW	**Mawson**	**86.95**	**199**	P		**P**		**12 54 10.8**	**-0.4**
1.5nm,0.6s,baz=186,slow=10,SNR=3.4									
BRTR	**Keskin Array B**	**146.21**	**320**	PKPbc		**PKPab**		**13 01 08.0**	**+0.1**
0.8nm,0.8s,baz=119,slow=4.4,SNR=4.0									

MEX 23 12:48:15.7±0.6, 20°.37N×98°.92W, h3km, MD3.7, Veracruz

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DEIG	**Demacu**	**0.13**	**239**	*e*P		Pg		12 48 17.7	-0.8
DEIG				*e*S		Sg		12 48 20.1	-0.3
VTVM	**Tizayuca**	**0.61**	**167**	*e*P		Pg		12 48 25.9	-1.9
VTVM				*e*S		Sg		12 48 35.2	-0.7
PBIG	**Penon de los B**	**0.93**	**190**	*e*P		Pg		12 48 33.3	-0.3
PBIG				*e*S		Sn		12 48 50.1	+0.6
ATVM	**ATLACOMULCO**	**1.05**	**235**	*i* P		Pg		12 48 34.5	-1.9
ATVM				*e*S		Sg		12 48 48.1	-2.3
MZVM		**1.21**	**194**	*i* P		Pg		12 48 36.6	-2.2
MZVM				*e*S		Sg		12 48 51.5	-3.0
AMVM	**AMECAMECA**	**1.23**	**174**	*e*P		Pg		12 48 35.5	-4.3
AMVM				*e*S		Sg		12 48 52.4	-3.7
PPM	**Popocatepetl**	**1.32**	**168**	*i* P		Pg		12 48 38.6	-3.1
PPM				*e*S		Sg		12 48 55.2	-4.1
MAVM	**Malinalco, Edo**	**1.50**	**201**	*e*P		Pn		12 48 40.4	-3.5
MAVM				*e*S		Sn		12 48 58.6	-5.6
YAIG	**Yautepec**	**1.50**	**185**	*i* P		Pn		12 48 41.0	-2.8
YAIG				*e*S		Sn		12 48 59.3	-4.8

IDC ***23*** *12:53:17.8±1.8, 3°.08S×139°.76E, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.5/19, mbtmp3.6/3, ML3.7/1, Error ellipse: s-maj=50.9km s-min=13.2km az=140.0*
ISCJB ***23*** *12:53:22.4±0.9, 3°.50S±0°.05×140°.55E±0°.07, h39km, mb3.5/2, Error ellipse: s-maj=10.0km s-min=6.9km az=16.2*
DJA ***23*** *12:53:25.0±0.8, 3°.5S±4°×14°.0E±°, h24km±10km, M3.8/5, MLv3.8/5*
ISC 23 12:53:23.5±1.2, 3°.47S±0°.07×140°.56E±0°.08, h39km, n9, σ0§74/13, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.95**	**336**	P		**Pn**		**12 53 39.5**	**-0.9**
GENI				S		**Sn**		**12 53 52.0**	**-0.8**
JAY	**Jayapura**	**0.96**	**9**	P		**Pn**		**12 53 40.8**	**+0.3**
JAY				S		**Sn**		**12 53 52.7**	**-0.2**
JAY	**Jayapura**	**0.96**	**9**	Pg		**Pn**		**12 53 40.6**	**+0.1**
14nm,0.3s,baz=224,slow=8.7,SNR=131									
JAY				Lg		Lg		12 53 52.1	
44nm,0.3s,baz=288,slow=16,SNR=41									
WAMI	**Wamena**	**1.89**	**257**	P		**Pn**		**12 53 53.1**	**-0.2**
WAMI				S		**Sn**		**12 54 14.6**	**-1.3**
SMPI	**Sarmi**	**2.36**	**308**	P		**Pn**		**12 54 00.4**	**+0.7**
SMPI				S		**Sn**		**12 54 28.1**	**+0.6**
SRPI	**Serui, Papua**	**4.60**	**290**	P		**Pn**		**12 54 31.5**	**+1.0**
WRA	**Warramunga Arr**	**17.46**	**200**	P		**Pn**		**12 57 24.2**	**0.0**
0.3nm,0.3s,baz=17,slow=13,SNR=18									
ASAR	**Alice Springs**	**21.09**	**197**	P		**P**		**12 58 05.3**	**+0.6**
1.3nm,0.7s,baz=27,slow=10,SNR=17									
ILAR	**Eielson Array**	**85.76**	**24**	P		**P**		**13 05 58.2**	**-0.2**
0.4nm,0.9s,baz=258,slow=3.6,SNR=3.4									

IDC 23 13:15:11.9±4.7, 31°.15N×92°.09E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.2/34, mbtmp3.3/4, ML3.4/1, MS3.6/1, Ms1 3.6/1, ms1mx2.4/30, Error ellipse: s-maj=330.1km s-min=24.6km az=65.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**17.36**	**337**	P		Pn		13 19 16.1	+0.6
0.1nm,0.3s,baz=153,slow=11,SNR=6.1									
ZALV	**Zalesovo Beam**	**23.38**	**349**	P		P		13 20 21.8	-0.3
0.3nm,0.4s,baz=161,slow=9.2,SNR=3.1									
JOW	**Kunigami**	**31.85**	**89**	LR		LR		13 35 55.1	
comp=Z,105nm,19.3s,baz=300,slow=39									
WRA	**Warramunga Arr**	**65.01**	**136**	P		P		13 25 53.2	-0.8
0.3nm,0.8s,baz=318,slow=5.8,SNR=2.6									
ASAR	**Alice Springs**	**67.64**	**139**	P		P		13 26 11.9	+1.0
0.2nm,0.4s,baz=328,slow=6.6,SNR=5.2									

IDC ***23*** *13:23:13.6±3.0, 1°.25S×99°.67E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.5/43, mbtmp3.5/7, ML3.5/2, Error ellipse: s-maj=122.4km s-min=19.2km az=59.0*
ISCJB ***23*** *13:23:19.4±1.1, 0°.9S±0°.1×99°.32E±0°.08, h33km, mb3.6/5, Error ellipse: s-maj=15.7km s-min=9.4km az=27.4*
DJA ***23*** *13:23:22.4±0.6, 1°.5S×10°.0E±°, h10km, M3.7/7, MLv3.7/7*
ISC 23 13:23:21.2±1.3, 0°.97S±0°.09×99°.40E±0°.10, h35km, n22, σ1§46/13, mb3.7/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.12**	**63**	P		**Pn**		**13 23 39.5**	**-0.8**
PPI				S		**Sn**		**13 23 53.8**	**-0.7**
MNSI	**Mandailing Nat**	**1.76**	**6**	P		**Pn**		**13 23 52.1**	**+2.9**
SDSI	**Sungai Dareh**	**2.02**	**89**	P		**Pn**		**13 23 53.5**	**+0.7**
BKNI	**Bangkinang**	**2.08**	**52**	P		**Pn**		**13 23 55.7**	**+2.1**
GSI	**Gunungsitoli**	**2.91**	**321**	P		Pn		13 24 11.3	+6.3
MASI	**Maura Aman, Be**	**3.56**	**127**	P		**Pn**		**13 24 15.3**	**+1.3**
PSI	**Prapat**	**3.78**	**353**	Pn		**Pn**		**13 24 15.7**	**-1.4**
0.8nm,0.3s,baz=155,slow=17,SNR=2.4									
JMBI	**JAMBI**	**4.29**	**99**	P		**Pn**		**13 24 24.3**	**+0.3**
TPRI	**Tanjung Pinang**	**5.46**	**70**	P		Pn		13 24 48.1	+8.0
CMAR	**Chiang Mai Arr**	**19.31**	**359**	P		**P**		**13 27 44.5**	**+1.1**
0.1nm,0.3s,baz=185,slow=10,SNR=2.9									
H08S2	**Diego Garcia H**	**27.63**	**255**	T		T		13 56 57.7	
baz=78,slow=75,SNR=46									
H08S3	**Diego Garcia H**	**27.63**	**255**	T		T		13 57 04.0	
baz=78,slow=75,SNR=42									
H08S1	**Diego Carcia H**	**27.64**	**255**	T		T		13 56 58.5	
baz=78,slow=75,SNR=30									
H01W3	**Cape Leeuwin H**	**36.43**	**159**	T		T		14 08 05.0	
baz=330,slow=74									
H01W2	**Cape Leeuwin H**	**36.45**	**159**	T		T		14 08 12.7	
baz=330									
H01W1	**Cape Leeuwin H**	**36.45**	**159**	T		T		14 08 06.0	
baz=330,slow=74									
WRA	**Warramunga Arr**	**39.03**	**121**	P		P		13 30 39.4	-5.5
0.9nm,0.7s,baz=302,slow=9.1,SNR=11									
ASAR	**Alice Springs**	**40.34**	**127**	P		P		13 30 49.9	-5.9
0.4nm,0.6s,baz=301,slow=7.7,SNR=6.5									
SONM	**Songino Array**	**48.99**	**6**	P		**P**		**13 32 03.3**	**-1.1**
0.3nm,0.6s,baz=198,slow=9.1,SNR=2.0									
MKAR	**Makanchi Array**	**49.88**	**345**	P		**P**		**13 32 11.8**	**+0.6**
0.5nm,0.6s,baz=154,slow=8.6,SNR=7.1									
ZALV	**Zalesovo Beam**	**56.05**	**350**	P		**P**		**13 32 56.2**	**-0.3**
0.3nm,0.3s,baz=193,slow=5.8,SNR=4.2									
TXAR	**Lajitas Array**	**144.24**	**36**	PKP		**PKPab**		**13 42 51.4**	**-0.8**
0.4nm,0.6s,baz=272,slow=0.5,SNR=4.0									

MAN 23 13:24:46, 10°.95N×124°.87E, h6km, mb4.3, ML3.1, MS2.9, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.24**	**26**	↓*i* P		Pg		13 24 51.8	+1.1
PLP				*i* S		Sg		13 24 55.6	+1.7
OCLP	**Ormoc**	**0.28**	**291**	*e*P		Pb		13 24 52.6	-0.9
MSLP	**Maasin**	**0.81**	**181**	*e*P		Pb		13 25 02.7	+0.2
MSLP				*e*S		Sn		13 25 17.6	+1.2
BESP	**Borongan**	**0.85**	**41**	*e*P		Pb		13 25 02.9	-0.3
CNP	**Catarman**	**1.56**	**352**	*e*P		Pn		13 25 14.2	-0.1

SZGRF ***23*** *13:28:09.5, 35°.46N×4°.74E, h10km, Northern Algeria*
SFS ***23*** *13:28:13.0, 35°.69N×4°.04E, h0km, ML5.0*
BJI ***23*** *13:28:14.9, 35°.90N×4°.10E, h10km, mb5.0/50, mB5.0/35, Ms5.1/38, Ms7 4.6/38*
INMG ***23*** *13:28:15.1±2.1, 35°.69N×4°.38E, h15km, Mb5.1, Error ellipse: s-maj=6.7km s-min=5.2km az=131.0*
ISCJB ***23*** *13:28:16.5±0.4, 36°.05N±0°.01×4°.08E±0°.01, h5km±2km, mb4.7/152, MS4.7/54, Error ellipse: s-maj=2.4km s-min=1.5km az=179.0*
CRAAG ***23*** *13:28:16.8, 35°.95N×4°.08E, Ml5.2*
IDC ***23*** *13:28:16.2±0.4, 36°.03N×4°.11E, h0km, mb4.6/32, mb1 4.6/41, mb1mx4.5/53, mbtmp4.5/41, ML4.2/9, MS4.6/35, Ms1 4.6/35, ms1mx4.5/42, Error ellipse: s-maj=10.5km s-min=10.1km az=60.0*
NEIC ***23*** *13:28:16.6±0.7, 35°.96N×4°.14E, h1km±4km, mb4.8/101, ML5.0(ALG), Error ellipse: s-maj=3.1km s-min=2.6km az=176.0*
NEIC Felt at Bordj Bou Arreridj, Bougaa, Boumerdas and Hassi Bahbah.
LDG ***23*** *13:28:16.9±0.1, 35°.73N×4°.28E, h10km, Ml4.5/16, ms4.5/2, Error ellipse: s-maj=4.0km s-min=2.4km az=4.0*
CSEM ***23*** *13:28:17.8±0.1, 35°.97N×4°.15E, h10km, mb4.9/99, Ms4.5, Error ellipse: s-maj=2.9km s-min=1.8km az=176.0*
MDD ***23*** *13:28:17.6±0.3, 35°.92N×4°.14E, h0km, mb5.5/46, Error ellipse: s-maj=4.9km s-min=2.8km az=10.0, PRXIMO*
GCMT ***23*** *13:28:18.0±0.2, 35°.88N×4°.17E, h12km, MW5.2/104, Moment Tensor Solution. s58,c76; s104,c185; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.88±.13; Mθθ 4.03±.12; Mφφ 2.15±.14; Mrθ 0.17±.33; Mrφ -5.45±.10; Mθφ -3.05±.35; Best double couple: M0 7.14100×10^16 NP1: φs 199.00000°, δ76.00000°, λ28.00000°. NP2: φs 101.00000°, δ63.00000°, λ165.00000°. Principal axes: T 6.8570, Plg29.0000°, Azm63.0000°; N 0.5670, Plg59.0000°, Azm222.0000°; P -7.4250, Plg9.0000°, Azm328.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
CNRM ***23*** *13:28:18.7, 35°.27N×4°.47E, h30km, MD5.1*
MOS ***23*** *13:28:19.8±1.1, 36°.12N×4°.14E, h33km, mb5.0/67, MS4.5/48, Error ellipse: s-maj=6.1km s-min=2.7km az=80.7*
ISC 23 13:28:18.4±0.3, 35°.97N±0°.03×4°.15E±0°.02, h14km±1km, h14km: pP-P, n1501, σ1§52/1687, mb4.8/152, MS4.7/56, 173C-179D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATAF	**Djebel Tarf**	**0.14**	**133**	P		**Pg**		**13 28 19.3**	**-2.9**
ATAF	**Djebel Tarf**	**0.14**	**133**	P		**Pg**		**13 28 19.3**	**-2.9**
ATAF	**Djebel Tarf**	**0.14**	**133**	P		**Pg**		**13 28 19.3**	**-2.9**
AKET	**Djebel Ketaf**	**0.23**	**290**	P		**Pg**		**13 28 21.1**	**-2.6**
AKET	**Djebel Ketaf**	**0.23**	**290**	P		**Pg**		**13 28 21.1**	**-2.6**
AKET	**Djebel Ketaf**	**0.23**	**290**	P		**Pg**		**13 28 21.1**	**-2.6**
AKET	**Djebel Ketaf**	**0.23**	**290**	P		**Pg**		**13 28 21.1**	**-2.6**
ADJB	**Djebel Djouab**	**0.61**	**288**	P		**Pg**		**13 28 28.3**	**-2.1**
ADJB	**Djebel Djouab**	**0.61**	**288**	P		**Pg**		**13 28 28.3**	**-2.1**
ADJB	**Djebel Djouab**	**0.61**	**288**	P		**Pg**		**13 28 28.4**	**-2.1**
ADJB	**Djebel Djouab**	**0.61**	**288**	P		**Pg**		**13 28 28.4**	**-2.1**
EMHD	**Djebel Mahouad**	**1.00**	**284**	P		**Pb**		**13 28 36.6**	**-1.0**
EMHD	**Djebel Mahouad**	**1.00**	**284**	P		**Pb**		**13 28 36.6**	**-1.0**
EMHD	**Djebel Mahouad**	**1.00**	**284**	P		**Pb**		**13 28 36.6**	**-1.0**
EMHD	**Djebel Mahouad**	**1.00**	**284**	P		**Pb**		**13 28 36.6**	**-1.0**
SET	**Setif**	**1.04**	**77**	P		**Pb**		**13 28 38.0**	**-0.2**
SET	**Setif**	**1.04**	**77**	P		**Pb**		**13 28 38.0**	**-0.2**
SET	**Setif**	**1.04**	**77**	P		**Pb**		**13 28 38.0**	**-0.2**
CKHR	**Kef el Ahmar**	**1.10**	**87**	P		**Pb**		**13 28 38.8**	**-0.5**
CKHR	**Kef el Ahmar**	**1.10**	**87**	P		**Pb**		**13 28 38.8**	**-0.5**
CKHR	**Kef el Ahmar**	**1.10**	**87**	P		**Pb**		**13 28 38.9**	**-0.5**
CKHR	**Kef el Ahmar**	**1.10**	**87**	P		**Pb**		**13 28 38.9**	**-0.5**
ABA	**Alger-Bouzarea**	**1.23**	**313**	P		**Pn**		**13 28 39.0**	**-2.2**
ABA	**Alger-Bouzarea**	**1.23**	**313**	P		**Pn**		**13 28 39.0**	**-2.2**
ABA	**Alger-Bouzarea**	**1.23**	**313**	P		**Pn**		**13 28 39.0**	**-2.2**
ABA	**Alger-Bouzarea**	**1.23**	**313**	P		**Pn**		**13 28 39.0**	**-2.2**
DFRA	**Djebel Bou Aff**	**1.51**	**67**	P		**Pn**		**13 28 44.5**	**-0.6**
DFRA	**Djebel Bou Aff**	**1.51**	**67**	P		**Pn**		**13 28 44.5**	**-0.6**
DFRA	**Djebel Bou Aff**	**1.51**	**67**	P		**Pn**		**13 28 44.5**	**-0.6**
CTEI	**Djebel Teioual**	**1.83**	**86**	P		**Pn**		**13 28 50.6**	**+1.1**
CTEI	**Djebel Teioual**	**1.83**	**86**	P		**Pn**		**13 28 50.6**	**+1.1**
CTEI	**Djebel Teioual**	**1.83**	**86**	P		**Pn**		**13 28 50.6**	**+1.1**
CTEI	**Djebel Teioual**	**1.83**	**86**	P		**Pn**		**13 28 50.6**	**+1.1**
CASM	**Ain Smara**	**1.92**	**81**	P		**Pn**		**13 28 51.7**	**+1.1**
CASM	**Ain Smara**	**1.92**	**81**	P		**Pn**		**13 28 51.7**	**+1.1**
CASM	**Ain Smara**	**1.92**	**81**	P		**Pn**		**13 28 51.7**	**+1.1**
CASM	**Ain Smara**	**1.92**	**81**	P		**Pn**		**13 28 51.7**	**+1.1**
CKFL	**Kef-Lekhel**	**2.12**	**77**	P		**Pn**		**13 28 52.7**	**-0.9**
CKFL	**Kef-Lekhel**	**2.12**	**77**	P		**Pn**		**13 28 52.7**	**-0.9**
CKFL	**Kef-Lekhel**	**2.12**	**77**	P		**Pn**		**13 28 52.7**	**-0.9**
EBNR	**Beni Rached**	**2.15**	**279**	P		**Pn**		**13 28 53.8**	**0.0**
EBNR	**Beni Rached**	**2.15**	**279**	P		**Pn**		**13 28 53.8**	**0.0**
ECHA	**Ech Chlef**	**2.27**	**275**	P		**Pn**		**13 28 54.9**	**-0.5**
ECHA	**Ech Chlef**	**2.27**	**275**	P		**Pn**		**13 28 54.9**	**-0.5**
ECHF	**Ech Chlef**	**2.29**	**276**	P		**Pn**		**13 28 54.9**	**-0.8**
ECHF	**Ech Chlef**	**2.29**	**276**	P		**Pn**		**13 28 54.9**	**-0.8**
ECHF	**Ech Chlef**	**2.29**	**276**	P		**Pn**		**13 28 54.9**	**-0.8**
CAEH	**'Ain El Ouahch**	**2.32**	**69**	P		**Pn**		**13 28 54.6**	**-1.6**
CAEH	**'Ain El Ouahch**	**2.32**	**69**	P		**Pn**		**13 28 54.6**	**-1.6**
CAEH	**'Ain El Ouahch**	**2.32**	**69**	P		**Pn**		**13 28 54.6**	**-1.6**
CAEH	**'Ain El Ouahch**	**2.32**	**69**	P		**Pn**		**13 28 54.6**	**-1.6**
ETRT	**Tiaret**	**2.39**	**257**	P		**Pn**		**13 28 56.8**	**-0.5**
ETRT	**Tiaret**	**2.39**	**257**	P		**Pn**		**13 28 56.8**	**-0.5**
ETRT	**Tiaret**	**2.39**	**257**	P		**Pn**		**13 28 56.8**	**-0.5**
ETRT	**Tiaret**	**2.39**	**257**	P		**Pn**		**13 28 56.8**	**-0.5**
EANR	**'Ain N'Sour**	**2.48**	**271**	P		**Pn**		**13 28 57.8**	**-0.6**
EANR	**'Ain N'Sour**	**2.48**	**271**	P		**Pn**		**13 28 57.8**	**-0.6**
EANR	**'Ain N'Sour**	**2.48**	**271**	P		**Pn**		**13 28 57.8**	**-0.6**
EANR	**'Ain N'Sour**	**2.48**	**271**	P		**Pn**		**13 28 57.8**	**-0.6**
ABSA	**Djebel Ababsia**	**2.71**	**83**	P		**Pn**		**13 29 00.0**	**-1.6**
ABSA	**Djebel Ababsia**	**2.71**	**83**	P		**Pn**		**13 29 00.0**	**-1.6**
CABS	**Djebel Ababsia**	**2.71**	**83**	P		**Pn**		**13 29 00.0**	**-1.6**
CABS	**Djebel Ababsia**	**2.71**	**83**	P		**Pn**		**13 29 00.0**	**-1.6**
CMAH	**Djebel Manchou**	**2.72**	**75**	P		**Pb**		**13 29 06.0**	**-0.9**
CMAH	**Djebel Manchou**	**2.72**	**75**	P		**Pb**		**13 29 06.0**	**-0.9**
CMAH	**Djebel Manchou**	**2.72**	**75**	P		**Pn**		**13 29 00.6**	**-1.1**
CMAH	**Djebel Manchou**	**2.72**	**75**	P		**Pn**		**13 29 00.6**	**-1.1**
OJGS	**Djebel Guires**	**2.81**	**262**	P		Pn		13 28 54.0	-8.9
OJGS	**Djebel Guires**	**2.81**	**262**	P		Pn		13 28 54.0	-8.9
OKGL	**Djebel Kef Gue**	**2.85**	**272**	P		**Pn**		**13 29 02.6**	**-0.8**
2μm,0.4s,SNR=7.9									
OKGL				S		**Sn**		**13 29 38.8**	**+1.3**
256μm,2.9s,SNR=7.9									
OKGL	**Djebel Kef Gue**	**2.85**	**272**	P		**Pn**		**13 29 02.6**	**-0.8**
2μm,0.4s,SNR=7.9									
OKGL				S		**Sn**		**13 29 38.8**	**+1.3**
256μm,2.9s,SNR=7.9									
OJBR	**Djebel Berber**	**3.12**	**264**	P		Pn		13 28 56.0	-11
OJBR	**Djebel Berber**	**3.12**	**264**	P		Pn		13 28 56.0	-11
ODJA	**Bouhanifia**	**3.56**	**261**	P		Pn		13 28 59.0	-14
ODJA	**Bouhanifia**	**3.56**	**261**	P		Pn		13 28 59.0	-14
EIBI	**Ibiza**	**3.78**	**325**	↓P		**Pn**		**13 29 16.0**	**-0.3**
597nm,0.8s,SNR=18									
EIBI				S		**Sn**		**13 30 00.8**	**+0.2**
15μm,7.6s,SNR=5.0									
EIBI	**Ibiza**	**3.78**	**325**	P		**Pn**		**13 29 16.0**	**-0.3**
597nm,0.8s,SNR=18									
EIBI				S		**Sn**		**13 30 00.8**	**+0.2**
15μm,7.6s,SNR=5.0									
USTO	**Oran**	**3.83**	**268**	P		**Pn**		**13 29 19.0**	**+2.1**
USTO	**Oran**	**3.83**	**268**	P		**Pn**		**13 29 19.0**	**+2.1**
ETOS	**Mallorca**	**3.94**	**345**	P		**Pn**		**13 29 18.0**	**-0.5**
438nm,0.6s,SNR=64									
ETOS				S		**Sn**		**13 30 04.3**	**-0.2**
17μm,13.4s,SNR=5.0									
ETOS	**Mallorca**	**3.94**	**345**	P		**Pn**		**13 29 18.0**	**-0.5**
438nm,0.6s,SNR=64									
ETOS				S		**Sn**		**13 30 04.3**	**-0.2**
17μm,13.4s,SNR=5.0									
KEST	**Kesra**	**4.22**	**92**	Pn		**Pn**		**13 29 23.0**	**+0.6**
7.3nm,0.3s,baz=266,slow=2.4,SNR=109									
KEST				Sn		**Sn**		**13 30 12.9**	**+1.3**
13nm,0.3s,baz=227,slow=19,SNR=3.0									
KEST	**Kesra**	**4.22**	**92**	*e*Pn		**Pn**		**13 29 22.7**	**+0.2**
KEST				Sn		**Sn**		**13 30 12.9**	**+1.3**
KEST	**Kesra**	**4.22**	**92**	*e*Pn		**Pn**		**13 29 22.7**	**+0.2**
KEST				Sn		**Sn**		**13 30 12.9**	**+1.3**
EBEN	**Beniarda**	**4.43**	**309**	P		**Pn**		**13 29 25.0**	**-0.3**
71nm,0.7

EPOB	**Poblet**	**5.89**	**337**	P		**Pn**	**13 29 45.2**	**-0.1**
	58nm,0.6s,SNR=22								
EVIA	**Vianos**	**5.94**	**299**	P		**Pn**	**13 29 45.0**	**-1.0**
	270nm,0.4s,SNR=65								
EVIA				S		**Sn**	**13 30 55.2**	**+1.4**
	265nm,0.4s,SNR=9.4								
EVIA	**Vianos**	**5.94**	**299**	P		**Pn**	**13 29 45.0**	**-1.0**
	270nm,0.4s,SNR=65								
EVIA				S		**Sn**	**13 30 55.2**	**+1.4**
	265nm,0.4s,SNR=9.4								
CFON	**Fontmartina**	**5.94**	**347**	P		**Pn**	**13 29 46.4**	**+0.4**
	73nm,0.4s,SNR=22								
CFON				S		**Sn**	**13 30 52.8**	**-1.0**
	13µm,13.8s,SNR=7.9								
CFON	**Fontmartina**	**5.94**	**347**	P		**Pn**	**13 29 46.4**	**+0.4**
	73nm,0.4s,SNR=22								
CFON				S		**Sn**	**13 30 52.8**	**-1.0**
	13µm,13.8s,SNR=7.9								
GORA	**Gorafe**	**5.97**	**287**	P		**Pn**	**13 29 46.0**	**-0.4**
	230nm,0.4s,SNR=7.9								
GORA				S		**Sn**	**13 30 52.6**	**-2.0**
	21µm,10.9s,SNR=7.9								
GORA	**Gorafe**	**5.97**	**287**	P		**Pn**	**13 29 46.0**	**-0.4**
	230nm,0.4s,SNR=7.9								
GORA				S		**Sn**	**13 30 52.6**	**-2.0**
	21µm,10.9s,SNR=7.9								
EQES	**Quesada**	**6.07**	**290**	P		**Pn**	**13 29 48.2**	**+0.3**
	262nm,0.4s,SNR=221								
EQES				S		**Sn**	**13 30 58.0**	**+0.8**
	15µm,10.2s,SNR=4.6								
EQES	**Quesada**	**6.07**	**290**	P		**Pn**	**13 29 48.2**	**+0.3**
	262nm,0.4s,SNR=221								
EQES				S		**Sn**	**13 30 58.0**	**+0.8**
	15µm,10.2s,SNR=4.6								
EQUE	**Quentar**	**6.23**	**284**	P		**Pn**	**13 29 49.4**	**-0.6**
	162nm,0.4s,SNR=105								
EQUE				S		**Sn**	**13 30 58.2**	**-2.9**
	10µm,7.7s,SNR=7.9								
EQUE	**Quentar**	**6.23**	**284**	P		**Pn**	**13 29 49.4**	**-0.6**
	162nm,0.4s,SNR=105								
EMIR	**Miracle**	**6.28**	**342**	P		**Pn**	**13 29 51.2**	**+0.5**
	297nm,0.6s,SNR=45								
EMIR				S		**Sn**	**13 31 01.6**	**-0.6**
	10µm,13.1s,SNR=7.9								
EMIR	**Miracle**	**6.28**	**342**	P		**Pn**	**13 29 51.2**	**+0.5**
	297nm,0.6s,SNR=45								
EMIR				S		**Sn**	**13 31 01.6**	**-0.6**
	10µm,13.1s,SNR=7.9								
EGUA	**Guajares**	**6.29**	**280**	P		**Pn**	**13 29 49.6**	**-1.1**
	123nm,0.5s,SNR=7.9								
EGUA				S		**Sn**	**13 31 01.3**	**-1.0**
	SNR=7.9								
EGUA	**Guajares**	**6.29**	**280**	P		**Pn**	**13 29 49.6**	**-1.1**
	123nm,0.5s,SNR=7.9								
EGUA				S		**Sn**	**13 31 01.3**	**-1.0**
	SNR=7.9								
SELV	**Sierra Elvira**	**6.46**	**284**	P		**Pn**	**13 29 53.5**	**+0.3**
	128nm,0.6s,SNR=7.9								
SELV				S		**Sn**	**13 31 04.6**	**-2.2**
	10µm,7.4s,SNR=7.9								
SELV	**Sierra Elvira**	**6.46**	**284**	P		**Pn**	**13 29 53.5**	**+0.3**
	128nm,0.6s,SNR=7.9								
SELV				S		**Sn**	**13 31 04.6**	**-2.2**
	10µm,7.4s,SNR=7.9								
TOU	**Touzarine**	**6.53**	**263**	P		**Pn**	**13 29 55.0**	**+0.9**
TOU				S		**Sn**	**13 31 07.0**	**-1.5**
TOU	**Touzarine**	**6.53**	**263**	P		**Pn**	**13 29 55.0**	**+0.9**
TOU				S		**Sn**	**13 31 07.0**	**-1.5**
EJON	**La Jonquera**	**6.55**	**352**	P		**Pn**	**13 29 55.1**	**+0.8**
	228nm,0.9s,SNR=38								
EJON				S		**Sn**	**13 31 05.8**	**-2.9**
	9µm,13.1s,SNR=7.9								
EJON	**La Jonquera**	**6.55**	**352**	P		**Pn**	**13 29 55.1**	**+0.8**
	228nm,0.9s,SNR=38								
SJAF	**Saint Jean de**	**6.58**	**352**	P		**Pn**	**13 29 54.6**	**-0.2**
	170nm,0.5s,SNR=7.9								
SJAF				S		**Sn**	**13 31 08.6**	**-1.0**
	10µm,14.0s,SNR=7.9								
SJAF	**Saint Jean de**	**6.58**	**352**	P		**Pn**	**13 29 54.6**	**-0.2**
	170nm,0.5s,SNR=7.9								
SJAF				S		**Sn**	**13 31 08.6**	**-1.0**
	10µm,14.0s,SNR=7.9								
VALF	**Valcebollere**	**6.64**	**346**	P		**Pn**	**13 29 56.9**	**+1.3**
VALF	**Valcebollere**	**6.64**	**346**	P		**Pn**	**13 29 56.9**	**+1.3**
FILF	**Fillols**	**6.70**	**350**	P		**Pn**	**13 29 56.9**	**+0.5**
FILF				S		**Sn**	**13 31 09.0**	**-3.5**
FILF	**Fillols**	**6.70**	**350**	P		**Pn**	**13 29 56.9**	**+0.5**
EBAN	**Banos Encina**	**6.72**	**291**	P		**Pn**	**13 29 56.4**	**-0.2**
	113nm,0.6s,SNR=47								
EBAN				S		**Sn**	**13 31 09.9**	**-3.0**
	52nm,0.4s,SNR=5.0								
EBAN	**Banos Encina**	**6.72**	**291**	P		**Pn**	**13 29 56.4**	**-0.2**
	113nm,0.6s,SNR=47								
CLLI	**Llivia**	**6.72**	**346**	P		**Pn**	**13 29 58.9**	**+2.1**
	178nm,0.7s,SNR=32								
CLLI				S		**Sn**	**13 31 09.9**	**-3.2**
	10µm,10.4s,SNR=7.9								
ESAC	**San Caprasio**	**6.78**	**329**	P		**Pn**	**13 29 57.8**	**+0.3**
	80nm,0.3s,SNR=8.4								
ESAC				S		**Sn**	**13 31 11.1**	**-3.5**
	13µm,7.8s,SNR=12								
ESAC	**San Caprasio**	**6.78**	**329**	P		**Pn**	**13 29 57.8**	**+0.3**
	80nm,0.3s,SNR=8.4								
CSOR	**Sort**	**6.82**	**341**	P		**Pn**	**13 29 59.2**	**+1.1**
	83nm,0.6s,SNR=34								
CSOR				S		**Sn**	**13 31 13.6**	**-1.9**
	142nm,0.6s,SNR=7.9								
CSOR	**Sort**	**6.82**	**341**	P		**Pn**	**13 29 59.2**	**+1.1**
	83nm,0.6s,SNR=34								
CSOR				S		**Sn**	**13 31 13.6**	**-1.9**
	142nm,0.6s,SNR=7.9								
ETOR	**Torete**	**6.87**	**317**	P		**Pn**	**13 30 00.1**	**+1.3**
	110nm,0.5s,SNR=34								
ETOR				S		**Sn**	**13 31 13.7**	**-3.1**
	36nm,0.9s,SNR=18								
ETOR	**Torete**	**6.87**	**317**	P		**Pn**	**13 30 00.1**	**+1.3**
	110nm,0.5s,SNR=34								
CARF	**Carcanieres**	**6.92**	**347**	P		**Pn**	**13 30 00.4**	**+0.9**
CARF	**Carcanieres**	**6.92**	**347**	P		**Pn**	**13 30 00.4**	**+0.9**
EMAL	**Malaga-Limoner**	**6.97**	**279**	*e*P		**Pn**	**13 29 58.9**	**-1.2**
LRDF	**Laroque-de-Fa**	**7.07**	**350**	P		**Pn**	**13 30 01.9**	**+0.4**
LRDF	**Laroque-de-Fa**	**7.07**	**350**	P		**Pn**	**13 30 01.9**	**+0.4**
SALF	**Salau**	**7.16**	**342**	P		**Pn**	**13 30 04.5**	**+1.7**
SALF				S		**Sn**	**13 31 20.7**	**-3.2**
SALF	**Salau**	**7.16**	**342**	P		**Pn**	**13 30 04.5**	**+1.7**
EMIJ	**Mijas**	**7.24**	**277**	P		**Pn**	**13 30 01.7**	**-2.0**
	128nm,0.6s,SNR=32								
EMIJ				S		**Sn**	**13 31 20.0**	**-5.7**
	10µm,16.3s,SNR=7.9								
EMIJ	**Mijas**	**7.24**	**277**	P		**Pn**	**13 30 01.7**	**-2.0**
	128nm,0.6s,SNR=32								
EADA	**Adamuz**	**7.32**	**290**	P		**Pn**	**13 30 04.5**	**-0.4**
	26nm,0.4s,SNR=30								
EADA				S		**Sn**	**13 31 24.9**	**-2.8**
	14µm,13.4s,SNR=7.9								
EADA	**Adamuz**	**7.32**	**290**	P		**Pn**	**13 30 04.5**	**-0.4**
	26nm,0.4s,SNR=30								
MLS	**Moulis**	**7.37**	**342**	P		**Pn**	**13 30 07.3**	**+1.7**
MLS	**Moulis**	**7.37**	**342**	P		**Pn**	**13 30 07.3**	**+1.7**
MELF	**Melles**	**7.38**	**340**	P		**Pn**	**13 30 07.2**	**+1.5**
MELF	**Melles**	**7.38**	**340**	P		**Pn**	**13 30 07.2**	**+1.5**
ESDC	**Sonseca Array**	**7.41**	**302**	P		**Pn**	**13 30 05.9**	**-0.2**
	46nm,0.5s,baz=118,slow=13,SNR=66								
ESDC				S		**Sn**	**13 31 29.2**	**-0.9**
	6.8nm,0.4s,baz=116,slow=23,SNR=4.0								
ESDC	**Sonseca Array**	**7.41**	**302**	Pn		**Pn**	**13 30 06.0**	**-0.2**
	8.9nm,0.3s,baz=118,slow=14,SNR=87								
ESDC				Sn		**Sn**	**13 31 29.1**	**-0.9**
	2.2nm,0.3s,baz=115,slow=21,SNR=4.5								
ESDC	**Sonseca Array**	**7.41**	**302**	Pn		**Pn**	**13 30 06.0**	**-0.2**
ESDC				S		**Sn**	**13 31 29.2**	**-0.9**
	6.8nm,0.4s,SNR=4.0								
ESLA	**Sonseca Array**	**7.41**	**302**	*e*P		**Pn**	**13 30 05.4**	**-0.8**
	9.9nm,0.7s								
ESLA	**Sonseca Array**	**7.41**	**302**	*e*P		**Pn**	**13 30 05.5**	**-0.8**
	9.9nm,0.7s								
MTLF	**Montolieu**	**7.51**	**349**	*e*Pn		**Pn**	**13 30 08.2**	**+0.7**
MTLF	**Montolieu**	**7.51**	**349**	P		**Pn**	**13 30 08.2**	**+0.7**
MTLF	**Montolieu**	**7.51**	**349**	*e*P		**Pn**	**13 30 08.2**	**+0.7**
MTLF	**Montolieu**	**7.51**	**349**	P		**Pn**	**13 30 08.2**	**+0.7**
MTLF	**Montolieu**	**7.51**	**349**	*e*Pn		**Pn**	**13 30 08.2**	**+0.7**
LMR	**La Mourre**	**7.58**	**13**	*e*Pn		**Pn**	**13 30 07.3**	**-1.1**
LMR				*e*Sn		**Sn**	**13 31 30.7**	**-3.3**
	32nm,0.4s								
LMR	**La Mourre**	**7.58**	**13**	P		**Pn**	**13 30 07.3**	**-1.1**
LMR				S		**Sn**	**13 31 30.7**	**-3.3**
	16nm,0.4s								
LMR	**La Mourre**	**7.58**	**13**	*e*P		**Pn**	**13 30 07.3**	**-1.1**
LMR				*e*			13 31 30.7		
LMR	**La Mourre**	**7.58**	**13**	P		**Pn**	**13 30 07.3**	**-1.1**
LMR	**La Mourre**	**7.58**	**13**	*e*Pn		**Pn**	**13 30 07.3**	**-1.1**
LMR				*e*Sn		**Sn**	**13 31 30.7**	**-3.3**
VIEF	**Viey**	**7.61**	**336**	P		**Pn**	**13 30 10.2**	**+1.3**
VIEF				S		**Sn**	**13 31 32.7**	**-2.3**
VIEF	**Viey**	**7.61**	**336**	P		**Pn**	**13 30 10.2**	**+1.3**
VIEF				S		**Sn**	**13 31 32.7**	**-2.3**
PAB	**San Pablo**	**7.62**	**300**	*e*P		**Pn**	**13 30 08.0**	**-1.1**
PAB				pmax		pmax			
	comp=Z,52nm,0.6s								
PAB	**San Pablo**	**7.62**	**300**	*e*P		**Pn**	**13 30 08.0**	**-1.1**
	comp=Z,52nm,0.6s								
PAB	**San Pablo**	**7.62**	**300**	*e*Pn		**Pn**	**13 30 08.0**	**-1.1**
	comp=Z,52nm,0.6s								
EPF	**Esparros**	**7.64**	**338**	*e*Pn		**Pn**	**13 30 10.2**	**+0.8**
EPF				*e*Sn		**Sn**	**13 31 32.5**	**-3.3**
	comp=Z,61nm,0.8s								
EPF	**Esparros**	**7.64**	**338**	P		**Pn**	**13 30 10.2**	**+0.8**
EPF				S		**Sn**	**13 31 32.5**	**-3.3**
	comp=Z,31nm,0.8s								
EPF	**Esparros**	**7.64**	**338**	*e*P		**Pn**	**13 30 10.2**	**+0.8**
EPF				*e*			13 31 32.5		
EPF	**Esparros**	**7.64**	**338**	P		**Pn**	**13 30 10.2**	**+0.8**
EPF	**Esparros**	**7.64**	**338**	*e*Pn		**Pn**	**13 30 10.2**	**+0.8**
EPF				*e*Sn		**Sn**	**13 31 32.5**	**-3.3**
ECEU	**Ceuta**	**7.73**	**272**	S		**Sn**	**13 31 34.0**	**-3.9**
	comp=Z,8µm,10.6s,SNR=5.0								
LABF	**Labassere**	**7.74**	**337**	P		**Pn**	**13 30 12.4**	**+1.7**
LABF				S		**Sn**	**13 31 36.6**	**-1.5**
LABF	**Labassere**	**7.74**	**337**	P		**Pn**	**13 30 12.4**	**+1.7**
LABF				S		**Sn**	**13 31 36.6**	**-1.5**
DKH	**Dar Kharkhour**	**7.75**	**269**	P		**Pn**	**13 30 13.0**	**+2.1**
DKH				S		**Sn**	**13 31 38.0**	**-0.6**
DKH	**Dar Kharkhour**	**7.75**	**269**	P		**Pn**	**13 30 13.0**	**+2.1**
DKH				S		**Sn**	**13 31 38.0**	**-0.6**
LIJA	**Lijar**	**7.76**	**280**	P		**Pn**	**13 30 12.0**	**+1.0**
LIJA				S		Sn	13 31 31.0	-7.7	
LIJA	**Lijar**	**7.76**	**280**	P		**Pn**	**13 30 12.0**	**+1.0**
TGT	**Taghat**	**7.79**	**259**	P		**Pn**	**13 30 12.0**	**+0.6**
TGT				S		**Sn**	**13 31 34.0**	**-5.4**
TGT	**Taghat**	**7.79**	**259**	P		**Pn**	**13 30 12.0**	**+0.6**
ETSF	**Etsaut**	**7.82**	**334**	*e*Pn		**Pn**	**13 30 12.1**	**+0.3**
ETSF				*e*Sn		**Sn**	**13 31 36.9**	**-3.3**
	comp=Z,125nm,1.0s								
ETSF	**Etsaut**	**7.82**	**334**	P		**Pn**	**13 30 12.1**	**+0.3**
ETSF				S		**Sn**	**13 31 36.9**	**-3.3**
	comp=Z,62nm,1.0s								
ETSF	**Etsaut**	**7.82**	**334**	*e*P		**Pn**	**13 30 12.1**	**+0.3**
ETSF				*e*			13 31 36.9		
ETSF	**Etsaut**	**7.82**	**334**	P		**Pn**	**13 30 12.1**	**+0.3**
ETSF	**Etsaut**	**7.82**	**334**	*e*Pn		**Pn**	**13 30 12.1**	**+0.3**
ETSF				*e*Sn		**Sn**	**13 31 36.9**	**-3.3**
FRF	**La Foret Royal**	**7.82**	**13**	*e*Pn		**Pn**	**13 30 10.6**	**-1.2**
FRF				*e*Sn		**Sn**	**13 31 36.4**	**-3.7**
	comp=Z,62nm,0.6s								
FRF	**La Foret Royal**	**7.82**	**13**	P		**Pn**	**13 30 10.6**	**-1.2**
FRF				S		**Sn**	**13 31 36.4**	**-3.7**
	comp=Z,31nm,0.6s								
FRF	**La Foret Royal**	**7.82**	**13**	*e*P		**Pn**	**13 30 10.6**	**-1.2**
FRF				*e*			13 31 36.4		
FRF	**La Foret Royal**	**7.82**	**13**	P		**Pn**	**13 30 10.6**	**-1.2**
FRF	**La Foret Royal**	**7.82**	**13**	*e*Pn		**Pn**	**13 30 10.6**	**-1.2**
FRF				*e*Sn		**Sn**	**13 31 36.4**	**-3.7**
MDT	**Midelt**	**7.90**	**249**	Pn		**Pn**	**13 30 11.2**	**-1.7**
	comp=Z,8.9nm,0.3s,baz=71,slow=17,SNR=224								
MDT				Lg		Lg	13 32 26.4		
	comp=Z,15nm,0.3s,baz=156,slow=22,SNR=3.8								
MDT				LR		LR	13 33 31.5		
	comp=Z,8µm,18.2s,baz=69,slow=40								
REYF	**Montagne du Re**	**7.91**	**335**	P		**Pn**	**13 30 13.9**	**+0.8**
REYF				S		**Sn**	**13 31 41.4**	**-1.0**
REYF	**Montagne du Re**	**7.91**	**335**	P		**Pn**	**13 30 13.9**	**+0.8**
REYF				S		**Sn**	**13 31 41.4**	**-1.0**
ECAB	**El Cabril**	**7.94**	**288**	P		**Pn**	**13 30 12.1**	**-1.3**
	comp=Z,54nm,0.6s,SNR=38								
ECAB				S		**Sn**	**13 31 39.1**	**-3.9**
	comp=Z,10µm,12.5s,SNR=7.9								
ECAB	**El Cabril**	**7.94**	**288**	P		**Pn**	**13 30 12.1**	**-1.3**
	comp=Z,54nm,0.6s,SNR=38								
GUD	**Guadarrama**	**8.03**	**308**	P		**Pn**	**13 30 15.0**	**+0.3**
	comp=Z,62nm,0.7s,SNR=26								
GUD				S		**Sn**	**13 31 42.0**	**-3.2**
	comp=Z,9µm,14.3s,SNR=6.9								
GUD	**Guadarrama**	**8.03**	**308**	P		**Pn**	**13 30 15.0**	**+0.3**
	comp=Z,62nm,0.7s,SNR=26								
RUSF	**Rustrel**	**8.03**	**7**	*e*P		**Pn**	**13 30 16.0**	**+1.4**
RUSF	**Rustrel**	**8.03**	**7**	*e*P		**Pn**	**13 30 16.0**	**+1.4**
RUSF	**Rustrel**	**8.03**	**7**	*e*P		**Pn**	**13 30 16.0**	**+1.4**
IELO	**Elcoad**	**8.03**	**330**	P		**Pn**	**13 30 16.1**	**+1.4**
	comp=Z,64nm,0.9s,SNR=7.9								
IELO				S		**Sn**	**13 31 42.4**	**-2.9**
	comp=Z,10µm,9.2s,SNR=7.9								
IELO	**Elcoad**	**8.03**	**330**	P		**Pn**	**13 30 16.1**	**+1.4**
	comp=Z,64nm,0.9s,SNR=7.9								
ATE	**Arette**	**8.04**	**334**	P		**Pn**	**13 30 16.2**	**+1.5**
	comp=Z,53nm,1.0s,SNR=7.9								
ATE				S		**Sn**	**13 31 43.6**	**-1.8**
	comp=Z,5µm,11.6s,SNR=7.9								
ATE	**Arette**	**8.04**	**334**	P		**Pn**	**13 30 16.2**	**+1.5**
	comp=Z,53nm,1.0s,SNR=7.9								
ATE				S		**Sn**	**13 31 43.6**	**-1.8**
	comp=Z,5µm,11.6s,SNR=7.9								
IPRE	**Itoiz**	**8.05**	**330**	S		**Sn**	**13 31 40.8**	**-4.9**
	comp=Z,34nm,0.7s,SNR=7.9								
CALN	**Calern**	**8.05**	**14**	P		**Pn**	**13 30 14.7**	**-0.4**
CALN	**Calern**	**8.05**	**14**	P		**Pn**	**13 30 14.7**	**-0.4**
SMRF	**Simiane la Rot**	**8.07**	**7**	*e*Pn		**Pn**	**13 30 14.5**	**-0.7**
SMRF				*e*Sn		**Sn**	**13 31 42.7**	**-3.6**
	comp=Z,34nm,0.7s								
SMRF	**Simiane la Rot**	**8.07**	**7**	P		**Pn**	**13 30 14.5**	**-0.7**
SMRF				S		**Sn**	**13 31 42.7**	**-3.6**
	comp=Z,34nm,0.7s								
SMRF	**Simiane la Rot**	**8.07**	**7**	P		**Pn**	**13 30 14.5**	**-0.7**
SMRF	**Simiane la Rot**	**8.07**	**7**	*e*Pn		**Pn**	**13 30 14.5**	**-0.7**
SMRF				*e*Sn		**Sn**	**13 31 42.7**	**-3.6**
ZFT	**Errachidia**	**8.08**	**243**	P		**Pn**	**13 30 13.0**	**-2.5**
ZFT				S		Sn	13 31 36.0	-11	
ZFT	**Errachidia**	**8.08**	**243**	P		**Pn**	**13 30 13.0**	**-2.5**
LARF	**Larrau**	**8.10**	**332**	P		**Pn**	**13 30 17.2**	**+1.6**
LARF	**Larrau**	**8.10**	**332**	P		**Pn**	**13 30 17.2**	**+1.6**
LASF	**Ste Croix**	**8.10**	**358**	*e*Pn		**Pn**	**13 30 15.1**	**-0.5**
LASF				*e*Sn		**Sn**	**13 31 43.5**	**-3.5**
	comp=Z,130nm,1.0s								
LASF	**Ste Croix**	**8.10**	**358**	P		**Pn**	**13 30 15.1**	**-0.5**
LASF				S		**Sn**	**13 31 43.5**	**-3.5**
	comp=Z,65nm,1.0s								
LASF	**Ste Croix**	**8.10**	**358**	P		**Pn**	**13 30 15.1**	**-0.5**
LASF	**Ste Croix**	**8.10**	**358**	*e*Pn		**Pn**	**13 30 15.1**	**-0.5**
LASF				*e*Sn		**Sn**	**13 31 43.5**	**-3.5**
EARA	**Aranguren**	**8.12**	**329**	P		**Pn**	**13 30 17.0**	**+1.2**
	comp=Z,86nm,0.9s,SNR=7.2								
EARA				S		**Sn**	**13 31 44.0**	**-3.3**
	comp=Z,6µm,9.9s,SNR=7.9								
EARA	**Aranguren**	**8.12**	**329**	P		**Pn**	**13 30 17.0**	**+1.2**
	comp=Z,86nm,0.9s,SNR=7.2								
ESPR	**Espera**	**8.12**	**279**	P		**Pn**	**13 30 16.5**	**+0.7**
	comp=Z,48nm,0.7s,SNR=7.6								
ESPR				S		**Sn**	**13 31 43.5**	**-3.9**
	comp=Z,12µm,11.4s,SNR=7.9								
ESPR	**Espera**	**8.12**	**279**	P		**Pn**	**13 30 16.5**	**+0.7**
	comp=Z,48nm,0.7s,SNR=7.6								
CZD	**Col de Zad**	**8.13**	**252**	P		**Pn**	**13 30 16.0**	**-0.3**
CZD				S		**Sn**	**13 31 43.0**	**-5.2**
CZD	**Col de Zad**	**8.13**	**252**	P		**Pn**	**13 30 16.0**	**-0.3**
MIF	**Mishlifen**	**8.14**	**254**	P		**Pn**	**13 30 16.0**	**-0.3**
MIF				S		Sn	13 31 42.0	-6.2	
MIF	**Mishlifen**	**8.14**	**254**	P		**Pn**	**13 30 16.0**	**-0.3**
MVIF	**Mont Vial**	**8.25**	**15**	P		**Pn**	**13 30 17.6**	**-0.1**
MVIF	**Mont Vial**	**8.25**	**15**	P		**Pn**	**13 30 17.6**	**-0.1**
SJPF	**Ste Jean**	**8.26**	**331**	*e*Pn		**Pn**	**13 30 17.8**	**+0.1**
SJPF				*e*Sn		**Sn**	**13 31 47.5**	**-3.2**
	comp=Z,176nm,1.2s								
SJPF	**Ste Jean**	**8.26**	**331**	P		**Pn**	**13 30 17.8**	**+0.1**
SJPF				S		**Sn**	**13 31 47.5**	**-3.2**
	comp=Z,88nm,1.2s								
SJPF	**Ste Jean**	**8.26**	**331**	*e*P		**Pn**	**13 30 17.8**	**+0.1**
SJPF				*e*			13 31 47.5		
SJPF	**Ste Jean**	**8.26**	**331**	P		**Pn**	**13 30 17.8**	**+0.1**
SJPF	**Ste Jean**	**8.26**	**331**	*e*Pn		**Pn**	**13 30 17.8**	**+0.1**
SJPF				*e*Sn		**Sn**	**13 31 47.5**	**-3.2**
TSY	**Tnine Yamani**	**8.26**	**269**	P		Pn	13 30 21.0	+3.2	
TSY				S		**Sn**	**13 31 50.0**	**-0.8**
SBF	**Sospel**	**8.28**	**17**	*e*Pn		**Pn**	**13 30 16.9**	**-1.2**
SBF				*e*Sn		**Sn**	**13 31 47.3**	**-4.1**
	comp=Z,129nm,0.6s								
SBF	**Sospel**	**8.28**	**17**	P		**Pn**	**13 30 16.9**	**-1.2**
SBF				S		**Sn**	**13 31 47.3**	**-4.1**
	comp=Z,64nm,0.6s								
SBF	**Sospel**	**8.28**	**17**	*e*P		**Pn**	**13 30 16.9**	**-1.2**
SBF				*e*			13 31 47.3		
SBF	**Sospel**	**8.28**	**17**	P		**Pn**	**13 30 16.9**	**-1.2**
SBF	**Sospel**	**8.28**	**17**	*e*Pn		**Pn**	**13 30 16.9**	**-1.2**
SBF				*e*Sn		**Sn**	**13 31 47.3**	**-4.1**
TOUF	**Mont Tournerai**	**8.38**	**16**	P		**Pn**	**13 30 18.2**	**-1.4**
TOUF	**Mont Tournerai**	**8.38**	**16**	P		**Pn**	**13 30 18.2**	**-1.4**
OSSF	**Osses**	**8.39**	**332**	P		**Pn**	**13 30 20.9**	**+1.4**
OSSF	**Osses**	**8.39**	**332**	P		**Pn**	**13 30 20.9**	**+1.4**
AUTN	**L'Aution**	**8.40**	**16**	P		**Pn**	**13 30 19.7**	**-0.2**
AUTN	**L'Aution**	**8.40**	**16**	P		**Pn**	**13 30 19.7**	**-0.2**
SAOF	**Saorge**	**8.42**	**17**	P		**Pn**	**13 30 19.4**	**-0.6**
SAOF	**Saorge**	**8.42**	**17**	P		**Pn**	**13 30 19.4**	**-0.6**
EALK	**Alkurruntz**	**8.46**	**331**	P		**Pn**	**13 30 21.1**	**+0.7**
	comp=Z,107nm,0.9s,SNR=22								
EALK				S		**Sn**	**13 31 50.5**	**-5.1**
	comp=Z,11µm,11.5s,SNR=7.9								
EALK	**Alkurruntz**	**8.46**	**331**	P		**Pn**	**13 30 21.1**	**+0.7**
	comp=Z,107nm,0.9s,SNR=22								
EMIN	**Mina Concepcio**	**8.86**	**285**	P		**Pn**	**13 30 26.4**	**+0.4**
	comp=Z,23nm,0.5s,SNR=18								
EMIN				S		**Sn**	**13 32 00.0**	**-5.6**
	comp=Z,13µm,15.4s,SNR=5.0								
EMIN	**Mina Concepcio**	**8.86**	**285**	P		**Pn**	**13 30 26.4**	**+0.4**
	comp=Z,23nm,0.5s,SNR=18								
VIVF	**Saint-Julien-l**	**8.89**	**2**	*e*Pn		**Pn**	**13 30 25.3**	**-1.1**
VIVF				*e*Sn		**Sn**	**13 32 02.3**	**-4.0**
	comp=Z,59nm,0.6s								
VIVF	**Saint-Julien-l**	**8.89**	**2**	P		**Pn**	**13 30 25.3**	**-1.1**
VIVF				S		**Sn**	**13 32 02.3**	**-4.0**
	comp=Z,30nm,0.6s								
VIVF	**Saint-Julien-l**	**8.89**	**2**	*e*P		**Pn**	**13 30 25.3**	**-1.1**
VIVF				*e*			13 32 02.3		
VIVF	**Saint-Julien-l**	**8.89**	**2**	P		**Pn**	**13 30 25.3**	**-1.1**
VIVF	**Saint-Julien-l**	**8.89**	**2**	*e*Pn		**Pn**	**13 30 25.3**	**-1.1**
VIVF				*e*Sn		**Sn**	**13 32 02.3**	**-4.0**
MBDF	**Montbardon**	**8.97**	**12**	*e*Pn		**Pn**	**13 30 26.8**	**-0.9**
MBDF				*e*Sn		**Sn**	**13 32 04.3**	**-4.3**
	comp=Z,41nm,0.6s								
MBDF	**Montbardon**	**8.97**	**12**	P		**Pn**	**13 30 26.8**	**-0.9**
MBDF				S		**Sn**	**13 32 04.3**	**-4.3**
	comp=Z,20nm,0.6s								
MBDF	**Montbardon**	**8.97**	**12**	*e*P		**Pn**	**13 30 26.8**	**-0.9**
MBDF				*e*			13 32 04.3		
MBDF

comp=Z,28nm,0.8s
LPG La Plagne 9.72 11 *e*P **Pn 13 30 38.3 +0.2**
LPG *e* 13 32 22.6
LPG La Plagne 9.72 11 P **Pn 13 30 38.3 +0.2**
LPG La Plagne 9.72 11 *e*Pn **Pn 13 30 38.3 +0.2**
LPG *e*Sn **Sn 13 32 22.6 -4.5**
LPL La Plagne 9.74 11 *e*Pn **Pn 13 30 37.8 -0.4**
LPL *e*Sn **Sn 13 32 22.8 -4.6**
comp=Z,25nm,0.6s
LPL La Plagne 9.74 11 P **Pn 13 30 37.8 -0.4**
LPL S **Sn 13 32 22.8 -4.6**
comp=Z,12nm,0.6s
LPL La Plagne 9.74 11 *e*P **Pn 13 30 37.8 -0.4**
LPL *e* 13 32 22.8
LPL La Plagne 9.74 11 P **Pn 13 30 37.8 -0.4**
LPL La Plagne 9.74 11 *e*Pn **Pn 13 30 37.8 -0.4**
LPL *e*Sn **Sn 13 32 22.8 -4.6**
PMRV Marv??o 9.78 294 *e*P **Pn 13 30 39.1 +0.5**
PMRV A A 13 30 47.8
comp=Z,135nm,1.6s
PMRV *e*S **Sn 13 32 32.5 +4.3**
PMRV *e*LR LR 13 33 08.9
PMRV Marv??o 9.78 294 P **Pn 13 30 39.1 +0.5**
PMRV S **Sn 13 32 32.5 +4.3**
PMRV Marv??o 9.78 294 *e*P **Pn 13 30 39.1 +0.5**
comp=Z,135nm,1.6s
PESTR Estremoz 9.78 291 *e*P **Pn 13 30 38.0 -0.6**
PESTR Estremoz 9.78 291 *e*P **Pn 13 30 38.7 +0.1**
PESTR A A 13 30 50.4
comp=Z,45nm,1.3s
PESTR *e*S Sn 13 32 34.3 +6.1
PESTR *e*LR LR 13 33 05.2
PESTR Estremoz 9.78 291 *e*P **Pn 13 30 38.0 -0.6**
PBDV Barranco-do-Ve 9.80 281 *e*P **Pn 13 30 39.5 +0.6**
PBDV A A 13 30 56.7
comp=Z,74nm,1.5s
PBDV *e*S **Sn 13 32 25.6 -3.1**
PBDV *e*LR LR 13 33 23.4
PBDV Barranco-do-Ve 9.80 281 P **Pn 13 30 39.5 +0.6**
PBDV S **Sn 13 32 25.6 -3.1**
PBDV Barranco-do-Ve 9.80 281 *e*P **Pn 13 30 39.5 +0.6**
comp=Z,74nm,1.5s
PCVE Castro Verde 9.92 283 *e*P **Pn 13 30 40.5 0.0**
PCVE A A 13 30 45.2
comp=Z,11nm,2.1s
PCVE *e*S **Sn 13 32 29.8 -1.8**
PCVE *e*LR LR 13 33 19.8
PCVE Castro Verde 9.92 283 P **Pn 13 30 40.5 0.0**
PCVE S **Sn 13 32 29.8 -1.8**
PCVE Castro Verde 9.92 283 *e*P **Pn 13 30 40.5 0.0**
comp=Z,11nm,2.1s
PCVE S **Sn 13 32 29.8 -1.8**
PCBR Castelo Branco 9.97 296 *e*P **Pn 13 30 42.0 +0.8**
PCBR A A 13 30 49.5
comp=Z,104nm,1.0s
PCBR Castelo Branco 9.97 296 P **Pn 13 30 42.0 +0.8**
PCBR Castelo Branco 9.97 296 *e*P **Pn 13 30 42.0 +0.8**
comp=Z,104nm,1.0s
PLDF La Plantade 10.00 358 P **Pn 13 30 42.1 +0.4**
PLDF La Plantade 10.00 358 P **Pn 13 30 42.1 +0.4**
EVO Evora 10.03 288 *e*Pn **Pn 13 30 41.0 -1.1**
EVO *e*Sn **Sn 13 32 29.7 -4.7**
comp=Z,121nm,0.9s
EVO *e*R
comp=Z,4µm,16.2s
EVO Evora 10.03 288 *e*P **Pn 13 30 42.0 -0.1**
EVO A A 13 30 50.4
comp=Z,46nm,2.0s
EVO Evora 10.03 288 P **Pn 13 30 42.0 -0.1**
EVO Evora 10.03 288 *e*P **Pn 13 30 42.0 -0.1**
comp=Z,46nm,2.0s
CUC Castrocucco 10.04 63 *e*P **Pn 13 30 43.6 +1.3**
comp=Z,19nm,0.9s
CUC Castrocucco 10.04 63 *e*P **Pn 13 30 43.6 +1.3**
comp=Z,19nm,0.9s
AGO Saint Agoulin 10.11 356 P **Pn 13 30 43.1 0.0**
AGO Saint Agoulin 10.11 356 P **Pn 13 30 43.1 0.0**
EVOP Sao Brissos 10.12 288 *e*P **Pn 13 30 41.0 -2.2**
EVOP *e* 13 32 29.7
EVOP Sao Brissos 10.12 288 *e*Pn **Pn 13 30 41.0 -2.2**
EVOP Sao Brissos 10.12 288 *e*Pn **Pn 13 30 41.0 -2.2**
EVOP *e*Sn Sn 13 32 29.7 -6.7
MVO Moncorvo 10.18 304 *e*P **Pn 13 30 44.7 +0.6**
MVO A A 13 30 52.2
comp=Z,94nm,0.7s
MVO *e*S **Sn 13 32 42.0 +4.0**
MVO *e*LR LR 13 33 03.4
MVO Moncorvo 10.18 304 *e*P **Pn 13 30 44.7 +0.6**
comp=Z,94nm,0.7s
MTE Manteigas 10.21 299 *e*P **Pn 13 30 45.1 +0.5**
MTE A A 13 30 56.8
comp=Z,60nm,1.1s
MTE *e*S **Sn 13 32 37.3 -1.6**
MTE *e*LR LR 13 33 03.4
MTE Manteigas 10.21 299 P **Pn 13 30 45.1 +0.5**
MTE S **Sn 13 32 37.3 -1.6**
MTE Manteigas 10.21 299 *e*P **Pn 13 30 44.6 0.0**
comp=Z,39nm,0.8s
MTE S **Sn 13 32 37.3 -1.6**
MTE Manteigas 10.21 299 *e*P **Pn 13 30 44.6 0.0**
comp=Z,39nm,0.8s
EARI Arriondas 10.28 318 P **Pn 13 30 46.7 +1.2**
comp=Z,162nm,1.2s,SNR=57
EARI Arriondas 10.28 318 P **Pn 13 30 46.7 +1.2**
comp=Z,162nm,1.2s,SNR=57
PBRG Braganca 10.30 308 *e*P **Pn 13 30 46.6 +0.9**
PBRG A A 13 30 53.9
comp=Z,64nm,1.1s
PBRG *e*LR LR 13 33 14.3
PBRG Braganca 10.30 308 P **Pn 13 30 46.6 +0.9**
PBRG Braganca 10.30 308 *e*P **Pn 13 30 46.6 +0.9**
comp=Z,64nm,1.1s
PMTG Montargil 10.31 291 *e*LR LR 13 33 14.3
PNCL Nicolau / Gran 10.36 286 *e*P **Pn 13 30 46.4 -0.2**
PNCL A A 13 30 58.0
comp=Z,52nm,1.3s
PNCL *e*S **Sn 13 32 41.7 -0.7**
PNCL *e*LR LR 13 33 27.0
PNCL Nicolau / Gran 10.36 286 *e*P **Pn 13 30 46.4 -0.2**
comp=Z,52nm,1.3s
PNCL *e*S **Sn 13 32 41.7 -0.7**
ECAL Calabor 10.36 308 P **Pn 13 30 47.7 +1.0**
comp=Z,62nm,0.5s,SNR=33
ECAL Calabor 10.36 308 P **Pn 13 30 47.7 +1.0**
comp=Z,62nm,0.5s,SNR=33
MORF Marmelete 10.38 281 *e*P **Pn 13 30 47.1 +0.3**
MORF A A 13 31 03.6
comp=Z,88nm,1.7s
MORF *e*S **Sn 13 32 46.7 +3.8**
MORF *e*LR LR 13 33 21.6
MORF Marmelete 10.38 281 P **Pn 13 30 47.1 +0.3**
MORF S **Sn 13 32 46.7 +3.8**
MORF Marmelete 10.38 281 *e*P **Pn 13 30 47.1 +0.3**
comp=Z,88nm,1.7s
TCF Toulx Ste Croi 10.41 353 *e*P Pn 13 30 52.2 +4.9
TCF Toulx Ste Croi 10.41 353 P Pn 13 30 52.2 +4.9
TCF Toulx Ste Croi 10.41 353 *e*P Pn 13 30 52.2 +4.9
TCF Toulx Ste Croi 10.41 353 *e*P Pn 13 30 52.2 +4.9
PTEO Sao Teotonio 10.45 282 *e*P **Pn 13 30 48.7 +0.9**
PTEO A A 13 30 51.7
comp=Z,89nm,1.2s
PTEO *e*S **Sn 13 32 43.1 -1.6**
PTEO Sao Teotonio 10.45 282 P **Pn 13 30 48.7 +0.9**
PTEO S **Sn 13 32 43.1 -1.6**
PTEO Sao Teotonio 10.45 282 *e*P **Pn 13 30 48.7 +0.9**
comp=Z,89nm,1.2s
PTEO S **Sn 13 32 43.1 -1.6**
PFVI Vila Bisbo 10.51 280 *e*P **Pn 13 30 48.7 +0.1**
PFVI A A 13 31 10.9
comp=Z,133nm,2.0s
PFVI *e*S **Sn 13 32 44.3 -1.8**
PFVI *e*LR LR 13 33 32.5
PFVI Vila Bisbo 10.51 280 *e*P **Pn 13 30 48.7 +0.1**
comp=Z,133nm,2.0s
PFVI *e*S **Sn 13 32 44.3 -1.8**
PVIS Viseu 10.58 300 *e*P **Pn 13 30 51.1 +1.5**
PVIS A A 13 31 00.4
comp=Z,43nm,1.0s
PVIS *e*S **Sn 13 32 49.6 +1.7**
PVIS Viseu 10.58 300 P **Pn 13 30 51.1 +1.5**
PVIS S **Sn 13 32 49.6 +1.7**
PVIS Viseu 10.58 300 *e*P **Pn 13 30 51.1 +1.5**
comp=Z,43nm,1.0s
PVIS S **Sn 13 32 49.6 +1.7**
PTOM Tomar 10.59 294 *e*P **Pn 13 30 49.9 +0.2**
PTOM A A 13 31 01.6
comp=Z,75nm,1.8s
PTOM *e*S **Sn 13 32 45.5 -2.5**
PTOM Tomar 10.59 294 P **Pn 13 30 49.9 +0.2**
PTOM S **Sn 13 32 45.5 -2.5**
PTOM Tomar 10.59 294 *e*P **Pn 13 30 49.9 +0.2**
comp=Z,75nm,1.8s
PTOM S **Sn 13 32 45.5 -2.5**
BGF Bois d'Agland 10.63 355 *e*Pn **Pn 13 30 49.5 -0.7**
BGF Bois d'Agland 10.63 355 P **Pn 13 30 49.5 -0.7**
BGF Bois d'Agland 10.63 355 *e*P **Pn 13 30 49.5 -0.7**
BGF Bois d'Agland 10.63 355 P **Pn 13 30 49.5 -0.7**
BGF Bois d'Agland 10.63 355 *e*Pn **Pn 13 30 49.5 -0.7**
SMF Signal de Mont 10.67 359 *e*Pn **Pn 13 30 51.6 +0.8**
SMF Signal de Mont 10.67 359 P **Pn 13 30 51.6 +0.8**
SMF Signal de Mont 10.67 359 *e*P **Pn 13 30 51.6 +0.8**
SMF Signal de Mont 10.67 359 P **Pn 13 30 51.6 +0.8**
SMF Signal de Mont 10.67 359 *e*Pn **Pn 13 30 51.6 +0.8**
PVRL Vila Real 10.69 303 *e*P **Pn 13 30 51.5 +0.4**
PVRL A A 13 31 09.6
comp=Z,42nm,1.5s
PVRL Vila Real 10.69 303 P **Pn 13 30 51.5 +0.4**
PVRL Vila Real 10.69 303 *e*P **Pn 13 30 51.5 +0.4**
comp=Z,42nm,1.5s
CABF La Chapelle 10.73 7 *e*Pn **Pn 13 30 51.4 -0.3**
CABF La Chapelle 10.73 7 P **Pn 13 30 51.4 -0.3**
CABF La Chapelle 10.73 7 *e*P **Pn 13 30 51.4 -0.3**
CABF La Chapelle 10.73 7 P **Pn 13 30 51.4 -0.3**
CABF La Chapelle 10.73 7 *e*Pn **Pn 13 30 51.4 -0.3**
POLO Lamas de Olo 10.78 304 *e*P **Pn 13 30 52.8 +0.4**
POLO A A 13 31 10.2
comp=Z,27nm,1.7s
POLO *e*S **Sn 13 32 57.3 +4.4**
POLO *e*LR LR 13 33 21.6
POLO Lamas de Olo 10.78 304 *e*P **Pn 13 30 52.8 +0.4**
comp=Z,27nm,1.7s
AVF Avril sur Loir 10.83 357 *e*Pn **Pn 13 30 53.7 +0.7**
AVF Avril sur Loir 10.83 357 P **Pn 13 30 53.7 +0.7**
AVF Avril sur Loir 10.83 357 *e*P **Pn 13 30 53.7 +0.7**
AVF Avril sur Loir 10.83 357 P **Pn 13 30 53.7 +0.7**
AVF Avril sur Loir 10.83 357 *e*Pn **Pn 13 30 53.7 +0.7**
PMAFR Mafra 11.09 290 *e*P **Pn 13 30 56.4 -0.1**
PMAFR A A 13 31 16.1
comp=Z,111nm,1.3s
PMAFR *e*S **Sn 13 33 00.9 +0.6**
PMAFR *e*LR LR 13 33 34.3
PMAFR Mafra 11.09 290 *e*P **Pn 13 30 56.4 -0.1**
comp=Z,111nm,1.3s
PMAFR *e*S **Sn 13 33 00.9 +0.6**
PCAB Cabril 11.09 305 *e*P **Pn 13 30 57.5 +0.9**
PCAB A A 13 31 04.8
comp=Z,52nm,0.9s
PCAB Cabril 11.09 305 P **Pn 13 30 57.5 +0.9**
PCAB Cabril 11.09 305 *e*P **Pn 13 30 57.5 +0.9**
comp=Z,52nm,0.9s
SSF Saint Saulge 11.10 358 *e*Pn **Pn 13 30 56.4 -0.2**
SSF Saint Saulge 11.10 358 P **Pn 13 30 56.4 -0.2**
SSF Saint Saulge 11.10 358 *e*P **Pn 13 30 56.4 -0.2**
SSF Saint Saulge 11.10 358 P **Pn 13 30 56.4 -0.2**
SSF Saint Saulge 11.10 358 *e*Pn **Pn 13 30 56.4 -0.2**
MFF Saint Martin d 11.10 344 *e*Pn **Pn 13 30 57.3 +0.6**
MFF Saint Martin d 11.10 344 P **Pn 13 30 57.3 +0.6**
MFF Saint Martin d 11.10 344 *e*P **Pn 13 30 57.3 +0.6**
MFF Saint Martin d 11.10 344 P **Pn 13 30 57.3 +0.6**
MFF Saint Martin d 11.10 344 *e*Pn **Pn 13 30 57.3 +0.6**
ELOB Lobios 11.19 305 P **Pn 13 30 58.6 +0.6**
comp=Z,36nm,0.9s,SNR=14
ELOB Lobios 11.19 305 P **Pn 13 30 58.6 +0.6**
comp=Z,36nm,0.9s,SNR=14
LOR Lormes 11.29 359 *e*Pn **Pn 13 31 00.0 +0.7**
baz=177
LOR *e*R
comp=Z,4µm,18.2s
LOR Lormes 11.29 359 P **Pn 13 31 00.0 +0.7**
LOR Lormes 11.29 359 *e*P **Pn 13 31 00.0 +0.7**
LOR Lormes 11.29 359 P **Pn 13 31 00.0 +0.7**
LOR Lormes 11.29 359 *e*Pn **Pn 13 31 00.0 +0.7**
EPON Pontenova 11.39 314 P **Pn 13 31 02.6 +1.9**
comp=Z,34nm,0.8s,SNR=4.0
EPON Pontenova 11.39 314 P **Pn 13 31 02.6 +1.9**
comp=Z,34nm,0.8s,SNR=4.0
LOMF Lomont 11.55 9 P **Pn 13 31 02.2 -0.7**
LOMF Lomont 11.55 9 P **Pn 13 31 02.2 -0.7**
DAVOX Davos/Dischmat 11.62 20 Pn **Pn 13 31 03.6 -0.4**
comp=Z,0.5nm,0.3s,baz=202,slow=9.3,SNR=6.1
DAVOX Sn **Sn 13 33 15.7 +2.1**
comp=Z,0.3nm,0.3s,baz=18,slow=20,SNR=2.1
DAVOX LR LR 13 35 08.8
comp=Z,1µm,18.5s,baz=212,slow=36
DAVOX Davos/Dischmat 11.62 20 P **Pn 13 31 03.6 -0.4**
DAVOX 13 33 15.7
DAVOX pmax pmax
comp=Z,1.0nm,0.3s
DAVOX MLR MLR
comp=Z,1µm,18.5s
EAGO Agolada(Pontev 11.67 310 P **Pn 13 31 06.3 +1.8**
comp=Z,27nm,0.7s,SNR=7.9
EAGO Agolada(Pontev 11.67 310 P **Pn 13 31 06.3 +1.8**
comp=Z,27nm,0.7s,SNR=7.9
BBS Basel-Blauen 11.76 11 P **Pn 13 31 04.4 -1.3**
STS Santiago 12.00 309 P **Pn 13 31 10.6 +1.6**
comp=Z,27nm,0.8s,SNR=4.0
STS Santiago 12.00 309 P **Pn 13 31 10.6 +1.6**
comp=Z,27nm,0.8s,SNR=4.0
HINF Hinteralfeld 12.01 9 *e*Pn **Pn 13 31 08.4 -0.7**
HINF Hinteralfeld 12.01 9 P **Pn 13 31 08.4 -0.7**
HINF Hinteralfeld 12.01 9 *e*P **Pn 13 31 08.4 -0.7**
HINF Hinteralfeld 12.01 9 P **Pn 13 31 08.4 -0.7**
HINF Hinteralfeld 12.01 9 *e*Pn **Pn 13 31 08.4 -0.7**
MOF Molkenrain 12.08 10 P **Pn 13 31 09.6 -0.5**
MOF Molkenrain 12.08 10 P **Pn 13 31 09.6 -0.5**
FETA Feichten 12.09 22 *i*P Pn 13 31 14.5 +4.2
comp=Z,6.9nm,0.9s
HAU Haudompre 12.14 7 *e*Pn **Pn 13 31 09.7 -1.2**
HAU *e*R
comp=Z,2µm,17.0s
HAU Haudompre 12.14 7 P **Pn 13 31 09.7 -1.2**
HAU Haudompre 12.14 7 *e*P **Pn 13 31 09.7 -1.2**
HAU Haudompre 12.14 7 P **Pn 13 31 09.7 -1.2**
HAU Haudompre 12.14 7 *e*Pn **Pn 13 31 09.7 -1.2**
FELD Feldberg im Sc 12.24 12 P **Pn 13 31 10.6 -1.7**
SFTF Sexfontaines 12.25 3 *e*Pn **Pn 13 31 11.1 -1.2**
baz=176
SFTF Sexfontaines 12.25 3 P **Pn 13 31 11.1 -1.2**
SFTF Sexfontaines 12.25 3 P **Pn 13 31 11.1 -1.2**
SFTF Sexfontaines 12.25 3 *e*Pn **Pn 13 31 11.1 -1.2**
EMAZ Mazaricos 12.30 308 P **Pn 13 31 13.8 +0.7**
comp=Z,36nm,0.8s,SNR=9.3
EMAZ Mazaricos 12.30 308 P **Pn 13 31 13.8 +0.7**
comp=Z,36nm,0.8s,SNR=9.3
UDBI Udbina 12.31 42 P Pn 13 31 18.8 +5.5
THEF They Montfort 12.33 6 P **Pn 13 31 11.9 -1.5**
THEF They Montfort 12.33 6 P **Pn 13 31 11.9 -1.5**
ECH Echery 12.44 9 P **Pn 13 31 13.6 -1.4**
ECH Echery 12.44 9 *e*P **Pn 13 31 13.5 -1.4**
ECH pmax pmax
comp=Z,15nm,0.9s
ECH Echery 12.44 9 P **Pn 13 31 13.6 -1.4**
ECH Echery 12.44 9 *e*P **Pn 13 31 13.5 -1.4**
comp=Z,15nm,0.9s
ABTA Abfaltersbach 12.46 28 *i*P Pn 13 31 20.0 +4.7
comp=Z,8.4nm,0.6s,SNR=20
MOTA Moosalm 12.49 22 *i*P Pn 13 31 19.7 +3.9
comp=Z,20nm,0.8s
RETA Reutte 12.52 21 *i*P **Pn 13 31 18.3 +2.2**
comp=Z,15nm,0.8s,SNR=8.7
RETA Reutte 12.52 21 P **Pn 13 31 18.3 +2.2**
comp=Z,15nm,0.8s,SNR=8.7
CADS Cadrg 12.53 32 *e*Pn Pn 13 31 20.1 +3.9
STON Ston 12.53 53 P Pn 13 31 21.3 +5.1
MEZF Maizieres J'vi 12.54 3 *e*Pn **Pn 13 31 15.1 -1.3**
baz=175
MEZF Maizieres J'vi 12.54 3 P **Pn 13 31 15.1 -1.3**
MEZF Maizieres J'vi 12.54 3 P **Pn 13 31 15.1 -1.3**
MEZF Maizieres J'vi 12.54 3 *e*Pn **Pn 13 31 15.1 -1.3**
PAGF Fort de Pagny 12.63 5 *e*Pn **Pn 13 31 16.4 -1.2**
PAGF Fort de Pagny 12.63 5 *e*Pn **Pn 13 31 16.4 -1.2**
PAGF Fort de Pagny 12.63 5 *e*Pn **Pn 13 31 16.4 -1.2**
CDF Champ du Feu 12.65 10 *e*Pn **Pn 13 31 16.5 -1.4**
CDF Champ du Feu 12.65 10 P **Pn 13 31 16.5 -1.4**
CDF Champ du Feu 12.65 10 *e*P **Pn 13 31 16.5 -1.4**
CDF Champ du Feu 12.65 10 P **Pn 13 31 16.5 -1.4**
CDF Champ du Feu 12.65 10 *e*Pn **Pn 13 31 16.5 -1.4**
BFO Black Forest 12.73 13 *e*P **Pn 13 31 21.2 +2.2**
comp=Z,13nm,1.3s
BFO Black Forest 12.73 13 *e*P **Pn 13 31 17.9 -1.1**
BFO pmax pmax
comp=Z,7.0nm,0.8s
BFO Black Forest 12.73 13 *e*P **Pn 13 31 17.9 -1.1**
comp=Z,7.2nm,0.8s
BFO Black Forest 12.73 13 *e*P **Pn 13 31 17.9 -1.1**
comp=Z,7.2nm,0.8s
LJU Ljubljana 12.74 35 *e*Pn Pn 13 31 23.1 +3.9
MYKA Terra Mystica 12.81 31 ⇑*i*P P 13 31 25.8 -5.3
comp=Z,3.8nm,0.6s,SNR=5.6
GRR Gorron 12.95 345 *e*Pn **Pn 13 31 22.8 +0.9**
GRR Gorron 12.95 345 P **Pn 13 31 22.8 +0.9**
GRR Gorron 12.95 345 *e*P **Pn 13 31 22.8 +0.9**
GRR Gorron 12.95 345 P **Pn 13 31 22.8 +0.9**
GRR Gorron 12.95 345 *e*Pn **Pn 13 31 22.8 +0.9**
LDF La Druitiere 13.01 347 *e*Pn **Pn 13 31 23.1 +0.4**
LDF La Druitiere 13.01 347 *e*P **Pn 13 31 23.1 +0.4**
LDF La Druitiere 13.01 347 *e*Pn **Pn 13 31 23.1 +0.4**
LDF La Druitiere 13.01 347 *e*Pn **Pn 13 31 23.1 +0.4**
KBA Koelnbreinsper 13.05 29 ⇑*i*P Pn 13 31 27.4 +3.9
comp=Z,11nm,0.7s,SNR=13
QUIF Quistinic 13.12 338 *e*Pn **Pn 13 31 23.7 -0.5**
QUIF Quistinic 13.12 338 P **Pn 13 31 23.7 -0.5**
QUIF Quistinic 13.12 338 *e*P **Pn 13 31 23.7 -0.5**
QUIF Quistinic 13.12 338 P **Pn 13 31 23.7 -0.5**
QUIF Quistinic 13.12 338 *e*Pn **Pn 13 31 23.7 -0.5**
TAM Tamanrasset 13.18 174 *e*P Pn 13 31 21.9 -3.5
TAM pmax pmax
comp=Z,19nm,0.5s
TAM Tamanrasset 13.18 174 *e*P Pn 13 31 21.9 -3.5
comp=Z,19nm,0.5s
FLN La Foliniere 13.23 346 *e*Pn **Pn 13 31 25.8 0.0**
baz=166
FLN *e*R
comp=Z,4µm,17.0s
FLN La Foliniere 13.23 346 P **Pn 13 31 25.8 0.0**
FLN La Foliniere 13.23 346 *e*P **Pn 13 31 25.8 0.0**
FLN La Foliniere 13.23 346 P **Pn 13 31 25.8 0.0**
FLN La Foliniere 13.23 346 *e*Pn **Pn 13 31 25.8 0.0**
SGMF Saint Gilles 13.24 340 *e*Pn **Pn 13 31 26.2 +0.3**
SGMF Saint Gilles 13.24 340 P **Pn 13 31 26.2 +0.3**
SGMF Saint Gilles 13.24 340 *e*P **Pn 13 31 26.2 +0.3**
SGMF Saint Gilles 13.24 340 P **Pn 13 31 26.2 +0.3**
SGMF Saint Gilles 13.24 340 *e*Pn **Pn 13 31 26.2 +0.3**
FUR Furstenfeldbru 13.28 21 *e*P **Pn 13 31 29.4 +3.0**
comp=Z,36nm,1.1s
IGT Igoumenitsa 13.29 70 P **Pn 13 31 27.3 +0.7**
IGT Igoumenitsa 13.29 70 P **Pn 13 31 27.3 +0.7**
STU Stuttgart 13.32 15 *e*P P 13 31 32.3 -4.4
comp=Z,83nm,1.7s
STU Stuttgart 13.32 15 *e*P **Pn 13 31 28.8 +1.8**
STU pmax pmax
comp=Z,73nm,1.5s
STU Stuttgart 13.32 15 *e*P **Pn 13 31 28.8 +1.8**
comp=Z,73nm,1.5s
STU Stuttgart 13.32 15 *e*P **Pn 13 31 28.8 +1.8**
comp=Z,73nm,1.5s
RJOB Jochberg 13.40 26 *e*P P 13 31 33.3 -4.3
comp=Z,30nm,1.3s
TIR Tirane 13.40 62 *e*P **Pn 13 31 29.9 +1.8**
TIR pmax pmax
comp=Z,47nm,0.8s
TIR Tirane 13.40 62 *e*P **Pn 13 31 29.9 +1.8**
comp=Z,47nm,0.8s
TIR Tirane 13.40 62 *e*P **Pn 13 31 29.9 +1.8**
comp=Z,47nm,0.8s
SOKA Soboth 13.45 34 ⇓*i*P Pn 13 31 32.5 +3.6
comp=Z,6.3nm,0.9s,SNR=12
PERS Pernice 13.46 34 *e*Pn Pn 13 31 32.2 +3.3
ROSF Rostrenen 13.52 338 *e*Pn **Pn 13 31 28.9 -0.8**
ROSF Rostrenen 13.52 338 P **Pn 13 31 28.9 -0.8**
ROSF Rostrenen 13.52 338 *e*P **Pn 13 31 28.9 -0.8**
ROSF Rostrenen 13.52 338 P **Pn 13 31 28.9 -0.8**
ROSF Rostrenen 13.52 338 *e*Pn **Pn 13 31 28.9 -0.8**
JAN Janina 13.71 69 P **P 13 31 41.7 +0.7**
WLF Walferdange 13.77 5 P **Pn 13 31 34.3 +1.2**
WLF Walferdange 13.77 5 *e*P **Pn 13 31 34.2 +1.2**
comp=Z,7.0nm,0.7s
WLF Walferdange 13.77 5 *e*P **Pn 13 31 33.9 +0.8**
WLF pmax pmax
comp=Z,12nm,0.7s
WLF Walferdange 13.77 5 *e*P **Pn 13 31 33.9 +0.8**
comp=Z,12nm,0.7s
WLF Walferdange 13.77 5 *e*P **Pn 13 31 33.9 +0.8**
comp=Z,12nm,0.7s
RUP Ruppelstein 13.89 8 P **Pn 13 31 34.3 -0.5**
MOA Molln 14.04 29 *i*P P 13 31 41.2 -3.5
comp=Z,12nm,0.7s,SNR=18
BAIF Baives 14.09 0 *e*Pn **Pn 13 31 36.8 -0.6**
BAIF Baives 14.09 0 P **Pn 13 31 36.8 -0.6**
BAIF Baives 14.09 0 *e*P **Pn 13 31 36.8 -0.6**
BAIF Baives 14.09 0 P **Pn 13 31 36.8 -0.6**
BAIF Baives 14.09 0 *e*Pn **Pn 13 31 36.8 -0.6**
ARSA Arzberg 14.10 33 ⇓*i*P Pn 13 31 41.3 +3.6
comp=Z,15nm,1.0s,SNR=17
ARSA Arzberg 14.10 33 P Pn 13 31 41.3 +3.6
comp=Z,15nm,1.0s,SNR=17
DOU Dourbes 14.13 1 P **Pn 13 31 38.8 +0.8**
comp=Z,13nm,0.8s
DOU Dourbes 14.13 1 P **Pn 13 31 38.7 +0.8**
comp=Z,13nm,0.8s
BEHE Becsehely 14.13 38 ⇑*e*pPn **P 13 31 47.7 +2.0**
GIVF Givet 14.14 2 *e*Pn **Pn 13 31 38.0 -0.1**
GIVF Givet 14.14 2 P **Pn 13 31 38.0 -0.1**
GIVF Givet 14.14 2 *e*P **Pn 13 31 38.0 -0.1**
GIVF Givet 14.14 2 P **Pn 13 31 38.0 -0.1**
GIVF Givet 14.14 2 *e*Pn **Pn 13 31 38.0 -0.1**
BCLA Clavier 14.47 3 P **Pn 13 31 44.2 +1.5**
TEKS Tekeris 14.52 49 *e*P **P 13 31 51.6 +1.6**
SNF Seneffe 14.54 0 P **Pn 13 31 44.8 +1.2**
THL Klokotos Trika 14.58 70 P **Pn 13 31 45.4 +1.2**
DIVS Divibare 14.58 51 ⇓*i*P **P 13 31 48.1 -2.7**
DIVS Divibare 14.58 51 ⇓*i*P **P 13 31 48.1 -2.7**
TNS Taunus Mts 14.59 11 *e*P **Pn 13 31 47.4 +3.1**
comp=Z,46nm,1.9s
WET Wettzell 14.64 23 *e*P **Pn 13 31 46.7 +1.7**
comp=Z,33nm,0.9s
GRFO Grafenberg 14.65 18 P **Pn 13 31 46.9 +1.7**
GRFO pmax pmax
comp=Z,83nm,1.6s
GRFO Grafenberg 14.65 18 P **Pn 13 31 46.9 +1.7**
comp=Z,83nm,1.6s
GRF Grafenberg Arr 14.65 18 *e*P **Pn 13 31 47.3 +2.1**
comp=Z,82nm,1.6s
GEC2 GERESS Array S 14.66 26 *e*P **Pn 13 31 45.9 +0.5**
comp=Z,38nm,1.4s
GERES GERESS Array B 14.66 26 Pn **Pn 13 31 44.8 -0.5**
comp=Z,0.1nm,0.3s,baz=206,slow=8.9,SNR=29
GERES LR LR 13 37 08.3
comp=Z,2µm,20.1s,baz=222,slow=36
GUR Goura 14.68 77 P **P 13 31 48.9 -3.0**
MEM Membach 14.70 5 P **Pn 13 31 46.2 +0.5**
comp=Z,6.7nm,0.8s
AGG Agios Georgios 14.75 73 P **Pn 13 31 46.8 +0.2**
CONA Conrad Observa 14.77 32 ⇑*i*P **Pn 13 31 49.0 +2.2**
comp=Z,8.1nm,0.9s,SNR=29
HGN Heimansgroeve 14.85 4 *e*P **Pn 13 31 47.8 0.0**
comp=Z,6.2nm,0.5s
KHC Kasperske Hory 14.86 25 *e*P **Pn 13 31 49.0 +1.0**
KHC *e*pP **P 13 31 55.3 +1.5**
KHC *ex* x 13 32 01.5
KHC AMS AMS 13 39 00.0
comp=Z,4µm,12.1s
KHC Kasperske Hory 14.86 25 *e*P **Pn 13 31 49.0 +1.0**
KHC MLR MLR
comp=Z,4µm,12.1s
SOP Sopron 14.89 34 ⇓*e*P **P 13 31 53.4 -0.7**
SOP Sopron 14.89 34 ⇓*e*Pn **P 13 31 53.4 -0.7**
PKSM Moragy 14.95 42 ⇑*i*P **P 13 31 52.3 -2.4**
PKSM Moragy 14.95 42 ⇓*e*P **P 13 31 52.9 -1.8**
PKSM Moragy 14.95 42 ⇓*e*Pn **P 13 31 52.9 -1.8**
GRUS Gruza 14.95 53 *e*P **P 13 31 53.8 -1.0**
PKS9 Tamasi 14.99 41 *e*P **P 13 31 56.9 +1.8**
PKS9 Tamasi 14.99 41 *e*P **P 13 31 56.9 +1.8**
ROTZ Rotzenmuhle 14.99 21 *e*P **Pn 13 31 51.7 +2.0**
comp=Z,84nm,2.2s
FGSL Fruska Gora 15.01 48 *e*P **P 13 31 53.4 -2.0**
MANZ Manzenberg 15.16 20 *e*P **Pn 13 31 53.6 +1.6**
comp=Z,26nm,1.0s
PKST T"s 15.30 38 ⇓*e*P **P 13 31 58.6 -0.1**

PKST	T"s	15.30	38	⇓	*e*Pn	P	13 31 58.6	-0.1
PKS2	Kecel	15.43	42		*e*Pn	Pn	13 31 55.6	+0.1
UBBA	Unterbreizbach	15.43	14		*e*P	P	13 31 59.4	-0.6
	comp=Z,40nm,2.1s							
UBBA	Unterbreizbach	15.43	14		*e*P	P	13 31 59.4	-0.6
	comp=Z,40nm,2.1s							
XOR	Xorichti	15.45	72		P	Pn	13 31 55.9	-0.1
NEO	Neokhori	15.47	72		P	Pn	13 31 57.8	+1.6
NKC	Novy Kostel	15.48	20		*e*P	P	13 32 02.3	+1.7
NKC					*e*pP	pP	13 32 04.6	0.0
NKC					*ex*	x	13 32 07.1	
NKC					*ex*	x	13 32 17.1	
NKC					AMS	AMS	13 38 10.0	
	comp=Z,2μm,14.8s							
NKC	Novy Kostel	15.48	20		*e*P	P	13 32 02.3	+1.7
NKC					MLR	MLR		
	comp=Z,2μm,14.8s							
NKC	Novy Kostel	15.48	20		*e*P	P	13 32 02.3	+1.7
	comp=Z,2μm,14.8s							
WERN	Wernitzgruen	15.51	20		*e*P	P	13 32 00.8	-0.1
	comp=Z,37nm,1.8s							
WERN	Wernitzgruen	15.51	20		*e*P	P	13 32 00.8	-0.1
	comp=Z,37nm,1.8s							
KNT	Kendrikon	15.55	65		P	Pn	13 31 57.7	+0.6
GUNZ	Gunzen	15.56	20		*e*P	P	13 32 01.2	-0.4
	comp=Z,23nm,1.3s							
GUNZ	Gunzen	15.56	20		*e*P	P	13 32 01.2	-0.4
	comp=Z,23nm,1.3s							
PKSG		15.57	38		*e*P	P	13 32 00.6	-1.0
PKSG		15.57	38		*e*Pn	P	13 32 00.6	-1.0
PLN	Plauen	15.62	19		*e*P	P	13 32 04.0	+1.8
	comp=Z,22nm,1.3s							
PLN	Plauen	15.62	19		*e*P	P	13 32 04.0	+1.8
	comp=Z,22nm,1.3s							
WERD	Werda	15.63	20		*e*P	P	13 32 04.7	+2.4
	comp=Z,17nm,1.2s							
TANN	Tannenbergstha	15.64	20		*e*P	P	13 32 04.9	+2.4
	comp=Z,25nm,1.2s							
TREC	Trest	15.69	28		*e*P	P	13 32 02.4	-0.6
TREC					*e*pP	pP	13 32 05.2	-1.8
TREC					AMS	AMS	13 39 40.0	
	comp=Z,2μm,12.3s							
TREC	Trest	15.69	28		*e*P	P	13 32 02.4	-0.6
TREC					MLR	MLR		
	comp=Z,2μm,12.3s							
TREC	Trest	15.69	28		*e*P	P	13 32 02.4	-0.6
	comp=Z,2μm,12.3s							
MRKA	Markates	15.70	74		P	Pn	13 32 00.4	+1.3
PLG	Polygyros	15.79	68		P	Pn	13 32 01.6	+1.2
PLG	Polygyros	15.79	68		P	Pn	13 32 01.6	+1.2
SOH	Sokhos	15.81	66		P	Pn	13 32 02.3	+1.7
SOH	Sokhos	15.81	66		P	Pn	13 32 02.3	+1.7
KKB	Krupnik	15.86	62		*i* P	P	13 32 03.9	-1.0
KKB	Krupnik	15.86	62		*i* P	P	13 32 03.9	-1.0
PRU	Pruhonice	15.92	25		*e*P	P	13 32 04.2	-1.3
PRU					*e*pP	pP	13 32 06.8	-2.7
PRU					*ex*	x	13 32 09.2	
PRU					AMS	AMS	13 39 30.0	
	comp=Z,2μm,12.6s							
PRU	Pruhonice	15.92	25		*e*P	P	13 32 04.2	-1.3
PRU					MLR	MLR		
	comp=Z,2μm,12.6s							
PRU	Pruhonice	15.92	25		*e*P	P	13 32 04.2	-1.3
	comp=Z,2μm,12.6s							
GOPC	GO Pecny, Ondr	15.94	26		*e*P	P	13 32 04.4	-1.4
GOPC					*ex*	x	13 32 12.9	
GOPC					AMS	AMS	13 39 30.0	
	comp=Z,3μm,12.7s							
GOPC	GO Pecny, Ondr	15.94	26		P	P	13 32 04.4	-1.4
PRA	Prague	15.95	25		*e*P	P	13 32 07.8	+2.0
PRA					*ex*	x	13 32 10.3	
PRA					AMS	AMS	13 39 40.0	
	comp=Z,2μm,12.1s							
PRA	Prague	15.95	25		*e*P	P	13 32 07.8	+2.0
PRA					MLR	MLR		
	comp=Z,2μm,12.1s							
PRA	Prague	15.95	25		*e*P	P	13 32 07.8	+2.0
	comp=Z,2μm,12.1s							
BUD	Budapest	15.96	39	⇓	*e*P	P	13 32 05.7	-0.2
BUD	Budapest	15.96	39	⇓	*e*Pn	P	13 32 05.7	-0.2
AOS	Alonnisos	15.96	73		P	Pn	13 32 02.0	-0.5
ZAPS	Zavoj	15.98	57		*e*P	P	13 32 04.9	-1.4
WTSB	Winterswijk	16.11	6		*e*P	P	13 32 06.3	-1.2
	comp=Z,6.1nm,0.4s							
WTSB	Winterswijk	16.11	6		*e*P	P	13 32 06.3	-1.2
	comp=Z,6.1nm,0.4s							
VRAC	Vranov	16.14	30		Pn	Pn	13 32 04.8	0.0
	comp=Z,0.1nm,0.3s,baz=216,slow=13,SNR=9.1							
VRAC					LR	LR	13 38 16.3	
	comp=Z,2μm,18.5s,baz=222,slow=37							
VRAC	Vranov	16.14	30	⇑	*i* P	P	13 32 08.7	+0.7
VRAC	Vranov	16.14	30	⇑	*i* P	P	13 32 08.7	+0.7
VTS	Vitosha	16.16	60		P	Pn	13 32 06.4	+1.3
VTS	Vitosha	16.16	60	⇓	*i* P	Pn	13 32 06.7	+1.6
VTS	Vitosha	16.16	60		*i* P	P	13 32 07.7	-0.6
VTS	Vitosha	16.16	60		P	Pn	13 32 06.4	+1.3
MMB	Musomiste	16.25	64	⇑	*i* P	Pn	13 32 07.3	+1.0
MMB	Musomiste	16.25	64		*i* P	Pn	13 32 06.7	+0.4
MMB	Musomiste	16.25	64		*i* P	Pn	13 32 06.7	+0.4
NVR	Nevrokopi	16.30	65		P	Pn	13 32 07.1	+0.3
NVR	Nevrokopi	16.30	65		P	Pn	13 32 07.1	+0.3
BZS	Buzias	16.34	48	⇑	*i* P	P	13 32 08.8	-1.3
BZS	Buzias	16.34	48	⇑	*i* P	P	13 32 08.8	-1.3
FBE	Freiberg	16.35	21		*e*P	P	13 32 10.9	+0.6
	comp=Z,21nm,1.2s							
FBE	Freiberg	16.35	21		*e*P	P	13 32 10.9	+0.6
	comp=Z,21nm,1.2s							
PVCC	Panska Ves	16.39	24		*e*P	P	13 32 10.3	-0.4
PVCC					*e*pP	pP	13 32 12.3	-2.4
PVCC					AMS	AMS	13 39 10.0	
	comp=Z,3μm,13.9s							
PVCC	Panska Ves	16.39	24		*e*P	P	13 32 10.3	-0.4
PVCC					MLR	MLR		
	comp=Z,3μm,13.9s							
PVCC	Panska Ves	16.39	24		*e*P	P	13 32 10.3	-0.4
	comp=Z,3μm,13.9s							
CLZ	Clausthal	16.48	14		*e*P	Pn	13 32 09.8	+0.7
	comp=Z,24nm,1.5s							
CLZ	Clausthal	16.48	14		*e*P	Pn	13 32 09.8	+0.7
	comp=Z,24nm,1.5s							
BRG	Berggiesshubel	16.49	22		*i* P	P	13 32 13.3	+1.5
	comp=Z,9.3nm,1.1s							
BRG					S	Sn	13 34 55.0	-17
BRG					*e*PCP	PcP	13 37 18.1	+18
	comp=Z,2.2nm,0.8s							
	comp=N,3μm,12.2s							
	comp=E,4μm,12.0s							
	comp=Z,3μm,12.5s							
BRG	Berggiesshubel	16.49	22		*e*P	Pn	13 32 07.8	-1.3
	comp=Z,10.0nm,0.9s							
BRG	Berggiesshubel	16.49	22		*i* P	P	13 32 13.3	+1.5
BRG					pmax	pmax		
	comp=Z,9.0nm,1.1s							
BRG					MLR	MLR		
	comp=N,3μm,12.2s							
BRG					MLR	MLR		
	comp=E,4μm,12.0s							
BRG					MLR	MLR		
	comp=Z,3μm,12.5s							
BRG	Berggiesshubel	16.49	22		*i* P	P	13 32 13.3	+1.5
	comp=Z,3μm,12.5s							
IBBN	Ibbenburen	16.54	8		*e*P	P	13 32 14.6	+2.3
	comp=Z,38nm,1.6s							
VYHS	Vyhne	16.54	36		*e*P	P	13 32 13.0	+0.6
VYHS					pmax	pmax		
	comp=Z,14nm,1.3s							
VYHS	Vyhne	16.54	36		*e*P	P	13 32 13.0	+0.6
	comp=Z,14nm,1.3s							
VYHS	Vyhne	16.54	36		*e*P	P	13 32 13.0	+0.6
CLL	Collm	16.60	20		*e*P	P	13 32 13.8	+0.8
	comp=Z,28nm,1.1s							
CLL	Collm	16.60	20		*e*P	P	13 32 14.0	+1.0
CLL					*i*		13 32 15.5	
	comp=Z,66nm,1.9s							
CLL					*i* PP	PnPn	13 32 20.1	+0.3
	comp=Z,28nm,1.1s							
CLL					*e*S	S	13 35 23.0	-3.0
CLL					Lmax		13 40 00.0	
CLL	Collm	16.60	20		*e*P	P	13 32 14.0	+1.0
CLL	Collm	16.60	20		*e*P	P	13 32 13.8	+0.8
	comp=Z,28nm,1.1s							
PSZ	Piszkesteto	16.69	39		*e*P	P	13 32 14.2	+0.1
PSZ					pmax	pmax		
	comp=Z,54nm,1.2s							
PSZ	Piszkesteto	16.69	39	⇓	*i* P	P	13 32 15.1	+1.0
	comp=Z,54nm,1.2s							
PSZ	Piszkesteto	16.69	39	⇓	*e*Pn	P	13 32 16.6	+2.5
SIRR	Siria	16.70	47	⇑	*i* P	P	13 32 14.2	+0.1
SIRR	Siria	16.70	47	⇑	*i* P	P	13 32 14.2	+0.1
MPEP	Malo Peshtene	16.77	58		*i* P	P	13 32 14.4	-0.6
MPEP	Malo Peshtene	16.77	58		*i* P	P	13 32 14.4	-0.6
PGB	Panagyurishte	16.82	61		*i* P	P	13 32 15.7	+0.1
PGB	Panagyurishte	16.82	61		*i* P	P	13 32 15.7	+0.1
DPC	Dobruska-Polom	16.86	28		*e*P	P	13 32 15.1	-0.9
DPC					*e*pP	pP	13 32 19.0	-1.0
DPC					AMS	AMS	13 40 00.0	
	comp=Z,3μm,12.9s							
DPC	Dobruska-Polom	16.86	28		*e*P	P	13 32 15.1	-0.9
DPC					MLR	MLR		
	comp=Z,3μm,12.9s							
DPC	Dobruska-Polom	16.86	28		*e*P	P	13 32 15.1	-0.9
	comp=Z,3μm,12.9s							
UPC	Upice	16.88	27		*e*P	P	13 32 16.6	+0.5
UPC					*e*pP	pP	13 32 19.2	-0.9
UPC					*ex*	x	13 32 21.6	
UPC	Upice	16.88	27		*e*P	P	13 32 16.6	+0.5
UPC	Upice	16.88	27		*e*P	P	13 32 16.6	+0.5
IDI	Anoyia	16.88	86		Pn	Pn	13 32 14.1	-0.1
	comp=Z,0.4nm,0.3s,baz=293,slow=13,SNR=4.1							
MORC	Moravsky Berou	16.90	31		*e*P	Pn	13 32 15.0	+0.6
MORC					pmax	pmax		
	comp=Z,53nm,1.4s							
MORC	Moravsky Berou	16.90	31	⇑	*i* P	P	13 32 16.8	+0.4
MORC	Moravsky Berou	16.90	31		*e*P	Pn	13 32 15.0	+0.6
	comp=Z,53nm,1.4s							
MORC	Moravsky Berou	16.90	31		*e*Pn	P	13 32 16.5	+0.1
MORC	Moravsky Berou	16.90	31		*e*P	Pn	13 32 15.0	+0.6
	comp=Z,53nm,1.4s							
GZR	Gura Zlata	16.94	51	⇓	*i* P	P	13 32 16.4	-0.5
GZR	Gura Zlata	16.94	51	⇓	*i* P	P	13 32 16.4	-0.5
RZN	Rozhen	17.00	64		*i* P	P	13 32 16.9	-0.8
RZN	Rozhen	17.00	64		*i* P	P	13 32 16.9	-0.8
LIA	Limnos Island	17.04	70		P	Pn	13 32 15.7	-0.5
LIA	Limnos Island	17.04	70		P	Pn	13 32 15.7	-0.5
NRDL	Niedersach Rie	17.05	12		*e*P	P	13 32 21.6	+3.7
	comp=Z,29nm,1.2s							
PLD	Plovdiv	17.09	63		*i* P	P	13 32 19.0	+0.6
PLD	Plovdiv	17.09	63		*i* P	P	13 32 19.0	+0.6
OKC	Ostrava-Krasne	17.20	32		*e*P	Pn	13 32 18.5	+0.4
OKC					*e*pP	P	13 32 20.9	+1.2
OKC					*ex*	x	13 32 30.5	
OKC					AMS	AMS	13 40 20.0	
	comp=Z,1μm,14.0s							
OKC	Ostrava-Krasne	17.20	32		*e*P	Pn	13 32 18.5	+0.4
OKC					MLR	MLR		
	comp=Z,1μm,14.0s							
OKC	Ostrava-Krasne	17.20	32		*e*P	Pn	13 32 18.5	+0.4
	comp=Z,1μm,14.0s							
APE	Apeiranthos	17.22	80	*c*	*i* P	Pn	13 32 18.4	-0.1
APE					pmax	pmax		
	comp=Z,27nm,1.2s							
APE	Apeiranthos	17.22	80	⇑	*i* P	Pn	13 32 18.6	+0.1
APE	Apeiranthos	17.22	80		*i* P	Pn	13 32 18.4	-0.1
	comp=Z,27nm,1.2s							
KSP	Ksiaz	17.25	27		*e*P	P	13 32 21.3	+1.1
KSP					*e*S	S	13 35 43.5	+4.2
KSP					LMZ	LR	13 38 38.1	
KSP	Ksiaz	17.25	27		*e*P	P	13 32 21.3	+1.1
KSP					MLR	MLR		
	comp=Z,2μm,18.9s							
KSP	Ksiaz	17.25	27		*e*P	P	13 32 21.3	+1.1
	comp=Z,2μm,18.9s							
KDZ	Kurdzhali	17.50	65	⇑	*i* P	Pn	13 32 22.2	+0.2
KDZ	Kurdzhali	17.50	65		*i* P	P	13 32 22.6	-0.5
KDZ	Kurdzhali	17.50	65	⇑	*i* P	Pn	13 32 22.2	+0.2
DRGR		17.59	46	⇑	*i* P	P	13 32 26.1	+2.0
DRGR		17.59	46	⇑	*i* P	P	13 32 26.1	+2.0
LOT	Lotru	17.59	51	⇑	*i* P	P	13 32 26.0	+1.8
LOT	Lotru	17.59	51	⇑	*i* P	P	13 32 26.0	+1.8
CHOS	Chios island	17.62	76		P	Pn	13 32 23.8	+0.3
CHOS	Chios island	17.62	76		P	Pn	13 32 23.8	+0.3
ALN	Alexandroupoli	17.83	67		P	P	13 32 29.2	+2.5
PVL	Pavlikeni	17.83	60		*i* P	P	13 32 26.4	-0.3
PVL	Pavlikeni	17.83	60		*i* P	P	13 32 26.4	-0.3
RUE	Ruedersdorf	17.86	19		*e*P	P	13 32 29.2	+2.3
	comp=Z,44nm,1.4s							
RUE	Ruedersdorf	17.86	19		*e*P	P	13 32 29.2	+2.3
	comp=Z,44nm,1.4s							
CJR	Cluj-Napoca	18.07	48	⇓	*i* P	P	13 32 31.2	+1.8
CJR	Cluj-Napoca	18.07	48	⇓	*i* P	P	13 32 31.2	+1.8
ARR	Arges	18.11	53	⇑	*i* P	P	13 32 31.6	+1.7
ARR	Arges	18.11	53	⇑	*i* P	P	13 32 31.6	+1.7
OJC	Ojcow	18.21	34		*e*P	P	13 32 33.1	+2.3
OJC					*e*S	S	13 35 58.0	-0.7
OJC					LMZ	LR	13 39 58.4	
OJC	Ojcow	18.21	34		*e*P	P	13 32 33.2	+2.4
OJC					MLR	MLR		
	comp=Z,3μm,17.2s							
TRPA	Tarpa	18.22	43	⇑	*i* P	P	13 32 33.3	+2.3
TRPA	Tarpa	18.22	43	⇑	*i* P	P	13 32 33.3	+2.3
TRPA	Tarpa	18.22	43	⇓	*e*Pn	Pn	13 32 24.5	-6.3
SZH	Strazhica	18.27	60		*i* P	P	13 32 33.3	+1.8
SZH	Strazhica	18.27	60		*i* P	P	13 32 33.3	+1.8
STHS	Stebnicka Huta	18.34	38		*e*P	P	13 32 36.0	+3.7
STHS					pmax	pmax		
	comp=Z,20nm,1.1s							
STHS	Stebnicka Huta	18.34	38		*e*	P	13 32 36.0	+3.7
UZH	Uzhgorod	18.39	41		*e*P	Pn	13 32 34.3	+1.5
UZH					*e*S	Sn	13 35 56.1	-1.7
UZH					MLR	MLR		
	comp=N,1μm,14.6s							
UZH					MLR	MLR		
	comp=E,1μm,14.6s							
UZH					MLR	MLR		
	comp=Z,1μm,14.6s							
UZH	Uzhgorod	18.39	41		*e*P	Pn	13 32 34.3	+1.5
VOIR		18.41	53	⇓	*i* P	Pn	13 32 34.2	+1.0
VOIR		18.41	53	⇓	*i* P	Pn	13 32 34.2	+1.0
BSEG	Bad Segeberg	18.48	12		*e*P	Pn	13 32 36.2	+2.4
	comp=Z,35nm,1.0s							
EDRB	Edirne	18.51	65		P	P	13 32 34.1	-0.1
EDRB	Edirne	18.51	65		P	P	13 32 34.1	-0.1
JMB	Yambol	18.53	63		P	Pn	13 32 35.7	+1.2
JMB	Yambol	18.53	63	⇑	*i* P	Pn	13 32 35.5	+1.0
JMB	Yambol	18.53	63		*i* P	Pn	13 32 36.1	+1.6
JMB	Yambol	18.53	63	⇑	*i* P	Pn	13 32 35.5	+1.0
KOLS	Kolonicke sedl	18.56	40		*e*P	Pn	13 32 36.7	+1.8
KOLS					pmax	pmax		
	comp=Z,25nm,1.0s							
KOLS	Kolonicke sedl	18.56	40		*e*P	Pn	13 32 36.7	+1.8
	comp=Z,25nm,1.0s							
KOLS	Kolonicke sedl	18.56	40		*e*P	Pn	13 32 36.7	+1.8
DSB	Dublin	18.80	340		*e*P	Pn	13 32 39.0	+1.3
	comp=Z,18nm,1.2s							
DSB	Dublin	18.80	340		*e*P	Pn	13 32 39.0	+1.3
	comp=Z,18nm,1.2s							
DOPR	Dopca	18.84	51	⇓	*i* P	Pn	13 32 40.3	+1.9
SECR		18.92	55	⇑	*i* P	Pn	13 32 41.3	+2.0
VAL	Valentia	18.98	332		*e*P	P	13 32 35.0	-4.2
VAL	Valentia	18.98	332	⇓	*i* S	S	13 36 21.0	+6.8
MLR	Muntele Rosu	19.01	53		P	Pn	13 32 41.2	+0.6
	comp=Z,0.3nm,0.3s,baz=157,slow=5.5,SNR=55							
MLR					LR	LR	13 40 23.8	
	comp=Z,600nm,20.6s,baz=242,slow=38							
MLR	Muntele Rosu	19.01	53	⇓	*i* P	Pn	13 32 42.0	+1.5
KWP	Kalwaria Pacla	19.21	39		*e*P	Pn	13 32 44.7	+1.9
KWP					*e*S	S	13 36 22.6	+3.5
KWP					LMZ	LR	13 41 14.0	
KWP	Kalwaria Pacla	19.21	39		*e*P	Pn	13 32 44.7	+1.9
KWP					MLR	MLR		
	comp=Z,4μm,16.9s							
ISR	Istrita	19.27	55	⇓	*i* P	Pn	13 32 44.3	+0.8
ISR	Istrita	19.27	55	⇓	*i* P	Pn	13 32 44.3	+0.8
PRD	Provadia	19.28	61		*i* P	Pn	13 32 43.6	-0.1
PRD	Provadia	19.28	61		*i* P	Pn	13 32 43.6	-0.1
BURAR	Bucovina Array	19.48	47	⇑	*i* P	Pn	13 32 47.5	+1.4
BUR08	Bucovina Ar. S	19.48	47		*e*P	Pn	13 32 46.0	-0.2
BUR08	Bucovina Ar. S	19.48	47		*e*P	Pn	13 32 46.0	-0.2
PLOR	Plostina	19.60	53	⇓	*i* P	Pn	13 32 47.9	+0.3
PLOR	Plostina	19.60	53	⇓	*i* P	Pn	13 32 47.9	+0.3
VRI	Vrincioaia	19.66	53	⇑	*i* P	Pn	13 32 48.9	+0.7
VRI	Vrincioaia	19.66	53	⇑	*i* P	Pn	13 32 48.9	+0.7
KULA	Kula-Manisa	19.66	75		P	Pn	13 32 49.6	+1.2
BEL	Belsk	19.81	32		*e*P	Pn	13 32 50.7	+0.8
BEL					LMZ	LR	13 39 59.0	
BEL	Belsk	19.81	32		*e*P	Pn	13 32 50.7	+0.8
BEL					MLR	MLR		
	comp=Z,2μm,20.2s							
MSAB	Monastry St. A	19.81	59	⇑	*i* P	Pn	13 32 49.3	-0.7
MSAB	Monastry St. A	19.81	59	⇑	*i* P	Pn	13 32 49.3	-0.7
TESR	Tescani	19.86	51	⇓	*i* P	Pn	13 32 50.6	0.0
TESR	Tescani	19.86	51	⇓	*i* P	Pn	13 32 50.6	0.0
PSN	Preselentsi	19.95	60	⇑	*i* P	P	13 32 50.0	0.0
PSN	Preselentsi	19.95	60	⇑	*i* P	P	13 32 50.0	0.0
ESK	Eskdalemuir	20.00	348		*e*P	Pn	13 32 53.7	+1.6
ESK					pmax	pmax		
	comp=Z,33nm,0.9s							
ESK	Eskdalemuir	20.00	348		*e*P	Pn	13 32 53.7	+1.5
	comp=Z,33nm,0.9s							
LVV	L'vov	20.01	40		*e*P	Pn	13 32 52.0	-0.3
LVV					*e*S	Sn	13 36 37.0	0.0
LVV					MLR	MLR		
	comp=Z,900nm,15.0s							
LVV	L'vov	20.01	40		*e*P	Pn	13 32 52.0	-0.3
	comp=Z,900nm,15.0s							
EKA	Eskdalemuir Ar	20.01	348		P	P	13 32 50.4	-0.1
	baz=154,slow=12,SNR=32							
EKA					LR	LR	13 40 53.2	
	comp=Z,2μm,18.4s,baz=190,slow=38							
HARR	Harsova	20.06	57	⇑	*i* P	P	13 32 51.7	+0.6
HARR	Harsova	20.06	57	⇑	*i* P	P	13 32 51.7	+0.6
TLB	Topalu	20.10	57	⇑	*i* P	P	13 32 52.1	+0.5
TLB	Topalu	20.10	57	⇑	*i* P	P	13 32 52.1	+0.5
MANR	Mangalia	20.27	60	⇑	*i* P	Pn	13 32 54.8	-0.6
MANR	Mangalia	20.27	60	⇑	*i* P	Pn	13 32 54.8	-0.6
TIRR	Tirgusor	20.32	58		*e*P	P	13 32 53.2	-0.7
TIRR					pmax	pmax		
	comp=Z,27nm,1.0s							
TIRR	Tirgusor	20.32	58	⇓	*i* P	P	13 32 54.3	+0.4
TIRR	Tirgusor	20.32	58		*e*P	P	13 32 53.2	-0.7
	comp=Z,28nm,1.0s							
TIRR	Tirgusor	20.32	58		*e*P	P	13 32 53.2	-0.7
	comp=Z,28nm,1.0s							
CFR	Carcaliu	20.35	56	⇑	*i* P	P	13 32 54.2	0.0
CFR	Carcaliu	20.35	56	⇑	*i* P	P	13 32 54.2	0.0
TLCR		20.81	56	⇑	*i* P	Pn	13 33 00.5	-1.2
TLCR		20.81	56	⇑	*i* P	Pn	13 33 00.5	-1.2
ISP	Isparta	21.15	77		*e*P	P	13 33 03.2	+0.1
ISP					pmax	pmax		
	comp=Z,93nm,1.5s							
ISP	Isparta	21.15	77	⇓	*i* P	P	13 33 08.6	+5.5
ISP	Isparta	21.15	77		*e*P	P	13 33 03.2	+0.1
	comp=Z,93nm,1.5s							
ISP	Isparta	21.15	77		*e*P	P	13 33 03.2	+0.1
	comp=Z,93nm,1.5s							
KIS	Kishinev	21.43	51		*e*P	P	13 33 05.0	-0.9
KIS					*e*S	S	13 36 56.0	-7.1
KIS					*e*SS	SnSn	13 37 38.0	+12
KIS					*e*Li		13 39 10.0	
KIS					*e*LQ	LQ	13 39 50.0	
KIS					LRM	MLR	13 42 19.0	
	comp=Z,2μm,17.0s							
KIS	Kishinev	21.43	51		*e*P	P	13 33 05.0	-0.9
KIS					*e*		13 33 30.0	
KIS					*e*S	S	13 36 56.0	-7.1
KIS					*e*SS	SnSn	13 37 38.0	+12
KIS					MLR	MLR		
	comp=Z,2μm,16.0s							
KIS					MLR	MLR		
	comp=N,2μm,17.0s							
KIS					MLR	MLR		
	comp=E,1μm,15.0s							
KIS	Kishinev	21.43	51		*e*P	P	13 33 05.0	-0.9
SUW	Suwalki	22.38	30		*e*P	P	13 33 15.2	-0.8
SUW					LMZ	LR	13 41 37.2	
SUW	Suwalki	22.38	30		*e*P	P	13 33 15.3	-0.8
SUW					MLR	MLR		
	comp=Z,2μm,21.0s							
SUW	Suwalki	22.38	30		*e*P	P	13 33 15.3	-0.8
	comp=Z,2μm,21.0s							
TOA0	Torodi Ar. Sit	22.83	186		*e*P	P	13 33 19.3	-1.8
TOA0	Torodi Ar. Sit	22.83	186		*e*P	P	13 33 19.3	-1.8
TORD	Torodi Ar. Bea	22.83	186		P	P	13 33 19.7	-1.4
	comp=Z,23nm,0.7s,baz=4.5,slow=10,SNR=56							
TORD					PcP	PcP	13 37 13.1	+0.9
	comp=Z,1.4nm,0.7s,baz=11,slow=2.8,SNR=4.0							
TORD					S	S	13 37 30.9	+0.9
	comp=Z,1.7nm,1.0s,baz=0.7,slow=24,SNR=2.6							
TORD					LR	LR	13 42 35.0	
	comp=Z,2μm,18.4s,baz=0.0,slow=38							
AK02	Malin Array Si	23.25	43		P	P	13 33 22.1	-3.1
KIEV	Kiev	23.27	43		*e*P	P	13 33 22.8	-2.6
KIEV					pmax	pmax	

NOA MLR MLR
comp=Z,1µm,18.1s
MMAI Mount Meron Ar 25.87 87 P **P 13 33 50.1 +0.3**
comp=Z,2.2nm,0.5s,baz=281,slow=8.7,SNR=2.8
MMAI LR LR 13 46 25.8
comp=Z,478nm,21.7s,baz=270,slow=42
EIL Elat 26.56 95 P **P 13 33 57.0 +1.1**
comp=Z,18nm,0.8s,baz=300,slow=7.7,SNR=14
EIL LR LR 13 47 03.1
comp=Z,644nm,18.4s,baz=288,slow=42
ANN Anapa 26.69 60 *e*P P 13 34 01.9 +5.0
ANN *e* 13 34 38.2
ANN pmax pmax
comp=Z,42nm,1.0s
ANN MLR MLR
comp=N,440nm,11.0s
ANN MLR MLR
comp=Z,608nm,11.0s
ANN MLR MLR
comp=E,384nm,11.0s
VSU Vasula 26.98 26‖ *e*P **P 13 33 59.7 +0.3**
VSU pmax pmax
comp=Z,62nm,0.8s
VSU Vasula 26.98 26 *e*P **P 13 33 59.7 +0.3**
comp=Z,62nm,0.8s
ASF Jabal al Asfar 27.32 88 P **P 13 34 03.0 +0.2**
comp=Z,0.8nm,0.3s,baz=258,slow=9.3,SNR=2.8
ASF Jabal al Asfar 27.32 88 P **P 13 34 03.0 +0.2**
ASF pmax pmax
comp=Z,1.0nm,0.3s
MALT Malatya 27.33 75‖ *i*P **P 13 34 02.9 -0.1**
MALT Malatya 27.33 75‖ *i*P **P 13 34 02.9 -0.1**
SOC Sochi 28.21 63 *e*P **P 13 34 12.5 +1.9**
SOC *e*PPP PPP 13 35 06.0
SOC *e* 13 37 28.1
SOC *e*S **S 13 38 57.9 +2.2**
SOC pmax pmax
comp=Z,18nm,0.9s
SOC MLR MLR
comp=Z,473nm,15.0s
SOC Sochi 28.21 63 *e*P **P 13 34 12.5 +1.9**
comp=Z,18nm,0.9s
FINES FINESS Array B 29.02 22 P **P 13 34 17.4 -0.2**
comp=Z,8.0nm,0.8s,baz=212,slow=6.8,SNR=24
FINES PcP **PcP 13 37 27.6 +2.0**
comp=Z,0.9nm,0.5s,baz=213,slow=6.3,SNR=4.0
FINES LR LR 13 46 33.7
comp=Z,2µm,18.7s,baz=216,slow=38
FINES FINESS Array B 29.02 22 P **P 13 34 17.4 -0.2**
FINES 13 37 27.6
FINES pmax pmax
comp=Z,8.0nm,0.8s
FINES MLR MLR
comp=Z,2µm,18.7s
FIA1 FINESS Array S 29.03 22 *e*P **P 13 34 17.9 +0.2**
FIA1 FINESS Array S 29.03 22 *e*P **P 13 34 17.9 +0.2**
VSR Storozhevoye 29.25 48 *e*P **P 13 34 19.2 -0.6**
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,20nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR MLR MLR
comp=N,890nm,20.0s
VSR MLR MLR
comp=E,1µm,20.0s
VSR MLR MLR
comp=Z,2µm,20.0s
VSR Storozhevoye 29.25 48 *e*P **P 13 34 19.2 -0.6**
VORD Divnogorie 29.25 48 *e*P **P 13 34 19.8 0.0**
VORD pmax pmax
comp=N,20nm,0.7s
VORD pmax pmax
comp=E,50nm,0.7s
VORD pmax pmax
comp=Z,10.0nm,0.7s
VORD Divnogorie 29.25 48 *e*P **P 13 34 19.8 0.0**
OBN Obninsk 29.30 39‖ *e*P **P 13 34 19.9 -0.2**
OBN *i* 13 34 25.5
OBN *e* 13 35 11.5
OBN *i*S **S 13 39 10.4 -2.2**
OBN *e*SS **SnSn 13 40 42.5 +4.1**
OBN pmax pmax
comp=Z,29nm,1.7s
OBN MLR MLR
comp=Z,2µm,18.0s
OBN Obninsk 29.30 39 *e*P **P 13 34 19.9 -0.2**
comp=Z,29nm,1.7s
LPSR Galich'ya Gora 29.57 45 *e*P **P 13 34 21.8 -0.7**
LPSR *e*S **S 13 39 16.0 -0.8**
LPSR pmax pmax
comp=N,7.0nm,1.2s
LPSR pmax pmax
comp=E,30nm,1.2s
LPSR pmax pmax
comp=Z,30nm,1.2s
LPSR smax smax
comp=N,20nm,2.6s
LPSR smax smax
comp=Z,20nm,2.6s
LPSR smax smax
comp=E,10.0nm,2.0s
LPSR MLR MLR
comp=N,580nm,17.0s
LPSR MLR MLR
comp=E,1µm,17.0s
LPSR MLR MLR
comp=Z,910nm,17.0s
LPSR Galich'ya Gora 29.57 45 *e*P **P 13 34 21.8 -0.7**
MOS Moscow 30.12 38 *e*P **P 13 34 26.8 -0.6**
MOS *e* 13 34 39.9
MOS pmax pmax
comp=Z,34nm,1.2s
MOS MLR MLR
comp=E,2µm,17.0s
MOS MLR MLR
comp=Z,2µm,17.0s
DBIC Dimbokro 30.31 198 *e*P **P 13 34 29.0 -0.4**
DBIC Dimbokro 30.31 198 P **P 13 34 29.1 -0.2**
comp=Z,5.2nm,0.8s,baz=339,slow=8.8,SNR=5.4
DBIC LR LR 13 45 53.0
comp=Z,2µm,21.2s,baz=2.5,slow=35
DBIC Dimbokro 30.31 198 P **P 13 34 29.2 -0.2**
DBIC pmax pmax
comp=Z,5.0nm,0.9s
DBIC MLR MLR
comp=Z,2µm,21.2s
TIC Toumodi 30.37 198 *e*P **P 13 34 29.9 -0.1**
comp=Z,8.0nm,0.2s
KIV Kislovodsk 30.37 63 *e*P **P 13 34 27.7 -2.2**
KIV *e*S **S 13 39 27.2 -2.8**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,194nm,15.0s
KBZ Khabaz 30.52 63 P **P 13 34 30.6 -0.4**
comp=Z,1.6nm,0.5s,baz=56,slow=23,SNR=4.1
KBZ LR LR 13 49 34.6
comp=Z,345nm,18.6s,baz=3.5,slow=42
KBZ Khabaz 30.52 63 P **P 13 34 30.6 -0.4**
KBZ pmax pmax
comp=Z,2.0nm,0.5s
KBZ MLR MLR
comp=Z,345nm,18.6s
KIC Kosan Boka 30.58 198 *e*P **P 13 34 31.8 0.0**
comp=Z,115nm,1.7s
LIC Lamto 30.78 198 *e*P **P 13 34 33.3 -0.3**
comp=Z,8.5nm,0.6s
LIC *e*R
comp=Z,3µm,15.0s
LIC Lamto 30.78 198 *e*P **P 13 34 32.5 -1.1**
comp=Z,53nm,1.4s
LIC Lamto 30.78 198 *e*P **P 13 34 33.3 -0.3**
comp=Z,8.5nm,0.6s
KLMR Klimovskoe 33.52 31*c i*P P 13 34 53.3 -3.9
KLMR *e* 13 36 10.2
KLMR S S 13 40 07.7 -11
KLMR pmax pmax
comp=Z,18nm,0.9s
KLMR MLR MLR
comp=Z,1µm,17.0s
IDHR Dehrash 34.28 79 *e*P **P 13 35 03.7 -0.7**
IDHR Dehrash 34.28 79 *e*P **P 13 35 03.7 -0.7**
TMCR Tamitsa 34.84 25 *e*P P 13 35 14.5 +5.9
TMCR pmax pmax
comp=Z,21nm,1.0s
ARCES ARCESS Array B 35.60 13 P **P 13 35 14.8 -0.3**
comp=Z,3.1nm,0.9s,baz=206,slow=8.1,SNR=8.7
ARCES PcP **PcP 13 37 45.5 +1.9**
comp=Z,2.3nm,0.8s,baz=174,slow=1.2,SNR=5.7
ARCES LR LR 13 49 50.8
comp=Z,579nm,19.0s,baz=218,slow=36
ARCES ARCESS Array B 35.60 13 P **P 13 35 14.8 -0.3**
ARCES 13 37 45.5
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES MLR MLR
comp=Z,579nm,19.0s
APA Apatity 35.75 19 *e*P **P 13 35 17.0 +0.6**
APA MLR MLR
comp=Z,1µm,17.0s
PRGR Permogore 36.49 32 *e*P **P 13 35 20.9 -1.8**
PRGR pmax pmax
comp=Z,7.0nm,0.7s
IPIR Pirpir 38.45 81 *e*P **P 13 35 37.5 -2.7**
IPIR Pirpir 38.45 81 *e*P **P 13 35 37.5 -2.7**
MSKU Masuku 38.46 165 P **P 13 35 39.8 -0.2**
comp=Z,11nm,0.6s,baz=3.2,slow=9.0,SNR=9.1
IZEF Zefreh 39.54 80 *e*P **P 13 35 48.3 -0.9**
IZEF Zefreh 39.54 80 *e*P **P 13 35 48.3 -0.9**
SOKR Solikamsk 41.08 38*d i*P **P 13 36 01.6 +0.4**
SOKR S **S 13 42 13.5 +0.3**
SOKR pmax pmax
comp=Z,20nm,0.9s
SOKR MLR MLR
comp=Z,1µm,16.0s
IPAR Pars 41.16 84 *e*P **P 13 36 02.8 0.0**
IPAR Pars 41.16 84 *e*P **P 13 36 02.8 0.0**
ARU Arti 41.54 43*d i*P **P 13 36 05.3 +0.1**
ARU 13 37 39.5
ARU 13 38 01.9
ARU PPP PPP 13 38 09.7
ARU S **S 13 42 22.0 +1.8**
ARU SS **SS 13 45 24.1 -0.6**
ARU SSS SSS 13 45 52.2
ARU pmax pmax
comp=Z,48nm,1.7s
ARU MLR MLR
comp=Z,1µm,17.0s
ARU Arti 41.54 43 *e*P **P 13 36 05.2 +0.1**
comp=Z,39nm,1.1s
ARU Arti 41.54 43 *e*P **P 13 36 05.2 +0.1**
comp=Z,39nm,1.1s
ISHV Shirvan 42.45 71 *e*P P 13 36 09.9 -3.2
SUMG Summit 42.49 342 *i* P **P 13 36 14.6 +1.5**
comp=Z,17nm,0.9s
SUMG Summit 42.49 342 *e*P **P 13 36 14.4 +1.3**
SUMG pmax pmax
comp=Z,14nm,0.8s
SUMG Summit 42.49 342 *e*P **P 13 36 14.4 +1.3**
comp=Z,14nm,0.8s
SUMG Summit 42.49 342 *e*P **P 13 36 14.4 +1.3**
comp=Z,14nm,0.8s
SVE Sverdlovsk 42.72 43‖ *i*P **P 13 36 16.0 +1.3**
SVE *e*S S 13 42 28.9 -8.7
SVE pmax pmax
comp=Z,29nm,0.9s
SVE MLR MLR
comp=Z,1µm,16.0s
IAKL Akhelmad 43.51 72 *e*P **P 13 36 21.2 -0.6**
SFJD Kangerlussuaq 43.81 332 P **P 13 36 23.6 +0.2**
comp=Z,19nm,0.8s,baz=82,slow=7.0,SNR=11
SFJD Kangerlussuaq 43.81 332 *e*P **P 13 36 22.8 -0.6**
SFJD pmax pmax
comp=Z,21nm,0.9s
SFJD Kangerlussuaq 43.81 332 *e*P **P 13 36 22.8 -0.6**
comp=Z,22nm,0.9s
SFJD Kangerlussuaq 43.81 332 *e*P **P 13 36 22.8 -0.6**
comp=Z,22nm,0.9s
MBAR Mbarara 44.00 140 *e*P **P 13 36 26.3 +0.5**
MBAR Mbarara 44.00 140 P **P 13 36 26.3 +0.5**
MBAR Mbarara 44.00 140 P **P 13 36 26.3 +0.5**
MBAR Mbarara 44.00 140 P **P 13 36 26.3 +0.5**
IMYA Miami 44.62 72 *e*P **P 13 36 30.9 +0.3**
IMYA Miami 44.62 72 *e*P **P 13 36 30.9 +0.3**
KMBO Kilima Mbogo 48.08 133 *e*P **P 13 36 58.6 +0.6**
KMBO Kilima Mbogo 48.08 133 P **P 13 36 59.8 +1.8**
comp=Z,1.0nm,0.3s,baz=7.5,slow=10.0,SNR=2.6
KMBO LR LR 13 58 58.7
comp=Z,1µm,18.9s,baz=302,slow=38
KMBO Kilima Mbogo 48.08 133 P **P 13 36 59.8 +1.8**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
KMBO MLR MLR
comp=Z,1µm,18.9s
KMBO Kilima Mbogo 48.08 133 P **P 13 37 00.0 +2.0**
KMBO Kilima Mbogo 48.08 133 P **P 13 36 60.0 +2.0**
BRVK Borovoye 48.37 48*c i*P **P 13 37 00.1 +0.6**
BRVK pmax pmax
comp=Z,34nm,1.0s
BRVK Borovoye 48.37 48 *e*P **P 13 36 59.6 +0.1**
comp=Z,34nm,1.0s
BRVK Borovoye 48.37 48 *e*P **P 13 36 59.6 +0.1**
comp=Z,34nm,1.0s
BVA0 Borovoye Array 48.44 48 *i* P **P 13 37 00.2 +0.2**
BVA0 pmax pmax
comp=Z,27nm,1.1s
KKAR Karatay Array 50.48 60 *e*P **P 13 37 15.2 -0.6**
KKAR pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 50.48 60 *e*P **P 13 37 15.2 -0.6**
comp=Z,2.8nm,0.7s
KKAR Karatay Array 50.48 60 *e*P **P 13 37 15.2 -0.6**
comp=Z,2.8nm,0.7s
FRB Frobisher Bay 50.88 327 P **P 13 37 18.1 -0.3**
comp=Z,7.4nm,1.0s,baz=65,slow=10,SNR=4.3
FRB Frobisher Bay 50.88 327 P **P 13 37 18.1 -0.3**
FRB pmax pmax
comp=Z,7.0nm,1.0s
SCHQ Schefferville 50.96 315 P **P 13 37 19.4 +0.2**
comp=Z,4.6nm,0.8s,baz=94,slow=6.9,SNR=9.1
SCHQ LR LR 13 55 29.7
comp=Z,933nm,21.7s,baz=100,slow=32
SCHQ Schefferville 50.96 315 *e*P **P 13 37 20.3 +1.0**
comp=Z,10nm,0.9s
SCHQ Schefferville 50.96 315 *e*P **P 13 37 20.3 +1.0**
comp=Z,10nm,0.9s
EKS2 Erkin-Say 52.90 60 *e*P **P 13 37 34.8 +0.7**
EKS2 pmax pmax
comp=Z,10.0nm,0.7s
EKS2 Erkin-Say 52.90 60 *e*P **P 13 37 34.8 +0.7**
comp=Z,9.9nm,0.7s
EKS2 Erkin-Say 52.90 60 *e*P **P 13 37 34.8 +0.7**
comp=Z,9.9nm,0.7s
FRU Bishkek 53.44 60 *e*P **P 13 37 38.0 +0.1**
KURK Kurchatov 53.88 49 P **P 13 37 40.2 -0.7**
KURK pmax pmax
comp=Z,25nm,0.9s
KURK Kurchatov 53.88 49 *e*P **P 13 37 40.3 -0.7**
comp=Z,48nm,0.8s
KURK Kurchatov 53.88 49 *e*P **P 13 37 40.3 -0.6**
comp=Z,48nm,0.8s
KSH Kashi 55.50 63 P **P 13 37 52.3 -0.8**
KSH pP **pP 13 37 56.8 -0.9**
KSH sP **sP 13 37 59.3 -0.1**
KSH PP **PP 13 39 57.4 +0.5**
KSH S **S 13 45 33.3 -4.6**
KSH PMZ
comp=Z,55nm,1.9s
KSH LN
comp=Z,290nm,6.0s
KSH LE
comp=Z,210nm,8.1s
KSH LZ
comp=Z,96nm,5.8s
NVS Novosibirsk 55.54 44 *e*P **P 13 37 51.7 -1.2**
NVS pmax pmax
comp=Z,16nm,1.1s
NVS pmax pmax
comp=E,6.0nm,1.0s
LSZ Lusaka 55.81 152 *e*P **P 13 37 56.5 +1.1**
LSZ Lusaka 55.81 152 *e*P **P 13 37 56.5 +1.1**
LSZ pmax pmax
comp=Z,13nm,1.0s
LSZ Lusaka 55.81 152 *e*P **P 13 37 56.5 +1.1**
comp=Z,13nm,1.0s
LSZ Lusaka 55.81 152 *e*P **P 13 37 56.5 +1.1**
comp=Z,13nm,1.0s
TSUM Tsumeb 56.32 165 *e*P **P 13 38 00.2 +1.3**
TSUM Tsumeb 56.32 165 *e*P **P 13 37 59.3 +0.3**
comp=Z,8.1nm,0.8s
TSUM Tsumeb 56.32 165 *e*P **P 13 37 59.4 +0.3**
comp=Z,8.1nm,0.8s
PDGK Podgornoye 56.65 58 P **P 13 38 00.7 -0.3**
PDGK pmax pmax
comp=Z,14nm,0.9s
ZAA0 Zalesovo Array 56.67 44 P **P 13 38 00.6 -0.4**
ZAA0 Zalesovo Array 56.67 44 P **P 13 38 00.6 -0.4**
ZALV Zalesovo Beam 56.67 44 P **P 13 37 59.9 -1.1**
comp=Z,7.1nm,0.7s,baz=286,slow=7.9,SNR=26
ZALV PP **PP 13 40 07.9 +1.1**
comp=Z,1.5nm,0.7s,baz=294,slow=11,SNR=3.6
ZALV LR LR 14 04 19.7
comp=Z,672nm,18.5s,baz=250,slow=38
ZALV Zalesovo Beam 56.67 44 P **P 13 37 59.9 -1.1**
ZALV 13 40 07.9
ZALV pmax pmax
comp=Z,7.0nm,0.7s
ZALV pmax pmax
comp=Z,2.0nm,0.7s
ZALV MLR MLR
comp=Z,672nm,18.5s
MK31 Makanchi Array 57.35 53 *e*P **P 13 38 05.3 -0.8**
MK31 pmax pmax
comp=Z,19nm,0.6s
MK31 Makanchi Array 57.35 53 *e*P **P 13 38 05.2 -0.8**
MK31 Makanchi Array 57.35 53 *e*P **P 13 38 05.2 -0.8**
MKAR Makanchi Array 57.35 53 P **P 13 38 05.4 -0.6**
comp=Z,34nm,0.8s,baz=281,slow=8.3,SNR=146
MKAR LR LR 14 05 04.0
comp=Z,481nm,18.3s,baz=292,slow=38
MKAR Makanchi Array 57.35 53 P **P 13 38 05.4 -0.6**
MKAR pmax pmax
comp=Z,34nm,0.8s
MKAR MLR MLR
comp=Z,481nm,18.3s
WMQ Urumqi 62.00 55 P **P 13 38 39.8 +1.7**
WMQ pP **pP 13 38 44.4 +1.6**
WMQ sP **sP 13 38 46.8 +2.3**
WMQ PcP **PcP 13 39 20.9 +2.3**
WMQ PP **PP 13 40 59.0 +4.7**
WMQ PcS **PcS 13 43 22.4 +0.7**
WMQ S **S 13 47 02.9 +0.8**
WMQ ScS **SKKSac 13 48 29.0 -0.7**
WMQ PMZ
comp=Z,17nm,0.5s
WMQ PMZ
comp=Z,160nm,4.8s
WMQ LN
comp=Z,1µm,16.6s
WMQ LE
comp=Z,800nm,16.6s
WMQ LZ
comp=Z,380nm,19.6s
SSPA Standing Stone 62.30 302 P **P 13 38 40.2 +0.1**
comp=Z,8.5nm,0.9s
SSPA Standing Stone 62.30 302 P **P 13 38 40.2 +0.1**
comp=Z,8.5nm,0.9s
MSNA Messina 62.95 153 *e*P **P 13 38 45.1 +0.6**
MSNA AMB AMB 13 38 48.3
comp=Z,22nm,1.0s
MSNA AMS AMS 14 09 16.6
comp=Z,2µm,16.4s
MSNA Messina 62.95 153 P **P 13 38 45.1 +0.6**
comp=Z,22nm,1.0s
MSNA Messina 62.95 153 P **P 13 38 45.1 +0.6**
comp=Z,22nm,1.0s
LBTB Lobatse 63.95 158 *e*P **P 13 38 51.7 +0.6**
LBTB AMB AMB 13 38 56.4
comp=Z,13nm,3.0s
LBTB AMS AMS 14 07 18.8
comp=Z,2µm,11.9s
LBTB Lobatse 63.95 158 *e*P **P 13 38 52.1 +0.9**
LBTB pmax pmax
comp=Z,15nm,0.8s
LBTB Lobatse 63.95 158 *e*P **P 13 38 52.1 +0.9**
comp=Z,15nm,0.8s
LBTB Lobatse 63.95 158 *e*P **P 13 38 52.1 +0.9**
comp=Z,15nm,0.8s
FCC Fort Churchill 63.99 325 *e*P **P 13 38 50.4 -0.6**
FCC pmax pmax
comp=Z,9.0nm,0.9s
FCC Fort Churchill 63.99 325 *e*P **P 13 38 50.4 -0.6**
comp=Z,8.8nm,0.9s
FCC Fort Churchill 63.99 325 *e*P **P 13 38 50.4 -0.6**
comp=Z,8.8nm,0.9s
SLR Silverton 65.47 156 *e*P **P 13 39 02.1 +1.0**
SLR AMB AMB 13 39 02.6
comp=Z,22nm,4.1s
SLR AMS AMS 14 10 33.2
comp=Z,2µm,11.5s
SLR Silverton 65.47 156 P **P 13 39 02.1 +1.0**
SLR pmax pmax
comp=Z,22nm,4.1s
SLR Silverton 65.47 156 P **P 13 39 02.1 +1.0**
comp=Z,22nm,4.1s
SLR Silverton 65.47 156 P **P 13 39 02.1 +1.0**
comp=Z,22nm,4.1s
TIXI Tiksi 65.90 17‖ *e*P **P 13 39 04.3 +1.1**
TIXI pmax pmax
comp=Z,7.0nm,1.7s
TIXI Tiksi 65.90 17 *e*P **P 13 39 03.5 +0.3**
comp=Z,2.1nm,0.6s
TIXI Tiksi 65.90 17 *e*P **P 13 39 03.5 +0.3**
comp=Z,2.1nm,0.6s
ACSO Alum Creek Sta 65.97 303 *e*P **P 13 39 04.9 +0.7**
comp=Z,20nm,0.9s
ACSO Alum Creek Sta 65.97 303 *e*P **P 13 39 04.9 +0.7**
comp=Z,20nm,0.9s
UPI Upington 65.98 164 *e*P **P 13 39 04.6 +0.3**
UPI Upington 65.98 164 P **P 13 39 04.6 +0.3**
UPI Upington 65.98 164 P **P 13 39 04.6 +0.3**
GKN Gorkha 66.94 71 *e*P **P 13 39 11.8 +1.0**
comp=Z,26nm,0.8s
COWI Conover 67.20 311 *e*P **P 13 39 12.2 +0.2**
comp=Z,14nm,0.8s
COWI Conover 67.20 311 *e*P **P 13 39 12.2 +0.2**
comp=Z,14nm,0.8s
BOSA Boshof 67.24 160 *e*P **P 13 39 12.8 +0.5**
BOSA AMB AMB 13 39 31.6
comp=Z,30nm,4.5s
BOSA AMS AMS 14 15 01.2
comp=Z,814nm,14.1s
BOSA Boshof 67.24 160 P **P 13 39 12.9 +0.5**
comp=Z,8.9nm,0.7s,baz=348,slow=7.3,SNR=17
BOSA LR LR 14 08 13.2
comp=Z,971nm,21.0s,baz=342,slow=36
BOSA Boshof 67.24 160 *e*P **P 13 39 12.2 -0.2**
comp=Z,10nm,0.8s
BOSA Boshof 67.24 160 *e*P **P 13 39 12.2 -0.2**
comp=Z,10nm,0.8s
DMN Daman 67.50 72 *e*P **P 13 39 14.7 +0.2**
comp=Z,28nm,0.6s
KKN Kakani 67.54 71 *e*P **P 13 39 14.6 -0.1**
comp=Z,30nm,0.6s
SDDR Presa de Saban 67.54 278 *e*P **P 13 39 15.1 +0.5**
comp=Z,7.7nm,0.8s
SDDR Presa de Saban 67.54 278 *e*P **P 13 39 15.1 +0.5**
comp=Z,7.7nm,0.8s
SEK Senekal 67.67 158 *e*P **P 13 39 15.7 +0.6**
SEK AMB AMB 13 39 15.9
comp=Z,26nm,4.5s
SEK AMS AMS 14 09 38.0
comp=Z,2µm,12.4s
SEK Senekal 67.67 158 P **P 13 39 15.7 +0.6**
comp=Z,26nm,4.5s
SEK Senekal 67.67 158 P **P 13 39 15.7 +0.6**
comp=Z,26nm,4.5s
EYMN Ely 67.72 314 *e*P **P 13 39 14.7 -0.6**
comp=Z,16nm,0.8s
EYMN Ely 67.72 314 *e*P **P 13 39 14.7 -0.6**
comp=Z,16nm,0.8s
PKIN Phulchoki 67.73 71 *e*P **P 13 39 15.8 -0.2**
PKI Pulchoki 67.75 71 *e*P **P 13 39 15.6 -0.5**
comp=Z,16nm,0.6s
GUN Gumba 67.94 71 *e*P **P 13 39 18.6 +1.2**
comp=Z,284nm,1.0s
TLY Talaya 68.02 41 *e*P **P 13 39 18.5 +1.4**
TLY pmax pmax
comp=Z,7.0nm,0.9s
TLY MLR MLR
comp=Z,516nm,14.0s
TLY Talaya 68.02 41 *e*P **P 13 39 18.5 +1.4**
comp=Z,5.2nm,0.8s
TLY Talaya 68.02 41 *e*P **P 13 39 18.5 +1.4**
comp=Z,5.2nm,0.8s
JIRN Jiri 68.30 71 *e*P **P 13 39 19.2 -0.5**
comp=Z,17nm,0.5s

ZAK Zakamensk 68.48 43 *e*P **P** **13 39 19.8 -0.3**
ZAK pmax pmax
comp=Z,4.0nm,1.5s
SFIN Lafayette 68.67 305 *e*P **P** **13 39 20.5 -0.8**
comp=Z,4.4nm,0.6s
SFIN Lafayette 68.67 305 *e*P **P** **13 39 20.5 -0.8**
comp=Z,4.4nm,0.6s
SFIN Lafayette 68.67 305 ⇓P **P** **13 39 21.1 -0.1**
baz=68
TKL Tuckaleechee C 68.70 299 *e*P **P** **13 39 22.1 +0.4**
TKL Tuckaleechee C 68.70 299 *e*P **P** **13 39 22.0 +0.4**
TKL Tuckaleechee C 68.70 299 *e*P **P** **13 39 22.1 +0.4**
ULM Lac du Bonnet 69.05 317 P **P** **13 39 22.1 -1.3**
comp=Z,22nm,0.7s,baz=64,slow=5.6,SNR=21
ULM LR LR 14 06 23.8
comp=Z,650nm,19.1s,baz=57,slow=33
ULM Lac du Bonnet 69.05 317 *e*P **P** **13 39 22.0 -1.5**
comp=Z,23nm,0.7s
ULM Lac du Bonnet 69.05 317 *e*P **P** **13 39 22.0 -1.5**
comp=Z,23nm,0.7s
HVD Gariep Dam 69.19 160 *e*P **P** **13 39 25.4 +0.8**
HVD AMB AMB 13 39 27.4
comp=Z,26nm,2.3s
HVD AMS AMS 14 10 45.5
comp=Z,1μm,11.3s
HVD Gariep Dam 69.19 160 P **P** **13 39 25.4 +0.8**
HVD pmax pmax
comp=Z,26nm,2.3s
HVD Gariep Dam 69.19 160 P **P** **13 39 25.4 +0.8**
comp=Z,26nm,2.3s
HVD Gariep Dam 69.19 160 P **P** **13 39 25.4 +0.8**
comp=Z,26nm,2.3s
GOGA Godfrey 69.59 297 *e*P **P** **13 39 27.3 +0.2**
GOGA pmax pmax
comp=Z,13nm,1.2s
GOGA Godfrey 69.59 297 *e*P **P** **13 39 27.3 +0.2**
comp=Z,13nm,1.2s
GOGA Godfrey 69.59 297 *e*P **P** **13 39 27.3 +0.2**
comp=Z,13nm,1.2s
BOD Bodaibo 69.72 32 *e*P **P** **13 39 26.6 -0.9**
BOD pmax pmax
comp=Z,14nm,0.8s
FFC Flin Flon 69.78 324 *e*P **P** **13 39 29.1 +1.1**
FFC pmax pmax
comp=Z,9.0nm,1.0s
FFC Flin Flon 69.78 324 *e*P **P** **13 39 29.1 +1.1**
comp=Z,9.3nm,1.0s
FFC Flin Flon 69.78 324 *e*P **P** **13 39 29.1 +1.1**
comp=Z,9.3nm,1.0s
SPMN Marine on St. 69.86 312 *e*P **P** **13 39 29.0 +0.4**
comp=Z,12nm,0.6s
SPMN Marine on St. 69.86 312 *e*P **P** **13 39 29.0 +0.4**
comp=Z,12nm,0.6s
SPMN Marine on St. 69.86 312 ⇑P **P** **13 39 28.6 0.0**
baz=70
AGMN Agassiz Nation 70.06 316 *e*P **P** **13 39 30.3 +0.5**
comp=Z,13nm,0.8s
AGMN Agassiz Nation 70.06 316 *e*P **P** **13 39 30.3 +0.5**
comp=Z,13nm,0.8s
AGMN Agassiz Nation 70.06 316 ⇑P **P** **13 39 29.6 -0.1**
baz=70
OLIL Olney 70.16 304 P **P** **13 39 30.8 +0.3**
comp=Z,14nm,0.6s
OLIL Olney 70.16 304 P **P** **13 39 30.8 +0.3**
comp=Z,14nm,0.6s
YKA Yellowknife Ar 70.33 334 P **P** **13 39 30.8 -0.3**
comp=Z,5.3nm,0.7s,baz=51,slow=6.2,SNR=34
YKA Yellowknife Ar 70.33 334 P **P** **13 39 30.8 -0.3**
YKA pmax pmax
comp=Z,5.0nm,0.7s
LSA Lhasa 71.02 67 *e*P **P** **13 39 36.9 +0.4**
LSA pmax pmax
comp=Z,10.0nm,0.6s
LSA Lhasa 71.02 67 *e*P **P** **13 39 36.9 +0.4**
comp=Z,9.9nm,0.6s
LSA Lhasa 71.02 67 *e*P **P** **13 39 36.9 +0.4**
comp=Z,9.9nm,0.6s
A30A Hoffart Farm, 71.08 317 ⇑P **P** **13 39 36.6 +0.5**
baz=71
BDFB Brasilia 71.17 234 P **P** **13 39 38.0 +1.0**
comp=Z,3.8nm,0.7s,baz=72,slow=6.4,SNR=5.7
BDFB LR LR 14 07 51.8
comp=Z,676nm,21.8s,baz=48,slow=33
INK Inuvik 71.35 345 P **P** **13 39 36.4 -0.8**
comp=Z,4.0nm,0.8s,baz=30,slow=8.5,SNR=13
INK Inuvik 71.35 345 P **P** **13 39 36.4 -0.8**
INK pmax pmax
comp=Z,4.0nm,0.9s
INK Inuvik 71.35 345 *e*P **P** **13 39 36.5 -0.7**
comp=Z,4.0nm,0.8s
INK Inuvik 71.35 345 *e*P **P** **13 39 36.5 -0.7**
comp=Z,4.0nm,0.8s
B30A Myrvik Farm, E 71.36 317 ⇑P **P** **13 39 38.2 +0.4**
baz=71
SONM Songino Array 71.57 44 P **P** **13 39 38.9 -0.3**
comp=Z,2.4nm,0.8s,baz=310,slow=6.4,SNR=21
SONM LR LR 14 12 47.7
comp=Z,392nm,18.7s,baz=303,slow=37
SONM Songino Array 71.57 44 P **P** **13 39 38.9 -0.3**
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM MLR MLR
comp=Z,392nm,18.7s
C30A Mose, Pekin 71.86 316 ⇑P **P** **13 39 41.0 +0.3**
baz=72
ULN Ulaanbaatar 71.92 44 *de*P **P** **13 39 42.4 +1.1**
ULN pmax pmax
comp=Z,9.0nm,1.7s
B29A Wagenman Farm, 71.92 317 ⇓P **P** **13 39 40.9 -0.2**
baz=72
GTA Gaotai 72.08 54 *e*P **P** **13 39 43.4 +1.1**
GTA pP **pP** **13 39 47.8 +0.7**
GTA sP **sP** **13 39 50.8 +2.0**
GTA S **S** **13 49 04.8 +0.9**
GTA sS **sS** **13 49 13.3 +1.6**
GTA PMZ
comp=Z,10.0nm,1.0s
GTA PMZ
comp=Z,57nm,5.2s
GTA LN
comp=Z,470nm,18.3s
GTA LE
comp=Z,480nm,18.8s
GTA LZ
comp=Z,430nm,19.9s
A28A Rude Farm, Bot 72.17 318 ⇓P **P** **13 39 42.8 +0.1**
baz=72
LRAL Lakeview Retre 72.33 298 *e*P **P** **13 39 43.6 -0.2**
comp=Z,3.9nm,0.6s
LRAL Lakeview Retre 72.33 298 *e*P **P** **13 39 43.6 -0.2**
comp=Z,3.9nm,0.6s
D30A Buchanan 72.35 316 ⇑P **P** **13 39 44.2 +0.5**
baz=72
MDND Maddock 72.41 317 ⇑P **P** **13 39 43.5 -0.6**
baz=72
SDV Santo Domingo 72.54 268 *e*P **P** **13 39 46.2 +0.7**
comp=Z,9.5nm,1.0s
SDV Santo Domingo 72.54 268 *e*P **P** **13 39 46.2 +0.7**
comp=Z,9.5nm,1.0s
YAK Yakutsk 72.94 24 *e*P **P** **13 39 44.4 -2.4**
YAK *e**PP **pP** **13 39 54.4 +2.8**
YAK *e* 13 39 58.7
YAK *e*PPP PPP 13 44 08.3
YAK *e*S **S** **13 49 07.6 -5.1**
YAK *e* 13 49 46.9
YAK *e*SS **SS** **13 53 46.2 -5.8**
YAK pmax pmax
comp=Z,16nm,1.2s
YAK pmax pmax
comp=N,7.0nm,1.5s
YAK pmax pmax
comp=E,9.0nm,1.5s
YAK smax smax
comp=N,32nm,3.8s
YAK smax smax
comp=E,77nm,4.3s
YAK MLR MLR
comp=Z,555nm,16.0s
YAK MLR MLR
comp=N,338nm,19.0s
YAK MLR MLR
comp=E,521nm,18.0s
YAK Yakutsk 72.94 24 *e*P **P** **13 39 46.5 -0.3**
comp=E,20nm,0.9s
YAK Yakutsk 72.94 24 *e*P **P** **13 39 46.5 -0.3**
comp=E,20nm,0.9s
ECSD EROS Data Cent 72.97 312 *e*P **P** **13 39 45.9 -1.5**
comp=E,13nm,0.8s
ECSD EROS Data Cent 72.97 312 *e*P **P** **13 39 45.9 -1.5**
comp=E,13nm,0.8s
ECSD EROS Data Cent 72.97 312 ⇑P **P** **13 39 47.6 +0.2**
baz=73
OXF Oxford 73.25 301 *e*P **P** **13 39 48.0 -1.2**
OXF pmax pmax
comp=Z,33nm,0.9s
OXF Oxford 73.25 301 *e*P **P** **13 39 48.0 -1.2**
comp=Z,33nm,0.9s
OXF Oxford 73.25 301 *e*P **P** **13 39 48.0 -1.2**
comp=Z,33nm,0.9s
G30A Faulkton 73.69 314 ⇓P **P** **13 39 53.0 +1.4**
baz=73
E28A Huff 73.74 316 ⇓P **P** **13 39 53.2 +1.2**
baz=74
BRSD Miller 73.97 313 *e*P **P** **13 39 53.7 +0.4**
comp=Z,28nm,0.8s
BRSD Miller 73.97 313 *e*P **P** **13 39 53.7 +0.4**
comp=Z,28nm,0.8s
BRSD Miller 73.97 313 ⇑P **P** **13 39 53.9 +0.6**
baz=74
B25A Knox Farm, Ray 74.11 318 ⇑P **P** **13 39 55.3 +1.2**
baz=74
A24A Westby 74.17 319 ⇓P **P** **13 39 55.4 +1.0**
baz=74
E27A Carson 74.32 316 ⇑P **P** **13 39 56.9 +1.6**
baz=74
D26A Manning 74.45 317 ⇓P **P** **13 39 57.3 +1.2**
baz=74
O35A Humboldt 74.45 309 ⇑P **P** **13 39 56.7 +0.5**
baz=74
N34A Lincoln 74.51 309 ⇑P **P** **13 39 56.9 +0.4**
baz=74
I30A Oacoma 74.54 313 ⇓P **P** **13 39 57.8 +1.1**
baz=74
H29A Onida 74.59 314 ⇑P **P** **13 39 58.3 +1.3**
baz=74
G28A Parade 74.74 315 ⇑P **P** **13 39 59.2 +1.3**
baz=74
D25A Fairfield 74.86 318 ⇓P **P** **13 40 00.7 +2.2**
baz=75
F27A Lemmon 74.90 316 ⇑P **P** **13 39 58.7 0.0**
baz=75
P35A Duane Minner, 74.94 308 ⇑P **P** **13 39 59.1 0.0**
baz=75
B23A Brockton 74.97 319 ⇑P **P** **13 40 01.1 +2.1**
baz=75
I29A Vivian Onida 75.00 314 ⇑P **P** **13 40 01.0 +1.7**
baz=75
G27A Dupree 75.14 316 ⇓P **P** **13 40 01.6 +1.4**
baz=75
BGNE Belgrade 75.21 311 P **P** **13 39 59.8 -0.8**
comp=Z,51nm,0.8s
BGNE Belgrade 75.21 311 P **P** **13 39 59.8 -0.8**
comp=Z,51nm,0.8s
BGNE Belgrade 75.21 311 ⇑P **P** **13 40 01.5 +0.9**
baz=75
C24A Savage 75.24 318 ⇓P **P** **13 40 01.5 +0.8**
baz=75
F26A Lodgepole 75.28 316 ⇓P **P** **13 40 02.7 +1.8**
baz=75
R36A Gordon, Harris 75.28 307 ⇓P **P** **13 40 01.3 +0.3**
baz=75
COLD Coldfoot 75.29 350 *e*P **P** **13 40 01.0 +0.4**
comp=Z,8.7nm,0.9s
COLD Coldfoot 75.29 350 *e*P **P** **13 40 01.0 +0.4**
comp=Z,8.7nm,0.9s
E25A Miller Ranch, 75.30 317 ⇑P **P** **13 40 02.2 +1.2**
baz=75,SNR=7.2
Q35A Mercer Eighty, 75.33 307 ⇑P **P** **13 40 00.7 -0.6**
baz=75
J29A Okreek 75.37 313 ⇓P **P** **13 40 02.7 +1.2**
baz=75
K30A Basset 75.37 312 ⇓P **P** **13 40 03.0 +1.4**
baz=75
D24A Glendive 75.43 318 ⇑P **P** **13 40 03.1 +1.3**
baz=75
BILL Bilibino 75.44 7 ⇓*e*P **P** **13 40 02.4 +1.0**
BILL *SP **sP** **13 40 09.0 +1.2**
BILL 13 40 16.0
BILL *e*S **S** **13 49 45.5 +4.9**
BILL *e*SS **SS** **13 54 36.4 +6.6**
BILL pmax pmax
comp=Z,5.0nm,1.7s
BILL MLR MLR
comp=Z,413nm,26.0s
C23A Lambert 75.48 319 ⇑P **P** **13 40 03.7 +1.7**
baz=75,SNR=7.1
I28A Midland 75.52 314 ⇓P **P** **13 40 04.0 +1.7**
baz=75
KSU1 Kansas State U 75.56 308 ⇑P **P** **13 40 02.5 -0.1**
baz=75
T37A Cheneyville 18 75.57 305 ⇑P **P** **13 40 02.9 +0.2**
baz=75
G26A Maurine 75.57 316 ⇑P **P** **13 40 03.3 +0.7**
baz=75
B22A Reddig Ranch S 75.60 320 ⇓P **P** **13 40 03.7 +0.9**
baz=75
O33A Hebron 75.62 309 ⇑P **P** **13 40 03.5 +0.5**
baz=75
A21A Bergtoll Ranch 75.65 321 ⇑P **P** **13 40 03.7 +0.7**
baz=75
H27A Howes 75.67 315 ⇑P **P** **13 40 04.3 +1.1**
baz=75
N32A Stulken Farm, 75.67 310 ⇑P **P** **13 40 04.1 +0.9**
baz=75
F25A Bowman 75.68 317 ⇑P **P** **13 40 04.8 +1.5**
baz=75
S36A Lake Cedric, C 75.68 306 ⇓P **P** **13 40 03.2 -0.1**
baz=76
Q34A Chapman 75.87 308 ⇓P **P** **13 40 04.8 +0.4**
baz=76
D23A Lindsay 75.88 318 ⇑P **P** **13 40 06.1 +1.8**
baz=76,SNR=6.7
J28A Allard Ranch, 75.90 314 ⇑P **P** **13 40 05.7 +1.2**
baz=76
O32A Brockman Farm, 75.95 310 ⇑P **P** **13 40 05.1 +0.2**
baz=76
EGAK Eagle 75.97 345 *e*P **P** **13 40 05.2 +0.7**
comp=Z,5.2nm,1.1s
EGAK Eagle 75.97 345 *e*P **P** **13 40 05.2 +0.7**
comp=Z,5.2nm,1.1s
I27A Quinn 75.99 314 ⇓P **P** **13 40 06.5 +1.4**
baz=76
EDM Edmonton 76.00 327 *e*P **P** **13 40 06.0 +1.1**
EDM pmax pmax
comp=Z,16nm,0.9s
EDM Edmonton 76.00 327 *e*P **P** **13 40 06.0 +1.1**
comp=Z,16nm,0.9s
EDM Edmonton 76.00 327 *e*P **P** **13 40 06.0 +1.1**
comp=Z,16nm,0.9s
G25A Newell 76.09 316 ⇓P **P** **13 40 07.0 +1.4**
baz=76
MIAR Mount Ida 76.11 303 *e*P **P** **13 40 03.6 -2.2**
MIAR pmax pmax
comp=Z,5.0nm,0.7s
MIAR Mount Ida 76.11 303 *e*P **P** **13 40 03.6 -2.2**
comp=Z,4.8nm,0.7s
MIAR Mount Ida 76.11 303 *e*P **P** **13 40 03.6 -2.2**
comp=Z,4.8nm,0.7s
S35A Otter Creek Ra 76.18 307 ⇑P **P** **13 40 07.0 +0.9**
baz=76
M30A Dale-Ortello V 76.19 311 ⇓P **P** **13 40 06.2 0.0**
baz=76
DAWY Dawson 76.22 344 *e*P **P** **13 40 06.3 +0.4**
comp=Z,5.6nm,0.7s
DAWY Dawson 76.22 344 *e*P **P** **13 40 06.3 +0.4**
comp=Z,5.6nm,0.7s
T36A Boggs Farm, Ca 76.24 306 ⇑P **P** **13 40 06.7 +0.2**
baz=76
F24A Ekalaka 76.27 317 ⇓P **P** **13 40 08.2 +1.5**
baz=76,SNR=16
E23A Ismay 76.34 318 ⇓P **P** **13 40 08.2 +1.2**
baz=76
K28A Ten Mile Ranch 76.39 313 ⇑P **P** **13 40 09.0 +1.6**
baz=76
Q33A Connelly Farm, 76.40 308 ⇑P **P** **13 40 09.1 +1.7**
baz=76
D22A Cohagen 76.41 319 ⇓P **P** **13 40 08.9 +1.6**
baz=76,SNR=5.1
R34A Isabella, Hill 76.42 307 ⇑P **P** **13 40 08.9 +1.4**
baz=76
J27A Elkhorn Farm, 76.45 314 ⇓P **P** **13 40 09.8 +2.1**
baz=76
W38A Poteau 76.46 303 ⇓P **P** **13 40 09.3 +1.5**
baz=76
C21A Desert Coulee 76.47 320 ⇑P **P** **13 40 09.9 +2.2**
baz=76
I26A New Underwood 76.48 315 ⇓P **P** **13 40 09.5 +1.6**
baz=76
P32A Huiting Farm, 76.52 309 ⇑P **P** **13 40 08.7 +0.6**
baz=76
H25A Fruitdale 76.54 316 ⇓P **P** **13 40 09.5 +1.3**
baz=76
B20A Solberg Farm, 76.56 321 ⇓P **P** **13 40 09.3 +1.1**
baz=76
LZH Lanzhou 76.57 55 *e*P **P** **13 40 09.0 +0.4**
LZH pP **pP** **13 40 12.3 -1.1**
LZH sP **sP** **13 40 13.8 -1.3**
LZH *e*PP **PP** **13 43 02.1 +1.8**
LZH *e*S **S** **13 49 52.4 -2.1**
LZH sS **sS** **13 50 00.3 -2.0**
LZH PMZ
comp=Z,21nm,1.5s
LZH PMZ
comp=Z,97nm,6.8s
LZH LN
comp=Z,450nm,14.5s
LZH LE
comp=Z,430nm,16.0s
LZH LZ
comp=Z,540nm,18.3s
G24A Alzada 76.57 317 ⇑P **P** **13 40 09.9 +1.5**
baz=76,SNR=5.9
A19A Klindworth Far 76.62 321 ⇓P **P** **13 40 09.6 +1.0**
baz=76
O31A Woolen Ranch, 76.67 310 ⇑P **P** **13 40 09.7 +0.7**
baz=76
S34A Willow Spring 76.68 307 ⇑P **P** **13 40 10.0 +1.0**
baz=76
LAO LASA Array 76.72 318 *e*P **P** **13 40 09.9 +0.7**
comp=Z,21nm,0.8s
LAO LASA Array 76.72 318 *e*P **P** **13 40 09.9 +0.7**
comp=Z,21nm,0.8s
E22A Miles City 76.73 318 ⇓P **P** **13 40 10.9 +1.7**
baz=76,SNR=7.5
T35A Sooner Cattle 76.74 306 ⇑P **P** **13 40 10.4 +1.0**
baz=76
TUL1 Leonard 76.84 305 *e*P **P** **13 40 10.8 +0.9**
comp=Z,12nm,0.9s
TUL1 Leonard 76.84 305 *e*P **P** **13 40 10.8 +0.9**
comp=Z,12nm,0.9s
TUL1 Leonard 76.84 305 ⇓P **P** **13 40 10.5 +0.6**
baz=77
Q32A Meitler Ranch, 76.86 309 ⇓P **P** **13 40 10.2 +0.1**
baz=77
F23A Volborg 76.88 317 ⇑P **P** **13 40 10.8 +0.7**
baz=77,SNR=6.1
R33A Olander Ranch, 76.89 308 ⇑P **P** **13 40 10.6 +0.4**
baz=77
D21A La Casta Ranch 76.90 319 ⇓P **P** **13 40 11.3 +1.2**
baz=77
K27A Flueckinger Fa 76.92 313 ⇑P **P** **13 40 10.6 +0.3**
baz=77
IM04 Indian Mountai 76.96 351 *e*P **P** **13 40 10.9 +0.8**
IM04 Indian Mountai 76.96 351 *e*P **P** **13 40 10.9 +0.8**
I25A Rochford 76.99 315 ⇑P **P** **13 40 10.9 0.0**
baz=77,SNR=20
H24A Dirks Ranch, A 77.01 316 ⇑P **P** **13 40 11.4 +0.5**
baz=77
C20A Veseth Ranch, 77.02 320 ⇓P **P** **13 40 11.3 +0.5**
baz=77
B19A Brinkman Farms 77.03 321 ⇑P **P** **13 40 12.0 +1.2**
baz=77
W37A Quinton 77.03 304 ⇑P **P** **13 40 11.2 +0.2**
baz=77
ILAR Eielson Array 77.05 348 P **P** **13 40 10.5 -0.1**
comp=Z,1.0nm,0.6s,baz=1.5,slow=4.8,SNR=25
ILAR LR LR 14 15 10.8
comp=Z,397nm,21.9s,baz=34,slow=37
ILAR Eielson Array 77.05 348 P **P** **13 40 10.5 -0.1**
ILAR pmax pmax
comp=Z,1.0nm,0.6s
ILAR MLR MLR
comp=Z,397nm,21.9s
P31A Stockton 77.07 310 ⇑P **P** **13 40 12.1 +0.8**
baz=77
N29A Votaw Ranch, W 77.07 311 ⇑P **P** **13 40 12.7 +1.4**
baz=77
RSSD Black Hills 77.10 315 *e*P **P** **13 40 12.6 +1.1**
RSSD pmax pmax
comp=Z,10.0nm,0.9s
RSSD Black Hills 77.10 315 *e*P **P** **13 40 12.6 +1.1**
comp=Z,9.8nm,0.9s
RSSD Black Hills 77.10 315 *e*P **P** **13 40 12.6 +1.1**
comp=Z,9.8nm,0.9s
O30A MW Ranch, Wils 77.10 310 ⇑P **P** **13 40 12.6 +1.2**
baz=77
COLA College 77.12 348 ⇓*i*P **P** **13 40 13.9 +3.0**
COLA pmax pmax
comp=Z,14nm,0.8s
T34A McClaskey Farm 77.12 306 ⇓P **P** **13 40 12.8 +1.3**
baz=77
E21A Keefer Ranch, 77.27 319 ⇓P **P** **13 40 13.3 +1.1**
baz=77
R32A Long Quarter, 77.29 308 ⇓P **P** **13 40 13.9 +1.5**
baz=77
F22A Rosebud 77.31 318 ⇑P **P** **13 40 13.6 +1.2**
baz=77,SNR=6.6
X37A Clayton 77.31 303 ⇑P **P** **13 40 14.2 +1.6**
baz=77
S33A Kaszmaul Farm, 77.32 307 ⇑P **P** **13 40 13.5 +0.9**
baz=77
Q31A Ellis 77.38 309 ⇓P **P** **13 40 14.5 +1.6**
baz=77
J25A Sunshine Ranch 77.41 315 ⇓P **P** **13 40 14.0 +0.9**
baz=77
K26A Motz Farm, Whi 77.47 314 ⇑P **P** **13 40 15.8 +2.3**
baz=77
D20A Manuel Ranch, 77.48 320 ⇑P **P** **13 40 15.0 +1.5**
baz=77,SNR=11
C19A Slack Wire Ran 77.55 321 ⇓P **P** **13 40 15.7 +1.9**
baz=77,SNR=15
DOT Dot Lake 77.55 346 *e*P **P** **13 40 15.6 +2.1**
comp=Z,4.7nm,0.8s
DOT Dot Lake 77.55 346 *e*P **P** **13 40 15.6 +2.1**
comp=Z,4.7nm,0.8s
W36A Wetumka 77.57 304 ⇓P **P** **13 40 16.4 +2.4**
baz=77
I24A Kuemmerle Ranc 77.59 315 ⇑P **P** **13 40 16.4 +2.2**
baz=77
H23A Clabaugh Cattl 77.60 316 ⇓P **P** **13 40 16.1 +1.9**
baz=77
P30A Selden 77.60 310 ⇓P **P** **13 40 14.6 +0.4**
baz=77
V35A Meyer Ranch, C 77.62 305 ⇑P **P** **13 40 14.6 +0.3**
baz=77
G22A Birney 77.68 317 ⇑P **P** **13 40 15.2 +0.6**
baz=77
U34A Anderson Ranch 77.69 306 ⇓P **P** **13 40 16.3 +1.6**
baz=78
N28A Pribbeno Ranch 77.71 311 ⇓P **P** **13 40 16.2 +1.4**
baz=78
EGMT Eagleton 77.72 321 *e*P **P** **13 40 16.1 +1.4**
comp=Z,16nm,1.0s
EGMT Eagleton 77.72 321 *e*P **P** **13 40 16.1 +1.4**
comp=Z,16nm,1.0s
EGMT Eagleton 77.72 321 ⇓P **P** **13 40 16.4 +1.6**
comp=Z,78,SNR=11
HIA Hailar 77.74 37 *e*P **P** **13 40 16.0 +1.2**
HIA pmax pmax
comp=Z,9.0nm,0.4s
HIA Hailar 77.74 37 *e*P **P** **13 40 16.0 +1.2**
comp=Z,8.6nm,0.4s
HIA Hailar 77.74 37 *e*P **P** **13 40 16.0 +1.2**
comp=Z,8.6nm,0.4s
T33A Patterson Ranc 77.77 307 ⇓P **P** **13 40 16.4 +1.2**
baz=78
L26A Underwood Farm 77.82 313 ⇑P **P** **13 40 17.0 +1.6**
baz=78
D19A Cripps Ranch, 77.83 320 ⇑P **P** **13 40 16.5 +1.1**
baz=78
ROSC El Rosal 77.84 267 LR LR 14 13 28.3
comp=Z,208nm,18.9s,baz=24,slow=35
OGNE Ogallala 77.85 312 *e*P **P** **13 40 16.6 +1.0**
comp=Z,12nm,0.7s
OGNE Ogallala 77.85 312 *e*P **P** **13 40 16.6 +1.0**
comp=Z,12nm,0.7s
OGNE Ogallala 77.85 312 ⇓P **P** **13 40 17.4 +1.7**
baz=78
E20A Meyer Farm, Mu 77.86 319 ⇑P **P** **13 40 16.9 +1.4**
baz=78
R31A Burdett 77.89 309 ⇓P **P** **13 40 17.0 +1.2**
baz=78
Q30A Quinter 77.92 309 ⇑P **P** **13 40 16.4 +0.4**

	baz=78								
K25A	**Mack Ranch, Ha**	77.93	314	⇑	P		P	13 40 17.6	+1.5
	baz=78								
J24A	**Dixon Ranch, L**	77.94	315	⇓	P		P	13 40 17.3	+1.2
	baz=78								
X36A	**Centrahoma**	77.98	304	⇓	P		P	13 40 17.3	+0.9
	baz=78								
W35A	**Tecumseh**	78.00	305	⇓	P		P	13 40 17.2	+0.8
	baz=78								
V34A	**Guthrie**	78.03	306	⇑	P		P	13 40 17.8	+1.3
	baz=78								
U33A	**Lingo Farm, Me**	78.07	306	⇑	P		P	13 40 17.8	+1.0
	baz=78								
340A	**Bronson**	78.10	300	⇓	P		P	13 40 17.7	+0.7
	baz=78								
H22A	**Clearmont**	78.11	317	⇓	P		P	13 40 18.0	+1.0
	baz=78								
T32A	**Huddler Ranch,**	78.16	307	⇓	P		P	13 40 19.0	+1.7
	baz=78								
G21A	**Lodge Grass**	78.18	318	⇓	P		P	13 40 17.8	+0.4
	baz=78								
138A	**Matatall Enter**	78.22	302	⇓	P		P	13 40 20.4	+2.8
	baz=78								
E19A	**Rath Farm, Rou**	78.23	319	⇓	P		P	13 40 19.3	+1.6
	baz=78,SNR=5.4								
N27A	**Anderson Farm,**	78.24	312	⇓	P		P	13 40 19.4	+1.6
	baz=78								
L25A	**Engebretsen Ra**	78.27	314	⇑	P		P	13 40 20.0	+2.0
	baz=78								
F20A	**Billings**	78.32	319	⇑	P		P	13 40 20.1	+1.9
	baz=78								
R30A	**Dighton**	78.36	309	⇓	P		P	13 40 19.9	+1.4
	baz=78								
K24A	**Anderson Ranch**	78.41	315	⇓	P		P	13 40 18.5	-0.3
	baz=78								
Q29A	**Oakley**	78.44	310	⇑	P		P	13 40 20.1	+1.1
	baz=78								
H21A	**Big Horn, Sher**	78.47	317	⇓	P		P	13 40 20.8	+1.8
	baz=78								
DLBC	**Dease Lake**	78.47	337	*eP*			P	13 40 21.6	+2.9
	comp=Z,4.3nm,0.8s								
DLBC	**Dease Lake**	78.47	337	*eP*			P	13 40 21.6	+2.9
	comp=Z,4.3nm,0.8s								
X35A	**Drake**	78.50	304	⇓	P		P	13 40 19.8	+0.5
	baz=78								
P28A	**Saint Francis**	78.51	311	⇑	P		P	13 40 20.6	+1.2
	baz=78								
V33A	**Lossen Ranch,**	78.54	306	⇑	P		P	13 40 20.8	+1.4
	baz=78								
HYT	**Haines Junctio**	78.58	342		P		P	13 40 21.4	+2.0
	comp=Z,7.2nm,1.0s								
HYT	**Haines Junctio**	78.58	342		P		P	13 40 21.4	+2.0
	comp=Z,7.3nm,1.0s								
I22A	**9 Mile Ranch,**	78.62	316	⇑	P		P	13 40 21.5	+1.5
	baz=78,SNR=10								
HHC	**Hu-ho-hao-te**	78.65	48	*eP*			P	13 40 19.9	-0.2
HHC				pP			**pP**	13 40 24.8	0.0
HHC				sP			**sP**	13 40 27.1	+0.5
HHC				PP			**PP**	13 43 19.8	+2.3
HHC				S			**S**	13 50 13.9	-2.8
HHC				sS			**sS**	13 50 22.3	-2.3
HHC				SKS			**SKSac**	13 50 29.3	-5.6
HHC				PMZ					
	comp=Z,14nm,0.5s								
HHC				PMZ					
	comp=Z,83nm,5.4s								
HHC				LN					
	comp=Z,400nm,13.5s								
HHC				LE					
	comp=Z,330nm,13.9s								
HHC				LZ					
	comp=Z,110nm,17.5s								
U32A	**Winter Ranch,**	78.68	307	⇑	P		P	13 40 21.9	+1.7
	baz=78								
T31A	**Randall Ranch,**	78.69	308	⇓	P		P	13 40 21.6	+1.3
	baz=78								
F19A	**Roth Farm, Mol**	78.71	319	⇑	P		P	13 40 21.6	+1.3
	baz=78,SNR=16								
G20A	**Bridger**	78.73	318	⇓	P		P	13 40 22.0	+1.5
	baz=78,SNR=15								
M25A	**Palm-Egli Farm**	78.76	313	⇓	P		P	13 40 23.1	+2.3
	baz=78								
R29A	**Marienthal**	78.82	309	⇓	P		P	13 40 22.3	+1.3
	baz=79								
TRF	**Thorofare Moun**	78.84	349	*eP*			P	13 40 20.5	-0.3
	comp=Z,5.1nm,0.8s								
TRF	**Thorofare Moun**	78.84	349	*eP*			P	13 40 20.5	-0.3
	comp=Z,5.1nm,0.8s								
KTH	**Kantishna Hill**	78.85	349	*eP*			P	13 40 20.9	+0.2
	comp=Z,8.5nm,1.0s								
KTH	**Kantishna Hill**	78.85	349	*eP*			P	13 40 20.9	+0.2
	comp=Z,8.5nm,1.0s								
K23A	**Bowen Ranch, D**	78.85	315	⇓	P		P	13 40 22.5	+1.3
	baz=79,SNR=6.6								
Q28A	**Sharon Springs**	78.87	310	⇑	P		P	13 40 22.4	+1.1
	baz=79								
S30A	**Montezuma**	78.87	308	⇑	P		P	13 40 22.3	+1.0
	baz=79								
J22A	**Midwest**	78.92	316	⇑	P		P	13 40 22.9	+1.3
	baz=79								
X34A	**Smith Ranch, M**	78.96	305	⇓	P		P	13 40 22.6	+0.9
	baz=79								
P27A	**Ficken Ranch,**	79.03	311	⇑	P		P	13 40 23.5	+1.3
	baz=79								
W33A	**Caddo, Fort Co**	79.05	305	⇓	P		P	13 40 23.4	+1.1
	baz=79								
H20A	**Greybull**	79.08	318	⇑	P		P	13 40 23.4	+1.0
	baz=79								
237A	**Washetta, Mont**	79.10	302	⇓	P		P	13 40 23.8	+1.3
	baz=79								
I21A	**Big Trails, Te**	79.12	317	⇑	P		P	13 40 23.8	+1.1
	baz=79,SNR=16								
338A	**Crockett**	79.12	301	⇑	P		P	13 40 24.7	+2.0
	baz=79								
GCMT	**Greycliff**	79.13	319	*eP*			P	13 40 23.3	+0.6
	comp=Z,4.7nm,0.8s								
GCMT	**Greycliff**	79.13	319	*eP*			P	13 40 23.3	+0.6
	comp=Z,4.7nm,0.8s								
U31A	**Nine Bar Ranch**	79.23	307	⇓	P		P	13 40 24.1	+0.8
	baz=79								
T30A	**Plains**	79.26	308	⇑	P		P	13 40 24.9	+1.4
	baz=79								
R28A	**Tribune**	79.29	310	⇓	P		P	13 40 24.8	+1.1
	baz=79								
S29A	**Ulysses**	79.29	309	⇓	P		P	13 40 25.5	+1.9
	baz=79								
KSCO	**Kaye Shedlock'**	79.39	311	⇓	P		P	13 40 26.1	+1.9
	baz=79								
K22A	**Casper**	79.43	315	*eP*			P	13 40 25.2	+0.8
	comp=Z,14nm,0.8s								
K22A	**Casper**	79.43	315	*eP*			P	13 40 25.2	+0.8
	comp=Z,14nm,0.8s								
K22A	**Casper**	79.43	315	⇑	P		P	13 40 25.8	+1.4
	baz=79,SNR=10.0								
CD2	**Chengdu**	79.48	60	*eP*			P	13 40 23.5	-1.2
CD2				pP			**pP**	13 40 28.3	-1.2
CD2				sP			**sP**	13 40 30.5	-0.7
CD2				PP			**PP**	13 43 25.1	+0.4
CD2				SKS			**SKSac**	13 50 34.8	-6.3
CD2				SS			**SS**	13 55 32.4	-0.4
CD2				PMZ					
	comp=Z,10.0nm,0.5s								
CD2				PMZ					
	comp=Z,120nm,5.2s								
CD2				LN					
	comp=Z,380nm,14.2s								
CD2				LE					
	comp=Z,360nm,16.6s								
CD2				LZ					
	comp=Z,500nm,17.1s								
I20A	**Worland**	79.50	317	⇓	P		P	13 40 26.2	+1.5
	baz=79,SNR=13								
H19A	**Powell**	79.50	318	⇓	P		P	13 40 26.7	+2.0
	baz=79,SNR=8.8								
WMOK	**Wichita Mounta**	79.50	305		P		P	13 40 25.5	+0.7
WMOK					pmax		pmax		
	comp=Z,6.0nm,1.0s								
WMOK	**Wichita Mounta**	79.50	305		P		P	13 40 25.5	+0.7
	comp=Z,5.6nm,1.0s								
WMOK	**Wichita Mounta**	79.50	305		P		P	13 40 25.5	+0.7
	comp=Z,5.6nm,1.0s								
J21A	**Lysite**	79.51	316	⇑	P		P	13 40 25.9	+1.1
	baz=79,SNR=7.5								
W32A	**Sentinel**	79.58	306	⇑	P		P	13 40 27.0	+1.8
	baz=79								
T29A	**Hugoton**	79.69	308	⇑	P		P	13 40 27.3	+1.5
	baz=80								
J20A	**Shoshoni**	79.86	317	⇓	P		P	13 40 27.6	+0.9
	baz=80,SNR=21								
H18A	**Shoshone NF, C**	79.86	318	⇓	P		P	13 40 27.8	+1.0
	baz=80,SNR=12								
R27A	**Eads**	79.94	310	⇓	P		P	13 40 28.4	+1.2
	baz=80								
Q26A	**Hugo**	79.99	311	⇑	P		P	13 40 28.4	+0.9
	baz=80								
W31A	**Holland Ranch,**	80.00	306	⇑	P		P	13 40 28.6	+1.1
	baz=80								
X32A	**Elmer**	80.03	305	⇓	P		P	13 40 29.2	+1.6
	baz=80								
BMRM	**Bremner River**	80.09	345	*eP*			P	13 40 28.4	+0.9
	comp=Z,8.5nm,0.9s								
BMRM	**Bremner River**	80.09	345	*eP*			P	13 40 28.4	+0.9
	comp=Z,8.5nm,0.9s								
SLMT	**Seeley Lake**	80.12	322	*eP*			P	13 40 28.9	+0.8
	comp=Z,5.3nm,1.1s								
SLMT	**Seeley Lake**	80.12	322	*eP*			P	13 40 28.9	+0.8
	comp=Z,5.3nm,1.1s								
SWMT	**Swartz Lake**	80.19	323	*eP*			P	13 40 28.3	-0.1
	comp=Z,4.2nm,1.0s								
SWMT	**Swartz Lake**	80.19	323	*eP*			P	13 40 28.3	-0.1
	comp=Z,4.2nm,1.0s								
N23A	**Red Feather La**	80.21	314	⇓	P		P	13 40 31.0	+2.2
	baz=80,SNR=7.1								
CHMT	**Chamberlain Mo**	80.23	322	*eP*			P	13 40 29.0	+0.3
	comp=Z,2.8nm,1.0s								
CHMT	**Chamberlain Mo**	80.23	322	*eP*			P	13 40 29.0	+0.3
	comp=Z,2.8nm,1.0s								
BSMT	**Bassoo Peak**	80.34	323	*eP*			P	13 40 29.1	-0.2
	comp=Z,3.6nm,0.8s								
BSMT	**Bassoo Peak**	80.34	323	*eP*			P	13 40 29.1	-0.2
	comp=Z,3.6nm,0.8s								
Z33A	**Whitaker Ranch**	80.36	304	⇓	P		P	13 40 30.5	+1.1
	baz=80								
X31A	**McDonald Ranch**	80.36	306	⇓	P		P	13 40 31.0	+1.6
	baz=80								
J19A	**Crowheart**	80.45	317	⇓	P		P	13 40 31.1	+1.1
	baz=80								
H17A	**Grant Village**	80.54	319		P		P	13 40 32.8	+2.3
	comp=Z,9.1nm,0.9s								
H17A	**Grant Village**	80.54	319		P		P	13 40 32.8	+2.3
	comp=Z,9.1nm,0.9s								
H17A	**Grant Village**	80.54	319	⇑	P		P	13 40 32.0	+1.5
	baz=80,SNR=9.5								
LRM	**Limekiln Ridge**	80.56	321	*eP*			P	13 40 32.3	+1.7
	comp=Z,16nm,0.7s								
LRM	**Limekiln Ridge**	80.56	321	*eP*			P	13 40 32.3	+1.7
	comp=Z,16nm,0.7s								
N22A	**Wattenberg Ran**	80.57	314	⇑	P		P	13 40 32.3	+1.6
	baz=80,SNR=7.2								
537A	**Green Hill Far**	80.57	300	⇓	P		P	13 40 32.7	+2.2
	baz=80								
V29A	**Stinnett**	80.61	308	⇑	P		P	13 40 32.5	+1.7
	baz=80								
O23A	**Lake Granby, G**	80.63	313	⇑	P		P	13 40 31.6	+0.5
	baz=80,SNR=5.3								
MSO	**Missoula**	80.63	322	⇓	P		P	13 40 31.9	+1.2
	baz=80								
YFT	**Old Faithful**	80.64	319	*eP*			P	13 40 34.2	+3.1
	comp=Z,6.9nm,0.8s								
T27A	**Campo**	80.65	309	⇑	P		P	13 40 32.1	+1.1
	baz=80								
234A	**Clairette**	80.69	303	⇓	P		P	13 40 32.4	+1.1
	baz=80								
ISCO	**Idaho Springs**	80.71	313	*eP*			P	13 40 31.4	-0.2
ISCO						pmax	pmax		
	comp=Z,8.0nm,1.0s								
ISCO	**Idaho Springs**	80.71	313	*eP*			P	13 40 31.4	-0.2
	comp=Z,8.1nm,1.0s								
ISCO	**Idaho Springs**	80.71	313	*eP*			P	13 40 31.4	-0.2
	comp=Z,8.1nm,1.0s								
ISCO	**Idaho Springs**	80.71	313	⇑	P		P	13 40 31.5	0.0
	baz=80,SNR=8.0								
S26A	**Kim**	80.77	310	⇓	P		P	13 40 32.4	+0.7
	baz=80								
FLWY	**Flagg Ranch**	80.81	319	*eP*			P	13 40 33.8	+1.9
	comp=Z,8.8nm,0.9s								
FLWY	**Flagg Ranch**	80.81	319	*eP*			P	13 40 33.8	+1.9
	comp=Z,8.8nm,0.9s								
Z32A	**Haskell**	80.82	304	⇓	P		P	13 40 31.6	-0.3
	baz=81								
I17A	**Pilgrim Ck.**	80.85	318	⇓	P		P	13 40 33.3	+1.2
	baz=81								
Y31A	**Rekieta Farm,**	80.95	305	⇓	P		P	13 40 33.2	+0.6
	baz=81								
DLMT	**Dillon**	80.95	320	*eP*			P	13 40 32.5	0.0
	comp=Z,14nm,1.5s								
DLMT	**Dillon**	80.95	320	*eP*			P	13 40 32.5	0.0
	comp=Z,14nm,1.5s								
O22A	**Kremmling**	81.03	313	⇑	P		P	13 40 33.7	+0.5
	baz=81,SNR=13								
MOOW	**Moose Ponds**	81.06	318		P		P	13 40 34.3	+1.1
	comp=Z,5.3nm,1.1s								
MOOW	**Moose Ponds**	81.06	318		P		P	13 40 34.3	+1.1
	comp=Z,5.3nm,1.1s								
BW06	**Boulder Array**	81.06	317	*eP*			P	13 40 33.9	+0.6
	comp=Z,5.0nm,0.8s								
BW06	**Boulder Array**	81.06	317	*eP*			P	13 40 33.9	+0.6
	comp=Z,5.0nm,0.8s								
PDAR	**Pinedale Arra**	81.06	317		P		P	13 40 32.2	-1.0
	comp=Z,5.4nm,0.8s,baz=56,slow=6.7,SNR=30								
PDAR						LR	LR	14 13 20.5	
	comp=Z,590nm,21.2s,baz=62,slow=33								
IMW	**Indian Meadow**	81.06	318	*eP*			P	13 40 34.8	+1.4
	comp=Z,6.0nm,0.9s								
IMW	**Indian Meadow**	81.06	318	*eP*			P	13 40 34.8	+1.4
	comp=Z,6.0nm,0.9s								
LOHW	**Long Hollow**	81.07	318	*eP*			P	13 40 34.6	+1.3
	comp=Z,2.9nm,0.9s								
LOHW	**Long Hollow**	81.07	318	*eP*			P	13 40 34.6	+1.3
	comp=Z,2.9nm,0.9s								
U27A	**Thompson Grove**	81.11	309	⇑	P		P	13 40 34.0	+0.5
	baz=81								
P23A	**Jefferson**	81.11	313	⇓	P		P	13 40 34.4	+0.6
	baz=81								
T26A	**Comanche Natio**	81.12	310	⇓	P		P	13 40 34.4	+0.7
	baz=81								
XAN	**Xi'an**	81.14	54		P		P	13 40 34.9	+1.3
XAN					PMZ				
	comp=Z,6.0nm,1.1s								
XAN					LN				
	comp=Z,200nm,15.4s								
XAN					LE				
	comp=Z,200nm,16.7s								
XAN					LZ				
	comp=Z,98nm,22.1s								
W29A	**Amarillo**	81.15	307	⇑	P		P	13 40 34.7	+1.0
	baz=81								
334A	**Lometa**	81.16	302	⇑	P		P	13 40 34.0	+0.3
	baz=81,SNR=8.8								
NEW	**Newport**	81.16	325	*eP*			P	13 40 34.1	+0.6
NEW						pmax	pmax		
	comp=Z,7.0nm,1.1s								
NEW	**Newport**	81.16	325	*eP*			P	13 40 34.0	+0.6
	comp=Z,7.4nm,1.1s								
NEW	**Newport**	81.16	325	*eP*			P	13 40 34.0	+0.6
	comp=Z,7.4nm,1.1s								
NEW	**Newport**	81.16	325	⇓	P		P	13 40 34.7	+1.3
	baz=81								
233A	**Rising Star**	81.21	303	⇓	P		P	13 40 34.6	+0.6
	baz=81								
SNOW	**Snow King Moun**	81.26	318	*eP*			P	13 40 36.3	+1.9
	comp=Z,3.9nm,0.6s								
SNOW	**Snow King Moun**	81.26	318	*eP*			P	13 40 36.3	+1.9
	comp=Z,3.9nm,0.6s								
Z31A	**Sharp Cattle R**	81.26	305	⇓	P		P	13 40 35.6	+1.3
	baz=81								
AMTX	**Amarillo**	81.32	307	⇑	P		P	13 40 36.2	+1.6
	baz=81								
TPAW	**Teton Pass**	81.34	318	*eP*			P	13 40 36.4	+1.6
	comp=Z,7.3nm,1.0s								
TPAW	**Teton Pass**	81.34	318	*eP*			P	13 40 36.4	+1.6
	comp=Z,7.3nm,1.0s								
REDW	**Red Top Meadow**	81.38	318	*eP*			P	13 40 35.2	+0.3
	comp=Z,6.3nm,0.9s								
REDW	**Red Top Meadow**	81.38	318	*eP*			P	13 40 35.2	+0.3
	comp=Z,6.3nm,0.9s								
MCMT	**McKenzie Canyo**	81.45	320	*eP*			P	13 40 36.0	+0.7
	comp=Z,2.4nm,0.9s								
MCMT	**McKenzie Canyo**	81.45	320	*eP*			P	13 40 36.0	+0.7
	comp=Z,2.4nm,0.9s								
434A	**Burnet**	81.49	302	⇑	P		P	13 40 36.3	+0.7
	baz=81								
P22A	**Eagle**	81.52	313	⇑	P		P	13 40 36.4	+0.7
	baz=81								
N20A	**Spence Gulch,**	81.60	315	⇓	P		P	13 40 36.9	+0.8
	baz=81								
T25A	**Trinidad**	81.66	310	⇑	P		P	13 40 36.5	0.0
	baz=81								
333A	**Richland Sprin**	81.68	303	⇓	P		P	13 40 37.5	+1.0
	baz=82								
232A	**Coleman**	81.79	303	⇓	P		P	13 40 37.7	+0.6
	baz=82								
R23A	**Moffat**	81.86	312	⇑	P		P	13 40 39.0	+1.3
	baz=82								
BJI	**Beijing**	81.89	46		P		P	13 40 36.5	-0.8
BJI					S		S	13 50 49.5	-1.0
BJI					SS		SS	13 56 07.8	-0.1
BJI					PMZ				
	comp=Z,21nm,1.2s								
BJI					PMZ				
	comp=Z,92nm,4.0s								
BJI					LN				
	comp=Z,660nm,16.1s								
BJI					LE				
	comp=Z,700nm,18.6s								
BJI					LZ				
	comp=Z,470nm,19.0s								
Z30A	**Sanderson Ranc**	81.93	305	⇓	P		P	13 40 40.1	+2.2
	baz=82								
SDCO	**Great Sand Dun**	81.94	311		P		P	13 40 37.8	-0.3
SDCO	**Great Sand Dun**	81.94	311		P		P	13 40 37.8	-0.3
SDCO	**Great Sand Dun**	81.94	311	⇑	P		P	13 40 38.6	+0.5
	baz=82								
635A	**Leesville**	82.00	300	⇓	P		P	13 40 38.7	+0.6
	baz=82								
O20A	**White River Ci**	82.04	314	⇓	P		P	13 40 38.2	-0.3
	baz=82								
433A	**Art**	82.09	302	⇓	P		P	13 40 39.3	+0.6
	baz=82								
534A	**Blanco**	82.11	301	⇓	P		P	13 40 38.9	+0.1
	baz=82								
KMI	**Kunming**	82.12	65		P		P	13 40 39.0	-0.2
KMI					S		S	13 50 51.4	-2.5
KMI					sS		SKKSac	13 51 02.8	-0.2
KMI					PMZ				
	comp=Z,10.0nm,0.9s								
KMI					LN				
	comp=Z,230nm,17.5s								
KMI					LE				
	comp=Z,140nm,19.9s								
KMI					LZ				
	comp=Z,220nm,17.5s								
332A	**Millersview**	82.16	303	⇑	P		P	13 40 39.4	+0.4
	baz=82								
231A	**Bronte**	82.21	304	⇓	P		P	13 40 39.5	+0.2
	baz=82								
Z29A	**Hungry Hill Ra**	82.33	306	⇓	P		P	13 40 40.2	+0.3
	baz=82								
735A	**Kenedy**	82.34	300	⇑	P		P	13 40 40.4	+0.5
	baz=82								
432A	**Menard**	82.50	303	⇑	P		P	13 40 41.8	+0.9
	baz=82								
MHMT	**Maesarieng**	82.50	73		P		P	13 40 44.3	+3.4
	comp=Z,12nm,0.7s								
MSTX	**Muleshoe**	82.59	307	⇓	P		P	13 40 42.2	+0.8
	baz=82								
331A	**San Angelo**	82.67	303	⇓	P		P	13 40 43.0	+1.3
	baz=82								
835A	**Beeville**	82.70	300	⇑	P		P	13 40 42.8	+0.9
	baz=82								
JCT	**Junction City**	82.75	302	⇓	P		P	13 40 43.3	+1.2
	baz=82								
S22A	**4UR Ranch, Cre**	82.75	312	⇓	P		P	13 40 43.7	+1.3
	baz=82								
Z28A	**Tucker Farm, M**	82.76	306	⇑	P		P	13 40 42.7	+0.5
	baz=82								
CHTO	**Chiang Mai**	82.92	72		P		P	13 40 44.1	+1.0
	comp=Z,36nm,1.3s								
CHTO	**Chiang Mai**	82.92	72		P		P	13 40 43.2	+0.1
CHTO					pmax		pmax		
	comp=Z,14nm,1.4s								
CHTO	**Chiang Mai**	82.92	72		P		P	13 40 43.2	+0.1
	comp=Z,14nm,1.4s								
CHTO	**Chiang Mai**	82.92	72		P		P	13 40 43.2	+0.1
	comp=Z,14nm,1.4s								
CMMT	**Chiang Mai**	82.92	72		P		P	13 40 44.1	+0.9
	comp=Z,10nm,1.2s								
633A	**Saathoff Ranch**	82.94	301	⇓	P		P	13 40 43.8	+0.8
	baz=83								
HWUT	**Hardware Ranch**	82.94	317	*eP*			P	13 40 44.1	+1.0
	comp=Z,15nm,1.5s								
HWUT	**Hardware Ranch**	82.94	317	*eP*			P	13 40 44.1	+1.0
	comp=Z,15nm,1.5s								
532A	**Rocksprings**	83.03	302	⇓	P		P	13 40 44.6	+0.9
	baz=83								
330A	**Mertzon**	83.12	304	⇓	P		P	13 40 45.3	+1.3
	baz=83								
CMAR	**Chiang Mai Arr**	83.12	72		P		P	13 40 44.2	0.0
	comp=Z,2.6nm,0.6s,baz=303,slow=7.6,SNR=20								
CMAR					LR		LR	14 23 01.5	
	comp=Z,89nm,18.4s,baz=292,slow=40								
HLID	**Hailey**	83.13	320	*eP*			P	13 40 45.8	+1.7
	comp=Z,3.0nm,0.8s								
HLID	**Hailey**	83.13	320	*eP*			P	13 40 45.8	+1.7
	comp=Z,3.0nm,0.8s								
HLID	**Hailey**	83.13	320	⇓	P		P	13 40 44.8	+0.7
	baz=83								
431A	**Sonora**	83.17	303	⇓	P		P	13 40 45.9	+1.5
	baz=83,SNR=11								
128A	**Castleberry Fa**	83.24	305	⇑	P		P	13 40 45.3	+0.6
	baz=83								
KLR	**Kul'dur**	83.27	32	*eP*			P	13 40 42.8	-1.6
KLR					pmax		pmax		
	comp=Z,63nm,2.0s								
KLR					MLR		MLR		
	comp=E,700nm,14.0s								
KLR					MLR		MLR		
	comp=Z,2μm,14.0s								
632A	**Uvalde**	83.33	302	⇓	P		P	13 40 46.8	+1.7
	baz=83								
531A	**Rocksprings**	83.45	303	⇓	P		P	13 40 46.5	+0.7
	baz=83								
430A	**Baggett Ranch,**	83.54	303	⇑	P		P	13 40 47.6	+1.4
	baz=83				

CN2 LE
comp=Z,1μm,19.0s
CN2 LZ
comp=Z,100nm,21.0s
LON Longmire 84.44 326 *e*P **P 13 40 50.5 0.0**
LON pmax pmax
comp=Z,10.0nm,0.9s
LON Longmire 84.44 326 *e*P **P 13 40 50.5 0.0**
comp=Z,9.6nm,0.9s
LON Longmire 84.44 326 *e*P **P 13 40 50.5 0.0**
comp=Z,9.6nm,0.9s
DUG Dugway, Tooele 84.60 317 *e*P **P 13 40 52.7 +1.1**
DUG pmax pmax
comp=Z,3.0nm,0.8s
DUG Dugway, Tooele 84.60 317 *e*P **P 13 40 52.7 +1.1**
comp=Z,3.3nm,0.8s
DUG Dugway, Tooele 84.60 317 *e*P **P 13 40 52.7 +1.1**
comp=Z,3.4nm,0.8s
DUG Dugway, Tooele 84.60 317 ⇑P **P 13 40 52.8 +1.2**
baz=84
529A Stev Forest Ra 84.61 303 ⇑P **P 13 40 53.4 +1.6**
baz=84
MSU Marysvale 85.39 315 *e*P **P 13 40 55.9 +0.2**
MSU pmax pmax
comp=Z,5.0nm,1.0s
MSU Marysvale 85.39 315 *e*P **P 13 40 55.9 +0.2**
comp=Z,4.6nm,1.0s
MSU Marysvale 85.39 315 *e*P **P 13 40 55.9 +0.2**
comp=Z,4.6nm,1.0s
MVU Marysvale 85.42 315 *e*P **P 13 40 57.2 +1.3**
comp=Z,3.3nm,0.7s
MVU Marysvale 85.42 315 *e*P **P 13 40 57.1 +1.3**
comp=Z,3.3nm,0.7s
MNTX Cornudas Mount 85.73 306 ⇓P **P 13 40 57.8 +0.6**
baz=86
LPAZ La Paz 85.75 247 P **P 13 40 57.5 -0.6**
comp=Z,1.1nm,0.9s,baz=71,slow=7.0,SNR=3.7
LPAZ LR LR 14 16 53.3
comp=Z,195nm,21.7s,baz=59,slow=34
MDJ Mudanjiang 85.79 36 P **P 13 40 56.4 -0.9**
MDJ pP **PcP 13 40 59.8 -0.3**
MDJ sP **sP 13 41 00.9 -2.9**
MDJ S **SKKSac 13 51 28.5 -1.1**
MDJ PMZ
comp=Z,3.0nm,0.6s
MDJ PMZ
comp=Z,76nm,4.5s
MDJ LN
comp=Z,710nm,25.0s
MDJ LE
comp=Z,650nm,22.6s
MDJ LZ
comp=Z,340nm,18.6s
TXAR Lajitas Array 86.09 304 P **P 13 40 59.4 +0.3**
comp=Z,1.7nm,0.7s,baz=77,slow=5.6,SNR=15
TXAR LR LR 14 19 23.2
comp=Z,267nm,18.1s,baz=0.0,slow=36
TXAR Lajitas Array 86.09 304 P **P 13 40 59.4 +0.3**
TXAR pmax pmax
comp=Z,2.0nm,0.7s
TXAR MLR MLR
comp=Z,267nm,18.1s
WVOR Wild Horse Val 86.11 321 *e*P **P 13 41 00.7 +1.6**
WVOR pmax pmax
comp=Z,6.0nm,1.2s
WVOR Wild Horse Val 86.11 321 *e*P **P 13 41 00.7 +1.6**
comp=Z,6.2nm,1.2s
WVOR Wild Horse Val 86.11 321 *e*P **P 13 41 00.7 +1.6**
comp=Z,6.2nm,1.2s
121A Cookes Peak, D 86.74 308 ⇑P **P 13 41 03.0 +0.6**
baz=86
J05D Fort Rock, OR 86.77 323 ⇑P **P 13 41 02.8 +0.5**
baz=86
WHN Wuhan 86.90 54 P **P 13 41 04.4 +1.4**
I04A Tendick Farm, 86.94 324 ⇓P **P 13 41 04.0 +0.9**
baz=87
WUAZ Wupatki 86.96 313 ⇓P **P 13 41 03.4 0.0**
baz=87
J04D Umpqua Nationa 87.22 324 ⇑P **P 13 41 05.1 +0.5**
baz=87
USRK Ussuriysk Ar. 87.23 35 P **P 13 41 03.6 -0.7**
comp=Z,2.5nm,0.8s,baz=304,slow=3.9,SNR=4.1
USRK LR LR 14 25 21.9
comp=Z,373nm,18.2s,baz=312,slow=39
R11A Troy Canyon, C 87.43 317 ⇑P **P 13 41 06.0 +0.3**
baz=87
PETK Petropavlovsk- 88.36 16 LR LR 14 25 32.7
comp=Z,154nm,18.7s,baz=330,slow=39
KSRS Korea Array 90.27 41 LR LR 14 25 33.5
comp=Z,393nm,18.5s,baz=333,slow=38
KULM Kulim 92.17 82 *e*P **P 13 41 29.3 +1.3**
comp=Z,14nm,0.8s
KULM Kulim 92.17 82 *e*P **P 13 41 29.3 +1.3**
comp=Z,14nm,0.8s
PSI Prapat 92.24 85 P **P 13 41 29.3 +0.8**
comp=Z,5.6nm,0.6s,baz=311,slow=7.6,SNR=5.5
PSI Prapat 92.24 85 P **P 13 41 29.3 +0.8**
PSI pmax pmax
comp=Z,6.0nm,0.6s
MJAR Matsushiro Arr 96.18 36 LR LR 14 29 14.2
comp=Z,289nm,18.2s,baz=320,slow=38
WRA Warramunga Arr 133.69 84 PKhKP PKPpre 13 47 22.5
comp=Z,0.3nm,0.7s,baz=298,slow=1.4,SNR=3.7
WRA PKP **PKiKP 13 47 36.0 -0.3**
comp=Z,1.1nm,0.7s,baz=307,slow=1.6,SNR=13
WRA Warramunga Arr 133.69 84 *i* PKHKP PKPpre 13 47 22.5
WRA 13 47 36.1
WRA pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 135.16 88 PKhKP PKPpre 13 47 23.4
comp=Z,0.3nm,0.6s,baz=302,slow=1.9,SNR=6.9
ASAR PKP **PKiKP 13 47 39.5 +0.2**
comp=Z,0.9nm,0.7s,baz=327,slow=1.9,SNR=9.0
STKA Stephens Creek 144.65 96 PKP PKPbc 13 47 53.7 +0.2
comp=Z,16nm,0.7s,baz=311,slow=3.3,SNR=29
STKA Stephens Creek 144.65 96 PKIKP PKPbc 13 47 53.7 +0.2
STKA pmax pmax
comp=Z,16nm,0.7s
STKA Stephens Creek 144.65 96 *e*PKIKP **PKPab 13 47 52.9 -0.4**
STKA Stephens Creek 144.65 96 *e*PKP **PKPab 13 47 52.9 -0.4**
STKA PKP PKPbc 13 47 53.7 +0.2
PPT2 Papeete2 150.40 301 *e*LR LR 14 37 48.2
comp=Z,212nm,23.0s

CRAAG 23 13:39:22.5, 35°.98N×3°.71E, MI2.9, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKET	**Djebel Ketaf**	**0.15**	**64**	P	Pg	13 39 25.7	0.0
EMHD	**Djebel Mahouad**	**0.65**	**290**	P	Pn	13 39 41.0	+1.8

MAN 23 13:48:12, 16°.16N×120°.94E, h5km, mb4.1, ML2.9, MS2.6, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.41**	**302**	⇑*i*P	Pg	13 48 20.5	+0.3
BCPH				*i* S	Sg	13 48 25.8	+0.1
BALP	**Baler**	**0.74**	**124**	*e*P	Pb	13 48 27.4	0.0
BALP				*e*S	Sn	13 48 39.7	-1.0
BOLP	**Bolinao**	**1.01**	**283**	*e*P	Pb	13 48 32.1	+0.1
CAUP	**Cauayan**	**1.15**	**47**	*e*P	Pg	13 48 33.7	-0.4

*IDC **23** 13:52:00.2±1.1, 5°.72N×125°.80E, h0km, mb3.3/5, mb1 3.5/5, mb1mx3.3/45, mbtmp3.3/5, Error ellipse: s-maj=72.0km s-min=21.4km az=70.0*
*ISCJB **23** 13:52:12.3±0.8, 5°.61N±0°.07×125°.88E±0°.09, h116km, mb3.2/5, Error ellipse: s-maj=12.7km s-min=8.9km az=162.4*
*MAN **23** 13:52:14, 5°.77N×125°.93E, h109km, mb4.8, ML3.8, MS3.8*
ISC 23 13:52:13.7±1.1, 5°.63N±0°.09×125°.85E±0°.09, h116km, n11, σ1°42/14, mb2.9/5, 3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.00**	**297**	⇓*i*P	**Pn**	**13 52 34.5**	**-1.0**
GSPH				*i* S	**Sn**	**13 52 50.8**	**-1.3**
MATI	**Mati**	**1.37**	**17**	*e*P	**Pn**	**13 52 38.1**	**-1.3**
MATI				*e*S	**Sn**	**13 52 56.8**	**-2.1**
CTBH	**Cotabato--PC H**	**2.25**	**315**	⇓*i*P	**Pn**	**13 52 50.4**	**+0.4**
BUKP	**Musuan**	**2.37**	**341**	*e*P	**Pn**	**13 52 53.0**	**+1.3**
BUKP				*e*S	**Sn**	**13 53 19.4**	**-1.5**
BIPH	**Bislig**	**2.59**	**11**	⇓*e*P	**Pn**	**13 52 56.3**	**+1.8**
BIPH				*i* S	**Sn**	13 53 32.7	+6.8
PAGZ	**Pagadian**	**3.30**	**312**	*e*P	**Pn**	**13 53 05.3**	**+1.5**
WRA	**Warramunga Arr**	**26.75**	**162**	P	**P**	**13 57 42.5**	**-0.2**
	0.3nm,0.9s,baz=345,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**30.16**	**165**	P	**P**	**13 58 13.2**	**+0.3**
	0.1nm,0.5s,baz=341,slow=7.4,SNR=4.8						
MKAR	**Makanchi Array**	**55.51**	**325**	P	**P**	**14 01 36.8**	**+0.1**
	0.4nm,0.5s,baz=137,slow=5.1,SNR=7.6						
ZALV	**Zalesovo Beam**	**58.51**	**333**	P	**P**	**14 01 56.6**	**-1.1**
	0.3nm,0.4s,baz=124,slow=5.1,SNR=2.4						
ILAR	**Eielson Array**	**83.78**	**26**	P	**P**	**14 04 31.3**	**+1.5**
	0.1nm,0.6s,baz=260,slow=5.4,SNR=2.6						

*ISCJB **23** 13:53:32.6±1.0, 34°.62S±0°.07×179°.3E±0°.2, h300km, mb2.6/2, Error ellipse: s-maj=19.4km s-min=9.6km az=7.7*
*IDC **23** 13:53:35.0±3.6, 34°.72S×179°.35E, h302km±37km, mb2.6/2, mb1 3.1/4, mb1mx3.0/30, mbtmp3.7/4, Error ellipse: s-maj=54.9km s-min=40.3km az=159.0*
ISC 23 13:53:34.8±1.7, 34°.7S±0°.1×179°.2E±0°.2, h300km, n65, σ0§99/72, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.93**	**195**	SN	**S**	**13 55 12.4**	**-1.3**
WMGZ	**Waiomatatini S**	**3.16**	**192**	PN	**Pn**	**13 54 30.0**	**-2.1**
HAZ	**Te Kaha**	**3.25**	**201**	PN	**Pn**	**13 54 31.4**	**-1.5**
HAZ				SN	**S**	**13 55 19.1**	**-0.2**
PUZ	**Puketiti**	**3.43**	**193**	PN	**Pn**	**13 54 34.2**	**-0.7**
PUZ				SN	**S**	**13 55 23.9**	**+0.9**
TWGZ	**Tauwhareparae**	**3.59**	**196**	*e*PN	**Pn**	**13 54 36.0**	**-0.6**
TWGZ				*e*SN	**S**	**13 55 27.4**	**+1.4**
TKGZ	**Te Karaka**	**3.87**	**196**	*e*PN	**Pn**	**13 54 39.9**	**+0.3**
URZ	**Urewera**	**3.92**	**205**	P	**Pn**	**13 54 40.0**	**-0.1**
	12nm,0.3s,baz=301,slow=2.3,SNR=53						
URZ				S	**S**	**13 55 34.5**	**+2.1**
	25nm,0.3s,baz=19,slow=18,SNR=26						
URZ	**Urewera**	**3.92**	**205**	PN	**Pn**	**13 54 40.2**	**+0.1**
RIGZ	**Rimuhau**	**4.14**	**196**	*e*PN	**Pn**	**13 54 43.2**	**+0.6**
PRGZ	**Paritu Road**	**4.33**	**194**	*e*PN	**Pn**	**13 54 46.0**	**+1.4**
KNZ	**Kokohu**	**4.47**	**196**	PN	**Pn**	**13 54 47.0**	**+0.9**
RAHZ	**Arahi**	**4.53**	**202**	PN	**Pn**	**13 54 47.5**	**+0.6**
NMHZ	**Naumai**	**4.78**	**203**	PN	**Pn**	**13 54 50.8**	**+1.0**
ARHZ	**Aropaoanui**	**4.87**	**201**	PN	**Pn**	**13 54 51.8**	**+1.0**
BKZ	**Black Stump Fm**	**4.95**	**206**	*e*PN	**Pn**	**13 54 52.2**	**+0.5**
MCHZ	**McNeill Hill**	**5.13**	**203**	PN	**Pn**	**13 54 54.8**	**+1.0**
CKHZ	**Cape Kidnapper**	**5.22**	**199**	PN	**Pn**	**13 54 55.6**	**+0.8**
BHHZ	**Black Hill Sta**	**5.39**	**207**	PN	**Pn**	**13 54 56.5**	**-0.4**
KAHZ	**Kahuranaki**	**5.40**	**200**	PN	**Pn**	**13 54 57.8**	**+0.9**
KRHZ	**Kereru**	**5.42**	**204**	PN	**Pn**	**13 54 56.8**	**-0.4**
WNVZ	**Wahianoa**	**5.44**	**211**	PN	**Pn**	**13 54 58.3**	**+0.7**
MOVZ	**Moawhango**	**5.44**	**210**	PN	**Pn**	**13 54 57.6**	**+0.1**
MTVZ	**Mangateitei**	**5.54**	**212**	*e*PN	**Pn**	**13 54 59.8**	**+1.1**
PXZ	**Pawanui**	**5.62**	**199**	PN	**Pn**	**13 54 59.6**	**+0.1**
PNHZ	**Pukenui**	**5.72**	**204**	PN	**Pn**	**13 55 00.8**	**+0.1**
WPHZ	**Waipukurau**	**5.78**	**202**	PN	**Pn**	**13 55 01.3**	**-0.1**
PRHZ	**Porangahau**	**5.91**	**200**	PN	**Pn**	**13 55 02.9**	**0.0**
TSZ	**Takapari Road**	**5.93**	**205**	PN	**Pn**	**13 55 03.0**	**-0.2**
WAZ	**Wanganui**	**6.06**	**213**	PN	**Pn**	**13 55 05.2**	**+0.5**
DVHZ	**Dannevirke**	**6.08**	**203**	*e*PN	**Pn**	**13 55 05.5**	**+0.5**
ANWZ	**Angora Road**	**6.13**	**200**	PN	**Pn**	**13 55 06.2**	**+0.6**
POWZ	**Post Office Ro**	**6.29**	**205**	*e*PN	**Pn**	**13 55 07.3**	**-0.2**
PRWZ	**Pori Road**	**6.37**	**203**	*e*PN	**Pn**	**13 55 09.1**	**+0.7**
BFZ	**Birch Farm**	**6.40**	**201**	*e*PN	**Pn**	**13 55 07.8**	**-1.0**
MRZ	**Mangatainoka R**	**6.60**	**205**	PN	**Pn**	**13 55 08.9**	**-2.4**
CPWZ	**Castlepoint**	**6.62**	**200**	PN	**Pn**	**13 55 13.1**	**+1.6**
HOWZ	**Holdsworth Sta**	**6.83**	**204**	PN	**Pn**	**13 55 13.4**	**-0.7**
HOWZ				SN	**S**	**13 56 32.8**	**-1.4**
OGWZ	**Otaki Gorge**	**6.88**	**207**	PN	**Pn**	**13 55 12.7**	**-1.9**
OGWZ				SN	**S**	**13 56 34.9**	**-0.4**
TMWZ	**Te Maipa**	**6.90**	**202**	PN	**Pn**	**13 55 15.1**	**+0.2**
KIW	**Kapiti Island**	**7.02**	**208**	PN	**Pn**	**13 55 14.2**	**-2.1**
MTW	**Mount Morrison**	**7.07**	**204**	PN	**Pn**	**13 55 16.3**	**-0.8**
CAW	**Cannon Point**	**7.17**	**206**	PN	**Pn**	**13 55 16.0**	**-2.2**
PAWZ	**Paruwai Farm**	**7.29**	**203**	PN	**Pn**	**13 55 19.0**	**-0.7**
MSWZ	**Moikau Station**	**7.38**	**204**	PN	**Pn**	**13 55 20.1**	**-0.7**
DUWZ	**D'Urville Isla**	**7.38**	**213**	PN	**Pn**	**13 55 20.9**	**+0.1**
WEL	**Wellington**	**7.44**	**207**	PN	**Pn**	**13 55 20.7**	**-0.7**
BHW	**Baring Head**	**7.51**	**206**	PN	**Pn**	**13 55 21.3**	**-0.9**
PLWZ	**Palliser**	**7.52**	**203**	PN	**Pn**	**13 55 22.0**	**-0.4**
TCW	**Tory Channel**	**7.57**	**210**	PN	**Pn**	**13 55 22.1**	**-0.9**
TUWZ	**Tuamarina**	**7.89**	**210**	PN	**Pn**	**13 55 24.8**	**-2.0**
BSWZ	**Blackbirch Sta**	**8.15**	**210**	PN	**Pn**	**13 55 30.5**	**+0.3**
THZ	**Tophouse**	**8.61**	**213**	PN	**Pn**	**13 55 35.2**	**-0.7**
KHZ	**Kahutara**	**8.88**	**208**	PN	**Pn**	**13 55 37.5**	**-1.6**
CRLZ	**Canterbury Las**	**10.22**	**208**	PN	**Pn**	**13 55 54.8**	**-0.6**
OXZ	**Oxford**	**10.25**	**211**	PN	**Pn**	**13 55 55.4**	**-0.5**
MQZ	**McQueen's Vall**	**10.32**	**208**	PN	**Pn**	**13 55 55.9**	**-0.8**
WVZ	**Waitaha Valley**	**10.64**	**216**	PN	**Pn**	**13 56 00.7**	**+0.1**
RPZ	**Rata Peaks**	**10.99**	**213**	P	**Pn**	**13 56 05.4**	**+0.4**
	2.2nm,0.3s,baz=20,slow=3.4,SNR=15						
RPZ				S	**S**	**13 58 07.3**	**-0.6**
	1.0nm,0.3s,baz=6.3,slow=18,SNR=8.1						
RPZ	**Rata Peaks**	**10.99**	**213**	PN	**Pn**	**13 56 05.3**	**+0.4**
FOZ	**Fox Glacier**	**11.52**	**217**	PN	**Pn**	**13 56 10.6**	**-0.7**
LBZ	**Lake Benmore**	**11.90**	**213**	*e*PN	**P**	**13 56 16.9**	**-0.6**
ODZ	**Otahua Downs**	**12.23**	**210**	PN	**P**	**13 56 21.7**	**+0.6**
ASAR	**Alice Springs**	**40.78**	**273**	P	**P**	**14 00 48.6**	**+1.0**
	0.2nm,0.4s,baz=109,slow=7.5,SNR=7.4						
WRA	**Warramunga Arr**	**42.17**	**278**	P	**P**	**14 00 59.1**	**+0.3**
	0.2nm,0.5s,baz=117,slow=7.6,SNR=6.8						
FINES	**FINESS Array B**	**148.26**	**336**	PKPbc	**PKPbc**	**14 12 44.3**	**-0.5**
	0.7nm,0.7s,baz=65,slow=2.8,SNR=2.5						

*ISCJB **23** 14:08:07.4±0.5, 20°.79S±0°.09×168°.60E±0°.09, h30km, mb4.2/13, MS3.5/1, Error ellipse: s-maj=15.1km s-min=9.1km az=140.8*
*IDC **23** 14:08:10.0±0.8, 20°.82S×168°.59E, h38km±4km, mb4.0/11, mb1 4.2/12, mb1mx4.0/19, mbtmp4.2/12, ML3.4/1, MS3.4/3, Ms1 3.4/3, ms1mx3.1/23, Error ellipse: s-maj=27.9km s-min=14.3km az=143.0*
*NEIC **23** 14:08:10.6±0.6, 20°.74S×168°.56E, mb4.5/4, Error ellipse: s-maj=17.6km s-min=13.3km az=143.0*
ISC 23 14:08:09.7±0.6, 20°.8S±0°.1×168°.6E±0°.1, h30km, h30km:pP-P, n31, σ1§21/41, mb4.3/13, 2C-1D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.34**	**238**	Pn	**Pn**	**14 08 45.1**	**-1.1**
	8.6nm,0.3s,baz=90,slow=20,SNR=28						
DZM				Sn	**Sn**	**14 09 13.8**	**-0.3**
	76nm,0.3s,baz=89,slow=24,SNR=12						
DZM				LR	LR	14 09 35.0	
	comp=Z,714nm,21.9s,baz=0.0,slow=36						
URZ	**Urewera**	**18.87**	**159**	LR	LR	14 18 20.8	
	comp=Z,67nm,18.2s,baz=358,slow=32						
CTA	**Charters Tower**	**20.93**	**268**	P	**P**	**14 12 49.8**	**-0.4**
	5.2nm,0.9s,baz=87,slow=15,SNR=3.7						
CTAO	**Charters Tower**	**20.93**	**268**	*e*P	Pn	14 12 51.6	-1.2
	24nm,1.0s						
STKA	**Stephens Creek**	**26.49**	**240**	P	**P**	**14 13 44.9**	**+0.4**
	4.4nm,0.8s,baz=61,slow=8.8,SNR=4.9						
STKA				LR	LR	14 23 51.1	
	comp=Z,122nm,18.9s,baz=56,slow=36						
STKA	**Stephens Creek**	**26.49**	**240**	*e*P	**P**	**14 13 46.0**	**+1.4**
WRA	**Warramunga Arr**	**32.07**	**265**	P	**P**	**14 13 33.0**	**-1.3**
	1.4nm,0.9s,baz=94,slow=9.0,SNR=8.5						
WRA				pP	**pP**	**14 14 43.5**	**+0.4**
	4.7nm,1.0s,baz=93,slow=9.4,SNR=15						
AS31	**Alice Springs**	**32.17**	**258**	*e*P	**P**	**14 14 34.7**	**-0.4**
AS31				*e*pP	**pP**	**14 14 45.1**	**+1.2**
AS31				*e*		14 14 54.5	
ASAR	**Alice Springs**	**32.17**	**258**	P	**P**	**14 14 34.7**	**-0.4**
	13nm,0.8s,baz=86,slow=9.3,SNR=106						
ASAR				pP	**pP**	**14 14 45.1**	**+1.2**
	19nm,0.8s,baz=90,slow=6.7,SNR=40						
VNDA	**Vanda**	**56.83**	**182**	P	**P**	**14 17 49.8**	**-1.1**
	1.1nm,0.9s,baz=346,slow=7.7,SNR=4.1						
VNDA	**Vanda**	**56.83**	**182**	*e*P	**P**	**14 17 50.1**	**-0.8**
SBA	**Scott Base**	**57.08**	**180**	*e*P	**P**	**14 17 55.0**	**+2.3**
	4.0nm,0.8s						
QSPA	**South Pole Qui**	**69.23**	**180**	*e*P	**P**	**14 19 14.3**	**+0.7**
	5.8nm,1.1s						
USRK	**Ussuriysk Ar.**	**72.86**	**333**	P	**P**	**14 19 34.7**	**-1.0**
	3.0nm,0.8s,baz=87,slow=8.0,SNR=5.2						
PETK	**Petropavlovsk-**	**74.23**	**353**	P	**P**	**14 19 42.2**	**-1.3**
	3.5nm,0.9s,baz=167,slow=7.1,SNR=8.6						
PETK				pP	**pP**	**14 19 54.8**	**+1.9**
	3.6nm,0.7s,baz=153,slow=10.0,SNR=8.1						
CMAR	**Chiang Mai Arr**	**78.59**	**295**	P	**P**	**14 20 08.7**	**-0.4**
	2.3nm,0.9s,baz=133,slow=4.1,SNR=16						
CMAR				pP	**pP**	**14 20 20.9**	**+2.3**
	2.9nm,0.9s,baz=134,slow=4.3,SNR=9.9						
CHTO	**Chiang Mai**	**78.75**	**295**	*e*P	**P**	**14 20 11.3**	**+1.4**
	2.9nm,0.8s						
SNAA	**Sanae**	**87.55**	**183**	P	P	14 20 51.4	-3.1
ULN	**Ulaanbaatar**	**87.77**	**324**	*e*P	**P**	**14 20 55.8**	**-0.1**
ULN				*e*pP	**pP**	**14 21 06.9**	**+1.4**
SONM	**Songino Array**	**88.12**	**323**	P	**P**	**14 20 56.5**	**-1.1**
	1.0nm,0.7s,baz=126,slow=4.3,SNR=4.1						
SONM				pP	**pP**	**14 21 09.1**	**+1.9**
	1.0nm,0.9s,baz=141,slow=4.8,SNR=3.3						
VNA3	**Neumayer Olymp**	**88.17**	**181**	P	**P**	**14 20 57.5**	**+0.1**
VNA2	**Neumayer--Watz**	**88.45**	**181**	P	**P**	**14 20 56.2**	**-2.5**
	baz=151,slow=2.3						
NVAR	**Mina Array Bea**	**90.31**	**49**	P	**P**	**14 21 07.6**	**-0.6**
	1.7nm,0.8s,baz=227,slow=7.9,SNR=7.0						
NVAR				pP	**pP**	**14 21 19.4**	**+1.5**
	3.0nm,0.8s,baz=226,slow=7.7,SNR=8.0						
ILAR	**Eielson Array**	**91.93**	**18**	P	**P**	**14 21 12.5**	**-2.3**
	0.3nm,0.7s,baz=240,slow=4.3,SNR=6.1						
ILAR				pP	**pP**	**14 21 24.0**	**-0.4**
	0.4nm,0.7s,baz=233,slow=4.7,SNR=4.3						
NKC	**Novy Kostel**	**145.12**	**333**	*e*PKP	**PKPdf**	**14 27 44.4**	**+0.2**
NKC				*ep*PKP	**pPKPdf**	**14 27 54.8**	**+0.7**
NKC				*es*PKP		14 27 59.7	
NKC				*ex*	x	14 28 03.6	
CONA	**Conrad Observa**	**145.16**	**327**	⇓*i*PKPdf	**PKPdf**	**14 27 45.0**	**+0.6**
	11nm,1.6s						
KHC	**Kasperske Hory**	**145.43**	**331**	*e*PKP	**PKPab**	**14 27 45.2**	**+0.3**
KHC				*ep*PKP	**pPKPdf**	**14 27 55.9**	**+1.2**
KHC				*es*PKP		14 28 00.9	
GERES	**GERESS Array B**	**145.57**	**330**	PKPbc	**PKPdf**	**14 27 44.7**	**-0.4**
	2.4nm,0.9s,baz=34,slow=3.4,SNR=20						
GERES				pPKPbc	pPKPbc	14 27 55.5	+0.3
	2.7nm,0.8s,baz=33,slow=3.2,SNR=12						
MOA	**Molln**	**146.00**	**329**	⇑*i*PKPab	**PKPab**	**14 27 47.4**	**+0.3**
	7.7nm,1.1s						
FETA	**Feichten**	**148.28**	**331**	⇑*i*PKiKP	**PKPbc**	**14 27 53.6**	**+0.5**
	4.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**165.32**	**241**	PKP	**PKPdf**	**14 28 11.9**	**-0.2**
	0.2nm,0.4s,baz=94,slow=0.6,SNR=5.0						
TORD				pPKP	**pPKPdf**	**14 28 23.4**	**+1.3**
	1.0nm,0.9s,baz=206,slow=0.7,SNR=5.6						

*CSEM **23** 14:08:49.7, 35°.31N×3°.98E, h0km, ML3.2*
CRAAG 23 14:08:49.7, 35°.30N×3°.98E, MI3.2, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMHD	**Djebel Mahouad**	**1.23**	**317**	P	Pg	14 09 12.7	-0.7
EMHD	**Djebel Mahouad**	**1.23**	**317**	P	Pg	14 09 12.7	-0.7
CKHR	**Kef el Ahmar**	**1.44**	**60**	P	Pn	14 09 15.2	-2.0
CKHR	**Kef el Ahmar**	**1.44**	**60**	P	Pn	14 09 15.2	-2.0
DFRA	**Djebel Bou Aff**	**1.98**	**51**	P	Pn	14 09 23.6	-1.0
DFRA	**Djebel Bou Aff**	**1.98**	**51**	P	Pn	14 09 23.6	-1.0
CTEI	**Djebel Teioual**	**2.12**	**68**	P	Pg	14 09 30.1	-0.4
CTEI	**Djebel Teioual**	**2.12**	**68**	P	Pg	14 09 30.1	-0.4

*CRAAG **23** 14:09:49.9, 35°.47N×4°.06E, MI3.7*
*MDD **23** 14:09:54.4±2.2, 35°.79N×4°.16E, h0km, mb4.2/14, Error ellipse: s-maj=22.2km s-min=14.2km az=131.0, PRXIMO*
*ISCJB **23** 14:09:55.3±0.7, 35°.99N±0°.06×3°.98E±0°.04, h10km, Error ellipse: s-maj=8.2km s-min=4.7km az=4.7*
*CSEM **23** 14:09:55.2±0.4, 35°.83N×4°.07E, h10km, mb4.2, Error ellipse: s-maj=11.5km s-min=5.1km az=177.0*
ISC 23 14:09:54.7±1.1, 35°.86N±0°.07×4°.08E±0°.04, h10km, n52, σ1§19/68, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMHD	**Djebel Mahouad**	**0.98**	**291**	P	**Pg**	**14 10 13.9**	**+0.3**
EMHD	**Djebel Mahouad**	**0.98**	**291**	P	**Pg**	**14 10 13.9**	**+0.3**
EMHD	**Djebel Mahouad**	**0.98**	**291**	P	**Pg**	**14 10 13.9**	**+0.3**
SET	**Setif**	**1.12**	**72**	P	**Pb**	**14 10 16.0**	**-0.3**
SET	**Setif**	**1.12**	**72**	P	**Pb**	**14 10 16.0**	**-0.3**
SET	**Setif**	**1.12**	**72**	P	**Pb**	**14 10 16.0**	**-0.3**
CKHR	**Kef el Ahmar**	**1.17**	**82**	P	**Pb**	**14 10 16.7**	**-0.4**
CKHR	**Kef el Ahmar**	**1.17**	**82**	P	**Pb**	**14 10 16.7**	**-0.4**
CKHR	**Kef el Ahmar**	**1.17**	**82**	P	**Pb**	**14 10 16.7**	**-0.4**
DFRA	**Djebel Bou Aff**	**1.60**	**64**	P	**Pg**	**14 10 26.0**	**+0.5**
DFRA	**Djebel Bou Aff**	**1.60**	**64**	P	**Pg**	**14 10 26.0**	**+0.5**
DFRA	**Djebel Bou Aff**	**1.60**	**64**	P	**Pg**	**14 10 26.0**	**+0.5**
ETRT	**Tiaret**	**2.31**	**259**	P	**Pn**	**14 10 33.3**	**+0.3**
ETRT	**Tiaret**	**2.31**	**259**	P	**Pn**	**14 10 33.3**	**+0.3**
ETRT	**Tiaret**	**2.31**	**259**	P	**Pn**	**14 10 33.3**	**+0.3**
OKGL	**Djebel Kef Gue**	**2.80**	**275**	P	**Pn**	**14 10 39.4**	**-0.2**
	41nm,0.3s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**2.80**	**275**	P	**Pn**	**14 10 39.4**	**-0.2**
	41nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**3.84**	**326**	P	**Pn**	**14 10 54.1**	**+0.2**
	2.3nm,0.2s,SNR=8.3						
EIBI				S	**Sn**	**14 11 38.0**	**-1.1**
	5.5nm,0.3s						
EIBI	**Ibiza**	**3.84**	**326**	P	**Pn**	**14 10 54.1**	**+0.2**
	2.3nm,0.2s,SNR=8.3						
EIBI				S	**Sn**	**14 11 38.0**	**-1.1**
	5.5nm,0.3s						
ETOS	**Mallorca**	**4.03**	**346**	P	**Pn**	**14 10 56.7**	**+0.2**
	1.1nm,0.2s,SNR=5.7						
ETOS				S	**Sn**	**14 11 40.1**	**-3.7**
	3.7nm,0.6s						
ETOS	**Mallorca**	**4.03**	**346**	P	**Pn**	**14 10 56.7**	**+0.2**
	1.1nm,0.2s,SNR=5.7				

EQES	**Quesada**	**6.06 291**	P	**Pn**	**14 11 26.2**	**+1.7**
	4.2nm,0.4s,SNR=13					
EQES			S	**Sn**	**14 12 34.7**	**+0.8**
	4.0nm,0.4s					
EQES	**Quesada**	**6.06 291**	P	**Pn**	**14 11 26.2**	**+1.7**
	4.2nm,0.4s,SNR=13					
EQES			S	**Sn**	**14 12 34.7**	**+0.8**
	4.0nm,0.4s					
EQUE	**Quentar**	**6.20 285**	P	**Pn**	**14 11 27.3**	**+0.8**
	3.8nm,0.4s,SNR=5.7					
EQUE	**Quentar**	**6.20 285**	P	**Pn**	**14 11 27.3**	**+0.8**
	3.8nm,0.4s,SNR=5.7					
EGUA	**Guajares**	**6.25 281**	P	**Pn**	**14 11 27.9**	**+0.9**
	1.7nm,0.3s,SNR=7.9					
EGUA	**Guajares**	**6.25 281**	P	**Pn**	**14 11 27.9**	**+0.9**
	1.7nm,0.3s,SNR=7.9					
EMIR	**Miracle**	**6.37 343**	P	**Pn**	**14 11 30.0**	**+1.4**
	2.7nm,0.3s,SNR=7.9					
EMIR	**Miracle**	**6.37 343**	P	**Pn**	**14 11 30.0**	**+1.4**
	2.7nm,0.3s,SNR=7.9					
SJAF	**Saint Jean de**	**6.68 352**	P	**Pn**	**14 11 34.9**	**+2.0**
	1.8nm,0.5s,SNR=7.9					
SJAF	**Saint Jean de**	**6.68 352**	P	**Pn**	**14 11 34.9**	**+2.0**
	1.8nm,0.5s,SNR=7.9					
ECAB	**El Cabril**	**7.92 289**	P	**Pn**	**14 11 50.2**	**+0.2**
	0.3nm,0.3s,SNR=7.9					
ECAB	**El Cabril**	**7.92 289**	P	**Pn**	**14 11 50.2**	**+0.2**
	0.3nm,0.3s,SNR=7.9					

MAN 23 14:10:58,12.85N×124.03E,h97km,mb4.8,ML3.7,MS3.7, 1C,Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**0.71**	**119**	*eP*	Pn	14 11 17.4	+2.2
CNP				*eS*	Sn	14 11 31.2	+3.1
PVCP	**Virac**	**0.75**	**10**	*i*P	Pn	14 11 17.3	+1.6
PVCP				*i* S	Sn	14 11 31.1	+2.3
BESP	**Borongan**	**1.86**	**132**	*eP*	Pn	14 11 29.8	+1.1

MEX 23 14:13:19.3±0.3,14.55N×92.80W,h32km±126km,MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.22**	**340**	*eP*	Pn	14 13 38.3	-1.9
PCIG				*eS*	Sn	14 13 53.0	-2.6

MAN 23 14:18:34,12.54N×123.48E,h5km,mb4.4,ML3.3,MS3.1, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMPH	**Masbate**	**0.23**	**142**	*eP*	Pg	14 18 39.2	+0.8
MMPH				*i* S	Sg	14 18 43.6	+2.2
AUQP	**San Andres**	**1.11**	**315**	*eP*	Pg	14 18 55.2	-0.1
CNP	**Catarman**	**1.16**	**91**	*eP*	Pg	14 18 55.6	-0.6
CNP				*eS*	Sn	14 19 13.3	+0.3
RCP	**Roxas**	**1.21**	**217**	*eP*	Pg	14 18 57.0	-0.2
RCP				*eS*	Sg	14 19 13.0	+0.1
PVCP	**Virac**	**1.24**	**32**	*eP*	Pg	14 18 56.6	-1.3
PVCP				*eS*	Sg	14 19 11.8	-2.2
GUIM	**Jordan**	**2.09**	**205**	*eP*	Pb	14 19 11.1	-1.3

CSEM 23 14:19:00.5,37.03N×55.82E,h8km,ML3.5
TEH 23 14:19:00.5,37.03N×55.82E,h8km,ML3.5, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ISHV	**Shirvan**	**1.58**	**71**	*e*Pn	Pn	14 19 28.7	-0.5
ISHV				*e*		14 19 55.8	
	comp=Z,12μm,0.2s						
IGLO	**Ghaloghah**	**1.68**	**252**	*e*Pn	Pn	14 19 28.1	-2.5
IGLO				*e*		14 20 01.6	
	comp=Z,8μm,0.4s						
ISFR	**Sfrayin**	**1.74**	**89**	*e*Pn	Pn	14 19 30.7	-0.8
ISFR				*e*		14 19 36.6	
	comp=Z,7μm,0.1s						
ISFR				*e*Sg	Sb	14 19 55.5	0.0
ISFR	**Sfrayin**	**1.74**	**89**	*e*Pn	Pn	14 19 30.7	-0.8
ISFR				*e*Sg	Sb	14 19 55.5	0.0
IKRD	**Kardeh**	**2.17**	**96**	*e*Pn	Pg	14 19 47.9	+5.3
IKRD				*e*		14 20 02.3	
	comp=Z,710nm,0.1s						
IKRD	**Kardeh**	**2.17**	**96**	*e*Pn	Pg	14 19 47.9	+5.3
IANJ	**Anjilo**	**2.19**	**225**	*e*Pn	Pn	14 19 36.0	-1.6
IANJ				*e*		14 20 15.3	
	comp=Z,3μm,0.2s						
IANJ	**Anjilo**	**2.19**	**225**	*e*Pn	Pn	14 19 36.0	-1.6
ISHM	**Shahmirzad**	**2.38**	**240**	*e*Pn	Pn	14 19 40.3	+0.1
ISHM				*e*		14 20 17.7	
	comp=Z,4μm,0.2s						
IAKL	**Akhelmad**	**2.40**	**99**	*e*Pn	Pn	14 19 39.8	-0.6
IAKL				*e*		14 20 30.0	
	comp=Z,1μm,0.3s						
IALA	**Alasht**	**2.60**	**250**	*e*Pn	Pn	14 19 43.0	-0.3
IALA				*e*Sg	Sb	14 20 21.6	+1.3
IALA				*e*		14 20 29.3	
	comp=Z,3μm,0.3s						
IALA	**Alasht**	**2.60**	**250**	*e*Pn	Pn	14 19 43.0	-0.3
IALA				*e*Sg	Sb	14 20 21.6	+1.3
IPAY	**Payeh**	**2.62**	**102**	*e*Pn	Pn	14 19 42.9	-0.6
IPAY				*e*		14 20 35.9	
	comp=Z,1μm,0.3s						
IPAY	**Payeh**	**2.62**	**102**	*e*Pn	Pn	14 19 42.9	-0.5
IFIR	**Firoozkooh**	**2.84**	**242**	*e*Pn	Pn	14 19 47.0	+0.5
IFIR				*e*		14 19 55.3	
	comp=Z,2μm,0.2s						
IFIR	**Firoozkooh**	**2.84**	**242**	*e*Pn	Pn	14 19 47.0	+0.5
ILAS	**Lasjerd**	**2.84**	**235**	*e*Pn	Pn	14 19 45.8	-0.7
ILAS				*e*		14 20 34.0	
	comp=Z,1μm,0.2s						
ILAS	**Lasjerd**	**2.84**	**235**	*e*Pn	Pn	14 19 45.8	-0.7
IPRN	**Peran**	**2.91**	**255**	*e*Pn	Pn	14 19 46.7	-0.6
IPRN				*e*Sg	Sb	14 20 30.6	+1.9
IPRN				*e*		14 20 32.9	
	comp=Z,3μm,0.2s						
IDMV	**Damavand**	**3.39**	**246**	*e*Pn	Pn	14 19 54.4	+0.3
IDMV				*e*		14 20 10.3	
	comp=Z,653nm,0.2s						
IDMV	**Damavand**	**3.39**	**246**	*e*Pn	Pn	14 19 54.3	+0.2
IMYA	**Miami**	**3.51**	**100**	*e*Pn	Pn	14 19 55.1	-0.6
IMYA				*e*		14 21 11.5	
	comp=Z,835nm,0.4s						
IMYA	**Miami**	**3.51**	**100**	*e*Pn	Pn	14 19 55.1	-0.5
IVRN	**Varamin**	**3.89**	**240**	*e*Pn	Pn	14 20 00.0	-0.7
IVRN				*e*		14 20 19.4	
	comp=Z,414nm,0.2s						
IVRN	**Varamin**	**3.89**	**240**	*e*Pn	Pn	14 20 00.0	-0.7
IZEF	**Zefreh**	**5.03**	**216**	*e*Pn	Pn	14 20 15.6	-0.9
IZEF				*e*		14 21 54.3	
	comp=Z,132nm,0.3s						
IZEF	**Zefreh**	**5.03**	**216**	*e*Pn	Pn	14 20 15.6	-1.0
ISAD	**Sadrabad**	**5.40**	**200**	*e*Pn	Pn	14 20 20.4	-1.4
ISAD				*e*		14 22 03.6	
	comp=Z,256nm,0.4s						
ISAD	**Sadrabad**	**5.40**	**200**	*e*Pn	Pn	14 20 20.4	-1.4

CSEM 23 14:25:35.8,35.93N×4.13E,h0km,ML3.7
CRAAG 23 14:25:35.8,35.93N×4.13E,MI3.7,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATAF	**Djebel Tarf**	**0.13**	**115**	P	Pg	14 25 38.8	+0.3
ATAF	**Djebel Tarf**	**0.13**	**115**	P	Pg	14 25 38.8	+0.3
AKET	**Djebel Ketaf**	**0.23**	**300**	P	Pg	14 25 40.8	+0.3
AKET	**Djebel Ketaf**	**0.23**	**300**	P	Pg	14 25 40.8	+0.3
EMHD	**Djebel Mahouad**	**0.99**	**286**	P	Pb	14 25 55.8	-0.3
EMHD	**Djebel Mahouad**	**0.99**	**286**	P	Pb	14 25 55.8	-0.3
SET	**Setif**	**1.06**	**75**	P	Pb	14 25 57.0	-0.2
SET	**Setif**	**1.06**	**75**	P	Pb	14 25 57.0	-0.2
CKHR	**Kef el Ahmar**	**1.12**	**85**	P	Pb	14 25 58.5	+0.2
CKHR	**Kef el Ahmar**	**1.12**	**85**	P	Pb	14 25 58.5	+0.2
DFRA	**Djebel Bou Aff**	**1.54**	**66**	P	Pg	14 26 07.0	+1.5
DFRA	**Djebel Bou Aff**	**1.54**	**66**	P	Pg	14 26 07.0	+1.5
CTEI	**Djebel Teioual**	**1.85**	**85**	P	Pb	14 26 10.6	-0.1
CTEI	**Djebel Teioual**	**1.85**	**85**	P	Pb	14 26 10.6	-0.1
EANR	**'Ain N'Sour**	**2.46**	**271**	P	Pg	14 26 24.6	+1.5
EANR	**'Ain N'Sour**	**2.46**	**271**	P	Pg	14 26 24.6	+1.5

ISCJB 23 14:26:13.9±2.7,21.3N±0.2×101.7E±0.5,h10km,mb3.4/4, Error ellipse: s-maj=76.8km s-min=7.9km az=24.1
IDC 23 14:26:13.8±2.6,21.25N×101.75E,h0km,mb3.5/4, mb1 3.5/5,mb1mx3.3/26,mbtmp3.4/5,ML3.6/1,Error ellipse: s-maj=57.9km s-min=20.2km az=119.0
ISC 23 14:26:16.6±2.7,21.3N±0.3×101.5E±0.5,h10km,n7, σ0.96/9,mb3.4/4,Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**3.71**	**220**	Pn	**Pn**	**14 27 14.7**	**+0.6**
	1.1nm,0.3s,baz=34,slow=12,SNR=10						
CMAR				Pg	**Pg**	**14 27 27.4**	**-0.4**
	4.6nm,0.3s,baz=38,slow=17,SNR=118						
CMAR				Lg	Lg	14 28 15.6	
	1.7nm,0.3s,baz=40,slow=15,SNR=4.8						
KMI	**Kunming**	**3.96**	**17**	Pg	**Pb**	**14 27 27.5**	**+0.9**
KMI				Sg	**Sg**	**14 28 23.1**	**-0.7**
KMI				smax	smax		
	comp=N,48nm,1.1s						
KMI				smax	smax		
	comp=E,32nm,1.5s						
KMI				LR	LR		
	comp=N,260nm,6.6s						
KMI				LR	LR		
	comp=E,420nm,6.0s						
KMI				LR	LR		
	comp=Z,260nm,11.9s						
CD2	**Chengdu**	**9.76**	**12**	*e*P	**Pn**	**14 28 37.0**	**-0.2**
SONM	**Songino Array**	**26.74**	**7**	P	**P**	**14 31 55.5**	**-1.0**
	comp=Z,0.6nm,0.9s,baz=190,slow=7.3,SNR=3.0						
MKAR	**Makanchi Array**	**29.80**	**333**	P	**P**	**14 32 24.5**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=142,slow=7.3,SNR=3.8						
ZALV	**Zalesovo Beam**	**34.95**	**343**	P	**P**	**14 33 09.5**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=158,slow=9.0,SNR=4.0						
GERES	**GERESS Array B**	**72.82**	**316**	P	**P**	**14 37 44.6**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=96,slow=6.0,SNR=2.7						

GUC 23 14:37:12.9±0.6,36.65S×73.01W,h21km±108km,ML4.5, 1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.21**	**203**	*i*P	Pb	14 37 18.6	-0.3
CCSP				*i* S	Sb	14 37 22.1	-0.8
CCSP				AML	AML	14 37 23.2	
	comp=E,111μm,0.5s						
LNV	**Longovilo**	**2.98**	**26**	*e*P	Pn	14 38 00.0	+1.0
CLCH	**Cerro Calan**	**3.82**	**33**	*e*P	Pn	14 38 12.1	+1.5
PEL	**Peldehue**	**3.98**	**29**	*e*P	Pn	14 38 13.5	+0.7
ROCH	**El Roble**	**4.02**	**25**	*e*P	Pn	14 38 15.0	+1.4

ISCJB 23 15:09:18.6±0.8,31.90N±0.03×114.91W±0.05,h4km±6km, Error ellipse: s-maj=6.6km s-min=4.9km az=172.4
NEIC 23 15:09:21.1,32.00N×114.97W,h6km,MD3.6(MEX), ML3.0(ECX),After ECX.
ECX 23 15:09:21.9±0.4,31.91N×114.98W,h6km,MD2.8,ML3.0
MEX 23 15:09:22.1±0.4,31.87N×114.89W,h5km,MD3.6
ISC 23 15:09:19.5±1.3,31.89N±0.03×114.95W±0.04,h9km±11km, n19,σ0.61/30,1C-2D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ECBX	**El Chinero**	**0.42**	**192**	*e*P	**Pg**	**15 09 26.8**	**-0.9**
ECBX				*e*S	**Sg**	**15 09 32.9**	**-0.5**
ECBX				*e*		15 09 33.0	
	comp=N,606nm,0.2s						
CPBX	**Cerro Prieto**	**0.61**	**331**	*e*P	**Pb**	**15 09 33.4**	**+1.0**
CPBX				*e*S	**Sb**	**15 09 41.5**	**+0.5**
CPBX	**Cerro Prieto**	**0.61**	**331**	*e*P9	**Pb**	**15 09 33.0**	**+0.6**
CPBX				*e*S	**Sb**	**15 09 40.9**	**-0.2**
RDX	**Rancho Dawling**	**0.84**	**273**	*e*P	**Pg**	**15 09 36.2**	**+0.3**
RDX				*i* S	**Sg**	**15 09 47.4**	**+0.6**
RDX				IAML		15 09 48.1	
	comp=N,445nm,0.4s						
RDX				*e*		15 09 48.1	
SPX	**San Pedro Mart**	**0.94**	**208**	*e*P	**Pb**	**15 09 38.6**	**+0.3**
SPX				*e*S	**Sb**	**15 09 51.3**	**+0.2**
SPX	**San Pedro Mart**	**0.94**	**208**	*e*P	**Pn**	**15 09 38.9**	**-0.4**
SPX				*e*		15 09 52.4	
	comp=E,244nm,0.3s						
SPIG	**San Pedro Mart**	**0.95**	**208**	*e*P	**Pg**	**15 09 38.3**	**+0.5**
SPIG				*e*S	**Sb**	**15 09 51.2**	**+0.1**
SPIG	**San Pedro Mart**	**0.95**	**208**	*e*P	**Pg**	**15 09 38.3**	**+0.5**
SPIG				*e*S	**Sb**	**15 09 51.2**	**+0.1**
GLA	**Glamis**	**1.17**	**5**	*e*Pg	**Pn**	**15 09 41.0**	**-1.1**
ZAX	**El Zacaton**	**1.19**	**252**	*e*P	**Pn**	**15 09 42.3**	**-0.1**
CBX	**Cerro Bola**	**1.51**	**287**	*e*P	**Pn**	**15 09 46.7**	**-0.3**
CBX				*e*S	**Sn**	**15 10 06.7**	**-0.2**
CBX	**Cerro Bola**	**1.51**	**287**	*e*P	**Pn**	**15 09 46.7**	**-0.3**
CBX				*e*S	**Sn**	**15 10 06.7**	**-0.2**
CBX	**Cerro Bola**	**1.51**	**287**	*e*P2	**Pn**	**15 09 47.3**	**+0.3**
PBX	**Punta Banda**	**1.52**	**265**	*e*P	**Pb**	**15 09 47.7**	**-0.1**
BAR	**Barrett**	**1.66**	**299**	*e*Pn	**Pn**	**15 09 48.0**	**-0.8**
BAR				*e*Pg	**Pb**	**15 09 50.9**	**+0.6**
BAR				*e*Sn	**Sb**	**15 10 11.1**	**-0.2**
214A	**Organ Pipe Nat**	**1.82**	**87**	*e*Pn	**Pn**	**15 09 50.5**	**-0.6**
PFO	**Pinyon Flats O**	**2.13**	**324**	*e*Pn	**Pn**	**15 09 54.5**	**-1.0**
MWC	**Mount Wilson**	**3.50**	**313**	Pg	**Pb**	**15 10 21.0**	**-0.8**
121A	**Cookes Peak, D**	**6.11**	**82**	*e*Pn	**Pn**	**15 10 51.2**	**+1.0**

ISCJB 23 15:18:21.3±0.3,29.79N±0.03×138.80E±0.05,h421km, mb3.4/17,Error ellipse: s-maj=6.1km s-min=4.0km az=179.2
IDC 23 15:18:22.1±0.8,29.81N×138.89E,h420km±8km,mb3.2/17, mb1 3.4/20,mb1mx3.3/31,mbtmp3.9/20,Error ellipse: s-maj=12.3km s-min=8.6km az=79.0
ISC 23 15:18:22.2±0.5,29.85N±0.06×138.90E±0.09,h421km,n46, σ1.39/61,mb3.4/17,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**3.35**	**13**	P	**P**	**15 19 32.2**	**+2.5**
JHJ2				S	**S**	**15 20 26.6**	**+2.0**
CBIJ	**Chichi jima**	**3.99**	**133**	P	**P**	**15 19 35.7**	**+0.3**
CBIJ				S	**S**	**15 20 33.3**	**-1.7**
JCJ	**Chichijima**	**3.99**	**133**	P	**P**	**15 19 35.6**	**+0.2**
	18nm,0.3s,baz=272,slow=23,SNR=13						
JCJ				S	**S**	**15 20 33.5**	**-1.5**
	110nm,0.3s,baz=109,slow=24,SNR=34						
JHHJ	**Haha-jima-NKT**	**4.32**	**137**	P	**P**	**15 19 39.4**	**+0.9**
JHHJ				S	**S**	**15 20 39.0**	**-1.7**
BSO1	**Boso 1**	**5.11**	**20**	P	**P**	**15 19 47.4**	**+2.0**
BSO1				S	**S**	**15 20 55.2**	**+1.6**
BSO3	**Boso 3**	**5.13**	**15**	P	**P**	**15 19 48.0**	**+2.1**
BSO3				*e*S	**S**	**15 20 54.7**	**+0.2**
BSO4	**Boso 4**	**5.27**	**13**	*e*S	**S**	**15 20 57.5**	**0.0**
JHN	**Hanno**	**6.00**	**3**	P	**P**	**15 19 56.2**	**+1.0**
JHU				S	**S**	**15 21 09.3**	**-2.2**
JRY	**Ryogami san**	**6.15**	**0**	P	**P**	**15 19 58.8**	**+1.9**
JRY				*e*S	**S**	**15 21 15.4**	**+0.8**
JYT	**Yasato**	**6.46**	**9**	S	**S**	**15 21 15.8**	**-4.6**
JAG	**Ashikaga**	**6.58**	**4**	P	**P**	**15 20 02.4**	**+0.5**
JAG				S	**S**	**15 21 20.0**	**-2.9**
MJAR	**Matsushiro Arr**	**6.70**	**355**	P	**P**	**15 20 03.6**	**+0.3**
	0.4nm,0.3s,baz=167,slow=11,SNR=4.4						
MJAR				S	**S**	**15 21 27.1**	**+1.7**
	0.5nm,0.3s,baz=164,slow=12,SNR=4.7						
JHO	**Hitachi**	**6.89**	**11**	P	**P**	**15 20 05.8**	**+0.5**
JHO				S	**S**	**15 21 25.9**	**-3.2**
JFK	**Kawauchi**	**7.68**	**12**	*e*S	**S**	**15 21 43.3**	**-1.8**
JMK	**Ichinoseki**	**9.28**	**11**	P	**P**	**15 20 33.7**	**+2.3**
JMK				S	**S**	**15 22 15.7**	**-2.3**
KSRS	**Korea Array**	**11.87**	**313**	P	**P**	**15 21 00.9**	**+0.9**
	0.7nm,0.3s,baz=127,slow=10.0,SNR=16						
PETK	**Petropavlovsk-**	**27.01**	**25**	P	**P**	**15 23 28.8**	**+0.8**
	0.9nm,0.7s,baz=184,slow=4.7,SNR=6.4						
SONM	**Songino Array**	**30.73**	**315**	P	**P**	**15 24 00.4**	**-0.4**
	0.9nm,0.7s,baz=126,slow=8.1,SNR=6.5						
CMAR	**Chiang Mai Arr**	**38.00**	**262**	P	**P**	**15 25 02.6**	**+0.1**
	1.6nm,0.6s,baz=65,slow=5.5,SNR=19						
TAPN	**Taplejung**	**44.71**	**280**	*e*P	**P**	**15 25 56.3**	**-0.2**
	11nm,0.3s						
ODAN	**Odare**	**45.12**	**279**	*e*P	**P**	**15 25 58.7**	**-0.9**
	21nm,0.7s						
ZALV	**Zalesovo Beam**	**45.52**	**318**	P	**P**	**15 26 01.5**	**-0.5**
	0.9nm,0.5s,baz=99,slow=9.2,SNR=4.8						
RAMN	**Ramite**	**45.77**	**280**	*e*P	**P**	**15 26 04.7**	**+0.1**
	17nm,0.4s						
JIRN	**Jiri**	**45.93**	**281**	*e*P	**P**	**15 26 06.5**	**+0.5**
	38nm,0.4s						
GUN	**Gumba**	**46.12**	**281**	*e*P	**P**	**15 26 07.9**	**+0.4**
	13nm,0.3s						
MKAR	**Makanchi Array**	**46.50**	**308**	P	**P**	**15 26 09.4**	**-0.3**
	0.5nm,0.3s,baz=87,slow=7.2,SNR=17						
PKI	**Pulchoki**	**46.62**	**281**	*e*P	**P**	**15 26 10.6**	**-0.6**
PKIN	**Phulchoki**	**46.63**	**281**	*e*P	**P**	**15 26 10.6**	**-0.6**
KKN	**Kakani**	**46.67**	**281**	*e*P	**P**	**15 26 11.6**	**+0.1**
DMN	**Daman**	**46.87**	**281**	*e*P	**P**	**15 26 12.9**	**-0.1**
	7.8nm,0.4s						
GKN	**Gorkha**	**47.16**	**282**	*e*P	**P**	**15 26 14.8**	**-0.3**
KOLN	**Koldanda**	**48.10**	**282**	*e*P	**P**	**15 26 22.4**	**+0.1**
	20nm,0.7s						
WRA	**Warramunga Arr**	**49.70**	**186**	P	**P**	**15 26 33.8**	**-0.2**
	0.8nm,0.3s,baz=1.2,slow=7.9,SNR=41						
WRA				ScP	**ScP**	**15 31 00.0**	**-2.3**
	0.2nm,0.6s,baz=1.4,slow=4.9,SNR=4.8						
ASAR	**Alice Springs**	**53.42**	**186**	P	**P**	**15 27 00.8**	**-0.3**
	0.3nm,0.4s,baz=1.3,slow=6.5,SNR=18						
ASAR				ScP	**ScP**	**15 31 16.7**	**-1.8**
	0.1nm,0.6s,baz=0.5,slow=5.7,SNR=4.1						
ILAR	**Eielson Array**	**56.73**	**30**	P	**P**	**15 27 23.8**	**-0.1**
	0.7nm,0.6s,baz=262,slow=5.2,SNR=23						
ILAR				PcP	**PcP**	**15 28 13.8**	**-0.4**
	0.4nm,0.7s,baz=275,slow=2.9,SNR=4.3						
STKA	**Stephens Creek**	**61.44**	**177**	P	**P**	**15 27 55.9**	**-0.2**
	1.5nm,0.6s,baz=348,slow=8.3,SNR=4.7						
ARCES	**ARCESS Array B**	**69.99**	**340**	P	**P**	**15 28 49.3**	**-0.2**
	1.4nm,0.7s,baz=66,slow=8.4,SNR=15						
YKA	**Yellowknife Ar**	**71.09**	**28**	P	**P**	**15 28 56.4**	**+0.3**
	0.9nm,0.3s,baz=298,slow=6.0,SNR=22						
FINES	**FINESS Array B**	**74.19**	**333**	P	**P**	**15 29 13.9**	**-0.2**
	0.6nm,0.4s,baz=77,slow=4.7,SNR=10						
NB2	**NORSAR Subarra**	**79.97**	**337**	P	**P**	**15 29 45.5**	**-0.5**
	comp=Z,0.1nm,0.5s,baz=53,slow=5.6						
NOA	**NORSAR Array B**	**79.97**	**337**	P	**P**	**15 29 45.7**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=45,slow=5.0,SNR=3.5						
NVAR	**Mina Array Bea**	**81.06**	**51**	P	**P**	**15 29 52.8**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=292,slow=5.7,SNR=10						
BRTR	**Keskin Array B**	**82.02**	**311**	P	**P**	**15 29 57.3**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=90,slow=3.0,SNR=2.9						
PDAR	**Pinedale Array**	**84.26**	**44**	P	**P**	**15 30 08.9**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=284,slow=2.2,SNR=5.1						
TXAR	**Lajitas Array**	**96.21**	**51**	P	**P**	**15 31 04.5**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=294,slow=3.6,SNR=4.8						
LPAZ	**La Paz**	**151.80**	**67**	PKPbc	**PKPbc**	**15 37 29.6**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=310,slow=2.3,SNR=4.6						

IDC 23 15:47:01.9±1.9,52.44N×171.51W,h0km,mb3.5/3, mb1 3.7/4,mb1mx3.3/57,mbtmp3.3/4,ML3.0/1,MS2.4/1, Ms1 2.4/1,ms1mx2.2/23,Error ellipse: s-maj=83.6km s-min=33.2km az=150.0
ISCJB 23 15:47:08.2±0.8,52.1N±0.2×171.23W±0.09,h47km, mb3.5/3,MS2.4/1,Error ellipse: s-maj=23.1km s-min=4.0km az=163.8
NEIC 23 15:47:08.7,52.36N×171.31W,h25km,ML3.2(AEIC),After AEIC.
ISC 23 15:47:09.1±1.0,52.3N±0.2×171.28W±0.08,h47km,n23, σ1.65/18,mb3.3/3,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**1.61**	**65**	P	**Pn**	**15 47 34.0**	**-1.1**
NIKH				S	**Sn**	**15 47 53.8**	**-0.8**
KOFP	**Korovin Flat P**	**1.73**	**269**	P	**Pn**	**15 47 37.6**	**+0.8**
ATKA	**Atka Island**	**1.80**	**267**	P	**Pn**	**15 47 36.9**	**-0.8**
ATKA				S	**Sn**	**15 47 57.8**	**-1.4**
OKFG	**Magazine Ridge**	**2.31**	**61**	P	**Pn**	**15 47 45.5**	**+0.9**
OKFG				S	**Sn**	**15 48 13.7**	**+1.9**
GSMY	**Great Sitkin M**	**2.96**	**266**	P	**Pn**	**15 47 55.0**	**+1.4**
GSMY				S	**Sn**	**15 48 29.1**	**+1.4**
GSCK	**Great Sitkin C**	**3.02**	**266**	P	**Pn**	**15 47 54.7**	**+0.3**
MREP	**Makushin Rep't**	**3.11**	**60**	P	**Pn**	**15 47 57.4**	**+1.7**
UNV	**Unalaska Valle**	**3.26**	**60**	P	**Pn**	**15 47 58.8**	**+1.1**
UNV				S	**Sn**	**15 48 37.6**	**+2.5**
AKRB	**Akutan Reef Bi**	**3.62**	**58**	P	Pn	15 48 06.5	+3.9
ZRO	**Akutan Zero**	**3.64**	**59**	P	Pn	15 48 07.0	+4.0
KIKV	**Kanaga Island**	**3.66**	**265**	P	**Pn**	**15 48 06.1**	**+2.9**
AKGG	**Akutan Green G**	**3.69**	**57**	P	Pn	15 48 07.3	+3.8
ILAR	**Eielson Array**	**17.66**	**36**	P	**Pn**	**15 51 08.4**	**-2.9**
	0.0nm,0.3s,baz=228,slow=8.6,SNR=2.2						
H11N2	**WAKE ISLAND Hy**	**36.71**	**216**	T	T	16 32 47.5	
	baz=29,slow=74,SNR=8.1						
H11N3	**WAKE ISLAND Hy**	**36.72**	**216**	T	T	16 32 48.1	
	baz=29,slow=74,SNR=5.4						
H11N1	**WAKE ISLAND Hy**	**36.73**	**216**	T	T	16 32 48.1	
	baz=29,SNR=4.7						
H11S1	**WAKE ISLAND Hy**	**37.91**	**215**	T	T	16 34 47.8	
	baz=22,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**37.92**	**215**	T	T	16 34 49.0	
	baz=22,slow=76,SNR=8.9						

n9,σ0^{s}**22**/14**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEY	**˜zmir**	**0.07**	**245**	*i* P	**Pg**	**16 39 08.8**	**0.0**
ZEY				*i* S	**Sg**	**16 39 10.4**	**+0.1**
BLCB	**Balcova**	**0.38**	**72**	*e*PG	**Pg**	**16 39 14.3**	**+0.1**
BLCB				*e*SG	**Sg**	**16 39 19.0**	**-0.3**
BLCB	**Balcova**	**0.38**	**72**	*e*Pg	**Pg**	**16 39 14.3**	**+0.1**
BLCB				*e*Sg	**Sg**	**16 39 19.0**	**-0.3**
IZM	**Izmir**	**0.55**	**76**	*e*PG	**Pg**	**16 39 17.8**	**+0.4**
IZM	**Izmir**	**0.55**	**76**	*e*Pg	**Pg**	**16 39 17.8**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.08**	**107**	*e*PG	**Pg**	**16 39 27.5**	**0.0**
AYDB				*e*SG	**Sg**	**16 39 41.6**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.08**	**107**	*e*Pg	**Pg**	**16 39 27.5**	**0.0**
AYDB				*e*Sg	**Sg**	**16 39 41.6**	**0.0**
KULA	**Kula-Manisa**	**1.66**	**81**	*e*PN	**Pb**	**16 39 37.2**	**-0.1**
KULA	**Kula-Manisa**	**1.66**	**81**	*e*Pn	**Pb**	**16 39 37.2**	**-0.1**

IDC ***23*** *16:39:42.8±1.6, 35˚.03S×73˚.13W, h0km, mb3.6/3, mb1 3.7/6, mb1mx3.6/22, mbtmp3.5/6, ML3.4/3, MS3.5/3, Ms1 3.4/3, ms1mx2.9/25, Error ellipse: s-maj=35.6km s-min=28.4km az=100.0*

SJA ***23*** *16:39:44.5±0.4, 35˚.25S×72˚.88W, h208km±30km, ML3.7, MW4.3*

ISCJB ***23*** *16:39:47.0±1.6, 35˚.29S±0˚.06×72˚.7W±0˚.2, h58km±19km, mb3.6/3, MS3.8/1, Error ellipse: s-maj=27.0km s-min=9.1km az=7.8*

GUC ***23*** *16:39:48.1±2.0, 35˚.22S×72˚.45W, h27km±3km, ML4.2*

ISC 23 16:39:50.1±2.0, 35˚.23S±0˚.05×72˚.5W±0˚.1, h37km±2km, n27, σ1^{s}53/29, mb3.6/3, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**0.95**	**131**	⇑*i*P	**Pn**	**16 40 04.9**	**-2.0**
LNCH				*i* S	**Sn**	**16 40 17.4**	**-1.9**
LNV	**Longovilo**	**1.55**	**35**	⇓*i*P	**Pn**	**16 40 13.9**	**-1.2**
LNV				*i* S	**Sn**	**16 40 34.0**	**+0.1**
CCSP	**San Pedro de C**	**1.69**	**197**	*e*P	**Pn**	**16 40 16.9**	**-0.2**
CCSP				*e*S	**Sn**	**16 40 39.1**	**+1.7**
CCSP				AML	AML	16 40 43.9	
	comp=E,3µm,0.4s						
CHCH	**Chadas Angostu**	**1.99**	**50**	*e*P	**Pn**	**16 40 21.1**	**-0.1**
CHCH				*i* S	**Sn**	**16 40 46.3**	**+1.5**
TACH	**Talagante**	**2.02**	**40**	⇑*i*P	**Pn**	**16 40 21.3**	**-0.3**
RCDM	**Rinconada Maip**	**2.22**	**39**	*e*P	**Pn**	**16 40 23.5**	**-0.8**
CLCH	**Cerro Calan**	**2.44**	**42**	⇑*i*P	**Pn**	**16 40 27.6**	**+0.2**
CLCH				*i* S	**Sn**	**16 40 56.8**	**+0.8**
CLCH				AML	AML	16 41 11.1	
	comp=N,2µm,0.6s						
PEL	**Peldehue**	**2.56**	**36**	⇑*i*P	**Pn**	**16 40 28.9**	**-0.2**
PEL				AML	AML	16 41 10.2	
	comp=N,2µm,0.8s						
ROCH	**El Roble**	**2.56**	**29**	⇓*i*P	**Pn**	**16 40 28.9**	**-0.3**
ROCH				AML	AML	16 41 14.3	
	comp=N,992nm,0.5s						
CANA	**Caviahue**	**2.89**	**157**	*e*P	**Pn**	**16 40 35.5**	**+1.8**
AAGR	**Agrelo**	**3.71**	**56**	*i* P	**Pn**	**16 40 47.4**	**+2.5**
ARCO	**CERRO ARCO**	**3.79**	**52**	*i* P	**Pn**	**16 40 48.0**	**+2.0**
ARCO				AML	AML	16 41 50.1	
	comp=Z,77nm,0.7s						
AUSP	**Uspallata**	**3.95**	**42**	*i* P	**Pn**	**16 40 50.2**	**+1.8**
ASAL	**Salagasta**	**4.01**	**50**	*e*P	**Pn**	**16 40 51.1**	**+2.1**
RTLS	**Leoncito**	**4.33**	**39**	*e*P	**Pn**	**16 40 55.0**	**+1.4**
RTCV	**Cerro Valdivia**	**4.70**	**46**	*e*P	**Pn**	**16 40 59.0**	**+0.5**
CFAA	**Coronel Fontan**	**5.06**	**46**	Pn	**Pn**	**16 41 02.7**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=222,slow=14,SNR=89						
CFAA				Sn	Sn	16 42 07.0	+6.2
	comp=Z,0.5nm,0.3s,baz=245,slow=17,SNR=2.7						
CFAA				LR	LR	16 43 06.6	
	comp=Z,12nm,21.6s,baz=238,slow=38						
CFAA	**Coronel Fontan**	**5.06**	**46**	*i* P	**Pn**	**16 41 03.8**	**+0.3**
RTLL	**Cerro Villicun**	**5.13**	**42**	*e*P	**Pn**	**16 41 04.7**	**+0.2**
AMOG	**MOGNA**	**5.43**	**39**	*e*P	**Pn**	**16 41 08.3**	**-0.3**
PLCA	**Paso Flores**	**5.71**	**165**	Pn	**Pn**	**16 41 12.2**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=340,slow=9.6,SNR=19						
PLCA				Lg	Lg	16 42 37.3	
	comp=Z,0.5nm,0.3s,baz=252,slow=20,SNR=1.8						
PLCA				LR	LR	16 43 10.6	
	comp=Z,95nm,18.9s,baz=334,slow=34						
LVC	**Limon Verde**	**12.95**	**15**	LR	LR	16 47 46.3	
	comp=Z,372nm,18.7s,baz=239,slow=38						
LPAZ	**La Paz**	**19.26**	**13**	P	**P**	**16 44 08.5**	**-3.6**
	comp=Z,0.1nm,0.3s,baz=183,slow=12,SNR=2.0						
SIV	**San Ignacio**	**21.71**	**31**	P	**P**	**16 44 36.4**	**-1.6**
	comp=Z,2.5nm,0.6s,baz=223,slow=11,SNR=8.2						
LPIG	**La Paz**	**69.03**	**323**	LR	LR	17 14 33.8	
	comp=Z,55nm,18.4s,baz=196,slow=38						
TXAR	**Lajitas Array**	**70.63**	**331**	P	P	16 50 57.4	-4.4
	comp=Z,0.4nm,0.6s,baz=158,slow=9.7,SNR=2.5						
TORD	**Torodi Ar. Bea**	**84.97**	**70**	P	**P**	**16 52 23.5**	**+1.7**
	comp=Z,0.2nm,0.7s,baz=244,slow=3.7,SNR=2.3						

ISCJB ***23*** *16:48:15.1±0.5, 46˚.52N±0˚.03×9˚.72E±0˚.03, h11km±5km, Error ellipse: s-maj=4.3km s-min=3.2km az=169.0*

CSEM ***23*** *16:48:15.4±0.1, 46˚.52N×9˚.70E, h12km, ML2.4/6, Error ellipse: s-maj=1.4km s-min=0.9km az=155.0*

ROM ***23*** *16:48:15.2±0.1, 46˚.55N×9˚.70E, h10km, Md2.3/11, MI1.7/6, Error ellipse: s-maj=2.4km s-min=1.7km az=157.0*

VIE ***23*** *16:48:15.3±0.2, 46˚.52N×9˚.72E, h10km±1km, mb1.2/5, ML2.0/6, Error ellipse: s-maj=1.7km s-min=1.4km az=173.0 11 km NW of St. Moritz*

ZUR ***23*** *16:48:15.6, 46˚.53N×9˚.69E, h8km±1km, ML2.0/8*

ISC 23 16:48:15.5±0.9, 46˚.54N±0˚.02×9˚.70E±0˚.02, h11km±6km, n46, σ0^{s}84/68, 13C-13D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCEL	**Celerina**	**0.11**	**104**	⇓*i*Pg	**Pg**	**16 48 18.9**	**+0.4**
SCEL				*e*Sg	**Sg**	**16 48 20.8**	**+0.1**
SCEL	**Celerina**	**0.11**	**104**	⇓*i*Pg	**Pg**	**16 48 18.9**	**+0.4**
SCEL				*e*Sg	**Sg**	**16 48 20.8**	**+0.1**
VDL	**Val di Lei**	**0.18**	**253**	⇑*i*Pg	**Pg**	**16 48 19.8**	**+0.3**
	549nm,0.1s						
VDL				*i* Sg	**Sg**	**16 48 22.2**	**-0.1**
	549nm,0.1s						
TUE	**Stuetta**	**0.25**	**256**	⇑*i*Pg	**Pg**	**16 48 20.9**	**+0.1**
	491nm,0.1s						
TUE	**Stuetta**	**0.25**	**256**	Pg	**Pg**	**16 48 20.9**	**+0.1**
TUE				Sg	**Sg**	**16 48 24.2**	**-0.1**
	113nm,0.1s						
TUE	**Stuetta**	**0.25**	**256**	⇑*i*Pg	**Pg**	**16 48 20.9**	**+0.1**
	491nm,0.1s						
TUE				Sg	**Sg**	**16 48 24.2**	**-0.1**
	113nm,0.1s						
BERNI	**Berninapass**	**0.26**	**118**	*i* Sg	**Sg**	**16 48 21.1**	**-3.4**
	379nm,0.2s						
BERNI	**Berninapass**	**0.26**	**118**	⇓*i*Pg	**Pb**	**16 48 24.3**	**+2.0**
	379nm,0.2s						
DAVOX	**Davos/Dischmat**	**0.28**	**27**	*e*Sg	**Sg**	**16 48 21.6**	**-3.5**
	266nm,0.3s						
DAVOX	**Davos/Dischmat**	**0.28**	**27**	⇑*i*Pg	**Pn**	**16 48 24.6**	**-1.2**
	266nm,0.3s						
DAVOX	**Davos/Dischmat**	**0.28**	**27**	⇑*i*Pg	Sg	16 48 21.6	-3.5
DAVOX				Sg	**Sg**	**16 48 25.6**	**+0.5**
DAVOX	**Davos/Dischmat**	**0.28**	**27**	⇑*i*Pg	Sg	16 48 21.6	-3.5
DAVOX				Sg	**Sg**	**16 48 25.6**	**+0.5**
SZER	**Zernez**	**0.32**	**59**	⇑*i*Pg	**Pn**	**16 48 25.6**	**-0.7**
FUORN	**Ofenpass-Fuorn**	**0.40**	**77**	⇑*i*Pg	**Pg**	**16 48 22.2**	**-1.3**
	129nm,0.2s						
FUORN	**Ofenpass-Fuorn**	**0.40**	**77**	Pg	**Pg**	**16 48 23.7**	**+0.2**
FUORN				Sg	**Sg**	**16 48 29.4**	**+0.6**
FUORN	**Ofenpass-Fuorn**	**0.40**	**77**	Pg	**Pg**	**16 48 23.7**	**+0.2**
FUORN				Sg	**Sg**	**16 48 29.4**	**+0.6**
BRMO	**Bormio**	**0.47**	**97**	Pg	**Pg**	**16 48 24.8**	**+0.1**
BRMO				Sg	**Sg**	**16 48 30.7**	**-0.3**
	18nm,0.3s						
BRMO	**Bormio**	**0.47**	**97**	Pg	**Pg**	**16 48 24.8**	**+0.1**
BRMO				Sg	**Sg**	**16 48 30.7**	**-0.3**
	18nm,0.3s						
PLONS	**Plons/SG**	**0.56**	**337**	*e*Sg	**Pg**	**16 48 23.7**	**-2.7**
	62nm,0.3s						
PLONS	**Plons/SG**	**0.56**	**337**	Pg	**Pg**	**16 48 26.8**	**+0.4**
PLONS				Sg	**Sg**	**16 48 34.0**	**+0.2**
	13nm,0.4s						
MOSI	**Grossmontoni**	**0.59**	**82**	Pg	**Pg**	**16 48 27.0**	**-0.1**
	84nm,0.3s						
MOSI	**Grossmontoni**	**0.59**	**82**	Pg	**Pg**	**16 48 27.0**	**-0.1**
	84nm,0.3s						
MOSI				*e*Sg	**Sg**	**16 48 34.7**	**-0.2**
FUSIO	**Fusio**	**0.72**	**264**	⇓*i*Pg	**Pg**	**16 48 29.3**	**-0.2**
	98nm,0.1s						
FUSIO	**Fusio**	**0.72**	**264**	⇓*i*Pg	**Pg**	**16 48 29.2**	**-0.2**
	98nm,0.1s						
MABI	**Malga Bissina**	**0.74**	**130**	Pg	**Pg**	**16 48 29.7**	**-0.2**
MABI	**Malga Bissina**	**0.74**	**130**	Pg	**Pg**	**16 48 29.7**	**-0.2**
DAVA	**Damuels**	**0.76**	**9**	⇑*i*Pg	**Pg**	**16 48 30.7**	**+0.4**
DAVA				⇓*e*Sg	**Sg**	**16 48 41.1**	**+0.8**
	6.9nm,0.2s,SNR=7.8						
DAVA	**Damuels**	**0.76**	**9**	Pg	**Pg**	**16 48 30.7**	**+0.4**
DAVA				Sg	**Sg**	**16 48 41.1**	**+0.8**
	6.9nm,0.2s,SNR=7.8						
MUGIO	**Muggio**	**0.76**	**217**	⇑*i*Pg	**Pg**	**16 48 30.2**	**-0.1**
	49nm,0.2s						
MUGIO	**Muggio**	**0.76**	**217**	Pg	**Pg**	**16 48 30.1**	**-0.2**
MUGIO	**Muggio**	**0.76**	**217**	⇑*i*Pg	**Pg**	**16 48 30.2**	**-0.1**
	49nm,0.2s						
RNI	**Roncone**	**0.86**	**130**	⇓*e*Pg	**Pg**	**16 48 32.0**	**-0.1**
RNI				*e*Sg	**Sg**	**16 48 43.3**	**0.0**
RNI	**Roncone**	**0.86**	**130**	⇓*e*Pg	**Pg**	**16 48 32.0**	**-0.1**
RNI				*e*Sg	**Sg**	**16 48 43.3**	**0.0**
FETA	**Feichten**	**0.86**	**55**	⇑*i*Pg	**Pg**	**16 48 31.8**	**-0.3**
FETA				⇓*i*Sg	**Sg**	**16 48 43.1**	**-0.3**
	3.9nm,0.1s						
FETA	**Feichten**	**0.86**	**55**	Pg	**Pg**	**16 48 31.8**	**-0.3**
FETA				Sg	**Sg**	**16 48 43.1**	**-0.3**
	3.9nm,0.1s						
VARE	**Varese**	**0.93**	**224**	*e*Pg	**Pg**	**16 48 33.5**	**+0.2**
	244nm,0.3s						
VARE	**Varese**	**0.93**	**224**	Pg	**Pg**	**16 48 33.6**	**+0.2**
	32nm,0.2s						
VARE	**Varese**	**0.93**	**224**	*e*Pg	**Pg**	**16 48 33.5**	**+0.2**
	244nm,0.3s						
MAGA	**Magasa**	**1.00**	**139**	Pg	**Pb**	**16 48 35.0**	**+0.1**
	24nm,0.3s						
MAGA	**Magasa**	**1.00**	**139**	Pg	**Pb**	**16 48 35.0**	**+0.1**
	24nm,0.3s						
ABSI	**Aberstueckl**	**1.14**	**80**	⇓*e*Pg	**Pb**	**16 48 37.3**	**0.0**
ABSI				*e*Sg	**Sb**	**16 48 51.7**	**-0.4**
RETA	**Reutte**	**1.20**	**37**	⇓*e*Pg	**Pg**	**16 48 38.7**	**+0.1**
	SNR=6.0						
RETA				⇑*i*Sg	**Sn**	**16 48 55.2**	**+0.5**
	2.6nm,0.2s						
RETA	**Reutte**	**1.20**	**37**	Pg	**Pg**	**16 48 38.7**	**+0.1**
	SNR=6.0						
RETA				Sg	**Sn**	**16 48 55.2**	**+0.5**
	2.6nm,0.2s						
MOTA	**Moosalm**	**1.26**	**49**	⇓*i*Pn	**Pn**	**16 48 39.0**	**-0.2**
MOTA				⇓*i*Sn	**Sg**	**16 48 57.0**	**+0.9**
MOTA	**Moosalm**	**1.26**	**49**	Pn	**Pn**	**16 48 39.0**	**-0.2**
MOTA				Sn	**Sg**	**16 48 57.0**	**+0.9**

IDC ***23*** *16:49:19.8±1.9, 7˚.83S×124˚.69E, h0km, mb3.4/1, mb1 4.2/4, mb1mx3.7/21, mbtmp3.9/4, ML4.2/3, Error ellipse: s-maj=58.1km s-min=28.5km az=75.0*

DJA ***23*** *16:49:35.7±0.8, 9˚S±5˚×12˚4E±˚, h123km±8km, M3.8/7, mb4.1/1, MLv3.6/7*

ISC 23 16:49:34.1±1.4, 8˚.67S±0˚.09×123˚.94E±0˚.08, h96km, n11, σ2^{s}58/15, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.13**	**163**	P	**Pn**	**16 49 58.0**	**+2.2**
SOEI				S	**Sn**	**16 50 15.5**	**+3.4**
BATI	**Baumata**	**1.55**	**190**	P	**Pn**	**16 50 02.2**	**+1.4**
BATI				S	**Sn**	**16 50 21.6**	**+0.5**
BATI	**Baumata**	**1.55**	**190**	Pn	**Pn**	**16 50 02.4**	**+1.5**
	44nm,0.3s,baz=41,slow=5.7,SNR=104						
BATI				Sn	**Sn**	**16 50 25.0**	**+3.9**
	72nm,0.3s,baz=311,slow=20,SNR=40						
MMRI	**Maumere**	**1.69**	**271**	P	**Pn**	**16 50 03.9**	**+1.5**
MMRI				S	**Sn**	**16 50 26.6**	**+2.6**
EDFI	**Ende, Flores**	**2.23**	**268**	P	**Pn**	**16 50 10.9**	**+1.3**
WSI	**Waingapu**	**3.73**	**254**	P	**Pn**	**16 50 28.7**	**-0.9**
WSI				S	**Sn**	**16 51 11.6**	**-1.0**
BSSI	**Bau Bau, Buton**	**4.24**	**306**	P	**Pn**	**16 50 38.2**	**+1.7**
BKSI	**Bulukumba**	**5.04**	**311**	P	**Pn**	**16 50 49.2**	**+1.9**
WRA	**Warramunga Arr**	**15.06**	**139**	Pn	**Pn**	**16 52 57.2**	**-4.6**
	1.1nm,0.3s,baz=319,slow=13,SNR=82						
WRA				Sn	Sn	16 55 37.1	-11
	1.0nm,0.3s,baz=302,slow=22,SNR=12						
ASAR	**Alice Springs**	**17.70**	**149**	P	**P**	**16 53 32.2**	**-1.9**
	0.6nm,0.3s,baz=326,slow=12,SNR=45						
ASAR				S	Sn	16 56 41.2	-11
	0.2nm,0.3s,baz=311,slow=20,SNR=6.6						
MKAR	**Makanchi Array**	**66.50**	**330**	P	P	17 00 09.2	-4.3
	0.2nm,0.8s,baz=133,slow=4.8,SNR=3.6						

NIED ***23*** *16:49:00, 37˚.70N×134˚.40E, h440km, Mw4.1 Best double couple: M0 1.69000×10^{15} NP1:φs310.00000°, δ29.00000°, λ35.00000°. NP2:φs188.00000°, δ74.00000°, λ114.00000°.*

ISCJB ***23*** *16:49:54.8±0.3, 37˚.82N±0˚.05×134˚.35E±0˚.07, h400km, mb3.6/15, Error ellipse: s-maj=7.7km s-min=6.4km az=35.0*

JMA ***23*** *16:49:54.6±0.1, 37˚.73N×134˚.40E, h412km±2km, M3.5*

IDC ***23*** *16:49:55.4±1.0, 37˚.70N×134˚.26E, h397km±10km, mb3.3/15, mb1 3.5/19, mb1mx3.3/39, mbtmp4.0/19, Error ellipse: s-maj=12.5km s-min=10.5km az=73.0*

ISC 23 16:49:55.5±0.5, 37.78N±0˚.07×134.39E±0˚.06, h400km, n29, σ1^{s}03/37, mb3.6/15, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAI	**Saigo**	**1.78**	**209**	P	**Pn**	**16 50 50.4**	**+0.1**
SAI				S	**S**	**16 51 34.8**	**+0.4**
JKG	**Kaga**	**2.16**	**133**	P	**Pn**	**16 50 52.8**	**+0.3**
JSZ	**Suzu**	**2.38**	**97**	P	**Pn**	**16 50 54.6**	**+0.6**
JWT	**Wachi**	**2.62**	**162**	P	**Pn**	**16 50 55.8**	**0.0**
JWT				S	**S**	**16 51 43.5**	**-1.0**
JGM	**Miyama**	**2.79**	**137**	P	**Pn**	**16 50 56.9**	**-0.3**
JHS	**Saijyo**	**2.96**	**201**	P	**Pn**	**16 50 58.3**	**-0.2**
JSD	**Sado**	**3.07**	**84**	P	**Pn**	**16 50 59.5**	**+0.2**
JSD				S	**S**	**16 51 50.1**	**-0.8**
JGT	**Gotsu**	**3.21**	**212**	P	**Pn**	**16 51 00.4**	**-0.1**
JGT				S	**S**	**16 51 52.6**	**-0.5**
MAT	**Matsushiro**	**3.29**	**111**	P	**Pn**	**16 51 01.0**	**-0.2**
MJAR	**Matsushiro Arr**	**3.29**	**111**	P	**Pn**	**16 51 01.8**	**+0.6**
	11nm,0.3s,baz=288,slow=18,SNR=156						
KSRS	**Korea Array**	**5.15**	**268**	P	**Pn**	**16 51 18.6**	**-0.4**
	0.8nm,0.3s,baz=84,slow=11,SNR=23						
USRK	**Ussuriysk Ar.**	**6.67**	**345**	P	**Pn**	**16 51 36.1**	**+0.8**
	0.5nm,0.3s,baz=156,slow=10,SNR=7.5						
ASAJ	**Asahikawa**	**8.87**	**42**	P	**Pn**	**16 51 59.8**	**-0.5**
	5.5nm,0.3s,baz=228,slow=12,SNR=51						
ASAJ				S	**S**	**16 53 38.0**	**-4.7**
	1.2nm,0.3s,baz=294,slow=20,SNR=11						
SONM	**Songino Array**	**22.75**	**305**	P	**P**	**16 54 25.0**	**0.0**
	2.9nm,0.4s,baz=112,slow=9.9,SNR=31						
CMAR	**Chiang Mai Arr**	**36.42**	**248**	P	**P**	**16 56 23.4**	**-0.9**
	1.1nm,0.4s,baz=44,slow=8.6,SNR=4.7						
ZALV	**Zalesovo Beam**	**37.27**	**312**	P	**P**	**16 56 30.5**	**-0.4**
	1.3nm,0.3s,baz=108,slow=9.3,SNR=9.1						
ZALV				ScP	**S**	**17 01 48.2**	**+0.4**
	0.2nm,0.3s,baz=99,slow=4.5,SNR=3.5						
MKAR	**Makanchi Array**	**38.95**	**300**	P	**P**	**16 56 44.4**	**-0.4**
	0.8nm,0.4s,baz=88,slow=7.2,SNR=15						
MKAR				ScP	**ScP**	**17 01 55.2**	**-0.1**
	0.2nm,0.7s,baz=81,slow=4.5,SNR=2.2						
ILAR	**Eielson Array**	**51.86**	**32**	P	**P**	**16 58 25.4**	**+1.0**
	1.1nm,0.6s,baz=287,slow=9.6,SNR=19						
WRA	**Warramunga Arr**	**57.41**	**180**	P	**P**	**16 59 03.5**	**-0.7**
	1.7nm,0.5s,baz=356,slow=7.7,SNR=16						
WRA				PcP	**PcP**	**16 59 52.8**	**0.0**
	0.3nm,0.4s,baz=356,slow=4.5,SNR=3.2						
CTA	**Charters Tower**	**58.63**	**167**	P	**P**	**16 59 12.2**	**-0.3**
	4.5nm,0.8s,baz=334,slow=7.7,SNR=4.0						
ASAR	**Alice Springs**	**61.12**	**181**	P	**P**	**16 59 28.5**	**-0.6**
	2.4nm,1.0s,baz=0.7,slow=5.8,SNR=9.4						
ARCES	**ARCESS Array B**	**61.26**	**338**	P	**P**	**16 59 29.7**	**+0.1**
	1.2nm,0.7s,baz=68,slow=8.0,SNR=6.6						
FINES	**FINESS Array B**	**65.46**	**330**	P	**P**	**16 59 56.8**	**0.0**
	1.7nm,0.8s,baz=86,slow=6.0,SNR=11						
YKA	**Yellowknife Ar**	**65.89**	**28**	P	**P**	**17 00 00.3**	**+0.8**
	0.3nm,0.5s,baz=324,slow=6.1,SNR=5.4						
AKASG	**Malin Array Be**	**70.19**	**319**	P	**P**	**17 00 25.7**	**-0.4**
	0.6nm,0.4s,baz=50,slow=6.1,SNR=5.9						
NVAR	**Mina Array Bea**	**78.90**	**50**	P	**P**	**17 01 17.3**	**+1.2**
	0.6nm,0.5s,baz=313,slow=5.5,SNR=3.5						
PDAR	**Pinedale Array**	**81.00**	**42**	P	**P**	**17 01 28.2**	**+1.0**
	0.8nm,0.8s,baz=31,slow=2.5,SNR=7.4						
TXAR	**Lajitas Array**	**93.94**	**48**	P	**P**	**17 02 31.0**	**+1.6**
	0.3nm,0.5s,baz=288,slow=2.9,SNR=5.7						
LPAZ	**La Paz**	**150.81**	**49**	PKPbc	**PKPbc**	**17 09 03.3**	**+0.7**
	0.9nm,0.6s,baz=333,slow=4.5,SNR=3.5						

CRAAG ***23*** *16:51:57.8, 36˚.50N×4˚.86E, Ml3.2*

ISCJB ***23*** *16:52:00.9±0.5, 36˚.81N±0˚.03×4˚.78E±0˚.05, h13km, Error ellipse: s-maj=6.0km s-min=4.1km az=143.7*

CSEM ***23*** *16:52:01.6±0.3, 36˚.67N×4˚.77E, h10km, ML3.2, Error ellipse: s-maj=7.6km s-min=6.0km az=32.0*

MDD ***23*** *16:52:02.2±0.7, 36˚.66N×4˚.71E, h0km, mb4.1/9, Error ellipse: s-maj=7.8km s-min=7.2km az=78.0, PRXIMO*

ISC 23 16:52:00.5±0.9, 36˚.64N±0˚.04×4˚.83E±0˚.04, h13km, n56, σ1^{s}45/70, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET	**Setif**	**0.64**	**133**	P	**Pg**	**16 52 12.0**	**-0.9**
SET	**Setif**	**0.64**	**133**	P	**Pg**	**16 52 12.0**	**-0.9**
CKHR	**Kef el Ahmar**	**0.83**	**138**	P	Pg	16 52 12.5	-4.1
CKHR	**Kef el Ahmar**	**0.83**	**138**	P	Pg	16 52 12.5	-4.1
DFRA	**Djebel Bou Aff**	**0.85**	**96**	P	**Pg**	**16 52 16.0**	**-1.0**
DFRA	**Djebel Bou Aff**	**0.85**	**96**	P	**Pg**	**16 52 16.0**	**-1.0**
ATAF	**Djebel Tarf**	**0.88**	**210**	P	Pn	16 52 23.5	+4.8
ATAF	**Djebel Tarf**	**0.88**	**210**	P	Pn	16 52 23.5	+4.8
ATAF	**Djebel Tarf**	**0.88**	**210**	P	Pn	16 52 23.5	+4.8
AKET	**Djebel Ketaf**	**0.96**	**232**	P	**Pb**	**16 52 18.6**	**-0.5**
AKET	**Djebel Ketaf**	**0.96**	**232**	P	**Pb**	**16 52 18.6**	**-0.5**
AKET	**Djebel Ketaf**	**0.96**	**232**	P	**Pb**	**16 52 18.6**	**-0.5**
ADJB	**Djebel Djouab**	**1.22**	**247**	P	**Pn**	**16 52 23.5**	**+0.2**
ADJB	**Djebel Djouab**	**1.22**	**247**	P	**Pn**	**16 52 23.5**	**+0.2**
ADJB	**Djebel Djouab**	**1.22**	**247**	P	**Pn**	**16 52 23.5**	**+0.2**
CASM	**Ain Smara**	**1.40**	**105**	P	**Pg**	**16 52 28.1**	**+0.8**
CASM	**Ain Smara**	**1.40**	**105**	P	**Pg**	**16 52 28.1**	**+0.8**
CASM	**Ain Smara**	**1.40**	**105**	P	**Pg**	**16 52 28.1**	**+0.8**
CTEI	**Djebel Teioual**	**1.40**	**114**	P	**Pn**	**16 52 27.0**	**+1.2**
CTEI	**Djebel Teioual**	**1.40**	**114**	P	**Pn**	**16 52 27.0**	**+1.2**
CTEI	**Djebel Teioual**	**1.40**	**114**	P	**Pn**	**16 52 27.0**	**+1.2**
CKFL	**Kef-Lekhel**	**1.54**	**98**	P	**Pg**	**16 52 31.7**	**+1.5**
CKFL	**Kef-Lekhel**	**1.54**	**98**	P	**Pg**	**16 52 31.7**	**+1.5**
CKFL	**Kef-Lekhel**	**1.54**	**98**	P	**Pg**	**16 52 31.7**	**+1.5**
EMHD	**Djebel Mahouad**	**1.57**	**254**	P	**Pb**	**16 52 30.5**	**+1.0**
EMHD	**Djebel Mahouad**	**1.57**	**254**	P	**Pb**	**16 52 30.5**	**+1.0**
EMHD	**Djebel Mahouad**	**1.57**	**254**	P	**Pb**	**16 52 30.5**	**+1.0**
CAEH	**'Ain El Ouahch**	**1.63**	**84**	P	**Pn**	**16 52 29.2**	**+0.3**
CAEH	**'Ain El Ouahch**	**1.63**	**84**	P	**Pn**	**16 52 29.2**	**+0.3**
CAEH	**'Ain El Ouahch**	**1.63**	**84**	P	**Pn**	**16 52 29.2**	**+0.3**
ETOS	**Mallorca**	**3.50**	**334**	P	**Pn**	**16 52 55.5**	**+0.9**
	3.3nm,0.2s,SNR=28						
ETOS				S	**Sn**	**16 53 34.4**	**-1.6**
	6.5nm,0.3s,SNR=4.6						
ETOS	**Mallorca**	**3.50**	**334**	P	**Pn**	**16 52 55.5**	**+0.9**
	3.3nm,0.2s,SNR=28						
ETOS				S	**Sn**	**16 53 34.4**	**-1.6**
	6.5nm,0.3s,SNR=4.6						
EIBI	**Ibiza**	**3.64**	**312**	P	**Pn**	**16 52 57.6**	**+1.1**
	2.0nm,0.1s,SNR=10						
EIBI				S	**Sn**	**16 53 38.3**	**-1.1**
	3.8nm,0.2s,SNR=6.2						
EIBI	**Ibiza**	**3.64**	**312**	P	**Pn**	**16 52 57.6**	**+1.1**
	2.0nm,0.1s,SNR=10						
EIBI				S	**Sn**	**16 53 38.3**

TSI	**Tuntungan**	**4.88**	**88**	P		**Pn**	**17 10 28.8**	**+1.0**
PSI	**Prapat**	**5.27**	**96**	Pn		**Pn**	**17 10 32.4**	**-0.9**
	15nm,0.3s,baz=302,slow=10.0,SNR=24							
PSI				Sn		**Sn**	**17 11 35.1**	**+1.4**
	3.9nm,0.3s,baz=327,slow=20,SNR=5.9							
MNSI	**Mandailing Nat**	**6.43**	**113**	P		**Pn**	**17 10 48.5**	**-0.7**
MNSI				S		Sn	17 11 47.9	-14
KULM	**Kulim**	**7.21**	**74**	⇑P		**Pn**	**17 11 00.6**	**+0.8**
IPM	**Ipoh**	**7.42**	**81**	⇑P		**Pn**	**17 11 03.2**	**+0.5**
FRIM	**Kepong**	**7.94**	**91**	⇑P		**Pn**	**17 11 10.6**	**+0.8**
BKNI	**Bangkinang**	**7.96**	**112**	P		**Pn**	**17 11 09.4**	**-0.7**
BKNI				S		Sn	17 12 23.4	-16
SDSI	**Sungai Dareh**	**8.85**	**119**	P		**Pn**	**17 11 22.1**	**-0.3**
KGM	**Kluang**	**9.73**	**98**	⇑P		**Pn**	**17 11 35.1**	**+0.7**
MYKOM	**Kota Tinggi**	**10.29**	**99**	⇓P		**Pn**	**17 11 42.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**15.85**	**19**	Pn		**Pn**	**17 12 56.4**	**-1.2**
	0.1nm,0.3s,baz=215,slow=14,SNR=10							
CMAR				LR		LR	17 20 05.5	
	comp=Z,114nm,19.5s,baz=210,slow=41							
LEM	**Lembang**	**17.22**	**126**	LR		LR	17 19 24.5	
	comp=Z,118nm,18.3s,baz=290,slow=36							
H08S2	**Diego Garcia H**	**23.80**	**243**	T		T	17 39 18.7	
	baz=62,slow=75,SNR=902							
H08S3	**Diego Garcia H**	**23.80**	**243**	T		T	17 39 18.7	
	baz=62,slow=75,SNR=848							
H08S1	**Diego Carcia H**	**23.82**	**243**	T		T	17 39 17.5	
	baz=62,slow=75,SNR=1000							
KAPI	**Kappang**	**27.35**	**108**	LR		LR	17 25 17.6	
	comp=Z,57nm,20.7s,baz=322,slow=35							
H01W3	**Cape Leeuwin H**	**42.64**	**155**	T		T	18 02 38.4	
	baz=331,slow=76,SNR=62							
H01W2	**Cape Leeuwin H**	**42.65**	**155**	T		T	18 02 37.7	
	baz=331,slow=76,SNR=69							
H01W1	**Cape Leeuwin H**	**42.66**	**155**	T		T	18 02 39.5	
	baz=331,slow=76,SNR=53							
MKAR	**Makanchi Array**	**44.37**	**349**	P		**P**	**17 17 24.8**	**+0.2**
	1.0nm,0.5s,baz=182,slow=7.6,SNR=19							
MKAR				LR		LR	17 40 05.5	
	comp=Z,27nm,18.1s,baz=179,slow=42							
SONM	**Songino Array**	**45.63**	**12**	P		**P**	**17 17 34.6**	**-0.1**
	1.1nm,0.8s,baz=185,slow=9.0,SNR=8.9							
WRA	**Warramunga Arr**	**46.17**	**122**	P		**P**	**17 17 39.3**	**+0.1**
	0.6nm,0.5s,baz=300,slow=8.9,SNR=11							
ASAR	**Alice Springs**	**47.51**	**127**	P		**P**	**17 17 49.7**	**-0.1**
	0.9nm,0.9s,baz=297,slow=7.5,SNR=7.6							
ZALV	**Zalesovo Beam**	**50.93**	**353**	P		**P**	**17 18 15.6**	**+0.2**
	1.0nm,0.3s,baz=184,slow=7.8,SNR=7.9							
ZALV				LR		LR	17 44 24.2	
	comp=Z,36nm,18.4s,baz=70,slow=42							
MJAR	**Matsushiro Arr**	**52.57**	**45**	LR		LR	17 42 02.1	
	comp=Z,18nm,18.2s,baz=95,slow=38							
GNI	**Garni**	**57.30**	**317**	LR		LR	17 45 10.7	
	comp=Z,16nm,18.4s,baz=108,slow=38							
ARCES	**ARCESS Array B**	**79.32**	**341**	LR		LR	17 59 51.1	
	comp=Z,36nm,18.2s,baz=18,slow=38							
GERES	**GERESS Array B**	**80.87**	**319**	P		**P**	**17 21 29.2**	**+0.8**
	0.1nm,0.3s,baz=102,slow=4.1,SNR=2.9							

*SJA **23** 17:12:22.4±0.7, 36.°95S×73.°95W, h10km, ML4.0, MW3.2*
*ISCJB **23** 17:12:24.4±1.2, 36.°10S±0.°04×73.°70W±0.°06, h3km±7km, mb3.7/3, MS3.8/8, Error ellipse: s-maj=8.6km s-min=6.9km az=27.2*
*IDC **23** 17:12:26.1±1.5, 36.°12S×73.°41W, h0km, mb3.7/4, mb1 4.0/7, mb1mx3.8/28, mbtmp3.8/7, ML3.6/2, MS3.7/9, Ms1 3.7/9, ms1mx3.5/24, Error ellipse: s-maj=35.1km s-min=19.6km az=79.0*
*GUC **23** 17:12:28.4±0.5, 36.°17S×73.°47W, h10km±3km, ML4.2*
ISC 23 17:12:26.1±2.4, 36.°16S±0.°04×73.°50W±0.°09, h2km±14km, n33, σ1§00/35, mb3.8/3, MS3.8/8, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.58**	**87**	*e*P		**Pb**	**17 12 39.5**	**+0.6**
COCH				*e*S		**Sb**	**17 12 47.7**	**+0.2**
CCSP	**San Pedro de C**	**0.75**	**155**	*e*P		**Pb**	**17 12 42.5**	**+0.6**
CCSP				*e*S		**Sn**	**17 12 53.7**	**-1.9**
CCSP				AML		AML	17 12 55.7	
	comp=N,19μm,1.2s							
LNCH	**Linares**	**1.57**	**79**	*e*P		**Pg**	**17 12 56.1**	**-0.1**
LNCH				*e*S		**Sg**	**17 13 17.1**	**+0.5**
LNCH				AML		AML	17 13 32.2	
	comp=N,7μm,0.7s							
TALC	**Talca**	**1.70**	**64**	*e*P		**Pb**	**17 12 57.9**	**-0.2**
TALC				*e*S		**Sg**	**17 13 20.7**	**+0.1**
NICH	**Los Niches**	**2.18**	**59**	*e*P		**Pb**	**17 13 06.3**	**0.0**
NICH				*e*S		**Sg**	**17 13 34.6**	**-1.6**
CANA	**Caviahue**	**2.60**	**132**	*e*P		**Pb**	**17 13 12.7**	**-0.8**
CANA				*e*S		**Sg**	**17 13 49.8**	**+0.2**
CHCH	**Chadas Angostu**	**3.23**	**47**	*e*P		**Pn**	**17 13 18.3**	**+0.4**
CHCH				*e*S		**Sn**	**17 13 58.1**	**+1.2**
AAGR	**Agrelo**	**4.92**	**53**	*e*P		**Pn**	**17 13 43.3**	**+2.1**
ARCO	**CERRO ARCO**	**5.02**	**50**	*e*P		**Pn**	**17 13 44.7**	**+2.1**
ARCO				AML		AML	17 15 22.8	
	comp=Z,76nm,0.7s							
PLCA	**Paso Flores**	**5.11**	**154**	Pn		**Pn**	**17 13 44.3**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=329,slow=12,SNR=25							
PLCA				Lg		Lg	17 15 08.6	
	comp=Z,1.9nm,0.3s,baz=246,slow=20,SNR=3.3							
AUSP	**Uspallata**	**5.20**	**42**	*e*P		**Pn**	**17 13 46.4**	**+1.2**
ASAL	**Salagasta**	**5.25**	**49**	*e*P		**Pn**	**17 13 47.4**	**+1.7**
RTLS	**Leoncito**	**5.58**	**40**	*e*P		**Pn**	**17 13 51.5**	**+1.1**
RTCV	**Cerro Valdivia**	**5.95**	**45**	*e*P		**Pn**	**17 13 55.7**	**+0.5**
CFAA	**Coronel Fontan**	**6.31**	**45**	Pn		**Pn**	**17 13 59.5**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=222,slow=15,SNR=37							
CFAA				Sn		**Sn**	**17 15 11.6**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=191,slow=19,SNR=7.8							
CFAA				LR		LR	17 16 38.3	
	comp=Z,81nm,19.3s,baz=232,slow=48							
CFAA	**Coronel Fontan**	**6.31**	**45**	*e*P		**Pn**	**17 14 00.2**	**0.0**
RTLL	**Cerro Villicun**	**6.38**	**42**	*e*P		**Pn**	**17 14 01.1**	**-0.2**
ACAN	**Cantantal**	**6.51**	**55**	*e*P		**Pn**	**17 14 03.8**	**+0.8**
AMOG	**MOGNA**	**6.68**	**40**	*e*P		**Pn**	**17 14 05.0**	**-0.4**
LVC	**Limon Verde**	**14.08**	**18**	Pn		**Pn**	**17 15 46.3**	**-0.6**
	comp=Z,5.8nm,0.3s,baz=190,slow=12,SNR=2.2							
LVC				Sn		S	17 19 00.1	+14
	comp=Z,8.5nm,0.3s,baz=170,slow=12,SNR=2.4							
LPAZ	**La Paz**	**20.36**	**15**	P		**P**	**17 17 04.7**	**0.0**
	comp=Z,2.4nm,0.8s,baz=188,slow=6.9,SNR=4.1							
SIV	**San Ignacio**	**22.94**	**39**	P		**P**	**17 17 31.1**	**-0.6**
	comp=Z,2.8nm,0.8s,baz=221,slow=13,SNR=9.5							
SIV				LR		LR	17 28 15.1	
	comp=Z,340nm,19.1s,baz=262,slow=42							
PMSA	**Palmer Station**	**29.20**	**172**	LR		LR	17 30 09.2	
	comp=Z,236nm,20.5s,baz=302,slow=36							
BDFB	**Brasilia**	**30.55**	**55**	LR		LR	17 32 48.5	
	comp=Z,134nm,19.0s,baz=222,slow=40							
RPN	**Papa Nui**	**31.66**	**276**	LR		LR	17 27 59.8	
	comp=Z,135nm,19.4s,baz=48,slow=29							
VNA3	**Neumayer Olymp**	**47.83**	**157**	P		**P**	**17 21 05.7**	**+0.9**
VNA2	**Neumayer--Watz**	**48.50**	**156**	P		**P**	**17 21 10.8**	**+0.9**
	baz=285,slow=7.8							
SNAA	**Sanae**	**50.05**	**157**	P		**P**	**17 21 20.7**	**-1.1**
PPT	**Papeete**	**68.78**	**263**	LR		LR	17 47 16.2	
	comp=Z,85nm,18.1s,baz=112,slow=30							
TXAR	**Lajitas Array**	**71.06**	**332**	P		**P**	**17 23 46.0**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=149,slow=7.6,SNR=9.3							
TXAR				LR		LR	17 50 08.9	
	comp=Z,50nm,18.2s,baz=0.0,slow=32							
MAW	**Mawson**	**71.44**	**164**	LR		LR	17 55 44.6	
	comp=Z,91nm,18.2s,baz=236,slow=36							
BOSA	**Boshof**	**80.12**	**118**	LR		LR	17 59 56.3	
	comp=Z,40nm,18.1s,baz=187,slow=36							
TORD	**Torodi Ar. Bea**	**86.06**	**71**	P		**P**	**17 25 08.8**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=242,slow=3.1,SNR=2.5							

*ATH **23** 17:18:07.2, 36.°49N×21.°17E, h12km±1km, MD3.7/13*
*CSEM **23** 17:18:08.6±0.3, 36.°53N×21.°25E, h2km, ML3.0, Error ellipse: s-maj=5.6km s-min=3.7km az=29.0*
*THE **23** 17:18:09.9, 36.°59N×21.°31E, h3km, ML3.0/8, Error ellipse: s-maj=1.0km s-min=0.6km az=22.0*
ISC 23 17:18:08.0±1.8, 36.°54N±0.°06×21.°22E±0.°05, h2km±10km, n63, σ0§74/95, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.56**	**50**	P		**Pg**	**17 18 18.7**	**+0.1**
PYL				S		**Sg**	**17 18 26.1**	**+0.2**
PYL	**PYLOS**	**0.56**	**50**	P		**Pg**	**17 18 18.7**	**+0.1**
PYL				S		**Sg**	**17 18 24.9**	**-1.0**
SFD	**Strofades**	**0.73**	**347**	P		**Pb**	**17 18 23.0**	**-0.4**
ITM	**Ithomi**	**0.86**	**41**	P		**Pg**	**17 18 24.1**	**-0.4**
ITM				S		**Sg**	**17 18 35.8**	**+0.1**
ITM	**Ithomi**	**0.86**	**41**	*e*PG		**Pg**	**17 18 24.3**	**-0.2**
ITM				*e*SB		**Sb**	**17 18 37.2**	**-0.4**
ITM	**Ithomi**	**0.86**	**41**	*e*Pg		**Pg**	**17 18 24.3**	**-0.2**
ITM				S		**Sg**	**17 18 35.7**	**+0.1**
ITM				*e*Sb		**Sb**	**17 18 37.2**	**-0.4**
AMT	**Artemida-Makis**	**1.07**	**22**	P		**Pg**	**17 18 28.6**	**+0.1**
AMT				S		**Sg**	**17 18 42.9**	**+0.5**
AMT	**Artemida-Makis**	**1.07**	**22**	P		**Pg**	**17 18 28.6**	**+0.1**
AMT				S		**Sg**	**17 18 42.9**	**+0.5**
ZKS	**Zakynthos**	**1.21**	**344**	P		**Pn**	**17 18 31.9**	**0.0**
ZKS				S		**Sn**	**17 18 49.1**	**+0.2**
ZKS	**Zakynthos**	**1.21**	**344**	P		**Pn**	**17 18 31.9**	**0.0**
ZKS				S		**Sn**	**17 18 49.1**	**+0.2**
VLX	**Vlachokerasia**	**1.25**	**48**	P		**Pg**	**17 18 31.2**	**-0.8**
VLX				S		**Sg**	**17 18 48.1**	**-0.1**
VLX	**Vlachokerasia**	**1.25**	**48**	*e*PB		**Pg**	**17 18 32.1**	**+0.1**
VLX				*e*SB		**Sn**	**17 18 50.0**	**0.0**
VLX	**Vlachokerasia**	**1.25**	**48**	P		**Pg**	**17 18 31.2**	**-0.8**
VLX	**Vlachokerasia**	**1.25**	**48**	*e*Pb		**Pg**	**17 18 32.1**	**+0.1**
VLX				S		**Sg**	**17 18 48.1**	**-0.1**
VLX				*e*Sb		**Sn**	**17 18 50.0**	**0.0**
VLI	**Veliai**	**1.40**	**82**	P		**Pn**	**17 18 34.2**	**-0.2**
VLI				S		**Sn**	**17 18 53.6**	**+0.1**
VLI	**Veliai**	**1.40**	**82**	*e*PG		**Pn**	**17 18 34.3**	**-0.2**
VLI				*e*SB		**Sn**	**17 18 54.4**	**+0.9**
VLI	**Veliai**	**1.40**	**82**	P		**Pn**	**17 18 34.3**	**-0.2**
VLI				S		**Sn**	**17 18 53.6**	**+0.1**
VLI				*e*Sb		**Sn**	**17 18 54.4**	**+0.9**
DRO	**Drossia**	**1.47**	**15**	P		**Pb**	**17 18 36.0**	**0.0**
DRO				S		**Sg**	**17 18 55.2**	**0.0**
DRO	**Drossia**	**1.47**	**15**	*e*PB		**Pg**	**17 18 37.2**	**+0.6**
DRO				*e*SB		**Sg**	**17 18 56.5**	**+1.3**
DRO	**Drossia**	**1.47**	**15**	P		**Pb**	**17 18 36.0**	**0.0**
DRO	**Drossia**	**1.47**	**15**	*e*Pb		**Pg**	**17 18 36.7**	**+0.6**
DRO				S		**Sg**	**17 18 55.2**	**0.0**
DRO				*e*Sb		**Sg**	**17 18 56.5**	**+1.3**
KYTH	**Kithira**	**1.49**	**99**	P		**Pn**	**17 18 36.1**	**+0.3**
KYTH	**Kithira**	**1.49**	**99**	P		**Pn**	**17 18 35.9**	**+0.1**
RLS	**Riolos of Patr**	**1.53**	**7**	*e*PB		**Pg**	**17 18 37.4**	**0.0**
RLS	**Riolos of Patr**	**1.53**	**7**	*e*Pb		**Pg**	**17 18 37.4**	**0.0**
GUR	**Goura**	**1.66**	**32**	P		**Pn**	**17 18 38.0**	**-0.2**
GUR				S		**Sn**	**17 18 59.9**	**-0.3**
GUR	**Goura**	**1.66**	**32**	P		**Pb**	**17 18 38.9**	**-0.5**
GUR				S		**Sn**	**17 18 59.9**	**-0.3**
KLV	**Kalavryta, Ach**	**1.68**	**26**	P		**Pn**	**17 18 38.8**	**+0.4**
KLV				S		**Sn**	**17 19 00.4**	**-0.1**
KLV	**Kalavryta, Ach**	**1.68**	**26**	*e*PN		**Pn**	**17 18 39.1**	**+0.7**
KLV				*e*SN		**Sg**	**17 19 02.7**	**+0.7**
KLV	**Kalavryta, Ach**	**1.68**	**26**	P		**Pn**	**17 18 38.8**	**+0.4**
KLV	**Kalavryta, Ach**	**1.68**	**26**	*e*Pn		**Pn**	**17 18 39.1**	**+0.7**
KLV				S		**Sn**	**17 19 00.4**	**-0.1**
KLV				*e*Sn		**Sg**	**17 19 02.7**	**+0.7**
VLS	**Valsamata**	**1.71**	**343**	*e*PG		**Pb**	**17 18 39.5**	**-0.7**
VLS	**Valsamata**	**1.71**	**343**	*e*Pn		**Pb**	**17 18 39.5**	**-0.7**
ANKY	**Antikythira Is**	**1.81**	**111**	P		**Pn**	**17 18 40.6**	**+0.4**
ANKY				S		**Sn**	**17 19 04.2**	**+0.5**
ANKY	**Antikythira Is**	**1.81**	**111**	P		**Pn**	**17 18 40.6**	**+0.4**
ANKY				S		**Sn**	**17 19 04.2**	**+0.5**
DID	**Didima**	**1.89**	**58**	P		**Pn**	**17 18 40.5**	**-0.7**
DID				S		**Sn**	**17 19 05.3**	**-0.3**
DID	**Didima**	**1.89**	**58**	P		**Pn**	**17 18 40.5**	**-0.7**
DID				S		**Sn**	**17 19 05.3**	**-0.3**
EFP	**Efpalio**	**1.97**	**16**	*e*PN		**Pn**	**17 18 43.4**	**+1.1**
EFP	**Efpalio**	**1.97**	**16**	*e*Pn		**Pn**	**17 18 43.4**	**+1.1**
KALE	**Kalithea**	**1.99**	**21**	*e*PN		**Pb**	**17 18 44.3**	**-0.7**
KALE	**Kalithea**	**1.99**	**21**	*e*Pn		**Pb**	**17 18 44.3**	**-0.7**
KALE	**Kalithea**	**1.99**	**21**	P		**Pb**	**17 18 44.6**	**-0.4**
DSF	**Desfina**	**2.14**	**29**	*e*PN		**Pn**	**17 18 45.3**	**+0.5**
DSF	**Desfina**	**2.14**	**29**	*e*Pn		**Pn**	**17 18 45.3**	**+0.5**
EVR	**Evrytania**	**2.42**	**11**	*e*PN		**Pn**	**17 18 49.8**	**+1.1**
EVR	**Evrytania**	**2.42**	**11**	*e*Pn		**Pn**	**17 18 49.8**	**+1.1**
MAKR	**Makrakomi, Fth**	**2.58**	**16**	*e*PN		**Pn**	**17 18 51.8**	**+1.1**
MAKR	**Makrakomi, Fth**	**2.58**	**16**	*e*Pn		**Pn**	**17 18 51.8**	**+1.1**
DSL	**Palaion Diasel**	**2.59**	**358**	*e*PN		**Pn**	**17 18 52.6**	**+1.6**
DSL	**Palaion Diasel**	**2.59**	**358**	*e*Pn		**Pn**	**17 18 52.6**	**+1.6**
AGG	**Agios Georgios**	**2.63**	**19**	*e*PB		**Pn**	**17 18 52.6**	**+1.1**
AGG	**Agios Georgios**	**2.63**	**19**	*e*Pb		**Pn**	**17 18 52.6**	**+1.1**
THL	**Klokotos Trika**	**3.09**	**12**	*e*PN		**Pn**	**17 18 58.7**	**+1.0**
THL	**Klokotos Trika**	**3.09**	**12**	*e*Pn		**Pn**	**17 18 58.7**	**+1.0**
NEST	**Nestorio**	**3.88**	**358**	*e*PN		**Pn**	**17 19 10.4**	**+1.8**
NEST	**Nestorio**	**3.88**	**358**	*e*Pn		**Pn**	**17 19 10.4**	**+1.8**
FNA	**Florina**	**4.24**	**2**	*e*PN		**Pn**	**17 19 15.1**	**+1.4**
FNA	**Florina**	**4.24**	**2**	*e*Pn		**Pn**	**17 19 15.1**	**+1.4**
STON	**Ston**	**6.88**	**338**	*e*Pn		**Pn**	**17 19 48.2**	**-1.6**
STON				Sn		Sn	17 21 02.1	-6.5
UDBI	**Udbina**	**8.99**	**334**	*i* Pn		**Pn**	**17 20 19.0**	**+0.1**
UDBI				Sn		Sn	17 21 54.4	-6.4
UDBI	**Udbina**	**8.99**	**334**	*i* Pn		**Pn**	**17 20 19.0**	**+0.1**
NVLJ	**Novalja**	**9.36**	**331**	*e*Pn		**Pn**	**17 20 22.5**	**-1.2**
NVLJ				Sn		Sn	17 22 00.5	-9.0
NVLJ	**Novalja**	**9.36**	**331**	*e*Pn		**Pn**	**17 20 22.5**	**-1.2**

*ISCJB **23** 17:18:09.1±0.3, 17.°03S±0.°04×168.°35E±0.°06, h200km, mb4.2/29, Error ellipse: s-maj=8.2km s-min=6.0km az=169.8*
*IDC **23** 17:18:10.0±2.4, 17.°09S×168.°51E, h200km±23km, mb3.9/21, mb1 4.0/22, mb1mx3.9/38, mbtmp4.4/22, Error ellipse: s-maj=14.6km s-min=12.4km az=40.0*
*NEIC **23** 17:18:10.4±1.0, 17.°11S×168.°41E, h203km±9km, mb4.8/13, Error ellipse: s-maj=8.1km s-min=7.5km az=203.0*
*BJI **23** 17:18:11.9, 16.°93S×167.°84E, h190km, mb4.7/8, mB4.6/5*
ISC 23 17:18:10.4±0.5, 17.°09S±0.°06×168.°39E±0.°08, h200km, n60, σ1§10/61, mb4.2/27, 3C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**5.24**	**195**	*e*P		**Pn**	**17 19 29.6**	**+1.7**
DZM	**Mont Dzumac**	**5.29**	**200**	P		**Pn**	**17 19 28.3**	**-0.2**
	14nm,0.3s,baz=90,slow=20,SNR=24							
DZM				S		**Sn**	**17 20 31.1**	**+0.8**
	6.6nm,0.3s,baz=118,slow=22,SNR=8.1							
DZM	**Mont Dzumac**	**5.29**	**200**	*e*P		**Pn**	**17 19 29.6**	**+1.0**
DZM				*e*S		**Sn**	**17 20 31.4**	**+1.1**
DZM	**Mont Dzumac**	**5.29**	**200**	*e*Pn		**Pn**	**17 19 28.6**	**0.0**
DZM				*e*Sn		**Sn**	**17 20 27.0**	**-3.3**
MSVF	**Nonsavu**	**9.24**	**95**	*e*Pn		**Pn**	**17 20 21.6**	**+1.6**
	150nm,1.3s							
HNR	**Honiara**	**11.20**	**312**	*e*Pn		**Pn**	**17 20 43.6**	**-1.4**
	105nm,0.7s							
EIDS	**Eidsvold**	**18.11**	**240**	*e*P		**P**	**17 22 06.6**	**-0.8**
	20nm,0.7s							
OUZ	**Omahuta**	**18.65**	**167**	Pn		**P**	**17 22 09.9**	**-3.3**
	26nm,0.8s							
CTA	**Charters Tower**	**21.19**	**258**	P		**P**	**17 22 41.4**	**+0.9**
	9.7nm,0.6s,baz=84,slow=12,SNR=22							
CTAO	**Charters Tower**	**21.19**	**258**	*e*P		**P**	**17 22 40.3**	**-0.3**
	16nm,0.9s							
HAZ	**Te Kaha**	**22.19**	**160**	PN		**P**	**17 22 51.1**	**+0.8**
URZ	**Urewera**	**22.44**	**162**	P		**P**	**17 22 51.9**	**-0.7**
	33nm,0.7s,baz=351,slow=9.7,SNR=22							
URZ	**Urewera**	**22.44**	**162**	PN		**P**	**17 22 53.3**	**+0.7**
URZ	**Urewera**	**22.44**	**162**	*e*P		**P**	**17 22 50.9**	**-1.6**
	34nm,0.7s							
TWGZ	**Tauwhareparae**	**22.64**	**160**	PN		**P**	**17 22 55.1**	**+0.6**
MWZ	**Matawai**	**22.64**	**161**	PN		**P**	**17 22 54.8**	**+0.4**
RIGZ	**Rimuhau**	**23.05**	**161**	PN		**P**	**17 22 58.7**	**+0.5**
BKZ	**Black Stump Fm**	**23.11**	**164**	PN		**P**	**17 22 59.4**	**+0.7**
BKZ	**Black Stump Fm**	**23.11**	**164**	*e*P		**P**	**17 22 59.6**	**+0.9**
	56nm,0.7s							
KNZ	**Kokohu**	**23.31**	**161**	PN		**P**	**17 23 00.5**	**+0.1**
MRZ	**Mangatainoka R**	**24.30**	**167**	PN		**P**	**17 23 09.1**	**-0.4**
BFZ	**Birch Farm**	**24.48**	**165**	*e*P		**P**	**17 23 10.6**	**-0.5**
	52nm,1.2s							
RPZ	**Rata Peaks**	**26.64**	**176**	P		**P**	**17 23 30.4**	**-0.1**
	12nm,0.8s,baz=21,slow=5.7,SNR=4.2							
STKA	**Stephens Creek**	**28.39**	**234**	P		**P**	**17 23 47.0**	**+0.8**
	13nm,0.7s,baz=55,slow=7.8,SNR=24							
STKA	**Stephens Creek**	**28.39**	**234**	*e*P		**P**	**17 23 46.3**	**+0.2**
	55nm,2.8s							
WRA	**Warramunga Arr**	**32.38**	**260**	P		**P**	**17 24 21.0**	**-0.5**
	0.9nm,0.3s,baz=90,slow=9.3,SNR=67							
AS31	**Alice Springs**	**32.92**	**253**	*e*P		**P**	**17 24 26.1**	**-0.1**
ASAR	**Alice Springs**	**32.93**	**253**	P		**P**	**17 24 26.2**	**0.0**
	34nm,0.5s,baz=79,slow=9.0,SNR=1322							
SIJI	**Sorong**	**39.92**	**290**	P		**P**	**17 25 25.8**	**+0.4**
	4.6nm,0.3s,baz=97,slow=9.4,SNR=7.0							
BATI	**Baumata**	**43.92**	**273**	P		**P**	**17 25 59.4**	**+1.6**
	7.1nm,0.6s,baz=97,slow=8.1,SNR=5.5							
NWAO	**Narrogin (SRO)**	**48.51**	**241**	P		**P**	**17 26 32.9**	**-0.4**
	6.6nm,0.6s,baz=148,slow=6.2,SNR=6.1							
MJAR	**Matsushiro Arr**	**60.48**	**332**	P		**P**	**17 27 59.0**	**-0.2**
	1.0nm,0.6s,baz=154,slow=7.2,SNR=5.6							
VNDA	**Vanda**	**60.55**	**182**	P		**P**	**17 27 58.4**	**-0.7**
	0.4nm,0.5s,baz=11,slow=6.0,SNR=3.4							
USRK	**Ussuriysk Ar.**	**69.46**	**333**	P		**P**	**17 28 55.8**	**-1.0**
	1.8nm,0.5s,baz=139,slow=6.9,SNR=5.5							
PETK	**Petropavlovsk-**	**70.51**	**353**	P		**P**	**17 29 03.0**	**-0.1**
	1.8nm,0.5s,baz=152,slow=8.0,SNR=17							
CN2	**Changchun**	**72.21**	**329**	*e*P		P	17 29 18.4	+5.0
QSPA	**South Pole Qui**	**72.96**	**180**	*e*P		**P**	**17 29 17.6**	**-0.2**
	6.6nm,1.0s							
KMI	**Kunming**	**76.46**	**302**	P		**P**	**17 29 40.5**	**+1.8**
KMI				PMZ				
	12nm,0.8s							
CMAR	**Chiang Mai Arr**	**76.89**	**294**	P		**P**	**17 29 42.4**	**+1.4**
	2.5nm,0.8s,baz=134,slow=4.5,SNR=19							
CHTO	**Chiang Mai**	**77.03**	**294**	*e*P		**P**	**17 29 41.3**	**-0.5**
	3.7nm,0.8s							
HHC	**Hu-ho-hao-te**	**78.07**	**320**	*e*P		P	17 29 51.0	+3.9
HHC				PP		PP	17 32 52.4	+5.8
HHC				S		**S**	**17 39 27.0**	**+2.5**
HHC				PMZ				
	21nm,1.0s							
HHC				PMZ				
	38nm,7.4s							
SEY	**Seymchan**	**80.74**	**353**	P		**P**	**17 30 00.8**	**0.0**
	1.9nm,0.6s,baz=149,slow=6.0,SNR=9.3							
YAK	**Yakutsk**	**84.59**	**343**	*e*P		**P**	**17 30 20.1**	**-0.6**
ULN	**Ulaanbaatar**	**84.66**	**324**	*e*P		**P**	**17 30 20.8**	**-0.9**
	1.5nm,0.6s							
SONM	**Songino Array**	**85.02**	**323**	P		**P**	**17 30 24.0**	**+0.6**
	1.4nm,0.5s,baz=152,slow=5.7,SNR=8.1							
GTA	**Gaotai**	**85.07**	**314**	*e*P		**P**	**17 30 25.5**	**+1.6**
GTA				PMZ				
	7.0nm,0.9s							
YBH	**Yreka Blue Hor**	**86.33**	**44**	P		**P**	**17 30 29.5**	**-0.4**
	1.1nm,0.9s,baz=225,slow=7.1,SNR=3.6							
CMB	**Columbia Colle**	**86.33**	**49**	*e*P		**P**	**17 30 29.9**	**-0.2**
	3.7nm,0.8s							
TRF	**Thorofare Moun**	**86.45**	**17**	*e*P		**P**	**17 30 30.0**	**-0.2**
	55nm,2.5s							
NVAR	**Mina Array Bea**	**87.99**	**49**	P		**P**	**17 30 37.1**	**-1.1**
	1.7nm,0.7s,baz=233,slow=8.5,SNR=6.8							
ILAR	**Eielson Array**	**88.43**	**18**	P		**P**	**17 30 37.7**	**-1.6**
	1.2nm,0.8s,baz=236,slow=5.5,SNR=13					

ASAR				ScP	ScP	17 49 52.4	-5.8
	0.0nm,0.3s,baz=1.5,slow=1.8,SNR=6.6						
MKAR	Makanchi Array	68.39	327	P	P	17 48 51.5	-0.4
	0.4nm,0.4s,baz=118,slow=5.7,SNR=10						
KURBB	Kurchatov Arra	72.67	329	P	P	17 49 16.6	-1.2
	0.3nm,0.5s,baz=126,slow=4.7,SNR=3.8						

IDC ***23*** *17:42:21.4±2.8, 27.81N×54.31E, h0km, mb3.4/6, mb1 3.4/6, mb1mx3.2/38, mbtmp3.4/6, Error ellipse: s-maj=64.5km s-min=26.2km az=158.0*
DSN ***23*** *17:42:37.2±1.1, 28.03N×54.54E, h15km, mb3.0/6, ML3.7/3, Error ellipse: s-maj=18.3km s-min=5.2km az=33.0*

ISC 23 17:42:26.4±1.1, 28.2N±0.1×54.4E±0.2, h17km, n11, σ0s85/11, mb3.4/5, 3C-2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res ISC
BANOM	Banah	2.82	142	eP			Pg	17 43 19.2	-1.3
	SNR=28								
BANOM				S			Sb	17 43 51.6	+1.1
FAQ	Al Faqa, Dubai	3.58	162	P			Pb	17 43 30.0	+0.8
ASUD	Al Ashush, Dub	3.62	166	i P			Pb	17 43 30.9	+0.8
	SNR=14								
HATD	Hatta, Dubai	3.68	154	i P			Pb	17 43 31.2	+0.2
	SNR=8.8								
ASHO	Ashiyiah	3.78	156	iP			Pb	17 43 32.3	-0.4
	SNR=22								
BRTR	Keskin Array B	20.66	309	P		P	P	17 47 04.9	-0.6
	0.3nm,0.4s,baz=128,slow=12,SNR=2.7								
BVAR	Borovoye Array	27.53	21	P		P	P	17 48 13.1	+1.0
	0.3nm,0.6s,baz=216,slow=7.1,SNR=2.7								
MKAR	Makanchi Array	28.70	42	P		P	P	17 48 22.7	+0.1
	0.3nm,0.5s,baz=235,slow=7.3,SNR=6.7								
KURBB	Kurchatov Arra	28.95	33	P		P	P	17 48 25.0	+0.3
	0.1nm,0.5s,baz=240,slow=9.4,SNR=2.5								
FINES	FINESS Array B	38.25	338	P		P	P	17 49 45.2	-0.1
	0.6nm,0.6s,baz=152,slow=8.6,SNR=4.1								
TORD	Torodi Ar. Bea	51.13	264	P		P	P	17 51 25.7	-3.0
	0.7nm,0.6s,baz=60,slow=7.6,SNR=3.9								

IDC 23 17:45:11.0±14.0, 56.21S×27.14W, h123km±128km, mb3.7/4, mb1 3.9/4, mb1mx3.6/17, mbtmp4.0/4, Error ellipse: s-maj=48.9km s-min=26.2km az=75.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res ISC
VNDA	Vanda	46.41	183	P			P	17 53 24.2	-0.2
	1.1nm,0.6s,baz=193,slow=6.8,SNR=19								
LPAZ	La Paz	50.49	305	P			P	17 53 57.0	-0.1
	1.1nm,0.4s,baz=90,slow=5.6,SNR=5.2								
TORD	Torodi Ar. Bea	73.18	29	P		P	P	17 56 28.1	0.0
	0.4nm,0.3s,baz=200,slow=6.2,SNR=4.4								
ASAR	Alice Springs	98.83	162	P		P	P	17 58 36.8	-0.1
	0.3nm,0.8s,baz=193,slow=4.0,SNR=4.8								
ILAR	Eielson Array	150.25	311	PKPbc		PKPbc	PKPbc	18 04 45.5	-0.4
	0.6nm,0.8s,baz=130,slow=1.9,SNR=8.6								

IDC ***23*** *17:54:13.9±2.4, 3.31N×93.53E, h0km, mb3.2/4, mb1 3.4/6, mb1mx3.3/36, mbtmp3.2/6, ML3.5/2, Error ellipse: s-maj=70.0km s-min=22.7km az=60.0*
ISCJB ***23*** *17:54:16.0±1.3, 3.4N±0.1×93.8E±0.1, h19km, mb3.2/4, Error ellipse: s-maj=23.6km s-min=11.6km az=33.6*

ISC 23 17:54:17.6±1.8, 3.4N±0.2×93.7E±0.2, h19km, n12, σ0s83/7, mb3.3/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res ISC
PSI	Prapat	5.25	96	Pn			Pn	17 55 36.3	+1.0
	1.1nm,0.3s,baz=304,slow=11,SNR=4.3								
PSI				Sn			Sn	17 56 34.3	-1.1
	0.7nm,0.3s,baz=346,slow=19,SNR=2.6								
CMAR	Chiang Mai Arr	15.83	19	Pn			Pn	17 58 00.0	+0.3
	0.1nm,0.3s,baz=225,slow=13,SNR=3.6								
H08S2	Diego Garcia H	23.83	243	T			T	18 24 18.1	
	baz=63,slow=75,SNR=47								
H08S3	Diego Garcia H	23.83	243	T			T	18 24 16.9	
	baz=63,slow=75,SNR=51								
H08S1	Diego Garcia H	23.84	243	T			T	18 24 24.4	
	baz=63,slow=75,SNR=48								
H01W3	Cape Leeuwin H	42.64	155	T			T	18 47 49.7	
	baz=331,slow=76,SNR=6.3								
H01W2	Cape Leeuwin H	42.65	155	T			T	18 47 44.4	
	baz=331,slow=76,SNR=7.1								
H01W1	Cape Leeuwin H	42.66	155	T			T	18 47 54.0	
	baz=331,slow=76,SNR=5.9								
MKAR	Makanchi Array	44.36	349	P			P	18 02 26.2	-0.5
	0.2nm,0.5s,baz=175,slow=8.2,SNR=3.3								
SONM	Songino Array	45.61	12	P			P	18 02 36.9	+0.1
	0.1nm,0.5s,baz=202,slow=7.3,SNR=2.8								
WRA	Warramunga Arr	46.15	122	P			P	18 02 41.3	-0.1
	0.5nm,1.0s,baz=299,slow=8.5,SNR=3.4								
ASAR	Alice Springs	47.50	127	P			P	18 02 51.7	-0.2
	0.5nm,1.1s,baz=296,slow=7.9,SNR=3.0								

ISCJB ***23*** *18:00:33.3±0.7, 15.58N±0.04×122.15E±0.06, h26km, mb4.1/3, MS3.0/4, Error ellipse: s-maj=8.0km s-min=6.3km az=169.1*
MAN ***23*** *18:00:33, 15.57N×122.09E, h19km, mb4.6, ML3.4, MS3.4*
IDC ***23*** *18:00:41.8±2.0, 14.58N×123.34E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.5/39, mbtmp4.0/5, ML4.0/1, MS3.2/4, Ms1 3.2/4, ms1mx2.7/36, Error ellipse: s-maj=94.9km s-min=26.5km az=68.0*

ISC 23 18:00:34.5±1.1, 15.64N±0.06×122.04E±0.07, h26km, n19, σ1s90/14, mb3.8/4, MS3.0/4, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res ISC
PCPH	Palayan	0.92	265	eP			Pb	18 00 51.6	-0.2
PCPH				eS			Sn	18 01 04.4	+0.4
CAUP	Cauayan	1.32	351	eP			Pn	18 00 57.3	+0.1
CAUP				eS			Sb	18 01 15.4	+0.3
BCPH	Baguio City Da	1.59	298	iP			Pb	18 01 02.0	-1.3
BCPH				i S			Sb	18 01 24.1	+1.0
SCZP	Santa Cruz	2.06	274	eP			Pn	18 01 07.9	+0.5
CVP	Callao Caves	2.06	354	eP			Pn	18 01 08.2	+0.7
CVP				eS			Sn	18 01 33.5	+1.0
BOLP	Bolinao	2.18	290	eP			Pb	18 01 11.2	-2.1
SGCP	Mt. Cagua	2.59	0	eP			Pn	18 01 15.0	+0.2
KAPI	Kappang	20.64	186	P			Pn	18 05 13.8	-0.9
	0.4nm,0.3s,baz=350,slow=10,SNR=4.4								
CMAR	Chiang Mai Arr	22.26	281	LR			LR	18 14 50.3	
	comp=Z,36nm,18.3s,baz=170,slow=36								
KSRS	Korea Array	22.35	12	LR			LR	18 13 55.5	
	comp=Z,24nm,21.8s,baz=226,slow=34								
BATI	Baumata	25.73	176	P			P	18 06 04.0	+1.0
	21nm,0.7s,baz=69,slow=1.9,SNR=9.7								
SONM	Songino Array	34.61	341	LR			LR	18 23 20.0	
	comp=Z,30nm,18.5s,baz=112,slow=38								
WRA	Warramunga Arr	37.37	161	P			P	18 07 44.4	-0.8
	1.0nm,0.6s,baz=343,slow=8.4,SNR=16								
ASAR	Alice Springs	40.75	163	P			P	18 08 13.2	-0.3
	1.0nm,0.6s,baz=338,slow=6.9,SNR=30								
H11S3	WAKE ISLAND Hy	42.70	80	T			T	18 54 24.8	
	baz=274,slow=75,SNR=64								
H11S1	WAKE ISLAND Hy	42.71	80	T			T	18 54 26.9	
	baz=274,slow=75,SNR=31								
H11S2	WAKE ISLAND Hy	42.71	80	T			T	18 54 26.5	
	baz=274,slow=75,SNR=47								
MKAR	Makanchi Array	45.29	322	P			P	18 09 14.0	+24
	0.2nm,0.7s,baz=116,slow=3.4,SNR=3.7								
DZM	Mont Dzumac	57.42	130	LR			LR	18 28 39.0	
	comp=Z,68nm,21.9s,baz=0.0,slow=30								

ISCJB ***23*** *18:05:44.7±0.2, 43.75N±0.01×105.29W±0.02, h0km, Error ellipse: s-maj=2.2km s-min=2.0km az=37.4*
NEIC ***23*** *18:05:44.7±0.4, 43.77N×105.11W, h0km, ML3.3, Error ellipse: s-maj=5.1km s-min=4.8km az=116.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
IDC ***23*** *18:05:45.0±1.4, 43.79N×105.43W, h0km, mb1 3.7/5, mb1mx3.4/30, mbtmp3.5/5, ML3.5/5, Error ellipse: s-maj=25.4km s-min=8.3km az=149.0*

ISC 23 18:05:45.2±0.7, 43.76N±0.02×105.28W±0.02, h0km, n132, σ0s90/140, 34C-37D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res ISC
I23A	Meade Ranch, G	0.24	327	P			Pg	18 05 50.8	+1.0
	baz=0.3,SNR=715								
J23A	Dilts Ranch, B	0.41	209	⇓P			Pg	18 05 53.2	+0.2
	baz=0.5,SNR=175								
I24A	Kuemmerle Ranc	0.48	78	P			Pg	18 05 54.5	0.0
	baz=0.4,SNR=317								
J24A	Dixon Ranch, L	0.62	133	P			Pg	18 05 57.2	0.0
	baz=0.6,SNR=160								
J24A				⇓S			Sg	18 06 06.3	+1.0
	baz=0.6								
H23A	Clabaugh Cattl	0.81	354	P			Pg	18 06 00.5	-0.1
	baz=0.8,SNR=43								
H23A				⇑S			Sg	18 06 12.3	+1.2
	baz=0.8								
I22A	9 Mile Ranch,	0.88	279	P			Pg	18 06 02.1	0.0
	baz=1.0,SNR=1000								
J22A	Midwest	0.94	249	P			Pg	18 06 02.8	-0.4
	baz=1.1,SNR=251								
RSSD	Black Hills	0.97	68	ePn			Pg	18 06 03.4	-0.4
RSSD				ePg			Pn	18 06 15.5	+9.1
K23A	Bowen Ranch, D	1.04	194	⇓P			Pg	18 06 04.7	-0.4
	baz=1.1								
K23A				⇑S			Sg	18 06 18.8	+0.2
	baz=1.1								
K24A	Anderson Ranch	1.09	162	P			Pg	18 06 05.5	-0.6
	baz=1.1,SNR=338								
H24A	Dirks Ranch, A	1.12	28	⇑P			Pg	18 06 05.8	-0.8
	baz=1.1								
H24A				⇑S			Sb	18 06 23.1	+0.5
	baz=1.1								
H22A	Clearmont	1.13	318	P			Pg	18 06 06.9	-0.1
	baz=1.2,SNR=81								
H22A				⇑S			Sb	18 06 23.0	-0.1
	baz=1.2								
J25A	Sunshine Ranch	1.14	109	P			Pg	18 06 06.5	-0.5
	baz=1.0,SNR=334								
J25A				⇓S			Sb	18 06 23.5	+0.2
	baz=1.0								
I25A	Rochford	1.15	77	P			Pg	18 06 06.5	-0.7
	baz=1.0,SNR=327								
K22A	Casper	1.43	220	ePn			Pn	18 06 11.6	-1.1
K22A	Casper	1.43	220	P			Pn	18 06 11.7	-1.0
	baz=1.5,SNR=193								
I21A	Big Trails, Te	1.46	273	P			Pn	18 06 11.7	-1.3
	baz=1.6,SNR=342								
I21A				⇑S			Sb	18 06 32.6	+0.2
	baz=1.6								
H25A	Fruitdale	1.49	54	⇓P			Pn	18 06 12.8	-0.5
	baz=1.4,SNR=14								
H25A				⇓S			Sn	18 06 34.1	+0.7
	baz=1.4								
H21A	Big Horn, Sher	1.53	305	P			Pn	18 06 14.0	0.0
	baz=1.6,SNR=56								
K25A	Mack Ranch, Ha	1.54	138	⇓P			Pn	18 06 14.0	-0.2
	baz=1.5,SNR=41								
K25A				⇓S			Sn	18 06 35.1	+0.1
	baz=1.5								
G22A	Birney	1.63	334	⇓P			Pn	18 06 15.2	0.0
	baz=1.7,SNR=273								
G22A				⇑S			Sb	18 06 37.5	+0.2
	baz=1.7								
J21A	Lysite	1.63	256	P			Pn	18 06 14.6	-0.7
	baz=1.7,SNR=402								
J26A	Sides Ranch, S	1.67	105	P			Pn	18 06 15.6	-0.2
	baz=1.5,SNR=105								
G24A	Alzada	1.68	21	P			Pn	18 06 16.1	+0.1
	baz=1.6,SNR=308								
I26A	New Underwood	1.77	80	P			Pn	18 06 17.6	+0.4
	baz=1.6,SNR=50								
K26A	Motz Farm, Whi	1.87	124	⇓P			Pn	18 06 19.0	+0.4
	baz=1.8,SNR=33								
L25A	Engebretsen Ra	1.88	149	⇓P			Pn	18 06 19.4	+0.7
	baz=1.8,SNR=18								
G25A	Newell	1.96	42	P			Pn	18 06 20.5	+0.8
	baz=1.9,SNR=160								
F23A	Volborg	1.96	357	P			Pn	18 06 19.9	+0.1
	baz=2.0,SNR=326								
H26A	Fairpoint	2.00	64	⇓P			Pn	18 06 21.0	+0.7
	baz=1.9,SNR=56								
G21A	Lodge Grass	2.01	317	⇓P			Pn	18 06 20.7	+0.2
	baz=2.1,SNR=96								
I20A	Worland	2.07	276	P			Pn	18 06 22.0	+0.7
	baz=2.2,SNR=480								
J20A	Shoshoni	2.08	260	⇑Pb			Pb	18 06 23.4	-0.4
	baz=2.2,SNR=263								
H20A	Greybull	2.09	291	⇓P			Pn	18 06 21.7	+0.1
	baz=2.2,SNR=43								
F22A	Rosebud	2.13	341	⇑P			Pn	18 06 22.1	-0.1
	baz=2.2,SNR=99								
F24A	Ekalaka	2.17	16	⇑P			Pn	18 06 23.1	+0.4
	baz=2.1,SNR=38								
I27A	Quinn	2.35	81	⇑P			Pn	18 06 26.2	+1.0
	baz=2.2,SNR=63								
J27A	Elkhorn Farm,	2.44	101	⇑P			Pn	18 06 26.6	+0.2
	baz=2.3,SNR=51								
F21A	Absaloka Mine,	2.44	328	⇓P			Pn	18 06 26.3	-0.1
	baz=2.5,SNR=14								
G26A	Maurine	2.46	50	⇓P			Pn	18 06 27.3	+0.7
	baz=2.4,SNR=77								
PHWY	Pilot Hill	2.46	183	eP			Pn	18 06 27.8	+0.9
H27A	Howes	2.46	68	⇓P			Pn	18 06 27.4	+0.7
	baz=2.3,SNR=55								
K27A	Flueckinger Fa	2.46	114	⇓P			Pn	18 06 27.7	+1.0
	baz=2.4,SNR=14								
M25A	Palm-Egli Farm	2.50	158	⇓P			Pn	18 06 28.5	+1.3
	baz=2.5,SNR=13								
F25A	Bowman	2.52	30	⇓P			Pn	18 06 28.0	+0.5
	baz=2.5,SNR=20								
G20A	Bridger	2.56	306	P			Pn	18 06 27.8	-0.3
	baz=2.6,SNR=288								
I19A	Meeteetse	2.70	277	⇑P			Pn	18 06 31.3	+1.2
	baz=2.8,SNR=6.7								
E22A	Miles City	2.72	350	⇑P			Pn	18 06 29.8	-0.4
	baz=2.7								
E23A	Ismay	2.74	360	⇓P			Pn	18 06 30.4	0.0
	baz=2.7,SNR=26								
J19A	Crowheart	2.79	261	P			Pn	18 06 33.0	+1.8
	baz=2.9,SNR=93								
F26A	Lodgepole	2.80	41	⇑P			Pn	18 06 31.9	+0.6
	baz=2.7,SNR=11								
H19A	Powell	2.81	290	⇓P			Pn	18 06 32.2	+0.7
	baz=2.9,SNR=56								
E24A	Baker	2.88	14	⇑P			Pn	18 06 33.2	+0.7
	baz=2.8,SNR=36								
F20A	Billings	2.88	316	P			Pn	18 06 32.3	-0.2
	baz=3.0,SNR=53								
G27A	Dupree	2.89	55	P			Pn	18 06 33.0	+0.5
	baz=2.8,SNR=38								
N23A	Red Feather La	2.91	190	⇑P			Pn	18 06 33.5	+0.5
	baz=2.9,SNR=33								
J28A	Allard Ranch,	2.96	95	⇓P			Pn	18 06 34.5	+1.0
	baz=2.8,SNR=17								
I28A	Midland	2.98	84	⇓P			Pn	18 06 34.9	+1.0
	baz=2.9,SNR=22								
LAO	LASA Array	3.00	348	ePn			Pn	18 06 34.5	+0.4
E25A	Miller Ranch,	3.04	25	⇓P			Pn	18 06 35.7	+1.0
	baz=3.0,SNR=16								
RLMT	Red Lodge	3.16	297	ePn			Pn	18 06 37.0	+0.5
RLMT				eSn			Sb	18 07 18.8	-2.7
H28A	Mission Ridge	3.20	72	⇓P			Pn	18 06 37.5	+0.7
	baz=3.1,SNR=8.3								
PDAR	Pinedale Array	3.28	254	Pn			Pn	18 06 39.1	+1.1
	4.2nm,0.3s,baz=67,slow=17,SNR=94								
PDAR				Lg			Lg	18 07 23.0	
	16nm,0.3s,baz=75,slow=31,SNR=14								
H18A	Shoshone NF, C	3.28	288	⇑P			Pn	18 06 38.5	+0.4
	baz=3.4,SNR=11								
F19A	Roth Farm, Mol	3.34	310	⇑P			Pn	18 06 39.2	+0.4
	baz=3.4,SNR=46								
E20A	Meyer Farm, Mu	3.40	325	P			Pn	18 06 39.5	-0.1
	baz=3.5,SNR=12								
D23A	Lindsay	3.41	1	⇓P			Pn	18 06 40.3	+0.5
	baz=3.4,SNR=29								
D24A	Glendive	3.42	11	⇓P			Pn	18 06 41.0	+1.1
	baz=3.4,SNR=7.0								
N27A	Anderson Farm,	3.59	144	⇑P			Pn	18 06 42.8	+0.6
	baz=3.5,SNR=6.3								
D25A	Fairfield	3.66	21	⇑P			Pn	18 06 44.5	+1.3
	baz=3.6,SNR=17								
E19A	Rath Farm, Rou	3.67	319	⇑P			Pn	18 06 42.9	-0.3
	baz=3.7,SNR=37								
N20A	Spence Gulch,	3.67	218	⇓P			Pn	18 06 44.4	+1.0
	baz=3.7,SNR=15								
GCMT	Greycliff	3.72	305	ePn			Pn	18 06 44.9	+0.8
O26A	Horse Wrangler	3.81	157	⇑P			Pn	18 06 45.6	+0.3
	baz=3.8,SNR=10								
C24A	Savage	3.82	9	P			Pn	18 06 46.5	+1.3
	baz=3.8,SNR=14								
D26A	Manning	3.83	31	⇑P			Pn	18 06 45.8	+0.3
	baz=3.8								
LOHW	Long Hollow	3.86	270	ePn			Pn	18 06 46.4	+0.3
D20A	Manuel Ranch,	3.89	330	P			Pn	18 06 46.1	-0.1
	baz=3.9,SNR=33								
FLWY	Flagg Ranch	3.93	277	ePn			Pn	18 06 47.8	+0.9
MOOW	Moose Ponds	3.96	272	ePn			Pn	18 06 48.8	+1.4
ISCO	Idaho Springs	3.97	184	ePn			Pn	18 06 48.0	+0.4
ISCO	Idaho Springs	3.97	184	⇑P			Pn	18 06 48.6	+1.0
	4.0,SNR=7.7								
SNOW	Snow King Moun	3.98	268	ePn			Pn	18 06 49.6	+1.8
YNR	Norris Junctio	3.99	286	ePn			Pn	18 06 47.5	-0.4
C23A	Lambert	4.04	1	⇑P			Pn	18 06 49.5	+1.1
	baz=4.0,SNR=30								
REDW	Red Top Meadow	4.07	266	ePn			Pn	18 06 50.0	+1.1
G29A	Hoven	4.09	68	⇓P			Pn	18 06 48.4	-0.7
	baz=4.0,SNR=6.2								
IMW	Indian Meadow	4.09	274	ePn			Pn	18 06 50.8	+1.5
TPAW	Teton Pass	4.12	268	ePn			Pn	18 06 51.1	+1.4
C25A	Freed Ranch, W	4.20	19	⇓P			Pn	18 06 51.6	+1.0
	baz=4.1,SNR=5.5								
E28A	Huff	4.29	47	⇑P			Pn	18 06 52.3	+0.4
	baz=4.2,SNR=11								
F29A	Eureka	4.40	60	⇑P			Pn	18 06 52.3	-1.0
	baz=4.3,SNR=6.6								
P26A	Davis Ranch, A	4.44	160	⇑P			Pn	18 06 54.6	+0.6
	baz=4.4,SNR=17								
O28A	Krutsinger Ran	4.48	143	⇓P			Pn	18 06 54.4	0.0
	baz=4.4,SNR=5.8								
P27A	Ficken Ranch,	4.67	153	⇓P			Pn	18 06 57.1	+0.1
	baz=4.6,SNR=9.6								
B25A	Knox Farm, Ray	4.75	17	⇓P			Pn	18 06 58.8	+0.8
	baz=4.7,SNR=7.5								
SMCO	Snowmass	4.75	196	Pn			Pn	18 06 59.1	+0.6
C19A	Slack Wire Ran	4.77	328	⇓P			Pn	18 06 58.8	+0.4
	baz=4.8,SNR=19								
DGMT	Dagmar	4.77	9	ePn			Pn	18 06 57.2	-1.1
BOZ	Bozeman (W)	4.90	295	ePn			Pn	18 06 54.4	-5.9
	6.6nm,0.3s								
Q26A	Hugo	5.01	164	⇑P			Pn	18 07 01.8	0.0
	baz=5.0,SNR=7.3								
HWUT	Hardware Ranch	5.11	247	ePn			Pn	18 07 03.9	+0.8
	14nm,0.7s								
KSCO	Kaye Shedlock'	5.15	156	ePn			Pn	18 07 03.1	-0.6
	31nm,0.5s								
KSCO	Kaye Shedlock'	5.15	156	⇓P			Pn	18 07 03.6	-0.1
	baz=5.1,SNR=14								
TCUT	Toone Canyon	5.25	242	ePn			Pn	18 07 05.6	+0.4
	20nm,0.6s								
EGMT	Eagleton	5.28	325	ePn			Pn	18 07 04.8	-0.7
	17nm,0.6s								
DLMT	Dillon	5.46	290	ePn			Pn	18 07 10.3	+2.3
	8.7nm,0.9s								
HRY	Holter Researc	5.48	305	ePn			Pn	18 07 09.0	+0.7
	14nm,0.4s								
LRM	Limekiln Ridge	5.50	294	ePn			Pn	18 07 08.4	-0.2
	30nm,0.3s								
MCMT	McKenzie Canyo	5.54	284	Pn			Pn	18 07 12.8	+3.7
	2.5nm,0.3s								
JLU	Jordanelle	5.56	238	ePn			Pn	18 07 10.0	+0.5
	4.6nm,0.5s								
HVU	Hansel Valley	5.86	253	ePn			Pn	18 07 14.7	+1.2
	11nm,0.9s								
R28A	Tribune	6.02	153	P			Pn	18 07 15.1	-0.5
	baz=6.0,SNR=22								
MPU	Maple Canyon	6.04	234	ePn			Pn	18 07 16.3	+0.4
	7.6nm,0.7s								
SRU	San Rafael Swe	6.09	222	ePn			Pn	18 07 15.0	-1.7
	14nm,0.7s								
ECSD	EROS Data Cent	6.28	87	ePn			Pn	18 07 16.8	-2.3
	9.2nm,0.4s								
ECSD	EROS Data Cent	6.28	87	⇑P			Pn	18 07 18.6	-0.5
	baz=6.1,SNR=8.9								
S26A	Kim	6.29	167	⇓P			Pn	18 07 19.0	-0.3
	baz=6.3,SNR=9.9								
CHMT	Chamberlain Mo	6.44	302	ePn			Pn	18 07 21.8	+0.3
	3.1nm,0.3s								
HLID	Hailey	6.63	271	ePn			Pn	18 07 25.7	+1.7
	2.8nm,0.8s								
DUG	Dugway, Tooele	6.65	240	ePn			Pn	18 07 23.8	-0.5
	2.9nm,0.4s								
DUG	Dugway, Tooele	6.65	240	⇑P			Pn	18 07 24.7	+0.4
	baz=6.7,SNR=11								
SLMT	Seeley Lake	6.74	304	ePn			Pn	18 07 25.7	+0.2
	3.3nm,0.5s								
MSO	Missoula	6.83	300	⇑P			Pn	18 07 26.7	0.0
	baz=6.9								
T28A	Walsh	7.06	159	⇑P			Pn	18 07 29.3	-0.6
	baz=7.0,SNR=9.1								
SWMT	Swartz Lake	7.17	305	ePn			Pn	18 07 31.6	+0.3
	2.6nm,0.3s								
JTMT	Jette	7.45	305	ePn			Pn	18 07 36.1	+0.9
ELK	Elko	7.98	251	Pn			Pn	18 07 45.4	+2.8
	0.5nm,0.3s,baz=62,slow=8.5,SNR=7.4								
ELK				Lg			Lg	18 09 51.9	
	0.1nm,0.3s,baz=204,slow=20,SNR=1.6								
ULM	Lac du Bonnet	9.13	41	Pn			Pn	18 07 56.1	-2.1
	1.5nm,0.3s,baz=226,slow=11,S

BSSI	**Bau Bau, Buton**	**8.27**	**282**	P		**Pn**	**18 17 32.4**	**-0.2**
	98nm,1.0s,922nm							
BSSI				S		**Sn**	**18 19 05.8**	**+1.1**
	98nm,1.0s,922nm							
BASI	**Baing, Sumba**	**8.30**	**253**	P		**Pn**	**18 17 32.5**	**-0.4**
	382nm,1.0s,7μm							
RKPI	**Ransiki, Papua**	**8.39**	**41**	P		Pn	18 17 30.3	-3.9
WSI	**Waingapu**	**8.44**	**257**	P		**Pn**	**18 17 32.8**	**-2.0**
TNTI	**Ternate**	**8.69**	**352**	P		**Pn**	**18 17 39.0**	**+0.9**
	49nm,1.6s							
BKSI	**Bulukumba**	**8.84**	**286**	P		**Pn**	**18 17 40.1**	**0.0**
	55nm,1.2s,420nm							
LUWI	**Luwuk**	**8.96**	**319**	P		**Pn**	**18 17 41.8**	**0.0**
	199nm,1.2s,2μm							
LUWI	**Luwuk**	**8.96**	**319**	*e*Pn		Pn	18 17 36.4	-5.4
KAPI	**Kappang**	**9.28**	**287**	P		**Pn**	**18 17 43.7**	**-2.3**
	0.6nm,0.3s,baz=138,slow=7.5,SNR=16							
KAPI	**Kappang**	**9.28**	**287**	*e*Pn		**Pn**	**18 17 43.3**	**-2.7**
KMSI	**Cibinong**	**9.60**	**331**	P		**Pn**	**18 17 50.4**	**+0.2**
	175nm,1.1s,2μm							
SRPI	**Serui, Papua**	**9.64**	**52**	P		**Pn**	**18 17 51.6**	**+0.8**
SPSI	**Sidrap Palu**	**9.64**	**293**	P		**Pn**	**18 17 54.0**	**+3.2**
APSI	**Ampana**	**9.82**	**314**	P		**Pn**	**18 17 53.6**	**+0.4**
	116nm,1.1s,1μm							
TTSI	**Tana Toraja**	**10.01**	**298**	P		**Pn**	**18 17 57.1**	**+1.5**
	31nm,1.1s,327nm							
MRSI	**Marisa**	**10.65**	**321**	P		**Pn**	**18 18 05.0**	**+0.8**
	32nm,1.3s							
WAMI	**Wamena**	**10.77**	**69**	P		**Pn**	**18 18 07.0**	**+1.2**
	118nm,1.0s,2μm							
WAMI				S		**Sn**	**18 20 09.8**	**+4.8**
	118nm,1.0s,2μm							
PCI	**Palu**	**11.18**	**308**	P		Pn	18 18 14.6	+3.5
SMPI	**Sarmi**	**11.61**	**60**	P		**Pn**	**18 18 15.2**	**-1.5**
	23nm,0.8s,2μm							
SMPI				S		**Sn**	**18 20 26.3**	**+1.2**
	23nm,0.8s,2μm							
MPSI	**Mapaga**	**11.94**	**313**	P		**Pn**	**18 18 23.3**	**+2.2**
GENI	**Genyem**	**12.62**	**66**	P		**Pn**	**18 18 31.1**	**+1.2**
GENI				S		**Sn**	**18 20 50.0**	**+0.5**
JAY	**Jayapura**	**13.14**	**67**	P		**Pn**	**18 18 36.1**	**-0.4**
	1.2nm,0.3s,baz=194,slow=9.6,SNR=7.8							
JAY				S		**Sn**	**18 20 56.5**	**-5.6**
	baz=308,slow=20,SNR=3.2							
JAY				LR		LR	18 25 24.3	
	comp=Z,103nm,18.3s,baz=236,slow=45							
WRAB	**Tennant Creek**	**13.20**	**156**	*e*Pn		**Pn**	**18 18 36.7**	**-0.6**
WRAB				*e*Sn		**Sn**	**18 21 01.3**	**-2.2**
WRA	**Warramunga Arr**	**13.20**	**156**	P		**Pn**	**18 18 36.4**	**-1.0**
	10nm,0.3s,baz=335,slow=13,SNR=392							
WRA				S		Sn	18 20 54.9	-8.6
	30nm,0.3s,baz=330,slow=23,SNR=15							
KBKI	**Kotabaru**	**13.22**	**289**	P		**Pn**	**18 18 39.1**	**+1.5**
IGBI	**Denpasar**	**13.39**	**265**	P		**Pn**	**18 18 39.7**	**0.0**
	147nm,1.0s							
BKB	**Balikpapan**	**13.42**	**299**	P		P	18 18 48.9	+4.6
BBKI	**Banjar Baru**	**14.41**	**287**	P		**P**	**18 18 54.8**	**-0.5**
	116nm,1.3s,1μm							
MTKI	**Muara Teweh, K**	**15.33**	**296**	P		P	18 19 10.4	+4.9
COEN	**Coen**	**15.49**	**114**	*e*Pn		**Pn**	**18 19 05.4**	**-0.7**
	27nm,1.3s							
COEN				*e*Sn		**Sn**	**18 21 52.1**	**-6.5**
CTBH	**Cotabato--PC H**	**15.62**	**344**⇑	*i*P		**P**	**18 19 09.5**	**+0.8**
MBWA	**Marble Bar**	**15.76**	**212**	*e*Pn		**Pn**	**18 19 10.0**	**+0.6**
	36nm,0.7s							
AS31	**Alice Springs**	**16.49**	**163**	*e*Pn		**Pn**	**18 19 19.4**	**+1.1**
AS31				*e*Sn		**S**	**18 22 18.2**	**-3.4**
ASAR	**Alice Springs**	**16.49**	**163**	P		**Pn**	**18 19 19.3**	**+1.0**
	2.1nm,0.3s,baz=331,slow=9.0,SNR=217							
ASAR				S		S	18 22 13.8	-7.9
	2.4nm,0.3s,baz=340,slow=20,SNR=4.1							
PBKI	**Pangkalan Bun**	**17.67**	**286**	P		**Pn**	**18 19 32.4**	**0.0**
PMG	**Port Moresby**	**18.37**	**96**	*e*P		**P**	**18 19 38.4**	**-0.5**
BTM	**Bintulu**	**19.03**	**305**	⇓P		**Pn**	**18 19 48.2**	**-0.3**
SBUM	**Sibu**	**19.33**	**301**	⇓P		**Pn**	**18 19 51.2**	**-0.8**
SBUM	**Sibu**	**19.33**	**301**	*e*P		**P**	**18 19 49.9**	**+0.5**
	62nm,1.2s							
KSM	**Kuching**	**20.51**	**296**	⇑P		**P**	**18 20 03.1**	**+1.1**
KSM	**Kuching**	**20.51**	**296**	P		**P**	**18 19 58.8**	**-3.2**
	40nm,1.1s							
LEM	**Lembang**	**20.88**	**271**	LR		LR	18 29 58.0	
	comp=Z,82nm,19.1s,baz=5.0,slow=42							
CTA	**Charters Tower**	**20.93**	**127**	P		Pn	18 20 10.4	-0.6
	11nm,1.0s,baz=299,slow=14,SNR=12							
CTAO	**Charters Tower**	**20.93**	**127**	*e*P		**P**	**18 20 08.9**	**+2.3**
	63nm,1.1s							
CTAO				*e*S		Sn	18 24 01.1	-7.6
STKA	**Stephens Creek**	**26.75**	**155**	P		**P**	**18 21 04.5**	**+3.2**
	13nm,0.9s,baz=328,slow=8.7,SNR=14							
STKA				LR		LR	18 33 38.7	
	comp=Z,92nm,19.2s,baz=211,slow=40							
STKA	**Stephens Creek**	**26.75**	**155**	*e*P		**P**	**18 21 05.1**	**+3.8**
	1.8nm,0.8s							
NWAO	**Narrogin (SRO)**	**27.08**	**201**	P		**P**	**18 21 06.5**	**+2.4**
	17nm,0.8s,baz=342,slow=1.9,SNR=8.3							
PSI	**Prapat**	**31.49**	**289**	P		**P**	**18 21 41.9**	**-1.6**
	5.0nm,0.4s,baz=97,slow=8.3,SNR=9.8							
LOEI	**Loei**	**36.99**	**313**	P		**P**	**18 22 28.2**	**-2.5**
DZM	**Mont Dzumac**	**39.02**	**115**	P		**P**	**18 22 50.6**	**+2.8**
	10.0nm,1.0s,baz=90,slow=20,SNR=3.5							
CMAR	**Chiang Mai Arr**	**39.29**	**312**	P		**P**	**18 22 48.9**	**-1.0**
	1.5nm,0.7s,baz=140,slow=6.7,SNR=15							
CMAR				LR		LR	18 39 47.0	
	comp=Z,36nm,20.9s,baz=162,slow=37							
CHTO	**Chiang Mai**	**39.51**	**312**	P		**P**	**18 22 53.5**	**+1.7**
	25nm,1.4s							
GYA	**Guiyang**	**40.25**	**329**	*e*P		**P**	**18 23 00.8**	**+2.9**
GYA				pP		**pP**	**18 23 32.0**	**+1.1**
GYA				PP		**PnPn**	**18 24 38.4**	**-0.5**
GYA				PcP		**PcP**	**18 25 00.8**	**+1.9**
GYA				ScP		**ScP**	**18 28 35.8**	**+1.5**
GYA				S		**S**	**18 28 57.0**	**+2.8**
GYA				sS		**sS**	**18 29 53.3**	**+1.7**
GYA				PMZ				
	10.0nm,1.0s							
GYA				PMZ				
	90nm,5.0s							
WHN	**Wuhan**	**40.59**	**341**	P		P	18 23 06.0	+5.5
NJ2	**Nanjing**	**40.79**	**347**	*e*P		**P**	**18 23 01.8**	**-0.3**
NJ2				PMZ				
	40nm,0.8s							
KMI	**Kunming**	**41.38**	**323**	P		**P**	**18 23 08.1**	**+0.8**
KMI				PMZ				
	7.0nm,1.3s							
KSAR	**Wonju Array Be**	**45.09**	**359**	P		**P**	**18 23 34.7**	**-1.9**
KSRS	**Korea Array**	**45.10**	**359**	P		**P**	**18 23 34.7**	**-1.9**
	1.5nm,0.7s,baz=176,slow=9.8,SNR=4.3							
CD2	**Chengdu**	**45.34**	**329**	*e*P		**P**	**18 23 40.0**	**+1.2**
CD2				pP		**pP**	**18 24 12.9**	**+0.5**
CD2				sP		**sP**	**18 24 29.8**	**+0.6**
CD2				PP		**PP**	**18 25 29.0**	**+0.9**
CD2				PcS		**PcS**	**18 29 09.6**	**-0.5**
CD2				S		**S**	**18 30 09.9**	**+1.5**
CD2				sS		**sS**	**18 31 07.8**	**+1.0**
CD2				SS		**SS**	**18 33 29.3**	**-5.0**
CD2				PMZ				
	10.0nm,0.5s							
CD2				PMZ				
	160nm,5.4s							
XAN	**Xi'an**	**45.69**	**337**	P		**P**	**18 23 39.8**	**-1.7**
XAN				PMZ				
	2.0nm,0.9s							
LZH	**Lanzhou**	**49.56**	**333**	*e*P		**P**	**18 24 11.3**	**-0.2**
LZH				pP		**pP**	**18 24 44.5**	**-1.1**
LZH				sP		**sP**	**18 25 00.6**	**-1.7**
LZH				PP		**PP**	**18 26 07.5**	**+0.1**
LZH				*e*S		**S**	**18 31 07.4**	**-0.7**
LZH				sS		**sS**	**18 32 06.0**	**-1.4**
LZH				SS		**SS**	**18 34 39.0**	**-3.5**
LZH				PMZ				
	29nm,1.2s							
LZH				PMZ				
	110nm,5.1s							
HHC	**Hu-ho-hao-te**	**50.97**	**343**	*e*P		**P**	**18 24 24.9**	**+3.0**
HHC				pP		**pP**	**18 24 57.5**	**+1.3**
HHC				sP		**sP**	**18 25 14.3**	**+1.4**
HHC				PP		**PP**	**18 26 24.3**	**+4.3**
HHC				S		**S**	**18 31 30.8**	**+3.4**
HHC				sS		**sS**	**18 32 27.8**	**+0.9**
HHC				ScS		**ScS**	**18 33 57.8**	**+0.4**
HHC				PMZ				
	14nm,0.6s							
HHC				PMZ				
	75nm,5.9s							
RPZ	**Rata Peaks**	**51.38**	**141**	P		P	18 24 29.3	+4.4
	35nm,0.8s,baz=279,slow=2.9,SNR=13							
CN2	**Changchun**	**51.52**	**357**	*e*P		**P**	**18 24 25.6**	**-0.1**
CN2				PMZ				
	20nm,0.8s							
MDJ	**Mudanjiang**	**52.26**	**1**	P		**P**	**18 24 33.1**	**+1.9**
MDJ				PMZ				
	6.0nm,0.6s							
MDJ				PMZ				
	55nm,3.7s							
TAPN	**Taplejung**	**52.88**	**313**	*e*P		**P**	**18 24 35.6**	**-0.9**
RAMN	**Ramite**	**53.46**	**312**	*e*P		**P**	**18 24 40.2**	**-0.5**
	18nm,0.8s							
GTA	**Gaotai**	**54.11**	**333**	*e*P		**P**	**18 24 45.0**	**0.0**
GTA				PMZ				
	6.0nm,0.9s							
JIRN	**Jiri**	**54.16**	**312**	*e*P		**P**	**18 24 45.0**	**-0.9**
GUN	**Gumba**	**54.53**	**312**	*e*P		**P**	**18 24 47.8**	**-0.8**
PKI	**Pulchoki**	**54.69**	**312**	*e*P		**P**	**18 24 48.4**	**-1.3**
KKN	**Kakani**	**54.90**	**312**	*e*P		**P**	**18 24 50.1**	**-1.0**
DMN	**Daman**	**54.93**	**312**	*e*P		**P**	**18 24 50.5**	**-0.9**
GKN	**Gorkha**	**55.49**	**312**	*e*P		**P**	**18 24 54.3**	**-1.0**
	9.7nm,0.4s							
KOLN	**Koldanda**	**56.14**	**311**	*e*P		**P**	**18 24 59.1**	**-0.8**
ULN	**Ulaanbaatar**	**58.69**	**343**	*e*P		**P**	**18 25 17.0**	**-0.4**
	4.5nm,1.1s							
SONM	**Songino Array**	**58.86**	**343**	P		**P**	**18 25 17.4**	**-1.0**
	1.4nm,0.6s,baz=159,slow=6.3,SNR=14							
SONM				LR		LR	18 53 32.5	
	comp=Z,22nm,18.4s,baz=336,slow=39							
WMQ	**Urumqi**	**63.40**	**328**	P		**P**	**18 25 49.4**	**+0.3**
WMQ				pP		**PcP**	**18 26 23.1**	**-1.6**
WMQ				PcP		**pP**	**18 26 24.8**	**-0.1**
WMQ				sP		**sP**	**18 26 38.6**	**-2.5**
WMQ				PP		**PP**	**18 28 11.8**	**+1.2**
WMQ				S		**S**	**18 34 11.8**	**+1.8**
WMQ				sS		**sS**	**18 35 07.6**	**-4.2**
WMQ				ScS		**SKSac**	**18 35 25.3**	**-2.6**
WMQ				SS		**SS**	**18 38 20.6**	**+0.7**
WMQ				PMZ				
	11nm,0.5s							
WMQ				PMZ				
	92nm,4.5s							
WMQ				LN				
	88nm,25.8s							
WMQ				LE				
	40nm,24.2s							
WMQ				LZ				
	28nm,20.0s							
PETK	**Petropavlovsk-**	**65.58**	**19**	P		**P**	**18 26 02.8**	**-0.1**
	1.5nm,0.7s,baz=184,slow=5.3,SNR=7.0							
PETK				LR		LR	18 53 52.7	
	comp=Z,10nm,21.0s,baz=105,slow=35							
KSH	**Kashi**	**67.76**	**318**	P		**P**	**18 26 17.5**	**+0.2**
KSH				pP		**pP**	**18 26 51.5**	**-1.9**
KSH				sP		**sP**	**18 27 07.3**	**-2.3**
KSH				PP		**PP**	**18 28 49.8**	**+1.0**
KSH				S		**S**	**18 35 00.1**	**-3.2**
KSH				PMZ				
	66nm,5.6s							
KSH				LN				
	140nm,6.9s							
KSH				LE				
	97nm,4.8s							
KSH				LZ				
	84nm,5.2s							
MK31	**Makanchi Array**	**68.23**	**328**	*e*P		**P**	**18 26 19.7**	**-0.2**
MKAR	**Makanchi Array**	**68.23**	**328**	P		**P**	**18 26 19.2**	**-0.7**
	3.5nm,0.9s,baz=142,slow=6.1,SNR=29							
VNDA	**Vanda**	**71.75**	**173**	P		P	18 26 44.2	+3.4
	0.8nm,0.6s,baz=305,slow=6.3,SNR=5.7							
ZALV	**Zalesovo Beam**	**71.78**	**334**	P		**P**	**18 26 40.5**	**-0.8**
	0.9nm,0.5s,baz=117,slow=5.2,SNR=8.1							
KURK	**Kurchatov**	**72.57**	**329**	*e*P		**P**	**18 26 44.2**	**-1.9**
	14nm,0.9s							
ABKAR	**Akbulak array**	**82.36**	**322**	*e*P		**P**	**18 27 40.3**	**-0.2**
	0.8nm,0.5s							
SYO	**Syowa Base**	**82.36**	**201**⇓	*e*P		**P**	**18 27 39.0**	**-1.2**
VYHS	**Vyhne**	**108.96**	**319**	PDIF		**Pdif**	**18 29 45.2**	**+1.7**
TORD	**Torodi Ar. Bea**	**127.65**	**280**	PKP		**PKPdf**	**18 34 24.3**	**+0.3**
	0.7nm,0.9s,baz=56,slow=3.7,SNR=3.7							
LPAZ	**La Paz**	**150.81**	**145**	PKPbc		**PKPbc**	**18 35 15.1**	**+3.1**
	1.1nm,0.4s,baz=19,slow=5.0,SNR=5.0							
LPAZ				PKPab		**PKPab**	**18 35 22.1**	**+2.7**
	2.1nm,0.7s,baz=191,slow=4.7,SNR=5.8							

CASC 23 18:34:25.5±2.4, 10°43N×83°05W, h9km±17km, MD4.0, 2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URSC	**Urasca**	**0.93**	**231**⇓	*i*P	Pg	18 34 43.7	+0.1
URSC				eS	Sg	18 34 56.0	0.0
SJS	**Escuela Geolog**	**1.10**	**244**	*e*P	Pg	18 34 44.8	-2.1
SJS				eS	Sg	18 35 01.0	-0.4
BUS	**Buena Vista**	**1.11**	**219**⇓	*e*P	Pg	18 34 47.0	-0.5
BUS				eS	Sg	18 35 02.5	+0.1
CGA2	**Cerro Gallo 2**	**1.45**	**254**	*e*P	Pn	18 34 52.0	-0.1
CGA2				eS	Sn	18 35 10.0	-1.4
BRU2	**Volcan**	**1.66**	**168**	eS	Sb	18 35 17.9	+0.1
ACR	**Cerro Adams**	**1.77**	**184**	*e*P	Pn	18 34 57.0	+0.6
ACR				eS	Sn	18 35 19.7	+0.6
JCR	**Jicaral**	**2.11**	**254**	*e*P	Pn	18 35 01.6	+0.5
JCR				eS	Sb	18 35 29.6	-0.8
BCIP	**Isla Barro Col**	**3.41**	**111**	*e*P	Pn	18 35 17.1	-1.7
ZANG	**Zanguenga, Cho**	**3.46**	**115**	eS	Sn	18 35 55.6	-5.2

*CRAAG **23** 18:51:42.6, 35°.95N×4°.08E, MI3.2*
*MDD **23** 18:51:43.1±0.7, 36°.00N×4°.22E, h0km±8km, mb3.9/5, Error ellipse: s-maj=10.1km s-min=5.0km az=30.0, PRXIMO*
*ISCJB **23** 18:51:44.7±0.7, 36°.13N±0°.07×4°.04E±0°.04, h18km±9km, Error ellipse: s-maj=11.6km s-min=5.2km az=4.2*
*CSEM **23** 18:51:44.2±0.4, 36°.09N×4°.09E, h6km±3km, mb3.9, Error ellipse: s-maj=12.3km s-min=4.8km az=3.0*

ISC 23 18:51:43.2±1.2, 35°.98N±0°.07×4°.15E±0°.03, h15km±9km, n60, σ0°.98/69, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAF	**Djebel Tarf**	**0.15**	**136**	P	Pg	18 51 45.6	-1.5
ATAF	**Djebel Tarf**	**0.15**	**136**	P	Pg	18 51 45.6	-1.5
ATAF	**Djebel Tarf**	**0.15**	**136**	P	Pg	18 51 45.6	-1.5
AKET	**Djebel Ketaf**	**0.23**	**287**	P	**Pg**	**18 51 48.2**	**-0.2**
AKET	**Djebel Ketaf**	**0.23**	**287**	P	**Pg**	**18 51 48.2**	**-0.2**
AKET	**Djebel Ketaf**	**0.23**	**287**	P	**Pg**	**18 51 48.2**	**-0.2**
ADJB	**Djebel Djouab**	**0.60**	**287**	P	**Pg**	**18 51 55.1**	**0.0**
ADJB	**Djebel Djouab**	**0.60**	**287**	P	**Pg**	**18 51 55.1**	**0.0**
ADJB	**Djebel Djouab**	**0.60**	**287**	P	**Pg**	**18 51 55.1**	**0.0**
EMHD	**Djebel Mahouad**	**0.99**	**283**	P	**Pg**	**18 52 02.4**	**-0.1**
EMHD	**Djebel Mahouad**	**0.99**	**283**	P	**Pg**	**18 52 02.4**	**-0.1**
EMHD	**Djebel Mahouad**	**0.99**	**283**	P	**Pg**	**18 52 02.4**	**-0.1**
SET	**Setif**	**1.04**	**77**	P	**Pn**	**18 52 04.0**	**+0.8**
SET	**Setif**	**1.04**	**77**	P	**Pn**	**18 52 04.0**	**+0.8**
SET	**Setif**	**1.04**	**77**	P	**Pn**	**18 52 04.0**	**+0.8**
CKHR	**Kef el Ahmar**	**1.10**	**88**	P	**Pb**	**18 52 02.4**	**-1.7**
CKHR	**Kef el Ahmar**	**1.10**	**88**	P	**Pb**	**18 52 02.4**	**-1.7**
CKHR	**Kef el Ahmar**	**1.10**	**88**	P	**Pb**	**18 52 02.4**	**-1.7**
DFRA	**Djebel Bou Aff**	**1.50**	**67**	P	**Pb**	**18 52 11.7**	**+0.8**
DFRA	**Djebel Bou Aff**	**1.50**	**67**	P	**Pb**	**18 52 11.7**	**+0.8**
DFRA	**Djebel Bou Aff**	**1.50**	**67**	P	**Pb**	**18 52 11.7**	**+0.8**
CTEI	**Djebel Teioual**	**1.83**	**87**	P	**Pb**	**18 52 16.6**	**+0.2**
CTEI	**Djebel Teioual**	**1.83**	**87**	P	**Pb**	**18 52 16.6**	**+0.2**
CTEI	**Djebel Teioual**	**1.83**	**87**	P	**Pb**	**18 52 16.6**	**+0.2**
CASM	**Ain Smara**	**1.92**	**81**	P	**Pb**	**18 52 17.9**	**+0.1**
CASM	**Ain Smara**	**1.92**	**81**	P	**Pb**	**18 52 17.9**	**+0.1**
CASM	**Ain Smara**	**1.92**	**81**	P	**Pb**	**18 52 17.9**	**+0.1**
CKFL	**Kef-Lekhel**	**2.12**	**78**	P	**Pb**	**18 52 21.9**	**+0.5**
CKFL	**Kef-Lekhel**	**2.12**	**78**	P	**Pb**	**18 52 21.9**	**+0.5**
CKFL	**Kef-Lekhel**	**2.12**	**78**	P	**Pb**	**18 52 21.9**	**+0.5**
EBNR	**Beni Rached**	**2.14**	**279**	P	**Pn**	**18 52 17.2**	**-1.2**
EBNR	**Beni Rached**	**2.14**	**279**	P	**Pn**	**18 52 17.2**	**-1.2**
ECHA	**Ech Chlef**	**2.26**	**275**	P	**Pn**	**18 52 21.5**	**+1.5**
ECHA	**Ech Chlef**	**2.26**	**275**	P	**Pn**	**18 52 21.5**	**+1.5**
ECHF	**Ech Chlef**	**2.28**	**275**	P	**Pn**	**18 52 21.5**	**+1.2**
ECHF	**Ech Chlef**	**2.28**	**275**	P	**Pn**	**18 52 21.5**	**+1.2**
ETRT	**Tiaret**	**2.39**	**257**	P	**Pn**	**18 52 22.7**	**+0.7**
ETRT	**Tiaret**	**2.39**	**257**	P	**Pn**	**18 52 22.7**	**+0.7**
ETRT	**Tiaret**	**2.39**	**257**	P	**Pn**	**18 52 22.7**	**+0.7**
EANR	**'Ain N'Sour**	**2.48**	**270**	P	**Pb**	**18 52 26.9**	**-0.5**
EANR	**'Ain N'Sour**	**2.48**	**270**	P	**Pb**	**18 52 26.9**	**-0.5**
EANR	**'Ain N'Sour**	**2.48**	**270**	P	**Pb**	**18 52 26.9**	**-0.5**
EIBI	**Ibiza**	**3.77**	**325**	P	**Pn**	**18 52 41.9**	**+1.1**
	1.5nm,0.1s,SNR=9.9						
EIBI				S	**Sn**	**18 53 24.3**	**-0.6**
	0.6nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.77**	**325**	P	**Pn**	**18 52 41.9**	**+1.1**
	1.5nm,0.1s,SNR=9.9						
EIBI				S	**Sn**	**18 53 24.3**	**-0.6**
	0.6nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**3.93**	**345**	P	**Pn**	**18 52 43.6**	**+0.7**
	1.2nm,0.2s,SNR=7.9						
ETOS				S	**Sn**	**18 53 26.7**	**-2.0**
	0.6nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**3.93**	**345**	P	**Pn**	**18 52 43.6**	**+0.7**
	1.2nm,0.2s,SNR=7.9						
ETOS				S	**Sn**	**18 53 26.7**	**-2.0**
	0.6nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**4.42**	**309**	P	**Pn**	**18 52 51.5**	**+1.7**
	0.1nm,0.1s,SNR=4.0						
EBEN	**Beniarda**	**4.42**	**309**	P	**Pn**	**18 52 51.5**	**+1.7**
	0.1nm,0.1s,SNR=4.0						
EMUR	**La Murta**	**4.70**	**295**	P	**Pn**	**18 52 53.8**	**+0.2**
	1.4nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**18 53 47.8**	**-0.1**
	0.4nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**4.70**	**295**	P	**Pn**	**18 52 53.8**	**+0.2**
	1.4nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**18 53 47.8**	**-0.1**
	0.4nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**5.26**	**302**	P	**Pn**	**18 53 02.6**	**+1.3**
	0.6nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**18 54 01.9**	**+0.1**
	0.4nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.26**	**302**	P	**Pn**	**18 53 02.6**	**+1.3**
	0.6nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**18 54 01.9**	**+0.1**
	0.4nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**5.69**	**322**	P	**Pn**	**18 53 07.8**	**+0.5**
	0.4nm,0.2s,SNR=4.0						
EMOS	**Mosqueruela**	**5.69**	**322**	P	**Pn**	**18 53 07.8**	**+0.5**
	0.4nm,0.2s,SNR=4.0						
SESP	**Santiago Espad**	**5.76**	**294**	P	**Pn**	**18 53 10.0**	**+1.6**
	2.0nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**18 54 13.6**	**-0.7**
	3.5nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**5.76**	**294**	P	**Pn**	**18 53 10.0**	**+1.6**
	2.0nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**18 54 13.6**	**-0.7**
	3.5nm,0.3s,SNR=7.9						
EQES	**Quesada**	**6.07**	**290**	P	**Pn**	**18 53 14.4**	**+2.0**
	0.8nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**18 54 21.1**	**-0.5**
	0.4nm,0.2s,SNR=7.9						
EQES	**Quesada**	**6.07**	**290**	P	**Pn**	**18 53 14.4**	**+2.0**
	0.8nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**18 54 21.1**	**-0.5**
	0.4nm,0.2s,SNR=7.9						
ETOR	**Torete**	**6.86**	**317**	P	**Pn**	**18 53 23.2**	**-0.1**
	1.1nm,0.2s,SNR=4.0						
ETOR	**Torete**	**6.86**	**317**	P	**Pn**	**18 53 23.2**	**-0.1**
	1.1nm,0.2s,SNR=4.0						

MEX 23 18:58:24.2±0.4, 15°.44N×92°.64W, h194km±43km, MD3.7, Mexico-Guatemala border region

*ISCJB **23** 19:01:17.9±1.9, 36°.11S±0°.04×73°.66W±0°.08, h7km±14km, mb3.8/3, MS3.6/3, Error ellipse: s-maj=10.4km s-min=7.4km az=2.8*
*IDC **23** 19:01:19.4±1.3, 36°.08S×73°.38W, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.8/23, mbtmpg3.7/6, ML3.7/2, MS3.4/5, Ms1 3.4/5, ms1mx3.1/23, Error ellipse: s-maj=32.8km s-min=19.4km az=84.0*
*GUC **23** 19:01:21.9±0.3, 36°.22S×73°.42W, h16km±4km, ML4.7*
*SJA **23** 19:01:24.5±0.8, 35°.93S×73°.21W, h41km, ML3.7, MW3.9*

ISC 23 19:01:19.9±2.6, 36°.16S±0°.05×73°.44W±0°.09, h5km±14km, n23, σ0°98/26, mb3.9/3, MS3.6/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.53**	**87**	*e*P	**Pb**	**19 01 32.3**	**+0.8**
COCH				eS	**Sb**	**19 01 40.0**	**+0.5**
LNCH	**Linares**	**1.52**	**79**	*e*P	**Pg**	**19 01 48.7**	**-0.3**
TALC	**Talca**	**1.65**	**63**	*e*P	**Pb**	**19 01 50.7**	**-0.1**
TALC				eS	**Sg**	**19 02 12.7

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.35**	**269**	P	P	19 36 35.0	+1.1
	6.5nm,0.3s,baz=102,slow=9.3,SNR=13						
STKA	**Stephens Creek**	**39.08**	**249**	P	P	19 36 56.2	-0.6
	0.9nm,0.4s,baz=97,slow=9.6,SNR=5.8						
ASAR	**Alice Springs**	**46.76**	**260**	P	P	19 37 58.8	-0.6
	1.2nm,0.4s,baz=102,slow=8.0,SNR=43						
WRA	**Warramunga Arr**	**47.23**	**265**	P	P	19 38 02.6	-0.4
	2.4nm,0.4s,baz=101,slow=8.5,SNR=45						

*IDC **23** 19:30:17.7±1.5,0.°15S×122.°10E,h0km,mb3.1/3, mb1 3.4/4,mb1mx3.2/33,mbtmp3.2/4,ML3.7/1,Error ellipse: s-maj=59.2km s-min=24.3km az=66.0*

*ISCJB **23** 19:30:19.9±0.6,0.°35S±0.°04×121.°88E±0.°05,h10km, mb3.0/3,Error ellipse: s-maj=7.2km s-min=5.1km az=8.9*

*DJA **23** 19:30:21.2±0.3,0.°S±2.°×12.°2E±.°,h10km,M3.3/7,MLv3.3/7*

ISC 23 19:30:19.1±0.9,0.°27S±0.°04×121.°99E±0.°07,h10km,n14, σ1♀19/16,mb3.0/3,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**0.72**	**208**	P	**Pg**	**19 30 31.8**	**-1.3**
APSI				S	**Sg**	**19 30 42.4**	**-0.1**
MRSI	**Marisa**	**0.74**	**356**	P	**Pn**	**19 30 35.7**	**+0.1**
MRSI				S	**Sn**	**19 30 47.5**	**+0.5**
LUWI	**Luwuk**	**1.09**	**135**	P	**Pb**	**19 30 38.9**	**-1.2**
LUWI				S	**Sn**	**19 30 57.3**	**+1.7**
KMSI	**Cibinong**	**2.16**	**67**	P	Pg	19 31 03.8	+3.3
KMSI				S	Sg	19 31 35.1	+6.6
MPSI	**Mapaga**	**2.18**	**286**	P	**Pn**	**19 30 55.5**	**+0.1**
PCI	**Palu**	**2.25**	**254**	P	**Pn**	**19 30 58.6**	**+2.3**
TTSI	**Tana Toraja**	**3.51**	**218**	P	**Pn**	**19 31 15.4**	**+1.7**
SPSI	**Sidrap Palu**	**4.29**	**211**	P	**Pn**	**19 31 25.4**	**+0.9**
SANI	**Sanana**	**4.37**	**114**	P	Pb	19 31 29.9	-6.1
KAPI	**Kappang**	**5.22**	**205**	Pn	**Pn**	**19 31 37.2**	**0.0**
	2.4nm,0.3s,baz=9.4,slow=6.2,SNR=11						
KAPI				Sn	**Sn**	**19 32 36.1**	**-1.4**
	baz=205,slow=19,SNR=2.0						
BKSI	**Bulukumba**	**5.36**	**200**	P	**Pn**	**19 31 39.7**	**+0.6**
WRA	**Warramunga Arr**	**22.99**	**149**	P	**P**	**19 35 24.9**	**+0.8**
	0.5nm,1.0s,baz=333,slow=10.0,SNR=4.1						
ASAR	**Alice Springs**	**25.97**	**154**	P	**P**	**19 35 52.9**	**+0.8**
	0.4nm,0.8s,baz=340,slow=12,SNR=4.3						
MKAR	**Makanchi Array**	**58.32**	**329**	P	**P**	**19 40 14.4**	**+0.1**
	0.1nm,0.6s,baz=142,slow=7.3,SNR=2.4						

*IDC **23** 19:32:41.1±0.9,17.°89S×168.°89E,h0km,mb4.2/10, mb1 4.4/11,mb1mx4.2/29,mbtmp4.2/11,ML3.9/1,MS4.1/14, Ms1 4.1/14,ms1mx3.9/29,Error ellipse: s-maj=26.4km s-min=20.1km az=131.0*

*GCMT **23** 19:32:41.9±0.2,17.°67S×169.°13E,h15km±1km,MW5.0/92, Moment Tensor Solution. s25,c29; s92,c128; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.79±.14; Mθθ-0.69±.12; Mφφ1.48±.13; Mrθ0.47±.22; Mrφ-3.25±.11; Mθφ1.29±.27; Best double couple: M₀3.73600×10¹⁶ NP1:φs187.00000°,δ81.00000°,λ-24.00000°. NP2: φs281.00000°,δ67.00000°,λ-170.00000°. Principal axes: T 3.9520, Plg10.0000°, Azm236.0000°; N -0.4330, Plg65.0000°, Azm347.0000°; P -3.5190, Plg23.0000°, Azm142.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **23** 19:32:41.9±0.4,17.°88S×168.°99E,h10km,mb4.6/7 Error ellipse: s-maj=15.2km s-min=8.8km az=150.0*

*ISCJB **23** 19:32:43.4±0.5,17.°94S±0.°06×169.°02E±0.°08,h33km, mb4.4/16,MS4.0/12,Error ellipse: s-maj=12.2km s-min=6.2km az=28.0*

ISC 23 19:32:45.6±0.6,17.°90S±0.°08×169.°00E±0.°10,h35km,n45, σ1♀00/39,mb4.5/16,MS4.1/12,4C,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**4.68**	**205**	*e*P	**Pn**	**19 33 56.1**	**+2.3**
BAYA				*e*S	**Sn**	**19 34 45.9**	**-0.9**
DZM	**Mont Dzumac**	**4.80**	**210**	Pn	**Pn**	**19 33 55.2**	**-0.4**
	4.8nm,0.3s,baz=270,slow=24,SNR=90						
DZM				Sn	**Sn**	**19 34 50.7**	**+0.7**
	17nm,0.3s,baz=271,slow=23,SNR=9.0						
DZM				LR	LR	19 35 21.0	
	comp=Z,2μm,19.1s,baz=0.0,slow=34						
DZM	**Mont Dzumac**	**4.80**	**210**	*e*P	**Pn**	**19 33 54.2**	**-1.3**
DZM				*e*S	**Sn**	**19 34 50.2**	**+0.3**
MSVF	**Nonsavu**	**8.62**	**90**	*e*Pn	**Pn**	**19 34 47.2**	**-0.8**
	33nm,1.0s						
RAO	**Raoul Island**	**16.46**	**136**	LR	LR	19 41 24.6	
	comp=Z,678nm,22.0s,baz=58,slow=32						
EIDS	**Eidsvold**	**18.23**	**243**	*e*Pn	**P**	**19 36 55.8**	**-0.1**
	67nm,1.5s						
ARMA	**Armidale**	**20.13**	**229**	*e*P	**P**	**19 37 15.7**	**-1.1**
	13nm,1.0s						
CTA	**Charters Tower**	**21.61**	**261**	P	**P**	**19 37 35.2**	**+2.3**
	4.7nm,0.7s,baz=86,slow=10,SNR=5.5						
CTA				LR	LR	19 44 53.0	
	comp=Z,659nm,18.5s,baz=74,slow=34						
CAN	**Canberra**	**24.84**	**222**	*e*P	**P**	**19 38 03.4**	**-1.5**
	24nm,1.3s						
RPZ	**Rata Peaks**	**25.80**	**177**	LR	LR	19 47 27.7	
	comp=Z,664nm,18.5s,baz=344,slow=34						
STKA	**Stephens Creek**	**28.39**	**235**	P	**P**	**19 38 36.8**	**-0.1**
	15nm,0.9s,baz=62,slow=8.9,SNR=14						
STKA				LR	LR	19 49 07.0	
	comp=Z,674nm,21.2s,baz=57,slow=35						
STKA	**Stephens Creek**	**28.39**	**235**	*e*P	**P**	**19 38 35.8**	**-1.0**
	9.3nm,1.4s						
WRAB	**Tennant Creek**	**32.81**	**261**	*e*P	**P**	**19 39 14.3**	**-1.7**
	6.8nm,0.8s						
WRA	**Warramunga Arr**	**32.82**	**261**	P	**P**	**19 39 15.0**	**-1.1**
	5.9nm,1.0s,baz=88,slow=8.8,SNR=21						
WRA				LR	LR	19 53 11.2	
	comp=Z,379nm,18.1s,baz=85,slow=38						
BBOO	**Buckleboo**	**33.10**	**237**	*e*P	**P**	**19 39 18.8**	**+0.4**
ASAR	**Alice Springs**	**33.25**	**254**	P	**P**	**19 39 19.4**	**-0.5**
	9.0nm,0.9s,baz=81,slow=9.0,SNR=43						
ASAR				LR	LR	19 52 25.7	
	comp=Z,965nm,20.1s,baz=82,slow=36						
TBI	**Tubuai**	**39.16**	**105**	*e*LQ	LQ	19 48 44.7	
	1μm,28.8s						
PPT2	**Papeete2**	**39.40**	**96**	*e*S	S	19 45 59.8	-12
	52nm,24.0s						
PPT2				*e*LQ	LQ	19 48 49.9	
	2μm,31.5s						
PPT2				*e*LR	LR	19 50 31.0	
	512nm,25.5s						
PPT	**Papeete**	**39.40**	**96**	LR	LR	19 54 45.4	
	comp=Z,154nm,19.6s,baz=230,slow=34						
SIJI	**Sorong**	**40.75**	**290**	P	**P**	**19 40 23.1**	**-0.5**
	3.7nm,0.5s,baz=124,slow=8.6,SNR=5.7						
BATI	**Baumata**	**44.55**	**274**	P	**P**	**19 40 55.1**	**+0.7**
	12nm,0.7s,baz=198,slow=3.0,SNR=6.0						
KAPI	**Kappang**	**49.78**	**279**	P	**P**	**19 41 36.0**	**+0.7**
	baz=114,slow=5.1						
KAPI	**Kappang**	**49.78**	**279**	*e*P	**P**	**19 41 35.6**	**+0.4**
	28nm,1.4s						
JCJ	**Chichijima**	**51.74**	**329**	LR	LR	20 00 38.9	
	comp=Z,132nm,20.5s,baz=142,slow=32						
VNDA	**Vanda**	**59.76**	**182**	P	**P**	**19 42 47.2**	**+0.6**
	0.9nm,0.9s,baz=342,slow=7.2,SNR=2.1						
VNDA				LR	LR	20 04 32.1	
	comp=Z,177nm,21.4s,baz=11,slow=32						
MJAR	**Matsushiro Arr**	**61.47**	**332**	LR	LR	20 07 26.7	
	comp=Z,38nm,21.6s,baz=130,slow=34						
KSRS	**Korea Array**	**67.28**	**325**	LR	LR	20 10 22.0	
	comp=Z,48nm,21.6s,baz=133,slow=34						
PETK	**Petropavlovsk-**	**71.38**	**353**	LR	LR	20 10 29.9	
	comp=Z,70nm,21.1s,baz=154,slow=32						
CMAR	**Chiang Mai Arr**	**77.75**	**294**	P	**P**	**19 44 39.8**	**+0.2**
	0.5nm,0.7s,baz=134,slow=5.2,SNR=5.3						
MAW	**Mawson**	**79.59**	**202**	LR	LR	20 16 01.8	
	comp=Z,178nm,20.0s,baz=66,slow=33						
ULN	**Ulaanbaatar**	**85.66**	**323**	*e*P	**P**	**19 45 19.8**	**-1.1**
	4.8nm,1.1s						
SONM	**Songino Array**	**86.02**	**323**	P	**P**	**19 45 21.7**	**-0.9**
	0.4nm,0.6s,baz=135,slow=5.5,SNR=3.8						
NVAR	**Mina Array Bea**	**88.09**	**49**	P	**P**	**19 45 34.7**	**+1.7**
	1.0nm,0.8s,baz=237,slow=5.9,SNR=2.5						
ILAR	**Eielson Array**	**89.02**	**17**	P	**P**	**19 45 38.3**	**+1.8**
	0.3nm,0.6s,baz=235,slow=4.7,SNR=4.1						
WVOR	**Wild Horse Val**	**89.53**	**45**	*e*P	**P**	**19 45 38.9**	**-0.7**
	18nm,1.7s						
MKAR	**Makanchi Array**	**100.62**	**316**	P	**Pdif**	**19 46 30.6**	**+0.6**
	0.1nm,0.5s,baz=98,slow=7.6,SNR=2.9						

ABTA	**Abfaltersbach**	**145.30**	**331**	⇑*i*PKPdf	**PKPdf**	**19 52 19.2**	**-0.7**
	6.0nm,0.9s						
WLF	**Walferdange**	**145.42**	**340**	*e*PKPdf	**PKPab**	**19 52 20.6**	**+0.5**
MOTA	**Moosalm**	**145.48**	**333**	⇑*i*PKPab	**PKPbc**	**19 52 19.7**	**-0.6**
	8.5nm,1.1s						
FETA	**Feichten**	**145.89**	**333**	⇑*i*PKPab	**PKPbc**	**19 52 21.2**	**-0.4**
	7.1nm,1.0s						
DAVA	**Damuels**	**146.04**	**334**	⇑*i*PKPab	**PKPab**	**19 52 22.4**	**-0.2**
	15nm,1.7s						
ECH	**Echery**	**146.33**	**338**	*e*PKPbc	**PKPbc**	**19 52 22.2**	**-0.5**
BNI	**Bardonecchia**	**149.15**	**335**	*e*PKPbc	**PKPbc**	**19 52 30.9**	**+0.2**
SSB	**Saint Sauveur**	**149.77**	**338**	*e*PKPbc	**PKPbc**	**19 52 31.6**	**-0.5**
TORD	**Torodi Ar. Bea**	**166.89**	**251**	PKP	**PKPdf**	**19 52 48.1**	**-0.4**
	0.5nm,0.8s,baz=231,slow=1.5,SNR=3.1						
TORD				PKPab	**PKPab**	**19 53 52.1**	**0.0**
	0.4nm,0.9s,baz=77,slow=3.5,SNR=3.0						

NNC 23 19:34:10.7±4.2,36.°68N×69.°43E,h0km,mb3.9,mpv3.5, 2C-7D,Error ellipse: s-maj=31.2km s-min=19.4km az=21.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.18**	**347**	⇓Pn	Pn	19 34 48.5	+0.1
	15nm,0.5s						
DZET				⇓Sn	Sb	19 35 17.7	-1.2
	42nm,0.5s						
SFK	**Sufi-Kurgan**	**4.62**	**43**	⇓Pn	Pn	19 35 22.1	0.0
	3.2nm,0.4s						
SFK				⇓Sn	Sn	19 36 19.9	+3.2
	3.8nm,0.4s						
SFK				⇓Lg	Lg	19 36 37.5	
	5.8nm,0.6s						
MNAS	**Manas**	**6.27**	**21**	⇓Pn	Pn	19 35 43.1	-1.5
	2.3nm,0.6s						
MNAS				⇓Sn	Sn	19 36 55.8	-1.4
	2.0nm,0.6s						
KK31	**Karatay Array**	**6.47**	**7**	Pn	Pn	19 35 45.6	-1.7
	1.2nm,0.2s,baz=199,slow=16,SNR=16						
KK31				⇑Sn	Sn	19 36 59.4	-2.4
	0.9nm,0.5s						
KK31				⇑Lg	Lg	19 37 36.0	
	3.1nm,0.8s,baz=193,slow=30,SNR=4.5						

PGC 23 19:53:38.4±1.7,50.°69N×130.°56W,h10km,MLSn2.9/23, Mw3.5/23,221km west of Pt. Hardy, Bc Vancouver Island, Canada Region,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.55**	**91**	Pn	Pn	19 54 04.0	-2.1
HOLB				Sn	Sn	19 54 22.1	-4.1
BPBC	**Brooks Peninsu**	**1.86**	**106**	Pn	Pn	19 54 08.1	-2.3
PHC	**Port Hardy**	**1.99**	**88**	Pn	Pn	19 54 10.2	-1.8
PHC				Sn	Sn	19 54 33.0	-4.0
BNB	**Barry Inlet**	**2.03**	**339**	Pn	Pn	19 54 10.2	-2.5
BBB	**Bella Bella**	**2.14**	**45**	Pn	Pn	19 54 12.5	-1.7
BBB				Sn	Sn	19 54 35.9	-4.9
MAYB	**Maynard**	**2.18**	**96**	Pn	Pn	19 54 13.1	-1.8
FHRB	**Fair Harbour**	**2.30**	**105**	Pn	Pn	19 54 14.5	-1.7
EDB	**Eliza Dome**	**2.35**	**109**	Pn	Pn	19 54 15.3	-1.8
EDB				Sn	Sn	19 54 41.4	-4.6
TLCB	**Telegraph Cove**	**2.38**	**92**	Pn	Pn	19 54 16.2	-1.2
WOSB	**Woss**	**2.61**	**100**	Pn	Pn	19 54 19.3	-1.3
MOBC	**Moresby Island**	**2.61**	**341**	Pn	Pn	19 54 18.7	-1.9
MOBC				Sn	Sn	19 54 49.2	-3.2
DIB	**Dawson Inlet,**	**2.78**	**336**	Pn	Pn	19 54 21.3	-1.6
VIB	**Van Inlet**	**2.84**	**335**	Pn	Pn	19 54 21.9	-2.0
NCRB	**Newcastle Ridg**	**2.89**	**94**	Pn	Pn	19 54 22.9	-1.7
ETB	**Estevan Point**	**2.91**	**115**	Pn	Pn	19 54 23.2	-1.4
GDR	**Gold River**	**3.05**	**106**	Pn	Pn	19 54 25.3	-1.3
CBB	**Campbell River**	**3.39**	**99**	Pn	Pn	19 54 30.4	-0.9
CBB				Sn	Sn	19 55 08.9	-2.7
BTB	**Buttle Lake**	**3.47**	**109**	Pn	Pn	19 54 31.2	-1.4
BTB				Sn	Sn	19 55 10.2	-3.8
NDB	**Naden**	**3.58**	**337**	Pn	Pn	19 54 32.6	-1.4
RUBB	**Prince Rupert**	**3.65**	**3**	Pn	Pn	19 54 33.8	-1.0
OZB	**Mount Ozzard**	**3.71**	**116**	Pn	Pn	19 54 34.5	-1.2
OZB				Sn	Sn	19 55 15.4	-4.2
TXB	**Texada**	**4.06**	**102**	Pn	Pn	19 54 39.8	-0.8
MGB	**Mount Grey**	**4.16**	**112**	Pn	Pn	19 54 41.0	-1.0
SHB	**Sechelt**	**4.44**	**102**	Pn	Pn	19 54 45.0	-0.8
PFB	**Port Renfrew**	**4.51**	**116**	Pn	Pn	19 54 46.9	+0.2
UBRB	**Upper Baezaeko**	**4.59**	**59**	Pn	Pn	19 54 47.4	-0.6
WPB	**Watts Point**	**4.84**	**99**	Pn	Pn	19 54 51.3	+0.1
LZB	**Mount Lazard**	**4.85**	**113**	Pn	Pn	19 54 51.3	-0.1
MBW	**Mount Baker**	**5.93**	**105**	Pn	Pn	19 55 07.7	+1.2
CMW	**Cultus Mountai**	**5.94**	**109**	Pn	Pn	19 55 07.7	+1.2
JCW	**Jim Creek**	**6.16**	**111**	Pn	Pn	19 55 10.3	+0.9
RPW	**Rockport**	**6.30**	**107**	Pn	Pn	19 55 12.4	+1.0

*NEIC **23** 19:53:57.6,32.°09N×115.°12W,h7km,ML3.1(PAS), ML3.2(ECX),After ECX.*

*ECX **23** 19:53:57.6±0.5,32.°14N×115.°20W,h7km,MD2.9,ML3.2*

*MEX **23** 19:53:59.4±0.5,32.°19N×115.°16W,h14km,MD3.6*

ISC 23 19:53:56.2±1.0,32.°15N±0.°03×115.°15W±0.°03, h23km±10km,n23,σ0♀61/39,5C-3D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.30**	**334**	*e*P	**Pb**	**19 54 03.3**	**+0.3**
CPBX				*e*S	**Sb**	**19 54 07.7**	**0.0**
CPBX	**Cerro Prieto**	**0.30**	**334**	*e*P9	Pg	19 54 03.4	
CPBX				*e*S	**Sb**	**19 54 07.5**	**-0.1**
EMSC	**East Mesa**	**0.60**	**13**	⇓*e*P	**Pn**	**19 54 08.8**	**-0.5**
YMD	**Yuma Desert**	**0.65**	**52**	⇓*i*P	**Pb**	**19 54 09.4**	**+0.6**
ECBX	**El Chinero**	**0.68**	**173**	*e*P9	Pg	19 54 07.7	
ECBX				*e*S	**Sb**	**19 54 17.0**	**-1.4**
SGL	**Mount Signal**	**0.69**	**316**	⇑*i*P	**Pb**	**19 54 09.8**	**+0.2**
RDX	**Rancho Dawling**	**0.71**	**252**	⇑*e*P	**Pb**	**19 54 09.8**	**-0.2**
RDX				*e*S	**Sb**	**19 54 18.7**	**-0.7**
RDX				IAML		19 54 18.9	
	comp=N,1μm,0.3s						
COA	**Coachella**	**0.71**	**2**	⇓*i*P	**Pb**	**19 54 10.2**	**+0.3**
YUH	**Yuha Desert**	**0.82**	**307**	⇑*i*P	**Pb**	**19 54 11.5**	**-0.2**
RMX	**La Rumorosa**	**0.91**	**300**	*e*P	**Pb**	**19 54 13.0**	**-0.3**
RMX				*e*S	**Sb**	**19 54 24.8**	**-0.2**
RMX				IAML		19 54 26.2	
	comp=N,818nm,0.1s						
RMX				*e*		19 54 26.2	
GLA	**Glamis**	**0.94**	**17**	*e*Pg	**Pb**	**19 54 12.9**	**-0.9**
GLA				*e*Sg	**Sn**	**19 54 27.9**	**+1.1**
SPIG	**San Pedro Mart**	**1.14**	**194**	*e*P	**Pb**	**19 54 17.7**	**+0.4**
SPIG				*e*S	**Sn**	**19 54 32.9**	**+0.9**
SPIG	**San Pedro Mart**	**1.14**	**194**	*e*P	**Pb**	**19 54 17.7**	**+0.4**
SPIG				*e*S	**Sn**	**19 54 32.9**	**+0.9**
SPX	**San Pedro Mart**	**1.14**	**194**	*e*P	**Pb**	**19 54 17.7**	**+0.3**
SPX				*e*S	**Sb**	**19 54 30.9**	**-0.9**
SPX	**San Pedro Mart**	**1.14**	**194**	*e*P	**Pn**	**19 54 16.8**	**-0.2**
SPX				*e*S	**Sn**	**19 54 32.7**	**+0.7**
SPX				⇑*e*		19 54 35.4	
	comp=N,290nm,0.4s						
ZAX	**El Zacaton**	**1.15**	**237**	*e*P	**Pn**	**19 54 16.9**	**0.0**
ZAX				*e*S	**Sb**	**19 54 31.9**	**0.0**
CBX	**Cerro Bola**	**1.29**	**278**	*e*P	**Pn**	**19 54 18.5**	**-0.4**
CBX				*e*S	**Sn**	**19 54 35.1**	**-0.6**
CBX	**Cerro Bola**	**1.29**	**278**	*e*P	**Pn**	**19 54 18.5**	**-0.4**
CBX				*e*S	**Sn**	**19 54 35.1**	**-0.6**
CBX	**Cerro Bola**	**1.29**	**278**	*e*P	**Pn**	**19 54 18.8**	**-0.2**
CBX				*e*S	**Sb**	**19 54 36.4**	**+0.3**
CBX				⇑*e*		19 54 38.3	
CBX				IAML		19 54 38.3	
	comp=E,600nm,0.2s						
ECNX	**Esteban Cantu**	**1.33**	**249**	*e*P	**Pn**	**19 54 19.7**	**+0.3**
ECNX				*e*S	**Sb**	**19 54 36.8**	**-0.3**
PBX	**Punta Banda**	**1.40**	**253**	*e*P	**Pn**	**19 54 20.7**	**+0.4**
PBX				*e*S	**Sb**	**19 54 39.4**	**+0.3**
PFO	**Pinyon Flats O**	**1.82**	**323**	*e*Pn	**Pn**	**19 54 25.7**	**-0.5**
PFO				*e*Sn	**Sb**	**19 54 52.8**	**+1.4**
214A	**Organ Pipe Nat**	**2.00**	**95**	*e*Pn	**Pn**	**19 54 27.9**	**-0.6**
214A				*e*Pg	Pb	19 54 35.1	+3.3
214A				*e*Sn	**Sb**	**19 54 56.2**	**-0.1**

IDC 23 19:55:12.3±2.8,13.°48S×167.°49E,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.6/33,mbtmp4.0/3,Error ellipse: s-maj=113.2km s-min=45.8km az=140.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.97**	**228**	P	P	20 01 22.8	+0.1
	1.0nm,0.4s,baz=56,slow=11,SNR=5.4						
WRA	**Warramunga Arr**	**32.36**	**254**	P	P	20 01 44.0	+0.2
	1.0nm,0.5s,baz=86,slow=9.6,SNR=26						
ASAR	**Alice Springs**	**33.34**	**247**	P	P	20 01 52.0	-0.4
	0.8nm,0.4s,baz=76,slow=9.3,SNR=23						
ARCES	**ARCESS Array B**	**119.11**	**346**	PKP			
	2.0nm,0.9s,baz=29,slow=2.1,SNR=6.0			PKPdf		20 14 02.4	-0.3

*ISCJB **23** 19:57:14.5±0.8,35.°74N±0.°05×141.°16E±0.°09,h74km±5km, mb3.7/6,Error ellipse: s-maj=13.5km s-min=6.7km az=155.3*

*IDC **23** 19:57:14.8±2.5,35.°64N×141.°29E,h61km±22km,mb3.4/6, mb1 3.6/11,mb1mx3.3/39,mbtmp3.8/11,ML3.1/4,Error ellipse: s-maj=41.2km s-min=16.2km az=70.0*

*JMA **23** 19:57:16.3±0.1,35.°72N×141.°02E,h67km±1km,M3.3*

ISC 23 19:57:15.3±1.0,35.°75N±0.°06×141.°22E±0.°08,h66km±8km, n24,σ1♀30/26,mb3.7/6,1C-2D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.30**	**261**	⇓P	**Pn**	**19 57 26.3**	**+0.2**
CHOJ				S	**Sn**	**19 57 33.6**	**-0.4**
JCN	**Nagara**	**0.90**	**249**	P	**Pn**	**19 57 32.2**	**-0.1**
JCN				S	**Sn**	**19 57 44.3**	**-0.6**
JYT	**Yasato**	**0.96**	**300**	⇓P	**Pn**	**19 57 32.8**	**-0.3**
JYT				S	**Sn**	**19 57 44.9**	**-1.4**
BSO1	**Boso 1**	**1.11**	**190**	P	**Pn**	**19 57 35.1**	**+0.5**
BSO1				S	**Sn**	**19 57 49.8**	**+0.8**
BSO3	**Boso 3**	**1.11**	**212**	P	**Pn**	**19 57 34.5**	**-0.3**
BSO3				S	**Sn**	**19 57 49.8**	**+0.4**
JAG	**Ashikaga**	**1.58**	**296**	⇑P	**Pn**	**19 57 41.2**	**-0.1**
MJAR	**Matsushiro Arr**	**2.56**	**289**	P	**Pn**	**19 57 54.1**	**-0.4**
	8.8nm,0.3s,baz=97,slow=8.7,SNR=105						
MJAR				S	**Sn**	**19 58 23.1**	**-1.5**
	6.4nm,0.3s,baz=120,slow=23,SNR=9.6						
MAT	**Matsushiro**	**2.57**	**289**	P	**Pn**	**19 57 54.3**	**-0.3**
MAT				*e*S	**Sn**	**19 58 22.8**	**-1.9**
ASAJ	**Asahikawa**	**8.42**	**7**	P	**Pn**	**19 59 16.0**	**+1.5**
	0.4nm,0.3s,baz=210,slow=17,SNR=7.2						
ASAJ				S	**Sn**	**20 00 45.7**	**-2.3**
	0.3nm,0.3s,baz=139,slow=19,SNR=3.2						
JCJ	**Chichijima**	**8.67**	**174**	P	**Pn**	**19 59 15.6**	**-2.5**
	5.4nm,0.3s,baz=66,slow=20,SNR=6.0						
JCJ				S	Sn	20 00 44.0	-10
	5.7nm,0.3s,baz=285,slow=20,SNR=4.5						
KSRS	**Korea Array**	**10.83**	**283**	P	**Pn**	**19 59 50.4**	**+3.0**
	0.1nm,0.3s,baz=102,slow=14,SNR=3.3						
USRK	**Ussuriysk Ar.**	**11.01**	**323**	P	**Pn**	**19 59 50.6**	**+0.8**
	0.2nm,0.3s,baz=101,slow=15,SNR=3.4						
H11N2	**WAKE ISLAND Hy**	**27.65**	**118**	T	T	20 32 14.2	
	baz=311,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**27.66**	**118**	T	T	20 32 12.9	
	baz=311,slow=75,SNR=8.5						
H11N3	**WAKE ISLAND Hy**	**27.67**	**118**	T	T	20 32 13.4	
	baz=311,slow=75,SNR=8.6						
H11S1	**WAKE ISLAND Hy**	**28.32**	**121**	T	T	20 33 00.0	
	baz=312,slow=75,SNR=16						
H11S3	**WAKE ISLAND Hy**	**28.32**	**121**	T	T	20 33 00.3	
	baz=312,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy**	**28.33**	**121**	T	T	20 33 07.3	
	baz=312,slow=75,SNR=11						
SONM	**Songino Array**	**28.39**	**306**	P	**P**	**20 03 04.5**	**+1.0**
	0.4nm,0.5s,baz=112,slow=9.3,SNR=4.3						
SIJI	**Sorong**	**37.60**	**196**	P	**P**	**20 04 22.4**	**-1.2**
	3.7nm,0.8s,baz=104,slow=12,SNR=4.7						
ZALV	**Zalesovo Beam**	**42.67**	**313**	P	**P**	**20 05 06.1**	**+0.8**
	0.6nm,0.3s,baz=90,slow=6.7,SNR=2.4						
MKAR	**Makanchi Array**	**44.68**	**303**	P	**P**	**20 05 22.1**	**+0.7**
	0.9nm,0.6s,baz=86,slow=6.6,SNR=12						
WRA	**Warramunga Arr**	**55.77**	**188**	P	**P**	**20 06 45.1**	**-0.4**
	0.2nm,0.4s,baz=6.2,slow=7.6,SNR=7.6						
ASAR	**Alice Springs**	**59.50**	**188**	P	**P**	**20 07 10.8**	**-0.8**
	0.6nm,0.9s,baz=9.8,slow=6.8,SNR=4.0						

*ISK **23** 19:58:30.0,38.°73N×38.°07E,h5km,ML3.6*

*CSEM **23** 19:58:31.9±0.1,38.°70N×38.°07E,h2km,ML3.8,Error ellipse: s-maj=3.2km s-min=2.9km az=162.0*

*DDA **23** 19:58:31.3,38.°70N×38.°06E,h8km,ML3.8*

**ISC 23 19:58:31.7±1.1,38.°71N±0.°02×38.°06E±0.°02,h2km±11km, n81,σ0♀74/97,Tur

KARA	Karaisali	2.78	240	ePn	Pn	19 59 17.6	+0.2
EZM	Erzurum	2.82	64	ePN	Pn	19 59 18.0	-0.2
KVT	Kavak	2.83	327	ePN	Pn	19 59 18.2	+0.1
KVT	Kavak	2.83	327	ePn	Pn	19 59 18.2	+0.1
CORM	Corum	3.04	300	ePN	Pn	19 59 21.1	+0.1
CORM	Corum	3.04	300	ePn	Pn	19 59 21.1	+0.1
MERS	Mersin	3.35	238	ePN	Pn	19 59 25.7	+0.4
SULT	Sultanhani-AKS	3.61	263	ePN	Pn	19 59 29.6	+0.8
SULT	Sultanhani-AKS	3.61	263	ePn	Pn	19 59 29.6	+0.8
DIKM	Dikmen	3.64	325	ePN	Pn	19 59 29.5	+0.3
DIKM	Dikmen	3.64	325	ePn	Pn	19 59 29.5	+0.3
SIRT	Sirnak	3.66	108	ePN	Pn	19 59 29.6	+0.1
SIRT	Sirnak	3.66	108	ePn	Pn	19 59 29.6	+0.1
BYBT	Boyabat	3.74	319	ePN	Pn	19 59 31.5	+1.0
BYBT	Boyabat	3.74	319	ePn	Pn	19 59 31.5	+1.0
BCA	Borcka	3.86	44	ePN	Pn	19 59 32.9	+0.6
BCA	Borcka	3.86	44	ePn	Pn	19 59 32.9	+0.6
TOS	Tosya	3.88	308	ePN	Pn	19 59 33.4	+0.8
TOS	Tosya	3.88	308	ePn	Pn	19 59 33.4	+0.8
CANT	Cankiri	3.92	300	ePN	Pn	19 59 33.6	+0.6
AFSR	Afˇar-Bala (A	3.96	282	ePN	Pn	19 59 34.2	+0.7
AFSR	Afˇar-Bala (A	3.96	282	ePn	Pn	19 59 34.3	+0.7
ANTO	Ankara	4.25	287	ePN	Pn	19 59 38.3	+0.7
ANTO	Ankara	4.25	287	ePn	Pn	19 59 38.3	+0.7

IDC ***23*** *19:59:03.4±3.3, 9.˙10S×153.˙32E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.6/28, mbtmp3.6/5, ML3.8/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/17, Error ellipse: s-maj=106.1km s-min=26.6km az=114.0*

ISC 23 19:59:09.0±3.4, 9.˙2S±0.˙3×153.˙2E±0.˙7, h35km, n6, σ0.˚75/6, mb3.5/4, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**12.75**	**211**	Pn	**Pn**	**20 02 07.4**	**-0.5**
	0.4nm,0.3s,baz=31,slow=15,SNR=4.1						
WRA	**Warramunga Arr**	**21.14**	**238**	P	**P**	**20 03 51.1**	**0.0**
	2.0nm,0.5s,baz=60,slow=11,SNR=28						
WRA				LR	LR	20 12 00.4	
	comp=Z,72nm,19.9s,baz=60,slow=36						
ASAR	**Alice Springs**	**23.41**	**230**	P	**P**	**20 04 16.0**	**+1.0**
	0.8nm,0.5s,baz=61,slow=9.8,SNR=14						
SONM	**Songino Array**	**70.25**	**329**	P	**P**	**20 10 18.2**	**-0.6**
	0.2nm,0.3s,baz=119,slow=6.3,SNR=2.6						
MKAR	**Makanchi Array**	**83.89**	**319**	P	**P**	**20 11 35.6**	**+0.3**
	0.2nm,0.6s,baz=100,slow=5.1,SNR=3.3						
TORD	**Torodi Ar. Bea**	**151.79**	**281**	PKPbc	**PKPbc**	**20 19 01.5**	**+0.4**
	0.4nm,0.8s,baz=95,slow=2.4,SNR=3.1						

NNC ***23*** *20:01:15.6±3.0, 37.˚64N×71.˚96E, h208km±25km, mb2.4, mpv3.6, Error ellipse: s-maj=28.3km s-min=11.1km az=156.0*

ISC 23 20:01:18.6±3.0, 37.˚6N±0.˚2×72.˚09E±0.˚09, h130km, n14, σ2.˚24/19, 3C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**2.64**	**24**	⇓P	**Pn**	**20 02 01.8**	**+0.9**
	8.5nm,0.4s						
SFK				S	**Sn**	**20 02 38.8**	**+5.4**
	58nm,0.5s						
DZET	**Dzherino**	**2.83**	**296**	⇑P	**Pn**	**20 02 02.5**	**-0.7**
	12nm,0.3s						
DZET				⇓S	**Sn**	**20 02 40.1**	**+2.6**
	103nm,0.4s						
AML	**Almayashu**	**4.68**	**15**	P	**Pn**	**20 02 26.7**	**-1.1**
	SNR=20						
MNAS	**Manas**	**4.88**	**4**	⇓P	**Pn**	**20 02 29.1**	**-1.2**
	5.5nm,0.4s						
MNAS				⇑S	**Sn**	**20 03 26.5**	**+0.5**
	17nm,0.6s						
UCH	**Uchtor**	**4.97**	**21**	P	**Pn**	**20 02 30.4**	**-1.4**
	SNR=9.1						
KZA	**Kyzart**	**5.08**	**28**	P	**Pn**	**20 02 31.0**	**-2.2**
	SNR=10						
EKS2	**Erkin-Say**	**5.21**	**14**	P	**Pn**	**20 02 33.3**	**-1.3**
	SNR=12						
AAK	**Ala-Archa**	**5.35**	**19**	P	**Pn**	**20 02 35.3**	**-1.2**
	SNR=12						
AAK	**Ala-Archa**	**5.35**	**19**	P	**Pn**	**20 02 34.8**	**-1.6**
AAK				S	**Sn**	**20 03 38.9**	**+1.8**
KBK	**Karagaybulak**	**5.50**	**23**	P	**Pn**	**20 02 37.6**	**-0.8**
	SNR=7.0						
KK31	**Karatay Array**	**5.62**	**348**	⇓P	**Pn**	**20 02 38.0**	**-2.0**
	0.8nm,0.2s,baz=161,slow=14,SNR=4.2						
KK31				⇑S	**Sn**	**20 03 42.2**	**-1.3**
	5.5nm,0.3s,baz=175,slow=22,SNR=4.2						
ULHL	**Ulahol**	**5.62**	**33**	P	**Pn**	**20 02 37.7**	**-2.5**
	SNR=8.5						
TKM2	**Tokmak 2**	**5.95**	**26**	P	**Pn**	**20 02 42.2**	**-2.3**
	SNR=10						
TKM2	**Tokmak 2**	**5.95**	**26**	⇓P	**Pn**	**20 02 42.0**	**-2.5**
	7.5nm,0.5s						

IDC ***23*** *20:19:24.1±0.5, 17.˚85S×168.˚96E, h0km, mb4.6/24, mb1 4.7/25, mb1mx4.7/34, mbtmp4.6/25, ML4.5/1, Error ellipse: s-maj=16.5km s-min=13.2km az=108.0*

GCMT ***23*** *20:19:25.4±0.2, 17.˚66S×169.˚32E, h28km, MW5.4/120, Moment Tensor Solution. s39,c44; s120,c239; Duration: 1ŝ3 Moment tensor: Scale 10^17 Nm; Mrr-0.37±.05; Mθθ-0.64±.04; Mϕϕ1.00±.04; Mrθ-0.21±.07; Mrϕ-1.46±.03; Mθϕ0.14±.07; Best double couple: M=1.69000×10^17 NP1:ϕs285.00000°, δ90.00000°, λ172.00000°. NP2:ϕs15.00000°, δ82.00000°, λ0.00000°. Principal axes: T 1.8780, Plg6.0000°, Azm239.0000°; N -0.3780, Plg82.0000°, Azm103.0000°; P -1.5030, Plg5.0000°, Azm330.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***23*** *20:19:25.4±0.2, 17.˚84S×168.˚94E, h10km, mb5.6/59, MS5.2/68 Error ellipse: s-maj=7.3km s-min=5.7km az=143.0*

ISCJB ***23*** *20:19:27.8±3.2, 17.˚98S±0.˚05×168.˚96E±0.˚04, h33km±22km, mb5.2/99, MS5.2/80, Error ellipse: s-maj=8.4km s-min=6.9km az=4.6*

MOS ***23*** *20:19:28.1±1.6, 17.˚84S×168.˚90E, h33km, mb5.6/36, MS5.1/21, Error ellipse: s-maj=9.6km s-min=8.5km az=41.5*

BJI ***23*** *20:19:39.2, 17.˚97S×168.˚91E, h132km, mb4.9/61, mB5.4/55*

ISC 23 20:19:26.1±0.8, 17.˚82S±0.˚05×168.˚98E±0.˚06, h15km±4km, n593, σ1.˚78/512, mb5.3/99, MS5.2/81, 38C-37D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**4.74**	**204**	*e*P	**Pn**	**20 20 37.9**	**+0.8**
DZM	**Mont Dzumac**	**4.86**	**209**	Pn	**Pn**	**20 20 37.8**	**-1.0**
	19nm,0.3s,baz=90,slow=24,SNR=100						
DZM				Sn	**Sn**	**20 21 34.5**	**-0.3**
	35nm,0.3s,baz=114,slow=18,SNR=3.2						
DZM	**Mont Dzumac**	**4.86**	**209**	*e*P	**Pn**	**20 20 37.5**	**-1.3**
DZM				*e*S	**Sn**	**20 21 35.7**	**+0.9**
MSVF	**Nonsavu**	**8.65**	**91**	Pn	**Pn**	**20 21 29.0**	**-1.8**
	1μm,1.7s,SNR=17						
HNR	**Honiara**	**12.10**	**312**	*e*P	**Pn**	**20 22 17.7**	**-0.4**
HNR				pmax	pmax		
	comp=Z,300nm,0.9s						
HNR	**Honiara**	**12.10**	**312**	*e*Pn	**Pn**	**20 22 17.6**	**-0.4**
	comp=Z,300nm,0.9s						
OUZ	**Omahuta**	**17.82**	**168**	*e*Pn	**Pn**	**20 23 33.6**	**+0.1**
EIDS	**Eidsvold**	**18.25**	**243**	*e*Pn	**P**	**20 23 39.8**	**+0.8**
	comp=Z,777nm,2.1s						
ARMA	**Armidale**	**20.17**	**228**	*e*P	**P**	**20 23 60.0**	**-0.2**
	comp=Z,834nm,2.2s						
URZ	**Urewera**	**21.58**	**162**	P	**P**	**20 24 15.7**	**+0.5**
	comp=Z,16nm,0.8s,baz=38,slow=13,SNR=3.2						
URZ	**Urewera**	**21.58**	**162**	*e*P	**P**	**20 24 13.1**	**-2.1**
	comp=Z,1μm,2.1s						
CTA	**Charters Tower**	**21.61**	**260**	P	**P**	**20 24 17.1**	**+1.3**
	comp=Z,22nm,0.9s,baz=95,slow=12,SNR=8.5						
CTA				S	Sn	20 28 22.0	-1.6
	comp=Z,4.7nm,0.9s,baz=112,slow=19,SNR=2.2						
CTAO	**Charters Tower**	**21.61**	**260**	*e*P	**P**	**20 24 16.4**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,97nm,1.4s						
CTAO				MLR	MLR		
	comp=Z,6μm,20.0s						
CTAO	**Charters Tower**	**21.61**	**260**	*e*P	**P**	**20 24 16.4**	**+0.6**
	comp=Z,97nm,1.4s						
CTAO				LR	LR		
	comp=Z,6μm,20.0s						
PMG	**Port Moresby**	**22.77**	**289**	*d* iP	**P**	**20 24 30.8**	**+2.6**
PMG				pmax	pmax		
	comp=Z,363nm,1.7s						
PMG	**Port Moresby**	**22.77**	**289**	*e*P	**P**	**20 24 26.9**	**-1.3**
	comp=Z,720nm,1.9s						
PMG				LR	LR		
	comp=Z,8μm,19.0s						
BFZ	**Birch Farm**	**23.63**	**166**	*e*P	**P**	**20 24 39.2**	**+2.4**
	comp=Z,815nm,2.3s						
SNZO	**South Karori**	**23.93**	**169**	PFAKE		20 24 50.0	+11
SNZO				LR	LR		
	comp=Z,6μm,19.0s						
CAN	**Canberra**	**24.88**	**222**	*e*P	**P**	**20 24 47.3**	**-1.1**
CAN				pmax	pmax		
	comp=Z,89nm,1.3s						
CAN				MLR	MLR		
	comp=Z,3μm,20.0s						
CAN	**Canberra**	**24.88**	**222**	*e*P	**P**	**20 24 47.3**	**-1.1**
	comp=Z,89nm,1.3s						
CAN				LR	LR		
	comp=Z,3μm,20.0s						
COEN	**Coen**	**25.10**	**275**	*e*P	**P**	**20 24 49.3**	**-1.3**
	comp=Z,8.8nm,1.1s						
RPZ	**Rata Peaks**	**25.88**	**177**	P	**P**	**20 24 57.7**	**+0.3**
	comp=Z,14nm,0.6s,baz=254,slow=4.3,SNR=6.8						
RPZ	**Rata Peaks**	**25.88**	**177**	*e*P	**P**	**20 24 59.1**	**+1.8**
	comp=Z,290nm,1.6s						
STKA	**Stephens Creek**	**28.42**	**235**	P	**P**	**20 25 20.4**	**+0.1**
	comp=Z,54nm,0.9s,baz=67,slow=8.3,SNR=68						
STKA	**Stephens Creek**	**28.42**	**235**	P	**P**	**20 25 18.9**	**-1.4**
STKA				pmax	pmax		
	comp=Z,51nm,1.6s						
STKA	**Stephens Creek**	**28.42**	**235**	P	**P**	**20 25 18.9**	**-1.4**
	comp=Z,51nm,1.6s						
TAU	**Tasmania Unive**	**31.04**	**212**	PFAKE		20 26 00.0	+17
TAU				LR	LR		
	comp=Z,4μm,19.0s						
JAY	**Jayapura**	**31.63**	**296**	P	**P**	**20 25 49.3**	**+0.4**
	comp=Z,3.9nm,0.8s,baz=233,slow=20,SNR=2.5						
WRAB	**Tennant Creek**	**32.80**	**261**	P	**P**	**20 25 58.0**	**-1.1**
	comp=Z,190nm,0.6s,SNR=8.7						
WRAB	**Tennant Creek**	**32.80**	**261**	⇓ *i*P	**P**	**20 25 58.7**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,111nm,1.7s						
WRAB	**Tennant Creek**	**32.80**	**261**	*e*P	**P**	**20 25 58.5**	**-0.6**
	comp=Z,129nm,1.7s						
WRAB				LR	LR		
	comp=Z,4μm,19.0s						
WRA	**Warramunga Arr**	**32.81**	**261**	P	**P**	**20 25 58.5**	**-0.8**
	comp=Z,11nm,0.8s,baz=79,slow=6.1,SNR=103						
BBOO	**Buckleboo**	**33.13**	**237**	*e*P	**P**	**20 26 00.9**	**-0.9**
AS31	**Alice Springs**	**33.25**	**254**	*e*P	**P**	**20 26 02.6**	**-0.5**
ASAR	**Alice Springs**	**33.25**	**254**	P	**P**	**20 26 02.7**	**-0.4**
	comp=Z,29nm,0.8s,baz=83,slow=8.6,SNR=152						
WAKE	**Wake Island**	**36.94**	**356**	PFAKE		20 26 50.0	+15
WAKE				LR	LR		
	comp=Z,2μm,19.0s						
XMAS	**Kiritimati**	**38.52**	**63**	PFAKE		20 27 00.0	+12
XMAS				LR	LR		
	comp=Z,5μm,19.0s						
FAKI	**Fak Fak**	**38.93**	**288**	*e*P	P	20 26 48.3	-3.4
	comp=Z,122nm,1.2s						
TBI	**Tubuai**	**39.20**	**105**	*e*S	S	20 32 47.6	-6.2
	comp=Z,1μm,29.8s						
TBI				*e*LQ	LQ	20 36 02.4	
	comp=Z,17μm,30.0s						
TBI				*e*LR	LR	20 37 43.5	
	comp=Z,3μm,29.0s						
GUMO	**Guam**	**39.24**	**321**	PFAKE		20 27 10.0	+16
GUMO				LR	LR		
	comp=Z,203nm,21.0s						
FORT	**Forrest**	**39.25**	**243**	*e*P	**P**	**20 26 53.8**	**-0.4**
	comp=Z,102nm,1.2s						
PPT2	**Papeete2**	**39.43**	**96**	*e*S	S	20 32 50.8	-6.7
	comp=Z,1μm,27.8s						
PPT2				*e*LQ	LQ	20 36 06.1	
	comp=Z,24μm,31.5s						
PPT2				*e*LR	LR	20 37 53.0	
	comp=Z,5μm,26.2s						
PMOR	**Pomariorio Ree**	**41.40**	**93**	*e*P	P	20 27 17.1	+4.9
	comp=Z,56nm,1.2s						
PMOR				*e*pP	pP	20 27 41.2	+24
	comp=Z,129nm,1.3s						
VAH	**Vaihoa**	**41.62**	**93**	*e*P	P	20 27 18.6	+4.6
	comp=Z,20nm,1.0s						
VAH				*e*pP	pP	20 27 42.7	+24
	comp=Z,95nm,1.2s						
SOEI	**Soe**	**44.06**	**274**	*e*P	**P**	**20 27 32.8**	**-1.2**
	comp=Z,96nm,1.2s						
MMRI	**Maumere**	**46.30**	**275**	*e*P	**P**	**20 27 50.6**	**-1.0**
	comp=Z,173nm,1.5s						
MBWA	**Marble Bar**	**46.40**	**258**	*e*P	**P**	**20 27 50.6**	**-1.8**
	comp=Z,55nm,1.0s						
MBWA				LR	LR		
	comp=Z,3μm,19.0s						
MIDW	**Midway**	**47.63**	**16**	PFAKE		20 28 10.0	+8.3
MIDW				LR	LR		
	comp=Z,3μm,21.0s						
LUWI	**Luwuk**	**48.34**	**285**	*e*P	**P**	**20 28 07.2**	**-0.4**
	comp=Z,104nm,1.1s						
DAV	**Davao City (W)**	**49.47**	**296**	PFAKE		20 28 30.0	+14
DAV				LR	LR		
	comp=Z,2μm,19.0s						
MRSI	**Marisa**	**49.70**	**286**	P	P	20 28 26.1	+8.1
KAPI	**Kappang**	**49.74**	**279**	P	**P**	**20 28 19.2**	**+0.9**
	comp=Z,266nm,1.2s,SNR=11						
KAPI	**Kappang**	**49.74**	**279**	*e*P	**P**	**20 28 17.2**	**-1.1**
	comp=Z,29nm,1.5s						
TTSI	**Tana Toraja**	**50.34**	**281**	P	P	20 28 26.9	+4.0
	comp=Z,56nm,1.5s,comp=Z,1μm						
KIP	**Kipapa**	**50.66**	**41**	PFAKE		20 28 40.0	+15
KIP				LR	LR		
	comp=Z,4μm,21.0s						
PCI	**Palu**	**51.10**	**284**	P	P	20 28 31.9	+3.3
	comp=Z,98nm,1.2s,comp=Z,2μm						
MPSI	**Mapaga**	**51.52**	**285**	P	**P**	**20 28 33.0**	**+1.3**
	comp=Z,46nm,1.1s,comp=Z,795nm						
RKT	**Rikitea**	**52.52**	**106**	*e*S	S	20 35 59.0	-6.5
	comp=Z,582nm,27.2s						
RKT				*e*LQ	LQ	20 41 47.2	
	comp=Z,4μm,30.5s						
RKT				*e*LR	LR	20 43 48.5	
	comp=Z,2μm,26.8s						
BBKI	**Banjar Baru**	**54.87**	**278**	P	P	20 29 00.3	+3.8
	comp=Z,38nm,2.8s,comp=Z,1μm						
TSM	**Tawau**	**54.98**	**289**	⇑P	P	20 29 03.3	+6.1
PTCN	**Pitcairn Islan**	**56.77**	**109**	PFAKE		20 29 20.0	+10
PTCN				LR	LR		
	comp=Z,2μm,20.0s						
KKM	**Kota Kinabalu**	**57.21**	**290**	⇓P	**P**	**20 29 14.8**	**+1.4**
STKI	**Sintang**	**59.23**	**281**	P	P	20 29 31.6	+4.2
	comp=Z,22nm,1.2s,comp=Z,2μm						
SBUM	**Sibu**	**59.41**	**284**	⇓P	**P**	**20 29 29.8**	**+1.2**
SBUM	**Sibu**	**59.41**	**284**	*e*P	P	20 29 32.4	+3.8
	comp=Z,87nm,2.1s						
VNDA	**Vanda**	**59.84**	**182**	P	**P**	**20 29 30.6**	**+0.1**
	comp=Z,2.4nm,1.0s,baz=5.6,slow=6.2,SNR=6.5						
VNDA	**Vanda**	**59.84**	**182**	*e*P	**P**	**20 29 30.2**	**-0.3**
VNDA				pmax	pmax		
	comp=Z,325nm,2.8s						
VNDA	**Vanda**	**59.84**	**182**	*e*P	**P**	**20 29 30.2**	**-0.3**
	comp=Z,325nm,2.8s						
SBA	**Scott Base**	**60.08**	**181**	*e*P	**P**	**20 29 31.4**	**-0.8**
SBA				pmax	pmax		
	comp=Z,216nm,1.8s						
SBA	**Scott Base**	**60.08**	**181**	*e*P	**P**	**20 29 31.4**	**-0.8**
	comp=Z,216nm,1.8s						
LEM	**Lembang**	**60.70**	**272**	P	P	20 29 45.5	+7.8
LEM	**Lembang**	**60.70**	**272**	P	**P**	**20 29 37.2**	**-0.5**
	comp=Z,24nm,0.8s,baz=336,slow=20,SNR=4.2						
KSM	**Kuching**	**60.83**	**282**	⇓P	**P**	**20 29 40.0**	**+1.7**
KSM	**Kuching**	**60.83**	**282**	*e*P	P	20 29 34.6	-3.7
	comp=Z,32nm,1.0s						
CASY	**Casey**	**61.33**	**203**	*e*P	**P**	**20 29 40.4**	**-0.5**
	comp=Z,276nm,2.0s						
MJAR	**Matsushiro Arr**	**61.38**	**332**	P	**P**	**20 29 42.5**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=152,slow=8.0,SNR=3.0						
MAJO	**Matsushiro**	**61.39**	**332**	⇑ *e*P	**P**	**20 29 38.9**	**-2.7**
MAJO				pmax	pmax		
	comp=Z,239nm,2.5s						
MAJO	**Matsushiro**	**61.39**	**332**	PFAKE		20 29 50.0	+8.4
MAJO				LR	LR		
	comp=Z,895nm,20.0s						

SSLB	**Suanglung**	**62.50**	**310**	*e*P	**P**	**20 29 48.6**	**-0.8**
	comp=Z,61nm,1.1s						
YHNB	**Yeheng**	**62.73**	**311**	*e*P	**P**	**20 29 52.4**	**+1.4**
	comp=Z,147nm,1.2s						
YHNB				LR	LR		
	comp=Z,1μm,20.0s						
TATO	**Taipei**	**62.84**	**311**	PFAKE		20 30 00.0	+8.4
TATO				LR	LR		
	comp=Z,2μm,21.0s						
PPBI	**Pangkal Pinang**	**63.52**	**277**	P	P	20 30 03.8	+7.4
ERM	**Erimo**	**64.14**	**339**	PFAKE		20 30 10.0	+10
ERM				LR	LR		
	comp=Z,1μm,21.0s						
MDSI	**Maura Dua**	**64.66**	**273**	P	P	20 30 09.6	+5.7
	comp=Z,13nm,2.2s						
QZH	**Quanzhou**	**64.92**	**309**	⇓P	P	20 30 09.3	+4.0
QZH				LZ			
	comp=Z,4μm,27.3s						
YUK	**Yuzh-Kuril'sk**	**65.08**	**342**	*d* iP	**P**	**20 30 08.4**	**+2.5**
YUK				*i* *PP	**PcP**	**20 30 35.2**	**-3.4**
YUK				*i*		20 32 34.0	
YUK				*i* S	**S**	**20 38 43.7**	**-4.1**
YUK				*i* *SS	x	20 39 28.0	
YUK				*i* SS	**SS**	**20 42 54.6**	**-6.1**
YUK				pmax	pmax		
	comp=Z,358nm,2.0s						
YUK				pmax	pmax		
	comp=Z,202nm,1.7s						
YUK				pmax	pmax		
	comp=N,128nm,0.8s						
YUK				pmax	pmax		
	comp=E,110nm,0.8s						
YUK				MLR	MLR		
	comp=N,1μm,20.0s						
YUK				MLR	MLR		
	comp=Z,722nm,20.0s						
YUK				MLR	MLR		
	comp=E,773nm,17.0s						
ASAJ	**Asahikawa**	**66.19**	**340**	P	**P**	**20 30 14.3**	**+1.2**
	comp=E,12nm,1.0s,baz=180,slow=10,SNR=2.1						
SSE	**Sheshan**	**66.87**	**316**	*e*P	P	20 30 20.9	+3.1
SSE				pP	PcP	20 30 51.8	+5.4
SSE				S	S	20 39 03.4	-6.8
SSE				sS	x	20 39 57.6	
SSE				PMZ			
	comp=E,41nm,1.1s						
SSE				PMZ			
	comp=E,170nm,3.5s						
SSE				LN			
	comp=E,470nm,19.6s						
SSE				LE			
	comp=E,610nm,19.6s						
SSE				LZ			
	comp=E,810nm,18.1s						
MYKOM	**Kota Tinggi**	**66.98**	**280**	⇓P	**P**	**20 30 19.7**	**+0.9**
KSRS	**Korea Array**	**67.20**	**325**	P	**P**	**20 30 19.9**	**+0.2**
	comp=E,2.9nm,0.9s,baz=142,slow=4.8,SNR=3.1						
KSAR	**Wonju Array Be**	**67.21**	**325**	P	**P**	**20 30 19.9**	**+0.1**
KSAR	**Wonju Array Be**	**67.21**	**325**	P	**P**	**20 30 19.9**	**+0.1**
KGM	**Kluang**	**67.55**	**280**	⇓P	**P**	**20 30 24.0**	**+1.5**
INCN	**Inchon**	**67.92**	**325**	PFAKE		20 30 40.0	+16
INCN				LR	LR		
	comp=Z,987nm,21.0s						
MIR	**Mirnyy**	**68.21**	**205**	*e*P	P	20 30 41.0	+15
MIR				pmax	pmax		
	comp=Z,8.0nm,1.5s						
YSS	**Yuzh-Sakhalins**	**68.66**	**341**	*e*P	P	20 30 35.0	+6.3
YSS				*e*S	**S**	**20 39 34.0**	**+3.0**
YSS				*e**SS	**ScS**	**20 40 29.0**	**+1.0**
YSS				*e*SS	**SS**	**20 43 50.0**	**-6.1**
YSS				pmax	pmax		
	comp=Z,300nm,4.0s						
QIZ	**Qiongzhong**	**68.67**	**299**	P	**P**	**20 30 30.5**	**+1.2**
QIZ				pP	pP	20 31 01.1	+27
QIZ				S	S	20 39 24.3	-7.8
QIZ				PMZ			
	comp=Z,14nm,2.1s						
QIZ				PMZ			
	comp=Z,160nm,4.7s						
QIZ				LN			
	comp=Z,590nm,22.7s						
QIZ				LE			
	comp=Z,210nm,23.6s						
QIZ				LZ			
	comp=Z,1μm,35.6s						
NJ2	**Nanjing**	**69.02**	**316**	*e*P	**P**	**20 30 34.0**	**+2.7**
NJ2				pP	pP	20 31 09.6	+33
NJ2				S	**S**	**20 39 35.0**	**-0.8**
NJ2				SS	**SS**	**20 43 59.5**	**-2.7**
NJ2				PMZ			
	comp=Z,190nm,0.9s						
NJ2				PMZ			
	comp=Z,1μm,5.8s						
NJ2				LN			
	comp=Z,2μm,27.7s						
NJ2				LE			
	comp=Z,2μm,22.2s						
NJ2				LZ			
	comp=Z,2μm,20.2s						
SKR	**Severo-Kuril's**	**69.13**	**351**	P	P	20 30 27.0	-4.5
SKR				*e*		20 30 50.0	
SKR				*e*		20 33 11.0	
SKR				*e*PPP	PPP	20 34 44.0	
SKR				*e*S	**S**	**20 39 35.0**	**-1.4**
SKR				*e*PS	**PnS**	**20 39 54.0**	**-8.2**
SKR				*e*		20 40 20.0	
SKR				*e*SS	**SS**	**20 44 05.0**	**+1.8**
SKR				*e*SSS	SSS	20 47 10.0	
SKR				pmax	pmax		
	comp=N,800nm,4.0s						
SKR				pmax	pmax		
	comp=E,1μm,4.0s						
SKR				pmax	pmax		
	comp=Z,1μm,4.0s						
SKR				smax	smax		
	comp=E,1μm,12.0s						
SKR				smax	smax		
	comp=N,2μm,6.0s						
BKNI	**Bangkinang**	**69.14**	**277**	P	P	20 30 37.4	+5.0
	comp=N,118nm,0.9s,comp=N,2μm						
COCO	**West Island**	**69.55**	**263**	PFAKE		20 30 50.0	+15
COCO				LR	LR		
	comp=Z,2μm,20.0s						
FRIM	**Kepong**	**69.56**	**280**	⇓P	**P**	**20 30 35.5**	**+0.4**
USRK	**Ussuriysk Ar.**	**70.37**	**333**	P	**P**	**20 30 40.9**	**+1.6**
	comp=Z,3.9nm,0.9s,baz=151,slow=8.7,SNR=5.8						
IPM	**Ipoh**	**70.55**	**281**	*e*P	**P**	**20 30 39.7**	**-1.4**
	comp=Z,18nm,1.1s						
MNSI	**Mandailing Nat**	**70.67**	**277**	P	**P**	**20 30 43.9**	**+2.1**
	comp=Z,25nm,1.1s,comp=Z,645nm						
PET	**Petropavlovsk**	**71.11**	**353**	*e*P	P	20 30 46.8	+3.2
PET				*e*S	**S**	**20 40 02.2**	**+2.8**
PET				*e*PS	**PnS**	**20 40 27.4**	**-1.2**
PET				pmax	pmax		
	comp=Z,9.0nm,0.8s						
PET				pmax	pmax		
	comp=Z,100nm,4.8s			

MDJ SS **SS** **20 44 43.9 0.0**
MDJ PMZ
comp=Z,17nm,1.5s
MDJ PMZ
comp=Z,160nm,4.5s
MDJ LN
comp=Z,990nm,26.7s
MDJ LE
comp=Z,540nm,23.2s
MDJ LZ
comp=Z,1μm,32.7s
MDJ Mudanjiang 71.76 332 *e*P **P** **20 30 48.8 +1.0**
comp=Z,9.7nm,0.8s
QSPA South Pole Qui 72.23 180 *e*P **P** **20 30 48.3 -2.2**
comp=Z,55nm,1.2s
HABR Khabarovsk 72.60 337 *e*P **P** **20 30 52.8 +0.1**
HABR 20 31 10.0
HABR *e* 20 33 35.4
HABR S S 20 40 07.3 -10
HABR *e* 20 40 46.7
HABR *e*SS **ScS** **20 41 02.7 +3.6**
HABR *e*SS SS 20 44 49.1 -7.5
HABR pmax pmax
comp=Z,97nm,2.6s
HABR MLR MLR
comp=Z,645nm,17.0s
SNY Shenyang 72.67 326 ⇑P **P** **20 30 56.1 +2.9**
SNY PMZ
comp=Z,170nm,6.3s
SNY LN
comp=Z,700nm,18.0s
SNY LE
comp=Z,540nm,15.9s
SNY LZ
comp=Z,830nm,26.5s
GSI Gunungsitoli 72.73 277 P **P** **20 30 57.4 +3.1**
comp=Z,112nm,1.5s
GSI Gunungsitoli 72.73 277 *e*P P 20 30 50.4 -3.9
comp=Z,29nm,0.9s
CN2 Changchun 73.12 329 *e*P P 20 30 59.9 +4.0
CN2 *e*S **S** **20 40 22.0 -1.0**
CN2 PMZ
comp=Z,10.0nm,0.7s
CN2 PMZ
comp=Z,300nm,5.0s
CN2 LN
comp=Z,600nm,16.0s
CN2 LE
comp=Z,800nm,16.0s
CN2 LZ
comp=Z,600nm,18.0s
KLR Kul'dur 74.48 336 *e*P P 20 31 00.0 -3.7
GYA Guiyang 74.81 305 P **P** **20 31 08.3 +2.0**
GYA pP pP 20 31 40.8 +29
GYA sP sP 20 31 55.0 +42
GYA PP **PP** **20 33 57.9 +3.9**
GYA S **SKiKP** **20 40 32.3 +1.1**
GYA SKS S 20 40 59.4 +16
GYA sS sS 20 41 29.8 +39
GYA PMZ
comp=Z,30nm,1.0s
GYA PMZ
comp=Z,150nm,5.6s
BJI Beijing 75.68 321 P **P** **20 31 13.1 +2.2**
BJI S S 20 40 45.9 -5.9
BJI SS **SS** **20 45 41.4 -2.5**
BJI PMZ
comp=Z,30nm,1.0s
BJI PMZ
comp=Z,410nm,4.5s
BJI LN
comp=Z,1μm,28.7s
BJI LE
comp=Z,910nm,31.5s
BJI LZ
comp=Z,3μm,30.6s
UTTA Uttaradit 76.01 294 P P 20 31 23.6 +10
comp=Z,2.2nm,1.3s
TIY Taiyuan 76.63 317 *e*P **P** **20 31 19.4 +3.0**
TIY pP PcP 20 31 52.4 +25
TIY PMZ
comp=Z,360nm,4.4s
TIY LN
comp=Z,330nm,10.3s
TIY LE
comp=Z,110nm,7.3s
TIY LZ
comp=Z,480nm,13.2s
XAN Xi'an 76.97 312 P **P** **20 31 18.9 +0.5**
XAN pP PcP 20 31 51.4 +22
XAN PMZ
comp=Z,11nm,1.2s
XAN PMZ
comp=Z,63nm,5.0s
XAN LN
comp=Z,340nm,28.8s
XAN LE
comp=Z,250nm,33.0s
XAN LZ
comp=Z,320nm,26.5s
LAMP Lampang 77.12 294 P P 20 31 28.1 +8.6
comp=Z,6.8nm,1.0s
CRAI Chiangrai 77.18 296 P **P** **20 31 20.3 +0.4**
comp=Z,10nm,1.9s
KMI Kunming 77.32 302 P **P** **20 31 22.0 +1.2**
KMI pP PcP 20 31 54.0 +23
KMI sP sP 20 32 08.9 +41
KMI SS **SS** **20 46 05.5 -4.2**
KMI PMZ
comp=Z,25nm,1.3s
KMI PMZ
comp=Z,260nm,4.3s
KMI LN
comp=Z,290nm,30.4s
KMI LE
comp=Z,570nm,25.9s
KMI LZ
comp=Z,1μm,28.2s
CMAR Chiang Mai Arr 77.70 294 P **P** **20 31 23.6 +0.8**
comp=Z,4.6nm,1.0s,baz=124,slow=4.1,SNR=18
CMMT Chiang Mai 77.83 294 P P 20 31 27.3 +3.8
comp=Z,22nm,2.2s
CHTO Chiang Mai 77.84 294 P P 20 31 27.3 +3.7
comp=Z,74nm,2.2s
CHTO Chiang Mai 77.84 294 *e*P **P** **20 31 23.2 -0.4**
CHTO pmax pmax
comp=Z,27nm,1.3s
CHTO Chiang Mai 77.84 294 *e*P **P** **20 31 23.2 -0.4**
comp=Z,27nm,1.3s
HHC Hu-ho-hao-te 78.98 319 *e*P **P** **20 31 32.5 +3.0**
HHC pP PcP 20 32 04.4 +26
HHC sP sP 20 32 18.1 +42
HHC PP PP 20 34 34.3 +5.5
HHC S S 20 41 20.8 -7.2
HHC SKS SKSac 20 41 30.9 -14
HHC sS sS 20 42 15.3 +39
HHC PMZ
comp=Z,12nm,0.6s
HHC PMZ
comp=Z,250nm,6.2s
HHC LN
comp=Z,2μm,14.7s
HHC LE
comp=Z,2μm,14.3s
HHC LZ
comp=Z,2μm,15.3s
CD2 Chengdu 79.18 307 P P 20 31 34.8 +4.0
CD2 PcP **PcP** **20 31 42.5 +3.4**
CD2 pP pP 20 32 01.5 +26
CD2 PP PP 20 34 37.5 +6.9
CD2 S S 20 41 23.3 -7.0
CD2 SS **SS** **20 46 33.3 -3.9**
CD2 PMZ
comp=Z,40nm,0.5s
CD2 PMZ
comp=Z,300nm,4.7s
CD2 LN
comp=Z,970nm,21.9s
CD2 LE
comp=Z,1μm,21.5s
CD2 LZ
comp=Z,1μm,25.0s
MAW Mawson 79.65 202 P **P** **20 31 31.9 -0.7**
comp=Z,5.9nm,0.9s,baz=122,slow=11,SNR=7.9
MAW Mawson 79.65 202 *e*P **P** **20 31 31.4 -1.2**
MAW pmax pmax
comp=Z,18nm,1.8s
MAW Mawson 79.65 202 *e*P **P** **20 31 31.4 -1.2**
comp=Z,18nm,1.8s
HIA Hailar 79.77 330 PFAKE 20 31 50.0 +16
HIA LR LR
comp=Z,642nm,22.0s
DGPR DIGLIPUR 81.09 287 *e*P **P** **20 31 39.1 -2.2**
SEY Seymchan 81.53 352 P **P** **20 31 41.8 -0.8**
comp=Z,4.1nm,0.9s,baz=126,slow=3.2,SNR=7.8
LZH Lanzhou 81.60 312 ⇑P P 20 31 47.3 +3.5
LZH pP PcP 20 32 20.6 +31
LZH sP sP 20 32 35.0 +44
LZH PP PP 20 34 58.4 +7.7
LZH S S 20 41 48.0 -7.7
LZH sS sS 20 42 44.1 +40
LZH SS **SS** **20 47 07.0 -6.4**
LZH PMZ
comp=Z,76nm,1.2s
LZH PMZ
comp=Z,380nm,5.0s
SVW2 Sparrevohn 83.61 16 *e*P **P** **20 31 55.8 +2.2**
RC01 Rabbit Creek A 85.29 19 *e*P **P** **20 32 03.1 +1.1**
comp=Z,11nm,1.2s
KHMM Horse Mountain 85.38 45 *e*P **P** **20 32 02.5 -0.6**
comp=Z,56nm,1.1s
YAK Yakutsk 85.45 343 *e*P **P** **20 32 01.9 -0.8**
YAK *e* 20 32 07.3
YAK *e* 20 35 18.0
YAK *e*S S 20 42 16.5 -17
YAK *e* 20 42 37.4
YAK pmax pmax
comp=Z,40nm,1.2s
YAK pmax pmax
comp=E,7.0nm,1.4s
YAK pmax pmax
comp=N,12nm,1.5s
YAK pmax pmax
comp=N,88nm,5.1s
YAK pmax pmax
comp=Z,160nm,5.3s
YAK pmax pmax
comp=E,99nm,5.9s
YAK smax smax
comp=N,110nm,5.7s
YAK smax smax
comp=E,75nm,6.6s
YAK MLR MLR
comp=Z,729nm,21.0s
YAK MLR MLR
comp=N,676nm,23.0s
YAK MLR MLR
comp=E,244nm,21.0s
YAK Yakutsk 85.45 343 *e*P **P** **20 32 00.8 -1.9**
comp=E,105nm,1.3s
ULN Ulaanbaatar 85.58 323 *d i*P **P** **20 32 04.4 +0.4**
ULN pmax pmax
comp=Z,19nm,1.2s
ULN Ulaanbaatar 85.58 323 *e*P **P** **20 32 04.4 +0.4**
comp=Z,125nm,1.8s
ULN LR LR
comp=Z,324nm,19.0s
BILL Bilibino 85.63 359 *de*P **P** **20 32 03.3 -0.3**
BILL 20 42 32.0
BILL *e* 20 43 53.6
BILL pmax pmax
comp=Z,20nm,1.4s
BILL Bilibino 85.63 359 *e*P **P** **20 32 01.4 -2.1**
comp=Z,18nm,1.2s
BILL LR LR
comp=Z,566nm,22.0s
SONM Songino Array 85.94 323 P **P** **20 32 05.6 -0.1**
comp=Z,8.0nm,1.1s,baz=146,slow=5.5,SNR=22
GTA Gaotai 85.97 313 *e*P **P** **20 32 06.8 +0.7**
GTA pP pP 20 32 39.6 +28
GTA sP sP 20 32 51.8 +39
GTA SKS SKSac 20 42 19.0 -13
GTA S SKKSac 20 42 31.8 -7.2
GTA sS ScS 20 43 27.6 +39
GTA PMZ
comp=Z,38nm,1.1s
GTA PMZ
comp=Z,280nm,5.5s
GTA LN
comp=Z,610nm,18.8s
GTA LE
comp=Z,610nm,22.6s
GTA LZ
comp=Z,1μm,27.6s
WDC Whiskeytown Da 86.04 45 *e*P **P** **20 32 04.7 -1.5**
WDC pmax pmax
comp=Z,120nm,1.5s
WDC Whiskeytown Da 86.04 45 *e*P **P** **20 32 04.7 -1.5**
comp=Z,120nm,1.5s
N02D Trinity Center 86.11 45 P **P** **20 32 07.0 +0.3**
baz=86
OHCM Honcut 86.20 47 *e*P **P** **20 32 09.7 +2.6**
M02C Callahan 86.20 44 P **P** **20 32 07.5 +0.4**
baz=86
CMB Columbia Colle 86.40 48 *e*P **P** **20 32 05.9 -2.2**
CMB pmax pmax
comp=Z,47nm,1.0s
CMB Columbia Colle 86.40 48 *e*P **P** **20 32 05.9 -2.2**
comp=Z,46nm,1.0s
YBH Yreka Blue Hor 86.46 44 P **P** **20 32 09.4 +1.0**
comp=Z,14nm,1.0s,baz=201,slow=5.2
YBH Yreka Blue Hor 86.46 44 *e*P **P** **20 32 07.2 -1.2**
YBH pmax pmax
comp=Z,59nm,1.4s
YBH Yreka Blue Hor 86.46 44 *e*P **P** **20 32 07.2 -1.2**
comp=Z,59nm,1.4s
SHL Shillong 86.46 298 *e*P **P** **20 32 07.0 -1.9**
MWC Mount Wilson 86.50 53 *e*P **P** **20 32 10.1 +1.2**
MWC pmax pmax
comp=Z,98nm,1.4s
MWC Mount Wilson 86.50 53 *e*P **P** **20 32 10.1 +1.2**
comp=Z,98nm,1.4s
HUMO Hull Mountain 86.70 43 *e*P **P** **20 32 08.4 -1.1**
comp=Z,45nm,1.1s
M04C Macdoel 87.06 44 P **P** **20 32 11.6 +0.2**
baz=87
WAKR Walker 87.28 48 *e*P **P** **20 32 12.3 -0.3**
LRMC Laurel Mtn Rad 87.29 52 P **P** **20 32 14.0 +1.3**
baz=88
MPMC Manual Prospec 87.68 51 P **P** **20 32 15.7 +1.1**
baz=88
DAC Darwin (Calif) 87.69 51 *e*P **P** **20 32 13.6 -1.0**
DAC pmax pmax
comp=Z,55nm,1.4s
DAC Darwin (Calif) 87.69 51 *e*P **P** **20 32 13.6 -1.0**
comp=Z,55nm,1.4s
SWSC Sam W. Stewart 87.73 54 P **P** **20 32 16.1 +1.5**
baz=88
BOD Bodaibo 87.95 334 *e*P **P** **20 32 14.1 -1.0**
BOD pmax pmax
comp=Z,10.0nm,2.0s
NVAR Mina Array Bea 88.05 49 P **P** **20 32 17.1 +0.7**
comp=Z,4.7nm,0.9s,baz=241,slow=8.3,SNR=11
K05A Summer Lake 88.11 44 *e*P **P** **20 32 16.6 +0.2**
comp=Z,537nm,2.3s
J05D Fort Rock, OR 88.13 43 P **P** **20 32 15.8 -0.7**
baz=88
NLWA Neilton Lookou 88.39 39 PFAKE 20 32 30.0 +13
NLWA LR LR
comp=Z,543nm,19.0s
I05D Terrebonne, OR 88.54 42 P **P** **20 32 19.0 +0.7**
baz=89
LSA Lhasa 88.58 302 *e*P **P** **20 32 20.1 +0.8**
LSA pmax pmax
comp=Z,36nm,1.6s
LSA MLR MLR
comp=Z,337nm,22.0s
LSA Lhasa 88.58 302 *e*P **P** **20 32 20.1 +0.8**
comp=Z,36nm,1.6s
LSA LR LR
comp=Z,337nm,22.0s
TPH Tonopah 88.68 49 *e*P **P** **20 32 18.1 -1.2**
TPH pmax pmax
comp=Z,75nm,2.0s
TPH Tonopah 88.68 49 *e*P **P** **20 32 18.1 -1.2**
comp=Z,75nm,2.0s
WRAK Wrangell Islan 88.72 28 PFAKE 20 32 30.0 +11
WRAK LR LR
comp=Z,1μm,22.0s
COLA College 88.76 17 ⇓*e*P **P** **20 32 18.7 0.0**
COLA pmax pmax
comp=Z,18nm,1.0s
ILAR Eielson Array 88.95 17 P **P** **20 32 19.8 +0.1**
comp=Z,0.5nm,0.6s,baz=238,slow=4.7,SNR=7.3
ZAK Zakamensk 89.00 324 *e*P **P** **20 32 19.9 -0.5**
ZAK pmax pmax
comp=Z,7.0nm,2.0s
D05A Enumclaw 89.42 40 *e*P P 20 32 26.2 +3.9
TLY Talaya 89.45 326 *e*P **P** **20 32 25.0 +2.6**
TLY *e*S **SKSac** **20 42 46.4 -5.6**
TLY pmax pmax
comp=Z,11nm,1.8s
TLY Talaya 89.45 326 PFAKE 20 32 30.0 +7.6
TLY LR LR
comp=Z,486nm,22.0s
WVOR Wild Horse Val 89.49 45 *e*P **P** **20 32 21.8 -1.1**
WVOR pmax pmax
comp=Z,133nm,1.4s
WVOR Wild Horse Val 89.49 45 *e*P **P** **20 32 21.8 -1.1**
comp=Z,134nm,1.4s
PDMCI Parker Dam,Lak 89.52 54 P **P** **20 32 23.5 +0.4**
baz=90
SHPR Sheep Range 89.58 51 *e*P **P** **20 32 23.5 0.0**
I07A Izee 89.61 43 *e*P **P** **20 32 24.1 +0.6**
comp=Z,230nm,2.0s
BMN Battle Mountai 89.64 47 *e*P **P** **20 32 23.7 0.0**
BMN pmax pmax
comp=Z,123nm,1.5s
BMN Battle Mountai 89.64 47 *e*P **P** **20 32 23.7 0.0**
comp=Z,123nm,1.5s
R11A Troy Canyon, C 89.98 50 *e*P **P** **20 32 27.0 +1.7**
comp=Z,72nm,2.0s
W13A Hualapai Mount 90.01 53 P **P** **20 32 26.3 +0.6**
baz=90
NVL N'lazarevskaya 90.23 187 *e**PP P 20 32 22.3 -3.4
NVL pmax pmax
comp=Z,9.0nm,0.7s
NVL MLR MLR
comp=Z,2μm,15.0s
Y14A Wickenburg 90.26 54 P **P** **20 32 27.3 +0.7**
baz=90
E07A Sunnyside 90.45 41 *e*P **P** **20 32 29.7 +2.5**
comp=Z,40nm,0.9s
G08A Pilot Rock 90.48 42 *e*P **P** **20 32 27.5 0.0**
comp=Z,459nm,2.5s
SNAA Sanae 90.56 183 P P 20 32 23.1 -4.3
HAWA Hanford 90.58 41 *e*P **P** **20 32 27.7 0.0**
comp=Z,82nm,1.3s
EGAK Eagle 90.67 19 *e*P **P** **20 32 29.1 +1.4**
comp=Z,5.3nm,1.0s
MOY Mondy 90.89 325 *e*P **P** **20 32 31.0 +1.8**
BOK Bokaro 90.98 295 *e*P **P** **20 32 31.2 +1.1**
ELK Elko 91.15 47 *e*P **P** **20 32 31.4 +0.6**
ELK pmax pmax
comp=Z,8.0nm,1.1s
ELK Elko 91.15 47 *e*P **P** **20 32 31.4 +0.6**
comp=Z,7.6nm,1.1s
VNA3 Neumayer Olymp 91.16 180 P **P** **20 32 27.9 -2.3**
D08A Wollman Farm, 91.25 41 *e*P **P** **20 32 31.6 +0.7**
comp=Z,444nm,3.0s
VIS Vishakhapatnam 91.32 288 *e*P **P** **20 32 29.7 -2.1**
BMO Blue Mountains 91.36 43 *e*P **P** **20 32 31.0 -0.6**
BMO pmax pmax
comp=Z,45nm,1.5s
BMO Blue Mountains 91.36 43 *e*P **P** **20 32 31.0 -0.6**
comp=Z,45nm,1.5s
TUC Tucson 91.43 57 PFAKE 20 32 40.0 +7.8
TUC LR LR
comp=Z,641nm,22.0s
VNA2 Neumayer--Watz 91.45 181 P **P** **20 32 28.7 -2.7**
baz=172,slow=3.4
B08A Colville Reser 91.55 39 *e*P **P** **20 32 32.4 +0.1**
comp=Z,26nm,1.1s
VNA1 Neumayer--Stat 91.74 181 P **P** **20 32 30.8 -2.0**
WUAZ Wupatki 92.08 53 PFAKE 20 32 50.0 +15
WUAZ LR LR
comp=Z,1μm,21.0s
DUG Dugway, Tooele 92.66 49 PFAKE 20 32 50.0 +12
DUG LR LR
comp=Z,2μm,22.0s
DUG Dugway, Tooele 92.66 49 P **P** **20 32 38.9 +1.1**
baz=93
HLID Hailey 92.78 45 *e*P **P** **20 32 39.5 +1.3**
comp=Z,2.9nm,0.9s
HLID Hailey 92.78 45 P **P** **20 32 39.8 +1.6**
baz=93
TIXI Tiksi 93.31 348 ⇑*i*P **P** **20 32 39.8 +0.1**
TIXI pmax pmax
comp=Z,5.0nm,2.5s
TIXI Tiksi 93.31 348 PFAKE 20 32 50.0 +10
TIXI LR LR
comp=Z,431nm,20.0s
JLU Jordanelle 93.78 49 *e*P **P** **20 32 43.1 +0.1**
comp=Z,8.6nm,1.1s
DGAR Diego Garcia 93.92 261 PFAKE 20 32 50.0 +6.1
DGAR LR LR
comp=Z,3μm,19.0s
HWUT Hardware Ranch 94.04 48 PFAKE 20 33 00.0 +16
HWUT LR LR
comp=Z,979nm,21.0s
TRD Trivandrum 94.47 277 *e*P **P** **20 32 46.9 +0.5**
TRD AMB AMB 20 33 20.3
comp=Z,71nm,3.3s
AHID Auburn Hatcher 94.76 47 PFAKE 20 33 00.0 +13
AHID LR LR
comp=Z,867nm,22.0s
MVCO Mesa Verde 94.83 53 PFAKE 20 33 00.0 +12
MVCO LR LR
comp=Z,1μm,19.0s
HYB Hyderabad 95.58 286 *e*P **P** **20 32 50.7 -0.8**
MNTX Cornudas Mount 95.58 59 PFAKE 20 33 00.0 +8.8
MNTX LR LR
comp=Z,1μm,19.0s
BW06 Boulder Array 95.83 47 PFAKE 20 33 00.0 +7.6
BW06 LR LR
comp=Z,1μm,22.0s
PDAR Pinedale Array 95.83 47 P **P** **20 32 53.3 +0.9**
comp=Z,0.2nm,0.7s,baz=273,slow=3.2,SNR=2.5
WMQ Urumqi 96.05 314 P **P** **20 32 54.9 +1.8**
WMQ pP pP 20 33 27.5 +29
WMQ sP sP 20 33 40.9 +41
WMQ PP PP 20 36 51.4 +5.4
WMQ SKS SKSac 20 43 18.1 -11
WMQ S **SKKSac** **20 44 00.0 +6.3**
WMQ sS sS 20 44 56.5 +36
WMQ PMZ
comp=Z,14nm,0.7s
WMQ PMZ
comp=Z,190nm,4.8s
WMQ LN
comp=Z,670nm,19.0s
WMQ LE
comp=Z,600nm,18.0s
WMQ LZ
comp=Z,830nm,24.4s
NGP Nagpur 96.20 290 *e*P **P** **20 32 54.2 0.0**
TXAR Lajitas Array 96.31 61 P **P** **20 32 53.8 -0.8**
comp=Z,0.5nm,0.9s,baz=188,slow=5.1,SNR=4.8
EGMT Eagleton 97.37 42 PFAKE 20 33 10.0 +11
EGMT LR LR
comp=Z,729nm,22.0s
BHPL Bhopal 98.22 292 *e*P **P** **20 33 02.7 -0.7**
LAO LASA Array 99.28 44 PFAKE 20 33 20.0 +12
LAO LR LR
comp=Z,2μm,22.0s
GOA Goa 99.39 283 *e*P **Pdif** **20 33 07.6 -1.1**
YKA Yellowknife Ar 99.53 27 P **Pdif** **20 33 07.4 -0.8**
comp=Z,0.3nm,0.5s,baz=250,slow=4.4,SNR=4.1
DDI Dehra Dun 99.56 299 *e*P **Pdif** **20 33 09.0 -0.2**
EFI East Falkland 99.57 152 PFAKE 20 33 20.0 +11
EFI LR LR
comp=Z,1μm,20.0s
SMLA Simla 100.50 299 *e*P **Pdif** **20 33 11.9 -1.4**
MKAR Makanchi Array 100.55 316 P **Pdif** **20 33 14.1 +0.9**
comp=Z,0.8nm,0.7s,baz=83,slow=4.0,SNR=9.4
OGNE Ogallala 100.71 50 PFAKE 20 33 30.0 +16
OGNE LR LR
comp=Z,1μm,20.0s
ZALV Zalesovo Beam 100.83 323 P **Pdif** **20 33 14.2 0.0**
comp=Z,2.0nm,0.9s,baz=121,slow=5.5,SNR=6.7
DGMT Dagmar 101.06 43 PFAKE 20 33 30.0 +15
DGMT LR LR
comp=Z,582nm,19.0s
DHRM DHARAMSHALA 101.49 300 *e*P **Pdif** **20 33 18.0 0.0**
FFC Flin Flon 103.80 37 PFAKE 20 33 40.0 +13
FFC LR LR
comp=Z,872nm,19.0s
KSU1 Kansas State U 104.36 53 PFAKE 20 33 40.0 +10

KSU1 LR LR
comp=Z,1µm,22.0s
TGUH Tegucigalpa,Un 107.05 80 PFAKE 20 38 00.0
TGUH LR LR
comp=Z,643nm,20.0s
SCIA State Center 107.40 51 PFAKE 20 38 00.0
SCIA LR LR
comp=Z,1µm,22.0s
JTS JuntasAbangare 108.27 85 PFAKE 20 38 10.0
JTS LR LR
comp=Z,1µm,20.0s
NNA Nana 108.61 110 PFAKE 20 38 10.0
NNA LR LR
comp=Z,589nm,19.0s
BVAR Borovoye Array 109.17 321 PKiKP **PKiKP 20 37 57.1 +1.8**
comp=Z,0.9nm,0.7s,baz=186,slow=1.5,SNR=6.2
BRVK Borovoye 109.23 321 PFAKE 20 38 10.0
BRVK LR LR
comp=Z,538nm,20.0s
COWI Conover 110.79 47 PFAKE 20 38 10.0
COWI LR LR
comp=Z,1µm,19.0s
OTAV Otavalo 111.53 97 PFAKE 20 38 10.0
OTAV LR LR
comp=Z,506nm,19.0s
ABPO Ambohimpanom 112.07 240 PFAKE 20 38 10.0
ABPO LR LR
comp=Z,1µm,21.0s
GLMI Grayling 113.90 48 PFAKE 20 38 20.0
GLMI LR LR
comp=Z,1µm,21.0s
ARU Arti 115.94 325 *i* PKIKP **PKPdf 20 38 09.5 +1.4**
ARU 20 39 23.3
ARU 20 44 49.4
ARU SP SP 20 48 53.9 +3.0
ARU Arti 115.94 325 *e*PKPdf **PKPdf 20 38 09.5 +1.4**
ARU LR LR
comp=Z,340nm,20.0s
NHSC New Hope 116.73 61 PFAKE 20 38 20.0 +10
NHSC LR LR
comp=Z,639nm,19.0s
BLA Blacksburg 116.79 57 PFAKE 20 38 20.0 +10
BLA LR LR
comp=Z,653nm,20.0s
AKTO Aktyubinsk 116.85 318 PKP **PKPdf 20 38 10.0 0.0**
comp=Z,3.6nm,0.9s,baz=328,slow=1.7,SNR=11
AKTO Aktyubinsk 116.85 318 PKIKP **PKPdf 20 38 10.0 0.0**
GTBY Guantanamo Bay 119.65 77 PFAKE 20 38 30.0 +14
GTBY LR LR
comp=Z,419nm,20.0s
PRGR Permogore 121.15 332 *e*PKIKP **PKPdf 20 38 15.5 -2.4**
PRGR pmax pmax
comp=Z,13nm,1.2s
SUR Sutherland 121.51 212 PFAKE 20 38 30.0 +10
SUR LR LR
comp=Z,1µm,22.0s
SDV Santo Domingo 121.53 90 *e*PKPdf **PKPdf 20 38 20.8 +0.5**
LVZ Lovozero 122.23 341 PFAKE 20 38 30.0 +10
LVZ LR LR
comp=Z,565nm,22.0s
ARCES ARCESS Array B 123.64 345 PKP **PKPdf 20 38 22.4 -0.1**
comp=Z,7.0nm,0.8s,baz=25,slow=3.2,SNR=11
KLMR Klimovskoe 124.16 333 *e*PKIKP **PKPdf 20 38 21.6 -2.1**
KLMR pmax pmax
comp=Z,23nm,1.3s
KLMR MLR MLR
comp=Z,770nm,25.0s
DGRG David-gareji 126.65 309 P **PKPdf 20 38 32.4 +3.2**
RAYN Ar Rayn 127.08 286 *e*PKPdf **PKPdf 20 38 32.1 +1.5**
GNI Garni 127.31 307 PFAKE 20 38 40.0 +9.4
GNI LR LR
comp=Z,400nm,22.0s
MOS Moscow 127.36 328 *e*PKIKP **PKPdf 20 38 33.5 +3.5**
MOS pmax pmax
comp=Z,41nm,1.0s
SJG San Juan 127.73 81 *e*PKIKP **PKPdf 20 38 32.0 +0.2**
SJG San Juan 127.73 81 *e*PKPdf **PKPdf 20 38 32.0 +0.2**
LPSR Galich'ya Gora 127.94 324 *e*PKIKP **PKPdf 20 38 33.9 +2.7**
LPSR pmax pmax
comp=E,4.0nm,0.6s
LPSR pmax pmax
comp=Z,10.0nm,0.6s
LPSR pmax pmax
comp=N,2.0nm,0.4s
KBZ Khabaz 128.04 312 PKP **PKPdf 20 38 32.9 +1.3**
comp=N,2.2nm,0.8s,baz=52,slow=20,SNR=3.7
KIV Kislovodsk 128.14 312 *i* PKIKP **PKPdf 20 38 30.1 -1.9**
KIV *e* 20 40 35.9
KIV *e*PS **PS 20 50 42.4 -0.6**
KIV *e*SS SS 20 57 40.2 -10
KIV pmax pmax
comp=Z,11nm,1.1s
KIV Kislovodsk 128.14 312 PFAKE 20 38 40.0 +8.0
KIV LR LR
comp=Z,343nm,19.0s
OBN Obninsk 128.17 327 *i* PKIKP **PKPdf 20 38 32.9 +1.4**
OBN *i* 20 38 37.2
OBN 20 45 41.0
OBN SS SS 20 57 43.0 -5.8
OBN pmax pmax
comp=Z,34nm,1.6s
OBN Obninsk 128.17 327 PFAKE 20 38 40.0 +8.5
OBN LR LR
comp=Z,424nm,21.0s
VSR Storozhevoye 128.32 322 *e*PKIKP **PKPdf 20 38 32.3 +0.3**
VSR pmax pmax
comp=N,8.0nm,1.3s
VSR pmax pmax
comp=E,9.0nm,1.3s
VSR pmax pmax
comp=Z,20nm,1.3s
VORD Divnogorie 128.33 322 *e*PKIKP **PKPdf 20 38 33.5 +1.5**
VORD pmax pmax
comp=N,10.0nm,1.0s
VORD pmax pmax
comp=E,10.0nm,1.0s
VORD pmax pmax
comp=Z,9.0nm,1.0s
KMBO Kilima Mbogo 128.90 254 PKP **PKPdf 20 38 36.6 +2.0**
comp=Z,1.0nm,0.4s,baz=5.7,slow=10,SNR=2.4
FINES FINESS Array B 129.18 338 PKP **PKPdf 20 38 35.0 +1.8**
comp=Z,4.8nm,1.0s,baz=52,slow=3.1,SNR=7.0
LSZ Lusaka 129.25 232 PFAKE 20 38 50.0 +15
LSZ LR LR
comp=Z,1µm,20.0s
BDFB Brasilia 130.66 130 PKP **PKPdf 20 38 39.3 +1.7**
comp=Z,1.5nm,0.4s,baz=172,slow=8.0,SNR=4.6
ANN Anapa 131.56 315 *i* PKIKP PKPdf 20 38 32.9 -5.4
ANN *e*SS SS 20 58 32.3 +1.0
ANN pmax pmax
comp=Z,27nm,1.6s
TSUM Tsumeb 133.71 219 *e*PKPdf **PKPdf 20 38 44.9 +1.6**
SIM Simferopol' 133.73 316 *d* PKHKP PKPpre 20 38 27.6
NB2 NORSAR Subarra134.01 345 PKPdf **PKPdf 20 38 40.8 -1.7**
comp=Z,36nm,2.0s,baz=31,slow=1.9
NB2 NORSAR Subarra134.01 345 PKPdf **PKPdf 20 38 40.8 -1.7**
baz=31,slow=1.9
NOA NORSAR Array B134.01 345 PKP **PKPdf 20 38 41.9 -0.7**
comp=Z,2.4nm,0.9s,baz=37,slow=2.0,SNR=5.3
AKASG Malin Array Be 134.19 325 PKP **PKPdf 20 38 42.6 -0.5**
comp=Z,3.1nm,0.8s,baz=62,slow=2.1,SNR=13
AKBB Malin Array Si 134.19 325 *e*PKIKP **PKPdf 20 38 45.1 +2.0**
AKBB Malin Array Si 134.19 325 *e*PKPdf **PKPdf 20 38 45.1 +2.0**
KIEV Kiev 134.21 325 *i* PKIKP **PKPdf 20 38 42.6 -0.5**
KIEV Kiev 134.21 325 *e*PKPdf **PKPdf 20 38 44.9 +1.7**
BR131 Keskin Array S 135.74 309 *e*PKPdf **PKPdf 20 38 49.1 +2.6**
BRTR Keskin Array B 135.74 309 PKP **PKPdf 20 38 48.1 +1.6**
comp=Z,2.7nm,0.9s,baz=142,slow=3.1,SNR=9.2
BRTR PP **PP 20 41 28.7 +4.0**
comp=Z,4.9nm,1.1s,baz=77,slow=5.6,SNR=9.9
KIS Kishinev 136.25 321 *e*PKP **PKPdf 20 38 52.0 +4.9**
KIS LRM MLR 21 39 24.0
comp=Z,400nm,20.0s
KIS Kishinev 136.25 321 *e*PKIKP **PKPdf 20 38 52.0 +4.9**
KIS *e* 20 41 30.0
TESR Tescani 137.79 321 ⇓ *i*P **PKPdf 20 38 49.7 -0.3**
TLB Topalu 137.84 318 ⇓PKIKP **PKPdf 20 38 49.2 -0.9**
TLB Topalu 137.84 318 ⇓ *i*P **PKPdf 20 38 49.2 -0.9**
BUR08 Bucovina Ar. S 138.05 323 *e*PKPdf **PKPdf 20 38 51.9 +1.4**
BURAR Bucovina Array 138.06 323 ⇑PKIKP **PKPdf 20 38 51.9 +1.4**
BURAR Bucovina Array 138.06 323 ⇑ *i*P **PKPdf 20 38 51.9 +1.4**
VRI Vrincioaia 138.06 320 ⇓PKIKP **PKPdf 20 38 52.5 +2.0**
VRI Vrincioaia 138.06 320 ⇓ *i*P **PKPdf 20 38 52.5 +2.0**
MLR Muntele Rosu 138.72 320 ⇓PKIKP **PKPdf 20 38 53.0 +1.1**
MLR Muntele Rosu 138.72 320 ⇓ *i*P **PKPdf 20 38 53.0 +1.1**

DOPR Dopca 138.82 321 ⇓ *i*P **PKPdf 20 38 54.4 +2.5**
KOLS Kolonicke sedl 138.91 327 *e*PKIKP **PKPdf 20 38 49.0 -3.0**
KOLS *e* 20 38 54.2
KOLS Kolonicke sedl 138.91 327 *e*PKP **PKPdf 20 38 49.0 -3.0**
KOLS *e* 20 38 54.1
KOLS *e* 20 39 28.9
UZH Uzhgorod 139.08 326 *e*PKIKP **PKPdf 20 38 55.9 +3.7**
UZH *e* 20 39 03.7
STHS Stebnicka Huta 139.15 328 *e*PKIKP **PKPdf 20 38 54.1 +1.7**
STHS Stebnicka Huta 139.15 328 *e*PKP **PKPdf 20 38 54.1 +1.7**
TRPA Tarpa 139.25 325 ⇓ *i*P **PKPdf 20 38 53.3 +0.8**
VOIR 139.30 321 ⇑PKIKP **PKPdf 20 38 53.0 +0.1**
VOIR 139.30 321 ⇑ *i*P **PKPdf 20 38 53.0 +0.1**
OJC Ojcow 139.34 330 *e*PKP **PKPdf 20 38 57.1 +4.4**
OJC Ojcow 139.34 330 *e*PKIKP **PKPdf 20 38 57.1 +4.4**
CJR Cluj-Napoca 139.47 323 ⇑PKIKP **PKPdf 20 38 56.2 +3.1**
CJR Cluj-Napoca 139.47 323 ⇑ *i*P **PKPdf 20 38 56.2 +3.1**
ARR Arges 139.58 321 ⇑ *i*P **PKPdf 20 38 54.5 +1.1**
SZH Strazhica 139.80 317 *e*P **PKPdf 20 38 55.4 +1.7**
DRGR 139.93 324 ⇑PKHKP PKPpre 20 38 47.0
DRGR 139.93 324 ⇑ *i*P PKPpre 20 38 47.0
PVL Pavlikeni 140.21 317 *e*P PKPdf 20 38 59.8 +5.4
BSEG Bad Segeberg 140.35 340 *e*PKPdf **PKPdf 20 38 53.2 -1.1**
OKC Ostrava-Krasne 140.38 330 *e*PKP **PKPdf 20 38 55.6 +1.0**
OKC *ep*PKP **pPKPdf 20 38 59.2 -0.6**
OKC *ex* x 20 39 29.3
OKC AMS AMS 21 40 10.0
comp=Z,400nm,23.6s
OKC Ostrava-Krasne 140.38 330 *e*PKIKP **PKPdf 20 38 55.6 +1.0**
OKC MLR MLR
comp=Z,400nm,23.6s
KSP Ksiaz 140.52 333 *e*PKP PKPdf 20 39 00.5 +5.8
KSP Ksiaz 140.52 333 *e*PKIKP PKPdf 20 39 00.6 +5.8
GZR Gura Zlata 140.68 322 ⇑PKIKP **PKPdf 20 38 56.8 +1.4**
GZR Gura Zlata 140.68 322 ⇑ *i*P **PKPdf 20 38 56.8 +1.4**
MORC Moravsky Berou 140.71 331 *e*PKIKP **PKPdf 20 38 55.9 +0.6**
MORC Moravsky Berou 140.71 331 *e*PKPdf **PKPdf 20 38 55.9 +0.6**
PSZ Piszkesteto 140.78 327 *e*PKIKP **PKPdf 20 38 56.0 +0.5**
PSZ MLR MLR
comp=Z,422nm,20.0s
PSZ Piszkesteto 140.78 327 ⇓ *i*P **PKPdf 20 39 00.3 +4.8**
PSZ Piszkesteto 140.78 327 *e*PKPdf **PKPdf 20 38 56.0 +0.5**
PSZ LR LR
comp=Z,422nm,20.0s
PSZ Piszkesteto 140.78 327 *e*PKPdf **PKPdf 20 38 59.9 +4.4**
KRLC Kraliky 140.85 332 *e*PKP **PKPdf 20 38 53.6 -1.9**
KRLC *ep*PKP **PKiKP 20 38 57.0 -1.1**
KRLC *es*PKP 20 39 00.6
KRLC *ex* x 20 39 30.3
KRLC Kraliky 140.85 332 *e*PKIKP **PKPdf 20 38 53.6 -1.9**
KRLC *e* 20 39 00.6
DPC Dobruska-Polom 140.86 332 *e*PKP **PKPdf 20 38 55.4 -0.1**
DPC *ep*PKP **pPKPdf 20 38 59.2 -1.6**
DPC *ex* x 20 39 13.1
DPC *ex* x 20 39 30.3
DPC AMS AMS 21 41 10.0
comp=Z,500nm,22.0s
DPC Dobruska-Polom 140.86 332 *e*PKIKP **PKPdf 20 38 55.4 -0.1**
DPC MLR MLR
comp=Z,500nm,22.0s
KDZ Kurdzhali 140.87 315 ⇓PKIKP **PKPdf 20 38 50.9 -4.8**
KDZ Kurdzhali 140.87 315 ⇓ *i*P **PKPdf 20 38 50.9 -4.8**
KDZ Kurdzhali 140.87 315 ⇓ *i*P **PKPdf 20 38 50.9 -4.8**
UPC Upice 140.88 333 *e*PKP **PKPdf 20 38 53.7 -1.8**
UPC *ep*PKP **pPKPdf 20 39 00.7 0.0**
UPC *ex* x 20 39 13.7
UPC *ex* x 20 39 28.8
UPC Upice 140.88 333 *e*PKIKP **PKPdf 20 38 53.7 -1.8**
UPC *e* 20 39 00.7
VYHS Vyhne 140.95 328 *e*PKIKP **PKPdf 20 38 54.6 -1.1**
VYHS Vyhne 140.95 328 *e*PKP **PKPdf 20 38 54.6 -1.1**
MPEP Malo Peshtene 141.16 318 *e*P PKPdf 20 39 01.7 +5.5
BZS Buzias 141.23 323 ⇑PKIKP **PKPdf 20 38 58.7 +2.5**
BZS Buzias 141.23 323 ⇑ *i*P **PKPdf 20 38 58.7 +2.5**
SMTH Samothraki Isl 141.30 313 *i* P **PKPdf 20 39 00.0 +3.4**
RZN Rozhen 141.32 316 *e*P **PKPdf 20 39 01.0 +4.2**
VRAC Vranov 141.48 331 ⇓PKIKP **PKPdf 20 38 53.5 -3.1**
VRAC Vranov 141.48 331 ⇓ *i*P **PKPdf 20 38 53.5 -3.1**
BRG Berggiesshubel 141.49 335 *e*PKPdf **PKPdf 20 38 56.2 -0.3**
BRG Berggiesshubel 141.49 335 *e*PKIKP **PKPdf 20 38 55.6 -0.9**
BRG *e* 20 39 02.0
BRG SS SS 21 00 34.0 +5.5
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG MLR MLR
comp=E,341nm,25.4s
PVCC Panska Ves 141.49 334 *e*PKP **PKPdf 20 38 58.4 +1.9**
PVCC *ep*PKP **pPKPdf 20 39 00.8 -1.0**
PVCC *ex* x 20 39 33.1
PVCC Panska Ves 141.49 334 *e*PKIKP **PKPdf 20 38 58.4 +1.9**
CLL Collm 141.53 336 *e*PKPdf **PKPdf 20 39 01.4 +4.8**
CLL Collm 141.53 336 *e*PKPdf **PKPdf 20 38 56.0 -0.6**
CLL *e*PKiKP **PKiKP 20 38 59.0 -0.4**
CLL *i* sPKPdf **PKPdf 20 39 01.4 +4.8**
CLL *i* 20 39 33.0
CLL *i* 20 39 38.7
CLL *e*PP **PP 20 41 59.0 -0.4**
CLL *e* 20 42 21.0
CLL *e* 20 42 43.0
CLL *e* 20 43 11.0
CLL *e* 20 43 59.0
CLL *e*PSKS 20 52 18.0
CLL *e*SS SS 21 00 42.0 +13
CLL *e*SSS SSS 21 05 54.0
CLL *e* 21 10 48.0
FBE Freiberg 141.69 335 *e*PKPdf **PKPdf 20 38 59.6 +2.7**
KAVA Kavala 141.77 315 P **PKPdf 20 38 54.0 -3.3**
GOPC GO Pecny, Ondr 141.85 333 *e*PKP **PKPdf 20 38 56.9 -0.4**
GOPC *ep*PKP **pPKPdf 20 39 02.3 -0.2**
GOPC *ex* x 20 39 30.6
GOPC *e*PP **PP 20 42 02.4 +0.9**
GOPC AMS AMS 21 38 00.0
comp=E,600nm,21.9s
VTS Vitosha 141.88 318 ⇑PKIKP **PKPdf 20 38 56.8 -0.9**
VTS Vitosha 141.88 318 ⇑ *i*P **PKPdf 20 38 56.8 -0.9**
VTS Vitosha 141.88 318 *e*P **PKPdf 20 39 00.1 +2.4**
PRA Prague 141.89 333 *e*PKP **PKPdf 20 38 58.0 +0.7**
PRA *ex* x 20 39 33.3
PRA Prague 141.89 333 *e*PKIKP **PKPdf 20 38 58.0 +0.7**
PRU Pruhonice 141.90 333 *e*PKP **PKPdf 20 38 56.1 -1.2**
PRU *ex* x 20 39 30.6
PRU *ex* x 20 39 35.1
PRU *e*PP **PP 20 42 01.5 -0.3**
PRU AMS AMS 21 34 20.0
comp=E,600nm,24.6s
PRU Pruhonice 141.90 333 *e*PKIKP **PKPdf 20 38 56.1 -1.2**
PRU *e* 20 42 01.5
PRU MLR MLR
comp=Z,600nm,24.6s
TREC Trest 142.00 332 *e*PKP **PKPdf 20 38 56.5 -1.0**
TREC *ep*PKP **PKiKP 20 38 59.3 -1.2**
TREC *ex* x 20 39 31.3
TREC *e*PP **PP 20 42 03.4 +1.0**
TREC AMS AMS 21 42 20.0
comp=Z,600nm,22.5s
TREC Trest 142.00 332 *e*PKIKP **PKPdf 20 38 56.5 -1.0**
TREC *e* 20 42 03.4
TREC MLR MLR
comp=Z,600nm,22.5s
MMB Musomiste 142.02 316 *e*P **PKPdf 20 38 59.5 +1.6**
MMB Musomiste 142.02 316 *e*P **PKPdf 20 38 59.5 +1.6**
NVR Nevrokopi 142.04 316 P **PKPdf 20 38 55.3 -2.6**
NVR Nevrokopi 142.04 316 *e*P **PKPdf 20 38 55.5 -2.4**
NVR Nevrokopi 142.04 316 P **PKPdf 20 38 55.3 -2.6**
KKB Krupnik 142.31 317 *e*P **PKPdf 20 39 00.4 +2.1**
OUR Ouranopolis 142.42 314 P **PKPdf 20 38 58.5 0.0**
TANN Tannenbergstha 142.44 335 *e*PKPdf **PKPdf 20 38 57.0 -1.3**
WERD Werda 142.48 335 *e*PKPdf **PKPdf 20 38 57.1 -1.3**
PLN Plauen 142.50 336 *e*PKPdf **PKPdf 20 38 55.9 -2.5**
PKSM Moragy 142.53 326 ⇑PKIKP **PKPdf 20 38 55.8 -2.7**
PKSM Moragy 142.53 326 ⇑ *i*P **PKPdf 20 38 55.8 -2.7**
PKSM Moragy 142.53 326 *e*PKPdf **PKPdf 20 38 56.3 -2.2**
GUNZ Gunzen 142.53 335 *e*PKPdf **PKPdf 20 38 57.3 -1.2**
IBBN Ibbenburen 142.54 341 *e*PKPdf **PKPdf 20 38 53.8 -4.5**
WERN Wernitzgruen 142.57 335 *e*PKPdf **PKPdf 20 38 55.0 -3.6**
NKC Novy Kostel 142.59 335 *e*PKP **PKPdf 20 38 57.1 -1.5**
NKC *ep*PKP **PKiKP 20 39 01.5 -0.2**
NKC *ex* x 20 39 32.9
NKC Novy Kostel 142.59 335 *e*PKIKP **PKPdf 20 38 57.1 -1.5**
NKC *e* 20 39 01.5
MOX Moxa 142.59 336 *e*PKPdf **PKPdf 20 39 00.9 +2.4**

APE Apeiranthos 142.62 308 P **PKPdf 20 39 00.1 +1.0**
APE Apeiranthos 142.62 308 P **PKPdf 20 39 00.1 +1.0**
KNT Kendrikon 142.77 316 *e*P **PKPdf 20 38 56.5 -2.7**
CONA Conrad Observa 142.80 330 ⇑ *i*PKPdf **PKPdf 20 38 56.1 -3.0**
comp=Z,14nm,1.0s,SNR=11
HORT Hortiatis 142.91 315 *e*P **PKPdf 20 38 57.7 -1.8**
MANZ Manzenberg 142.92 335 *e*PKPdf **PKPdf 20 38 57.0 -2.2**
KHC Kasperske Hory 142.96 333 *e*PKP **PKPdf 20 38 57.4 -1.9**
KHC *ep*PKP **PKiKP 20 39 01.0 -1.5**
KHC *ex* x 20 39 14.7
KHC *ex* x 20 39 32.6
KHC *e*PP **PP 20 42 06.9 -1.3**
KHC AMS AMS 21 40 00.0
comp=Z,500nm,21.5s
KHC Kasperske Hory 142.96 333 *e*PKIKP **PKPdf 20 38 57.4 -1.9**
KHC *e* 20 42 06.9
KHC MLR MLR
comp=Z,500nm,21.5s
AOS Alonnisos 143.00 312 P PKPdf 20 38 54.0 -5.6
DIVS Divibare 143.05 322 P PKPab 20 38 55.3 +0.4
DIVS Divibare 143.05 322 ⇓ *i*P PKPbc 20 38 56.4 -0.1
ROTZ Rotzenmuhle 143.05 335 *e*PKPdf PKPbc 20 38 57.9 +1.7
UBBA Unterbreizbach 143.05 338 *e*PKPdf PKPab 20 38 55.2 +0.7
GEC2 GERESS Array S 143.12 333 *e*PKPdf PKPbc 20 38 56.5 0.0
GERES GERESS Array B 143.12 333 PKP PKPbc 20 38 58.0 +1.5
comp=Z,2.0nm,0.8s,baz=30,slow=3.2,SNR=16
NPS Neapolis 143.16 305 *e*P PKPbc 20 38 57.2 +0.2
GRG Griva 143.20 316 *e*P PKPbc 20 38 58.3 +1.4
WET Wettzell 143.25 334 *e*PKPdf **PKPdf 20 38 58.9 -0.9**
MRKA Markates 143.40 312 *e*P PKPbc 20 38 58.3 +0.8
BUG Bochum--Univer 143.45 341 *e*PKPdf PKPbc 20 38 58.0 +0.9
GRF Grafenberg Arr 143.50 336 *e*PKPdf **PKPdf 20 38 59.4 -0.8**
GRFO Grafenberg 143.50 336 *e*PKIKP **PKPdf 20 39 01.6 +1.4**
GRFO Grafenberg 143.50 336 *e*PKPdf **PKPdf 20 39 01.6 +1.4**
LIT Litokhoron 143.55 315 P PKPab 20 38 57.5 +0.5
LIT Litokhoron 143.55 315 *e*P PKPbc 20 38 58.7 +0.8
LIT Litokhoron 143.55 315 P PKPab 20 38 57.5 +0.5
MOA Molln 143.60 331 ⇑ *i*PKPdf PKPab 20 38 57.5 +0.5
comp=Z,8.3nm,0.8s,SNR=8.1
IVA Berane 143.80 320 ⇓ *i*PKP **PKPdf 20 39 00.0 -1.0**
LKR Lokris 143.84 312 *e*P **PKPdf 20 39 03.7 +2.6**
PLE Pljevlja 143.85 321 *e*PKP **PKPdf 20 39 00.3 -0.8**
PVY Plav 143.92 320 ⇓ *i*PKP **PKPdf 20 39 00.6 -0.7**
FNA Florina 143.97 316 P PKPbc 20 38 59.5 +0.3
FNA Florina 143.97 316 *e*P **PKPdf 20 39 02.6 +1.3**
PERS Pernice 144.06 329 *e*PKPdf **PKPab 20 38 58.7 -0.1**
SOKA Soboth 144.08 329 ⇑ *i*PKPdf **PKPab 20 38 58.3 -0.6**
comp=Z,22nm,1.0s,SNR=22
TNS Taunus Mts 144.10 339 *e*PKPdf PKPbc 20 39 00.4 +1.2
PHP Peshkopia 144.11 318 P **PKPdf 20 39 01.1 -0.5**
THL Klokotos Trika 144.12 314 P PKPbc 20 39 00.6 +1.0
THL Klokotos Trika 144.12 314 *e*P **PKPab 20 38 59.0 -0.1**
THL Klokotos Trika 144.12 314 P PKPbc 20 39 00.6 +1.0
DID Didima 144.15 310 P PKPdf 20 39 16.1 +14
DID Didima 144.15 310 *e*P **PKPab 20 38 59.5 +0.1**
AGG Agios Georgios 144.15 313 *e*P **PKPab 20 38 58.6 -0.7**
WPM1 Penmaenmawr 144.20 353 *e*P **PKPab 20 38 58.7 -0.3**
VAM Vamos 144.21 306 P **PKPab 20 38 59.0 -0.6**
VAM Vamos 144.21 306 *e*P **PKPab 20 38 57.8 -1.8**
UPM Unac-Piva 144.21 321 ⇓ *i*PKP PKPbc 20 39 00.3 +0.3
WLF1 Llynfaes 144.22 353 *e*P **PKPab 20 38 58.3 -0.7**
MAKR Makrakomi, Fth 144.29 313 *e*P **PKPdf 20 39 03.0 +1.1**
YLL Llanberis 144.34 353 *e*P **PKPab 20 38 57.1 -2.4**
RJOB Jochberg 144.35 332 *e*PKPdf **PKPab 20 38 59.5 -0.3**
NEST Nestorio 144.36 316 P PKPbc 20 39 01.1 +0.6
NEST Nestorio 144.36 316 *e*P **PKPdf 20 39 01.9 -0.2**
NKY Niksic 144.38 321 ⇓ *i*PKP **PKPab 20 39 00.1 -0.1**
KARN Karanos 144.43 306 P **PKPdf 20 39 02.7 +0.4**
KARN Karanos 144.43 306 *e*P **PKPdf 20 39 03.2 +0.9**
OBKA Obir 144.43 329 ⇑ *i*PKPdf **PKPab 20 38 59.9 -0.3**
comp=Z,20nm,1.0s,SNR=7.8
PDG Podgorica 144.44 320 P **PKPab 20 38 59.8 -0.4**
TTG Podgorica 144.44 320 *e*PKP PKPbc 20 39 00.7 +0.2
YRE Yr Eifl 144.53 353 *e*P PKPbc 20 39 00.6 +0.2
EVR Evrytania 144.56 313 P **PKPab 20 38 58.6 -2.3**
EVR Evrytania 144.56 313 *e*P **PKPdf 20 39 03.3 +0.8**
KALE Kalithea 144.56 312 P **PKPab 20 39 01.0 +0.1**
KALE Kalithea 144.56 312 *e*P PKPbc 20 39 01.5 +0.4
MEM Membach 144.56 341 PKP **PKPdf 20 39 01.6 -0.4**
KBA Koelnbreinsper 144.59 331 ⇑ *i*PKPdf **PKPab 20 38 59.6 -1.3**
comp=Z,37nm,1.1s,SNR=22
BRY Bratogost 144.60 321 ⇓ *i*PKP **PKPab 20 39 00.5 -0.5**
GUR Goura 144.61 311 P PKPbc 20 39 01.6 +0.2
GUR Goura 144.61 311 *e*P **PKPdf 20 39 02.7 +0.1**
TIR Tirane 144.65 318 P **PKPdf 20 39 02.7 +0.3**
TIR Tirane 144.65 318 *e*P **PKPdf 20 39 03.2 +0.8**
TIR Tirane 144.65 318 *e*PKIKP **PKPdf 20 39 03.2 +0.8**
TIR Tirane 144.65 318 *e*PKPdf **PKPdf 20 39 03.2 +0.8**
VLI Veliai 144.68 309 *e*P **PKPdf 20 39 02.5 -0.1**
FUR Furstenfeldbru 144.68 334 *e*PKPdf PKPbc 20 39 01.7 +0.6
KLV Kalavryta, Ach 144.71 312 P PKPbc 20 39 01.7 +0.1
KLV Kalavryta, Ach 144.71 312 *e*P **PKPab 20 39 01.2 -0.3**
ULC Ulcinj 144.71 319 *e*PKP PKPbc 20 39 01.5 +0.1
EFP Efpalio 144.71 312 P PKPab 20 38 55.5 -5.9
ANKY Antikythira Is 144.73 308 P **PKPab 20 38 59.9 -1.6**
ANKY Antikythira Is 144.73 308 *e*P **PKPdf 20 39 03.2 +0.5**
BUM Brajici-Budva 144.73 320 *e*PKP PKPbc 20 39 01.8 +0.3
LJU Ljubljana 144.77 329 *e*PKPdf **PKPab 20 39 01.3 -0.1**
BOJS Bojanci 144.78 327 *e*PKPdf PKPbc 20 39 01.8 +0.3
MYKA Terra Mystica 144.78 330 ⇑ *i*PKPbc **PKPab 20 38 60.0 -1.5**
comp=Z,25nm,0.8s,SNR=19
VLX Vlachokerasia 144.82 310 P **PKPdf 20 39 03.7 +0.7**
VLX Vlachokerasia 144.82 310 *e*P PKPbc 20 39 02.2 +0.2
JAN Janina 144.87 315 P **PKPdf 20 39 03.6 +0.7**
JAN Janina 144.87 315 *e*P **PKPab 20 39 01.8 -0.2**
HCY Herceg Novi 144.89 321 ⇓ *i*PKP **PKPab 20 39 00.9 -1.0**
BCLA Clavier 144.94 342 PKP **PKPdf 20 39 03.7 +1.1**
DSL Palaion Diasel 144.95 314 P **PKPdf 20 39 03.4 +0.3**
DSL Palaion Diasel 144.95 314 *e*P **PKPab 20 39 01.6 -0.7**
STU Stuttgart 145.03 336 *e*PKPdf **PKPbc 20 39 01.9 -0.3**
STU Stuttgart 145.03 336 *e*PKIKP **PKPbc 20 39 01.9 -0.3**
STU Stuttgart 145.03 336 *e*PKPdf **PKPbc 20 39 01.9 -0.3**
DRO Drossia 145.06 312 P **PKPdf 20 39 04.4 +1.1**
DRO Drossia 145.06 312 *e*P **PKPdf 20 39 03.2 -0.1**
PDO Prodromos 145.14 313 P **PKPbc 20 39 01.9 -1.0**
PDO Prodromos 145.14 313 *e*P **PKPbc 20 39 02.6 -0.3**
SNF Seneffe 145.16 343 PKP **PKPbc 20 39 01.7 -0.8**
SSW Stow on the Wo 145.16 350 *e*P **PKPbc 20 39 00.8 -1.7**
RLS Riolos of Patr 145.18 312 P **PKPbc 20 39 02.9 -0.1**
RLS Riolos of Patr 145.18 312 *e*P **PKPab 20 39 03.2 +0.1**
WATA Walderalm 145.20 333 ⇑ *i*PKPbc **PKPbc 20 39 01.7 -1.2**
comp=Z,36nm,1.1s,SNR=15
ABTA Abfaltersbach 145.22 331 ⇑ *i*PKPbc **PKPbc 20 39 01.4 -1.6**
comp=Z,75nm,1.0s,SNR=56
WTTA Wattenberg 145.23 333 PKPdf **PKPbc 20 39 02.5 -0.6**
comp=Z,52nm,1.3s,SNR=27
ITM Ithomi 145.23 310 P **PKPdf 20 39 04.2 +0.6**
ITM Ithomi 145.23 310 *e*P **PKPbc 20 39 02.3 -1.0**
AMT Artemida-Makis 145.24 311 P **PKPbc 20 39 00.1 -3.2**
AMT Artemida-Makis 145.24 311 *e*P **PKPbc 20 39 01.1 -2.2**
IGT Igoumenitsa 145.28 315 P **PKPbc 20 39 02.0 -1.3**
IGT Igoumenitsa 145.28 315 *e*P **PKPbc 20 39 02.6 -0.7**
SGD Sagiada 145.31 315 P **PKPbc 20 39 02.5 -0.8**
SGD Sagiada 145.31 315 *e*P **PKPbc 20 39 02.6 -0.8**
MCH1 Michaelchurch 145.31 351 ⇑ *e*P **PKPbc 20 39 01.1 -1.8**
SRN Sarande 145.33 316 P **PKPdf 20 39 04.5 +0.9**
LPW Lampeter 145.34 352 *e*P **PKPbc 20 39 01.4 -1.7**
WLF Walferdange 145.34 340 PKP **PKPbc 20 39 02.9 -0.3**
WLF Walferdange 145.34 340 *e*PKPdf **PKPbc 20 39 03.0 -0.2**
WLF Walferdange 145.34 340 *e*PKIKP **PKPbc 20 39 02.8 -0.3**
WLF Walferdange 145.34 340 *e*PKPdf **PKPbc 20 39 02.8 -0.4**
ELSH Elham, Standar 145.36 347 *e*P **PKPbc 20 39 02.6 -0.6**
LANF Langenberg 145.37 338 PKP **PKPbc 20 39 03.1 -0.2**
TRI Trieste 145.38 329 *e*PKP2 **PKPbc 20 39 02.3 -1.1**
TRI Trieste 145.38 329 *e*PKPdf **PKPbc 20 39 02.2 -1.1**
MOTA Moosalm 145.40 333 ⇑ *i*PKPbc **PKPbc 20 39 02.4 -1.3**
comp=Z,64nm,1.0s,SNR=77
STRD Stroud 145.40 350 *e*P **PKPbc 20 39 02.0 -1.2**
LKD2 Lefkada island 145.41 314 P **PKPab 20 39 05.3 +1.3**
LKD2 Lefkada island 145.41 314 *e*P **PKPbc 20 39 03.4 -0.4**
RETA Reutte 145.43 334 ⇓ *i*PKPbc **PKPbc 20 39 02.4 -1.2**
comp=Z,54nm,1.3s,SNR=41
MONM Monmouth 145.44 351 *e*P **PKPbc 20 39 01.8 -1.6**
DOU Dourbes 145.44 342 PKP **PKPbc 20 39 01.8 -1.6**
PYL PYLOS 145.49 310 *e*P **PKPdf 20 39 02.6 -1.4**
KEK Kerkira 145.55 316 P **PKPab 20 39 04.8 +0.4**
KEK Kerkira 145.55 316 *e*P **PKPdf 20 39 03.9 -0.1**
KFL Anninata 145.64 313 P **PKPab 20 39 06.3 +1.5**
MENF Mencas 145.68 345 PKP **PKPab 20 39 08.3 +3.8**
WOL Wolverton 145.68 349 *e*P **PKPdf 20 39 02.2 -1.7**
BFO Black Forest 145.72 337 *e*PKPdf **PKPdf 20 39 03.5 -0.7**

BFO	**Black Forest**	**145.72 337**	*e*PKIKP	**PKPdf**	**20 39 03.4**	**-0.7**
BFO	**Black Forest**	**145.72 337**	*e*PKPdf	**PKPdf**	**20 39 03.4**	**-0.7**
VLS	**Valsamata**	**145.75 313**	P	**PKPab**	**20 39 06.1**	**+0.9**
FETA	**Feichten**	**145.81 333**	*i* PKPab	**PKPbc**	**20 39 04.9**	**0.0**
	comp=Z,76nm,1.0s,SNR=51					
ZKS	**Zakynthos**	**145.83 312**	P	**PKPab**	**20 39 05.9**	**+0.4**
ZKS	**Zakynthos**	**145.83 312**	*e*P	**PKPab**	**20 39 07.0**	**+1.5**
VAL	**Valentia**	**145.95 359**	*e*P	**PKPdf**	**20 39 02.5**	**-1.8**
DAVA	**Damuels**	**145.96 334**	*i* PKPab	**PKPdf**	**20 39 05.2**	**+0.5**
	comp=Z,71nm,1.1s,SNR=30					
ECH	**Echery**	**146.24 338**	PKP	**PKPdf**	**20 39 05.7**	**+0.7**
ECH	**Echery**	**146.24 338**	*e*PKIKP	**PKPdf**	**20 39 04.6**	**-0.4**
ECH			MLR	MLR		
	comp=Z,372nm,20.0s					
ECH	**Echery**	**146.24 338**	*e*PKPdf	**PKPdf**	**20 39 04.6**	**-0.4**
ECH			LR	LR		
	comp=Z,372nm,20.0s					
HTL	**Hartland**	**146.49 353**	*e*P	**PKPdf**	**20 39 04.9**	**-0.3**
MOF	**Molkenrain**	**146.56 338**	PKP	**PKPdf**	**20 39 05.5**	**-0.1**
THEF	**They Montfort**	**146.64 339**	PKP	**PKPbc**	**20 39 07.4**	**+0.2**
LOMF	**Lomont**	**147.09 337**	PKP	**PKPbc**	**20 39 08.3**	**-0.3**
TIP	**Timpagrande**	**147.83 317**	P	**PKPbc**	**20 39 09.6**	**-1.3**
TIP	**Timpagrande**	**147.83 317**	*e*PKPdf	**PKPdf**	**20 39 08.6**	**+0.6**
TIP			LR	LR		
	comp=Z,220nm,19.0s					
AQU	**L'Aquila**	**147.89 325**	*e*PKP2	**PKPbc**	**20 39 11.3**	**+0.4**
AQU			MLR	MLR		
	comp=Z,527nm,20.0s					
AQU	**L'Aquila**	**147.89 325**	*e*PKPbc	**PKPbc**	**20 39 11.3**	**+0.4**
AQU			LR	LR		
	comp=Z,527nm,20.0s					
CUC	**Castrocucco**	**147.96 319**	*e*PKPdf	**PKPdf**	**20 39 09.8**	**+1.6**
VLC	**Villacollemand**	**148.15 330**	*e*PKPbc	**PKPbc**	**20 39 11.9**	**+0.3**
CEL	**Celeste**	**148.90 316**	*e*PKPbc	**PKPbc**	**20 39 14.8**	**+1.1**
BNI	**Bardonecchia**	**149.07 335**	*e*PKP2	**PKPbc**	**20 39 14.3**	**+0.3**
BNI	**Bardonecchia**	**149.07 335**	*e*PKPbc	**PKPbc**	**20 39 14.3**	**+0.3**
GDM	**Grand'Maison**	**149.17 336**	PKP	**PKPbc**	**20 39 13.4**	**-0.9**
GRN	**Grenoble**	**149.28 336**	PKP	**PKPbc**	**20 39 14.7**	**+0.2**
PLDF	**La Plantade**	**149.40 340**	PKP	**PKPbc**	**20 39 15.1**	**+0.4**
SURF	**Saint Ours**	**149.49 334**	PKP	**PKPbc**	**20 39 15.7**	**+0.5**
AGO	**Saint Agoulin**	**149.49 340**	PKP	**PKPbc**	**20 39 14.8**	**-0.1**
SAOF	**Saorge**	**149.57 333**	PKP	**PKPdf**	**20 39 12.7**	**+2.1**
AUTN	**L'Aution**	**149.62 333**	PKP	**PKPbc**	**20 39 16.4**	**+0.9**
TOUF	**Mont Tournerai**	**149.68 333**	PKP	**PKPbc**	**20 39 14.4**	**-1.3**
SSB	**Saint Sauveur**	**149.69 338**	PKP	**PKPbc**	**20 39 14.8**	**-0.6**
SSB	**Saint Sauveur**	**149.69 338**	PFAKE		20 39 20.0	-0.6
SSB			LR	LR		
	comp=Z,391nm,20.0s					
PYM	**Petit Puy Mans**	**149.80 340**	PKP	**PKPbc**	**20 39 15.6**	**-0.1**
MVIF	**Mont Vial**	**149.82 333**	PKP	**PKPbc**	**20 39 15.7**	**-0.2**
REVF	**Revere**	**149.85 333**	PKP	**PKPbc**	**20 39 16.5**	**+0.6**
CALN	**Calern**	**150.05 333**	PKP	**PKPdf**	**20 39 13.7**	**+2.2**
LBL	**Lubilhac**	**150.18 339**	PKP	**PKPbc**	**20 39 16.8**	**+0.1**
VSL	**Villasalto**	**152.07 325**	*e*PKPbc	**PKPbc**	**20 39 21.9**	**+0.7**
FILF	**Fillols**	**152.76 338**	PKP	**PKPbc**	**20 39 21.1**	**-1.6**
MLS	**Moulis**	**152.91 340**	PKP	**PKPbc**	**20 39 22.1**	**-0.8**
KEST	**Kesra**	**154.61 319**	PKPbc	**PKPbc**	**20 39 28.5**	**+1.5**
	comp=Z,2.5nm,1.0s,baz=256,slow=6.8,SNR=4.3					
KEST			PKPab	**PKPab**	**20 39 44.0**	**+2.5**
	comp=Z,3.7nm,1.1s,baz=138,slow=4.8,SNR=3.7					
ESDC	**Sonseca Array**	**157.38 346**	PKP	**PKPdf**	**20 39 20.5**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=336,slow=3.5,SNR=3.3					
ESDC			PKPab	**PKPab**	**20 39 52.5**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=34,slow=2.8,SNR=8.5					
ESDC	**Sonseca Array**	**157.38 346**	PKP	**PKPdf**	**20 39 20.5**	**-1.5**
ESDC			PKPab	**PKPab**	**20 39 52.5**	**-0.7**
PAB	**San Pablo**	**157.59 346**	PFAKE		20 39 30.0	+7.7
PAB			LR	LR		
	comp=Z,612nm,21.0s					
TORD	**Torodi Ar. Bea**	**166.89 251**	PKP	**PKPdf**	**20 39 31.0**	**-1.2**
	comp=Z,4.2nm,1.0s,baz=31,slow=0.1,SNR=18					
TORD			PKPab	**PKPab**	**20 40 36.2**	**+0.6**
	comp=Z,1.9nm,1.1s,baz=151,slow=4.2,SNR=2.8					

*ISCJB **23** 20:19:55.7±0.9, 18°.3S±0°.2×169°.2E±0°.2, h10km, mb4.6/12, MS5.0/1, Error ellipse: s-maj=37.1km s-min=15.7km az=149.7*
*IDC **23** 20:19:55.5±0.9, 18°.32S×169°.30E, h0km, mb4.8/12, mb1 5.0/12, mb1mx4.6/35, mbtmp4.7/12, MS5.1/1, Ms1 5.1/1, ms1mx4.5/4, Error ellipse: s-maj=39.2km s-min=20.1km az=148.0*
ISC 23 20:19:57.0±0.9, 18°.3S±0°.3×169°.3E±0°.2, h10km, n24, σ0°77/25, mb4.7/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**28.40**	**236**	P	**P**	**20 25 52.0**	**+0.2**
	28nm,0.6s,baz=72,slow=8.7,SNR=5.8						
STKA				LR	LR	20 37 06.3	
	comp=Z,4μm,19.1s,baz=63,slow=36						
WRA	**Warramunga Arr**	**33.03**	**26**	P	**P**	**20 26 32.2**	**-0.7**
	7.6nm,0.7s,baz=90,slow=9.1,SNR=6.1						
ASAR	**Alice Springs**	**33.41**	**255**	P	**P**	**20 26 36.1**	**-0.1**
	30nm,0.8s,baz=79,slow=9.0,SNR=6.4						
ASAJ	**Asahikawa**	**66.73**	**339**	P	**P**	**20 30 48.3**	**0.0**
	15nm,0.9s,baz=138,slow=3.4,SNR=3.8						
USRK	**Ussuriysk Ar.**	**70.92**	**333**	P	**P**	**20 31 15.1**	**+0.6**
	1.7nm,0.7s,baz=133,slow=8.4,SNR=6.3						
CMAR	**Chiang Mai Arr**	**78.16**	**294**	P	**P**	**20 31 57.6**	**+0.5**
	4.5nm,0.9s,baz=118,slow=4.4,SNR=4.7						
SONM	**Songino Array**	**86.50**	**323**	P	P	20 32 42.4	+2.1
	13nm,1.1s,baz=130,slow=3.9,SNR=4.1						
NVAR	**Mina Array Bea**	**88.14**	**49**	P	**P**	**20 32 49.6**	**+1.0**
	15nm,1.0s,baz=224,slow=7.6,SNR=11						
ILAR	**Eielson Array**	**89.32**	**17**	P	**P**	**20 32 54.0**	**+0.9**
	2.3nm,0.8s,baz=224,slow=6.5,SNR=5.5						
PDAR	**Pinedale Array**	**95.94**	**47**	P	**P**	**20 33 24.2**	**-0.4**
	0.7nm,0.8s,baz=270,slow=1.5,SNR=3.9						
TXAR	**Lajitas Array**	**96.27**	**61**	P	**P**	**20 33 25.9**	**-0.3**
	0.5nm,0.9s,baz=251,slow=2.8,SNR=4.4						
YKA	**Yellowknife Ar**	**99.81**	**27**	P	**Pdif**	**20 33 39.9**	**-1.3**
	0.5nm,0.7s,baz=252,slow=4.9,SNR=3.9						
MKAR	**Makanchi Array**	**101.10**	**316**	P	**Pdif**	**20 33 47.0**	**-0.4**
	0.5nm,0.6s,baz=85,slow=2.6,SNR=5.8						
ZALV	**Zalesovo Beam**	**101.39**	**323**	P	**Pdif**	**20 33 49.1**	**+0.7**
	2.8nm,1.0s,baz=129,slow=4.0,SNR=5.2						
BVAR	**Borovoye Array**	**109.72**	**321**	PKiKP	**PKiKP**	**20 28 27.7**	**-0.4**
	1.5nm,0.9s,baz=95,slow=2.4,SNR=3.0						
AKTO	**Aktyubinsk**	**117.40**	**318**	PKP	**PKPdf**	**20 38 43.1**	**+0.3**
	4.2nm,0.9s,baz=157,slow=1.5,SNR=7.8						
ARCES	**ARCESS Array B**	**124.17**	**345**	PKP	**PKPdf**	**20 38 54.9**	**-0.4**
	6.1nm,1.0s,baz=48,slow=2.7,SNR=4.7						
FINES	**FINESS Array B**	**129.73**	**338**	PKP	**PKPdf**	**20 39 05.2**	**-0.9**
	7.2nm,1.0s,baz=124,slow=10,SNR=9.2						
AKASG	**Malin Array Be**	**134.75**	**325**	PKP	**PKPdf**	**20 39 15.3**	**-0.6**
	1.3nm,0.6s,baz=23,slow=3.0,SNR=3.9						
BRTR	**Keskin Array B**	**136.26**	**309**	PKP	**PKPdf**	**20 39 20.0**	**+0.7**
	2.0nm,1.0s,baz=98,slow=2.5,SNR=8.1						
BRTR				PP	**PP**	**20 42 00.3**	**+0.5**
	4.2nm,1.1s,baz=38,slow=6.3,SNR=3.6						
GERES	**GERESS Array B**	**143.68**	**333**	PKP	**PKPdf**	**20 39 31.4**	**-1.0**
	2.4nm,0.7s,baz=107,slow=1.4,SNR=6.2						
ESDC	**Sonseca Array**	**157.90**	**346**	PKPab	**PKPab**	**20 40 26.0**	**-1.2**
	3.2nm,1.1s,baz=23,slow=2.8,SNR=4.7						
ESDC	**Sonseca Array**	**157.90**	**346**	PKPab	**PKPab**	**20 40 26.0**	**-1.2**
TORD	**Torodi Ar. Bea**	**167.01**	**249**	PKP	**PKPdf**	**20 40 05.2**	**+1.1**
	1.5nm,0.8s,baz=128,slow=0.3,SNR=3.6						
TORD				PKPab	**PKPab**	**20 41 08.0**	**+0.1**
	3.1nm,1.2s,baz=142,slow=4.4,SNR=2.8						

*ISCJB **23** 20:24:03.8±1.0, 42°.96N±0°.05×146°.80E±0°.06, h53km±8km, mb3.6/5, Error ellipse: s-maj=10.9km s-min=5.1km az=142.5*
*SKHL **23** 20:24:04.7±0.8, 42°.97N×146°.79E, h33km±3km, mb4.3/3*
*JMA **23** 20:24:04.1±0.1, 42°.96N×146°.80E, h61km±2km, MS3.8*
*IDC **23** 20:24:08.7±13.0, 44°.68N×146°.27E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/40, mbtmp3.6/5, MS3.3/1, Ms1 3.3/1, ms1mx2.7/33, Error ellipse: s-maj=336.5km s-min=36.1km az=164.0*
ISC 23 20:24:03.6±1.3, 42°.91N±0°.09×146°.89E±0°.09, h36km±4km, n24, σ0°83/38, mb3.4/5, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.95**	**299**	P	**Pn**	**20 24 20.7**	**+0.2**
NEM2				*e*S	**Sn**	**20 24 32.9**	**0.0**
SHO	**Shikotan**	**0.96**	**357**	*e*P	**Pn**	**20 24 20.6**	**0.0**
SHO				AMB	AMB	20 24 20.9	
	220nm,0.3s						
SHO				*e*S	**Sn**	**20 24 32.3**	**-0.8**
SHO				A	A	20 24 32.9	
	2μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.35**	**327**	*i* P	**Pn**	**20 24 25.5**	**-0.4**
YUK				AMB	AMB	20 24 26.1	
	320nm,0.3s						
YUK				*i* S	**Sn**	**20 24 41.6**	**-1.0**
YUK				A	A	20 24 45.5	
	670nm,0.6s						
YUK				A	A	20 24 45.5	
	460nm,0.6s						
JAK	**Akkeshi**	**1.61**	**274**	P	**Pn**	**20 24 29.8**	**+0.3**
JAK				*e*S	**Sn**	**20 24 48.7**	**-0.3**
JRA	**Rausu**	**1.65**	**309**	P	**Pn**	**20 24 30.1**	**+0.1**
JRA				*e*S	**Sn**	**20 24 49.4**	**-0.5**
JNK	**Nakash**	**1.72**	**294**	P	**Pn**	**20 24 30.8**	**-0.3**
JNK				*e*S	**Sn**	**20 24 50.7**	**-1.1**
JOB	**Onbets**	**2.24**	**271**	P	**Pn**	**20 24 38.7**	**+0.5**
JOB				*e*S	**Sn**	**20 25 04.0**	**-0.6**
JAR	**Ashorobuto**	**2.32**	**281**	P	**Pn**	**20 24 39.6**	**+0.4**
JAR				*e*S	**Sn**	**20 25 05.5**	**-1.0**
JTKR	**Abashiri--Toko**	**2.42**	**297**	P	**Pn**	**20 24 41.5**	**+0.9**
JTKR				*e*S	**Sn**	**20 25 09.8**	**+0.9**
KUR	**Kuril'sk**	**2.43**	**17**	*e*P	**Pn**	**20 24 41.7**	**+0.9**
KUR				AMB	AMB	20 24 44.2	
	10.0nm,0.3s						
KUR				*e*S	**Sn**	**20 25 08.7**	**-0.5**
KUR				A	A	20 25 11.1	
	70nm,0.2s						
KUR				A	A	20 25 11.1	
	20nm,0.2s						
JCH	**Churui**	**2.61**	**265**	P	**Pn**	**20 24 43.7**	**+0.4**
JCH				*e*S	**Sn**	**20 25 12.8**	**-1.0**
JMP	**Maruseppu**	**2.79**	**294**	P	**Pn**	**20 24 46.8**	**+1.0**
HRK	**Horoka**	**2.81**	**283**	*e*S	**Sn**	**20 25 18.4**	**-0.2**
JEM	**Erimo**	**2.90**	**253**	*e*S	**Sn**	**20 25 21.5**	**+0.7**
JNBK	**Urakawa-nobuka**	**3.12**	**260**	P	**Pn**	**20 24 50.9**	**+0.7**
JNBK				*e*S	**Sn**	**20 25 25.1**	**-1.1**
JFR	**Furan**	**3.16**	**276**	P	**Pn**	**20 24 51.9**	**+1.1**
JFR				*e*S	**Sn**	**20 25 27.8**	**+0.5**
JBT2	**Biratori 2**	**3.33**	**269**	P	**Pn**	**20 24 53.6**	**+0.5**
JBT2				*e*S	**Sn**	**20 25 30.0**	**-1.4**
ASAJ	**Asahikawa**	**3.35**	**293**	LR	LR	20 25 58.4	
	comp=Z,572nm,21.7s,slow=41						
YSS	**Yuzh-Sakhalins**	**5.00**	**325**	*e*P	**Pn**	**20 25 18.3**	**+2.3**
YSS				*e*S	**Sn**	**20 26 12.7**	**+0.2**
YSS				A	A	20 26 15.5	
	30nm,0.2s						
SONM	**Songino Array**	**28.63**	**294**	P	**P**	**20 29 57.3**	**+0.6**
	0.6nm,0.6s,baz=65,slow=8.7,SNR=3.8						
MKAR	**Makanchi Array**	**44.81**	**298**	P	**P**	**20 32 14.1**	**+0.3**
	0.1nm,0.3s,baz=79,slow=2.9,SNR=3.3						
KURBB	**Kurchatov Arra**	**45.93**	**305**	P	**P**	**20 32 22.2**	**-0.4**
	0.2nm,0.4s,baz=74,slow=8.6,SNR=5.1						
INK	**Inuvik**	**47.23**	**30**	P	**P**	**20 32 32.5**	**0.0**
	0.4nm,0.3s,baz=267,slow=6.1,SNR=3.7						
FINES	**FINESS Array B**	**65.54**	**333**	P	**P**	**20 34 41.9**	**-1.1**
	2.5nm,1.1s,baz=54,slow=7.1,SNR=3.1						

*ISCJB **23** 20:38:02.5±0.3, 45°.94N±0°.01×2°.77E±0°.03, h11km±3km, Error ellipse: s-maj=2.9km s-min=2.4km az=10.5*
*CSEM **23** 20:38:03.4±0.1, 45°.95N×2°.79E, h5km, ML2.9/13, Error ellipse: s-maj=2.4km s-min=1.9km az=108.0*
*STR **23** 20:38:04.8±0.4, 45°.93N×2°.85E, h5km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **23** 20:38:04.5±0.0, 45°.95N×2°.79E, h2km, Md2.6/3, Ml2.9/14, Error ellipse: s-maj=0.8km s-min=0.7km az=103.0*
ISC 23 20:38:04.6±0.9, 45°.94N±0°.01×2°.79E±0°.02, h9km±8km, n90, σ1§12/132, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYM	**Petit Puy Mans**	**0.24**	**141**	Pg	**Pg**	**20 38 09.3**	**-0.2**
PYM				Sg	**Sg**	**20 38 12.7**	**-0.2**
PYM	**Petit Puy Mans**	**0.24**	**141**	Pg	**Pg**	**20 38 09.3**	**-0.2**
PYM				Sg	**Sg**	**20 38 12.7**	**-0.2**
AGO	**Saint Agoulin**	**0.26**	**64**	Pg	**Pg**	**20 38 09.6**	**-0.3**
AGO				Sg	**Sg**	**20 38 12.7**	**-0.8**
AGO	**Saint Agoulin**	**0.26**	**64**	Pg	**Pg**	**20 38 09.6**	**-0.3**
AGO				Sg	**Sg**	**20 38 12.7**	**-0.8**
CFF	**Clermont-Ferra**	**0.28**	**128**	Pg	**Pg**	**20 38 09.9**	**-0.4**
CFF				Sg	**Sg**	**20 38 14.1**	**0.0**
CFF	**Clermont-Ferra**	**0.28**	**128**	Pg	**Pg**	**20 38 09.9**	**-0.4**
CFF				Sg	**Sg**	**20 38 14.1**	**0.0**
TCF	**Toulx Ste Croi**	**0.53**	**311**	*e*Pg	**Pg**	**20 38 14.5**	**-0.5**
TCF				*e*Sg	**Sg**	**20 38 21.6**	**-0.4**
	13nm,0.2s						
TCF	**Toulx Ste Croi**	**0.53**	**311**	*e*Pg	**Pg**	**20 38 14.5**	**-0.5**
TCF				*e*Sg	**Sg**	**20 38 21.6**	**-0.4**
	6.7nm,0.2s						
PLDF	**La Plantade**	**0.58**	**87**	Pg	**Pg**	**20 38 15.5**	**-0.3**
PLDF				Sg	**Sg**	**20 38 23.4**	**0.0**
PLDF	**La Plantade**	**0.58**	**87**	Pg	**Pg**	**20 38 15.5**	**-0.3**
PLDF				Sg	**Sg**	**20 38 23.4**	**0.0**
BGF	**Bois d'Agland**	**0.62**	**3**	*e*Pg	**Pg**	**20 38 16.2**	**-0.4**
BGF	**Bois d'Agland**	**0.62**	**3**	*e*Pn	**Pb**	**20 38 18.6**	**+1.0**
BGF				*e*Sg	**Sg**	**20 38 24.4**	**-0.3**
	68nm,0.3s						
BGF	**Bois d'Agland**	**0.62**	**3**	*e*Pg	**Pg**	**20 38 16.2**	**-0.4**
BGF	**Bois d'Agland**	**0.62**	**3**	*e*Pn	**Pb**	**20 38 18.6**	**+1.0**
BGF				*e*Sg	**Sg**	**20 38 24.4**	**-0.3**
	34nm,0.3s						
LBL	**Lubilhac**	**0.78**	**156**	Pg	**Pg**	**20 38 19.3**	**-0.2**
LBL				Sg	**Sg**	**20 38 29.3**	**-0.4**
LBL	**Lubilhac**	**0.78**	**156**	Pg	**Pg**	**20 38 19.3**	**-0.2**
LBL				Sg	**Sg**	**20 38 29.3**	**-0.4**
AVF	**Avril sur Loir**	**0.94**	**24**	*e*Pg	**Pg**	**20 38 22.0**	**-0.6**
AVF				*e*Sg	**Sg**	**20 38 34.0**	**-0.8**
	48nm,0.3s						
AVF	**Avril sur Loir**	**0.94**	**24**	*e*Pg	**Pg**	**20 38 22.0**	**-0.6**
AVF				*e*Sg	**Sg**	**20 38 34.0**	**-0.8**
	24nm,0.3s						
SMF	**Signal de Mont**	**1.01**	**45**	*e*Pg	**Pg**	**20 38 23.5**	**-0.6**
SMF				*e*Sg	**Sg**	**20 38 36.7**	**-0.5**
	45nm,0.3s						
SMF	**Signal de Mont**	**1.01**	**45**	*e*Pg	**Pg**	**20 38 23.5**	**-0.6**
SMF				*e*Sg	**Sg**	**20 38 36.7**	**-0.5**
	22nm,0.3s						
RJF	**Les Rejaudoux**	**1.10**	**235**	*e*Pg	**Pg**	**20 38 24.9**	**-0.8**
RJF				*e*Sg	**Sg**	**20 38 39.3**	**-0.6**
	35nm,0.2s						
RJF	**Les Rejaudoux**	**1.10**	**235**	*e*Pg	**Pg**	**20 38 24.9**	**-0.8**
RJF				*e*Sg	**Sg**	**20 38 39.3**	**-0.6**
	18nm,0.2s						
CAF	**Calviac**	**1.14**	**207**	*e*Pg	**Pg**	**20 38 25.6**	**-0.8**
CAF				*e*Sg	**Sg**	**20 38 40.6**	**-0.5**
	69nm,0.2s						
CAF	**Calviac**	**1.14**	**207**	*e*Pg	**Pg**	**20 38 25.6**	**-0.8**
CAF				*e*Sg	**Sg**	**20 38 40.6**	**-0.5**
	34nm,0.2s						
SSF	**Saint Saulge**	**1.23**	**23**	*e*Pg	**Pg**	**20 38 27.3**	**-0.8**
SSF				*e*Sg	**Sg**	**20 38 43.1**	**-0.9**
	75nm,0.4s						
SSF	**Saint Saulge**	**1.23**	**23**	*e*Pg	**Pg**	**20 38 27.3**	**-0.8**
SSF				*e*Sg	**Sg**	**20 38 43.1**	**-0.9**
	38nm,0.4s						
HYF	**Humbligny**	**1.33**	**356**	*e*Pg	**Pn**	**20 38 29.7**	**+0.3**
HYF				*e*Sg	**Sg**	**20 38 46.5**	**-1.0**
HYF	**Humbligny**	**1.33**	**356**	*e*Pg	**Pn**	**20 38 29.7**	**+0.3**
HYF				*e*Sg	**Sg**	**20 38 46.5**	**-1.0**
SSB	**Saint Sauveur**	**1.39**	**118**	Pn	**Pn**	**20 38 28.7**	**-1.5**
SSB	**Saint Sauveur**	**1.39**	**118**	Pg	**Pn**	**20 38 30.7**	**+0.5**
SSB				Sg	**Sb**	**20 38 48.4**	**-0.3**
SSB	**Saint Sauveur**	**1.39**	**118**	Pn	**Pn**	**20 38 28.7**	**-1.5**
SSB	**Saint Sauveur**	**1.39**	**118**	Pg	**Pn**	**20 38 30.7**	**+0.5**
SSB				Sg	**Sb**	**20 38 48.4**	**-0.3**
LOR	**Lormes**	**1.52**	**29**	*e*Pn	**Pn**	**20 38 30.9**	**-1.0**
	baz=215						
LOR	**Lormes**	**1.52**	**29**	*e*Pg	**Pn**	**20 38 32.7**	**+0.8**
	baz=212						
LOR				*e*Sg	**Sn**	**20 38 52.3**	**+0.5**
	20nm,0.2s						
LOR	**Lormes**	**1.52**	**29**	*e*Pn	**Pn**	**20 38 30.9**	**-1.0**
	baz=215						
LOR	**Lormes**	**1.52**	**29**	*e*Pg	**Pn**	**20 38 32.7**	**+0.8**
	baz=212						
LOR				*e*Sg	**Sn**	**20 38 52.3**	**+0.5**
	9.9nm,0.2s						
VIVF	**Saint-Julien-l**	**1.71**	**129**	*e*Pn	**Pn**	**20 38 33.8**	**-0.8**
VIVF	**Saint-Julien-l**	**1.71**	**129**	*e*Pg	**Pb**	**20 38 36.5**	**+0.3**
VIVF				*e*Sg	**Sb**	**20 38 58.6**	**+0.8**
	14nm,0.3s						
VIVF	**Saint-Julien-l**	**1.71**	**129**	*e*Pn	**Pn**	**20 38 33.8**	**-0.8**
VIVF	**Saint-Julien-l**	**1.71**	**129**	*e*Pg	**Pb**	**20 38 36.5**	**+0.3**
VIVF				*e*Sg	**Sb**	**20 38 58.6**	**+0.8**
	6.9nm,0.3s						
LFF	**La Frestale**	**1.76**	**236**	*e*Pg	**Pb**	**20 38 37.1**	**+0.2**
LFF				*e*Sg	**Sb**	**20 38 59.8**	**+0.8**
	32nm,0.3s						
LFF	**La Frestale**	**1.76**	**236**	*e*Pg	**Pb**	**20 38 37.1**	**+0.2**
LFF				*e*Sg	**Sb**	**20 38 59.8**	**+0.8**
	16nm,0.3s						
LASF	**Ste Croix**	**2.01**	**158**	*e*Pn	**Pn**	**20 38 37.9**	**-0.8**
LASF	**Ste Croix**	**2.01**	**158**	*e*Pg	**Pb**	**20 38 41.9**	**+0.6**
LASF				*e*Sg	**Sb**	**20 39 07.9**	**+1.5**
	9.1nm,0.2s						
LASF	**Ste Croix**	**2.01**	**158**	*e*Pn	**Pn**	**20 38 37.9**	**-0.8**
LASF	**Ste Croix**	**2.01**	**158**	*e*Pg	**Pb**	**20 38 41.9**	**+0.6**
LASF				*e*Sg	**Sb**	**20 39 07.9**	**+1.5**
	4.6nm,0.2s						
MFF	**Saint Martin d**	**2.14**	**289**	*e*Pn	**Pn**	**20 38 39.6**	**-0.8**
MFF	**Saint Martin d**	**2.14**	**289**	*e*P	**Pn**	**20 38 41.4**	**+1.0**
MFF				*e*Sg	**Sb**	**20 39 11.8**	**+1.6**
	4.5nm,0.2s						
MFF	**Saint Martin d**	**2.14**	**289**	*e*Pn	**Pn**	**20 38 39.6**	**-0.8**
MFF	**Saint Martin d**	**2.14**	**289**	*e*P	**Pn**	**20 38 41.4**	**+1.0**
MFF				*e*Sg	**Sb**	**20 39 11.8**	**+1.6**
	2.2nm,0.2s						
CABF	**La Chapelle**	**2.38**	**72**	*e*Pn	**Pn**	**20 38 42.8**	**-1.0**
CABF	**La Chapelle**	**2.38**	**72**	*e*Pg	**Pb**	**20 38 49.1**	**+1.4**
CABF	**La Chapelle**	**2.38**	**72**	*e*Pn	**Pn**	**20 38 42.8**	**-1.0**
CABF	**La Chapelle**	**2.38**	**72**	*e*Pg	**Pb**	**20 38 49.1**	**+1.4**
ORIF	**Oris-en-Rattie**	**2.40**	**114**	*e*Pn	**Pn**	**20 38 43.3**	**-0.8**
ORIF	**Oris-en-Rattie**	**2.40**	**114**	*e*Pn	**Pn**	**20 38 43.3**	**-0.8**
MTLF	**Montolieu**	**2.63**	**189**	*e*P	**Pn**	**20 38 48.0**	**+0.8**
MTLF	**Montolieu**	**2.63**	**189**	*e*Pg	**Pb**	**20 38 53.4**	**+1.6**
MTLF				*e*Sg	**Sg**	**20 39 27.4**	**-1.6**
	8.8nm,0.3s						
MTLF	**Montolieu**	**2.63**	**189**	*e*P	**Pn**	**20 38 48.0**	**+0.8**
MTLF	**Montolieu**	**2.63**	**189**	*e*Pg	**Pb**	**20 38 53.4**	**+1.6**
MTLF				*e*Sg	**Sg**	**20 39 27.4**	**-1.6**
	4.4nm,0.3s						
SFTF	**Sexfontaines**	**2.74**	**33**	*e*Pn	**Pn**	**20 38 47.7**	**-0.9**
SFTF	**Sexfontaines**	**2.74**	**33**	*e*Pg	**Pb**	**20 38 54.6**	**+0.9**
	baz=212						
SFTF	**Sexfontaines**	**2.74**	**33**	*e*Pn	**Pn**	**20 38 47.7**	**-0.9**
SFTF	**Sexfontaines**	**2.74**	**33**	*e*Pg	**Pb**	**20 38 54.6**	**+0.9**
	baz=212						
MEZF	**Maizieres J'vi**	**2.99**	**30**	*e*Pn	**Pn**	**20 38 50.9**	**-1.2**
	baz=217						
MEZF	**Maizieres J'vi**	**2.99**	**30**	*e*Pg	**Pb**	**20 38 59.8**	**+1.8**
	baz=211						
MEZF	**Maizieres J'vi**	**2.99**	**30**	*e*Pn	**Pn**	**20 38 50.9**	**-1.2**
	baz=217						
MEZF	**Maizieres J'vi**	**2.99**	**30**	*e*Pg	**Pb**	**20 38 59.8**	**+1.8**
	baz=211						
HAU	**Haudompre**	**3.19**	**48**	*e*Pn	**Pn**	**20 38 52.9**	**-2.0**
HAU	**Haudompre**	**3.19**	**48**	*e*Pg	**Pg**	**20 39 04.4**	**-1.3**
HAU	**Haudompre**	**3.19**	**48**	*e*Pn	**Pn**	**20 38 52.9**	**-2.0**
HAU	**Haudompre**	**3.19**	**48**	*e*Pg	**Pg**	**20 39 04.4**	**-1.3**
PAGF

PETK	**Petropavlovsk-** 1.0nm,0.8s,baz=188,slow=9.0,SNR=2.5	**71.37**	**353**	P		**P**	**20**	**55**	**25.5 +0.4**
PETK	comp=Z,111nm,21.6s,baz=175,slow=31			LR		LR	21	20	36.5
CMAR	**Chiang Mai Arr** 0.7nm,0.8s,baz=136,slow=4.2,SNR=5.3	**77.80**	**294**	P		**P**	**20**	**56**	**04.7 +1.5**
SONM	**Songino Array** 0.8nm,0.8s,baz=148,slow=6.5,SNR=5.6	**86.04**	**323**	P		**P**	**20**	**56**	**46.3 +0.3**
CMB	**Columbia Colle** 5.8nm,1.0s	**86.38**	**48**	*e*P		**P**	**20**	**56**	**46.4 -1.5**
YBH	**Yreka Blue Hor** 4.5nm,0.9s,baz=114,slow=3.9,SNR=6.5	**86.44**	**44**	P		P	20	56	51.4 +3.3
YBH	comp=Z,290nm,19.8s,baz=300,slow=30			LR		LR	21	26	40.4
NVAR	**Mina Array Bea** 1.5nm,0.7s,baz=226,slow=3.9,SNR=6.6	**88.03**	**49**	P		**P**	**20**	**56**	**58.1 +2.1**
ILAR	**Eielson Array** 0.4nm,0.8s,baz=237,slow=6.0,SNR=6.2	**88.99**	**17**	P		**P**	**20**	**57**	**00.4 +0.8**
ILAR	comp=Z,108nm,20.8s,baz=222,slow=31			LR		LR	21	30	23.1
WVOR	**Wild Horse Val** 9.8nm,1.2s	**89.47**	**45**	*e*P		**P**	**20**	**57**	**02.8 +0.2**
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=114,slow=4.9,SNR=3.0	**100.65**	**316**	P		**Pdif**	**20**	**57**	**54.5 +1.0**
ARCES	**ARCESS Array B** 2.5nm,0.8s,baz=1.8,slow=3.9,SNR=5.5	**123.71**	**345**	PKP		**PKPdf**	**21**	**03**	**02.1 -0.3**
NOA	**NORSAR Array B** 0.7nm,0.8s,baz=353,slow=0.7,SNR=3.3	**134.09**	**345**	PKP		**PKPdf**	**21**	**03**	**22.5 +0.1**
KHC	**Kasperske Hory**	**143.05**	**333**	*e*PKP		**PKPdf**	**21**	**03**	**42.2 +3.1**
KHC				*ep*PKP		**pPKPdf**	**21**	**03**	**46.8 -3.8**
KHC				*ex*		x	21	03	53.4
GERES	**GERESS Array B**	**143.22**	**333**	PKP		**PKPdf**	**21**	**03**	**40.8 +1.3**
	0.4nm,0.8s,baz=35,slow=7.2,SNR=3.7								
PERS	**Pernice**	**144.16**	**329**	*i* PKPdf		**PKPdf**	**21**	**03**	**39.4 -1.8**
SOKA	**Soboth** 5.0nm,0.9s,SNR=7.2	**144.17**	**329**	⇑*i* PKPdf		**PKPdf**	**21**	**03**	**39.8 -1.4**
LJU	**Ljubljana**	**144.87**	**329**	*e*PKPdf		**PKPdf**	**21**	**03**	**41.9 -0.5**
ABTA	**Abfaltersbach** 13nm,0.8s,SNR=12	**145.32**	**331**	*i* PKPdf		**PKPdf**	**21**	**03**	**42.9 -0.4**
WTTA	**Wattenberg** 14nm,1.1s,SNR=8.2	**145.32**	**333**	*i* PKPdf		**PKPdf**	**21**	**03**	**43.7 +0.4**
LANF	**Langenberg**	**145.45**	**338**	PKP		**PKPab**	**21**	**03**	**43.8 +0.3**
MOTA	**Moosalm** 14nm,0.9s,SNR=15	**145.49**	**333**	⇑*i* PKPab		**PKPab**	**21**	**03**	**43.9 0.0**
FETA	**Feichten** 12nm,1.0s,SNR=8.4	**145.90**	**333**	*i* pPKPdf		**PKPab**	**21**	**03**	**46.0 +0.6**
ECH	**Echery**	**146.33**	**338**	PKP		**PKPab**	**21**	**03**	**47.5 +0.6**
MOF	**Molkenrain**	**146.65**	**338**	PKP		**PKPbc**	**21**	**03**	**46.2 -0.9**
THEF	**They Montfort**	**146.73**	**339**	PKP		**PKPab**	**21**	**03**	**47.0 -1.4**
LOMF	**Lomont**	**147.18**	**337**	PKP		**PKPab**	**21**	**03**	**49.2 -1.1**
PLDF	**La Plantade**	**149.49**	**340**	PKP		**PKPbc**	**21**	**03**	**54.4 -0.3**
SAOF	**Saorge**	**149.66**	**333**	PKP		**PKPbc**	**21**	**03**	**55.3 +0.2**
AUTN	**L'Aution**	**149.71**	**333**	PKP		**PKPbc**	**21**	**03**	**56.9 +1.4**
TOUF	**Mont Tournerai**	**149.77**	**333**	PKP		**PKPbc**	**21**	**03**	**55.8 +0.2**
PYM	**Petit Puy Mans**	**149.88**	**340**	PKP		**PKPbc**	**21**	**03**	**55.1 -0.5**
MVIF	**Mont Vial**	**149.91**	**333**	PKP		**PKPbc**	**21**	**03**	**55.8 -0.1**
REVF	**Revere**	**149.94**	**333**	PKP		**PKPbc**	**21**	**03**	**55.0 -0.8**
CALN	**Calern**	**150.14**	**334**	PKP		**PKPbc**	**21**	**03**	**56.9 +0.5**
LBL	**Lubilhac**	**150.26**	**340**	PKP		**PKPbc**	**21**	**03**	**55.9 -0.7**
TORD	**Torodi Ar. Bea** 0.6nm,1.0s,baz=153,slow=2.3,SNR=3.4	**166.95**	**251**	PKP		**PKPdf**	**21**	**04**	**11.9 0.0**
TORD	0.8nm,1.0s,baz=120,slow=4.9,SNR=3.2			PKPab		**PKPab**	**21**	**05**	**16.4 +0.8**

IDC 23 21:06:39.4±12.0,**17°.90S×168°.54E, h0**km,**mb3.7**/3, **mb1 3.9**/4,**mb1mx3.7**/21,**mbtmp3.7**/4,**ML3.4**/1,**Error ellipse: s-maj=222.6km s-min=45.2km az=85.0,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 1.8nm,0.3s,baz=90,slow=24,SNR=16	**4.59**	**205**	Pn		Pn		21 07 49.6	-0.6
DZM	1.1nm,0.3s,baz=270,slow=20,SNR=3.8			Sn		Sn		21 08 45.1	+0.6
STKA	**Stephens Creek** 1.3nm,0.6s,baz=51,slow=6.5,SNR=4.2	**28.03**	**235**	P		P		21 12 33.2	+0.8
WRA	**Warramunga Arr** 0.5nm,1.0s,baz=90,slow=8.8,SNR=8.0	**32.39**	**261**	P		P		21 13 10.6	-0.5
ASAR	**Alice Springs** 1.0nm,0.8s,baz=83,slow=8.7,SNR=8.8	**32.84**	**254**	P		P		21 13 14.9	-0.1

*IDC **23** 21:12:39.6±1.3,23°.77S×66°.55W,h196km±16km,mb3.1/1, mb1 3.2/7,mb1mx3.1/28,mbtmp3.7/7,Error ellipse: s-maj=22.4km s-min=15.7km az=112.0*
*ISCJB **23** 21:12:40.9±0.6,23°.82S±0°.05×66°.77W±0°.07,h200km, mb3.2/1,Error ellipse: s-maj=9.2km s-min=7.2km az=158.4*
*SJA **23** 21:12:40.9±0.6,23°.70S×67°.25W,h146km,ML2.9,MW3.2*
ISC 23 21:12:39.3±0.8,**23°.86S**±0°.06×**66°.76W**±0°.07,**h200**km,**n14, σ2s25/19,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.40**	**63**	*e*P		**Pn**		**21 13 14.7**	**+2.0**
HJA				*e*S		**Sn**		**21 13 40.0**	**+1.7**
SLA	**San Lorenzo**	**1.44**	**127**	*e*P		**Pn**		**21 13 15.4**	**+2.7**
SLA				*e*S		**Sn**		**21 13 41.5**	**+2.9**
SLA	comp=Z,64nm,0.8s			AML		AML		21 13 43.8	
YJA	**Yavi**	**2.03**	**35**	*e*P		**Pn**		**21 13 20.6**	**+1.9**
YJA				*e*S		**Sn**		**21 13 48.9**	**-0.2**
LVC	**Limon Verde** comp=Z,342nm,0.3s,baz=128,slow=7.1,SNR=65	**2.33**	**302**	P		**Pn**		**21 13 24.5**	**+2.8**
LVC	comp=Z,2μm,0.3s,baz=331,slow=21,SNR=36			S		**Sn**		**21 13 57.2**	**+2.7**
LPAZ	**La Paz** comp=Z,0.5nm,0.3s,baz=170,slow=8.0,SNR=9.1	**7.64**	**350**	P		**Pn**		**21 14 28.5**	**0.0**
LPAZ	comp=Z,0.1nm,0.3s,baz=219,slow=19,SNR=2.4			S		**Sn**		**21 15 53.8**	**-1.5**
CFAA	**Coronel Fontan** comp=Z,0.2nm,0.3s,baz=358,slow=5.6,SNR=18	**7.83**	**189**	P		**Pn**		**21 14 30.7**	**+0.3**
CFAA	comp=Z,0.3nm,0.3s,baz=221,slow=15,SNR=14			S		**Sn**		**21 15 53.9**	**-4.9**
SIV	**San Ignacio** comp=Z,0.7nm,0.3s,baz=229,slow=14,SNR=17	**9.48**	**35**	P		**Pn**		**21 14 49.5**	**-2.4**
PLCA	**Paso Flores** comp=Z,0.1nm,0.3s,baz=164,slow=16,SNR=3.5	**17.13**	**190**	P		**Pn**		**21 16 29.3**	**+2.2**
BDFB	**Brasilia** comp=Z,0.2nm,0.3s,baz=250,slow=10,SNR=5.6	**19.43**	**69**	P		**P**		**21 16 49.5**	**-1.4**
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.4s,baz=257,slow=5.7,SNR=7.9	**76.31**	**69**	P		**P**		**21 24 05.8**	**-0.8**
ASAR	**Alice Springs** comp=Z,0.2nm,0.4s,baz=120,slow=1.9,SNR=4.1	**128.68**	**204**	PKP		**PKPdf**		**21 31 23.9**	**+0.5**
WRA	**Warramunga Arr** comp=Z,0.2nm,0.5s,baz=160,slow=1.8,SNR=8.1	**131.85**	**207**	PKP		**PKPdf**		**21 31 29.7**	**+0.2**
ZALV	**Zalesovo Beam** comp=Z,0.4nm,0.4s,baz=302,slow=3.2,SNR=3.3	**143.16**	**28**	PKP		PKPbc		21 31 46.9	+0.2
MKAR	**Makanchi Array** comp=Z,0.9nm,0.7s,baz=286,slow=7.7,SNR=9.7	**146.28**	**40**	PKPbc		**PKPbc**		**21 31 56.2**	**-0.1**

IDC 23 21:18:54.4±12.0,**17°.83S×168°.66E, h0**km,**mb4.0**/3, **mb1 4.2**/4,**mb1mx3.8**/27,**mbtmp4.0**/4,**ML3.8**/1,**Error ellipse: s-maj=219.5km s-min=45.1km az=86.0,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 4.4nm,0.3s,baz=270,slow=24,SNR=28	**4.71**	**206**	Pn		Pn		21 20 06.7	-0.1
DZM	4.8nm,0.3s,baz=270,slow=20,SNR=3.5			Sn		Sn		21 21 04.1	+1.8
DZM	**Mont Dzumac**	**4.71**	**206**	*e*P		Pn		21 20 07.3	+0.5
DZM				*e*S		Sn		21 21 03.5	+1.2
STKA	**Stephens Creek** 3.0nm,0.7s,baz=52,slow=9.7,SNR=4.5	**28.16**	**235**	P		P		21 24 49.2	+0.7
WRA	**Warramunga Arr** 1.1nm,0.7s,baz=94,slow=8.9,SNR=8.6	**32.51**	**261**	P		P		21 25 26.4	-0.7
ASAR	**Alice Springs** 1.8nm,0.8s,baz=82,slow=9.1,SNR=18	**32.96**	**254**	P		P		21 25 31.2	0.0

SJA 23 21:40:01.6±1.0,**31°.56S×69°.30W, h108**km±8km,**ML3.5, MW4.2,San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.24**	**179**	*e*P		Pn		21 40 17.9	+0.7
SJA	**San Juan**	**0.64**	**87**	*e*P		Pn		21 40 20.2	+1.0
SJA				*e*S		Sn		21 40 34.2	+1.7
AUSP	**Uspallata**	**0.67**	**186**	*e*P		Pn		21 40 20.5	+0.7
RTCV	**Cerro Valdivia**	**0.71**	**115**	*e*P		Pn		21 40 20.9	+1.0
RTCV				*e*S		Sn		21 40 33.8	+0.1
RTLL	**Cerro Villicun**	**0.74**	**72**	*e*P		Pn		21 40 20.7	+0.5
RTLL				*e*S		Sn		21 40 35.0	+0.8
CFAA	**Coronel Fontan**	**0.91**	**93**	*e*P		Pn		21 40 22.4	+0.6
CFAA				*e*S		Sn		21 40 37.8	+0.9
ASAL	**Salagasta**	**1.10**	**159**	*e*P		Pn		21 40 24.8	+1.0
ASAL				*e*S		Sn		21 40 42.2	+1.6
ARCO	**CERRO ARCO**	**1.31**	**166**	*e*P		Pn		21 40 27.4	+1.1
ARCO				*e*S		Sn		21 40 46.1	+1.1
ARCO	comp=Z,510nm,0.1s			AML		AML		21 40 48.0	
AAGR	**Agrelo**	**1.57**	**165**	*e*P		Pn		21 40 30.1	+0.8
AAGR				*e*S		Sn		21 40 51.4	+1.0
ACAN	**Cantantal**	**1.93**	**112**	*e*P		Pn		21 40 34.5	+0.9

IDC 23 22:01:57.7±46.0,**18°.25S×167°.41E, h0**km,**mb3.8**/3, **mb1 3.9**/4,**mb1mx3.6**/30,**mbtmp3.7**/4,**ML3.4**/1,**MS3.3**/1, **Ms1 3.3**/1,**ms1mx2.8**/25,**Error ellipse: s-maj=786.1km s-min=50.4km az=66.0,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 2.7nm,0.3s,baz=90,slow=24,SNR=18	**3.91**	**193**	Pn		Pn		22 02 58.9	-0.3
DZM	0.2nm,0.3s,baz=90,slow=20,SNR=2.8			Sn		Sn		22 03 39.3	-6.6
URZ	**Urewera** comp=Z,96nm,21.6s,baz=70,slow=32	**21.66**	**159**	LR		LR		22 13 37.9	
STKA	**Stephens Creek** 2.4nm,0.8s,baz=64,slow=9.7,SNR=3.4	**26.95**	**235**	P		P		22 07 41.6	+0.6
WRA	**Warramunga Arr** 0.4nm,0.7s,baz=93,slow=8.7,SNR=6.4	**31.27**	**261**	P		P		22 08 19.4	-0.2
ASAR	**Alice Springs** 0.9nm,0.7s,baz=80,slow=9.2,SNR=10.0	**31.70**	**254**	P		P		22 08 23.1	-0.3

*DDA **23** 22:07:18.9,38°.74N×38°.03E,h7km,ML3.6*
*ISK **23** 22:07:19.3,38°.70N×38°.05E,h3km,ML3.4*
*CSEM **23** 22:07:20.1±0.2,38°.68N×38°.03E,h2km,ML3.6,Error ellipse: s-maj=4.5km s-min=3.8km az=169.0*
ISC 23 22:07:20.1±1.0,**38°.70N**±0°.02×**38°.04E**±0°.02,**h8**km±9km, **n49,σ1s00/71,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.41**	**193**	*i* P		**Pg**		**22 07 28.1**	**-0.1**
AKCD	**Akcadag**	**0.41**	**193**	*i* P		**Pg**		**22 07 28.1**	**-0.1**
DARE	**Darende-Malaty**	**0.46**	**254**	*e*PG		**Pg**		**22 07 28.3**	**-0.7**
DARE				*e*SG		**Sg**		**22 07 35.4**	**+0.5**
DARE	**Darende-Malaty**	**0.46**	**254**	*e*Pg		**Pg**		**22 07 28.3**	**-0.7**
DARE				*e*Sg		**Sg**		**22 07 35.4**	**+0.5**
MALT	**Malatya**	**0.49**	**142**	*e*PG		**Pg**		**22 07 29.6**	**0.0**
MALT				*e*SG		**Sg**		**22 07 36.8**	**+0.7**
MALT	**Malatya**	**0.49**	**142**	*e*Pg		**Pg**		**22 07 29.6**	**0.0**
MALT				*e*Sg		**Sg**		**22 07 36.8**	**+0.7**
ELZG	**Elazig**	**0.77**	**105**	*i* P		**Pg**		**22 07 34.4**	**-0.5**
ELZG				*i* S		**Sg**		**22 07 45.5**	**+0.6**
ELZG	**Elazig**	**0.77**	**105**	*i* P		**Pg**		**22 07 34.4**	**-0.5**
ELZG				*i* S		**Sg**		**22 07 45.5**	**+0.6**
ILIC	**ilic-Erzincan**	**0.85**	**29**	*e*PG		**Pg**		**22 07 36.2**	**-0.4**
ILIC				*e*SG		**Sb**		**22 07 48.4**	**-0.5**
ILIC	**ilic-Erzincan**	**0.85**	**29**	*e*Pg		**Pg**		**22 07 36.2**	**-0.4**
ILIC				*e*Sg		**Sb**		**22 07 48.4**	**-0.5**
SVRC	**Sivrice-ELAZID**	**1.04**	**108**	*e*PG		**Pg**		**22 07 39.2**	**-0.9**
SVRC				*e*SG		**Sg**		**22 07 54.1**	**+0.4**
SVRC	**Sivrice-ELAZID**	**1.04**	**108**	*e*Pg		**Pg**		**22 07 39.2**	**-0.9**
SVRC				*e*Sg		**Sg**		**22 07 54.1**	**+0.4**
PTK	**Pertek**	**1.07**	**79**	*e*PG		**Pg**		**22 07 39.6**	**-1.1**
PTK				*e*SG		**Sn**		**22 07 56.6**	**-0.2**
PTK	**Pertek**	**1.07**	**79**	*e*Pg		**Pg**		**22 07 39.6**	**-1.1**
PTK				*e*Sg		**Sn**		**22 07 56.6**	**-0.2**
ATAB	**Bozova**	**1.25**	**171**	*i* P		**Pn**		**22 07 43.0**	**-0.8**
ATAB				*i* S		**Sb**		**22 07 58.4**	**-1.6**
ATAB	**Bozova**	**1.25**	**171**	*i* P		**Pn**		**22 07 43.0**	**-0.8**
ATAB				*i* S		**Sb**		**22 07 58.4**	**-1.6**
PINB	**Pinarbasi**	**1.28**	**269**	*i* P		**Pn**		**22 07 43.0**	**-1.5**
PINB				*i* S		**Sn**		**22 08 03.1**	**+1.1**
PINB	**Pinarbasi**	**1.28**	**269**	*i* P		**Pn**		**22 07 43.0**	**-1.5**
PINB				*i* S		**Sn**		**22 08 03.1**	**+1.1**
URFA	**Urfa**	**1.40**	**154**	*e*PN		**Pb**		**22 07 46.6**	**+0.1**
URFA	**Urfa**	**1.40**	**154**	*e*Pn		**Pb**		**22 07 46.6**	**+0.1**
SVSK	**Karacayir**	**1.46**	**327**	*e*PN		**Pb**		**22 07 47.0**	**-0.5**
SVSK	**Karacayir**	**1.46**	**327**	*e*Pn		**Pb**		**22 07 47.0**	**-0.5**
HCB	**Kahramanmara¯**	**1.62**	**214**	*i* P		**Pb**		**22 07 50.4**	**+0.1**
HCB				*i* S		**Sg**		**22 08 13.3**	**+1.0**
EUZM	**Uzumlu**	**1.63**	**51**	*i* P		**Pb**		**22 07 50.7**	**+0.2**
EUZM				*i* S		**Sg**		**22 08 13.6**	**+1.0**
EUZM	**Uzumlu**	**1.63**	**51**	*i* P		**Pb**		**22 07 50.7**	**+0.2**
EUZM				*i* S		**Sg**		**22 08 13.6**	**+1.0**
ANDN	**Andirin**	**1.74**	**231**	*i* P		**Pn**		**22 07 51.2**	**+0.5**
ANDN	**Andirin**	**1.74**	**231**	*i* P		**Pn**		**22 07 51.2**	**+0.5**
ANDN				*i* S		**Sg**		**22 08 19.1**	**+3.0**
RSDY	**Resadiye-TOKAT**	**1.78**	**342**	*e*PN		**Pb**		**22 07 52.4**	**-0.6**
RSDY	**Resadiye-TOKAT**	**1.78**	**342**	*e*Pn		**Pb**		**22 07 52.4**	**-0.6**
DIYA	**Diyarbakir**	**1.81**	**115**	*i* P		**Pb**		**22 07 52.8**	**-0.7**
DIYA	**Diyarbakir**	**1.81**	**115**	*i* P		**Pb**		**22 07 52.8**	**-0.7**
DYBB	**Diyarbakir**	**1.81**	**114**	*e*PN		**Pb**		**22 07 52.7**	**-0.8**
KAMA	**Osmaniye**	**1.86**	**216**	*i* P		**Pb**		**22 07 53.2**	**-1.1**
KAMA				*i* S		**Sg**		**22 08 20.5**	**+0.6**
DIY	**Diyarbakir**	**1.90**	**114**	*e*Pn		**Pg**		**22 07 52.7**	**-0.1**
BINT	**Bingol**	**1.92**	**84**	*e*Pn		**Pg**		**22 07 56.8**	**-0.1**
KUZU	**Kuzuini**	**2.07**	**202**	*i* P		**Pn**		**22 07 56.1**	**+1.0**
KUZU	**Kuzuini**	**2.07**	**202**	*i* P		**Pn**		**22 07 56.1**	**+1.0**
KUZU				*i* S		**Sg**		**22 08 26.3**	**-0.3**
GUMT	**Gumushane**	**2.08**	**32**	*e*PN		**Pb**		**22 07 56.8**	**-1.3**
GUMT	**Gumushane**	**2.08**	**32**	*e*Pn		**Pb**		**22 07 56.8**	**-1.3**
BNGB	**Bing¯ll**	**2.08**	**81**	*e*PN		**Pb**		**22 07 56.8**	**-1.3**
KOZT	**Kozan**	**2.13**	**236**	*e*PN		**Pn**		**22 07 57.1**	**+1.2**
KOZT	**Kozan**	**2.13**	**236**	*e*Pn		**Pn**		**22 07 57.2**	**+1.2**
MAZI	**Mazidag**	**2.27**	**122**	*e*PN		**Pn**		**22 07 59.4**	**+1.5**
MAZI	**Mazidag**	**2.27**	**122**	*e*Pn		**Pn**		**22 07 59.4**	**+1.5**
ESPY	**Espiye-Giresun**	**2.28**	**13**	*e*PN		**Pn**		**22 07 59.4**	**+1.5**
ESPY	**Espiye-Giresun**	**2.28**	**13**	*e*Pn		**Pn**		**22 07 59.4**	**+1.5**
SVAN	**Silvan-Diyarba**	**2.54**	**101**	*e*PN		**Pn**		**22 08 03.5**	**+1.9**
BTMT	**Batman**	**2.75**	**100**	*e*PN		**Pn**		**22 08 06.0**	**+1.4**
BTMT	**Batman**	**2.75**	**100**	*e*Pn		**Pn**		**22 08 06.0**	**+1.4**

DJA 23 22:23:02.7±0.3,**9°.S**±4°×**11°.8E**±°,**h97**km±5km,**M3.5**/10, **MLv3.5**/10,**Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**2.36**	**112**	P		Pn		22 23 40.2	+0.4
WSI				S		Sn		22 24 10.0	+1.7
DNP	**Denpasar**	**2.84**	**272**	P		Pn		22 23 45.4	-0.8
IGBI	**Denpasar**	**2.90**	**269**	P		Pn		22 23 47.2	+0.2
IGBI				S		Sn		22 24 21.5	+0.3
SRBI	**Singaraja**	**2.92**	**284**	P		Pn		22 23 48.2	+0.9
BSSI	**Bau Bau, Buton**	**3.55**	**42**	P		Pn		22 23 55.9	0.0
BSSI				S		Sn		22 24 39.0	+2.0
ABJI	**Asem Bagus**	**3.93**	**284**	P		Pn		22 24 00.1	-0.8
BKSI	**Bulukumba**	**4.00**	**31**	P		Pn		22 24 01.3	-0.5
MMRI	**Maumere**	**4.11**	**88**	P		Pn		22 24 03.3	-0.1
BLJI	**Banyuglugur**	**4.56**	**283**	P		Pn		22 24 08.9	-0.5

*CSEM **23** 22:23:04.0,38°.15N×17°.44E,h30km,MD2.6/5*
ROM 23 22:23:04.0±0.6,**38°.15N×17°.44E, h30**km,**Md2.6/5,MI1.7/3, Error ellipse: s-maj=8.6km s-min=5.3km az=134.0, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SERS	**Sersale**	**1.06**	**326**	Pg		Pn		22 23 23.1	+0.1
SERS				Sg		Sb		22 23 37.4	-0.3
SERS	**Sersale** 9.0nm,0.7s	**1.06**	**326**	Pg		Pn		22 23 23.1	+0.1
SERS	9.0nm,0.7s			Sg		Sb		22 23 37.4	-0.3
CEL	**Celeste**	**1.23**	**275**	Pg		Pb		22 23 26.8	+0.2
CEL	22nm,0.6s			Sg		Sb		22 23 42.4	+0.2
CEL	**Celeste** 22nm,0.6s	**1.23**	**275**	Pg		Pb		22 23 26.8	+0.2
CEL				Sg		Sb		22 23 42.4	+0.2
PIPA	**Pietrapaola** 7.0nm,0.4s	**1.42**	**340**	Pg		Pn		22 23 28.8	+1.0
PIPA	**Pietrapaola** 7.0nm,0.4s	**1.42**	**340**	Pg		Pn		22 23 28.8	+1.0
SALB	**San Lorenzo Be**	**1.92**	**334**	Pg		Pn		22 23 36.4	+1.5
SALB	**San Lorenzo Be**	**1.92**	**334**	Pg		Pn		22 23 36.4	+1.5
HCRL	**Carlentini**	**2.10**	**246**	Pg		Pn		22 23 37.3	+0.2
HCRL				Sg		Sn		22 24 01.9	-0.3
HCRL	**Carlentini**	**2.10**	**246**	Pg		Pn		22 23 37.3	+0.2
HCRL				Sg		Sn		22 24 01.9	-0.3
KEK	**Kerkira**	**2.41**	**49**	Pg		Pn		22 23 42.3	+0.9
KEK	**Kerkira**	**2.41**	**49**	Pg		Pn		22 23 42.3	+0.9

*IDC **23** 22:23:43.3±0.8,18°.70N×121°.58E,h0km,mb3.7/12, mb1 3.9/14,mb1mx3.7/39,mbtmp3.7/14,ML4.3/2,MS3.0/1, Ms1 3.0/1,ms1mx2.7/34,Error ellipse: s-maj=23.3km s-min=17.1km az=75.0*
*ISCJB **23** 22:23:44.4±2.3,19°.00N±0°.03×121°.32E±0°.05,h4km±15km, mb3.6/12,MS2.8/1,Error ellipse: s-maj=8.0km s-min=5.2km az=5.5*
*MAN **23** 22:23:48,18°.71N×121°.32E,h1km,mb4.9,ML3.8,MS3.9*
ISC 23 22:23:44.6±1.9,**18°.85N**±0°.05×**121°.35E**±0°.06,**h2**km±13km, **n23,σ1s27/28,mb3.6**/12,**2C,Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.87**	**233**	⇑*i* P		**Pb**		**22 24 02.0**	**-0.4**
PIP				*e*S		**Sb**		**22 24 14.9**	**+0.4**
SGCP	**Mt. Cagua**	**0.89**	**132**	*e*P		**Pn**		**22 24 04.7**	**+0.5**
SGCP				*e*S		**Sn**		**22 24 18.3**	**+0.5**
APYP	**Conner**	**0.98**	**186**	*e*P		**Pn**		**22 24 05.3**	**-0.2**
APYP				*e*S		**Sn**		**22 24 19.7**	**-0.4**
CVP	**Callao Caves**	**1.22**	**158**	*i* P		**Pn**		**22 24 10.5**	**+1.7**
CVP				*i* S		**Sn**		**22 24 27.4**	**+1.5**
ABRA	**Dolores**	**1.34**	**207**	*e*P		**Pn**		**22 24 10.9**	**+0.5**
ABRA				*e*S		**Sn**		**22 24 29.5**	**+0.7**
CAUP	**Cauayan**	**1.94**	**167**	*e*P		**Pg**		**22 24 22.8**	**+0.8**
BCPH	**Baguio City Da**	**2.56**	**197**	⇑*i* P		**Pb**		**22 24 31.0**	**-0.4**
BCPH				*i* S		**Sg**		**22 25 05.4**	**-1.6**
BOLP	**Bolinao**	**2.81**	**209**	*e*P		**Pb**		**22 24 34.0**	**-1.6**
BALP	**Baler**	**3.09**	**176**	*e*P		**Pn**		**22 24 37.1**	**+2.6**
JOW	**Kunigami** 0.3nm,0.3s,baz=283,slow=19,SNR=7.3	**10.19**	**37**	Pn		**Pn**		**22 26 12.0**	**-0.1**
KSRS	**Korea Array** 0.2nm,0.3s,baz=200,slow=11,SNR=4.2	**19.41**	**16**	P		**P**		**22 28 12.6**	**+0.4**
CMAR	**Chiang Mai Arr** 2.3nm,0.8s,baz=74,slow=8.7,SNR=13	**21.24**	**273**	P		**P**		**22 28 34.9**	**+2.7**
MJAR	**Matsushiro Arr** 0.4nm,0.3s,baz=236,slow=8.7,SNR=3.0	**23.04**	**37**	P		**P**		**22 28 50.1**	**-1.2**
MJAR	comp=Z,35nm,19.2s,baz=315,slow=38			LR		LR		22 38 20.8	
SONM	**Songino Array** 1.1nm,0.5s,baz=155,slow=7.8,SNR=5.6	**31.38**	**340**	P		**P**		**22 30 07.2**	**+0.1**
WRA	**Warramunga Arr** 0.8nm,0.3s,baz=334,slow=10,SNR=53	**40.60**	**161**	P		P		22 31 22.7	-3.4
MKAR	**Makanchi Array** 0.6nm,0.7s,baz=120,slow=7.1,SNR=6.9	**42.39**	**320**	P		**P**		**22 31 42.0**	**+1.4**
ASAR	**Alice Springs** 0.5nm,0.5s,baz=334,slow=6.7,SNR=6.9	**43.99**	**163**	P		**P**		**22 31 51.5**	**-2.2**
ZALV	**Zalesovo Beam** 0.5nm,0.5s,baz=121,slow=8.5,SNR=3.6	**44.86**	**330**	P		**P**		**22 32 00.9**	**+0.5**
BVAR	**Borovoye Array** 0.6nm,0.6s,baz=117,slow=7.7,SNR=5.4	**51.96**	**323**	P		**P**		**22 32 56.3**	**+1.1**
ILAR	**Eielson Array** 0.3nm,0.8s,baz=251,slow=5.4,SNR=3.9	**73.88**	**26**	P		**P**		**22 35 20.1**	**-0.9**
FINES	**FINESS Array B** 2.1nm,0.8s,baz=75,slow=7.4,SNR=

AAGR	**Agrelo**	**1.89**	**224**	*e*P	Pn	22 38 11.1	+0.8	

IDC ***23*** *22:42:10.3±1.1, 6°.21S×155°.01E, h0km, mb4.2/11, mb1 4.3/11, mb1mx4.1/33, mbtmp4.2/11, MS4.5/1, Ms1 4.5/1, ms1mx3.2/24, Error ellipse: s-maj=40.4km s-min=20.0km az=115.0*

ISCJB ***23*** *22:42:21.7±0.4, 6°.23S±0°.07×154°.80E±0°.07, h100km, mb4.3/17, Error ellipse: s-maj=10.2km s-min=9.3km az=139.0*

NEIC ***23*** *22:42:23.9±2.5, 6°.27S×154°.77E, h106km±9km, mb4.7/8, Error ellipse: s-maj=16.6km s-min=13.5km az=90.0*

ISC 23 22:42:23.5±0.6, 6°.23S±0°.10×154°.73E±0°.08, h100km, n33, σ1℔16/31, mb4.2/17, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.07**	**122**	*e*Pn		**Pn**	**22 43 50.5**	**-0.2**
HNR				*e*Sn		**Sn**	**22 45 02.0**	**+3.2**
PMG	**Port Moresby**	**8.14**	**247**	*e*Pn		**Pn**	**22 44 19.9**	**+0.9**
FAKI	**Fak Fak**	**22.65**	**277**	*e*P		**P**	**22 47 15.6**	**-1.0**
	11nm,1.0s							
WRAB	**Tennant Creek**	**24.03**	**234**	*e*P		**P**	**22 47 29.9**	**+0.5**
	122nm,2.8s							
WRA	**Warramunga Arr**	**24.05**	**234**	P		**P**	**22 47 30.3**	**+0.8**
	4.8nm,0.8s,baz=58,slow=9.5,SNR=64							
WRA				PcP		**PcP**	**22 51 09.5**	**+0.6**
	0.3nm,0.3s,baz=52,slow=2.4,SNR=8.9							
ARMA	**Armidale**	**24.23**	**187**	*e*P		**P**	**22 47 31.3**	**+0.1**
	63nm,2.0s							
MSVF	**Nonsavu**	**25.47**	**119**	*e*P		**P**	**22 47 41.4**	**-1.2**
	45nm,1.6s							
AS01	**Alice Springs**	**26.45**	**227**	*e*P		**P**	**22 47 51.0**	**-0.3**
AS12	**Alice Springs**	**26.49**	**227**	*e*P		**P**	**22 47 51.6**	**-0.1**
ASAR	**Alice Springs**	**26.49**	**227**	P		**P**	**22 47 51.6**	**-0.1**
	1.3nm,0.5s,baz=58,slow=8.8,SNR=13							
H11S3	**WAKE ISLAND Hy**	**27.25**	**25**	T		T	23 16 14.4	
	baz=205,slow=74,SNR=36							
H11S2	**WAKE ISLAND Hy**	**27.26**	**25**	T		T	23 16 17.7	
	baz=205,slow=74,SNR=35							
H11S1	**WAKE ISLAND Hy**	**27.27**	**25**	T		T	23 16 18.8	
	baz=205,slow=74,SNR=30							
FORT	**Forrest**	**34.97**	**222**	*e*P		**P**	**22 49 04.7**	**-1.4**
	573nm,2.5s							
BKZ	**Black Stump Fm**	**38.22**	**152**	*e*P		**P**	**22 49 32.2**	**-1.5**
	203nm,2.2s							
KHZ	**Kahutara**	**39.70**	**158**	*e*P		**P**	**22 49 44.2**	**-1.8**
KSRS	**Korea Array**	**50.15**	**332**	LR		LR	23 07 17.7	
	comp=Z,482nm,21.9s,baz=118,slow=30							
PEA2	**Petropavlovsk-**	**59.17**	**2**	*e*P		**P**	**22 52 14.2**	**+0.5**
PETK	**Petropavlovsk-**	**59.17**	**2**	P		**P**	**22 52 14.2**	**+0.5**
	2.8nm,0.7s,baz=170,slow=9.0,SNR=7.3							
CM31	**Chiang Mai Arr**	**60.22**	**295**	*e*P		**P**	**22 52 23.8**	**+2.1**
CMAR	**Chiang Mai Arr**	**60.22**	**295**	P		**P**	**22 52 23.8**	**+2.1**
	4.2nm,0.7s,baz=123,slow=5.3,SNR=31							
SONA0	**Songino Array**	**68.56**	**327**	*e*P		**P**	**22 53 15.1**	**-0.5**
SONM	**Songino Array**	**68.56**	**327**	P		**P**	**22 53 15.1**	**-0.5**
	0.4nm,0.3s,baz=137,slow=7.5,SNR=2.9							
MK32	**Makanchi Array**	**82.66**	**319**	*e*P		**P**	**22 54 36.7**	**+0.6**
MKAR	**Makanchi Array**	**82.66**	**319**	P		**P**	**22 54 36.7**	**+0.6**
	1.2nm,0.6s,baz=104,slow=2.5,SNR=18							
ILAR	**Eielson Array**	**82.77**	**22**	P		**P**	**22 54 35.8**	**-0.3**
	0.3nm,0.5s,baz=226,slow=4.8,SNR=2.8							
ILB	**Eielson Array**	**82.77**	**22**	*e*P		**P**	**22 54 35.8**	**-0.3**
ZALV	**Zalesovo Beam**	**83.41**	**326**	P		**P**	**22 54 38.5**	**-1.1**
	1.5nm,0.7s,baz=126,slow=5.1,SNR=6.1							
ZAA1	**Zalesovo Array**	**83.41**	**326**	*e*P		**P**	**22 54 38.5**	**-1.1**
MAW	**Mawson**	**85.00**	**203**	P		**P**	**22 54 47.7**	**+0.3**
	3.0nm,0.6s,baz=83,slow=5.8,SNR=10							
MAW	**Mawson**	**85.00**	**203**	*e*P		**P**	**22 54 47.7**	**+0.3**
	14nm,2.1s							
BVAR	**Borovoye Array**	**91.53**	**323**	P		**P**	**22 55 17.9**	**-1.0**
	0.7nm,0.6s,baz=123,slow=7.1,SNR=4.5							
YKA	**Yellowknife Ar**	**95.79**	**28**	P		**P**	**22 55 37.6**	**-0.6**
	0.4nm,0.6s,baz=266,slow=4.5,SNR=5.5							

MOS ***23*** *22:46:49.3±0.9, 13°.85S×74°.40W, h89km, mb6.3/70, MS5.1/23, Error ellipse: s-maj=8.9km s-min=4.8km az=113.4*

BJI ***23*** *22:46:50.3, 13°.90S×74°.30W, h105km, mB6.1/55*

NEIC ***23*** *22:46:51.0±0.0, 13°.92S×74°.32W, h95km, Moment Tensor Solution. s48 Moment tensor: Scale 10^18Nm; Mrr-1.20; Mθθ0.75; Mφφ0.45; Mrθ-0.34; Mθφ-0.65; Mφr0.65; Best double couple: M0 1.40000×10^18 NP1:φs296.00000°, δ32.00000°, λ-110.00000°. Principal axes: T 1.4400, Plg14.0000°, Azm221.0000°; N -0.0100, Plg11.0000°, Azm314.0000°; P -1.4300, Plg71.0000°, Azm80.0000°;*

ISCJB ***23*** *22:46:51.0±0.1, 13°.87S±0°.02×74°.46W±0°.02, h104km, mb6.2/415 Error ellipse: s-maj=3.8km s-min=2.1km az=36.3*

GCMT ***23*** *22:46:52.1±0.1, 14°.03S×74°.52W, h109km, MW6.1/132, Moment Tensor Solution. s132,c288; s121,c360; Duration: 28 Moment tensor: Scale 10^18Nm; Mrr-1.63±.01; Mθθ0.43±.01; Mφφ1.20±.02; Mrθ-0.19±.01; Mθφ-0.99±.01; Mφr0.47±.01; Best double couple: M0 1.82800×10^18 NP1:φs150.00000°, δ53.00000°, λ-85.00000°. NP2:φs321.00000°, δ37.00000°, λ-97.00000°. Principal axes: T 1.9490, Plg8.0000°, Azm236.0000°; N -0.2380, Plg4.0000°, Azm327.0000°; P -1.7060, Plg81.0000°, Azm84.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

IDC ***23*** *22:46:52.1±0.5, 13°.94S×74°.41W, h103km±3km, mb5.5/41, mb1 5.7/44, mb1mx5.6/47, mbtmp5.9/44, MS5.2/20, Ms1 5.2/20, ms1mx5.1/27 Error ellipse: s-maj=11.0km s-min=8.0km az=62.0*

NEIC ***23*** *22:46:52.0±0.1, 13°.93S×74°.35W, mb6.3/244, ME6.2, MW6.0, MW6.1, MW6.1, Error ellipse: s-maj=3.8km s-min=2.3km az=56.0, Moment Tensor Solution. s78 Moment tensor: Scale 10^18Nm; Mrr-1.74; Mθθ0.85; Mφφ0.88; Mrθ-0.56; Mθφ-0.07; Mφr0.57; Best double couple: M0 1.70000×10^18 NP1:φs319.00000°, δ30.00000°, λ-89.00000°. NP2:φs137.00000°, δ60.00000°, λ-91.00000°. Principal axes: T 1.1700, Plg15.0000°, Azm227.0000°; N 0.7900, Plg0.0000°, Azm137.0000°; P -1.9600, Plg74.0000°, Azm45.0000°; Broadband fault plane solution: P waves. NP1:φs140.00000°, δ45.00000°, λ-90.00000°. NP2:φs320.00000°, δ45.00000°, λ-90.00000°. Principal axes: T Plg0.0000°, Azm50.0000°; N Plg0.0000°, Azm0.0000°; P Plg90.0000°, Azm0.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [V] at Ayacucho; [IV] at Abancay, Andahuaylas, Huanca Sancos, Ica and Urubamba; [III] at Apurimac, Arequipa, Chosica, Huancayo and Pisco; [II] at Barranca, Cusco, Lima and Puerto Maldonado. Felt in much of Peru as far as Moquegua and Trujillo.

NEIC ***23*** *22:47:02.9±0.0, 13°.53S×74°.55W, h78km, Moment Tensor Solution. s116 Moment tensor: Scale 10^18Nm; Mrr-1.54; Mθθ0.44; Mφφ1.10; Mrθ-0.17; Mθφ-0.77; Mφr0.20; Best double couple: M0 1.60000×10^18 NP1:φs145.00000°, δ50.00000°, λ-91.00000°. NP2:φs328.00000°, δ40.00000°, λ-87.00000°. Principal axes: T 1.6300, Plg4.0000°, Azm236.0000°; N -0.0600, Plg1.0000°, Azm146.0000°; P -1.5600, Plg85.0000°, Azm40.0000°;*

ISC 23 22:46:51.7±0.2, 14°.00S±0°.03×74°.43W±0°.04, h103km±1km, h102km:pP-P, n2080, σ1℔39/2462, mb6.2/422, 274C-463D, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.09**	**310**	P		**Pn**	**22 47 37.4**	**-1.4**
	4μm,0.3s,baz=129,slow=11,SNR=2429							
NNA				S		**Sn**	**22 48 12.9**	**-2.1**
	9μm,0.3s,baz=208,slow=22,SNR=24							
NNA				LR		LR	22 48 39.4	
	comp=Z,39μm,20.6s,baz=80,slow=35							
NNA	**Nana**	**3.09**	**310**	*e*Pn		**Pn**	**22 47 37.4**	**-1.4**
NNA				*e*Sn		**Sn**	**22 48 13.2**	**-1.7**
ARE	**Arequipa**	**3.75**	**131**	*e*P		**Pn**	**22 47 46.5**	**-1.3**
ARE				*e*S		Sn	22 48 25.0	-6.2
ARE	**Arequipa**	**3.75**	**131**	*e*P		**Pn**	**22 47 46.5**	**-1.3**
ARE				*e*S		Sn	22 48 25.0	-6.2
LPAZ	**La Paz**	**6.50**	**111**	P		**Pn**	**22 48 26.4**	**+1.1**
	158nm,0.3s,baz=296,slow=9.5,SNR=1625							
LPAZ				S		**Sn**	**22 49 40.5**	**+2.2**
	8.1nm,0.3s,baz=108,slow=20,SNR=2.0							
LPAZ	**La Paz**	**6.50**	**111**	P		**Pn**	**22 48 26.4**	**+1.1**
LPAZ				S		**Sn**	**22 49 40.5**	**+2.2**
LPAZ				pmax	pmax			
	comp=Z,158nm,0.3s							
LPAZ				smax	smax			
	comp=N,8.0nm,0.3s							
LPAZ	**La Paz**	**6.50**	**111**	*e*P		**Pn**	**22 48 26.0**	**+0.7**
MNMC	**Minimini**	**6.89**	**138**	*e*P		**Pn**	**22 48 27.3**	**-3.1**
PSGC	**Pisagua**	**6.93**	**144**	*e*P		Pn	22 48 27.3	-3.4
PB11	**IPOC Station P**	**7.33**	**142**	*e*P		Pn	22 48 32.1	-4.1
ATAH	**Atahualpa**	**7.86**	**330**	P		**Pn**	**22 48 42.5**	**-1.1**
	comp=N,8.6nm,0.3s,baz=162,slow=4.0,SNR=31							
ATAH				S		**Sn**	**22 50 14.7**	**+3.5**
	comp=N,110nm,0.3s,baz=180,slow=17,SNR=2.5							
PATCX	**Punta Patache**	**7.92**	**150**	*e*P		**Pn**	**22 48 42.3**	**-1.9**
PB01	**IPOC Station P**	**8.44**	**147**	*e*P		**Pn**	**22 48 49.2**	**-2.1**
PB07	**IPOC Station P**	**8.82**	**151**	*e*P		**Pn**	**22 48 54.8**	**-1.7**
PB09	**IPOC Station P**	**9.19**	**148**	*e*P		**Pn**	**22 49 00.2**	**-1.4**
PB04	**IPOC Station P**	**9.47**	**151**	*e*P		Pn	22 49 00.1	-5.0
LVC	**Limon Verde**	**10.04**	**149**	P		**Pn**	**22 49 10.5**	**-2.7**
	comp=N,1μm,0.3s,baz=359,slow=7.0,SNR=166							
LVC				S		**Sn**	**22 50 58.3**	**-5.8**
	comp=N,2μm,0.3s,baz=69,slow=24,SNR=6.2							
LVC				LR		LR	22 52 56.8	
	comp=N,47μm,21.9s,baz=320,slow=36							
LVC	**Limon Verde**	**10.04**	**149**	*e*Pn		Pn	22 49 09.7	-3.5
LVC				*e*Sn		**Sn**	**22 50 59.2**	**-4.9**
PB10	**IPOC Station P**	**10.15**	**159**	*e*P		**Pn**	**22 49 14.7**	**+0.3**
SAML	**Samuel**	**12.11**	**67**	*e*Pn		Pn	22 49 36.1	-4.8
SAML				*e*Sn		**Sn**	**22 51 58.6**	**+4.5**
SIV	**San Ignacio**	**13.06**	**100**	P		Pn	22 49 49.6	-3.8
	comp=N,22nm,0.3s,baz=295,slow=11,SNR=178							
OTAV	**Otavalo**	**14.70**	**344**	*e*Pn		**Pn**	**22 50 16.2**	**+1.2**
OTAV				*e*Sn		**Sn**	**22 52 53.7**	**-3.7**
LCO	**Las Campanas**	**15.33**	**168**	*e*Pn		**Pn**	**22 50 21.1**	**-1.7**
	comp=N,11μm,2.6s							
LCO				*e*Sn		Sn	22 52 54.7	-18
CFAA	**Coronel Fontan**	**18.42**	**163**	P		**Pn**	**22 51 00.0**	**-0.3**
	comp=N,0.7nm,0.3s,baz=338,slow=11,SNR=79							
CFAA				S		**S**	**22 54 24.3**	**+0.1**
	comp=N,0.1nm,0.3s,baz=307,slow=20,SNR=3.7							
ROSC	**El Rosal**	**18.73**	**0**	P		**Pn**	**22 51 05.4**	**+0.9**
	comp=N,8.5nm,0.3s,baz=171,slow=2.6,SNR=118							
ROSC				S		**Sn**	**22 54 39.5**	**+4.9**
	baz=258,slow=19,SNR=1.8							
ROSC	**El Rosal**	**18.73**	**0**	*e*P		**Pn**	**22 51 05.8**	**+1.2**
ROSC				*e*S		**Sn**	**22 54 39.5**	**+4.9**
CPUP	**Villa Florida**	**20.18**	**130**	*e*P		**P**	**22 51 18.8**	**+0.7**
CPUP	**Villa Florida**	**20.18**	**130**	*e*P		**P**	**22 51 18.8**	**+0.7**
PAYG	**Puerto Ayora**	**20.53**	**309**	*e*P		**P**	**22 51 23.5**	**+1.5**
	comp=N,3μm,1.9s							
PAYG				*e*S		**S**	**22 55 01.7**	**-4.5**
SDV	**Santo Domingo**	**23.05**	**10**	*e*P		**P**	**22 51 48.2**	**-0.4**
	comp=N,1μm,1.3s							
SDV				*e*S		**S**	**22 55 47.6**	**-4.1**
BCIP	**Isla Barro Col**	**23.63**	**347**	*e*P		**P**	**22 51 55.0**	**+1.3**
	comp=N,3μm,1.8s							
BCIP				*e*S		**S**	**22 56 04.9**	**+4.1**
BDFB	**Brasilia**	**25.59**	**97**	P		**P**	**22 52 11.1**	**-0.6**
	comp=N,43nm,0.7s,baz=255,slow=11,SNR=83							
BDFB				LR		LR	23 04 24.2	
	comp=N,3μm,20.3s,baz=207,slow=41							
BDFB	**Brasilia**	**25.59**	**97**	P		**P**	**22 52 11.1**	**-0.6**
BDFB				pmax	pmax			
	comp=Z,43nm,0.7s							
BDFB				MLR	MLR			
	comp=Z,3μm,20.3s							
BDFB	**Brasilia**	**25.59**	**97**	*e*P		**P**	**22 52 11.1**	**-0.6**
BDFB				*e*S		**S**	**22 56 32.7**	**+0.3**
PCRV	**Puerto La Cruz**	**25.91**	**23**	P		**P**	**22 52 14.4**	**0.0**
	comp=Z,56nm,0.9s,baz=196,slow=3.9,SNR=23							
PCRV				LR		LR	23 03 38.3	
	comp=Z,10μm,21.3s,baz=217,slow=39							
JTS	**JuntasAbangare**	**26.29**	**336**	P		**P**	**22 52 19.7**	**+1.8**
	comp=Z,166nm,1.0s,baz=148,slow=6.1,SNR=39							
JTS	**JuntasAbangare**	**26.29**	**336**	P		**P**	**22 52 19.7**	**+1.8**
JTS				pmax	pmax			
	comp=Z,166nm,1.0s							
JTS	**JuntasAbangare**	**26.29**	**336**	*e*P		**P**	**22 52 19.7**	**+1.8**
	comp=Z,1μm,1.7s							
TRQA	**Tornquist**	**26.39**	**157**	*e*P		**P**	**22 52 17.9**	**-0.6**
	comp=Z,381nm,1.4s							
TRQA				*e*PcP		**PcP**	**22 55 42.6**	**+0.9**
PLCA	**Paso Flores**	**26.85**	**173**	P		**P**	**22 52 23.0**	**+0.3**
	comp=Z,99nm,1.2s,baz=348,slow=9.9,SNR=61							
PLCA				PcP		**PcP**	**22 55 43.7**	**+0.9**
	comp=Z,45nm,1.0s,baz=360,slow=3.5,SNR=3.1							
PLCA				LR		LR	23 01 42.3	
	comp=Z,2μm,18.2s,baz=337,slow=33							
PLCA	**Paso Flores**	**26.85**	**173**	P		**P**	**22 52 23.0**	**+0.3**
PLCA							22 55 43.7	
PLCA				pmax	pmax			
	comp=Z,99nm,1.2s							
PLCA				MLR	MLR			
	comp=Z,2μm,18.2s							
PLCA	**Paso Flores**	**26.85**	**173**	*e*P		**P**	**22 52 23.0**	**+0.3**
	comp=Z,2μm,1.6s							
PLCA				*e*PcP		**PcP**	**22 55 43.7**	**+0.9**
TPP	**Pointe-a-Pierr**	**27.38**	**29**	*e*		**P**	**22 52 28.9**	**+1.4**
TRN	**Trinidad (W)**	**27.69**	**28**	*e*		**P**	**22 52 30.2**	**-0.2**
TBH	**Brigand Hill**	**27.70**	**29**	*e*		**P**	**22 52 30.5**	**0.0**
TPR	**Prospect**	**28.45**	**29**	*e*		**P**	**22 52 37.1**	**0.0**
BOT	**Bacolet**	**28.46**	**29**	*e*		**P**	**22 52 37.7**	**+0.5**
TOSP	**Speyside**	**28.66**	**29**	*e*		**P**	**22 52 39.5**	**+0.5**
GRGR	**Grenville**	**28.89**	**27**	*e*P		**P**	**22 52 40.2**	**-0.8**
	comp=Z,1μm,1.4s							
GRSS	**Sisters**	**29.05**	**27**	*e*		**P**	**22 52 42.4**	**0.0**
MCLT	**Moule a Chique**	**30.60**	**26**	*e*		**P**	**22 52 54.8**	**-1.3**
TGUH	**Tegucigalpa,Un**	**30.64**	**335**	*e*P		**P**	**22 52 57.5**	**+1.0**
	comp=Z,461nm,1.1s							
TGUH				*e*S		**S**	**22 57 49.0**	**-2.5**
BBGH	**Gun Hill**	**30.73**	**29**	*e*P		**P**	**22 52 59.4**	**+2.1**
	comp=Z,1μm,1.2s							
SNET	**Serv Nac Est T**	**31.17**	**331**	*e*P		**P**	**22 53 03.2**	**+1.9**
	comp=Z,969nm,1.3s							
HOJ	**Hope**	**31.88**	**356**	*i* P		**P**	**22 53 09.2**	**+1.9**
MCJ	**Malvern**	**31.89**	**354**	*i* P		**P**	**22 53 09.1**	**+1.7**
GWJ	**Greenwich**	**31.95**	**356**	*i* P		**P**	**22 53 08.9**	**+0.8**
STH	**Stony Hill**	**31.96**	**356**	*i* P		**P**	**22 53 09.1**	**+1.0**
JAKH	**Jacmel**	**32.09**	**3**	*e*P		**P**	**22 53 10.2**	**+1.0**
	comp=Z,1μm,0.8s							
CVJ	**Coleyville**	**32.17**	**354**	*i* P		**P**	**22 53 11.5**	**+1.5**
MTDJ	**Mount Denham**	**32.17**	**354**	*e*P		**P**	**22 53 11.5**	**+1.5**
	comp=Z,3μm,1.8s							
BBJ	**Bamboo Saint A**	**32.30**	**355**	*i* P		**P**	**22 53 12.3**	**+1.2**
MBJ	**Montego Bay**	**32.38**	**354**	*i* S		x	22 54 13.3	
CRPR	**Cabo Rojo, PR**	**32.61**	**13**	*e*P		**P**	**22 53 13.3**	**-0.5**
	comp=Z,333nm,1.1s							
ICMP	**Isla Caja de M**	**32.63**	**14**	*e*P		**P**	**22 53 13.5**	**-0.3**
ICMP				*e*pP		**pP**	**22 53 35.6**	**-1.3**
OBIP	**Obispado Ponce**	**32.76**	**14**	*e*P		**P**	**22 53 14.6**	**-0.5**
OBIP				*e*pP		**pP**	**22 53 35.7**	**-2.4**
LSP	**Las Mesas**	**32.78**	**13**	*e*P		**P**	**22 53 15.0**	**-0.2**
LSP				*e*pP		**pP**	**22 53 38.6**	**+0.3**
CELP	**Cerrillos**	**32.80**	**14**	*e*P		**P**	**22 53 14.9**	**-0.4**
CELP				*e*pP		**pP**	**22 53 36.8**	**-1.6**
MPR	**Mayaguez**	**32.80**	**13**	*e*P		**P**	**22 53 15.0**	**-0.4**
	comp=Z,995nm,1.5s							
PCDR	**Punta Cana, DR**	**32.85**	**11**	*e*P		**P**	**22 53 15.7**	**-0.2**
PCDR				*e*pP		**pP**	**22 53 36.6**	**-2.3**
SDDR	**Presa de Saban**	**32.92**	**5**	*e*P		**P**	**22 53 16.7**	**+0.2**
	comp=Z,329nm,1.3s							
SJG	**San Juan**	**32.94**	**15**	*e*P		**P**	**22 53 15.5**	**-1.1**
SJG				*e**PP		**pP**	**22 53 36.9**	**-2.7**
SJG	**San Juan**	**32.94**	**15**	*e*P		**P**	**22 53 15.5**	**-1.1**
SJG				*e*pP		**pP**	**22 53 36.9**	**-2.7**
LRS	**Lares**	**32.95**	**13**	*e*P		**P**	**22 53 16.0**	**-0.8**
LRS				*e*pP		**pP**	**22 53 35.9**	**-3.9**
LRS				*e*PcP		**PcP**	**22 55 57.8**	**-1.0**
CDVI	**St. Croix**	**32.96**	**17**	*e*P		**P**	**22 53 15.7**	**-1.1**
	comp=Z,537nm,0.8s							
AOPR	**Arecibo Observ**	**33.02**	**13**	*e*P		**P**	**22 53 16.5**	**-0.9**
AOPR				*e*pP		**pP**	**22 53 39.6**	**-0.8**
HUMP	**Col San Antoni**	**33.04**	**15**	*e*P		**P**	**22 53 16.3**	**-1.2**
HUMP				*e*pP		**pP**	**22 53 37.7**	**-2.8**
SABA	**Saba**	**33.30**	**20**	*e*P		**P**	**22 53 18.9**	**-0.9**
	comp=Z,527nm,1.1s							
SMN1	**Samana, DR**	**33.37**	**9**	*e*P		**P**	**22 53 20.5**	**+0.1**
SMN1				*e*pP		**pP**	**22 53 43.7**	**+0.3**
STVI	**Saint Thomas**	**33.48**	**16**	*e*P		**P**	**22 53 19.6**	**-1.6**
	comp=Z,174nm,1.0s							
GTBY	**Guantanamo Bay**	**33.72**	**359**	*e*P		**P**	**22 53 24.4**	**+1.0**
	comp=Z,501nm,1.4s							
SMRT	**St. Maarten**	**33.76**	**20**	*e*P		**P**	**22 53 21.9**	**-1.9**
	comp=Z,754nm,1.0s							
RPN	**Rapa Nui**	**35.06**	**243**	P		**P**	**22 53 35.0**	**0.0**
	comp=Z,102nm,0.7s,baz=82,slow=6.2,SNR=9.6							
RPN	**Rapa Nui**	**35.06**	**243**	*e*P		**P**	**22 53 36.8**	**+1.8**
RPN				pmax	pmax			
	comp=Z,2μm,1.8s							
RPN	**Rapa Nui**	**35.06**	**243**	*e*P		**P**	**22 53 36.8**	**+1.8**
	comp=Z,2μm,1.8s							
GRTK	**Grand Turk**	**35.44**	**5**	*e*P		**P**	**22 53 38.5**	**+0.4**
	comp=Z,813nm,1.2s							
TEIG	**Tepich**	**36.64**	**338**	LR		LR	23 08 48.5	
	comp=Z,5μm,21.3s,baz=142,slow=36							
RCBR	**Riachuelo**	**38.77**	**82**	*e*P		**P**	**22 54 06.8**	**+0.2**
	comp=Z,1μm,1.8s							
EFI	**East Falkland**	**39.82**	**164**	*d* P		**P**	**22 54 15.4**	**+0.6**
EFI				pmax	pmax			
	comp=Z,2μm,1.2s							
EFI	**East Falkland**	**39.82**	**164**	*e*P		**P**	**22 54 15.2**	**+0.5**
	comp=Z,749nm,1.3s							
EFI				*e*PcP		**PcP**	**22 56 19.4**	**+0.6**
USHA	**Ushuaia**	**41.01**	**175**	P		**P**	**22 54 24.9**	**+0.4**
	comp=Z,324nm,1.2s,baz=333,slow=5.0,SNR=38							
TIGA	**Tifton**	**46.03**	**349**	*e*P		**P**	**22 55 04.5**	**-0.5**
	comp=Z,356nm,1.0s							
TIGA	**Tifton**	**46.03**	**349**	⇓P		**P**	**22 55 05.0**	**0.0**
	baz=46,SNR=28							
035Z	**Hargill**	**46.32**	**330**	⇓P		**P**	**22 55 08.7**	**+1.3**
	baz=46,SNR=26							
BRAL	**Brewton**	**46.37**	**345**	*e*P		**P**	**22 55 08.9**	**+1.2**
	comp=Z,1μm,1.0s							
BRAL				*e*PcP		**PcP**	**22 56 43.1**	**+1.9**
035A	**Encino**	**46.74**	**331**	⇑P		**P**	**22 55 12.0**	**+1.3**
	baz=47,SNR=21							
CSU	**Charleston Sou**	**47.03**	**354**	*e*P		**P**	**22 55 13.1**	**+0.3**
CSU				*e*pP		**pP**	**22 55 38.9**	**+1.8**
BBSR	**BB Station**	**47.04**	**11**	*e*P		**P**	**22 55 12.6**	**-0.3**
BBSR				*e*pP		**pP**	**22 55 38.6**	**+1.5**
034A	**Hebbronville**	**47.13**	**330**	⇑P		**P**	**22 55 15.0**	**+1.3**
	baz=47,SNR=65							
KVTX	**Kingsville**	**47.15**	**331**	*e*P		**P**	**22 55 15.7**	**+1.8**
	comp=Z,983nm,1.0s							
KVTX				*e*pP		**pP**	**22 55 38.0**	**-0.1**
738A	**Farr-Stevens R**	**47.27**	**334**	⇑P		**P**	**22 55 16.2**	**+1.4**
	baz=48							
934A	**Benavides**	**47.50**	**331**	⇓P		**P**	**22 55 17.9**	**+1.3**
	baz=48,SNR=44							
835A	**Beeville**	**47.75**	**332**	⇓P		**P**	**22 55 20.0**	**+1.4**
	baz=48,SNR=12							
933A	**Laredo**	**47.87**	**330**	⇓P		**P**	**22 55 20.2**	**+0.8**
	baz=48,SNR=85							
GOGA	**Godfrey**	**47.93**	**350**	*e*P		**P**	**22 55 18.6**	**-1.2**
GOGA				pmax	pmax			
	comp=Z,507nm,1.0s							
GOGA	**Godfrey**	**47.93**	**350**	*e*P		**P**	**22 55 18.6**	**-1.2**
	comp=Z,507nm,1.0s							
834A	**Tilden**	**47.95**	**331**	⇑P		**P**	**22 55 21.2**	**+1.1**
	baz=48,SNR=36							
736A	**Circle Diamond**	**47.98**	**333**	⇓P		**P**	**22 55 21.9**	**+1.7**
	baz=48,SNR=44							
539A	**Cross D Ranch,**	**48.02**	**336**	⇑P		**P**	**22 55 22.1**	**+1.6**
	baz=48,SNR=7.7							
735A	**Kenedy**	**48.23**	**332**	⇓P		**P**	**22 55 23.1**	**+0.9**
	baz=48,SNR=22							
LRAL	**Lakeview Retre**	**48.29**	**346**	*e*P		**P**	**22 55 21.8**	**-0.8**
	comp=Z,565nm,1.0s							
HKT	**Hockley**	**48.32**	**335**	*e*P		**P**	**22 55 23.4**	**+0.6**
HKT				*e**PP		**pP**	**22 55 48.0**	**+0.9**
HKT	**Hockley**	**48.32**	**335**	*e*P		**P**	**22 55 23.4**	**+0.6**
HKT				*e*pP		**pP**	**22 55 48.0**	**+0.9**
538A	**Harpers Horsep**	**48.42**	**335**	⇑P		**P**	**22 55 25.2**	**+1.6**
	baz=49,SNR=6.4							
636A	**Smothers Creek**	**48.43**	**333**	⇓P		**P**	**22 55 25.0**	**+1.3**
	baz=49,SNR=52							
JSC	**Jenkinsville**	**48.45**	**352**	*e*P		**P**	**22 55 23.5**	**-0.3**
JSC				*e*			22 56 49.7	
JSC	**Jenkinsville**	**48.45**	**352**	*e*P		**P**	**22 55 23.5**	**-0.3**
JSC				*

comp=Z,374nm,1.1s
TKL Tuckaleechee C 50.17 350 eP P 22 55 35.9 -1.0
139A Bunkhouse Ranc 50.19 338 ⇓P P 22 55 37.9 +0.9
baz=50,SNR=22
532A Rocksprings 50.27 331 ⇓P P 22 55 38.2 +0.4
baz=50,SNR=80
OXF Oxford 50.30 344 eP P 22 55 36.3 -1.6
OXF e*PP pP 22 55 58.2 -4.2
OXF pmax pmax
comp=Z,978nm,1.0s
OXF Oxford 50.30 344 eP P 22 55 36.3 -1.6
comp=Z,978nm,1.0s
OXF epP pP 22 55 58.2 -4.2
236A Katherine and 50.40 335 ⇓P P 22 55 39.1 +0.4
baz=51,SNR=38
433A Art 50.42 332 ⇓P P 22 55 39.2 +0.2
baz=51,SNR=102
138A Matatall Enter 50.43 337 ⇓P P 22 55 40.0 +1.1
baz=51,SNR=53
JCT Junction City 50.52 331 eP P 22 55 39.6 -0.1
JCT pmax pmax
comp=Z,291nm,1.4s
JCT Junction City 50.52 331 eP P 22 55 39.6 -0.1
comp=Z,291nm,1.4s
JCT Junction City 50.52 331 ⇑P P 22 55 39.6 -0.1
baz=51,SNR=38
334A Lometa 50.54 333 ⇓P P 22 55 39.9 +0.1
baz=51,SNR=91
531A Rocksprings 50.61 330 ⇑P P 22 55 40.7 +0.3
baz=51,SNR=184
Z39A Irene McRaven, 50.62 339 ⇓P P 22 55 41.2 +0.9
baz=51,SNR=18
137A Heron Place, G 50.63 337 ⇑P P 22 55 41.4 +1.0
baz=51,SNR=61
WHTX Lake Whitney, 50.78 335 eP P 22 55 41.3 -0.2
comp=Z,429nm,0.9s
WHTX epP pP 22 56 02.9 -3.2
WHTX Lake Whitney, 50.78 335 ⇑P P 22 55 41.8 +0.3
baz=51,SNR=37
432A Menard 50.85 332 ⇓P P 22 55 42.0 -0.1
baz=51,SNR=108
333A Richland Sprin 50.86 333 ⇑P P 22 55 42.3 +0.1
baz=51,SNR=64
Z38A Mt. Pleasant 50.92 338 ⇑P P 22 55 43.3 +0.7
baz=51,SNR=47
530A J-C Ranch, Com 50.98 330 ⇓P P 22 55 43.4 +0.3
baz=51,SNR=132
TZTN Tazewell 51.00 351 eP P 22 55 42.0 -1.2
comp=Z,578nm,1.2s
TZTN epP pP 22 56 04.0 -3.7
TZTN ePcP PcP 22 56 57.5 -0.4
MET Memphis--Engin 51.02 344 eP P 22 55 42.7 -0.5
comp=Z,2μm,1.0s
MET epP pP 22 56 10.1 +2.3
431A Sonora 51.07 331 ⇑P P 22 55 43.9 +0.1
baz=51,SNR=188
234A Clairette 51.07 334 ⇓P P 22 55 43.9 +0.1
baz=51,SNR=94
SLBS Sierra La Lagu 51.07 317 eP P 22 55 45.4 +1.4
comp=Z,961nm,1.8s
Z37A Pogue Cattle C 51.11 337 ⇓P P 22 55 44.6 +0.6
baz=51,SNR=36
PMSA Palmer Station 51.22 174 eP P 22 55 46.0 +1.6
comp=Z,362nm,1.2s
BLA Blacksburg 51.25 354 eP P 22 55 45.2 +0.2
BLA pmax pmax
comp=Z,1μm,1.6s
BLA Blacksburg 51.25 354 eP P 22 55 45.2 +0.2
comp=Z,1μm,1.6s
135A Vickery Place, 51.25 335 ⇓P P 22 55 45.3 +0.3
baz=52,SNR=26
332A Millersview 51.25 332 ⇑P P 22 55 45.2 +0.1
baz=51,SNR=262
URVA University of 51.38 357 eP P 22 55 46.0 +0.1
URVA epP pP 22 56 10.9 +0.5
URVA ePcP PcP 22 56 58.9 -0.3
URVA eS S 23 02 57.9 +0.3
529A Stev Forest Ra 51.40 329 ⇑P P 22 55 46.8 +0.6
baz=52,SNR=29
UALR University of 51.40 341 eP P 22 55 45.7 -0.5
comp=Z,857nm,1.0s
UALR epP pP 22 56 10.0 -0.7
233A Rising Star 51.41 333 ⇓P P 22 55 46.5 +0.2
baz=52,SNR=138
WVT Waverly 51.44 346 eP P 22 55 44.7 -1.7
WVT e*PP pP 22 56 08.9 -2.1
WVT e 22 56 57.8
WVT pmax pmax
comp=Z,396nm,1.0s
WVT Waverly 51.44 346 eP P 22 55 44.6 -1.7
comp=Z,396nm,1.0s
WVT epP pP 22 56 08.9 -2.1
WVT ePcP PcP 22 56 57.8 -1.7
430A Baggett Ranch, 51.45 330 ⇓P P 22 55 46.8 +0.1
baz=52,SNR=132
331A San Angelo 51.50 331 ⇑P P 22 55 47.1 0.0
baz=52,SNR=138
LTX Lajitas 51.51 327 eP P 22 55 47.3 +0.1
LTX e*PP pP 22 56 12.3 +0.6
LTX Lajitas 51.51 327 eP P 22 55 47.2 +0.1
LTX epP pP 22 56 12.3 +0.6
TXAR Lajitas Array 51.51 327 P P 22 55 47.2 +0.1
comp=Z,139nm,0.8s,baz=146,slow=8.6,SNR=876
TXAR pP pP 22 56 12.3 +0.6
comp=Z,60nm,0.9s,baz=134,slow=8.9,SNR=5.7
TXAR P4KPbc 23 33 15.3
comp=Z,0.6nm,0.9s,baz=148,slow=7.4,SNR=4.3
TXAR Lajitas Array 51.51 327 P P 22 55 47.3 +0.1
TXAR *PP pP 22 56 12.3 +0.6
TXAR pmax pmax
comp=Z,139nm,0.9s
TXAR pmax pmax
comp=Z,60nm,0.9s
TX31 Lajitas Ar. Si 51.51 327 eP P 22 55 46.2 -1.0
JSRW J. Sargeant Re 51.52 357 eP P 22 55 47.0 +0.1
134A White-Moore Ra 51.54 334 ⇓P P 22 55 47.5 +0.3
baz=52,SNR=199
MIAR Mount Ida 51.59 340 eP P 22 55 47.3 -0.3
MIAR e*PP pP 22 56 11.8 -0.4
MIAR pmax pmax
comp=Z,546nm,0.9s
MIAR Mount Ida 51.59 340 eP P 22 55 47.3 -0.3
comp=Z,546nm,0.9s
MIAR epP pP 22 56 11.8 -0.4
LPIG La Paz 51.60 317 P P 22 55 47.8 0.0
comp=Z,116nm,0.9s,baz=193,slow=2.4
HALT Halls 51.60 345 eP P 22 55 46.7 -0.9
HBAR Harrisburg 51.63 343 eP P 22 55 47.6 -0.1
HBAR epP pP 22 56 10.5 -1.9
232A Coleman 51.63 332 ⇓P P 22 55 48.2 +0.2
baz=52,SNR=366
429A Davenport Ranc 51.64 330 ⇓P P 22 55 48.3 +0.2
baz=52,SNR=213
Z35A Perchaven, San 51.86 336 ⇑P P 22 55 50.0 +0.4
baz=52,SNR=73
UTMT University of 51.89 345 eP P 22 55 48.6 -1.1
comp=Z,1μm,1.1s
UTMT epP pP 22 56 13.5 -0.9
133A Hamilton Ranch 51.93 334 ⇑P P 22 55 50.4 +0.2
baz=52,SNR=111
GLAT Glass 51.93 345 eP P 22 55 49.5 -0.5
330A Mertzon 51.94 331 ⇑P P 22 55 50.4 +0.1
baz=52,SNR=99
231A Bronte 51.98 332 ⇑P P 22 55 50.6 +0.1
baz=52,SNR=56
CBN Corbin Frederi 52.00 357 eP P 22 55 51.1 +0.6
comp=Z,335nm,1.0s
Z34A Collier Ranch, 52.16 335 ⇑P P 22 55 52.0 +0.1
baz=52,SNR=40
PVMO Portageville 52.17 344 eP P 22 55 51.2 -0.6
comp=Z,2μm,1.1s
ABTX Abilene, Hawle 52.26 333 eP P 22 55 52.8 +0.2
comp=Z,752nm,0.9s
ABTX epP pP 22 56 15.0 -2.2
ABTX Abilene, Hawle 52.26 333 ⇑P P 22 55 52.7 +0.2
baz=52,SNR=166
X37A Clayton 52.26 338 ⇑P P 22 55 52.8 +0.3
baz=52,SNR=361
230A Sterling City 52.31 331 ⇑P P 22 55 53.4 +0.4
baz=52,SNR=37
329A Wagon Wheel Ra 52.39 330 ⇑P P 22 55 53.7 0.0
baz=53,SNR=76
W38A Poteau 52.39 339 ⇓P P 22 55 53.8 +0.3
baz=53,SNR=71
Z33A Whitaker Ranch 52.45 334 ⇓P P 22 55 54.3 +0.3
baz=53,SNR=207
X36A Centrahoma 52.60 337 ⇓P P 22 55 54.9 -0.1
baz=53,SNR=51
Y34A Reagan Ranch, 52.61 336 ⇓P P 22 55 55.1 0.0
baz=53,SNR=155
131A Roby 52.63 332 ⇑P P 22 55 55.4 +0.1
baz=53,SNR=35
X35A Drake 52.69 337 ⇑P P 22 55 55.7 0.0
baz=53,SNR=142
229A Bryant Ranch, 52.70 331 ⇓P P 22 55 55.7 -0.3
baz=53,SNR=50
PBMO Poplar Bluff 52.71 344 eP P 22 55 54.4 -1.4
comp=Z,504nm,0.9s
W37A Quinton 52.77 338 ⇑P P 22 55 56.4 +0.1
baz=53,SNR=267
130A Snyder 52.83 332 ⇑P P 22 55 57.1 +0.2
baz=53,SNR=72
Y33A Hilltop Ranch, 53.01 335 ⇑P P 22 55 58.1 0.0
baz=53,SNR=91
W36A Wetumka 53.06 338 ⇑P P 22 55 58.4 0.0
baz=53,SNR=39
Z31A Sharp Cattle R 53.07 333 ⇓P P 22 55 58.7 +0.2
baz=53,SNR=217
WCI Wyandotte Cave 53.13 348 eP P 22 55 57.6 -1.3
WCI pmax pmax
comp=Z,1μm,1.1s
WCI Wyandotte Cave 53.13 348 eP P 22 55 57.6 -1.3
comp=Z,1μm,1.1s
USIN University of 53.16 347 eP P 22 55 58.0 -1.1
comp=Z,1μm,1.0s
SDMD Soldier's Deli 53.18 358 eP P 22 55 59.7 +0.5
SDMD epP pP 22 56 21.4 -2.5
228A UT Block 9, Go 53.20 330 ⇑P P 22 55 59.5 -0.1
baz=53,SNR=90
X34A Smith Ranch, M 53.20 336 ⇓P P 22 55 59.9 +0.4
baz=53,SNR=172
129A Stewart Farms, 53.28 331 ⇑P P 22 55 60.0 -0.2
baz=54,SNR=86
W35A Tecumseh 53.32 337 ⇓P P 22 56 00.1 -0.2
baz=54,SNR=99
Y32A R-V Farms, Ver 53.35 334 ⇓P P 22 56 00.5 -0.1
baz=54,SNR=112
X33A Lawton 53.42 335 ⇓P P 22 56 01.1 +0.1
baz=54,SNR=45
Z30A Sanderson Ranc 53.48 332 ⇑P P 22 56 01.5 -0.2
baz=54,SNR=407
128A Castleberry Fa 53.56 330 ⇑P P 22 56 02.1 -0.2
baz=54,SNR=77
TUL1 Leonard 53.59 338 eP P 22 56 01.9 -0.3
comp=Z,949nm,1.0s
TUL1 Leonard 53.59 338 ⇓P P 22 56 02.0 -0.3
baz=54,SNR=245
X32A Elmer 53.64 334 ⇓P P 22 56 02.6 -0.1
baz=54,SNR=110
Y31A Rekieta Farm, 53.67 333 ⇑P P 22 56 03.2 +0.3
baz=54,SNR=204
WMOK Wichita Mounta 53.71 335 eP P 22 56 02.5 -0.7
WMOK pmax pmax
comp=Z,255nm,1.2s
WMOK Wichita Mounta 53.71 335 eP P 22 56 02.5 -0.7
comp=Z,255nm,1.2s
Z29A Hungry Hill Ra 53.73 332 ⇑P P 22 56 02.9 -0.5
baz=54,SNR=63
W34A Bridge Creek, 53.74 336 eP P 22 56 02.9 -0.5
comp=Z,385nm,1.4s
W34A eS S 23 03 29.4 -0.5
W34A Bridge Creek, 53.74 336 ⇓P P 22 56 03.0 -0.4
baz=54,SNR=19
MVL Millersville 53.75 358 eP P 22 56 04.1 +0.8
comp=Z,747nm,1.1s
V35A Meyer Ranch, C 53.84 337 ⇑P P 22 56 04.0 -0.2
baz=54,SNR=62
Y30A Stafford Cattl 53.87 333 ⇑P P 22 56 04.3 -0.2
baz=54,SNR=80
W33A Caddo, Fort Co 53.94 336 ⇓P P 22 56 05.2 +0.3
baz=54,SNR=83
OLIL Olney 53.99 347 eP P 22 56 02.8 -2.3
comp=Z,1μm,0.9s
OLIL epP pP 22 56 27.0 -2.9
Z28A Tucker Farm, M 54.07 331 ⇓P P 22 56 05.4 -0.6
baz=54,SNR=38
BLO Bloomington 54.09 348 eP P 22 56 04.7 -1.1
BLO pmax pmax
comp=Z,894nm,1.1s
BLO Bloomington 54.09 348 eP P 22 56 04.7 -1.1
comp=Z,894nm,1.1s
X31A Mcdonald Ranch 54.11 334 ⇓P P 22 56 06.0 -0.2
baz=54,SNR=316
V34A Guthrie 54.16 337 eP P 22 56 05.8 -0.7
comp=Z,648nm,1.1s
V34A Guthrie 54.16 337 ⇑P P 22 56 06.4 -0.1
baz=54,SNR=109
Y29A Porterfield Fa 54.21 332 ⇓P P 22 56 06.5 -0.5
baz=54,SNR=84
W32A Sentinel 54.23 335 ⇑P P 22 56 06.8 -0.2
baz=54,SNR=190
MNTX Cornudas Mount 54.28 327 eP P 22 56 06.6 -0.8
comp=Z,305nm,1.3s
MNTX eS S 23 03 34.6 -2.7
MNTX Cornudas Mount 54.28 327 ⇓P P 22 56 07.5 +0.2
baz=54,SNR=140
LUPA Lehigh Univers 54.33 359 eP P 22 56 08.3 +0.7
X30A Coker Ranch, T 54.34 333 ⇓P P 22 56 07.4 -0.5
baz=54,SNR=69
T37A Cheneyville 18 54.39 340 ⇓P P 22 56 07.7 -0.3
baz=55
BRNJ Basking Ridge 54.40 360 eP P 22 56 08.6 +0.6
comp=Z,118nm,1.2s
BRNJ eS S 23 03 37.5 -1.1
SLM Saint Louis 54.41 345 eP P 22 56 07.3 -0.9
SLM eS S 23 03 31.9 -6.9
SLM pmax pmax
comp=Z,494nm,1.0s
SLM Saint Louis 54.41 345 eP P 22 56 07.3 -0.9
comp=Z,494nm,1.0s
SLM eS S 23 03 31.9 -6.9
SSPA Standing Stone 54.45 357 eP P 22 56 08.7 +0.3
comp=Z,1μm,1.6s
SSPA eS S 23 03 40.2 +1.0
V33A Lossen Ranch, 54.45 336 ⇓P P 22 56 08.2 -0.4
baz=55,SNR=69
CPNY Central Park 54.51 0 eP P 22 56 09.0 +0.2
CPNY epP pP 22 56 35.0 +1.4
CPNY eS S 23 03 41.8 +1.8
Y28A McKinney Farm, 54.51 332 ⇑P P 22 56 08.6 -0.6
baz=55,SNR=39
ACSO Alum Creek Sta 54.53 352 eP P 22 56 08.2 -0.9
comp=Z,637nm,0.9s
ACSO epP pP 22 56 32.6 -1.3
W31A Holland Ranch, 54.57 334 ⇑P P 22 56 08.9 -0.6
baz=55,SNR=41
T36A Boggs Farm, Ca 54.66 339 ⇓P P 22 56 09.6 -0.4
baz=55,SNR=171
V32A Arapaho 54.66 335 ⇑P P 22 56 10.2 +0.1
baz=55,SNR=76
U34A Anderson Ranch 54.70 337 eP P 22 56 09.9 -0.5
comp=Z,596nm,1.3s
U34A epP pP 22 56 33.1 -2.1
U34A Anderson Ranch 54.70 337 ⇑P P 22 56 09.8 -0.5
baz=55,SNR=62
X29A Tulia 54.71 332 ⇓P P 22 56 10.0 -0.6
baz=55,SNR=67
PAL Palisades 54.73 0 eP P 22 56 10.5 +0.1
PAL pmax pmax
comp=Z,260nm,1.1s
PAL Palisades 54.73 0 eP P 22 56 10.5 +0.1
comp=Z,260nm,1.1s
T35A Sooner Cattle 54.75 338 ⇓P P 22 56 10.5 -0.2
baz=55,SNR=125
ODNJ Ogdensburg 54.80 360 eP P 22 56 11.2 +0.3
comp=Z,351nm,1.6s
MSTX Muleshoe 54.81 331 eP P 22 56 10.7 -0.6
comp=Z,547nm,1.3s
MSTX ⇑e 23 26 35.2
MSTX Muleshoe 54.81 331 ⇓P P 22 56 10.7 -0.6
baz=55,SNR=41
W30A Crocket Farms 54.84 334 ⇓P P 22 56 11.0 -0.4
baz=55,SNR=8.8
U33A Lingo Farm, Me 54.92 337 ⇓P P 22 56 11.8 -0.1
baz=55,SNR=71
X28A Dimmitt 55.00 332 ⇓P P 22 56 12.2 -0.4
baz=55,SNR=23
V31A Spring Creek L 55.04 335 ⇑P P 22 56 13.0 +0.2
baz=55,SNR=33
YLE Yale 55.05 1 eP P 22 56 13.5 +0.7
comp=Z,780nm,1.0s
AMTX Amarillo 55.07 333 eP P 22 56 12.6 -0.6
comp=Z,202nm,0.9s
AMTX Amarillo 55.07 333 ⇓P P 22 56 12.6 -0.6
baz=55
T34A McClaskey Farm 55.09 338 ⇓P P 22 56 13.0 -0.2
baz=55,SNR=198
S36A Lake Cedric, C 55.16 340 ⇓P P 22 56 13.3 -0.3
baz=55,SNR=124
U32A Winter Ranch, 55.22 336 ⇑P P 22 56 13.7 -0.5
baz=55,SNR=93
W29A Amarillo 55.25 333 ⇓P P 22 56 13.7 -0.8
baz=56,SNR=23
KSPA Keystone Colle 55.29 359 eP P 22 56 15.2 +0.7
comp=Z,2μm,2.0s
KSPA epP pP 22 56 39.1 -0.3
KSPA ⇑e 23 26 31.1
SFIN Lafayette 55.37 348 eP P 22 56 13.3 -1.7
comp=Z,599nm,1.1s
SFIN epP pP 22 56 38.8 -1.1
SFIN Lafayette 55.37 348 ⇑P P 22 56 13.9 -1.1
baz=56,SNR=30
S35A Otter Creek Ra 55.37 339 ⇓P P 22 56 15.0 -0.2
baz=56,SNR=134
V30A Spur Ranch, Mi 55.38 334 ⇓P P 22 56 15.6 +0.2
baz=56,SNR=8.7
R37A Teagarden Farm 55.44 341 ⇑P P 22 56 15.1 -0.5
baz=56,SNR=150
T33A Patterson Ranc 55.54 337 ⇓P P 22 56 16.2 -0.1
baz=56,SNR=33
U31A Nine Bar Ranch 55.55 335 ⇓P P 22 56 16.4 -0.1
baz=56,SNR=13
W28A Vega 55.62 332 ⇓P P 22 56 16.9 -0.2
baz=56,SNR=12
ALLY Alegheny Colle 55.62 355 eP P 22 56 15.5 -1.3
comp=Z,511nm,0.9s
S34A Willow Spring 55.67 338 ⇓P P 22 56 17.0 -0.3
baz=56,SNR=83
R36A Gordon, Harris 55.67 340 ⇓P P 22 56 16.9 -0.4
baz=56,SNR=89
BRYW Bryant College 55.70 3 eP P 22 56 17.9 +0.5
comp=Z,706nm,1.1s
Q37A Longview Farm, 55.83 341 ⇓P P 22 56 18.2 -0.2
baz=56,SNR=61
V29A Stinnett 55.83 333 ⇓P P 22 56 18.1 -0.5
baz=56,SNR=9.3
T32A Huddler Ranch, 55.88 336 ⇑P P 22 56 18.8 0.0
baz=56,SNR=74
S33A Kaszmaul Farm, 55.90 337 ⇑P P 22 56 19.0 +0.1
baz=56,SNR=50
R35A Emporia Munici 55.90 339 ⇑P P 22 56 18.8 -0.1
baz=56
BINY Binghamton 55.94 359 eP P 22 56 19.8 +0.7
comp=Z,986nm,1.0s
BINY ⇑e 23 26 29.9
HDIL Hopedale 56.00 346 eP P 22 56 18.1 -1.5
comp=Z,832nm,1.3s
U30A WK&E Inc. Balk 56.02 335 ⇓P P 22 56 19.8 -0.1
baz=56,SNR=12
QUA2 Belchertown 56.03 2 eP P 22 56 19.9 +0.2
comp=Z,173nm,1.0s
V28A Channing 56.04 333 ⇑P P 22 56 20.0 0.0
baz=56,SNR=21
T31A Randall Ranch, 56.11 336 ⇓P P 22 56 20.4 -0.1
baz=56,SNR=31
319A Douglas 56.17 324 ⇓P P 22 56 21.9 +0.8
baz=56,SNR=96
121A Cookes Peak, D 56.20 326 ⇓P P 22 56 22.5 +1.1
baz=56,SNR=219
U29A Oasis Ranch, S 56.21 334 ⇑P P 22 56 21.2 -0.1
baz=56,SNR=11
Q36A Arnold C. Orve 56.23 340 ⇓P P 22 56 21.2 -0.1
baz=56,SNR=48
R34A Isabella, Hill 56.25 338 ⇑P P 22 56 21.4 0.0
baz=56
HRV Adam Dziewonsk 56.29 3 eP P 22 56 22.1 +0.5
HRV e*PP pP 22 56 44.9 -1.6
HRV pmax pmax
comp=Z,547nm,1.1s
HRV Adam Dziewonsk 56.29 3 eP P 22 56 22.1 +0.5
comp=Z,547nm,1.1s
HRV epP pP 22 56 44.9 -1.6
V27A Dan Oppiter Fa 56.32 332 ⇑P P 22 56 21.7 -0.3
baz=56,SNR=13
Q35A Mercer Eighty, 56.33 340 ⇑P P 22 56 22.2 +0.2
baz=56,SNR=130
S32A Newby Ranch, P 56.34 337 ⇑P P 22 56 22.4 +0.3
baz=57,SNR=74
T30A Plains 56.41 335 ⇓P P 22 56 22.6 -0.1
baz=57,SNR=14
TRY Troy 56.45 1 eP P 22 56 23.4 +0.7
comp=Z,422nm,1.0s
S31A Mullinville 56.49 336 ⇓P P 22 56 23.3 +0.1
baz=57,SNR=5.5
R33A Olander Ranch, 56.52 338 ⇓P P 22 56 23.1 -0.3
baz=57,SNR=61
MMNY Mt. Morris Dam 56.54 357 eP P 22 56 23.4 +0.1
comp=Z,877nm,1.0s
U28A Mallet 56.56 333 ⇑P P 22 56 23.4 -0.4
baz=57,SNR=53
AAM Ann Arbor 56.66 352 eP P 22 56 23.1 -1.1
AAM pmax pmax
comp=Z,300nm,0.9s
AAM Ann Arbor 56.66 352 eP P 22 56 23.1 -1.1
comp=Z,300nm,0.9s
Q34A Chapman 56.70 339 ⇓P P 22 56 24.4 -0.2
baz=57,SNR=81
KSU1 Kansas State U 56.74 339 eP P 22 56 24.2 -0.7
comp=Z,292nm,1.1s
KSU1 Kansas State U 56.74 339 ⇑P P 22 56 24.6 -0.3
baz=57,SNR=23
T29A Hugoton 56.82 334 ⇓P P 22 56 25.3 -0.3
baz=57,SNR=57
BNM Barren Site 56.85 328 eP P 22 56 26.2 +0.2
U27A Thompson Grove 56.86 333 ⇓P P 22 56 25.5 -0.5
baz=57,SNR=45
R32A Long Quarter, 56.89 337 ⇑P P 22 56 25.8 -0.2
baz=57,SNR=94
S30A Montezuma 56.89 335 ⇑P P 22 56 25.9 -0.1
baz=57,SNR=21
P35A Duane Minner, 56.93 340 ⇑P P 22 56 26.0 -0.2
baz=57,SNR=112
Y22D IRIS PASSCAL I 56.94 328 ⇓P P 22 56 27.5 +0.9
baz=57
LPM Los Pinos Moun 56.98 328 eP P 22 56 27.0 +0.2
LPM epP pP 22 56 53.5 +1.6
Q33A Connelly Farm, 57.08 338 ⇑P P 22 56 26.9 -0.4
baz=57,SNR=39
R31A Burdett 57.09 337 ⇓P P 22 56 27.2 -0.2
baz=57,SNR=50
ACCN Adirondack Com 57.11 1 eP P 22 56 28.0 +0.7
comp=Z,572nm,1.4s
ACCN epP pP 22 56 52.3 -0.1
T28A Walsh 57.14 334 ⇓P P 22 56 27.2 -0.6
baz=57,SNR=34
O36A Bolckow 57.14 341 ⇓P P 22 56 27.0 -0.6
baz=57
S29A Ulysses 57.14 335 ⇓P P 22 56 27.9 0.0
baz=57,SNR=35
FFD Franklin Falls 57.24 2 eP P 22 56 29.1 +0.8
comp=Z,219nm,0.9s
LAZ Ladron 57.31 328 eP P 22 56 29.7 +0.5
LAZ epP pP 22 56 52.7 -1.6
Q32A Meitler Ranch, 57.34 338 ⇑P P 22 56 28.7 -0.4
baz=58,SNR=55
T27A Campo 57.35 333 ⇑P P 22 56 29.0 -0.4
baz=58,SNR=35
R30A Dighton 57.37 336 ⇓P P 22 56 29.4 0.0
baz=58,SNR=42
ANMO Albuquerque 57.39 329 P P 22 56 29.7 0.0
comp=Z,71nm,1.1s,baz=145,slow=8.9,SNR=171
ANMO Albuquerque 57.39 329 eP P 22 56 29.8 0.0
ANMO pmax pmax
comp=Z,861nm,2.1s
ANMO Albuquerque 57.39 329 eP P 22 56 29.8 +0.1
comp=Z,860nm,2.1s
P33A Williams Farm, 57.42 339 ⇓P P 22 56 29.3 -0.4
baz=58,SNR=13
S28A Manter 57.44 334 ⇑P P 22 56 29.7 -0.3
baz=58,SNR=17
HNH Hanover 57.46 2 eP P 22 56 30.6 +0.8
comp=Z,250nm,1.1s
O35A Humboldt 57.56 341 ⇓P P 22 56 29.8 -0.9
baz=58
Q31A Ellis 57.66 337 ⇓P P 22 56 31.5 +0.1
baz=58,SNR=40
TUC Tucson 57.72 324 eP P 22 56 32.3 +0.3
TUC pmax pmax
comp=Z,237nm,1.1s
TUC Tucson 57.72 324 eP P 22 56 32.3 +0.3
comp=Z,237nm,1.1s

MDV	Middlebury	57.73	1	eP		P	22 56 32.0	+0.3		
RKT	Rikitea	57.77	251	eP		P	22 56 33.7	+1.2		
	comp=Z,238nm,1.4s									
RKT				epP		pP	22 57 02.8	+5.2		
	comp=Z,253nm,1.4s									
RKT				eS		S	23 04 30.4	+6.4		
	comp=Z,9µm,23.2s									
RKT				eLR		LR	23 13 40.8			
	comp=Z,8µm,31.0s									
T26A	Comanche Natio	57.83	333	⇓P		P	22 56 32.6	-0.3		
	baz=58,SNR=52									
R29A	Marienthal	57.84	335	⇓P		P	22 56 32.4	-0.3		
	baz=58,SNR=48									
P32A	Huiting Farm,	57.91	338	⇓P		P	22 56 32.6	-0.5		
	baz=58,SNR=30									
O33A	Hebron	57.95	339	⇑P		P	22 56 32.8	-0.6		
	baz=58									
S27A	Las Animas	57.95	334	⇑P		P	22 56 33.2	-0.4		
	baz=58									
Q30A	Quinter	57.95	336	⇓P		P	22 56 33.4	-0.1		
	baz=58,SNR=133									
N35A	Tabor	58.02	341	⇑P		P	22 56 33.3	-0.5		
	baz=58									
R28A	Tribune	58.04	335	⇑P		P	22 56 33.7	-0.5		
	baz=58,SNR=50									
P31A	Stockton	58.10	337	⇑P		P	22 56 34.4	-0.1		
	baz=58,SNR=74									
S26A	Kim	58.15	333	⇓P		P	22 56 35.3	+0.4		
	baz=58,SNR=107									
T25A	Trinidad	58.17	332	eP		P	22 56 35.5	+0.3		
	comp=Z,545nm,1.4s									
T25A				epP		pP	22 56 60.0	-0.4		
T25A	Trinidad	58.17	332	⇓P		P	22 56 35.4	+0.2		
	baz=58,SNR=75									
Q29A	Oakley	58.17	336	⇓P		P	22 56 34.5	-0.5		
	baz=58,SNR=30									
SCIA	State Center	58.26	344	eP		P	22 56 34.5	-1.0		
	comp=Z,257nm,1.1s									
N34A	Lincoln	58.27	340	⇑P		P	22 56 35.0	-0.6		
	baz=58									
PTN	Potsdam (NY)	58.29	360	eP		P	22 56 35.9	+0.3		
PTN				pmax		pmax				
	comp=Z,785nm,0.9s									
PTN	Potsdam (NY)	58.29	360	eP		P	22 56 35.9	+0.3		
	comp=Z,785nm,0.9s									
LONY	Lake Ozonia	58.34	360	eP		P	22 56 36.3	+0.3		
LONY				epP		pP	22 56 57.4	-3.7		
LONY				⇑e			23 26 24.6			
O32A	Brockman Farm,	58.35	339	⇓P		P	22 56 35.7	-0.5		
	baz=59,SNR=32									
R27A	Eads	58.41	334	⇓P		P	22 56 36.2	-0.6		
	baz=59,SNR=32									
WVL	Waterville	58.44	4	eP		P	22 56 37.6	+0.9		
	comp=Z,364nm,1.0s									
P30A	Selden	58.45	337	⇓P		P	22 56 36.6	-0.3		
	baz=59,SNR=28									
JFWS	Jewell Farm	58.47	346	eP		P	22 56 35.6	-1.3		
JFWS				pmax		pmax				
	comp=Z,435nm,1.4s									
JFWS	Jewell Farm	58.47	346	eP		P	22 56 35.6	-1.3		
	comp=Z,435nm,1.4s									
JFWS				⇑e			23 26 23.4			
O31A	Woolen Ranch,	58.64	338	⇓P		P	22 56 38.0	-0.1		
	baz=59,SNR=20									
SADO	Sadowa	58.64	356	P		P	22 56 37.3	-0.8		
	comp=Z,272nm,0.8s,baz=199,slow=6.4,SNR=319									
214A	Organ Pipe Nat	58.65	322	⇑P		P	22 56 39.3	+0.9		
	baz=59,SNR=96									
Q28A	Sharon Springs	58.66	335	⇓P		P	22 56 38.2	-0.2		
	baz=59,SNR=50									
R26A	Arlington	58.70	333	⇑P		P	22 56 38.6	-0.2		
	baz=59,SNR=26									
P29A	Atwood	58.77	336	⇓P		P	22 56 39.0	-0.1		
	baz=59,SNR=28									
EMMW	East Machias	58.77	6	eP		P	22 56 39.8	+0.9		
	comp=Z,594nm,1.1s									
EMMW				⇑e			23 26 24.8			
N32A	Stulken Farm,	58.81	339	⇑P		P	22 56 39.2	-0.2		
	baz=59,SNR=14									
X18A	Snowflake	58.89	326	⇑P		P	22 56 41.1	+0.8		
	baz=59,SNR=26									
O30A	MW Ranch, Wils	58.93	337	⇑P		P	22 56 40.2	0.0		
	baz=59,SNR=19									
KSCO	Kaye Shedlock'	58.95	335	eP		P	22 56 40.5	0.0		
	comp=Z,646nm,1.4s									
KSCO				epP		pP	22 57 03.3	-2.4		
KSCO				⇑e			23 26 25.6			
KSCO	Kaye Shedlock'	58.95	335	⇓P		P	22 56 40.6	0.0		
	baz=59,SNR=33									
P28A	Saint Francis	59.07	336	⇑P		P	22 56 41.2	-0.1		
	baz=59,SNR=22									
N31A	Bailey Ranch,	59.09	338	⇓P		P	22 56 41.4	+0.1		
	baz=59,SNR=20									
PKME	Peaks-Kenny Pk	59.17	4	eP		P	22 56 42.3	+0.7		
	comp=Z,208nm,0.9s									
PKME				⇑e			23 26 24.5			
SDCO	Great Sand Dun	59.17	332	eP		P	22 56 42.6	+0.3		
	comp=Z,567nm,1.4s									
SDCO	Great Sand Dun	59.17	332	⇑P		P	22 56 42.5	+0.3		
	baz=59,SNR=49									
O29A	4D Ranch, Culb	59.17	337	⇓P		P	22 56 42.1	+0.2		
	baz=59,SNR=48									
W18A	Petrified Fore	59.22	327	eP		P	22 56 43.2	+0.7		
	comp=Z,690nm,1.3s									
W18A	Petrified Fore	59.22	327	⇓P		P	22 56 43.1	+0.6		
	baz=59,SNR=47									
Q26A	Hugo	59.25	334	⇓P		P	22 56 43.1	+0.4		
	baz=60,SNR=16									
GLMI	Grayling	59.27	352	eP		P	22 56 41.1	-1.3		
	comp=Z,458nm,1.0s									
BGNE	Belgrade	59.33	339	eP		P	22 56 43.1	+0.2		
	comp=Z,1µm,1.1s									
BGNE	Belgrade	59.33	339	⇑P		P	22 56 43.1	+0.2		
	baz=60,SNR=11									
S23A	Nye Farm, Mont	59.37	331	⇓P		P	22 56 44.2	+0.7		
	baz=60									
P27A	Ficken Ranch,	59.39	335	⇑P		P	22 56 43.7	+0.2		
	baz=60,SNR=13									
N30A	Hueftle Ranch,	59.48	338	⇑P		P	22 56 44.3	+0.2		
	baz=60,SNR=15									
O28A	Krutsinger Ran	59.55	336	⇓P		P	22 56 44.9	+0.4		
	baz=60,SNR=28									
M31A	Lambtecht Ranc	59.56	339	⇓P		P	22 56 45.0	+0.4		
	baz=60,SNR=24									
X16A	Lo Mia Camp, P	59.63	325	⇑P		P	22 56 46.3	+1.0		
	baz=60,SNR=42									
R23A	Moffat	59.68	332	⇑P		P	22 56 46.2	+0.5		
	baz=60,SNR=33									
N29A	Votaw Ranch, W	59.70	337	⇓P		P	22 56 46.0	+0.5		
	baz=60,SNR=17									
P26A	Davis Ranch, A	59.71	334	⇑P		P	22 56 46.0	+0.2		
	baz=60,SNR=17									
Z14A	Wintersburg	59.73	323	⇓P		P	22 56 46.6	+0.7		
	baz=60,SNR=40									
S22A	4UR Ranch, Cre	59.79	331	eP		P	22 56 46.8	+0.3		
	comp=Z,762nm,2.0s									
S22A	4UR Ranch, Cre	59.79	331	⇓P		P	22 56 46.9	+0.3		
	baz=60,SNR=52									
113A	Mohawk Valley,	59.80	322	⇓P		P	22 56 46.9	+0.6		
	baz=60,SNR=67									
O27A	Beecher Island	59.89	335	⇑P		P	22 56 47.4	+0.5		
	baz=60,SNR=38									
N28A	Pribbeno Ranch	59.94	336	⇓P		P	22 56 47.3	+0.1		
	baz=60,SNR=35									
Q24A	Divide	60.00	333	eP		P	22 56 47.9	0.0		
	comp=Z,604nm,1.6s									
Q24A	Divide	60.00	333	⇓P		P	22 56 48.0	0.0		
	baz=60,SNR=86									
M30A	Dale-Ortello V	60.05	338	⇓P		P	22 56 48.3	+0.3		
	baz=60									
Y14A	Wickenburg	60.18	323	⇑P		P	22 56 49.8	+0.9		
	baz=60,SNR=107									
MVCO	Mesa Verde	60.19	329	eP		P	22 56 49.3	+0.2		
	comp=Z,1µm,2.0s									
MVCO	Mesa Verde	60.19	329	⇓P		P	22 56 49.4	+0.2		
	baz=60,SNR=32									
L31A	Butterfield Fa	60.25	339	⇓P		P	22 56 49.6	+0.4		
	baz=60,SNR=89									
Q23A	Hartsel	60.26	332	⇑P		P	22 56 49.9	+0.1		
	baz=60,SNR=11									
M29A	Burnside Ranch	60.27	337	⇑P		P	22 56 49.5	+0.1		
	baz=60,SNR=18									
O26A	Horse Wrangler	60.27	335	⇓P		P	22 56 49.8	+0.2		
	baz=60,SNR=34									
OGNE	Ogallala	60.35	336	⇑P		P	22 56 50.2	+0.1		
	baz=61,SNR=28									
L30A	Spencer Herefo	60.36	338	⇑P		P	22 56 50.3	+0.3		
	baz=61,SNR=55									
WUAZ	Wupatki	60.41	326	eP		P	22 56 51.7	+1.0		
	comp=Z,519nm,1.1s									
WUAZ				epP		pP	22 57 15.0	-0.8		
WUAZ				eS		S	23 04 57.3	-0.5		
WUAZ	Wupatki	60.41	326	⇓P		P	22 56 51.6	+1.0		
	baz=61,SNR=35									
N27A	Anderson Farm,	60.43	336	⇓P		P	22 56 50.7	+0.1		
	baz=61,SNR=24									
M28A	Bar X Bar Ranc	60.48	337	⇓P		P	22 56 51.3	+0.4		
	baz=61,SNR=16									
GLA	Glamis	60.63	321	eP		P	22 56 53.1	+1.0		
GLA				pmax		pmax				
	comp=Z,263nm,1.4s									
GLA	Glamis	60.63	321	eP		P	22 56 53.1	+1.0		
	comp=Z,263nm,1.4s									
GLA	Glamis	60.63	321	⇓P		P	22 56 53.0	+0.9		
	baz=61,SNR=14									
P23A	Jefferson	60.64	332	⇓P		P	22 56 53.3	+0.9		
	baz=61,SNR=84									
PQI	Presque Isle	60.66	5	eP		P	22 56 52.5	+0.6		
	comp=Z,677nm,1.0s									
N26A	Koester Ranch,	60.73	335	⇓P		P	22 56 53.3	+0.7		
	baz=61,SNR=20									
L29A	Maesberg Ranch	60.73	338	⇓P		P	22 56 53.2	+0.6		
	baz=61,SNR=48									
ISCO	Idaho Springs	60.89	333	eP		P	22 56 54.1	+0.1		
ISCO				e*PP		pP	22 57 15.9	-3.4		
ISCO				pmax		pmax				
	comp=Z,336nm,1.5s									
ISCO	Idaho Springs	60.89	333	eP		P	22 56 54.1	+0.1		
	comp=Z,336nm,1.5s									
ISCO				epP		pP	22 57 15.8	-3.4		
ISCO	Idaho Springs	60.89	333	⇑P		P	22 56 54.0	+0.1		
	baz=61,SNR=130									
ECSD	EROS Data Cent	60.93	342	eP		P	22 56 53.0	-0.8		
	comp=Z,612nm,1.3s									
ECSD	EROS Data Cent	60.93	342	⇓P		P	22 56 53.5	-0.2		
	baz=61,SNR=248									
Y12C	Blythe	60.94	322	⇓P		P	22 56 54.9	+0.8		
	baz=61,SNR=84									
PV01	Paradox Valley	60.94	330	eP		P	22 56 55.1	+0.9		
PV01				epP		pP	22 57 13.2	-6.4		
K30A	Basset	60.96	339	⇓P		P	22 56 54.5	+0.5		
	baz=61,SNR=83									
M27A	Reverse DX Ran	60.99	336	⇓P		P	22 56 54.6	+0.3		
	baz=61,SNR=7.9									
SMCO	Snowmass	61.00	331	eP		P	22 56 55.2	+0.3		
	comp=Z,1µm,2.1s									
L28A	Connealy Angus	61.07	337	⇓P		P	22 56 55.0	+0.1		
	baz=61,SNR=6.7									
PDMCI	Parker Dam,Lak	61.10	323	⇓P		P	22 56 56.0	+0.9		
	baz=61,SNR=24									
IBP	Imperial Bould	61.15	320	⇑P		P	22 56 56.8	+1.2		
	baz=61									
SWSC	Sam W. Stewart	61.15	321	⇑P		P	22 56 56.5	+1.0		
	baz=61,SNR=8.4									
PV05	Paradox Valley	61.16	329	eP		P	22 56 55.7	0.0		
PV05				eS		S	23 05 06.6	-0.9		
M26A	McRoberts Ranc	61.23	336	⇑P		P	22 56 56.4	+0.4		
	baz=61,SNR=12									
P22A	Eagle	61.24	332	⇑P		P	22 56 56.6	+0.4		
	baz=61,SNR=17									
SPMN	Marine on St.	61.25	345	eP		P	22 56 55.0	-0.9		
	comp=Z,604nm,1.0s									
SPMN				⇑e			23 26 17.3			
SPMN	Marine on St.	61.25	345	⇑P		P	22 56 55.7	-0.2		
	baz=62,SNR=93									
COWI	Conover	61.27	348	eP		P	22 56 55.1	-1.0		
	comp=Z,232nm,1.1s									
COWI				epP		pP	22 57 15.4	-6.0		
COWI				eS		S	23 05 06.5	-1.7		
K29A	Lazy Trails An	61.28	338	⇑P		P	22 56 56.5	+0.3		
	baz=62,SNR=96									
PV04	Paradox Valley	61.31	330	eP		P	22 56 57.5	+0.8		
O23A	Lake Granby, G	61.36	333	⇓P		P	22 56 57.5	+0.4		
	baz=62,SNR=30									
BC3	Big Chuckawall	61.43	321	⇑P		P	22 56 58.5	+1.0		
	baz=62,SNR=86									
L27A	T5 Ranch, Ells	61.44	337	⇑P		P	22 56 58.3	+1.0		
	baz=62									
J30A	Dallas	61.49	339	⇑P		P	22 56 57.7	+0.1		
	baz=62,SNR=93									
MONP	Monument Peak,	61.50	320	⇑P		P	22 56 59.1	+0.9		
	baz=62									
W13A	Hualapai Mount	61.51	324	⇓P		P	22 56 59.4	+1.2		
	baz=62,SNR=98									
BAR	Barrett	61.52	320	eP		P	22 56 59.0	+1.0		
	comp=Z,90nm,1.3s									
M25A	Palm-Egli Farm	61.58	335	⇑P		P	22 56 58.9	+0.5		
	baz=62,SNR=21									
U15A	North Rim	61.58	326	⇓P		P	22 56 59.7	+1.0		
	baz=62,SNR=74									
IRM	Iron Mountain	61.59	322	⇑P		P	22 56 59.7	+1.1		
	baz=62,SNR=179									
O22A	Kremmling	61.60	332	⇑P		P	22 56 58.9	+0.1		
	baz=62,SNR=85									
HAY	Hayfield	61.60	321	eP		P	22 56 59.6	+1.0		
HAY	Hayfield	61.60	321	eP		P	22 56 59.6	+1.0		
K28A	Ten Mile Ranch	61.62	338	⇑P		P	22 56 59.4	+0.8		
	baz=62,SNR=146									
L26A	Underwood Farm	61.69	336	⇓P		P	22 56 59.6	+0.5		
	baz=62,SNR=12									
NEE2	Needles Airpor	61.70	323	⇑P		P	22 57 00.1	+0.9		
	baz=62,SNR=10									
BORC	Borrego Spring	61.76	320	eP		P	22 57 00.9	+1.3		
J29A	Okreek	61.85	339	⇓P		P	22 57 00.4	+0.4		
	baz=62,SNR=107									
N23A	Red Feather La	61.93	333	⇑P		P	22 57 01.1	+0.2		
	baz=62,SNR=16									
109C	Camp Elliot, M	61.93	320	⇓P		P	22 57 01.5	+0.8		
	baz=62,SNR=19									
K27A	Flueckinger Fa	61.94	337	⇓P		P	22 57 01.1	+0.4		
	baz=62,SNR=19									
I30A	Oacoma	61.99	340	⇓P		P	22 57 00.8	-0.1		
	baz=62,SNR=19									
BELC	Belle Mtn. Jos	62.00	321	⇑P		P	22 57 02.4	+1.1		
	baz=62,SNR=52									
PFO	Pinyon Flats O	62.01	321	P		P	22 57 01.4	-0.1		
	comp=Z,183nm,1.0s,baz=121,slow=6.3,SNR=66									
PFO				LR		LR	23 22 26.6			
	comp=Z,911nm,19.6s,baz=109,slow=34									
PFO	Pinyon Flats O	62.01	321	P		P	22 57 01.4	-0.1		
PFO				pmax		pmax				
	comp=Z,183nm,1.0s									
PFO				MLR		MLR				
	comp=Z,911nm,19.6s									
PFO	Pinyon Flats O	62.01	321	eP		P	22 57 02.4	+1.0		
	comp=Z,321nm,1.1s									
PFO	Pinyon Flats O	62.01	321	⇑P		P	22 57 02.6	+1.2		
	baz=62,SNR=54									
PHWY	Pilot Hill	62.05	334	eP		P	22 57 02.3	+0.6		
	comp=Z,339nm,1.4s									
N22A	Wattenberg Ran	62.08	333	⇑P		P	22 57 02.6	+0.6		
	baz=62,SNR=51									
L25A	Engebretsen Ra	62.15	336	⇓P		P	22 57 02.6	+0.4		
	baz=62,SNR=28									
J28A	Allard Ranch,	62.19	338	⇑P		P	22 57 02.9	+0.5		
	baz=62,SNR=100									
K26A	Motz Farm, Whi	62.30	336	⇓P		P	22 57 03.5	+0.4		
	baz=62,SNR=48									
KNB	Kanab	62.30	326	eP		P	22 57 04.6	+1.2		
KNB				pmax		pmax				
	comp=Z,613nm,1.3s									
KNB	Kanab	62.30	326	eP		P	22 57 04.5	+1.2		
	comp=Z,613nm,1.3s									
BRSD	Miller	62.30	340	eP		P	22 57 02.5	-0.6		
	comp=Z,625nm,1.0s									
BRSD				eS		S	23 05 20.3	-0.9		
BRSD	Miller	62.30	340	⇑P		P	22 57 02.9	-0.1		
	baz=62,SNR=33									
J27A	Elkhorn Farm,	62.32	338	⇓P		P	22 57 03.9	+0.7		
	baz=62,SNR=44									
GMRC	Granite Mounta	62.33	322	⇑P		P	22 57 04.4	+0.9		
	baz=62,SNR=57									
O20A	White River Ci	62.36	331	⇓P		P	22 57 04.1	+0.4		
	baz=63,SNR=34									
I29A	Vivian Onida	62.38	339	⇑P		P	22 57 03.4	-0.1		
	baz=63,SNR=50									
HMTC	Hemet	62.41	320	eP		P	22 57 05.1	+1.1		
MURC	Murrieta	62.46	320	⇓P		P	22 57 05.2	+0.9		
	baz=63,SNR=36									
K25A	Mack Ranch, Ha	62.49	336	⇑P		P	22 57 04.8	+0.4		
	baz=63,SNR=16									
SRU	San Rafael Swe	62.66	329	eP		P	22 57 06.1	+0.3		
SRU				pmax		pmax				
	comp=Z,393nm,1.3s									
SRU	San Rafael Swe	62.66	329	eP		P	22 57 06.1	+0.3		
	comp=Z,393nm,1.3s									
I28A	Midland	62.66	339	⇓P		P	22 57 05.6	+0.1		
	baz=63,SNR=52									
BBRC	Big Bear Solar	62.73	321	⇓P		P	22 57 07.8	+1.4		
	baz=63									
HEC	Hector,Ludlow	62.76	322	⇓P		P	22 57 07.7	+1.3		
	baz=63,SNR=20									
J26A	Sides Ranch, S	62.77	337	⇑P		P	22 57 07.0	+0.7		
	baz=63,SNR=37									
H29A	Onida	62.88	340	⇑P		P	22 57 06.5	-0.3		
	baz=63,SNR=76									
SCI	San Clemente I	62.90	319	⇑P		P	22 57 08.9	+1.6		
	baz=63									
N20A	Spence Gulch,	62.92	332	⇓P		P	22 57 07.9	+0.4		
	baz=63,SNR=94									
TUQ	Turquoise Moun	62.94	323	⇑P		P	22 57 08.4	+0.8		
	baz=63,SNR=58									
K24A	Anderson Ranch	62.96	335	⇓P		P	22 57 08.4	+0.8		
	baz=63,SNR=11									
G30A	Faulkton	62.97	341	⇓P		P	22 57 07.4	-0.1		
	baz=63,SNR=230									
I27A	Quinn	63.04	338	⇑P		P	22 57 08.4	+0.4		
	baz=63,SNR=160									
MSU	Marysvale	63.06	327	eP		P	22 57 09.3	+0.9		
MSU	Marysvale	63.06	327	eP		P	22 57 09.3	+0.9		
MVU	Marysvale	63.07	327	eP		P	22 57 09.2	+0.7		
	comp=Z,367nm,1.3s									
CIS	Catalina Islan	63.09	319	⇓P		P	22 57 09.9	+1.4		
	baz=63,SNR=8.1									
J25A	Sunshine Ranch	63.12	336	⇓P		P	22 57 08.9	+0.4		
	baz=63,SNR=28									
TMUT	Trail Mountain	63.15	329	eP		P	22 57 09.8	+0.6		
	comp=Z,180nm,1.2s									
BFSC	Mount Baldy Ra	63.17	321	⇑P		P	22 57 10.0	+0.9		
	baz=63,SNR=26									
SSK	Sunset Peak	63.17	320	eP		P	22 57 08.4	-0.9		
RRX	Edison Barlow	63.20	321	⇓P		P	22 57 10.6	+1.4		
	baz=63,SNR=5.6									
H28A	Mission Ridge	63.20	339	⇑P		P	22 57 09.1	+0.1		
	baz=63,SNR=48									
FMP	Fort Macarthur	63.22	320	⇑P		P	22 57 10.4	+1.1		
	baz=63									
SHPR	Sheep Range	63.24	324	eP		P	22 57 10.4	+0.8		
G29A	Hoven	63.28	340	⇑P		P	22 57 09.5	0.0		
	baz=64,SNR=46									
I26A	New Underwood	63.31	337	⇓P		P	22 57 10.1	+0.3		
	baz=64,SNR=62									
K23A	Bowen Ranch, D	63.32	335	⇑P		P	22 57 10.4	+0.4		
	baz=64,SNR=28									
GSC	Goldstone, Bar	63.37	322	eP		P	22 57 11.4	+1.0		
GSC				pmax		pmax				
	comp=Z,141nm,0.9s									
GSC	Goldstone, Bar	63.37	322	eP		P	22 57 11.4	+1.0		
	comp=Z,141nm,0.9s									
GSC	Goldstone, Bar	63.37	322	⇑P		P	22 57 11.6	+1.3		
	baz=64,SNR=59									
J24A	Dixon Ranch, L	63.41	336	⇓P		P	22 57 11.2	+0.7		
	baz=64,SNR=25									
PASC	Pasadena Art C	63.45	320	eP		P	22 57 11.8	+1.0		
	comp=Z,496nm,1.4s									
SHOC	Shoshone, Teco	63.47	323	⇓P		P	22 57 11.8	+0.9		
	baz=64,SNR=40									
G28A	Parade	63.52	339	⇑P		P	22 57 10.9	-0.1		
	baz=64,SNR=53									
EYMN	Ely	63.52	347	eP		P	22 57 10.0	-0.9		
	comp=Z,397nm,1.0s									
H27A	Howes	63.54	338	⇓P		P	22 57 11.1	-0.2		
	baz=64,SNR=28									
F30A	Leola	63.56	341	⇓P		P	22 57 11.3	-0.1		
	baz=64,SNR=26									
DECC	Green Verdugo	63.60	320	⇑P		P	22 57 13.1	+1.2		
	baz=64,SNR=18									
K22A	Casper	63.61	334	eP		P	22 57 12.1	+0.1		
	comp=Z,452nm,1.4s									
K22A	Casper	63.61	334	⇑P		P	22 57 12.1	+0.1		
	baz=64,SNR=78									
I25A	Rochford	63.63	337	⇓P		P	22 57 12.8	+0.8		
	baz=64,SNR=333									
H26A	Fairpoint	63.78	338	⇑P		P	22 57 13.0	+0.2		
	baz=64,SNR=29									
EDW2	Edwards Air Fo	63.80	321	⇑P		P	22 57 13.9	+0.7		
	baz=64,SNR=29									
BLCC	Black Canyon	63.80	320	eP		P	22 57 15.7	+2.5		
F29A	Eureka	63.82	340	⇑P		P	22 57 13.3	+0.3		
	baz=64,SNR=105									
J23A	Dilts Ranch, B	63.83	335	⇑P		P	22 57 13.5	+0.2		
	baz=64,SNR=6.2									
RSSD	Black Hills	63.83	337	eP		P	22 57 13.3	-0.1		
RSSD				pmax		pmax				
	comp=Z,430nm,1.4s									
RSSD	Black Hills	63.83	337	eP		P	22 57 13.3	-0.1		
	comp=Z,430nm,1.4s									
I24A	Kuemmerle Ranc	63.84	336	⇑P		P	22 57 13.8	+0.5		
	baz=64

DUG **Dugway, Tooele** 64.64 328 ⇓P P 22 57 19.6 +0.9
baz=65,SNR=100
H23A **Clabaugh Cattl** 64.73 336 ⇓P P 22 57 19.1 -0.1
baz=65,SNR=9.9
DRLN **Deer Lake** 64.73 12 *e*P P 22 57 19.1 +0.2
comp=Z,968nm,1.0s
E28A **Huff** 64.76 340 ⇓P P 22 57 19.6 +0.5
baz=65,SNR=141
R11A **Troy Canyon, C** 64.78 325 *e*P P 22 57 20.8 +1.1
comp=Z,464nm,1.5s
R11A **Troy Canyon, C** 64.78 325 ⇑P P 22 57 20.9 +1.3
baz=65
F26A **Lodgepole** 64.80 339 ⇑P P 22 57 19.5 0.0
baz=65,SNR=42
D29A **Pettibone, Tap** 64.84 341 ⇓P P 22 57 20.0 +0.4
baz=65,SNR=45
J20A **Shoshoni** 64.85 333 ⇓P P 22 57 20.5 +0.5
baz=65,SNR=20
GRAC **Grapevine Rang** 64.86 323 ⇑P P 22 57 21.4 +1.4
baz=65,SNR=7.8
I21A **Big Trails, Te** 64.89 334 ⇑P P 22 57 20.7 +0.5
baz=65,SNR=151
AGMN **Agassiz Nation** 64.89 344 *e*P P 22 57 19.5 -0.4
comp=Z,439nm,0.9s
AGMN **Agassiz Nation** 64.89 344 ⇓P P 22 57 20.0 +0.1
baz=65,SNR=163
CWC **Cottonwood Cre** 64.90 322 ⇑P P 22 57 21.8 +1.3
baz=65,SNR=11
E27A **Carson** 64.92 340 ⇑P P 22 57 20.6 +0.4
baz=65,SNR=69
PKM **Mcpherson Peak** 64.95 320 ⇓P P 22 57 21.7 +0.8
baz=65,SNR=28
G24A **Alzada** 64.99 337 ⇓P P 22 57 21.1 +0.3
baz=65,SNR=40
BW06 **Boulder Array** 65.04 332 *e*P P 22 57 19.9 -1.4
PD31 **Pinedale Array** 65.04 332 *e*P P 22 57 20.9 -0.5
PD31 *e*pP **pP** 22 57 47.5 +0.6
PDAR **Pinedale Array** 65.04 332 P P 22 57 20.9 -0.5
comp=Z,61nm,1.1s,baz=123,slow=5.5,SNR=116
PDAR pP **pP** 22 57 47.5 +0.6
comp=Z,27nm,1.0s,baz=123,slow=12,SNR=6.1
PDAR PKPPKP **P'P'df** 23 26 01.2 -2.1
comp=Z,2.3nm,1.1s,baz=341,slow=3.1,SNR=6.0
PDAR LR LR 23 28 34.9
comp=Z,1μm,18.6s,baz=134,slow=38
PDAR P4KPbc 23 34 13.2
comp=Z,3.3nm,1.2s,baz=108,slow=4.8,SNR=10.0
C30A **Mose, Pekin** 65.07 342 ⇓P P 22 57 21.8 +0.6
baz=65,SNR=129
HWUT **Hardware Ranch** 65.08 330 *e*P P 22 57 21.5 -0.1
comp=Z,418nm,1.3s
VES **Vestal, Richgr** 65.11 321 ⇓P P 22 57 22.3 +0.8
baz=65,SNR=61
H22A **Clearmont** 65.14 335 ⇓P P 22 57 22.2 +0.5
baz=65,SNR=41
F25A **Bowman** 65.15 338 ⇓P P 22 57 21.9 +0.2
baz=65,SNR=108
J19A **Crowheart** 65.21 333 ⇓P P 22 57 22.2 -0.1
baz=65,SNR=130
D28A **Regan** 65.26 341 ⇑P P 22 57 22.6 +0.2
baz=66,SNR=61
E26A **Carlson Angus** 65.26 339 ⇑P P 22 57 22.7 +0.2
baz=66,SNR=117
BGU **Big Grassy Mou** 65.29 329 *e*P P 22 57 23.4 +0.4
comp=Z,474nm,1.2s
BGU *e*pP **pP** 22 57 45.1 -3.4
BGU ⇑*e* 23 26 06.9
SMMC **Simmler** 65.33 320 ⇓P P 22 57 24.5 +1.4
baz=66,SNR=29
I20A **Worland** 65.35 334 ⇓P P 22 57 23.1 0.0
baz=66,SNR=65
TIN **Tinemaha, Big** 65.40 322 ⇑P P 22 57 25.1 +1.5
baz=66,SNR=8.5
F24A **Ekalaka** 65.44 337 ⇓P P 22 57 23.7 +0.1
baz=66,SNR=178
H21A **Big Horn, Sher** 65.45 335 ⇓P P 22 57 23.9 +0.1
baz=66,SNR=31
D27A **Center** 65.50 340 ⇓P P 22 57 24.4 +0.5
baz=66,SNR=40
TPH **Tonopah** 65.51 324 *e*P P 22 57 25.4 +1.0
TPH *e**PP **pP** 22 57 45.2 -4.8
TPH pmax pmax
comp=Z,327nm,1.2s
TPH **Tonopah** 65.51 324 *e*P P 22 57 25.4 +1.0
comp=Z,327nm,1.2s
TPH *e*pP **pP** 22 57 45.2 -4.8
TPH ⇑*e* 23 26 07.8
MDND **Maddock** 65.54 342 *e*P P 22 57 24.8 +0.6
comp=Z,10μm,1.0s
MDND *e*pP **pP** 22 57 48.0 -1.8
MDND **Maddock** 65.54 342 ⇓P P 22 57 24.9 +0.8
baz=66,SNR=65
E25A **Miller Ranch,** 65.62 338 ⇑P P 22 57 25.1 +0.4
baz=66,SNR=60
G22A **Birney** 65.63 336 ⇑P P 22 57 25.4 +0.5
baz=66,SNR=50
PTRM **Twissleman Ran** 65.68 320 *e*P P 22 57 27.0 +1.7
F23A **Volborg** 65.70 337 ⇑P P 22 57 26.1 +0.8
baz=66,SNR=102
B30A **Myrvik Farm, E** 65.70 343 ⇑P P 22 57 26.1 +0.9
baz=66,SNR=187
H20A **Greybull** 65.73 334 ⇓P P 22 57 25.8 +0.2
baz=66,SNR=77
D26A **Manning** 65.74 339 ⇓P P 22 57 26.3 +0.8
baz=66,SNR=35
AHID **Auburn Hatcher** 65.75 331 *e*P P 22 57 26.3 +0.4
comp=Z,409nm,1.4s
I19A **Meeteetse** 65.80 333 ⇓P P 22 57 26.4 +0.3
baz=66,SNR=69
MTUM **Tungsten Hills** 65.80 323 *e*P P 22 57 27.3 +1.1
HVU **Hansel Valley** 65.81 329 *e*P P 22 57 26.3 +0.1
HVU **Hansel Valley** 65.81 329 *e*P P 22 57 26.3 +0.1
E24A **Baker** 66.00 338 ⇓P P 22 57 27.6 +0.4
baz=66,SNR=81
G21A **Lodge Grass** 66.00 335 ⇓P P 22 57 27.7 +0.4
baz=66,SNR=72
B29A **Wagenman Farm,** 66.02 342 ⇓P P 22 57 27.9 +0.7
baz=66,SNR=138
C27A **Sayler Ranch,** 66.02 340 ⇓P P 22 57 27.7 +0.5
baz=66,SNR=50
F22A **Rosebud** 66.08 336 ⇑P P 22 57 27.9 +0.2
baz=66,SNR=19
REDW **Red Top Meadow** 66.10 332 *e*P P 22 57 28.1 0.0
comp=Z,522nm,1.5s
SHEL **Horse Pasture** 66.10 101 *e*P P 22 57 29.9 +1.4
SHEL pmax pmax
comp=Z,876nm,1.7s
SHEL **Horse Pasture** 66.10 101 *e*P P 22 57 29.9 +1.4
comp=Z,876nm,1.7s
SNOW **Snow King Moun** 66.13 332 *e*P P 22 57 28.6 +0.3
SNOW *e*pP **pP** 22 57 51.5 -2.5
A30A **Hoffart Farm,** 66.14 343 ⇑P P 22 57 28.4 +0.5
baz=66,SNR=61
MLAC **Mammoth, Mammo** 66.14 323 ⇑P P 22 57 29.6 +1.1
baz=66,SNR=19
D25A **Fairfield** 66.15 339 ⇓P P 22 57 28.9 +0.8
baz=66,SNR=264
LOHW **Long Hollow** 66.18 332 *e*P P 22 57 28.7 +0.1
comp=Z,225nm,1.4s
TPAW **Teton Pass** 66.24 332 *e*P P 22 57 29.2 +0.1
comp=Z,264nm,1.4s
H19A **Powell** 66.30 334 ⇑P P 22 57 29.6 +0.3
baz=66,SNR=34
ELK **Elko** 66.30 327 P P 22 57 31.5 +2.0
comp=Z,77nm,1.0s,baz=131,slow=5.9,SNR=124
ELK **Elko** 66.30 327 *e*P P 22 57 29.9 +0.4
ELK *e**PP **pP** 22 57 50.3 -4.9
ELK pmax pmax
comp=Z,163nm,1.2s
ELK **Elko** 66.30 327 *e*P P 22 57 29.9 +0.4
comp=Z,163nm,1.2s
ELK *e*pP **pP** 22 57 50.2 -4.9
B28A **Dugan Ranch, T** 66.31 341 ⇑P P 22 57 29.7 +0.6
baz=66,SNR=64
E23A **Ismay** 66.31 337 ⇑P P 22 57 29.5 +0.3
baz=66,SNR=37
C26A **Wahner Farm, P** 66.31 340 ⇑P P 22 57 29.7 +0.6
baz=66,SNR=52
MOOW **Moose Ponds** 66.35 332 *e*P P 22 57 29.6 -0.1
comp=Z,236nm,1.4s
NV01 **Mina Array Sit** 66.37 324 *e*P P 22 57 29.9 -0.1
NV01 *e*pP **pP** 22 57 56.5 +0.8
NVAR **Mina Array Bea** 66.37 324 P P 22 57 30.9 +0.9
comp=Z,83nm,1.1s,baz=141,slow=5.8,SNR=124
NVAR pP **pP** 22 57 56.5 +0.8
comp=Z,48nm,0.8s,baz=152,slow=6.7,SNR=8.8
NVAR PKPPKP **P'P'df** 23 26 01.8 +0.2
comp=Z,0.4nm,0.3s,baz=11,slow=1.5,SNR=5.7
NVAR P4KPbc 23 34 20.6
A29A **Manning Farm,** 66.39 342 ⇑P P 22 57 30.1 +0.5
baz=67,SNR=149
FXWY **Fox Creek** 66.39 332 *e*P P 22 57 25.6 -4.4
comp=Z,213nm,1.3s
I17A **Pilgrim Ck.** 66.41 332 ⇑P P 22 57 30.8 +0.8
baz=67,SNR=68
G20A **Bridger** 66.41 335 ⇑P P 22 57 29.9 0.0
baz=67,SNR=104
F21A **Absaloka Mine,** 66.46 336 ⇑P P 22 57 31.0 +0.8
baz=67,SNR=13
D24A **Glendive** 66.47 338 ⇑P P 22 57 31.0 +0.8
baz=67,SNR=40
E22A **Miles City** 66.51 337 ⇑P P 22 57 30.9 +0.5
baz=67,SNR=14
B27A **Peters Farms,** 66.55 341 ⇓P P 22 57 31.3 +0.7
baz=67,SNR=33
IMW **Indian Meadow** 66.55 332 *e*P P 22 57 31.2 +0.1
comp=Z,368nm,1.4s
FLWY **Flagg Ranch** 66.59 332 *e*P P 22 57 31.9 +0.7
comp=Z,719nm,1.4s
H18A **Shoshone NF, C** 66.60 333 ⇓P P 22 57 31.9 +0.6
baz=67,SNR=107
C25A **Freed Ranch, W** 66.61 339 ⇓P P 22 57 31.7 +0.6
baz=67,SNR=38
H07S1 **FLORES T-PHASE** 66.65 35 *e*P P 22 57 31.1 -0.4
LRV **Little Rabbit** 66.68 320 *e*P P 22 57 33.7 +2.0
A28A **Rude Farm, Bot** 66.69 342 ⇑P P 22 57 32.2 +0.7
baz=67,SNR=8.1
ULM **Lac du Bonnet** 66.69 345 P P 22 57 30.8 -0.6
comp=Z,371nm,0.9s,baz=156,slow=6.1,SNR=256
ULM PKPPKP **P'P'df** 23 25 59.9 +0.4
comp=Z,15nm,1.2s,baz=2.7,slow=3.9,SNR=5.8
ULM LR LR 23 29 43.0
comp=Z,2μm,19.8s,baz=144,slow=39
ULM **Lac du Bonnet** 66.69 345 *e*P P 22 57 30.8 -0.6
comp=Z,734nm,1.1s
ULM *e*pP **pP** 22 57 55.9 -1.3
ULM *e*P'P'df **P'P'df** 23 26 00.2 +0.6
H17A **Grant Village** 66.78 333 *e*P P 22 57 33.3 +0.8
comp=Z,544nm,1.9s
H17A **Grant Village** 66.78 333 ⇑P P 22 57 33.5 +1.1
baz=67,SNR=61
RLMT **Red Lodge** 66.78 334 *e*P P 22 57 32.1 -0.3
comp=Z,391nm,1.3s
LAO **LASA Array** 66.82 337 *e*P P 22 57 32.2 -0.2
comp=Z,496nm,1.3s
LKWY **Lake** 66.83 333 *e*P P 22 57 34.2 +1.4
LKWY pmax pmax
comp=Z,405nm,1.4s
LKWY **Lake** 66.83 333 *e*P P 22 57 34.2 +1.4
comp=Z,405nm,1.4s
B26A **Jensen Ranch,** 66.84 340 ⇓P P 22 57 33.6 +1.1
baz=67,SNR=12
D23A **Lindsay** 66.84 338 ⇑P P 22 57 33.2 +0.6
baz=67,SNR=46
F20A **Billings** 66.86 335 ⇑P P 22 57 33.5 +0.8
baz=67,SNR=54
C24A **Savage** 66.86 338 ⇑P P 22 57 33.6 +0.9
baz=67,SNR=131
H07N1 **FLORES T-PHASE** 66.92 35 *e*P P 22 57 31.1 -2.1
YFT **Old Faithful** 66.94 332 *e*P P 22 57 35.3 +1.8
comp=Z,388nm,1.4s
A27A **Leroux Ranch,** 67.03 341 ⇑P P 22 57 34.5 +0.8
baz=67,SNR=40
E21A **Keefer Ranch,** 67.03 336 ⇓P P 22 57 34.8 +1.0
baz=67,SNR=49
B25A **Knox Farm, Ray** 67.06 340 ⇓P P 22 57 34.9 +1.0
baz=67,SNR=45
YNR **Norris Junctio** 67.07 333 *e*P P 22 57 35.4 +1.1
comp=Z,156nm,1.3s
WAKR **Walker** 67.08 323 *e*P P 22 57 35.6 +1.2
BMN **Battle Mountai** 67.14 326 *e*P P 22 57 35.3 +0.6
BMN pmax pmax
comp=Z,177nm,1.4s
BMN **Battle Mountai** 67.14 326 *e*P P 22 57 35.3 +0.6
comp=Z,177nm,1.4s
D22A **Cohagen** 67.19 337 ⇓P P 22 57 35.7 +1.0
baz=67,SNR=439
F19A **Roth Farm, Mol** 67.23 335 ⇓P P 22 57 36.0 +0.9
baz=67,SNR=320
A26A **Wade Farm, Ken** 67.23 341 ⇓P P 22 57 35.5 +0.6
baz=67,SNR=29
CMB **Columbia Colle** 67.33 322 *e*P P 22 57 36.3 +0.5
CMB pmax pmax
comp=Z,125nm,1.3s
CMB **Columbia Colle** 67.33 322 *e*P P 22 57 36.3 +0.5
comp=Z,125nm,1.3s
C23A **Lambert** 67.37 338 ⇑P P 22 57 36.6 +0.7
baz=68,SNR=68
E20A **Meyer Farm, Mu** 67.42 335 ⇓P P 22 57 36.7 +0.5
baz=68,SNR=230
GCMT **Greycliff** 67.48 334 *e*P P 22 57 37.0 +0.3
GCMT *e*pP **pP** 22 58 01.7 -0.8
QLMT **Earthquake Lak** 67.50 332 *e*P P 22 57 38.1 +1.2
HOR **Horta** 67.56 37 *e*P P 22 57 38.7 +1.5
DGMT **Dagmar** 67.58 339 *e*P P 22 57 38.0 +0.8
comp=Z,1μm,1.2s
DGMT **Dagmar** 67.58 339 ⇑P P 22 57 38.0 +0.8
baz=68,SNR=73
PCED **Cedros** 67.59 37 *e*P P 22 57 37.6 +0.2
comp=Z,543nm,1.5s
PCAN **Candelaria** 67.61 38 *e*P P 22 57 37.9 +0.4
comp=Z,358nm,1.7s
A25A **Svangstu Ranch** 67.62 340 ⇓P P 22 57 38.2 +0.8
baz=68,SNR=66
E19A **Rath Farm, Rou** 67.65 335 ⇑P P 22 57 38.2 +0.4
baz=68,SNR=313
PICO **Pico** 67.67 38 *e*P P 22 57 39.3 +1.3
PPNO **Prainha do Nor** 67.75 38 *e*P P 22 57 39.4 +1.0
comp=Z,552nm,1.4s
B23A **Brockton** 67.86 339 ⇓P P 22 57 39.9 +1.0
baz=68,SNR=169
D20A **Manuel Ranch,** 67.90 336 ⇓P P 22 57 40.3 +1.0
baz=68,SNR=281
A24A **Westby** 67.91 339 ⇓P P 22 57 40.2 +1.0
baz=68,SNR=26
ROSA **Rosais** 67.92 38 *e*P P 22 57 40.1 +0.6
comp=Z,573nm,1.8s
HLID **Hailey** 67.94 330 *e*P P 22 57 40.5 +0.8
comp=Z,300nm,1.4s
HLID *e*P'P'df P'P'df 23 25 50.7 -7.8
HLID **Hailey** 67.94 330 ⇓P P 22 57 40.6 +0.8
baz=68,SNR=170
PMAN **Manadas** 67.95 38 *e*P P 22 57 40.2 +0.5
comp=Z,545nm,1.7s
TOPO **Topo** 68.03 38 *e*P P 22 57 40.7 +0.5
B22A **Reddig Ranch S** 68.08 338 ⇑P P 22 57 41.1 +0.7
baz=68,SNR=20
C21A **Desert Coulee** 68.10 337 ⇓P P 22 57 40.9 +0.4
baz=68,SNR=242
MCMT **McKenzie Canyo** 68.14 332 *e*P P 22 57 41.8 +0.7
MCMT *e*P'P'df **P'P'df** 23 25 55.2 -2.9
BOZ **Bozeman (W)** 68.22 333 *e*P P 22 57 41.4 0.0
BOZ pmax pmax
comp=Z,310nm,1.4s
BOZ **Bozeman (W)** 68.22 333 *e*P P 22 57 41.4 0.0
comp=Z,310nm,1.4s
BOZ *e*P'P'df P'P'df 23 25 51.2 -6.6
A23A **Redstone** 68.24 339 ⇑P P 22 57 42.0 +0.8
baz=68,SNR=24
D19A **Cripps Ranch,** 68.26 335 ⇑P P 22 57 41.9 +0.4
baz=68,SNR=222
SAC **San Andreas** 68.28 321 *e*P P 22 57 42.6 +0.9
SAC **San Andreas** 68.28 321 *e*P P 22 57 42.6 +0.9
PGRA **Graciosa** 68.28 37 *e*P P 22 57 41.5 -0.2
comp=Z,625nm,1.7s
C20A **Veseth Ranch,** 68.36 336 ⇑P P 22 57 42.9 +0.8
baz=69,SNR=173
DLMT **Dillon** 68.44 332 *e*P P 22 57 43.3 +0.5
comp=Z,314nm,1.4s
DLMT *e*pP **PcP** 22 58 05.7 -1.7
ADH **Angra Heroismo** 68.48 38 *e*P P 22 57 43.3 +0.4
comp=Z,534nm,1.8s
MFID **Camas Ranch** 68.53 329 *e*P P 22 57 44.2 +0.9
comp=Z,775nm,1.3s
MFID *e*P'P'df **P'P'df** 23 25 58.6 +1.2
B21A **Ellsworth Farm** 68.56 337 ⇑P P 22 57 43.9 +0.6
baz=69,SNR=118
A22A **Carney Farms,** 68.63 338 ⇓P P 22 57 44.6 +0.8
baz=69,SNR=120
LRM **Limekiln Ridge** 68.72 332 *e*P P 22 57 44.8 +0.2
LRM *e*P'P'df **P'P'df** 23 25 52.3 -4.7
PSMA **Santa Maria** 68.73 41 *e*P P 22 57 44.0 -0.6
comp=Z,223nm,1.6s
PSMN **Pico do Norte,** 68.78 41 *e*P P 22 57 44.1 -0.8
comp=Z,441nm,1.7s
C19A **Slack Wire Ran** 68.78 336 ⇓P P 22 57 45.2 +0.5
baz=69,SNR=251
VNA3 **Neumayer Olymp** 68.82 162 P P 22 57 45.5 +0.9
PDA **Ponta Delgada** 68.86 40 *e*P P 22 57 45.7 +0.4
comp=Z,859nm,1.1s
SCHQ **Schefferville** 68.86 5 P P 22 57 44.9 -0.1
comp=Z,245nm,0.9s,baz=185,slow=4.9,SNR=155
SCHQ PKPPKP **P'P'df** 23 25 57.4 +1.8
comp=Z,22nm,1.4s,baz=20,slow=4.9,SNR=8.7
SCHQ LR LR 23 29 15.7
comp=Z,1μm,20.4s,baz=202,slow=37
SCHQ **Schefferville** 68.86 5 *e*P P 22 57 45.0 -0.1
comp=Z,349nm,1.0s
PSET **Sete Cidades** 68.87 40 *e*P P 22 57 44.9 -0.6
comp=Z,458nm,1.6s
MCCM **Marconi Confer** 68.91 321 *e*P P 22 57 47.1 +1.4
comp=Z,759nm,1.7s
B20A **Solberg Farm,** 68.95 337 ⇑P P 22 57 46.3 +0.6
baz=69,SNR=26
A21A **Bergtoll Ranch** 69.00 338 ⇑P P 22 57 46.4 +0.4
baz=69,SNR=68
VNA1 **Neumayer--Stat** 69.06 161 P P 22 57 47.4 +1.4
HRY **Holter Researc** 69.13 333 *e*P P 22 57 46.4 -0.6
HRY *e*P'P'df **P'P'df** 23 25 53.2 -2.9
BART **Pico Bartolome** 69.19 40 *e*P P 22 57 47.0 -0.5
comp=Z,675nm,1.2s
A20A **Cobblestone Ra** 69.28 337 ⇓P P 22 57 48.1 +0.4
baz=70,SNR=100
WVOR **Wild Horse Val** 69.30 327 *e*P P 22 57 48.3 +0.2
WVOR pmax pmax
comp=Z,297nm,1.4s
WVOR **Wild Horse Val** 69.30 327 *e*P P 22 57 48.3 +0.2
comp=Z,297nm,1.4s
WVOR ⇑*e* 23 25 56.7
EGMT **Eagleton** 69.30 335 *e*P P 22 57 48.2 +0.2
comp=Z,462nm,1.1s
EGMT **Eaglon** 69.30 335 ⇑P P 22 57 48.2 +0.2
baz=70,SNR=240
B19A **Brinkman Farms** 69.33 336 ⇑P P 22 57 48.6 +0.5
baz=70,SNR=303
VNA2 **Neumayer--Watz** 69.42 161 P P 22 57 49.3 +1.0
baz=288,slow=6.2
HOPS **Hopland Field** 69.56 321 *e*P P 22 57 51.4 +1.8
comp=Z,87nm,1.5s
A19A **Klindworth Far** 69.63 337 ⇑P P 22 57 50.4 +0.4
baz=70,SNR=288
MOD **Modoc Plateau** 69.84 325 *e*P P 22 57 52.4 +0.8
CHMT **Chamberlain Mo** 69.91 333 *e*P P 22 57 52.3 +0.3
MSO **Missoula** 70.16 332 *e*P P 22 57 54.1 +0.8
comp=Z,522nm,1.4s
MSO **Missoula** 70.16 332 ⇑P P 22 57 54.1 +0.8
baz=70,SNR=191
WDC **Whiskeytown Da** 70.25 323 *e*P P 22 57 52.9 -0.9
WDC pmax pmax
comp=Z,68nm,1.0s
WDC **Whiskeytown Da** 70.25 323 *e*P P 22 57 52.9 -0.9
comp=Z,68nm,1.0s
SLMT **Seeley Lake** 70.27 333 *e*P P 22 57 54.5 +0.5
SLMT *e*P'P'df **P'P'df** 23 25 52.1 -2.1
BMO **Blue Mountains** 70.31 329 *e*P P 22 57 54.2 0.0
comp=Z,304nm,1.4s
BMO *e*P'P'df **P'P'df** 23 25 52.3 -2.0
KCPM **Cahto Peak** 70.31 322 *e*P P 22 57 56.4 +2.1
comp=Z,194nm,1.3s
KIPM **Iron Peak** 70.32 322 *e*P P 22 57 55.8 +1.3
MEH **Mehetia** 70.50 256 *e*P P 22 57 57.7 +1.8
comp=Z,82nm,1.4s
MEH *e*pP **pP** 22 58 26.6 +4.8
comp=Z,113nm,1.5s
VAH **Vaihoa** 70.51 259 *e*P P 22 57 57.5 +1.6
comp=Z,249nm,1.2s
VAH *e*pP **pP** 22 58 26.5 +4.7
comp=Z,382nm,1.3s
N02D **Trinity Center** 70.60 323 ⇑P P 22 57 56.5 +0.4
baz=71,SNR=23
M04C **Macdoel** 70.63 324 ⇑P P 22 57 57.0 +0.8
baz=71,SNR=114
SWMT **Swartz Lake** 70.70 333 *e*P P 22 57 57.1 +0.6
SWMT *e*P'P'df **P'P'df** 23 25 50.3 -3.1
KMRM **Mail Ridge** 70.72 322 *e*P P 22 57 58.2 +1.4
comp=Z,366nm,1.3s
K05A **Summer Lake** 70.72 326 *e*P P 22 57 58.2 +1.3
K05A *e*P'P'df P'P'df 23 25 48.2 -5.7
PMOR **Pomariorio Ree** 70.80 259 *e*P P 22 57 59.5 +1.8
comp=Z,537nm,1.4s
PMOR *e*pP **pP** 22 58 28.5 +4.9
comp=Z,418nm,1.4s
I07A **Izee** 70.89 327 *e*P P 22 57 58.8 +1.0
comp=Z,658nm,1.4s
M02C **Callahan** 70.95 323 ⇓P P 22 57 58.9 +0.7
baz=71,SNR=45
YBMT **Yellow Bay** 70.97 333 *e*P P 22 57 59.0 +0.8
YBMT *e*P'P'df **P'P'df** 23 25 50.3 -2.7
JTMT **Jette** 71.00 333 *e*P P 22 57 59.3 +0.9
JTMT *e*P'P'df **P'P'df** 23 25 50.1 -2.9
TBI **Tubuai** 71.02 250 *e*S S 23 07 10.3 +3.0
comp=Z,11μm,24.8s
TBI **Tubuai** 71.02 250 *e*LR LR 23 19 47.1
comp=Z,7μm,31.0s
SNAA **Sanae** 71.03 161 P P 22 57 57.0 -1.2
SNAA **Sanae** 71.03 161 ⇓*i*P P 22 57 56.2 -2.0
SNAA **Sanae** 71.03 161 *d*⇓*i*P P 22 57 56.8 -1.4
SNAA *i* *PP **pP** 22 58 23.1 -1.1
SNAA pmax pmax
comp=Z,649nm,1.7s
SNAA **Sanae** 71.03 161 *e*P P 22 57 56.2 -2.0
comp=Z,913nm,1.6s
F10A **Beach Ranch, E** 71.07 330 *e*P P 22 57 59.6 +0.8
comp=Z,185nm,1.0s
F10A *e*P'P'df **P'P'df** 23 25 47.8 -5.2
YBH **Yreka Blue Hor** 71.09 324 P P 22 57 58.1 -0.9
comp=Z,67nm,0.9s,baz=115,slow=3.9,SNR=73
YBH **Yreka Blue Hor** 71.09 324 P P 22 57 58.1 -0.9
YBH pmax pmax
comp=Z,67nm,1.0s
YBH **Yreka Blue Hor** 71.09 324 *e*P P 22 57 58.1 -0.9
comp=Z,126nm,1.1s
K04D **Chiloquin, OR** 71.13 325 ⇓P P 22 58 00.1 +0.9
baz=71,SNR=26
KHMM **Horse Mountain** 71.14 323 *e*P P 22 58 00.7 +1.3
comp=Z,270nm,1.2s
BLMT **Blacktail Moun** 71.24 333 *e*P P 22 58 00.8 +0.9
J05D **Fort Rock, OR** 71.28 326 ⇓P P 22 58 01.2 +1.0
baz=72,SNR=118
BSMT **Bassoo Peak** 71.31 333 *e*P P 22 58 01.2 +0.8
BSMT *e*P'P'df **P'P'df** 23 25 49.2 -3.3
G08A **Pilot Rock** 71.44 329 *e*P P 22 58 01.2 0.0
comp=Z,222nm,1.3s
G08A *e*P'P'df **P'P'df** 23 25 54.7 +2.3
LIC **Lamto** 71.72 79 ⇓*i*P P 22 58 02.4 -0.9
comp=Z,290nm,1.3s,baz=248
LIC *e*pP **pP** 22 58 30.0 +0.7
LIC *e*R
comp=Z,6μm,19.8s
LIC **Lamto** 71.72 79 *e*P P 22 58 01.8 -1.5
comp=Z,520nm,1.8s
LIC **Lamto** 71.72 79 *e*P P 22 58 02.4 -0.9
LIC *e*pP **pP** 22 58 30.0 +0.7
J04D **Umpqua Nationa** 71.73 325 ⇓P P 22 58 03.8 +0.8
baz=72,SNR=60
TIAR **Tiarei** 71.75 256 *e*P P 22 58 05.3 +1.8
comp=Z,30nm,1.2s
TIAR *e*pP **pP** 22 58 34.4 +4.9
comp=Z,51nm,1.4s
PMOZ **Porto Moniz, M** 71.78 48 *e*P P 22 58 04.0 +0.6
comp=Z,323nm,1.6s
PMOZ *e*S S 23 07 18.8 +3.0
HUMO **Hull Mountain** 71.79 324 *e*P P 22 58 02.7 -0.4
comp=Z,126nm,1.6s
WALA **Waterton Lakes** 71.83 334 *e*P P 22 58 03.8 +0.5
comp=Z,10μm,1.2s
TIC **Toumodi** 71.85 78 *e*P P 22 58 02.3 -1.8
comp=Z,489nm,1.7s
L02D **Cave Junction,** 71.87 324 ⇓P P 22 58 04.5 +0.8
baz=72,SNR=47
E09A **Wood Farm, Sta** 71.90 330 *e*P P 22 58 03.5 -0.2
comp=Z,283nm,1.1s
FUL **Funchal** 71.91 48 *e*P P 22 58 03.2 -0.8
comp=Z,385nm,1.9s
PMAR **Madeira** 71.94 48 *e*P P 22 58 04.7 +0.3
comp=Z,441nm,1.8s
PAE **Paea** 71.96 256 *e*P P 22 58 06.6 +2.0
comp=Z,56nm,1.5s
PAE *e*pP **pP** 22 58 35.7 +5.1

comp=Z,69nm,1.4s
PPT2 Papeete2 71.97 256 *e*P P 22 58 06.8 +2.0
comp=Z,216nm,1.5s
PPT2 *e*pP pP 22 58 36.1 +5.3
comp=Z,236nm,1.5s
PPT2 *e*S **S** 23 07 21.3 +2.8
comp=Z,9µm,25.0s
PPT2 Papeete2 71.97 256 *e*LR LR 23 20 06.0
comp=Z,6µm,30.5s
PPT Papeete 71.97 256 P P 22 58 05.3 +0.6
comp=Z,158nm,1.2s,baz=171,slow=0.5,SNR=10
PPT Papeete 71.97 256 *e*P P 22 58 07.8 +3.0
PPT Papeete 71.97 256 *e*P P 22 58 07.8 +3.0
DBIC Dimbokro 72.02 78⇓*i*P P 22 58 04.5 -0.6
DBIC Dimbokro 72.02 78 P P 22 58 04.4 -0.6
comp=Z,47nm,0.9s,baz=229,slow=7.3,SNR=31
DBIC LR LR 23 28 00.4
comp=Z,4µm,20.4s,baz=222,slow=34
DBIC Dimbokro 72.02 78 P P 22 58 04.4 -0.6
DBIC pmax pmax
comp=Z,47nm,0.9s
DBIC MLR MLR
comp=Z,4µm,20.4s
DBIC Dimbokro 72.02 78 *e*P P 22 58 04.5 -0.6
comp=Z,836nm,1.9s
I05D Terrebonne, OR 72.04 327 ⇑P P 22 58 05.7 +1.0
baz=72,SNR=83
KIC Kosan Boka 72.04 78 *e*P P 22 58 04.0 -1.2
comp=Z,997nm,1.6s
I04A Tendick Farm, 72.26 326 ⇓P P 22 58 06.7 +0.7
baz=72,SNR=44
KBO Bosley Butte 72.27 323 *e*P P 22 58 08.1 +2.0
comp=Z,844nm,1.5s
G06A Carlson Farm, 72.27 328 *e*P P 22 58 07.4 +1.5
comp=Z,395nm,1.5s
FFC Flin Flon 72.34 344 *e*P P 22 58 05.7 -0.4
FFC pmax pmax
comp=Z,189nm,1.0s
FFC Flin Flon 72.34 344 *e*P P 22 58 05.7 -0.4
comp=Z,189nm,1.0s
HAWA Hanford 72.50 329 *e*P P 22 58 08.2 +0.9
comp=Z,429nm,1.3s
PMPS Porto Santo 72.53 48 *e*P P 22 58 08.2 +0.5
comp=Z,803nm,1.6s
RSW Rattlesnake Hi 72.53 329 *e*P P 22 58 08.7 +1.1
G05D Wamic, OR 72.63 327 ⇑P P 22 58 09.5 +1.4
baz=73,SNR=58
D08A Wollman Farm, 72.66 330 *e*P P 22 58 05.9 -2.3
comp=Z,681nm,1.9s
NEW Newport 72.67 332 P P 22 58 07.8 -0.4
comp=Z,73nm,1.1s,baz=135,slow=6.0,SNR=110
NEW Newport 72.67 332 P P 22 58 07.9 -0.4
NEW pmax pmax
comp=Z,73nm,1.1s
NEW Newport 72.67 332 *e*P P 22 58 07.8 -0.4
comp=Z,194nm,1.3s
NEW Newport 72.67 332 ⇑P P 22 58 09.3 +1.0
baz=73,SNR=78
I03D Drain, OR 72.71 325 ⇓P P 22 58 09.4 +0.9
baz=73,SNR=30
H04A Detroit Lake 72.72 326 *e*P P 22 58 09.0 +0.3
comp=Z,340nm,1.3s
KEBM Edson Butte 72.74 324 *e*P P 22 58 10.8 +1.9
comp=Z,662nm,1.3s
VFP Flag Point 72.76 327 P P 22 58 10.2 +1.2
E07A Sunnyside 72.78 329 *e*P P 22 58 10.4 +1.5
OD2 Odessa Site #2 72.79 330 *e*P P 22 58 10.1 +1.1
C09A Chrisman Ranch 72.88 331 *e*P P 22 58 10.5 +1.0
comp=Z,391nm,1.3s
TRW Toppenish Ridg 72.94 328 P P 22 58 11.3 +1.4
COR Corvallis 73.26 326 *e*P P 22 58 13.3 +1.5
COR pmax pmax
comp=Z,1µm,1.4s
COR Corvallis 73.26 326 *e*P P 22 58 13.3 +1.5
comp=Z,1µm,1.4s
SAW Saint Andrews 73.35 330 P P 22 58 13.2 +0.9
EBG Ellensburg 73.37 329 P P 22 58 14.0 +1.5
NAC Naches 73.38 329 P P 22 58 13.8 +1.3
WTV Waterville 73.61 330 *e*P P 22 58 14.9 +1.0
G03D McMinnville, O 73.64 326 ⇑P P 22 58 15.0 +1.1
baz=74,SNR=13
LTY Liberty 73.66 329 *e*P P 22 58 14.9 +0.7
comp=Z,576nm,1.4s
LTY *e*P'P'df P'P'df 23 25 55.0 +6.6
F04A Amboy 73.67 327 *e*P P 22 58 15.0 +0.9
WPW White Pass 73.72 328 *e*P P 22 58 15.6 +1.0
B08A Colville Reser 73.77 331 *e*P P 22 58 15.2 +0.5
comp=Z,225nm,1.1s
LON Longmire 73.89 328 *e*P P 22 58 16.0 +0.5
LON pmax pmax
comp=Z,116nm,1.2s
LON Longmire 73.89 328 *e*P P 22 58 16.0 +0.5
comp=Z,116nm,1.2s
F04D Rainier, OR 74.08 327 ⇑P P 22 58 18.0 +1.5
baz=74,SNR=9.7
FCC Fort Churchill 74.26 350 *e*P P 22 58 17.2 -0.1
FCC Fort Churchill 74.26 350 *e*P P 22 58 17.2 -0.1
comp=Z,17µm,1.1s
F03A Seaside 74.27 327 *e*P P 22 58 19.6 +1.9
comp=Z,275nm,1.0s
D05A Enumclaw 74.28 328 *e*P P 22 58 18.6 +1.0
comp=Z,622nm,1.0s
PNT Penticton 74.58 331 *e*P P 22 58 20.5 +1.1
PNT Penticton 74.58 331 *e*P P 22 58 20.5 +1.1
EDM Edmonton 74.81 337 *e*P P 22 58 20.4 -0.2
EDM Edmonton 74.81 337 *e*P P 22 58 20.4 -0.2
B06A Marblemount 74.92 330 *e*P P 22 58 21.9 +0.6
comp=Z,378nm,1.0s
JCW Jim Creek 74.92 329 *e*P P 22 58 21.7 +0.3
MBW Mount Baker 75.30 330 P P 22 58 24.1 +0.3
NLWA Neilton Lookou 75.38 328 *e*P P 22 58 25.6 +1.5
comp=Z,653nm,1.1s
NVL N'lazarevskaya 75.66 160 *d*iP P 22 58 19.8 -5.5
NVL *e**PP pP 22 58 46.0 -5.5
NVL *e*PPP PPP 23 03 04.3
NVL *i*S S 23 07 49.7 -8.3
NVL *e* 23 08 23.4
NVL pmax pmax
comp=Z,299nm,1.1s
PGC Sidney 75.98 329 *e*P P 22 58 28.7 +1.3
comp=Z,11µm,1.3s
FRB Frobisher Bay 77.64 3 P P 22 58 35.9 -0.4
comp=Z,194nm,1.0s,baz=188,slow=6.0,SNR=95
FRB Frobisher Bay 77.64 3 P P 22 58 35.9 -0.4
FRB pmax pmax
comp=Z,194nm,1.0s
PFVI Vila Bisbo 79.87 48 *i*P P 22 58 51.0 +1.8
comp=Z,699nm,1.6s
PFVI pP pP 22 59 21.2 +5.5
PFVI *e*S **S** 23 08 48.9 +4.5
PFVI Vila Bisbo 79.87 48 *e*LR LR 23 24 47.4
comp=Z,1µm,20.0s
MORF Marmelete 80.07 48 *i*P P 22 58 52.4 +2.0
comp=Z,777nm,1.4s
MORF pP pP 22 59 22.4 +5.6
MORF *e*S **S** 23 08 47.9 +1.3
MORF Marmelete 80.07 48 *e*LR LR 23 24 41.7
comp=Z,1µm,16.0s
TOA0 Torodi Ar. Sit 80.07 74 *e*P P 22 58 49.6 -1.2
TOA0 Torodi Ar. Sit 80.07 74 *e*P P 22 58 50.5 -0.3
TOA0 *e*pP **pP** 22 59 17.3 +0.1
TOA0 *e*PKKPbc **PKKPbc** 23 17 35.5 +1.1
TOA0 *e*P'P'df **P'P'df** 23 25 39.2 -0.5
TORD Torodi Ar. Bea 80.07 74 P P 22 58 50.5 -0.3
comp=Z,96nm,0.9s,baz=255,slow=4.6,SNR=415
TORD pP **pP** 22 59 17.3 +0.1
comp=Z,143nm,1.1s,baz=255,slow=4.9,SNR=5.5
TORD PKKPbc **PKKPbc** 23 17 35.6 +1.2
comp=Z,1.8nm,1.0s,baz=67,slow=1.5,SNR=5.5
TORD PKPPKP **P'P'df** 23 25 39.2 -0.5
comp=Z,4.0nm,1.3s,baz=85,slow=1.6,SNR=6.6
TORD LR LR 23 32 33.6
comp=Z,4µm,21.3s,baz=240,slow=34
PTEO Sao Teotonio 80.12 47 *i*P P 22 58 52.6 +2.0
comp=Z,814nm,1.7s
PTEO pP **pP** 22 59 21.3 +4.3
LIS Lisbon 80.34 46 *e*P P 22 58 52.9 +1.1
LIS *e*S **S** 23 08 49.9 +0.7
LIS AMS AMS 23 31 26.0
comp=Z,3µm,22.5s
LIS Lisbon 80.34 46 *e*P P 22 58 52.8 +1.1
LIS *e*S **S** 23 08 49.9 +0.7
PMAFR Mafra 80.36 46 *i*P P 22 58 53.2 +1.4
comp=Z,425nm,1.3s
PMAFR Mafra 80.36 46 *e*S **S** 23 08 54.5 +5.1
PMAFR Mafra 80.36 46 *e*LR LR 23 24 18.6
comp=Z,3µm,22.0s
PNCL Nicolau / Gran 80.51 47 *i*P P 22 58 54.2 +1.6
comp=Z,281nm,1.4s
PNCL pP **pP** 22 59 23.4 +4.3
PNCL *e*S **S** 23 08 55.5 +4.5
PNCL Nicolau / Gran 80.51 47 *e*LR LR 23 24 30.2
comp=Z,2µm,22.0s
BBB Bella Bella 80.53 330 P P 22 58 53.2 +0.8
comp=Z,193nm,1.0s,baz=129,slow=3.8,SNR=32
PBDV Barranco-do-Ve 80.56 48 *i*P P 22 58 55.0 +2.0
comp=Z,418nm,1.4s
PBDV pP pP 22 59 24.9 +5.4
PBDV *e*S **S** 23 08 51.2 -0.5
PBDV Barranco-do-Ve 80.56 48 *e*LR LR 23 24 30.2
comp=Z,2µm,22.0s
MESJ Messejana 80.61 47 *e*P P 22 58 54.3 +1.1
MESJ *e*S **S** 23 08 52.5 +0.4
MESJ AMS AMS 23 30 06.5
comp=Z,1µm,17.7s
MESJ Messejana 80.61 47 *e*P P 22 58 54.3 +1.1
MESJ *e*S **S** 23 08 52.5 +0.4
PCVE Castro Verde 80.65 48 *i*P P 22 58 55.3 +1.9
comp=Z,100nm,1.7s
PCVE pP pP 22 59 25.3 +5.4
PCVE *e*S **S** 23 08 56.3 +3.7
PCVE Castro Verde 80.65 48 *e*LR LR 23 24 30.2
comp=Z,5µm,22.0s
PVAQ Vaqueiros 80.78 48 *i*P P 22 58 55.7 +1.6
comp=Z,237nm,1.6s
PVAQ pP pP 22 59 26.5 +5.9
PVAQ *e*S **S** 23 08 57.6 +3.7
PVAQ Vaqueiros 80.78 48 *e*LR LR 23 24 41.7
comp=Z,2µm,20.0s
EVOP Sao Brissos 80.98 47 *e*P P 22 58 56.4 +1.3
EVOP Sao Brissos 80.98 47 *e*P P 22 58 56.4 +1.3
EVO Evora 81.06 47⇓*i*P P 22 58 56.4 +0.8
comp=Z,606nm,1.3s
EVO *e*R
comp=Z,2µm,18.0s
EVO Evora 81.06 47 *i*P P 22 58 57.0 +1.4
comp=Z,223nm,1.9s
EVO pP pP 22 59 27.3 +5.2
MDT Midelt 81.24 53 P P 22 58 58.0 +1.2
comp=Z,120nm,1.1s,baz=256,slow=5.4,SNR=105
PTOM Tomar 81.26 46 *i*P P 22 58 57.7 +1.1
comp=Z,605nm,1.6s
PTOM pP **pP** 22 59 26.9 +3.8
PESTR Estremoz 81.50 47 *i*P P 22 58 59.3 +1.4
comp=Z,516nm,1.8s
PESTR pP **pP** 22 59 29.0 +4.5
PESTR *e*S **S** 23 09 03.7 +2.3
PBAR Barrancos 81.60 47 *i*P P 22 59 00.0 +1.6
comp=Z,526nm,1.7s
PBAR pP pP 22 59 30.2 +5.2
PBAR *e*S **S** 23 09 04.8 +2.5
PBAR Barrancos 81.60 47 *e*LR LR 23 24 53.2
comp=Z,3µm,22.0s
PMRV Marv??o 81.88 46 *i*P P 22 59 00.5 +0.6
comp=Z,200nm,2.0s
PMRV pP **pP** 22 59 31.1 +4.6
PMRV *e*S **S** 23 09 07.2 +1.9
PMRV Marv??o 81.88 46 *e*LR LR 23 25 04.7
comp=Z,3µm,22.0s
PCBR Castelo Branco 82.00 46 *i*P P 22 59 01.2 +0.7
comp=Z,392nm,2.0s
PCBR pP **pP** 22 59 31.9 +4.9
PVIS Viseu 82.09 45 *i*P P 22 59 01.9 +0.9
comp=Z,880nm,1.6s
PVIS pP **pP** 22 59 31.3 +3.7
SBA Scott Base 82.19 191 *e*P P 22 59 02.6 +1.8
SBA pmax pmax
comp=Z,412nm,1.4s
SBA Scott Base 82.19 191 *e*P P 22 59 02.6 +1.8
comp=Z,412nm,1.4s
SBA *e*PKKPbc **PKKPbc** 23 17 28.8 -2.5
SBA *e*P'P'df **P'P'df** 23 25 29.6 -4.3
MTE Manteigas 82.20 45 *i*P P 22 59 02.8 +1.2
comp=Z,472nm,1.5s
MTE pP **pP** 22 59 32.7 +4.5
MTE *e*S **S** 23 09 09.1 +0.5
MTE Manteigas 82.20 45 *e*LR LR 23 25 16.2
comp=Z,3µm,22.0s
MTE Manteigas 82.20 45 *e*P P 22 59 02.5 +0.9
PCAB Cabril 82.44 44 *i*P P 22 59 03.7 +0.9
comp=Z,922nm,1.8s
PCAB pP **pP** 22 59 33.8 +4.4
YKA Yellowknife Ar 82.45 342 P P 22 59 01.9 -0.3
comp=Z,125nm,1.0s,baz=137,slow=5.3,SNR=410
YKA pP **pP** 22 59 29.1 +0.3
comp=Z,97nm,0.9s,baz=137,slow=5.4,SNR=10.0
YKA PKKPbc **PKKPbc** 23 17 28.7 -2.8
comp=Z,3.4nm,1.0s,baz=317,slow=2.4,SNR=12
YKA PKPPKP **P'P'df** 23 25 28.1 -3.6
comp=Z,1.5nm,1.1s,baz=310,slow=2.2,SNR=7.8
YKB5 Yellowknife Ar 82.45 342 *e*P P 22 58 59.7 -2.5
YKB5 *e*pP **pP** 22 59 29.1 +0.3
YKB5 *e*PKKPbc **PKKPbc** 23 17 28.2 -3.3
YKB5 *e*P'P'df **P'P'df** 23 25 27.2 -4.6
POLO Lamas de Olo 82.45 44 *i*P P 22 59 04.0 +1.1
comp=Z,302nm,1.8s
POLO pP **pP** 22 59 33.4 +3.9
POLO *e*S **S** 23 09 12.1 +0.9
POLO Lamas de Olo 82.45 44 *e*LR LR 23 25 10.4
comp=Z,1µm,20.0s
PVRL Vila Real 82.46 44 *i*P P 22 59 04.1 +1.2
comp=Z,675nm,1.8s
PVRL pP **pP** 22 59 34.2 +4.7
SFJD Kangerlussuaq 82.65 9⇓*i*P P 22 59 02.8 -0.4
comp=Z,240nm,1.1s
SFJD *i* 22 59 31.6
comp=Z,2µm,20.0s
SFJD Kangerlussuaq 82.65 9 P P 22 59 02.4 -0.8
comp=Z,118nm,1.0s,baz=215,slow=6.8,SNR=17
SFJD Kangerlussuaq 82.65 9⇓*i*P P 22 59 02.8 -0.4
SFJD *i* 22 59 31.6
SFJD pmax pmax
comp=Z,240nm,1.1s
SFJD MLR MLR
comp=Z,2µm,20.0s
SFJD Kangerlussuaq 82.65 9 *e*P P 22 59 02.8 -0.4
comp=Z,278nm,1.2s
MVO Moncorvo 82.88 45 *i*P P 22 59 06.4 +1.3
comp=Z,895nm,1.8s
MVO pP **pP** 22 59 36.5 +4.8
MVO *e*S **S** 23 09 17.8 +2.3
MVO Moncorvo 82.88 45 *e*LR LR 23 25 16.2
comp=Z,3µm,20.0s
VNDA Vanda 83.26 190 P P 22 59 08.1 +1.7
comp=Z,88nm,1.2s,baz=129,slow=4.6,SNR=155
VNDA PKKPbc **PKKPbc** 23 17 25.5 -3.3
comp=Z,2.6nm,1.1s,baz=271,slow=6.0,SNR=4.7
VNDA PKPPKP **P'P'df** 23 25 27.8 -4.1
comp=Z,2.0nm,1.1s,baz=26,slow=5.8,SNR=3.9
VNDA LR LR 23 29 50.9
comp=Z,3µm,19.4s,baz=124,slow=31
VNDA Vanda 83.26 190 *e*P P 22 59 08.0 +1.6
comp=Z,287nm,1.5s
VNDA *e*PKKPbc **PKKPbc** 23 17 25.5 -3.3
VNDA *e*P'P'df **P'P'df** 23 25 27.8 -4.1
PBRG Braganca 83.35 44 *i*P P 22 59 08.9 +1.4
comp=Z,1µm,1.6s
PBRG pP **pP** 22 59 38.9 +4.8
PBRG *e*S **S** 23 09 21.5 +1.3
PBRG Braganca 83.35 44 *e*LR LR 23 25 56.4
comp=Z,2µm,20.0s
XMAS Kiritimati 83.72 274 *e*P P 22 59 11.4 +1.5
comp=Z,328nm,1.3s
PAB San Pablo 84.08 47 *e*P P 22 59 12.5 +1.2
PAB pmax pmax
comp=Z,640nm,1.2s
PAB San Pablo 84.08 47 *e*P P 22 59 12.5 +1.2
comp=Z,640nm,1.2s
ESDC Sonseca Array 84.40 47 P P 22 59 14.1 +1.2
comp=Z,190nm,1.0s,baz=253,slow=5.1,SNR=518
ESDC LR LR 23 35 06.1
comp=Z,1µm,19.0s,baz=245,slow=34
ES19 SONSECA Array 84.45 47 *e*P P 22 59 13.4 +0.3
ILULI Ilulissat 84.63 8⇓*i*P P 22 59 12.8 -0.5
comp=Z,497nm,1.2s
ILULI *i* 22 59 40.2
comp=Z,3µm,24.0s
KOMG Komaggas 84.80 119⇓*i*P P 22 59 16.6 +1.4
KOMG AMB AMB 22 59 17.6
comp=Z,432nm,1.7s
KOMG Komaggas 84.80 119 *e*P P 22 59 16.6 +1.4
CRAG Craig 84.86 331 *e*P P 22 59 15.6 +0.9
WRAK Wrangell Islan 85.03 332 *e*P P 22 59 16.0 +0.4
comp=Z,478nm,1.5s
DLBC Dease Lake 85.18 334 P P 22 59 17.4 +1.0
comp=Z,141nm,0.9s,baz=116,slow=3.2,SNR=214
DLBC Dease Lake 85.18 334 *e*P P 22 59 17.4 +1.0
DLBC *e*pP **pP** 22 59 40.9 -2.3
DLBC *e*PKKPbc **PKKPbc** 23 17 24.6 -0.4
SYO Syowa Base 85.31 161⇑*e*P P 22 59 14.6 -2.2
SYO Syowa Base 85.31 161⇑*i*P P 22 59 15.8 -1.0
SYO Syowa Base 85.31 161⇑*i*P pP 22 59 42.6 -1.0
CER Ceres 85.48 123 *e*P P 22 59 19.0 +0.4
CER AMB AMB 22 59 20.4
comp=Z,237nm,1.7s
CER Ceres 85.48 123 *e*P P 22 59 19.0 +0.4
VAL Valentia 85.82 34⇓*i*P P 22 59 19.9 +0.3
VAL Valentia 85.82 34⇓*i*S S 23 09 46.6 +2.5
SIT Sitka 86.75 331 *e*P P 22 59 25.2 +1.2
SIT Sitka 86.75 331 *e*P P 22 59 25.2 +1.2
SUR Sutherland 86.96 122 *e*P P 22 59 26.7 +0.6
SUR AMB AMB 22 59 27.8
comp=Z,107nm,2.8s
SUR Sutherland 86.96 122 *e*P P 22 59 27.4 +1.3
comp=Z,119nm,2.2s
TSUM Tsumeb 87.34 109⇓*i*P P 22 59 28.6 +0.6
TSUM Tsumeb 87.34 109 *e*P P 22 59 28.4 +0.4
comp=Z,130nm,1.1s
TSUM *e*PKKPbc **PKKPbc** 23 17 20.0 +2.5
BESE Bessie Mountai 87.35 333 *e*P P 22 59 28.2 +1.2
comp=Z,369nm,1.3s
SJPF Ste Jean 87.61 45⇓*i*P P 22 59 29.2 +0.6
comp=Z,596nm,1.4s
SJPF *e*pP **pP** 22 59 57.8 +2.3
SJPF Ste Jean 87.61 45 *e*P P 22 59 29.2 +0.6
SJPF *e**PP **pP** 22 59 57.8 +2.3
SJPF Ste Jean 87.61 45 *e*P P 22 59 29.2 +0.6
SJPF *e*pP **pP** 22 59 57.8 +2.3
OSSF Osses 87.64 44⇓*e*P P 22 59 28.5 -0.2
LARF Larrau 87.75 45⇓*e*P P 22 59 30.0 +0.7
CCA1 Carnmenellis 87.86 37⇓*i*P P 22 59 29.7 +0.2
CCA1 AMB AMB 22 59 30.7
comp=Z,226nm,1.4s
ATE Arette 87.96 45⇓*e*P P 22 59 30.6 +0.4
ETSF Etsaut 87.99 45⇓*i*P P 22 59 31.1 +0.6
comp=Z,336nm,1.4s
ETSF Etsaut 87.99 45 *e*P P 22 59 31.1 +0.6
ETSF Etsaut 87.99 45 *e*P P 22 59 31.1 +0.6
SKAG Skagway 88.03 333 *e*P P 22 59 31.2 +1.1
BORG Borgarnes 88.12 20 P P 22 59 31.9 +1.5
comp=Z,242nm,1.1s,baz=242,slow=2.8,SNR=50
BORG Borgarnes 88.12 20 P P 22 59 31.9 +1.5
BORG pmax pmax
comp=Z,242nm,1.1s
BORG Borgarnes 88.12 20 *e*P P 22 59 32.5 +2.1
comp=Z,870nm,1.4s
REYF Montagne du Re 88.17 45⇓*e*P P 22 59 31.8 +0.5
QUIF Quistinic 88.18 40⇓*i*P P 22 59 31.1 0.0
comp=Z,674nm,1.5s
QUIF Quistinic 88.18 40 *e*P P 22 59 31.1 0.0
QUIF Quistinic 88.18 40 *e*P P 22 59 31.1 0.0
ROSF Rostrenen 88.27 39⇓*i*P P 22 59 31.6 0.0
comp=Z,782nm,1.4s
ROSF *e*pP **pP** 23 00 00.2 +1.7
ROSF Rostrenen 88.27 39 *e*P P 22 59 31.6 0.0
ROSF *e**PP **pP** 23 00 00.2 +1.7
ROSF Rostrenen 88.27 39 *e*P P 22 59 31.6 0.0
ROSF *e*pP **pP** 23 00 00.2 +1.7
UPI Upington 88.35 119⇓*i*P P 22 59 33.2 +0.7
UPI AMB AMB 22 59 34.8
comp=Z,225nm,1.4s
UPI Upington 88.35 119 *e*P P 22 59 33.2 +0.7
VIEF Viey 88.38 45⇓*e*P P 22 59 32.9 +0.6
LABF Labassere 88.48 45⇓*e*P P 22 59 33.3 +0.6
DSB Dublin 88.52 34 *e*P P 22 59 32.5 0.0
comp=Z,216nm,1.3s
HTL Hartland 88.62 36⇓*i*P P 22 59 33.2 +0.1
HTL AMB AMB 22 59 34.2
comp=Z,153nm,1.5s
HTL AMS AMS 23 29 08.8
comp=Z,2µm,41.3s
EPF Esparros 88.65 45⇓*i*P P 22 59 34.0 +0.4
comp=Z,524nm,1.5s
EPF Esparros 88.65 45 *e*P P 22 59 34.0 +0.4
EPF Esparros 88.65 45 *e*P P 22 59 34.0 +0.4
SGMF Saint Gilles 88.68 39⇓*i*P P 22 59 33.3 -0.2
comp=Z,575nm,1.5s
SGMF Saint Gilles 88.68 39 *e*P P 22 59 33.3 -0.2
SGMF Saint Gilles 88.68 39 *e*P P 22 59 33.3 -0.2
DYA Yadsworthy 88.72 37⇓*i*P P 22 59 33.1 -0.5
DYA AMB AMB 22 59 34.4
comp=Z,149nm,1.6s
DYA AMS AMS 23 29 05.9
comp=Z,2µm,43.4s
MELF Melles 88.89 45⇓*e*P P 22 59 35.3 +0.6
KULLO Kullorsuaq 89.06 5⇓*i*P P 22 59 35.2 +0.5
comp=Z,800nm,1.2s
comp=Z,2µm,27.0s
SALF Salau 89.15 46⇓*e*P P 22 59 36.6 +0.7
MLS Moulis 89.15 45⇓*e*P P 22 59 36.2 +0.4
GMM Mts of Mourne 89.18 33⇓*i*P P 22 59 35.6 0.0
JSA Saint Aubin 89.28 39⇓*i*P P 22 59 36.3 +0.1
JSA AMB AMB 22 59 37.2
comp=Z,191nm,1.3s
JSA AMS AMS 23 31 05.5
comp=Z,2µm,23.8s
LPW Lampeter 89.32 36⇓*i*P P 22 59 36.2 -0.1
LPW AMB AMB 22 59 37.2
comp=Z,210nm,1.4s
LPW AMS AMS 23 29 51.6
comp=Z,3µm,37.8s
RES Resolute Bay 89.43 355 P P 22 59 36.2 -0.1
comp=Z,102nm,1.0s,baz=180,slow=7.3,SNR=49
RES Resolute Bay 89.43 355 P P 22 59 36.3 -0.1
RES pmax pmax
comp=Z,102nm,1.0s
RES Resolute Bay 89.43 355 *e*P P 22 59 36.2 -0.1
comp=Z,287nm,1.3s
YRE Yr Eifl 89.47 35⇓*i*P P 22 59 36.8 -0.3
YRC Rhoscolyn 89.50 34⇓*e*P P 22 59 36.9 -0.2
SUMG Summit 89.58 10⇓*i*P P 22 59 38.7 +1.1
comp=Z,1µm,1.2s
SUMG *i* 23 00 05.7
SUMG Summit 89.58 10⇓*i*P P 22 59 38.7 +1.1
SUMG *i* 23 00 05.7
SUMG Summit 89.58 10 *e*P P 22 59 37.8 +0.2
comp=Z,1µm,1.2s
SUMG *e*pP **pP** 23 00 02.6 -2.0
SUMG *e*PKKPdf **PKKPdf** 23 17 12.5 +2.1
LFF La Frestale 89.59 43⇓*i*P P 22 59 37.8 0.0
comp=Z,792nm,1.3s
LFF *e*pP **pP** 23 00 06.4 +1.6
LFF La Frestale 89.59 43 *e*P P 22 59 37.8 0.0
LFF La Frestale 89.59 43 *e*P P 22 59 37.8 0.0
MFF Saint Martin d 89.59 42⇓*i*P P 22 59 37.7 -0.1
comp=Z,644nm,1.5s
MFF *e*pP **pP** 23 00 06.3 +1.6
MFF Saint Martin d 89.59 42 *e*P P 22 59 37.7 -0.1
MFF *e**PP **pP** 23 00 06.3 +1.6
MFF Saint Martin d 89.59 42 *e*P P 22 59 37.7 -0.1
MFF *e*pP **pP** 23 00 06.3 +1.6
VALF Valcebollere 89.60 46⇓*e*P P 22 59 38.8 +0.6
WLF1 Llynfaes 89.61 34⇓*i*P P 22 59 37.3 -0.4
WLF1 AMB AMB 22 59 38.5
comp=Z,155nm,1.5s
WLF1 AMS AMS 23 29 59.8
comp=Z,2µm,59.2s
HYT Haines Junctio 89.67 334 *e*P P 22 59 39.1 +1.1
YLL Llanberis 89.68 35⇓*e*P P 22 59 37.5 -0.5
WME Myndd Eilian 89.71 34⇓*i*P P 22 59 37.9 -0.2
CARF Carcanieres 89.77 46⇓*e*P P 22 59 38.9 0.0
GRR Gorron 89.78 40⇓*i*P P 22 59 38.4 -0.2
comp=Z,488nm,1.2s
GRR Gorron 89.78 40 *e*P P 22 59 38.4 -0.2
GRR Gorron 89.78 40 *e*P P 22 59 38.4 -0.2
WPM1 Penmaenmawr 89.87 35⇓*i*P P 22 59 38.6 -0.3
MCH1 Michaelchurch 89.88 36⇓*i*P P 22 59 38.5 -0.5
MCH1 AMB AMB 22 59 39.5
comp=Z,144nm,1.7s
MCH1 AMS AMS 23 30 03.3
comp=Z,2µm,48.7s
MONM Monmouth 89.93 36⇓*i*P P 22 59 39.0 -0.1
MONM AMB AMB 22 59 40.0
comp=Z,222nm,1.4s
MONM AMS AMS 23 30 06.1
comp=Z,3µm,44.7s

OLDB Oldbury-Upon-S 90.00 36↓iP P 22 59 39.3 -0.2
OLDB AMB AMB 22 59 40.1
comp=Z,154nm,1.5s
OLDB AMS AMS 23 30 06.7
comp=Z,2µm,48.4s
FILF Fillols 90.03 46↓eP P 22 59 40.0 0.0
BATH Bath 90.05 37↓iP P 22 59 39.1 -0.7
BATH AMB AMB 22 59 40.2
comp=Z,104nm,1.5s
MTLF Montolieu 90.05 45↓iP P 22 59 39.9 -0.1
comp=Z,312nm,1.4s
MTLF epP pP 23 00 08.5 +1.5
MTLF Montolieu 90.05 45 eP P 22 59 39.9 -0.1
MTLF e*PP pP 23 00 08.5 +1.5
MTLF Montolieu 90.05 45 eP P 22 59 39.9 -0.1
MTLF epP pP 23 00 08.5 +1.5
GAL1 Galloway 90.10 33↓iP P 22 59 39.7 -0.2
GAL1 AMB AMB 22 59 40.7
comp=Z,150nm,1.4s
GAL1 AMS AMS 23 30 51.9
comp=Z,1µm,39.2s
FOEL Foel Wylfa 90.11 35↓iP P 22 59 40.0 -0.1
FOEL AMB AMB 22 59 40.8
comp=Z,160nm,1.5s
FOEL AMS AMS 23 30 10.3
comp=Z,2µm,54.7s
LRDF Laroque-de-Fa 90.14 46↓eP P 22 59 40.3 -0.2
HLM1 Long Mynd 90.15 35↓iP P 22 59 40.0 -0.2
HLM1 AMB AMB 22 59 40.9
comp=Z,180nm,1.3s
HLM1 AMS AMS 23 30 35.9
comp=Z,3µm,41.5s
FLN La Foliniere 90.15 39↓iP P 22 59 40.4 +0.1
comp=Z,871nm,1.3s
FLN epP pP 23 00 08.9 +1.6
FLN eR
comp=Z,1µm,21.0s
FLN La Foliniere 90.15 39 eP P 22 59 40.4 +0.1
FLN e*PP pP 23 00 08.9 +1.6
FLN La Foliniere 90.15 39 eP P 22 59 40.4 +0.1
FLN epP pP 23 00 08.9 +1.6
SET Setif 90.16 53 P P 22 59 41.0 +0.2
CKHR Kef el Ahmar 90.19 53 P P 22 59 37.8 -3.2
RJF Les Rejaudoux 90.23 43↓iP P 22 59 40.6 -0.2
comp=Z,721nm,1.5s
RJF eR
comp=Z,2µm,22.2s
RJF Les Rejaudoux 90.23 43 eP P 22 59 40.6 -0.2
RJF Les Rejaudoux 90.23 43 eP P 22 59 40.6 -0.2
STRD Stroud 90.27 36↓iP P 22 59 40.4 -0.4
STRD AMB AMB 22 59 42.2
comp=Z,274nm,1.7s
STRD AMS AMS 23 30 11.9
comp=Z,2µm,50.7s
LDF La Druitiere 90.31 40↓iP P 22 59 41.0 -0.1
comp=Z,815nm,1.4s
LDF La Druitiere 90.31 40 eP P 22 59 41.0 -0.1
LDF La Druitiere 90.31 40 eP P 22 59 41.0 -0.1
SWN1 Swindon 90.38 37↓iP P 22 59 41.1 -0.2
SWN1 AMB AMB 22 59 42.9
comp=Z,347nm,1.5s
SWN1 AMS AMS 23 30 14.4
comp=Z,2µm,50.1s
CAF Calviac 90.47 44↓iP P 22 59 41.9 -0.1
comp=Z,385nm,1.2s
CAF Calviac 90.47 44 eP P 22 59 41.9 -0.1
CAF Calviac 90.47 44 eP P 22 59 41.9 -0.1
GCD Castle Douglas 90.50 33↓iP P 22 59 41.7 -0.1
SSW Stow on the Wo 90.52 36↓iP P 22 59 41.6 -0.4
PGBU Glenifferbraes 90.61 32↓iP P 22 59 42.2 -0.1
PGBU AMB AMB 22 59 43.2
comp=Z,162nm,1.9s
PGBU AMS AMS 23 31 12.9
comp=Z,2µm,29.8s
DFRA Djebel Bou Aff 90.63 53 P P 22 59 40.3 -2.7
WOL Wolverton 90.64 37↓iP P 22 59 41.6 -0.9
WOL AMB AMB 22 59 43.9
comp=Z,163nm,1.6s
WOL AMS AMS 23 30 20.5
comp=Z,2µm,51.8s
KPL Plockton 90.66 30↓iP P 22 59 42.8 +0.3
KPL AMS AMS 23 30 55.8
comp=Z,1µm,32.6s
KSB Sheil Bridge 90.72 31↓iP P 22 59 42.5 -0.3
SOE Somerset East 90.73 124 eP P 22 59 44.2 +0.6
SOE AMB AMB 22 59 44.8
comp=Z,148nm,1.4s
SOE Somerset East 90.73 124 eP P 22 59 44.2 +0.6
EAB Aberfoyle 90.83 32↓iP P 22 59 42.8 -0.5
KESW Keswick, Cumbr 90.84 33↓iP P 22 59 43.2 -0.2
KESW AMB AMB 22 59 44.5
comp=Z,272nm,1.4s
KESW AMS AMS 23 30 40.9
comp=Z,873nm,30.7s
CTEI Djebel Teioual 90.90 53 P P 22 59 40.0 -4.3
KAC Achnashellach 90.90 30↓iP P 22 59 43.7 +0.1
TCF Toulx Ste Croi 91.01 42↓iP P 22 59 44.2 -0.3
comp=Z,376nm,1.5s
TCF epP pP 23 00 12.7 +1.2
TCF Toulx Ste Croi 91.01 42 eP P 22 59 44.2 -0.3
TCF e*PP pP 23 00 12.7 +1.2
TCF Toulx Ste Croi 91.01 42 eP P 22 59 44.2 -0.3
TCF epP pP 23 00 12.7 +1.2
CASM Ain Smara 91.02 53 P P 22 59 40.7 -4.1
SKP1 Kophill 91.03 37↓iP P 22 59 43.6 -0.7
ECK Cauldkaine Hil 91.06 33↓iP P 22 59 44.0 -0.4
ESK Eskdalemuir 91.07 33↓iP P 22 59 44.2 -0.2
ESK AMB AMB 22 59 45.2
comp=Z,146nm,1.6s
ESK AMS AMS 23 32 01.5
comp=Z,1µm,29.3s
ESK Eskdalemuir 91.07 33 eP P 22 59 44.4 -0.1
ESK e*PP pP 23 00 09.5 -1.9
ESK pmax pmax
comp=Z,78nm,1.5s
ESK Eskdalemuir 91.07 33 eP P 22 59 44.4 -0.1
comp=Z,78nm,1.5s
ESK epP pP 23 00 09.5 -1.9
EKA Eskdalemuir Ar 91.10 33 P P 22 59 43.9 -0.7
comp=Z,102nm,1.2s,baz=235,slow=2.9,SNR=86
EKA Eskdalemuir Ar 91.10 33 P P 22 59 43.9 -0.7
EKA pmax pmax
comp=Z,102nm,1.2s
LHO Holmfirth 91.11 35↓iP P 22 59 44.9 +0.2
CKFL Kef-Lekhel 91.24 53 P P 22 59 42.3 -3.6
HVD Gariep Dam 91.29 122↓iP P 22 59 47.0 +0.6
HVD AMB AMB 22 59 47.6
comp=Z,232nm,1.5s
HVD Gariep Dam 91.29 122 eP P 22 59 47.0 +0.6
HVD Gariep Dam 91.29 122 eP P 22 59 47.0 +0.6
GRM Grahamstown 91.31 125 eP P 22 59 45.9 -0.4
GRM AMB AMB 22 59 47.3
comp=Z,139nm,1.5s
GRM Grahamstown 91.31 125 eP P 22 59 45.9 -0.4
GRM Grahamstown 91.31 125 eP P 22 59 45.9 -0.4
EBL Broad Law 91.33 32↓iP P 22 59 45.3 -0.4
MDO Dochfour 91.33 31↓iP P 22 59 45.6 -0.1
LBL Lubilhac 91.36 44↓eP P 22 59 47.6 +1.4
PYM Petit Puy Mans 91.37 43↓eP P 22 59 47.2 +1.0
HMNX Herstmonceux 91.40 38↓iP P 22 59 46.6 +0.5
HMNX AMB AMB 22 59 48.2
comp=Z,392nm,1.7s
HMNX AMS AMS 23 34 00.7
comp=Z,2µm,22.8s
HPK Haverah Park 91.40 34↓iP P 22 59 46.0 0.0
HPK AMB AMB 22 59 47.8
comp=Z,217nm,1.7s
HPK AMS AMS 23 30 50.5
comp=Z,2µm,51.4s
LASF Ste Croix 91.41 45↓iP P 22 59 46.7 +0.3
comp=Z,355nm,1.5s
LASF epP pP 23 00 15.3 +2.0
LASF Ste Croix 91.41 45 eP P 22 59 46.7 +0.3
LASF epP pP 23 00 15.3 +2.0
CAEH 'Ain El Ouahch 91.44 53 P P 22 59 43.0 -3.7
BGF Bois d'Agland 91.52 42↓iP P 22 59 46.7 -0.1
comp=Z,564nm,1.4s
BGF Bois d'Agland 91.52 42 eP P 22 59 46.7 -0.1
BGF Bois d'Agland 91.52 42 eP P 22 59 46.7 -0.1
AGO Saint Agoulin 91.54 43↓eP P 22 59 47.7 +0.8
HYF Humbligny 91.61 42↓iP P 22 59 47.2 0.0
HYF Humbligny 91.61 42 eP P 22 59 47.2 0.0
ESY Stoneypath 91.61 32↓iP P 22 59 47.0 0.0
MVH1 Achvaich 91.62 30↓iP P 22 59 47.0 0.0

EDU Dundee 91.65 32↓eP P 22 59 47.1 0.0
BOSA Boshof 91.67 120 eP P 22 59 47.9 -0.2
BOSA AMB AMB 22 59 49.1
comp=Z,158nm,1.8s
BOSA Boshof 91.67 120 P P 22 59 48.4 +0.2
comp=Z,18nm,0.6s,baz=260,slow=4.4,SNR=34
BOSA LR LR 23 37 37.0
comp=Z,2µm,21.8s,baz=259,slow=33
BOSA Boshof 91.67 120 P P 22 59 48.4 +0.2
BOSA pmax pmax
comp=Z,18nm,0.6s
BOSA MLR MLR
comp=Z,2µm,21.8s
BOSA Boshof 91.67 120 eP P 22 59 47.9 -0.2
LCP Cassop 91.77 34 eP P 22 59 47.8 +0.1
ABSA Djebel Ababsia 91.79 53 P P 22 59 44.6 -3.8
CMAH Djebel Manchou 91.84 53 P P 22 59 45.0 -3.6
PLDF La Plantade 91.84 43↓eP P 22 59 49.3 +0.9
AVF Avril sur Loir 91.92 42↓iP P 22 59 48.2 -0.4
comp=Z,418nm,1.6s
AVF Avril sur Loir 91.92 42 eP P 22 59 48.2 -0.4
AVF Avril sur Loir 91.92 42 eP P 22 59 48.2 -0.4
LMK Market Rasen 91.93 35↓iP P 22 59 48.5 +0.1
LMK AMB AMB 22 59 49.6
comp=Z,329nm,1.5s
LMK AMS AMS 23 31 02.8
comp=Z,3µm,45.7s
MCD Coleburn Disti 91.94 31↓iP P 22 59 48.3 -0.1
ELSH Elham, Standar 91.97 38↓iP P 22 59 48.8 +0.1
ELSH AMB AMB 22 59 49.7
comp=Z,304nm,1.5s
MME1 Meikle Cairn 91.98 31↓iP P 22 59 48.3 -0.4
BIGH Upper Bighouse 91.98 30↓iP P 22 59 48.7 +0.1
BIGH AMB AMB 22 59 49.9
comp=Z,392nm,1.4s
DAWY Dawson 92.02 337 eP P 22 59 48.7 0.0
DAWY epP pP 23 00 14.0 -1.8
DAWY ePKKPdf PKKPbc 23 17 07.9 -0.3
DAWY eP'P'df P'P'df 23 25 13.8 -0.6
DRUM Mains of Drumt 92.06 31↓iP P 22 59 49.0 0.0
DRUM AMB AMB 22 59 50.0
comp=Z,140nm,1.6s
DRUM AMS AMS 23 31 51.5
comp=Z,2µm,42.0s
SSF Saint Saulge 92.11 42↓iP P 22 59 48.9 -0.6
comp=Z,440nm,1.6s
SSF Saint Saulge 92.11 42 eP P 22 59 48.9 -0.6
SSF Saint Saulge 92.11 42 eP P 22 59 48.9 -0.6
SOFL Sornfelli, Far 92.12 26↓eP P 22 59 50.3 +1.0
SOFL AMB AMB 22 59 51.3
comp=Z,223nm,1.4s
SOFL AMS AMS 23 33 03.3
comp=Z,1µm,26.9s
SWZ Schweizer 92.14 119 eP P 22 59 48.3 -2.1
SWZ AMB AMB 22 59 51.1
comp=Z,23nm,9.7s
SWZ Schweizer 92.14 119 eP P 22 59 48.3 -2.1
INK Inuvik 92.17 341 P P 22 59 48.8 -0.4
comp=Z,123nm,1.1s,baz=110,slow=4.7,SNR=131
INK Inuvik 92.17 341 P P 22 59 48.8 -0.4
INK pmax pmax
comp=Z,123nm,1.1s
MLA1 Latheron 92.17 30↓iP P 22 59 49.7 +0.2
SMF Signal de Mont 92.20 42↓iP P 22 59 49.7 -0.2
comp=Z,585nm,1.6s
SMF epP pP 23 00 18.3 +1.4
SMF Signal de Mont 92.20 42 eP P 22 59 49.7 -0.2
SMF e*PP pP 23 00 18.3 +1.4
SMF Signal de Mont 92.20 42 eP P 22 59 49.7 -0.2
SMF epP pP 23 00 18.3 +1.4
VIVF Saint-Julien-I 92.21 44↓iP P 22 59 50.5 +0.5
comp=Z,409nm,1.4s
VIVF Saint-Julien-I 92.21 44 eP P 22 59 50.5 +0.5
VIVF Saint-Julien-I 92.21 44 eP P 22 59 50.5 +0.5
SSB Saint Sauveur 92.25 44↓eP P 22 59 50.9 +0.7
MENF Mencas 92.38 38↓eP P 22 59 50.3 -0.3
LOR Lormes 92.40 42↓iP P 22 59 50.4 -0.5
comp=Z,487nm,1.6s
LOR epP pP 23 00 19.1 +1.3
LOR eR
comp=Z,861nm,23.0s
LOR Lormes 92.40 42 eP P 22 59 50.4 -0.5
LOR Lormes 92.40 42 eP P 22 59 50.4 -0.5
LOR epP pP 23 00 19.1 +1.3
SMRF Simiane la Rot 92.56 45↓iP P 22 59 52.5 +0.8
comp=Z,445nm,1.6s
SMRF Simiane la Rot 92.56 45 eP P 22 59 52.5 +0.8
RAGM Ragged Mountai 92.62 332 eP P 22 59 51.9 +0.3
comp=Z,171nm,1.3s
BMRM Bremner River 92.82 333 eP P 22 59 52.5 0.0
comp=Z,195nm,1.3s
BMRM epP pP 23 00 16.1 -3.4
MAW Mawson 92.94 165 P P 22 59 53.1 +0.1
comp=Z,90nm,1.1s,baz=221,slow=5.1,SNR=28
MAW PKKPbc PKKPdf 23 17 02.3 +0.5
comp=Z,5.7nm,0.9s,baz=72,slow=8.3,SNR=6.0
MAW LR LR 23 39 11.1
comp=Z,1µm,21.8s,baz=229,slow=34
MAW Mawson 92.94 165 eP P 22 59 53.7 +0.7
MAW pmax pmax
comp=Z,59nm,1.4s
MAW Mawson 92.94 165 eP P 22 59 53.7 +0.7
comp=Z,59nm,1.4s
MAW ePKKPdf PKKPdf 23 17 02.7 +0.9
LBTB Lobatse 93.00 117↓iP P 22 59 54.6 +0.4
LBTB AMB AMB 22 59 55.7
comp=Z,153nm,1.8s
LBTB Lobatse 93.00 117 eP P 22 59 54.7 +0.4
LBTB e*PP pP 23 00 17.1 -4.2
LBTB pmax pmax
comp=Z,318nm,1.7s
LBTB Lobatse 93.00 117 eP P 22 59 54.7 +0.4
comp=Z,318nm,1.7s
LBTB epP pP 23 00 17.1 -4.2
LMR La Mourre 93.03 46↓iP P 22 59 54.1 +0.3
comp=Z,695nm,1.6s
LMR epP pP 23 00 22.8 +2.0
LMR La Mourre 93.03 46 eP P 22 59 54.1 +0.3
LMR La Mourre 93.03 46 eP P 22 59 54.1 +0.3
LMR epP pP 23 00 22.8 +2.0
EGAK Eagle 93.03 337 eP P 22 59 53.0 -0.3
comp=Z,164nm,1.1s
EGAK epP pP 23 00 17.8 -2.6
ORIF Oris-en-Rattie 93.05 45↓iP P 22 59 54.7 +0.7
comp=Z,481nm,1.4s
ORIF eR
comp=Z,3µm,23.0s
ORIF Oris-en-Rattie 93.05 45 eP P 22 59 54.7 +0.7
ORIF Oris-en-Rattie 93.05 45 eP P 22 59 54.7 +0.7
GRN Grenoble 93.05 44↓eP P 22 59 54.7 +0.7
KEST Kesra 93.11 54 P P 22 59 53.9 -0.5
comp=Z,19nm,1.0s,baz=216,slow=3.5,SNR=25
KEST PKKPbc PKKPbc 23 17 03.8 -0.3
comp=Z,1.1nm,0.8s,baz=262,slow=4.0,SNR=3.6
KEST LR LR 23 40 10.1
comp=Z,379nm,20.8s,baz=203,slow=34
KEST Kesra 93.11 54 eP P 22 59 54.7 +0.3
KEST eSS SS 23 17 05.5 -4.9
EYAK Cordova Ski Ar 93.17 332 eP P 22 59 53.9 -0.1
comp=Z,135nm,1.4s
FRF La Foret Royal 93.19 46↓iP P 22 59 54.8 +0.2
comp=Z,631nm,1.6s
FRF La Foret Royal 93.19 46 eP P 22 59 54.8 +0.2
FRF La Foret Royal 93.19 46 eP P 22 59 54.8 +0.2
GDM Grand'Maison 93.29 44↓eP P 22 59 55.6 +0.4
DIV Divide 93.41 333 eP P 22 59 55.0 -0.3
CALN Calern 93.41 46↓eP P 22 59 56.3 +0.5
SFTF Sexfontaines 93.44 41↓iP P 22 59 55.4 -0.2
comp=Z,846nm,1.4s
SFTF epP pP 23 00 24.0 +1.4
SFTF Sexfontaines 93.44 41 eP P 22 59 55.4 -0.2
SFTF epP pP 23 00 24.0 +1.4
BAIF Baives 93.47 39↓iP P 22 59 55.6 -0.1
comp=Z,376nm,1.6s
BAIF Baives 93.47 39 eP P 22 59 55.6 -0.1
BAIF Baives 93.47 39 eP P 22 59 55.6 -0.1
BFSD Buffelsfontein 93.48 119 eP P 22 59 57.2 +0.7
BFSD AMB AMB 22 59 57.9
comp=Z,258nm,1.8s
BFSD Buffelsfontein 93.48 119 eP P 22 59 57.2 +0.7
MEZF Maizieres J'vi 93.54 41↓iP P 22 59 56.0 0.0
comp=Z,570nm,1.5s
MEZF epP pP 23 00 24.7 +1.7
MEZF Maizieres J'vi 93.54 41 eP P 22 59 56.0 0.0

MEZF epP pP 23 00 24.7 +1.7
SURF Saint Ours 93.56 45↓eP P 22 59 57.1 +0.6
MBDF Montbardon 93.60 45↓iP P 22 59 57.1 +0.5
comp=Z,260nm,1.5s
MBDF Montbardon 93.60 45 eP P 22 59 57.1 +0.5
MBDF Montbardon 93.60 45 eP P 22 59 57.1 +0.5
BNI Bardonecchia 93.63 45 eP P 22 59 57.5 +0.8
BNI pmax pmax
comp=Z,189nm,1.8s
BNI Bardonecchia 93.63 45 eP P 22 59 57.5 +0.8
comp=Z,189nm,1.8s
MVIF Mont Vial 93.64 46↓eP P 22 59 57.1 +0.3
SNF Seneffe 93.65 39 P P 22 59 56.6 +0.2
SNF E 23 00 21.7
CABF La Chapelle 93.67 43↓iP P 22 59 56.8 0.0
comp=Z,320nm,1.5s
CABF epP pP 23 00 25.5 +1.7
CABF La Chapelle 93.67 43 eP P 22 59 56.8 0.0
CABF La Chapelle 93.67 43 eP P 22 59 56.8 0.0
CABF epP pP 23 00 25.5 +1.7
DOT Dot Lake 93.69 335 eP P 22 59 56.2 -0.2
comp=Z,238nm,1.6s
DOU Dourbes 93.72 39 P P 22 59 57.0 +0.1
comp=Z,123nm,1.8s
DOU E 23 00 25.1
TOUF Mont Tournerai 93.73 46↓eP P 22 59 57.6 +0.3
REVF Revere 93.74 46↓eP P 22 59 57.4 +0.2
SEK Senekal 93.74 120↓iP P 22 59 58.5 +0.7
SEK AMB AMB 22 59 59.2
comp=Z,244nm,1.6s
SEK Senekal 93.74 120 eP P 22 59 58.5 +0.7
UCC Uccle 93.79 39 P P 22 59 57.4 +0.3
UCC Uccle 93.79 39 eP P 22 59 57.6 +0.5
UCC pmax pmax
comp=Z,241nm,1.5s
UCC Uccle 93.79 39 eP P 22 59 57.6 +0.5
comp=Z,241nm,1.5s
UCC epP pP 23 00 27.9 +3.8
LPL La Plagne 93.79 44↓iP P 22 59 58.3 +0.7
comp=Z,393nm,1.4s
LPL La Plagne 93.79 44 eP P 22 59 58.3 +0.7
LPL La Plagne 93.79 44 eP P 22 59 58.3 +0.7
LPG La Plagne 93.80 44↓iP P 22 59 58.5 +0.8
comp=Z,433nm,1.4s
LPG epP pP 23 00 27.2 +2.5
LPG La Plagne 93.80 44 eP P 22 59 58.5 +0.8
LPG La Plagne 93.80 44 eP P 22 59 58.5 +0.8
LPG epP pP 23 00 27.2 +2.5
SBF Sospel 93.82 46↓iP P 22 59 57.6 0.0
comp=Z,652nm,1.7s
SBF Sospel 93.82 46 eP P 22 59 57.6 0.0
SBF Sospel 93.82 46 eP P 22 59 57.6 0.0
AUTN L'Aution 93.85 46↓eP P 22 59 58.4 +0.5
GIVF Givet 93.86 39↓iP P 22 59 57.6 +0.1
comp=Z,1µm,1.5s
GIVF Givet 93.86 39 eP P 22 59 57.6 +0.1
GIVF Givet 93.86 39 eP P 22 59 57.6 +0.1
LRW Lerwick 93.91 29 AMS AMS 23 34 42.0
comp=Z,2µm,25.8s
SAOF Saorge 93.94 46↓eP P 22 59 58.1 +0.1
PRYS Parys 93.95 119↓iP P 22 59 58.6 -0.2
PRYS AMB AMB 22 59 59.7
comp=Z,90nm,1.7s
PRYS Parys 93.95 119 eP P 22 59 58.6 -0.2
PAGF Fort de Pagny 93.98 41↓iP P 22 59 58.3 +0.2
comp=Z,275nm,1.7s
PAGF Fort de Pagny 93.98 41 eP P 22 59 58.3 +0.2
PAX Paxson 94.00 334 eP P 22 59 57.5 -0.5
PAX e*PP pP 23 00 23.3 -1.7
PAX pmax pmax
comp=Z,393nm,1.7s
PAX Paxson 94.00 334 eP P 22 59 57.5 -0.5
comp=Z,393nm,1.7s
PAX epP pP 23 00 23.3 -1.7
PAX eP'P'df P'P'df 23 25 11.2 +0.4
THEF They Montfort 94.06 41↓eP P 22 59 58.5 +0.1
VSL Villasalto 94.09 50 eP P 22 59 59.1 +0.3
comp=Z,655nm,2.5s
WDLM Western Deep L 94.15 118 eP P 23 00 00.5 +0.8
WDLM AMB AMB 23 00 01.1
comp=Z,103nm,1.7s
HAU Haudompre 94.23 42↓iP P 22 59 59.0 -0.3
comp=Z,572nm,1.7s
HAU eR
comp=Z,823nm,22.5s
HAU Haudompre 94.23 42 eP P 22 59 59.0 -0.3
HAU Haudompre 94.23 42 eP P 22 59 59.0 -0.3
BCLA Clavier 94.25 39 P P 22 59 59.3 +0.1
comp=Z,94nm,2.0s
BCLA E 23 00 22.4
KLOF Kloof 94.33 118 eP P 23 00 01.2 +0.7
KLOF AMB AMB 23 00 01.8
comp=Z,129nm,1.4s
KLOF Kloof 94.33 118 eP P 23 00 01.2 +0.7
LOMF Lomont 94.36 42↓eP P 23 00 00.1 +0.2
SCM Sheep Creek Mo 94.37 333 eP P 22 59 59.5 -0.1
SCM e*PP pP 23 00 24.5 -2.2
SCM pmax pmax
comp=Z,199nm,1.3s
SCM Sheep Creek Mo 94.37 333 eP P 22 59 59.5 -0.1
comp=Z,199nm,1.3s
SCM epP pP 23 00 24.5 -2.2
SENIN Lac Senin/Sane 94.40 43 eP P 23 00 00.7 +0.4
DDM Donnelly Dome 94.48 335 eP P 22 59 59.7 -0.4
comp=Z,232nm,1.7s
HINF Hinteralfeld 94.50 42↓iP P 23 00 00.2 -0.3
comp=Z,613nm,1.7s
HINF epP pP 23 00 28.8 +1.2
HINF Hinteralfeld 94.50 42 eP P 23 00 00.2 -0.3
HINF Hinteralfeld 94.50 42 eP P 23 00 00.2 -0.3
HINF epP pP 23 00 28.8 +1.2
WLF Walferdange 94.56 40 P P 23 00 01.2 +0.5
comp=Z,222nm,1.7s
WLF E 23 00 28.3
WLF Walferdange 94.56 40 ePdiff P 23 00 01.3 +0.5
WLF esP sP 23 00 31.5 -7.1
WLF eSP SP 23 12 23.4 +2.6
WLF e 23 18 13.3
WLF Walferdange 94.56 40 eP P 23 00 01.2 +0.5
WLF pmax pmax
comp=Z,360nm,1.3s
WLF Walferdange 94.56 40 eP P 23 00 01.2 +0.5
comp=Z,360nm,1.3s
PGF Pioggiola 94.58 47↓iP P 23 00 01.2 +0.1
comp=Z,399nm,1.7s
PGF epP pP 23 00 30.0 +1.9
PGF Pioggiola 94.58 47 eP P 23 00 01.2 +0.1
PGF Pioggiola 94.58 47 eP P 23 00 01.2 +0.1
PGF epP pP 23 00 30.0 +1.9
BEBN Eben Emael 94.59 39 P P 23 00 01.0 +0.2
comp=Z,52nm,1.8s
BEBN E 23 00 29.3
MOF Molkenrain 94.69 42↓eP P 23 00 01.3 -0.2
HGN Heimansgroeve 94.73 39 i P P 23 00 01.6 +0.2
comp=Z,290nm,1.5s
HGN epP pP 23 00 29.3 +0.8
HGN ePP PP 23 03 50.1 -1.2
HGN eSKS SKSac 23 10 38.3 +11
HGN eS ScS 23 11 22.9 +16
HGN eSKSP 23 12 30.0
MEM Membach 94.73 39 P P 23 00 01.6 +0.1
comp=Z,76nm,2.0s
MEM Membach 94.73 39 eP P 23 00 01.8 +0.3
MEM Membach 94.73 39 eP P 23 00 01.8 +0.3
ECH Echery 94.81 42↓eP P 23 00 01.8 -0.1
ERPM east rand prop 94.88 119 eP P 23 00 03.6 +0.6
ERPM AMB AMB 23 00 04.4
comp=Z,108nm,1.9s
ERPM east rand prop 94.88 119 eP P 23 00 03.6 +0.6
CDF Champ du Feu 94.93 41↓iP P 23 00 02.4 -0.2
comp=Z,488nm,1.4s
CDF Champ du Feu 94.93 41 eP P 23 00 02.4 -0.2
CDF Champ du Feu 94.93 41 eP P 23 00 02.4 -0.2
PMR Palmer 95.08 332 eP P 23 00 01.7 -1.1
PMR pmax pmax
comp=Z,77nm,1.3s
PMR Palmer 95.08 332 eP P 23 00 01.7 -1.1
comp=Z,77nm,1.3s
SLR Silverton 95.10 118↓iP P 23 00 04.3 +0.3
SLR AMB AMB 23 00 05.3
comp=Z,139nm,1.4s
SLR Silverton 95.10 118 eP P 23 00 04.3 +0.3
SLR Silverton 95.10 118 eP P 23 00 04.3 +0.3
HDA Harding Lake 95.16 335 eP'P'df P'P'df 23 25 11.5 +3.1

RC01	**Rabbit Creek A**	**95.19**	**332**	*e*P	**P**	**23 00 03.1**	**-0.2**
	comp=Z,146nm,1.2s						
IL1	**Eielson Array**	**95.27**	**336**	*e*P	**P**	**23 00 01.2**	**-2.4**
ILAR	**Eielson Array**	**95.27**	**336**	P	**P**	**23 00 02.9**	**-0.7**
	comp=Z,17nm,0.9s,baz=151,slow=3.5,SNR=142						
ILAR				pP	**pP**	**23 00 30.6**	**-0.1**
	comp=Z,6.8nm,0.8s,baz=146,slow=3.4,SNR=3.8						
ILAR				PP	**PP**	**23 03 51.8**	**-3.3**
	comp=Z,8.5nm,0.8s,baz=104,slow=6.2,SNR=9.7						
ILAR				LR	LR	23 49 20.2	
	comp=Z,1µm,18.3s,baz=110,slow=39						
ILAR	**Eielson Array**	**95.27**	**336**	P	**P**	**23 00 02.9**	**-0.7**
ILAR						23 03 51.8	
ILAR				pmax	pmax		
	comp=Z,17nm,0.9s						
ILAR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ILAR				MLR	MLR		
	comp=Z,1µm,18.3s						
ILB	**Eielson Array**	**95.27**	**336**	*e*P	**P**	**23 00 02.9**	**-0.7**
ILB				*ep*P	**pP**	**23 00 30.6**	**-0.1**
ILB				*e*PP	**PP**	**23 03 51.8**	**-3.3**
FYU	**Fort Yukon**	**95.32**	**338**	*e*P	**P**	**23 00 04.7**	**+1.0**
	comp=Z,360nm,1.4s						
LANF	**Langenberg**	**95.42**	**41**⇓	*e*P	**P**	**23 00 05.1**	**+0.4**
BKZ	**Black Stump Fm**	**95.47**	**228**	*e*P	**P**	**23 00 08.2**	**+2.9**
	comp=Z,542nm,1.7s						
KDAK	**Kodiak Island**	**95.52**	**328**	*e*P	**P**	**23 00 04.5**	**-0.3**
KDAK				pmax	pmax		
	comp=Z,69nm,1.2s						
KDAK	**Kodiak Island**	**95.52**	**328**	*e*P	**P**	**23 00 04.5**	**-0.3**
	comp=Z,69nm,1.2s						
KDAK				*e*PKKPdf	**PKKPbc**	**23 16 58.1**	**-0.4**
WTSB	**Winterswijk**	**95.58**	**38**	*e*P	**P**	**23 00 05.3**	**+0.1**
	comp=Z,397nm,1.5s						
WTSB				*ep*P	**pP**	**23 00 33.0**	**+0.6**
JMIC	**Jan Mayen**	**95.59**	**17**	*e*P	**P**	**23 00 06.9**	**+2.0**
RND	**Reindeer**	**95.59**	**334**	*e*P	**P**	**23 00 05.2**	**0.0**
RND				*e**PP	**pP**	**23 00 28.1**	**-4.1**
RND				pmax	pmax		
	comp=Z,286nm,1.3s						
RND	**Reindeer**	**95.59**	**334**	*e*P	**P**	**23 00 05.2**	**0.0**
	comp=Z,286nm,1.3s						
RND				*ep*P	**pP**	**23 00 28.1**	**-4.1**
CCB	**Clear Creek Bu**	**95.59**	**336**	*e*P	**P**	**23 00 04.1**	**-0.9**
	comp=Z,85nm,1.1s						
BFO	**Black Forest**	**95.59**	**42**	*e*Pdiff	**P**	**23 00 05.5**	**0.0**
BFO				*es*P	sP	23 00 35.5	-7.9
BFO				*es*SP	**SP**	**23 12 34.5**	**+2.3**
BFO	**Black Forest**	**95.59**	**42**	*e*P	**P**	**23 00 05.1**	**-0.4**
BFO				pmax	pmax		
	comp=Z,87nm,1.4s						
BFO	**Black Forest**	**95.59**	**42**	*e*P	**P**	**23 00 05.1**	**-0.4**
	comp=Z,87nm,1.4s						
WRH	**Wood River Hil**	**95.64**	**335**	*e*P	**P**	**23 00 04.6**	**-0.7**
	comp=Z,85nm,1.1s						
DRV	**Dumont d'Urvil**	**95.65**	**193**	PP	PP	23 04 00.0	+2.8
DRV				S	SKSac	23 10 20.0	-12
DRV				SS	SS	23 17 29.0	-14
DRV				L	L	23 24 00.0	
DRV				R		23 31 00.0	
COLA	**College**	**95.69**	**336**	*d i*P	**P**	**23 00 04.8**	**-0.7**
COLA	**College**	**95.69**	**336**	*e*P	**P**	**23 00 05.4**	**-0.1**
	comp=Z,166nm,0.9s						
BUG	**Bochum--Univer**	**95.73**	**38**	*e*Pdiff	**P**	**23 00 06.4**	**+0.5**
BUG				*es*P	sP	23 00 36.1	-7.8
BUG				*e*	*e*	23 18 07.9	
MCK	**McKinley**	**95.73**	**334**	*e*P	**P**	**23 00 05.4**	**-0.4**
MCK				pmax	pmax		
	comp=Z,343nm,2.0s						
MCK	**McKinley**	**95.73**	**334**	*e*P	**P**	**23 00 05.4**	**-0.4**
	comp=Z,343nm,2.0s						
VLC	**Villacollemand**	**95.96**	**46**	*e*P	**P**	**23 00 06.5**	**-0.8**
	comp=Z,143nm,1.2s						
BWN	**Browne**	**96.10**	**335**	*e*P	**P**	**23 00 07.1**	**-0.3**
	comp=Z,186nm,1.0s						
TNS	**Taunus Mts**	**96.14**	**40**	*e*Pdiff	**P**	**23 00 08.4**	**+0.4**
TNS				*es*P	sP	23 00 38.5	-7.4
TNS				*es*P	**SP**	**23 12 40.4**	**+2.3**
TNS				*e*		23 18 06.3	
TRF	**Thorofare Moun**	**96.21**	**334**	*e*P	**P**	**23 00 07.5**	**-0.7**
DAVOX	**Davos/Dischmat**	**96.23**	**43**	P	**P**	**23 00 09.1**	**+0.5**
	comp=Z,55nm,1.0s,baz=248,slow=4.0,SNR=109						
DAVOX	**Davos/Dischmat**	**96.23**	**43**	P	**P**	**23 00 09.1**	**+0.5**
DAVOX				pmax	pmax		
	comp=Z,55nm,1.0s						
IBBN	**Ibbenburen**	**96.24**	**38**	*e*Pdiff	**P**	**23 00 08.8**	**+0.5**
IBBN				*es*P	sP	23 00 38.8	-7.4
IBBN				*e*		23 18 05.9	
STU	**Stuttgart**	**96.26**	**41**	*e*Pdiff	**P**	**23 00 08.7**	**+0.2**
STU				*es*P	sP	23 00 38.8	-7.6
STU				*es*P	**SP**	**23 12 42.1**	**+2.7**
STU				*e*		23 18 05.1	
STU	**Stuttgart**	**96.26**	**41**	*e*P	**P**	**23 00 08.4**	**-0.1**
STU				pmax	pmax		
	comp=Z,224nm,1.2s						
STU	**Stuttgart**	**96.26**	**41**	*e*P	**P**	**23 00 08.4**	**-0.1**
	comp=Z,224nm,1.2s						
DAVA	**Damuels**	**96.35**	**43**	*i* PcP	**P**	**23 00 09.6**	**+0.5**
	comp=Z,463nm,1.8s,SNR=99						
RSO	**Redoubt South**	**96.40**	**331**	*e*P	**P**	**23 00 08.5**	**-0.6**
FUORN	**Ofenpass-Fuorn**	**96.45**	**44**	*e*P	**P**	**23 00 10.0**	**+0.3**
	comp=Z,244nm,1.8s						
KTH	**Kantishna Hill**	**96.51**	**334**	*e*P	**P**	**23 00 08.8**	**-0.6**
	comp=Z,65nm,1.0s						
ALE	**Alert**	**96.53**	**2**	P	**P**	**23 00 08.9**	**-0.1**
	comp=Z,197nm,1.2s,SNR=6.6						
KMY	**Karmoy**	**96.70**	**31**⇓	*i*P	**P**	**23 00 10.4**	**+0.3**
KMY				IAmb	IAmb	23 00 12.2	
	comp=Z,111nm,1.2s						
KMY				*ep*P	**pP**	**23 00 38.3**	**+1.0**
BPAW	**Bear Paw Mtn.**	**96.71**	**335**	*e*P	**P**	**23 00 09.6**	**-0.6**
HLG	**Helgoland**	**96.79**	**36**	*e*Pdiff	**P**	**23 00 11.1**	**+0.4**
HLG				*e*		23 18 01.8	
FETA	**Feichten**	**96.85**	**43**	*i* PcP	**P**	**23 00 11.8**	**+0.4**
	comp=Z,544nm,2.0s,SNR=119						
PPLA	**Purkeypile**	**96.86**	**333**	*e*P	**P**	**23 00 10.5**	**-0.5**
	comp=Z,305nm,1.4s						
RETA	**Reutte**	**96.98**	**43**	*i* PcP	**P**	**23 00 12.3**	**+0.4**
	comp=Z,399nm,1.7s,SNR=122						
SUE	**Sulen**	**96.98**	**29**⇓	*i*P	**P**	**23 00 11.5**	**+0.2**
SUE				IAmb	IAmb	23 00 12.4	
	comp=Z,109nm,1.4s						
SUE				*ep*P	**pP**	**23 00 40.0**	**+1.5**
SUE				*e*SKSac	**SKSac**	**23 10 32.5**	**-6.2**
ASK	**Askoy**	**97.03**	**29**⇓	*i*P	Pdif	23 00 12.3	+0.6
ASK				IAmb	IAmb	23 00 12.9	
	comp=Z,84nm,1.2s						
ASK				*ep*P	pP	23 00 40.4	+1.7
BER	**Bergen**	**97.06**	**30**⇓	*i*P	Pdif	23 00 12.3	+0.4
BER				IAmb	IAmb	23 00 13.0	
	comp=Z,102nm,1.2s						
BER				*ep*P	pP	23 00 40.5	+1.7
MOTA	**Moosalm**	**97.17**	**43**	*i* PcP	**P**	**23 00 13.2**	**+0.3**
	comp=Z,256nm,1.4s,SNR=104						
UBBA	**Unterbreizbach**	**97.25**	**40**	*e*Pdiff	Pdif	23 00 13.6	+0.8
UBBA				*es*P	sP	23 00 43.3	-7.4
UBBA				*e*PP	**PP**	**23 04 09.1**	**-1.5**
UBBA				*e*		23 18 00.5	
FOO	**Floro**	**97.26**	**28**⇓	*i*P	Pdif	23 00 12.9	+0.2
FOO				IAmb	IAmb	23 00 15.2	
	comp=Z,21nm,1.2s						
FOO				*ep*P	pP	23 00 41.1	+1.4
BLS5	**Blasjo**	**97.36**	**31**⇓	*i*P	Pdif	23 00 13.9	+0.7
BLS5				IAmb	IAmb	23 00 16.3	
	comp=Z,219nm,1.8s						
BLS5				*ep*P	pP	23 00 40.1	-0.1
BLS5				*es*P	sP	23 00 52.8	+1.7
COLD	**Coldfoot**	**97.39**	**338**	*e*P	Pdif	23 00 13.6	+0.4
	comp=Z,42nm,1.1s						
FUR	**Furstenfeldbru**	**97.47**	**42**	*e*Pdiff	Pdif	23 00 14.5	+0.5
FUR				*es*P	sP	23 00 44.7	-7.2
FUR				*e*PP	**PP**	**23 04 11.1**	**-1.5**
FUR				*e*SP	**SP**	**23 12 55.2**	**+2.6**
FUR				*e*		23 18 00.1	
WATA	**Walderalm**	**97.48**	**43**⇓	*i*PcP	Pdif	23 00 14.5	+0.2
	comp=Z,427nm,1.5s,SNR=35						
WTTA	**Wattenberg**	**97.51**	**43**	*i* PcP	Pdif	23 00 15.0	+0.6
	comp=Z,884nm,1.7s,SNR=163						
ODD1	**Odda**	**97.56**	**30**	*e*P	Pdif	23 00 15.4	+1.1
ODD1				IAmb	IAmb	23 00 15.8	
	comp=Z,37nm,0.8s						
ODD1				*e*PP	**PP**	**23 04 11.4**	**-1.6**
MSNA	**Messina**	**97.67**	**115**⇓	*i*P	Pdif	23 00 16.4	+0.8
MSNA				AMB	AMB	23 00 17.8	
	comp=Z,124nm,1.6s						
MSNA	**Messina**	**97.67**	**115**	*e*P	Pdif	23 00 16.4	+0.8
HYA	**Hoyanger**	**97.67**	**29**	*e*P	Pdif	23 00 15.3	+0.8
HYA				IAmb	IAmb	23 00 17.2	
	comp=Z,116nm,1.4s						
HYA				*ep*P	pP	23 00 44.2	+2.6
NRDL	**Niedersach Rie**	**97.69**	**38**	*e*Pdiff	Pdif	23 00 15.9	+1.1
NRDL				*es*P	sP	23 00 45.6	-7.0
NRDL				*e*PP	**PP**	**23 04 12.4**	**-1.6**
NRDL				*e*SP	**SP**	**23 12 55.8**	**+1.1**
NRDL				*e*		23 17 59.5	
CLZ	**Clausthal**	**97.70**	**39**	*e*Pdiff	Pdif	23 00 15.8	+0.8
CLZ				*es*P	sP	23 00 45.7	-7.2
CLZ				*e*PP	**PP**	**23 04 12.8**	**-1.5**
CLZ				*e*SP	**SP**	**23 12 56.1**	**+1.1**
CLZ				*e*		23 17 59.3	
AQU	**L'Aquila**	**97.71**	**48**	*e*P	**P**	**23 00 14.2**	**-1.1**
AQU				pmax	pmax		
	comp=Z,129nm,1.3s						
AQU	**L'Aquila**	**97.71**	**48**	*e*P	**P**	**23 00 14.2**	**-1.1**
	comp=Z,130nm,1.3s						
GRFO	**Grafenberg**	**97.76**	**41**	*e*P	Pdif	23 00 15.6	+0.3
GRFO	**Grafenberg**	**97.76**	**41**	*e*P	Pdif	23 00 15.0	+0.3
GRF	**Grafenberg Arr**	**97.76**	**41**	*e*Pdiff	Pdif	23 00 16.0	+0.7
GRF				*e*PP	**PP**	**23 04 13.0**	**-1.8**
GRF				*e*SP	SP	23 12 57.8	+2.0
GRF				*e*		23 17 59.3	
SVW2	**Sparrevohn**	**97.91**	**331**	*e*P	Pdif	23 00 15.8	+0.1
SVW2				*e*PP	**PP**	**23 04 14.4**	**-1.1**
ABTA	**Abfaltersbach**	**97.99**	**44**	*i* PcP	Pdif	23 00 16.9	+0.4
	comp=Z,387nm,1.6s,SNR=115						
MUD	**Monsted U'grnd**	**98.04**	**34**⇓	*i*P	Pdif	23 00 17.3	+1.0
	comp=Z,195nm,1.4s						
MUD				*i*		23 00 44.5	
MUD	**Monsted U'grnd**	**98.04**	**34**⇓	*i*P	Pdif	23 00 17.3	+1.0
MUD				pmax	pmax		
	comp=Z,200nm,1.4s						
HOMB	**Homborsund**	**98.11**	**32**	*e*P	**P**	**23 00 14.1**	**-2.5**
HOMB				*e*PP	**PP**	**23 04 14.0**	**-3.1**
BSEG	**Bad Segeberg**	**98.13**	**36**	*e*Pdiff	Pdif	23 00 17.2	+0.5
BSEG				*es*P	sP	23 00 47.2	-7.5
BSEG				*e*PP	**PP**	**23 04 16.3**	**-1.1**
BSEG				*e*SP	**SP**	**23 13 01.4**	**+2.0**
BSEG				*e*		23 17 57.6	
LSZ	**Lusaka**	**98.15**	**108**	*e*P	Pdif	23 00 18.5	+0.5
LSZ	**Lusaka**	**98.15**	**108**	*e*P	Pdif	23 00 19.7	+1.7
LSZ				*e*		23 04 16.5	
LSZ				pmax	pmax		
	comp=Z,67nm,2.1s						
LSZ	**Lusaka**	**98.15**	**108**	P	Pdif	23 00 19.4	+1.4
	SNR=8.2						
LSZ				mb		23 00 22.0	
	SNR=9.8						
LSZ	**Lusaka**	**98.15**	**108**	*e*P	Pdif	23 00 19.7	+1.7
	comp=Z,67nm,2.1s						
LSZ				*e*PP	**PP**	**23 04 16.5**	**-2.0**
MOX	**Moxa**	**98.21**	**40**	*e*Pdiff	Pdif	23 00 18.6	+1.3
MOX				*es*P	sP	23 00 48.2	-7.0
MOX				*e*SP	**SP**	**23 13 03.1**	**+2.6**
MOX				*e*		23 17 57.1	
AKN	**Aaknes**	**98.30**	**28**⇓	*i*P	Pdif	23 00 18.3	+0.9
AKN				*ep*P	pP	23 00 45.7	+1.2
AKN				*e*PP	**PP**	**23 04 16.7**	**-1.9**
RJOB	**Jochberg**	**98.38**	**43**	*e*Pdiff	Pdif	23 00 18.6	+0.4
RJOB				*es*P	sP	23 00 48.8	-7.3
RJOB				*e*SP	**SP**	**23 13 04.2**	**+1.6**
RJOB				*e*		23 17 55.7	
MANZ	**Manzenberg**	**98.38**	**41**	*e*Pdiff	Pdif	23 00 19.1	+1.0
MANZ				*es*P	sP	23 00 49.2	-6.8
MANZ				*e*PP	**PP**	**23 04 17.6**	**-1.9**
MANZ				*e*SP	**SP**	**23 13 03.9**	**+1.4**
MANZ				*e*		23 17 56.3	
IM04	**Indian Mountai**	**98.39**	**336**	*e*P	**P**	**23 00 15.5**	**-2.2**
IM04				*e*PKKPbc	**PKKPbc**	**23 16 48.5**	**-2.5**
ROTZ	**Rotzenmuhle**	**98.40**	**41**	*e*Pdiff	Pdif	23 00 19.2	+1.1
ROTZ				*es*P	sP	23 00 49.4	-6.7
ROTZ				*e*PP	**PP**	**23 04 18.1**	**-1.6**
ROTZ				*e*SP	**SP**	**23 13 04.8**	**+2.1**
ROTZ				*e*		23 17 56.2	
NEUB	**Neuenburg**	**98.42**	**39**	*e*Pdiff	Pdif	23 00 19.1	+0.9
NEUB				*es*P	sP	23 00 49.0	-7.1
NEUB				*e*SP	**SP**	**23 13 03.4**	**+0.6**
NEUB				*e*		23 17 56.0	
PLN	**Plauen**	**98.51**	**40**	*e*Pdiff	Pdif	23 00 19.7	+1.1
PLN				*es*P	sP	23 00 49.6	-7.0
PLN				*e*SP	**SP**	**23 13 04.5**	**+0.7**
PLN				*e*		23 17 55.3	
GUNZ	**Gunzen**	**98.60**	**40**	*e*Pdiff	Pdif	23 00 20.1	+1.1
GUNZ				*es*P	sP	23 00 50.3	-6.7
GUNZ				*e*PP	**PP**	**23 04 19.5**	**-1.7**
GUNZ				*e*		23 17 55.0	
WERD	**Werda**	**98.60**	**40**	*e*Pdiff	Pdif	23 00 20.0	+1.0
WERD				*es*P	sP	23 00 49.7	-7.3
WERD				*e*PP	**PP**	**23 04 19.6**	**-1.6**
WERD				*e*		23 17 54.7	
WERN	**Wernitzgruen**	**98.61**	**40**	*e*Pdiff	Pdif	23 00 20.3	+1.2
WERN				*es*P	sP	23 00 50.3	-6.7
WERN				*e*PP	**PP**	**23 04 19.7**	**-1.6**
WERN				*e*		23 17 55.0	
KBA	**Koelnbreinsper**	**98.61**	**44**	*i* Pdiff	Pdif	23 00 19.5	+0.1
	comp=Z,346nm,2.3s,SNR=42						
TRI	**Trieste**	**98.63**	**45**	*e*P	Pdif	23 00 19.4	+0.2
TRI	**Trieste**	**98.63**	**45**	*e*P	Pdif	23 00 19.4	+0.1
MOL	**Molde**	**98.65**	**28**⇓	*i*P	Pdif	23 00 19.3	+0.5
MOL				IAmb	IAmb	23 00 21.5	
	comp=Z,41nm,1.0s						
NKC	**Novy Kostel**	**98.65**	**40**⇓	*e*PDIFF	Pdif	23 00 20.4	+1.2
NKC				*e*PP	PP	23 04 14.6	-6.9
NKC				*ex*	x	23 04 44.5	
NKC				*e*SKS	**SKSac**	**23 10 52.0**	**+4.2**
NKC				*e*S	**S**	**23 11 38.2**	**-1.6**
NKC				*e*SP	**SP**	**23 13 04.3**	**-1.0**
NKC	**Novy Kostel**	**98.65**	**40**	*i* P	Pdif	23 00 20.0	+1.2
NKC				*e*		23 10 52.0	
NKC				*e*S	**S**	**23 11 38.2**	**-1.6**
NKC				*e*SP	**SP**	**23 13 04.3**	**-1.0**
TANN	**Tannenbergstha**	**98.69**	**40**	*e*Pdiff	Pdif	23 00 20.6	+1.1
TANN				*es*P	sP	23 00 50.4	-7.0
TANN				*e*PP	**PP**	**23 04 20.3**	**-1.6**
TANN				*e*SP	**SP**	**23 13 06.4**	**+0.6**
TANN				*e*		23 17 54.4	
WET	**Wettzell**	**98.71**	**42**	*e*Pdiff	Pdif	23 00 20.3	+0.8
WET				*es*P	sP	23 00 50.4	-7.1
WET				*e*SP	**SP**	**23 13 07.0**	**+1.0**
WET				*e*		23 17 54.3	
CADS	**Cadrg**	**98.71**	**45**	*i* Pdiff	Pdif	23 00 20.0	+0.4
CADS				*e*PKiKP	**PKiKP**	**23 04 47.4**	**-3.2**
MYKA	**Terra Mystica**	**98.73**	**44**	*i* Pdiff	Pdif	23 00 20.1	+0.4
	comp=Z,357nm,2.2s,SNR=65						
CEL	**Celeste**	**98.78**	**53**	*e*P	**P**	**23 00 19.1**	**-1.0**
JAVS	**Javornik**	**98.87**	**45**	*i* Pdiff	Pdif	23 00 20.9	+0.4
KONO	**Kongsberg**	**98.97**	**31**	*e*P	**P**	**23 00 19.6**	**-0.7**
KONO				*e*PP	**PP**	**23 04 21.1**	**-2.5**
KONO				*e*SKSac	**SKSac**	**23 10 45.9**	**-3.0**
KONO	**Kongsberg**	**98.97**	**31**	*e*P	Pdif	23 00 21.7	+1.3
KONO				pmax	pmax		
	comp=Z,62nm,1.4s						
KONO	**Kongsberg**	**98.97**	**31**	*e*P	Pdif	23 00 21.7	+1.3
	comp=Z,62nm,1.4s						
CUC	**Castrocucco**	**99.04**	**51**	*e*PKiKP	**PKiKP**	**23 04 49.6**	**-1.8**
CRNS	**Crni Vrh**	**99.04**	**45**	*e*Pdiff	**Pdif**	**23 00 21.5**	**+0.4**
KHC	**Kasperske Hory**	**99.16**	**42**⇓	*i*PDIFF	**Pdif**	**23 00 22.0**	**+0.4**
KHC				*ep*P	**pP**	**23 00 50.7**	**+2.0**
KHC				*ex*	x	23 01 06.3	
KHC				*e*PP	**PP**	**23 04 20.4**	**-5.1**
KHC				*e*PKP	**PKiKP**	**23 04 52.3**	**+1.0**
KHC				*e*SKS	**SKSac**	**23 10 54.4**	**+4.0**
KHC				*e*SKKS	**SKKSac**	**23 11 25.3**	**+3.1**
KHC				*e*SDIF	**ScS**	**23 11 43.7**	**-0.5**
KHC				*e*SP	**SP**	**23 13 09.1**	**-1.8**
KHC				*e*SS	SS	23 18 42.4	+7.3
KHC				*e*PKPPKP	**P'P'df**	**23 24 58.1**	**-3.9**
KHC				AMS	AMS	23 42 20.0	
	comp=Z,1µm,20.8s						
KHC	**Kasperske Hory**	**99.16**	**42**⇓	*i*P	**Pdif**	**23 00 22.0**	**+0.4**
KHC				*e*		23 04 20.4	
KHC				*e*		23 10 54.4	
KHC				*e*S	**ScS**	**23 11 43.7**	**-0.5**
KHC				*e*SP	**SP**	**23 13 09.1**	**-1.8**
KHC				*e*SS	SS	23 18 42.4	+7.3
KHC				MLR	MLR		
	comp=Z,1µm,20.8s						
GEC2	**GERESS Array S**	**99.18**	**42**	*e*Pdiff	**Pdif**	**23 00 22.1**	**+0.3**
GEC2				*es*P	sP	23 00 52.5	-7.2
GEC2				*e*SP	**SP**	**23 13 12.3**	**+1.1**
GEC2				*e*		23 17 52.5	
GEC2	**GERESS Array S**	**99.18**	**42**	*e*P	**Pdif**	**23 00 22.1**	**+0.3**
GEC2	**GERESS Array S**	**99.18**	**42**	*e*P	**Pdif**	**23 00 22.1**	**+0.3**
GEC2				*e*PKKPbc	**PKKPdf**	**23 16 52.5**	**+0.5**
GEC2				*e*P'P'df	**P'P'df**	**23 25 02.3**	**+0.2**
GERES	**GERESS Array B**	**99.18**	**42**	P	**Pdif**	**23 00 22.1**	**+0.3**
	comp=Z,30nm,0.9s,baz=251,slow=3.7,SNR=210						
GERES				PKKPbc	**PKKPdf**	**23 16 52.5**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=46,slow=3.9,SNR=4.1						
GERES				LR	LR	23 43 27.7	
	comp=Z,776nm,20.2s,baz=250,slow=34						
CLL	**Collm**	**99.20**	**39**	*e*Pdiff	**Pdif**	**23 00 22.5**	**+0.9**
CLL				*es*P	sP	23 00 52.2	-7.4
CLL				*e*PP	**PP**	**23 04 23.8**	**-1.9**
CLL				*e*SP	**SP**	**23 13 12.6**	**+1.5**
CLL				*e*		23 17 52.2	
CLL	**Collm**	**99.20**	**39**⇓	*i*Pdif	**Pdif**	**23 00 22.0**	**+0.4**
	comp=Z,156nm,1.6s						
CLL				*ep*Pdif	**pP**	**23 00 50.0**	**+1.3**
CLL				*es*Pdif		23 01 02.0	
CLL				*e*PP	**PP**	**23 04 23.0**	**-2.7**
CLL				*ep*PP		23 04 52.0	
CLL				*es*PP		23 05 04.0	
CLL				*e*SKSac	**SKSac**	**23 10 52.0**	**+1.6**
CLL				*e*Sdif	**ScS**	**23 11 42.0**	**-2.3**
CLL				*e*		23 12 31.0	
CLL				*e*SP	**SP**	**23 13 07.0**	**-4.1**
CLL				*ep*PS		23 13 43.0	
CLL				*es*PS		23 14 02.0	
CLL				*e*PPS	PPS	23 14 14.0	
CLL				*es*PPS		23 14 47.0	
CLL				*e*SS	**SS**	**23 18 36.0**	**+0.5**
CLL				*e*		23 19 42.0	
CLL				*e*(SSS)		23 22 06.0	
CLL				*es*SS		23 23 12.0	
CLL				*e*PKPPKPdf	**P'P'df**	**23 25 03.0**	**+1.3**
CLL				*e*		23 25 41.0	
CLL				*e*SSSS		23 25 42.0	
CLL	**Collm**	**99.20**	**39**	*i* P	**Pdif**	**23 00 22.0**	**+0.4**
CLL				*e*		23 10 52.0	
CLL				*e*S	**ScS**	**23 11 42.0**	**-2.3**
CLL				pmax	pmax		
	comp=Z,156nm,1.6s						
CLL	**Collm**	**99.20**	**39**	*e*P	**Pdif**	**23 00 22.2**	**+0.6**
CLL				*ep*P	**pP**	**23 00 52.8**	**+4.1**
LJU	**Ljubljana**	**99.22**	**45**	*i* Pdiff	**Pdif**	**23 00 22.4**	**+0.6**
LJU				*e*		23 01 00.2	
LJU				*e*PKiKP	**PKiKP**	**23 04 51.8**	**+0.3**
LJU				*e*		23 10 53.2	
LJU				*e*Sdiff	**S**	**23 11 41.4**	**-3.4**
LJU				*e*		23 13 16.1	
LJU				*e*		23 18 27.7	
OBKA	**Obir**	**99.32**	**44**	*i* Pdiff	**Pdif**	**23 00 22.9**	**+0.5**
	comp=Z,452nm,2.4s,SNR=42						
FBE	**Freiberg**	**99.34**	**40**	*e*Pdiff	**Pdif**	**23 00 23.6**	**+1.3**
FBE				*es*P	sP	23 00 53.1	-7.1
FBE				*e*		23 17 52.2	
MOA	**Molln**	**99.37**	**43**	*i* Pdiff	**Pdif**	**23 00 22.9**	**+0.4**
	comp=Z,430nm,1.9s,SNR=121						
VISS	**Visnje**	**99.39**	**45**	*e*Pdiff	**Pdif**	**23 00 22.9**	**+0.3**
LLD	**Lille Linde**	**99.49**	**35**	*i* P	**Pdif**	**23 00 23.8**	**+1.0**
LLD	**Lille Linde**	**99.49**	**35**	*e*P	**Pdif**	**23 00 23.8**	**+1.0**
OSL	**Oslo**	**99.58**	**31**	*e*P	**Pdif**	**23 00 24.0**	**+0.9**
OSL				IAmb	IAmb	23 00 25.6	
	comp=Z,70nm,1.1s						
TIP	**Timpagrande**	**99.61**	**52**	P	**Pdif**	**23 00 22.9**	**-1.0**
TIP	**Timpagrande**	**99.61**	**52**	P	**Pdif**	**23 00 22.9**	**-1.0**
COP	**Copenhagen**	**99.67**	**35**	*i* P	**Pdif**	**23 00 23.6**	**0.0**
	comp=Z,76nm,1.4s						
	comp=Z,520nm,24.0s						
COP	**Copenhagen**	**99.67**	**35**	*i* P	**Pdif**	**23 00 23.6**	**0.0**
COP				pmax	pmax		
	comp=Z,76nm,1.4s						
COP				MLR	MLR		
	comp=Z,530nm,24.0s						
SOKA	**Soboth**	**99.68**	**44**	*i* Pdiff	**Pdif**	**23 00 24.1**	**+0.1**
	comp=Z,230nm,3.2s,SNR=28						
BRG	**Berggiesshubel**	**99.70**	**40**	*i* PDIF	**Pdif**	**23 00 24.7**	**+0.8**
	comp=Z,178nm,1.4s						
BRG				*i* pPDIF		23 00 53.1	
	comp=Z,108nm,1.6s						
BRG				SKS	**SKSac**	**23 10 53.0**	**0.0**
BRG				SDIF	**ScS**	**23 11 46.0**	**-2.5**
BRG				*e*PKKP	**PKKPbc**	**23 16 45.4**	**-1.3**
	comp=Z,14nm,1.8s						

PVCC				*e*pP	pP		23 00 55.5	+3.0
PVCC				*e*PP	**PP**		**23 04 31.0**	**-1.0**
PVCC				*e*SKS			23 10 59.5	
PVCC				*e*SDIF	**Sdif**		**23 11 46.4**	**-5.0**
PVCC				*e*SP	**SP**		**23 13 17.7**	**-2.5**
PVCC				*e*PKPPKP	**P'P'df**		**23 25 00.9**	**+0.7**
PVCC				*ex*	x		23 25 39.7	
PVCC	**Panska Ves**	**100.04**	**40**	*e*P	x		23 17 50.2	
PVCC	**Panska Ves**	**100.04**	**40**	*i* P	**Pdif**		**23 00 26.2**	**+0.8**
PVCC				*e*			23 04 31.0	
PVCC				*e*			23 10 59.5	
PVCC				*e*S	**Sdif**		**23 11 46.4**	**-5.0**
PVCC				*e*SP	**SP**		**23 13 17.7**	**-2.5**
GOPC	**GO Pecny, Ondr**	**100.07**	**41**	⇓*e*PDIFF	**Pdif**		**23 00 26.4**	**+0.8**
GOPC				*ex*	x		23 00 34.4	
GOPC				*e*pP	pP		23 00 53.7	+1.0
GOPC				*ex*	x		23 01 07.7	
GOPC				*e*PP	**PP**		**23 04 29.3**	**-3.1**
GOPC				*e*PKP	**PKiKP**		**23 04 54.4**	**+1.6**
GOPC				*e*SKS			23 10 55.9	
GOPC				*ex*	x		23 11 42.0	
GOPC				*e*SP	**SP**		**23 13 19.5**	**-1.1**
GOPC				*e*PKPPKP	**P'P'df**		**23 25 00.6**	**+0.4**
GOPC				*ex*	x		23 25 40.6	
GOPC				AMS	AMS		23 44 10.0	
	comp=Z,900nm,18.1s							
GOPC	**GO Pecny, Ondr**	**100.07**	**41**	*e*P	x		23 17 48.7	
ARSA	**Arzberg**	**100.11**	**44**	*i* Pdiff	**Pdif**		**23 00 26.0**	**+0.2**
	comp=Z,333nm,2.4s,SNR=46							
NC602	**NORSAR Array S**	**100.13**	**30**	*e*P	**Pdif**		**23 00 26.2**	**+0.7**
TREC	**Trest**	**100.42**	**42**	⇓*i*PDIFF	**Pdif**		**23 00 28.3**	**+1.2**
TREC				*e*pP	pP		23 00 56.2	+1.9
TREC				*e*PP	PP		23 04 26.9	-8.1
TREC				*e*PKP	**PKiKP**		**23 04 56.8**	**+3.3**
TREC				*e*SKS			23 11 02.5	
TREC				*e*SKKS	**SKKSac**		**23 11 28.9**	**-2.3**
TREC				*ex*	x		23 11 45.8	
TREC				*e*SP	**SP**		**23 13 24.0**	**-0.4**
TREC				*e*PKPPKP	**P'P'df**		**23 24 59.6**	**0.0**
TREC				*ex*	x		23 25 39.6	
TREC				AMS	AMS		23 41 00.0	
	comp=Z,1μm,20.7s							
TREC	**Trest**	**100.42**	**42**	⇓*i*P	**Pdif**		**23 00 28.3**	**+1.2**
TREC				*e*			23 11 02.5	
TREC				*e*S	**Sdif**		**23 11 45.8**	**-8.9**
TREC				*e*SP	**SP**		**23 13 24.0**	**-0.4**
TREC				MLR	MLR			
	comp=Z,1μm,20.7s							
CONA	**Conrad Observa**	**100.44**	**43**	*i* Pdiff	**Pdif**		**23 00 28.0**	**+0.7**
	comp=Z,429nm,2.0s,SNR=66							
BEHE	**Becsehely**	**100.83**	**45**⇑	*e*Pdiff	**Pdif**		**23 00 30.3**	**+1.3**
SOP	**Sopron**	**100.87**	**43**⇑	*e*Pdiff	**Pdif**		**23 00 29.8**	**+0.7**
UPC	**Upice**	**100.94**	**41**	⇓*i*PDIFF	**Pdif**		**23 00 30.5**	**+1.1**
UPC				*ex*	x		23 00 39.8	
UPC				*e*pP	pP		23 00 58.6	+2.0
UPC				*e*PKPPKP	**P'P'df**		**23 24 58.9**	**+0.4**
UPC	**Upice**	**100.94**	**41**	*e*P	x		23 17 44.9	
UPC	**Upice**	**100.94**	**41**	⇓*i*P	**Pdif**		**23 00 30.5**	**+1.1**
BSD	**Bornholm Skovb**	**100.98**	**36**	*i* P	**Pdif**		**23 00 29.3**	**-0.1**
	comp=Z,77nm,1.4s							
	comp=Z,2μm,21.0s							
BSD	**Bornholm Skovb**	**100.98**	**36**	*i* P	**Pdif**		**23 00 29.3**	**-0.1**
BSD				pmax	pmax			
	comp=Z,77nm,1.4s							
BSD				MLR	MLR			
	comp=Z,2μm,21.0s							
HFS	**Hagfors**	**101.08**	**31**	P	**Pdif**		**23 00 29.9**	**+0.1**
	comp=Z,6.4nm,1.0s,baz=50,slow=2.3,SNR=7.0							
HFS	**Hagfors**	**101.08**	**31**	P	**Pdif**		**23 00 29.9**	**+0.1**
HFS				pmax	pmax			
	comp=Z,6.0nm,1.0s							
DPC	**Dobruska-Polom**	**101.11**	**41**	⇓*i*PDIFF	**Pdif**		**23 00 31.4**	**+1.2**
DPC				*ex*	x		23 00 40.4	
DPC				*e*pP	pP		23 00 58.0	+0.5
DPC				*e*PP	**PP**		**23 04 41.4**	**+1.1**
DPC				*e*SKS			23 11 05.1	
DPC				*e*SKKS	**SKKSac**		**23 11 36.5**	**+0.2**
DPC				*e*SDIF	**Sdif**		**23 11 54.8**	**-5.7**
DPC				*e*SP	**SP**		**23 13 28.7**	**-3.1**
DPC				*e*SS	SS		23 18 54.6	-7.7
DPC				*e*PKPPKP	**P'P'df**		**23 24 56.8**	**-1.5**
DPC				*ex*	x		23 25 28.2	
DPC				AMS	AMS		23 44 40.0	
	comp=Z,1μm,19.5s							
DPC	**Dobruska-Polom**	**101.11**	**41**	*e*P	x		23 17 44.6	
DPC	**Dobruska-Polom**	**101.11**	**41**	⇓*i*P	**Pdif**		**23 00 31.4**	**+1.2**
DPC				*e*			23 04 41.4	
DPC				*e*			23 11 05.1	
DPC				*e*S	**Sdif**		**23 11 54.8**	**-5.7**
DPC				MLR	MLR			
	comp=Z,1μm,19.5s							
DPC	**Dobruska-Polom**	**101.11**	**41**	*e*Pdif	**Pdif**		**23 00 30.8**	**+0.5**
DPC				*e*P'P'df	**P'P'df**		**23 24 58.1**	**-0.2**
VRAC	**Vranov**	**101.14**	**42**	P	**Pdif**		**23 00 30.9**	**+0.6**
	comp=Z,58nm,1.2s,baz=260,slow=5.8,SNR=70							
VRAC	**Vranov**	**101.14**	**42**	P	**Pdif**		**23 00 30.9**	**+0.6**
VRAC				pmax	pmax			
	comp=Z,58nm,1.2s							
VRAC	**Vranov**	**101.14**	**42**	⇓*i*P	**Pdif**		**23 00 31.2**	**+0.9**
KSP	**Ksiaz**	**101.17**	**40**	*e*Pdiff	**Pdif**		**23 00 31.7**	**+1.3**
KSP				*e*Sdiff			23 11 52.8	
KSP	**Ksiaz**	**101.17**	**40**	*e*P	**Pdif**		**23 00 31.7**	**+1.3**
KSP				*e*S	**Sdif**		**23 11 52.8**	**-8.0**
KRLC	**Kraliky**	**101.37**	**41**	⇓*i*PDIFF	**Pdif**		**23 00 33.0**	**+1.6**
KRLC				*e*pP	pP		23 01 01.3	+2.7
KRLC				*e*PP	**PP**		**23 04 38.7**	**-3.5**
KRLC				*e*PKPPKP	**P'P'df**		**23 24 56.6**	**-1.2**
KRLC				*ex*	x		23 25 27.4	
KRLC				*ex*	x		23 25 38.5	
KRLC	**Kraliky**	**101.37**	**41**	*e*P	x		23 17 39.9	
KRLC				*ex*	x		23 17 43.5	
KRLC	**Kraliky**	**101.37**	**41**	⇓*i*P	**Pdif**		**23 00 33.0**	**+1.6**
KRLC				*e*			23 04 38.7	
SMOL	**Smolenice**	**101.57**	**43**	*e*P	**Pdif**		**23 00 33.2**	**+1.0**
SMOL	**Smolenice**	**101.57**	**43**	PDIF	**Pdif**		**23 00 33.2**	**+1.0**
PKST	**T"'s**	**101.80**	**44**⇑	*e*Pdiff	**Pdif**		**23 00 33.8**	**+0.5**
MORC	**Moravsky Berou**	**101.81**	**41**	*e*P	**Pdif**		**23 00 34.8**	**+1.4**
MORC	**Moravsky Berou**	**101.81**	**41**	⇓*i*P	**Pdif**		**23 00 34.7**	**+1.4**
MORC	**Moravsky Berou**	**101.81**	**41**	*e*Pdif	**Pdif**		**23 00 34.8**	**+1.4**
MORC				*e*P'P'df	**P'P'df**		**23 24 58.8**	**+1.8**
PKS9	**Tamasi**	**101.87**	**45**⇑	*e*Pdiff	**Pdif**		**23 00 34.7**	**+1.1**
CSKK	**Cs˘‡kako**	**101.96**	**44**⇓	*e*Pdiff	**Pdif**		**23 00 34.3**	**+0.3**
KEK	**Kerkira**	**102.02**	**52**	P	**Pdif**		**23 00 34.8**	**+0.3**
KEK	**Kerkira**	**102.02**	**52**	*e*Pdif	**Pdif**		**23 00 34.8**	**+0.3**
PKSG		**102.06**	**44**⇑	*e*Pdiff	**Pdif**		**23 00 34.7**	**+0.3**
PKSM	**Moragy**	**102.07**	**45**	⇓P	**Pdif**		**23 00 35.3**	**+0.8**
PKSM	**Moragy**	**102.07**	**45**	⇓*i*P	**Pdif**		**23 00 35.3**	**+0.8**
PKSM	**Moragy**	**102.07**	**45**⇑	*i*P	**PP**		**23 04 46.7**	**-3.0**
PKSM	**Moragy**	**102.07**	**45**⇑	*e*Pdiff	**Pdif**		**23 00 35.2**	**+0.8**
GKP	**Gorka Klasztor**	**102.07**	**38**	*e*Pdiff	**Pdif**		**23 00 35.5**	**+1.2**
GKP				*e*PP	**PP**		**23 04 45.5**	**-1.8**
GKP				*e*SKSac	**SKSac**		**23 11 04.5**	**+0.2**
GKP	**Gorka Klasztor**	**102.07**	**38**	*e*P	**Pdif**		**23 00 35.5**	**+1.2**
GKP				*e*			23 04 45.5	
GKP				*e*			23 11 04.5	
SRN	**Sarande**	**102.20**	**52**	P	**Pdif**		**23 00 35.7**	**+0.5**
SRN	**Sarande**	**102.20**	**52**	*e*Pdif	**Pdif**		**23 00 35.7**	**+0.5**
OKC	**Ostrava-Krasne**	**102.21**	**41**	⇓*e*PDIFF	**Pdif**		**23 00 36.2**	**+1.2**
OKC				*ex*	x		23 00 44.9	
OKC				*ex*	x		23 01 06.4	
OKC				*e*PP	**PP**		**23 04 43.7**	**-4.7**
OKC				*e*SKS			23 11 08.5	
OKC				*e*SKKS	**SKKSac**		**23 11 42.1**	**-1.9**
OKC				*e*SP	**SP**		**23 13 39.4**	**-3.9**
OKC				*e*PKPPKP	**P'P'df**		**23 24 56.2**	**+0.1**
OKC				AMS	AMS		23 41 00.0	
	comp=Z,900nm,20.5s							
OKC	**Ostrava-Krasne**	**102.21**	**41**	*e*P	x		23 17 39.7	
OKC	**Ostrava-Krasne**	**102.21**	**41**	*i* P	**Pdif**		**23 00 36.2**	**+1.2**
OKC				*e*			23 04 43.7	
OKC				*e*			23 11 08.5	
OKC				MLR	MLR			
	comp=Z,900nm,20.5s							
RAC	**Raciborz**	**102.27**	**41**	*e*P	**Pdif**		**23 00 37.0**	**+1.7**
RAC				MLR	MLR			
	comp=Z,1μm,21.5s							
TIR	**Tirane**	**102.30**	**50**	P	**Pdif**		**23 00 36.4**	**+0.7**
TIR	**Tirane**	**102.30**	**50**	*e*P	**Pdif**		**23 00 36.4**	**+0.7**
TIR	**Tirane**	**102.30**	**50**	*e*Pdif	**Pdif**		**23 00 36.4**	**+0.7**
IGT	**Igoumenitsa**	**102.40**	**52**	P	**Pdif**		**23 00 35.8**	**-0.4**
IGT	**Igoumenitsa**	**102.40**	**52**	P	x		23 17 36.3	
IGT	**Igoumenitsa**	**102.40**	**52**	*e*P	**Pdif**		**23 00 35.8**	**-0.4**
IGT	**Igoumenitsa**	**102.40**	**52**	*e*Pdif	**Pdif**		**23 00 35.8**	**-0.4**
VLS	**Valsamata**	**102.41**	**54**	P	x		23 17 36.9	
VYHS	**Vyhne**	**102.49**	**43**	*e*P	**Pdif**		**23 00 37.1**	**+0.7**
VYHS				pmax	pmax			
	comp=Z,66nm,1.7s							
VYHS	**Vyhne**	**102.49**	**43**	PDIF	**Pdif**		**23 00 37.1**	**+0.7**
BUD	**Budapest**	**102.49**	**44**⇓	*e*Pdiff	**Pdif**		**23 00 36.7**	**+0.3**
PKS2	**Kecel**	**102.50**	**45**⇓	*e*Pdiff	**Pdif**		**23 00 37.8**	**+1.4**
LKD2	**Lefkada island**	**102.55**	**53**	P	x		23 17 36.0	
DIVS	**Divibare**	**102.75**	**47**	P	**Pdif**		**23 00 38.2**	**+0.5**
DIVS	**Divibare**	**102.75**	**47**	⇓*i*P	**Pdif**		**23 00 38.5**	**+0.8**
PHP	**Peshkopia**	**102.77**	**50**	P	**Pdif**		**23 00 39.0**	**+1.2**
PHP	**Peshkopia**	**102.77**	**50**	*e*P	**Pdif**		**23 00 39.0**	**+1.2**
PHP	**Peshkopia**	**102.77**	**50**	*e*Pdif	**Pdif**		**23 00 39.0**	**+1.2**
JAN	**Janina**	**102.81**	**52**	P	**Pdif**		**23 00 39.1**	**+1.0**
JAN	**Janina**	**102.81**	**52**	*e*P	**Pdif**		**23 00 39.1**	**+1.0**
JAN	**Janina**	**102.81**	**52**	*e*Pdif	**Pdif**		**23 00 39.1**	**+1.0**
KBN	**Korca**	**102.89**	**51**	P	**Pdif**		**23 00 39.6**	**+1.2**
KBN	**Korca**	**102.89**	**51**	P	x		23 17 34.1	
KBN	**Korca**	**102.89**	**51**	*e*P	**Pdif**		**23 00 39.6**	**+1.2**
KBN	**Korca**	**102.89**	**51**	*e*Pdif	**Pdif**		**23 00 39.6**	**+1.2**
PDO	**Prodromos**	**102.93**	**53**	P	x		23 17 35.0	
CRZF	**Crozet Islands**	**102.93**	**145**	Pdif	Pdif		23 00 22.0	-16
CRZF				PP	PP		23 04 16.0	-37
CRZF				SP	SP		23 13 40.0	-11
CRZF				SS	**SS**		**23 19 23.0**	**-3.2**
CRZF				R			23 33 00.0	
KBS	**Kingsbay**	**102.94**	**11**	*e*P	**Pdif**		**23 00 39.2**	**+1.5**
KBS				*e*PP	**PP**		**23 04 50.6**	**-2.6**
NEST	**Nestorio**	**103.06**	**51**	P	**Pdif**		**23 00 40.2**	**+1.0**
RLS	**Riolos of Patr**	**103.08**	**54**	P	x		23 17 34.8	
PSZ	**Piszkesteto**	**103.13**	**44**⇑	*e*Pdiff	**Pdif**		**23 00 40.0**	**+0.7**
DRO	**Drossia**	**103.26**	**54**	P	**Pdif**		**23 00 40.5**	**+0.5**
DRO	**Drossia**	**103.26**	**54**	P	x		23 17 29.4	
OJC	**Ojcow**	**103.31**	**41**	*e*Pdiff	**Pdif**		**23 00 40.8**	**+0.8**
OJC				*e*PP	**PP**		**23 04 53.0**	**-3.7**
OJC				*e*Sdiff			23 12 03.1	
OJC	**Ojcow**	**103.31**	**41**	*e*P	**Pdif**		**23 00 40.9**	**+0.9**
OJC				*e*			23 04 53.0	
OJC				*e*S	Sdif		23 12 03.1	-16
FNA	**Florina**	**103.36**	**51**	P	**Pdif**		**23 00 40.7**	**+0.2**
FNA	**Florina**	**103.36**	**51**	*e*P	**Pdif**		**23 00 40.7**	**+0.2**
FNA	**Florina**	**103.36**	**51**	*e*Pdif	**Pdif**		**23 00 40.7**	**+0.2**
EVR	**Evrytania**	**103.46**	**53**	P	**Pdif**		**23 00 40.7**	**-0.3**
EVR	**Evrytania**	**103.46**	**53**	*e*Pdif	**Pdif**		**23 00 40.7**	**-0.3**
HSPB	**Hornsund (broa**	**103.53**	**13**	*e*P	**Pdif**		**23 00 42.2**	**+1.9**
KZN	**Kozani**	**103.60**	**51**	P	**Pdif**		**23 00 41.8**	**+0.2**
KZN	**Kozani**	**103.60**	**51**	*e*P	**Pdif**		**23 00 41.8**	**+0.2**
KZN	**Kozani**	**103.60**	**51**	*e*Pdif	**Pdif**		**23 00 41.8**	**+0.2**
KLV	**Kalavryta, Ach**	**103.61**	**54**	P	**Pdif**		**23 00 41.4**	**-0.3**
KLV	**Kalavryta, Ach**	**103.61**	**54**	*e*Pdif	**Pdif**		**23 00 41.4**	**-0.3**
THL	**Klokotos Trika**	**103.69**	**52**	P	**Pdif**		**23 00 41.5**	**-0.4**
BANR	**Banloc**	**103.70**	**46**⇑	*i*P	**Pdif**		**23 00 43.2**	**+1.4**
GUR	**Goura**	**103.75**	**54**	P	**Pdif**		**23 00 42.1**	**-0.2**
GUR	**Goura**	**103.75**	**54**	*e*Pdif	**Pdif**		**23 00 42.1**	**-0.2**
AGG	**Agios Georgios**	**103.87**	**53**	P	x		23 17 08.6	
BZS	**Buzias**	**104.06**	**46**	⇓P	**Pdif**		**23 00 44.3**	**+0.9**
BZS	**Buzias**	**104.06**	**46**	⇓*i*P	**Pdif**		**23 00 44.3**	**+0.9**
BZS	**Buzias**	**104.06**	**46**⇑	*i*P	**PP**		**23 05 00.5**	**-1.9**
BEL	**Belsk**	**104.08**	**40**	*e*Pdiff	**Pdif**		**23 00 45.0**	**+1.7**
BEL				*e*PP	**PKiKP**		**23 05 00.5**	**+0.5**
BEL				*e*SKSac	**SKSac**		**23 11 16.9**	**+3.2**
BEL	**Belsk**	**104.08**	**40**	*e*P	**Pdif**		**23 00 45.0**	**+1.7**
BEL				*e*			23 05 00.5	
BEL				*e*			23 11 17.0	
AXAR	**Agios Charalam**	**104.10**	**53**	P	x		23 17 03.6	
LIT	**Litokhoron**	**104.12**	**52**	P	**Pdif**		**23 00 43.5**	**-0.3**
LIT	**Litokhoron**	**104.12**	**52**	P	x		23 17 28.8	
LIT	**Litokhoron**	**104.12**	**52**	*e*P	**Pdif**		**23 00 43.5**	**-0.3**
LIT	**Litokhoron**	**104.12**	**52**	*e*Pdif	**Pdif**		**23 00 43.5**	**-0.3**
GRG	**Griva**	**104.15**	**51**	P	**Pdif**		**23 00 44.5**	**+0.5**
GRG	**Griva**	**104.15**	**51**	*e*P	**Pdif**		**23 00 44.5**	**+0.5**
GRG	**Griva**	**104.15**	**51**	*e*Pdif	**Pdif**		**23 00 44.5**	**+0.5**
SIRR	**Siria**	**104.16**	**45**	⇓*i*P	**Pdif**		**23 00 45.1**	**+1.3**
STHS	**Stebnicka Huta**	**104.17**	**42**	*e*P	**Pdif**		**23 00 44.9**	**+1.1**
STHS				pmax	pmax			
	comp=Z,8.0nm,1.5s							
STHS	**Stebnicka Huta**	**104.17**	**42**	PDIF	**Pdif**		**23 00 44.9**	**+1.1**
TRO	**Tromso**	**104.19**	**21**	*e*P	**Pdif**		**23 00 42.8**	**-0.5**
TRO				*e*PP	**PP**		**23 05 02.1**	**-0.5**
TRO				*e*SS	SS		23 19 42.0	-1.4
TRO				*e*SS	**SS**		**23 19 44.8**	**+1.3**
VAY	**Valandovo**	**104.31**	**50**	P	**Pdif**		**23 00 45.2**	**+0.6**
VAY	**Valandovo**	**104.31**	**50**	P	x		23 17 28.2	
VAY	**Valandovo**	**104.31**	**50**	*e*P	**Pdif**		**23 00 45.2**	**+0.6**
VAY	**Valandovo**	**104.31**	**50**	*e*Pdif	**Pdif**		**23 00 45.2**	**+0.6**
KNT	**Kendrikon**	**104.54**	**51**	P	**Pdif**		**23 00 46.0**	**+0.3**
KNT	**Kendrikon**	**104.54**	**51**	P	x		23 17 27.0	
KNT	**Kendrikon**	**104.54**	**51**	*e*P	**Pdif**		**23 00 46.0**	**+0.3**
KNT	**Kendrikon**	**104.54**	**51**	*e*Pdif	**Pdif**		**23 00 46.0**	**+0.3**
XOR	**Xorichti**	**104.58**	**53**	P	**Pdif**		**23 00 43.3**	**-2.6**
XOR	**Xorichti**	**104.58**	**53**	P	x		23 17 26.1	
XOR	**Xorichti**	**104.58**	**53**	*e*Pdif	**Pdif**		**23 00 43.3**	**-2.6**
NEO	**Neokhori**	**104.60**	**53**	P	**Pdif**		**23 00 45.6**	**-0.4**
NEO	**Neokhori**	**104.60**	**53**	P	x		23 17 25.9	
NEO	**Neokhori**	**104.60**	**53**	*e*Pdif	**Pdif**		**23 00 45.6**	**-0.4**
KKB	**Krupnik**	**104.75**	**50**	*e*P	**Pdif**		**23 00 47.3**	**+0.7**
UZH	**Uzhgorod**	**104.79**	**43**	*e*P	**Pdif**		**23 00 45.8**	**-0.7**
UZH				*e*			23 11 25.3	
UZH				*e*S	**Sdif**		**23 12 29.9**	**-1.2**
UZH				*e*SS	**SS**		**23 19 57.3**	**+4.4**
KOLS	**Kolonicke sedl**	**104.80**	**43**	*e*P	**Pdif**		**23 00 47.7**	**+1.1**
KOLS	**Kolonicke sedl**	**104.80**	**43**	PDIF	**Pdif**		**23 00 47.7**	**+1.1**
MRKA	**Markates**	**104.81**	**53**	P	**Pdif**		**23 00 46.8**	**-0.1**
SOH	**Sokhos**	**104.85**	**51**	P	**Pdif**		**23 00 47.9**	**+0.8**
SOH	**Sokhos**	**104.85**	**51**	P	x		23 17 25.5	
SOH	**Sokhos**	**104.85**	**51**	*e*P	**Pdif**		**23 00 47.9**	**+0.8**
SOH	**Sokhos**	**104.85**	**51**	*e*Pdif	**Pdif**		**23 00 47.9**	**+0.8**
PLG	**Polygyros**	**104.88**	**52**	P	**Pdif**		**23 00 47.5**	**+0.3**
PLG	**Polygyros**	**104.88**	**52**	P	x		23 17 25.6	
PLG	**Polygyros**	**104.88**	**52**	*e*P	**Pdif**		**23 00 47.5**	**+0.3**
PLG	**Polygyros**	**104.88**	**52**	*e*Pdif	**Pdif**		**23 00 47.5**	**+0.3**
TRPA	**Tarpa**	**104.92**	**43**	⇓*i*P	**Pdif**		**23 00 47.8**	**+0.7**
TRPA	**Tarpa**	**104.92**	**43**	⇓*e*Pdiff	**Pdif**		**23 00 48.0**	**+0.9**
VTS	**Vitosha**	**104.92**	**49**	P	**Pdif**		**23 00 47.0**	**-0.5**
VTS	**Vitosha**	**104.92**	**49**	P	x		23 17 26.2	
VTS	**Vitosha**	**104.92**	**49**	*e*P	**Pdif**		**23 00 47.0**	**-0.5**
VTS	**Vitosha**	**104.92**	**49**	*e*P	**Pdif**		**23 00 47.0**	**-0.5**
VTS	**Vitosha**	**104.92**	**49**	*e*Pdif	**Pdif**		**23 00 47.0**	**-0.5**
DRGR		**104.93**	**45**	⇑P	**Pdif**		**23 00 47.9**	**+0.6**
DRGR		**104.93**	**45**	⇑*i*P	**Pdif**		**23 00 47.9**	**+0.6**
DRGR		**104.93**	**45**	⇑*i*P	**PKiKP**		**23 05 02.6**	**+0.8**
DEV	**Deva**	**104.99**	**46**	⇓P	**Pdif**		**23 00 48.4**	**+0.9**
DEV	**Deva**	**104.99**	**46**	⇓*i*P	**Pdif**		**23 00 48.4**	**+0.9**
PAIG	**Paliouri**	**105.01**	**52**	P	**Pdif**		**23 00 48.1**	**+0.4**
PAIG	**Paliouri**	**105.01**	**52**	P	x		23 17 25.1	
PAIG	**Paliouri**	**105.01**	**52**	*e*P	**Pdif**		**23 00 48.1**	**+0.4**
PAIG	**Paliouri**	**105.01**	**52**	*e*Pdif	**Pdif**		**23 00 48.1**	**+0.4**
SRS	**Serrai**	**105.06**	**51**	P	**Pdif**		**23 00 48.3**	**+0.3**
SRS	**Serrai**	**105.06**	**51**	P	x		23 17 24.5	
SRS	**Serrai**	**105.06**	**51**	*e*P	**Pdif**		**23 00 48.3**	**+0.3**
SRS	**Serrai**	**105.06**	**51**	*e*Pdif	**Pdif**		**23 00 48.3**	**+0.3**
AOS	**Alonnisos**	**105.09**	**53**	P	x		23 17 22.2	
KWP	**Kalwaria Pacla**	**105.13**	**42**	*e*Pdiff	**Pdif**		**23 00 49.8**	**+1.7**
KWP				*e*PP	**PP**		**23 05 07.9**	**-2.3**
KWP	**Kalwaria Pacla**	**105.13**	**42**	*e*P	**Pdif**		**23 00 49.8**	**+1.7**
KWP				*e*			23 05 07.9	
MMB	**Musomiste**	**105.21**	**50**	*e*P	**Pdif**		**23 00 49.1**	**+0.4**
OUR	**Ouranopolis**	**105.28**	**52**	P	**Pdif**		**23 00 49.5**	**+0.6**
OUR	**Ouranopolis**	**105.28**	**52**	P	x		23 17 24.0	
OUR	**Ouranopolis**	**105.28**	**52**	*e*P	**Pdif**		**23 00 49.5**	**+0.6**
OUR	**Ouranopolis**	**105.28**	**52**	*e*Pdif	**Pdif**		**23 00 49.5**	**+0.6**
NVR	**Nevrokopi**	**105.29**	**51**	P	x		23 17 23.2	
MPEP	**Malo Peshtene**	**105.37**	**48**	*e*P	**Pdif**		**23 00 49.4**	**+0.1**
IDI	**Anoyia**	**105.48**	**57**	Pdiff	**Pdif**		**23 00 50.4**	**+0.3**
	comp=Z,32nm,1.1s,baz=303,slow=8.0,SNR=5.8							
BMR	**Baia Mare**	**105.53**	**44**	⇑P	**Pdif**		**23 00 51.0**	**+1.1**
BMR	**Baia Mare**	**105.53**	**44**	⇑*i*P	**Pdif**		**23 00 51.0**	**+1.1**
CJR	**Cluj-Napoca**	**105.53**	**45**	⇓P	**Pdif**		**23 00 51.1**	**+1.1**
CJR	**Cluj-Napoca**	**105.53**	**45**	⇓*i*P	**Pdif**		**23 00 51.1**	**+1.1**
SUW	**Suwalki**	**105.66**	**37**	*e*Pdiff	**Pdif**		**23 00 51.1**	**+0.8**
SUW				*e*PP	**PP**		**23 05 10.7**	**-3.2**
SUW	**Suwalki**	**105.66**	**37**	*e*P	**Pdif**		**23 00 51.1**	**+0.8**
SUW				*e*			23 05 10.7	
KAVA	**Kavala**	**105.74**	**51**	P	x		23 17 22.2	
RZN	**Rozhen**	**105.95**	**50**	*e*P	**Pdif**		**23 00 52.1**	**-0.1**
THR5	**Thira Island,**	**105.97**	**56**	P	x		23 19 08.6	
PLD	**Plovdiv**	**105.98**	**50**	P	**Pdif**		**23 00 51.8**	**-0.2**
PLD	**Plovdiv**	**105.98**	**50**	P	x		23 17 20.9	
PLD	**Plovdiv**	**105.98**	**50**	*e*P	**Pdif**		**23 00 51.8**	**-0.2**
PLD	**Plovdiv**	**105.98**	**50**	*e*P	**Pdif**		**23 00 52.1**	**+0.1**
PLD	**Plovdiv**	**105.98**	**50**	*e*Pdif	**Pdif**		**23 00 51.8**	**-0.2**
LVV	**L'vov**	**106.00**	**42**	*e*P	**Pdif**		**23 00 55.7**	**+3.8**
LIA	**Limnos Island**	**106.16**	**52**	P	**Pdif**		**23 00 52.5**	**-0.3**
LIA	**Limnos Island**	**106.16**	**52**	P	x		23 17 18.3	
LIA	**Limnos Island**	**106.16**	**52**	*e*Pdif	**Pdif**		**23 00 52.5**	**-0.3**
APE	**Apeiranthos**	**106.18**	**55**	⇓*i*P	**PKiKP**		**23 05 04.6**	**+0.2**
VOIR		**106.46**	**46**	⇓P	**Pdif**		**23 00 55.0**	**+0.8**
VOIR		**106.46**	**46**	⇓*i*P	**Pdif**		**23 00 55.0**	**+0.8**
SMTH	**Samothraki Isl**	**106.47**	**52**	P	**Pdif**		**23 00 52.5**	**-1.8**
SMTH	**Samothraki Isl**	**106.47**	**52**	P	x		23 17 16.8	
SMTH	**Samothraki Isl**	**106.47**	**52**	*e*Pdif	**Pdif**		**23 00 52.5**	**-1.8**
KDZ	**Kurdzhali**	**106.47**	**50**	⇓*i*P	**PKiKP**		**23 05 05.0**	**+0.2**
ARA0	**ARCESS Array S**	**106.50**	**21**	*e*Pdif	**Pdif**		**23 00 53.1**	**-0.6**
ARA0				*e*PKiKP	**PKiKP**		**23 05 04.2**	**+0.2**
ARA0				*e*PKKPbc	**PKKPbc**		**23 16 24.7**	**-2.4**
ARA0				*e*PKKPdf	**PKKPab**		**23 16 41.1**	**+1.7**
ARCES	**ARCESS Array B**	**106.50**	**21**	Pdiff	**Pdif**		**23 00 53.1**	**-0.6**
	comp=Z,4.6nm,0.9s,baz=343,slow=7.6,SNR=7.9							
ARCES				P

MOS pmax pmax
comp=Z,52nm,1.2s
MOS pmax pmax
comp=Z,200nm,1.8s
LPSR Galich'ya Gora 115.17 38 *e*PKIKP **PKPdf 23 05 20.5 -0.3**
LPSR *e*SP SP 23 15 50.4 -0.2
LPSR pmax pmax
comp=N,7.0nm,1.3s
LPSR pmax pmax
comp=Z,50nm,1.3s
LPSR pmax pmax
comp=E,6.0nm,1.4s
ANN Anapa 115.22 47 *i* P **Pdif 23 01 30.8 -2.2**
ANN *i* 23 05 21.2
ANN *e* 23 08 48.7
ANN *e*SP SP 23 15 58.5 +6.8
ANN pmax pmax
comp=Z,77nm,1.7s
ASF Jabal al Asfar 115.27 61 PKP **PKPdf 23 05 23.0 +1.2**
comp=Z,34nm,1.1s,baz=129,slow=1.1,SNR=21
ASF Jabal al Asfar 115.27 61 PKIKP **PKPdf 23 05 23.0 +1.2**
ASF pmax pmax
comp=Z,34nm,1.1s
VSR Storozhevoye 115.55 40 *e*PKIKP **PKPdf 23 05 21.4 -0.2**
VSR pmax pmax
comp=N,8.0nm,1.2s
VSR pmax pmax
comp=E,7.0nm,1.2s
VSR pmax pmax
comp=Z,40nm,1.2s
VORD Divnogorie 115.67 40 *e*PKIKP **PKPdf 23 05 21.7 -0.1**
VORD pmax pmax
comp=Z,30nm,1.4s
VORD pmax pmax
comp=N,10.0nm,1.1s
VORD pmax pmax
comp=E,20nm,1.3s
PRGR Permogore 116.32 27 *e*PKIKP **PKPdf 23 05 19.4 -3.4**
PRGR *e**PP **PP 23 06 29.2 -0.9**
PRGR pmax pmax
comp=Z,87nm,1.1s
MALT Malatya 116.43 54 ⇓PKIKP **PKPdf 23 05 24.8 +0.9**
MALT Malatya 116.43 54 ⇓*i* P **PKPdf 23 05 24.8 +0.9**
SOC Sochi 116.98 48 *i* P Pdif 23 01 54.1 +13
SOC *e*PPP PPP 23 09 10.2
SOC *e* 23 12 14.4
SOC *e*PS **PS 23 16 20.6 +0.3**
CHVG Ch'k'valeri 118.81 49 P **PKPdf 23 05 29.2 +1.0**
KIV Kislovodsk 119.07 47 *i* P **Pdif 23 01 50.5 +0.2**
KIV *i* 23 05 28.8
KIV *e* 23 06 49.0
KIV *e* 23 12 13.2
KIV *e*PS **PS 23 16 38.1 -1.2**
KIV *e*SS SS 23 23 03.7 +0.8
KIV *e*SSS SSS 23 27 26.8
KIV pmax pmax
comp=Z,33nm,1.0s
KIV MLR MLR
comp=Z,657nm,20.0s
KIV Kislovodsk 119.07 47 *e*PKPdf **PKPdf 23 05 29.6 +0.8**
GOF Gofitskoye 119.14 46 *e*PKIKP **PKPdf 23 05 23.7 -5.1**
GOF pmax pmax
comp=Z,120nm,1.6s
NEY Neytrino 119.20 48 *e*PKIKP **PKPdf 23 05 29.9 +0.7**
KBZ Khabaz 119.25 48 PKP **PKPdf 23 05 29.8 +0.8**
comp=Z,34nm,0.9s,baz=56,slow=24,SNR=38
KBZ pPKP **pPKPdf 23 05 56.9 -0.2**
comp=Z,19nm,0.9s,baz=236,slow=23,SNR=4.1
NCK Nalchik 119.79 48 *d* iPKIKP **PKPdf 23 05 30.5 +0.4**
ONI Oni 119.82 49 P **PKPdf 23 05 31.0 +0.7**
AKH Akhalkalaki 120.02 50 P **PKPdf 23 05 31.8 +1.0**
ZEI Tsey 120.12 49 *i* PKIKP **PKPdf 23 05 30.1 -0.9**
ZEI pmax pmax
comp=Z,51nm,1.4s
TIXI Tiksi 120.69 352 *d* iPKIKP **PKPdf 23 05 29.8 -1.1**
TIXI pmax pmax
comp=Z,28nm,1.2s
DAMY Dhamar 120.88 81 *e*PKPdf **PKPdf 23 05 35.5 +2.1**
TBLG Delisi 120.90 50 P **PKPdf 23 05 32.7 +0.4**
GNI Garni 121.14 51 PKP **PKPdf 23 05 34.0 +1.0**
comp=Z,21nm,0.8s,baz=108,slow=1.8,SNR=28
GNI Garni 121.14 51 PKIKP **PKPdf 23 05 34.0 +1.0**
GNI pmax pmax
comp=Z,21nm,0.8s
DGRG David-gareji 121.41 50 P **PKPdf 23 05 34.4 +1.1**
SOKR Solikamsk 122.16 27 *d* iPKIKP **PKPdf 23 05 34.6 +0.6**
SOKR 23 12 42.8
SOKR PS **PS 23 17 09.5 +3.7**
SOKR SS SS 23 24 03.8 +23
SOKR pmax pmax
comp=Z,130nm,1.3s
RAYN Ar Rayn 122.68 71 *e*PKPdf **PKPdf 23 05 36.9 +0.6**
RAYN *e*PKKPbc **PKKPbc 23 15 31.4 +1.5**
MAK Makhachkala 122.70 48 *i* PKIKP **PKPdf 23 05 35.1 -0.5**
MAK *e* 23 07 11.8
MAK *e* 23 12 39.5
MAK *e*SP SP 23 16 59.3 +0.5
MAK *e*PS **PS 23 17 11.1 -0.3**
MAK *e*SSS SSS 23 28 25.2
MAK pmax pmax
comp=Z,142nm,1.6s
MAK MLR MLR
comp=Z,1μm,19.0s
STKA Stephens Creek 122.79 217 PKP **PKPdf 23 05 36.1 -0.1**
comp=Z,8.8nm,0.9s,baz=250,slow=3.0,SNR=8.7
STKA PKKPbc **PKKPbc 23 15 29.8 -0.1**
comp=Z,3.4nm,0.7s,baz=335,slow=3.2,SNR=6.5
PET Petropavlovsk 122.94 325 *e*PKIKP **PKPdf 23 05 35.4 -0.4**
PET *e* 23 07 16.0
PET pmax pmax
comp=Z,22nm,1.1s
PET pmax pmax
comp=Z,800nm,8.3s
PET pmax pmax
comp=Z,600nm,17.7s
IDHR Dehrash 123.09 58 *e*P **PKPdf 23 05 37.4 +0.4**
IBST Bostanabad 123.14 54 *e*P **PKPdf 23 05 36.3 -0.7**
PEA2 Petropavlovsk- 123.43 325 *e*PKPdf **PKPdf 23 05 37.1 +0.4**
PEA2 *e*PKKPbc **PKKPab 23 15 26.0 +0.6**
PEA0 Petropavlovsk- 123.44 325 *e*PKPdf **PKPdf 23 05 36.8 0.0**
PETK Petropavlovsk- 123.44 325 PKP **PKPdf 23 05 37.1 +0.4**
comp=Z,26nm,1.0s,baz=114,slow=6.6,SNR=35
PETK PKKPbc **PKKPab 23 15 26.0 +0.6**
comp=Z,1.6nm,0.8s,baz=162,slow=6.2,SNR=3.7
PETK PKKP **PKKPdf 23 16 08.8 +2.7**
comp=Z,0.6nm,0.5s,baz=154,slow=7.9,SNR=4.7
IKOM Komasi 124.07 58 *e*P **PKPdf 23 05 38.9 +0.1**
ARU Arti 124.58 30 *i* PKIKP **PKPdf 23 05 39.2 +0.4**
ARU 23 07 24.2
ARU 23 12 30.6
ARU PS PS 23 17 12.7 -15
ARU Arti 124.58 30 *e*PKPdf **PKPdf 23 05 39.3 +0.4**
SKR Severo-Kuril's 125.30 323 *e*PKIKP PKPdf 23 05 33.6 -6.8
SKR *e* 23 05 57.5
SKR pmax pmax
comp=Z,110nm,1.0s
SVE Sverdlovsk 125.35 28 *c* iPKIKP **PKPdf 23 05 41.1 +0.8**
SVE pmax pmax
comp=Z,88nm,1.6s
SVE MLR MLR
comp=Z,974nm,20.0s
IRAZ Razeghan 125.89 56 *e*P **PKPdf 23 05 42.2 -0.1**
MSEY Mahe Island 126.96 107 *i* PKIKP **PKPdf 23 05 47.3 +2.5**
IPIR Pirpir 127.05 60 *e*P **PKPdf 23 05 43.4 -1.3**
AKTO Aktyubinsk 127.14 36 PKP **PKPdf 23 05 44.5 +0.5**
comp=Z,50nm,1.0s,baz=304,slow=1.6,SNR=100
AKTO Aktyubinsk 127.14 36 PKIKP **PKPdf 23 05 44.5 +0.5**
AKTO pmax pmax
comp=Z,50nm,1.0s
QAM Ghamsar 127.36 58 *e*P **PKPdf 23 05 43.5 -1.6**
IVRN Varamin 127.41 57 *e*P **PKPdf 23 05 45.5 +0.5**
IKLH Kolahrood 127.54 59 *e*P **PKPdf 23 05 44.8 -0.8**
CTA Charters Tower 127.57 231 PKP **PKPdf 23 05 45.5 -0.2**
comp=Z,41nm,0.9s,baz=112,slow=2.4,SNR=23
CTA pPKP **pPKPdf 23 06 14.5 +0.7**
comp=Z,42nm,1.1s,baz=194,slow=2.4,SNR=5.2
CTAO Charters Tower 127.57 231 *e*PKIKP **PKPdf 23 05 46.0 +0.3**
CTAO Charters Tower 127.57 231 *e*PKPdf **PKPdf 23 05 46.0 +0.3**
IPRN Peran 127.68 55 *e*P **PKPdf 23 05 46.0 +0.4**
IFIR Firoozkooh 128.12 56 *e*P **PKPdf 23 05 46.8 +0.2**
IKAZ Kazeroun 128.17 63 *e*P **PKPdf 23 05 46.2 -0.7**
IZEF Zefreh 128.22 59 *e*P **PKPdf 23 05 45.9 -1.0**
ILAS Lasjerd 128.33 56 *e*P **PKPdf 23 05 47.2 +0.2**
ISHM Shahmirzad 128.52 55 *e*P **PKPdf 23 05 48.1 +0.6**

ABKAR Akbulak array 128.78 37 *e*PKPdf **PKPdf 23 05 48.2 +1.1**
ABKAR *e*pPKPdf **pPKPdf 23 06 16.8 +1.6**
IGLO Ghaloghah 128.81 54 *e*P **PKPdf 23 05 48.1 +0.3**
YAK Yakutsk 129.03 346 *e*PKIKP **PKPdf 23 05 47.1 0.0**
YAK *e* 23 07 55.5
YAK *e*PS **PS 23 17 57.7 -8.2**
YAK pmax pmax
comp=Z,146nm,1.1s
YAK pmax pmax
comp=N,15nm,1.5s
YAK pmax pmax
comp=E,11nm,1.2s
YAK pmax pmax
comp=Z,456nm,4.1s
YAK pmax pmax
comp=N,263nm,3.4s
YAK pmax pmax
comp=E,192nm,4.6s
ISRV Sarvestan 129.32 63 *e*P **PKPdf 23 05 49.4 +0.2**
ISAD Sadrabad 129.50 60 *e*P **PKPdf 23 05 48.9 -0.5**
ABTO Aybut 129.68 79 P **PKPdf 23 05 51.2 +1.4**
SNR=7.1
ICHK Chekchek 130.05 60 *e*P **PKPdf 23 05 49.8 -0.6**
IMEH Mehriz 130.35 61 *e*P **PKPdf 23 05 49.9 -1.1**
ASUD Al Ashush, Dub 131.65 69 *i* PKiKP **PKPdf 23 05 54.6 +1.4**
SNR=13
ASUD Al Ashush, Dub 131.65 69⇓ *i* PKiKP **PKiKP 23 05 54.2 -0.1**
SNR=15
FAQ Al Faqa, Dubai 131.89 69⇑ *i* PKiKP **PKiKP 23 05 54.3 -0.5**
SNR=14
ISFR Sfrayin 131.93 53 *e*P **PKPdf 23 05 53.8 0.0**
NAZ Nazwa, Dubai 131.94 69 P **PKPdf 23 05 54.6 +0.7**
SNR=12
NAZ Nazwa, Dubai 131.94 69⇑ *i* PKiKP **PKPdf 23 05 54.6 +0.7**
SNR=13
NWAO Narrogin (SRO) 132.02 193 PKP **PKPdf 23 05 54.0 +0.1**
comp=E,77nm,1.2s,baz=150,slow=1.6,SNR=8.5
NWAO Narrogin (SRO) 132.02 193 PKIKP **PKPdf 23 05 54.0 +0.1**
NWAO pmax pmax
comp=Z,77nm,1.2s
NWAO Narrogin (SRO) 132.02 193 *e*PKPdf **PKPdf 23 05 54.0 +0.1**
NWAO *e*PKPdf **PKiKP 23 05 54.5 -0.4**
BRVK Borovoye 132.06 28 *d* iPKIKP **PKPdf 23 05 54.2 +1.0**
BRVK pmax pmax
comp=Z,179nm,1.2s
BRVK Borovoye 132.06 28 P **PKPdf 23 05 54.7 +1.5**
SNR=51
BRVK Borovoye 132.06 28 *e*PKPdf **PKPdf 23 05 53.4 +0.2**
ASHO Ashiyiah 132.31 69 P **PKPdf 23 05 54.6 0.0**
SNR=24
ASHO Ashiyiah 132.31 69⇑ *i* PKiKP **PKPdf 23 05 54.7 0.0**
SNR=23
HATD Hatta, Dubai 132.37 69 P **PKPdf 23 05 55.6 +0.9**
SNR=36
HATD Hatta, Dubai 132.37 69⇓ *i* PKiKP **PKPdf 23 05 54.7 +0.1**
SNR=35
IKRD Kardeh 132.40 53 *e*P **PKPdf 23 05 57.4 +2.7**
BANOM Banah 132.45 68 P **PKPdf 23 05 56.0 +1.1**
SNR=6.4
BANOM Banah 132.45 68⇑ *i* PKiKP **PKPdf 23 05 55.2 +0.4**
SNR=7.8
IBND Bandar-abas 132.52 66 *e*P **PKPdf 23 05 54.7 -0.1**
IBND *e*P **PKiKP 23 05 56.1 +0.2**
PMG Port Moresby 132.63 243 *d* iPKIKP **PKPdf 23 05 56.1 +0.7**
PMG pmax pmax
comp=Z,458nm,1.2s
PMG Port Moresby 132.63 243 *e*PKPdf **PKPdf 23 05 55.8 +0.4**
IAKL Akhelmad 132.63 53 *e*P **PKPdf 23 05 55.1 -0.1**
ARQ Araqi 132.80 71 P **PKPdf 23 05 55.8 +0.2**
SNR=12
IPAY Payeh 132.86 53 *e*P **PKPdf 23 05 56.3 +0.7**
ISRO Mashad 133.27 53 *e*P **PKPdf 23 05 55.5 -0.7**
AS12 Alice Springs 133.43 217 *e*PKPpre PKPpre 23 05 40.0
AS12 *e*PKPdf **PKPdf 23 05 56.7 -0.1**
AS12 *e*SP SP 23 18 31.3 -1.1
ASAR Alice Springs 133.43 217 PKiKP PKPpre 23 05 40.0
comp=Z,1.2nm,0.8s,baz=128,slow=2.4,SNR=7.9
ASAR PKP **PKPdf 23 05 56.7 -0.1**
comp=Z,18nm,0.8s,baz=125,slow=2.1,SNR=12
ASAR pPKP pPKPdf 23 06 25.2 +0.3
comp=Z,6.7nm,0.8s,baz=122,slow=2.0,SNR=2.7
ASAR SKKPbc SKKPbc 23 18 31.3 -0.6
comp=Z,4.4nm,1.0s,baz=336,slow=4.3,SNR=5.3
HOQ Hoqain 133.52 71 P **PKPdf 23 05 56.9 0.0**
SNR=9.7
ITEG Tejag 133.53 58 *e*P **PKPdf 23 05 57.0 +0.2**
COEN Coen 133.55 235 *e*PKPdf **PKPdf 23 05 57.9 +0.7**
COEN *e*pPKPdf **pPKPdf 23 06 26.6 +1.3**
IMYA Miami 133.75 53 *e*P **PKPdf 23 05 58.0 +0.8**
IKOO Kooshah 133.84 58 *e*P **PKPdf 23 05 57.8 +0.2**
SMDO Samad 134.22 71 P **PKPdf 23 05 58.6 +0.3**
SNR=25
YUK Yuzh-Kuril'sk 134.47 319 *d* iPKIKP **PKPdf 23 05 58.0 0.0**
YUK *i* 23 08 32.4
YUK *i* PPP PPP 23 11 26.9
YUK pmax pmax
comp=E,69nm,1.8s
YUK pmax pmax
comp=Z,271nm,1.8s
YUK pmax pmax
comp=N,160nm,0.9s
YUK MLR MLR
comp=E,530nm,21.0s
YUK MLR MLR
comp=Z,511nm,21.0s
IDAH Dahanechah 134.49 58 *e*P **PKPdf 23 05 58.7 -0.1**
YSS Yuzh-Sakhalins 134.82 324 *ke*PKIKP **PKPdf 23 05 59.0 +0.4**
YSS *i* 23 06 15.2
YSS *e* 23 08 34.0
YSS *e*PPP PPP 23 11 34.0
YSS Yuzh-Sakhalins 134.82 324 *e*PKPdf **PKPdf 23 05 59.6 +1.1**
WBK Wadi Bani Khal 135.09 72 P **PKPdf 23 06 01.1 +1.3**
SNR=7.6
NVS Novosibirsk 135.68 18 *e*PKHKP PKPpre 23 05 52.7
NVS pmax pmax
comp=Z,390nm,1.8s
NVS pmax pmax
comp=E,103nm,1.6s
BOD Bodaibo 135.80 354 *e*PKHKP PKPpre 23 05 43.9
BOD pmax pmax
comp=Z,57nm,1.7s
WRA Warramunga Arr 135.97 221 PKHKP PKPpre 23 05 47.3
comp=Z,4.9nm,1.1s,baz=126,slow=3.4,SNR=13
WRA PKP **PKPdf 23 06 01.5 -0.1**
comp=Z,36nm,1.0s,baz=140,slow=1.6,SNR=46
WRA pPKP pPKPdf 23 06 29.4 -0.4
comp=Z,11nm,0.7s,baz=132,slow=1.8,SNR=2.5
WRAB Tennant Creek 135.97 221 *d* iPKIKP **PKPdf 23 06 01.6 0.0**
WRAB pmax pmax
comp=Z,366nm,1.7s
WRAB Tennant Creek 135.97 221 *e*PKPpre PKPpre 23 05 51.0
ZAA1 Zalesovo Array 136.92 18 *e*PKPpre PKPpre 23 05 51.7
ZAA1 *e*PKPdf **PKPdf 23 06 02.2 0.0**
ZAA0 Zalesovo Array 136.93 18 *e*PKPpre PKPpre 23 05 48.9
ZALV Zalesovo Beam 136.93 18 PKhKP PKPpre 23 05 51.7
comp=Z,8.7nm,0.9s,baz=307,slow=3.3,SNR=14
ZALV PKP **PKPdf 23 06 02.2 0.0**
comp=Z,205nm,0.9s,baz=298,slow=3.1,SNR=105
KRAR Krasnoyarsk 136.95 10⇓ *i* PKIKP **PKPdf 23 06 02.7 +0.5**
ERM Erimo 137.18 318 *c* iPKIKP **PKPdf 23 06 04.3 +1.2**
KURK Kurchatov 137.36 25 *e*PKHKP PKPpre 23 05 51.4
KURK Kurchatov 137.36 25 P **PKPdf 23 06 04.4 +1.2**
SNR=32
KURK Kurchatov 137.36 25 *e*PKPpre PKPpre 23 05 51.4
HABR Khabarovsk 137.88 331 *de*PKIKP **PKPdf 23 06 03.0 -1.2**
HABR *e* 23 08 52.1
HABR *e* 23 11 53.0
HABR *e*SS SS 23 26 54.6 +0.8
HABR *e*SSS SSS 23 32 03.6
HABR pmax pmax
comp=N,34nm,1.5s
HABR pmax pmax
comp=E,63nm,1.5s
HABR pmax pmax
comp=Z,139nm,1.5s
HABR MLR MLR
comp=Z,935nm,24.0s
KKAR Karatay Array 138.21 39 *e*PKHKP PKPpre 23 05 55.5
KKAR Karatay Array 138.21 39 *e*PKPpre PKPpre 23 05 55.5
KLR Kul'dur 138.81 334 *e*PKHKP PKPpre 23 05 51.0
KLR *e* 23 08 55.8
KLR pmax pmax
comp=Z,48nm,1.4s
EKS2 Erkin-Say 140.44 38 P PKPpre 23 05 59.3
SNR=10

EKS2 Erkin-Say 140.44 38 *e*PKHKP PKPpre 23 06 02.4
EKS2 Erkin-Say 140.44 38 *e*PKPpre PKPpre 23 06 02.4
USP Ospenovka 140.49 36 P **PKPdf 23 06 11.6 +2.3**
SNR=14
AML Almayashu 140.70 38 P PKPpre 23 06 04.8
SNR=10
CHMS Chumysh 140.80 36 P PKPpre 23 06 05.2
SNR=8.7
FRU Bishkek 140.82 37⇑ *e*PKHKP PKPpre 23 06 04.0
FRU *i* 23 06 12.0
FRU pmax pmax
comp=Z,360nm,1.8s
FRU MLR MLR
comp=E,1μm,23.0s
AAK Ala-Archa 140.87 37 P PKPpre 23 06 05.3
SNR=21
AAK Ala-Archa 140.87 37 *e*PKHKP PKPpre 23 06 05.3
AAK Ala-Archa 140.87 37 *e*PKPpre PKPpre 23 06 05.3
KBK Karagaybulak 141.12 37 P PKPpre 23 06 06.7
SNR=25
UCH Uchtor 141.13 38 P PKPpre 23 06 06.9
SNR=42
KBL Kabul 141.22 52 *e*PKHKP PKPpre 23 06 05.8
KBL Kabul 141.22 52 *e*PKPpre PKPpre 23 06 05.8
TKM2 Tokmak 2 141.33 36 P PKPpre 23 06 05.5
SNR=22
TKM2 Tokmak 2 141.33 36 *e*PKHKP PKPpre 23 06 05.7
TKM2 Tokmak 2 141.33 36 *e*PKPpre PKPpre 23 06 05.7
JAY Jayapura 141.50 247 PKhKP PKPpre 23 06 06.8
comp=E,17nm,1.0s,baz=167,slow=2.9,SNR=14
JAY Jayapura 141.50 247 *i* PKHKP PKPpre 23 06 06.8
JAY pmax pmax
comp=Z,17nm,1.0s
CIT Chita 141.54 352 *e*PKHKP PKPpre 23 06 05.8
CIT *e* 23 06 12.8
CIT *e* 23 06 37.5
CIT pmax pmax
comp=Z,101nm,2.5s
KZA Kyzart 141.66 37 P PKPpre 23 06 07.8
SNR=38
IRK Irkutsk 141.84 1 *e*PKHKP PKPpre 23 06 04.8
IRK *e* 23 09 13.5
IRK pmax pmax
comp=Z,255nm,1.6s
GUMO Guam 141.86 274 PKP **PKPdf 23 06 12.1 -0.3**
comp=Z,42nm,0.4s,baz=300,slow=3.1,SNR=4.2
GUMO Guam 141.86 274 PKIKP **PKPdf 23 06 12.1 -0.3**
GUMO pmax pmax
comp=Z,42nm,0.4s
MK32 Makanchi Array 141.93 26 *e*PKPpre PKPpre 23 06 06.3
MK32 *e*PKPdf **PKPdf 23 06 11.4 -0.3**
MKAR Makanchi Array 141.93 26 PKhKP PKPpre 23 06 06.3
comp=Z,15nm,1.0s,baz=305,slow=4.3,SNR=49
MKAR PKP **PKPdf 23 06 11.4 -0.3**
comp=Z,62nm,1.1s,baz=304,slow=4.4,SNR=53
MKAR Makanchi Array 141.93 26 *i* PKHKP PKPpre 23 06 06.3
MKAR 23 06 11.4
MKAR pmax pmax
comp=Z,15nm,1.0s
MKAR pmax pmax
comp=Z,62nm,1.1s
MK01 Makanchi Array 141.96 26 *e*PKPpre PKPpre 23 06 06.3
ULHL Ulahol 142.13 36 P PKPpre 23 06 09.0
SNR=15
MOY Mondy 142.25 5 *e*PKIKP PKPpre 23 06 09.0
MOY pmax pmax
comp=Z,319nm,2.5s
TLY Talaya 142.38 2 *e*PKIKP PKPpre 23 06 08.6
TLY *e* 23 09 18.3
TLY *e* 23 27 44.5
TLY pmax pmax
comp=Z,110nm,1.2s
TLY MLR MLR
comp=Z,569nm,19.0s
TLY Talaya 142.38 2 PKPdf PKPpre 23 06 09.0
SNR=75
USRK Ussuriysk Ar. 142.40 328 PKhKP PKPpre 23 06 08.1
comp=Z,39nm,1.1s,baz=79,slow=2.9,SNR=34
MAJO Matsushiro 143.21 314 *c* iPKHKP PKPpre 23 06 10.3
MAJO Matsushiro 143.21 314 *e*PKPpre PKPpre 23 06 10.6
MAT Matsushiro 143.21 314 PKP PKPab 23 06 09.9 -0.2
MDJ Mudanjiang 143.27 331 PKP **PKPdf 23 06 13.9 -0.2**
MDJ pPKP **pPKPdf 23 06 39.0 -3.2**
MDJ sPKP 23 06 48.6
MDJ PP **PP 23 09 25.8 +0.7**
MDJ SS SS 23 27 59.4 +2.7
MDJ PPMZ
comp=Z,560nm,6.9s
MDJ LN
comp=Z,710nm,25.6s
MDJ LE
comp=Z,570nm,28.6s
MDJ LZ
comp=Z,850nm,29.4s
CBI Chichi jima 143.46 297 *e*PKPpre PKPab 23 06 12.4 +1.1
CBIJ Chichi jima 143.46 297 PKP PKPbc 23 06 12.4 -0.1
JCJ Chichijima 143.46 297 PKP PKPbc 23 06 12.4 -0.1
comp=Z,126nm,0.9s,baz=79,slow=9.9,SNR=4.8
KSH Kashi 143.63 40 PKP PKPbc 23 06 13.0 +0.2
KSH sPKP 23 06 49.8
KSH SKS **SKSdf 23 13 11.3 -4.3**
KSH PPMZ
comp=Z,250nm,4.7s
KSH LN
comp=Z,250nm,13.7s
KSH LE
comp=Z,720nm,22.1s
KSH LZ
comp=Z,780nm,23.4s
BHJ Bhuj 144.83 69 *e*P **PKPdf 23 06 18.1 +0.7**
SRPI Serui, Papua 145.76 245 PKP **PKPab 23 06 20.8 +0.4**
SRPI PKP **PKPbc 23 06 21.6 +1.7**
CN2 Changchun 145.77 334 *e*PKPbc **PKPdf 23 06 17.3 -1.1**
CN2 sPKP 23 06 55.3
CN2 PP **PP 23 09 42.9 +3.0**
CN2 PPMZ
comp=Z,700nm,5.0s
CN2 LN
comp=Z,500nm,16.0s
CN2 LE
comp=Z,700nm,16.0s
CN2 LZ
comp=Z,6μm,22.0s
ULN Ulaanbaatar 146.21 358 *de*PKP2 **PKPbc 23 06 20.0 -0.5**
ULN Ulaanbaatar 146.21 358 P **PKPbc 23 06 20.5 0.0**
SNR=379
ULN Ulaanbaatar 146.21 358 *e*PKPdf **PKPab 23 06 21.2 0.0**
SONA1 Songino Array 146.25 359 *e*PKPdf **PKPdf 23 06 19.5 +0.2**
SONA0 Songino Array 146.26 359 *e*PKPdf **PKPbc 23 06 20.2 -0.4**
SONM Songino Array 146.26 359 PKPbc **PKPbc 23 06 20.2 -0.4**
comp=Z,437nm,1.0s,baz=330,slow=1.6,SNR=331
SONM Songino Array 146.26 359 PKP2 **PKPbc 23 06 20.2 -0.4**
SONM pmax pmax
comp=Z,437nm,1.0s
WMQ Urumqi 146.57 24 PKPbc **PKPbc 23 06 21.0 -0.5**
WMQ pPKP **pPKPdf 23 06 47.5 -0.6**
WMQ PP **PP 23 09 48.1 +3.4**
WMQ PKS **PKSdf 23 09 51.4 -3.8**
WMQ SKS **SKSdf 23 13 18.3 -1.3**
WMQ SKKS **SKKSac 23 16 28.3 +0.5**
WMQ SS **SS 23 28 36.1 +1.8**
WMQ PPMZ
comp=Z,280nm,9.0s
WMQ LN
comp=Z,1μm,28.6s
WMQ LE
comp=Z,1μm,28.0s
WMQ LZ
comp=Z,1μm,26.4s
DHRM DHARAMSHALA 147.69 51 *e*P **PKPdf 23 06 23.5 +1.2**
BHK Bhakra 148.15 52 *e*P **PKPbc 23 06 24.6 -1.6**
BHK *ex* x 23 06 54.8
SNY Shenyang 148.17 334⇓ PKPbc **PKPdf 23 06 21.6 -0.9**
SNY PP **PP 23 09 55.8 +1.8**
SNY PPMZ
comp=Z,720nm,12.0s
SNY LN
comp=Z,690nm,22.7s
SNY LE
comp=Z,810nm,23.0s
SNY LZ
comp=Z,1μm,23.7s
KSSKC Sokcho 148.40 324 P **PKPbc 23 06 27.4 +0.9**
SNR=13
KSSKC Sokcho 148.40 324 P **PKPbc 23 06 27.9 +1.3**

	SNR=8.6							
AJM	**Ajmer**	**148.53**	**62**	*ex*		**PKPdf**	**23 06 24.0**	**+0.4**
SDNR	**Sundarnagar**	**148.54**	**52**	*eP*		**PKPdf**	**23 06 22.0**	**-1.5**
KSJMJ	**Jumunjin**	**148.54**	**323**	P		**PKPbc**	**23 06 27.9**	**+0.9**
	SNR=9.5							
KSJMJ	**Jumunjin**	**148.54**	**323**	P		**PKPbc**	**23 06 28.2**	**+1.3**
	SNR=9.2							
SEHB	**SEOHWA**	**148.56**	**324**	P		**PKPbc**	**23 06 28.2**	**+1.1**
	SNR=12							
FAKI	**Fak Fak**	**148.66**	**240**	*e*PKPdf		**PKPdf**	**23 06 25.2**	**+1.1**
KSDGY	**Daegwallycong**	**148.72**	**323**	P		**PKPbc**	**23 06 28.8**	**+1.2**
	SNR=6.9							
KSIJA	**INJE**	**148.84**	**324**	P		**PKPbc**	**23 06 28.8**	**+1.1**
	SNR=12							
SMLA	**Simla**	**148.86**	**52**	*i* P		**PKPdf**	**23 06 24.6**	**+0.6**
SMLA				AMS		AMS	00 03 52.9	
	comp=Z,4µm,10.2s							
KSJES	**JEONGSEON**	**148.90**	**323**	P		**PKPbc**	**23 06 28.4**	**+0.5**
	SNR=8.3							
KSJES	**JEONGSEON**	**148.90**	**323**	P		**PKPbc**	**23 06 29.1**	**+1.2**
	SNR=6.8							
KSTBA	**Taebaek**	**148.94**	**322**	P		**PKPbc**	**23 06 28.9**	**+0.8**
	SNR=6.1							
KSULJ	**Uljin**	**148.94**	**321**	P		**PKPbc**	**23 06 28.7**	**+0.7**
	SNR=6.0							
KSULJ	**Uljin**	**148.94**	**321**	P		**PKPbc**	**23 06 28.7**	**+0.7**
	SNR=6.0							
KHET	**Khetri**	**149.00**	**58**	*eP*		**PKPdf**	**23 06 24.6**	**+0.3**
KKR	**Kurukshetra**	**149.09**	**54**	*eP*		**PKPdf**	**23 06 23.0**	**-1.4**
KSCWO	**Cheorwon**	**149.11**	**325**	P		**PKPbc**	**23 06 29.0**	**+0.6**
	SNR=13							
RTK	**Rohtak**	**149.14**	**56**	*eP*		**PKPdf**	**23 06 24.5**	**0.0**
KSCHC	**Chuncheon**	**149.15**	**324**	P		**PKPbc**	**23 06 29.1**	**+0.5**
	SNR=13							
KSYOW	**Yeongwol**	**149.20**	**323**	P		**PKPbc**	**23 06 29.4**	**+0.7**
	SNR=8.0							
POO	**Poona**	**149.24**	**77**	*eP*		**PKPdf**	**23 06 25.8**	**+0.8**
KSWJU	**Wonju**	**149.28**	**323**	P		**PKPbc**	**23 06 30.1**	**+1.3**
	SNR=5.3							
GOA	**Goa**	**149.28**	**83**	*eP*		**PKPdf**	**23 06 25.5**	**+0.5**
KSRS	**Korea Array**	**149.31**	**324**	PKPbc		**PKPdf**	**23 06 25.8**	**+1.3**
	comp=Z,399nm,1.2s,baz=30,slow=1.0,SNR=110							
KSRS	**Korea Array**	**149.31**	**324**	PKIKP		**PKPdf**	**23 06 25.8**	**+1.3**
KSRS				pmax		pmax		
	comp=Z,399nm,1.2s							
KS01	**Wonju Array Si**	**149.32**	**324**	*e*PKPdf		**PKPdf**	**23 06 24.4**	**-0.1**
KS15	**Wonju Array Si**	**149.35**	**324**	*e*PKPdf		**PKPdf**	**23 06 25.8**	**+1.2**
YNCB	**YEONCHEON**	**149.46**	**326**	P		**PKPdf**	**23 06 25.5**	**+0.8**
	SNR=29							
YNCB	**YEONCHEON**	**149.46**	**326**	P		**PKPbc**	**23 06 29.4**	**+0.2**
	SNR=6.3							
KSDDC	**Dongducheon**	**149.49**	**325**	P		**PKPbc**	**23 06 29.7**	**+0.4**
	SNR=6.1							
KUDL	**Kundal**	**149.53**	**58**	*eP*		**PKPdf**	**23 06 25.1**	**0.0**
KUDL				*ex*		x	23 06 59.9	
KSEUS	**ULSEONG**	**149.60**	**321**	P		**PKPbc**	**23 06 29.8**	**+0.2**
	SNR=6.7							
KSMUS	**Musan**	**149.66**	**326**	P		**PKPdf**	**23 06 26.1**	**+1.0**
	SNR=22							
KSMUS	**Musan**	**149.66**	**326**	P		**PKPbc**	**23 06 30.2**	**+0.4**
	SNR=14							
KSCHJ	**Chungju**	**149.68**	**323**	P		**PKPbc**	**23 06 30.3**	**+0.4**
	SNR=9.9							
KSYOC	**YEONGCHEON**	**149.69**	**320**	P		**PKPbc**	**23 06 31.1**	**+1.3**
	SNR=5.1							
BHGR	**Bahadurgarh**	**149.70**	**57**	*eP*		**PKPdf**	**23 06 25.1**	**-0.2**
KSICN	**Icheon**	**149.72**	**324**	P		**PKPbc**	**23 06 30.1**	**+0.2**
	SNR=20							
KSDAG	**Daegu**	**149.85**	**320**	P		**PKPbc**	**23 06 30.8**	**+0.5**
	SNR=24							
KSSEO	**Seoul**	**149.86**	**325**	P		**PKPbc**	**23 06 30.1**	**-0.2**
	SNR=9.0							
KSSAJ	**Sangju**	**149.89**	**322**	P		**PKPbc**	**23 06 31.0**	**+0.7**
	SNR=12							
DDI	**Dehra Dun**	**149.90**	**53**	*eP*		**PKPdf**	**23 06 24.7**	**-1.0**
KSGAH	**Ganghwa**	**149.97**	**326**	P		**PKPbc**	**23 06 30.1**	**-0.4**
	SNR=11							
SOEI	**Soe**	**149.98**	**219**	*e*PKPdf		**PKPdf**	**23 06 27.3**	**+0.9**
SONA	**Sohna**	**149.98**	**57**	*eP*		**PKPdf**	**23 06 26.6**	**+0.8**
BATI	**Baumata**	**149.99**	**218**	PKPbc		**PKPbc**	**23 06 31.4**	**+0.1**
	comp=Z,258nm,1.0s,baz=107,slow=1.0,SNR=7.0							
KSSWO	**Suwon**	**149.99**	**324**	P		**PKPbc**	**23 06 30.4**	**-0.1**
	SNR=12							
INCN	**Inchon**	**150.03**	**325**	PKPdf		**PKPbc**	**23 06 30.7**	**0.0**
	SNR=7.6							
INCN	**Inchon**	**150.03**	**325**	*e*PKPdf		**PKPdf**	**23 06 26.9**	**+1.3**
KSBON	**Boeun**	**150.04**	**322**	P		**PKPdf**	**23 06 26.8**	**+1.1**
	SNR=62							
KSBON	**Boeun**	**150.04**	**322**	P		**PKPbc**	**23 06 31.5**	**+0.8**
	SNR=14							
KSBUS	**Busan**	**150.05**	**319**	P		**PKPbc**	**23 06 31.4**	**+0.6**
	SNR=18							
KSCPR	**CHUPUNGNYEONG**	**150.12**	**322**	P		**PKPbc**	**23 06 31.3**	**+0.3**
	SNR=25							
JNU	**Nakatsue**	**150.13**	**314**	PKPbc		**PKPbc**	**23 06 29.3**	**-1.8**
	baz=42,slow=5.5							
JNU	**Nakatsue**	**150.13**	**314**	*e*PKPdf		**PKPdf**	**23 06 26.1**	**+0.1**
KSCEA	**Cheonan**	**150.13**	**323**	P		**PKPdf**	**23 06 26.8**	**+1.0**
	SNR=34							
KSCEA	**Cheonan**	**150.13**	**323**	P		**PKPbc**	**23 06 31.4**	**+0.4**
	SNR=9.5							
BISR	**Bishrakh**	**150.15**	**56**	*ex*		**PKPbc**	**23 06 32.8**	**+1.6**
KSCEJ	**CHEONGJU**	**150.16**	**323**	P		**PKPbc**	**23 06 32.0**	**+1.0**
	SNR=9.7							
ASOR	**Ausora**	**150.34**	**56**	*eP*		**PKPdf**	**23 06 26.0**	**-0.3**
KSTEJ	**Daejeon**	**150.38**	**323**	P		**PKPbc**	**23 06 31.8**	**+0.3**
	SNR=8.4							
KSKOJ	**Gongju**	**150.44**	**323**	P		**PKPbc**	**23 06 31.7**	**0.0**
	SNR=11							
SIJI	**Sorong**	**150.57**	**242**	PKP		**PKPdf**	**23 06 27.1**	**-0.1**
	comp=Z,45nm,1.2s,baz=70,slow=1.9,SNR=52							
SIJI				PKPbc		**PKiKP**	**23 06 33.3**	**0.0**
	comp=Z,62nm,0.7s,baz=29,slow=1.5,SNR=42							
KSSES	**Seosan**	**150.62**	**324**	P		**PKPbc**	**23 06 31.6**	**-0.5**
	SNR=6.3							
KSBAR	**Backryungdo**	**150.69**	**328**	P		**PKPbc**	**23 06 32.1**	**-0.1**
	SNR=9.0							
KSJEO	**Jeonju**	**150.72**	**322**	P		**PKPbc**	**23 06 32.5**	**+0.1**
	SNR=5.2							
KSJIN	**Jinju**	**150.79**	**320**	P		**PKPbc**	**23 06 33.0**	**+0.4**
	SNR=10							
KALG	**Kalgarh**	**150.81**	**54**	*ex*		**PKPbc**	**23 06 31.3**	**-1.5**
JOSI	**Joshimath**	**150.94**	**51**	*ex*		**PKPbc**	**23 06 31.2**	**-2.2**
KSGUS	**GUNSAN**	**150.96**	**323**	P		**PKPbc**	**23 06 32.7**	**-0.2**
	SNR=7.7							
AGRA	**Agra**	**151.07**	**59**	*eP*		**PKPdf**	**23 06 27.9**	**+0.3**
KSNAH	**Namhae**	**151.07**	**320**	P		**PKPbc**	**23 06 33.6**	**+0.4**
	SNR=6.1							
KSJEU	**Jeongeup**	**151.24**	**322**	P		**PKPbc**	**23 06 33.9**	**+0.3**
	SNR=7.7							
DL2	**Dalian**	**151.42**	**333**	PKPbc		**PKPdf**	**23 06 28.3**	**+0.6**
DL2				PP		**PP**	**23 10 11.8**	**-1.0**
DL2				SS		SS	23 29 24.1	-4.3
DL2				PPMZ				
	comp=Z,690nm,10.6s							
DL2				LN				
	comp=Z,570nm,18.1s							
DL2				LZ				
	comp=Z,290nm,24.5s							
TRD	**Trivandrum**	**151.43**	**98**	*eP*		**PKPdf**	**23 06 27.8**	**-0.7**
TRD				AMS		AMS	00 10 28.3	
	comp=Z,4µm,13.4s							
KSKOH	**Goheung**	**151.62**	**320**	P		**PKPbc**	**23 06 34.5**	**+0.1**
	SNR=7.2							
BHPL	**Bhopal**	**151.84**	**67**	*eP*		**PKPdf**	**23 06 29.0**	**+0.1**
AKL	**Akola**	**151.97**	**72**	*eP*		**PKPdf**	**23 06 29.8**	**+0.7**
MMRI	**Maumere**	**152.08**	**217**	*e*PKPdf		**PKPdf**	**23 06 27.9**	**-1.5**
KSWAN	**Wando**	**152.12**	**320**	P		**PKPbc**	**23 06 35.4**	**-0.2**
	SNR=6.3							
BJI	**Beijing**	**152.44**	**342**	PKPbc		**PKPdf**	**23 06 28.8**	**-0.4**
BJI				SS		SS	23 29 41.8	+2.7
BJI				LN				
	comp=Z,380nm,21.6s							
BJI				LE				
	comp=Z,500nm,19.6s							
BJI				LZ				
	comp=Z,510nm,25.3s							
BJT	**Baijiatuau**	**152.46**	**342**	*e*PKIKP		**PKPdf**	**23 06 30.0**	**+0.7**
BJT	**Baijiatuau**	**152.46**	**342**	*e*PKPdf		**PKPdf**	**23 06 30.0**	**+0.7**
URV	**Uravakonda**	**152.58**	**84**	*e*PKPdf		**PKPdf**	**23 06 29.7**	**-0.4**
URV				*e*PKiKP		**PKPbc**	**23 06 36.5**	**-0.7**
URV				*e*PKPab		**PKPab**	**23 06 46.3**	**-1.8**
URV				*ep*PKPdf		**pPKPdf**	**23 06 54.8**	**-3.6**
URV				*es*PKPdf		**sPKPdf**	**23 07 07.3**	**-1.7**
HHC	**Hu-ho-hao-te**	**152.74**	**350**	*e*PKPbc		**PKPdf**	**23 06 30.8**	**+1.0**
HHC				pPKP		**pPKPdf**	**23 06 58.3**	**+0.3**
HHC				sPKP			23 07 09.3	
HHC				PP		**PP**	**23 10 18.4**	**-1.7**
HHC				SKS		**SKSdf**	**23 13 26.1**	**-1.8**
HHC				SKKS		**SKKSac**	**23 17 02.9**	**+0.9**
HHC				SS		**SS**	**23 29 44.8**	**+2.3**
HHC				PPMZ				
	comp=Z,750nm,6.4s							
HHC				LN				
	comp=Z,830nm,17.7s							
HHC				LE				
	comp=Z,920nm,26.0s							
HHC				LZ				
	comp=Z,1µm,25.1s							
BTO	**Baotou**	**153.21**	**352**	*e*PKPbc		**PKPdf**	**23 06 31.0**	**+0.5**
NGP	**Nagpur**	**153.76**	**71**	*eP*		**PKPdf**	**23 06 32.5**	**+0.8**
NGP				*ex*		x	23 17 59.8	
HYBB	**Hyderabad (bro**	**153.78**	**79**	*e*PKPdf		**PKPdf**	**23 06 31.5**	**-0.4**
HYBB				*e*PKiKP		**PKPbc**	**23 06 39.7**	**-0.1**
HYBB				*e*PP		**PP**	**23 10 26.6**	**-1.6**
HYB	**Hyderabad**	**153.78**	**79**	*i* PKP		**PKPdf**	**23 06 31.0**	**-0.9**
	comp=Z,110nm,1.0s							
HYB				*es*PKP			23 07 31.0	
HYB				*e*SKP			23 09 54.0	
HYB				*e*PP		**PP**	**23 10 24.0**	**-4.1**
HYB				*e*			23 11 04.0	
HYB				*e*			23 11 28.0	
HYB				*e*			23 14 48.0	
HYB				*e*SKKS			23 21 08.0	
HYB				*e*			23 21 32.0	
HYB	**Hyderabad**	**153.78**	**79**	*eP*		**PKPdf**	**23 06 32.1**	**+0.3**
GTA	**Gaotai**	**154.19**	**10**	⇑PKPbc		**PKPdf**	**23 06 33.1**	**+1.1**
GTA				pPKP		**pPKPdf**	**23 06 59.4**	**-0.8**
GTA				sPKP			23 07 10.8	
GTA				PP		**PP**	**23 10 27.4**	**-0.8**
GTA				SKS		**SKSdf**	**23 13 28.6**	**-1.1**
GTA				SKKS		**SKKSac**	**23 17 10.9**	**+1.0**
GTA				SS		**SS**	**23 29 57.3**	**-1.0**
GTA				LN				
	comp=Z,1µm,23.5s							
GTA				LE				
	comp=Z,630nm,22.8s							
GTA				LZ				
	comp=Z,1µm,23.0s							
RPR	**Rampur**	**154.35**	**76**	*e*PKPdf		**PKPdf**	**23 06 32.3**	**-0.2**
RPR				*e*PKiKP		**PKiKP**	**23 06 41.3**	**+0.3**
RPR				*e*PKPab		**PKPab**	**23 06 55.3**	**-0.1**
RPR				*es*PKPdf		**sPKPdf**	**23 07 09.8**	**-1.6**
RPR				*e*PP		**PP**	**23 10 26.8**	**-4.4**
NJS	**Nagarjunasagar**	**154.54**	**81**	*e*PKPdf		**PKPdf**	**23 06 31.9**	**-1.0**
NJS				*e*PKiKP		**PKiKP**	**23 06 41.9**	**+0.4**
NJS				*e*PKPab		**PKPab**	**23 06 57.1**	**+0.8**
NJS				*es*PKPdf		**sPKPdf**	**23 07 10.1**	**-1.6**
NJS				*e*PP		**PP**	**23 10 31.1**	**-1.3**
SKHT	**Srikalahasti**	**154.90**	**87**	*e*PKPdf		**PKPdf**	**23 06 33.0**	**-0.4**
SKHT				*e*PKiKP		**PKiKP**	**23 06 42.3**	**+0.1**
SKHT				*e*PKPab		**PKPab**	**23 06 57.1**	**-0.8**
SKHT				*e*PP		**PP**	**23 10 31.3**	**-3.1**
JOW	**Kunigami**	**155.24**	**305**	PKP		**PKPdf**	**23 06 35.1**	**+1.5**
	comp=Z,10nm,1.1s,baz=267,slow=7.0,SNR=6.8							
KOLN	**Koldanda**	**155.38**	**53**	*eP*		**PKPdf**	**23 06 34.1**	**+0.1**
TIY	**Taiyuan**	**155.60**	**347**	*e*PKP		**PKPdf**	**23 06 34.5**	**+0.6**
TIY				PKPab		**PKPab**	**23 07 00.5**	**+0.3**
TIY				pPKP		**pPKPdf**	**23 07 03.4**	**+1.3**
TIY				PP		**PP**	**23 10 35.4**	**-0.7**
TIY				PPMZ				
	comp=Z,990nm,4.2s							
TIY				LN				
	comp=Z,1µm,22.7s							
TIY				LE				
	comp=Z,550nm,18.0s							
TIY				LZ				
	comp=Z,480nm,15.3s							
GKN	**Gorkha**	**156.06**	**51**	*eP*		**PKPdf**	**23 06 35.0**	**+0.1**
	comp=Z,568nm,1.7s							
KAPI	**Kappang**	**156.44**	**218**	PKP		**PKPdf**	**23 06 36.3**	**+0.7**
	comp=Z,68nm,1.2s,baz=224,slow=1.0,SNR=54							
KAPI	**Kappang**	**156.44**	**218**	P		**PKPdf**	**23 06 36.6**	**+1.1**
	SNR=39							
KAPI	**Kappang**	**156.44**	**218**	*e*PKPdf		**PKPdf**	**23 06 35.3**	**-0.3**
KAPI				*e*PKPdf		**PKPdf**	**23 06 36.3**	**+0.7**
DMN	**Daman**	**156.61**	**51**	*eP*		**PKPdf**	**23 06 35.9**	**+0.1**
	comp=Z,288nm,1.4s							
KKN	**Kakani**	**156.65**	**51**	*eP*		**PKPdf**	**23 06 35.9**	**+0.2**
	comp=Z,322nm,1.5s							
PKIN	**Phulchoki**	**156.85**	**51**	*eP*		**PKPdf**	**23 06 35.8**	**-0.3**
PKI	**Pulchoki**	**156.86**	**51**	*eP*		**PKPdf**	**23 06 35.8**	**-0.4**
	comp=Z,406nm,1.7s							
GUN	**Gumba**	**157.03**	**50**	*eP*		**PKPdf**	**23 06 36.6**	**+0.2**
	comp=Z,640nm,1.7s							
LUWI	**Luwuk**	**157.33**	**230**	*e*PKPdf		**PKPdf**	**23 06 37.8**	**+1.0**
JIRN	**Jiri**	**157.40**	**50**	*eP*		**PKPdf**	**23 06 36.7**	**-0.2**
	comp=Z,251nm,1.6s							
SSE	**Sheshan**	**157.74**	**322**	⇓PKP		**PKPdf**	**23 06 37.8**	**+1.1**
SSE				pPKP		**pPKPdf**	**23 07 06.0**	**+1.0**
SSE				sPKP			23 07 18.8	
SSE				SS		SS	23 30 37.8	+0.1
SSE				PPMZ				
	comp=Z,340nm,12.0s							
SSE				LN				
	comp=Z,280nm,24.0s							
SSE				LE				
	comp=Z,480nm,24.0s							
SSE				LZ				
	comp=Z,790nm,22.6s							
LZH	**Lanzhou**	**157.95**	**4**	⇓PKP		**PKPdf**	**23 06 38.4**	**+1.3**
LZH				pPKP		**PKPab**	**23 07 08.3**	**-2.1**
LZH				PP		**PP**	**23 10 51.5**	**+2.4**
LZH				SKS		**SKSdf**	**23 13 31.0**	**-2.9**
LZH				SKKS		**SKKSac**	**23 17 30.0**	**0.0**
LZH				SS		**SS**	**23 30 40.0**	**+1.3**
LZH				PPMZ				
	comp=Z,2µm,7.0s							
LZH				LN				
	comp=Z,1µm,19.0s							
LZH				LE				
	comp=Z,840nm,18.5s							
LZH				LZ				
	comp=Z,2µm,20.3s							
RAMN	**Ramite**	**158.09**	**51**	*eP*		**PKPdf**	**23 06 37.8**	**+0.2**
	comp=Z,950nm,1.6s							
NJ2	**Nanjing**	**158.31**	**328**	*e*PKP		**PKPdf**	**23 06 37.8**	**+0.4**
NJ2				pPKP		**pPKPdf**	**23 07 03.3**	**-2.3**
NJ2				PKPab		**PKPab**	**23 07 11.8**	**-0.1**
NJ2				PP		**PP**	**23 10 48.0**	**-3.4**
NJ2				PPMZ				
	comp=Z,3µm,5.7s							
NJ2				LN				
	comp=Z,2µm,21.5s							
NJ2				LE				
	comp=Z,2µm,25.4s							
NJ2				LZ				
	comp=Z,2µm,25.3s							
CISI	**Cisompet, Garu**	**158.47**	**186**	PKP		**PKPdf**	**23 06 37.9**	**-0.3**
CISI				PKP		**PKPdf**	**23 06 39.0**	**+0.8**
CISI	**Cisompet, Garu**	**158.47**	**186**	*e*PKPdf		**PKPdf**	**23 06 36.8**	**-1.4**
SMRI	**Semarang**	**158.54**	**193**	*e*PKPdf		**PKPdf**	**23 06 39.8**	**+1.6**
TAPN	**Taplejung**	**158.69**	**49**	*eP*		**PKPdf**	**23 06 38.6**	**+0.2**
	comp=Z,491nm,1.6s							
ODAN	**Odare**	**158.73**	**50**	*eP*		**PKPdf**	**23 06 38.7**	**+0.3**
CNJI	**Cibinong**	**158.77**	**184**	PKP		**PKPdf**	**23 06 38.4**	**0.0**
CNJI				PKP		**PKPdf**	**23 06 40.3**	**+1.9**
CHLP	**Challavanipeta**	**158.87**	**75**	*e*PKPdf		**PKPdf**	**23 06 36.6**	**-1.8**
CHLP				*ep*PKPdf		**pPKPdf**	**23 07 07.6**	**+0.9**
CHLP				*e*PKPab		**PKPab**	**23 07 13.8**	**-1.1**
CHLP				*es*PKPdf		**sPKPdf**	**23 07 15.7**	**-1.6**
CHLP				*e*PP		**PP**	**23 10 55.6**	**-0.5**
MRSI	**Marisa**	**158.95**	**232**	PKP		**PKPdf**	**23 06 37.4**	**-1.3**
MRSI				PKP		**PKPdf**	**23 06 38.3**	**-0.4**
BOK	**Bokaro**	**159.01**	**59**	*eP*		**PKPdf**	**23 06 37.7**	**-0.7**
LEM	**Lembang**	**159.21**	**186**	PKP		**PKPdf**	**23 06 40.3**	**+1.1**
	comp=Z,76nm,1.0s,baz=155,slow=4.3,SNR=22							
LEM				PP		**PP**	**23 10 59.4**	**+3.5**
	comp=Z,46nm,1.1s,baz=176,slow=8.4,SNR=7.1							
LEM	**Lembang**	**159.21**	**186**	PKIKP		**PKPdf**	**23 06 40.3**	**+1.1**
LEM							23 10 59.4	
LEM				pmax		pmax		
	comp=Z,76nm,1.0s							
LEM				pmax		pmax		
	comp=Z,46nm,1.1s							
LSA	**Lhasa**	**159.46**	**38**	PKP		**PKPdf**	**23 06 40.8**	**+1.4**
LSA	**Lhasa**	**159.46**	**38**	*e*PKIKP		**PKPdf**	**23 06 40.8**	**+1.4**
LSA				*e*			23 10 57.7	
LSA	**Lhasa**	**159.46**	**38**	*e*PKPdf		**PKPdf**	**23 06 40.8**	**+1.4**
LSA				*e*PP		**PP**	**23 10 57.7**	**-0.9**
CGJI	**Cibinong**	**159.52**	**180**	PKP		**PKPdf**	**23 06 39.4**	**+0.1**
CGJI				PKP		**PKPdf**	**23 06 40.5**	**+1.2**
XAN	**Xi'an**	**159.82**	**352**	PKP		**PKPdf**	**23 06 39.8**	**+0.6**
XAN				sPKP			23 07 18.3	
XAN				PP		**PP**	**23 10 56.8**	**-2.3**
XAN				SS		SS	23 30 53.3	-5.0
XAN				PPMZ				
	comp=Z,260nm,7.8s							
XAN				LN				
	comp=Z,780nm,26.7s							
XAN				LZ				
	comp=Z,200nm,28.8s							
KBKI	**Kotabaru**	**159.85**	**212**	PKP		**PKPdf**	**23 06 40.2**	**+0.5**
KBKI				PKP		**PKPdf**	**23 06 41.0**	**+1.3**
BBKI	**Banjar Baru**	**160.36**	**209**	PKP		**PKPdf**	**23 06 40.7**	**+0.4**
BBKI				PKP		**PKPdf**	**23 06 41.3**	**+1.0**
MPSI	**Mapaga**	**160.37**	**227**	PKP		**PKPdf**	**23 06 40.4**	**+0.2**
MPSI				PKP		**PKPdf**	**23 06 40.5**	**+0.2**
BKB	**Balikpapan**	**161.13**	**217**	PKP		**PKPdf**	**23 06 43.2**	**+2.1**
BKB				PKP		**PKPdf**	**23 06 44.3**	**+3.2**
WHN	**Wuhan**	**161.65**	**335**	⇓*i* PKP		**PKPdf**	**23 06 41.8**	**+0.6**
WHN				pPKP		**pPKPdf**	**23 07 10.8**	**+1.4**
WHN				PKPab		**PKPab**	**23 07 25.6**	**-0.9**
WHN				PP		**PP**	**23 11 09.5**	**+0.2**
WHN				SS		SS	23 31 15.0	-3.1
WHN				LZ				
	comp=Z,3µm,23.0s							
PBKI	**Pangkalan Bun**	**162.34**	**200**	PKP		**PKPdf**	**23 06 43.5**	**+1.1**
PBKI				PKP		**PKPdf**	**23 06 44.4**	**+2.0**
YULB	**Yu-li**	**162.43**	**304**	*e*PKPdf		**PKPdf**	**23 06 43.8**	**+1.6**
SSLB	**Suanglung**	**162.50**	**306**	*e*PKPdf		**PKPdf**	**23 06 42.5**	**+0.2**
SSLB				*e*PP		**PP**	**23 11 13.1**	**-2.0**
MTKI	**Muara Teweh, K**	**162.51**	**213**	PKP		**PKPdf**	**23 06 45.0**	**+2.4**
SHL	**Shillong**	**162.75**	**46**	*e*P		**PKPdf**	**23 06 42.2**	**-0.5**
SHL				AMS		AMS	00 14 35.6	
	comp=Z,756nm,31.8s							
TWG	**Pinlang**	**162.88**	**303**	*e*PKPdf		**PKPdf**	**23 06 45.0**	**+2.4**
TPUB	**Ta-pu**	**163.01**	**305**	*e*PKPdf		**PKPdf**	**23 06 44.2**	**+1.5**
TPUB				*e*PKPab		**PKPab**	**23 07 32.5**	**-0.3**
RCP	**Roxas**	**163.07**	**264**	⇓*e*P		**PKPdf**	**23 06 43.7**	**+0.7**
CD2	**Chengdu**	**163.09**	**5**	PKP		**PKPdf**	**23 06 43.0**	**+0.3**
CD2				pPKP		**pPKPdf**	**23 07 13.8**	**+2.8**
CD2				PKS		**PKSdf**	**23 10 15.6**	**-0.3**
CD2				PP		**PP**	**23 11 15.5**	**-1.0**
CD2				SKS		**SKSdf**	**23 13 35.5**	**-2.8**
CD2				SKKS		**SKKSac**	**23 17 56.4**	**-0.1**
CD2				SS		**SS**	**23 31 33.3**	**+1.0**
CD2				PPMZ				
	comp=Z,2µm,6.5s							
CD2				LN				
	comp=Z,680nm,20.1s							
CD2				LE				
	comp=Z,700nm,19.6s							
CD2				LZ				
	comp=Z,1µm,34.3s							
TPI	**Tanjungpandan**	**163.22**	**187**	PKP		**PKPdf**	**23 06 43.4**	**+0.2**
TPI				PKP		**PKPdf**	**23 06 44.1**	**+0.9**
ENH	**Enshi**	**163.41**	**348**	*e*PKPdf		**PKPdf**	**23 06 43.9**	**+0.9**
QZH	**Quanzhou**	**163.60**	**314**	*i* PKP		**PKPdf**	**23 06 45.0**	**+1.8**
QZH				pPKP		**pPKPdf**	**23 07 12.3**	**+0.8**
QZH				PKPab		**PKPab**	**23 07 36.5**	**+1.2**
QZH				PP		**PP**	**23 11 18.4**	**-2.1**
QZH				SS		SS	23 31 42.6	+2.7
QZH				PPMZ				
	comp=Z,2µm,6.6s							
QZH				LZ				
	comp=Z,2µm,28.1s							
PPBI	**Pangkal Pinang**	**163.93**	**182**	PKP		**PKPdf**	**23 06 44.2**	**+0.3**
PPBI				PKP		**PKPdf**	**23 06 44.4**	**+0.5**
TSM	**Tawau**	**164.50**	**233**	⇑P		**PKPdf**	**23 06 45.0**	**+0.7**
IMP	**Imphal**	**164.66**	**44**	*ex*		x	23 06 55.0	
IMP				*ex*		x	23 07 14.0	
STKI	**Sintang**	**164.97**	**203**	PKP		**PKPdf**	**23 06 45.8**	**+1.0**
GSI	**Gunungsitoli**	**165.11**	**147**	*e*PKPdf		**PKPdf**	**23 06 45.5**	**+0.6**
GSI				*ep*PKPdf		**pPKPdf**	**23 07 14.4**	**+1.1**
GSI				*e*PKPab		**PKPab**	**23 07 44.0**	**+1.8**
GSI				*e*PP		**PP**	**23 11 28.4**	**+0.6**
BKNI	**Bangkinang**	**165.69**

CMAR	**Chiang Mai Arr**	**172.25**	**54**	PKIKP	**PKPdf**	**23 06 49.7 +0.3**
CMAR						23 08 13.5
CMAR						23 12 08.6
CMAR				pmax	pmax	
	comp=Z,31nm,1.0s					
CMAR				pmax	pmax	
	comp=Z,27nm,1.1s					
CMAR				pmax	pmax	
	comp=Z,8.0nm,1.1s					
CM01	**Chiang Mai Arr**	**172.28**	**54**	*e*PKPdf	**PKPdf**	**23 06 48.7 -0.7**
QIZ	**Qiongzhong**	**173.53**	**321**	PKP	**PKPdf**	**23 06 49.8 -0.1**
QIZ				pPKP	**pPKPdf**	**23 07 21.4 +3.2**
QIZ				sPKP		23 07 31.1
QIZ				PP	**PP**	**23 12 10.4 -0.1**
QIZ				SS	SS	23 33 19.8 +1.3
QIZ				PPMZ		
	comp=Z,1μm,14.3s					
QIZ	**Qiongzhong**	**173.53**	**321**	*e*PKPdf	**PKPdf**	**23 06 51.2 +1.3**
DLV	**T Lat**	**176.50**	**235**	*e*PKPdf	**PKPdf**	**23 06 52.1 +1.0**

DJA 23 22:55:10.5±1.0, 2°N±6°×9°6E±°, h27km±6km, M3.6/7, mb4.0/2, mB4.8/1, MLv3.4/7, Mw(mB)4.1/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.24**	**6**	P	Pn	22 55 17.9	-0.4
GSI	**Gunungsitoli**	**1.54**	**124**	P	Pn	22 55 36.5	+0.3
GSI				S	Sn	22 55 54.9	-0.4
TSI	**Tuntungan**	**2.62**	**60**	P	Pn	22 55 51.2	+0.1
LHMI	**Lhok Sumawe**	**3.11**	**12**	P	Pn	22 55 57.2	-0.6
BSI	**Banda Aceh**	**3.45**	**343**	P	Pn	22 56 02.6	0.0
MNSI	**Mandailing Nat**	**3.55**	**113**	P	Pn	22 56 04.2	+0.3
BKNI	**Bangkinang**	**5.08**	**111**	P	Pn	22 56 25.1	+0.2

GUC 23 23:15:53.7±0.7, 35°38S×72°64W, h31km±3km, ML3.8, 3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.76**	**189**	⇓*i*P	Pn	23 16 07.4	-1.0
COCH				*i* S	Sb	23 16 17.0	-1.6
TALC	**Talca**	**0.82**	**92**	⇓*i*P	Pn	23 16 08.7	-0.4
TALC				*i* S	Sb	23 16 19.8	-0.4
LNCH	**Linares**	**0.97**	**119**	⇓*i*P	Pn	23 16 11.3	+0.2
LNCH				*i* S	Sb	23 16 24.5	+0.1
NICH	**Los Niches**	**1.21**	**72**	*e*P	Pb	23 16 15.4	-0.7
NICH				*i* S	Sb	23 16 30.7	-0.7
LNV	**Longovilo**	**1.74**	**36**	*e*P	Pn	23 16 23.1	+1.3
LNV				*e*S	Sb	23 16 45.7	-0.8
CHCH	**Chadas Angostu**	**2.18**	**49**	*e*P	Pb	23 16 30.3	-2.3
RCDM	**Rinconada Maip**	**2.42**	**39**	*e*P	Pn	23 16 31.9	+0.8
CLCH	**Cerro Calan**	**2.63**	**42**	*e*P	Pn	23 16 35.9	+1.7
CLCH				*e*S	Sn	23 17 07.2	+2.1
CLCH				AML	AML	23 17 27.9	
	comp=N,370nm,0.4s						
PEL	**Peldehue**	**2.75**	**37**	*e*P	Pn	23 16 37.2	+1.4
PEL				AML	AML	23 17 21.1	
	comp=E,346nm,0.3s						
ROCH	**El Roble**	**2.75**	**30**	*e*P	Pn	23 16 37.6	+1.6
ROCH				AML	AML	23 17 25.5	
	comp=N,358nm,0.6s						

IDC 23 23:33:08.0±12.0, 56°05S×31°29W, h0km, mb4.3/1, mb1 4.3/1, mb1mx3.6/17, mbtmp4.3/1, Error ellipse: s-maj=729.7km s-min=66.3km az=148.0, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**74.26**	**33**	P	P	23 44 46.7	0.0
	2.0nm,0.7s,baz=199,slow=6.3,SNR=34						
YKA	**Yellowknife Ar**	**134.66**	**320**	PKP	PKPdf	23 52 26.5	-0.3
	0.4nm,0.5s,baz=127,slow=2.4,SNR=8.6						
ILAR	**Eielson Array**	**148.41**	**312**	PKPbc	PKPbc	23 52 54.1	-0.7
	0.3nm,0.4s,baz=114,slow=2.2,SNR=5.8						

*CRAAG **23** 23:39:53.1, 35°.83N×4°.04E, Ml3.8*
*CSEM **23** 23:39:54.3±0.3, 35°.77N×4°.17E, h5km, mb4.1, Error ellipse: s-maj=10.9km s-min=4.8km az=176.0*
*ISCJB **23** 23:39:55.2±0.6, 35°.93N±0°.05×4°.16E±0°.04, h18km±7km, Error ellipse: s-maj=8.5km s-min=5.1km az=173.0*
*MDD **23** 23:39:56.1±0.6, 35°.87N×4°.10E, h0km, mb4.1/15, Error ellipse: s-maj=9.9km s-min=3.9km az=9.0, PRXIMO*

ISC 23 23:39:55.3±1.2, 35°.88N±0°.06×4°.15E±0°.03, h10km±8km, n89, σ1°35/105, 2C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAF	**Djebel Tarf**	**0.11**	**91**	P	**Pg**	**23 39 58.0**	**0.0**
ATAF	**Djebel Tarf**	**0.11**	**91**	P	**Pg**	**23 39 58.0**	**0.0**
ATAF	**Djebel Tarf**	**0.11**	**91**	P	**Pg**	**23 39 58.0**	**0.0**
AKET	**Djebel Ketaf**	**0.28**	**309**	P	**Pg**	**23 40 00.0**	**-0.9**
AKET	**Djebel Ketaf**	**0.28**	**309**	P	**Pg**	**23 40 00.0**	**-0.9**
AKET	**Djebel Ketaf**	**0.28**	**309**	P	**Pg**	**23 40 00.0**	**-0.9**
ADJB	**Djebel Djouab**	**0.64**	**296**	P	**Pg**	**23 40 06.5**	**-1.2**
ADJB	**Djebel Djouab**	**0.64**	**296**	P	**Pg**	**23 40 06.5**	**-1.2**
ADJB	**Djebel Djouab**	**0.64**	**296**	P	**Pg**	**23 40 06.5**	**-1.2**
EMHD	**Djebel Mahouad**	**1.02**	**289**	P	**Pg**	**23 40 15.2**	**+0.3**
EMHD	**Djebel Mahouad**	**1.02**	**289**	P	**Pg**	**23 40 15.2**	**+0.3**
EMHD	**Djebel Mahouad**	**1.02**	**289**	P	**Pg**	**23 40 15.2**	**+0.3**
SET	**Setif**	**1.07**	**72**	P	**Pn**	**23 40 17.0**	**+0.6**
SET	**Setif**	**1.07**	**72**	P	**Pn**	**23 40 17.0**	**+0.6**
SET	**Setif**	**1.07**	**72**	P	**Pn**	**23 40 17.0**	**+0.6**
DFRA	**Djebel Bou Aff**	**1.55**	**64**	P	**Pg**	**23 40 24.8**	**-0.2**
DFRA	**Djebel Bou Aff**	**1.55**	**64**	P	**Pg**	**23 40 24.8**	**-0.2**
DFRA	**Djebel Bou Aff**	**1.55**	**64**	P	**Pg**	**23 40 24.8**	**-0.2**
CASM	**Ain Smara**	**1.94**	**78**	P	**Pn**	**23 40 26.6**	**-1.7**
CASM	**Ain Smara**	**1.94**	**78**	P	**Pn**	**23 40 26.6**	**-1.7**
CASM	**Ain Smara**	**1.94**	**78**	P	**Pn**	**23 40 26.6**	**-1.7**
CKFL	**Kef-Lekhel**	**2.15**	**75**	P	**Pn**	**23 40 29.8**	**-1.5**
CKFL	**Kef-Lekhel**	**2.15**	**75**	P	**Pn**	**23 40 29.8**	**-1.5**
CKFL	**Kef-Lekhel**	**2.15**	**75**	P	**Pn**	**23 40 29.8**	**-1.5**
EBNR	**Beni Rached**	**2.16**	**282**	P	**Pn**	**23 40 31.2**	**-0.2**
ECHA	**Ech Chlef**	**2.27**	**278**	P	**Pn**	**23 40 32.8**	**0.0**
ECHF	**Ech Chlef**	**2.29**	**278**	P	**Pn**	**23 40 32.8**	**-0.4**
ECHF	**Ech Chlef**	**2.29**	**278**	P	**Pn**	**23 40 32.8**	**-0.4**
ETRT	**Tiaret**	**2.37**	**259**	P	**Pn**	**23 40 34.7**	**+0.4**
ETRT	**Tiaret**	**2.37**	**259**	P	**Pn**	**23 40 34.7**	**+0.4**
ETRT	**Tiaret**	**2.37**	**259**	P	**Pn**	**23 40 34.7**	**+0.4**
EANR	**'Ain N'Sour**	**2.48**	**273**	P	**Pn**	**23 40 36.0**	**+0.3**
EANR	**'Ain N'Sour**	**2.48**	**273**	P	**Pn**	**23 40 36.0**	**+0.3**
EANR	**'Ain N'Sour**	**2.48**	**273**	P	**Pn**	**23 40 36.0**	**+0.3**
ABSA	**Djebel Ababsia**	**2.73**	**81**	P	Pn	23 40 34.5	-4.7
CABS	**Djebel Ababsia**	**2.73**	**81**	P	Pn	23 40 34.5	-4.7
CMAH	**Djebel Manchou**	**2.75**	**73**	P	**Pn**	**23 40 37.5**	**-2.0**
CMAH	**Djebel Manchou**	**2.75**	**73**	P	**Pn**	**23 40 37.5**	**-2.0**
CMAH	**Djebel Manchou**	**2.75**	**73**	P	**Pn**	**23 40 37.5**	**-2.0**
OKGL	**Djebel Kef Gue**	**2.85**	**274**	P	**Pn**	**23 40 40.8**	**0.0**
	24nm,0.3s,SNR=7.9						
OKGL				S	**Sn**	**23 41 13.8**	**-1.4**
	437nm,1.0s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**2.85**	**274**	P	**Pn**	**23 40 40.8**	**0.0**
	24nm,0.3s,SNR=7.9						
OKGL				S	**Sn**	**23 41 13.8**	**-1.4**
	437nm,1.0s,SNR=7.9						
EIBI	**Ibiza**	**3.86**	**326**	P	**Pn**	**23 40 55.3**	**+0.6**
	3.8nm,0.3s,SNR=13						
EIBI				S	**Sn**	**23 41 37.8**	**-2.3**
	8.9nm,0.5s,SNR=7.9						
EIBI	**Ibiza**	**3.86**	**326**	P	**Pn**	**23 40 55.3**	**+0.6**
	3.8nm,0.3s,SNR=13						
ETOS	**Mallorca**	**4.03**	**345**	P	**Pn**	**23 40 57.1**	**+0.1**
	2.3nm,0.4s,SNR=22						
ETOS				S	**Sn**	**23 41 42.7**	**-1.6**
	1.7nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**4.03**	**345**	P	**Pn**	**23 40 57.1**	**+0.1**
	2.3nm,0.4s,SNR=22						
EBEN	**Beniarda**	**4.49**	**310**	P	**Pn**	**23 41 05.0**	**+1.6**
	2.3nm,0.4s,SNR=7.9						
EBEN	**Beniarda**	**4.49**	**310**	P	**Pn**	**23 41 05.0**	**+1.6**
	2.3nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**4.75**	**296**	⇑P	**Pn**	**23 41 06.8**	**-0.1**
	12nm,0.4s,SNR=18						
EMUR				S	**Sn**	**23 42 00.1**	**-1.9**
	3.6nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**4.75**	**296**	P	**Pn**	**23 41 06.8**	**-0.1**
	12nm,0.4s,SNR=18						
ENIJ	**Nijar**	**5.24**	**284**	P	**Pn**	**23 41 13.8**	**+0.1**
	8.2nm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**5.24**	**284**	P	**Pn**	**23 41 13.8**	**+0.1**
	8.2nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**5.32**	**303**	P	**Pn**	**23 41 15.9**	**+1.1**
	2.5nm,0.3s,SNR=19						
ETOB				S	**Sn**	**23 42 17.4**	**+1.2**
	5.0nm,0.6s,SNR=7.9						
ETOB	**Tobarra**	**5.32**	**303**	P	**Pn**	**23 41 15.9**	**+1.1**
	2.5nm,0.3s,SNR=19						
ETOB				S	**Sn**	**23 42 17.4**	**+1.2**
	5.0nm,0.6s,SNR=7.9						
EHUE	**Huescar**	**5.74**	**292**	⇑P	**Pn**	**23 41 22.9**	**+2.3**
	3.7nm,0.3s,SNR=18						
EHUE				S	**Sn**	**23 42 28.6**	**+1.9**
	1.2nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**5.74**	**292**	P	**Pn**	**23 41 22.9**	**+2.3**
	3.7nm,0.3s,SNR=18						
EHUE				S	**Sn**	**23 42 28.6**	**+1.9**
	1.2nm,0.3s,SNR=7.9						
EBER	**Berja**	**5.77**	**282**	P	**Pn**	**23 41 20.8**	**-0.3**
	3.7nm,0.3s,SNR=10						
EBER				S	**Sn**	**23 42 24.6**	**-2.8**
	4.0nm,0.5s,SNR=7.9						
EBER	**Berja**	**5.77**	**282**	P	**Pn**	**23 41 20.8**	**-0.3**
	3.7nm,0.3s,SNR=10						
EMOS	**Mosqueruela**	**5.77**	**322**	P	**Pn**	**23 41 21.6**	**+0.4**
	1.0nm,0.2s,SNR=11						
EMOS				S	**Sn**	**23 42 25.5**	**-2.0**
	0.9nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**5.77**	**322**	P	**Pn**	**23 41 21.6**	**+0.4**
	1.0nm,0.2s,SNR=11						
SESP	**Santiago Espad**	**5.81**	**295**	P	**Pn**	**23 41 22.9**	**+1.3**
	5.4nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**23 42 29.8**	**+1.4**
	6.2nm,0.4s,SNR=7.9						
SESP	**Santiago Espad**	**5.81**	**295**	P	**Pn**	**23 41 22.9**	**+1.3**
	5.4nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**23 42 29.8**	**+1.4**
	6.2nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**5.97**	**337**	P	**Pn**	**23 41 25.6**	**+1.8**
	0.9nm,0.4s,SNR=7.9						
EPOB				S	Sn	23 42 25.4	-6.9
	0.8nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**5.97**	**337**	P	**Pn**	**23 41 25.6**	**+1.8**
	0.9nm,0.4s,SNR=7.9						
EVIA	**Vianos**	**5.98**	**299**	P	**Pn**	**23 41 25.8**	**+1.9**
	7.0nm,0.4s,SNR=7.9						
EVIA				S	**Sn**	**23 42 34.7**	**+2.2**
	3.5nm,0.3s,SNR=7.9						
EVIA	**Vianos**	**5.98**	**299**	P	**Pn**	**23 41 25.8**	**+1.9**
	7.0nm,0.4s,SNR=7.9						
EVIA				S	**Sn**	**23 42 34.7**	**+2.2**
	3.5nm,0.3s,SNR=7.9						
CFON	**Fontmartina**	**6.03**	**348**	P	**Pn**	**23 41 24.6**	**0.0**
	2.8nm,0.3s,SNR=6.8						
CFON	**Fontmartina**	**6.03**	**348**	P	**Pn**	**23 41 24.6**	**0.0**
	2.8nm,0.3s,SNR=6.8						
EQES	**Quesada**	**6.10**	**291**	P	**Pn**	**23 41 26.9**	**+1.3**
	6.7nm,0.4s,SNR=19						
EQES				S	**Sn**	**23 42 37.4**	**+1.9**
	2.4nm,0.3s,SNR=7.9						
EQES	**Quesada**	**6.10**	**291**	P	**Pn**	**23 41 26.9**	**+1.3**
	6.7nm,0.4s,SNR=19						
EQES				S	**Sn**	**23 42 37.4**	**+1.9**
	2.4nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**6.25**	**284**	P	**Pn**	**23 41 28.3**	**+0.7**
	0.8nm,0.2s,SNR=8.1						
EQUE	**Quentar**	**6.25**	**284**	P	**Pn**	**23 41 28.3**	**+0.7**
	0.8nm,0.2s,SNR=8.1						
EGUA	**Guajares**	**6.30**	**281**	P	**Pn**	**23 41 28.9**	**+0.7**
	2.9nm,0.3s,SNR=7.9						
EGUA	**Guajares**	**6.30**	**281**	P	**Pn**	**23 41 28.9**	**+0.7**
	2.8nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**6.37**	**342**	P	**Pn**	**23 41 30.5**	**+1.3**
	6.2nm,0.4s,SNR=7.9						
EMIR				S	**Sn**	**23 42 40.0**	**-2.0**
	3.1nm,0.4s,SNR=7.9						
EMIR	**Miracle**	**6.37**	**342**	P	**Pn**	**23 41 30.5**	**+1.3**
	6.2nm,0.4s,SNR=7.9						
EJON	**La Jonquera**	**6.64**	**352**	P	**Pn**	**23 41 34.9**	**+2.0**
	1.3nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**6.64**	**352**	P	**Pn**	**23 41 34.9**	**+2.0**
	1.3nm,0.3s,SNR=7.9						
SJAF	**Saint Jean de**	**6.67**	**352**	P	**Pn**	**23 41 34.2**	**+0.8**
	1.6nm,0.3s,SNR=7.9						
SJAF	**Saint Jean de**	**6.67**	**352**	P	**Pn**	**23 41 34.2**	**+0.8**
	1.6nm,0.3s,SNR=7.9						
CLLI	**Llivia**	**6.81**	**346**	P	**Pn**	**23 41 37.4**	**+2.1**
	0.4nm,0.3s,SNR=7.9						
CLLI	**Llivia**	**6.81**	**346**	P	**Pn**	**23 41 37.4**	**+2.1**
	0.4nm,0.3s,SNR=7.9						
ETOR	**Torete**	**6.94**	**317**	P	**Pn**	**23 41 40.0**	**+3.0**
	3.0nm,0.3s,SNR=7.9						
ETOR	**Torete**	**6.94**	**317**	P	**Pn**	**23 41 40.0**	**+3.0**
	3.0nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**7.24**	**278**	P	**Pn**	**23 41 40.3**	**-0.9**
	0.5nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**7.24**	**278**	P	**Pn**	**23 41 40.3**	**-0.9**
	0.5nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**7.46**	**303**	P	**Pn**	**23 41 44.7**	**+0.5**
	0.3nm,0.3s,baz=117,slow=13,SNR=5.9						
ESDC	**Sonseca Array**	**7.46**	**303**	P	**Pn**	**23 41 44.7**	**+0.5**
	0.3nm,0.3s,SNR=5.9						
ECAB	**El Cabril**	**7.96**	**289**	P	**Pn**	**23 41 50.3**	**-0.8**
	0.3nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**7.96**	**289**	P	**Pn**	**23 41 50.3**	**-0.8**
	0.3nm,0.2s,SNR=7.9						

*TAP **23** 23:43:35.8, 21°.60N×120°.11E, h70km±1km, ML3.7, D*
*IDC **23** 23:44:36.4±8.0, 19°.31N×121°.56E, h491km±91km, mb2.7/3, mb1 2.8/3, mb1mx2.3/46, mbtmp3.6/3, Error ellipse: s-maj=310.6km s-min=19.0km az=66.0*

ISC 23 23:43:34.0±2.2, 21°.52N±0°.07×120°.00E±0°.07, h24km±15km, n38, σ1°11/64, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HEN	**Hengchun**	**0.84**	**55**	P	**Pn**	**23 43 51.0**	**+0.6**
	baz=56						
HEN				*e*S	**Sn**	**23 44 01.2**	**-0.7**
	baz=56						
TWK1	**Hengchun**	**0.86**	**61**	*i* P	**Pn**	**23 43 51.1**	**+0.5**
	baz=62						
TWK1				S	**Sn**	**23 44 02.6**	**+0.2**
	baz=62						
TWP	**Hsiaoliuchiu**	**0.89**	**22**	S	**Sn**	**23 44 05.1**	**+2.0**
	baz=18						
TSEB	**Hengchuen, Pin**	**0.92**	**66**	*i* P	**Pn**	**23 43 51.4**	**0.0**
	baz=66						
TSEB				S	**Sn**	**23 44 03.6**	**-0.2**
	baz=66						
SCZT	**Fangliau**	**1.02**	**34**	*i* P	**Pb**	**23 43 53.2**	**+0.1**
	baz=32						
SCZT				*i* S	**Sn**	**23 44 05.7**	**-0.8**
	baz=32						
EAST	**Anshuo**	**1.16**	**42**	P	**Pb**	**23 43 55.3**	**-0.2**
	baz=41						
EAST				S	**Sn**	**23 44 09.1**	**-0.9**
	baz=41						
TAW	**Tawu**	**1.18**	**45**	P	**Pb**	**23 43 55.4**	**-0.3**
	baz=44						
TAW				S	**Sn**	**23 44 09.6**	**-0.7**
	baz=44						
SSD	**Sandimen**	**1.35**	**26**	*i* P	**Pn**	**23 43 57.7**	**+0.3**
	baz=23						
SSD				S	**Sn**	**23 44 13.8**	**-0.8**
	baz=23						
TWM1	**Shoushan**	**1.35**	**17**	*e*P	**Pb**	**23 43 58.7**	**0.0**
	baz=13						
ECL	**Taimali**	**1.39**	**39**	P	**Pb**	**23 43 58.3**	**-1.0**
	baz=38						
ECL				*e*S	**Sn**	**23 44 14.2**	**-1.2**
	baz=38						
LAY	**Lan-yu**	**1.53**	**70**	*e*P	**Pn**	**23 43 59.1**	**-0.7**
	baz=72						
TWG	**Pinlang**	**1.63**	**37**	*e*P	**Pn**	**23 44 01.9**	**+0.7**
	baz=36						
TWG				*e*S	**Sn**	**23 44 21.4**	**-0.1**
	baz=36						
SGST	**Jiashian**	**1.64**	**19**	P	**Pn**	**23 44 02.0**	**+0.6**
	baz=16						
SGST				*e*S	**Sn**	**23 44 21.4**	**-0.4**
	baz=16						
CHN1	**Nanshi**	**1.73**	**16**	P	**Pn**	**23 44 02.9**	**+0.3**
	baz=13						
STYT	**Tauyuan**	**1.78**	**23**	*e*P	**Pn**	**23 44 03.7**	**+0.4**
	baz=21						
TWK	**Hsinying**	**1.79**	**14**	*i* P	**Pn**	**23 44 03.9**	**+0.3**
	baz=12						
WTP	**Ta-pu**	**1.81**	**18**	*e*P	**Pn**	**23 44 03.9**	**+0.2**
	baz=16						
CHN4	**Tsaushan**	**1.90**	**17**	P	**Pn**	**23 44 05.1**	**+0.2**
	baz=14						
CHN4				*e*S	**Sn**	**23 44 26.5**	**-1.6**
	baz=14						
ELDTW	**Lidau**	**1.91**	**29**	P	**Pn**	**23 44 05.9**	**+0.7**
	baz=28						
ELDTW				*e*S	**Sn**	**23 44 27.8**	**-0.7**
	baz=28						
CHKT	**Chengkung**	**2.02**	**39**	*e*P	**Pn**	**23 44 07.7**	**+1.2**
	baz=38						
CHKT				*e*S	**Sn**	**23 44 31.5**	**+0.6**
	baz=38						
ALS	**Alishan**	**2.11**	**20**	P	**Pn**	**23 44 08.6**	**+0.4**
	baz=19						
ALS				*e*S	**Sn**	**23 44 32.4**	**-1.5**
	baz=19						
YUS	**Yu-Shan**	**2.15**	**24**	P	**Pn**	**23 44 09.6**	**+0.8**
	baz=22						
YUS				*e*S	**Sn**	**23 44 35.2**	**+0.3**
	baz=22						
CHN5	**Tsauling**	**2.16**	**17**	P	**Pn**	**23 44 08.6**	**0.0**
	baz=14						
CHN5				*e*S	**Sn**	**23 44 33.5**	**-1.1**
	baz=14						
TWF1	**Yuli**	**2.18**	**33**	*e*P	**Pn**	**23 44 09.8**	**+0.9**
	baz=32						
TWF1				*e*S	**Sn**	**23 44 34.0**	**-1.1**
	baz=32						
EHY	**Hungye**	**2.32**	**32**	*e*P	**Pn**	**23 44 11.7**	**+0.9**
	baz=30						
EHY				*e*S	**Sn**	**23 44 38.4**	**-0.2**
	baz=30						
SMLT	**Sun Moon Lake**	**2.49**	**19**	*e*P	**Pn**	**23 44 12.4**	**-0.8**
	baz=18						
SMLT				*e*S	**Sn**	**23 44 42.8**	**-0.1**
	baz=18						
TYC	**Yuchr**	**2.50**	**18**	*e*P	**Pn**	**23 44 13.9**	**+0.7**
	baz=17						
TYC				*e*S	**Sn**	**23 44 41.5**	**-1.4**
	baz=17						
WHF	**Hehuan Shan**	**2.86**	**24**	S	**Sn**	**23 44 49.7**	**-2.7**
	baz=23						
TWQ1	**Liyutan**	**2.90**	**14**	*e*P	**Pn**	**23 44 19.8**	**+1.1**
	baz=12						
TWQ1				*e*S	**Sn**	**23 44 51.0**	**-1.9**
	baz=12						
TWT	**Tachien**	**2.93**	**22**	*e*P	**Pn**	**23 44 20.8**	**+1.5**
	baz=20						
TWT				*e*S	**Sn**	**23 44 54.1**	**+0.4**
	baz=20						
NNS	**Nan Shan**	**3.17**	**23**	*e*P	**Pn**	**23 44 24.2**	**+1.7**
	baz=22						
NNS				*e*S	**Sn**	**23 44 59.9**	**+0.3**
	baz=22						
KNM	**Kinmen**	**3.22**	**334**	*e*S	**Sn**	**23 44 59.9**	**-0.9**
	baz=329						
NSTT	**Nanjuang**	**3.23**	**16**	*e*P	**Pn**	**23 44 23.8**	**+0.6**
	baz=15						
NSTT				*e*S	**Sn**	**23 44 58.4**	**-2.6**
	baz=15						
NSK	**Sanguang**	**3.38**	**21**	*e*P	**Pn**	**23 44 26.8**	**+1.5**
	baz=20						
NSK				*e*S	**Sn**	**23 45 04.2**	**-0.6**
	baz=20						
ENTT	**Nioudou**	**3.42**	**25**	*e*P	**Pn**	**23 44 28.8**	**+2.9**
	baz=24						
TWE	**Neicheng**	**3.53**	**25**	*e*P	**Pn**	**23 44 30.3**	**+2.9**
	baz=25						
WRA	**Warramunga Arr**	**43.53**	**160**	P	**P**	**23 51 35.6**	**-0.4**
	0.5nm,0.6s,baz=342,slow=8.8,SNR=5.9						
WRA				PcP	**PcP**	**23 53 24.3**	**+0.6**
	0.3nm,0.7s,baz=344,slow=3.8,SNR=4.4						
ASAR	**Alice Springs**	**46.91**	**162**	P	**P**	**23 52 02.8**	**0.0**
	0.3nm,0.4s,baz=343,slow=7.8,SNR=4.7						

MEX 23 23:47:51.4±0.5, 15°.71N×93°.21W, h18km±6km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.01**	**259**	*e*P	Pg	23 47 53.3	-1.3
PCIG				*e*S	Sg	23 47 55.7	-1.1
CCIG	**Comitan**	**1.18**	**61**	*e*P	Pn	23 48 09.6	-3.6
CCIG				*e*S	Sb	23 48 24.0	-4.5
CMIG	**Matias Romero**	**2.12**	**311**	*e*P	Pb	23 48 29.0	-0.3
CMIG				*e*S	Sg	23 48 58.4	-1.3

*MOS **23** 23:48:25.8±0.8, 50°.73N×103°.11E, h14km, mb4.2/1, Error ellipse: s-maj=23.8km s-min=10.5km az=86.1*
*BYKL **23** 23:48:26.6±0.3, 50°.82N×103°.08E*

ISC 23 23:48:24.6±0.8, 50°.77N±0°.03×103°.06E±0°.03, h10km, n26, σ2°10/39, 3C-1D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAK	**Zakamensk**	**0.41**	**159**	⇓*i*Pg	**Pb**	**23 48 34.7**	**+0.7**
	512nm,0.2s						
ZAK				⇑*i*Pg	**Pb**	**23 48 34.7**	**+0.7**
	269nm,0.2s						
ZAK				⇑*i*Pg	**Pb**	**23 48 34.7**	**+0.7**
	764nm,0.2s						
ZAK				*e*Sg	**Sb**	**23 48 40.8**	**+0.5**
ZAK				Pmax			
	613nm,0.1s						
ZAK				Smax			
	2μm,0.1s						
ZAK	**Zakamensk**	**0.41**	**159**	*e*PG	**Pb**	**23 48 34.3**	**+0.3**
ZAK				*e*		23 48 40.5	
ZAK				pmax	pmax		
	com

MOY					pmax	pmax			
	comp=Z,52nm,0.2s								
MOY					smax	smax			
	comp=E,520nm,0.4s								
IRK	**Irkutsk**	**1.66**	**27**	*e*Sg	**Sb**	**23 49 16.5**	**+0.1**		
IRK				Smax					
	comp=E,596nm,0.5s								
IRK	**Irkutsk**	**1.66**	**27**	*e*PN	**Pb**	**23 48 54.6**	**-0.8**		
IRK				*e*		23 49 15.4			
IRK				pmax	pmax				
	comp=Z,150nm,0.2s								
IRK				smax	smax				
	comp=E,594nm,0.3s								
ORL	**Orlik**	**2.69**	**313**	*e*Pn	**Pb**	**23 49 11.3**	**-1.7**		
ORL				*e*Pg	**Pg**	**23 49 13.9**	**-2.3**		
ORL				*e*Sg	**Sg**	**23 49 49.7**	**-1.3**		
ORL				Pmax					
	comp=E,14nm,0.8s								
ORL				Smax					
	comp=E,99nm,0.4s								
ORL	**Orlik**	**2.69**	**313**	*e*PN	**Pb**	**23 49 11.2**	**-1.7**		
ORL				*e*		23 49 14.0			
ORL				*e*		23 49 49.6			
ORL				pmax	pmax				
	comp=Z,20nm,0.6s								
ORL				smax	smax				
	comp=N,99nm,0.3s								
TRG	**Tyrgan**	**2.86**	**44**	*e*Pg	**Pb**	**23 49 16.4**	**+0.7**		
TRG				*e*Sg	**Sb**	**23 49 53.0**	**+2.2**		
TRG				*e*		23 49 55.0			
TRG				Pmax					
	comp=N,10.0nm,0.2s								
TRG				max					
	comp=N,271nm,0.8s								
TRG	**Tyrgan**	**2.86**	**44**	*e*PN	**Pb**	**23 49 12.9**	**-2.8**		
TRG				*e*		23 49 17.2			
TRG				*e*S	**Sn**	**23 49 45.4**	**+0.6**		
TRG				*e*		23 49 52.5			
TRG				pmax	pmax				
	comp=Z,14nm,0.3s								
TRG				smax	smax				
	comp=E,251nm,0.3s								
UUDB	**Ulan-Yde**	**3.09**	**67**	*e*Pg	**Pb**	**23 49 21.4**	**+1.7**		
UUDB				*e*Sg	**Sg**	**23 50 01.7**	**-2.2**		
UUDB				Pmax					
	comp=E,27nm,0.6s								
UUDB				Smax					
	comp=E,148nm,1.4s								
ULN	**Ulaanbaatar**	**3.91**	**136**	*e*Pn	**Pn**	**23 49 26.7**	**+1.9**		
ULN				*e*Pg	**Pg**	**23 49 37.1**	**-2.3**		
ULN				*e*Sg	**Sg**	**23 50 29.1**	**-0.9**		
OGRR	**Ongureny**	**4.01**	**42**	*e*Pn	**Pn**	**23 49 29.0**	**+2.9**		
OGRR				*e*		23 49 38.7			
OGRR				*e*		23 50 19.4			
OGRR				*e*Sg	**Sb**	**23 50 27.6**	**+3.7**		
OGRR				max					
	comp=E,12nm,0.4s								
OGRR				Smax					
	comp=E,93nm,1.3s								
OGRR	**Ongureny**	**4.01**	**42**	*e*PN	**Pn**	**23 49 29.1**	**+2.9**		
OGRR				*e*		23 49 38.3			
OGRR				*e*		23 50 27.3			
OGRR				pmax	pmax				
	comp=Z,11nm,0.4s								
OGRR				smax	smax				
	comp=E,83nm,0.6s								
KPC				Smax					
	comp=E,30nm,1.1s								
SYVR	**Suvo**	**5.16**	**53**	*e*	**Pg**	**23 50 02.4**	**-1.0**		
SYVR				*e*Sg	**Sg**	**23 51 05.1**	**-5.0**		
SYVR				Smax					
	comp=E,16nm,1.7s								
KPC	**Khapcheranga**	**6.08**	**96**	*e*Pn	Pn	23 49 57.3	+2.8		
KPC				*e*Pg	Pg	23 50 15.7	-5.2		
KPC				*e*Sg	**Sg**	**23 51 35.3**	**-4.3**		
KPC				Pmax					
	comp=E,2.0nm,0.6s								
KPC				Smax					
	comp=E,30nm,1.1s								
NIZ	**Nizh Angarsk**	**6.35**	**35**	*e*Pg	Pb	23 50 19.3	+4.2		
NIZ				*e*		23 50 28.1			
NIZ				*e*		23 51 14.5			
NIZ				*e*Sg	Sg	23 51 41.9	-6.3		
NIZ				max					
	comp=E,2.0nm,0.1s								
NIZ				Smax					
	comp=E,33nm,1.3s								
KMO	**Kumora**	**7.08**	**40**	*e*	Sn	23 51 36.3	+7.7		
KMO				*e*Sg	**Sg**	**23 52 05.7**	**-5.8**		
KMO				Smax					
	comp=E,42nm,2.0s								
UKT	**Uakit**	**7.92**	**49**	*e*Sg	Sg	23 52 30.4	-8.3		
BOD	**Bodaibo**	**9.53**	**38**	*e*Sg	Sn	23 53 20.0	+51		
BOD				Smax					
	comp=E,5.0nm,0.8s								

IDC 24 00:12:22.9±1.8, 0°63'S×132°68'E, h0km, mb3.8/2, mb1 3.8/3, mb1mx3.5/24, mbtmp3.6/3, ML3.1/1, Error ellipse: s-maj=31.8km s-min=25.4km az=48.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**1.44**	**261**	Pn	Pn	00 12 49.8	-0.4
	16nm,0.3s,baz=49,slow=14,SNR=34						
SIJI				Sn	Sn	00 13 11.7	+1.9
	16nm,0.3s,baz=141,slow=23,SNR=6.0						
WRA	**Warramunga Arr**	**19.26**	**175**	P	P	00 16 49.1	-0.1
	0.1nm,0.3s,baz=355,slow=12,SNR=5.5						
ASAR	**Alice Springs**	**22.93**	**177**	P	P	00 17 29.0	+0.2
	6.2nm,0.5s,baz=352,slow=11,SNR=5.7						
MKAR	**Makanchi Array**	**64.53**	**324**	P	P	00 23 01.8	0.0
	0.2nm,0.6s,baz=156,slow=5.4,SNR=3.1						

*ISCJB **24** 00:31:53.0±1.0, 50°.93N±0°.08×174°.28E±0°.09, h33km, mb3.5/4, Error ellipse: s-maj=12.2km s-min=7.3km az=15.0*
*NEIC **24** 00:31:55.5, 51°.09N×174°.43E, h25km, ML3.8(AEIC), After AEIC.*
*IDC **24** 00:32:00.2±10.0, 51°.21N×173°.63E, h90km±115km, mb3.2/4, mb1 3.7/5, mb1mx3.2/39, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=77.6km s-min=57.4km az=141.0*
ISC 24 00:31:54.3±1.2, 50°.9N±0°.1×174°.13E±0°.06, h35km, n21, σ1°48/26, mb3.5/4, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.79**	**359**	P	**Pn**	**00 32 22.3**	**-0.3**
SMY				S	**Sn**	**00 32 44.2**	**+0.1**
LSSA	**Little Sitkin**	**2.92**	**68**	P	**Pn**	**00 32 38.0**	**-0.3**
LSNW	**Little Sitkin**	**2.93**	**68**	P	**Pn**	**00 32 37.9**	**-0.5**
LSNW				S	**Sn**	**00 33 10.5**	**-1.8**
LSPA	**Little Sitkin**	**2.96**	**68**	P	**Pn**	**00 32 37.9**	**-0.8**
LSPA				S	**Sn**	**00 33 10.5**	**-2.6**
AMKA	**Amchitka**	**3.29**	**80**	P	**Pn**	**00 32 41.7**	**-1.5**
CETU	**Semis' Tuman**	**3.51**	**71**	P	**Pn**	**00 32 46.3**	**0.0**
CESW	**Semis' Southwe**	**3.53**	**72**	P	**Pn**	**00 32 46.3**	**-0.3**
CERB	**Semis' Cerberu**	**3.58**	**72**	P	**Pn**	**00 32 47.3**	**0.0**
CERB				S	**Sn**	**00 33 26.2**	**-2.1**
TANO	**Tanaga North**	**4.95**	**76**	P	**Pn**	**00 33 05.7**	**-0.3**
TASE	**Tanaga Southea**	**4.99**	**77**	P	**Pn**	**00 33 06.3**	**-0.3**
TAFP	**Tanaga Falls P**	**5.03**	**76**	P	**Pn**	**00 33 06.1**	**-1.0**
KIKV	**Kanaga Island**	**5.53**	**77**	P	**Pn**	**00 33 13.6**	**-0.4**
ADK	**Adak**	**5.83**	**77**	P	**Pn**	**00 33 17.0**	**-1.1**
GSMY	**Great Sitkin M**	**6.23**	**76**	P	**Pn**	**00 33 22.7**	**-0.9**
ATKA	**Atka Island**	**7.39**	**76**	P	**Pn**	**00 33 38.8**	**-0.7**
KOFP	**Korovin Flat P**	**7.45**	**75**	P	**Pn**	**00 33 39.9**	**-0.6**
PETK	**Petropavlovsk-**	**10.36**	**288**	P	**Pn**	**00 34 21.0**	**+0.8**
	2.1nm,0.3s,baz=104,slow=19,SNR=43						
PETK				S	**Sn**	**00 36 10.2**	**-4.6**
	0.9nm,0.3s,baz=104,slow=21,SNR=4.9						
ILAR	**Eielson Array**	**24.43**	**41**	P	**P**	**00 37 09.3**	**+0.1**
	0.5nm,0.4s,baz=251,slow=6.6,SNR=11						
YKA	**Yellowknife Ar**	**38.72**	**45**	P	**P**	**00 39 15.9**	**+1.5**
	0.4nm,0.6s,baz=287,slow=8.4,SNR=5.6						
PDAR	**Pinedale Array**	**50.64**	**68**	P	**P**	**00 40 51.2**	**+1.3**
	0.4nm,0.6s,baz=335,slow=5.6,SNR=3.8						
TXAR	**Lajitas Array**	**63.10**	**76**	P	**P**	**00 42 20.0**	**+1.7**
	0.6nm,0.7s,baz=299,slow=4.3,SNR=8.3						

*SJA **24** 00:35:57.5±0.3, 38°.38S×76°.08W, h170km, ML4.7, MW4.6*
*IDC **24** 00:36:27.6±0.8, 36°.71S×73°.59W, h0km, mb4.0/8, mb1 4.1/10, mb1mx4.0/26, mbtmp4.0/10, ML3.9/2, MS4.2/4, Ms1 4.1/4, ms1mx3.6/27, Error ellipse: s-maj=24.7km s-min=14.1km az=90.0*
*ISCJB **24** 00:36:29.2±0.6, 36°.72S±0°.04×73°.69W±0°.06, h27km, mb4.2/9, MS4.1/2, Error ellipse: s-maj=7.0km s-min=5.4km az=11.9*
*GUC **24** 00:36:30.1±0.7, 36°.71S×73°.66W, h27km±3km, ML4.4*
*NEIC **24** 00:36:32.3±0.5, 36°.66S×73°.56W, h35km, mb4.5/6, Error ellipse: s-maj=11.9km s-min=7.2km az=87.0*
ISC 24 00:36:31.3±0.7, 36°.70S±0°.04×73°.53W±0°.07, h27km, n46, σ0°93/47, mb4.3/9, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.37**	**113**	⇓*i*P	**Pb**	**00 36 39.4**	**0.0**
CCSP				*i* S	**Sn**	**00 36 46.6**	**-0.5**
CCSP				AML	AML	00 36 47.9	
	comp=N,40μm,0.3s						
COCH	**Cobquecura**	**0.82**	**47**	⇓*i*P	**Pb**	**00 36 46.7**	**-0.3**
COCH				*i* S	**Sn**	**00 36 58.5**	**+0.1**
COCH				AML	AML	00 37 04.1	
	comp=E,7μm,0.3s						
AGCH	**Angol**	**1.29**	**149**	*e*P	**Pn**	**00 36 52.9**	**-0.6**
AGCH				*i* S	**Sn**	**00 37 09.5**	**-0.5**
LNCH	**Linares**	**1.77**	**62**	⇑*i*P	**Pb**	**00 37 01.4**	**-1.8**
LNCH				*i* S	**Sb**	**00 37 25.6**	**+0.6**
TALC	**Talca**	**2.01**	**50**	*e*P	**Pb**	**00 37 04.9**	**-2.3**
TALC				*e*S	**Sb**	**00 37 31.1**	**-0.7**
TALC				AML	AML	00 37 46.6	
	comp=N,17μm,0.6s						
TACH	**Talagante**	**3.71**	**36**	⇓*i*P	**Pn**	**00 37 27.0**	**+0.1**
PCH	**Pirque**	**3.94**	**40**	*e*P	**Pn**	**00 37 30.9**	**+0.7**
CLCH	**Cerro Calan**	**4.11**	**38**	⇑*i*P	**Pn**	**00 37 32.6**	**+0.2**
CLCH				*i* S	**Sn**	**00 38 21.1**	**+1.4**
PLCA	**Paso Flores**	**4.65**	**151**	Pn	**Pn**	**00 37 40.9**	**+1.1**
	comp=N,2.3nm,0.3s,baz=326,slow=11,SNR=59						
PLCA				Sn	**Sn**	**00 38 33.6**	**+0.6**
	comp=N,3.4nm,0.3s,baz=10,slow=11,SNR=5.0						
PLCA				Lg	Lg	00 38 55.0	
	comp=N,3.6nm,0.3s,baz=255,slow=18,SNR=2.8						
PLCA				LR	LR	00 39 27.8	
	comp=N,2μm,20.1s,baz=311,slow=39						
PLCA	**Paso Flores**	**4.65**	**151**	*e*Pn	**Pn**	**00 37 40.8**	**+1.0**
PLCA				*e*Sn	**Sn**	**00 38 33.0**	**0.0**
AAGR	**Agrelo**	**5.28**	**48**	*e*P	**Pn**	**00 37 50.5**	**+1.9**
ARCO	**CERRO ARCO**	**5.40**	**46**	*e*P	**Pn**	**00 37 51.9**	**+1.7**
ARCO				AML	AML	00 39 27.6	
	comp=Z,68nm,0.7s						
AUSP	**Uspallata**	**5.62**	**39**	*e*S	Sb	00 39 22.0	+6.0
CFAA	**Coronel Fontan**	**6.71**	**42**	Pn	**Pn**	**00 38 08.2**	**0.0**
	comp=Z,0.6nm,0.3s,baz=212,slow=13,SNR=40						
CFAA				Sn	**Sn**	**00 39 24.0**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=230,slow=15,SNR=3.6						
CFAA				Lg	Lg	00 40 05.4	
	comp=Z,0.4nm,0.3s,baz=300,slow=18,SNR=8.5						
CFAA	**Coronel Fontan**	**6.71**	**42**	*e*P	**Pn**	**00 38 08.0**	**-0.2**
RTLL	**Cerro Villicun**	**6.80**	**40**	*e*P	**Pn**	**00 38 09.6**	**+0.1**
ACAN	**Cantantal**	**6.85**	**52**	*e*P	**Pn**	**00 38 09.8**	**-0.2**
AMOG	**MOGNA**	**7.11**	**38**	*e*P	**Pn**	**00 38 13.0**	**-0.7**
LCO	**Las Campanas**	**8.03**	**18**	*e*Pn	**Pn**	**00 38 25.6**	**-0.9**
TRQA	**Tornquist**	**9.29**	**102**	*e*Pn	**Pn**	**00 38 45.6**	**+2.2**
LVC	**Limon Verde**	**14.60**	**17**	LR	LR	00 45 38.1	
	comp=Z,1μm,18.1s,baz=202,slow=38						
CPUP	**Villa Florida**	**17.23**	**58**	Pn	**Pn**	**00 40 29.9**	**-0.1**
EFI	**East Falkland**	**18.57**	**149**	*e*P	**Pn**	**00 40 45.8**	**-0.5**
	comp=Z,16nm,0.6s						
LPAZ	**La Paz**	**20.89**	**15**	P	Pn	00 41 14.1	-0.8
	comp=Z,1.7nm,0.5s,baz=172,slow=8.0,SNR=7.5						
LPAZ	**La Paz**	**20.89**	**15**	*e*Pn	Pn	00 41 13.9	-1.0
	comp=Z,5.4nm,0.8s						
SIV	**San Ignacio**	**23.41**	**31**	P	**P**	**00 41 37.9**	**-0.3**
	comp=Z,3.3nm,0.7s,baz=227,slow=10,SNR=9.1						
BDFB	**Brasilia**	**30.88**	**54**	LR	LR	00 56 19.1	
	comp=Z,491nm,20.8s,baz=204,slow=38						
SDV	**Santo Domingo**	**45.43**	**4**	*e*P	**P**	**00 44 47.8**	**-0.3**
	comp=Z,4.5nm,0.6s						
SNAA	**Sanae**	**49.57**	**157**	P	**P**	**00 45 20.2**	**+0.7**
	comp=Z,1.9nm,1.1s,baz=284,slow=5.6,SNR=7.6						
SNAA	**Sanae**	**49.57**	**157**	*e*P	**P**	**00 45 18.0**	**-1.5**
	comp=Z,7.6nm,1.2s						
QSPA	**South Pole Qui**	**53.54**	**180**	P	**P**	**00 45 50.3**	**+0.9**
	comp=Z,6.6nm,1.1s,baz=150,slow=2.4,SNR=11						
QSPA	**South Pole Qui**	**53.54**	**180**	*e*P	**P**	**00 45 50.1**	**+0.7**
	comp=Z,7.2nm,1.0s						
TXAR	**Lajitas Array**	**71.53**	**332**	P	**P**	**00 47 50.5**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=147,slow=8.2,SNR=6.3						
DBIC	**Dimbokro**	**77.19**	**72**	P	**P**	**00 48 23.6**	**+0.5**
	comp=Z,7.6nm,0.9s,baz=277,slow=2.1,SNR=4.6						
DBIC	**Dimbokro**	**77.19**	**72**	*e*P	**P**	**00 48 23.7**	**+0.7**
ANMO	**Albuquerque**	**77.59**	**333**	LR	LR	01 18 11.1	
	comp=Z,78nm,18.1s,baz=20,slow=32						
ECSD	**EROS Data Cent**	**82.76**	**343**	*e*P	**P**	**00 48 52.8**	**+0.3**
	comp=Z,1.5nm,0.5s						
PDAR	**Pinedale Array**	**85.64**	**334**	P	**P**	**00 49 07.2**	**-0.2**
	comp=Z,0.4nm,0.9s,baz=188,slow=5.5,SNR=2.5						
TORD	**Torodi Ar. Bea**	**86.26**	**71**	P	**P**	**00 49 11.0**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=217,slow=4.8,SNR=13						
H11S2	**WAKE ISLAND Hyl**	**24.49**	**268**	T	T	03 12 39.4	
	baz=118,slow=74,SNR=14						
H11S1	**WAKE ISLAND Hyl**	**24.50**	**268**	T	T	03 12 40.6	
	baz=118,slow=74,SNR=9.6						
H11S3	**WAKE ISLAND Hyl**	**24.50**	**268**	T	T	03 12 40.3	
	baz=118,slow=74,SNR=9.0						
ABKAR	**Akbulak array**	**144.27**	**55**	*e*PKPdf	**PKPdf**	**00 56 02.8**	**-1.5**
PSI	**Prapat**	**145.56**	**167**	PKPbc	**PKPab**	**00 56 07.5**	**-0.6**
	comp=Z,3.1nm,0.5s,baz=253,slow=2.5,SNR=4.2						
ZALV	**Zalesovo Beam**	**157.15**	**34**	PKP	**PKPdf**	**00 56 23.6**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=219,slow=0.9,SNR=3.1						
ZALV				PKPab	**PKPab**	**00 56 55.8**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=294,slow=4.4,SNR=3.8						
MKAR	**Makanchi Array**	**159.41**	**53**	PKPab	**PKPab**	**00 57 05.2**	**+0.4**
	comp=Z,0.8nm,1.0s,baz=282,slow=8.7,SNR=5.0						

*ISCJB **24** 00:36:55.0±0.6, 32°.22N±0°.03×115°.20W±0°.03, h11km±6km, Error ellipse: s-maj=5.0km s-min=4.2km az=152.5*
*NEIC **24** 00:36:56.9, 32°.20N×115°.26W, h10km, ML3.0(PAS), ML3.1(ECX), After ECX.*
*ECX **24** 00:36:56.9±0.5, 32°.20N×115°.26W, h6km, MD3.0, ML3.2*
*MEX **24** 00:36:57.6±0.5, 32°.34N×115°.09W, h25km±9km, MD3.5*
ISC 24 00:36:55.4±1.0, 32°.19N±0°.02×115°.24W±0°.03, h11km±8km, n35, σ1°16/52, 12C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.24**	**346**	*e*P	**Pg**	**00 37 00.9**	**+0.6**
CPBX				*i* S	**Sg**	**00 37 04.2**	**+0.5**
CPBX	**Cerro Prieto**	**0.24**	**346**	⇓*e*P	**Pb**	**00 37 01.1**	**-0.6**
EMSC	**East Mesa**	**0.59**	**21**	⇓*i*P	**Pg**	**00 37 07.2**	**+0.3**
SGL	**Mount Signal**	**0.62**	**318**	⇓*i*P	**Pg**	**00 37 07.5**	**0.0**
DREC	**Desert Rsrch C**	**0.64**	**344**	*e*P	**Pb**	**00 37 08.3**	**-0.3**
RDX	**Rancho Dawling**	**0.65**	**247**	⇑*e*P	**Pb**	**00 37 08.6**	**-0.3**
RDX				*e*S	**Sg**	**00 37 17.3**	**+0.6**
RDX				IAML		00 37 18.9	
	comp=N,1μm,0.5s						
ERPC	**Ernies Place**	**0.66**	**327**	*e*P2	**Pg**	**00 37 08.4**	**+0.1**
COA	**Coachella**	**0.68**	**8**	⇑*i*P	**Pg**	**00 37 08.4**	**-0.3**
YMD	**Yuma Desert**	**0.69**	**58**	⇑*i*P	**Pg**	**00 37 09.2**	**+0.3**
WESC	**Westside Schoo**	**0.71**	**324**	⇓*e*P	**Pg**	**00 37 09.3**	**+0.2**
ECBX	**El Chinero**	**0.73**	**167**	*e*P9	**Pg**	**00 37 09.0**	**-0.5**
ECBX				*e*S	**Sg**	**00 37 18.8**	**-0.3**
YUH	**Yuha Desert**	**0.74**	**309**	⇓*i*P	**Pg**	**00 37 09.3**	**-0.4**
COK	**Cook Ranch**	**0.78**	**328**	*e*P2	**Pg**	**00 37 10.0**	**-0.5**
RMX	**La Rumorosa**	**0.82**	**301**	⇓*e*P	**Pg**	**00 37 10.9**	**-0.4**
RMX				*e*S	**Sg**	**00 37 21.8**	**-0.4**
GLA	**Glamis**	**0.93**	**22**	*e*Pg	**Pg**	**00 37 11.5**	**-1.9**
GLA				*e*Sg	**Sg**	**00 37 23.6**	**-1.9**
ZAX	**El Zacaton**	**1.11**	**233**	⇑*e*P	**Pb**	**00 37 16.0**	**-0.6**
ZAX				*e*S	**Sg**	**00 37 31.4**	**+0.3**
ZAX				⇑*e*		00 37 32.5	
ZAX				IAML		00 37 32.5	
	comp=E,400nm,0.5s						
ZAX				⇓*e*		00 37 32.9	
ZAX				IAML		00 37 32.9	
	comp=N,548nm,0.6s						
SPIG	**San Pedro Mart**	**1.15**	**190**	*e*P	**Pg**	**00 37 18.6**	**+1.0**
SPIG				*e*S	**Sn**	**00 37 33.7**	**-0.1**
SPIG	**San Pedro Mart**	**1.15**	**190**	*e*P	**Pg**	**00 37 18.6**	**+1.0**
SPIG				*e*S	**Sn**	**00 37 33.7**	**-0.1**
SPIG	**San Pedro Mart**	**1.15**	**190**	⇑*e*P	**Pb**	**00 37 16.9**	**-0.7**
SPX	**San Pedro Mart**	**1.15**	**190**	*e*P	**Pg**	**00 37 18.2**	**+0.5**
SPX				*e*S	**Sn**	**00 37 34.0**	**+0.3**
SPX	**San Pedro Mart**	**1.15**	**190**	⇑*e*P	**Pb**	**00 37 16.9**	**-0.7**
SPX				*e*		00 37 35.5	
SPX				IAML		00 37 35.5	
	comp=N,377nm,0.2s						
CBX	**Cerro Bola**	**1.22**	**276**	*e*P	**Pn**	**00 37 17.2**	**-1.2**
CBX				*e*S	**Sb**	**00 37 34.0**	**-0.2**
CBX	**Cerro Bola**	**1.22**	**276**	*e*P	**Pn**	**00 37 17.2**	**-1.2**
CBX				*e*S	**Sb**	**00 37 34.0**	**-0.2**
CBX	**Cerro Bola**	**1.22**	**276**	⇑*e*P	**Pn**	**00 37 17.2**	**-1.2**
CBX				*e*S	**Sb**	**00 37 33.4**	**-0.8**
CBX				IAML		00 37 36.0	
	comp=N,828nm,0.5s						
CBX				⇑*e*		00 37 36.0	
ECNX	**Esteban Cantu**	**1.27**	**246**	⇑*e*P	**Pn**	**00 37 18.5**	**-0.7**
ECNX				*e*S	**Sb**	**00 37 35.8**	**0.0**
BAR	**Barrett**	**1.31**	**293**	*e*Pn	**Pn**	**00 37 18.0**	**-1.7**
BAR				*e*Sb	**Sb**	**00 37 35.1**	**-1.8**
PBX	**Punta Banda**	**1.34**	**251**	⇑*e*P	**Pn**	**00 37 19.8**	**-0.3**
SDRC	**San Diego Road**	**1.54**	**291**	*e*P	**Pn**	**00 37 23.0**	**+0.2**
PFO	**Pinyon Flats O**	**1.75**	**325**	*e*Pn	**Pn**	**00 37 23.6**	**-2.2**
214A	**Organ Pipe Nat**	**2.07**	**96**	*e*Pn	**Pn**	**00 37 28.5**	**-1.6**
MWC	**Mount Wilson**	**3.12**	**311**	*e*Pn	**Pn**	**00 37 46.8**	**+2.1**
MWC				*e*Sb	**Sb**	**00 38 30.6**	**+1.5**
GSC	**Goldstone, Bar**	**3.37**	**338**	*e*Pg	**Pg**	**00 38 01.8**	**+1.7**
TUC	**Tucson**	**3.77**	**87**	*e*Pg	**Pg**	**00 38 09.1**	**+1.4**
TUC				*e*Sb	**Sb**	**00 38 50.6**	**+2.7**
ISA	**Isabella, Lake**	**4.39**	**323**	*e*Pg	**Pg**	**00 38 22.5**	**+3.0**
R11A	**Troy Canyon, C**	**6.16**	**357**	*e*Pg	**Pg**	**00 38 54.8**	**+1.6**
R11A				*e*Sg	**Sg**	**00 40 13.9**	**+0.9**

*CRAAG **24** 01:18:26.1, 35°.88N×4°.06E, Ml3.4*
*ISCJB **24** 01:18:27.7±0.8, 36°.05N±0°.07×4°.04E±0°.05, h10km±7km, Error ellipse: s-maj=11.9km s-min=7.1km az=177.3*
*MDD **24** 01:18:27.5±0.5, 35°.95N×4°.12E, h0km, mb3.9/8, Error ellipse: s-maj=14.3km s-min=4.5km az=28.0, PRXIMO*
*CSEM **24** 01:18:27.4±0.4, 35°.96N×4°.09E, h2km, mb3.9, Error ellipse: s-maj=12.6km s-min=6.8km az=3.0*
ISC 24 01:18:27.1±1.2, 35°.96N±0°.05×4°.12E±0°.03, h8km±10km, n55, σ1°31/60, 1D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAF	**Djebel Tarf**	**0.16**	**123**	P	**Pg**	**01 18 30.1**	**-0.3**
ATAF	**Djebel Tarf**	**0.16**	**123**	P	**Pg**	**01 18 30.1**	**-0.3**
ATAF	**Djebel Tarf**	**0.16**	**123**	P	**Pg**	**01 18 30.1**	**-0.3**
AKET	**Djebel Ketaf**	**0.21**	**295**	P	**Pg**	**01 18 31.0**	**-0.4**
AKET	**Djebel Ketaf**	**0.21**	**295**	P	**Pg**	**01 18 31.0**	**-0.4**
AKET	**Djebel Ketaf**	**0.21**	**295**	P	**Pg**	**01 18 31.0**	**-0.4**
ADJB	**Djebel Djouab**	**0.58**	**290**	P	**Pg**	**01 18 38.1**	**-0.3**
ADJB	**Djebel Djouab**	**0.58**	**290**	P	**Pg**	**01 18 38.1**	**-0.3**
ADJB	**Djebel Djouab**	**0.58**	**290**	P	**Pg**	**01 18 38.1**	**-0.3**
EMHD	**Djebel Mahouad**	**0.97**	**285**	P	Pg	01 18 32.0	-14
SET	**Setif**	**1.07**	**77**	P	Pg	01 18 43.0	-4.6
SET	**Setif**	**1.07**	**77**	P	Pg	01 18 43.0	-4.6
SET	**Setif**	**1.07**	**77**	P	Pg	01 18 43.0	-4.6
DFRA	**Djebel Bou Aff**	**1.54**	**67**	P	**Pb**	**01 18 56.4**	**+0.5**
DFRA	**Djebel Bou Aff**	**1.54**	**67**	P	**Pb**	**01 18 56.4**	**+0.5**
DFRA	**Djebel Bou Aff**	**1.54**	**67**	P	**Pb**	**01 18 56.4**	**+0.5**
CASM	**Ain Smara**	**1.94**	**80**	P	**Pb**	**01 19 03.0**	**+0.2**
CASM	**Ain Smara**	**1.94**	**80**	P	**Pb**	**01 19 03.0**	**+0.2**
CASM	**Ain Smara**	**1.94**	**80**	P	**Pb**	**01 19 03.0**	**+0.2**
EBNR	**Beni Rached**	**2.12**	**280**	P	**Pb**	**01 19 05.8**	**+0.1**
EBNR	**Beni Rached**	**2.12**	**280**	P	**Pb**	**01 19 05.8**	**+0.1**
ETRT	**Tiaret**	**2.36**	**257**	P	**Pn**	**01 19 06.0**	**-0.2**
ETRT	**Tiaret**	**2.36**	**257**	P	**Pn**	**01 19 06.0**	**-0.2**
ETRT	**Tiaret**	**2.36**	**257**	P	**Pn**	**01 19 06.0**	**-0.2**
EANR	**'Ain N'Sour**	**2.45**	**271**	P	**Pn**	**01 19 08.0**	**+0.7**
EANR	**'Ain N'Sour**	**2.45**	**271**	P	**Pn**	**01 19 08.0**	**+0.7**
EANR	**'Ain N'Sour**	**2.45**	**271**	P	**Pn**	**01 19 08.0**	**+0.7**
OKGL	**Djebel Kef Gue**	**2.82**	**273**	P	**Pn**	**01 19 12.7**	**+0.3**
	2.5nm,0.1s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**2.82**	**273**	P	**Pn**	**01 19 12.7**	**+0.3**
	2.5nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**3.77**	**325**	⇓P

TRVZ	Turoa	0.63	190	PN	Pn	01 24 02.6	0.0	
WNVZ	Wahianoa	0.65	187	⇑PN	Pn	01 24 02.7	0.0	
HIZ	Hauiti	0.68	284	⇑PN	Pn	01 24 02.4	-0.2	
MTVZ	Mangateitei	0.72	194	PN	Pn	01 24 03.0	-0.1	
MOVZ	Moawhango	0.73	176	⇑PN	Pn	01 24 02.8	-0.3	
MOVZ				SN	Sn	01 24 18.8	-1.4	
BKZ	Black Stump Fm	0.79	128	⇑PN	Pn	01 24 03.4	-0.2	
BKZ				SN	Sn	01 24 20.1	-0.9	
BKZ				AML	AML	01 24 21.1		
VRZ	Vera Road	0.85	238	⇑PN	Pn	01 24 03.7	-0.2	
BHHZ	Black Hill Sta	0.85	160	⇑PN	Pn	01 24 03.8	-0.3	
BHHZ				SN	Sn	01 24 20.4	-1.5	
NMHZ	Naumai	0.96	116	*e*PN	Pn	01 24 05.6	+0.7	
MCHZ	McNeill Hill	1.09	135	PN	Pn	01 24 06.8	+0.9	
KRHZ	Kereru	1.09	151	⇑PN	Pn	01 24 06.1	+0.1	
RAHZ	Arahi	1.11	103	PN	Pn	01 24 06.6	+0.5	
ARHZ	Aropaoanui	1.17	120	PN	Pn	01 24 07.2	+0.6	
URZ	Urewera	1.19	70	⇓PN	Pn	01 24 06.0	-0.8	
URZ				SN	Sn	01 24 24.7	-2.0	
URZ				AML	AML	01 24 26.5		
WAZ	Wanganui	1.21	207	PN	Pn	01 24 06.8	-0.2	
WHHZ	Waihua	1.27	109	PN	Pn	01 24 07.9	+0.3	
LREZ	Lake Rotokare	1.27	232	PN	Pn	01 24 07.8	+0.2	
PNHZ	Pukenui	1.29	162	⇑PN	Pn	01 24 07.6	-0.2	
SNGZ	Shannon Statio	1.29	95	⇓PN	Pn	01 24 08.1	+0.2	
RAGZ	Rawiri	1.36	83	PN	Pn	01 24 08.4	-0.3	
NEZ	North Egmont	1.38	244	PN	Pn	01 24 08.9	+0.1	
TSZ	Takapari Road	1.39	172	PN	Pn	01 24 08.4	-0.5	
TSZ				AML	AML	01 24 09.1		
PKE	Pukeiti	1.43	248	PN	Pn	01 24 08.5	-0.7	
KAHZ	Kahuranaki	1.44	141	PN	Pn	01 24 09.6	+0.2	
MWZ	Matawai	1.48	77	PN	Pn	01 24 09.1	-0.7	
MWZ				AML	AML	01 24 35.9		
MWZ				AML	AML	01 24 44.9		
WPHZ	Waipukurau	1.50	157	⇑PN	Pn	01 24 09.7	-0.2	
KNZ	Kokohu	1.58	103	PN	Pn	01 24 10.7	-0.1	
RIGZ	Rimuhau	1.62	91	⇓PN	Pn	01 24 11.2	-0.1	
PXZ	Pawanui	1.62	146	⇑PN	Pn	01 24 11.0	-0.2	
PXZ				AML	AML	01 24 34.8		
PXZ				AML	AML	01 24 35.2		
DVHZ	Dannevirke	1.66	167	⇑PN	Pn	01 24 10.9	-0.8	
TKGZ	Te Karaka	1.71	82	PN	Pn	01 24 12.2	0.0	
POWZ	Post Office Ro	1.71	178	PN	Pn	01 24 11.4	-0.9	
PRHZ	Porangahau	1.74	156	⇑PN	Pn	01 24 12.2	-0.4	
TWGZ	Tauwhareparae	1.87	75	PN	Pn	01 24 13.8	-0.3	
ANWZ	Angora Road	1.88	161	⇑PN	Pn	01 24 13.6	-0.5	
PRWZ	Pori Road	1.88	174	PN	Pn	01 24 13.5	-0.8	
HAZ	Te Kaha	1.89	61	PN	Pn	01 24 13.0	-1.3	
MRZ	Mangatainoka R	1.98	183	PN	Pn	01 24 13.9	-1.4	
MRZ				AML	AML	01 24 41.6		
MRZ				AML	AML	01 24 41.8		
CNGZ	Carnagh Statio	1.98	85	PN	Pn	01 24 15.3	-0.1	
BFZ	Birch Farm	2.04	168	PN	Pn	01 24 14.8	-1.3	
TIWZ	Tintock	2.10	176	⇓PN	Pn	01 24 15.5	-1.3	
TIWZ				AML	AML	01 24 44.2		
TIWZ				AML	AML	01 24 45.5		
PUZ	Puketiti	2.10	74	PN	Pn	01 24 15.9	-1.0	
PUZ				AML	AML	01 24 45.6		
OGWZ	Otaki Gorge	2.17	191	⇑PN	Pn	01 24 16.1	-1.5	
HOWZ	Holdsworth Sta	2.22	183	PN	Pn	01 24 16.4	-1.8	
CPWZ	Castlepoint	2.26	170	PN	Pn	01 24 17.8	-0.8	
KIW	Kapiti Island	2.26	195	AML	AML	01 24 14.3		
KIW				⇓PN	Pn	01 24 16.9	-1.8	
KIW				AML	AML	01 24 46.6		
WMGZ	Waiomatatini S	2.31	69	PN	Pn	01 24 18.3	-1.0	
TMWZ	Te Maipa	2.43	176	PN	Pn	01 24 18.9	-1.9	
CAW	Cannon Point	2.47	191	PN	Pn	01 24 19.2	-2.0	
CAW				AML	AML	01 24 51.0		
CAW				AML	AML	01 24 51.1		
MTW	Mount Morrison	2.48	183	PN	Pn	01 24 19.1	-2.3	
MTW				AML	AML	01 24 50.9		
MTW				AML	AML	01 24 51.4		
DUWZ	D'Urville Isla	2.52	212	PN	Pn	01 24 19.7	-2.2	
PAWZ	Paruwai Farm	2.70	184	PN	Pn	01 24 21.7	-2.4	
TRWZ	Traveller	2.71	180	PN	Pn	01 24 21.9	-2.4	
TRWZ				AML	AML	01 24 57.1		
MSWZ	Moikau Station	2.75	187	⇑PN	Pn	01 24 22.2	-2.5	
MSWZ				AML	AML	01 24 54.8		
TCW	Tory Channel	2.75	203	PN	Pn	01 24 22.4	-2.3	
TCW				AML	AML	01 24 57.0		
TCW				AML	AML	01 24 57.1		
BHW	Baring Head	2.79	193	PN	Pn	01 24 22.7	-2.5	
BHW				AML	AML	01 24 57.4		
PLWZ	Palliser	2.90	187	⇓PN	Pn	01 24 23.9	-2.8	
TUWZ	Tuamarina	3.06	206	PN	Pn	01 24 23.6	-2.8	
TUWZ				AML	AML	01 25 02.2		
TUWZ				AML	AML	01 25 03.1		
QRZ	Quartz Range	3.25	228	PN	Pn	01 24 27.7	-3.3	
BSWZ	Blackbirch Sta	3.33	204	PN	Pn	01 24 29.4	-2.7	
KHZ	Kahutara	4.08	203	PN	Pn	01 24 38.5	-3.2	
LTZ	Lake Taylor	4.85	211	PN	Pn	01 24 47.3	-4.8	
MQZ	McQueen's Vall	5.52	204	PN	Pn	01 24 55.5	-5.3	
ODZ	Otahua Downs	7.39	209	PN	Pn	01 25 20.7	-5.1	

*ISCJB **24** 01:33:59.7±0.8, 16°.69S±0°.07×69°.49W±0°.07, h173km, mb3.9/4, Error ellipse: s-maj=10.3km s-min=9.7km az=140.7*

*IDC **24** 01:34:03.3±1.2, 16°.83S×69°.35W, h194km±6km, mb3.6/5, mb1 3.6/7, mb1mx3.3/26, mbtmp4.1/7, Error ellipse: s-maj=24.3km s-min=12.7km az=113.0*

ISC 24 01:34:00.6±0.9, 16°.81S±0°.10×69°.54W±0°.09, h173km, n10, σ1§90/11, mb4.0/4, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.45**	**69**	P	Pn	01 34 35.7	+3.5
	97nm,0.3s,baz=279,slow=7.3,SNR=2927						
LPAZ				S	**Sn**	**01 35 00.2**	**+3.8**
	8.8nm,0.3s,baz=147,slow=23,SNR=8.7						
LVC	**Limon Verde**	**5.81**	**174**	P	Pn	01 35 28.3	+3.0
	87nm,0.3s,baz=46,slow=9.1,SNR=24						
LVC				S	**Sn**	**01 36 32.0**	**+0.2**
	190nm,0.3s,baz=147,slow=21,SNR=16						
SIV	**San Ignacio**	**8.17**	**86**	P	**Pn**	**01 35 56.4**	**+0.1**
	0.5nm,0.3s,baz=285,slow=11,SNR=7.0						
SIV				S	**Sn**	**01 37 25.2**	**-2.4**
	0.3nm,0.3s,baz=344,slow=20,SNR=5.9						
NNA	**Nana**	**8.54**	**303**	P	**Pn**	**01 36 00.6**	**-0.7**
	3.9nm,0.3s,baz=141,slow=10.0,SNR=8.0						
NNA				S	Sn	01 37 29.1	-7.6
	2.4nm,0.3s,baz=237,slow=17,SNR=6.3						
BDFB	**Brasilia**	**20.70**	**90**	P	**P**	**01 38 28.2**	**+0.5**
	3.4nm,0.8s,baz=261,slow=17,SNR=5.2						
PLCA	**Paso Flores**	**23.86**	**182**	P	**P**	**01 39 00.7**	**+2.5**
	3.0nm,0.8s,baz=353,slow=12,SNR=6.1						
DBIC	**Dimbokro**	**68.06**	**75**	P	**P**	**01 44 41.4**	**-0.6**
	1.5nm,0.4s,baz=242,slow=5.9,SNR=7.7						
TORD	**Torodi Ar. Bea**	**76.39**	**72**	P	**P**	**01 45 30.8**	**-0.7**
	2.9nm,0.5s,baz=272,slow=5.0,SNR=73						
YKA	**Yellowknife Ar**	**86.58**	**341**	P	**P**	**01 46 23.4**	**-0.4**
	0.4nm,0.5s,baz=134,slow=5.2,SNR=6.3						
WRA	**Warramunga Arr**	**136.60**	**214**	PKP	**PKPdf**	**01 53 03.2**	**+0.1**
	0.4nm,1.0s,baz=140,slow=2.1,SNR=3.0						

IDC 24 01:46:58.7±2.2, 7°.26S×151°.06E, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.5/26, mbtmp3.5/3, Error ellipse: s-maj=127.2km s-min=30.1km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.54**	**230**	P	P	01 51 38.3	-0.7
	1.7nm,0.7s,baz=56,slow=11,SNR=22						
ASAR	**Alice Springs**	**23.18**	**223**	P	P	01 52 07.3	0.0
	0.5nm,0.5s,baz=57,slow=9.2,SNR=6.9						
ILAR	**Eielson Array**	**85.07**	**22**	P	P	01 59 35.9	-0.3
	0.3nm,0.7s,baz=246,slow=6.8,SNR=4.4						
TORD	**Torodi Ar. Bea**	**149.30**	**283**	PKPbc	PKPbc	02 06 50.8	+0.2
	0.1nm,0.3s,baz=80,slow=2.9,SNR=4.4						

*ISCJB **24** 01:49:03.9±0.9, 44°.44N±0°.06×148°.27E±0°.10, h62km±9km, mb3.4/7, Error ellipse: s-maj=13.0km s-min=6.9km az=34.1*

*JMA **24** 01:49:04.6±0.4, 44°.02N×148°.04E, h0km, M4.2*

*SKHL **24** 01:49:05.6±0.5, 44°.43N×148°.18E, h33km±3km, mb4.5/4*

*IDC **24** 01:49:07.8±4.0, 44°.49N×148°.14E, h82km±37km, mb3.1/7, mb1 3.4/8, mb1mx3.2/31, mbtmp3.5/8, Error ellipse: s-maj=30.3km s-min=21.2km az=136.0*

ISC 24 01:49:03.4±2.0, 44°.38N±0°.07×148°.4E±0°.1, h44km±19km, n29, σ1§35/30, mb3.5/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.93**	**336**	*e*P	**Pn**	**01 49 20.3**	**+0.2**
KUR				AMB	AMB	01 49 20.8	
	150nm,0.4s						
KUR				*e*S	**Sn**	**01 49 31.3**	**-0.9**
KUR				A	A	01 49 32.7	
	450nm,0.6s						
KUR				A	A	01 49 32.7	
	710nm,0.6s						
SHO	**Shikotan**	**1.24**	**246**	*e*P	**Pn**	**01 49 24.1**	**-0.2**
SHO				AMB	AMB	01 49 24.3	
	150nm,0.3s						
SHO				*e*S	**Sn**	**01 49 37.7**	**-2.1**
SHO				A	A	01 49 40.3	
	820nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.86**	**260**	*e*P	**Pn**	**01 49 33.2**	**+0.5**
YUK				AMB	AMB	01 49 34.7	
	120nm,0.4s						
YUK				*e*S	**Sn**	**01 49 54.3**	**-0.6**
YUK				A	A	01 49 59.4	
	360nm,0.6s						
YUK				A	A	01 49 59.4	
	200nm,0.6s						
NEM2	**Nemuro 2**	**2.17**	**243**	P	**Pn**	**01 49 36.9**	**-0.2**
NEM2				*e*S	**Sn**	**01 50 00.9**	**-1.8**
JRA	**Rausu**	**2.40**	**260**	P	**Pn**	**01 49 41.7**	**+1.5**
JRA				*e*S	**Sn**	**01 50 09.7**	**+1.4**
JNK	**Nakash**	**2.77**	**255**	P	**Pn**	**01 49 46.3**	**+1.0**
JAK	**Akkeshi**	**3.02**	**244**	P	**Pn**	**01 49 49.1**	**+0.4**
JTKR	**Abashiri--Toko**	**3.25**	**264**	P	Pn	01 49 55.3	+3.4
JAR	**Ashorobuto**	**3.52**	**254**	P	**Pn**	**01 49 57.6**	**+2.0**
JAR				*e*S	**Sn**	**01 50 37.5**	**+1.6**
JCH	**Churui**	**4.07**	**246**	P	**Pn**	**01 50 04.6**	**+1.5**
JKK2	**Kamakawa 2**	**4.10**	**265**	P	Pn	01 50 07.4	+3.9
ASAJ	**Asahikawa**	**4.18**	**268**	P	**Pn**	**01 50 07.1**	**+2.5**
	1.1nm,0.3s,baz=127,slow=20,SNR=3.8						
JNBK	**Urakawa-nobuka**	**4.62**	**245**	P	**Pn**	**01 50 12.2**	**+1.5**
YSS	**Yuzh-Sakhalins**	**4.72**	**305**	*e*P	**Pn**	**01 50 13.3**	**+1.3**
YSS				AMB	AMB	01 50 17.4	
	110nm,0.3s						
YSS				*e*S	**Sn**	**01 51 04.4**	**-0.9**
YSS				A	A	01 51 06.4	
	300nm,0.6s						
JKB	**Kayabe**	**5.94**	**248**	P	**Pn**	**01 50 30.2**	**+1.5**
JKB				*e*S	**Sn**	**01 51 34.1**	**-1.3**
JOT	**Ohata**	**6.17**	**243**	P	**Pn**	**01 50 32.8**	**+0.8**
H11N2	**WAKE ISLAND Hy**	**29.02**	**142**	T	T	02 25 47.3	
	baz=332,slow=76,SNR=89						
H11N1	**WAKE ISLAND Hy**	**29.03**	**142**	T	T	02 25 48.6	
	baz=332,slow=76,SNR=74						
H11N3	**WAKE ISLAND Hy**	**29.04**	**142**	T	T	02 25 48.7	
	baz=332,slow=76,SNR=106						
H11S1	**WAKE ISLAND Hy**	**30.01**	**143**	T	T	02 27 03.2	
	baz=334,slow=76,SNR=188						
H11S3	**WAKE ISLAND Hy**	**30.02**	**143**	T	T	02 26 58.9	
	baz=334,slow=76,SNR=88						
H11S2	**WAKE ISLAND Hy**	**30.03**	**143**	T	T	02 27 04.5	
	baz=334,slow=76,SNR=67						
ILAR	**Eielson Array**	**40.44**	**37**	P	**P**	**01 56 36.6**	**-0.5**
	0.2nm,0.7s,baz=276,slow=8.1,SNR=3.8						
MKAR	**Makanchi Array**	**45.09**	**297**	P	**P**	**01 57 13.3**	**-1.7**
	0.5nm,0.8s,baz=76,slow=6.5,SNR=4.6						
MKAR				PcP	**PcP**	**01 58 53.5**	**-1.5**
	0.3nm,0.6s,baz=110,slow=3.4,SNR=4.4						
YKA	**Yellowknife Ar**	**54.77**	**34**	P	**P**	**01 58 28.9**	**+0.8**
	0.5nm,0.7s,baz=302,slow=6.8,SNR=4.6						
FINES	**FINESS Array B**	**64.72**	**333**	P	**P**	**01 59 35.8**	**-0.7**
	0.9nm,0.8s,baz=72,slow=9.2,SNR=3.2						
WRA	**Warramunga Arr**	**65.29**	**195**	P	**P**	**01 59 41.0**	**+0.3**
	0.5nm,0.8s,baz=16,slow=6.8,SNR=3.5						
PDAR	**Pinedale Array**	**68.81**	**51**	P	**P**	**02 00 04.2**	**+0.9**
	0.2nm,0.5s,baz=294,slow=7.5,SNR=2.6						
TXAR	**Lajitas Array**	**81.55**	**57**	P	**P**	**02 01 17.6**	**+1.0**
	0.2nm,0.6s,baz=297,slow=4.4,SNR=4.5						

*SKHL **24** 01:53:06.2±0.6, 47°.85N×149°.33E, h343km±15km, mb4.9/6, msh5.0/6*

*ISCJB **24** 01:53:07.6±0.4, 47°.72N±0°.04×148°.92E±0°.07, h357km, mb3.5/14, Error ellipse: s-maj=7.4km s-min=4.0km az=29.5*

*MOS **24** 01:53:07.3±1.7, 48°.02N×148°.68E, h339km, mb4.1/4, Error ellipse: s-maj=15.6km s-min=8.3km az=67.6*

*IDC **24** 01:53:09.9±1.3, 47°.92N×148°.65E, h356km±17km, mb3.3/11, mb1 3.5/17, mb1mx3.2/36, mbtmp4.0/17, Error ellipse: s-maj=23.3km s-min=11.9km az=160.0*

ISC 24 01:53:08.3±0.5, 47°.65N±0°.05×148°.87E±0°.07, h357km, n72, σ1§78/78, mb3.5/14, 4C-3D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.52**	**196**	*i*PN	**Pn**	**01 54 05.6**	**+1.4**
KUR				pmax	pmax		
	comp=Z,53nm,0.5s						
KUR				pmax	pmax		
	comp=N,25nm,0.2s						
KUR				pmax	pmax		
	comp=E,15nm,0.1s						
KUR	**Kuril'sk**	**2.52**	**196**	*i* P	**Pn**	**01 54 05.5**	**+1.4**
KUR				AMB	AMB	01 54 06.2	
	comp=E,210nm,0.4s						
KUR				*e*S	**S**	**01 54 51.3**	**+2.3**
KUR				A	A	01 55 26.7	
	comp=E,90nm,0.6s						
SHO	**Shikotan**	**4.04**	**201**	*e*P	**Pn**	**01 54 16.8**	**-1.4**
SHO				AMB	AMB	01 54 18.2	
	comp=E,120nm,0.2s						
SHO				*e*S	**S**	**01 55 12.3**	**-2.2**
SHO				A	A	01 55 15.0	
	comp=E,400nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**4.18**	**211**	*d i*PN	**Pn**	**01 54 21.3**	**+1.7**
YUK				*i* *SP	**S**	**01 55 18.9**	**+1.7**
YUK				pmax	pmax		
	comp=N,34nm,0.3s						
YUK				pmax	pmax		
	comp=E,70nm,0.3s						
YUK				pmax	pmax		
	comp=Z,79nm,0.3s						
YUK				smax	smax		
	comp=E,125nm,0.8s						
YUK				smax	smax		
	comp=N,134nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**4.18**	**211**	*i* P	**Pn**	**01 54 21.3**	**+1.7**
YUK				AMB	AMB	01 54 23.5	
	comp=N,150nm,0.2s						
YUK				AMB	AMB	01 54 23.5	
	comp=N,130nm,0.2s						
YUK				AMB	AMB	01 54 23.5	
	comp=N,860nm,0.2s						
YUK				*i* S	**S**	**01 55 19.9**	**+2.7**
YUK				A	A	01 55 22.8	
	comp=N,130nm,0.7s						
YSS	**Yuzh-Sakhalins**	**4.22**	**263**	*e*PN	**Pn**	**01 54 20.5**	**+0.6**
YSS				pmax	pmax		
	comp=Z,40nm,1.1s						
YSS	**Yuzh-Sakhalins**	**4.22**	**263**	*e*P	**Pn**	**01 54 20.5**	**+0.6**
YSS				AMB	AMB	01 54 22.0	
	comp=Z,40nm,1.0s						
YSS				*e*S	**S**	**01 55 18.5**	**+0.8**
YSS				A	A	01 55 22.6	
	comp=Z,50nm,0.3s						
UGL	**Uglegorsk**	**4.76**	**290**	*de*PN	Pn	01 54 19.5	-5.9
UGL				*e*S	S	01 55 18.1	-10
UGL	**Uglegorsk**	**4.76**	**290**	*e*P	**Pn**	**01 54 24.0**	**-1.4**
NEM2	**Nemuro 2**	**4.82**	**208**	P	**Pn**	**01 54 24.5**	**-1.8**
NEM2				*e*S	**S**	**01 55 24.4**	**-4.9**
JNK	**Nakash**	**5.00**	**217**	P	**Pn**	**01 54 28.1**	**-0.2**
JTKR	**Abashiri--Toko**	**5.06**	**225**	P	**Pn**	**01 54 31.2**	**+2.4**
TYV	**Tymovskoe**	**5.19**	**311**	*e*P	**Pn**	**01 54 31.0**	**+0.9**
TYV				AMB	AMB	01 54 31.4	
	comp=Z,10.0nm,0.5s						
TYV				*e*S	**S**	**01 55 35.0**	**-1.4**
TYV				A	A	01 55 38.1	
	comp=Z,10.0nm,0.8s						
JAK	**Akkeshi**	**5.51**	**214**	P	**Pn**	**01 54 32.3**	**-1.5**
JAK				*e*S	**S**	**01 55 38.4**	**-4.7**
JKA	**Kamikawa-asahi**	**5.63**	**233**	*e*P	Pn	01 54 38.4	+3.3
JKA				*e*S	**S**	**01 55 46.8**	**+1.3**
ASAJ	**Asahikawa**	**5.63**	**233**	P	Pn	01 54 38.4	+3.2
ASAJ				S	**S**	**01 55 46.8**	**+1.2**
	comp=Z,3.0nm,0.3s,baz=63,slow=14,SNR=8.2						
ASAJ				S	**S**	**01 55 46.8**	**+1.2**
	comp=Z,1.0nm,0.3s,baz=348,slow=32,SNR=1.1						
ASAJ	**Asahikawa**	**5.63**	**233**	PN	Pn	01 54 38.4	+3.2
ASAJ				S	**S**	**01 55 46.8**	**+1.2**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				smax	smax		
	comp=N,1.0nm,0.3s						
SKR	**Severo-Kuril's**	**5.64**	**55**	*e*PN	Pn	01 54 28.5	-6.6
SKR				pmax	pmax		
	comp=N,40nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR	**Severo-Kuril's**	**5.64**	**55**	*e*P	Pn	01 54 29.2	-5.9
SKR				AMB	AMB	01 54 36.7	
	comp=Z,100nm,0.5s						
SKR				*e*S	S	01 55 35.5	-10
SKR				A	A	01 55 45.7	
	comp=Z,160nm,1.0s						
JAR	**Ashorobuto**	**5.64**	**221**	P	**Pn**	**01 54 35.7**	**+0.4**
JKK2	**Kamakawa 2**	**5.71**	**231**	P	Pn	01 54 39.0	+2.9
JOB	**Onbets**	**5.93**	**219**	P	**Pn**	**01 54 37.8**	**-0.7**
JOB				*e*S	**S**	**01 55 47.4**	**-4.4**
JCH	**Churui**	**6.37**	**220**	*e*S	**S**	**01 55 55.1**	**-5.8**
MYR	**Moyori**	**6.66**	**219**	*e*P	**Pn**	**01 54 45.2**	**-1.7**
JBT2	**Biratori 2**	**6.70**	**226**	P	**P**	**01 54 47.7**	**-0.9**
JBT2				*e*S	**S**	**01 56 07.3**	**-0.5**
JNBK	**Urakawa-nobuka**	**6.90**	**221**	P	**Pn**	**01 54 48.1**	**-1.6**
ERM	**Erimo**	**6.95**	**218**	⇑*e*PN	**P**	**01 54 50.7**	**-0.8**
ERM	**Erimo**	**6.95**	**218**	*e*P	**P**	**01 54 50.7**	**-0.8**
JEM	**Erimo**	**6.95**	**218**	P	**Pn**	**01 54 49.4**	**-0.8**
PETK	**Petropavlovsk-**	**7.85**	**43**	P	**P**	**01 55 00.7**	**-1.0**
	comp=Z,3.0nm,0.3s,baz=203,slow=11,SNR=5.9						
JSH	**Shimam**	**8.00**	**234**	P	**P**	**01 55 04.5**	**+0.9**
JKB	**Kayabe**	**8.02**	**227**	P	**Pn**	**01 55 01.2**	**-1.5**
JKB				*e*S	S	01 56 28.1	-8.0
JYM2	**Yakumo 2**	**8.19**	**231**	P	**Pn**	**01 55 05.0**	**+0.3**
JTM	**Tenmabayashi**	**8.86**	**222**	*e*S	S	01 56 45.5	-8.9
KLR	**Kul'dur**	**11.48**	**284**	*e*PN	**Pn**	**01 55 42.6**	**-1.1**
KLR				pmax	pmax		
	comp=E,64nm,1.8s						
KLR				pmax	pmax		
	comp=Z,56nm,1.8s						
KLR	**Kul'dur**	**11.48**	**284**	*e*P	**Pn**	**01 55 42.6**	**-1.1**
KLR				AMB	AMB	01 55 43.7	
	comp=Z,60nm,1.8s						
EKMR	**Ekimchan**	**11.52**	**304**	*e*P	**P**	**01 55 44.5**	**+0.4**
EKMR				AMB	AMB	01 55 46.5	
	comp=Z,4.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**12.25**	**260**	P	**Pn**	**01 55 53.3**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=64,slow=13,SNR=14						
MJA0	**Matsu Arr-Jizo**	**13.60**	**219**	*e*P	Pn	01 56 11.7	+2.9
MJA0				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MAJO	**Matsushiro**	**13.62**	**219**	⇓*e*P	**Pn**	**01 56 11.3**	**+2.3**
MAJO	**Matsushiro**	**13.62**	**219**	*e*P	**Pn**	**01 56 11.3**	**+2.3**
MAT	**Matsushiro**	**13.62**	**219**	P	**Pn**	**01 56 11.7**	**+2.7**
MAT				S	**S**	**01 58 37.6**	**+1.7**
MJAR	**Matsushiro Arr**	**13.62**	**219**	P	**Pn**	**01 56 10.2**	**+1.2**
	comp=Z,3.1nm,0.3s,baz=21,slow=12,SNR=13						
MJAR	**Matsushiro Arr**	**13.62**	**219**	P	**Pn**	**01 56 10.2**	**+1.2**
MJAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
BMKR	**Bomnak**	**14.38**	**307**	*i* P	**Pn**	**01 56 18.9**	**+1.4**
BMKR				AMB	AMB	01 56 19.5	
	comp=Z,10.0nm,0.5s						
YASR	**Yasnyy**	**14.43**	**301**	*i* P	**P**	**01 56 14.5**	**-1.6**
YASR				AMB	AMB	01 56 15.1	
	comp=Z,10.0nm,0.5s						
SEY	**Seymchan**	**15.44**	**6**	P	**P**	**01 56 27.7**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=187,slow=8.1,SNR=4.4						
KSRS	**Korea Array**	**18.44**	**244**	P	**P**	**01 57 01.8**	**+2.4**
	comp=Z,0.7nm,0.3s,baz=51,slow=10,SNR=9.4						
KSRS	**Korea Array**	**18.44**	**244**	P	**P**	**01 57 01.8**	**+2.4**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BILL	**Bilibino**	**22.28**	**17**	*i* P	**P**	**01 57 35.4**	**-0.6**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.2s						
BILL	**Bilibino**	**22.28**	**17**	*i* P	**P**	**01 57 35.4**	**-0.6**
TIXI	**Tiksi**	**25.83**	**346**	⇑*e*P	**P**	**01 58 06.3**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TIXI	**Tiksi**	**25.83**	**346**	*e*P	**P**	**01 58 06.3**	**-1.6**
COLA	**College**	**37.24**	**39**	⇑*i*P	**P**	**01 59 47.0**	**+0.5**
COLA				*i* *PP	**pP**	**02 00 52.5**	**-2.6**
COLA				pmax	pmax		
	comp=Z,29nm,1.0s						
COLA	**College**	**37.24**	**39**	*i* P	**P**	**01 59 47.0**	**+0.5**
ILAR	**Eielson Array**	**37.66**	**39**	P	**P**	**01 59 50.7**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=276,slow=7.9,SNR=38						
MKAR	**Makanchi Array**	**43.95**	**295**	P	**P**	**02 00 40.9**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=49,slow=4.3,SNR=14						
MKAR	**Makanchi Array**	**43.95**	**295**	*e*P	**P**	**02 00 41.0**	**-

3.2nm,0.3s,baz=205,slow=2.3,SNR=71
SIV San Ignacio 8.65 55 P **Pn 02 09 06.3 -1.1**
9.0nm,0.3s,baz=248,slow=11,SNR=82
CFAA Coronel Fontan 10.45 179 P **Pn 02 09 29.7 -2.0**
0.0nm,0.3s,baz=350,slow=15,SNR=8.3
CFAA S Sn 02 11 20.2 -6.7
0.1nm,0.3s,baz=260,slow=17,SNR=3.8
BDFB Brasilia 20.13 78 P **P 02 11 31.7 +1.6**
1.3nm,0.4s,baz=228,slow=9.6,SNR=5.1
TXAR Lajitas Array 60.56 325 P **P 02 17 02.8 -0.7**
0.2nm,0.6s,baz=159,slow=7.7,SNR=3.0
PDAR Pinedale Array 74.00 330 P **P 02 18 27.5 -0.6**
0.6nm,0.8s,baz=107,slow=5.0,SNR=3.7
ULM Lac du Bonnet 75.08 342 P **P 02 18 33.1 -0.8**
1.7nm,0.4s,baz=140,slow=7.2,SNR=5.5
TORD Torodi Ar. Bea 76.81 70 P **P 02 18 45.2 +0.7**
1.3nm,0.4s,baz=253,slow=5.4,SNR=33
YKA Yellowknife Ar 90.97 340 P **P 02 19 55.5 +0.2**
0.6nm,0.6s,baz=130,slow=4.3,SNR=9.7
WRA Warramunga Arr 133.51 210 PKP **PKPdf 02 26 09.4 +0.9**
0.2nm,0.6s,baz=157,slow=1.3,SNR=7.5
ZALV Zalesovo Beam 141.42 25 PKP **PKPdf 02 26 23.3 +1.4**
0.5nm,0.3s,baz=318,slow=4.0,SNR=3.5
MKAR Makanchi Array 145.07 36 PKPbc **PKPdf 02 26 29.8 +1.1**
1.9nm,0.6s,baz=287,slow=7.5,SNR=20

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*SJA **24** 02:25:36.6±1.0,34.02S×73.08W,h10km,ML3.9,MW3.6*
*IDC **24** 02:25:39.2±1.3,34.34S×72.26W,h0km,mb3.6/3,*
mb1 3.8/5,mb1mx3.7/24,mbtmp3.6/5,ML3.8/2,MS2.8/2,
Ms1 2.8/2,ms1mx2.6/21,Error ellipse: s-maj=39.3km
s-min=27.0km az=102.0
*ISCJB **24** 02:25:41.6±1.3,34.25S±0.04×72.27W±0.07,h19km±9km,*
mb3.7/2,Error ellipse: s-maj=11.0km s-min=5.3km
az=21.6
*GUC **24** 02:25:43.2±0.5,34.27S×72.14W,h26km±3km,ML3.8*

ISC 24 02:25:43.6±1.9,34.29S±0.04×72.11W±0.1,h26km±13km,
n32,σ1ș20/40,4C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.67**	**61**	⇓*iP*	**Pb**	**02 25 56.3**	**-0.5**
NICH	**Los Niches**	**1.02**	**135**	⇑*iP*	**Pn**	**02 26 02.0**	**-0.2**
NICH				*i* S	**Sn**	**02 26 15.9**	**+0.2**
TACH	**Talagante**	**1.17**	**57**	⇑*iP*	**Pn**	**02 26 03.5**	**-0.7**
TACH				*i* S	**Sb**	**02 26 19.6**	**-0.2**
TALC	**Talca**	**1.18**	**160**	⇓*iP*	**Pb**	**02 26 05.1**	**-0.2**
TALC				*i* S	**Sb**	**02 26 20.9**	**+0.8**
CHCH	**Chadas Angostu**	**1.26**	**74**	*eP*	**Pn**	**02 26 05.5**	**-0.1**
RCDM	**Rinconada Maip**	**1.35**	**54**	*eP*	**Pn**	**02 26 06.5**	**-0.3**
RCDM				*i* S	**Sb**	**02 26 24.4**	**-0.6**
SAN	**Santiago**	**1.47**	**56**	*eP*	**Pn**	**02 26 09.0**	**+0.6**
PCH	**Pirque**	**1.49**	**64**	*eP*	**Pn**	**02 26 09.5**	**+0.7**
PCH				*i* S	**Sb**	**02 26 29.1**	**0.0**
LACH	**Col Las Americ**	**1.56**	**58**	*eP*	**Pn**	**02 26 10.1**	**+0.4**
LACH				*i* S	**Sb**	**02 26 31.0**	**-0.1**
CLCH	**Cerro Calan**	**1.59**	**56**	⇓*iP*	**Pn**	**02 26 10.5**	**+0.4**
CLCH				*i* S	**Sb**	**02 26 31.9**	**0.0**
CLCH				AML	AML	02 26 44.5	
	comp=E,2μm,0.8s						
SJCH	**San Jose de Ma**	**1.60**	**67**	*eP*	**Pn**	**02 26 11.0**	**+0.7**
SJCH				*i* S	**Sb**	**02 26 31.9**	**-0.4**
LNCH	**Linares**	**1.61**	**165**	⇑*iP*	**Pn**	**02 26 11.2**	**+0.8**
LNCH				*eS*	**Sb**	**02 26 32.3**	**-0.3**
PEL	**Peldehue**	**1.65**	**47**	⇑*iP*	**Pn**	**02 26 11.8**	**+0.9**
PEL				*i* S	**Sb**	**02 26 33.4**	**-0.3**
PEL				AML	AML	02 26 45.7	
	comp=N,2μm,0.4s						
AAGR	**Agrelo**	**2.99**	**67**	*eP*	**Pb**	**02 26 36.2**	**-0.1**
ARCO	**CERRO ARCO**	**3.02**	**62**	*eP*	**Pb**	**02 26 37.1**	**+0.3**
AUSP	**Uspallata**	**3.08**	**49**	*eP*	**Pb**	**02 26 36.3**	**-1.5**
AUSP				*eS*	**Sb**	**02 27 19.3**	**+4.3**
ASAL	**Salagasta**	**3.22**	**59**	*eP*	**Pb**	**02 26 39.1**	**-1.1**
RTLS	**Leoncito**	**3.43**	**44**	*eP*	Pn	02 26 39.2	+3.5
CANA	**Caviahue**	**3.69**	**167**	*eP*	Pb	02 26 43.9	-4.4
CANA				AML	AML	02 27 59.1	
	comp=Z,128nm,0.8s						
RTCV	**Cerro Valdivia**	**3.85**	**52**	*e*P4	**Pn**	**02 26 43.9**	**+2.6**
CFAA	**Coronel Fontan**	**4.22**	**52**	Pn	**Pn**	**02 26 47.8**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=225,slow=10,SNR=12						
CFAA				Lg	Lg	02 27 46.0	
	comp=Z,0.4nm,0.3s,baz=55,slow=12,SNR=7.4						
CFAA				LR	LR	02 28 31.4	
	comp=Z,17nm,20.9s,baz=248,slow=40						
CFAA	**Coronel Fontan**	**4.22**	**52**	*e*P4	**Pn**	**02 26 48.2**	**+2.0**
RTLL	**Cerro Villicun**	**4.25**	**47**	*e*P4	**Pn**	**02 26 49.0**	**+2.3**
RTLL				*e*S4	**Sb**	**02 27 47.3**	**-1.3**
AMOG	**MOGNA**	**4.53**	**43**	*e*P4	**Pn**	**02 26 52.0**	**+1.5**
ACAN	**Cantantal**	**4.59**	**65**	*e*P4	Pn	02 26 54.8	+3.4
PLCA	**Paso Flores**	**6.55**	**170**	Pn	**Pn**	**02 27 18.7**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=340,slow=14,SNR=14						
PLCA				Lg	Lg	02 29 01.6	
	comp=Z,0.4nm,0.3s,baz=260,slow=19,SNR=2.6						
LVC	**Limon Verde**	**11.97**	**14**	LR	LR	02 33 47.3	
	comp=Z,244nm,18.0s,baz=180,slow=40						
LPAZ	**La Paz**	**18.28**	**12**	P	**P**	**02 29 56.9**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=168,slow=6.3,SNR=6.6						
SIV	**San Ignacio**	**20.75**	**31**	P	**P**	**02 30 22.3**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=221,slow=5.7,SNR=3.7						
TXAR	**Lajitas Array**	**69.95**	**331**	P	**P**	**02 36 52.8**	**0.0**
	comp=Z,0.3nm,0.5s,baz=159,slow=8.6,SNR=7.1						
TORD	**Torodi Ar. Bea**	**84.37**	**70**	P	**P**	**02 38 13.5**	**-0.4**
	comp=Z,1.1nm,1.2s,baz=242,slow=3.1,SNR=2.7						
WRA	**Warramunga Arr**	**120.48**	**209**	PKP	**PKPdf**	**02 44 32.2**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=163,slow=1.7,SNR=4.4						

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*ISCJB **24** 02:33:10.7±0.9,32.90N±0.06×142.63E±0.09,h39km,*
mb3.4/2,Error ellipse: s-maj=12.3km s-min=6.5km
az=150.2
*JMA **24** 02:33:10.2±0.4,32.96N×142.61E,h25km,M3.8*
*IDC **24** 02:33:11.8±5.2,32.47N×141.69E,h0km,mb3.4/2,*
mb1 3.6/4,mb1mx3.3/30,mbtmp3.5/4,ML3.6/2,Error
ellipse: s-maj=186.3km s-min=23.4km az=70.0

ISC 24 02:33:11.3±1.3,32.85N±0.06×142.7E±0.1,h39km,n15,
σ1ș75/24,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.32**	**321**	P	**Pn**	**02 33 45.8**	**-0.7**
BSO1				*eS*	**Sn**	**02 34 11.9**	**-1.6**
JHJ2	**Mitsune**	**2.47**	**277**	P	**Pn**	**02 33 48.4**	**-0.6**
JHJ2				S	**Sn**	**02 34 16.7**	**-1.2**
BSO2	**Boso 2**	**2.51**	**319**	S	**Sn**	**02 34 17.3**	**-1.3**
BSO3	**Boso 3**	**2.69**	**317**	P	**Pn**	**02 33 51.2**	**-0.6**
BSO3				*eS*	**Sn**	**02 34 21.8**	**-1.1**
BSO4	**Boso 4**	**2.92**	**318**	P	**Pn**	**02 33 55.1**	**0.0**
BSO4				*eS*	**Sn**	**02 34 28.3**	**-0.6**
JOD2	**Odawara 2**	**3.87**	**309**	P	**Pn**	**02 34 07.5**	**-0.8**
JOD2				*eS*	**Sn**	**02 34 50.4**	**-2.1**
JYN	**Shimob**	**4.37**	**308**	P	**Pn**	**02 34 15.5**	**+0.4**
JYN				S	**Sn**	**02 35 03.2**	**-1.6**
JRY	**Ryogami san**	**4.47**	**316**	P	**Pn**	**02 34 16.7**	**+0.1**
JRY				S	**Sn**	**02 35 04.8**	**-2.6**
JAG	**Ashikaga**	**4.48**	**324**	P	**Pn**	**02 34 16.8**	**+0.2**
JFT	**Otama**	**5.05**	**338**	P	**Pn**	**02 34 24.8**	**+0.3**
JFT				*eS*	**Sn**	**02 35 16.8**	**-4.9**
MJAR	**Matsushiro Arr**	**5.24**	**316**	Pn	**Pn**	**02 34 27.5**	**+0.3**
	1.2nm,0.3s,baz=146,slow=12,SNR=4.2						
JCJ	**Chichijima**	**5.76**	**185**	Pn	**Pn**	**02 34 35.2**	**+1.0**
	3.8nm,0.3s,baz=281,slow=23,SNR=7.0						
JCJ				Sn	**Sn**	**02 35 36.2**	**-2.9**
	4.3nm,0.3s,baz=290,slow=18,SNR=2.5						
JMK	**Ichinoseki**	**6.21**	**349**	P	**Pn**	**02 34 40.9**	**+0.5**
MKAR	**Makanchi Array**	**47.35**	**306**	P	**P**	**02 41 43.6**	**+2.3**
	0.3nm,0.5s,baz=85,slow=6.3,SNR=4.3						
WRA	**Warramunga Arr**	**53.11**	**190**	P	**P**	**02 42 26.6**	**+1.6**
	0.2nm,0.5s,baz=7.2,slow=7.6,SNR=6.8						

IDC 24 02:48:07.5±7.3,18.46S×178.07W,h0km,mb3.3/3,
mb1 3.6/3,mb1mx3.5/30,mbtmp3.3/3,Error ellipse:
s-maj=318.5km s-min=36.6km az=143.0,Fiji Islands
region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.85**	**260**	P	P	02 56 23.9	0.0
	0.1nm,0.3s,baz=96,slow=7.5,SNR=12						
ASAR	**Alice Springs**	**44.95**	**255**	P	P	02 56 24.4	-0.3
	0.1nm,0.3s,baz=89,slow=7.8,SNR=2.6						
ILAR	**Eielson Array**	**86.35**	**13**	P	P	03 00 51.0	0.0
	0.1nm,0.4s,baz=221,slow=4.5,SNR=7.0						

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*ISCJB **24** 02:57:50.7±0.9,6.40S±0.05×103.69E±0.06,h66km±7km,*
mb4.3/22,Error ellipse: s-maj=11.4km s-min=5.7km
az=141.0
*DJA **24** 02:57:50.1±0.7,6.3S±3.1×10.4E±.1,h11km±6km,M4.6/16,*
ML4.6/16
*NEIC **24** 02:57:50.0±0.3,6.26S×103.75E,h35km,mb4.6/6,Error*
ellipse: s-maj=12.4km s-min=5.0km az=221.0
*IDC **24** 02:57:51.7±0.7,6.22S×103.82E,h48km±5km,mb4.1/18,*
mb1 4.2/19,mb1mx3.9/38,mbtmp4.3/19,MS3.4/5,
Ms1 3.5/5,ms1mx2.9/33,Error ellipse: s-maj=18.4km
s-min=9.8km az=45.0

ISC 24 02:57:50.5±0.7,6.48S±0.05×103.70E±0.05,h45km±6km,
n59,σ1ș41/64,mb4.4/22,MS3.6/3,Southwest of
Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**1.24**	**40**	P	**Pn**	**02 58 10.3**	**-1.1**
KASI				S	**Sn**	**02 58 25.1**	**-1.9**
LWLI	**Liwa**	**1.50**	**14**	P	**Pn**	**02 58 14.4**	**-0.7**
LWLI				S	**Sn**	**02 58 32.8**	**-0.8**
BLSI	**Bandar Lampung**	**1.89**	**54**	P	**Pn**	**02 58 20.4**	**0.0**
BLSI				S	**Sn**	**02 58 44.6**	**+1.5**
KLI	**Kotabumi**	**1.98**	**36**	P	**Pn**	**02 58 22.1**	**+0.5**
KLI				S	**Sn**	**02 58 46.6**	**+1.4**
CGJI	**Cibinong**	**1.98**	**94**	P	**Pn**	**02 58 22.7**	**+1.1**
CGJI				S	**Sn**	**02 58 47.7**	**+2.4**
MDSI	**Maura Dua**	**2.04**	**13**	P	**Pn**	**02 58 21.9**	**-0.5**
MDSI				S	**Sn**	**02 58 47.3**	**+0.6**
KLSI		**2.06**	**30**	S	**Sn**	**02 58 47.6**	**+0.5**
MNAI	**Manna**	**2.24**	**341**	P	**Pn**	**02 58 26.0**	**+0.9**
MNAI				S	**Sn**	**02 58 53.9**	**+2.3**
MNAI	**Manna**	**2.24**	**341**	*e*Pn	**Pn**	**02 58 23.4**	**-1.7**
SBJI	**Serang**	**2.44**	**82**	P	**Pn**	**02 58 28.7**	**+0.8**
LHSI	**Lahat**	**2.65**	**356**	P	**Pn**	**02 58 31.8**	**+1.1**
SKJI	**Sukabumi**	**2.88**	**101**	P	**Pn**	**02 58 35.4**	**+1.4**
CBJI	**Citeko**	**3.13**	**89**	P	Pn	02 58 40.1	+2.7
CNJI	**Cibinong**	**3.50**	**104**	P	**Pn**	**02 58 44.1**	**+1.6**
MASI	**Maura Aman, Be**	**3.63**	**336**	P	**Pn**	**02 58 45.2**	**+0.9**
LEM	**Lembang**	**3.90**	**95**	P	**Pn**	**02 58 49.9**	**+1.7**
LEM	**Lembang**	**3.90**	**95**	P	**Pn**	**02 58 48.9**	**+0.7**
	4.7nm,0.3s,baz=183,slow=18,SNR=3.8						
LEM				LR	LR	03 00 35.6	
	comp=Z,365nm,19.0s,baz=187,slow=43						
CISI	**Cisompet, Garu**	**4.22**	**105**	*e*Pn	**Pn**	**02 58 51.5**	**-1.0**
CISI				*eS*	**Sn**	**02 59 37.3**	**-3.2**
XMIS	**Christmas Isla**	**4.42**	**154**	*e*Pn	Pn	02 58 51.0	-4.1
XMIS				*eS*	**Sn**	**02 59 40.3**	**-4.9**
PPBI	**Pangkal Pinang**	**4.93**	**30**	P	**Pn**	**02 59 01.9**	**-0.3**
GSI	**Gunungsitoli**	**9.86**	**321**	*e*Pn	Pn	03 00 06.0	-3.8
	8.4nm,0.4s						
KAPI	**Kappang**	**16.04**	**86**	LR	LR	03 08 05.5	
	comp=Z,141nm,20.0s,baz=262,slow=39						
BATI	**Baumata**	**20.09**	**102**	P	**P**	**03 02 20.5**	**0.0**
	17nm,0.5s,baz=280,slow=17,SNR=3.1						
BATI				S	**S**	**03 06 03.2**	**-0.8**
	26nm,0.7s,baz=125,slow=20,SNR=3.7						
SOEI	**Soe**	**20.61**	**100**	*e*P	**P**	**03 02 25.7**	**-0.7**
	32nm,0.9s						
SOEI				*eS*	**S**	**03 06 13.1**	**-1.5**
CMAR	**Chiang Mai Arr**	**25.22**	**349**	P	**P**	**03 03 10.3**	**-2.0**
	8.7nm,0.7s,baz=181,slow=9.1,SNR=27						
CMAR				LR	LR	03 13 23.0	
	comp=Z,84nm,20.7s,baz=170,slow=37						
H01W3	**Cape Leeuwin H**	**29.86**	**163**	T	T	03 35 27.0	
	baz=340,slow=76,SNR=10						
H01W2	**Cape Leeuwin H**	**29.87**	**163**	T	T	03 35 27.6	
	baz=340,slow=76,SNR=12						
H01W1	**Cape Leeuwin H**	**29.87**	**163**	T	T	03 35 37.3	
	baz=340,slow=76,SNR=9.5						
H08S2	**Diego Garcia H**	**30.99**	**266**	T	T	03 36 26.8	
	baz=89,slow=75,SNR=44						
H08S3	**Diego Garcia H**	**31.00**	**266**	T	T	03 36 24.9	
	baz=89,slow=75,SNR=28						
H08S1	**Diego Garcia H**	**31.01**	**266**	T	T	03 36 25.6	
	baz=89,slow=75,SNR=23						
WRA	**Warramunga Arr**	**32.61**	**117**	P	**P**	**03 04 19.2**	**+1.0**
	2.1nm,0.8s,baz=286,slow=13,SNR=24						
WRAB	**Tennant Creek**	**32.62**	**117**	*e*P	**P**	**03 04 19.8**	**+1.5**
	2.4nm,0.6s						
ASAR	**Alice Springs**	**33.67**	**124**	P	**P**	**03 04 29.0**	**+1.5**
	3.4nm,0.8s,baz=302,slow=8.0,SNR=25						
STKA	**Stephens Creek**	**43.44**	**131**	P	**P**	**03 05 50.7**	**+1.4**
	7.1nm,0.6s,baz=307,slow=6.7,SNR=18						
STKA				pP	**pP**	**03 06 03.8**	**+2.1**
	10nm,0.7s,baz=302,slow=8.4,SNR=9.1						
KSAR	**Wonju Array Be**	**49.19**	**26**	P	**P**	**03 06 32.9**	**-1.4**
KSRS	**Korea Array**	**49.21**	**26**	P	**P**	**03 06 32.9**	**-1.5**
	3.4nm,0.7s,baz=228,slow=7.7,SNR=5.9						
MJAR	**Matsushiro Arr**	**53.63**	**35**	P	**P**	**03 07 05.5**	**-2.1**
	1.2nm,0.5s,baz=254,slow=7.7,SNR=3.8						
SONM	**Songino Array**	**54.14**	**2**	P	**P**	**03 07 10.2**	**-1.0**
	4.5nm,0.7s,baz=181,slow=8.8,SNR=15						
SONM				pP	**pP**	**03 07 23.1**	**-0.8**
	3.1nm,0.8s,baz=189,slow=9.6,SNR=4.8						
TKM2	**Tokmak 2**	**55.41**	**335**	*e*P	**P**	**03 07 20.2**	**-0.3**
	4.1nm,0.5s						
EKS2	**Erkin-Say**	**55.98**	**334**	*e*P	**P**	**03 07 24.6**	**0.0**
	5.0nm,0.6s						
MK31	**Makanchi Array**	**56.35**	**342**	*e*P	**P**	**03 07 26.1**	**-0.9**
MK31				*e*		03 07 40.1	
MKAR	**Makanchi Array**	**56.35**	**342**	P	**P**	**03 07 26.1**	**-0.9**
	2.3nm,0.5s,baz=167,slow=6.9,SNR=39						
USRK	**Ussuriysk Ar.**	**56.53**	**24**	P	**P**	**03 07 27.5**	**-0.8**
	7.6nm,0.6s,baz=207,slow=5.0,SNR=23						
USRK				pP	**pP**	**03 07 40.8**	**-0.3**
	4.8nm,0.6s,baz=224,slow=5.4,SNR=5.1						
KURBB	**Kurchatov Arra**	**60.90**	**342**	P	**P**	**03 07 57.6**	**-0.9**
	1.9nm,0.8s,baz=159,slow=6.2,SNR=13						
KURK	**Kurchatov**	**60.95**	**342**	*e*P	**P**	**03 07 57.5**	**-1.4**
	2.6nm,0.8s						
ZAA0	**Zalesovo Array**	**62.27**	**348**	*e*P	**P**	**03 08 06.6**	**-1.1**
ZALV	**Zalesovo Beam**	**62.27**	**348**	P	**P**	**03 08 06.7**	**-1.0**
	3.8nm,0.5s,baz=163,slow=5.1,SNR=18						
ZALV				pP	**pP**	**03 08 19.5**	**-1.2**
	5.8nm,0.8s,baz=145,slow=5.4,SNR=7.9						
ZALV				LR	LR	03 37 55.7	
	comp=Z,45nm,18.1s,baz=70,slow=39						
BVAR	**Borovoye Array**	**65.66**	**339**	P	**P**	**03 08 29.2**	**-0.8**
	1.9nm,0.6s,baz=146,slow=8.2,SNR=9.4						
BVAR				pP	**pP**	**03 08 43.2**	**+0.1**
	2.2nm,0.7s,baz=140,slow=7.7,SNR=4.4						
KMBO	**Kilima Mbogo**	**66.47**	**272**	LR	LR	03 33 27.1	
	comp=Z,32nm,18.0s,baz=110,slow=32						
ABKAR	**Akbulak array**	**67.33**	**331**	*e*P	**P**	**03 08 40.2**	**-0.5**
	3.5nm,0.6s						
AKTO	**Aktyubinsk**	**69.04**	**331**	P	**P**	**03 08 52.3**	**+0.8**
	1.0nm,0.4s,baz=112,slow=9.9,SNR=5.1						
MATP	**Matopo**	**73.92**	**251**	P	**P**	**03 09 23.2**	**+1.5**
	3.2nm,0.8s,baz=154,slow=5.9,SNR=5.9						
VNDA	**Vanda**	**77.08**	**169**	P	**P**	**03 09 40.2**	**+1.7**
	1.2nm,0.9s,baz=344,slow=4.6,SNR=7.3						
BRTR	**Keskin Array B**	**79.05**	**312**	P	**P**	**03 09 51.0**	**+0.6**
	0.3nm,0.6s,baz=191,slow=4.4,SNR=2.6						
FINES	**FINESS Array B**	**89.77**	**332**	P	**P**	**03 10 44.2**	**+0.3**
	2.0nm,0.9s,baz=98,slow=5.8,SNR=4.2						
BDFB	**Brasilia**	**144.39**	**232**	PKP	**PKPdf**	**03 17 23.0**	**0.0**
	2.1nm,0.7s,baz=158,slow=3.7,SNR=3.7						
TXAR	**Lajitas Array**	**145.61**	**45**	PKPbc	**PKPab**	**03 17 26.1**	**+0.8**
	1.5nm,0.6s,baz=320,slow=1.2,SNR=26						
TXAR				pPKPbc	pPKPbc	03 17 39.3	+0.4
	1.7nm,0.7s,baz=323,slow=2.4,SNR=9.0						
WVT	**Waverly**	**148.66**	**18**	*e*PKPbc	**PKPbc**	**03 17 33.0**	**-0.3**

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*ISCJB **24** 03:08:44.4±0.7,15.91S±0.09×72.38W±0.08,h103km,*
mb3.7/4,Error ellipse: s-maj=13.2km s-min=6.8km
az=41.0
*IDC **24** 03:08:46.0±1.3,15.85S×72.34W,h126km±12km,mb3.6/4,*
mb1 3.6/8,mb1mx3.3/31,mbtmp4.0/8,Error ellipse:
s-maj=18.9km s-min=11.0km az=31.0

ISC 24 03:08:44.7±0.8,15.91S±0.09×72.38W±0.08,h103km,n10,
σ1ș99/13,mb3.7/4,Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.10**	**96**	P	**Pn**	**03 09 48.9**	**+3.0**
	3.4nm,0.3s,baz=289,slow=7.8,SNR=101						
LPAZ				S	**Sn**	**03 10 35.9**	**+2.7**
	1.2nm,0.3s,baz=216,slow=24,SNR=14						
NNA	**Nana**	**5.83**	**311**	P	**Pn**	**03 10 09.6**	**+0.8**
	15nm,0.3s,baz=140,slow=12,SNR=29						
NNA				S	**Sn**	**03 11 15.8**	**+1.4**
	7.8nm,0.3s,baz=223,slow=23,SNR=7.7						
LVC	**Limon Verde**	**7.43**	**154**	P	**Pn**	**03 10 33.1**	**+2.4**
	50nm,0.3s,baz=350,slow=9.2,SNR=12						
LVC				S	**Sn**	**03 11 52.7**	**-0.8**
	352nm,0.3s,baz=52,slow=21,SNR=19						
SIV	**San Ignacio**	**10.88**	**92**	P	**Pn**	**03 11 16.3**	**-1.1**
	0.3nm,0.3s,baz=273,slow=13,SNR=4.4						
CFAA	**Coronel Fontan**	**16.07**	**167**	P	**P**	**03 12 27.2**	**+1.0**
	0.0nm,0.3s,baz=348,slow=11,SNR=4.5						
BDFB	**Brasilia**	**23.45**	**93**	P	**P**	**03 13 44.7**	**-0.5**
	1.5nm,0.5s,baz=255,slow=10,SNR=4.5						
PLCA	**Paso Flores**	**24.79**	**177**	P	**P**	**03 13 58.1**	**+1.1**
	1.2nm,0.8s,baz=5.7,slow=15,SNR=3.6						
DBIC	**Dimbokro**	**70.49**	**77**	P	**P**	**03 19 46.5**	**-2.3**
	1.8nm,0.8s,baz=255,slow=12,SNR=3.2						
TORD	**Torodi Ar. Bea**	**78.72**	**73**	P	**P**	**03 20 34.1**	**-2.2**
	1.2nm,0.8s,baz=256,slow=4.3,SNR=8.6						
SONM	**Songino Array**	**148.15**	**2**	PKPbc	**PKPbc**	**03 28 17.7**	**-1.0**
	1.2nm,0.7s,baz=335,slow=3.0,SNR=3.2						

IDC 24 03:10:48.0±13.0,17.79S×168.42E,h0km,mb3.6/3,
mb1 3.8/4,mb1mx3.5/26,mbtmp3.6/4,ML3.3/1,Error
ellipse: s-maj=228.7km s-min=45.1km az=83.0,Vanuatu
Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.64**	**203**	Pn	Pn	03 11 58.5	-1.0
	1.3nm,0.3s,baz=90,slow=24,SNR=15						
DZM				Sn	Sn	03 12 54.1	-0.1
	1.7nm,0.3s,baz=90,slow=20,SNR=4.3						
STKA	**Stephens Creek**	**28.00**	**235**	P	P	03 16 41.0	+0.3
	1.9nm,0.9s,baz=68,slow=5.4,SNR=3.4						
WRA	**Warramunga Arr**	**32.29**	**261**	P	P	03 17 18.8	0.0
	0.4nm,0.9s,baz=86,slow=8.8,SNR=5.1						
ASAR	**Alice Springs**	**32.75**	**254**	P	P	03 17 22.9	+0.1
	0.5nm,0.7s,baz=82,slow=8.7,SNR=4.8						

IDC 24 03:15:23.1±3.7,32.31N×140.91E,h0km,mb3.3/3,
mb1 3.4/5,mb1mx3.2/31,mbtmp3.4/5,ML3.3/2,Error
ellipse: s-maj=145.6km s-min=23.3km az=68.0,
Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**4.77**	**333**	Pn	Pn	03 16 35.6	-0.8
	0.4nm,0.3s,baz=158,slow=13,SNR=3.5						
JCJ	**Chichijima**	**5.32**	**168**	Pn	Pn	03 16 44.9	+1.2
	2.7nm,0.3s,baz=0.0,slow=20,SNR=4.9						
MKAR	**Makanchi Array**	**46.41**	**306**	P	P	03 23 52.1	+0.7
	0.1nm,0.5s,baz=94,slow=12,SNR=2.8						
KURBB	**Kurchatov Arra**	**48.69**	**311**	P	P	03 24 08.2	-0.7
	0.4nm,0.6s,baz=88,slow=7.3,SNR=4.9						
WRA	**Warramunga Arr**	**52.34**	**188**	P	P	03 24 36.1	-0.7
	0.3nm,0.6s,baz=7.5,slow=7.7,SNR=4.7						

MAN 24 03:40:02,19.03N×121.17E,h1km,mb4.6,ML3.5,MS3.5,
1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.87**	**217**	⇑*iP*	Pg	03 40 19.0	+0.2
PIP				*eS*	Sn	03 40 33.6	-1.1
SGCP	**Mt. Cagua**	**1.14**	**133**	*eP*	Pb	03 40 24.4	-0.1
SGCP				*eS*	Sn	03 40 40.6	-0.7
APYP	**Conner**	**1.16**	**177**	*eP*	Pn	03 40 25.1	-0.2
APYP				*eS*	Sn	03 40 43.9	+2.1
ABRA	**Dolores**	**1.44**	**198**	*eP*	Pb	03 40 29.7	+0.2
CAUP	**Cauayan**	**2.16**	**163**	*eP*	Pb	03 40 42.2	+0.2

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*ISCJB **24** 03:40:53.7±0.8,5.2N±0.1×77.6W±0.1,h28km,mb3.8/10,*
MS3.6/1,Error ellipse: s-maj=25.5km s-min=12.4km
az=137.5
*IDC **24** 03:40:58.6±3.9,5.15N×77.47W,h59km±36km,mb3.4/8,*
mb1 3.7/9,mb1mx3.5/30,mbtmp3.7/9,ML2.3/1,MS3.4/3,
Ms1 3.4/3,ms1mx2.9/19,Error ellipse: s-maj=35.4km
s-min=18.0km az=62.0

**ISC 24 03:40:55.2±0.9

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**31.75**	**2**	*eT*	T	05 38 02.6	
	3.1nm,0.3s						
TBI	**Tubuai**	**33.02**	**337**	*eLR*	LR	05 13 59.9	
	187nm,29.8s						
TBI	**Tubuai**	**33.02**	**337**	*eT*	T	05 39 57.0	
	44nm,0.4s						
QSPA	**South Pole Qui**	**35.27**	**180**	LR	LR	05 17 16.7	
	comp=Z,63nm,21.1s,baz=73,slow=31						
PPT2	**Papeete2**	**38.63**	**339**	*eLR*	LR	05 16 42.4	
	143nm,27.5s						
PPT	**Papeete**	**38.65**	**339**	LR	LR	05 18 30.1	
	comp=Z,63nm,20.3s,baz=168,slow=30						
VAH	**Vaihoa**	**40.56**	**343**	*eT*	T	05 49 18.0	
	7.2nm,0.3s						
SNAA	**Sanae**	**49.54**	**162**	P	P	05 07 45.6	-0.1
	0.2nm,0.6s,baz=232,slow=12,SNR=5.0						
ASAR	**Alice Springs**	**70.92**	**256**	P	P	05 10 13.4	+0.7
	1.1nm,0.8s,baz=154,slow=6.5,SNR=8.8						
H01W1	**Cape Leeuwin H**	**72.22**	**234**	T	T	06 30 34.8	
	baz=144,slow=76,SNR=14						
H01W2	**Cape Leeuwin H**	**72.23**	**234**	T	T	06 30 34.9	
	baz=144,slow=76,SNR=11						
H01W3	**Cape Leeuwin H**	**72.24**	**234**	T	T	06 30 35.8	
	baz=144,slow=76,SNR=11						
WRA	**Warramunga Arr**	**73.52**	**259**	P	P	05 10 28.3	-0.6
	0.7nm,0.7s,baz=144,slow=5.2,SNR=8.3						
BOSA	**Boshof**	**95.31**	**164**	LR	LR	05 52 21.2	
	comp=Z,30nm,18.8s,baz=172,slow=34						
MKAR	**Makanchi Array**	**154.65**	**267**	PKPab	PKPab	05 19 10.2	-0.4
	0.3nm,0.7s,baz=139,slow=1.5,SNR=3.6						

TRN 24 05:01:53.8,14.97N×60.71W,h71km,MD3.6,M3.2(FDF), 3C-5D,Windward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVM	**Bellevue**	**0.41**	**236**	*eP*	Pn	05 02 07.5	+1.5
MVM	**Montagne Vaucl**	**0.45**	**204**	*eP*	Pn	05 02 07.5	+1.2
LPMF	**Morne Lapointe**	**0.46**	**213**	*eP*	Pn	05 02 07.3	+1.0
FDF	**Fort de France**	**0.49**	**241**	⇑*iP*	Pn	05 02 07.7	+1.0
FDF	**Fort de France**	**0.49**	**241**	*eP*	Pn	05 02 08.0	+1.4
FDF				*eS*	Sn	05 02 17.5	+1.5
ZAM	**Aeronautique**	**0.50**	**218**	*eP*	Pn	05 02 07.7	+1.0
TRMF	**Trois Ilets**	**0.54**	**218**	*eP*	Pn	05 02 08.2	+1.1
BIM	**Bigot**	**0.57**	**218**	*eP*	Pn	05 02 08.9	+1.5
BIM				*eS*	Sn	05 02 19.5	+2.1
DLPL	**La Plaine**	**0.63**	**305**	*eP*	Pn	05 02 09.1	+1.0
DLPL				*eS*	Sn	05 02 20.2	+1.6
DBCT	**Belle View Cho**	**0.69**	**296**	⇓*eP*	Pn	05 02 10.6	+1.9
DBCT				*eS*	Sn	05 02 21.6	+2.0
DSHT	**Scott's Head**	**0.69**	**291**	*eP*	Pn	05 02 10.7	+2.1
DSHT				*eS*	Sn	05 02 21.6	+2.0
MDN	**Morne-Daniel**	**0.75**	**298**	*eP*	Pn	05 02 11.4	+2.1
MDN				*eS*	Sn	05 02 23.6	+2.9
BBL	**Barber's Block**	**0.92**	**307**	*eP*	Pn	05 02 12.7	+1.3
MGG	**Marie-Galante**	**1.11**	**328**	⇓*iP*	Pn	05 02 14.8	+1.0
TBG	**Guadaloupe-3**	**1.26**	**314**	*eP*	Pn	05 02 16.7	+1.0
MCLT	**Moule a Chique**	**1.27**	**190**	*eP*	Pn	05 02 17.9	+2.1
MCLT				*eS*	Sn	05 02 33.6	+1.3
DOG	**Dongo Capester**	**1.37**	**320**	*eP*	Pn	05 02 18.4	+1.2
PHG	**Guadaloupe-2**	**1.38**	**319**	⇓*iP*	Pn	05 02 18.6	+1.3
HMG	**Houelmont**	**1.39**	**317**	*eP*	Pn	05 02 19.0	+1.6
ECG	**Echelle**	**1.40**	**320**	⇓*iP*	Pn	05 02 18.9	+1.1
LKG	**Breislack**	**1.41**	**320**	*eP*	Pn	05 02 19.0	+1.2
TAG	**Tarade**	**1.41**	**319**	*eP*	Pn	05 02 19.2	+1.4
SCG	**Saint Claude**	**1.41**	**318**	*eP*	Pn	05 02 19.1	+1.3
SCG				*eS*	Sn	05 02 37.3	+1.6
FNG	**Fond-Bernard**	**1.44**	**319**	⇑*iP*	Pn	05 02 19.3	+1.2
MLG	**Mont-d'or**	**1.45**	**318**	⇑*iP*	Pn	05 02 19.7	+1.4
SSG	**Sans Toucher**	**1.46**	**320**	⇓*eP*	Pn	05 02 19.3	+0.9
SEG	**Port Louis**	**1.62**	**332**	*eP*	Pn	05 02 22.0	+1.6
SVB	**Belmont**	**1.77**	**197**	*eP*	Pn	05 02 23.9	+1.4
SVB				*eS*	Sn	05 02 46.2	+2.1
GRGR	**Grenville**	**2.96**	**198**	*eP*	Pn	05 02 39.9	+1.3

*ISCJB **24** 05:07:08.5±0.7,23°.17N±0°.07×93°.19E±0°.05,h50km, mb3.7/5,MS2.8/1, Error ellipse: s-maj=10.3km s-min=5.1km az=29.0*

*IDC **24** 05:07:13.0±5.0,23°.25N×93°.59E,h71km±42km,mb3.5/5, mb1 3.6/6,mb1mx3.2/40,mbtmp3.7/6,ML3.4/1,MS2.9/1, Ms1 2.9/1,ms1mx2.3/28, Error ellipse: s-maj=81.1km s-min=16.3km az=66.0*

ISC 24 05:07:10.5±0.9,23°.15N±0°.10×93°.24E±0°.08,h50km,n19, σ2s14/28,mb3.7/5,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.74**	**21**	*eS*	**Sn**	**05 07 57.0**	**-2.6**
SHL	**Shillong**	**2.71**	**333**	*ePN*	**Pn**	**05 07 53.5**	**+1.8**
SHL				*eSN*	**Sn**	**05 08 22.5**	**-0.8**
ODAN	**Odare**	**6.46**	**306**	*ePn*	Pn	05 08 46.9	+3.6
ODAN				*eSn*	**Sn**	**05 09 54.6**	**-1.3**
	245nm,0.2s						
TAPN	**Taplejung**	**6.52**	**311**	*ePn*	**Pn**	**05 08 47.2**	**+3.0**
TAPN				*eSn*	**Sn**	**05 09 57.0**	**-0.4**
	226nm,0.3s						
CMAR	**Chiang Mai Arr**	**7.09**	**130**	P	**Pn**	**05 08 51.9**	**+0.1**
	0.2nm,0.3s,baz=312,slow=11,SNR=4.1						
RAMN	**Ramite**	**7.11**	**303**	*ePn*	Pn	05 08 55.5	+3.3
RAMN				*eSn*	**Sn**	**05 10 10.5**	**-1.3**
	173nm,0.3s						
JIRN	**Jiri**	**7.80**	**307**	*ePn*	**Pn**	**05 09 04.4**	**+2.7**
JIRN				*eSn*	**Sn**	**05 10 27.5**	**-1.3**
	291nm,0.3s						
GUN	**Gumba**	**8.16**	**307**	*ePn*	**Pn**	**05 09 09.8**	**+3.1**
GUN				*eSn*	**Sn**	**05 10 36.5**	**-1.3**
	194nm,0.3s						
PKI	**Pulchoki**	**8.34**	**303**	*ePn*	**Pn**	**05 09 12.1**	**+3.0**
PKI				*eSn*	**Sn**	**05 10 40.5**	**-1.6**
	78nm,0.4s						
PKIN	**Phulchoki**	**8.35**	**303**	*ePn*	**Pn**	**05 09 12.0**	**+2.8**
PKIN				*eSn*	**Sn**	**05 10 40.8**	**-1.5**
	85nm,0.3s						
KKN	**Kakani**	**8.55**	**304**	*ePn*	Pn	05 09 15.2	+3.3
KKN				*eSn*	**Sn**	**05 10 45.4**	**-1.7**
	75nm,0.2s						
DMN	**Daman**	**8.59**	**303**	*ePn*	**Pn**	**05 09 15.6**	**+3.1**
DMN				*eSn*	**Sn**	**05 10 46.6**	**-1.6**
	84nm,0.4s						
GKN	**Gorkha**	**9.15**	**304**	*ePn*	**Pn**	**05 09 22.2**	**+2.2**
GKN				*eSn*	**Sn**	**05 10 58.7**	**-2.9**
	112nm,0.2s						
KOLN	**Koldanda**	**9.85**	**300**	*ePn*	**Pn**	**05 09 31.0**	**+1.3**
KOLN				*eSn*	**Sn**	**05 11 15.1**	**-3.9**
	114nm,0.4s						
MKAR	**Makanchi Array**	**25.19**	**342**	P	**P**	**05 12 31.4**	**+0.1**
	0.6nm,0.6s,baz=163,slow=8.9,SNR=9.4						
SONM	**Songino Array**	**26.78**	**20**	P	**P**	**05 12 44.4**	**-1.4**
	1.0nm,0.6s,baz=194,slow=5.3,SNR=2.8						
SONM				LR	LR	05 25 49.2	
	comp=Z,25nm,21.0s,baz=182,slow=42						
ZALV	**Zalesovo Beam**	**31.40**	**350**	P	**P**	**05 13 27.2**	**+0.6**
	0.5nm,0.3s,baz=143,slow=10,SNR=3.5						
WRA	**Warramunga Arr**	**58.67**	**134**	P	**P**	**05 17 01.6**	**-1.5**
	0.3nm,0.5s,baz=323,slow=7.4,SNR=18						
ASAR	**Alice Springs**	**61.05**	**137**	P	**P**	**05 17 19.1**	**-0.3**
	0.9nm,0.5s,baz=319,slow=6.7,SNR=17						

KRSC 24 05:17:40.8±2.4,53°.56N×167°.96E,h15km±6km,ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.02**	**326**	*eP*	Pb	05 18 17.0	-0.2
BKI				*eS*	Sb	05 18 41.4	-0.7
MKZ	**Mys Kozlova**	**3.81**	**288**	*eP*	Pn	05 18 42.5	+3.7
MKZ				*eS*	Sn	05 19 27.4	+4.1
KBTR	**Krutoberegovo**	**3.98**	**314**	*eP*	Pn	05 18 42.7	+1.4
KZV	**Kizimen**	**4.75**	**292**	*eP*	Pn	05 18 55.9	+3.9
TUMR	**Tumrok**	**4.88**	**294**	*eP*	Pn	05 18 58.6	+4.8
SDLR	**Sedlovina**	**5.44**	**271**	*eP*	Pn	05 19 05.4	+4.0
UGLR	**Uglovaya**	**5.48**	**270**	*eP*	Pn	05 19 06.3	+4.3
SMAR	**Somma**	**5.49**	**271**	*eP*	Pn	05 19 06.3	+4.1
KRER	**Koryakskii**	**5.51**	**271**	*eP*	Pn	05 19 07.1	+4.5
AVH	**Avacha**	**5.53**	**271**	*eP*	Pn	05 19 07.0	+4.4
KRX	**Arik**	**5.57**	**272**	*eP*	Pn	05 19 07.2	+3.9
KOK	**Koryaka**	**5.58**	**271**	*eP*	Pn	05 19 06.9	+3.5
RUS	**Russkaya**	**5.82**	**263**	*eP*	Pn	05 19 10.5	+4.1
GNL	**Ganaly**	**5.96**	**275**	*eP*	Pn	05 19 14.1	+5.4
ASAK	**Asacha**	**6.19**	**263**	*eP*	Pn	05 19 16.5	+4.8

*IDC **24** 05:21:05.4±2.3,32°.75N×115°.74W,h0km,mb1 3.4/4, mb1mx3.3/38,mbtmp3.1/4,ML3.3/4, Error ellipse: s-maj=37.3km s-min=9.0km az=37.0*

*ISCJB **24** 05:21:06.0±0.3,32°.70N±0°.02×115°.79W±0°.02,h14km±2km, Error ellipse: s-maj=2.7km s-min=2.2km az=0.8*

*IASPEI **24** 05:21:05.8±0.9,32°.65N±0°.02×115°.82W±0°.02,h19km±2km, Error ellipse: s-maj=3.6km s-min=2.9km az=175.2*

*MEX **24** 05:21:05.3±0.7,33°.02N×115°.80W,h18km±25km,MD4.0*

*NEIC **24** 05:21:07.1,32°.65N×115°.83W,h13km,ML4.2(PAS),After PAS.*

NEIC Felt [III] at Pine Valley and [II] at Bonita, Brawley, Carlsbad, Chula Vista, Coronado, El Cajon, El Centro, Encinitas, Escondido, Fallbrook, Imperial, La Jolla, La Mesa, Lakeside, Poway, San Diego, San Marcos, San Ysidro, Santee and Spring Valley. Felt in much of Imperial and San Diego Counties and in parts of Orange County. Felt [II] at Mexicali and Tijuana, Baja California. Also felt at Algodones.

*ECX **24** 05:21:07.8±0.6,32°.66N×115°.84W,h4km,MD4.0,ML4.3*

ISC 24 05:21:06.5±0.8,32°.67N±0°.02×115°.82W±0°.02,h15km±5km, n83,σ1s05°/126,13C-5D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.08**	**101**	⇑*iP*	**Pg**	**05 21 09.6**	**0.0**
YUH	**Yuha Desert**	**0.09**	**258**	⇑*iP*	**Pg**	**05 21 09.5**	**-0.1**
WESC	**Westside Schoo**	**0.12**	**39**	⇑*iP*	**Pg**	**05 21 10.3**	**+0.4**
WESC				*eS*	**Sb**	**05 21 13.0**	**-0.2**
ERPC	**Ernies Place**	**0.15**	**60**	⇑*iP*	**Pb**	**05 21 11.1**	**0.0**
COK	**Cook Ranch**	**0.20**	**23**	⇑*iP*	**Pb**	**05 21 11.8**	**-0.2**
RMX	**La Rumorosa**	**0.23**	**254**	⇑*iP*	**Pg**	**05 21 11.8**	**+0.1**
RMX				*eS*	**Sg**	**05 21 15.0**	**-0.1**
IBP	**Imperial Bould**	**0.23**	**269**	P	**Pg**	**05 21 11.7**	**+0.1**
	baz=0.2						
IBP				S	**Sg**	**05 21 15.1**	**0.0**
	baz=0.2						
CRR	**Carrizo Plain**	**0.25**	**331**	⇓*iP*	**Pg**	**05 21 12.3**	**+0.3**
SWSC	**Sam W. Stewart**	**0.28**	**4**	P	**Pg**	**05 21 12.7**	**+0.3**
	baz=0.3						
SWSC				S	**Sg**	**05 21 16.6**	**+0.2**
	baz=0.3						
DREC	**Desert Rsrch C**	**0.34**	**66**	⇑*eP*	**Pb**	**05 21 14.7**	**+0.3**
CPBX	**Cerro Prieto**	**0.50**	**119**	*eP*	**Pb**	**05 21 17.0**	**0.0**
CPBX				*eS*	**Sn**	**05 21 27.1**	**-0.6**
CPBX	**Cerro Prieto**	**0.50**	**119**	*eP*9	**Pg**	**05 21 15.9**	**-0.5**
CPBX				*eS*	**Sg**	**05 21 23.3**	**+0.1**
MONP	**Monument Peak,**	**0.55**	**294**	P	**Pg**	**05 21 17.4**	**0.0**
	baz=0.6						
MONP				S	**Sg**	**05 21 24.8**	**-0.1**
	baz=0.6						
BAR	**Barrett**	**0.72**	**271**	⇑*iP*	**Pg**	**05 21 20.4**	**-0.1**
BAR				*eS*	**Sg**	**05 21 29.5**	**-0.5**
RDX	**Rancho Dawling**	**0.74**	**188**	⇓*eP*	**Pg**	**05 21 20.6**	**-0.4**
RDX				*eS*4	**Sg**	**05 21 30.0**	**-0.8**
CBX	**Cerro Bola**	**0.79**	**244**	*eP*	**Pb**	**05 21 21.5**	**-0.6**
CBX				*eS*	**Sb**	**05 21 32.6**	**-0.2**
CBX	**Cerro Bola**	**0.79**	**244**	*eP*	**Pb**	**05 21 21.5**	**-0.6**
CBX				*eS*	**Sb**	**05 21 32.6**	**-0.2**
CBX	**Cerro Bola**	**0.79**	**244**	⇑*iP*	**Pb**	**05 21 21.9**	**-0.2**
CBX				*eS*	**Sb**	**05 21 32.5**	**-0.2**
GLA	**Glamis**	**0.92**	**65**	*ePg*	**Pb**	**05 21 23.3**	**-1.0**
GLA				*eSg*	**Sb**	**05 21 36.3**	**-0.1**
GLA	**Glamis**	**0.92**	**65**	P	**Pb**	**05 21 23.2**	**-1.0**
	baz=0.9						
GLA				S	**Sb**	**05 21 35.2**	**-1.2**
	baz=0.9						
SDRC	**San Diego Road**	**0.95**	**275**	⇑*eP*	**Pb**	**05 21 24.3**	**-0.4**
SDRC				*eS*	**Sb**	**05 21 36.5**	**-0.5**
BC3	**Big Chuckawall**	**1.03**	**17**	P	**Pb**	**05 21 25.0**	**-1.2**
	baz=1.1						
BC3				S	**Sb**	**05 21 37.6**	**-2.0**
	baz=1.1						
PFO	**Pinyon Flats O**	**1.08**	**331**	Pg	**Pb**	**05 21 25.7**	**-1.4**
	223nm,0.3s,baz=142,slow=12,SNR=487						
PFO				Lg	Lg	05 21 39.6	
	526nm,0.3s,baz=249,slow=6.0,SNR=36						
PFO	**Pinyon Flats O**	**1.08**	**331**	P	**Pb**	**05 21 25.7**	**-1.4**
	baz=1.1						
PFO				S	**Sb**	**05 21 39.6**	**-1.4**
	baz=1.1						
109C	**Camp Elliot, M**	**1.10**	**282**	P	**Pb**	**05 21 26.8**	**-0.5**
	baz=1.1						
109C				S	**Sb**	**05 21 40.8**	**-0.7**
	baz=1.1						
PBX	**Punta Banda**	**1.20**	**220**	⇑*eP*	**Pn**	**05 21 28.8**	**0.0**
PBX				⇓*e*		05 21 50.3	
	comp=E,8μm,0.9s						
ECNX	**Esteban Cantu**	**1.20**	**213**	⇑*eP*	**Pn**	**05 21 28.8**	**-0.2**
ZAX	**El Zacaton**	**1.21**	**199**	⇑*eP*	**Pn**	**05 21 29.1**	**+0.1**
BELC	**Belle Mtn. Jos**	**1.34**	**354**	P	**Pn**	**05 21 29.5**	**-1.3**
	baz=1.4						
ECBX	**El Chinero**	**1.36**	**151**	*eP*9	Pn	05 21 27.8	-3.2
ECBX				*eS*	**Sn**	**05 21 45.8**	**-2.9**
ECBX				IAML		05 21 49.8	
	comp=N,2μm,0.3s						
ECBX				⇓*e*		05 21 49.8	
MURC	**Murrieta**	**1.49**	**309**	P	**Pn**	**05 21 31.7**	**-1.1**
	baz=1.5						
MURC				Sb	**Sb**	**05 21 53.0**	**+0.5**
	baz=1.5						
Y12C	**Blythe**	**1.53**	**45**	P	**Pn**	**05 21 32.3**	**-1.1**
	baz=1.6						
IRM	**Iron Mountain**	**1.59**	**20**	P	**Pn**	**05 21 33.3**	**-1.0**
	baz=1.6						
IRM				S	**Sn**	**05 21 53.9**	**-0.7**
	baz=1.6						
SPIG	**San Pedro Mart**	**1.64**	**169**	*eP*	**Pn**	**05 21 35.6**	**+0.4**
SPIG				*eS*	**Sb**	**05 21 59.0**	**+1.6**
SPIG	**San Pedro Mart**	**1.64**	**169**	*eP*	**Pn**	**05 21 35.6**	**+0.4**
SPIG				*eS*	**Sb**	**05 21 59.0**	**+1.6**
SPIG	**San Pedro Mart**	**1.64**	**169**	⇓*eP*	**Pn**	**05 21 34.8**	**-0.4**
SPX	**San Pedro Mart**	**1.64**	**169**	*eP*	**Pn**	**05 21 35.3**	**+0.1**
SPX				*eS*	**Sb**	**05 21 58.6**	**+1.2**
SPX	**San Pedro Mart**	**1.64**	**169**	*eP*	**Pn**	**05 21 35.9**	**+0.7**
113A	**Mohawk Valley,**	**1.73**	**86**	P	**Pn**	**05 21 35.1**	**-1.0**
	baz=1.7						
BBRC	**Big Bear Solar**	**1.84**	**330**	P	**Pn**	**05 21 37.4**	**-0.5**
	baz=1.9						
PDMCI	**Parker Dam,Lak**	**2.15**	**40**	P	**Pn**	**05 21 41.4**	**-0.5**
	baz=2.2						
BFSC	**Mount Baldy Ra**	**2.20**	**316**	Sb	**Sb**	**05 22 14.0**	**+0.8**
	baz=2.2						
CIS	**Catalina Islan**	**2.29**	**290**	Sb	**Sb**	**05 22 17.0**	**+1.2**
	baz=2.3						
FMP	**Fort Macarthur**	**2.32**	**297**	Sb	**Sb**	**05 22 17.1**	**+0.5**
	baz=2.3						
NEE2	**Needles Airpor**	**2.32**	**25**	P	**Pn**	**05 21 43.8**	**-0.4**
	baz=2.4						
MWC	**Mount Wilson**	**2.43**	**310**	*ePn*	**Pn**	**05 21 47.0**	**+1.0**
MWC				*eSn*	**Sn**	**05 22 16.6**	**+1.1**
PASC	**Pasadena Art C**	**2.48**	**308**	*ePn*	**Pn**	**05 21 46.9**	**+0.4**
PASC				*eSn*	**Sn**	**05 22 16.9**	**+0.4**
Z14A	**Wintersburg**	**2.51**	**73**	P	**Pn**	**05 21 46.1**	**-0.8**
	baz=2.5						
214A	**Organ Pipe Nat**	**2.65**	**105**	*ePn*	**Pn**	**05 21 47.2**	**-1.6**
214A				*eSn*	**Sn**	**05 22 24.4**	**+1.9**
214A	**Organ Pipe Nat**	**2.65**	**105**	P	**Pn**	**05 21 47.1**	**-1.6**
	baz=2.6						
Y14A	**Wickenburg**	**2.68**	**61**	P	**Pn**	**05 21 48.7**	**-0.5**
	baz=2.7						
GSC	**Goldstone, Bar**	**2.75**	**343**	*ePn*	**Pn**	**05 21 49.6**	**-0.7**
GSC				*eSn*	**Sn**	**05 22 24.2**	**+0.9**
EDW2	**Edwards Air Fo**	**2.85**	**321**	P	**Pn**	**05 21 51.2**	**-0.4**
	baz=2.9						
W13A	**Hualapai Mount**	**2.91**	**33**	P	**Pn**	**05 21 52.4**	**-0.2**
	baz=3.0						
ARVC	**Arvin**	**3.51**	**315**	P	**Pn**	**05 22 00.4**	**-0.2**
	baz=3.5						
MPMC	**Manual Prospec**	**3.66**	**338**	P	**Pn**	**05 22 02.1**	**-0.7**
	baz=3.7						
ISA	**Isabella, Lake**	**3.71**	**324**	P	**Pn**	**05 22 02.7**	**-0.7**
	baz=3.7						
SHPR	**Sheep Range**	**3.87**	**8**	*ePn*	**Pn**	**05 22 07.2**	**+1.5**
SHPR				*ePg*	**Pg**	**05 22 22.1**	**+1.4**
SHPR				*eSn*	**Sn**	**05 22 49.1**	**-1.8**
SHPR				*eSg*	**Sg**	**05 23 10.3**	**-0.5**
DAC	**Darwin (Calif)**	**3.89**	**338**	*ePn*	**Pn**	**05 22 06.1**	**+0.1**
DAC				*ePg*	**Pg**	**05 22 21.2**	**+0.2**
DAC				*eSn*	**Sn**	**05 22 50.6**	**-0.9**
DAC				*eSg*	**Sg**	**05 23 12.7**	**+1.2**
X16A	**Lo Mia Camp, P**	**4.05**	**63**	P	**Pn**	**05 22 08.6**	**+0.4**
	baz=4.1						
TUC	**Tucson**	**4.27**	**93**	*ePn*	**Pn**	**05 22 10.7**	**-0.5**
TUC				*eSn*	**Sn**	**05 23 01.6**	**+0.8**
TUC				*eSg*	**Sg**	**05 23 23.4**	**-0.3**
GRAC	**Grapevine Rang**	**4.51**	**344**	P	**Pn**	**05 22 14.6**	**+0.3**
	baz=4.5						
WUAZ	**Wupatki**	**4.66**	**51**	*ePn*	**Pn**	**05 22 17.8**	**+1.3**
WUAZ				*eSn*	**Sn**	**05 23 10.7**	**+0.2**
WUAZ	**Wupatki**	**4.66**	**51**	P	**Pn**	**05 22 17.6**	**+1.1**
	baz=4.7						
U15A	**North Rim**	**4.75**	**37**	P	**Pn**	**05 22 19.0**	**+1.1**
	baz=4.8						
X18A	**Snowflake**	**5.24**	**68**	P	**Pn**	**05 22 25.3**	**+0.7**
	baz=5.3						
TPH	**Tonopah**	**5.52**	**348**	*ePn*	**Pn**	**05 22 28.7**	**+0.4**
TPH				*ePg*	**Pg**	**05 22 52.0**	**-0.1**
TPH				*eSn*	**Sn**	**05 23 35.3**	**+3.6**
TPH				*eSg*	**Sg**	**05 24 02.0**	**-1.6**
W18A	**Petrified Fore**	**5.62**	**63**	*ePn*	**Pn**	**05 22 31.6**	**+1.8**
W18A				*eSn*	**Sn**	**05 23 31.3**	**-2.9**
W18A	**Petrified Fore**	**5.62**	**63**	P	**Pn**	**05 22 31.4**	**+1.6**
	baz=5.6						
NVAR	**Mina Array Bea**	**6.10**	**341**	Pn	**Pn**	**05 22 37.5**	**+1.1**
	comp=N,0.2nm,0.3s,baz=162,slow=14,SNR=4.0						
NVAR				Pg	Pg	05 22 58.2	-5.0
	comp=N,1.8nm,0.3s,baz=160,slow=18,SNR=20						
MVU	**Marysvale**	**6.53**	**26**	*ePn*	**Pn**	**05 22 44.0**	**+1.7**
MVU				*eSn*	**Sn**	**05 23 55.7**	**-0.8**
WAKR	**Walker**	**6.53**	**334**	*ePn*	**Pn**	**05 22 43.3**	**+1.0**
MSU	**Marysvale**	**6.54**	**26**	*ePn*	**Pn**	**05 22 44.7**	**+2.2**
121A	**Cookes Peak, D**	**6.78**	**89**	*ePn*	**Pn**	**05 22 45.9**	**+0.2**
121A				*eSn*	**Sn**	**05 24 01.2**	**-1.6**
121A	**Cookes Peak, D**	**6.78**	**89**	P	**Pn**	**05 22 45.5**	**-0.2**
	baz=6.8						
MVCO	**Mesa Verde**	**7.53**	**51**	*ePn*	**Pn**	**05 22 59.1**	**+3.1**
PV01	**Paradox Valley**	**8.05**	**45**	*ePn*	**Pn**	**05 23 03.0**	**-0.1**
PV01				*eSn*	**Sn**	**05 24 34.3**	**+0.2**
ANMO	**Albuquerque**	**8.12**	**71**	Pn	**Pn**	**05 23 03.6**	**-0.4**
	comp=N,0.2nm,0.3s,baz=265,slow=14,SNR=8.1						
JLU	**Jordanelle**	**8.66**	**23**	*ePn*	**Pn**	**05 23 12.8**	**+1.3**
MNTX	**Cornudas Mount**	**8.90**	**93**	*ePn*	**Pn**	**05 23 13.5**	**-1.2**
MNTX				*eSn*	**Sn**	**05 24 55.5**	**+0.8**
MNTX	**Cornudas Mount**	**8.90**	**93**	P	**Pn**	**05 23 15.3**	**+0.6**
	baz=8.9						
TXAR	**Lajitas Array**	**10.95**	**104**	Pn	**Pn**	**05 23 44.3**	**+1.5**
	comp=N,0.1nm,0.3s,baz=289,slow=12,SNR=9.4						
TXAR				Lg	Lg	05 26 45.3	
	comp=N,0.0nm,0.3s,baz=287,slow=29,SNR=3.1						
PDAR	**Pinedale Array**	**11.23**	**24**	Pn	Pn	05 23 50.2	+3.4
	comp=N,0.0nm,0.3s,baz=212,slow=15,SNR=3.9						

KRSC 24 05:44:41.5±2.6,53°.56N×168°.24E,h15km±7km,ML3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.12**	**322**	*eP*	Pb	05 45 19.7	+0.2
BKI				*eS*	Sb	05 45 44.0	-1.6
MKZ	**Mys Kozlova**	**3.96**	**287**	*eP*	Pn	05 45 45.7	+4.0
MKZ				*eS*	Sn	05 46 32.8	+4.9
KBTR	**Krutoberegovo**	**4.10**	**312**	*eP*	Pn	05 45 45.3	+1.6
KZV	**Kizimen**	**4.90**	**292**	*eP*	Pn	05 45 58.4	+3.5
SPN	**Mys Shipunski**	**4.95**	**268**	*eP*	Pn	05 45 59.1	+3.8
TUMR	**Tumrok**	**5.03**	**293**	*eP*	Pn	05 46 01.3	+4.7
SDLR	**Sedlovina**	**5.61**	**271**	*eP*	Pn	05 46 08.6	+4.1
UGLR	**Uglovaya**	**5.65**	**270**	*eP*	Pn	05 46 09.5	+4.4
SMAR	**Somma**	**5.66**	**271**	*eP*	Pn	05 46 08.8	+3.5
KRER	**Koryakskii**	**5.68**	**271**	*eP*	Pn	05 46 09.9	+4.3
AVH	**Avacha**	**5.69**	**271**	*eP*	Pn	05 46 10.1	+4.5
KRX	**Arik**	**5.74**	**272**	*eP*	Pn	05 46 10.3	+4.0
KOK	**Koryaka**	**5.75**	**271**	*eP*	Pn	05 46 10.9	+4.5
RUS	**Russkaya**	**5.98**	**263**	*eP*	Pn	05 46 13.8	+4.3
GNL	**Ganaly**	**6.13**	**275**	*eP*	Pn	05 46 17.4	+5.7
ASAK	**Asacha**	**6.36**	**263**	*eP*	Pn	05 46 19.6	+4.8

**IDC 24 05:53:15.6±1.2,21°.22N

mb1 4.4/8,mb1mx4.1/32,mbtmp4.1/8,Error ellipse: s-maj=37.0km s-min=19.0km az=133.0
*ISCJB **24** 06:48:17.8±0.6, 16°.5S±0°.1×174°.36W±0°.09, h35km, mb4.3/11,Error ellipse: s-maj=19.9km s-min=6.6km az=148.6*
*NEIC **24** 06:48:19.5±0.6, 16°.53S×174°.34W, h35km, mb4.5/3,Error ellipse: s-maj=23.2km s-min=10.3km az=145.0*

ISC 24 06:48:19.6±0.7, 16°.5S±0°.1×174°.3W±0°.1, h35km, n28, σ0§95/27, mb4.2/11, 2C-2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**3.57**	**43**	Pn		**Pn**	**06 49 12.1**	**-0.6**
AFI				eSn		**Sn**	**06 49 52.7**	**-1.0**
MSVF	**Nonsavu**	**7.40**	**260**	ePn		**Pn**	**06 50 03.0**	**-2.3**
MSVF				eSn		**Sn**	**06 51 28.4**	**+0.2**
H11S2	**WAKE ISLAND Hy**	**39.50**	**331**	T		T	07 37 31.6	
	baz=146,slow=75,SNR=13							
H11S3	**WAKE ISLAND Hy**	**39.51**	**331**	T		T	07 37 28.8	
	baz=146,slow=75,SNR=12							
H11S1	**WAKE ISLAND Hy**	**39.52**	**331**	T		T	07 37 32.6	
	baz=146,slow=75,SNR=8.2							
STKA	**Stephens Creek**	**42.72**	**241**	P		**P**	**06 56 14.0**	**+0.5**
	4.9nm,0.5s,baz=76,slow=8.8,SNR=15							
STKA	**Stephens Creek**	**42.72**	**241**	*e*P		**P**	**06 56 14.2**	**+0.6**
WRAB	**Tennant Creek**	**48.73**	**258**	*e*P		**P**	**06 57 00.1**	**-1.1**
	1.6nm,0.6s							
WRA	**Warramunga Arr**	**48.74**	**258**	P		**P**	**06 57 00.7**	**-0.6**
	0.3nm,0.3s,baz=89,slow=7.5,SNR=28							
AS31	**Alice Springs**	**48.94**	**253**	*e*P		**P**	**06 57 02.7**	**-0.1**
ASAR	**Alice Springs**	**48.94**	**253**	P		**P**	**06 57 02.8**	**0.0**
	3.7nm,0.6s,baz=88,slow=8.4,SNR=45							
SOEI	**Soe**	**60.01**	**268**	*e*P		**P**	**06 58 25.7**	**+2.2**
	14nm,0.6s							
VNDA	**Vanda**	**62.17**	**186**	P		**P**	**06 58 37.0**	**0.0**
	1.8nm,0.9s,baz=10,slow=5.4,SNR=9.7							
VNDA	**Vanda**	**62.17**	**186**	*e*P		**P**	**06 58 37.3**	**+0.4**
PETK	**Petropavlovsk-**	**73.44**	**343**	P		**P**	**06 59 49.3**	**+1.2**
	0.9nm,0.5s,baz=119,slow=12,SNR=3.4							
QSPA	**South Pole Qui**	**73.52**	**180**	*e*P		**P**	**06 59 47.9**	**-0.8**
	4.8nm,1.1s							
NVAR	**Mina Array Bea**	**75.75**	**42**	P		**P**	**07 00 03.3**	**+1.2**
	1.0nm,0.6s,baz=228,slow=9.4,SNR=7.8							
PDAR	**Pinedale Array**	**83.69**	**42**	P		**P**	**07 00 44.9**	**-0.2**
	1.4nm,0.8s,baz=191,slow=1.5,SNR=4.7							
ILAR	**Eielson Array**	**83.72**	**11**	P		**P**	**07 00 44.4**	**-0.1**
	1.1nm,0.8s,baz=231,slow=5.7,SNR=19							
CLL	**Collm**	**144.82**	**352**	*i* PKPdf		**PKPab**	**07 07 50.8**	**-0.9**
	comp=Z,4.0nm,0.6s							
BUR08	**Bucovina Ar. S**	**145.06**	**337**	*e*PKPbc		**PKPab**	**07 07 53.0**	**+0.2**
BURAR	**Bucovina Array**	**145.07**	**337**	*i* P		**PKPdf**	**07 07 53.5**	**0.0**
MORC	**Moravsky Berou**	**145.48**	**346**	*i* P		**PKPab**	**07 07 55.8**	**+1.5**
VRI	**Vrincioaia**	**145.88**	**333**	*i* P		**PKPdf**	**07 07 54.9**	**+0.1**
BRTR	**Keskin Array B**	**146.46**	**319**	PKPbc		**PKPbc**	**07 07 57.0**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=86,slow=2.8,SNR=8.0							
GERES	**GERESS Array B**	**147.11**	**350**	PKPbc		**PKPdf**	**07 07 57.3**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=145,slow=4.9,SNR=4.3							
PKSM	**Moragy**	**148.50**	**343**	*i* P		**PKPbc**	**07 08 02.0**	**-0.7**
DAVOX	**Davos/Dischmat**	**149.64**	**354**	PKPbc		**PKPbc**	**07 08 05.6**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=349,slow=5.1,SNR=3.6							

IDC 24 06:50:55.7±2.7, 53°.72N×86°.81E, h0km, mb1 2.8/2, mb1mx2.7/30, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=24.5km s-min=13.7km az=69.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.20**	**282**	*i*			06 59 20.0	
	baz=99,slow=327,SNR=0.8							
ZALV	**Zalesovo Beam**	**1.20**	**282**	Pg		Pg	06 51 17.8	-0.9
	1.0nm,0.3s,baz=102,slow=17,SNR=8.5							
ZALV				Lg		Lg	06 51 34.6	
	1.5nm,0.3s,baz=102,slow=29,SNR=9.3							
ZALV				Rg		Rg	06 51 41.6	
	2.3nm,0.5s,baz=104,slow=30,SNR=6.4							
KURBB	**Kurchatov Arra**	**5.96**	**242**	Pn		Pn	06 52 26.4	+1.3
	0.1nm,0.3s,baz=57,slow=14,SNR=4.3							
MKAR	**Makanchi Array**	**7.51**	**204**	Pn		Pn	06 52 47.6	+1.1
	0.1nm,0.3s,baz=24,slow=13,SNR=7.2							
MKAR				Lg		Lg	06 54 52.8	
	0.0nm,0.3s,baz=26,slow=26,SNR=5.9							

*IDC **24** 06:54:38.6±1.5, 36°.66S×73°.41W, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.8/23, mbtmp3.7/7, ML3.7/2, MS3.6/9, Ms1 3.6/9, ms1mx3.3/25, Error ellipse: s-maj=36.4km s-min=19.6km az=75.0*
*GUC **24** 06:54:39.6±0.8, 36°.76S×73°.75W, h24km±6km, ML4.4*
*ISCJB **24** 06:54:40.7±0.5, 36°.64S±0°.04×73°.60W±0°.07, h27km, mb4.0/11, MS3.7/6, Error ellipse: s-maj=7.6km s-min=5.5km az=172.6*
*NEIC **24** 06:54:43.9±0.4, 36°.63S×73°.33W, h35km, mb4.1/7, Error ellipse: s-maj=9.7km s-min=7.0km az=84.0*

ISC 24 06:54:42.1±0.6, 36°.68S±0°.05×73°.56W±0°.06, h27km, n44, σ1§27/44, mb4.1/11, MS3.8/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CCSP	**San Pedro de C**	**0.40**	**115**	*e*P		**Pb**	**06 54 49.7**	**-1.1**
CCSP				*e*S		**Sn**	**06 54 57.4**	**-1.4**
CCSP				AML		AML	06 54 58.8	
	comp=E,53μm,0.6s							
LNCH	**Linares**	**1.79**	**63**	*e*P		**Pn**	**06 55 11.9**	**+0.7**
LNCH				*e*S		**Sb**	**06 55 37.6**	**+1.6**
TALC	**Talca**	**2.02**	**51**	*e*P		**Pb**	**06 55 16.0**	**-2.0**
TALC				*e*S		**Sb**	**06 55 42.9**	**+0.2**
NICH	**Los Niches**	**2.52**	**49**	*e*P		**Pn**	**06 55 22.8**	**+1.5**
VLCH	**Valdivia**	**3.14**	**176**	*e*P		**Pn**	**06 55 27.4**	**-2.3**
LNV	**Longovilo**	**3.23**	**34**	*e*P		**Pn**	**06 55 30.3**	**-0.8**
CHCH	**Chadas Angostu**	**3.62**	**42**	*e*P		**Pn**	**06 55 36.6**	**+0.1**
OSCH	**Osorno**	**3.91**	**175**	*e*P		**Pn**	**06 55 38.7**	**-1.6**
CLCH	**Cerro Calan**	**4.11**	**38**	*e*P		**Pn**	**06 55 42.7**	**-0.4**
CLCH				*e*S		**Sn**	**06 56 31.7**	**+1.4**
ROCH	**El Roble**	**4.25**	**30**	*e*P		**Pn**	**06 55 44.2**	**-1.0**
PLCA	**Paso Flores**	**4.69**	**151**	Pn		**Pn**	**06 55 51.7**	**+0.6**
	comp=E,1.7nm,0.3s,baz=328,slow=12,SNR=74							
PLCA				Lg		Lg	06 57 05.4	
	comp=E,3.9nm,0.3s,baz=22,slow=9.6,SNR=3.8							
PLCA	**Paso Flores**	**4.69**	**151**	*e*Pn		**Pn**	**06 55 51.7**	**+0.6**
PLCA				*e*Sn		**Sn**	**06 56 49.0**	**+4.4**
PLCA				Lg		Lg	06 57 05.4	
CFAA	**Coronel Fontan**	**6.71**	**43**	Pn		**Pn**	**06 56 18.4**	**-0.5**
	comp=E,0.2nm,0.3s,baz=204,slow=15,SNR=27							
CFAA				Sn		**Sn**	**06 57 35.4**	**+0.8**
	comp=E,0.1nm,0.3s,baz=215,slow=16,SNR=2.2							
CFAA				Lg		Lg	06 57 59.5	
	comp=E,0.2nm,0.3s,baz=120,slow=23,SNR=6.1							
CFAA				LR		LR	06 59 04.6	
	comp=E,72nm,18.4s,baz=224,slow=40							
LCO	**Las Campanas**	**8.01**	**18**	Pn		**Pn**	**06 56 36.7**	**-0.3**
LCO				*e*Sn		Sn	06 58 00.4	-6.5
TRQA	**Tornquist**	**9.32**	**102**	*e*Pn		**Pn**	**06 56 53.1**	**-1.6**
TRQA				*e*Sn		**Sn**	**06 58 38.7**	**0.0**
LVC	**Limon Verde**	**14.58**	**17**	LR		LR	07 04 08.9	
	comp=E,734nm,18.8s,baz=200,slow=39							
LVC	**Limon Verde**	**14.58**	**17**	*e*Pn		**Pn**	**06 58 05.4**	**-1.5**
CPUP	**Villa Florida**	**17.24**	**58**	*e*Pn		**Pn**	**06 58 39.7**	**-1.2**
USHA	**Ushuaia**	**18.50**	**171**	LR		LR	07 05 51.1	
	comp=E,225nm,18.5s,baz=132,slow=36							
LPAZ	**La Paz**	**20.87**	**15**	P		**P**	**06 59 23.2**	**+0.4**
	comp=E,1.3nm,0.8s,baz=164,slow=11,SNR=4.2							
LPAZ	**La Paz**	**20.87**	**15**	*e*P		**P**	**06 59 23.8**	**+1.0**
SIV	**San Ignacio**	**23.40**	**32**	P		**P**	**06 59 47.8**	**-1.1**
	comp=E,3.1nm,1.0s,baz=229,slow=13,SNR=6.4							
SIV				LR		LR	07 10 35.6	
	comp=E,205nm,20.9s,baz=232,slow=41							
BDFB	**Brasilia**	**30.89**	**54**	LR		LR	07 14 28.6	
	comp=E,182nm,19.6s,baz=227,slow=39							
OTAV	**Otavalo**	**37.01**	**352**	*e*P		**P**	**07 01 49.9**	**-0.1**
	comp=E,0.5nm,0.3s							
VNA3	**Neumayer Olymp**	**47.38**	**157**	P		P	07 03 21.6	+8.2
VNA2	**Neumayer--Watz**	**48.05**	**156**	P		P	07 03 25.3	+6.6
	baz=279,slow=8.0							
SNAA	**Sanae**	**49.60**	**157**	P		**P**	**07 03 28.9**	**-1.7**
QSPA	**South Pole Qui**	**53.57**	**180**	*e*P		**P**	**07 04 01.1**	**+0.7**
	comp=E,5.9nm,1.2s							
LPIG	**La Paz**	**69.69**	**324**	LR		LR	07 29 09.4	
	comp=E,73nm,21.0s,baz=198,slow=30							
MAW	**Mawson**	**70.97**	**164**	LR		LR	07 36 59.8	
	comp=E,49nm,19.2s,baz=238,slow=36							
TXAR	**Lajitas Array**	**71.49**	**332**	P		**P**	**07 06 01.6**	**+1.2**
	comp=E,0.2nm,0.6s,baz=141,slow=12,SNR=2.6							
TXAR				LR		LR	07 32 41.8	
	comp=E,43nm,18.1s,baz=0.0,slow=32							
WVT	**Waverly**	**73.64**	**348**	*e*P		**P**	**07 06 13.5**	**+0.6**
	comp=E,0.8nm,0.4s							
DBIC	**Dimbokro**	**77.21**	**72**	P		**P**	**07 06 34.3**	**+0.3**
	comp=E,4.0nm,0.9s,baz=191,slow=5.2,SNR=2.8							
ANMO	**Albuquerque**	**77.56**	**333**	*e*P		**P**	**07 06 36.5**	**+0.9**
	comp=E,2.1nm,1.1s							
BOSA	**Boshof**	**79.92**	**118**	LR		LR	07 36 56.9	
	comp=E,25nm,21.8s,baz=178,slow=32							
ECSD	**EROS Data Cent**	**82.73**	**343**	*e*P		**P**	**07 07 03.3**	**+0.2**
	comp=E,2.2nm,0.9s							
SRU	**San Rafael Swe**	**82.75**	**332**	*e*P		**P**	**07 07 05.0**	**+1.4**
	comp=E,0.7nm,0.5s							
DUG	**Dugway, Tooele**	**84.58**	**331**	*e*P		**P**	**07 07 13.4**	**+0.6**
	comp=E,2.1nm,0.9s							
TORD	**Torodi Ar. Bea**	**86.28**	**71**	P		**P**	**07 07 21.2**	**-0.5**
	comp=E,0.9nm,0.9s,baz=226,slow=4.2,SNR=6.3							
ABKAR	**Akbulak array**	**144.28**	**54**	*e*PKPdf	PKPbc		07 14 13.6	+0.2
EKS2	**Erkin-Say**	**154.26**	**66**	*e*PKPdf	**PKPdf**		**07 14 32.5**	**+1.1**
KURK	**Kurchatov**	**155.65**	**46**	*e*PKPdf	**PKPdf**		**07 14 33.8**	**+1.0**
KURK				*e*PKPab	**PKPab**		**07 14 60.0**	**+0.8**
MK31	**Makanchi Array**	**159.41**	**53**	*e*PKPdf	**PKPdf**		**07 14 37.9**	**+0.2**
MK31				*e*PKPab	**PKPab**		**07 15 15.9**	**+0.3**
MKAR	**Makanchi Array**	**159.41**	**53**	PKPab	**PKPab**		**07 15 15.6**	**0.0**
	comp=E,0.5nm,0.8s,baz=282,slow=2.4,SNR=4.6							

*ISK **24** 06:57:06.3, 38°.70N×38°.04E, h3km, MD3.5*
*CSEM **24** 06:57:07.6±0.1, 38°.70N×38°.06E, h2km, MD3.5, Error ellipse: s-maj=3.5km s-min=3.0km az=133.0*
*DDA **24** 06:57:07.6, 38°.70N×38°.08E, h7km, MD3.5*

ISC 24 06:57:07.7±1.1, 38°.71N±0°.02×38°.07E±0°.02, h6km±12km, n50, σ0§78/67, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AKCD	**Akcadag**	**0.43**	**195**	*i* P		**Pg**	**06 57 15.6**	**-0.5**
AKCD				*i* S		**Sg**	**06 57 22.8**	**+1.1**
AKCD	**Akcadag**	**0.43**	**195**	*i* P		**Pg**	**06 57 15.6**	**-0.5**
AKCD				*i* S		**Sg**	**06 57 22.8**	**+1.1**
DARE	**Darende-Malaty**	**0.48**	**253**	*e*Pg		**Pg**	**06 57 15.8**	**-1.1**
DARE				*e*Sg		**Sg**	**06 57 22.8**	**-0.4**
DARE	**Darende-Malaty**	**0.48**	**253**	*e*Pg		**Pg**	**06 57 15.9**	**-1.1**
DARE				*e*Sg		**Sg**	**06 57 22.8**	**-0.4**
MALT	**Malatya**	**0.49**	**144**	*e*PG		**Pg**	**06 57 17.1**	**-0.1**
MALT				*e*SG		**Sg**	**06 57 24.2**	**+0.7**
MALT	**Malatya**	**0.49**	**144**	*e*Pg		**Pg**	**06 57 17.1**	**-0.1**
MALT				*e*Sg		**Sg**	**06 57 24.2**	**+0.7**
ELZG	**Elazig**	**0.75**	**106**	*i* P		**Pg**	**06 57 21.9**	**-0.3**
ELZG				*i* S		**Sb**	**06 57 32.8**	**-1.1**
ELZG	**Elazig**	**0.75**	**106**	*i* P		**Pg**	**06 57 21.9**	**-0.3**
ELZG				*i* S		**Sb**	**06 57 32.8**	**-1.1**
ILIC	**ilic-Erzincan**	**0.83**	**28**	*e*PG		**Pg**	**06 57 23.3**	**-0.5**
ILIC	**ilic-Erzincan**	**0.83**	**28**	*e*Pg		**Pg**	**06 57 23.3**	**-0.5**
SVRC	**Sivrice-ELAZID**	**1.03**	**109**	*e*PG		**Pg**	**06 57 26.6**	**-0.9**
SVRC	**Sivrice-ELAZID**	**1.03**	**109**	*e*Pg		**Pg**	**06 57 26.6**	**-0.9**
PTK	**Pertek**	**1.05**	**80**	*e*PG		**Pg**	**06 57 27.3**	**-0.6**
PTK	**Pertek**	**1.05**	**80**	*e*Pg		**Pg**	**06 57 27.3**	**-0.6**
ATAB	**Bozova**	**1.25**	**172**	*i* P		**Pg**	**06 57 31.6**	**-0.2**
ATAB	**Bozova**	**1.25**	**172**	*i* P		**Pg**	**06 57 31.6**	**-0.2**
URFA	**Urfa**	**1.40**	**155**	*e*PN		**Pb**	**06 57 33.9**	**-0.5**
URFA	**Urfa**	**1.40**	**155**	*e*Pn		**Pb**	**06 57 33.9**	**-0.5**
GZT	**Gaziantep**	**1.41**	**196**	*i* P		**Pg**	**06 57 34.9**	**+0.1**
GZT				*i* S		**Sg**	**06 57 55.9**	**+2.8**
SVSK	**Karacayir**	**1.46**	**326**	*e*PN		**Pn**	**06 57 34.4**	**-0.2**
SVSK	**Karacayir**	**1.46**	**326**	*e*Pn		**Pn**	**06 57 34.4**	**-0.2**
SUSE	**Susehri**	**1.50**	**4**	*i* P		**Pb**	**06 57 36.0**	**0.0**
SUSE				*i* S		**Sg**	**06 57 57.6**	**+1.8**
SUSE	**Susehri**	**1.50**	**4**	*i* P		**Pb**	**06 57 36.0**	**0.0**
SUSE				*i* S		**Sg**	**06 57 57.6**	**+1.8**
HCB	**Kahramanmara¯**	**1.64**	**214**	*i* P		**Pb**	**06 57 38.6**	**+0.2**
HCB				*i* S		**Sb**	**06 57 59.3**	**-0.1**
KELT	**Kelkit**	**1.70**	**32**	*i* P		**Pb**	**06 57 39.6**	**0.0**
KELT				*i* S		**Sg**	**06 58 02.7**	**+0.2**
KELT	**Kelkit**	**1.70**	**32**	*i* P		**Pb**	**06 57 39.6**	**0.0**
KELT				*i* S		**Sg**	**06 58 02.7**	**+0.2**
ANDN	**Andirin**	**1.77**	**231**	*i* P		**Pn**	**06 57 39.1**	**+0.1**
ANDN				*i* S		**Sb**	**06 58 02.9**	**-0.1**
ANDN	**Andirin**	**1.77**	**231**	*i* P		**Pn**	**06 57 39.1**	**+0.1**
ANDN				*i* S		**Sb**	**06 58 02.9**	**-0.1**
RSDY	**Resadiye-TOKAT**	**1.78**	**341**	*e*PN		**Pn**	**06 57 39.4**	**+0.4**
RSDY	**Resadiye-TOKAT**	**1.78**	**341**	*e*Pn		**Pn**	**06 57 39.4**	**+0.4**
DYBB	**Diyarbakir**	**1.80**	**114**	*e*PN		**Pb**	**06 57 39.8**	**-1.3**
KAMA	**Osmaniye**	**1.88**	**216**	*i* P		**Pn**	**06 57 40.7**	**+0.1**
KAMA				*i* S		**Sg**	**06 58 07.5**	**-0.7**
DIY	**Diyarbakir**	**1.89**	**115**	*e*Pn		**Pn**	**06 57 39.8**	**-0.7**
GUMT	**Gumushane**	**2.06**	**32**	*e*PN		**Pn**	**06 57 43.6**	**+0.6**
GUMT	**Gumushane**	**2.06**	**32**	*e*Pn		**Pn**	**06 57 43.6**	**+0.6**
KOZT	**Kozan**	**2.15**	**236**	*e*PN		**Pn**	**06 57 44.4**	**+0.2**
KOZT	**Kozan**	**2.15**	**236**	*e*Pn		**Pn**	**06 57 44.4**	**+0.2**
MAZI	**Mazidag**	**2.26**	**123**	*e*PN		**Pn**	**06 57 46.1**	**+0.4**
MAZI	**Mazidag**	**2.26**	**123**	*e*Pn		**Pn**	**06 57 46.1**	**+0.4**
BAYT	**Ayd¯–ntepe-Bay**	**2.32**	**43**	*e*PN		**Pn**	**06 57 47.0**	**+0.4**
BAYT	**Ayd¯–ntepe-Bay**	**2.32**	**43**	*e*Pn		**Pn**	**06 57 47.0**	**+0.4**
YOZ	**Yozgat**	**2.33**	**294**	*e*PN		**Pn**	**06 57 46.3**	**-0.4**
YOZ	**Yozgat**	**2.33**	**294**	*e*Pn		**Pn**	**06 57 46.3**	**-0.4**
CEYT	**Ceyhan**	**2.50**	**228**	*e*PN		**Pn**	**06 57 49.9**	**+1.0**
CEYT	**Ceyhan**	**2.50**	**228**	*e*Pn		**Pn**	**06 57 49.9**	**+1.0**
KTUT	**Trabzon**	**2.62**	**29**	*e*PN		**Pn**	**06 57 51.8**	**+1.2**
KTUT	**Trabzon**	**2.62**	**29**	*e*Pn		**Pn**	**06 57 51.8**	**+1.2**
KARA	**Karaisali**	**2.79**	**240**	*e*PN		**Pn**	**06 57 53.9**	**+1.0**
KARA	**Karaisali**	**2.79**	**240**	*e*Pn		**Pn**	**06 57 53.9**	**+1.0**
EZM	**Erzurum**	**2.82**	**64**	*e*PN		**Pn**	**06 57 54.3**	**+0.7**

TIF 24 07:00:35.7, 42°.56N×43°.51E, h16km±1km, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
ONI	**Oni**	**0.05**	**308**	P		Pg	07 00 39.1	+0.3
ONI				S		Sg	07 00 41.1	+0.3

MEX 24 07:03:22.8±0.6, 15°.41N×93°.05W, h98km±8km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PCIG		**0.34**	**331**	*e*P		Pn	07 03 35.8	-1.5
PCIG				*e*S		Sn	07 03 46.6	-1.5
CCIG	**Comitan**	**1.24**	**45**	*e*P		Pn	07 03 44.6	-1.4
CCIG				*e*S		Sn	07 04 01.8	-1.6

*IDC **24** 07:04:51.6±1.6, 36°.64S×73°.62W, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.7/21, mbtmp3.7/7, ML3.4/2, MS3.4/6, Ms1 3.4/6, ms1mx3.1/21, Error ellipse: s-maj=38.7km s-min=19.8km az=75.0*
*ISCJB **24** 07:04:53.6±0.5, 36°.77S±0°.04×73°.75W±0°.06, h27km, mb4.0/11, MS3.6/2, Error ellipse: s-maj=7.3km s-min=5.1km az=17.7*
*GUC **24** 07:04:53.8±0.9, 36°.80S×73°.71W, h28km±4km, ML4.3*
*NEIC **24** 07:04:56.9±0.4, 36°.63S×73°.54W, h35km, mb4.3/7, Error ellipse: s-maj=11.6km s-min=7.8km az=77.0*

ISC 24 07:04:55.4±0.6, 36°.68S±0°.05×73°.64W±0°.07, h27km, n38, σ1§40/41, mb4.3/10, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CCSP	**San Pedro de C**	**0.46**	**112**	*e*P		**Pb**	**07 05 03.5**	**-1.5**
CCSP				*e*S		**Sn**	**07 05 10.7**	**-2.7**
CCSP				AML		AML	07 05 12.4	
	comp=E,38μm,0.5s							
LNCH	**Linares**	**1.84**	**64**	*e*P		**Pb**	**07 05 26.1**	**-2.2**
LNCH				*e*S		**Sb**	**07 05 51.5**	**+0.5**
TALC	**Talca**	**2.06**	**52**	*e*P		**Pb**	**07 05 29.8**	**-2.4**
TALC				*e*S		**Sb**	**07 05 56.1**	**-1.2**
NICH	**Los Niches**	**2.57**	**50**	*e*P		**Pn**	**07 05 36.5**	**+1.2**
NICH				*e*S		**Sb**	**07 06 15.0**	**+3.0**
VLCH	**Valdivia**	**3.14**	**174**	*e*P		**Pn**	**07 05 41.0**	**-2.0**
VLCH				*e*S		**Sn**	**07 06 16.8**	**-2.9**
LNV	**Longovilo**	**3.27**	**35**	*e*P		**Pn**	**07 05 44.0**	**-0.9**
CHCH	**Chadas Angostu**	**3.67**	**43**	*e*P		**Pn**	**07 05 50.7**	**+0.3**
OSCH	**Osorno**	**3.92**	**174**	*e*P		**Pn**	**07 05 53.1**	**-0.6**
OSCH				*e*S		**Sn**	**07 06 37.7**	**-1.0**
CLCH	**Cerro Calan**	**4.14**	**39**	*e*P		**Pn**	**07 05 56.1**	**-0.9**
PEL	**Peldehue**	**4.28**	**35**	*e*P		**Pn**	**07 05 58.3**	**-0.5**
ROCH	**El Roble**	**4.28**	**31**	*e*P		**Pn**	**07 05 58.1**	**-0.8**
PLCA	**Paso Flores**	**4.72**	**150**	Pn		**Pn**	**07 06 05.6**	**+0.8**
	comp=E,0.7nm,0.3s,baz=332,slow=12,SNR=25							
PLCA				Lg		Lg	07 07 22.1	
	comp=E,4.0nm,0.3s,baz=216,slow=21,SNR=5.4							
PLCA				LR		LR	07 07 52.4	
	comp=E,352nm,20.1s,baz=308,slow=38							
PLCA	**Paso Flores**	**4.72**	**150**	*e*Pn		**Pn**	**07 06 04.7**	**-0.2**
PLCA				*e*Pg		Pb	07 06 21.3	+3.9
PLCA				*e*Sn		**Sn**	**07 07 02.6**	**+3.9**
PLCA				Lg		Lg	07 07 22.1	
CFAA	**Coronel Fontan**	**6.75**	**43**	Pn		**Pn**	**07 06 31.7**	**-1.1**
	comp=E,0.2nm,0.3s,baz=212,slow=12,SNR=27							
CFAA				Sn		**Sn**	**07 07 49.3**	**+0.5**
	comp=E,0.2nm,0.3s,baz=328,slow=9.5,SNR=2.3							
CFAA				LR		LR	07 09 27.2	
	comp=E,40nm,19.5s,baz=228,slow=41							
TRQA	**Tornquist**	**9.38**	**102**	*e*Pn		**Pn**	**07 07 09.4**	**+0.5**
TRQA				*e*Sn		Sn	07 08 43.3	-10
LVC	**Limon Verde**	**14.60**	**18**	LR		LR	07 14 33.1	
	comp=E,549nm,19.5s,baz=203,slow=40							
USHA	**Ushuaia**	**18.51**	**170**	LR		LR	07 15 19.2	
	comp=E,193nm,20.1s,baz=165,slow=34							
LPAZ	**La Paz**	**20.89**	**15**	P		**P**	**07 09 37.1**	**+0.9**
	comp=E,1.5nm,0.7s,baz=206,slow=6.3,SNR=6.4							
LPAZ	**La Paz**	**20.89**	**15**	*e*P		**P**	**07 09 36.5**	**+0.3**
	comp=E,4.0nm,0.9s							
SIV	**San Ignacio**	**23.43**	**32**	P		**P**	**07 10 01.9**	**-0.6**
	comp=E,2.8nm,0.9s,baz=230,slow=8.0,SNR=5.8							
BDFB	**Brasilia**	**30.94**	**54**	LR		LR	07 25 12.3	
	comp=E,122nm,21.1s,baz=221,slow=40							
VNA3	**Neumayer Olymp**	**47.40**	**157**	P		P	07 13 34.1	+7.1
VNA2	**Neumayer--Watz**	**48.08**	**156**	P		P	07 13 41.0	+8.8
	baz=268,slow=8.6							
SNAA	**Sanae**	**49.62**	**157**	P		**P**	**07 13 42.9**	**-1.2**
QSPA	**South Pole Qui**	**53.57**	**180**	*e*P		**P**	**07 14 15.1**	**+1.4**
	comp=E,4.8nm,1.1s							
MAW	**Mawson**	**70.99**	**164**	*e*P		**P**	**07 16 10.1**	**0.0**
	comp=E,2.4nm,0.8s							
TXAR	**Lajitas Array**	**71.46**	**333**	P		**P**	**07 16 13.8**	**+0.2**
	comp=E,0.4nm,0.8s,baz=147,slow=7.4,SNR=4.1							
WVT	**Waverly**	**73.63**	**348**	*e*P		**P**	**07 16 26.5**	**+0.4**
	comp=E,1.8nm,0.9s							
ACSO	**Alum Creek Sta**	**77.01**	**353**	*e*P		**P**	**07 16 46.5**	**+1.0**
	comp=E,3.0nm,0.6s							
DBIC	**Dimbokro**	**77.27**	**72**	P		**P**	**07 16 47.8**	**+0.2**
	comp=E,2.7nm,0.8s,baz=214,slow=3.6,SNR=2.6							
LBTB	**Lobatse**	**82.36**	**115**	*e*P		**P**	**07 17 15.6**	**+0.4**
ECSD	**EROS Data Cent**	**82.71**	**343**	*e*P		**P**	**07 17 16.5**	**+0.2**
	comp=E,2.0nm,0.8s							
HVU	**Hansel Valley**	**85.89**	**332**	*e*P		**P**	**07 17 32.2**	**-0.4**
	comp=E,1.5nm,0.8s							
**TORD

MVU	**Marysvale**	**5.67**	**336**	*e*Pn	**Pn**	**07 28 34.2**	**+2.5**
MVU				*e*Pg	**Pg**	**07 28 54.4**	**-1.5**
MVU				*e*Sn	**Sn**	**07 29 40.7**	**+3.6**
SHPR	**Sheep Range**	**5.79**	**305**	*e*Pn	**Pn**	**07 28 36.0**	**+2.8**
SRU	**San Rafael Swe**	**5.84**	**350**	*e*Pn	**Pn**	**07 28 36.1**	**+2.2**
SRU				*e*Pg	**Pg**	**07 28 56.5**	**-2.5**
PFO	**Pinyon Flats O**	**6.03**	**274**	Pn	**Pn**	**07 28 37.4**	**+0.9**
	2.0nm,0.3s,baz=92,slow=14,SNR=29						
PFO				Lg	Lg	07 30 19.2	
	0.8nm,0.3s,baz=70,slow=3.3,SNR=4.4						
PFO	**Pinyon Flats O**	**6.03**	**274**	*e*Pn	**Pn**	**07 28 37.2**	**+0.7**
PFO				*e*Sn	**Sn**	**07 29 46.2**	**+0.6**
PFO				Lg	Lg	07 30 19.2	
SMCO	**Snowmass**	**6.10**	**17**	*e*Pg	**Pg**	**07 29 03.5**	**-0.4**
TMUT	**Trail Mountain**	**6.14**	**346**	*e*Pg	**Pg**	**07 29 03.0**	**-1.7**
	33nm,0.5s						
TXAR	**Lajitas Array**	**6.23**	**129**	Pn	**Pn**	**07 28 40.9**	**+1.7**
	0.8nm,0.3s,baz=307,slow=13,SNR=49						
TXAR				Lg	Lg	07 30 21.7	
	2.4nm,0.3s,baz=311,slow=29,SNR=7.3						
GSC	**Goldstone, Bar**	**6.55**	**289**	*e*Pn	**Pn**	**07 28 44.3**	**+0.7**
GSC				*e*Pg	**Pg**	**07 29 13.2**	**+0.7**
GSC				*e*Sg	**Sg**	**07 30 38.3**	**+1.0**
MPU	**Maple Canyon**	**6.92**	**345**	*e*Pg	**Pg**	**07 29 19.6**	**0.0**
NLU	**North Lily Min**	**6.97**	**342**	*e*Pg	**Pg**	**07 29 19.9**	**-0.6**
ISCO	**Idaho Springs**	**7.07**	**23**	*e*Pg	**Pg**	**07 29 22.4**	**-0.1**
R11A	**Troy Canyon, C**	**7.16**	**316**	*e*Pg	Pg	07 29 19.9	-4.4
R11A				*e*Sg	**Sg**	**07 30 51.7**	**-5.4**
JLU	**Jordanelle**	**7.45**	**347**	*e*Pg	**Pg**	**07 29 27.4**	**-2.3**
DAC	**Darwin (Calif)**	**7.46**	**295**	*e*Pn	**Pn**	**07 28 58.8**	**+2.6**
DAC				*e*Pg	**Pg**	**07 29 26.8**	**-3.1**
ABTX	**Abilene, Hawle**	**8.10**	**93**	*e*Pg	**Pg**	**07 29 39.0**	**-3.2**
ABTX				*e*Sg	Sg	07 31 20.0	-7.2
HWUT	**Hardware Ranch**	**8.44**	**348**	*e*Pn	**Pn**	**07 29 11.3**	**+1.7**
HWUT				*e*Sn	**Sn**	**07 30 48.5**	**+3.4**
JCT	**Junction City**	**8.52**	**107**	Pn	Pn	07 29 07.0	-3.7
ELK	**Elko**	**8.79**	**329**	Lg	Lg	07 31 41.1	
	0.1nm,0.3s,baz=221,slow=23,SNR=4.0						
NVAR	**Mina Array Bea**	**8.92**	**307**	Pn	Pn	07 29 21.2	+4.9
	0.1nm,0.3s,baz=130,slow=15,SNR=4.9						
NVAR				Pg	Pg	07 29 52.9	-5.1
	0.3nm,0.3s,baz=131,slow=17,SNR=10						
PDAR	**Pinedale Array**	**9.40**	**359**	Pn	Pn	07 29 29.4	+6.5
	0.1nm,0.3s,baz=159,slow=13,SNR=3.1						
PDAR				Lg	Lg	07 32 00.9	
	0.2nm,0.3s,baz=188,slow=25,SNR=3.8						

IDC 24 07:30:05.1±3.0, 3°57S×152°07E, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.3/26, mbtmp3.5/2, Error ellipse: s-maj=133.1km s-min=42.5km az=123.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.75**	**225**	P	P	07 35 21.2	+1.9
	1.1nm,0.5s,baz=53,slow=10.0,SNR=24						
ASAR	**Alice Springs**	**26.59**	**220**	P	P	07 35 45.3	0.0
	0.1nm,0.4s,baz=57,slow=9.5,SNR=4.3						
TORD	**Torodi Ar. Bea**	**149.22**	**290**	PKPbc	PKPdf	07 49 54.3	+1.7
	0.3nm,0.8s,baz=83,slow=1.3,SNR=4.2						

IDC 24 07:41:04.3±3.2, 54°25N×87°20E, h0km, mb1 2.7/2, mb1mx2.7/39, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=30.4km s-min=19.1km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.43**	**259**	*i*		07 49 50.0	
	baz=77,slow=329,SNR=0.8						
ZALV	**Zalesovo Beam**	**1.43**	**259**	Pg	Pn	07 41 30.2	-1.3
	0.9nm,0.3s,baz=77,slow=12,SNR=11						
ZALV				Lg	Lg	07 41 49.8	
	0.5nm,0.3s,baz=78,slow=30,SNR=3.9						
KURBB	**Kurchatov Arra**	**6.42**	**239**	Pn	Pn	07 42 40.9	+0.9
	0.0nm,0.3s,baz=54,slow=14,SNR=4.0						
MKAR	**Makanchi Array**	**8.09**	**205**	Pn	Pn	07 43 03.9	+0.9
	0.1nm,0.3s,baz=24,slow=13,SNR=5.5						

*MOS **24** 07:45:17.6±1.6,53°.56N×169°.12E,h22km,mb4.1/1, Error ellipse: s-maj=25.6km s-min=18.3km az=33.9*
*ISCJB **24** 07:45:20.1±0.7,53°.55N±0°.08×168°.85E±0°.07,h35km, mb3.2/6, Error ellipse: s-maj=11.9km s-min=6.3km az=177.9*
*KRSC **24** 07:45:20.8±1.4,53°.52N×168°.35E,h15km±7km, ML4.2*
*IDC **24** 07:45:22.2±6.0,53°.86N×169°.00E,h37km±51km, mb3.1/6, mb1 3.4/7, mb1mx3.2/40, mbtmp3.3/7, ML3.0/1, Error ellipse: s-maj=39.2km s-min=19.9km az=171.0*

ISC 24 07:45:21.5±0.9, 53°55N±0°.09×168°94E±0°.07, h35km, n32, σ1°27/33, mb3.3/6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.40**	**315**	*e*P	**Pn**	**07 45 59.7**	**+1.5**
BKI				*e*S	**Sn**	**07 46 25.7**	**-0.5**
BKI	**Bering**	**2.40**	**315**	PN	**Pn**	**07 45 59.7**	**+1.5**
BKI				S	**Sn**	**07 46 25.7**	**-0.5**
MKZ	**Mys Kozlova**	**4.36**	**286**	*e*S	**Sn**	**07 47 14.3**	**-0.4**
KBTR	**Krutoberegovo**	**4.42**	**309**	*e*P	**Pn**	**07 46 26.5**	**+0.5**
KBTR	**Krutoberegovo**	**4.42**	**309**	PN	**Pn**	**07 46 26.5**	**+0.5**
SPN	**Mys Shipunski**	**5.36**	**269**	*e*P	**Pn**	**07 46 39.5**	**+0.6**
SPN				*e*S	**Sn**	**07 47 37.6**	**-1.8**
SPN	**Mys Shipunski**	**5.36**	**269**	PN	**Pn**	**07 46 39.5**	**+0.6**
SDLR	**Sedlovina**	**6.02**	**271**	*e*P	**Pn**	**07 46 48.9**	**+0.8**
SDLR				*e*S	**Sn**	**07 47 54.6**	**-1.1**
UGLR	**Uglovaya**	**6.06**	**271**	*e*P	**Pn**	**07 46 49.3**	**+0.6**
KRER	**Koryakskii**	**6.10**	**272**	*e*P	**Pn**	**07 46 50.3**	**+1.1**
AVH	**Avacha**	**6.11**	**271**	*e*P	**Pn**	**07 46 50.7**	**+1.5**
KRX	**Arik**	**6.15**	**272**	*e*P	**Pn**	**07 46 50.8**	**+0.9**
KOK	**Koryaka**	**6.16**	**272**	*e*P	**Pn**	**07 46 50.7**	**+0.7**
RUS	**Russkaya**	**6.39**	**264**	*e*P	**Pn**	**07 46 53.9**	**+0.8**
RUS	**Russkaya**	**6.39**	**264**	PN	**Pn**	**07 46 53.9**	**+0.8**
MTVR	**Mutnovka**	**6.58**	**265**	*e*P	**Pn**	**07 46 56.9**	**+1.1**
MTVR				*e*S	**Sn**	**07 48 07.0**	**-2.5**
PETK	**Petropavlovsk-**	**6.75**	**271**	Pn	**Pn**	**07 46 59.5**	**+1.5**
	1.6nm,0.3s,baz=95,slow=19,SNR=12						
PETK				Sn	**Sn**	**07 48 14.4**	**+0.9**
	0.8nm,0.3s,baz=301,slow=21,SNR=5.4						
ASAK	**Asacha**	**6.77**	**264**	*e*P	**Pn**	**07 46 59.6**	**+1.3**
ASAK				*e*S	**Sn**	**07 48 12.1**	**-2.1**
ILAR	**Eielson Array**	**24.71**	**46**	P	**P**	**07 50 36.6**	**-2.4**
	0.2nm,0.7s,baz=256,slow=7.5,SNR=6.4						
H11N2	**WAKE ISLAND Hy**	**33.80**	**183**	T	T	08 28 21.5	
	baz=2.7,slow=76,SNR=28						
H11N3	**WAKE ISLAND Hy**	**33.81**	**183**	T	T	08 28 26.3	
	baz=2.7,slow=76,SNR=24						
H11N1	**WAKE ISLAND Hy**	**33.81**	**183**	T	T	08 28 22.5	
	baz=2.7,slow=76,SNR=19						
H11S1	**WAKE ISLAND Hy**	**35.02**	**184**	T	T	08 29 51.7	
	baz=2.8,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**35.03**	**184**	T	T	08 29 55.7	
	baz=2.8,slow=76,SNR=3.8						
H11S2	**WAKE ISLAND Hy**	**35.04**	**184**	T	T	08 29 55.2	
	baz=2.8,slow=76,SNR=9.6						
NVAR	**Mina Array Bea**	**50.53**	**76**	P	**P**	**07 54 16.4**	**0.0**
	0.3nm,0.6s,baz=320,slow=11,SNR=3.0						
KURK	**Kurchatov**	**51.88**	**306**	P	**P**	**07 54 26.9**	**+0.9**
KURBB	**Kurchatov Arra**	**51.98**	**306**	P	**P**	**07 54 26.9**	**+0.1**
	0.1nm,0.3s,baz=57,slow=7.5,SNR=2.8						
MKAR	**Makanchi Array**	**52.62**	**300**	P	**P**	**07 54 30.4**	**-1.3**
	0.1nm,0.4s,baz=50,slow=9.6,SNR=2.1						
TXAR	**Lajitas Array**	**65.49**	**73**	P	**P**	**07 56 00.7**	**-0.5**
	0.2nm,0.7s,baz=305,slow=6.6,SNR=4.2						
ASAR	**Alice Springs**	**82.67**	**212**	P	**P**	**07 57 42.8**	**+1.7**
	0.5nm,0.6s,baz=17,slow=5.4,SNR=8.6						
ASAR	**Alice Springs**	**82.67**	**212**	P	**P**	**07 57 42.8**	**+1.7**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

IDC 24 08:17:44.9±3.7, 6°37S×154°12E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.6/4, Error ellipse: s-maj=127.5km s-min=33.4km az=114.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.47**	**233**	P	P	08 22 55.3	-1.1
	0.6nm,0.9s,baz=59,slow=9.4,SNR=4.5						
ASAR	**Alice Springs**	**25.95**	**226**	P	P	08 23 19.6	+0.3
	0.5nm,0.8s,baz=59,slow=9.0,SNR=5.0						
MKAR	**Makanchi Array**	**82.36**	**319**	P	P	08 30 09.4	+0.6
	0.2nm,0.4s,baz=94,slow=5.0,SNR=4.4						
ZALV	**Zalesovo Beam**	**83.18**	**326**	P	P	08 30 12.0	-0.9
	1.0nm,0.3s,baz=134,slow=6.2,SNR=3.8						
TORD	**Torodi Ar. Bea**	**152.02**	**286**	PKPbc	PKPbc	08 37 43.8	+0.6
	0.3nm,0.6s,baz=90,slow=1.4,SNR=3.7						

*SOF **24** 08:18:00.7,45°.52N×26°.36E,h146km,MD3.2*
*CSEM **24** 08:18:00.7±0.2,45°.62N×26°.40E,h154km±1km,MD4.3, Error ellipse: s-maj=3.2km s-min=2.2km az=13.0*
*SIGU **24** 08:18:00.6,45°.70N×26°.41E,h150km,mb2.6*
*BUC **24** 08:18:00.1±0.7,45°.66N×26°.40E,h161km±6km,MD4.3/5, Error ellipse: s-maj=5.4km s-min=3.6km az=3.0*
*ISCJB **24** 08:18:00.0±0.4,45°.68N±0°.02×26°.41E±0°.03,h156km±3km, Error ellipse: s-maj=3.6km s-min=3.1km az=155.5*
*BEO **24** 08:18:04.5±2.4,45°.70N×26°.33E,h0km,ML2.4/2*

ISC 24 08:18:00.5±1.3, 45°67N±0°.03×26°41E±0°.03, h157km±6km, n157, σ0°61/223, 75C-40D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.25**	**42**	⇑*i*P	**Pn**	**08 18 21.7**	**-0.1**
PLOR	**Plostina**	**0.25**	**42**	⇑*i*P	**Pn**	**08 18 21.7**	**-0.1**
PLOR				*i* S	**Sn**	**08 18 37.6**	**-0.6**
PLOR	**Plostina**	**0.25**	**42**	⇑*i*P	**Pn**	**08 18 21.7**	**-0.1**
PLOR				*i* S	**Sn**	**08 18 37.6**	**-0.6**
VRI	**Vrincioaia**	**0.30**	**48**	⇑*i*P	**Pn**	**08 18 22.1**	**+0.2**
VRI	**Vrincioaia**	**0.30**	**48**	⇑*i*P	**Pn**	**08 18 22.1**	**+0.2**
VRI				*i* S	**Sn**	**08 18 38.1**	**-0.3**
VRI	**Vrincioaia**	**0.30**	**48**	⇑*i*P	**Pn**	**08 18 22.1**	**+0.2**
VRI				*i* S	**Sn**	**08 18 38.1**	**-0.3**
MLR	**Muntele Rosu**	**0.37**	**242**	*e*Pg	**Pn**	**08 18 22.2**	**-0.1**
MLR				*e*Sg	**Sn**	**08 18 38.3**	**-0.6**
MLR	**Muntele Rosu**	**0.37**	**242**	⇑*i*P	**Pn**	**08 18 22.2**	**-0.1**
MLR	**Muntele Rosu**	**0.37**	**242**	⇑*i*P	**Pn**	**08 18 22.2**	**-0.1**
MLR				*i* S	**Sn**	**08 18 38.1**	**-0.8**
MLR	**Muntele Rosu**	**0.37**	**242**	⇑*i*P	**Pn**	**08 18 22.2**	**-0.1**
MLR				*e*Sg	**Sn**	**08 18 38.3**	**-0.6**
ODBI	**Odobesti**	**0.46**	**77**	⇑*i*P	**Pn**	**08 18 23.3**	**+0.8**
ODBI	**Odobesti**	**0.46**	**77**	⇑*i*P	**Pn**	**08 18 23.3**	**+0.8**
ODBI				*i* S	**Sn**	**08 18 39.4**	**+0.1**
ODBI	**Odobesti**	**0.46**	**77**	⇑*i*P	**Pn**	**08 18 23.3**	**+0.8**
ODBI				*i* S	**Sn**	**08 18 39.4**	**+0.1**
ISR	**Istrita**	**0.55**	**170**	⇓*i*P	**Pn**	**08 18 23.4**	**+0.3**
ISR	**Istrita**	**0.55**	**170**	⇓*i*P	**Pn**	**08 18 23.4**	**+0.3**
ISR				*i* S	**Sn**	**08 18 40.0**	**-0.2**
ISR	**Istrita**	**0.55**	**170**	⇓*i*P	**Pn**	**08 18 23.4**	**+0.3**
ISR				*i* S	**Sn**	**08 18 40.0**	**-0.2**
SECR		**0.67**	**201**	⇑*i*P	**Pn**	**08 18 24.1**	**+0.4**
SECR		**0.67**	**201**	⇑*i*P	**Pn**	**08 18 24.1**	**+0.4**
SECR				*i* S	**Sn**	**08 18 41.4**	**+0.1**
SECR		**0.67**	**201**	⇑*i*P	**Pn**	**08 18 24.1**	**+0.4**
SECR				*i* S	**Sn**	**08 18 41.4**	**+0.1**
DOPR	**Dopca**	**0.78**	**293**	⇑*i*P	**Pn**	**08 18 24.5**	**+0.2**
DOPR	**Dopca**	**0.78**	**293**	⇑*i*P	**Pn**	**08 18 24.5**	**+0.2**
DOPR				*i* S	**Sn**	**08 18 42.2**	**-0.3**
DOPR	**Dopca**	**0.78**	**293**	⇑*i*P	**Pn**	**08 18 24.5**	**+0.2**
DOPR				*i* S	**Sn**	**08 18 42.2**	**-0.3**
PLAR	**PLOIESTI**	**0.80**	**200**	⇑*i*P	**Pn**	**08 18 24.9**	**+0.5**
PLAR	**PLOIESTI**	**0.80**	**200**	⇑*i*P	**Pn**	**08 18 24.9**	**+0.5**
PLAR				*i* S	**Sn**	**08 18 42.9**	**+0.2**
PLAR	**PLOIESTI**	**0.80**	**200**	⇑*i*P	**Pn**	**08 18 24.9**	**+0.5**
PLAR				*i* S	**Sn**	**08 18 42.9**	**+0.2**
PGOR	**Pogoanele**	**0.86**	**152**	⇑*i*P	**Pn**	**08 18 25.2**	**+0.3**
PGOR	**Pogoanele**	**0.86**	**152**	⇑*i*P	**Pn**	**08 18 25.2**	**+0.3**
PGOR				*i* S	**Sn**	**08 18 43.7**	**+0.2**
PGOR	**Pogoanele**	**0.86**	**152**	⇑*i*P	**Pn**	**08 18 25.2**	**+0.3**
PGOR				*i* S	**Sn**	**08 18 43.7**	**+0.2**
TESR	**Tescani**	**0.86**	**11**	⇓*i*P	**Pn**	**08 18 25.0**	**+0.1**
TESR	**Tescani**	**0.86**	**11**	⇓*i*P	**Pn**	**08 18 25.0**	**+0.1**
TESR				*i* S	**Sn**	**08 18 43.0**	**-0.7**
TESR	**Tescani**	**0.86**	**11**	⇓*i*P	**Pn**	**08 18 25.0**	**+0.1**
TESR				*i* S	**Sn**	**08 18 43.0**	**-0.7**
VOIR		**0.98**	**257**	⇑*i*P	**Pn**	**08 18 25.8**	**-0.1**
VOIR		**0.98**	**257**	⇑*i*P	**Pn**	**08 18 25.8**	**-0.1**
VOIR				*i* S	**Sn**	**08 18 45.4**	**+0.1**
VOIR		**0.98**	**257**	⇑*i*P	**Pn**	**08 18 25.8**	**-0.1**
VOIR				*i* S	**Sn**	**08 18 45.4**	**+0.1**
SULR		**0.99**	**186**	⇑*i*P	**Pn**	**08 18 26.2**	**+0.3**
SULR		**0.99**	**186**	⇑*i*P	**Pn**	**08 18 26.2**	**+0.3**
SULR				*i* S	**Sn**	**08 18 45.2**	**-0.1**
SULR		**0.99**	**186**	⇑*i*P	**Pn**	**08 18 26.2**	**+0.3**
SULR				*i* S	**Sn**	**08 18 45.2**	**-0.1**
MTUR	**Matau**	**1.04**	**246**	⇑*i*P	**Pn**	**08 18 26.6**	**+0.2**
MTUR	**Matau**	**1.04**	**246**	⇑*i*P	**Pn**	**08 18 26.6**	**+0.2**
MTUR	**Matau**	**1.04**	**246**	⇑*i*P	**Pn**	**08 18 26.6**	**+0.2**
CIOR	**Ciorogarla**	**1.27**	**197**	⇑*i*P	**Pn**	**08 18 28.4**	**0.0**
CIOR	**Ciorogarla**	**1.27**	**197**	⇑*i*P	**Pn**	**08 18 28.4**	**0.0**
CIOR				*i* S	**Sn**	**08 18 49.3**	**-0.4**
CIOR	**Ciorogarla**	**1.27**	**197**	⇑*i*P	**Pn**	**08 18 28.4**	**0.0**
CIOR				*i* S	**Sn**	**08 18 49.3**	**-0.4**
CFR	**Carcaliu**	**1.31**	**111**	⇓*i*P	**Pn**	**08 18 28.6**	**-0.1**
CFR	**Carcaliu**	**1.31**	**111**	⇓*i*P	**Pn**	**08 18 28.6**	**-0.1**
CFR				*i* S	**Sn**	**08 18 49.8**	**-0.5**
CFR	**Carcaliu**	**1.31**	**111**	⇓*i*P	**Pn**	**08 18 28.6**	**-0.1**
CFR				*i* S	**Sn**	**08 18 49.8**	**-0.5**
GOLR		**1.31**	**232**	⇑*i*P	**Pn**	**08 18 29.1**	**+0.3**
GOLR		**1.31**	**232**	⇑*i*P	**Pn**	**08 18 29.1**	**+0.3**
GOLR				*i* S	**Sn**	**08 18 50.2**	**-0.2**
GOLR		**1.31**	**232**	⇑*i*P	**Pn**	**08 18 29.1**	**+0.3**
GOLR				*i* S	**Sn**	**08 18 50.2**	**-0.2**
BUC1	**Bucharest**	**1.34**	**192**	⇑*i*P	**Pn**	**08 18 29.0**	**-0.1**
BUC1	**Bucharest**	**1.34**	**192**	⇑*i*P	**Pn**	**08 18 29.0**	**-0.1**
BUC1				*i* S	**Sn**	**08 18 51.1**	**+0.2**
BUC1	**Bucharest**	**1.34**	**192**	⇑*i*P	**Pn**	**08 18 29.0**	**-0.1**
BUC1				*i* S	**Sn**	**08 18 51.1**	**+0.2**
HARR	**Harsova**	**1.45**	**132**	⇓*i*P	**Pn**	**08 18 30.2**	**+0.1**
HARR	**Harsova**	**1.45**	**132**	⇓*i*P	**Pn**	**08 18 30.2**	**+0.1**
HARR	**Harsova**	**1.45**	**132**	⇓*i*P	**Pn**	**08 18 30.2**	**+0.1**
LEOM	**Leova**	**1.51**	**57**	⇓*i*P	**Pn**	**08 18 31.3**	**+0.6**
LEOM	**Leova**	**1.51**	**57**	⇓*i*P	**Pn**	**08 18 31.3**	**+0.6**
LEOM				*i* S	**Sn**	**08 18 53.7**	**-0.2**
LEOM	**Leova**	**1.51**	**57**	⇓*i*P	**Pn**	**08 18 31.3**	**+0.6**
LEOM				*i* S	**Sn**	**08 18 53.7**	**-0.2**
HUMR	**Humele**	**1.52**	**222**	⇑*i*P	**Pn**	**08 18 30.6**	**-0.2**
HUMR	**Humele**	**1.52**	**222**	⇑*i*P	**Pn**	**08 18 30.6**	**-0.2**
HUMR				*i* S	**Sn**	**08 18 53.5**	**-0.6**
HUMR	**Humele**	**1.52**	**222**	⇑*i*P	**Pn**	**08 18 30.6**	**-0.2**
HUMR				*i* S	**Sn**	**08 18 53.5**	**-0.6**
TLB	**Topalu**	**1.58**	**132**	⇓*i*P	**Pn**	**08 18 31.5**	**+0.1**
TLB	**Topalu**	**1.58**	**132**	⇓*i*P	**Pn**	**08 18 31.5**	**+0.1**
TLB				*i* S	**Sn**	**08 18 54.3**	**-0.9**
TLB	**Topalu**	**1.58**	**132**	⇓*i*P	**Pn**	**08 18 31.5**	**+0.1**
TLB				*i* S	**Sn**	**08 18 54.3**	**-0.9**
TLCR		**1.76**	**105**	⇓*i*P	**Pn**	**08 18 33.8**	**+0.5**
TLCR		**1.76**	**105**	⇓*i*P	**Pn**	**08 18 33.8**	**+0.5**
TLCR				*i* S	**Sn**	**08 18 58.4**	**-0.2**
TLCR		**1.76**	**105**	⇓*i*P	**Pn**	**08 18 33.8**	**+0.5**
TLCR				*i* S	**Sn**	**08 18 58.4**	**-0.2**
CVD	**Cernavoda**	**1.77**	**139**	⇓*i*P	**Pn**	**08 18 33.5**	**0.0**
CVD	**Cernavoda**	**1.77**	**139**	⇓*i*P	**Pn**	**08 18 33.5**	**0.0**
CVD				*i* S	**Sn**	**08 18 57.7**	**-1.2**
CVD	**Cernavoda**	**1.77**	**139**	⇓*i*P	**Pn**	**08 18 33.5**	**0.0**
CVD				*i* S	**Sn**	**08 18 57.7**	**-1.2**
TIRR	**Tirgusor**	**1.86**	**130**	⇓*i*P	**Pn**	**08 18 34.5**	**0.0**
TIRR	**Tirgusor**	**1.86**	**130**	⇓*i*P	**Pn**	**08 18 34.5**	**0.0**
TIRR				*i* S	**Sn**	**08 19 00.0**	**-0.6**
TIRR	**Tirgusor**	**1.86**	**130**	⇓*i*P	**Pn**	**08 18 34.5**	**0.0**
TIRR				*i* S	**Sn**	**08 19 00.0**	**-0.6**
LOT	**Lotru**	**1.87**	**264**	⇑*i*P	**Pn**	**08 18 35.6**	**+0.9**
LOT	**Lotru**	**1.87**	**264**	⇑*i*P	**Pn**	**08 18 35.6**	**+0.9**
LOT				*i* S	**Sn**	**08 19 01.9**	**+1.0**
LOT	**Lotru**	**1.87**	**264**	⇑*i*P	**Pn**	**08 18 35.6**	**+0.9**
LOT				*i* S	**Sn**	**08 19 01.9**	**+1.0**
BURAR	**Bucovina Array**	**2.12**	**338**	⇓*i*P	**Pn**	**08 18 39.5**	**+2.0**
BURAR	**Bucovina Array**	**2.12**	**338**	⇓*i*P	**Pn**	**08 18 39.5**	**+2.0**
BURAR	**Bucovina Array**	**2.12**	**338**	⇓*i*P	**Pn**	**08 18 39.5**	**+2.0**
ZIMR		**2.14**	**201**	⇑*i*P	**Pn**	**08 18 37.5**	**-0.2**
ZIMR				*i* S	**Sn**	**08 19 05.5**	**-0.8**
EFOR	**EFORIE**	**2.24**	**134**	S	**Sn**	**08 19 09.1**	**+0.8**
EFOR	**EFORIE**	**2.24**	**134**	*i* S	**Sn**	**08 19 09.1**	**+0.8**
EFOR	**EFORIE**	**2.24**	**134**	*i* S	**Sn**	**08 19 09.1**	**+0.8**
PSN	**Preselentsi**	**2.35**	**147**	⇓*i*P	**Pn**	**08 18 40.6**	**+0.4**
PSN	**Preselentsi**	**2.35**	**147**	⇓*i*P	**Pn**	**08 18 40.6**	**+0.4**
PSN				*i* S	**Sn**	**08 19 11.6**	**+0.8**
PSN	**Preselentsi**	**2.35**	**147**	*i* P	**Pn**	**08 18 40.8**	**+0.6**
PSN	**Preselentsi**	**2.35**	**147**	*i* P	**Pn**	**08 18 40.8**	**+0.6**
PSN				*i* S	**Sn**	**08 19 11.6**	**+0.8**
MANR	**Mangalia**	**2.41**	**139**	⇑*i*P	**Pn**	**08 18 41.2**	**+0.3**
MANR	**Mangalia**	**2.41**	**139**	⇑*i*P	**Pn**	**08 18 41.2**	**+0.3**
MANR	**Mangalia**	**2.41**	**139**	⇑*i*P	**Pn**	**08 18 41.2**	**+0.3**
SZH	**Strazhica**	**2.42**	**188**	*i* P	**Pn**	**08 18 39.8**	**-1.3**
SZH	**Strazhica**	**2.42**	**188**	*i* P	**Pn**	**08 18 39.8**	**-1.3**
DEV	**Deva**	**2.46**	**276**	⇓*i*P	**Pn**	**08 18 43.0**	**+1.5**
DEV	**Deva**	**2.46**	**276**	⇓*i*P	**Pn**	**08 18 43.0**	**+1.5**
DEV	**Deva**	**2.46**	**276**	⇓*i*P	**Pn**	**08 18 43.0**	**+1.5**
SRE	**Strehaia**	**2.48**	**247**	⇑*i*P	**Pn**	**08 18 41.6**	**-0.1**
SRE	**Strehaia**	**2.48**	**247**	⇑*i*P	**Pn**	**08 18 41.6**	**-0.1**
SRE				*i* S	**Sn**	**08 19 13.5**	**0.0**
SRE	**Strehaia**	**2.48**	**247**	⇑*i*P	**Pn**	**08 18 41.6**	**-0.1**
SRE				*i* S	**Sn**	**08 19 13.5**	**0.0**
PRD	**Provadia**	**2.56**	**164**	*i* P	**Pn**	**08 18 43.1**	**+0.3**
PRD	**Provadia**	**2.56**	**164**	*i* P	**Pn**	**08 18 43.1**	**+0.3**
PVL	**Pavlikeni**	**2.57**	**198**	*i* P	**Pn**	**08 18 43.7**	**+0.9**
PVL	**Pavlikeni**	**2.57**	**198**	*i* P	**Pn**	**08 18 43.7**	**+0.9**
GZR	**Gura Zlata**	**2.57**	**265**	*e*Pn	**Pn**	**08 18 42.3**	**-0.5**
GZR	**Gura Zlata**	**2.57**	**265**	⇑*i*P	**Pn**	**08 18 43.2**	**+0.4**
GZR	**Gura Zlata**	**2.57**	**265**	⇑*i*P	**Pn**	**08 18 43.2**	**+0.4**
GZR				*i* S	**Sn**	**08 19 15.9**	**+0.4**
GZR	**Gura Zlata**	**2.57**	**265**	*e*Pn	**Pn**	**08 18 42.3**	**-0.5**
GZR	**Gura Zlata**	**2.57**	**265**	⇑*i*P	**Pn**	**08 18 43.2**	**+0.4**
GZR				*i* S	**Sn**	**08 19 15.9**	**+0.4**
CHRU	**Chernivtsi**	**2.66**	**353**	*e*P	**Pn**	**08 18 43.6**	**-0.2**
CHRU				*e*S	**Sn**	**08 19 16.8**	**-0.6**
DRGR		**2.80**	**295**	*e*Pn	**Pn**	**08 18 43.9**	**-1.8**
DRGR		**2.80**	**295**	⇑*i*P	**Pn**	**08 18 45.9**	**+0.2**
DRGR		**2.80**	**295**	⇑*i*P	**Pn**	**08 18 45.9**	**+0.2**
DRGR		**2.80**	**295**	*e*Pn	**Pn**	**08 18 43.9**	**-1.8**
DRGR		**2.80**	**295**	⇑*i*P	**Pn**	**08 18 45.9**	**+0.2**
KSV	**Kosov**	**2.81**	**341**	*i* P	**Pn**	**08 18 45.6**	**-0.1**
KSV				Pm		08 18 48.0	
KSV				*e*S	**Sn**	**08 19 20.2**	**-0.6**
KSV				Sm		08 19 23.8	
RAK	**Rakhov**	**2.83**	**328**	*i* P	**Pn

5.0nm,0.7s,baz=154,slow=8.8,SNR=3.2
QSPA South Pole Qui 65.93 180 P P 08 31 04.0 +1.7
17nm,0.6s,baz=30,slow=2.5,SNR=121
MJAR Matsushiro Arr 71.95 326 P P 08 31 38.0 -0.9
5.8nm,0.8s,baz=162,slow=6.5,SNR=14
MAW Mawson 77.42 201 P P 08 32 10.5 +1.5
6.9nm,0.6s,baz=122,slow=6.9,SNR=22
KSRS Korea Array 78.27 320 P P 08 32 13.9 -0.1
2.2nm,0.7s,baz=125,slow=5.6,SNR=6.0
PETK Petropavlovsk- 79.28 347 P P 08 32 18.4 -0.7
5.1nm,0.6s,baz=143,slow=7.4,SNR=16
USRK Ussuriysk Ar. 80.83 327 P P 08 32 27.9 +0.6
2.3nm,0.7s,baz=116,slow=4.5,SNR=4.4
SYO Syowa Base 82.70 193 eP P 08 32 35.2 -1.4
SNAA Sanae 84.42 179 P P 08 32 43.1 -2.1
VNA3 Neumayer Olymp 84.64 177 P P 08 32 46.4 +0.1
VNA2 Neumayer--Watz 85.05 178 P P 08 32 48.6 +0.4
baz=183,slow=4.3
NVAR Mina Array Bea 85.12 44 P P 08 32 48.8 -0.5
0.5nm,0.7s,baz=221,slow=7.8,SNR=3.8
VNA1 Neumayer--Stat 85.29 177 P P 08 32 49.9 +0.5
PLCA Paso Flores 88.28 134 P P 08 33 04.8 +0.6
0.7nm,0.5s,baz=248,slow=4.8,SNR=5.1
TXAR Lajitas Array 90.79 58 P P 08 33 17.0 +1.0
0.4nm,0.8s,baz=217,slow=6.1,SNR=4.2
ILAR Eielson Array 92.34 14 P P 08 33 20.4 -1.7
0.6nm,0.8s,baz=224,slow=5.1,SNR=10
PDAR Pinedale Array 93.06 44 P P 08 33 25.6 -0.7
0.4nm,0.6s,baz=193,slow=3.7,SNR=3.1
SONM Songino Array 97.12 319 P Pdif 08 33 44.4 0.0
0.3nm,0.3s,baz=132,slow=4.3,SNR=2.9
MKAR Makanchi Array 112.12 313 PKKPab PKKPab 08 49 47.4 +1.1
0.6nm,0.8s,baz=283,slow=4.8,SNR=4.0
MATP Matopo 127.56 215 PKP PKPdf 08 39 14.2 -0.4
1.7nm,0.6s,baz=153,slow=2.3,SNR=4.8
ARCES ARCESS Array B 132.08 348 SKPbc SKPab 08 41 59.5 0.0
5.0nm,1.0s,baz=35,slow=3.3,SNR=8.7
FINES FINESS Array B 138.60 341 SKPbc SKPbc 08 42 19.6 +1.6
6.3nm,0.8s,baz=46,slow=4.0,SNR=13
NB2 NORSAR Subarra142.29 351 PKP PKPdf 08 39 36.3 -4.3
comp=Z,0.2nm,0.5s,baz=25,slow=3.3
NOA NORSAR Array B 142.29 351 PKhKP PKPpre 08 39 35.2
comp=Z,1.4nm,0.7s,baz=16,slow=4.6,SNR=4.4
AKASG Malin Array Be 145.03 327 PKP PKPdf 08 39 45.4 -0.2
comp=Z,0.8nm,0.3s,baz=40,slow=4.6,SNR=11
AKASG SKP 08 42 32.3
comp=Z,1.8nm,0.4s,baz=44,slow=3.0,SNR=4.7
AKASG SKPbc SKiKP 08 42 36.5 +1.6
comp=Z,2.0nm,0.5s,baz=49,slow=2.5,SNR=12
BRTR Keskin Array B 147.51 307 PKPbc PKPab 08 39 57.9 +0.1
comp=Z,0.9nm,0.6s,baz=60,slow=2.9,SNR=4.3
MSKU Masuku 151.00 210 PKPbc PKPbc 08 40 02.9 +0.1
comp=Z,12nm,0.4s,baz=123,slow=2.4,SNR=9.4
BRG Berggiesshubel 151.14 341 e(P) PKPab 08 40 11.8 -0.4
comp=Z,6.4nm,1.2s
BRG e 08 42 13.2
comp=Z,5.1nm,1.2s
BRG e 08 44 17.3
comp=Z,3.9nm,1.1s
DBIC Dimbokro 162.07 165 PKPab PKPab 08 41 02.0 +1.8
comp=Z,3.4nm,0.9s,baz=202,slow=5.4,SNR=3.2
ESDC Sonseca Array 164.22 10 PKPab PKPab 08 41 09.0 -0.3
comp=Z,0.2nm,0.3s,baz=348,slow=2.9,SNR=4.5
TORD Torodi Ar. Bea 168.89 190 PKP PKPdf 08 40 15.3 -0.6
comp=Z,1.4nm,1.1s,baz=49,slow=0.6,SNR=5.1
TORD PKPab PKPab 08 41 31.2 +0.9
comp=Z,4.6nm,0.8s,baz=170,slow=4.0,SNR=22

GUC 24 08:22:35.3±0.5, 36.1°S × 73.5°W, h26 km ± 5 km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.62**	**90**	*eP*	Pb	08 22 46.9	-0.7
COCH				*eS*	Sb	08 22 55.9	0.0
CCSP	**San Pedro de C**	**0.79**	**153**	*eP*	Pb	08 22 50.0	-0.4
CCSP				*eS*	Sb	08 23 00.5	-0.4
CCSP				AML	AML	08 23 01.7	
	comp=E,4μm,0.5s						
LNCH	**Linares**	**1.61**	**80**	*eP*	Pn	08 23 02.5	+0.4
LNCH				*eS*	Sb	08 23 23.5	-0.8
CLCH	**Cerro Calan**	**3.69**	**43**	*eP*	Pn	08 23 32.0	+1.2
CLCH				*eS*	Sn	08 24 15.4	+1.7
CLCH				AML	AML	08 24 36.8	
	comp=N,74nm,0.7s						

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*MEX **24** 08:51:19.6±0.5, 31.7°N × 114.3°W, h65 km ± 16 km, MD3.6*
*ECX **24** 08:51:21.8±0.4, 31.7°N × 115.1°W, h10 km, MD3.3, ML3.5*
ISC 24 08:51:19.5±1.3, 31.7°N±0.03° × 115.01°W±0.08, h19 km ± 4 km, n17, σ0.58/24, 5C-3D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECBX	**El Chinero**	**0.30**	**187**	↓*eP*	**Pg**	**08 51 25.6**	**-0.6**
ECBX				*eS*	**Sg**	**08 51 30.2**	**-0.5**
MBIG	**Mexicali**	**0.65**	**346**	*eP*	**Pg**	**08 51 32.1**	**-0.4**
CPBX	**Cerro Prieto**	**0.69**	**339**	*eP*	Pg	08 51 24.9	-8.2
CPBX				↑*eP*	**Pb**	**08 51 33.2**	**+0.4**
CPBX				*eS*	Sg	08 51 33.8	-8.5
RDX	**Rancho Dawling**	**0.81**	**281**	↓*eP*	**Pb**	**08 51 34.8**	**-0.2**
RDX				*eS*	**Sb**	**08 51 45.0**	**-0.6**
SPIG	**San Pedro Mart**	**0.82**	**208**	*eP*	**Pb**	**08 51 35.8**	**+0.4**
SPIG				*eS*	**Sg**	**08 51 47.6**	**+0.8**
SPIG	**San Pedro Mart**	**0.82**	**208**	↓*eP*	**Pb**	**08 51 35.9**	**+0.5**
SPX	**San Pedro Mart**	**0.82**	**208**	*eP*	**Pb**	**08 51 35.9**	**+0.5**
SPX				*eS*	**Sg**	**08 51 47.5**	**+0.7**
SGL	**Mount Signal**	**1.06**	**325**	↑*eP*	**Pb**	**08 51 39.1**	**-0.1**
DREC	**Desert Rsrch C**	**1.09**	**340**	*eP1*	**Pb**	**08 51 40.2**	**+0.5**
ZAX	**El Zacaton**	**1.11**	**257**	*eP2*	**Pb**	**08 51 39.8**	**-0.3**
ZAX				*eS*	**Sb**	**08 51 53.5**	**-0.6**
WESC	**Westside Schoo**	**1.16**	**328**	*eP*	**Pb**	**08 51 41.1**	**+0.3**
YUH	**Yuha Desert**	**1.17**	**319**	↑*eP*	**Pn**	**08 51 40.6**	**-0.1**
RMX	**La Rumorosa**	**1.23**	**313**	*eP*	**Pn**	**08 51 41.7**	**-0.1**
RMX				*eS*	**Sb**	**08 51 57.4**	**-0.2**
RMX				↑*e*		08 51 59.6	
RMX				IAML		08 51 59.6	
	comp=N,726nm,0.1s						
ECNX	**Esteban Cantu**	**1.36**	**265**	*eP2*	**Pn**	**08 51 43.8**	**+0.4**
PBX	**Punta Banda**	**1.46**	**269**	*eP2*	**Pn**	**08 51 45.5**	**+0.6**
CBX	**Cerro Bola**	**1.50**	**291**	*eP*	**Pn**	**08 51 44.7**	**-0.8**
CBX				*eS*	**Sb**	**08 52 05.4**	**-0.2**
CBX	**Cerro Bola**	**1.50**	**291**	↑*e*	**Sg**	**08 52 09.3**	**+1.2**
	comp=E,1μm,0.5s						

GRAL 24 09:05:11.1±0.6, 34.3°N × 36.5°E, h0 km ± 80 km, MD2.9, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FKH	**Fakeheh**	**0.17**	**237**	*eP*	Pg	09 05 13.8	-0.7
HWQ	**Hawqa**	**0.53**	**264**	*eP*	Pg	09 05 20.6	-0.8
HWQ				*eS*	Sg	09 05 27.7	-0.8
RCY	**Rachaya**	**1.04**	**217**	*eP*	Pg	09 05 29.8	-1.5
RCY				*eS*	Sg	09 05 43.7	-1.3
DQRL	**Deir Qamar**	**1.05**	**233**	*eP*	Pg	09 05 30.3	-1.1

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*ISK **24** 09:06:43.6, 39.4°N × 26.2°E, h5 km, MD3.3*
*DDA **24** 09:06:44.6, 39.7°N × 26.2°E, h27 km, MD3.1*
*ISCJB **24** 09:06:44.7±0.4, 39.4°N±0.01° × 26.1°E±0.02, h11 km ± 2 km, Error ellipse: s-maj=2.9km s-min=2.2km az=169.0*
*ATH **24** 09:06:44.2, 39.4°N × 26.2°E, h24 km ± 1 km, MD3.2/9*
*CSEM **24** 09:06:44.9±0.1, 39.4°N × 26.1°E, h10 km, MD3.2, Error ellipse: s-maj=2.9km s-min=2.4km az=66.0*
*THE **24** 09:06:45.7, 39.4°N × 26.1°E, h16 km ± 1 km, ML2.8/8, Error ellipse: s-maj=2.0km s-min=0.9km az=205.0*
ISC 24 09:06:44.5±0.9, 39.4°N±0.01° × 26.2°E±0.02, h15 km ± 7 km, n115, σ0.95/164, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRK	**Paraskevi**	**0.22**	**173**	P	**Pb**	**09 06 49.9**	**-0.2**
PRK				S	**Sb**	**09 06 53.2**	**-0.7**
PRK	**Paraskevi**	**0.22**	**173**	*eP*	**Pb**	**09 06 50.0**	**-0.2**
PRK				*eSB*	**Sb**	**09 06 53.6**	**-0.3**
PRK	**Paraskevi**	**0.22**	**173**	*ePb*	**Pb**	**09 06 50.0**	**-0.2**
PRK				S	**Sb**	**09 06 53.2**	**-0.7**
EZN	**Ezine**	**0.37**	**10**	*eP*	**Pg**	**09 06 52.0**	**0.0**
EZN				*eSG*	**Sg**	**09 06 57.5**	**+0.4**
EZN	**Ezine**	**0.37**	**10**	*eP*	**Pg**	**09 06 52.0**	**0.0**
EZN				*eSg*	**Sg**	**09 06 57.5**	**+0.4**
AYVA	**Ayvalik**	**0.38**	**114**	*i P*	**Pg**	**09 06 51.7**	**-0.5**
AYVA				*i S*	**Sb**	**09 06 58.3**	**-0.4**
AYVA	**Ayvalik**	**0.38**	**114**	*i P*	**Pg**	**09 06 51.7**	**-0.5**
AYVA				*i S*	**Sb**	**09 06 58.3**	**-0.4**
SIGR	**SIGRI**	**0.39**	**230**	*ePG*	**Pg**	**09 06 52.7**	**+0.4**
SIGR				*eSG*	**Sb**	**09 06 58.6**	**-0.4**
SIGR	**SIGRI**	**0.39**	**230**	*eP*	**Pg**	**09 06 52.7**	**+0.4**
SIGR				S	**Sb**	**09 06 58.4**	**-0.5**
SIGR	**SIGRI**	**0.39**	**230**	*ePB*	**Pb**	**09 06 52.8**	**-0.3**
SIGR				*eSB*	**Sb**	**09 06 58.5**	**-0.4**
SIGR	**SIGRI**	**0.39**	**230**	*ePb*	**Pb**	**09 06 52.8**	**-0.3**
SIGR				S	**Sb**	**09 06 58.4**	**-0.5**
BOZC	**Bozcaada**	**0.41**	**339**	*i P*	**Pg**	**09 06 52.8**	**+0.1**
BOZC				*i S*	**Sg**	**09 06 57.4**	**-0.8**
GADA	**Gvkgeada**	**0.77**	**340**	*ePG*	**Pg**	**09 06 59.2**	**-0.3**
GADA	**Gvkgeada**	**0.77**	**340**	*ePg*	**Pg**	**09 06 59.2**	**-0.3**
LIA	**Limnos Island**	**0.92**	**298**	P	**Pg**	**09 07 02.5**	**+0.1**
LIA				S	**Sb**	**09 07 14.0**	**-0.3**
LIA	**Limnos Island**	**0.92**	**298**	*ePN*	**Pg**	**09 07 02.5**	**+0.1**
LIA				*eSN*	**Sg**	**09 07 14.7**	**+0.2**
LIA	**Limnos Island**	**0.92**	**298**	P	**Pg**	**09 07 02.5**	**+0.1**
LIA				S	**Sb**	**09 07 14.0**	**-0.3**
GELI	**Tayfur-Gelibol**	**0.95**	**11**	*ePG*	**Pb**	**09 07 02.9**	**+0.2**
GELI	**Tayfur-Gelibol**	**0.95**	**11**	*ePg*	**Pb**	**09 07 02.9**	**+0.2**
CHOS	**Chios island**	**1.08**	**188**	*ePN*	**Pg**	**09 07 05.4**	**-0.1**
CHOS	**Chios island**	**1.08**	**188**	P	**Pg**	**09 07 05.3**	**-0.1**
CHOS				S	**Sn**	**09 07 20.4**	**+0.4**
CHOS	**Chios island**	**1.08**	**188**	*ePN*	**Pn**	**09 07 05.2**	**0.0**
CHOS				*eSN*	**Sn**	**09 07 20.1**	**+0.1**
CHOS	**Chios island**	**1.08**	**188**	P	**Pg**	**09 07 05.3**	**-0.1**
CHOS				*eSn*	**Sn**	**09 07 20.1**	**+0.1**
BALY	**Balya**	**1.10**	**75**	*i P*	**Pg**	**09 07 05.9**	**+0.1**
BALY				*i S*	**Sb**	**09 07 19.3**	**-0.2**
BALY	**Balya**	**1.10**	**75**	*i P*	**Pg**	**09 07 05.9**	**+0.1**
BALY				*i S*	**Sb**	**09 07 19.3**	**-0.2**
URLA	**Izmir**	**1.14**	**166**	*i P*	**Pg**	**09 07 06.7**	**+0.3**
URLA				*i S*	**Sg**	**09 07 21.5**	**+0.3**
URLA	**Izmir**	**1.14**	**166**	*i P*	**Pg**	**09 07 06.7**	**+0.3**
URLA				*i S*	**Sg**	**09 07 21.5**	**+0.3**
SMTH	**Samothraki Isl**	**1.15**	**332**	P	**Pn**	**09 07 05.8**	**-0.2**
SMTH				S	**Sb**	**09 07 21.1**	**+0.4**
SMTH	**Samothraki Isl**	**1.15**	**332**	*ePN*	**Pn**	**09 07 05.9**	**-0.1**
SMTH				*eSN*	**Sg**	**09 07 22.0**	**+0.5**
SMTH	**Samothraki Isl**	**1.15**	**332**	P	**Pn**	**09 07 05.8**	**-0.2**
SMTH				S	**Sb**	**09 07 21.1**	**+0.4**
SMTH				*eSn*	**Sg**	**09 07 22.0**	**+0.5**
ERIK	**Erikli-Kesan**	**1.23**	**10**	*ePN*	**Pb**	**09 07 07.4**	**+0.1**
ERIK	**Erikli-Kesan**	**1.23**	**10**	*ePn*	**Pb**	**09 07 07.4**	**+0.1**
ZEY	**˙zmir**	**1.24**	**170**	*i P*	**Pg**	**09 07 07.7**	**+0.2**
ZEY				*i S*	**Sg**	**09 07 24.3**	**-0.2**
BLCB	**Balcova**	**1.25**	**150**	*ePN*	**Pg**	**09 07 08.3**	**-0.1**
BLCB	**Balcova**	**1.25**	**150**	*ePn*	**Pg**	**09 07 08.3**	**-0.1**
ENEZ	**Enez**	**1.27**	**357**	*ePN*	**Pb**	**09 07 08.6**	**+0.4**
ENEZ	**Enez**	**1.27**	**357**	*ePn*	**Pb**	**09 07 08.6**	**+0.4**
BALB	**Balikesir**	**1.28**	**82**	*ePN*	**Pg**	**09 07 09.0**	**-0.2**
BALB	**Balikesir**	**1.28**	**82**	*ePn*	**Pg**	**09 07 09.0**	**-0.2**
IZM	**Izmir**	**1.33**	**143**	*ePN*	**Pg**	**09 07 09.7**	**-0.4**
IZM	**Izmir**	**1.33**	**143**	*ePn*	**Pg**	**09 07 09.7**	**-0.4**
AKS	**Akhisar**	**1.35**	**115**	*ePN*	**Pb**	**09 07 09.8**	**+0.3**
AKHS	**Akhisar**	**1.36**	**115**	*i S*	**Sg**	**09 07 28.2**	**0.0**
AKHS	**Akhisar**	**1.36**	**115**	*i P*	**Pb**	**09 07 09.5**	**-0.1**
AKHS				*i S*	**Sg**	**09 07 28.2**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.42**	**30**	*ePN*	**Pb**	**09 07 10.7**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.42**	**30**	*ePn*	**Pb**	**09 07 10.7**	**-0.1**
SART	**Tekirdag**	**1.42**	**30**	*i P*	**Pb**	**09 07 10.6**	**-0.2**
SART				*i S*	**Sb**	**09 07 29.0**	**+0.3**
SART	**Tekirdag**	**1.42**	**30**	*i P*	**Pb**	**09 07 10.6**	**-0.2**
SART				*i S*	**Sb**	**09 07 29.0**	**+0.3**
ALN	**Alexandroupoli**	**1.44**	**354**	*ePN*	**Pb**	**09 07 11.0**	**0.0**
ALN	**Alexandroupoli**	**1.44**	**354**	P	**Pn**	**09 07 10.7**	**+0.6**
ALN				S	**Sn**	**09 07 29.2**	**+0.5**
ALN	**Alexandroupoli**	**1.44**	**354**	*ePN*	**Pb**	**09 07 11.3**	**+0.3**
ALN				*eSN*	**Sb**	**09 07 30.3**	**+1.1**
ALN	**Alexandroupoli**	**1.44**	**354**	P	**Pn**	**09 07 10.7**	**+0.6**
ALN	**Alexandroupoli**	**1.44**	**354**	*ePn*	**Pb**	**09 07 11.0**	**0.0**
ALN				S	**Sn**	**09 07 29.2**	**+0.5**
ALN				*eSn*	**Sb**	**09 07 30.3**	**+1.1**
EDC	**Edincik**	**1.53**	**54**	*ePN*	**Pb**	**09 07 12.8**	**+0.3**
EDC	**Edincik**	**1.53**	**54**	*ePn*	**Pb**	**09 07 12.9**	**+0.3**
MRMT	**Marmara Adasi**	**1.54**	**42**	*ePN*	**Pb**	**09 07 12.8**	**0.0**
MRMT	**Marmara Adasi**	**1.54**	**42**	*ePn*	**Pb**	**09 07 12.8**	**0.0**
DURS	**Dursunbey**	**1.73**	**85**	*i P*	**Pn**	**09 07 14.8**	**+0.6**
DURS				*i S*	**Sb**	**09 07 37.1**	**-0.6**
DURS	**Dursunbey**	**1.73**	**85**	*i P*	**Pn**	**09 07 14.8**	**+0.6**
DURS				*i S*	**Sb**	**09 07 37.1**	**-0.6**
RDO	**Rodhopi**	**1.77**	**343**	P	**Pn**	**09 07 15.2**	**+0.7**
RDO				S	**Sb**	**09 07 37.9**	**-0.6**
RDO	**Rodhopi**	**1.77**	**343**	P	**Pn**	**09 07 15.2**	**+0.7**
RDO				S	**Sb**	**09 07 37.9**	**-0.6**
SMG	**Samos**	**1.81**	**165**	P	**Pn**	**09 07 15.2**	**0.0**
SMG				S	**Sn**	**09 07 37.5**	**-0.4**
SMG	**Samos**	**1.81**	**165**	*ePN*	**Pn**	**09 07 15.6**	**+0.4**
SMG				*eSN*	**Sn**	**09 07 38.6**	**+0.7**
SMG	**Samos**	**1.81**	**165**	*ePn*	**Pn**	**09 07 15.6**	**+0.4**
SMG				S	**Sn**	**09 07 37.5**	**-0.4**
SMG				*eSn*	**Sn**	**09 07 38.6**	**+0.7**
KCTX	**Karacabey (Bur**	**1.82**	**63**	*ePN*	**Pn**	**09 07 16.2**	**+0.9**
TKR	**Tekirdag**	**1.82**	**33**	*ePN*	**Pb**	**09 07 17.5**	**0.0**
TKR	**Tekirdag**	**1.82**	**33**	*ePn*	**Pb**	**09 07 17.5**	**0.0**
DST	**Dursunbey**	**1.85**	**85**	*ePN*	**Pb**	**09 07 18.0**	**0.0**
DST	**Dursunbey**	**1.85**	**85**	*ePn*	**Pb**	**09 07 18.0**	**0.0**
AOS	**Alonnisos**	**1.85**	**262**	P	**Pn**	**09 07 16.2**	**+0.5**
AOS				S	**Sn**	**09 07 38.2**	**-0.7**
AOS	**Alonnisos**	**1.85**	**262**	*ePB*	**Pn**	**09 07 16.5**	**+0.8**
AOS	**Alonnisos**	**1.85**	**262**	P	**Pn**	**09 07 16.2**	**+0.5**
AOS	**Alonnisos**	**1.85**	**262**	*ePb*	**Pn**	**09 07 16.5**	**+0.8**
AOS				S	**Sn**	**09 07 38.2**	**-0.7**
OUR	**Ouranopolis**	**1.94**	**297**	*ePN*	**Pb**	**09 07 19.1**	**-0.5**
OUR	**Ouranopolis**	**1.94**	**297**	*ePn*	**Pb**	**09 07 19.1**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.99**	**139**	*ePN*	**Pn**	**09 07 18.6**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**1.99**	**139**	*ePn*	**Pn**	**09 07 18.6**	**+0.9**
KAVA	**Kavala**	**2.02**	**320**	P	**Pn**	**09 07 18.8**	**+0.7**
KAVA				S	**Sn**	**09 07 41.6**	**-1.5**
KAVA	**Kavala**	**2.02**	**320**	P	**Pn**	**09 07 18.8**	**+0.7**
KAVA				S	**Sn**	**09 07 41.6**	**-1.5**
KULA	**Kula-Manisa**	**2.11**	**116**	*ePN*	**Pn**	**09 07 20.9**	**+1.5**
KULA	**Kula-Manisa**	**2.11**	**116**	P	**Pn**	**09 07 20.2**	**+0.8**
KULA	**Kula-Manisa**	**2.11**	**116**	P	**Pn**	**09 07 20.2**	**+0.8**
KULA	**Kula-Manisa**	**2.11**	**116**	*ePn*	**Pn**	**09 07 20.9**	**+1.5**
ORLT	**Orhaneli**	**2.13**	**73**	*ePN*	**Pb**	**09 07 22.0**	**-0.8**
ORLT	**Orhaneli**	**2.13**	**73**	*ePn*	**Pb**	**09 07 22.0**	**-0.8**
MDNY	**Mudanya-Bursa**	**2.23**	**65**	*ePN*	**Pb**	**09 07 23.4**	**-1.0**
MDNY	**Mudanya-Bursa**	**2.23**	**65**	*ePn*	**Pb**	**09 07 23.4**	**-1.0**
ARMT	**Armutlu**	**2.30**	**60**	*ePN*	**Pb**	**09 07 24.3**	**-1.3**
ARMT	**Armutlu**	**2.30**	**60**	*ePn*	**Pb**	**09 07 24.3**	**-1.3**
SLVT	**Silivri**	**2.32**	**40**	*ePN*	**Pb**	**09 07 24.8**	**-1.3**
PLG	**Polygyros**	**2.33**	**294**	*ePN*	**Pn**	**09 07 23.2**	**+0.8**
PLG	**Polygyros**	**2.33**	**294**	*ePn*	**Pn**	**09 07 23.2**	**+0.8**
ULDT	**Uludag**	**2.33**	**72**	*i P*	**Pb**	**09 07 27.5**	**+1.1**
ULDT	**Uludag**	**2.33**	**72**	*i P*	**Pb**	**09 07 27.5**	**+1.1**
ULDT				*i S*	**Sg**	**09 07 58.4**	**-1.1**
PHSR	**Pinarhisar**	**2.38**	**24**	*ePN*	**Pb**	**09 07 25.4**	**-1.6**
PHSR	**Pinarhisar**	**2.38**	**24**	*ePn*	**Pb**	**09 07 25.4**	**-1.6**
EDRB	**Edirne**	**2.41**	**9**	*ePN*	**Pb**	**09 07 25.9**	**-1.7**
EDRB	**Edirne**	**2.41**	**9**	P	**Pn**	**09 07 24.3**	**+0.9**
EDRB				S	**Sb**	**09 07 55.6**	**-1.6**
EDRB	**Edirne**	**2.41**	**9**	P	**Pn**	**09 07 24.3**	**+0.9**
EDRB	**Edirne**	**2.41**	**9**	*ePn*	**Pb**	**09 07 25.9**	**-1.7**
EDRB				S	**Sb**	**09 07 55.6**	**-1.6**
CTKS	**Kestanelik-??a**	**2.48**	**44**	*ePN*	**Pb**	**09 07 26.8**	**-1.9**
CTKS	**Kestanelik-??a**	**2.48**	**44**	*ePn*	**Pb**	**09 07 26.8**	**-1.9**
TVSB	**Tavsanli**	**2.50**	**89**	*ePN*	**Pn**	**09 07 26.2**	**+1.5**
TVSB	**Tavsanli**	**2.50**	**89**	*ePn*	**Pn**	**09 07 26.2**	**+1.5**
CTYL	**Yal??k??y-??at**	**2.55**	**37**	*ePN*	**Pb**	**09 07 27.9**	**-2.0**
IZI	**Iznik**	**2.64**	**70**	*ePN*	**Pb**	**09 07 29.3**	**-2.2**
IZI	**Iznik**	**2.64**	**70**	*ePn*	**Pb**	**09 07 29.3**	**-2.2**
HORT	**Hortiatis**	**2.66**	**296**	*ePN*	**Pn**	**09 07 29.4**	**+2.4**
HORT	**Hortiatis**	**2.66**	**296**	*ePn*	**Pn**	**09 07 29.4**	**+2.4**
ISK	**Istanbul-Kandi**	**2.69**	**53**	*ePN*	**Pb**	**09 07 30.0**	**-2.3**
ISK	**Istanbul-Kandi**	**2.69**	**53**	*ePn*	**Pb**	**09 07 30.0**	**-2.3**
KLYT	**Kilyos**	**2.79**	**49**	*ePN*	**Pn**	**09 07 31.4**	**+2.8**
KLYT	**Kilyos**	**2.79**	**49**	*ePn*	**Pn**	**09 07 31.4**	**+2.8**
ADVT	**Abdulvahap**	**2.86**	**69**	*ePN*	**Pn**	**09 07 32.5**	**+2.9**
ADVT	**Abdulvahap**	**2.86**	**69**	*ePn*	**Pn**	**09 07 32.5**	**+2.9**

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*ISCJB **24** 09:12:51.3±0.9, 38.9°N±0.06° × 74.5°E±0.06, h10 km, mb3.7/4, Error ellipse: s-maj=9.2km s-min=6.4km az=161.9*

*NNC **24** 09:12:53.7±1.3, 39.1°N × 74.4°E, h0 km, mb3.8, mpv3.5, Error ellipse: s-maj=9.7km s-min=6.6km az=160.0*
*IDC **24** 09:12:56.7±6.8, 39.0°N × 74.6°E, h51 km ± 52 km, mb3.5/4, mb1 3.5/7, mb1mx3.2/36, mbtmp3.6/7, ML2.9/3, Error ellipse: s-maj=64.0km s-min=38.6km az=153.0*
ISC 24 09:12:54.5±1.1, 39.1°N±0.07° × 74.4°E±0.05, h10 km, n22, σ2.5 18/28, mb3.8/4, 13C-10D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**1.15**	**319**	↓P	**Pb**	**09 13 14.8**	**-1.9**
	30nm,0.5s						
SFK				↓S	**Sg**	**09 13 31.9**	**+0.2**
	144nm,0.5s						
KZA	**Kyzart**	**2.99**	**11**	P	**Pn**	**09 13 44.3**	**+1.9**
	SNR=8.8						
AML	**Almayashu**	**3.04**	**349**	P	**Pn**	**09 13 45.3**	**+2.2**
	SNR=20						
UCH	**Uchtor**	**3.08**	**0**	P	**Pn**	**09 13 46.1**	**+2.4**
	SNR=27						
ULHL	**Ulahol**	**3.38**	**23**	P	**Pb**	**09 13 55.0**	**+0.5**
	SNR=7.7						
AAK	**Ala-Archa**	**3.49**	**0**	↓Pn	Pn	09 13 51.8	+2.8
	2.9nm,0.7s						
AAK				↑Pg	**Pg**	**09 13 58.9**	**-2.5**
	22nm,1.1s						
AAK				↓Lg	Lg	09 14 44.5	
	30nm,0.7s						
KBK	**Karagaybulak**	**3.53**	**6**	P	Pn	09 13 52.8	+3.3
	SNR=9.7						
MNAS	**Manas**	**3.66**	**336**	↑Pn	**Pn**	**09 13 52.4**	**+1.0**
	8.2nm,0.5s						
MNAS				↑Sn	**Sn**	**09 14 38.6**	**+3.9**
	9.4nm,0.6s						
MNAS				↓Lg	Lg	09 14 53.6	
	27nm,0.8s						
TKM2	**Tokmak 2**	**3.87**	**12**	P	**Pn**	**09 13 56.7**	**+2.5**
	SNR=13						
TKM2	**Tokmak 2**	**3.87**	**12**	↑Pn	**Pn**	**09 13 55.1**	**+0.8**
	9.6nm,0.7s						
TKM2				↑Sn	**Sn**	**09 14 42.3**	**+2.4**
	7.4nm,0.5s						
TKM2				↑Lg	Lg	09 14 57.2	
	21nm,0.7s						
USP	**Ospenovka**	**4.12**	**0**	P	**Pg**	**09 14 13.4**	**-0.1**
	SNR=5.9						
DZET	**Dzherino**	**4.42**	**267**	↓Pn	**Pn**	**09 14 02.4**	**+0.7**
	8.5nm,0.5s						
DZET				↓Pg	**Pb**	**09 14 13.8**	**+1.5**
	12nm,0.6s						
DZET				↓Sn	**Sn**	**09 14 56.3**	**+2.9**
	26nm,0.5s						
DZET				↓Lg	Lg	09 15 14.6	
	33nm,0.6s						
KK31	**Karatay Array**	**4.96**	**324**	↑Pn	**Pn**	**09 14 11.0**	**+1.8**
	0.7nm,0.3s,baz=125,slow=13,SNR=6.3						
KK31				↑Pg	Pb	09 14 24.5	+3.0
	1.3nm,0.4s,baz=129,slow=15,SNR=6.3						
KK31				↑Sn	**Sn**	**09 15 10.9**	**+4.4**
	1.7nm,0.4s,baz=134,slow=28,SNR=4.3						
KK31				↑Lg	Lg	09 15 30.2	
	3.3nm,0.5s,baz=134,slow=28,SNR=4.3						
PDGK	**Podgornoye**	**5.63**	**40**	↑Pn	**Pn**	**09 14 19.6**	**+1.4**
	2.5nm,0.5s						
PDGK				↑Pg	**Pb**	**09 14 34.4**	**+1.5**
	5.4nm,0.6s						
PDGK				↑

1.5nm,0.7s,baz=327,slow=9.0,SNR=3.9
MKAR Makanchi Array 59.13 327 P P 09 42 55.8 -0.2
0.3nm,0.4s,baz=121,slow=8.3,SNR=6.1

NNC 24 09:36:25.7±1.9, 38°03'N×68°56'E, h0km, mb3.7, mpv3.4, 4C-4D, Error ellipse: s-maj=21.8km s-min=10.0km az=96.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**0.81**	**15**	⇓P	Pg	09 36 41.4	+0.1
	43nm,0.4s						
DZET				⇓S	Sg	09 36 52.9	+0.9
	234nm,0.4s						
SFK	**Sufi-Kurgan**	**4.33**	**61**	⇓Pn	Pn	09 37 33.9	+0.9
	4.3nm,0.6s						
SFK				⇓Lg	Lg	09 38 40.7	
	13nm,0.5s						
KK31	**Karatay Array**	**5.29**	**16**	⇑Pg	Pb	09 38 02.0	+3.0
	1.0nm,0.3s,baz=199,slow=16,SNR=12						
KK31				⇑Sn	Sn	09 38 49.2	+1.6
	1.0nm,0.4s,baz=199,slow=23						
KK31				Lg	Lg	09 39 11.7	
	7.4nm,0.6s,baz=199,slow=28,SNR=6.6						
MNAS	**Manas**	**5.38**	**33**	⇑Sn	Sn	09 38 48.8	-1.4
	2.9nm,0.6s						
MNAS				⇑Lg	Lg	09 39 14.2	
	5.7nm,0.7s						

*IDC **24** 10:01:00.3±2.2, 34°.80N×14°.69W, h0km, mb3.3/1, mb1 4.1/3, mb1mx3.4/52, mbtmp3.9/3, ML4.7/2, MS3.2/1, Ms1 3.2/1, ms1mx2.4/22, Error ellipse: s-maj=51.5km s-min=44.0km az=83.0*
*CSEM **24** 10:01:00.0±0.2, 34°.94N×14°.85W, h10km, ML3.5, Error ellipse: s-maj=7.6km s-min=3.7km az=124.0*
*LDG **24** 10:01:03.3±0.7, 34°.66N×14°.20W, h30km, Ml4.0/2, Error ellipse: s-maj=31.3km s-min=12.9km az=132.0*
*MDD **24** 10:01:03.4±0.6, 34°.86N×14°.79W, h40km, mb4.6/14, Error ellipse: s-maj=13.5km s-min=4.7km az=134.0, PRXIMO*
*IGIL **24** 10:01:03.1, 34°.74N×14°.63W, h10km, ML3.1*
*INMG **24** 10:01:06.6±2.5, 34°.77N×14°.68W, h10km, ML3.5, Error ellipse: s-maj=10.7km s-min=3.0km az=129.0*
*CNRM **24** 10:01:12.6, 34°.94N×13°.69W, h30km, MD4.0*

ISC 24 10:01:00.1±0.9, 34°.67N±0°.07×14°.75W±0°.06, h10km, n128, σ1s74/129, 2C, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPS	**Porto Santo**	**2.08**	**220**	*e*Pn	**Pb**	**10 01 37.2**	**-0.8**
PMPS				*e*Sn	**Sn**	**10 01 59.6**	**-1.4**
PMPS				A	A	10 02 02.2	
	418nm,0.3s						
PMPS	**Porto Santo**	**2.08**	**220**	P	**Pb**	**10 01 37.2**	**-0.8**
PMPS				S	**Sn**	**10 01 59.6**	**-1.4**
	209nm,0.3s						
PMPS	**Porto Santo**	**2.08**	**220**	P	**Pb**	**10 01 37.2**	**-0.8**
PMPS				S	**Sn**	**10 01 59.6**	**-1.4**
	209nm,0.3s						
PMAR	**Madeira**	**2.65**	**223**	*e*Pn	**Pn**	**10 01 45.3**	**+2.2**
PMAR				*e*Sn	**Sn**	**10 02 14.0**	**-1.4**
PMAR				A	A	10 02 23.2	
	229nm,0.4s						
PMAR	**Madeira**	**2.65**	**223**	P	**Pn**	**10 01 45.3**	**+2.2**
PMAR				S	**Sn**	**10 02 14.0**	**-1.4**
	115nm,0.4s						
PMAR	**Madeira**	**2.65**	**223**	P	**Pn**	**10 01 45.3**	**+2.2**
PMAR				S	**Sn**	**10 02 14.0**	**-1.4**
	115nm,0.4s						
FUL	**Funchal**	**2.70**	**222**	*e*Sn	**Sn**	**10 02 15.1**	**-1.1**
FUL				A	A	10 02 19.2	
	342nm,0.1s						
FUL	**Funchal**	**2.70**	**222**	S	**Sn**	**10 02 15.1**	**-1.1**
	171nm,0.1s						
PMOZ	**Porto Moniz, M**	**2.75**	**229**	*e*Pn	**Pn**	**10 01 46.6**	**+2.2**
PMOZ				*e*Sn	**Sn**	**10 02 16.8**	**-0.9**
PMOZ				A	A	10 02 23.4	
	399nm,0.7s						
PMOZ	**Porto Moniz, M**	**2.75**	**229**	P	**Pn**	**10 01 46.6**	**+2.2**
PMOZ				S	**Sn**	**10 02 16.8**	**-0.9**
	399nm,0.7s						
PMOZ	**Porto Moniz, M**	**2.75**	**229**	P	**Pn**	**10 01 46.6**	**+2.2**
PMOZ				S	**Sn**	**10 02 16.8**	**-0.9**
	399nm,0.7s						
PFVI	**Vila Bisbo**	**5.40**	**61**	*e*Pn	**Pn**	**10 02 20.0**	**-0.7**
PFVI				*e*Sn	Sn	10 03 13.3	-10
PFVI				A	A	10 03 17.6	
	54nm,0.7s						
MORF	**Marmelete**	**5.60**	**60**	*e*Pn	**Pn**	**10 02 22.8**	**-0.7**
MORF				*e*Sn	Sn	10 03 18.9	-9.0
MORF				A	A	10 03 25.9	
	40nm,0.1s						
MORF	**Marmelete**	**5.60**	**60**	⇑P	**Pn**	**10 02 22.8**	**-0.7**
MORF				S	Sn	10 03 18.9	-9.0
	40nm,0.1s						
MORF	**Marmelete**	**5.60**	**60**	P	**Pn**	**10 02 22.8**	**-0.7**
EFAM	**Famara**	**5.62**	**169**	P	**Pn**	**10 02 27.0**	**+3.2**
	3.6nm,0.3s,SNR=7.9						
EFAM				S	**Sn**	**10 03 26.0**	**-2.5**
	8.8nm,0.5s,SNR=8.1						
EFAM	**Famara**	**5.62**	**169**	P	**Pn**	**10 02 27.0**	**+3.2**
	3.6nm,0.3s,SNR=7.9						
PTEO	**Sao Teotonio**	**5.66**	**58**	*e*Pn	**Pn**	**10 02 23.1**	**-1.1**
PTEO				*e*Sn	Sn	10 03 19.7	-10
PTEO				A	A	10 03 22.6	
	46nm,0.6s						
PTEO	**Sao Teotonio**	**5.66**	**58**	P	**Pn**	**10 02 23.1**	**-1.1**
PTEO				S	Sn	10 03 19.7	-10
	23nm,0.6s						
PTEO	**Sao Teotonio**	**5.66**	**58**	P	**Pn**	**10 02 23.1**	**-1.1**
PNCL	**Nicolau / Gran**	**6.08**	**54**	*e*Pn	**Pn**	**10 02 29.6**	**-0.4**
PNCL				*e*Sn	Sn	10 03 29.9	-10
PNCL				A	A	10 03 35.3	
	26nm,0.3s						
PBDV	**Barranco-do-Ve**	**6.10**	**63**	*e*Pn	**Pn**	**10 02 30.0**	**-0.3**
PBDV				*e*Sn	Sn	10 03 30.1	-10
PBDV				A	A	10 03 38.5	
	33nm,0.4s						
PBDV	**Barranco-do-Ve**	**6.10**	**63**	P	**Pn**	**10 02 30.0**	**-0.3**
PBDV				S	Sn	10 03 30.1	-10
	33nm,0.4s						
PBDV	**Barranco-do-Ve**	**6.10**	**63**	P	**Pn**	**10 02 30.0**	**-0.3**
PMAFR	**Mafra**	**6.12**	**44**	*e*Pn	**Pn**	**10 02 28.9**	**-1.8**
PMAFR				*e*Sn	Sn	10 03 29.4	-11
PMAFR				A	A	10 03 34.0	
	65nm,0.2s						
PMAFR	**Mafra**	**6.12**	**44**	*e*Pn	**Pn**	**10 02 28.9**	**-1.8**
MESJ	**Messejana**	**6.15**	**57**	*e*P	**Pn**	**10 02 30.5**	**-0.5**
MESJ				*e*S	Sn	10 03 33.1	-8.3
MESJ				AML	AML	10 03 37.0	
	comp=E,22nm,0.2s						
MESJ	**Messejana**	**6.15**	**57**	P	**Pn**	**10 02 30.5**	**-0.5**
MESJ				S	Sn	10 03 33.1	-8.3
	comp=E,22nm,0.2s						
MESJ	**Messejana**	**6.15**	**57**	P	**Pn**	**10 02 30.5**	**-0.5**
PCVE	**Castro Verde**	**6.18**	**60**	*e*Pn	**Pn**	**10 02 31.0**	**-0.4**
PCVE				*e*Sn	Sn	10 03 31.7	-10
PCVE				A	A	10 03 49.8	
	comp=E,1.8nm,0.5s						
PCVE	**Castro Verde**	**6.18**	**60**	P	**Pn**	**10 02 31.0**	**-0.4**
PCVE				S	Sn	10 03 31.7	-10
	comp=E,1.8nm,0.5s						
PCVE	**Castro Verde**	**6.18**	**60**	P	**Pn**	**10 02 31.0**	**-0.4**
EBAJ	**Bajamar**	**6.26**	**193**	S	**Sn**	**10 03 41.6**	**-2.7**
	comp=E,4.2nm,0.2s,SNR=7.9						
CFTV	**Fuerteventura**	**6.27**	**175**	P	**Pn**	**10 02 35.3**	**+2.6**
	comp=E,2.8nm,0.2s,SNR=7.9						
CFTV				S	**Sn**	**10 03 39.8**	**-4.6**
	comp=E,11nm,0.2s,SNR=7.9						
CFTV	**Fuerteventura**	**6.27**	**175**	P	**Pn**	**10 02 35.3**	**+2.6**
	comp=E,2.8nm,0.2s,SNR=7.9						
PVAQ	**Vaqueiros**	**6.32**	**62**	*e*Pn	**Pn**	**10 02 33.0**	**-0.3**
PVAQ				*e*Sn	Sn	10 03 35.4	-10
PVAQ				A	A	10 03 40.2	
	comp=E,33nm,0.4s						
PVAQ	**Vaqueiros**	**6.32**	**62**	P	**Pn**	**10 02 33.0**	**-0.3**
PVAQ				S	Sn	10 03 35.4	-10
	comp=E,33nm,0.4s						
PVAQ	**Vaqueiros**	**6.32**	**62**	P	**Pn**	**10 02 33.0**	**-0.3**
EGRO	**El Granado**	**6.54**	**62**	⇑P	**Pn**	**10 02 36.1**	**-0.2**
	comp=E,2.7nm,0.2s,SNR=18						
EGRO				S	Sn	10 03 40.4	-11
	comp=E,30nm,0.2s,SNR=7.6						
EGRO	**El Granado**	**6.54**	**62**	P	**Pn**	**10 02 36.1**	**-0.2**
	comp=E,2.7nm,0.2s,SNR=18						
EVOP	**Sao Brissos**	**6.57**	**52**	*e*Pn	**Pn**	**10 02 35.1**	**-1.7**
EOSO	**Osorio**	**6.62**	**186**	S	**Sn**	**10 03 49.5**	**-3.6**
	comp=E,14nm,0.2s,SNR=7.9						
CCAN	**Las Canadas**	**6.62**	**194**	S	**Sn**	**10 03 50.0**	**-3.5**
	comp=E,3.7nm,0.2s,SNR=7.9						
EVO	**Evora**	**6.65**	**53**	*e*Pn	**Pn**	**10 02 35.1**	**-2.7**
EVO				*e*Sn	Sn	10 03 40.1	-14
	comp=E,34nm,0.3s						
EGOM	**La Gomera**	**6.83**	**199**	S	**Sn**	**10 03 52.9**	**-5.1**
	comp=E,14nm,0.2s,SNR=7.9						
PTOM	**Tomar**	**7.07**	**44**	*e*Pn	**Pn**	**10 02 44.2**	**+0.6**
PTOM				*e*Sn	Sn	10 03 53.6	-10
PTOM				A	A	10 04 00.8	
	comp=E,23nm,0.2s						
PTOM	**Tomar**	**7.07**	**44**	P	**Pn**	**10 02 44.2**	**+0.6**
PTOM				S	Sn	10 03 53.6	-10
	comp=E,12nm,0.2s						
PTOM	**Tomar**	**7.07**	**44**	P	**Pn**	**10 02 44.2**	**+0.6**
PESTR	**Estremoz**	**7.11**	**52**	*e*Pn	**Pn**	**10 02 42.8**	**-1.4**
PESTR				*e*Sn	Sn	10 03 52.9	-12
PESTR				A	A	10 04 03.3	
	comp=E,11nm,0.3s						
PESTR	**Estremoz**	**7.11**	**52**	*e*Pn	**Pn**	**10 02 42.8**	**-1.4**
PBAR	**Barrancos**	**7.13**	**58**	*e*Pn	**Pn**	**10 02 43.5**	**-1.0**
PBAR				*e*Sn	Sn	10 03 54.6	-11
PBAR				A	A	10 03 58.9	
	comp=E,46nm,0.5s						
PBAR	**Barrancos**	**7.13**	**58**	P	**Pn**	**10 02 43.5**	**-1.0**
PBAR				S	Sn	10 03 54.6	-11
	comp=E,46nm,0.5s						
PBAR	**Barrancos**	**7.13**	**58**	P	**Pn**	**10 02 43.5**	**-1.0**
EMIN	**Mina Concepcio**	**7.22**	**62**	P	**Pn**	**10 02 44.9**	**-0.8**
	comp=E,9.7nm,0.3s,SNR=45						
EMIN				S	Sn	10 03 56.4	-11
	comp=E,27nm,0.4s,SNR=12						
EMIN	**Mina Concepcio**	**7.22**	**62**	P	**Pn**	**10 02 44.9**	**-0.8**
	comp=E,9.7nm,0.3s,SNR=45						
TZC	**Tazercounte**	**7.35**	**108**	P	**Pn**	**10 02 50.0**	**+2.3**
TZC				S	Sn	10 04 03.0	-8.3
TZC	**Tazercounte**	**7.35**	**108**	*i* P	**Pn**	**10 02 50.0**	**+2.3**
EBAD	**Badajoz**	**7.43**	**54**	P	**Pn**	**10 02 48.0**	**-0.6**
	comp=E,0.9nm,0.1s,SNR=7.7						
EBAD				S	Sn	10 04 01.7	-11
	comp=E,16nm,0.2s,SNR=5.5						
EBAD	**Badajoz**	**7.43**	**54**	P	**Pn**	**10 02 48.0**	**-0.6**
	comp=E,0.9nm,0.1s,SNR=7.7						
ESPR	**Espera**	**7.55**	**71**	P	**Pn**	**10 02 50.4**	**+0.1**
	comp=E,8.7nm,0.5s,SNR=18						
ESPR				S	Sn	10 04 06.2	-10
	comp=E,91nm,0.3s,SNR=4.6						
ESPR	**Espera**	**7.55**	**71**	P	**Pn**	**10 02 50.4**	**+0.1**
	comp=E,8.7nm,0.5s,SNR=18						
PMRV	**Marv??o**	**7.56**	**49**	*e*Pn	**Pn**	**10 02 48.8**	**-1.6**
PMRV				*e*Sn	Sn	10 04 02.8	-13
PMRV				A	A	10 04 09.4	
	comp=E,20nm,0.5s						
PMRV	**Marv??o**	**7.56**	**49**	P	**Pn**	**10 02 48.8**	**-1.6**
PMRV				S	Sn	10 04 02.8	-13
	comp=E,20nm,0.5s						
PMRV	**Marv??o**	**7.56**	**49**	P	**Pn**	**10 02 48.8**	**-1.6**
KIB	**El Ksiba**	**7.56**	**104**	P	**Pn**	**10 02 53.0**	**+2.5**
KIB				S	Sn	10 04 07.0	-9.4
KIB	**El Ksiba**	**7.56**	**104**	*i* P	**Pn**	**10 02 53.0**	**+2.5**
PCBR	**Castelo Branco**	**7.76**	**46**	*e*Pn	**Pn**	**10 02 51.2**	**-1.9**
PCBR				*e*Sn	Sn	10 04 10.4	-11
PCBR				A	A	10 04 11.7	
	comp=E,8.3nm,0.6s						
PCBR	**Castelo Branco**	**7.76**	**46**	P	**Pn**	**10 02 51.2**	**-1.9**
PCBR				S	Sn	10 04 10.4	-11
	comp=E,4.2nm,0.6s						
PCBR	**Castelo Branco**	**7.76**	**46**	P	**Pn**	**10 02 51.2**	**-1.9**
MIF	**Mishlifen**	**8.00**	**96**	P	**Pn**	**10 02 59.0**	**+2.3**
MIF				S	Sn	10 04 16.0	-12
MIF	**Mishlifen**	**8.00**	**96**	*i* P	**Pn**	**10 02 59.0**	**+2.3**
PVIS	**Viseu**	**8.12**	**40**	*e*Pn	**Pn**	**10 02 56.6**	**-1.5**
PVIS				A	A	10 04 25.7	
	comp=E,8.2nm,0.1s						
PVIS	**Viseu**	**8.12**	**40**	P	**Pn**	**10 02 56.6**	**-1.5**
PVIS	**Viseu**	**8.12**	**40**	P	**Pn**	**10 02 56.6**	**-1.5**
CZD	**Col de Zad**	**8.24**	**99**	P	**Pn**	**10 03 02.0**	**+2.0**
CZD				S	Sn	10 04 23.0	-10
CZD	**Col de Zad**	**8.24**	**99**	*i* P	**Pn**	**10 03 02.0**	**+2.0**
ECAB	**El Cabril**	**8.26**	**63**	P	**Pn**	**10 02 59.0**	**-1.0**
	comp=E,4.9nm,0.3s,SNR=5.7						
ECAB				S	Sn	10 04 20.8	-13
	comp=E,5.6nm,0.2s,SNR=7.4						
ECAB	**El Cabril**	**8.26**	**63**	P	**Pn**	**10 02 59.0**	**-1.0**
	comp=E,4.9nm,0.3s,SNR=5.7						
EMIJ	**Mijas**	**8.34**	**74**	S	Sn	10 04 25.7	-10
	comp=E,3.1nm,0.3s,SNR=7.9						
MDT	**Midelt**	**8.64**	**100**	Pn	**Pn**	**10 03 07.4**	**+2.1**
	comp=E,2.4nm,0.3s,baz=274,slow=6.2,SNR=86						
MDT				Sn	Sn	10 04 34.8	-8.1
	comp=E,7.3nm,0.3s,baz=43,slow=16,SNR=18						
POLO	**Lamas de Olo**	**8.65**	**37**	*e*Pn	**Pn**	**10 03 03.3**	**-2.1**
POLO				*e*Sn	Sn	10 04 28.9	-14
POLO				A	A	10 04 41.5	
	comp=E,2.5nm,0.3s						
POLO	**Lamas de Olo**	**8.65**	**37**	*e*Pn	**Pn**	**10 03 03.3**	**-2.1**
EPLA	**Plasencia**	**8.75**	**50**	P	**Pn**	**10 03 04.6**	**-2.1**
	comp=E,8.2nm,0.5s,SNR=4.0						
PCAB	**Cabril**	**8.79**	**35**	*e*Sn	Sn	10 04 33.2	-13
PCAB	**Cabril**	**8.79**	**35**	S	Sn	10 04 33.2	-13
MVO	**Moncorvo**	**8.90**	**41**	*e*Pn	**Pn**	**10 03 07.9**	**-0.9**
MVO				*e*Sn	Sn	10 04 36.1	-13
MVO				A	A	10 04 53.2	
	comp=E,8.7nm,0.4s						
MVO	**Moncorvo**	**8.90**	**41**	*e*Pn	**Pn**	**10 03 07.9**	**-0.9**
ELOB	**Lobios**	**8.90**	**34**	P	**Pn**	**10 03 07.3**	**-1.5**
	comp=E,0.9nm,0.3s,SNR=13						
ELOB				S	Sn	10 04 35.9	-13
	comp=E,3.6nm,0.2s,SNR=4.7						
ELOB	**Lobios**	**8.90**	**34**	P	**Pn**	**10 03 07.3**	**-1.5**
	comp=E,0.9nm,0.3s,SNR=13						
EADA	**Adamuz**	**8.91**	**64**	P	**Pn**	**10 03 07.9**	**-1.0**
	comp=E,9.0nm,0.5s,SNR=20						
EADA				S	Sn	10 04 39.2	-10
	comp=E,7.3nm,0.2s,SNR=8.4						
EADA	**Adamuz**	**8.91**	**64**	P	**Pn**	**10 03 07.9**	**-1.0**
	comp=E,9.0nm,0.5s,SNR=20						
ZFT	**Errachidia**	**9.09**	**104**	P	**Pn**	**10 03 14.0**	**+2.5**
ZFT				S	Sn	10 04 45.0	-9.0
ZFT	**Errachidia**	**9.09**	**104**	*e*P	**Pn**	**10 03 14.0**	**+2.5**
EMAZ	**Mazaricos**	**9.41**	**27**	P	**Pn**	**10 03 14.5**	**-1.2**
	comp=E,8.0nm,0.2s,SNR=10						
EMAZ				S	Sn	10 04 44.1	-18
	comp=E,3.6nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**9.50**	**65**	P	**Pn**	**10 03 16.4**	**-0.6**
	comp=E,2.1nm,0.2s,SNR=7.9						
EBAN				S	Sn	10 04 52.1	-12
	comp=E,0.1nm,0.4s,SNR=7.9						
EBAN	**Banos Encina**	**9.50**	**65**	P	**Pn**	**10 03 16.4**	**-0.6**
	comp=E,2.1nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**9.50**	**39**	A	A	10 04 58.3	
	comp=E,3.6nm,0.3s						
EQUE	**Quentar**	**9.51**	**71**	S	Sn	10 04 55.1	-9.2
	comp=E,4.3nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**9.60**	**39**	P	**Pn**	**10 03 17.0**	**-1.5**
	comp=E,10.0nm,0.3s,SNR=9.8						
ECAL				S	Sn	10 04 53.7	-13
	comp=E,6.8nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**9.60**	**39**	P	**Pn**	**10 03 17.0**	**-1.5**
	comp=E,10.0nm,0.3s,SNR=9.8						
EAGO	**Agolada(Pontev**	**9.64**	**31**	P	**Pn**	**10 03 16.1**	**-2.8**
	comp=E,2.8nm,0.2s,SNR=7.9						
EAGO				S	Sn	10 04 50.3	-17
	comp=E,2.9nm,0.2s,SNR=7.9						
EAGO	**Agolada(Pontev**	**9.64**	**31**	P	**Pn**	**10 03 16.1**	**-2.8**
	comp=E,2.8nm,0.2s,SNR=7.9						
EQES	**Quesada**	**9.94**	**68**	P	**Pn**	**10 03 22.6**	**-0.5**
	comp=E,0.4nm,0.1s,SNR=5.3						
EQES				S	Sn	10 05 03.3	-12
	comp=E,4.9nm,0.2s,SNR=4.7						
EQES	**Quesada**	**9.94**	**68**	P	**Pn**	**10 03 22.6**	**-0.5**
	comp=E,0.4nm,0.1s,SNR=5.3						
ESDC	**Sonseca Array**	**9.95**	**57**	P	**Pn**	**10 03 22.0**	**-1.2**
	comp=E,6.8nm,0.3s,baz=244,slow=13,SNR=20						
ESDC				S	Sn	10 05 03.9	-11
	comp=E,2.0nm,0.2s,baz=244,slow=23,SNR=10						
ESDC	**Sonseca Array**	**9.95**	**57**	Pn	**Pn**	**10 03 22.2**	**-0.9**
	comp=E,3.8nm,0.3s,baz=241,slow=13,SNR=19						
ESDC				Sn	Sn	10 05 02.8	-12
	comp=E,2.8nm,0.3s,baz=243,slow=23,SNR=8.5						
ESDC	**Sonseca Array**	**9.95**	**57**	P	**Pn**	**10 03 22.0**	**-1.2**
	comp=E,6.8nm,0.3s,baz=244,slow=13,SNR=20						
GUD	**Guadarrama**	**10.29**	**52**	P	**Pn**	**10 03 26.7**	**-1.3**
	comp=E,1.0nm,0.4s,SNR=7.9						
GUD				S	Sn	10 05 12.6	-11
	comp=E,1.1nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**10.31**	**69**	P	**Pn**	**10 03 27.9**	**-0.2**
	comp=E,0.6nm,0.1s,SNR=7.9						
EHUE				S	Sn	10 05 11.9	-12
	comp=E,1.7nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**10.42**	**67**	S	Sn	10 05 16.2	-11
	comp=E,6.2nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**10.47**	**32**	P	**Pn**	**10 03 28.0**	**-2.2**
	comp=E,2.7nm,0.4s,SNR=4.0						
EPON	**Pontenova**	**10.47**	**32**	P	**Pn**	**10 03 28.0**	**-2.2**
	comp=E,2.7nm,0.4s,SNR=4.0						
EVIA	**Vianos**	**10.60**	**65**	P	**Pn**	**10 03 30.1**	**-2.1**
	comp=E,3.5nm,0.3s,SNR=7.9						
EVIA				S	Sn	10 05 20.6	-11
	comp=E,26nm,0.6s,SNR=7.9						
EVIA	**Vianos**	**10.60**	**65**	P	**Pn**	**10 03 30.1**	**-2.1**
	comp=E,3.5nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**11.32**	**66**	P	**Pn**	**10 03 41.4**	**-0.6**
	comp=E,0.9nm,0.3s,SNR=7.9						
ETOB				S	Sn	10 05 35.9	-13
	comp=E,1.9nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**11.32**	**66**	P	**Pn**	**10 03 41.4**	**-0.6**
	comp=E,0.9nm,0.3s,SNR=7.9						
EARI	**Arriondas**	**11.37**	**38**	P	**Pn**	**10 03 42.4**	**-0.1**
	comp=E,1.3nm,0.2s,SNR=6.5						
ETOR	**Torete**	**11.77**	**55**	P	**Pn**	**10 03 47.1**	**-1.0**
	comp=E,1.9nm,0.4s,SNR=9.2						
ETOR				S	Sn	10 05 46.5	-13
	comp=E,7.2nm,0.2s,SNR=7.9						
ETOR	**Torete**	**11.77**	**55**	P	**Pn**	**10 03 47.1**	**-1.0**
	comp=E,1.9nm,0.4s,SNR=9.2						
SJPF	**Ste Jean**	**13.48**	**47**	*e*Pn	**Pn**	**10 04 08.7**	**-2.7**
SJPF				*e*Sn	Sn	10 06 26.0	-15
	comp=E,2.4nm,0.5s						
SJPF	**Ste Jean**	**13.48**	**47**	*e*Pn	**Pn**	**10 04 08.7**	**-2.7**
ETSF	**Etsaut**	**13.77**	**49**	*e*Pn	Pn	10 04 11.9	-3.5
ETSF	**Etsaut**	**13.77**	**49**	*e*Pn	Pn	10 04 11.9	-3.5
EPF	**Esparros**	**14.40**	**50**	*e*Pn	Pn	10 04 20.5	-3.6
EPF	**Esparros**	**14.40**	**50**	*e*Pn	Pn	10 04 20.5	-3.6
TORD	**Torodi Ar. Bea**	**26.10**	**141**	P	**P**	**10 06 36.3**	**+2.1**
	comp=E,0.3nm,0.6s,baz=325,slow=9.4,SNR=3.7						
TORD				LR	LR	10 17 13.8	
	comp=E,45nm,19.2s,baz=205,slow=37						
WRA	**Warramunga Arr**	**149.01**	**70**	PKPbc	**PKPbc**	**10 20 50.2**	**+1.4**
	comp=E,0.2nm,0.7s,baz=329,slow=1.6,SNR=3.8						
ASAR	**Alice Springs**	**150.63**	**77**	PKPbc	**PKPbc**	**10 20 54.1**	**+1.3**
	comp=E,0.2nm,0.7s,baz=285,slow=1.3,SNR=5.1						

TAP 24 10:12:54.6, 23°.63N×121°.69E, h47km±2km, ML2.4, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHY	**Hungye**	**0.36**	**249**	*e*P	Pn	10 13 04.2	+0.1
	baz=248						
TWF1	**Yuli**	**0.45**	**232**	*e*P	Pn	10 13 05.7	+0.5
	baz=231						
CHKT	**Chengkung**	**0.61**	**209**	*e*P	Pn	10 13 07.5	+0.5
	baz=206						
YUS	**Yu-Shan**	**0.69**	**258**	*e*P	Pn	10 13 08.9	+0.1
	baz=257						
ELDTW	**Lidau**	**0.76**	**234**	*e*P	Pn	10 13 10.5	+1.3
	baz=233						
ELDTW				*e*S	Sn	10 13 20.6	+0.9
	baz=233						

IDC 24 10:15:41.7±13.0, 17°.90S×168°.45E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.6/32, mbtmp3.7/4, ML3.3/1, MS3.0/1, Ms1 3.0/1, ms1mx2.6/17, Error ellipse: s-maj=223.9km s-min=44.5km az=84.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.56**	**204**	Pn	Pn	10 16 52.5	+0.4
	1.3nm,0.3s,baz=90,slow=24,SNR=12						
DZM				Sn	Sn	10 17 47.1	+1.1
	baz=270,slow=24,SNR=1.7						
STKA	**Stephens Creek**	**27.96**	**235**	P	P	10 21 34.4	+0.3
	1.1nm,0.6s,baz=81,slow=8.2,SNR=4.7						
WRA	**Warramunga Arr**	**32.30**	**261**	P	P	10 22 12.5	-0.2
	0.4nm,0.8s,baz=94,slow=8.9,SNR=7.3						
ASAR	**Alice Springs**	**32.75**	**254**	P	P	10 22 16.3	-0.3
	0.6nm,0.6s,baz=82,slow=8.8,SNR=20						
GUMO	**Guam**	**38.99**	**322**	LR	LR	10 37 17.1	
	comp=Z,23nm,19.9s,baz=116,slow=33						

IDC 24 10:34:52.8±61.0, 17°.90S×172°.85W, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/22, mbtmp3.5/3, Error ellipse: s-maj=1179.0km s-min=186.1km az=82.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSUM	**Tsumeb**	**5.35**	**15**	*e*P	Pn	11 02 05.1	-5.0
TSUM				*e*S	Sn	11 03 04.2	-7.7
TSUM	**Tsumeb**	**5.35**	**15**	*e*P	**Pn**	**11 02 09.7**	**-0.4**
TSUM				*e*S	**Sn**	**11 03 11.4**	**-0.6**
KOMG	**Komaggas**	**5.51**	**168**	*e*P	**Pn**	**11 02 13.0**	**+0.8**
KOMG				*e*S	**Sn**	**11 03 15.9**	**+0.3**
KOMG	comp=Z,257nm,0.6s			AML	AML	11 03 49.5	
KOMG	**Komaggas**	**5.51**	**168**	⇑ *i*P	**Pn**	**11 02 13.1**	**+0.8**
KOMG				*e*S	**Sn**	**11 03 13.6**	**-2.0**
UPI	**Upington**	**6.06**	**132**	*e*P	**Pn**	**11 02 21.6**	**+1.8**
UPI				*e*S	**Sn**	**11 03 33.0**	**+3.7**
UPI	comp=Z,358nm,0.6s			AML	AML	11 04 10.2	
UPI	**Upington**	**6.06**	**132**	*e*P	**Pn**	**11 02 22.7**	**+2.9**
UPI				*e*S	**Sn**	**11 03 30.9**	**+1.5**
LBTB	**Lobatse**	**8.64**	**96**	*e*P	**Pn**	**11 02 56.8**	**+1.6**
LBTB				*e*S	**Sn**	**11 04 30.6**	**-2.2**
LBTB	comp=Z,38nm,0.5s			AML	AML	11 05 29.2	
LBTB	**Lobatse**	**8.64**	**96**	*e*P	**Pn**	**11 02 56.7**	**+1.4**
LBTB				*e*S	**Sn**	**11 04 34.8**	**+1.9**
SWZ	**Schweizer**	**8.75**	**110**	*e*P	**Pn**	**11 02 58.8**	**+2.0**
SWZ				*e*S	**Sn**	**11 04 33.9**	**-1.7**
SWZ	comp=Z,36nm,0.4s			AML	AML	11 05 25.8	
SWZ	**Schweizer**	**8.75**	**110**	*e*P	**Pn**	**11 02 58.4**	**+1.6**
SWZ				*e*S	**Sn**	**11 04 34.3**	**-1.3**
SUR	**Sutherland**	**8.96**	**154**	*e*P	**Pn**	**11 03 02.1**	**+2.5**
SUR				*e*S	**Sn**	**11 04 41.1**	**+0.3**
SUR	comp=Z,182nm,0.6s			AML	AML	11 05 45.0	
SUR	**Sutherland**	**8.96**	**154**	*e*P	**Pn**	**11 03 02.2**	**+2.5**
SUR				*e*S	**Sn**	**11 04 37.0**	**-3.7**
BOSA	**Boshof**	**9.19**	**119**	*e*P	**Pn**	**11 03 05.3**	**+2.5**
BOSA				*e*S	**Sn**	**11 04 43.7**	**-2.8**
CER	**Ceres**	**9.35**	**163**	*e*P	**Pn**	**11 03 06.0**	**+1.1**
CER				*e*S	**Sn**	**11 04 45.9**	**-4.3**
HVD	**Gariep Dam**	**10.36**	**129**	*e*P	Pn	11 03 23.8	+4.8
HVD				*e*S	**Sn**	**11 05 13.2**	**-2.1**
PRYS	**Parys**	**10.44**	**106**	*e*P	**Pn**	**11 03 22.3**	**+2.2**
PRYS				*e*S	**Sn**	**11 05 15.4**	**-1.9**
PRYS	comp=Z,18nm,0.4s			AML	AML	11 06 17.0	
PRYS	**Parys**	**10.44**	**106**	*e*P	**Pn**	**11 03 21.7**	**+1.7**
PRYS				*e*S	**Sn**	**11 05 18.8**	**+1.6**
SEK	**Senekal**	**11.03**	**113**	*e*P	**Pn**	**11 03 30.2**	**+2.2**
SEK				*e*S	**Sn**	**11 05 33.1**	**+1.4**
SLR	**Silverton**	**11.10**	**99**	*e*P	**Pn**	**11 03 31.6**	**+2.5**
SLR				*e*S	**Sn**	**11 05 33.8**	**+0.4**
ERPM	**east rand prop**	**11.13**	**103**	*e*P	**Pn**	**11 03 31.3**	**+1.8**
ERPM				*e*S	**Sn**	**11 05 31.9**	**-2.3**
SOE	**Somerset East**	**11.71**	**137**	*e*P	**Pn**	**11 03 39.8**	**+2.4**
SOE				*e*S	**Sn**	**11 05 45.5**	**-2.7**
BUFB	**Buffelsbos**	**12.28**	**144**	*e*P	**Pn**	**11 05 47.0**	**+2.0**
BUFB				*e*S	**Sn**	**11 05 57.9**	**-4.0**
GRM	**Grahamstown**	**12.71**	**137**	*e*P	Pn	11 03 56.1	+5.2
GRM				*e*S	**Sn**	**11 06 10.4**	**-2.1**
MSNA	**Messina**	**12.93**	**84**	*e*P	**Pn**	**11 03 56.7**	**+2.7**
MSNA				*e*S	**Sn**	**11 06 16.0**	**-2.1**
LSZ	**Lusaka**	**14.53**	**54**	*e*P	**Pn**	**11 04 16.4**	**+0.5**
LSZ				*e*S	**Sn**	**11 06 53.7**	**-3.5**

*SJA **24** 11:04:08.4±1.4,34˚53S×72˚24W,h5km±22km, ML3.2, MW3.3*
*ISCJB **24** 11:04:13.4±1.4,34˚69S±0˚04×71˚9W±0˚1,h15km±12km, Error ellipse: s-maj=16.1km s-min=6.9km az=9.1*
*GUC **24** 11:04:14.2±0.6,34˚76S×71˚75W,h44km±1km, ML3.9*
ISC 24 11:04:12.2±1.6,**34˚66S**±0˚04×**71˚90W**±0˚08,**h2**km±12km, **n25,σ1°28/37,4C–4D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.65**	**122**	⇓ *i*P	**Pg**	**11 04 25.3**	**+0.7**
NICH				*i* S	**Sg**	**11 04 33.4**	**+0.4**
TALC	**Talca**	**0.76**	**164**	⇑ *i*P	**Pg**	**11 04 27.3**	**+0.4**
TALC				*i* S	**Sg**	**11 04 36.6**	**-0.2**
LNV	**Longovilo**	**0.81**	**30**	⇑ *i*P	**Pb**	**11 04 30.3**	**+1.3**
LNCH	**Linares**	**1.21**	**169**	*e*P	**Pg**	**11 04 33.6**	**-1.7**
LNCH				*i* S	**Sg**	**11 04 48.9**	**-2.1**
CHCH	**Chadas Angostu**	**1.26**	**55**	⇑ *i*P	**Pg**	**11 04 35.8**	**-0.6**
TACH	**Talagante**	**1.28**	**39**	*i* P	**Pg**	**11 04 36.7**	**-0.1**
TACH				*e*S	**Sg**	**11 04 53.3**	**-0.2**
PCH	**Pirque**	**1.55**	**48**	⇑ *i*P	**Pn**	**11 04 40.2**	**-0.7**
PCH				*e*S	**Sn**	**11 04 59.8**	**-1.8**
SAN	**Santiago**	**1.58**	**41**	*e*P	**Pn**	**11 04 40.4**	**-0.9**
SAN				*i* S	**Sn**	**11 05 01.0**	**-1.4**
SJCH	**San Jose de Ma**	**1.64**	**52**	⇓ *i*P	**Pn**	**11 04 40.7**	**-1.4**
SJCH				*i* S	**Sn**	**11 05 01.1**	**-2.7**
IHA	**Instituto Hidr**	**1.65**	**7**	*e*P	**Pn**	**11 04 42.5**	**+0.4**
LACH	**Col Las Americ**	**1.66**	**44**	*e*P	**Pn**	**11 04 41.3**	**-1.0**
LACH				*e*S	**Sn**	**11 05 02.8**	**-1.4**
CLCH	**Cerro Calan**	**1.69**	**42**	*e*P	**Pn**	**11 04 42.3**	**-0.6**
CLCH				*e*S	**Sn**	**11 05 03.9**	**-1.2**
CLCH	comp=E,2μm,0.3s			AML	AML	11 05 06.8	
YECH	**El Yeso**	**1.80**	**57**	*e*P	**Pn**	**11 04 43.9**	**-0.7**
YECH				AML	AML	11 05 12.9	
PEL	**Peldehue**	**1.82**	**34**	⇓ *i*P	**Pn**	**11 04 44.6**	**0.0**
PEL				*i* S	**Sn**	**11 05 07.0**	**-1.3**
PEL	comp=N,2μm,0.2s			AML	AML	11 05 13.1	
ROCH	**El Roble**	**1.84**	**24**	⇓ *i*P	**Pn**	**11 04 45.4**	**+0.4**
ROCH				*e*S	**Sn**	**11 05 08.7**	**-0.3**
ROCH	comp=N,2μm,0.2s			AML	AML	11 05 13.6	
AAGR	**Agrelo**	**3.00**	**59**	*e*P	**Pn**	**11 05 01.7**	**+0.9**
ARCO	**CERRO ARCO**	**3.07**	**54**	*e*P	**Pn**	**11 05 03.3**	**+1.5**
ARCO	comp=Z,58nm,0.6s			AML	AML	11 05 57.9	
AUSP	**Uspallata**	**3.21**	**41**	*e*P	**Pn**	**11 05 05.7**	**+1.8**
ASAL	**Salagasta**	**3.29**	**52**	*e*P	**Pn**	**11 05 06.5**	**+1.7**
CANA	**Caviahue**	**3.29**	**168**	*e*P	**Pn**	**11 05 06.5**	**+1.6**
RTLS	**Leoncito**	**3.59**	**38**	*e*P	**Pn**	**11 05 10.4**	**+1.2**
RTCV	**Cerro Valdivia**	**3.96**	**46**	*e*P	**Pn**	**11 05 14.7**	**+0.7**
CFAA	**Coronel Fontan**	**4.33**	**46**	*e*P	**Pn**	**11 05 19.4**	**+0.4**
RTLL	**Cerro Villicun**	**4.39**	**42**	*e*P	**Pn**	**11 05 20.0**	**0.0**
RTLL				*e*S	**Sn**	**11 06 14.5**	**+2.7**
AMOG	**MOGNA**	**4.69**	**39**	*e*P	**Pn**	**11 05 23.9**	**-0.1**

GUC 24 11:08:45.8±0.4,**36˚00S**×**73˚29W**,**h19**km±2km,**ML4.1,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.43**	**108**	*e*P	Pb	11 08 55.0	+0.2
COCH				*e*S	Sb	11 09 01.6	+0.8
CCSP	**San Pedro de C**	**0.86**	**170**	*e*P	Pb	11 09 02.1	0.0
CCSP				*e*S	Sn	11 09 14.7	-0.2
LNCH	**Linares**	**1.38**	**84**	*e*P	Pb	11 09 11.1	+0.1
LNCH				*e*S	Sg	11 09 30.2	-0.2
TALC	**Talca**	**1.47**	**66**	*e*P	Pb	11 09 12.5	-0.1
TALC				*e*S	Sg	11 09 32.6	-0.9
NICH	**Los Niches**	**1.95**	**60**	*e*P	Pb	11 09 20.1	-0.7
NICH				*e*S	Sb	11 09 46.1	+1.3
CLCH	**Cerro Calan**	**3.45**	**42**	AML	AML	11 10 47.4	
	comp=E,288nm,0.8s						

*CSEM **24** 11:25:03.3±0.5,38˚05N×38˚06E,h12km,MD2.6, Error ellipse: s-maj=12.3km s-min=3.4km az=8.0*
*ISK **24** 11:25:04.5,38˚16N×38˚08E,h12km,MD2.6*
*DDA **24** 11:25:06.2,38˚33N×38˚10E,h7km,MD2.6*
ISC 24 11:25:04.2±2.7,**38˚1N**±0˚2×**38˚07E**±0˚04,**h14**km±8km,**n12,σ0°22/24,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.21**	**328**	*i* P	**Pg**	**11 25 09.3**	**+0.2**
AKCD				*i* S	**Sg**	**11 25 12.4**	**-0.1**
AKCD	**Akcadag**	**0.21**	**328**	*i* P	**Pg**	**11 25 09.3**	**+0.2**
AKCD				*i* S	**Sg**	**11 25 12.4**	**-0.1**
MALT	**Malatya**	**0.34**	**55**	*e*PG	**Pg**	**11 25 11.1**	**-0.2**
MALT				*e*SG	**Sg**	**11 25 16.1**	**-0.1**
MALT	**Malatya**	**0.34**	**55**	*e*Pg	**Pg**	**11 25 11.1**	**-0.2**
MALT				*e*Sg	**Sg**	**11 25 16.1**	**-0.1**
DARE	**Darende-Malaty**	**0.65**	**315**	*e*PG	**Pb**	**11 25 17.4**	**0.0**
DARE				*e*SG	**Sb**	**11 25 26.4**	**+0.1**
DARE	**Darende-Malaty**	**0.65**	**315**	*e*Pg	**Pb**	**11 25 17.4**	**0.0**
DARE				*e*Sg	**Sb**	**11 25 26.4**	**+0.1**
ELZG	**Elazig**	**0.82**	**62**	*i* P	**Pg**	**11 25 20.1**	**0.0**
ELZG				*i* S	**Sb**	**11 25 31.6**	**+0.4**
ELZG	**Elazig**	**0.82**	**62**	*i* P	**Pg**	**11 25 20.1**	**0.0**
ELZG				*i* S	**Sb**	**11 25 31.6**	**+0.4**
SVRC	**Sivrice-ELAZID**	**1.01**	**75**	*e*PG	**Pb**	**11 25 23.8**	**+0.2**
SVRC				*e*SG	**Sn**	**11 25 38.3**	**+0.1**
SVRC	**Sivrice-ELAZID**	**1.01**	**75**	*e*Pg	**Pb**	**11 25 23.8**	**+0.2**
SVRC				*e*Sg	**Sn**	**11 25 38.3**	**+0.1**
PTK	**Pertek**	**1.30**	**53**	*e*PN	**Pn**	**11 25 27.6**	**-0.4**
PTK				*e*SN	**Sg**	**11 25 46.1**	**0.0**
PTK	**Pertek**	**1.30**	**53**	*e*Pn	**Pn**	**11 25 27.7**	**-0.4**
PTK				*e*Sn	**Sg**	**11 25 46.1**	**0.0**

*ISCJB **24** 11:45:58.4±0.9,50˚42N±0˚07×18˚80E±0˚04,h0km,Error ellipse: s-maj=10.2km s-min=3.3km az=10.0*
*CSEM **24** 11:45:59.0±0.5,50˚40N×18˚84E,h1km,ML2.5/6,Error ellipse: s-maj=13.6km s-min=4.6km az=2.0*
*PRU **24** 11:46:00.2,50˚38N×18˚86E,h0km*
ISC 24 11:45:59.5±1.1,**50˚39N**±0˚07×**18˚83E**±0˚02,**h0**km,**n17,σ0°83/28,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.14**	**132**	*e*Pg	**Pg**	**11 46 02.5**	**+0.4**
CHZP				*e*Sg	**Sg**	**11 46 04.3**	**+0.3**
OJC	**Ojcow**	**0.65**	**105**	*e*Pg	**Pg**	**11 46 11.5**	**-0.3**
OJC				*e*Sg	**Sg**	**11 46 20.5**	**+0.4**
OJC	**Ojcow**	**0.65**	**105**	*e*Pg	**Pg**	**11 46 11.5**	**-0.3**
OJC				*e*Sg	**Sg**	**11 46 20.5**	**+0.4**
OKC	**Ostrava-Krasne**	**0.70**	**219**	*e*PG	**Pg**	**11 46 13.1**	**+0.2**
OKC				*e*SG	**Sg**	**11 46 22.5**	**+0.5**
OKC	comp=Z,11nm,0.4s			Pg	**Pg**	**11 46 13.1**	**+0.2**
OKC	**Ostrava-Krasne**	**0.70**	**219**				
OKC				Sg	**Sg**	**11 46 22.5**	**+0.5**
KRLC	**Kraliky**	**1.35**	**257**	*e*PG	**Pg**	**11 46 25.1**	**-0.2**
KRLC				*e*SG	**Sn**	**11 46 44.1**	**-0.1**
KRLC	**Kraliky**	**1.35**	**257**	Pg	**Pg**	**11 46 25.1**	**-0.2**
KRLC				Sg	**Sn**	**11 46 44.1**	**-0.1**
DPC	**Dobruska-Polom**	**1.60**	**270**	*e*PG	**Pb**	**11 46 29.9**	**-0.1**
DPC				*e*SG	**Sg**	**11 46 52.4**	**+1.4**
DPC	comp=Z,5.5nm,0.3s			Pg	**Pg**	**11 46 29.9**	**-0.1**
DPC	**Dobruska-Polom**	**1.60**	**270**				
DPC				Sg	**Sg**	**11 46 52.4**	**+1.4**
UPC	**Upice**	**1.80**	**275**	*e*SG	**Sg**	**11 46 58.7**	**+1.3**
UPC	**Upice**	**1.80**	**275**	Sg	**Sg**	**11 46 58.7**	**+1.3**
GOPC	**GO Pecny, Ondr**	**2.64**	**261**	*e*SG	**Sg**	**11 47 25.0**	**+0.7**
GOPC	**GO Pecny, Ondr**	**2.64**	**261**	Sg	**Sg**	**11 47 25.0**	**+0.7**
PRU	**Pruhonice**	**2.78**	**263**	*e*SG	**Sg**	**11 47 29.6**	**+0.8**
PRU	**Pruhonice**	**2.78**	**263**	Sg	**Sg**	**11 47 29.6**	**+0.8**
KHC	**Kasperske Hory**	**3.63**	**252**	*e*PG	**Pg**	**11 47 07.3**	**-1.6**
KHC				*e*SG	**Sg**	**11 47 55.6**	**-0.3**
KHC	**Kasperske Hory**	**3.63**	**252**	Pg	**Pg**	**11 47 07.3**	**-1.6**
KHC				Sg	**Sg**	**11 47 55.6**	**-0.3**

DJA 24 12:00:36.5±0.8,**1˚N**±6˚×**12˚0E**±˚,**h16**km±4km,**M4.3/7, MLv4.3/7,Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**1.02**	**212**	P	Pb	12 00 53.2	-2.6
MPSI				S	Sb	12 01 04.2	-4.8
MRSI	**Marisa**	**1.67**	**116**	P	Pn	12 01 04.2	-0.9
MRSI				S	Sn	12 01 25.2	-1.0
PCI	**Palu**	**2.19**	**196**	P	Pn	12 01 12.3	+0.1
PCI				S	Sn	12 01 40.4	+1.4
APSI	**Ampana**	**2.43**	**150**	P	Pn	12 01 15.5	-0.1
APSI				S	Sn	12 01 45.5	+0.5
LUWI	**Luwuk**	**3.23**	**134**	P	Pn	12 01 28.1	+1.5
LUWI				S	Sn	12 02 06.8	+2.0
KMSI	**Cibinong**	**3.60**	**100**	P	Pn	12 01 30.8	-0.8

*BJI **24** 12:01:49.3,60˚00N×152˚20W,h62km,mb5.2/47, mB5.1/29,Ms5.0/11,Ms7 4.5/13*
*ISCJB **24** 12:01:53.5±0.2,60˚15N×0˚01×152˚46W±0˚03,h83km±1km, mb4.7/218,Error ellipse: s-maj=2.7km s-min=1.9km az=38.0*
*MOS **24** 12:01:53.2±0.8,60˚15N×152˚55W,h84km,mb4.9/90, Error ellipse: s-maj=8.8km s-min=4.0km az=89.5*
*IDC **24** 12:01:55.5±0.6,60˚23N×152˚44W,h88km±4km,mb4.3/25, mb1 4.5/29,mb1mx4.4/32,mbtmp4.6/29,MS3.3/15, Ms1 3.3/15,ms1mx3.1/37,Error ellipse: s-maj=11.7km s-min=8.4km az=23.0*
*NEIC **24** 12:01:55.1,59˚98N×152˚31W,h72km,mb4.8/135,MW4.6 Best double couple: NP1:φ230.00000°,δ90.00000°, λ-49.00000°. NP2:φ320.00000°,δ41.00000°, λ-179.00000°. Principal axes: T 1.0300, Plg31.0000°, Azm286.0000°; N -0.0100, Plg40.0000°, Azm49.0000°; P -1.0200, Plg32.0000°, Azm173.0000°; After AEIC.*
NEIC Felt [III] at Homer, Kasilof, Kenai, Ninilchik and Sterling; [II] at Anchorage and Soldotna. Also felt at Anchor Point, Cooper Landing, Eagle River, Elmendorf AFB, Palmer, Seward and Wasilla.
*SZGRF **24** 12:02:02.1,61˚23N×152˚60W,h72km,mb5.2,Southern Alaska, United States*
ISC 24 12:01:54.4±0.3,**60˚03N**±0˚03×**152˚39W**±0˚03,**h77**km±1km, **h77**km:**pP-P,n979,σ1°37/1081,mb4.9/217,240C-139D, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVE	**Iliamna Volcan**	**0.31**	**267**	P	**Pn**	**12 02 06.3**	**-0.2**
IVE				S	**Sn**	**12 02 15.7**	**+0.2**
ILS	**Iliamna Low So**	**0.35**	**258**	P	**Pn**	**12 02 06.6**	**-0.2**
ILW	**Iliamna West**	**0.37**	**274**	P	**Pn**	**12 02 07.1**	**0.0**
RED	**Redoubt Volcan**	**0.43**	**334**	P	**Pn**	**12 02 07.4**	**+0.1**
RSO	**Redoubt South**	**0.47**	**338**	*e*Pn	**Pn**	**12 02 07.9**	**+0.1**
RDN	**Redoubt North**	**0.52**	**339**	P	**Pn**	**12 02 08.3**	**+0.2**
HOM	**Homer**	**0.53**	**134**	P	**Pn**	**12 02 08.0**	**-0.1**
HOM				S	**Sn**	**12 02 18.4**	**+0.1**
NNL	**Ninilchik**	**0.55**	**89**	P	**Pn**	**12 02 09.0**	**+0.7**
OPT	**Oil Point**	**0.57**	**228**	P	**Pn**	**12 02 08.4**	**-0.1**
DFR	**Drift River**	**0.58**	**346**	P	**Pn**	**12 02 08.8**	**+0.1**
NCT	**North Crescent**	**0.59**	**334**	P	**Pn**	**12 02 08.9**	**+0.1**
BRLK	**Bradley Lake**	**0.81**	**109**	P	**Pn**	**12 02 10.3**	**-0.7**
BRLK				S	**Sn**	**12 02 22.8**	**-0.6**
AUL	**Augustine Lava**	**0.84**	**219**	P	**Pn**	**12 02 11.3**	**0.0**
AUL				S	**Sn**	**12 02 25.4**	**+1.4**
AUP	**Augustine Pinn**	**0.85**	**218**	P	**Pn**	**12 02 11.6**	**0.0**
AUP	**Augustine Pinn**	**0.85**	**218**	P	**Pn**	**12 02 11.6**	**0.0**
AUI	**Augustine Isla**	**0.88**	**217**	P	**Pn**	**12 02 11.6**	**-0.2**
PDB	**Pedro Bay**	**0.94**	**256**	P	**Pn**	**12 02 12.4**	**-0.1**
PDB	**Pedro Bay**	**0.94**	**256**	P	**Pn**	**12 02 12.4**	**-0.1**
SPU	**Mount Spurr**	**1.17**	**8**	*e*Pn	**Pn**	**12 02 15.7**	**+0.4**
CKL	**Chakachamna La**	**1.17**	**1**	P	**Pn**	**12 02 15.9**	**+0.5**
SLKM	**Skilak Lake**	**1.18**	**65**	P	**Pn**	**12 02 14.5**	**-1.0**
SLKM	**Skilak Lake**	**1.18**	**65**	P	**Pn**	**12 02 14.5**	**-1.0**
CKN	**Chakachatna No**	**1.20**	**5**	P	**Pn**	**12 02 16.4**	**+0.6**
SPBG	**Spurr Blockage**	**1.23**	**1**	P	**Pn**	**12 02 16.8**	**+0.6**
SPBG				S	**Sn**	**12 02 34.3**	**+1.7**
BGL	**Barrier Glacie**	**1.23**	**0**	P	**Pn**	**12 02 16.8**	**+0.6**
MCNL	**McNeil River**	**1.30**	**230**	P	**Pn**	**12 02 16.5**	**-0.6**
SEW	**Seward**	**1.48**	**86**	P	**Pn**	**12 02 18.3**	**-0.9**
STLK	**Strandline Lak**	**1.50**	**10**	P	**Pn**	**12 02 20.2**	**+0.7**
FIB	**Fire Island**	**1.58**	**43**	P	**Pn**	**12 02 21.9**	**+1.4**
FIB	**Fire Island**	**1.58**	**43**	P	**Pn**	**12 02 21.9**	**+1.4**
SUA	**Susitna One**	**1.65**	**29**	P	**Pn**	**12 02 22.1**	**+0.5**
SUA				S	**Sn**	**12 02 44.3**	**+2.1**
RC01	**Rabbit Creek A**	**1.69**	**50**	*e*Pn	**Pn**	**12 02 22.5**	**+0.5**
RC01				*e*Sn	**Sn**	**12 02 43.9**	**+1.0**
RC01				S	**Sn**	**12 02 44.5**	**+1.6**
SVW2	**Sparrevohn**	**1.90**	**306**	P	**Pn**	**12 02 24.8**	**0.0**
SKT	**Skwentna**	**2.00**	**12**	P	**Pn**	**12 02 26.4**	**+0.3**
SKT				S	**Sn**	**12 02 51.5**	**+1.1**
KAKN	**Katmai Knife C**	**2.22**	**219**	P	**Pn**	**12 02 28.8**	**-0.4**
KVTA	**Katmai Vly 10**	**2.23**	**223**	P	**Pn**	**12 02 29.1**	**-0.1**
PMR	**Palmer**	**2.24**	**44**	P	**Pn**	**12 02 29.1**	**-0.2**
PMR				S	**Sn**	**12 02 55.0**	**-1.0**
PMR	**Palmer**	**2.24**	**44**	P	**Pn**	**12 02 29.1**	**-0.2**
PMR				S	**Sn**	**12 02 55.0**	**-1.0**
KDAK	**Kodiak Island**	**2.26**	**183**	P	**Pn**	**12 02 29.3**	**-0.3**
KDAK				S	**Sn**	**12 02 56.0**	**-0.5**
KDAK	**Kodiak Island**	**2.26**	**183**	P	**Pn**	**12 02 29.3**	**-0.3**
KDAK				S	**Sn**	**12 02 56.0**	**-0.5**
KCE	**Katmai Mt Cerb**	**2.30**	**220**	P	**Pn**	**12 02 30.7**	**+0.5**
KELA	**Mount Kelaz**	**2.35**	**229**	P	**Pn**	**12 02 30.8**	**-0.1**
CUT	**Chuitna**	**2.59**	**22**	P	**Pn**	**12 02 34.7**	**+0.7**
GLI	**Glacier Island**	**2.76**	**70**	P	**Pn**	**12 02 34.1**	**-2.3**
OHAK	**Old Harbor**	**2.86**	**190**	P	**Pn**	**12 02 36.2**	**-1.4**
PPLA	**Purkeypile**	**2.88**	**2**	P	**Pn**	**12 02 39.1**	**+1.0**
JPK	**Jack Peak**	**3.04**	**68**	P	**Pn**	**12 02 38.5**	**-1.7**
SCM	**Sheep Creek Mo**	**3.06**	**52**	P	**Pn**	**12 02 40.0**	**-0.5**
SCM	**Sheep Creek Mo**	**3.06**	**52**	P	**Pn**	**12 02 40.0**	**-0.5**
MID	**Middleton Isla**	**3.13**	**99**	P	**Pn**	**12 02 40.5**	**-0.7**
MID	**Middleton Isla**	**3.13**	**99**	P	**Pn**	**12 02 40.5**	**-0.7**
VMT	**TAPS Tl Valdez**	**3.16**	**68**	P	**Pn**	**12 02 40.5**	**-1.2**
VLZ	**Valdez**	**3.19**	**67**	P	**Pn**	**12 02 40.7**	**-1.4**
EYAK	**Cordova Ski Ar**	**3.35**	**78**	P	**Pn**	**12 02 42.2**	**-2.1**
TT01	**Tatalina**	**3.37**	**330**	P	**Pn**	**12 02 45.0**	**+0.4**
CAST	**Castle Rocks**	**3.40**	**2**	P	**Pn**	**12 02 46.2**	**+1.2**
DIV	**Divide**	**3.45**	**69**	P	**Pn**	**12 02 44.1**	**-1.6**
TRF	**Thorofare Moun**	**3.57**	**15**	*e*Pn	**Pn**	**12 02 48.5**	**+1.0**
KTH	**Kantishna Hill**	**3.60**	**11**	P	**Pn**	**12 02 48.6**	**+0.8**
RND	**Reindeer**	**3.78**	**25**	P	**Pn**	**12 02 50.4**	**+0.1**
RND	**Reindeer**	**3.78**	**25**	P	**Pn**	**12 02 50.4**	**+0.1**
GOAT	**Goat Mountain**	**3.85**	**78**	P	**Pn**	**12 02 49.2**	**-2.1**
RAGM	**Ragged Mountai**	**3.87**	**81**	P	**Pn**	**12 02 49.0**	**-2.5**
DHY	**Denali Highway**	**3.88**	**36**	P	**Pn**	**12 02 52.1**	**+0.4**
PS11	**TAPS Pump St11**	**3.94**	**56**	P	**Pn**	**12 02 52.0**	**-0.3**
BMRM	**Bremner River**	**3.97**	**73**	P	**Pn**	**12 02 50.6**	**-2.2**
KAIM	**Kayak Island**	**4.01**	**88**	P	**Pn**	**12 02 51.5**	**-1.8**
MCK	**McKinley**	**4.06**	**22**	P	**Pn**	**12 02 55.2**	**+1.3**
MCK	**McKinley**	**4.06**	**22**	P	**Pn**	**12 02 55.2**	**+1.3**
BPAW	**Bear Paw Mtn.**	**4.14**	**9**	P	**Pn**	**12 02 54.8**	**-0.2**
NICHA	**Nichawak Mount**	**4.22**	**84**	P	**Pn**	**12 02 55.8**	**-0.4**
HARP	**HAARP**	**4.23**	**53**	P	**Pn**	**12 02 55.9**	**-0.4**
SUCK	**Suckling Hills**	**4.32**	**86**	P	**Pn**	**12 02 57.1**	**-0.4**
BERG	**Berg Lake**	**4.35**	**81**	P	**Pn**	**12 02 57.3**	**-0.6**
BWN	**Browne**	**4.38**	**17**	P	**Pn**	**12 02 59.5**	**+1.2**
WASW	**Wrangell South**	**4.43**	**61**	P	**Pn**	**12 02 58.4**	**-0.9**
PAX	**Paxson**	**4.44**	**45**	*e*P	**Pn**	**12 02 59.1**	**-0.1**
PAX	**Paxson**	**4.44**	**45**	*e*Pn	**Pn**	**12 02 59.1**	**-0.1**
GLB	**Gilahina Butte**	**4.44**	**68**	P	**Pn**	**12 02 57.7**	**-1.5**
GRIN	**Grindle Hills**	**4.54**	**83**	P	**Pn**	**12 03 00.3**	**-0.2**
VRDI	**Verde Repeater**	**4.56**	**71**	P	**Pn**	**12 02 59.0**	**-2.0**
KHIT	**Khitrov Hills**	**4.58**	**81**	P	**Pn**	**12 02 60.0**	**-1.2**
PS10	**TAPS Pump St10**	**4.64**	**40**	P	**Pn**	**12 03 02.8**	**+0.9**
MCARA	**McCarthy VSAT**	**4.80**	**70**	P	**Pn**	**12 03 02.3**	**-1.8**
KULT	**Kultieth River**	**4.84**	**83**	P	**Pn**	**12 03 02.1**	**-2.6**
DDM	**Donnelly Dome**	**4.87**	**37**	P	**Pn**	**12 03 06.8**	**+1.7**
WRH	**Wood River Hil**	**4.89**	**22**	P	**Pn**	**12 03 05.2**	**0.0**
BARK	**Barkley Ridge**	**4.95**	**81**	P	**Pn**	**12 03 04.0**	**-2.3**
PTPK	**Patty Peak**	**5.03**	**72**	P	**Pn**	**12 03 05.7**	**-1.7**
ISLE	**Juniper Island**	**5.03**	**79**	P	**Pn**	**12 03 04.8**	**-2.5**
KIAG	**Kiagna River**	**5.04**	**75**	P	**Pn**	**12 03 05.2**	**-2.4**
HDA	**Harding Lake**	**5.07**	**28**	P	**Pn**	**12 03 08.2**	**+0.4**
MLY	**Manley**	**5.08**	**8**	P	**Pn**	**12 03 09.4**	**+1.5**
CCB	**Clear Creek Bu**	**5.10**	**23**	P	**Pn**	**12 03 08.2**	**+0.1**
BAGL	**Bagley Icefiel**	**5.15**	**80**	P	**Pn**	**12 03 06.6**	**-2.2**
PS08	**TAPS Pump Stn8**	**5.22**	**27**	P	**Pn**	**12 03 10.0**	**+0.3**
MESA	**MESA**	**5.23**	**84**	P	**Pn**	**12 03 08.3**	**-1.8**
COLA	**College**	**5.29**	**21**	*d* iP	**Pn**	**12 03 10.9**	**+0.1**
COLA	**College**	**5.29**	**21**	P	**P

comp=Z,3.6nm,0.6s
G05D Wamic, OR 23.67 115 ⇓P P 12 07 00.5 +1.8
baz=24
VBEM Beaver Butte 23.69 115 P P 12 07 00.6 +1.6
I03D Drain, OR 23.98 120 ⇓P P 12 07 03.1 +1.7
baz=24
CROR Criterion Ridg 24.02 115 P P 12 07 03.6 +1.7
I04A Tendick Farm, 24.31 118 ⇑P P 12 07 05.5 +1.1
baz=24
I05D Terrebonne, OR 24.36 116 ⇓P P 12 07 06.0 +1.2
baz=24,SNR=8.1
WALA Waterton Lakes 24.51 99 eP P 12 07 07.5 +1.2
WALA epP pP 12 07 26.4 +2.3
G08A Pilot Rock 24.73 112 eP P 12 07 09.3 +1.1
comp=Z,7.8nm,0.9s
J04D Umpqua Nationa 24.88 119 ⇓P P 12 07 10.8 +1.0
baz=25,SNR=5.7
BSMT Bassoo Peak 24.89 102 eP P 12 07 09.7 -0.1
comp=Z,2.1nm,0.8s
HUMO Hull Mountain 25.02 121 eP P 12 07 13.5 +2.6
comp=Z,22nm,1.4s
HUMO epP pP 12 07 32.5 +3.8
L02D Cave Junction, 25.11 122 ⇑P P 12 07 13.3 +1.6
baz=25
RES Resolute Bay 25.12 32 P P 12 07 09.6 -1.7
comp=Z,2.1nm,0.8s,baz=266,slow=14,SNR=2.3
RES Resolute Bay 25.12 32 eP P 12 07 13.7 +2.3
RES pmax pmax
comp=Z,13nm,0.6s
RES Resolute Bay 25.12 32 eP P 12 07 13.7 +2.3
comp=Z,13nm,0.6s
JTMT Jette 25.21 102 eP P 12 07 13.4 +0.7
comp=Z,6.0nm,1.0s
J05D Fort Rock, OR 25.23 118 ⇓P P 12 07 14.5 +1.5
baz=25,SNR=7.5
I07A Izee 25.39 114 eP P 12 07 15.9 +1.6
comp=Z,79nm,0.5s
I07A ePcP PcP 12 10 44.2 -0.4
I07A eScP ScP 12 14 25.6 +9.1
SWMT Swartz Lake 25.51 102 eP P 12 07 15.7 +0.3
comp=Z,5.6nm,1.1s
BMO Blue Mountains 25.83 110 eP P 12 07 19.5 +1.2
comp=Z,14nm,1.0s
K05A Summer Lake 25.83 118 eP P 12 07 20.6 +2.2
comp=Z,15nm,0.9s
SEY Seymchan 25.84 300 P P 12 07 16.7 -1.3
comp=Z,2.9nm,0.6s,baz=94,slow=7.1,SNR=11
YBH Yreka Blue Hor 25.84 122 P P 12 07 20.5 +2.1
comp=Z,4.7nm,0.7s,baz=355,slow=4.7,SNR=18
YBH Yreka Blue Hor 25.84 122 eP P 12 07 20.8 +2.4
YBH e*PP pP 12 07 40.6 +4.3
YBH pmax pmax
comp=Z,7.0nm,0.9s
YBH Yreka Blue Hor 25.84 122 eP P 12 07 20.8 +2.4
comp=Z,7.0nm,0.9s
YBH epP pP 12 07 40.6 +4.3
SLMT Seeley Lake 25.94 102 eP P 12 07 19.5 +0.1
comp=Z,1.9nm,0.7s
MSO Missoula 26.01 103 eP P 12 07 20.6 +0.7
comp=Z,9.6nm,1.0s
MSO epP pP 12 07 41.0 +3.3
MSO Missoula 26.01 103 ⇑P P 12 07 21.0 +1.1
baz=26
M02C Callahan 26.06 122 ⇑P P 12 07 22.0 +1.7
baz=26
M04C Macdoel 26.18 120 ⇓P P 12 07 23.3 +1.8
baz=26
CHMT Chamberlain Mo 26.29 102 P P 12 07 23.1 +0.5
N02D Trinity Center 26.47 123 ⇓P P 12 07 26.0 +1.9
baz=26
WVOR Wild Horse Val 27.08 115 epP pP 12 07 49.8 +2.3
FFC Flin Flon 27.12 79 epP pP 12 07 53.4 +5.8
HRY Holter Researc 27.13 101 eP P 12 07 30.4 +0.4
comp=Z,2.4nm,0.5s
HRY epP pP 12 07 47.6 -0.3
A19A Klindworth Far 27.17 94 ⇑P P 12 07 31.0 +0.7
baz=27
EGMT Eagleton 27.26 97 ⇑P P 12 07 31.2 +0.1
baz=27,SNR=5.2
PET Petropavlovsk 27.33 277 eP P 12 07 32.1 +0.6
PET pmax pmax
comp=Z,35nm,2.5s
B19A Brinkman Farms 27.38 95 ⇓P P 12 07 32.2 +0.1
baz=27,SNR=6.5
LRM Limekiln Ridge 27.45 103 eP P 12 07 34.2 +1.2
LRM epP pP 12 07 54.3 +3.3
A20A Cobblestone Ra 27.61 94 ⇑P P 12 07 34.7 +0.5
baz=28
MFID Camas Ranch 27.61 111 eP P 12 07 35.3 +1.0
comp=Z,9.1nm,1.0s
DLMT Dillon 27.71 104 epP pP 12 07 58.4 +5.2
PEA0B Petropavlovsk- 27.76 278 eP P 12 07 34.9 -0.5
PETK Petropavlovsk- 27.76 278 P P 12 07 35.0 -0.4
comp=Z,24nm,0.8s,baz=89,slow=11,SNR=45
PETK LR LR 12 18 03.1
comp=Z,48nm,21.9s,baz=79,slow=35
PETK Petropavlovsk- 27.76 278 P P 12 07 35.0 -0.4
C19A Slack Wire Ran 27.81 97 ⇑P P 12 07 36.1 +0.1
baz=28,SNR=5.6
B20A Solberg Farm, 27.85 95 ⇓P P 12 07 36.7 +0.4
baz=28
MCMT McKenzie Canyo 27.98 105 eP P 12 07 38.8 +1.0
BOZ Bozeman (W) 27.98 103 eP P 12 07 38.5 +0.9
BOZ pmax pmax
comp=Z,3.0nm,0.6s
BOZ Bozeman (W) 27.98 103 eP P 12 07 38.5 +0.9
comp=Z,3.3nm,0.6s
HLID Hailey 28.17 109 eP P 12 07 40.3 +0.9
comp=Z,4.1nm,0.7s
HLID Hailey 28.17 109 ⇓P P 12 07 40.1 +0.8
baz=28,SNR=9.9
D19A Cripps Ranch, 28.28 97 ⇓P P 12 07 41.0 +0.8
baz=28,SNR=5.5
C20A Veseth Ranch, 28.34 96 ⇑P P 12 07 41.0 +0.3
baz=28
B21A Ellsworth Farm 28.36 94 ⇓P P 12 07 41.6 +0.8
baz=28
A22A Carney Farms, 28.54 92 ⇑P P 12 07 43.0 +0.5
baz=28
QLMT Earthquake Lak 28.67 103 eP P 12 07 44.8 +1.0
comp=Z,0.5nm,0.6s
D20A Manuel Ranch, 28.70 97 ⇑P P 12 07 44.7 +0.9
baz=28
E19A Rath Farm, Rou 28.81 98 ⇑P P 12 07 45.4 +0.5
baz=29
GCMT Greycliff 28.84 100 eP P 12 07 47.2 +2.0
GCMT epP pP 12 08 06.8 +3.5
E20A Meyer Farm, Mu 29.11 98 ⇓P P 12 07 48.1 +0.6
baz=29
F19A Roth Farm, Mol 29.16 99 ⇑P P 12 07 49.1 +1.1
baz=29,SNR=6.9
BMN Battle Mountai 29.31 116 epP pP 12 08 10.7 +3.2
LKWY Lake 29.36 103 eP P 12 07 52.3 +2.2
LKWY pmax pmax
comp=Z,11nm,1.3s
LKWY Lake 29.36 103 eP P 12 07 52.2 +2.2
comp=Z,11nm,1.3s
H17A Grant Village 29.40 103 eP P 12 07 53.3 +2.9
comp=Z,11nm,1.3s
H17A epP pP 12 08 13.4 +5.0
H17A Grant Village 29.40 103 ⇑P P 12 07 52.0 +1.7
baz=29
RLMT Red Lodge 29.52 101 eP P 12 07 52.5 +1.1
comp=Z,33nm,1.2s
FLWY Flagg Ranch 29.57 104 eP P 12 07 53.3 +1.5
comp=Z,10.0nm,0.6s
IMW Indian Meadow 29.59 104 eP P 12 07 54.1 +2.0
comp=Z,22nm,0.8s
H18A Shoshone NF, C 29.64 102 ⇑P P 12 07 53.0 +0.6
baz=30
FXWY Fox Creek 29.74 105 eP P 12 07 55.0 +1.7
comp=Z,9.7nm,0.7s
I17A Pilgrim Ck. 29.75 104 ⇑P P 12 07 54.7 +1.3
baz=30
TPAW Teton Pass 29.89 105 eP P 12 07 56.2 +1.5
comp=Z,19nm,0.6s
CMB Columbia Colle 29.91 123 eP P 12 07 55.6 +1.0
CMB e 12 10 56.1
CMB pmax pmax
comp=Z,5.0nm,0.7s
CMB Columbia Colle 29.91 123 eP P 12 07 55.6 +1.0
comp=Z,4.6nm,0.7s
CMB ePcP PcP 12 10 56.1 +0.6
WAKR Walker 29.92 121 eP P 12 07 56.6 +1.7
LOHW Long Hollow 29.97 104 eP P 12 07 56.5 +1.2
comp=Z,9.5nm,0.8s
ELK Elko 29.97 113 eP P 12 07 56.6 +1.3

ELK pmax pmax
comp=Z,12nm,0.9s
ELK Elko 29.97 113 eP P 12 07 56.6 +1.3
comp=Z,12nm,0.9s
G20A Bridger 29.97 100 ⇑P P 12 07 55.9 +0.7
baz=30,SNR=6.0
H19A Powell 29.98 101 ⇑P P 12 07 56.4 +1.0
baz=30
A25A Svangstu Ranch 29.98 89 ⇑P P 12 07 55.6 +0.4
baz=30,SNR=7.4
SNOW Snow King Moun 30.00 105 eP P 12 07 57.3 +1.6
comp=Z,20nm,0.6s
REDW Red Top Meadow 30.03 105 eP P 12 07 57.5 +1.6
comp=Z,9.0nm,0.6s
F21A Absaloka Mine, 30.08 98 ⇑P P 12 07 57.2 +1.1
baz=30
E22A Miles City 30.24 96 ⇓P P 12 07 58.5 +1.0
baz=30
HVU Hansel Valley 30.31 109 eP P 12 08 00.2 +1.9
HVU e*PP pP 12 08 20.0 +3.6
HVU pmax pmax
comp=Z,6.0nm,0.8s
HVU Hansel Valley 30.31 109 eP P 12 08 00.2 +1.9
comp=Z,6.2nm,0.8s
HVU epP pP 12 08 20.0 +3.6
NVAR Mina Array Bea 30.47 120 P P 12 08 01.4 +1.6
comp=Z,6.6nm,0.7s,baz=311,slow=9.2,SNR=69
NVAR pP pP 12 08 19.9 +2.0
comp=Z,3.7nm,0.8s,baz=309,slow=9.3,SNR=6.5
NVAR ScP ScP 12 14 31.9 -0.4
comp=Z,1.0nm,0.8s,baz=337,slow=2.6,SNR=6.6
D24A Glendive 30.59 93 ⇑P P 12 08 01.8 +1.2
baz=30
G22A Birney 30.92 98 ⇓P P 12 08 04.4 +0.8
baz=31
I20A Worland 30.93 101 ⇑P P 12 08 04.8 +1.2
baz=31
J19A Crowheart 30.98 103 ⇑P P 12 08 04.8 +0.6
baz=31,SNR=6.5
HWUT Hardware Ranch 31.02 108 eP P 12 08 06.6 +2.0
comp=Z,7.9nm,0.8s
D25A Fairfield 31.07 92 ⇑P P 12 08 06.0 +1.2
baz=31
BW06 Boulder Array 31.11 104 eP P 12 08 06.0 +0.7
comp=Z,6.1nm,0.8s
PDAR Pinedale Array 31.11 104 P P 12 08 06.3 +0.9
comp=Z,5.0nm,0.6s,baz=327,slow=6.5,SNR=31
PDAR pP pP 12 08 26.1 +2.6
comp=Z,4.0nm,0.8s,baz=330,slow=5.6,SNR=5.9
PDAR LR LR 12 20 05.6
comp=Z,76nm,18.1s,baz=316,slow=35
TPH Tonopah 31.24 119 eP P 12 08 07.6 +1.0
TPH pmax pmax
comp=Z,10.0nm,1.1s
TPH Tonopah 31.24 119 eP P 12 08 07.5 +1.0
comp=Z,10nm,1.1s
MTUM Tungsten Hills 31.26 121 eP P 12 08 09.0 +2.2
J20A Shoshoni 31.39 102 ⇑P P 12 08 08.9 +1.1
baz=31,SNR=6.1
F24A Ekalaka 31.40 95 ⇑P P 12 08 08.2 +0.4
baz=31
I21A Big Trails, Te 31.44 101 ⇓P P 12 08 08.7 +0.5
baz=31
E25A Miller Ranch, 31.47 93 ⇑P P 12 08 09.0 +0.7
baz=31
TCUT Toone Canyon 31.47 108 eP P 12 08 09.9 +1.2
comp=Z,26nm,0.8s
DUG Dugway, Tooele 31.53 111 epP pP 12 08 29.7 +2.5
DUG Dugway, Tooele 31.53 111 ⇓P P 12 08 10.1 +1.1
baz=31,SNR=6.3
TIXI Tiksi 31.64 324 eP P 12 08 08.9 -0.5
TIXI e 12 10 57.3
TIXI pmax pmax
comp=Z,9.0nm,0.7s
TIXI Tiksi 31.64 324 eP P 12 08 08.9 -0.5
comp=Z,9.5nm,0.7s
TIXI ePcP PcP 12 10 57.3 -2.1
TIXI eScP ScP 12 14 33.1 -2.3
J21A Lysite 31.71 101 ⇓P P 12 08 11.6 +0.9
baz=32,SNR=11
R11A Troy Canyon, C 31.74 116 eScP ScP 12 14 36.5 0.0
R11A Troy Canyon, C 31.74 116 ⇓P P 12 08 12.3 +1.4
baz=32,SNR=9.6
I22A 9 Mile Ranch, 31.78 100 ⇓P P 12 08 11.9 +0.7
baz=32,SNR=6.2
H23A Clabaugh Cattl 31.84 98 ⇑P P 12 08 12.1 +0.5
baz=32
RCTC Rector, Farmer 31.86 123 ⇑P P 12 08 12.9 +1.2
baz=32
NLU North Lily Min 32.07 110 eP P 12 08 15.4 +1.5
comp=Z,13nm,0.9s
GRAC Grapevine Rang 32.07 120 ⇓P P 12 08 15.7 +2.0
baz=32,SNR=8.1
H24A Dirks Ranch, A 32.13 97 ⇑P P 12 08 14.7 +0.5
baz=32
J22A Midwest 32.14 100 ⇓P P 12 08 14.9 +0.6
baz=32,SNR=7.2
VES Vestal, Richgr 32.32 123 ⇓P P 12 08 16.9 +1.1
baz=32
SMMC Simmler 32.40 125 ⇑P P 12 08 18.3 +1.7
baz=32
DAC Darwin (Calif) 32.58 121 eP P 12 08 20.3 +1.9
DAC pmax pmax
comp=Z,9.0nm,0.7s
DAC Darwin (Calif) 32.58 121 eP P 12 08 20.2 +1.9
comp=Z,8.8nm,0.7s
J23A Dilts Ranch, B 32.60 99 ⇑P P 12 08 19.7 +1.3
baz=32
TPNV Topopah Spring 32.60 119 ⇓P P 12 08 19.8 +1.3
baz=32,SNR=9.4
K22A Casper 32.68 101 eP P 12 08 21.2 +2.1
comp=Z,24nm,1.5s
K22A epP pP 12 08 40.7 +3.5
K22A Casper 32.68 101 ⇓P P 12 08 20.1 +1.1
baz=32
H25A Fruitdale 32.69 96 ⇓P P 12 08 20.2 +1.1
baz=32
B30A Myrvik Farm, E 32.70 86 ⇓P P 12 08 19.9 +0.8
baz=32
I24A Kuemmerle Ranc 32.73 98 ⇑P P 12 08 20.4 +1.0
baz=33,SNR=6.4
ISA Isabella, Lake 32.73 123 eP P 12 08 20.5 +1.0
ISA pmax pmax
comp=Z,8.0nm,0.8s
ISA Isabella, Lake 32.73 123 eP P 12 08 20.5 +1.0
comp=Z,8.5nm,0.8s
ISA Isabella, Lake 32.73 123 ⇑P P 12 08 20.9 +1.4
baz=33,SNR=8.3
FURC Furnace Creek, 32.74 120 ⇓P P 12 08 20.8 +1.4
baz=33
ULM Lac du Bonnet 32.77 82 P P 12 08 19.1 -0.4
comp=Z,2.7nm,0.5s,baz=300,slow=8.1,SNR=8.7
ULM pP pP 12 08 39.2 +1.6
comp=Z,7.9nm,0.7s,baz=308,slow=8.2,SNR=10.0
ULM LR LR 12 22 34.8
comp=Z,97nm,18.8s,baz=271,slow=38
ULM Lac du Bonnet 32.77 82 eP P 12 08 19.8 +0.3
ULM *PP pP 12 08 39.3 +1.6
ULM pmax pmax
comp=Z,9.0nm,0.6s
ULM Lac du Bonnet 32.77 82 eP P 12 08 19.8 +0.3
comp=Z,8.8nm,0.6s
ULM pP pP 12 08 39.2 +1.6
ULM epP pwP 12 08 39.8 +2.1
E28A Huff 32.78 91 ⇓P P 12 08 20.8 +1.1
baz=33
MPMC Manual Prospec 32.81 121 ⇓P P 12 08 22.4 +2.0
baz=33,SNR=10
PKM Mcpherson Peak 32.83 125 ⇓P P 12 08 22.4 +1.9
baz=33,SNR=6.2
RSSD Black Hills 32.83 97 eP P 12 08 21.4 +0.9
RSSD Black Hills 32.83 97 eP P 12 08 21.4 +0.9
TMUT Trail Mountain 33.00 110 eP P 12 08 23.3 +1.2
comp=Z,11nm,0.9s
ARVC Arvin 33.04 124 ⇑P P 12 08 22.9 +0.8
baz=33
H26A Fairpoint 33.11 95 ⇓P P 12 08 23.2 +0.5
baz=33
MVU Marysvale 33.16 112 eP P 12 08 24.9 +1.5
comp=Z,9.7nm,1.0s
MSU Marysvale 33.17 112 eP P 12 08 25.2 +1.7
MSU pmax pmax
comp=Z,12nm,1.1s
MSU Marysvale 33.17 112 eP P 12 08 25.2 +1.7
comp=Z,12nm,1.1s
N20A Spence Gulch, 33.20 105 ⇓P P 12 08 25.3 +1.5
baz=33,SNR=17

LRMC Laurel Mtn Rad 33.22 122 ⇑P P 12 08 25.2 +1.4
baz=33,SNR=5.3
H27A Howes 33.44 94 ⇑P P 12 08 26.6 +1.0
baz=33
SRU San Rafael Swe 33.47 110 eP P 12 08 27.8 +1.8
SRU pmax pmax
comp=Z,28nm,0.8s
SRU San Rafael Swe 33.47 110 eP P 12 08 27.8 +1.8
comp=Z,28nm,0.8s
SHOC Shoshone, Teco 33.47 120 ⇓P P 12 08 27.6 +1.7
baz=33
J25A Sunshine Ranch 33.48 98 ⇑P P 12 08 27.0 +1.0
baz=33
OSI Osito Audit: C 33.52 124 ⇑P P 12 08 27.5 +1.1
baz=33
EDW2 Edwards Air Fo 33.60 123 ⇓P P 12 08 27.8 +0.7
baz=34
GSC Goldstone, Bar 33.75 121 eP P 12 08 30.0 +1.6
GSC pmax pmax
comp=Z,14nm,0.9s
GSC Goldstone, Bar 33.75 121 eP P 12 08 30.0 +1.6
comp=Z,14nm,0.9s
GSC Goldstone, Bar 33.75 121 ⇓P P 12 08 29.9 +1.5
baz=34,SNR=7.2
O20A White River Ci 33.75 106 eP P 12 08 29.8 +1.3
comp=Z,15nm,0.7s
O20A White River Ci 33.75 106 ⇓P P 12 08 29.4 +0.9
baz=34,SNR=13
I27A Quinn 33.86 95 ⇑P P 12 08 30.2 +1.0
baz=34
J26A Sides Ranch, S 33.90 97 ⇓P P 12 08 30.2 +0.6
baz=34
TUQ Turquoise Moun 34.02 120 ⇓P P 12 08 31.9 +1.2
baz=34
AGMN Agassiz Nation 34.04 84 eP P 12 08 31.2 +0.5
comp=Z,15nm,0.8s
AGMN epP pP 12 08 49.0 +0.1
AGMN Agassiz Nation 34.04 84 ⇓P P 12 08 31.3 +0.7
baz=34
N22A Wattenberg Ran 34.11 103 ⇓P P 12 08 32.6 +0.9
baz=34,SNR=7.4
N23A Red Feather La 34.29 103 ⇓P P 12 08 34.0 +0.8
baz=34
BFSC Mount Baldy Ra 34.29 123 ⇓P P 12 08 34.6 +1.5
baz=34
K26A Motz Farm, Whi 34.30 98 ⇑P P 12 08 33.8 +0.7
baz=34
I28A Midland 34.35 94 ⇓P P 12 08 34.6 +1.1
baz=34
HEC Hector,Ludlow 34.35 121 ⇓P P 12 08 34.5 +0.9
baz=34
FMP Fort Macarthur 34.48 124 ⇓P P 12 08 35.7 +1.1
baz=34
O22A Kremmling 34.55 104 ⇓P P 12 08 36.2 +0.7
baz=34
G30A Faulkton 34.56 91 ⇓P P 12 08 36.0 +0.8
baz=34
BBRC Big Bear Solar 34.59 122 ⇑P P 12 08 37.4 +1.6
baz=34
GMRC Granite Mounta 34.69 120 ⇓P P 12 08 37.9 +1.4
baz=35,SNR=7.6
I29A Vivian Onida 34.77 94 ⇓P P 12 08 38.8 +1.8
baz=35
U15A North Rim 34.81 114 ⇑P P 12 08 39.5 +1.7
baz=35,SNR=5.2
O23A Lake Granby, G 34.82 103 ⇓P P 12 08 39.4 +1.5
baz=35,SNR=9.0
P22A Eagle 34.89 105 ⇑P P 12 08 39.6 +1.2
baz=35
SCI San Clemente I 35.01 125 ⇓P P 12 08 41.9 +2.7
baz=35
SMCO Snowmass 35.11 106 eP P 12 08 41.4 +0.9
comp=Z,5.0nm,1.0s
W13A Hualapai Mount 35.20 118 ⇑P P 12 08 42.1 +1.1
baz=35
BELC Belle Mtn. Jos 35.20 121 ⇓P P 12 08 42.4 +1.5
baz=35,SNR=5.2
ISCO Idaho Springs 35.29 104 ⇑P P 12 08 42.6 +0.8
baz=35
PFO Pinyon Flats O 35.34 122 ⇑P P 12 08 43.4 +1.2
baz=35
IRM Iron Mountain 35.43 120 ⇑P P 12 08 44.6 +1.7
baz=35,SNR=6.8
P23A Jefferson 35.51 104 ⇓P P 12 08 45.7 +1.9
baz=35,SNR=5.7
YAK Yakutsk 35.69 308 eP P 12 08 44.2 -0.4
YAK e*PP pP 12 09 03.7 +0.8
YAK e 12 10 07.1
YAK e 12 11 08.5
YAK eS S 12 14 13.4 -1.8
YAK e 12 18 51.6
YAK pmax pmax
comp=Z,14nm,0.8s
YAK pmax pmax
comp=Z,105nm,5.1s
YAK pmax pmax
comp=N,102nm,3.6s
YAK pmax pmax
comp=E,52nm,4.1s
YAK smax smax
comp=N,130nm,5.5s
YAK smax smax
comp=E,152nm,5.6s
YAK Yakutsk 35.69 308 eP P 12 08 44.4 -0.2
comp=E,27nm,0.7s
109C Camp Elliot, M 35.69 124 ⇓P P 12 08 46.7 +1.7
baz=36
BC3 Big Chuckawall 35.73 121 ⇓P P 12 08 46.9 +1.4
baz=36
PDMCI Parker Dam,Lak 35.76 119 ⇑P P 12 08 46.9 +1.3
baz=36
MVCO Mesa Verde 35.94 109 eP P 12 08 48.5 +1.0
comp=E,11nm,0.8s
MVCO epP pP 12 09 08.3 +2.6
MVCO Mesa Verde 35.94 109 ⇑P P 12 08 48.1 +0.7
baz=36
WUAZ Wupatki 35.98 114 eP P 12 08 49.7 +2.0
comp=E,26nm,0.8s
WUAZ epP pP 12 09 09.1 +3.1
WUAZ Wupatki 35.98 114 ⇑P P 12 08 49.3 +1.6
baz=36,SNR=6.6
Y12C Blythe 36.05 120 ⇑P P 12 08 49.5 +1.4
baz=36
Q24A Divide 36.16 104 ⇓P P 12 08 50.3 +0.9
baz=36
S22A 4UR Ranch, Cre 36.31 107 ⇓P P 12 08 50.7 +0.1
baz=36
R23A Moffat 36.44 106 ⇑P P 12 08 53.1 +1.4
baz=36,SNR=7.6
Y14A Wickenburg 36.56 118 ⇑P P 12 08 54.0 +1.5
baz=36
L30A Spencer Herefo 36.58 95 ⇓P P 12 08 53.8 +1.2
baz=36
ECSD EROS Data Cent 36.83 91 ⇓P P 12 08 55.4 +0.8
baz=37
X16A Lo Mia Camp, P 36.87 115 ⇑P P 12 08 57.0 +1.8
baz=37
SDCO Great Sand Dun 36.95 106 eP P 12 08 57.6 +1.6
comp=E,12nm,0.8s
SDCO Great Sand Dun 36.95 106 ⇑P P 12 08 57.6 +1.6
baz=37,SNR=17
Q26A Hugo 36.99 102 ⇑P P 12 08 57.6 +1.4
baz=37
W18A Petrified Fore 37.07 113 eP P 12 08 58.2 +1.2
comp=E,5.2nm,0.6s
W18A Petrified Fore 37.07 113 ⇓P P 12 08 58.3 +1.4
baz=37
Z14A Wintersburg 37.08 118 ⇓P P 12 08 58.5 +1.7
baz=37
113A Mohawk Valley, 37.22 120 ⇑P P 12 08 59.5 +1.5
baz=37
N30A Hueftle Ranch, 37.25 97 ⇑P P 12 08 59.3 +1.0
baz=37
P28A Saint Francis 37.36 100 ⇑P P 12 09 00.6 +1.4
baz=37
KSCO Kaye Shedlock' 37.36 101 ⇑P P 12 09 00.6 +1.3
baz=37
X18A Snowflake 37.45 114 ⇑P P 12 09 01.6 +1.4
baz=37,SNR=5.4
R26A Arlington 37.51 103 ⇑P P 12 09 01.7 +1.1
baz=37
R27A Eads 37.84 102 ⇓P P 12 09 04.8 +1.5
baz=38
S26A Kim 38.03 104 ⇑P P 12 09 06.2 +1.2
baz=38,SNR=6.6
O31A Woolen Ranch, 38.12 97 ⇑P P 12 09 07.0 +1.4
baz=38
Q29A Oakley 38.27 100 ⇓P P 12 09 07.9 +1.0

baz=38
T26A **Comanche Natio** 38.33 104 ⇑P P 12 09 08.3 +0.8
baz=38,SNR=9.3
214A **Organ Pipe Nat** 38.33 119 *e*P P 12 09 08.8 +1.4
comp=E,4.5nm,0.3s
214A **Organ Pipe Nat** 38.33 119 ⇓P P 12 09 08.4 +1.0
baz=38
Q30A **Quinter** 38.58 99 ⇓P P 12 09 10.5 +1.0
baz=38
ANMO **Albuquerque** 38.74 109 *e*P P 12 09 11.6 +0.5
ANMO pmax pmax
comp=Z,3.0nm,1.0s
ANMO **Albuquerque** 38.74 109 *e*P P 12 09 11.6 +0.5
comp=Z,3.1nm,1.0s
S28A **Manter** 38.83 102 ⇑P P 12 09 12.4 +0.8
baz=39
T27A **Campo** 38.84 104 ⇓P P 12 09 12.5 +0.7
baz=39
P32A **Huiting Farm,** 38.89 97 ⇓P P 12 09 12.4 +0.4
baz=39
COWI **Conover** 38.89 82 *e*P P 12 09 11.9 0.0
comp=Z,6.1nm,0.8s
TUC **Tucson** 38.93 117 *ep*P pP 12 09 34.5 +3.5
R30A **Dighton** 39.09 100 ⇑P P 12 09 14.7 +1.0
baz=39,SNR=5.1
YSS **Yuzh-Sakhalins** 39.09 280 *e*P P 12 09 13.9 +0.4
YSS pmax pmax
comp=Z,102nm,2.5s
T28A **Walsh** 39.09 103 ⇓P P 12 09 15.3 +1.5
baz=39
LENM **Lemitar** 39.14 111 *ep*P pP 12 09 36.3 +3.4
S29A **Ulysses** 39.19 101 ⇑P P 12 09 15.6 +1.0
baz=39
U27A **Thompson Grove** 39.30 104 ⇑P P 12 09 16.2 +0.6
baz=39
Q32A **Meitler Ranch,** 39.39 98 ⇓P P 12 09 16.6 +0.4
baz=39
R31A **Burdett** 39.45 99 ⇑P P 12 09 17.4 +0.7
baz=39
U28A **Mallet** 39.62 104 ⇑P P 12 09 19.0 +0.8
baz=40
Q33A **Connelly Farm,** 39.75 97 ⇑P P 12 09 20.0 +0.8
baz=40
R32A **Long Quarter,** 39.75 98 ⇑P P 12 09 19.8 +0.6
baz=40
V27A **Dan Oppiter Fa** 39.82 105 ⇑P P 12 09 20.8 +0.9
baz=40,SNR=5.5
S31A **Mullinville** 39.99 100 ⇓P P 12 09 22.4 +1.2
baz=40
121A **Cookes Peak, D** 40.11 113 *e*P P 12 09 22.7 +0.2
comp=Z,14nm,0.8s
121A **Cookes Peak, D** 40.11 113 ⇓P P 12 09 24.4 +2.0
baz=40,SNR=8.6
V28A **Channing** 40.13 104 ⇓P P 12 09 23.3 +0.9
baz=40
S32A **Newby Ranch, P** 40.20 99 ⇓P P 12 09 23.8 +0.8
baz=40
R33A **Olander Ranch,** 40.20 98 ⇑P P 12 09 23.6 +0.7
baz=40
SUMG **Summit** 40.24 25 *i* P P 12 09 23.0 -0.3
comp=Z,14nm,0.7s
SUMG **Summit** 40.24 25 *i* P P 12 09 23.0 -0.3
SUMG pmax pmax
comp=Z,14nm,0.7s
SUMG **Summit** 40.24 25 *e*P P 12 09 23.1 -0.3
comp=Z,18nm,0.8s
KSU1 **Kansas State U** 40.28 96 ⇓P P 12 09 24.1 +0.6
baz=40
T31A **Randall Ranch,** 40.31 100 ⇓P P 12 09 24.7 +0.8
baz=40
V29A **Stinnett** 40.37 103 ⇑P P 12 09 25.0 +0.6
baz=40
JFWS **Jewell Farm** 40.62 86 *e*P P 12 09 26.1 -0.2
JFWS pmax pmax
comp=Z,16nm,0.8s
JFWS **Jewell Farm** 40.62 86 *e*P P 12 09 26.1 -0.2
comp=Z,16nm,0.8s
Q35A **Mercer Eighty,** 40.75 95 ⇓P P 12 09 28.0 +0.6
baz=41
V30A **Spur Ranch, Mi** 40.87 103 ⇑P P 12 09 29.8 +1.3
baz=41
W29A **Amarillo** 40.91 104 ⇓P P 12 09 29.2 +0.3
baz=41
Q36A **Arnold C. Orve** 40.96 95 ⇓P P 12 09 29.2 +0.1
baz=41
T33A **Patterson Ranc** 41.03 99 ⇓P P 12 09 30.1 +0.3
baz=41
AMTX **Amarillo** 41.09 104 ⇓P P 12 09 31.3 +0.9
baz=41
X28A **Dimmitt** 41.13 105 ⇓P P 12 09 31.5 +0.8
baz=41
V31A **Spring Creek L** 41.27 102 ⇑P P 12 09 32.3 +0.5
baz=41
MSTX **Muleshoe** 41.30 106 *e*P P 12 09 33.0 +0.8
MSTX *ep*P **pP** 12 09 53.8 +3.1
comp=Z,17nm,0.8s
MSTX **Muleshoe** 41.30 106 ⇑P P 12 09 32.9 +0.8
baz=41,SNR=7.0
R36A **Gordon, Harris** 41.43 95 ⇑P P 12 09 33.4 +0.4
baz=41
X29A **Tulia** 41.43 105 ⇑P P 12 09 33.7 +0.6
baz=41,SNR=6.8
S35A **Otter Creek Ra** 41.52 97 ⇓P P 12 09 34.2 +0.5
baz=41
T34A **McClaskey Farm** 41.60 98 ⇓P P 12 09 34.6 +0.2
baz=41
Y28A **McKinney Farm,** 41.60 106 ⇑P P 12 09 35.4 +0.8
baz=41
W31A **Holland Ranch,** 41.69 102 ⇓P P 12 09 36.2 +1.0
baz=42
V32A **Arapaho** 41.71 101 ⇑P P 12 09 35.8 +0.5
baz=42
R37A **Teagarden Farm** 41.77 95 ⇑P P 12 09 35.7 -0.1
baz=42
HABR **Khabarovsk** 41.78 288 *ce*P P 12 09 33.8 -1.9
HABR *e**PP **pP** 12 09 53.0 -1.4
HABR *e*SP 12 10 02.6
HABR *e* 12 11 11.9
HABR *e* 12 11 28.1
HABR *e*S S 12 15 46.3 -0.7
HABR *e*SS **sS** 12 16 20.1 +1.1
HABR pmax pmax
comp=E,153nm,1.3s
HABR pmax pmax
comp=N,28nm,1.3s
HABR pmax pmax
comp=Z,31nm,1.3s
HABR MLR MLR
comp=Z,321nm,22.0s
X30A **Coker Ranch, T** 41.83 104 ⇓P P 12 09 36.7 +0.4
baz=42,SNR=5.6
S36A **Lake Cedric, C** 41.85 96 ⇓P P 12 09 36.5 +0.1
baz=42
U34A **Anderson Ranch** 41.89 99 *e*P P 12 09 36.8 0.0
comp=Z,16nm,0.7s
U34A **Anderson Ranch** 41.89 99 ⇓P P 12 09 36.7 0.0
baz=42
Y29A **Porterfield Fa** 41.92 105 ⇑P P 12 09 37.7 +0.6
baz=42,SNR=10
MNTX **Cornudas Mount** 41.93 111 *e*P P 12 09 38.6 +1.5
comp=Z,10nm,0.8s
MNTX **Cornudas Mount** 41.93 111 ⇓P P 12 09 38.2 +1.0
baz=42,SNR=12
V33A **Lossen Ranch,** 42.00 100 ⇓P P 12 09 38.1 +0.4
baz=42
T35A **Sooner Cattle** 42.02 98 ⇑P P 12 09 38.0 +0.2
baz=42
Z28A **Tucker Farm, M** 42.04 107 ⇑P P 12 09 38.5 +0.4
baz=42
W32A **Sentinel** 42.08 102 ⇑P P 12 09 39.0 +0.6
baz=42
X31A **McDonald Ranch** 42.12 103 ⇓P P 12 09 39.4 +0.8
baz=42,SNR=10
T36A **Boggs Farm, Ca** 42.22 97 ⇑P P 12 09 39.2 -0.3
baz=42,SNR=7.7
Y30A **Stafford Cattl** 42.28 105 ⇓P P 12 09 40.5 +0.5
baz=42
V34A **Guthrie** 42.37 100 ⇓P P 12 09 41.1 +0.4
baz=42
Z29A **Hungry Hill Ra** 42.39 106 ⇑P P 12 09 41.5 +0.5
baz=42,SNR=8.3
Y31A **Rekieta Farm,** 42.52 104 ⇑P P 12 09 42.6 +0.7
baz=42
128A **Castleberry Fa** 42.54 107 ⇓P P 12 09 42.4 +0.3
baz=42,SNR=8.7
WMOK **Wichita Mounta** 42.62 102 *e*P P 12 09 43.3 +0.6
WMOK pmax pmax
comp=Z,21nm,1.0s
WMOK **Wichita Mounta** 42.62 102 *e*P P 12 09 43.3 +0.6
comp=Z,21nm,1.0s
X32A **Elmer** 42.63 103 ⇑P P 12 09 42.8 0.0
baz=42
Z30A **Sanderson Ranc** 42.65 105 ⇑P P 12 09 43.0 0.0
baz=42,SNR=5.6
W34A **Bridge Creek,** 42.72 100 ⇑P P 12 09 43.9 +0.4
baz=43
V35A **Meyer Ranch, C** 42.77 99 ⇓P P 12 09 44.1 +0.3
baz=43
KLR **Kul'dur** 42.82 291 *e*P P 12 09 40.2 -3.9
KLR pmax pmax
comp=Z,57nm,1.6s
129A **Stewart Farms,** 42.83 107 ⇑P P 12 09 44.9 +0.4
baz=43
Y32A **R-V Farms, Ver** 42.89 103 ⇓P P 12 09 45.1 +0.2
baz=43,SNR=6.6
Z31A **Hilltop Ranch,** 43.10 104 ⇑P P 12 09 46.7 +0.1
baz=43,SNR=5.7
TUL1 **Leonard** 43.17 98 ⇓P P 12 09 47.4 +0.3
baz=43
X34A **Smith Ranch, M** 43.20 101 ⇑P P 12 09 48.0 +0.7
baz=43
W35A **Tecumseh** 43.23 100 ⇑P P 12 09 47.5 -0.1
baz=43,SNR=6.1
Y33A **Hilltop Ranch,** 43.28 102 ⇓P P 12 09 48.6 +0.6
baz=43
130A **Snyder** 43.29 106 ⇑P P 12 09 48.9 +0.7
baz=43
SCHQ **Schefferville** 43.29 57 P P 12 09 47.8 -0.1
comp=Z,2.4nm,0.9s,baz=246,slow=20,SNR=3.3
SCHQ pP **pP** 12 10 07.9 +1.2
comp=Z,4.4nm,0.7s,baz=314,slow=6.3,SNR=3.1
SCHQ ScP **ScP** 12 15 17.4 -1.9
comp=Z,5.1nm,1.0s,baz=260,slow=12,SNR=3.5
SCHQ LR LR 12 27 55.6
comp=Z,47nm,19.6s,baz=312,slow=36
229A **Bryant Ranch,** 43.40 107 ⇑P P 12 09 49.5 +0.4
baz=43
Z32A **Haskell** 43.43 104 ⇓P P 12 09 49.5 +0.2
baz=43,SNR=8.7
W36A **Wetumka** 43.56 99 ⇓P P 12 09 50.6 +0.3
baz=43
329A **Wagon Wheel Ra** 43.71 108 ⇑P P 12 09 52.8 +1.2
baz=44
Y34A **Reagan Ranch,** 43.75 101 ⇓P P 12 09 52.5 +0.7
baz=44
Z33A **Whitaker Ranch** 43.80 103 ⇓P P 12 09 52.2 -0.1
baz=44,SNR=6.2
230A **Sterling City** 43.80 106 ⇑P P 12 09 52.9 +0.6
baz=44
ABTX **Abilene, Hawle** 43.91 104 *e*P P 12 09 53.5 +0.4
comp=Z,19nm,1.0s
ABTX *ep*P **pP** 12 10 14.0 +2.1
ABTX **Abilene, Hawle** 43.91 104 ⇑P P 12 09 53.4 +0.4
baz=44,SNR=5.1
X36A **Centrahoma** 43.95 100 ⇑P P 12 09 54.0 +0.5
baz=44
W37A **Quinton** 43.96 98 ⇑P P 12 09 53.5 0.0
baz=44,SNR=8.3
231A **Bronte** 44.14 106 ⇑P P 12 09 55.6 +0.6
baz=44
Z34A **Collier Ranch,** 44.15 102 ⇓P P 12 09 55.7 +0.7
baz=44
330A **Mertzon** 44.16 107 ⇑P P 12 09 55.7 +0.5
baz=44,SNR=16
133A **Hamilton Ranch** 44.27 104 ⇑P P 12 09 56.2 +0.2
baz=44,SNR=6.0
X37A **Clayton** 44.42 99 ⇓P P 12 09 57.5 +0.3
baz=44,SNR=5.3
BOD **Bodaibo** 44.46 310 ⇑*i*P P 12 09 55.6 -1.6
BOD pmax pmax
comp=Z,20nm,1.0s
W38A **Poteau** 44.47 97 ⇑P P 12 09 57.8 +0.3
baz=44
429A **Davenport Ranc** 44.47 108 ⇑P P 12 09 57.8 +0.1
baz=44,SNR=9.4
Z35A **Perchaven, San** 44.50 101 ⇑P P 12 09 58.2 +0.3
baz=44
232A **Coleman** 44.51 105 ⇑P P 12 09 58.3 +0.3
baz=44,SNR=15
331A **San Angelo** 44.61 106 ⇓P P 12 09 58.8 +0.1
baz=44
430A **Baggett Ranch,** 44.65 107 ⇑P P 12 09 59.6 +0.5
baz=44,SNR=7.2
TXAR **Lajitas Array** 44.71 111 P P 12 10 00.6 +1.0
comp=Z,4.1nm,0.8s,baz=333,slow=6.3,SNR=48
TXAR pP **pP** 12 10 20.4 +2.0
comp=Z,3.3nm,0.8s,baz=329,slow=3.8,SNR=7.8
TXAR ScP **ScP** 12 15 24.4 -1.3
comp=Z,0.7nm,1.0s,baz=354,slow=2.5,SNR=3.6
TXAR LR LR 12 27 38.2
comp=Z,44nm,18.6s,baz=0.0,slow=34
134A **White-Moore Ra** 44.71 103 ⇑P P 12 10 00.3 +0.8
baz=45
529A **Stev Forest Ra** 44.73 109 ⇑P P 12 10 00.1 +0.4
baz=45
233A **Rising Star** 44.76 104 ⇑P P 12 10 00.3 +0.3
baz=45,SNR=8.3
332A **Millersview** 44.88 106 ⇓P P 12 10 00.8 0.0
baz=45
431A **Sonora** 45.03 107 ⇑P P 12 10 02.6 +0.5
baz=45,SNR=9.5
530A **J-C Ranch, Com** 45.13 108 ⇑P P 12 10 03.4 +0.5
baz=45,SNR=9.7
234A **Clairette** 45.15 103 ⇑P P 12 10 03.0 0.0
baz=45,SNR=12
PBMO **Poplar Bluff** 45.17 92 *e*P P 12 09 59.2 -3.9
comp=Z,19nm,0.9s
432A **Menard** 45.27 106 ⇑P P 12 10 04.5 +0.5
baz=45
333A **Richland Sprin** 45.29 105 ⇑P P 12 10 04.7 +0.6
baz=45
MIAR **Mount Ida** 45.35 97 *e*P P 12 10 04.8 +0.2
MIAR pmax pmax
comp=Z,13nm,0.9s
MIAR **Mount Ida** 45.35 97 *e*P P 12 10 04.8 +0.2
comp=Z,13nm,0.9s
WHTX **Lake Whitney,** 45.49 103 *e*P P 12 10 06.4 +0.8
comp=Z,19nm,0.8s
WHTX *ep*P **pP** 12 10 27.1 +2.5
WHTX **Lake Whitney,** 45.49 103 ⇑P P 12 10 06.4 +0.8
baz=45
531A **Rocksprings** 45.49 107 ⇑P P 12 10 06.3 +0.5
baz=45,SNR=7.1
JCT **Junction City** 45.59 106 *e*P P 12 10 07.3 +0.8
JCT pmax pmax
comp=Z,64nm,0.7s
JCT **Junction City** 45.59 106 *e*P P 12 10 07.3 +0.8
comp=Z,64nm,0.7s
JCT **Junction City** 45.59 106 ⇑P P 12 10 07.2 +0.6
baz=45,SNR=35
334A **Lometa** 45.65 104 ⇑P P 12 10 07.2 +0.2
baz=46,SNR=5.7
433A **Art** 45.71 105 ⇓P P 12 10 07.9 +0.5
baz=46
532A **Rocksprings** 45.83 107 ⇑P P 12 10 09.5 +1.0
baz=46,SNR=14
137A **Heron Place, G** 45.83 101 ⇑P P 12 10 09.1 +0.7
baz=46
236A **Katherine and** 45.94 102 ⇓P P 12 10 10.0 +0.9
baz=46
434A **Burnet** 46.06 104 ⇑P P 12 10 10.7 +0.5
baz=46,SNR=10
335A **Moody** 46.08 103 ⇓P P 12 10 10.9 +0.5
baz=46
631A **Perdido Creek** 46.11 108 ⇑P P 12 10 10.6 +0.1
baz=46,SNR=12
138A **Matatall Enter** 46.11 100 ⇑P P 12 10 10.8 +0.2
baz=46
336A **Riesel** 46.28 103 ⇓P P 12 10 12.5 +0.6
baz=46
533A **Kerrville** 46.30 106 ⇓P P 12 10 12.6 +0.5
baz=46,SNR=8.4
USRK **Ussuriysk Ar.** 46.33 286 P P 12 10 10.4 -1.7
comp=Z,9.0nm,0.7s,baz=51,slow=8.8,SNR=17
632A **Uvalde** 46.41 107 ⇑P P 12 10 13.3 +0.4
baz=46,SNR=5.7
435B **Jarrell** 46.42 104 ⇓P P 12 10 13.7 +0.8
baz=46
ALLY **Alegheny Colle** 46.58 79 *e*P P 12 10 14.3 +0.2
comp=Z,24nm,0.7s
534A **Blanco** 46.60 105 ⇓P P 12 10 15.1 +0.7
baz=46
633A **Saathoff Ranch** 46.74 106 ⇓P P 12 10 16.8 +1.3
baz=47
337A **Centerville** 46.81 102 ⇑P P 12 10 16.5 +0.5
baz=47
PTN **Potsdam (NY)** 46.92 73 *ep*P pP 12 10 37.2 +1.6
239A **Gary** 46.94 100 ⇓P P 12 10 17.6 +0.6
baz=47
732A **Laxson Ranch,** 46.97 108 ⇓P P 12 10 17.9 +0.6
baz=47
WVT **Waverly** 46.98 90 *e*P P 12 10 17.5 +0.2
WVT pmax pmax
comp=Z,12nm,1.4s
WVT **Waverly** 46.98 90 *e*P P 12 10 17.5 +0.2
comp=Z,12nm,1.4s
733A **Divot King Ran** 47.30 107 ⇓P P 12 10 20.8 +1.0
baz=47,SNR=5.1
832A **Faith Ranch, C** 47.34 108 ⇑P P 12 10 21.0 +0.9
baz=47,SNR=15
OXF **Oxford** 47.46 93 *e*P P 12 10 21.5 +0.5
OXF *e**PP **pP** 12 10 41.8 +1.7
OXF **Oxford** 47.46 93 *e*P P 12 10 21.5 +0.5
OXF *ep*P **pP** 12 10 41.8 +1.7
635A **Leesville** 47.48 105 ⇓P P 12 10 22.4 +1.2
baz=47
833A **Chaparral WMA,** 47.58 107 ⇑P P 12 10 23.2 +1.1
baz=47
636A **Smothers Creek** 47.75 104 ⇓P P 12 10 25.0 +1.7
baz=48,SNR=7.9
538A **Harpers Horsep** 47.90 102 ⇑P P 12 10 25.3 +0.8
baz=48
HKT **Hockley** 47.96 103 *e*P P 12 10 26.2 +1.3
HKT *e**PP **pP** 12 10 46.8 +2.9
HKT pmax pmax
comp=Z,70nm,1.9s
HKT **Hockley** 47.96 103 *e*P P 12 10 26.1 +1.3
comp=Z,70nm,1.9s
HKT *ep*P **pP** 12 10 46.8 +2.9
834A **Tilden** 48.15 107 ⇑P P 12 10 27.9 +1.5
baz=48
933A **Laredo** 48.23 108 ⇑P P 12 10 28.7 +1.7
baz=48
HIA **Hailar** 48.26 299 *e*P P 12 10 26.9 -0.2
HIA pmax pmax
comp=Z,17nm,0.8s
HIA **Hailar** 48.26 299 *e*P P 12 10 26.9 -0.2
comp=Z,17nm,0.8s
SSPA **Standing Stone** 48.46 78 *ep*P pP 12 10 42.8 -5.0
KSPA **Keystone Colle** 48.80 76 *ep*P pP 12 10 52.9 +2.5
MJAR **Matsushiro Arr** 49.08 274 P P 12 10 33.4 -0.1
comp=Z,11nm,1.0s,baz=10,slow=7.3,SNR=18
MAJO **Matsushiro** 49.08 274 P P 12 10 33.0 -0.5
MAJO **Matsushiro** 49.08 274 *e*P P 12 10 33.5 -0.1
comp=Z,27nm,0.9s
MAT **Matsushiro** 49.08 274 P P 12 10 32.6 -0.9
TKL **Tuckaleechee C** 49.38 87 *e*P P 12 10 35.8 -0.1
TKL **Tuckaleechee C** 49.38 87 *e*P P 12 10 35.8 -0.1
LUPA **Lehigh Univers** 49.72 77 *ep*P pP 12 11 00.2 +2.7
ODNJ **Ogdensburg** 49.73 76 *ep*P pP 12 10 51.5 -6.0
CN2 **Changchun** 49.75 290 *e*P P 12 10 37.9 -0.6
CN2 *es*P **sP** 12 11 05.5 -0.9
CN2 PMZ
comp=Z,90nm,0.7s
CN2 PMZ
comp=Z,500nm,9.0s
BLA **Blacksburg** 49.85 83 *ep*P pP 12 11 00.2 +1.6
PAL **Palisades** 50.12 75 *ep*P pP 12 11 02.9 +2.3
ARCES **ARCESS Array B** 50.72 1 P P 12 10 43.4 -2.1
comp=Z,6.2nm,0.7s,baz=3.0,slow=7.5,SNR=32
ARCES LR LR 12 35 15.4
comp=Z,17nm,18.1s,baz=40,slow=40
JSRW **J. Sargeant Re** 50.73 81 *ep*P pP 12 11 07.1 +1.9
GOGA **Godfrey** 51.32 89 *ep*P pP 12 11 10.9 +1.3
LVZ **Lovozero** 52.27 357 P P 12 10 55.0 -2.1
LVZ pmax pmax
comp=Z,40nm,1.7s
TLY **Talaya** 53.03 311 *e*P P 12 11 03.1 +0.2
TLY *e*S S 12 18 36.0 +9.4
TLY pmax pmax
comp=Z,25nm,1.1s
TLY MLR MLR
comp=Z,40nm,16.0s
TLY **Talaya** 53.03 311 *e*P P 12 11 03.5 +0.5
comp=Z,32nm,1.3s
KRAR **Krasnoyarsk** 53.30 320 ⇓*e*P P 12 11 04.4 -0.3
KSRS **Korea Array** 53.47 283 P P 12 11 06.7 +0.4
comp=Z,38nm,0.8s,baz=36,slow=6.8,SNR=81
KSRS LR LR 12 33 37.3
comp=Z,15nm,21.9s,baz=32,slow=36
KSAR **Wonju Array Be** 53.50 283 P P 12 11 06.7 +0.2
KSAR **Wonju Array Be** 53.50 283 P P 12 11 06.7 +0.2
MOY **Mondy** 54.04 312 *e*P P 12 11 11.4 +1.0
MOY pmax pmax
comp=Z,36nm,1.9s
INCN **Inchon** 54.08 284 *e*P P 12 11 10.6 -0.1
comp=Z,38nm,0.8s
ZAK **Zakamensk** 54.21 310 ⇑*i*P P 12 11 11.6 0.0
ZAK pmax pmax
comp=Z,10.0nm,0.9s
TJN **Taejon** 54.59 283 ⇓*i*P P 12 11 14.7 +0.3
ULN **Ulaanbaatar** 54.73 306 *c i*P P 12 11 15.6 +0.1
ULN pmax pmax
comp=Z,47nm,1.0s
ULN **Ulaanbaatar** 54.73 306 *e*P P 12 11 15.5 0.0
comp=Z,32nm,0.7s
SONM **Songino Array** 55.02 306 P P 12 11 18.2 +0.7
comp=Z,69nm,0.7s,baz=41,slow=7.5,SNR=119
SONM LR LR 12 36 27.1
comp=Z,94nm,19.8s,baz=108,slow=38
BJI **Beijing** 57.01 294 P P 12 11 31.3 -0.3
BJI PMZ
comp=Z,38nm,0.8s
BJT **Baijiatuau** 57.03 294 *e*P P 12 11 31.3 -0.5
BJT **Baijiatuau** 57.03 294 *e*P P 12 11 31.3 -0.5
NVS **Novosibirsk** 57.21 325 *e*P P 12 11 29.5 -3.4
NVS pmax pmax
comp=Z,30nm,1.6s
NVS pmax pmax
comp=N,9.0nm,1.1s
NVS pmax pmax
comp=E,7.0nm,0.8s
ZAA0 **Zalesovo Array** 57.53 324 *e*P P 12 11 34.3 -0.8
ZALV **Zalesovo Beam** 57.53 324 P P 12 11 34.1 -1.0
comp=E,12nm,0.6s,baz=28,slow=6.4,SNR=40
ZALV LR LR 12 38 49.8
comp=E,24nm,18.6s,baz=72,slow=39
PRGR **Permogore** 57.87 350 *e*P P 12 11 34.7 -2.6
PRGR *e**PP pP 12 12 02.5 +5.5
PRGR *PP **PP** 12 13 42.8 -2.9
PRGR pmax pmax
comp=Z,17nm,0.7s
HHC **Hu-ho-hao-te** 58.44 298 *e*P P 12 11 45.6 +3.8
HHC pP pP 12 12 01.8 +0.3
HHC sP sP 12 12 08.8 -1.3
HHC PP PP 12 13 57.3 +5.9
HHC S **S** 12 19 42.3 +3.5
HHC sS sS 12 20 10.1 -2.2
HHC ScS **ScS** 12 21 26.4 +2.3
HHC PMZ
comp=Z,18nm,0.6s
HHC PMZ
comp=Z,140nm,5.7s
HHC LN
comp=Z,190nm,16.5s
HHC LE
comp=Z,140nm,15.1s
HHC LZ
comp=Z,160nm,14.7s
NB2 **NORSAR Subarra** 58.59 9 P P 12 11 40.7 -1.8
comp=Z,8.7nm,0.8s,baz=353,slow=6.9
NOA **NORSAR Array B** 58.59 9 P P 12 11 41.1 -1.4
comp=Z,6.6nm,0.8s,baz=352,slow=6.8,SNR=20
FIA1 **FINESS Array S** 58.85 1 *e*P P 12 11 42.3 -1.9
FINES **FINESS Array B** 58.85 1 P P 12 11 42.6 -1.5
comp=Z,14nm,0.7s,baz=18,slow=6.6,SNR=34
KLMR **Klimovskoe** 59.09 353 *e*P P 12 11 40.4 -5.5
KLMR *e**PP pP 12 12 10.2 +4.6
KLMR pmax pmax
comp=Z,30nm,1.5s
HFS **Hagfors** 59.68 8 LR LR 12 37 38.1
comp=Z,14nm,22.0s,baz=306,slow=36
SVE **Sverdlovsk** 60.59 340 *e*P P 12 11 54.7 -1.5
SVE pmax pmax
comp=Z,10.0nm,0.9s
ARU **Arti** 61.32 341 *d i*P P 12 11 59.3 -1.9
ARU S **S** 12 20 15.0 -0.1
ARU SS SS 12 24 07.9 -7.6
ARU pmax pmax
comp=Z,9.0nm,0.8s
ARU **Arti** 61.32 341 *e*P P 12 11 59.5 -1.7

comp=Z,8.0nm,0.6s
VSU Vasula 61.84 1 *de*P **P 12 12 03.8 -0.8**
KURK Kurchatov 62.17 326 P **P 12 12 05.5 -1.5**
KURK pmax pmax
comp=Z,6.0nm,0.7s
KURK Kurchatov 62.17 326 *e*P **P 12 12 05.7 -1.2**
comp=Z,14nm,0.7s
BRVK Borovoye 62.17 332 *e*P **P 12 12 05.3 -1.7**
BRVK pmax pmax
comp=Z,14nm,0.7s
BRVK Borovoye 62.17 332 *e*P **P 12 12 05.3 -1.7**
comp=Z,14nm,0.7s
BVA0 Borovoye Array 62.18 332 *i* P **P 12 12 05.5 -1.5**
BVA0 pmax pmax
comp=Z,16nm,0.7s
NJ2 Nanjing 62.22 286 *e*P **P 12 12 08.0 +0.4**
NJ2 PMZ
comp=Z,70nm,0.8s
ESK Eskdalemuir 62.41 19 *i* P **P 12 12 08.2 -0.3**
MK31 Makanchi Array 64.60 322 *e*P **P 12 12 21.5 -1.6**
MK31 Makanchi Array 64.60 322 *e*P **P 12 12 21.5 -1.6**
MKAR Makanchi Array 64.60 322 P **P 12 12 21.2 -1.8**
comp=Z,5.2nm,0.8s,baz=45,slow=6.4,SNR=26
MKAR PP **PP 12 14 45.5 +0.1**
comp=Z,1.6nm,0.7s,baz=51,slow=9.6,SNR=4.5
MKAR LR LR 12 40 38.6
comp=Z,28nm,19.1s,baz=34,slow=36
MKAR Makanchi Array 64.60 322 *e*P **P 12 12 21.7 -1.4**
MKAR 12 14 45.5
MKAR Makanchi Array 64.60 322 *e*P **P 12 12 21.7 -1.4**
MKAR PP **PP 12 14 45.5 +0.1**
GTA Gaotai 64.66 305 P **P 12 12 23.6 -0.1**
GTA pP **pP 12 12 42.8 -0.9**
GTA sP **sP 12 12 52.3 +0.1**
GTA PMZ
comp=Z,48nm,1.1s
OBN Obninsk 64.98 354 *i* P **P 12 12 24.0 -1.3**
OBN *i* *PP **pP 12 12 49.2 +3.9**
OBN pmax pmax
comp=Z,13nm,0.6s
XAN Xi'an 65.23 295 P **P 12 12 26.3 -1.1**
XAN PMZ
comp=Z,5.0nm,1.2s
WMQ Urumqi 65.45 316 P **P 12 12 29.3 +0.6**
WMQ pP **pP 12 12 45.5 -3.2**
WMQ sP **sP 12 12 52.4 -4.8**
WMQ PcP **PcP 12 13 00.3 +0.3**
WMQ PP **PP 12 14 56.8 +3.9**
WMQ PcS 12 17 03.3
WMQ S **S 12 21 08.4 +1.4**
WMQ sS **sS 12 21 36.3 -4.7**
WMQ ScS **SKSac 12 22 16.1 -0.6**
WMQ PMZ
comp=Z,22nm,0.6s
WMQ PMZ
comp=Z,110nm,4.2s
BSEG Bad Segeberg 65.54 11 *e*P **P 12 12 28.5 -0.5**
comp=Z,16nm,0.9s
BSEG *es*P **sP 12 12 55.6 -1.9**
WHN Wuhan 65.62 289 ⇑P **P 12 12 29.5 -0.4**
LZH Lanzhou 65.77 300 *e*P **P 12 12 30.8 -0.2**
LZH pP **pP 12 12 47.3 -3.7**
LZH sP sP 12 12 54.1 -5.5
LZH *e*PP **PP 12 14 58.0 +1.9**
LZH *e*S **S 12 21 12.0 +0.7**
LZH sS sS 12 21 39.3 -6.0
LZH *e*SS **SS 12 25 28.3 +2.1**
LZH PMZ
comp=Z,37nm,1.6s
LZH PMZ
comp=Z,140nm,6.2s
LZH LN
comp=Z,470nm,15.0s
LZH LE
comp=Z,500nm,14.8s
LZH LZ
comp=Z,690nm,18.5s
OTUK Ortayu 66.12 329 P **P 12 12 31.4 -1.5**
OTUK pmax pmax
comp=Z,13nm,0.8s
SUW Suwalki 66.25 3 *e*P **P 12 12 32.3 -1.3**
SUW Suwalki 66.25 3 *e*P **P 12 12 32.4 -1.2**
NRDL Niedersach Rie 66.94 12 *e*P **P 12 12 37.3 -0.6**
comp=Z,16nm,0.9s
NRDL *es*P **sP 12 13 04.2 -2.3**
AKTO Aktyubinsk 67.17 339 P **P 12 12 38.2 -1.3**
comp=Z,7.1nm,0.9s,baz=37,slow=6.5,SNR=14
AKTO LR LR 12 46 30.4
comp=Z,21nm,18.0s,slow=40
AKTO Aktyubinsk 67.17 339 P **P 12 12 36.6 -2.9**
AKTO pmax pmax
comp=Z,4.0nm,0.6s
RUE Ruedersdorf 67.29 9 *e*P **P 12 12 39.7 -0.5**
comp=Z,43nm,0.7s
RUE Ruedersdorf 67.29 9 *e*P **P 12 12 40.1 -0.1**
comp=Z,51nm,1.0s
CLZ Clausthal 67.62 11 *e*P **P 12 12 42.2 -0.1**
comp=Z,24nm,0.7s
BUG Bochum--Univer 67.67 14 *e*P **P 12 12 41.8 -0.8**
comp=Z,20nm,0.9s
AB31 Akbulak array 67.95 338 *i* P **P 12 12 42.5 -1.9**
AB31 pmax pmax
comp=Z,1.0nm,0.3s
ABKAR Akbulak array 67.95 338 *e*P **P 12 12 42.9 -1.5**
SNF Seneffe 68.21 16 P **P 12 12 45.3 -0.7**
MEM Membach 68.33 15 P **P 12 12 46.1 -0.7**
comp=Z,7.6nm,1.2s
MEM Membach 68.33 15 *e*P **P 12 12 46.5 -0.3**
MEM pmax pmax
comp=Z,11nm,0.9s
MEM Membach 68.33 15 *e*P **P 12 12 46.5 -0.3**
comp=Z,10nm,0.9s
NEUB Neuenburg 68.38 11 *e*P **P 12 12 46.4 -0.6**
comp=Z,33nm,0.7s
CLL Collm 68.39 10 *e*P **P 12 12 46.0 -1.1**
comp=Z,15nm,1.1s
CLL *es*P **sP 12 13 13.3 -2.5**
CLL Collm 68.39 10 ⇑*i*P **P 12 12 46.0 -1.1**
comp=Z,15nm,1.1s
CLL *ep*P **pP 12 13 09.0 +1.8**
CLL *i* PcP **PcP 12 13 12.7 +0.7**
CLL Collm 68.39 10 *e*P **P 12 12 46.0 -1.1**
CLL *e**PP **PcP 12 13 13.0 +1.0**
CLL pmax pmax
comp=Z,15nm,1.0s
CLL Collm 68.39 10 *e*P **P 12 12 46.0 -1.1**
comp=Z,15nm,1.0s
CLL *ep*P **PcP 12 13 13.0 +1.0**
BCLA Clavier 68.43 15 P **P 12 12 46.7 -0.7**
PDGK Podgornoye 68.58 322 P **P 12 12 47.8 -0.6**
PDGK pmax pmax
comp=Z,10.0nm,1.0s
UBBA Unterbreizbach 68.59 12 *e*P **P 12 12 47.5 -0.7**
comp=Z,5.0nm,0.9s
BAIF Baives 68.64 16 ⇑*i*P **P 12 12 48.0 -0.7**
comp=Z,27nm,1.1s
BAIF Baives 68.64 16 ⇑*i*P **P 12 12 48.0 -0.7**
BAIF pmax pmax
comp=Z,27nm,1.1s
BAIF Baives 68.64 16 ⇑*i*P **P 12 12 48.0 -0.7**
comp=Z,27nm,1.1s
DOU Dourbes 68.65 16 P **P 12 12 48.2 -0.6**
comp=Z,7.0nm,1.5s
GIVF Givet 68.68 16 *e*P **P 12 12 48.1 -0.8**
comp=Z,40nm,1.1s
GIVF Givet 68.68 16 *e*P **P 12 12 48.1 -0.8**
GIVF pmax pmax
comp=Z,40nm,1.1s
GIVF Givet 68.68 16 *e*P **P 12 12 48.1 -0.8**
comp=Z,40nm,1.1s
FBE Freiberg 68.80 10 *e*P **P 12 12 49.2 -0.5**
comp=Z,18nm,1.0s
BRG Berggiesshubel 68.90 9 *e*P **P 12 12 49.6 -0.7**
comp=Z,16nm,1.0s
BRG *e* 12 13 16.2
comp=Z,7.1nm,0.9s
BRG Berggiesshubel 68.90 9 *e*P **P 12 12 49.5 -0.7**
comp=Z,16nm,1.0s
BRG *es*P **sP 12 13 16.9 -2.1**
BRG Berggiesshubel 68.90 9 *e*P **P 12 12 49.6 -0.7**
BRG *e* 12 13 16.2
BRG pmax pmax
comp=Z,16nm,1.0s
MOX Moxa 68.92 11 *e*P **P 12 12 49.9 -0.6**
comp=Z,23nm,0.9s
MOX *es*P **sP 12 13 17.1 -2.0**
TNS Taunus Mts 69.01 13 *e*P **P 12 12 50.5 -0.6**
comp=Z,8.0nm,0.8s
KSP Ksiaz 69.10 8 *e*P **P 12 12 51.0 -0.6**
KSP Ksiaz 69.10 8 *e*P **P 12 12 51.0 -0.6**
ROSF Rostrenen 69.10 22 *e*P **P 12 12 50.8 -0.8**
comp=Z,12nm,0.8s
ROSF Rostrenen 69.10 22 *e*P **P 12 12 50.8 -0.8**
ROSF pmax pmax
comp=Z,12nm,0.8s
ROSF Rostrenen 69.10 22 *e*P **P 12 12 50.8 -0.8**
comp=Z,12nm,0.8s
PLN Plauen 69.13 10 *e*P **P 12 12 51.2 -0.6**
comp=Z,13nm,0.9s
PLN *es*P **sP 12 13 18.4 -2.0**
WERD Werda 69.18 10 *e*P **P 12 12 51.5 -0.6**
comp=Z,7.0nm,1.1s
FLN La Foliniere 69.18 19 ⇑*i*P **P 12 12 50.9 -1.2**
comp=Z,26nm,0.9s
FLN *ep*P **PcP 12 13 17.4 +2.0**
FLN *e*R
comp=Z,41nm,22.5s
FLN La Foliniere 69.18 19 ⇑*i*P **P 12 12 50.9 -1.2**
FLN *e**PP **PcP 12 13 17.4 +2.0**
FLN pmax pmax
comp=Z,26nm,0.9s
FLN La Foliniere 69.18 19 ⇑*i*P **P 12 12 50.9 -1.2**
comp=Z,26nm,0.9s
FLN *ep*P **PcP 12 13 17.4 +2.0**
TANN Tannenbergstha 69.23 10 *e*P **P 12 12 51.7 -0.7**
comp=Z,9.0nm,1.0s
TANN *es*P **sP 12 13 19.2 -1.9**
GUNZ Gunzen 69.27 10 *e*P **P 12 12 52.1 -0.5**
comp=Z,11nm,0.9s
GUNZ *es*P **sP 12 13 19.3 -2.0**
WLF Walferdange 69.28 15 P **P 12 12 52.5 -0.1**
WLF Walferdange 69.28 15 *e*P **P 12 12 52.4 -0.3**
comp=Z,20nm,1.2s
WLF Walferdange 69.28 15 *e*P **P 12 12 52.6 -0.1**
WLF pmax pmax
comp=Z,15nm,1.1s
WLF Walferdange 69.28 15 *e*P **P 12 12 52.6 -0.1**
comp=Z,15nm,1.1s
PVCC Panska Ves 69.29 9 ⇑*e*P **P 12 12 52.7 0.0**
PVCC *e*PCP **PcP 12 13 19.1 +3.2**
PVCC Panska Ves 69.29 9 *e*P **P 12 12 52.7 0.0**
PVCC *e* 12 13 19.1
SGMF Saint Gilles 69.31 21 *e*P **P 12 12 52.0 -0.9**
comp=Z,20nm,1.0s
SGMF Saint Gilles 69.31 21 *e*P **P 12 12 52.0 -0.9**
SGMF pmax pmax
comp=Z,21nm,1.0s
SGMF Saint Gilles 69.31 21 *e*P **P 12 12 52.0 -0.9**
comp=Z,4.8nm,0.7s
comp=Z,20nm,1.0s
SDDR Presa de Saban 69.32 88 *e*P **P 12 12 53.0 -0.4**
comp=Z,4.8nm,0.7s
WERN Wernitzgruen 69.34 10 *e*P **P 12 12 52.7 -0.4**
comp=Z,11nm,0.7s
WERN *es*P **sP 12 13 19.9 -1.9**
NKC Novy Kostel 69.41 10 ⇑*e*P **P 12 12 52.9 -0.6**
NKC *e*PCP **PcP 12 13 19.6 +3.2**
NKC Novy Kostel 69.41 10 *e*P **P 12 12 52.9 -0.6**
NKC *e* 12 13 19.6
LDF La Druitiere 69.41 19 ⇑*i*P **P 12 12 52.2 -1.3**
comp=Z,11nm,0.8s
LDF La Druitiere 69.41 19 ⇑*i*P **P 12 12 52.2 -1.3**
LDF pmax pmax
comp=Z,11nm,0.8s
LDF La Druitiere 69.41 19 ⇑*i*P **P 12 12 52.2 -1.3**
comp=Z,11nm,0.8s
UPC Upice 69.42 8 ⇑*e*P **P 12 12 52.9 -0.6**
UPC *e*PCP **PcP 12 13 20.0 +3.6**
UPC Upice 69.42 8 *e*P **P 12 12 52.9 -0.6**
UPC *e* 12 13 20.0
GRR Gorron 69.48 20 ⇑*i*P **P 12 12 53.0 -0.9**
comp=Z,23nm,0.9s
GRR Gorron 69.48 20 ⇑*i*P **P 12 12 53.0 -0.9**
GRR pmax pmax
comp=Z,23nm,0.9s
GRR Gorron 69.48 20 ⇑*i*P **P 12 12 53.0 -0.9**
comp=Z,23nm,0.9s
QUIF Quistinic 69.53 22 *e*P **P 12 12 53.3 -0.9**
comp=Z,22nm,1.2s
QUIF Quistinic 69.53 22 *e*P **P 12 12 53.3 -0.9**
QUIF pmax pmax
comp=Z,22nm,1.2s
QUIF Quistinic 69.53 22 *e*P **P 12 12 53.3 -0.9**
comp=Z,22nm,1.2s
DPC Dobruska-Polom 69.59 8 ⇑*i*P **P 12 12 54.4 -0.3**
DPC *ex* x 12 13 02.9
DPC *es*P **sP 12 13 21.4 -2.0**
DPC *ex* x 12 13 31.5
DPC Dobruska-Polom 69.59 8 ⇑*i*P **P 12 12 54.4 -0.3**
DPC *e* 12 13 21.4
DPC Dobruska-Polom 69.59 8 *e*P **P 12 12 54.5 -0.3**
comp=Z,211nm,0.9s
AKASG Malin Array Be 69.61 359 P **P 12 12 53.0 -1.8**
comp=Z,6.6nm,0.7s,baz=2.3,slow=6.0,SNR=30
AKASG pP **PcP 12 13 16.9 -0.3**
comp=Z,3.2nm,0.4s,baz=2.3,slow=6.1,SNR=5.7
AKASG LR LR 12 45 38.2
comp=Z,18nm,19.1s,baz=350,slow=38
AKBB Malin Array Si 69.61 359 *e*P **P 12 12 53.1 -1.6**
AKBB Malin Array Si 69.61 359 *e*P **P 12 12 53.1 -1.6**
MANZ Manzenberg 69.62 11 *e*P **P 12 12 54.1 -0.7**
comp=Z,6.0nm,0.9s
MANZ *es*P **sP 12 13 21.3 -2.2**
KIEV Kiev 69.62 359 ⇓*i*P **P 12 12 53.3 -1.4**
KIEV Kiev 69.62 359 *ep*P pP 12 13 19.3 +4.4
AK01 Malin Array Si 69.62 359 *e*P **P 12 12 53.1 -1.7**
PRU Pruhonice 69.82 9 ⇑*e*P **P 12 12 55.5 -0.5**
PRU *ep*P **PcP 12 13 19.1 +1.0**
PRU *e*PCP pP 12 13 22.8 +6.6
PRU Pruhonice 69.82 9 *e*P **P 12 12 55.5 -0.5**
PRU *e* 12 13 19.1
PRU *e* 12 13 22.8
GRF Grafenberg Arr 69.83 11 *e*P **P 12 12 55.6 -0.5**
comp=Z,12nm,0.8s
ROTZ Rotzenmuhle 69.84 11 *e*P **P 12 12 55.9 -0.3**
comp=Z,15nm,0.8s
ROTZ *es*P **sP 12 13 23.2 -1.7**
KRLC Kraliky 69.90 7 ⇑*e*P **P 12 12 56.1 -0.5**
KRLC *es*P **sP 12 13 23.7 -1.6**
KRLC Kraliky 69.90 7 *e*P **P 12 12 56.1 -0.5**
KRLC *e* 12 13 23.7
GOPC GO Pecny, Ondr 69.92 9 ⇑*e*P **P 12 12 56.1 -0.5**
GOPC *es*P **sP 12 13 23.0 -2.3**
OJC Ojcow 69.92 5 *e*P **P 12 12 55.9 -0.7**
OJC Ojcow 69.92 5 *e*P **P 12 12 55.9 -0.7**
OJC Ojcow 69.92 5 *e*P **P 12 12 55.8 -0.8**
comp=Z,15nm,0.4s
TKM2 Tokmak 2 70.12 325 *e*P **P 12 12 57.0 -1.2**
TKM2 pmax pmax
comp=Z,5.0nm,0.8s
TKM2 Tokmak 2 70.12 325 *e*P **P 12 12 57.0 -1.2**
comp=Z,4.9nm,0.8s
CD2 Chengdu 70.20 298 *e*P **P 12 13 01.0 +2.3**
CD2 pP **pP 12 13 18.6 -0.3**
CD2 sP **sP 12 13 25.6 -1.8**
CD2 PP **PP 12 15 39.3 +4.9**
CD2 S **S 12 22 06.6 +2.6**
CD2 sS **SKiKP 12 22 35.3 -0.7**
CD2 SKS **SKKSac 12 22 53.1 +0.1**
CD2 SS **SS 12 26 38.8 +4.3**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.4s
OKC Ostrava-Krasne 70.22 6 ⇑*e*P **P 12 12 57.8 -0.6**
OKC *es*P **sP 12 13 25.8 -1.3**
OKC Ostrava-Krasne 70.22 6 *e*P **P 12 12 57.8 -0.6**
OKC *e* 12 13 25.8
MORC Moravsky Berou 70.24 7 *e*P **P 12 12 57.8 -0.9**
MORC pmax pmax
comp=Z,9.0nm,0.9s
MORC Moravsky Berou 70.24 7 ⇑*i*P **P 12 12 58.1 -0.6**
MORC Moravsky Berou 70.24 7 *e*P **P 12 12 57.8 -0.9**
comp=Z,9.2nm,0.9s
MEZF Maizieres J'vi 70.28 16 ⇑*i*P **P 12 12 58.1 -0.7**
comp=Z,18nm,0.8s
MEZF Maizieres J'vi 70.28 16 ⇑*i*P **P 12 12 58.1 -0.7**
comp=Z,18nm,0.8s
PAGF Fort de Pagny 70.31 15 ⇑*i*P **P 12 12 58.6 -0.5**
comp=Z,4.2nm,0.7s
PAGF *ep*P **PcP 12 13 25.1 +4.9**
PAGF Fort de Pagny 70.31 15 ⇑*i*P **P 12 12 58.6 -0.5**
comp=Z,4.2nm,0.7s
PAGF *ep*P **PcP 12 13 25.1 +4.9**
STU Stuttgart 70.52 13 *e*P **P 12 12 59.8 -0.5**
comp=Z,18nm,1.3s
WET Wettzell 70.52 10 *e*P **P 12 13 00.0 -0.4**
comp=Z,8.0nm,1.0s
SFTF Sexfontaines 70.56 16 *e*P **P 12 12 59.7 -0.9**
comp=Z,34nm,1.1s
SFTF Sexfontaines 70.56 16 *e*P **P 12 12 59.7 -0.9**
comp=Z,34nm,1.1s
TREC Trest 70.58 8 ⇑*e*P **P 12 13 00.1 -0.6**
TREC Trest 70.58 8 *e*P **P 12 13 00.1 -0.6**
KHC Kasperske Hory 70.60 10 ⇑*i*P **P 12 13 00.6 -0.2**
KHC *e*PCP **PcP 12 13 26.4 +4.9**
KHC *ex* x 12 13 33.8
KHC *ex* x 12 13 38.4
KHC Kasperske Hory 70.60 10 ⇑*i*P **P 12 13 00.6 -0.2**
KHC *e* 12 13 26.4
KHC *e* 12 13 33.8
KWP Kalwaria Pacla 70.62 3 *e*P **P 12 13 00.0 -0.9**
KWP Kalwaria Pacla 70.62 3 *e*P **P 12 13 00.0 -0.9**
VRAC Vranov 70.65 8 ⇑*i*P **P 12 13 00.6 -0.5**
CDF Champ du Feu 70.65 14 ⇑*i*P **P 12 13 00.5 -0.7**
comp=Z,16nm,0.9s
CDF Champ du Feu 70.65 14 ⇑*i*P **P 12 13 00.5 -0.7**
CDF pmax pmax
comp=Z,16nm,0.9s
CDF Champ du Feu 70.65 14 ⇑*i*P **P 12 13 00.5 -0.7**
comp=Z,16nm,0.9s
AAK Ala-Archa 70.70 325 P **P 12 13 01.0 -0.8**
AAK pmax pmax
comp=Z,7.0nm,1.0s
STHS Stebnicka Huta 70.78 4 *e*P **P 12 13 01.9 0.0**
STHS pmax pmax
comp=Z,23nm,0.7s
STHS Stebnicka Huta 70.78 4 *e*P **P 12 13 01.9 0.0**
ECH Echery 70.83 14 *e*P **P 12 13 01.6 -0.6**
ECH pmax pmax
comp=Z,12nm,1.0s
ECH Echery 70.83 14 *e*P **P 12 13 01.6 -0.6**
comp=Z,12nm,1.0s
BFO Black Forest 70.86 13 *e*P **P 12 13 01.5 -0.9**
comp=Z,11nm,1.1s
BFO Black Forest 70.86 13 *i* P **P 12 13 02.2 -0.2**
BFO Black Forest 70.86 13 *e*P **P 12 13 01.1 -1.3**
comp=Z,8.8nm,1.0s
EKS2 Erkin-Say 70.88 326 *e*P **P 12 13 01.8 -1.0**
EKS2 pmax pmax
comp=Z,9.0nm,0.7s
EKS2 Erkin-Say 70.88 326 *e*P **P 12 13 01.8 -1.0**
comp=Z,8.8nm,0.7s
GEC2 GERESS Array S 70.89 10 *e*P **P 12 13 02.0 -0.7**
comp=Z,7.0nm,0.8s
GEC2 *es*P **sP 12 13 29.3 -2.1**
GEC2 GERESS Array S 70.89 10 *e*P **P 12 13 02.3 -0.4**
GEC2 GERESS Array S 70.89 10 *e*P **P 12 13 02.3 -0.4**
GERES GERESS Array B 70.89 10 P **P 12 13 02.0 -0.7**
comp=Z,4.9nm,0.7s,baz=349,slow=4.8,SNR=22
GERES pP **pP 12 13 24.9 +2.0**
comp=Z,2.4nm,0.7s,baz=357,slow=4.7,SNR=4.9
HAU Haudompre 70.94 15 ⇑*i*P **P 12 13 02.0 -0.9**
comp=Z,14nm,0.8s
HAU *e*R
comp=Z,26nm,22.8s
HAU Haudompre 70.94 15 ⇑*i*P **P 12 13 02.0 -0.9**
HAU pmax pmax
comp=Z,14nm,0.8s
HAU Haudompre 70.94 15 ⇑*i*P **P 12 13 02.0 -0.9**
comp=Z,14nm,0.8s
HINF Hinteralfeld 71.19 15 ⇑*i*P **P 12 13 03.4 -1.0**
comp=Z,11nm,0.9s
HINF Hinteralfeld 71.19 15 ⇑*i*P **P 12 13 03.4 -1.0**
HINF pmax pmax
comp=Z,11nm,0.9s
HINF Hinteralfeld 71.19 15 ⇑*i*P **P 12 13 03.4 -1.0**
comp=Z,11nm,0.9s
KOLS Kolonicke sedl 71.31 4 *e*P **P 12 13 04.1 -1.0**
KOLS pmax pmax
comp=Z,6.0nm,0.8s
KOLS Kolonicke sedl 71.31 4 *e*P **P 12 13 04.1 -1.0**
LOR Lormes 71.31 17 ⇑*i*P **P 12 13 04.2 -1.0**
comp=Z,25nm,0.9s
LOR *ep*P pP 12 13 30.8 +5.4
LOR *e*R
comp=Z,33nm,18.8s
LOR Lormes 71.31 17 ⇑*i*P **P 12 13 04.2 -1.0**
LOR *e**PP pP 12 13 30.8 +5.4
LOR pmax pmax
comp=Z,25nm,0.9s
LOR Lormes 71.31 17 ⇑*i*P **P 12 13 04.2 -1.0**
comp=Z,25nm,0.9s
LOR *ep*P pP 12 13 30.8 +5.4
MFF Saint Martin d 71.33 20 ⇑*i*P **P 12 13 04.5 -0.8**
comp=Z,22nm,0.9s
MFF Saint Martin d 71.33 20 ⇑*i*P **P 12 13 04.5 -0.8**
MFF pmax pmax
comp=Z,22nm,0.9s
MFF Saint Martin d 71.33 20 ⇑*i*P **P 12 13 04.5 -0.8**
comp=Z,22nm,0.9s
FUR Furstenfeldbru 71.34 11 *e*P **P 12 13 04.9 -0.4**
comp=Z,25nm,1.0s
KKAR Karatay Array 71.37 328 *e*P **P 12 13 04.5 -1.1**
KKAR Karatay Array 71.37 328 *e*P **P 12 13 04.5 -1.1**
MNAS Manas 71.40 327 P **P 12 13 03.8 -2.1**
MNAS pmax pmax
comp=Z,6.0nm,0.9s
SSF Saint Saulge 71.47 17 ⇑*i*P **P 12 13 05.2 -0.9**
comp=Z,33nm,1.0s
SSF *ep*P pP 12 13 31.7 +5.4
SSF Saint Saulge 71.47 17 ⇑*i*P **P 12 13 05.2 -0.9**
SSF *e**PP pP 12 13 31.7 +5.4
SSF pmax pmax
comp=Z,33nm,1.0s
SSF Saint Saulge 71.47 17 ⇑*i*P **P 12 13 05.2 -0.9**
comp=Z,33nm,1.0s
SSF *ep*P pP 12 13 31.7 +5.4
VYHS Vyhne 71.59 6 *e*P **P 12 13 06.1 -0.7**
VYHS pmax pmax
comp=Z,9.0nm,0.8s
VYHS Vyhne 71.59 6 *e*P **P 12 13 06.1 -0.7**
UZH Uzhgorod 71.61 4 *de*P **P 12 13 05.3 -1.6**
UZH *e* 12 13 22.0
UZH *e* 12 13 37.9
AVF Avril sur Loir 71.71 17 ⇑*i*P **P 12 13 06.4 -1.1**
comp=Z,21nm,0.8s
AVF Avril sur Loir 71.71 17 ⇑*i*P **P 12 13 06.4 -1.1**
AVF pmax pmax
comp=Z,21nm,0.8s
AVF Avril sur Loir 71.71 17 ⇑*i*P **P 12 13 06.4 -1.1**
comp=Z,21nm,0.8s
BGF Bois d'Agland 71.86 18 ⇑*i*P **P 12 13 07.3 -1.1**
comp=Z,20nm,0.8s
BGF Bois d'Agland 71.86 18 ⇑*i*P **P 12 13 07.3 -1.1**
BGF pmax pmax
comp=Z,20nm,0.8s
BGF Bois d'Agland 71.86 18 ⇑*i*P **P 12 13 07.3 -1.1**
comp=Z,20nm,0.8s
RJOB Jochberg 71.91 10 *e*P **P 12 13 08.2 -0.6**
comp=Z,19nm,0.7s
SMF Signal de Mont 71.92 17 ⇑*i*P **P 12 13 07.6 -1.2**
comp=Z,13nm,0.7s
SMF *ep*P **pP 12 13 34.2 +5.1**
SMF Signal de Mont 71.92 17 ⇑*i*P **P 12 13 07.6 -1.2**
SMF *e**PP **pP 12 13 34.2 +5.1**
SMF pmax pmax
comp=Z,13nm,0.7s
SMF Signal de Mont 71.92 17 ⇑*i*P **P 12 13 07.6 -1.2**
comp=Z,13nm,0.7s
SMF *ep*P **pP 12 13 34.2 +5.1**
MOA Molln 71.93 9 ⇑*i*P **P 12 13 08.0 -0.9**
comp=Z,13nm,1.6s,SNR=5.1
CONA Conrad Observa 71.97 8 *i* P **P 12 13 08.9 -0.3**
comp=Z,17nm,0.7s,SNR=20
TCF Toulx Ste Croi 72.02 18 ⇑*i*P **P 12 13 08.3 -1.2**
comp=Z,5.6nm,0.7s
TCF Toulx Ste Croi 72.02 18 ⇑*i*P **P 12 13 08.3 -1.2**
TCF pmax pmax
comp=Z,6.0nm,0.7s
TCF Toulx Ste Croi 72.02 18 ⇑*i*P **P 12 13 08.3 -1.2**
comp=Z,5.6nm,0.7s
TRPA Tarpa 72.12 4 ⇑*i*P **P 12 13 09.3 -0.6**
TRPA Tarpa 72.12 4 ⇑*e*P **P 12 13 09.6 -0.3**
MOTA Moosalm 72.14 12 ⇑*i*P **P 12 13 09.7 -0.6**

comp=Z,7.4nm,0.8s,SNR=5.9
WATA Walderalm 72.19 11⇓ *iP* **P 12 13 09.9 -0.7**
comp=Z,23nm,1.1s
PSZ Piszkesteto 72.22 5 *eP* **P 12 13 10.2 -0.5**
PSZ pmax pmax
comp=Z,20nm,0.9s
PSZ Piszkesteto 72.22 5⇓ *iP* **P 12 13 10.8 +0.1**
PSZ Piszkesteto 72.22 5 *eP* **P 12 13 10.2 -0.5**
comp=Z,20nm,0.9s
PSZ Piszkesteto 72.22 5⇑ *eP* **P 12 13 10.6 -0.1**
SOP Sopron 72.26 8⇑ *eP* **P 12 13 10.7 -0.1**
CABF La Chapelle 72.27 15⇑ *iP* **P 12 13 10.3 -0.7**
comp=Z,16nm,0.9s
CABF *epP* pP 12 13 36.9 +5.6
CABF La Chapelle 72.27 15⇑ *iP* **P 12 13 10.3 -0.7**
CABF *e*PP* pP 12 13 36.9 +5.6
CABF pmax pmax
comp=Z,16nm,0.9s
CABF La Chapelle 72.27 15⇑ *iP* **P 12 13 10.3 -0.7**
comp=Z,16nm,0.9s
CABF *epP* pP 12 13 36.9 +5.6
WTTA Wattenberg 72.27 11 *iP* **P 12 13 10.9 -0.2**
comp=Z,21nm,0.7s,SNR=11
FETA Feichten 72.42 12 *iP* **P 12 13 11.7 -0.3**
comp=Z,15nm,1.0s,SNR=9.4
KBA Koelnbreinsper 72.61 10 *iP* **P 12 13 13.1 -0.1**
comp=Z,33nm,0.7s,SNR=20
ARSA Arzberg 72.62 9 *iP* **P 12 13 12.7 -0.3**
comp=Z,11nm,0.9s,SNR=7.8
BUR08 Bucovina Ar. S 72.66 2 *eP* **P 12 13 11.8 -1.6**
PKSG 72.67 7 *eP* **P 12 13 13.5 +0.3**
GYA Guiyang 72.67 293 *eP* **P 12 13 16.0 +2.3**
GYA *pP* **pP 12 13 35.3 +1.3**
GYA *PP* **PP 12 16 00.4 +4.6**
GYA *S* **S 12 22 33.5 +0.8**
GYA *SKS* **SKSac 12 23 10.0 -1.9**
GYA PMZ
comp=Z,10.0nm,1.0s
GYA PMZ
comp=Z,80nm,5.0s
BURAR Bucovina Array 72.69 2⇑ *iP* **P 12 13 12.4 -1.1**
FUORN Ofenpass-Fuorn 72.76 12 *eP* **P 12 13 14.1 0.0**
comp=Z,11nm,0.8s
PKST T`s 72.78 7 *eP* **P 12 13 13.9 0.0**
TUE Stuetta 72.81 13 *eP* **P 12 13 14.1 -0.3**
comp=Z,13nm,0.8s
TUE *epP* pP 12 13 41.0 +6.3
RJF Les Rejaudoux 72.87 19 *eP* **P 12 13 13.0 -1.5**
RJF *eR*
comp=Z,40nm,18.5s
RJF Les Rejaudoux 72.87 19 *eP* **P 12 13 13.0 -1.5**
RJF Les Rejaudoux 72.87 19 *eP* **P 12 13 13.0 -1.5**
MYKA Terra Mystica 73.08 10⇓ *iP* **P 12 13 14.7 -1.1**
comp=Z,11nm,0.9s,SNR=6.0
LFF La Frestale 73.10 20⇑ *iP* **P 12 13 15.0 -0.8**
comp=Z,20nm,0.8s
LFF La Frestale 73.10 20⇑ *iP* **P 12 13 15.0 -0.8**
LFF pmax pmax
comp=Z,20nm,0.8s
LFF La Frestale 73.10 20⇑ *iP* **P 12 13 15.0 -0.8**
comp=Z,20nm,0.8s
KSH Kashi 73.14 323 *eP* **P 12 13 19.0 +2.7**
KSH *pP* **pP 12 13 39.3 +2.7**
KSH *PP* PP 12 16 05.1 +5.8
KSH *S* **SKiKP 12 22 39.9 -0.4**
KSH *sS* **SKSac 12 23 14.3 -0.8**
KSH *ScS* **ScS 12 23 17.3 -0.2**
KSH PMZ
comp=Z,44nm,3.7s
KSH LN
comp=Z,50nm,3.6s
KSH LE
comp=Z,86nm,4.6s
KSH LZ
comp=Z,130nm,5.6s
SOKA Soboth 73.15 9 *iP* **P 12 13 15.5 -0.7**
comp=Z,8.5nm,0.7s,SNR=11
OBKA Obir 73.28 9 *iP* **P 12 13 16.5 -0.5**
comp=Z,63nm,0.7s,SNR=38
CAF Calviac 73.33 19⇑ *iP* **P 12 13 16.2 -1.0**
comp=Z,12nm,0.8s
CAF Calviac 73.33 19⇑ *iP* **P 12 13 16.2 -1.0**
CAF pmax pmax
comp=Z,12nm,0.8s
CAF Calviac 73.33 19⇑ *iP* **P 12 13 16.2 -1.0**
comp=Z,12nm,0.8s
LPL La Plagne 73.43 15 *eP* **P 12 13 18.0 0.0**
comp=Z,16nm,1.0s
LPL *epP* pP 12 13 44.7 +6.3
LPL La Plagne 73.43 15 *eP* **P 12 13 18.0 0.0**
LPL *e*PP* pP 12 13 44.7 +6.3
LPL pmax pmax
comp=Z,16nm,1.0s
LPL La Plagne 73.43 15 *eP* **P 12 13 18.0 0.0**
comp=Z,16nm,1.0s
LPL *epP* pP 12 13 44.7 +6.3
LPG La Plagne 73.45 15 *eP* **P 12 13 18.4 +0.2**
comp=Z,28nm,1.3s
LPG La Plagne 73.45 15 *eP* **P 12 13 18.4 +0.2**
LPG pmax pmax
comp=Z,28nm,1.3s
LPG La Plagne 73.45 15 *eP* **P 12 13 18.4 +0.2**
comp=Z,28nm,1.3s
VIVF Saint-Julien-l 73.79 17⇑ *iP* **P 12 13 19.2 -0.7**
comp=Z,20nm,1.0s
VIVF *epP* pP 12 13 45.7 +5.4
VIVF Saint-Julien-l 73.79 17⇑ *iP* **P 12 13 19.2 -0.7**
VIVF *e*PP* pP 12 13 45.7 +5.4
VIVF pmax pmax
comp=Z,20nm,1.0s
VIVF Saint-Julien-l 73.79 17⇑ *iP* **P 12 13 19.2 -0.7**
comp=Z,20nm,1.0s
VIVF *epP* pP 12 13 45.7 +5.4
PKSM Moragy 73.86 6⇑ *iP* **P 12 13 19.4 -0.8**
PKSM Moragy 73.86 6⇑ *eP* **P 12 13 19.4 -0.8**
BNI Bardonecchia 73.88 15 *eP* **P 12 13 20.9 +0.4**
BNI *e*PP* pP 12 13 50.6 +10
BNI pmax pmax
comp=Z,11nm,1.1s
BNI Bardonecchia 73.88 15 *eP* **P 12 13 20.9 +0.4**
comp=Z,11nm,1.1s
BNI *epP* pP 12 13 50.6 +10
ORIF Oris-en-Rattie 73.90 16 *eP* **P 12 13 20.0 -0.7**
ORIF *eR*
comp=Z,40nm,21.8s
ORIF Oris-en-Rattie 73.90 16 *eP* **P 12 13 20.0 -0.7**
ORIF Oris-en-Rattie 73.90 16 *eP* **P 12 13 20.0 -0.7**
MBDF Montbardon 74.21 15 *eP* **P 12 13 22.6 +0.1**
comp=Z,13nm,0.8s
MBDF *epP* pP 12 13 49.2 +6.3
MBDF Montbardon 74.21 15 *eP* **P 12 13 22.6 +0.1**
MBDF *e*PP* pP 12 13 49.2 +6.3
MBDF pmax pmax
comp=Z,13nm,0.8s
MBDF Montbardon 74.21 15 *eP* **P 12 13 22.6 +0.1**
comp=Z,13nm,0.8s
MBDF *epP* pP 12 13 49.2 +6.3
DOPR Dopca 74.34 2⇓ *iP* **P 12 13 22.7 -0.4**
LASF Ste Croix 74.44 18 *eP* **P 12 13 22.4 -1.3**
LASF Ste Croix 74.44 18 *eP* **P 12 13 22.4 -1.3**
VRI Vrincioaia 74.46 1⇑ *iP* **P 12 13 22.8 -1.0**
BZS Buzias 74.59 4⇓ *iP* **P 12 13 23.8 -0.7**
SMRF Simiane la Rot 74.78 16⇑ *iP* **P 12 13 25.8 +0.1**
comp=Z,14nm,0.9s
SMRF Simiane la Rot 74.78 16⇑ *iP* **P 12 13 25.8 +0.1**
comp=Z,14nm,0.9s
MLR Muntele Rosu 74.83 1⇓ *iP* **P 12 13 25.5 -0.6**
LOT Lotru 74.83 3⇑ *iP* **P 12 13 26.0 -0.1**
ETSF Etsaut 74.85 21 *eP* **P 12 13 25.8 -0.4**
comp=Z,12nm,0.8s
ETSF *epP* pP 12 13 52.4 +5.8
ETSF Etsaut 74.85 21 *eP* **P 12 13 25.8 -0.4**
ETSF *e*PP* pP 12 13 52.4 +5.8
ETSF pmax pmax
comp=Z,12nm,0.8s
ETSF Etsaut 74.85 21 *eP* **P 12 13 25.8 -0.4**
comp=Z,12nm,0.8s
ETSF *epP* pP 12 13 52.4 +5.8
GZR Gura Zlata 74.86 4⇑ *iP* **P 12 13 25.3 -0.9**
PMOR Pomariorio Ree 74.86 175 *eT* T 13 35 21.2
comp=Z,3.5nm,0.2s
MTLF Montolieu 74.89 19⇑ *iP* **P 12 13 25.5 -0.8**
comp=Z,13nm,0.7s
MTLF Montolieu 74.89 19⇑ *iP* **P 12 13 25.5 -0.8**
MTLF pmax pmax
comp=Z,13nm,0.7s
MTLF Montolieu 74.89 19⇑ *iP* **P 12 13 25.5 -0.8**
comp=Z,13nm,0.7s
ARR Arges 74.93 2⇑ *iP* **P 12 13 26.5 -0.1**
CFR Carcaliu 75.15 360⇓ *iP* **P 12 13 26.7 -1.0**
SBF Sospel 75.15 15 *eP* **P 12 13 27.1 -0.7**
comp=Z,37nm,0.9s
SBF Sospel 75.15 15 *eP* **P 12 13 27.1 -0.7**
SBF pmax pmax
comp=Z,37nm,0.9s
SBF Sospel 75.15 15 *eP* **P 12 13 27.1 -0.7**
comp=Z,37nm,0.9s
ISR Istrita 75.20 1⇓ *iP* **P 12 13 27.4 -0.7**
FRF La Foret Royal 75.34 16 *eP* **P 12 13 28.1 -0.8**
comp=Z,6.9nm,0.8s
FRF La Foret Royal 75.34 16 *eP* **P 12 13 28.1 -0.8**
FRF pmax pmax
comp=Z,7.0nm,0.8s
FRF La Foret Royal 75.34 16 *eP* **P 12 13 28.1 -0.8**
comp=Z,6.9nm,0.8s
LMR La Mourre 75.54 16 *eP* **P 12 13 29.5 -0.5**
comp=Z,16nm,1.0s
LMR La Mourre 75.54 16 *eP* **P 12 13 29.5 -0.5**
LMR pmax pmax
comp=Z,16nm,1.0s
LMR La Mourre 75.54 16 *eP* **P 12 13 29.5 -0.5**
comp=Z,16nm,1.0s
KMI Kunming 75.62 295 P **P 12 13 33.3 +2.3**
KMI PMZ
comp=Z,8.0nm,0.6s
KMI LZ
comp=Z,49nm,32.6s
KIV Kislovodsk 75.63 349 *eP* **P 12 13 30.6 -0.1**
KIV pmax pmax
comp=Z,13nm,1.0s
TLB Topalu 75.74 360⇑ *iP* **P 12 13 30.2 -0.9**
TIRR Tirgusor 75.87 359⇑ *iP* **P 12 13 30.7 -1.1**
DIVS Divibare 76.04 6⇓ *iP* **P 12 13 32.1 -0.9**
PGF Pioggiola 76.64 14⇑ *iP* **P 12 13 35.6 -0.8**
comp=Z,36nm,0.9s
PGF Pioggiola 76.64 14⇑ *iP* **P 12 13 35.6 -0.8**
PGF pmax pmax
comp=Z,36nm,0.9s
PGF Pioggiola 76.64 14⇑ *iP* **P 12 13 35.6 -0.8**
comp=Z,36nm,0.9s
ESDC Sonseca Array 77.30 24 P **P 12 13 39.3 -0.8**
comp=Z,4.5nm,0.8s,baz=344,slow=5.5,SNR=18
ESDC *pP* **pP 12 14 02.6 +2.0**
comp=Z,3.2nm,0.7s,baz=345,slow=5.7,SNR=5.2
PPT Papeete 77.36 177 LR LR 12 40 59.8
comp=Z,44nm,21.1s,baz=342,slow=30
PPT2 Papeete2 77.38 177 *e*LR LR 12 37 36.7
comp=Z,60nm,24.2s
QIZ Qiongzhong 77.52 286 P **P 12 13 43.1 +1.6**
QIZ S **S 12 23 28.1 +1.7**
VTS Vitosha 77.67 3⇓ *iP* **P 12 13 40.7 -1.5**
JMB Yambol 77.86 1⇑ *iP* **P 12 13 42.3 -0.8**
SDV Santo Domingo 78.24 93 *epP* pP 12 14 07.5 +1.2
KDZ Kurdzhali 78.66 2⇓ *iP* **P 12 13 47.1 -0.4**
MMB Musomiste 78.69 3⇓ *iP* **P 12 13 47.4 -0.3**
NVR Nevrokopi 78.93 3 *eP* **P 12 13 48.0 -1.0**
KNT Kendrikon 79.09 4 *eP* **P 12 13 49.0 -0.9**
SRS Serrai 79.15 3 *eP* **P 12 13 49.0 -1.2**
GRG Griva 79.28 4 P **P 12 13 50.0 -0.9**
GRG Griva 79.28 4 *eP* **P 12 13 50.0 -0.9**
GRG Griva 79.28 4 P **P 12 13 50.0 -0.9**
GRG Griva 79.28 4 P **P 12 13 50.0 -0.9**
FNA Florina 79.41 5 P **P 12 13 50.2 -1.5**
FNA Florina 79.41 5 *eP* **P 12 13 50.0 -1.7**
FNA Florina 79.41 5 P **P 12 13 50.2 -1.5**
FNA Florina 79.41 5 P **P 12 13 50.2 -1.5**
ALN Alexandroupoli 79.42 1 *eP* **P 12 13 51.0 -0.6**
SOH Sokhos 79.44 3 *eP* **P 12 13 51.0 -0.9**
HORT Hortiatis 79.66 3 *eP* **P 12 13 52.0 -1.1**
VSL Villasalto 79.69 14 *eP* **P 12 13 52.7 -0.5**
comp=Z,7.2nm,0.8s
NEST Nestorio 79.76 5 P **P 12 13 52.3 -1.4**
NEST Nestorio 79.76 5 *eP* **P 12 13 52.0 -1.7**
PLG Polygyros 79.89 5 *eP* **P 12 13 53.0 -1.3**
OUR Ouranopolis 79.94 3 *eP* **P 12 13 53.5 -1.0**
TAPN Taplejung 80.06 308 *eP* **P 12 13 55.5 -0.2**
comp=Z,41nm,0.8s
LIT Litokhoron 80.13 4 *eP* **P 12 13 54.0 -1.6**
GUN Gumba 80.27 310 *eP* **P 12 13 56.7 -0.2**
comp=Z,31nm,1.0s
PAIG Paliouri 80.34 3 *eP* **P 12 13 55.0 -1.7**
JIRN Jiri 80.37 310 *eP* **P 12 13 57.5 0.0**
comp=Z,46nm,0.8s
BRTR Keskin Array B 80.47 355 P **P 12 13 56.3 -1.3**
comp=Z,3.2nm,0.8s,baz=9.9,slow=2.9,SNR=9.1
BRTR LR LR 12 53 11.9
comp=Z,8.2nm,21.6s,baz=67,slow=36
KKN Kakani 80.60 311 *eP* **P 12 13 58.4 -0.1**
IGT Igoumenitsa 80.61 6 P **P 12 13 56.8 -1.3**
IGT Igoumenitsa 80.61 6 *eP* **P 12 13 56.5 -1.6**
IGT Igoumenitsa 80.61 6 P **P 12 13 56.8 -1.3**
IGT Igoumenitsa 80.61 6 P **P 12 13 56.8 -1.3**
ODAN Odare 80.62 309 *eP* **P 12 13 58.5 -0.2**
comp=Z,29nm,1.0s
THL Klokotos Trika 80.65 4 P **P 12 13 56.6 -1.7**
THL Klokotos Trika 80.65 4 *eP* **P 12 13 57.0 -1.3**
GKN Gorkha 80.66 311 *eP* **P 12 13 58.5 -0.2**
comp=Z,7.5nm,0.4s
PKIN Phulchoki 80.75 310 *eP* **P 12 13 58.9 -0.5**
PKI Pulchoki 80.75 310 *eP* **P 12 13 59.1 -0.4**
comp=Z,20nm,0.9s
DMN Daman 80.83 311 *eP* **P 12 13 59.7 -0.1**
comp=Z,23nm,0.9s
RAMN Ramite 80.85 309 *eP* **P 12 13 59.7 -0.2**
comp=Z,45nm,1.0s
XOR Xorichti 80.89 3 P **P 12 13 57.9 -1.7**
XOR Xorichti 80.89 3 *eP* **P 12 13 58.0 -1.7**
XOR Xorichti 80.89 3 P **P 12 13 57.9 -1.7**
DSL Palaion Diasel 81.04 5 *eP* **P 12 13 59.5 -1.0**
AOS Alonnisos 81.10 3 P **P 12 13 58.7 -2.0**
AOS Alonnisos 81.10 3 *eP* **P 12 13 58.5 -2.2**
AOS Alonnisos 81.10 3 P **P 12 13 58.7 -2.0**
AGG Agios Georgios 81.20 4 *eP* **P 12 13 59.5 -1.8**
MAKR Makrakomi, Fth 81.20 4 *eP* **P 12 14 00.5 -0.8**
KOLN Koldanda 81.25 312 *eP* **P 12 14 01.0 -1.0**
comp=Z,16nm,0.9s
LKD2 Lefkada island 81.37 5 *eP* **P 12 14 00.5 -1.7**
SMIA Simia 81.38 3 *eP* **P 12 14 01.0 -1.2**
AXAR Agios Charalam 81.47 4 *eP* **P 12 14 01.5 -1.2**
MRKA Markates 81.56 3 *eP* **P 12 14 01.0 -2.2**
PDO Prodromos 81.58 5 *eP* **P 12 14 02.0 -1.3**
EFP Efpalio 81.78 5 *eP* **P 12 14 04.0 -0.3**
DSF Desfina 81.82 4 P **P 12 14 02.1 -2.5**
DSF Desfina 81.82 4 *eP* **P 12 14 02.5 -2.1**
DSF Desfina 81.82 4 P **P 12 14 02.1 -2.5**
KALE Kalithea 81.83 4 *eP* **P 12 14 03.0 -1.7**
CHOS Chios island 81.93 1 *eP* **P 12 14 03.5 -1.7**
VLS Valsamata 81.97 6 *eP* **P 12 14 04.0 -1.4**
RLS Riolos of Patr 82.13 5 *eP* **P 12 14 05.0 -1.2**
KLV Kalavryta, Ach 82.17 4 P **P 12 14 04.8 -1.7**
KLV Kalavryta, Ach 82.17 4 *eP* **P 12 14 05.0 -1.5**
KLV Kalavryta, Ach 82.17 4 P **P 12 14 04.8 -1.7**
DRO Drossia 82.25 5 P **P 12 14 06.1 -0.7**
DRO Drossia 82.25 5 *eP* **P 12 14 06.5 -0.3**
GUR Goura 82.29 4 P **P 12 14 05.6 -1.5**
GUR Goura 82.29 4 *eP* **P 12 14 06.0 -1.1**
GUR Goura 82.29 4 P **P 12 14 05.6 -1.5**
ZKS Zakynthos 82.46 5 *eP* **P 12 14 06.0 -1.9**
AMT Artemida-Makis 82.67 5 *eP* **P 12 14 12.0 +3.0**
DID Didima 82.75 4 *eP* **P 12 14 07.0 -2.4**
VLX Vlachokerasia 82.85 4 *eP* **P 12 14 10.0 -0.1**
SFD Strofades 82.92 5 *eP* P 12 14 05.0 -5.2
CMAR Chiang Mai Arr 83.13 295 P **P 12 14 10.7 -1.0**
comp=Z,3.8nm,0.9s,baz=13,slow=6.1,SNR=15
PYL PYLOS 83.30 5 *eP* **P 12 14 10.0 -2.3**
KEST Kesra 83.40 15 P **P 12 14 11.9 -1.0**
comp=Z,3.0nm,0.9s,baz=310,slow=6.1,SNR=10
KEST Kesra 83.40 15 *eP* **P 12 14 12.7 -0.2**
KEST *epP* pP 12 14 39.2 +5.6
KSM Kuching 92.39 277 *eP* **P 12 14 54.5 -1.8**
comp=Z,12nm,1.2s
WRA Warramunga Arr 99.05 246 P **Pdif 12 15 23.7 -2.6**
comp=Z,0.7nm,0.9s,baz=40,slow=3.7,SNR=6.0
LBTB Lobatse 144.97 3 *e*PKIKP PKPbc 12 21 20.9 -0.8
LBTB Lobatse 144.97 3 *e*PKPdf PKPbc 12 21 20.9 -0.8
BOSA Boshof 148.54 4 PKPbc **PKPbc 12 21 30.8 -1.1**
comp=Z,13nm,0.7s,baz=1.6,slow=2.3,SNR=27
QSPA South Pole Qui 149.83 180 *e*PKPdf **PKPbc 12 21 32.1 -1.7**
MAW Mawson 162.92 229 PKPab **PKPab 12 22 34.9 -0.8**
comp=Z,2.9nm,1.0s,baz=61,slow=7.5,SNR=4.1

*ISCJB **24** 12:04:25.3±0.6, 51.08N±0.07×73.45E±0.07, h10km, mb3.7/1, Error ellipse: s-maj=11.0km s-min=5.8km az=18.5*
*NNC **24** 12:04:27.0±0.5, 51.00N×73.59E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=8.2km s-min=3.2km az=28.0*
*IDC **24** 12:04:28.2±1.0, 50.93N×73.59E, h0km, mb3.6/1, mb1 3.4/6, mb1mx3.3/32, mbtmp3.3/6, ML2.8/5, Error ellipse: s-maj=23.6km s-min=9.4km az=25.0*

ISC 24 12:04:28.1±0.9, 50.99N±0.09×73.50E±0.06, h10km, n20, σ1§14, 17, 15C-6D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BVA0	**Borovoye Array**	**2.81**	**318**		⇑Pg		**Pb**	**12 05 18.2**	**-0.1**
	5.1nm,0.4s,baz=139,slow=15,SNR=56								
BVA0					⇑Lg		Lg	12 05 58.5	
	21nm,0.5s,baz=123,slow=27,SNR=11								
BVAR	**Borovoye Array**	**2.81**	**318**	Pn			**Pb**	**12 05 15.9**	**-2.4**
	5.6nm,0.3s,baz=138,slow=15,SNR=34								
BVAR					Lg		Lg	12 05 57.0	
	7.1nm,0.3s,baz=130,slow=33,SNR=9.8								
BRVK	**Borovoye**	**2.88**	**317**		⇑Pg		**Pb**	**12 05 19.4**	**-0.1**
	8.9nm,0.4s								
BRVK					⇑Lg		Lg	12 05 59.1	
	52nm,0.5s								
KURBB	**Kurchatov Arra**	**3.21**	**95**		⇑Pn		**Pn**	**12 05 18.5**	**-0.1**
	6.1nm,0.6s								
KURBB					⇓Pg		**Pb**	**12 05 24.6**	**-0.6**
	18nm,0.5s								
KURBB					⇑Lg		Lg	12 06 05.3	
	93nm,0.6s								
KURBB	**Kurchatov Arra**	**3.21**	**95**	Pn			**Pn**	**12 05 18.7**	**+0.1**
	0.3nm,0.3s,baz=279,slow=14,SNR=52								
KURBB					Lg		Lg	12 06 04.7	
	1.2nm,0.3s,baz=272,slow=30,SNR=11								
KURK	**Kurchatov**	**3.25**	**93**		⇑Pn		**Pn**	**12 05 18.9**	**-0.2**
	1.3nm,0.6s								
KURK					⇓Lg		Lg	12 06 05.8	
	16nm,0.6s								
MK31	**Makanchi Array**	**7.15**	**123**		⇓Pn		**Pn**	**12 06 13.9**	**+1.1**
	0.5nm,0.5s,baz=294,slow=13,SNR=4.1								
MK31					⇓Pg		Pb	12 06 36.0	+3.7
	1.0nm,0.5s,baz=296,slow=15,SNR=6.0								
MK31					⇓Sn		**Sn**	**12 07 34.9**	**+0.9**
	1.1nm,0.5s								
MK31					⇑Lg		Lg	12 08 11.4	
	4.0nm,0.6s,baz=312,slow=25,SNR=6.1								
MKAR	**Makanchi Array**	**7.15**	**123**	Pn			**Pn**	**12 06 13.0**	**+0.2**
	0.1nm,0.3s,baz=303,slow=14,SNR=3.1								
MKAR					Sn		**Sn**	**12 07 31.1**	**-2.9**
	0.2nm,0.3s,baz=295,slow=18,SNR=3.1								
MKAR					Lg		Lg	12 08 05.2	
	0.9nm,0.3s,baz=309,slow=28,SNR=6.6								
I46RU	**ZALESOVO INFRA**	**7.52**	**62**	*i*				12 55 10.0	
	baz=250,slow=320,SNR=1.2								
ZALV	**Zalesovo Beam**	**7.52**	**62**	Pn			**Pn**	**12 06 18.3**	**+0.6**
	0.4nm,0.3s,baz=253,slow=15,SNR=7.5								
ZALV					Sn		**Sn**	**12 07 42.9**	**-0.1**
	0.3nm,0.3s,baz=251,slow=23,SNR=2.6								
KK31	**Karatay Array**	**8.15**	**196**		⇑Lg		Lg	12 08 45.4	
	3.8nm,0.7s,baz=8.5,slow=25,SNR=5.0								
TKM2	**Tokmak 2**	**8.19**	**169**		⇑Lg		Lg	12 08 47.9	
	21nm,1.1s								
AAK	**Ala-Archa**	**8.38**	**175**		⇑Lg		Lg	12 08 51.7	
	26nm,1.4s								
MNAS	**Manas**	**8.53**	**185**		⇑Lg		Lg	12 08 56.9	
	6.1nm,0.8s								
PDGK	**Podgornoye**	**8.68**	**150**		⇑Lg		Lg	12 09 01.9	
	13nm,1.3s								
AB31	**Akbulak array**	**8.89**	**264**	Pn			**Pn**	**12 06 36.9**	**+0.4**
	0.3nm,0.4s,baz=98,slow=20,SNR=6.6								
AB31					⇓Lg		Lg	12 09 11.0	
	1.0nm,0.6s								
I31KZ	**AKTYUBINSK INF**	**9.84**	**273**	*i*				13 07 09.0	
	baz=82,slow=322,SNR=0.6								
AKTO	**Aktyubinsk**	**9.84**	**273**		⇑Pn		**Pn**	**12 06 49.8**	**+0.2**
	2.8nm,1.1s								
AKTO					⇑Lg		Lg	12 09 43.7	
	2.7nm,0.8s								
AKTO	**Aktyubinsk**	**9.84**	**273**	Pn			**Pn**	**12 06 49.6**	**-0.1**
	0.4nm,0.3s,baz=86,slow=12,SNR=4.7								
AKTO					Lg		Lg	12 09 46.4	
	0.2nm,0.3s,baz=22,slow=18,SNR=3.1								
ILAR	**Eielson Array**	**60.41**	**19**	P			**P**	**12 14 38.1**	**+1.0**
	0.4nm,0.5s,baz=328,slow=5.6,SNR=11								

MEX 24 12:23:25.1±0.7, 14.57N×95.03W, h10km, MD4.0, Off coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**3.27**	**58**	*eP*			Pn	12 24 19.8	+3.1
CCIG				*eS*			Sn	12 24 52.4	-3.4

*ZUR **24** 12:32:48.9, 47.77N×8.96E, h11km, ML2.6/21*
*CSEM **24** 12:32:48.4±0.1, 47.78N×8.91E, h10km, ML3.1/29, Error ellipse: s-maj=1.7km s-min=1.5km az=10.0*
*VIE **24** 12:32:48.2±1.6, 47.69N×8.73E, h7km±6km, mb2.3/10, ML3.0/13, Error ellipse: s-maj=12.1km s-min=8.7km az=60.0 5 km ENE of Schaffhausen*
*BGR **24** 12:32:49.5±0.2, 47.79N×8.95E, h10km, ML2.7/13, Error ellipse: s-maj=2.2km s-min=2.2km az=156.0*
*LDG **24** 12:32:49.7±0.1, 47.76N×8.95E, h11km, Md2.7/3, Ml3.0/30, Error ellipse: s-maj=1.2km s-min=1.1km az=145.0*
*PRU **24** 12:32:49.1, 47.81N×9.06E, h0km*
*STR **24** 12:32:50.4±0.2, 47.80N×8.84E, h10km, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*ROM **24** 12:32:54.1±0.8, 47.54N×9.03E, h10km, Ml2.6/8, Error ellipse: s-maj=12.3km s-min=4.6km az=168.0*

ISC 24 12:32:48.5±0.4, 47.78N±0.01×8.928E±0.009, h11km±3km, n277, σ1§49/407, 40C-18D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SISB	**Singen-Schiene**	**0.10**	**166**		⇓*iP**		**Pg**	**12 32 51.5**	**+0.3**
SISB	**Singen-Schiene**	**0.10**	**166**		Pb		**Pg**	**12 32 51.5**	**+0.3**
STEIN	**Stein am Rhein**	**0.12**	**200**		⇑*iPg*		**Pg**	**12 32 52.1**	**+0.6**
	3μm,0.3s								
STEIN					*i* Sg		**Sg**	**12 32 54.2**	**+0.5**
	3μm,0.3s								
STEIN	**Stein am Rhein**	**0.12**	**200**		⇑*iPg*		**Pg**	**12 32 52.1**	**+0.6**
	3μm,0.3s								
STEIN					*i* Sg		**Sg**	**12 32 54.2**	**+0.5**
	3μm,0.3s								
TRULL	**Truellikon**	**0.21**	**231**		⇑*iPg*		**Pg**	**12 32 53.9**	**+0.9**
	1μm,0.4s								
TRULL	**Truellikon**	**0.21**	**231**		⇑*iPg*		**Pg**	**12 32 53.9**	**+0.9**
	1μm,0.4s								
WEIN	**Weingarten**	**0.26**	**171**		⇓*iPg*		**Pg**	**12 32 54.3**	**+0.5**
	1μm,0.4s								
WEIN					*i* Sg		**Sg**	**12 32 58.2**	**+0.8**
	1μm,0.4s								
WEIN	**Weingarten**	**0.26**	**171**		⇓*iPg*		**Pg**	**12 32 54.3**	**+0.5**
	1μm,0.4s								
WEIN					*i* Sg		**Sg**	**12 32 58.2**	**+0.8**
	1μm,0.4s								
SLE	**Schleitheim**	**0.29**	**267**		⇑*iP**		**Pg**	**12 32 55.4**	**+0.9**
SLE					*i S**		**Sg**	**12 32 59.7**	**+1.2**
SLE	**Schleitheim**	**0.29**	**267**		⇑*iPg*		**Pg**	**12 32 55.4**	**+0.9**
	1μm,0.5s								
SLE					*i* Sg		**Sg**	**12 32 59.6**	**+1.1**
	1μm,0.5s								
SLE	**Schleitheim**	**0.29**	**267**		⇑*iPg*		**Pg**	**12 32 55.4**	**+0.9**
	1μm,0.5s								
SLE					*i* Sg		**Sg**	**12 32 59.6**	**+1.1**
	1μm,0.5s								
GUT	**Gutenstein**	**0.32**	**23**		⇑*iP**		**Pg**	**12 32 55.4**	**+0.5**
GUT	**Gutenstein**	**0.32**	**23**		Pb		**Pg**	**12 32 55.4**	**+0.5**
FLACH	**Flaach**	**0.32**	**229**		⇑*iPg*		**Pg**	**12 32 55.9**	**+0.9**
	747nm,0.2s								
FLACH					*i* Sg		**Sg**	**12 33 00.8**	**+1.5**
	747nm,0.2s								
FLACH	**Flaach**	**0.32**	**229**		⇑*iPg*		**Pg**	**12 32 55.9**	**+0.9**
	747nm,0.2s								
FLACH					*i* Sg		**Sg**	**12 33 00.8**	**+1.5**
	747nm,0.2s								
SPAK	**Spaichingen-Ko**	**0.33**	**343**		⇓*iP**		**Pg**	**12 32 56.2**	**+0.9**
SPAK					S*		**Sg**	**12 33 01.1**	**+1.3**

SPAK	**Spaichingen-Ko**	**0.33 343**	Pb	**Pg**	**12 32 56.2 +0.9**
SPAK			Sb	**Sg**	**12 33 01.1 +1.3**
WILA	**Wila**	**0.37 182**	⇓*i*P*	**Pg**	**12 32 56.5 +0.6**
WILA			*i* S*	**Sg**	**12 33 01.8 +1.1**
WILA	**Wila**	**0.37 182**	⇓*i*Pg	**Pg**	**12 32 56.5 +0.6**
	5µm,0.2s				
WILA			*i* Sg	**Sg**	**12 33 01.9 +1.1**
	5µm,0.2s				
WILA	**Wila**	**0.37 182**	⇓*i*Pg	**Pg**	**12 32 56.5 +0.6**
	5µm,0.2s				
WILA			Sb	**Sg**	**12 33 01.8 +1.1**
ZUR	**Degenried**	**0.48 210**	⇑*i*Pg	**Pg**	**12 32 58.5 +0.7**
	2µm,0.2s				
ZUR			*i* Sg	**Sg**	**12 33 05.5 +1.4**
	2µm,0.2s				
ZUR	**Degenried**	**0.48 210**	⇑*i*Pg	**Pg**	**12 32 58.5 +0.7**
	2µm,0.2s				
ZUR			*i* Sg	**Sg**	**12 33 05.5 +1.4**
	2µm,0.2s				
ACHB	**Acheberg**	**0.49 247**	⇑*i*Pg	**Pg**	**12 32 59.1 +0.9**
	261nm,0.2s				
ACHB	**Acheberg**	**0.49 247**	⇑*i*Pg	**Pg**	**12 32 59.1 +0.9**
	261nm,0.2s				
EWZT0	**Triemli, ZR**	**0.51 215**	⇑*i*Pg	**Pg**	**12 32 59.1 +0.7**
EWZT3	**Uitikon, ZR**	**0.52 218**	⇑*i*Pg	**Pg**	**12 32 59.4 +0.8**
	2µm,0.2s				
EWZT2	**Wettswil, ZR**	**0.53 214**	⇑*i*Pg	**Pg**	**12 32 59.7 +0.8**
	2µm,0.4s				
SULZ	**Cheisacher**	**0.61 245**	⇑*i*P*	**Pg**	**12 33 01.2 +0.9**
SULZ			S*	**Sg**	**12 33 09.8 +1.5**
SULZ			*i* SmS		12 33 12.6
SULZ	**Cheisacher**	**0.61 245**	⇑*i*Pg	**Pg**	**12 33 01.2 +0.9**
	821nm,0.2s				
SULZ	**Cheisacher**	**0.61 245**	⇑*i*Pg	**Pg**	**12 33 01.2 +0.9**
	821nm,0.2s				
SULZ			Sb	**Sg**	**12 33 09.8 +1.5**
LIENZ	**Kamor/St.Gall**	**0.62 142**	⇓*i*Pg	**Pg**	**12 33 01.1 +0.5**
	285nm,0.2s				
LIENZ	**Kamor/St.Gall**	**0.62 142**	⇓*i*Pg	**Pg**	**12 33 01.1 +0.5**
	285nm,0.2s				
FELD	**Feldberg im Sc**	**0.63 279**	⇑*i*P*	**Pg**	**12 33 01.7 +0.9**
FELD	**Feldberg im Sc**	**0.63 279**	Pg	**Pg**	**12 33 01.6 +0.9**
FELD			Sg	**Sg**	**12 33 09.7 +0.6**
BFO	**Black Forest**	**0.68 324**	⇓*i*P*	**Pg**	**12 33 02.5 +0.8**
BFO			PmP		12 33 03.8
BFO			S*	**Sg**	**12 33 11.4 +0.8**
BFO			SmS		12 33 14.1
BFO	**Black Forest**	**0.68 324**	Pb	**Pg**	**12 33 02.5 +0.8**
BFO			Sb	**Sg**	**12 33 11.4 +0.8**
KIZ	**Kirchzarten**	**0.70 285**	⇑*i*P*	**Pg**	**12 33 02.9 +0.8**
KIZ			S*	**Sg**	**12 33 12.7 +1.4**
KIZ			SmS		12 33 14.7
KIZ	**Kirchzarten**	**0.70 285**	Pb	**Pg**	**12 33 02.9 +0.8**
KIZ			Sb	**Sg**	**12 33 12.7 +1.4**
BUCH	**Bad Urach**	**0.73 23**	P*	**Pg**	**12 33 03.1 +0.5**
BUCH			S*	**Sg**	**12 33 13.1 +1.0**
BUCH			*i* SmS		12 33 15.7
BUCH	**Bad Urach**	**0.73 23**	Pb	**Pg**	**12 33 03.1 +0.5**
BUCH			Sb	**Sg**	**12 33 13.1 +1.0**
TUBL	**Tuebingen-Lenn**	**0.75 8**	P*	**Pg**	**12 33 03.7 +0.8**
TUBL			S*	**Sg**	**12 33 13.7 +0.9**
TUBL			SmS		12 33 16.0
TUBL	**Tuebingen-Lenn**	**0.75 8**	Pb	**Pg**	**12 33 03.7 +0.8**
TUBL			Sb	**Sg**	**12 33 13.7 +0.9**
FBB	**Freiburg im Br**	**0.76 287**	P*	**Pb**	**12 33 04.7 +1.1**
FBB	**Freiburg im Br**	**0.76 287**	Pb	**Pb**	**12 33 04.7 +1.1**
PLONS	**Plons/SG**	**0.80 157**	*e*Pg	**Pg**	**12 33 04.3 +0.4**
PLONS			*e*Sg	**Sg**	**12 33 15.0 +0.8**
PLONS	**Plons/SG**	**0.80 157**	*e*Pg	**Pg**	**12 33 04.3 +0.4**
	299nm,0.5s				
PLONS	**Plons/SG**	**0.80 157**	Pg	**Pg**	**12 33 04.1 +0.2**
	81nm,0.4s				
PLONS	**Plons/SG**	**0.80 157**	*e*Pg	**Pg**	**12 33 04.3 +0.4**
	299nm,0.5s				
PLONS			Sg	**Sg**	**12 33 15.0 +0.8**
UBR	**Ueberruh**	**0.80 97**	⇑*i*P*	**Pg**	**12 33 04.5 +0.5**
UBR			S*	**Sg**	**12 33 15.3 +0.8**
UBR			SmS		12 33 17.8
UBR	**Ueberruh**	**0.80 97**	Pb	**Pg**	**12 33 04.5 +0.5**
UBR			Sb	**Sg**	**12 33 15.3 +0.8**
DAVA	**Damuels**	**0.81 127**	⇑*e*Pg	**Pg**	**12 33 05.1 +0.8**
	SNR=22				
DAVA			⇑*i*Sg	**Sb**	**12 33 18.0 +2.2**
	158nm,0.2s				
DAVA	**Damuels**	**0.81 127**	Pg	**Pg**	**12 33 05.1 +0.8**
	SNR=22				
DAVA			Sg	**Sb**	**12 33 18.0 +2.2**
	158nm,0.2s				
MUO	**Muotathal**	**0.84 194**	*e*Pg	**Pg**	**12 33 05.3 +0.6**
	660nm,0.4s				
MUO	**Muotathal**	**0.84 194**	*e*Pg	**Pg**	**12 33 05.3 +0.6**
	660nm,0.4s				
OPP	**Oppenau**	**0.87 326**	⇓*i*P*	**Pg**	**12 33 05.9 +0.6**
OPP			⇑*i*PmP		12 33 06.6
OPP			S*	**Sg**	**12 33 18.0 +1.3**
OPP	**Oppenau**	**0.87 326**	Pb	**Pg**	**12 33 05.9 +0.6**
OPP			Sb	**Sg**	**12 33 18.0 +1.3**
LBG	**Lerchenberg**	**0.89 354**	⇓*i*P*	**Pg**	**12 33 06.1 +0.5**
LBG			S*	**Sg**	**12 33 18.0 +0.8**
LBG	**Lerchenberg**	**0.89 354**	Pb	**Pg**	**12 33 06.1 +0.5**
LBG			Sb	**Sg**	**12 33 18.0 +0.8**
LLS	**Linth-Limmern**	**0.94 177**	*e*Pg	**Pg**	**12 33 06.7 +0.1**
	210nm,0.3s				
BALST	**Balsthal**	**0.95 242**	*e*Pg	**Pg**	**12 33 07.3 +0.6**
BALST			*e*Sg	**Sg**	**12 33 20.3 +1.2**
BALST	**Balsthal**	**0.95 242**	⇑*i*P	**Pg**	**12 33 07.3 +0.6**
	602nm,0.2s				
BALST	**Balsthal**	**0.95 242**	⇑*i*P	**Pg**	**12 33 07.3 +0.6**
	602nm,0.2s				
BALST			Sg	**Sg**	**12 33 20.3 +1.2**
LIBD	**Limburg**	**0.96 293**	⇑*i*Pg	**Pb**	**12 33 08.7 +1.5**
LIBD	**Limburg**	**0.96 293**	Pg	**Pg**	**12 33 07.6 +0.5**
LIBD			Sg	**Sg**	**12 33 20.3 +0.7**
BNALP	**Bannalp**	**0.97 201**	⇓*i*P	**Pg**	**12 33 08.0 +0.7**
	495nm,0.3s				
BNALP	**Bannalp**	**0.97 201**	Pg	**Pg**	**12 33 07.9 +0.7**
BNALP			Sg	**Sg**	**12 33 21.3 +1.3**
	102nm,0.3s				
BNALP	**Bannalp**	**0.97 201**	Pg	**Pg**	**12 33 07.9 +0.7**
BNALP			Sg	**Sg**	**12 33 21.3 +1.3**
	102nm,0.3s				
OBER	**Oberstdorf**	**1.00 112**	Pg	**Pb**	**12 33 08.9 +1.1**
OBER	**Oberstdorf**	**1.00 112**	Pg	**Pb**	**12 33 08.9 +1.1**
STU	**Stuttgart**	**1.01 10**	*e*Sg	**Sg**	**12 33 21.5 +0.5**
STU	**Stuttgart**	**1.01 10**	Sg	**Sg**	**12 33 21.5 +0.5**
BBS	**Basel-Blauen**	**1.01 252**	Pn	**Pg**	**12 33 08.3 +0.4**
BBS			Pg	**Pb**	**12 33 08.9 +0.9**
BBS	**Basel-Blauen**	**1.01 252**	Pn	**Pg**	**12 33 08.3 +0.4**
BBS	**Basel-Blauen**	**1.01 252**	Pg	**Pg**	**12 33 08.8 +0.8**
BBS			Sg	**Sg**	**12 33 22.4 +1.3**
HDH	**Heidenheim-Cha**	**1.17 46**	⇑*e*Pn	**Pb**	**12 33 09.9 -0.9**
HDH			*i* Pg	**Pn**	**12 33 11.4 +0.5**
HDH	**Heidenheim-Cha**	**1.17 46**	Pn	**Pb**	**12 33 09.9 -0.9**
DAVOX	**Davos/Dischmat**	**1.19 147**	Pg	**Pb**	**12 33 11.8 +0.6**
DAVOX	**Davos/Dischmat**	**1.19 147**	Pg	**Pb**	**12 33 11.8 +0.6**
MOF	**Molkenrain**	**1.21 274**	Pg	**Pb**	**12 33 12.9 +1.5**
MOF	**Molkenrain**	**1.21 274**	Pg	**Pn**	**12 33 11.9 +0.4**
MOF			Sg	**Sb**	**12 33 28.5 +1.3**
MOF	**Molkenrain**	**1.21 274**	Pg	**Pn**	**12 33 11.9 +0.4**
MOF			Sg	**Sb**	**12 33 28.5 +1.3**
BOURR	**Bourrignon**	**1.21 252**	⇑*i*P	**Pn**	**12 33 11.1 -0.3**
	357nm,0.7s				
BOURR	**Bourrignon**	**1.21 252**	⇑*i*P	**Pn**	**12 33 11.1 -0.3**
	357nm,0.7s				
PIORA	**Tunnel**	**1.25 185**	*e*P	**Pn**	**12 33 12.5 +0.6**
	131nm,0.2s				
PIORA	**Tunnel**	**1.25 185**	*e*P	**Pn**	**12 33 12.5 +0.6**
	131nm,0.2s				
ECH	**Echery**	**1.27 291**	Sg	**Sb**	**12 33 30.1 +1.4**
ECH	**Echery**	**1.27 291**	Pg	**Pn**	**12 33 13.1 +1.0**
ECH			Sg	**Sb**	**12 33 29.8 +1.2**
ECH	**Echery**	**1.27 291**	Pg	**Pn**	**12 33 13.1 +1.0**
ECH			Sg	**Sb**	**12 33 29.8 +1.2**
CDF	**Champ du Feu**	**1.27 300**	*e*Pg	**Pn**	**12 33 13.2 +0.9**
	SNR=1.0				
CDF			*e*Sg	**Sb**	**12 33 30.8 +1.8**
	153nm,0.2s				
CDF	**Champ du Feu**	**1.27 300**	*e*Pg	**Pn**	**12 33 13.2 +0.9**
	SNR=1.0				
CDF			*e*Sg	**Sb**	**12 33 30.8 +1.8**
	76nm,0.2s				
RETA	**Reutte**	**1.27 103**	⇓*e*Pn	**Pn**	**12 33 13.3 +1.0**
	SNR=51				
RETA			⇓*i*Sn	**Sg**	**12 33 30.3 +0.8**
RETA	**Reutte**	**1.27 103**	Pn	**Pn**	**12 33 13.3 +1.0**
	SNR=51				
RETA			Sn	**Sg**	**12 33 30.3 +0.8**
FUSIO	**Fusio**	**1.34 188**	Pg	**Pn**	**12 33 14.2 +0.9**
FUSIO	**Fusio**	**1.34 188**	Pg	**Pn**	**12 33 14.2 +0.9**
TUE	**Stuetta**	**1.34 168**	Pg	**Pn**	**12 33 14.2 +0.9**
	786nm,0.5s				
TUE	**Stuetta**	**1.34 168**	Pg	**Pn**	**12 33 14.2 +0.9**
	786nm,0.5s				
HINF	**Hinteralfeld**	**1.40 272**	*e*Pn	**Pn**	**12 33 13.8 -0.2**
	SNR=1.0				
HINF	**Hinteralfeld**	**1.40 272**	*e*Pg	**Pn**	**12 33 15.4 +1.4**
HINF			*e*Sg	**Sn**	**12 33 33.9 +1.4**
	61nm,0.3s				
HINF	**Hinteralfeld**	**1.40 272**	*e*Pn	**Pn**	**12 33 13.8 -0.2**
	SNR=1.0				
HINF	**Hinteralfeld**	**1.40 272**	*e*Pg	**Pn**	**12 33 15.4 +1.4**
HINF			*e*Sg	**Sn**	**12 33 33.9 +1.4**
	31nm,0.3s				
LANF	**Langenberg**	**1.41 328**	Pg	**Pg**	**12 33 16.7 +1.0**
LANF	**Langenberg**	**1.41 328**	Pg	**Pb**	**12 33 16.4 +1.5**
LANF			Sg	**Sg**	**12 33 35.4 +1.4**
LANF	**Langenberg**	**1.41 328**	Pg	**Pb**	**12 33 16.4 +1.5**
LANF			Sg	**Sg**	**12 33 35.4 +1.4**
FETA	**Feichten**	**1.44 121**	⇑*e*Pn	**Pb**	**12 33 16.3 +0.9**
	SNR=22				
FETA			⇑*i*Sn	**Sg**	**12 33 35.9 +1.0**
FETA	**Feichten**	**1.44 121**	Pn	**Pb**	**12 33 16.3 +0.9**
	SNR=22				
FETA			Sn	**Sg**	**12 33 35.9 +1.0**
FIESA	**Fiescheralp**	**1.46 203**	*e*P	**Pn**	**12 33 15.3 +0.3**
	121nm,0.3s				
FIESA	**Fiescheralp**	**1.46 203**	*e*P	**Pn**	**12 33 15.3 +0.3**
	121nm,0.3s				
FUORN	**Ofenpass-Fuorn**	**1.48 141**	Pg	**Pb**	**12 33 17.0 +0.9**
FUORN	**Ofenpass-Fuorn**	**1.48 141**	Pg	**Pb**	**12 33 17.0 +0.9**
LOMF	**Lomont**	**1.49 254**	Pg	**Pb**	**12 33 17.6 +1.5**
LOMF	**Lomont**	**1.49 254**	Pg	**Pb**	**12 33 17.5 +1.3**
LOMF			Sg	**Sb**	**12 33 36.7 +1.6**
LOMF	**Lomont**	**1.49 254**	Pg	**Pb**	**12 33 17.5 +1.3**
LOMF			Sg	**Sb**	**12 33 36.7 +1.6**
MOTA	**Moosalm**	**1.54 106**	⇓*e*Pn	**Pn**	**12 33 17.5 +1.5**
	SNR=30				
MOTA			⇑*i*Sn	**Sb**	**12 33 38.1 +1.5**
MOTA	**Moosalm**	**1.54 106**	Pn	**Pn**	**12 33 17.5 +1.5**
	SNR=30				
MOTA			Sn	**Sb**	**12 33 38.1 +1.5**
BERNI	**Berninapass**	**1.56 151**	Pg	**Pb**	**12 33 18.3 +0.8**
BERNI	**Berninapass**	**1.56 151**	Pg	**Pb**	**12 33 18.3 +0.8**
MOSI	**Grossmontoni**	**1.61 136**	Pg	**Pb**	**12 33 19.5 +1.2**
	196nm,0.6s				
MOSI	**Grossmontoni**	**1.61 136**	Pg	**Pb**	**12 33 19.5 +1.2**
	196nm,0.6s				
FUR	**Furstenfeldbru**	**1.62 75**	*e*Pg	**Pb**	**12 33 19.4 +1.0**
FUR			*e*Sg	**Sg**	**12 33 41.0 +0.3**
FUR	**Furstenfeldbru**	**1.62 75**	Pg	**Pb**	**12 33 19.4 +1.0**
FUR			Sg	**Sg**	**12 33 41.0 +0.3**
SIND	**Sindeldorf**	**1.63 16**	Pg	**Pb**	**12 33 20.1 +1.4**
SIND			Sn	**Sn**	**12 33 36.5 -1.6**
SIND	**Sindeldorf**	**1.63 16**	Pg	**Pb**	**12 33 20.0 +1.4**
SIND			Sn	**Sn**	**12 33 36.5 -1.6**
BRMO	**Bormio**	**1.64 142**	Pg	**Pb**	**12 33 19.9 +1.1**
BRMO	**Bormio**	**1.64 142**	Pg	**Pb**	**12 33 19.9 +1.1**
SWS	**Schriesheim-Wi**	**1.71 355**	Pn	**Pn**	**12 33 17.7 -0.5**
SWS			Pg	**Pb**	**12 33 21.7 +1.8**
SWS	**Schriesheim-Wi**	**1.71 355**	Pn	**Pn**	**12 33 17.7 -0.5**
HAU	**Haudompre**	**1.75 278**	*e*Pn	**Pn**	**12 33 19.4 +0.6**
	SNR=1.0				
HAU	**Haudompre**	**1.75 278**	*e*Pg	**Pb**	**12 33 22.4 +1.8**
HAU			*e*Sg	**Sb**	**12 33 45.2 +2.6**
	110nm,0.3s,SNR=1.0				
HAU	**Haudompre**	**1.75 278**	*e*Pn	**Pn**	**12 33 19.4 +0.6**
	SNR=1.0				
HAU	**Haudompre**	**1.75 278**	*e*Pg	**Pb**	**12 33 22.4 +1.8**
HAU			*e*Sg	**Sb**	**12 33 45.2 +2.6**
	55nm,0.3s,SNR=1.0				
TOD	**Tromm**	**1.83 357**	Pg	**Pg**	**12 33 23.9 +0.4**
TOD	**Tromm**	**1.83 357**	Pg	**Pg**	**12 33 24.0 +0.4**
TOD			Sg	**Sg**	**12 33 49.5 +2.3**
WATA	**Walderalm**	**1.85 103**	⇑*i*Pn	**Pb**	**12 33 22.9 +0.5**
WATA			⇑*i*Sn	**Sb**	**12 33 47.6 +2.1**
WATA	**Walderalm**	**1.85 103**	Pn	**Pb**	**12 33 22.9 +0.5**
WATA			Sn	**Sb**	**12 33 47.6 +2.1**
MMK	**Mattmark**	**1.85 201**	Pg	**Pb**	**12 33 24.0 +1.5**
MMK	**Mattmark**	**1.85 201**	Pg	**Pb**	**12 33 24.0 +1.5**
MUGIO	**Muggio**	**1.86 178**	Pg	**Pb**	**12 33 24.1 +1.5**
MUGIO	**Muggio**	**1.86 178**	Pg	**Pb**	**12 33 24.1 +1.5**
BRANT	**Les Verrieres**	**1.87 244**	*e*Pn	**Pn**	**12 33 20.2 -0.3**
	135nm,0.5s				
BRANT	**Les Verrieres**	**1.87 244**	*e*Pn	**Pn**	**12 33 20.2 -0.3**
	135nm,0.5s				
WTTA	**Wattenberg**	**1.91 105**	⇑*e*Pn	**Pn**	**12 33 22.8 +1.7**
	SNR=6.9				
WTTA			⇑*e*Sn	**Sb**	**12 33 49.5 +2.3**
	SNR=9.4				
WTTA	**Wattenberg**	**1.91 105**	Pn	**Pn**	**12 33 22.8 +1.7**
	SNR=6.9				
WTTA			Sg	**Sb**	**12 33 49.4 +2.1**
VARE	**Varese**	**1.92 183**	Pg	**Pb**	**12 33 23.8 +0.3**
	35nm,0.4s				
VARE	**Varese**	**1.92 183**	Pg	**Pb**	**12 33 23.8 +0.3**
	35nm,0.4s				
ABSI	**Aberstueckl**	**1.94 122**	Pg	**Pb**	**12 33 24.3 +0.3**
	127nm,0.5s				
ABSI	**Aberstueckl**	**1.94 122**	Pg	**Pb**	**12 33 24.3 +0.3**
	127nm,0.5s				
THEF	**They Montfort**	**2.02 284**	Pg	**Pb**	**12 33 27.6 +2.3**
THEF	**They Montfort**	**2.02 284**	Pg	**Pb**	**12 33 27.6 +2.3**
THEF			Sg	**Sg**	**12 33 54.6 +1.0**
THEF	**They Montfort**	**2.02 284**	Pg	**Pb**	**12 33 27.6 +2.3**
THEF			Sg	**Sg**	**12 33 54.6 +1.0**
APPI	**Appiano**	**2.04 129**	Pg	**Pg**	**12 33 27.8 +0.2**
APPI	**Appiano**	**2.04 129**	Pg	**Pg**	**12 33 27.8 +0.2**
MABI	**Malga Bissina**	**2.04 147**	Pg	**Pb**	**12 33 27.6 +1.9**
	9.0nm,0.3s				
MABI	**Malga Bissina**	**2.04 147**	Pg	**Pb**	**12 33 27.6 +1.9**
	9.0nm,0.3s				
GIMEL	**St. Georges /**	**2.20 236**	Pg	**Pg**	**12 33 30.9 +0.2**
	23nm,0.2s				
GIMEL	**St. Georges /**	**2.20 236**	Pg	**Pg**	**12 33 30.9 +0.2**
	23nm,0.2s				
CABF	**La Chapelle**	**2.26 240**	*e*Pn	**Pn**	**12 33 25.9 0.0**
	SNR=1.0				
CABF	**La Chapelle**	**2.26 240**	*e*Pg	**Pb**	**12 33 31.7 +2.3**
CABF			*e*Sg	**Sg**	**12 34 00.9 -0.3**
	19nm,0.3s,SNR=1.0				
CABF	**La Chapelle**	**2.26 240**	*e*Pn	**Pn**	**12 33 25.9 0.0**
	SNR=1.0				
CABF	**La Chapelle**	**2.26 240**	*e*Pg	**Pb**	**12 33 31.7 +2.3**
CABF			*e*Sg	**Sg**	**12 34 00.9 -0.3**
	9.4nm,0.3s,SNR=1.0				
PAGF	**Fort de Pagny**	**2.28 291**	*e*Pn	**Pn**	**12 33 26.6 +0.6**
PAGF	**Fort de Pagny**	**2.28 291**	*e*Pg	**Pg**	**12 33 32.2 0.0**
	baz=116				
PAGF			*e*Sg	**Sg**	**12 34 01.9 +0.2**
	9.9nm,0.3s				
PAGF	**Fort de Pagny**	**2.28 291**	*e*Pn	**Pn**	**12 33 26.6 +0.6**
PAGF	**Fort de Pagny**	**2.28 291**	*e*Pg	**Pg**	**12 33 32.2 0.0**
PAGF			*e*Sg	**Sg**	**12 34 01.9 +0.2**
	4.9nm,0.3s				
RUP	**Ruppelstein**	**2.29 328**	Pg	**Pg**	**12 33 32.7 +0.4**
RUP	**Ruppelstein**	**2.29 328**	Pg	**Pg**	**12 33 32.6 +0.4**
ABH	**Alteburg**	**2.29 337**	Pg	**Pg**	**12 33 32.9 +0.5**
ABH	**Alteburg**	**2.29 337**	Pg	**Pg**	**12 33 32.9 +0.5**
GRA1	**Grafenberg Arr**	**2.44 38**	Pg	**Pb**	**12 33 34.8 +2.4**
GRA1			Sg	**Sb**	**12 34 05.1 +2.7**
GRF	**Grafenberg Arr**	**2.44 38**	*e*Pg	**Pb**	**12 33 34.8 +2.4**
GRF			*e*Sg	**Sb**	**12 34 05.1 +2.7**
TNS	**Taunus Mts**	**2.46 353**	*e*Pn	**Pn**	**12 33 28.5 -0.1**
TNS			P	**Pn**	**12 33 28.8 +0.2**
TNS			*e*Sg	**Sg**	**12 34 08.1 +0.5**
TNS	**Taunus Mts**	**2.46 353**	Pn	**Pn**	**12 33 28.5 -0.1**
TNS	**Taunus Mts**	**2.46 353**	P	**Pn**	**12 33 28.8 +0.2**
TNS			Sg	**Sg**	**12 34 08.1 +0.5**
WLF	**Walferdange**	**2.63 317**	Pg	**Pg**	**12 33 39.0 +0.1**
WLF			*e*Sg	**Sg**	**12 34 12.0 -1.0**
WLF	**Walferdange**	**2.63 317**	Pg	**Pg**	**12 33 39.0 +0.1**
WLF			Sg	**Sg**	**12 34 12.0 -1.0**
SFTF	**Sexfontaines**	**2.65 281**	*e*Pn	**Pn**	**12 33 31.3 +0.2**
SFTF	**Sexfontaines**	**2.65 281**	*e*Pg	**Pg**	**12 33 38.9 -0.3**
SFTF			*e*Sg	**Sg**	**12 34 13.3 -0.2**
	7.8nm,0.2s				
MEZF	**Maizieres J'vi**	**2.69 287**	*e*Pn	**Pn**	**12 33 32.2 +0.5**
	baz=113				
MEZF	**Maizieres J'vi**	**2.69 287**	*e*Pg	**Pg**	**12 33 39.8 -0.3**
	baz=110				
MEZF			*e*Sg	**Sg**	**12 34 14.8 -0.2**
	18nm,0.3s,SNR=1.0				
MEZF	**Maizieres J'vi**	**2.69 287**	*e*Pn	**Pn**	**12 33 32.2 +0.5**
MEZF	**Maizieres J'vi**	**2.69 287**	*e*Pg	**Pg**	**12 33 39.8 -0.3**
MEZF			*e*Sg	**Sg**	**12 34 14.8 -0.2**
	9.2nm,0.3s,SNR=1.0				
LPL	**La Plagne**	**2.73 215**	*e*Pn	**Pn**	**12 33 32.3 -0.1**
LPL	**La Plagne**	**2.73 215**	*e*Pg	**Pb**	**12 33 39.7 +2.3**
	SNR=1.0				
LPL			*e*Sg	**Sb**	**12 34 14.9 +4.1**
	6.2nm,0.3s,SNR=1.0				
LPL	**La Plagne**	**2.73 215**	*e*Pn	**Pn**	**12 33 32.3 -0.1**
LPL	**La Plagne**	**2.73 215**	*e*Pg	**Pb**	**12 33 39.7 +2.3**
	SNR=1.0				
LPL			*e*Sg	**Sb**	**12 34 14.9 +4.1**
	3.1nm,0.3s,SNR=1.0				
LPG	**La Plagne**	**2.73 214**	*e*Pn	**Pn**	**12 33 32.4 -0.1**
	SNR=1.0				
LPG	**La Plagne**	**2.73 214**	*e*Pn	**Pn**	**12 33 40.4 +2.9**
	SNR=1.0				
LPG	**La Plagne**	**2.73 214**	*e*Pg	**Pb**	**12 33 40.4 +2.9**
	SNR=1.0				
LPG			*e*Sg	**Sb**	**12 34 15.4 +4.3**
	10nm,0.4s,SNR=1.0				
LPG	**La Plagne**	**2.73 214**	*e*Pn	**Pn**	**12 33 32.4 -0.1**
	SNR=1.0				
LPG	**La Plagne**	**2.73 214**	*e*Pg	**Pb**	**12 33 40.4 +2.9**
	SNR=1.0				
LPG			*e*Sg	**Sb**	**12 34 15.4 +4.3**
	5.2nm,0.4s,SNR=1.0				
KBA	**Koelnbreinsper**	**3.08 102**	*e*Pn	**Pn**	**12 33 39.2 +2.0**
KBA			*e*Pg	**Pg**	**12 33 46.8 -0.7**
KBA	**Koelnbreinsper**	**3.08 102**	*i* Pn	**Pn**	**12 33 39.2 +2.0**
	SNR=4.3				
KBA			⇓*i*Sn	**Sb**	**12 34 24.3 +3.3**
KBA	**Koelnbreinsper**	**3.08 102**	Pn	**Pn**	**12 33 39.2 +2.0**
	SNR=4.3				
KBA	**Koelnbreinsper**	**3.08 102**	Pg	**Pg**	**12 33 46.8 -0.7**
KBA			Sn	**Sb**	**12 34 24.3 +3.3**
NKC	**Novy Kostel**	**3.37 42**	*e*PG	**Pb**	**12 33 50.4 +2.1**
NKC			*e*SN	**Sn**	**12 34 18.2 -2.9**
NKC			*e*SG	**Sg**	**12 34 34.4 -2.4**
	comp=Z,12nm,0.3s				
NKC	**Novy Kostel**	**3.37 42**	Pg	**Pb**	**12 33 50.4 +2.1**
NKC			Sn	**Sn**	**12 34 18.2 -2.9**
NKC			Sg	**Sg**	**12 34 34.4 -2.4**
	12nm,0.3s				
KHC	**Kasperske Hory**	**3.38 65**	*e*PN	**Pn**	**12 33 40.7 -0.5**
KHC			*ex*	x	12 33 45.7
KHC			*e*PG	**Pb**	**12 33 50.5 +2.2**
KHC			*e*SN	**Sn**	**12 34 18.6 -2.6**
KHC			*e*SG	**Sb**	**12 34 33.4 +4.0**
	comp=Z,7.0nm,0.3s				
KHC	**Kasperske Hory**	**3.38 65**	Pn	**Pn**	**12 33 40.7 -0.5**
KHC	**Kasperske Hory**	**3.38 65**	Pg	**Pb**	**12 33 50.5 +2.2**
KHC			Sn	**Sn**	**12 34 18.6 -2.6**
KHC			Sg	**Sb**	**12 34 33.4 +4.0**
	7.0nm,0.3s				
MBDF	**Montbardon**	**3.40 207**	*e*Pn	**Pn**	**12 33 41.4 -0.2**
MBDF	**Montbardon**	**3.40 207**	*e*Pg	**Pb**	12 33 52.1 +3.2
MBDF			*e*Sg	**Sg**	**12 34 35.7 -2.0**
	11nm,0.5s,SNR=1.0				
MBDF	**Montbardon**	**3.40 207**	*e*Pn	**Pn**	**12 33 41.4 -0.2**
MBDF	**Montbardon**	**3.40 207**	*e*Pg	**Pb**	12 33 52.1 +3.2
MBDF			*e*Sg	**Sg**	**12 34 35.7 -2.0**
	5.7nm,0.5s,SNR=1.0				
MYKA	**Terra Mystica**	**3.41 108**	⇑*i*Pn	**Pn**	**12 33 43.6 +1.9**
	SNR=4.0				
MYKA	**Terra Mystica**	**3.41 108**	Pn	**Pn**	**12 33 43.6 +1.9**
	SNR=4.0				
LOR	**Lormes**	**3.47 263**	*e*Pn	**Pn**	**12 33 42.5 0.0**
	baz=84,SNR=1.0				
LOR	**Lormes**	**3.47 263**	*e*Pg	**Pg**	**12 33 53.9 -1.1**
	baz=86				
LOR			*e*Sg	**Sg**	**12 34 38.6 -1.4**
	16nm,0.3s,SNR=1.0				
LOR	**Lormes**	**3.47 263**	*e*Pn	**Pn**	**12 33 42.5 0.0**
	SNR=1.0				
LOR	**Lormes**	**3.47 263**	*e*Pg	**Pg**	**12 33 53.9 -1.1**
LOR			*e*Sg	**Sg**	**12 34 38.6 -1.4**
	8.2nm,0.3s,SNR=1.0				
ORIF	**Oris-en-Rattie**	**3.56 217**	*e*Pn	**Pn**	**12 33 43.4 -0.3**
	SNR=1.0				
ORIF	**Oris-en-Rattie**	**3.56 217

PRU					*e*SG		**Sg**	**12 35 04.6**	**-2.3**
	comp=Z,4.3nm,0.3s								
PRU	**Pruhonice**	**4.31**	**57**		Pg		**Pb**	12 34 07.7	+3.5
PRU					Sg		**Sg**	**12 35 04.6**	**-2.3**
	4.3nm,0.3s								
BGF	**Bois d'Agland**	**4.33**	**256**		*e*Pn		**Pn**	**12 33 54.7**	**+0.5**
	SNR=1.0								
BGF	**Bois d'Agland**	**4.33**	**256**		*e*Pg		Pg	12 34 09.3	-2.0
BGF					*e*Sg		**Sg**	**12 35 05.4**	**-1.9**
	7.5nm,0.3s								
BGF	**Bois d'Agland**	**4.33**	**256**		*e*Pn		**Pn**	**12 33 54.7**	**+0.5**
	SNR=1.0								
BGF	**Bois d'Agland**	**4.33**	**256**		*e*Pg		Pg	12 34 09.3	-2.0
BGF					*e*Sg		**Sg**	**12 35 05.4**	**-1.9**
	3.8nm,0.3s								
CLL	**Collm**	**4.41**	**35**		*e*Pg		**Pg**	**12 34 12.0**	**-1.0**
CLL					*e*Sn		**Sn**	**12 34 43.0**	**-3.7**
CLL					*e*Sg		**Sg**	**12 35 08.0**	**-2.1**
	comp=Z,8.0nm,0.6s								
GOPC	**GO Pecny, Ondr**	**4.42**	**59**		*e*SG		**Sg**	**12 35 07.8**	**-2.5**
	comp=Z,3.3nm,0.2s								
GOPC	**GO Pecny, Ondr**	**4.42**	**59**		Sg		**Sg**	**12 35 07.8**	**-2.5**
	comp=Z,3.3nm,0.2s								
SMRF	**Simiane la Rot**	**4.47**	**213**		*e*Pn		**Pn**	**12 33 55.8**	**-0.4**
SMRF					*e*Sg		**Sg**	**12 35 09.0**	**-2.9**
	comp=Z,1.4nm,0.4s								
SMRF	**Simiane la Rot**	**4.47**	**213**		*e*Pn		**Pn**	**12 33 55.8**	**-0.4**
SMRF					*e*Sg		**Sg**	**12 35 09.0**	**-2.9**
	comp=Z,0.7nm,0.4s								
BRG	**Berggiesshubel**	**4.51**	**45**		PG		Pg	12 34 12.3	-2.5
BRG					SG		**Sg**	**12 35 11.0**	**-2.1**
	comp=Z,4.0nm,0.5s								
PVCC	**Panska Ves**	**4.61**	**51**		*e*SG		**Sg**	**12 35 13.6**	**-2.8**
	comp=Z,13nm,0.4s								
PVCC	**Panska Ves**	**4.61**	**51**		Sg		**Sg**	**12 35 13.6**	**-2.8**
	comp=Z,13nm,0.4s								
CONA	**Conrad Observa**	**4.67**	**86**	ǁ	*i*Pn		**Pn**	**12 33 59.2**	**+0.2**
	SNR=7.1								
CONA	**Conrad Observa**	**4.67**	**86**		Pn		**Pn**	**12 33 59.2**	**+0.2**
	SNR=7.1								
TCF	**Toulx Ste Croi**	**4.83**	**254**		*e*Pn		**Pn**	**12 34 01.1**	**0.0**
TCF	**Toulx Ste Croi**	**4.83**	**254**		*e*Pg		Pg	12 34 18.7	-2.3
TCF					*e*Sg		**Sg**	**12 35 20.3**	**-3.2**
	comp=Z,2.3nm,0.2s								
TCF	**Toulx Ste Croi**	**4.83**	**254**		*e*Pn		**Pn**	**12 34 01.1**	**0.0**
TCF	**Toulx Ste Croi**	**4.83**	**254**		*e*Pg		Pg	12 34 18.7	-2.3
TCF					*e*Sg		**Sg**	**12 35 20.3**	**-3.2**
	comp=Z,1.1nm,0.2s								
LASF	**Ste Croix**	**5.12**	**226**		*e*Pn		**Pn**	**12 34 04.0**	**-1.1**
	SNR=1.0								
LASF					*e*Sg		**Sg**	**12 35 29.7**	**-3.2**
	comp=Z,2.7nm,0.4s,SNR=1.0								
LASF	**Ste Croix**	**5.12**	**226**		*e*Pn		**Pn**	**12 34 04.0**	**-1.1**
	SNR=1.0								
LASF					*e*Sg		**Sg**	**12 35 29.7**	**-3.2**
	comp=Z,1.4nm,0.4s,SNR=1.0								
UPC	**Upice**	**5.39**	**57**		*e*SG		**Sg**	**12 35 38.5**	**-2.9**
	comp=Z,1.2nm,0.1s								
UPC	**Upice**	**5.39**	**57**		Sg		**Sg**	**12 35 38.5**	**-2.9**
	comp=Z,1.2nm,0.1s								
DPC	**Dobruska-Polom**	**5.50**	**59**		*ex*		**Sg**	**12 35 40.7**	**-4.2**
DPC	**Dobruska-Polom**	**5.50**	**59**		Sg		**Sg**	**12 35 40.7**	**-4.2**
LDF	**La Druitiere**	**6.11**	**281**		*e*Pn		**Pn**	**12 34 18.6**	**0.0**
LDF	**La Druitiere**	**6.11**	**281**		*e*Pg		Pg	12 34 42.8	-2.6
LDF					*e*Sg		**Sg**	**12 36 01.3**	**-3.1**
	comp=Z,4.1nm,0.4s,SNR=1.0								
LDF	**La Druitiere**	**6.11**	**281**		*e*Pn		**Pn**	**12 34 18.6**	**0.0**
LDF	**La Druitiere**	**6.11**	**281**		*e*Pg		Pg	12 34 42.8	-2.6
LDF					*e*Sg		**Sg**	**12 36 01.3**	**-3.1**
	comp=Z,2.0nm,0.4s,SNR=1.0								
FLN	**La Foliniere**	**6.36**	**282**		*e*Pn		**Pn**	**12 34 22.0**	**-0.1**
FLN	**La Foliniere**	**6.36**	**282**		*e*Pg		Pg	12 34 47.5	-2.7
FLN					*e*Sg		**Sg**	**12 36 09.1**	**-3.4**
	comp=Z,4.5nm,0.4s								
FLN	**La Foliniere**	**6.36**	**282**		*e*Pn		**Pn**	**12 34 22.0**	**-0.1**
FLN	**La Foliniere**	**6.36**	**282**		*e*Pg		Pg	12 34 47.5	-2.7
FLN					*e*Sg		**Sg**	**12 36 09.1**	**-3.4**
	comp=Z,2.2nm,0.4s								
GRR	**Gorron**	**6.58**	**279**		*e*Pn		**Pn**	**12 34 25.2**	**0.0**
GRR					*e*Sg		**Sg**	**12 36 16.1**	**-3.6**
	comp=Z,4.3nm,0.4s								
GRR	**Gorron**	**6.58**	**279**		*e*Pn		**Pn**	**12 34 25.2**	**0.0**
GRR					*e*Sg		**Sg**	**12 36 16.1**	**-3.6**
	comp=Z,2.2nm,0.4s								

*ISN **24** 12:37:14.6±2.4, 34°.61N×46°.73E, h2km±19km, ML3.7*
*TEH **24** 12:37:16.9, 35°.03N×46°.95E, h34km, ML3.7*
*ISCJB **24** 12:37:18.8±1.2, 34°.94N±0°.08×46°.98E±0°.05, h10km, Error ellipse: s-maj=11.8km s-min=6.2km az=178.9*
*CSEM **24** 12:37:18.1±0.4, 34°.69N×46°.65E, h20km, ML3.7, Error ellipse: s-maj=19.3km s-min=8.4km az=12.0*

ISC 24 12:37:19.1±1.2, 34°.93N±0°.09×46°.96E±0°.04, h10km, n19, σ1§06/16, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Derash**	**0.52**	**244**	*e*Pg	**Pg**	**12 37 28.9**	**-0.4**
IDHR				*e*Sg	**Sb**	**12 37 38.0**	**-0.2**
IDHR				*e*		12 37 44.1	
	comp=Z,66μm,0.1s						
IDHR	**Derash**	**0.52**	**244**	*e*Pg	**Pg**	**12 37 28.9**	**-0.4**
IDHR				*e*Sg	**Sb**	**12 37 38.0**	**-0.2**
IBZA	**Bozab**	**0.87**	**121**	*e*Pg	**Pg**	**12 37 34.9**	**-1.0**
IBZA				*e*		12 37 54.1	
	comp=Z,39μm,0.2s						
IBZA	**Bozab**	**0.87**	**121**	*e*Pg	**Pg**	**12 37 34.9**	**-1.0**
IKOM	**Komasi**	**0.88**	**149**	*e*Pg	**Pg**	**12 37 35.6**	**-0.4**
IKOM				*e*Sg	**Sb**	**12 37 49.1**	**+0.8**
IKOM				*e*		12 37 50.6	
	comp=Z,67μm,0.1s						
IKOM	**Komasi**	**0.88**	**149**	*e*Pg	**Pg**	**12 37 35.6**	**-0.4**
IKOM				*e*Sg	**Sb**	**12 37 49.1**	**+0.8**
IBDR	**Badra**	**2.00**	**206**	*e*SG	x	12 38 16.0	
IBDR				*e*Sg	x	12 38 17.0	
IKRK	**Kirkuk**	**2.20**	**283**	*e*Pn	x	12 37 51.0	
IKRK				*i* Sn	x	12 38 18.0	
IRAZ	**Razeghan**	**2.48**	**78**	*e*Pn	**Pb**	**12 38 02.8**	**-1.0**
IRAZ				*e*		12 38 49.8	
	comp=Z,2μm,0.3s						
IRAZ	**Razeghan**	**2.48**	**78**	*e*Pn	**Pb**	**12 38 02.8**	**-1.0**
BHD	**Baghdad**	**2.70**	**233**	*e*PN	x	12 37 56.2	
BHD				*e*SN	x	12 38 21.7	
BHD	**Baghdad**	**2.70**	**233**	*e*Pn	Pn	12 37 56.2	-6.4
	SNR=39						
BHD				*e*Sn	Sn	12 38 21.7	-14
	SNR=39						
IGZV	**Ghazvin**	**3.03**	**60**	*e*Pn	Pn	12 38 01.1	-6.1
IGZV				*e*		12 39 03.7	
	comp=Z,1μm,0.3s						
IGZV	**Ghazvin**	**3.03**	**60**	*e*Pn	Pn	12 38 01.1	-6.1
MSL	**Mosul**	**3.46**	**296**	*e*PN	x	12 38 09.0	
MSL				*e*SN	x	12 38 48.1	
IVRN	**Varamin**	**3.92**	**88**	*e*Pn	**Pn**	**12 38 21.4**	**+2.1**
IVRN	**Varamin**	**3.92**	**88**	*e*Pn	**Pn**	**12 38 21.4**	**+2.1**
IKLH	**Kolahrood**	**4.15**	**111**	*e*Pn	**Pn**	**12 38 23.1**	**+0.3**
IKLH				*e*		12 39 40.6	
	comp=Z,849nm,0.4s						
IKLH	**Kolahrood**	**4.15**	**111**	*e*Pn	**Pn**	**12 38 23.1**	**+0.3**

IDC 24 12:53:06.4±2.7, 54°.17N×87°.23E, h0km, mb1 3.1/2, mb1mx2.9/45, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=21.9km s-min=15.6km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.44**	**262**	*i*		13 02 32.7	
	baz=80,slow=324,SNR=8.8						
ZALV	**Zalesovo Beam**	**1.44**	**262**	Pg	Pn	12 53 32.3	-1.5
	9.6nm,0.3s,baz=81,slow=16,SNR=52						
ZALV				Lg	Lg	12 53 52.7	
	4.4nm,0.3s,baz=78,slow=27,SNR=14						
KURBB	**Kurchatov Arra**	**6.40**	**240**	Pn	Pn	12 54 42.7	+0.9
	0.3nm,0.3s,baz=56,slow=15,SNR=9.8						
KURBB				Sn	Sn	12 55 53.3	-2.3
	0.0nm,0.3s,baz=55,slow=25,SNR=2.8						
KURBB				Lg	Lg	12 56 31.1	
	0.0nm,0.3s,baz=58,slow=35,SNR=3.7						
MKAR	**Makanchi Array**	**8.03**	**205**	Pn	Pn	12 55 05.6	+1.4
	0.2nm,0.3s,baz=24,slow=14,SNR=6.4						
MKAR				Sn	Sn	12 56 35.1	-0.6
	0.1nm,0.3s,baz=24,slow=29,SNR=4.5						
MKAR				Lg	Lg	12 57 22.4	
	0.1nm,0.3s,baz=27,slow=32,SNR=3.1						

*ISCJB **24** 12:54:42.9±0.9, 2°.0N±0°.2×128°.2E±0°.2, h92km, mb3.6/6, Error ellipse: s-maj=38.4km s-min=10.8km az=137.8*
*IDC **24** 12:54:45.3±5.2, 1°.98N×128°.34E, h98km±54km, mb3.4/6, mb1 3.5/7, mb1mx3.3/29, mbtmp3.7/7, Error ellipse: s-maj=93.6km s-min=16.6km az=69.0*

ISC 24 12:54:44.7±1.1, 2°.0N±0°.2×128°.2E±0°.3, h92km, n7, σ1§16/9, mb3.6/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.13**	**133**	P	**Pn**	**12 55 45.9**	**+0.4**
	0.8nm,0.3s,baz=316,slow=18,SNR=4.5						
SIJI				S	**Sn**	**12 56 32.8**	**0.0**
	0.9nm,0.3s,baz=270,slow=20,SNR=5.0						
WRA	**Warramunga Arr**	**22.58**	**165**	P	**P**	**12 59 36.6**	**-1.0**
	0.9nm,0.5s,baz=343,slow=10,SNR=17						
ASAR	**Alice Springs**	**26.06**	**168**	P	**P**	**13 00 09.2**	**-0.5**
	0.2nm,0.5s,baz=350,slow=8.0,SNR=8.9						
ASAR				PcP	**PcP**	**13 03 34.1**	**-1.4**
	0.2nm,0.5s,baz=344,slow=2.0,SNR=5.4						
STKA	**Stephens Creek**	**35.96**	**160**	P	**P**	**13 01 36.2**	**-0.4**
	2.0nm,0.6s,baz=334,slow=8.0,SNR=8.6						
MKAR	**Makanchi Array**	**59.86**	**325**	P	**P**	**13 04 41.8**	**+1.1**
	1.0nm,0.5s,baz=116,slow=8.0,SNR=16						
ZALV	**Zalesovo Beam**	**62.84**	**333**	P	**P**	**13 04 59.6**	**-1.0**
	0.4nm,0.3s,baz=125,slow=7.6,SNR=2.6						
VNDA	**Vanda**	**81.50**	**173**	P	**P**	**13 06 53.0**	**+1.6**
	0.2nm,0.3s,baz=333,slow=6.8,SNR=4.6						

*IDC **24** 13:05:57.3±2.0, 7°.66S×124°.51E, h0km, mb3.3/1, mb1 3.7/4, mb1mx3.5/21, mbtmp3.5/4, ML3.7/3, Error ellipse: s-maj=61.8km s-min=27.9km az=72.0*
*DJA **24** 13:06:18.5±1.3, 9°.5S×12°.4E±°, h51km±23km, M3.3/4, MLv3.3/4*

ISC 24 13:06:06.3±2.7, 8°.2S±0°.2×124°.5E±0°.1, h26km, n7, σ1§77/8, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.59**	**188**	P	**Pb**	**13 06 36.7**	**+1.6**
SOEI				S	**Sn**	**13 06 49.7**	**-3.0**
BATI	**Baumata**	**2.19**	**202**	P	**Pn**	**13 06 41.9**	**+0.9**
BATI				S	Sn	13 07 01.9	-5.4
BATI	**Baumata**	**2.19**	**202**	Pn	**Pn**	**13 06 42.2**	**+1.3**
	9.3nm,0.3s,baz=18,slow=3.2,SNR=14						
BATI				Sn	Sn	13 07 01.5	-5.7
	66nm,0.3s,baz=336,slow=20,SNR=45						
MMRI	**Maumere**	**2.29**	**258**	P	**Pb**	**13 06 46.9**	**0.0**
MMRI				S	**Sn**	**13 07 09.4**	**-0.4**
WRA	**Warramunga Arr**	**15.09**	**142**	Pn	**Pn**	**13 09 37.0**	**-0.8**
	0.4nm,0.3s,baz=318,slow=13,SNR=27						
WRA				Sn	Sn	13 12 14.2	-10
	0.2nm,0.3s,baz=320,slow=25,SNR=5.1						
ASAR	**Alice Springs**	**17.85**	**151**	P	**Pn**	**13 10 11.9**	**-1.0**
	0.2nm,0.3s,baz=315,slow=11,SNR=26						
ASAR				S	Sn	13 13 20.9	-10
	0.1nm,0.3s,baz=316,slow=22,SNR=4.2						
MKAR	**Makanchi Array**	**66.35**	**330**	P	P	13 16 45.2	-7.6
	0.2nm,0.6s,baz=139,slow=7.7,SNR=2.9						

*SJA **24** 13:07:26.6±1.1, 34°.21S×73°.93W, h10km±183km, ML3.6, MW3.5*
*ISCJB **24** 13:07:39.7±1.8, 34°.34S±0°.03×72°.2W±0°.1, h10km±18km, Error ellipse: s-maj=19.7km s-min=5.3km az=5.9*
*GUC **24** 13:07:40.4±0.4, 34°.31S×72°.27W, h20km±3km, ML3.6*

ISC 24 13:07:40.2±3.5, 34°.40S±0°.05×72°.1W±0°.2, h8km±25km, n17, σ1§18/25, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.95**	**130**	*e*P	**Pb**	**13 07 58.9**	**0.0**
NICH				*e*S	**Sn**	**13 08 13.3**	**-0.3**
TALC	**Talca**	**1.07**	**158**	*e*P	**Pb**	**13 08 00.9**	**-0.1**
TALC				*e*S	**Sn**	**13 08 16.4**	**-0.3**
CHCH	**Chadas Angostu**	**1.30**	**69**	*e*P	**Pn**	**13 08 03.7**	**-1.1**
LNCH	**Linares**	**1.50**	**164**	*e*P	**Pn**	**13 08 07.2**	**-0.3**
LNCH				*e*S	**Sb**	**13 08 28.1**	**+0.4**
SAN	**Santiago**	**1.54**	**52**	*e*P	**Pn**	**13 08 07.1**	**-0.9**
SAN				*e*S	**Sn**	**13 08 26.9**	**-1.3**
SJCH	**San Jose de Ma**	**1.65**	**63**	*e*P	**Pn**	**13 08 09.2**	**-0.4**
SJCH				*e*S	**Sn**	**13 08 31.0**	**0.0**
CLCH	**Cerro Calan**	**1.65**	**53**	*e*P	**Pn**	**13 08 08.7**	**-0.9**
CLCH				*e*S	**Sn**	**13 08 30.7**	**-0.4**
CLCH				AML	AML	13 08 38.3	
	comp=E,1μm,0.4s						
PEL	**Peldehue**	**1.73**	**44**	*e*P	**Pn**	**13 08 09.7**	**-1.0**
PEL				*e*S	**Sn**	**13 08 32.1**	**-0.9**
PEL				AML	AML	13 08 39.3	
	comp=N,1μm,0.4s						
AAGR	**Agrelo**	**3.04**	**65**	*e*P	**Pb**	**13 08 33.8**	**-0.8**
ARCO	**CERRO ARCO**	**3.08**	**61**	*e*P	**Pb**	**13 08 34.2**	**-1.2**
ARCO				AML	AML	13 09 29.9	
	comp=Z,45nm,0.5s						
AUSP	**Uspallata**	**3.15**	**47**	*e*P	**Pn**	**13 08 31.6**	**+1.2**
ASAL	**Salagasta**	**3.28**	**58**	*e*P	**Pn**	**13 08 35.0**	**+2.9**
RTLS	**Leoncito**	**3.51**	**43**	*e*P	**Pn**	**13 08 37.3**	**+1.9**
RTLS				*e*S	**Sb**	**13 09 28.0**	**+2.3**
RTCV	**Cerro Valdivia**	**3.92**	**51**	*e*P	**Pn**	**13 08 42.1**	**+1.2**
CFAA	**Coronel Fontan**	**4.29**	**51**	*e*P4	**Pn**	**13 08 46.2**	**+0.4**
RTLL	**Cerro Villicun**	**4.33**	**46**	*e*P	**Pn**	**13 08 46.9**	**+0.4**
AMOG	**MOGNA**	**4.61**	**43**	*e*P	**Pn**	**13 08 50.0**	**-0.3**

*CRAAG **24** 13:11:01.8, 35°.91N×4°.10E, Ml3.8*
*MDD **24** 13:11:03.5±0.6, 35°.95N×4°.18E, h0km, mb4.1/9, Error ellipse: s-maj=14.7km s-min=4.5km az=36.0, PRXIMO*
*CSEM **24** 13:11:03.8±0.3, 35°.95N×4°.09E, h2km, mb4.1, Error ellipse: s-maj=13.9km s-min=4.7km az=6.0*
*ISCJB **24** 13:11:04.1±0.8, 36°.06N±0°.07×4°.05E±0°.04, h8km±6km, Error ellipse: s-maj=11.0km s-min=5.0km az=1.9*

ISC 24 13:11:03.2±1.4, 35°.95N±0°.05×4°.14E±0°.03, h4km±12km, n62, σ1§20/79, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAF	**Djebel Tarf**	**0.13**	**124**	P	**Pg**	**13 11 05.5**	**-0.4**
ATAF	**Djebel Tarf**	**0.13**	**124**	P	**Pg**	**13 11 05.5**	**-0.4**
ATAF	**Djebel Tarf**	**0.13**	**124**	P	**Pg**	**13 11 05.5**	**-0.4**
AKET	**Djebel Ketaf**	**0.23**	**295**	P	**Pg**	**13 11 07.4**	**-0.3**
AKET	**Djebel Ketaf**	**0.23**	**295**	P	**Pg**	**13 11 07.4**	**-0.3**
AKET	**Djebel Ketaf**	**0.23**	**295**	P	**Pg**	**13 11 07.4**	**-0.3**
ADJB	**Djebel Djouab**	**0.61**	**290**	P	**Pg**	**13 11 15.5**	**+0.6**
ADJB	**Djebel Djouab**	**0.61**	**290**	P	**Pg**	**13 11 15.5**	**+0.6**
ADJB	**Djebel Djouab**	**0.61**	**290**	P	**Pg**	**13 11 15.5**	**+0.6**
EMHD	**Djebel Mahouad**	**0.99**	**285**	P	**Pb**	**13 11 23.1**	**0.0**
EMHD	**Djebel Mahouad**	**0.99**	**285**	P	**Pb**	**13 11 23.1**	**0.0**
EMHD	**Djebel Mahouad**	**0.99**	**285**	P	**Pb**	**13 11 23.1**	**0.0**
SET	**Setif**	**1.05**	**76**	P	**Pg**	**13 11 24.0**	**+0.6**
SET	**Setif**	**1.05**	**76**	P	**Pg**	**13 11 24.0**	**+0.6**
SET	**Setif**	**1.05**	**76**	P	**Pg**	**13 11 24.0**	**+0.6**
CKHR	**Kef el Ahmar**	**1.11**	**86**	P	**Pg**	**13 11 25.4**	**+0.8**
CKHR	**Kef el Ahmar**	**1.11**	**86**	P	**Pg**	**13 11 25.4**	**+0.8**
CKHR	**Kef el Ahmar**	**1.11**	**86**	P	**Pg**	**13 11 25.4**	**+0.8**
DFRA	**Djebel Bou Aff**	**1.52**	**66**	P	**Pg**	**13 11 33.7**	**+1.3**
DFRA	**Djebel Bou Aff**	**1.52**	**66**	P	**Pg**	**13 11 33.7**	**+1.3**
DFRA	**Djebel Bou Aff**	**1.52**	**66**	P	**Pg**	**13 11 33.7**	**+1.3**
CTEI	**Djebel Teioual**	**1.84**	**86**	P	**Pg**	**13 11 38.9**	**+0.4**
CTEI	**Djebel Teioual**	**1.84**	**86**	P	**Pg**	**13 11 38.9**	**+0.4**
CTEI	**Djebel Teioual**	**1.84**	**86**	P	**Pg**	**13 11 38.9**	**+0.4**
CASM	**Ain Smara**	**1.93**	**80**	P	**Pg**	**13 11 40.2**	**0.0**
CASM	**Ain Smara**	**1.93**	**80**	P	**Pg**	**13 11 40.2**	**0.0**
CASM	**Ain Smara**	**1.93**	**80**	P	**Pg**	**13 11 40.2**	**0.0**
CKFL	**Kef-Lekhel**	**2.13**	**77**	P	**Pg**	**13 11 45.4**	**+1.3**
CKFL	**Kef-Lekhel**	**2.13**	**77**	P	**Pg**	**13 11 45.4**	**+1.3**
EBNR	**Beni Rached**	**2.14**	**280**	P	**Pg**	**13 11 45.1**	**+0.9**
ETRT	**Tiaret**	**2.38**	**257**	P	**Pn**	**13 11 42.9**	**-0.3**
ETRT	**Tiaret**	**2.38**	**257**	P	**Pn**	**13 11 42.9**	**-0.3**
ETRT	**Tiaret**	**2.38**	**257**	P	**Pn**	**13 11 42.9**	**-0.3**
EANR	**'Ain N'Sour**	**2.47**	**271**	P	**Pn**	**13 11 44.7**	**+0.4**
EANR	**'Ain N'Sour**	**2.47**	**271**	P	**Pn**	**13 11 44.7**	**+0.4**
EANR	**'Ain N'Sour**	**2.47**	**271**	P	**Pn**	**13 11 44.7**	**+0.4**
OKGL	**Djebel Kef Gue**	**2.84**	**273**	P	**Pn**	**13 11 46.6**	**-2.7**
	8.5nm,0.3s,SNR=7.9						
OKGL				S	**Sn**	**13 12 25.6**	**+1.5**
	64nm,0.3s,SNR=4.0						
OKGL	**Djebel Kef Gue**	**2.84**	**273**	S	**Sn**	**13 12 25.6**	**+1.5**
	64nm,0.3s,SNR=4.0						
EIBI	**Ibiza**	**3.79**	**325**	P	**Pn**	**13 12 02.2**	**-0.3**
	1.7nm,0.3s,SNR=7.9						
EIBI				S	**Sn**	**13 12 47.5**	**-0.1**
	2.7nm,0.2s,SNR=4.0						
EIBI	**Ibiza**	**3.79**	**325**	P	**Pn**	**13 12 02.2**	**-0.3**
	1.7nm,0.3s,SNR=7.9						
EIBI				S	**Sn**	**13 12 47.5**	**-0.1**
	2.7nm,0.2s,SNR=4.0						
ETOS	**Mallorca**	**3.96**	**345**	P	**Pn**	**13 12 04.0**	**-0.7**
	1.5nm,0.3s,SNR=6.2						
ETOS				S	**Sn**	**13 12 48.8**	**-2.8**
	0.7nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**3.96**	**345**	P	**Pn**	**13 12 04.0**	**-0.7**
	1.5nm,0.3s,SNR=6.2						
EBEN	**Beniarda**	**4.43**	**310**	P	**Pn**	**13 12 12.2**	**+0.9**
	0.5nm,0.2s,SNR=4.0						
EBEN	**Beniarda**	**4.43**	**310**	P	**Pn**	**13 12 12.2**	**+0.9**
	0.5nm,0.2s,SNR=4.0						
EMUR	**La Murta**	**4.71**	**295**	P	**Pn**	**13 12 14.2**	**-0.9**
	3.0nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**13 13 10.4**	**+0.2**
	4.2nm,0.4s,SNR=4.0						
EMUR	**La Murta**	**4.71**	**295**	P	**Pn**	**13 12 14.2**	**-0.9**
	3.0nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**13 13 10.4**	**+0.2**
	4.2nm,0.4s,SNR=4.0						
ENIJ	**Nijar**	**5.22**	**283**	P	**Pn**	**13 12 21.5**	**-0.6**
	4.9nm,0.2s,SNR=4.0						
ENIJ				S	**Sn**	**13 13 22.9**	**+0.2**
	6.9nm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**5.22**	**283**	P	**Pn**	**13 12 21.5**	**-0.6**
	4.9nm,0.2s,SNR=4.0						
ENIJ				S	**Sn**	**13 13 22.9**	**+0.2**
	6.9nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**5.27**	**302**	P	**Pn**	**13 12 23.4**	**+0.6**
	1.0nm,0.2s,SNR=6.6						
ETOB				S	**Sn**	**13 13 24.3**	**+0.1**
	1.0nm,0.3s,SNR=4.0						
ETOB	**Tobarra**	**5.27**	**302**	P	**Pn**	**13 12 23.5**	**+0.6**
	1.0nm,0.2s,SNR=6.6						
ETOB				S	**Sn**	**13 13 24.3**	**+0.1**
	1.0nm,0.3s,SNR=4.0						
EHUE	**Huescar**	**5.71**	**291**	P	**Pn**	**13 12 30.8**	**+1.9**
	3.4nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**13 13 38.0**	**+3.1**
	1.2nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**5.71**	**291**	P	**Pn**	**13 12 30.8**	**+1.9**
	3.4nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**5.71**	**322**	P	**Pn**	**13 12 29.5**	**+0.5**
	0.6nm,0.2s,SNR=7.9						
EMOS				S	**Sn**	**13 13 30.2**	**-5.0**
	0.8nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**5.71**	**322**	P	**Pn**	**13 12 29.5**	**+0.5**
	0.6nm,0.2s,SNR=7.9						
EBER	**Berja**	**5.75**	**282**	P	**Pn**	**13 12 28.1**	**-1.4**
	2.4nm,0.3s,SNR=7.1						
EBER				S	**Sn**	**13 13 34.6**	**-1.4**
	1.8nm,0.3s,SNR=7.9						
EBER	**Berja**	**5.75**	**282**	P	**Pn**	**13 12 28.1**	**-1.4**
	2.4nm,0.3s,SNR=7.1						
EBER				S	**Sn**	**13 13 34.6**	**-1.4**
	1.8nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**5.77**	**294**	P	**Pn**	**13 12 31.4**	**+1.6**
	3.7nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**13 13 36.9**	**+0.3**
	1.6nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**5.77**	**294**	P	**Pn**	**13 12 31.4**	**+1.6**
	3.7nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**13 13 36.9**	**+0.3**
	1.6nm,0.2s,SNR=7.9						
EQES	**Quesada**	**6.07**	**290**	P	**Pn**	**13 12 34.5**	**+0.6**
	2.9nm,0.2s,SNR=14						
EQES				S	**Sn**	**13 13 40.4**	**-3.5**
	1.4nm,0.3s,SNR=7.9						
EQES	**Quesada**	**6.07**	**290**	P	**Pn**	**13 12 34.5**	**

	6.1nm,0.9s,baz=64,slow=10,SNR=96							
ASAR				PcP	**PcP**	13 29 24.8	+0.3	
	5.1nm,0.8s,baz=77,slow=2.6,SNR=17							
ASAR				ScP	**ScP**	13 32 58.7	+4.5	
	0.7nm,0.8s,baz=90,slow=4.0,SNR=3.8							
ASAR				PKiKP	**PKiKP**	13 36 49.1	-1.0	
	0.5nm,0.9s,baz=110,slow=1.7,SNR=4.8							
ASAR				LR	LR	13 40 28.7		
	comp=Z,88nm,18.4s,baz=44,slow=36							
RKPI	**Ransiki, Papua**	**33.34**	**284**	P	**P**	**13 26 44.9**	**-1.5**	
FAKI	**Fak Fak**	**34.78**	**281**	P	**P**	**13 26 57.2**	**-1.7**	
	15nm,1.5s							
MSAI	**Masohi**	**37.88**	**279**	P	**P**	**13 27 22.2**	**-3.0**	
	4.9nm,0.8s,410nm							
NLAI	**Namlea**	**39.68**	**278**	P	**P**	**13 27 41.4**	**+1.2**	
	69nm,1.0s,789nm							
TNTI	**Ternate**	**40.51**	**285**	P	**P**	**13 27 45.3**	**-1.8**	
	19nm,0.6s							
SANI	**Sanana**	**41.04**	**280**	P	**P**	**13 27 50.7**	**-0.7**	
	20nm,1.2s							
SOEI	**Soe**	**41.37**	**268**	P	**P**	**13 27 52.0**	**-2.2**	
	24nm,1.6s							
BATI	**Baumata**	**41.92**	**267**	P	**P**	**13 27 58.5**	**-0.1**	
	21nm,0.8s							
SGSI	**Sangihe**	**43.21**	**288**	P	**P**	**13 28 07.6**	**-1.3**	
MMRI	**Maumere**	**43.48**	**269**	P	**P**	**13 28 11.1**	**-0.1**	
	42nm,1.2s							
KMSI	**Cibinong**	**43.68**	**283**	P	**P**	**13 28 13.0**	**+0.2**	
	80nm,1.1s							
KDI	**Kendari**	**43.88**	**276**	P	**P**	**13 28 15.6**	**+1.2**	
	22nm,0.9s							
LUWI	**Luwuk**	**44.41**	**280**	P	**P**	**13 28 18.3**	**-0.2**	
	47nm,1.1s,2μm							
WSI	**Waingapu**	**45.27**	**267**	P	**P**	**13 28 24.5**	**-0.8**	
	127nm,0.5s,4μm							
APSI	**Ampana**	**45.53**	**280**	P	**P**	**13 28 28.0**	**+0.6**	
	36nm,1.2s,582nm							
BSSI	**Bau Bau, Buton**	**45.56**	**272**	P	**P**	**13 28 25.8**	**-1.9**	
	26nm,1.0s							
BKSI	**Bulukumba**	**46.06**	**273**	P	**P**	**13 28 30.3**	**-1.3**	
	8.6nm,0.9s							
PCI	**Palu**	**47.28**	**279**	P	**P**	**13 28 42.7**	**+1.6**	
	60nm,1.2s,730nm							
MPSI	**Mapaga**	**47.54**	**281**	P	**P**	**13 28 42.4**	**-0.7**	
	19nm,1.0s							
SRBI	**Singaraja**	**50.45**	**269**	P	**P**	**13 29 05.4**	**+0.2**	
PWJI	**Pagerwojo**	**53.80**	**268**	P	**P**	**13 29 29.9**	**-0.1**	
MJAR	**Matsushiro Ant**	**54.37**	**332**	P	**P**	**13 29 32.6**	**-1.1**	
	5.7nm,1.0s,baz=174,slow=9.1,SNR=8.8							
PCJI	**Pacitan**	**54.39**	**268**	P	**P**	**13 29 34.5**	**+0.2**	
KSM	**Kuching**	**57.10**	**279**	*eP*	**P**	**13 29 53.3**	**-0.2**	
	5.9nm,0.8s							
KSRS	**Korea Array**	**60.32**	**325**	P	**P**	**13 30 15.8**	**+0.4**	
	2.9nm,0.6s,baz=134,slow=6.9,SNR=10							
KSRS				PcP	**PcP**	**13 30 60.0**	**+1.1**	
	2.7nm,0.8s,baz=145,slow=6.2,SNR=4.4							
KSAR	**Wonju Array Be**	**60.34**	**325**	P	**P**	**13 30 15.8**	**+0.3**	
KSAR				PcP	**PcP**	**13 30 60.0**	**+1.0**	
NJ2	**Nanjing**	**62.53**	**315**	*eP*	**P**	**13 30 29.3**	**-1.0**	
NJ2				PMZ				
	20nm,0.8s							
QIZ	**Qiongzhong**	**63.26**	**298**	P	**P**	**13 30 35.8**	**+0.4**	
QIZ				pP	**PcP**	**13 31 11.8**	**+0.5**	
QIZ				sP	**sP**	**13 31 28.3**	**-1.5**	
QIZ				PP	**PP**	**13 32 57.0**	**+0.4**	
QIZ				S	**S**	**13 38 56.5**	**+1.4**	
QIZ				ScS	**ScS**	**13 40 14.3**	**+0.6**	
QIZ				PMZ				
	20nm,1.3s							
USRK	**Ussuriysk Ar.**	**63.34**	**333**	P	**P**	**13 30 35.3**	**0.0**	
	5.5nm,0.9s,baz=133,slow=8.1,SNR=5.3							
PETK	**Petropavlovsk-**	**64.47**	**354**	P	**P**	**13 30 43.0**	**+0.5**	
	7.2nm,0.8s,baz=160,slow=10,SNR=15							
BKNI	**Bangkinang**	**65.86**	**275**	*eP*	**P**	**13 30 52.6**	**+0.2**	
	63nm,0.4s							
CN2	**Changchun**	**66.16**	**329**	*eP*	**P**	**13 30 53.3**	**-0.4**	
CN2				PMZ				
	20nm,0.8s							
VNDA	**Vanda**	**66.36**	**181**	P	**P**	**13 30 54.7**	**+0.2**	
	7.1nm,0.8s,baz=355,slow=6.7,SNR=29							
VNDA	**Vanda**	**66.36**	**181**	*eP*	**P**	**13 30 54.5**	**0.0**	
	15nm,1.1s							
SBA	**Scott Base**	**66.65**	**180**	*eP*	**P**	**13 30 57.3**	**+1.0**	
	21nm,0.9s							
MNSI	**Mandailing Nat**	**67.39**	**276**	P	**P**	**13 31 02.4**	**+0.3**	
SKNT	**Sakolnakorn**	**67.68**	**294**	P	**P**	**13 31 04.5**	**+0.7**	
	44nm,1.2s							
UNV	**Unalaska Valle**	**68.78**	**17**	*eP*	**P**	**13 31 09.0**	**-0.8**	
GYA	**Guiyang**	**68.98**	**304**	⇑*P*	**P**	**13 31 12.4**	**+0.5**	
GYA				pP	**pP**	**13 31 51.0**	**+1.2**	
GYA				sP	**sP**	**13 32 08.4**	**+1.7**	
GYA				ScP		13 35 24.3		
GYA				S	**S**	**13 40 05.8**	**+1.5**	
GYA				SKS	**SKSac**	**13 40 55.4**	**-1.6**	
GYA				PMZ				
	20nm,0.8s							
GYA				PMZ				
	90nm,4.9s							
GSI	**Gunungsitoli**	**69.45**	**276**	P	**P**	**13 31 16.0**	**+1.1**	
GSI	**Gunungsitoli**	**69.45**	**276**	*eP*	**P**	**13 31 15.4**	**+0.5**	
	53nm,0.8s							
PBKT	**Sadao Pong**	**70.27**	**292**	P	**P**	**13 31 21.1**	**+1.3**	
	14nm,0.9s							
LOEI	**Loei**	**70.31**	**293**	P	**P**	**13 31 18.8**	**-1.2**	
	14nm,1.0s							
XAN	**Xi'an**	**70.65**	**312**	P	**P**	**13 31 22.6**	**+0.8**	
XAN				PMZ				
	9.0nm,0.7s							
UTTA	**Uttaradit**	**71.02**	**293**	P	**P**	**13 31 26.1**	**+1.8**	
	3.5nm,1.1s							
UTHA	**Uthaitani**	**71.35**	**291**	P	**P**	**13 31 28.2**	**+1.9**	
	6.0nm,0.9s							
KMI	**Kunming**	**71.69**	**301**	P	**P**	**13 31 30.1**	**+1.6**	
KMI				PMZ				
	26nm,1.2s							
SUKH	**Sukhothai**	**71.77**	**293**	P	**P**	**13 31 30.6**	**+1.8**	
	3.9nm,0.7s							
CRAI	**Chiangrai**	**72.00**	**296**	P	**P**	**13 31 28.4**	**-1.8**	
	13nm,1.6s							
LAMP	**Lampang**	**72.10**	**294**	P	**P**	**13 31 32.4**	**+1.6**	
	12nm,0.8s							
HHC	**Hu-ho-hao-te**	**72.32**	**319**	*eP*	**P**	**13 31 32.3**	**+0.5**	
HHC				pP	**pP**	**13 32 11.0**	**+1.0**	
HHC				sP	**sP**	**13 32 28.8**	**+1.9**	
HHC				PP	**PP**	**13 34 17.4**	**+2.5**	
HHC				S	**S**	**13 40 41.0**	**-1.4**	
HHC				SKS	**SKSac**	**13 41 17.4**	**-4.2**	
HHC				PMZ				
	8.0nm,0.5s							
HHC				PMZ				
	170nm,5.5s							
HHC				LN				
	91nm,14.7s							
HHC				LE				
	200nm,13.6s							
HHC				LZ				
	64nm,14.7s							
CM31	**Chiang Mai Arr**	**72.70**	**293**	*eP*	**P**	**13 31 36.1**	**+1.8**	
	24nm,0.9s							
CMAR	**Chiang Mai Arr**	**72.70**	**293**	P	**P**	**13 31 36.1**	**+1.7**	
	16nm,0.8s,baz=118,slow=4.3,SNR=62							
CMMT	**Chiang Mai**	**72.81**	**294**	P	**P**	**13 31 36.1**	**+1.1**	
CHTO	**Chiang Mai**	**72.81**	**294**	*eP*	**P**	**13 31 35.9**	**+0.9**	
	24nm,1.1s							
CD2	**Chengdu**	**73.15**	**307**	*eP*	**P**	**13 31 38.0**	**+1.2**	
CD2				pP	**pP**	**13 32 15.6**	**+0.4**	
CD2				sP	**sP**	**13 32 32.3**	**+0.3**	
CD2				PP	**PP**	**13 34 25.3**	**+3.2**	
CD2				S	**S**	**13 40 52.3**	**+0.2**	
CD2				SKS	**SKSac**	**13 41 24.6**	**-3.6**	
CD2				PMZ				
	10.0nm,0.5s							
CD2				PMZ				
	120nm,5.4s							
LZH	**Lanzhou**	**75.28**	**312**	⇓*P*	**P**	**13 31 51.5**	**+2.3**	
LZH				pP	**pP**	**13 32 29.3**	**+1.5**	
LZH				sP	**sP**	**13 32 46.0**	**+1.5**	
LZH				PMZ				
	29nm,1.4s							
LZH				PMZ				
	82nm,7.3s							
YAK	**Yakutsk**	**78.40**	**343**	*eP*	**P**	**13 32 05.4**	**-0.4**	
	17nm,0.8s							
RSO	**Redoubt South**	**78.47**	**19**	*eP*	**P**	**13 32 05.6**	**-0.9**	
	20nm,0.7s							
ULN	**Ulaanbaatar**	**78.76**	**324**	*eP*	**P**	**13 32 08.8**	**+0.4**	
	20nm,1.1s							
QSPA	**South Pole Qui**	**78.81**	**180**	P	**P**	**13 32 08.5**	**+0.1**	
	9.7nm,0.9s,baz=321,slow=0.7,SNR=44							
BILL	**Bilibino**	**79.02**	**360**	*eP*	**P**	**13 32 09.3**	**+0.1**	
	18nm,0.9s							
SONM	**Songino Array**	**79.12**	**324**	P	**P**	**13 32 09.9**	**-0.4**	
	2.4nm,0.4s,baz=150,slow=7.9,SNR=14							
GTA	**Gaotai**	**79.58**	**314**	P	**P**	**13 32 14.5**	**+1.5**	
GTA				pP	**pP**	**13 32 50.5**	**-1.4**	
GTA				sP	**sP**	**13 33 09.3**	**+0.7**	
GTA				PMZ				
	20nm,1.2s							
PMR	**Palmer**	**80.49**	**20**	*eP*	**P**	**13 32 17.0**	**-0.2**	
	6.4nm,0.6s							
DIV	**Divide**	**81.33**	**21**	*eP*	**P**	**13 32 21.5**	**-0.2**	
	18nm,0.9s							
KTH	**Kantishna Hill**	**81.36**	**18**	*eP*	**P**	**13 32 20.6**	**-1.2**	
TRF	**Thorofare Moun**	**81.47**	**18**	*eP*	**P**	**13 32 21.5**	**-1.1**	
BPAW	**Bear Paw Mtn.**	**81.75**	**18**	P	**P**	**13 32 22.6**	**-1.2**	
MCK	**McKinley**	**82.10**	**18**	*eP*	**P**	**13 32 24.3**	**-1.4**	
	8.6nm,0.8s							
IM04	**Indian Mountai**	**82.39**	**15**	*eP*	**P**	**13 32 27.3**	**+0.2**	
LSA	**Lhasa**	**82.92**	**302**	*eP*	**P**	**13 32 31.6**	**+0.4**	
	6.3nm,0.7s							
COLA	**College**	**83.24**	**18**	*eP*	**P**	**13 32 30.7**	**-0.7**	
MENT	**Mentasta**	**83.26**	**21**	*eP*	**P**	**13 32 32.1**	**+0.4**	
ILAR	**Eielson Array**	**83.47**	**18**	P	**P**	**13 32 32.1**	**-0.5**	
	4.8nm,0.5s,baz=262,slow=5.2,SNR=28							
ILAR				pP	**pP**	**13 33 07.1**	**-4.8**	
	2.1nm,0.7s,baz=236,slow=5.4,SNR=3.8							
DOT	**Dot Lake**	**83.61**	**20**	*eP*	**P**	**13 32 32.9**	**-0.6**	
MAW	**Mawson**	**84.81**	**202**	P	**P**	**13 32 40.0**	**+0.5**	
	2.5nm,0.7s,baz=106,slow=9.2,SNR=5.4							
EGAK	**Eagle**	**85.31**	**20**	*eP*	**P**	**13 32 42.1**	**+0.2**	
ODAN	**Odare**	**85.33**	**298**	*eP*	**P**	**13 32 43.9**	**+0.7**	
	52nm,0.6s							
DAWY	**Dawson**	**85.48**	**21**	*eP*	**P**	**13 32 43.1**	**+0.2**	
NVAR	**Mina Array Bea**	**85.67**	**50**	P	**P**	**13 32 45.5**	**+0.8**	
	2.7nm,0.7s,baz=235,slow=7.5,SNR=22							
NVAR				pP	**pP**	**13 33 20.5**	**-3.6**	
	2.3nm,0.9s,baz=234,slow=6.7,SNR=4.6							
DLBC	**Dease Lake**	**86.26**	**28**	*eP*	**P**	**13 32 47.0**	**+0.1**	
TIXI	**Tiksi**	**86.34**	**349**	*eP*	**P**	**13 32 46.3**	**-0.6**	
	9.2nm,1.1s							
TPH	**Tonopah**	**86.38**	**50**	*eP*	**P**	**13 32 48.4**	**+0.3**	
	3.0nm,1.0s							
JIRN	**Jiri**	**86.56**	**299**	*eP*	**P**	**13 32 49.8**	**+0.4**	
	39nm,0.9s							
WVOR	**Wild Horse Val**	**86.67**	**46**	*eP*	**P**	**13 32 49.7**	**+0.4**	
	3.5nm,1.0s							
GUN	**Gumba**	**86.89**	**299**	*eP*	**P**	**13 32 51.5**	**+0.5**	
	35nm,0.9s							
PKI	**Pulchoki**	**87.22**	**299**	*eP*	**P**	**13 32 52.7**	**+0.2**	
	22nm,0.5s							
PKIN	**Phulchoki**	**87.23**	**299**	*eP*	**P**	**13 32 52.8**	**+0.3**	
	11nm,0.8s							
KKN	**Kakani**	**87.38**	**299**	*eP*	**P**	**13 32 53.6**	**+0.4**	
	21nm,0.7s							
DMN	**Daman**	**87.48**	**299**	*eP*	**P**	**13 32 54.2**	**+0.5**	
	85nm,0.9s							
SHPR	**Sheep Range**	**87.52**	**52**	P	**P**	**13 32 53.5**	**-0.1**	
	13nm,1.3s							
GKN	**Gorkha**	**87.98**	**299**	*eP*	**P**	**13 32 55.9**	**-0.1**	
	51nm,0.8s							
BMO	**Blue Mountains**	**88.33**	**44**	*eP*	**P**	**13 32 57.6**	**+0.4**	
	8.9nm,1.4s							
KOLN	**Koldanda**	**88.82**	**298**	*eP*	**P**	**13 32 59.6**	**-0.4**	
	21nm,0.6s							
WMQ	**Urumqi**	**89.61**	**315**	P	**P**	**13 33 03.8**	**+0.7**	
WMQ				pP	**pP**	**13 33 44.3**	**+1.5**	
WMQ				sP	**sP**	**13 34 01.3**	**+2.0**	
WMQ				PP	**PP**	**13 36 34.0**	**-3.3**	
WMQ				SKS	**SKSac**	**13 43 16.8**	**-2.0**	
WMQ				S	**S**	**13 43 38.8**	**-2.2**	
WMQ				PMZ				
	14nm,0.6s							
WMQ				PMZ				
	84nm,4.6s							
WMQ				LN				
	31nm,18.6s							
WMQ				LE				
	24nm,19.0s							
WMQ				LZ				
	24nm,20.2s							
HLID	**Hailey**	**89.96**	**46**	*eP*	**P**	**13 33 05.7**	**+0.8**	
	2.1nm,0.8s							
WUAZ	**Wupatki**	**90.24**	**54**	*eP*	**P**	**13 33 06.9**	**+0.6**	
	12nm,1.4s							
MVU	**Marysvale**	**90.29**	**51**	*eP*	**P**	**13 33 08.0**	**+1.3**	
	7.7nm,1.2s							
MSU	**Marysvale**	**90.32**	**51**	*eP*	**P**	**13 33 08.0**	**+1.3**	
	11nm,1.2s							
BSMT	**Bassoo Peak**	**90.86**	**41**	*eP*	**P**	**13 33 09.0**	**0.0**	
	5.1nm,0.8s							
MCMT	**McKenzie Canyo**	**91.38**	**45**	*eP*	**P**	**13 33 12.0**	**+0.4**	
	1.6nm,1.0s							
DLMT	**Dillon**	**91.68**	**44**	*eP*	**P**	**13 33 13.3**	**+0.5**	
	4.4nm,1.1s							
LRM	**Limekiln Ridge**	**91.89**	**44**	*eP*	**P**	**13 33 13.6**	**-0.3**	
	11nm,0.9s							
PDAR	**Pinedale Array**	**93.22**	**47**	P	**P**	**13 33 19.8**	**-0.3**	
	1.2nm,0.9s,baz=228,slow=1.8,SNR=8.0							
PDAR				PKKPbc	**PKKPdf**	**13 50 27.6**	**+0.2**	
	0.5nm,0.7s,baz=99,slow=7.7,SNR=4.6							
ZAA0	**Zalesovo Array**	**94.01**	**324**	*eP*	**P**	**13 33 22.1**	**-1.0**	
ZALV	**Zalesovo Beam**	**94.01**	**324**	P	**P**	**13 33 22.6**	**-0.6**	
	5.7nm,0.7s,baz=118,slow=4.3,SNR=23							
MK31	**Makanchi Array**	**94.02**	**317**	*eP*	**P**	**13 33 23.8**	**+0.3**	
MKAR	**Makanchi Array**	**94.02**	**317**	P	**P**	**13 33 23.7**	**+0.3**	
	12nm,0.7s,baz=92,slow=6.2,SNR=138							
MKAR				pP	pP	13 33 57.5	-5.7	
	1.5nm,0.7s,baz=96,slow=6.1,SNR=2.8							
MKAR				PKiKP	**PKiKP**	**13 38 06.7**	**-0.3**	
	0.5nm,0.8s,baz=69,slow=2.3,SNR=3.5							
MKAR				PKKPbc	**PKKPdf**	**13 50 24.4**	**-1.6**	
	1.0nm,0.7s,baz=292,slow=2.8,SNR=12							
YKA	**Yellowknife Ar**	**94.84**	**27**	P	**P**	**13 33 25.3**	**-1.4**	
	1.3nm,0.6s,baz=258,slow=4.6,SNR=14							
TXAR	**Lajitas Array**	**95.39**	**61**	P	**P**	**13 33 30.2**	**+0.1**	
	0.5nm,0.6s,baz=232,slow=5.0,SNR=7.4							
SNAA	**Sanae**	**97.01**	**183**	P	**P**	**13 33 34.4**	**-2.3**	
VNA3	**Neumayer Olymp**	**97.71**	**181**	P	**P**	**13 33 37.2**	**-2.5**	
VNA2	**Neumayer--Watz**	**97.97**	**182**	P	**P**	**13 33 40.0**	**-0.9**	
	baz=177,slow=5.2							
ARCES	**ARCESS Array B**	**116.62**	**346**	PKP	**PKPdf**	**13 38 47.8**	**-0.1**	
	4.3nm,0.5s,baz=74,slow=1.7,SNR=36							
SCHQ	**Schefferville**	**119.84**	**32**	PKKPbc	PKKPbc	13 49 05.2	-1.3	
	1.3nm,0.6s,baz=78,slow=0.5,SNR=5.0							
FINES	**FINESS Array B**	**122.12**	**339**	PKP	**PKPdf**	**13 38 58.5**	**-0.2**	
	2.1nm,0.5s,baz=42,slow=3.1,SNR=20							
RAYN	**Ar Rayn**	**122.56**	**291**	*e*PKPdf	**PKPdf**	**13 39 01.0**	**+0.3**	
BOSA	**Boshof**	**125.41**	**223**	PKP	**PKPdf**	**13 39 07.0**	**+0.8**	
	4.9nm,0.6s,baz=147,slow=1.7,SNR=9.2							
NB2	**NORSAR Subarra**	**126.99**	**345**	PKPdf	**PKPdf**	**13 39 07.8**	**-0.3**	
	comp=Z,3.1nm,0.8s,baz=34,slow=1.9							
NOA	**NORSAR Array B**	**126.99**	**345**	PKP	**PKPdf**	**13 39 08.5**	**+0.3**	
	comp=Z,2.2nm,0.7s,baz=37,slow=2.0,SNR=9.0							
AKASG	**Malin Array Be**	**127.30**	**327**	PKP	**PKPdf**	**13 39 08.6**	**-0.4**	
	comp=Z,0.6nm,0.5s,baz=46,slow=2.6,SNR=6.2							
BRTR	**Keskin Array B**	**129.49**	**313**	PKP	**PKPdf**	**13 39 13.3**	**-0.4**	
	comp=Z,0.9nm,0.9s,baz=28,slow=3.7,SNR=2.9							
DPC	**Dobruska-Polom**	**133.83**	**334**	*e*PKPdf	**PKPdf**	**13 39 21.5**	**+0.1**	
VYHS	**Vyhne**	**133.98**	**330**	*e*PKP	**PKPdf**	**13 39 22.3**	**+0.6**	
BRG	**Berggiesshubel**	**134.43**	**336**	*e*(P)	**PKPdf**	**13 39 23.9**	**+1.4**	
	comp=Z,3.0nm,0.8s							
KHC	**Kasperske Hory**	**135.92**	**334**	*e*PKPdf	**PKPdf**	**13 39 26.0**	**+0.6**	
KHC				*ex*	x	13 39 30.4		
GERES	**GERESS Array B**	**136.09**	**334**	PKP	**PKPdf**	**13 39 25.3**	**-0.5**	
	comp=Z,1.1nm,0.6s,baz=90,slow=4.0,SNR=4.0							
MEM	**Membach**	**137.50**	**341**	PKP	**PKPdf**	**13 39 30.4**	**+2.2**	
WLF	**Walferdange**	**138.28**	**341**	PKP	**PKPdf**	**13 39 30.9**	**+1.3**	
DOU	**Dourbes**	**138.39**	**342**	PKP	**PKPdf**	**13 39 32.3**	**+2.5**	
VSL	**Villasalto**	**145.17**	**328**	*e*PKP	**PKPab**	**13 39 42.4**	**0.0**	
KEST	**Kesra**	**147.88**	**323**	PKPbc	**PKPbc**	**13 39 50.8**	**+0.6**	
	comp=Z,5.0nm,0.8s,baz=0.0,slow=7.1,SNR=13							
CMAH	**Djebel Manchou**	**148.33**	**327**	P	**PKPab**	**13 39 59.0**	**+4.1**	
POLO	**Lamas de Olo**	**149.49**	**351**	*e*PKPbc	**PKPbc**	**13 39 54.9**	**+0.7**	
MVO	**Moncorvo**	**149.58**	**350**	*e*PKPbc	**PKPbc**	**13 39 55.2**	**+0.9**	
PVRL	**Vila Real**	**149.58**	**351**	*e*PKPbc	**PKPbc**	**13 39 55.1**	**+0.8**	
PVIS	**Viseu**	**150.15**	**351**	*e*PKPbc	**PKPbc**	**13 39 57.1**	**+1.4**	
ESDC	**Sonseca Array**	**150.35**	**345**	PKP	**PKPdf**	**13 39 51.4**	**+0.5**	
	comp=Z,1.4nm,0.8s,baz=356,slow=3.2,SNR=3.3							
ESDC				PKPbc	**PKPbc**	**13 39 56.1**	**-0.1**	
	comp=Z,1.2nm,0.4s,baz=12,slow=2.5,SNR=14							
ESDC				PKPab	**PKPab**	**13 40 03.2**	**+0.2**	
	comp=Z,1.8nm,0.6s,baz=16,slow=4.5,SNR=7.1							
MTE	**Manteigas**	**150.41**	**351**	*e*PKPdf	**PKPdf**	**13 39 49.4**	**-1.5**	
MTE	**Manteigas**	**150.41**	**351**	*e*PKPbc	**PKPbc**	**13 39 57.6**	**+1.2**	
PCAS	**Casmilo, Conde**	**150.89**	**352**	*e*PKPbc	**PKPbc**	**13 39 56.1**	**-1.3**	
PCBR	**Castelo Branco**	**150.94**	**350**	*e*PKPbc	**PKPbc**	**13 39 57.6**	**+0.1**	
PTOM	**Tomar**	**151.31**	**352**	*e*PKPbc	**PKPbc**	**13 39 59.0**	**+0.6**	
PMRV	**Marv??o**	**151.33**	**350**	*e*PKPbc	**PKPbc**	**13 39 59.2**	**+0.7**	
PBAR	**Barrancos**	**152.48**	**349**	*e*PKPdf	**PKPdf**	**13 39 52.3**	**-1.8**	
PCVE	**Castro Verde**	**153.19**	**350**	*e*PKPbc	**PKPbc**	**13 40 03.4**	**+0.7**	
TORD	**Torodi Ar. Bea**	**164.86**	**279**	PKP	**PKPdf**	**13 40 09.2**	**-0.1**	
	comp=Z,2.1nm,1.0s,baz=82,slow=0.9,SNR=11							
TORD				PKPab	**PKPab**	**13 41 06.6**	**+0.3**	
	comp=Z,2.3nm,0.9s,baz=75,slow=4.0,SNR=7.9							
DBIC	**Dimbokro**	**170.21**	**243**	PKPab	**PKPab**	**13 41 30.2**	**+0.3**	
	comp=Z,4.3nm,0.8s,baz=83,slow=1.8,SNR=3.9							

*SJA **24** 13:25:59.0±0.6, 34.52S×72.46W, h3km±10km, ML3.3, MW3.4*
*GUC **24** 13:26:07.0±0.6, 34.77S×71.77W, h42km±2km, ML4.0*

ISC 24 13:26:04.9±1.9, 34.72S±0.04×71.96W±0.10, h3km±13km, n16, σ1s56/26, 4C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.67**	**115**	⇓*iP*		**Pg**		**13 26 18.0**	**+0.2**
NICH				*i*S		**Sg**		**13 26 26.1**	**-0.3**
TALC	**Talca**	**0.73**	**158**	⇑*iP*		**Pg**		**13 26 19.6**	**+0.6**
TALC				*i*S		**Sg**		**13 26 28.7**	**+0.3**
LNV	**Longovilo**	**0.89**	**31**	⇓*iP*		**Pg**		**13 26 23.1**	**+1.2**
LNCH	**Linares**	**1.17**	**165**	⇑*iP*		**Pg**		**13 26 26.6**	**-0.7**
LNCH				*i*S		**Sg**		**13 26 40.9**	**-1.5**
CHCH	**Chadas Angostu**	**1.34**	**55**	⇑*iP*		**Pn**		**13 26 28.8**	**-1.7**
TACH	**Talagante**	**1.36**	**39**	⇓*iP*		**Pn**		**13 26 30.0**	**-0.9**
PCH	**Pirque**	**1.62**	**48**	⇑*iP*		**Pn**		**13 26 33.3**	**-1.2**
PCH				*i*S		**Sn**		**13 26 53.8**	**-2.3**
CLCH	**Cerro Calan**	**1.77**	**42**	*eP*		**Pn**		**13 26 35.5**	**-1.1**
CLCH				*i*S		**Sn**		**13 26 56.4**	**-3.2**
CLCH				AML		AML		13 27 02.4	
	comp=N,3μm,0.5s								
PEL	**Peldehue**	**1.90**	**34**	⇓*iP*		**Pn**		**13 26 37.6**	**-0.7**
PEL				*i*S		**Sn**		**13 27 02.4**	**-0.2**
PEL				AML		AML		13 27 14.3	
	comp=E,2μm,0.3s								
ROCH	**El Roble**	**1.91**	**25**	*eP*		**Pn**		**13 26 38.4**	**-0.2**
ROCH				*i*S		**Sn**		**13 27 02.0**	**-1.4**
ROCH				AML		AML		13 27 07.8	
	comp=N,2μm,0.3s								
AAGR	**Agrelo**	**3.07**	**59**	*iP*		**Pn**		**13 26 55.2**	**+0.7**
ARCO	**CERRO ARCO**	**3.14**	**54**	*iP*		**Pn**		**13 26 56.1**	**+0.7**
ARCO				AML		AML		13 27 50.0	
	comp=Z,64nm,0.6s								
CANA	**Caviahue**	**3.25**	**167**	*iP*		**Pn**		**13 26 58.3**	**+1.3**
RTCV	**Cerro Valdivia**	**4.04**	**46**	*eP*		**Pn**		**13 27 07.4**	**-0.3**
CFAA	**Coronel Fontan**	**4.40**	**46**	*iP*		**Pn**		**13 27 12.7**	**0.0**
CFAA				*i*S		**Sn**		**13 28 07.0**	**+2.4**
CFAA				⇓*e*S		**Sn**		**13 28 07.9**	**+3.3**
RTLL	**Cerro Villicun**	**4.47**	**42**	*iP*		**Pn**		**13 27 13.5**	**-0.1**
RTLL				*i*S		**Sn**		**13 28 08.4**	**+2.1**

*SZGRF **24** 13:40:46.2, 20.07S×174.18W, h143km, Tonga Islands*
*ISCJB **24** 13:40:47.5±0.2, 19.98S±0.05×175.43W±0.05, h142km, mb4.6/61, Error ellipse: s-maj=7.9km s-min=5.3km az=40.7*
*NEIC **24** 13:40:48.6±0.2, 19.85S×175.48W, mb4.7/35, Error ellipse: s-maj=8.6km s-min=4.6km az=137.0*
*IDC **24** 13:40:48.6±0.6, 19.88S×175.41W, h139km±5km, mb4.4/19, mb1 4.6/20, m

FAKI	Fak Fak	53.94	281	P		P	13 49 58.4	+0.6
	55nm,1.2s							
SIJI	Sorong	55.64	283	LR		LR	14 14 27.5	
	comp=Z,50nm,18.3s,baz=57,slow=36							
SBA	Scott Base	58.52	184	*eP*		P	13 50 32.9	+3.6
	5.5nm,0.8s							
VNDA	Vanda	58.62	186	P		P	13 50 32.6	+2.6
	3.6nm,0.8s,baz=2.3,slow=7.5,SNR=20							
VNDA	Vanda	58.62	186	*eP*		P	13 50 32.6	+2.6
	5.0nm,1.0s							
SOEI	Soe	59.08	270	P		P	13 50 34.6	+0.3
	68nm,0.7s							
SOEI	Soe	59.08	270	*eP*		P	13 50 34.4	+0.1
	49nm,0.6s							
TNTI	Ternate	59.87	283	P		P	13 50 39.3	-0.2
	85nm,0.8s							
TNTI	Ternate	59.87	283	*eP*		P	13 50 38.7	-0.9
	64nm,0.8s							
SANI	Sanana	60.05	280	P		P	13 50 39.5	-1.3
	29nm,0.7s							
MBWA	Marble Bar	60.48	256	*eP*		P	13 50 41.8	-1.8
	5.7nm,0.7s							
JCJ	Chichijima	62.42	317	LR		LR	14 14 14.6	
	comp=Z,140nm,20.2s,baz=124,slow=32							
CASY	Casey	65.49	205	*eP*		P	13 51 17.1	+1.2
	20nm,1.0s							
MPSI	Mapaga	66.58	279	P		P	13 51 23.1	-0.7
	18nm,0.8s,439nm							
SRBI	Singaraja	68.11	269	P		P	13 51 32.7	-0.7
	28nm,0.9s							
MJAR	Matsushiro Arr	71.41	322	P		P	13 51 52.5	-0.6
	15nm,0.7s,baz=158,slow=6.0,SNR=44							
MJAR				pP		pP	13 52 27.9	-2.6
	5.5nm,0.9s,baz=153,slow=5.5,SNR=2.9							
MAT	Matsushiro	71.41	322	P		P	13 51 52.0	-1.1
KSM	Kuching	75.92	277	*eP*		P	13 52 19.0	-1.0
	13nm,0.8s							
PETK	Petropavlovsk-	76.52	344	P		P	13 52 21.9	-0.5
	11nm,0.8s,baz=141,slow=9.6,SNR=27							
CGJI	Cibinong	77.52	267	P		P	13 52 27.7	-1.2
WDC	Whiskeytown Da	77.68	38	*eP*		P	13 52 30.3	+1.1
	8.7nm,1.3s							
KSRS	Korea Array	78.28	317	P		P	13 52 33.1	+0.6
	3.0nm,0.8s,baz=136,slow=5.6,SNR=9.3							
KSAR	Wonju Array Be	78.30	317	P		P	13 52 33.1	+0.4
YBH	Yreka Blue Hor	78.33	37	*eP*		P	13 52 34.1	+1.2
	14nm,1.5s							
LBCM	Butte Creek Ri	78.54	39	P		P	13 52 35.2	+1.1
NVAR	Mina Array Bea	78.92	42	P		P	13 52 37.4	+1.1
	6.1nm,0.8s,baz=226,slow=9.3,SNR=33							
TPH	Tonopah	79.40	43	*eP*		P	13 52 40.0	+1.0
	7.6nm,1.2s							
SHPR	Sheep Range	79.85	45	*eP*		P	13 52 42.8	+1.4
	4.3nm,1.2s							
USRK	Ussuriysk Ar.	80.06	324	P		P	13 52 43.2	+1.2
	3.9nm,0.7s,baz=126,slow=3.3,SNR=6.3							
WVOR	Wild Horse Val	81.13	39	*eP*		P	13 52 48.5	+0.5
	8.3nm,1.0s							
TDL	Tradedollar La	81.60	34	P		P	13 52 51.8	+1.4
NJ2	Nanjing	81.60	308	*eP*		P	13 52 50.6	+0.1
NJ2					PMZ			
	20nm,0.8s							
MDJ	Mudanjiang	81.65	324	*eP*		P	13 52 50.6	+0.1
	9.3nm,0.7s							
MAW	Mawson	82.87	199	P		P	13 52 58.0	+1.5
	7.0nm,1.0s,baz=162,slow=17,SNR=8.2							
MAW	Mawson	82.87	199	*eP*		P	13 52 57.9	+1.4
	1.2nm,1.0s							
MSU	Marysvale	82.94	45	*eP*		P	13 52 59.1	+1.5
	6.9nm,1.1s							
QIZ	Qiongzhong	83.05	293	P		P	13 52 58.0	-0.3
QIZ				pP		pP	13 53 37.8	+1.1
QIZ				sP		sP	13 53 55.1	+2.1
QIZ				PP		PP	13 56 10.3	-1.3
QIZ				S		S	14 03 03.5	-1.8
QIZ				sS		sS	14 04 12.8	+1.0
QIZ				PMZ				
	130nm,2.7s							
BMO	Blue Mountains	83.36	37	*eP*		P	13 52 59.8	+0.4
	3.4nm,0.8s							
MFID	Camas Ranch	83.37	39	*eP*		P	13 53 00.7	+1.0
	9.1nm,1.0s							
ETW	Entiat	83.39	34	P		P	13 53 00.5	+0.9
CN2	Changchun	83.54	321	*eP*		P	13 52 58.8	-1.5
CN2				*ep*P		pP	13 53 41.9	+3.1
SAW	Saint Andrews	83.94	34	P		P	13 53 03.2	+0.8
PALM	Palmer	83.99	12	*eP*		P	13 53 01.4	-0.7
TMUT	Trail Mountain	83.99	45	*eP*		P	13 53 04.6	+1.4
	11nm,1.0s							
DIV	Divide	84.29	14	*eP*		P	13 53 03.5	-0.3
	17nm,1.1s							
HLID	Hailey	84.30	40	*eP*		P	13 53 05.2	+0.8
	11nm,1.0s							
SRU	San Rafael Swe	84.35	45	*eP*		P	13 53 06.0	+1.3
	15nm,1.1s							
MNTX	Cornudas Mount	84.38	54	*eP*		P	13 53 06.5	+1.6
	13nm,1.4s							
MNTX				*e*			13 53 39.7	
TXAR	Lajitas Array	84.63	56	P		P	13 53 08.1	+1.8
	2.2nm,0.9s,baz=221,slow=8.3,SNR=16							
TXAR				pP		pP	13 53 41.7	-3.2
	3.3nm,1.0s,baz=226,slow=4.8,SNR=8.0							
TCUT	Toone Canyon	84.82	43	*eP*		P	13 53 08.5	+1.3
	22nm,1.3s							
ANMO	Albuquerque	85.10	50	*eP*		P	13 53 10.3	+1.6
	11nm,1.1s							
KTH	Kantishna Hill	85.46	11	*eP*		P	13 53 08.2	-1.3
TRF	Thorofare Moun	85.48	11	*eP*		P	13 53 09.0	-0.8
IPM	Ipoh	85.65	276	*eP*		P	13 53 11.4	-0.2
	9.9nm,0.8s							
MCMT	McKenzie Canyo	85.94	39	*eP*		P	13 53 13.2	+0.5
	1.8nm,1.1s							
BPAW	Bear Paw Mtn.	85.95	10	P		P	13 53 10.7	-1.2
MCK	McKinley	85.98	11	*eP*		P	13 53 11.5	-0.6
	23nm,0.9s							
HYT	Haines Junctio	86.13	17	*eP*		P	13 53 13.4	+0.4
MENT	Mentasta	86.34	14	*eP*		P	13 53 14.1	+0.2
BSMT	Bassoo Peak	86.53	36	P		P	13 53 15.8	+0.4
PDAR	Pinedale Array	86.86	42	P		P	13 53 16.9	-0.2
	1.0nm,0.7s,baz=165,slow=1.2,SNR=8.8							
PDAR				pP		pP	13 53 52.6	-3.3
	1.9nm,1.1s,baz=222,slow=2.0,SNR=3.7							
DOT	Dot Lake	86.89	13	*eP*		P	13 53 16.2	-0.3
	13nm,1.0s							
COLA	College	87.22	11	*eP*		P	13 53 17.1	-0.9
	8.2nm,0.8s							
IM04	Indian Mountai	87.27	9	*eP*		P	13 53 18.3	-0.1
ILAR	Eielson Array	87.31	12	P		P	13 53 17.7	-0.8
	3.4nm,1.0s,baz=222,slow=5.0,SNR=18							
ILAR				pP		pP	13 53 53.4	-3.9
	2.8nm,1.0s,baz=221,slow=5.6,SNR=5.4							
SYO	Syowa Base	87.73	192‖	*eX*		P	13 53 17.2	-3.4
DAWY	Dawson	88.32	15	*eP*		P	13 53 23.5	+0.1
SNAA	Sanae	88.39	178	P		P	13 53 22.8	-1.0
VNA3	Neumayer Olymp	88.42	175	P		P	13 53 24.7	+0.8
VNA2	Neumayer--Watz	88.89	176	P		P	13 53 27.4	+1.3
	baz=191,slow=3.3							
COLD	Coldfoot	88.97	9	*eP*		P	13 53 26.6	+0.4
	3.4nm,1.0s							
VNA1	Neumayer--Stat	89.10	176	P		P	13 53 28.5	+1.4
XAN	Xi'an	89.93	306	P		P	13 53 32.3	+0.7
XAN					PMZ			
	3.0nm,1.4s							
HHC	Hu-ho-hao-te	90.90	313	*eP*		P	13 53 36.0	0.0
HHC				pP		pP	13 54 15.4	+0.4
HHC				sP		sP	13 54 33.4	+2.3
HHC				PP		PP	13 57 16.8	+2.3
HHC				SKS		SKSac	14 03 51.4	-2.1
HHC				S		S	14 04 15.8	-4.2
HHC				sS		sS	14 05 30.8	+3.1
HHC				PMZ				
	26nm,0.6s							
HHC				PMZ				
	110nm,5.5s							
HHC				LN				
	130nm,14.5s							
HHC				LE				
	110nm,15.3s							
HHC				LZ				
	45nm,16.2s							
SUKH	Sukhothai	91.46	288	P		P	13 53 41.6	+2.6
	2.9nm,0.8s							
LAMP	Lampang	91.82	289	P		P	13 53 42.3	+1.6
	5.0nm,0.7s							
CMAR	Chiang Mai Arr	92.41	289	P		P	13 53 44.1	+0.7
	3.5nm,0.8s,baz=123,slow=2.7,SNR=22							
CMMT	Chiang Mai	92.53	289	P		P	13 53 45.4	+1.4
CHTO	Chiang Mai	92.53	289	P		P	13 53 45.4	+1.4
	29nm,0.8s							
CHTO	Chiang Mai	92.53	289	*eP*		P	13 53 44.5	+0.5
	3.4nm,0.7s							
CD2	Chengdu	92.73	302	*eP*		P	13 53 44.0	-0.7
INK	Inuvik	93.17	14	P		P	13 53 45.2	-0.4
	3.7nm,0.9s,baz=230,slow=4.4,SNR=8.9							
INK				pP		pP	13 54 21.6	-3.0
	4.6nm,1.1s,baz=202,slow=6.7,SNR=3.6							
INK	Inuvik	93.17	14	*eP*		P	13 53 45.0	-0.6
	9.3nm,1.3s							
INK				pP		pP	13 54 21.6	-3.0
LZH	Lanzhou	94.56	307	*eP*		P	13 53 54.3	+1.2
LZH				pP		pP	13 54 36.5	+4.4
LZH				sP		sP	13 54 54.8	+6.5
LZH				PP		PP	13 57 46.4	+3.0
LZH				PMZ				
	18nm,1.6s							
LZH				PMZ				
	70nm,9.3s							
YKA	Yellowknife Ar	95.02	24	P		P	13 53 54.4	+0.1
	1.5nm,0.7s,baz=239,slow=4.3,SNR=10							
YKA				pP		pP	13 54 30.1	-3.2
	0.6nm,0.8s,baz=235,slow=4.3,SNR=3.3							
ZALV	Zalesovo Beam	111.75	321	PKiKP		PKiKP	13 59 04.7	-1.1
	1.0nm,0.6s,baz=145,slow=2.1,SNR=5.1							
MKAR	Makanchi Array	112.76	313	PKiKP		PKiKP	13 59 07.1	-0.9
	1.4nm,0.8s,baz=72,slow=4.0,SNR=8.1							
KURK	Kurchatov	115.81	317	PKP		PKPdf	13 59 11.8	-1.1
KURBB	Kurchatov Arra	115.46	317	PKP		PKPdf	13 59 11.8	-1.2
	1.5nm,0.7s,baz=89,slow=1.9,SNR=19							
TKM2	Tokmak 2	117.25	309	*e*PKPdf		PKPdf	13 59 16.3	-0.7
BVAR	Borovoye Array	120.38	320	PKP		PKPdf	13 59 21.9	-0.5
	2.0nm,0.6s,baz=106,slow=2.2,SNR=13							
KKAR	Karatay Array	120.98	309	*e*PKPdf		PKPdf	13 59 23.0	-0.9
ABKAR	Akbulak array	127.52	317	*e*PKPdf		PKPdf	13 59 36.4	+0.2
BOSA	Boshof	127.74	203	PKP		PKPdf	13 59 38.2	+0.7
	1.5nm,0.5s,baz=181,slow=3.3,SNR=4.1							
ARCES	ARCESS Array B	128.91	351	PKP		PKPdf	13 59 37.4	-0.9
	3.3nm,0.7s,baz=11,slow=0.6,SNR=16							
FINES	FINESS Array B	136.02	345	PKP		PKPdf	13 59 52.4	+0.5
	1.2nm,0.5s,baz=103,slow=2.5,SNR=6.8							
NB2	NORSAR Subarra	138.78	355	PKP		PKPpre	13 59 48.0	
	comp=Z,1.6nm,0.8s,baz=17,slow=2.6							
NOA	NORSAR Array B	138.78	355	PKP		PKPdf	13 59 57.6	+0.6
	comp=Z,0.9nm,0.8s,baz=14,slow=4.1,SNR=4.5							
AKASG	Malin Array Be	143.81	334	PKhKP		PKPpre	14 00 03.5	
	comp=Z,2.8nm,0.5s,baz=40,slow=4.2,SNR=21							
AKBB	Malin Array Si	143.81	334	*e*PKPpre		PKPpre	14 00 03.0	
AK01	Malin Array Si	143.82	334	*e*PKPpre		PKPpre	14 00 03.2	
KIEV	Kiev	143.82	334	*e*PKPpre		PKPpre	14 00 03.0	
AK02	Malin Array Si	143.85	333	*e*PKPpre		PKPpre	14 00 02.9	
BSEG	Bad Segeberg	145.89	354	*e*PKPbc		PKPab	14 00 11.2	-0.1
NRDL	Niedersach Rie	147.34	354	*e*PKPbc		PKPbc	14 00 15.3	+0.5
IBBN	Ibbenburen	147.70	357	*e*PKPbc		PKPbc	14 00 16.5	+0.6
STHS	Stebnicka Huta	147.85	340	*e*PKP		PKPbc	14 00 17.2	+0.8
BURAR	Bucovina Array	147.86	334‖	*j*/P		PKPbc	14 00 18.0	+1.4
CLZ	Clausthal	147.95	353	*e*PKPbc		PKPbc	14 00 17.4	+0.8
CLZ				*ep*PKPbc		pPKPbc	14 00 55.1	-2.0
TLCR		147.99	327⇑	*i*P		PKPbc	14 00 17.4	+0.5
TESR	Tescani	148.09	331⇑	*i*P		PKPbc	14 00 17.5	+0.4
CLL	Collm	148.12	350	*e*PKPbc		PKPbc	14 00 17.5	+0.5
CLL	Collm	148.12	350	*j*/PKPbc		PKPbc	14 00 17.5	+0.5
	comp=Z,29nm,1.0s							
CLL				⇑*i*PKPab		PKPab	14 00 19.8	-0.4
	comp=Z,19nm,0.9s							
CLL				*ep*PKPbc		pPKPbc	14 00 52.0	-5.5
CLL				*ep*PKPab		pPKPab	14 00 55.0	-4.8
UPC	Upice	148.31	346⇑	*e*PKP		PKPbc	14 00 18.6	+1.0
UPC				*e*PKPAB		PKPab	14 00 21.3	+0.2
CFR	Carcaliu	148.34	328⇑	*i*P		PKPbc	14 00 17.7	-0.1
BRG	Berggiesshubel	148.38	349	*e*PKP		PKPdf	14 00 14.7	+0.6
	comp=Z,4.8nm,1.1s							
BRG				*e*			14 00 18.1	
	comp=Z,14nm,1.0s							
BRG	Berggiesshubel	148.38	349	*e*PKPbc		PKPbc	14 00 18.4	+0.7
DPC	Dobruska-Polom	148.39	346	*e*PKPDF		PKPdf	14 00 15.0	+0.8
DPC				⇑*e*PKP		PKPbc	14 00 18.5	+0.7
DPC				*e*PKPAB		PKPab	14 00 22.0	+0.6
DPC				*ep*PKP		pPKPdf	14 00 57.1	+2.1
DPC				*ex*		x	14 01 01.6	
BR131	Keskin Array S	148.40	315	*e*PKPbc		PKPbc	14 00 17.9	-0.3
BRTR	Keskin Array B	148.40	315	PKP		PKPdf	14 00 14.2	-0.5
	comp=Z,6.8nm,0.8s,baz=38,slow=5.4,SNR=6.9							
BRTR				PKPbc		PKPbc	14 00 18.1	-0.3
	comp=Z,7.0nm,0.8s,baz=141,slow=3.8,SNR=18							
NEUB	Neuenburg	148.40	352	*e*PKPbc		PKPbc	14 00 18.4	+0.7
OKC	Ostrava-Krasne	148.40	343⇑	*e*PKP		PKPbc	14 00 17.9	+0.1
OKC				*e*PKPAB		PKPab	14 00 21.9	+0.5
FBE	Freiberg	148.44	350	*e*PKPbc		PKPbc	14 00 18.9	+1.1
TRPA	Tarpa	148.50	337⇑	*j*/P		PKPbc	14 00 18.5	+0.4
VRI	Vrincioaia	148.53	330⇑	*j*/P		PKPbc	14 00 18.6	+0.3
KRLC	Kraliky	148.53	345⇑	*e*PKP		PKPbc	14 00 19.1	+0.9
PLOR	Plostina	148.58	330⇑	*i*P		PKPbc	14 00 18.9	+0.5
PVCC	Panska Ves	148.59	348⇑	*e*PKP		PKPbc	14 00 19.5	+1.2
PVCC				*e*PKPAB		PKPab	14 00 21.8	-0.4
BUG	Bochum--Univer	148.59	357	*e*PKPbc		PKPbc	14 00 18.6	+0.4
MORC	Moravsky Berou	148.62	344⇑	*i*P		PKPbc	14 00 17.2	-1.2
MORC	Moravsky Berou	148.62	344	*e*PKPbc		PKPbc	14 00 19.0	+0.5
TIRR	Tirgusor	148.70	326⇑	*i*P		PKPbc	14 00 19.2	+0.5
HARR	Harsova	148.79	327⇑	*i*P		PKPbc	14 00 19.6	+0.7
TLB	Topalu	148.80	327‖	*j*/P		PKPbc	14 00 19.4	+0.4
ANTO	Ankara	148.89	316⇑	*i*P		PKPbc	14 00 20.2	+0.7
ANTO	Ankara	148.89	316	*e*PKPbc		PKPbc	14 00 19.9	+0.5
MOX	Moxa	148.97	352	*e*PKPbc		PKPbc	14 00 20.2	+0.9
UBBA	Unterbreizbach	149.00	354	*e*PKPbc		PKPbc	14 00 19.7	+0.6
PLN	Plauen	149.05	351	*e*PKPbc		PKPbc	14 00 20.1	+0.7
WERD	Werda	149.07	357	*e*PKPbc		PKPbc	14 00 20.1	+0.6
DOPR	Dopca	149.07	331⇑	*i*P		PKPbc	14 00 21.0	+1.3
TANN	Tannenbergstha	149.07	350	*e*PKPbc		PKPbc	14 00 20.2	+0.6
PRU	Pruhonice	149.11	348⇑	*e*PKP		PKPbc	14 00 20.1	+0.5
PRU				*e*PKPAB		PKPab	14 00 24.3	0.0
PRU				*ep*PKP		pPKPdf	14 00 58.7	+2.5
GOPC	GO Pecny, Ondr	149.13	347⇑	*e*PKP		PKPbc	14 00 20.3	+0.6
GOPC				*e*PKPAB		PKPab	14 00 24.2	-0.2
GOPC				*ep*PKP		pPKPdf	14 00 58.5	+2.3
GUNZ	Gunzen	149.14	351	*e*PKPbc		PKPbc	14 00 20.5	+0.8
GUNZ				*ep*PKPbc		pPKPbc	14 00 58.2	-2.0
MLR	Muntele Rosu	149.17	330‖	*j*/P		PKPbc	14 00 20.1	0.0
WERN	Wernitzgruen	149.21	350	*e*PKPbc		PKPbc	14 00 20.8	+0.9
WERN				*ep*PKPbc		pPKPbc	14 00 58.6	-1.8
CJR	Cluj-Napoca	149.25	334⇑	*i*P		PKPbc	14 00 21.1	+1.0
NKC	Novy Kostel	149.25	350⇑	*e*PKP		PKPbc	14 00 20.9	+0.9
NKC				*e*PKPAB		PKPab	14 00 24.4	-0.5
NKC				*ep*PKP		pPKPdf	14 00 59.3	+2.9
VRAC	Vranov	149.29	345‖	*j*/P		PKPbc	14 00 20.8	+0.7
PSN	Preselentsi	149.35	326⇑	*i*P		PKPbc	14 00 21.4	+1.0
MDB	Medias	149.38	333‖	*j*/P		PKPab	14 00 29.0	+3.4
VYHS	Vyhne	149.42	341	*e*PKP		PKPbc	14 00 20.8	+0.4
MEM	Membach	149.47	358	PKPbc		PKPbc	14 00 20.8	+0.3
DRGR		149.54	335‖	*j*/P		PKPbc	14 00 21.7	+0.8
MANZ	Manzenberg	149.54	351	*e*PKPbc		PKPbc	14 00 21.5	+0.8
TREC	Trest	149.57	346⇑	*e*PKP		PKPbc	14 00 21.3	+0.5
TREC				*ep*PKP		pPKPdf	14 00 59.6	+2.6
SNF	Seneffe	149.59	1	PKPbc		PKPbc	14 00 21.4	+0.7
PSZ	Piszkesteto	149.60	340‖	*j*/P		PKPbc	14 00 21.2	+0.2
PSZ	Piszkesteto	149.60	340	*e*PKPbc		PKPbc	14 00 21.0	0.0
PSZ	Piszkesteto	149.60	340‖	*e*PKPdf		PKPbc	14 00 21.2	+0.2
VOIR		149.63	331‖	*j*/P		PKPbc	14 00 22.2	+1.1
BCLA	Clavier	149.68	359	PKPbc		PKPbc	14 00 21.1	+0.1
TNS	Taunus Mts	149.73	355	*e*PKPbc		PKPbc	14 00 21.8	+0.6
ROTZ	Rotzenmuhle	149.74	350	*e*PKPbc		PKPbc	14 00 22.1	+0.9
ARR	Arges	149.87	331‖	*j*/P		PKPbc	14 00 22.7	+1.0
GRF	Grafenberg Arr	149.96	352	*e*PKPbc		PKPbc	14 00 22.5	+0.8
DOU	Dourbes	150.00	0	PKPbc		PKPbc	14 00 22.2	+0.5
KHC	Kasperske Hory	150.12	348	*e*PKPDF		PKPdf	14 00 17.6	+0.6
KHC				⇑*e*PKP		PKiKP	14 00 22.9	0.0
KHC				*e*PKPAB		PKPab	14 00 27.7	-0.8
KHC				*ep*PKP		pPKPdf	14 01 00.2	+2.3
KHC				*es*PKP			14 01 08.0	
LOT	Lotru	150.19	333⇑	*i*P		PKPbc	14 00 20.5	-2.0
WET	Wettzell	150.23	349	*e*PKPbc		PKPbc	14 00 23.2	+0.8
BUD	Budapest	150.26	340⇑	*e*PKPdf		PKPbc	14 00 23.6	+1.1
GEC2	GERESS Array S	150.37	348	*e*PKPbc		PKPbc	14 00 23.3	+0.5
GEC2				*ep*PKPbc		pPKPbc	14 01 01.2	-2.2
GERES	GERESS Array B	150.37	348	PKPbc		PKPbc	14 00 23.4	+0.6
	comp=Z,10.0nm,0.9s,baz=42,slow=2.2,SNR=26							
SIRR	Siria	150.38	336⇑	*i*P		PKPbc	14 00 23.7	+0.9
WLF	Walferdange	150.41	358	PKPbc		PKPbc	14 00 23.6	+0.9
WLF	Walferdange	150.41	358	*e*PKPbc		PKPbc	14 00 23.9	+1.1
WLF				*ep*PKPbc		pPKPbc	14 01 01.7	-1.6
WLF	Walferdange	150.41	358	*e*PKPbc		PKPbc	14 00 23.7	+0.9
PKSG		150.54	341‖	*e*PKPdf		PKPbc	14 00 23.4	+0.3
GZR	Gura Zlata	150.65	334⇑	*i*P		PKPbc	14 00 23.4	-0.2
CONA	Conrad Observa	150.75	345⇑	*i*PKPdf		PKPdf	14 00 18.8	+0.7
	comp=Z,2.6nm,1.1s							
CONA				*e*PKiKP		PKiKP	14 00 24.5	+0.2
	comp=Z,16nm,0.7s,SNR=14							
PKST	T"s	150.77	341‖	*e*PKPdf		PKPbc	14 00 23.8	+0.1
SOP	Sopron	150.80	344‖	*e*PKPdf		PKPbc	14 00 24.3	+0.6
BZS	Buzias	150.94	335‖	*j*/P		PKPbc	14 00 24.2	+0.1
JMB	Yambol	151.04	325⇑	*i*P		PKPbc	14 00 23.8	-0.7
SRE	Strehaia	151.05	332‖	*j*/P		PKPbc	14 00 21.8	-2.6
PKS2	Kecel	151.07	339‖	*e*PKPdf		PKPbc	14 00 25.3	+0.9
STU	Stuttgart	151.11	354	*e*PKPbc		PKPbc	14 00 25.0	+0.6
STU	Stuttgart	151.11	354	*e*PKPbc		PKPbc	14 00 24.5	+0.1
PKS9	Tamasi	151.29	340‖	*e*PKPdf		PKPbc	14 00 25.0	+0.1
FUR	Furstenfeldbru	151.44	351	*e*PKPbc		PKPbc	14 00 25.7	+0.4
PKSM	Moragy	151.51	340⇑	*i*P		PKPbc	14 00 25.8	+0.4
PKSM	Moragy	151.51	340‖	*e*PKPdf		PKPbc	14 00 25.4	0.0
RJOB	Jochberg	151.60	349	*e*PKPbc		PKPbc	14 00 25.9	+0.2
BFO	Black Forest	151.62	355	*e*PKPbc		PKPbc	14 00 26.1	+0.4
SOKA	Soboth	152.12	345	*i*PKPbc		PKPbc	14 00 26.8	-0.2
	comp=Z,12nm,1.0s,SNR=5.8							
KBA	Koelnbreinsper	152.13	347	*i*PKPbc		PKPbc	14 00 26.9	-0.1
	comp=Z,10nm,0.7s,SNR=7.3							
RETA	Reutte	152.18	351	*i*PKiKP		PKiKP	14 00 27.2	-0.1
	comp=Z,7.7nm,0.8s,SNR=6.7							
WATA	Walderalm	152.21	350	*i*PKiKP		PKiKP	14 00 27.4	0.0
	comp=Z,6.5nm,0.5s,SNR=5.1							
KDZ	Kurdzhali	152.23	325‖	*j*/P		PKPbc	14 00 27.1	-0.1
WTTA	Wattenberg	152.26	350	*i*PKiKP		PKiKP	14 00 27.6	0.0
	comp=Z,23nm,0.6s,SNR=11							
MOTA	Moosalm	152.27	351	*i*PKiKP		PKiKP	14 00 27.6	0.0
	comp=Z,14nm,1.0s,SNR=7.6							
DAVA	Damuels	152.50	352	*i*PKiKP		PKiKP	14 00 28.4	+0.4
	comp=Z,16nm,0.9s,SNR=7.0							
ABTA	Abfaltersbach	152.61	348⇑	*i*PKPdf		PKPdf	14 00 20.6	-0.3
	comp=Z,5.2nm,1.3s							
ABTA				*i*PKPbc		PKPbc	14 00 27.6	-0.4
	comp=Z,16nm,0.6s,SNR=8.1							
FETA	Feichten	152.64	351	*i*PKiKP		PKiKP	14 00 28.6	+0.2
	comp=Z,12nm,0.9s,SNR=5.7							
VTS	Vitosha	152.66	329‖	*j*/P		PKPbc	14 00 28.4	+0.1
DIVS	Divibare	152.85	335⇑	*i*P		PKPbc	14 00 29.3	+0.7
MMB	Musomiste	153.15	327⇑	*i*P		PKPdf	14 00 28.8	+2.0
TUE	Stuetta	153.36	353	*e*PKPbc		PKPbc	14 00 30.5	+0.7
ESDC	Sonseca Array	159.04	19	PKPab		PKPab	14 01 07.2	+0.4
	comp=Z,1.8nm,0.7s,baz=330,slow=3.8,SNR=5.8	

OHR				*e*Sg		**Sg**	**13 59 13.0**	**+1.7**	
OHR				*e*Lg		Lg	13 59 13.3		
	comp=N,20nm,0.5s								
NVLJ	**Novalja**	**2.86**	**304**	*e*Pn		**Pn**	**13 58 28.7**	**-0.8**	
NVLJ				Sn		**Sn**	**13 59 04.9**	**+1.0**	
NVLJ	**Novalja**	**2.86**	**304**	*e*Pn		**Pn**	**13 58 28.7**	**-0.8**	
NVLJ				Sn		**Sn**	**13 59 04.9**	**+1.0**	
PKSM	**Moragy**	**3.23**	**6**	*e*Pn		**Pn**	**13 58 36.2**	**+1.6**	
PKSM	**Moragy**	**3.23**	**6**	*e*Pn		**Pn**	**13 58 36.2**	**+1.6**	
ZAPS	**Zavoj**	**3.27**	**84**	*e*Pn		**Pn**	**13 58 36.2**	**+0.9**	
ZAPS	**Zavoj**	**3.27**	**84**	*e*Pn		**Pn**	**13 58 36.2**	**+0.9**	
VAY	**Valandovo**	**3.67**	**116**	*e*Sg		**Sn**	**13 59 20.0**	**-4.1**	
VAY				*e*Lg		Lg	13 59 26.3		
	comp=N,9.5nm,0.8s								
VAY				*e*Lg		Lg	13 59 28.4		
	comp=E,11nm,1.2s								

IDC 24 14:01:05.0±9.2, 54°81N×82°34E, h0km, Error ellipse: s-maj=51.9km s-min=27.1km az=120.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.69**	**120**	*i*			14 09 50.0	
	baz=302,slow=327,SNR=17							
ZALV	**Zalesovo Beam**	**1.69**	**120**	Pg		Pn	14 01 35.5	-0.2
	1.0nm,0.3s,baz=302,slow=17,SNR=7.5							
ZALV				Lg		Lg	14 01 58.6	
	1.7nm,0.3s,baz=302,slow=30,SNR=9.7							
I31KZ	**AKTYUBINSK INF**	**15.38**	**263**	*i*			15 31 00.0	
	baz=65,slow=319,SNR=1.3							

NIED ***24*** *14:02:00.44°S0N×149°.20E, h95km, Mw4.6 Best double couple: M0 8.78000×10^15 NP1:φs 120.00000°, δ38.00000°, λ-31.00000°. NP2:φs 235.00000°, δ72.00000°, λ-124.00000°.*

ISCJB ***24*** *14:02:05.9±0.4, 44°.98N±0°.03×149°.25E±0°.04, h90km±3km, mb4.7/164, Error ellipse: s-maj=6.0km s-min=3.7km az=148.2*

MOS ***24*** *14:02:05.9±1.1, 45°.10N×149°.19E, h88km, mb5.0/68, Error ellipse: s-maj=7.7km s-min=4.9km az=104.8*

IDC ***24*** *14:02:06.7±0.6, 45°.10N×149°.09E, h85km±5km, mb4.1/24, mb1 4.3/30, mb1mx4.1/42, mbtmp4.4/30, MS3.2/12, Ms1 3.2/12, ms1mx3.0/30, Error ellipse: s-maj=12.5km s-min=9.9km az=137.0*

SKHL ***24*** *14:02:06.7±0.4, 45°.16N×149°.39E, h96km±5km, Ms4.3/1, msh5.3/7*

NEIC ***24*** *14:02:07.9±0.6, 45°.08N×149°.17E, h95km±5km, mb4.9/82, Error ellipse: s-maj=6.8km s-min=3.8km az=153.0*

BJI ***24*** *14:02:07.2, 45°.48N×149°.46E, h112km, mb4.8/39, mB4.8/21*

JMA ***24*** *14:02:09.5±0.4, 44°.46N×149°.18E, h99km, M4.7*

SZGRF ***24*** *14:02:09.2, 46°.45N×149°.56E, h33km, mb5.1, Kuril Islands, Russia*

ISC 24 14:02:08.3±0.4, 45°.03N±0°.04×149°.26E±0°.04, h104km±2km, h103km:pP-P,n578,σ1°30/619, mb4.8/164, 31C-31D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KUR	**Kuril'sk**	**1.01**	**282**	*d* iPN		**Pn**	**14 02 27.3**	**-1.8**
KUR				*i* S		**Sn**	**14 02 43.0**	**-1.7**
KUR				pmax		pmax		
	comp=Z,7μm,0.4s							
KUR				pmax		pmax		
	comp=E,993nm,0.3s							
KUR				pmax		pmax		
	comp=N,2μm,0.2s							
KUR				smax		smax		
	comp=E,8μm,0.2s							
KUR				smax		smax		
	comp=N,9μm,0.4s							
KUR	**Kuril'sk**	**1.01**	**282**	*i* P		**Pn**	**14 02 27.3**	**-1.8**
KUR				AMB		AMB	14 02 29.6	
	comp=N,7μm,0.3s							
KUR				*i* S		**Sn**	**14 02 43.0**	**-1.7**
KUR				A		A	14 02 43.2	
	comp=N,9μm,0.3s							
KUR				A		A	14 02 43.2	
	comp=N,8μm,0.3s							
KUR				A		A	14 02 43.4	
	comp=N,12μm,1.0s							
KUR				A		A	14 02 43.4	
	comp=N,45μm,1.0s							
SHO	**Shikotan**	**2.10**	**237**	*e*P		**Pn**	**14 02 39.5**	**-2.7**
SHO				AMB		AMB	14 02 40.5	
	comp=N,431nm,0.4s							
SHO				*e*S		**Sn**	**14 03 04.2**	**-4.0**
SHO				A		A	14 03 04.9	
	comp=N,4μm,0.3s							
YUK	**Yuzh-Kuril'sk**	**2.63**	**249**	*d* iPN		**Pn**	**14 02 48.3**	**-0.9**
YUK				*i* S		**Sn**	**14 03 19.2**	**-1.4**
YUK				pmax		pmax		
	comp=N,144nm,0.2s							
YUK				pmax		pmax		
	comp=E,126nm,0.2s							
YUK				pmax		pmax		
	comp=Z,863nm,0.2s							
YUK				smax		smax		
	comp=E,2μm,0.5s							
YUK				smax		smax		
	comp=N,94nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**2.63**	**249**	*i* P		**Pn**	**14 02 48.3**	**-0.9**
YUK				AMB		AMB	14 02 48.7	
	comp=N,140nm,0.2s							
YUK				AMB		AMB	14 02 48.7	
	comp=N,130nm,0.2s							
YUK				AMB		AMB	14 02 48.7	
	comp=N,860nm,0.2s							
YUK				*i* S		**Sn**	**14 03 19.2**	**-1.4**
YUK				A		A	14 03 21.2	
	comp=N,2μm,0.7s							
YUK				A		A	14 03 25.8	
	comp=N,940nm,0.5s							
YUK				A		A	14 03 25.8	
	comp=N,2μm,0.5s							
NEM2	**Nemuro 2**	**3.03**	**238**	P		**Pn**	**14 02 51.9**	**-2.6**
NEM2				*e*S		Sn	14 03 24.3	-5.9
JRA	**Rausu**	**3.16**	**251**	P		**Pn**	**14 02 55.5**	**-0.7**
JRA				*e*S		**Sn**	**14 03 32.1**	**-1.1**
JNK	**Nakash**	**3.57**	**248**	P		**Pn**	**14 03 00.5**	**-1.2**
JAK	**Akkeshi**	**3.87**	**240**	P		**Pn**	**14 03 03.3**	**-2.5**
JAK				*e*S		**Sn**	**14 03 45.5**	**-4.8**
JTKR	**Abashiri--Toko**	**3.98**	**256**	P		**Pn**	**14 03 06.9**	**-0.3**
JAR	**Ashorobuto**	**4.32**	**248**	P		**Pn**	**14 03 11.2**	**-0.6**
JMP	**Maruseppu**	**4.35**	**258**	P		**Pn**	**14 03 12.4**	**+0.2**
JMP				*e*S		**Sn**	**14 04 01.9**	**+0.1**
JOB	**Onbets**	**4.46**	**243**	P		**Pn**	**14 03 12.4**	**-1.3**
JOB				*e*S		**Sn**	**14 03 59.8**	**-4.7**
HRK	**Horoka**	**4.68**	**253**	*e*P		**Pn**	**14 03 16.8**	**+0.1**
JSE	**Soyaes**	**4.74**	**271**	P		**Pn**	**14 03 18.0**	**+0.6**
JKK2	**Kamakawa 2**	**4.81**	**258**	P		**Pn**	**14 03 19.0**	**+0.6**
ASAJ	**Asahikawa**	**4.85**	**261**	P		**Pn**	**14 03 19.2**	**+0.2**
ASAJ	**Asahikawa**	**4.85**	**261**	P		**Pn**	**14 03 19.4**	**+0.5**
	comp=N,7.3nm,0.3s,baz=110,slow=13,SNR=50							
ASAJ				LR		LR	14 05 26.9	
	comp=N,138nm,18.4s,baz=96,slow=42							
ASAJ	**Asahikawa**	**4.85**	**261**	*e*P		**Pn**	**14 03 19.6**	**+0.6**
JCH	**Churui**	**4.91**	**243**	P		**Pn**	**14 03 17.7**	**-2.1**
JCH				*e*S		**Sn**	**14 04 10.4**	**-4.9**
YSS	**Yuzh-Sakhalins**	**4.92**	**295**	‖ *i* PN		**Pn**	**14 03 20.8**	**+0.8**
YSS				*e*S		**Sn**	**14 04 14.0**	**-1.7**
YSS				pmax		pmax		
	comp=Z,370nm,1.0s							
YSS				smax		smax		
	comp=N,470nm,1.0s							
YSS				smax		smax		
	comp=E,680nm,1.0s							
YSS				smax		smax		
	comp=N,600nm,1.5s							
YSS				smax		smax		
	comp=E,900nm,2.0s							
YSS	**Yuzh-Sakhalins**	**4.92**	**295**	*i* P		**Pn**	**14 03 20.5**	**+0.5**
YSS				AMB		AMB	14 03 21.3	
	comp=E,240nm,0.4s							
YSS				*e*S		**Sn**	**14 04 14.0**	**-1.7**
YSS				A		A	14 04 19.8	
	comp=E,470nm,1.0s							
YSS				A		A	14 04 19.8	
	comp=E,680nm,1.0s							
YSS				A		A	14 04 19.8	
	comp=E,600nm,1.5s							
YSS				A		A	14 04 19.8	
	comp=E,900nm,2.0s							
YSS				AMS		AMS	14 05 02.2	
	comp=E,3μm,20.0s							
YSS				AMS		AMS	14 05 02.2	
	comp=E,580nm,20.0s							
YSS	**Yuzh-Sakhalins**	**4.92**	**295**	*e*P		**Pn**	**14 03 21.0**	**+1.0**
MYR	**Moyori**	**5.13**	**240**	*e*P		**Pn**	**14 03 21.1**	**-1.7**
JFR	**Furan**	**5.16**	**251**	P		**Pn**	**14 03 23.1**	**0.0**
JWK2	**Keihoku**	**5.22**	**276**	P		**Pn**	**14 03 26.2**	**+2.3**
JEM	**Erimo**	**5.37**	**238**	P		**Pn**	**14 03 25.1**	**-0.9**
JEM				*e*S		**Sn**	**14 04 23.1**	**-3.4**
ERM	**Erimo**	**5.37**	**238**	*e*PN		**Pn**	**14 03 25.4**	**-0.6**
ERM				pmax		pmax		
	comp=Z,334nm,0.9s							
ERM	**Erimo**	**5.37**	**238**	*e*P		**Pn**	**14 03 25.4**	**-0.6**
ERM	**Erimo**	**5.37**	**238**	*e*P		**Pn**	**14 03 25.4**	**-0.6**
	comp=Z,334nm,0.9s							
JNBK	**Urakawa-nobuka**	**5.47**	**242**	P		**Pn**	**14 03 24.9**	**-2.4**
JNBK				*e*S		Sn	14 04 23.1	-5.8
JBT2	**Biratori 2**	**5.47**	**248**	P		**Pn**	**14 03 25.9**	**-1.5**
JBT2				*e*S		**Sn**	**14 04 25.7**	**-3.3**
UGL	**Uglegorsk**	**6.37**	**312**	*e*PN		**Pn**	**14 03 41.5**	**+2.0**
UGL				*e*S		**Sn**	**14 04 54.0**	**+3.4**
UGL				pmax		pmax		
	comp=Z,164nm,0.9s							
UGL				smax		smax		
	comp=N,674nm,1.0s							
UGL				smax		smax		
	comp=E,584nm,1.0s							
UGL				smax		smax		
	comp=N,2μm,4.0s							
UGL				smax		smax		
	comp=E,2μm,4.0s							
UGL	**Uglegorsk**	**6.37**	**312**	*e*P		**Pn**	**14 03 41.0**	**+1.5**
UGL				AMB		AMB	14 03 46.0	
	comp=E,160nm,0.9s							
UGL				*e*S		**Sn**	**14 04 50.0**	**-0.6**
UGL				A		A	14 04 56.5	
	comp=E,670nm,1.0s							
UGL				A		A	14 04 56.5	
	comp=E,580nm,1.0s							
UGL				A		A	14 04 59.0	
	comp=E,2μm,4.0s							
JNB	**Noboribetsu**	**6.49**	**250**	P		**Pn**	**14 03 39.7**	**-1.4**
JNB				*e*S		**Sn**	**14 04 50.0**	**-3.6**
JKB	**Kayabe**	**6.76**	**245**	P		**Pn**	**14 03 42.8**	**-2.1**
JKB				*e*S		Sn	14 04 53.3	-7.1
JYM2	**Yakumo 2**	**7.09**	**249**	P		**Pn**	**14 03 47.7**	**-1.6**
SKR	**Severo-Kuril's**	**7.29**	**37**	*e*PN		Pn	14 03 43.9	-8.1
SKR				pmax		pmax		
	comp=Z,80nm,0.5s							
SKR				pmax		pmax		
	comp=N,60nm,0.3s							
SKR				pmax		pmax		
	comp=E,70nm,0.3s							
SKR	**Severo-Kuril's**	**7.29**	**37**	*i* P		Pn	14 03 44.7	-7.3
SKR				AMB		AMB	14 03 46.9	
	comp=E,60nm,0.5s							
SKR				AMB		AMB	14 03 46.9	
	comp=E,70nm,0.5s							
SKR				AMB		AMB	14 03 46.9	
	comp=E,80nm,0.5s							
SKR				*e*S		Sn	14 05 06.3	-6.8
SKR				A		A	14 05 11.5	
	comp=E,80nm,0.5s							
SKR				A		A	14 05 11.5	
	comp=E,50nm,0.5s							
SKR				A		A	14 05 11.5	
	comp=E,400nm,4.0s							
TYV	**Tymovskoe**	**7.33**	**325**	*i* P		**Pn**	**14 03 53.5**	**+1.0**
TYV				AMB		AMB	14 03 55.0	
	comp=E,20nm,0.8s							
TYV				*e*S		**Sn**	**14 05 10.0**	**-4.0**
TYV				A		A	14 05 20.8	
	comp=E,20nm,0.7s							
TYV				A		A	14 05 28.6	
	comp=E,700nm,4.0s							
JTM	**Tenmabayashi**	**7.36**	**238**	P		**Pn**	**14 03 50.4**	**-2.7**
JTM				*e*S		Sn	14 05 06.0	-9.0
JANG	**Nango**	**7.37**	**233**	*e*S		Sn	14 05 05.0	-10
JTH	**Tanohata**	**7.47**	**230**	*e*S		Sn	14 05 06.3	-11
OFUJ	**Ofunato**	**8.20**	**226**	*e*S		Sn	14 05 25.8	-10
JRG	**Rokugo**	**8.53**	**232**	*e*S		Sn	14 05 35.0	-8.3
JIO	**Ouri**	**8.84**	**225**	*e*S		Sn	14 05 39.8	-11
TEY	**Ternei**	**8.97**	**274**	*e*P		**Pn**	**14 04 15.0**	**+0.2**
TEY				AMB		AMB	14 04 16.1	
	comp=E,50nm,1.0s							
OKH	**Okha**	**9.47**	**336**	*e*P		**Pn**	**14 04 20.0**	**-1.6**
OKH				AMB		AMB	14 04 21.8	
	comp=E,100nm,0.8s							
OKH				*e*S		**Sn**	**14 06 02.0**	**-4.0**
OKH				A		A	14 06 30.0	
	comp=E,1μm,5.0s							
JYA	**Atsumi**	**9.60**	**231**	*e*S		Sn	14 06 01.1	-8.3
PEA0B	**Petropavlovsk-**	**9.79**	**31**	*e*P		**Pn**	**14 04 24.3**	**-1.6**
PETK	**Petropavlovsk-**	**9.79**	**31**	P		**Pn**	**14 04 24.9**	**-1.0**
	comp=E,5.0nm,0.3s,baz=205,slow=16,SNR=155							
PETK				LR		LR	14 08 02.8	
	comp=E,87nm,21.0s,baz=211,slow=36							
PETK	**Petropavlovsk-**	**9.79**	**31**	PN		**Pn**	**14 04 24.9**	**-1.0**
PETK				pmax		pmax		
	comp=Z,5.0nm,0.3s							
PETK				MLR		MLR		
	comp=Z,87nm,21.0s							
NKL	**Nikolayevsk**	**9.88**	**328**	*e*P		**Pn**	**14 04 25.7**	**-1.4**
NKL				AMB		AMB	14 04 29.1	
	comp=Z,30nm,0.8s							
NKL				*e*S		Sn	14 06 07.0	-8.9
NKL				A		A	14 06 21.8	
	comp=Z,40nm,1.0s							
JFK	**Kawauchi**	**9.93**	**222**	*e*S		Sn	14 06 06.3	-11
PET	**Petropavlovsk**	**10.09**	**34**	*e*PN		**Pn**	**14 04 27.2**	**-2.8**
PET	**Petropavlovsk**	**10.09**	**34**	*e*P		**Pn**	**14 04 29.0**	**-1.0**
HABR	**Khabarovsk**	**10.34**	**294**	PN		**Pn**	**14 04 31.3**	**-2.2**
HABR				*e*S		**Sn**	**14 06 25.3**	**-2.0**
HABR				pmax		pmax		
	comp=Z,88nm,1.5s							
HABR				MLR		MLR		
	comp=Z,155nm,18.0s							
HABR	**Khabarovsk**	**10.34**	**294**	*e*P		**Pn**	**14 04 31.3**	**-2.2**
HABR				AMB		AMB	14 04 35.3	
	comp=Z,90nm,1.5s							
GRNR	**Gornyy**	**10.35**	**308**	*e*P		**Pn**	**14 04 35.0**	**+1.4**
GRNR				AMB		AMB	14 04 37.0	
	comp=Z,30nm,0.7s							
JFY	**Yanaizu**	**10.48**	**227**	*e*S		Sn	14 06 22.6	-8.2
MJAR	**Matsushiro Arr**	**11.91**	**228**	P		**Pn**	**14 04 52.2**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=25,slow=13,SNR=7.0							
USRK	**Ussuriysk Ar.**	**12.34**	**272**	P		Pn	14 04 56.6	-3.7
	comp=Z,0.4nm,0.3s,baz=91,slow=13,SNR=6.6							
USRK				LR		LR	14 09 25.3	
	comp=Z,64nm,19.7s,baz=52,slow=36							
KLR	**Kul'dur**	**12.64**	**296**	*e*PN		**Pn**	**14 05 05.7**	**+1.5**
KLR	**Kul'dur**	**12.64**	**296**	*e*P		**Pn**	**14 05 05.7**	**+1.5**
EKMR	**Ekimchan**	**13.36**	**313**	*e*P		**Pn**	**14 05 13.5**	**-0.1**
EKMR				AMB		AMB	14 05 14.5	
	comp=Z,10.0nm,0.9s							
ZEA	**Zeya**	**16.71**	**309**	*e*P		**P**	**14 05 56.1**	**-0.4**
ZEA				AMB		AMB	14 06 02.8	
	comp=Z,20nm,1.4s							
CN2	**Changchun**	**17.05**	**274**	*e*P		**Pn**	**14 05 58.8**	**-1.3**
CN2				*e*pP		pP	14 06 13.8	-5.6
CN2				PMZ				
	comp=Z,10.0nm,1.0s							
KSRS	**Korea Array**	**17.71**	**252**	P		**P**	**14 06 07.5**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=54,slow=12,SNR=7.0							
KSRS				LR		LR	14 12 03.1	
	comp=Z,47nm,21.2s,baz=69,slow=34							
KSAR	**Wonju Array Be**	**17.75**	**252**	P		**P**	**14 06 07.6**	**-0.4**
KSAR	**Wonju Array Be**	**17.75**	**252**	*e*P		**P**	**14 06 07.6**	**-0.4**
KSAR	**Wonju Array Be**	**17.75**	**252**	P		**P**	**14 06 07.5**	**-0.4**
SEY	**Seymchan**	**18.02**	**5**	P		**P**	**14 06 10.3**	**-0.5**
	comp=Z,1.7nm,0.3s,baz=183,slow=8.3,SNR=50							
SEY	**Seymchan**	**18.02**	**5**	P		**P**	**14 06 10.3**	**-0.5**
SEY				pmax		pmax		
	comp=Z,2.0nm,0.3s							
JNU	**Nakatsue**	**18.53**	**236**	P		**P**	**14 06 15.8**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=27,slow=2.3,SNR=2.2							
YAK	**Yakutsk**	**20.48**	**333**	*e*P		**P**	**14 06 35.0**	**-2.4**
YAK				*e**PP		**pP**	**14 06 56.1**	**-1.0**
YAK				*e*S		**S**	**14 10 19.4**	**-1.2**
YAK				*e*			14 10 43.5	
YAK				*e*			14 10 49.6	
YAK				*e*			14 17 51.2	
YAK				pmax		pmax		
	comp=Z,38nm,0.8s							
YAK				pmax		pmax		
	comp=E,5.0nm,0.8s							
YAK				smax		smax		
	comp=N,27nm,1.9s							
YAK				smax		smax		
	comp=E,28nm,1.2s							
YAK	**Yakutsk**	**20.48**	**333**	*e*P		**P**	**14 06 35.0**	**-2.4**
YAK	**Yakutsk**	**20.48**	**333**	*e*P		**P**	**14 06 35.8**	**-1.6**
	comp=E,66nm,0.8s							
BILL	**Bilibino**	**24.71**	**15**	*e*P		**P**	**14 07 17.3**	**-2.1**
BILL				pmax		pmax		
	comp=Z,9.0nm,1.4s							
BILL	**Bilibino**	**24.71**	**15**	*e*P		**P**	**14 07 17.3**	**-2.1**
BILL	**Bilibino**	**24.71**	**15**	*e*P		**P**	**14 07 17.1**	**-2.3**
	comp=Z,5.0nm,0.6s							
BJI	**Beijing**	**24.78**	**270**	P		**P**	**14 07 21.5**	**+1.2**
BJI				PMZ				
	comp=Z,20nm,0.5s							
BJI				PMZ				
	comp=Z,200nm,4.7s							
BOD	**Bodaibo**	**25.11**	**313**	*e*P		**P**	**14 07 18.5**	**-4.6**
BOD				*e*			14 07 42.2	
NJ2	**Nanjing**	**26.91**	**252**	*e*P		**P**	**14 07 43.6**	**+4.0**
NJ2				PMZ				
	comp=Z,30nm,0.5s							
HHC	**Hu-ho-hao-te**	**27.74**	**275**	*e*P		**P**	**14 07 48.3**	**+1.2**
HHC				pP		**pP**	**14 08 12.6**	**+2.6**
HHC				sP		**sP**	**14 08 25.6**	**+3.5**
HHC				PP		**PnPn**	**14 08 40.8**	**+1.9**
HHC				S		**S**	**14 12 19.5**	**-2.5**
HHC				sS		**sS**	**14 13 00.8**	**-1.3**
HHC				ScS		**ScS**	**14 18 23.6**	**-0.8**
HHC				PMZ				
	comp=Z,33nm,0.5s							
HHC				PMZ				
	comp=Z,62nm,5.8s							
HHC				LN				
	comp=Z,130nm,14.5s							
HHC				LE				
	comp=Z,120nm,15.3s							
HHC				LZ				
	comp=Z,140nm,16.2s							
TIXI	**Tiksi**	**28.44**	**347**	‖ *e*P		**P**	**14 07 49.9**	**-2.9**
TIXI				pmax		pmax		
	comp=Z,6.0nm,0.6s							
TIXI	**Tiksi**	**28.44**	**347**	*e*P		**P**	**14 07 49.9**	**-2.9**
TIXI	**Tiksi**	**28.44**	**347**	*e*P		P	14 07 49.4	-3.3
	comp=Z,7.6nm,0.6s							
ULN	**Ulaanbaatar**	**28.96**	**291**	‖ *i* P		**P**	**14 07 58.7**	**+0.8**
ULN				pmax		pmax		
	comp=Z,6.0nm,1.0s							
ULN	**Ulaanbaatar**	**28.96**	**291**	*i* P		**P**	**14 07 58.7**	**+0.8**
ULN	**Ulaanbaatar**	**28.96**	**291**	*e*P		**P**	**14 07 58.4**	**+0.5**
	comp=Z,6.1nm,1.0s							
H11N2	**WAKE ISLAND Hy**	**29.17**	**144**	T		T	14 38 56.2	
	baz=334,slow=76,SNR=1058							
H11N1	**WAKE ISLAND Hy**	**29.18**	**144**	T		T	14 39 02.4	
	baz=334,slow=76,SNR=1136							
H11N3	**WAKE ISLAND Hy**	**29.18**	**144**	T		T	14 38 57.5	
	baz=334,slow=76,SNR=1191							
SONM	**Songino Array**	**29.40**	**291**	P		**P**	**14 07 60.0**	**-1.8**
	comp=Z,1.5nm,0.4s,baz=79,slow=8.5,SNR=7.9							
SONM				LR		LR	14 21 02.4	
	comp=Z,62nm,19.2s,baz=94,slow=39							
SONM	**Songino Array**	**29.40**	**291**	P		**P**	**14 08 00.0**	**-1.8**
SONM				pmax		pmax		
	comp=Z,2.0nm,0.4s							
SONM				MLR		MLR		
	comp=Z,62nm,19.2s							
H11S1	**WAKE ISLAND Hy**	**30.18**	**146**	T		T	14 40 18.2	
	baz=335,slow=76,SNR=2380							
H11S3	**WAKE ISLAND Hy**	**30.19**	**146**	T		T	14 40 20.1	
	baz=335,slow=76,SNR=1543							
H11S2	**WAKE ISLAND Hy**	**30.20**	**146**	T		T	14 40 19.7	
	baz=335,slow=76,SNR=1446							
ZAK	**Zakamensk**	**31.00**	**297**	*e*P		**P**	**14 08 15.8**	**0.0**
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.3s							
ZAK	**Zakamensk**	**31.00**	**297**	*e*P		**P**	**14 08 15.8**	**0.0**
GUMO	**Guam**	**31.56**	**188**	LR		LR	14 19 12.5	
	comp=Z,17nm,19.2s,baz=354,slow=32							
XAN	**Xi'an**	**32.68**	**265**	P		**P**	**14 08 33.0**	**+2.3**
XAN				PMZ				
	comp=Z,4.0nm,0.8s							
LZH	**Lanzhou**	**35.25**	**271**	*e*P		**P**	**14 08 50.1**	**-2.9**
LZH				pP		**pP**	**14 09 15.3**	**-1.1**
LZH				sP		**sP**	**14 09 28.3**	**0.0**
LZH				PP		**PnPn**	**14 10 12.0**	**-2.3**
LZH				PMZ				
	comp=Z,23nm,1.2s							
LZH				PMZ				
	comp=Z,76nm,4.8s							
LZH				LN				
	comp=Z,220nm,13.0s							
LZH				LE				
	comp=Z,240nm,13.2s							
LZH				LZ				
	comp=Z,300nm,17.3s							
GTA	**Gaotai**	**36.58**	**279**	P		**P**	**14 09 05.1**	**+0.8**
GTA				pP		**pP**	**14 09 30.0**	**+2.2**
GTA				sP		**sP**	**14 09 43.5**	**+3.8**
GTA				PMZ				
	comp=Z,34nm,0.8s							
IM04	**Indian Mountai**	**36.71**	**35**	*e*P		**P**	**14 09 05.6**	**+0.7**
RSO	**Redoubt South**	**36.99**	**44**	*e*P		**P**	**14 09 08.3**	**+0.8**
	comp=Z,14nm,0.7s							
PPLA	**Purkeypile**	**37.22**	**40**	*e*P		**P**	**14 09 11.1**	**+1.6**
	comp=Z,9.1nm,0.9s							
KDAK	**Kodiak Island**	**37.26**	**49**	*i* P		**P**	**14 09 09.3**	**-0.3**
KDAK	**Kodiak Island**	**37.26**	**49**	*e*P		**P**	**14 09 09.3**	**-0.3**
BPAW	**Bear Paw Mtn.**	**37.78**	**38**	*e*P		**P**	**14 09 14.8**	**+0.8**
	comp=Z,1.0nm,0.8s							
KTH	**Kantishna Hill**	**37.80**	**39**	*e*P		**P**	**14 09 15.5**	**+1.3**
	comp=Z,9.8nm,0.8s							
CD2	**Chengdu**	**38.04**	**264**	*e*P		**P**	**14 09 17.5**	**+0.9**
CD2				pP		**pP**	**14 09 42.8**	**+2.6**
CD2				sP		**sP**	**14 09 55.8**	**+3.7**
CD2				S		**S**	**14 15 00.5**	**-0.9**
CD2				sS		**sS**	**14 15 44.0**	**+1.7**
CD2				SS		SS	14 17 42.8	-10
CD2				PMZ				
	comp=Z,10.0nm,0.5s							
CD2				PMZ				
	comp=Z,120nm,5.4s							
TRF	**Thorofare Moun**	**38.09**	**39**	*e*P		**P**	**14 09 17.5**	**+0.8**
	comp=Z,4.0nm,0.6s							
COLD	**Coldfoot**	**38.25**	**33**	*e*P		**P**	**14 09 18.7**	**+0.8**
	comp=Z,9.2nm,0.9s							
RC01	**Rabbit Creek A**	**38.43**	**43**	*e*P		**P**	**14 09 19.8**	**+

ZALV	**Zalesovo Beam**	**41.45**	**306**	P	P	14 09 40.8	-3.6		
ZALV						14 11 40.8			
ZALV				pmax	pmax				
	comp=Z,1.0nm,0.5s								
ZALV				MLR	MLR				
	comp=Z,34nm,19.4s								
QIZ	**Qiongzhong**	**41.69**	**245**	P	P	14 09 50.3	+3.5		
QIZ				pP	pP	14 10 13.1	+2.3		
QIZ				sP	sP	14 10 24.8	+2.3		
QIZ				S	**S**	**14 15 59.4**	**+3.4**		
QIZ				sS	sS	14 16 41.4	+4.1		
QIZ				PMZ					
	comp=Z,16nm,2.0s								
EGAK	**Eagle**	**42.00**	**37**	*e*P	**P**	**14 09 49.1**	**+0.3**		
	comp=Z,5.4nm,0.6s								
WMQ	**Urumqi**	**43.04**	**291**	P	**P**	**14 09 58.3**	**+0.7**		
WMQ				pP	**pP**	**14 10 23.8**	**+2.2**		
WMQ				sP	**sP**	**14 10 36.8**	**+3.4**		
WMQ				PP	**PP**	**14 11 41.8**	**+2.5**		
WMQ				ScP	**ScP**	**14 15 28.4**	**+1.1**		
WMQ				PcS	**PcS**	**14 15 39.3**	**+1.0**		
WMQ				S	**S**	**14 16 13.6**	**-1.8**		
WMQ				sS	**sS**	**14 16 57.6**	**+0.7**		
WMQ				ScS	**ScS**	**14 19 44.3**	**-2.9**		
WMQ				PMZ					
	comp=Z,11nm,0.4s								
WMQ				PMZ					
	comp=Z,110nm,4.5s								
WMQ				LN					
	comp=Z,47nm,24.8s								
WMQ				LE					
	comp=Z,47nm,24.8s								
WMQ				LZ					
	comp=Z,44nm,20.2s								
INK	**Inuvik**	**44.53**	**31**	*e*P	**P**	**14 10 10.0**	**+1.0**		
INK				pmax	pmax				
	comp=Z,14nm,0.8s								
INK	**Inuvik**	**44.53**	**31**	*e*P	**P**	**14 10 10.0**	**+1.0**		
INK	**Inuvik**	**44.53**	**31**	*e*P	**P**	**14 10 10.0**	**+1.0**		
	comp=Z,14nm,0.8s								
MK31	**Makanchi Array**	**45.34**	**297**	*i* P	**P**	**14 10 15.4**	**-0.4**		
MK31				pmax	pmax				
	comp=Z,5.0nm,0.4s								
MK31	**Makanchi Array**	**45.34**	**297**	*e*P	**P**	**14 10 14.5**	**-1.4**		
MKAR	**Makanchi Array**	**45.34**	**297**	P	**P**	**14 10 15.2**	**-0.6**		
	comp=Z,9.6nm,0.7s,baz=74,slow=8.3,SNR=78								
MKAR				PcP	**PcP**	**14 11 54.4**	**+0.8**		
	comp=Z,0.7nm,0.5s,baz=71,slow=5.3,SNR=3.2								
MKAR				LR	LR	14 29 46.3			
	comp=Z,40nm,18.8s,baz=76,slow=37								
MKAR	**Makanchi Array**	**45.34**	**297**	P	**P**	**14 10 15.2**	**-0.6**		
MKAR						14 11 54.4			
MKAR				pmax	pmax				
	comp=Z,10.0nm,0.7s								
MKAR				MLR	MLR				
	comp=Z,40nm,18.8s								
KURK	**Kurchatov**	**46.08**	**304**	P	**P**	**14 10 20.8**	**-0.7**		
KURK				pmax	pmax				
	comp=Z,5.0nm,0.8s								
KURK	**Kurchatov**	**46.08**	**304**	*e*P	**P**	**14 10 20.8**	**-0.7**		
KURK	**Kurchatov**	**46.08**	**304**	*e*P	**P**	**14 10 19.9**	**-1.6**		
	comp=Z,7.2nm,0.8s								
KURBB	**Kurchatov Arra**	**46.16**	**304**	P	**P**	**14 10 20.8**	**-1.4**		
	comp=Z,5.3nm,0.8s,baz=68,slow=8.4,SNR=20								
JAY	**Jayapura**	**47.95**	**192**	LR	LR	14 28 51.7			
	comp=Z,36nm,21.3s,baz=323,slow=33								
CMAR	**Chiang Mai Arr**	**49.34**	**254**	P	**P**	**14 10 47.8**	**+0.7**		
	comp=Z,0.7nm,0.7s,baz=42,slow=8.0,SNR=5.4								
CMAR				pP	**pP**	**14 11 07.4**	**-4.3**		
	comp=Z,0.8nm,0.7s,baz=35,slow=8.2,SNR=2.7								
BVA0	**Borovoye Array**	**49.86**	**309**	*i* P	**P**	**14 10 49.3**	**-1.4**		
BVA0				pmax	pmax				
	comp=Z,4.0nm,1.1s								
BVAR	**Borovoye Array**	**49.86**	**309**	P	**P**	**14 10 49.7**	**-1.0**		
	comp=Z,0.8nm,0.3s,baz=85,slow=10,SNR=11								
BVAR				PcP	**PcP**	**14 12 10.2**	**+0.6**		
	comp=Z,1.1nm,0.6s,baz=85,slow=3.0,SNR=4.6								
ULHL	**Ulahol**	**51.24**	**294**	P	**P**	**14 11 02.5**	**+1.0**		
SNR=7.2									
TKM2	**Tokmak 2**	**51.32**	**295**	P	**P**	**14 11 02.7**	**+0.6**		
SNR=10									
TKM2	**Tokmak 2**	**51.32**	**295**	P	**P**	**14 11 01.9**	**-0.1**		
TKM2				pmax	pmax				
	comp=Z,17nm,1.4s								
TKM2	**Tokmak 2**	**51.32**	**295**	*e*P	**P**	**14 11 01.8**	**-0.3**		
	comp=Z,17nm,1.2s								
TAPN	**Taplejung**	**51.49**	**272**	*e*P	**P**	**14 11 04.3**	**+0.7**		
	comp=Z,18nm,0.8s								
USP	**Ospenovka**	**51.85**	**296**	P	**P**	**14 11 06.5**	**+0.7**		
SNR=11									
KBK	**Karagaybulak**	**51.87**	**295**	P	**P**	**14 11 06.8**	**+0.8**		
SNR=10									
KZA	**Kyzart**	**51.96**	**295**	P	**P**	**14 11 08.6**	**+1.5**		
SNR=16									
AAK	**Ala-Archa**	**52.17**	**296**	P	**P**	**14 11 09.1**	**+0.8**		
SNR=9.6									
JIRN	**Jiri**	**52.38**	**273**	*e*P	**P**	**14 11 11.2**	**+0.9**		
	comp=Z,21nm,0.6s								
GUN	**Gumba**	**52.45**	**274**	*e*P	**P**	**14 11 11.7**	**+0.9**		
	comp=Z,29nm,0.7s								
RAMN	**Ramite**	**52.52**	**272**	*e*P	**P**	**14 11 10.8**	**-0.3**		
	comp=Z,15nm,0.4s								
EKS2	**Erkin-Say**	**52.61**	**296**	*e*P	**P**	**14 11 11.6**	**+0.1**		
EKS2				pmax	pmax				
	comp=Z,7.0nm,0.3s								
EKS2	**Erkin-Say**	**52.61**	**296**	*e*P	**P**	**14 11 11.6**	**+0.1**		
	comp=Z,7.0nm,0.3s								
KSH	**Kashi**	**52.80**	**292**	P	P	14 11 17.3	+4.4		
KSH				sP	sP	14 11 56.3	+6.9		
KSH				PP	PP	14 13 19.8	+6.8		
KSH				PcS	**PcS**	**14 16 22.5**	**+2.6**		
KSH				S	**S**	**14 18 35.5**	**+2.1**		
KSH				sS	sS	14 19 21.5	+5.3		
KSH				ScS	**ScS**	**14 20 52.4**	**0.0**		
KSH				PMZ					
	comp=Z,100nm,5.2s								
KSH				LN					
	comp=Z,110nm,6.6s								
KSH				LE					
	comp=Z,74nm,8.1s								
KSH				LZ					
	comp=Z,120nm,5.0s								
AML	**Almayashu**	**52.94**	**295**	P	**P**	**14 11 15.4**	**+1.2**		
SNR=6.0									
KKN	**Kakani**	**52.95**	**274**	*e*P	**P**	**14 11 15.4**	**+1.1**		
	comp=Z,20nm,0.8s								
PKI	**Pulchoki**	**52.99**	**274**	*e*P	**P**	**14 11 15.1**	**+0.4**		
PKIN	**Phulchoki**	**52.99**	**274**	*e*P	**P**	**14 11 15.1**	**+0.4**		
DMN	**Daman**	**53.18**	**274**	*e*P	**P**	**14 11 17.0**	**+1.0**		
	comp=Z,26nm,0.7s								
GKN	**Gorkha**	**53.27**	**275**	*e*P	**P**	**14 11 17.5**	**+0.9**		
	comp=Z,11nm,0.5s								
RES	**Resolute Bay**	**53.30**	**17**	*e*P	**P**	**14 11 15.1**	**-0.8**		
RES				pmax	pmax				
	comp=Z,23nm,0.9s								
RES	**Resolute Bay**	**53.30**	**17**	*e*P	**P**	**14 11 15.1**	**-0.8**		
	comp=Z,23nm,0.9s								
MNAS	**Manas**	**53.51**	**296**	P	**P**	**14 11 18.3**	**+0.2**		
MNAS				pmax	pmax				
	comp=Z,14nm,1.0s								
YKA	**Yellowknife Ar**	**53.89**	**35**	P	**P**	**14 11 20.8**	**+0.4**		
	comp=Z,3.0nm,0.6s,baz=298,slow=6.4,SNR=15								
YKA				PcP	**PcP**	**14 12 25.5**	**+1.0**		
	comp=Z,0.4nm,0.5s,baz=310,slow=3.2,SNR=2.8								
YKA	**Yellowknife Ar**	**53.89**	**35**	P	**P**	**14 11 20.8**	**+0.4**		
YKA						14 12 25.5			
YKA				pmax	pmax				
	comp=Z,3.0nm,0.6s								
KOLN	**Koldanda**	**54.15**	**275**	*e*P	**P**	**14 11 24.1**	**+1.1**		
	comp=Z,6.6nm,0.3s								
SFK	**Sufi-Kurgan**	**54.16**	**293**	P	**P**	**14 11 22.0**	**-1.0**		
SFK				pmax	pmax				
	comp=Z,15nm,1.1s								
ARU	**Arti**	**54.44**	**317**	*d* /P	**P**	**14 11 24.6**	**+0.1**		
ARU						14 12 27.0			
ARU				S	**S**	**14 18 56.0**	**+1.2**		
ARU				SS	**SS**	**14 22 37.6**	**-0.3**		
ARU				pmax	pmax				
	comp=Z,19nm,1.7s								
ARU	**Arti**	**54.44**	**317**	*i* P	**P**	**14 11 24.6**	**+0.1**		
ARU	**Arti**	**54.44**	**317**	*e*P	**P**	**14 11 22.8**	**-1.7**		
	comp=Z,6.3nm,0.6s								
KK31	**Karatay Array**	**54.45**	**298**	*i* P	**P**	**14 11 24.7**	**-0.1**		
KK31				pmax	pmax				
	comp=Z,1.0nm,0.3s								
KKAR	**Karatay Array**	**54.45**	**298**	*e*P	**P**	**14 11 24.8**	**0.0**		
KKAR				pmax	pmax				
	comp=Z,12nm,0.8s								
KKAR	**Karatay Array**	**54.45**	**298**	*e*P	**P**	**14 11 24.8**	**0.0**		
	comp=Z,12nm,0.8s								
AB31	**Akbulak array**	**57.44**	**309**	P	**P**	**14 11 45.1**	**-0.8**		
AB31				pmax	pmax				
	comp=Z,3.0nm,0.3s								
ABKAR	**Akbulak array**	**57.44**	**309**	*e*P	**P**	**14 11 45.2**	**-0.7**		
	comp=Z,5.3nm,0.4s								
ARCES	**ARCESS Array B**	**58.57**	**340**	P	**P**	**14 11 51.6**	**-1.9**		
	comp=Z,1.7nm,0.6s,baz=47,slow=7.5,SNR=9.8								
ARCES				PcP	**PcP**	**14 12 42.5**	**-0.2**		
	comp=Z,2.1nm,0.8s,baz=67,slow=5.0,SNR=3.2								
ARCES	**ARCESS Array B**	**58.57**	**340**	P	**P**	**14 11 51.6**	**-1.9**		
ARCES						14 12 42.5			
ARCES				pmax	pmax				
	comp=Z,2.0nm,0.6s								
KULLO	**Kullorsuaq**	**59.36**	**8**	*i* P	**P**	**14 11 58.4**	**-0.5**		
	comp=Z,14nm,0.7s								
KBL	**Kabul**	**60.17**	**290**	*e*P	**P**	**14 12 04.5**	**-0.9**		
KBL				pmax	pmax				
	comp=Z,16nm,0.9s								
KBL	**Kabul**	**60.17**	**290**	*e*P	**P**	**14 12 04.5**	**-0.9**		
	comp=Z,16nm,0.9s								
WALA	**Waterton Lakes**	**61.59**	**48**	*e*P	**P**	**14 12 14.5**	**-0.2**		
	comp=Z,3.2nm,0.7s								
SUMG	**Summit**	**62.57**	**3**	*i* P	**P**	**14 12 21.0**	**-0.1**		
	comp=Z,11nm,0.8s								
SUMG	**Summit**	**62.57**	**3**	*i* P	**P**	**14 12 21.0**	**-0.1**		
SUMG				pmax	pmax				
	comp=Z,11nm,0.8s								
SUMG	**Summit**	**62.57**	**3**	*e*P	**P**	**14 12 20.9**	**-0.2**		
	comp=Z,7.6nm,0.6s								
CHMT	**Chamberlain Mo**	**63.25**	**50**	*e*P	**P**	**14 12 26.4**	**+0.6**		
LRM	**Limekiln Ridge**	**64.37**	**50**	*e*P	**P**	**14 12 34.1**	**+0.9**		
	comp=Z,18nm,0.7s								
EGMT	**Eagleton**	**64.41**	**47**	*e*P	**P**	**14 12 34.2**	**+1.0**		
FINES	**FINESS Array B**	**64.41**	**334**	P	**P**	**14 12 31.6**	**-1.3**		
	comp=Z,10nm,0.6s,baz=45,slow=6.6,SNR=40								
FINES				LR	LR	14 43 37.0			
	comp=Z,24nm,18.8s,baz=36,slow=39								
FINES	**FINESS Array B**	**64.41**	**334**	P	**P**	**14 12 31.6**	**-1.3**		
FINES				pmax	pmax				
	comp=Z,11nm,0.6s								
FINES				MLR	MLR				
	comp=Z,24nm,18.8s								
CTA	**Charters Tower**	**64.86**	**183**	P	**P**	**14 12 36.5**	**+0.2**		
	comp=Z,1.5nm,0.7s,baz=6.8,slow=4.7,SNR=3.1								
BOZ	**Bozeman (W)**	**64.92**	**50**	*e*P	**P**	**14 12 38.0**	**+1.3**		
BOZ				pmax	pmax				
	comp=Z,3.0nm,0.6s								
BOZ	**Bozeman (W)**	**64.92**	**50**	*e*P	**P**	**14 12 38.0**	**+1.3**		
BOZ	**Bozeman (W)**	**64.92**	**50**	*e*P	**P**	**14 12 38.0**	**+1.3**		
	comp=Z,3.1nm,0.6s								
OBN	**Obninsk**	**65.17**	**324**	*i* P	**P**	**14 12 37.1**	**-0.8**		
OBN				pmax	pmax				
	comp=Z,35nm,1.9s								
OBN				MLR	MLR				
	comp=Z,24nm,18.0s								
OBN	**Obninsk**	**65.17**	**324**	*i* P	**P**	**14 12 37.1**	**-0.8**		
NVAR	**Mina Array Bea**	**65.62**	**59**	P	**P**	**14 12 42.5**	**+1.1**		
	comp=Z,4.1nm,0.7s,baz=291,slow=6.9,SNR=33								
LPSR	**Galich'ya Gora**	**65.89**	**321**	*e*P	**P**	**14 12 42.7**	**+0.1**		
LPSR				pmax	pmax				
	comp=E,4.0nm,0.8s								
LPSR				pmax	pmax				
	comp=Z,10.0nm,0.8s								
LPSR				pmax	pmax				
	comp=N,1.0nm,0.6s								
WRA	**Warramunga Arr**	**66.08**	**195**	P	**P**	**14 12 43.9**	**-0.2**		
	comp=N,1.8nm,0.8s,baz=14,slow=6.8,SNR=11								
WRA				pP	**pP**	**14 13 06.4**	**-3.6**		
	comp=N,0.9nm,0.7s,baz=16,slow=6.7,SNR=3.6								
WRA	**Warramunga Arr**	**66.08**	**195**	P	**P**	**14 12 43.9**	**-0.2**		
WRA				*PP	**pP**	**14 13 06.4**	**-3.6**		
WRA				pmax	pmax				
	comp=Z,2.0nm,0.8s								
IMW	**Indian Meadow**	**66.42**	**51**	*e*P	**P**	**14 12 48.5**	**+1.9**		
	comp=Z,3.1nm,1.0s								
TPH	**Tonopah**	**66.50**	**59**	*e*P	**P**	**14 12 48.1**	**+1.1**		
TPH				pmax	pmax				
	comp=Z,7.0nm,1.0s								
TPH	**Tonopah**	**66.50**	**59**	*e*P	**P**	**14 12 48.1**	**+1.1**		
	comp=Z,6.9nm,1.0s								
MOOW	**Moose Ponds**	**66.62**	**51**	*e*P	**P**	**14 12 49.4**	**+1.6**		
	comp=Z,1.5nm,0.7s								
TPAW	**Teton Pass**	**66.68**	**51**	*e*P	**P**	**14 12 49.6**	**+1.5**		
	comp=Z,3.0nm,0.7s								
VSR	**Storozhevoye**	**66.73**	**320**	*e*P	**P**	**14 12 48.0**	**0.0**		
VSR				pmax	pmax				
	comp=N,10.0nm,0.8s								
VSR				pmax	pmax				
	comp=E,5.0nm,0.8s								
VSR				pmax	pmax				
	comp=Z,20nm,0.8s								
REDW	**Red Top Meadow**	**66.82**	**51**	*e*P	**P**	**14 12 50.1**	**+1.1**		
VORD	**Divnogorie**	**66.85**	**320**	*e*P	**P**	**14 12 49.0**	**+0.3**		
VORD				pmax	pmax				
	comp=N,20nm,0.9s								
VORD				pmax	pmax				
	comp=E,10.0nm,0.9s								
VORD				pmax	pmax				
	comp=Z,10.0nm,0.9s								
BW06	**Boulder Array**	**67.92**	**51**	*e*P	**P**	**14 12 56.7**	**+0.7**		
	comp=Z,2.6nm,0.6s								
PDAR	**Pinedale Array**	**67.92**	**51**	P	**P**	**14 12 56.4**	**+0.4**		
	comp=Z,1.7nm,0.8s,baz=325,slow=1.0,SNR=14								
PDAR				pP	**PcP**	**14 13 18.2**	**-3.5**		
	comp=Z,1.2nm,0.7s,baz=311,slow=2.4,SNR=3.3								
NB2	**NORSAR Subarra**	**68.94**	**340**	P	**P**	**14 13 00.4**	**-1.3**		
	comp=Z,7.2nm,0.8s,baz=28,slow=6.5								
NOA	**NORSAR Array B**	**68.94**	**340**	P	**P**	**14 13 00.7**	**-1.0**		
	comp=Z,5.8nm,0.7s,baz=29,slow=6.7,SNR=25								
NOA				LR	LR	14 48 47.5			
	comp=Z,11nm,18.3s,baz=80,slow=41								
NOA	**NORSAR Array B**	**68.94**	**340**	P	**P**	**14 13 00.7**	**-1.0**		
NOA				pmax	pmax				
	comp=Z,6.0nm,0.7s								
NOA				MLR	MLR				
	comp=Z,11nm,18.3s								
ULM	**Lac du Bonnet**	**69.56**	**38**	P	**P**	**14 13 06.0**	**+0.4**		
	comp=Z,1.7nm,0.5s,baz=317,slow=8.2,SNR=3.9								
ULM				pP	**PcP**	**14 13 28.1**	**0.0**		
	comp=Z,1.3nm,0.6s,baz=315,slow=7.1,SNR=2.0								
ASAR	**Alice Springs**	**69.79**	**195**	P	**P**	**14 13 08.2**	**+0.9**		
	comp=Z,1.7nm,0.8s,baz=12,slow=5.2,SNR=18								
KIV	**Kislovodsk**	**70.02**	**313**	*e*P	**P**	**14 13 09.6**	**+0.8**		
KIV				pmax	pmax				
	comp=Z,61nm,1.1s								
KIV				MLR	MLR				
	comp=Z,26nm,18.0s								
KIV	**Kislovodsk**	**70.02**	**313**	*e*P	**P**	**14 13 09.6**	**+0.8**		
KIV	**Kislovodsk**	**70.02**	**313**	*e*P	**P**	**14 13 09.5**	**+0.7**		
	comp=Z,16nm,0.6s								
KBZ	**Khabaz**	**70.07**	**312**	P	**P**	**14 13 08.9**	**+0.1**		
	comp=Z,21nm,0.9s,baz=56,slow=23,SNR=24								
KBZ				LR	LR	14 46 54.3			
	comp=Z,58nm,21.9s,baz=142,slow=38								
KBZ	**Khabaz**	**70.07**	**312**	P	**P**	**14 13 09.0**	**+0.1**		
KBZ				pmax	pmax				
	comp=Z,21nm,0.9s								
KBZ				MLR	MLR				
	comp=Z,58nm,21.9s								
ZEI	**Tsey**	**70.19**	**311**	*e*P	**P**	**14 13 09.7**	**-0.2**		
ZEI				pmax	pmax				
	comp=Z,26nm,0.9s								
NEY	**Neytrino**	**70.49**	**312**	*e*P	**P**	**14 13 11.8**	**0.0**		
NEY				pmax	pmax				
	comp=Z,9.0nm,1.8s								
AKASG	**Malin Array Be**	**71.43**	**324**	P	**P**	**14 13 16.5**	**-0.5**		
	comp=Z,7.2nm,0.4s,baz=36,slow=6.2,SNR=50								
AKASG	**Malin Array Be**	**71.43**	**324**	P	**P**	**14 13 16.5**	**-0.5**		
AKASG				pmax	pmax				
	comp=Z,7.0nm,0.4s								
AKBB	**Malin Array Si**	**71.43**	**324**	*e*P	**P**	**14 13 16.2**	**-0.8**		
AKBB	**Malin Array Si**	**71.43**	**324**	*e*P	**P**	**14 13 16.2**	**-0.8**		
KIEV	**Kiev**	**71.44**	**325**	*e*P	**P**	**14 13 15.2**	**-1.9**		
KIEV				pmax	pmax				
	comp=Z,11nm,0.6s								
KIEV	**Kiev**	**71.44**	**325**	*e*P	**P**	**14 13 15.2**	**-1.9**		
	comp=Z,11nm,0.6s								
AK01	**Malin Array Si**	**71.44**	**324**	*e*P	**P**	**14 13 16.1**	**-1.0**		
AK02	**Malin Array Si**	**71.47**	**324**	*e*P	**P**	**14 13 16.5**	**-0.7**		
GNI	**Garni**	**71.54**	**309**	*e*P	**P**	**14 13 19.8**	**+1.7**		
GNI				pmax	pmax				
	comp=Z,16nm,0.8s								
GNI	**Garni**	**71.54**	**309**	*e*P	**P**	**14 13 19.8**	**+1.7**		
	comp=Z,16nm,0.8s								
EYMN	**Ely**	**73.19**	**38**	*e*P	**P**	**14 13 27.5**	**-0.1**		
KWP	**Kalwaria Pacla**	**74.86**	**327**	*e*P	**P**	**14 13 38.5**	**+1.3**		
KWP	**Kalwaria Pacla**	**74.86**	**327**	*e*P	**P**	**14 13 38.6**	**+1.3**		
LEOM	**Leova**	**75.10**	**322**	⇑*i*P	**P**	**14 13 40.1**	**+1.5**		
OJC	**Ojcow**	**75.47**	**329**	*e*P	**P**	**14 13 41.8**	**+1.1**		
OJC	**Ojcow**	**75.47**	**329**	*e*P	**P**	**14 13 41.8**	**+1.1**		
OJC	**Ojcow**	**75.47**	**329**	*e*P	**P**	**14 13 41.8**	**+1.1**		
BURAR	**Bucovina Array**	**75.48**	**325**	⇓*i*P	**P**	**14 13 41.5**	**+0.5**		
STHS	**Stebnicka Huta**	**75.59**	**328**	*e*P	**P**	**14 13 42.9**	**+1.4**		
STHS				pmax	pmax				
	comp=Z,9.0nm,0.8s								
STHS	**Stebnicka Huta**	**75.59**	**328**	*e*P	**P**	**14 13 42.9**	**+1.4**		
KOLS	**Kolonicke sedl**	**75.60**	**327**	*e*P	**P**	**14 13 42.2**	**+0.7**		
KOLS				pmax	pmax				
	comp=Z,10.0nm,1.0s								
KOLS	**Kolonicke sedl**	**75.60**	**327**	*e*P	**P**	**14 13 42.2**	**+0.7**		
RUE	**Ruedersdorf**	**75.60**	**334**	*e*P	**P**	**14 13 42.4**	**+1.0**		
	comp=Z,21nm,0.7s								
TESR	**Tescani**	**75.76**	**323**	⇓*i*P	**P**	**14 13 43.3**	**+0.8**		
UZH	**Uzhgorod**	**75.83**	**327**	*e*P	**P**	**14 13 42.9**	**+0.1**		
UZH	**Uzhgorod**	**75.83**	**327**	*e*P	**P**	**14 13 42.9**	**+0.1**		
TLCR		**75.85**	**321**	⇑*i*P	**P**	**14 13 43.9**	**+0.9**		
SCHQ	**Schefferville**	**75.90**	**21**	P	**P**	**14 13 43.2**	**+0.1**		
	comp=Z,3.0nm,0.8s,baz=319,slow=7.0,SNR=3.9								
TRPA	**Tarpa**	**76.14**	**326**	⇑*i*P	**P**	**14 13 45.7**	**+1.2**		
TRPA	**Tarpa**	**76.14**	**326**	⇑*e*P	**P**	**14 13 45.8**	**+1.2**		
CFR	**Carcaliu**	**76.16**	**321**	⇑*i*P	**P**	**14 13 45.4**	**+0.7**		
KSP	**Ksiaz**	**76.18**	**331**	*e*P	**P**	**14 13 45.5**	**+0.7**		
KSP	**Ksiaz**	**76.18**	**331**	*e*P	**P**	**14 13 45.5**	**+0.7**		
VRI	**Vrincioaia**	**76.23**	**323**	⇑*i*P	**P**	**14 13 46.3**	**+1.1**		
PLOR	**Plostina**	**76.28**	**323**	⇑*i*P	**P**	**14 13 46.4**	**+0.9**		
OKC	**Ostrava-Krasne**	**76.38**	**330**	*e*P	**P**	**14 13 46.7**	**+0.8**		
OKC	**Ostrava-Krasne**	**76.38**	**330**	*e*P	**P**	**14 13 46.7**	**+0.8**		
UPC	**Upice**	**76.56**	**331**	*e*P	**P**	**14 13 47.9**	**+1.0**		
UPC	**Upice**	**76.56**	**331**	*e*P	**P**	**14 13 47.9**	**+1.0**		
DPC	**Dobruska-Polom**	**76.59**	**331**	*e*P	**P**	**14 13 48.3**	**+1.2**		
DPC	**Dobruska-Polom**	**76.59**	**331**	*e*P	**P**	**14 13 48.3**	**+1.2**		
TIRR	**Tirgusor**	**76.60**	**321**	*e*P	**P**	**14 13 46.9**	**-0.3**		
TIRR				pmax	pmax				
	comp=Z,9.0nm,0.9s								
TIRR	**Tirgusor**	**76.60**	**321**	⇑*i*P	**P**	**14 13 47.8**	**+0.6**		
TIRR	**Tirgusor**	**76.60**	**321**	*e*P	**P**	**14 13 46.9**	**-0.3**		
	comp=Z,9.1nm,0.9s								
HARR	**Harsova**	**76.63**	**321**	⇑*i*P	**P**	**14 13 48.7**	**+1.3**		
MORC	**Moravsky Berou**	**76.65**	**330**	⇓*i*P	**P**	**14 13 48.2**	**+0.7**		
KRLC	**Kraliky**	**76.66**	**331**	*e*P	**P**	**14 13 48.4**	**+0.8**		
KRLC	**Kraliky**	**76.66**	**331**	*e*P	**P**	**14 13 48.4**	**+0.8**		
TLB	**Topalu**	**76.66**	**321**	⇓*i*P	**P**	**14 13 48.7**	**+1.1**		
NRDL	**Niedersach Rie**	**76.70**	**336**	*e*P	**P**	**14 13 48.4**	**+0.8**		
	comp=Z,10.0nm,1.0s								
DOPR	**Dopca**	**76.72**	**323**	⇓*i*P	**P**	**14 13 49.7**	**+1.7**		
CLL	**Collm**	**76.86**	**334**	*e*P	**P**	**14 13 49.1**	**+0.5**		
	comp=Z,27nm,0.6s								
CLL	**Collm**	**76.86**	**334**	⇓*i*P	**P**	**14 13 48.5**	**-0.1**		
	comp=Z,27nm,0.6s								
CLL	**Collm**	**76.86**	**334**	*i* (P)	P	14 13 54.7	+6.1		
	comp=Z,8.0nm,0.7s								
CLL	**Collm**	**76.86**	**334**	⇓*i*P	**P**	**14 13 48.5**	**-0.1**		
CLL				*i*		14 13 54.7			
CLL				pmax	pmax				
	comp=Z,27nm,0.6s								
CLL	**Collm**	**76.86**	**334**	*e*P	**P**	**14 13 48.5**	**-0.1**		
MLR	**Muntele Rosu**	**76.86**	**323**	⇑*i*P	**P**	**14 13 50.2**	**+1.3**		
CJR	**Cluj-Napoca**	**76.87**	**325**	⇑*i*P	**P**	**14 13 50.7**	**+1.9**		
BRG	**Berggiesshubel**	**76.93**	**333**	*e*P	**P**	**14 13 49.3**	**+0.3**		
	comp=Z,5.6nm,0.7s								
BRG				*e*		14 13 55.5			
	comp=Z,1.9nm,0.6s								
BRG	**Berggiesshubel**	**76.93**	**333**	*e*P	**P**	**14 13 49.7**	**+0.7**		
	comp=Z,6.0nm,0.9s								
BRG	**Berggiesshubel**	**76.93**	**333**	*e*P	**P**	**14 13 49.3**	**+0.3**		
BRG				*e*		14 13 55.5			
BRG

GERES pmax pmax
comp=Z,6.0nm,0.6s
SOP Sopron 78.76 330⇓ eP P 14 14 01.0 +1.8
WET Wettzell 78.77 332 eP P 14 14 00.7 +1.4
comp=Z,22nm,1.0s
PKS2 Kecel 78.78 327⇑ eP P 14 14 00.8 +1.5
CONA Conrad Observa 78.80 330 i P P 14 14 01.1 +1.6
comp=Z,24nm,1.2s,SNR=15
GRF Grafenberg Arr 78.83 334 eP P 14 14 00.9 +1.4
comp=Z,30nm,0.7s
GRFO Grafenberg 78.83 334 eP P 14 14 00.5 +1.0
GRFO pmax pmax
comp=Z,7.0nm,0.6s
GRFO Grafenberg 78.83 334 eP P 14 14 00.5 +1.0
comp=Z,7.4nm,0.6s
JMB Yambol 78.98 321⇑ iP P 14 14 01.2 +0.7
PKS9 Tamasi 79.06 328⇓ eP P 14 14 01.5 +0.7
TNS Taunus Mts 79.20 336 eP P 14 14 02.4 +0.8
comp=Z,11nm,0.8s
PKSM Moragy 79.23 328⇓ iP P 14 14 02.1 +0.3
PKSM Moragy 79.23 328⇑ eP P 14 14 01.9 +0.1
MOA Molln 79.43 331⇑ iP P 14 14 03.7 +0.8
comp=Z,7.8nm,0.9s,SNR=6.2
ARSA Arzberg 79.50 330⇑ iP P 14 14 04.2 +0.9
comp=Z,11nm,1.2s,SNR=6.2
MEM Membach 79.55 337 P P 14 14 04.0 +0.6
comp=Z,12nm,1.2s
BCLA Clavier 79.91 338 P P 14 14 06.2 +0.8
comp=Z,9.7nm,1.4s
RJOB Jochberg 80.02 332 eP P 14 14 07.5 +1.4
comp=Z,13nm,1.1s
SNF Seneffe 80.10 338 P P 14 14 06.9 +0.6
FUR Furstenfeldbru 80.15 333 eP P 14 14 08.0 +1.3
comp=Z,37nm,1.1s
KDZ Kurdzhali 80.16 321⇑ iP P 14 14 08.8 +1.9
SOKA Soboth 80.16 330 i P P 14 14 07.4 +0.4
comp=Z,21nm,1.0s,SNR=19
PERS Pernice 80.17 330 eP P 14 14 07.5 +0.5
GROS Grobnik 80.18 330 eP P 14 14 07.0 0.0
STU Stuttgart 80.27 334 eP P 14 14 08.1 +0.8
comp=Z,20nm,1.2s
GIVF Givet 80.33 338 eP P 14 14 07.7 +0.1
comp=Z,17nm,1.0s
GIVF Givet 80.33 338 eP P 14 14 07.7 +0.1
GIVF pmax pmax
comp=Z,17nm,1.0s
GIVF Givet 80.33 338 eP P 14 14 07.7 +0.1
comp=Z,17nm,1.0s
VTS Vitosha 80.37 323⇑ iP P 14 14 09.1 +0.9
DOU Dourbes 80.39 338 P P 14 14 08.7 +0.7
comp=Z,6.1nm,1.5s
KBA Koelnbreinsper 80.41 331 i P P 14 14 09.6 +1.3
comp=Z,21nm,0.8s,SNR=15
DIVS Divibare 80.47 326⇓ iP P 14 14 09.2 +0.6
ALN Alexandroupoli 80.48 320 eP P 14 14 09.5 +0.9
LANF Langenberg 80.50 335 eP P 14 14 09.4 +0.8
BAIF Baives 80.53 338 eP P 14 14 08.9 +0.2
comp=Z,24nm,1.2s
BAIF Baives 80.53 338 eP P 14 14 08.9 +0.2
BAIF pmax pmax
comp=Z,24nm,1.2s
BAIF Baives 80.53 338 eP P 14 14 08.9 +0.2
comp=Z,24nm,1.2s
TXAR Lajitas Array 80.68 58 P P 14 14 11.0 +1.0
comp=Z,4.6nm,0.7s,baz=298,slow=4.1,SNR=49
TXAR pP pP 14 14 34.0 -2.7
comp=Z,0.9nm,0.5s,baz=300,slow=4.4,SNR=2.5
TXAR Lajitas Array 80.68 58 P P 14 14 11.0 +1.0
TXAR *PP pP 14 14 34.0 -2.7
TXAR pmax pmax
comp=Z,5.0nm,0.7s
MYKA Terra Mystica 80.69 331 i P P 14 14 10.0 +0.3
comp=Z,11nm,0.7s,SNR=7.2
CRES Cresnjev 80.74 329 eP P 14 14 10.1 +0.1
WATA Walderalm 80.78 332⇓ iP P 14 14 11.0 +0.7
comp=Z,41nm,1.2s,SNR=10.0
WTTA Wattenberg 80.82 332 i P P 14 14 11.6 +1.0
comp=Z,22nm,0.8s,SNR=14
RETA Reutte 80.91 333⇑ iP P 14 14 11.7 +0.8
comp=Z,18nm,1.2s,SNR=10
BFO Black Forest 80.92 335 eP P 14 14 11.6 +0.7
comp=Z,13nm,1.0s
BFO Black Forest 80.92 335 eP P 14 14 10.5 -0.4
BFO pmax pmax
comp=Z,12nm,1.0s
BFO Black Forest 80.92 335 eP P 14 14 10.5 -0.4
comp=Z,12nm,1.0s
MOTA Moosalm 80.92 333⇑ iP P 14 14 11.7 +0.7
comp=Z,48nm,1.3s,SNR=15
MMB Musomiste 80.96 322⇑ iP P 14 14 12.2 +1.0
ABTA Abfaltersbach 80.98 332⇑ iP P 14 14 11.2 0.0
comp=Z,6.4nm,0.9s,SNR=5.5
NVR Nevrokopi 81.09 322 eP P 14 14 13.5 +1.6
CDF Champ du Feu 81.16 335 eP P 14 14 12.4 +0.2
comp=Z,22nm,0.8s
CDF Champ du Feu 81.16 335 eP P 14 14 12.4 +0.2
CDF pmax pmax
comp=Z,22nm,0.8s
CDF Champ du Feu 81.16 335 eP P 14 14 12.4 +0.2
comp=Z,22nm,0.8s
FETA Feichten 81.33 333 i P P 14 14 14.4 +1.2
comp=Z,13nm,1.1s,SNR=7.7
DAVA Damuels 81.37 333⇑ iP P 14 14 13.9 +0.5
comp=Z,16nm,1.1s,SNR=6.9
ECH Echery 81.37 335⇓ eP P 14 14 14.0 +0.7
ECH Echery 81.37 335 eP P 14 14 13.3 0.0
ECH pmax pmax
comp=Z,8.0nm,0.8s
ECH Echery 81.37 335 eP P 14 14 13.3 0.0
comp=Z,7.6nm,0.8s
SRS Serrai 81.40 322 eP P 14 14 14.5 +1.0
PAGF Fort de Pagny 81.48 336 eP P 14 14 14.4 +0.6
comp=Z,14nm,0.9s
PAGF Fort de Pagny 81.48 336 eP P 14 14 14.4 +0.6
comp=Z,14nm,0.9s
SKO Skopje 81.63 323 i P P 14 14 15.2 +0.5
KNT Kendrikon 81.67 322 eP P 14 14 16.5 +1.6
VAY Valandovo 81.68 322 i P P 14 14 15.6 +0.6
THEF They Montfort 81.70 336⇓ eP P 14 14 15.7 +0.7
MOF Molkenrain 81.71 335⇓ eP P 14 14 15.7 +0.6
MEZF Maizieres J'vi 81.72 337 eP P 14 14 15.6 +0.6
comp=Z,17nm,0.6s
MEZF Maizieres J'vi 81.72 337 eP P 14 14 15.6 +0.6
comp=Z,17nm,0.8s
HAU Haudompre 81.80 336 eP P 14 14 15.6 +0.1
comp=Z,23nm,0.8s
HAU eR
comp=Z,36nm,21.8s
HAU Haudompre 81.80 336 eP P 14 14 15.6 +0.1
HAU pmax pmax
comp=Z,23nm,0.8s
HAU Haudompre 81.80 336 eP P 14 14 15.6 +0.1
comp=Z,23nm,0.8s
HINF Hinteralfeld 81.82 335 eP P 14 14 15.4 -0.3
comp=Z,11nm,0.9s
HINF Hinteralfeld 81.82 335 eP P 14 14 15.4 -0.3
HINF pmax pmax
comp=Z,11nm,0.9s
HINF Hinteralfeld 81.82 335 eP P 14 14 15.4 -0.3
comp=Z,11nm,0.9s
OUR Ouranopolis 81.86 321 eP P 14 14 17.5 +1.6
SIGR SIGRI 81.91 319 eP P 14 14 17.5 +1.3
SFTF Sexfontaines 81.99 337 eP P 14 14 16.8 +0.3
comp=Z,17nm,0.6s
SFTF Sexfontaines 81.99 337 eP P 14 14 16.8 +0.3
comp=Z,17nm,0.6s
HORT Hortiatis 82.04 322 eP P 14 14 16.5 -0.5
GRG Griva 82.05 322 eP P 14 14 17.5 +0.5
PLG Polygyros 82.07 321 eP P 14 14 18.0 +0.9
LOMF Lomont 82.25 335⇓ eP P 14 14 15.5 -2.4
PAIG Palioúri 82.33 321 eP P 14 14 19.0 +0.6
CHOS Chios island 82.48 318 eP P 14 14 19.0 -0.3
OHR Ohrid 82.61 323 i P P 14 14 19.3 -0.6
FNA Florina 82.64 323 eP P 14 14 21.0 +1.0
LIT Litokhoron 82.71 322 eP P 14 14 20.5 +0.1
AOS Alonnisos 82.85 320 eP P 14 14 22.5 +1.4
FLN La Foliniere 82.91 340 eP P 14 14 21.5 +0.3
comp=Z,19nm,0.8s
FLN eR
comp=Z,46nm,20.2s
FLN La Foliniere 82.91 340 eP P 14 14 21.5 +0.3
FLN pmax pmax
comp=Z,19nm,0.8s
FLN La Foliniere 82.91 340 eP P 14 14 21.5 +0.3
comp=Z,19nm,0.8s
LDF La Druitiere 82.98 340 eP P 14 14 21.9 +0.3
comp=Z,21nm,1.0s
LDF La Druitiere 82.98 340 eP P 14 14 21.9 +0.3
LDF pmax pmax
comp=Z,21nm,1.0s
LDF La Druitiere 82.98 340 eP P 14 14 21.9 +0.3
comp=Z,21nm,1.0s
XOR Xorichti 83.00 321 eP P 14 14 22.5 +0.6
NEST Nestorio 83.08 323 eP P 14 14 23.0 +0.6
CABF La Chapelle 83.14 335 eP P 14 14 23.3 +0.7
comp=Z,14nm,0.8s
CABF La Chapelle 83.14 335 eP P 14 14 23.3 +0.7
CABF pmax pmax
comp=Z,15nm,0.8s
CABF La Chapelle 83.14 335 eP P 14 14 23.3 +0.7
comp=Z,14nm,0.8s
LOR Lormes 83.17 337 eP P 14 14 22.9 +0.2
comp=Z,22nm,1.0s
LOR eR
comp=Z,32nm,22.5s
LOR Lormes 83.17 337 eP P 14 14 22.9 +0.2
LOR pmax pmax
comp=Z,22nm,1.0s
LOR Lormes 83.17 337 eP P 14 14 22.9 +0.2
comp=Z,22nm,1.0s
ARG Arkhangelos 83.21 316 eP P 14 14 24.5 +1.5
GRR Gorron 83.35 340 eP P 14 14 24.1 +0.6
comp=Z,27nm,0.7s
GRR Gorron 83.35 340 eP P 14 14 24.1 +0.6
GRR pmax pmax
comp=Z,27nm,0.7s
GRR Gorron 83.35 340 eP P 14 14 24.1 +0.6
comp=Z,27nm,0.7s
MRKA Markates 83.36 320 eP P 14 14 23.0 -0.8
THL Klokotos Trika 83.36 322 eP P 14 14 23.0 -0.7
SSF Saint Saulge 83.46 337 eP P 14 14 24.3 +0.2
comp=Z,14nm,0.8s
SSF Saint Saulge 83.46 337 eP P 14 14 24.3 +0.2
SSF pmax pmax
comp=Z,14nm,0.8s
SSF Saint Saulge 83.46 337 eP P 14 14 24.3 +0.2
comp=Z,14nm,0.8s
AGG Agios Georgios 83.67 321 eP P 14 14 24.5 -0.9
LKR Lokris 83.67 321 eP P 14 14 25.0 -0.3
AXAR Agios Charalam 83.73 321 eP P 14 14 26.0 +0.3
SMF Signal de Mont 83.75 337 eP P 14 14 26.0 +0.4
comp=Z,57nm,0.8s
SMF Signal de Mont 83.75 337 eP P 14 14 26.0 +0.4
SMF pmax pmax
comp=Z,57nm,0.8s
SMF Signal de Mont 83.75 337 eP P 14 14 26.0 +0.4
comp=Z,57nm,0.8s
AVF Avril sur Loir 83.75 337 eP P 14 14 26.2 +0.6
comp=Z,20nm,0.8s
AVF Avril sur Loir 83.75 337 eP P 14 14 26.2 +0.6
AVF pmax pmax
comp=Z,20nm,0.8s
AVF Avril sur Loir 83.75 337 eP P 14 14 26.2 +0.6
comp=Z,20nm,0.8s
MAKR Makrakomi, Fth 83.76 321 eP P 14 14 26.0 +0.2
APE Apeiranthos 83.78 318 eP P 14 14 25.0 -1.0
JAN Janina 83.79 323 eP P 14 14 27.0 +1.0
SGMF Saint Gilles 83.87 341 eP P 14 14 27.1 +1.0
comp=Z,37nm,0.7s
SGMF Saint Gilles 83.87 341 eP P 14 14 27.1 +1.0
SGMF pmax pmax
comp=Z,37nm,0.7s
SGMF Saint Gilles 83.87 341 eP P 14 14 27.1 +1.0
comp=Z,37nm,0.7s
LPL La Plagne 83.93 335 eP P 14 14 27.7 +0.9
comp=Z,30nm,1.3s
LPL La Plagne 83.93 335 eP P 14 14 27.7 +0.9
LPL La Plagne 83.93 335 eP P 14 14 27.7 +0.9
comp=Z,30nm,1.3s
LPG La Plagne 83.94 335 eP P 14 14 27.9 +0.9
comp=Z,39nm,1.2s
LPG La Plagne 83.94 335 eP P 14 14 27.9 +0.9
LPG pmax pmax
comp=Z,39nm,1.2s
LPG La Plagne 83.94 335 eP P 14 14 27.9 +0.9
comp=Z,39nm,1.2s
ROSF Rostrenen 83.95 342 eP P 14 14 27.5 +0.9
comp=Z,68nm,1.0s
ROSF Rostrenen 83.95 342 eP P 14 14 27.5 +0.9
ROSF pmax pmax
comp=Z,68nm,1.0s
ROSF Rostrenen 83.95 342 eP P 14 14 27.5 +0.9
comp=Z,68nm,1.0s
EVR Evrytania 83.99 321 eP P 14 14 27.0 -0.1
DSF Desfina 84.08 321 eP P 14 14 27.0 -0.5
SGD Sagiada 84.09 323 eP P 14 14 28.0 +0.5
BGF Bois d'Agland 84.10 337 eP P 14 14 28.8 +1.4
comp=Z,12nm,0.7s
BGF Bois d'Agland 84.10 337 eP P 14 14 28.8 +1.4
BGF pmax pmax
comp=Z,12nm,0.7s
BGF Bois d'Agland 84.10 337 eP P 14 14 28.8 +1.4
comp=Z,12nm,0.7s
DSL Palaion Diasel 84.12 322 eP P 14 14 28.0 +0.3
IGT Igoumenitsa 84.12 323 eP P 14 14 28.0 +0.4
KEK Kerkira 84.20 323 eP P 14 14 28.5 +0.5
KARP Karpathos 84.21 316 eP P 14 14 28.5 +0.3
KALE Kalithea 84.27 321 eP P 14 14 28.5 0.0
QUIF Quistinic 84.32 342 eP P 14 14 29.1 +0.7
comp=Z,31nm,1.1s
QUIF Quistinic 84.32 342 eP P 14 14 29.1 +0.7
QUIF pmax pmax
comp=Z,31nm,1.1s
QUIF Quistinic 84.32 342 eP P 14 14 29.1 +0.7
comp=Z,31nm,1.1s
EFP Efpalio 84.35 321 eP P 14 14 27.0 -1.7
BNI Bardonecchia 84.36 334 eP P 14 14 30.2 +1.3
BNI pmax pmax
comp=Z,10.0nm,1.0s
BNI Bardonecchia 84.36 334 eP P 14 14 30.2 +1.3
comp=Z,10nm,1.0s
DID Didima 84.50 320 eP P 14 14 28.5 -1.1
PDO Prodromos 84.52 322 eP P 14 14 30.0 +0.3
TCF Toulx Ste Croi 84.52 338 eP P 14 14 30.4 +0.8
comp=Z,15nm,0.8s
TCF Toulx Ste Croi 84.52 338 eP P 14 14 30.4 +0.8
TCF pmax pmax
comp=Z,15nm,0.8s
TCF Toulx Ste Croi 84.52 338 eP P 14 14 30.4 +0.8
comp=Z,15nm,0.8s
KLV Kalavryta, Ach 84.55 321 eP P 14 14 30.0 +0.1
GUR Goura 84.55 321 eP P 14 14 29.5 -0.5
LKD2 Lefkada island 84.60 322 eP P 14 14 31.0 +0.9
MBDF Montbardon 84.63 334 eP P 14 14 30.6 +0.3
comp=Z,17nm,0.9s
MBDF Montbardon 84.63 334 eP P 14 14 30.6 +0.3
MBDF pmax pmax
comp=Z,17nm,0.9s
MBDF Montbardon 84.63 334 eP P 14 14 30.6 +0.3
comp=Z,17nm,0.9s
ORIF Oris-en-Rattie 84.73 335 eP P 14 14 31.7 +1.0
comp=Z,20nm,0.7s
ORIF eR
comp=Z,40nm,18.8s
ORIF Oris-en-Rattie 84.73 335 eP P 14 14 31.7 +1.0
ORIF pmax pmax
comp=Z,20nm,0.7s
ORIF Oris-en-Rattie 84.73 335 eP P 14 14 31.7 +1.0
comp=Z,20nm,0.7s
SSB Saint Sauveur 84.80 336 eP P 14 14 31.8 +0.8
SSB pmax pmax
comp=Z,7.0nm,0.8s
SSB Saint Sauveur 84.80 336 eP P 14 14 31.8 +0.8
comp=Z,6.6nm,0.8s
DRO Drossia 84.82 321 eP P 14 14 31.5 +0.3
MFF Saint Martin d 84.84 339 eP P 14 14 32.2 +1.1
comp=Z,46nm,1.1s
MFF Saint Martin d 84.84 339 eP P 14 14 32.2 +1.1
MFF pmax pmax
comp=Z,46nm,1.1s
MFF Saint Martin d 84.84 339 eP P 14 14 32.2 +1.1
comp=Z,46nm,1.1s
RLS Riolos of Patr 84.84 321 eP P 14 14 32.0 +0.7
VLS Valsamata 85.13 322 eP P 14 14 33.0 +0.3
VIVF Saint-Julien-l 85.14 336 eP P 14 14 33.7 +1.0
comp=Z,14nm,0.7s
VIVF Saint-Julien-l 85.14 336 eP P 14 14 33.7 +1.0
VIVF pmax pmax
comp=Z,15nm,0.7s
VIVF Saint-Julien-l 85.14 336 eP P 14 14 33.7 +1.0
comp=Z,14nm,0.7s
AMT Artemida-Makis 85.17 321 eP P 14 14 33.5 +0.5
SBF Sospel 85.20 333 eP P 14 14 33.0 0.0
comp=Z,23nm,0.8s
SBF Sospel 85.20 333 eP P 14 14 33.0 0.0
SBF pmax pmax
comp=Z,23nm,0.8s
SBF Sospel 85.20 333 eP P 14 14 33.0 0.0
comp=Z,23nm,0.8s
ITM Ithomi 85.36 320 eP P 14 14 34.0 +0.1
ZKS Zakynthos 85.45 321 eP P 14 14 34.0 -0.3
RJF Les Rejaudoux 85.62 338 eP P 14 14 36.1 +1.1
comp=Z,36nm,1.2s
RJF eR
comp=Z,40nm,22.8s
RJF Les Rejaudoux 85.62 338 eP P 14 14 36.1 +1.1
RJF pmax pmax
comp=Z,36nm,1.2s
RJF Les Rejaudoux 85.62 338 eP P 14 14 36.1 +1.1
comp=Z,36nm,1.2s
SMRF Simiane la Rot 85.67 335 eP P 14 14 35.8 +0.4
comp=Z,6.3nm,0.8s
SMRF Simiane la Rot 85.67 335 eP P 14 14 35.8 +0.4
comp=Z,6.3nm,0.8s
PYL PYLOS 85.68 320 eP P 14 14 35.0 -0.5
FRF La Foret Royal 85.72 334 eP P 14 14 35.9 +0.4
comp=Z,9.6nm,0.9s
FRF La Foret Royal 85.72 334 eP P 14 14 35.9 +0.4
FRF pmax pmax
comp=Z,10.0nm,0.9s
FRF La Foret Royal 85.72 334 eP P 14 14 35.9 +0.4
comp=Z,9.6nm,0.9s
CAF Calviac 85.82 337 eP P 14 14 37.6 +1.5
comp=Z,25nm,0.8s
CAF Calviac 85.82 337 eP P 14 14 37.6 +1.5
CAF pmax pmax
comp=Z,25nm,0.8s
CAF Calviac 85.82 337 eP P 14 14 37.6 +1.5
comp=Z,25nm,0.8s
PGF Pioggiola 85.86 332 eP P 14 14 36.6 +0.2
comp=Z,8.1nm,0.7s
PGF Pioggiola 85.86 332 eP P 14 14 36.6 +0.2
PGF pmax pmax
comp=Z,8.0nm,0.7s
PGF Pioggiola 85.86 332 eP P 14 14 36.6 +0.2
comp=Z,8.1nm,0.7s
KARN Karanos 85.90 318 eP P 14 14 37.0 +0.4
TIP Timpagrande 85.91 325 eP P 14 14 36.5 -0.1
comp=Z,12nm,1.2s
LMR La Mourre 85.97 334 eP P 14 14 37.4 +0.7
comp=Z,26nm,0.9s
LMR La Mourre 85.97 334 eP P 14 14 37.4 +0.7
LMR pmax pmax
comp=Z,26nm,0.9s
LMR La Mourre 85.97 334 eP P 14 14 37.4 +0.7
comp=Z,26nm,0.9s
LASF Ste Croix 86.09 336 eP P 14 14 38.9 +1.5
comp=Z,43nm,1.5s
LASF Ste Croix 86.09 336 eP P 14 14 38.9 +1.5
comp=Z,43nm,1.5s
LFF La Frestale 86.16 338 eP P 14 14 38.7 +1.0
comp=Z,55nm,1.0s
LFF La Frestale 86.16 338 eP P 14 14 38.7 +1.0
LFF pmax pmax
comp=Z,55nm,1.0s
LFF La Frestale 86.16 338 eP P 14 14 38.7 +1.0
comp=Z,55nm,1.0s
MTLF Montolieu 87.24 337 eP P 14 14 44.6 +1.6
comp=Z,7.1nm,0.7s
MTLF Montolieu 87.24 337 eP P 14 14 44.6 +1.6
MTLF pmax pmax
comp=Z,7.0nm,0.7s
MTLF Montolieu 87.24 337 eP P 14 14 44.6 +1.6
comp=Z,7.1nm,0.7s
EPF Esparros 88.04 338 eP P 14 14 48.0 +1.1
EPF Esparros 88.04 338 eP P 14 14 48.0 +1.1
EPF Esparros 88.04 338 eP P 14 14 48.0 +1.1
SJPF Ste Jean 88.38 339 eP P 14 14 48.7 +0.3
SJPF Ste Jean 88.38 339 eP P 14 14 48.7 +0.3
SJPF Ste Jean 88.38 339 eP P 14 14 48.7 +0.3
ETSF Etsaut 88.41 338 eP P 14 14 49.6 +1.0
comp=Z,12nm,0.6s
ETSF Etsaut 88.41 338 eP P 14 14 49.6 +1.0
ETSF pmax pmax
comp=Z,12nm,0.6s
ETSF Etsaut 88.41 338 eP P 14 14 49.6 +1.0
comp=Z,12nm,0.6s
KEST Kesra 91.80 328 P P 14 15 05.5 +1.0
comp=Z,1.9nm,0.9s,baz=312,slow=9.5,SNR=4.8
ESDC Sonseca Array 92.30 340 P P 14 15 06.5 -0.3
comp=Z,0.3nm,0.3s,baz=28,slow=5.8,SNR=3.3
TORD Torodi Ar. Bea 115.06 325 PKP PKPdf 14 20 37.1 -0.4
comp=Z,0.4nm,0.9s,baz=34,slow=1.3,SNR=4.6
VNDA Vanda 122.53 177 PKP PKPdf 14 20 50.5 +0.5
comp=Z,0.7nm,0.9s,baz=309,slow=4.6,SNR=3.6
VNDA Vanda 122.53 177 PKIKP PKPdf 14 20 50.5 +0.5
VNDA pmax pmax
comp=Z,1.0nm,0.9s
BDFB Brasilia 147.27 32 PKPbc PKPbc 14 21 40.4 +0.4
comp=Z,2.3nm,0.5s,baz=252,slow=6.4,SNR=3.8
BDFB Brasilia 147.27 32 PKP2 PKPbc 14 21 40.4 +0.4
BDFB pmax pmax
comp=Z,2.0nm,0.5s
SNAA Sanae 150.13 197 P PKPbc 14 21 44.0 -1.6
SNAA Sanae 150.13 197 PKPbc PKPbc 14 21 46.0 +0.4
comp=Z,1.1nm,0.8s,baz=206,slow=5.1,SNR=4.2
SNAA Sanae 150.13 197 PKIKP PKPbc 14 21 46.0 +0.4
SNAA pmax pmax
comp=Z,1.0nm,0.8s
VNA2 Neumayer--Watz 151.64 196 P PKPbc 14 21 49.8 +0.7
baz=73,slow=0.8
VNA3 Neumayer Olymp 151.80 194 P PKPbc 14 21 49.9 +0.4

GUC 24 14:03:11.7±0.4, 36°23S×73°36W, h28km±5km, ML3.6,
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.47**	**78**	*eP*	Pb	14 03 20.6	-1.0
COCH				*eS*	Sb	14 03 27.7	-0.6
CCSP	**San Pedro de C**	**0.64**	**162**	*eP*	Pb	14 03 23.3	-1.1
CCSP				*eS*	Sb	14 03 32.1	-1.0
CCSP				AML	AML	14 03 35.5	
	comp=N,6μm,0.3s						
LNCH	**Linares**	**1.48**	**75**	*eP*	Pn	14 03 35.8	-0.6
LNCH				*eS*	Sn	14 03 54.3	-0.5
TALC	**Talca**	**1.63**	**60**	*eP*	Pn	14 03 38.7	+0.2
TALC				*eS*	Sn	14 03 59.2	+0.7
CHCH	**Chadas Angostu**	**3.19**	**45**	*eP*	Pn	14 04 00.7	+0.7

*DJA **24** 14:04:18.2±3.9, 2°N±11°×12°5E±°, h17km±54km, M4.0/4, mb4.3/1, mB4.5/1, MLv3.8/4, Mw(mB)3.6/1*
*IDC **24** 14:04:19.6±10.0, 2°05N×124°55E, h350km±128km, mb2.9/4, mb1 3.1/5, mb1mx2.8/33, mbtmp3.7/5, Error ellipse: s-maj=53.6km s-min=27.9km az=64.0*

ISC 24 14:04:07.0±1.1, 2°44N±0°09×125°0E±0°2, h200km, n9, σ1§80/8, mb3.5/5, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.92**	**124**	P	Pn	14 05 01.7	+5.9
LUWI	**Luwuk**	**4.09**	**212**	P	Pn	14 05 15.0	+5.1
LUWI				S	**Sn**	**14 05 59.7**	**+0.3**
SANI	**Sanana**	**4.57**	**167**	P	**Pn**	**14 05 18.2**	**+2.2**
SANI				S	**Sn**	**14 06 08.8**	**-1.6**
BATI	**Baumata**	**12.62**	**186**	P	**P**	**14 07 03.7**	**0.0**
	2.4nm,0.3s,baz=297,slow=4.5,SNR=4.0						
WRA	**Warramunga Arr**	**24.07**	**158**	P	**P**	**14 09 02.4**	**-1.8**
	0.8nm,0.7s,baz=333,slow=11,SNR=25						
ASAR	**Alice Springs**	**27.37**	**162**	P	**P**	**14 09 32.7**	**-1.2**
	0.2nm,0.5s,baz=340,slow=8.6,SNR=4.2						
KMI	**Kunming**	**31.10**	**318**	P	P	14 10 12.6	+5.5
KMI				pmax	pmax		
	comp=Z,21nm,1.0s						
PETK	**Petropavlovsk-**	**57.30**	**23**	P	**P**	**14 13 35.2**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=239,slow=9.9,SNR=2.6						
MKAR	**Makanchi Array**	**57.63**	**327**	P	**P**	**14 13 34.9**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=129,slow=7.9,SNR=4.4						

IDC 24 14:10:50.4±2.0, 5°25S×131°41E, h0km, mb3.2/1, mb1 3.5/4, mb1mx3.4/19, mbtmp3.3/4, ML3.2/3, Error ellipse: s-maj=137.7km s-min=15.6km az=80.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.35**	**358**	Pn	Pn	14 11 58.4	+0.5
	0.5nm,0.3s,baz=127,slow=20,SNR=2.4						
SIJI				Sn	Sn	14 12 44.5	-4.9
	1.3nm,0.3s,baz=173,slow=9.1,SNR=4.1						
WRA	**Warramunga Arr**	**14.88**	**169**	Pn	Pn	14 14 21.1	-1.2
	0.1nm,0.3s,baz=353,slow=14,SNR=6.2						
WRA				Sn	Sn	14 17 02.7	-5.3
	0.1nm,0.3s,baz=358,slow=22,SNR=3.5						
ASAR	**Alice Springs**	**18.47**	**173**	P	Pn	14 15 09.3	+1.4
	0.2nm,0.3s,baz=2.8,slow=10,SNR=11						
ASAR				S	Sn	14 18 35.9	+0.8
	0.0nm,0.3s,baz=347,slow=20,SNR=2.9						
MKAR	**Makanchi Array**	**67.56**	**326**	P	P	14 21 48.4	-0.4
	0.1nm,0.3s,baz=126,slow=6.9,SNR=2.6						

*IDC **24** 14:18:00.3±0.6,34°.36S×71°.60W,h0km,mb4.1/12, mb1 4.4/14,mb1mx4.3/20,mbtmp4.2/14, ML4.7/2, MS3.4/4, Ms1 3.4/4, ms1mx3.2/14, Error ellipse: s-maj=27.8km s-min=14.8km az=96.0*

*NEIC **24** 14:18:06.0±0.4,34°.39S×71°.77W,mb4.5/8, Error ellipse: s-maj=11.7km s-min=7.0km az=91.0*

*ISCJB **24** 14:18:06.7±0.6,34°.43S±0°.03×71°.71W±0°.09,h61km±5km, mb4.2/15, Error ellipse: s-maj=13.2km s-min=4.0km az=11.9*

*GUC **24** 14:18:06.5±0.4,34°.40S×71°.72W,h38km±1km,ML4.7*

*SJA **24** 14:18:08.6±0.8,34°.00S×71°.99W,h48km±344km,ML4.1, MW4.4*

ISC 24 14:18:06.9±1.2,**34°.40S**±0°.03×**71°.77W**±0°.09,**h46**km±10km, **n67**,σ1**9**10/64,**mb4.2**/15,**MS3.7**/3,**10C-3D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.54**	**34**	*i*P	**Pn**	**14 18 17.2**	**-1.1**
NICH	**Los Niches**	**0.74**	**143**	*i*P	**Pn**	**14 18 20.5**	**-0.6**
NICH				*i* S	**Sn**	**14 18 30.9**	**-0.5**
TALC	**Talca**	**1.00**	**174**	*i*P	**Pn**	**14 18 24.6**	**+0.1**
TALC				*i* S	**Sn**	**14 18 38.1**	**+0.7**
TACH	**Talagante**	**1.02**	**43**	*i*P	**Pn**	**14 18 24.3**	**-0.5**
CHCH	**Chadas Angostu**	**1.04**	**63**	*i*P	**Pn**	**14 18 24.8**	**-0.3**
RCDM	**Rinconada Maip**	**1.21**	**42**	*i*P	**Pn**	**14 18 27.2**	**-0.3**
RCDM				*i* S	**Sn**	**14 18 42.9**	**+0.1**
PCH	**Pirque**	**1.30**	**54**	*i*P	**Pn**	**14 18 28.7**	**0.0**
SAN	**Santiago**	**1.32**	**44**	*i*P	**Pn**	**14 18 29.1**	**+0.1**
SAN				*i* S	**Sn**	**14 18 46.4**	**+1.0**
CLCH	**Cerro Calan**	**1.44**	**46**	*i*P	**Pn**	**14 18 30.7**	**+0.2**
CLCH				*i* S	**Sn**	**14 18 49.8**	**+1.5**
CLCH				AML	AML	14 18 56.3	
	comp=N,27μm,0.6s						
LNCH	**Linares**	**1.45**	**175**	*i*P	**Pn**	**14 18 31.1**	**+0.5**
LNCH				*i* S	**Sn**	**14 18 50.4**	**+2.0**
PEL	**Peldehue**	**1.55**	**36**	*i*P	**Pn**	**14 18 32.5**	**+0.5**
PEL				*i* S	**Sn**	**14 18 52.6**	**+1.6**
PEL				AML	AML	14 18 56.7	
	comp=N,22μm,0.5s						
ROCH	**El Roble**	**1.56**	**24**	*i*P	**Pn**	**14 18 32.2**	**-0.2**
ROCH				*i* S	**Sn**	**14 18 52.6**	**+1.1**
ROCH				AML	AML	14 18 57.2	
	comp=N,11μm,0.6s						
ARCO	**CERRO ARCO**	**2.83**	**57**	*e*P	Pn	14 18 53.3	+3.5
ARCO				AML	AML	14 19 22.3	
	comp=Z,593nm,0.6s						
AUSP	**Uspallata**	**2.95**	**43**	*e*P	**Pn**	**14 18 53.6**	**+2.1**
ASAL	**Salagasta**	**3.05**	**54**	*e*P	Pn	14 18 56.4	+3.7
RTLS	**Leoncito**	**3.33**	**39**	*e*P	**Pn**	**14 18 59.1**	**+2.4**
CANA	**Caviahue**	**3.52**	**171**	AML	AML	14 20 14.3	
	comp=Z,292nm,0.7s						
RTCV	**Cerro Valdivia**	**3.71**	**48**	*i* P	**Pn**	**14 19 04.3**	**+2.5**
SJA	**San Juan**	**3.94**	**44**	*i* P	**Pn**	**14 19 07.9**	**+3.1**
CFAA	**Coronel Fontan**	**4.07**	**48**	Pn	**Pn**	**14 19 07.4**	**+0.7**
	comp=Z,4.2nm,0.3s,baz=207,slow=12,SNR=106						
CFAA				Lg	Lg	14 20 03.7	
	comp=Z,9.7nm,0.3s,baz=204,slow=0.5,SNR=8.0						
CFAA				LR	LR	14 20 57.0	
	comp=Z,82nm,21.5s,baz=234,slow=45						
LCO	**Las Campanas**	**5.45**	**10**	*e*Pn	**Pn**	**14 19 24.8**	**-1.1**
	comp=Z,69nm,0.4s						
LCO	**Las Campanas**	**5.45**	**10**	*e*P	**Pn**	**14 19 25.6**	**-0.3**
PLCA	**Paso Flores**	**6.39**	**172**	Pn	**Pn**	**14 19 39.5**	**+1.0**
	comp=Z,4.7nm,0.3s,baz=335,slow=10.0,SNR=116						
PLCA				Lg	Lg	14 21 22.1	
	comp=Z,1.1nm,0.3s,baz=53,slow=20,SNR=4.0						
PLCA	**Paso Flores**	**6.39**	**172**	*e*Pn	**Pn**	**14 19 39.3**	**+0.8**
	comp=Z,24nm,0.5s						
PLCA				Lg	Lg	14 21 22.1	
TRQA	**Tornquist**	**8.71**	**118**	*e*Pn	**Pn**	**14 20 10.7**	**+0.5**
	comp=Z,18nm,0.6s						
LVC	**Limon Verde**	**12.01**	**13**	Pn	Pn	14 20 50.9	-4.8
	comp=Z,15nm,0.3s,baz=162,slow=13,SNR=3.0						
LVC	**Limon Verde**	**12.01**	**13**	*e*Pn	Pn	14 20 49.1	-6.6
	comp=Z,9.2nm,0.8s						
CPUP	**Villa Florida**	**14.82**	**61**	*e*P	**Pn**	**14 21 33.4**	**-0.1**
LPAZ	**La Paz**	**18.33**	**11**	P	**P**	**14 22 17.4**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=174,slow=7.4,SNR=22						
LPAZ	**La Paz**	**18.33**	**11**	*e*P	**Pn**	**14 22 19.2**	**+0.8**
EFI	**East Falkland**	**19.90**	**154**	*e*P	**P**	**14 22 35.2**	**+0.9**
	comp=Z,23nm,0.7s						
USHA	**Ushuaia**	**20.56**	**174**	P	**P**	**14 22 41.2**	**-0.1**
	comp=Z,8.2nm,0.8s,baz=350,slow=6.3,SNR=5.0						
SIV	**San Ignacio**	**20.70**	**30**	P	**P**	**14 22 42.0**	**-1.3**
	comp=Z,19nm,1.0s,baz=227,slow=12,SNR=38						
SAML	**Samuel**	**26.53**	**19**	*e*P	**P**	**14 23 39.2**	**-1.1**
	comp=Z,3.9nm,0.7s						
BDFB	**Brasilia**	**28.38**	**55**	P	**P**	**14 23 55.0**	**-2.0**
	comp=Z,4.1nm,0.6s,baz=226,slow=8.2,SNR=5.9						
BDFB				LR	LR	14 36 20.8	
	comp=Z,208nm,18.8s,baz=224,slow=39						
SDV	**Santo Domingo**	**43.06**	**2**	*e*P	**P**	**14 26 02.1**	**-0.5**
	comp=Z,6.7nm,1.1s						
VNA3	**Neumayer Olymp**	**48.90**	**158**	P	**P**	**14 26 47.9**	**+0.2**
VNA2	**Neumayer--Watz**	**49.55**	**157**	P	**P**	**14 26 52.9**	**+0.3**
	baz=292,slow=10						
SNAA	**Sanae**	**51.13**	**158**	P	**P**	**14 27 03.3**	**-1.3**
SNAA	**Sanae**	**51.13**	**158**	P	**P**	**14 27 04.5**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=280,slow=7.9,SNR=10						
SNAA	**Sanae**	**51.13**	**158**	*e*P	**P**	**14 27 02.9**	**-1.7**
	comp=Z,7.2nm,1.0s						
QSPA	**South Pole Qui**	**55.83**	**180**	P	**P**	**14 27 40.0**	**+0.7**
	comp=Z,2.3nm,0.7s,baz=172,slow=1.8,SNR=14						
QSPA	**South Pole Qui**	**55.83**	**180**	*e*P	**P**	**14 27 39.5**	**+0.2**
	comp=Z,11nm,1.3s						
VNDA	**Vanda**	**63.75**	**191**	P	**P**	**14 28 34.6**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=107,slow=5.0,SNR=6.5						
SYO	**Syowa Base**	**65.41**	**158**	*e*pP	pP	14 28 52.5	-5.0
TXAR	**Lajitas Array**	**70.19**	**331**	P	**P**	**14 29 15.8**	**+0.9**
	comp=Z,1.1nm,0.5s,baz=154,slow=8.9,SNR=12						
WVT	**Waverly**	**71.75**	**346**	*e*P	**P**	**14 29 24.5**	**+0.4**
	comp=Z,11nm,1.2s						
WVT				*e*		14 29 35.4	
MAW	**Mawson**	**72.73**	**163**	P	**P**	**14 29 29.2**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=232,slow=12,SNR=2.6						
MNTX	**Cornudas Mount**	**72.97**	**330**	*e*P	**P**	**14 29 31.4**	**-0.1**
	comp=Z,1.3nm,0.8s						
MNTX				*e*		14 29 42.8	
DBIC	**Dimbokro**	**75.10**	**71**	P	**P**	**14 29 44.0**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=239,slow=3.7,SNR=2.4						
DBIC				LR	LR	15 02 27.3	
	comp=Z,26nm,18.2s,baz=139,slow=36						
TOA0	**Torodi Ar. Sit**	**84.14**	**70**	*e*P	**P**	**14 30 32.6**	**-0.7**
TORD	**Torodi Ar. Bea**	**84.14**	**70**	P	**P**	**14 30 32.6**	**-0.7**
	comp=Z,2.5nm,0.5s,baz=290,slow=6.2,SNR=28						
TORD				LR	LR	15 07 01.7	
	comp=Z,30nm,18.9s,baz=110,slow=35						
PDAR	**Pinedale Array**	**84.22**	**333**	P	**P**	**14 30 33.1**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=116,slow=3.4,SNR=4.3						
NVAR	**Mina Array Bea**	**84.34**	**325**	P	**P**	**14 30 35.1**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=159,slow=5.5,SNR=4.3						
FLWY	**Flagg Ranch**	**85.78**	**333**	P	**P**	**14 30 42.1**	**+0.9**
RLMT	**Red Lodge**	**86.15**	**334**	*e*P	**P**	**14 30 43.6**	**+0.7**
	comp=Z,2.1nm,0.6s						
WRAK	**Wrangell Islan**	**104.00**	**330**	*e*Pdif	**Pdif**	**14 32 04.9**	**+0.7**
	comp=Z,16nm,0.6s						
ASAR	**Alice Springs**	**117.31**	**207**	PKP	**PKPdf**	**14 36 46.4**	**-1.2**
	comp=Z,0.1nm,0.8s,baz=138,slow=1.1,SNR=2.8						
WRA	**Warramunga Arr**	**120.52**	**209**	PKP	**PKPdf**	**14 36 52.9**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=157,slow=1.7,SNR=6.0						
H11S2	**WAKE ISLAND Hyl**	**25.99**	**269**	T	T	16 55 38.3	
	baz=119,slow=74,SNR=15						
H11S1	**WAKE ISLAND Hyl**	**26.00**	**269**	T	T	16 55 38.3	
	baz=119,slow=74,SNR=22						
H11S3	**WAKE ISLAND Hyl**	**26.00**	**269**	T	T	16 55 37.0	
	baz=119,slow=74,SNR=16						
H11N3	**WAKE ISLAND Hyl**	**26.41**	**270**	T	T	16 56 11.0	
	baz=115,slow=78,SNR=12						
H11N1	**WAKE ISLAND Hyl**	**26.42**	**270**	T	T	16 56 09.7	
	baz=115,slow=78,SNR=39						
H11N2	**WAKE ISLAND Hyl**	**26.43**	**270**	T	T	16 56 10.1	
	baz=115,slow=78,SNR=15						
ZALV	**Zalesovo Beam**	**154.44**	**33**	PKPbc	**PKPbc**	**14 38 02.8**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=328,slow=5.1,SNR=3.3						
ZALV				PKPab	**PKPab**	**14 38 14.2**	**-1.9**
	comp=Z,0.6nm,0.4s,baz=292,slow=4.0,SNR=4.4						
MKAR	**Makanchi Array**	**156.86**	**50**	PKPab	**PKPab**	**14 38 26.5**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=270,slow=2.2,SNR=5.1						

*DDA **24** 14:32:20.6,38°.73N×38°.08E,h7km,MD3.0*

*CSEM **24** 14:32:20.7±0.2,38°.70N×38°.06E,h2km,MD3.0, Error ellipse: s-maj=4.0km s-min=3.2km az=156.0*

*ISK **24** 14:32:20.0,38°.69N×38°.06E,h5km,MD3.0*

ISC 24 14:32:20.7±1.3,**38°.70N**±0°.03×**38°.07E**±0°.03,**h2**km±11km, **n27**,σ0**9**65/42,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.42**	**196**	*i* P	**Pg**	**14 32 29.2**	**+0.4**
AKCD				*i* S	**Sb**	**14 32 36.4**	**-1.3**
AKCD	**Akcadag**	**0.42**	**196**	*i* P	**Pg**	**14 32 29.2**	**+0.4**
AKCD				*i* S	**Sb**	**14 32 36.4**	**-1.3**
DARE	**Darende-Malaty**	**0.48**	**254**	*e*PG	**Pg**	**14 32 29.2**	**-0.6**
DARE				*e*SG	**Sg**	**14 32 36.4**	**+0.4**
DARE	**Darende-Malaty**	**0.48**	**254**	*e*Pg	**Pg**	**14 32 29.2**	**-0.6**
DARE				*e*Sg	**Sg**	**14 32 36.4**	**+0.4**
ELZG	**Elazig**	**0.75**	**105**	*i* P	**Pg**	**14 32 34.9**	**-0.1**
ELZG				*i* S	**Sb**	**14 32 46.4**	**-0.7**
ELZG	**Elazig**	**0.75**	**105**	*i* P	**Pg**	**14 32 34.9**	**-0.1**
ELZG				*i* S	**Sb**	**14 32 46.4**	**-0.7**
ILIC	**ilic-Erzincan**	**0.84**	**27**	*e*PG	**Pg**	**14 32 37.2**	**+0.3**
ILIC	**ilic-Erzincan**	**0.84**	**27**	*e*Pg	**Pg**	**14 32 37.2**	**+0.3**
SVRC	**Sivrice-ELAZID**	**1.02**	**108**	*e*PG	**Pg**	**14 32 40.1**	**-0.2**
SVRC				*e*SG	**Sb**	**14 32 54.6**	**-0.5**
SVRC	**Sivrice-ELAZID**	**1.02**	**108**	*e*Pg	**Pg**	**14 32 40.1**	**-0.2**
SVRC				*e*Sg	**Sb**	**14 32 54.6**	**-0.5**
PTK	**Pertek**	**1.05**	**79**	*e*PG	**Pg**	**14 32 40.3**	**-0.5**
PTK				*e*SG	**Sb**	**14 32 55.9**	**-0.1**
PTK	**Pertek**	**1.05**	**79**	*e*Pg	**Pg**	**14 32 40.3**	**-0.5**
PTK				*e*Sg	**Sb**	**14 32 55.9**	**-0.1**
URFA	**Urfa**	**1.39**	**154**	*e*PN	**Pn**	**14 32 46.9**	**-0.3**
URFA	**Urfa**	**1.39**	**154**	*e*Pn	**Pn**	**14 32 46.9**	**-0.3**
GZT	**Gaziantep**	**1.40**	**197**	*i* P	**Pg**	**14 32 48.8**	**+1.3**
GZT				*i* S	**Sn**	**14 33 08.5**	**+2.1**
EZC	**Erzincan**	**1.45**	**43**	*e*Pn	**Pg**	**14 32 49.6**	**+1.2**
SVSK	**Karacayir**	**1.47**	**326**	*e*PN	**Pn**	**14 32 48.0**	**-0.2**
SVSK				*e*SN	**Sg**	**14 33 07.6**	**-0.4**
SVSK	**Karacayir**	**1.47**	**326**	*e*Pn	**Pn**	**14 32 48.0**	**-0.2**
SVSK				*e*Sn	**Sg**	**14 33 07.6**	**-0.4**
KMRS	**Kahramanmaras**	**1.51**	**218**	*e*PN	**Pn**	**14 32 48.4**	**-0.3**
KMRS	**Kahramanmaras**	**1.51**	**218**	*e*Pn	**Pn**	**14 32 48.4**	**-0.3**
ERZN	**Erzincan**	**1.56**	**55**	*e*PN	**Pn**	**14 32 49.5**	**0.0**
KELT	**Kelkit**	**1.71**	**32**	*i* P	**Pn**	**14 32 52.0**	**+0.3**
KELT				*i* S	**Sn**	**14 33 14.1**	**-0.2**
KELT	**Kelkit**	**1.71**	**32**	*i* P	**Pn**	**14 32 52.0**	**+0.3**
KELT				*i* S	**Sn**	**14 33 14.1**	**-0.2**
RSDY	**Resadiye-TOKAT**	**1.79**	**342**	*e*PN	**Pn**	**14 32 53.0**	**+0.4**
RSDY	**Resadiye-TOKAT**	**1.79**	**342**	*e*Pn	**Pn**	**14 32 53.0**	**+0.4**
KOZT	**Kozan**	**2.15**	**236**	*e*PN	**Pn**	**14 32 57.4**	**-0.1**
KOZT	**Kozan**	**2.15**	**236**	*e*Pn	**Pn**	**14 32 57.4**	**-0.1**

DJA 24 14:37:23.5±0.5,**1°S**±2°×**12°1E**±°,**h31**km±8km,**M3.6**/12, **mb4.1**/1,**MLv3.4**/12,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**0.75**	**93**	P	Pb	14 37 38.3	+0.2
APSI				S	Sn	14 37 48.5	+0.2
PCI	**Palu**	**1.06**	**268**	P	Pn	14 37 42.6	+0.3
PCI				S	Sn	14 37 55.7	-0.4
MPSI	**Mapaga**	**1.56**	**320**	P	Pn	14 37 49.5	+0.3
MPSI				S	Sn	14 38 09.2	+0.8
MRSI	**Marisa**	**1.69**	**38**	P	Pn	14 37 50.7	-0.3
LUWI	**Luwuk**	**1.88**	**95**	P	Pn	14 37 53.7	+0.2
SPSI	**Sidrap Palu**	**3.27**	**200**	P	Pn	14 38 11.7	-1.0
SPSI				S	Sn	14 38 51.8	+1.1
KMSI	**Cibinong**	**3.40**	**65**	P	Pn	14 38 14.6	+0.2
BKSI	**Bulukumba**	**4.49**	**190**	P	Pn	14 38 29.2	-0.2
BSSI	**Bau Bau, Buton**	**5.25**	**184**	P	Pn	14 38 42.0	+2.0
KBKI	**Kotabaru**	**5.31**	**243**	P	Pn	14 38 43.2	+2.5

*ISCJB **24** 14:39:21.9±0.2,60°.29N±0°.02×150°.71W±0°.04,h78km±4km, mb3.3/4, Error ellipse: s-maj=3.8km s-min=3.1km az=146.9*

*NEIC **24** 14:39:23.7,60°.30N×150°.78W,h65km,ML3.7(AEIC), After AEIC.*

NEIC Felt [III] at Sterling and [II] at Soldotna. Also felt at Anchorage, Anchor Point, Cooper Landing, Homer, Kasilof, Kenai and Seward.

*IDC **24** 14:39:27.1±8.6,60°.42N×149°.85W,h57km±65km,mb3.3/4, mb1 3.8/5, mb1mx3.3/26, mbtmp3.7/5, ML4.2/2, Error ellipse: s-maj=77.7km s-min=24.5km az=64.0*

ISC 24 14:39:23.7±0.9,**60°.30N**±0°.03×**150°.76W**±0°.03,**h68**km±7km, **n109**,σ0**9**94/117,**mb3.4**/4,**Kenai Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLKM	**Skilak Lake**	**0.34**	**52**	P	**Pn**	**14 39 34.5**	**-0.5**
NNL	**Ninilchik**	**0.37**	**226**	P	**Pn**	**14 39 35.4**	**+0.3**
BRLK	**Bradley Lake**	**0.54**	**187**	P	**Pn**	**14 39 36.5**	**-0.3**
BRLK				S	**Sn**	**14 39 46.3**	**-0.1**
SEW	**Seward**	**0.69**	**106**	P	**Pn**	**14 39 37.8**	**-0.4**
SEW				S	**Sn**	**14 39 48.5**	**-0.5**
HOM	**Homer**	**0.78**	**215**	P	**Pn**	**14 39 39.0**	**-0.4**
HOM				S	**Sn**	**14 39 51.0**	**0.0**
FIB	**Fire Island**	**0.92**	**18**	P	**Pn**	**14 39 41.2**	**+0.2**
FIB				S	**Sn**	**14 39 55.0**	**+1.2**
RC01	**Rabbit Creek A**	**0.94**	**32**	P	**Pn**	**14 39 40.8**	**-0.6**
RC01				S	**Sn**	**14 39 54.1**	**-0.3**
REF	**Redoubt East F**	**0.98**	**282**	P	**Pn**	**14 39 40.8**	**-1.3**
DFR	**Drift River**	**1.00**	**288**	P	**Pn**	**14 39 40.9**	**-1.2**
RSO	**Redoubt South**	**1.00**	**280**	*e*Pn	**Pn**	**14 39 41.0**	**-1.3**
RDN	**Redoubt North**	**1.01**	**283**	P	**Pn**	**14 39 41.1**	**-1.4**
NCT	**North Crescent**	**1.11**	**285**	P	**Pn**	**14 39 42.4**	**-1.1**
CKN	**Chakachatna No**	**1.16**	**324**	P	**Pn**	**14 39 43.5**	**-0.7**
SUA	**Susitna One**	**1.17**	**0**	P	**Pn**	**14 39 43.5**	**-0.8**
SUA				S	**Sn**	**14 39 59.0**	**-0.7**
CKL	**Chakachamna La**	**1.19**	**320**	P	**Pn**	**14 39 43.6**	**-1.0**
ILS	**Iliamna Low So**	**1.20**	**254**	P	**Pn**	**14 39 43.8**	**-1.0**
ILW	**Iliamna West**	**1.21**	**260**	P	**Pn**	**14 39 43.9**	**-1.0**
SPBG	**Spurr Blockage**	**1.24**	**321**	P	**Pn**	**14 39 44.6**	**-0.7**
BGL	**Barrier Glacie**	**1.25**	**321**	P	**Pn**	**14 39 44.8**	**-0.7**
STLK	**Strandline Lak**	**1.31**	**337**	P	**Pn**	**14 39 45.9**	**-0.3**
OPT	**Oil Point**	**1.40**	**243**	P	**Pn**	**14 39 46.7**	**-0.6**
PMR	**Palmer**	**1.52**	**31**	P	**Pn**	**14 39 48.0**	**-0.8**
PMR				S	**Sn**	**14 40 06.5**	**-1.2**
AUL	**Augustine Lava**	**1.63**	**237**	P	**Pn**	**14 39 50.0**	**-0.4**
AUP	**Augustine Pinn**	**1.64**	**236**	P	**Pn**	**14 39 50.2**	**-0.3**
SKT	**Skwentna**	**1.73**	**348**	P	**Pn**	**14 39 50.9**	**-0.7**
SKT				S	**Sn**	**14 40 13.1**	**+0.3**
PDB	**Pedro Bay**	**1.80**	**255**	P	**Pn**	**14 39 52.0**	**-0.6**
GLI	**Glacier Island**	**1.90**	**71**	P	**Pn**	**14 39 52.3**	**-1.7**
TRAP	**Trapper Creek**	**2.06**	**7**	P	**Pn**	**14 39 55.9**	**-0.2**
MCNL	**McNeil River**	**2.13**	**240**	P	**Pn**	**14 39 56.4**	**-0.6**
JPK	**Jack Peak**	**2.19**	**68**	P	**Pn**	**14 39 56.5**	**-1.4**
SCM	**Sheep Creek Mo**	**2.27**	**46**	P	**Pn**	**14 39 58.6**	**-0.4**
VLZ	**Valdez**	**2.33**	**67**	P	**Pn**	**14 39 58.9**	**-0.8**
EYAK	**Cordova Ski Ar**	**2.50**	**82**	P	**Pn**	**14 40 00.3**	**-1.7**
SVW2	**Sparrevohn**	**2.50**	**291**	P	**Pn**	**14 40 00.2**	**-1.8**
DIV	**Divide**	**2.59**	**69**	P	**Pn**	**14 40 02.2**	**-1.1**
PPLA	**Purkeypile**	**2.69**	**346**	P	**Pn**	**14 40 04.1**	**-0.7**
KDAK	**Kodiak Island**	**2.69**	**201**	P	**Pn**	**14 40 03.9**	**-0.8**
KAKN	**Katmai Knife C**	**2.98**	**230**	P	**Pn**	**14 40 08.1**	**-0.6**
GOAT	**Goat Mountain**	**3.00**	**82**	P	**Pn**	**14 40 07.3**	**-1.7**
KVTA	**Katmai Vly 10**	**3.02**	**232**	P	**Pn**	**14 40 08.8**	**-0.2**
RAGM	**Ragged Mountai**	**3.03**	**86**	P	**Pn**	**14 40 07.3**	**-2.0**
KCE	**Katmai Mt Cerb**	**3.07**	**230**	P	**Pn**	**14 40 09.8**	**0.0**
KABR	**Katmai Barrier**	**3.07**	**227**	P	**Pn**	**14 40 09.2**	**-0.7**
BMRM	**Bremner River**	**3.11**	**75**	P	**Pn**	**14 40 08.7**	**-1.6**
PS11	**TAPS Pump St11**	**3.12**	**53**	P	**Pn**	**14 40 10.7**	**+0.2**
KELA	**Mount Kelaz**	**3.16**	**236**	P	**Pn**	**14 40 10.5**	**-0.6**
TRF	**Thorofare Moun**	**3.17**	**4**	P	**Pn**	**14 40 11.4**	**+0.1**
KAIM	**Kayak Island**	**3.20**	**94**	P	**Pn**	**14 40 11.1**	**-0.5**
DHY	**Denali Highway**	**3.22**	**29**	P	**Pn**	**14 40 12.4**	**+0.4**
RND	**Reindeer**	**3.25**	**15**	P	**Pn**	**14 40 12.2**	**-0.1**
KTH	**Kantishna Hill**	**3.27**	**359**	P	**Pn**	**14 40 12.8**	**+0.3**
OHAK	**Old Harbor**	**3.36**	**204**	P	**Pn**	**14 40 11.9**	**-1.8**
NICHA	**Nichawak Mount**	**3.39**	**88**	P	**Pn**	**14 40 11.9**	**-2.2**
HARP	**HAARP**	**3.43**	**50**	P	**Pn**	**14 40 14.7**	**0.0**
SUCK	**Suckling Hills**	**3.50**	**91**	P	**Pn**	**14 40 15.3**	**-0.3**
BERG	**Berg Lake**	**3.51**	**85**	P	**Pn**	**14 40 15.2**	**-0.6**
MCK	**McKinley**	**3.55**	**13**	P	**Pn**	**14 40 17.1**	**+0.7**
GLB	**Gilahina Butte**	**3.59**	**68**	P	**Pn**	**14 40 15.9**	**-1.0**
WASW	**Wrangell South**	**3.59**	**60**	P	**Pn**	**14 40 17.0**	**-0.1**
TT01	**Tatalina**	**3.62**	**318**	P	**Pn**	**14 40 16.6**	**-0.8**
PAX	**Paxson**	**3.68**	**41**	P	**Pn**	**14 40 18.3**	**0.0**
GRIN	**Grindle Hills**	**3.71**	**87**	P	**Pn**	**14 40 18.3**	**-0.2**
VRDI	**Verde Repeater**	**3.71**	**72**	P	**Pn**	**14 40 17.2**	**-1.5**
KHIT	**Khitrov Hills**	**3.73**	**85**	P	**Pn**	**14 40 16.7**	**-2.2**
BPAW	**Bear Paw Mtn.**	**3.81**	**359**	P	**Pn**	**14 40 19.4**	**-0.6**
PS10	**TAPS Pump St10**	**3.93**	**35**	P	**Pn**	**14 40 21.9**	**+0.4**
BWN	**Browne**	**3.93**	**8**	P	**Pn**	**14 40 22.2**	**+0.6**
MCARA	**McCarthy VSAT**	**3.94**	**71**	P	**Pn**	**14 40 20.8**	**-0.9**
KULT	**Kultieth River**	**4.01**	**87**	P	**Pn**	**14 40 21.7**	**-0.9**
BARK	**Barkley Ridge**	**4.11**	**85**	P	**Pn**	**14 40 22.1**	**-2.0**
PTPK	**Patty Peak**	**4.17**	**74**	P	**Pn**	**14 40 23.9**	**-1.1**
ISLE	**Juniper Island**	**4.18**	**82**	P	**Pn**	**14 40 23.0**	**-2.1**
KIAG	**Kiagna River**	**4.19**	**78**	P	**Pn**	**14 40 23.7**	**-1.6**
DDM	**Donnelly Dome**	**4.19**	**31**	P	**Pn**	**14 40 26.5**	**+1.4**
BAGL	**Bagley Icefiel**	**4.31**	**84**	P	**Pn**	**14 40 26.6**	**-0.1**
WRH	**Wood River Hil**	**4.37**	**15**	P	**Pn**	**14 40 27.3**	**-0.2**
MESA	**MESA**	**4.40**	**88**	P	**Pn**	**14 40 28.3**	**+0.2**
GRNC	**Granite Creek**	**4.47**	**81**	P	**Pn**	**14 40 28.7**	**-0.4**
HDA	**Harding Lake**	**4.49**	**22**	P	**Pn**	**14 40 29.4**	**+0.3**
BARN	**Barnard Glacie**	**4.54**	**76**	P	**Pn**	**14 40 29.0**	**-1.0**
CCB	**Clear Creek Bu**	**4.57**	**16**	P	**Pn**	**14 40 29.9**	**-0.3**
DOT	**Dot Lake**	**4.61**	**40**	P	**Pn**	**14 40 30.6**	**-0.3**
PS08	**TAPS Pump Stn8**	**4.63**	**22**	P	**Pn**	**14 40 31.1**	**0.0**
RKAV	**Rock Avalanche**	**4.69**	**86**	P	**Pn**	**14 40 32.0**	**0.0**
MLY	**Manley**	**4.75**	**0**	P	**Pn**	**14 40 33.0**	**+0.3**
TABL	**Table Mountain**	**4.78**	**84**	P	**Pn**	**14 40 33.1**	**-0.2**
COLA	**College**	**4.78**	**15**	P	**Pn**	**14 40 32.9**	**-0.2**
MDM	**Murphy Dome**	**4.82**	**13**	P	**Pn**	**14 40 33.8**	**+0.1**
CHX	**Chaix Hills**	**4.82**	**89**	P	**Pn**	**14 40 33

CANA	Caviahue	3.21	167	*e*P		Pn	14 48 55.9	+3.7
AUSP	Uspallata	3.32	41	*e*P		Pn	14 48 56.4	+2.5
ASAL	Salagasta	3.39	51	*e*P		Pn	14 48 57.5	+3.0
ASAL				*e*S		Sn	14 49 38.6	+5.1
RTLS	Leoncito	3.70	38	*e*P		Pn	14 49 01.5	+2.5
RTCV	Cerro Valdivia	4.07	46	*e*P		Pn	14 49 05.3	+1.4
CFAA	Coronel Fontan	4.43	46	*e*P4		Pn	14 49 09.8	+1.0
RTLL	Cerro Villicun	4.50	42	*e*P		Pn	14 49 11.1	+1.2
AMOG	MOGNA	4.80	38	*e*P		Pn	14 49 14.9	+1.0
LCO	Las Campanas	5.83	11	P		Pn	14 49 24.7	-3.6
PLCA	Paso Flores	6.07	170	Pn		Pn	14 49 34.1	+2.8
	comp=Z,1.3nm,0.3s,baz=341,slow=12,SNR=40							
PLCA				Lg		Lg	14 51 18.8	
	comp=Z,0.3nm,0.3s,baz=258,slow=20,SNR=3.4							
PLCA				LR		LR	14 52 03.2	
	comp=Z,120nm,18.8s,baz=342,slow=39							
PLCA	Paso Flores	6.07	170	*e*P		Pn	14 49 34.1	+2.8
	comp=Z,8.8nm,0.5s							
PLCA				Lg		Lg	14 51 18.8	
TRQA	Tornquist	8.69	115	*e*P		Pn	14 50 07.8	+0.5
LPAZ	La Paz	18.71	12	P		P	14 52 15.1	-4.4
	comp=Z,0.0nm,0.3s,baz=200,slow=12,SNR=2.0							
LPAZ	La Paz	18.71	12	*e*P		P	14 52 17.2	-2.2
RCBR	Riachuelo	43.99	57	LR		LR	15 14 56.9	
	comp=Z,41nm,20.6s,baz=224,slow=37							
VNA3	Neumayer Olymp	48.64	158	P		P	14 56 37.6	-5.3
DBIC	Dimbokro	75.36	71	P		P	14 59 42.0	-1.1
	comp=Z,2.2nm,0.7s,baz=239,slow=5.2,SNR=3.8							
BOSA	Boshof	79.66	118	P		P	15 00 07.3	+0.2
	comp=Z,1.8nm,0.6s,baz=240,slow=6.1,SNR=3.8							
BOSA	Boshof	79.66	118	*e*P		P	15 00 07.1	0.0
	comp=Z,1.6nm,0.6s							
TORD	Torodi Ar. Bea	84.41	70	P		P	15 00 32.1	+0.2
	comp=Z,0.9nm,0.8s,baz=231,slow=4.5,SNR=5.5							
WRA	Warramunga Arr	120.13	209	PKP		PKPdf	15 06 50.0	-0.3
	comp=Z,0.3nm,1.0s,baz=147,slow=1.6,SNR=4.3							
MKAR	Makanchi Array	157.20	50	PKPab		PKPab	15 08 25.9	+0.3
	comp=Z,0.2nm,0.8s,baz=291,slow=5.1,SNR=3.6							

DJA 24 14:51:57.8±0.6, 1°N±4°×12°0E±°, h10km, M4.0/9, MLv4.0/9, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	Mapaga	0.86	218	P	Pg	14 52 13.2	-1.1
MPSI				S	Sg	14 52 24.1	-1.4
MRSI	Marisa	1.61	110	P	Pn	14 52 24.4	-1.9
PCI	Palu	2.00	197	P	Pn	14 52 32.8	+1.1
PCI				S	Sn	14 52 57.7	+0.9
APSI	Ampana	2.28	147	P	Pn	14 52 35.5	0.0
APSI				S	Sn	14 53 04.6	+1.0
LUWI	Luwuk	3.12	131	P	Pn	14 52 47.6	+0.5
LUWI				S	Sn	14 53 25.9	+1.5
KMSI	Cibinong	3.59	97	P	Pn	14 52 55.0	+1.5
SPSI	Sidrap Palu	4.99	187	P	Pn	14 53 12.7	-0.2

IDC 24 15:03:15.2±2.7, 21°64N×142°57E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/27, mbtmpg3.7/4, ML4.1/1, Error ellipse: s-maj=120.9km s-min=25.2km az=83.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	5.44	356	Pn	Pn	15 04 37.9	+0.2
	5.4nm,0.3s,baz=176,slow=14,SNR=7.4						
JCJ				Sn	Sn	15 05 37.9	-3.1
	9.9nm,0.3s,baz=270,slow=20,SNR=7.2						
H11N1	WAKE ISLAND Hy	22.84	90	T	T	15 30 15.8	
	baz=274						
H11N2	WAKE ISLAND Hy	22.84	90	T	T	15 30 14.7	
	baz=274						
H11N3	WAKE ISLAND Hy	22.85	90	T	T	15 30 25.4	
	baz=274						
H11S3	WAKE ISLAND Hy	22.87	94	T	T	15 30 25.5	
	baz=277						
H11S1	WAKE ISLAND Hy	22.88	94	T	T	15 30 25.4	
	baz=277						
H11S2	WAKE ISLAND Hy	22.89	94	T	T	15 30 24.9	
	baz=277						
WRA	Warramunga Arr	42.10	192	P	P	15 11 09.6	+0.3
	0.6nm,0.3s,baz=13,slow=8.6,SNR=66						
ASAR	Alice Springs	45.82	191	P	P	15 11 38.5	-0.6
	0.3nm,0.6s,baz=16,slow=7.7,SNR=8.9						
MKAR	Makanchi Array	54.31	313	P	P	15 12 43.3	-0.2
	0.1nm,0.3s,baz=96,slow=7.6,SNR=3.0						

*ISCJB **24** 15:07:42.2±0.4, 33°96S±0°.06×70°.24W±0°.07, h117km±3km, mb3.8/9, Error ellipse: s-maj=11.2km s-min=7.2km az=136.0*
*GUC **24** 15:07:42.9±0.4, 34°.00S×70°.28W, h114km±2km, ML4.3*
*IDC **24** 15:07:44.1±1.8, 33°.93S×70°.03W, h120km±15km, mb3.6/9, mb1 3.8/11, mb1mx3.7/18, mbtmp4.0/11, Error ellipse: s-maj=23.7km s-min=13.7km az=95.0*
*SJA **24** 15:07:44.5±1.3, 33°.86S×70°.08W, h108km±19km, ML3.2, MW3.6*

ISC 24 15:07:42.9±0.7, 33°97S±0°.07×70°24W±0°.06, h112km±6km, n40, σ0°79/50, mb3.8/9, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YECH	El Yeso	0.33	24	*e*P	Pn	15 07 59.6	+0.2
YECH				*e*S	Sn	15 08 12.5	+0.7
CHCH	Chadas Angostu	0.34	275	*e*P	Pn	15 07 58.8	-0.4
FSR	Penalolen	0.54	334	*e*P	Pn	15 08 01.6	+1.2
FSR				*e*S	Sn	15 08 14.9	+1.5
LACH	Col Las Americ	0.57	335	*e*P	Pn	15 08 00.2	-0.3
LACH				*e*S	Sn	15 08 13.9	+0.2
CLCH	Cerro Calan	0.62	337	*e*P	Pn	15 08 01.0	0.0
CLCH				*e*S	Sn	15 08 14.6	+0.1
CLCH				AML	AML	15 08 17.3	
	comp=N,10μm,1.2s						
SAN	Santiago	0.62	326	*e*P	Pn	15 08 00.9	0.0
SAN				*e*S	Sn	15 08 14.2	-0.2
STL	Santa Lucia	0.62	328	*e*P	Pn	15 08 00.1	-0.8
STL				*e*S	Sn	15 08 13.6	-0.9
RCDM	Rinconada Maip	0.67	315	*e*P	Pn	15 08 01.2	0.0
RCDM				*e*S	Sn	15 08 15.1	+0.1
PEL	Peldehue	0.90	336	*e*P	Pn	15 08 03.4	+0.1
PEL				*e*S	Sn	15 08 18.8	0.0
PEL				AML	AML	15 08 19.8	
	comp=N,11μm,0.5s						
LNV	Longovilo	0.97	270	*e*P	Pn	15 08 03.3	-0.7
AAGR	Agrelo	1.47	54	*e*P	Pn	15 08 10.5	+0.9
ARCO	CERRO ARCO	1.57	45	*e*P	Pn	15 08 11.2	+0.4
ARCO				*e*S	Sn	15 08 30.0	-2.0
ARCO				AML	AML	15 08 36.1	
	comp=Z,284nm,0.5s						
ASAL	Salagasta	1.81	41	*e*P	Pn	15 08 14.7	+1.0
AUSP	Uspallata	1.88	23	*e*P	Pn	15 08 15.7	+0.9
RTLS	Leoncito	2.30	20	*e*P	Pn	15 08 21.6	+1.5
RTCV	Cerro Valdivia	2.54	35	*e*P	Pn	15 08 23.3	+0.3
CFAA	Coronel Fontan	2.90	36	P	Pn	15 08 27.5	-0.2
	comp=Z,1.2nm,0.3s,baz=193,slow=13,SNR=94						
CFAA				S	Sn	15 09 01.5	-0.6
	comp=Z,6.7nm,0.3s,baz=125,slow=21,SNR=26						
CFAA	Coronel Fontan	2.90	36	*e*P	Pn	15 08 27.4	-0.2
CFAA				*e*S	Sn	15 09 01.2	-0.9
RTLL	Cerro Villicun	3.02	30	*e*P	Pn	15 08 29.6	+0.2
ACAN	Cantantal	3.07	57	*e*P	Pn	15 08 30.2	+0.3
AMOG	MOGNA	3.36	27	*e*P	Pn	15 08 34.2	+0.3
PLCA	Paso Flores	6.76	182	P	Pn	15 09 20.4	+0.9
	comp=Z,0.2nm,0.3s,baz=355,slow=11,SNR=7.5						
LPAZ	La Paz	17.71	7	P	P	15 11 42.6	+0.2
	comp=Z,0.2nm,0.3s,baz=194,slow=6.7,SNR=11						
BDFB	Brasilia	27.10	53	P	P	15 13 13.6	-1.8
	comp=Z,4.5nm,0.4s,baz=205,slow=9.4,SNR=7.2						
VNA3	Neumayer Olymp	48.83	158	P	P	15 16 16.9	+0.5
VNA2	Neumayer--Watz	49.47	157	P	P	15 16 22.2	+1.0
	baz=285,slow=8.4						
SNAA	Sanae	51.05	158	P	P	15 16 32.3	-1.0
SNAA	Sanae	51.05	158	P	P	15 16 34.0	+0.7
	comp=Z,0.3nm,0.4s,baz=238,slow=5.1,SNR=14						
QSPA	South Pole Qui	56.27	180	P	P	15 17 12.3	+0.9
	comp=Z,1.0nm,0.9s,baz=158,slow=19,SNR=2.0						
TXAR	Lajitas Array	70.45	329	P	P	15 18 46.1	+0.9
	comp=Z,0.9nm,0.5s,baz=153,slow=9.1,SNR=11						
DBIC	Dimbokro	73.76	70	P	P	15 19 04.4	-0.8
	comp=Z,2.0nm,0.7s,baz=235,slow=12,SNR=2.7						
BOSA	Boshof	78.76	117	P	P	15 19 33.5	-0.1
	comp=Z,2.2nm,0.8s,baz=221,slow=14,SNR=2.2						
TORD	Torodi Ar. Bea	82.80	69	P	P	15 19 54.4	-0.5
	comp=Z,0.8nm,0.6s,baz=254,slow=4.3,SNR=6.5						
PDAR	Pinedale Array	84.42	332	P	P	15 20 03.1	+0.2
	comp=Z,0.6nm,0.7s,baz=101,slow=3.0,SNR=4.9						
NVAR	Mina Array Bea	84.72	324	P	P	15 20 05.4	+1.0
	comp=Z,0.4nm,0.6s,baz=134,slow=6.5,SNR=3.3						
YKA	Yellowknife Ar	102.51	341	P	Pdif	15 21 26.1	+0.4
	comp=Z,0.3nm,0.7s,baz=131,slow=6.6,SNR=3.7						
ILAR	Eielson Array	114.84	333	PKP	PKPdf	15 26 11.6	+2.1
	comp=Z,0.2nm,0.6s,baz=132,slow=5.2,SNR=3.3						
ASAR	Alice Springs	118.25	205	PKP	PKPdf	15 26 16.6	-0.8
	comp=Z,0.3nm,0.9s,baz=131,slow=1.1,SNR=3.1						
WRA	Warramunga Arr	121.50	207	PKP	PKPdf	15 26 23.1	-0.7
	comp=Z,0.6nm,0.9s,baz=169,slow=1.5,SNR=6.3						
ZALV	Zalesovo Beam	153.38	34	PKPbc	PKPbc	15 27 27.1	-0.3
	comp=Z,0.3nm,0.3s,baz=291,slow=4.0,SNR=2.9						

IDC 24 15:27:36.2±1.0, 19°36N×144°69E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.6/27, mbtmp3.9/6, Error ellipse: s-maj=39.7km s-min=22.4km az=99.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	WAKE ISLAND Hy	20.83	89	T	T	15 53 52.2	
	baz=276,slow=75,SNR=341						
H11S1	WAKE ISLAND Hy	20.84	89	T	T	15 53 53.0	
	baz=276,slow=75,SNR=239						
H11S2	WAKE ISLAND Hy	20.84	89	T	T	15 53 53.6	
	baz=276,slow=75,SNR=202						
H11N1	WAKE ISLAND Hy	20.93	85	T	T	15 54 06.9	
	baz=273,slow=74,SNR=19						
H11N2	WAKE ISLAND Hy	20.93	85	T	T	15 54 07.2	
	baz=273,slow=74,SNR=16						
H11N3	WAKE ISLAND Hy	20.94	85	T	T	15 54 08.5	
	baz=273,slow=74,SNR=8.0						
WRA	Warramunga Arr	40.35	195	P	P	15 35 14.5	-1.4
	0.5nm,0.8s,baz=16,slow=8.9,SNR=3.4						
ASAR	Alice Springs	44.04	194	P	P	15 35 47.0	+1.1
	0.2nm,0.7s,baz=8.7,slow=14,SNR=4.3						
KURBB	Kurchatov Array	60.19	318	P	P	15 37 46.4	+0.5
	2.9nm,0.2s,baz=94,slow=7.8,SNR=6.0						
ILAR	Eielson Array	63.48	26	P	P	15 38 07.0	-0.9
	1.3nm,0.7s,baz=257,slow=5.2,SNR=15						
BVAR	Borovoye Array	65.36	320	P	P	15 38 20.8	+0.4
	1.3nm,0.6s,baz=99,slow=7.4,SNR=6.9						
NVAR	Mina Array Bea	83.48	52	P	P	15 40 07.1	+0.6
	0.6nm,0.8s,baz=261,slow=4.6,SNR=4.0						

*ISCJB **24** 15:31:15.2±0.7, 36°.3N±0°.2×137°.4E±0°.2, h271km±7km, mb3.3/4, Error ellipse: s-maj=28.9km s-min=19.5km az=19.7*
*IDC **24** 15:31:15.4±0.9, 36°.07N×136°.85E, h238km±22km, mb3.4/4, mb1 3.5/4, mb1mx2.9/53, mbtmp3.9/4, Error ellipse: s-maj=57.7km s-min=18.3km az=59.0*
*JMA **24** 15:31:16.6±0.2, 36°.20N×137°.22E, h262km±2km, M3.0*

ISC 24 15:31:16.1±0.9, 36°3N±0°.2×137°3E±0°.1, h263km±8km, n13, σ0°86/19, mb3.5/4, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	Niukaw	0.04	153	P	Pn	15 31 50.1	+0.1
JNG	Nsakai	0.67	77	P	Pn	15 31 51.9	+0.8
JNG				S	S	15 32 19.2	+0.4
JGM	Miyama	0.73	220	P	Pn	15 31 51.4	0.0
JKG	Kaga	0.78	272	P	Pn	15 31 52.1	+0.7
MAT	Matsushiro	0.79	69	P	Pn	15 31 52.0	+0.5
MAT				S	S	15 32 19.5	0.0
MAT	Matsushiro	0.79	69	P	Pn	15 31 52.1	+0.5
MAT				S	S	15 32 19.7	+0.2
MJAR	Matsushiro Arr	0.79	69	P	Pn	15 31 52.1	+0.6
	3.1nm,0.3s,baz=250,slow=6.5,SNR=37						
MJAR				S	S	15 32 18.2	-1.3
	0.8nm,0.3s,baz=252,slow=12,SNR=11						
JRY	Ryogami san	1.32	100	P	Pn	15 31 55.7	+1.2
JRY				S	S	15 32 23.8	-1.0
JAG	Ashikaga	1.75	84	P	Pn	15 31 57.9	+0.4
JAG				S	S	15 32 29.0	-1.3
SONM	Songino Array	25.53	307	P	P	15 36 19.4	-1.4
	0.5nm,0.4s,baz=100,slow=7.9,SNR=4.9						
MKAR	Makanchi Array	41.73	302	P	P	15 38 39.9	+0.4
	0.2nm,0.5s,baz=93,slow=8.5,SNR=2.6						
KURBB	Kurchatov Array	43.87	308	P	P	15 38 57.1	+0.7
	0.7nm,0.2s,baz=90,slow=8.3,SNR=4.7						
WRA	Warramunga Arr	55.96	183	P	P	15 40 27.4	0.0
	1.1nm,0.3s,baz=359,slow=7.4,SNR=8.9						

*IDC **24** 15:31:37.9±1.1, 27°.36N×56°.08E, h0km, mb3.8/17, mb1 3.9/17, mb1mx3.8/30, mbtmp3.8/17, MS2.9/1, Ms1 2.9/1, ms1mx2.3/50, Error ellipse: s-maj=24.5km s-min=18.8km az=4.0*
*TEH **24** 15:31:38.0, 27°.28N×56°.08E, h20km, ML3.5*
*ISCJB **24** 15:31:40.0±0.3, 27°.47N±0°.03×56°.09E±0°.05, h15km, mb3.7/17, MS2.8/1, Error ellipse: s-maj=6.1km s-min=4.2km az=159.6*
*CSEM **24** 15:31:40.5±0.1, 27°.42N×56°.06E, h2km, ML3.5, Error ellipse: s-maj=5.1km s-min=3.1km az=75.0*
*DSN **24** 15:31:42.0±0.5, 27°.38N×56°.54E, h18km±9km, mb3.2/7, ML3.8/7, Error ellipse: s-maj=15.0km s-min=9.5km az=83.0*
*OMAN **24** 15:31:48.3±5.5, 26°.91N×56°.20E, h8km±21km, Error ellipse: s-maj=50.1km s-min=37.8km az=76.0*

ISC 24 15:31:40.2±0.5, 27°33N±0°.03×56°09E±0°.05, h15km, n54, σ1°18/57, mb3.8/17, 6C-6D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	Bandar-abas	0.42	73	*e*Pg	Pg	15 31 48.4	-0.3
IBND				*e*Sg	Sb	15 31 54.7	-0.8
IBND				*e*		15 32 07.4	
	comp=Z,10μm,0.2s						
IBND	Bandar-abas	0.42	73	*e*Pg	Pg	15 31 48.4	-0.3
IBND				*e*Sg	Sb	15 31 54.7	-0.8
BANOM	Banah	1.41	172	P	Pg	15 32 07.5	+0.2
BANOM				S	Sg	15 32 27.2	+1.6
BANOM	Banah	1.41	172	P	Pb	15 32 07.3	+1.1
	SNR=177						
BANOM				ml		15 32 14.8	
	SNR=128						
BANOM				⇓S	Sn	15 32 21.1	-2.5
BANOM	Banah	1.41	172	⇓P	Pg	15 32 07.5	+0.2
BANOM				⇑S	Sg	15 32 27.2	+1.6
NAZ	Nazwa, Dubai	2.36	189	P	Pb	15 32 22.0	-0.4
NAZ	Nazwa, Dubai	2.36	189	⇑P	Pb	15 32 22.0	-0.4
NAZ	Nazwa, Dubai	2.36	189	⇑P	Pb	15 32 22.4	+0.1
HATD	Hatta, Dubai	2.49	179	P	Pb	15 32 23.1	-1.5
HATD	Hatta, Dubai	2.49	179	⇑P	Pb	15 32 23.1	-1.5
HATD	Hatta, Dubai	2.49	179	⇓P	Pn	15 32 22.9	+2.7
FAQ	Al Faqa, Dubai	2.61	190	P	Pb	15 32 25.1	-1.5
FAQ	Al Faqa, Dubai	2.61	190	⇑P	Pb	15 32 25.1	-1.5
ASHO	Ashiyiah	2.63	181	P	Pn	15 32 25.2	+3.1
ASHO	Ashiyiah	2.63	181	P	Pb	15 32 25.4	-1.6
	SNR=18						
ASHO	Ashiyiah	2.63	181	⇓P	Pn	15 32 25.2	+3.1
ASUD	Al Ashush, Dub	2.77	194	P	Pb	15 32 28.0	-1.4
ASUD	Al Ashush, Dub	2.77	194	P	Pb	15 32 28.1	-1.3
	SNR=20						
ASUD	Al Ashush, Dub	2.77	194	⇑P	Pb	15 32 28.0	-1.4
ISRV	Sarvestan	3.33	309	*e*Pn	Pn	15 32 32.0	+0.1
ISRV				*e*		15 33 51.2	
	comp=Z,1μm,0.4s						
ISRV	Sarvestan	3.33	309	*e*Pn	Pn	15 32 32.0	+0.1
ARQ	Araqi	3.99	174	P	Pn	15 32 44.2	+3.4
ARQ	Araqi	3.99	174	⇓P	Pn	15 32 44.2	+3.4
IMEH	Mehriz	4.25	343	*e*Pn	Pn	15 32 46.2	+1.6
IMEH				*e*Sn	Sn	15 33 34.7	+0.6
IMEH				*e*		15 34 12.9	
	comp=Z,353nm,0.3s						
IMEH	Mehriz	4.25	343	*e*Pn	Pn	15 32 46.2	+1.6
IMEH				*e*Sn	Sn	15 33 34.7	+0.6
IBAF	Bafgh	4.27	354	*e*Pn	Pn	15 32 46.0	+1.1
IBAF				*e*		15 34 07.9	
	comp=Z,414nm,0.4s						
IBAF	Bafgh	4.27	354	*e*Pn	Pn	15 32 46.0	+1.1
IKAZ	Kazeroun	4.46	304	*e*Pn	Pn	15 32 48.4	+0.8
IKAZ				*e*		15 33 44.6	
	comp=Z,796nm,0.2s						
IKAZ	Kazeroun	4.46	304	*e*Pn	Pn	15 32 48.4	+0.8
SMDO	Samad	4.61	157	P	Pn	15 32 53.1	+3.7
SMDO	Samad	4.61	157	⇓P	Pn	15 32 53.1	+3.7
IKOO	Kooshah	5.68	26	*e*Pn	Pn	15 33 05.0	+0.7
IKOO				*e*		15 35 03.2	
	comp=Z,120nm,0.3s						
IKOO	Kooshah	5.68	26	*e*Pn	Pn	15 33 05.0	+0.7
IZEF	Zefreh	6.43	331	*e*Pn	Pn	15 33 15.1	+0.5
IZEF				*e*		15 34 30.2	
	comp=Z,63nm,0.1s						
IZEF	Zefreh	6.43	331	*e*Pn	Pn	15 33 15.1	+0.5
IPIR	Pirpir	6.98	321	*e*Pn	Pn	15 33 23.0	+0.8
IPIR				*e*		15 34 42.6	
	comp=Z,124nm,0.2s						
IPIR	Pirpir	6.98	321	*e*Pn	Pn	15 33 23.0	+0.8
BRTR	Keskin Array B	22.36	309	P	P	15 36 38.7	+0.9
	comp=Z,1.5nm,0.7s,baz=140,slow=13,SNR=7.7						
AKTO	Aktyubinsk	23.12	3	P	P	15 36 45.9	+0.3
	comp=Z,1.3nm,0.5s,baz=174,slow=8.0,SNR=7.3						
AKTO				LR	LR	15 46 56.7	
	comp=Z,34nm,20.7s,baz=203,slow=40						
BVAR	Borovoye Array	27.79	19	P	P	15 37 27.8	-0.7
	comp=Z,1.1nm,0.6s,baz=212,slow=9.9,SNR=7.5						
MKAR	Makanchi Array	28.33	40	P	P	15 37 33.7	+0.3
	comp=Z,0.5nm,0.7s,baz=223,slow=8.2,SNR=5.5						
AKASG	Malin Array Be	31.01	326	P	P	15 37 56.5	-0.5
	comp=Z,0.3nm,0.4s,baz=133,slow=8.6,SNR=4.5						
ZALV	Zalesovo Beam	33.96	31	P	P	15 38 22.6	-0.2
	comp=Z,1.9nm,0.6s,baz=242,slow=9.7,SNR=9.8						
GERES	GERESS Array B	39.02	315	P	P	15 39 06.0	-0.2
	comp=Z,0.5nm,0.5s,baz=120,slow=7.4,SNR=3.0						
FINES	FINESS Array B	39.59	338	P	P	15 39 09.6	-1.0
	comp=Z,0.7nm,0.5s,baz=155,slow=10,SNR=6.3						
HFS	Hagfors	43.60	331	P	P	15 39 43.1	-0.4
	comp=Z,1.1nm,0.4s,baz=138,slow=7.0,SNR=3.1						
SONM	Songino Array	43.93	48	P	P	15 39 46.6	+0.1
	comp=Z,0.6nm,0.7s,baz=254,slow=8.7,SNR=3.5						
NOA	NORSAR Array B	45.11	331	P	P	15 39 54.9	-0.7
	comp=Z,0.7nm,0.6s,baz=116,slow=7.9,SNR=3.0						
ARCES	ARCESS Array B	45.83	346	P	P	15 40 01.7	+0.5
	comp=Z,1.5nm,0.8s,baz=131,slow=9.7,SNR=4.2						
ESDC	Sonseca Array	50.72	300	P	P	15 40 39.3	-0.1
	comp=Z,0.3nm,0.4s,baz=73,slow=6.9,SNR=2.8						
TORD	Torodi Ar. Bea	52.57	266	P	P	15 40 53.5	0.0
	comp=Z,1.5nm,0.4s,baz=64,slow=7.4,SNR=30						
ILAR	Eielson Array	86.47	10	P	P	15 44 21.4	-0.6
	comp=Z,0.3nm,0.6s,baz=320,slow=4.7,SNR=4.9						
WRA	Warramunga Arr	89.11	113	P	P	15 44 35.8	+0.4
	comp=Z,0.4nm,0.7s,baz=309,slow=4.0,SNR=6.1						
ASAR	Alice Springs	90.58	116	P	P	15 44 42.6	+0.5
	comp=Z,0.4nm,0.7s,baz=309,slow=4.7,SNR=4.8						

*CSEM **24** 15:34:21.0, 35°.84N×4°.13E, h0km, ML3.5*

CRAAG 24 15:34:21.0, 35°83N×4°12E, Ml3.5, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMHD	Djebel Mahouad	1.02	292	P	Pb	15 34 41.7	0.0
EMHD	Djebel Mahouad	1.02	292	P	Pb	15 34 41.7	0.0
SET	Setif	1.10	70	P	Pb	15 34 43.0	-0.1
SET	Setif	1.10	70	P	Pb	15 34 43.0	-0.1
CKHR	Kef el Ahmar	1.15	80	P	Pn	15 34 45.0	+0.5
CKHR	Kef el Ahmar	1.15	80	P	Pn	15 34 45.0	+0.5
DFRA	Djebel Bou Aff	1.59	63	P	Pg	15 34 53.2	+1.5
DFRA	Djebel Bou Aff	1.59	63	P	Pg	15 34 53.2	+1.5
CTEI	Djebel Teioual	1.87	82	P	Pg	15 34 57.0	-0.1
CTEI	Djebel Teioual	1.87	82	P	Pg	15 34 57.0	-0.1
CASM	Ain Smara	1.97	77	P	Pg	15 35 00.0	+1.2
CASM	Ain Smara	1.97	77	P	Pg	15 35 00.0	+1.2
EBNR	Beni Rached	2.15	283	P	Pn	15 34 57.7	-0.5
EBNR	Beni Rached	2.15	283	P	Pn	15 34 57.7	-0.5
ECHA	Ech Chlef	2.26	279	P	Pn	15 34 58.0	-1.5
ECHA	Ech Chlef	2.26	279	P	Pn	15 34 58.0	-1.5
ETRT	Tiaret	2.34	260	P	Pn	15 35 01.5	+0.6
ETRT	Tiaret	2.34	260	P	Pn	15 35 01.5	+0.6
EANR	'Ain N'Sour	2.46	274	P	Pn	15 35 02.6	+0.2
EANR	'Ain N'Sour	2.46	274	P	Pn	15 35 02.6	+0.2

IDC 24 15:35:30.5±14.0, 4°98S×145°80E, h0km, mb3.9/2, mb1 4.3/3, mb1mx3.5/30, mbtmp4.1/3, ML4.5/1, Error ellipse: s-maj=237.3km s-min=94.0km az=170.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.59	216	P	Pn	15 39 50.6	+1.0
	1.5nm,0.3s,baz=36,slow=12,SNR=123						
ASAR	Alice Springs	21.83	211	P	P	15 40 23.6	-1.2
	2.9nm,0.5s,baz=46,slow=9.1,SNR=91						
STKA	Stephens Creek	27.05	188	P	P	15 41 14.9	+0.3
	1.0nm,0.4s,baz=5.7,slow=8.3,SNR=3.7						

*IDC **24** 15:37:24.3±1.0, 35°.24N×32°.19E, h0km, mb3.7/8, mb1 3.7/12, mb1mx3.5/40, mbtmp3.

KRTS	**Karatas**	**2.98**	**58**	*e*Pn	**Pn**	**15 38 15.5 +0.9**
FETY	**Fethiye**	**3.02**	**303**	*e*PN	**Pn**	**15 38 16.3 +1.2**
FETY	**Fethiye**	**3.02**	**303**	*e*Pn	**Pn**	**15 38 16.3 +1.2**
DQRL	**Deir Qamar**	**3.06**	**115**	*e*P	**Pn**	**15 38 16.9 +1.2**
DQRL	**Deir Qamar**	**3.06**	**115**	*e*P	**Pn**	**15 38 16.9 +1.2**
ISP	**Isparta**	**3.12**	**334**	*e*PN	**Pn**	**15 38 18.3 +1.8**
ISP	**Isparta**	**3.12**	**334**	Pn	Pn	15 38 19.9 +3.4
ISP	**Isparta**	**3.12**	**334**	*e*Pn	**Pn**	**15 38 18.3 +1.8**
HNTI	**Hanita**	**3.12**	**128**	Pn	**Pn**	**15 38 17.8 +1.4**
HNTI				Sn	**Sn**	**15 38 52.0 -1.2**
HNTI	**Hanita**	**3.12**	**128**	Pn	**Pn**	**15 38 17.8 +1.4**
HNTI				Sn	**Sn**	**15 38 52.0 -1.2**
HWQ	**Hawqa**	**3.15**	**103**	*e*P	**Pn**	**15 38 17.8 +0.8**
HWQ	**Hawqa**	**3.15**	**103**	*e*P	**Pn**	**15 38 17.8 +0.8**
LADK	**Ladik-KONYA**	**3.17**	**2**	*e*PN	**Pn**	**15 38 18.9 +1.6**
LADK	**Ladik-KONYA**	**3.17**	**2**	*e*Pn	**Pn**	**15 38 18.9 +1.6**
KARA	**Karaisali**	**3.19**	**45**	*e*PN	**Pn**	**15 38 18.9 +1.5**
KARA	**Karaisali**	**3.19**	**45**	*e*Pn	**Pn**	**15 38 18.9 +1.5**
MMAI	**Mount Meron Ar**	**3.31**	**126**	Pn	**Pn**	**15 38 19.4 +0.3**
	14nm,0.3s,baz=312,slow=12,SNR=40					
MMAI				Sn	**Sn**	**15 38 57.3 -0.7**
	32nm,0.3s,baz=310,slow=30,SNR=14					
MMAI				LR	LR	15 40 01.0
	comp=Z,36nm,18.4s,baz=260,slow=45					
MMA0B	**Mount Meron ar**	**3.31**	**126**	Pn	**Pn**	**15 38 19.4 +0.3**
MMA0B				Sn	**Sn**	**15 38 56.3 -1.7**
MMA0B	**Mount Meron ar**	**3.31**	**126**	Pn	**Pn**	**15 38 19.4 +0.3**
MMA0B				Sn	**Sn**	**15 38 56.3 -1.7**
OFRI	**'Ofer**	**3.32**	**136**	Pn	**Pn**	**15 38 19.9 +0.7**
OFRI	**'Ofer**	**3.32**	**136**	Pn	**Pn**	**15 38 19.9 +0.7**
SULT	**Sultanhani-AKS**	**3.33**	**18**	*e*PN	**Pn**	**15 38 20.7 +1.2**
SULT	**Sultanhani-AKS**	**3.33**	**18**	*e*Pn	**Pn**	**15 38 20.7 +1.2**
RCY	**Rachaya**	**3.35**	**116**	*e*P	**Pn**	**15 38 20.1 +0.4**
KSDI	**Kefar Szold**	**3.38**	**122**	Pn	**Pn**	**15 38 20.4 +0.4**
KSDI				Sn	**Sn**	**15 38 58.4 -1.2**
KSDI	**Kefar Szold**	**3.38**	**122**	Pn	**Pn**	**15 38 20.4 +0.4**
KSDI				Sn	**Sn**	**15 38 58.4 -1.2**
DALY	**Dalyan (Mu¨la**	**3.41**	**303**	*e*PN	**Pn**	**15 38 21.1 +0.7**
DALY	**Dalyan (Mu¨la**	**3.41**	**303**	*e*Pn	**Pn**	**15 38 21.1 +0.7**
CEYT	**Ceyhan**	**3.47**	**54**	*e*PN	**Pn**	**15 38 22.4 +1.1**
CEYT	**Ceyhan**	**3.47**	**54**	*e*Pn	**Pn**	**15 38 22.4 +1.1**
NIG	**Nigde**	**3.62**	**31**	*e*PN	**Pn**	**15 38 25.2 +1.5**
NIG	**Nigde**	**3.62**	**31**	*e*Pn	**Pn**	**15 38 25.2 +1.5**
SLTI	**Sal'it**	**3.63**	**139**	Pn	**Pn**	**15 38 25.0 +1.5**
SLTI				Sn	**Sn**	**15 39 04.6 -1.3**
SLTI	**Sal'it**	**3.63**	**139**	Pn	**Pn**	**15 38 25.0 +1.5**
SLTI				Sn	**Sn**	**15 39 04.6 -1.3**
MMLI	**Mount Malkishu**	**3.70**	**133**	Pn	**Pn**	**15 38 25.3 +0.8**
MMLI				Sn	**Sn**	**15 39 06.8 -0.9**
MMLI	**Mount Malkishu**	**3.70**	**133**	Pn	**Pn**	**15 38 25.3 +0.8**
MMLI				Sn	**Sn**	**15 39 06.8 -0.9**
KOZT	**Kozan**	**3.80**	**49**	*e*PN	**Pn**	**15 38 27.2 +1.4**
KOZT	**Kozan**	**3.80**	**49**	*e*Pn	**Pn**	**15 38 27.2 +1.4**
YER	**Yerkesik**	**3.83**	**304**	*e*PN	**Pn**	**15 38 27.0 +0.7**
YER	**Yerkesik**	**3.83**	**304**	*e*Pn	**Pn**	**15 38 27.0 +0.7**
HMDT	**Nahal Hemdat**	**3.90**	**134**	Pn	**Pn**	**15 38 28.2 +1.1**
HMDT				Sn	**Sn**	**15 39 12.1 -0.3**
HMDT	**Nahal Hemdat**	**3.90**	**134**	Pn	**Pn**	**15 38 28.2 +1.1**
HMDT				Sn	**Sn**	**15 39 12.1 -0.3**
DSI	**Dead Sea**	**4.34**	**142**	Pn	**Pn**	**15 38 34.3 +1.1**
DSI				Sn	**Sn**	**15 39 23.2 -0.1**
DSI	**Dead Sea**	**4.34**	**142**	Pn	**Pn**	**15 38 34.3 +1.1**
DSI				Sn	**Sn**	**15 39 23.2 -0.1**
MKRJ	**Makawir**	**4.49**	**140**	Pn	**Pn**	**15 38 36.9 +1.6**
MZDA	**Masada**	**4.54**	**144**	Pn	**Pn**	**15 38 37.1 +1.2**
MZDA				Sn	**Sn**	**15 39 27.7 -0.5**
MZDA	**Masada**	**4.54**	**144**	Pn	**Pn**	**15 38 37.1 +1.2**
MZDA				Sn	**Sn**	**15 39 27.7 -0.5**
ASF	**Jabal al Asfar**	**4.82**	**125**	Pn	**Pn**	**15 38 39.7 -0.2**
	1.0nm,0.3s,baz=276,slow=4.9,SNR=4.3					
ASF				Sn	**Sn**	**15 39 36.0 +0.6**
	0.7nm,0.3s,baz=353,slow=17,SNR=2.9					
BRTR	**Keskin Array B**	**4.82**	**13**	Pn	**Pn**	**15 38 40.5 +0.4**
	0.7nm,0.3s,baz=190,slow=15,SNR=13					
BRTR				Sn	**Sn**	**15 39 30.3 -5.2**
	0.1nm,0.3s,baz=190,slow=26,SNR=2.4					
PRNI	**Paran**	**5.21**	**153**	Pn	**Pn**	**15 38 46.3 +1.1**
PRNI	**Paran**	**5.21**	**153**	Pn	**Pn**	**15 38 46.3 +1.1**
HRFI	**Mount Harif**	**5.51**	**154**	Pn	**Pn**	**15 38 50.5 +1.2**
HRFI				Sn	**Sn**	**15 39 52.1 -0.1**
HRFI	**Mount Harif**	**5.51**	**154**	Pn	**Pn**	**15 38 50.5 +1.2**
HRFI				Sn	**Sn**	**15 39 52.1 -0.1**
MBH	**Mount Berech**	**5.69**	**156**	Pn	**Pn**	**15 38 52.4 +0.6**
MBH	**Mount Berech**	**5.69**	**156**	Pn	**Pn**	**15 38 52.4 +0.6**
EIL	**Elat**	**5.81**	**156**	Pn	**Pn**	**15 38 54.5 +1.0**
	1.0nm,0.3s,baz=4.8,slow=4.6,SNR=14					
EIL				Sn	**Sn**	**15 39 58.6 -1.1**
	1.7nm,0.3s,baz=259,slow=1.7,SNR=5.9					
EIL	**Elat**	**5.81**	**156**	Pn	**Pn**	**15 38 54.7 +1.2**
EIL	**Elat**	**5.81**	**156**	Pn	**Pn**	**15 38 54.7 +1.2**
IDI	**Anoyia**	**6.02**	**275**	Pn	**Pn**	**15 38 55.0 -1.4**
	1.0nm,0.3s,baz=162,slow=20,SNR=10					
IDI				Sn	Sn	15 39 58.1 -6.8
	3.6nm,0.3s,baz=48,slow=14,SNR=8.7					
FINES	**FINESS Array B**	**26.73**	**353**	P	**P**	**15 43 02.8 -3.4**
	3.0nm,1.0s,baz=153,slow=13,SNR=4.8					
ARCES	**ARCESS Array B**	**34.77**	**356**	P	P	15 44 13.7 -3.4
	1.3nm,0.5s,baz=166,slow=7.9,SNR=14					
TORD	**Torodi Ar. Bea**	**35.14**	**239**	P	**P**	**15 44 20.4 -0.5**
	0.1nm,0.5s,baz=43,slow=6.5,SNR=2.3					
KURBB	**Kurchatov Arra**	**36.71**	**50**	P	**P**	**15 44 32.7 -1.3**
	0.2nm,0.4s,baz=263,slow=8.3,SNR=3.6					
MKAR	**Makanchi Array**	**39.00**	**57**	P	**P**	**15 44 51.8 -1.6**
	0.4nm,0.7s,baz=263,slow=4.8,SNR=5.0					
ZALV	**Zalesovo Beam**	**40.92**	**46**	P	P	15 45 06.3 -2.9
	0.5nm,0.5s,baz=262,slow=10.0,SNR=2.7					
SPITS	**Spitsbergen Ar**	**43.79**	**355**	P	P	15 45 29.3 -3.1
	14nm,1.0s,baz=147,slow=12,SNR=5.1					
SONM	**Songino Array**	**55.03**	**52**	P	**P**	**15 46 57.5 -1.2**
	0.5nm,0.4s,baz=288,slow=5.9,SNR=3.4					

IDC 24 15:40:29.9±1.8, 1.88N×126.25E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.2/33, mbtmp3.2/4, Error ellipse: s-maj=171.7km s-min=22.0km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.09**	**160**	P	P	15 45 37.3	-0.2
	0.4nm,0.5s,baz=339,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**26.46**	**164**	P	P	15 46 09.2	+0.2
	0.3nm,0.8s,baz=342,slow=7.1,SNR=6.0						
MKAR	**Makanchi Array**	**58.80**	**326**	P	P	15 50 30.4	+0.2
	0.2nm,0.5s,baz=124,slow=8.4,SNR=5.0						
KURBB	**Kurchatov Arra**	**63.04**	**328**	P	P	15 50 58.4	-0.4
	0.4nm,0.8s,baz=130,slow=5.2,SNR=5.5						

KRSC 24 15:41:38.0±2.0, 48.95N×157.10E, h31km±17km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.85**	**340**	*e*P	Pn	15 42 08.1	+0.6
SKR				*e*S	Sn	15 42 30.4	+0.6
PAU	**Pauzhetka**	**2.52**	**356**	*e*P	Pb	15 42 19.9	-2.8
PAU				*e*S	Sb	15 42 50.4	-2.9
ASAK	**Asacha**	**3.47**	**8**	*e*P	Pn	15 42 34.2	+4.2
MTVR	**Mutnovka**	**3.60**	**11**	*e*P	Pn	15 42 35.2	+3.4
MTVR				*e*S	Sn	15 43 18.4	+5.0
UGLR	**Uglovaya**	**4.40**	**14**	*e*P	Pn	15 42 47.6	+4.9
AVH	**Avacha**	**4.44**	**13**	*e*P	Pn	15 42 48.7	+5.4
KOK	**Koryaka**	**4.45**	**12**	*e*P	Pn	15 42 48.8	+5.3
SDLR	**Sedlovina**	**4.47**	**14**	*e*P	Pn	15 42 48.0	+4.2
KRER	**Koryakskii**	**4.48**	**13**	*e*P	Pn	15 42 48.9	+4.9
KRX	**Arik**	**4.52**	**12**	*e*P	Pn	15 42 49.5	+5.1
SPN	**Mys Shipunski**	**4.54**	**23**	*e*P	Pn	15 42 49.7	+5.2
GNL	**Ganaly**	**4.78**	**6**	*e*P	Pn	15 42 51.7	+3.7
MKZ	**Mys Kozlova**	**6.30**	**25**	*e*P	Pn	15 43 12.5	+3.8
TUMR	**Tumrok**	**6.61**	**15**	*e*P	Pn	15 43 18.4	+5.3
KBTR	**Krutoberegovo**	**8.06**	**23**	*e*P	Pn	15 43 38.2	+5.5

SJA 24 15:54:56.2±0.8, 32.85S×68.95W, h5km±1km, ML2.6, MW3.9, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCO	**CERRO ARCO**	**0.02**	**66**	*i* P	Pg	15 54 57.6	+0.2
ARCO				*i* S	Sg	15 54 58.4	+0.2
ARCO				AML	AML	15 54 59.3	
	comp=Z,7μm,0.2s						

AAGR	**Agrelo**	**0.26**	**156**	*i* P		Pg	15 55 02.1	+0.7
AAGR				*i* S		Sg	15 55 06.5	+1.6
ASAL	**Salagasta**	**0.28**	**21**	*e*P		Pg	15 55 02.7	+1.0
AUSP	**Uspallata**	**0.72**	**329**	*e*P		Pb	15 55 11.3	-0.4
RTLS	**Leoncito**	**1.09**	**344**	*i* P		Pn	15 55 18.2	-0.2
CFAA	**Coronel Fontan**	**1.38**	**26**	*i* P		Pg	15 55 23.2	+0.5
CFAA				*i* S		Sn	15 55 41.9	+1.0
RTLL	**Cerro Villicun**	**1.57**	**15**	*i* P		Pg	15 55 26.4	0.0
RTLL				*i* S		Sg	15 55 48.7	+1.9

KMA 24 16:00:32.5±1.4, 38.18N×129.40E, h13km±4km, 3C-13D, Error ellipse: s-maj=8.7km s-min=5.7km az=73.0, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSJMJ	**Jumunjin**	**0.59**	**240**	P	Pg	16 00 44.2	+0.2
	SNR=43						
KSJMJ	**Jumunjin**	**0.59**	**240**	P	Pg	16 00 44.2	+0.2
	SNR=43						
KSJMJ	**Jumunjin**	**0.59**	**240**	P	Pg	16 00 44.2	+0.2
	SNR=43						
KSSKC	**Sokcho**	**0.70**	**279**	⇓P	Pg	16 00 45.6	-0.4
	SNR=11						
KSSKC	**Sokcho**	**0.70**	**279**	⇓P	Pg	16 00 45.6	-0.4
	SNR=11						
KSSKC	**Sokcho**	**0.70**	**279**	⇓P	Pg	16 00 45.6	-0.4
	SNR=11						
KSDGY	**Daegwallycong**	**0.75**	**230**	⇓P	Pb	16 00 47.4	-0.1
	SNR=48						
KSDGY	**Daegwallycong**	**0.75**	**230**	⇓P	Pb	16 00 47.4	-0.1
	SNR=48						
KSDGY				⇓S	Sb	16 00 58.8	+1.0
SEHB	**SEOHWA**	**0.91**	**276**	⇓P	Pg	16 00 49.2	-0.8
	SNR=95						
SEHB	**SEOHWA**	**0.91**	**276**	⇓P	Pg	16 00 49.2	-0.8
	SNR=95						
SEHB	**SEOHWA**	**0.91**	**276**	⇓P	Pg	16 00 49.2	-0.8
	SNR=95						
SEHB				⇓S	Sg	16 01 01.6	-0.4
KSIJA	**INJE**	**1.03**	**260**	⇑P	Pb	16 00 51.8	-0.5
	SNR=25						
KSIJA	**INJE**	**1.03**	**260**	P	Pb	16 00 51.8	-0.5
	SNR=25						
KSIJA	**INJE**	**1.03**	**260**	P	Pb	16 00 51.8	-0.5
	SNR=25						
KSYOW	**Yeongwol**	**1.25**	**217**	⇑P	Pb	16 00 56.0	0.0
KSYOW				⇓S	Sb	16 01 11.6	-0.5
KSCHC	**Chuncheon**	**1.31**	**253**	⇑P	Pn	16 00 56.5	0.0
	SNR=43						
KSCHC	**Chuncheon**	**1.31**	**253**	⇑P	Pn	16 00 56.5	0.0
	SNR=43						
KSULJ	**Uljin**	**1.48**	**180**	⇓P	Pb	16 01 00.1	+0.4
KSCWO	**Cheorwon**	**1.49**	**267**	P	Pn	16 00 58.9	-0.1
	SNR=7.8						
KSCWO	**Cheorwon**	**1.49**	**267**	P	Pn	16 00 58.9	-0.1
	SNR=7.8						
KSCWO				⇓S	Sg	16 01 20.3	-0.2
YNCB	**YEONCHEON**	**1.95**	**267**	P	Pn	16 01 05.2	-0.2
	SNR=6.8						
YNCB	**YEONCHEON**	**1.95**	**267**	P	Pn	16 01 05.2	-0.2
	SNR=6.8						

*CSEM **24** 16:01:57.0, 37.48N×21.87E, h22km, MD3.0*
ATH 24 16:01:57.0, 37.48N×21.87E, h22km±1km, MD3.0/12, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMT	**Artemida-Makis**	**0.14**	**292**	*e*PB	Pb	16 02 02.0	-0.4
AMT				*e*SB	Sb	16 02 05.6	-0.5
AMT	**Artemida-Makis**	**0.14**	**292**	*e*Pb	Pb	16 02 02.0	-0.4
AMT				*e*Sb	Sb	16 02 05.6	-0.5
ITM	**Ithomi**	**0.30**	**171**	*e*PB	Pb	16 02 03.9	0.0
ITM				*e*SB	Sb	16 02 09.0	+0.4
ITM	**Ithomi**	**0.30**	**171**	*e*Pb	Pb	16 02 03.9	0.0
ITM				*e*Sb	Sb	16 02 09.0	+0.4
VLX	**Vlachokerasia**	**0.42**	**105**	*e*PB	Pb	16 02 06.0	+0.1
VLX	**Vlachokerasia**	**0.42**	**105**	*e*Pb	Pb	16 02 06.0	+0.1
GUR	**Goura**	**0.59**	**39**	*e*PN	Pb	16 02 08.6	-0.3
GUR				*e*SN	Sb	16 02 16.9	0.0
GUR	**Goura**	**0.59**	**39**	*e*Pn	Pb	16 02 08.6	-0.3
GUR				*e*Sn	Sb	16 02 16.9	0.0
PYL	**PYLOS**	**0.59**	**190**	*e*PN	Pb	16 02 08.4	-0.4
PYL	**PYLOS**	**0.59**	**190**	*e*Pn	Pb	16 02 08.4	-0.4
KLV	**Kalavryta, Ach**	**0.60**	**21**	*e*PN	Pb	16 02 09.0	-0.1
KLV				*e*SN	Sb	16 02 17.5	+0.2
KLV	**Kalavryta, Ach**	**0.60**	**21**	*e*Pn	Pb	16 02 09.0	-0.1
KLV				*e*Sn	Sb	16 02 17.5	+0.2
RLS	**Riolos of Patr**	**0.66**	**331**	*e*PN	Pb	16 02 09.8	-0.1
RLS	**Riolos of Patr**	**0.66**	**331**	*e*Pn	Pb	16 02 09.8	-0.1
ZKS	**Zakynthos**	**0.89**	**284**	*e*PN	Pb	16 02 13.9	+0.1
ZKS				*e*SN	Sn	16 02 26.1	-0.4
ZKS	**Zakynthos**	**0.89**	**284**	*e*Pn	Pb	16 02 13.9	+0.1
ZKS				*e*Sn	Sn	16 02 26.1	-0.4
KALE	**Kalithea**	**0.93**	**13**	*e*PN	Pn	16 02 14.8	-0.1
KALE	**Kalithea**	**0.93**	**13**	*e*Pn	Pn	16 02 14.8	-0.1
EFP	**Efpalio**	**0.95**	**2**	*e*PN	Pn	16 02 15.0	0.0
EFP	**Efpalio**	**0.95**	**2**	*e*Pn	Pn	16 02 15.0	0.0
DSF	**Desfina**	**1.06**	**29**	*e*PN	Pb	16 02 18.0	+1.2
DSF	**Desfina**	**1.06**	**29**	*e*Pn	Pb	16 02 18.0	+1.2
DID	**Didima**	**1.09**	**88**	*e*PN	Pb	16 02 18.1	+0.9
DID	**Didima**	**1.09**	**88**	*e*Pn	Pb	16 02 18.1	+0.9
VLS	**Valsamata**	**1.23**	**305**	*e*PN	Pb	16 02 20.8	+1.2
VLS	**Valsamata**	**1.23**	**305**	*e*Pn	Pb	16 02 20.8	+1.2
PDO	**Prodromos**	**1.24**	**334**	*e*PN	Pb	16 02 20.5	+0.7
PDO	**Prodromos**	**1.24**	**334**	*e*Pn	Pb	16 02 20.5	+0.7
AXAR	**Agios Charalam**	**1.43**	**26**	*e*PN	Pb	16 02 24.0	+1.0
AXAR	**Agios Charalam**	**1.43**	**26**	*e*Pn	Pb	16 02 24.0	+1.0
EVR	**Evrytania**	**1.44**	**358**	*e*PN	Pb	16 02 24.6	+1.4
EVR	**Evrytania**	**1.44**	**358**	*e*Pn	Pb	16 02 24.6	+1.4

*CSEM **24** 16:02:03.8, 37.49N×21.91E, h5km, ML3.0/14*
THE 24 16:02:03.8, 37.49N×21.91E, h5km±1km, ML3.0/14, Error ellipse: s-maj=1.7km s-min=0.7km az=129.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMT	**Artemida-Makis**	**0.17**	**286**	P	Pg	16 02 07.5	+0.3
AMT				S	Sg	16 02 10.6	+1.1
AMT	**Artemida-Makis**	**0.17**	**286**	P	Pg	16 02 07.5	+0.3
AMT				S	Sg	16 02 10.6	+1.1
ITM	**Ithomi**	**0.31**	**178**	P	Pg	16 02 10.4	+0.6
ITM				S	Sg	16 02 13.9	0.0
ITM	**Ithomi**	**0.31**	**178**	P	Pg	16 02 10.4	+0.6
ITM				S	Sg	16 02 13.9	0.0
VLX	**Vlachokerasia**	**0.39**	**107**	P	Pg	16 02 11.4	-0.1
VLX				S	Sg	16 02 17.5	+0.7
VLX	**Vlachokerasia**	**0.39**	**107**	P	Pg	16 02 11.4	-0.1
VLX				S	Sg	16 02 17.5	+0.7
VLX	**Vlachokerasia**	**0.39**	**107**	*e*SB	Pg	16 02 11.5	0.0
VLX	**Vlachokerasia**	**0.39**	**107**	*e*Sb	Pg	16 02 11.5	0.0
DRO	**Drossia**	**0.49**	**341**	P	Pb	16 02 14.8	-0.2
DRO				S	Sg	16 02 20.4	+0.6
DRO	**Drossia**	**0.49**	**341**	P	Pb	16 02 14.8	-0.2
DRO				S	Sg	16 02 20.4	+0.6
GUR	**Goura**	**0.56**	**37**	P	Pg	16 02 13.9	-1.0
GUR				S	Sg	16 02 22.8	+0.4
GUR	**Goura**	**0.56**	**37**	P	Pg	16 02 13.9	-1.0
GUR				S	Sg	16 02 22.8	+0.4
KLV	**Kalavryta, Ach**	**0.59**	**19**	P	Pg	16 02 14.2	-1.1
KLV				S	Sg	16 02 23.4	+0.4
KLV	**Kalavryta, Ach**	**0.59**	**19**	P	Pg	16 02 14.2	-1.1
KLV				S	Sg	16 02 23.4	+0.4
PYL	**PYLOS**	**0.60**	**193**	P	Pg	16 02 14.9	-0.5
PYL				S	Sg	16 02 22.7	-0.6
PYL	**PYLOS**	**0.60**	**193**	P	Pg	16 02 14.9	-0.5
PYL				S	Sg	16 02 22.7	-0.6
RLS	**Riolos of Patr**	**0.67**	**328**	P	Pg	16 02 16.0	-0.7
RLS				S	Sg	16 02 25.8	+0.3
RLS	**Riolos of Patr**	**0.67**	**328**	P	Pg	16 02 16.0	-0.7
RLS				S	Sg	16 02 25.8	+0.3
UPR	**University Cam**	**0.80**	**353**	P	Pg	16 02 18.9	-0.3
UPR				S	Sb	16 02 31.3	-0.1
UPR	**University Cam**	**0.80**	**353**	P	Pg	16 02 18.9	-0.3
UPR				S	Sb	16 02 31.3	-0.1
ZKS	**Zakynthos**	**0.92**	**284**	P	Pg	16 02 19.9	-1.6
ZKS				S	Sg	16 02 34.1	+0.6
ZKS	**Zakynthos**	**0.92**	**284**	P	Pg	16 02 19.9	-1.6

ZKS					S	Sg	16 02 34.1	+0.6
KALE	**Kalithea**	**0.92**	**11**		P	Pg	16 02 20.9	-0.7
KALE					S	Sg	16 02 34.1	+0.4
KALE	**Kalithea**	**0.92**	**11**		P	Pg	16 02 20.9	-0.7
KALE					S	Sg	16 02 34.1	+0.4
EFP	**Efpalio**	**0.94**	**360**		P	Pg	16 02 20.6	-1.3
EFP					S	Sb	16 02 34.8	-0.5
EFP	**Efpalio**	**0.94**	**360**		P	Pg	16 02 20.6	-1.3
EFP					S	Sb	16 02 34.8	-0.5
DSF	**Desfina**	**1.04**	**28**		P	Pg	16 02 24.2	+0.2
DSF					S	Sg	16 02 37.7	+0.1
DSF	**Desfina**	**1.04**	**28**		P	Pg	16 02 24.2	+0.2
DSF					S	Sg	16 02 37.7	+0.1
DID	**Didima**	**1.05**	**88**		P	Pn	16 02 25.1	-0.2
DID					S	Sb	16 02 38.4	-0.3
DID	**Didima**	**1.05**	**88**		P	Pn	16 02 25.1	-0.2
DID					S	Sb	16 02 38.4	-0.3
KFL	**Anninata**	**1.09**	**305**		P	Pg	16 02 24.5	-0.2
KFL	**Anninata**	**1.09**	**305**		P	Pg	16 02 24.5	-0.2
VLI	**Veliai**	**1.12**	**133**		P	Pn	16 02 26.1	0.0
VLI					S	Sb	16 02 40.8	+0.2
VLI	**Veliai**	**1.12**	**133**		P	Pn	16 02 26.1	0.0
VLI					S	Sb	16 02 40.8	+0.2
PVO	**Paravola**	**1.17**	**345**		P	Pg	16 02 25.3	-1.0
PVO					S	Sb	16 02 42.5	+0.5
PVO	**Paravola**	**1.17**	**345**		P	Pg	16 02 25.3	-1.0
PVO					S	Sb	16 02 42.5	+0.5
PDO	**Prodromos**	**1.25**	**333**		P	Pn	16 02 28.1	+0.2
PDO					S	Sn	16 02 44.9	-0.3
PDO	**Prodromos**	**1.25**	**333**		P	Pn	16 02 28.1	+0.2
PDO					S	Sn	16 02 44.9	-0.3
VLS	**Valsamata**	**1.25**	**304**		P	Pg	16 02 26.5	-1.4
VLS					S	Sn	16 02 45.2	-0.1
VLS	**Valsamata**	**1.25**	**304**		P	Pg	16 02 26.5	-1.4
VLS					S	Sn	16 02 45.2	-0.1
AXAR	**Agios Charalam**	**1.41**	**25**		P	Pn	16 02 29.3	-0.8
AXAR					S	Sb	16 02 48.4	-0.5
AXAR	**Agios Charalam**	**1.41**	**25**		P	Pn	16 02 29.3	-0.8
AXAR					S	Sb	16 02 48.4	-0.5
LKD2	**Lefkada island**	**1.63**	**323**		P	Pn	16 02 33.5	+0.3
LKD2					S	Sn	16 02 54.6	-0.1
LKD2	**Lefkada island**	**1.63**	**323**		P	Pn	16 02 33.5	+0.3
LKD2					S	Sn	16 02 54.6	-0.1

*NIED **24** 16:09:00, 21.20N×121.10E, h5km, Mw4.0 Best double couple: M0 1.03000×10^15 NP1:φs243.00000°, δ56.00000°, λ-148.00000°. NP2:φs134.00000°, δ64.00000°, λ-39.00000°.*
*IDC **24** 16:09:24.4±0.6, 21.00N×121.23E, h0km, mb3.9/15, mb1 4.0/16, mb1mx3.9/43, mbtmp3.9/16, ML2.8/2, MS2.7/3, Ms1 2.8/3, ms1mx2.5/47, Error ellipse: s-maj=23.0km s-min=11.9km az=73.0*
*JMA **24** 16:09:25.0±0.5, 21.20N×121.05E, h0km, M4.4*
*NEIC **24** 16:09:26.0±0.4, 21.01N×121.14E, h10km, mb4.2/3, Error ellipse: s-maj=13.0km s-min=6.7km az=89.0*
*ISCJB **24** 16:09:27.8±0.3, 21.02N±0.03×121.21E±0.05, h36km, mb3.9/19, MS3.8/2, Error ellipse: s-maj=6.8km s-min=2.8km az=22.7*
*MAN **24** 16:09:32, 20.65N×120.96E, h26km, mb5.0, ML4.0, MS4.1*
ISC 24 16:09:29.5±0.6, 21.05N±0.04×121.12E±0.07, h36km, n56, σ1§45/62, mb3.9/19, 2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	**Pinlang**	**1.76**	**358**	*e*Pn	**Pn**	**16 09 54.4**	**-3.1**
TPUB	**Ta-pu**	**2.29**	**349**	*e*Pn	**Pn**	**16 10 04.0**	**-0.8**
YULB	**Yu-li**	**2.34**	**4**	*e*Pn	**Pn**	**16 10 03.6**	**-1.9**
PIP	**Pasuquin**	**2.75**	**190**	⇓P	**Pn**	**

0.2nm,0.4s,baz=120,slow=5.8,SNR=2.2
STKA Stephens Creek 56.16 159 P **P 16 19 04.4 -1.3**
1.8nm,0.5s,baz=300,slow=5.1,SNR=6.4
ILAR Eielson Array 72.02 27 P **P 16 20 48.5 -1.0**
0.2nm,0.8s,baz=288,slow=5.7,SNR=3.1
YKA Yellowknife Ar 85.87 23 P **P 16 22 04.9 -0.4**
0.3nm,0.6s,baz=310,slow=5.3,SNR=2.9
MAW Mawson 98.13 199 LR LR 17 03 17.4
comp=Z,280nm,19.2s,baz=280,slow=33

BUC 24 16:15:43.8±0.8, 45°22N×24°31E, h1km, MD2.5/3, 6C-6D, Error ellipse: s-maj=11.6km s-min=3.1km az=359.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARR	**Arges**	**0.28**	**57**	↑*i*P	Pg	16 15 49.9	+0.6
ARR	**Arges**	**0.28**	**57**	S	Sg	16 15 53.8	+0.8
ARR	**Arges**	**0.28**	**57**	↑*i*P	Pg	16 15 49.9	+0.6
ARR				*i* S	Sg	16 15 53.8	+0.8
LOT	**Lotru**	**0.44**	**302**	↑*i*P	Pg	16 15 52.8	+0.3
LOT	**Lotru**	**0.44**	**302**	S	Sg	16 16 00.0	+1.6
LOT	**Lotru**	**0.44**	**302**	↑*i*P	Pg	16 15 52.8	+0.3
LOT				*i* S	Sg	16 16 00.0	+1.6
VOIR		**0.57**	**67**	↓*i*P	Pg	16 15 55.2	+0.3
VOIR		**0.57**	**67**	↓*i*P	Pg	16 15 55.2	+0.3
VOIR				*i* S	Sg	16 16 02.9	+0.5
GZR	**Gura Zlata**	**1.09**	**280**	↓*i*P	Pn	16 16 06.3	-0.1
GZR	**Gura Zlata**	**1.09**	**280**	↓*i*P	Pn	16 16 06.3	-0.1
GZR				*i* S	Sn	16 16 21.9	-0.3
MLR	**Muntele Rosu**	**1.19**	**76**	↑*i*P	Pb	16 16 07.3	0.0
MLR	**Muntele Rosu**	**1.19**	**76**	↑*i*P	Pb	16 16 07.3	0.0
MLR				*i* S	Sb	16 16 23.8	+0.4
BZS	**Buzias**	**1.94**	**283**	↓*i*P	Pb	16 16 19.1	-0.8
BZS	**Buzias**	**1.94**	**283**	↓*i*P	Pb	16 16 19.1	-0.8
BZS				*i* S	Sb	16 16 44.3	-0.2

*ISCJB **24** 16:15:55.2±0.7, 21°.92N±0°.07×143°.5E±0°.2, h200km, mb3.5/11, Error ellipse: s-maj=28.9km s-min=9.3km az=172.6*
*IDC **24** 16:15:56.4±1.6, 21°.96N×143°.39E, h194km±14km, mb3.4/11, mb1 3.6/12, mb1mx3.4/49, mbtmp4.0/12, MS4.2/1, Ms1 4.2/1, ms1mx2.8/29, Error ellipse: s-maj=24.8km s-min=11.0km az=84.0*
ISC 24 16:15:56.9±0.7, 21°.97N±0°.09×143°.4E±0°.2, h200km, n16, σ0562/20, mb3.6/11, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.22**	**348**	P	**Pn**	**16 17 14.3**	**+0.2**
	27nm,0.3s,baz=273,slow=22,SNR=16						
JCJ				S	**Sn**	**16 18 14.5**	**-0.6**
	36nm,0.3s,baz=263,slow=22,SNR=6.9						
KSRS	**Korea Array**	**20.41**	**323**	P	Pn	16 20 21.6	-2.1
	1.4nm,0.7s,baz=140,slow=8.3,SNR=6.3						
SONM	**Songino Array**	**39.25**	**320**	P	**P**	**16 23 06.4**	**+0.2**
	0.3nm,0.4s,baz=117,slow=5.0,SNR=3.1						
SONM				ScP	**ScP**	**16 28 39.4**	**-1.0**
	0.9nm,0.8s,baz=343,slow=1.5,SNR=4.6						
SEY	**Seymchan**	**41.39**	**6**	LR	LR	16 40 48.1	
	comp=Z,308nm,20.0s,baz=220,slow=36						
WRA	**Warramunga Arr**	**42.59**	**193**	P	**P**	**16 23 33.0**	**-0.4**
	1.2nm,0.6s,baz=13,slow=9.0,SNR=26						
WRA				PcP	**PcP**	**16 25 22.6**	**+0.6**
	0.8nm,0.8s,baz=1.9,slow=3.5,SNR=7.1						
WRA				ScP	**ScP**	**16 28 54.4**	**+0.7**
	0.4nm,0.3s,baz=12,slow=4.6,SNR=5.3						
ASAR	**Alice Springs**	**46.29**	**192**	P	**P**	**16 24 01.9**	**-0.9**
	0.6nm,0.6s,baz=9.3,slow=7.5,SNR=13						
ASAR				PcP	**PcP**	**16 25 34.5**	**-0.2**
	0.5nm,0.7s,baz=22,slow=3.6,SNR=5.3						
STKA	**Stephens Creek**	**53.57**	**182**	P	**P**	**16 24 57.6**	**+0.3**
	0.8nm,0.5s,baz=262,slow=8.5,SNR=3.6						
ZALV	**Zalesovo Beam**	**54.12**	**321**	P	**P**	**16 25 00.8**	**-0.3**
	0.8nm,0.4s,baz=116,slow=7.8,SNR=4.9						
MKAR	**Makanchi Array**	**54.66**	**312**	P	**P**	**16 25 05.4**	**+0.2**
	0.6nm,0.6s,baz=93,slow=8.4,SNR=6.6						
MKAR				PcP	**PcP**	**16 26 05.2**	**-0.3**
	0.2nm,0.6s,baz=82,slow=8.7,SNR=3.6						
KURBB	**Kurchatov Arra**	**57.46**	**317**	P	**P**	**16 25 25.3**	**+0.4**
	baz=94,slow=7.5						
ILAR	**Eielson Array**	**61.71**	**27**	P	**P**	**16 25 52.8**	**-0.9**
	0.6nm,0.7s,baz=257,slow=5.8,SNR=8.5						
YKA	**Yellowknife Ar**	**76.12**	**28**	P	**P**	**16 27 23.5**	**+1.1**
	0.6nm,0.5s,baz=293,slow=5.7,SNR=4.7						
ARCES	**ARCESS Array B**	**78.72**	**342**	P	**P**	**16 27 37.1**	**+0.3**
	1.7nm,0.8s,baz=76,slow=5.1,SNR=3.9						
KBZ	**Khabaz**	**82.32**	**314**	P	**P**	**16 27 56.9**	**+0.6**
	2.2nm,0.7s,baz=56,slow=24,SNR=3.7						
FINES	**FINESS Array B**	**83.02**	**335**	P	**P**	**16 27 58.8**	**-0.7**
	2.6nm,1.1s,baz=118,slow=11,SNR=4.2						
PLCA	**Paso Flores**	**145.79**	**131**	PKPbc	**PKPab**	**16 35 13.4**	**-0.1**
	3.2nm,0.5s,baz=255,slow=4.1,SNR=6.1						

*SJA **24** 16:18:18.9±1.3, 7°.18S×71°.55W, h532km±169km, MW5.4*
*ISCJB **24** 16:18:27.8±0.3, 8°.05S±0°.02×71°.64W±0°.02, h576km±3km, mb5.9/430, Error ellipse: s-maj=3.3km s-min=2.0km az=137.1*
*BJI **24** 16:18:27.8, 8°.10S×71°.60W, h565km, mB6.2/48*
*MOS **24** 16:18:27.3±0.9, 8°.00S×71°.68W, h569km, mb6.2/97, Error ellipse: s-maj=6.5km s-min=4.6km az=74.2*
*NEIC **24** 16:18:29.1±0.1, 8°.09S×71°.56W, mb6.0/248, ME6.0, MW6.5, MW6.5, MW6.5, Error ellipse: s-maj=3.5km s-min=2.3km az=52.0, Moment Tensor Solution. s34 Moment tensor: Scale 10^{18}Nm; M_{rr}-6.34; $M_{\theta\theta}$-0.30; $M_{\phi\phi}$6.63; $M_{r\theta}$-1.00; $M_{\theta\phi}$-1.69; $M_{r\phi}$0.58; Best double couple: $M_0$6.80000×10^{18} NP1:ϕ_s159.00000°, δ49.00000°, λ-101.00000°. NP2:ϕ_s355.00000°, δ42.00000°, λ-78.00000°. Principal axes: T 7.0700, Plg3.0000°, Azm256.0000°; N -0.5700, Plg8.0000°, Azm166.0000°; P -6.5100, Plg81.0000°, Azm8.0000°; Broadband fault plane solution: P waves. NP1:ϕ_s150.00000°, δ50.00000°, λ-90.00000°. NP2:ϕ_s330.00000°, δ40.00000°, λ-90.00000°. Principal axes: T Plg5.0000°, Azm240.0000°; N Plg0.0000°, Azm0.0000°; P Plg85.0000°, Azm60.0000°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [V] at Cruzeiro do Sul, [III] at Rio Branco and [II] at Manaus. Also felt at Feijo, Tabatinga and Tarauaca. Felt [III] at Pucallpa, Peru. Also felt at Barranca, Campoverde, Chosica, Iquitos and San Luis.
*GCMT **24** 16:18:29.1±0.1, 8°.08S×71°.64W, h591km, MW6.5/136, Moment Tensor Solution. s136,c322; s122,c193; Duration: 4^{s}1 Moment tensor: Scale 10^{18}Nm; M_{rr}-5.90±.03; $M_{\theta\theta}$1.05±.04; $M_{\phi\phi}$4.86±.05; $M_{r\theta}$-1.07±.04; $M_{\theta\phi}$-1.16±.04; $M_{r\phi}$1.49±.04; Best double couple: $M_0$5.83300×10^{18} NP1:ϕ_s159.00000°, δ54.00000°, λ-96.00000°. NP2:ϕ_s349.00000°, δ37.00000°, λ-82.00000°. Principal axes: T 5.4490, Plg9.0000°, Azm253.0000°; N 0.7780, Plg5.0000°, Azm162.0000°; P -6.2170, Plg80.0000°, Azm43.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
*IDC **24** 16:18:29.8±0.2, 8°.10S×71°.64W, h587km±2km, mb5.3/44, mb1 5.4/50, mb1mx5.4/51, mbtmp6.1/50 Error ellipse: s-maj=5.7km s-min=4.4km az=60.0*
*NEIC **24** 16:18:29.0±0.0, 8°.06S×71°.57W, h578km, Moment Tensor Solution. s42 Moment tensor: Scale 10^{18}Nm; M_{rr}-5.18; $M_{\theta\theta}$0.13; $M_{\phi\phi}$5.04; $M_{r\theta}$-0.82; $M_{\theta\phi}$-2.35; $M_{r\phi}$2.02; Best double couple: $M_0$6.00000×10^{18} NP1:ϕ_s158.00000°, δ55.00000°, λ-89.00000°. NP2:ϕ_s338.00000°, δ34.00000°, λ-88.00000°. Principal axes: T 6.4000, Plg10.0000°, Azm248.0000°; N -0.8100, Plg0.0000°, Azm158.0000°; P -5.5900, Plg79.0000°, Azm67.0000°;*
*SZGRF **24** 16:18:32.4, 7°.51S×71°.60W, h590km, mb6.4, Western Brazil*
*GUC **24** 16:18:41.0, 9°.29S×71°.01W, h599km*
*NEIC **24** 16:18:46.9±0.0, 7°.81S×71°.14W, h586km, Moment Tensor Solution. s117 Moment tensor: Scale 10^{18}Nm; M_{rr}-5.74; $M_{\theta\theta}$0.27; $M_{\phi\phi}$5.47; $M_{r\theta}$-1.04; $M_{\theta\phi}$-1.60; $M_{r\phi}$1.32; Best double couple: $M_0$6.10000×10^{18} NP1:ϕ_s158.00000°, δ53.00000°, λ-97.00000°. NP2:ϕ_s350.00000°, δ38.00000°, λ-79.00000°. Principal axes: T 6.1300, Plg7.0000°, Azm253.0000°; N -0.1100, Plg6.0000°, Azm162.0000°; P -6.0100, Plg80.0000°, Azm34.0000°;*
ISC 24 16:18:28.8±0.2, 8°.12S±0°.03×71°.64W±0°.03, h582km±1km, h583km: pP-P, n2106, σ137/2768, mb6.0/438, 270C-420D, Western Brazil

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**6.41**	**233**	P	**P**	**16 20 13.3**	**+0.6**
	20μm,0.4s						
NNA	**Nana**	**6.41**	**233**	P	**P**	**16 20 13.1**	**+0.4**
	448nm,0.3s,baz=54,slow=8.9,SNR=382						
NNA				S	**S**	**16 21 38.7**	**+1.0**
	149nm,0.3s,baz=291,slow=22,SNR=8.9						
NNA	**Nana**	**6.41**	**233**	P	**P**	**16 20 13.1**	**+0.4**
NNA				S	**S**	**16 21 38.7**	**+1.0**
NNA				pmax	pmax		
	comp=Z,448nm,0.3s						
NNA				smax	smax		
	comp=N,149nm,0.3s						
NNA	**Nana**	**6.41**	**233**	*e*Pn	**P**	**16 20 12.9**	**+0.2**
	comp=N,2μm,0.4s						
NNA				*e*Sn	**S**	**16 21 37.9**	**+0.2**
NNA				S	S	16 21 38.7	+1.0
ATAH	**Atahualpa**	**6.76**	**278**	P	**P**	**16 20 18.1**	**+1.7**
	comp=N,581nm,0.3s,baz=72,slow=4.6,SNR=596						
ATAH				S	**S**	**16 21 46.6**	**+2.3**
	comp=N,73nm,0.3s,baz=19,slow=15,SNR=13						
ARE	**Arequipa**	**8.30**	**179**	↓*i*P	**P**	**16 20 30.5**	**-0.2**
ARE				*e*S	**S**	**16 22 05.0**	**-5.6**
ARE	**Arequipa**	**8.30**	**179**	↓*i*P	**P**	**16 20 30.5**	**-0.2**
ARE				*e*S	**S**	**16 22 05.0**	**-5.6**
SAML	**Samuel**	**8.41**	**96**	*e*Pn	**P**	**16 20 32.7**	**+1.1**
	comp=N,14μm,0.8s						
SAML				*e*S	**S**	**16 22 13.5**	**+1.4**
LPAZ	**La Paz**	**8.82**	**157**	P	**P**	**16 20 36.2**	**0.0**
	comp=N,115nm,0.3s,baz=339,slow=6.5,SNR=797						
LPAZ				S	**S**	**16 22 24.7**	**+4.2**
	baz=253,slow=19,SNR=5.3						
LPAZ				P3KPbc		16 56 41.9	
	comp=N,0.1nm,0.3s,baz=348,slow=4.9,SNR=5.8						
LPAZ	**La Paz**	**8.82**	**157**	*e*P	**P**	**16 20 35.8**	**-0.4**
LPAZ	**La Paz**	**8.82**	**157**	*e*Pn	**P**	**16 20 36.2**	**0.0**
	comp=N,515nm,0.6s						
LPAZ				S	**S**	**16 22 24.7**	**+4.2**
LPAZ				*e*		16 56 41.9	
OTAV	**Otavalo**	**10.72**	**320**	*e*Pn	**P**	**16 20 56.6**	**+1.5**
	comp=N,1μm,1.9s						
OTAV				*e*S	S	16 22 48.4	-6.7
MNMC	**Minimini**	**11.13**	**170**	*e*P	**P**	**16 20 56.9**	**-2.0**
PSGC	**Pisagua**	**11.51**	**173**	*e*P	**P**	**16 21 01.0**	**-1.6**
PB11	**IPOC Station P**	**11.74**	**171**	*e*P	**P**	**16 21 03.0**	**-2.0**
PATCX	**Punta Patache**	**12.71**	**174**	*e*P	**P**	**16 21 14.3**	**-0.5**
PB01	**IPOC Station P**	**13.02**	**171**	*e*P	**P**	**16 21 16.8**	**-1.2**
ROSC	**El Rosal**	**13.16**	**348**	P	**P**	**16 21 20.7**	**+0.8**
	comp=N,45nm,0.3s,baz=124,slow=3.9,SNR=42						
ROSC				S	**S**	**16 23 41.1**	**+0.6**
	comp=N,14nm,0.3s,baz=282,slow=19,SNR=2.6						
PB07	**IPOC Station P**	**13.64**	**173**	*e*P	**P**	**16 21 23.2**	**-1.3**
PB09	**IPOC Station P**	**13.80**	**171**	*e*P	**P**	**16 21 25.6**	**-0.5**
PB04	**IPOC Station P**	**14.22**	**172**	*e*P	**P**	**16 21 29.4**	**-0.6**
PB06	**IPOC Station P**	**14.64**	**172**	*e*P	**P**	**16 21 33.4**	**-0.9**
LVC	**Limon Verde**	**14.65**	**170**	P	**P**	**16 21 34.2**	**-0.3**
	comp=N,4μm,0.3s,baz=21,slow=7.9,SNR=153						
LVC				S	**S**	**16 24 06.8**	**+0.2**
	comp=N,1μm,0.3s,baz=317,slow=23,SNR=8.9						
LVC				PKiKP	**PKiKP**	**16 33 59.2**	**+0.3**
	comp=N,36nm,0.3s,baz=333,slow=2.3,SNR=4.5						
LVC	**Limon Verde**	**14.65**	**170**	*e*Pn	**P**	**16 21 33.9**	**-0.6**
	comp=N,628nm,0.8s						
LVC				*e*S	S	16 23 59.3	-7.2
LVC				S	S	16 24 06.8	+0.1
LVC				PKiKP	**PKiKP**	**16 33 59.2**	**+0.3**
LVC	**Limon Verde**	**14.65**	**170**	*e*P	**P**	**16 21 35.7**	**+1.2**
YJA	**Yavi**	**15.17**	**158**	*e*P	**P**	**16 21 38.7**	**-1.0**
PB10	**IPOC Station P**	**15.35**	**176**	*e*P	**P**	**16 21 41.5**	**+0.7**
HJA	**Humahuaca**	**16.16**	**159**	*e*P	**P**	**16 21 49.0**	**+0.2**
SDV	**Santo Domingo**	**16.92**	**3**	*e*Pn	**P**	**16 21 56.6**	**+0.9**
	comp=N,2μm,1.0s						
SDV				*e*S	**S**	**16 24 40.3**	**-3.8**
ASTB	**Santa Barbara**	**17.17**	**157**	*e*P	**P**	**16 21 59.0**	**+1.1**
AZAP	**Zapla**	**17.21**	**159**	*e*P	**P**	**16 21 58.2**	**-0.1**
ALOL	**LOMAS DE OLMEDI**	**17.25**	**156**	*e*P	**P**	**16 21 59.1**	**+0.7**
SLA	**San Lorenzo**	**17.52**	**161**	*e*P	**P**	**16 22 01.4**	**+0.3**
AZU	**Azuero**	**17.99**	**331**	*i* P	**P**	**16 22 07.8**	**+2.5**
FSA	**Cafayete**	**18.66**	**164**	*e*P	**P**	**16 22 12.2**	**+0.7**
UPA	**Univ. de Panam**	**18.72**	**335**	*i* P	**P**	**16 22 13.9**	**+2.0**
UPIG		**18.72**	**335**	↓*i*P	**P**	**16 22 13.9**	**+2.0**
ZANG	**Zanguenga, Cho**	**18.84**	**334**	*i* P	**P**	**16 22 15.1**	**+2.1**
PINA	**Piqa, Costa Ab**	**19.19**	**334**	*i* P	**P**	**16 22 18.4**	**+2.3**
PCRV	**Puerto La Cruz**	**19.46**	**21**	P	**P**	**16 22 20.9**	**+2.2**
	comp=N,41nm,0.3s,baz=186,slow=6.5,SNR=55						
PCRV				S	**S**	**16 25 26.5**	**+1.6**
	comp=N,6.7nm,0.3s,baz=314,slow=22,SNR=13						
AHML	**Horco Molle**	**19.51**	**163**	*e*P	**P**	**16 22 19.6**	**+0.7**
PAYG	**Puerto Ayora**	**19.99**	**291**	*e*P	**P**	**16 22 25.3**	**+1.8**
	comp=N,2μm,1.0s						
PAYG				*e*PcP	**PcP**	**16 26 13.6**	**+1.2**
PAYG				*e*ScP	**ScP**	**16 28 54.2**	**-0.1**
BRU	**Baru**	**20.02**	**327**	↓*i*P	**P**	**16 22 26.8**	**+2.6**
BRU2	**Volcan**	**20.08**	**327**	*i* P	**P**	**16 22 26.8**	**+2.4**
LCO	**Las Campanas**	**20.80**	**178**	*e*P	**P**	**16 22 31.6**	**+0.7**
LCO	**Las Campanas**	**20.80**	**178**	*e*P	**P**	**16 22 31.3**	**+0.4**
	comp=N,450nm,0.9s						
LCO				*e*PcP	**PcP**	**16 26 14.7**	**+0.7**
LCO				*e*ScP	**ScP**	**16 28 56.4**	**0.0**
LCO	**Las Campanas**	**20.80**	**178**	*e*P	**P**	**16 22 31.6**	**+0.7**
CYA	**Choya**	**20.96**	**165**	*e*P	**P**	**16 22 32.1**	**+0.1**
TRN	**Trinidad (W)**	**21.24**	**29**	*e*	**P**	**16 22 37.8**	**+3.1**
TBH	**Brigand Hill**	**21.27**	**30**	*e*	**P**	**16 22 39.1**	**+4.2**
TLL	**Tololo Astrono**	**21.95**	**178**	*e*P	**P**	**16 22 42.7**	**+1.6**
TOSP	**Speyside**	**22.23**	**30**	*e*P	**P**	**16 22 46.2**	**+2.7**
GRGR	**Grenville**	**22.43**	**26**	*e*P	**P**	**16 22 46.5**	**+1.2**
	comp=N,695nm,0.5s						
GRW	**Mount Saint Ca**	**22.45**	**26**	*e*	**P**	**16 22 47.7**	**+2.1**
GRW	**Mount Saint Ca**	**22.45**	**26**	*e*	**P**	**16 22 49.2**	**+3.6**
GRHS	**Sauteurs**	**22.52**	**26**	*e*	**P**	**16 22 47.7**	**+1.7**
JTS	**JuntasAbangare**	**22.58**	**324**	P	**P**	**16 22 49.6**	**+2.9**
	comp=N,2μm,0.6s,SNR=26						
JTS	**JuntasAbangare**	**22.58**	**324**	P	**P**	**16 22 48.7**	**+2.0**
	comp=N,159nm,0.6s,baz=154,slow=1.5,SNR=73						
JTS				PcP	**PcP**	**16 26 17.1**	**-0.5**
	comp=N,68nm,0.8s,baz=249,slow=18,SNR=4.6						
JTS				ScP	**ScP**	**16 29 00.5**	**-0.3**
	comp=N,28nm,0.8s,baz=250,slow=15,SNR=4.2						
JTS	**JuntasAbangare**	**22.58**	**324**	*d* iP	**P**	**16 22 49.3**	**+2.6**
JTS				pmax	pmax		
	comp=Z,584nm,1.2s						
JTS	**JuntasAbangare**	**22.58**	**324**	*e*P	**P**	**16 22 49.4**	**+2.6**
	comp=Z,224nm,0.8s						
JTS				PcP	**PcP**	**16 26 17.1**	**-0.5**
JTS				ScP	**ScP**	**16 29 00.5**	**-0.3**
GRSS	**Sisters**	**22.60**	**26**	*e*	**P**	**16 22 48.3**	**+1.6**
CPUP	**Villa Florida**	**22.65**	**145**	*e*P	**P**	**16 22 46.3**	**-0.8**
CPUP	**Villa Florida**	**22.65**	**145**	*e*P	**P**	**16 22 46.3**	**-0.8**
	comp=Z,10nm,0.7s						
CPUP				*e*ScP	**ScP**	**16 29 00.3**	**-0.4**
AMOG	**MOGNA**	**22.90**	**173**	*e*P	**P**	**16 22 49.8**	**+0.5**
RTLL	**Cerro Villicun**	**23.28**	**173**	*e*P	**P**	**16 22 53.3**	**+0.6**
SJA	**San Juan**	**23.47**	**173**	*e*P	**P**	**16 22 55.4**	**+1.1**
FCV	**Fort Charlotte**	**23.52**	**26**	*e*	**P**	**16 22 57.5**	**+2.5**
CFAA	**Coronel Fontan**	**23.59**	**173**	P	**P**	**16 22 55.6**	**+0.2**
	comp=Z,18nm,0.5s,baz=344,slow=2.0,SNR=217						
CFAA				PcP	**PcP**	**16 26 20.3**	**+0.8**
	comp=Z,8.1nm,0.5s,baz=315,slow=5.0,SNR=3.9						
CFAA				ScP	**ScP**	**16 29 02.3**	**-1.0**
	comp=Z,15nm,1.1s,baz=330,slow=2.4,SNR=5.6						
CFAA				PKiKP	**PKiKP**	**16 34 01.2**	**-1.1**
	comp=Z,1.4nm,0.8s,baz=212,slow=1.4,SNR=5.2						
CFAA	**Coronel Fontan**	**23.59**	**173**	*e*P	**P**	**16 22 55.8**	**+0.4**
SVB	**Belmont**	**23.62**	**26**	*e*P	**P**	**16 22 56.0**	**+0.1**
RTLS	**Loncito**	**23.67**	**175**	*e*P	**P**	**16 22 57.5**	**+1.1**
SVV	**Soufriere Volc**	**23.68**	**26**	*e*	**P**	**16 22 58.7**	**+2.4**
RTCV	**Cerro Valdivia**	**23.80**	**173**	*e*P	**P**	**16 22 57.9**	**+0.6**
AUSP	**Uspallata**	**24.08**	**175**	*e*P	**P**	**16 23 01.1**	**+1.1**
MCLT	**Moule a Chique**	**24.14**	**26**	*e*P	**P**	**16 23 00.3**	**-0.2**
BDFB	**Brasilia**	**24.28**	**110**	P	**P**	**16 23 03.3**	**+1.4**
	comp=Z,254nm,0.6s,baz=279,slow=10,SNR=126						
BDFB				ScP	**ScP**	**16 29 05.5**	**-0.1**
	comp=Z,72nm,0.6s,baz=130,slow=1.7,SNR=5.3						
BDFB	**Brasilia**	**24.28**	**110**	P	**P**	**16 23 03.3**	**+1.4**
BDFB				pmax	pmax		
	comp=Z,254nm,0.6s						
BDFB				pmax	pmax		
	comp=N,73nm,0.6s						
BBGH	**Gun Hill**	**24.29**	**30**	*e*P	**P**	**16 23 04.8**	**+3.0**
	comp=N,456nm,0.6s						
ACAN	**Cantantal**	**24.39**	**171**	*e*P	**P**	**16 23 03.5**	**+1.0**
ASAL	**Salagasta**	**24.49**	**174**	*e*P	**P**	**16 23 04.8**	**+1.3**
PIL	**Pilar**	**24.52**	**164**	*e*P	**P**	**16 23 04.0**	**+0.3**
ARCO	**CERRO ARCO**	**24.73**	**175**	*e*P	**P**	**16 23 06.7**	**+1.0**
ARCO				AML	AML	16 24 42.6	
	comp=Z,104nm,0.5s						
ROCH	**El Roble**	**24.74**	**179**	*e*P	**P**	**16 23 06.7**	**+0.9**
H05S1	**Guadeloupe/Mar**	**24.83**	**26**	P	**P**	**16 23 05.2**	**-1.3**
	SNR=28						
FDF	**Fort de France**	**24.97**	**25**	*e*P	**P**	**16 23 06.6**	**-1.2**
FDF	**Fort de France**	**24.97**	**25**	*e*P	**P**	**16 23 06.6**	**-1.2**
FDF				*e*S	**S**	**16 26 45.6**	**-6.1**
FDF				pmax	pmax		
	comp=Z,328nm,0.7s						
FDF	**Fort de France**	**24.97**	**25**	*e*P	**P**	**16 23 06.6**	**-1.2**
	comp=Z,328nm,0.7s						
FDF				*e*S	**S**	**16 26 45.6**	**-6.1**
AAGR	**Agrelo**	**24.98**	**174**	*e*P	**P**	**16 23 08.9**	**+1.1**
BBL	**Barber's Block**	**25.56**	**23**	*e*P	**P**	**16 23 12.0**	**-1.0**
HMG	**Houelmont**	**25.89**	**22**	*e*P	**P**	**16 23 15.1**	**-0.7**
PHG	**Guadaloupe-2**	**25.94**	**22**	*e*P	**P**	**16 23 16.2**	**-0.2**
TAG	**Tarade**	**25.95**	**22**	*e*P	**P**	**16 23 15.7**	**-1.0**
MLG	**Mont-d'or**	**25.96**	**22**	*e*P	**P**	**16 23 16.0**	**-0.6**
ECG	**Echelle**	**25.96**	**22**	*e*P	**P**	**16 23 16.1**	**-0.6**
FNG	**Fond-Bernard**	**25.96**	**22**	*e*P	**P**	**16 23 15.8**	**-0.8**
MGG	**Marie-Galante**	**25.98**	**23**	*e*P	**P**	**16 23 15.5**	**-1.1**
SSG	**Sans Toucher**	**25.99**	**22**	*e*P	**P**	**16 23 16.6**	**-0.3**
ICMP	**Isla Caja de M**	**26.32**	**11**	*e*P	**P**	**16 23 20.4**	**+0.8**
CRPR	**Cabo Rojo, PR**	**26.34**	**10**	*e*P	**P**	**16 23 20.4**	**+0.6**
	comp=Z,676nm,0.6s						
SEG	**Port Louis**	**26.34**	**22**	*e*P	**P**	**16 23 18.9**	**-0.9**
MBWH		**26.41**	**21**	*e*P	**P**	**16 23 19.1**	**-1.4**
DEG	**La Desirade**	**26.43**	**23**	*e*P	**P**	**16 23 18.8**	**-1.9**
H05N1	**Guadeloupe/Mar**	**26.44**	**23**	P	**P**	**16 23 17.2**	**-3.5**
	SNR=94						
HOJ	**Hope**	**26.44**	**349**	*i* P	**P**	**16 23 22.2**	**+1.6**
OBIP	**Obispado Ponce**	**26.46**	**11**	*e*P	**P**	**16 23 21.6**	**+0.7**
	comp=Z,2μm,1.1s						
CELP	**Cerrillos**	**26.50**	**11**	*e*P	**P**	**16 23 21.6**	**+0.4**
GWJ	**Greenwich**	**26.50**	**349**	*i* P	**P**	**16 23 21.8**	**+0.4**
LSP	**Las Mesas**	**26.51**	**10**	*e*P	**P**	**16 23 21.7**	**+0.4**
STH	**Stony Hill**	**26.52**	**349**	*i* P	**P**	**16 23 22.3**	**+0.8**
MCJ	**Malvern**	**26.55**	**347**	*i* P	**P**	**16 23 22.9**	**+1.1**
CDVI	**St. Croix**	**26.58**	**15**	*e*P	**P**	**16 23 21.6**	**-0.3**
	comp=Z,656nm,0.5s						
SJG	**San Juan**	**26.62**	**12**	*e*P	**P**	**16 23 22.1**	**-0.1**
SJG				*e**SP	**sP**	**16 26 02.4**	**-0.1**
SJG				*e*S	**S**	**16 27 16.9**	**-0.4**
SJG				pmax	pmax		
	comp=Z,1μm,1.0s						
SJG	**San Juan**	**26.62**	**12**	*e*P	**P**	**16 23 22.1**	**-0.1**
	comp=Z,1μm,1.0s						
SJG				pP	**pP**	**16 24 51.2**	**-3.1**
SJG				*e*sP	**sP**	**16 26 02.4**	**-0.1**
SJG				*e*S	**S**	**16 27 16.9**	**-0.4**
PCDR	**Punta Cana, DR**	**26.66**	**7**	*e*P	**P**	**16 23 23.4**	**+0.8**
PCDR				*e*S	**S**	**16 27 17.0**	**-0.8**
LRS	**Lares**	**26.66**	**10**	*e*P	**P**	**16 23 23.1**	**+0.4**
LRS				*e*PcP	**PcP**	**16 26 26.7**	**0.0**
AGPR	**Aguadilla, PR**	**26.79**	**10**	*e*P	**P**	**16 23 23.6**	**-0.1**
	comp=Z,652nm,1.2s						
AGPR				*e*pP	**pP**	**16 24 55.6**	**-0.3**
AGPR				*e*S	**S**	**16 27 19.1**	**-0.8**
MTDJ	**Mount Denham**	**26.81**	**348**	*e*P	**P**	**16 23 24.9**	**+0.9**
	comp=Z,1μm,1.0s						
CVJ	**Coleyville**	**26.81**	**348**	*i* P	**P**	**16 23 25.1**	**+1.0**
SABA	**Saba**	**26.88**	**18**	*e*P	**P**	**16 23 24.5**	**-0.1**
BBJ	**Bamboo Saint A**	**26.91**	**348**	*i* P	**P**	**16 23 25.8**	**+0.9**
SDDR	**Presa de Saban**	**26.93**	**1**	*e*P	**P**	**16 23 25.2**

RPN comp=Z,551nm,0.8s,baz=74,slow=3.0,SNR=31 PcP **PcP** **16 27 05.4 -0.8**
RPN comp=Z,145nm,1.0s,baz=44,slow=4.2,SNR=3.3 ScP **ScP** **16 30 01.6 +0.8**
RPN comp=Z,134nm,0.9s,baz=203,slow=1.0,SNR=4.2 S **S** **16 30 46.9 +2.3**
RPN Rapa Nui 40.37 237 comp=Z,72nm,1.2s,baz=117,slow=9.0,SNR=2.2 P **P** **16 25 18.4 +1.0**
RPN 16 27 05.4
RPN S **S** **16 30 46.9 +2.3**
RPN pmax pmax
comp=Z,551nm,0.8s
RPN pmax pmax
comp=Z,145nm,1.0s
RPN smax smax
comp=N,72nm,1.2s
BBSR BB Station 40.80 9 comp=N,1µm,1.4s *e*P **P** **16 25 18.9 -1.7**
TIGA Tifton 40.96 344 comp=N,1µm,1.0s *e*P **P** **16 25 22.0 +0.1**
TIGA *e*ScP **ScP** **16 30 03.8 +0.9**
TIGA Tifton 40.96 344 baz=41 ⇑P **P** **16 25 22.2 +0.2**
TIGA ⇓S **S** **16 30 51.2 -1.7**
baz=41
TIGA ⇓S **S** **16 30 51.2 -1.7**
baz=41
RGRS Roger Stewart 41.60 349 comp=N,48nm,0.3s *e*P **P** **16 25 27.2 +0.3**
BRAL Brewton 41.62 340 comp=N,2µm,1.1s *e*P **P** **16 25 28.3 +1.2**
CSU Charleston Sou 41.65 349 *e*P **P** **16 25 28.0 +0.6**
CSU *e*S **S** **16 31 01.0 -1.8**
NHSC New Hope 41.79 349 comp=N,3µm,1.0s *e*P **P** **16 25 29.2 +0.7**
GOGA Godfrey 42.80 345 GOGA *e*P **P** **16 25 36.4 0.0**
comp=Z,46nm,1.3s pmax pmax
GOGA Godfrey 42.80 345 comp=Z,46nm,1.3s *e*P **P** **16 25 36.4 0.0**
035Z Hargill 42.89 324 baz=43,SNR=22 ⇓P **P** **16 25 38.5 +1.3**
936A North Padre Is 43.20 326 baz=43 ⇓P **P** **16 25 40.6 +1.0**
035A Encino 43.27 325 baz=44,SNR=37 ⇓P **P** **16 25 41.5 +1.3**
738A Farr-Stevens R 43.43 329 baz=44 ⇑P **P** **16 25 42.9 +1.5**
LRAL Lakeview Retre 43.45 341 comp=Z,810nm,1.0s *e*P **P** **16 25 40.8 -0.7**
LRAL *e*ScP **ScP** **16 30 13.7 +0.8**
LRAL *e*S **S** **16 31 23.9 -4.7**
CNNC Cliffs of the 43.52 353 comp=Z,1µm,1.3s *e*P **P** **16 25 41.7 -0.2**
KVTX Kingsville 43.62 325 comp=Z,2µm,1.1s *e*P **P** **16 25 44.9 +2.0**
034A Hebbronville 43.70 324 baz=44,SNR=90 ⇑P **P** **16 25 44.8 +1.3**
KMSC Kings Mountain 43.99 349 comp=Z,961nm,1.0s *e*P **P** **16 25 45.8 +0.2**
KMSC *e*ScP **ScP** **16 30 15.8 +0.6**
KMSC Kings Mountain 43.99 349 baz=44,SNR=233 ⇓P **P** **16 25 46.1 +0.5**
539A Cross D Ranch, 44.00 331 baz=44,SNR=14 ⇓P **P** **16 25 47.0 +1.3**
934A Benavides 44.02 325 baz=44,SNR=69 ⇑P **P** **16 25 47.7 +1.8**
835A Beeville 44.16 326 baz=44,SNR=26 ⇑P **P** **16 25 48.8 +1.8**
736A Circle Diamond 44.27 327 baz=44 ⇓P **P** **16 25 50.0 +2.2**
HKT Hockley 44.42 329 comp=Z,1µm,1.5s *e*P **P** **16 25 49.9 +1.0**
HKT pmax pmax
HKT Hockley 44.42 329 comp=Z,1µm,1.5s *e*P **P** **16 25 49.9 +1.0**
HKT *e*ScP **ScP** **16 30 17.2 +0.2**
834A Tilden 44.44 325 baz=45,SNR=144 ⇑P **P** **16 25 50.5 +1.3**
933A Laredo 44.46 324 baz=45,SNR=186 ⇓P **P** **16 25 50.5 +1.2**
538A Harpers Horsep 44.47 330 baz=45,SNR=29 ⇓P **P** **16 25 51.1 +1.7**
735A Kenedy 44.59 327 baz=45,SNR=42 ⇓P **P** **16 25 51.7 +1.5**
439A Center Grove, 44.59 331 baz=45,SNR=42 ⇑P **P** **16 25 51.7 +1.4**
636A Smothers Creek 44.68 328 baz=45,SNR=194 ⇑P **P** **16 25 52.6 +1.6**
340A Bronson 44.70 333 baz=45,SNR=25 ⇑P **P** **16 25 51.7 +0.6**
537A Green Hill Far 44.77 329 baz=45,SNR=79 ⇑P **P** **16 25 53.1 +1.4**
EFI East Falkland 44.84 168 comp=Z,6µm,0.8s P **P** **16 25 52.0 +0.1**
EFI East Falkland 44.84 168 comp=Z,2µm,0.9s *d*iP **P** **16 25 52.5 +0.6**
EFI pmax pmax
EFI East Falkland 44.84 168 comp=Z,601nm,0.6s *e*P **P** **16 25 52.7 +0.8**
EFI *e*PcP **PcP** **16 27 21.2 +0.3**
438A Sam Houston St 44.90 330 baz=45,SNR=72 ⇑P **P** **16 25 53.9 +1.3**
339A Huntington 44.94 332 baz=45,SNR=25 ⇑P **P** **16 25 53.7 +0.8**
635A Leesville 44.98 327 baz=45,SNR=68 ⇑P **P** **16 25 53.8 +0.5**
734A La Parita Cree 44.99 326 baz=45,SNR=82 ⇑P **P** **16 25 54.4 +1.0**
TKL Tuckaleechee C 45.02 346 comp=Z,829nm,1.0s,baz=165,slow=9.8,SNR=178 P **P** **16 25 53.2 -0.2**
TKL ScP **ScP** **16 30 18.9 -0.5**
TKL comp=Z,48nm,0.9s,baz=169,slow=5.0,SNR=6.1 S **S** **16 31 47.6 -2.9**
TKL Tuckaleechee C 45.02 346 comp=Z,53nm,0.9s,baz=57,slow=22,SNR=30 P **P** **16 25 53.2 -0.2**
TKL S **S** **16 31 47.6 -2.9**
TKL pmax pmax
comp=Z,829nm,1.0s
TKL smax smax
comp=N,53nm,0.9s
TKL Tuckaleechee C 45.02 346 *e*P **P** **16 25 53.3 -0.2**
TKL ScP **ScP** **16 30 18.9 -0.5**
TKL *e*ScP ScP 16 30 19.7 +0.3
TKL S **S** **16 31 47.6 -2.9**
TKL *e*S S 16 31 49.1 -1.5
833A Chaparral WMA, 45.07 325 baz=45,SNR=242 ⇑P **P** **16 25 55.0 +1.0**
536A Bastrop 45.15 328 baz=45,SNR=74 ⇓P **P** **16 25 55.9 +1.3**
SWET Sewanee 45.16 343 comp=N,153nm,1.2s *e*P **P** **16 25 54.0 -0.7**
437A Phantom Ranch, 45.29 330 baz=46,SNR=47 ⇑P **P** **16 25 57.1 +1.5**
634A China Grove, S 45.29 326 baz=46,SNR=34 ⇑P **P** **16 25 56.4 +0.8**
733A Divot King Ran 45.31 325 baz=46,SNR=114 ⇓P **P** **16 25 56.5 +0.7**
338A Crockett 45.32 331 baz=46,SNR=84 ⇓P **P** **16 25 57.2 +1.4**
832A Faith Ranch, C 45.37 324 baz=46,SNR=308 ⇓P **P** **16 25 57.1 +0.8**
535A Dale 45.38 328 baz=46,SNR=72 ⇓P **P** **16 25 57.2 +0.9**
239A Gary 45.48 332 baz=46,SNR=74 ⇓P **P** **16 25 58.0 +1.0**
337A Centerville 45.56 331 baz=46,SNR=36 ⇓P **P** **16 25 59.4 +1.7**
436A Wall Ranch, Ga 45.57 329 baz=46,SNR=82 ⇑P **P** **16 25 59.0 +1.2**
OXF Oxford 45.61 339 comp=Z,10µm,1.8s *e*P **P** **16 25 56.4 -1.6**
OXF *e* 16 27 24.5
OXF pmax pmax
OXF Oxford 45.61 339 comp=Z,14µm,1.8s *e*P **P** **16 25 56.4 -1.6**
OXF *e*PcP **PcP** **16 27 24.4 +0.5**
732A Laxson Ranch, 45.70 324 baz=46,SNR=391 ⇓P **P** **16 25 59.5 +0.7**
238A Jacksonville 45.77 332 baz=46,SNR=57 ⇓P **P** **16 26 00.4 +1.2**
VWCC Virginia Weste 45.79 351 *e*P **P** **16 26 00.0 +0.7**
633A Saathoff Ranch 45.81 326 baz=46,SNR=384 ⇑P **P** **16 26 00.6 +0.9**
BLA Blacksburg 45.83 350 BLA *e*P **P** **16 26 00.3 +0.6**
comp=Z,2µm,1.1s pmax pmax
BLA Blacksburg 45.83 350 comp=Z,2µm,1.1s *e*P **P** **16 26 00.3 +0.6**
534A Blanco 45.86 327 baz=46,SNR=126 ⇑P **P** **16 26 00.4 +0.3**
JSRW J. Sargeant Re 45.94 353 *e*P **P** **16 26 00.2 -0.2**
435B Jarrell 45.99 328 baz=46,SNR=42 ⇑P **P** **16 26 01.6 +0.7**
139A Bunkhouse Ranc 46.00 333 baz=46,SNR=118 ⇑P **P** **16 26 02.0 +1.0**
237A Washetta, Mont 46.09 331 baz=46,SNR=65 ⇓P **P** **16 26 03.1 +1.4**
336A Riesel 46.09 330 baz=46,SNR=67 ⇓P **P** **16 26 02.6 +0.9**
632A Uvalde 46.19 325 baz=46,SNR=396 ⇓P **P** **16 26 03.6 +1.1**
533A Kerrville 46.20 326 baz=46,SNR=78 ⇓P **P** **16 26 03.0 +0.4**
138A Matatall Enter 46.30 332 baz=46,SNR=195 ⇑P **P** **16 26 04.3 +1.0**
335A Moody 46.30 329 baz=46,SNR=110 ⇓P **P** **16 26 04.3 +0.9**
434A Burnet 46.37 328 baz=47,SNR=157 ⇓P **P** **16 26 04.0 +0.2**
Z39A Irene McRaven, 46.38 334 baz=47,SNR=122 ⇑P **P** **16 26 04.7 +0.8**
CBN Corbin Frederi 46.39 354 comp=Z,264nm,0.5s *e*P **P** **16 26 03.7 -0.1**
236A Katherine and 46.44 330 baz=47,SNR=95 ⇓P **P** **16 26 05.3 +1.0**
137A Heron Place, G 46.56 332 baz=47,SNR=96 ⇓P **P** **16 26 06.6 +1.4**
631A Perdido Creek 46.56 324 baz=47,SNR=389 ⇓P **P** **16 26 05.8 +0.5**
WVT Waverly 46.57 342 WVT *e*P **P** **16 26 03.8 -1.5**
WVT *e* 16 27 28.2
WVT *e*S S 16 32 06.0 -6.1
WVT pmax pmax
comp=Z,1µm,1.3s
WVT Waverly 46.57 342 comp=Z,1µm,1.3s *e*P **P** **16 26 03.8 -1.5**
WVT *e*PcP **PcP** **16 27 28.2 +0.9**
WVT *e*ScP **ScP** **16 30 25.7 -0.1**
WVT *e*S S 16 32 06.0 -6.1
USHA Ushuaia 46.66 177 comp=Z,332nm,0.7s,baz=349,slow=7.1,SNR=141 P **P** **16 26 06.8 +1.2**
USHA PcP **PcP** **16 27 27.7 +0.4**
comp=Z,46nm,0.7s,baz=332,slow=5.6,SNR=4.2
USHA ScP **ScP** **16 30 26.8 +0.9**
comp=Z,55nm,0.8s,baz=346,slow=6.5,SNR=6.8
USHA S **S** **16 32 13.0 +0.2**
comp=Z,9.2nm,0.9s,baz=349,slow=16,SNR=1.9
532A Rocksprings 46.73 326 baz=47,SNR=259 ⇑P **P** **16 26 07.5 +0.9**
Z38A Mt. Pleasant 46.74 333 baz=47,SNR=84 ⇓P **P** **16 26 07.6 +1.0**
433A Art 46.76 327 baz=47,SNR=329 ⇓P **P** **16 26 07.3 +0.5**
334A Lometa 46.76 328 baz=47,SNR=291 ⇓P **P** **16 26 07.5 +0.7**
WHTX Lake Whitney, 46.89 330 comp=Z,2µm,1.2s *e*P **P** **16 26 08.5 +0.8**
WHTX *e*ScP **ScP** **16 30 27.9 +0.6**
WHTX Lake Whitney, 46.89 330 baz=47,SNR=121 ⇓P **P** **16 26 08.8 +1.1**
JCT Junction City 46.94 326 JCT *e*P **P** **16 26 08.5 +0.3**
JCT *e* 16 27 29.8
JCT *e*SP 16 28 53.2
JCT *e*S S 16 32 09.3 -8.2
JCT pmax pmax
comp=Z,212nm,0.8s
JCT Junction City 46.94 326 comp=Z,212nm,0.8s *e*P **P** **16 26 08.5 +0.3**
JCT *e*PcP **PcP** **16 27 29.8 +0.9**
JCT *e*SP 16 28 53.2
JCT *e*ScP **ScP** **16 30 28.2 +0.6**
JCT *e*S S 16 32 09.3 -8.2
JCT Junction City 46.94 326 baz=47,SNR=82 ⇑P **P** **16 26 08.9 +0.7**
UALR University of 46.94 337 comp=Z,2µm,1.3s *e*P **P** **16 26 07.3 -0.7**
UALR *e*PcP **PcP** **16 27 29.1 +0.4**
UALR *e*ScP **ScP** **16 30 28.3 +0.9**
Z37A Pogue Cattle C 46.99 332 baz=47,SNR=104 ⇑P **P** **16 26 09.5 +1.0**
531A Rocksprings 47.11 325 baz=47,SNR=334 ⇓P **P** **16 26 10.4 +0.9**
333A Richland Sprin 47.15 328 baz=47,SNR=176 ⇓P **P** **16 26 10.2 +0.5**
432A Menard 47.24 326 baz=47,SNR=234 ⇓P **P** **16 26 10.9 +0.5**
MIAR Mount Ida 47.24 335 MIAR *e*P **P** **16 26 09.6 -0.7**
MIAR *e* 16 27 30.4
MIAR pmax pmax
comp=Z,1µm,1.0s
MIAR Mount Ida 47.24 335 comp=Z,1µm,1.0s *e*P **P** **16 26 09.6 -0.7**
MIAR *e*PcP **PcP** **16 27 30.4 +0.6**
234A Clairette 47.24 329 baz=47,SNR=186 ⇓P **P** **16 26 11.3 +0.9**
135A Vickery Place, 47.32 330 baz=48,SNR=51 ⇑P **P** **16 26 11.7 +0.8**
PVMO Portageville 47.43 340 comp=Z,4µm,1.1s *e*P **P** **16 26 11.1 -0.6**
SDMD Soldier's Deli 47.53 355 comp=Z,308nm,0.4s *e*P **P** **16 26 12.0 -0.4**
SDMD *e*PcP **PcP** **16 27 30.9 +0.2**
431A Sonora 47.54 326 baz=48,SNR=463 ⇑P **P** **16 26 13.1 +0.4**
530A J-C Ranch, Com 47.55 324 baz=48,SNR=359 ⇑P **P** **16 26 13.6 +0.8**
332A Millerview 47.60 327 baz=48,SNR=348 ⇓P **P** **16 26 13.9 +0.8**
233A Rising Star 47.65 328 baz=48,SNR=330 ⇓P **P** **16 26 14.1 +0.7**
134A White-Moore Ra 47.67 329 baz=48,SNR=154 ⇓P **P** **16 26 14.4 +0.9**
PARMO Parma 47.68 340 *e*P **P** **16 26 12.8 -0.7**
Z35A Perchaven, San 47.87 331 baz=48,SNR=157 ⇑P **P** **16 26 16.0 +0.9**
331A San Angelo 47.91 326 baz=48,SNR=204 ⇓P **P** **16 26 16.0 +0.5**
232A Coleman 47.94 327 baz=48,SNR=584 ⇑P **P** **16 26 16.5 +0.9**
430A Baggett Ranch, 47.97 325 baz=48,SNR=394 ⇓P **P** **16 26 16.5 +0.6**
X37A Clayton 48.05 333 baz=48,SNR=587 ⇑P **P** **16 26 16.9 +0.6**
529A Stev Forest Ra 48.05 324 baz=48,SNR=476 ⇓P **P** **16 26 17.2 +0.6**
W38A Poteau 48.08 335 baz=48,SNR=457 ⇑P **P** **16 26 17.0 +0.4**
WCI Wyandotte Cave 48.09 344 WCI *e*P **P** **16 26 15.7 -0.9**
WCI *e* 16 27 32.7
WCI pmax pmax
comp=Z,951nm,0.8s
WCI Wyandotte Cave 48.09 344 comp=Z,951nm,0.8s *e*P **P** **16 26 15.7 -0.9**
WCI *e*PcP **PcP** **16 27 32.7 -0.1**
WCI *e*ScP **ScP** **16 30 32.4 +0.1**
133A Hamilton Ranch 48.12 329 baz=48,SNR=258 ⇓P **P** **16 26 17.8 +0.8**
USIN University of 48.22 343 comp=Z,3µm,1.0s *e*P **P** **16 26 16.3 -1.2**
USIN *e*ScP **ScP** **16 30 33.0 +0.1**
USIN *e*S S 16 32 28.1 -6.7
429A Davenport Ranc 48.23 324 baz=48,SNR=638 ⇑P **P** **16 26 18.5 +0.7**
Z34A Collier Ranch, 48.23 330 baz=48,SNR=128 ⇓P **P** **16 26 18.7 +1.0**
231A Bronte 48.34 327 baz=48,SNR=53 ⇑P **P** **16 26 18.9 +0.4**
TXAR Lajitas Array 48.35 322 comp=Z,77nm,0.4s,baz=132,slow=9.4,SNR=492 P **P** **16 26 19.2 +0.4**
TXAR PcP **PcP** **16 27 34.4 +0.3**
comp=Z,42nm,0.5s,baz=133,slow=6.1,SNR=7.9
TXAR ScP **ScP** **16 30 35.1 +1.4**
comp=Z,38nm,0.8s,baz=137,slow=7.5,SNR=7.6
TXAR S **S** **16 32 35.8 -1.2**
comp=Z,29nm,1.2s,baz=70,slow=12,SNR=2.1
TXAR P3KP 16 55 59.6
comp=Z,0.7nm,0.9s,baz=231,slow=0.8,SNR=4.2
TXAR PKP2ab 16 58 13.2
comp=Z,2.3nm,1.1s,baz=302,slow=2.8,SNR=3.5
TXAR P4KPbc 17 03 48.8
comp=Z,0.9nm,0.5s,baz=128,slow=8.1,SNR=11
330A Mertzon 48.40 326 baz=49,SNR=160 ⇓P **P** **16 26 19.4 +0.3**
SIUC Southern Illin 48.46 341 *e*P **P** **16 26 17.2 -2.1**
X36A Centrahoma 48.47 333 baz=49,SNR=410 ⇑P **P** **16 26 19.9 +0.5**
ABTX Abilene, Hawle 48.51 328 comp=Z,1µm,1.1s *e*P **P** **16 26 20.4 +0.6**
ABTX Abilene, Hawle 48.51 328 baz=49,SNR=257 ⇑P **P** **16 26 20.5 +0.6**
W37A Quinton 48.53 334 baz=49,SNR=400 ⇑P **P** **16 26 20.4 +0.5**
Z33A Whitaker Ranch 48.58 329 baz=49,SNR=328 ⇓P **P** **16 26 21.5 +1.2**
X35A Drake 48.62 332 baz=49,SNR=462 ⇓P **P** **16 26 21.0 +0.4**
Y34A Reagan Ranch, 48.63 331 baz=49,SNR=350 ⇓P **P** **16 26 21.4 +0.8**
CPNY Central Park 48.71 358 comp=Z,418nm,1.1s *e*P **P** **16 26 20.5 -0.6**
CPNY *e*PcP **PcP** **16 27 34.8 -0.2**
230A Sterling City 48.73 326 baz=49,SNR=146 ⇑P **P** **16 26 21.8 +0.2**
SSPA Standing Stone 48.85 354 comp=Z,661nm,1.2s *e*P **P** **16 26 22.4 +0.3**
SSPA *e*PcP **PcP** **16 27 36.5 +1.0**
SSPA *e*pP **pP** **16 28 09.0 +0.4**
W36A Wetumka 48.89 333 baz=49,SNR=418 ⇑P **P** **16 26 22.4 -0.1**
329A Wagon Wheel Ra 48.92 325 baz=49,SNR=172 ⇓P **P** **16 26 23.2 +0.3**
131A Roby 48.94 327 baz=49,SNR=151 ⇑P **P** **16 26 23.8 +0.8**
Z32A Haskell 48.96 329 baz=49,SNR=212 ⇑P **P** **16 26 23.9 +0.7**
BLO Bloomington 49.03 345 BLO *e*P **P** **16 26 22.8 -0.8**
pmax pmax
comp=Z,1µm,0.8s
BLO Bloomington 49.03 345 comp=Z,1µm,0.8s *e*P **P** **16 26 22.8 -0.8**
BLO *e*ScP **ScP** **16 30 37.1 +0.8**
OLIL Olney 49.06 343 comp=Z,594nm,0.8s *e*P **P** **16 26 22.3 -1.4**
OLIL *e*PcP **PcP** **16 27 36.6 +0.2**
Y33A Hilltop Ranch, 49.09 330 baz=49,SNR=350 ⇓P **P** **16 26 25.2 +1.1**
229A Bryant Ranch, 49.18 326 baz=49,SNR=91 ⇑P **P** **16 26 25.1 +0.2**
X34A Smith Ranch, M 49.19 331 baz=49,SNR=509 ⇑P **P** **16 26 25.6 +0.8**
W35A Tecumseh 49.19 333 baz=49,SNR=637 ⇓P **P** **16 26 24.9 +0.1**
130A Snyder 49.19 327 baz=49,SNR=77 ⇑P **P** **16 26 25.6 +0.7**
YLE Yale 49.20 359 comp=Z,2µm,1.3s *e*P **P** **16 26 24.8 +0.2**
ACSO Alum Creek Sta 49.23 349 comp=Z,101nm,1.1s *e*P **P** **16 26 24.6 -0.3**
Z31A Sharp Cattle R 49.32 328 baz=50,SNR=240 ⇑P **P** **16 26 26.6 +0.8**
TUL1 Leonard 49.34 334 comp=Z,1µm,0.9s *e*P **P** **16 26 25.8 -0.1**
TUL1 Leonard 49.34 334 baz=50,SNR=222 ⇑P **P** **16 26 25.8 -0.1**
X33A Lawton 49.46 331 baz=50,SNR=65 ⇓P **P** **16 26 26.9 +0.1**
Y32A R-V Farms, Ver 49.49 329 baz=50,SNR=479 ⇑P **P** **16 26 28.1 +1.1**
LPIG La Paz 49.49 311 comp=Z,68nm,0.4s,baz=328,slow=2.3,SNR=10 P **P** **16 26 27.7 +0.5**
LPIG PcP **PcP** **16 27 38.6 +0.3**
comp=Z,27nm,0.3s,baz=212,slow=1.2,SNR=3.7
LPIG pP **pP** **16 28 15.4 +1.3**
comp=Z,304nm,1.1s,baz=17,slow=3.6,SNR=6.5
LPIG S **S** **16 32 53.4 +0.8**
comp=Z,17nm,0.3s,baz=285,slow=19,SNR=6.2
W34A Bridge Creek, 49.67 332 comp=Z,1µm,1.0s *e*P **P** **16 26 28.4 0.0**
W34A *e*ScP **ScP** **16 30 40.9 +1.7**
W34A Bridge Creek, 49.67 332 baz=50,SNR=108 ⇓P **P** **16 26 28.8 +0.4**
V35A Meyer Ranch, C 49.68 333 baz=50,SNR=278 ⇓P **P** **16 26 28.5 +0.2**
129A Stewart Farms, 49.71 326 baz=50,SNR=234 ⇓P **P** **16 26 29.4 +0.6**
228A UT Block 9, Go 49.73 325 baz=50,SNR=157 ⇓P **P** **16 26 28.8 -0.1**
X32A Elmer 49.75 330 baz=50,SNR=123 ⇑P **P** **16 26 29.5 +0.6**
WMOK Wichita Mounta 49.75 331 WMOK *e*P **P** **16 26 28.5 -0.5**
WMOK *e* 16 27 38.8
WMOK *e*S **S** **16 32 54.1 -1.7**
WMOK pmax pmax
comp=Z,97nm,0.6s
WMOK Wichita Mounta 49.75 331 comp=Z,97nm,0.6s *e*P **P** **16 26 28.5 -0.5**
WMOK *e*PcP **PcP** **16 27 38.8 -0.2**
WMOK *e*ScP **ScP** **16 30 40.5 +1.0**
WMOK *e*S S **16 32 54.1 -1.7**
BRYW Bryant College 49.79 0 comp=Z,1µm,1.0s *e*P **P** **16 26 28.9 -0.1**
Z30A Sanderson Ranc 49.81 327 baz=50,SNR=984 ⇓P **P** **16 26 30.1 +0.7**
Y31A Rekieta Farm, 49.88 329 baz=50,SNR=408 ⇑P **P** **16 26 30.7 +0.8**
W33A Caddo, Fort Co 49.94 331 baz=50,SNR=224 ⇑P **P** **16 26 31.3 +1.0**
T37A Cheneyville 18 50.01 336 baz=50 ⇓P **P** **16 26 30.4 -0.4**
128A Castleberry Fa 50.05 326 baz=50,SNR=300 ⇓P **P** **16 26 31.4 +0.2**
V34A Guthrie 50.05 332 comp=Z,4µm,1.0s *e*P **P** **16 26 31.2 +0.1**
V34A *e*ScP **ScP** **16 30 41.3 +0.5**
V34A *e*S S **16 32 57.9 -1.9**
V34A Guthrie 50.05 332 baz=50,SNR=406 ⇓P **P** **16 26 31.2 +0.1**
Z29A Hungry Hill Ra 50.10 327 baz=50,SNR=162 ⇑P **P** **16 26 31.7 +0.1**
ALLY Alegheny Colle 50.13 352 comp=Z,6µm,1.3s *e*P **P** **16 26 31.8 +0.2**
ALLY *e*PcP **PcP** **16 27 40.5 +0.2**
Y30A Stafford Cattl 50.14 328 baz=50,SNR=268 ⇑P **P** **16 26 32.4 +0.5**
QUA2 Belchertown 50.15 359 comp=Z,383nm,1.2s *e*P **P** **16 26 31.1 -0.6**
QUA2 *e*PcP **PcP** **16 27 41.3 +1.0**
BINY Binghamton 50.23 356 comp=Z,5µm,1.4s *e*P **P** **16 26 32.5 +0.3**
BINY *e*PcP **PcP** **16 27 42.2 +1.5**
BINY *e*pP **pP** **16 28 18.3 -1.4**
X31A McDonald Ranch 50.26 329 baz=50,SNR=202 ⇑P **P** **16 26 33.4 +0.8**
W32A Sentinel 50.29 330 baz=50,SNR=719 ⇑P **P** **16 26 33.4 +0.6**
SFIN Lafayette 50.32 345 comp=Z,872nm,1.0s *e*P **P** **16 26 31.2 -1.7**
SFIN Lafayette 50.32 345 baz=50,SNR=84 ⇓P **P** **16 26 31.4 -1.5**
T36A Boggs Farm, Ca 50.35 335 baz=51,SNR=336 ⇑P **P** **16 26 33.0 -0.2**
HRV Adam Dziewonsk 50.38 0 HRV *e*P **P** **16 26 33.3 0.0**
HRV *e**PP **pP** **16 28 21.3 +0.5**
HRV pmax pmax
comp=Z,2µm,1.4s
HRV Adam Dziewonsk 50.38 0 comp=Z,2µm,1.4s *e*P **P** **16 26 33.3 0.0**
HRV *e*pP **pP** **16 28 21.3 +0.5**
V33A Lossen Ranch, 50.39 332 baz=51 ⇓P **P** **16 26 34.0 +0.4**
Z28A Tucker Farm, M 50.49 326 baz=51,SNR=96 ⇑P **P** **16 26 34.5 0.0**
T35A Sooner Cattle 50.50 334 baz=51,SNR=235 ⇓P **P** **16 26 34.5 +0.1**
Y29A Porterfield Fa 50.54 327 baz=51,SNR=167 ⇑P **P** **16 26 35.1 +0.3**
U34A Anderson Ranch 50.55 333 comp=Z,6µm,1.2s *e*P **P** **16 26 34.9 +0.2**
U34A *e*PcP **PcP** **16 27 42.5 +0.5**
U34A Anderson Ranch 50.55 333 baz=51,SNR=522 ⇑P **P** **16 26 35.2 +0.5**
X30A Coker Ranch, T 50.57 329 baz=51,SNR=162 ⇓P **P** **16 26 35.6 +0.6**
CLNB Carlsbad 50.58 324 comp=Z,108nm,1.1s *e*P **P** **16 26 36.0 +0.9**
CLNB *e*PcP **PcP** **16 27 43.2 +0.9**
TRY Troy 50.63 358 comp=Z,1µm,1.3s *e*P **P** **16 26 35.0 -0.2**
V32A Arapaho 50.67 331 baz=51,SNR=251 ⇓P **P** **16 26 36.5 +0.9**

W31A **Holland Ranch,** 50.68 330 ⇑P P 16 26 35.8 +0.1
baz=51,SNR=78
S36A **Lake Cedric, C** 50.80 335 ⇑P P 16 26 36.1 -0.3
baz=51,SNR=249
U33A **Lingo Farm, Me** 50.81 332 ⇓P P 16 26 36.8 +0.1
baz=51,SNR=165
T34A **McCluskey Farm** 50.88 334 ⇑P P 16 26 37.5 +0.4
baz=51,SNR=302
Y28A **McKinney Farm,** 50.89 327 ⇓P P 16 26 37.2 -0.2
baz=51,SNR=24
R37A **Teagarden Farm** 51.00 337 ⇑P P 16 26 37.0 -0.8
baz=51,SNR=98
W30A **Crocket Farms** 51.00 329 ⇑P P 16 26 38.5 +0.4
baz=51,SNR=18
X29A **Tulia** 51.01 328 ⇑P P 16 26 38.3 +0.1
baz=51,SNR=217
MNTX **Cornudas Mount** 51.06 323 *e*P P 16 26 38.1 -0.4
comp=Z,862nm,1.4s
MNTX *e*PcP PcP 16 27 43.8 -0.2
MNTX **Cornudas Mount** 51.06 323 ⇑P P 16 26 38.5 0.0
baz=51,SNR=487
S35A **Otter Creek Ra** 51.06 335 ⇓P P 16 26 38.5 +0.1
baz=51,SNR=360
HDIL **Hopedale** 51.09 343 *e*P P 16 26 36.8 -1.8
comp=Z,2.7nm,0.4s
V31A **Spring Creek L** 51.10 330 ⇓P P 16 26 40.0 +1.2
baz=51,SNR=167
U32A **Winter Ranch,** 51.18 332 ⇓P P 16 26 39.8 +0.5
baz=51,SNR=145
MSTX **Muleshoe** 51.22 327 *e*P P 16 26 39.7 -0.1
comp=Z,692nm,0.9s
MSTX *e*PcP PcP 16 27 45.6 +0.9
MSTX *e*ScP ScP 16 30 46.9 +0.9
MSTX **Muleshoe** 51.22 327 ⇓P P 16 26 39.9 +0.1
baz=51,SNR=195
R36A **Gordon, Harris** 51.27 336 ⇓P P 16 26 39.4 -0.5
baz=52,SNR=426
ACCN **Adirondack Com** 51.29 358 *e*P P 16 26 39.9 0.0
comp=Z,457nm,1.2s
ACCN *e*PcP PcP 16 27 44.7 +0.1
X28A **Dimmitt** 51.32 327 ⇑P P 16 26 40.5 0.0
baz=52,SNR=47
AMTX **Amarillo** 51.33 328 *e*P P 16 26 40.3 -0.2
comp=Z,2µm,1.3s
AMTX *e*PcP PcP 16 27 45.7 +0.6
AMTX *e*ScP ScP 16 30 48.0 +1.5
AMTX **Amarillo** 51.33 328 ⇑P P 16 26 40.8 +0.3
baz=52
Q37A **Longview Farm,** 51.34 337 ⇑P P 16 26 39.5 -0.8
baz=52,SNR=55
FFD **Franklin Falls** 51.34 360 *e*P P 16 26 40.3 +0.1
comp=Z,272nm,0.6s
FFD *e*PcP PcP 16 27 45.2 +0.4
AAM **Ann Arbor** 51.36 349 *e*P P 16 26 39.6 -0.8
AAM *e* 16 27 45.0
AAM pmax pmax
comp=Z,517nm,0.8s
AAM **Ann Arbor** 51.36 349 *e*P P 16 26 39.6 -0.8
comp=Z,517nm,0.8s
AAM *e*PcP PcP 16 27 45.0 +0.1
T33A **Patterson Ranc** 51.41 333 ⇓P P 16 26 41.4 +0.5
baz=52,SNR=328
S34A **Willow Spring** 51.42 334 ⇑P P 16 26 41.1 +0.2
baz=52,SNR=112
W29A **Amarillo** 51.50 328 ⇓P P 16 26 41.8 +0.1
baz=52,SNR=72
V30A **Spur Ranch, Mi** 51.51 330 ⇓P P 16 26 42.8 +1.0
baz=52,SNR=68
R35A **Emporia Munici** 51.56 335 ⇓P P 16 26 42.0 0.0
baz=52
HNH **Hanover** 51.58 359 *e*P P 16 26 41.4 -0.5
comp=Z,234nm,1.1s
U31A **Nine Bar Ranch** 51.58 331 ⇓P P 16 26 42.9 +0.7
baz=52,SNR=36
S33A **Kaszmaul Farm,** 51.72 333 ⇑P P 16 26 43.6 +0.5
baz=52,SNR=185
T32A **Huddler Ranch,** 51.80 332 ⇑P P 16 26 44.7 +1.0
baz=52,SNR=132
Q36A **Arnold C. Orve** 51.80 336 ⇑P P 16 26 43.0 -0.7
baz=52,SNR=123
MDV **Middlebury** 51.89 359 *e*P P 16 26 44.0 -0.2
MDV *e*PcP PcP 16 27 47.6 +0.9
NCB **Newcomb** 51.89 358 *e*P P 16 26 44.0 -0.3
comp=Z,877nm,1.0s
W28A **Vega** 51.89 328 ⇓P P 16 26 44.8 +0.3
baz=52,SNR=50
Q35A **Mercer Eighty,** 51.95 336 ⇓P P 16 26 44.4 -0.4
baz=52,SNR=409
R34A **Isabella, Hill** 51.98 334 ⇑P P 16 26 45.0 0.0
baz=52
V29A **Stinnett** 52.02 329 ⇑P P 16 26 46.0 +0.6
baz=52,SNR=24
T31A **Randall Ranch,** 52.08 332 ⇑P P 16 26 46.6 +0.8
baz=52,SNR=95
U30A **WK&E Inc. Balk** 52.10 330 ⇑P P 16 26 46.6 +0.7
baz=52,SNR=98
S32A **Newby Ranch, P** 52.23 333 ⇓P P 16 26 47.6 +0.8
baz=52,SNR=89
V28A **Channing** 52.28 328 ⇑P P 16 26 47.7 +0.3
baz=52,SNR=62
R33A **Olander Ranch,** 52.30 334 ⇓P P 16 26 47.6 +0.3
baz=52,SNR=176
U29A **Oasis Ranch, S** 52.34 330 ⇑P P 16 26 48.5 +0.8
baz=52,SNR=43
Q34A **Chapman** 52.37 335 ⇓P P 16 26 47.6 -0.2
baz=53,SNR=82
KSU1 **Kansas State U** 52.39 336 *e*P P 16 26 47.3 -0.5
comp=Z,2µm,0.8s
KSU1 **Kansas State U** 52.39 336 ⇓P P 16 26 47.5 -0.4
baz=53,SNR=129
S31A **Mullinville** 52.41 332 ⇓P P 16 26 49.1 +0.9
baz=53,SNR=170
T30A **Plains** 52.45 331 ⇑P P 16 26 49.2 +0.8
baz=53,SNR=33
WVL **Waterville** 52.47 2 *e*P P 16 26 48.2 0.0
comp=Z,627nm,1.3s
WVL *e*PcP PcP 16 27 49.1 +0.1
P35A **Duane Minner,** 52.51 336 ⇑P P 16 26 47.9 -0.9
baz=53,SNR=208
LONY **Lake Ozonia** 52.56 357 *e*P P 16 26 48.7 -0.2
comp=Z,772nm,0.4s
V27A **Dan Oppiter Fa** 52.61 328 ⇑P P 16 26 50.1 +0.5
baz=53,SNR=80
O36A **Bolckow** 52.62 338 ⇑P P 16 26 48.5 -1.0
baz=53
EMMW **East Machias** 52.72 4 *e*P P 16 26 50.4 +0.4
comp=Z,855nm,1.3s
EMMW *e*PcP PcP 16 27 50.1 +0.2
R32A **Long Quarter,** 52.72 333 ⇓P P 16 26 50.6 +0.4
baz=53,SNR=69
U28A **Mallet** 52.77 329 ⇑P P 16 26 50.9 +0.2
baz=53,SNR=76
Q33A **Connelly Farm,** 52.81 334 ⇑P P 16 26 51.0 +0.1
baz=53,SNR=171
SACV **Santiago Islan** 52.85 64 P P 16 26 51.0 -0.6
comp=Z,2µm,0.7s,SNR=12
SACV **Santiago Islan** 52.85 64 *e*P P 16 26 51.3 -0.3
comp=Z,224nm,0.7s
S30A **Montezuma** 52.89 331 ⇑P P 16 26 52.4 +0.8
baz=53,SNR=65
T29A **Hugoton** 52.91 330 ⇓P P 16 26 52.6 +0.9
baz=53,SNR=77
R31A **Burdett** 52.98 333 ⇓P P 16 26 52.7 +0.5
baz=53,SNR=71
O35A **Humboldt** 53.10 337 ⇓P P 16 26 51.9 -1.0
baz=53
121A **Cookes Peak, D** 53.10 321 *e*P P 16 26 54.4 +1.1
comp=Z,6µm,0.5s
121A **Cookes Peak, D** 53.10 321 ⇑P P 16 26 54.6 +1.3
baz=53,SNR=330
U27A **Thompson Grove** 53.11 329 ⇑P P 16 26 53.7 +0.5
baz=53,SNR=57
P33A **Williams Farm,** 53.12 335 ⇓P P 16 26 53.2 +0.1
baz=53,SNR=37
Q32A **Meitler Ranch,** 53.12 334 ⇑P P 16 26 53.2 +0.1
baz=53,SNR=167
PKME **Peaks-Kenny Pk** 53.18 2 *e*P P 16 26 53.7 +0.4
comp=Z,313nm,1.1s
PKME *e*S S 16 33 40.5 -0.5
S29A **Ulysses** 53.19 331 ⇑P P 16 26 54.7 +1.0
baz=53,SNR=98
319A **Douglas** 53.28 319 ⇓P P 16 26 55.5 +1.0
baz=54,SNR=211
T28A **Walsh** 53.28 330 ⇓P P 16 26 54.6 +0.1
baz=54,SNR=110
R30A **Dighton** 53.32 332 ⇑P P 16 26 55.5 +0.9
baz=54,SNR=95
Q31A **Ellis** 53.50 333 ⇑P P 16 26 56.3 +0.4
baz=54,SNR=71
N35A **Tabor** 53.51 337 ⇑P P 16 26 55.0 -0.8
baz=54
JFWS **Jewell Farm** 53.54 343 *e*P P 16 26 54.9 -1.1
JFWS *e* 16 27 53.4
JFWS *e*S S 16 33 40.7 -5.3
JFWS pmax pmax
comp=Z,2µm,1.1s
JFWS **Jewell Farm** 53.54 343 *e*P P 16 26 54.9 -1.1
comp=Z,2µm,1.1s
JFWS *e*PcP PcP 16 27 53.4 +0.2
JFWS *e*ScP ScP 16 30 56.6 +0.8
JFWS *e*S S 16 33 40.7 -5.3
S28A **Manter** 53.55 330 ⇑P P 16 26 56.9 +0.6
baz=54,SNR=107
T27A **Campo** 53.55 329 ⇓P P 16 26 56.9 +0.5
baz=54,SNR=378
SCIA **State Center** 53.56 340 *e*P P 16 26 55.0 -1.1
comp=Z,2µm,0.9s
O33A **Hebron** 53.61 335 ⇑P P 16 26 56.5 -0.1
baz=54
LPM **Los Pinos Moun** 53.65 324 *e*P P 16 26 57.5 +0.4
comp=Z,395nm,0.9s
LPM *e*PcP PcP 16 27 55.6 +1.6
Y22D **IRIS PASSCAL I** 53.65 323 ⇓P P 16 26 58.2 +1.1
baz=54
P32A **Huiting Farm,** 53.66 334 ⇑P P 16 26 56.9 -0.1
baz=54,SNR=53
LENM **Lemitar** 53.75 324 *e*P P 16 26 58.3 +0.5
comp=Z,507nm,1.3s
LENM *e*PcP PcP 16 27 55.1 +0.7
N34A **Lincoln** 53.82 337 ⇓P P 16 26 57.2 -0.8
baz=54
R29A **Marienthal** 53.84 331 ⇑P P 16 26 59.0 +0.7
baz=54,SNR=91
Q30A **Quinter** 53.85 332 ⇑P P 16 26 59.3 +0.9
baz=54,SNR=463
P31A **Stockton** 53.92 334 ⇓P P 16 26 59.0 +0.3
baz=54,SNR=85
HOPE **Hope Point** 53.97 155 P P 16 26 59.6 +0.8
comp=Z,5µm,0.7s
HOPE **Hope Point** 53.97 155 *e*P P 16 26 59.4 +0.6
comp=Z,594nm,0.7s
HOPE *e*PcP PcP 16 27 55.3 +0.6
GLMI **Grayling** 53.98 349 *e*P P 16 26 57.6 -1.4
comp=Z,963nm,0.9s
GLMI *e*PcP PcP 16 27 55.2 +0.3
ANMO **Albuquerque** 54.00 325 P P 16 27 00.1 +0.4
comp=Z,85nm,0.5s,baz=130,slow=7.4,SNR=136
ANMO PcP PcP 16 27 55.4 0.0
comp=Z,40nm,0.7s,baz=153,slow=4.7,SNR=4.1
ANMO **Albuquerque** 54.00 325*d* *i*P P 16 27 00.0 +0.4
ANMO pmax pmax
comp=Z,2µm,1.9s
ANMO **Albuquerque** 54.00 325 *e*P P 16 27 00.0 +0.4
comp=Z,30nm,1.1s
ANMO PcP PcP 16 27 55.4 0.0
LAZ **Ladron** 54.01 324 *e*P P 16 27 00.6 +0.9
comp=Z,6µm,1.3s
LAZ *e*PcP PcP 16 27 56.7 +1.2
O32A **Brockman Farm,** 54.06 335 ⇓P P 16 26 59.6 -0.1
baz=54,SNR=152
T26A **Comanche Natio** 54.08 329 ⇓P P 16 27 00.7 +0.5
baz=54
R28A **Tribune** 54.09 331 ⇓P P 16 27 00.5 +0.4
baz=54,SNR=209
S27A **Las Animas** 54.12 329 ⇓P P 16 27 00.7 +0.4
baz=54,SNR=18
Q29A **Oakley** 54.13 332 ⇑P P 16 27 00.9 +0.6
baz=54,SNR=132
P30A **Selden** 54.32 333 ⇑P P 16 27 02.0 +0.4
baz=54,SNR=30
S26A **Kim** 54.36 329 ⇓P P 16 27 03.1 +1.1
baz=55
O31A **Woolen Ranch,** 54.41 334 ⇓P P 16 27 02.2 0.0
baz=55,SNR=35
T25A **Trinidad** 54.48 328 ⇑P P 16 27 04.1 +1.1
baz=55,SNR=265
N32A **Stulken Farm,** 54.48 335 ⇓P P 16 27 02.5 -0.1
baz=55,SNR=21
R27A **Eads** 54.53 330 ⇓P P 16 27 03.4 +0.3
baz=55
PQI **Presque Isle** 54.64 3 *e*P P 16 27 03.8 +0.3
comp=Z,779nm,1.1s
Q28A **Sharon Springs** 54.67 331 ⇓P P 16 27 04.8 +0.7
baz=55,SNR=80
P29A **Atwood** 54.68 332 ⇓P P 16 27 04.9 +0.8
baz=55,SNR=68
O30A **MW Ranch, Wils** 54.76 333 ⇑P P 16 27 05.0 +0.4
baz=55,SNR=31
N31A **Bailey Ranch,** 54.81 335 ⇑P P 16 27 05.2 +0.2
baz=55,SNR=57
TUC **Tucson** 54.85 319 *e*P P 16 27 05.9 +0.4
TUC pmax pmax
comp=Z,274nm,1.1s
TUC **Tucson** 54.85 319 *e*P P 16 27 05.9 +0.4
comp=Z,274nm,1.1s
R26A **Arlington** 54.87 330 ⇑P P 16 27 06.2 +0.7
baz=55
BGNE **Belgrade** 54.97 336 *e*P P 16 27 06.0 0.0
comp=Z,5µm,1.0s
BGNE **Belgrade** 54.97 336 ⇓P P 16 27 06.7 +0.6
baz=55,SNR=28
KSCO **Kaye Shedlock'** 55.01 331 *e*P P 16 27 06.9 +0.4
comp=Z,1µm,1.1s
KSCO **Kaye Shedlock'** 55.01 331 ⇑P P 16 27 07.3 +0.8
baz=55
P28A **Saint Francis** 55.04 332 ⇓P P 16 27 07.5 +0.8
baz=55,SNR=28
O29A **4D Ranch, Culb** 55.04 333 ⇓P P 16 27 07.3 +0.7
baz=55,SNR=40
M31A **Lambtecht Ranc** 55.25 335 ⇑P P 16 27 08.3 +0.2
baz=56,SNR=69
N30A **Hueftle Ranch,** 55.28 334 ⇑P P 16 27 08.6 +0.4
baz=56,SNR=50
Q26A **Hugo** 55.38 330 ⇓P P 16 27 10.2 +1.1
baz=56
P27A **Ficken Ranch,** 55.42 331 ⇓P P 16 27 10.0 +0.7
baz=56
O28A **Krutsinger Ran** 55.49 332 ⇑P P 16 27 10.7 +1.0
baz=56
SDCO **Great Sand Dun** 55.51 328 *e*P P 16 27 10.9 +0.7
comp=Z,788nm,1.1s
SDCO **Great Sand Dun** 55.51 328 ⇑P P 16 27 11.2 +1.0
baz=56
N29A **Votaw Ranch, W** 55.53 334 ⇑P P 16 27 10.5 +0.5
baz=56
S23A **Nye Farm, Mont** 55.75 327 ⇓P P 16 27 12.9 +1.1
baz=56
X18A **Snowflake** 55.78 322 ⇓P P 16 27 13.0 +1.0
baz=56
M30A **Dale-Ortello V** 55.79 335 ⇓P P 16 27 12.0 +0.2
baz=56
P26A **Davis Ranch, A** 55.79 331 ⇓P P 16 27 12.8 +0.9
baz=56
N28A **Pribbeno Ranch** 55.83 333 ⇓P P 16 27 12.7 +0.6
baz=56
O27A **Beecher Island** 55.87 332 ⇓P P 16 27 13.5 +1.1
baz=56
L31A **Butterfield Fa** 55.89 336 ⇓P P 16 27 12.6 +0.2
baz=56
214A **Organ Pipe Nat** 55.97 318 *e*P P 16 27 14.0 +0.8
comp=Z,297nm,0.9s
214A *e*pP pP 16 29 03.0 -1.2
214A **Organ Pipe Nat** 55.97 318 ⇑P P 16 27 14.2 +1.1
baz=56
R23A **Moffat** 56.01 328 ⇓P P 16 27 14.6 +0.9
baz=56
W18A **Petrified Fore** 56.05 322 *e*P P 16 27 14.6 +0.7
W18A *e*pP pP 16 29 03.6 -1.3
W18A **Petrified Fore** 56.05 322 ⇓P P 16 27 14.9 +1.0
baz=56
L30A **Spencer Herefo** 56.06 335 ⇑P P 16 27 14.0 +0.3
baz=56
M29A **Burnside Ranch** 56.06 334 ⇓P P 16 27 14.1 +0.5
baz=56
COWI **Conover** 56.20 345 *e*P P 16 27 13.4 -1.0
comp=Z,772nm,0.4s
COWI *e*PcP PcP 16 28 04.0 +0.5
S22A **4UR Ranch, Cre** 56.22 327 ⇑P P 16 27 16.1 +1.0
baz=56
Q24A **Divide** 56.23 329 ⇓P P 16 27 16.0 +0.8
baz=56
OGNE **Ogallala** 56.26 333 *e*P P 16 27 15.8 +0.7
comp=Z,1µm,0.9s
OGNE **Ogallala** 56.26 333 ⇑P P 16 27 15.9 +0.8
baz=56
O26A **Horse Wrangler** 56.30 331 ⇓P P 16 27 16.5 +1.0
baz=56
M28A **Bar X Bar Ranc** 56.33 333 ⇑P P 16 27 16.6 +1.1
baz=56
ECSD **EROS Data Cent** 56.36 338 *e*P P 16 27 14.8 -0.8
comp=Z,7.6nm,1.1s
ECSD *e*PcP PcP 16 28 03.2 -1.0
ECSD *e*ScP ScP 16 31 08.4 +0.2
ECSD *e*S S 16 34 16.7 -5.9
ECSD **EROS Data Cent** 56.36 338 ⇑P P 16 27 14.9 -0.8
baz=57
N27A **Anderson Farm,** 56.38 332 ⇑P P 16 27 16.5 +0.6
baz=57
SPMN **Marine on St.** 56.41 342 *e*P P 16 27 14.8 -1.0
comp=Z,492nm,0.4s
SPMN **Marine on St.** 56.41 342 ⇑P P 16 27 15.1 -0.8
baz=57
L29A **Maesberg Ranch** 56.48 334 ⇓P P 16 27 17.1 +0.5
baz=57
Q23A **Hartsel** 56.54 328 ⇑P P 16 27 18.2 +0.8
baz=57
K30A **Basset** 56.62 336 ⇓P P 16 27 17.9 +0.4
baz=57
X16A **Lo Mia Camp, P** 56.64 321 ⇓P P 16 27 19.1 +1.1
baz=57
ASCN **Ascension** 56.68 94 P P 16 27 19.4 +1.0
comp=Z,2µm,0.8s,SNR=5.4
ASCN **Ascension** 56.68 94 *e*P P 16 27 19.9 +1.6
comp=Z,262nm,0.8s
N26A **Koester Ranch,** 56.72 332 ⇓P P 16 27 19.4 +1.1
baz=57
MVCO **Mesa Verde** 56.77 325 *e*P P 16 27 19.4 +0.6
comp=Z,772nm,0.4s
MVCO **Mesa Verde** 56.77 325 ⇓P P 16 27 19.6 +0.8
baz=57
PMSA **Palmer Station** 56.82 176 P P 16 27 19.2 +0.9
comp=Z,211nm,0.7s,baz=356,slow=6.6,SNR=22
PMSA PcP PcP 16 28 06.1 +0.5
comp=Z,92nm,0.6s,baz=25,slow=6.9,SNR=4.4
PMSA **Palmer Station** 56.82 176 *e*P P 16 27 19.3 +1.0
comp=Z,209nm,0.7s
PMSA PcP PcP 16 28 06.1 +0.5
PMSA *e*PcP PcP 16 28 06.6 +1.0
PMSA *e*pP pP 16 29 09.7 -0.1
L28A **Connealy Angus** 56.88 334 ⇓P P 16 27 20.3 +1.0
baz=57
M27A **Reverse DX Ran** 56.89 333 ⇑P P 16 27 20.4 +1.0
baz=57
P23A **Jefferson** 56.90 329 ⇓P P 16 27 21.1 +1.3
baz=57
Z14A **Wintersburg** 56.93 319 ⇑P P 16 27 20.8 +1.1
baz=57
K29A **Lazy Trails An** 56.98 335 ⇑P P 16 27 20.5 +0.5
baz=57
ISCO **Idaho Springs** 57.10 329 *e*P P 16 27 21.9 +0.8
ISCO pmax pmax
comp=Z,624nm,1.2s
ISCO **Idaho Springs** 57.10 329 *e*P P 16 27 21.9 +0.8
comp=Z,624nm,1.2s
ISCO **Idaho Springs** 57.10 329 ⇑P P 16 27 22.2 +1.1
baz=57
113A **Mohawk Valley,** 57.10 318 ⇑P P 16 27 21.6 +0.7
baz=57
J30A **Dallas** 57.11 336 ⇓P P 16 27 20.7 -0.1
baz=57
M26A **McRoberts Ranc** 57.18 332 ⇓P P 16 27 22.6 +1.1
baz=57
L27A **T5 Ranch, Ells** 57.30 333 ⇓P P 16 27 23.0 +0.8
baz=58
WUAZ **Wupatki** 57.31 322 *e*P P 16 27 23.6 +1.1
comp=Z,624nm,1.2s
WUAZ *e*pP pP 16 29 11.7 -2.5
WUAZ **Wupatki** 57.31 322 ⇓P P 16 27 23.7 +1.2
baz=58
Y14A **Wickenburg** 57.33 319 ⇑P P 16 27 23.3 +0.8
baz=58
SMCO **Snowmass** 57.34 328 *e*P P 16 27 23.8 +0.9
comp=Z,654nm,1.2s
K28A **Ten Mile Ranch** 57.39 334 ⇓P P 16 27 23.8 +1.1
baz=58
PV01 **Paradox Valley** 57.46 326 *e*P P 16 27 24.4 +0.9
comp=Z,16µm,0.8s
J29A **Okreek** 57.52 336 ⇑P P 16 27 23.8 +0.2
baz=58
P22A **Eagle** 57.54 328 ⇑P P 16 27 24.9 +0.9
baz=58
O23A **Lake Granby, G** 57.56 329 ⇑P P 16 27 25.4 +1.1
baz=58
I30A **Oacoma** 57.58 336 ⇑P P 16 27 23.9 -0.1
baz=58
M25A **Palm-Egli Farm** 57.59 331 ⇓P P 16 27 25.2 +1.0
baz=58
L26A **Underwood Farm** 57.60 333 ⇓P P 16 27 25.4 +1.1
baz=58
K27A **Fluckinger Fa** 57.76 334 ⇑P P 16 27 26.2 +1.0
baz=58
PV04 **Paradox Valley** 57.83 326 *e*P P 16 27 26.4 +0.5
BRSD **Miller** 57.84 337 *e*P P 16 27 25.1 -0.5
comp=Z,1µm,0.9s
BRSD **Miller** 57.84 337 ⇑P P 16 27 25.5 -0.2
baz=58
O22A **Kremmling** 57.85 329 ⇓P P 16 27 26.8 +0.6
baz=58
J28A **Allard Ranch,** 57.91 335 ⇑P P 16 27 26.9 +0.7
baz=58
GLA **Glamis** 57.98 317 *e*P P 16 27 27.8 +0.9
GLA pmax pmax
comp=Z,395nm,1.2s
GLA **Glamis** 57.98 317 *e*P P 16 27 27.8 +0.9
comp=Z,395nm,1.2s
GLA **Glamis** 57.98 317 ⇓P P 16 27 27.9 +1.0
baz=58
I29A **Vivian Onida** 58.02 336 ⇓P P 16 27 26.9 0.0
baz=58
PTCN **Pitcairn Islan** 58.07 246 P P 16 27 30.1 +2.5
comp=Z,389nm,0.6s
N23A **Red Feather La** 58.09 330 ⇑P P 16 27 28.6 +0.9
baz=58
J27A **Elkhorn Farm,** 58.10 334 ⇑P P 16 27 28.6 +1.1
baz=58
L25A **Engebretsen Ra** 58.10 332 ⇑P P 16 27 28.9 +1.3
baz=58
PHWY **Pilot Hill** 58.16 330 *e*P P 16 27 28.7 +0.4
comp=Z,620nm,1.2s
K26A **Motz Farm, Whi** 58.18 333 ⇓P P 16 27 29.2 +1.1
baz=58
Y12C **Blythe** 58.20 318 ⇓P P 16 27 29.3 +1.0
baz=58
N22A **Wattenberg Ran** 58.28 329 ⇑P P 16 27 30.0 +1.0
baz=58
PDMCI **Parker Dam,Lak** 58.29 319 ⇑P P 16 27 29.6 +0.7
baz=58
I28A **Midland** 58.35 335 ⇑P P 16 27 29.6 +0.4
baz=59
K25A **Mack Ranch, Ha** 58.42 332 ⇓P P 16 27 31.1 +1.3
baz=59
U15A **North Rim** 58.47 322 ⇓P P 16 27 31.8 +1.3
baz=59
H29A **Onida** 58.48 336 ⇓P P 16 27 30.1 +0.1
baz=59
G30A **Faulkton** 58.49 337 ⇑P P 16 27 30.0 0.0
baz=59
EYMN **Ely** 58.52 344 *e*P P 16 27 29.2 -0.9
comp=Z,6.7nm,0.5s
SWSC **Sam W. Stewart** 58.57 317 ⇑P P 16 27 31.9 +1.1
baz=59
IBP **Imperial Bould** 58.61 316 ⇓P P 16 27 32.3 +1.1
baz=59
J26A **Sides Ranch, S** 58.62 334 ⇓P P 16 27 32.2 +1.2
baz=59
W13A **Hualapai Mount** 58.62 320 ⇑P P 16 27 32.7 +1.3
baz=59
O20A **White River Ci** 58.71 328 *e*P P 16 27 32.7 +0.9
comp=Z,702nm,1.1s
O20A **White River Ci** 58.71 328 ⇑P P 16 27 32.8 +1.0
baz=59
BC3 **Big Chuckawall** 58.76 318 ⇑P P 16 27 33.2 +1.0
baz=59
I27A **Quinn** 58.78 335 ⇓P P 16 27 32.8 +0.8
baz=59
G29A **Hoven** 58.84 337 ⇓P P 16 27 32.5 +0.1
baz=59
H28A **Mission Ridge** 58.85 336 ⇓P P 16 27 32.9 +0.5
baz=59
IRM **Iron Mountain** 58.86 318 ⇑P P 16 27 33.8 +1.0
baz=59
NEE2 **Needles Airpor** 58.88 319 ⇓P P 16 27 33.9 +1.0
baz=59

K24A **Anderson Ranch** 58.94 332 ⇓P P 16 27 34.6 +1.3
baz=59
MONP **Monument Peak,** 58.97 316 ⇑P P 16 27 34.7 +1.0
baz=59
J25A **Sunshine Ranch** 59.00 333 ⇑P P 16 27 34.7 +1.1
baz=59
BAR **Barrett** 59.02 316 eP P 16 27 34.5 +0.6
comp=Z,367nm,1.3s
BAR ePcP PcP 16 28 15.8 +0.6
F30A **Leola** 59.04 338 ⇓P P 16 27 34.0 +0.3
baz=59
I26A **New Underwood** 59.09 334 ⇓P P 16 27 35.0 +0.8
baz=59
G28A **Parade** 59.14 336 ⇓P P 16 27 35.0 +0.6
baz=59
N20A **Spence Gulch,** 59.23 328 ⇓P P 16 27 36.3 +1.0
baz=59
SRU **San Rafael Swe** 59.23 325 eP P 16 27 36.1 +0.7
SRU pmax pmax
comp=Z,1µm,1.0s
SRU **San Rafael Swe** 59.23 325 eP P 16 27 36.0 +0.7
comp=Z,1µm,1.0s
H27A **Howes** 59.25 335 ⇑P P 16 27 35.5 +0.4
baz=60
BELC **Belle Mtn. Jos** 59.33 318 ⇑P P 16 27 37.1 +1.0
baz=60
J24A **Dixon Ranch, L** 59.34 332 ⇑P P 16 27 37.3 +1.4
baz=60
F29A **Eureka** 59.34 337 ⇑P P 16 27 36.1 +0.3
baz=60
K23A **Bowen Ranch, D** 59.35 331 ⇓P P 16 27 36.9 +0.9
baz=60
LDFC **Landfair** 59.39 319 eP P 16 27 37.8 +1.4
comp=Z,475nm,0.8s
LDFC ePcP PcP 16 28 17.6 +0.9
PFO **Pinyon Flats O** 59.41 317 P P 16 27 37.5 +1.0
comp=Z,843nm,1.1s,SNR=10
PFO **Pinyon Flats O** 59.41 317 P P 16 27 37.3 +0.7
comp=Z,80nm,0.9s,baz=110,slow=5.8,SNR=2.7
PFO S S 16 35 03.2 +1.3
comp=Z,6.3nm,1.0s,baz=297,slow=18,SNR=11
PFO **Pinyon Flats O** 59.41 317 P P 16 27 37.3 +0.7
PFO S S 16 35 03.3 +1.3
PFO pmax pmax
comp=Z,80nm,0.9s
PFO smax smax
comp=N,6.0nm,1.0s
PFO **Pinyon Flats O** 59.41 317 eP P 16 27 37.1 +0.6
comp=N,194nm,1.1s
PFO S S 16 35 03.2 +1.3
PFO **Pinyon Flats O** 59.41 317 ⇓P P 16 27 37.6 +1.0
baz=60
109C **Camp Elliot, M** 59.44 316 ⇑P P 16 27 37.5 +1.0
baz=60
I25A **Rochford** 59.47 334 ⇓P P 16 27 38.3 +1.5
baz=60
H26A **Fairpoint** 59.53 335 ⇑P P 16 27 37.4 +0.4
baz=60
E30A **Jud** 59.57 338 ⇓P P 16 27 37.6 +0.4
baz=60
GMRC **Granite Mounta** 59.57 318 ⇓P P 16 27 38.9 +1.2
baz=60
RSSD **Black Hills** 59.68 333 eP P 16 27 38.9 +0.6
RSSD pmax pmax
comp=Z,301nm,0.5s
RSSD **Black Hills** 59.68 333 eP P 16 27 38.9 +0.6
comp=Z,301nm,0.5s
K22A **Casper** 59.70 331 eP P 16 27 39.1 +0.7
comp=Z,33µm,1.1s
K22A **Casper** 59.70 331 ⇑P P 16 27 39.3 +1.0
baz=60
F28A **McLaughlin** 59.73 337 ⇑P P 16 27 39.1 +0.7
baz=60
I24A **Kuemmerle Ranc** 59.74 333 ⇓P P 16 27 39.6 +1.0
baz=60
TMUT **Trail Mountain** 59.75 325 eP P 16 27 39.7 +0.7
comp=Z,388nm,1.0s
MVU **Marysvale** 59.79 324 eP P 16 27 40.3 +1.1
comp=Z,507nm,1.0s
MVU ePcP PcP 16 28 18.4 0.0
G27A **Dupree** 59.80 336 ⇓P P 16 27 39.3 +0.5
baz=60
J23A **Dilts Ranch, B** 59.81 332 ⇓P P 16 27 40.1 +1.0
baz=60
H25A **Fruitdale** 59.88 334 ⇑P P 16 27 40.0 +0.6
baz=60
E29A **Napoleon** 59.89 338 ⇑P P 16 27 39.8 +0.4
baz=60
MURC **Murrieta** 59.91 316 ⇓P P 16 27 40.5 +0.8
baz=60
G26A **Maurine** 60.00 335 ⇑P P 16 27 40.6 +0.5
baz=60
D30A **Buchanan** 60.03 339 ⇑P P 16 27 40.7 +0.4
baz=60
HEC **Hector,Ludlow** 60.04 318 ⇑P P 16 27 42.1 +1.4
baz=60
AGMN **Agassiz Nation** 60.09 342 eP P 16 27 40.0 -0.6
comp=Z,3µm,1.9s
AGMN **Agassiz Nation** 60.09 342 ⇑P P 16 27 40.3 -0.4
baz=60
BBRC **Big Bear Solar** 60.10 317 ⇓P P 16 27 42.9 +1.6
baz=60
TUQ **Turquoise Moun** 60.14 319 ⇓P P 16 27 42.3 +1.0
baz=60
I23A **Meade Ranch, G** 60.20 332 ⇓P P 16 27 42.5 +0.9
baz=60
F27A **Lemmon** 60.23 336 ⇓P P 16 27 42.5 +0.8
baz=60
J22A **Midwest** 60.25 331 ⇑P P 16 27 42.7 +0.7
baz=60
G25A **Newell** 60.26 335 ⇑P P 16 27 42.6 +0.7
baz=60
D29A **Pettibone, Tap** 60.29 338 ⇓P P 16 27 42.4 +0.5
baz=60
E28A **Huff** 60.29 337 ⇓P P 16 27 43.1 +1.1
baz=60
H07S1 **FLORES T-PHASE** 60.30 35 eP P 16 27 43.4 +1.2
H07S1 eS S 16 35 14.6 +2.0
SHPR **Sheep Range** 60.30 320 eP P 16 27 43.5 +1.0
comp=Z,511nm,0.7s
SHPR ePcP PcP 16 28 20.1 -0.3
H24A **Dirks Ranch, A** 60.40 334 ⇓P P 16 27 43.5 +0.6
baz=61
C30A **Mose, Pekin** 60.44 339 ⇓P P 16 27 43.4 +0.4
baz=61
MPU **Maple Canyon** 60.48 325 eP P 16 27 44.4 +0.8
comp=Z,1µm,1.3s
F26A **Lodgepole** 60.48 336 ⇓P P 16 27 44.1 +0.8
baz=61
SCI **San Clemente I** 60.49 315 ⇓P P 16 27 44.4 +0.9
baz=61
E27A **Carson** 60.51 337 ⇓P P 16 27 44.5 +1.0
baz=61
RRX **Edison Barstow** 60.52 318 ⇑P P 16 27 45.0 +1.3
baz=61
H07N1 **FLORES T-PHASE** 60.56 35 eP P 16 27 45.2 +1.3
H07N1 eS S 16 35 18.1 +2.3
BFSC **Mount Baldy Ra** 60.59 317 ⇓P P 16 27 45.2 +0.8
baz=61
I22A **9 Mile Ranch,** 60.62 332 ⇑P P 16 27 45.1 +0.7
baz=61
CIS **Catalina Islan** 60.63 316 ⇓P P 16 27 45.5 +1.0
baz=61
H23A **Clabaugh Cattl** 60.63 333 ⇑P P 16 27 45.1 +0.7
baz=61
GSC **Goldstone, Bar** 60.64 318 eP P 16 27 45.7 +1.1
GSC pmax pmax
comp=Z,223nm,0.6s
GSC **Goldstone, Bar** 60.64 318 eP P 16 27 45.7 +1.1
comp=Z,223nm,0.6s
GSC **Goldstone, Bar** 60.64 318 ⇑P P 16 27 45.7 +1.1
baz=61
SHOC **Shoshone, Teco** 60.65 319 ⇓P P 16 27 45.5 +0.9
baz=61
J21A **Lysite** 60.67 331 ⇑P P 16 27 45.6 +0.9
baz=61
NLU **North Lily Min** 60.69 325 eP P 16 27 45.9 +0.9
comp=Z,433nm,1.2s
NLU ePcP PcP 16 28 23.5 +1.5
FMP **Fort Macarthur** 60.72 316 ⇑P P 16 27 46.0 +1.0
baz=61
D28A **Regan** 60.76 338 ⇓P P 16 27 46.0 +0.9
baz=61
JLU **Jordanelle** 60.78 326 eP P 16 27 46.5 +0.8
comp=Z,1µm,1.3s
JLU ePcP PcP 16 28 23.0 +0.7
TRIS **Tristan da Cun** 60.78 128 eP P 16 27 45.3 -0.1
comp=Z,463nm,0.7s

G24A **Alzada** 60.80 334 ⇑P P 16 27 46.2 +0.8
baz=61
F25A **Bowman** 60.87 335 ⇑P P 16 27 46.7 +0.8
baz=61
E26A **Carlson Angus** 60.90 336 ⇑P P 16 27 46.9 +0.8
baz=61
PASC **Pasadena Art C** 60.91 316 eP P 16 27 47.4 +1.1
comp=Z,631nm,1.3s
I21A **Big Trails, Te** 60.94 331 ⇑P P 16 27 47.0 +0.5
baz=61
MDND **Maddock** 60.96 339 eP P 16 27 47.0 +0.7
comp=Z,10µm,1.0s
MDND **Maddock** 60.96 339 ⇓P P 16 27 47.3 +0.9
baz=61
J20A **Shoshoni** 60.98 330 ⇑P P 16 27 47.9 +1.1
baz=61
B30A **Myrvik Farm, E** 61.03 340 ⇓P P 16 27 46.8 0.0
baz=61
DECC **Green Verdugo** 61.05 316 ⇑P P 16 27 48.4 +1.2
baz=61
D27A **Center** 61.05 337 ⇓P P 16 27 47.9 +0.8
baz=61
H22A **Clearmont** 61.09 332 ⇑P P 16 27 48.0 +0.6
baz=61
TCUT **Toone Canyon** 61.11 326 eP P 16 27 48.5 +0.8
comp=Z,2µm,0.8s
TCUT ePcP PcP 16 28 24.3 +0.6
C28A **Hausauer Farms** 61.13 338 ⇑P P 16 27 48.1 +0.6
baz=61
EDW2 **Edwards Air Fo** 61.18 317 ⇑P P 16 27 49.0 +0.9
baz=61
F24A **Ekalaka** 61.22 334 ⇓P P 16 27 49.0 +0.8
baz=61
TPNV **Topopah Spring** 61.27 320 ⇑P P 16 27 50.3 +1.5
baz=62
DUG **Dugway, Tooele** 61.27 325 eP P 16 27 49.9 +1.2
DUG pmax pmax
comp=Z,902nm,0.6s
DUG **Dugway, Tooele** 61.27 325 eP P 16 27 49.9 +1.2
comp=Z,902nm,0.6s
DUG **Dugway, Tooele** 61.27 325 ⇑P P 16 27 50.0 +1.3
baz=62
PCED **Cedros** 61.28 37 eP P 16 27 49.9 +1.3
comp=Z,630nm,1.2s
PDAR **Pinedale Array** 61.29 329 P P 16 27 49.0 0.0
comp=Z,146nm,0.7s,baz=113,slow=9.2,SNR=801
PDAR PcP PcP 16 28 24.7 +0.3
comp=Z,94nm,0.5s,baz=104,slow=7.1,SNR=9.8
PDAR S S 16 35 24.6 -0.6
comp=Z,7.4nm,1.0s,baz=152,slow=6.0,SNR=4.3
BW06 **Boulder Array** 61.29 329 eP P 16 27 48.9 0.0
comp=Z,754nm,1.3s
BW06 ePcP PcP 16 28 24.7 +0.3
E25A **Miller Ranch,** 61.31 336 ⇓P P 16 27 49.8 +1.0
baz=62
LRMC **Lael Mtn Rad** 61.32 318 ⇑P P 16 27 50.4 +1.2
baz=62
D26A **Manning** 61.35 336 ⇑P P 16 27 49.5 +0.6
baz=62
PICO **Pico** 61.37 38 eP P 16 27 50.5 +1.2
FURC **Furnace Creek,** 61.37 319 ⇓P P 16 27 50.8 +1.6
baz=62
B29A **Wagenman Farm,** 61.40 339 ⇓P P 16 27 49.8 +0.7
baz=62
J19A **Crowheart** 61.40 330 ⇓P P 16 27 50.1 +0.6
baz=62
H21A **Big Horn, Sher** 61.44 332 ⇑P P 16 27 50.1 +0.4
baz=62
A30A **Hoffart Farm,** 61.45 340 ⇑P P 16 27 49.4 -0.1
baz=62
I20A **Worland** 61.45 331 ⇑P P 16 27 50.5 +0.8
baz=62
BLG **Laguna Peak, P** 61.48 316 ⇓P P 16 27 51.0 +1.0
baz=62
OSI **Osito Audit: C** 61.52 317 eP P 16 27 50.7 +0.3
comp=Z,259nm,0.9s
OSI **Osito Audit: C** 61.52 317 ⇑P P 16 27 51.2 +0.8
baz=62
HWUT **Hardware Ranch** 61.53 327 eP P 16 27 50.7 +0.2
comp=Z,36µm,1.1s
MPMC **Manual Prospec** 61.53 319 ⇑P P 16 27 51.3 +0.8
baz=62
F23A **Volborg** 61.54 334 ⇓P P 16 27 51.1 +0.8
baz=62
G22A **Birney** 61.55 333 ⇓P P 16 27 50.9 +0.5
baz=62
C27A **Sayler Ranch,** 61.55 338 ⇑P P 16 27 51.2 +1.0
baz=62
ROSA **Rosais** 61.62 38 eP P 16 27 52.1 +1.3
comp=Z,973nm,1.3s
ROSA eS S 16 35 30.7 +1.9
PMAN **Manadas** 61.65 38 eP P 16 27 52.4 +1.4
comp=Z,722nm,1.4s
PMAN eS S 16 35 31.2 +2.0
R11A **Troy Canyon, C** 61.71 322 eP P 16 27 53.0 +1.3
comp=Z,100nm,1.4s
R11A **Troy Canyon, C** 61.71 322 ⇓P P 16 27 53.1 +1.5
baz=62
DAC **Darwin (Calif)** 61.73 319 eP P 16 27 52.7 +0.8
DAC pmax pmax
comp=Z,372nm,1.3s
DAC **Darwin (Calif)** 61.73 319 eP P 16 27 52.6 +0.8
comp=Z,372nm,1.3s
E24A **Baker** 61.73 335 ⇓P P 16 27 52.7 +1.2
baz=62
B28A **Dugan Ranch, T** 61.74 339 ⇑P P 16 27 52.1 +0.6
baz=62
A29A **Manning Farm,** 61.75 340 ⇓P P 16 27 51.5 +0.1
baz=62
H20A **Greybull** 61.78 331 ⇓P P 16 27 52.2 +0.3
baz=62
D25A **Fairfield** 61.80 336 ⇑P P 16 27 53.3 +1.4
baz=62
BSC **Santa Cruz Isl** 61.80 316 ⇓P P 16 27 53.0 +0.9
baz=62
ULM **Lac du Bonnet** 61.83 343 P P 16 27 51.2 -0.7
comp=Z,666nm,0.3s,baz=153,slow=6.0,SNR=751
ULM S S 16 35 25.6 -5.4
comp=Z,172nm,1.1s,baz=240,slow=23,SNR=23
ULM P4KPbc 17 04 45.8
comp=Z,13nm,0.9s,baz=134,slow=2.7,SNR=16
ULM **Lac du Bonnet** 61.83 343 P P 16 27 51.2 -0.7
ULM S S 16 35 25.6 -5.4
ULM pmax pmax
comp=Z,666nm,0.3s
ULM smax smax
comp=N,172nm,1.1s
ULM **Lac du Bonnet** 61.83 343 eP P 16 27 51.0 -0.9
comp=N,5.8nm,1.5s
ULM S S 16 35 25.6 -5.4
ULM e 17 04 45.8
C26A **Wahner Farm, P** 61.87 337 ⇑P P 16 27 53.4 +1.1
baz=62
BGU **Big Grassy Mou** 61.88 325 eP P 16 27 53.2 +0.5
comp=N,2µm,0.9s
BGU ePcP PcP 16 28 26.8 0.0
BGU eScP ScP 16 31 33.6 +0.6
ARVC **Arvin** 61.89 317 ⇓P P 16 27 53.8 +1.2
baz=62
I19A **Meeteetse** 61.93 330 ⇓P P 16 27 53.6 +0.6
baz=62
ISA **Isabella, Lake** 61.95 318 eP P 16 27 54.1 +1.0
ISA pmax pmax
comp=Z,80nm,0.9s
ISA **Isabella, Lake** 61.95 318 eP P 16 27 54.1 +1.0
comp=Z,80nm,0.9s
ISA **Isabella, Lake** 61.95 318 ⇑P P 16 27 54.5 +1.3
baz=62
F22A **Rosebud** 61.96 333 ⇑P P 16 27 53.4 +0.4
baz=62
G21A **Lodge Grass** 61.97 332 ⇓P P 16 27 53.5 +0.4
baz=62
PGRA **Graciosa** 61.97 38 eP P 16 27 54.5 +1.4
comp=Z,140nm,0.8s
PGRA eS S 16 35 35.0 +1.9
GRAC **Grapevine Rang** 62.01 320 ⇑P P 16 27 55.0 +1.5
baz=62
B27A **Peters Farms,** 62.03 338 ⇓P P 16 27 54.1 +0.8
baz=62
AHID **Auburn Hatcher** 62.09 328 eP P 16 27 54.4 +0.3
comp=Z,220nm,0.6s
A28A **Rude Farm, Bot** 62.09 339 ⇑P P 16 27 54.0 +0.2
baz=62
E23A **Ismay** 62.10 334 ⇓P P 16 27 54.3 +0.4
baz=62
SBC **Santa Barbara** 62.11 316 ⇓P P 16 27 55.0 +0.9
baz=62
CWC **Cottonwood Cre** 62.14 319 ⇓P P 16 27 55.7 +1.2
baz=62
D24A **Glendive** 62.18 335 ⇑P P 16 27 55.8 +1.4
baz=62
ADH **Angra Heroismo** 62.19 38 eP P 16 27 54.7 +0.2
comp=Z,204nm,0.9s
C25A **Freed Ranch, W** 62.23 336 ⇑P P 16 27 55.9 +1.2
baz=62
HVU **Hansel Valley** 62.31 326 eP P 16 27 55.7 +0.2
HVU pmax pmax
comp=Z,320nm,0.9s
HVU **Hansel Valley** 62.31 326 eP P 16 27 55.7 +0.2
comp=Z,320nm,0.9s
E22A **Miles City** 62.34 334 ⇓P P 16 27 55.8 +0.4
baz=62
RKT **Rikitea** 62.36 248 eP P 16 27 58.0 +2.0
comp=Z,110nm,0.9s
RKT epP pP 16 29 52.1 +1.6
RKT comp=Z,70nm,0.9s eS S 16 35 39.8 +1.3
comp=Z,18µm,32.8s
RKT **Rikitea** 62.36 248 eLR LR 16 47 25.4
comp=Z,5µm,33.8s
B26A **Jensen Ranch,** 62.37 337 ⇓P P 16 27 56.6 +1.0
baz=63
REDW **Red Top Meadow** 62.38 329 eP P 16 27 56.2 +0.3
comp=Z,784nm,1.3s
F21A **Absaloka Mine,** 62.38 333 ⇓P P 16 27 56.4 +0.7
baz=63
H19A **Powell** 62.39 331 ⇓P P 16 27 56.5 +0.6
baz=63
SNOW **Snow King Moun** 62.40 329 eP P 16 27 56.7 +0.6
comp=Z,348nm,0.9s
PKM **Mcpherson Peak** 62.43 316 ⇓P P 16 27 57.6 +1.2
baz=63
G20A **Bridger** 62.43 332 ⇑P P 16 27 56.4 +0.3
baz=63
LOHW **Long Hollow** 62.43 329 eP P 16 27 56.7 +0.4
comp=Z,55nm,2.3s
VES **Vestal, Richgr** 62.46 318 ⇓P P 16 27 57.6 +1.2
baz=63
A27A **Ledoux Ranch,** 62.48 338 ⇑P P 16 27 57.2 +1.0
baz=63
PSMA **Santa Maria** 62.52 41 eP P 16 27 57.8 +1.2
comp=Z,402nm,0.9s
PSMA eS S 16 35 41.5 +1.7
TPAW **Teton Pass** 62.52 329 eP P 16 27 57.5 +0.6
comp=Z,197nm,0.9s
C24A **Savage** 62.55 336 ⇓P P 16 27 57.9 +1.2
baz=63
PSMN **Pico do Norte,** 62.56 41 eP P 16 27 58.3 +1.3
comp=Z,316nm,0.9s
PSMN eS S 16 35 42.2 +1.8
TPH **Tonopah** 62.56 321 eP P 16 27 58.2 +1.0
TPH pmax pmax
comp=Z,450nm,1.2s
TPH **Tonopah** 62.56 321 eP P 16 27 58.2 +1.0
comp=Z,450nm,1.2s
D23A **Lindsay** 62.59 335 ⇓P P 16 27 58.4 +1.4
baz=63
TIN **Tinemaha, Big** 62.60 319 ⇑P P 16 27 59.0 +1.6
baz=63
MOOW **Moose Ponds** 62.60 329 eP P 16 27 57.9 +0.6
comp=Z,3.6nm,0.6s
PDA **Ponta Delgada** 62.62 40 eP P 16 27 58.5 +1.2
PSET **Sete Cidades** 62.62 40 eP P 16 27 58.7 +1.3
comp=Z,959nm,1.6s
PSET eS S 16 35 43.3 +2.1
I17A **Pilgrim Ck.** 62.64 329 ⇑P P 16 27 58.9 +1.3
baz=63
B25A **Knox Farm, Ray** 62.64 337 ⇑P P 16 27 58.7 +1.4
baz=63
A26A **Wade Farm, Ken** 62.73 338 ⇑P P 16 27 58.5 +0.7
baz=63
H18A **Shoshone NF, C** 62.73 330 ⇑P P 16 27 58.5 +0.3
baz=63
SMMC **Simmler** 62.78 317 ⇓P P 16 27 60.0 +1.5
baz=63
IMW **Indian Meadow** 62.81 329 eP P 16 27 59.6 +0.8
comp=Z,401nm,0.7s
FLWY **Flagg Ranch** 62.82 329 eP P 16 27 59.9 +1.1
comp=Z,28nm,2.0s
RCTC **Rector, Farmer** 62.83 318 ⇓P P 16 27 59.4 +0.7
baz=63
F20A **Billings** 62.84 332 ⇓P P 16 27 59.5 +0.8
baz=63
SCHQ **Schefferville** 62.84 3 P P 16 27 58.1 -0.3
comp=Z,328nm,0.8s,baz=195,slow=5.2,SNR=195
SCHQ pP pP 16 29 54.6 +1.3
comp=Z,56nm,0.7s,baz=191,slow=5.6,SNR=3.1
SCHQ S S 16 35 40.5 -2.7
comp=Z,139nm,1.1s,baz=44,slow=18,SNR=23
SCHQ **Schefferville** 62.84 3 eP P 16 27 58.0 -0.3
comp=Z,1µm,1.3s
SCHQ epP pP 16 29 54.1 +0.9
SCHQ pP pP 16 29 54.6 +1.3
SCHQ S S 16 35 40.5 -2.7
RLMT **Red Lodge** 62.86 331 eP P 16 27 59.6 +0.6
comp=Z,35µm,1.1s
E21A **Keefer Ranch,** 62.91 333 ⇓P P 16 28 00.2 +1.1
baz=63
BART **Pico Bartolome** 62.95 40 eP P 16 28 01.0 +1.5
comp=Z,2µm,1.4s
BART eS S 16 35 47.5 +2.2
H17A **Grant Village** 62.98 330 eP P 16 28 01.0 +1.2
comp=Z,785nm,1.6s
H17A **Grant Village** 62.98 330 ⇓P P 16 28 01.7 +1.9
baz=63
D22A **Cohagen** 62.99 334 ⇑P P 16 28 01.2 +1.6
baz=63
LKWY **Lake** 63.01 330 eP P 16 28 01.6 +1.6
LKWY pmax pmax
comp=Z,705nm,1.2s
LKWY **Lake** 63.01 330 eP P 16 28 01.6 +1.6
comp=Z,704nm,1.2s
ELK **Elko** 63.02 324 eP P 16 28 00.7 +0.5
ELK pmax pmax
comp=Z,161nm,1.0s
ELK **Elko** 63.02 324 eP P 16 28 00.7 +0.5
comp=Z,161nm,1.0s
C23A **Lambert** 63.08 335 ⇓P P 16 28 01.3 +1.2
baz=63
YFT **Old Faithful** 63.15 330 eP P 16 28 02.9 +2.0
comp=Z,974nm,1.2s
A25A **Svangstu Ranch** 63.17 337 ⇓P P 16 28 01.8 +1.1
baz=63
DGMT **Dagmar** 63.21 336 eP P 16 28 02.0 +1.1
comp=Z,2µm,1.1s
DGMT **Dagmar** 63.21 336 ⇓P P 16 28 02.1 +1.1
baz=63
F19A **Roth Farm, Mol** 63.25 332 ⇑P P 16 28 02.3 +0.9
baz=64
YNR **Norris Junctio** 63.26 330 eP P 16 28 03.0 +1.4
comp=Z,323nm,0.9s
MLAC **Mammoth, Mammo** 63.33 319 ⇓P P 16 28 03.5 +1.4
baz=64
E20A **Meyer Farm, Mu** 63.36 333 ⇑P P 16 28 03.3 +1.3
baz=64
NVAR **Mina Array Bea** 63.46 320 P P 16 28 03.9 +0.9
comp=Z,84nm,0.8s,baz=142,slow=5.3,SNR=168
NVAR pP pP 16 29 59.9 +1.8
comp=Z,89nm,1.1s,baz=132,slow=5.6,SNR=6.4
NVAR S S 16 35 52.1 +0.4
comp=Z,1.9nm,0.8s,baz=116,slow=4.1,SNR=1.8
NVAR PKPPKP P'P'df 16 56 46.6 -3.8
comp=Z,3.1nm,0.7s,baz=256,slow=4.1,SNR=9.9
A24A **Westby** 63.50 337 ⇓P P 16 28 04.2 +1.4
baz=64
B23A **Brockton** 63.52 336 ⇓P P 16 28 04.4 +1.5
baz=64
GCMT **Greycliff** 63.54 331 eP P 16 28 04.1 +0.9
comp=Z,48nm,0.6s
E19A **Rath Farm, Rou** 63.62 332 ⇓P P 16 28 04.8 +1.2
baz=64
QLMT **Earthquake Lak** 63.72 329 eP P 16 28 06.0 +1.5
comp=Z,32nm,1.0s
D20A **Manuel Ranch,** 63.80 333 ⇓P P 16 28 05.8 +1.0
baz=64
B22A **Reddig Ranch S** 63.81 335 ⇓P P 16 28 06.0 +1.2
baz=64
A23A **Redstone** 63.87 336 ⇓P P 16 28 06.4 +1.3
baz=64
C21A **Desert Coulee** 63.91 334 ⇑P P 16 28 06.5 +1.1
baz=64
BMN **Battle Mountai** 64.00 323 eP P 16 28 06.2 -0.1
BMN pmax pmax
comp=Z,155nm,0.8s
BMN **Battle Mountai** 64.00 323 eP P 16 28 06.2 -0.1
comp=Z,155nm,0.8s

D19A	**Cripps Ranch,**	**64.19**	**333**	⇓P		**P**	**16 28 08.2**	**+0.9**
	baz=64							
C20A	**Veseth Ranch,**	**64.21**	**334**	⇑P		**P**	**16 28 08.0**	**+0.7**
	baz=64							
WAKR	**Walker**	**64.22**	**320**	*eP*		**P**	**16 28 09.2**	**+1.4**
	comp=Z,401nm,1.2s							
A22A	**Carney Farms,**	**64.32**	**336**	⇑P		**P**	**16 28 09.2**	**+1.3**
	baz=64							
B21A	**Ellsworth Farm**	**64.33**	**335**	⇓P		**P**	**16 28 09.3**	**+1.3**
	baz=64							
BOZ	**Bozeman (W)**	**64.39**	**330**	*eP*		**P**	**16 28 09.2**	**+0.5**
BOZ					pmax	pmax		
	comp=Z,802nm,0.7s							
BOZ	**Bozeman (W)**	**64.39**	**330**	*eP*		**P**	**16 28 09.2**	**+0.5**
	comp=Z,802nm,0.7s							
HLID	**Hailey**	**64.40**	**327**	*eP*		**P**	**16 28 09.8**	**+1.0**
	comp=Z,516nm,1.2s							
HLID	**Hailey**	**64.40**	**327**	⇑P		**P**	**16 28 10.0**	**+1.2**
	baz=65							
MCMT	**McKenzie Canyo**	**64.44**	**329**	*eP*		**P**	**16 28 10.2**	**+1.2**
	comp=Z,286nm,0.5s							
CMB	**Columbia Colle**	**64.56**	**319**	*eP*		**P**	**16 28 10.4**	**+0.6**
CMB					pmax	pmax		
	comp=Z,217nm,1.2s							
CMB	**Columbia Colle**	**64.56**	**319**	*eP*		**P**	**16 28 10.4**	**+0.6**
	comp=Z,217nm,1.2s							
LCCM	**Lewis and Clar**	**64.65**	**330**	P		**P**	**16 28 11.1**	**+0.8**
DLMT	**Dillon**	**64.68**	**329**	*eP*		**P**	**16 28 11.3**	**+0.8**
	comp=Z,196nm,0.9s							
C19A	**Slack Wire Ran**	**64.69**	**333**	⇑P		**P**	**16 28 11.4**	**+1.0**
	baz=65							
SHEL	**Horse Pasture**	**64.70**	**104**	P		**P**	**16 28 12.9**	**+1.8**
	comp=Z,1μm,0.6s,SNR=7.8							
SHEL	**Horse Pasture**	**64.70**	**104**	*eP*		**P**	**16 28 12.8**	**+1.8**
SHEL					pmax	pmax		
	comp=Z,169nm,0.8s							
SHEL	**Horse Pasture**	**64.70**	**104**	*eP*		**P**	**16 28 12.8**	**+1.8**
	comp=Z,169nm,0.8s							
A21A	**Bergtoll Ranch**	**64.73**	**335**	⇓P		**P**	**16 28 11.5**	**+0.9**
	baz=65							
B20A	**Solberg Farm,**	**64.77**	**334**	⇓P		**P**	**16 28 11.8**	**+0.9**
	baz=65							
LRM	**Limekiln Ridge**	**64.92**	**330**	*eP*		**P**	**16 28 12.7**	**+0.6**
	comp=Z,36μm,1.5s							
A20A	**Cobblestone Ra**	**65.07**	**334**	⇓P		**P**	**16 28 13.4**	**+0.7**
	baz=65							
MFID	**Camas Ranch**	**65.08**	**326**	*eP*		**P**	**16 28 14.3**	**+1.3**
	comp=Z,1μm,1.0s							
B19A	**Brinkman Farms**	**65.19**	**334**	⇑P		**P**	**16 28 14.4**	**+0.9**
	baz=65							
EGMT	**Eagleton**	**65.23**	**333**	*eP*		**P**	**16 28 14.4**	**+0.7**
	comp=Z,6.7nm,0.5s							
EGMT	**Eagleton**	**65.23**	**333**	⇓P		**P**	**16 28 14.6**	**+0.8**
	baz=65							
HRY	**Holter Researc**	**65.25**	**331**	*eP*		**P**	**16 28 15.0**	**+1.1**
	comp=Z,76nm,0.6s							
A19A	**Klindworth Far**	**65.46**	**334**	⇑P		**P**	**16 28 16.1**	**+0.9**
	baz=66							
SAC	**San Andreas**	**65.65**	**318**	*eP*		**P**	**16 28 16.8**	**+0.2**
SAC					pmax	pmax		
	comp=Z,456nm,0.9s							
SAC	**San Andreas**	**65.65**	**318**	*eP*		**P**	**16 28 16.8**	**+0.2**
	comp=Z,456nm,0.9s							
PMOZ	**Porto Moniz, M**	**65.85**	**49**	*eP*		**P**	**16 28 18.5**	**+0.5**
	comp=Z,627nm,1.0s							
PMOZ					*eP*	**pP**	**16 30 18.7**	**+4.3**
PMOZ					*eS*	**S**	**16 36 21.7**	**+1.4**
PMAR	**Madeira**	**66.02**	**49**	*eP*		**P**	**16 28 20.9**	**+1.8**
	comp=Z,433nm,1.5s							
PMAR					*eP*	**pP**	**16 30 16.9**	**+1.3**
PMAR					*eS*	**S**	**16 36 24.5**	**+2.1**
WVOR	**Wild Horse Val**	**66.07**	**324**	*eP*		**P**	**16 28 19.5**	**+0.3**
WVOR					pmax	pmax		
	comp=Z,131nm,0.5s							
WVOR	**Wild Horse Val**	**66.07**	**324**	*eP*		**P**	**16 28 19.5**	**+0.3**
	comp=Z,131nm,0.5s							
CHMT	**Chamberlain Mo**	**66.08**	**330**	*eP*		**P**	**16 28 19.9**	**+0.6**
	comp=Z,286nm,0.5s							
MCCM	**Marconi Confer**	**66.27**	**318**	*eP*		**P**	**16 28 21.5**	**+1.2**
	comp=Z,1μm,1.4s							
MSO	**Missoula**	**66.37**	**330**	⇑P		**P**	**16 28 22.2**	**+1.3**
	baz=67							
SLMT	**Seeley Lake**	**66.43**	**330**	*eP*		**P**	**16 28 22.2**	**+0.8**
	comp=Z,783nm,1.2s							
PMPS	**Porto Santo**	**66.60**	**49**	*eP*		**P**	**16 28 23.0**	**+0.5**
	comp=Z,870nm,1.7s							
PMPS					*eP*	**pP**	**16 30 23.7**	**+4.5**
PMPS					*eS*	**S**	**16 36 32.9**	**+4.1**
BMO	**Blue Mountains**	**66.82**	**326**	*eP*		**P**	**16 28 24.0**	**+0.3**
	comp=Z,161nm,1.5s							
HOPS	**Hopland Field**	**66.85**	**318**	*eP*		**P**	**16 28 25.0**	**+1.1**
	comp=Z,93nm,1.3s							
SWMT	**Swartz Lake**	**66.86**	**330**	*eP*		**P**	**16 28 24.6**	**+0.6**
	comp=Z,420nm,1.1s							
YBMT	**Yellow Bay**	**67.11**	**330**	*eP*		**P**	**16 28 26.5**	**+1.0**
	comp=Z,187nm,0.7s							
JTMT	**Jette**	**67.17**	**330**	*eP*		**P**	**16 28 26.8**	**+1.0**
	comp=Z,497nm,1.2s							
WDC	**Whiskeytown Da**	**67.37**	**320**	*eP*		**P**	**16 28 26.1**	**-1.0**
WDC					pmax	pmax		
	comp=Z,142nm,0.7s							
WDC	**Whiskeytown Da**	**67.37**	**320**	*eP*		**P**	**16 28 26.1**	**-1.0**
	comp=Z,142nm,0.7s							
BLMT	**Blacktail Moun**	**67.39**	**330**	*eP*		**P**	**16 28 28.2**	**+1.0**
	comp=Z,504nm,1.1s							
BSMT	**Basson Peak**	**67.49**	**330**	*eP*		**P**	**16 28 28.5**	**+0.7**
	comp=Z,348nm,0.7s							
F10A	**Beach Ranch, E**	**67.50**	**327**	P		**P**	**16 28 28.6**	**+0.8**
KIPM	**Iron Peak**	**67.55**	**319**	*eP*		**P**	**16 28 29.9**	**+1.5**
	comp=Z,299nm,0.8s							
KCPM	**Cahto Peak**	**67.56**	**319**	*eP*		**P**	**16 28 29.4**	**+1.1**
	comp=Z,363nm,1.2s							
FFC	**Flin Flon**	**67.58**	**342**	P		**P**	**16 28 28.3**	**+0.3**
	comp=Z,3μm,0.8s							
FFC	**Flin Flon**	**67.58**	**342**	*eP*		**P**	**16 28 27.8**	**-0.2**
FFC					pmax	pmax		
	comp=Z,491nm,0.8s							
FFC	**Flin Flon**	**67.58**	**342**	*eP*		**P**	**16 28 27.8**	**-0.2**
	comp=Z,491nm,0.8s							
M04C	**Macdoel**	**67.61**	**322**	⇑P		**P**	**16 28 29.7**	**+1.1**
	baz=68							
N02D	**Trinity Center**	**67.69**	**320**	⇓P		**P**	**16 28 29.0**	**-0.2**
	baz=68							
WALA	**Waterton Lakes**	**67.89**	**331**	*eP*		**P**	**16 28 30.7**	**+0.5**
	comp=Z,398nm,0.8s							
LIC	**Lamto**	**67.94**	**80**	⇓*iP*		**P**	**16 28 31.4**	**+0.3**
	comp=Z,195nm,0.4s,baz=259							
LIC					*eP*	**pP**	**16 30 30.9**	**+2.4**
LIC					*eR*			
	comp=Z,3μm,22.5s							
LIC	**Lamto**	**67.94**	**80**	*eP*		**P**	**16 28 31.4**	**+0.3**
	comp=Z,505nm,0.5s							
LIC	**Lamto**	**67.94**	**80**	*e*PKP1		**P'P'ab**	**16 56 51.7**	**+1.2**
	comp=Z,133nm,1.8s							
LIC	**Lamto**	**67.94**	**80**	⇓*iP*		**P**	**16 28 31.4**	**+0.3**
	comp=Z,195nm,0.4s							
LIC					*eP*	**pP**	**16 30 30.9**	**+2.4**
VSP	**Spence Mountai**	**67.99**	**322**	P		**P**	**16 28 32.0**	**+1.0**
M02C	**Callahan**	**68.02**	**321**	⇓P		**P**	**16 28 31.3**	**+0.2**
	baz=68							
TIC	**Toumodi**	**68.03**	**79**	*eP*		**P**	**16 28 32.0**	**+0.4**
TIC	**Toumodi**	**68.03**	**79**	*e*PKP1		**P'P'ab**	**16 56 52.4**	**+2.2**
	comp=Z,8.6nm,0.5s							
K04D	**Chiloquin, OR**	**68.04**	**322**	⇓P		**P**	**16 28 32.3**	**+1.0**
	baz=68							
J05D	**Fort Rock, OR**	**68.11**	**323**	⇑P		**P**	**16 28 33.0**	**+1.3**
	baz=68							
YBH	**Yreka Blue Hor**	**68.12**	**321**	S		**S**	**16 36 44.9**	**-1.5**
	comp=Z,13nm,0.9s,baz=358,slow=22,SNR=7.9							
YBH	**Yreka Blue Hor**	**68.12**	**321**	*eP*		**P**	**16 28 31.2**	**-0.5**
YBH					*e**PP	**pP**	**16 30 28.5**	**-0.8**
YBH					S	**S**	**16 36 44.9**	**-1.5**
YBH					pmax	pmax		
	comp=Z,284nm,1.1s							
YBH	**Yreka Blue Hor**	**68.12**	**321**	*eP*		**P**	**16 28 31.2**	**-0.5**
	comp=Z,284nm,1.1s							
YBH					*eP*	**pP**	**16 30 28.5**	**-0.8**
YBH					S	**S**	**16 36 44.9**	**-1.5**
BUOR	**Burton Butte**	**68.14**	**322**	P		**P**	**16 28 32.7**	**+0.8**
DBIC	**Dimbokro**	**68.19**	**80**	P		**P**	**16 28 33.2**	**+0.7**
	comp=Z,315nm,0.4s,baz=240,slow=4.1,SNR=491							
DBIC					PP	**pP**	**16 30 31.7**	**+1.6**
	comp=Z,118nm,0.7s,baz=227,slow=5.8,SNR=5.8							
DBIC					S	**S**	**16 36 46.1**	**-2.0**
	comp=Z,40nm,1.1s,baz=254,slow=12,SNR=13							
DBIC					PKPPKP	P'P'df	16 56 35.7	-8.9
	comp=Z,5.2nm,0.8s,baz=2.1,slow=2.0,SNR=4.6							
DBIC					PKP2ab		16 56 51.6	
	comp=Z,17nm,1.0s,baz=30,slow=4.6,SNR=7.1							
DBIC	**Dimbokro**	**68.19**	**80**	*eP*		**P**	**16 28 33.2**	**+0.7**
	comp=Z,437nm,0.6s							
DBIC					*eP*	**pP**	**16 30 30.3**	**+0.2**
DBIC					pP	**pP**	**16 30 31.7**	**+1.6**
DBIC					S	**S**	**16 36 46.1**	**-2.0**
DBIC					P'P'		16 56 35.7	
DBIC					P'P'ab	**P'P'ab**	**16 56 51.6**	**+2.2**
PINOR	**Pine Mountain**	**68.20**	**324**	P		**P**	**16 28 34.0**	**+2.0**
KIC	**Kosan Boka**	**68.24**	**80**	*eP*		**P**	**16 28 33.4**	**+0.5**
	comp=Z,1μm,0.8s							
KIC	**Kosan Boka**	**68.24**	**80**	*e*PKP1		**P'P'ab**	**16 56 51.0**	**+1.7**
	comp=Z,83nm,1.2s							
KHMM	**Horse Mountain**	**68.29**	**320**	*eP*		**P**	**16 28 34.2**	**+1.3**
	comp=Z,435nm,0.9s							
J04D	**Umpqua Nationa**	**68.60**	**323**	⇓P		**P**	**16 28 35.8**	**+1.0**
	baz=69							
HUMO	**Hull Mountain**	**68.76**	**322**	*eP*		**P**	**16 28 35.3**	**-0.2**
	comp=Z,74nm,0.7s							
HUMO					*eP*	**pP**	**16 30 28.6**	**-4.8**
I05D	**Terrebonne, OR**	**68.78**	**324**	⇑P		**P**	**16 28 37.3**	**+1.6**
	baz=69							
VTHM	**Trough**	**68.84**	**325**	P		**P**	**16 28 37.8**	**+1.9**
L02D	**Cave Junction,**	**68.91**	**321**	⇑P		**P**	**16 28 37.4**	**+1.1**
	baz=69							
NEW	**Newport**	**68.93**	**329**	*eP*		**P**	**16 28 36.6**	**+0.2**
NEW					*e**PP	**pP**	**16 30 32.8**	**-1.5**
NEW	**Newport**	**68.93**	**329**	*eP*		**P**	**16 28 36.6**	**+0.2**
	comp=Z,9μm,0.5s							
NEW					*eP*	**pP**	**16 30 32.8**	**-1.5**
NEW	**Newport**	**68.93**	**329**	⇓P		**P**	**16 28 36.9**	**+0.5**
	baz=69							
HAWA	**Hanford**	**69.00**	**327**	*eP*		**P**	**16 28 38.0**	**+1.1**
	comp=Z,152nm,0.6s							
HAWA					*eP*	**pP**	**16 30 30.4**	**-4.4**
D08A	**Wollman Farm,**	**69.09**	**327**	P		**P**	**16 28 38.5**	**+1.2**
I04A	**Tendick Farm,**	**69.10**	**323**	⇑P		**P**	**16 28 38.1**	**+0.6**
	baz=69							
G05D	**Wamic, OR**	**69.30**	**325**	⇑P		**P**	**16 28 40.6**	**+1.9**
	baz=70							
KBO	**Bosley Butte**	**69.33**	**321**	*eP*		**P**	**16 28 40.7**	**+1.8**
	comp=Z,1μm,1.4s							
KBO					*eP*	**pP**	**16 30 36.5**	**-0.6**
VFP	**Flag Point**	**69.43**	**325**	P		**P**	**16 28 41.3**	**+1.6**
I03D	**Drain, OR**	**69.61**	**323**	⇑P		**P**	**16 28 41.7**	**+1.2**
	baz=70							
KEBM	**Edson Butte**	**69.75**	**321**	*eP*		**P**	**16 28 42.9**	**+1.5**
	comp=Z,1μm,1.2s							
KEBM					*eP*	**pP**	**16 30 35.7**	**-4.1**
RNO	**Roman Nose**	**69.96**	**323**	P		**P**	**16 28 44.2**	**+1.6**
COR	**Corvallis**	**70.08**	**323**	*eP*		**P**	**16 28 44.8**	**+1.6**
COR					*e**PP	**pP**	**16 30 41.1**	**-0.6**
COR					pmax	pmax		
	comp=Z,655nm,0.9s							
COR	**Corvallis**	**70.08**	**323**	*eP*		**P**	**16 28 44.8**	**+1.6**
	comp=Z,655nm,0.9s							
COR					*eP*	**pP**	**16 30 41.1**	**-0.6**
MPOR	**Mary's Peak**	**70.18**	**323**	P		**P**	**16 28 45.7**	**+1.7**
WPW	**White Pass**	**70.30**	**326**	P		**P**	**16 28 45.7**	**+1.1**
G03D	**McMinnville, O**	**70.41**	**324**	⇑P		**P**	**16 28 46.7**	**+1.6**
	baz=71							
LON	**Longmire**	**70.47**	**326**	P		**P**	**16 28 46.4**	**+0.8**
LON	**Longmire**	**70.47**	**326**	P		**P**	**16 28 46.4**	**+0.8**
EDM	**Edmonton**	**70.58**	**335**	*eP*		**P**	**16 28 45.9**	**-0.2**
EDM					pmax	pmax		
	comp=Z,209nm,0.6s							
EDM	**Edmonton**	**70.58**	**335**	*eP*		**P**	**16 28 45.9**	**-0.2**
	comp=Z,209nm,0.6s							
WRW	**Wenatchee Ridg**	**70.63**	**327**	P		**P**	**16 28 47.2**	**+0.7**
F04D	**Rainier, OR**	**70.76**	**325**	⇑P		**P**	**16 28 49.0**	**+1.8**
	baz=71							
FRB	**Frobisher Bay**	**71.69**	**1**	PKPPKP		**P'P'ab**	**16 56 32.0**	**-0.2**
	comp=Z,19nm,1.1s,baz=1.6,slow=3.8,SNR=13							
NLWA	**Neilton Lookou**	**71.99**	**326**	*eP*		**P**	**16 28 56.0**	**+1.5**
	comp=Z,948nm,1.2s							
NLWA					*eP*	pP	16 30 48.1	-5.7
PGC	**Sidney**	**72.48**	**327**	*eP*		**P**	**16 28 58.0**	**+0.9**
	comp=Z,956nm,1.2s							
PGC					*eP*	**pP**	**16 30 55.6**	**-1.1**
VNA3	**Neumayer Olymp**	**73.55**	**163**	P		**P**	**16 29 03.4**	**+0.4**
VNA1	**Neumayer--Stat**	**73.73**	**162**	P		**P**	**16 29 04.7**	**+0.8**
PFVI	**Vila Bisbo**	**73.91**	**48**	*eP*		**P**	**16 29 07.4**	**+1.9**
	comp=Z,1μm,1.8s							
PFVI					*eP*	**pP**	**16 31 08.1**	**+2.3**
PFVI	**Vila Bisbo**	**73.91**	**48**	*e*PP		PP	16 32 04.2	+2.8
PFVI					*eS*	**S**	**16 37 52.6**	**+1.2**
MORF	**Marmelete**	**74.10**	**48**	*eP*		**P**	**16 28 08.6**	**+1.9**
MORF					AMb	AMB	16 29 12.8	
	comp=Z,1μm,1.4s							
MORF					*eS*	**S**	**16 37 56.5**	**+2.8**
MORF	**Marmelete**	**74.10**	**48**	*eP*		**P**	**16 29 08.6**	**+1.9**
	comp=Z,1μm,1.4s							
MORF					*eP*	**pP**	**16 31 09.0**	**+1.9**
MORF	**Marmelete**	**74.10**	**48**	*e*PP		PP	16 32 05.5	+2.3
MORF					*eS*	**S**	**16 37 56.7**	**+3.0**
MORF	**Marmelete**	**74.10**	**48**	*eP*		**P**	**16 29 08.6**	**+1.9**
MORF					*eS*	**S**	**16 37 56.5**	**+2.8**
MORF					pmax	pmax		
	comp=Z,1μm,1.4s							
VNA2	**Neumayer--Watz**	**74.11**	**162**	P		**P**	**16 29 06.5**	**+0.5**
	baz=296,slow=6.7							
PTEO	**Sao Teotonio**	**74.14**	**47**	*eP*		**P**	**16 29 08.5**	**+1.6**
	comp=Z,1μm,1.6s							
PTEO					*eP*	**pP**	**16 31 09.7**	**+2.5**
PTEO					*eS*	**S**	**16 37 58.5**	**+4.5**
PMST	**Lisbon--Monsan**	**74.30**	**46**	*eP*		**P**	**16 29 09.7**	**+2.0**
	comp=Z,782nm,1.2s							
PMST					*eP*	**pP**	**16 31 09.6**	**+1.5**
PMST	**Lisbon--Monsan**	**74.30**	**46**	*e*PP		PP	16 32 07.0	+2.3
PMST					*eS*	**S**	**16 37 58.6**	**+3.0**
LIS	**Lisbon**	**74.31**	**46**	*eP*		**P**	**16 29 09.0**	**+1.2**
LIS					AMb	AMB	16 29 14.4	
	comp=Z,834nm,1.4s							
LIS					*eS*	**S**	**16 37 58.0**	**+2.3**
LIS	**Lisbon**	**74.31**	**46**	*eP*		**P**	**16 29 09.0**	**+1.2**
LIS					*eS*	**S**	**16 37 58.0**	**+2.2**
LIS					pmax	pmax		
	comp=Z,834nm,1.4s							
PMAFR	**Mafra**	**74.31**	**46**	*eP*		**P**	**16 29 09.1**	**+1.3**
	comp=Z,1μm,1.9s							
PMAFR					*eP*	**pP**	**16 31 08.8**	**+0.6**
PMAFR	**Mafra**	**74.31**	**46**	*e*PP		PP	16 32 10.4	+5.6
PMAFR					*eS*	**S**	**16 37 57.2**	**+1.4**
VAH	**Vaihoa**	**74.45**	**256**	*eP*		**P**	**16 29 10.4**	**+1.4**
	comp=Z,419nm,1.4s							
VAH					*eP*	**pP**	**16 31 09.9**	**+0.4**
	comp=Z,483nm,1.3s							
PNCL	**Nicolau / Gran**	**74.51**	**47**	*eP*		**P**	**16 29 10.4**	**+1.5**
	comp=Z,570nm,1.8s							
PNCL					*eP*	**pP**	**16 31 10.5**	**+1.1**
PNCL	**Nicolau / Gran**	**74.51**	**47**	*e*PP		PP	16 32 08.5	+2.0
PNCL					*eS*	**S**	**16 38 00.1**	**+2.1**
PACT	**Alcochete**	**74.56**	**46**	*eP*		**P**	**16 29 12.0**	**+2.8**
	comp=Z,1μm,1.9s							
PACT					*eS*	**S**	**16 38 01.5**	**+3.1**
PBDV	**Barranco-do-Ve**	**74.61**	**48**	*eP*		**P**	**16 29 11.6**	**+2.1**
	comp=Z,768nm,1.6s							
PBDV					*eP*	**pP**	**16 31 10.7**	**+0.6**
PBDV	**Barranco-do-Ve**	**74.61**	**48**	*e*PP		PP	16 32 10.1	+2.8
PBDV					*eS*	**S**	**16 38 02.1**	**+3.0**
MESJ	**Messejana**	**74.63**	**47**	*eP*		**P**	**16 29 10.9**	**+1.3**
MESJ					AMb	AMB	16 29 14.5	
	comp=Z,388nm,2.0s							
MESJ					*eS*	**S**	**16 38 02.2**	**+3.0**
MESJ	**Messejana**	**74.63**	**47**	*eP*		**P**	**16 29 11.1**	**+1.5**
	comp=Z,387nm,1.8s							
MESJ					*eP*	**pP**	**16 31 11.1**	**+1.0**
MESJ	**Messejana**	**74.63**	**47**	*e*PP		PP	16 32 09.7	+2.3
MESJ					*eS*	**S**	**16 38 01.7**	**+2.4**
MESJ	**Messejana**	**74.63**	**47**	*eP*		**P**	**16 29 10.9**	**+1.3**
MESJ					*eS*	**S**	**16 38 02.2**	**+3.0**
MESJ					pmax	pmax		
	comp=Z,388nm,2.0s							
PCVE	**Castro Verde**	**74.68**	**48**	*eP*		**P**	**16 29 11.9**	**+2.0**
	comp=Z,173nm,1.6s							
PCVE					*eP*	**pP**	**16 31 11.3**	**+0.8**
PCVE	**Castro Verde**	**74.68**	**48**	*e*PP		PP	16 32 08.4	+0.5
PCVE					*eS*	**S**	**16 38 02.8**	**+3.0**
MEH	**Mehetia**	**74.69**	**254**	*eP*		**P**	**16 29 11.7**	**+1.3**
	comp=Z,21nm,0.9s							
MEH					*eP*	**pP**	**16 31 11.2**	**+0.3**
	comp=Z,64nm,1.1s							
PMOR	**Pomariorio Ree**	**74.73**	**257**	*eP*		**P**	**16 29 12.1**	**+1.5**
	comp=Z,348nm,1.0s							
PMOR					*eP*	**pP**	**16 31 11.6**	**+0.5**
	comp=Z,692nm,1.2s							
PVAQ	**Vaqueiros**	**74.83**	**48**	*eP*		**P**	**16 29 12.2**	**+1.5**
	comp=Z,424nm,2.0s							
PVAQ					*eP*	**pP**	**16 31 12.6**	**+1.3**
PVAQ	**Vaqueiros**	**74.83**	**48**	*e*PP		PP	16 32 09.7	+0.6
PVAQ					*eS*	**S**	**16 38 03.1**	**+1.7**
EVOP	**Sao Brissos**	**74.97**	**47**	⇓*iP*		**P**	**16 29 13.1**	**+1.6**
EVOP					*e**PP	**pP**	**16 31 14.6**	**+2.4**
EVOP					pmax	pmax		
	comp=Z,758nm,1.0s							
EVOP	**Sao Brissos**	**74.97**	**47**	⇓*iP*		**P**	**16 29 13.1**	**+1.6**
	comp=Z,758nm,1.0s							
EVOP					*eP*	**pP**	**16 31 14.6**	**+2.4**
EVO	**Evora**	**75.05**	**47**	⇓*iP*		**P**	**16 29 13.1**	**+1.1**
	comp=Z,758nm,1.0s							
EVO					*eP*	**pP**	**16 31 14.6**	**+1.9**
EVO					*eR*			
	comp=Z,901nm,18.8s							
EVO	**Evora**	**75.05**	**47**	*eP*		**P**	**16 29 13.1**	**+1.1**
	comp=Z,385nm,1.9s							
EVO					*eP*	**pP**	**16 31 13.3**	**+0.6**
EVO	**Evora**	**75.05**	**47**	*e*PP		PP	16 32 11.3	+0.3
EVO					*eS*	**S**	**16 38 05.4**	**+1.6**
PTOM	**Tomar**	**75.20**	**46**	*eP*		**P**	**16 29 13.8**	**+1.0**
	comp=Z,767nm,1.7s							
PTOM					*eP*	**pP**	**16 31 15.7**	**+2.1**
PTOM					*eS*	**S**	**16 38 06.7**	**+1.3**
PCAS	**Casmilo, Conde**	**75.32**	**45**	*eP*		**P**	**16 29 14.6**	**+1.2**
	comp=Z,685nm,1.5s							
PCAS					*eP*	**pP**	**16 31 15.5**	**+1.2**
PCAS	**Casmilo, Conde**	**75.32**	**45**	*e*PP		PP	16 32 13.0	-0.1
PCAS					*eS*	**S**	**16 38 07.2**	**+0.6**
PESTR	**Estremoz**	**75.49**	**46**	*eP*		**P**	**16 29 15.5**	**+1.1**
	comp=Z,835nm,1.8s							
PESTR					*eP*	**pP**	**16 31 16.1**	**+0.8**
PESTR	**Estremoz**	**75.49**	**46**	*e*PP		PP	16 32 13.7	-0.9
PESTR					*eS*	**S**	**16 38 09.4**	**+0.9**
MDT	**Midelt**	**75.54**	**53**	P		**P**	**16 29 16.8**	**+1.8**
	comp=Z,124nm,0.8s,baz=260,slow=5.3,SNR=114							
MDT					*eP*	**pP**	**16 31 17.8**	**+2.0**
	comp=Z,36nm,0.8s,baz=236,slow=7.0,SNR=4.3							
PBAR	**Barrancos**	**75.62**	**47**	*eP*		**P**	**16 29 16.1**	**+1.0**
	comp=Z,853nm,1.5s							
PBAR					*eP*	**pP**	**16 31 16.6**	**+0.5**
PBAR	**Barrancos**	**75.62**	**47**	*e*PP		PP	16 32 15.4	-0.3
PBAR					*eS*	**S**	**16 38 11.3**	**+1.4**
TBI	**Tubuai**	**75.68**	**248**	*eP*		**P**	**16 31 19.1**	**+2.3**
	comp=Z,769nm,1.1s							
TBI					*eS*	**S**	**16 38 11.4**	**+0.2**
	comp=Z,8μm,39.5s							
TBI	**Tubuai**	**75.68**	**248**	*e*LR		LR	16 53 35.6	
	comp=Z,5μm,28.8s							
PTO	**Porto**	**75.69**	**44**	*eP*		**P**	**16 29 16.7**	**+1.3**
	comp=Z,957nm,1.7s							
SNAA	**Sanae**	**75.74**	**162**	P		**P**	**16 29 13.9**	**-1.4**
TOA0	**Torodi Ar. Sit**	**75.83**	**74**	*eP*		**P**	**16 29 17.0**	**+0.3**
TORD	**Torodi Ar. Bea**	**75.83**	**74**	P		**P**	**16 29 16.9**	**+0.2**
	comp=Z,166nm,0.5s,baz=263,slow=4.8,SNR=783							
TORD					pP	**pP**	**16 31 19.4**	**+1.7**
	comp=Z,150nm,0.7s,baz=266,slow=5.9,SNR=11							
TORD					S	**S**	**16 38 12.4**	**-0.5**
	comp=Z,16nm,0.9s,baz=276,slow=7.9,SNR=14							
PMRV	**Marv??o**	**75.85**	**46**	*eP*		**P**	**16 29 17.2**	**+0.8**
	comp=Z,361nm,1.7s							
PMRV					*eP*	**pP**	**16 31 17.6**	**+0.1**
PMRV	**Marv??o**	**75.85**	**46**	*e*PP		PP	16 32 14.7	-2.9
PMRV					*eS*	**S**	**16 38 13.2**	**+0.8**
TIAR	**Tiarei**	**75.92**	**254**	*eP*		**P**	**16 29 18.8**	**+1.5**
	comp=Z,17nm,0.9s							
TIAR					*eP*	**pP**	**16 31 18.7**	**+0.4**
	comp=Z,28nm,0.9s							
PCBR	**Castelo Branco**	**75.95**	**46**	*eP*		**P**	**16 29 17.7**	**+0.8**

NVL N'lazarevskaya 80.23 160 *d iP* P 16 29 33.3 -5.9
NVL *e*PP pP 16 31 34.4 -7.7
NVL *e* 16 32 30.9
NVL pmax pmax
comp=Z,374nm,0.7s
ETRT Tiaret 81.00 52 P **P 16 29 46.2 +2.1**
EANR 'Ain N'Sour 81.00 52 P **P 16 29 46.0 +2.0**
DLBC Dease Lake 81.16 333 S **S 16 39 08.7 +1.9**
comp=Z,8.9nm,1.3s,baz=196,slow=27,SNR=8.6
ECHA Ech Chlef 81.27 52 P **P 16 29 47.0 +1.8**
EBNR Beni Rached 81.43 51 P **P 16 29 48.2 +2.0**
SJPF Ste Jean 81.52 44 *eP* **P 16 29 47.9 +1.5**
comp=Z,3µm,1.5s
SJPF Ste Jean 81.52 44 *eP* **P 16 29 47.9 +1.5**
SJPF pmax pmax
comp=Z,3µm,1.5s
SJPF Ste Jean 81.52 44 *eP* **P 16 29 47.9 +1.5**
comp=Z,3µm,1.5s
CCA1 Carnmenellis 81.53 37 *eP* **P 16 29 46.1 -0.2**
CCA1 AMB AMB 16 29 49.3
comp=Z,958nm,1.0s
OSSF Osses 81.54 44⇓ *eP* **P 16 29 47.0 +0.5**
LARF Larrau 81.66 44⇓ *eP* **P 16 29 48.3 +1.2**
BORG Borgarnes 81.69 19 P **P 16 29 48.8 +2.1**
comp=Z,4µm,1.1s,SNR=49
BORG Borgarnes 81.69 19 P **P 16 29 48.2 +1.5**
comp=Z,657nm,1.1s,baz=223,slow=4.7,SNR=11
BORG pP **pP 16 31 52.4 +2.2**
comp=Z,110nm,1.0s,baz=215,slow=5.3,SNR=9.2
BORG PKKPbc **PKKPbc 16 48 15.0 -2.2**
comp=Z,8.6nm,0.7s,baz=96,slow=4.0,SNR=5.5
BORG Borgarnes 81.69 19 P **P 16 29 48.2 +1.5**
BORG **PP **pP** 16 31 52.4 +2.2**
BORG 16 48 15.0
BORG pmax pmax
comp=Z,657nm,1.1s
ATE Arette 81.87 44⇓ *eP* **P 16 29 48.8 +0.6**
ETSF Etsaut 81.91 45 *eP* **P 16 29 49.6 +1.1**
comp=Z,286nm,0.9s
ETSF Etsaut 81.91 45 *eP* **P 16 29 49.6 +1.1**
ETSF pmax pmax
comp=Z,286nm,0.9s
ETSF Etsaut 81.91 45 *eP* **P 16 29 49.6 +1.1**
comp=Z,286nm,0.9s
QUIF Quistinic 81.92 39 *eP* **P 16 29 48.8 +0.5**
comp=Z,2µm,1.3s
QUIF Quistinic 81.92 39 *eP* **P 16 29 48.8 +0.5**
QUIF pmax pmax
comp=Z,2µm,1.3s
QUIF Quistinic 81.92 39 *eP* **P 16 29 48.8 +0.5**
comp=Z,2µm,1.3s
QSPA South Pole Qui 82.00 180 PKKPbc PKKPbc 16 48 11.8 -5.3
comp=Z,15nm,0.5s,baz=80,slow=0.4,SNR=39
ROSF Rostrenen 82.00 39 *eP* **P 16 29 49.3 +0.6**
comp=Z,2µm,1.2s
ROSF *ep*P **pP 16 31 52.3 -0.1**
ROSF Rostrenen 82.00 39 *eP* **P 16 29 49.3 +0.6**
ROSF *e*PP* **pP 16 31 52.3 -0.1**
ROSF pmax pmax
comp=Z,2µm,1.2s
ROSF Rostrenen 82.00 39 *eP* **P 16 29 49.3 +0.6**
comp=Z,2µm,1.2s
ROSF *ep*P **pP 16 31 52.3 -0.1**
REYF Montagne du Re 82.08 44⇓ *eP* **P 16 29 50.3 +1.0**
HTL Hartland 82.29 36 *eP* **P 16 29 49.8 -0.2**
HTL AMB AMB 16 29 52.1
comp=Z,453nm,1.6s
VIEF Viey 82.31 45⇓ *eP* **P 16 29 51.5 +1.0**
LABF Labassere 82.39 45 *eP* **P 16 29 51.5 +0.6**
SGMF Saint Gilles 82.42 39 *eP* **P 16 29 51.2 +0.4**
comp=Z,2µm,1.5s
SGMF *ep*P **pP 16 31 54.5 -0.1**
SGMF Saint Gilles 82.42 39 *eP* **P 16 29 51.2 +0.4**
SGMF *e*PP* **pP 16 31 54.5 -0.1**
SGMF pmax pmax
comp=Z,2µm,1.5s
SGMF Saint Gilles 82.42 39 *eP* **P 16 29 51.2 +0.4**
comp=Z,2µm,1.5s
SGMF *ep*P **pP 16 31 54.5 -0.1**
EMHD Djebel Mahouad 82.51 52 P **P 16 29 53.0 +1.2**
EPF Esparros 82.58 45 *eP* **P 16 29 52.7 +0.9**
comp=Z,223nm,0.9s
EPF Esparros 82.58 45 *eP* **P 16 29 52.7 +0.9**
EPF pmax pmax
comp=Z,223nm,0.9s
EPF Esparros 82.58 45 *eP* **P 16 29 52.7 +0.9**
comp=Z,223nm,0.9s
ABA Alger-Bouzarea 82.74 51 P **P 16 29 52.8 +0.1**
GMM Mts of Mourne 82.78 33 *eP* **P 16 29 52.2 -0.2**
MELF Melles 82.82 45⇓ *eP* **P 16 29 54.2 +1.1**
LPW Lampeter 82.96 35 *eP* **P 16 29 53.2 -0.3**
LPW AMB AMB 16 29 56.0
comp=Z,687nm,1.4s
JSA Saint Aubin 82.99 38 *eP* **P 16 29 52.9 -0.8**
JSA AMB AMB 16 29 55.6
comp=Z,448nm,1.7s
KULLO Kullorsuaq 83.03 4⇓ *iP* **P 16 29 52.9 -0.4**
comp=Z,702nm,1.1s
KULLO *i* 16 31 56.1
KULLO *i* S S 16 39 17.1 -7.5
KULLO *i* 16 40 14.8
MLS Moulis 83.08 45⇓ *eP* **P 16 29 54.9 +0.6**
YRE Yr Eifl 83.10 34 *eP* **P 16 29 53.6 -0.5**
YRC Rhoscolyn 83.12 34 *eP* **P 16 29 54.6 +0.4**
WLF1 Llynfaes 83.24 34 *eP* **P 16 29 55.2 +0.4**
WLF1 AMB AMB 16 29 57.3
comp=Z,371nm,1.4s
YLL Llanberis 83.30 34 *eP* **P 16 29 55.4 +0.3**
WME Myndd Eilian 83.33 34 *eP* **P 16 29 55.5 +0.3**
SUMG Summit 83.34 10⇓ *iP* **P 16 29 55.8 +0.4**
comp=Z,1µm,1.0s
SUMG *i* 16 31 58.8
SUMG *i* S S 16 39 19.9 -8.7
SUMG Summit 83.34 10⇓ *iP* **P 16 29 55.8 +0.4**
SUMG *i* 16 31 58.8
SUMG *i* S S 16 39 19.9 -8.7
SUMG pmax pmax
comp=Z,1µm,1.0s
MFF Saint Martin d 83.39 41 *eP* **P 16 29 56.0 +0.3**
comp=Z,392nm,0.7s
MFF Saint Martin d 83.39 41 *eP* **P 16 29 56.0 +0.3**
MFF pmax pmax
comp=Z,392nm,0.7s
MFF Saint Martin d 83.39 41 *eP* **P 16 29 56.0 +0.3**
comp=Z,392nm,0.7s
LFF La Frestale 83.45 43 *eP* **P 16 29 56.3 +0.3**
comp=Z,297nm,0.6s
LFF La Frestale 83.45 43 *eP* **P 16 29 56.3 +0.3**
LFF pmax pmax
comp=Z,297nm,0.6s
LFF La Frestale 83.45 43 *eP* **P 16 29 56.3 +0.3**
comp=Z,297nm,0.6s
WPM1 Penmaenmawr 83.50 34 *eP* **P 16 29 55.9 -0.2**
MCH1 Michaelchurch 83.53 35 *eP* **P 16 29 55.3 -1.0**
MCH1 AMB AMB 16 29 57.7
comp=Z,297nm,1.6s
GRR Gorron 83.53 39 *eP* **P 16 29 56.5 +0.2**
GRR *ep*P **pP 16 32 00.5 -0.1**
GRR Gorron 83.53 39 *eP* **P 16 29 56.5 +0.2**
GRR *e*PP* **pP 16 32 00.5 -0.1**
GRR Gorron 83.53 39 *eP* **P 16 29 56.5 +0.2**
GRR *ep*P **pP 16 32 00.5 -0.1**
VALF Valcebollere 83.56 46⇓ *eP* **P 16 29 57.2 +0.3**
MONM Monmouth 83.58 36 *eP* **P 16 29 55.0 -1.4**
MONM AMB AMB 16 29 58.1
comp=Z,447nm,1.6s
OLDB Oldbury-Upon-S 83.66 36 *eP* **P 16 29 54.6 -2.3**
OLDB AMB AMB 16 29 58.3
comp=Z,300nm,1.7s
GAL1 Galloway 83.69 32 *eP* **P 16 29 55.4 -1.6**
GAL1 AMB AMB 16 29 59.4
comp=Z,298nm,2.0s
BATH Bath 83.71 36 *eP* **P 16 29 55.1 -2.0**
BATH AMB AMB 16 29 58.4
comp=Z,224nm,1.7s
CARF Carcanieres 83.72 45⇓ *eP* **P 16 29 57.8 +0.2**
FOEL Foel Wylfa 83.75 35 *eP* **P 16 29 55.6 -1.7**
FOEL AMB AMB 16 29 59.8
comp=Z,284nm,1.7s
HLM1 Long Mynd 83.79 35 *eP* **P 16 29 56.3 -1.3**
HLM1 AMB AMB 16 29 59.0
comp=Z,319nm,1.6s
RES Resolute Bay 83.88 354 PKKPbc PKKPbc 16 48 09.1 -3.3
comp=Z,14nm,0.7s,baz=325,slow=2.1,SNR=14

FLN La Foliniere 83.89 39 *eP* **P 16 29 58.4 +0.3**
comp=Z,2µm,1.4s
FLN *eR*
comp=Z,2µm,21.0s
FLN La Foliniere 83.89 39 *eP* **P 16 29 58.4 +0.3**
FLN pmax pmax
comp=Z,2µm,1.4s
FLN La Foliniere 83.89 39 *eP* **P 16 29 58.4 +0.3**
comp=Z,2µm,1.4s
STRD Stroud 83.93 36 *eP* **P 16 29 58.0 -0.2**
STRD AMB AMB 16 30 00.5
comp=Z,473nm,2.2s
MTLF Montolieu 83.98 45 *eP* **P 16 29 58.7 0.0**
comp=Z,158nm,0.9s
MTLF Montolieu 83.98 45 *eP* **P 16 29 58.7 0.0**
MTLF pmax pmax
comp=Z,158nm,0.9s
MTLF Montolieu 83.98 45 *eP* **P 16 29 58.7 0.0**
comp=Z,158nm,0.9s
FILF Fillols 83.99 46⇓ *eP* **P 16 29 58.8 -0.1**
SWN1 Swindon 84.05 36 *eP* **P 16 29 57.3 -1.5**
SWN1 AMB AMB 16 30 01.2
comp=Z,478nm,1.8s
LDF La Druitiere 84.06 39 *eP* **P 16 29 59.1 +0.1**
comp=Z,784nm,1.0s
LDF La Druitiere 84.06 39 *eP* **P 16 29 59.1 +0.1**
LDF pmax pmax
comp=Z,784nm,1.0s
LDF La Druitiere 84.06 39 *eP* **P 16 29 59.1 +0.1**
comp=Z,784nm,1.0s
RJF Les Rejaudoux 84.08 43 *eP* **P 16 29 59.2 0.0**
comp=Z,244nm,0.9s
RJF *eR*
comp=Z,2µm,22.2s
RJF Les Rejaudoux 84.08 43 *eP* **P 16 29 59.2 0.0**
RJF pmax pmax
comp=Z,244nm,0.9s
RJF Les Rejaudoux 84.08 43 *eP* **P 16 29 59.2 0.0**
comp=Z,244nm,0.9s
LRDF Laroque-de-Fa 84.09 45⇓ *eP* **P 16 29 59.0 -0.3**
SSW Stow on the Wo 84.18 36 *eP* **P 16 29 59.3 -0.2**
PGBU Glenifferbraes 84.19 32 *eP* **P 16 29 58.3 -1.2**
PGBU AMB AMB 16 30 01.9
comp=Z,348nm,2.1s
SJAF Saint Jean de 84.20 46⇓ *eP* **P 16 30 00.0 +0.2**
KPL Plockton 84.22 30 *eP* **P 16 29 58.6 -0.9**
KPL AMB AMB 16 30 02.2
comp=Z,453nm,1.7s
KSB Sheil Bridge 84.28 30 *eP* **P 16 29 59.4 -0.5**
WOL Wolverton 84.31 36 *eP* **P 16 29 59.0 -1.1**
CAF Calviac 84.34 43 *eP* **P 16 30 00.5 0.0**
comp=Z,275nm,0.9s
CAF Calviac 84.34 43 *eP* **P 16 30 00.5 0.0**
CAF pmax pmax
comp=Z,275nm,0.9s
CAF Calviac 84.34 43 *eP* **P 16 30 00.5 0.0**
comp=Z,275nm,0.9s
EAB Aberfoyle 84.42 31 *eP* **P 16 29 59.6 -0.9**
SET Setif 84.43 52 P **P 16 30 02.0 +0.8**
KESW Keswick, Cumbr 84.44 33 *eP* **P 16 29 59.9 -0.8**
KESW AMB AMB 16 30 03.4
comp=Z,379nm,2.0s
KAC Achmashellach 84.47 30 *eP* **P 16 29 59.9 -0.8**
CKHR Kef el Ahmar 84.47 53 P **P 16 30 03.7 +2.2**
ECK Cauldkaine Hil 84.66 32 *eP* **P 16 30 00.4 -1.4**
ESK Eskdalemuir 84.67 32 P **P 16 30 01.2 -0.6**
comp=Z,496nm,1.2s,SNR=9.2
ESK Eskdalemuir 84.67 32 *eP* **P 16 30 00.8 -1.0**
ESK AMB AMB 16 30 03.2
comp=Z,226nm,1.9s
ESK Eskdalemuir 84.67 32 *i* P **P 16 30 02.3 +0.5**
EKA Eskdalemuir Ar 84.70 32 P **P 16 30 01.4 -0.5**
comp=Z,12nm,0.5s,baz=240,slow=5.0,SNR=61
EKA pP **pP 16 32 08.4 +1.8**
comp=Z,26nm,0.9s,baz=243,slow=4.6,SNR=4.8
SKP1 Kophill 84.70 36 *eP* **P 16 30 01.2 -0.8**
LHO Holmfirth 84.74 34 *eP* **P 16 30 01.8 -0.4**
TCF Toulx Ste Croi 84.84 42⇓ *iP* **P 16 30 02.6 -0.3**
comp=Z,181nm,0.8s
TCF Toulx Ste Croi 84.84 42⇓ *iP* **P 16 30 02.6 -0.3**
TCF pmax pmax
comp=Z,181nm,0.8s
TCF Toulx Ste Croi 84.84 42⇓ *iP* **P 16 30 02.6 -0.3**
comp=Z,181nm,0.8s
DFRA Djebel Bou Aff 84.88 52 P **P 16 30 04.8 +1.4**
MDO Dochfour 84.90 30 *eP* **P 16 30 02.5 -0.4**
EBL Broad Law 84.92 32 *eP* **P 16 30 02.7 -0.4**
HPK Haverah Park 85.02 34 *eP* **P 16 30 02.1 -1.4**
HPK AMB AMB 16 30 06.2
comp=Z,318nm,1.4s
MSKU Masuku 85.07 91 P **P 16 30 05.0 +0.3**
comp=Z,116nm,0.4s,baz=255,slow=3.0,SNR=91
MSKU pP **pP 16 32 12.9 +3.4**
comp=Z,99nm,0.9s,baz=269,slow=7.9,SNR=5.6
HMNX Herstmonceux 85.09 37 *eP* **P 16 30 02.5 -1.4**
HMNX AMB AMB 16 30 06.7
comp=Z,565nm,1.9s
CTEI Djebel Teioual 85.18 53 P **P 16 30 05.4 +0.5**
MVH1 Achvaich 85.19 30 *eP* **P 16 30 04.0 -0.2**
ESY Stoneypath 85.20 32 *eP* **P 16 30 03.6 -0.7**
PYM Petit Puy Mans 85.22 43⇓ *eP* **P 16 30 05.8 +1.0**
LBL Lubilhac 85.23 43⇓ *eP* **P 16 30 06.2 +1.3**
EDU Dundee 85.23 31 *eP* **P 16 30 04.6 +0.1**
KOMG Komaggas 85.27 119 P **P 16 30 04.0 -1.4**
comp=Z,213nm,2.3s
CASM Ain Smara 85.30 53 P **P 16 30 06.4 +1.0**
LASF Ste Croix 85.33 44 *eP* **P 16 30 05.6 +0.3**
comp=Z,369nm,1.1s
LASF Ste Croix 85.33 44 *eP* **P 16 30 05.6 +0.3**
comp=Z,369nm,1.1s
BGF Bois d'Agland 85.34 42 *eP* **P 16 30 05.2 -0.1**
comp=Z,600nm,0.7s
BGF Bois d'Agland 85.34 42 *eP* **P 16 30 05.2 -0.1**
BGF pmax pmax
comp=Z,600nm,0.7s
BGF Bois d'Agland 85.34 42 *eP* **P 16 30 05.2 -0.1**
comp=Z,600nm,0.7s
AGO Saint Agoulin 85.38 42⇓ *eP* **P 16 30 06.4 +0.9**
HYF Humbligny 85.41 41 *eP* **P 16 30 05.8 +0.2**
HYF Humbligny 85.41 41 *eP* **P 16 30 05.8 +0.2**
CKFL Kef-Lekhel 85.51 52 P **P 16 30 07.1 +0.6**
MCD Coleburn Disti 85.51 30 *eP* **P 16 30 05.1 -0.6**
BIGH Upper Bighouse 85.54 29 *eP* **P 16 30 04.7 -1.1**
BIGH AMB AMB 16 30 07.7
comp=Z,1µm,1.7s
MME1 Meikle Cairn 85.55 30 *eP* **P 16 30 06.0 -0.1**
LMK Market Rasen 85.57 35 *eP* **P 16 30 05.0 -1.2**
LMK AMB AMB 16 30 08.6
comp=Z,574nm,1.4s
COLF Collangettes 85.61 43 *eP* **P 16 30 07.0 +0.4**
DRUM Mains of Drumt 85.64 31 *eP* **P 16 30 05.7 -0.7**
DRUM AMB AMB 16 30 08.0
comp=Z,288nm,1.7s
ELSH Elham, Standar 85.66 37 *eP* **P 16 30 05.1 -1.5**
ELSH AMB AMB 16 30 08.3
comp=Z,479nm,1.7s
SOFL Sornfelli, Far 85.66 25 *eP* **P 16 30 06.6 +0.2**
PLDF La Plantade 85.69 43⇓ *eP* **P 16 30 08.1 +1.1**
CAEH 'Ain El Ouahch 85.70 52 P **P 16 30 07.6 +0.4**
MLA1 Latheron 85.74 29 *eP* **P 16 30 06.6 -0.3**
AVF Avril sur Loir 85.74 42 *eP* **P 16 30 06.8 -0.3**
comp=Z,475nm,0.9s
AVF Avril sur Loir 85.74 42 *eP* **P 16 30 06.8 -0.3**
AVF pmax pmax
comp=Z,475nm,0.9s
AVF Avril sur Loir 85.74 42 *eP* **P 16 30 06.8 -0.3**
comp=Z,475nm,0.9s
SSF Saint Saulge 85.92 41⇓ *iP* **P 16 30 07.4 -0.6**
comp=Z,563nm,1.2s
SSF *ep*P **pP 16 32 12.7 -0.5**
SSF Saint Saulge 85.92 41⇓ *iP* **P 16 30 07.4 -0.6**
SSF *e*PP* **pP 16 32 12.7 -0.5**
SSF pmax pmax
comp=Z,563nm,1.2s
SSF Saint Saulge 85.92 41⇓ *iP* **P 16 30 07.4 -0.6**
comp=Z,563nm,1.2s
SSF *ep*P **pP 16 32 12.7 -0.5**
SMF Signal de Mont 86.02 42 *eP* **P 16 30 08.3 -0.2**
comp=Z,780nm,1.0s
SMF *ep*P **pP 16 32 13.6 -0.2**
SMF Signal de Mont 86.02 42 *eP* **P 16 30 08.3 -0.2**
SMF *e*PP* **pP 16 32 13.6 -0.2**
SMF pmax pmax
comp=Z,780nm,1.0s
SMF Signal de Mont 86.02 42 *eP* **P 16 30 08.3 -0.2**
comp=Z,780nm,1.0s
SMF *ep*P **pP 16 32 13.6 -0.2**
ABSA Djebel Ababsia 86.08 53 P **P 16 30 09.3 +0.2**
VIVF Saint-Julien-l 86.10 44 *eP* **P 16 30 09.3 +0.3**
comp=Z,386nm,0.9s
VIVF Saint-Julien-l 86.10 44 *eP* **P 16 30 09.3 +0.3**
VIVF pmax pmax
comp=Z,386nm,0.9s
VIVF Saint-Julien-l 86.10 44 *eP* **P 16 30 09.3 +0.3**
comp=Z,386nm,0.9s
CMAH Djebel Manchou 86.11 52 P **P 16 30 09.4 +0.2**
SSB Saint Sauveur 86.12 43 *eP* **P 16 30 09.3 +0.2**
LOR Lormes 86.21 41⇓ *iP* **P 16 30 08.9 -0.5**
comp=Z,422nm,0.9s
LOR *ep*P **pP 16 32 14.3 -0.4**
LOR *eR*
comp=Z,2µm,18.2s
LOR Lormes 86.21 41⇓ *iP* **P 16 30 08.9 -0.5**
LOR *e*PP* **pP 16 32 14.3 -0.4**
LOR pmax pmax
comp=Z,422nm,0.9s
LOR Lormes 86.21 41⇓ *iP* **P 16 30 08.9 -0.5**
comp=Z,422nm,0.9s
LOR *ep*P **pP 16 32 14.3 -0.4**
CER Ceres 86.37 123 P **P 16 30 10.4 -0.1**
comp=Z,130nm,1.7s
OG26 St.-Nazaire-De 86.46 44 *eP* **P 16 30 11.3 +0.6**
SMRF Simiane la Rot 86.50 45 *eP* **P 16 30 11.5 +0.7**
comp=Z,504nm,1.1s
SMRF Simiane la Rot 86.50 45 *eP* **P 16 30 11.5 +0.7**
comp=Z,504nm,1.1s
TSUM Tsumeb 86.65 109 P **P 16 30 12.5 +0.3**
comp=Z,172nm,0.7s,baz=273,slow=4.5,SNR=184
TSUM pP **pP 16 32 19.5 +1.8**
comp=Z,88nm,0.9s,baz=263,slow=5.9,SNR=8.5
TSUM PKKPbc **PKKPbc 16 48 04.9 +1.1**
comp=Z,9.4nm,0.8s,baz=54,slow=3.7,SNR=14
GRN Grenoble 86.93 44 *eP* **P 16 30 13.4 +0.5**
ORIF Oris-en-Rattie 86.94 44 *eP* **P 16 30 13.7 +0.7**
comp=Z,622nm,0.8s
ORIF *eR*
comp=Z,2µm,20.2s
ORIF Oris-en-Rattie 86.94 44 *eP* **P 16 30 13.7 +0.7**
ORIF pmax pmax
comp=Z,622nm,0.8s
ORIF Oris-en-Rattie 86.94 44 *eP* **P 16 30 13.7 +0.7**
comp=Z,622nm,0.8s
LMR La Mourre 86.99 46 *eP* **P 16 30 13.3 +0.2**
comp=Z,653nm,1.0s
LMR La Mourre 86.99 46 *eP* **P 16 30 13.3 +0.2**
LMR pmax pmax
comp=Z,653nm,1.0s
LMR La Mourre 86.99 46 *eP* **P 16 30 13.3 +0.2**
comp=Z,653nm,1.0s
FRF La Foret Royal 87.14 45 *eP* **P 16 30 14.0 +0.1**
comp=Z,682nm,0.9s
FRF La Foret Royal 87.14 45 *eP* **P 16 30 14.0 +0.1**
FRF pmax pmax
comp=Z,682nm,0.9s
FRF La Foret Royal 87.14 45 *eP* **P 16 30 14.0 +0.1**
comp=Z,682nm,0.9s
GDM Grand'Maison 87.18 44 *eP* **P 16 30 14.4 +0.2**
BAIF Baives 87.20 39⇓ *iP* **P 16 30 13.8 -0.1**
comp=Z,250nm,0.9s
BAIF *ep*P **pP 16 32 19.3 -0.4**
BAIF Baives 87.20 39⇓ *iP* **P 16 30 13.8 -0.1**
BAIF *e*PP* **pP 16 32 19.3 -0.4**
BAIF pmax pmax
comp=Z,250nm,0.9s
BAIF Baives 87.20 39⇓ *iP* **P 16 30 13.8 -0.1**
comp=Z,250nm,0.9s
BAIF *ep*P **pP 16 32 19.3 -0.4**
SFTF Sexfontaines 87.23 41⇓ *iP* **P 16 30 13.9 -0.2**
comp=Z,1µm,1.0s
SFTF *ep*P **pP 16 32 19.4 -0.5**
SFTF Sexfontaines 87.23 41⇓ *iP* **P 16 30 13.9 -0.2**
comp=Z,1µm,1.0s
SFTF *ep*P **pP 16 32 19.4 -0.5**
WAL1 Walls 87.30 28 *eP* **P 16 30 13.3 -0.9**
MEZF Maizieres J'vi 87.31 40⇓ *iP* **P 16 30 14.5 0.0**
comp=Z,398nm,0.5s
MEZF *ep*P **pP 16 32 19.9 -0.4**
MEZF Maizieres J'vi 87.31 40⇓ *iP* **P 16 30 14.5 0.0**
comp=Z,398nm,0.5s
MEZF *ep*P **pP 16 32 19.9 -0.4**
CALN Calern 87.36 45⇓ *eP* **P 16 30 15.3 +0.2**
SNF Seneffe 87.37 38 P **P 16 30 14.6 -0.1**
SNF AP **pP 16 32 22.1 +1.6**
SNF E 16 32 28.5
SAN1 Sandwick 87.39 28 *eP* **P 16 30 14.4 -0.2**
KEST Kesra 87.44 54 P **P 16 30 15.8 +0.2**
comp=Z,56nm,0.9s,baz=208,slow=2.2,SNR=65
KEST pP **pP 16 32 23.2 +1.8**
comp=Z,14nm,0.8s,baz=62,slow=3.7,SNR=4.2
KEST PKPPKP **P'P'df 16 56 08.6 -0.3**
comp=Z,4.0nm,1.0s,baz=265,slow=5.7,SNR=6.6
DOU Dourbes 87.45 39 P **P 16 30 15.2 0.0**
comp=Z,190nm,1.6s
DOU AP **pP 16 32 20.6 -0.3**
LRW Lerwick 87.46 28 *eP* **P 16 30 14.3 -0.6**
LRW AMB AMB 16 30 17.0
comp=Z,266nm,1.4s
SURF Saint Ours 87.48 45 *eP* **P 16 30 16.3 +0.6**
UCC Uccle 87.50 38 P **P 16 30 15.2 -0.1**
UCC AP **pP 16 32 20.7 -0.4**
UCC XP **sP 16 33 16.9 -2.6**
CABF La Chapelle 87.51 42 *eP* **P 16 30 15.5 -0.1**
comp=Z,372nm,1.0s
CABF La Chapelle 87.51 42 *eP* **P 16 30 15.5 -0.1**
CABF pmax pmax
comp=Z,372nm,1.0s
CABF La Chapelle 87.51 42 *eP* **P 16 30 15.5 -0.1**
comp=Z,372nm,1.0s
MBDF Montbardon 87.51 44 *eP* **P 16 30 16.1 +0.4**
comp=Z,374nm,1.2s
MBDF Montbardon 87.51 44 *eP* **P 16 30 16.1 +0.4**
MBDF pmax pmax
comp=Z,374nm,1.2s
MBDF Montbardon 87.51 44 *eP* **P 16 30 16.1 +0.4**
comp=Z,374nm,1.2s
INK Inuvik 87.52 341 P **P 16 30 15.6 +0.6**
comp=Z,454nm,0.7s,baz=99,slow=5.3,SNR=196
INK pP **pP 16 32 21.6 +0.7**
comp=Z,77nm,1.0s,baz=4.4,slow=5.0,SNR=4.0
INK PKKP **PKKPdf 16 47 57.9 +1.2**
comp=Z,7.1nm,0.8s,baz=319,slow=2.6,SNR=5.9
MVIF Mont Vial 87.58 45⇓ *eP* **P 16 30 15.9 -0.2**
GIVF Givet 87.60 39⇓ *iP* **P 16 30 16.0 +0.2**
comp=Z,952nm,0.8s
GIVF Givet 87.60 39⇓ *iP* **P 16 30 16.0 +0.2**
GIVF pmax pmax
comp=Z,953nm,0.8s
GIVF Givet 87.60 39⇓ *iP* **P 16 30 16.0 +0.2**
comp=Z,952nm,0.8s
YEL1 Yell 87.65 28 *eP* **P 16 30 15.7 -0.1**
OG22 Abries 87.66 44⇓ *eP* **P 16 30 17.6 +1.1**
LPL La Plagne 87.67 44 *eP* **P 16 30 17.3 +0.7**
comp=Z,517nm,1.0s
LPL La Plagne 87.67 44 *eP* **P 16 30 17.3 +0.7**
LPL pmax pmax
comp=Z,517nm,1.0s
LPL La Plagne 87.67 44 *eP* **P 16 30 17.3 +0.7**
comp=Z,517nm,1.0s
TOUF Mont Tournerai 87.68 45⇓ *eP* **P 16 30 16.6 0.0**
LPG La Plagne 87.68 44 *eP* **P 16 30 17.5 +0.8**
comp=Z,754nm,1.0s
LPG La Plagne 87.68 44 *eP* **P 16 30 17.5 +0.8**
LPG pmax pmax
comp=Z,754nm,1.0s
LPG La Plagne 87.68 44 *eP* **P 16 30 17.5 +0.8**
comp=Z,754nm,1.0s
REVF Revere 87.70 45⇓ *eP* **P 16 30 16.5 0.0**
PAGF Fort de Pagny 87.76 40⇓ *iP* **P 16 30 16.8 +0.2**
comp=Z,90nm,0.7s
PAGF *ep*P **pP 16 32 22.3 -0.2**
PAGF Fort de Pagny 87.76 40⇓ *iP* **P 16 30 16.8 +0.2**
comp=Z,90nm,0.7s
PAGF *ep*P **pP 16 32 22.3 -0.2**
SUR Sutherland 87.77 122 P **P 16 30 17.2 -0.2**
comp=Z,1µm,0.8s,SNR=59
SUR Sutherland 87.77 122 PKKPbc PKKPbc 16 48 01.9 +0.3
comp=Z,4.5nm,0.4s,baz=126,slow=4.5,SNR=10.0
SUR Sutherland 87.77 122 P **P 16 30 18.7 +1.3**
SNR=6.3
SUR Sutherland 87.77 122 P **P 16 30 18.1 +0.7**
comp=Z,128nm,0.9s

SUR PKKPbc **PKKPbc** **16 48 01.9 +0.3**
SBF **Sospel** **87.77** **45** *e*P **P** **16 30 16.9 0.0**
comp=Z,535nm,0.9s
SBF **Sospel** **87.77** **45** *e*P **P** **16 30 16.9 0.0**
SBF pmax pmax
comp=Z,535nm,0.9s
SBF **Sospel** **87.77** **45** *e*P **P** **16 30 16.9 0.0**
comp=Z,535nm,0.9s
AUTN **L'Aution** **87.80** **45**⇓*e*P **P** **16 30 17.1 -0.1**
AUTN **L'Aution** **87.80** **45**⇓*e*P **P** **16 30 17.5 +0.3**
THEF **They Montfort** **87.85** **41**⇓*e*P **P** **16 30 17.0 0.0**
SAOF **Saorge** **87.89** **45**⇓*e*P **P** **16 30 17.2 -0.2**
BCLA **Clavier** **87.98** **39** P **P** **16 30 17.5 -0.1**
comp=Z,130nm,2.1s
BCLA AP **pP** **16 32 25.2 +1.6**
BCLA XP **sP** **16 33 24.3 +2.3**
HAU **Haudompre** **88.03** **41** *e*P **P** **16 30 17.6 -0.3**
comp=Z,505nm,1.2s
HAU *e*R
comp=Z,940nm,20.5s
HAU **Haudompre** **88.03** **41** *e*P **P** **16 30 17.6 -0.3**
HAU pmax pmax
comp=Z,505nm,1.2s
HAU **Haudompre** **88.03** **41** *e*P **P** **16 30 17.6 -0.3**
comp=Z,505nm,1.2s
LOMF **Lomont** **88.18** **42**⇓*e*P **P** **16 30 18.7 0.0**
BEBN **Eben Emael** **88.31** **38** P **P** **16 30 19.1 0.0**
comp=Z,96nm,1.6s
BEBN AP **pP** **16 32 24.4 -0.7**
BEBN XP **sP** **16 33 20.6 -2.9**
HINF **Hinteralfeld** **88.31** **41** *e*P **P** **16 30 18.8 -0.5**
comp=Z,572nm,1.2s
HINF *e*pP **pP** **16 32 24.8 -0.6**
HINF **Hinteralfeld** **88.31** **41** *e*P **P** **16 30 18.8 -0.5**
HINF *e**PP **pP** **16 32 24.8 -0.6**
HINF pmax pmax
comp=Z,572nm,1.2s
HINF **Hinteralfeld** **88.31** **41** *e*P **P** **16 30 18.8 -0.5**
comp=Z,572nm,1.2s
HINF *e*pP **pP** **16 32 24.8 -0.6**
WLF **Walferdange** **88.31** **39** P **P** **16 30 19.5 +0.3**
comp=Z,346nm,1.5s
WLF AP **pP** **16 32 25.2 -0.1**
WLF **Walferdange** **88.31** **39** *e*P **P** **16 30 19.7 +0.5**
comp=Z,532nm,1.1s
WLF *e*pP **pP** **16 32 26.0 +0.7**
HGN **Heimansgroeve** **88.45** **38** *e*P **P** **16 30 19.4 -0.3**
comp=Z,495nm,1.5s
HGN *e*pP **pP** **16 32 25.5 -0.4**
HGN *e*SKS **SKSac** **16 39 51.5 -2.1**
HGN *e*S **S** **16 40 13.7 -3.3**
MEM **Membach** **88.46** **39** P **P** **16 30 19.8 0.0**
comp=Z,124nm,2.0s
MEM AP **pP** **16 32 27.4 +1.5**
MOF **Molkenrain** **88.50** **41**⇓*e*P **P** **16 30 19.7 -0.5**
PGF **Pioggiola** **88.60** **47** *e*P **P** **16 30 20.6 -0.2**
comp=Z,156nm,1.1s
PGF **Pioggiola** **88.60** **47** *e*P **P** **16 30 20.6 -0.2**
PGF pmax pmax
comp=Z,156nm,1.1s
PGF **Pioggiola** **88.60** **47** *e*P **P** **16 30 20.6 -0.2**
comp=Z,156nm,1.1s
ECH **Echery** **88.60** **41**⇓*e*P **P** **16 30 20.4 -0.2**
CDF **Champ du Feu** **88.73** **41** *e*P **P** **16 30 21.0 -0.2**
comp=Z,484nm,0.8s
CDF *e*pP **pP** **16 32 26.8 -0.7**
CDF **Champ du Feu** **88.73** **41** *e*P **P** **16 30 21.0 -0.2**
CDF *e**PP **pP** **16 32 26.8 -0.7**
CDF pmax pmax
comp=Z,484nm,0.8s
CDF **Champ du Feu** **88.73** **41** *e*P **P** **16 30 21.0 -0.2**
comp=Z,484nm,0.8s
CDF *e*pP **pP** **16 32 26.8 -0.7**
UPI **Upington** **88.73** **118** P **P** **16 30 21.6 -0.1**
comp=Z,227nm,2.2s
JMIC **Jan Mayen** **89.19** **17** *e*P **P** **16 30 24.9 +2.2**
LANF **Langenberg** **89.20** **40**⇓*e*P **P** **16 30 23.4 +0.1**
WTSB **Winterswijk** **89.28** **37** *e*P **P** **16 30 23.5 -0.1**
comp=Z,812nm,1.5s
WTSB *e*pP **pP** **16 32 31.1 +1.2**
WTSB *e*SKS **SKSac** **16 39 56.6 -1.6**
WTSB *e*S **S** **16 40 21.3 -3.1**
BFO **Black Forest** **89.39** **41** P **P** **16 30 23.4 -0.8**
comp=Z,394nm,0.9s,SNR=36
BFO **Black Forest** **89.39** **41** *e*P **P** **16 30 24.0 -0.2**
comp=Z,107nm,1.1s
BFO *e*pP **pP** **16 32 30.6 0.0**
BFO *e*PKKPdf **PKKPbc** **16 47 56.9 -1.3**
BFO **Black Forest** **89.39** **41** *i* P **P** **16 30 23.6 -0.7**
BFO **Black Forest** **89.39** **41** *i* P PKKPdf 16 47 59.0 +6.0
BUG **Bochum--Univer** **89.44** **38** *e*P **P** **16 30 24.8 +0.5**
comp=Z,579nm,1.5s
BUG *e*pP **pP** **16 32 31.1 +0.4**
BUG *e*PKKPdf **PKKPbc** **16 47 56.9 -1.3**
VNDA **Vanda** **89.50** **190** P **P** **16 30 25.4 +1.2**
comp=Z,44nm,0.8s,baz=133,slow=4.8,SNR=241
VNDA pP **pP** **16 32 32.1 +1.5**
comp=Z,59nm,1.1s,baz=148,slow=5.7,SNR=9.9
VNDA PKKP **PKKPdf** **16 47 53.0 +0.8**
comp=Z,4.4nm,0.5s,baz=312,slow=3.8,SNR=20
KIP **Kipapa** **89.57** **292** P **P** **16 30 28.0 +2.4**
KIP pmax pmax
comp=Z,516nm,2.2s
TNS **Taunus Mts** **89.89** **39** *e*P **P** **16 30 26.9 +0.4**
comp=Z,271nm,1.3s
TNS *e*pP **pP** **16 32 33.4 +0.4**
TNS *e*PKKPdf **PKKPbc** **16 47 55.4 -1.7**
SYO **Syowa Base** **89.91** **160**⇓*i* P **P** **16 30 25.0 -1.2**
IBBN **Ibbenburen** **89.93** **37** *e*P **P** **16 30 27.3 +0.7**
comp=Z,745nm,1.7s
IBBN *e*pP **pP** **16 32 33.3 +0.2**
IBBN *e*PKKPdf **PKKPbc** **16 47 54.8 -2.2**
STU **Stuttgart** **90.05** **41** *e*P **P** **16 30 27.4 +0.2**
comp=Z,369nm,1.2s
STU *e*pP **pP** **16 32 33.7 -0.1**
DAVOX **Davos/Dischmat** **90.09** **43** P **P** **16 30 28.0 +0.3**
comp=Z,94nm,0.8s,baz=241,slow=4.5,SNR=96
DAVOX pP **pP** **16 32 35.5 +1.2**
comp=Z,33nm,0.7s,baz=191,slow=13,SNR=6.3
DAVOX PKiKP **PKiKP** **16 35 19.1 -0.3**
comp=Z,7.3nm,0.6s,baz=280,slow=14,SNR=2.3
DAVOX PKKPbc **PKKPbc** **16 47 55.5 -1.2**
comp=Z,9.5nm,0.5s,baz=224,slow=5.0,SNR=21
DAVA **Damuels** **90.19** **42** *i* P **P** **16 30 28.2 0.0**
comp=Z,696nm,1.8s,SNR=85
KMY **Karmoy** **90.27** **30** *e*P **P** **16 30 29.2 +1.2**
HLG **Helgoland** **90.44** **35** *e*P **P** **16 30 29.6 +0.7**
comp=Z,444nm,1.1s
SUE **Sulen** **90.53** **28**⇓*i* P **P** **16 30 29.4 +0.3**
SUE IAmb IAmb 16 30 32.3
comp=Z,311nm,1.4s
ASK **Askoy** **90.58** **29**⇓*i* P **P** **16 30 31.9 +2.5**
ASK IAmb IAmb 16 30 33.9
comp=Z,408nm,1.6s
ASK *e*pP **pP** **16 32 35.7 -0.3**
ASK *e*pP **pP** **16 32 35.7 -0.3**
ALE **Alert** **90.61** **1** P **P** **16 30 29.7 +0.5**
comp=Z,1μm,0.6s
BER **Bergen** **90.62** **29**⇓*i* P **P** **16 30 30.1 +0.5**
BER IAmb IAmb 16 30 32.8
comp=Z,167nm,0.9s
BER *e*pP **pP** **16 32 34.5 -1.7**
BER *e*SKSac **SKSac** **16 40 06.2 +0.6**
RUND **Rundenannen** **90.65** **29** *e*P **P** **16 30 30.3 +0.6**
FETA **Feichten** **90.71** **43** *i* P **P** **16 30 30.7 +0.2**
comp=Z,747nm,1.9s,SNR=113
BUFB **Buffelsbos** **90.74** **124** P **P** **16 30 30.9 +0.1**
comp=Z,3.8nm,0.7s
FOO **Floro** **90.81** **28**⇓*i* P **P** **16 30 31.2 +0.8**
FOO IAmb IAmb 16 30 33.6
comp=Z,57nm,1.2s
RETA **Reutte** **90.82** **42** *i* P **P** **16 30 31.0 +0.1**
comp=Z,687nm,1.8s,SNR=143
BLS5 **Blasjo** **90.92** **30**⇓*i* P **P** **16 30 31.3 +0.2**
BLS5 IAmb IAmb 16 30 34.8
comp=Z,1μm,2.2s
UBBA **Unterbreizbach** **90.98** **39** *e*P **P** **16 30 32.3 +0.9**
comp=Z,297nm,1.7s
UBBA *e*pP **pP** **16 32 38.5 +0.5**
UBBA *e*PKKPdf **PKKPbc** **16 47 53.0 -1.2**
MOTA **Moosalm** **91.02** **42** *i* P **P** **16 30 32.0 +0.1**
comp=Z,210nm,1.1s,SNR=118
SNART **Snartemo** **91.04** **31** *e*P **P** **16 30 32.1 +0.5**
ILAR **Eielson Array** **91.07** **336** P **P** **16 30 31.4 -0.1**
comp=Z,119nm,0.9s,baz=142,slow=3.4,SNR=220
ILAR pP **pP** **16 32 38.2 0.0**
comp=Z,80nm,1.2s,baz=117,slow=3.6,SNR=10
ILAR PP **PP** **16 34 14.2 -4.6**
comp=Z,15nm,0.8s,baz=106,slow=5.6,SNR=6.0
ILAR PKKP **PKKPdf** **16 47 50.6 +0.2**
comp=Z,6.5nm,0.6s,baz=287,slow=3.4,SNR=27
ILAR **Eielson Array** **91.07** **336** P **P** **16 30 31.5 -0.1**
ILAR *PP **pP** **16 32 38.3 0.0**
ILAR 16 34 14.3
ILAR pmax pmax
comp=Z,119nm,0.9s
ILAR pmax pmax
comp=Z,15nm,0.8s
ODD1 **Odda** **91.13** **30** *e*P **P** **16 30 32.8 +0.8**
ODD1 IAmb IAmb 16 30 34.2
comp=Z,470nm,1.8s
ODD1 *e*pP **pP** **16 32 37.7 -1.0**
ODD1 *e*SKSac **SKSac** **16 40 08.9 +0.3**
HYA **Hoyanger** **91.23** **28** *e*P **P** **16 30 33.5 +1.1**
HYA IAmb IAmb 16 30 35.5
comp=Z,321nm,1.3s
HYA *e*pP **pP** **16 32 38.6 -0.4**
FUR **Furstenfeldbru** **91.29** **42** *e*P **P** **16 30 33.5 +0.5**
comp=Z,375nm,1.2s
FUR *e*pP **pP** **16 32 40.0 +0.3**
WATA **Walderalm** **91.33** **42** *i* P **P** **16 30 33.5 +0.1**
comp=Z,438nm,1.4s,SNR=79
WTTA **Wattenberg** **91.36** **43** *i* PcP **PcP** **16 30 33.8 -0.3**
comp=Z,1μm,1.7s,SNR=226
NRDL **Niedersach Rie** **91.38** **37** *e*P **P** **16 30 34.6 +1.4**
comp=Z,877nm,2.5s
NRDL *e*pP **pP** **16 32 40.5 +0.6**
NRDL *e*PKKPdf **PKKPbc** **16 47 53.2 -0.1**
CLZ **Clausthal** **91.41** **38** *e*P **P** **16 30 34.4 +0.9**
comp=Z,275nm,1.6s
CLZ *e*pP **pP** **16 32 40.8 +0.6**
CLZ *e*PKKPdf **PKKPbc** **16 47 51.8 -1.5**
CLZ *e* 16 55 54.1
COLA **College** **91.49** **335***d* *i* P **P** **16 30 33.5 0.0**
GRF **Grafenberg Arr** **91.53** **40** *e*P **P** **16 30 34.9 +0.8**
comp=Z,320nm,1.6s
GRF *e*pP **pP** **16 32 41.3 +0.5**
MUD **Monsted U'grnd** **91.66** **33**⇓*i* P **P** **16 30 35.3 +0.9**
comp=Z,442nm,1.3s
MUD **Monsted U'grnd** **91.66** **33**⇓*i* P **P** **16 30 35.3 +0.9**
MUD *i* 16 32 41.1
MUD pmax pmax
comp=Z,440nm,1.3s
SOE **Somerset East** **91.67** **123** P **P** **16 30 35.5 +0.2**
comp=Z,240nm,1.2s
HOMB **Homborsund** **91.69** **31**⇓*i* P **P** **16 30 36.0 +1.5**
BSEG **Bad Segeberg** **91.79** **36** *e*P **P** **16 30 35.5 +0.4**
comp=Z,121nm,0.9s
BSEG *e*pP **pP** **16 32 42.2 +0.4**
BSEG *e*PKKPdf **PKKPbc** **16 47 51.0 -1.4**
AKN **Aaknes** **91.85** **27**⇓*i* P **P** **16 30 35.9 +0.7**
AKN IAmb IAmb 16 30 38.7
comp=Z,528nm,1.5s
AKN *e*pP **pP** **16 32 39.9 -2.1**
ABTA **Abfaltersbach** **91.86** **43** *i* P **P** **16 30 35.9 +0.1**
comp=Z,855nm,1.6s,SNR=212
MOX **Moxa** **91.95** **39** *e*P **P** **16 30 37.8 +1.8**
comp=Z,481nm,2.1s
MOX *e*pP **pP** **16 32 42.8 +0.1**
MOX *e*PKKPdf **PKKPbc** **16 47 51.1 -0.8**
KDAK **Kodiak Island** **92.00** **328** P **P** **16 30 35.9 -0.1**
comp=Z,1μm,0.8s,SNR=60
KDAK **Kodiak Island** **92.00** **328** *i* P **P** **16 30 35.5 -0.5**
HVD **Gariep Dam** **92.01** **121** P **P** **16 30 37.5 +0.5**
HVD pmax pmax
comp=Z,251nm,1.1s
HVD **Gariep Dam** **92.01** **121** P **P** **16 30 37.5 +0.5**
comp=Z,251nm,1.1s
MANZ **Manzenberg** **92.15** **40** *e*P **P** **16 30 38.0 +1.1**
comp=Z,471nm,1.9s
MANZ *e*pP **pP** **16 32 44.3 +0.6**
MANZ *e*PKKPdf **PKKPbc** **16 47 50.6 -0.8**
MANZ *e* 16 55 55.1
NEUB **Neuenburg** **92.16** **39** *e*P **P** **16 30 37.8 +0.9**
comp=Z,430nm,1.7s
NEUB *e*pP **pP** **16 32 44.4 +0.8**
NEUB *e*PKKPdf **PKKPbc** **16 47 50.8 -0.6**
BOSA **Boshof** **92.16** **119** P **P** **16 30 37.0 -0.6**
comp=Z,99nm,1.0s,baz=260,slow=3.2,SNR=75
BOSA pP **pP** **16 32 44.5 +0.1**
comp=Z,20nm,0.7s,baz=284,slow=5.0,SNR=5.9
BOSA PKKP **PKKPdf** **16 47 48.7 +1.6**
comp=Z,23nm,0.5s,baz=92,slow=2.4,SNR=36
ROTZ **Rotzenmuhle** **92.17** **40** *e*P **P** **16 30 38.0 +1.0**
comp=Z,200nm,1.3s
ROTZ *e*pP **pP** **16 32 44.5 +0.7**
MOL **Molde** **92.19** **27**⇓*i* P **P** **16 30 37.3 +0.5**
MOL *e*pP **pP** **16 32 42.4 -1.1**
RJOB **Jochberg** **92.22** **42** *e*P **P** **16 30 37.7 +0.4**
comp=Z,206nm,1.2s
RJOB *e*pP **pP** **16 32 44.4 +0.3**
RJOB *e*PKKPdf **PKKPdf** **16 47 49.4 +1.4**
RJOB *e* 16 55 52.9
PLN **Plauen** **92.27** **39** *e*P **P** **16 30 38.6 +1.2**
comp=Z,319nm,1.8s
PLN *e*pP **pP** **16 32 45.1 +0.9**
PLN *e*PKKPdf **PKKPbc** **16 47 49.7 -1.4**
GRM **Grahamstown** **92.34** **124** P **P** **16 30 38.9 +0.6**
GRM pmax pmax
comp=Z,253nm,1.3s
GRM **Grahamstown** **92.34** **124** P **P** **16 30 38.9 +0.6**
comp=Z,253nm,1.3s
WERD **Werda** **92.36** **40** *e*P **P** **16 30 38.9 +1.0**
comp=Z,388nm,2.0s
WERD *e*pP **pP** **16 32 45.5 +0.9**
WERD *e*PKKPdf **PKKPbc** **16 47 49.4 -1.5**
WERD *e* 16 55 54.4
GUNZ **Gunzen** **92.36** **40** *e*P **P** **16 30 39.0 +1.1**
comp=Z,381nm,2.0s
GUNZ *e*pP **pP** **16 32 45.6 +0.9**
GUNZ *e*PKKPdf **PKKPbc** **16 47 49.6 -1.3**
GUNZ *e* 16 55 54.1
WERN **Wernitzgruen** **92.37** **40** *e*P **P** **16 30 39.4 +1.4**
comp=Z,750nm,2.4s
WERN *e*pP **pP** **16 32 45.6 +0.9**
WERN *e*PKKPdf **PKKPbc** **16 47 49.7 -1.1**
WERN *e* 16 55 54.0
NKC **Novy Kostel** **92.41** **40**⇓*e*P **P** **16 30 39.3 +1.2**
NKC *e*pP **pP** **16 32 45.1 +0.2**
NKC *e*sP **sP** **16 33 42.4 -0.5**
NKC *e*SKS **SKSac** **16 40 19.3 +3.3**
NKC *e*S **S** **16 40 51.6 -0.7**
NKC *e*SP **SP** **16 42 05.8 -2.9**
NKC *e*PKKP **PKKPbc** **16 47 50.1 -0.6**
NKC *e*PKPPKP **P'P'df** **16 55 57.1 -1.5**
NKC **Novy Kostel** **92.41** **40** *e*P **P** **16 30 39.3 +1.2**
NKC *e**PP **pP** **16 32 45.1 +0.2**
NKC *e**SP **sP** **16 33 42.4 -0.5**
NKC *e* 16 40 19.3
NKC *e*S **S** **16 40 51.6 -0.7**
TANN **Tannenbergstha** **92.45** **40** *e*P **P** **16 30 39.4 +1.1**
comp=Z,310nm,1.6s
TANN *e*pP **pP** **16 32 46.0 +0.9**
TANN *e*PKKPdf **PKKPbc** **16 47 49.3 -1.4**
TANN *e* 16 55 52.9
KBA **Koelnbreinsper** **92.48** **43**⇓*i* P **P** **16 30 38.6 -0.1**
comp=Z,547nm,1.7s,SNR=94
SWZ **Schweizer** **92.48** **118** P **P** **16 30 38.0 -1.2**
comp=Z,30nm,4.8s
WET **Wettzell** **92.50** **41** *e*P **P** **16 30 39.3 +0.7**
comp=Z,185nm,1.2s
WET *e*pP **pP** **16 32 45.9 +0.5**
WET *e*PKKPdf **PKKPbc** **16 47 49.2 -1.3**
WET *e* 16 55 52.4
KONO **Kongsberg** **92.53** **30**⇓*i* P **P** **16 30 38.3 -0.1**
KONO *e*pP **pP** **16 32 45.7 +0.5**
KONO *e*SKSac **SKSac** **16 40 15.6 -0.6**
MYKA **Terra Mystica** **92.61** **43** *i* PcP **PcP** **16 30 39.3 -0.2**
comp=Z,592nm,1.7s,SNR=130
VOJS **Vojsko** **92.68** **44** *e*P **P** **16 30 39.7 +0.2**
JAVS **Javornik** **92.78** **44** *i* P **P** **16 30 40.3 +0.2**
JAVS *e*pP **pP** **16 32 46.2 -0.6**
JAVS *i* SKSac **SKSac** **16 40 18.4 -0.1**
JAVS *e*S **S** **16 40 54.0 -2.0**
GORS **Gorjuse** **92.80** **44** *e*P **P** **16 30 39.8 -0.3**
CLL **Collm** **92.93** **39** *e*P **P** **16 30 41.2 +0.8**
comp=Z,215nm,1.7s
CLL *e*pP **pP** **16 32 48.1 +0.8**
CLL *e*PKKPdf **PKKPdf** **16 47 47.5 +0.7**
CLL **Collm** **92.93** **39** *i* P **P** **16 30 40.6 +0.2**
comp=Z,217nm,1.7s
CLL *i* pP **pP** **16 32 48.7 +1.4**
CLL *e*sP **sP** **16 33 46.0 +0.7**
CLL *e*PP **PP** **16 34 35.0 +1.4**
CLL *e*sPP 16 37 17.0
CLL *e*SKSac **SKSac** **16 40 21.0 +2.3**
CLL *e*S **S** **16 40 53.0 -3.7**
CLL *e*SP **SP** **16 42 14.0 -0.4**
CLL *e*sS sS 16 44 52.0 +7.5
CLL *e*sPS 16 45 46.0
CLL *e*SS **SS** **16 47 36.0 +6.8**
CLL *e*PKKPbc **PKKPdf** **16 47 48.0 +1.2**
comp=Z,12nm,0.9s
CLL *e*sSS 16 50 45.0
CLL *e*SSSS 16 54 30.0
CLL *e*PKPPKPd **P'P'df** **16 55 56.0 -1.5**
CLL Lm MLR 21 10 00.0
comp=Z,100nm,19.2s
CLL **Collm** **92.93** **39** *i* P **P** **16 30 40.6 +0.2**
CLL *i* *PP **pP** **16 32 48.7 +1.4**
CLL *e* 16 40 21.0
CLL *e*S **S** **16 40 53.0 -3.7**
CLL pmax pmax
comp=Z,217nm,1.7s
CRNS **Crni Vrh** **92.95** **44** *e*P **P** **16 30 40.8 +0.1**
KHC **Kasperske Hory** **92.95** **41**⇓*i* P **P** **16 30 40.7 0.0**
KHC *e*pP **pP** **16 32 46.0 -1.5**
KHC *e*sP **sP** **16 33 43.9 -1.6**
KHC *e*x x 16 36 42.1
KHC *e*SKS **SKSac** **16 40 14.0 -5.1**
KHC *e*S **S** **16 40 55.0 -2.2**
KHC *e*x x 16 42 01.8
KHC *e*x x 16 43 19.0
KHC *e*PKKP **PKKPbc** **16 47 48.2 -1.1**
KHC *e*x x 16 47 55.8
KHC *e*PKPPKP **P'P'df** **16 55 55.3 -2.4**
KHC **Kasperske Hory** **92.95** **41**⇓*i* P **P** **16 30 40.7 0.0**
KHC *e**PP **pP** **16 32 46.0 -1.5**
KHC *e**SP **sP** **16 33 43.9 -1.6**
KHC *e* 16 36 42.1
KHC *e* 16 40 14.0
KHC *e*S **S** **16 40 55.0 -2.2**
GEC2 **GERESS Array S** **92.99** **41** *e*P **P** **16 30 41.1 +0.2**
comp=Z,109nm,1.0s
GEC2 *e*pP **pP** **16 32 47.8 +0.1**
GEC2 *e*PKKPdf **PKKPbc** **16 47 48.0 -1.2**
GERES **GERESS Array B** **92.99** **41** P **P** **16 30 40.9 -0.1**
comp=Z,44nm,0.8s,baz=256,slow=4.0,SNR=71
GERES pP **pP** **16 32 48.4 +0.7**
comp=Z,9.0nm,0.7s,baz=265,slow=3.1,SNR=7.3
GERES PKiKP **PKiKP** **16 35 24.6 +0.5**
comp=Z,1.2nm,0.5s,baz=288,slow=0.9,SNR=4.6
GERES PKKP **PKKPbc** **16 47 48.1 -1.2**
comp=Z,7.2nm,0.6s,baz=67,slow=1.9,SNR=26
GERES PKPPKP **P'P'df** **16 55 52.6 -5.1**
comp=Z,0.9nm,0.5s,baz=90,slow=0.4,SNR=5.2
FBE **Freiberg** **93.09** **39** *e*P **P** **16 30 42.3 +1.1**
comp=Z,310nm,1.6s
FBE *e*pP **pP** **16 32 48.9 +0.9**
FBE *e*PKKPdf **PKKPdf** **16 47 47.7 +1.2**
LBTB **Lobatse** **93.11** **116** P **P** **16 30 41.7 -0.4**
comp=Z,87nm,0.7s,baz=274,slow=5.4,SNR=122
LBTB pP **pP** **16 32 49.5 +0.7**
comp=Z,11nm,0.7s,baz=233,slow=6.7,SNR=2.5
LBTB PP **PP** **16 34 33.6 -2.0**
comp=Z,18nm,1.0s,baz=271,slow=5.5,SNR=3.5
LBTB PKiKP **PKiKP** **16 35 25.4 +0.3**
comp=Z,5.2nm,0.8s,baz=14,slow=4.2,SNR=2.2
LBTB PKKPbc **PKKPbc** **16 47 47.5 -0.6**
comp=Z,15nm,0.8s,baz=134,slow=3.0,SNR=16
LBTB **Lobatse** **93.11** **116** P **P** **16 30 41.7 -0.4**
LBTB *PP **pP** **16 32 49.5 +0.7**
LBTB 16 34 33.6
LBTB 16 47 47.5
LBTB pmax pmax
comp=Z,87nm,0.7s
LBTB pmax pmax
comp=Z,18nm,1.0s
LJU **Ljubljana** **93.13** **44** *e*P **P** **16 30 41.7 +0.2**
LJU *i* pP **pP** **16 32 48.1 -0.2**
LJU *e*SKSac **SKSac** **16 40 19.9 -0.2**
LJU *e*S **S** **16 40 54.7 -4.0**
LJU *i* sSKSac **PS** **16 43 37.2 +1.6**
LJU *e*sS **sS** **16 44 41.8 -4.8**
LJU *e* 16 45 46.1
LJU *e*SS SS 16 47 21.8 -10
LJU *e* 16 50 31.8
LLD **Lille Linde** **93.13** **35** *i* P **P** **16 30 43.0 +1.8**
LLD **Lille Linde** **93.13** **35** *i* P **P** **16 30 43.0 +1.8**
OSL **Oslo** **93.15** **30** *e*P **P** **16 30 42.0 +0.8**
OSL IAmb IAmb 16 30 44.2
comp=Z,214nm,0.9s
NVLJ **Novalja** **93.15** **46** P **P** **16 30 41.5 -0.1**
OBKA **Obir** **93.21** **44** *i* PcP **PcP** **16 30 42.2 -0.1**
comp=Z,965nm,2.6s,SNR=41
MOA **Molln** **93.21** **42** *i* P **P** **16 30 42.0 +0.1**
comp=Z,787nm,1.6s,SNR=246
COP **Copenhagen** **93.31** **34**⇓*i* P **P** **16 30 42.7 +0.7**
comp=Z,104nm,1.1s
COP *i* S S 16 40 22.3 -37
COP **Copenhagen** **93.31** **34**⇓*i* P **P** **16 30 42.7 +0.7**
COP *i* 16 32 48.2
COP *i* S **SKSac** **16 40 22.3 +1.8**
COP *i* 16 41 00.2
COP pmax pmax
comp=Z,100nm,1.1s
BRG **Berggiesshubel** **93.45** **39** *i* P **P** **16 30 43.1 +0.2**
comp=Z,225nm,1.5s
BRG *i* pP **pP** **16 32 51.3 +1.6**
comp=Z,143nm,1.6s
BRG *i* sP **sP** **16 33 47.4 -0.3**
comp=Z,34nm,1.5s
BRG SKS **SKSac** **16 40 20.0 -1.6**
BRG S **ScS** **16 41 03.0 +1.0**
BRG *e*PKKP **PKKPdf** **16 47 46.4 +0.5**
comp=Z,12nm,0.9s
BRG *e*PKPPKP P'P'df 16 55 51.0 -5.6
comp=Z,11nm,1.4s
BRG **Berggiesshubel** **93.45** **39** *e*P **P** **16 30 43.7 +0.9**
comp=Z,224nm,1.5s
BRG *e*pP **pP** **16 32 50.5 +0.8**
BRG *e*PKKPdf **PKKPdf** **16 47 46.6 +0.8**
BRG **Berggiesshubel** **93.45** **39** *i* P **P** **16 30 43.1 +0.3**
BRG *i* *PP **pP** **16 32 51.3 +1.6**
BRG *i* *SP **sP** **16 33 47.4 -0.3**
BRG 16 40 20.0
BRG S **ScS** **16 41 03.0 +1.0**
BRG *e* 16 47 46.4
BRG pmax pmax
comp=Z,225nm,1.5s
BOJS **Bojanci** **93.55** **45** *i* P **P** **16 30 43.5 +0.1**
BOJS *e*pP **pP** **16 32 49.0 -1.3**
BOJS *i* 16 37 22.6
BOJS *e*SKSac **SKSac** **16 40 22.4 +0.1**
BOJS *e*S **S** **16 40 59.4 -3.0**
BOJS *e* 16 42 14.6
BOJS *e*SP **SP** **16 42 15.2 -6.3**
TBLU **Trondheim** **93.55** **27** *e*P **P** **16 30 44.4 +1.4**
TBLU IAmb IAmb 16 30 46.9
comp=Z,855nm,1.7s
TBLU *e*pP **pP** **16 32 49.7 -0.1**
TBLU *e*SKSac **SKSac** **16 40 20.8 -0.8**
SOKA **Soboth** **93.56** **44** *i* P **P** **16 30 43.3 -0.3**
comp=Z,792nm,3.7s,SNR=46
NB2 **NORSAR Subarra** **93.59** **29** P **P** **16 30 43.8 +0.5**
comp=Z,245nm,1.1s,baz=260,slow=4.4
NB2 **NORSAR Subarra** **93.59** **29** P **P** **16 30 43.8 +0.5**
baz=260,slow=4.4
NOA **NORSAR Array B** **93.59** **29** P **P** **16 30 43.8 +0.5**
comp=Z,58nm,0.8s,baz=257,slow=4.3,SNR=93
NOA pP **pP** **16 32 50.9 +0.7**
comp=Z,21nm,1.0s,baz=258,slow=4.4,SNR=6.2
NOA PKiKP **PKiKP** **16 35 25.1 +0.4**
comp=Z,2.7nm,1.0s,baz=270,slow=3.8,SNR=2.6
NOA PKKPbc **PKKPdf** **16 47 45.2 -0.7**
comp=Z,4.2nm,0.7s,baz=256,slow=3.0,SNR=13
NOA PKPPKP **P'P'df** **16 55 53.5 -2.2**
comp=Z,1.1nm,0.7s,baz=262,slow=3.1,SNR=3.7
RUE **Ruedersdorf** **93.59** **38** *e*P **P** **16 30 43.8 +0.4**
comp=Z,116nm,1.2s
RUE *e*pP **pP** **16 32 50.4 +0.2**
PERS **Pernice** **93.61** **44** *i* P **P** **16 30 43.3 -0.5**
PERS *i* pP **pP** **16 32 49.8 -0.8**

PERS					eSKSac	SKSac	16 40 20.1	-2.7
PERS					eS	S	16 40 58.3	-4.8
RGN	**Rugen**	**93.63**	**36**	*e*P	P		16 30 44.5	+1.0
	comp=Z,276nm,1.0s							
RGN				epP	pP		16 32 51.5	+1.1
PRA	**Prague**	**93.64**	**40**	‖*e*P	P		16 30 44.5	+0.8
PRA				epP	pP		16 32 50.6	0.0
PRA				esP	sP		16 33 48.2	-0.4
PRA				ex	x		16 36 44.9	
PRA				eSKS	SKSac		16 40 22.4	-0.2
PRA				eS	S		16 41 01.8	-1.2
PRA				ex	x		16 42 11.0	
PRA				ePKKP	PKKPbc		16 47 47.2	-0.3
PRA	**Prague**	**93.64**	**40**	*e*P	P		16 30 44.5	+0.8
PRA				*e**PP	pP		16 32 50.6	0.0
PRA				*e**SP	sP		16 33 48.2	-0.4
PRA				*e*			16 36 44.9	
PRA				*e*			16 40 22.4	
PRA				eS	S		16 41 01.8	-1.2
PRA				*e*			16 47 47.2	
NC602	**NORSAR Array S**	**93.69**	**29**	‖*i*P	P		16 30 43.0	-0.7
NC602				epP	pP		16 32 48.6	-2.0
NC602				*e*			16 41 00.8	
NC602				eSS	SS		16 47 37.9	-1.5
PRU	**Pruhonice**	**93.70**	**40**	‖*e*P	P		16 30 44.2	+0.2
PRU				epP	pP		16 32 50.8	-0.1
PRU				esP	sP		16 33 48.0	-0.9
PRU				ex	x		16 36 45.9	
PRU				eSKS	SKSac		16 40 21.2	-1.8
PRU				eS	S		16 41 02.5	-1.0
PRU				ex	x		16 42 10.3	
PRU				ex	x		16 43 32.8	
PRU				ePKKP	PKKPdf		16 47 46.0	+0.6
PRU				ePKPPKP	P'P'df		16 55 55.0	-1.2
PRU	**Pruhonice**	**93.70**	**40**	*e*P	P		16 30 44.2	+0.2
PRU				*e**PP	pP		16 32 50.8	-0.1
PRU				*e**SP	sP		16 33 48.0	-0.9
PRU				*e*			16 36 45.9	
PRU				*e*			16 40 21.2	
PRU				eS	S		16 41 02.5	-1.0
PRU				*e*			16 47 46.0	
UDBI	**Udbina**	**93.78**	**46**	P	P		16 30 45.0	+0.4
PVCC	**Panska Ves**	**93.80**	**40**	‖*e*P	P		16 30 44.7	+0.3
PVCC				epP	pP		16 32 50.1	-1.2
PVCC				esP	sP		16 33 48.4	-0.9
PVCC				eSKS	SKSac		16 40 24.4	+1.0
PVCC				eS	S		16 41 03.3	-1.0
PVCC				ex	x		16 42 15.8	
PVCC				ePKKP	PKKPbc		16 47 46.4	-0.7
PVCC				ePKPPKP	P'P'df		16 55 52.9	-3.0
PVCC	**Panska Ves**	**93.80**	**40**	*e*P	P		16 30 44.7	+0.3
PVCC				*e**PP	pP		16 32 50.1	-1.2
PVCC				*e**SP	sP		16 33 48.4	-0.9
PVCC				*e*			16 40 24.4	
PVCC				eS	S		16 41 03.3	-1.0
PVCC				*e*			16 47 46.4	
TIP	**Timpagrande**	**93.83**	**51**	P	P		16 30 42.3	-2.6
TIP	**Timpagrande**	**93.83**	**51**	P	P		16 30 42.3	-2.6
GOPC	**GO Pecny, Ondr**	**93.85**	**40**	*e*P	P		16 30 45.3	+0.6
GOPC				epP	pP		16 32 51.6	0.0
GOPC				esP	sP		16 33 48.7	-0.9
GOPC				eSKS	SKSac		16 40 25.5	+1.7
GOPC				eS	S		16 41 03.5	-1.3
GOPC				ex	x		16 42 12.4	
GOPC				ePKKP	PKKPdf		16 47 45.5	+0.4
GOPC				ePKPPKP	P'P'df		16 55 54.7	-1.2
ARSA	**Arzberg**	**93.97**	**43**	*i* P	P		16 30 45.4	0.0
	comp=Z,536nm,1.8s,SNR=98							
TREC	**Trest**	**94.22**	**41**	‖*e*P	P		16 30 47.0	+0.6
TREC				epP	pP		16 32 53.3	0.0
TREC				esP	sP		16 33 50.2	-1.1
TREC				eSKS	SKSac		16 40 25.1	-0.7
TREC				eS	S		16 41 06.7	-1.4
TREC				ex	x		16 42 18.1	
TREC				ePKKP	PKKPbc		16 47 45.8	-0.2
TREC				ePKPPKP	P'P'df		16 55 53.0	-2.3
TREC	**Trest**	**94.22**	**41**	*e*P	P		16 30 47.0	+0.6
TREC				*e**PP	pP		16 32 53.3	0.0
TREC				*e**SP	sP		16 33 50.2	-1.1
TREC				*e*			16 40 25.1	
TREC				eS	S		16 41 06.7	-1.4
TREC				*e*			16 47 45.8	
SEK	**Senekal**	**94.27**	**119**	P	P		16 30 47.0	-0.4
	comp=Z,116nm,1.4s							
CONA	**Conrad Observa**	**94.29**	**42**	*i* PcP	P		16 30 47.2	+0.3
	comp=Z,714nm,1.6s,SNR=189							
PRYS	**Parys**	**94.31**	**118**	P	P		16 30 47.1	-0.4
	comp=Z,64nm,0.9s							
NSS	**Namsos**	**94.52**	**26**	*e*P	P		16 30 47.8	+0.4
NSS				IVmB_BB			16 30 49.6	
	comp=Z,2µm,1.5s							
BSD	**Bornholm Skovb**	**94.62**	**35**	*i* P	P		16 30 47.4	-0.6
	comp=Z,110nm,1.2s							
BSD				*i* pP	pP		16 32 54.3	-0.7
BSD				*i* S	S		16 40 28.0	-43
BSD	**Bornholm Skovb**	**94.62**	**35**	*i* P	P		16 30 47.4	-0.6
BSD				*i* *PP	pP		16 32 54.3	-0.7
BSD				*i* S	SKSac		16 40 28.0	+0.4
BSD				*i*			16 41 10.6	
BSD				pmax	pmax			
	comp=Z,110nm,1.2s							
KLOF	**Kloof**	**94.64**	**117**	P	P		16 30 49.5	+0.4
	comp=Z,134nm,1.0s							
HFS	**Hagfors**	**94.65**	**30**	P	P		16 30 48.0	0.0
	comp=Z,33nm,0.8s,baz=238,slow=2.8,SNR=65							
HFS				pP	pP		16 32 56.3	+1.2
	comp=Z,28nm,0.9s,baz=242,slow=3.2,SNR=9.0							
HFS				PKiKP	PKiKP		16 35 27.3	+0.8
	comp=Z,2.8nm,0.6s,baz=207,slow=2.9,SNR=3.8							
UPC	**Upice**	**94.71**	**40**	‖*e*P	P		16 30 49.2	+0.6
UPC				epP	pP		16 32 57.1	+1.6
UPC				ePKKP	PKKPdf		16 47 43.3	-0.3
UPC				ePKPPKP	P'P'df		16 55 52.8	-1.5
UPC	**Upice**	**94.71**	**40**	*e*P	P		16 30 49.2	+0.6
UPC				*e**PP	pP		16 32 57.1	+1.6
SOP	**Sopron**	**94.72**	**43**	‖*e*	P		16 30 48.9	+0.2
BEHE	**Becsehely**	**94.73**	**44**	‖*e*	P		16 30 49.8	+1.1
DPC	**Dobruska-Polom**	**94.88**	**40**	*e*P	P		16 30 50.1	+0.7
DPC				epP	pP		16 32 56.4	0.0
DPC				esP	sP		16 33 53.6	-0.8
DPC				ex	x		16 36 46.3	
DPC				eSKS	SKSac		16 40 27.1	-2.2
DPC				eS	S		16 41 10.9	-2.9
DPC				eSP	SP		16 42 28.1	-7.7
DPC				ex	x		16 43 49.7	
DPC				ePKKP	PKKPdf		16 47 43.4	+0.1
DPC				ex	x		16 47 48.2	
DPC				ePKPPKP	P'P'df		16 55 53.3	-0.7
DPC	**Dobruska-Polom**	**94.88**	**40**	*e*P	P		16 30 50.1	+0.7
DPC				*e**PP	pP		16 32 56.4	0.0
DPC				*e**SP	sP		16 33 53.6	-0.8
DPC				*e*			16 40 27.1	
DPC				eS	S		16 41 10.9	-2.9
KSP	**Ksiaz**	**94.92**	**39**	*e*P	P		16 30 50.2	+0.7
KSP				epP	pP		16 32 56.3	-0.2
KSP				eSKSac	SKSac		16 40 31.4	+2.0
KSP				eSP	SP		16 42 28.4	-7.7
KSP	**Ksiaz**	**94.92**	**39**	*e*P	P		16 30 50.2	+0.7
KSP				*e**PP	pP		16 32 56.4	-0.1
KSP				*e*			16 40 31.4	
KSP				pmax	pmax			
	comp=Z,200nm,1.4s							
VRAC	**Vranov**	**94.94**	**41**	P	P		16 30 50.1	+0.4
	comp=Z,75nm,0.9s,baz=262,slow=5.5,SNR=96							
VRAC				pP	pP		16 32 57.4	+0.8
	comp=Z,18nm,0.9s,baz=271,slow=4.6,SNR=6.5							
VRAC	**Vranov**	**94.94**	**41**	‖P	P		16 30 50.2	+0.6
VRAC	**Vranov**	**94.94**	**41**	‖*i*P	P		16 30 50.2	+0.6
STON	**Ston**	**94.97**	**48**	P	P		16 30 49.9	0.0
KRLC	**Kraliky**	**95.15**	**40**	‖*i*P	P		16 30 51.6	+1.0
KRLC				epP	pP		16 32 58.8	+1.2
KRLC				ePKKP	PKKPdf		16 47 42.6	-0.3
KRLC	**Kraliky**	**95.15**	**40**	‖*i*P	P		16 30 51.6	+1.0
KRLC				*e**PP	pP		16 32 58.8	+1.2
ERPM	**east rand prop**	**95.20**	**117**	P	P		16 30 51.5	-0.1
	comp=Z,87nm,1.1s							
KONS	**Konsvik**	**95.29**	**24**	*e*P	P		16 30 52.0	+1.3
SLR	**Silverton**	**95.36**	**117**	P	P		16 30 52.4	+0.1
SLR				pmax	pmax			
	comp=Z,81nm,1.1s							
SLR	**Silverton**	**95.36**	**117**	P	P		16 30 52.4	+0.1
	comp=Z,81nm,1.1s							
HCY	**Herceg Novi**	**95.51**	**48**	‖*i*P	P		16 30 52.8	+0.4
BRY	**Bratogost**	**95.59**	**48**	‖*i*P	P		16 30 53.1	+0.2
MORC	**Moravsky Berou**	**95.60**	**41**	⇑P	P		16 30 54.1	+1.4
MORC	**Moravsky Berou**	**95.60**	**41**	⇑*i*P	P		16 30 54.1	+1.4
MORC	**Moravsky Berou**	**95.60**	**41**	⇑*i*P	PKKPdf		16 47 39.9	-2.1
PKST	**T˜˜s**	**95.67**	**43**	‖*e*	P		16 30 53.0	0.0
LOF	**Lofoten**	**95.67**	**22**	*e*P	P		16 30 53.8	+1.4
GKP	**Gorka Klasztor**	**95.77**	**37**	*e*P	P		16 30 54.0	+0.8
GKP				epP	pP		16 33 00.5	+0.2
GKP				eSKSac	SKSac		16 40 34.4	+0.8
GKP				esP	SP		16 42 40.5	-4.6
GKP	**Gorka Klasztor**	**95.77**	**37**	*e*P	P		16 30 54.1	+0.8
GKP				*e**PP	pP		16 33 00.5	+0.2
GKP				*e*			16 40 34.5	
GKP				pmax	pmax			
	comp=Z,300nm,0.0s							
PKS9	**Tamasi**	**95.77**	**44**	⇑*e*	P		16 30 54.5	+1.1
BUM	**Brajici-Budva**	**95.79**	**48**	‖*i*P	P		16 30 54.3	+0.6
NKME	**Niksic**	**95.88**	**48**	*e*P	P		16 30 55.1	+1.0
UPM	**Unac-Piva**	**95.89**	**47**	‖*i*P	P		16 30 55.1	+0.8
NKY	**Niksic**	**95.91**	**48**	‖*i*P	P		16 30 55.9	+1.6
PKSG		**95.93**	**43**	‖*e*	P		16 30 54.2	+0.1
PKSM	**Moragy**	**95.99**	**44**	‖P	P		16 30 55.0	+0.6
PKSM	**Moragy**	**95.99**	**44**	‖*i*P	P		16 30 55.0	+0.6
PKSM	**Moragy**	**95.99**	**44**	⇑*i*P	PKKPbc		16 47 40.0	-1.2
PKSM	**Moragy**	**95.99**	**44**	‖*e*	P		16 30 54.9	+0.6
DRME	**Dracevica, Mon**	**95.99**	**48**	‖*i*P	P		16 30 55.7	+1.1
OKC	**Ostrava-Krasne**	**96.00**	**41**	‖*e*P	P		16 30 55.3	+0.9
OKC				epP	pP		16 33 01.6	+0.1
OKC				esP	sP		16 33 58.2	-1.3
OKC				ex	x		16 37 03.7	
OKC				eSKS	SKSac		16 40 33.7	-1.3
OKC				eS	S		16 41 20.3	-2.9
OKC				ex	x		16 42 31.0	
OKC				ePKKP	PKKPdf		16 47 41.1	-0.1
OKC				ePKPPKP	P'P'df		16 55 52.9	+1.0
OKC	**Ostrava-Krasne**	**96.00**	**41**	*e*P	P		16 30 55.3	+0.9
OKC				*e**PP	pP		16 33 01.6	+0.1
OKC				*e**SP	sP		16 33 58.2	-1.3
OKC				*e*			16 37 03.7	
OKC				*e*			16 40 33.7	
OKC				eS	S		16 41 20.3	-2.9
ULC	**Ulcinj**	**96.02**	**49**	‖*i*P	P		16 30 55.3	+0.6
RAC	**Raciborz**	**96.05**	**40**	*e*P	P		16 30 56.2	+1.6
RAC				*e**PP	pP		16 33 01.5	-0.2
RAC				MLR	MLR			
	comp=Z,2µm,22.2s							
TTG	**Podgorica**	**96.07**	**48**	‖*i*P	P		16 30 55.7	+0.8
KEK	**Kerkira**	**96.22**	**51**	P	P		16 30 55.5	-0.2
KEK	**Kerkira**	**96.22**	**51**	*e*P	P		16 30 56.4	+0.7
KEK	**Kerkira**	**96.22**	**51**	P	P		16 30 55.5	-0.2
PLE	**Pljevlja**	**96.25**	**47**	‖*i*P	P		16 30 56.7	+0.9
VYHS	**Vyhne**	**96.33**	**42**	*e*P	P		16 30 56.1	+0.2
VYHS				pmax	pmax			
	comp=Z,90nm,1.1s							
VYHS	**Vyhne**	**96.33**	**42**	*e*	P		16 30 56.1	+0.2
VYHS				epP	pP		16 33 03.3	+0.2
BUD	**Budapest**	**96.36**	**43**	‖*e*	P		16 30 55.9	-0.2
SRN	**Sarande**	**96.39**	**51**	P	P		16 30 57.2	+0.8
SRN	**Sarande**	**96.39**	**51**	P	P		16 30 57.2	+0.8
PKS2	**Kecel**	**96.41**	**44**	⇑*e*	P		16 30 58.7	+2.4
TIR	**Tirane**	**96.42**	**49**	P	P		16 30 58.0	+1.5
TIR	**Tirane**	**96.42**	**49**	*e*P	P		16 30 57.7	+1.2
TIR				pmax	pmax			
	comp=Z,298nm,1.5s							
TIR	**Tirane**	**96.42**	**49**	*e*P	P		16 30 57.7	+1.2
	comp=Z,298nm,1.5s							
SGD	**Sagiada**	**96.55**	**51**	P	P		16 30 57.6	+0.5
SGD	**Sagiada**	**96.55**	**51**	*e*P	P		16 30 57.4	+0.3
SGD	**Sagiada**	**96.55**	**51**	*e*P	PKKPbc		16 47 35.8	-3.6
IVA	**Berane**	**96.58**	**48**	‖*i*P	P		16 30 58.5	+1.2
MATP	**Matopo**	**96.59**	**112**	P	P		16 30 58.2	+0.2
	comp=Z,38nm,0.7s,baz=268,slow=5.5,SNR=60							
MATP				pP	pP		16 33 07.0	+1.9
	comp=Z,16nm,0.7s,baz=265,slow=6.0,SNR=6.8							
MATP				PKKP	PKKPbc		16 47 38.6	-0.3
	comp=Z,7.1nm,0.5s,baz=29,slow=7.2,SNR=4.0							
PVY	**Plav**	**96.60**	**48**	*e*P	P		16 30 58.2	+0.8
IGT	**Igoumenitsa**	**96.62**	**51**	P	P		16 30 56.5	-0.9
IGT	**Igoumenitsa**	**96.62**	**51**	*e*P	P		16 30 58.0	+0.6
IGT	**Igoumenitsa**	**96.62**	**51**	*e*P	PKKPbc		16 47 34.4	-4.8
IGT	**Igoumenitsa**	**96.62**	**51**	P	P		16 30 56.5	-0.9
IGT	**Igoumenitsa**	**96.62**	**51**	P	P		16 30 56.5	-0.9
KBS	**Kingsbay**	**96.67**	**11**	*e*P	P		16 30 56.7	-0.1
KBS				IAmb	IAmb		16 31 00.1	
	comp=Z,116nm,1.4s							
KBS				epP	pP		16 33 03.0	-1.0
KBS				ePP	PP		16 35 01.2	-0.2
KBS				eSKSac	SKSac		16 40 41.2	+3.9
KBS	**Kingsbay**	**96.67**	**11**	*e*P	P		16 30 57.5	+0.7
KBS				pmax	pmax			
	comp=Z,15nm,1.2s							
KBS	**Kingsbay**	**96.67**	**11**	*e*P	P		16 30 57.5	+0.7
	comp=Z,15nm,1.2s							
VLS	**Valsamata**	**96.70**	**52**	P	P		16 30 56.0	-1.8
VLS	**Valsamata**	**96.70**	**52**	*e*P	P		16 30 57.9	+0.1
VLS	**Valsamata**	**96.70**	**52**	P	P		16 30 56.0	-1.8
VLS	**Valsamata**	**96.70**	**52**	P	P		16 30 56.0	-1.8
DIVS	**Divibare**	**96.75**	**46**	P	P		16 30 57.3	-0.7
DIVS	**Divibare**	**96.75**	**46**	‖*i*P	P		16 30 59.0	+1.0
DIVS	**Divibare**	**96.75**	**46**	⇑*i*P	PKKPdf		16 47 37.8	-2.0
LKD2	**Lefkada island**	**96.81**	**52**	*e*P	P		16 30 58.5	+0.2
ZKS	**Zakynthos**	**96.81**	**53**	P	P		16 30 57.4	-1.0
ZKS	**Zakynthos**	**96.81**	**53**	*e*P	P		16 30 58.0	-0.4
PHP	**Peshkopia**	**96.88**	**49**	P	P		16 30 59.6	+1.0
PHP	**Peshkopia**	**96.88**	**49**	P	P		16 30 59.6	+1.0
PHP	**Peshkopia**	**96.88**	**49**	P	P		16 30 59.6	+1.0
PSZ	**Piszkesteto**	**96.98**	**43**	‖P	P		16 31 00.0	+1.0
PSZ	**Piszkesteto**	**96.98**	**43**	‖*i*P	P		16 31 00.0	+1.0
PSZ	**Piszkesteto**	**96.98**	**43**	‖*i*P	PKKPbc		16 47 35.4	-3.3
PSZ	**Piszkesteto**	**96.98**	**43**	*e*P	P		16 30 58.7	-0.2
	comp=Z,59nm,1.3s							
JAN	**Janina**	**97.03**	**51**	*e*P	Pdif		16 31 01.0	+1.7
JAN	**Janina**	**97.03**	**51**	*e*P	PKKPbc		16 47 34.7	-3.5
KBN	**Korca**	**97.06**	**50**	P	Pdif		16 31 00.1	+0.6
KBN	**Korca**	**97.06**	**50**	P	Pdif		16 31 00.1	+0.6
KBN	**Korca**	**97.06**	**50**	P	Pdif		16 31 00.1	+0.6
OJC	**Ojcow**	**97.09**	**40**	*e*P	P		16 31 01.2	+1.9
OJC				epP	pP		16 33 06.7	+0.2
OJC				eSKSac	SKSac		16 40 41.6	+1.0
OJC				eSP	SP		16 42 54.1	-5.4
OJC	**Ojcow**	**97.09**	**40**	*e*P	P		16 31 01.2	+1.9
OJC				*e**PP	pP		16 33 06.7	+0.2
OJC				*e*			16 40 41.6	
OJC				pmax	pmax			
	comp=Z,200nm,1.3s							
OHR	**Ohrid**	**97.11**	**50**	*i* P	P		16 31 00.1	+0.5
DSL	**Palaion Diasel**	**97.18**	**52**	P	Pdif		16 30 59.5	-0.5
DSL	**Palaion Diasel**	**97.18**	**52**	*e*P	P		16 31 00.7	+0.7
DSL	**Palaion Diasel**	**97.18**	**52**	P	Pdif		16 30 59.5	-0.7
PDO	**Prodromos**	**97.20**	**52**	P	Pdif		16 30 59.5	-0.5
PDO	**Prodromos**	**97.20**	**52**	*e*P	P		16 31 00.5	+0.5
PDO	**Prodromos**	**97.20**	**52**	*e*P	PKKPbc		16 47 35.9	-1.7
NEST	**Nestorio**	**97.24**	**50**	P	P		16 31 00.4	+0.1
NEST	**Nestorio**	**97.24**	**50**	*e*P	P		16 31 01.1	+0.8
NEST	**Nestorio**	**97.24**	**50**	*e*P	PKKPbc		16 47 35.3	-2.4
LSZ	**Lusaka**	**97.26**	**107**	P	P		16 31 02.5	+1.5
	comp=Z,11nm,0.8s,baz=45,slow=6.9,SNR=19							
LSZ				pP	pP		16 33 08.8	+0.6
	comp=Z,6.8nm,0.7s,baz=12,slow=11,SNR=4.7							
LSZ				PKKP	PKKPdf		16 47 37.9	0.0
	comp=Z,31nm,0.6s,baz=51,slow=5.1,SNR=37							
LSZ	**Lusaka**	**97.26**	**107**	P	P		16 31 03.5	+2.5
	SNR=10							
LSZ	**Lusaka**	**97.26**	**107**	*e*P	P		16 31 02.8	+1.9
	comp=Z,30nm,1.0s							
LSZ				*e*pP	pP		16 33 06.6	-1.6
LSZ				pP	pP		16 33 08.8	+0.6
LSZ				PKKP	PKKPdf		16 47 37.9	0.0
RLS	**Riolos of Patr**	**97.38**	**53**	*e*P	PKKPdf		16 47 36.6	-1.8
SPA0	**Spitsbergen Ar**	**97.48**	**12**	*e*P	P		16 31 01.3	+0.9
SPA0				IAmb	IAmb		16 31 02.9	
	comp=Z,54nm,0.8s							
SPA0				*e*pP	pP		16 33 04.2	-3.5
SPA0				eSKSac	SKSac		16 40 41.2	-0.4
SPITS	**Spitsbergen Ar**	**97.48**	**12**	P	Pdif		16 31 00.2	-0.3
	comp=Z,31nm,0.9s,baz=224,slow=4.0,SNR=16							
SPITS				PKKP	PKKPbc		16 47 34.7	-3.4
	comp=Z,5.0nm,0.3s,baz=116,slow=5.8,SNR=34							
PYL	**PYLOS**	**97.51**	**54**	P	Pdif		16 31 00.8	-0.7
PYL	**PYLOS**	**97.51**	**54**	*e*P	Pdif		16 31 01.2	-0.3
PYL	**PYLOS**	**97.51**	**54**	*e*P	PKKPbc		16 47 33.2	-3.5
PYL	**PYLOS**	**97.51**	**54**	P	Pdif		16 31 00.8	-0.7
FNA	**Florina**	**97.52**	**50**	P	Pdif		16 31 01.3	-0.2
FNA	**Florina**	**97.52**	**50**	*e*P	P		16 31 01.6	+0.1
FNA	**Florina**	**97.52**	**50**	P	Pdif		16 31 01.3	-0.2
FNA	**Florina**	**97.52**	**50**	P	Pdif		16 31 01.3	-0.2
AMT	**Artemida-Makis**	**97.53**	**53**	P	Pdif		16 31 01.0	-0.6
AMT	**Artemida-Makis**	**97.53**	**53**	*e*P	P		16 31 02.8	+1.2
DRO	**Drossia**	**97.56**	**53**	P	Pdif		16 31 01.1	-0.6
DRO	**Drossia**	**97.56**	**53**	*e*P	P		16 31 02.6	+0.9
DRO	**Drossia**	**97.56**	**53**	*e*P	PKKPdf		16 47 35.7	-2.4
MSNA	**Messina**	**97.60**	**114**	P	P		16 31 03.5	+1.2
	comp=Z,70nm,1.1s							
SKO	**Skopje**	**97.65**	**49**	P	P		16 31 02.2	+0.2
SKO	**Skopje**	**97.65**	**49**	*i* P	P		16 31 02.3	+0.3
SKO	**Skopje**	**97.65**	**49**	P	P		16 31 02.2	+0.2
SKO	**Skopje**	**97.65**	**49**	P	P		16 31 02.2	+0.2
BANR	**Banloc**	**97.66**	**45**	⇑*i*P	P		16 31 05.4	+3.5
ITM	**Ithomi**	**97.68**	**54**	*e*P	P		16 31 03.6	+1.4
ITM	**Ithomi**	**97.68**	**54**	*e*P	PKKPbc		16 47 34.6	-1.7
EVR	**Evrytania**	**97.71**	**52**	P	Pdif		16 31 02.3	-0.2
EVR	**Evrytania**	**97.71**	**52**	*e*P	P		16 31 03.0	+0.5
EVR	**Evrytania**	**97.71**	**52**	*e*P	PKKPbc		16 47 33.0	-3.4
EVR	**Evrytania**	**97.71**	**52**	P	Pdif		16 31 02.3	-0.2
TRO	**Tromso**	**97.75**	**21**	*e*P	Pdif		16 31 00.9	-0.8
TRO				epP	pP		16 33 08.0	-1.1
TRO				eSKSac	SKSac		16 40 41.3	-1.7
EFP	**Efpalio**	**97.75**	**52**	*e*P	P		16 31 03.4	+0.9
EFP	**Efpalio**	**97.75**	**52**	*e*P	PKKPbc		16 47 34.1	-2.0
KZN	**Kozani**	**97.78**	**50**	P	Pdif		16 31 02.4	-0.3
KZN	**Kozani**	**97.78**	**50**	*e*P	P		16 31 03.1	+0.4
KZN	**Kozani**	**97.78**	**50**	P	Pdif		16 31 02.4	-0.3
KZN	**Kozani**	**97.78**	**50**	P	Pdif		16 31 02.4	-0.3
BEL	**Belsk**	**97.82**	**39**	*e*P	P		16 31 03.7	+1.2
BEL				epP	pP		16 33 10.3	+0.5
BEL				eSKSac	SKSac		16 40 46.5	+2.4
BEL	**Belsk**	**97.82**	**39**	*e*P	P		16 31 03.7	+1.2
BEL				*e**PP	pP		16 33 10.4	+0.6
BEL				*e*			16 40 46.6	
BEL				pmax	pmax			
	comp=Z,200nm,1.1s							
MAW	**Mawson**	**97.84**	**164**	P	P		16 31 02.3	+0.1
	comp=Z,31nm,0.8s,baz=216,slow=5.6,SNR=42							
MAW				pP	pP		16 33 09.7	+0.2
	comp=Z,20nm,0.8s,baz=198,slow=5.4,SNR=6.6							
MAW				PKiKP	PKiKP		16 35 32.8	+0.8
	comp=Z,5.6nm,0.8s,baz=239,slow=18,SNR=1.9							
MAW				PKKPbc	PKKPbc		16 47 33.9	-3.1
	comp=Z,14nm,0.5s,baz=78,slow=2.2,SNR=31							
KLV	**Kalavryta, Ach**	**97.92**	**53**	*e*P	P		16 31 03.9	+0.5
KLV	**Kalavryta, Ach**	**97.92**	**53**	*e*P	PKKPbc		16 47 33.7	-2.0
THL	**Klokotos Trika**	**97.92**	**51**	P	Pdif		16 31 02.5	-0.7
THL	**Klokotos Trika**	**97.92**	**51**	*e*P	P		16 31 03.5	+0.3
THL	**Klokotos Trika**	**97.92**	**51**	*e*P	PKKPbc		16 47 32.9	-2.8
KALE	**Kalithea**	**97.93**	**52**	*e*P	PKKPbc		16 47 34.5	-1.2
MAKR	**Makrakomi, Fth**	**97.97**	**52**	*e*P	P		16 31 04.8	+1.3
MAKR	**Makrakomi, Fth**	**97.97**	**52**	*e*P	PKKPbc		16 47 34.2	-1.4
STHS	**Stebnicka Huta**	**97.97**	**41**	*e*P	P		16 31 05.2	+1.9
STHS				pmax	pmax			
	comp=Z,32nm,1.6s							
STHS	**Stebnicka Huta**	**97.97**	**41**	PDIF	P		16 31 05.2	+1.9
STHS				epP	pP		16 33 08.1	-2.5
BJO	**Bjornoya**	**97.99**	**16**	*e*PP	PP		16 35 10.8	-0.5
BZS	**Buzias**	**98.01**	**45**	‖P	P		16 31 04.9	+1.

ATHU	Athens Univers	99.20	53	P		Pdif	16 31 08.8	-0.2	
SRS	Serrai	99.21	50	P		Pdif	16 31 07.4	-1.6	
SRS	Serrai	99.21	50	*e*P		Pdif	16 31 09.3	+0.3	
SRS	Serrai	99.21	50	P		Pdif	16 31 07.4	-1.6	
SRS	Serrai	99.21	50	P		Pdif	16 31 07.4	-1.6	
PAIG	Paliouri	99.22	51	P		Pdif	16 31 07.7	-1.3	
PAIG	Paliouri	99.22	51	*e*P		Pdif	16 31 08.5	-0.5	
PAIG	Paliouri	99.22	51	P		Pdif	16 31 07.7	-1.3	
PAIG	Paliouri	99.22	51	P		Pdif	16 31 07.7	-1.3	
GVD	Gavdhos	99.27	56	*e*Pdif		Pdif	16 31 09.9	+0.6	
	comp=Z,63nm,0.6s								
PTL	Penteli	99.27	53	*e*P		Pdif	16 31 09.6	+0.3	
MMB	Musomiste	99.34	49	⇓*i*P		Pdif	16 31 10.7	+1.2	
MMB	Musomiste	99.34	49	⇓*i*P		Pdif	16 31 10.7	+1.2	
MMB	Musomiste	99.34	49	⇑*i*P		PKKPbc	16 47 29.9	-2.0	
MMB	Musomiste	99.34	49	*e*P		Pdif	16 31 09.6	+0.1	
AOS	Alonnisos	99.34	52	P		Pdif	16 31 08.0	-1.5	
AOS	Alonnisos	99.34	52	*e*P		Pdif	16 31 09.0	-0.5	
AOS	Alonnisos	99.34	52	P		Pdif	16 31 08.0	-1.5	
SUW	Suwalki	99.34	37	*e*P		Pdif	16 31 10.3	+1.1	
SUW				*e*pP		pP	16 33 15.8	-0.8	
SUW				*e*SKSac		SKSac	16 40 50.7	-0.8	
SUW	Suwalki	99.34	37	*e*P		Pdif	16 31 10.2	+1.1	
SUW				pmax	pmax				
	comp=Z,28nm,0.9s								
SUW	Suwalki	99.34	37	*e*Pdif		Pdif	16 31 10.2	+1.1	
	comp=Z,28nm,0.9s								
VAM	Vamos	99.39	55	*e*P		Pdif	16 31 08.7	-1.2	
HOPEN	Hopen	99.39	14	*e*P		Pdif	16 31 10.6	+1.7	
MPEP	Malo Peshtene	99.42	47	*e*P		Pdif	16 31 10.1	+0.3	
NVR	Nevrokopi	99.43	49	P		Pdif	16 31 08.2	-1.7	
NVR	Nevrokopi	99.43	49	*e*P		Pdif	16 31 10.2	+0.3	
NVR	Nevrokopi	99.43	49	P		Pdif	16 31 08.2	-1.7	
CJR	Cluj-Napoca	99.44	44	⇓P		Pdif	16 31 11.5	+1.6	
CJR	Cluj-Napoca	99.44	44	⇓*i*P		Pdif	16 31 11.5	+1.6	
LOT	Lotru	99.52	45	⇑*i*P		Pdif	16 31 12.6	+2.3	
LOT	Lotru	99.52	45	⇓*i*P		PKKPbc	16 47 30.3	-1.4	
PGB	Panagyurishte	99.70	48	*e*P		Pdif	16 31 11.1	-0.1	
LVV	L'vov	99.80	41	*e*P		Pdif	16 31 12.0	+0.7	
LVV				*e**PP		pP	16 33 22.0	+3.2	
LVV				*e*			16 35 33.0		
LVV				*e*PPP		PPP	16 37 39.0		
LVV				*e*			16 40 49.0		
LVV				*e*S		S	16 41 53.0	-2.7	
LVV				*e*SS		SS	16 49 05.0	+0.2	
SIBR	Sibiu	99.81	45	⇑*i*P		PKKPbc	16 47 19.8	-11	
IDI	Anoyia	99.95	56	P		Pdif	16 31 13.3	+0.9	
	comp=Z,59nm,0.8s,baz=298,slow=8.2,SNR=34								
IDI				pP		pP	16 33 20.0	0.0	
	comp=Z,20nm,0.7s,baz=302,slow=6.6,SNR=5.4								
IDI				PKiKP		PKiKP	16 35 37.6	+0.8	
	comp=Z,10nm,0.4s,baz=2.6,slow=3.1,SNR=14								
MDB	Medias	99.96	45	⇓*i*P		PKKPbc	16 47 28.2	-2.1	
RAO	Raoul Island	100.04	238	P		Pdif	16 31 11.8	-1.1	
	comp=Z,610nm,0.3s,baz=298,slow=22,SNR=3.9								
RAO	Raoul Island	100.04	238	P		Pdif	16 31 11.8	-1.1	
RAO				pmax	pmax				
	comp=Z,610nm,0.3s								
ARE0	ARCESS Array S	100.06	21	*e*P		Pdif	16 31 11.9	-0.1	
ARE0				*e*pP		pP	16 33 16.6	-3.0	
ARE0				*e*SKSac		SKSac	16 40 54.6	+0.2	
ARE0	ARCESS Array S	100.06	21	*e*Pdif		Pdif	16 31 11.6	-0.5	
ARE0				*e*pP		pP	16 33 20.4	+0.8	
ARCES	ARCESS Array B	100.06	21	P		Pdif	16 31 11.8	-0.2	
	comp=Z,28nm,0.7s,baz=269,slow=3.8,SNR=128								
ARCES				pP		pP	16 33 19.9	+0.4	
	comp=Z,13nm,0.6s,baz=289,slow=3.7,SNR=9.3								
ARCES				PKiKP		PKiKP	16 35 35.7	-0.2	
	comp=Z,9.1nm,0.9s,baz=306,slow=6.1,SNR=3.5								
ARCES				PKKPbc		PKKPbc	16 47 27.8	-3.1	
	comp=Z,16nm,0.6s,baz=133,slow=1.6,SNR=23								
ARCES				PKPPKP		P'P'df	16 55 42.2	-0.7	
	comp=Z,3.4nm,0.9s,baz=352,slow=7.7,SNR=3.8								
PLD	Plovdiv	100.08	49	*e*P		Pdif	16 31 12.1	-0.7	
ARR	Arges	100.12	45	⇓*i*P		Pdif	16 31 14.4	+1.4	
VOIR		100.42	45	⇓P		Pdif	16 31 16.1	+1.8	
VOIR		100.42	45	⇓*i*P		Pdif	16 31 16.1	+1.8	
VOIR		100.42	45	⇓*i*P		PKKPbc	16 47 28.5	-0.6	
SANT	Santorini	100.46	55	P		Pdif	16 31 14.0	-0.7	
SANT	Santorini	100.46	55	*e*P		Pdif	16 31 14.0	-0.7	
SANT	Santorini	100.46	55	P		Pdif	16 31 14.0	-0.7	
NPS	Neapolis	100.54	56	*e*P		Pdif	16 31 16.4	+1.4	
APE	Apeiranthos	100.55	54	*e*P		Pdif	16 31 14.6	-0.4	
APE	Apeiranthos	100.55	54	*d*/P		Pdif	16 31 14.9	-0.1	
APE	Apeiranthos	100.55	54	⇓*i*P		Pdif	16 31 15.6	+0.6	
BURAR	Bucovina Array	100.56	43	⇑P		Pdif	16 31 16.7	+1.8	
BURAR	Bucovina Array	100.56	43	⇑*i*P		Pdif	16 31 16.7	+1.8	
BURAR	Bucovina Array	100.56	43	⇓*i*P		PKKPdf	16 47 29.9	-3.1	
KEV	Kevo	100.56	20	*e*P		Pdif	16 31 13.8	-0.4	
KEV				pmax	pmax				
	comp=Z,22nm,0.8s								
KEV	Kevo	100.56	20	*e*Pdif		Pdif	16 31 13.8	-0.4	
	comp=Z,22nm,0.8s								
PVL	Pavlikeni	100.58	48	*e*P		Pdif	16 31 13.2	-1.7	
KDZ	Kurdzhali	100.60	49	⇑P		Pdif	16 31 15.1	0.0	
KDZ	Kurdzhali	100.60	49	⇑*i*P		Pdif	16 31 15.1	0.0	
KDZ	Kurdzhali	100.60	49	*e*P		Pdif	16 31 13.7	-1.4	
SMTH	Samothraki Isl	100.66	50	P		Pdif	16 31 14.9	-0.5	
SMTH	Samothraki Isl	100.66	50	P		Pdif	16 31 14.9	-0.5	
DOPR	Dopca	100.66	45	⇑*i*P		Pdif	16 31 16.2	+0.9	
DOPR	Dopca	100.66	45	⇑*i*P		PKKPbc	16 47 27.5	-0.9	
FINES	FINESS Array B	100.77	29	P		Pdif	16 31 16.3	+0.9	
	comp=Z,6.1nm,0.7s,baz=264,slow=3.0,SNR=12								
FINES				PKiKP		PKiKP	16 35 36.8	-0.5	
	comp=Z,9.1nm,0.9s,baz=258,slow=2.2,SNR=8.1								
FINES				PKKPbc		PKKPbc	16 47 25.0	-3.5	
	comp=Z,3.9nm,0.3s,baz=117,slow=5.3,SNR=14								
FINES				SKKP			16 50 11.9		
	comp=Z,2.7nm,0.6s,baz=112,slow=3.9,SNR=5.0								
FINES				PKPPKP		P'P'df	16 55 36.4	-5.7	
	comp=Z,1.9nm,0.6s,baz=120,slow=11,SNR=3.3								
SIGR	SIGRI	100.87	52	P		Pdif	16 31 14.9	-1.4	
SIGR	SIGRI	100.87	52	P		Pdif	16 31 14.9	-1.4	
CHOS	Chios island	101.01	53	P		Pdif	16 31 16.3	-0.8	
CHOS	Chios island	101.01	53	P		Pdif	16 31 16.3	-0.8	
SZH	Strazhica	101.02	48	*e*P		Pdif	16 31 17.0	+0.1	
ZKR	Zakros	101.03	56	P		Pdif	16 31 17.8	+0.6	
ZKR	Zakros	101.03	56	P		Pdif	16 31 17.8	+0.6	
MLR	Muntele Rosu	101.05	45	P		Pdif	16 31 17.4	+0.2	
	comp=Z,3.0nm,0.8s,baz=338,slow=6.5,SNR=25								
MLR				PKPPbc		pP	16 33 25.3	+0.6	
	comp=Z,4.4nm,1.2s,baz=227,slow=4.8,SNR=3.1								
MLR				PKiKP		PKiKP	16 35 37.5	-1.0	
	comp=Z,9.8nm,1.2s,baz=206,slow=3.8,SNR=5.1								
MLR				PKKPbc		PKKPbc	16 47 26.9	-0.5	
	comp=Z,2.7nm,0.6s,baz=289,slow=5.0,SNR=18								
MLR	Muntele Rosu	101.05	45	⇓*i*P		Pdif	16 31 17.5	+0.3	
MLR	Muntele Rosu	101.05	45	⇓*i*P		PKKPbc	16 47 27.5	+0.1	
PRAR	RASCA	101.25	43	⇑*i*P		Pdif	16 31 19.7	+1.9	
VSU	Vasula	101.25	32	*d*/P		Pdif	16 31 17.8	+0.3	
URZ	Urewera	101.30	228	PKKPbc	PKKPbc		16 47 23.5	-2.8	
	comp=Z,23nm,0.6s,baz=210,slow=1.7,SNR=15								
NACGM	Naroch	101.44	36	*e*P		Pdif	16 31 18.0	-0.5	
ISR	Istrita	101.47	46	⇓P		Pdif	16 31 21.9	+3.0	
ISR	Istrita	101.47	46	⇓*i*P		Pdif	16 31 21.9	+3.0	
JMB	Yambol	101.49	48	⇓P		Pdif	16 31 20.0	+1.0	
JMB	Yambol	101.49	48	⇓*i*P		Pdif	16 31 20.0	+1.0	
JMB	Yambol	101.49	48	⇑*i*P		PKKPbc	16 47 25.8	0.0	
JMB	Yambol	101.49	48	*e*P		Pdif	16 31 18.0	-1.0	
TESR	Tescani	101.54	44	⇑*i*P		Pdif	16 31 23.8	+4.6	
TESR	Tescani	101.54	44	⇑*i*P		PKKPbc	16 47 24.0	-1.9	
PLOR	Plostina	101.54	45	⇑P		Pdif	16 31 27.9	+8.7	
PLOR	Plostina	101.54	45	⇑*i*P		Pdif	16 31 27.9	+8.7	
PLOR	Plostina	101.54	45	⇑*i*P		PKKPbc	16 47 23.5	-2.4	
VRI	Vrincioaia	101.60	45	⇑P		Pdif	16 31 20.7	+1.3	
VRI	Vrincioaia	101.60	45	⇑*i*P		Pdif	16 31 20.7	+1.3	
VRI	Vrincioaia	101.60	45	⇑*i*P		PKKPdf	16 47 26.1	-4.9	
GAMB	Gambell	101.68	333	*e*Pdif		Pdif	16 31 19.2	-0.2	
	comp=Z,22nm,0.8s								
DRV	Dumont d'Urvil	101.95	192	Pdif		Pdif	16 31 10.0	-11	
DRV				PP		x	16 40 40.0		
DRV				SP		SP	16 43 22.0	-28	
DRV				SS		SS	16 49 22.0	-10	
DRV				L		L	16 59 00.0		
DRV				R			17 04 00.0		
MNK	Minsk	102.06	36	*e*P		Pdif	16 31 24.0	+2.7	
MNK				*e*			16 35 40.0		
MNK				*e*			16 41 03.0		
MNK				*e*S		Sdif	16 42 12.0	-1.7	
MNK				*e*PS		PS	16 44 50.0	-16	
PRD	Provadia	102.09	48	*e*P		Pdif	16 31 22.1	+0.5	
MICGM	Minsk	102.09	36	*e*P		Pdif	16 31 24.0	+2.6	
HARR	Harsova	102.46	46	⇑P		Pdif	16 31 25.1	+1.8	
HARR	Harsova	102.46	46	⇑*i*P		Pdif	16 31 25.1	+1.8	
TLB	Topalu	102.54	46	⇑P		Pdif	16 31 25.6	+2.0	
TLB	Topalu	102.54	46	⇑*i*P		Pdif	16 31 25.6	+2.0	
TLB	Topalu	102.54	46	⇓*i*P		PKKPbc	16 47 21.7	-1.1	
CFR	Carcaliu	102.59	46	⇓P		Pdif	16 31 24.5	+0.7	
CFR	Carcaliu	102.59	46	⇓*i*P		Pdif	16 31 24.5	+0.7	
CFR	Carcaliu	102.59	46	⇓*i*P		PKKPbc	16 47 22.0	-0.7	
PSN	Preselentsi	102.66	47	⇑P		Pdif	16 31 25.7	+1.5	
PSN	Preselentsi	102.66	47	⇑*i*P		Pdif	16 31 25.7	+1.5	
PSN	Preselentsi	102.66	47	*e*P		Pdif	16 31 24.4	+0.2	
TIRR	Tirgusor	102.81	46	*e*P		Pdif	16 31 24.3	-0.5	
TIRR				pmax	pmax				
	comp=Z,39nm,1.3s								
TIRR	Tirgusor	102.81	46	⇓*i*P		Pdif	16 31 27.0	+2.2	
TIRR	Tirgusor	102.81	46	*e*Pdif		Pdif	16 31 24.3	-0.5	
	comp=Z,39nm,1.3s								
KIS	Kishinev	103.02	44	*e*P		Pdif	16 31 24.0	-1.7	
KIS				*e*pP			16 33 32.0		
KIS	Kishinev	103.02	44	*e*PKP		PKiKP	16 35 46.0	+4.1	
KIS	Kishinev	103.02	44	*e*PP		PP	16 35 57.0	+7.5	
KIS				*e*pPKP			16 37 38.0		
KIS	Kishinev	103.02	44	*e*PPP		PPP	16 37 47.0		
KIS				*i* SKS		SKSac	16 41 06.0	-3.3	
KIS				*i* S		Sdif	16 42 21.0	-1.0	
KIS	Kishinev	103.02	44	*i* PS		PS	16 44 54.0	-21	
KIS				*e*SS		SS	16 49 30.0	-19	
KIS				*e*SSS		SSS	16 53 24.0		
KIS				LRM		MLR	17 15 12.0		
	comp=Z,700nm,24.0s								
KIS	Kishinev	103.02	44	*e*P		Pdif	16 31 24.0	-1.7	
KIS				*e*			16 35 57.0		
KIS				*i*			16 41 06.0		
KIS				*i* S		Sdif	16 42 21.0	-1.0	
KIS				MLR		MLR			
	comp=Z,700nm,19.0s								
KIS				MLR		MLR			
	comp=Z,700nm,20.0s								
TLCR		103.08	46	⇓P		Pdif	16 31 26.6	+0.6	
TLCR		103.08	46	⇓*i*P		Pdif	16 31 26.6	+0.6	
KIEV	Kiev	103.11	40	*d*/P		Pdif	16 31 26.4	+0.4	
AK01	Malin Array Si	103.11	40	*e*PKiKP		PKiKP	16 35 41.8	-0.1	
AKASG	Malin Array Be	103.12	40	Pdiff		Pdif	16 31 25.6	-0.5	
	comp=Z,1.9nm,0.6s,baz=264,slow=4.8,SNR=14								
AKASG				PKiKP		PKiKP	16 35 41.2	-0.8	
	comp=Z,3.2nm,0.4s,baz=280,slow=2.8,SNR=12								
AKASG				PKKPbc		PKKPbc	16 47 19.4	-2.0	
	comp=Z,14nm,0.6s,baz=73,slow=3.4,SNR=44								
AKASG				SKKP			16 50 05.6		
	comp=Z,1.2nm,0.5s,baz=72,slow=3.4,SNR=4.1								
AKASG				PKPPKP		P'P'df	16 55 38.1	-0.2	
	comp=Z,2.1nm,0.7s,baz=71,slow=1.9,SNR=13								
APA	Apatity	103.19	22	⇓*i*P		Pdif	16 31 26.0	0.0	
APA				*i*			16 35 47.4		
APA				*i*			16 41 10.0		
APA				*i* S		Sdif	16 42 20.0	-2.6	
APA				*i* PS		PS	16 45 09.0	-7.3	
APA				MLR		MLR			
	comp=Z,1μm,18.0s								
RPZ	Rata Peaks	103.46	221	PKKPbc	PKKPbc		16 47 18.8	-1.6	
	comp=Z,19nm,0.8s,baz=32,slow=15,SNR=4.7								
LVZ	Lovozero	103.59	22	*c* /P		Pdif	16 31 29.6	+1.8	
TMCR	Tamitsa	105.79	25	*e*P		Pdif	16 31 38.8	+1.2	
TMCR				*e*			16 36 11.6		
TMCR				pmax	pmax				
	comp=Z,22nm,1.3s								
ANTO	Ankara	106.23	51	*e*PKiKP		PKiKP	16 35 48.4	+0.3	
SIM	Simferopol'	106.84	46	*e*P		Pdif	16 31 43.6	+0.8	
SIM				*e*			16 36 14.0		
SIM				*i*			16 41 26.0		
SIM				*e*			16 44 42.0		
SIM				*i* SSS		SSS	16 50 38.0		
SIM				pmax	pmax				
	comp=Z,250nm,10.5s								
CSS	Prodhromos	106.86	56	*e*PKiKP		PKiKP	16 35 50.0	+0.6	
BR131	Keskin Array S	106.89	51	*e*PKiKP		PKiKP	16 35 49.9	+0.4	
BRTR	Keskin Array B	106.89	51	Pdiff		Pdif	16 31 44.3	+1.0	
	comp=Z,2.2nm,1.0s,baz=259,slow=2.5,SNR=7.6								
BRTR				PKiKP		PKiKP	16 35 49.6	+0.2	
	comp=Z,9.7nm,0.9s,baz=212,slow=3.4,SNR=16								
BRTR				PKKPbc		PKKPbc	16 47 08.9	-1.0	
	comp=Z,2.8nm,0.6s,baz=136,slow=4.4,SNR=9.2								
BRTR				PKPPKP		P'P'df	16 55 30.9	-1.3	
	comp=Z,1.6nm,1.0s,baz=145,slow=4.5,SNR=4.2								
OBN	Obninsk	107.01	35	*i* P		Pdif	16 31 43.7	+0.5	
OBN				*i*			16 36 15.3		
OBN				pmax	pmax				
	comp=Z,13nm,1.3s								
OBN	Obninsk	107.01	35	*e*PKiKP		PKiKP	16 35 48.9	0.0	
KLMR	Klimovskoe	107.29	29	*d*/P		Pdif	16 31 44.4	0.0	
KLMR				pmax	pmax				
	comp=Z,29nm,1.5s								
MOS	Moscow	107.48	34	*i* P		Pdif	16 31 44.9	-0.4	
MOS				*e*			16 36 20.1		
MOS				*e*PPP		PPP	16 38 47.8		
MOS				*e*			16 41 27.6		
MOS				*e*SP		SP	16 44 42.8	-4.2	
MOS				*e*SS		SS	16 50 45.2	-2.9	
CORM	Corum	107.62	51	*e*P		PKiKP	16 35 51.1	+0.3	
DIKM	Dikmen	107.97	49	*e*P		PKiKP	16 35 50.9	-0.4	
EIL	Elat	108.37	62	PKiKP		PKiKP	16 35 52.8	+0.4	
	comp=Z,16nm,0.6s,baz=320,slow=2.0,SNR=16								
KMBO	Kilima Mbogo	108.53	94	PKiKP		PKiKP	16 35 54.2	+0.8	
	comp=Z,4.9nm,0.9s,baz=43,slow=4.0,SNR=7.2								
KMBO				PKKPbc		PKKPbc	16 47 04.4	+0.1	
	comp=Z,7.8nm,0.8s,baz=58,slow=7.1,SNR=12								
KMBO	Kilima Mbogo	108.53	94	*e*PKiKP		PKiKP	16 35 55.9	+2.4	
KMBO				PKKPbc		PKKPbc	16 47 04.4	+0.1	
MMAI	Mount Meron Ar	108.66	58	PKiKP		PKiKP	16 35 53.3	+0.3	
	comp=Z,13nm,0.6s,baz=26,slow=2.1,SNR=18								
MMAI				PKKPbc		PKKPbc	16 47 02.7	-1.5	
	comp=Z,5.4nm,0.5s,baz=76,slow=7.0,SNR=9.8								
KOZT	Kozan	108.75	53	*e*P		PKiKP	16 35 52.5	-0.4	
BILL	Bilibino	109.13	340	*d*/P		Pdif	16 31 52.9	+0.5	
BILL				*i*			16 36 30.9		
BILL				*i*			16 46 07.9		
BILL				pmax	pmax				
	comp=Z,11nm,1.6s								
BILL	Bilibino	109.13	340	*e*Pdif		Pdif	16 31 52.2	-0.2	
VSR	Storozhevoye	109.28	39	*e*P		Pdif	16 31 54.3	+0.8	
VSR				*e*			16 41 34.4		
VSR				*e*PS		SP	16 45 01.1	-2.9	
VSR				pmax	pmax				
	comp=E,7.0nm,0.9s								
VSR				pmax	pmax				
	comp=Z,7.0nm,0.9s								
VSR				pmax	pmax				
	comp=N,3.0nm,0.5s								
VORD	Divnogorie	109.41	39	*e*P		Pdif	16 31 54.4	+0.4	
VORD				pmax	pmax				
	comp=N,8.0nm,0.4s								
VORD				pmax	pmax				
	comp=E,7.0nm,0.4s								
VORD				pmax	pmax				
	comp=Z,6.0nm,0.4s								
SVSK	Karacayir	109.45	51	*e*P		PKiKP	16 35 54.1	0.0	
PRGR	Permogore	109.87	27	*e*P		Pdif	16 31 54.7	-1.1	
PRGR				*e*			16 41 38.0		
PRGR							16 42 11.4		
PRGR				pmax	pmax				
	comp=Z,29nm,1.5s								
ASF	Jabal al Asfar	109.95	59	PKiKP		PKiKP	16 35 56.2	+0.8	
	comp=Z,24nm,0.8s,baz=305,slow=1.4,SNR=23								
DARE	Darende-Malaty	109.96	52	*e*P		PKiKP	16 35 55.0	-0.2	
ILIC	Ilic-Erzincan	110.71	51	*e*P		PKiKP	16 35 57.3	+0.6	
MALT	Malatya	110.72	52	*e*P		PKiKP	16 35 58.4	+1.6	
MALT	Malatya	110.72	52	⇓*i*P		Pdif	16 31 23.9	-36	
SOC	Sochi	111.00	46	*i* PKiKP		PKiKP	16 35 57.1	+0.2	
SOC				*e*			16 36 45.5		
SOC				*e*			16 45 20.3		
SOC				*e*PS		PS	16 46 23.9	-4.9	
SOC				pmax	pmax				
	comp=Z,98nm,1.0s								
GUMT	Gumushane	111.28	50	*e*P		PKiKP	16 35 58.2	+0.5	
PTK	Pertek	111.41	51	*e*P		PKiKP	16 35 59.7	+1.6	
BNGB	Bing¶ll	112.39	51	*e*P		PKiKP	16 35 59.9	0.0	
MAZI	Mazidag	112.41	53	*e*P		PKiKP	16 36 00.3	+0.3	
CHVG	Ch'k'valeri	112.85	47	P		PKiKP	16 36 04.6	+4.1	
KIV	Kislovodsk	113.05	46	*i* P		Pdif	16 32 11.4	+0.9	
KIV				*i*			16 36 02.4		
KIV				*e*			16 37 01.9		
KIV				*e*PPP		PPP	16 39 32.7		
KIV				*e*			16 41 53.5		
KIV				*e*PS		PS	16 46 47.5	0.0	
KIV				*e*SS		SS	16 52 01.9	-0.6	
KIV				pmax	pmax				
	comp=Z,33nm,0.9s								
KIV	Kislovodsk	113.05	46	*e*PKiKP		PKiKP	16 36 01.0	+0.1	
NEY	Neytrino	113.22	46	*e*PKiKP		PKiKP	16 36 02.5	+1.1	
KBZ	Khabaz	113.25	46	PKiKP		PKiKP	16 36 01.6	+0.4	
	comp=Z,44nm,0.7s,baz=236,slow=24,SNR=39								
KBZ				PKKPbc		PKKPbc	16 46 49.4	-0.2	
	comp=Z,4.7nm,0.8s,baz=236,slow=24,SNR=5.5								
KBZ	Khabaz	113.25	46	*i* PKiKP		PKiKP	16 36 01.6	+0.4	
KBZ							16 46 49.4		
KBZ				pmax	pmax				
	comp=Z,44nm,0.7s								
PAF	Port-aux-Franc	113.77	154	Pdif	Pdif		16 32 00.0	-14	
PAF				PP	x		16 34 05.0		
PAF				SKKS			16 41 49.0		
PAF				SP	SP		16 45 10.0	-35	
PAF				L	L		16 51 00.0		
PAF				R			16 54 00.0		
NCK	Nalchik	113.79	46	⇓*i* PKiKP		PKiKP	16 36 04.5	+2.2	
ONI	Oni	113.87	47	P		PKiKP	16 36 02.6	+0.1	
ABPO	Ambohimpanom	114.01	115	*e*PKiKP		PKiKP	16 36 03.7	+0.1	
ABPO	Ambohimpanom	114.01	115	*e*PKiKP		PKiKP	16 36 03.7	+0.1	
AGRB	Hanur-Agry	114.08	50	*e*P		PKPdf	16 36 03.5	+0.4	
OPO	Ambohidratompo	114.11	114	PKP		PKPdf	16 36 04.7	+0.9	
	comp=Z,13nm,0.6s,baz=247,slow=2.2,SNR=30								
AKH	Akhalkalaki	114.12	48	P		PKPdf	16 36 04.8	+1.6	
ZEI	Tsey	114.15	47	*i* PKiKP		PKPdf	16 36 03.0	-0.3	
ZEI				pmax	pmax				
	comp=Z,17nm,0.5s								
CLDR	Caldiran	114.86	51	*e*P		PKPdf	16 36 05.2	+0.5	
CUKT	Cukurca	114.93	53	*e*P		PKPdf	16 36 05.0	+0.2	
TBLG	Delisi	114.98	48	P		PKPdf	16 36 06.2	+1.6	
TIXI	Tiksi	115.26	353	⇑*i*P		Pdif	16 32 20.5	+0.9	
TIXI				*i*			16 36 04.9		
TIXI	Tiksi	115.26	353	PKPdf		PKPdf	16 36 03.5	-0.8	
GNI	Garni	115.30	49	PKP		PKPdf	16 36 06.2	+0.7	
	comp=Z,46nm,0.5s,baz=329,slow=1.5,SNR=39								
GNI	Garni	115.30	49	*e*PKiKP		PKPdf	16 36 05.6	+0.1	
GNI	Garni	115.30	49	*e*PKPdf		PKPdf	16 36 05.6	+0.1	
GNI				PKP		PKPdf	16 36 06.2	+0.7	
DZM	Mont Dzumac	115.67	241	PKP		PKPdf	16 36 07.1	+0.5	
	comp=Z,15nm,0.7s,baz=269,slow=23,SNR=14								
SOKR	Solikamsk	115.71	26	*c* /PKiKP		PKPdf	16 36 05.5	+0.1	
SOKR				*i*			16 37 18.5		
SOKR				PS		PS	16 47 13.7	+3.

BANOM	**Banah**	127.53	64	P		**PKPdf**	**16 36 29.3**	**+0.1**
	SNR=15									
HATD	**Hatta, Dubai**	**127.56**	**65**	⇓*i*P		**PKPdf**	**16 36 30.0**	**+0.7**
	SNR=24									
ARQ	**Araqi**	**128.14**	**67**	P		**PKPdf**	**16 36 30.7**	**+0.3**
	SNR=20									
HOQ	**Hoqain**	**128.82**	**66**	P		**PKPdf**	**16 36 31.3**	**-0.4**
	SNR=20									
STKA	**Stephens Creek**	**129.11**	**217**	PKP		**PKPdf**	**16 36 31.8**	**-0.3**
	comp=Z,188nm,0.8s,baz=108,slow=3.2,SNR=82									
STKA				pPKP		**pPKPdf**	**16 38 47.4**	**+0.2**
	comp=Z,30nm,0.8s,baz=322,slow=1.4,SNR=6.7									
STKA	**Stephens Creek**	**129.11**	**217**	PKIKP		**PKPdf**	**16 36 31.8**	**-0.3**
STKA							16 38 47.4			
STKA				pmax	pmax					
	comp=Z,189nm,0.8s									
STKA				pmax	pmax					
	comp=Z,30nm,0.8s									
STKA	**Stephens Creek**	**129.11**	**217**	*e*PKPpre	PKPpre		16 36 21.2			
STKA				PKP		**PKPdf**	**16 36 31.8**	**-0.3**		
STKA				*e*PKPdf		**PKiKP**	**16 36 32.1**	**-0.8**		
STKA				pPKP		pPKPdf	16 38 47.4	+0.2		
NVS	**Novosibirsk**	**129.27**	**18**	*e*PKIKP		**PKPdf**	**16 36 31.9**	**+0.3**		
NVS				*e*			16 38 46.2			
NVS				pmax	pmax					
	comp=Z,486nm,1.3s									
NVS				pmax	pmax					
	comp=N,16nm,0.5s									
NVS				pmax	pmax					
	comp=E,103nm,1.2s									
NVS				pmax	pmax					
	comp=Z,166nm,1.4s									
NVS				pmax	pmax					
	comp=E,24nm,1.2s									
SMDO	**Samad**	**129.57**	**67**	P		**PKPdf**	**16 36 33.2**	**0.0**		
	SNR=28									
SMDO	**Samad**	**129.57**	**67**	P		**PKPdf**	**16 36 33.4**	**+0.2**		
	SNR=46									
CLNS	**Chul'man**	**129.70**	**348**	*e*PKIKP		**PKPdf**	**16 36 32.6**	**+0.2**		
CLNS				pmax	pmax					
	comp=Z,325nm,1.1s									
CLNS				pmax	pmax					
	comp=N,57nm,0.8s									
CLNS				pmax	pmax					
	comp=E,37nm,1.1s									
KUR	**Kuril'sk**	**129.72**	**324**	*e*PKIKP		**PKPdf**	**16 36 34.4**	**+1.7**		
KUR				*e*S		SKPab	16 39 02.5	+1.1		
KUR				pmax	pmax					
	comp=E,9.0nm,1.3s									
KUR				pmax	pmax					
	comp=Z,27nm,1.3s									
KUR				pmax	pmax					
	comp=N,440nm,2.8s									
KUR				pmax	pmax					
	comp=N,442nm,2.8s									
KUR				pmax	pmax					
	comp=E,896nm,2.8s									
JMDO	**Jabal Madar**	**129.72**	**68**	P		**PKPdf**	**16 36 32.0**	**-1.4**		
	SNR=6.6									
JMDO	**Jabal Madar**	**129.72**	**68**	P		**PKPdf**	**16 36 33.0**	**-0.4**		
	SNR=8.4									
BOD	**Bodaibo**	**130.22**	**356**	*e*PKIKP		**PKPdf**	**16 36 32.7**	**-0.6**		
BOD				pmax	pmax					
	comp=Z,152nm,1.5s									
WBK	**Wadi Bani Khal**	**130.48**	**67**	P		**PKPdf**	**16 36 36.8**	**+1.9**		
	SNR=17									
ZAA0	**Zalesovo Array**	**130.52**	**18**	*e*PKPpre	PKPpre		16 36 17.4			
ZAA0				*e*PKPdf		**PKPdf**	**16 36 34.2**	**+0.3**		
ZALV	**Zalesovo Beam**	**130.52**	**18**	PKP		**PKPdf**	**16 36 34.4**	**+0.4**		
	comp=Z,395nm,0.6s,baz=321,slow=2.9,SNR=135									
ZALV				pPKP		**pPKPdf**	**16 38 49.9**	**+0.7**		
	comp=Z,172nm,0.9s,baz=299,slow=3.1,SNR=14									
ZALV				SKKPbc	SKKPbc		16 48 41.4	-2.6		
	comp=Z,3.4nm,0.8s,baz=144,slow=2.5,SNR=3.7									
ZALV				SKKP			16 49 14.5			
	comp=Z,3.6nm,0.6s,baz=158,slow=5.9,SNR=4.2									
KRAR	**Krasnoyarsk**	**130.69**	**11**	⇓*i*PKIKP		**PKPdf**	**16 36 34.1**	**-0.1**		
KURK	**Kurchatov**	**130.90**	**25**	PKIKP		**PKPdf**	**16 36 35.4**	**+0.6**		
KURK				pmax	pmax					
	comp=Z,159nm,0.8s									
KURK	**Kurchatov**	**130.90**	**25**	P		**PKPdf**	**16 36 35.8**	**+1.0**		
	SNR=102									
KURK	**Kurchatov**	**130.90**	**25**	*e*PKPdf		**PKPdf**	**16 36 35.3**	**+0.6**		
KURK				PKKPbc	PKKPbc		16 45 43.3			
KURK				PKKP		**PKKPdf**	**16 46 31.9**	**-3.5**		
KURK				SKKPbc	SKKPbc		16 48 38.9	-3.6		
KURBB	**Kurchatov Arra**	**130.94**	**25**	PKKPbc	PKKPbc		16 45 43.3			
	comp=Z,2.2nm,0.6s,baz=132,slow=3.0,SNR=6.5									
KURBB				PKKP		**PKKPdf**	**16 46 31.9**	**-3.5**		
	comp=Z,2.8nm,0.8s,baz=152,slow=1.5,SNR=6.4									
KURBB				SKKPbc	SKKPbc		16 48 38.9	-3.5		
	comp=Z,3.5nm,0.8s,baz=141,slow=3.1,SNR=6.8									
YSS	**Yuzh-Sakhalins**	**131.44**	**329**	⇓*e*PKHKP		PKPpre	16 36 20.0			
YSS				*i*			16 36 36.0			
YSS				*e*			16 39 06.0			
YSS	**Yuzh-Sakhalins**	**131.44**	**329**	*e*PKPdf		**PKPdf**	**16 36 36.7**	**+0.8**		
YUK	**Yuzh-Kuril'sk**	**131.58**	**324**	*i* PKIKP		**PKPdf**	**16 36 36.0**	**-0.3**		
YUK				*i*			16 39 04.7			
YUK				*i* PPP	PPP		16 42 01.3			
YUK				*i* SS	SS		16 55 58.8	+5.3		
YUK				pmax	pmax					
	comp=N,304nm,1.6s									
YUK				pmax	pmax					
	comp=Z,432nm,1.6s									
YUK				pmax	pmax					
	comp=E,119nm,0.8s									
KK31	**Karatay Array**	**131.92**	**37**	*i* PKIKP		**PKPdf**	**16 36 38.3**	**+1.3**		
KK31				pmax	pmax					
	comp=Z,20nm,0.6s									
KKAR	**Karatay Array**	**131.92**	**37**	*e*PKIKP		**PKPdf**	**16 36 37.6**	**+0.6**		
KKAR	**Karatay Array**	**131.92**	**37**	*e*PKPdf		**PKPdf**	**16 36 37.6**	**+0.6**		
DZET	**Dzherino**	**133.17**	**43**	PKIKP		**PKPdf**	**16 36 40.0**	**+0.4**		
DZET				pmax	pmax					
	comp=Z,335nm,1.3s									
CTA	**Charters Tower**	**133.35**	**233**	PKHKP		PKPpre	16 36 24.6			
	comp=Z,3.2nm,0.5s,baz=107,slow=3.2,SNR=12									
CTA				PKP		**PKPdf**	**16 36 40.8**	**+0.4**		
	comp=Z,93nm,0.7s,baz=110,slow=3.3,SNR=48									
CTA				pPKP	pPKPdf		16 38 55.4	-0.1		
	comp=Z,16nm,0.7s,baz=106,slow=3.7,SNR=5.5									
CTA				SKPbc		**SKPbc**	**16 39 15.0**	**+0.1**		
	comp=Z,93nm,1.0s,baz=127,slow=2.7,SNR=25									
CTA				PKKP		**PKKPdf**	**16 46 29.3**	**-0.9**		
	comp=Z,9.0nm,0.6s,baz=304,slow=1.6,SNR=15									
CTA	**Charters Tower**	**133.35**	**233**	PKHKP	PKPpre		16 36 24.6			
CTA							16 36 40.8			
CTA							16 39 15.0			
CTA				pmax	pmax					
	comp=Z,3.0nm,0.5s									
CTA				pmax	pmax					
	comp=Z,93nm,0.7s									
CTA				pmax	pmax					
	comp=Z,16nm,0.7s									
CTAO	**Charters Tower**	**133.35**	**233**	*e*PKHKP	PKPpre		16 36 24.6			
CTAO				*e*			16 36 40.4			
CTAO	**Charters Tower**	**133.35**	**233**	*e*PKPpre	PKPpre		16 36 24.6			
CTAO				*e*PKPdf		**PKPdf**	**16 36 40.4**	**0.0**		
ASAJ	**Asahikawa**	**133.38**	**326**	PKHKP	PKPpre		16 36 25.5			
ASAJ				PKP		**PKiKP**	**16 36 40.5**	**-0.5**		
	comp=Z,89nm,0.6s,baz=350,slow=2.5,SNR=25									
ASAJ				SKPbc		**SKPab**	**16 39 15.9**	**-1.3**		
	comp=Z,169nm,0.9s,baz=44,slow=4.9,SNR=24									
ASAJ	**Asahikawa**	**133.38**	**326**	PKHKP	PKPpre		16 36 25.5			
ASAJ							16 36 40.5			
ASAJ							16 39 15.9			
ASAJ				pmax	pmax					
	comp=Z,89nm,0.6s									
ASAJ				pmax	pmax					
	comp=N,169nm,0.9s									
MNAS	**Manas**	**133.47**	**37**	PKIKP		**PKPdf**	**16 36 40.9**	**+0.8**		
MNAS				pmax	pmax					
	comp=Z,233nm,0.9s									
HABR	**Khabarovsk**	**133.90**	**335**	*de*PKIKP		**PKPdf**	**16 36 40.1**	**-0.4**		
HABR				*e*			16 39 20.4			
HABR				*e*			16 42 56.3			
HABR				*e*SS	SS		16 56 22.2	+1.8		
HABR				pmax	pmax					
	comp=Z,413nm,1.4s									
HABR				pmax	pmax					
	comp=E,77nm,1.4s									
HABR				pmax	pmax					
	comp=N,98nm,1.4s									
HABR				MLR	MLR					
	comp=Z,1μm,20.0s									
EKS2	**Erkin-Say**	**134.11**	**36**	P		**PKPdf**	**16 36 44.7**	**+3.4**		
	SNR=27									
EKS2	**Erkin-Say**	**134.11**	**36**	*e*PKIKP		**PKPdf**	**16 36 42.6**	**+1.3**		
EKS2				*e*			16 38 54.1			
EKS2				*e*			16 39 18.3			
EKS2	**Erkin-Say**	**134.11**	**36**	*e*PKPdf		**PKPdf**	**16 36 42.6**	**+1.3**		
EKS2				*ep*PKPdf		**pPKPdf**	**16 38 54.1**	**-2.4**		
EKS2				*e*SKPbc		**SKPbc**	**16 39 18.3**	**+1.5**		
USP	**Ospenovka**	**134.14**	**35**	P		**PKPdf**	**16 36 42.3**	**+1.1**		
	SNR=20									
ERM	**Erimo**	**134.38**	**323**	*i* PKIKP		**PKPdf**	**16 36 45.0**	**+3.4**		
ERM	**Erimo**	**134.38**	**323**	*e*PKPdf		**PKPdf**	**16 36 43.5**	**+1.9**		
AML	**Almayashu**	**134.39**	**36**	P		**PKPdf**	**16 36 44.9**	**+2.8**		
	SNR=7.5									
CHMS	**Chumysh**	**134.45**	**35**	P		**PKPdf**	**16 36 42.9**	**+1.1**		
	SNR=17									
FRU	**Bishkek**	**134.48**	**35**	*e*PKIKP		**PKPdf**	**16 36 42.8**	**+1.0**		
FRU				*i*			16 39 20.0			
FRU				*e*			16 42 26.0			
FRU				pmax	pmax					
	comp=Z,770nm,2.2s									
AAK	**Ala-Archa**	**134.54**	**35**	P		**PKPdf**	**16 36 43.7**	**+1.5**		
	SNR=15									
AAK	**Ala-Archa**	**134.54**	**35**	PKIKP		**PKPdf**	**16 36 42.4**	**+0.3**		
AAK				pmax	pmax					
	comp=Z,14nm,0.7s									
KLR	**Kul'dur**	**134.56**	**339**	*e*PKIKP		**PKPdf**	**16 36 39.5**	**-2.2**		
KLR				*e*			16 38 49.5			
KLR				pmax	pmax					
	comp=E,800nm,7.5s									
KLR				pmax	pmax					
	comp=Z,2μm,7.5s									
KBK	**Karagaybulak**	**134.78**	**35**	P		**PKPdf**	**16 36 45.8**	**+3.2**		
	SNR=7.5									
UCH	**Uchtor**	**134.80**	**36**	P		**PKPdf**	**16 36 44.8**	**+1.8**		
	SNR=27									
TKM2	**Tokmak 2**	**134.97**	**34**	P		**PKPdf**	**16 36 43.8**	**+0.8**		
	SNR=13									
TKM2	**Tokmak 2**	**134.97**	**34**	PKIKP		**PKPdf**	**16 36 43.0**	**0.0**		
TKM2				pmax	pmax					
	comp=Z,181nm,1.2s									
TKM2	**Tokmak 2**	**134.97**	**34**	*e*PKPpre	PKPpre		16 36 29.1			
KZA	**Kyzart**	**135.32**	**35**	P		**PKPdf**	**16 36 48.1**	**+4.1**		
	SNR=9.5									
MK31	**Makanchi Array**	**135.48**	**26**	*i* PKIKP		**PKPdf**	**16 36 43.4**	**-0.2**		
MK31				pmax	pmax					
	comp=Z,114nm,0.6s									
MK31	**Makanchi Array**	**135.48**	**26**	*e*PKPpre	PKPpre		16 36 29.6			
MK31				*e*PKPdf		**PKPdf**	**16 36 43.8**	**+0.2**		
MK31				*ep*PKPdf	pPKPdf		16 38 57.2	-1.5		
MKAR	**Makanchi Array**	**135.48**	**26**	PKhKP	PKPpre		16 36 31.0			
	comp=Z,3.4nm,0.5s,baz=6.7,slow=3.3,SNR=16									
MKAR				PKP		**PKPdf**	**16 36 43.8**	**+0.3**		
	comp=Z,96nm,0.6s,baz=332,slow=1.8,SNR=92									
MKAR				pPKP	pPKPdf		16 38 58.5	-0.2		
	comp=Z,44nm,0.7s,baz=338,slow=2.0,SNR=11									
MKAR				SKPbc		**SKPbc**	**16 39 19.7**	**-1.1**		
	comp=Z,8.5nm,0.5s,baz=22,slow=3.5,SNR=5.4									
MKAR				SKKPbc		**SKKPbc**	**16 48 22.1**	**-3.7**		
	comp=Z,3.4nm,0.7s,baz=140,slow=4.8,SNR=6.0									
AAA	**Alma-Ata**	**135.48**	**33**	*e*PKIKP		**PKPdf**	**16 36 44.8**	**+1.1**		
AAA				pmax	pmax					
	comp=Z,2μm,3.1s									
AAA				MLR	MLR					
	comp=Z,600nm,16.0s									
SFK	**Sufi-Kurgan**	**135.55**	**39**	PKIKP		**PKPdf**	**16 36 43.8**	**-0.4**		
SFK				pmax	pmax					
	comp=Z,281nm,1.3s									
ULHL	**Ulahol**	**135.78**	**34**	P		**PKPdf**	**16 36 45.5**	**+1.0**		
	SNR=6.4									
IRK	**Irkutsk**	**135.88**	**4**	⇓*i*PKHKP		PKPpre	16 36 33.5			
IRK				pmax	pmax					
	comp=Z,413nm,2.2s									
CIT	**Chita**	**136.02**	**355**	*e*PKIKP		**PKPdf**	**16 36 46.7**	**+2.3**		
CIT				pmax	pmax					
	comp=Z,499nm,2.2s									
MOY	**Mondy**	**136.16**	**7**	*e*PKHKP	PKPpre		16 36 34.2			
TLY	**Talaya**	**136.40**	**4**	*e*PKHKP	PKPpre		16 36 35.4			
TLY				*i*			16 36 45.1			
TLY				*e*			16 39 32.3			
TLY				*e*			17 02 04.4			
TLY				pmax	pmax					
	comp=Z,42nm,0.6s									
TLY	**Talaya**	**136.40**	**4**	P		PKPdf	16 36 34.7	-10		
	SNR=27									
PDGK	**Podgornoye**	**136.77**	**31**	PKIKP		**PKPdf**	**16 36 44.5**	**-1.5**		
PDGK				pmax	pmax					
	comp=Z,146nm,1.4s									
KSH	**Kashi**	**137.36**	**38**	PKP		**PKPdf**	**16 36 48.8**	**+1.4**		
KSH				PP		**PP**	**16 39 40.9**	**+0.4**		
KSH				sPKP			16 39 47.1			
KSH				PKS		**PKSdf**	**16 40 23.5**	**-0.2**		
KSH				SKKS			16 45 37.0			
KSH				PPMZ						
	comp=Z,2μm,4.9s									
PMG	**Port Moresby**	**137.61**	**247**	*d i* PKIKP		**PKPdf**	**16 36 50.1**	**+1.7**		
PMG	**Port Moresby**	**137.61**	**247**	*e*PKPpre	PKPpre		16 36 41.8			
PMG				*e*PKPdf		**PKiKP**	**16 36 49.5**	**-1.0**		
PMG				*e*SKPbc		**SKPbc**	**16 39 27.4**	**-0.7**		
ZAK	**Zakamensk**	**137.66**	**5**	*e*PKHKP	PKPpre		16 36 37.5			
ZAK				*e*			16 36 49.6			
ZAK				pmax	pmax					
	comp=Z,12nm,1.1s									
NWAO	**Narrogin (SRO)**	**138.32**	**191**	PKhKP	PKPpre		16 36 38.5			
	comp=Z,35nm,0.6s,baz=146,slow=4.0,SNR=4.7									
NWAO				SKPbc		**SKPbc**	**16 39 29.6**	**0.0**		
	comp=Z,34nm,0.8s,baz=149,slow=4.7,SNR=5.4									
USRK	**Ussuriysk Ar.**	**138.58**	**334**	PKhKP	PKPpre		16 36 40.1			
	comp=Z,25nm,0.5s,baz=29,slow=3.5,SNR=55									
USRK				PKP		**PKPdf**	**16 36 49.5**	**+0.2**		
	comp=Z,102nm,0.8s,baz=250,slow=2.9,SNR=33									
USRK				SKPbc		**SKPbc**	**16 39 30.2**	**+0.4**		
	comp=Z,49nm,0.7s,baz=21,slow=2.2,SNR=17									
COEN	**Coen**	**139.07**	**238**	*e*PKPpre	PKPpre		16 36 42.5			
COEN				*e*SKPdf		**SKPdf**	**16 39 31.6**	**+0.3**		
MDJ	**Mudanjiang**	**139.22**	**337**	PKPbc	PKPdf		16 36 41.8	-8.7		
MDJ				PP		**PP**	**16 39 52.1**	**+1.0**		
MDJ				PKS		**PKSdf**	**16 40 26.3**	**-0.1**		
MDJ				SKS	SKSdf		16 42 40.8	-25		
VLA	**Vladivostok**	**139.48**	**333**	*c i* PKIKP		**PKPdf**	**16 36 53.0**	**+2.0**		
AS31	**Alice Springs**	**139.74**	**218**	*e*PKPpre	PKPpre		16 36 43.3			
AS31				*e*PKPdf		**PKPdf**	**16 36 52.9**	**+0.8**		
AS31				*e*SKPdf		**SKPdf**	**16 39 32.7**	**+0.4**		
ASAR	**Alice Springs**	**139.74**	**218**	PKhKP	PKPpre		16 36 43.0			
	comp=Z,15nm,0.5s,baz=139,slow=3.6,SNR=150									
ASAR				PKP		**PKPdf**	**16 36 52.3**	**+0.2**		
	comp=Z,129nm,0.9s,baz=127,slow=2.3,SNR=72									
ASAR				pPKP	pPKPdf		16 39 09.2	+1.8		
	comp=Z,24nm,0.7s,baz=123,slow=1.7,SNR=4.4									
ASAR				SKPbc		**SKPbc**	**16 39 33.3**	**-0.4**		
	comp=Z,123nm,0.6s,baz=132,slow=3.4,SNR=24									
ASAR				PKKP		**PKKPdf**	**16 46 16.7**	**-1.3**		
	comp=Z,1.5nm,0.4s,baz=334,slow=1.4,SNR=7.3									
ASAR				SKKPbc	SKKPbc		**16 48 08.3**	**+0.2**		
	comp=Z,12nm,1.1s,baz=313,slow=4.2,SNR=8.0									
BHJ	**Bhuj**	**139.97**	**63**	*e*P		**PKPdf**	**16 36 49.3**	**-3.1**		
WMQ	**Urumqi**	**140.11**	**23**	PKP		**PKPdf**	**16 36 47.8**	**-4.4**		
WMQ				PP		**PP**	**16 39 55.0**	**-1.6**		
WMQ				PKS	PKSdf		16 40 22.3	-5.9		
WMQ				PPMZ						
	comp=Z,410nm,10.4s									
ULN	**Ulaanbaatar**	**140.37**	**1**	*i* PKIKP		**PKPdf**	**16 36 52.4**	**-0.3**		
ULN	**Ulaanbaatar**	**140.37**	**1**	P		**PKPdf**	**16 36 47.5**	**-5.1**		
	SNR=70									
ULN	**Ulaanbaatar**	**140.37**	**1**	*e*PKPpre	PKPpre		16 36 45.7			
SONM	**Songino Array**	**140.38**	**2**	PKhKP	PKPpre		16 36 46.7			
	comp=Z,40nm,0.7s,baz=324,slow=3.1,SNR=89									
SONM				SKPbc		**SKPbc**	**16 39 35.2**	**+0.4**		
	comp=Z,45nm,0.5s,baz=335,slow=2.6,SNR=11									
SONM				SKKPbc	SKKPbc		**16 48 03.3**	**-4.0**		
	comp=Z,18nm,1.0s,baz=175,slow=3.1,SNR=12									
MAJO	**Matsushiro**	**140.78**	**321**	*d i* PKIKP		**PKPdf**	**16 36 54.9**	**+1.3**		
MAJO	**Matsushiro**	**140.78**	**321**	*e*PKPpre	PKPpre		16 36 46.7			
MAJO				*e*SKPdf		**SKPdf**	**16 39 34.8**	**+1.1**		
MAJO				*e*SKPab		**SKPab**	**16 39 50.5**	**+0.3**		
MAT	**Matsushiro**	**140.78**	**321**	PKP	PKPpre		16 36 46.6			
MJAR	**Matsushiro Arr**	**140.78**	**321**	PKhKP	PKPpre		16 36 47.3			
	comp=Z,45nm,0.5s,baz=132,slow=0.8,SNR=70									
MJAR				SKPbc		**SKPbc**	**16 39 35.8**	**-0.2**		
	comp=Z,10nm,0.4s,baz=74,slow=1.6,SNR=9.6									
MJAR				SKKPbc	SKKPbc		**16 48 05.6**	**+0.5**		
	comp=Z,5.2nm,0.8s,baz=217,slow=4.9,SNR=8.8									
DLH	**Dalhousie**	**141.37**	**46**	*ex*		**PKPdf**	**16 36 50.0**	**-5.0**		
CN2	**Changchun**	**141.44**	**340**	*e*PKP		**PKPdf**	**16 36 50.3**	**-4.2**		
CN2				PP		**PP**	**16 40 03.8**	**-0.6**		
CN2				PPMZ						
	comp=Z,600nm,5.0s									
DHRM	**DHARAMSHALA**	**141.77**	**47**	*e*P		**PKPdf**	**16 36 54.8**	**-0.9**		
WRAB	**Tennant Creek**	**142.16**	**222**	*i* PKIKP		**PKPdf**	**16 36 58.0**	**+1.5**		
WRAB	**Tennant Creek**	**142.16**	**222**	*e*PKPpre	PKPpre		16 36 52.7			
WRA	**Warramunga Arr**	**142.17**	**222**	PKhKP	PKPpre		16 36 52.3			
	comp=Z,110nm,0.6s,baz=131,slow=2.5,SNR=882									
WRA				pPKP	pPKPdf		16 39 13.1	+1.3		
	comp=Z,58nm,0.7s,baz=128,slow=2.0,SNR=7.0									
WRA				SKPbc		**SKPbc**	**16 39 38.5**	**-1.4**		
	comp=Z,132nm,0.6s,baz=132,slow=2.6,SNR=14									
WRA				PKKP		**PKKPdf**	**16 46 12.4**	**-0.9**		
	comp=Z,1.7nm,0.8s,baz=253,slow=3.2,SNR=10									
WRA				SKKPbc	SKKPbc		**16 47 58.6**	**0.0**		
	comp=Z,14nm,0.9s,baz=325,slow=4.1,SNR=12									
BHK	**Bhakra**	**142.29**	**48**	*e*P		**PKPdf**	**16 36 57.2**	**+0.8**		
SDNR	**Sundarnagar**	**142.65**	**47**	*ex*		**PKPdf**	**16 36 52.6**	**-4.5**		
CBIJ	**Chichi jima**	**142.83**	**305**	*e*PKPpre	PKPpre		16 36 53.5			
CBIJ				SKPbc		**SKPbc**	**16 39 39.9**	**-1.4**		
JCJ	**Chichijima**	**142.83**	**305**	SKPbc		**SKPbc**	**16 39 39.9**	**-1.4**		
	comp=Z,162nm,0.5s,baz=98,slow=1.1,SNR=8.5									
SMLA	**Simla**	**142.98**	**48**	*i* P		**PKPdf**	**16 36 56.0**	**-1.5**		
SMLA				AMS	AMS		17 24 16.7			
	comp=Z,1μm,23.4s									
AJM	**Ajmer**	**143.16**	**56**	*ex*	PKPab		16 36 56.0	-0.1		
GUMO	**Guam**	**143.76**	**282**	*e*PKIKP	PKPbc		16 36 57.6	-0.9		
GUMO	**Guam**	**143.76**	**282**	*e*PKP	PKPbc		16 36 57.6	-1.0		
SNY	**Shenyang**	**143.82**	**341**	⇓PKP		**PKPdf**	**16 36 58.5**	**-0.2**		
SNY				pPKP		**pPKPdf**	**16 39 09.6**	**-4.5**		
SNY				SS	SS		16 58 19.3	+4.1		
SNY				PPMZ						
	comp=Z,11μm,7.6s									
DDI	**Dehra Dun**	**144.06**	**48**	*e*P		**PKPdf**	**16 37 00.2**	**+0.6**		
NDI	**New Delhi**	**144.25**	**51**	*e*P		PKPbc	16 36 58.3	-1.4		
KSULL	**Ulleungdo**	**144.34**	**328**	P		**PKPab**	**16 37 00.9**	**+0.7**		
	SNR=6.0									
KSULL	**Ulleungdo**	**144.34**	**328**	P		**PKPab**	**16 37 01.8**	**+1.6**		
	SNR=24									
KSSKC	**Sokcho**	**144.88**	**332**	P		**PKPab**	**16 37 01.9**	**-0.3**		
	SNR=58									
KSSKC	**Sokcho**	**144.88**	**332**	P		**PKPab**	**16 37 03.7**	**+1.6**		
	SNR=13									
POO	**Poona**	**144.93**	**69**	*e*P		PKPbc	16 37 02.3	+0.2		
SEHB	**SEOHWA**	**145.02**	**332**	P		**PKPbc**	**16 37 01.8**	**+0.1**		
	SNR=87									
SEHB	**SEOHWA**	**145.02**	**332**	P		**PKPab**	**16 37 03.6**	**+0.8**		
	SNR=13									
KSJMJ	**Jumunjin**	**145.09**	**331**	P		**PKPbc**	**16 37 02.0**	**+0.1**		
	SNR=75									
KSJMJ	**Jumunjin**	**145.09**	**331**	P		**PKPab**	**16 37 04.5**	**+1.5**		
	SNR=14									
KSDGY	**Daegwallycong**	**145.28**	**331**	P		**PKPbc**	**16 37 03.2**	**+0.5**		
	SNR=44									
KSDGY	**Daegwallycong**	**145.28**	**331**	P		**PKPab**	**16 37 05.0**	**+1.1**		
	SNR=7.9									
KSIJA	**INJE**	**145.31**	**332**	P		**PKPbc**	**16 37 02.4**	**-0.2**		
	SNR=62									
KSIJA	**INJE**	**145.31**	**332**	P		**PKPab**	**16 37 03.4**	**-0.5**		
	SNR=7.7									
GOA	**Goa**	**145.45**	**75**	*e*P		**PKPdf**	**16 37 02.2**	**0.0**		
KSJES	**JEONGSEON**	**145.50**	**331**	P		**PKPbc**	**16 37 03.8**	**+0.6**		
	SNR=28									
KSCWO	**Cheorwon

JNU	**Nakatsue**	**147.54**	**323**	*e*PKPdf	**PKPdf**	**16 37 05.2**	**-0.1**
JNU				*e*PKPbc	**PKPbc**	**16 37 08.7**	**-0.2**
JNU				pPKPbc	**pPKPbc**	**16 39 20.7**	**-1.5**
BTO	**Baotou**	**147.61**	**358**	*e*PKPbc	**PKPbc**	**16 37 07.8**	**-1.1**
KSJEU	**Jeongeup**	**147.88**	**331**	P	**PKPdf**	**16 37 07.5**	**+1.7**
	SNR=60							
GTA	**Gaotai**	**147.91**	**13**	⇓PKPbc	**PKPdf**	**16 37 06.8**	**+0.9**
GTA				pPKP	**pPKPdf**	**16 39 22.4**	**+1.0**
GTA				sPKP		16 40 16.5	
GTA				SKS	**SKSdf**	**16 43 17.6**	**-2.3**
GTA				SKKS	**SKKSac**	**16 46 38.8**	**+2.0**
GTA				SS	**SS**	**16 59 07.0**	**+6.0**
GTA				PPMZ			
	comp=Z,1μm,7.4s						
KSNAH	**Namhae**	**147.92**	**329**	P	**PKPbc**	**16 37 08.3**	**-1.4**
	SNR=37						
KSKWJ	**Gwangju**	**148.12**	**330**	P	**PKPbc**	**16 37 09.3**	**-0.9**
	SNR=29						
KSKOH	**Goheung**	**148.41**	**329**	P	**PKPbc**	**16 37 09.0**	**-2.0**
	SNR=34						
URV	**Uravakonda**	**148.81**	**75**	*e*PKPdf	**PKPdf**	**16 37 07.8**	**-0.1**
URV				*e*PKiKP	**PKPbc**	**16 37 12.7**	**+0.1**
URV				*ep*PKPdf	**pPKPdf**	**16 39 21.8**	**-1.6**
URV				*ep*PKiKP	**pPKiKP**	**16 39 27.4**	**-0.9**
URV				*e*PP	**PP**	**16 40 49.1**	**-0.4**
MBWA	**Marble Bar**	**148.84**	**201**	*e*PKPdf	**PKPdf**	**16 37 07.6**	**-0.1**
MBWA				*e*PKPbc	**PKPbc**	**16 37 12.3**	**-0.1**
KSWAN	**Wando**	**148.88**	**330**	P	**PKPdf**	**16 37 09.6**	**+2.2**
	SNR=12						
NGP	**Nagpur**	**148.90**	**62**	*e*P	**PKPdf**	**16 37 07.0**	**-0.9**
NGP				*ex*	x	16 46 37.4	
TRD	**Trivandrum**	**148.93**	**87**	*e*P	**PKPdf**	**16 37 06.7**	**-1.4**
KSJDO	**Jindo**	**149.00**	**330**	P	**PKPdf**	**16 37 10.0**	**+2.3**
	SNR=16						
KSHUK	**Heuksando**	**149.24**	**332**	P	**PKPdf**	**16 37 10.4**	**+2.4**
	SNR=28						
KOLN	**Koldanda**	**149.51**	**47**	*e*P	**PKPdf**	**16 37 08.9**	**0.0**
HYBB	**Hyderabad (bro**	**149.54**	**69**	*e*PKPdf	**PKPdf**	**16 37 08.3**	**-0.6**
HYBB				*e*PKiKP	**PKPbc**	**16 37 14.0**	**-0.2**
HYBB				*e*PKPab	**PKPab**	**16 37 20.6**	**-1.1**
HYB	**Hyderabad**	**149.54**	**69**	*i* PKP	**PKPdf**	**16 37 08.0**	**-0.9**
HYB				*ep*PKP	**pPKPdf**	**16 39 27.5**	**+2.9**
HYB				*es*PKP		16 40 26.0	
HYB				*e*PP	**PP**	**16 40 50.0**	**-3.5**
HYB				*e*SKS	**SKSdf**	**16 43 20.0**	**-2.7**
HYB				*e*		16 43 52.0	
HYB	**Hyderabad**	**149.54**	**69**	*e*P	**PKPdf**	**16 37 09.1**	**+0.1**
RPR	**Rampur**	**149.84**	**66**	*e*PKPdf	**PKPdf**	**16 37 09.3**	**-0.1**
RPR				*e*PKiKP	**PKPbc**	**16 37 14.9**	**+0.1**
RPR				*e*PKPab	**PKPab**	**16 37 21.5**	**-1.4**
RPR				*ep*PKPdf	**pPKPdf**	**16 39 23.6**	**-1.3**
RPR				*ep*PKiKP	**pPKiKP**	**16 39 28.3**	**-2.0**
RPR				*ep*PKPab	**pPKPab**	**16 39 29.8**	**-2.1**
RPR				*e*PP	**PP**	**16 40 54.1**	**-1.0**
GKN	**Gorkha**	**150.11**	**46**	*e*P	**PKPdf**	**16 37 10.0**	**+0.2**
TIY	**Taiyuan**	**150.30**	**353**	*e*PKPbc	**PKPdf**	**16 37 10.5**	**+0.8**
TIY				PKPab	**PKPab**	**16 37 26.3**	**+2.0**
TIY				PP	**PP**	**16 40 56.3**	**+0.5**
TIY				PPMZ			
	comp=Z,2μm,7.4s						
NJS	**Nagarjunasagar**	**150.44**	**71**	*e*PKPdf	**PKPdf**	**16 37 10.0**	**-0.3**
NJS				*e*PKiKP	**PKPbc**	**16 37 16.1**	**-0.2**
NJS				*e*PKPab	**PKPab**	**16 37 26.5**	**+1.0**
NJS				*ep*PKPdf	**pPKPdf**	**16 39 24.4**	**-1.6**
NJS				*ep*PKiKP	**pPKiKP**	**16 39 29.8**	**-1.8**
NJS				*ep*PKPab	**pPKPab**	**16 39 34.3**	**-0.1**
NJS				*e*PP	**PP**	**16 40 55.6**	**-3.0**
DMN	**Daman**	**150.68**	**46**	*e*P	**PKPdf**	**16 37 10.9**	**+0.1**
KKN	**Kakani**	**150.69**	**45**	*e*P	**PKPdf**	**16 37 10.7**	**0.0**
PKIN	**Phulchoki**	**150.91**	**45**	*e*P	**PKPdf**	**16 37 10.8**	**-0.3**
TIA	**Tai'an**	**150.91**	**345**	PKPbc	**PKPdf**	**16 37 10.8**	**+0.3**
PKI	**Pulchoki**	**150.92**	**45**	*e*P	**PKPdf**	**16 37 11.0**	**-0.2**
GUN	**Gumba**	**151.04**	**44**	*e*P	**PKPdf**	**16 37 11.7**	**+0.3**
SKHT	**Srikalahasti**	**151.34**	**76**	*e*PKPdf	**PKPdf**	**16 37 12.1**	**+0.4**
SKHT				*e*PKiKP	**PKiKP**	**16 37 19.3**	**+0.6**
SKHT				*e*PKPab	**PKPab**	**16 37 29.1**	**-0.2**
SKHT				*ep*PKPdf	**pPKPdf**	**16 39 25.5**	**-1.9**
SKHT				*ep*PKiKP	**pPKiKP**	**16 39 31.7**	**-1.8**
SKHT				*es*PKPdf	**sPKPdf**	**16 40 22.0**	**-1.4**
SKHT				*es*PKPab	**sPKPab**	**16 40 33.4**	**-2.1**
SKHT				*e*PP	**PP**	**16 41 03.1**	**-0.7**
JIRN	**Jiri**	**151.41**	**44**	*e*P	**PKPdf**	**16 37 11.9**	**-0.1**
LZH	**Lanzhou**	**151.85**	**8**	⇓PKPbc	**PKPdf**	**16 37 13.3**	**+1.1**
LZH				pPKP	**pPKPdf**	**16 39 26.5**	**-1.4**
LZH				sPKP		16 40 19.4	
LZH				SKS	**SKSdf**	**16 43 26.3**	**+1.0**
LZH				SKKS	**SKKSac**	**16 46 59.0**	**+0.5**
LZH				SS	**SS**	**16 59 50.3**	**+6.1**
LZH				PPMZ			
	comp=Z,2μm,7.0s						
MDRS	**Chennai**	**151.94**	**77**	*e*P	**PKPdf**	**16 37 11.2**	**-1.3**
RAMN	**Ramite**	**152.13**	**45**	*e*P	**PKPdf**	**16 37 13.3**	**+0.4**
PALK	**Pallekele**	**152.58**	**90**	*e*PKiKP	**PKPdf**	**16 37 14.3**	**+0.6**
PALK	**Pallekele**	**152.58**	**90**	⇓*i*P	**PKPdf**	**16 37 14.9**	**+1.2**
	SNR=6.8						
PALK	**Pallekele**	**152.58**	**90**	*e*PKPdf	**PKPdf**	**16 37 14.3**	**+0.6**
PALK				*e*PKPbc	**PKiKP**	**16 37 22.2**	**+0.8**
TAPN	**Taplejung**	**152.65**	**43**	*e*P	**PKPdf**	**16 37 14.0**	**+0.2**
ODAN	**Odare**	**152.74**	**44**	*e*P	**PKPdf**	**16 37 13.8**	**0.0**
LSA	**Lhasa**	**153.13**	**35**	PKPbc	**PKPdf**	**16 37 15.9**	**+1.0**
LSA	**Lhasa**	**153.13**	**35**	*e*PKiKP	**PKPdf**	**16 37 15.5**	**+1.0**
LSA	**Lhasa**	**153.13**	**35**	*e*PKPdf	**PKPdf**	**16 37 15.5**	**+1.0**
LSA				*e*PKPbc	**PKiKP**	**16 37 23.7**	**+1.1**
BOK	**Bokaro**	**153.42**	**51**	*e*P	**PKPdf**	**16 37 15.1**	**+0.5**
FAKI	**Fak Fak**	**153.77**	**246**	*e*PKPdf	**PKPdf**	**16 37 15.9**	**+0.6**
FAKI				*e*PKPbc	**PKiKP**	**16 37 24.2**	**+0.4**
VIS	**Vishakhapatnam**	**153.83**	**66**	*e*P	**PKPdf**	**16 37 13.7**	**-1.5**
SSE	**Sheshan**	**154.19**	**334**	PKPbc	**PKPdf**	**16 37 16.4**	**+1.0**
XAN	**Xi'an**	**154.19**	**359**	PKPbc	**PKPdf**	**16 37 15.6**	**+0.2**
XAN				pPKP	**pPKPdf**	**16 39 28.9**	**-2.4**
XAN				SKKS		16 47 08.3	
CHLP	**Challavanipeta**	**154.23**	**64**	*e*PKPdf	**PKPdf**	**16 37 17.0**	**+1.2**
CHLP				*e*PKiKP	**PKPbc**	**16 37 24.7**	**+0.1**
CHLP				*e*PKPab	**PKPab**	**16 37 42.6**	**+1.0**
CHLP				*ep*PKPdf	**pPKPdf**	**16 39 30.5**	**-1.2**
CHLP				*ep*PKPbc	**pPKPbc**	**16 39 37.7**	**-1.5**
CHLP				*ep*PKPab	**pPKPab**	**16 39 50.1**	**+0.1**
CHLP				*e*PP	**PP**	**16 41 18.6**	**-1.0**
NJ2	**Nanjing**	**154.26**	**339**	*e*PKPbc	**PKPdf**	**16 37 15.9**	**+0.4**
NJ2				PKPab	**PKPab**	**16 37 41.0**	**-0.1**
NJ2				pPKP	**pPKPdf**	**16 39 26.0**	**-5.3**
NJ2				PP	**PP**	**16 41 18.3**	**+0.3**
NJ2				SKS	**SKSdf**	**16 43 27.5**	**-0.3**
NJ2				SS	**SS**	**17 00 15.0**	**+4.8**
NJ2				PPMZ			
	comp=Z,17μm,5.8s						
SOEI	**Soe**	**156.21**	**222**	*e*PKPdf	**PKPdf**	**16 37 19.7**	**+0.9**
SHL	**Shillong**	**156.60**	**40**	*e*P	**PKPdf**	**16 37 19.1**	**+0.1**
SHL				*ex*	x	16 47 22.5	
SHL				AMS	AMS	17 23 19.9	
	comp=Z,1μm,18.9s						
CD2	**Chengdu**	**156.92**	**10**	PKP	**PKPdf**	**16 37 19.8**	**+0.7**
CD2				pPKP	**pPKPdf**	**16 39 34.4**	**-0.7**
CD2				sPKP		16 40 25.1	
CD2				PKS	**PKSdf**	**16 40 51.3**	**-1.7**
CD2				SKS	**SKSdf**	**16 43 30.0**	**-0.9**
CD2				SKKS	**SKKSac**	**16 47 27.8**	**+2.4**
CD2				PPMZ			
	comp=Z,2μm,6.8s						
WHN	**Wuhan**	**156.99**	**347**	PKP	**PKPdf**	**16 37 19.0**	**-0.1**
WHN				PKPab	**PKPab**	**16 37 53.4**	**+0.5**
WHN				pPKP	**pPKPdf**	**16 39 33.4**	**-1.7**
ENH	**Enshi**	**157.93**	**357**	*e*PKPdf	**PKPdf**	**16 37 20.6**	**+0.3**
ENH				*e*PKPab	**PKPab**	**16 37 55.7**	**-1.4**
MMRI	**Maumere**	**158.36**	**220**	*e*PKPdf	**PKPdf**	**16 37 20.3**	**-1.0**
IMP	**Imphal**	**158.45**	**38**	*ex*	**PKPdf**	**16 37 21.0**	**-0.1**
IMP				*ex*	x	16 39 40.0	
YOJ	**Yonaguni jima**	**158.54**	**321**	*e*PKIKP	**PKPdf**	**16 37 21.3**	**+0.2**
YOJ				*e*		16 37 59.0	
YOJ	**Yonaguni jima**	**158.54**	**321**	*e*PKPdf	**PKPdf**	**16 37 21.3**	**+0.2**
YOJ				*e*PKPab	**PKPab**	**16 37 59.0**	**-0.9**
YHNB	**Yeheng**	**159.37**	**324**	*e*PKPdf	**PKPdf**	**16 37 22.8**	**+0.6**
YHNB				*e*PKPab	**PKPab**	**16 38 02.1**	**-1.6**
NACB	**Ninganchiao**	**159.62**	**323**	PKPdf	**PKPdf**	**16 37 24.4**	**+2.0**
NACB				*e*PKPab	**PKPab**	**16 38 03.4**	**-1.3**
TNTI	**Ternate**	**159.71**	**250**	*e*PKPdf	**PKPdf**	**16 37 23.2**	**+0.4**
YULB	**Yu-li**	**160.38**	**322**	*e*PKPdf	**PKPdf**	**16 37 23.4**	**+0.2**
QZH	**Quanzhou**	**160.62**	**331**	*i* PKP	**PKPdf**	**16 37 24.4**	**+0.9**
QZH				PKPab	**PKPab**	**16 38 08.0**	**-1.0**
QZH				pPKP	**pPKPdf**	**16 39 35.1**	**-4.6**
QZH				PPMZ			
	comp=Z,4μm,9.1s						
TPUB	**Ta-pu**	**160.85**	**323**	*e*PKPdf	**PKPdf**	**16 37 25.3**	**+1.5**
TPUB				*e*PKPab	**PKPab**	**16 38 08.9**	**-1.2**
TWG	**Pinlang**	**160.95**	**322**	*e*PKPdf	**PKPdf**	**16 37 23.8**	**-0.1**
GYA	**Guiyang**	**161.69**	**5**	*i* PKP	**PKPdf**	**16 37 24.4**	**-0.3**
GYA				PKPab	**PKPab**	**16 38 14.0**	**+0.3**
GYA				pPKP	**pPKPdf**	**16 39 36.9**	**-4.1**
GYA				sPKP		16 40 30.3	
GYA				PKS	**PKSdf**	**16 40 55.0**	**-3.1**
GYA				PP	**PP**	**16 42 00.4**	**+2.5**
GYA				SKKS		16 47 48.9	
GYA				SS	**SS**	**17 01 30.0**	**+2.2**
KMI	**Kunming**	**162.26**	**17**	PKP	**PKPdf**	**16 37 25.6**	**+0.1**
KAPI	**Kappang**	**162.70**	**221**	PKP	**PKPdf**	**16 37 26.4**	**+0.5**
	comp=Z,88nm,1.0s,baz=233,slow=0.8,SNR=76						
KAPI				PKPab	**PKPab**	**16 38 18.9**	**+0.4**
	comp=Z,46nm,0.7s,baz=176,slow=0.9,SNR=9.4						
KAPI	**Kappang**	**162.70**	**221**	P	**PKPdf**	**16 37 26.6**	**+0.7**
	SNR=51						
KAPI	**Kappang**	**162.70**	**221**	*e*PKPdf	**PKPdf**	**16 37 26.4**	**+0.5**
KAPI				PKPab	**PKPab**	**16 38 18.9**	**+0.4**
KAPI				*e*PKPab	PKPab	16 38 19.8	+1.3
LUWI	**Luwuk**	**162.99**	**238**	*e*PKPdf	**PKPdf**	**16 37 26.5**	**+0.3**
DGPR	**DIGLIPUR**	**164.03**	**70**	*e*P	**PKPdf**	**16 37 27.1**	**0.0**
PBA	**Port Blair**	**164.22**	**76**	*e*P	PKPdf	16 37 26.3	-0.9
PBA				AMS	AMS	17 28 37.3	
	comp=Z,2μm,15.3s						
CTBH	**Cotabato--PC H**	**164.23**	**268**	⇓*i*P	**PKPdf**	**16 37 28.2**	**+0.9**
CISI	**Cisompet, Garu**	**164.42**	**178**	*e*PKPdf	**PKPdf**	**16 37 27.4**	**-0.1**
SMRI	**Semarang**	**164.79**	**188**	*e*PKPdf	**PKPdf**	**16 37 28.4**	**+0.6**
SMRI				*e*PKPab	**PKPab**	**16 38 28.4**	**+0.9**
SZP	**Santa**	**164.94**	**310**	*e*PKPdf	**PKPdf**	**16 37 29.1**	**+1.3**
SZP				*e*PKPab	**PKPab**	**16 38 29.6**	**+1.4**
CMAI	**Chiengmai2**	**165.19**	**37**	P	**PKPdf**	**16 37 29.0**	**+0.8**
	comp=Z,90nm,1.6s						
CMBY	**CAMPBELL BAY**	**165.65**	**93**	*e*P	**PKPdf**	**16 37 28.2**	**-0.3**
CHTO	**Chiang Mai**	**165.97**	**40**	P	**PKPdf**	**16 37 28.3**	**-0.3**
	comp=Z,676nm,1.6s						
CHTO	**Chiang Mai**	**165.97**	**40**	*e*PKIKP	**PKPdf**	**16 37 28.3**	**-0.3**
CHTO				*e*		16 38 33.3	
CHTO	**Chiang Mai**	**165.97**	**40**	PKPdf	**PKPdf**	**16 37 28.7**	**+0.1**
	SNR=42						
CHTO	**Chiang Mai**	**165.97**	**40**	*e*PKPdf	**PKPdf**	**16 37 28.3**	**-0.3**
CHTO				*e*PKPab	**PKPab**	**16 38 33.3**	**+0.5**
CMMT	**Chiang Mai**	**165.98**	**40**	P	**PKPdf**	**16 37 28.2**	**-0.4**
	comp=Z,232nm,1.3s						
CM31	**Chiang Mai Arr**	**166.24**	**41**	*e*PKPdf	**PKPdf**	**16 37 29.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**166.24**	**41**	PKP	**PKPdf**	**16 37 28.9**	**+0.1**
	comp=Z,97nm,0.8s,baz=280,slow=1.9,SNR=136						
CMAR				PKPab	**PKPab**	**16 38 34.1**	**+0.2**
	comp=Z,34nm,0.8s,baz=311,slow=5.8,SNR=15						
CMAR				pPKP	**pPKPdf**	**16 39 44.5**	**-0.7**
	comp=Z,14nm,0.8s,baz=299,slow=1.8,SNR=3.7						
CMAR				pPKPab	**pPKPab**	**16 40 43.2**	**+1.6**
	comp=Z,9.6nm,0.6s,baz=314,slow=6.1,SNR=3.8						
CMAR	**Chiang Mai Arr**	**166.24**	**41**	PKIKP	**PKPdf**	**16 37 28.9**	**+0.1**
CMAR						16 38 34.2	
CMAR						16 39 44.6	
CMAR				pmax	pmax		
	comp=Z,97nm,0.8s						
CMAR				pmax	pmax		
	comp=Z,34nm,0.8s						
LAMP	**Lampang**	**166.62**	**38**	P	**PKPdf**	**16 37 29.2**	**+0.1**
	comp=Z,94nm,0.9s						
GSI	**Gunungsitoli**	**167.31**	**122**	*e*PKPdf	**PKPdf**	**16 37 29.8**	**+0.1**
GSI				*e*PKPab	**PKPab**	**16 38 40.5**	**+1.6**
SUKH	**Sukhothai**	**167.39**	**42**	P	**PKPdf**	**16 37 29.7**	**+0.1**
	comp=Z,56nm,0.9s						
LHMI	**Lhok Sumawe**	**168.31**	**103**	*e*PKPdf	**PKPdf**	**16 37 31.4**	**+1.0**
LHMI				*e*PKPab	**PKPab**	**16 38 42.5**	**-1.0**
UTHA	**Uthaitani**	**168.56**	**49**	P	**PKPdf**	**16 37 30.8**	**+0.3**
QIZ	**Qiongzhong**	**169.06**	**353**	PKP	**PKPdf**	**16 37 30.5**	**-0.2**
QIZ				pPKP	**pPKPdf**	**16 39 41.8**	**-5.5**
QIZ				PKS	**PKSdf**	**16 41 03.0**	**-0.4**
QIZ				SKS	**SKSdf**	**16 43 41.5**	**+1.2**
QIZ				SS	**SS**	**17 02 46.3**	**+4.7**
QIZ				PPMZ			
	comp=Z,2μm,7.8s						
QIZ	**Qiongzhong**	**169.06**	**353**	*e*PKPdf	**PKPdf**	**16 37 31.4**	**+0.7**
QIZ				*e*PKPab	**PKPab**	**16 38 45.9**	**-0.3**
PSI	**Prapat**	**169.23**	**119**	PKP	**PKPdf**	**16 37 29.9**	**-1.3**
	comp=Z,67nm,0.9s,baz=221,slow=4.9,SNR=96						
PSI				PKPab	**PKPab**	**16 38 47.9**	**+0.3**
	comp=Z,46nm,0.7s,baz=238,slow=2.8,SNR=12						
PSI	**Prapat**	**169.23**	**119**	PKIKP	**PKPdf**	**16 37 29.9**	**-1.3**
PSI						16 38 47.9	
PSI				pmax	pmax		
	comp=Z,67nm,0.9s						
PSI				pmax	pmax		
	comp=Z,46nm,0.7s						
BKNI	**Bangkinang**	**169.37**	**136**	*e*PKPdf	**PKPdf**	**16 37 29.9**	**-1.2**
PATY	**Pattaya**	**171.22**	**56**	P	**PKPdf**	**16 37 33.6**	**+1.6**
KULM	**Kulim**	**171.85**	**110**	*e*PKPdf	**PKPdf**	**16 37 31.3**	**-1.1**
KULM				*e*PKPab	**PKPab**	**16 38 59.4**	**+0.2**
KKM	**Kota Kinabalu**	**171.94**	**256**	*e*PKPdf	**PKPdf**	**16 37 32.3**	**-0.3**
KKM				*e*PKPab	**PKPab**	**16 38 59.8**	**+0.1**
KSM	**Kuching**	**173.12**	**196**	*e*PKPdf	**PKPdf**	**16 37 32.2**	**-0.8**
KSM				*e*PKPab	**PKPab**	**16 39 04.5**	**-0.1**
KSM				*ep*PKPdf	**pPKPdf**	**16 39 46.0**	**-3.6**
DLV	**T Lat**	**176.19**	**358**	*e*PKPdf	**PKPdf**	**16 37 34.0**	**-0.1**

*ISCJB **24** 16:32:24.1±0.5,32°.16N±0°.03×115°.15W±0°.04,h22km±6km, Error ellipse: s-maj=5.9km s-min=4.7km az=175.1*
*MEX **24** 16:32:25.9±0.4,32°.28N×114°.98W,h33km±9km,MD3.5*
*NEIC **24** 16:32:25.6,32°.15N×115°.20W,h8km,MD3.5(MEX), ML2.9(ECX),After ECX.*
*ECX **24** 16:32:25.6±0.4,32°.15N×115°.20W,h8km,MD2.5,ML2.7*

ISC 24 16:32:23.9±1.0,32°.15N±0°.03×115°.14W±0°.04,h22km±8km, n22,σ0°53/33,5C-4D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.30**	**333**	*e*P	**Pb**	**16 32 30.9**	**+0.2**
CPBX				*e*S	**Sb**	**16 32 35.7**	**+0.3**
CPBX	**Cerro Prieto**	**0.30**	**333**	*e*P9	**Pb**	**16 32 30.8**	**0.0**
CPBX				⇑*e*P	**Pb**	**16 32 31.0**	**+0.2**
CPBX				*e*S	**Sb**	**16 32 35.0**	**-0.4**
CPBX				IAML		16 32 38.6	
	comp=N,5μm,0.1s						
EMSC	**East Mesa**	**0.60**	**13**	⇓*e*P	**Pb**	**16 32 36.5**	**+0.7**
YMD	**Yuma Desert**	**0.65**	**51**	⇑*i*P	**Pn**	**16 32 37.5**	**-0.3**
ECBX	**El Chinero**	**0.68**	**173**	⇓*e*P	**Pb**	**16 32 36.0**	**-1.1**
ECBX				*e*S	**Sb**	**16 32 45.4**	**-0.7**
SGL	**Mount Signal**	**0.70**	**316**	*e*P2	**Pb**	**16 32 37.4**	**-0.1**
RDX	**Rancho Dawling**	**0.71**	**252**	⇑*e*P	**Pb**	**16 32 37.5**	**-0.2**
RDX				*e*S	**Sb**	**16 32 46.5**	**-0.7**
RDX				IAML		16 32 48.0	
	comp=N,253nm,0.4s						
RDX				⇓*e*		16 32 48.0	
YUH	**Yuha Desert**	**0.82**	**307**	⇑*i*P	**Pb**	**16 32 39.2**	**-0.4**
RMX	**La Rumorosa**	**0.91**	**300**	⇑*e*P	**Pb**	**16 32 40.8**	**-0.3**
RMX				*e*S	**Sb**	**16 32 52.2**	**-0.6**
RMX				*e*		16 32 53.1	
RMX				IAML		16 32 53.1	
	comp=N,256nm,0.2s						
GLA	**Glamis**	**0.94**	**16**	*e*Pg	**Pn**	**16 32 41.9**	**0.0**
GLA				*e*Sg	**Sb**	**16 32 53.3**	**-0.3**
SPIG	**San Pedro Mart**	**1.13**	**194**	*e*P	**Pn**	**16 32 44.8**	**+0.1**
SPX	**San Pedro Mart**	**1.14**	**194**	*e*P	**Pb**	**16 32 45.9**	**+0.8**
SPX				*e*S	**Sn**	**16 33 01.1**	**+1.3**
SPX	**San Pedro Mart**	**1.14**	**194**	*e*P	**Pn**	**16 32 45.0**	**+0.3**
ZAX	**El Zacaton**	**1.15**	**237**	*e*P	**Pn**	**16 32 44.9**	**+0.1**
CBX	**Cerro Bola**	**1.30**	**278**	*e*P	**Pb**	**16 32 48.2**	**+0.5**
CBX				*e*S	**Sb**	**16 33 04.4**	**+0.4**
CBX	**Cerro Bola**	**1.30**	**278**	*e*P	**Pb**	**16 32 48.2**	**+0.5**
CBX				*e*S	**Sb**	**16 33 04.4**	**+0.4**
CBX	**Cerro Bola**	**1.30**	**278**	*e*P2		16 32 47.7	
CBX				*e*S	**Sb**	**16 33 04.3**	**+0.3**
CBX				⇓*e*		16 33 04.8	
CBX				IAML		16 33 04.8	
	comp=N,190nm,0.5s						
ECNX	**Esteban Cantu**	**1.33**	**249**	*e*P	**Pb**	**16 32 48.0**	**-0.2**
BAR	**Barrett**	**1.40**	**293**	*e*Pn	**Pn**	**16 32 47.8**	**-0.3**
BAR				*e*S	**Sn**	**16 33 05.7**	**-0.2**
PBX	**Punta Banda**	**1.41**	**254**	*e*P	**Pb**	**16 32 49.5**	**0.0**
PFO	**Pinyon Flats O**	**1.83**	**323**	*e*Pn	**Pn**	**16 32 53.3**	**-0.8**
214A	**Organ Pipe Nat**	**1.99**	**95**	*e*Pn	**Pn**	**16 32 56.0**	**-0.2**

JMA 24 16:34:22.4±0.2,42°.02N×142°.62E,h51km±2km,M1.0, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNBK	**Urakawa-nobuka**	**0.28**	**21**	*e*S	Sn	16 34 38.2	+0.3
JCH	**Churui**	**0.81**	**43**	P	Pn	16 34 38.0	+0.4

*MOS **24** 16:36:24.8±0.6,56°.38N×162°.96E,h11km,mb4.2/1,Error ellipse: s-maj=12.9km s-min=6.7km az=66.5*
MOS Felt (III) at Ust'-Kamchatsk.
*KRSC **24** 16:36:25.5±1.0,56°.27N×162°.92E,h19km±6km,ML3.9, FELT [III] at Krutoberegovo, Ust-Kamchatsk.*
*ISCJB **24** 16:36:26.3±0.6,56°.33N±0°.03×162°.90E±0°.05,h13km±3km, Error ellipse: s-maj=5.3km s-min=4.7km az=21.8*

ISC 24 16:36:25.2±1.1,56°.39N±0°.04×162°.99E±0°.03,h13km±7km, n56,σ1°44/75,2C,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.20**	**207**	*e*P	**Pg**	**16 36 30.1**	**+0.5**
KBTR	**Krutoberegovo**	**0.20**	**207**	PN	**Pg**	**16 36 30.1**	**+0.5**
KBG	**Krutoberegovo**	**0.21**	**230**	*e*P	**Pg**	**16 36 29.8**	**+0.1**
KBG				*e*S	**Sg**	**16 36 32.3**	**-0.4**
SMKR	**Semkarok**	**0.86**	**284**	*e*P	**Pb**	**16 36 41.7**	**-0.4**
SMKR				*e*S	**Sb**	**16 36 53.4**	**-0.2**
SMKR	**Semkarok**	**0.86**	**284**	PN	**Pb**	**16 36 41.7**	**-0.4**
SMKR				S	**Sb**	**16 36 53.4**	**-0.2**
BDR	**Baidarnaya**	**1.00**	**281**	*e*P	**Pb**	**16 36 43.9**	**-0.5**
BDR				*e*S	**Sb**	**16 36 57.3**	**-0.2**
SRKR	**Sorokina**	**1.04**	**286**	*e*P	**Pb**	**16 36 44.9**	**-0.2**
SRKR				*e*S	**Sb**	**16 36 58.3**	**-0.4**
SRKR	**Sorokina**	**1.04**	**286**	PN	**Pb**	**16 36 44.9**	**-0.2**
SRKR				S	**Sb**	**16 36 58.3**	**-0.4**
ZLN	**Zelenaya**	**1.27**	**254**	*e*P	**Pn**	**16 36 47.6**	**-1.2**
ZLN	**Zelenaya**	**1.27**	**254**	PN	**Pn**	**16 36 47.6**	**-1.2**
KLY	**Klyuchi**	**1.30**	**268**	*e*P	**Pn**	**16 36 46.3**	**-2.7**
KLY				*e*S	**Sb**	**16 37 01.1**	**-4.9**
BZGR	**Bezymyannyi-Gr**	**1.36**	**252**	*e*P	**Pn**	**16 36 49.1**	**-0.8**
BZWR	**Bezymyannyi-We**	**1.46**	**254**	*e*P	**Pn**	**16 36 50.4**	**-0.9**
BZMR	**Bezymyannaya**	**1.47**	**253**	*e*P	**Pn**	**16 36 50.7**	**-0.8**
KPT	**Kopyto**	**1.60**	**256**	*e*P	**Pn**	**16 36 53.5**	**+0.3**
KPT				*e*S	**Sb**	**16 37 14.4**	**-0.4**
KPT	**Kopyto**	**1.60**	**256**	PN	**Pn**	**16 36 53.5**	**+0.3**
KPT				S	**Sb**	**16 37 14.4**	**-0.4**
KMNR	**Kamenistaya**	**1.67**	**249**	*e*P	**Pn**	**16 36 54.5**	**+0.4**
KMNR				*e*S	**Sn**	**16 37 15.2**	**-0.2**
KMNR	**Kamenistaya**	**1.67**	**249**	PN	**Pn**	**16 36 54.5**	**+0.4**
KMNR				S	**Sn**	**16 37 15.2**	**-0.2**
KOZ	**Kozyrevsk**	**1.77**	**261**	*e*P	**Pn**	**16 36 56.0**	**+0.5**
KOZ				*e*S	**Sn**	**16 37 17.6**	**-0

DZET				⇑Sn		Sn	16 55 46.9	+0.9
	21nm,0.4s								
DZET				⇑Lg		Lg	16 55 57.4		
	45nm,0.5s								
SFK	**Sufi-Kurgan**	**5.36**	**45**	⇑Pn		Pn	16 55 55.7	+0.2
	0.5nm,0.2s								
SFK				⇓Sn		Sn	16 56 58.4	+1.6
	11nm,0.4s								
MNAS	**Manas**	**6.88**	**25**	⇓Pn		Pn	16 56 15.2	-1.0
	1.1nm,0.5s								
MNAS				⇑Sn		Sn	16 57 33.0	-0.9
	1.6nm,0.4s								
MNAS				⇓Lg		Lg	16 58 14.1		
	3.5nm,1.0s								
KK31	**Karatay Array**	**6.95**	**12**	⇑Pn		Pn	16 56 17.4	+0.4
	0.7nm,0.5s,baz=198,slow=14,SNR=5.5								
KK31				⇑Sn		Sn	16 57 33.4	-1.9
	0.8nm,0.3s,baz=190,slow=19,SNR=4.2								
KK31				Lg		Lg	16 58 17.2		
	baz=194,slow=28								
AAK	**Ala-Archa**	**7.80**	**34**	⇑Pn		Pn	16 56 28.5	-0.4
	2.8nm,0.8s								
AAK				Sn		Sn	16 57 56.9	+0.3
	3.3nm,0.6s								
TKM2	**Tokmak 2**	**8.54**	**37**	⇑Sn		Sn	16 58 14.7	-0.2
	3.2nm,0.8s								

*IDC **24** 17:04:14.9±1.9, 15°.12S×178°.24W, h371km±19km, mb3.4/12, mb1 3.6/12, mb1mx3.3/40, mbtmp4.1/12, Error ellipse: s-maj=19.8km s-min=11.3km az=157.0*
*ISCJB **24** 17:04:15.5±0.6, 15°.2S±0°.1×178°.27W±0°.10, h390km, mb3.8/13, Error ellipse: s-maj=18.4km s-min=11.4km az=154.0*

ISC 24 17:04:16.8±0.7, 15°.1S±0°.2×178°.3W±0°.1, h390km, n17, σ1⁰29/23, mb3.5/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**23.41**	**189**	P	**P**	**17 08 51.5**	**-1.3**
	11nm,0.7s,baz=274,slow=4.7,SNR=9.1						
PPT	**Papeete**	**27.61**	**99**	P	**P**	**17 09 29.0**	**-1.5**
	15nm,1.0s,baz=288,slow=9.6,SNR=2.7						
RPZ	**Rata Peaks**	**29.93**	**196**	P	**P**	**17 09 49.3**	**-1.2**
	9.9nm,0.8s,baz=270,slow=2.0,SNR=3.9						
CTA	**Charters Tower**	**34.15**	**256**	P	**P**	**17 10 27.7**	**+0.5**
	1.1nm,0.4s,baz=92,slow=11,SNR=7.9						
STKA	**Stephens Creek**	**40.16**	**238**	P	**P**	**17 11 16.9**	**0.0**
	1.2nm,0.3s,baz=89,slow=6.9,SNR=13						
WRA	**Warramunga Arr**	**45.35**	**257**	P	**P**	**17 11 57.1**	**-1.2**
	1.5nm,0.8s,baz=92,slow=8.1,SNR=47						
WRA				PcP	**PcP**	**17 13 30.2**	**-0.1**
	0.2nm,0.3s,baz=95,slow=3.6,SNR=3.3						
WRA				ScP	**ScP**	**17 16 46.8**	**+1.6**
	0.3nm,0.8s,baz=86,slow=4.3,SNR=3.2						
WRA				S	**S**	**17 18 09.1**	**-0.3**
	0.2nm,0.7s,baz=88,slow=14,SNR=2.7						
ASAR	**Alice Springs**	**45.75**	**252**	P	**P**	**17 12 01.2**	**-0.1**
	28nm,0.5s,baz=84,slow=8.5,SNR=1435						
ASAR				PcP	**PcP**	**17 13 32.1**	**+0.4**
	0.5nm,0.4s,baz=95,slow=4.2,SNR=4.8						
ASAR				ScP	**ScP**	**17 16 49.1**	**+2.3**
	0.3nm,0.7s,baz=88,slow=4.7,SNR=5.0						
ASAR				S	**S**	**17 18 12.6**	**-2.5**
	0.6nm,0.7s,baz=84,slow=15,SNR=7.9						
VNDA	**Vanda**	**63.22**	**185**	P	**P**	**17 14 05.7**	**+1.2**
	0.4nm,0.5s,baz=12,slow=8.8,SNR=5.2						
NVAR	**Mina Array Bea**	**77.32**	**44**	P	**P**	**17 15 30.3**	**+0.4**
	0.7nm,0.7s,baz=219,slow=7.9,SNR=5.0						
ILAR	**Eielson Array**	**83.15**	**13**	P	**P**	**17 15 59.2**	**-0.5**
	0.4nm,0.7s,baz=213,slow=5.1,SNR=4.1						
TXAR	**Lajitas Array**	**84.39**	**58**	P	**P**	**17 16 05.5**	**-1.3**
	0.2nm,0.7s,baz=205,slow=6.0,SNR=2.8						
PDAR	**Pinedale Array**	**85.23**	**44**	P	**P**	**17 16 11.6**	**+0.7**
	0.3nm,0.5s,baz=133,slow=0.6,SNR=4.6						
MAW	**Mawson**	**86.52**	**200**	P	**P**	**17 16 17.7**	**+1.3**
	4.5nm,0.6s,baz=157,slow=5.8,SNR=16						
SNAA	**Sanae**	**93.37**	**179**	P	**P**	**17 16 47.1**	**-1.2**
VNA3	**Neumayer Olymp**	**93.50**	**176**	P	**P**	**17 16 50.1**	**+1.2**
VNA2	**Neumayer--Watz**	**93.94**	**177**	P	**P**	**17 16 52.3**	**+1.5**
	baz=194,slow=3.7						
KURBB	**Kurchatov Arra**	**109.90**	**319**	PKiKP	**PKiKP**	**17 22 03.2**	**+1.0**
	0.3nm,0.7s,baz=144,slow=3.6,SNR=5.0						

*ISCJB **24** 17:32:28.5±0.5, 0°.72S±0°.04×127°.74E±0°.03, h31km, mb4.2/4, Error ellipse: s-maj=6.3km s-min=4.7km az=13.2*
*DJA **24** 17:32:29.7±1.7, 1°.S±3°×12°.8E±°, h21km±21km, M3.6/3, MLv3.6/3*
*IDC **24** 17:32:31.0±2.7, 0°.76S×127°.76E, h50km±31km, mb3.9/5, mb1 4.1/7, mb1mx3.5/36, mbtmp4.1/7, ML3.8/2, Error ellipse: s-maj=22.5km s-min=17.4km az=9.0*

ISC 24 17:32:29.7±0.8, 0.72S±0°.05×127.75E±0°.05, h31km, n18, σ1⁰38/24, mb4.3/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.53**	**346**	P	**Pn**	**17 32 54.5**	**-0.4**
TNTI				S	**Sn**	**17 33 16.0**	**-0.4**
SANI	**Sanana**	**2.20**	**233**	P	**Pn**	**17 33 03.6**	**-0.5**
SANI				S	**Sn**	**17 33 30.1**	**-0.2**
NLAI	**Namlea**	**2.58**	**194**	P	**Pn**	**17 33 09.2**	**-0.2**
NLAI				S	**Sn**	**17 33 40.7**	**+0.9**
MSAI	**Masohi**	**2.87**	**156**	P	**Pn**	**17 33 14.5**	**+1.2**
MSAI				S	**Sn**	**17 33 50.4**	**+3.7**
SIJI	**Sorong**	**3.52**	**92**	P	**Pn**	**17 33 22.0**	**-0.3**
	4.0nm,0.3s,baz=117,slow=23,SNR=31						
SIJI				S	**Sn**	**17 34 04.5**	**+1.5**
	1.1nm,0.3s,baz=232,slow=18,SNR=2.8						
KMSI	**Cibinong**	**3.98**	**289**	P	**Pn**	**17 33 30.0**	**+1.4**
KMSI				S	**Sn**	**17 34 16.4**	**+2.2**
BNDI	**Bandanaira**	**4.35**	**150**	P	**Pn**	**17 33 34.7**	**+1.0**
LUWI	**Luwuk**	**4.98**	**266**	P	**Pn**	**17 33 42.6**	**+0.2**
LUWI				S	**Sn**	**17 34 39.5**	**+0.5**
FAKI	**Fak Fak**	**5.00**	**116**	P	**Pn**	**17 33 42.6**	**-0.1**
APSI	**Ampana**	**6.10**	**268**	P	**Pn**	**17 33 58.0**	**+0.2**
SPSI	**Sidrap Palu**	**8.60**	**248**	P	**Pn**	**17 34 34.3**	**+2.2**
BKSI	**Bulukumba**	**8.88**	**239**	P	Pn	17 34 39.3	+3.4
KAPI	**Kappang**	**9.05**	**242**	P	**Pn**	**17 34 39.7**	**+1.4**
	2.3nm,0.3s,baz=54,slow=1.7,SNR=8.0						
WRA	**Warramunga Arr**	**20.17**	**162**	P	**P**	**17 36 59.8**	**-2.0**
	2.4nm,0.7s,baz=334,slow=12,SNR=32						
ASAR	**Alice Springs**	**23.58**	**166**	P	**P**	**17 37 36.8**	**-1.1**
	8.9nm,0.7s,baz=349,slow=11,SNR=138						
PSI	**Prapat**	**29.02**	**277**	P	**P**	**17 38 27.3**	**-0.1**
	2.0nm,0.4s,baz=20,slow=4.2,SNR=4.3						
STKA	**Stephens Creek**	**33.64**	**158**	P	**P**	**17 39 07.4**	**-0.3**
	3.0nm,0.7s,baz=340,slow=7.9,SNR=10						
MKAR	**Makanchi Array**	**61.78**	**326**	P	**P**	**17 42 44.6**	**-1.0**
	0.8nm,0.8s,baz=120,slow=7.1,SNR=8.0						

FUNV 24 17:35:12.3, 6°.76N×73°.13W, h158km, MW3.8, 2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.37**	**36**	⇓*i*P	Pn	17 35 41.2	-0.3
CAPV				*e*S	Sn	17 36 01.2	-2.6
VIGV	**El Vigia**	**2.71**	**40**	⇓*i*P	Pn	17 35 55.6	-0.8
VIGV				*e*S	Sn	17 36 27.7	-3.0
SOCV	**Socops**	**2.72**	**56**	*e*P	Pn	17 35 56.0	-0.6
SOCV				*e*S	Sn	17 36 27.1	-3.7
ELOV	**Elorza**	**3.63**	**86**	*e*P	Pn	17 36 07.3	-0.8
VIRV	**Villa del Rosa**	**3.79**	**11**	*e*P	Pn	17 36 07.8	-2.3
VIRV				*e*S	Sn	17 36 50.5	-4.6
QARV	**Quebrada Arrib**	**4.29**	**37**	*e*P	Pn	17 36 15.7	-1.0
QARV				*e*S	Sn	17 37 01.5	-5.3
SANV	**Sanarito**	**4.49**	**52**	*e*P	Pn	17 36 17.5	-1.8
SANV				*e*S	Sn	17 37 06.9	-4.6
CURV	**Curarigua**	**4.51**	**44**	*e*P	Pn	17 36 17.9	-1.6
DABV	**Dabajuro**	**4.82**	**31**	*e*P	Pn	17 36 22.5	-1.0
TEPV	**Terepaima**	**5.04**	**50**	*e*P	Pn	17 36 24.8	-1.6
BAUV	**El Baul**	**5.49**	**66**	*e*P	Pn	17 36 29.4	-3.0
BAUV				*e*S	Sn	17 37 28.0	-7.0
MAPV	**Macapo**	**5.54**	**56**	*e*P	Pn	17 36 31.5	-1.6
BIRV	**Birongo**	**7.73**	**61**	*e*P	Pn	17 36 59.4	-2.7
CUPV	**Cœpira**	**7.97**	**65**	*e*P	Pn	17 37 02.5	-3.0

IDC 24 17:35:16.8±6.2, 24°.59S×179°.44E, h672km±73km, mb3.1/6, mb1 3.3/6, mb1mx2.9/34, mbtmp4.2/6, Error ellipse: s-maj=45.0km s-min=26.9km az=53.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**30.97**	**272**	P	P	17 40 43.6	+0.1
	7.7nm,0.4s,baz=96,slow=11,SNR=32						
STKA	**Stephens Creek**	**33.99**	**249**	P	P	17 41 08.4	-0.2
	1.8nm,0.5s,baz=97,slow=12,SNR=9.5						
ASAR	**Alice Springs**	**41.42**	**262**	P	P	17 42 08.8	+0.4
	1.5nm,0.8s,baz=93,slow=6.4,SNR=34						
WRA	**Warramunga Arr**	**41.85**	**267**	P	P	17 42 11.8	-0.1
	4.2nm,0.5s,baz=100,slow=8.3,SNR=96						
QSPA	**South Pole Qui**	**65.50**	**180**	P	P	17 44 56.6	+0.3
	0.9nm,0.8s,baz=25,slow=17,SNR=4.2						
TXAR	**Lajitas Array**	**91.23**	**58**	P	P	17 47 13.0	-0.2
	0.2nm,0.5s,baz=216,slow=4.5,SNR=3.1						
AKASG	**Malin Array Be**	**145.26**	**326**	PKPbc	PKPbc	17 53 41.7	+0.4
	0.6nm,0.4s,baz=44,slow=4.3,SNR=4.6						
BRTR	**Keskin Array B**	**147.57**	**306**	PKPbc	PKPbc	17 53 46.8	-1.4
	0.5nm,0.6s,baz=48,slow=4.8,SNR=3.0						

*IDC **24** 17:38:52.6±1.4, 22°.83S×174°.49W, h0km, mb4.1/7, mb1 4.3/7, mb1mx3.9/21, mbtmp4.0/7, Error ellipse: s-maj=67.1km s-min=29.4km az=168.0*
*ISCJB **24** 17:38:57.0±1.1, 22°.8S±0°.4×174°.6W±0°.2, h36km, mb4.1/7, Error ellipse: s-maj=55.5km s-min=24.3km az=172.3*

ISC 24 17:38:58.0±1.2, 22°.8S±0°.4×174°.5W±0°.2, h36km, n8, σ1⁰02/8, mb4.0/7, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.56**	**267**	P	**P**	**17 46 00.9**	**+0.3**
	1.0nm,0.5s,baz=93,slow=19,SNR=4.6						
ASAR	**Alice Springs**	**47.20**	**258**	P	**P**	**17 47 27.9**	**+0.4**
	1.4nm,0.8s,baz=86,slow=8.6,SNR=14						
WRA	**Warramunga Arr**	**47.54**	**263**	P	**P**	**17 47 29.1**	**-1.2**
	0.4nm,0.4s,baz=93,slow=8.4,SNR=24						
SIJI	**Sorong**	**56.98**	**285**	P	**P**	**17 48 39.6**	**-0.8**
	3.1nm,0.6s,baz=88,slow=12,SNR=3.6						
ILAR	**Eielson Array**	**89.91**	**11**	P	**P**	**17 51 52.8**	**0.0**
	0.3nm,0.5s,baz=198,slow=5.7,SNR=3.4						
CMAR	**Chiang Mai Arr**	**93.95**	**288**	P	**P**	**17 52 14.2**	**+1.6**
	0.8nm,0.8s,baz=123,slow=2.6,SNR=7.2						
LPAZ	**La Paz**	**98.11**	**111**	P	**P**	**17 52 32.4**	**-0.2**
	0.5nm,0.3s,baz=267,slow=3.7,SNR=7.1						
AKASG	**Malin Array Be**	**146.61**	**332**	PKPbc	**PKPbc**	**17 58 35.1**	**-0.4**
	0.7nm,0.6s,baz=40,slow=4.0,SNR=7.0						

*ISCJB **24** 17:45:53.5±0.7, 21°.60N±0°.07×143°.3E±0°.3, h311km, mb3.6/9, Error ellipse: s-maj=32.3km s-min=9.5km az=174.6*
*IDC **24** 17:45:54.4±1.8, 21°.63N×143°.12E, h300km±17km, mb3.4/10, mb1 3.5/12, mb1mx3.3/33, mbtmp4.1/12, Error ellipse: s-maj=26.8km s-min=10.5km az=88.0*

ISC 24 17:45:55.1±0.8, 21°.66N±0°.09×143°.2E±0°.2, h311km, n13, σ0⁰54/14, mb3.7/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.49**	**351**	P	**Pn**	**17 47 17.9**	**-0.7**
	24nm,0.3s,baz=271,slow=20,SNR=18						
JCJ				S	**S**	**17 48 25.6**	**-0.4**
	12nm,0.3s,baz=276,slow=22,SNR=5.6						
MJAR	**Matsushiro Arr**	**15.45**	**345**	P	**P**	**17 49 16.3**	**-0.1**
	0.8nm,0.3s,baz=100,slow=7.8,SNR=7.0						
KSRS	**Korea Array**	**20.54**	**323**	P	**P**	**17 50 11.1**	**+0.5**
	1.9nm,0.6s,baz=149,slow=9.1,SNR=7.6						
USRK	**Ussuriysk Ar.**	**24.31**	**340**	P	**P**	**17 50 45.8**	**+0.7**
	1.3nm,0.3s,baz=151,slow=8.0,SNR=3.9						
WRA	**Warramunga Arr**	**42.23**	**192**	P	**P**	**17 53 18.5**	**-0.1**
	3.3nm,0.5s,baz=14,slow=8.5,SNR=77						
ASAR	**Alice Springs**	**45.94**	**192**	P	**P**	**17 53 47.3**	**-0.5**
	0.6nm,0.4s,baz=13,slow=6.3,SNR=26						
STKA	**Stephens Creek**	**53.25**	**182**	P	**P**	**17 54 42.2**	**-0.1**
	2.3nm,0.5s,baz=18,slow=7.1,SNR=12						
MKAR	**Makanchi Array**	**54.71**	**313**	P	**P**	**17 54 53.2**	**+0.3**
	0.4nm,0.6s,baz=82,slow=8.7,SNR=5.2						
ILAR	**Eielson Array**	**69.39**	**27**	P	**P**	**17 55 42.8**	**-0.4**
	0.5nm,0.4s,baz=264,slow=5.6,SNR=5.8						
YKA	**Yellowknife Ar**	**76.50**	**28**	P	**P**	**17 57 11.6**	**+0.7**
	0.6nm,0.4s,baz=292,slow=5.8,SNR=9.1						
ARCES	**ARCESS Array B**	**78.95**	**341**	P	**P**	**17 57 25.0**	**+0.7**
	3.7nm,0.7s,baz=73,slow=8.2,SNR=12						
FINES	**FINESS Array B**	**83.21**	**334**	P	**P**	**17 57 46.2**	**-0.4**
	1.2nm,0.5s,baz=84,slow=4.5,SNR=14						
PLCA	**Paso Flores**	**145.74**	**131**	PKPbc	**PKPab**	**18 04 59.2**	**+0.3**
	2.5nm,0.6s,baz=247,slow=2.8,SNR=11						

IDC 24 18:34:48.4±2.0, 6°.16S×130°.49E, h138km±21km, mb3.4/1, mb1 2.9/5, mb1mx2.8/28, mbtmp3.3/5, Error ellipse: s-maj=40.0km s-min=16.3km az=98.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.31**	**8**	P	Pn	18 36 07.8	+2.0
	0.5nm,0.3s,baz=237,slow=23,SNR=9.7						
SIJI				S	Sn	18 37 05.6	-0.6
	2.2nm,0.3s,baz=237,slow=23,SNR=14						
BATI	**Baumata**	**7.86**	**239**	P	Pn	18 36 39.6	-0.4
	1.0nm,0.3s,baz=74,slow=7.4,SNR=3.2						
BATI				S	Sn	18 38 01.6	-6.1
	1.0nm,0.3s,baz=264,slow=19,SNR=3.0						
WRA	**Warramunga Arr**	**14.21**	**165**	P	Pn	18 38 02.5	-1.0
	0.1nm,0.3s,baz=349,slow=13,SNR=9.2						
WRA				S	Sn	18 40 31.9	-9.0
	0.3nm,0.3s,baz=345,slow=22,SNR=8.6						
ASAR	**Alice Springs**	**17.72**	**170**	P	P	18 38 46.0	+0.5
	0.0nm,0.3s,baz=349,slow=10,SNR=4.8						
ASAR				S	S	18 41 58.0	-4.7
	0.1nm,0.3s,baz=358,slow=27,SNR=5.5						
MKAR	**Makanchi Array**	**67.79**	**326**	P	P	18 45 31.4	0.0
	0.4nm,0.4s,baz=114,slow=8.1,SNR=12						

*IDC **24** 18:57:06.4±1.7, 12°.64S×166°.84E, h0km, mb4.1/9, mb1 4.1/9, mb1mx3.9/20, mbtmp4.0/9, Error ellipse: s-maj=55.4km s-min=25.8km az=131.0*
*NEIC **24** 18:57:13.2±0.8, 12°.37S×166°.57E, h35km, mb4.2/2, Error ellipse: s-maj=20.9km s-min=15.5km az=84.0*

ISC 24 18:57:16.1±0.9, 12°.4S±0°.1×166°.4E±0°.1, h59km, n19, σ1⁰22/20, mb4.0/11, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.04**	**294**	P	**Pn**	**18 58 56.0**	**-0.5**
HNR				S	**Sn**	**19 00 14.0**	**-1.1**
HNR	**Honiara**	**7.04**	**294**	*e*Pn	**Pn**	**18 58 55.4**	**-1.1**
	180nm,0.8s						
DZM	**Mont Dzumac**	**9.60**	**180**	Pn	**Pn**	**18 59 31.1**	**-0.6**
	0.3nm,0.3s,baz=270,slow=24,SNR=11						
STKA	**Stephens Creek**	**29.95**	**226**	P	**P**	**19 03 19.2**	**+0.4**
	2.6nm,0.8s,baz=64,slow=11,SNR=6.4						
STKA	**Stephens Creek**	**29.95**	**226**	*e*P	**P**	**19 03 19.7**	**+0.9**
WRAB	**Tennant Creek**	**31.68**	**252**	*e*P	**P**	**19 03 34.4**	**+0.2**
	1.2nm,0.8s						
WRA	**Warramunga Arr**	**31.69**	**252**	P	**P**	**19 03 32.9**	**-1.4**
	0.2nm,0.5s,baz=83,slow=9.3,SNR=6.0						
ASAR	**Alice Springs**	**32.82**	**245**	P	**P**	**19 03 43.1**	**-1.1**
	0.6nm,0.6s,baz=67,slow=10.0,SNR=21						
SIJI	**Sorong**	**36.72**	**286**	P	**P**	**19 04 18.4**	**+0.5**
	3.9nm,0.7s,baz=12,slow=6.5,SNR=3.8						
CMAR	**Chiang Mai Arr**	**73.28**	**294**	P	**P**	**19 08 44.4**	**+2.6**
	1.9nm,0.7s,baz=124,slow=5.0,SNR=16						
QSPA	**South Pole Qui**	**77.60**	**180**	*e*P	**P**	**19 09 05.8**	**-0.1**
	8.5nm,1.4s						
SONM	**Songino Array**	**80.17**	**324**	P	**P**	**19 09 21.4**	**+1.3**
	0.8nm,0.4s,baz=142,slow=6.1,SNR=5.6						
ILAR	**Eielson Array**	**84.59**	**18**	P		**19 09 40.3**	**-2.3**
	0.4nm,0.9s,baz=235,slow=3.2,SNR=2.9						
MK31	**Makanchi Array**	**94.98**	**317**	*e*P	**P**	**19 10 33.3**	**+1.0**
MKAR	**Makanchi Array**	**94.98**	**317**	P	**P**	**19 10 33.5**	**+1.2**
	2.8nm,0.7s,baz=96,slow=6.4,SNR=34						
ZALV	**Zalesovo Beam**	**95.06**	**324**	P	**P**	**19 10 32.5**	**+0.1**
	0.3nm,0.4s,baz=104,slow=6.3,SNR=3.7						
ARCES	**ARCESS Array B**	**117.83**	**345**	PKP	**PKPdf**	**19 15 54.1**	**-1.2**
	2.7nm,0.8s,baz=90,slow=1.8,SNR=4.2						
FINES	**FINESS Array B**	**123.29**	**338**	PKP	**PKPdf**	**19 16 05.6**	**-0.4**
	1.5nm,0.9s,baz=48,slow=2.1,SNR=3.4						
TORD	**Torodi Ar. Bea**	**165.11**	**274**	PKPab	**PKPab**	**19 18 12.4**	**+0.5**
	1.8nm,0.9s,baz=78,slow=5.3,SNR=9.0						

*IDC **24** 18:58:32.6±2.4, 12°.32S×166°.15E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.8/20, mbtmp4.0/7, ML3.5/1, Error ellipse: s-maj=62.4km s-min=29.4km az=99.0*
*ISCJB **24** 18:58:36.7±1.7, 12°.5S±0°.1×166°.1E±0°.3, h40km, mb3.9/6, Error ellipse: s-maj=41.0km s-min=18.8km az=170.9*

ISC 24 18:58:38.2±1.8, 12°.4S±0°.1×166°.2E±0°.3, h40km, n8, σ0⁰88/8, mb3.9/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.62**	**179**	Pn	**Pn**	**19 00 54.4**	**+0.1**
	0.4nm,0.3s,baz=270,slow=24,SNR=3.7						
STKA	**Stephens Creek**	**29.79**	**225**	P	**P**	**19 04 41.7**	**+0.4**
	1.7nm,0.7s,baz=55,slow=12,SNR=3.8						
WRA	**Warramunga Arr**	**31.46**	**252**	P	**P**	**19 04 55.7**	**-0.5**
	0.5nm,1.0s,baz=83,slow=9.2,SNR=3.1						
ASAR	**Alice Springs**	**32.60**	**245**	P	**P**	**19 05 05.9**	**-0.4**
	0.4nm,0.6s,baz=65,slow=10,SNR=4.1						
CMAR	**Chiang Mai Arr**	**73.05**	**294**	P	**P**	**19 10 06.2**	**+1.4**
	1.6nm,0.7s,baz=126,slow=4.8,SNR=8.2						
SONM	**Songino Array**	**80.01**	**324**	P	**P**	**19 10 43.4**	**-0.2**
	0.5nm,0.3s,baz=139,slow=5.3,SNR=5.2						
MKAR	**Makanchi Array**	**94.80**	**317**	P	**P**	**19 11 55.5**	**-0.4**
	2.2nm,0.7s,baz=99,slow=6.3,SNR=15						
TORD	**Torodi Ar. Bea**	**164.86**	**275**	PKPab	**PKPab**	**19 19 34.2**	**-1.0**
	1.0nm,0.9s,baz=78,slow=5.9,SNR=5.2						

*ISCJB **24** 19:08:36.0±1.8, 31°.88N±0°.04×115°.0W±0°.1, h12km, Error ellipse: s-maj=17.7km s-min=5.2km az=167.5*
*MEX **24** 19:08:36.6±0.4, 31°.92N×114°.84W, h58km±11km, MD3.5*
*ECX **24** 19:08:36.7±0.3, 31°.89N×114°.91W, h7km, MD2.4, ML2.5*

ISC 24 19:08:34.6±1.7, 31°.88N±0°.04×115°.0W±0°.1, h12km, n11, σ0⁰62/15, 1C-3D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBX	**El Chinero**	**0.42**	**192**	*e*P9	**Pg**	**19 08 42.4**	**-0.5**
ECBX				*e*S	**Sg**	**19 08 48.2**	**-0.2**
ECBX				IAML		19 08 48.5	
	comp=E,268nm,0.3s						
CPBX	**Cerro Prieto**	**0.61**	**331**	*e*P9	**Pg**	**19 08 47.1**	**+0.5**
CPBX				*e*S	**Sb**	**19 08 55.9**	**0.0**
RDX	**Rancho Dawling**	**0.84**	**274**	*e*P	**Pb**	**19 08 51.8**	**+0.4**
RDX				IAML		19 09 03.9	
	comp=N,110nm,0.5s						
RDX				⇓*e*		19 09 03.9	
SPIG	**San Pedro Mart**	**0.94**	**208**	*e*P	**Pb**	**19 08 53.5**	**+0.4**
SPIG				*e*S	**Sb**	**19 09 06.8**	**+1.2**
SPIG	**San Pedro Mart**	**0.94**	**208**	*e*P	**Pb**	**19 08 53.5**	**+0.4**
SPX	**San Pedro Mart**	**0.94**	**208**	*e*P	**Pb**	**19 08 53.7**	**+0.7**
ZAX	**El Zacaton**	**1.18**	**252**	*e*P	**Pg**	**19 08 57.7**	**+0.3**
RMX	**La Rumorosa**	**1.20**	**307**	*e*P	**Pg**	**19 08 57.8**	**+0.2**
RMX				⇓*e*		19 09 14.5	
RMX				IAML		19 09 14.6	
	comp=N,143nm,0.2s						
ECNX	**Esteban Cantu**	**1.42**	**261**	*e*P	**Pg**	**19 09 01.9**	**0.0**
CBX	**Cerro Bola**	**1.51**	**287**	*e*P	**Pn**	**19 09 01.0**	**-0.7**
CBX				*e*S	**Sn**	**19 09 20.4**	**-1.0**
CBX	**Cerro Bola**	**1.51**	**287**	⇑*e*P	**Pg**	**19 09 03.5**	**-0.2**
CBX				IAML		19 09 24.0	
	comp=N,82nm,0.4s						
CBX				⇓*e*		19 09 24.0	

*IDC **24** 19:11:36.4±1.7, 5°.28N×94°.40E, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.5/47, mbtmp3.7/7, ML3.7/2, MS3.7/3, Ms1 3.7/3, ms1mx3.0/29, Error ellipse: s-maj=74.6km s-min=18.7km az=54.0*
*DJA **24** 19:11:41.3±1.1, 6°.N±8°×9°.5E±°, h61km±5km, M4.1/10, mb4.2/4, mB4.7/1, MLv4.1/10, Mw(mB)3.9/1*
*ISCJB **24** 19:11:42.2±0.7, 5°.96N±0°.05×95°.29E±0°.07, h35km, mb3.8/5, MS3.8/3, Error ellipse: s-maj=10.4km s-min=7.8km az=176.8*

ISC 24 19:11:43.5±1.0, 5°.89N±0°.07×95°.28E±0°.08, h35km, n22, σ0⁰78/12, mb4.3/5, MS3.9/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**0.39**	**178**	P	**Pn**	**19 11 52.1**	**-0.5**
BSI				S	**Sn**	**19 11 59.0**	**+0.2**
LHMI	**Lhok Sumawe**	**1.78**	**111**	P	**Pn**	**19 12 11.8**	**0.0**
LHMI				S	**Sn**	**19 12 33.6**	**+0.4**
SNSI	**Sinabang, Aceh**	**3.61**	**163**	P	Pn	19 12 29.9	-7.0
PKDT	**Phuket**	**3.63**	**56**	P	**Pn**	**19 12 36.8**	**-0.4**
TSI	**Tuntungan**	**4.04**	**126**	P	Pn	19 12 38.5

RTLS **Leoncito** 4.95 38 *e*P Pn 19 13 29.2 +1.2
RTCV **Cerro Valdivia** 5.30 44 *e*P Pn 19 13 33.4 +0.6
PLCA **Paso Flores** 5.32 160 Pn Pn 19 13 34.1 +1.1
comp=Z,25nm,0.3s,baz=329,slow=10,SNR=198
PLCA Lg Lg 19 14 52.5
comp=Z,10nm,0.3s,baz=234,slow=21,SNR=4.4
PLCA LR LR 19 15 50.3
comp=Z,1µm,20.7s,baz=346,slow=41
CFAA **Coronel Fontan** 5.67 45 Pn Pn 19 13 35.6 -2.2
comp=Z,0.6nm,0.3s,baz=220,slow=12,SNR=18
CFAA Lg Lg 19 14 54.5
comp=Z,2.0nm,0.3s,baz=289,slow=16,SNR=4.2
CFAA **Coronel Fontan** 5.67 45 *e*P Pn 19 13 38.3 +0.6
RTLL **Cerro Villicun** 5.75 41 *e*P Pn 19 13 39.1 +0.2
LCO **Las Campanas** 6.96 16 *e*Pn Pn 19 13 54.1 -1.6
comp=Z,53nm,0.5s
TRQA **Tornquist** 9.06 108 *e*P Pn 19 14 26.3 +2.0
comp=Z,60nm,0.7s
LVC **Limon Verde** 13.53 16 Pn Pn 19 15 25.0 -0.8
comp=Z,22nm,0.3s,baz=208,slow=8.5,SNR=3.6
LVC LR LR 19 20 49.1
comp=Z,816nm,21.5s,baz=213,slow=39
CPUP **Villa Florida** 16.30 59 *e*P Pn 19 16 01.6 -0.7
comp=Z,0.1nm,0.8s
USHA **Ushuaia** 19.35 172 P Pn 19 16 40.9 +1.1
comp=Z,1.3nm,0.3s,baz=344,slow=11,SNR=7.2
USHA LR LR 19 24 38.8
comp=Z,516nm,18.3s,baz=287,slow=38
LPAZ **La Paz** 19.83 14 P P 19 16 45.3 +0.5
comp=Z,0.5nm,0.3s,baz=185,slow=7.1,SNR=23
NNA **Nana** 23.91 350 LR LR 19 24 45.7
comp=Z,355nm,19.6s,baz=170,slow=32
PMSA **Palmer Station** 29.56 172 LR LR 19 29 47.6
comp=Z,479nm,18.4s,baz=356,slow=36
BDFB **Brasilia** 29.91 54 P P 19 18 20.2 -1.2
comp=Z,3.0nm,0.7s,baz=224,slow=8.4,SNR=4.9
ROSC **El Rosal** 40.40 358 LR LR 19 36 25.6
comp=Z,144nm,18.8s,baz=183,slow=36
SDV **Santo Domingo** 44.43 3 *e*P P 19 20 23.9 -0.5
comp=Z,11nm,0.9s
VNA3 **Neumayer Olymp** 48.03 157 P P 19 20 52.2 +0.2
VNA1 **Neumayer--Stat** 48.37 156 P P 19 20 56.3 +1.7
VNA2 **Neumayer--Watz** 48.70 157 P P 19 20 57.6 +0.5
baz=278,slow=9.7
SNAA **Sanae** 50.26 157 P P 19 21 07.3 -1.8
SNAA **Sanae** 50.26 157 P P 19 21 09.2 +0.2
comp=Z,2.7nm,0.8s,baz=291,slow=7.2,SNR=22
SNAA **Sanae** 50.26 157 *e*P P 19 21 07.2 -1.9
comp=Z,9.6nm,0.9s
CELP **Cerrillos** 53.85 7 *e*P P 19 21 34.9 -1.3
QSPA **South Pole Qui** 54.50 180 *e*P P 19 21 41.2 +0.4
comp=Z,7.6nm,0.7s
RKT **Rikitea** 54.70 265 *e*T T 20 20 31.0
comp=Z,1.4nm,0.2s
VNDA **Vanda** 62.26 192 P P 19 22 36.9 +2.4
comp=Z,0.5nm,0.8s,baz=128,slow=3.5,SNR=2.5
VNDA **Vanda** 62.26 192 *e*P P 19 22 36.1 +1.5
comp=Z,3.4nm,1.2s
TBI **Tubuai** 66.23 258 *e*LR LR 19 42 47.7
comp=Z,168nm,30.8s
933A **Laredo** 67.74 335 ⇑P P 19 23 12.1 +1.3
baz=68
MEH **Mehetia** 67.92 263 *e*T T 20 36 57.2
comp=Z,31nm,0.2s
834A **Tilden** 67.97 336 ⇑P P 19 23 13.4 +1.3
baz=68
736A **Circle Diamond** 68.25 337 ⇓P P 19 23 15.5 +1.6
baz=69
735A **Kenedy** 68.40 337 ⇑P P 19 23 16.0 +1.3
baz=69
833A **Chaparral WMA,** 68.44 335 ⇑P P 19 23 15.9 +0.9
baz=69
832A **Faith Ranch, C** 68.60 334 ⇓P P 19 23 17.0 +0.9
baz=69
734A **La Parita Cree** 68.64 336 ⇓P P 19 23 17.3 +1.1
baz=69
636A **Smothers Creek** 68.74 337 ⇑P P 19 23 18.3 +1.4
baz=69
732A **Laxson Ranch,** 69.01 335 ⇓P P 19 23 18.4 -0.2
baz=69,SNR=9.8
TIAR **Tiarei** 69.12 263 *e*T T 20 38 30.2
comp=Z,3.9nm,0.2s
PPT2 **Papeete2** 69.29 263 *e*LR LR 19 44 34.4
comp=Z,190nm,25.0s
PPT **Papeete** 69.30 263 LR LR 19 47 34.1
comp=Z,58nm,18.7s,baz=165,slow=30
633A **Saathoff Ranch** 69.41 336 ⇑P P 19 23 21.4 +0.4
baz=70
632A **Uvalde** 69.66 335 ⇓P P 19 23 23.3 +0.7
baz=70,SNR=8.8
534A **Blanco** 69.70 336 ⇑P P 19 23 23.3 +0.4
baz=70
631A **Perdido Creek** 69.84 334 ⇓P P 19 23 24.7 +0.9
baz=70
533A **Kerrville** 69.92 336 ⇑P P 19 23 24.9 +0.6
baz=70
337A **Centerville** 70.10 339 ⇓P P 19 23 26.1 +0.8
baz=70
435B **Jarrell** 70.11 338 ⇓P P 19 23 25.9 +0.5
baz=70
532A **Rocksprings** 70.27 335 ⇑P P 19 23 27.0 +0.6
baz=71,SNR=18
434A **Burnet** 70.36 337 ⇑P P 19 23 27.0 +0.1
baz=71,SNR=6.5
239A **Gary** 70.37 341 ⇓P P 19 23 27.7 +0.8
baz=71
336A **Riesel** 70.45 338 ⇑P P 19 23 28.0 +0.6
baz=71
531A **Rocksprings** 70.52 335 ⇑P P 19 23 28.4 +0.4
baz=71,SNR=12
335A **Moody** 70.53 338 ⇓P P 19 23 28.3 +0.3
baz=71
JCT **Junction City** 70.55 336 ⇓P P 19 23 28.3 +0.1
baz=71,SNR=7.2
433A **Art** 70.57 336 ⇑P P 19 23 28.2 -0.1
baz=71,SNR=10
237A **Washetta, Mont** 70.72 339 ⇓P P 19 23 29.3 +0.2
baz=71
530A **J-C Ranch, Com** 70.78 334 ⇑P P 19 23 30.4 +0.8
baz=71,SNR=13
334A **Lometa** 70.83 337 ⇑P P 19 23 30.1 +0.3
baz=71,SNR=10.0
TXAR **Lajitas Array** 70.91 332 P P 19 23 31.1 +0.6
comp=Z,5.2nm,0.7s,baz=152,slow=8.5,SNR=62
432A **Menard** 70.91 336 ⇓P P 19 23 30.6 +0.3
baz=71
236A **Katherine and** 70.93 339 ⇓P P 19 23 30.8 +0.5
baz=71
KMSC **Kings Mountain** 70.95 353 ⇑P P 19 23 29.8 -0.6
baz=71
431A **Sonora** 71.01 335 ⇓P P 19 23 31.4 +0.4
baz=71,SNR=5.8
333A **Richland Sprin** 71.06 337 ⇑P P 19 23 31.0 -0.2
baz=71,SNR=8.0
529A **Stev Forest Ra** 71.08 333 ⇑P P 19 23 31.4 0.0
baz=71,SNR=12
WHTX **Lake Whitney,** 71.20 338 ⇑P P 19 23 32.1 +0.2
baz=72
137A **Heron Place, G** 71.27 340 ⇓P P 19 23 32.9 +0.5
baz=72
430A **Baggett Ranch,** 71.33 334 ⇓P P 19 23 33.9 +1.0
baz=72,SNR=10
332A **Millersview** 71.36 336 ⇓P P 19 23 32.9 -0.1
baz=72,SNR=5.5
429A **Davenport Ranc** 71.41 334 ⇓P P 19 23 34.2 +0.8
baz=72,SNR=7.5
234A **Clairette** 71.42 338 ⇓P P 19 23 33.2 -0.2
baz=72,SNR=5.7
331A **San Angelo** 71.52 335 ⇓P P 19 23 34.4 +0.4
baz=72,SNR=8.7
233A **Rising Star** 71.67 337 ⇓P P 19 23 34.9 0.0
baz=72,SNR=6.6
135A **Vickery Place,** 71.71 338 ⇓P P 19 23 35.2 +0.1
baz=72
MAW **Mawson** 71.72 164 LR LR 19 53 54.4
comp=Z,190nm,20.8s,baz=240,slow=35
232A **Coleman** 71.80 336 ⇑P P 19 23 35.3 -0.3
baz=72,SNR=10
330A **Mertzon** 71.87 335 ⇑P P 19 23 35.9 -0.2
baz=72
134A **White-Moore Ra** 71.93 338 ⇓P P 19 23 36.3 -0.1
baz=72
231A **Bronte** 72.06 336 ⇑P P 19 23 36.9 -0.3
baz=72,SNR=7.3
133A **Hamilton Ranch** 72.22 337 ⇓P P 19 23 38.2 0.0
baz=72,SNR=5.6
329A **Wagon Wheel Ra** 72.23 334 ⇑P P 19 23 38.6 +0.3
baz=72

230A **Sterling City** 72.29 335 ⇓P P 19 23 38.7 +0.1
baz=73
Z35A **Perchaven, San** 72.39 339 ⇑P P 19 23 38.7 -0.4
baz=73,SNR=5.9
ABTX **Abilene, Hawle** 72.47 337 *e*P P 19 23 40.1 +0.4
comp=Z,46nm,1.2s
ABTX **Abilene, Hawle** 72.47 337 ⇑P P 19 23 40.0 +0.4
baz=73,SNR=5.9
229A **Bryant Ranch,** 72.60 335 ⇑P P 19 23 40.4 -0.1
baz=73
Z34A **Collier Ranch,** 72.62 338 ⇓P P 19 23 40.4 -0.1
baz=73
131A **Roby** 72.76 336 ⇓P P 19 23 41.7 +0.3
baz=73
Z33A **Whitaker Ranch** 72.81 338 ⇑P P 19 23 41.4 -0.2
baz=73
WVT **Waverly** 72.84 347 *e*P P 19 23 41.2 -0.5
comp=Z,24nm,0.8s
130A **Snyder** 72.88 335 ⇓P P 19 23 42.4 +0.3
baz=73
228A **UT Block 9, Go** 73.02 334 ⇑P P 19 23 43.1 +0.1
baz=73,SNR=5.2
Z32A **Haskell** 73.05 337 ⇑P P 19 23 43.4 +0.3
baz=73
Y34A **Reagan Ranch,** 73.12 339 ⇑P P 19 23 43.2 -0.3
baz=73,SNR=5.1
129A **Stewart Farms,** 73.22 335 ⇑P P 19 23 44.0 -0.2
baz=74
W38A **Poteau** 73.27 342 ⇓P P 19 23 43.9 -0.4
baz=74
Z31A **Sharp Cattle R** 73.27 336 ⇓P P 19 23 44.3 -0.1
baz=74,SNR=7.6
X36A **Centrahoma** 73.29 340 ⇓P P 19 23 44.0 -0.5
baz=74,SNR=6.1
X35A **Drake** 73.31 339 ⇑P P 19 23 44.3 -0.2
baz=74
Y33A **Hilltop Ranch,** 73.43 338 ⇑P P 19 23 45.3 0.0
baz=74,SNR=5.9
128A **Castleberry Fa** 73.43 334 ⇓P P 19 23 45.4 0.0
baz=74,SNR=12
Z30A **Sanderson Ranc** 73.57 336 ⇓P P 19 23 45.8 -0.4
baz=74,SNR=8.0
W37A **Quinton** 73.57 341 ⇓P P 19 23 45.2 -0.8
baz=74
MNTX **Cornudas Mount** 73.68 332 *e*P P 19 23 46.5 -0.4
comp=Z,8.4nm,0.8s
MNTX **Cornudas Mount** 73.68 332 ⇑P P 19 23 46.7 -0.1
baz=74
Y32A **R-V Farms, Ver** 73.68 337 ⇓P P 19 23 46.4 -0.4
baz=74
Z29A **Hungry Hill Ra** 73.74 335 ⇑P P 19 23 46.6 -0.6
baz=74,SNR=7.4
W36A **Wetumka** 73.79 340 ⇑P P 19 23 46.7 -0.7
baz=74
Y31A **Rekieta Farm,** 73.90 337 ⇑P P 19 23 48.1 0.0
baz=74
W35A **Tecumseh** 73.98 340 ⇓P P 19 23 47.8 -0.7
baz=74
Z28A **Tucker Farm, M** 74.00 335 ⇓P P 19 23 48.9 +0.1
baz=74
X32A **Elmer** 74.02 338 ⇓P P 19 23 48.7 0.0
baz=74
Y30A **Stafford Cattl** 74.03 336 ⇑P P 19 23 49.0 +0.1
baz=74
Y29A **Porterfield Fa** 74.28 335 ⇓P P 19 23 50.5 +0.1
baz=75
TUL1 **Leonard** 74.40 341 ⇑P P 19 23 50.9 0.0
baz=75
X31A **McDonald Ranch** 74.43 337 ⇑P P 19 23 51.3 +0.2
baz=75
W33A **Caddo, Fort Co** 74.44 338 ⇓P P 19 23 51.7 +0.5
baz=75
V35A **Meyer Ranch, C** 74.54 340 ⇑P P 19 23 51.5 -0.2
baz=75
X30A **Coker Ranch, T** 74.55 336 ⇓P P 19 23 51.9 +0.1
baz=75
W32A **Sentinel** 74.65 338 ⇑P P 19 23 52.7 +0.2
baz=75,SNR=6.2
MSTX **Muleshoe** 74.75 335 ⇓P P 19 23 53.3 +0.1
baz=75
V34A **Guthrie** 74.80 339 ⇓P P 19 23 53.0 -0.2
baz=75
X29A **Tulia** 74.82 336 ⇓P P 19 23 53.3 -0.2
baz=75
W31A **Holland Ranch,** 74.93 337 ⇓P P 19 23 54.3 +0.2
baz=75
319A **Douglas** 74.99 328 ⇓P P 19 23 55.7 +1.2
baz=75
V33A **Lossen Ranch,** 75.01 339 ⇓P P 19 23 54.5 0.0
baz=75
V32A **Arapaho** 75.14 338 ⇓P P 19 23 55.2 -0.1
baz=76
AMTX **Amarillo** 75.21 336 ⇑P P 19 23 56.0 +0.3
baz=76
121A **Cookes Peak, D** 75.37 330 *e*P P 19 23 58.3 +1.5
comp=Z,13nm,1.0s
121A **Cookes Peak, D** 75.37 330 ⇑P P 19 23 58.0 +1.1
baz=76
U34A **Anderson Ranch** 75.37 340 ⇓P P 19 23 56.4 -0.1
baz=76
W29A **Amarillo** 75.42 336 ⇓P P 19 23 56.8 -0.1
baz=76,SNR=5.2
V31A **Spring Creek L** 75.44 338 ⇑P P 19 23 57.3 +0.3
baz=76
T36A **Boggs Farm, Ca** 75.50 341 ⇓P P 19 23 57.0 -0.2
baz=76
U33A **Lingo Farm, Me** 75.53 339 ⇓P P 19 23 57.2 -0.3
baz=76
T35A **Sooner Cattle** 75.54 341 ⇓P P 19 23 57.4 -0.1
baz=76
U32A **Winter Ranch,** 75.74 339 ⇑P P 19 23 58.8 +0.1
baz=76
T34A **McClaskey Farm** 75.82 340 ⇑P P 19 23 58.8 -0.3
baz=76,SNR=5.7
LIC **Lamto** 76.00 72 *e*PKP2 P 19 24 00.9 +0.2
comp=Z,51nm,1.8s
S36A **Lake Cedric, C** 76.06 342 ⇓P P 19 23 60.0 -0.4
baz=76
ACSO **Alum Creek Sta** 76.16 352 *e*P P 19 24 00.2 -0.7
comp=Z,18nm,0.6s
ACSO *e* 19 24 09.6
T33A **Patterson Ranc** 76.18 339 ⇓P P 19 24 01.0 -0.1
baz=76
V28A **Channing** 76.18 336 ⇓P P 19 24 01.7 +0.4
baz=76
S35A **Otter Creek Ra** 76.21 341 ⇓P P 19 24 01.2 0.0
baz=76
TIC **Toumodi** 76.27 71 *e*PKP2 P 19 24 02.5 +0.3
KIC **Kosan Boka** 76.31 72 *e*PKP2 P 19 24 02.2 -0.2
comp=Z,65nm,1.4s
U30A **WK&E Inc. Balk** 76.39 337 ⇑P P 19 24 02.1 -0.3
baz=77
DBIC **Dimbokro** 76.41 71 P P 19 24 02.9 -0.1
comp=Z,3.0nm,0.7s,baz=195,slow=5.9,SNR=8.3
DBIC LR LR 19 55 24.5
comp=Z,48nm,19.4s,baz=188,slow=34
R37A **Teagarden Farm** 76.42 342 ⇑P P 19 24 02.1 -0.4
baz=77
LPM **Los Pinos Moun** 76.48 332 *e*P P 19 24 04.2 +1.1
comp=Z,4.2nm,1.0s
R36A **Gordon, Harris** 76.60 342 ⇑P P 19 24 02.9 -0.6
baz=77
U28A **Mallet** 76.76 336 ⇓P P 19 24 04.7 +0.1
baz=77
SFIN **Lafayette** 76.86 349 ⇓P P 19 24 03.8 -1.1
baz=77
ANMO **Albuquerque** 76.97 332 *e*P P 19 24 07.1 +1.2
comp=Z,9.5nm,1.1s
ANMO *e* 19 24 20.3
U27A **Thompson Grove** 76.99 336 ⇓P P 19 24 06.5 +0.6
baz=77
S31A **Mullinville** 77.04 339 ⇓P P 19 24 05.9 -0.1
baz=77
214A **Organ Pipe Nat** 77.04 326 ⇓P P 19 24 07.3 +1.1
baz=77
T29A **Hugoton** 77.17 337 ⇓P P 19 24 07.1 +0.3
baz=78
T28A **Walsh** 77.39 336 ⇓P P 19 24 08.2 +0.1
baz=78
Q34A **Chapman** 77.54 341 ⇑P P 19 24 08.5 -0.2
baz=78
T27A **Campo** 77.54 336 ⇓P P 19 24 09.0 0.0
baz=78
S28A **Manter** 77.75 337 ⇑P P 19 24 10.4 +0.3
baz=78
P35A **Duane Minner,** 77.87 342 ⇑P P 19 24 10.4 -0.2
baz=78
X18A **Snowflake** 77.99 329 ⇑P P 19 24 12.3 +0.7
baz=78
113A **Mohawk Valley,** 78.16 326 ⇑P P 19 24 13.5 +1.2
baz=78
T25A **Trinidad** 78.18 335 ⇓P P 19 24 13.4 +0.7
baz=78
Q31A **Ellis** 78.29 339 ⇓P P 19 24 13.1 +0.1
baz=79
Q30A **Quinter** 78.51 339 ⇓P P 19 24 14.6 +0.4
baz=79
X16A **Lo Mia Camp, P** 78.52 328 ⇓P P 19 24 15.7 +1.2
baz=79
R27A **Eads** 78.68 336 ⇑P P 19 24 15.6 +0.3
baz=79
Y14A **Wickenburg** 78.80 327 ⇓P P 19 24 16.9 +1.0
baz=79
GLA **Glamis** 78.88 325 ⇓P P 19 24 17.9 +1.5
baz=79
O32A **Brockman Farm,** 79.15 340 ⇓P P 19 24 17.7 0.0
baz=80
Y12C **Blythe** 79.33 326 ⇓P P 19 24 20.2 +1.5
baz=80
WUAZ **Wupatki** 79.43 329 *e*P P 19 24 21.1 +1.6
comp=Z,5.0nm,0.9s
WUAZ **Wupatki** 79.43 329 ⇓P P 19 24 20.7 +1.2
baz=80
BC3 **Big Chuckawall** 79.68 325 ⇑P P 19 24 22.3 +1.5
baz=80
MVCO **Mesa Verde** 79.74 332 *e*P P 19 24 21.6 +0.4
comp=Z,2.3nm,0.5s
MVCO **Mesa Verde** 79.74 332 ⇓P P 19 24 21.3 +0.1
baz=80
BOSA **Boshof** 79.90 118 P P 19 24 22.1 -0.3
comp=Z,3.6nm,0.7s,baz=193,slow=3.1,SNR=5.6
BOSA LR LR 19 54 56.5
comp=Z,62nm,18.8s,baz=198,slow=32
BOSA **Boshof** 79.90 118 *e*P P 19 24 23.3 +0.9
comp=Z,9.7nm,0.8s
IRM **Iron Mountain** 79.95 326 ⇑P P 19 24 23.1 +0.9
baz=80
PFO **Pinyon Flats O** 80.11 324 P P 19 24 24.7 +1.6
comp=Z,5.0nm,0.9s,baz=131,slow=4.6,SNR=5.3
PFO **Pinyon Flats O** 80.11 324 ⇓P P 19 24 24.3 +1.2
baz=80
W13A **Hualapai Mount** 80.16 327 ⇓P P 19 24 24.7 +1.1
baz=80
O27A **Beecher Island** 80.31 337 ⇓P P 19 24 24.2 +0.2
baz=81
N29A **Votaw Ranch, W** 80.33 339 ⇓P P 19 24 24.2 +0.1
baz=81
M31A **Lambtecht Ranc** 80.35 340 ⇑P P 19 24 24.0 -0.2
baz=81
U15A **North Rim** 80.60 329 ⇑P P 19 24 26.5 +0.6
baz=81
GMRC **Granite Mounta** 80.70 326 ⇑P P 19 24 27.3 +1.0
baz=81
HEC **Hector,Ludlow** 81.05 325 ⇓P P 19 24 29.6 +1.4
baz=81
BFSC **Mount Baldy Ra** 81.20 324 ⇓P P 19 24 29.8 +0.8
baz=82
TUQ **Turquoise Moun** 81.36 326 ⇓P P 19 24 31.1 +1.3
baz=82
GSC **Goldstone, Bar** 81.66 325 ⇑P P 19 24 32.9 +1.5
baz=82
K30A **Basset** 81.76 340 ⇑P P 19 24 31.6 0.0
baz=82
EDW2 **Edwards Air Fo** 81.88 324 ⇑P P 19 24 33.6 +1.1
baz=82
SHPR **Sheep Range** 81.91 327 *e*P P 19 24 33.0 +0.3
ECSD **EROS Data Cent** 81.98 343 *e*P P 19 24 32.5 -0.2
comp=Z,22nm,1.1s
ECSD **EROS Data Cent** 81.98 343 ⇓P P 19 24 32.3 -0.5
baz=82
N22A **Wattenberg Ran** 82.17 335 ⇓P P 19 24 34.9 +0.7
baz=82
LBTB **Lobatse** 82.22 115 *e*P P 19 24 35.5 +0.7
comp=Z,9.9nm,0.8s
L25A **Engebretsen Ra** 82.56 337 ⇑P P 19 24 35.6 -0.4
baz=83
MPMC **Manual Prospec** 82.60 325 ⇑P P 19 24 37.2 +0.8
baz=83
ISA **Isabella, Lake** 82.74 324 *e*P P 19 24 38.8 +1.8
comp=Z,6.1nm,1.0s
ISA **Isabella, Lake** 82.74 324 ⇑P P 19 24 38.3 +1.3
baz=83
TPNV **Topopah Spring** 82.76 326 ⇑P P 19 24 38.5 +1.3
baz=83
PKM **Mcpherson Peak** 82.78 323 ⇓P P 19 24 38.9 +1.6
baz=83
DAC **Darwin (Calif)** 82.83 325 *e*P P 19 24 39.2 +1.6
comp=Z,9.0nm,0.9s
I30A **Oacoma** 82.86 341 ⇑P P 19 24 37.5 +0.1
baz=83
VES **Vestal, Richgr** 83.18 324 ⇓P P 19 24 40.6 +1.5
baz=84
I29A **Vivian Onida** 83.20 340 ⇓P P 19 24 37.8 -1.3
baz=84
SMMC **Simmler** 83.20 323 ⇑P P 19 24 40.6 +1.3
baz=84
J26A **Sides Ranch, S** 83.34 338 ⇓P P 19 24 40.2 +0.3
baz=84
I28A **Midland** 83.42 340 ⇑P P 19 24 40.3 0.0
baz=84
R11A **Troy Canyon, C** 83.63 328 *e*P P 19 24 42.7 +1.0
R11A **Troy Canyon, C** 83.63 328 ⇓P P 19 24 43.2 +1.6
baz=84
K23A **Bowen Ranch, D** 83.64 336 ⇑P P 19 24 40.5 -1.0
baz=84
H29A **Onida** 83.73 341 ⇑P P 19 24 41.3 -0.5
baz=84
JLU **Jordanelle** 83.83 331 *e*P P 19 24 43.6 +0.9
comp=Z,3.9nm,0.6s
K22A **Casper** 83.84 336 *e*P P 19 24 43.3 +0.7
comp=Z,6.1nm,0.6s
K22A **Casper** 83.84 336 ⇓P P 19 24 43.4 +0.8
baz=84
J24A **Dixon Ranch, L** 83.84 337 ⇓P P 19 24 43.2 +0.7
baz=84
DUG **Dugway, Tooele** 84.02 330 *e*P P 19 24 44.1 +0.5
comp=Z,4.0nm,0.8s
DUG **Dugway, Tooele** 84.02 330 ⇑P P 19 24 44.3 +0.8
baz=84
TPH **Tonopah** 84.13 326 *e*P P 19 24 45.5 +1.2
comp=Z,10nm,0.9s
I25A **Rochford** 84.18 338 ⇓P P 19 24 44.4 0.0
baz=84
H27A **Howes** 84.25 340 ⇓P P 19 24 44.6 +0.1
baz=85
I24A **Kuemmerle Ranc** 84.31 338 ⇑P P 19 24 45.3 +0.4
baz=85
G28A **Parade** 84.34 340 ⇑P P 19 24 45.1 +0.2
baz=85
RSSD **Black Hills** 84.37 338 *e*P P 19 24 45.7 +0.4
J22A **Midwest** 84.50 336 ⇓P P 19 24 45.2 -0.7
baz=85
MLAC **Mammoth, Mammo** 84.50 325 ⇓P P 19 24 47.4 +1.2
baz=85
HWUT **Hardware Ranch** 84.73 332 *e*P P 19 24 47.8 +0.6
comp=Z,9.3nm,0.8s
J21A **Lysite** 84.77 335 ⇑P P 19 24 46.7 -0.6
baz=85
NVAR **Mina Array Bea** 84.91 326 P P 19 24 49.4 +1.2
comp=Z,4.4nm,0.7s,baz=156,slow=6.2,SNR=25
I22A **9 Mile Ranch,** 84.93 336 ⇓P P 19 24 47.7 -0.3
baz=85
J20A **Shoshoni** 84.99 335 ⇓P P 19 24 49.0 +0.6
baz=85
PDAR **Pinedale Array** 84.99 334 LR LR 19 58 00.3
comp=Z,90nm,18.5s,baz=150,slow=32
G26A **Maurine** 85.01 339 ⇑P P 19 24 48.1 -0.2
baz=85
H24A **Dirks Ranch, A** 85.09 338 ⇑P P 19 24 48.1 -0.7
baz=85
I21A **Big Trails, Te** 85.13 336 ⇓P P 19 24 49.4 +0.3
baz=85
E30A **Jud** 85.14 342 ⇑P P 19 24 47.5 -1.4
baz=86
G25A **Newell** 85.15 339 ⇑P P 19 24 49.0 0.0
baz=86
J19A **Crowheart** 85.25 334 ⇑P P 19 24 49.9 +0.2
baz=86
HVU **Hansel Valley** 85.35 331 *e*P P 19 24 50.7 +0.4
comp=Z,2.7nm,0.6s
F27A **Lemmon** 85.38 340 ⇑P P 19 24 50.0 -0.1
baz=86
TOA0 **Torodi Ar. Sit** 85.47 70 *e*P P 19 24 49.4 -1.9
TORD **Torodi Ar. Bea** 85.47 70 P P 19 24 50.5 -0.8
comp=Z,1.1nm,0.7s,baz=251,slow=3.8,SNR=7.1
ELK **Elko** 85.47 329 *e*P P 19 24 51.8 +0.8

	comp=Z,2.2nm,0.8s						
WAKR	**Walker**	**85.49**	**325**	*e*P	**P**	**19 24 53.0**	**+2.0**
	comp=Z,6.5nm,1.1s						
H22A	**Clearmont**	**85.52**	**337**	⇓P	**P**	**19 24 50.5**	**-0.5**
	baz=86						
I20A	**Worland**	**85.53**	**335**	⇑P	**P**	**19 24 51.1**	**+0.1**
	baz=86						
F26A	**Lodgepole**	**85.54**	**340**	⇓P	**P**	**19 24 50.6**	**-0.3**
	baz=86						
H21A	**Big Horn, Sher**	**85.77**	**336**	⇑P	**P**	**19 24 51.9**	**-0.4**
	baz=86						
F25A	**Bowman**	**85.83**	**339**	⇑P	**P**	**19 24 51.8**	**-0.6**
	baz=86						
I19A	**Meeteetse**	**85.90**	**335**	⇓P	**P**	**19 24 53.0**	**0.0**
	baz=86						
H20A	**Greybull**	**85.96**	**336**	⇑P	**P**	**19 24 53.2**	**+0.1**
	baz=86						
REDW	**Red Top Meadow**	**85.98**	**333**	*e*P	**P**	**19 24 53.6**	**+0.2**
	comp=Z,5.9nm,1.0s						
E26A	**Carlson Angus**	**86.05**	**340**	⇑P	**P**	**19 24 53.3**	**-0.1**
	baz=86						
F24A	**Ekalaka**	**86.05**	**339**	⇑P	**P**	**19 24 53.3**	**-0.2**
	baz=86						
G22A	**Birney**	**86.06**	**337**	⇓P	**P**	**19 24 53.6**	**0.0**
	baz=86						
AGMN	**Agassiz Nation**	**86.13**	**345**	*e*P	**P**	**19 24 53.7**	**-0.1**
	comp=Z,3.4nm,0.7s						
AGMN	**Agassiz Nation**	**86.13**	**345**	⇑P	**P**	**19 24 53.6**	**-0.1**
	baz=86						
C30A	**Mose, Pekin**	**86.16**	**343**	⇑P	**P**	**19 24 54.0**	**0.0**
	baz=86						
D28A	**Regan**	**86.21**	**342**	⇓P	**P**	**19 24 54.4**	**+0.2**
	baz=86						
F23A	**Volborg**	**86.23**	**338**	⇑P	**P**	**19 24 54.6**	**+0.2**
	baz=86						
E25A	**Miller Ranch,**	**86.34**	**339**	⇑P	**P**	**19 24 54.9**	**0.0**
	baz=87						
G21A	**Lodge Grass**	**86.35**	**336**	⇑P	**P**	**19 24 54.8**	**-0.3**
	baz=87						
H19A	**Powell**	**86.46**	**335**	⇑P	**P**	**19 24 55.5**	**-0.1**
	baz=87						
IMW	**Indian Meadow**	**86.47**	**333**	*e*P	**P**	**19 24 56.3**	**+0.4**
	comp=Z,5.5nm,1.0s						
F22A	**Rosebud**	**86.55**	**337**	⇑P	**P**	**19 24 55.7**	**-0.3**
	baz=87						
D26A	**Manning**	**86.55**	**340**	⇓P	**P**	**19 24 55.9**	**0.0**
	baz=87						
E24A	**Baker**	**86.66**	**339**	⇓P	**P**	**19 24 57.1**	**+0.6**
	baz=87						
G20A	**Bridger**	**86.68**	**336**	⇓P	**P**	**19 24 56.3**	**-0.4**
	baz=87						
H18A	**Shoshone NF, C**	**86.70**	**335**	⇑P	**P**	**19 24 56.7**	**-0.2**
	baz=87						
B30A	**Myrvik Farm, E**	**86.83**	**343**	⇑P	**P**	**19 24 56.4**	**-0.8**
	baz=87						
E23A	**Ismay**	**86.90**	**338**	⇓P	**P**	**19 24 57.4**	**-0.2**
	baz=87						
C27A	**Sayler Ranch,**	**86.93**	**341**	⇑P	**P**	**19 24 57.4**	**-0.3**
	baz=87						
RLMT	**Red Lodge**	**86.95**	**335**	*e*P	**P**	**19 24 58.1**	**-0.1**
E22A	**Miles City**	**87.04**	**338**	⇑P	**P**	**19 24 58.3**	**-0.1**
	baz=87						
D24A	**Glendive**	**87.17**	**339**	⇓P	**P**	**19 24 59.1**	**+0.2**
	baz=88						
F20A	**Billings**	**87.17**	**336**	⇑P	**P**	**19 24 59.1**	**+0.1**
	baz=88						
C25A	**Freed Ranch, W**	**87.40**	**340**	⇑P	**P**	**19 24 60.0**	**-0.1**
	baz=88						
D23A	**Lindsay**	**87.47**	**339**	⇑P	**P**	**19 25 00.8**	**+0.3**
	baz=88						
E21A	**Keefer Ranch,**	**87.48**	**337**	⇑P	**P**	**19 25 00.9**	**+0.4**
	baz=88						
A29A	**Manning Farm,**	**87.48**	**343**	⇑P	**P**	**19 25 00.2**	**-0.2**
	baz=88						
F19A	**Roth Farm, Mol**	**87.48**	**336**	⇑P	**P**	**19 25 00.4**	**-0.2**
	baz=88						
HLID	**Hailey**	**87.50**	**331**	*e*P	**P**	**19 25 01.9**	**+1.1**
	comp=Z,2.2nm,0.8s						
HLID	**Hailey**	**87.50**	**331**	⇓P	**P**	**19 25 01.6**	**+0.8**
	baz=88						
C24A	**Savage**	**87.57**	**339**	⇑P	**P**	**19 25 01.2**	**+0.3**
	baz=88						
D22A	**Cohagen**	**87.75**	**338**	⇑P	**P**	**19 25 02.0**	**+0.2**
	baz=88						
E20A	**Meyer Farm, Mu**	**87.79**	**337**	⇓P	**P**	**19 25 02.1**	**+0.2**
	baz=88						
E19A	**Rath Farm, Rou**	**87.96**	**336**	⇓P	**P**	**19 25 02.9**	**0.0**
	baz=88						
MCMT	**McKenzie Canyo**	**87.97**	**333**	*e*P	**P**	**19 25 04.3**	**+1.2**
	comp=Z,3.5nm,0.8s						
ULM	**Lac du Bonnet**	**87.99**	**345**	P	**P**	**19 25 01.9**	**-0.9**
	comp=Z,6.7nm,0.7s,baz=206,slow=2.6,SNR=13						
C23A	**Lambert**	**88.04**	**339**	⇓P	**P**	**19 25 03.1**	**+0.1**
	baz=88						
A26A	**Wade Farm, Ken**	**88.16**	**341**	⇑P	**P**	**19 25 03.3**	**-0.3**
	baz=88						
D20A	**Manuel Ranch,**	**88.31**	**337**	⇑P	**P**	**19 25 04.3**	**-0.1**
	baz=89						
WVOR	**Wild Horse Val**	**88.31**	**328**	*e*P	**P**	**19 25 05.3**	**+0.7**
DGMT	**Dagmar**	**88.36**	**340**	⇓P	**P**	**19 25 04.6**	**0.0**
	baz=89						
WDC	**Whiskeytown Da**	**88.59**	**325**	*e*P	**P**	**19 25 06.1**	**+0.3**
	comp=Z,5.7nm,0.8s						
C21A	**Desert Coulee**	**88.63**	**338**	⇓P	**P**	**19 25 06.4**	**+0.5**
	baz=89						
B22A	**Reddig Ranch S**	**88.72**	**339**	⇑P	**P**	**19 25 06.4**	**+0.1**
	baz=89						
M04C	**Macdoel**	**89.21**	**326**	⇓P	**P**	**19 25 09.6**	**+0.7**
	baz=90						
A22A	**Carney Farms,**	**89.32**	**339**	⇓P	**P**	**19 25 09.1**	**0.0**
	baz=90						
YBH	**Yreka Blue Hor**	**89.57**	**325**	P	**P**	**19 25 10.9**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=141,slow=8.1,SNR=4.6						
A19A	**Klindworth Far**	**90.12**	**337**	⇑P	**P**	**19 25 12.5**	**-0.4**
	baz=90						
J05D	**Fort Rock, OR**	**90.13**	**327**	⇑P	**P**	**19 25 13.9**	**+0.7**
	baz=90						
I04A	**Tendick Farm,**	**91.05**	**327**	⇓P	**P**	**19 25 17.3**	**0.0**
	baz=91						
ASAR	**Alice Springs**	**115.70**	**207**	PKP	**PKPdf**	**19 30 57.1**	**+1.1**
	comp=Z,0.4nm,1.0s,baz=127,slow=1.7,SNR=2.5						
ASAR				PKKPbc	**PKKPbc**	**19 41 24.9**	**-2.5**
	comp=Z,0.2nm,0.6s,baz=355,slow=3.1,SNR=5.0						
WRA	**Warramunga Arr**	**118.90**	**209**	PKP	**PKPdf**	**19 31 00.7**	**-1.5**
	comp=Z,0.4nm,1.0s,baz=158,slow=1.7,SNR=3.3						
H11S2	**WAKE ISLAND Hy**	**125.02**	**268**	T	T	21 48 53.4	
	baz=118,slow=74,SNR=10						
H11S1	**WAKE ISLAND Hy**	**125.03**	**268**	T	T	21 48 52.8	
	baz=118,slow=74,SNR=9.3						
H11S3	**WAKE ISLAND Hy**	**125.03**	**268**	T	T	21 48 53.4	
	baz=118,slow=74,SNR=7.3						
SEY	**Seymchan**	**141.16**	**329**	PKP	**PKPdf**	**19 31 41.5**	**-1.3**
	comp=Z,1.4nm,0.7s,baz=146,slow=3.6,SNR=3.2						
ABKAR	**Akbulak array**	**143.30**	**53**	*e*PKPpre	PKPpre	19 31 43.4	
GSI	**Gunungsitoli**	**144.62**	**163**	*e*PKPdf	PKPbc	19 31 49.6	**+0.5**
KSM	**Kuching**	**145.78**	**186**	*e*PKPdf	**PKPab**	**19 31 55.3**	**+2.1**
BRVK	**Borovoye**	**148.96**	**45**	*e*PKPbc	**PKPbc**	**19 32 00.7**	**+0.2**
YAK	**Yakutsk**	**150.10**	**339**	*e*PKPbc	**PKPbc**	**19 32 02.5**	**-0.5**
KKAR	**Karatay Array**	**150.97**	**64**	*e*PKPbc	**PKPbc**	**19 32 04.8**	**-0.9**
EKS2	**Erkin-Say**	**151.39**	**65**	*e*PKPbc	**PKPbc**	**19 32 11.9**	**+0.5**
ZALV	**Zalesovo Beam**	**156.07**	**34**	PKPbc	PKPdf	19 32 15.5	**+8.6**
	comp=Z,0.5nm,0.4s,baz=11,slow=1.5,SNR=1.9						
ZALV				PKPab	**PKPab**	**19 32 33.1**	**-1.3**
	comp=Z,1.0nm,0.3s,baz=307,slow=4.9,SNR=5.2						
MKAR	**Makanchi Array**	**158.42**	**52**	PKP	**PKPdf**	**19 32 10.8**	**+0.6**
	comp=Z,0.6nm,1.1s,baz=250,slow=2.9,SNR=2.3						
MKAR				PKPab	**PKPab**	**19 32 44.5**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=314,slow=2.1,SNR=3.9						
KSRS	**Korea Array**	**163.18**	**282**	PKPab	**PKPab**	**19 33 07.2**	**+1.2**
	comp=Z,1.7nm,0.7s,baz=82,slow=5.8,SNR=5.0						
KSAR	**Wonju Array Be**	**163.21**	**282**	PKPab	**PKPab**	**19 33 07.2**	**+1.1**
SONM	**Songino Array**	**167.90**	**2**	PKPab	**PKPab**	**19 33 26.4**	**0.0**
	comp=Z,1.8nm,0.8s,baz=305,slow=3.0,SNR=7.1						

IDC 24 19:17:03.6±70.0, 18°25'S×167°46'E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.5/38, mbtmp3.9/3, Error ellipse: s-maj=1183.0km s-min=108.6km az=72.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**26.99**	**235**	P	P	19 22 47.3	0.0
	1.2nm,0.6s,baz=71,slow=9.4,SNR=2.8						
WRA	**Warramunga Arr**	**31.32**	**261**	P	P	19 23 25.8	-0.2
	0.8nm,0.7s,baz=92,slow=9.2,SNR=5.6						
ASAR	**Alice Springs**	**31.75**	**254**	P	P	19 23 29.9	+0.1
	1.9nm,0.8s,baz=81,slow=8.9,SNR=15						

*ISCJB **24** 19:18:26.1±0.6, 19°.06N±0°.05×145°.6E±0°.1, h214km, mb3.6/12, Error ellipse: s-maj=19.1km s-min=6.4km az=174.1*
*IDC **24** 19:18:28.7±0.8, 19°.01N×145°.58E, h227km±7km, mb3.4/12, mb1 3.6/15, mb1mx3.3/47, mbtmp4.0/15, Error ellipse: s-maj=21.2km s-min=9.5km az=89.0*

ISC 24 19:18:27.8±0.6, 19°.05N±0°.06×145°.5E±0°.1, h214km, n19, σ1§65/21, mb3.6/12, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.46**	**187**	P	**Pn**	**19 19 50.0**	**+1.5**
	12nm,0.3s,baz=322,slow=12,SNR=14						
GUMO				S	**S**	**19 20 50.5**	**-1.7**
	6.3nm,0.3s,baz=17,slow=19,SNR=3.0						
JCJ	**Chichijima**	**8.58**	**340**	P	**Pn**	**19 20 28.6**	**0.0**
	5.9nm,0.3s,baz=180,slow=20,SNR=3.5						
JCJ				S	**S**	**19 22 01.4**	**-4.0**
	5.1nm,0.3s,baz=129,slow=20,SNR=3.0						
JOW	**Kunigami**	**17.67**	**299**	P	**Pn**	**19 22 22.6**	**+1.3**
	0.3nm,0.3s,baz=132,slow=11,SNR=14						
MJAR	**Matsushiro Arr**	**18.58**	**341**	P	**P**	**19 22 29.6**	**+0.6**
	0.4nm,0.3s,baz=161,slow=7.7,SNR=4.0						
H11S3	**WAKE ISLAND Hy**	**20.04**	**88**	T	T	19 44 06.2	
	baz=275						
H11S1	**WAKE ISLAND Hy**	**20.05**	**88**	T	T	19 44 14.3	
	baz=275,slow=74						
H11S2	**WAKE ISLAND Hy**	**20.06**	**88**	T	T	19 44 08.3	
	baz=275,slow=74						
JAY	**Jayapura**	**21.94**	**193**	P	**P**	**19 23 04.3**	**-0.2**
	9.9nm,0.9s,baz=343,slow=8.9,SNR=6.5						
CTA	**Charters Tower**	**38.90**	**179**	P	**P**	**19 25 31.8**	**-1.1**
	1.3nm,0.3s,baz=11,slow=5.2,SNR=3.7						
WRA	**Warramunga Arr**	**40.27**	**196**	P	**P**	**19 25 43.9**	**-0.4**
	4.2nm,0.4s,baz=6.5,slow=9.0,SNR=155						
ASAR	**Alice Springs**	**43.94**	**195**	P	**P**	**19 26 13.3**	**-0.6**
	2.7nm,0.6s,baz=10,slow=5.8,SNR=72						
CMAR	**Chiang Mai Arr**	**44.02**	**277**	P	**P**	**19 26 15.9**	**+1.3**
	1.3nm,1.0s,baz=66,slow=7.2,SNR=4.1						
STKA	**Stephens Creek**	**50.77**	**184**	P	**P**	**19 27 04.8**	**-1.5**
	1.1nm,0.4s,baz=3.6,slow=11,SNR=11						
MKAR	**Makanchi Array**	**58.11**	**314**	P	**P**	**19 27 59.2**	**+0.2**
	0.3nm,0.7s,baz=89,slow=8.8,SNR=2.9						
MKAR				pP	**PcP**	**19 28 50.8**	**+2.6**
	0.2nm,0.6s,baz=87,slow=9.0,SNR=3.1						
KURBB	**Kurchatov Arra**	**60.96**	**318**	P	**P**	**19 28 17.8**	**-0.5**
	0.5nm,0.7s,baz=96,slow=6.7,SNR=6.7						
KURBB				pP	**pP**	**19 29 08.9**	**+1.8**
	0.8nm,0.7s,baz=91,slow=6.8,SNR=4.0						
ILAR	**Eielson Array**	**63.41**	**26**	P	**P**	**19 28 34.1**	**-0.2**
	0.5nm,0.7s,baz=259,slow=4.8,SNR=5.7						
YKA	**Yellowknife Ar**	**77.76**	**28**	P	**P**	**19 30 01.1**	**+0.2**
	0.3nm,0.6s,baz=284,slow=5.3,SNR=3.7						
YKA				pP	**pP**	**19 30 54.3**	**+2.2**
	0.3nm,0.6s,baz=292,slow=5.2,SNR=2.8						
NVAR	**Mina Array Bea**	**83.05**	**52**	P	**P**	**19 30 30.4**	**+0.5**
	0.5nm,0.6s,baz=281,slow=5.4,SNR=5.3						
FINES	**FINESS Array B**	**86.50**	**335**	P	**P**	**19 30 44.1**	**-2.2**
	1.1nm,0.7s,baz=90,slow=4.2,SNR=6.8						

*ISCJB **24** 19:28:51.2±0.5, 59°.75N±0°.03×153°.59W±0°.08, h152km±4km, mb3.2/1, Error ellipse: s-maj=6.9km s-min=4.8km az=22.7*
*NEIC **24** 19:28:53.2, 59°.75N×153°.55W, h146km, MG2.7(AEIC), After AEIC.*
*IDC **24** 19:28:54.2±8.7, 60°.09N×153°.68W, h146km±76km, mb3.0/1, mb1 3.0/4, mb1mx2.8/34, mbtmp3.4/4, Error ellipse: s-maj=75.6km s-min=34.6km az=16.0*

ISC 24 19:28:51.9±1.0, 59°.77N±0°.04×153°.61W±0°.05, h151km±7km, n71, σ0§86/80, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.23**	**120**	P	**Pn**	**19 29 12.5**	**+0.1**
ILS	**Iliamna Low So**	**0.34**	**55**	P	**Pn**	**19 29 12.6**	**-0.2**
ILW	**Iliamna West**	**0.38**	**39**	P	**Pn**	**19 29 12.7**	**-0.3**
AUL	**Augustine Lava**	**0.40**	**167**	P	**Pn**	**19 29 13.2**	**+0.3**
AUL				S	**Sn**	**19 29 28.9**	**+0.1**
AUP	**Augustine Pinn**	**0.42**	**166**	P	**Pn**	**19 29 13.5**	**+0.4**
AUI	**Augustine Isla**	**0.44**	**168**	P	**Pn**	**19 29 13.1**	**0.0**
AUI				S	**Sn**	**19 29 29.1**	**-0.1**
MCNL	**McNeil River**	**0.69**	**213**	P	**Pn**	**19 29 14.3**	**-0.1**
RSO	**Redoubt South**	**0.82**	**31**	*e*Pn	**Pn**	**19 29 15.2**	**-0.4**
NCT	**North Crescent**	**0.87**	**23**	P	**Pn**	**19 29 15.7**	**-0.1**
DFR	**Drift River**	**0.95**	**29**	P	**Pn**	**19 29 16.2**	**-0.1**
NNL	**Ninilchik**	**1.20**	**76**	P	**Pn**	**19 29 19.7**	**+1.2**
BRLK	**Bradley Lake**	**1.38**	**89**	P	**Pn**	**19 29 20.0**	**-0.3**
BRLK				S	**Sn**	**19 29 40.4**	**-1.7**
NKA	**Nikishka**	**1.54**	**49**	P	**Pn**	**19 29 23.6**	**+1.8**
CKL	**Chakachamna La**	**1.57**	**23**	P	**Pn**	**19 29 22.6**	**+0.3**
BGL	**Barrier Glacie**	**1.62**	**21**	P	**Pn**	**19 29 23.4**	**+0.6**
SPBG	**Spurr Blockage**	**1.62**	**22**	P	**Pn**	**19 29 23.4**	**+0.6**
SPBG				S	**Sn**	**19 29 46.4**	**-0.2**
CKN	**Chakachatna No**	**1.62**	**25**	P	**Pn**	**19 29 23.3**	**+0.4**
KVTA	**Katmai Vly 10**	**1.64**	**213**	P	**Pn**	**19 29 23.3**	**+0.3**
KAKN	**Katmai Knife C**	**1.65**	**208**	P	**Pn**	**19 29 23.4**	**+0.1**
KAKN				S	**Sn**	**19 29 46.6**	**-0.7**
KCE	**Katmai Mt Cerb**	**1.73**	**209**	P	**Pn**	**19 29 24.7**	**+0.6**
KABR	**Katmai Barrier**	**1.79**	**204**	P	**Pn**	**19 29 24.6**	**0.0**
SLKM	**Skilak Lake**	**1.85**	**65**	P	**Pn**	**19 29 25.2**	**-0.1**
STLK	**Strandline Lak**	**1.95**	**26**	P	**Pn**	**19 29 26.8**	**+0.3**
KDAK	**Kodiak Island**	**2.06**	**164**	*e*Pn	**Pn**	**19 29 27.7**	**0.0**
KDAK				S	**Sn**	**19 29 53.9**	**-1.4**
SEW	**Seward**	**2.12**	**79**	*e*Pn	**Pn**	**19 29 27.9**	**-0.5**
FIB	**Fire Island**	**2.21**	**49**	P	**Pn**	**19 29 29.9**	**+0.5**
FIB				S	**Sn**	**19 29 58.4**	**+0.1**
SUA	**Susitna One**	**2.21**	**38**	P	**Pn**	**19 29 29.5**	**-0.1**
RC01	**Rabbit Creek A**	**2.34**	**54**	P	**Pn**	**19 29 30.6**	**-0.4**
SKT	**Skwentna**	**2.44**	**24**	P	**Pn**	**19 29 32.5**	**+0.2**
OHAK	**Old Harbor**	**2.56**	**176**	P	**Pn**	**19 29 32.5**	**-1.2**
OHAK				S	**Sn**	**19 30 03.4**	**-2.5**
LTI	**Latouche**	**2.92**	**82**	P	**Pn**	**19 29 38.3**	**+0.2**
PPLA	**Purkeypile**	**3.21**	**12**	P	**Pn**	**19 29 42.9**	**+0.9**
TT01	**Tatalina**	**3.36**	**341**	P	**Pn**	**19 29 43.5**	**-0.2**
GLI	**Glacier Island**	**3.43**	**68**	P	**Pn**	**19 29 44.3**	**-0.4**
JPK	**Jack Peak**	**3.71**	**67**	P	**Pn**	**19 29 48.4**	**0.0**
SCM	**Sheep Creek Mo**	**3.71**	**53**	P	**Pn**	**19 29 48.7**	**+0.4**
MID	**Middleton Isla**	**3.71**	**92**	P	**Pn**	**19 29 48.4**	**+0.1**
VLZ	**Valdez**	**3.86**	**66**	P	**Pn**	**19 29 50.4**	**+0.3**
EYAK	**Cordova Ski Ar**	**4.01**	**75**	P	**Pn**	**19 29 52.7**	**+0.6**
KTH	**Kantishna Hill**	**4.01**	**17**	P	**Pn**	**19 29 52.0**	**-0.2**
TRF	**Thorofare Moun**	**4.02**	**22**	P	**Pn**	**19 29 52.3**	**-0.2**
DIV	**Divide**	**4.12**	**67**	P	**Pn**	**19 29 53.5**	**-0.1**
RND	**Reindeer**	**4.30**	**30**	P	**Pn**	**19 29 55.2**	**-0.8**
GOAT	**Goat Mountain**	**4.51**	**76**	P	**Pn**	**19 29 58.8**	**0.0**
RAGM	**Ragged Mountai**	**4.52**	**78**	P	**Pn**	**19 29 59.1**	**+0.2**
BPAW	**Bear Paw Mtn.**	**4.52**	**15**	P	**Pn**	**19 29 58.4**	**-0.4**
MCK	**McKinley**	**4.56**	**27**	P	**Pn**	**19 29 59.2**	**-0.2**
BMRM	**Bremner River**	**4.63**	**71**	P	**Pn**	**19 30 00.5**	**+0.2**
NICHA	**Nichawak Mount**	**4.87**	**80**	P	**Pn**	**19 30 04.2**	**+0.7**
BERG	**Berg Lake**	**5.00**	**79**	P	**Pn**	**19 30 05.7**	**+0.5**
PAX	**Paxson**	**5.07**	**47**	P	**Pn**	**19 30 06.0**	**-0.1**
KHIT	**Khitrov Hills**	**5.23**	**78**	P	**Pn**	**19 30 08.6**	**+0.3**
VRDI	**Verde Repeater**	**5.23**	**69**	P	**Pn**	**19 30 08.7**	**+0.3**
WRH	**Wood River Hil**	**5.38**	**26**	P	**Pn**	**19 30 09.0**	**-1.2**
KULT	**Kultieth River**	**5.49**	**80**	P	**Pn**	**19 30 12.2**	**+0.5**
BARK	**Barkley Ridge**	**5.60**	**79**	P	**Pn**	**19 30 13.6**	**+0.4**
ISLE	**Juniper Island**	**5.69**	**77**	P	**Pn**	**19 30 14.1**	**-0.3**
PTPK	**Patty Peak**	**5.70**	**71**	P	**Pn**	**19 30 14.6**	**0.0**
KIAG	**Kiagna River**	**5.71**	**73**	P	**Pn**	**19 30 15.5**	**+0.8**
BAGL	**Bagley Icefiel**	**5.81**	**78**	P	**Pn**	**19 30 16.7**	**+0.9**
ILAR	**Eielson Array**	**5.92**	**29**	P	**Pn**	**19 30 16.1**	**-1.2**
	0.6nm,0.3s,baz=218,slow=13,SNR=22						
ILAR				S	**Sn**	**19 31 20.0**	**-4.2**
	1.1nm,0.3s,baz=220,slow=21,SNR=13						
ILB	**Eielson Array**	**5.92**	**29**	P	**Pn**	**19 30 16.2**	**-1.2**
IL1	**Eielson Array**	**5.92**	**29**	P	**Pn**	**19 30 16.2**	**-1.1**
GRNC	**Granite Creek**	**5.99**	**76**	P	**Pn**	**19 30 18.2**	**-0.3**
BARN	**Barnard Glacie**	**6.06**	**73**	P	**Pn**	**19 30 19.7**	**+0.2**
RKAV	**Rock Avalanche**	**6.17**	**80**	P	**Pn**	**19 30 21.9**	**+1.0**
SCRK	**Sand Creek**	**6.21**	**43**	P	**Pn**	**19 30 21.9**	**+0.6**
TABL	**Table Mountain**	**6.27**	**78**	P	**Pn**	**19 30 23.5**	**+1.2**
INK	**Inuvik**	**12.21**	**37**	P	**Pn**	**19 31 41.8**	**+1.3**
	0.1nm,0.3s,baz=246,slow=12,SNR=4.1						
YKA	**Yellowknife Ar**	**18.83**	**65**	P	**P**	**19 33 00.4**	**+0.8**
	0.1nm,0.3s,baz=279,slow=10,SNR=4.5						
SONM	**Songino Array**	**54.68**	**306**	P	**P**	**19 38 06.1**	**+1.2**
	0.3nm,0.6s,baz=34,slow=5.7,SNR=2.6						

GUC 24 19:44:01.9±0.5, 35°.09S×71°.93W, h42km±2km, ML3.6, 1C-6D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.39**	**142**	⇓*i*P	Pn	19 44 11.6	+0.3
TALC				*i* S	Sn	19 44 18.6	+0.6
NICH	**Los Niches**	**0.58**	**82**	⇓*i*P	Pn	19 44 13.9	+0.1
NICH				*i* S	Sn	19 44 22.8	+0.6
LNCH	**Linares**	**0.80**	**161**	⇑*i*P	Pn	19 44 17.2	+0.4
LNCH				*i* S	Sn	19 44 28.6	+1.0
LNV	**Longovilo**	**1.21**	**21**	*e*P	Pn	19 44 23.0	+0.7
LNV				*i* S	Sn	19 44 39.1	+1.6
CHCH	**Chadas Angostu**	**1.56**	**43**	⇓*i*P	Pn	19 44 28.0	+0.7
CHCH				*i* S	Sn	19 44 48.4	+2.1
RCDM	**Rinconada Maip**	**1.84**	**31**	*e*P	Pn	19 44 31.8	+0.7
PCH	**Pirque**	**1.87**	**39**	*i* S	Sn	19 44 56.3	+2.2
CLCH	**Cerro Calan**	**2.04**	**35**	⇓*i*P	Pn	19 44 34.9	+1.0
CLCH				*i* S	Sn	19 44 60.0	+1.7
CLCH				AML	AML	19 45 13.5	
	comp=N,514nm,0.5s						
PEL	**Peldehue**	**2.20**	**28**	⇓*i*P	Pn	19 44 36.7	+0.8
PEL				*e*S	Sn	19 45 03.9	+1.9
PEL				AML	AML	19 45 12.0	
	comp=N,722nm,0.5s						
FCH	**Farellones**	**2.22**	**38**	AML	AML	19 45 22.6	
	comp=N,533nm,0.4s						
ROCH	**El Roble**	**2.24**	**20**	⇓*i*P	Pn	19 44 37.6	+0.8
ROCH				AML	AML	19 45 13.9	
	comp=E,467nm,0.6s						

IDC 24 20:17:38.5±5.0, 21°.80S×169°.74E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/34, mbtmp3.4/3, Error ellipse: s-maj=219.6km s-min=35.7km az=151.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**33.05**	**260**	P	P	20 24 16.2	+0.2
	0.3nm,0.8s,baz=83,slow=9.0,SNR=3.8						
WRA	**Warramunga Arr**	**33.08**	**267**	P	P	20 24 16.3	0.0
	0.2nm,0.5s,baz=99,slow=8.4,SNR=6.3						
ILAR	**Eielson Array**	**92.53**	**17**	P	P	20 30 52.2	+1.0
	0.3nm,0.6s,baz=225,slow=5.0,SNR=3.9						
GERES	**GERESS Array B**	**146.95**	**331**	PKPbc	PKPdf	20 37 21.0	-0.2
	0.4nm,0.6s,baz=35,slow=3.6,SNR=2.4						

*ISCJB **24** 20:52:34.5±0.5, 42°.46N±0°.07×137°.58E±0°.07, h289km, mb3.1/4, Error ellipse: s-maj=9.5km s-min=6.6km az=10.7*
*IDC **24** 20:52:35.6±1.4, 42°.53N×137°.43E, h279km±20km, mb3.0/4, mb1 2.9/7, mb1mx2.6/54, mbtmp3.5/7, Error ellipse: s-maj=31.8km s-min=27.6km az=2.0*
*JMA **24** 20:52:36.7±0.3, 42°.46N×137°.74E, h284km, M3.1*

ISC 24 20:52:35.1±0.9, 42°.44N±0°.08×137°.71E±0°.07, h289km, n20, σ1§65/25, mb3.2/4, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK	**Shakotan**	**2.23**	**65**	P	**Pn**	**20 53 23.8**	**+1.1**
JYG	**Yagishiri**	**3.36**	**53**	P	**Pn**	**20 53 34.9**	**+1.3**
JANG	**Nango**	**3.53**	**125**	P	**Pn**	**20 53 36.3**	**+0.7**
JANG				*e*S	**S**	**20 54 23.9**	**-0.1**
JFR	**Furan**	**3.67**	**77**	P	**Pn**	**20 53 38.4**	**+1.4**
JNBK	**Urakawa-nobuka**	**3.74**	**91**	P	**Pn**	**20 53 38.9**	**+1.1**
JNBK				*e*S	**S**	**20 54 28.2**	**+0.2**
ASAJ	**Asahikawa**	**3.94**	**63**	P	**Pn**	**20 53 41.1**	**+1.1**

ABSA **Djebel Ababsia** 2.73 84 P Pn 21 01 23.8 -0.8
ABSA **Djebel Ababsia** 2.73 84 P Pn 21 01 23.8 -0.8
CABS **Djebel Ababsia** 2.73 84 P Pn 21 01 23.8 -0.8
CABS **Djebel Ababsia** 2.73 84 P Pn 21 01 23.8 -0.8
CMAH **Djebel Manchou** 2.73 76 P Pn 21 01 23.6 -1.1
CMAH **Djebel Manchou** 2.73 76 P Pn 21 01 23.6 -1.1
CMAH **Djebel Manchou** 2.73 76 P Pn 21 01 23.6 -1.1
OKGL **Djebel Kef Gue** 2.82 272 ⇓P Pn 21 01 25.1 -0.7
443nm,0.5s,SNR=18
OKGL **Djebel Kef Gue** 2.82 272 P Pn 21 01 25.4 -0.4
OKGL **Djebel Kef Gue** 2.82 272 P Pn 21 01 25.4 -0.4
ODJA **Bouhanifia** 3.54 260 P Pn 21 01 24.0 -12
ODJA **Bouhanifia** 3.54 260 P Pn 21 01 24.0 -12
EIBI **Ibiza** 3.73 325 P Pn 21 01 39.7 +1.4
24nm,0.5s,SNR=48
EIBI S Sn 21 02 23.6 +1.3
37nm,0.7s
EIBI **Ibiza** 3.73 325 P Pn 21 01 39.7 +1.4
24nm,0.5s,SNR=48
EIBI S Sn 21 02 23.6 +1.3
37nm,0.7s
EIBI **Ibiza** 3.73 325 P Pn 21 01 39.7 +1.4
EIBI S Sn 21 02 24.3 +2.0
USTO **Oran** 3.80 267 P Pn 21 01 41.0 +1.7
USTO **Oran** 3.80 267 P Pn 21 01 41.0 +1.7
ETOS **Mallorca** 3.89 345 ⇑P Pn 21 01 41.9 +1.4
9.6nm,0.2s,SNR=18
ETOS S Sn 21 02 27.2 +1.0
18nm,0.6s
ETOS **Mallorca** 3.89 345 P Pn 21 01 41.9 +1.4
9.6nm,0.2s,SNR=18
ETOS S Sn 21 02 27.2 +1.0
18nm,0.6s
KEST **Kesra** 4.25 92 Pn Pn 21 01 45.5 0.0
1.4nm,0.3s,baz=254,slow=3.0,SNR=56
KEST Sn Sn 21 02 33.6 -1.7
0.3nm,0.3s,baz=342,slow=19,SNR=2.4
KEST **Kesra** 4.25 92 *e*Pn Pn 21 01 46.5 +0.9
KEST *e*Sn Sn 21 02 33.6 -1.7
KEST **Kesra** 4.25 92 *e*Pn Pn 21 01 46.5 +0.9
KEST *e*Sn Sn 21 02 33.6 -1.7
EBEN **Beniarda** 4.38 309 P Pn 21 01 48.3 +1.0
2.6nm,0.3s,SNR=11
EBEN S Sn 21 02 39.2 +0.8
1.6nm,0.2s
EBEN **Beniarda** 4.38 309 P Pn 21 01 48.3 +1.0
2.6nm,0.3s,SNR=11
EBEN S Sn 21 02 39.2 +0.8
1.6nm,0.2s
CART **Cartagena** 4.40 292 P Pn 21 01 46.7 -0.8
CART S Sn 21 02 35.3 -3.5
CART **Cartagena** 4.40 292 P Pn 21 01 46.7 -0.8
CART S Sn 21 02 35.3 -3.5
EMUR **La Murta** 4.67 295 ⇑P Pn 21 01 51.6 +0.4
48nm,0.4s,SNR=18
EMUR S Sn 21 02 45.9 +0.5
9.5nm,0.5s
EMUR **La Murta** 4.67 295 P Pn 21 01 51.6 +0.4
48nm,0.4s,SNR=18
EMUR S Sn 21 02 45.9 +0.5
9.5nm,0.5s
ENIJ **Nijar** 5.19 282 P Pn 21 01 57.1 -1.2
46nm,0.6s,SNR=7.9
ENIJ S Sn 21 02 56.8 -1.4
7.3nm,0.2s,SNR=7.9
ENIJ **Nijar** 5.19 282 P Pn 21 01 57.1 -1.2
46nm,0.6s,SNR=7.9
ENIJ S Sn 21 02 56.8 -1.4
7.3nm,0.2s,SNR=7.9
ETOB **Tobarra** 5.22 302 P Pn 21 02 00.5 +1.6
43nm,0.6s,SNR=68
ETOB S Sn 21 03 00.3 +1.1
18nm,0.7s
ETOB **Tobarra** 5.22 302 P Pn 21 02 00.5 +1.6
43nm,0.6s,SNR=68
ETOB S Sn 21 03 00.3 +1.1
18nm,0.7s
VSL **Villasalto** 5.43 49 *e*Pn Pn 21 02 01.7 +0.1
VSL **Villasalto** 5.43 49 *e*Pn Pn 21 02 01.7 +0.1
VSL *e*Sn Sn 21 03 01.1 -3.0
EMOS **Mosqueruela** 5.65 322 P Pn 21 02 06.2 +1.3
6.5nm,0.3s,SNR=24
EMOS S Sn 21 03 09.1 -0.8
21nm,0.9s
EMOS **Mosqueruela** 5.65 322 P Pn 21 02 06.2 +1.3
6.5nm,0.3s,SNR=24
EMOS S Sn 21 03 09.1 -0.8
21nm,0.9s
EHUE **Huescar** 5.67 290 P Pn 21 02 06.1 +1.1
15nm,0.2s,SNR=7.9
EHUE S Sn 21 03 10.0 -0.2
1.1nm,0.2s,SNR=7.9
EHUE **Huescar** 5.67 290 P Pn 21 02 06.1 +1.1
15nm,0.2s,SNR=7.9
EHUE S Sn 21 03 10.0 -0.2
1.1nm,0.2s,SNR=7.9
EBER **Berja** 5.72 281 P Pn 21 02 05.3 -0.5
22nm,0.4s,SNR=31
EBER S Sn 21 03 08.6 -3.0
2.2nm,0.2s
EBER **Berja** 5.72 281 P Pn 21 02 05.3 -0.5
22nm,0.4s,SNR=31
SESP **Santiago Espad** 5.73 294 P Pn 21 02 07.5 +1.6
45nm,0.2s,SNR=7.9
SESP S Sn 21 03 11.0 -0.8
2.6nm,0.2s,SNR=7.9
SESP **Santiago Espad** 5.73 294 P Pn 21 02 07.5 +1.6
45nm,0.2s,SNR=7.9
SESP S Sn 21 03 11.0 -0.8
2.6nm,0.2s,SNR=7.9
ERTA **Horta de San J** 5.76 330 S Sn 21 03 13.0 +0.6
27nm,0.9s,SNR=7.9
ERTA **Horta de San J** 5.76 330 S Sn 21 03 13.0 +0.6
27nm,0.9s,SNR=7.9
EPOB **Poblet** 5.84 337 P Pn 21 02 08.6 +1.2
4.1nm,0.4s,SNR=6.3
EPOB S Sn 21 03 13.7 -0.6
1.1nm,0.2s,SNR=7.9
EPOB **Poblet** 5.84 337 P Pn 21 02 08.6 +1.2
4.1nm,0.4s,SNR=6.3
EPOB S Sn 21 03 13.7 -0.6
1.1nm,0.2s,SNR=7.9
CFON **Fontmartina** 5.89 348 P Pn 21 02 09.6 +1.5
6.1nm,0.2s,SNR=11
CFON S Sn 21 03 15.7 +0.1
2.5nm,0.3s
CFON **Fontmartina** 5.89 348 P Pn 21 02 09.6 +1.5
6.1nm,0.2s,SNR=11
CFON S Sn 21 03 15.7 +0.1
2.5nm,0.3s
EVIA **Vianos** 5.89 298 P Pn 21 02 09.0 +0.9
54nm,0.4s,SNR=7.9
EVIA S Sn 21 03 14.7 -1.0
24nm,0.6s
EVIA **Vianos** 5.89 298 P Pn 21 02 09.0 +0.9
54nm,0.4s,SNR=7.9
EVIA S Sn 21 03 14.7 -1.0
24nm,0.6s
GORA **Gorafe** 5.93 286 P Pn 21 02 10.0 +1.4
9.9nm,0.2s,SNR=7.9
GORA S Sn 21 03 14.7 -2.0
28nm,0.3s,SNR=7.9
GORA **Gorafe** 5.93 286 P Pn 21 02 10.0 +1.4
9.9nm,0.2s,SNR=7.9
GORA S Sn 21 03 14.7 -2.0
28nm,0.3s,SNR=7.9
EQES **Quesada** 6.03 289 P Pn 21 02 11.3 +1.2
21nm,0.3s,SNR=78
EQES S Sn 21 03 16.0 -3.2
5.8nm,0.2s
EQES **Quesada** 6.03 289 P Pn 21 02 11.3 +1.2
21nm,0.3s,SNR=78
EQUE **Quentar** 6.20 283 ⇑P Pn 21 02 12.8 +0.5
32nm,0.5s,SNR=18
EQUE S Sn 21 03 24.8 +1.6
15nm,0.6s,SNR=7.9
EQUE **Quentar** 6.20 283 P Pn 21 02 12.8 +0.5
32nm,0.5s,SNR=18
EQUE S Sn 21 03 24.8 +1.6
15nm,0.6s,SNR=7.9
EMIR **Miracle** 6.23 342 P Pn 21 02 15.0 +2.3
9.7nm,0.2s,SNR=12
EMIR S Sn 21 03 23.4 -0.5
27nm,0.6s,SNR=6.3
EMIR **Miracle** 6.23 342 P Pn 21 02 15.0 +2.3
9.7nm,0.2s,SNR=12
EMIR S Sn 21 03 23.4 -0.5
27nm,0.6s,SNR=6.3
EGUA **Guajares** 6.25 280 P Pn 21 02 12.8 -0.2
14nm,0.4s,SNR=7.9
EGUA S Sn 21 03 22.5 -1.9
1.6nm,0.2s,SNR=7.9
EGUA **Guajares** 6.25 280 P Pn 21 02 12.8 -0.2
14nm,0.4s,SNR=7.9
EGUA S Sn 21 03 22.5 -1.9
1.6nm,0.2s,SNR=7.9
SELV **Sierra Elvira** 6.43 283 P Pn 21 02 16.6 +1.2
17nm,0.6s,SNR=7.9
SELV **Sierra Elvira** 6.43 283 P Pn 21 02 16.6 +1.2
17nm,0.6s,SNR=7.9
EJON **La Jonquera** 6.50 352 P Pn 21 02 18.3 +2.0
7.7nm,0.3s,SNR=12
EJON S Sn 21 03 29.5 -1.0
10nm,0.5s,SNR=4.8
EJON **La Jonquera** 6.50 352 P Pn 21 02 18.3 +2.0
7.7nm,0.3s,SNR=12
EJON S Sn 21 03 29.5 -1.0
10nm,0.5s,SNR=4.8
TOU **Touzarine** 6.51 263 P Pb 21 02 26.0 -8.1
TOU S Sn 21 03 35.0 +4.1
SJAF **Saint Jean de** 6.53 352 P Pn 21 02 18.8 +2.0
SJAF **Saint Jean de** 6.53 352 P Pn 21 02 18.4 +1.6
14nm,0.6s,SNR=7.9
SJAF S Sn 21 03 31.2 -0.2
0.5nm,0.2s,SNR=7.9
SJAF **Saint Jean de** 6.53 352 P Pn 21 02 18.4 +1.6
14nm,0.6s,SNR=7.9
SJAF S Sn 21 03 31.2 -0.2
0.5nm,0.2s,SNR=7.9
VALF **Valcebollere** 6.59 346 P Pn 21 02 20.7 +3.0
FILF **Fillols** 6.65 350 P Pn 21 02 21.5 +3.0
CLLI **Llivia** 6.67 346 P Pn 21 02 21.9 +3.1
8.0nm,0.5s,SNR=14
CLLI S Sn 21 03 33.6 -1.2
9.1nm,0.8s,SNR=6.7
CLLI **Llivia** 6.67 346 S Sn 21 03 33.6 -1.2
9.1nm,0.8s,SNR=6.7
EBAN **Banos Encina** 6.67 291 ⇑P Pn 21 02 19.6 +0.8
8.9nm,0.4s,SNR=18
EBAN **Banos Encina** 6.67 291 P Pn 21 02 19.6 +0.8
8.9nm,0.4s,SNR=18
CSOR **Sort** 6.76 341 P Pn 21 02 22.1 +2.0
1.9nm,0.2s,SNR=8.2
CSOR S Sn 21 03 36.9 -0.3
3.2nm,0.4s,SNR=7.2
CSOR **Sort** 6.76 341 P Pn 21 02 22.1 +2.0
1.9nm,0.2s,SNR=8.2
CSOR S Sn 21 03 36.9 -0.3
3.2nm,0.4s,SNR=7.2
ETOR **Torete** 6.82 317 P Pn 21 02 24.2 +3.4
13nm,0.3s,SNR=6.8
ELUQ **Luque** 6.91 285 P Pn 21 02 23.0 +1.0
8.2nm,0.7s,SNR=7.9
ELUQ **Luque** 6.91 285 P Pn 21 02 23.0 +1.0
8.2nm,0.7s,SNR=7.9
EMAL **Malaga-Limoner** 6.94 279 *e*P Pn 21 02 21.2 -1.1
EMIJ **Mijas** 7.20 277 P Pn 21 02 24.8 -1.2
8.0nm,0.4s,SNR=13
EMIJ S Sn 21 03 43.0 -4.9
0.7nm,0.2s,SNR=6.7
EMIJ **Mijas** 7.20 277 P Pn 21 02 24.8 -1.2
8.0nm,0.4s,SNR=13
EADA **Adamuz** 7.28 290 P Pn 21 02 26.9 -0.2
2.0nm,0.3s,SNR=7.9
EADA S Sn 21 03 47.1 -2.6
0.5nm,0.2s,SNR=7.9
EADA **Adamuz** 7.28 290 P Pn 21 02 26.9 -0.2
2.0nm,0.3s,SNR=7.9
ES19 **SONSECA Array** 7.33 303 *e*Pn Pn 21 02 28.8 +1.0
ES19 *e*Sn Sn 21 03 52.3 +1.2
ES19 **SONSECA Array** 7.33 303 *e*Pn Pn 21 02 28.8 +1.0
ES19 *e*Sn Sn 21 03 52.3 +1.2
ESDC **Sonseca Array** 7.37 302 P Pn 21 02 29.2 +0.9
1.2nm,0.3s,baz=116,slow=14,SNR=20
ESDC **Sonseca Array** 7.37 302 Pn Pn 21 02 28.8 +0.5
2.1nm,0.3s,baz=116,slow=14,SNR=27
ESDC Sn Sn 21 03 51.0 -0.9
baz=120,slow=23,SNR=2.3
ESDC LR LR 21 05 28.9
comp=Z,197nm,18.4s,baz=80,slow=39
ESDC **Sonseca Array** 7.37 302 P Pn 21 02 29.2 +0.9
1.2nm,0.3s,SNR=20
ESDC *e*Sn Sn 21 03 51.0 -0.9
MTLF **Montolieu** 7.46 349 *e*Pn Pn 21 02 28.6 -1.0
MTLF *e*Sn Sn 21 03 46.8 -7.4
14nm,1.0s
MTLF **Montolieu** 7.46 349 P Pn 21 02 28.6 -1.0
MTLF S Sn 21 03 46.8 -7.4
6.9nm,1.0s
MTLF **Montolieu** 7.46 349 P Pn 21 02 28.6 -1.0
LMR **La Mourre** 7.54 13 *e*Pn Pn 21 02 31.1 +0.5
LMR *e*Sn Sn 21 03 50.7 -5.4
4.0nm,0.4s
LMR **La Mourre** 7.54 13 P Pn 21 02 31.1 +0.5
LMR S Sn 21 03 50.7 -5.4
2.0nm,0.4s
PGF **Pioggiola** 7.54 29 *e*Pn Pn 21 02 32.3 +1.6
PGF *e*Sn Sn 21 03 52.2 -4.1
14nm,0.6s
PGF **Pioggiola** 7.54 29 P Pn 21 02 32.3 +1.6
PGF S Sn 21 03 52.2 -4.1
6.8nm,0.6s
PAB **San Pablo** 7.58 300 *e*Pn Pn 21 02 31.8 +0.6
PAB **San Pablo** 7.58 300 *e*Pn Pn 21 02 31.8 +0.6
PAB *e*Sn Sn 21 04 01.6 +4.4
EPF **Esparros** 7.59 339 *e*Pn Pn 21 02 30.1 -1.3
EPF *e*Sn Sn 21 03 49.0 -8.5
6.6nm,0.5s
EPF **Esparros** 7.59 339 P Pn 21 02 30.1 -1.3
EPF S Sn 21 03 49.0 -8.5
3.3nm,0.5s
EPF **Esparros** 7.59 339 P Pn 21 02 30.1 -1.3
LEPF **PUYLOUBIER** 7.60 9 P Pn 21 02 33.3 +1.9
LEPF S Sn 21 03 52.0 -5.5
LIJA **Lijar** 7.73 279 P Pn 21 02 34.6 +1.4
LIJA S Sn 21 04 06.2 +5.3
LIJA **Lijar** 7.73 279 P Pn 21 02 34.7 +1.4
ETSF **Etsaut** 7.77 334 *e*Pn Pn 21 02 32.2 -1.6
ETSF **Etsaut** 7.77 334 P Pn 21 02 32.2 -1.6
ETSF **Etsaut** 7.77 334 P Pn 21 02 32.2 -1.6
FRF **La Foret Royal** 7.79 14 *e*Pn Pn 21 02 34.5 +0.5
FRF *e*Sn Sn 21 03 56.6 -5.5
5.9nm,0.4s
FRF **La Foret Royal** 7.79 14 P Pn 21 02 34.5 +0.5
FRF S Sn 21 03 56.6 -5.5
3.0nm,0.4s
FRF **La Foret Royal** 7.79 14 P Pn 21 02 34.5 +0.5
MDT **Midelt** 7.89 249 Pn Pn 21 02 34.3 -1.3
0.5nm,0.3s,baz=75,slow=19,SNR=16
MDT Sn Sn 21 04 02.4 -2.5
0.8nm,0.3s,baz=255,slow=16,SNR=2.5
MDT Lg Lg 21 04 46.6
0.6nm,0.3s,baz=324,slow=23,SNR=4.8
MDT LR LR 21 06 00.3
comp=Z,137nm,18.7s,baz=80,slow=40
ECAB **El Cabril** 7.90 288 P Pn 21 02 35.0 -0.6
1.1nm,0.1s,SNR=12
ECAB S Sn 21 04 02.4 -2.7
0.4nm,0.2s,SNR=5.7
ECAB **El Cabril** 7.90 288 P Pn 21 02 35.0 -0.6
1.1nm,0.1s,SNR=12
GUD **Guadarrama** 7.98 308 P Pn 21 02 38.0 +1.2
2.9nm,0.4s,SNR=5.5
GUD **Guadarrama** 7.98 308 P Pn 21 02 38.0 +1.2
2.9nm,0.4s,SNR=5.5
ATE **Arette** 7.98 334 P Pn 21 02 38.8 +2.1
1.6nm,0.3s,SNR=7.9
ATE S Sn 21 04 04.3 -2.8
0.5nm,0.2s,SNR=7.9
ATE **Arette** 7.98 334 P Pn 21 02 38.8 +2.1
1.6nm,0.3s,SNR=7.9
SMRF **Simiane la Rot** 8.03 8 *e*Pn Pn 21 02 37.4 0.0
SMRF **Simiane la Rot** 8.03 8 P Pn 21 02 37.4 0.0
SMRF **Simiane la Rot** 8.03 8 P Pn 21 02 37.4 0.0
LASF **Ste Croix** 8.06 359 *e*Pn Pn 21 02 37.5 -0.2
LASF *e*Sn Sn 21 04 01.6 -7.2
13nm,0.8s
LASF **Ste Croix** 8.06 359 P Pn 21 02 37.5 -0.2
LASF S Sn 21 04 01.6 -7.2
6.7nm,0.8s
LASF **Ste Croix** 8.06 359 P Pn 21 02 37.5 -0.2
ZFT **Errachidia** 8.07 243 P Pn 21 02 44.0 +5.8
ZFT S Sn 21 04 07.0 -2.6
CZD **Col de Zad** 8.12 251 P Pn 21 02 48.0 +9.1
CZD S Sn 21 04 13.0 +2.1
SJPF **Ste Jean** 8.20 331 *e*Pn Pn 21 02 37.9 -1.8
SJPF **Ste Jean** 8.20 331 P Pn 21 02 37.9 -1.8
SJPF **Ste Jean** 8.20 331 *e*Pn Pn 21 02 37.9 -1.8
MVIF **Mont Vial** 8.21 16 P Pn 21 02 41.4 +1.5
MVIF **Mont Vial** 8.21 16 P Pn 21 02 41.4 +1.5
SBF **Sospel** 8.24 17 *e*Pn Pn 21 02 40.9 +0.6
SBF *e*Sn Sn 21 04 07.9 -5.6
19nm,0.7s
SBF **Sospel** 8.24 17 P Pn 21 02 40.9 +0.6
SBF S Sn 21 04 07.9 -5.6
9.6nm,0.7s
SBF **Sospel** 8.24 17 P Pn 21 02 40.9 +0.6
TOUF **Mont Tournerai** 8.34 16 P Pn 21 02 43.2 +1.4
TOUF S Sn 21 04 11.1 -5.0
TOUF **Mont Tournerai** 8.34 16 P Pn 21 02 43.2 +1.4
AUTN **L'Aution** 8.37 17 P Pn 21 02 43.6 +1.4
AUTN **L'Aution** 8.37 17 P Pn 21 02 43.6 +1.4
EMIN **Mina Concepcio** 8.82 285 P Pn 21 02 48.6 +0.4
0.7nm,0.2s,SNR=6.7
EMIN **Mina Concepcio** 8.82 285 P Pn 21 02 48.6 +0.4
0.7nm,0.2s,SNR=6.7
VIVF **Saint-Julien-l** 8.84 3 *e*Pn Pn 21 02 48.3 -0.2
VIVF *e*Sn Sn 21 04 20.8 -7.4
4.2nm,0.5s
VIVF **Saint-Julien-l** 8.84 3 P Pn 21 02 48.3 -0.2
VIVF S Sn 21 04 20.8 -7.4
2.1nm,0.5s
VIVF **Saint-Julien-l** 8.84 3 P Pn 21 02 48.3 -0.2
MBDF **Montbardon** 8.94 12 *e*Pn Pn 21 02 50.2 +0.3
MBDF *e*Sn Sn 21 04 24.1 -6.5
17nm,0.9s
MBDF **Montbardon** 8.94 12 P Pn 21 02 50.2 +0.3
MBDF S Sn 21 04 24.1 -6.5
8.4nm,0.9s
MBDF **Montbardon** 8.94 12 P Pn 21 02 50.2 +0.3
ORIF **Oris-en-Rattie** 9.00 8 *e*Pn Pn 21 02 50.7 0.0
ORIF **Oris-en-Rattie** 9.00 8 P Pn 21 02 50.7 0.0
ORIF **Oris-en-Rattie** 9.00 8 P Pn 21 02 50.7 0.0
CAF **Calviac** 9.04 351 *e*Pn Pn 21 02 50.1 -1.1
CAF **Calviac** 9.04 351 P Pn 21 02 50.1 -1.1
CAF **Calviac** 9.04 351 P Pn 21 02 50.1 -1.1
KIB **El Ksiba** 9.08 251 P Pn 21 02 58.0 +6.2
KIB S Sn 21 04 33.0 -1.1
LBL **Lubilhac** 9.23 356 P Pn 21 02 55.9 +2.0
LBL **Lubilhac** 9.23 356 P Pn 21 02 55.9 +2.0
ELAN **Lanestosa** 9.27 323 P Pn 21 02 56.8 +2.5
0.9nm,0.3s,SNR=7.9
EBAD **Badajoz** 9.27 290 P Pn 21 02 54.3 -0.1
0.6nm,0.2s,SNR=5.2
EBAD **Badajoz** 9.27 290 P Pn 21 02 54.3 -0.1
0.6nm,0.2s,SNR=5.2
LFF **La Frestale** 9.28 345 *e*Pn Pn 21 02 53.1 -1.4
LFF **La Frestale** 9.28 345 P Pn 21 02 53.1 -1.4
LFF **La Frestale** 9.28 345 P Pn 21 02 53.1 -1.4
EGRO **El Granado** 9.43 283 P Pn 21 02 56.5 -0.1
1.2nm,0.3s,SNR=7.9
EGRO **El Granado** 9.43 283 P Pn 21 02 56.5 -0.1
1.2nm,0.3s,SNR=7.9
LPG **La Plagne** 9.68 11 *e*Pn Pn 21 03 00.5 +0.3
LPG *e*Sn Sn 21 04 42.3 -6.8
14nm,1.0s
LPG **La Plagne** 9.68 11 P Pn 21 03 00.5 +0.3
LPG S Sn 21 04 42.3 -6.8
7.2nm,1.0s
LPG **La Plagne** 9.68 11 P Pn 21 03 00.5 +0.3
LPL **La Plagne** 9.70 11 *e*Pn Pn 21 03 00.6 +0.2
LPL *e*Sn Sn 21 04 42.5 -6.9
8.0nm,0.7s
LPL **La Plagne** 9.70 11 P Pn 21 03 00.6 +0.2
LPL S Sn 21 04 42.5 -6.9
4.0nm,0.7s
LPL **La Plagne** 9.70 11 P Pn 21 03 00.6 +0.2
PLDF **La Plantade** 9.96 358 P Pn 21 03 05.1 +1.3
PLDF **La Plantade** 9.96 358 P Pn 21 03 05.1 +1.3
EARI **Arriondas** 10.23 318 P Pn 21 03 10.3 +2.8
1.0nm,0.2s,SNR=11
ECAL **Calabor** 10.31 308 P Pn 21 03 10.7 +2.0
4.9nm,0.2s,SNR=8.8
ECAL **Calabor** 10.31 308 P Pn 21 03 10.7 +2.0
4.9nm,0.2s,SNR=8.8
TCF **Toulx Ste Croi** 10.37 353 *e*Pn Pn 21 03 08.3 -1.1
TCF **Toulx Ste Croi** 10.37 353 P Pn 21 03 08.3 -1.1
TCF **Toulx Ste Croi** 10.37 353 P Pn 21 03 08.3 -1.1
TIP **Timpagrande** 10.51 69 *e*Pn Pn 21 03 17.7 +6.2
BGF **Bois d'Agland** 10.58 355 *e*Pn Pn 21 03 11.1 -1.2
BGF **Bois d'Agland** 10.58 355 P Pn 21 03 11.1 -1.2
BGF **Bois d'Agland** 10.58 355 P Pn 21 03 11.1 -1.2
SENIN **Lac Senin/Sane** 10.61 12 *e*Pn Pn 21 03 10.8 -2.1
SENIN **Lac Senin/Sane** 10.61 12 *e*Pn Pn 21 03 10.8 -2.1
SMF **Signal de Mont** 10.62 359 *e*Pn Pn 21 03 12.1 -0.8
SMF **Signal de Mont** 10.62 359 P Pn 21 03 12.1 -0.8
SMF **Signal de Mont** 10.62 359 P Pn 21 03 12.1 -0.8
CABF **La Chapelle** 10.69 7 *e*Pn Pn 21 03 13.9 0.0
CABF **La Chapelle** 10.69 7 P Pn 21 03 13.9 0.0
CABF **La Chapelle** 10.69 7 P Pn 21 03 13.9 0.0
AVF **Avril sur Loir** 10.78 357 *e*Pn Pn 21 03 14.3 -0.7
AVF **Avril sur Loir** 10.78 357 P Pn 21 03 14.3 -0.7
AVF **Avril sur Loir** 10.78 357 P Pn 21 03 14.3 -0.7
SSF **Saint Saulge** 11.05 358 *e*Pn Pn 21 03 17.8 -0.9
SSF **Saint Saulge** 11.05 358 P Pn 21 03 17.8 -0.9
SSF **Saint Saulge** 11.05 358 P Pn 21 03 17.8 -0.9
MFF **Saint Martin d** 11.05 344 *e*Pn Pn 21 03 17.1 -1.6
MFF **Saint Martin d** 11.05 344 P Pn 21 03 17.1 -1.6
MFF **Saint Martin d** 11.05 344 P Pn 21 03 17.1 -1.6
LOR **Lormes** 11.25 359 *e*Pn Pn 21 03 20.4 -1.0
baz=175
LOR **Lormes** 11.25 359 P Pn 21 03 20.4 -1.0
LOR **Lormes** 11.25 359 P Pn 21 03 20.4 -1.0
DAVOX **Davos/Dischmat** 11.59 20 LR LR 21 07 42.0
comp=Z,152nm,19.2s,baz=210,slow=36
HINF **Hinteralfeld** 11.97 9 *e*Pn Pn 21 03 30.9 -0.4
HINF **Hinteralfeld** 11.97 9 P Pn 21 03 30.9 -0.4
HINF **Hinteralfeld** 11.97 9 P Pn 21 03 30.9 -0.4
HAU **Haudompre** 12.10 7 *e*Pn Pn 21 03 32.7 -0.3
HAU **Haudompre** 12.10 7 P Pn 21 03 32.7 -0.3
HAU **Haudompre** 12.10 7 P Pn 21 03 32.7 -0.3
SFTF **Sexfontaines** 12.20 3 *e*Pn Pn 21 03 34.2 -0.3
baz=183
SFTF **Sexfontaines** 12.20 3 P Pn 21 03 34.2 -0.3
SFTF **Sexfontaines** 12.20 3 P Pn 21 03 34.2 -0.3
MEZF **Maizieres J'vi** 12.50 3 *e*Pn Pn 21 03 38.1 -0.4
MEZF **Maizieres J'vi** 12.50 3 P Pn 21 03 38.1 -0.4
MEZF **Maizieres J'vi** 12.50 3 P Pn 21 03 38.1 -0.4
PAGF **Fort de Pagny** 12.59 5 *e*Pn Pn 21 03 39.1 -0.6
PAGF **Fort de Pagny** 12.59 5 *e*Pn Pn 21 03 39.1 -0.6
CDF **Champ du Feu** 12.61 10 *e*Pn Pn 21 03 39.7 -0.4
CDF **Champ du Feu** 12.61 10 P Pn 21 03 39.7 -0.4
CDF **Champ du Feu** 12.61 10 P Pn 21 03 39.7 -0.4
LDF **La Druitiere** 12.96 347 *e*Pn Pn 21 03 43.4 -1.3
LDF **La Druitiere** 12.96 347 *e*Pn Pn 21 03 43.4 -1.3
FLN **La Foliniere** 13.18 347 *e*Pn Pn 21 03 46.4 -1.4
baz=163
FLN **La Foliniere** 13.18 347 P Pn 21 03 46.4 -1.4
FLN **La Foliniere** 13.18 347 P Pn 21 03 46.4 -1.4
SGD **Sagiada** 13.24 69 *e*P P 21 03 59.0 +0.4
JAN **Janina** 13.71 70 *e*P P 21 04 05.0 +1.1
BAIF **Baives** 14.04 0 *e*Pn Pn 21 03 58.6 -0.9
BAIF **Baives** 14.04 0 P Pn 21 03 58.6 -0.9
BAIF **Baives** 14.04 0 *e*Pn Pn 21 03 58.6 -0.9
AMT **Artemida-Makis** 14.18 79 *e*P Pn 21 04 02.5 +0.9
DRO **Drossia** 14.20 77 *e*P P 21 04 09.5 +0.2
EVR **Evrytania** 14.35 73 *e*P P 21 04 08.5 -2.5
THL **Klokotos Trika** 14.59 71 *e*P P 21 04 14.5 +1.0
GEC2 **GERESS Array S** 14.63 26 *e*Pn Pn 21 04 10.3 +2.6
GERES **GERESS Array B** 14.63 26 Pn Pn 21 04 08.1 +0.4
0.1nm,0.3s,baz=204,slow=12,SNR=7.6
GUR **Goura** 14.70 77 *e*P P 21 04 17.0 +2.1
AGG **Agios Georgios** 14.76 73 *e*Pn P 21 04 13.2 -2.4
KHC **Kasperske Hory** 14.83 25 *e*P Pn 21 04 10.0 -0.3
KHC *ex* x 21 04 12.2
KHC *ex* x 21 04 15.6
PKSM **Moragy** 14.93 43 ⇓*i*P P 21 04 15.0 -2.3
PKSM **Moragy** 14.93 43 ⇓*i*P P 21 04 15.0 -2.3
AXAR **Agios Charalam** 14.99 74 *e*P P 21 04 19.5 +1.4
SMIA **Simia** 15.43 74 *e*P P 21 04 23.5 +0.5
XOR **Xorichti** 15.46 72 *e*P P 21 04 24.5 +1.2
NEO **Neokhori** 15.48 72 *e*P P 21 04 24.5 +1.0
TREC **Trest** 15.66 29 AMS AMS 21 11 40.0
comp=Z,100nm,12.9s
MRKA **Markates** 15.71 74 *e*P P 21 04 27.5 +1.4

MRKA	**Markates**	15.71	74	*e*P		P	21 04 27.5	+1.4
PLG	**Polygyros**	15.80	68	*e*P		Pn	21 04 25.0	+1.8
SOH	**Sokhos**	15.81	67	*e*P		Pn	21 04 25.0	+1.6
KKB	**Krupnik**	15.86	63	*e*P		P	21 04 26.3	-1.4
KKB	**Krupnik**	15.86	63	*e*P		P	21 04 26.3	-1.4
PRU	**Pruhonice**	15.89	25	AMS	AMS		21 12 30.0	
	comp=Z,100nm,11.8s							
PAIG	**Paliouri**	15.91	70	*e*P		P	21 04 28.5	+0.3
GOPC	**GO Pecny, Ondr**	15.91	26	AMS	AMS		21 11 40.0	
	comp=Z,100nm,9.3s							
SRS	**Serrai**	16.05	66	*e*P		Pn	21 04 25.0	-1.4
VRAC	**Vranov**	16.12	31	Pn		P	21 04 29.8	-0.7
	0.1nm,0.3s,baz=238,slow=12,SNR=3.3							
VRAC				LR		LR	21 10 49.4	
	comp=Z,81nm,18.6s,baz=210,slow=38							
VTS	**Vitosha**	16.16	60	ǁ*i*P		P	21 04 30.0	-1.1
VTS	**Vitosha**	16.16	60	*e*P		Pn	21 04 29.4	+1.5
VTS	**Vitosha**	16.16	60	*e*P		Pn	21 04 29.4	+1.5
MMB	**Musomiste**	16.26	64	ǁ*i*P		Pn	21 04 30.2	+1.1
MMB	**Musomiste**	16.26	64	*e*P		Pn	21 04 29.9	+0.8
MMB	**Musomiste**	16.26	64	*e*P		Pn	21 04 29.9	+0.8
NVR	**Nevrokopi**	16.30	65	*e*P		Pn	21 04 31.0	+1.4
BZS	**Buzias**	16.32	49	ǁ*i*P		Pn	21 04 31.1	+1.2
BZS	**Buzias**	16.32	49	ǁ*i*P		Pn	21 04 31.1	+1.2
PSZ	**Piszkesteto**	16.67	40	ǁ*i*P		P	21 04 38.1	+1.4
PSZ	**Piszkesteto**	16.67	40	ǁ*i*P		P	21 04 38.1	+1.4
PSZ	**Piszkesteto**	16.67	40	*e*Pn		P	21 04 38.7	+2.0
	8.2nm,1.0s							
DPC	**Dobruska-Polom**	16.83	28	*e*P		P	21 04 39.2	+0.7
DPC					AMS	AMS	21 12 20.0	
	comp=Z,100nm,9.4s							
DPC	**Dobruska-Polom**	16.83	28	P		P	21 04 39.2	+0.7
IDI	**Anoyia**	16.90	86	Pn		P	21 04 42.2	+2.9
	0.6nm,0.3s,baz=292,slow=12,SNR=8.2							
LIA	**Limnos Island**	17.05	71	*e*P		P	21 04 40.5	-0.4
KDZ	**Kurdzhali**	17.51	65	ǁ*i*P		Pn	21 04 45.2	+0.4
KDZ	**Kurdzhali**	17.51	65	ǁ*i*P		Pn	21 04 45.2	+0.4
SIGR	**SIGRI**	17.51	70	*e*P		P	21 04 47.0	+1.0
ARR	**Arges**	18.11	53	ǁ*i*P		P	21 04 54.6	+2.0
ARR	**Arges**	18.11	53	ǁ*i*P		P	21 04 54.6	+2.0
OJC	**Ojcow**	18.18	34	*e*P		P	21 04 56.4	+3.1
	4.7nm,0.8s							
VOIR		18.40	53	ǁ*i*P		Pn	21 04 58.6	+2.7
DOPR	**Dopca**	18.83	52	ǁ*i*P		Pn	21 05 08.6	+7.5
MLR	**Muntele Rosu**	19.00	53	P		Pn	21 05 04.7	+1.4
	0.1nm,0.3s,baz=264,slow=9.2,SNR=12							
MLR				LR		LR	21 13 04.5	
	comp=Z,19nm,20.7s,baz=263,slow=39							
MLR	**Muntele Rosu**	19.00	53	ǁ*i*P		Pn	21 05 05.2	+2.0
ISR	**Istrita**	19.26	55	ǁ*i*P		Pn	21 05 06.8	+0.5
ISR	**Istrita**	19.26	55	ǁ*i*P		Pn	21 05 06.8	+0.5
BUR04	**Bucovina Ar. S**	19.47	47	*e*P		Pn	21 05 10.2	+1.5
BURAR	**Bucovina Array**	19.47	47	ǁ*i*P		Pn	21 05 10.9	+2.1
MSAB	**Monastry St. A**	19.81	59	ǁ*i*P		Pn	21 05 12.3	-0.5
MSAB	**Monastry St. A**	19.81	59	ǁ*i*P		Pn	21 05 12.3	-0.5
TLB	**Topalu**	20.10	57	ǁ*i*P		Pn	21 05 16.0	-0.2
TLB	**Topalu**	20.10	57	ǁ*i*P		Pn	21 05 16.0	-0.2
CFR	**Carcaliu**	20.34	56	ǁ*i*P		P	21 05 16.2	-0.8
CFR	**Carcaliu**	20.34	56	ǁ*i*P		P	21 05 16.2	-0.8
TOA0	**Torodi Ar. Sit**	22.87	186	*e*P		P	21 05 42.7	-1.6
TOA0	**Torodi Ar. Sit**	22.87	186	*e*P		P	21 05 42.7	-1.6
TORD	**Torodi Ar. Bea**	22.87	186	P		P	21 05 42.7	-1.6
	3.4nm,0.9s,baz=3.3,slow=9.5,SNR=21							
TORD				Lg		Lg	21 12 43.9	
	1.0nm,0.9s,baz=1.8,slow=23,SNR=2.9							
BR231	**Keskin MP Arra**	22.88	72	*e*P		P	21 05 44.0	-0.5
BR231	**Keskin MP Arra**	22.88	72	*e*P		P	21 05 44.0	-0.5
AK11	**Malin Array Si**	23.23	43	*e*P		P	21 05 47.3	-0.4
AK11	**Malin Array Si**	23.23	43	*e*P		P	21 05 47.4	-0.4
KIEV	**Kiev**	23.26	43	*e*P		P	21 05 46.9	-1.2
	6.1nm,0.7s							
KIEV	**Kiev**	23.26	43	*e*P		P	21 05 46.9	-1.2
	6.1nm,0.7s							
AKASG	**Malin Array Be**	23.27	43	P		P	21 05 46.1	-2.1
	2.9nm,0.6s,baz=242,slow=9.2,SNR=12							
AKBB	**Malin Array Si**	23.27	43	*e*P		P	21 05 46.1	-2.1
AKBB	**Malin Array Si**	23.27	43	*e*P		P	21 05 46.1	-2.1
BR101	**Keskin Array S**	23.55	72	*e*P		P	21 05 50.8	-0.5
BR101	**Keskin Array S**	23.55	72	*e*P		P	21 05 50.8	-0.5
BRTR	**Keskin Array B**	23.55	72	P		P	21 05 50.8	-0.5
	1.2nm,0.7s,baz=264,slow=11,SNR=8.1							
HFS	**Hagfors**	24.92	11	P		P	21 06 04.1	+0.5
	2.7nm,0.9s,baz=195,slow=10,SNR=3.4							
NOA	**NORSAR Array B**	25.45	8	LR		LR	21 16 33.2	
	comp=Z,38nm,18.1s,baz=210,slow=37							
EIL	**Elat**	26.59	95	LR		LR	21 17 45.9	
	comp=Z,21nm,20.9s,baz=257,slow=39							
ARCES	**ARCESS Array B**	35.56	13	LR		LR	21 23 28.5	
	comp=Z,30nm,19.2s,baz=276,slow=38							
BRVK	**Borovoye**	48.36	48	*e*P		P	21 09 22.5	+0.2
	6.0nm,1.2s							
BRVK	**Borovoye**	48.36	48	*e*P		P	21 09 22.5	+0.2
	6.0nm,1.2s							
BVAR	**Borovoye Array**	48.42	48	P		P	21 09 23.1	+0.3
	1.2nm,0.8s,baz=284,slow=6.0,SNR=8.4							
KURBB	**Kurchatov Arra**	48.42	48	P		P	21 10 03.0	-0.5
	3.4nm,0.9s,baz=291,slow=8.1,SNR=30							
RCBR	**Riachuelo**	56.04	230	LR		LR	21 33 08.2	
	comp=Z,48nm,20.1s,baz=56,slow=35							
ZALV	**Zalesovo Beam**	56.66	44	P		P	21 10 23.6	-0.2
	0.6nm,0.6s,baz=273,slow=5.2,SNR=3.1							
ZALV				LR		LR	21 36 18.7	
	comp=Z,26nm,18.5s,baz=70,slow=38							
MKAR	**Makanchi Array**	57.35	53	P		P	21 10 28.3	-0.6
	3.3nm,0.7s,baz=286,slow=5.8,SNR=39							
MKAR				LR		LR	21 36 41.6	
	comp=Z,28nm,19.6s,baz=314,slow=38							
YKA	**Yellowknife Ar**	70.27	334	P		P	21 11 54.4	+0.7
	0.3nm,0.7s,baz=46,slow=5.7,SNR=3.9							
SONM	**Songino Array**	71.55	44	P		P	21 12 01.9	-0.1
	0.5nm,0.7s,baz=317,slow=6.1,SNR=3.4							
HHC	**Hu-ho-hao-te**	78.64	48	*e*P		P	21 12 43.3	+0.4
HHC				PP		PP	21 15 43.0	+2.7
HHC				S		S	21 22 38.3	-1.7
HHC	**Hu-ho-hao-te**	78.64	48	sS		sS	21 22 46.3	+0.6
HHC	**Hu-ho-hao-te**	78.64	48	SS		SS	21 27 44.9	+2.0
HHC				pmax		pmax		
	comp=Z,12nm,1.0s							
HHC				pmax		pmax		
	comp=Z,180nm,8.6s							
HHC				LR		LR		
	comp=N,160nm,18.5s							
HHC				LR		LR		
	comp=E,160nm,14.8s							
HHC				LR		LR		
	comp=Z,37nm,18.5s							
PDAR	**Pinedale Array**	81.01	317	P		P	21 12 56.8	+0.9
	comp=Z,0.3nm,0.7s,baz=51,slow=8.6,SNR=3.3							
CMAR	**Chiang Mai Arr**	83.14	72	P		P	21 13 05.5	-1.6
	comp=Z,0.5nm,0.8s,baz=299,slow=7.3,SNR=5.2							
TXAR	**Lajitas Array**	86.04	304	P		P	21 13 24.2	+2.4
	comp=Z,0.5nm,1.1s,baz=52,slow=5.8,SNR=3.2							
STKA	**Stephens Creek**	144.69	96	PKP		PKPab	21 20 16.0	-0.4
	comp=Z,1.3nm,0.6s,baz=349,slow=5.2,SNR=4.0							

*IDC **24** 21:01:57.5±1.0,52.75N×168.42W,h0km, mb3.7/12, mb1 3.8/13,mb1mx3.6/57,mbtmp3.7/13,ML3.7/1, Error ellipse: s-maj=28.5km s-min=18.9km az=157.0*
*ISCJB **24** 21:02:03.9±0.6,52.85N±0.10×168.45W±0.09,h54km, mb3.7/11, Error ellipse: s-maj=15.7km s-min=4.6km az=153.1*
*NEIC **24** 21:02:04.1,52.79N×168.30W,h23km,ML3.4(AEIC), After AEIC.*

ISC 24 21:02:05.5±0.9,**52.9N**±0.2×**168.45W**±0.08,**h54km,n35,** σ0**98**/33,**mb3.8**/11,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	0.25	282	P		Pn	21 02 12.8	-1.8
NIKH				S		Sn	21 02 19.4	-1.7
OKFG	**Magazine Ridge**	0.58	33	P		Pn	21 02 17.2	-0.8
OKFG				S		Sn	21 02 27.4	+0.4
MREP	**Makushin Rep't**	1.35	48	P		Pn	21 02 27.4	-0.7
MCIR	**Makushin Cirqu**	1.39	42	P		Pn	21 02 28.4	-0.2
MSW	**Makushin Switc**	1.41	44	P		Pn	21 02 28.3	-0.5
UNV	**Unalaska Valle**	1.49	51	P		Pn	21 02 29.3	-0.5
UNV				S		Sn	21 02 48.9	+0.8
AKRB	**Akutan Reef Bi**	1.86	49	P		Pn	21 02 35.0	0.0
ZRO	**Akutan Zero**	1.88	51	P		Pn	21 02 35.1	-0.1
AKGG	**Akutan Green G**	1.94	48	P		Pn	21 02 37.0	+0.9
AKGG				S		Sn	21 03 00.1	+0.8
AKUT	**Akutan**	2.01	52	P		Pn	21 02 37.1	+0.2
WESE	**West Dahl East**	2.77	54	P		Pn	21 02 48.4	+0.9
SSLN	**Shishaldin Nor**	3.24	53	P		Pn	21 02 55.1	+1.3
KOFP	**Korovin Flat P**	3.50	262	P		Pn	21 02 59.1	+1.7
FALS	**False Pass**	3.55	55	P		Pn	21 02 59.2	+1.2
ATKA	**Atka Island**	3.58	261	P		Pn	21 02 59.6	+1.1
GSCK	**Great Sitkin C**	4.80	262	P		Pn	21 03 16.3	+1.0
ILAR	**Eielson Array**	16.18	34	Pn		Pn	21 05 46.9	-2.0
	0.1nm,0.3s,baz=228,slow=9.7,SNR=4.9							
PETK	**Petropavlovsk-**	20.26	284	P		P	21 06 36.7	+0.6
	0.9nm,0.4s,baz=100,slow=12,SNR=2.6							
YKA	**Yellowknife Ar**	29.45	50	P		P	21 08 03.6	0.0
	0.3nm,0.4s,baz=272,slow=7.5,SNR=6.3							
H11N2	**WAKE ISLAND Hy**	38.24	219	T		T	21 50 09.8	
	baz=24,slow=76,SNR=88							
H11N3	**WAKE ISLAND Hy**	38.24	219	T		T	21 50 09.8	
	baz=24,slow=76,SNR=122							
H11N1	**WAKE ISLAND Hy**	38.26	219	T		T	21 50 09.8	
	baz=24,slow=76,SNR=186							
H11S1	**WAKE ISLAND Hy**	39.43	219	T		T	21 51 31.0	
	baz=23,slow=76,SNR=315							
H11S2	**WAKE ISLAND Hy**	39.44	219	T		T	21 51 31.0	
	baz=23,slow=76,SNR=142							
H11S3	**WAKE ISLAND Hy**	39.44	219	T		T	21 51 31.0	
	baz=23,slow=76,SNR=131							
SONM	**Songino Array**	51.50	301	P		P	21 11 06.4	+1.0
	0.3nm,0.5s,baz=46,slow=4.2,SNR=3.0							
TXAR	**Lajitas Array**	52.18	90	P		P	21 11 10.3	-0.4
	0.2nm,0.5s,baz=305,slow=5.8,SNR=5.1							
BVAR	**Borovoye Array**	63.58	325	P		P	21 12 30.7	+0.6
	0.7nm,0.4s,baz=33,slow=5.1,SNR=6.9							
MKAR	**Makanchi Array**	63.83	314	P		P	21 12 31.7	-0.1
	0.1nm,0.4s,baz=37,slow=5.5,SNR=3.6							
FINES	**FINESS Array B**	65.39	352	P		P	21 12 41.6	-0.2
	2.9nm,1.0s,baz=39,slow=9.0,SNR=2.7							
HFS	**Hagfors**	67.28	359	P		P	21 12 53.5	-0.3
	0.6nm,0.3s,baz=19,slow=2.7,SNR=12							
CMAR	**Chiang Mai Arr**	77.04	283	P		P	21 13 52.2	-0.5
	1.0nm,0.7s,baz=19,slow=6.6,SNR=7.8							
BRTR	**Keskin Array B**	85.76	343	P		P	21 14 39.9	+1.1
	0.3nm,0.4s,baz=345,slow=4.5,SNR=3.1							
WRA	**Warramunga Arr**	87.79	232	P		P	21 14 47.2	-1.3
	0.3nm,0.9s,baz=34,slow=6.1,SNR=3.7							
ASAR	**Alice Springs**	91.18	231	P		P	21 15 03.9	-0.5
	0.3nm,0.8s,baz=18,slow=3.9,SNR=3.9							

IDC 24 21:21:14.0±1.1,**21.16S**×**67.21W**,**h192**km±20km,**mb3.4**/1, **mb1 3.2**/4,**mb1mx3.1**/25,**mbtmp3.7**/4,**Error ellipse: s-maj=48.8km s-min=18.3km az=118.0,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	2.14	227	P		Pn	21 21 55.0	+1.3
	42nm,0.3s,baz=37,slow=10,SNR=34							
LVC				S		Sn	21 22 24.7	0.0
	180nm,0.3s,baz=216,slow=20,SNR=37							
LPAZ	**La Paz**	4.92	350	P		Pn	21 22 28.1	0.0
	1.2nm,0.3s,baz=180,slow=11,SNR=33							
LPAZ				S		Sn	21 23 22.4	-4.0
	baz=47,slow=19,SNR=1.9							
SIV	**San Ignacio**	7.76	50	P		Pn	21 23 03.7	-0.6
	1.2nm,0.3s,baz=250,slow=12,SNR=13							
SIV				S		Sn	21 24 25.4	-6.4
	0.1nm,0.3s,baz=287,slow=19,SNR=2.0							
TORD	**Torodi Ar. Bea**	75.75	70	P		P	21 32 39.2	+0.1
	1.2nm,1.1s,baz=247,slow=5.4,SNR=7.0							
MKAR	**Makanchi Array**	144.42	37	PKP		PKPab	21 40 26.1	0.0
	0.2nm,0.4s,baz=320,slow=2.8,SNR=4.6							

*IDC **24** 21:25:19.9±1.2,5.52S×131.11E,h0km,mb3.7/5, mb1 4.0/7,mb1mx3.7/25,mbtmp3.8/7,ML4.0/3,Error ellipse: s-maj=48.9km s-min=19.8km az=72.0*
*DJA **24** 21:25:31.3±0.5,6.52S±2.13°1E±°,h112km±8km,M4.0/9, mb4.2/3,mB5.6/1,MLv3.8/9,Mw(mB)5.2/1*

ISC 24 21:25:20.9±0.7,**5.52S**±0.04×**131.08E**±0.06,**h10**km,**n14,** σ1**54**/15,**mb3.8**/5,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	1.53	310	P		Pg	21 25 57.2	+6.8
BNDI				S		Sg	21 26 19.7	+9.4
SAUI	**Saumlaki**	2.45	175	P		Pg	21 26 09.1	+1.1
SAUI				S		Sg	21 26 38.4	-1.5
FAKI	**Fak Fak**	2.84	24	P		Pg	21 26 19.2	+3.8
FAKI				S		Sg	21 26 53.1	+0.9
MSAI	**Masohi**	3.04	315	P		Pg	21 26 17.5	-1.8
MSAI				S		Sb	21 26 52.5	0.0
RKPI	**Ransiki, Papua**	5.04	38	P		Pb	21 26 50.3	+0.9
	23nm,0.7s,8µm0.4nm							
RKPI				S		Sb	21 27 47.5	-2.7
	23nm,0.7s,8µm0.4nm							
SANI	**Sanana**	6.14	304	P		Pn	21 26 58.9	+7.1
SANI				S		Sn	21 28 04.0	+1.9
BATI	**Baumata**	8.69	237	Pn		Pn	21 27 29.6	+2.7
	1.3nm,0.3s,baz=106,slow=5.9,SNR=3.1							
WRA	**Warramunga Arr**	14.68	168	Pn		Pn	21 28 46.8	-2.1
	0.6nm,0.3s,baz=341,slow=14,SNR=36							
WRA				Sn		Sn	21 31 19.2	-13
	0.6nm,0.3s,baz=341,slow=22,SNR=9.3							
ASAR	**Alice Springs**	18.24	172	P		P	21 29 33.9	-0.7
	0.6nm,0.3s,baz=345,slow=9.3,SNR=38							
ASAR				S		Sn	21 32 43.9	-14
	0.1nm,0.3s,baz=347,slow=25,SNR=6.1							
STKA	**Stephens Creek**	28.01	161	P		P	21 31 13.2	+0.9
	0.6nm,0.3s,baz=354,slow=9.2,SNR=4.3							
CMAR	**Chiang Mai Arr**	39.65	308	P		P	21 32 52.6	-0.7
	0.4nm,0.8s,baz=145,slow=7.8,SNR=3.3							
SONM	**Songino Array**	57.40	340	P		P	21 35 11.5	+1.7
	0.4nm,0.7s,baz=140,slow=7.0,SNR=2.5							
MKAR	**Makanchi Array**	67.59	326	P		P	21 36 18.5	+0.6
	1.0nm,0.6s,baz=124,slow=8.1,SNR=16							
KURBB	**Kurchatov Arra**	71.83	328	P		P	21 36 44.3	+0.4
	0.5nm,0.6s,baz=127,slow=5.0,SNR=9.0							

*PRE **24** 21:26:13.0±2.6,21.49S×33.84E,h5km,ML5.2*
*NEIC **24** 21:26:16.3±0.8,21.09S×33.45E,h12km±4km,mb4.3/2, ML4.3(PRE),Error ellipse: s-maj=16.1km s-min=10.8km az=134.0*
*ISCJB **24** 21:26:19.5±0.6,21.25S±0.04×32.98E±0.05,h15km, mb3.8/7,MS3.4/3,Error ellipse: s-maj=7.8km s-min=4.3km az=26.7*
*IDC **24** 21:26:19.2±1.1,21.16S×33.35E,h0km,mb3.8/8, mb1 3.9/8,mb1mx3.7/30,mbtmp3.8/8,MS3.3/3,Ms1 3.3/3, ms1mx3.0/24,Error ellipse: s-maj=33.2km s-min=31.2km az=108.0*

ISC 24 21:26:21.3±0.7,**21.27S**±0.06×**33.00E**±0.06,**h15**km,**n44,** σ1**79**/65,**mb3.7**/7,**MS3.4**/3,**Mozambique**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSNA	**Messina**	2.97	248	*e*P		Pb	21 27 11.6	-2.3
MSNA				*e*S		Sg	21 27 55.3	-1.3
MSNA				AML		AML	21 28 04.6	
	comp=Z,1µm,0.6s							
MSNA	**Messina**	2.97	248	*e*Pn		Pn	21 27 11.4	+3.5
MSNA				*e*Sn		Sb	21 27 49.8	-0.2
BLWY	**Bulawayo**	4.26	284	*i* P		Pn	21 27 28.0	+2.2
BLWY				*i*			21 27 28.1	
	baz=111,slow=14							
BLWY				*i* S		Sn	21 28 14.2	-1.1
SLR	**Silverton**	6.21	223	*e*Pn		Pn	21 27 54.5	+2.0
SLR				*e*Sn		Sn	21 29 07.8	+4.5
ERPM	**east rand prop**	6.67	220	*e*P		Pn	21 27 57.6	-1.4
ERPM				*e*S		Sn	21 29 13.1	-1.8
ERPM				AML		AML	21 30 07.6	
	comp=Z,188nm,0.6s							
ERPM	**east rand prop**	6.67	220	*e*Pn		Pn	21 27 59.7	+0.8
ERPM				*e*Sn		Sn	21 29 15.8	+1.0
KLOF	**Kloof**	7.07	223	*e*Pn		Pn	21 28 05.6	+1.2
KLOF				*e*Sn		Sn	21 29 26.7	+2.1
WDLM	**Western Deep L**	7.24	224	*e*P		Pn	21 28 07.3	+0.6
WDLM				*e*S		Sn	21 29 28.2	-0.6
WDLM				AML		AML	21 30 22.8	
	comp=Z,154nm,0.7s							
LSZ	**Lusaka**	7.51	322	*e*Pn		Pn	21 28 09.9	-0.5
LSZ				*e*Sn		Sn	21 29 21.8	-14
PRYS	**Parys**	7.63	221	*e*P		Pn	21 28 11.9	-0.2
PRYS				*e*S		Sn	21 29 39.1	+0.6
PRYS				AML		AML	21 30 34.9	
	comp=Z,182nm,0.6s							
PRYS	**Parys**	7.63	221	*e*Pn		Pn	21 28 12.5	+0.4
				*e*Sn		Sn	21 29 43.2	+4.7
LBTB	**Lobatse**	7.76	240	*e*P		Pn	21 28 14.5	+0.5
LBTB				*e*S		Sn	21 29 44.8	+3.1
LBTB				AML		AML	21 30 51.0	
	comp=Z,144nm,0.6s							
LBTB	**Lobatse**	7.76	240	*e*Pn		Pn	21 28 15.2	+1.3
LBTB				*e*Sn		Sn	21 29 45.6	+3.9
SEK	**Senekal**	8.55	214	*e*P		Pn	21 28 23.9	-0.9
SEK				*e*S		Sn	21 29 56.8	-4.3
SEK				AML		AML	21 31 20.3	
	comp=Z,136nm,0.7s							
SEK	**Senekal**	8.55	214	*e*Pn		Pn	21 28 24.3	-0.5
SEK				*e*Sn		Sn	21 30 02.8	+1.6
SWZ	**Schweizer**	9.14	228	*e*P		Pn	21 28 32.4	-0.5
SWZ				*e*S		Sn	21 30 17.0	+1.4
SWZ				AML		AML	21 31 22.3	
	comp=Z,171nm,0.7s							
SWZ	**Schweizer**	9.14	228	*e*Pn		Pn	21 28 32.9	0.0
SWZ				*e*Sn		Sn	21 30 15.3	-0.3
BOSA	**Boshof**	10.14	222	Pn		Pn	21 28 45.7	-0.8
	comp=Z,2.7nm,0.3s,baz=38,slow=12,SNR=19							
BOSA				Sn		Sn	21 30 36.5	-3.5
	comp=Z,2.5nm,0.3s,baz=305,slow=5.0,SNR=4.1							
BOSA				Lg		Lg	21 31 38.3	
	comp=Z,3.6nm,0.3s,baz=137,slow=22,SNR=5.7							
BOSA	**Boshof**	10.14	222	*e*Pn		Pn	21 28 46.5	0.0
BOSA				*e*Sn		Sn	21 30 39.8	-0.2
BOSA				*e*Sn		Sn	21 30 39.9	-0.3
HVD	**Gariep Dam**	11.49	214	*e*Pn		Pn	21 29 07.9	+2.9
HVD				*e*Sn		Sn	21 31 16.0	+2.9
UPI	**Upington**	12.79	234	*e*P		Pn	21 29 23.2	+0.5
UPI				*e*S		Sn	21 31 42.8	-2.1
UPI				AML		AML	21 33 17.4	
	comp=Z,70nm,0.7s							
UPI	**Upington**	12.79	234	*e*Pn		Pn	21 29 22.7	0.0
UPI				*e*Sn		Sn	21 31 44.7	-0.2
SOE	**Somerset East**	13.18	209	*e*Pn		Pn	21 29 30.8	+2.8
SOE				*e*Sn		Sn	21 31 54.8	+0.3
GRM	**Grahamstown**	13.31	204	*e*Pn		Pn	21 29 33.6	+3.8
GRM				*e*Sn		Sn	21 31 56.5	-1.0
ABPO	**Ambohimpanom**	13.55	83	*e*Pn		Pn	21 29 22.6	-11
ABPO				*e*Sn		Sn	21 31 37.2	-27
TSUM	**Tsumeb**	14.61	275	*e*Pn		Pn	21 29 46.6	-1.2
	comp=Z,16nm,0.6s							
TSUM				*e*Sn		Sn	21 32 29.9	+0.3
SUR	**Sutherland**	15.50	222	*e*Pn		Pn	21 29 59.4	-0.3
	comp=Z,8.4nm,0.8s							
SUR				*e*Sn		Sn	21 32 52.1	+0.8
KOMG	**Komaggas**	16.36	236	*e*Pn		P	21 30 15.0	+1.6
KOMG				*e*Sn		Sn	21 33 09.1	-2.9
CER	**Ceres**	17.11	222	*e*Pn		P	21 30 21.6	-1.0
CER				*e*Sn		Sn	21 33 29.8	-0.3
KMBO	**Kilima Mbogo**	20.44	12	P		P	21 30 57.7	-0.9
	comp=Z,0.7nm,0.3s,baz=193,slow=17,SNR=3.7							
KMBO				Lg		Lg	21 36 49.6	
	comp=Z,1.6nm,0.7s,baz=300,slow=24,SNR=3.8							
TOA0	**Torodi Ar. Sit**	45.99	315	*e*P		P	21 34 36.2	-8.0
TOA0				*e*sP		sP	21 34 45.4	-5.4
TORD	**Torodi Ar. Bea**	45.99	315	P		P	21 34 45.4	+1.1
	comp=Z,1.5nm,0.8s,baz=126,slow=6.6,SNR=13							
DBIC	**Dimbokro**	46.38	303	LR		LR	21 52 42.1	
	comp=Z,50nm,20.9s,baz=96,slow=34							
BRTR	**Keskin Array B**	60.67	1	P		P	21 36 31.6	-0.4
	comp=Z,0.4nm,0.6s,baz=198,slow=9.1,SNR=3.5							
BRTR				LR		LR	22 04 04.5	
	comp=Z,22nm,20.6s,baz=131,slow=37							
BR101	**Keskin Array S**	60.68	1	*e*sP		P	21 36 31.6	-0.4
ESDC	**Sonseca Array**	69.76	330	P		P	21 37 31.9	+1.0
	comp=Z,0.2nm,0.4s,baz=134,slow=7.6,SNR=3.6

IDC 24 21:36:23.2±2.4, 7°27S×129°40E, h117km±27km, mb3.0/1, mb1 2.9/5, mb1mx2.8/28, mbtmp3.3/5, Error ellipse: s-maj=37.6km s-min=24.2km az=94.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.38**	**242**	P	Pn	21 37 54.9	0.0
	1.0nm,0.3s,baz=75,slow=12,SNR=2.1						
BATI				S	Sn	21 39 11.4	+5.0
	2.1nm,0.3s,baz=221,slow=20,SNR=3.1						
SIJI	**Sorong**	**6.63**	**16**	P	Pn	21 37 58.4	+0.2
	0.5nm,0.3s,baz=180,slow=20,SNR=4.6						
SIJI				S	Sn	21 39 05.5	-7.0
	0.6nm,0.3s,baz=108,slow=20,SNR=2.8						
WRA	**Warramunga Arr**	**13.47**	**160**	P	Pn	21 39 27.9	-1.9
	0.1nm,0.3s,baz=342,slow=13,SNR=7.3						
WRA				S	Sn	21 41 49.3	-9.1
	0.1nm,0.3s,baz=340,slow=21,SNR=6.5						
ASAR	**Alice Springs**	**16.86**	**166**	P	P	21 40 14.2	+1.7
	0.1nm,0.3s,baz=341,slow=11,SNR=4.9						
MKAR	**Makanchi Array**	**68.13**	**327**	P	P	21 47 10.6	-0.1
	0.2nm,0.5s,baz=114,slow=7.5,SNR=3.2						

ISCJB 24 21:47:16.2±0.6, 6°.88N±0°.08×73°.04W±0°.09, h161km, mb3.3/2, Error ellipse: s-maj=15.3km s-min=6.1km az=38.9
IDC 24 21:47:16.5±2.8, 6°.67N×72°.91W, h162km±30km, mb3.1/2, mb1 3.3/3, mb1mx2.9/33, mbtmp3.5/3, Error ellipse: s-maj=42.1km s-min=36.4km az=7.0
FUNV 24 21:47:17.4, 6°.78N×73°.13W, h158km, MW3.7

ISC 24 21:47:16.5±0.9, 6°.86N±0°.07×73°.02W±0°.08, h161km, n18, σ1§31/24, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.22**	**35**	∥*i* P	**Pn**	**21 47 45.9**	**+1.5**
CAPV				*e*S	**Sn**	**21 48 06.5**	**+0.5**
ROSC	**El Rosal**	**2.38**	**213**	P	**Pn**	**21 47 57.8**	**+0.8**
	13nm,0.3s,baz=90,slow=20,SNR=32						
ROSC				S	**Sn**	**21 48 26.8**	**-1.7**
	9.9nm,0.3s,baz=79,slow=14,SNR=9.2						
VIGV	**El Vigia**	**2.56**	**40**	*e*P	**Pn**	**21 48 00.5**	**+1.5**
SOCV	**Socops**	**2.57**	**56**	*e*P	**Pn**	**21 48 00.8**	**+1.8**
SOCV				*e*S	**Sn**	**21 48 31.3**	**-0.6**
ELOV	**Elorza**	**3.51**	**87**	*e*P	**Pn**	**21 48 12.2**	**+1.5**
VIRV	**Villa del Rosa**	**3.67**	**9**	*e*P	**Pn**	**21 48 12.8**	**0.0**
QARV	**Quebrada Arrib**	**4.14**	**36**	*e*P	**Pn**	**21 48 19.2**	**+0.3**
SANV	**Sanarito**	**4.33**	**52**	*e*P	**Pn**	**21 48 22.4**	**+1.0**
CURV	**Curarigua**	**4.36**	**44**	*e*P	**Pn**	**21 48 22.8**	**+1.0**
DABV	**Dabajuro**	**4.67**	**30**	*e*P	**Pn**	**21 48 27.1**	**+1.3**
DABV				*e*S	**Sn**	**21 49 17.9**	**-2.1**
TEPV	**Terepaima**	**4.88**	**51**	*e*P	**Pn**	**21 48 29.8**	**+1.2**
SIQV	**Siquisique**	**4.92**	**40**	*e*P	**Pn**	**21 48 29.9**	**+0.8**
SIQV				*e*S	**Sn**	**21 49 24.5**	**-1.4**
BAUV	**El Baul**	**5.35**	**67**	*e*P	**Pn**	**21 48 35.0**	**+0.3**
BAUV				*e*S	**Sn**	**21 49 33.1**	**-2.7**
MAPV	**Macapo**	**5.39**	**56**	*e*P	**Pn**	**21 48 36.1**	**+0.8**
YKA	**Yellowknife Ar**	**63.27**	**340**	P	**P**	**21 57 28.6**	**+1.0**
	0.5nm,0.6s,baz=133,slow=6.6,SNR=5.6						
TORD	**Torodi Ar. Bea**	**73.63**	**78**	P	**P**	**21 58 32.2**	**-0.7**
	0.3nm,1.0s,baz=283,slow=6.7,SNR=3.2						
MKAR	**Makanchi Array**	**122.25**	**20**	PKP	**PKPdf**	**22 05 52.2**	**-0.3**
	0.1nm,0.4s,baz=347,slow=3.5,SNR=2.9						
WRA	**Warramunga Arr**	**150.44**	**241**	PKPbc	**PKPbc**	**22 06 49.9**	**0.0**
	0.2nm,0.4s,baz=107,slow=2.6,SNR=5.7						

DJA 24 22:09:34.3±0.4, 1°S±3°×122°3E±°, h23km±5km, M3.8/11, mb3.9/1, MLv3.7/11, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.41**	**164**	P	Pn	22 09 44.3	-0.6
LUWI				S	Sn	22 09 51.2	-0.7
APSI	**Ampana**	**1.05**	**255**	P	Pn	22 09 52.0	-1.6
APSI				S	Sb	22 10 06.6	-0.4
MRSI	**Marisa**	**1.32**	**327**	P	Pn	22 09 57.4	0.0
MRSI				S	Sn	22 10 13.2	-1.1
KMSI	**Cibinong**	**1.79**	**48**	P	Pn	22 10 03.6	-0.2
PCI	**Palu**	**2.83**	**265**	P	Pn	22 10 19.1	+0.9
PCI				S	Sn	22 10 54.8	+3.1
MPSI	**Mapaga**	**2.93**	**289**	P	Pn	22 10 20.1	+0.6
SPSI	**Sidrap Palu**	**4.39**	**221**	P	Pn	22 10 39.1	-0.5

ISK 24 22:15:48.6, 38°.26N×26°.53E, h6km, MD2.7
ISCJB 24 22:15:49.1±1.3, 38°.29N±0°.06×26°.52E±0°.08, h10km±7km, Error ellipse: s-maj=13.2km s-min=6.6km az=42.6
DDA 24 22:15:49.6, 38°.30N×26°.58E, h7km, MD2.9
CSEM 24 22:15:49.0±0.3, 38°.29N×26°.51E, h10km, MD2.7, Error ellipse: s-maj=7.1km s-min=4.9km az=39.0

ISC 24 22:15:49.2±1.2, 38°.30N±0°.05×26°.53E±0°.05, h10km±8km, n14, σ0§42/24, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.08**	**41**	*i* P	**Pg**	**22 15 51.4**	**-0.2**
URLA	**Izmir**	**0.08**	**41**	*i* P	**Pg**	**22 15 51.4**	**-0.2**
BLCB	**Balcova**	**0.41**	**78**	*e*PG	**Pg**	**22 15 57.3**	**0.0**
BLCB				*e*SG	**Sb**	**22 16 04.3**	**-0.7**
BLCB	**Balcova**	**0.41**	**78**	*e*Pg	**Pg**	**22 15 57.3**	**0.0**
BLCB				*e*Sg	**Sb**	**22 16 04.3**	**-0.7**
IZM	**Izmir**	**0.59**	**80**	*e*PG	**Pg**	**22 16 00.7**	**+0.1**
IZM				*e*SG	**Sg**	**22 16 09.0**	**+0.7**
IZM	**Izmir**	**0.59**	**80**	*e*Pg	**Pg**	**22 16 00.7**	**+0.1**
IZM				*e*Sg	**Sg**	**22 16 09.0**	**+0.7**
GCAM	**G?zelcaml?**	**0.82**	**137**	*i* P	**Pg**	**22 16 04.9**	**0.0**
GCAM				*i* S	**Sb**	**22 16 16.2**	**-0.4**
GCAM	**G?zelcaml?**	**0.82**	**137**	*i* P	**Pg**	**22 16 04.9**	**0.0**
GCAM				*i* S	**Sb**	**22 16 16.2**	**-0.4**
SIGR	**SIGRI**	**1.05**	**330**	*e*PN	**Pn**	**22 16 10.3**	**+0.3**
SIGR				*e*SN	**Sn**	**22 16 24.9**	**+0.1**
SIGR	**SIGRI**	**1.05**	**330**	*e*Pn	**Pn**	**22 16 10.3**	**+0.3**
SIGR				*e*Sn	**Sn**	**22 16 24.9**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.13**	**108**	*e*PN	**Pb**	**22 16 10.4**	**-0.6**
AYDB				*e*SN	**Sb**	**22 16 26.2**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.13**	**108**	*e*Pn	**Pb**	**22 16 10.4**	**-0.6**
AYDB				*e*Sn	**Sb**	**22 16 26.2**	**+0.4**
BODT	**Bodrum**	**1.38**	**153**	*e*PN	**Pb**	**22 16 14.9**	**-0.2**
BODT	**Bodrum**	**1.38**	**153**	*e*Pn	**Pb**	**22 16 14.9**	**-0.2**

IDC 24 22:26:05.4±3.8, 50°.12S×126°.50E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.7/14, mbtmp3.7/3, Error ellipse: s-maj=121.0km s-min=65.1km az=100.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**17.69**	**325**	T	T	22 48 26.7	
	baz=150,slow=76,SNR=4.7						
H01W2	**Cape Leeuwin H**	**17.70**	**325**	T	T	22 48 25.2	
	baz=150,slow=76,SNR=5.1						
H01W3	**Cape Leeuwin H**	**17.71**	**325**	T	T	22 48 30.2	
	baz=150,slow=76,SNR=5.2						
STKA	**Stephens Creek**	**21.42**	**37**	P	P	22 30 54.2	-0.5
	3.2nm,0.9s,baz=225,slow=8.6,SNR=4.5						
ASAR	**Alice Springs**	**27.03**	**15**	P	P	22 31 49.5	+0.3
	1.3nm,0.7s,baz=191,slow=10.0,SNR=10						
WRA	**Warramunga Arr**	**30.75**	**15**	P	P	22 32 22.4	+0.1
	0.4nm,1.0s,baz=192,slow=8.3,SNR=3.3						
YKA	**Yellowknife Ar**	**145.30**	**46**	PKPbc	PKPbc	22 45 42.5	-1.0
	0.6nm,1.0s,baz=260,slow=3.5,SNR=2.9						

ISCJB 24 22:41:02.0±3.5, 20°.07S±0°.05×174°.46W±0°.08, h31km±24km, mb4.7/57, MS3.8/8, Error ellipse: s-maj=12.4km s-min=8.2km az=23.3
NEIC 24 22:41:01.9±2.9, 20°.01S×174°.44W, h20km±20km, mb4.9/45, Error ellipse: s-maj=12.2km s-min=6.5km az=120.0
IDC 24 22:41:05.1±0.6, 19°.99S×174°.53W, h45km±5km, mb4.2/17, mb1 4.3/18, mb1mx4.2/31, mbtmp4.4/18, MS3.6/8, Ms1 3.6/8, ms1mx3.3/36, Error ellipse: s-maj=18.5km s-min=13.4km az=129.0
BJI 24 22:41:09.7, 18°.92S×174°.00W, h57km, mb4.9/12, mB5.2/9, Ms5.1/6, Ms7 4.7/6

ISC 24 22:41:06.4±0.6, 20°.15S±0°.08×174°.32W±0°.09, h57km±3km, h57km:pP-P, n137, σ1§54/147, mb4.7/58, MS3.6/8, 11C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.66**	**22**	*e*Pn	Pn	22 42 35.1	-6.8
AFI				*e*Sn	Sn	22 43 39.6	-17
MSVF	**Nonsavu**	**7.61**	**287**	Pn	**Pn**	**22 42 52.9**	**-1.9**
RAR	**Rarotonga**	**13.66**	**97**	*e*Pn	Pn	22 44 10.2	-7.1
RAR				*e*Sn	Sn	22 46 27.3	-20
KNTN	**Kanton**	**17.45**	**9**	*e*Pn	**Pn**	**22 45 02.8**	**-3.3**
	853nm,2.6s						
DZM	**Mont Dzumac**	**18.05**	**261**	P	**Pn**	**22 45 13.9**	**+0.5**
	0.5nm,0.3s,baz=90,slow=20,SNR=4.6						
DZM				LR	LR	22 51 19.8	
	comp=Z,307nm,18.2s,baz=179,slow=34						
OUZ	**Omahuta**	**18.41**	**213**	*e*P	**Pn**	**22 45 18.3**	**+0.8**
URZ	**Urewera**	**19.52**	**201**	P	**P**	**22 45 27.9**	**-1.1**
	3.1nm,0.3s,baz=313,slow=3.2,SNR=9.6						
URZ				S	S	22 48 48.6	-18
	0.6nm,0.3s,baz=330,slow=20,SNR=3.4						
URZ	**Urewera**	**19.52**	**201**	*e*P	**P**	**22 45 27.9**	**-1.1**
	35nm,2.1s						
BKZ	**Black Stump Fm**	**20.54**	**201**	*e*P	**P**	**22 45 41.6**	**+1.4**
	485nm,2.7s						
BFZ	**Birch Farm**	**22.00**	**199**	*e*P	**P**	**22 45 54.1**	**-1.7**
	499nm,1.8s						
SNZO	**South Karori**	**23.07**	**201**	*e*P	**P**	**22 46 04.0**	**-3.0**
	436nm,1.7s						
TBI	**Tubuai**	**23.30**	**102**	*e*LR	LR	22 51 33.1	
	372nm,29.0s,baz=288						
TBI	**Tubuai**	**23.30**	**102**	*e*T	T	23 10 00.7	
	16nm,0.3s						
PAE	**Paea**	**23.53**	**88**	*e*T	T	23 10 05.9	
	6.1nm,0.2s						
PPT2	**Papeete2**	**23.55**	**88**	*e*LQ	LQ	22 50 40.0	
	506nm,27.5s						
PPT2				*e*LR	LR	22 51 36.3	
	484nm,27.2s,baz=247						
PPT2	**Papeete2**	**23.55**	**88**	*e*T	T	23 10 07.7	
	5.8nm,0.3s						
PPT	**Papeete**	**23.55**	**88**	LR	LR	22 52 42.7	
	comp=Z,123nm,20.6s,baz=237,slow=29						
KHZ	**Kahutara**	**24.45**	**202**	*e*P	**P**	**22 46 19.2**	**-0.6**
	884nm,2.4s						
MEH	**Mehetia**	**24.92**	**89**	*e*T	T	23 11 50.4	
	42nm,0.2s						
PMOR	**Pomariorio Ree**	**25.69**	**83**	*e*T	T	23 12 43.3	
	3.8nm,0.3s						
RPZ	**Rata Peaks**	**26.49**	**204**	P	**P**	**22 46 40.4**	**+2.0**
	19nm,0.6s,baz=64,slow=1.5,SNR=6.3						
RPZ	**Rata Peaks**	**26.49**	**204**	*e*P	**P**	**22 46 40.4**	**+2.0**
	129nm,1.4s						
WHZ	**Wether Hill Ro**	**29.53**	**206**	*e*P	**P**	**22 47 08.3**	**+2.8**
	882nm,3.0s						
EIDS	**Eidsvold**	**32.27**	**254**	*e*P	**P**	**22 47 27.5**	**-2.4**
	22nm,1.4s						
TAOE	**Nuku Hiva Isla**	**34.86**	**76**	*e*T	T	23 24 05.7	
	166nm,0.3s						
RKT	**Rikitea**	**36.62**	**102**	*e*T	T	23 26 38.0	
	4.7nm,0.3s						
CTA	**Charters Tower**	**36.96**	**263**	P	**P**	**22 48 08.2**	**-2.3**
	4.1nm,0.4s,baz=84,slow=10,SNR=11						
CTAO	**Charters Tower**	**36.96**	**263**	*e*P	**P**	**22 48 08.1**	**-2.3**
	7.1nm,0.6s						
STKA	**Stephens Creek**	**41.05**	**244**	P	**P**	**22 48 42.8**	**-1.8**
	1.5nm,0.5s,baz=94,slow=9.9,SNR=7.4						
STKA				LR	LR	23 03 41.6	
	comp=Z,151nm,18.5s,baz=31,slow=33						
JAY	**Jayapura**	**47.24**	**286**	P	**P**	**22 49 33.4**	**-0.8**
	8.1nm,0.6s,baz=119,slow=1.2,SNR=10						
JAY				LR	LR	23 06 55.1	
	comp=Z,63nm,21.4s,baz=182,slow=33						
AS01	**Alice Springs**	**47.91**	**256**	*e*P	**P**	**22 49 39.3**	**-0.1**
AS12	**Alice Springs**	**47.96**	**256**	*e*P	**P**	**22 49 37.6**	**-2.2**
ASAR	**Alice Springs**	**47.96**	**256**	P	**P**	**22 49 37.6**	**-2.2**
	1.9nm,0.8s,baz=96,slow=7.8,SNR=19						
ASAR				PcP	**PcP**	**22 51 06.3**	**-1.1**
	1.2nm,0.6s,baz=100,slow=4.6,SNR=3.6						
ASAR				pPcP		22 51 18.7	
	2.9nm,0.7s,baz=104,slow=3.6,SNR=3.8						
WRAB	**Tennant Creek**	**48.06**	**261**	*e*P	P	22 49 37.0	-3.6
	21nm,1.7s						
WRA	**Warramunga Arr**	**48.07**	**261**	P	P	22 49 37.2	-3.4
	1.6nm,0.6s,baz=96,slow=7.5,SNR=53						
WRA				pPcP		22 51 20.9	
	2.8nm,0.8s,baz=94,slow=3.6,SNR=7.4						
SIJI	**Sorong**	**56.51**	**283**	P	**P**	**22 50 41.7**	**-1.6**
	9.5nm,0.6s,baz=58,slow=9.5,SNR=6.4						
VNDA	**Vanda**	**58.59**	**186**	P	**P**	**22 50 58.9**	**+2.0**
	2.1nm,0.7s,baz=2.0,slow=7.2,SNR=19						
VNDA	**Vanda**	**58.59**	**186**	*e*P	**P**	**22 50 58.9**	**+2.0**
	34nm,2.2s						
MJAR	**Matsushiro Arr**	**72.03**	**321**	P	**P**	**22 52 23.1**	**-1.4**
	2.5nm,0.7s,baz=152,slow=5.6,SNR=7.2						
MAJO	**Matsushiro**	**72.03**	**321**	*e*P	**P**	**22 52 23.1**	**-1.4**
	53nm,1.7s						
PEA2	**Petropavlovsk-**	**76.88**	**343**	*e*P	**P**	**22 52 51.0**	**-1.2**
PETK	**Petropavlovsk-**	**76.88**	**343**	P	**P**	**22 52 51.0**	**-1.2**
	3.7nm,1.0s,baz=183,slow=5.5,SNR=3.1						
PETK				pP	**PcP**	**22 53 04.5**	**+1.4**
	5.7nm,0.7s,baz=140,slow=9.7,SNR=8.4						
PETK				LR	LR	23 19 49.5	
	comp=Z,19nm,21.8s,baz=149,slow=30						
CMB	**Columbia Colle**	**76.90**	**41**	*e*P	**P**	**22 52 51.8**	**-0.9**
	4.2nm,0.8s						
GSC	**Goldstone, Bar**	**77.54**	**45**	*e*P	**P**	**22 52 54.6**	**-1.8**
	10nm,1.3s						
DAC	**Darwin (Calif)**	**77.59**	**44**	*e*P	**P**	**22 52 57.4**	**+0.5**
	43nm,2.5s						
NV01	**Mina Array Sit**	**78.43**	**42**	*e*P	**P**	**22 53 01.5**	**0.0**
NVAR	**Mina Array Bea**	**78.43**	**42**	P	**P**	**22 53 01.6**	**+0.1**
	5.8nm,0.7s,baz=225,slow=9.0,SNR=51						
NVAR				pP	**pP**	**22 53 15.2**	**-2.2**
	5.1nm,0.8s,baz=225,slow=9.1,SNR=11						
TPNV	**Topopah Spring**	**78.86**	**44**	*e*P	**P**	**22 53 04.2**	**+0.4**
	6.0nm,0.8s						
TPH	**Topopah**	**78.90**	**42**	*e*P	**P**	**22 53 04.6**	**+0.6**
	7.1nm,0.7s						
KSRS	**Korea Array**	**78.96**	**317**	P	**P**	**22 53 04.5**	**+0.5**
	2.4nm,0.8s,baz=133,slow=7.5,SNR=6.4						
KS15	**Wonju Array Si**	**78.97**	**317**	*e*P	**P**	**22 53 04.5**	**+0.3**
SHPR	**Sheep Range**	**79.32**	**45**	*e*P	**P**	**22 53 07.1**	**+0.8**
K05A	**Summer Lake**	**79.57**	**37**	*e*P	**P**	**22 53 08.2**	**+0.7**
	128nm,2.6s						
R11A	**Troy Canyon, C**	**80.11**	**43**	*e*P	**P**	**22 53 10.8**	**+0.2**
	4.5nm,1.1s						
WVOR	**Wild Horse Val**	**80.68**	**38**	*e*P	**P**	**22 53 13.9**	**+0.4**
	8.9nm,1.3s						
I07A	**Izee**	**81.21**	**37**	*e*P	**P**	**22 53 16.7**	**+0.5**
	41nm,2.3s						
G08A	**Pilot Rock**	**82.27**	**36**	*e*P	**P**	**22 53 22.1**	**+0.3**
	8.1nm,1.0s						
NJ2	**Nanjing**	**82.35**	**308**	*e*P	**P**	**22 53 24.6**	**+2.3**
NJ2				PMZ			
	20nm,0.6s						
MVU	**Marysvale**	**82.38**	**44**	*e*P	**P**	**22 53 24.1**	**+1.4**
	4.7nm,1.1s						
MSU	**Marysvale**	**82.41**	**44**	*e*P	**P**	**22 53 24.2**	**+1.4**
MFID	**Camas Ranch**	**82.92**	**39**	*e*P	**P**	**22 53 25.4**	**+0.2**
	6.2nm,1.2s						
BMO	**Blue Mountains**	**82.93**	**37**	*e*P	**P**	**22 53 25.2**	**0.0**
	2.9nm,0.9s						
MAW	**Mawson**	**83.04**	**199**	P	**P**	**22 53 25.9**	**+0.6**
	1.8nm,0.6s,baz=145,slow=9.5,SNR=4.0						
MAW				LR	LR	23 28 13.0	
	comp=Z,21nm,19.8s,baz=58,slow=34						
D08A	**Wollman Farm,**	**83.40**	**35**	*e*P	**P**	**22 53 28.1**	**+0.6**
	8.7nm,0.9s						
SRU	**San Rafael Swe**	**83.82**	**45**	*e*P	**P**	**22 53 31.0**	**+1.0**
	8.4nm,1.0s						
HVU	**Hansel Valley**	**83.83**	**41**	*e*P	**P**	**22 53 30.5**	**+0.5**
	5.5nm,0.9s						
HLID	**Hailey**	**83.84**	**39**	*e*P	**P**	**22 53 30.7**	**+0.7**
	5.5nm,0.8s						
QIZ	**Qiongzhong**	**83.89**	**293**	P	P	22 53 34.3	+3.7
QIZ				S	**S**	**23 03 55.3**	**+5.1**
QIZ				PMZ			
	16nm,1.7s						
TXAR	**Lajitas Array**	**83.98**	**56**	LR	LR	23 26 09.8	
	comp=Z,24nm,18.9s,baz=0.0,slow=32						
CN2	**Changchun**	**84.17**	**321**	*e*P	**P**	**22 53 32.9**	**+1.4**
BMRM	**Bremner River**	**84.31**	**14**	*e*P	**P**	**22 53 32.1**	**+0.2**
	6.1nm,0.8s						
CAST	**Castle Rocks**	**85.10**	**10**	*e*P	**P**	**22 53 34.1**	**-1.7**
	2.9nm,0.9s						
TRF	**Thorofare Moun**	**85.43**	**11**	*e*P	**P**	**22 53 35.9**	**-1.7**
	11nm,0.9s						
RND	**Reindeer**	**85.64**	**11**	*e*P	**P**	**22 53 38.8**	**+0.3**
	12nm,0.8s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCK	**McKinley**	**85.93**	**11**	*e*P	**P**	**22 53 39.5**	**-0.4**
	14nm,1.0s						
DLMT	**Dillon**	**85.93**	**38**	*e*P	**P**	**22 53 41.5**	**+1.0**
	5.6nm,1.1s						
HYT	**Haines Junctio**	**85.98**	**17**	*e*P	**P**	**22 53 40.3**	**0.0**
SMCO	**Snowmass**	**86.22**	**46**	*e*P	**P**	**22 53 42.8**	**+0.4**
	21nm,2.0s						
PD31	**Pinedale Array**	**86.37**	**42**	*e*P	**P**	**22 53 42.4**	**-0.4**
PDAR	**Pinedale Array**	**86.37**	**42**	P	**P**	**22 53 42.4**	**-0.4**
	0.9nm,0.8s,baz=194,slow=1.9,SNR=5.3						
PDAR				pP	**pP**	**22 53 55.9**	**-3.1**
	1.4nm,1.0s,baz=205,slow=3.1,SNR=4.8						
DDM	**Donnelly Dome**	**86.56**	**12**	*e*P	**P**	**22 53 43.3**	**+0.3**
	15nm,1.2s						
BOZ	**Bozeman (W)**	**86.66**	**39**	*e*P	**P**	**22 53 44.3**	**+0.3**
	2.7nm,0.9s						
WRH	**Wood River Hil**	**86.75**	**11**	*e*P	**P**	**22 53 43.5**	**-0.3**
	17nm,1.0s						
DOT	**Dot Lake**	**86.81**	**13**	*e*P	**P**	**22 53 44.2**	**+0.1**
	5.9nm,0.7s						
MLY	**Manley**	**86.82**	**10**	*e*P	**P**	**22 53 43.3**	**-0.9**
	7.5nm,1.1s						
CCB	**Clear Creek Bu**	**86.97**	**11**	*e*P	**P**	**22 53 44.3**	**-0.5**
	12nm,1.0s						
SCRK	**Sand Creek**	**87.11**	**13**	*e*P	**P**	**22 53 45.8**	**+0.1**
	4.0nm,0.8s						
IL1	**Eielson Array**	**87.25**	**11**	*e*P	**P**	**22 53 45.2**	**-1.1**
ILAR	**Eielson Array**	**87.25**	**11**	P	**P**	**22 53 45.3**	**-1.0**
	1.9nm,0.8s,baz=224,slow=5.6,SNR=16						
ILB	**Eielson Array**	**87.25**	**11**	*e*P	**P**	**22 53 45.3**	**-1.0**
DAWY	**Dawson**	**88.21**	**15**	*e*P	**P**	**22 53 51.5**	**+0.5**
VNA3	**Neumayer Olymp**	**88.23**	**175**	P	**P**	**22 53 51.2**	**+0.1**
SNAA	**Sanae**	**88.23**	**177**	P	**P**	**22 53 49.4**	**-1.7**
EGAK	**Eagle**	**88.42**	**14**	*e*P	**P**	**22 53 52.0**	**+0.2**
	6.6nm,1.0s						
VNA2	**Neumayer--Watz**	**88.71**	**176**	P	**P**	**22 53 53.9**	**+0.5**
	baz=202,slow=3.4						
GYA	**Guiyang**	**89.50**	**298**	SKS	**SKSac**	**23 04 25.3**	**+1.4**
GYA	**Guiyang**	**89.50**	**298**	sS	sS	23 05 13.0	+0.9
GYA	**Guiyang**	**89.50**	**298**	SS	SS	23 10 48.8	+7.1
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,5.5s						
GYA				LR	LR		
	comp=N,440nm,19.8s						
GYA				LR	LR		
	comp=E,380nm,20.0s						
GYA				LR	LR		
	comp=Z,460nm,18.9s						
XAN	**Xi'an**	**90.69**	**306**	P	**P**	**22 54 03.6**	**+0.3**
XAN				PMZ			
	comp=Z,2.0nm,1.5s						
HHC	**Hu-ho-hao-te**	**91.61**	**313**	*e*P	**P**	**22 54 10.1**	**+2.7**
HHC				pP	**pP**	**22 54 27.6**	**+3.9**
HHC				sP	**sP**	**22 54 34.4**	**+4.5**
HHC				PP	**PP**	**22 57 51.3**	**+4.6**
HHC				SKS	**SKSac**	**23 04 36.0**	**+0.6**
HHC				S	**S**	**23 05 03.8**	**+0.5**
HHC				PMZ			
	comp=Z,13nm,0.6s						
HHC				PMZ			
	comp=Z,89nm,5.5s						
HHC				LN			
	comp=Z,110nm,17.4s						
HHC				LE			
	comp=Z,120nm,15.9s						
HHC				LZ			
	comp=Z,71nm,16.7s						
KMI	**Kunming**	**92.29**	**296**	P	P	22 54 16.1	+5.0
KMI				PMZ			
	comp=Z,5.0nm,1.1s						
INK	**Inuvik**	**93.06**	**14**	*e*P	**P**	**22 54 13.1**	**-0.2**
	comp=Z,20nm,1.9s						
CM31	**Chiang Mai Arr**	**93.27**	**288**	*e*P	**P**	**22 54 15.5**	**0.0**
CMAR	**Chiang Mai Arr**	**93.27**	**288**	P	**P**	**22 54 15.5**	**0.0**
	comp=Z,1.8nm,0.9s,baz=98,slow=2.3,SNR=7.2						
CD2	**Chengdu**	**93.53**	**302**	*e*P	P	22 54 20.0	+3.5
CD2				pP	pP	22 54 36.1	+3.3
CD2				sP	sP	22 54 42.1	+3.1
CD2				PP	PP	22 58 09.4	+7.5
CD2				SKS	**SKSac**	**23 04 49.1**	**+2.7**
CD2				S	**ScS**	**23 05 22.8**	**+0.6**
CD2				sS	sS	23 05 49.4	+1.0
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				PMZ			
	comp=Z,120nm,5.2s						
YKA	**Yellowknife Ar**	**94.78**	**24**	P	**P**	**22 54 20.9**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=235,slow=4.3,SNR=14						
YKB5	**Yellowknife Ar**	**94.78**	**24**	*e*P	**P**	**22 54 20.9**	**-0.4**
LZH	**Lanzhou**	**95.32**	**306**	*e*P	P	22 54 29.4	+4.7
LZH				pP	pP	22 54 45.8	+4.8
LZH				sP	sP	22 54 53.5	+6.2
LZH				PMZ			
	comp=Z,18nm,1.5s						
LZH				PMZ			
	comp=

TREC	**Trest**	**149.88**	**347**	⇑*e*PKP	**PKPbc**	**23 00 49.4**	**-0.8**
TREC				*ep*PKP	**pPKPdf**	**23 01 01.8**	**-0.4**
DOU	**Dourbes**	**150.10**	**1**	PKPbc	**PKPbc**	**23 00 50.7**	**+0.1**
KHC	**Kasperske Hory**	**150.40**	**349**	*e*PKPDF	**PKPdf**	**23 00 47.5**	**+1.3**
KHC				⇑*e*PKP	**PKPbc**	**23 00 51.1**	**-0.4**
KHC				*e*PKPAB	**PKPab**	**23 00 55.5**	**-2.4**
KHC				*ep*PKP	**pPKPdf**	**23 01 03.3**	**+0.2**
WLF	**Walferdange**	**150.55**	**359**	PKPbc	**PKPbc**	**23 00 52.4**	**+0.7**
GERES	**GERESS Array B**	**150.65**	**349**	PKPbc	**PKPbc**	**23 00 51.8**	**-0.4**
	comp=Z,4.2nm,1.0s,baz=36,slow=2.5,SNR=18						
GERES				PKPab	**PKPab**	**23 00 58.5**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=52,slow=2.2,SNR=5.9						
TORD	**Torodi Ar. Bea**	**172.06**	**151**	PKP	**PKPdf**	**23 01 08.0**	**-1.7**
	comp=Z,1.0nm,1.1s,baz=202,slow=0.8,SNR=3.9						
TORD				PKPab	**PKPab**	**23 02 32.9**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=199,slow=3.6,SNR=5.8						

NNC 24 22:46:31.3±2.7, 49°92N×87°91E, *h*3km±11km, mb3.8, mpv3.5, 10C-4D, Error ellipse: s-maj=20.1km s-min=11.9km az=73.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**4.88**	**232**	Pn	Pn	22 47 46.4	+0.7
	2.9nm,0.6s,baz=144,slow=26,SNR=120						
MK31				⇑Pg	Pb	22 48 00.3	+2.8
	3.2nm,0.4s,baz=59,slow=14,SNR=15						
MK31				⇑Sn	Sn	22 48 44.8	+2.1
	10nm,0.7s,baz=60,slow=26,SNR=8.7						
MK31				⇑Lg	Lg	22 49 06.5	
	6.7nm,0.5s,baz=52,slow=31,SNR=6.0						
KURK	**Kurchatov**	**6.00**	**281**	⇑Pn	Pn	22 48 00.7	-0.2
	1.7nm,0.6s						
KURK				⇑Sn	Sn	22 49 12.0	+1.8
	3.3nm,0.6s						
KURK				⇑Lg	Lg	22 49 41.5	
	14nm,1.3s						
KURBB	**Kurchatov Arra**	**6.05**	**280**	⇑Pn	Pn	22 48 01.8	+0.1
	2.5nm,0.3s						
KURBB				⇓Sn	Sn	22 49 12.2	+0.8
	20nm,0.7s						
KURBB				⇓Lg	Lg	22 49 44.3	
	36nm,0.7s						
PDGK	**Podgornoye**	**8.78**	**224**	⇓Pn	Pn	22 48 38.2	-0.8
	2.4nm,1.2s						
PDGK				⇑Sn	Sn	22 50 18.2	-0.2
	1.4nm,0.7s						
PDGK				⇑Lg	Lg	22 51 08.9	
	3.0nm,0.9s						
OTUK	**Ortayu**	**10.35**	**267**	⇓Sn	Sn	22 50 55.2	-2.0
	0.7nm,0.4s						
OTUK				⇑Lg	Lg	22 52 02.3	
	6.4nm,1.1s						

MEX 24 22:48:56.1±0.5, 27°23N×107°49W, *h*10km, MD4.3, Chihuahua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HPIG		**1.65**	**100**	*e*P	Pn	22 49 21.6	-3.9
HPIG				*e*S	Sn	22 49 42.4	-4.6
CGIG		**3.15**	**352**	*e*P	Pn	22 49 42.7	-3.3
CGIG				*i* S	Sn	22 50 19.4	-4.5
HSIG		**3.54**	**301**	*i* P	Pn	22 49 50.1	-1.0
HSIG				*i* S	Sn	22 50 30.9	-2.2
MAIG	**Mazatlaan**	**4.14**	**166**	*i* P	Pn	22 49 56.5	-3.0
MAIG				*i* S	Sn	22 50 44.8	-3.1

*IDC **24** 22:56:31.4±1.7, 20°.69S×174°.19W, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.9/31, mbtmp4.0/9, MS3.2/1, Ms1 3.2/1, ms1mx2.7/37, Error ellipse: s-maj=67.5km s-min=22.8km az=155.0*

*ISCJB **24** 22:56:34.0±1.9, 20°.7S±0°.4×174°.3W±0°.3, h27km, mb4.0/9, MS3.0/1, Error ellipse: s-maj=69.6km s-min=21.2km az=152.9*

ISC 24 22:56:35.6±1.8, 20°.8S±0°.5×174°.2W±0°.3, h27km, n14, σ1§05/12, mb4.0/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBI	**Tubuai**	**23.08**	**101**	*e*LR	LR	23 07 11.5	
	102nm,25.5s						
PPT2	**Papeete2**	**23.47**	**87**	*e*LR	LR	23 07 15.3	
	116nm,25.5s						
PPT	**Papeete**	**23.47**	**86**	LR	LR	23 10 23.3	
	comp=Z,50nm,18.2s,baz=216,slow=36						
CTA	**Charters Tower**	**37.00**	**264**	P	**P**	**23 03 41.9**	**-1.3**
	1.0nm,0.3s,baz=107,slow=12,SNR=2.6						
JAY	**Jayapura**	**47.51**	**286**	P	**P**	**23 05 08.7**	**-0.1**
	2.8nm,0.6s,baz=120,slow=20,SNR=3.1						
ASAR	**Alice Springs**	**47.92**	**256**	P	**P**	**23 05 11.0**	**-0.9**
	0.5nm,0.7s,baz=97,slow=7.5,SNR=5.7						
WRA	**Warramunga Arr**	**48.08**	**261**	P	**P**	**23 05 14.0**	**+0.8**
	0.2nm,0.3s,baz=93,slow=6.7,SNR=9.6						
WRA				PcP	**PcP**	**23 06 41.8**	**+1.0**
	0.3nm,0.7s,baz=101,slow=3.0,SNR=3.4						
SIJI	**Sorong**	**56.74**	**283**	P	**P**	**23 06 17.9**	**+0.3**
	4.3nm,0.3s,baz=128,slow=19,SNR=4.2						
MJAR	**Matsushiro Arr**	**72.56**	**321**	P	**P**	**23 08 00.1**	**-0.3**
	0.6nm,0.3s,baz=123,slow=4.5,SNR=4.1						
NVAR	**Mina Array Bea**	**78.81**	**42**	P	**P**	**23 08 36.2**	**-0.2**
	0.3nm,0.6s,baz=243,slow=6.0,SNR=2.9						
ILAR	**Eielson Array**	**87.81**	**11**	P	**P**	**23 09 21.3**	**-0.5**
	0.3nm,0.7s,baz=216,slow=4.5,SNR=3.0						
CMAR	**Chiang Mai Arr**	**93.56**	**288**	P	**P**	**23 09 51.7**	**+2.0**
	0.3nm,0.3s,baz=150,slow=3.8,SNR=3.9						
BRTR	**Keskin Array B**	**149.59**	**315**	PKPbc	**PKPbc**	**23 16 21.9**	**-1.1**
	0.3nm,0.6s,baz=106,slow=3.9,SNR=2.8						
GERES	**GERESS Array B**	**151.26**	**349**	PKPbc	**PKPbc**	**23 16 26.9**	**+0.3**
	0.6nm,0.7s,baz=12,slow=5.1,SNR=4.5						

*IDC **24** 22:58:07.2±2.6, 38°.10N×22°.04E, h0km, mb3.4/2, mb1 3.2/3, mb1mx3.1/39, mbtmp3.2/3, ML2.8/1, Error ellipse: s-maj=157.3km s-min=26.0km az=145.0*

*ATH **24** 22:58:14.6, 34°.53N×25°.60E, h42km±1km, MD3.6/20*

*CSEM **24** 22:58:16.9±0.4, 34°.60N×25°.60E, h40km, ML2.9, Error ellipse: s-maj=10.5km s-min=3.8km az=179.0*

*THE **24** 22:58:17.8, 34°.65N×25°.55E, h39km±5km, ML2.9/7, Error ellipse: s-maj=5.1km s-min=1.1km az=15.0*

*DDA **24** 22:58:25.2, 34°.07N×26°.97E, h25km, MD3.3*

ISC 24 22:58:15.8±1.3, 34°.56N±0°.05×25°.59E±0°.02, h33km±4km, n128, σ1§29/166, 12D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**0.61**	**351**	P	**Pn**	**22 58 27.2**	**-1.0**
LAST				*S*	**Sb**	**22 58 36.7**	**0.0**
LAST	**Lasithi**	**0.61**	**351**	*e*P	**Pn**	**22 58 27.8**	**-0.4**
LAST				*e*S	**Sn**	**22 58 37.7**	**+0.8**
LAST	**Lasithi**	**0.61**	**351**	*e*P	**Pn**	**22 58 27.8**	**-0.4**
LAST				*S*	**Sb**	**22 58 36.7**	**0.0**
NPS	**Neapolis**	**0.70**	**1**	P	**Pn**	**22 58 28.9**	**-0.5**
NPS				*S*	**Sb**	**22 58 39.5**	**+0.3**
NPS	**Neapolis**	**0.70**	**1**	*e*P	**Pn**	**22 58 29.0**	**-0.5**
NPS				*e*S	**Sb**	**22 58 40.0**	**+0.8**
NPS	**Neapolis**	**0.70**	**1**	*e*P	**Pn**	**22 58 29.0**	**-0.5**
NPS				*S*	**Sb**	**22 58 39.5**	**+0.3**
ZKR	**Zakros**	**0.76**	**43**	P	**Pn**	**22 58 29.8**	**-0.4**
ZKR				*S*	**Sb**	**22 58 41.3**	**+0.7**
ZKR	**Zakros**	**0.76**	**43**	P	**Pn**	**22 58 29.8**	**-0.4**
ZKR				*S*	**Sb**	**22 58 41.3**	**+0.7**
SIVA	**Sivas**	**0.79**	**306**	P	**Pn**	**22 58 30.7**	**+0.1**
SIVA				*S*	**Sb**	**22 58 42.1**	**+0.5**
SIVA	**Sivas**	**0.79**	**306**	*e*P	**Pb**	**22 58 31.4**	**+0.3**
SIVA				*e*S	**Sb**	**22 58 42.9**	**+1.3**
SIVA	**Sivas**	**0.79**	**306**	*e*P	**Pb**	**22 58 31.4**	**+0.3**
SIVA				*S*	**Sb**	**22 58 42.1**	**+0.5**
GVD	**Gavdhos**	**1.27**	**283**	P	**Pb**	**22 58 38.3**	**-0.9**
GVD				*S*	**Sn**	**22 58 52.8**	**-0.4**
GVD	**Gavdhos**	**1.27**	**283**	*e*P	**Pn**	**22 58 37.6**	**+0.4**
GVD				*e*S	**Sn**	**22 58 54.0**	**+0.8**
GVD	**Gavdhos**	**1.27**	**283**	P	**Pb**	**22 58 38.3**	**-0.9**
GVD				*S*	**Sn**	**22 58 52.8**	**-0.4**
VAM	**Vamos**	**1.42**	**307**	P	**Pn**	**22 58 39.0**	**-0.3**
VAM				*S*	**Sn**	**22 58 57.0**	**+0.1**
VAM	**Vamos**	**1.42**	**307**	*e*P	**Pn**	**22 58 39.0**	**-0.3**
VAM				*e*S	**Sn**	**22 58 57.8**	**+0.9**
VAM	**Vamos**	**1.42**	**307**	P	**Pn**	**22 58 39.0**	**-0.3**
VAM				*S*	**Sn**	**22 58 57.0**	**+0.1**
KARN	**Karanos**	**1.61**	**302**	P	**Pn**	**22 58 43.3**	**+1.3**
KARN				*S*	**Sn**	**22 59 00.3**	**-1.3**
KARN	**Karanos**	**1.61**	**302**	*e*P	**Pn**	**22 58 42.7**	**+0.7**
KARN	**Karanos**	**1.61**	**302**	*e*P	**Pn**	**22 58 42.7**	**+0.7**
KARN				*S*	**Sn**	**22 59 00.3**	**-1.3**
KARP	**Karpathos**	**1.62**	**52**	P	**Pb**	**22 58 43.9**	**-1.2**
KARP				*S*	**Sn**	**22 59 01.8**	**-0.1**
KARP	**Karpathos**	**1.62**	**52**	P	**Pb**	**22 58 43.9**	**-1.2**
KARP				*S*	**Sn**	**22 59 01.8**	**-0.1**
THR6	**Thira Island,**	**1.80**	**355**	P	**Pn**	**22 58 44.7**	**+0.2**
THR6	**Thira Island,**	**1.80**	**355**	P	**Pn**	**22 58 44.7**	**+0.2**
SANT	**Santorini**	**1.81**	**357**	P	**Pn**	**22 58 44.9**	**+0.2**
SANT				*S*	**Sn**	**22 59 04.8**	**-1.8**
SANT	**Santorini**	**1.81**	**357**	*e*P	**Pn**	**22 58 44.7**	**0.0**
SANT				*e*S	**Sn**	**22 59 07.7**	**+1.1**
SANT	**Santorini**	**1.81**	**357**	P	**Pn**	**22 58 44.9**	**+0.2**
SANT				*S*	**Sn**	**22 59 04.8**	**-1.8**
THR5	**Thira Island,**	**1.87**	**354**	*e*PN	**Pn**	**22 58 46.0**	**+0.6**
THR5	**Thira Island,**	**1.87**	**354**	*e*Pn	**Pn**	**22 58 46.0**	**+0.6**
THR2	**Thira island,**	**1.89**	**356**	P	**Pn**	**22 58 45.7**	**0.0**
THR2	**Thira island,**	**1.89**	**356**	P	**Pn**	**22 58 45.7**	**0.0**
ANKY	**Antikythira Is**	**2.29**	**306**	P	**Pn**	**22 58 52.0**	**+0.8**
ANKY	**Antikythira Is**	**2.29**	**306**	*e*P	**Pn**	**22 58 52.0**	**+0.8**
ANKY	**Antikythira Is**	**2.29**	**306**	P	**Pn**	**22 58 52.0**	**+0.8**
APE	**Apeiranthos**	**2.51**	**359**	*e*PN	**Pn**	**22 58 53.7**	**-0.6**
APE	**Apeiranthos**	**2.51**	**359**	P	**Pn**	**22 58 55.1**	**+0.8**
APE				*S*	**Sn**	**22 59 23.4**	**-0.3**
APE	**Apeiranthos**	**2.51**	**359**	*e*P	**Pn**	**22 58 54.9**	**+0.6**
APE	**Apeiranthos**	**2.51**	**359**	*e*Pn	**Pn**	**22 58 53.7**	**-0.6**
APE	**Apeiranthos**	**2.51**	**359**	*e*P	**Pn**	**22 58 54.9**	**+0.6**
APE				*S*	**Sn**	**22 59 23.4**	**-0.3**
ARG	**Arkhangelos**	**2.65**	**51**	P	**Pn**	**22 58 58.0**	**+1.8**
ARG				*S*	**Sn**	**22 59 29.1**	**+1.9**
ARG	**Arkhangelos**	**2.65**	**51**	*e*P	**Pn**	**22 58 57.4**	**+1.2**
ARG	**Arkhangelos**	**2.65**	**51**	*e*P	**Pn**	**22 58 57.4**	**+1.2**
ARG				*S*	**Sn**	**22 59 29.1**	**+1.9**
DAT	**Datca**	**2.70**	**36**	*e*P	**Pn**	**22 58 56.4**	**-0.6**
DAT	**Datca**	**2.70**	**36**	*e*P	**Pn**	**22 58 56.4**	**-0.6**
KYTH	**Kithira**	**2.71**	**310**	*e*P	**Pn**	**22 58 57.7**	**+0.7**
KYTH	**Kithira**	**2.71**	**310**	*e*P	**Pn**	**22 58 57.7**	**+0.7**
BODT	**Bodrum**	**2.86**	**29**	*e*P	**Pn**	**22 58 58.7**	**-0.4**
BODT	**Bodrum**	**2.86**	**29**	*e*P	**Pn**	**22 58 58.7**	**-0.4**
BDRM	**Kayabasi**	**2.92**	**30**	*i* P	**Pn**	**22 59 01.5**	**+1.6**
BDRM	**Kayabasi**	**2.92**	**30**	*i* P	**Pn**	**22 59 01.5**	**+1.6**
BDRM				*i* S	Sb	22 59 55.9	+13
VLI	**Veliai**	**3.05**	**316**	P	**Pn**	**22 59 01.8**	**+0.1**
VLI				*S*	**Sn**	**22 59 36.1**	**-1.1**
VLI	**Veliai**	**3.05**	**316**	*e*P	**Pn**	**22 59 01.6**	**-0.1**
VLI				*e*S	**Sn**	**22 59 37.0**	**-0.1**
VLI	**Veliai**	**3.05**	**316**	P	**Pn**	**22 59 01.8**	**+0.1**
VLI				*S*	**Sn**	**22 59 36.1**	**-1.1**
SMG	**Samos**	**3.30**	**17**	*e*P	**Pn**	**22 59 05.6**	**+0.4**
SMG	**Samos**	**3.30**	**17**	*e*P	**Pn**	**22 59 05.6**	**+0.4**
DALY	**Dalyan (Mu¨la**	**3.36**	**47**	*e*P	**Pn**	**22 59 04.5**	**-1.4**
DALY	**Dalyan (Mu¨la**	**3.36**	**47**	*e*P	**Pn**	**22 59 04.5**	**-1.4**
TURN	**Turunc**	**3.37**	**46**	*i* P	Pn	22 59 02.7	-3.3
TURN				*i* S	**Sn**	**22 59 43.5**	**-1.3**
TURN	**Turunc**	**3.37**	**46**	*i* P	Pn	22 59 02.7	-3.3
TURN				*i* S	**Sn**	**22 59 43.5**	**-1.3**
YER	**Yerkesik**	**3.37**	**40**	*e*P	**Pn**	**22 59 05.1**	**-1.1**
YER	**Yerkesik**	**3.37**	**40**	*e*P	**Pn**	**22 59 05.1**	**-1.1**
DID	**Didima**	**3.51**	**328**	P	**Pn**	**22 59 08.2**	**+0.2**
DID				*S*	**Sn**	**22 59 47.7**	**-0.7**
DID	**Didima**	**3.51**	**328**	*e*P	**Pn**	**22 59 08.2**	**+0.2**
DID	**Didima**	**3.51**	**328**	P	**Pn**	**22 59 08.2**	**+0.2**
DID				*S*	**Sn**	**22 59 47.7**	**-0.7**
FETY	**Fethiye**	**3.52**	**53**	*e*P	**Pn**	**22 59 06.9**	**-1.3**
FETY	**Fethiye**	**3.52**	**53**	*e*P	**Pn**	**22 59 06.9**	**-1.3**
AKAS	**Kas**	**3.68**	**62**	*i* P	**Pn**	**22 59 11.8**	**+1.4**
AKAS				*i* S	**Sn**	**22 59 50.2**	**-2.6**
AKAS	**Kas**	**3.68**	**62**	*i* P	**Pn**	**22 59 11.8**	**+1.4**
AKAS				*i* S	**Sn**	**22 59 50.2**	**-2.6**
PTL	**Penteli**	**3.75**	**339**	*e*P	**Pn**	**22 59 12.2**	**+0.8**
PTL	**Penteli**	**3.75**	**339**	*e*P	**Pn**	**22 59 12.2**	**+0.8**
CHOS	**Chios island**	**3.84**	**5**	*e*P	**Pn**	**22 59 13.0**	**+0.4**
CHOS	**Chios island**	**3.84**	**5**	*e*P	**Pn**	**22 59 13.0**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**3.86**	**28**	*e*P	**Pn**	**22 59 13.3**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**3.86**	**28**	*e*P	**Pn**	**22 59 13.3**	**+0.4**
PYL	**PYLOS**	**3.91**	**308**	P	**Pn**	**22 59 12.9**	**-0.6**
PYL				*S*	**Sn**	**22 59 58.0**	**-0.2**
PYL	**PYLOS**	**3.91**	**308**	P	**Pn**	**22 59 12.9**	**-0.6**
PYL				*S*	**Sn**	**22 59 58.0**	**-0.2**
ITM	**Ithomi**	**3.96**	**312**	*e*P	**Pn**	**22 59 14.8**	**+0.5**
ITM	**Ithomi**	**3.96**	**312**	*e*P	**Pn**	**22 59 14.8**	**+0.5**
BLCB	**Balcova**	**4.00**	**17**	*e*P	**Pn**	**22 59 15.0**	**+0.4**
BLCB	**Balcova**	**4.00**	**17**	*e*P	**Pn**	**22 59 15.0**	**+0.4**
ELL	**Elmali**	**4.14**	**57**	*e*P	**Pn**	**22 59 15.3**	**-1.5**
ELL	**Elmali**	**4.14**	**57**	*e*P	**Pn**	**22 59 15.3**	**-1.5**
GOLH	**Golhisar**	**4.19**	**49**	*i* P	**Pn**	**22 59 18.7**	**+1.3**
GOLH				*i* S	**Sn**	**23 00 10.3**	**+5.1**
GOLH	**Golhisar**	**4.19**	**49**	*i* P	**Pn**	**22 59 18.7**	**+1.3**
GOLH				*i* S	**Sn**	**23 00 10.3**	**+5.1**
GUR	**Goura**	**4.27**	**323**	*e*P	**Pn**	**22 59 19.7**	**+1.1**
GUR	**Goura**	**4.27**	**323**	*e*P	**Pn**	**22 59 19.7**	**+1.1**
AMT	**Artemida-Makis**	**4.33**	**314**	*e*P	**Pn**	**22 59 20.4**	**+1.1**
AMT	**Artemida-Makis**	**4.33**	**314**	*e*P	**Pn**	**22 59 20.4**	**+1.1**
KLV	**Kalavryta, Ach**	**4.45**	**322**	*e*P	**Pn**	**22 59 22.4**	**+1.4**
KLV	**Kalavryta, Ach**	**4.45**	**322**	*e*P	**Pn**	**22 59 22.4**	**+1.4**
KORT	**Korkueli**	**4.57**	**56**	*i* P	**Pn**	**22 59 24.4**	**+1.7**
KORT				*i* S	**Sn**	**23 00 15.7**	**+0.9**
KORT	**Korkueli**	**4.57**	**56**	*i* P	**Pn**	**22 59 24.4**	**+1.7**
KORT				*i* S	**Sn**	**23 00 15.7**	**+0.9**
DRO	**Drossia**	**4.62**	**318**	*e*P	**Pn**	**22 59 24.2**	**+1.0**
DRO	**Drossia**	**4.62**	**318**	*e*P	**Pn**	**22 59 24.2**	**+1.0**
SIGR	**SIGRI**	**4.65**	**3**	*e*P	**Pn**	**22 59 25.1**	**+1.5**
SIGR	**SIGRI**	**4.65**	**3**	*e*P	**Pn**	**22 59 25.1**	**+1.5**
ZKS	**Zakynthos**	**5.00**	**310**	P	**Pn**	**22 59 28.5**	**+0.1**
ZKS				*S*	**Sn**	**23 00 23.9**	**-1.1**
ZKS	**Zakynthos**	**5.00**	**310**	P	**Pn**	**22 59 28.5**	**+0.1**
ZKS				*S*	**Sn**	**23 00 23.9**	**-1.1**
AGG	**Agios Georgios**	**5.17**	**331**	*e*P	**Pn**	**22 59 31.4**	**+0.6**
AGG	**Agios Georgios**	**5.17**	**331**	*e*P	**Pn**	**22 59 32.6**	**+1.8**
AGG	**Agios Georgios**	**5.17**	**331**	*e*P	**Pn**	**22 59 32.6**	**+1.8**
PDO	**Prodromos**	**5.37**	**320**	*e*P	**Pn**	**22 59 35.5**	**+1.9**
PDO	**Prodromos**	**5.37**	**320**	*e*P	**Pn**	**22 59 35.5**	**+1.9**
DSL	**Palaion Diasel**	**5.82**	**323**	*e*P	**Pn**	**22 59 41.9**	**+2.1**
DSL	**Palaion Diasel**	**5.82**	**323**	*e*P	**Pn**	**22 59 41.9**	**+2.1**
ERMK	**Ermenek**	**6.32**	**69**	*i* P	**Pn**	**22 59 48.8**	**+2.0**
ERMK	**Ermenek**	**6.32**	**69**	*i* P	**Pn**	**22 59 48.8**	**+2.0**
ERMK				*i* S	**Sn**	**23 00 52.7**	**+1.1**
CSS	**Prodhromos**	**6.38**	**84**	*e*P	Pn	22 59 44.0	-3.5
IGT	**Igoumenitsa**	**6.51**	**321**	*e*P	**Pn**	**22 59 48.6**	**-0.6**
IGT	**Igoumenitsa**	**6.51**	**321**	*e*P	**Pn**	**22 59 48.6**	**-0.6**
LFK	**Lefkose**	**6.56**	**81**	*e*P	**Pn**	**22 59 47.1**	**-2.9**
FNA	**Florina**	**7.06**	**333**	*e*P	**Pn**	**22 59 56.4**	**-0.4**
FNA	**Florina**	**7.06**	**333**	*e*P	**Pn**	**22 59 56.4**	**-0.4**
BRTR	**Keskin Array B**	**8.24**	**49**	Pn	Pn	23 00 23.6	+10
	0.1nm,0.3s,baz=248,slow=11,SNR=3.7						
TLB	**Topalu**	**10.19**	**10**	⇓*i*P	Pn	23 00 48.2	+8.5
CFR	**Carcaliu**	**10.79**	**10**	⇓*i*P	**Pn**	**23 00 47.6**	**-0.2**
CFR	**Carcaliu**	**10.79**	**10**	⇓*i*P	**Pn**	**23 00 47.6**	**-0.2**
ARR	**Arges**	**10.82**	**356**	⇓*i*P	Pn	23 00 52.2	+3.8
VOIR		**10.88**	**358**	⇓*i*P	**Pn**	**23 00 51.4**	**+2.3**
VOIR		**10.88**	**358**	⇓*i*P	**Pn**	**23 00 51.4**	**+2.3**
MLR	**Muntele Rosu**	**10.92**	**1**	⇓*i*P	**Pn**	**23 00 50.4**	**+0.6**
MLR	**Muntele Rosu**	**10.92**	**1**	⇓*i*P	**Pn**	**23 00 50.4**	**+0.6**
GZR	**Gura Zlata**	**11.04**	**350**	⇓*i*P	**Pn**	**23 00 54.0**	**+2.7**
GZR	**Gura Zlata**	**11.04**	**350**	⇓*i*P	**Pn**	**23 00 54.0**	**+2.7**
DOPR	**Dopca**	**11.40**	**359**	⇓*i*P	Pn	23 00 49.6	-6.6
BZS	**Buzias**	**11.46**	**346**	⇓*i*P	Pn	23 00 53.6	-3.4
TORD	**Torodi Ar. Bea**	**30.38**	**231**	P	**P**	**23 04 24.2**	**-0.7**
	0.2nm,0.3s,baz=33,slow=8.6,SNR=8.9						
MKAR	**Makanchi Array**	**43.81**	**56**	P	**P**	**23 06 18.7**	**+0.2**
	0.3nm,0.6s,baz=266,slow=7.6,SNR=5.2						

IDC 24 23:08:16.4±1.6, 2°.40S×140°.01E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.4/22, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=31.2km s-min=11.3km az=4.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**0.70**	**100**	Pg	Pg	23 08 30.6	+0.6
	138nm,0.3s,baz=263,slow=16,SNR=326						
JAY				Lg	Lg	23 08 39.3	
	161nm,0.3s,baz=122,slow=19,SNR=50						
WRA	**Warramunga Arr**	**18.30**	**197**	P	Pn	23 12 30.2	-1.7
	0.2nm,0.3s,baz=21,slow=12,SNR=11						
ASAR	**Alice Springs**	**21.96**	**195**	P	P	23 13 11.9	0.0
	0.7nm,0.5s,baz=25,slow=11,SNR=9.8						
H11S3	**WAKE ISLAND Hy**	**33.47**	**51**	T	T	23 50 08.9	
	baz=231						
H11S2	**WAKE ISLAND Hy**	**33.48**	**51**	T	T	23 50 15.1	
	baz=231						
H11S1	**WAKE ISLAND Hy**	**33.49**	**51**	T	T	23 50 10.1	
	baz=231						
H11N1	**WAKE ISLAND Hy**	**34.34**	**49**	T	T	23 51 15.1	
	baz=234						
H11N2	**WAKE ISLAND Hy**	**34.36**	**49**	T	T	23 51 16.7	
	baz=234						
H11N3	**WAKE ISLAND Hy**	**34.36**	**49**	T	T	23 51 18.0	
	baz=234						
MKAR	**Makanchi Array**	**70.34**	**322**	P	P	23 19 32.2	+0.1
	0.4nm,0.9s,baz=119,slow=7.4,SNR=3.6						

*CSEM **24** 23:14:22.1, 42°.46N×13°.16E, h10km, MD1.9/10*

ROM 24 23:14:22.1±0.1, 42°.46N×13°.16E, h10km, Md1.9/10, Ml1.1/7, Error ellipse: s-maj=0.8km s-min=0.5km az=64.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNSS	**Leonessa**	**0.16**	**329**	Pg	Pg	23 14 26.3	+0.4
LNSS				*S*	Sg	23 14 29.3	+0.8
	64nm,0.4s						
LNSS	**Leonessa**	**0.16**	**329**	Pg	Pg	23 14 26.3	+0.4
LNSS				*S*	Sg	23 14 29.3	+0.8
	64nm,0.4s						
T0104	**Madonna delle**	**0.17**	**127**	Pg	Pg	23 14 26.5	+0.6
T0104				*S*	Sg	23 14 29.6	+1.1
T0104	**Madonna delle**	**0.17**	**127**	Pg	Pg	23 14 26.5	+0.6
T0104				*S*	Sg	23 14 29.7	+1.2
FIAM	**Fiamignano**	**0.20**	**188**	Pg	Pg	23 14 26.5	+0.1
FIAM				*S*	Sg	23 14 30.7	+1.4
	35nm,0.3s						
FIAM	**Fiamignano**	**0.20**	**188**	Pg	Pg	23 14 26.5	+0.1
FIAM				*S*	Sg	23 14 30.7	+1.4
	35nm,0.3s						
CAMP	**Campotosto**	**0.20**	**69**	Pg	Pg	23 14 27.0	+0.5
CAMP				*S*	Sg	23 14 30.4	+0.9
	24nm,0.5s						
CAMP	**Campotosto**	**0.20**	**69**	Pg	Pg	23 14 27.0	+0.5
CAMP				*S*	Sg	23 14 30.4	+0.9
	24nm,0.5s						
AQU	**L'Aquila**	**0.21**	**121**	Pg	Pg	23 14 27.3	+0.7
AQU				*S*	Sg	23 14 31.2	+1.5
	28nm,0.3s						
AQU	**L'Aquila**	**0.21**	**121**	Pg	Pg	23 14 27.3	+0.7
AQU				*S*	Sg	23 14 31.2	+1.5
	28nm,0.3s						
SMA1	**SAN MARTINO**	**0.21**	**38**	Pg	Pg	23 14 27.3	+0.6
SMA1				*S*	Sg	23 14 31.3	+1.4
SMA1	**SAN MARTINO**	**0.21**	**38**	Pg	Pg	23 14 27.3	+0.6
SMA1				*S*	Sg	23 14 31.2	+1.3
	81nm,0.3s						
SMA1	**SAN MARTINO**	**0.21**	**38**	Pg	Pg	23 14 27.3	+0.6
SMA1				*S*	Sg	23 14 31.2	+1.3
	81nm,0.3s						
T0106	**Roio Piano**	**0.23**	**133**	Pg	Pg	23

EQES	**Quesada**	**5.98**	**289**	P		**Pn**	**23 37 19.5**	**+0.5**
	0.6nm,0.2s,SNR=8.2							
EQES				S		**Sn**	**23 38 28.1**	**+0.7**
	0.2nm,0.3s,SNR=7.9							

*IDC **24** 23:36:38.1±0.7, 19°.25N×121°.70E, h0km, mb4.0/13, mb1 4.1/14, mb1mx3.9/40, mbtmp4.0/14, ML4.3/1, MS3.2/5, Ms1 3.3/5, ms1mx2.9/38, Error ellipse: s-maj=23.1km s-min=15.0km az=87.0*
*NEIC **24** 23:36:43.9±0.9, 19°.26N×121°.77E, h41km±8km, mb4.7/10, Error ellipse: s-maj=8.9km s-min=7.2km az=106.0*
*ISCJB **24** 23:36:45.3±0.4, 19°.46N±0.0°.02×121°.64E±0.0°.06, h61km±5km, mb4.1/22, Error ellipse: s-maj=9.3km s-min=3.5km az=8.4*
*MAN **24** 23:36:46, 19°.26N×121°.59E, h10km, mb5.0, ML3.9, MS4.0*

ISC 24 23:36:46.4±1.0, 19°.43N±0.0°.04×121°.65E±0.0°.07, h60km±11km, n70, σ1§61/74, mb4.0/22, MS3.2/4, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.24**	**162**	*eP*		**Pn**	**Sn**	**23 37 06.7**	**-1.0**
APYP	**Conner**	**1.61**	**194**	*eP*		**Pn**	**Sn**	**23 37 11.6**	**-1.0**
APYP				*eS*		**Sn**	**Sn**	**23 37 31.1**	**-1.2**
CVP	**Callao Caves**	**1.73**	**174**	*iP*		**Pn**	**Sn**	**23 37 14.3**	**+0.2**
CVP				*iS*		**Sn**	**Sn**	**23 37 36.6**	**+1.4**
SIPP	**Brgy, Tapao**	**1.88**	**217**	*eP*		**Pn**	**Sn**	**23 37 15.8**	**-0.4**
SIPP				*iS*		**Sn**	**Sn**	**23 37 42.2**	**+3.4**
ABRA	**Dolores**	**1.98**	**207**	*eP*		**Pn**	**Sn**	**23 37 17.4**	**-0.3**
ABRA				*eS*		**Sn**	**Sn**	**23 37 41.5**	**+0.1**
SZP	**Santa**	**2.19**	**211**	*ePn*		**Pn**	**Sn**	**23 37 21.1**	**+0.7**
SZP				*eSn*		**Sn**	**Sn**	**23 37 45.6**	**-0.8**
CAUP	**Cauayan**	**2.48**	**176**	*eP*		**Pn**	**Sn**	**23 37 26.3**	**+1.9**
BCPH	**Baguio City Da**	**3.20**	**199**	*iP*		**Pn**	**Sn**	**23 37 36.5**	**+2.1**
BCPH				*iS*		**Sn**	**Sn**	**23 38 11.6**	**+0.2**
TWG	**Pinlang**	**3.41**	**351**	*ePn*		**Pn**	**Sn**	**23 37 35.9**	**-1.3**
TWG				*eSn*		**Sn**	**Sn**	**23 38 17.2**	**+0.8**
BOLP	**Bolinao**	**3.46**	**209**	*eP*		**Pn**	**Sn**	**23 37 38.2**	**+0.4**
BALP	**Baler**	**3.67**	**181**	*eP*		**Pn**	**Sn**	**23 37 42.6**	**+1.9**
YULB	**Yu-li**	**3.95**	**355**	*ePn*		**Pn**	**Sn**	**23 37 43.7**	**-0.9**
YULB				*eSn*		**Sn**	**Sn**	**23 38 30.7**	**+1.0**
TPUB	**Ta-pu**	**3.96**	**346**	*ePn*		**Pn**	**Sn**	**23 37 44.0**	**-0.8**
TPUB				*eSn*		**Sn**	**Sn**	**23 38 26.3**	**-3.7**
SCZP	**Santa Cruz**	**4.00**	**205**	*eP*		**Pn**	**Sn**	**23 37 46.0**	**+0.9**
NACB	**Ninganchiao**	**4.72**	**359**	*ePn*		**Pn**	**Sn**	**23 37 55.0**	**0.0**
NACB				*eSn*		**Sn**	**Sn**	**23 38 48.0**	**-0.5**
YOJ	**Yonaguni jima**	**5.16**	**14**	*ePn*		**Pn**	**Sn**	**23 38 02.6**	**+1.5**
YOJ				*eSn*		**Sn**	**Sn**	**23 39 04.2**	**+4.9**
YHNB	**Yeheng**	**5.22**	**357**	*ePn*		**Pn**	**Sn**	**23 38 03.5**	**+1.6**
YHNB				*eSn*		**Sn**	**Sn**	**23 39 00.7**	**-0.1**
TATO	**Taipei**	**5.52**	**358**	*ePn*		**Pn**	**Sn**	**23 38 03.4**	**-2.6**
JOW	**Kunigami**	**9.56**	**38**	Pn		**Pn**	**Pn**	**23 39 02.2**	**+0.9**
	1.6nm,0.3s,baz=227,slow=10,SNR=28								
JOW				Sn			**Sn**	**23 40 43.6**	**-3.6**
	0.1nm,0.3s,baz=135,slow=19,SNR=3.0								
JOW	**Kunigami**	**9.56**	**38**	*ePn*		**Pn**	**Sn**	**23 39 03.3**	**+1.9**
JOW				*eSn*		**Sn**	**Sn**	**23 40 43.6**	**-3.6**
QIZ	**Qiongzhong**	**11.16**	**270**	*ePn*		Pn	Sn	23 39 19.6	-3.6
QIZ				*eSn*		Sn	Sn	23 41 17.0	-10
JNU	**Nakatsue**	**15.94**	**29**	Pn		**P**	**23 40 31.9**	**+2.4**
	0.4nm,0.3s,baz=188,slow=4.2,SNR=7.2								
JNU	**Nakatsue**	**15.94**	**29**	*ePn*		**Pn**	**23 40 25.1**	**-1.8**
	35nm,1.0s								
KS15	**Wonju Array Si**	**18.75**	**16**	*eP*		**Pn**	**23 41 01.4**	**0.0**
KSRS	**Korea Array**	**18.77**	**16**	P		**Pn**	**23 41 01.4**	**-0.3**
	0.8nm,0.3s,baz=197,slow=12,SNR=15								
KSRS				LR		LR	23 49 16.8		
	comp=Z,41nm,19.0s,baz=201,slow=40								
KS01	**Wonju Array Si**	**18.79**	**16**	*eP*		**P**	**23 41 00.3**	**-0.5**
CHTO	**Chiang Mai**	**21.46**	**272**	*eP*		**P**	**23 41 30.9**	**+0.9**
	14nm,1.1s								
CM01	**Chiang Mai Arr**	**21.49**	**271**	*eP*		**P**	**23 41 30.9**	**+0.6**
CM31	**Chiang Mai Arr**	**21.50**	**271**	*eP*		**P**	**23 41 30.2**	**-0.1**
CMAR	**Chiang Mai Arr**	**21.50**	**271**	P		**P**	**23 41 30.2**	**-0.1**
	2.6nm,0.8s,baz=74,slow=8.8,SNR=17								
CMAR				LR		LR	23 49 01.5		
	comp=Z,30nm,20.1s,baz=70,slow=34								
MAJO	**Matsushiro**	**22.40**	**37**	*eP*		**P**	**23 41 40.5**	**+0.6**
	146nm,2.5s								
MJAR	**Matsushiro Arr**	**22.40**	**37**	P		**P**	**23 41 40.5**	**+0.6**
	3.1nm,0.6s,baz=220,slow=9.6,SNR=8.7								
GUMO	**Guam**	**23.00**	**101**	LR		LR	23 48 47.4		
	comp=Z,18nm,20.3s,baz=102,slow=32								
USRK	**Ussuriysk Ar.**	**26.17**	**17**	P		**P**	**23 42 17.4**	**+2.3**
	2.7nm,0.8s,baz=198,slow=9.4,SNR=4.6								
SOEI	**Soe**	**29.12**	**175**	*eP*		**P**	**23 42 39.5**	**-2.4**
	26nm,1.1s								
ASAJ	**Asahikawa**	**30.21**	**31**	LR		LR	23 53 37.8		
	comp=Z,207nm,21.5s,baz=94,slow=34								
SONA0	**Songino Array**	**30.93**	**340**	*eP*		**P**	**23 42 58.5**	**+0.9**
SONM	**Songino Array**	**30.93**	**340**	P		**P**	**23 42 58.5**	**+0.9**
	1.4nm,0.7s,baz=158,slow=9.7,SNR=10								
SONA1	**Songino Array**	**30.93**	**340**	*eP*		**P**	**23 42 58.9**	**+1.2**
WRAB	**Tennant Creek**	**41.06**	**162**	*eP*		**P**	**23 44 21.4**	**-2.8**
	81nm,2.8s								
WRA	**Warramunga Arr**	**41.06**	**162**	P		**P**	**23 44 21.6**	**-2.6**
	0.3nm,0.4s,baz=344,slow=8.9,SNR=9.9								
MK01	**Makanchi Array**	**42.11**	**319**	*eP*		**P**	**23 44 34.6**	**+1.9**
MK32	**Makanchi Array**	**42.13**	**319**	*eP*		**P**	**23 44 33.9**	**+1.1**
MKAR	**Makanchi Array**	**42.13**	**319**	P		**P**	**23 44 33.9**	**+1.1**
	1.2nm,0.7s,baz=115,slow=9.7,SNR=13								
MKAR	**Makanchi Array**	**42.13**	**319**	*eP*		**P**	**23 44 34.6**	**+1.8**
H11S3	**WAKE ISLAND Hy**	**42.51**	**84**	T		T	00 30 24.8		
	baz=279,slow=75,SNR=23								
H11S1	**WAKE ISLAND Hy**	**42.52**	**84**	T		T	00 30 17.6		
	baz=279,slow=75,SNR=26								
H11N1	**WAKE ISLAND Hy**	**42.53**	**82**	T		T	00 30 18.5		
	baz=277,slow=75,SNR=79								
H11S2	**WAKE ISLAND Hy**	**42.53**	**84**	T		T	00 30 26.7		
	baz=279,slow=75,SNR=16								
H11N2	**WAKE ISLAND Hy**	**42.53**	**82**	T		T	00 30 18.8		
	baz=277,slow=75,SNR=49								
H11N3	**WAKE ISLAND Hy**	**42.55**	**82**	T		T	00 30 19.6		
	baz=277,slow=75,SNR=48								
PETK	**Petropavlovsk-**	**43.63**	**31**	P		**P**	**23 44 46.0**	**+1.2**
	1.3nm,0.6s,baz=217,slow=4.2,SNR=3.8								
PEA2	**Petropavlovsk-**	**43.63**	**31**	*eP*		**P**	**23 44 46.0**	**+1.1**
AS12	**Alice Springs**	**44.47**	**164**	*eP*		**P**	**23 44 49.9**	**-2.0**
ASAR	**Alice Springs**	**44.47**	**164**	P		**P**	**23 44 49.9**	**-2.0**
	0.4nm,0.5s,baz=342,slow=7.1,SNR=6.6								
ZALV	**Zalesovo Beam**	**44.50**	**330**	P		**P**	**23 44 52.2**	**+0.4**
	2.2nm,0.7s,baz=117,slow=8.1,SNR=11								
ZAA1	**Zalesovo Array**	**44.50**	**330**	*eP*		**P**	**23 44 52.2**	**+0.4**
KURK	**Kurchatov**	**46.06**	**323**	*eP*		**P**	**23 45 05.1**	**+0.9**
	1.2nm,0.9s								
NWAO	**Narrogin (SRO)**	**52.23**	**185**	P		**P**	**23 45 50.6**	**-0.9**
	5.8nm,0.6s,baz=330,slow=4.8,SNR=3.7								
RND	**Reindeer**	**72.60**	**28**	*eP*		**P**	**23 48 07.1**	**-0.2**
	3.3nm,0.7s								
WRH	**Wood River Hil**	**72.77**	**27**	*eP*		**P**	**23 48 09.2**	**+1.0**
	12nm,1.8s								
ILAR	**Eielson Array**	**73.23**	**27**	P		**P**	**23 48 10.0**	**-0.9**
	0.3nm,0.6s,baz=233,slow=5.2,SNR=4.9								
ILB	**Eielson Array**	**73.23**	**27**	*eP*		**P**	**23 48 10.0**	**-0.9**
SCM	**Sheep Creek Mo**	**73.55**	**30**	*eP*		**P**	**23 48 13.3**	**+0.4**
	33nm,1.9s								
EGAK	**Eagle**	**75.63**	**26**	*eP*		**P**	**23 48 25.2**	**+0.5**
	30nm,2.3s								
FIA0	**FINESS Array S**	**75.76**	**330**	*eP*		**P**	**23 48 25.2**	**-0.3**
FINES	**FINESS Array B**	**75.76**	**330**	P		**P**	**23 48 25.2**	**-0.3**
	1.4nm,0.9s,baz=111,slow=4.3,SNR=5.7								
NOA	**NORSAR Array B**	**82.61**	**333**	LR		LR	00 29 18.6		
	comp=Z,28nm,18.4s,baz=225,slow=38								
YKA	**Yellowknife Ar**	**87.16**	**23**	P		**P**	**23 49 25.4**	**-0.3**
	1.1nm,0.6s,baz=309,slow=4.5,SNR=11								
YKB5	**Yellowknife Ar**	**87.16**	**23**	*eP*		**P**	**23 49 25.4**	**-0.3**

IDC 24 23:43:21.3±1.8, 6°.83S×128°.66E, h0km, mb3.5/1, mb1 3.6/4, mb1mx3.3/33, mbtmp3.4/4, ML3.6/3, MS2.6/1, Ms1 2.6/1, ms1mx2.4/19, Error ellipse: s-maj=59.3km s-min=29.2km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.46**	**24**	Pn		Pn	Sn	23 44 59.3	+1.5
	1.1nm,0.3s,baz=195,slow=20,SNR=10.0								
SIJI				Sn			Sn	23 45 57.8	-15
	4.2nm,0.3s,baz=217,slow=23,SNR=14								
WRA	**Warramunga Arr**	**14.15**	**158**	Pn		Pn	Sn	23 46 42.9	-0.4
	0.3nm,0.3s,baz=338,slow=13,SNR=18								
WRA				Sn			Sn	23 49 07.6	-14
	0.7nm,0.3s,baz=333,slow=22,SNR=9.0								
ASAR	**Alice Springs**	**17.48**	**164**	P		Pn	Sn	23 47 27.4	+0.6
	0.1nm,0.3s,baz=345,slow=8.8,SNR=3.5								
ASAR				S		Sn	Sn	23 50 34.5	-7.7
	0.1nm,0.3s,baz=352,slow=26,SNR=4.0								
GUMO	**Guam**	**25.89**	**38**	LR		LR	Sn	23 58 17.2	
	comp=Z,12nm,19.8s,baz=52,slow=35								
MKAR	**Makanchi Array**	**67.36**	**327**	P		P	Sn	23 54 18.0	-0.4
	0.2nm,0.3s,baz=137,slow=6.6,SNR=5.2								

*IDC **24** 23:45:50.3±1.6, 16°.26S×167°.31E, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.7/43, mbtmp3.9/5, ML4.0/1, Error ellipse: s-maj=50.2km s-min=28.8km az=126.0*
*ISCJB **24** 23:45:51.3±1.4, 16°.51S±0.0°.09×167°.4E±0.2, h20km, mb3.9/3, Error ellipse: s-maj=32.6km s-min=12.3km az=2.4*

ISC 24 23:45:53.3±1.3, 16°.4S±0°.1×167°.3E±0°.3, h20km, n6, σ1§74/6, mb4.0/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.68**	**188**	Pn		**Pn**	**Sn**	**23 47 18.6**	**+1.9**
	4.5nm,0.3s,baz=90,slow=20,SNR=77								
DZM				Sn		**Sn**	**Sn**	**23 48 19.2**	**-2.2**
	3.7nm,0.3s,baz=90,slow=20,SNR=2.8								
CTA	**Charters Tower**	**20.31**	**256**	P		Pn	Sn	23 50 29.6	-0.7
	1.3nm,0.5s,baz=77,slow=14,SNR=4.1								
ASAR	**Alice Springs**	**32.13**	**252**	P		**P**	**Sn**	**23 52 19.6**	**-0.1**
	2.0nm,0.6s,baz=79,slow=8.7,SNR=14								
SONM	**Songino Array**	**83.86**	**324**	P		**P**	**Sn**	**23 58 21.7**	**0.0**
	0.2nm,0.5s,baz=108,slow=4.7,SNR=2.9								
ILAR	**Eielson Array**	**88.11**	**18**	P		**P**	**Sn**	**23 58 41.3**	**-0.8**
	0.5nm,0.6s,baz=240,slow=5.1,SNR=7.1								
ARCES	**ARCESS Array B**	**121.88**	**345**	PKP		**PKPdf**		**00 04 45.8**	**+0.3**
	3.5nm,0.9s,baz=58,slow=2.2,SNR=3.9								

*MDD **24** 23:48:24.7±2.6, 35°.69N×4°.62E, h30km, mb4.1/7, Error ellipse: s-maj=25.5km s-min=15.3km az=115.0, PRXIMO*
*CRAAG **24** 23:48:24.5, 35°.80N×4°.06E, Ml3.7*
*CSEM **24** 23:48:26.8±0.2, 35°.90N×4°.12E, h2km, ML3.7, Error ellipse: s-maj=8.6km s-min=3.3km az=3.0*
*ISCJB **24** 23:48:27.0±0.7, 35°.98N±0°.06×4°.09E±0°.04, h11km±6km, Error ellipse: s-maj=10.9km s-min=5.4km az=3.5*

ISC 24 23:48:26.7±1.4, 35°.93N±0°.05×4°.14E±0°.02, h5km±11km, n62, σ0§96/79, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATAF	**Djebel Tarf**	**0.13**	**118**	P		**Pg**		**23 48 29.2**	**-0.1**
ATAF	**Djebel Tarf**	**0.13**	**118**	P		**Pg**		**23 48 29.2**	**-0.1**
ATAF	**Djebel Tarf**	**0.13**	**118**	P		**Pg**		**23 48 29.2**	**-0.1**
AKET	**Djebel Ketaf**	**0.23**	**299**	P		**Pg**		**23 48 31.0**	**-0.3**
AKET	**Djebel Ketaf**	**0.23**	**299**	P		**Pg**		**23 48 31.0**	**-0.3**
AKET	**Djebel Ketaf**	**0.23**	**299**	P		**Pg**		**23 48 31.0**	**-0.3**
ADJB	**Djebel Djouab**	**0.61**	**292**	P		**Pg**		**23 48 38.8**	**+0.4**
ADJB	**Djebel Djouab**	**0.61**	**292**	P		**Pg**		**23 48 38.8**	**+0.4**
ADJB	**Djebel Djouab**	**0.61**	**292**	P		**Pg**		**23 48 38.8**	**+0.4**
EMHD	**Djebel Mahouad**	**0.99**	**286**	P		**Pn**		**23 48 46.8**	**-0.6**
EMHD	**Djebel Mahouad**	**0.99**	**286**	P		**Pn**		**23 48 46.8**	**-0.6**
EMHD	**Djebel Mahouad**	**0.99**	**286**	P		**Pn**		**23 48 46.8**	**-0.6**
SET	**Setif**	**1.06**	**75**	P		**Pn**		**23 48 48.0**	**-0.2**
SET	**Setif**	**1.06**	**75**	P		**Pn**		**23 48 48.0**	**-0.2**
SET	**Setif**	**1.06**	**75**	P		**Pn**		**23 48 48.0**	**-0.2**
CKHR	**Kef el Ahmar**	**1.12**	**85**	P		**Pn**		**23 48 48.8**	**-0.3**
CKHR	**Kef el Ahmar**	**1.12**	**85**	P		**Pn**		**23 48 48.8**	**-0.3**
CKHR	**Kef el Ahmar**	**1.12**	**85**	P		**Pn**		**23 48 48.8**	**-0.3**
DFRA	**Djebel Bou Aff**	**1.53**	**66**	P		**Pg**		**23 48 57.3**	**+1.2**
DFRA	**Djebel Bou Aff**	**1.53**	**66**	P		**Pg**		**23 48 57.3**	**+1.2**
DFRA	**Djebel Bou Aff**	**1.53**	**66**	P		**Pg**		**23 48 57.3**	**+1.2**
CASM	**Ain Smara**	**1.93**	**80**	P		**Pn**		**23 48 59.9**	**-0.3**
CASM	**Ain Smara**	**1.93**	**80**	P		**Pn**		**23 48 59.9**	**-0.3**
CASM	**Ain Smara**	**1.93**	**80**	P		**Pn**		**23 48 59.9**	**-0.3**
EBNR	**Beni Rached**	**2.14**	**280**	P		**Pg**		**23 49 09.4**	**+1.7**
ECHA	**Ech Chlef**	**2.25**	**276**	P		**Pg**		**23 49 09.0**	**-0.9**
ECHF	**Ech Chlef**	**2.28**	**276**	P		**Pg**		**23 49 09.0**	**-1.3**
ECHF	**Ech Chlef**	**2.28**	**276**	P		**Pg**		**23 49 09.0**	**-1.3**
ETRT	**Tiaret**	**2.37**	**258**	P		**Pn**		**23 49 06.3**	**-0.1**
ETRT	**Tiaret**	**2.37**	**258**	P		**Pn**		**23 49 06.3**	**-0.1**
ETRT	**Tiaret**	**2.37**	**258**	P		**Pn**		**23 49 06.3**	**-0.1**
EANR	**'Ain N'Sour**	**2.46**	**271**	P		**Pn**		**23 49 08.0**	**+0.4**
EANR	**'Ain N'Sour**	**2.46**	**271**	P		**Pn**		**23 49 08.0**	**+0.4**
EANR	**'Ain N'Sour**	**2.46**	**271**	P		**Pn**		**23 49 08.0**	**+0.4**
OKGL	**Djebel Kef Gue**	**2.83**	**273**	P		**Pn**		**23 49 12.8**	**+0.1**
	5.5nm,0.1s,SNR=7.9								
OKGL	**Djebel Kef Gue**	**2.83**	**273**	P		**Pn**		**23 49 12.8**	**+0.1**
	5.5nm,0.1s,SNR=7.9								
EIBI	**Ibiza**	**3.80**	**325**	P		**Pn**		**23 49 26.2**	**+0.3**
	1.9nm,0.2s,SNR=13								
EIBI				S			**Sn**	**23 50 11.6**	**+0.6**
	1.8nm,0.2s								
EIBI	**Ibiza**	**3.80**	**325**	P		**Pn**		**23 49 26.2**	**+0.3**
	1.9nm,0.2s,SNR=13								
EIBI				S			**Sn**	**23 50 11.6**	**+0.6**
	1.8nm,0.2s								
ETOS	**Mallorca**	**3.97**	**345**	P		**Pn**		**23 49 27.9**	**-0.3**
	3.1nm,0.7s,SNR=4.5								
ETOS				S			**Sn**	**23 50 12.3**	**-2.8**
	0.5nm,0.2s								
ETOS	**Mallorca**	**3.97**	**345**	P		**Pn**		**23 49 27.9**	**-0.3**
	3.1nm,0.7s,SNR=4.5								
ETOS				S			**Sn**	**23 50 12.3**	**-2.8**
	0.5nm,0.2s								
EBEN	**Beniarda**	**4.44**	**310**	P		**Pn**		**23 49 36.0**	**+1.3**
	0.2nm,0.2s,SNR=4.0								
EBEN	**Beniarda**	**4.44**	**310**	P		**Pn**		**23 49 36.0**	**+1.3**
	0.2nm,0.2s,SNR=4.0								
EMUR	**La Murta**	**4.71**	**295**	P		**Pn**		**23 49 38.4**	**0.0**
	1.9nm,0.2s,SNR=12								
EMUR				S			**Sn**	**23 50 32.9**	**-0.6**
	3.5nm,0.4s,SNR=7.9								
ETOB	**Tobarra**	**5.28**	**303**	P		**Pn**		**23 49 47.3**	**+1.0**
	2.4nm,0.5s,SNR=8.6								
ETOB				S			**Sn**	**23 50 48.0**	**+0.5**
	53nm,2.0s								
ETOB	**Tobarra**	**5.28**	**303**	P		**Pn**		**23 49 47.3**	**+1.0**
	2.4nm,0.5s,SNR=8.6								
ETOB				S			**Sn**	**23 50 48.0**	**+0.5**
	53nm,2.0s								
EHUE	**Huescar**	**5.71**	**291**	P		**Pn**		**23 49 53.2**	**+1.0**
	1.3nm,0.2s,SNR=7.9								
EHUE				S			**Sn**	**23 50 59.4**	**+1.2**
	0.5nm,0.2s,SNR=7.9								
EHUE	**Huescar**	**5.71**	**291**	P		**Pn**		**23 49 53.2**	**+1.0**
	1.3nm,0.2s,SNR=7.9								
EHUE				S			**Sn**	**23 50 59.4**	**+1.2**
	0.5nm,0.2s,SNR=7.9								
EMOS	**Mosqueruela**	**5.72**	**322**	P		**Pn**		**23 49 52.8**	**+0.3**
	0.7nm,0.2s,SNR=7.9								
EMOS	**Mosqueruela**	**5.72**	**322**	P		**Pn**		**23 49 52.8**	**+0.3**
	0.7nm,0.2s,SNR=7.9								
EBER	**Berja**	**5.75**	**282**	P		**Pn**		**23 49 52.5**	**-0.3**
	0.9nm,0.2s,SNR=8.2								
EBER				S			**Sn**	**23 50 58.9**	**-0.3**
	0.5nm,0.2s,SNR=7.9								
EBER	**Berja**	**5.75**	**282**	P		**Pn**		**23 49 52.5**	**-0.3**
	0.9nm,0.2s,SNR=8.2								
EBER				S			**Sn**	**23 50 58.9**	**-0.3**
	0.5nm,0.2s,SNR=7.9								
SESP	**Santiago Espad**	**5.77**	**294**	P		**Pn**		**23 49 54.6**	**+1.5**
	5.2nm,0.2s,SNR=7.9								
SESP				S			**Sn**	**23 50 59.9**	**+0.1**
	1.3nm,0.2s,SNR=7.9								
SESP	**Santiago Espad**	**5.77**	**294**	P		**Pn**		**23 49 54.6**	**+1.5**
	5.2nm,0.2s,SNR=7.9								
SESP				S			**Sn**	**23 50 59.9**	**+0.1**
	1.3nm,0.2s,SNR=7.9								
EQES	**Quesada**	**6.07**	**290**	P		**Pn**		**23 49 58.5**	**+1.3**
	1.9nm,0.3s,SNR=36								
EQES				S			**Sn**	**23 51 07.5**	**+0.5**
	0.5nm,0.2s,SNR=7.9								
EQES	**Quesada**	**6.07**	**290**	P		**Pn**		**23 49 58.5**	**+1.3**
	1.9nm,0.3s,SNR=36								
EQES				S			**Sn**	**23 51 07.6**	**+0.5**
	0.5nm,0.2s,SNR=7.9								
EGUA	**Guajares**	**6.28**	**280**	P		**Pn**		**23 50 00.7**	**+0.7**
	1.0nm,0.2s,SNR=7.9								
EGUA	**Guajares**	**6.28**	**280**	P		**Pn**		**23 50 00.7**	**+0.7**
	1.0nm,0.2s,SNR=7.9								
EMIR	**Miracle**	**6.31**	**342**	P		**Pn**		**23 50 01.5**	**+1.1**
	0.5nm,0.1s,SNR=7.9								
EMIR				S			**Sn**	**23 51 09.2**	**-3.7**
	1.9nm,0.4s,SNR=7.9								
EMIR	**Miracle**	**6.31**	**342**	P		**Pn**		**23 50 01.5**	**+1.1**
	0.5nm,0.1s,SNR=7.9								
EMIJ	**Mijas**	**7.23**	**278**	P		**Pn**		**23 50 12.5**	**-0.5**
	0.3nm,0.2s,SNR=7.9								
EMIJ	**Mijas**	**7.23**	**278**	P		**Pn**		**23 50 12.5**	**-0.5**
	0.3nm,0.2s,SNR=7.9								

*ISCJB **24** 23:50:46.0±0.8, 21°.57N±0°.09×143°.2E±0°.2, h311km, mb3.4/9, Error ellipse: s-maj=25.5km s-min=12.3km az=171.5*
*IDC **24** 23:50:47.4±2.0, 21°.66N×143°.23E, h311km±17km, mb3.1/10, mb1 3.4/11, mb1mx3.1/43, mbtmp3.9/11, Error ellipse: s-maj=24.1km s-min=15.7km az=87.0*

ISC 24 23:50:47.4±0.9, 21°.6N±0°.1×143°.2E±0°.2, h311km, n12, σ0§59/15, mb3.4/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.50**	**351**	P		**Pn**		**23 52 11.3**	**+0.1**
	11nm,0.3s,baz=107,slow=19,SNR=11								
JCJ				S			**S**	**23 53 18.1**	**-0.5**
	4.6nm,0.3s,baz=270,slow=20,SNR=4.1								
MJAR	**Matsushiro Arr**	**15.47**	**345**	P		**Pn**		**23 54 11.5**	**+0.6**
	0.6nm,0.3s,baz=159,slow=12,SNR=4.4								
KSRS	**Korea Array**	**20.56**	**323**	P		**P**		**23 55 03.7**	**+0.5**
	1.1nm,0.5s,baz=145,slow=8.6,SNR=3.9								
SONM	**Songino Array**	**39.38**	**321**	P		**P**		**23 57 48.1**	**+0.3**
	0.2nm,0.4s,baz=141,slow=7.4,SNR=3.1								
WRA	**Warramunga Arr**	**42.23**	**192**	P		**P**		**23 58 10.9**	**0.0**
	0.4nm,0.3s,baz=16,slow=9.5,SNR=22								
ZALV	**Zalesovo Beam**	**54.26**	**322**	P		**P**		**23 59 41.6**	**-0.1**
	1.1nm,0.5s,baz=112,slow=6.3,SNR=4.1								
ZALV				PcP		**PcP**		**00 00 41.0**	**-0.7**
	0.6nm,0.4s,baz=117,slow=5.2,SNR=2.8								
MKAR	**Makanchi Array**	**54.74**	**313**	P		**P**		**23 59 45.4**	**0.0**
	0.5nm,0.5s,baz=89,slow=9.6,SNR=8.3								
MKAR				PcP		**PcP**		**00 00 43.4**	**-0.4**
	0.2nm,0.4s,baz=102,slow=4.8,SNR=3.3								
ILAR	**Eielson Array**	**62.09**	**27**	P		**P**		**00 00 34.7**	**-0.8**
	0.6nm,0.7s,baz=260,slow=4.5,SNR=5.8								
YKA	**Yellowknife Ar**	**76.50**	**28**	P		**P**		**00 02 03.3**	**0.0**
	0.5nm,0.5s,baz=291,slow=5.9,SNR=5.5								
ARCES	**ARCESS Array B**	**78.97**	**342**	P		**P**		**00 02 17.1**	**+0.4**
	5.5nm,1.0s,baz=72,slow=8.6,SNR=9.9								
NVAR	**Mina Array Bea**	**83.17**	**51**	P		**P**		**00 02 40.5**	**+0.9**
	0.2nm,0.6s,baz=255,slow=5.5,S

0.1nm,0.3s,baz=329,slow=14,SNR=3.6
NVAR Mina Array Bea 8.96 308 Pn **Pn 23 55 56.0 +3.0**
0.1nm,0.3s,baz=129,slow=14,SNR=6.4
NVAR Lg Lg 23 58 21.3
0.1nm,0.3s,baz=119,slow=34,SNR=2.4
PDAR Pinedale Array 9.48 359 Pg Pn 23 56 28.3 +28
0.1nm,0.3s,baz=174,slow=13,SNR=5.7
PDAR Lg Lg 23 58 36.3
baz=179,slow=29,SNR=3.8

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*GCMT **24** 23:57:31.0±0.2,36.40S×73.71W,h21km±1km,MW5.3/73, Moment Tensor Solution. s52,c69; s73,c105; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mr0.49±.03; Mθθ0.10±.02; Mφφ-0.59±.02; Mrθ0.06±.03; Mθφ-0.08±.01; Mφr-0.77±.05; Best double couple: M0.94600×10^17 NP1:ϕs177.00000°,δ73.00000°,λ83.00000°. NP2: ϕs19.00000°,δ19.00000°,λ111.00000°. Principal axes: T 0.9000, Plg62.0000°, Azm77.0000°; N 0.0910, Plg6.0000°, Azm179.0000°; P -0.9910, Plg27.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*GUC **24** 23:57:31.6±0.5,36.34S×73.60W,h27km±5km,ML5.4*

*IDC **24** 23:57:31.7±0.5,36.30S×73.44W,h0km,mb4.4/21, mb1 4.5/23,mb1mx4.4/37,mbtmp4.4/23,ML4.3/2,MS4.7/16, Ms1 4.7/16,ms1mx4.5/28,Error ellipse: s-maj=19.2km s-min=13.1km az=80.0*

*ISCJB **24** 23:57:34.3±0.2,36.29S±0.03×73.37W±0.05,h27km, mb4.8/61,MS4.9/24,Error ellipse: s-maj=5.4km s-min=3.6km az=172.5*

*BJI **24** 23:57:34.6,36.56S×74.10W,h30km,mB5.0/11,Ms5.2/10, Ms7 5.0/10*

*MOS **24** 23:57:35.8±1.4,36.28S×72.98W,h33km,mb5.1/15,Error ellipse: s-maj=20.2km s-min=9.4km az=101.4*

*NEIC **24** 23:57:37.5±0.2,36.25S×73.11W,h35km,mb5.0/42, ML5.4(GUC),Error ellipse: s-maj=8.9km s-min=5.8km az=69.0*

NEIC Felt [V] at Chillan, Cobquecura, Concepcion, San Pedro de la Paz and Tome; [IV] at Coelemu; [III] at Angol, La Laja, Lebu and San Rosendo; [II] at Cauquenes and Linares. Also felt at Chiguayante, Curico, Los Angeles and Yumbel.

ISC 24 23:57:35.6±0.3,36.32S±0.04×73.38W±0.05,h27km,n252, σ1s53/250,mb4.9/61,MS5.0/24,3C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.56**	**157**	*e*P		**Pb**		**23 57 44.5**	**-2.5**
CCSP				*i* S		**Sb**		**23 57 54.0**	**-0.7**
CCSP				AML		AML		23 57 55.4	
	comp=N,401μm,0.4s								
LNCH	**Linares**	**1.52**	**72**	*e*P		**Pn**		**23 58 01.0**	**+0.1**
LNCH				*e*S		**Sb**		**23 58 23.7**	**+1.9**
LNCH				AML		AML		23 58 34.0	
	comp=N,65μm,0.7s								
TALC	**Talca**	**1.69**	**57**	*e*P		**Pn**		**23 58 04.0**	**+0.6**
TALC				*e*S		**Sb**		**23 58 28.3**	**+1.4**
TALC				AML		AML		23 58 39.5	
	comp=E,60μm,0.6s								
NICH	**Los Niches**	**2.19**	**54**	*e*P		**Pn**		**23 58 11.1**	**+0.9**
NICH				*e*S		**Sb**		**23 58 41.1**	**-0.1**
LNV	**Longovilo**	**2.86**	**35**	*e*P		**Pn**		**23 58 19.1**	**-0.3**
CHCH	**Chadas Angostu**	**3.27**	**44**	*e*P		**Pn**		**23 58 26.0**	**+0.9**
TACH	**Talagante**	**3.33**	**38**	*e*P		**Pn**		**23 58 25.9**	**-0.1**
VLCH	**Valdivia**	**3.48**	**178**	*e*P		**Pn**		**23 58 26.2**	**-1.7**
RCDM	**Rinconada Maip**	**3.53**	**38**	*e*P		**Pn**		**23 58 28.5**	**-0.2**
PCH	**Pirque**	**3.58**	**42**	*e*P		**Pn**		**23 58 29.9**	**+0.5**
LACH	**Col Las Americ**	**3.70**	**40**	*e*P		**Pn**		**23 58 30.8**	**-0.3**
CLCH	**Cerro Calan**	**3.74**	**40**	*e*P		**Pn**		**23 58 31.6**	**0.0**
PEL	**Peldehue**	**3.87**	**36**	*e*P		**Pn**		**23 58 33.2**	**-0.2**
ROCH	**El Roble**	**3.87**	**31**	*e*P		**Pn**		**23 58 33.5**	**-0.1**
PUYE	**Entre Lagos**	**4.40**	**172**	*e*P		**Pn**		**23 58 39.2**	**-1.3**
PUYE	**Entre Lagos**	**4.40**	**172**	*e*P		**Pn**		**23 58 42.7**	**+2.2**
PLCA	**Paso Flores**	**4.93**	**154**	Pn		**Pn**		**23 58 48.9**	**+0.9**
	comp=E,3.6nm,0.3s,baz=321,slow=8.9,SNR=55								
PLCA				Lg		Lg		00 00 06.4	
	comp=E,27nm,0.3s,baz=41,slow=23,SNR=5.0								
PLCA				LR		LR		00 00 39.9	
	comp=E,5μm,21.6s,baz=318,slow=38								
PLCA	**Paso Flores**	**4.93**	**154**	*e*P		**Pn**		**23 58 48.0**	**+0.1**
PLCA	**Paso Flores**	**4.93**	**154**	*e*P		**Pn**		**23 58 49.4**	**+1.5**
PLCA	**Paso Flores**	**4.93**	**154**	*e*Pn		**Pn**		**23 58 48.8**	**+0.9**
PLCA				*e*Sn		Sn		23 59 35.1	-9.0
CFAA	**Coronel Fontan**	**6.36**	**44**	Pn		**Pn**		**23 59 07.5**	**-0.1**
	comp=E,3.8nm,0.3s,baz=211,slow=13,SNR=152								
CFAA				Sn		**Sn**		**00 00 20.0**	**+0.8**
	baz=281,slow=4.6,SNR=4.0								
CFAA				LR		LR		00 01 59.3	
	comp=E,1μm,21.0s,baz=227,slow=42								
TLL	**Tololo Astrono**	**6.51**	**20**	*e*P		**Pn**		**23 59 09.8**	**0.0**
LCO	**Las Campanas**	**7.63**	**18**	*e*P		**Pn**		**23 59 24.3**	**-1.0**
LCO	**Las Campanas**	**7.63**	**18**	*e*Pn		**Pn**		**23 59 23.6**	**-1.6**
LCO				*e*Sn		**Sn**		**00 00 49.8**	**-1.3**
TRQA	**Tornquist**	**9.26**	**104**	*e*P		**Pn**		**23 59 50.2**	**+2.8**
TRQA	**Tornquist**	**9.26**	**104**	*e*Pn		**Pn**		**23 59 48.6**	**+1.3**
TRQA				*e*Sn		Sn		00 01 18.6	-12
CHRN	**Cochrane**	**10.82**	**178**	*e*P		**Pn**		**00 00 10.2**	**+1.5**
PB06	**IPOC Station P**	**13.97**	**15**	*e*P		P		00 00 56.3	-3.4
LVC	**Limon Verde**	**14.20**	**17**	Pn		Pn		00 00 50.6	-4.6
	comp=E,28nm,0.3s,baz=179,slow=7.3,SNR=7.5								
LVC				LR		LR		00 06 53.7	
	comp=E,12μm,18.2s,baz=199,slow=40								
PB09	**IPOC Station P**	**14.92**	**15**	*e*P		**P**		**00 01 09.8**	**-0.4**
PB01	**IPOC Station P**	**15.60**	**14**	*e*P		**P**		**00 01 19.4**	**+1.7**
CPUP	**Villa Florida**	**16.93**	**58**	*e*P		**Pn**		**00 01 26.1**	**-4.4**
CPUP	**Villa Florida**	**16.93**	**58**	*e*Pn		**Pn**		**00 01 26.1**	**-4.4**
MNMC	**Minimini**	**17.45**	**12**	*e*P		**P**		**00 01 38.6**	**+0.2**
USHA	**Ushuaia**	**18.82**	**171**	P		**Pn**		**00 01 56.4**	**+2.7**
	comp=E,0.3nm,0.3s,baz=340,slow=16,SNR=2.6								
USHA				LR		LR		00 08 41.3	
	comp=E,2μm,20.6s,baz=328,slow=36								
EFI	**East Falkland**	**18.83**	**149**	*i* P		**Pn**		**00 01 53.4**	**-0.3**
EFI				pmax		pmax			
	comp=Z,492nm,2.8s								
EFI	**East Falkland**	**18.83**	**149**	*e*P		**P**		**00 01 52.8**	**-0.3**
	comp=Z,147nm,1.5s								
LPAZ	**La Paz**	**20.50**	**15**	P		Pn		00 02 13.8	-0.8
	comp=Z,11nm,0.6s,baz=173,slow=6.6,SNR=32								
LPAZ	**La Paz**	**20.50**	**15**	*e*P		Pn		00 02 14.3	-0.3
LPAZ	**La Paz**	**20.50**	**15**	*e*P		Pn		00 02 14.2	-0.4
LPAZ	**La Paz**	**20.50**	**15**	*e*P		Pn		00 02 14.3	-0.3
	comp=Z,41nm,1.0s								
SIV	**San Ignacio**	**23.02**	**32**	P		**P**		**00 02 38.0**	**-0.6**
	comp=Z,14nm,0.8s,baz=224,slow=14,SNR=41								
SIV				LR		LR		00 13 28.4	
	comp=Z,5μm,19.1s,baz=226,slow=42								
NNA	**Nana**	**24.43**	**352**	P		**P**		**00 02 52.3**	**+0.2**
	comp=Z,11nm,0.7s,baz=188,slow=12,SNR=3.8								
NNA				LR		LR		00 10 33.6	
	comp=Z,439nm,21.2s,baz=174,slow=32								
ATAH	**Atahualpa**	**29.41**	**350**	LR		LR		00 14 21.7	
	comp=Z,328nm,18.9s,baz=181,slow=34								
BDFB	**Brasilia**	**30.57**	**54**	P		**P**		**00 03 47.8**	**+0.6**
	comp=Z,4.7nm,0.6s,baz=226,slow=7.4,SNR=7.8								
BDFB				LR		LR		00 17 13.9	
	comp=Z,5μm,18.6s,baz=222,slow=39								
BDFB	**Brasilia**	**30.57**	**54**	*e*P		**P**		**00 03 45.7**	**-1.5**
BDFB	**Brasilia**	**30.57**	**54**	*e*P		**P**		**00 03 45.7**	**-1.5**
HOPE	**Hope Point**	**31.08**	**137**	*e*P		**P**		**00 03 51.4**	**+0.1**
	comp=Z,449nm,2.3s								
SDV	**Santo Domingo**	**45.04**	**4**	*e*P		**P**		**00 05 49.2**	**-0.1**
	comp=Z,13nm,1.3s								
RCBR	**Riachuelo**	**45.81**	**58**	P		**P**		**00 05 56.4**	**+1.1**
	comp=Z,6.9nm,0.6s,baz=212,slow=9.8,SNR=7.4								
RCBR	**Riachuelo**	**45.81**	**58**	*e*P		**P**		**00 05 54.8**	**-0.5**
	comp=Z,60nm,1.5s								
VNA3	**Neumayer Olymp**	**47.64**	**157**	P		**P**		**00 06 10.0**	**+1.1**
VNA1	**Neumayer--Stat**	**47.99**	**156**	P		**P**		**00 06 12.8**	**+1.3**
VNA2	**Neumayer--Watz**	**48.32**	**156**	P		**P**		**00 06 15.1**	**+0.9**
	baz=280,slow=9.1								
PTCN	**Pitcairn Islan**	**49.42**	**266**	*e*P		**P**		**00 06 20.9**	**-2.4**
	comp=Z,346nm,0.5s								
GRGR	**Grenville**	**49.45**	**15**	*e*P		**P**		**00 06 22.6**	**-0.8**
	comp=Z,205nm,1.1s								
SNAA	**Sanae**	**49.87**	**157**	P		**P**		**00 06 25.1**	**-1.0**
SNAA	**Sanae**	**49.87**	**157**	*e*P		**P**		**00 06 24.9**	**-1.2**
SNAA	**Sanae**	**49.87**	**157**	*e*P		**P**		**00 06 24.4**	**-1.7**
SNAA				pmax		pmax			
	comp=Z,47nm,1.4s								
SNAA	**Sanae**	**49.87**	**157**	*e*P		**P**		**00 06 24.4**	**-1.7**
	comp=Z,47nm,1.4s								
QSPA	**South Pole Qui**	**53.92**	**180**	P		**P**		**00 06 56.6**	**+0.2**
	comp=Z,3.6nm,0.8s,baz=150,slow=2.0,SNR=9.8								
RKT	**Rikitea**	**54.27**	**266**	*e*S		**S**		**00 14 39.0**	**+3.5**
	comp=Z,427nm,25.2s								
RKT				*e*LR		LR		00 22 56.3	
	comp=Z,862nm,38.2s,baz=119								
RKT	**Rikitea**	**54.27**	**266**	*e*T		T		01 05 16.6	
	comp=Z,2.6nm,0.2s								
ICMP	**Isla Caja de M**	**54.30**	**8**	*e*P		**P**		**00 06 58.6**	**-0.9**
CRPR	**Cabo Rojo, PR**	**54.36**	**7**	*e*P		**P**		**00 06 59.1**	**-0.8**
	comp=Z,23nm,1.0s								
OBIP	**Obispado Ponce**	**54.45**	**8**	*e*P		**P**		**00 07 00.4**	**-0.2**
	comp=Z,42nm,1.2s								
CELP	**Cerrillos**	**54.48**	**8**	*e*P		**P**		**00 07 00.3**	**-0.6**
HUMP	**Col San Antoni**	**54.64**	**9**	*e*P		**P**		**00 07 00.9**	**-1.0**
	comp=Z,125nm,2.5s								
NVL	**N'lazarevskaya**	**54.64**	**156**	*e*P		P		00 06 55.5	-5.9
NVL				*e**PP		pP		00 07 06.7	-3.0
NVL				*e*				00 08 00.1	
NVL				*e*				00 09 11.4	
NVL				*e*S		**S**		**00 14 33.8**	**-5.4**
NVL				pmax		pmax			
	comp=Z,6.0nm,0.6s								
LRS	**Lares**	**54.67**	**8**	*e*P		**P**		**00 07 01.6**	**-0.6**
TEIG	**Tepich**	**57.98**	**343**	P		**P**		**00 07 26.2**	**+0.5**
	comp=Z,12nm,0.8s,baz=342,slow=0.7,SNR=5.5								
TEIG	**Tepich**	**57.98**	**343**	*e*P		**P**		**00 07 26.2**	**+0.5**
	comp=Z,137nm,2.1s								
VNDA	**Vanda**	**61.61**	**192**	P		**P**		**00 07 51.8**	**+1.7**
	comp=Z,0.4nm,0.9s,baz=128,slow=9.7,SNR=3.7								
VNDA	**Vanda**	**61.61**	**192**	*e*P		**P**		**00 07 51.0**	**+0.9**
VNDA				pmax		pmax			
	comp=Z,16nm,1.6s								
VNDA	**Vanda**	**61.61**	**192**	*e*P		**P**		**00 07 51.0**	**+0.9**
	comp=Z,16nm,1.6s								
SYO	**Syowa Base**	**64.11**	**158**	*e*P		**P**		**00 08 05.6**	**-1.2**
SYO	**Syowa Base**	**64.11**	**158**	*e*pP		pP		00 08 12.5	-2.8
TBI	**Tubuai**	**65.73**	**258**	*e*S		**S**		**00 17 07.3**	**+4.5**
	comp=Z,1μm,27.2s								
TBI	**Tubuai**	**65.73**	**258**	*e*LR		LR		00 28 15.2	
	comp=Z,1μm,26.0s,baz=128								
MEH	**Mehetia**	**67.48**	**264**	*e*T		T		01 21 47.2	
	comp=Z,52nm,0.2s								
TIAR	**Tiarei**	**68.67**	**263**	*e*T		T		01 23 15.4	
	comp=Z,6.0nm,0.3s								
PPT2	**Papeete2**	**68.84**	**263**	*e*S		**S**		**00 17 42.8**	**+2.3**
	comp=Z,480nm,23.0s								
PPT2	**Papeete2**	**68.84**	**263**	*e*LR		LR		00 29 39.1	
	comp=Z,2μm,24.2s,baz=122								
PPT	**Papeete**	**68.85**	**263**	LR		LR		00 30 58.6	
	comp=Z,1μm,19.0s,baz=140,slow=29								
732A	**Laxson Ranch,**	**69.38**	**335**	P		**P**		**00 08 40.0**	**-0.8**
	baz=70								
GOGA	**Godfrey**	**70.01**	**351**	*e*P		**P**		**00 08 44.6**	**0.0**
GOGA				pmax		pmax			
	comp=Z,25nm,1.4s								
GOGA	**Godfrey**	**70.01**	**351**	*e*P		**P**		**00 08 44.6**	**0.0**
	comp=Z,25nm,1.4s								
632A	**Uvalde**	**70.03**	**336**	P		**P**		**00 08 46.5**	**+1.6**
	baz=70								
532A	**Rocksprings**	**70.64**	**336**	P		**P**		**00 08 48.0**	**-0.7**
	baz=71								
531A	**Rocksprings**	**70.89**	**335**	P		**P**		**00 08 49.3**	**-0.9**
	baz=71								
433A	**Art**	**70.95**	**337**	P		**P**		**00 08 50.0**	**-0.5**
	baz=71								
530A	**J-C Ranch, Com**	**71.15**	**335**	P		**P**		**00 08 51.3**	**-0.4**
	baz=71								
LTX	**Lajitas**	**71.25**	**332**	*e*P		**P**		**00 08 53.0**	**+0.6**
LTX	**Lajitas**	**71.25**	**332**	*e*P		**P**		**00 08 53.0**	**+0.6**
TXAR	**Lajitas Array**	**71.25**	**332**	P		**P**		**00 08 53.0**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=154,slow=8.8,SNR=25								
TXAR				LR		LR		00 35 40.4	
	comp=Z,614nm,18.6s,baz=0.0,slow=32								
TX31	**Lajitas Ar. Si**	**71.25**	**332**	*e*P		**P**		**00 08 53.2**	**+0.8**
MAW	**Mawson**	**71.27**	**164**	P		**P**		**00 08 52.6**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=255,slow=12,SNR=4.0								
MAW				LR		LR		00 40 13.0	
	comp=Z,437nm,20.5s,baz=230,slow=36								
MAW	**Mawson**	**71.27**	**164**	*e*P		**P**		**00 08 52.6**	**+0.7**
MAW				pmax		pmax			
	comp=Z,14nm,1.9s								
MAW	**Mawson**	**71.27**	**164**	*e*P		**P**		**00 08 52.6**	**+0.7**
	comp=Z,14nm,1.9s								
KMSC	**Kings Mountain**	**71.49**	**353**	P		**P**		**00 08 52.5**	**-1.1**
	baz=72								
430A	**Baggett Ranch,**	**71.69**	**335**	P		**P**		**00 08 55.0**	**0.0**
	baz=72								
331A	**San Angelo**	**71.90**	**336**	P		**P**		**00 08 55.2**	**-1.0**
	baz=72								
SWET	**Sewanee**	**72.13**	**349**	*e*P		**P**		**00 08 58.0**	**+0.5**
CPCT	**Cooper Cave**	**72.16**	**350**	*e*P		**P**		**00 08 57.7**	**+0.1**
TKL	**Tuckaleechee C**	**72.27**	**351**	P		**P**		**00 08 58.4**	**+0.1**
	comp=Z,5.9nm,0.7s,baz=165,slow=6.7,SNR=6.5								
TZTN	**Tazewell**	**73.11**	**351**	*e*P		**P**		**00 09 02.5**	**-0.8**
	comp=Z,154nm,2.6s								
WVT	**Waverly**	**73.33**	**348**	*e*P		**P**		**00 09 04.2**	**-0.3**
WVT				pmax		pmax			
	comp=Z,26nm,1.1s								
WVT	**Waverly**	**73.33**	**348**	*e*P		**P**		**00 09 04.2**	**-0.3**
	comp=Z,26nm,1.1s								
MNTX	**Cornudas Mount**	**74.02**	**332**	*e*P		**P**		**00 09 09.2**	**+0.4**
	comp=Z,10nm,1.4s								
MNTX	**Cornudas Mount**	**74.02**	**332**	P		**P**		**00 09 06.7**	**-2.0**
	baz=74								
PBMO	**Poplar Bluff**	**74.44**	**346**	*e*P		**P**		**00 09 11.2**	**+0.2**
	comp=Z,8.7nm,1.0s								
SUR	**Sutherland**	**74.67**	**119**	P		**P**		**00 09 14.6**	**+1.6**
	comp=Z,9.7nm,0.9s,baz=183,slow=5.5,SNR=5.1								
SUR	**Sutherland**	**74.67**	**119**	*e*P		**P**		**00 09 11.8**	**-1.3**
	comp=Z,90nm,2.6s								
W32A	**Sentinel**	**75.06**	**338**	P		**P**		**00 09 13.8**	**-0.8**
	baz=75								
T37A	**Cheneyville 18**	**75.76**	**342**	P		**P**		**00 09 17.1**	**-1.6**
	baz=76								
LIC	**Lamto**	**76.55**	**72**	*e*P		**P**		**00 09 24.4**	**+0.7**
	comp=Z,65nm,1.6s								
ACSO	**Alum Creek Sta**	**76.69**	**352**	*e*P		**P**		**00 09 23.9**	**0.0**
	comp=Z,17nm,0.9s								
TUC	**Tucson**	**76.73**	**328**	*e*P		P		00 09 28.5	+4.1
TUC				pmax		pmax			
	comp=Z,9.0nm,1.3s								
TUC	**Tucson**	**76.73**	**328**	*e*P		P		00 09 28.5	+4.1
	comp=Z,9.3nm,1.3s								
TIC	**Toumodi**	**76.82**	**72**	*e*P		**P**		**00 09 25.9**	**+0.6**
KIC	**Kosan Boka**	**76.85**	**72**	*e*P		**P**		**00 09 26.2**	**+0.8**
	comp=Z,87nm,1.3s								
DBIC	**Dimbokro**	**76.96**	**72**	*e*P		**P**		**00 09 26.4**	**+0.4**
DBIC	**Dimbokro**	**76.96**	**72**	P		**P**		**00 09 26.6**	**+0.6**
	comp=Z,5.2nm,0.5s,baz=207,slow=4.4,SNR=27								
DBIC				LR		LR		00 42 20.5	
	comp=Z,706nm,18.3s,baz=202,slow=35								
DBIC	**Dimbokro**	**76.96**	**72**	*e*P		**P**		**00 09 27.0**	**+1.0**
DBIC				pmax		pmax			
	comp=Z,84nm,1.8s								
DBIC	**Dimbokro**	**76.96**	**72**	*e*P		**P**		**00 09 27.0**	**+1.0**
	comp=Z,84nm,1.8s								
UPI	**Upington**	**77.22**	**116**	*e*P		**P**		**00 09 28.1**	**+0.6**
ANMO	**Albuquerque**	**77.31**	**333**	*e*P		**P**		**00 09 29.9**	**+2.2**
ANMO				pmax		pmax			
	comp=Z,16nm,1.5s								
ANMO	**Albuquerque**	**77.31**	**333**	*e*P		**P**		**00 09 29.9**	**+2.2**
	comp=Z,16nm,1.5s								
R34A	**Isabella, Hill**	**77.47**	**341**	P		**P**		**00 09 26.5**	**-1.7**
	baz=78								
HDIL	**Hopedale**	**77.89**	**348**	*e*P		**P**		**00 09 30.0**	**-0.6**
	comp=Z,1.6nm,1.0s								
T25A	**Trinidad**	**78.55**	**335**	*e*P		**P**		**00 09 37.0**	**+2.3**
	comp=Z,18nm,1.3s								
S26A	**Kim**	**78.68**	**336**	P		**P**		**00 09 33.7**	**-1.5**
	baz=79								
HVD	**Gariep Dam**	**78.97**	**120**	*e*P		P		00 09 45.4	+8.1
HVD				AMB		AMB		00 10 00.2	
	comp=Z,28nm,1.4s								
HVD				AMS		AMS		00 40 50.5	
	comp=Z,881nm,22.5s								
YUH	**Yuha Desert**	**79.32**	**325**	*e*P		**P**		**00 09 37.7**	**-0.9**
TSUM	**Tsumeb**	**79.63**	**106**	*e*P		**P**		**00 09 41.9**	**+0.9**
TSUM	**Tsumeb**	**79.63**	**106**	P		**P**		**00 09 41.6**	**+0.6**
	comp=Z,2.7nm,0.8s,baz=244,slow=5.0,SNR=9.9								
BOSA	**Boshof**	**79.96**	**118**	AMB		AMB		00 09 42.5	
	comp=Z,29nm,2.6s								
BOSA				*e*P		**P**		**00 09 42.9**	**+0.3**
BOSA				AMS		AMS		00 45 59.8	
	comp=Z,591nm,15.0s								
BOSA	**Boshof**	**79.96**	**118**	P		**P**		**00 09 43.0**	**+0.4**
	comp=Z,6.8nm,0.9s,baz=214,slow=3.3,SNR=9.0								
BOSA				LR		LR		00 43 12.6	
	comp=Z,424nm,18.6s,baz=230,slow=34								
PFO	**Pinyon Flats O**	**80.36**	**325**	LR		LR		00 36 55.1	
	comp=Z,182nm,20.8s,baz=200,slow=29								
SADO	**Sadowa**	**80.89**	**356**	P		**P**		**00 09 46.5**	**-0.3**
	comp=Z,1.6nm,0.5s,baz=223,slow=6.1,SNR=5.2								
SMCO	**Snowmass**	**81.27**	**334**	*e*P		**P**		**00 09 51.0**	**+1.5**
	comp=Z,48nm,1.7s								
KNB	**Kanab**	**81.62**	**329**	*e*P		**P**		**00 09 53.9**	**+2.7**
KNB				pmax		pmax			
	comp=Z,10.0nm,1.2s								
KNB	**Kanab**	**81.62**	**329**	*e*P		**P**		**00 09 53.9**	**+2.7**
	comp=Z,10nm,1.2s								
PASC	**Pasadena Art C**	**81.64**	**324**	*e*P		P		00 09 54.7	+3.6
SEK	**Senekal**	**81.81**	**119**	*e*P		**P**		**00 09 53.1**	**+0.5**
SEK				AMB		AMB		00 09 53.6	
	comp=Z,27nm,1.9s								
SHPR	**Sheep Range**	**82.19**	**327**	*e*P		**P**		**00 09 56.6**	**+2.5**
LBTB	**Lobatse**	**82.32**	**115**	*e*P		**P**		**00 09 55.6**	**+0.3**
LBTB				AMB		AMB		00 09 56.2	
	comp=Z,31nm,2.0s								
LBTB				AMS		AMS		00 45 50.1	
	comp=Z,663nm,17.4s								
LBTB	**Lobatse**	**82.32**	**115**	*e*P		**P**		**00 09 56.1**	**+0.9**
LBTB				pmax		pmax			
	comp=Z,32nm,1.4s								
LBTB	**Lobatse**	**82.32**	**115**	*e*P		**P**		**00 09 56.1**	**+0.9**
	comp=Z,32nm,1.4s								
ECSD	**EROS Data Cent**	**82.44**	**343**	*e*P		**P**		**00 09 55.5**	**+0.4**
	comp=Z,21nm,1.1s								
ECSD	**EROS Data Cent**	**82.44**	**343**	P		**P**		**00 09 54.2**	**-0.8**
	baz=83								
PRYS	**Parys**	**82.46**	**118**	*e*P		**P**		**00 09 56.2**	**+0.2**
PRYS				AMB		AMB		00 09 57.5	
	comp=Z,11nm,2.6s								
SRU	**San Rafael Swe**	**82.51**	**332**	*e*P		**P**		**00 09 58.0**	**+2.2**
SRU				pmax		pmax			
	comp=Z,6.0nm,0.8s								
SRU	**San Rafael Swe**	**82.51**	**332**	*e*P		**P**		**00 09 58.0**	**+2.2**
	comp=Z,5.5nm,0.8s								
MSU	**Marysvale**	**82.64**	**330**	*e*P		**P**		**00 09 58.1**	**+1.6**
MSU	**Marysvale**	**82.64**	**330**	*e*P		**P**		**00 09 58.1**	**+1.6**
MVU	**Marysvale**	**82.65**	**330**	*e*P		**P**		**00 09 58.3**	**+1.8**
	comp=Z,19nm,1.7s								
KLOF	**Kloof**	**82.98**	**117**	*e*P		**P**		**00 09 58.6**	**-0.1**
DAC	**Darwin (Calif)**	**83.09**	**325**	*e*P		**P**		**00 10 00.1**	**+1.2**
DAC				pmax		pmax			
	comp=Z,18nm,1.8s								
DAC	**Darwin (Calif)**	**83.09**	**325**	*e*P		**P**		**00 10 00.1**	**+1.2**
	comp=Z,18nm,1.8s								
N20A	**Spence Gulch,**	**83.19**	**334**	P		**P**		**00 09 59.3**	**0.0**
	baz=84								
I30A	**Oacoma**	**83.30**	**341**	P		**P**		**00 09 58.5**	**-1.0**
	baz=84								
J27A	**Elkhorn Farm,**	**83.38**	**339**	P		**P**		**00 09 58.3**	**-1.7**
	baz=84								
ERPM	**east rand prop**	**83.44**	**118**	*e*P		**P**		**00 10 01.8**	**+0.7**
ERPM				AMB		AMB		00 10 02.5	
	comp=Z,20nm,1.8s								
SLR	**Silverton**	**83.83**	**117**	*e*P		**P**		**00 10 03.5**	**+0.4**
SLR				AMB		AMB		00 10 04.5	
	comp=Z,24nm,2.6s								
SLR				AMS		AMS		01 09 20.5	
	comp=Z,727nm,15.7s								
R11A	**Troy Canyon, C**	**83.92**	**328**	*e*P		**P**		**00 10 05.2**	**+2.1**
	comp=Z,30nm,1.9s								
R11A	**Troy Canyon, C**	**83.92**	**328**	P		**P**		**00 10 04.4**	**+1.4**
	baz=84								
TIN	**Tinemaha, Big**	**84.02**	**325**	*e*P		**P**		**00 10 06.1**	**+2.6**
TIN	**Tinemaha, Big**	**84.02**	**325**	*e*P		**P**		**00 10 06.1**

PRU AMS AMS 01 08 00.0
comp=Z,400nm,14.7s
BRG Berggiesshubel 115.62 45 *e*P **PP 00 17 21.0 +3.1**
comp=Z,3.2nm,1.0s
BRG *e* 00 27 04.0
GOPC GO Pecny, Ondr 115.67 46 *e*SP SP 00 26 57.0 +1.9
GOPC *ex* x 00 28 08.3
GOPC AMS AMS 01 08 00.0
comp=Z,600nm,18.0s
TREC Trest 115.81 47 *e*SP SP 00 26 56.6 +0.2
TREC AMS AMS 01 13 20.0
comp=Z,300nm,18.3s
DPC Dobruska-Polom 116.75 46 *e*SP SP 00 27 08.4 +3.4
DPC AMS AMS 01 09 00.0
comp=Z,400nm,15.1s
OKC Ostrava-Krasne 117.61 47 *e*SP SP 00 27 24.3 +12
OKC AMS AMS 01 11 00.0
comp=Z,300nm,15.3s
WRA Warramunga Arr 118.20 210 PKP **PKPdf 00 16 19.9 -0.8**
comp=Z,0.2nm,0.5s,baz=159,slow=1.7,SNR=6.1
BR101 Keskin Array S 123.90 63 *e*PKPdf **PKPdf 00 16 30.9 -0.2**
BRTR Keskin Array B 123.90 63 PKP **PKPdf 00 16 30.9 -0.2**
comp=Z,0.5nm,0.6s,baz=224,slow=3.4,SNR=3.8
AKASG Malin Array Be 124.56 49 PKP **PKPdf 00 16 30.8 -1.0**
comp=Z,0.2nm,0.4s,baz=270,slow=1.8,SNR=3.3
AKBB Malin Array Si 124.56 49 *e*PKIKP **PKPdf 00 16 30.8 -1.0**
AKBB Malin Array Si 124.56 49 *e*PKPdf **PKPdf 00 16 30.8 -1.0**
H11S2 WAKE ISLAND Hyl 24.62 268 T T 02 33 39.0
baz=118
H11S1 WAKE ISLAND Hyl 24.63 268 T T 02 33 49.2
baz=118
H11S3 WAKE ISLAND Hyl 24.64 268 T T 02 33 44.1
baz=118
SEY Seymchan 141.46 328 PKP **PKPdf 00 17 04.9 +1.8**
comp=Z,1.4nm,0.6s,baz=53,slow=20,SNR=3.0
ARU Arti 142.21 42 *i* PKIKP **PKPdf 00 17 07.7 +3.1**
ARU 00 20 10.8
ARU MLR MLR
comp=Z,417nm,21.0s
TIXI Tiksi 142.76 349 PKIKP **PKPdf 00 17 02.3 -2.9**
PSI Prapat 145.89 166 *e*PKP2 **PKPdf 00 17 12.8 +0.2**
PSI Prapat 145.89 166 *e*PKPdf **PKPdf 00 17 12.8 +0.2**
HYB Hyderabad 148.85 120 *i* PKP **PKPab 00 17 27.0 +1.9**
YAK Yakutsk 150.51 338 *e*PKIKP **PKPbc 00 17 24.2 +0.4**
YAK *e* 00 17 33.4
YAK pmax pmax
comp=Z,19nm,1.0s
KKAR Karatay Array 151.57 65 *e*PKIKP **PKPbc 00 17 27.2 +0.2**
KKAR Karatay Array 151.57 65 *e*PKPbc **PKPbc 00 17 27.2 +0.2**
FRU Bishkek 154.59 65 *e*PKP2 **PKPab 00 17 48.2 -0.3**
FRU pmax pmax
comp=Z,45nm,2.0s
NVS Novosibirsk 155.49 34 *e*PKP2 **PKPab 00 17 49.5 -2.2**
NVS pmax pmax
comp=Z,31nm,2.2s
KSH Kashi 155.67 73 PKP **PKPdf 00 17 28.1 +1.2**
KSH pPKP **pPKPdf 00 17 39.0 +3.1**
KSH PKS **PKSdf 00 21 00.4 -0.6**
KSH SKS **SKSdf 00 24 28.8 -2.7**
KSH LN
comp=Z,87nm,5.9s
KSH LE
comp=Z,52nm,4.9s
KSH LZ
comp=Z,180nm,7.4s
ZAA1 Zalesovo Array 156.77 34 *e*PKPdf **PKPdf 00 17 26.9 -0.7**
ZAA1 *e*PKPab **PKPab 00 17 57.5 +0.3**
ZALV Zalesovo Beam 156.77 34 PKP **PKPdf 00 17 26.9 -0.7**
comp=Z,1.5nm,0.8s,baz=270,slow=3.1,SNR=5.6
ZALV PKPab **PKPab 00 17 57.5 +0.3**
comp=Z,1.4nm,0.4s,baz=312,slow=4.5,SNR=6.7
BOD Bodaibo 157.94 349 *e*PKP2 **PKPab 00 18 00.7 -1.5**
BOD pmax pmax
comp=Z,4.0nm,1.5s
MK32 Makanchi Array 159.08 52 *e*PKPdf **PKPdf 00 17 30.8 0.0**
MK32 *e*PKPab **PKPab 00 18 08.9 +1.2**
MKAR Makanchi Array 159.08 52 PKP **PKPdf 00 17 30.8 0.0**
comp=Z,0.7nm,0.7s,baz=277,slow=1.0,SNR=4.6
MKAR PKPab **PKPab 00 18 08.9 +1.2**
comp=Z,0.7nm,0.5s,baz=263,slow=3.7,SNR=4.9
MK01 Makanchi Array 159.10 53 *e*PKPdf **PKPdf 00 17 32.1 +1.3**
WMQ Urumqi 163.72 57 *e*PKP **PKPdf 00 17 36.5 +0.7**
WMQ PKS **PKSdf 00 21 07.8 -1.0**
WMQ PP **PP 00 22 17.1 +3.2**
WMQ SKS **SKSdf 00 24 38.3 -0.1**
WMQ SKKS **SKKSac 00 29 02.9 +3.2**
WMQ PPMZ
comp=Z,31nm,8.0s
WMQ LN
comp=Z,180nm,20.6s
WMQ LE
comp=Z,180nm,23.0s
WMQ LZ
comp=Z,240nm,20.6s
KMI Kunming 168.35 162 PKP **PKPdf 00 17 39.6 -0.7**
KMI SS SS 00 43 27.8 +1.8
KMI LN
comp=Z,180nm,20.3s
KMI LE
comp=Z,140nm,19.1s
KMI LZ
comp=Z,290nm,16.7s
SONA0 Songino Array 168.50 1 *e*PKPab **PKPab 00 18 50.2 +1.3**
SONA0 *e*PP PP 00 22 49.8 +12
SONM Songino Array 168.50 1 PKPab **PKPab 00 18 50.2 +1.3**
SONM PP PP 00 22 49.8 +12
comp=Z,0.8nm,1.0s,baz=305,slow=5.2,SNR=4.3
NJ2 Nanjing 169.01 251 *e*PKP **PKPdf 00 17 40.8 +0.6**
GYA Guiyang 170.16 180 *e*PKP **PKPdf 00 17 41.0 -0.2**
GYA PKS **PKSdf 00 21 12.8 -1.1**
GYA PP **PP 00 22 50.5 +4.6**
GYA PPMZ
comp=Z,120nm,8.0s
HHC Hu-ho-hao-te 174.05 321 *e*PKP **PKPdf 00 17 40.3 -2.2**
HHC PP **PP 00 23 06.8 +1.0**
HHC SKS **SKSdf 00 24 38.1 -5.7**
HHC SS **SS 00 44 19.3 -3.6**
HHC PPMZ
comp=Z,48nm,9.9s
HHC LN
comp=Z,190nm,17.3s
HHC LE
comp=Z,170nm,16.0s
HHC LZ
comp=Z,120nm,17.3s
CD2 Chengdu 174.10 155 PKP **PKPdf 00 17 42.0 -0.8**
CD2 pPKP **pPKPdf 00 17 53.4 +1.6**
CD2 sPKP 00 17 57.0
CD2 PKS **PKSdf 00 21 13.4 -1.7**
CD2 PP **PP 00 23 08.8 +3.3**
CD2 SKS **SKSdf 00 24 41.8 -2.4**
CD2 SKKS **SKKSac 00 29 50.9 +0.1**
CD2 SS **SS 00 44 22.0 -0.4**
CD2 PPMZ
comp=Z,120nm,5.6s
LZH Lanzhou 177.74 95 *e*PKP **PKPdf 00 17 41.8 -1.9**
LZH pPKP **pPKPdf 00 17 49.0 -3.7**
LZH sPKP 00 17 51.3
LZH LN
comp=Z,250nm,18.5s
LZH LE
comp=Z,230nm,19.0s
LZH LZ
comp=Z,280nm,20.3s

IDC 25 00:09:46.1±2.3, 12°71'S×164°64'E, h0km, mb4.1/4, mb1 4.1/5, mb1mx3.8/32, mbtmp4.0/5, ML3.4/1, Error ellipse: s-maj=53.0km s-min=37.2km az=94.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.47**	**170**	Pn		Pn	00 12 04.2	+0.1
	0.4nm,0.3s,baz=90,slow=24,SNR=9.8							
WRA	**Warramunga Arr**	**29.92**	**252**	P		P	00 15 56.2	0.0
	0.7nm,0.5s,baz=84,slow=9.3,SNR=13							
ASAR	**Alice Springs**	**31.10**	**245**	P		P	00 16 06.5	-0.1
	1.1nm,0.8s,baz=72,slow=9.9,SNR=13							
MKAR	**Makanchi Array**	**93.99**	**317**	P		P	00 23 07.2	+1.0
	0.7nm,0.6s,baz=90,slow=5.7,SNR=4.8							
ZALV	**Zalesovo Beam**	**94.26**	**324**	P		P	00 23 05.9	-1.3
	0.6nm,0.6s,baz=103,slow=4.7,SNR=4.0							

*ISCJB **25** 00:12:20.7±0.6, 40°.75N±0°.04×33°.09E±0°.05, h10km±7km, Error ellipse: s-maj=7.1km s-min=5.1km az=42.2*
*CSEM **25** 00:12:20.8±0.2, 40°.76N×33°.11E, h10km, MD2.7, Error ellipse: s-maj=3.8km s-min=3.7km az=170.0*
*ISK **25** 00:12:20.5, 40°.78N×33°.10E, h12km, MD2.8*
*DDA **25** 00:12:23.8, 40°.69N×33°.43E, h3km, MD2.7*

ISC 25 00:12:21.1±1.0, 40°.76N±0°.03×33°.12E±0°.03, h13km±9km, n23, σ0s57/32, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ELDT	**Eldivan**	**0.36**	**138**	*i* P		**Pg**	**00 12 27.8**	**-0.5**
ELDT				*i* S		**Sg**	**00 12 33.2**	**0.0**
ELDT	**Eldivan**	**0.36**	**138**	*i* P		**Pg**	**00 12 27.8**	**-0.5**
ELDT				*i* S		**Sg**	**00 12 33.2**	**0.0**
CANT	**Cankiri**	**0.41**	**111**	*e*PG		**Pg**	**00 12 29.5**	**+0.2**
CANT				*e*SG		**Sb**	**00 12 37.1**	**+0.6**
ILGA	**Ilgaz**	**0.54**	**57**	*i* P		**Pg**	**00 12 32.0**	**+0.2**
ILGA				*i* S		**Sg**	**00 12 39.9**	**+0.9**
ILGA	**Ilgaz**	**0.54**	**57**	*i* P		**Pg**	**00 12 32.0**	**+0.2**
ILGA				*i* S		**Sg**	**00 12 39.9**	**+0.9**
SAFT	**Safranbolu**	**0.58**	**326**	*e*PG		**Pg**	**00 12 31.6**	**-0.9**
SAFT				*e*SG		**Sg**	**00 12 40.4**	**+0.2**
SAFT	**Safranbolu**	**0.58**	**326**	*e*Pg		**Pg**	**00 12 31.6**	**-0.9**
SAFT				*e*Sg		**Sg**	**00 12 40.4**	**+0.2**
TOS	**Tosya**	**0.74**	**68**	*e*PG		**Pg**	**00 12 34.7**	**-0.8**
TOS	**Tosya**	**0.74**	**68**	*e*Pg		**Pg**	**00 12 34.7**	**-0.8**
LOD	**Lodumlu**	**0.91**	**197**	*e*PG		**Pg**	**00 12 38.5**	**-0.1**
LOD	**Lodumlu**	**0.91**	**197**	*e*Pg		**Pg**	**00 12 38.5**	**-0.1**
ANTO	**Ankara**	**0.92**	**196**	*e*PG		**Pg**	**00 12 38.4**	**-0.5**
ANTO	**Ankara**	**0.92**	**196**	*e*Pg		**Pg**	**00 12 38.4**	**-0.5**
CORM	**Corum**	**1.29**	**116**	*e*PN		**Pn**	**00 12 44.5**	**-0.5**
CORM	**Corum**	**1.29**	**116**	*e*Pn		**Pn**	**00 12 44.5**	**-0.5**
AFSR	**Afˇar-Bala (A**	**1.31**	**182**	*e*PN		**Pn**	**00 12 45.4**	**+0.2**
AFSR	**Afˇar-Bala (A**	**1.31**	**182**	*e*Pn		**Pn**	**00 12 45.4**	**+0.2**
CDAG	**Cicekdag**	**1.48**	**139**	*i* P		**Pn**	**00 12 47.8**	**+0.2**
CDAG				*i* S		**Sn**	**00 13 06.3**	**-0.6**
CDAG	**Cicekdag**	**1.48**	**139**	*i* P		**Pn**	**00 12 47.8**	**+0.2**
CDAG				*i* S		**Sn**	**00 13 06.3**	**-0.6**
SVRH	**Sivrihisar-ESK**	**1.79**	**224**	*e*PN		**Pn**	**00 12 52.5**	**+0.7**
SVRH	**Sivrihisar-ESK**	**1.79**	**224**	*e*Pn		**Pn**	**00 12 52.5**	**+0.7**
GULT	**Gulveren**	**2.01**	**262**	*e*PN		**Pn**	**00 12 55.3**	**+0.6**
GULT	**Gulveren**	**2.01**	**262**	*e*Pn		**Pn**	**00 12 55.3**	**+0.6**

IDC 25 00:20:00.9±6.6, 18°.27S×174°.40W, h0km, mb4.4/2, mb1 4.6/2, mb1mx3.8/33, mbtmp4.4/2, Error ellipse: s-maj=301.7km s-min=63.5km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.31**	**259**	P		P	00 28 44.1	-0.4
	2.7nm,0.5s,baz=98,slow=6.8,SNR=83							
ASAR	**Alice Springs**	**48.36**	**254**	P		P	00 28 45.0	+0.1
	2.9nm,0.5s,baz=86,slow=8.7,SNR=38							
BRTR	**Keskin Array B**	**147.69**	**317**	PKPbc		PKPbc	00 39 47.2	-0.7
	0.5nm,0.6s,baz=98,slow=2.4,SNR=4.6							

*ISCJB **25** 00:23:51.2±0.3, 66°.47N±0°.04×169°.27W±0°.07, h10km, mb4.1/18, MS4.0/5, Error ellipse: s-maj=6.1km s-min=3.9km az=18.4*
*IDC **25** 00:23:53.5±1.2, 66°.79N×169°.12W, h0km, mb3.8/12, mb1 4.0/15, mb1mx3.8/41, mbtmp3.8/15, ML3.7/3, MS4.0/4, Ms1 4.0/4, ms1mx3.1/39, Error ellipse: s-maj=35.0km s-min=14.5km az=22.0*
*NEIC **25** 00:23:53.0, 66°.40N×169°.84W, h25km, ML4.2(AEIC), After AEIC.*

ISC 25 00:23:52.9±0.5, 66°.50N±0°.06×169°.44W±0°.05, h10km, n74, σ1s38/78, mb4.0/19, MS4.2/5, Near north coast of eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNA	**Tin City**	**1.12**	**146**	*e*Pn		**Pb**	**00 24 13.9**	**-0.4**
TNA				*e*Sn		**Sb**	**00 24 27.8**	**-1.2**
GAMB	**Gambell**	**2.89**	**200**	*e*Pn		Pn	00 24 35.2	-3.8
GAMB				*e*Sn		**Sn**	**00 25 11.8**	**-1.8**
IM04	**Indian Mountai**	**6.35**	**88**	*e*Pn		**Pn**	**00 25 25.8**	**-0.6**
IM04				*e*Sn		Sn	00 26 46.2	+7.3
IM3	**Indian Mountai**	**6.36**	**87**	*e*Pn		**Pn**	**00 25 26.6**	**0.0**
TT01	**Tatalina**	**6.78**	**116**	*e*Pn		**Pn**	**00 25 32.8**	**+0.5**
COLD	**Coldfoot**	**7.61**	**76**	*e*Pn		**Pn**	**00 25 44.0**	**+0.3**
COLD				*e*Sn		**Sn**	**00 27 07.6**	**-2.1**
MLY	**Manley**	**7.83**	**92**	*e*Pn		**Pn**	**00 25 47.2**	**+0.5**
MLY				*e*Sn		**Sn**	**00 27 17.9**	**+2.7**
CAST	**Castle Rocks**	**7.97**	**105**	*e*Pn		**Pn**	**00 25 49.1**	**+0.4**
BPAW	**Bear Paw Mtn.**	**8.09**	**99**	*e*Pn		**Pn**	**00 25 50.7**	**+0.5**
SVW2	**Sparrevohn**	**8.17**	**125**	*e*Pn		**Pn**	**00 25 51.7**	**+0.4**
SVW2				*e*Lg		Lg	00 28 15.1	
PPLA	**Purkeypile**	**8.21**	**108**	*e*Pn		**Pn**	**00 25 52.8**	**+0.8**
KTH	**Kantishna Hill**	**8.36**	**102**	*e*Pn		**Pn**	**00 25 55.2**	**+1.1**
BWN	**Browne**	**8.66**	**96**	*e*Pn		**Pn**	**00 25 57.0**	**-1.0**
BWN				*e*Sn		**Sn**	**00 27 35.1**	**-0.5**
TRF	**Thorofare Moun**	**8.66**	**102**	*e*Pn		**Pn**	**00 25 55.5**	**-2.7**
TRF				*e*Sn		Sn	00 27 27.2	-8.6
MDM	**Murphy Dome**	**8.86**	**90**	*e*Pn		**Pn**	**00 26 01.9**	**+1.1**
MCK	**McKinley**	**9.06**	**98**	*e*Pn		**Pn**	**00 26 04.3**	**+0.7**
MCK				*e*Sn		**Sn**	**00 27 44.8**	**+0.7**
WRH	**Wood River Hil**	**9.09**	**93**	*e*Pn		**Pn**	**00 26 04.1**	**+0.2**
CCB	**Clear Creek Bu**	**9.14**	**92**	*e*Pn		**Pn**	**00 26 04.7**	**+0.2**
RND	**Reindeer**	**9.25**	**100**	*e*Pn		**Pn**	**00 26 06.7**	**+0.6**
RND				*e*Sn		**Sn**	**00 27 50.2**	**+0.1**
ILAR	**Eielson Array**	**9.46**	**90**	Pn		**Pn**	**00 26 08.9**	**-0.1**
	0.3nm,0.3s,baz=290,slow=14,SNR=18							
ILAR				LR		LR	00 30 15.3	
	comp=Z,37nm,20.1s,baz=306,slow=41							
ILB	**Eielson Array**	**9.46**	**90**	*e*Pn		**Pn**	**00 26 08.9**	**-0.1**
IL1	**Eielson Array**	**9.46**	**90**	*e*Pn		**Pn**	**00 26 10.0**	**+1.0**
BILL	**Bilibino**	**9.50**	**290**	*e*Pn		Pn	00 26 05.8	-3.8
RSO	**Redoubt South**	**9.58**	**121**	*e*Pn		**Pn**	**00 26 10.5**	**-0.4**
RC01	**Rabbit Creek A**	**10.23**	**113**	*e*Pn		**Pn**	**00 26 18.5**	**-1.1**
DDM	**Donnelly Dome**	**10.26**	**94**	*e*Pn		**Pn**	**00 26 19.2**	**-0.8**
SCM	**Sheep Creek Mo**	**10.68**	**106**	*e*Pn		**Pn**	**00 26 26.2**	**+0.4**
BRLK	**Bradley Lake**	**10.73**	**120**	*e*Pn		**Pn**	**00 26 24.9**	**-1.5**
SCRK	**Sand Creek**	**10.93**	**91**	*e*Pn		**Pn**	**00 26 29.1**	**-0.2**
DOT	**Dot Lake**	**11.04**	**93**	*e*Pn		**Pn**	**00 26 30.6**	**-0.1**
EGAK	**Eagle**	**11.75**	**85**	*e*Pn		**Pn**	**00 26 41.8**	**+1.4**
OHAK	**Old Harbor**	**11.98**	**133**	*e*Pn		**Pn**	**00 26 45.0**	**+1.6**
BMRM	**Bremner River**	**12.25**	**105**	*e*Pn		**Pn**	**00 26 46.5**	**-0.7**
INK	**Inuvik**	**13.80**	**66**	Pn		**Pn**	**00 27 05.2**	**-3.0**
	0.2nm,0.3s,baz=292,slow=13,SNR=6.3							
INK				Sn		Sn	00 29 30.1	-11
	baz=353,slow=8.1,SNR=4.0							
HYT	**Haines Junctio**	**15.13**	**97**	*e*Pn		**Pn**	**00 27 26.8**	**+0.2**
SEY	**Seymchan**	**16.50**	**276**	Pn		**P**	**00 27 46.4**	**-0.4**
	0.2nm,0.3s,baz=90,slow=13,SNR=2.6							
DLBC	**Dease Lake**	**19.60**	**95**	P		**Pn**	**00 28 21.8**	**-0.5**
	0.2nm,0.3s,baz=297,slow=16,SNR=3.2							
DLBC				LR		LR	00 37 23.9	
	comp=Z,108nm,20.0s,baz=16,slow=42							
DLBC	**Dease Lake**	**19.60**	**95**	*e*P		**Pn**	**00 28 22.7**	**+0.5**
	34nm,1.7s							
TIXI	**Tiksi**	**21.70**	**311**	P		**P**	**00 28 41.5**	**-1.9**
	4.7nm,0.7s							
YKA	**Yellowknife Ar**	**23.28**	**74**	P		**P**	**00 29 00.9**	**+0.7**
	0.9nm,0.7s,baz=305,slow=11,SNR=12							
YKB5	**Yellowknife Ar**	**23.28**	**74**	*e*P		**P**	**00 29 01.4**	**+1.2**
D05A	**Enumclaw**	**31.25**	**104**	*e*P		**P**	**00 30 10.7**	**-1.6**
	171nm,2.6s							
MDJ	**Mudanjiang**	**38.72**	**267**	P		P	00 31 10.4	-6.3
MDJ				pmax	pmax			
	comp=Z,14nm,1.5s							
MDJ				pmax	pmax			
	comp=Z,220nm,4.8s							
ULM	**Lac du Bonnet**	**39.18**	**77**	P		**P**	**00 31 20.5**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=270,slow=6.6,SNR=3.4							
BW06	**Boulder Array**	**39.83**	**96**	*e*P		P	00 31 31.8	+5.6
PD31	**Pinedale Array**	**39.83**	**96**	*e*P		**P**	**00 31 27.8**	**+1.6**
PDAR	**Pinedale Array**	**39.83**	**96**	P		**P**	**00 31 27.8**	**+1.6**
	comp=Z,1.0nm,0.9s,baz=342,slow=9.3,SNR=4.5							
SFJD	**Kangerlussuaq**	**39.97**	**32**	*e*P		**P**	**00 31 24.3**	**-2.5**
	comp=Z,267nm,3.0s							
NV01	**Mina Array Sit**	**40.12**	**108**	*e*P		**P**	**00 31 30.8**	**+2.1**
NVAR	**Mina Array Bea**	**40.12**	**108**	P		**P**	**00 31 30.8**	**+2.1**
	comp=Z,0.3nm,0.6s,baz=340,slow=7.9,SNR=3.8							
PV10	**Paradox Valley**	**43.77**	**99**	*e*P		**P**	**00 31 59.6**	**+1.0**
ARA0	**ARCESS Array S**	**43.84**	**352**	*e*P		**P**	**00 31 58.3**	**-0.1**
ARCES	**ARCESS Array B**	**43.84**	**352**	P		**P**	**00 31 58.3**	**-0.1**
	comp=Z,5.1nm,1.1s,baz=23,slow=10,SNR=2.8							
SONA0	**Songino Array**	**45.22**	**289**	*e*P		**P**	**00 32 12.1**	**+2.2**
SONM	**Songino Array**	**45.22**	**289**	P		**P**	**00 32 12.1**	**+2.2**
	comp=Z,0.6nm,0.8s,baz=90,slow=4.3,SNR=3.5							
HWB	**Hans Werner Br**	**45.40**	**111**	*e*P		**P**	**00 32 13.8**	**+2.5**
ZAA1	**Zalesovo Array**	**47.58**	**310**	*e*P		**P**	**00 32 30.1**	**+2.0**
ZALV	**Zalesovo Beam**	**47.58**	**310**	P		**P**	**00 32 30.1**	**+2.0**
	comp=Z,0.5nm,0.5s,baz=36,slow=7.6,SNR=2.1							
BJI	**Beijing**	**47.94**	**275**	P		P	00 32 25.8	-5.3
BJI				S		S	00 39 19.6	-8.7
BJI				pmax	pmax			
	comp=Z,10.0nm,0.6s							
BJI				pmax	pmax			
	comp=Z,120nm,4.8s							
BJI				LR	LR			
	comp=N,260nm,4.9s							
BJI				LR	LR			
	comp=E,200nm,4.4s							
BJI				LR	LR			
	comp=Z,41nm,27.4s							
FIA0	**FINESS Array S**	**51.85**	**351**	*e*P		**P**	**00 33 00.4**	**-0.1**
FINES	**FINESS Array B**	**51.85**	**351**	P		**P**	**00 33 00.4**	**-0.1**
	comp=Z,1.9nm,0.4s,baz=26,slow=7.0,SNR=29							
BVAR	**Borovoye Array**	**52.53**	**319**	LR		LR	00 58 46.8	
	comp=Z,60nm,19.2s,baz=246,slow=40							
TX31	**Lajitas Ar. Si**	**53.83**	**99**	*e*P		**P**	**00 33 16.9**	**+1.2**
LTX	**Lajitas**	**53.83**	**99**	*e*P		**P**	**00 33 16.8**	**+1.1**
TXAR	**Lajitas Array**	**53.83**	**99**	P		**P**	**00 33 16.8**	**+1.1**
	comp=Z,0.7nm,0.9s,baz=342,slow=7.9,SNR=6.3							
LZH	**Lanzhou**	**56.23**	**283**	*e*P		**P**	**00 33 30.9**	**-2.2**
LZH				pP		**pP**	**00 33 37.5**	**+1.2**
LZH				sP		**sP**	**00 33 40.4**	**+2.9**
LZH				ePP		**PP**	**00 35 37.5**	**-0.5**
LZH				pmax	pmax			
	comp=Z,15nm,1.3s							
LZH				pmax	pmax			
	comp=Z,49nm,6.5s							
LZH				LR	LR			
	comp=N,110nm,14.8s							
LZH				LR	LR			
	comp=E,120nm,15.2s							
LZH				LR	LR			
	comp=Z,150nm,19.1s							
ABKAR	**Akbulak array**	**58.60**	**324**	*e*P		**P**	**00 33 46.7**	**-2.7**
AKASG	**Malin Array Be**	**62.27**	**347**	P		**P**	**00 34 14.4**	**0.0**
	comp=Z,0.6nm,0.4s,baz=11,slow=6.4,SNR=3.6							
AKBB	**Malin Array Si**	**62.27**	**347**	*e*P		**P**	**00 34 14.4**	**0.0**
GEC2	**GERESS Array S**	**64.97**	**358**	*e*P		**P**	**00 34 33.5**	**+1.2**
GERES	**GERESS Array B**	**64.97**	**358**	P		**P**	**00 34 33.5**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=158,slow=4.8,SNR=6.1							
GERES				LR		LR	01 02 26.0	
	comp=Z,276nm,22.0s,baz=242,slow=36							
BR101	**Keskin Array S**	**72.63**	**342**	*e*P		**P**	**00 35 20.6**	**+0.3**
BRTR	**Keskin Array B**	**72.63**	**342**	P		**P**	**00 35 20.6**	**+0.3**
	comp=Z,0.7nm,0.9s,baz=342,slow=2.9,SNR=4.5							
BRTR				LR		LR	01 10 56.3	
	comp=Z,336nm,21.8s,baz=248,slow=39							
AGG	**Agios Georgios**	**74.42**	**351**	*e*P		**P**	**00 35 27.6**	**-3.1**
	comp=Z,11nm,1.5s							

*SZGRF **25** 00:27:18.0, 23°.02S×177°.07W, h33km, South of Fiji Islands*
*MOS **25** 00:28:24.7±0.9, 21°.63S×179°.28W, h595km, mb4.9/22, Error ellipse: s-maj=10.6km s-min=7.7km az=56.6*
*NEIC **25** 00:28:25.0±0.1, 21°.71S×179°.28W, mb4.9/65, Error ellipse: s-maj=6.3km s-min=3.5km az=139.0*
*IDC **25** 00:28:24.4±1.0, 21°.65S×179°.17W, h584km±10km, mb4.2/22, mb1 4.4/25, mb1mx4.3/29, mbtmp5.1/25, Error ellipse: s-maj=12.1km s-min=10.0km az=107.0*
*ISCJB **25** 00:28:24.5±0.4, 21°.83S±0°.03×179°.26W±0°.03, h598km±5km, mb4.8/93, Error ellipse: s-maj=5.2km s-min=4.0km az=143.3*
*BJI **25** 00:28:27.5, 21°.70S×179°.10W, h622km, mb4.8/27, mB5.1/16*

ISC 25 00:28:25.1±0.4, 21°.70S±0°.04×179°.09W±0°.04, h596km±3km, h596km:pP-P, n920, σ1s20/996, mb4.8/92, 131C-153D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.78**	**325**	*e*P		**P**	**00 29 57.1**	**+0.9**
MSVF				*e*S		S	00 31 09.0	-1.4
MSVF	**Nonsavu**	**4.78**	**325**	*e*P		**P**	**00 29 57.1**	**+0.9**
MSVF				*e*S		**S**	**00 31 09.0**	**-1.4**
RAO	**Raoul Island**	**7.60**	**172**	P		P	**00 30 20.8**	**+0.5**
	179nm,0.3s,baz=306,slow=22,SNR=4.4							
RAO				S		**S**	**00 31 53.7**	**-1.1**
	105nm,0.3s,baz=79,slow=22,SNR=5.8							
RAO	**Raoul Island**	**7.60**	**172**	*e*P		P	**00 30 20.3**	**0.0**
RAO				S		**S**	**00 31 53.7**	**-1.1**
RAO	**Raoul Island**	**7.60**	**172**	*e*P		P	**00 30 20.2**	**0.0**
RAO				S		**S**	**00 31 53.7**	**-1.1**
AFI	**Afiamalu**	**10.41**	**43**	*e*P		P	**00 30 46.0**	**-2.1**
AFI				*e*S		**S**	**00 32 40.0**	**-5.4**
AFI	**Afiamalu**	**10.41**	**43**	*e*P		P	**00 30 46.0**	**-2.1**
AFI				*e*S		**S**	**00 32 40.0**	**-5.4**
DZM	**Mont Dzumac**	**13.44**	**266**	P		P	**00 31 17.8**	**-0.7**
	4.5nm,0.3s,baz=90,slow=24,SNR=24							
DZM	**Mont Dzumac**	**13.44**	**266**	*e*P		P	**00 31 17.2**	**-1.3**
DZM	**Mont Dzumac**	**13.44**	**266**	*e*P		P	**00 31 17.1**	**-1.5**
	32nm,0.6s							
OUZ	**Omahuta**	**14.92**	**204**	*e*P		P	**00 31 33.6**	**+1.1**
	128nm,0.8s							
MKAZ	**Moumakai**	**16.15**	**197**	PN		P	**00 31 44.9**	**+1.1**
WMGZ	**Waiomatatini S**	**16.21**	**187**	PN		P	**00 31 43.0**	**-1.4**
HAZ	**Te Kaha**	**16.23**	**189**	PN		P	**00 31 42.8**	**-1.7**
HAZ				SN		S	00 34 20.2	-6.8
PUZ	**Puketiti**	**16.48**	**187**	SN		S	**00 34 28.8**	**-4.3**
TWGZ	**Tauwhareparae**	**16.62**	**188**	PN		P	**00 31 46.4**	**-1.7**
URZ	**Urewera**	**16.83**	**190**	P		P	**00 31 48.1**	**-1.9**
	39nm,0.3s,baz=260,slow=2.6,SNR=86							
URZ				S		S	00 34 29.7	-7.1
	1.0nm,0.3s,baz=69,slow=17,SNR=4.4							
URZ	**Urewera**	**16.83**	**190**	PN		P	**00 31 46.9**	**-3.1**
URZ				SN		S	00 34 28.9	-7.8
URZ	**Urewera**	**16.83**	**190**	*e*P		P	**00 31 47.2**	**-2.7**
	182nm,0.9s							
URZ				S		S	00 34 29.6	-7.1
URZ				*e*S		S	00 34 36.9	+0.2
MWZ	**Matawai**	**16.84**	**189**	PN		P	**00 31 47.5**	**-2.6**
HIZ	**Hauiti**	**17.55**	**196**	PN		P

88nm,1.0s
VAH Vaihoa 30.49 83 *e*P **P 00 33 52.1 +0.7**
76nm,0.9s
CTA Charters Tower 32.38 266 P **P 00 34 07.4 -0.1**
50nm,0.6s,baz=96,slow=11,SNR=95
CTA ScP **ScP 00 39 26.6 +1.9**
1.2nm,0.2s,baz=110,slow=8.7,SNR=3.5
CTAO Charters Tower 32.38 266 *e*P **P 00 34 07.0 -0.4**
CTAO pmax pmax
comp=Z,54nm,0.7s
CTAO Charters Tower 32.38 266 *e*P **P 00 34 07.0 -0.4**
comp=Z,54nm,0.7s
PMG Port Moresby 34.65 285*d i*P **P 00 34 26.1 -0.4**
PMG pmax pmax
comp=Z,207nm,0.9s
TAU Tasmania Unive 35.06 225 *e*P **P 00 34 30.0 +0.5**
TAU pmax pmax
comp=Z,33nm,0.6s
TAU Tasmania Unive 35.06 225 *e*P **P 00 34 30.0 +0.5**
comp=Z,33nm,0.6s
STKA Stephens Creek 36.36 245 P **P 00 34 40.6 +0.2**
comp=Z,71nm,0.9s,baz=90,slow=9.7,SNR=93
STKA ScP **S 00 39 41.1 +0.7**
comp=Z,9.8nm,0.9s,baz=79,slow=3.3,SNR=7.8
STKA Stephens Creek 36.36 245 *e*P **P 00 34 40.9 +0.5**
STKA 00 39 41.1
STKA pmax pmax
comp=Z,15nm,0.9s
STKA Stephens Creek 36.36 245 *e*P **P 00 34 40.9 +0.5**
comp=Z,15nm,0.9s
STKA ScP **S 00 39 41.1 +0.7**
COEN Coen 36.66 276 *e*P **P 00 34 43.5 +0.4**
comp=Z,32nm,0.8s
BBOO Buckleboo 41.11 245 *e*P **P 00 35 18.5 -0.2**
comp=Z,5.7nm,0.9s
AS01 Alice Springs 43.22 258 *e*P **P 00 35 34.4 -0.9**
AS01 *e*ScP **ScP 00 40 07.4 +1.3**
AS01 *e*S **S 00 41 18.0 -2.4**
AS31 Alice Springs 43.27 258 *e*P **P 00 35 35.0 -0.7**
AS31 *e*S **S 00 41 16.9 -4.0**
ASAR Alice Springs 43.27 258 P **P 00 35 35.0 -0.6**
comp=Z,58nm,0.6s,baz=90,slow=8.3,SNR=542
ASAR ScP **ScP 00 40 08.3 +2.1**
comp=Z,5.1nm,0.8s,baz=102,slow=4.0,SNR=13
ASAR S **S 00 41 17.5 -3.4**
comp=Z,11nm,0.8s,baz=95,slow=16,SNR=36
WRAB Tennant Creek 43.43 264*d i*P **P 00 35 35.8 -1.1**
WRAB pmax pmax
comp=Z,269nm,1.2s
WRAB Tennant Creek 43.43 264 *e*P **P 00 35 35.2 -1.7**
comp=Z,65nm,0.8s
WRAB *e*S **S 00 41 19.0 -4.4**
WRA Warramunga Arr 43.44 264 P **P 00 35 35.6 -1.4**
comp=Z,48nm,0.7s,baz=96,slow=8.1,SNR=306
WRA ScP **ScP 00 40 09.1 +2.1**
comp=Z,3.0nm,0.8s,baz=98,slow=4.3,SNR=7.1
WRA S **S 00 41 18.5 -5.0**
comp=Z,3.6nm,0.7s,baz=94,slow=14,SNR=14
JAY Jayapura 43.48 290 P **P 00 35 37.0 -0.4**
GENI Genyem 43.91 290 P **P 00 35 40.2 -0.5**
SMPI Sarmi 45.48 290 P **P 00 35 51.5 -1.1**
FORT Forrest 47.89 248 *e*P **P 00 36 09.9 -0.7**
comp=Z,109nm,0.9s
RKPI Ransiki, Papua 49.70 287 P **P 00 36 23.4 -0.7**
SOEI Soe 55.53 273 P **P 00 37 06.9 +1.1**
comp=Z,117nm,0.8s
SOEI Soe 55.53 273 *e*P **P 00 37 05.1 -0.7**
comp=Z,76nm,0.7s
BATI Baumata 55.95 272 P **P 00 37 09.8 +1.3**
MBWA Marble Bar 56.61 258 *e*P **P 00 37 12.3 -0.6**
comp=Z,40nm,0.6s
SBA Scott Base 56.62 184 *e*P **P 00 37 13.6 +1.6**
SBA pmax pmax
comp=Z,42nm,1.0s
SBA Scott Base 56.62 184 *e*P **P 00 37 13.6 +1.6**
comp=Z,42nm,1.0s
VNDA Vanda 56.63 185 P **P 00 37 14.1 +1.9**
comp=Z,7.2nm,0.7s,baz=358,slow=7.9,SNR=56
VNDA ScP **ScP 00 41 03.8 +1.3**
comp=Z,3.5nm,1.0s,baz=11,slow=4.6,SNR=4.1
VNDA Vanda 56.63 185 *e*P **P 00 37 13.7 +1.5**
VNDA 00 41 03.8
VNDA pmax pmax
comp=Z,45nm,1.6s
VNDA Vanda 56.63 185 *e*P **P 00 37 13.7 +1.5**
comp=Z,45nm,1.6s
VNDA ScP **ScP 00 41 03.8 +1.3**
SANI Sanana 56.83 282 P **P 00 37 13.7 -0.8**
comp=Z,19nm,0.9s
NWAO Narrogin (SRO) 56.93 244 P **P 00 37 14.6 -0.3**
comp=Z,17nm,0.8s,baz=150,slow=6.5,SNR=8.3
LUWI Luwuk 60.17 282 *e*P **P 00 37 36.7 -0.3**
CASY Casey 62.45 205 *e*P **P 00 37 50.1 -0.7**
comp=Z,46nm,1.0s
PCI Palu 62.90 281 P **P 00 37 56.2 +1.5**
MPSI Mapaga 63.35 282 P **P 00 37 56.8 -0.8**
QSPA South Pole Qui 68.38 180 *e*P **P 00 38 28.6 +0.6**
comp=Z,39nm,0.8s
QSPA *e*pP **pP 00 40 28.1 +0.4**
MJAR Matsushiro Arr 70.58 325 P **P 00 38 41.3 -0.1**
comp=Z,10nm,0.6s,baz=155,slow=5.9,SNR=20
MAJO Matsushiro 70.58 325*ce*P **P 00 38 41.3 -0.1**
MAJO pmax pmax
comp=Z,73nm,0.7s
MAJO Matsushiro 70.58 325 *e*P **P 00 38 41.5 +0.1**
comp=Z,12nm,0.6s
MAT Matsushiro 70.58 325 P **P 00 38 41.0 -0.4**
KSM Kuching 72.58 279 *e*P **P 00 38 53.7 +0.2**
ADK Adak 73.29 2 *e*P **P 00 38 56.3 -0.3**
ADK pmax pmax
comp=Z,62nm,0.6s
ADK Adak 73.29 2 *e*P **P 00 38 56.3 -0.3**
comp=Z,62nm,0.6s
NACB Ninganchiao 73.52 305 *e*P **P 00 38 58.2 -0.3**
ATKA Atka Island 73.71 3 *e*P **P 00 38 58.5 -0.5**
comp=Z,27nm,0.9s
TPUB Ta-pu 73.78 304 *e*P **P 00 38 58.7 -1.4**
comp=Z,40nm,0.7s
NIKH Nikolski High 74.89 6 *e*P **P 00 39 05.6 0.0**
comp=Z,148nm,0.8s
KSRS Korea Array 77.12 319 P **P 00 39 18.1 -0.2**
comp=Z,2.0nm,0.5s,baz=140,slow=5.8,SNR=6.4
KSAR Wonju Array Be 77.13 319 P **P 00 39 18.1 -0.2**
KSAR Wonju Array Be 77.13 319 P **P 00 39 18.1 -0.2**
PETK Petropavlovsk- 77.17 346 P **P 00 39 18.2 0.0**
comp=Z,30nm,0.8s,baz=141,slow=7.6,SNR=41
USRK Ussuriysk Ar. 79.39 327 P **P 00 39 30.9 +0.7**
comp=Z,16nm,0.9s,baz=140,slow=2.9,SNR=15
PKM Mcpherson Peak 79.56 46 ⇓P **P 00 39 33.5 +1.9**
baz=80
BLG Laguna Peak, P 79.61 47 ⇓P **P 00 39 33.3 +1.6**
baz=80
SMMC Simmler 79.68 46 ⇑P **P 00 39 34.4 +2.4**
baz=80
NJ2 Nanjing 79.87 310 *e*P **P 00 39 33.6 +0.6**
NJ2 S **S 00 48 48.5 0.0**
NJ2 PMZ
comp=Z,40nm,0.8s
HOPS Hopland Field 79.94 41 *e*P **P 00 39 35.4 +2.1**
comp=Z,9.5nm,1.0s
KCPM Cahto Peak 80.06 40 *e*P **P 00 39 36.3 +2.3**
comp=Z,41nm,1.1s
MAW Mawson 80.10 200 P **P 00 39 34.0 +0.5**
comp=Z,7.6nm,0.7s,baz=136,slow=6.3,SNR=16
MAW Mawson 80.10 200 *e*P **P 00 39 33.6 0.0**
MAW Mawson 80.10 200 *e*P **P 00 39 33.6 0.0**
DECC Green Verdugo 80.19 47 ⇓P **P 00 39 35.9 +1.2**
baz=80
KIPM Iron Peak 80.20 40 *e*P **P 00 39 37.0 +2.3**
109C Camp Elliot, M 80.28 49 ⇓P **P 00 39 36.7 +1.6**
baz=81
KMRM Mail Ridge 80.32 40 *e*P **P 00 39 37.9 +2.6**
comp=Z,120nm,0.9s
ARVC Arvin 80.35 46 ⇑P **P 00 39 36.8 +1.4**
baz=81
MWC Mount Wilson 80.36 47 *e*P **P 00 39 37.3 +1.5**
MWC Mount Wilson 80.36 47 *e*P **P 00 39 37.3 +1.5**
QIZ Qiongzhong 80.43 295 P **P 00 39 38.0 +1.8**
QIZ pP pP 00 41 47.4 +5.9
QIZ sP sP 00 42 50.1 +8.3
QIZ S **S 00 48 55.0 +0.3**
QIZ sS sS 00 52 46.3 +8.4
QIZ PMZ
comp=Z,11nm,1.9s
VES Vestal, Richgr 80.59 46 ⇑P **P 00 39 37.7 +1.0**
baz=81,SNR=8.9

MURC Murrieta 80.60 48 ⇓P **P 00 39 38.1 +1.3**
baz=81
BFSC Mount Baldy Ra 80.64 48 ⇓P **P 00 39 38.2 +1.0**
baz=81,SNR=5.0
MONP Monument Peak, 80.76 49 ⇑P **P 00 39 39.4 +1.5**
baz=81,SNR=8.8
EDW2 Edwards Air Fo 80.78 47 ⇓P **P 00 39 39.1 +1.3**
baz=81,SNR=13
ISA Isabella, Lake 80.89 46 *e*P **P 00 39 40.3 +1.9**
ISA pmax pmax
comp=Z,29nm,0.9s
ISA Isabella, Lake 80.89 46 *e*P **P 00 39 40.3 +1.9**
comp=Z,28nm,0.9s
ISA Isabella, Lake 80.89 46 ⇓P **P 00 39 39.8 +1.4**
baz=81,SNR=10
MDJ Mudanjiang 80.92 326 P **P 00 39 40.0 +1.9**
MDJ pP pP 00 41 49.5 +5.8
MDJ sP sP 00 42 52.3 +8.4
MDJ S **S 00 48 58.4 -0.2**
MDJ PMZ
comp=Z,5.0nm,0.9s
MDJ PMZ
comp=Z,110nm,3.5s
HABR Khabarovsk 80.99 331 P **P 00 39 37.4 -1.0**
HABR *e**PP **pP 00 41 43.1 -0.9**
HABR *e*SP 00 42 44.2
HABR *e*S **S 00 48 57.9 -1.2**
HABR *e*SS **SS 00 54 31.2 -1.0**
HABR *e*SSS SSS 00 58 05.2
HABR pmax pmax
comp=E,30nm,0.8s
HABR pmax pmax
comp=N,16nm,0.8s
HABR pmax pmax
comp=Z,31nm,1.0s
HABR MLR MLR
comp=Z,284nm,20.0s
CMB Columbia Colle 81.03 43 *e*P **P 00 39 40.2 +1.2**
CMB pmax pmax
comp=Z,31nm,1.0s
CMB Columbia Colle 81.03 43 *e*P **P 00 39 40.2 +1.2**
comp=Z,31nm,1.0s
PFO Pinyon Flats O 81.13 49 *e*P **P 00 39 41.0 +1.3**
PFO pmax pmax
comp=Z,9.0nm,0.8s
PFO Pinyon Flats O 81.13 49 *e*P **P 00 39 41.0 +1.3**
comp=Z,9.2nm,0.8s
PFO Pinyon Flats O 81.13 49 ⇑P **P 00 39 40.8 +1.1**
baz=81
SWSC Sam W. Stewart 81.23 49 ⇑P **P 00 39 41.4 +1.4**
baz=82,SNR=5.7
WDC Whiskeytown Da 81.24 40 *e*P **P 00 39 41.6 +1.7**
WDC pmax pmax
comp=Z,41nm,1.1s
WDC Whiskeytown Da 81.24 40 *e*P **P 00 39 41.6 +1.7**
comp=Z,41nm,1.1s
LRMC Laurel Mtn Rad 81.32 46 ⇑P **P 00 39 42.0 +1.4**
baz=82
N02D Trinity Center 81.39 40 ⇓P **P 00 39 42.7 +1.9**
baz=82
RRX Edison Barstow 81.45 47 ⇑P **P 00 39 42.4 +1.3**
baz=82
OHAK Old Harbor 81.55 14 *e*P **P 00 39 41.3 +0.3**
M02C Callahan 81.56 39 ⇑P **P 00 39 44.0 +2.4**
baz=82
CWC Cottonwood Cre 81.60 45 ⇑P **P 00 39 43.8 +1.8**
baz=82
L02D Cave Junction, 81.61 38 ⇑P **P 00 39 43.6 +1.9**
baz=82
BELC Belle Mtn. Jos 81.66 48 ⇑P **P 00 39 43.8 +1.4**
baz=82,SNR=14
MPMC Manual Prospec 81.78 46 ⇑P **P 00 39 44.3 +1.3**
baz=82,SNR=19
MLAC Mammoth, Mammo 81.79 44 ⇑P **P 00 39 44.8 +1.7**
baz=82
GSC Goldstone, Bar 81.82 47 *e*P **P 00 39 44.4 +1.3**
GSC pmax pmax
comp=Z,27nm,1.2s
GSC Goldstone, Bar 81.82 47 *e*P **P 00 39 44.4 +1.3**
comp=Z,27nm,1.2s
GSC Goldstone, Bar 81.82 47 ⇑P **P 00 39 44.3 +1.3**
baz=82,SNR=9.2
DAC Darwin (Calif) 81.83 46 *e*P **P 00 39 44.4 +1.1**
DAC *e* 00 43 00.0
DAC pmax pmax
comp=Z,11nm,0.8s
DAC Darwin (Calif) 81.83 46 *e*P **P 00 39 44.4 +1.1**
comp=Z,12nm,0.8s
DAC *e*PP **PP 00 43 00.0 -2.2**
TIN Tinemaha, Big 81.85 45 ⇑P **P 00 39 44.8 +1.5**
baz=82
BC3 Big Chuckawall 81.85 49 ⇓P **P 00 39 44.9 +1.6**
baz=82,SNR=9.9
YBH Yreka Blue Hor 81.86 39 *e*P **P 00 39 45.1 +2.0**
YBH pmax pmax
comp=Z,29nm,0.9s
YBH Yreka Blue Hor 81.86 39 *e*P **P 00 39 45.1 +2.0**
comp=Z,29nm,0.9s
HEC Hector,Ludlow 81.88 48 ⇓P **P 00 39 44.6 +1.2**
baz=82,SNR=17
WAKR Walker 81.91 43 *e*P **P 00 39 45.1 +1.5**
GLA Glamis 81.97 50 *e*P **P 00 39 46.3 +2.4**
GLA pmax pmax
comp=Z,35nm,0.9s
GLA Glamis 81.97 50 *e*P **P 00 39 46.3 +2.4**
comp=Z,35nm,0.9s
GLA Glamis 81.97 50 ⇓P **P 00 39 45.7 +1.8**
baz=82,SNR=13
LBCM Butte Creek Ri 82.11 40 P **P 00 39 45.9 +1.4**
KDAK Kodiak Island 82.22 14 *i*P **P 00 39 45.5 +1.1**
KDAK Kodiak Island 82.22 14 *e*P **P 00 39 44.7 +0.3**
comp=Z,108nm,1.8s
HUMO Hull Mountain 82.26 38 *e*P **P 00 39 47.1 +2.0**
comp=Z,72nm,1.3s
IPM Ipoh 82.28 278 *e*P **P 00 39 46.0 +0.2**
GMRC Granite Mounta 82.32 48 ⇓P **P 00 39 47.1 +1.4**
baz=83,SNR=13
IRM Iron Mountain 82.34 49 ⇓P **P 00 39 47.3 +1.6**
baz=83,SNR=15
WHN Wuhan 82.34 307 *e*P P 00 39 50.4 +4.7
GRAC Grapevine Rang 82.39 45 ⇓P **P 00 39 47.6 +1.7**
baz=83
M04C Macdoel 82.40 39 ⇑P **P 00 39 47.4 +1.5**
baz=83,SNR=8.9
FURC Furnace Creek, 82.43 46 ⇑P **P 00 39 47.3 +1.3**
baz=83,SNR=9.4
TUQ Turquoise Moun 82.49 47 ⇓P **P 00 39 47.8 +1.3**
baz=83,SNR=16
SHOC Shoshone, Teco 82.50 47 ⇓P **P 00 39 47.6 +1.2**
baz=83,SNR=5.8
Y12C Blythe 82.56 49 ⇓P **P 00 39 48.3 +1.5**
baz=83,SNR=11
113A Mohawk Valley, 82.58 51 ⇓P **P 00 39 48.6 +1.7**
baz=83,SNR=18
NV01 Mina Array Sit 82.59 44 *e*P **P 00 39 47.5 +0.4**
NVAR Mina Array Bea 82.59 44 P **P 00 39 48.2 +1.2**
comp=Z,21nm,0.8s,baz=224,slow=8.6,SNR=125
CN2 Changchun 82.63 323 *e*P **P 00 39 47.6 +0.7**
CN2 PMZ
comp=Z,20nm,0.5s
I03D Drain, OR 82.72 37 ⇓P **P 00 39 49.0 +1.7**
baz=83,SNR=5.4
214A Organ Pipe Nat 82.85 52 *e*P **P 00 39 48.8 +0.5**
comp=Z,7.1nm,0.8s
214A Organ Pipe Nat 82.85 52 ⇓P **P 00 39 50.1 +1.8**
baz=83,SNR=7.6
LDFC Landfair 82.86 48 *e*P **P 00 39 50.7 +2.3**
comp=Z,69nm,0.9s
K04D Chiloquin, OR 82.97 39 ⇓P **P 00 39 50.7 +2.0**
baz=83
NEE2 Needles Airpor 83.03 48 ⇑P **P 00 39 50.9 +1.8**
baz=83
KLR Kul'dur 83.05 330 *e*P **P 00 39 46.2 -2.6**
TPH Tonopah 83.09 45 *e*P **P 00 39 50.8 +1.2**
TPH pmax pmax
comp=Z,31nm,1.0s
TPH Tonopah 83.09 45 *e*P **P 00 39 50.8 +1.2**
comp=Z,31nm,1.0s
TPNV Topopah Spring 83.10 46 *e*P **P 00 39 50.8 +1.2**
TPNV pmax pmax
comp=Z,21nm,0.9s
TPNV Topopah Spring 83.10 46 *e*P **P 00 39 50.8 +1.2**
comp=Z,20nm,0.9s
TPNV Topopah Spring 83.10 46 ⇓P **P 00 39 50.9 +1.2**
baz=83,SNR=21
PDMCI Parker Dam,Lak 83.12 49 ⇓P **P 00 39 50.8 +1.3**
baz=83,SNR=19

J04D Umpqua Nationa 83.14 38 ⇑P **P 00 39 51.3 +1.6**
baz=84,SNR=18
I04A Tendick Farm, 83.31 38 ⇑P **P 00 39 51.6 +1.3**
baz=84,SNR=6.7
Z14A Wintersburg 83.48 50 ⇓P **P 00 39 53.2 +1.8**
baz=84,SNR=8.4
K05A Summer Lake 83.53 39 *e*P **P 00 39 51.7 +0.1**
comp=Z,50nm,0.9s
PSI Prapat 83.59 276 P **P 00 39 51.3 -1.2**
comp=Z,6.9nm,0.8s,baz=74,slow=1.7,SNR=6.9
PSI Prapat 83.59 276 *e*P **P 00 39 51.7 -0.8**
PSI Prapat 83.59 276 *e*P **P 00 39 51.7 -0.8**
SHPR Sheep Range 83.59 47 *e*P **P 00 39 53.4 +1.3**
J05D Fort Rock, OR 83.67 38 ⇓P **P 00 39 54.0 +1.8**
baz=84,SNR=38
W13A Hualapai Mount 83.72 48 ⇑P **P 00 39 54.1 +1.4**
baz=84,SNR=20
G03D McMinnville, O 83.73 36 ⇑P **P 00 39 54.5 +2.2**
baz=84
Y14A Wickenburg 83.73 50 ⇓P **P 00 39 54.5 +1.8**
baz=84
H04A Detroit Lake 83.99 37 *e*P **P 00 39 54.8 +1.1**
PINOR Pine Mountain 84.20 38 *e*P **P 00 39 55.3 +0.7**
comp=Z,64nm,1.2s
I05D Terrebonne, OR 84.26 38 ⇑P **P 00 39 56.5 +1.5**
baz=85,SNR=7.3
GSI Gunungsitoli 84.28 274 *e*P **P 00 39 56.7 +0.9**
comp=Z,20nm,0.8s
R11A Troy Canyon, C 84.31 45 *e*P **P 00 39 56.3 +0.7**
R11A Troy Canyon, C 84.31 45 ⇓P **P 00 39 56.1 +0.5**
baz=85
BRLK Bradley Lake 84.39 14 *e*P **P 00 39 55.6 +0.4**
BMN Battle Mountai 84.42 43 *e*P **P 00 39 57.1 +1.1**
BMN pmax pmax
comp=Z,14nm,0.8s
BMN Battle Mountai 84.42 43 *e*P **P 00 39 57.1 +1.1**
comp=Z,14nm,0.8s
TUC Tucson 84.51 52 *e*P **P 00 39 58.5 +1.9**
TUC pmax pmax
comp=Z,21nm,0.9s
TUC Tucson 84.51 52 *e*P **P 00 39 58.5 +1.9**
comp=Z,21nm,0.9s
SKNT Sakolnakorn 84.57 291 P **P 00 39 57.8 +0.8**
comp=Z,38nm,0.8s
F04A Amboy 84.64 36 *e*P **P 00 39 58.1 +1.3**
comp=Z,129nm,1.8s
SVW2 Sparrevohn 84.66 11 *e*P **P 00 39 56.2 -0.3**
comp=Z,7.7nm,0.7s
WVOR Wild Horse Val 84.70 40 *e*P **P 00 39 58.6 +1.3**
WVOR pmax pmax
comp=Z,17nm,0.9s
WVOR Wild Horse Val 84.70 40 *e*P **P 00 39 58.6 +1.3**
comp=Z,17nm,0.9s
LVP Lakeview Peak 84.73 36 P **P 00 39 58.6 +1.3**
TRTT Trang 84.79 281 P **P 00 40 00.3 +2.1**
comp=Z,24nm,0.9s
NLWA Neilton Lookou 84.79 34 *e*P **P 00 39 58.0 +0.5**
comp=Z,20nm,0.8s
X16A Lo Mia Camp, P 85.09 50 ⇓P **P 00 40 00.9 +1.4**
baz=85,SNR=12
I07A Izee 85.15 39 *e*P **P 00 40 00.9 +1.5**
comp=Z,31nm,1.1s
319A Douglas 85.17 54 ⇓P **P 00 40 01.9 +2.1**
baz=86,SNR=20
G06A Carlson Farm, 85.20 37 *e*P **P 00 40 00.7 +1.1**
SYO Syowa Base 85.34 193*le*X **P 00 39 57.8 -2.0**
KNB Kanab 85.45 47 *e*P **P 00 40 03.1 +2.0**
KNB Kanab 85.45 47 *e*P **P 00 40 03.1 +2.0**
LON Longmire 85.48 35 *e*P **P 00 40 02.1 +1.2**
LON Longmire 85.48 35 *e*P **P 00 40 02.1 +1.2**
U15A North Rim 85.52 48 ⇓P **P 00 40 03.2 +1.7**
baz=86
WPW White Pass 85.59 36 P **P 00 40 02.8 +1.4**
D05A Enumclaw 85.66 35 *e*P **P 00 40 03.7 +2.1**
comp=Z,205nm,1.7s
WUAZ Wupatki 85.69 49 *e*P **P 00 40 03.8 +1.5**
comp=Z,17nm,1.1s
WUAZ Wupatki 85.69 49 ⇑P **P 00 40 03.7 +1.5**
baz=86
PGC Sidney 85.81 33 *e*P **P 00 40 03.9 +1.7**
RC01 Rabbit Creek A 85.83 14 *e*P **P 00 40 02.2 +0.1**
ELK Elko 85.85 43 *e*P **P 00 40 04.0 +1.0**
ELK pmax pmax
comp=Z,9.0nm,1.0s
ELK Elko 85.85 43 *e*P **P 00 40 04.0 +1.0**
comp=Z,8.7nm,1.0s
TRW Toppenish Ridg 85.89 36 P **P 00 40 04.2 +1.4**
BJI Beijing 86.03 316 P **P 00 40 04.0 +0.5**
BJI pP pP 00 42 17.8 +6.6
BJI sP sP 00 43 19.8 +8.9
BJI PP **PP 00 43 37.3 +1.8**
BJI S **S 00 49 48.0 -0.7**
BJI sS sS 00 53 42.3 +6.1
BJI SS **SS 00 55 48.3 +2.3**
BJI PMZ
comp=Z,19nm,0.7s
BJI PMZ
comp=Z,200nm,5.3s
X18A Snowflake 86.22 51 ⇓P **P 00 40 06.3 +1.5**
baz=86
GYA Guiyang 86.36 300 P **P 00 40 08.0 +2.4**
GYA pP pP 00 42 20.4 +7.0
GYA sP sP 00 43 21.0 +7.9
GYA PP **PP 00 43 42.8 +4.3**
GYA SKS **SKSac 00 49 33.8 -2.3**
GYA S **S 00 49 51.9 -0.8**
GYA PMZ
comp=Z,10.0nm,1.0s
GYA PMZ
comp=Z,110nm,5.2s
LTY Liberty 86.41 36 *e*P **P 00 40 06.3 +1.1**
PMR Palmer 86.42 14 *e*P **P 00 40 04.8 0.0**
PMR Palmer 86.42 14 *e*P **P 00 40 04.8 0.0**
E07A Sunnyside 86.43 36 *e*P **P 00 40 07.0 +1.7**
comp=Z,43nm,0.8s
RAGM Ragged Mountai 86.44 16 *e*P **P 00 40 05.8 +0.7**
RSW Rattlesnake Hi 86.48 37 P **P 00 40 07.1 +1.5**
HAWA Hanford 86.51 37 *e*P **P 00 40 07.2 +1.5**
comp=Z,40nm,0.9s
MVU Marysvale 86.64 46 *e*P **P 00 40 08.8 +2.0**
W18A Petrified Fore 86.66 50 *e*P **P 00 40 08.6 +1.7**
W18A Petrified Fore 86.66 50 ⇓P **P 00 40 08.1 +1.2**
baz=87
MSU Marysvale 86.67 46 *e*P **P 00 40 08.4 +1.5**
MSU Marysvale 86.67 46 *e*P **P 00 40 08.4 +1.5**
B06A Marblemount 86.75 34 *e*P **P 00 40 07.9 +1.2**
ETW Entiat 86.80 35 P **P 00 40 08.2 +1.0**
DIV Divide 86.80 15 *e*P **P 00 40 07.0 +0.2**
121A Cookes Peak, D 86.84 53 *e*P **P 00 40 08.8 +1.1**
comp=Z,19nm,1.2s
121A Cookes Peak, D 86.84 53 ⇓P **P 00 40 09.5 +1.7**
baz=87
SNAA Sanae 86.84 179 P pP 00 42 14.5 -0.3
SNAA Sanae 86.84 179 S **SKSac 00 49 33.9 -3.6**
SNAA Sanae 86.84 179⇓*e*P P 00 40 04.2 -2.8
SNAA pmax pmax
comp=Z,9.0nm,1.8s
SNAA Sanae 86.84 179 *e*P P 00 40 03.7 -3.3
comp=Z,3.5nm,1.0s
SNAA *e*pP pP 00 42 15.1 +0.2
BMO Blue Mountains 86.88 39 *e*P **P 00 40 08.5 +0.9**
comp=Z,14nm,0.8s
MFID Camas Ranch 86.95 41 *e*P **P 00 40 09.1 +1.1**
PPLA Purkeypile 86.96 12 *e*P **P 00 40 06.3 -1.3**
BMRM Bremner River 86.96 16 *e*P **P 00 40 07.7 +0.2**
VNA3 Neumayer Olymp 87.02 177 P **pP 00 42 18.9 +3.3**
VNA3 S **S 00 49 53.4 -3.7**
VNA3 Neumayer Olymp 87.02 177 S **SKSac 00 49 36.7 -1.7**
SCM Sheep Creek Mo 87.04 14 *e*P **P 00 40 08.0 +0.1**
SCM Sheep Creek Mo 87.04 14 *e*P **P 00 40 08.0 +0.1**
WTV Waterville 87.06 35 P **P 00 40 09.2 +0.9**
DUG Dugway, Tooele 87.12 45 *e*P **P 00 40 10.1 +1.2**
DUG pmax pmax
comp=Z,46nm,2.3s
DUG Dugway, Tooele 87.12 45 *e*P **P 00 40 10.1 +1.2**
comp=Z,46nm,2.3s
DUG Dugway, Tooele 87.12 45 ⇑P **P 00 40 10.3 +1.5**
baz=87
D08A Wollman Farm, 87.25 36 *e*P **P 00 40 10.4 +1.4**
comp=Z,44nm,0.9s
SEY Seymchan 87.31 347⇑*e*P **P 00 40 09.1 +0.1**
E09A Wood Farm, Sta 87.36 37 *e*P **P 00 40 11.0 +1.4**
VNA2 Neumayer--Watz 87.44 177 P pP 00 42 21.6 +3.8
baz=169,slow=4.5
VNA2 S **S 00 50 00.4 -0.7**

baz=169,slow=4.5
VNA2 Neumayer--Watz 87.44 177 S SKSac 00 49 39.0 -1.9
CAST Castle Rocks 87.45 12 eP P 00 40 08.2 -1.5
NLU North Lily Min 87.48 45 eP P 00 40 12.3 +1.7
OD2 Odessa Site #2 87.56 36 P P 00 40 11.8 +1.2
F10A Beach Ranch, E 87.57 38 eP P 00 40 11.5 +0.8
VNA1 Neumayer--Stat 87.68 177 P pP 00 42 22.6 +3.7
TMUT Trail Mountain 87.72 46 eP P 00 40 13.7 +1.8
B08A Colville Reser 87.79 35 eP P 00 40 12.2 +0.5
KTH Kantishna Hill 87.80 12 eP P 00 40 09.8 -1.5
MPU Maple Canyon 87.80 45 eP P 00 40 14.2 +2.0
TRF Thorofare Moun 87.83 13 eP P 00 40 10.9 -0.8
HLID Hailey 87.89 41 eP P 00 40 13.8 +1.3
HLID Hailey 87.89 41 ⇓P P 00 40 13.9 +1.5
baz=88,SNR=34
BESE Bessie Mountai 87.94 21 eP P 00 40 13.6 +1.5
HVU Hansel Valley 87.97 43 eP P 00 40 14.4 +1.6
HVU Hansel Valley 87.97 43 eP P 00 40 14.3 +1.6
EPU East Promontor 88.00 44 eP P 00 40 14.1 +1.1
C09A Chrisman Ranch 88.04 36 eP P 00 40 13.8 +1.0
XAN Xi'an 88.05 308 P P 00 40 14.3 +1.1
XAN PMZ
comp=Z,4.0nm,0.7s
SRU San Rafael Swe 88.08 46 eP P 00 40 14.7 +1.2
SRU San Rafael Swe 88.08 46 eP P 00 40 14.7 +1.2
RND Reindeer 88.09 13 eP P 00 40 12.4 -0.3
RND Reindeer 88.09 13 eP P 00 40 12.4 -0.3
LAZ Ladron 88.19 52 eP P 00 40 15.6 +1.5
Y22D IRIS PASSCAL I 88.20 52 ⇓P P 00 40 16.1 +2.1
baz=88
LENM Lemitar 88.20 52 eP P 00 40 15.2 +1.1
comp=Z,5.7nm,0.9s
JLU Jordanelle 88.22 45 eP P 00 40 15.6 +1.5
MNTX Cornudas Mount 88.27 55 eP P 00 40 15.7 +1.4
MNTX epP pP 00 42 29.8 +7.0
MNTX Cornudas Mount 88.27 55 ⇓P P 00 40 15.7 +1.4
baz=89
BPAW Bear Paw Mtn. 88.28 12 eP P 00 40 12.5 -1.1
MCK McKinley 88.36 13 eP P 00 40 13.5 -0.4
MCK McKinley 88.36 13 eP P 00 40 13.5 -0.4
BNM Barren Site 88.45 52 eP P 00 40 16.6 +1.3
SKAG Skagway 88.45 21 eP P 00 40 16.0 +1.6
PAX Paxson 88.46 15 eP P 00 40 14.4 -0.1
PAX Paxson 88.46 15 eP P 00 40 14.4 -0.1
LPM Los Pinos Moun 88.52 52 eP P 00 40 16.9 +1.3
MVCO Mesa Verde 88.55 49 ⇑P P 00 40 16.3 +0.6
baz=89
PV05 Paradox Valley 88.55 48 eP P 00 40 17.4 +1.7
TX31 Lajitas Ar. Si 88.55 58 eP P 00 40 17.0 +1.3
TXAR Lajitas Array 88.55 58 P P 00 40 17.4 +1.6
comp=Z,14nm,0.9s,baz=218,slow=5.5,SNR=118
TXAR pP pP 00 42 25.2 +0.9
comp=Z,0.8nm,1.1s,baz=197,slow=2.8,SNR=3.2
BWN Browne 88.64 13 eP P 00 40 15.1 -0.1
HWUT Hardware Ranch 88.66 44 eP P 00 40 16.8 +0.7
PV09 Paradox Valley 88.73 48 eP P 00 40 18.0 +1.4
HYT Haines Junctio 88.83 19 eP P 00 40 17.4 +1.0
NEW Newport 88.94 36 eP P 00 40 17.3 +0.3
NEW Newport 88.94 36 eP P 00 40 17.2 +0.3
NEW Newport 88.94 36 ⇓P P 00 40 17.4 +0.4
baz=89
PV01 Paradox Valley 88.94 48 eP P 00 40 18.5 +1.0
ANMO Albuquerque 88.94 52c iP P 00 40 18.6 +1.0
ANMO pmax pmax
comp=Z,81nm,1.3s
LAMP Lampang 88.98 290 P P 00 40 19.9 +2.1
comp=Z,7.1nm,0.9s
DDM Donnelly Dome 89.08 14 eP P 00 40 17.6 +0.3
MLY Manley 89.16 12 eP P 00 40 16.8 -0.8
PLCA Paso Flores 89.18 134 P P 00 40 19.9 +1.3
comp=Z,4.2nm,1.1s,baz=230,slow=7.1,SNR=3.9
WRH Wood River Hil 89.19 13 eP P 00 40 17.2 -0.6
DOT Dot Lake 89.38 15 eP P 00 40 18.6 0.0
CCB Clear Creek Bu 89.40 13 eP P 00 40 17.9 -0.8
HHC Hu-ho-hao-te 89.47 315 eP P 00 40 23.4 +3.7
HHC pP pP 00 42 33.1 +4.6
HHC sP sP 00 43 35.6 +7.7
HHC PP PP 00 44 11.3 +8.7
HHC S S 00 50 20.8 +0.2
HHC sS sS 00 54 10.1 -0.4
HHC PMZ
comp=Z,16nm,1.0s
HHC PMZ
comp=Z,57nm,6.0s
IM04 Indian Mountai 89.49 10 eP P 00 40 18.9 -0.2
MCMT McKenzie Canyo 89.52 41 eP P 00 40 21.7 +1.6
CM01 Chiang Mai Arr 89.53 290 eP P 00 40 21.5 +1.1
AHID Auburn Hatcher 89.54 43 eP P 00 40 21.7 +1.6
DLBC Dease Lake 89.55 23 P P 00 40 20.1 +0.4
comp=Z,6.5nm,0.9s,baz=232,slow=3.7,SNR=8.3
DLBC Dease Lake 89.55 23 eP P 00 40 21.1 +1.5
CMAR Chiang Mai Arr 89.56 290 P P 00 40 22.2 +1.7
comp=Z,7.0nm,0.9s,baz=131,slow=3.1,SNR=29
MDM Murphy Dome 89.59 13 eP P 00 40 18.8 -0.9
COLA College 89.59 13c iP P 00 40 18.9 -0.6
COLA pmax pmax
comp=Z,162nm,1.4s
COLA College 89.59 13 eP P 00 40 19.3 -0.2
SCRK Sand Creek 89.67 15 eP P 00 40 20.1 -0.1
CMMT Chiang Mai 89.69 290 P P 00 40 22.6 +1.4
comp=Z,15nm,1.0s
CHTO Chiang Mai 89.70 290 P P 00 40 22.6 +1.4
comp=Z,49nm,1.0s
CHTO Chiang Mai 89.70 290 eP P 00 40 22.6 +1.4
CHTO Chiang Mai 89.70 290 eP P 00 40 22.6 +1.4
IL1 Eielson Array 89.70 13 eP P 00 40 19.1 -1.0
ILAR Eielson Array 89.70 13 P P 00 40 19.5 -0.6
comp=Z,6.4nm,0.7s,baz=225,slow=5.2,SNR=59
ILAR pP pP 00 42 29.4 +0.4
comp=Z,1.5nm,1.1s,baz=206,slow=7.9,SNR=2.5
MSO Missoula 89.94 39 eP P 00 40 22.1 +0.4
MSO Missoula 89.94 39 ⇓P P 00 40 23.4 +1.7
baz=90
DLMT Dillon 89.95 40 eP P 00 40 23.4 +1.5
S22A 4UR Ranch, Cre 89.97 49 eP P 00 40 23.5 +1.1
S22A 4UR Ranch, Cre 89.97 49 ⇑P P 00 40 23.5 +1.1
baz=90
REDW Red Top Meadow 90.00 43 eP P 00 40 23.5 +1.2
TPAW Teton Pass 90.00 42 eP P 00 40 23.9 +1.6
BSMT Bassoo Peak 90.00 37 eP P 00 40 22.7 +0.5
529A Stev Forest Ra 90.03 58 ⇓P P 00 40 23.4 +0.9
baz=90,SNR=9.5
FXWY Fox Creek 90.03 42 eP P 00 40 23.4 +1.0
CMAI Chiengmai2 90.04 291 P P 00 40 24.9 +2.0
SNOW Snow King Moun 90.11 43 eP P 00 40 24.5 +1.7
O20A White River Ci 90.12 46 eP P 00 40 24.1 +1.2
O20A White River Ci 90.12 46 ⇑P P 00 40 23.7 +0.8
baz=90,SNR=7.5
BILL Bilibino 90.12 355c iP P 00 40 21.9 -0.1
BILL e*PP pP 00 42 35.1 +4.1
BILL e 00 44 08.9
BILL pmax pmax
comp=Z,17nm,0.9s
BILL Bilibino 90.12 355 eP P 00 40 22.0 +0.1
IMW Indian Meadow 90.22 42 eP P 00 40 24.6 +1.3
MOOW Moose Ponds 90.26 42 eP P 00 40 24.8 +1.3
LRM Limekiln Ridge 90.28 40 eP P 00 40 24.6 +1.0
LOHW Long Hollow 90.28 43 eP P 00 40 24.6 +1.0
LOHW e 00 40 33.3
CHMT Chamberlain Mo 90.38 39 eP P 00 40 24.4 +0.4
QLMT Earthquake Lak 90.39 41 eP P 00 40 25.7 +1.7
N20A Spence Gulch, 90.44 46 ⇓P P 00 40 25.4 +1.0
baz=91,SNR=7.2
I17A Pilgrim Ck. 90.45 42 ⇑P P 00 40 25.9 +1.6
baz=91
FLWY Flagg Ranch 90.46 42 eP P 00 40 26.2 +1.9
429A Davenport Ranc 90.50 57 ⇑P P 00 40 25.5 +0.9
baz=91,SNR=14
BW06 Boulder Array 90.53 44 eP P 00 40 25.3 +0.6
PDAR Pinedale Array 90.53 44 P P 00 40 25.2 +0.5
comp=Z,14nm,1.0s,baz=198,slow=1.1,SNR=70
PDAR PP PP 00 44 08.8 -2.2
comp=Z,1.0nm,1.0s,baz=248,slow=6.2,SNR=4.5
SMCO Snowmass 90.53 48 eP P 00 40 25.9 +0.8
CD2 Chengdu 90.58 303 eP P 00 40 26.3 +1.3
CD2 pP pP 00 42 40.4 +6.3
CD2 sP sP 00 43 41.0 +7.7
CD2 PP PP 00 44 16.5 +5.0
CD2 SKS SKSac 00 49 59.5 -0.8
CD2 S S 00 50 29.3 -1.6
CD2 sS sS 00 54 26.8 +5.2
CD2 SS SS 00 56 55.3 +3.6
CD2 PMZ
comp=Z,10.0nm,0.6s
CD2 PMZ
comp=Z,120nm,5.4s
228A UT Block 9, Go 90.59 56 ⇓P P 00 40 25.6 +0.6
baz=91
BOZ Bozeman (W) 90.68 40 eP P 00 40 26.2 +0.9
BOZ Bozeman (W) 90.68 40 eP P 00 40 26.2 +0.9
H17A Grant Village 90.69 42 ⇑P P 00 40 27.3 +1.8
baz=91
530A J-C Ranch, Com 90.73 58 ⇓P P 00 40 27.0 +1.2
baz=91
329A Wagon Wheel Ra 90.79 56 ⇓P P 00 40 26.8 +0.8
baz=91,SNR=5.8
P22A Eagle 90.87 47 ⇓P P 00 40 27.2 +0.8
baz=91
R23A Moffat 90.88 49 ⇑P P 00 40 27.3 +0.8
baz=91
128A Castleberry Fa 90.88 55 ⇑P P 00 40 27.2 +0.8
baz=91,SNR=5.6
DAWY Dawson 90.89 16 eP P 00 40 26.1 +0.5
SDCO Great Sand Dun 90.90 50 eP P 00 40 27.7 +1.0
SDCO Great Sand Dun 90.90 50 ⇓P P 00 40 27.4 +0.7
baz=91,SNR=5.5
EGAK Eagle 91.02 15 eP P 00 40 26.2 +0.1
631A Perdido Creek 91.03 59 ⇓P P 00 40 28.1 +1.0
baz=91,SNR=13
832A Faith Ranch, C 91.05 60 ⇓P P 00 40 28.0 +0.8
baz=91,SNR=10
430A Bagggtt Ranch, 91.08 57 ⇑P P 00 40 27.9 +0.5
baz=91
J19A Crowheart 91.09 43 ⇑P P 00 40 28.1 +0.8
baz=91,SNR=5.2
229A Bryant Ranch, 91.12 56 ⇑P P 00 40 28.0 +0.4
baz=91
WALA Waterton Lakes 91.15 37 eP P 00 40 28.2 +0.9
732A Laxson Ranch, 91.24 60 ⇓P P 00 40 29.0 +1.0
baz=92,SNR=6.6
COLD Coldfoot 91.24 11 eP P 00 40 28.0 +0.8
MSTX Muleshoe 91.24 54 eP P 00 40 28.8 +0.7
MSTX Muleshoe 91.24 54 ⇑P P 00 40 28.9 +0.9
baz=92
Z28A Tucker Farm, M 91.24 55 ⇓P P 00 40 28.7 +0.6
baz=92
O22A Kremmling 91.28 47 ⇑P P 00 40 29.2 +0.8
baz=92,SNR=7.3
933A Laredo 91.35 61 ⇓P P 00 40 29.8 +1.2
baz=92
129A Stewart Farms, 91.36 55 ⇑P P 00 40 29.5 +0.8
baz=92
531A Rocksprings 91.36 58 ⇑P P 00 40 29.6 +0.9
baz=92,SNR=6.2
330A Mertzon 91.38 57 ⇑P P 00 40 29.1 +0.4
baz=92
H18A Shoshone NF, C 91.40 42 ⇑P P 00 40 29.4 +0.7
baz=92
T25A Trinidad 91.41 50 eP P 00 40 28.9 -0.1
T25A Trinidad 91.41 50 ⇑P P 00 40 29.5 +0.5
baz=92,SNR=6.4
I19A Meeetse 91.50 43 ⇑P P 00 40 30.2 +1.0
baz=92,SNR=5.9
833A Chaparral WMA, 91.54 60 ⇑P P 00 40 30.2 +0.8
baz=92,SNR=5.1
034A Hebbronville 91.61 62 ⇑P P 00 40 31.4 +1.6
baz=92
230A Sterling City 91.63 56 ⇓P P 00 40 31.0 +1.1
baz=92
N22A Wattenberg Ran 91.64 46 ⇓P P 00 40 31.0 +1.0
baz=92
Q24A Divide 91.70 49 eP P 00 40 31.6 +1.3
Q24A Divide 91.70 49 ⇓P P 00 40 31.3 +0.9
baz=92,SNR=5.2
632A Uvalde 91.70 59 ⇓P P 00 40 31.4 +1.2
baz=92,SNR=11
O23A Lake Granby, G 91.73 47 ⇑P P 00 40 31.7 +1.3
baz=92
Z29A Hungry Hill Ra 91.74 55 ⇓P P 00 40 31.2 +0.8
baz=92
ISCO Idaho Springs 91.75 48 eP P 00 40 31.8 +1.2
ISCO Idaho Springs 91.75 48 eP P 00 40 31.8 +1.2
ISCO Idaho Springs 91.75 48 ⇑P P 00 40 31.3 +0.7
baz=92,SNR=5.0
J20A Shoshoni 91.76 44 ⇓P P 00 40 31.2 +0.9
baz=92,SNR=13
532A Rocksprings 91.86 58 ⇑P P 00 40 31.8 +0.8
baz=92,SNR=7.2
RLMT Red Lodge 91.86 42 eP P 00 40 32.3 +1.4
934A Benavides 91.96 61 ⇓P P 00 40 33.3 +1.9
baz=92
I20A Worland 92.01 43 ⇑P P 00 40 32.6 +1.2
baz=92
Y29A Porterfield Fa 92.02 54 ⇓P P 00 40 32.8 +1.1
baz=92
N23A Red Feather La 92.02 47 eP P 00 40 33.0 +1.3
N23A Red Feather La 92.02 47 ⇓P P 00 40 33.2 +1.5
baz=92
035A Encino 92.04 62 ⇓P P 00 40 33.8 +2.0
baz=92
JCT Junction City 92.08 58 eP P 00 40 32.4 +0.5
JCT Junction City 92.08 58 eP P 00 40 32.4 +0.5
633A Saathoff Ranch 92.17 59 ⇑P P 00 40 33.4 +1.1
baz=92,SNR=9.1
Z30A Sanderson Ranc 92.19 55 ⇓P P 00 40 33.0 +0.6
baz=92
432A Menard 92.25 58 ⇑P P 00 40 33.3 +0.6
baz=92
231A Bronte 92.27 57 ⇑P P 00 40 32.8 0.0
baz=93,SNR=11
S26A Kim 92.29 50 ⇑P P 00 40 33.1 +0.2
baz=93,SNR=9.7
H20A Greybull 92.35 43 ⇑P P 00 40 33.4 +0.5
baz=93
F19A Roth Farm, Mol 92.42 41 ⇓P P 00 40 33.7 +0.5
baz=93
K22A Casper 92.44 45 eP P 00 40 34.4 +0.9
K22A Casper 92.44 45 ⇓P P 00 40 34.2 +0.8
baz=93
I21A Big Trails, Te 92.48 43 ⇓P P 00 40 33.9 +0.2
baz=93
332A Millersview 92.49 57 ⇑P P 00 40 34.1 +0.3
baz=93,SNR=8.9
533A Kerrville 92.52 59 ⇓P P 00 40 34.6 +0.7
baz=93,SNR=9.0
G20A Bridger 92.56 42 ⇑P P 00 40 35.0 +1.0
baz=93
R26A Arlington 92.60 50 ⇓P P 00 40 34.7 +0.5
baz=93,SNR=15
LZH Lanzhou 92.69 308 eP P 00 40 35.3 +0.5
LZH PMZ
comp=Z,20nm,1.1s
433A Art 92.75 58 ⇓P P 00 40 35.5 +0.5
baz=93,SNR=7.2
232A Coleman 92.77 57 ⇓P P 00 40 35.5 +0.4
baz=93,SNR=6.7
E19A Rath Farm, Rou 92.81 41 ⇓P P 00 40 36.1 +1.1
baz=93
J22A Midwest 92.82 44 ⇓P P 00 40 36.1 +0.9
baz=93
534A Blanco 92.95 59 ⇑P P 00 40 36.7 +0.8
baz=93,SNR=14
Z31A Sharp Cattle R 92.96 55 ⇓P P 00 40 36.5 +0.6
baz=93
EGMT Eagleton 92.99 39 ⇓P P 00 40 36.6 +0.9
baz=93
H21A Big Horn, Sher 93.02 43 ⇓P P 00 40 37.2 +1.1
baz=93
I22A 9 Mile Ranch, 93.03 44 ⇑P P 00 40 37.1 +1.0
baz=93
R27A Eads 93.06 50 ⇓P P 00 40 36.6 +0.2
baz=93,SNR=5.5
333A Richland Sprin 93.06 58 ⇓P P 00 40 36.9 +0.5
baz=93
D19A Cripps Ranch, 93.09 40 ⇓P P 00 40 37.5 +1.3
baz=93
Y31A Rekieta Farm, 93.13 55 ⇓P P 00 40 37.8 +1.2
baz=93
E20A Meyer Farm, Mu 93.22 41 ⇓P P 00 40 38.1 +1.3
baz=94
C19A Slack Wire Ran 93.26 39 ⇑P P 00 40 38.6 +1.6
baz=94
S28A Manter 93.41 51 ⇓P P 00 40 38.9 +0.9
baz=94
434A Burnet 93.42 58 ⇓P P 00 40 38.4 +0.3
baz=94,SNR=6.2
H22A Clearmont 93.44 43 ⇓P P 00 40 38.9 +1.0
baz=94
Z32A Haskell 93.47 56 ⇓P P 00 40 39.2 +1.0
baz=94
D20A Manuel Ranch, 93.50 40 ⇓P P 00 40 39.4 +1.3
baz=94
133A Hamilton Ranch 93.62 56 ⇑P P 00 40 39.6 +0.7
baz=94
334A Lometa 93.65 58 ⇓P P 00 40 40.1 +1.1
baz=94
B19A Brinkman Farms 93.67 39 ⇑P P 00 40 39.7 +0.9
baz=94
G22A Birney 93.76 43 ⇑P P 00 40 40.2 +0.9
baz=94
R28A Tribune 93.79 50 ⇑P P 00 40 40.3 +0.6
baz=94,SNR=12
N26A Koester Ranch, 93.85 48 ⇑P P 00 40 41.0 +1.1
baz=94
C20A Veseth Ranch, 93.87 40 ⇓P P 00 40 41.0 +1.3
baz=94
234A Clairette 93.99 57 ⇓P P 00 40 41.1 +0.5
baz=94
Z33A Whitaker Ranch 94.01 56 ⇓P P 00 40 41.3 +0.7
baz=94
A19A Klindworth Far 94.02 39 ⇓P P 00 40 41.3 +0.9
baz=94
X32A Elmer 94.06 55 ⇓P P 00 40 41.7 +0.9
baz=94
Q28A Sharon Springs 94.07 50 ⇑P P 00 40 41.8 +0.9
baz=94
O27A Beecher Island 94.09 48 ⇓P P 00 40 42.2 +1.2
baz=94
I24A Kuemmerle Ranc 94.22 44 ⇑P P 00 40 42.6 +1.1
baz=94
P28A Saint Francis 94.34 49 ⇑P P 00 40 43.2 +1.1
baz=95
W32A Sentinel 94.36 54 ⇓P P 00 40 42.8 +0.6
baz=95
Y33A Hilltop Ranch, 94.40 55 ⇑P P 00 40 42.8 +0.4
baz=95
A20A Cobblestone Ra 94.47 39 ⇑P P 00 40 43.3 +0.9
baz=95
F23A Volborg 94.55 42 ⇓P P 00 40 43.8 +0.9
baz=95
Q29A Oakley 94.61 50 ⇑P P 00 40 44.2 +0.9
baz=95
H24A Dirks Ranch, A 94.66 44 ⇓P P 00 40 43.8 +0.4
baz=95
K26A Motz Farm, Whi 94.67 46 ⇑P P 00 40 44.4 +0.9
baz=95
RSSD Black Hills 94.72 44 eP P 00 40 44.4 +0.5
RSSD Black Hills 94.72 44 eP P 00 40 44.4 +0.5
B21A Ellsworth Farm 94.79 39 ⇓P P 00 40 45.0 +1.1
baz=95
F24A Ekalaka 95.20 43 ⇓P P 00 40 46.8 +1.0
baz=96
D23A Lindsay 95.31 41 ⇑P P 00 40 48.2 +1.9
baz=96
P30A Selden 95.39 50 ⇑P P 00 40 48.0 +1.2
baz=96
ULN Ulaanbaatar 95.60 319 ⇑P P 00 40 48.1 +0.4
ULN pmax pmax
comp=Z,2.0nm,0.9s
C23A Lambert 95.61 41 ⇑P P 00 40 48.6 +1.1
baz=96
INK Inuvik 95.69 15 eP P 00 40 47.2 -0.2
INK Inuvik 95.69 15 eP P 00 40 47.2 -0.2
D24A Glendive 95.83 41 ⇓P P 00 40 50.3 +1.7
baz=96
SONM Songino Array 95.99 319 P P 00 40 49.0 -0.4
comp=Z,0.9nm,0.9s,baz=126,slow=0.9,SNR=4.7
B23A Brockton 96.01 40 ⇓Pdiff P 00 40 50.7 +1.3
baz=96
R32A Long Quarter, 96.05 51 ⇑Pdiff P 00 40 50.8 +1.0
baz=96
U34A Anderson Ranch 96.15 53 ⇑Pdiff P 00 40 51.4 +1.1
baz=96
DGMT Dagmar 96.49 40 ⇑Pdiff P 00 40 53.1 +1.6
baz=97
R33A Olander Ranch, 96.53 51 ⇑Pdiff P 00 40 53.2 +1.3
baz=97
G27A Dupree 96.61 44 ⇓Pdiff P 00 40 53.6 +1.5
baz=97
N31A Bailey Ranch, 96.80 49 ⇓Pdiff P 00 40 55.0 +1.9
baz=97
Z38A Mt. Pleasant 96.92 57 ⇑Pdiff P 00 40 54.6 +0.8
baz=97
GTA Gaotai 96.94 310 eP P 00 40 58.4 +4.5
GTA PMZ
comp=Z,2.0nm,1.2s
Q34A Chapman 97.52 51 ⇑Pdiff P 00 40 58.5 +2.1
baz=98
S35A Otter Creek Ra 97.52 53 ⇑Pdiff P 00 40 57.6 +1.2
baz=98
I30A Oacoma 97.67 46 ⇑Pdiff P 00 40 58.7 +1.8
baz=98
YKA Yellowknife Ar 98.02 25 P Pdif 00 40 57.9 0.0
comp=Z,1.4nm,0.7s,baz=241,slow=4.4,SNR=13
YKA PP PP 00 45 04.6 -2.9
comp=Z,1.2nm,1.1s,baz=240,slow=7.7,SNR=4.0
ECSD EROS Data Cent 99.49 47 ⇑Pdiff Pdif 00 41 06.4 +1.4
baz=100
SFIN Lafayette 105.18 52 eP PKiKP 00 45 46.2 +5.4
ZALV Zalesovo Beam 110.78 321 PKiKP PKiKP 00 45 49.1 -1.7
comp=Z,1.6nm,0.5s,baz=178,slow=0.9,SNR=10
MK31 Makanchi Array 111.28 313 ePKIKP PKiKP 00 45 50.5 -1.6
MK31 Makanchi Array 111.28 313 ePKIKP PKiKP 00 45 50.5 -1.6
MKAR Makanchi Array 111.28 313 PKIKP PKiKP 00 45 50.8 -1.3
comp=Z,0.9nm,0.4s,baz=129,slow=0.7,SNR=11
MKAR PKKPbc PKKPbc 00 56 48.6 -1.7
comp=Z,0.8nm,0.8s,baz=257,slow=4.9,SNR=6.2
KSH Kashi 114.73 305 ePKP PKPdf 00 46 03.0 +4.0
KSH PP PP 00 47 20.9 +12
KSH sPKP 00 49 18.8
KSH PKS PKSdf 00 49 38.8 +3.0
KSH SKS SKSdf 00 52 18.6 +3.2
KSH PPMZ
comp=Z,81nm,5.8s
KKAR Karatay Array 119.19 308 ePKIKP PKPdf 00 46 06.1 -1.2
KKAR Karatay Array 119.19 308 ePKPdf PKPdf 00 46 06.1 -1.2
BVAR Borovoye Array 119.33 320 PKP PKPdf 00 46 06.1 -1.2
comp=Z,5.7nm,0.5s,baz=125,slow=1.9,SNR=46
BRVK Borovoye 119.39 320 ePKIKP PKPdf 00 46 05.7 -1.7
BRVK Borovoye 119.39 320 ePKPdf PKPdf 00 46 05.7 -1.7
SCHQ Schefferville 120.24 38 PKP PKPdf 00 46 08.0 -1.0
comp=Z,2.3nm,0.8s,baz=243,slow=6.8,SNR=5.4
SVE Sverdlovsk 124.39 325 ePKIKP PKPdf 00 46 15.9 -1.0
SVE pmax pmax
comp=Z,13nm,1.0s
SUMG Summit 124.55 13 iP PKPdf 00 46 16.6 -0.7
comp=Z,11nm,0.9s
SUMG Summit 124.55 13 iPKIKP PKPdf 00 46 16.6 -0.7
SUMG pmax pmax
comp=Z,11nm,0.9s
SUMG Summit 124.55 13 ePKPdf PKPdf 00 46 16.5 -0.8
BOSA Boshof 124.74 206 PKKPbc PKKPbc 00 56 01.9 -1.6
comp=Z,2.6nm,0.7s,baz=297,slow=4.5,SNR=5.2
ARU Arti 125.60 325 iPKIKP PKPdf 00 46 18.7 -0.5
ARU 00 48 20.8
ARU SS SS 01 04 28.9 -6.3
AKTO Aktyubinsk 127.27 318 PKP PKPdf 00 46 22.5 -0.1
comp=Z,3.2nm,0.7s,baz=87,slow=4.0,SNR=12
PRGR Permogore 129.68 334 PKIKP PKPdf 00 46 25.1 -1.7
PRGR e*PP PP 00 48 51.7 +4.6
PRGR pmax pmax
comp=Z,7.0nm,0.8s
ARCES ARCESS Array B 129.90 349 PKP PKPdf 00 46 26.4 -0.6
comp=Z,8.1nm,0.6s,baz=349,slow=1.2,SNR=4.0
ARCES SKPbc SKPbc 00 48 55.4 +0.6
comp=Z,16nm,0.9s,baz=31,slow=5.7,SNR=12
KLMR Klimovskoe 132.55 336 PKIKP PKPdf 00 46 30.4 -1.8
KLMR pmax pmax
comp=Z,14nm,1.4s
FINES FINESS Array B 136.62 343 PKhKP PKPpre 00 46 30.1
comp=Z,2.5nm,0.8s,baz=76,slow=1.7,SNR=9.7
FINES PKP PKPdf 00 46 41.0 +1.2
comp=Z,4.8nm,0.5s,baz=67,slow=1.9,SNR=15
FINES SKPbc SKPbc 00 49 17.1 0.0
comp=Z,4.7nm,0.8s,baz=78,slow=2.6,SNR=8.9
OBN Obninsk 137.31 330 iPKIKP PKPdf 00 46 40.3 -0.9
OBN pmax pmax
comp=Z,6.0nm,0.9s
KMBO Kilima Mbogo 137.88 242 SKPbc SKPbc 00 49 23.3 +0.6
comp=Z,2.5nm,0.6s,baz=61,slow=3.8,SNR=6.9
VSR Storozhevoye 138.17 324 ePKIKP PKPdf 00 46 44.0 +1.0
VSR pmax pmax
comp=N,3.0nm,0.6s
VSR pmax pmax
comp=E,4.0nm,0.6s
VSR pmax pmax
comp=Z,6.0nm,0.6s

GNI Garni 138.62 307 PKP PKPdf 00 46 45.1 +0.7
comp=Z,5.6nm,1.0s,baz=203,slow=19,SNR=3.1
RAYN Ar Rayn 138.92 281 ePKPdf PKPdf 00 46 45.1 -0.2
KIV Kislovodsk 139.04 313 ePKIKP PKPdf 00 46 45.0 +0.1
KIV pmax pmax
comp=Z,8.0nm,1.0s
NB2 NORSAR Subarra140.03 352 PKP PKPpre 00 46 38.2
comp=Z,3.6nm,0.6s,baz=16,slow=3.8
NB2 NORSAR Subarra140.03 352 PKP SKPbc 00 49 26.6 -0.1
comp=Z,1.8nm,0.8s,baz=20,slow=2.7
NOA NORSAR Array B140.03 352 PKhKP PKPpre 00 46 38.9
comp=Z,1.2nm,0.5s,baz=33,slow=1.1,SNR=18
NOA PKP PKiKP 00 46 48.2 -0.6
comp=Z,3.1nm,0.6s,baz=14,slow=4.0,SNR=6.2
NOA SKPbc SKPbc 00 49 26.9 +0.2
comp=Z,3.3nm,0.8s,baz=15,slow=4.3,SNR=7.2
ANN Anapa 142.21 316 *i* PKHKP PKPpre 00 46 40.2
ANN *e* 00 50 01.2
ANN *e*SS SS 01 07 53.1 +0.4
ANN pmax pmax
comp=Z,67nm,1.5s
PTK Pertek 142.94 306 *e*P PKPdf 00 46 50.6 -1.6
SVRC Sivrice-ELAZID 143.14 306 *e*P PKPbc 00 46 51.4 +0.3
MLA1 Latheron 143.30 4 *e*P PKPab 00 46 50.0 -0.3
AKASG Malin Array Be 143.54 329 PKP PKPab 00 46 50.4 -1.1
comp=Z,11nm,0.4s,baz=41,slow=4.4,SNR=103
AKASG SKPbc SKPbc 00 49 34.8 -0.9
comp=Z,0.3nm,0.4s,baz=39,slow=3.4,SNR=4.9
AKBB Malin Array Si 143.54 329 *e*PKIKP PKPab 00 46 50.7 -0.8
AKBB Malin Array Si 143.54 329 *e*PKPbc PKPab 00 46 50.7 -0.8
AK01 Malin Array Si 143.56 329 *e*PKPdf PKPab 00 46 49.7 -1.9
KIEV Kiev 143.56 329 *e*PKIKP PKPab 00 46 50.5 -1.1
KIEV Kiev 143.56 329 *e*PKP PKPab 00 46 50.5 -1.1
SUW Suwalki 143.58 338 *e*PKP PKPab 00 46 51.1 -0.4
SUW Suwalki 143.58 338 *e*PKIKP PKPab 00 46 50.6 -0.9
SUW Suwalki 143.58 338 *e*PKPdf PKPab 00 46 50.6 -0.9
AK02 Malin Array Si 143.58 329 *e*PKP PKPab 00 46 50.0 -1.7
MVH1 Achvaich 143.62 5 *e*P PKPab 00 46 51.0 -0.5
URFA Urfa 143.76 304 *e*P PKPab 00 46 53.0 +0.1
MALT Malatya 143.82 306 *e*P PKPab 00 46 53.3 +0.1
MALT Malatya 143.82 306 ⇓*e*PKIKP PKPab 00 46 53.4 +0.2
MALT Malatya 143.82 306 ⇓*i*P PKPab 00 46 53.4 +0.2
KAC Achnashellach 143.95 6 *e*P PKPbc 00 46 52.1 -0.5
RSDY Resadiye-TOKAT 143.98 310 *e*P PKPab 00 46 53.9 +0.2
MCD Coleburn Disti 144.03 4 *e*P PKPbc 00 46 51.5 -1.3
KPL Plockton 144.08 6 *e*P PKPbc 00 46 52.9 -0.1
MDO Dochfour 144.09 5 *e*P PKPbc 00 46 52.6 -0.4
SIM Simferopol' 144.23 318 *e*PKIKP PKPbc 00 46 54.2 +0.3
SIM pmax pmax
comp=Z,24nm,1.0s
SVSK Karacayir 144.38 309 *e*P PKPab 00 46 55.0 -0.1
DRUM Mains of Drumt 144.74 3 *e*P PKPdf 00 46 53.9 -0.6
MUD Monsted U'grnd 144.75 352 *i* P PKPdf 00 46 54.8 +0.3
comp=Z,43nm,1.1s
MUD Monsted U'grnd 144.75 352 *i* PKIKP PKPdf 00 46 54.8 +0.3
MUD pmax pmax
comp=Z,43nm,1.1s
BSD Bornholm Skovb 145.01 346 *i* P PKPdf 00 46 55.2 +0.3
comp=Z,50nm,0.7s
BSD Bornholm Skovb 145.01 346 ⇑*i*P PKPdf 00 46 55.3 +0.3
comp=Z,11nm,0.4s
BSD Bornholm Skovb 145.01 346 ⇑*i*PKIKP PKPdf 00 46 55.3 +0.3
BSD pmax pmax
comp=Z,11nm,0.4s
KMRS Kahramanmaras 145.21 305 *e*P PKPbc 00 46 56.9 -0.2
EAB Aberfoyle 145.34 5 *e*P PKPdf 00 46 56.4 +0.8
BYBT Boyabat 145.38 313 *e*P PKPbc 00 46 58.0 +0.5
PGBU Glenifferbraes 145.70 5 *e*P PKPdf 00 46 57.3 +1.1
ESY Stoneypath 145.73 4 *e*P PKPdf 00 46 57.4 +1.2
EBL Broad Law 145.84 4 *e*P PKPbc 00 46 58.0 -0.3
CORM Corum 145.98 311 *e*P PKPbc 00 47 00.0 +0.7
KOZT Kozan 146.03 305 *e*P PKPdf 00 46 58.5 +1.2
TOS Tosya 146.06 310 *e*P PKPbc 00 46 59.9 +0.4
GKP Gorka Klasztor 146.09 342 *e*PKP PKPbc 00 46 59.0 0.0
GKP Gorka Klasztor 146.09 342 *e*PKP2 PKPbc 00 46 59.0 0.0
BEL Belsk 146.19 338 *e*PKP PKPbc 00 46 59.6 +0.2
BEL Belsk 146.19 338 *e*PKP2 PKPbc 00 46 59.6 +0.2
ESK Eskdalemuir 146.29 4 *e*P PKPdf 00 46 58.3 +1.2
ESK Eskdalemuir 146.29 4 *e*PKPdf PKPdf 00 46 55.9 -1.2
ECK Cauldkaine Hil 146.43 4 *e*P PKPbc 00 46 59.1 -0.8
LVV L'vov 146.52 333 *e*PKIKP PKPbc 00 46 59.9 -0.4
GAL1 Galloway 146.61 6 *e*P PKPbc 00 46 60.0 -0.4
NIG Nigde 146.75 307 *e*P PKPdf 00 46 58.4 -0.5
LEOM Leova 146.79 325 ⇓PKP2 PKPbc 00 47 01.3 +0.2
LEOM Leova 146.79 325 ⇓*i*P PKPbc 00 47 01.3 +0.2
BR131 Keskin Array S 146.86 310 *e*PKPdf PKPdf 00 46 58.1 -0.8
BR131 *e*PKPbc PKPbc 00 47 01.2 -0.6
BRTR Keskin Array B 146.86 310 PKP PKPdf 00 46 58.1 -0.8
comp=Z,9.6nm,0.8s,baz=74,slow=3.0,SNR=66
BRTR PKPbc PKPbc 00 47 01.1 -0.6
comp=Z,10nm,0.8s,baz=137,slow=4.3,SNR=64
BRTR pPKPbc pPKPbc 00 49 19.7 +2.3
comp=Z,1.1nm,0.9s,baz=76,slow=6.1,SNR=4.8
SAFT Safranbolu 146.89 313 *e*P PKPbc 00 47 01.4 -0.3
KAMT Kaman 146.95 310 *e*P PKPbc 00 47 01.6 -0.4
KESW Keswick, Cumbr 147.02 4 *e*P PKPbc 00 47 00.8 -0.8
BSEG Bad Segeberg 147.03 350 *e*PKPbc PKPbc 00 47 01.5 0.0
KWP Kalwaria Pacla 147.22 334 *e*PKP PKPbc 00 47 02.3 +0.1
KWP Kalwaria Pacla 147.22 334 *e*PKP2 PKPbc 00 47 02.3 +0.1
PRAR RASCA 147.25 327 ⇑*i*P PKPbc 00 47 03.1 +0.7
TLCR 147.26 322 ⇑PKP2 PKPbc 00 47 02.7 +0.3
TLCR 147.26 322 ⇑*i*P PKPbc 00 47 02.7 +0.3
AFSR Afˇar-Bala (A 147.38 310 *e*P PKPbc 00 47 02.6 -0.5
ANTO Ankara 147.40 311 *e*P PKPbc 00 47 02.9 -0.1
ANTO Ankara 147.40 311 *e*PKIKP PKPdf 00 46 59.1 -0.5
ANTO Ankara 147.40 311 *e*PKPdf PKPdf 00 46 59.1 -0.5
ANTO *e*PKPbc PKPbc 00 47 03.0 -0.1
SULT Sultanhani-AKS 147.52 308 *e*P PKPbc 00 47 02.3 -1.2
BUR08 Bucovina Ar. S 147.56 329 *e*PKPdf PKPdf 00 47 00.4 +0.7
BURAR Bucovina Array 147.58 329 ⇓PKP2 PKPbc 00 47 03.9 +0.6
BURAR Bucovina Array 147.58 329 ⇓*i*P PKPbc 00 47 03.9 +0.6
TESR Tescani 147.61 326 ⇓*i*P PKPbc 00 47 03.0 -0.3
CFR Carcaliu 147.65 323 ⇑PKP2 PKPbc 00 47 03.4 0.0
CFR Carcaliu 147.65 323 ⇑*i*P PKPbc 00 47 03.4 0.0
RUE Ruedersdorf 147.71 345 *e*PKPbc PKPbc 00 47 03.5 +0.2
HPK Haverah Park 147.73 3 *e*P PKPbc 00 47 02.7 -0.6
OJC Ojcow 147.88 337 *e*PKP PKPbc 00 47 03.7 -0.1
OJC Ojcow 147.88 337 *e*PKP2 PKPbc 00 47 03.8 -0.1
TIRR Tirgusor 147.92 321 ⇓PKP2 PKPbc 00 47 04.2 +0.1
TIRR Tirgusor 147.92 321 ⇓*i*P PKPbc 00 47 04.2 +0.1
KOLS Kolonicke sedl 147.94 333 *e*PKP2 PKPbc 00 47 04.5 +0.4
KOLS Kolonicke sedl 147.94 333 *e*PKP PKPbc 00 47 04.5 +0.4
STHS Stebnicka Huta 147.98 335 *e*PKP2 PKPbc 00 47 04.3 +0.1
STHS Stebnicka Huta 147.98 335 *e*PKP PKPbc 00 47 04.3 +0.1
VRI Vrincioaia 147.99 325 ⇑PKP2 PKPbc 00 47 04.1 -0.2
VRI Vrincioaia 147.99 325 ⇑*i*P PKPbc 00 47 04.1 -0.2
TLB Topalu 148.06 322 ⇑PKP2 PKPbc 00 47 04.4 -0.1
LHO Holmfirth 148.13 3 *e*P PKPbc 00 47 03.8 -0.6
UZH Uzhgorod 148.16 333 *d*⇑PKP2 PKPbc 00 47 05.0 +0.4
MANR Mangalia 148.19 320 ⇑*i*P PKPbc 00 47 05.3 +0.5
WLF1 Llynfaes 148.20 6 *e*P PKPbc 00 47 03.7 -0.8
TRPA Tarpa 148.44 332 ⇓*i*P PKPbc 00 47 05.4 +0.2
TRPA Tarpa 148.44 332 ⇑*e* PKPbc 00 47 05.5 +0.2
NRDL Niedersach Rie 148.45 349 *e*PKPbc PKPbc 00 47 05.1 0.0
NRDL *e*PKPab PKPab 00 47 10.7 -0.1
KIZT Kizilcal 148.45 310 *e*P PKPbc 00 47 05.6 -0.2
LFK Lefkose 148.45 303 *e*P PKPbc 00 47 05.4 -0.4
KONT Konya--Tatoy 148.47 308 *e*P PKPbc 00 47 04.7 -1.1
PSN Preselentsi 148.50 320 *e*P PKPbc 00 47 05.0 -0.6
KSP Ksiaz 148.51 341 *e*PKP PKPbc 00 47 05.8 +0.4
KSP Ksiaz 148.51 341 *e*PKP2 PKPbc 00 47 05.8 +0.4
ISR Istrita 148.56 324 ⇓PKP2 PKPbc 00 47 07.2 +1.4
ISR Istrita 148.56 324 ⇓*i*P PKPbc 00 47 07.2 +1.4
VAL Valentia 148.60 13 *e*P PKPbc 00 47 05.5 0.0
DOPR Dopca 148.62 326 ⇓*i*P PKPbc 00 47 06.7 +0.8
MLR Muntele Rosu 148.65 325 ⇓PKHKP PKPbc 00 47 06.0 -0.1
MLR Muntele Rosu 148.65 325 ⇓*i*P PKPbc 00 47 06.0 -0.1
CSS Prodhromos 148.70 302 *e*PKPdf PKPdf 00 47 01.7 -0.2
FOEL Foel Wylfa 148.70 5 *e*P PKPbc 00 47 05.7 -0.2
OKC Ostrava-Krasne 148.79 338 ⇑*e*PKP PKPbc 00 47 06.2 +0.1
OKC *e*PKPab PKPab 00 47 12.5 +0.1
OKC Ostrava-Krasne 148.79 338 *e*PKHKP PKPbc 00 47 06.2 +0.1
OKC *e* 00 47 12.5
LANS Liptovska Anna 148.88 336 *e*PKP2 PKPbc 00 47 07.5 +1.0
UPC Upice 148.89 341 ⇑*e*PKP PKPbc 00 47 06.6 +0.2
UPC *e*PKPab PKPab 00 47 13.4 +0.6
UPC *ex* x 00 49 29.4
UPC Upice 148.89 341 *e*PKHKP PKPbc 00 47 06.6 +0.2
UPC *e* 00 47 13.4
DPC Dobruska-Polom 148.94 341 *e*PKPDF PKPdf 00 47 02.2 +0.5
DPC ⇑*e*PKP PKPbc 00 47 07.0 +0.4
DPC *e*PKPAB PKPab 00 47 11.9 -1.2
DPC *ex* x 00 49 27.7
DPC *ex* x 00 49 33.5
DPC Dobruska-Polom 148.94 341 *e*PKHKP PKPdf 00 47 02.2 +0.5
DPC *e* 00 47 11.9
CLL Collm 148.97 345 *e*PKPbc PKPbc 00 47 06.6 +0.1
CLL *e*PKPab PKPab 00 47 13.1 0.0
CLL Collm 148.97 345 *e*PKPdf PKPdf 00 47 02.0 +0.3
CLL ⇑*i*PKPbc PKPbc 00 47 06.1 -0.4
comp=Z,68nm,1.2s
CLL *i* PKPab PKPab 00 47 12.8 -0.3
comp=Z,18nm,0.7s
CLL *ep*PKPab pPKPab 00 49 29.0 +4.1
CLL Collm 148.97 345 ⇑*e*PKHKP PKPdf 00 47 02.0 +0.3
CLL *i* 00 47 12.8
CLL pmax pmax
comp=Z,68nm,1.2s
CLL pmax pmax
comp=Z,18nm,0.7s
CJR Cluj-Napoca 149.00 329 ⇓PKP2 PKPbc 00 47 07.3 +0.5
CJR Cluj-Napoca 149.00 329 ⇓*i*P PKPbc 00 47 07.3 +0.5
LEF Lefka 149.00 303 *e*P PKPbc 00 47 06.5 -0.7
SULR 149.00 324 ⇓*i*P PKPbc 00 47 06.8 0.0
CLZ Clausthal 149.03 349 *e*PKPbc PKPbc 00 47 07.1 +0.4
CLZ *e*PKPab PKPab 00 47 13.6 +0.2
KRLC Kraliky 149.03 340 ⇑*e*PKP PKPbc 00 47 06.6 -0.2
KRLC *e*PKPAB PKPab 00 47 13.8 +0.3
KRLC Kraliky 149.03 340 *e*PKHKP PKPbc 00 47 06.6 -0.2
KRLC *e* 00 47 13.8
MORC Moravsky Berou 149.04 339 *e*PKHKP PKPbc 00 47 06.6 -0.2
MORC *e* 00 47 13.1
MORC Moravsky Berou 149.04 339 ⇑*i*P PKPbc 00 47 07.3 +0.5
MORC Moravsky Berou 149.04 339 *e*PKPbc PKPbc 00 47 06.6 -0.2
MORC *e*PKPab PKPab 00 47 13.1 -0.4
HLM1 Long Mynd 149.09 5 *e*P PKPbc 00 47 06.3 -0.5
BRG Berggiesshubel 149.14 344 *e*PKP PKPdf 00 47 02.9 +0.9
comp=Z,15nm,1.9s
BRG *i* 00 47 06.9
comp=Z,30nm,0.8s
BRG *i* 00 47 13.7
comp=Z,22nm,1.1s
BRG *ep*PKP pPKPdf 00 49 21.6 +1.3
comp=Z,3.0nm,1.2s
BRG *e*SKP 00 49 38.9
comp=Z,3.3nm,0.9s
BRG *e*PP PP 00 50 41.5 -2.9
comp=Z,8.0nm,1.6s
BRG Berggiesshubel 149.14 344 *e*PKPbc PKPbc 00 47 07.1 +0.1
BRG *e*PKPab PKPab 00 47 14.2 +0.4
VOIR 149.16 326 ⇓PKHKP PKPbc 00 47 07.9 +0.6
VOIR 149.16 326 ⇓*i*P PKPbc 00 47 07.9 +0.6
FBE Freiberg 149.25 345 *e*PKPbc PKPbc 00 47 07.8 +0.6
FBE *e*PKPab PKPab 00 47 14.8 +0.5
PRD Provadia 149.25 320 *e*P PKPbc 00 47 07.0 -0.4
PVCC Panska Ves 149.29 343 *e*PKPDF PKPdf 00 47 03.3 +1.1
PVCC ⇑*i*PKP PKPbc 00 47 07.8 +0.5
PVCC *ex* x 00 47 10.9
PVCC *e*PKPAB PKPab 00 47 14.5 0.0
NEUB Neuenburg 149.35 347 *e*PKPbc PKPbc 00 47 07.6 +0.2
NEUB *e*PKPab PKPab 00 47 14.7 0.0
DRGR 149.36 330 ⇓*i*P PKPbc 00 47 07.8 +0.1
LPW Lampeter 149.40 6 *e*P PKPbc 00 47 06.4 -1.1
ARR Arges 149.42 326 ⇓*i*P PKPbc 00 47 09.0 +1.1
WTSB Winterswijk 149.44 353 *e*PKPdf PKPbc 00 47 07.5 -0.1
comp=Z,69nm,0.6s
SHUT Suhut-Afyon 149.53 310 *e*P PKPbc 00 47 08.1 -0.4
MCH1 Michaelchurch 149.60 5 *e*P PKPbc 00 47 06.8 -1.2
VYHS Vyhne 149.66 336 *e*PKP PKPbc 00 47 08.0 -0.3
SSW Stow on the Wo 149.71 3 *e*P PKPbc 00 47 07.9 -0.4
PSZ Piszkesteto 149.72 334 ⇓*i*P PKPbc 00 47 08.6 +0.1
PSZ Piszkesteto 149.72 334 *e*PKPdf PKPdf 00 47 03.5 +0.4
PSZ Piszkesteto 149.72 334 ⇑*e* PKPbc 00 47 08.3 -0.2
PRA Prague 149.74 343 ⇑*e*PKP PKPbc 00 47 08.7 +0.3
PRA *ex* x 00 47 11.8
PRA *e*PKPAB PKPab 00 47 16.9 +0.6
PRA *ex* x 00 49 32.9
VRAC Vranov 149.76 339 ⇓PKHKP PKPbc 00 47 09.0 +0.5
VRAC Vranov 149.76 339 ⇓*i*P PKPbc 00 47 09.0 +0.5
MONM Monmouth 149.78 5 *e*P PKPbc 00 47 07.8 -0.6
GOPC GO Pecny, Ondr 149.78 342 ⇑*e*PKP PKPbc 00 47 08.6 +0.1
GOPC *ex* x 00 47 12.1
GOPC *e*PKPAB PKPab 00 47 16.9 +0.3
PRU Pruhonice 149.78 342 ⇑*e*PKP PKPab 00 47 08.5 0.0
PRU *ex* x 00 47 11.6
PRU *e*PKPAB PKPab 00 47 15.7 -0.8
PRU *ex* x 00 49 31.1
HUMR Humele 149.79 325 ⇓*i*P PKPbc 00 47 08.2 -0.5
LOT Lotru 149.81 327 ⇓*i*P PKPbc 00 47 08.3 -0.6
BUG Bochum--Univer 149.90 352 *e*PKPbc PKPbc 00 47 08.5 -0.2
BUG *e*PKPab PKPab 00 47 15.4 -1.5
MOX Moxa 149.91 346 *e*PKPbc PKPbc 00 47 09.6 +0.8
MOX *e*PKPab PKPab 00 47 17.8 +0.7
DEV Deva 149.93 329 ⇓*i*P PKPbc 00 47 09.1 +0.1
TANN Tannenbergstha 149.93 345 *e*PKPbc PKPbc 00 47 09.2 +0.3
TANN *e*PKPab PKPab 00 47 17.5 +0.3
PLN Plauen 149.94 346 *e*PKPbc PKPbc 00 47 09.0 +0.1
PLN *e*PKPab PKPab 00 47 17.4 +0.2
WERD Werda 149.94 345 *e*PKPbc PKPbc 00 47 09.1 +0.2
WERD *e*PKPab PKPab 00 47 17.5 +0.3
SKP1 Kophill 150.00 2 *e*P PKPbc 00 47 08.4 -1.0
GUNZ Gunzen 150.01 345 *e*PKPbc PKPbc 00 47 09.4 +0.3
GUNZ *e*PKPab PKPab 00 47 17.9 +0.4
SZH Strazhica 150.07 322 *e*P PKPbc 00 47 08.0 -1.4
WERN Wernitzgruen 150.07 345 *e*PKPbc PKPbc 00 47 09.6 +0.4
WERN *e*PKPab PKPab 00 47 18.3 +0.5
UBBA Unterbreizbach 150.07 348 *e*PKPbc PKPbc 00 47 08.9 -0.1
UBBA *e*PKPab PKPab 00 47 17.4 -0.2
NKC Novy Kostel 150.10 345 *e*PKPDF PKPdf 00 47 04.2 +0.7
NKC ⇑*e*PKP PKPbc 00 47 09.4 +0.1
NKC *e*PKPAB PKPab 00 47 17.8 -0.1
TREC Trest 150.12 341 *e*PKPDF PKPdf 00 47 04.1 +0.5
TREC ⇑*e*PKP PKPbc 00 47 09.3 -0.1
TREC *e*PKPAB PKPab 00 47 17.8 -0.2
TREC Trest 150.12 341 *e*PKIKP PKPdf 00 47 04.1 +0.5
TREC *e* 00 47 17.8
JMB Yambol 150.16 320 ⇓PKIKP PKPbc 00 47 09.8 +0.2
JMB Yambol 150.16 320 ⇓*i*P PKPbc 00 47 09.8 +0.2
JMB Yambol 150.16 320 *e*P PKPbc 00 47 09.0 -0.6
SWN1 Swindon 150.17 3 *e*P PKPbc 00 47 08.6 -0.7
SIRR Siria 150.23 330 ⇓*i*P PKPbc 00 47 10.0 +0.3
GZR Gura Zlata 150.34 328 ⇓PKIKP PKPbc 00 47 09.8 -0.3
GZR Gura Zlata 150.34 328 ⇓*i*P PKPbc 00 47 09.8 -0.3
WOL Wolverton 150.40 3 *e*P PKPbc 00 47 09.3 -0.5
BUD Budapest 150.41 335 ⇑*e* PKPbc 00 47 10.0 0.0
MANZ Manzenberg 150.41 345 *e*PKPbc PKPbc 00 47 10.2 +0.2
MANZ *e*PKPab PKPab 00 47 19.6 +0.4
ROTZ Rotzenmuhle 150.60 345 *e*PKPbc PKPbc 00 47 10.6 +0.2
ROTZ *e*PKPab PKPab 00 47 20.6 +0.6
ELSH Elham, Standar 150.61 360 *e*P PKPbc 00 47 10.4 +0.1
SRE Strehaia 150.64 326 ⇓PKIKP PKPbc 00 47 11.1 +0.4
SRE Strehaia 150.64 326 ⇓*i*P PKPbc 00 47 11.1 +0.4
HGN Heimansgroeve 150.72 353 *e*PKPdf PKPbc 00 47 10.4 -0.2
comp=Z,15nm,0.7s
HGN *e*PKPab PKPab 00 47 19.8 -0.6
ELL Elmali 150.73 307 *e*P PKPbc 00 47 10.7 -0.6
BZS Buzias 150.74 329 ⇓PKIKP PKPbc 00 47 10.9 0.0
BZS Buzias 150.74 329 ⇓*i*P PKPbc 00 47 10.9 0.0
PKSG 150.74 335 ⇓*e* PKPbc 00 47 10.6 -0.2
KHC Kasperske Hory 150.83 343 *e*PKPDF PKPdf 00 47 04.8 +0.1
KHC ⇑*i*PKP PKPbc 00 47 11.1 +0.1
KHC *e*PKPAB PKPab 00 47 21.4 +0.4
KHC *ep*PKP pPKPdf 00 49 33.9 +11
KHC *e*SKP 00 49 42.0
KHC Kasperske Hory 150.83 343 *e*PKIKP PKPdf 00 47 04.8 +0.1
KHC *e* 00 47 21.4
UCC Uccle 150.83 356 PKPbc PKPbc 00 47 10.8 0.0
MEM Membach 150.87 353 PKPbc PKPbc 00 47 10.9 -0.1
HMNX Herstmonceux 150.88 1 *e*P PKPbc 00 47 11.1 +0.1
GRF Grafenberg Arr 150.89 346 *e*PKPbc PKPbc 00 47 11.3 +0.2
GRF *e*PKPab PKPab 00 47 21.7 +0.5
GRFO Grafenberg 150.90 346 *e*PKIKP PKPdf 00 47 04.6 -0.2
GRFO *e* 00 47 21.2
GRFO Grafenberg 150.90 346 *e*PKPdf PKPdf 00 47 04.6 -0.2
GRFO *e*PKPbc PKPbc 00 47 10.9 -0.2
GRFO *e*PKPab PKPab 00 47 21.1 -0.1
TNS Taunus Mts 150.92 350 *e*PKPbc PKPbc 00 47 11.3 +0.1
TNS *e*PKPab PKPab 00 47 21.3 -0.1
PKST T˜'s 150.99 336 ⇓*e* PKPbc 00 47 11.1 -0.3
WET Wettzell 151.00 344 *e*PKPbc PKPbc 00 47 11.3 -0.1
WET *e*PKPab PKPab 00 47 22.3 +0.6
DIM Dimitrovgrad 151.04 320 *e*P PKPbc 00 47 11.1 -0.5
GEC2 GERESS Array S 151.05 342 *e*PKPbc PKPbc 00 47 11.4 -0.2
GEC2 *e*PKPab PKPab 00 47 22.3 +0.3
GERES GERESS Array B 151.05 342 PKP PKPdf 00 47 04.7 -0.4
comp=Z,0.5nm,0.6s,baz=48,slow=2.0,SNR=7.7
GERES PKPbc PKPbc 00 47 11.3 -0.2
comp=Z,10nm,0.7s,baz=32,slow=1.9,SNR=82
DYA Yadsworthy 151.07 6 *e*P PKPbc 00 47 10.7 -0.7
SNF Seneffe 151.12 356 PKPbc PKPbc 00 47 11.5 0.0
SNF PKPab PKPab 00 47 21.4 -0.7
BCLA Clavier 151.13 354 PKPbc PKPbc 00 47 11.2 -0.3
BCLA PKPab PKPab 00 47 21.9 -0.3
BCLA APKPbc 00 47 35.8
PKS2 Kecel 151.13 333 ⇑*e* PKPbc 00 47 11.9 +0.2
BANR Banloc 151.14 330 ⇓*i*P PKPbc 00 47 12.4 +0.7
CCA1 Carnmenellis 151.16 8 *e*P PKPbc 00 47 11.1 -0.6
SOP Sopron 151.17 338 ⇑*e* PKPbc 00 47 11.8 0.0
CONA Conrad Observa 151.20 339 *i* PKiKP PKPbc 00 47 12.1 +0.1
comp=Z,22nm,0.8s,SNR=17
MPEP Malo Peshtene 151.24 324 *e*P PKPbc 00 47 11.6 -0.5
ALN Alexandroupoli 151.40 318 *e*P PKPbc 00 47 11.1 -1.4
PKS9 Tamasi 151.44 334 ⇓*e* PKPbc 00 47 12.1 -0.3
DOU Dourbes 151.51 355 PKPbc PKPbc 00 47 12.4 0.0
DOU PKPab PKPab 00 47 23.5 -0.3
PKSM Moragy 151.60 334 ⇑PKIKP PKPbc 00 47 12.6 -0.2
PKSM Moragy 151.60 334 ⇑*i*P PKPbc 00 47 12.6 -0.2
PKSM Moragy 151.60 334 ⇑*e* PKPbc 00 47 12.2 -0.6
RZN Rozhen 151.75 320 *e*P PKPbc 00 47 13.1 -0.4
MOA Molln 151.78 341 *i* PKPbc PKPbc 00 47 12.8 -0.4
comp=Z,5.1nm,0.6s,SNR=5.3
MOA ⇑*i*PKPab PKPab 00 47 25.6 +0.5
comp=Z,5.8nm,0.7s
WLF Walferdange 151.78 353 PKPbc PKPbc 00 47 13.8 +0.8
WLF PKPab PKPab 00 47 24.9 0.0
WLF Walferdange 151.78 353 *e*PKPbc PKPbc 00 47 13.6 +0.5
WLF *e*PKPab PKPab 00 47 25.2 +0.2
SMTH Samothraki Isl 151.96 317 *e*P PKPbc 00 47 12.5 -1.3
VTS Vitosha 152.04 323 ⇓PKIKP PKPbc 00 47 14.0 -0.1
VTS Vitosha 152.04 323 ⇓*i*P PKPbc 00 47 14.0 -0.1
VTS Vitosha 152.04 323 *e*P PKPbc 00 47 13.4 -0.7
PRK Paraskevi 152.15 315 *e*P PKPab 00 47 26.7 -0.2
STU Stuttgart 152.19 348 *e*PKPbc PKPbc 00 47 13.9 -0.1
STU *e*PKPab PKPab 00 47 26.7 0.0
STU Stuttgart 152.19 348 *e*PKIKP PKPdf 00 47 06.3 -0.4
STU *e* 00 47 13.4
STU Stuttgart 152.19 348 *e*PKPdf PKPdf 00 47 06.3 -0.4
STU *e*PKPbc PKPbc 00 47 13.4 -0.6
ARG Arkhangelos 152.26 307 *e*P PKPbc 00 47 13.7 -0.9
KAVA Kavala 152.28 319 *e*P PKPbc 00 47 12.3 -2.1
FUR Furstenfeldbru 152.31 345 *e*PKPbc PKPbc 00 47 14.2 -0.1
FUR *e*PKPab PKPab 00 47 27.8 +0.5
RJOB Jochberg 152.31 343 *e*PKPbc PKPbc 00 47 13.8 -0.6
RJOB *e*PKPab PKPab 00 47 28.2 +0.8
MMB Musomiste 152.39 321 ⇓PKIKP PKPbc 00 47 14.2 -0.5
MMB Musomiste 152.39 321 ⇓*i*P PKPbc 00 47 14.2 -0.5
MMB Musomiste 152.39 321 *e*P PKPbc 00 47 13.1 -1.6
JSA Saint Aubin 152.46 4 *e*P PKPbc 00 47 14.1 -0.5
LIA Limnos Island 152.50 317 *e*P PKPbc 00 47 13.3 -1.6
SMG Samos 152.53 311 *e*P PKPbc 00 47 14.0 -1.1
SOKA Soboth 152.57 339 *i* PKPbc PKPbc 00 47 14.3 -0.7
comp=Z,6.4nm,0.9s,SNR=7.1
SOKA ⇓*i*PKPab PKPab 00 47 28.6 0.0
comp=Z,10nm,1.1s
PERS Pernice 152.57 338 *i* PKPbc PKPbc 00 47 14.1 -0.9
KKB Krupnik 152.58 322 *e*P PKPbc 00 47 13.4 -1.7
DIVS Divibare 152.64 329 ⇓*i*P PKPbc 00 47 15.2 -0.1
CHOS Chios island 152.74 313 *e*P PKPbc 00 47 14.5 -1.1
BFO Black Forest 152.77 349 *e*PKPbc PKPbc 00 47 15.0 -0.3
BFO *e*PKPab PKPab 00 47 29.0 -0.2
FLN La Foliniere 152.97 2 *e*PKIKP PKPdf 00 47 07.1 -0.7
comp=Z,8.6nm,0.8s
FLN La Foliniere 152.97 2 *e*PKIKP PKPdf 00 47 07.1 -0.7
FLN La Foliniere 152.97 2 *e*PKPdf PKPdf 00 47 07.1 -0.7
WATA Walderalm 153.01 344 ⇑*i*PKPbc PKPbc 00 47 15.3 -0.7
comp=Z,4.0nm,0.4s,SNR=6.4
WATA ⇓*i*PKPab PKPab 00 47 30.4 0.0
comp=Z,15nm,1.0s
WTTA Wattenberg 153.06 344 *i* PKPbc PKPbc 00 47 15.8 -0.4
comp=Z,8.2nm,0.5s,SNR=6.8
WTTA ⇑*i*PKPab PKPab 00 47 29.9 -0.8
comp=Z,24nm,1.3s
ECH Echery 153.07 351 *e*PKP2 PKPab 00 47 29.4 -1.1
ECH Echery 153.07 351 *e*PKPab PKPab 00 47 29.4 -1.1
MOTA Moosalm 153.12 345 ⇑*i*PKPbc PKPbc 00 47 15.6 -0.6
comp=Z,10.0nm,1.0s,SNR=5.5
MOTA ⇑*i*PKPab PKPab 00 47 30.9 0.0
comp=Z,3.3nm,0.5s
KNT Kendrikon 153.14 321 *e*P PKPbc 00 47 14.8 -1.5
LDF La Druitiere 153.15 2 *e*PKIKP PKPdf 00 47 07.2 -0.9
comp=Z,7.6nm,0.8s
LDF La Druitiere 153.15 2 *e*PKIKP PKPdf 00 47 07.2 -0.9
LDF La Druitiere 153.15 2 *e*PKPdf PKPdf 00 47 07.2 -0.9
ROSF Rostrenen 153.21 6 *e*PKIKP PKPdf 00 47 07.0 -1.2
comp=Z,9.3nm,1.1s
ROSF Rostrenen 153.21 6 *e*PKIKP PKPdf 00 47 07.0 -1.2
ROSF Rostrenen 153.21 6 *e*PKPdf PKPdf 00 47 07.0 -1.2
VAY Valandovo 153.23 322 *e*PKP PKPbc 00 47 14.7 -1.8
KARP Karpathos 153.24 307 *e*P PKPbc 00 47 15.3 -1.5
LJU Ljubljana 153.29 339 *i* PKPbc PKPbc 00 47 16.1 -0.4
ABTA Abfaltersbach 153.29 342 *i* PKPbc PKPbc 00 47 15.6 -1.0
comp=Z,9.0nm,0.6s,SNR=5.6
ABTA ⇓*i*PKPab PKPab 00 47 31.2 -0.4
comp=Z,10nm,0.6s
GRR Gorron 153.33 3 *e*PKIKP PKPdf 00 47 07.6 -0.7
GRR Gorron 153.33 3 *e*PKIKP PKPdf 00 47 07.6 -0.7
GRR Gorron 153.33 3 *e*PKPdf PKPdf 00 47 07.6 -0.7
SFTF Sexfontaines 153.35 354 *e*PKIKP PKPdf 00 47 08.1 -0.3
SFTF Sexfontaines 153.35 354 *e*PKPdf PKPdf 00 47 08.1 -0.3
SGMF Saint Gilles 153.36 5 *e*PKIKP PKPdf 00 47 07.2 -1.2
comp=Z,9.5nm,1.1s
SGMF Saint Gilles 153.36 5 *e*PKIKP PKPdf 00 47 07.2 -1.2
SGMF Saint Gilles 153.36 5 *e*PKPdf PKPdf 00 47 07.2 -1.2
SKO Skopje 153.43 324 *e*PKP PKPbc 00 47 16.5 -0.5
BOJS Bojanci 153.50 337 *i* PKPdf PKPdf 00 47 08.2 -0.5
BOJS *i* PKPbc PKPbc 00 47 16.9 0.0
FETA Feichten 153.51 345 ⇑*i*PKPdf PKPdf 00 47 08.2 -0.7
comp=Z,5.7nm,0.9s
XOR Xorichti 154.07 318 *e*P PKPbc 00 47 16.2 -2.2
NEO Neokhori 154.08 318 *e*P PKPdf 00 47 11.3 +1.6
FNA Florina 154.26 322 *e*P PKPbc 00 47 17.6 -1.2
OHR Ohrid 154.37 324 *e*PKP PKPbc 00 47 17.4 -1.6
LOR Lormes 154.38 355 *e*PKIKP PKPdf 00 47 09.4 -0.5
LOR Lormes 154.38 355 *e*PKIKP PKPdf 00 47 09.4 -0.5
LOR Lormes 154.38 355 *e*PKPdf PKPdf 00 47 09.4 -0.5
PTL Penteli 154.38 315 *e*P PKPbc 00 47 17.6 -1.5
LKR Lokris 154.61 317 *e*P PKPbc 00 47 17.0 -2.5
SSF Saint Saulge 154.61 356 *e*PKIKP PKPdf 00 47 09.7 -0.5
SSF Saint Saulge 154.61 356 *e*PKIKP PKPdf 00 47 09.7 -0.5
SSF Saint Saulge 154.61 356 *e*PKPdf PK

LPG	**La Plagne**	**155.78**	**350**	*e*PKIKP	**PKPdf**	**00 47 12.1**	**-0.1**
	comp=Z,6.3nm,1.0s							
LPG	**La Plagne**	**155.78**	**350**	*e*PKIKP	**PKPdf**	**00 47 12.1**	**-0.1**
LPG	**La Plagne**	**155.78**	**350**	*e*PKIKPdf	**PKPdf**	**00 47 12.1**	**-0.1**
PYL	**PYLOS**	**156.43**	**315**	*e*P	PKPdf	00 47 21.6	+8.7
RJF	**Les Rejaudoux**	**156.45**	**359**	*e*PKIKP	**PKPdf**	**00 47 12.2**	**-0.5**
RJF	**Les Rejaudoux**	**156.45**	**359**	*e*PKIKP	**PKPdf**	**00 47 12.2**	**-0.5**
RJF	**Les Rejaudoux**	**156.45**	**359**	*e*PKIKPdf	**PKPdf**	**00 47 12.2**	**-0.5**
VIVF	**Saint-Julien-l**	**156.69**	**353**	*e*PKIKP	**PKPdf**	**00 47 12.7**	**-0.3**
VIVF	**Saint-Julien-l**	**156.69**	**353**	*e*PKIKP	**PKPdf**	**00 47 12.7**	**-0.3**
VIVF	**Saint-Julien-l**	**156.69**	**353**	*e*PKIKPdf	**PKPdf**	**00 47 12.7**	**-0.3**
CAF	**Calviac**	**156.81**	**358**	*e*PKIKP	**PKPdf**	**00 47 12.9**	**-0.3**
CAF	**Calviac**	**156.81**	**358**	*e*PKIKP	**PKPdf**	**00 47 12.9**	**-0.3**
CAF	**Calviac**	**156.81**	**358**	*e*PKIKPdf	**PKPdf**	**00 47 12.9**	**-0.3**
LFF	**La Frestale**	**156.82**	**0**	*e*PKIKP	**PKPdf**	**00 47 12.7**	**-0.4**
LFF	**La Frestale**	**156.82**	**0**	*e*PKIKP	**PKPdf**	**00 47 12.7**	**-0.4**
LFF	**La Frestale**	**156.82**	**0**	*e*PKIKPdf	**PKPdf**	**00 47 12.7**	**-0.4**
LASF	**Ste Croix**	**157.55**	**354**	*e*PKIKPdf	**PKPdf**	**00 47 13.9**	**-0.2**
LASF	**Ste Croix**	**157.55**	**354**	*e*PKIKPdf	**PKPdf**	**00 47 13.9**	**-0.2**
EPF	**Esparros**	**158.72**	**1**	*e*PKIKP	**PKPdf**	**00 47 15.2**	**-0.4**
EPF	**Esparros**	**158.72**	**1**	*e*PKIKP	**PKPdf**	**00 47 15.2**	**-0.4**
EPF	**Esparros**	**158.72**	**1**	*e*PKIKPdf	**PKPdf**	**00 47 15.2**	**-0.4**
POLO	**Lamas de Olo**	**159.05**	**19**	*e*PKIKPdf	**PKPdf**	**00 47 14.7**	**-1.4**
PVRL	**Vila Real**	**159.16**	**19**	*e*PKIPKab	**PKPab**	**00 47 57.5**	**+0.4**
MVO	**Moncorvo**	**159.46**	**17**	*e*PKIPKab	**PKPab**	**00 47 59.0**	**+0.6**
PCAS	**Casmilo, Conde**	**160.02**	**22**	*e*PKIPKdf	**PKPdf**	**00 47 17.7**	**+0.6**
PCAS	**Casmilo, Conde**	**160.02**	**22**	*e*PKIPKab	**PKPab**	**00 48 00.7**	**-0.2**
PTOM	**Tomar**	**160.44**	**22**	*e*PKIPKab	**PKPab**	**00 48 03.0**	**+0.3**
PMTG	**Montargil**	**161.00**	**22**	*e*P	PKPab	00 48 00.2	-4.9
PMTG	**Montargil**	**161.00**	**22**	*e*PKPab	**PKPab**	**00 48 05.1**	**0.0**
EVOP	**Sao Brissos**	**161.51**	**23**	*e*PKP2	**PKPab**	**00 48 07.3**	**-0.1**
EVOP	**Sao Brissos**	**161.51**	**23**	*e*PKPab	**PKPab**	**00 48 07.3**	**-0.1**
EVO	**Evora**	**161.55**	**23**	*e*PKP2	**PKPab**	**00 48 07.3**	**-0.3**
	comp=Z,33nm,1.0s							
ESDC	**Sonseca Array**	**161.60**	**12**	PKPab	**PKPab**	**00 48 07.7**	**-0.2**
	comp=Z,3.0nm,0.8s,baz=348,slow=4.6,SNR=17							
PNCL	**Nicolau / Gran**	**161.73**	**24**	*e*PKPab	**PKPab**	**00 48 08.7**	**+0.3**
LIC	**Lamto**	**163.58**	**159**	*e*PKIKP	**PKPdf**	**00 47 20.6**	**-0.8**
	comp=Z,22nm,1.1s							
LIC	**Lamto**	**163.58**	**159**	*e*PKIKP	**PKPdf**	**00 47 20.5**	**-0.8**
	comp=Z,26nm,1.1s							
LIC	**Lamto**	**163.58**	**159**	*e*PKPdf	**PKPdf**	**00 47 20.6**	**-0.8**
KIC	**Kosan Boka**	**163.80**	**159**	*e*PKIKP	**PKPdf**	**00 47 20.7**	**-0.9**
	comp=Z,18nm,1.0s							
TIC	**Toumodi**	**163.97**	**158**	*e*PKIKP	**PKPdf**	**00 47 20.7**	**-1.1**
DBIC	**Dimbokro**	**164.05**	**159**	PKP	**PKPdf**	**00 47 20.9**	**-0.9**
	comp=Z,3.7nm,0.8s,baz=182,slow=5.6,SNR=6.2							
DBIC				PKPab	**PKPab**	**00 48 20.4**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=262,slow=0.8,SNR=3.5							
KEST	**Kesra**	**164.19**	**334**	PKPab	**PKPab**	**00 48 19.4**	**0.0**
	comp=Z,3.1nm,0.8s,baz=260,slow=1.6,SNR=12							
TORD	**Torodi Ar. Bea**	**171.46**	**185**	PKP	**PKPdf**	**00 47 25.5**	**-1.3**
	comp=Z,2.7nm,0.8s,baz=325,slow=0.5,SNR=17							
TORD				PKPab	**PKPab**	**00 48 51.6**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=172,slow=3.1,SNR=16							
TORD				PP	**PP**	**00 52 41.6**	**-0.6**
	comp=Z,1.3nm,1.0s,baz=200,slow=3.8,SNR=4.6							

ISCJB ***25*** *00:40:39.2±0.5, 39°28N±0°03×29°28E±0°04, h4km±5km, Error ellipse: s-maj=4.9km s-min=4.8km az=1.1*
CSEM ***25*** *00:40:39.3±0.1, 39°27N×29°29E, h5km, MD3.0, Error ellipse: s-maj=2.5km s-min=2.0km az=152.0*
DDA ***25*** *00:40:39.2, 39°26N×29°27E, h7km, MD3.0*
ISK ***25*** *00:40:39.4, 39°29N×29°27E, h9km, MD2.8*

ISC 25 00:40:39.4±1.0, 39°27N±0°03×29°28E±0°02, h10km±9km, n38, σ0°34/52, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.24**	**139**	*i* P	**Pg**	**00 40 44.3**	**0.0**
GDZ				*i* S	**Sg**	**00 40 47.7**	**+0.1**
GDZ	**Gediz**	**0.24**	**139**	*i* P	**Pg**	**00 40 44.3**	**0.0**
GDZ				*i* S	**Sg**	**00 40 47.7**	**+0.1**
DEMI	**Demirci**	**0.49**	**243**	*i* P	**Pg**	**00 40 49.2**	**+0.1**
DEMI				*i* S	**Sg**	**00 40 55.4**	**-0.2**
DEMI	**Demirci**	**0.49**	**243**	*i* P	**Pg**	**00 40 49.2**	**+0.1**
DEMI				*i* S	**Sg**	**00 40 55.4**	**-0.2**
DST	**Dursunbey**	**0.61**	**303**	*e*PG	**Pg**	**00 40 51.4**	**+0.1**
DST	**Dursunbey**	**0.61**	**303**	*e*Pg	**Pg**	**00 40 51.4**	**+0.1**
DURS	**Dursunbey**	**0.71**	**298**	*i* P	**Pg**	**00 40 53.2**	**0.0**
DURS	**Dursunbey**	**0.71**	**298**	*i* P	**Pg**	**00 40 53.2**	**0.0**
ORLT	**Orhaneli**	**0.83**	**339**	*e*PG	**Pg**	**00 40 55.1**	**-0.4**
ORLT				*e*SG	**Sg**	**00 41 06.7**	**+0.3**
ORLT	**Orhaneli**	**0.83**	**339**	*e*Pg	**Pg**	**00 40 55.1**	**-0.4**
ORLT				*e*Sg	**Sg**	**00 41 06.7**	**+0.3**
CAVI	**Cavuskoy**	**1.03**	**25**	*e*PG	**Pg**	**00 40 59.2**	**0.0**
CAVI	**Cavuskoy**	**1.03**	**25**	*e*Pg	**Pg**	**00 40 59.2**	**0.0**
IZI	**Iznik**	**1.08**	**8**	*e*PG	**Pg**	**00 40 60.0**	**-0.2**
IZI				*e*SG	**Sn**	**00 41 15.7**	**-0.1**
IZI	**Iznik**	**1.08**	**8**	*e*Pg	**Pg**	**00 41 00.0**	**-0.2**
IZI				*e*Sg	**Sn**	**00 41 15.7**	**-0.1**
BORA	**Eskisehir**	**1.09**	**56**	*i* P	**Pg**	**00 40 59.8**	**-0.6**
BORA				*i* S	**Sg**	**00 41 14.5**	**-0.2**
BORA	**Eskisehir**	**1.09**	**56**	*i* P	**Pg**	**00 40 59.8**	**-0.6**
BORA				*i* S	**Sg**	**00 41 14.5**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.14**	**345**	*e*PN	**Pb**	**00 41 01.2**	**0.0**
MDNY				*e*SN	**Sn**	**00 41 17.2**	**0.0**
MDNY	**Mudanya-Bursa**	**1.14**	**345**	*e*Pn	**Pb**	**00 41 01.3**	**0.0**
MDNY				*e*Sn	**Sn**	**00 41 17.3**	**0.0**
BALB	**Balikesir**	**1.15**	**289**	*e*PN	**Pn**	**00 41 01.5**	**-0.1**
BALB	**Balikesir**	**1.15**	**289**	*e*Pn	**Pn**	**00 41 01.5**	**-0.1**
KCTX	**Karacabey (Bur**	**1.23**	**325**	*e*PN	**Pn**	**00 41 02.9**	**+0.2**
KCTX	**Karacabey (Bur**	**1.23**	**325**	*e*Pn	**Pn**	**00 41 02.9**	**+0.2**
ARMT	**Armutlu**	**1.34**	**346**	*e*PN	**Pn**	**00 41 04.1**	**-0.1**
ARMT	**Armutlu**	**1.34**	**346**	*e*Pn	**Pn**	**00 41 04.1**	**-0.1**
BALY	**Balya**	**1.37**	**291**	*i* P	**Pg**	**00 41 05.4**	**-0.3**
BALY				*i* S	**Sn**	**00 41 23.1**	**+0.1**
BALY	**Balya**	**1.37**	**291**	*i* P	**Pg**	**00 41 05.4**	**-0.3**
BALY				*i* S	**Sn**	**00 41 23.1**	**+0.1**
GULT	**Gulveren**	**1.50**	**39**	*e*PN	**Pn**	**00 41 06.9**	**+0.3**
GULT	**Gulveren**	**1.50**	**39**	*e*Pn	**Pn**	**00 41 06.9**	**+0.3**
EDC	**Edincik**	**1.54**	**315**	*e*PN	**Pn**	**00 41 07.3**	**+0.4**
EDC	**Edincik**	**1.54**	**315**	*e*Pn	**Pn**	**00 41 07.3**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.71**	**220**	*e*PN	**Pb**	**00 41 10.6**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.71**	**220**	*e*Pn	**Pb**	**00 41 10.6**	**-0.5**
SVRH	**Sivrihisar-ESK**	**1.75**	**83**	*e*PN	**Pn**	**00 41 10.6**	**+0.7**
SVRH	**Sivrihisar-ESK**	**1.75**	**83**	*e*Pn	**Pn**	**00 41 10.6**	**+0.7**
ISK	**Istanbul-Kandi**	**1.80**	**355**	*e*PN	**Pn**	**00 41 11.2**	**+0.6**
ISK	**Istanbul-Kandi**	**1.80**	**355**	*e*Pn	**Pn**	**00 41 11.2**	**+0.6**
KLYT	**Kilyos**	**1.99**	**355**	*e*PN	**Pn**	**00 41 13.9**	**+0.7**
KLYT	**Kilyos**	**1.99**	**355**	*e*Pn	**Pn**	**00 41 13.9**	**+0.7**

PRU 25 00:44:26.9, 50°23N×18°84E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.12**	**58**	*e*Pg	Pg	00 44 25.5	-3.7
CHZP				*e*Sg	Sg	00 44 27.9	-2.8
OKC	**Ostrava-Krasne**	**0.59**	**229**	*e*SG	Sg	00 44 45.8	-0.2
KRLC	**Kraliky**	**1.33**	**264**	*e*SG	Sg	00 45 09.4	-0.5
DPC	**Dobruska-Polom**	**1.62**	**275**	*e*SG	Sn	00 45 18.5	+0.1

SJA 25 00:50:21.2±0.7, 31°52S×69°57W, h108km±8km, ML3.3, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLS	**Leoncito**	**0.36**	**140**	*e*P	Pn	00 50 38.3	+0.9
AUSP	**Uspallata**	**0.72**	**168**	*e*P	Pn	00 50 40.6	+0.7
SJA	**San Juan**	**0.86**	**91**	*e*S	Sn	00 50 56.9	+1.1
RTCV	**Cerro Valdivia**	**0.94**	**111**	*e*P	Pn	00 50 42.5	+0.8
RTCV				*e*S	Sn	00 50 58.2	+1.1
RTLL	**Cerro Villicun**	**0.95**	**79**	*e*P	Pn	00 50 42.7	+0.9
RTLL				*e*S	Sn	00 50 58.2	+0.9
AMOG	**MOGNA**	**1.09**	**58**	*e*P	Pn	00 50 44.3	+1.0
AMOG				*e*S	Sn	00 51 00.8	+0.9
CFAA	**Coronel Fontan**	**1.14**	**95**	*e*P	Pn	00 50 44.6	+0.8
CFAA				*e*S	Sn	00 51 01.6	+0.8
ASAL	**Salagasta**	**1.23**	**150**	*e*P	Pn	00 50 46.0	+1.0
ASAL				*e*S	Sn	00 51 04.5	+1.6
ARCO	**CERRO ARCO**	**1.42**	**158**	*e*P	Pn	00 50 48.3	+1.1
ARCO				*e*S	Sn	00 51 08.2	+1.3
ARCO				AML	AML	00 51 10.2	
	comp=Z,327nm,0.5s						
AAGR	**Agrelo**	**1.68**	**158**	*e*P	Pn	00 50 51.0	+0.8
AAGR				*e*S	Sn	00 51 13.0	+0.7

IDC ***25*** *00:51:55.6±0.7, 11°19N×92°02E, h0km, mb4.3/19, mb1 4.4/21, mb1mx4.2/40, mbtmp4.3/21, ML3.9/2, MS3.7/4, Ms1 3.7/4, ms1mx3.2/37, Error ellipse: s-maj=25.1km s-min=13.0km az=50.0*
ISCJB ***25*** *00:51:58.6±0.3, 11°23N±0°04×92°06E±0°03, h27km, mb4.4/51, MS4.0/3, Error ellipse: s-maj=5.7km s-min=4.4km az=4.8*
MOS ***25*** *00:51:59.4±0.9, 11°23N×92°24E, h33km, mb4.8/28, Error ellipse: s-maj=12.8km s-min=5.7km az=116.6*
NEIC ***25*** *00:52:01.4±0.3, 11°22N×92°18E, h35km, mb4.6/14, Error ellipse: s-maj=11.7km s-min=7.3km az=49.0*
BJI ***25*** *00:52:04.2, 11°28N×92°22E, h80km, mb4.5/14, mB4.6/7, Ms4.1/4, Ms7 3.8/4*
BKK ***25*** *00:52:33.9±2.5, 12°N±6°×9°4E±2°5, h10km, M4.0/11, mb4.2/11, mB4.0/4, MLv4.2/11, Mw(mB)3.0/4*

ISC 25 00:52:00.1±0.4, 11°22N±0°05×92°18E±0°06, h27km, n178, σ1§41/170, mb4.5/51, MS3.9/3, 9C-11D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**0.70**	**52**	*e*P	Pb	00 52 13.9	+0.1
PBA				*e*S	Sn	00 52 25.4	+1.2
PBA				AML	AML	00 52 37.7	
	comp=N,16μm,0.5s						
PBA				AML	AML	00 52 39.7	
	comp=E,16μm,0.8s						
DGPR	**DIGLIPUR**	**2.08**	**21**	*e*P	**Pn**	**00 52 32.2**	**-1.0**
DGPR				*e*S	**Sn**	**00 52 57.9**	**-0.3**
CMBY	**CAMPBELL BAY**	**4.53**	**157**	*e*P	**Pn**	**00 53 06.2**	**-0.7**
CMBY				*e*S	**Sn**	**00 53 54.8**	**-3.9**
SURT	**Suratani**	**6.89**	**108**	P	Pn	00 53 47.0	+7.6
SRDT	**SRDT**	**7.45**	**65**	P	Pn	00 53 55.3	+8.2
	comp=E,119nm,0.9s,comp=E,0.4nm						
TRTT	**Trang**	**8.13**	**114**	P	Pb	00 54 14.1	-6.3
	comp=E,21nm,1.3s,comp=E,0.1nm						
UTHA	**Uthaitani**	**8.28**	**58**	P	Pn	00 54 04.6	+6.1
	comp=E,11nm,0.7s,comp=E,101nmcomp=E,0.0nm						
SUKH	**Sukhothai**	**9.53**	**48**	P	Pn	00 54 22.6	+7.0
	comp=E,16nm,0.8s,comp=E,112nmcomp=E,0.0nm						
CM01	**Chiang Mai Arr**	**9.70**	**42**	*e*Pn	Pn	00 54 30.7	+13
CMAR	**Chiang Mai Arr**	**9.72**	**41**	Pn	**Pn**	**00 54 18.4**	**+0.2**
	comp=E,0.2nm,0.3s,baz=232,slow=15,SNR=5.2						
CMAR				LR	LR	00 58 10.4	
	comp=E,268nm,19.9s,baz=220,slow=38						
CHTO	**Chiang Mai**	**9.98**	**40**	P	Pn	00 54 34.9	+13
	comp=E,62nm,1.5s,comp=E,0.2nm						
CHTO	**Chiang Mai**	**9.98**	**40**	*e*P	Pn	00 54 18.6	-3.2
CHTO	**Chiang Mai**	**9.98**	**40**	*e*Pn	Pn	00 54 18.6	-3.2
CMMT	**Chiang Mai**	**9.98**	**40**	P	Pn	00 54 34.8	+13
	comp=E,18nm,1.5s,comp=E,0.1nm						
PBKT	**Sadao Pong**	**10.05**	**57**	P	Pn	00 54 28.7	+5.9
	comp=E,19nm,0.9s,comp=E,0.1nm						
LAMP	**Lampang**	**10.22**	**44**	P	Pn	00 54 33.7	+8.5
	comp=E,6.6nm,0.7s,comp=E,61nmcomp=E,0.0nm						
UTTA	**Uttaradit**	**10.38**	**50**	P	Pn	00 54 39.7	+12
	comp=E,2.8nm,0.8s,comp=E,71nmcomp=E,0.0nm						
CHLP	**Challavanipeta**	**10.68**	**314**	*e*Pn	**Pn**	**00 54 28.8**	**-2.6**
PSI	**Prapat**	**10.71**	**141**	Pn	**Pn**	**00 54 32.9**	**+0.9**
	comp=E,1.4nm,0.3s,baz=315,slow=5.7,SNR=2.0						
PSI				LR	LR	00 58 51.9	
	comp=E,257nm,19.8s,baz=348,slow=38						
VIS	**Vishakhapatnam**	**10.73**	**308**	*e*P	Pn	00 54 25.9	-6.2
VIS				*ex*	x	00 56 18.9	
LOEI	**Loei**	**10.79**	**54**	P	Pn	00 54 42.3	+9.3
	comp=E,10nm,0.8s,comp=E,0.0nm						
CRAI	**Chiangrai**	**11.93**	**40**	P	Pn	00 54 57.9	+9.4
SKHT	**Srikalahasti**	**12.43**	**283**	*e*Pn	**Pn**	**00 54 55.5**	**+0.1**
HYB	**Hyderabad**	**14.57**	**297**	*i* P	**Pn**	**00 55 26.5**	**+1.9**
HYB				*e*S	**Sn**	**00 58 05.0**	**-0.3**
HYBB	**Hyderabad (bro**	**14.57**	**297**	*e*P	**Pn**	**00 55 25.2**	**+0.6**
HYBB				*e*Sn	**Sn**	**00 58 02.1**	**-3.2**
RPR	**Rampur**	**14.57**	**303**	*e*Pn	**Pn**	**00 55 22.9**	**-1.8**
NGP	**Nagpur**	**16.00**	**310**	*e*P	**Pn**	**00 55 41.0**	**-2.5**
ODAN	**Odare**	**16.20**	**344**	*e*P	**Pn**	**00 55 43.3**	**-2.9**
	comp=E,6.4nm,0.5s						
RAMN	**Ramite**	**16.50**	**342**	*e*P	**Pn**	**00 55 47.3**	**-2.8**
	comp=E,35nm,0.7s						
TAPN	**Taplejung**	**16.59**	**346**	*e*P	**Pn**	**00 55 47.2**	**-4.0**
	comp=E,56nm,1.0s						
KMI	**Kunming**	**17.07**	**34**	P	**P**	**00 56 00.5**	**+1.7**
KMI				PMZ			
	comp=E,15nm,1.2s						
JIRN	**Jiri**	**17.29**	**342**	*e*P	**Pn**	**00 55 57.6**	**-2.5**
AKL	**Akola**	**17.35**	**305**	*e*P	**Pn**	**00 55 57.1**	**-3.4**
PKI	**Pulchoki**	**17.46**	**340**	*e*P	**Pn**	**00 56 00.5**	**-1.7**
	comp=E,37nm,0.9s						
PKIN	**Phulchoki**	**17.47**	**340**	*e*P	**Pn**	**00 56 00.7**	**-1.6**
KKN	**Kakani**	**17.71**	**340**	*e*P	**Pn**	**00 56 04.3**	**-0.8**
GKN	**Gorkha**	**18.13**	**338**	*e*P	**Pn**	**00 56 08.8**	**-1.5**
KOLN	**Koldanda**	**18.33**	**335**	*e*P	**Pn**	**00 56 12.9**	**+0.2**
	comp=E,36nm,0.7s						
LSA	**Lhasa**	**18.41**	**357**	P	**P**	**00 56 13.5**	**-0.3**
BHPL	**Bhopal**	**18.46**	**312**	*ex*	**P**	**00 56 16.5**	**+2.6**
QIZ	**Qiongzhong**	**18.72**	**63**	P	**P**	**00 56 13.5**	**-3.3**
QIZ				S	**Sn**	**00 59 40.3**	**-5.9**
QIZ				LN			
	comp=E,280nm,17.9s						
QIZ				LZ			
	comp=E,240nm,16.9s						
GYA	**Guiyang**	**20.40**	**40**	⇑*i* P	**P**	**00 56 35.8**	**+0.5**
GYA				PMZ			
	comp=E,20nm,0.8s						
SMLA	**Simla**	**24.20**	**327**	*e*P	**P**	**00 57 12.4**	**-2.1**
DHRM	**DHARAMSHALA**	**25.54**	**327**	*e*P	**P**	**00 57 23.7**	**-3.2**
H08S3	**Diego Garcia H**	**27.11**	**227**	T	T	01 25 48.6	
	baz=46,slow=76,SNR=1172						
H08S2	**Diego Garcia H**	**27.11**	**227**	T	T	01 25 49.0	
	baz=46,slow=76,SNR=1617						
H08S1	**Diego Carcia H**	**27.13**	**227**	T	T	01 25 54.8	
	baz=46,slow=76,SNR=1099						
GTA	**Gaotai**	**28.88**	**12**	*e*P	**P**	**00 57 58.8**	**+2.0**
GTA				PMZ			
	comp=E,10.0nm,1.2s						
GTA				PMZ			
	comp=E,50nm,5.2s						
GTA				LN			
	comp=E,190nm,19.0s						
GTA				LE			
	comp=E,230nm,20.4s						
GTA				LZ			
	comp=E,320nm,20.4s						
SFK	**Sufi-Kurgan**	**33.10**	**333**	P	**P**	**00 58 33.9**	**-0.2**
SFK				pmax	pmax		
	comp=Z,13nm,1.0s						
PDGK	**Podgornoye**	**33.83**	**343**	P	**P**	**00 58 41.0**	**+0.9**
PDGK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**34.10**	**27**	*e*P	**P**	**00 58 45.5**	**+2.9**
HHC				PP	**PP**	**01 00 01.8**	**+1.7**
HHC				S	**S**	**01 04 05.0**	**-2.0**
HHC				sS	sS	01 04 36.3	+16
HHC				SS	**SnSn**	**01 06 17.6**	**+2.0**
HHC				PMZ			
	comp=Z,25nm,0.7s						
HHC				PMZ			
	comp=Z,130nm,7.4s						
HHC				LN			
	comp=Z,140nm,16.0s						
HHC				LE			
	comp=Z,180nm,13.5s						
HHC				LZ			
	comp=Z,180nm,18.5s						
TKM2	**Tokmak 2**	**34.72**	**338**	*e*P	**P**	**00 58 50.8**	**+2.6**
TKM2				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TKM2	**Tokmak 2**	**34.72**	**338**	*e*P	**P**	**00 58 50.8**	**+2.6**
	comp=Z,5.4nm,1.0s						
AAK	**Ala-Archa**	**34.88**	**337**	*i* P	**P**	**00 58 51.1**	**+1.6**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
AAK	**Ala-Archa**	**34.88**	**337**	*e*P	**P**	**00 58 51.2**	**+1.7**
	comp=Z,7.6nm,1.0s						
EKS2	**Erkin-Say**	**35.19**	**336**	*e*P	**P**	**00 58 52.8**	**+0.7**
EKS2				pmax	pmax		
	comp=Z,7.0nm,0.9s						
EKS2	**Erkin-Say**	**35.19**	**336**	*e*P	**P**	**00 58 52.8**	**+0.7**
	comp=Z,6.5nm,0.9s						
MK01	**Makanchi Array**	**36.41**	**349**	*e*P	**P**	**00 59 00.1**	**-2.3**
MK31	**Makanchi Array**	**36.43**	**349**	*e*P	**P**	**00 59 01.9**	**-0.6**
MK31				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MKAR	**Makanchi Array**	**36.43**	**349**	P	**P**	**00 59 01.7**	**-0.9**
	comp=Z,10nm,0.8s,baz=163,slow=8.6,SNR=56						
MKAR	**Makanchi Array**	**36.43**	**349**	*e*P	**P**	**00 59 02.2**	**-0.3**
MKAR	**Makanchi Array**	**36.43**	**349**	*e*P	**P**	**00 59 02.2**	**-0.3**
KK31	**Karatay Array**	**36.92**	**333**	*i* P	**P**	**00 59 05.5**	**-1.3**
KK31				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KKAR	**Karatay Array**	**36.92**	**333**	*e*P	**P**	**00 59 06.2**	**-0.6**
KKAR	**Karatay Array**	**36.92**	**333**	*e*P	**P**	**00 59 06.2**	**-0.6**
SONM	**Songino Array**	**38.40**	**15**	P	**P**	**00 59 18.8**	**-0.6**
	comp=Z,1.6nm,0.5s,baz=200,slow=7.9,SNR=11						
SONM				PcP	**PcP**	**01 01 32.2**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=217,slow=4.5,SNR=2.5						
SONA1	**Songino Array**	**38.41**	**15**	*e*P	**P**	**00 59 20.6**	**+1.1**
ZAK	**Zakamensk**	**40.10**	**11**	*e*P	**P**	**00 59 34.8**	**+1.3**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.9s						
KURBB	**Kurchatov Arra**	**40.86**	**347**	P	**P**	**00 59 38.8**	**-0.8**
	comp=Z,8.1nm,0.9s,baz=162,slow=7.6,SNR=53						
KURBB				PcP	**PcP**	**01 01 40.0**	**0.0**
	comp=Z,0.6nm,0.7s,baz=153,slow=2.4,SNR=5.2						
KURK	**Kurchatov**	**40.92**	**347**	P	**P**	**00 59 38.7**	**-1.4**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KURK	**Kurchatov**	**40.92**	**347**	*e*P	**P**	**00 59 39.7**	**-0.4**
KURK				PcP	**PcP**	**01 01 40.0**	**-0.2**
KSAR	**Wonju Array Be**	**41.31**	**45**	P	**P**	**00 59 44.7**	**+1.2**
KSAR	**Wonju Array Be**	**41.31**	**45**	P	**P**	**00 59 44.7**	**+1.2**
KSRS	**Korea Array**	**41.34**	**45**	P	**P**	**00 59 44.7**	**+1.0**
	comp=Z,1.9nm,0.6s,baz=249,slow=9.2,SNR=6.4						
KSRS				LR	LR	01 19 55.5	
	comp=Z,166nm,18.5s,baz=101,slow=40						
ZALV	**Zalesovo Beam**	**43.02**	**354**	P	**P**	**00 59 57.0**	**-0.2**
	comp=Z,5.8nm,0.8s,baz=176,slow=9.0,SNR=27						
ZALV	**Zalesovo Beam**	**43.02**	**354**	P	**P**	**00 59 57.0**	**-0.2**
BVA0	**Borovoye Array**	**45.22**	**342**	*i* P	**P**	**01 00 14.1**	**-0.8**
BVA0				pmax	pmax		
	comp=Z,6.0nm,1.2s						
BVAR	**Borovoye Array**	**45.22**	**342**	P	**P**	**01 00 14.5**	**-0.3**
	comp=Z,5.0nm,1.0s,baz=142,slow=7.5,SNR=17						
AB31	**Akbulak array**	**46.38**	**331**	*e*P	**P**	**01 00 23.5**	**-0.6**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AKTO	**Aktyubinsk**	**48.10**	**331**	P	**P**	**01 00 37.1**	**-0.4**
AKTO				pmax	pmax		
	comp=Z,8.0nm,1.3s						
BOD	**Bodaibo**	**49.40**	**15**	*e*P	**P**	**01 00 47.5**	**+0.2**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SVE	**Sverdlovsk**	**51.60**	**338**	*e*P	**P**	**01 01 04.7**	**+0.8**
SVE				pmax	pmax		
	comp=Z,11nm,1.2s						
WRA	**Warramunga Arr**	**51.78**	**127**	P	**P**	**01 01 05.9**	**0.0**
	comp=Z,4.4nm,0.6s,baz=305,slow=8.6,SNR=73						
WRAB	**Tennant Creek**	**51.78**	**126**	*de*P	**P**	**01 01 06.2**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,32nm,1.7s						
ARU	**Arti**	**52.07**	**337**	*d* iP	**P**	**01 01 08.0**	**+0.5**
ARU						01 03 01.9	
ARU				S	**S**	**01

CABF	**La Chapelle**	**79.27 316**	*eP*	**P**	**01 04 03.8**	**+0.4**
CABF			pmax	pmax		
	comp=Z,4.0nm,0.8s					
CABF	**La Chapelle**	**79.27 316**	*eP*	**P**	**01 04 03.8**	**+0.4**
	comp=Z,3.6nm,0.8s					
SFTF	**Sexfontaines**	**79.84 317**	*eP*	**P**	**01 04 06.4**	**+0.1**
	comp=Z,14nm,1.1s					
SFTF	**Sexfontaines**	**79.84 317**	*eP*	**P**	**01 04 06.4**	**+0.1**
	comp=Z,14nm,1.1s					
BAIF	**Baives**	**80.20 319**	*eP*	**P**	**01 04 08.7**	**+0.5**
BAIF	**Baives**	**80.20 319**	*eP*	**P**	**01 04 08.7**	**+0.5**
BAIF	**Baives**	**80.20 319**	*eP*	**P**	**01 04 08.7**	**+0.5**
LOR	**Lormes**	**80.73 316**	*eP*	**P**	**01 04 11.2**	**+0.1**
	comp=Z,8.9nm,1.0s					
LOR	**Lormes**	**80.73 316**	*eP*	**P**	**01 04 11.2**	**+0.1**
LOR			pmax	pmax		
	comp=Z,9.0nm,1.0s					
LOR	**Lormes**	**80.73 316**	*eP*	**P**	**01 04 11.2**	**+0.1**
	comp=Z,8.9nm,1.0s					
SMF	**Signal de Mont**	**80.81 316**	*eP*	**P**	**01 04 12.3**	**+0.7**
	comp=Z,5.7nm,0.9s					
SMF	**Signal de Mont**	**80.81 316**	*eP*	**P**	**01 04 12.3**	**+0.7**
SMF			pmax	pmax		
	comp=Z,6.0nm,0.9s					
SMF	**Signal de Mont**	**80.81 316**	*eP*	**P**	**01 04 12.3**	**+0.7**
	comp=Z,5.7nm,0.9s					
SSF	**Saint Saulge**	**80.99 316**	*eP*	**P**	**01 04 12.8**	**+0.3**
	comp=Z,9.0nm,1.2s					
SSF	**Saint Saulge**	**80.99 316**	*eP*	**P**	**01 04 12.8**	**+0.3**
SSF			pmax	pmax		
	comp=Z,9.0nm,1.2s					
SSF	**Saint Saulge**	**80.99 316**	*eP*	**P**	**01 04 12.8**	**+0.3**
	comp=Z,9.0nm,1.2s					
LASF	**Ste Croix**	**81.10 313**	*eP*	**P**	**01 04 13.9**	**+0.7**
	comp=Z,19nm,1.2s					
LASF	**Ste Croix**	**81.10 313**	*eP*	**P**	**01 04 13.9**	**+0.7**
	comp=Z,19nm,1.2s					
AVF	**Avril sur Loir**	**81.13 316**	*eP*	**P**	**01 04 14.3**	**+1.1**
AVF	**Avril sur Loir**	**81.13 316**	*eP*	**P**	**01 04 14.3**	**+1.1**
AVF	**Avril sur Loir**	**81.13 316**	*eP*	**P**	**01 04 14.3**	**+1.1**
TCF	**Toulx Ste Croi**	**81.97 316**	*eP*	**P**	**01 04 18.4**	**+0.6**
	comp=Z,9.3nm,1.2s					
TCF	**Toulx Ste Croi**	**81.97 316**	*eP*	**P**	**01 04 18.4**	**+0.6**
TCF			pmax	pmax		
	comp=Z,9.0nm,1.2s					
TCF	**Toulx Ste Croi**	**81.97 316**	*eP*	**P**	**01 04 18.4**	**+0.6**
	comp=Z,9.3nm,1.2s					
MTLF	**Montolieu**	**82.38 313**	*eP*	**P**	**01 04 20.5**	**+0.6**
	comp=Z,5.8nm,0.9s					
MTLF	**Montolieu**	**82.38 313**	*eP*	**P**	**01 04 20.5**	**+0.6**
MTLF			pmax	pmax		
	comp=Z,6.0nm,0.9s					
MTLF	**Montolieu**	**82.38 313**	*eP*	**P**	**01 04 20.5**	**+0.6**
	comp=Z,5.8nm,0.9s					
MFF	**Saint Martin d**	**83.54 316**	*eP*	**P**	**01 04 26.1**	**+0.3**
MFF	**Saint Martin d**	**83.54 316**	*eP*	**P**	**01 04 26.1**	**+0.3**
MFF	**Saint Martin d**	**83.54 316**	*eP*	**P**	**01 04 26.1**	**+0.3**
TORD	**Torodi Ar. Bea**	**87.96 283**	P	**P**	**01 04 48.0**	**-0.3**
	comp=Z,0.7nm,0.9s,baz=88,slow=3.2,SNR=4.5					
ILAR	**Eielson Array**	**92.38 22**	P	**P**	**01 05 08.3**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=299,slow=4.7,SNR=12					
SHEL	**Horse Pasture**	**100.54 256**	*i* P	**Pdif**	**01 05 46.0**	**-0.1**
NVAR	**Mina Array Bea**	**122.98 28**	PKP	**PKPdf**	**01 10 57.9**	**+3.1**
	comp=Z,0.6nm,0.6s,baz=284,slow=2.8,SNR=5.0					

IDC 25 00:53:11.7±5.9, 18.84S×175.02W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/30, mbtmp4.1/3, Error ellipse: s-maj=267.8km s-min=62.6km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.48**	**261**	P	P	01 00 20.5	+1.5
	1.8nm,0.5s,baz=74,slow=7.4,SNR=3.4						
WRA	**Warramunga Arr**	**47.63**	**260**	P	P	01 01 49.7	-0.4
	0.8nm,0.2s,baz=96,slow=8.0,SNR=41						
ASAR	**Alice Springs**	**47.65**	**255**	P	P	01 01 48.8	-1.4
	1.3nm,0.6s,baz=87,slow=7.7,SNR=11						
BRTR	**Keskin Array B**	**147.71**	**316**	PKPbc	PKPbc	01 12 58.2	-0.6
	1.4nm,1.2s,baz=50,slow=7.7,SNR=3.6						

IDC 25 01:26:37.7±0.9, 18.77N×145.79E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/39, mbtmp3.6/6, Error ellipse: s-maj=38.9km s-min=20.9km az=99.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.08**	**197**	P	P	01 34 14.9	-0.2
	1.1nm,0.5s,baz=13,slow=8.6,SNR=25						
ASAR	**Alice Springs**	**43.75**	**196**	P	P	01 34 45.0	0.0
	0.5nm,0.5s,baz=19,slow=10.0,SNR=9.9						
MKAR	**Makanchi Array**	**58.47**	**314**	P	P	01 36 36.2	+0.6
	0.2nm,0.6s,baz=86,slow=8.5,SNR=3.2						
ILAR	**Eielson Array**	**63.54**	**26**	P	P	01 37 10.7	+1.0
	0.3nm,0.6s,baz=266,slow=4.4,SNR=4.4						
BVAR	**Borovoye Array**	**66.47**	**320**	P	P	01 37 28.1	-0.8
	0.4nm,0.4s,baz=104,slow=7.8,SNR=4.9						
YKA	**Yellowknife Ar**	**77.88**	**28**	P	P	01 38 36.3	-0.7
	0.3nm,0.6s,baz=285,slow=5.1,SNR=3.2						
LPAZ	**La Paz**	**147.59**	**91**	PKPbc	PKPbc	01 46 25.0	-0.7
	0.6nm,0.6s,baz=319,slow=3.7,SNR=2.6						

IDC 25 01:28:22.4±2.4, 23.72S×179.89W, h492km±22km, mb3.6/8, mb1 3.8/10, mb1mx3.4/33, mbtmp4.5/10, Error ellipse: s-maj=24.7km s-min=16.5km az=46.0
ISCJB 25 01:28:24.1±1.0, 23.8S±0.1×180.0E±0.1, h532km, mb4.1/8, Error ellipse: s-maj=18.3km s-min=12.8km az=36.6
ISC 25 01:28:25.3±0.9, 23.8S±0.1×180.0E±0.1, h532km, n20, σ1s70/25, mb4.0/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.58**	**275**	P	**P**	**01 31 07.2**	**-2.8**
URZ	**Urewera**	**14.61**	**189**	P	**P**	**01 31 28.0**	**-2.8**
	6.1nm,0.3s,baz=352,slow=2.0,SNR=19						
URZ				S	**S**	**01 34 03.3**	**-0.5**
	1.3nm,0.3s,baz=82,slow=22,SNR=8.4						
DSZ	**Denniston Nort**	**19.14**	**199**	PN	**P**	**01 32 15.2**	**+0.9**
LTZ	**Lake Taylor**	**19.97**	**197**	PN	**P**	**01 32 20.6**	**-1.2**
WVZ	**Waitaha Valley**	**20.68**	**199**	*e*PN	**P**	**01 32 27.4**	**-0.7**
RPZ	**Rata Peaks**	**21.17**	**198**	P	**P**	**01 32 32.2**	**-0.4**
	17nm,0.5s,baz=5.4,slow=3.8,SNR=18						
FOZ	**Fox Glacier**	**21.45**	**201**	*e*PN	**P**	**01 32 34.0**	**-1.0**
CTA	**Charters Tower**	**31.44**	**270**	P	**P**	**01 34 04.9**	**+1.6**
	20nm,0.4s,baz=93,slow=13						
STKA	**Stephens Creek**	**34.73**	**248**	P	**P**	**01 34 31.8**	**+0.9**
	1.0nm,0.4s,baz=92,slow=8.1,SNR=4.3						
ASAR	**Alice Springs**	**42.02**	**261**	P	**P**	**01 35 31.2**	**+1.0**
	4.5nm,0.7s,baz=96,slow=7.9,SNR=40						
ASAR				ScP	**ScP**	**01 40 16.5**	**+3.6**
	0.7nm,0.7s,baz=118,slow=4.2,SNR=4.2						
ASAR				S	**S**	**01 41 11.2**	**+0.3**
	0.3nm,0.4s,baz=96,slow=18,SNR=5.2						
WRA	**Warramunga Arr**	**42.38**	**266**	P	**P**	**01 35 33.2**	**0.0**
	5.2nm,0.4s,baz=92,slow=8.5,SNR=98						
WRA				ScP	**ScP**	**01 40 17.6**	**+3.2**
	0.1nm,0.5s,baz=93,slow=3.7,SNR=4.9						
WRA				S	**S**	**01 41 14.4**	**-1.8**
	1.4nm,0.8s,baz=99,slow=14,SNR=8.5						
VNDA	**Vanda**	**54.47**	**185**	P	**P**	**01 37 04.2**	**+2.1**
	2.5nm,0.7s,baz=354,slow=7.0,SNR=21						
MAW	**Mawson**	**77.82**	**200**	P	**P**	**01 39 28.3**	**+1.1**
	3.7nm,0.6s,baz=137,slow=10,SNR=8.9						
SNAA	**Sanae**	**84.76**	**179**	P	**P**	**01 40 00.8**	**-2.2**
VNA3	**Neumayer Olymp**	**84.97**	**177**	P	**P**	**01 40 03.7**	**-0.2**
VNA2	**Neumayer--Watz**	**85.38**	**178**	P	**P**	**01 40 05.9**	**0.0**
	baz=193,slow=4.2						
TXAR	**Lajitas Array**	**90.41**	**58**	P	**P**	**01 40 29.2**	**-1.1**
	0.2nm,0.6s,baz=217,slow=5.7,SNR=2.9						
AKASG	**Malin Array Be**	**144.88**	**327**	PKP	**PKPdf**	**01 47 01.0**	**-0.4**
	0.7nm,0.5s,baz=41,slow=4.7,SNR=4.8						
BRTR	**Keskin Array B**	**147.50**	**307**	PKPbc	**PKPab**	**01 47 12.8**	**-1.0**
	0.8nm,0.6s,baz=85,slow=3.3,SNR=5.2						
TORD	**Torodi Ar. Bea**	**169.27**	**189**	PKPab	**PKPab**	**01 48 48.2**	**+0.2**
	1.2nm,0.8s,baz=156,slow=4.4,SNR=11						

ISCJB 25 01:57:01.5±0.3, 43.75N±0.05×143.16E±0.07, h188km±2km, mb3.5/11, Error ellipse: s-maj=7.9km s-min=7.2km az=148.3
IDC 25 01:57:02.8±0.6, 43.85N×143.11E, h182km±2km, mb3.3/11, mb1 3.5/12, mb1mx3.3/28, mbtmp3.8/12, Error ellipse: s-maj=18.1km s-min=14.4km az=142.0

JMA 25 01:57:02.5±0.2, 43.79N×143.13E, h188km±2km, M3.3
ISC 25 01:57:02.6±0.7, 43.74N±0.05×143.15E±0.05, h186km±5km, n30, σ0s86/43, mb3.6/11, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMP	**Maruseppu**	**0.30**	**30**	P	**Pn**	**01 57 27.7**	**+0.3**
JMP				*e*S	**Sn**	**01 57 46.6**	**-0.1**
JKK2	**Kamakawa 2**	**0.32**	**294**	P	**Pn**	**01 57 27.7**	**+0.3**
JKK2				*e*S	**Sn**	**01 57 46.7**	**+0.1**
ASAJ	**Asahikawa**	**0.55**	**313**	P	**Pn**	**01 57 28.6**	**+0.4**
ASAJ				*e*S	**Sn**	**01 57 47.8**	**-0.2**
ASAJ	**Asahikawa**	**0.55**	**313**	P	**Pn**	**01 57 28.6**	**+0.4**
	41nm,0.3s,baz=220,slow=3.6,SNR=47						
ASAJ				S	**Sn**	**01 57 47.9**	**-0.2**
	5.0nm,0.3s,baz=311,slow=31,SNR=41						
JTKR	**Abashiri--Toko**	**0.59**	**67**	P	**Pn**	**01 57 29.0**	**+0.6**
JTKR				*e*S	**Sn**	**01 57 48.7**	**+0.4**
JAR	**Ashorobuto**	**0.63**	**135**	P	**Pn**	**01 57 29.3**	**+0.7**
JAR				*e*S	**Sn**	**01 57 49.1**	**+0.4**
JFR	**Furan**	**0.71**	**215**	P	**Pn**	**01 57 29.6**	**+0.5**
JAB	**Ashibetsu**	**0.72**	**251**	P	**Pn**	**01 57 29.5**	**+0.5**
JCH	**Churui**	**1.14**	**172**	P	**Pn**	**01 57 31.7**	**-0.2**
JCH				*e*S	**Sn**	**01 57 53.2**	**-1.4**
JSE	**Soyaes**	**1.28**	**342**	P	**Pn**	**01 57 32.6**	**-0.4**
JSE				*e*S	**Sn**	**01 57 55.6**	**-1.1**
JAK	**Akkeshi**	**1.35**	**123**	P	**Pn**	**01 57 33.5**	**-0.2**
JAK				*e*S	**Sn**	**01 57 56.9**	**-0.8**
JYG	**Yagishiri**	**1.42**	**299**	P	**Pn**	**01 57 33.7**	**-0.5**
JYG				*e*S	**Sn**	**01 57 57.3**	**-1.5**
JNBK	**Urakawa-nobuka**	**1.49**	**191**	P	**Pn**	**01 57 35.0**	**0.0**
JNBK				*e*S	**Sn**	**01 57 59.5**	**-0.5**
JEW	**Eniwo**	**1.54**	**235**	P	**Pn**	**01 57 35.9**	**+0.5**
JWK2	**Keihoku**	**1.81**	**331**	P	**Pn**	**01 57 38.1**	**+0.1**
NEM2	**Nemuro 2**	**1.92**	**100**	P	**Pn**	**01 57 38.6**	**-0.6**
NEM2				*e*S	**Sn**	**01 58 04.9**	**-2.6**
JSK	**Shakotan**	**1.98**	**260**	P	**Pn**	**01 57 39.7**	**-0.1**
JKB	**Kayabe**	**2.42**	**221**	P	**Pn**	**01 57 44.7**	**0.0**
JKB				*e*S	**Sn**	**01 58 15.2**	**-2.2**
SEY	**Seymchan**	**19.96**	**12**	P	**P**	**02 01 19.1**	**-1.1**
	0.6nm,0.3s,baz=220,slow=6.3,SNR=7.6						
SONM	**Songino Array**	**25.79**	**292**	P	**P**	**02 02 17.3**	**+0.9**
	2.2nm,0.7s,baz=84,slow=8.0,SNR=13						
ZALV	**Zalesovo Beam**	**38.68**	**306**	P	**P**	**02 04 06.7**	**-1.2**
	0.7nm,0.3s,baz=88,slow=10,SNR=2.6						
MKAR	**Makanchi Array**	**42.00**	**296**	P	**P**	**02 04 35.8**	**+0.4**
	0.4nm,0.5s,baz=86,slow=8.9,SNR=6.6						
ILAR	**Eielson Array**	**43.20**	**36**	P	**P**	**02 04 44.9**	**+0.2**
	1.5nm,0.8s,baz=277,slow=7.5,SNR=21						
INK	**Inuvik**	**47.86**	**30**	P	**P**	**02 05 20.8**	**-0.4**
	1.0nm,0.3s,baz=300,slow=7.1,SNR=9.7						
YKA	**Yellowknife Ar**	**57.39**	**33**	P	**P**	**02 06 31.2**	**+0.2**
	0.7nm,0.6s,baz=307,slow=6.6,SNR=9.7						
FINES	**FINESS Array B**	**63.53**	**331**	P	**P**	**02 07 11.9**	**-0.7**
	1.3nm,0.7s,baz=73,slow=8.6,SNR=6.1						
WRA	**Warramunga Arr**	**63.89**	**189**	P	**P**	**02 07 15.9**	**+0.5**
	0.4nm,0.8s,baz=8.1,slow=6.9,SNR=5.6						
ASAR	**Alice Springs**	**67.61**	**189**	P	**P**	**02 07 40.5**	**+1.3**
	0.4nm,0.7s,baz=18,slow=6.2,SNR=4.0						
PDAR	**Pinedale Array**	**72.09**	**48**	P	**P**	**02 08 07.2**	**+0.5**
	0.4nm,0.7s,baz=338,slow=4.1,SNR=3.8						
TXAR	**Lajitas Array**	**85.03**	**54**	P	**P**	**02 09 18.4**	**+0.9**
	0.3nm,0.7s,baz=289,slow=4.3,SNR=4.1						

MDD 25 02:04:53.5±3.8, 35.52N×4.77E, h0km, mb4.1/3, Error ellipse: s-maj=39.3km s-min=24.8km az=125.0, PRXIMO SOLUCIN POBRE
ISCJB 25 02:05:02.4±0.7, 36.0N±0.1×4.06E±0.04, h10km, Error ellipse: s-maj=16.4km s-min=4.9km az=5.6
CRAAG 25 02:05:02.7, 35.99N×3.98E, Ml3.7
CSEM 25 02:05:02.3±0.4, 36.01N×4.09E, h2km, ML3.7, Error ellipse: s-maj=22.7km s-min=6.5km az=3.0
ISC 25 02:05:02.2±1.0, 35.86N±0.08×4.12E±0.03, h10km, n48, σ1s48/52, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKET	**Djebel Ketaf**	**0.27**	**314**	P	**Pg**	**02 05 05.3**	**-2.5**
AKET	**Djebel Ketaf**	**0.27**	**314**	P	**Pg**	**02 05 05.3**	**-2.5**
AKET	**Djebel Ketaf**	**0.27**	**314**	P	**Pg**	**02 05 05.3**	**-2.5**
ADJB	**Djebel Djouab**	**0.63**	**299**	P	**Pg**	**02 05 13.1**	**-1.3**
ADJB	**Djebel Djouab**	**0.63**	**299**	P	**Pg**	**02 05 13.1**	**-1.3**
ADJB	**Djebel Djouab**	**0.63**	**299**	P	**Pg**	**02 05 13.1**	**-1.3**
EMHD	**Djebel Mahouad**	**1.01**	**290**	P	**Pg**	**02 05 20.8**	**-0.8**
EMHD	**Djebel Mahouad**	**1.01**	**290**	P	**Pg**	**02 05 20.8**	**-0.8**
EMHD	**Djebel Mahouad**	**1.01**	**290**	P	**Pg**	**02 05 20.8**	**-0.8**
SET	**Setif**	**1.09**	**71**	P	**Pg**	**02 05 22.0**	**-1.1**
SET	**Setif**	**1.09**	**71**	P	**Pg**	**02 05 22.0**	**-1.1**
SET	**Setif**	**1.09**	**71**	P	**Pg**	**02 05 22.0**	**-1.1**
CKHR	**Kef el Ahmar**	**1.14**	**82**	P	**Pb**	**02 05 23.1**	**-0.9**
CKHR	**Kef el Ahmar**	**1.14**	**82**	P	**Pb**	**02 05 23.1**	**-0.9**
CKHR	**Kef el Ahmar**	**1.14**	**82**	P	**Pb**	**02 05 23.1**	**-0.9**
CTEI	**Djebel Teioual**	**1.86**	**83**	P	**Pg**	**02 05 36.8**	**-1.1**
CTEI	**Djebel Teioual**	**1.86**	**83**	P	**Pg**	**02 05 36.8**	**-1.1**
CTEI	**Djebel Teioual**	**1.86**	**83**	P	**Pg**	**02 05 36.8**	**-1.1**
CASM	**Ain Smara**	**1.96**	**77**	P	**Pg**	**02 05 40.1**	**+0.3**
CASM	**Ain Smara**	**1.96**	**77**	P	**Pg**	**02 05 40.1**	**+0.3**
CASM	**Ain Smara**	**1.96**	**77**	P	**Pg**	**02 05 40.1**	**+0.3**
EBNR	**Beni Rached**	**2.14**	**282**	P	**Pn**	**02 05 39.0**	**+1.0**
EBNR	**Beni Rached**	**2.14**	**282**	P	**Pn**	**02 05 39.0**	**+1.0**
CKFL	**Kef-Lekhel**	**2.17**	**75**	P	**Pb**	**02 05 42.0**	**+0.4**
CKFL	**Kef-Lekhel**	**2.17**	**75**	P	**Pb**	**02 05 42.0**	**+0.4**
CKFL	**Kef-Lekhel**	**2.17**	**75**	P	**Pb**	**02 05 42.0**	**+0.4**
ECHA	**Ech Chlef**	**2.25**	**278**	P	**Pn**	**02 05 40.0**	**+0.5**
ECHA	**Ech Chlef**	**2.25**	**278**	P	**Pn**	**02 05 40.0**	**+0.5**
ECHF	**Ech Chlef**	**2.27**	**278**	P	**Pn**	**02 05 40.0**	**+0.2**
ECHF	**Ech Chlef**	**2.27**	**278**	P	**Pn**	**02 05 40.0**	**+0.2**
ETRT	**Tiaret**	**2.35**	**259**	P	**Pn**	**02 05 38.1**	**-2.8**
ETRT	**Tiaret**	**2.35**	**259**	P	**Pn**	**02 05 38.1**	**-2.8**
ETRT	**Tiaret**	**2.35**	**259**	P	**Pn**	**02 05 38.1**	**-2.8**
EANR	**'Ain N'Sour**	**2.46**	**273**	P	**Pn**	**02 05 42.0**	**-0.3**
EANR	**'Ain N'Sour**	**2.46**	**273**	P	**Pn**	**02 05 42.0**	**-0.3**
EANR	**'Ain N'Sour**	**2.46**	**273**	P	**Pn**	**02 05 42.0**	**-0.3**
EIBI	**Ibiza**	**3.86**	**326**	P	**Pn**	**02 06 01.1**	**-0.5**
	0.8nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.86**	**326**	P	**Pn**	**02 06 01.1**	**-0.5**
	0.8nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**4.04**	**346**	P	**Pn**	**02 06 02.2**	**-1.9**
	2.2nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**4.04**	**346**	P	**Pn**	**02 06 02.2**	**-1.9**
	0.2nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**4.74**	**296**	P	**Pn**	**02 06 12.9**	**-0.8**
	2.7nm,0.3s,SNR=8.2						
ETOB	**Tobarra**	**5.31**	**303**	P	**Pn**	**02 06 21.3**	**-0.3**
	0.5nm,0.3s,SNR=5.7						
ETOB				S	**Sn**	**02 07 26.1**	**+3.2**
	0.2nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.31**	**303**	P	**Pn**	**02 06 21.3**	**-0.3**
	0.5nm,0.3s,SNR=5.7						
ETOB				S	**Sn**	**02 07 26.1**	**+3.2**
	0.2nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**5.73**	**292**	P	**Pn**	**02 06 27.4**	**+0.1**
	0.5nm,0.2s,SNR=7.9						
EBER	**Berja**	**5.75**	**282**	P	**Pn**	**02 06 28.0**	**+0.3**
	0.5nm,0.1s,SNR=7.9						
EBER	**Berja**	**5.75**	**282**	P	**Pn**	**02 06 28.0**	**+0.3**
	0.5nm,0.1s,SNR=7.9						
SESP	**Santiago Espad**	**5.79**	**295**	P	**Pn**	**02 06 28.5**	**+0.2**
	2.1nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**02 07 36.9**	**+1.9**
	0.0nm,0.2s,SNR=7.9						
EQES	**Quesada**	**6.09**	**291**	P	**Pn**	**02 06 32.7**	**+0.4**
	1.8nm,0.3s,SNR=12						
EQES				S	**Sn**	**02 07 45.5**	**+3.4**
	0.2nm,0.2s,SNR=7.9						

JSN 25 02:09:00.2±1.4, 19.75N×77.03W, h31km±999km, MD3.6, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBJ	**Bamboo Saint A**	**1.38**	**190**	*i* P	Pn	02 09 22.7	-0.7
MBJ	**Montego Bay**	**1.56**	**211**	*i* P	Pn	02 09 24.7	-1.2
MBJ				*i* S	Sn	02 09 42.9	-2.2
CVJ	**Coleyville**	**1.59**	**198**	*i* P	Pn	02 09 25.6	-0.8
STH	**Stony Hill**	**1.68**	**173**	*i* P	Pn	02 09 26.6	-0.9
STH				*i* S	Sn	02 09 46.6	-1.4
GWJ	**Greenwich**	**1.69**	**170**	*i* P	Pn	02 09 26.9	-0.9
HOJ	**Hope**	**1.75**	**171**	*i* P	Pn	02 09 26.6	-2.0
MCJ	**Malvern**	**1.92**	**199**	*i* P	Pn	02 09 30.8	-0.1

ISCJB 25 02:12:35.7±0.8, 20.6S±0.2×179.9W±0.2, h600km, mb3.9/7, Error ellipse: s-maj=21.2km s-min=18.2km az=153.3
IDC 25 02:12:37.6±2.2, 20.84S×179.80W, h621km±27km, mb3.3/6, mb1 3.5/7, mb1mx3.2/26, mbtmp4.3/7, Error ellipse: s-maj=37.7km s-min=20.6km az=160.0
ISC 25 02:12:36.5±0.8, 20.6S±0.2×179.8W±0.1, h600km, n17, σ1s52/18, mb4.2/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.77**	**169**	P	**P**	**02 14 44.6**	**+1.5**
	192nm,0.3s,baz=168,slow=22,SNR=4.6						
DZM	**Mont Dzumac**	**12.87**	**261**	P	**P**	**02 15 24.2**	**+0.1**
	0.8nm,0.3s,baz=90,slow=24,SNR=8.7						
STKA	**Stephens Creek**	**36.20**	**244**	P	**P**	**02 18 48.7**	**-1.5**
	2.6nm,0.4s,baz=92,slow=12,SNR=11						
ASAR	**Alice Springs**	**42.82**	**257**	P	**P**	**02 19 42.9**	**-0.5**
	8.6nm,0.5s,baz=94,slow=7.9,SNR=102						
ASAR				ScP	**ScP**	**02 24 13.6**	**-1.6**
	0.3nm,0.8s,baz=106,slow=4.3,SNR=4.4						
WRA	**Warramunga Arr**	**42.88**	**263**	P	**P**	**02 19 43.6**	**-0.3**
	3.5nm,0.3s,baz=96,slow=7.7,SNR=408						
MJAR	**Matsushiro Arr**	**69.30**	**325**	P	**P**	**02 22 46.0**	**+1.1**
	1.0nm,0.4s,baz=110,slow=8.9,SNR=4.2						
CMAR	**Chiang Mai Arr**	**88.54**	**290**	P	**P**	**02 24 29.0**	**+2.1**
	1.8nm,0.4s,baz=117,slow=2.9,SNR=6.1						
TXAR	**Lajitas Array**	**88.57**	**58**	P	**P**	**02 24 25.4**	**-1.5**
	0.3nm,0.7s,baz=235,slow=6.3,SNR=3.6						
ILAR	**Eielson Array**	**88.81**	**13**	P	**P**	**02 24 27.3**	**+0.2**
	0.2nm,0.4s,baz=218,slow=5.0,SNR=4.0						
ARCES	**ARCESS Array B**	**128.71**	**349**	PKP	**PKPdf**	**02 30 34.6**	**-1.2**
	4.1nm,0.9s,baz=58,slow=2.4,SNR=3.0						
AKASG	**Malin Array Be**	**142.26**	**330**	PKP	**PKPdf**	**02 30 58.2**	**-3.2**
	1.7nm,0.4s,baz=42,slow=4.5,SNR=13						
BRTR	**Keskin Array B**	**145.63**	**311**	PKPbc	**PKPdf**	**02 31 09.2**	**+1.3**
	0.9nm,0.6s,baz=144,slow=4.3,SNR=8.0						
DPC	**Dobruska-Polom**	**147.69**	**341**	*e*P	**PKPab**	**02 31 21.2**	**+2.2**
DPC				*ex*	x	02 31 28.2	
PRU	**Pruhonice**	**148.54**	**342**	*e*P	**PKPbc**	**02 31 16.6**	**0.0**
PRU				*ex*	x	02 31 23.0	
TREC	**Trest**	**148.88**	**340**	*e*P	**PKPbc**	**02 31 17.4**	**-0.1**
TREC				*ex*	x	02 31 23.8	
KHC	**Kasperske Hory**	**149.59**	**342**	*e*P	**PKPbc**	**02 31 19.0**	**-0.2**
KHC				*ex*	x	02 31 25.6	
GERES	**GERESS Array B**	**149.81**	**342**	PKPbc	**PKPbc**	**02 31 19.3**	**-0.5**
	0.5nm,0.6s,baz=29,slow=3.0,SNR=5.4						

JMA 25 03:08:27.6±0.2, 25.96N×123.32E, h260km, M3.9, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.52**	**191**	P	Pn	03 09 07.1	0.0
YOJ				S	S	03 09 38.9	+0.7
JYNG	**Yonagunijimaku**	**1.54**	**193**	P	Pn	03 09 07.2	0.0
JYNG				S	S	03 09 38.7	+0.2
JISG	**Ishigakijimahi**	**1.64**	**147**	P	Pn	03 09 08.2	+0.3
JISG				S	S	03 09 39.4	-0.4
IRIF	**Iriomote-Funau**	**1.66**	**167**	P	Pn	03 09 07.9	-0.2
IRIF				S	S	03 09 39.3	-0.9
JIJ	**Ishigaki jima**	**1.76**	**155**	P	Pn	03 09 08.8	-0.1
JIJ				S	S	03 09 40.0	-1.5
JTJ	**Tarama**	**1.81**	**136**	P	Pn	03 09 09.7	+0.4
JTJ				S	S	03 09 41.1	-0.5
JKRS	**Kuro-shima**	**1.82**	**160**	P	Pn	03 09 09.7	+0.2
JKRS				S	S	03 09 42.3	-0.3
HATJ	**Hateruma jima**	**1

SESP				S		Sn	03 46 35.6	-1.5
	0.1nm,0.1s,SNR=7.9							
EPOB	**Poblet**	**5.92**	**337**	S		**Sn**	**03 46 36.7**	**-3.0**
	0.2nm,0.1s,SNR=4.0							
EQES	**Quesada**	**6.10**	**290**	P		**Pn**	**03 45 36.3**	**+1.9**
	2.5nm,0.5s,SNR=7.9							
EQES				S		**Sn**	**03 46 41.1**	**-3.3**
	0.1nm,0.2s,SNR=7.9							
EQES	**Quesada**	**6.10**	**290**	P		**Pn**	**03 45 36.3**	**+1.9**
	2.5nm,0.5s,SNR=7.9							

JMA ***25*** *04:01:31.7±0.1,22.°99N×120.°60E,h0km,M3.5*
TAP ***25*** *04:01:33.3,22.°95N×120.°68E,h19km,ML3.7,B*
ISCJB ***25*** *04:01:34.6±0.2,22.°94N±0.°01×120.°69E±0.°02,h23km±2km, Error ellipse: s-maj=2.9km s-min=2.1km az=170.4*

ISC 25 04:01:33.9±0.9,22.°95N±0.°02×120.°64E±0.°02,h17km±7km, n65,σ0°76/113,9C-8D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGST	**Jiashian**	**0.14**	**339**	⇓*iP*	**Pb**	**04 01 38.7**	**+0.6**
	baz=337						
SGST				*i* S	**Sb**	**04 01 42.5**	**+1.6**
	baz=337						
SSD	**Sandimen**	**0.20**	**182**	⇓*iP*	**Pg**	**04 01 38.9**	**+0.1**
	baz=190						
SSD				S	**Sg**	**04 01 42.4**	**+0.3**
	baz=190						
TWM1	**Shoushan**	**0.24**	**238**	⇑*iP*	**Pb**	**04 01 40.6**	**+0.9**
	baz=242						
STYT	**Tauyuan**	**0.24**	**27**	⇑*iP*	**Pb**	**04 01 39.5**	**-0.3**
	baz=27						
STYT				S	**Sb**	**04 01 43.9**	**+0.1**
	baz=27						
CHN1	**Nanshi**	**0.26**	**337**	⇓*iP*	**Pb**	**04 01 40.5**	**+0.4**
	baz=339						
CHN1				*i* S	**Sb**	**04 01 45.7**	**+1.4**
	baz=339						
SGLT	**Jiouru**	**0.26**	**211**	*eP*	**Pb**	**04 01 40.5**	**+0.3**
	baz=212						
SGLT				*eS*	**Sn**	**04 01 46.8**	**-1.8**
	baz=212						
CHN3	**Shinhua**	**0.28**	**297**	P	**Pn**	**04 01 42.0**	**-1.2**
	baz=303						
CHN3				*eS*	**Sn**	**04 01 49.8**	**+0.7**
	baz=303						
WTP	**Ta-pu**	**0.30**	**356**	⇓*iP*	**Pb**	**04 01 40.8**	**0.0**
	baz=350						
WTP				*i* S	**Sb**	**04 01 46.3**	**+0.8**
	baz=350						
TWK	**Hsinying**	**0.34**	**336**	⇓*iP*	**Pb**	**04 01 41.6**	**0.0**
	baz=333						
TWK				*i* S	**Sn**	**04 01 48.5**	**-2.3**
	baz=333						
TAI1	**Yung-k'ang**	**0.39**	**283**	*eP*	**Pn**	**04 01 43.5**	**-1.2**
	baz=283						
CHN4	**Tsaushan**	**0.40**	**354**	⇓*iP*	**Pb**	**04 01 42.4**	**-0.2**
	baz=349						
CHN4				*i* S	**Sb**	**04 01 49.4**	**+0.9**
	baz=349						
TWG	**Pinlang**	**0.42**	**108**	⇑*iP*	**Pg**	**04 01 42.3**	**-0.2**
	baz=99						
TWG				*eS*	**Sg**	**04 01 48.1**	**-0.1**
	baz=99						
ELDTW	**Lidau**	**0.42**	**56**	*i* P	**Pg**	**04 01 42.4**	**-0.2**
	baz=46						
ELDTW				*eS*	**Sg**	**04 01 47.8**	**-0.6**
	baz=46						
ECL	**Taimali**	**0.46**	**140**	⇓*iP*	**Pg**	**04 01 42.8**	**-0.3**
	baz=144						
ECL				*i* S	**Sg**	**04 01 49.3**	**0.0**
	baz=144						
SCLT	**Jiali**	**0.47**	**299**	*eP*	**Pb**	**04 01 44.4**	**+0.7**
	baz=297						
SCLT				*eS*	**Sn**	**04 01 53.5**	**-0.2**
	baz=297						
KAU	**Kaohsiung**	**0.49**	**219**	*eP*	**Pn**	**04 01 45.5**	**-0.6**
	baz=233						
KAU				*eS*	**Sn**	**04 01 54.5**	**+0.4**
	baz=233						
TTN	**Taitung**	**0.51**	**112**	P	**Pb**	**04 01 44.3**	**0.0**
	baz=114						
TTN				S	**Sb**	**04 01 52.6**	**+1.2**
	baz=114						
CHN8	**Yiju**	**0.56**	**315**	*eP*	**Pb**	**04 01 45.8**	**+0.6**
	baz=326						
CHN8				*eS*	**Sn**	**04 01 55.4**	**-0.5**
	baz=326						
SCZT	**Fangliau**	**0.57**	**182**	*eP*	**Pg**	**04 01 44.8**	**-0.5**
	baz=185						
SCZT				*eS*	**Sn**	**04 01 55.6**	**-0.8**
	baz=185						
ALS	**Alishan**	**0.58**	**15**	⇑*iP*	**Pb**	**04 01 45.5**	**-0.3**
	baz=12						
ALS				*eS*	**Sb**	**04 01 54.8**	**+1.0**
	baz=12						
CHY	**Chiayi**	**0.58**	**340**	*eP*	**Pb**	**04 01 45.5**	**-0.1**
	baz=338						
CHY				*eS*	**Sn**	**04 01 55.3**	**-1.2**
	baz=338						
EAST	**Anshuo**	**0.60**	**161**	⇓*iP*	**Pg**	**04 01 45.3**	**-0.4**
	baz=164						
EAST				*eS*	**Sg**	**04 01 53.5**	**-0.2**
	baz=164						
CHN2	**Minshiung**	**0.60**	**345**	*eP*	**Pb**	**04 01 46.1**	**+0.2**
	baz=342						
CHN2				*eS*	**Sn**	**04 01 56.6**	**-0.4**
	baz=342						
YUS	**Yu-Shan**	**0.61**	**28**	⇑*iP*	**Pg**	**04 01 46.1**	**0.0**
	baz=34						
YUS				*eS*	**Sb**	**04 01 55.1**	**+0.2**
	baz=34						
TAW	**Tawu**	**0.64**	**158**	P	**Pg**	**04 01 46.1**	**-0.3**
	baz=161						
TAW				S	**Sg**	**04 01 54.6**	**-0.3**
	baz=161						
CHN5	**Tsauling**	**0.65**	**3**	*eP*	**Pb**	**04 01 46.7**	**-0.1**
	baz=8.0						
CHN5				*eS*	**Sn**	**04 01 57.7**	**-0.6**
	baz=8.0						
TWP	**Hsiaoliuchiu**	**0.65**	**203**	*eP*	**Pn**	**04 01 48.7**	**+0.3**
	baz=206						
TWP				*eS*	**Sn**	**04 02 00.8**	**+2.5**
	baz=206						
CHKT	**Chengkung**	**0.69**	**77**	⇑*iP*	**Pb**	**04 01 47.1**	**-0.3**
	baz=91						
CHKT				S	**Sg**	**04 01 57.1**	**+0.6**
	baz=91						
TWF1	**Yuli**	**0.73**	**56**	⇑*iP*	**Pb**	**04 01 47.5**	**-0.6**
	baz=61						
TWF1				*i* S	**Sb**	**04 01 57.2**	**-0.6**
	baz=61						
WGK	**Gukeng**	**0.74**	**355**	*eP*	**Pg**	**04 01 48.2**	**-0.1**
	baz=352						
WSF	**Szhu**	**0.79**	**331**	*eP*	**Pb**	**04 01 48.8**	**-0.3**
	baz=329						
WSF				*eS*	**Sn**	**04 02 01.6**	**+0.1**
	baz=329						
EHY	**Hungye**	**0.84**	**48**	⇑*iP*	**Pb**	**04 01 49.4**	**-0.6**
	baz=52						
EHY				*i* S	**Sb**	**04 02 00.1**	**-0.9**
	baz=52						
WDT	**Danda**	**0.92**	**29**	⇑*iP*	**Pb**	**04 01 51.0**	**-0.6**
	baz=19						
WDT				*eS*	**Sb**	**04 02 03.6**	**-0.1**
	baz=19						
WNT	**Mingjian**	**0.93**	**3**	*eP*	**Pg**	**04 01 51.5**	**-0.4**
	baz=346						
HEN	**Hengchun**	**0.94**	**174**	*eP*	**Pb**	**04 01 51.6**	**-0.2**
	baz=169						
HEN				*eS*	**Sn**	**04 02 06.2**	**+0.7**
	baz=169						
WDGT	**Dungji**	**0.95**	**289**	*eP*	**Pb**	**04 01 50.7**	**-1.2**
	baz=288						
WDGT				*eS*	**Sb**	**04 02 03.8**	**-0.5**
	baz=288						
SMLT	**Sun Moon Lake**	**0.96**	**14**	*eP*	**Pn**	**04 01 52.6**	**-0.1**
	baz=12						
SMLT				*eS*	**Sn**	**04 02 06.7**	**+0.7**
	baz=12						
WTCT	**Ta-ch'eng**	**0.97**	**340**	*eP*	**Pb**	**04 01 51.8**	**-0.4**
	baz=338						
WTCT				*eS*	**Sn**	**04 02 06.2**	**+0.1**
	baz=338						
TYC	**Yuchr**	**0.97**	**12**	*eP*	**Pn**	**04 01 52.5**	**-0.3**
	baz=9.0						
TYC				*eS*	**Sn**	**04 02 07.3**	**+1.2**
	baz=9.0						
TWK1	**Hengchun**	**1.01**	**171**	*eP*	**Pb**	**04 01 52.4**	**-0.6**
	baz=174						
TWK1				S	**Sn**	**04 02 07.8**	**+0.6**
	baz=174						
TSEB	**Hengchuen, Pin**	**1.07**	**167**	*eP*	**Pn**	**04 01 54.2**	**+0.1**
	baz=172						
TSEB				*eS*	**Sg**	**04 02 09.8**	**+1.1**
	baz=172						
ESL	**Shilin**	**1.13**	**40**	*eP*	**Pn**	**04 01 54.5**	**-0.5**
	baz=31						
ESL				*eS*	**Sn**	**04 02 09.8**	**-0.2**
	baz=31						
PNG	**Penghu**	**1.17**	**302**	*eP*	**Pn**	**04 01 54.1**	**-1.4**
	baz=301						
TCU	**Taichung**	**1.19**	**2**	*eP*	**Pn**	**04 01 55.6**	**-0.2**
	baz=358						
LAY	**Lan-yu**	**1.24**	**137**	*eP*	**Pn**	**04 01 55.0**	**-1.4**
	baz=128						
WHF	**Hehuan Shan**	**1.32**	**26**	*eP*	**Pn**	**04 01 57.9**	**-0.1**
	baz=23						
WHF				*eS*	**Sg**	**04 02 19.1**	**+2.3**
	baz=23						
HWA	**Hwalien**	**1.35**	**41**	*eP*	**Pg**	**04 01 59.6**	**-0.4**
	baz=23						
HWA				*eS*	**Sg**	**04 02 18.5**	**+0.8**
	baz=23						
TWT	**Tachien**	**1.39**	**21**	*eP*	**Pb**	**04 01 59.0**	**-0.5**
	baz=16						
TWQ1	**Liyutan**	**1.40**	**5**	*eP*	**Pb**	**04 01 58.8**	**-0.7**
	baz=3.0						
TWQ1				*eS*	**Sb**	**04 02 17.6**	**+0.5**
	baz=3.0						
TWD	**Chiawan**	**1.43**	**38**	*eP*	**Pn**	**04 01 59.2**	**+0.2**
	baz=34						
NSY	**Sanyi**	**1.46**	**4**	*eP*	**Pb**	**04 02 00.4**	**-0.3**
	baz=346						
NNS	**Nan Shan**	**1.63**	**24**	*eP*	**Pb**	**04 02 03.2**	**-0.4**
	baz=21						
NSTT	**Nanjuang**	**1.71**	**11**	*eP*	**Pn**	**04 02 02.6**	**-0.3**
	baz=352						
ENA	**Nanau**	**1.79**	**34**	*eP*	**Pn**	**04 02 04.5**	**+0.5**
	baz=30						
NSK	**Sanguang**	**1.84**	**21**	*eP*	**Pb**	**04 02 06.5**	**-0.7**
	baz=17						
ENTT	**Nioudou**	**1.89**	**27**	*eP*	**Pb**	**04 02 07.8**	**-0.1**
	baz=7.0						
TWC	**Suao**	**1.99**	**34**	*eP*	**Pb**	**04 02 09.6**	**-0.1**
	baz=30						
TWE	**Neicheng**	**2.00**	**28**	*eP*	**Pb**	**04 02 09.6**	**-0.2**
	baz=42						
JYNG	**Yonaguniijimaku**	**2.59**	**54**	P	**Pn**	**04 02 15.7**	**+0.7**
JYNG				S	**Sn**	**04 02 47.6**	**+1.5**
YOJ	**Yonaguni jima**	**2.64**	**55**	P	**Pn**	**04 02 16.1**	**+0.3**
YOJ				S	**Sn**	**04 02 48.3**	**+0.8**
HATJ	**Hateruma jima**	**3.11**	**69**	P	**Pn**	**04 02 21.9**	**-0.3**
HATJ				S	**Sn**	**04 02 58.1**	**-0.8**
IRIF	**Iriomote-Funau**	**3.15**	**63**	P	**Pn**	**04 02 23.3**	**+0.5**
IRIF				S	**Sn**	**04 03 00.9**	**+0.9**
JKRS	**Kuro-shima**	**3.35**	**67**	P	**Pn**	**04 02 26.1**	**+0.7**
JKRS				S	**Sn**	**04 03 05.4**	**+0.6**
JIJ	**Ishigaki jima**	**3.51**	**66**	P	**Pn**	**04 02 27.5**	**-0.2**
JIJ				S	**Sn**	**04 03 08.1**	**-0.7**
JISG	**Ishigakijimahi**	**3.74**	**63**	P	**Pn**	**04 02 30.6**	**-0.2**
JISG				S	**Sn**	**04 03 13.4**	**-1.1**

ISCJB ***25*** *04:19:38.6±0.6,50.°34N±0.°10×148.°9E±0.°1,h600km, mb3.6/20, Error ellipse: s-maj=14.4km s-min=10.7km az=139.7*
IDC ***25*** *04:19:38.8±1.5,50.°33N×148.°87E,h585km±19km, mb3.2/20,mb1 3.3/23,mb1mx3.2/38,mbtmp4.1/23, Error ellipse: s-maj=12.3km s-min=9.9km az=148.0*

ISC 25 04:19:39.6±0.7,50.°3N±0.°1×148.°9E±0.°1,h600km,n24, σ0°86/27,mb3.7/20,Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.13**	**59**	P	**P**	**04 21 19.0**	**-2.6**
	0.6nm,0.3s,baz=171,slow=5.4,SNR=11						
SEY	**Seymchan**	**12.80**	**7**	P	**P**	**04 22 25.6**	**-0.3**
	0.4nm,0.3s,baz=177,slow=7.8,SNR=4.4						
MJAR	**Matsushiro Arr**	**15.78**	**213**	P	**P**	**04 22 53.5**	**-1.5**
	0.5nm,0.3s,baz=14,slow=10,SNR=6.1						
SONM	**Songino Array**	**27.70**	**282**	P	**P**	**04 24 41.5**	**+0.2**
	0.4nm,0.4s,baz=78,slow=8.1,SNR=6.0						
ILAR	**Eielson Array**	**35.61**	**41**	P	**P**	**04 25 48.0**	**+0.1**
	1.5nm,0.7s,baz=275,slow=8.2,SNR=29						
ZALV	**Zalesovo Beam**	**38.33**	**301**	P	**P**	**04 26 10.3**	**+0.2**
	1.0nm,0.3s,baz=61,slow=5.4,SNR=3.2						
INK	**Inuvik**	**40.21**	**34**	P	**P**	**04 26 25.4**	**+0.4**
	2.3nm,0.3s,baz=300,slow=9.8,SNR=17						
MKAR	**Makanchi Array**	**42.92**	**292**	P	**P**	**04 26 47.0**	**+0.3**
	2.8nm,0.7s,baz=66,slow=7.7,SNR=27						
MKAR				PcP	**PcP**	**04 28 22.8**	**-0.4**
	0.2nm,0.3s,baz=68,slow=4.1,SNR=5.1						
SPITS	**Spitsbergen Ar**	**48.59**	**348**	P	**P**	**04 27 28.8**	**-0.2**
	14nm,1.1s,baz=66,slow=8.3,SNR=21						
YKA	**Yellowknife Ar**	**49.75**	**37**	P	**P**	**04 27 38.0**	**+0.3**
	1.5nm,0.6s,baz=302,slow=7.0,SNR=17						
YKA				PcP	**PcP**	**04 28 47.6**	**+0.3**
	0.3nm,0.4s,baz=307,slow=3.4,SNR=5.0						
ARCES	**ARCESS Array B**	**53.55**	**339**	P	**P**	**04 28 05.5**	**+0.6**
	4.0nm,1.0s,baz=40,slow=7.2,SNR=2.9						
FINES	**FINESS Array B**	**59.61**	**332**	P	**P**	**04 28 46.6**	**+0.2**
	2.9nm,0.4s,baz=43,slow=6.4,SNR=32						
FINES				PcP	**PcP**	**04 29 25.3**	**-0.4**
	0.6nm,0.3s,baz=67,slow=5.0,SNR=3.7						
FRB	**Frobisher Bay**	**62.55**	**18**	P	**P**	**04 29 04.7**	**-0.7**
	3.1nm,0.3s,baz=325,slow=7.6,SNR=22						
NVAR	**Mina Array Bea**	**63.22**	**61**	P	**P**	**04 29 12.3**	**+1.8**
	0.8nm,0.7s,baz=286,slow=5.5,SNR=6.6						
NB2	**NORSAR Subarra**	**63.93**	**339**	P	**P**	**04 29 14.7**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**63.93**	**339**	P	**P**	**04 29 14.9**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=27,slow=6.5,SNR=12						
PDAR	**Pinedale Array**	**64.86**	**53**	P	**P**	**04 29 21.6**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=25,slow=2.8,SNR=10						
AKASG	**Malin Array Be**	**67.03**	**323**	P	**P**	**04 29 33.2**	**-0.6**
	comp=Z,2.1nm,0.5s,baz=34,slow=6.1,SNR=9.7						
SCHQ	**Schefferville**	**71.05**	**21**	P	**P**	**04 29 57.6**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=27,slow=11,SNR=4.4						
WRA	**Warramunga Arr**	**71.12**	**194**	P	**P**	**04 29 58.7**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=9.9,slow=6.3,SNR=28						
BRTR	**Keskin Array B**	**73.90**	**313**	P	**P**	**04 30 14.6**	**0.0**
	comp=Z,0.6nm,0.6s,baz=53,slow=3.5,SNR=5.1						
GERES	**GERESS Array B**	**74.02**	**331**	P	**P**	**04 30 15.2**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=19,slow=5.7,SNR=3.5						
ASAR	**Alice Springs**	**74.84**	**194**	P	**P**	**04 30 20.7**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=3.9,slow=5.5,SNR=15						
TXAR	**Lajitas Array**	**78.08**	**58**	P	**P**	**04 30 38.9**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=280,slow=3.8,SNR=5.9						

ISCJB ***25*** *04:27:47.3±0.6,16.°46N±0.°05×94.°81W±0.°05,h150km, Error ellipse: s-maj=6.8km s-min=6.4km az=160.9*
NEIC ***25*** *04:27:49.4,16.°66N×94.°75W,h139km,mb4.1/2, MD4.2(MEX),After MEX.*
MEX ***25*** *04:27:49.4±0.6,16.°66N×94.°75W,h139km±27km,MD4.2*

ISC 25 04:27:47.7±0.9,16.°54N±0.°08×94.°79W±0.°05,h150km,n91, σ1°23/88,40C-34D,Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.48**	**239**	*eP*	**Pn**	**04 28 16.5**	**-0.6**
HUIG				*eS*	**Sn**	**04 28 40.0**	**+0.4**
HUIG	**Huatulco**	**1.48**	**239**	*eP*	**Pn**	**04 28 16.5**	**-0.6**
HUIG				*eS*	**Sn**	**04 28 40.0**	**+0.4**
TUIG	**Tuzandepetl**	**1.53**	**13**	*eP*	Pn	04 28 24.5	+6.8
TUIG				*eS*	Sn	04 28 31.3	-9.2
TUIG	**Tuzandepetl**	**1.53**	**13**	*eP*	Pn	04 28 24.5	+6.8
TUIG				*eS*	Sn	04 28 31.3	-9.2
PCIG		**1.72**	**119**	*eP*	**Pn**	**04 28 19.7**	**0.0**
PCIG				*eS*	**Sn**	**04 28 43.3**	**-0.8**
PCIG		**1.72**	**119**	*eP*	**Pn**	**04 28 19.7**	**0.0**
PCIG				*eS*	**Sn**	**04 28 43.3**	**-0.8**
VHO	**Vista Hermosa**	**1.94**	**286**	*eP*	**Pn**	**04 28 22.6**	**+0.2**
VHO				*eS*	**Sn**	**04 28 47.3**	**-1.6**
VHO	**Vista Hermosa**	**1.94**	**286**	*eP*	**Pn**	**04 28 22.6**	**+0.2**
VHO				*eS*	**Sn**	**04 28 47.3**	**-1.6**
PNIG	**Pinotepa**	**3.21**	**268**	*eP*	**Pn**	**04 28 37.9**	**+0.1**
PNIG				*eS*	Sn	04 29 09.8	-6.8
PNIG	**Pinotepa**	**3.21**	**268**	*eP*	**Pn**	**04 28 37.9**	**+0.1**
PNIG				*eS*	Sn	04 29 09.8	-6.8
TLIG	**Tlapa**	**3.76**	**286**	*eP*	**Pn**	**04 28 46.1**	**+1.1**
TLIG				*eS*	**Sn**	**04 29 28.9**	**-0.5**
TEIG	**Tepich**	**7.19**	**58**	*ePn*	Pn	04 29 25.6	-4.6
	33nm,0.4s						
TEIG				*eS*	Sn	04 30 42.2	-8.6
933A	**Laredo**	**11.78**	**340**	⇑P	**Pn**	**04 30 32.5**	**+1.4**
	baz=12						
834A	**Tilden**	**12.05**	**344**	⇓P	P	04 30 37.5	-3.7
	baz=12						
833A	**Chaparral WMA,**	**12.48**	**341**	⇓P	P	04 30 42.7	-3.3
	baz=12,SNR=7.0						
736A	**Circle Diamond**	**12.54**	**351**	⇓P	**P**	**04 30 45.7**	**-0.8**
	baz=12						
735A	**Kenedy**	**12.57**	**348**	⇓P	**Pn**	**04 30 42.9**	**+1.4**
	baz=12						
832A	**Faith Ranch, C**	**12.64**	**339**	⇑P	**Pn**	**04 30 42.9**	**+0.7**
	baz=13						
734A	**La Parita Cree**	**12.74**	**345**	⇑P	P	04 30 46.0	-2.8
	baz=13						
733A	**Divot King Ran**	**12.82**	**342**	⇑P	**Pn**	**04 30 46.5**	**+1.9**
	baz=13						
732A	**Laxson Ranch,**	**13.04**	**339**	⇓P	**P**	**04 30 49.6**	**-2.6**
	baz=13						
635A	**Leesville**	**13.09**	**348**	⇓P	**P**	**04 30 51.6**	**-1.1**
	baz=13						
633A	**Saathoff Ranch**	**13.48**	**343**	⇑P	**P**	**04 30 55.3**	**-1.8**
	baz=13						
537A	**Green Hill Far**	**13.56**	**354**	⇑P	**P**	**04 30 58.6**	**+0.7**
	baz=14						
536A	**Bastrop**	**13.64**	**352**	⇓P	**P**	**04 30 58.0**	**-0.8**
	baz=14						
538A	**Harpers Horsep**	**13.64**	**357**	⇑P	**P**	**04 31 00.7**	**+1.9**
	baz=14						
535A	**Dale**	**13.67**	**350**	⇓P	**P**	**04 30 58.1**	**-1.1**
	baz=14						
632A	**Uvalde**	**13.71**	**341**	⇑P	**P**	**04 30 57.7**	**-1.9**
	baz=14						
534A	**Blanco**	**13.85**	**347**	⇓P	**P**	**04 30 59.7**	**-1.5**
	baz=14,SNR=8.9						
533A	**Kerrville**	**14.03**	**345**	⇓P	**P**	**04 31 01.6**	**-1.6**
	baz=14,SNR=7.7						
435B	**Jarrell**	**14.41**	**350**	⇑P	**P**	**04 31 07.6**	**+0.2**
	baz=14						
531A	**Rocksprings**	**14.56**	**340**	⇑P	**P**	**04 31 07.7**	**-1.4**
	baz=14						
434A	**Burnet**	**14.57**	**348**	⇓P	**P**	**04 31 08.8**	**-0.4**
	baz=14						
433A	**Art**	**14.69**	**345**	⇑P	**P**	**04 31 10.3**	**-0.3**
	baz=15						
335A	**Moody**	**14.88**	**351**	⇑P	**P**	**04 31 14.0**	**+1.4**
	baz=15,SNR=16						
432A	**Menard**	**14.99**	**343**	⇑P	**P**	**04 31 13.2**	**-0.7**
	baz=15						
431A	**Sonora**	**15.05**	**340**	⇑P	**P**	**04 31 14.2**	**-0.4**
	baz=15						
334A	**Lometa**	**15.06**	**349**	⇑P	**P**	**04 31 15.6**	**+0.9**
	baz=15,SNR=7.9						
429A	**Davenport Ranc**	**15.46**	**336**	⇑P	**P**	**04 31 19.0**	**0.0**
	baz=15,SNR=6.8						
331A	**San Angelo**	**15.58**	**342**	⇑P	**P**	**04 31 20.7**	**+0.3**
	baz=16,SNR=5.2						
234A	**Clairette**	**15.70**	**349**	⇑P	**P**	**04 31 23.1**	**+1.4**
	baz=16,SNR=12						
233A	**Rising Star**	**15.86**	**347**	⇓P	**P**	**04 31 24.2**	**+0.7**
	baz=16						
330A	**Mertzon**	**15.91**	**340**	⇑P	**P**	**04 31 23.9**	**-0.1**
	baz=16,SNR=7.2						
232A	**Coleman**	**15.91**	**345**	⇓P	**P**	**04 31 24.1**	**0.0**
	baz=16						
231A	**Bronte**	**16.14**	**343**	⇑P	**P**	**04 31 27.4**	**+0.9**
	baz=16						
329A	**Wagon Wheel Ra**	**16.26**	**338**	⇑P	**P**	**04 31 27.9**	**-0.1**
	baz=16						
230A	**Sterling City**	**16.33**	**341**	⇓P	**P**	**04 31 29.2**	**+0.5**
	baz=16						
ABTX	**Abilene, Hawle**	**16.61**	**346**	*ePn*	**Pn**	**04 31 33.2**	**+1.3**
ABTX	**Abilene, Hawle**	**16.61**	**346**	⇑P	**Pn**	**04 31 32.5**	**+0.5**
	baz=17						
229A	**Bryant Ranch,**	**16.64**	**339**	⇑P	**Pn**	**04 31 32.5**	**+0.2**
	baz=17						
131A	**Roby**	**16.85**	**343**	⇓P	**Pn**	**04 31 35.8**	**+1.0**
	baz=17						
228A	**UT Block 9, Go**	**17.06**	**337**	⇓P	**Pn**	**04 31 38.1**	**+0.7**
	baz=17						
Z32A	**Haskell**	**17.23**	**347**	⇓P	**Pn**	**04 31 39.9**	**+0.5**
	baz=17,SNR=6.8						
129A	**Stewart Farms,**	**17.26**	**339**	⇑P	**Pn**	**04 31 39.8**	**0.0**
	baz=17						
Z31A	**Sharp Cattle R**	**17.40**	**345**	⇓P	**Pn**	**04 31 42.1**	**+0.7**
	baz=17						
128A	**Castleberry Fa**	**17.47**	**338**	⇓P	**Pn**	**04 31 42.8**	**+0.5**
	baz=17						
Z30A	**Sanderson Ranc**	**17.64**	**342**	⇑P	**Pn**	**04 31 44.4**	**+0.2**
	baz=18						
Y33A	**Hilltop Ranch,**	**17.74**	**349**	⇑P	**Pn**	**04 31 46.3**	**+0.9**
	baz=18						
Z29A	**Hungry Hill Ra**	**17.79**	**341**	⇓P	**Pn**	**04 31 46.2**	**+0.1**
	baz=18						
Y32A	**R-V Farms, Ver**	**17.89**	**347**	⇓P	**Pn**	**04 31 47.1**	**-0.2**
	baz=18						
MNTX	**Cornudas Mount**	**17.91**	**329**	*eP*	**Pn**	**04 31 49.6**	**+2.2**
MNTX	**Cornudas Mount**	**17.91**	**329**	⇑P	**Pn**	**04 31 49.8**	**+2.3**
	baz=18						
Z28A	**Tucker Farm, M**	**18.04**	**339**	⇑P	**Pn**	**04 31 49.7**	**+0.6**
	baz=18,SNR=12						
Y31A	**Rekieta Farm,**	**18.04**	**345**	⇑P	**Pn**	**04 31 48.6**	**-0.4**
	baz=18,SNR=7.4						
X32A	**Elmer**	**18.26**	**348**	⇓P	**Pn**	**04 31 51.5**	**-0.2**
	baz=18						
Y29A	**Porterfield Fa**	**18.33**	**342**	⇑P	**Pn**	**04 31 52.2**	**-0.3**
	baz=18						
W38A	**Poteau**	**18.46**	**1**	⇑P	Pn	04 32 00.0	+6.1
	baz=18						
Y28A	**McKinney Farm,**	**18.56**	**340**	⇓P	**Pn**	**04 31 55.1**	**-0.1**
	baz=18						
X31A	**McDonald Ranch**	**18.61**	**346**	⇓P	**Pn**	**04 31 55.2**	**-0.6**
	baz=19						
X30A	**Coker Ranch, T**	**18.66**	**344**	⇓P	**Pn**	**04 31 56.1**	**

QARV	**Quebrada Arrib**	**1.38**	**93**	*e*P	Pn	04 44 37.3	-0.8
QARV				*e*S	Sn	04 44 54.3	-1.1
DABV	**Dabajuro**	**1.42**	**63**	*e*P	Pn	04 44 37.8	-0.9
VIGV	**El Vigia**	**1.53**	**159**	*e*P	Pn	04 44 38.7	-1.5
CURV	**Curarigua**	**1.95**	**97**	*e*P	Pn	04 44 44.8	-1.2
CURV				*e*S	Sn	04 45 08.0	-1.5
SIQV	**Siquisique**	**2.12**	**80**	*e*P	Pn	04 44 47.0	-1.3
SOCV	**Socops**	**2.24**	**152**	*e*P	Pn	04 44 48.5	-1.5
CAPV	**Capacho**	**2.42**	**189**	*e*P	Pn	04 44 52.6	-0.2
CAPV				*e*S	Sn	04 45 18.9	-2.6
SANV	**Sanarito**	**2.48**	**108**	*e*P	Pn	04 44 53.1	-0.2
SANV				*e*S	Sn	04 45 21.0	-1.5
MONV	**Montecano**	**2.54**	**49**	*e*P	Pn	04 44 52.7	-1.4
TEPV	**Terepaima**	**2.71**	**96**	*e*P	Pn	04 44 55.2	-1.3
TEPV				*e*S	Sn	04 45 25.2	-2.9
MAPV	**Macapo**	**3.44**	**97**	*e*P	Pn	04 45 05.8	-0.8
MAPV				*e*S	Sn	04 45 43.3	-2.9
BAUV	**El Baul**	**4.05**	**109**	*e*P	Pn	04 45 13.9	-1.0
BAUV				*e*S	Sn	04 45 56.5	-4.7

WEL 25 05:07:40.2±1.0, 35°84S×177°99E, h5km, ML3.8/2, Error ellipse: s-maj=12.0km s-min=6.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.92**	**185**	*e*P*	Pn	05 08 12.7	-0.9
HAZ				S*	Sn	05 08 33.9	-4.3
WMGZ	**Waiomatatini S**	**2.01**	**170**	PN	Pn	05 08 14.0	-0.7
WMGZ				SN	Sn	05 08 39.9	-0.3
PUZ	**Puketiti**	**2.24**	**175**	*e*PN	Pn	05 08 15.9	-2.1
PUZ				SN	Sn	05 08 45.6	-0.5
PUZ				AML	AML	05 08 47.2	
URZ	**Urewera**	**2.52**	**196**	P*	Pn	05 08 20.8	-1.0
URZ				S*	Sn	05 08 50.4	-2.5

*ISCJB **25** 05:08:27.7±0.3, 43°.28N±0°.01×19°.30E±0°.02, h1km±3km, Error ellipse: s-maj=2.6km s-min=1.9km az=27.5*
*TIR **25** 05:08:28.4±2.2, 43°.29N×19°.67E, h33km±155km, ML3.5*
*PDG **25** 05:08:28.9±0.4, 43°.25N×19°.30E, h3km, MD3.4/10, ML3.4/12, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
*THE **25** 05:08:28.6, 43°.27N×19°.21E, h0km±4km, Error ellipse: s-maj=8.4km s-min=1.4km az=287.0*
*CSEM **25** 05:08:28.5±0.1, 43°.28N×19°.28E, h2km, MD3.4, Error ellipse: s-maj=2.6km s-min=1.9km az=107.0*
*BEO **25** 05:08:29.5±0.2, 43°.25N×19°.32E, h6km±2km, ML3.4/1*
*PRU **25** 05:08:29.1, 43°.26N×19°.28E, h0km*
*SKO **25** 05:08:29.9, 43°.23N×19°.34E, h0km, M2.8, ML3.3*

ISC 25 05:08:28.8±0.8, 43°29N±0°.01×19°28E±0°.01, h10km±5km, n147, σ1°16/220, 31C-31D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLE	**Pljevlja**	**0.09**	**63**	⇑*i*Pg	**Pg**	**05 08 31.2**	**-0.2**
PLE				*e*Sg	**Sg**	**05 08 33.1**	**-0.2**
PLE	**Pljevlja**	**0.09**	**63**	⇑*i*Pg	**Pg**	**05 08 31.2**	**-0.2**
PLE				*e*Sg	**Sg**	**05 08 33.1**	**-0.2**
UPM	**Unac-Piva**	**0.29**	**253**	⇑*i*Pg	**Pg**	**05 08 34.6**	**0.0**
UPM				*e*Sg	**Sg**	**05 08 38.7**	**+0.2**
UPM	**Unac-Piva**	**0.29**	**253**	⇑*i*Pg	**Pg**	**05 08 34.6**	**0.0**
UPM				*e*Sg	**Sg**	**05 08 38.7**	**+0.2**
SJES	**Sjenica**	**0.51**	**93**	⇑*i*Pg	**Pg**	**05 08 38.4**	**-0.3**
NKY	**Niksic**	**0.52**	**204**	⇓*i*Pg	**Pg**	**05 08 38.1**	**-0.8**
NKY				*e*Sg	**Sg**	**05 08 45.8**	**0.0**
NKY	**Niksic**	**0.52**	**204**	⇓*i*Pg	**Pg**	**05 08 38.1**	**-0.8**
NKY				*e*Sg	**Sg**	**05 08 45.8**	**0.0**
NKME	**Niksic**	**0.57**	**205**	⇓*i*Pg	**Pg**	**05 08 38.7**	**-1.2**
NKME				*e*Sg	**Sg**	**05 08 47.5**	**0.0**
NKME	**Niksic**	**0.57**	**205**	⇓*i*Pg	**Pg**	**05 08 38.7**	**-1.2**
NKME				*e*Sg	**Sg**	**05 08 47.5**	**0.0**
BBLS	**Lazißi**	**0.58**	**9**	⇓*i*Pg	**Pg**	**05 08 40.1**	**-0.1**
BBLS				*e*Sg	**Sb**	**05 08 50.8**	**+1.2**
BBLS	**Lazißi**	**0.58**	**9**	⇓*i*Pg	**Pg**	**05 08 40.1**	**-0.1**
BBLS				*e*Sg	**Sb**	**05 08 50.8**	**+1.2**
BEY	**Berane**	**0.61**	**133**	⇓*i*Pg	**Pg**	**05 08 39.9**	**-0.8**
BEY				*e*Sg	**Sg**	**05 08 48.4**	**-0.4**
IVA	**Berane**	**0.61**	**133**	⇓*i*Pg	**Pg**	**05 08 39.9**	**-0.8**
IVA				*e*Sg	**Sg**	**05 08 48.4**	**-0.4**
BRY	**Bratogost**	**0.67**	**235**	⇓*i*Pg	**Pg**	**05 08 40.5**	**-1.2**
BRY				*e*Sg	**Sg**	**05 08 51.1**	**+0.7**
BRY	**Bratogost**	**0.67**	**235**	⇓*i*Pg	**Pg**	**05 08 40.5**	**-1.2**
BRY				*e*Sg	**Sg**	**05 08 51.1**	**+0.7**
IVAS	**Ivanjica**	**0.70**	**65**	⇑*i*Pg	**Pg**	**05 08 42.0**	**-0.3**
IVAS				*i* Sg	**Sg**	**05 08 50.4**	**-1.1**
IVAS	**Ivanjica**	**0.70**	**65**	⇑*i*Pg	**Pg**	**05 08 42.0**	**-0.3**
IVAS				*i* Sg	**Sg**	**05 08 50.4**	**-1.1**
PVY	**Plav**	**0.85**	**144**	⇑*i*Pg	**Pg**	**05 08 44.1**	**-1.2**
PVY				*e*Sg	**Sg**	**05 08 56.2**	**-0.2**
PVY	**Plav**	**0.85**	**144**	⇑*i*Pg	**Pg**	**05 08 44.1**	**-1.2**
PVY				*e*Sg	**Sg**	**05 08 56.2**	**-0.2**
PDG	**Podgorica**	**0.86**	**181**	P	**Pg**	**05 08 43.5**	**-1.7**
PDG				S	**Sg**	**05 08 56.6**	**+0.1**
PDG	**Podgorica**	**0.86**	**181**	⇑*i*Pg	**Pg**	**05 08 43.6**	**-1.7**
PDG				*e*Sg	**Sg**	**05 08 55.9**	**-0.6**
PDG	**Podgorica**	**0.86**	**181**	⇑*i*Pg	**Pg**	**05 08 43.6**	**-1.7**
PDG				*e*Sg	**Sg**	**05 08 55.9**	**-0.6**
PDG				S	**Sg**	**05 08 56.6**	**+0.1**
TTG	**Podgorica**	**0.86**	**181**	⇑*i*Pg	**Pg**	**05 08 43.6**	**-1.7**
TTG				*e*Sg	**Sg**	**05 08 56.7**	**+0.2**
TREB	**Trebinje**	**0.89**	**230**	*e*Pg	**Pg**	**05 08 44.6**	**-1.3**
TREB				*e*Sg	**Sg**	**05 08 57.9**	**+0.4**
TREB	**Trebinje**	**0.89**	**230**	*e*Pg	**Pg**	**05 08 44.6**	**-1.3**
TREB				*e*Sg	**Sg**	**05 08 57.9**	**+0.4**
DIVS	**Divibare**	**0.96**	**32**	P	**Pg**	**05 08 47.1**	**-0.2**
DIVS				S	**Sn**	**05 09 02.2**	**0.0**
DIVS	**Divibare**	**0.96**	**32**	⇓*i*Pg	**Pg**	**05 08 46.9**	**-0.4**
DIVS				*i* Sg	**Sb**	**05 08 54.4**	**+1.0**
DIVS	**Divibare**	**0.96**	**32**	⇓*i*P	**Pg**	**05 08 47.0**	**-0.2**
DIVS				S	**Sb**	**05 09 00.6**	**+0.2**
DIVS	**Divibare**	**0.96**	**32**	P	**Pg**	**05 08 47.1**	**-0.2**
DIVS				*i* Sg	**Sb**	**05 09 01.4**	**+1.0**
DIVS				S	**Sn**	**05 09 02.2**	**0.0**
HCY	**Herceg Novi**	**1.02**	**215**	⇑*i*Pg	**Pg**	**05 08 46.8**	**-1.6**
HCY				*e*Sg	**Sn**	**05 09 03.5**	**0.0**
HCY	**Herceg Novi**	**1.02**	**215**	⇑*i*Pg	**Pg**	**05 08 46.8**	**-1.6**
HCY				*e*Sg	**Sn**	**05 09 03.5**	**0.0**
BUM	**Brajici-Budva**	**1.03**	**196**	⇓*i*Pg	**Pg**	**05 08 46.6**	**-1.9**
BUM				*e*Sg	**Sb**	**05 09 02.6**	**+0.4**
BUM	**Brajici-Budva**	**1.03**	**196**	⇓*i*Pg	**Pg**	**05 08 46.6**	**-1.9**
BUM				*e*Sg	**Sb**	**05 09 02.6**	**+0.4**
BCI	**Bajram Curri**	**1.09**	**148**	*i* PG	**Pg**	**05 08 48.0**	**-1.7**
BCI				*i* SG	**Sg**	**05 09 03.0**	**-0.9**
BCI	**Bajram Curri** SNR=94	**1.09**	**148**	*i* Pg	**Pg**	**05 08 48.0**	**-1.7**
BCI	SNR=94			*i* Sg	**Sg**	**05 09 03.0**	**-0.9**
DRME	**Dracevica, Mon**	**1.10**	**184**	⇓*i*Pg	**Pg**	**05 08 48.7**	**-1.3**
DRME				*e*Sg	**Sb**	**05 09 05.1**	**+0.7**
DRME	**Dracevica, Mon**	**1.10**	**184**	⇓*i*Pg	**Pg**	**05 08 48.7**	**-1.3**
DRME				*e*Sg	**Sb**	**05 09 05.1**	**+0.7**
GRUS	**Gruza**	**1.20**	**60**	*e*Pg	**Pg**	**05 08 51.2**	**-0.7**
GRUS				*e*Sg	**Sn**	**05 09 08.6**	**+0.5**
GRUS	**Gruza**	**1.20**	**60**	*e*Pg	**Pg**	**05 08 51.2**	**-0.7**
GRUS				*e*Sg	**Sn**	**05 09 08.6**	**+0.5**
STON	**Ston**	**1.23**	**251**	*i* Pn	**Pb**	**05 08 50.9**	**-1.2**
STON				Sn	**Sn**	**05 09 09.8**	**+1.2**
STON	**Ston**	**1.23**	**251**	*e*Pg	**Pb**	**05 08 50.9**	**-1.2**
STON				*e*Sg	**Sn**	**05 09 09.8**	**+1.2**
STON	**Ston**	**1.23**	**251**	*e*Pg	**Pb**	**05 08 50.9**	**-1.2**
STON				*e*Sg	**Sn**	**05 09 09.8**	**+1.2**
TRUS	**Trudelj**	**1.24**	**41**	⇑*i*Pg	**Pb**	**05 08 51.4**	**-0.9**
TRUS	**Trudelj**	**1.24**	**41**	⇑*i*Pg	**Pb**	**05 08 51.4**	**-0.9**
TEKS	**Tekeris**	**1.27**	**8**	*e*Pg	**Pg**	**05 08 53.9**	**+0.7**
TEKS				*i* Sg	**Sn**	**05 09 11.1**	**+1.3**
TEKS	**Tekeris**	**1.27**	**8**	*e*Pg	**Pg**	**05 08 53.9**	**+0.7**
TEKS				*i* Sg	**Sn**	**05 09 11.1**	**+1.3**
PUK	**Puka**	**1.32**	**160**	*i* PG	**Pn**	**05 08 53.4**	**0.0**
PUK				*i* SG	**Sg**	**05 09 11.4**	**0.0**
PUK	**Puka** SNR=92	**1.32**	**160**	*i* Pg	**Pn**	**05 08 53.4**	**0.0**
PUK	SNR=92			*i* Sg	**Sg**	**05 09 11.4**	**0.0**
ULC	**Ulcinj**	**1.32**	**181**	⇓*i*Pg	**Pn**	**05 08 52.9**	**-0.5**
ULC				*e*Sg	**Sn**	**05 09 12.8**	**+1.7**
ULC	**Ulcinj**	**1.32**	**181**	⇓*i*Pg	**Pn**	**05 08 52.9**	**-0.5**
ULC				*e*Sg	**Sn**	**05 09 12.8**	**+1.7**
SELS	**Selova**	**1.35**	**92**	*e*Pg	**Pn**	**05 08 53.2**	**-0.5**
SELS				*e*Sg	**Sb**	**05 09 11.7**	**+0.3**
SELS	**Selova**	**1.35**	**92**	*e*Pg	**Pn**	**05 08 53.2**	**-0.5**
SELS				*e*Sg	**Sb**	**05 09 11.7**	**+0.3**
SVIS	**Svilajnac**	**1.71**	**54**	*e*Pn	**Pb**	**05 09 00.3**	**0.0**
SVIS				*e*Sn	**Sb**	**05 09 22.0**	**+0.2**
BEO	**Beograd**	**1.75**	**29**	*e*Pn	**Pb**	**05 09 01.0**	**+0.1**
BEO				*e*Sn	**Sb**	**05 09 23.0**	**+0.1**
BEO	**Beograd**	**1.75**	**29**	*e*Pn	**Pb**	**05 09 01.0**	**+0.1**
BEO				*e*Sn	**Sb**	**05 09 23.0**	**+0.1**
PHP	**Peshkopia**	**1.82**	**151**	*i* PG	**Pb**	**05 09 02.7**	**+0.5**
PHP				*i* SG	**Sb**	**05 09 26.3**	**+1.3**
PHP	**Peshkopia**	**1.82**	**151**	P	**Pb**	**05 09 01.4**	**-0.8**
PHP	**Peshkopia**	**1.82**	**151**	P	**Pb**	**05 09 01.4**	**-0.8**
PHP	**Peshkopia** SNR=91	**1.82**	**151**	*i* Pg	**Pb**	**05 09 02.7**	**+0.5**
PHP	SNR=91			*i* Sg	**Sb**	**05 09 26.3**	**+1.3**
FGSL	**Fruska Gora**	**1.91**	**11**	*e*Pn	**Pb**	**05 09 02.7**	**-1.0**
FGSL				*e*Sn	**Sn**	**05 09 26.6**	**+1.2**
FRGS	**Fruska Gora**	**1.91**	**11**	*e*Pn	**Pb**	**05 09 02.7**	**-1.0**
FRGS				*e*Sn	**Sn**	**05 09 26.6**	**+1.1**
BARS	**Barje**	**1.92**	**103**	*e*Pn	**Pn**	**05 09 01.8**	**+0.3**
BARS	**Barje**	**1.92**	**103**	*e*Pn	**Pn**	**05 09 01.8**	**+0.3**
TIR	**Tirane**	**1.99**	**167**	*i* PG	**Pb**	**05 09 05.2**	**+0.2**
TIR				*i* SG	**Sg**	**05 09 33.4**	**+0.8**
TIR	**Tirane** SNR=91	**1.99**	**167**	*i* Pg	**Pb**	**05 09 05.2**	**+0.2**
TIR				*e*Sg	**Sg**	**05 09 32.0**	**-0.7**
BOLS	**Boljevac**	**2.02**	**74**	*e*Pn	**Pb**	**05 09 04.4**	**-1.1**
BOLS				*e*Sg	**Sg**	**05 09 32.3**	**-1.3**
BOLS	**Boljevac**	**2.02**	**74**	*e*Pn	**Pb**	**05 09 04.4**	**-1.1**
BOLS				*e*Sg	**Sg**	**05 09 32.3**	**-1.3**
SKO	**Skopje**	**2.07**	**129**	*i* Pg	**Pb**	**05 09 06.8**	**+0.4**
SKO				*i* Sg	**Sg**	**05 09 34.0**	**-1.2**
SKO	**Skopje**	**2.07**	**129**	*i* Pg	**Pb**	**05 09 06.7**	**+0.4**
SKO				*i* Sg	**Sg**	**05 09 34.0**	**-1.2**
ZAPS	**Zavoj**	**2.45**	**89**	*e*Pn	**Pn**	**05 09 09.4**	**+0.6**
OHR	**Ohrid**	**2.45**	**152**	*i* Pn	**Pn**	**05 09 10.6**	**+1.6**
OHR				*i* Sg	**Sb**	**05 09 44.9**	**+1.6**
OHR	comp=N,282nm,0.9s			*e*Lg	Lg	05 09 46.0	
OHR	comp=E,315nm,0.6s			*e*Lg	Lg	05 09 52.1	
OHR	**Ohrid**	**2.45**	**152**	*i* Pn	**Pn**	**05 09 10.5**	**+1.6**
OHR				*i* Sg	**Sb**	**05 09 44.8**	**+1.6**
OHR	comp=E,282nm,0.9s			*e*Lg	Lg	05 09 46.0	
UDBI	**Udbina**	**2.83**	**297**	*e*Pn	**Pb**	**05 09 17.3**	**-2.1**
UDBI				Sn	**Sb**	**05 09 56.1**	**+2.1**
UDBI	**Udbina**	**2.83**	**297**	*e*Pn	**Pb**	**05 09 17.2**	**-2.1**
PE1	**Pezze di Greco**	**2.84**	**210**	*e*Pn	**Pn**	**05 09 14.8**	**+0.7**
BZS	**Buzias**	**2.87**	**35**	*e*PN	**Pn**	**05 09 14.3**	**-0.2**
BZS	**Buzias**	**2.87**	**35**	⇓*i*P	**Pn**	**05 09 14.3**	**-0.2**
BZS	**Buzias**	**2.87**	**35**	⇓*i*P	**Pn**	**05 09 14.3**	**-0.2**
KBN	**Korca**	**2.89**	**157**	*i* PG	**Pb**	**05 09 18.4**	**-2.0**
MS1	**Monte Sant'Ang**	**2.93**	**238**	*e*Pn	**Pn**	**05 09 15.0**	**-0.5**
FNA	**Florina**	**2.95**	**147**	*e*PN	**Pn**	**05 09 16.6**	**+0.9**
FNA	**Florina**	**2.95**	**147**	P	**Pn**	**05 09 17.3**	**+1.6**
FNA	**Florina**	**2.95**	**147**	*e*Pn	**Pn**	**05 09 16.6**	**+0.9**
FNA	**Florina**	**2.95**	**147**	P	**Pn**	**05 09 17.3**	**+1.6**
PKSM	**Moragy**	**2.96**	**351**	⇑*i*P	**Pn**	**05 09 15.6**	**-0.2**
PKSM	**Moragy**	**2.96**	**351**	⇑*e*Pn	**Pn**	**05 09 15.7**	**-0.1**
PKSM				*e*Sn	**Sn**	**05 09 50.3**	**-1.0**
PKSM	**Moragy**	**2.96**	**351**	⇑*e*Pn	**Pn**	**05 09 15.7**	**-0.1**
PKSM				*e*Sn	**Sn**	**05 09 50.3**	**-1.0**
VTS	**Vitosha**	**2.97**	**102**	P	**Pn**	**05 09 16.8**	**+0.7**
VTS	**Vitosha**	**2.97**	**102**	⇓*i*P	**Pn**	**05 09 19.0**	**+2.9**
VTS	**Vitosha**	**2.97**	**102**	P	**Pn**	**05 09 16.8**	**+0.7**
SG1	**Sgolgore (BA)**	**3.12**	**219**	*e*Pn	**Pn**	**05 09 18.7**	**+0.7**
VAY	**Valandovo**	**3.13**	**128**	*i* Pn	**Pn**	**05 09 20.9**	**+2.6**
VAY				*i* Sg	**Sg**	**05 10 08.3**	**-1.2**
VAY	comp=E,41nm,0.8s			*e*Lg	Lg	05 10 19.4	
VAY	comp=N,45nm,0.7s			*e*Lg	Lg	05 10 22.7	
VAY	**Valandovo**	**3.13**	**128**	*i* Pn	**Pn**	**05 09 20.8**	**+2.6**
VAY				*i* Sg	**Sg**	**05 10 08.2**	**-1.2**
VAY	comp=N,41nm,0.8s			*e*Lg	Lg	05 10 19.4	
TAR1	**Taranto**	**3.14**	**209**	*e*Pn	**Pn**	**05 09 19.0**	**+0.8**
CDT	**Castel del Mon**	**3.14**	**226**	*e*Pn	**Pn**	**05 09 19.1**	**+0.8**
SRE	**Strehaia**	**3.15**	**63**	⇑*i*P	**Pn**	**05 09 19.6**	**+1.2**
SRE	**Strehaia**	**3.15**	**63**	⇑*i*P	**Pn**	**05 09 19.6**	**+1.2**
GZR	**Gura Zlata**	**3.27**	**49**	⇑*i*P	**Pn**	**05 09 20.5**	**+0.3**
GZR	**Gura Zlata**	**3.27**	**49**	⇑*i*P	**Pn**	**05 09 20.5**	**+0.3**
GRG	**Griva**	**3.29**	**134**	*e*PN	**Pn**	**05 09 23.1**	**+2.7**
GRG	**Griva**	**3.29**	**134**	*e*Pn	**Pn**	**05 09 23.1**	**+2.7**
PKS9	**Tamasi**	**3.37**	**348**	⇑*e*Pn	**Pn**	**05 09 21.9**	**+0.4**
PKS9				*e*Sn	**Sn**	**05 10 01.2**	**-0.4**
PKS9	**Tamasi**	**3.37**	**348**	⇑*e*Pn	**Pn**	**05 09 21.9**	**+0.4**
PKS9				*e*Sn	**Sn**	**05 10 01.2**	**-0.4**
KNT	**Kendrikon**	**3.43**	**127**	P	**Pn**	**05 09 23.2**	**+1.0**
KNT	**Kendrikon**	**3.43**	**127**	P	**Pn**	**05 09 23.2**	**+1.0**
SIRR	**Siria**	**3.43**	**29**	⇑*i*P	**Pn**	**05 09 23.5**	**+1.2**
SIRR	**Siria**	**3.43**	**29**	⇑*i*P	**Pn**	**05 09 23.5**	**+1.2**
NVLJ	**Novalja**	**3.43**	**293**	*e*Pn	Pb	05 09 26.1	-3.5
NVLJ				Sn	**Sb**	**05 10 11.3**	**0.0**
NVLJ	**Novalja**	**3.43**	**293**	*e*Pn	Pb	05 09 26.0	-3.5
KEK	**Kerkira**	**3.59**	**174**	P	**Pn**	**05 09 26.1**	**+1.6**
KEK				S	**Sn**	**05 10 08.9**	**+1.9**
KEK	**Kerkira**	**3.59**	**174**	P	**Pn**	**05 09 26.1**	**+1.6**
KEK				S	**Sn**	**05 10 08.9**	**+1.9**
BEHE	**Becsehely**	**3.65**	**332**	⇓*e*Pn	**Pn**	**05 09 26.5**	**+1.3**
BEHE	**Becsehely**	**3.65**	**332**	⇓*e*Pn	**Pn**	**05 09 26.5**	**+1.3**
MMB	**Musomiste**	**3.71**	**116**	⇑*i*P	Pb	05 09 30.4	-3.9
MMB	**Musomiste**	**3.71**	**116**	⇑*i*P	Pb	05 09 30.4	-3.9
HORT	**Hortiatis**	**3.92**	**132**	*e*PN	Pn	05 09 32.6	+3.6
HORT	**Hortiatis**	**3.92**	**132**	*e*Pn	Pn	05 09 32.7	+3.6
PKST	**T''s**	**4.07**	**348**	*e*Pn	**Pn**	**05 09 31.4**	**+0.4**
PKST	**T''s**	**4.07**	**348**	*e*Pn	**Pn**	**05 09 31.4**	**+0.4**
DRGR		**4.26**	**34**	⇓*i*P	**Pn**	**05 09 33.3**	**-0.5**
DRGR		**4.26**	**34**	⇓*i*P	**Pn**	**05 09 33.3**	**-0.5**
SOKA	**Soboth**	**4.53**	**320**	⇓*i*Pn	**Pn**	**05 09 38.2**	**+0.7**
SOKA	**Soboth**	**4.53**	**320**	Pn	**Pn**	**05 09 38.2**	**+0.7**
OUR	**Ouranopolis**	**4.59**	**128**	*e*PN	Pn	05 09 42.7	+4.5
OUR	**Ouranopolis**	**4.59**	**128**	*e*Pn	Pn	05 09 42.7	+4.5
LKD2	**Lefkada island**	**4.62**	**166**	P	**Pn**	**05 09 39.5**	**+0.9**
LKD2				S	**Sn**	**05 10 33.6**	**+1.4**
LKD2	**Lefkada island**	**4.62**	**166**	P	**Pn**	**05 09 39.5**	**+0.9**
LKD2				S	**Sn**	**05 10 33.6**	**+1.4**
PSZ	**Piszkesteto**	**4.65**	**5**	⇓*i*P	**Pn**	**05 09 39.1**	**0.0**
PSZ	**Piszkesteto**	**4.65**	**5**	⇓*i*P	**Pn**	**05 09 39.1**	**0.0**
PSZ	**Piszkesteto**	**4.65**	**5**	*e*Pn	**Pn**	**05 09 39.8**	**+0.7**
PSZ				*e*Sn	**Sn**	**05 10 31.0**	**-2.2**
PSZ	**Piszkesteto**	**4.65**	**5**	*e*Pn	**Pn**	**05 09 39.8**	**+0.7**
PSZ				*e*Sn	**Sn**	**05 10 31.0**	**-2.2**
VOIR		**4.66**	**61**	⇑*i*P	**Pn**	**05 09 40.8**	**+1.5**
VOIR		**4.66**	**61**	⇑*i*P	**Pn**	**05 09 40.8**	**+1.5**
ARSA	**Arzberg**	**4.77**	**328**	⇓*i*Pn	**Pn**	**05 09 42.2**	**+1.5**
ARSA	**Arzberg**	**4.77**	**328**	Pn	**Pn**	**05 09 42.2**	**+1.5**
AGG	**Agios Georgios**	**4.84**	**151**	*e*PN	**Pn**	**05 09 43.9**	**+2.1**
AGG	**Agios Georgios**	**4.84**	**151**	*e*Pn	**Pn**	**05 09 43.9**	**+2.1**
VYHS	**Vyhne**	**5.21**	**357**	*e*Pn	**Pn**	**05 09 46.6**	**-0.2**
VYHS				*e*Sn	**Sn**	**05 10 43.8**	**-3.2**
VYHS	**Vyhne**	**5.21**	**357**	*e*PN	**Pn**	**05 09 46.6**	**-0.2**
VYHS				*e*SN	**Sn**	**05 10 43.8**	**-3.2**
AOS	**Alonnisos**	**5.38**	**138**	*e*PN	**Pn**	**05 09 51.2**	**+2.1**
AOS	**Alonnisos**	**5.38**	**138**	*e*Pn	**Pn**	**05 09 51.2**	**+2.1**
ALN	**Alexandroupoli**	**5.57**	**113**	*e*P	Pn	05 09 58.2	+6.5
GADA	**Gvkgeada**	**5.84**	**120**	*e*P	Pn	05 10 01.1	+5.8
VRI	**Vrincioaia**	**5.91**	**62**	⇓*i*P	**Pn**	**05 09 59.1**	**+2.7**
VRI	**Vrincioaia**	**5.91**	**62**	⇓*i*P	**Pn**	**05 09 59.1**	**+2.7**
KHC	**Kasperske Hory**	**7.05**	**328**	*e*PN	**Pn**	**05 10 13.0**	**+0.9**
KHC				*ex*	x	05 10 16.9	
KHC				*ex*	x	05 10 26.1	
KHC				*e*SN	**Sn**	**05 11 31.2**	**-1.1**
KHC				*ex*	x	05 11 39.3	
KHC	**Kasperske Hory**	**7.05**	**328**	Pn	**Pn**	**05 10 13.0**	**+0.9**

SKHL 25 05:09:03.7±0.1, 44°.57N×148°.65E, h33km, mb4.2/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.87**	**320**	*i* P	Pn	05 09 18.8	-0.7
KUR				AMB	AMB	05 09 21.0	
KUR	180nm,0.5s			AMB	AMB	05 09 21.0	
KUR	190nm,0.5s			*i* S	Sn	05 09 30.1	-0.9
KUR				A	A	05 09 33.5	
KUR	720nm,0.3s			A	A	05 09 33.5	
SHO	590nm,0.3s **Shikotan**	**1.48**	**242**	*e*P	Pn	05 09 27.7	-0.3
SHO				AMB	AMB	05 09 38.4	
SHO	90nm,0.9s			*e*S	Sn	05 09 45.7	-0.6
SHO				A	A	05 09 51.5	
YSS	200nm,0.3s **Yuzh-Sakhalins**	**4.76**	**302**	*e*P	Pn	05 10 14.6	+1.5
YSS				AMB	AMB	05 10 17.6	
YSS	30nm,0.3s			*e*S	Sn	05 11 06.6	-0.6
YSS				A	A	05 11 08.1	
	35nm,0.2s						

*ISCJB **25** 05:15:49.8±0.7, 35°.1S±0°.1×107°.2W±0°.2, h10km, mb4.1/6, MS3.6/8, Error ellipse: s-maj=23.2km s-min=17.9km az=142.0*
*IDC **25** 05:15:49.9±0.8, 35°.08S×107°.24W, h0km, mb4.2/6, mb1 4.4/6, mb1mx4.0/25, mbtmp4.2/6, MS3.6/8, Ms1 3.6/8, ms1mx3.4/18, Error ellipse: s-maj=29.8km s-min=24.6km az=45.0*

ISC 25 05:15:51.2±0.8, 35°.0S±0°.2×107°.2W±0°.2, h10km, n18, σ1°23/11, mb4.1/6, MS3.6/8, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**29.36**	**112**	P	**P**	**05 21 54.0**	**-0.5**
PLCA	1.2nm,0.8s,baz=290,slow=12,SNR=3.5			LR	LR	05 31 23.9	
TBI	comp=Z,22nm,20.8s,baz=272,slow=32 **Tubuai**	**38.40**	**276**	*e*LQ	LQ	05 32 01.9	
TBI	194nm,32.5s			*e*LR	LR	05 33 33.8	
LPAZ	118nm,24.5s **La Paz**	**39.57**	**72**	P	**P**	**05 23 22.9**	**-0.6**
LPAZ	1.0nm,0.9s,baz=290,slow=2.9,SNR=3.8			LR	LR	05 35 49.1	
PPT2	comp=Z,65nm,20.2s,baz=230,slow=30 **Papeete2**	**41.39**	**284**	*e*LQ	LQ	05 32 58.5	
PPT2	268nm,27.5s			*e*LR	LR	05 33 51.2	
PPT	51nm,24.0s **Papeete**	**41.40**	**284**	P	**P**	**05 23 36.6**	**-1.3**
PPT	25nm,0.6s,baz=271,slow=1.5,SNR=4.2			LR	LR	05 34 33.8	
ROSC	comp=Z,33nm,20.6s,baz=28,slow=27 **El Rosal**	**50.32**	**45**	LR	LR	05 41 59.2	
QSPA	comp=Z,101nm,20.9s,baz=226,slow=31 **South Pole Qui**	**55.17**	**180**	P	**P**	**05 25 24.9**	**+1.1**
BDFB	2.9nm,0.8s,baz=155,slow=2.3,SNR=9.4 **Brasilia**	**56.10**	**86**	LR	LR	05 46 56.6	
RAO	comp=Z,86nm,18.5s,baz=208,slow=33 **Raoul Island**	**59.00**	**254**	LR	LR	05 49 16.2	
URZ	comp=Z,25nm,18.4s,baz=30,slow=34 **Urewera**	**59.17**	**243**	LR	LR	05 44 55.0	
VNA3

QZX	Qazax, Azerbai	2.08	199	Pn	Pn	05 38 54.1	-0.3	
	SNR=11							
QZX				Sn	Sn	05 39 19.1	-0.6	
QUBA	Quba, Azerbaij	2.35	135	⇓Sn	Sn	05 39 27.1	+0.9	
QUBA	Quba, Azerbaij	2.35	135	Sn	Sn	05 39 27.1	+0.9	
GANJ	Ganja	2.38	179	⇑Pn	Pn	05 38 57.6	-0.7	
GANJ				⇑Sn	Sn	05 39 25.0	-1.9	
GANJ	Ganja	2.38	179	Pn	Pn	05 38 57.7	-0.7	
GANJ				Sn	Sn	05 39 25.0	-1.9	
IML	Ismayilli	2.65	147	⇓Sn	Sn	05 39 34.4	+1.0	
IML	Ismayilli	2.65	147	Sn	Sn	05 39 34.4	+1.0	
BRDA	Brd	2.85	166	⇓Sn	Sn	05 39 37.4	-0.6	
BRDA	Brd	2.85	166	Sn	Sn	05 39 37.4	-0.6	
GLBA	Clilabad	4.11	156	⇓Sn	Sn	05 40 06.5	-2.1	
GLBA	Clilabad	4.11	156	Sn	Sn	05 40 06.5	-2.1	
LRK	Lerik	4.66	160	⇑Pn	Pn	05 39 29.8	+0.5	
LRK	Lerik	4.66	160	Pn	Pn	05 39 29.8	+0.5	

*IDC **25** 06:11:50.5±0.4,31.˚11N×103.˚50E,h0km,mb4.8/30, mb1 4.9/31,mb1mx4.9/33,mbtmp4.8/31,ML4.4/1,MS4.3/22, Ms1 4.3/22,ms1mx4.1/31,Error ellipse: s-maj=13.6km s-min=9.7km az=43.0*

*ISCJB **25** 06:11:52.9±0.6,31.˚13N±0.˚02×103.˚51E±0.˚02,h25km±4km, mb5.1/193,MS4.6/48,Error ellipse: s-maj=2.9km s-min=2.4km az=1.2*

*NEIC **25** 06:11:52.5±0.1,31.˚15N×103.˚55E,h10km,mb5.3/80,Error ellipse: s-maj=3.1km s-min=2.6km az=222.0*

NEIC Felt [III] at Chengdu. Also felt at Mianyang and Shahe.

*MOS **25** 06:11:53.0±0.8,31.˚12N×103.˚59E,h28km,mb5.3/97, MS4.6/33,Error ellipse: s-maj=6.1km s-min=3.6km az=117.5*

*BJI **25** 06:11:53.1,31.˚17N×103.˚49E,h20km,mb5.2/46,mB5.1/25, ML5.1/27,Ms5.0/67,Ms7 4.8/63*

*GCMT **25** 06:11:56.1±0.3,31.˚11N×103.˚62E,h29km,MW5.0/68, Moment Tensor Solution. s38,c45; s68,c100; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.96±.20; $M_{\theta\theta}$-0.61±.13; $M_{\phi\phi}$-2.35±.14; $M_{r\theta}$-1.14±.20; $M_{\theta\phi}$-2.13±.08; $M_{r\phi}$0.08±.20; Best double couple: M_o3.60900×10^{16} NP1:ϕ_s233.00000°,δ53.00000°,λ116.00000°. NP2: ϕ_s14.00000°,δ44.00000°,λ59.00000°. Principal axes: T 3.3870, Plg69.0000°, Azm202.0000°; N 0.4400, Plg21.0000°, Azm37.0000°; P -3.8310, Plg5.0000°, Azm305.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SZGRF **25** 06:11:57.0,31.˚62N×103.˚35E,h22km,mb5.3,MS4.9, Sichuan, China*

ISC 25 06:11:54.7±0.3,31.˚11N±0.˚03×103.˚49E±0.˚03,h25km±2km, h24km;pP-P,n791,σ1s16/813,mb5.2/195,MS4.5/51, 105C-19D,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CD2	Chengdu	0.31	131	Pg		Pb	06 12 00.5	-1.4
CD2				Sg		Sb	06 12 05.8	-1.0
CD2				SMN				
	165μm,0.9s							
CD2				SME				
	200μm,0.6s							
LZH	Lanzhou	4.97	3	Pn		Pn	06 13 09.3	+1.4
LZH				Sn		Sn	06 14 04.8	+0.2
LZH				Sg		Sb	06 14 30.0	+10
LZH				SMN				
	2μm,1.1s							
LZH				SME				
	5μm,1.2s							
LZH				LN				
	23μm,9.0s							
LZH				LE				
	21μm,9.1s							
LZH				LZ				
	18μm,10.5s							
ENH	Enshi	5.24	98	*e*Pn		Pn	06 13 11.9	+0.5
ENH				*e*Sn		Sn	06 14 08.9	-2.2
GYA	Guiyang	5.41	148	Pn		Pn	06 13 15.4	+1.4
GYA				Sn		Sn	06 14 21.4	+5.8
GYA				Sg		Sb	06 14 47.6	+14
GYA				SMN				
	2μm,1.4s							
GYA				SME				
	2μm,1.5s							
GYA				LN				
	8μm,7.5s							
GYA				LE				
	8μm,8.1s							
GYA				LZ				
	14μm,7.5s							
XAN	Xi'an	5.44	56	Pn		Pn	06 13 12.8	-1.4
XAN				Pg		Pb	06 13 31.1	+2.2
XAN				Sn		Sn	06 14 13.8	-2.2
XAN				Sg		Sb	06 14 37.3	+3.5
XAN				SMN				
	4μm,0.7s							
XAN				SME				
	1μm,0.7s							
XAN				LN				
	5μm,6.2s							
XAN				LE				
	1μm,6.6s							
XAN				LZ				
	2μm,10.2s							
KMI	Kunming	6.00	186	Pn		Pn	06 13 23.5	+1.3
KMI				Sn		Sn	06 14 31.0	+0.7
KMI				SMN				
	260nm,2.3s							
KMI				SME				
	330nm,1.9s							
KMI				LN				
	9μm,12.7s							
KMI				LE				
	17μm,11.2s							
KMI				LZ				
	9μm,13.8s							
GTA	Gaotai	8.80	341	⇑P		Pn	06 14 03.6	+3.1
GTA				pP			06 14 07.3	
GTA				sP			06 14 09.8	
GTA				S		Sn	06 15 46.1	+7.1
GTA				sS			06 15 51.3	
GTA				PMZ				
	10.0nm,1.2s							
GTA				PMZ				
	170nm,4.3s							
GTA				LN				
	5μm,9.7s							
GTA				LE				
	7μm,10.9s							
GTA				LZ				
	5μm,15.2s							
WHN	Wuhan	9.36	91	P		Pn	06 14 07.0	-1.0
WHN				S		Sn	06 15 48.5	-4.0
WHN				LN				
	6μm,6.4s							
WHN				LE				
	15μm,7.2s							
WHN				LZ				
	15μm,7.2s							
TIY	Taiyuan	9.89	46	*e*P		Pn	06 14 13.9	-1.5
IMP	Imphal	10.54	236	*ex*		Pn	06 14 25.0	+0.8
IMP				*ex*		Sn	06 16 13.0	-8.5
LSA	Lhasa	10.74	266	P		Pn	06 14 29.4	+2.0
LSA				S		Sn	06 16 23.1	-4.0
LSA				LN				
	3μm,13.4s							
LSA				LE				
	4μm,10.6s							
LSA				LZ				
	6μm,11.2s							
LSA	Lhasa	10.74	266	*e*P		Pn	06 14 29.8	+2.4
LSA	Lhasa	10.74	266	*e*Pn		Pn	06 14 29.8	+2.4
CRAI	Chiangrai	11.20	195	P		Pn	06 14 41.0	+7.8
	33nm,1.5s,1μm							
SHL	Shillong	11.62	244	*e*P		Pn	06 14 36.4	-2.7
SHL				*ex*		x	06 18 08.0	
HHC	Hu-ho-hao-te	11.71	32	*e*P		Pn	06 14 41.6	+1.4
HHC				sP			06 14 47.5	
HHC				PP		PnPn	06 14 51.8	+3.8
HHC				S		Sn	06 16 51.9	+1.8
HHC				SS		SnSn	06 17 05.1	+2.8
HHC				PMZ				
	23nm,1.0s							
HHC				PMZ				
	190nm,4.7s							
HHC				LN				
	3μm,9.2s							
HHC				LE				
	2μm,8.0s							
HHC				LZ				
	3μm,12.4s							
CMAI	Chiengmai2	11.83	201	P		Pn	06 14 45.8	+3.7
	26nm,1.1s							
GZH	Guangzhou	11.87	130	P		Pn	06 14 41.0	-1.4
GZH				LN				
	11μm,9.8s							
GZH				LE				
	11μm,12.1s							
TIA	Tai'an	12.44	62	⇑P		Pn	06 14 48.4	-1.8
TIA				S		Sn	06 17 12.3	+4.2
TIA				PMZ				
	40nm,0.7s							
TIA				LN				
	4μm,6.3s							
TIA				LE				
	2μm,5.7s							
TIA				LZ				
	800nm,6.5s							
CMMT	Chiang Mai	12.92	200	P		Pn	06 15 01.5	+4.7
	38nm,1.8s							
CHTO	Chiang Mai	12.92	200	P		Pn	06 15 01.5	+4.7
	102nm,1.1s							
CHTO	Chiang Mai	12.92	200	*e*P		Pn	06 14 58.6	+1.8
CHTO	Chiang Mai	12.92	200	*e*Pn		Pn	06 14 58.6	+1.8
LAMP	Lampang	13.01	196	P		P	06 15 10.3	+2.0
NJ2	Nanjing	13.14	82	*e*P		Pn	06 14 59.6	-0.1
NJ2				pP		P	06 15 02.4	-7.2
NJ2				PP		PnPn	06 15 08.1	+0.6
NJ2				S		Sn	06 17 24.6	-0.4
NJ2				PMZ				
	80nm,0.6s							
NJ2				LN				
	12μm,12.8s							
NJ2				LE				
	14μm,13.4s							
NJ2				LZ				
	48μm,13.5s							
CM31	Chiang Mai Arr	13.26	199	*e*Pn		Pn	06 15 03.0	+1.6
CMAR	Chiang Mai Arr	13.26	199	Pn		Pn	06 15 03.1	+1.7
	0.6nm,0.3s,baz=8.9,slow=12,SNR=11							
CMAR				Lg		Lg	06 18 57.3	
	0.5nm,0.3s,baz=35,slow=14,SNR=3.3							
CMAR				LR		LR	06 20 28.5	
	comp=Z,890nm,19.5s,baz=14,slow=39							
CMAR				PcP		PcP	06 20 31.6	+0.7
	0.8nm,0.3s,baz=284,slow=3.1,SNR=4.8							
CM01	Chiang Mai Arr	13.29	199	*e*Pn		Pn	06 15 03.8	+2.0
QIZ	Qiongzhong	13.34	153	P		Pn	06 15 04.0	+1.5
QIZ				S		Sn	06 17 32.8	+2.8
QIZ				LN				
	5μm,11.0s							
QIZ				LE				
	1μm,9.1s							
QIZ				LZ				
	7μm,11.0s							
QIZ	Qiongzhong	13.34	153	*e*Pn		Pn	06 15 03.9	+1.5
BJT	Baijiatuau	13.61	46	*e*P		Pn	06 15 04.2	-1.9
BJT				pmax		pmax		
	comp=Z,101nm,1.1s							
BJT	Baijiatuau	13.61	46	*e*Pn		Pn	06 15 04.2	-1.9
	comp=Z,100nm,1.1s							
BJI	Beijing	13.62	46	P		Pn	06 15 05.3	-1.0
BJI				PMZ				
	comp=Z,25nm,0.5s							
SUKH	Sukhothai	14.02	195	P		P	06 15 21.7	+2.3
SKNT	Sakolnakorn	14.09	178	P		Pn	06 15 15.2	+2.5
	comp=Z,39nm,1.3s,comp=Z,2μm							
TAPN	Taplejung	14.28	259	*e*P		Pn	06 15 14.2	-1.4
	comp=Z,91nm,1.0s							
QZH	Quanzhou	14.68	111	⇓*i*P		Pn	06 15 22.8	+2.0
QZH				S		Sn	06 18 10.0	+7.2
QZH				LN				
	comp=Z,13μm,7.6s							
QZH				LE				
	comp=Z,12μm,9.2s							
QZH				LZ				
	comp=Z,18μm,9.8s							
ODAN	Odare	14.71	257	*e*P		Pn	06 15 19.3	-2.1
	comp=Z,80nm,0.9s							
KHON	Khomkaen	14.72	183	P		P	06 15 28.9	+1.6
	comp=Z,24nm,1.2s							
SSE	Sheshan	15.17	85	P		Pn	06 15 24.0	-3.3
SSE				sP		sP	06 15 33.8	-8.2
SSE				S		Sn	06 18 14.3	-0.2
SSE				PMZ				
	comp=Z,62nm,0.8s							
SSE				PMZ				
	comp=Z,170nm,7.6s							
SSE				LN				
	comp=Z,6μm,10.4s							
SSE				LE				
	comp=Z,1μm,10.4s							
RAMN	Ramite	15.34	259	*e*P		Pn	06 15 28.2	-1.6
JIRN	Jiri	15.46	261	*e*P		Pn	06 15 30.8	-0.8
GUN	Gumba	15.66	263	*e*P		Pn	06 15 32.5	-1.6
	comp=Z,237nm,1.1s							
PKI	Pulchoki	16.15	262	*e*P		Pn	06 15 39.1	-1.3
	comp=Z,293nm,1.1s							
PKIN	Phulchoki	16.16	262	*e*P		Pn	06 15 39.4	-1.1
	comp=Z,89nm,0.8s							
KKN	Kakani	16.20	263	*e*P		Pn	06 15 39.4	-1.5
	comp=Z,548nm,1.3s							
DMN	Daman	16.40	262	*e*P		Pn	06 15 42.3	-1.2
	comp=Z,372nm,1.2s							
GKN	Gorkha	16.69	264	*e*P		Pn	06 15 46.8	-0.3
	comp=Z,412nm,1.0s							
DL2	Dalian	16.76	57	⇓*i*P		P	06 15 51.3	+1.6
DL2				PMZ				
	comp=Z,140nm,1.3s							
DL2				PMZ				
	comp=Z,400nm,3.4s							
DL2				LE				
	comp=Z,1μm,15.2s							
DL2				LZ				
	comp=Z,760nm,15.2s							
SONM	Songino Array	16.85	7	Pn		Pn	06 15 48.1	-0.8
	comp=Z,1.4nm,0.3s,baz=188,slow=13,SNR=92							
SONM				Lg		Lg	06 20 52.1	
	comp=Z,0.1nm,0.3s,baz=176,slow=22,SNR=2.7							
SONM				LR		LR	06 23 07.8	
	comp=Z,2μm,19.0s,baz=186,slow=40							
SONA1	Songino Array	16.86	7	*e*Pn		Pn	06 15 49.1	+0.1
ULN	Ulaanbaatar	16.95	8	*c i*P		Pn	06 15 49.6	-0.6
ULN				pmax		pmax		
	comp=Z,82nm,1.7s							
ULN	Ulaanbaatar	16.95	8	Pn		Pn	06 15 50.2	0.0
	SNR=26							
ULN	Ulaanbaatar	16.95	8	*e*Pn		Pn	06 15 50.0	-0.2
	comp=Z,76nm,1.3s							
YHNB	Yeheng	17.06	108	*e*Pn		Pn	06 15 49.3	-2.3
	comp=Z,39nm,0.8s							
SRDT	SRDT	17.16	194	P		P	06 15 55.8	+1.5
	comp=Z,282nm,1.3s,comp=Z,7μm							
BOK	Bokaro	17.23	249	*e*P		Pn	06 15 50.9	-2.8
BOK				AMB		AMB	06 15 51.8	
	comp=Z,156nm,0.6s							
NACB	Ninganchiao	17.46	109	*e*Pn		Pn	06 15 54.5	-2.1
	comp=Z,80nm,1.2s							
YULB	Yu-li	17.59	112	*e*Pn		Pn	06 15 56.0	-2.3
KOLN	Koldanda	17.64	264	*e*P		Pn	06 15 58.1	-0.9
	comp=Z,145nm,1.2s							
WMQ	Urumqi	17.79	320	P		P	06 16 01.8	+0.5
WMQ				pP		pP	06 16 07.8	-0.2
WMQ				sP		sP	06 16 11.5	+0.3
WMQ				PP		PnPn	06 16 16.4	+4.9
WMQ				S		Sn	06 16 17.1	-1.1
WMQ				sS		S	06 16 26.5	+1.7
WMQ				PcP		PcP	06 20 39.8	+2.6
WMQ				ScP		ScP	06 24 11.5	+0.7
WMQ				PcS		PcS	06 24 15.4	+1.9
WMQ				PMZ				
	comp=Z,44nm,1.0s							
WMQ				PMZ				
	comp=Z,430nm,5.0s							
WMQ				LN				
	comp=Z,3μm,13.2s							
WMQ				LE				
	comp=Z,3μm,10.4s							
WMQ				LZ				
	comp=Z,1μm,18.2s							
PATY	Pattaya	18.27	188	P		P	06 16 19.6	+13
ZAK	Zakamensk	19.25	360	⇑*i*P		Pn	06 16 18.8	+0.5
ZAK				pmax		pmax		
	comp=Z,29nm,0.9s							
SNY	Shenyang	19.33	51	⇓P		P	06 16 18.6	+0.5
SNY				S		S	06 19 58.9	+3.6
SNY				PMZ				
	comp=Z,32nm,1.1s							
SNY				PMZ				
	comp=Z,430nm,12.0s							
SNY				LN				
	comp=Z,420nm,10.3s							
SNY				LE				
	comp=Z,1μm,14.9s							
SNY				LZ				
	comp=Z,1μm,17.6s							
KSSES	Seosan	19.86	67	P		P	06 16 24.5	+0.7
	SNR=15							
KSSES	Seosan	19.86	67	P		P	06 16 24.5	+0.7
	SNR=15							
KSGAH	Ganghwa	20.03	65	P		P	06 16 26.3	+0.6
	SNR=8.8							
KSGAH	Ganghwa	20.03	65	P		P	06 16 26.3	+0.6
	SNR=8.8							
KSJEU	Jeongeup	20.06	71	P		Pn	06 16 27.8	-0.2
	SNR=10.0							
KSJEU	Jeongeup	20.06	71	P		Pn	06 16 27.8	-0.2
	SNR=10.0							
INCN	Inchon	20.13	65	*e*P		P	06 16 26.9	0.0
	comp=Z,97nm,1.0s							
KSMUS	Musan	20.31	64	P		P	06 16 29.4	+0.6
	SNR=17							
KSMUS	Musan	20.31	64	P		P	06 16 29.4	+0.6
	SNR=17							
DGPR	DIGLIPUR	20.33	211	*e*P		P	06 16 28.8	-0.3
DGPR				AMB		AMB	06 16 51.5	
	comp=Z,110nm,1.6s							
KSSWO	Suwon	20.35	66	P		Pn	06 16 30.6	-0.8
	SNR=18							
KSSWO	Suwon	20.35	66	P		Pn	06 16 30.6	-0.8
	SNR=18							
KSCEA	Cheonan	20.50	67	P		P	06 16 31.5	+0.6
	SNR=16							
KSCEA	Cheonan	20.50	67	P		P	06 16 31.5	+0.6
	SNR=16							
TJN	Taejon	20.52	69	*i* P		P	06 16 30.9	-0.2
TLY	Talaya	20.55	0	Pn		Pn	06 16 33.8	+0.2
	comp=Z,162nm,1.0s,SNR=14							
TLY	Talaya	20.55	0	*c i*P		Pn	06 16 32.9	-0.7
TLY				*e*			06 16 51.2	
TLY				*e*			06 20 41.6	
TLY				*e*SS		SS	06 20 50.9	
TLY				pmax		pmax		
	comp=Z,28nm,0.9s							
TLY				MLR		MLR		
	comp=Z,2μm,11.0s							
TLY	Talaya	20.55	0	P		Pn	06 16 33.5	-0.2
	SNR=31							
TLY	Talaya	20.55	0	*e*P		Pn	06 16 33.1	-0.5
	comp=Z,58nm,1.3s							
MOY	Mondy	20.62	356	*e*P		P	06 16 32.2	+0.1
MOY				pmax		pmax		
	comp=Z,220nm,2.0s							
KSICN	Icheon	20.70	66	P		P	06 16 33.8	+0.7
	SNR=8.3							
KSICN	Icheon	20.70	66	P		P	06 16 33.7	+0.7
	SNR=15							
KSNAH	Namhae	20.82	73	P		P	06 16 35.6	+1.2
	SNR=7.9							
KSNAH	Namhae	20.82	73	P		P	06 16 35.6	+1.2
	SNR=7.9							
KSBON	Boeun	20.88	69	P		P	06 16 35.7	+0.7
	SNR=17							
KSBON	Boeun	20.88	69	P		P	06 16 35.7	+0.7
	SNR=17							
KSCPR	CHUPUNGNYEONG	20.98	69	P		P	06 16 36.7	+0.5
	SNR=17							
KSCPR	CHUPUNGNYEONG	20.98	69	P		P	06 16 36.7	+0.5
	SNR=17							
KSCHJ	Chungju	21.08	68	P		P	06 16 37.6	+0.5
	SNR=9.4							
KSAR	Wonju Array Be	21.10	66	P		P	06 16 37.2	-0.1
KSAR	Wonju Array Be	21.10	66	P		P	06 16 37.1	-0.1
KSCHC	Chuncheon	21.11	65	P		P	06 16 38.0	+0.5
	SNR=14							
KSCHC	Chuncheon	21.11	65	P		P	06 16 38.0	+0.5
	SNR=14							
KS01	Wonju Array Si	21.11	66	*e*P		P	06 16 36.2	-1.2
IRK	Irkutsk	21.12	1	*e*P		P	06 16 39.2	+1.7
IRK				pmax		pmax		
	comp=Z,441nm,1.1s							
KSRS	Korea Array	21.13	66	P		P	06 16 37.1	-0.5
	comp=Z,45nm,0.8s,baz=262,slow=10,SNR=105							
KSRS				LR		LR	06 26 15.9	
	comp=Z,464nm,21.5s,baz=252,slow=41							
KSRS	Korea Array	21.13	66	P		P	06 16 37.2	-0.5
KSRS				pmax		pmax		
	comp=Z,45nm,0.8s							
KSRS				MLR		MLR		
	comp=Z,465nm,21.5s							
KSWJU	Wonju	21.22	66	P		P	06 16 39.8	+1.1
	SNR=10							
KSWJU	Wonju	21.22	66	P		P	06 16 39.8	+1.1
	SNR=10							
HVS	Khovu-Aksy	21.28	343	⇑*i*P		P	06 16 39.2	-0.1
HVS				pmax		pmax		
	comp=Z,338nm,1.1s							
KSIJA	INJE	21.38	65	P		P	06 16 41.0	+0.6
	SNR=13							
CN2	Changchun	21.47	48	*e*P		P	06 16 41.4	+0.1
CN2				*e*pP		pP	06 16 46.9	-1.2
CN2				*e*sP		sP	06 16 50.3	-0.9
CN2				*e*S		S	06 20 34.1	-4.1
CN2				PMZ				
	comp=Z,100nm,0.8s							
CN2				PMZ				
	comp=Z,300nm,3.0s							
CN2				LN				
	comp=Z,900nm,10.0s							
CN2				LE				
	comp=Z,1μm,10.0s							
CN2				LZ				
	comp=Z,2μm,10.0s							
SEHB	SEOHWA	21.54	64	P		P	06 16 42.9	+0.8
	SNR=14							
SEHB	SEOHWA	21.54	64	P		P	06 16 42.9	+0.8
	SNR=14							
KSEUS	ULSEONG	21.57	69	P		P	06 16 44.7	+2.3
	SNR=5.7							
KSDAG	Daegu	21.68	71	P		P	06 16 43.5	-0.2
	SNR=6.3							
KSSKC	Sokcho	21.75	64	P		P	06 16 45.3	+1.0
	SNR=9.6							
KSDGY	Daegwallycong	21.76	66	P		P	06 16 44.6	+0.1
	SNR=9.6							
KSJMJ	Jumunjin	21.86	65	P		P	06 16 46.0	+0.6
	SNR=14							
KSTBA	Taebaek	21.89	67	P		P	06 16 46.2	+0.3
	SNR=13							
HIA	Hailar	21.89	29	*e*P		P	06 16 45.7	-0.1
HIA				pmax		pmax		
	comp=Z,100nm,0.9s							
HIA	Hailar	21.89	29	*e*P		P	06 16 45.6	-0.1
	comp=Z,100nm,0.9s							
JOW	Kunigami	22.09	95	P		P	06 16 49.0	+1.0
	comp=Z,3.3nm,0.5s,baz=90,slow=1.0							
JOW	Kunigami	22.09	95	*e*P		P	06 16 48.3	+0.2
	comp=Z,81nm,1.2s							
CIT	Chita	22.16	17	*e*P		P	06 16 49.4	+0.7
CIT				*e*			06 17 09.9	
CIT				pmax		pmax		
	comp=Z,104nm,1.4s							
SMLA	Simla	22.52	277	*e*P		P	06 16 51.7	-0.9
SMLA				AMB		AMB	06 17 02.6	
	comp=Z,184nm,1.0s							
PDGK	Podgornoye	22.58	309	P		P	06 16 54.1	+0.9
PDGK				pmax		pmax		
	comp=Z,97nm,1.1s							
MK01	Makanchi Array	22.61	320	*e*P		P	06 16 54.6	+1.1
MK31	Makanchi Array	22.63	320	*i* P		P	06 16 54.4	+0.7
MK31				pmax		pmax		
	comp=Z,118nm,1.1s							
MK31	Makanchi Array	22.63	320	*e*P		P	06 16 54.6	+0.9
MKAR	Makanchi Array	22.63	320	P		P	06 16 54.6	+0.9
	comp=Z,20nm,1.0s,baz=124,slow=11,SNR=100							
MKAR				PcP		PcP	06 20 44.4	-1.6

comp=Z,7.3nm,1.1s,baz=90,slow=3.6,SNR=3.7
MKAR ScP **ScP** **06 24 21.8 -0.3**
comp=Z,1.8nm,1.0s,baz=103,slow=5.2,SNR=3.6
MKAR LR LR 06 26 21.6
comp=Z,1μm,18.0s,baz=128,slow=38
NDI New Delhi 22.89 271 *e*P **P** **06 16 55.0 -1.5**
NDI *ex* x 06 24 36.0
BHK Bhakra 23.12 278 *e*P **P** **06 17 00.0 +1.0**
DHRM DHARAMSHALA 23.14 280 *e*P **P** **06 16 58.4 -1.1**
DHRM AMB AMB 06 17 09.4
comp=Z,111nm,1.9s
JNU Nakatsue 23.27 78 P **P** **06 17 00.1 -0.3**
comp=Z,120nm,1.2s,baz=306,slow=5.2,SNR=10
JNU Nakatsue 23.27 78 *e*P **P** **06 16 59.9 -0.5**
comp=Z,121nm,1.1s
DLH Dalhousie 23.40 281 *e*P **P** **06 17 03.0 +1.0**
KSH Kashi 23.89 298 P **P** **06 17 10.6 +4.0**
KSH sP **sP** **06 17 20.9 +4.0**
KSH S **S** **06 21 24.4 +2.9**
KSH sS **sS** **06 21 36.1 +2.6**
KSH SS SnSn 06 22 17.6 +16
KSH PMZ
comp=Z,120nm,1.5s
KSH PMZ
comp=Z,560nm,2.7s
KSH LN
comp=Z,1μm,13.3s
KSH LE
comp=Z,1μm,12.1s
KSH LZ
comp=Z,2μm,13.3s
SKLT Songkhla 23.97 187 P **P** **06 17 07.2 -0.1**
comp=Z,36nm,1.4s,comp=Z,2μm
AAA Alma-Ata 24.27 307 *e*P **P** **06 17 13.8 +3.9**
AAA *e*S **S** **06 21 32.0 +4.7**
AAA pmax pmax
comp=Z,800nm,3.2s
AAA smax smax
comp=E,1μm,7.3s
AAA MLR MLR
comp=Z,1μm,11.0s
ULHL Ulahol 24.41 305 P **P** **06 17 13.3 +1.9**
SNR=36
BHPL Bhopal 24.43 258 *e*P **P** **06 17 12.0 +0.4**
MDJ Mudanjiang 24.50 49 P **P** **06 17 11.5 -0.4**
MDJ pP **pP** **06 17 17.4 -1.8**
MDJ sP **sP** **06 17 20.1 -2.2**
MDJ S **S** **06 21 30.3 -0.6**
MDJ sS **sS** **06 21 41.0 -1.8**
MDJ PMZ
comp=Z,12nm,1.4s
MDJ PMZ
comp=Z,300nm,5.3s
MDJ LN
comp=Z,210nm,18.2s
MDJ LE
comp=Z,200nm,15.3s
MDJ LZ
comp=Z,340nm,16.5s
MDJ Mudanjiang 24.50 49 *e*P **P** **06 17 11.8 -0.2**
comp=Z,141nm,1.4s
RPR Rampur 25.03 247 *e*P **P** **06 17 17.1 +0.2**
KZA Kyzart 25.06 304 P **P** **06 17 19.9 +2.4**
SNR=56
TKM2 Tokmak 2 25.07 306 P **P** **06 17 19.3 +1.8**
SNR=15
TKM2 Tokmak 2 25.07 306 P **P** **06 17 19.0 +1.6**
TKM2 pmax pmax
comp=Z,49nm,1.2s
TKM2 Tokmak 2 25.07 306 *e*P **P** **06 17 19.2 +1.8**
comp=Z,48nm,1.1s
KBK Karagaybulak 25.45 305 P **P** **06 17 23.4 +2.7**
SNR=15
UCH Uchtor 25.63 304 P **P** **06 17 24.9 +2.2**
SNR=33
FRU Bishkek 25.73 305 *e*P **P** **06 17 26.0 +2.8**
FRU *i* 06 17 33.0
FRU MLR MLR
comp=E,2μm,10.0s
AAK Ala-Archa 25.76 305 P **P** **06 17 25.8 +2.2**
comp=E,359nm,1.0s,SNR=14
AAK Ala-Archa 25.76 305 P **P** **06 17 26.0 +2.4**
SNR=16
AAK Ala-Archa 25.76 305 P **P** **06 17 25.4 +1.8**
AAK pmax pmax
comp=Z,85nm,1.2s
AAK Ala-Archa 25.76 305 *e*P **P** **06 17 25.9 +2.3**
comp=Z,62nm,1.0s
SFK Sufi-Kurgan 25.86 298 P **P** **06 17 26.1 +1.5**
SFK pmax pmax
comp=Z,113nm,1.4s
USRK Ussuriysk Ar. 25.93 52 P **P** **06 17 24.1 -0.7**
comp=Z,8.7nm,0.8s,baz=254,slow=8.7,SNR=13
USRK LR LR 06 28 20.8
comp=Z,246nm,19.8s,baz=236,slow=38
USP Ospenovka 25.95 306 P **P** **06 17 26.6 +1.5**
SNR=8.8
KRAR Krasnoyarsk 25.99 346 *e*P **P** **06 17 25.6 +0.3**
KRAR pmax pmax
comp=Z,26nm,1.1s
AML Almayashu 26.19 303 P **P** **06 17 30.0 +2.2**
SNR=15
EKS2 Erkin-Say 26.27 304 P **P** **06 17 30.6 +2.4**
SNR=8.0
EKS2 Erkin-Say 26.27 304 *e*P **P** **06 17 30.1 +1.9**
EKS2 pmax pmax
comp=Z,54nm,1.3s
EKS2 Erkin-Say 26.27 304 *e*P **P** **06 17 30.1 +1.9**
comp=Z,54nm,1.3s
HYB Hyderabad 26.43 245 *i* P **P** **06 17 29.0 -0.7**
HYB *e*S S 06 22 12.0 +10
HYB Hyderabad 26.43 245 *e*P **P** **06 17 27.8 -1.9**
HYBB Hyderabad (bro 26.43 245 *e*P **P** **06 17 29.9 +0.2**
LHMI Lhok Sumawe 26.47 195 P **P** **06 17 32.6 +2.6**
ZAA0 Zalesovo Array 26.48 335 *e*P **P** **06 17 29.8 0.0**
ZALV Zalesovo Beam 26.48 335 P **P** **06 17 30.1 +0.3**
comp=Z,31nm,0.8s,baz=139,slow=8.9,SNR=82
ZALV LR LR 06 28 38.0
comp=Z,1μm,20.1s,baz=70,slow=38
ZALV Zalesovo Beam 26.48 335 P **P** **06 17 30.1 +0.3**
ZALV pmax pmax
comp=Z,31nm,0.8s
ZALV MLR MLR
comp=Z,1μm,20.1s
IPM Ipoh 26.60 185 ⇑P **P** **06 17 30.5 -0.7**
BSI Banda Aceh 26.62 198 P **P** **06 17 33.8 +2.4**
KURBB Kurchatov Arra 26.91 324 P **P** **06 17 34.0 +0.3**
comp=Z,36nm,0.9s,baz=130,slow=9.2,SNR=134
KURBB PcP **PcP** **06 20 54.7 -0.6**
comp=Z,5.5nm,0.8s,baz=115,slow=2.4,SNR=6.6
KURK Kurchatov 26.92 324 P **P** **06 17 34.7 +0.9**
comp=Z,169nm,1.3s,SNR=37
KURK Kurchatov 26.92 324 P **P** **06 17 34.2 +0.4**
KURK pmax pmax
comp=Z,42nm,1.2s
KURK Kurchatov 26.92 324 P **P** **06 17 34.7 +0.9**
SNR=35
KURK Kurchatov 26.92 324 *e*P **P** **06 17 34.2 +0.4**
comp=Z,65nm,1.0s
KURK PcP **PcP** **06 20 54.7 -0.6**
KDM Kudat 27.12 150 ⇑P **P** **06 17 37.0 +1.1**
MNAS Manas 27.14 303 P **P** **06 17 37.4 +1.4**
MNAS pmax pmax
comp=Z,33nm,1.3s
KKM Kota Kinabalu 27.65 152 ⇑P **P** **06 17 41.9 +1.2**
KKM Kota Kinabalu 27.65 152 *e*P **P** **06 17 40.9 +0.1**
comp=Z,125nm,1.7s
BOD Bodaibo 27.67 12 *e*P **P** **06 17 40.6 +0.2**
BOD pmax pmax
comp=Z,23nm,1.3s
NVS Novosibirsk 27.76 335 *e*P **P** **06 17 39.5 -1.7**
NVS pmax pmax
comp=N,21nm,1.7s
NVS pmax pmax
comp=Z,35nm,1.7s
NVS pmax pmax
comp=E,24nm,1.6s
FRIM Kepong 27.79 184 ⇓P **P** **06 17 40.8 -0.9**
TSI Tuntungan 27.86 191 P **P** **06 17 45.2 +2.8**
KLR Kul'dur 27.93 42 *e*P **P** **06 17 38.4 -4.5**
KLR *e* 06 17 47.5
KLR *e*S S 06 22 14.0 -11
KLR MLR MLR
comp=N,1μm,11.0s
KLR MLR MLR
comp=Z,4μm,11.0s

SDKM Sandakan 28.42 150 ⇑P **P** **06 17 47.5 -0.1**
PSI Prapat 28.49 190 P **P** **06 17 48.2 0.0**
comp=Z,3.8nm,0.4s,baz=336,slow=7.6,SNR=12
PSI Prapat 28.49 190 P **P** **06 17 48.3 0.0**
PSI pmax pmax
comp=Z,4.0nm,0.4s
PSI Prapat 28.49 190 *e*P **P** **06 17 48.2 0.0**
comp=Z,46nm,1.5s
KK31 Karatay Array 28.71 304 *i* P **P** **06 17 50.5 +0.6**
KK31 pmax pmax
comp=Z,17nm,1.0s
KKAR Karatay Array 28.71 304 *e*P **P** **06 17 50.8 +0.9**
KKAR Karatay Array 28.71 304 *e*P **P** **06 17 50.8 +0.9**
KBL Kabul 29.06 286 *e*P **P** **06 17 55.1 +1.8**
KBL pmax pmax
comp=Z,22nm,0.9s
KBL Kabul 29.06 286 *e*P **P** **06 17 55.1 +1.8**
comp=Z,22nm,0.9s
MYKOM Kota Tinggi 29.17 179 ⇑P **P** **06 17 54.8 +0.7**
MYKOM Kota Tinggi 29.17 179 *e*P **P** **06 17 54.6 +0.5**
comp=Z,41nm,1.5s
MAJO Matsushiro 29.24 70 *e*P **P** **06 17 54.3 -0.4**
MAJO pmax pmax
comp=Z,34nm,0.7s
MJAR Matsushiro Arr 29.25 70 P **P** **06 17 53.9 -0.8**
comp=Z,6.4nm,0.9s,baz=270,slow=10,SNR=12
MJAR PcP **PcP** **06 21 01.9 +0.5**
comp=Z,1.5nm,0.7s,baz=294,slow=2.6,SNR=6.0
MJAR LR LR 06 30 08.5
comp=Z,299nm,18.3s,baz=270,slow=38
MJAR Matsushiro Arr 29.25 70 P **P** **06 17 53.9 -0.8**
MJAR 06 21 01.9
MJAR pmax pmax
comp=Z,6.0nm,0.9s
MJAR MLR MLR
comp=Z,299nm,18.3s
HABR Khabarovsk 29.53 45 *e*P **P** **06 17 55.0 -2.0**
HABR *e**PP **pP** **06 18 04.5 +0.2**
HABR *e*SP 06 18 08.9
HABR *e* 06 18 50.0
HABR *e* 06 18 58.8
HABR *e* 06 20 59.4
HABR S **S** **06 22 48.7 -1.5**
HABR eSS x 06 23 04.4
HABR *e*SS **SnSn** **06 24 18.5 -0.2**
HABR *e* 06 24 42.3
HABR *e* 06 28 33.1
HABR MLR MLR
comp=Z,577nm,18.0s
SBUM Sibu 29.68 162 ⇓P **P** **06 17 60.0 +1.3**
SBUM Sibu 29.68 162 *e*P **P** **06 17 59.5 +0.8**
comp=Z,26nm,1.1s
CLNS Chul'man 29.72 24 *e*P **P** **06 17 59.2 +0.5**
CLNS *e**PP **pP** **06 18 05.1 -1.0**
CLNS *e* 06 18 54.2
CLNS *e*PPP PPP 06 19 02.8
CLNS *e* 06 21 03.1
CLNS *e*S **S** **06 22 53.3 +0.1**
CLNS pmax pmax
comp=Z,26nm,1.0s
CLNS pmax pmax
comp=E,8.0nm,1.0s
CLNS pmax pmax
comp=N,13nm,1.0s
CLNS pmax pmax
comp=N,10.0nm,0.9s
CLNS pmax pmax
comp=E,5.0nm,0.7s
CLNS pmax pmax
comp=Z,5.0nm,0.9s
CLNS smax smax
comp=E,289nm,15.9s
CLNS smax smax
comp=N,52nm,11.8s
CLNS MLR MLR
comp=N,564nm,12.0s
CLNS MLR MLR
comp=Z,946nm,13.0s
CLNS MLR MLR
comp=E,496nm,12.0s
TSM Tawau 29.92 150 ⇑P **P** **06 18 01.1 +0.3**
KSM Kuching 30.18 166 ⇑P **P** **06 18 03.9 +0.8**
BKNI Bangkinang 30.71 185 P **P** **06 18 08.9 +1.2**
comp=E,74nm,0.6s
BKNI Bangkinang 30.71 185 *e*P **P** **06 18 08.1 +0.3**
BVA0 Borovoye Array 32.45 322 *i* P **P** **06 18 23.5 +0.7**
BVA0 pmax pmax
comp=Z,13nm,1.2s
BRVK Borovoye 32.53 322 *e*P **P** **06 18 23.8 +0.4**
BRVK pmax pmax
comp=Z,8.0nm,0.7s
BRVK Borovoye 32.53 322 *e*P **P** **06 18 23.8 +0.4**
comp=Z,8.0nm,0.7s
YSS Yuzh-Sakhalins 33.96 51 *e*P **P** **06 18 35.1 -0.9**
YSS MLR MLR
comp=N,600nm,16.0s
YSS MLR MLR
comp=Z,500nm,16.0s
MPSI Mapaga 34.34 150 P **P** **06 18 40.5 +0.9**
comp=Z,7.3nm,1.0s
LHSI Lahat 34.75 180 P **P** **06 18 44.4 +1.4**
comp=Z,61nm,1.4s
YAK Yakutsk 35.28 21 *c i*P **P** **06 18 46.6 -0.6**
YAK *e**PP **pP** **06 18 54.6 0.0**
YAK *e* 06 20 01.4
YAK *e* 06 21 16.0
YAK *e*S **S** **06 24 16.1 -3.4**
YAK *e* 06 29 07.0
YAK pmax pmax
comp=Z,65nm,0.9s
YAK pmax pmax
comp=N,20nm,1.0s
YAK pmax pmax
comp=E,24nm,1.0s
YAK pmax pmax
comp=Z,146nm,3.8s
YAK pmax pmax
comp=E,106nm,3.8s
YAK pmax pmax
comp=N,69nm,3.8s
YAK smax smax
comp=E,39nm,11.6s
YAK smax smax
comp=N,12nm,11.6s
YAK MLR MLR
comp=Z,690nm,14.0s
YAK MLR MLR
comp=E,366nm,12.0s
YAK MLR MLR
comp=N,273nm,14.0s
YAK Yakutsk 35.28 21 *e*P **P** **06 18 47.0 -0.2**
comp=N,76nm,0.9s
MDSI Maura Dua 35.41 179 P **P** **06 18 48.0 -0.7**
comp=N,36nm,1.2s,comp=N,1μm
YUK Yuzh-Kuril'sk 35.59 57 *d i*P **P** **06 18 48.2 -1.9**
YUK *i* 06 20 07.5
YUK *i* PPP PPP 06 20 21.6
YUK *i* S **S** **06 24 22.7 -2.0**
YUK MLR MLR
comp=N,490nm,18.0s
YUK MLR MLR
comp=E,230nm,18.0s
YUK MLR MLR
comp=Z,292nm,18.0s
BBKI Banjar Baru 36.05 160 P **P** **06 18 55.9 +1.6**
comp=Z,54nm,1.3s,comp=Z,4μm
APSI Ampana 36.22 148 P **P** **06 18 57.1 +1.3**
comp=Z,50nm,1.3s
KBKI Kotabaru 36.30 158 P **P** **06 18 57.1 +0.7**
comp=Z,23nm,1.2s
AB31 Akbulak array 37.27 312 *i* P **P** **06 19 04.7 +0.3**
AB31 pmax pmax
comp=Z,14nm,0.9s
ABKAR Akbulak array 37.27 312 *e*P **P** **06 19 05.2 +0.8**
SPSI Sidrap Palu 38.19 153 P **P** **06 19 12.9 +0.5**
comp=Z,41nm,1.2s,comp=Z,594nm
AKTO Aktyubinsk 38.74 313 P **P** **06 19 17.0 +0.2**
AKTO pmax pmax
comp=Z,18nm,1.3s
KAPI Kappang 39.14 154 P **P** **06 19 20.6 +0.1**
SNR=7.7
KAPI Kappang 39.14 154 *e*P **P** **06 19 20.4 0.0**
comp=Z,33nm,1.3s
SVE Sverdlovsk 39.17 324 ⇑*i*P **P** **06 19 21.6 +1.3**
SVE *e*S S 06 25 11.2 -7.6
SVE pmax pmax
comp=Z,47nm,1.4s
BKSI Bulukumba 39.57 153 P **P** **06 19 23.3 -0.7**
comp=Z,21nm,0.9s,comp=Z,416nm
ARU Arti 40.10 322 P **P** **06 19 28.6 +0.6**
comp=Z,260nm,0.9s,SNR=8.0
ARU Arti 40.10 322 *c i*P **P** **06 19 28.4 +0.4**
ARU 06 21 00.3
ARU PPP PPP 06 21 26.0
ARU 06 21 30.9
ARU S **S** **06 25 35.3 +2.6**
ARU SS **SS** **06 28 31.4 +1.1**
ARU pmax pmax
comp=Z,43nm,1.0s
ARU MLR MLR
comp=Z,683nm,19.0s
ARU Arti 40.10 322 *e*P **P** **06 19 28.6 +0.6**
comp=Z,33nm,0.8s
IBAF Bafgh 40.66 284 *e*P **P** **06 19 33.5 +0.3**
JAGI Jajag, Banyuwa 40.66 164 P **P** **06 19 33.9 +0.8**
comp=Z,62nm,1.4s
JAGI Jajag, Banyuwa 40.66 164 *e*P **P** **06 19 32.7 -0.4**
SOKR Solikamsk 42.10 326 *c i*P **P** **06 19 45.6 +1.2**
SOKR pmax pmax
comp=Z,40nm,1.3s
SOKR MLR MLR
comp=Z,480nm,21.0s
TIXI Tiksi 42.85 12 *c i*P **P** **06 19 49.4 -0.9**
TIXI pmax pmax
comp=Z,75nm,1.2s
TIXI Tiksi 42.85 12 *e*P **P** **06 19 49.1 -1.3**
comp=Z,43nm,0.8s
IZEF Zefreh 43.07 286 *e*P **P** **06 19 53.7 +0.7**
IPAR Pars 43.18 282 *e*P **P** **06 19 53.2 -0.8**
ISRV Sarvestan 43.25 281 *e*P **P** **06 19 53.3 -1.3**
WBSI Waikabubak, Su 43.30 157 P **P** **06 19 54.5 -0.2**
comp=Z,77nm,1.3s
MMRI Maumere 43.42 152 P **P** **06 19 57.6 +2.0**
comp=Z,83nm,1.5s,comp=Z,9μm
MMRI Maumere 43.42 152 *e*P **P** **06 19 55.0 -0.5**
IKAZ Kazeroun 44.21 282 *e*P **P** **06 20 02.6 +0.3**
IPIR Pirpir 44.30 286 *e*P **P** **06 20 02.1 -0.9**
SEY Seymchan 44.34 30 ⇑*i*P **P** **06 20 02.1 -0.4**
PEA0 Petropavlovsk- 44.55 44 *e*P **P** **06 20 04.0 -0.3**
PETK Petropavlovsk- 44.55 44 P **P** **06 20 03.5 -0.9**
comp=Z,9.6nm,0.7s,baz=208,slow=5.0,SNR=11
PETK LR LR 06 40 41.8
comp=Z,315nm,18.2s,baz=260,slow=39
PETK Petropavlovsk- 44.55 44 P **P** **06 20 03.5 -0.9**
PETK pmax pmax
comp=Z,10.0nm,0.7s
PETK MLR MLR
comp=Z,315nm,18.2s
PET Petropavlovsk 45.11 44 ⇑*i*P **P** **06 20 08.2 -0.6**
PET pmax pmax
comp=Z,16nm,0.8s
SOEI Soe 45.26 151 P P 06 20 14.1 +3.6
SOEI Soe 45.26 151 *e*P P 06 20 14.7 +4.2
comp=Z,66nm,0.4s
MAK Makhachkala 45.46 301 *e*P **P** **06 20 11.9 +0.2**
MAK MLR MLR
comp=Z,587nm,13.0s
SMPI Sarmi 46.96 128 P **P** **06 20 25.6 +1.8**
comp=Z,72nm,1.4s,comp=Z,19μm
PRGR Permogore 47.96 327 *e*P **P** **06 20 28.2 -2.7**
PRGR pmax pmax
comp=Z,34nm,1.1s
ZEI Tsey 48.11 301 *e*P **P** **06 20 32.7 0.0**
ZEI pmax pmax
comp=Z,16nm,1.0s
GENI Genyem 48.39 127 P **P** **06 20 37.8 +2.9**
comp=Z,64nm,1.5s
GOF Gofitskoye 48.50 305 *e*P **P** **06 20 36.4 +1.0**
GOF pmax pmax
comp=Z,60nm,1.3s
KBZ Khabaz 48.74 303 P **P** **06 20 37.7 +0.5**
comp=Z,3.9nm,0.7s,baz=56,slow=24,SNR=6.4
KBZ LR LR 06 43 51.8
comp=Z,249nm,20.9s,baz=177,slow=39
KBZ Khabaz 48.74 303 P **P** **06 20 37.7 +0.5**
KBZ pmax pmax
comp=Z,4.0nm,0.7s
KBZ MLR MLR
comp=Z,249nm,20.9s
KIV Kislovodsk 48.86 303 *e*P **P** **06 20 38.2 -0.1**
KIV *e* 06 22 31.2
KIV *e*S **S** **06 27 39.9 -0.6**
KIV *e*SS **SS** **06 31 12.8 +1.8**
KIV pmax pmax
comp=Z,47nm,1.1s
KIV MLR MLR
comp=Z,230nm,16.0s
KIV Kislovodsk 48.86 303 P **P** **06 20 40.2 +1.8**
SNR=8.3
KIV Kislovodsk 48.86 303 *e*P **P** **06 20 39.9 +1.5**
NEY Neytrino 48.92 302 *e*P **P** **06 20 38.3 -0.6**
NEY pmax pmax
comp=Z,3.0nm,0.9s
VORD Divnogorie 50.62 313 *e*P **P** **06 20 51.0 -0.5**
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,20nm,0.6s
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 50.69 313 *e*P **P** **06 20 51.6 -0.4**
VSR pmax pmax
comp=N,9.0nm,1.0s
VSR pmax pmax
comp=E,40nm,1.0s
VSR pmax pmax
comp=Z,40nm,1.0s
KLMR Klimovskoe 50.75 325 *d i*P P 06 20 49.0 -3.3
KLMR 06 22 07.2
KLMR S S 06 27 59.7 -6.5
KLMR pmax pmax
comp=Z,45nm,0.9s
KLMR MLR MLR
comp=Z,302nm,12.0s
LPSR Galich'ya Gora 50.79 315 *e*P **P** **06 20 52.6 -0.1**
LPSR pmax pmax
comp=N,5.0nm,0.9s
LPSR pmax pmax
comp=E,10.0nm,0.9s
LPSR pmax pmax
comp=Z,50nm,0.9s
SOC Sochi 51.04 303 *e*P P 06 20 50.2 -4.6
SOC *e* 06 22 46.1
SOC *e*PPP PPP 06 23 52.8
SOC *e*S **S** **06 28 06.2 -4.5**
SOC *e*SS **SS** **06 31 44.8 -0.8**
BILL Bilibino 51.39 25 *c i*P **P** **06 20 56.3 -0.7**
BILL pmax pmax
comp=Z,108nm,1.7s
BILL MLR MLR
comp=Z,304nm,11.0s
BILL Bilibino 51.39 25 *e*P **P** **06 20 56.4 -0.7**
comp=Z,58nm,1.0s
MOS Moscow 51.51 319 *e*P **P** **06 20 57.4 -0.6**
MOS pmax pmax
comp=Z,91nm,1.0s
MOS pmax pmax
comp=Z,129nm,1.2s
RAYN Ar Rayn 51.58 277 *e*P **P** **06 20 58.1 -1.0**
comp=Z,18nm,1.3s
TMCR Tamitsa 51.80 330 *e*P **P** **06 20 59.6 -0.5**
TMCR pmax pmax
comp=Z,6.0nm,0.2s
OBN Obninsk 52.12 318 ⇑*i*P **P** **06 21 02.5 -0.1**
OBN *e* 06 22 13.1
OBN *e* 06 22 59.2
OBN pmax pmax
comp=Z,62nm,1.7s
OBN MLR MLR
comp=Z,922nm,20.0s
APA Apatity 54.06 334 ⇓*i*P **P** **06 21 18.0 +1.3**
APA MLR MLR
comp=Z,2μm,12.0s
MBWA Marble Bar 54.26 161 *e*P **P** **06 21 18.5 -0.2**
comp=Z,37nm,1.1s
BR131 Keskin Array S 56.27 299 *e*P **P** **06 21 33.5 +0.1**
comp=Z,2.7nm,0.9s
BRTR Keskin Array B 56.27 299 P **P** **06 21 33.8 +0.4**
comp=Z,3.7nm,0.9s,baz=98,slow=6.4,SNR=18
BRTR PcP **PcP** **06 22 30.4 -0.3**
comp=Z,1.7nm,0.8s,baz=80,slow=4.3,SNR=2.3
BRTR Keskin Array B 56.27 299 P **P** **06 21 33.8 +0.4**

BRTR 06 22 30.4
BRTR pmax pmax
comp=Z,4.0nm,0.9s
ANTO Ankara 56.87 300 *e*P **P 06 21 38.4 +0.9**
ANTO Ankara 56.87 300 P **P 06 21 38.4 +0.9**
SNR=6.5
ANTO Ankara 56.87 300 *e*P **P 06 21 38.4 +0.9**
BR231 Keskin MP Arra 56.89 300 *e*P P 06 21 34.0 -3.7
AKASG Malin Array Be 56.99 313 P **P 06 21 37.6 -0.4**
comp=Z,5.5nm,0.5s,baz=71,slow=6.5,SNR=38
AKASG PcP **PcP 06 22 32.4 -0.7**
comp=Z,0.6nm,0.3s,baz=64,slow=5.1,SNR=5.6
AKASG LR LR 06 47 51.6
comp=Z,240nm,19.0s,baz=75,slow=38
AKASG Malin Array Be 56.99 313 P **P 06 21 37.7 -0.4**
AKASG 06 22 32.4
AKASG pmax pmax
comp=Z,6.0nm,0.5s
AKASG MLR MLR
comp=Z,241nm,19.0s
AKBB Malin Array Si 56.99 313 *e*P **P 06 21 37.3 -0.7**
AKBB Malin Array Si 56.99 313 *e*P **P 06 21 37.3 -0.7**
AK01 Malin Array Si 57.00 313 *e*P **P 06 21 37.4 -0.7**
KIEV Kiev 57.00 313*c i*P **P 06 21 37.3 -0.8**
KIEV Kiev 57.00 313 *e*P **P 06 21 37.5 -0.6**
AK02 Malin Array Si 57.01 313 *e*P **P 06 21 37.9 -0.3**
ARCES ARCESS Array B 57.03 336 P **P 06 21 37.9 -0.2**
comp=Z,12nm,0.9s,baz=80,slow=8.7,SNR=16
ARCES PcP **PcP 06 22 32.8 -0.1**
comp=Z,6.3nm,0.6s,baz=89,slow=5.0,SNR=8.7
ARCES LR LR 06 48 23.0
comp=Z,412nm,21.3s,baz=86,slow=38
ARCES ARCESS Array B 57.03 336 P **P 06 21 37.9 -0.2**
ARCES 06 22 32.8
ARCES pmax pmax
comp=Z,12nm,0.9s
ARCES MLR MLR
comp=Z,412nm,21.3s
FINES FINESS Array B 57.26 326 P **P 06 21 40.0 +0.2**
comp=Z,8.5nm,0.7s,baz=89,slow=7.6,SNR=22
FINES FINESS Array B 57.26 326 P **P 06 21 40.0 +0.2**
FINES pmax pmax
comp=Z,9.0nm,0.7s
VSU Vasula 57.26 323 *e*P **P 06 21 40.1 +0.3**
VSU pmax pmax
comp=Z,101nm,1.2s
PMG Port Moresby 58.09 127*c i*P **P 06 21 46.7 +0.5**
PMG pmax pmax
comp=Z,138nm,1.2s
PMG Port Moresby 58.09 127 *e*P **P 06 21 46.9 +0.7**
WRAB Tennant Creek 58.78 146 P **P 06 21 50.6 -0.3**
comp=Z,374nm,0.9s,SNR=32
WRAB Tennant Creek 58.78 146*c i*P **P 06 21 50.9 0.0**
WRAB pmax pmax
comp=Z,249nm,1.2s
WRAB Tennant Creek 58.78 146 *e*P **P 06 21 50.9 0.0**
WRA Warramunga Arr 58.78 146 P **P 06 21 50.8 -0.2**
comp=Z,39nm,0.9s,baz=335,slow=7.5,SNR=144
WRA PKP2bc 06 51 35.9
comp=Z,1.0nm,1.0s,baz=152,slow=1.9,SNR=6.0
COEN Coen 58.84 134 *e*P **P 06 21 51.5 +0.1**
TIRR Tirgusor 58.86 306 *e*P **P 06 21 51.8 +0.5**
TIRR Tirgusor 58.86 306⇑*i*P **P 06 21 51.5 +0.2**
TIRR Tirgusor 58.86 306 *e*P **P 06 21 51.8 +0.5**
CFR Carcaliu 58.87 307⇓*i*P **P 06 21 51.8 +0.5**
TLB Topalu 59.09 306⇓*i*P **P 06 21 53.4 +0.6**
ISP Isparta 59.14 298 *e*P **P 06 21 53.4 -0.1**
ISP Isparta 59.14 298 *e*P **P 06 21 53.4 -0.1**
TESR Tescani 59.55 309⇑*i*P **P 06 21 56.7 +0.6**
VRI Vrincioaia 59.66 308⇓*i*P **P 06 21 58.1 +1.3**
PLOR Plostina 59.72 308⇓*i*P **P 06 21 59.5 +2.2**
SUW Suwalki 59.98 318 *e*P **P 06 21 58.6 -0.2**
SUW Suwalki 59.98 318 *e*P **P 06 21 58.7 -0.1**
SUW Suwalki 59.98 318 *e*P **P 06 21 59.0 +0.2**
ISR Istrita 59.98 307⇑*i*P **P 06 22 00.6 +1.5**
BURAR Bucovina Array 60.22 310⇑*i*P **P 06 22 01.0 +0.2**
BUR04 Bucovina Ar. S 60.23 310 *e*P **P 06 22 00.8 -0.1**
BUR08 Bucovina Ar. S 60.23 310 *e*P **P 06 22 00.6 -0.2**
MLR Muntele Rosu 60.29 308⇑*i*P **P 06 22 02.0 +0.7**
LVV L'vov 60.43 313 *i*P **P 06 22 01.9 -0.2**
LVV MLR MLR
comp=Z,300nm,17.0s
LVV MLR MLR
comp=N,500nm,19.0s
LVV MLR MLR
comp=E,800nm,19.0s
DOPR Dopca 60.54 308⇑*i*P **P 06 22 04.4 +1.5**
JMB Yambol 60.68 304⇑*i*P **P 06 22 04.7 +0.9**
VOIR 60.91 308⇓*i*P **P 06 22 05.4 -0.1**
ARR Arges 61.21 308⇑*i*P **P 06 22 08.7 +1.2**
KWP Kalwaria Pacla 61.31 313 *e*P **P 06 22 08.8 +0.7**
KWP Kalwaria Pacla 61.31 313 *e*P **P 06 22 08.9 +0.8**
ALN Alexandroupoli 61.53 303 *e*P **P 06 22 09.7 +0.1**
TNA Tin City 61.55 28 *e*P **P 06 22 09.2 -0.1**
KDZ Kurdzhali 61.75 304⇑*i*P **P 06 22 12.0 +0.9**
KOLS Kolonicke sedl 61.77 312 *e*P **P 06 22 11.3 +0.1**
KOLS pmax pmax
comp=Z,6.0nm,0.8s
KOLS Kolonicke sedl 61.77 312 *e*P **P 06 22 11.3 +0.1**
AS31 Alice Springs 61.78 148 *e*P **P 06 22 11.1 -0.4**
ASAR Alice Springs 61.78 148 P **P 06 22 11.4 0.0**
comp=Z,11nm,0.9s,baz=332,slow=6.4,SNR=62
ASAR PKPPKP P'P'df 06 51 24.1 +7.2
comp=Z,0.5nm,0.7s,baz=129,slow=2.8,SNR=4.3
AS01 Alice Springs 61.80 148 *e*P **P 06 22 10.4 -1.1**
RDO Rodhopi 61.82 303 *e*P **P 06 22 12.2 +0.6**
TRPA Tarpa 61.82 311⇓*i*P **P 06 22 13.4 +1.9**
UZH Uzhgorod 61.84 312 *e*P **P 06 22 09.8 -1.8**
UZH *i* 06 22 53.4
SMG Samos 61.95 299 *e*P **P 06 22 13.1 +0.6**
SMTH Samothraki Isl 62.03 302 P **P 06 22 12.4 -0.7**
SMTH Samothraki Isl 62.03 302 *e*P **P 06 22 13.1 0.0**
DRGR 62.09 310⇓*i*P **P 06 22 14.7 +1.3**
STHS Stebnicka Huta 62.29 313 *e*P **P 06 22 14.7 +0.1**
STHS pmax pmax
comp=Z,8.0nm,0.9s
STHS Stebnicka Huta 62.29 313 *e*P **P 06 22 14.7 +0.1**
CHOS Chios island 62.31 300 P **P 06 22 15.3 +0.2**
CHOS Chios island 62.31 300 *e*P **P 06 22 15.0 -0.1**
CHOS Chios island 62.31 300 P **P 06 22 15.3 +0.2**
KARP Karpathos 62.42 297 P **P 06 22 15.5 -0.3**
KARP Karpathos 62.42 297 *e*P **P 06 22 15.3 -0.5**
KARP Karpathos 62.42 297 P **P 06 22 15.5 -0.3**
LIA Limnos Island 62.47 302 *e*P **P 06 22 15.9 0.0**
OJC Ojcow 62.96 314 *e*P **P 06 22 19.2 +0.1**
OJC Ojcow 62.96 314 *e*P **P 06 22 19.2 +0.1**
OJC Ojcow 62.96 314 *e*P **P 06 22 19.8 +0.7**
VTS Vitosha 63.02 305 P **P 06 22 19.8 0.0**
VTS Vitosha 63.02 305⇓*i*P **P 06 22 20.9 +1.1**
OUR Ouranopolis 63.20 303 *e*P **P 06 22 20.9 +0.1**
SANT Santorini 63.44 298 *e*P **P 06 22 20.8 -1.7**
PAIG Paliouri 63.55 302 P **P 06 22 23.0 -0.1**
PAIG Paliouri 63.55 302 *e*P **P 06 22 23.1 -0.1**
PLG Polygyros 63.57 303 P **P 06 22 22.8 -0.5**
PLG Polygyros 63.57 303 *e*P **P 06 22 23.3 0.0**
PSZ Piszkesteto 63.58 312 *e*P **P 06 22 22.6 -0.7**
PSZ Piszkesteto 63.58 312⇑*i*P **P 06 22 23.5 +0.1**
PSZ Piszkesteto 63.58 312 *e*P **P 06 22 22.6 -0.7**
AOS Alonnisos 63.66 301 P **P 06 22 23.0 -0.9**
AOS Alonnisos 63.66 301 *e*P **P 06 22 23.8 -0.1**
KNT Kendrikon 63.70 304 P **P 06 22 23.2 -1.0**
KNT Kendrikon 63.70 304 *e*P **P 06 22 23.7 -0.5**
HORT Hortiatis 63.74 303 *e*P **P 06 22 24.1 -0.4**
LAST Lasithi 63.84 297 *e*P **P 06 22 25.8 +0.5**
MRKA Markates 64.03 301 *e*P **P 06 22 26.1 -0.3**
VYHS Vyhne 64.08 313 *e*P **P 06 22 26.1 -0.4**
VYHS pmax pmax
comp=Z,15nm,1.4s
VYHS Vyhne 64.08 313 *e*P **P 06 22 26.1 -0.4**
OKC Ostrava-Krasne 64.09 314 *e*P **P 06 22 27.0 +0.5**
OKC AMS AMS 06 51 30.0
comp=Z,700nm,16.6s
OKC Ostrava-Krasne 64.09 314 *e*P **P 06 22 27.0 +0.5**
OKC MLR MLR
comp=Z,700nm,16.6s
XOR Xorichti 64.09 302 P **P 06 22 25.5 -1.3**
XOR Xorichti 64.09 302 *e*P **P 06 22 26.3 -0.5**
GRG Griva 64.12 304 P **P 06 22 26.2 -0.8**
GRG Griva 64.12 304 *e*P **P 06 22 26.4 -0.6**
LIT Litokhoron 64.35 303 P **P 06 22 27.4 -1.1**
LIT Litokhoron 64.35 303 *e*P **P 06 22 27.9 -0.6**
NB2 NORSAR Subarra 64.36 327 P **P 06 22 27.3 -0.9**
comp=Z,38nm,1.4s,baz=72,slow=6.9
NB2 NORSAR Subarra 64.36 327 P **P 06 22 27.3 -0.9**
baz=72,slow=6.9
NOA NORSAR Array B 64.36 327 P **P 06 22 27.6 -0.6**
comp=Z,7.7nm,0.8s,baz=73,slow=6.8,SNR=12
NOA LR LR 06 52 45.3
comp=Z,306nm,18.5s,baz=85,slow=38
NOA NORSAR Array B 64.36 327 P **P 06 22 27.6 -0.6**
NOA pmax pmax
comp=Z,8.0nm,0.8s
NOA MLR MLR
comp=Z,306nm,18.5s
SIVA Sivas 64.41 297 P **P 06 22 27.4 -1.5**
SIVA Sivas 64.41 297 *e*P **P 06 22 29.1 +0.2**
MORC Moravsky Berou 64.48 314 *e*P **P 06 22 29.7 +0.5**
MORC Moravsky Berou 64.48 314 *e*P **P 06 22 29.7 +0.5**
LKR Lokris 64.48 301 P **P 06 22 27.7 -1.6**
AXAR Agios Charalam 64.69 301 *e*P **P 06 22 30.0 -0.7**
VAM Vamos 64.73 297 *e*P **P 06 22 28.5 -2.5**
DIVS Divibare 64.75 308⇓*i*P **P 06 22 31.0 -0.1**
KZN Kozani 64.80 303 P **P 06 22 29.9 -1.5**
AGG Agios Georgios 64.84 302 P **P 06 22 30.2 -1.5**
AGG Agios Georgios 64.84 302 *e*P **P 06 22 30.9 -0.7**
AGG Agios Georgios 64.84 302 *e*P **P 06 22 31.0 -0.7**
AGG Agios Georgios 64.84 302 *e*P **P 06 22 30.9 -0.7**
KRLC Kraliky 64.85 315 *e*P **P 06 22 32.1 +0.5**
KRLC Kraliky 64.85 315 *e*P **P 06 22 32.1 +0.5**
THL Klokotos Trika 64.88 302 P **P 06 22 30.1 -1.8**
THL Klokotos Trika 64.88 302 *e*P **P 06 22 30.5 -1.4**
KSP Ksiaz 64.89 316 *e*P **P 06 22 32.3 +0.5**
KSP Ksiaz 64.89 316 *e*P **P 06 22 32.3 +0.5**
FNA Florina 64.91 304 *e*P **P 06 22 31.1 -1.1**
PKSM Moragy 64.94 310⇑*i*P **P 06 22 32.3 +0.1**
KARN Karanos 64.95 298 P **P 06 22 31.4 -1.0**
KARN Karanos 64.95 298 *e*P **P 06 22 32.7 +0.3**
MAKR Makrakomi, Fth 64.99 302 P **P 06 22 31.5 -1.1**
MAKR Makrakomi, Fth 64.99 302 *e*P **P 06 22 31.8 -0.8**
MAKR Makrakomi, Fth 64.99 302 P **P 06 22 31.5 -1.1**
NWAO Narrogin (SRO) 65.01 167 P **P 06 22 33.4 +0.8**
comp=Z,15nm,0.9s,baz=329,slow=9.9,SNR=4.3
NWAO Narrogin (SRO) 65.01 167 P **P 06 22 33.4 +0.8**
NWAO pmax pmax
comp=Z,15nm,0.9s
DPC Dobruska-Polom 65.04 315 *e*P **P 06 22 33.7 +0.9**
DPC *ep*P **pP 06 22 38.4 -2.2**
DPC *ex* x 06 22 41.4
DPC AMS AMS 06 52 00.0
comp=Z,1μm,16.3s
DPC Dobruska-Polom 65.04 315 *e*P **P 06 22 33.7 +0.9**
DPC *e* 06 22 41.4
DPC MLR MLR
comp=Z,1μm,16.3s
DPC Dobruska-Polom 65.04 315 *e*P **P 06 22 33.7 +0.9**
UPC Upice 65.17 315 *e*P **P 06 22 34.5 +0.9**
UPC *ep*P **pP 06 22 38.3 -3.1**
UPC *ex* x 06 22 40.8
UPC Upice 65.17 315 *e*P **P 06 22 34.5 +0.9**
UPC *e* 06 22 40.8
KALE Kalithea 65.20 301 *e*P **P 06 22 32.5 -1.6**
VLI Veliai 65.21 299 P **P 06 22 31.2 -2.9**
VLI Veliai 65.21 299 *e*P **P 06 22 32.2 -1.9**
EVR Evrytania 65.26 302 P **P 06 22 33.1 -1.4**
NEST Nestorio 65.28 304 *e*P **P 06 22 33.8 -0.8**
KLV Kalavryta, Ach 65.32 301 *e*P **P 06 22 32.6 -2.2**
EFP Efpalio 65.36 301 *e*P **P 06 22 34.7 -0.3**
CTA Charters Tower 65.41 135 P **P 06 22 35.4 0.0**
comp=Z,17nm,0.9s,baz=322,slow=8.8,SNR=28
CTA Charters Tower 65.41 135 P **P 06 22 35.4 0.0**
CTA pmax pmax
comp=Z,17nm,0.9s
CTAO Charters Tower 65.41 135 *e*P **P 06 22 35.2 -0.2**
CTAO Charters Tower 65.41 135 *e*P **P 06 22 35.2 -0.2**
DSL Palaion Diasel 65.70 302 *e*P **P 06 22 36.4 -0.8**
ITM Ithomi 65.80 300 *e*P **P 06 22 36.5 -1.4**
PDO Prodromos 65.83 302 *e*P **P 06 22 36.8 -1.2**
TREC Trest 65.90 314 *e*P **P 06 22 39.1 +0.7**
TREC AMS AMS 06 52 30.0
comp=Z,600nm,15.7s
TREC Trest 65.90 314 *e*P **P 06 22 39.1 +0.7**
TREC MLR MLR
comp=Z,600nm,15.7s
PVCC Panska Ves 66.03 316 *e*P **P 06 22 39.6 +0.4**
PVCC AMS AMS 06 52 50.0
comp=Z,900nm,15.9s
PVCC Panska Ves 66.03 316 *e*P **P 06 22 39.6 +0.4**
PVCC MLR MLR
comp=Z,900nm,15.9s
PYL PYLOS 66.04 300 P **P 06 22 37.3 -2.1**
PYL PYLOS 66.04 300 *e*P **P 06 22 37.7 -1.7**
PYL PYLOS 66.04 300 P **P 06 22 37.3 -2.1**
GOPC GO Pecny, Ondr 66.11 315 *e*P **P 06 22 40.5 +0.8**
GOPC AMS AMS 06 52 50.0
comp=Z,1μm,16.3s
LKD2 Lefkada island 66.14 302 *e*P **P 06 22 38.9 -1.2**
CONA Conrad Observa 66.14 313 *i*P **P 06 22 40.7 +0.7**
comp=Z,27nm,1.6s,SNR=13
PRU Pruhonice 66.24 315 *e*P **P 06 22 40.9 +0.4**
PRU *ep*P **pP 06 22 45.8 -2.5**
PRU AMS AMS 06 52 50.0
comp=Z,1μm,16.2s
PRU Pruhonice 66.24 315 *e*P **P 06 22 40.9 +0.4**
PRU *e* 06 22 45.8
PRU MLR MLR
comp=Z,1μm,16.2s
PRA Prague 66.27 315 *e*P **P 06 22 41.4 +0.7**
PRA AMS AMS 06 53 00.0
comp=Z,1μm,17.2s
PRA Prague 66.27 315 *e*P **P 06 22 41.4 +0.7**
PRA MLR MLR
comp=Z,1μm,17.2s
BRG Berggiesshubel 66.29 316 *e*P **P 06 22 41.0 +0.2**
comp=Z,14nm,0.9s
BRG *e* 06 23 09.1
comp=Z,9.8nm,1.0s
comp=N,169nm,15.3s
comp=E,531nm,20.1s
comp=Z,753nm,17.3s
BRG Berggiesshubel 66.29 316 *e*P **P 06 22 41.2 +0.4**
comp=Z,23nm,1.3s
BRG Berggiesshubel 66.29 316 *e*P **P 06 22 41.0 +0.2**
BRG *e* 06 23 09.1
BRG pmax pmax
comp=Z,14nm,0.9s
BRG MLR MLR
comp=N,169nm,15.3s
BRG MLR MLR
comp=E,531nm,20.1s
BRG MLR MLR
comp=Z,753nm,17.3s
ALE Alert 66.39 358 P **P 06 22 41.6 +0.6**
comp=Z,74nm,1.1s,SNR=5.3
VLS Valsamata 66.42 301 *e*P **P 06 22 40.3 -1.6**
ARSA Arzberg 66.60 312⇓*i*P **P 06 22 43.3 +0.4**
comp=Z,13nm,1.6s
FBE Freiberg 66.62 316 *e*P **P 06 22 43.4 +0.5**
comp=Z,49nm,1.7s
FBE *ep*P **pP 06 22 49.8 -0.9**
CLL Collm 66.69 317 *e*P **P 06 22 43.4 +0.1**
comp=Z,20nm,1.3s
CLL Collm 66.69 317 *e*P **P 06 22 43.0 -0.3**
comp=Z,20nm,1.3s
CLL Lm MLR 06 53 00.0
comp=N,300nm,18.4s
CLL Lm MLR 06 53 00.0
comp=E,400nm,20.0s
CLL Lm MLR 06 53 00.0
comp=Z,600nm,19.2s
CLL Collm 66.69 317 *e*P **P 06 22 43.0 -0.3**
CLL *e* 06 22 51.0
CLL pmax pmax
comp=Z,20nm,1.3s
CLL MLR MLR
comp=Z,600nm,19.2s
CLL Collm 66.69 317 *e*P **P 06 22 43.7 +0.4**
IM04 Indian Mountai 66.94 26 *e*P **P 06 22 44.2 -0.5**
PERS Pernice 67.08 312 *i*P **P 06 22 46.1 +0.1**
SOKA Soboth 67.12 312 *i*P **P 06 22 46.5 +0.2**
comp=Z,24nm,1.4s,SNR=12
KHC Kasperske Hory 67.13 315 *e*P **P 06 22 46.5 +0.2**
KHC *ep*P **pP 06 22 51.4 -2.7**
KHC *ex* x 06 23 00.9
KHC AMS AMS 06 53 20.0
comp=Z,1μm,17.8s
KHC Kasperske Hory 67.13 315 *e*P **P 06 22 46.5 +0.2**
KHC *e* 06 22 51.4
KHC *e* 06 23 00.9
KHC MLR MLR
comp=Z,1μm,17.8s
GEC2 GERESS Array S 67.16 314 *e*P **P 06 22 46.9 +0.4**
comp=Z,24nm,1.3s
GERES GERESS Array B 67.16 314 P **P 06 22 47.2 +0.8**
comp=Z,9.1nm,1.0s,baz=68,slow=4.9,SNR=30
GERES LR LR 06 53 49.5
comp=Z,612nm,18.5s,baz=66,slow=38
GERES GERESS Array B 67.16 314 P **P 06 22 47.3 +0.8**
GERES pmax pmax
comp=Z,9.0nm,1.0s
GERES MLR MLR
comp=Z,613nm,18.5s
MOA Molln 67.17 313⇑*i*p**P P 06 22 47.2 +0.6**
comp=Z,12nm,0.9s,SNR=7.1
BSEG Bad Segeberg 67.25 320 *e*P **P 06 22 47.8 +1.0**
comp=Z,37nm,1.1s
TANN Tannenbergstha 67.33 316 *e*P **P 06 22 47.7 +0.2**
comp=Z,26nm,1.5s
PDKS Podkum 67.37 311 *i*P **P 06 22 48.0 +0.2**
NKC Novy Kostel 67.41 316 *e*P **P 06 22 48.3 +0.3**
NKC AMS AMS 06 53 40.0
comp=Z,500nm,16.7s
NKC Novy Kostel 67.41 316 *e*P **P 06 22 48.3 +0.3**
NKC MLR MLR
comp=Z,500nm,16.7s
BOJS Bojanci 67.41 310 *i*P **P 06 22 48.7 +0.7**
WERD Werda 67.41 316 *e*P **P 06 22 48.2 +0.2**
comp=Z,26nm,1.6s
GUNZ Gunzen 67.43 316 *e*P **P 06 22 48.5 +0.4**
comp=Z,17nm,0.9s
WERN Wernitzgruen 67.43 316 *e*P **P 06 22 48.6 +0.5**
comp=Z,25nm,1.4s
HNR Honiara 67.43 117 *e*P **P 06 22 48.2 -0.3**
HNR Honiara 67.43 117 *e*P **P 06 22 48.2 -0.3**
NEUB Neuenburg 67.44 317 *e*P **P 06 22 48.5 +0.4**
comp=Z,68nm,1.5s
PLN Plauen 67.49 316 *e*P **P 06 22 48.8 +0.4**
comp=Z,10.0nm,0.9s
PLN *ep*P **pP 06 22 55.2 -1.1**
WET Wettzell 67.55 315 *e*P **P 06 22 49.3 +0.4**
comp=Z,17nm,1.3s
WET *ep*P **pP 06 22 55.8 -0.9**
COLD Coldfoot 67.67 24 *e*P **P 06 22 49.3 -0.1**
MANZ Manzenberg 67.70 316 *e*P **P 06 22 50.2 +0.4**
comp=Z,14nm,1.1s
MANZ *ep*P **pP 06 22 56.7 -1.0**
ROTZ Rotzenmuhle 67.72 316 *e*P **P 06 22 50.9 +0.9**
comp=Z,45nm,1.4s
ROTZ *ep*P **pP 06 22 57.3 -0.5**
MOX Moxa 67.75 317 *e*P **P 06 22 51.0 +0.9**
comp=Z,13nm,1.1s
MOX *e*L L 06 54 03.5
comp=Z,583nm,18.7s
NRDL Niedersach Rie 67.91 319 *e*P **P 06 22 51.7 +0.7**
comp=Z,24nm,1.0s
NRDL *ep*P **pP 06 22 58.0 -0.8**
CLZ Clausthal 68.01 318 *e*P **P 06 22 52.3 +0.5**
comp=Z,38nm,1.2s
KBA Koelnbreinsper 68.04 313⇓*i*P **P 06 22 52.5 +0.3**
comp=Z,21nm,1.4s
RJOB Jochberg 68.14 313 *e*P **P 06 22 53.1 +0.4**
comp=Z,20nm,1.3s
RJOB *ep*P **pP 06 22 59.4 -1.1**
SVW2 Sparrevohn 68.26 31 *e*P **P 06 22 53.8 +0.7**
GRF Grafenberg Arr 68.34 316 *e*P **P 06 22 54.6 +0.7**
comp=Z,59nm,1.5s
GRF *e*L L 06 54 23.7
comp=Z,806nm,18.0s
GRFO Grafenberg 68.35 316 *e*P **P 06 22 55.1 +1.2**
GRFO Grafenberg 68.35 316 *e*P **P 06 22 55.0 +1.2**
MLY Manley 68.49 26 *e*P **P 06 22 54.6 0.0**
UBBA Unterbreizbach 68.63 317 *e*P **P 06 22 55.6 +0.2**
comp=Z,10.0nm,1.2s
UBBA *ep*P **pP 06 23 01.9 -1.4**
CAST Castle Rocks 68.71 28 *e*P **P 06 22 55.4 -0.5**
TIP Timpagrande 68.80 304 *e*P **P 06 22 56.9 -0.1**
BPAW Bear Paw Mtn. 68.83 27 *e*P **P 06 22 56.5 -0.2**
PPLA Purkeypile 68.91 28 *e*P **P 06 22 57.4 +0.1**
FUR Furstenfeldbru 68.91 314 *e*P **P 06 22 58.3 +0.9**
comp=Z,133nm,1.5s
WTTA Wattenberg 69.04 313 *i*P **P 06 22 58.3 -0.2**
comp=Z,23nm,1.2s,SNR=6.8
KTH Kantishna Hill 69.11 27 *e*P **P 06 22 58.3 -0.2**
CUC Castrocucco 69.15 305 *e*P **P 06 22 59.4 +0.3**
MOTA Moosalm 69.34 313 *i*P **P 06 23 00.5 +0.2**
comp=Z,36nm,1.5s,SNR=5.7
BWN Browne 69.39 27 *e*P **P 06 23 00.8 +0.7**
TRF Thorofare Moun 69.41 27 *e*P **P 06 23 00.1 -0.4**
MDM Murphy Dome 69.47 26 *e*P **P 06 23 00.6 0.0**
COLA College 69.65 26*c i*P **P 06 23 01.3 -0.3**
COLA College 69.65 26 *e*P **P 06 23 01.5 -0.1**
FETA Feichten 69.71 313 *i*P **P 06 23 02.5 -0.1**
comp=Z,25nm,1.3s,SNR=10
SPU Mount Spurr 69.75 30 *e*P **P 06 23 02.4 -0.1**
TNS Taunus Mts 69.77 317 *e*P **P 06 23 03.1 +0.3**
comp=Z,17nm,1.4s
CCB Clear Creek Bu 69.78 26 *e*P **P 06 23 01.5 -0.9**
RSO Redoubt South 69.78 31 *e*P **P 06 23 03.0 +0.2**
CEL Celeste 69.79 303 *e*P **P 06 23 03.5 +0.4**
MCK McKinley 69.80 27 *e*P **P 06 23 02.3 -0.4**
MCK McKinley 69.80 27 *e*P **P 06 23 02.2 -0.4**
STU Stuttgart 69.93 315 *e*P **P 06 23 04.0 +0.3**
comp=Z,55nm,1.5s
RND Reindeer 70.00 27 *e*P **P 06 23 03.1 -0.8**
RND Reindeer 70.00 27 *e*P **P 06 23 03.1 -0.8**
ILAR Eielson Array 70.06 25 P **P 06 23 02.9 -1.3**
comp=Z,16nm,1.0s,baz=278,slow=5.7,SNR=178
ILAR LR LR 06 56 31.6
comp=Z,258nm,18.1s,baz=310,slow=38
ILAR Eielson Array 70.06 25 P **P 06 23 02.9 -1.3**
ILAR pmax pmax
comp=Z,17nm,1.0s
ILAR MLR MLR
comp=Z,259nm,18.1s
FUORN Ofenpass-Fuorn 70.16 313 *e*P **P 06 23 05.5 0.0**
DAVOX Davos/Dischmat 70.34 313 LR LR 06 55 57.8
comp=Z,605nm,18.5s,baz=76,slow=38
KMBO Kilima Mbogo 70.39 256 P **P 06 23 06.8 -0.5**
comp=Z,0.8nm,0.3s,baz=37,slow=9.7,SNR=3.5
KMBO Kilima Mbogo 70.39 256 P **P 06 23 06.8 -0.5**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
KMBO Kilima Mbogo 70.39 256 *e*P **P 06 23 07.2 -0.2**
BFO Black Forest 70.64 315 *e*P **P 06 23 07.9 -0.1**
comp=Z,21nm,1.3s
BFO Black Forest 70.64 315 *e*P **P 06 23 08.0 -0.1**
BFO pmax pmax
comp=Z,22nm,1.4s
BFO Black Forest 70.64 315 *e*P **P 06 23 08.0 -0.1**
comp=Z,22nm,1.4s
OHAK Old Harbor 71.05 34 *e*P **P 06 23 10.0 -0.4**
KDAK Kodiak Island 71.12 33 P **P 06 23 10.7 0.0**
comp=Z,561nm,0.8s,SNR=15
KDAK Kodiak Island 71.12 33 *i*P **P 06 23 10.3 -0.4**
KDAK Kodiak Island 71.12 33 *e*P **P 06 23 10.8 0.0**
CDF Champ du Feu 71.24 316⇑*i*P **P 06 23 11.5 -0.3**
comp=Z,42nm,1.0s
CDF Champ du Feu 71.24 316⇑*i*P **P 06 23 11.5 -0.3**
CDF pmax pmax
comp=Z,42nm,1.0s
CDF Champ du Feu 71.24 316⇑*i*P **P 06 23 11.5 -0.3**
comp=Z,42nm,1.0s
WLF Walferdange 71.35 317 *e*P **P 06 23 13.2 +0.9**
comp=Z,79nm,1.3s
WLF Walferdange 71.35 317 *e*P **P 06 23 13.7 +1.4**
WLF Walferdange 71.35 317 *e*P **P 06 23 13.7 +1.4**
ECH Echery 71.39 315 *e*P **P 06 23 12.3 -0.4**
ECH pmax pmax
comp=Z,15nm,1.1s
ECH Echery 71.39 315 *e*P **P 06 23 12.3 -0.4**
comp=Z,15nm,1.1s
SEW Seward 71.40 30 *e*P **P 06 23 11.9 -0.5**
PAX Paxson 71.54 27 *e*P **P 06 23 12.7 -0.6**
PAX pmax pmax
comp=Z,22nm,0.9s
PAX Paxson 71.54 27 *e*P **P 06 23 12.7 -0.6**
comp=Z,22nm,0.9s
DOT Dot Lake 71.70 26 *e*P **P 06 23 13.5 -0.8**
HINF Hinteralfeld 71.75 315 *e*P **P 06 23 14.4 -0.5**
comp=Z,34nm,1.1s
HINF Hinteralfeld 71.75 315 *e*P **P 06 23 14.4 -0.5**
HINF pmax pmax
comp=Z,34nm,1.1s

HINF **Hinteralfeld** 71.75 315 *e*P P 06 23 14.4 -0.5
comp=Z,34nm,1.1s
GIVF **Givet** 71.93 318⇑*i*P P 06 23 15.8 0.0
comp=Z,50nm,1.1s
GIVF **Givet** 71.93 318⇑*i*P P 06 23 15.8 0.0
GIVF pmax pmax
comp=Z,50nm,1.1s
GIVF **Givet** 71.93 318⇑*i*P P 06 23 15.8 0.0
comp=Z,50nm,1.1s
HAU **Haudompre** 71.97 316 *e*P P 06 23 15.8 -0.4
HAU *e*R
comp=Z,723nm,18.5s
HAU **Haudompre** 71.97 316 *e*P P 06 23 15.8 -0.4
HAU **Haudompre** 71.97 316 *e*P P 06 23 15.8 -0.4
PAGF **Fort de Pagny** 72.10 316 *e*P P 06 23 17.0 +0.1
comp=Z,19nm,1.2s
PAGF **Fort de Pagny** 72.10 316 *e*P P 06 23 17.0 +0.1
comp=Z,19nm,1.2s
EGAK **Eagle** 72.11 24 *e*P P 06 23 16.0 -0.6
SENIN **Lac Senin/Sane** 72.12 314 *e*P P 06 23 17.7 +0.4
EIDS **Eidsvold** 72.29 135 *e*P P 06 23 18.9 +0.7
BAIF **Baives** 72.30 318⇑*i*P P 06 23 18.1 +0.1
comp=Z,26nm,1.0s
BAIF **Baives** 72.30 318⇑*i*P P 06 23 18.1 +0.1
BAIF pmax pmax
comp=Z,26nm,1.0s
BAIF **Baives** 72.30 318⇑*i*P P 06 23 18.1 +0.1
comp=Z,26nm,1.0s
STKA **Stephens Creek** 72.31 147 P P 06 23 17.9 -0.2
comp=Z,10nm,0.8s,baz=329,slow=7.0,SNR=11
STKA **Stephens Creek** 72.31 147 P P 06 23 18.0 -0.2
STKA pmax pmax
comp=Z,10.0nm,0.8s
DIV **Divide** 72.41 28 *e*P P 06 23 18.8 +0.3
MEZF **Maizieres J'vi** 72.52 316 *e*P P 06 23 19.4 0.0
MEZF **Maizieres J'vi** 72.52 316 *e*P P 06 23 19.4 0.0
SFTF **Sexfontaines** 72.67 316 *e*P P 06 23 19.9 -0.4
SFTF **Sexfontaines** 72.67 316 *e*P P 06 23 19.9 -0.4
PGF **Pioggiola** 72.73 310 *e*P P 06 23 21.1 +0.2
comp=Z,76nm,1.0s
PGF **Pioggiola** 72.73 310 *e*P P 06 23 21.1 +0.2
PGF pmax pmax
comp=Z,76nm,1.0s
PGF **Pioggiola** 72.73 310 *e*P P 06 23 21.1 +0.2
comp=Z,76nm,1.0s
CABF **La Chapelle** 72.76 314⇑*i*P P 06 23 20.6 -0.4
comp=Z,30nm,1.1s
CABF **La Chapelle** 72.76 314⇑*i*P P 06 23 20.6 -0.4
CABF pmax pmax
comp=Z,30nm,1.1s
CABF **La Chapelle** 72.76 314⇑*i*P P 06 23 20.6 -0.4
comp=Z,30nm,1.1s
LPG **La Plagne** 72.85 313⇑*i*P P 06 23 22.1 +0.3
comp=Z,66nm,0.8s
LPG **La Plagne** 72.85 313⇑*i*P P 06 23 22.1 +0.3
LPG pmax pmax
comp=Z,66nm,0.8s
LPG **La Plagne** 72.85 313⇑*i*P P 06 23 22.1 +0.3
comp=Z,66nm,0.8s
LPL **La Plagne** 72.86 313⇑*i*P P 06 23 22.0 +0.3
comp=Z,58nm,0.8s
LPL **La Plagne** 72.86 313⇑*i*P P 06 23 22.0 +0.3
LPL pmax pmax
comp=Z,58nm,0.8s
LPL **La Plagne** 72.86 313⇑*i*P P 06 23 22.0 +0.3
comp=Z,58nm,0.8s
BMRM **Bremner River** 72.98 28 *e*P P 06 23 22.1 +0.1
BNI **Bardonecchia** 73.10 313 *e*P P 06 23 23.4 +0.3
BNI **Bardonecchia** 73.10 313 *e*P P 06 23 23.4 +0.3
DAWY **Dawson** 73.15 24 *e*P P 06 23 22.2 -0.7
comp=Z,54nm,1.3s
SBF **Sospel** 73.16 311 *e*P P 06 23 23.2 -0.2
comp=Z,128nm,1.2s
SBF **Sospel** 73.16 311 *e*P P 06 23 23.2 -0.2
SBF pmax pmax
comp=Z,129nm,1.2s
SBF **Sospel** 73.16 311 *e*P P 06 23 23.2 -0.2
comp=Z,128nm,1.2s
MBDF **Montbardon** 73.19 312⇑*i*P P 06 23 22.8 -0.8
comp=Z,19nm,0.9s
MBDF **Montbardon** 73.19 312⇑*i*P P 06 23 22.8 -0.8
MBDF pmax pmax
comp=Z,19nm,0.9s
MBDF **Montbardon** 73.19 312⇑*i*P P 06 23 22.8 -0.8
comp=Z,19nm,0.9s
SUMG **Summit** 73.33 349 *i*P P 06 23 23.6 -0.6
comp=Z,6.4nm,0.7s
SUMG **Summit** 73.33 349 *i*P P 06 23 23.6 -0.6
SUMG pmax pmax
comp=Z,6.0nm,0.7s
SUMG **Summit** 73.33 349 *e*P P 06 23 23.9 -0.4
EKA **Eskdalemuir Ar** 73.64 325 LR LR 06 55 57.5
comp=Z,161nm,21.6s,baz=335,slow=36
ORIF **Oris-en-Rattie** 73.67 313⇑*i*P P 06 23 26.2 -0.2
comp=Z,31nm,0.9s
ORIF *e*R
comp=Z,973nm,18.0s
ORIF **Oris-en-Rattie** 73.67 313⇑*i*P P 06 23 26.2 -0.2
ORIF pmax pmax
comp=Z,31nm,0.9s
ORIF **Oris-en-Rattie** 73.67 313⇑*i*P P 06 23 26.2 -0.2
comp=Z,31nm,0.9s
ESK **Eskdalemuir** 73.67 325 *i*P P 06 23 27.3 +1.3
KULLO **Kullorsuaq** 73.81 355⇑*i*P P 06 23 26.8 +0.3
comp=Z,38nm,0.9s
FRF **La Foret Royal** 73.81 311 *e*P P 06 23 26.6 -0.5
FRF **La Foret Royal** 73.81 311 *e*P P 06 23 26.6 -0.5
FRF **La Foret Royal** 73.81 311 *e*P P 06 23 26.6 -0.5
LOR **Lormes** 73.81 316⇑*i*P P 06 23 26.3 -0.7
comp=Z,30nm,1.3s
LOR *e*R
comp=Z,607nm,18.2s
LOR **Lormes** 73.81 316⇑*i*P P 06 23 26.3 -0.7
LOR pmax pmax
comp=Z,30nm,1.3s
LOR **Lormes** 73.81 316⇑*i*P P 06 23 26.3 -0.7
comp=Z,30nm,1.3s
LMR **La Mourre** 74.00 311⇑*i*P P 06 23 28.1 -0.1
comp=Z,82nm,1.4s
LMR **La Mourre** 74.00 311⇑*i*P P 06 23 28.1 -0.1
LMR pmax pmax
comp=Z,82nm,1.4s
LMR **La Mourre** 74.00 311⇑*i*P P 06 23 28.1 -0.1
comp=Z,82nm,1.4s
SMF **Signal de Mont** 74.11 315⇑*i*P P 06 23 28.4 -0.4
comp=Z,58nm,1.0s
SMF **Signal de Mont** 74.11 315⇑*i*P P 06 23 28.4 -0.4
SMF pmax pmax
comp=Z,58nm,1.0s
SMF **Signal de Mont** 74.11 315⇑*i*P P 06 23 28.4 -0.4
comp=Z,58nm,1.0s
SSF **Saint Saulge** 74.12 316⇑*i*P P 06 23 28.3 -0.5
comp=Z,34nm,1.1s
SSF **Saint Saulge** 74.12 316⇑*i*P P 06 23 28.3 -0.5
SSF pmax pmax
comp=Z,34nm,1.1s
SSF **Saint Saulge** 74.12 316⇑*i*P P 06 23 28.3 -0.5
comp=Z,34nm,1.1s
SMRF **Simiane la Rot** 74.30 312 *e*P P 06 23 30.3 +0.3
SMRF **Simiane la Rot** 74.30 312 *e*P P 06 23 30.3 +0.3
AVF **Avril sur Loir** 74.34 315⇑*i*P P 06 23 29.8 -0.3
comp=Z,58nm,1.1s
AVF **Avril sur Loir** 74.34 315⇑*i*P P 06 23 29.8 -0.3
AVF pmax pmax
comp=Z,58nm,1.1s
AVF **Avril sur Loir** 74.34 315⇑*i*P P 06 23 29.8 -0.3
comp=Z,58nm,1.1s
VIVF **Saint-Julien-l** 74.45 313⇑*i*P P 06 23 30.7 -0.2
comp=Z,20nm,0.9s
VIVF **Saint-Julien-l** 74.45 313⇑*i*P P 06 23 30.7 -0.2
VIVF pmax pmax
comp=Z,21nm,0.9s
VIVF **Saint-Julien-l** 74.45 313⇑*i*P P 06 23 30.7 -0.2
comp=Z,20nm,0.9s
BGF **Bois d'Agland** 74.76 315 *e*P P 06 23 32.1 -0.5
comp=Z,26nm,1.0s
BGF **Bois d'Agland** 74.76 315 *e*P P 06 23 32.1 -0.5
BGF pmax pmax
comp=Z,26nm,1.0s
BGF **Bois d'Agland** 74.76 315 *e*P P 06 23 32.1 -0.5
comp=Z,26nm,1.0s
TCF **Toulx Ste Croi** 75.27 315⇑*i*P P 06 23 35.5 -0.1
comp=Z,56nm,1.1s
TCF **Toulx Ste Croi** 75.27 315⇑*i*P P 06 23 35.5 -0.1
TCF pmax pmax
comp=Z,56nm,1.1s
TCF **Toulx Ste Croi** 75.27 315⇑*i*P P 06 23 35.5 -0.1
comp=Z,56nm,1.1s
LASF **Ste Croix** 75.34 313 *e*P P 06 23 36.2 +0.2
comp=Z,52nm,1.2s
LASF **Ste Croix** 75.34 313 *e*P P 06 23 36.2 +0.2
comp=Z,52nm,1.2s
LDF **La Druitiere** 75.49 318 *e*P P 06 23 36.3 -0.4
comp=Z,30nm,1.0s
LDF **La Druitiere** 75.49 318 *e*P P 06 23 36.3 -0.4
LDF pmax pmax
comp=Z,30nm,1.0s
LDF **La Druitiere** 75.49 318 *e*P P 06 23 36.3 -0.4
comp=Z,30nm,1.0s
KEST **Kesra** 75.61 303 P P 06 23 37.6 -0.1
comp=Z,2.0nm,1.0s,baz=82,slow=13,SNR=3.4
KEST LR LR 07 02 11.5
comp=Z,34nm,19.2s,baz=217,slow=40
FLN **La Foliniere** 75.61 318 *e*P P 06 23 36.9 -0.5
comp=Z,59nm,1.3s
FLN *e*R
comp=Z,878nm,20.2s
FLN **La Foliniere** 75.61 318 *e*P P 06 23 36.9 -0.5
FLN pmax pmax
comp=Z,59nm,1.3s
FLN **La Foliniere** 75.61 318 *e*P P 06 23 36.9 -0.5
comp=Z,59nm,1.3s
HYT **Haines Junctio** 75.85 26 *e*P P 06 23 38.6 -0.1
comp=Z,36nm,1.1s
GRR **Gorron** 76.01 318⇑*i*P P 06 23 39.5 -0.2
comp=Z,41nm,0.9s
GRR **Gorron** 76.01 318⇑*i*P P 06 23 39.5 -0.2
GRR pmax pmax
comp=Z,41nm,0.9s
GRR **Gorron** 76.01 318⇑*i*P P 06 23 39.5 -0.2
comp=Z,41nm,0.9s
CAF **Calviac** 76.04 314⇑*i*P P 06 23 40.4 +0.4
comp=Z,36nm,1.0s
CAF **Calviac** 76.04 314⇑*i*P P 06 23 40.4 +0.4
CAF pmax pmax
comp=Z,36nm,1.0s
CAF **Calviac** 76.04 314⇑*i*P P 06 23 40.4 +0.4
comp=Z,36nm,1.0s
RJF **Les Rejaudoux** 76.19 315⇑*i*P P 06 23 41.2 +0.4
comp=Z,56nm,1.1s
RJF *e*R
comp=Z,466nm,19.0s
RJF **Les Rejaudoux** 76.19 315⇑*i*P P 06 23 41.2 +0.4
RJF pmax pmax
comp=Z,56nm,1.1s
RJF **Les Rejaudoux** 76.19 315⇑*i*P P 06 23 41.2 +0.4
comp=Z,56nm,1.1s
MFF **Saint Martin d** 76.52 316 *e*P P 06 23 42.6 0.0
comp=Z,47nm,1.2s
MFF **Saint Martin d** 76.52 316 *e*P P 06 23 42.6 0.0
MFF pmax pmax
comp=Z,47nm,1.2s
MFF **Saint Martin d** 76.52 316 *e*P P 06 23 42.6 0.0
comp=Z,47nm,1.2s
MTLF **Montolieu** 76.74 313⇑*i*P P 06 23 44.0 +0.1
comp=Z,26nm,1.3s
MTLF **Montolieu** 76.74 313⇑*i*P P 06 23 44.0 +0.1
MTLF pmax pmax
comp=Z,27nm,1.3s
MTLF **Montolieu** 76.74 313⇑*i*P P 06 23 44.0 +0.1
comp=Z,26nm,1.3s
LFF **La Frestale** 76.84 315 *e*P P 06 23 44.9 +0.4
comp=Z,38nm,1.1s
LFF **La Frestale** 76.84 315 *e*P P 06 23 44.9 +0.4
LFF pmax pmax
comp=Z,38nm,1.1s
LFF **La Frestale** 76.84 315 *e*P P 06 23 44.9 +0.4
comp=Z,38nm,1.1s
SGMF **Saint Gilles** 77.05 319⇑*i*P P 06 23 45.8 +0.2
comp=Z,74nm,1.2s
SGMF **Saint Gilles** 77.05 319⇑*i*P P 06 23 45.8 +0.2
SGMF pmax pmax
comp=Z,74nm,1.2s
SGMF **Saint Gilles** 77.05 319⇑*i*P P 06 23 45.8 +0.2
comp=Z,74nm,1.2s
ROSF **Rostrenen** 77.41 319⇑*i*P P 06 23 47.8 +0.2
comp=Z,57nm,1.2s
ROSF **Rostrenen** 77.41 319⇑*i*P P 06 23 47.8 +0.2
ROSF pmax pmax
comp=Z,57nm,1.2s
ROSF **Rostrenen** 77.41 319⇑*i*P P 06 23 47.8 +0.2
comp=Z,57nm,1.2s
QUIF **Quistinic** 77.58 319⇑*i*P P 06 23 48.6 +0.1
comp=Z,45nm,1.3s
QUIF **Quistinic** 77.58 319⇑*i*P P 06 23 48.6 +0.1
QUIF pmax pmax
comp=Z,45nm,1.3s
QUIF **Quistinic** 77.58 319⇑*i*P P 06 23 48.6 +0.1
comp=Z,45nm,1.3s
EPF **Esparros** 78.08 313 *e*P P 06 23 51.0 -0.5
EPF **Esparros** 78.08 313 *e*P P 06 23 51.0 -0.5
EPF **Esparros** 78.08 313 *e*P P 06 23 51.0 -0.5
ETSF **Etsaut** 78.71 313 *e*P P 06 23 55.5 +0.5
comp=Z,16nm,0.9s
ETSF **Etsaut** 78.71 313 *e*P P 06 23 55.5 +0.5
ETSF pmax pmax
comp=Z,16nm,0.9s
ETSF **Etsaut** 78.71 313 *e*P P 06 23 55.5 +0.5
comp=Z,16nm,0.9s
SJPF **Ste Jean** 79.01 314 *e*P P 06 23 57.4 +0.8
comp=Z,14nm,0.8s
SJPF **Ste Jean** 79.01 314 *e*P P 06 23 57.4 +0.8
SJPF pmax pmax
comp=Z,14nm,0.8s
SJPF **Ste Jean** 79.01 314 *e*P P 06 23 57.4 +0.8
comp=Z,14nm,0.8s
DZM **Mont Dzumac** 80.24 123 P P 06 24 03.9 +0.4
comp=Z,9.9nm,1.0s,baz=270,slow=24,SNR=4.7
SFJD **Kangerlussuaq** 80.24 350 *i*P P 06 24 02.3 -0.4
comp=Z,23nm,0.8s
SFJD **Kangerlussuaq** 80.24 350 *e*P P 06 24 01.6 -1.2
SFJD pmax pmax
comp=Z,9.0nm,0.6s
SFJD **Kangerlussuaq** 80.24 350 *e*P P 06 24 01.6 -1.2
comp=Z,9.0nm,0.6s
YKA **Yellowknife Ar** 81.84 17 P P 06 24 11.0 -0.3
comp=Z,10nm,0.7s,baz=329,slow=5.2,SNR=141
YKA **Yellowknife Ar** 81.84 17 P P 06 24 11.0 -0.3
YKA pmax pmax
comp=Z,11nm,0.7s
ESDC **Sonseca Array** 82.62 312 P P 06 24 16.2 +0.2
comp=Z,0.4nm,0.3s,baz=43,slow=5.4,SNR=12
ESDC LR LR 07 03 02.0
comp=Z,105nm,20.1s,baz=340,slow=37
PBRG **Braganca** 83.12 315 *e*LR LR 07 01 37.6
MVO **Moncorvo** 83.67 315 *e*LR LR 07 01 31.3
comp=Z,158nm,16.0s
POLO **Lamas de Olo** 84.01 315 A A 07 04 30.6
comp=Z,69nm,20.0s
MTE **Manteigas** 84.44 314 *e*LR LR 07 02 42.9
comp=Z,114nm,20.0s
PMRV **Marv??o** 84.92 313 *e*P P 06 24 28.9 +1.2
comp=Z,43nm,1.8s
PMRV **Marv??o** 84.92 313 A A 07 05 48.5
comp=Z,190nm,18.0s
PCAS **Casmilo, Conde** 85.23 314 *e*LR LR 07 02 57.1
comp=Z,168nm,16.0s
PESTR **Estremoz** 85.38 313 *e*LR LR 07 03 09.5
comp=Z,236nm,18.0s
PBAR **Barrancos** 85.44 312 *e*P P 06 24 31.8 +1.5
comp=Z,60nm,1.9s
PBAR **Barrancos** 85.44 312 *e*LR LR 07 03 03.9
comp=Z,498nm,18.0s
PMTG **Montargil** 85.65 314 *e*LR LR 07 03 40.7
comp=Z,157nm,18.0s
EVO **Evora** 85.84 313 *e*P P 06 24 32.0 -0.3
comp=Z,16nm,0.9s
EVO *e*R
comp=Z,276nm,19.5s
EVO **Evora** 85.84 313 *e*P P 06 24 33.6 +1.3
comp=Z,40nm,1.7s
EVOP **Sao Brissos** 85.91 313 *e*P P 06 24 32.0 -0.7
EVOP pmax pmax
comp=Z,16nm,0.9s
EVOP **Sao Brissos** 85.91 313 *e*P P 06 24 32.0 -0.7
comp=Z,16nm,0.9s
PVAQ **Vaqueiros** 86.33 312 *e*LR LR 07 03 46.9
comp=Z,254nm,20.0s
PMAFR **Mafra** 86.38 314 *e*LR LR 07 03 43.8
comp=Z,104nm,18.0s
MESJ **Messejana** 86.39 313 *e*P P 06 24 36.3 +1.3
comp=Z,44nm,2.3s
PCVE **Castro Verde** 86.40 312 *e*LR LR 07 03 28.2
comp=Z,736nm,18.0s
PNCL **Nicolau / Gran** 86.42 313 *e*P P 06 24 36.2 +1.0
comp=Z,43nm,2.0s
PNCL **Nicolau / Gran** 86.42 313 *e*LR LR 07 03 46.9
comp=Z,265nm,18.0s
PBDV **Barranco-do-Ve** 86.56 312 *e*LR LR 07 03 58.6
comp=Z,274nm,18.0s
MDT **Midelt** 86.96 307 LR LR 07 07 24.0
comp=Z,71nm,18.6s,slow=38
MORF **Marmelete** 86.98 312 *e*LR LR 07 03 35.5
comp=Z,207nm,18.0s
PFVI **Vila Bisbo** 87.20 312 *e*LR LR 07 03 22.0
comp=Z,234nm,18.0s
FCC **Fort Churchill** 89.27 9 *e*P P 06 24 48.0 -0.4
FCC pmax pmax
comp=Z,23nm,1.2s
FCC **Fort Churchill** 89.27 9 *e*P P 06 24 48.0 -0.4
comp=Z,23nm,1.2s
MBW **Mount Baker** 90.73 28 P P 06 24 56.4 +0.7
JCW **Jim Creek** 91.19 28 P P 06 24 58.6 +1.0
FFC **Flin Flon** 91.74 14 P P 06 24 59.9 -0.1
comp=Z,108nm,0.9s,SNR=7.2
FFC **Flin Flon** 91.74 14 *e*P P 06 24 59.5 -0.5
FFC pmax pmax
comp=Z,16nm,0.9s
FFC **Flin Flon** 91.74 14 *e*P P 06 24 59.5 -0.5
comp=Z,16nm,0.9s
NLW **Nelson Butte** 91.92 28 P P 06 25 02.1 +0.9
ETW **Entiat** 92.30 28 P P 06 25 03.6 +0.7
WTV **Waterville** 92.38 28 P P 06 25 03.9 +0.7
TBM **Table Mountain** 92.55 28 P P 06 25 05.0 +1.0
SAW **Saint Andrews** 92.60 27 P P 06 25 04.9 +0.8
EBG **Ellensburg** 92.77 29 P P 06 25 06.2 +1.2
NEW **Newport** 93.01 26 *e*P P 06 25 06.4 +0.3
NEW pmax pmax
comp=Z,9.0nm,0.9s
NEW **Newport** 93.01 26 *e*P P 06 25 06.4 +0.3
comp=Z,8.9nm,0.9s
NEW **Newport** 93.01 26 P P 06 25 06.7 +0.7
baz=93
TOA0 **Torodi Ar. Sit** 93.12 287 *e*P P 06 25 07.0 -0.1
TORD **Torodi Ar. Bea** 93.12 287 P P 06 25 06.5 -0.6
comp=Z,4.0nm,1.1s,baz=56,slow=3.4,SNR=18
TORD LR LR 07 13 19.0
comp=Z,100nm,19.3s,baz=65,slow=40
SCHQ **Schefferville** 94.00 354 P P 06 25 10.0 -0.5
comp=Z,8.5nm,0.8s,baz=25,slow=6.9,SNR=10
SCHQ LR LR 07 10 46.6
comp=Z,151nm,19.1s,baz=24,slow=38
BSMT **Bassoo Peak** 94.21 25 P P 06 25 13.0 +1.2
YBMT **Yellow Bay** 94.48 24 *e*P P 06 25 13.7 +0.8
comp=Z,13nm,1.2s
JTMT **Jette** 94.48 24 *e*P P 06 25 13.5 +0.6
comp=Z,4.0nm,0.8s
SWMT **Swartz Lake** 94.78 24 *e*P P 06 25 14.3 0.0
comp=Z,9.9nm,1.4s
SLMT **Seeley Lake** 95.19 24 *e*P P 06 25 16.2 0.0
comp=Z,21nm,1.2s
BOSA **Boshof** 95.23 240 P P 06 25 15.3 -1.3
comp=Z,1.5nm,0.6s,baz=128,slow=12,SNR=2.7
BOSA **Boshof** 95.23 240 P P 06 25 15.3 -1.3
BOSA pmax pmax
comp=Z,2.0nm,0.6s
A19A **Klindworth Far** 95.28 21 P P 06 25 16.8 +0.3
baz=95
MSO **Missoula** 95.38 25 P P 06 25 17.5 +0.4
baz=95
CHMT **Chamberlain Mo** 95.56 24 *e*P P 06 25 17.2 -0.8
comp=Z,1.8nm,1.0s
B19A **Brinkman Farms** 95.64 21 P P 06 25 18.2 +0.1
baz=95
EGMT **Eagleton** 95.76 22 P P 06 25 18.9 +0.1
baz=95
HRY **Holter Researc** 96.23 24 *e*P P 06 25 20.5 -0.4
comp=Z,3.2nm,0.7s
C19A **Slack Wire Ran** 96.24 21 P P 06 25 20.9 0.0
baz=96
D19A **Cripps Ranch,** 96.80 22 P P 06 25 23.5 0.0
baz=96
DLMT **Dillon** 97.12 25 *e*P P 06 25 24.9 -0.2
comp=Z,3.0nm,0.9s
ULM **Lac du Bonnet** 97.19 12 LR LR 07 12 57.8
comp=Z,107nm,18.1s,baz=286,slow=38
BOZ **Bozeman (W)** 97.22 24 *e*P P 06 25 25.3 -0.2
BOZ pmax pmax
comp=Z,16nm,1.9s
BOZ **Bozeman (W)** 97.22 24 *e*P P 06 25 25.3 -0.2
comp=Z,16nm,1.9s
C23A **Lambert** 97.33 19 P Pdif 06 25 26.2 +0.4
baz=97
E19A **Rath Farm, Rou** 97.45 22 P Pdif 06 25 26.5 0.0
baz=97
E20A **Meyer Farm, Mu** 97.62 21 P Pdif 06 25 27.3 +0.1
baz=97
A29A **Manning Farm,** 97.78 15 P Pdif 06 25 27.9 +0.2
baz=97
D23A **Lindsay** 97.89 19 P Pdif 06 25 28.5 +0.1
baz=98
F19A **Roth Farm, Mol** 97.94 22 P Pdif 06 25 28.7 0.0
baz=98
HLID **Hailey** 97.98 27 P P 06 25 28.8 -0.2
baz=98
D24A **Glendive** 98.19 19 P Pdif 06 25 29.8 +0.1
baz=98
G20A **Bridger** 98.74 22 P P 06 25 31.8 -0.5
baz=98
I20A **Worland** 99.90 23 P **Pdif** 06 25 38.0 +0.5
baz=100
I21A **Big Trails, Te** 100.30 22 P **Pdif** 06 25 39.2 -0.1
baz=100
PDAR **Pinedale Array** 100.46 24 P **Pdif** 06 25 38.5 -1.6
comp=Z,0.5nm,0.9s,baz=19,slow=5.9,SNR=2.8
PDAR PP **PP** 06 29 45.8 0.0
comp=Z,2.5nm,1.1s,baz=21,slow=5.3,SNR=9.3
NVAR **Mina Array Bea** 100.60 32 P **Pdif** 06 25 42.8 +1.9
comp=Z,0.6nm,0.8s,baz=345,slow=3.2,SNR=3.1
NVAR PP **PP** 06 29 43.6 -3.4
comp=Z,0.8nm,0.9s,baz=332,slow=5.1,SNR=3.5
J22A **Midwest** 100.91 22 P **Pdif** 06 25 42.0 0.0
baz=100
X35A **Drake** 112.04 18 P **PKiKP** 06 30 27.5 -0.6
baz=112
Z31A **Sharp Cattle R** 112.14 21 P **PKiKP** 06 30 27.9 -0.5
baz=112
Z32A **Haskell** 112.35 21 P **PKiKP** 06 30 28.4 -0.4
baz=112
VNDA **Vanda** 113.83 168 PKKPbc PKKPbc 06 41 18.1 +3.4
comp=Z,0.6nm,0.8s,baz=210,slow=3.6,SNR=3.7
429A **Davenport Ranc** 114.04 24 P PKPdf 06 30 31.7 -0.4
baz=114
332A **Millersview** 114.05 22 P PKPdf 06 30 31.7 -0.4
baz=114
430A **Baggett Ranch,** 114.11 23 P PKPdf 06 30 31.9 -0.4
baz=114
333A **Richland Sprin** 114.34 21 P PKPdf 06 30 32.0 -0.7
baz=114
529A **Stev Forest Ra** 114.38 24 P PKPdf 06 30 32.5 -0.3
baz=114
431A **Sonora** 114.42 23 P PKPdf 06 30 32.8 -0.1
baz=114
334A **Lometa** 114.56 20 P PKPdf 06 30 32.6 -0.5
baz=114
TXAR **Lajitas Array** 114.57 26 PKP PKPdf 06 30 33.0 -0.2
comp=Z,0.9nm,0.7s,baz=224,slow=1.2,SNR=13
TXAR PP **PP** 06 31 25.6 -3.4
comp=Z,0.8nm,0.8s,baz=323,slow=4.8,SNR=5.7
TXAR PKKPbc **PKKPbc** 06 41 11.4 +0.2
comp=Z,0.8nm,0.9s,baz=155,slow=6.5,SNR=6.7
TXAR **Lajitas Array** 114.57 26 PKIKP PKPdf 06 30 33.1 -0.1
TXAR 06 31 25.6
TXAR 06 41 11.5
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR pmax pmax
comp=Z,1.0nm,0.8s
530A **J-C Ranch, Com** 114.66 24 P PKPdf 06 30 33.6 +0.3
baz=114
434A **Burnet** 115.04 21 P **PKPdf** 06 30 33.2 -0.8
baz=115
632A **Uvalde** 115.78 22 P **PKPdf** 06 30 35.2 -0.3
baz=115
832A **Faith Ranch, C** 116.84 23 P **PKPdf** 06 30 37.5 +0.1
baz=116
834A **Tilden** 117.45 22 P **PKPdf** 06 30 39.0 +0.4
baz=117
QSPA **South Pole Qui** 120.89 180 *e*PKPdf **PKPdf** 06 30 42.7 -1.4
SNAA **Sanae** 124.34 202 P **PKPdf** 06 30 48.4 -2.1

VNA2	**Neumayer--Watz**	**125.88**	**202**	P	**PKPdf**	**06 30 53.2**	**-0.2**
	baz=64,slow=2.9						
VNA1	**Neumayer--Stat**	**126.21**	**203**	P	**PKPdf**	**06 30 53.5**	**-0.5**
VNA3	**Neumayer Olymp**	**126.56**	**202**	P	**PKPdf**	**06 30 54.1**	**-0.6**
ROSC	**El Rosal**	**144.17**	**356**	PKP	PKPbc	06 31 28.5	+0.8
	comp=Z,28nm,0.7s,baz=102,slow=4.2,SNR=19						
ROSC	**El Rosal**	**144.17**	**356**	*e*PKPdf	PKPbc	06 31 28.1	+0.5
ROSC				PKP	**PKPdf**	**06 31 28.5**	**-1.2**
OTAV	**Otavalo**	**148.76**	**4**	*e*PKPdf	**PKPdf**	**06 31 38.0**	**+0.5**
BDFB	**Brasilia**	**149.76**	**294**	PKPbc	**PKPbc**	**06 31 42.5**	**-0.7**
	comp=Z,11nm,1.0s,baz=17,slow=6.4,SNR=10						
BDFB	**Brasilia**	**149.76**	**294**	PKP2	**PKPbc**	**06 31 42.5**	**-0.7**
BDFB				pmax	pmax		
	comp=Z,11nm,1.0s						
SAML	**Samuel**	**154.69**	**328**	*e*PKPdf	**PKPdf**	**06 31 45.2**	**-0.5**
SAML				*e*PKPbc	**PKPbc**	**06 31 53.6**	**-0.7**
LPAZ	**La Paz**	**163.38**	**331**	PKPab	**PKPab**	**06 32 45.2**	**-2.1**
	comp=Z,2.9nm,0.9s,baz=318,slow=3.6,SNR=2.2						
LPAZ	**La Paz**	**163.38**	**331**	PKP2	**PKPbc**	**06 32 45.2**	**-2.1**
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
PLCA	**Paso Flores**	**169.26**	**205**	PKP	**PKPdf**	**06 32 00.3**	**+0.4**
	comp=Z,5.1nm,1.0s,baz=150,slow=1.4,SNR=4.5						
PLCA				PKPab	**PKPab**	**06 33 10.5**	**-1.5**
	comp=Z,5.7nm,1.0s,baz=197,slow=3.5,SNR=5.9						
PLCA	**Paso Flores**	**169.26**	**205**	PKIKP	**PKPdf**	**06 32 00.3**	**+0.4**
PLCA						06 33 10.5	
PLCA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
PLCA				pmax	pmax		
	comp=Z,6.0nm,1.0s						

IDC 25 06:15:01.2±3.6, 30°18S×138°36E, h0km, mb1 3.0/3, mb1mx3.0/18, mbtmp2.8/3, ML2.7/3, Error ellipse: s-maj=111.1km s-min=15.7km az=44.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.08**	**124**	Pn	Pn	06 15 51.1	0.0
	0.4nm,0.3s,baz=299,slow=13,SNR=7.9						
STKA				Pg	Pb	06 15 58.4	+1.5
	1.6nm,0.3s,baz=293,slow=13,SNR=15						
STKA				Sn	Sn	06 16 28.0	-0.7
	2.2nm,0.3s,baz=331,slow=15,SNR=5.8						
STKA				Lg	Lg	06 16 38.3	
	2.8nm,0.3s,baz=17,slow=23,SNR=5.7						
ASAR	**Alice Springs**	**7.72**	**326**	Pn	Pn	06 16 55.0	0.0
	0.1nm,0.3s,baz=150,slow=13,SNR=5.0						
ASAR				Sn	Sn	06 18 23.4	+0.2
	0.2nm,0.3s,baz=157,slow=22,SNR=4.3						
WRA	**Warramunga Arr**	**10.90**	**338**	Pn	Pn	06 17 38.5	-0.1
	0.1nm,0.3s,baz=159,slow=13,SNR=10						
WRA				Sn	Sn	06 19 38.7	-2.6
	0.0nm,0.3s,baz=161,slow=24,SNR=3.0						

MEX 25 06:19:25.7±0.9, 16°47N×95°01W, h17km±354km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.26**	**237**	*e*P	Pn	06 19 44.0	-4.6
HUIG				*e*S	Sb	06 20 00.7	-4.3
VHO	**Vista Hermosa**	**1.75**	**290**	*e*P	Pn	06 19 47.2	-8.4
VHO				*e*S	Sb	06 20 20.6	+1.0

CSEM 25 06:19:40.2±1.5, 42°73N×43°53E, h5km, MD2.8, Error ellipse: s-maj=135.9km s-min=25.8km az=135.0
TIF 25 06:19:41.6, 42°56N×43°45E, h11km±2km
DDA 25 06:19:41.8, 42°49N×43°37E, h7km, MD2.8

ISC 25 06:19:40.4±3.8, 42°7N±0°2×43°27E±0°08, h0km±21km, n8, σ0°39/16, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.17**	**126**	P	**Pg**	**06 19 44.0**	**+0.4**
ONI				S	**Sg**	**06 19 45.5**	**-0.3**
ONI	**Oni**	**0.17**	**126**	P	**Pg**	**06 19 44.0**	**+0.4**
ONI				S	**Sg**	**06 19 45.5**	**-0.3**
ARTV	**Artvin**	**1.80**	**214**	*i* P	**Pn**	**06 20 13.0**	**+0.1**
ARTV				*i* S	**Sb**	**06 20 37.6**	**0.0**
ARTV	**Artvin**	**1.80**	**214**	*i* P	**Pn**	**06 20 13.0**	**+0.1**
ARTV				*i* S	**Sb**	**06 20 37.6**	**0.0**
DBAD	**Bademkaya**	**2.04**	**216**	*i* P	**Pb**	**06 20 18.0**	**-0.4**
DBAD				*i* S	**Sb**	**06 20 44.8**	**+0.5**
DBAD	**Bademkaya**	**2.04**	**216**	*i* P	**Pb**	**06 20 18.0**	**-0.4**
DBAD				*i* S	**Sb**	**06 20 44.8**	**+0.5**
DDEM	**Demirkent**	**2.12**	**213**	*i* P	**Pb**	**06 20 19.2**	**-0.5**
DDEM				*i* S	**Sg**	**06 20 48.5**	**-0.1**
DDEM	**Demirkent**	**2.12**	**213**	*i* P	**Pb**	**06 20 19.2**	**-0.5**
DDEM				*i* S	**Sg**	**06 20 48.5**	**-0.1**

MAN 25 06:23:09, 18°71N×120°86E, h28km, mb4.5, ML3.3, MS3.2, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.45**	**210**	↑*i* P	Pn	06 23 19.2	-0.4
PIP				*e*S	Sn	06 23 26.3	-0.4
SIPP	**Brgy, Tapao**	**0.87**	**206**	↑*i* P	Pb	06 23 27.3	+1.8
SIPP				*i* S	Sn	06 23 41.4	+4.2
APYP	**Conner**	**0.92**	**157**	*e*P	Pn	06 23 26.2	+0.1
APYP				*e*S	Sn	06 23 38.8	+0.4
ABRA	**Dolores**	**1.07**	**187**	*e*P	Pn	06 23 28.4	+0.3
ABRA				*e*S	Sn	06 23 41.9	-0.1
SGCP	**Mt. Cagua**	**1.22**	**112**	*e*P	Pn	06 23 30.1	-0.1

ISCJB 25 06:27:32.0±0.7, 36°31N±0°04×140°71E±0°06, h98km±6km, mb3.2/2, Error ellipse: s-maj=8.3km s-min=6.0km az=17.1
IDC 25 06:27:32.0±6.7, 36°30N×140°83E, h93km±50km, mb3.1/2, mb1 3.2/3, mb1mx2.9/26, mbtmp3.3/3, Error ellipse: s-maj=68.3km s-min=30.2km az=65.0
JMA 25 06:27:33.6, 36°32N×140°64E, h88km±1km, M2.9

ISC 25 06:27:32.8±1.1, 36°31N±0°04×140°69E±0°06, h93km±8km, n17, σ0°71/28, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.31**	**342**	P	**Pn**	**06 27 46.9**	**+0.2**
JHO				S	**Sn**	**06 27 56.6**	**-0.4**
JYT	**Yasato**	**0.41**	**258**	P	**Pn**	**06 27 47.3**	**+0.1**
JYT				S	**Sn**	**06 27 57.5**	**-0.4**
JAG	**Ashikaga**	**1.00**	**277**	P	**Pn**	**06 27 53.0**	**+0.2**
JAG				S	**Sn**	**06 28 07.4**	**-0.4**
JFK	**Kawauchi**	**1.06**	**8**	P	**Pn**	**06 27 53.6**	**+0.1**
JFK				S	**Sn**	**06 28 08.6**	**-0.3**
JFT	**Otama**	**1.23**	**347**	P	**Pn**	**06 27 56.1**	**+0.6**
JFT				S	**Sn**	**06 28 13.3**	**+0.8**
JKT	**Katashina**	**1.25**	**292**	P	**Pn**	**06 27 56.2**	**+0.5**
JKT				S	**Sn**	**06 28 13.5**	**+0.6**
JFY	**Yanaizu**	**1.35**	**324**	P	**Pn**	**06 27 57.2**	**+0.4**
JRY	**Ryogami san**	**1.48**	**259**	P	**Pn**	**06 27 58.6**	**+0.1**
BSO3	**Boso 3**	**1.52**	**186**	P	**Pn**	**06 27 59.1**	**+0.4**
BSO3				S	**Sn**	**06 28 20.0**	**+1.8**
JMM	**Marumori**	**1.55**	**3**	P	**Pn**	**06 27 59.6**	**+0.3**
JMM				S	**Sn**	**06 28 19.2**	**-0.2**
JHK	**Hiroka**	**1.64**	**305**	P	**Pn**	**06 28 00.5**	**+0.1**
JOD2	**Odawara 2**	**1.67**	**232**	P	**Pn**	**06 28 00.7**	**-0.2**
JOD2				S	**Sn**	**06 28 21.3**	**-0.9**
BSO1	**Boso 1**	**1.67**	**172**	P	**Pn**	**06 28 00.8**	**+0.4**
MJAR	**Matsushiro Arr**	**2.02**	**277**	P	**Pn**	**06 28 06.0**	**+0.7**
	1.7nm,0.3s,baz=88,slow=15,SNR=14						
MJAR				S	**Sn**	**06 28 31.7**	**+1.6**
	2.5nm,0.3s,baz=345,slow=15,SNR=7.1						
MAT	**Matsushiro**	**2.02**	**277**	P	**Pn**	**06 28 05.7**	**+0.4**
MAT				*e*S	**Sn**	**06 28 29.4**	**-0.8**
SONM	**Songino Array**	**27.71**	**305**	P	**P**	**06 33 12.8**	**+0.4**
	0.3nm,0.5s,baz=91,slow=9.5,SNR=2.9						
WRA	**Warramunga Arr**	**56.27**	**187**	P	**P**	**06 37 02.7**	**-1.0**
	0.3nm,0.8s,baz=4.2,slow=7.2,SNR=4.5						

IDC 25 06:48:01.9±1.7, 4°33S×153°74E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/21, mbtmp3.6/4, Error ellipse: s-maj=55.9km s-min=33.0km az=94.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.46**	**229**	P	P	06 53 23.1	+0.3
	2.0nm,0.7s,baz=54,slow=10.0,SNR=26						
ASAR	**Alice Springs**	**27.13**	**223**	P	P	06 53 47.0	-0.1
	0.3nm,0.6s,baz=64,slow=7.1,SNR=4.5						
VNDA	**Vanda**	**73.27**	**178**	P	P	06 59 34.9	+0.3
	0.6nm,0.8s,baz=11,slow=5.2,SNR=3.5						
MKAR	**Makanchi Array**	**80.59**	**319**	P	P	07 00 17.0	+0.5
	0.4nm,0.9s,baz=93,slow=9.1,SNR=3.3						
TORD	**Torodi Ar. Bea**	**151.04**	**289**	PKPbc	PKPbc	07 07 56.5	-1.5
	0.6nm,0.7s,baz=48,slow=2.3,SNR=4.7						

IDC 25 06:49:08.7±2.3, 35°41S×107°05W, h0km, mb3.7/4, mb1 4.1/4, mb1mx3.8/18, mbtmp3.7/4, MS3.7/7, Ms1 3.7/7, ms1mx3.5/19, Error ellipse: s-maj=70.2km s-min=40.6km az=17.0

ISC 25 06:49:09.9±2.8, 35°5S±0°6×107°0W±0°3, h10km, n12, σ0°81/6, mb3.6/4, MS3.8/6, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**8.56**	**346**	LR	LR	06 53 33.6	
	comp=Z,434nm,18.1s,baz=156,slow=31						
LPAZ	**La Paz**	**39.55**	**71**	P	**P**	**06 56 42.4**	**+0.4**
	0.9nm,0.9s,baz=260,slow=6.1,SNR=2.4						
LPAZ				LR	LR	07 09 09.4	
	comp=Z,63nm,19.5s,baz=214,slow=30						
ROSC	**El Rosal**	**50.52**	**44**	LR	LR	07 16 06.2	
	comp=Z,83nm,18.3s,baz=356,slow=32						
URZ	**Urewera**	**59.12**	**243**	LR	LR	07 19 09.5	
	comp=Z,72nm,20.6s,baz=224,slow=30						
RPZ	**Rata Peaks**	**61.24**	**235**	LR	LR	07 19 55.5	
	comp=Z,56nm,20.3s,baz=315,slow=30						
TXAR	**Lajitas Array**	**64.55**	**3**	P	**P**	**06 59 47.0**	**-0.2**
	0.2nm,0.8s,baz=180,slow=9.9,SNR=2.7						
NVAR	**Mina Array Bea**	**74.28**	**351**	P	**P**	**07 00 48.2**	**+0.8**
	0.8nm,0.7s,baz=182,slow=7.0,SNR=5.7						
PDAR	**Pinedale Array**	**77.91**	**358**	P	**P**	**07 01 07.5**	**-0.4**
	1.4nm,0.8s,baz=157,slow=4.9,SNR=10.0						
STKA	**Stephens Creek**	**87.10**	**232**	LR	LR	07 33 03.1	
	comp=Z,76nm,19.4s,baz=21,slow=30						
SCHQ	**Schefferville**	**96.35**	**22**	LR	LR	07 43 01.8	
	comp=Z,29nm,18.0s,baz=46,slow=34						
AKASG	**Malin Array Be**	**145.17**	**50**	PKPbc	**PKPbc**	**07 08 45.9**	**-0.9**
	0.6nm,0.5s,baz=274,slow=3.5,SNR=3.3						
SONM	**Songino Array**	**152.37**	**307**	PKPbc	**PKPbc**	**07 09 06.3**	**+0.3**
	0.5nm,0.8s,baz=90,slow=0.6,SNR=6.3						

BEO 25 06:55:18.2±0.8, 47°93N×20°41E, h0km, ML3.3/6
SIGU 25 06:55:26.1±0.1, 47°32N±0°01×19°95E±0°01, h6km, mb2.7/10
CSEM 25 06:55:29.4±0.1, 47°26N×19°91E, h20km, ML3.1, Error ellipse: s-maj=4.3km s-min=3.4km az=43.0
PRU 25 06:55:29.4, 47°29N×19°78E, h0km
VIE 25 06:55:34.2±0.6, 47°18N×18°57E, h8km, mb2.2/3, ML2.5/3, Error ellipse: s-maj=6.3km s-min=4.1km az=86.0 53 km SW of Budapest

ISC 25 06:55:29.3±1.0, 47°29N±0°02×19°89E±0°02, h14km±8km, n101, σ1°12/138, 27C-12D, Hungary

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUD	**Budapest**	**0.62**	**289**	*e*Pg	**Pg**	**06 55 41.6**	**+0.2**
BUD				*e*Sg	**Sb**	**06 55 52.4**	**+2.0**
BUD	**Budapest**	**0.62**	**289**	*e*Pg	**Pg**	**06 55 41.6**	**+0.2**
BUD				*e*Sg	**Sb**	**06 55 52.4**	**+2.0**
PSZ	**Piszkesteto**	**0.63**	**0**	↓*i* P	**Pg**	**06 55 41.0**	**-0.7**
PSZ				S	**Sg**	**06 55 50.6**	**+0.5**
PSZ	**Piszkesteto**	**0.63**	**0**	↓^*e*Pg	**Pg**	**06 55 41.2**	**-0.5**
PSZ				↑*e*Sg	**Sg**	**06 55 50.6**	**+0.5**
PSZ	**Piszkesteto**	**0.63**	**0**	↓*e*Pg	**Pg**	**06 55 41.2**	**-0.5**
PSZ				*e*Sg	**Sg**	**06 55 50.6**	**+0.5**
PKS2	**Kecel**	**0.92**	**210**	↓*e*Pn	**Pg**	**06 55 46.7**	**-0.3**
PKS2				↑*e*Sn	**Sg**	**06 55 59.7**	**+0.6**
PKS2	**Kecel**	**0.92**	**210**	↑*e*Pn	**Pg**	**06 55 46.7**	**-0.3**
PKS2				*e*Sn	**Sg**	**06 55 59.7**	**+0.6**
PKSG		**1.02**	**276**	*e*Pn	**Pg**	**06 55 48.0**	**-1.0**
PKSG		**1.02**	**276**	*e*Pn	**Pg**	**06 55 48.0**	**-1.0**
PKSG				*epg*	**Pn**	**06 55 50.9**	**+1.7**
PKSG				*e*Sn	**Sg**	**06 56 02.4**	**0.0**
PKST	**T``s**	**1.26**	**269**	↓*e*Pn	**Pn**	**06 55 51.4**	**-1.1**
PKST				↓*e*Sn	**Sg**	**06 56 08.9**	**-1.1**
PKST	**T``s**	**1.26**	**269**	↓*e*Pn	**Pn**	**06 55 51.4**	**-1.1**
PKST				*e*Sn	**Sg**	**06 56 08.9**	**-1.1**
PKS9	**Tamasi**	**1.30**	**238**	↑*e*Pn	**Pn**	**06 55 53.3**	**+0.2**
PKS9				↑*e*Sn	**Sb**	**06 56 11.4**	**+1.2**
PKS9	**Tamasi**	**1.30**	**238**	↑*e*Pn	**Pn**	**06 55 53.3**	**+0.2**
PKS9				*e*Sn	**Sb**	**06 56 11.4**	**+1.2**
PKSM	**Moragy**	**1.37**	**219**	*e*Pn	**Pn**	**06 55 53.9**	**-0.1**
PKSM	**Moragy**	**1.37**	**219**	↑*i* P	Pn	06 55 51.4	-2.6
PKSM	**Moragy**	**1.37**	**219**	S	**Sb**	**06 56 08.6**	**-3.6**
PKSM	**Moragy**	**1.37**	**219**	↑*i* P	Pn	06 55 51.4	-2.6
PKSM	**Moragy**	**1.37**	**219**	*e*Pn	**Pn**	**06 55 53.9**	**-0.1**
PKSM				*e*Sn	**Sb**	**06 56 13.6**	**+1.4**
PKSM	**Moragy**	**1.37**	**219**	↓*e*Pn	Pn	06 55 51.8	-2.2
PKSM				*epg*	**Pn**	**06 55 54.0**	**-0.1**
PKSM				*e*Sn	**Sb**	**06 56 13.6**	**+1.4**
VYHS	**Vyhne**	**1.40**	**330**	*e*Pn	**Pn**	**06 55 54.1**	**-0.4**
VYHS				*e*Sn	**Sb**	**06 56 13.0**	**0.0**
VYHS	**Vyhne**	**1.40**	**330**	*e*PN	**Pn**	**06 55 54.0**	**-0.4**
VYHS				*e*SN	**Sb**	**06 56 13.0**	**0.0**
SIRR	**Siria**	**1.59**	**129**	↓*i* P	**Pn**	**06 55 55.1**	**-1.9**
SIRR	**Siria**	**1.59**	**129**	↓*i* P	**Pn**	**06 55 55.1**	**-1.9**
SIRR				S	**Sn**	**06 56 16.2**	**-1.2**
LANS	**Liptovska Anna**	**1.89**	**352**	*e*Sn	**Sb**	**06 56 27.8**	**+0.8**
TRPA	**Tarpa**	**1.98**	**64**	↑*i* P	**Pn**	**06 56 02.7**	**+0.3**
TRPA	**Tarpa**	**1.98**	**64**	S	**Sb**	**06 56 30.0**	**+0.4**
TRPA	**Tarpa**	**1.98**	**64**	↑*i* P	**Pn**	**06 56 02.7**	**+0.3**
TRPA				*e*Sn	**Sn**	**06 56 24.3**	**-2.7**
DRGR		**1.99**	**103**	↓*i* P	**Pn**	**06 56 01.2**	**-1.4**
DRGR		**1.99**	**103**	↓*i* P	**Pn**	**06 56 01.2**	**-1.4**
DRGR				S	**Sn**	**06 56 25.0**	**-2.4**
BZS	**Buzias**	**2.05**	**144**	*e*Pn	Pn	06 55 59.4	-4.0
BZS				*e*Sn	**Sn**	**06 56 30.2**	**+1.4**
BZS	**Buzias**	**2.05**	**144**	↑*i* P	**Pn**	**06 56 01.9**	**-1.5**
BZS	**Buzias**	**2.05**	**144**	↑*i* P	**Pn**	**06 56 01.9**	**-1.5**
BZS				S	**Sn**	**06 56 28.8**	**0.0**
BZS				*e*Sn	**Sn**	**06 56 30.2**	**+1.4**
UZH	**Uzhgorod**	**2.10**	**49**	*e*Pn	**Pn**	**06 56 02.6**	**-1.5**
UZH				Pnm		06 56 11.0	
UZH				*i* Sn	**Sn**	**06 56 29.0**	**-1.0**
UZH				Snm		06 56 30.6	
FRGS	**Fruska Gora**	**2.13**	**181**	*e*Pn	**Pn**	**06 56 05.2**	**+0.7**
FRGS				*e*Sn	**Sg**	**06 56 39.3**	**+1.6**
FGSL	**Fruska Gora**	**2.13**	**181**	*e*Pn	**Pn**	**06 56 05.2**	**+0.7**
ONO	**Onokovtsy**	**2.15**	**49**	*e*Pn	**Pn**	**06 56 03.8**	**-0.8**
ONO				*e*Sn	**Sn**	**06 56 29.9**	**-1.1**
MUKU	**Mukachevo**	**2.22**	**57**	*e*Pn	**Pn**	**06 56 04.5**	**-1.1**
MUKU				*e*Sn	**Sn**	**06 56 32.1**	**-0.7**
TRSU	**Trosnyk**	**2.23**	**68**	*i* Pn	**Pn**	**06 56 04.4**	**-1.3**
TRSU				*i* Sn	**Sn**	**06 56 32.0**	**-1.0**
BEHE	**Becsehely**	**2.29**	**250**	↓*e*Pn	**Pb**	**06 56 09.8**	**-0.5**
BEHE	**Becsehely**	**2.29**	**250**	↓*e*	**Pb**	**06 56 09.8**	**-0.5**
BEHE				*e*		06 56 43.4	
SOP	**Sopron**	**2.29**	**281**	*e*Sn	**Sn**	**06 56 35.3**	**+0.6**
SOP	**Sopron**	**2.29**	**281**	*e*Sn	**Sn**	**06 56 35.3**	**+0.6**
KOLS	**Kolonicke sedl**	**2.30**	**43**	*e*Pn	**Pn**	**06 56 05.3**	**-1.4**
KOLS	**Kolonicke sedl**	**2.30**	**43**	*e*Pn	**Pg**	**06 56 14.3**	**+1.0**
STHS	**Stebnicka Huta**	**2.32**	**23**	*e*Pn	**Pn**	**06 56 08.6**	**+1.6**
STHS	**Stebnicka Huta**	**2.32**	**23**	*e*Pn	**Pn**	**06 56 08.6**	**+1.6**
BRIU	**Brid**	**2.36**	**62**	*i* Pn	**Pn**	**06 56 07.0**	**-0.6**
BRIU				*i* Sn	**Sn**	**06 56 35.2**	**-1.1**
KORU	**Korolevo**	**2.36**	**67**	*e*Pn	**Pn**	**06 56 06.3**	**-1.3**
KORU				*i* Sn	**Sn**	**06 56 35.3**	**-1.0**
BMR	**Baia Mare**	**2.48**	**80**	S	**Sn**	**06 56 40.6**	**+1.3**
BMR	**Baia Mare**	**2.48**	**80**	S	**Sn**	**06 56 40.6**	**+1.3**
CJR	**Cluj-Napoca**	**2.60**	**101**	↑*i* P	**Pn**	**06 56 10.7**	**-0.3**
CJR	**Cluj-Napoca**	**2.60**	**101**	↑*i* P	**Pn**	**06 56 10.7**	**-0.3**
MEZ	**Mezhgor'ye**	**2.73**	**62**	*e*Pn	**Pn**	**06 56 12.0**	**-0.7**
MEZ				*i* Sn	**Sn**	**06 56 45.2**	**-0.4**
TEKS	**Tekeris**	**2.75**	**185**	*e*Pn	**Pn**	**06 56 13.7**	**+0.7**
TEKS	**Tekeris**	**2.75**	**185**	*e*Pn	**Pn**	**06 56 13.7**	**+0.7**
GZR	**Gura Zlata**	**2.76**	**132**	↑*i* P	**Pn**	**06 56 12.5**	**-0.6**
GZR	**Gura Zlata**	**2.76**	**132**	↑*i* P	**Pn**	**06 56 12.5**	**-0.6**
CONA	**Conrad Observa**	**2.80**	**285**	↓*i* Pg	**Pn**	**06 56 13.1**	**-0.6**
CONA	**Conrad Observa**	**2.80**	**285**	Pg	**Pn**	**06 56 13.1**	**-0.6**
OKC	**Ostrava-Krasne**	**2.80**	**336**	*e*PN	**Pn**	**06 56 13.1**	**-0.6**
OKC				*e*PG	**Pb**	**06 56 19.9**	**+0.8**
OKC				*e*SN	**Sn**	**06 56 46.6**	**-0.7**
OKC	**Ostrava-Krasne**	**2.80**	**336**	*e*Pn	**Pn**	**06 56 13.1**	**-0.6**
OKC				*e*Sn	**Sn**	**06 56 46.6**	**-0.7**
ARSA	**Arzberg**	**2.97**	**271**	*e*Pn	Pn	06 56 12.5	-3.5
ARSA	**Arzberg**	**2.97**	**271**	*e*Pn	Pn	06 56 12.5	-3.5
VRAC	**Vranov**	**2.99**	**314**	↑*i* P	**Pn**	**06 56 16.1**	**-0.1**
VRAC	**Vranov**	**2.99**	**314**	S	**Sn**	**06 56 51.8**	**-0.1**
VRAC	**Vranov**	**2.99**	**314**	↑*i* P	**Pn**	**06 56 16.1**	**-0.1**
RAK	**Rakhov**	**3.01**	**74**	*e*Pn	**Pn**	**06 56 15.9**	**-0.7**
RAK				Pnm		06 56 29.9	
RAK				*i* Sn	**Sn**	**06 56 51.9**	**-0.6**
RAK				Snm		06 56 54.1	
SHIU	**Shidnytsya**	**3.02**	**49**	*i* Pn	**Pn**	**06 56 16.6**	**-0.2**
SHIU				*i* Sn	**Sn**	**06 56 53.4**	**+0.6**
TRUS	**Trudelj**	**3.08**	**173**	*e*Pn	**Pn**	**06 56 16.7**	**-0.9**
TRUS	**Trudelj**	**3.08**	**173**	*e*Pn	**Pn**	**06 56 16.7**	**-0.9**
BLY	**Banja Luka**	**3.16**	**218**	*e*Pn	**Pn**	**06 56 17.6**	**-1.0**
BLY				*e*Sn	**Sb**	**06 57 03.3**	**-0.3**
BLY	**Banja Luka**	**3.16**	**218**	*e*Pn	**Pn**	**06 56 17.6**	**-1.0**
DIVS	**Divibare**	**3.19**	**179**	*e*Pn	**Pn**	**06 56 17.9**	**-1.2**
DIVS				*e*Sn	**Sb**	**06 57 04.0**	**-0.5**
DIVS	**Divibare**	**3.19**	**179**	↑*i* P	**Pn**	**06 56 17.6**	**-1.5**
DIVS	**Divibare**	**3.19**	**179**	↑*i* P	**Pn**	**06 56 17.6**	**-1.5**
DIVS	**Divibare**	**3.19**	**179**	*e*Pn	**Pn**	**06 56 17.9**	**-1.2**
NSLU	**Nyzhne Selyshc**	**3.22**	**72**	*i* Pn	Pn	06 56 09.6	-10
NSLU				*i* Sn	Sn	06 56 41.0	-16
MORU	**Morshyn**	**3.24**	**54**	*e*Pn	**Pn**	**06 56 19.2**	**-0.5**
MORU				*i* Sn	**Sn**	**06 56 58.9**	**+0.9**
GRUS	**Gruza**	**3.45**	**170**	*e*Pn	**Pn**	**06 56 21.6**	**-0.9**
GRUS				*e*Sn	**Sn**	**06 57 07.9**	**+4.7**
GRUS	**Gruza**	**3.45**	**170**	*e*Pn	**Pn**	**06 56 21.6**	**-0.9**
BURAR	**Bucovina Array**	**3.63**	**83**	↑*i* P	**Pn**	**06 56 26.0**	**+0.8**
BURAR	**Bucovina Array**	**3.63**	**83**	↑*i* P	**Pn**	**06 56 26.0**	**+0.8**
KSV	**Kosov**	**3.64**	**72**	*e*Pn	**Pn**	**06 56 24.9**	**-0.3**
KSV				Pnm		06 56 27.7	
KSV				*i* Sn	**Sn**	**06 57 08.9**	**+1.0**
KSV				Snm		06 57 15.3	
IVAS	**Ivanjica**	**3.71**	**177**	*e*Pn	**Pn**	**06 56 24.9**	**-1.4**
IVAS	**Ivanjica**	**3.71**	**177**	*e*Pn	**Pn**	**06 56 24.9**	**-1.4**
LVV	**L'vov**	**3.74**	**46**	*e*Pn	**Pn**	**06 56 26.9**	**+0.3**
LVV				Pnm		06 56 29.9	
LVV				*e*Sn	**Sn**	**06 57 11.9**	**+1.5**
LVV				Snm		06 57 16.7	
LVV				Snm		06 57 16.7	
DPC	**Dobruska-Polom**	**3.87**	**324**	*e*PN	**Pn**	**06 56 28.4**	**+0.1**
DPC				*ex*	x	06 56 34.2	
DPC				*e*SN	**Sn**	**06 57 12.7**	**-0.9**
DPC	**Dobruska-Polom**	**3.87**	**324**	*e*Pn	**Pn**	**06 56 28.4**	**+0.1**
DPC				*e*Sn	**Sn**	**06 57 12.7**	**-0.9**
VOIR		**4.02**	**115**	↑*i* P	**Pn**	**06 56 30.3**	**-0.3**
VOIR		**4.02**	**115**	↑*i* P	**Pn**	**06 56 30.3**	**-0.3**
UPC	**Upice**	**4.11**	**323**	*e*PN	**Pn**	**06 56 31.2**	**-0.5**
UPC	**Upice**	**4.11**	**323**	*e*Pn	**Pn**	**06 56 31.2**	**-0.5**
GOPC	**GO Pecny, Ondr**	**4.29**	**310**	*e*SN	**Sn**	**06 57 23.2**	**-0.7**
GOPC				*ex*	x	06 57 33.7	
GOPC	**GO Pecny, Ondr**	**4.29**	**310**	Sn	**Sn**	**06 57 23.2**	**-0.7**
ZAPS	**Zavoj**	**4.46**	**153**	*e*Pn	Pn	06 56 31.9	-4.6
PRU	**Pruhonice**	**4.46**	**309**	*e*SN	**Sn**	**06 57 26.7**	**-1.4**
PRU	**Pruhonice**	**4.46**	**309**	Sn	**Sn**	**06 57 26.7**	**-1.4**
KHC	**Kasperske Hory**	**4.60**	**296**	*e*PN	**Pn**	**06 56 38.8**

PMR	**Palmer**	**2.74**	**44**	P		Pn	07 24 37.3	-1.5
GLI	**Glacier Island**	**3.22**	**65**	P		Pn	07 24 42.8	-2.4
PPLA	**Purkeypile**	**3.27**	**7**	P		Pn	07 24 45.8	-0.2
MID	**Middleton Isla**	**3.44**	**91**	P		Pn	07 24 47.1	-1.0
JPK	**Jack Peak**	**3.51**	**64**	P		Pn	07 24 47.4	-1.7
TT01	**Tatalina**	**3.54**	**338**	P		Pn	07 24 48.3	-1.2
SCM	**Sheep Creek Mo**	**3.57**	**50**	P		Pn	07 24 48.5	-1.3
VLZ	**Valdez**	**3.66**	**63**	P		Pn	07 24 49.4	-1.6
EYAK	**Cordova Ski Ar**	**3.78**	**73**	P		Pn	07 24 51.1	-1.5
CAST	**Castle Rocks**	**3.80**	**7**	P		Pn	07 24 51.9	-0.9
DIV	**Divide**	**3.92**	**65**	P		Pn	07 24 52.8	-1.7
TRF	**Thorofare Moun**	**4.03**	**18**	P		Pn	07 24 54.7	-1.5
KTH	**Kantishna Hill**	**4.04**	**14**	P		Pn	07 24 54.7	-1.4
RND	**Reindeer**	**4.26**	**27**	P		Pn	07 24 58.2	-1.0
GOAT	**Goat Mountain**	**4.28**	**74**	P		Pn	07 24 57.9	-1.6
RAGM	**Ragged Mountai**	**4.28**	**77**	P		Pn	07 24 57.7	-1.7
DHY	**Denali Highway**	**4.39**	**36**	P		Pn	07 24 59.8	-1.2
BMRM	**Bremner River**	**4.42**	**69**	*e*Pn		Pn	07 24 59.9	-1.3
BMRM				*e*Sn		Sn	07 25 49.2	-2.5
PS11	**TAPS Pump St11**	**4.44**	**54**	P		Pn	07 25 00.4	-1.0
MCK	**McKinley**	**4.53**	**24**	P		Pn	07 25 01.9	-0.8
BPAW	**Bear Paw Mtn.**	**4.56**	**12**	P		Pn	07 25 01.1	-2.0
NICHA	**Nichawak Mount**	**4.62**	**79**	P		Pn	07 25 03.0	-0.9
SUCK	**Suckling Hills**	**4.71**	**81**	P		Pn	07 25 04.4	-0.8
HARP	**HAARP**	**4.74**	**51**	P		Pn	07 25 04.5	-1.0
BERG	**Berg Lake**	**4.76**	**77**	P		Pn	07 25 04.9	-1.0
BWN	**Browne**	**4.83**	**19**	P		Pn	07 25 06.0	-0.8
GLB	**Gilahina Butte**	**4.91**	**65**	P		Pn	07 25 06.5	-1.4
WASW	**Wrangell South**	**4.92**	**59**	P		Pn	07 25 07.1	-1.1
GRIN	**Grindle Hills**	**4.95**	**79**	P		Pn	07 25 07.5	-0.8
KHIT	**Khitrov Hills**	**4.99**	**77**	P		Pn	07 25 07.5	-1.5
VRDI	**Verde Repeater**	**5.02**	**68**	P		Pn	07 25 08.5	-1.1
PS10	**TAPS Pump St10**	**5.14**	**40**	P		Pn	07 25 10.9	-1.1
KULT	**Kultieth River**	**5.24**	**79**	P		Pn	07 25 11.4	-1.1
MCARA	**McCarthy VSAT**	**5.26**	**67**	P		Pn	07 25 11.7	-0.8
WRH	**Wood River Hil**	**5.36**	**24**	P		Pn	07 25 12.0	-1.9
BARK	**Barkley Ridge**	**5.37**	**78**	P		Pn	07 25 13.1	-1.0
DDM	**Donnelly Dome**	**5.37**	**37**	P		Pn	07 25 14.3	+0.1
ISLE	**Juniper Island**	**5.45**	**75**	P		Pn	07 25 14.4	-1.0
PTPK	**Patty Peak**	**5.48**	**69**	P		Pn	07 25 15.2	-0.5
KIAG	**Kiagna River**	**5.48**	**72**	P		Pn	07 25 14.8	-1.0
MLY	**Manley**	**5.49**	**10**	P		Pn	07 25 14.8	-0.9
HDA	**Harding Lake**	**5.56**	**29**	P		Pn	07 25 15.2	-1.4
BAGL	**Bagley Icefiel**	**5.57**	**77**	P		Pn	07 25 16.2	-0.5
CCB	**Clear Creek Bu**	**5.58**	**24**	P		Pn	07 25 14.8	-1.9
MESA	**MESA**	**5.63**	**80**	P		Pn	07 25 17.2	-0.6
PS08	**TAPS Pump Stn8**	**5.71**	**28**	P		Pn	07 25 17.1	-1.5
GRNC	**Granite Creek**	**5.75**	**74**	P		Pn	07 25 18.7	-0.8
COLA	**College**	**5.77**	**23**	P		Pn	07 25 17.7	-1.6
MDM	**Murphy Dome**	**5.77**	**21**	P		Pn	07 25 17.9	-1.5
BARN	**Barnard Glacie**	**5.84**	**71**	P		Pn	07 25 20.1	-0.6
IL1	**Eielson Array**	**5.88**	**27**	P		Pn	07 25 19.2	-1.7
ILB	**Eielson Array**	**5.88**	**27**	P		Pn	07 25 19.3	-1.7
RKAV	**Rock Avalanche**	**5.93**	**79**	P		Pn	07 25 21.3	-0.5
TABL	**Table Mountain**	**6.04**	**77**	P		Pn	07 25 19.3	-4.0
CHX	**Chaix Hills**	**6.04**	**81**	P		Pn	07 25 23.0	-0.2
SCRK	**Sand Creek**	**6.10**	**41**	P		Pn	07 25 22.9	-1.2
SAMH	**Samovar Hills**	**6.21**	**80**	P		Pn	07 25 24.8	-0.8
IM04	**Indian Mountai**	**6.34**	**357**	*e*Pn		Pn	07 25 26.5	-0.6
IM3	**Indian Mountai**	**6.35**	**358**	P		Pn	07 25 26.4	-0.8
BCA3	**Beaver Creek A**	**6.41**	**53**	P		Pn	07 25 28.1	-0.1
EGAK	**Eagle**	**7.56**	**42**	*e*Pn		Pn	07 25 42.4	-1.3
COLD	**Coldfoot**	**7.70**	**8**	P		Pn	07 25 44.6	-0.9
DAWY	**Dawson**	**7.83**	**50**	P		Pn	07 25 47.1	-0.2
HYT	**Haines Junctio**	**7.84**	**75**	P		Pn	07 25 46.9	-0.8
BM3	**Burnt Mountain**	**8.64**	**22**	P		Pn	07 25 56.2	-2.1
SKAG	**Skagway**	**9.02**	**84**	*e*Pn		Pn	07 26 04.1	+0.7
DLBC	**Dease Lake**	**11.92**	**86**	*e*Pn		Pn	07 26 43.8	+1.2

*IDC **25** 07:36:22.4±1.2,5°.55S×145°.95E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/20, mbtmp3.8/6, ML3.8/1, Error ellipse: s-maj=57.9km s-min=24.5km az=103.0*

ISC 25 07:36:33.7±1.2, 5.7S±0.1×145.6E±0.3, h86km, n7, σ0.9 77/7, mb3.5/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**14.30**	**178**	Pn	**P**	**07 39 56.5**	**-0.4**
	0.4nm,0.3s,baz=13,slow=16,SNR=4.2						
WRA	**Warramunga Arr**	**17.91**	**217**	P	**Pn**	**07 40 36.4**	**-0.9**
	0.3nm,0.3s,baz=37,slow=11,SNR=28						
ASAR	**Alice Springs**	**21.12**	**211**	P	**P**	**07 41 11.9**	**+0.2**
	0.5nm,0.3s,baz=39,slow=7.6,SNR=13						
STKA	**Stephens Creek**	**26.30**	**188**	P	**P**	**07 42 02.1**	**+0.8**
	1.5nm,0.5s,baz=8.3,slow=12,SNR=5.1						
MKAR	**Makanchi Array**	**76.42**	**321**	P	**P**	**07 48 14.4**	**+0.4**
	0.3nm,0.5s,baz=106,slow=7.3,SNR=4.5						
QSPA	**South Pole Qui**	**84.27**	**180**	P	**P**	**07 48 56.3**	**+0.5**
	1.2nm,0.6s,baz=326,slow=1.0,SNR=12						
ILAR	**Eielson Array**	**85.76**	**23**	P	**P**	**07 49 02.5**	**-0.6**
	0.4nm,0.8s,baz=252,slow=5.3,SNR=5.2						

*ISCJB **25** 07:44:08.2±0.8, 7°.96S±0°.09×74°.60W±0°.06, h151km, mb3.7/3, Error ellipse: s-maj=12.3km s-min=8.8km az=11.3*

*IDC **25** 07:44:08.3±2.1, 7°.94S×74°.58W, h136km±24km, mb3.7/3, mb1 3.4/7, mb1mx3.1/35, mbtmp3.9/7, Error ellipse: s-maj=25.0km s-min=15.4km az=59.0*

ISC 25 07:44:09.2±0.9, 7°.94S±0°.10×74°.63W±0°.09, h151km, n8, σ1.5 05/10, mb3.6/3, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**3.81**	**282**	P	**Pn**	**07 45 07.2**	**-0.2**
	6.6nm,0.3s,baz=67,slow=2.2,SNR=94						
ATAH				S	**Sn**	**07 45 52.4**	**-0.2**
	9.7nm,0.3s,baz=7.9,slow=18,SNR=9.3						
NNA	**Nana**	**4.57**	**208**	P	**Pn**	**07 45 18.1**	**+1.0**
	2.4nm,0.3s,baz=48,slow=2.9,SNR=6.6						
NNA				S	**Sn**	**07 46 09.2**	**-0.8**
	7.5nm,0.3s,baz=126,slow=20,SNR=10.0						
LPAZ	**La Paz**	**10.45**	**143**	P	**Pn**	**07 46 34.6**	**-1.1**
	0.1nm,0.3s,baz=346,slow=10,SNR=5.8						
SIV	**San Ignacio**	**15.48**	**122**	P	**Pn**	**07 47 38.2**	**-1.5**
	0.3nm,0.3s,baz=307,slow=10,SNR=6.3						
DBIC	**Dimbokro**	**71.08**	**80**	P	**P**	**07 55 12.0**	**+0.4**
	4.6nm,1.1s,baz=235,slow=5.7,SNR=6.6						
TORD	**Torodi Ar. Bea**	**78.64**	**75**	P	**P**	**07 55 55.7**	**+0.7**
	0.4nm,0.4s,baz=256,slow=4.2,SNR=8.9						
QSPA	**South Pole Qui**	**82.17**	**180**	P	**P**	**07 56 13.9**	**+0.9**
	1.0nm,0.8s,baz=90,slow=7.1,SNR=4.3						
WRA	**Warramunga Arr**	**140.24**	**225**	PKhKP	PKPpre	08 03 13.5	
	0.1nm,0.3s,baz=127,slow=2.7,SNR=10.0						
WRA				PKP	**PKiKP**	**08 03 22.6**	**-1.0**
	0.3nm,0.6s,baz=136,slow=2.2,SNR=6.6						

*IDC **25** 08:01:17.3±2.3, 37°.46S×73°.72W, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.4/16, mbtmp3.2/3, ML3.4/1, Error ellipse: s-maj=77.7km s-min=20.9km az=62.0*

*ISCJB **25** 08:01:42.4±1.5, 31°.7S±0°.1×71°.4W±0°.1, h10km, mb3.3/1, Error ellipse: s-maj=21.7km s-min=12.5km az=37.9*

*SJA **25** 08:01:43.0±0.5, 31°.69S×71°.11W, h6km±8km, ML2.6, MW2.7*

ISC 25 08:01:42.9±1.8, 31°.7S±0°.1×71°.2W±0°.1, h10km, n12, σ1.9 10/10, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTLS	**Leoncito**	**1.58**	**95**	⇓*i*P	**Pg**	**08 02 13.4**	**+0.2**
AUSP	**Uspallata**	**1.59**	**110**	*e*P	**Pg**	**08 02 13.1**	**-0.4**
AUSP				*i*S	**Sg**	**08 02 35.8**	**+1.6**
ASAL	**Salagasta**	**2.16**	**115**	*i*P	**Pb**	**08 02 21.8**	**-0.4**
ARCO	**CERRO ARCO**	**2.21**	**122**	*i*P	**Pb**	**08 02 22.4**	**-0.6**
ARCO				AML	AML	08 03 10.5	
	comp=Z,35nm,0.5s						
RTCV	**Cerro Valdivia**	**2.23**	**95**	*i*P	**Pb**	**08 02 22.6**	**-0.6**
RTLL	**Cerro Villicun**	**2.31**	**82**	*i*P	**Pb**	**08 02 23.6**	**-1.1**
AAGR	**Agrelo**	**2.41**	**126**	*i*P	**Pb**	**08 02 25.1**	**-1.3**
CFAA	**Coronel Fontan**	**2.48**	**89**	*i*P	**Pb**	**08 02 26.5**	**-1.2**
AVFE	**Valle Fertil**	**3.32**	**73**	*e*P	Pn	08 02 38.3	+3.3
ACLC	**CERRO LA CRUZ**	**4.26**	**59**	*e*P	Pn	08 02 51.6	+3.6
LPAZ	**La Paz**	**15.57**	**11**	P	P	08 06 10.1	+42
	comp=Z,0.8nm,0.8s,baz=177,slow=7.9,SNR=4.0						
TXAR	**Lajitas Array**	**68.10**	**330**	P	**P**	**08 12 43.7**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=154,slow=11,SNR=2.4						

*CSEM **25** 08:09:03.8, 36°.05N×4°.24E, h0km, ML3.5*

CRAAG 25 08:09:03.8, 36°.04N×4°.24E, Ml3.5, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATAF	**Djebel Tarf**	**0.17**	**170**	P	Pg	08 09 09.5	+2.3
ATAF	**Djebel Tarf**	**0.17**	**170**	P	Pg	08 09 09.5	+2.3
AKET	**Djebel Ketaf**	**0.29**	**271**	P	Pg	08 09 10.7	+1.1
AKET	**Djebel Ketaf**	**0.29**	**271**	P	Pg	08 09 10.7	+1.1
ADJB	**Djebel Djouab**	**0.66**	**280**	P	Pb	08 09 18.3	-0.1
ADJB	**Djebel Djouab**	**0.66**	**280**	P	Pb	08 09 18.3	-0.1
SET	**Setif**	**0.95**	**80**	P	Pn	08 09 27.0	+2.4
SET	**Setif**	**0.95**	**80**	P	Pn	08 09 27.0	+2.4
CKHR	**Kef el Ahmar**	**1.03**	**91**	P	Pn	08 09 28.5	+2.8
CKHR	**Kef el Ahmar**	**1.03**	**91**	P	Pn	08 09 28.5	+2.8
EMHD	**Djebel Mahouad**	**1.05**	**279**	P	Pn	08 09 26.3	+0.3
EMHD	**Djebel Mahouad**	**1.05**	**279**	P	Pn	08 09 26.3	+0.3
DFRA	**Djebel Bou Aff**	**1.42**	**69**	P	Pb	08 09 36.8	+5.5
DFRA	**Djebel Bou Aff**	**1.42**	**69**	P	Pb	08 09 36.8	+5.5
CTEI	**Djebel Teioual**	**1.76**	**89**	P	Pg	08 09 42.5	+4.8
CTEI	**Djebel Teioual**	**1.76**	**89**	P	Pg	08 09 42.5	+4.8
CASM	**Ain Smara**	**1.83**	**82**	P	Pg	08 09 43.8	+4.7
CASM	**Ain Smara**	**1.83**	**82**	P	Pg	08 09 43.8	+4.7
CKFL	**Kef-Lekhel**	**2.04**	**79**	P	Pg	08 09 48.8	+5.7
CKFL	**Kef-Lekhel**	**2.04**	**79**	P	Pg	08 09 48.8	+5.7
EBNR	**Beni Rached**	**2.21**	**277**	P	Pg	08 09 52.0	+5.8
EBNR	**Beni Rached**	**2.21**	**277**	P	Pg	08 09 52.0	+5.8
CAEH	**'Ain El Ouahch**	**2.23**	**70**	P	Pg	08 09 52.5	+5.9
CAEH	**'Ain El Ouahch**	**2.23**	**70**	P	Pg	08 09 52.5	+5.9
ETRT	**Tiaret**	**2.48**	**256**	P	Pb	08 09 48.7	-0.7
ETRT	**Tiaret**	**2.48**	**256**	P	Pb	08 09 48.7	-0.7
EANR	**'Ain N'Sour**	**2.55**	**269**	P	Pb	08 09 50.0	-0.5
EANR	**'Ain N'Sour**	**2.55**	**269**	P	Pb	08 09 50.0	-0.5
CMAH	**Djebel Manchou**	**2.63**	**76**	P	Pg	08 09 59.4	+5.0
CMAH	**Djebel Manchou**	**2.63**	**76**	P	Pg	08 09 59.4	+5.0

IDC 25 08:09:12.6±3.7, 4°.19S×100°.68E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/24, mbtmp3.6/5, Error ellipse: s-maj=141.9km s-min=22.8km az=57.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**22.57**	**356**	P	P	08 14 14.5	-0.1
	0.7nm,0.4s,baz=185,slow=10.0,SNR=3.7						
H08S2	**Diego Garcia H**	**28.24**	**262**	T	T	08 44 32.4	
	baz=84,slow=75,SNR=36						
H08S3	**Diego Garcia H**	**28.25**	**262**	T	T	08 44 33.0	
	baz=84,slow=75,SNR=49						
H08S1	**Diego Carcia H**	**28.26**	**262**	T	T	08 44 33.0	
	baz=84,slow=75,SNR=19						
H01W3	**Cape Leeuwin H**	**32.99**	**159**	T	T	08 50 59.2	
	baz=338,slow=74						
H01W2	**Cape Leeuwin H**	**33.01**	**159**	T	T	08 51 01.0	
	baz=338,slow=74						
H01W1	**Cape Leeuwin H**	**33.01**	**159**	T	T	08 50 57.5	
	baz=338						
WRA	**Warramunga Arr**	**36.34**	**118**	P	P	08 16 18.3	-0.3
	0.4nm,0.7s,baz=295,slow=8.5,SNR=5.7						
ASAR	**Alice Springs**	**37.45**	**124**	P	P	08 16 28.0	-0.1
	0.2nm,0.6s,baz=302,slow=8.7,SNR=3.2						
SONM	**Songino Array**	**52.05**	**5**	P	P	08 18 24.7	+0.5
	0.5nm,0.7s,baz=191,slow=8.4,SNR=3.7						
MKAR	**Makanchi Array**	**53.30**	**344**	P	P	08 18 33.0	-0.4
	0.9nm,0.6s,baz=145,slow=7.9,SNR=12						

IDC 25 08:19:21.5±2.3, 4°.27S×153°.47E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/18, mbtmp4.0/3, Error ellipse: s-maj=85.5km s-min=41.5km az=114.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.29**	**229**	P	P	08 24 41.4	+0.5
	2.8nm,0.5s,baz=54,slow=10,SNR=62						
ASAR	**Alice Springs**	**26.98**	**223**	P	P	08 25 06.0	+0.7
	0.6nm,0.7s,baz=55,slow=8.8,SNR=9.3						
ASAR				PcP	PcP	08 28 26.6	-0.7
	0.2nm,0.6s,baz=62,slow=2.2,SNR=3.3						
STKA	**Stephens Creek**	**29.64**	**201**	P	P	08 25 28.3	-0.5
	1.4nm,0.6s,baz=19,slow=10,SNR=4.5						
TORD	**Torodi Ar. Bea**	**150.77**	**289**	PKPbc	PKPbc	08 39 16.2	-0.8
	0.9nm,0.8s,baz=69,slow=2.2,SNR=6.5						

MAN 25 08:28:04, 13°.14N×119°.60E, h80km, mb4.5, ML3.4, MS3.3, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.86**	**47**	*e*P	Pn	08 28 23.4	+2.0
LUBP				*e*S	Sn	08 28 34.2	-0.2
PGP	**Puerto Galera**	**1.36**	**75**	⇓*e*P	Pn	08 28 28.1	+0.5
PGP				*i*S	Sn	08 28 40.3	-5.1
SJMP	**San Jose**	**1.63**	**114**	*e*P	Pn	08 28 33.7	+2.7
ENPP	**El Nido**	**1.93**	**185**	*e*P	Pn	08 28 35.8	+0.8
CUYO	**Cuyo Island**	**2.67**	**149**	*e*P	Pn	08 28 49.8	+4.9

IDC 25 08:38:28.6±8.0, 23°.27S×179°.60E, h487km±43km, mb3.1/2, mb1 3.4/2, mb1mx2.9/18, mbtmp4.0/2, Error ellipse: s-maj=228.4km s-min=51.7km az=151.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**41.77**	**260**	P	P	08 45 34.5	-0.3
	1.0nm,0.8s,baz=95,slow=6.9,SNR=14						
WRA	**Warramunga Arr**	**42.08**	**266**	P	P	08 45 37.2	-0.1
	2.5nm,0.5s,baz=102,slow=8.3,SNR=67						
WRA				ScP	ScP	08 50 24.2	-0.6
	0.4nm,0.8s,baz=103,slow=3.8,SNR=7.2						
HFS	**Hagfors**	**141.86**	**349**	PKP	PKPdf	08 57 01.1	-2.7
	4.1nm,1.8s,baz=111,slow=2.9,SNR=6.2						
BRTR	**Keskin Array B**	**146.91**	**308**	PKPbc	PKPbc	08 57 15.7	-0.5
	0.4nm,0.6s,baz=58,slow=5.4,SNR=2.9						

*ISCJB **25** 08:53:31.4±0.5, 32°.26N±0°.02×115°.26W±0°.02, h14km±4km, Error ellipse: s-maj=3.8km s-min=3.5km az=170.9*

*MEX **25** 08:53:31.4±0.5, 32°.40N×115°.16W, h7.9km±1.1km, MD3.5*

*NEIC **25** 08:53:33.3, 32°.26N×115°.33W, h8km, MD3.5(MEX), ML3.2(PAS), ML3.5(ECX), After ECX.*

*ECX **25** 08:53:33.3±0.5, 32°.26N×115°.33W, h6km, MD3.2, ML3.4*

ISC 25 08:53:31.5±0.9, 32°.21N±0°.02×115°.32W±0°.02, h11km±7km, n52, σ0.8 83/79, 9C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.20**	**5**	*e*P	**Pg**	**08 53 35.9**	**+0.1**
CPBX				*e*S	**Sg**	**08 53 38.8**	**0.0**
CPBX				*e*S	Sx	08 53 49.2	
CPBX	**Cerro Prieto**	**0.20**	**5**	*e*P9	**Pg**	**08 53 35.9**	**+0.1**
CPBX				*e*S	**Sg**	**08 53 38.8**	**0.0**
MBIG	**Mexicali**	**0.22**	**29**	*i*P	**Pb**	**08 53 37.1**	**-0.5**
SGL	**Mount Signal**	**0.55**	**322**	*i*P	**Pg**	**08 53 42.4**	**+0.1**
SGL	**Mount Signal**	**0.55**	**322**	⇑*i*P	**Pg**	**08 53 42.4**	**+0.1**
EMSC	**East Mesa**	**0.60**	**28**	*i*P	**Pb**	**08 53 43.6**	**-0.3**
EMSC	**East Mesa**	**0.60**	**28**	⇑*i*P	**Pb**	**08 53 43.6**	**-0.3**
RDX	**Rancho Dawling**	**0.60**	**242**	*e*P	**Pb**	**08 53 44.2**	**+0.1**
RDX				*e*S	**Sb**	**08 53 52.5**	**-0.1**
RDX	**Rancho Dawling**	**0.60**	**242**	⇑*e*P	**Pb**	**08 53 44.2**	**+0.1**
RDX				*e*S	**Sb**	**08 53 52.5**	**-0.1**
WESC	**Westside Schoo**	**0.64**	**328**	*e*P	**Pg**	**08 53 44.2**	**+0.2**
WESC	**Westside Schoo**	**0.64**	**328**	*e*P	**Pg**	**08 53 44.2**	**+0.2**
YUH	**Yuha Desert**	**0.67**	**311**	*i*P	**Pg**	**08 53 44.2**	**-0.2**
YUH	**Yuha Desert**	**0.67**	**311**	⇑*i*P	**Pg**	**08 53 44.2**	**-0.2**
COA	**Coachella**	**0.67**	**15**	*i*P	**Pg**	**08 53 44.5**	**0.0**
COA	**Coachella**	**0.67**	**15**	⇑*i*P	**Pg**	**08 53 44.5**	**0.0**
COK	**Cook Ranch**	**0.72**	**332**	*e*P	**Pg**	**08 53 45.5**	**+0.1**
COK	**Cook Ranch**	**0.72**	**332**	*e*P2	**Pg**	**08 53 45.5**	**+0.1**
YMD	**Yuma Desert**	**0.74**	**62**	*i*P	**Pg**	**08 53 45.8**	**-0.1**
YMD	**Yuma Desert**	**0.74**	**62**	⇑*i*P	**Pg**	**08 53 45.8**	**-0.1**
RMX	**La Rumorosa**	**0.75**	**301**	*e*P	**Pg**	**08 53 45.8**	**-0.2**
RMX				*e*S	**Sg**	**08 53 55.7**	**-0.1**
RMX	**La Rumorosa**	**0.75**	**301**	⇑*e*P	**Pg**	**08 53 45.8**	**-0.2**
RMX				*e*S	**Sg**	**08 53 55.7**	**-0.1**
RMX				IAML		08 53 57.1	
	comp=N,2μm,0.4s						
RMX				⇑*e*		08 53 57.1	
ECBX	**El Chinero**	**0.78**	**163**	⇓*e*P	**Pg**	**08 53 45.7**	**-0.7**
ECBX				*e*S	**Sb**	**08 53 57.2**	**-0.3**
IBP	**Imperial Bould**	**0.79**	**305**	*i*P	**Pg**	**08 53 46.6**	**-0.2**
SWSC	**Sam W. Stewart**	**0.83**	**331**	*i*P	**Pg**	**08 53 46.6**	**-0.8**
SWSC	**Sam W. Stewart**	**0.83**	**331**	⇓*i*P	**Pg**	**08 53 46.6**	**-0.8**
ZAX	**El Zacaton**	**1.07**	**229**	*e*P	**Pn**	**08 53 52.5**	**-0.1**
ZAX				*e*S	**Sn**	**08 54 07.3**	**-0.1**
CBX	**Cerro Bola**	**1.14**	**275**	*e*P	**Pb**	**08 53 53.5**	**+0.1**
CBX				*e*S	**Sb**	**08 54 08.4**	**+0.2**
CBX	**Cerro Bola**	**1.14**	**275**	*e*P	**Pb**	**08 53 53.0**	**-0.3**
CBX				*e*S	**Sb**	**08 54 08.4**	**+0.2**
CBX	**Cerro Bola**	**1.14**	**275**	*i*P	**Pb**	**08 53 53.0**	**-0.3**
CBX				*e*S	**Sb**	**08 54 08.4**	**+0.2**
CBX				⇑*e*		08 54 09.7	
CBX				IAML		08 54 09.7	
	comp=N,2μm,0.6s						
SPIG	**San Pedro Mart**	**1.17**	**186**	*e*P	**Pb**	**08 53 53.8**	**-0.2**
SPIG				*e*S	**Sn**	**08 54 11.7**	**+1.4**
SPIG	**San Pedro Mart**	**1.17**	**186**	*e*P	**Pb**	**08 53 53.8**	**-0.2**
SPIG				*e*S	**Sn**	**08 54 11.7**	**+1.4**
SPX	**San Pedro Mart**	**1.17**	**186**	*e*P	**Pb**	**08 53 54.0**	**0.0**
SPX				*e*S	**Sn**	**08 54 11.1**	**+0.7**
SPX	**San Pedro Mart**	**1.17**	**186**	*e*P	**Pb**	**08 53 54.0**	**0.0**
SPX				*e*S	**Sn**	**08 54 11.1**	**+0.7**
SPX				IAML		08 54 11.8	
	comp=E,392nm,0.4s						
SPX				⇓*e*		08 54 11.8	
ECNX	**Esteban Cantu**	**1.22**	**243**	*e*P	**Pn**	**08 53 54.7**	**+0.1**
ECNX				*e*S	**Sg**	**08 54 11.0**	**+0.3**
ECNX	**Esteban Cantu**	**1.22**	**243**	*e*P	**Pn**	**08 53 54.7**	**+0.1**
ECNX				*e*S	**Sg**	**08 54 11.0**	**+0.3**
BAR	**Barrett**	**1.23**	**293**	*e*Pn	**Pn**	**08 53 54.1**	**-0.7**
BAR				*e*Sg	**Sb**	**08 54 10.1**	**-0.7**
PBX	**Punta Banda**	**1.28**	**249**	*e*P	**Pb**	**08 53 55.6**	**0.0**
PBX				*e*S	**Sg**	**08 54 13.3**	**+0.5**
PBX	**Punta Banda**	**1.28**	**249**	*e*P	**Pb**	**08 53 55.6**	**0.0**
PBX				*e*S	**Sg**	**08 54 13.3**	**+0.5**
PFO	**Pinyon Flats O**	**1.69**	**326**	*e*Pn	**Pn**	**08 53 59.0**	**-2.1**
PFO				*e*Sn	**Sb**	**08 54 23.9**	**-0.1**
214A	**Organ Pipe Nat**	**2.15**	**96**	*e*Pn	**Pn**	**08 54 05.8**	**-1.5**
214A				*e*Pg	**Pg**	**08 54 13.1**	**+0.5**
LDFC	**Landfair**	**2.86**	**4**	*e*Pg	**Pg**	**08 54 28.8**	**+2.4**
MWC	**Mount Wilson**	**3.04**	**312**	*e*Pg	**Pb**	**08 54 26.4**	**+0.5**
PASC	**Pasadena Art C**	**3.09**	**310**	*e*Pg	**Pg**	**08 54 29.6**	**-1.1**
PASC				*e*Sg	**Sg**	**08 55 09.6**	**-1.3**
GSC	**Goldstone, Bar**	**3.32**	**339**	*e*Pg	**Pg**	**08 54 34.7**	**-0.4**
TUC	**Tucson**	**3.85**	**87**	*e*Pn	**Pn**	**08 54 28.9**	**-1.8**
TUC				*e*Pg	**Pg**	**08 54 46.1**	**+0.9**
TUC				*e*Sn	**Sn**	**08 55 13.8**	**-2.2**
SHPR	**Sheep Range**	**4.28**	**2**	*e*Pn	**Pn**	**08 54 37.8**	**+1.0**
SHPR				*e*Pg	**Pg**	**08 54 56.2**	**+2.6**
ISA	**Isabella, Lake**	**4.32**	**324**	*e*Pg	**Pg**	**08 54 53.8**	**-0.6**
WUAZ	**Wupatki**	**4.65**	**44**	*e*Pn	**Pn**	**08 54 42.5**	**+0.6**
W18A	**Petrified Fore**	**5.49**	**57**	*e*Pn	**Pn**	**08 54 54.8**	**+1.4**
	comp=E,5.3nm,0.6

ISCJB ***25*** *09:16:36.2±0.7, 4°.33S±0°.09×153°.55E±0°.07, h100km, mb4.0/7, Error ellipse: s-maj=13.6km s-min=9.5km az=28.7*

NEIC ***25*** *09:16:39.8±1.7, 4°.39S×153°.54E, h123km±16km, mb4.1/2, Error ellipse: s-maj=18.2km s-min=12.3km az=144.0*

IDC ***25*** *09:16:40.1±13.0, 4°.49S×153°.59E, h130km±126km, mb3.8/5, mb1 3.9/6, mb1mx3.6/19, mbtmp4.2/6, ML3.7/1, Error ellipse: s-maj=68.9km s-min=42.9km az=126.0*

ISC 25 09:16:38.4±0.9, 4°.3S±0°.1×153°.55E±0°.09, h100km, n18, σ1§69/16, mb4.0/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.11**	**231**	*e*Pn		**Pn**		**09 18 34.1**	**+0.7**
	83nm,0.9s								
HNR	**Honiara**	**8.12**	**129**	P		**Sn**		**09 20 03.0**	**-0.7**
HNR	**Honiara**	**8.12**	**129**	*e*Pn		**Pn**		**09 18 34.6**	**+1.0**
HNR				*e*Sn		**Sn**		**09 20 03.3**	**-0.4**
CTA	**Charters Tower**	**17.20**	**204**	P		**Pn**		**09 20 31.4**	**-1.1**
	0.2nm,0.3s,baz=34,slow=12,SNR=5.1								
CTAO	**Charters Tower**	**17.20**	**204**	*e*P		**P**		**09 20 33.6**	**+1.1**
	5.5nm,1.0s								
WRAB	**Tennant Creek**	**24.30**	**229**	*e*P		**P**		**09 21 46.1**	**-0.6**
	5.7nm,0.4s								
WRA	**Warramunga Arr**	**24.32**	**229**	P		**P**		**09 21 45.0**	**-1.8**
	6.1nm,0.5s,baz=54,slow=10,SNR=115								
H11S3	**WAKE ISLAND Hy**	**26.12**	**29**	T		T		09 50 33.3	
	baz=210								
H11S2	**WAKE ISLAND Hy**	**26.12**	**29**	T		T		09 50 32.1	
	baz=210,slow=74								
H11S1	**WAKE ISLAND Hy**	**26.13**	**29**	T		T		09 50 32.1	
	baz=210,slow=74								
ASAR	**Alice Springs**	**27.00**	**223**	P		**P**		**09 22 09.3**	**-1.9**
	1.3nm,0.8s,baz=55,slow=9.0,SNR=18								
ASAR				pP		**pP**		**09 22 35.5**	**+2.1**
	1.5nm,0.8s,baz=56,slow=9.0,SNR=8.8								
STKA	**Stephens Creek**	**29.61**	**201**	P		P		09 22 31.6	-2.6
	2.2nm,0.6s,baz=32,slow=12,SNR=5.0								
STKA	**Stephens Creek**	**29.61**	**201**	*e*P		**P**		**09 22 32.8**	**-1.4**
MK31	**Makanchi Array**	**80.47**	**319**	*e*P		**P**		**09 28 38.2**	**-1.1**
MKAR	**Makanchi Array**	**80.47**	**319**	P		**P**		**09 28 38.4**	**-0.9**
	3.3nm,0.3s,baz=108,slow=4.7,SNR=2.5								
ILAR	**Eielson Array**	**81.45**	**22**	P		**P**		**09 28 43.0**	**-1.1**
	0.4nm,0.9s,baz=239,slow=6.7,SNR=4.1								
KURK	**Kurchatov**	**83.86**	**322**	*e*P		**P**		**09 28 57.0**	**+0.1**
	0.8nm,0.4s								
TORD	**Torodi Ar. Bea**	**150.87**	**289**	PKPbc		**PKPdf**		**09 36 18.6**	**+3.9**
	1.2nm,0.9s,baz=78,slow=2.1,SNR=6.6								

ISCJB ***25*** *09:19:30.1±0.4, 65°.36S±0°.06×179°.9E±0°.2, h10km, mb4.6/14, MS4.9/12, Error ellipse: s-maj=11.4km s-min=8.5km az=171.4*

IDC ***25*** *09:19:30.2±0.7, 65°.37S×179°.99E, h0km, mb4.6/10, mb1 4.7/11, mb1mx4.6/14, mbtmp4.6/11, ML4.7/1, MS4.9/11, Ms1 4.9/11, ms1mx4.7/15, Error ellipse: s-maj=28.2km s-min=16.9km az=37.0*

GCMT ***25*** *09:19:32.5±0.1, 65°.26S×179°.79W, h12km, MW5.5/101, Moment Tensor Solution. s90,c143; s101,c167; Duration: 1s3 Moment tensor: Scale 1017Nm; Mrr-0.28±.03; Mθθ 1.91±.03; Mϕϕ -1.62±.03; Mrθ-0.58±.06; Mθϕ-0.43±.03; Mϕr 0.32±.07; Best double couple: M₀1.91900×10¹⁷ NP1:ϕs322.00000°, δ87.00000°, λ18.00000°. NP2:ϕs231.00000°, δ72.00000°, λ177.00000°. Principal axes: T 2.1200, Plg14.0000°, Azm188.0000°; N -0.3920, Plg72.0000°, Azm330.0000°; P -1.7190, Plg11.0000°, Azm95.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***25*** *09:19:32.3±0.4, 65°.43S×179°.88E, h10km, mb5.1/7, MS4.9/1 Error ellipse: s-maj=14.3km s-min=9.4km az=63.0*

AWI ***25*** *09:19:34.0, 65°.51S×179°.77E*

ISC 25 09:19:32.2±0.4, 65°.48S±0°.07×180°.0W±0°.1, h10km, n77, σ1§90/61, mb4.7/14, MS4.8/12, 1C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**13.05**	**192**	*e*Pn		**Pn**		**09 22 37.7**	**+0.4**
VNDA	**Vanda**	**13.29**	**197**	Pn		**Pn**		**09 22 41.5**	**+1.0**
	3.5nm,0.3s,baz=42,slow=19,SNR=162								
VNDA				Sn		**Sn**		**09 25 04.1**	**-3.9**
	0.2nm,0.3s,baz=323,slow=20,SNR=4.0								
VNDA				LR		LR		09 26 44.9	
	comp=Z,7μm,20.8s,baz=28,slow=32								
RPZ	**Rata Peaks**	**22.38**	**343**	LR		LR		09 30 60.0	
	comp=Z,4μm,21.2s,baz=162,slow=31								
QSPA	**South Pole Qui**	**24.61**	**180**	P		**P**		**09 24 52.6**	**+0.3**
	72nm,1.0s,baz=37,slow=7.9,SNR=70								
QSPA				LR		LR		09 33 48.0	
	comp=Z,8μm,18.1s,baz=43,slow=35								
QSPA	**South Pole Qui**	**24.61**	**180**	*e*P		**P**		**09 24 52.5**	**+0.3**
	91nm,1.0s								
URZ	**Urewera**	**27.32**	**355**	LR		LR		09 34 05.7	
	comp=Z,4μm,20.4s,baz=182,slow=32								
MAW	**Mawson**	**39.97**	**212**	P		**P**		**09 27 06.9**	**+0.8**
	10.0nm,1.0s,baz=136,slow=11,SNR=6.4								
MAW				LR		LR		09 43 44.4	
	comp=Z,5μm,18.2s,baz=140,slow=36								
MAW	**Mawson**	**39.97**	**212**	*e*P		**P**		**09 27 08.3**	**+2.2**
	4.7nm,1.3s								
STKA	**Stephens Creek**	**40.92**	**306**	P		**P**		**09 27 13.7**	**-0.7**
	2.4nm,1.0s,baz=189,slow=12,SNR=3.4								
STKA				LR		LR		09 42 55.2	
	comp=Z,446nm,18.5s,baz=183,slow=34								
SYO	**Syowa Base**	**42.97**	**200**	⇑*i*P		**P**		**09 27 31.3**	**+0.7**
SNAA	**Sanae**	**43.09**	**179**	P		**P**		**09 27 31.0**	**-0.8**
SNAA	**Sanae**	**43.09**	**179**	*e*P		**P**		**09 27 31.2**	**-0.6**
	33nm,1.3s								
VNA3	**Neumayer Olymp**	**43.38**	**175**	P		**P**		**09 27 35.1**	**+1.1**
VNA3	**Neumayer Olymp**	**43.38**	**175**	P		**P**		**09 27 35.3**	**+1.3**
VNA2	**Neumayer--Watz**	**43.76**	**176**	P		**P**		**09 27 37.8**	**+0.8**
	baz=191,slow=7.7								
VNA1	**Neumayer--Stat**	**44.02**	**176**	P		**P**		**09 27 40.6**	**+1.5**
EIDS	**Eidsvold**	**44.15**	**321**	*e*P		**P**		**09 27 39.2**	**-1.5**
	20nm,1.2s								
TBI	**Tubuai**	**46.48**	**40**	*e*S		**S**		**09 34 44.6**	**-2.4**
	376nm,27.8s								
TBI				*e*LQ		LQ		09 38 33.8	
	3μm,30.5s								
TBI				*e*LR		LR		09 40 42.6	
	4μm,29.2s,baz=199								
TBI	**Tubuai**	**46.48**	**40**	*e*T		T		10 17 07.8	
	49nm,0.3s								
H01W1	**Cape Leeuwin H**	**48.88**	**275**	T		T		10 21 20.4	
	baz=149,slow=76,SNR=142								
H01W2	**Cape Leeuwin H**	**48.89**	**275**	T		T		10 21 22.1	
	baz=149,slow=76,SNR=167								
H01W3	**Cape Leeuwin H**	**48.90**	**275**	T		T		10 21 21.7	
	baz=149,slow=76,SNR=174								
AS01	**Alice Springs**	**51.09**	**302**	*e*P		**P**		**09 28 34.6**	**-0.1**
ASAR	**Alice Springs**	**51.11**	**302**	P		**P**		**09 28 33.5**	**-1.2**
	3.6nm,0.8s,baz=156,slow=6.4,SNR=42								
ASAR				LR		LR		09 46 39.6	
	comp=Z,357nm,21.9s,baz=150,slow=32								
AS31	**Alice Springs**	**51.11**	**302**	*e*P		**P**		**09 28 34.6**	**-0.2**
RKT	**Rikitea**	**51.20**	**57**	*e*S		**S**		**09 35 50.0**	**-3.5**
	568nm,30.5s								
RKT				*e*LQ		LQ		09 40 26.2	
	2μm,27.0s								
RKT				*e*LR		LR		09 43 05.6	
	1μm,28.0s,baz=201								
RKT	**Rikitea**	**51.20**	**57**	*e*T		T		10 23 01.7	
	11nm,0.2s								
PAE	**Paea**	**51.88**	**38**	*e*T		T		10 23 51.3	
	3.4nm,0.2s								
PPT2	**Papeete2**	**51.95**	**38**	*e*S		**S**		**09 36 02.4**	**-1.6**
	786nm,26.0s								
PPT2				*e*LQ		LQ		09 40 51.8	
	2μm,23.8s								
PPT2				*e*LR		LR		09 43 08.4	
	4μm,28.5s,baz=194								
PPT2	**Papeete2**	**51.95**	**38**	*e*T		T		10 23 57.4	
	8.8nm,0.3s								
PPT	**Papeete**	**51.97**	**38**	LR		LR		09 44 38.8	
	comp=Z,813nm,21.1s,baz=198,slow=29								
TIAR	**Tiarei**	**52.04**	**38**	*e*T		T		10 23 58.7	
	6.7nm,0.3s								
PAF	**Port-aux-Franc**	**53.49**	**230**	S		S		09 36 10.0	-14
PAF				L		L		09 40 00.0	
PAF				R				09 45 00.0	
WRA	**Warramunga Arr**	**54.39**	**304**	P		**P**		**09 28 57.2**	**-1.8**
	3.8nm,0.8s,baz=156,slow=6.4,SNR=40								
WRA				LR		LR		09 49 04.6	
	comp=Z,999nm,21.2s,baz=155,slow=33								
WRAB	**Tennant Creek**	**54.40**	**304**	*e*P		**P**		**09 28 57.5**	**-1.6**
	88nm,2.5s								
WRAB				LR		LR			
	comp=Z,1μm,20.0s								
VAH	**Vaihoa**	**54.71**	**39**	*e*T		T		10 27 24.0	
	comp=Z,88nm,0.3s								
PMOR	**Pomariorio Ree**	**54.86**	**39**	*e*T		T		10 27 35.5	
	comp=Z,8.3nm,0.3s								
PLCA	**Paso Flores**	**60.96**	**125**	P		**P**		**09 29 44.7**	**-0.4**
	comp=Z,5.4nm,1.0s,baz=201,slow=7.9,SNR=4.9								
PLCA				LR		LR		09 49 56.5	
	comp=Z,392nm,18.4s,baz=214,slow=30								
CRZF	**Crozet Islands**	**61.45**	**218**	S		**S**		**09 38 04.0**	**-5.0**
CRZF				R				09 48 00.0	
TRQA	**Tornquist**	**66.21**	**130**	*e*P		**P**		**09 30 20.9**	**+1.2**
	comp=Z,32nm,1.4s								
CFAA	**Coronel Fontan**	**69.99**	**122**	P		**P**		**09 30 42.4**	**-1.2**
	comp=Z,1.4nm,0.8s,baz=214,slow=5.3,SNR=19								
LVC	**Limon Verde**	**77.94**	**118**	P		**P**		**09 31 30.6**	**+0.1**
	comp=Z,34nm,1.0s,baz=217,slow=5.0,SNR=2.6								
LVC	**Limon Verde**	**77.94**	**118**	*e*P		**P**		**09 31 30.9**	**+0.4**
	comp=Z,17nm,1.1s								
LPAZ	**La Paz**	**84.01**	**116**	P		**P**		**09 32 05.0**	**+1.6**
	comp=Z,4.6nm,0.9s,baz=190,slow=5.0,SNR=10								
LPAZ	**La Paz**	**84.01**	**116**	*e*P		**P**		**09 32 03.2**	**-0.2**
	comp=Z,7.0nm,0.9s								
BOSA	**Boshof**	**84.20**	**202**	LR		LR		10 07 15.7	
	comp=Z,1μm,19.4s,baz=192,slow=34								
SIV	**San Ignacio**	**86.85**	**122**	P		**P**		**09 32 17.9**	**+1.1**
	comp=Z,2.3nm,0.9s,baz=240,slow=4.6,SNR=5.0								
H08S2	**Diego Garcia H**	**90.27**	**251**	T		T		11 13 27.4	
	baz=155,slow=76,SNR=13								
H08S1	**Diego Garcia H**	**90.28**	**251**	T		T		11 13 27.2	
	baz=155,slow=76,SNR=7.6								
H08S3	**Diego Garcia H**	**90.29**	**251**	T		T		11 13 28.9	
	baz=155,slow=76,SNR=18								
HHC	**Hu-ho-hao-te**	**118.43**	**307**	*e*PKP		**PKPdf**		**09 38 18.8**	**-0.1**
HHC				PP		**PP**		**09 39 41.3**	**+4.9**
HHC				SKS		**SKSdf**		**09 45 26.0**	**-4.6**
HHC	**Hu-ho-hao-te**	**118.43**	**307**	SS		SS		09 55 53.0	0.0
HHC				AMB		AMB			
	comp=Z,69nm,11.1s								
HHC				LR		LR			
	comp=N,160nm,16.4s								
HHC				LR		LR			
	comp=E,150nm,16.2s								
HHC				LR		LR			
	comp=Z,180nm,19.7s								
H02S1	**DAWSON INLET T**	**123.80**	**32**	T		T		11 54 02.5	
	SNR=12								
H02N1	**VAN INLET T-PH**	**123.83**	**32**	T		T		11 54 04.3	
	SNR=9.0								
TORD	**Torodi Ar. Bea**	**127.72**	**182**	PKP		**PKPdf**		**09 38 37.7**	**+0.2**
	comp=Z,0.3nm,0.9s,baz=121,slow=0.4,SNR=3.0								
BMRM	**Bremner River**	**128.85**	**21**	*e*PKPpre		PKPpre		09 38 30.6	
BMRM				*e*PKPdf		**PKiKP**		**09 38 40.8**	**+2.0**
RND	**Reindeer**	**130.59**	**18**	*e*PKPdf		**PKPdf**		**09 38 42.8**	**+1.3**
MCK	**McKinley**	**130.90**	**18**	*e*PKPdf		**PKPdf**		**09 38 43.5**	**+1.6**
DDM	**Donnelly Dome**	**131.36**	**19**	*e*PKPpre		PKPpre		09 38 33.8	
WRH	**Wood River Hil**	**131.72**	**18**	*e*PKPdf		**PKPdf**		**09 38 46.1**	**+2.7**
SCRK	**Sand Creek**	**131.80**	**20**	*e*PKPdf		**PKPdf**		**09 38 48.4**	**+4.6**
CCB	**Clear Creek Bu**	**131.92**	**18**	*e*PKPdf		**PKPdf**		**09 38 47.6**	**+3.8**
IL1	**Eielson Array**	**132.16**	**18**	*e*PKPdf		**PKPdf**		**09 38 47.4**	**+3.1**
YKA	**Yellowknife Ar**	**136.39**	**38**	PKP		**PKPdf**		**09 38 52.2**	**0.0**
	comp=Z,0.1nm,0.6s,baz=203,slow=2.5,SNR=3.2								
ABKAR	**Akbulak array**	**145.46**	**272**	*e*PKPdf		**PKPdf**		**09 39 08.6**	**-0.4**
SCHQ	**Schefferville**	**146.72**	**76**	PKPbc		**PKPbc**		**09 39 12.4**	**-0.4**
	comp=Z,4.3nm,1.1s,baz=218,slow=6.7,SNR=2.3								
SCHQ	**Schefferville**	**146.72**	**76**	*e*PKPbc		**PKPab**		**09 39 15.1**	**+1.1**
BRTR	**Keskin Array B**	**147.84**	**233**	PKPbc		**PKPdf**		**09 39 15.0**	**+1.4**
	comp=Z,1.2nm,0.8s,baz=126,slow=4.3,SNR=4.9								
BR131	**Keskin Array S**	**147.84**	**233**	*e*PKPdf		**PKPbc**		**09 39 15.8**	**-0.7**
BR131				*e*PKPbc		**PKiKP**		**09 39 18.4**	**0.0**
KBZ	**Khabaz**	**147.97**	**248**	PKPbc		**PKPbc**		**09 39 16.1**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=233,slow=20,SNR=2.4								
BR231	**Keskin MP Arra**	**148.23**	**232**	*e*PKPdf		**PKPbc**		**09 39 16.9**	**-0.6**
KEST	**Kesra**	**149.70**	**195**	PKPbc		**PKPbc**		**09 39 21.1**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=34,slow=3.6,SNR=2.4								
KEST	**Kesra**	**149.70**	**195**	*e*PKPbc		**PKPbc**		**09 39 22.0**	**+0.7**
KEST				*ep*PKPab		**pPKPab**		**09 39 30.8**	**+0.8**
RES	**Resolute Bay**	**150.06**	**32**	*e*PKPbc		**PKPab**		**09 39 25.3**	**-1.6**
RDO	**Rodhopi**	**151.66**	**223**	*e*PKPdf		**PKPdf**		**09 39 24.0**	**+1.1**
CUC	**Castrocucco**	**152.91**	**207**	*e*PKPdf		**PKPdf**		**09 39 22.9**	**+1.5**
CUC				*e*PKPab		**PKPab**		**09 39 40.3**	**+0.6**
ESDC	**Sonseca Array**	**154.05**	**173**	PKPbc		**PKPbc**		**09 39 30.9**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=325,slow=2.0,SNR=3.2								

DDA 25 09:21:33.5, 36°.55N×36°.15E, h10km, MD2.8, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YAYL	**Yayladag**	**0.52**	**184**	*i* P		P	Pg	09 21 43.5	-0.3
YAYL				*i* S		Sn	Sn	09 21 54.8	-1.3
KAMA	**Osmaniye**	**0.76**	**33**	*i* P		P	Pg	09 21 48.5	+0.2
KAMA				*i* S		Sb	Sb	09 21 59.6	+0.3
HCB	**Kahramanmara¯**	**0.99**	**37**	*i* P		P	Pg	09 21 50.3	-2.5
HCB				*i* S		Sg	Sg	09 22 05.3	-0.5
KMRS	**Kahramanmaras**	**1.12**	**32**	*e*PN		Pb	Pb	09 21 54.7	-0.4
KARA	**Karaisali**	**1.13**	**309**	*e*PG		Pb	Pb	09 21 49.6	-5.5
KARA				*e*SG		Sb	Sb	09 21 57.1	-13
MERS	**Mersin**	**1.35**	**284**	*e*PN		Pn	Pn	09 21 55.5	-2.9

ISCJB ***25*** *09:22:07.9±0.7, 0°.0S±0°.2×16°.8W±0°.1, h13km, mb3.9/6, MS3.4/1, Error ellipse: s-maj=29.7km s-min=9.8km az=157.8*

IDC ***25*** *09:22:07.8±1.4, 0°.02N×16°.89W, h0km, mb3.9/4, mb1 4.2/6, mb1mx3.8/27, mbtmp4.1/6, ML4.4/2, MS3.4/3, Ms1 3.3/3, ms1mx3.0/26, Error ellipse: s-maj=60.8km s-min=27.1km az=159.0*

NEIC ***25*** *09:22:09.0±0.6, 0°.06S×16°.84W, h10km, mb4.0/2, Error ellipse: s-maj=23.8km s-min=10.1km az=157.0*

ISC 25 09:22:09.3±0.8, 0°.1S±0°.2×16°.9W±0°.1, h13km, n22, σ1§45/17, mb4.0/6, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**8.03**	**163**	T		T		09 33 06.0	
	baz=342,slow=74,SNR=167								
H10N3	**ASCENSION HYDR**	**8.04**	**163**	T		T		09 33 07.4	
	baz=342,slow=74,SNR=158								
H10N1	**ASCENSION HYDR**	**8.05**	**163**	T		T		09 33 07.3	
	baz=342,slow=74,SNR=293								
H10S1	**ASCENSION HYDR**	**9.05**	**166**	T		T		09 34 27.5	
	baz=345,slow=74,SNR=88								
H10S3	**ASCENSION HYDR**	**9.06**	**166**	T		T		09 34 22.7	
	baz=345,slow=74,SNR=122								
H10S2	**ASCENSION HYDR**	**9.07**	**166**	T		T		09 34 28.9	
	baz=345,slow=74,SNR=98								
LIC	**Lamto**	**13.39**	**62**	*e*P		**Pn**		**09 25 18.3**	**-0.9**
	12nm,0.6s								
TIC	**Tomodi**	**13.60**	**60**	*e*P		**Pn**		**09 25 20.5**	**-1.6**
KIC	**Kosan Boka**	**13.71**	**62**	*e*P		**Pn**		**09 25 21.8**	**-1.8**
	11nm,0.5s								
DBIC	**Dimbokro**	**13.75**	**60**	Pn		**Pn**		**09 25 22.4**	**-1.7**
	2.8nm,0.3s,baz=238,slow=13,SNR=27								
DBIC				Sn		Sn		09 27 46.7	-10
	1.0nm,0.3s,baz=286,slow=18,SNR=3.9								
DBIC				LR		LR		09 29 50.3	
	comp=Z,136nm,20.1s,baz=204,slow=34								
DBIC	**Dimbokro**	**13.75**	**60**	*e*Pn		**Pn**		**09 25 22.4**	**-1.7**
	12nm,0.6s								
DBIC				*e*Sn		**Sn**		**09 27 59.9**	**+3.0**
RCBR	**Riachuelo**	**19.83**	**253**	Pn		**Pn**		**09 26 41.8**	**+0.2**
	0.6nm,0.3s,baz=84,slow=12,SNR=15								
RCBR				LR		LR		09 32 13.0	
	comp=Z,63nm,19.3s,baz=62,slow=30								
TOA0	**Torodi Ar. Sit**	**22.63**	**54**	*e*P		**P**		**09 27 08.8**	**-1.5**
TOA0	**Torodi Ar. Sit**	**22.63**	**54**	*e*P		**P**		**09 27 10.0**	**-0.3**
TORD	**Torodi Ar. Bea**	**22.63**	**54**	P		**P**		**09 27 09.5**	**-0.8**
	15nm,0.9s,baz=234,slow=9.8,SNR=25								
TORD				LR		LR		09 35 09.1	
	comp=Z,142nm,19.8s,baz=200,slow=35								
TSUM	**Tsumeb**	**38.75**	**121**	*e*P		**P**		**09 29 34.4**	**+0.5**
	3.2nm,0.9s								
LPAZ	**La Paz**	**53.02**	**250**	*e*P		**P**		**09 31 28.0**	**+0.8**
	2.3nm,1.1s								
BRTR	**Keskin Array B**	**60.71**	**43**	P		P		**09 32 22.1**	**+1.2**
	0.2nm,0.4s,baz=235,slow=5.1,SNR=2.8								
TXAR	**Lajitas Array**	**87.25**	**299**	P		**P**		**09 34 56.5**	**+0.2**
	0.1nm,0.6s,baz=111,slow=4.9,SNR=3.6								
YKA	**Yellowknife Ar**	**93.67**	**333**	P		**P**		**09 35 25.2**	**-0.2**
	0.8nm,0.9s,baz=80,slow=5.5,SNR=10								
ASAR	**Alice Springs**	**143.08**	**132**	PKP		**PKPdf**		**09 41 42.4**	**-1.7**
	0.2nm,0.7s,baz=229,slow=2.6,SNR=4.6								
WRA	**Warramunga Arr**	**145.47**	**127**	PKPbc		**PKPab**		**09 41 48.8**	**+0.3**
	0.9nm,1.1s,baz=248,slow=3.2,SNR=5.9								

ISN ***25*** *09:24:34.1±2.4, 35°.26N×44°.72E, h0km±10km, ML3.6*

ISCJB ***25*** *09:24:53.1±0.6, 35°.9N±0°.1×45°.2E±0°.1, h10km, Error ellipse: s-maj=21.7km s-min=5.7km az=40.5*

CSEM ***25*** *09:24:53.0±0.4, 35°.94N×45°.34E, h5km, ML3.8, Error ellipse: s-maj=29.4km s-min=7.6km az=40.0*

ISK ***25*** *09:24:55.3, 36°.00N×44°.88E, h5km, ML3.8*

TEH ***25*** *09:24:55.3, 35°.48N×45°.14E, h5km, ML3.6*

ISC 25 09:24:52.7±1.1, 35°.87N±0°.09×45°.24E±0°.08, h10km, n37, σ1§52/38, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IKRK	**Kirkuk**	**0.87**	**238**	*e*Pg		x		09 24 41.0	
IKRK				*e*Sg		x		09 24 47.0	
IDHR	**Dehrash**	**1.50**	**141**	*e*Pn		**Pn**		**09 25 19.6**	**-0.2**
IDHR				*e*				09 25 43.8	
	comp=Z,15μm,0.1s								
IDHR	**Dehrash**	**1.50**	**141**	*e*Pn		**Pn**		**09 25 19.6**	**-0.2**
MSL	**Mosul**	**1.80**	**288**	*e*Pn		x		09 25 04.0	
MSL				*i* Sn		x		09 25 29.0	
CUKT	**Cukurca**	**1.90**	**317**	*e*PN		**Pn**		**09 25 24.6**	**-0.7**
CUKT				*e*SN		**Sn**		**09 25 48.3**	**-1.0**
CUKT	**Cukurca**	**1.90**	**317**	*e*Pn		**Pn**		**09 25 24.6**	**-0.7**
CUKT				*e*Sn		**Sn**		**09 25 48.3**	**-1.0**
HAKT	**HAKKARI**	**2.08**	**324**	*i* P		**Pn**		**09 25 28.2**	**+0.3**
HAKT	**HAKKARI**	**2.08**	**324**	*i* P		**Pn**		**09 25 28.2**	**+0.3**
HAKT				*i* S		**Sg**		**09 25 59.6**	**-0.2**
HKR	**Hakkari**	**2.09**	**325**	*e*PN		**Pn**		**09 25 28.9**	**+1.0**
HKR	**Hakkari**	**2.09**	**325**	*e*Pn		**Pn**		**09 25 28.9**	**+1.0**
IKOM	**Komasi**	**2.52**	**132**	*e*Pn		**Pn**		**09 25 34.1**	**+0.3**
IKOM				*e*Sg		**Sb**		**09 26 08.8**	**-0.4**
IKOM				*e*				09 26 36.9	
	comp=Z,2μm,0.2s								
IKOM	**Komasi**	**2.52**	**132**	*e*Pn		**Pn**		**09 25 34.1**	**+0.3**
IKOM				*e*Sg		**Sb**		**09 26 08.8**	**-0.4**
IBZA	**Bozab**	**2.56**	**122**	*e*Pn		**Pn**		**09 25 36.6**	**+2.1**
IBZA	**Bozab**	**2.56**	**122**	*e*Pn		**Pn**		**09 25 36.6**	**+2.1**
BHD	**Baghdad**	**2.69**	**196**	*e*Pn		x		09 25 08.0	
BHD				*i* Sn		x		09 25 34.0	
BHD	**Baghdad**	**2.69**	**196**	*e*Pn		x		09 25 08.0	
	SNR=3.0								
BHD				*i* Sn		x		09 25 34.0	
	SNR=3.0								
SIRT	**Sirnak**	**2.78**	**307**	*e*PN		**Pn**		**09 25 37.9**	**+0.6**
SIRT				*e*SN		**Sn**		**09 26 09.1**	**-1.8**
SIRT	**Sirnak**	**2.78**	**307**	*e*Pn		**Pn**		**09 25 37.9**	**+0.6**
SIRT				*e*Sn		**Sn**		**09 26 09.1**	**-1.8**
IBDR	**Badra**	**2.81**	**168**	*e*PN		x		09 25 14.9	
IBDR				*e*SN		x		09 25 43.2	
VANB	**Van**	**3.09**	**332**	*e*PN		**Pn**		**09 25 43.4**	**+1.7**
VANB	**Van**	**3.09**	**332**	*e*Pn		**Pn**		**09 25 43.4**	**+1.7**
BEST	**Besiri**	**3.77**	**303**	*i* P		Pn		09 25 55.3	+4.4
BEST				*i* S		**Sb**		**09 26 43.4**	**-1.7**
MARD	**Mardin**	**3.87**	**293**	*i* P		Pn		09 25 56.7	+4.4
MARD				*i* S		**Sb**		**09 26 48.0**	**0.0**
SVAN	**Silvan-Diyarba**	**3.95**	**306**	*e*PN		**Pn**		**09 25 54.8**	**+1.3**
TUTA	**Tutak**	**4.01**	**332**	*i* P		Pg		09 26 14.2	+4.6
MAZI	**Mazidag**	**4.17**	**294**	*e*PN		**

mb1 3.8/7,mb1mx3.6/18,mbtmp3.9/7,Error ellipse: s-maj=39.1km s-min=17.5km az=117.0

ISC 25 09:50:23.5±1.0,4°4S±0°2×153°8E±0°3,h35km,n11, σ0s62/11,mb3.6/7,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**24.48**	**229**	P		**P**	**09 55 39.4**	**-0.2**
	5.1nm,0.5s,baz=54,slow=9.9,SNR=102							
WRA				PcP		**PcP**	**09 59 16.9**	**-0.9**
	0.3nm,0.6s,baz=64,slow=2.3,SNR=5.1							
WRA				S		**S**	**09 59 58.0**	**+0.2**
	0.7nm,0.9s,baz=50,slow=16,SNR=5.4							
H11S3	**WAKE ISLAND Hy**	**26.03**	**29**	T		T	10 23 07.6	
	baz=209							
H11S2	**WAKE ISLAND Hy**	**26.04**	**29**	T		T	10 23 05.2	
	baz=209							
H11S1	**WAKE ISLAND Hy**	**26.05**	**29**	T		T	10 23 01.7	
	baz=209							
ASAR	**Alice Springs**	**27.14**	**223**	P		**P**	**09 56 03.3**	**-0.4**
	0.4nm,0.5s,baz=56,slow=8.9,SNR=11							
ASAR				PcP		**PcP**	**09 59 23.1**	**-0.7**
	0.3nm,0.6s,baz=35,slow=2.1,SNR=4.1							
STKA	**Stephens Creek**	**29.66**	**201**	P		**P**	**09 56 26.4**	**+0.5**
	2.4nm,0.6s,baz=24,slow=11,SNR=7.7							
SONM	**Songino Array**	**66.52**	**327**	P		**P**	**10 01 10.4**	**+0.5**
	0.3nm,0.6s,baz=134,slow=6.2,SNR=2.8							
VNDA	**Vanda**	**73.21**	**178**	P		**P**	**10 01 50.7**	**+0.3**
	0.9nm,0.6s,baz=323,slow=6.8,SNR=7.4							
MKAR	**Makanchi Array**	**80.68**	**319**	P		**P**	**10 02 33.2**	**+0.1**
	0.5nm,0.8s,baz=101,slow=7.2,SNR=2.8							
ILAR	**Eielson Array**	**81.39**	**22**	P		**P**	**10 02 36.6**	**+0.2**
	0.3nm,0.7s,baz=249,slow=5.5,SNR=6.3							
TORD	**Torodi Ar. Bea**	**151.13**	**289**	PKPbc		**PKPbc**	**10 10 13.2**	**-0.9**
	1.2nm,0.7s,baz=70,slow=2.1,SNR=9.1							

DDA 25 09:55:40.8,38°.02N×35°.63E,h7km,MD2.8

CSEM 25 09:55:40.9±0.3,37°.97N×35°.65E,h10km,MD2.8,Error ellipse: s-maj=7.1km s-min=6.1km az=106.0

ISK 25 09:55:39.3,38°.00N×35°.67E,h5km,MD2.8,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KOZT	**Kozan**	**0.53**	**166**	*e*PG		Pb	09 55 50.8	-0.4
KOZT				*e*SG		Sb	09 55 59.4	+0.3
KOZT	**Kozan**	**0.53**	**166**	*e*Pg		Pb	09 55 50.8	-0.3
KOZT				*e*Sg		Sb	09 55 59.4	+0.3
ANDN	**Andirin**	**0.68**	**128**	*i* P		Pb	09 55 54.3	+0.5
ANDN	**Andirin**	**0.68**	**128**	*i* P		Pb	09 55 54.3	+0.5
ANDN				*i* S		Sn	09 56 09.0	+2.2
NIG	**Nigde**	**0.84**	**278**	*e*PG		Pb	09 55 56.8	0.0
NIG	**Nigde**	**0.84**	**278**	*e*Pg		Pb	09 55 56.8	0.0
PINB	**Pinarbasi**	**0.89**	**40**	*i* P		Pb	09 55 57.9	+0.3
PINB				*i* S		Sn	09 56 12.7	+0.3
PINB	**Pinarbasi**	**0.89**	**40**	*i* P		Pb	09 55 58.0	+0.3
PINB				*i* S		Sn	09 56 12.7	+0.3
GULE	**Gulek**	**1.00**	**225**	*i* P		Pb	09 55 59.4	0.0
GULE				*i* S		Sn	09 56 16.6	+1.6
GULE	**Gulek**	**1.00**	**225**	*i* P		Pb	09 55 59.4	0.0
GULE				*i* S		Sn	09 56 16.6	+1.6
KMRS	**Kahramanmaras**	**1.09**	**116**	*e*PN		Pb	09 56 00.8	+0.1
KMRS	**Kahramanmaras**	**1.09**	**116**	*e*Pn		Pb	09 56 00.9	+0.2
KAMA	**Osmaniye**	**1.13**	**135**	*i* P		Pn	09 56 03.5	+1.5
KAMA				*i* S		Sn	09 56 25.2	+7.2
HCB	**Kahramanmara¯**	**1.18**	**123**	*i* P		Pn	09 56 06.0	+3.5
HCB				*i* S		Sn	09 56 25.5	+6.5
MERS	**Mersin**	**1.45**	**219**	*e*PN		Pg	09 56 07.2	0.0
MERS	**Mersin**	**1.45**	**219**	*e*Pn		Pg	09 56 07.2	0.0
DARE	**Darende-Malaty**	**1.54**	**68**	*e*PN		Pg	09 56 09.8	+0.8
DARE	**Darende-Malaty**	**1.54**	**68**	*e*Pn		Pg	09 56 09.8	+0.8
YOZ	**Yozgat**	**1.66**	**351**	*e*PN		Pb	09 56 10.7	0.0
YOZ	**Yozgat**	**1.66**	**351**	*e*Pn		Pb	09 56 10.7	0.0
SVSK	**Karacayir**	**2.18**	**28**	*e*PN		Pn	09 56 17.6	+1.4
SVSK	**Karacayir**	**2.18**	**28**	*e*Pn		Pn	09 56 17.6	+1.4
CORM	**Corum**	**2.33**	**340**	*e*PN		Pb	09 56 20.8	-1.1
CORM	**Corum**	**2.33**	**340**	*e*Pn		Pb	09 56 20.8	-1.1

IDC 25 09:55:43.6±1.9,36°.27S×73°.17W,h0km,mb3.3/2, mb1 3.7/3,mb1mx3.5/16,mbtmp3.4/3,ML3.6/1,Error ellipse: s-maj=82.5km s-min=21.2km az=71.0,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PLCA	**Paso Flores**	**4.91**	**156**	Pn		Pn	09 56 58.6	-0.1
	0.6nm,0.3s,baz=332,slow=13,SNR=24							
PLCA				Lg		Lg	09 58 19.6	
	0.4nm,0.3s,baz=80,slow=18,SNR=4.9							
LPAZ	**La Paz**	**20.40**	**14**	P		P	10 00 22.6	-0.3
	1.5nm,0.9s,baz=208,slow=9.9,SNR=5.5							
TXAR	**Lajitas Array**	**71.28**	**332**	P		P	10 07 05.0	+0.1
	0.3nm,0.9s,baz=154,slow=9.0,SNR=3.7							

IDC 25 10:09:01.4±0.4,35°.42N×36°.45W,h0km,mb4.5/47, mb1 4.6/47,mb1mx4.6/50,mbtmp4.5/47,MS5.5/26, Ms1 5.5/26,ms1mx5.4/34,Error ellipse: s-maj=11.6km s-min=8.8km az=162.0

SZGRF 25 10:09:01.1,34°.21N×35°.85W,h10km,mb5.4,MS6.1, Northern Mid-Atlantic Ridge

ISCJB 25 10:09:03.6±0.1,35°.35N±0°.03×36°.10W±0°.01,h11km, mb5.4/350,MS5.6/323,Error ellipse: s-maj=4.7km s-min=1.2km az=176.3

BJI 25 10:09:04.0,35°.30N×35°.90W,h10km,mb5.4/28,mB5.8/27, Ms6.5/34,Ms7 6.1/30

MOS 25 10:09:04.3±1.0,35°.51N×35°.97W,h10km,mb5.6/138, MS5.7/69,Error ellipse: s-maj=6.7km s-min=3.6km az=142.0

GCMT 25 10:09:05.8±0.1,35°.31N×35°.80W,h16km,MW6.3/138, Moment Tensor Solution. s132,c286; s138,c543; Duration: 3s4 Moment tensor: Scale 10¹⁸Nm; Mrr=0.55±.02; Mθθ 1.61±.02; Mϕϕ-1.06±.02; Mrθ 0.19±.05; Mθϕ 3.18±.02; Mϕr 0.10±.05; Best double couple: M₀3.45400×10¹⁸ NP1:ϕs101.00000°,δ88.00000°, λ2.00000°. NP2:ϕs11.00000°,δ88.00000°,λ178.00000°. Principal axes: T 3.7350, Plg3.0000°, Azm326.0000°; N -0.5580, Plg87.0000°, Azm137.0000°; P -3.1740, Plg0.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

NEIC 25 10:09:05.8±0.2,35°.34N×35°.92W,h10km,mb5.5/266, MS5.5/295,MW6.3,MW6.2,MW6.3 Error ellipse: s-maj=6.2km s-min=2.4km az=178.0,Moment Tensor Solution. s101 Moment tensor: Scale 10¹⁸Nm; Mrr=0.06; Mθθ 0.78; Mϕϕ-0.83; Mrθ-0.22; Mθϕ 2.14; Mϕr 0.03; Best double couple: M₀2.30000×10¹⁸ NP1:ϕs190.00000°, δ85.00000°,λ180.00000°. NP2:ϕs280.00000°,δ90.00000°, λ5.00000°. Principal axes: T 2.2700, Plg4.0000°, Azm145.0000°; N 0.0500, Plg84.0000°, Azm284.0000°; P -2.3200, Plg3.0000°, Azm55.0000°;

SFS 25 10:09:06.0,35°.34N×35°.90W,h10km, ML6.3

NEIC 25 10:09:06.0±0.0,35°.35N×35°.93W,h15km,Moment Tensor Solution. s49 Moment tensor: Scale 10¹⁸Nm; Mrr=0.06; Mθθ 1.07; Mϕϕ-1.13; Mrθ 0.67; Mθϕ 2.62; Mϕr 0.95; Best double couple: M₀3.10000×10¹⁸ NP1:ϕs10.00000°, δ82.00000°,λ160.00000°. NP2:ϕs102.00000°,δ70.00000°, λ7.00000°. Principal axes: T 3.1900, Plg19.0000°, Azm325.0000°; N -0.2600, Plg68.0000°, Azm170.0000°; P -2.9300, Plg8.0000°, Azm57.0000°;

CSEM 25 10:09:06.2±0.1,35°.44N×35°.94W,h10km,mb5.5/99,Ms5.8, Mw6.2 Error ellipse: s-maj=6.8km s-min=2.2km az=176.0

IGIL 25 10:09:06.5,35°.41N×35°.97W,h10km,MS6.1

NEIC 25 10:09:20.8±0.0,35°.19N×35°.83W,h10km,Moment Tensor Solution. s147 Moment tensor: Scale 10¹⁸Nm; Mrr-0.72; Mθθ 1.19; Mϕϕ-0.47; Mrθ-0.26; Mθϕ 3.14; Mϕr-0.63; Best double couple: M₀3.30000×10¹⁸ NP1:ϕs278.00000°, δ78.00000°,λ0.00000°. NP2:ϕs8.00000°,δ89.00000°, λ-167.00000°. Principal axes: T 3.6900, Plg7.0000°, Azm141.0000°; N -0.7500, Plg78.0000°, Azm11.0000°; P -2.9400, Plg8.0000°, Azm233.0000°;

ISC 25 10:09:06.3±0.4,35°.28N±0°.05×35°.94W±0°.04,h15km±1km, h15km:pP-P,n1880,σ1s55/1820,mb5.5/353,MS5.5/325, 225C-260D,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
H07S1	**FLORES T-PHASE**	**5.56**	**41**	*e*P		**Pn**	**10 10 25.3**	**-3.1**
H07N1	**FLORES T-PHASE**	**5.83**	**40**	*e*P		**Pn**	**10 10 29.4**	**-2.8**
CALA	**Caldeira**	**6.66**	**58**	*e*P		**Pn**	**10 10 42.3**	**-1.3**
PCED	**Cedros**	**6.69**	**58**	*e*P		**Pn**	**10 10 42.2**	**-1.7**
PICO	**Pico**	**6.82**	**60**	*e*P		**Pn**	**10 10 44.3**	**-1.5**
PPNO	**Prainha do Nor**	**6.92**	**60**	*e*P		**Pn**	**10 10 46.5**	**-0.7**
ROSA	**Rosais**	**7.05**	**59**	*e*P		**Pn**	**10 10 46.2**	**-2.6**
PMAN	**Manadas**	**7.12**	**60**	*e*P		**Pn**	**10 10 47.9**	**-1.9**
PGRA	**Graciosa**	**7.37**	**57**	*e*P		**Pn**	**10 10 52.6**	**-0.7**
ADH	**Angra Heroismo**	**7.73**	**62**	*e*P		**Pn**	**10 10 58.4**	**+0.1**
PMOZ	**Porto Moniz, M**	**15.73**	**94**	*e*P		**Pn**	**10 12 47.3**	**0.0**
	467nm,1.8s							
PMOZ				*e*S		**Sn**	**10 15 35.5**	**-5.9**
PMOZ				*e*LR		LR	10 15 49.0	
	33μm,20.0s							
PMAR	**Madeira**	**15.98**	**94**	*e*P		**P**	**10 12 55.2**	**+1.0**
	505nm,1.3s							
FUL	**Funchal**	**16.02**	**94**	*e*P		**P**	**10 12 55.0**	**+0.6**
PMPS	**Porto Santo**	**16.38**	**92**	*e*P		**P**	**10 13 00.1**	**+1.8**
DRLN	**Deer Lake**	**21.11**	**318**	*e*P		P	10 13 44.9	-5.2
	255nm,0.8s							
DRLN	**Deer Lake**	**21.11**	**318**	*e*P		P	10 13 44.9	-5.2
	255nm,0.8s							
DRLN					LR	LR		
	comp=Z,5μm,21.8s							
PMAFR	**Mafra**	**21.54**	**72**	*e*P		**P**	**10 13 57.9**	**+3.0**
	comp=Z,613nm,2.2s							
PMAFR				*e*S		**S**	**10 17 46.8**	**-6.3**
PMAFR				*e*LR		LR	10 18 00.6	
	comp=Z,43μm,20.0s							
PMST	**Lisbon--Monsan**	**21.61**	**73**	*e*P		**P**	**10 13 58.8**	**+3.2**
	comp=Z,868nm,1.6s							
LIS	**Lisbon**	**21.64**	**73**	*e*P		**P**	**10 13 57.1**	**+1.2**
PACT	**Alcochete**	**21.89**	**73**	*e*P		**P**	**10 14 02.4**	**+3.8**
	comp=Z,993nm,1.8s							
PFVI	**Vila Bisbo**	**21.93**	**77**	*e*P		**P**	**10 13 59.8**	**+0.7**
	comp=Z,437nm,2.2s							
PFVI				*e*S		**S**	**10 18 02.1**	**+1.4**
PFVI				*e*LR		LR	10 18 12.7	
	comp=Z,44μm,20.0s							
PTEO	**Sao Teotonio**	**21.99**	**76**	*e*P		**P**	**10 14 01.0**	**+1.3**
	comp=Z,614nm,1.9s							
MORF	**Mamelete**	**22.06**	**77**	*e*P		**P**	**10 14 02.4**	**+1.9**
	comp=Z,455nm,1.9s							
MORF				*e*S		**S**	**10 18 07.7**	**+4.4**
MORF				*e*LR		LR	10 18 17.1	
	comp=Z,42μm,18.0s							
MORF	**Marmelete**	**22.06**	**77**	*e*P		**P**	**10 14 01.3**	**+0.8**
MORF				*e*S		**S**	**10 18 05.8**	**+2.5**
PNCL	**Nicolau / Gran**	**22.13**	**75**	*e*P		**P**	**10 14 02.0**	**+0.8**
	comp=Z,389nm,1.6s							
PNCL				*e*S		**S**	**10 17 59.9**	**-4.6**
PNCL				*e*LR		LR	10 18 17.1	
	comp=Z,36μm,20.0s							
PCAS	**Casmilo, Conde**	**22.19**	**69**	*e*P		**P**	**10 14 01.9**	**0.0**
	comp=Z,297nm,1.9s							
PCAS				*e*S		**S**	**10 18 04.3**	**-1.5**
PCAS				*e*LR		LR	10 18 04.7	
	comp=Z,46μm,20.0s							
PTOM	**Tomar**	**22.24**	**71**	*e*P		**P**	**10 14 02.4**	**0.0**
	comp=Z,274nm,0.5s							
PMTG	**Montargil**	**22.36**	**72**	*e*P		**P**	**10 14 03.6**	**-0.1**
	comp=Z,490nm,1.7s							
PMTG				*e*LR		LR	10 18 09.7	
	comp=Z,37μm,18.0s							
PMTG				*e*S		**S**	**10 18 10.8**	**+1.8**
MESJ	**Messejana**	**22.38**	**75**	*e*P		**P**	**10 14 05.0**	**+1.1**
	comp=Z,527nm,1.8s							
MESJ	**Messejana**	**22.38**	**75**	*e*P		**P**	**10 14 04.8**	**+0.9**
MESJ				*e*S		**S**	**10 18 11.9**	**+2.7**
EVOP	**Sao Brissos**	**22.44**	**73**	*e*P		**P**	**10 14 04.4**	**-0.1**
	comp=Z,169nm,1.4s							
EVOP	**Sao Brissos**	**22.44**	**73**	*e*P		**P**	**10 14 04.4**	**-0.1**
	comp=Z,339nm,1.4s							
EVO	**Evora**	**22.53**	**73**	*e*P		**P**	**10 14 04.4**	**-1.1**
	comp=Z,339nm,1.4s							
EVO				*e*R				
	comp=Z,36μm,18.8s							
EVO	**Evora**	**22.53**	**73**	*e*P		**P**	**10 14 05.9**	**+0.4**
	comp=Z,245nm,1.5s							
PCVE	**Castro Verde**	**22.53**	**76**	*e*P		**P**	**10 14 05.2**	**-0.3**
	comp=Z,164nm,1.9s							
PCVE				*e*LR		LR	10 18 14.4	
	comp=Z,102μm,20.0s							
PCVE				*e*S		**S**	**10 18 15.2**	**+3.1**
PBDV	**Barranco-do-Ve**	**22.64**	**77**	*e*P		**P**	**10 14 06.8**	**+0.1**
	comp=Z,561nm,1.6s							
PBDV				*e*LR		LR	10 18 15.7	
	comp=Z,35μm,20.0s							
PBDV				*e*S		**S**	**10 18 17.7**	**+3.6**
PVIS	**Viseu**	**22.70**	**68**	*e*P		P	10 14 01.5	-5.9
	comp=Z,300nm,1.8s							
PCAB	**Cabril**	**22.71**	**65**	*e*P		**P**	**10 14 07.2**	**-0.2**
	comp=Z,209nm,1.9s							
PVAQ	**Vaqueiros**	**22.80**	**76**	*e*P		P	10 14 14.4	+6.1
	comp=Z,425nm,1.7s							
PVAQ				*e*S		Sn	10 18 26.2	-5.6
PVAQ				*e*LR		LR	10 18 29.2	
	comp=Z,35μm,20.0s							
POLO	**Lamas de Olo**	**22.84**	**66**	*e*P		**P**	**10 14 09.9**	**+1.0**
	comp=Z,104nm,1.9s							
POLO				*e*S		**S**	**10 18 17.4**	**-0.4**
POLO				*e*LR		LR	10 18 27.0	
	comp=Z,10μm,22.0s							
PESTR	**Estremoz**	**22.86**	**73**	*e*P		**P**	**10 14 07.7**	**-1.3**
	comp=Z,235nm,1.7s							
PESTR				*e*S		**S**	**10 18 21.8**	**+3.8**
PESTR				*e*LR		LR	10 18 29.2	
	comp=Z,36μm,20.0s							
PVRL	**Vila Real**	**22.89**	**66**	*e*P		**P**	**10 14 09.0**	**-0.3**
	comp=Z,444nm,1.8s							
MTE	**Manteigas**	**22.95**	**69**	*e*P		**P**	**10 14 07.3**	**-2.6**
	comp=Z,167nm,2.5s							
MTE				*e*S		**S**	**10 18 13.7**	**-5.9**
MTE				*e*LR		LR	10 18 27.0	
	comp=Z,36μm,20.0s							
MTE	**Manteigas**	**22.95**	**69**	*e*P		**P**	**10 14 09.7**	**-0.2**
	comp=Z,825nm,2.5s							
MTE	**Manteigas**	**22.95**	**69**	*e*P		**P**	**10 14 09.7**	**-0.2**
	comp=Z,825nm,2.5s							
MTE					LR	LR		
	comp=Z,33μm,19.0s							
PCBR	**Castelo Branco**	**22.97**	**70**	*e*P		**P**	**10 14 09.3**	**-0.8**
	comp=Z,237nm,1.7s							
PMRV	**Marv??o**	**23.02**	**71**	*e*P		**P**	**10 14 09.9**	**-0.8**
	comp=Z,341nm,1.9s							
PMRV				*e*S		S	10 18 13.0	-7.8
PMRV				*e*LR		LR	10 18 31.4	
	comp=Z,38μm,18.0s							
SACV	**Santiago Islan**	**23.06**	**148**	*e*P		**P**	**10 14 10.7**	**-0.5**
	comp=Z,460nm,1.5s							
SACV	**Santiago Islan**	**23.06**	**148**	*e*P		**P**	**10 14 10.7**	**-0.5**
	comp=Z,460nm,1.5s							
SACV					LR	LR		
	comp=Z,45μm,22.0s							
PBAR	**Barrancos**	**23.30**	**74**	*e*P		**P**	**10 14 13.5**	**0.0**
	comp=Z,294nm,1.5s							
PBAR				*e*S		**S**	**10 18 26.2**	**+0.8**
PBAR				*e*LR		LR	10 18 39.1	
	comp=Z,57μm,18.0s							
MVO	**Moncorvo**	**23.39**	**67**	*e*P		**P**	**10 14 13.9**	**-0.6**
MVO				*e*S		**S**	**10 18 33.6**	**+6.5**
MVO				*e*LR		LR	10 18 40.3	
	comp=Z,16μm,20.0s							
PBRG	**Braganca**	**23.67**	**65**	*e*P		**P**	**10 14 15.3**	**-1.9**
PBRG				*e*S		S	10 18 39.3	+7.8
PBRG				*e*LR		LR	10 18 48.0	
	comp=Z,16μm,20.0s							
BBSR	**BB Station**	**24.03**	**271**	PFAKE			10 14 30.0	+9.4
BBSR				LR		LR		
	comp=Z,3μm,20.3s							
SFS	**San Fernando**	**24.08**	**78**	*i* P		**P**	**10 14 22.5**	**+1.5**
LIJA	**Lijar**	**24.68**	**77**	*e*P		**P**	**10 14 28.0**	**+1.4**
PAB	**San Pablo**	**25.38**	**71**	*e*P		**P**	**10 14 32.8**	**-0.1**
	comp=Z,39μm,20.0s							
PAB	**San Pablo**	**25.38**	**71**	*e*P		**P**	**10 14 32.8**	**-0.1**
	comp=Z,83nm,1.2s							
PAB					LR	LR		
	comp=Z,39μm,20.0s							
EMAL	**Malaga-Limoner**	**25.47**	**77**	*i* P		**P**	**10 14 33.5**	**-0.2**
ESDC	**Sonseca Array**	**25.67**	**71**	P		**P**	**10 14 35.8**	**+0.3**
ESLA	**Sonseca Array**	**25.67**	**71**	*e*P		**P**	**10 14 35.2**	**-0.4**
	comp=Z,56nm,1.4s							
ESLA	**Sonseca Array**	**25.67**	**71**	*e*P		**P**	**10 14 35.1**	**-0.4**
	comp=Z,56nm,1.4s							
ES19	**SONSECA Array**	**25.72**	**71**	*e*P		**P**	**10 14 35.4**	**-0.6**
ES19	**SONSECA Array**	**25.72**	**71**	*e*P		**P**	**10 14 35.4**	**-0.6**
EMMW	**East Machias**	**25.78**	**301**	*e*P		**P**	**10 14 37.2**	**+0.8**
	comp=Z,85nm,1.0s							
EMMW	**East Machias**	**25.78**	**301**	*e*P		**P**	**10 14 37.2**	**+0.8**
	comp=Z,85nm,1.0s							
EMMW					LR	LR		
	comp=Z,6μm,21.0s							
MDT	**Midelt**	**26.02**	**86**	P		**P**	**10 14 39.0**	**+0.2**
PQI	**Presque Isle**	**26.58**	**305**	*e*P		**P**	**10 14 44.4**	**+0.8**
	comp=Z,126nm,1.1s							
PQI	**Presque Isle**	**26.58**	**305**	*e*P		**P**	**10 14 44.4**	**+0.8**
	comp=Z,126nm,1.1s							
MELI	**Melilla**	**26.87**	**80**	*i* P		**P**	**10 14 47.1**	**+0.7**
PKME	**Peaks-Kenny Pk**	**27.16**	**302**	*e*P		**P**	**10 14 48.0**	**-0.8**
	comp=Z,33nm,0.9s							
PKME	**Peaks-Kenny Pk**	**27.16**	**302**	*e*P		**P**	**10 14 48.0**	**-0.8**
	comp=Z,33nm,0.9s							
WVL	**Waterville**	**27.31**	**300**	*e*P		**P**	**10 14 49.1**	**-1.1**
	comp=Z,78nm,1.1s							
WVL	**Waterville**	**27.31**	**300**	*e*P		**P**	**10 14 49.1**	**-1.1**
	comp=Z,78nm,1.1s							
WVL					LR	LR		
	comp=Z,5μm,19.0s							
QUIF	**Quistinic**	**27.35**	**52**	*e*P		**P**	**10 14 50.1**	**-0.4**
	comp=Z,228nm,1.6s							
QUIF	**Quistinic**	**27.35**	**52**	*e*P		**P**	**10 14 50.1**	**-0.4**
	comp=Z,114nm,1.6s							
QUIF	**Quistinic**	**27.35**	**52**	*e*P		**P**	**10 14 50.1**	**-0.4**
	comp=Z,228nm,1.6s							
ROSF	**Rostrenen**	**27.39**	**52**	*e*P		**P**	**10 14 50.8**	**-0.1**
	comp=Z,260nm,1.6s							
ROSF	**Rostrenen**	**27.39**	**52**	*e*P		**P**	**10 14 50.8**	**-0.1**
	comp=Z,130nm,1.6s							
ROSF	**Rostrenen**	**27.39**	**52**	*e*P		**P**	**10 14 50.8**	**-0.1**
	comp=Z,260nm,1.6s							
DSB	**Dublin**	**27.47**	**40**	PFAKE			10 15 00.0	+8.5
DSB				LR		LR		
	comp=Z,23μm,18.0s							
DYA	**Yadsworthy**	**27.66**	**47**	*e*P		**P**	**10 14 51.3**	**-2.0**
	comp=Z,432nm,2.2s							
DYA	**Yadsworthy**	**27.66**	**47**	*e*P		**P**	**10 14 51.3**	**-2.0**
	comp=Z,432nm,2.2s							
SGMF	**Saint Gilles**	**27.83**	**52**	*e*P		**P**	**10 14 54.9**	**+0.1**
	comp=Z,272nm,1.4s							
SGMF	**Saint Gilles**	**27.83**	**52**	*e*P		**P**	**10 14 54.9**	**+0.1**
	comp=Z,136nm,1.4s							
SGMF	**Saint Gilles**	**27.83**	**52**	*e*P		**P**	**10 14 54.9**	**+0.1**
	comp=Z,272nm,1.4s							
SJPF	**Ste Jean**	**27.86**	**63**	*e*P		**P**	**10 14 55.0**	**-0.2**
	comp=Z,327nm,1.7s							
SJPF	**Ste Jean**	**27.86**	**63**	*e*P		**P**	**10 14 55.0**	**-0.2**
	comp=Z,164nm,1.7s							
SJPF	**Ste Jean**	**27.86**	**63**	*e*P		**P**	**10 14 55.0**	**-0.2**
	comp=Z,327nm,1.7s							
CART	**Cartagena**	**28.11**	**75**	*i* P		**P**	**10 14 56.5**	**-0.9**
ETSF	**Etsaut**	**28.33**	**64**	*e*P		**P**	**10 14 59.6**	**+0.1**
	comp=Z,192nm,1.4s							
ETSF	**Etsaut**	**28.33**	**64**	*e*P		**P**	**10 14 59.6**	**+0.1**
	comp=Z,96nm,1.4s							
ETSF	**Etsaut**	**28.33**	**64**	*e*P		**P**	**10 14 59.6**	**+0.1**
	comp=Z,192nm,1.4s							
BRYW	**Bryant College**	**28.45**	**294**	*e*P		**P**	**10 15 00.0**	**-0.5**
	comp=Z,66nm,1.0s							
BRYW	**Bryant College**	**28.45**	**294**	*e*P		**P**	**10 15 00.0**	**-0.5**
	comp=Z,66nm,1.0s							
HRV	**Adam Dziewonsk**	**28.49**	**295**	*e*P		**P**	**10 14 59.6**	**-1.2**
	comp=Z,4μm,19.0s							
HRV	**Adam Dziewonsk**	**28.49**	**295**	*e*P		**P**	**10 14 59.6**	**-1.2**
	comp=Z,31nm,0.9s							
HRV					LR	LR		
	comp=Z,4μm,19.0s							
FFD	**Franklin Falls**	**28.62**	**297**	PFAKE			10 15 10.0	+8.1
FFD				LR		LR		
	comp=Z,3μm,21.0s							
ANWB	**Willy Bob**	**28.90**	**239**	PFAKE			10 15 20.0	+15
ANWB				LR		LR		
	comp=Z,2μm,21.0s							
SCHQ	**Schefferville**	**28.93**	**322**	*e*P		**P**	**10 15 03.6**	**-1.0**
	comp=Z,94nm,1.3s							
SCHQ	**Schefferville**	**28.93**	**322**	*e*P		**P**	**10 15 03.6**	**-1.0**
	comp=Z,94nm,1.3s							
GRR	**Gorron**	**28.96**	**52**	*e*P		**P**	**10 15 05.1**	**+0.2**
GRR	**Gorron**	**28.96**	**52**	*e*P		**P**	**10 15 05.1**	**+0.2**
GRR	**Gorron**	**28.96**	**52**	*e*P		**P**	**10 15 05.1**	**+0.2**
EPF	**Esparros**	**29.00**	**63**	*e*P		**P**	**10 15 05.7**	**+0.3**
	comp=Z,300nm,1.6s							
EPF	**Esparros**	**29.00**	**63**	*e*P		**P**	**10 15 05.7**	**+0.3**
	comp=Z,150nm,1.6s							
EPF	**Esparros**	**29.00**	**63**	*e*P		**P**	**10 15 05.7**	**+0.3**
	comp=Z,300nm,1.6s							
MFF	**Saint Martin d**	**29.07**	**56**	*e*P		**P**	**10 15 06.1**	**+0.2**
	comp=Z,527nm,1.7s							
MFF	**Saint Martin d**	**29.07**	**56**	*e*P		**P**	**10 15 06.1**	**+0.2**
	comp=Z,264nm,1.7s							
MFF	**Saint Martin d**	**29.07**	**56**	*e*P		**P**	**10 15 06.1**	**+0.2**
	comp=Z,527nm,1.7s							
QUA2	**Belchertown**	**29.07**	**295**	*e*P		**P**	**10 15 05.3**	**-0.6**

comp=Z,114nm,1.6s
CAF Calviac 30.38 60 *e*P **P 10 15 17.5 -0.1**
comp=Z,229nm,1.6s
MTLF Montolieu 30.39 63 *e*P **P 10 15 17.5 -0.1**
comp=Z,248nm,1.7s
MTLF Montolieu 30.39 63 *e*P **P 10 15 17.5 -0.1**
comp=Z,124nm,1.7s
MTLF Montolieu 30.39 63 *e*P **P 10 15 17.5 -0.1**
comp=Z,248nm,1.7s
EDI Edinburgh 30.39 37 PFAKE 10 15 30.0 +13
EDI LR LR
comp=Z,22µm,21.0s
NCB Newcomb 30.51 298 PFAKE 10 15 30.0 +11
NCB LR LR
comp=Z,2µm,19.0s
TCF Toulx Ste Croi 30.63 57 *e*P **P 10 15 19.8 0.0**
comp=Z,402nm,1.4s
TCF Toulx Ste Croi 30.63 57 *e*P **P 10 15 19.8 0.0**
comp=Z,201nm,1.4s
TCF Toulx Ste Croi 30.63 57 *e*P **P 10 15 19.8 0.0**
comp=Z,402nm,1.4s
BBGH Gun Hill 30.67 230 PFAKE 10 15 30.0 +10
BBGH LR LR
comp=Z,13µm,22.0s
BRNJ Basking Ridge 30.75 292 *e*P **P 10 15 21.2 +0.4**
comp=Z,31nm,1.3s
BRNJ Basking Ridge 30.75 292 *e*P **P 10 15 21.2 +0.4**
comp=Z,31nm,1.3s
ODNJ Ogdensburg 30.76 293 *e*P **P 10 15 20.8 -0.1**
comp=Z,47nm,1.3s
ODNJ Ogdensburg 30.76 293 *e*P **P 10 15 20.8 -0.1**
comp=Z,47nm,1.3s
ODNJ LR LR
comp=Z,5µm,19.0s
BORG Borgarnes 30.79 12 *e*P **P 10 15 20.0 -0.9**
BORG Borgarnes 30.79 12 *e*P **P 10 15 20.0 -0.9**
LONY Lake Ozonia 30.81 299 *e*P **P 10 15 20.8 -0.6**
comp=Z,22nm,1.0s
LONY Lake Ozonia 30.81 299 *e*P **P 10 15 20.8 -0.6**
comp=Z,22nm,1.0s
LONY LR LR
comp=Z,3µm,20.0s
HYF Humbligny 31.06 55 *e*P **P 10 15 23.7 +0.2**
HYF Humbligny 31.06 55 *e*P **P 10 15 23.7 +0.2**
HYF Humbligny 31.06 55 *e*P **P 10 15 23.7 +0.2**
PTN Potsdam (NY) 31.09 299 *e*P **P 10 15 24.0 +0.2**
comp=Z,72nm,1.1s
PTN Potsdam (NY) 31.09 299 *e*P **P 10 15 24.1 +0.2**
comp=Z,72nm,1.1s
PTN LR LR
comp=Z,6µm,20.0s
BGF Bois d'Agland 31.10 57 *e*P **P 10 15 23.7 -0.2**
comp=Z,93nm,0.9s
BGF Bois d'Agland 31.10 57 *e*P **P 10 15 23.7 -0.2**
comp=Z,46nm,0.9s
BGF Bois d'Agland 31.10 57 *e*P **P 10 15 23.7 -0.2**
comp=Z,93nm,0.9s
LUPA Lehigh Univers 31.36 292 *e*P **P 10 15 27.8 +1.6**
comp=Z,9.4nm,1.3s
LUPA Lehigh Univers 31.36 292 *e*P **P 10 15 27.8 +1.6**
comp=Z,9.4nm,1.3s
LUPA LR LR
comp=Z,900nm,20.0s
ABA Alger-Bouzarea 31.40 76 P **P 10 15 26.2 -0.5**
ABA Alger-Bouzarea 31.40 76 P **P 10 15 26.2 -0.5**
EMHD Djebel Mahouad 31.44 77 P **P 10 15 28.0 +0.9**
EMHD Djebel Mahouad 31.44 77 P **P 10 15 28.0 +0.9**
AVF Avril sur Loir 31.48 56 *e*P **P 10 15 27.9 +0.7**
comp=Z,82nm,1.2s
AVF Avril sur Loir 31.48 56 *e*P **P 10 15 27.9 +0.7**
comp=Z,41nm,1.2s
AVF Avril sur Loir 31.48 56 *e*P **P 10 15 27.9 +0.7**
comp=Z,82nm,1.2s
HUMP Col San Antoni 31.54 245 PFAKE 10 15 40.0 +12
HUMP LR LR
comp=Z,3µm,20.0s
LASF Ste Croix 31.60 62 *e*P **P 10 15 28.7 +0.3**
comp=Z,222nm,1.6s
LASF Ste Croix 31.60 62 *e*P **P 10 15 28.7 +0.3**
comp=Z,111nm,1.6s
LASF Ste Croix 31.60 62 *e*P **P 10 15 28.7 +0.3**
comp=Z,222nm,1.6s
SSF Saint Saulge 31.61 56 *e*P **P 10 15 28.5 +0.1**
comp=Z,285nm,1.9s
SSF Saint Saulge 31.61 56 *e*P **P 10 15 28.5 +0.1**
comp=Z,142nm,1.9s
SSF Saint Saulge 31.61 56 *e*P **P 10 15 28.5 +0.1**
comp=Z,285nm,1.9s
KSPA Keystone Colle 31.62 294 *e*P **P 10 15 29.9 +1.4**
comp=Z,40nm,1.3s
KSPA Keystone Colle 31.62 294 *e*P **P 10 15 29.9 +1.4**
comp=Z,40nm,1.3s
KSPA LR LR
comp=Z,4µm,18.0s
BINY Binghamton 31.77 295 *e*P **P 10 15 31.0 +1.2**
comp=Z,25nm,1.0s
BINY Binghamton 31.77 295 *e*P **P 10 15 31.1 +1.2**
comp=Z,25nm,1.0s
BINY LR LR
comp=Z,4µm,20.0s
SJG San Juan 31.78 245 PFAKE 10 15 40.0 +10
SJG LR LR
comp=Z,7µm,19.0s
SMF Signal de Mont 31.79 57 *e*P **P 10 15 30.1 +0.1**
comp=Z,253nm,1.5s
SMF Signal de Mont 31.79 57 *e*P **P 10 15 30.1 +0.1**
comp=Z,127nm,1.5s
SMF Signal de Mont 31.79 57 *e*P **P 10 15 30.1 +0.1**
comp=Z,253nm,1.5s
LOR Lormes 31.88 56 *e*P **P 10 15 30.8 +0.1**
comp=Z,184nm,1.7s
LOR *e*R
comp=Z,24µm,22.5s
LOR Lormes 31.88 56 *e*P **P 10 15 30.8 +0.1**
comp=Z,92nm,1.7s
LOR Lormes 31.88 56 *e*P **P 10 15 30.8 +0.1**
comp=Z,184nm,1.7s
MAHO Mahon 32.00 70 *i*P **P 10 15 31.4 -0.4**
VIVF Saint-Julien-l 32.22 60 *e*P **P 10 15 34.6 +0.8**
comp=Z,248nm,1.8s
VIVF Saint-Julien-l 32.22 60 *e*P **P 10 15 34.6 +0.8**
comp=Z,124nm,1.8s
VIVF Saint-Julien-l 32.22 60 *e*P **P 10 15 34.6 +0.8**
comp=Z,248nm,1.8s
AGP Aguadilla 32.34 247 PFAKE 10 15 50.0 +15
AGP LR LR
comp=Z,3µm,22.0s
ATAF Djebel Tarf 32.55 77 P **P 10 15 35.0 -1.9**
ATAF Djebel Tarf 32.55 77 P **P 10 15 35.0 -1.9**
CRPR Cabo Rojo, PR 32.56 246 *e*P **P 10 15 38.5 +1.5**
comp=Z,86nm,1.4s
CRPR Cabo Rojo, PR 32.56 246 *e*P **P 10 15 38.5 +1.5**
comp=Z,86nm,1.4s
BAIF Baives 32.57 51 *e*P **P 10 15 36.7 0.0**
comp=Z,181nm,1.4s
BAIF Baives 32.57 51 *e*P **P 10 15 36.7 0.0**
comp=Z,91nm,1.4s
BAIF Baives 32.57 51 *e*P **P 10 15 36.7 0.0**
comp=Z,181nm,1.4s
SDMD Soldier's Deli 32.58 290 *e*P **P 10 15 36.9 -0.1**
SDMD Soldier's Deli 32.58 290 *e*P **P 10 15 36.9 -0.1**
SNF Seneffe 32.71 50 P **P 10 15 37.8 -0.1**
GRGR Grenville 32.76 232 PFAKE 10 15 50.0 +11
GRGR LR LR
comp=Z,4µm,19.0s
SFTF Sexfontaines 32.79 54 *e*P **P 10 15 38.8 +0.1**
comp=Z,285nm,1.5s
SFTF Sexfontaines 32.79 54 *e*P **P 10 15 38.8 +0.1**
comp=Z,142nm,1.5s
SFTF Sexfontaines 32.79 54 *e*P **P 10 15 38.8 +0.1**
comp=Z,285nm,1.5s
UCC Uccle 32.82 49 P **P 10 15 38.8 0.0**
UCC Uccle 32.82 49 PFAKE 10 15 50.0 +11
UCC LR LR
comp=Z,45µm,19.0s
DOU Dourbes 32.82 51 P **P 10 15 38.8 -0.2**
comp=Z,32nm,2.2s
SMRF Simiane la Rot 32.84 62 *e*P **P 10 15 40.3 +1.1**
comp=Z,226nm,1.7s
SMRF Simiane la Rot 32.84 62 *e*P **P 10 15 40.3 +1.1**
comp=Z,113nm,1.7s
SMRF Simiane la Rot 32.84 62 *e*P **P 10 15 40.3 +1.1**
comp=Z,226nm,1.7s
MEZF Maizieres J'vi 32.84 54 *e*P **P 10 15 39.4 +0.2**
comp=Z,351nm,1.5s
MEZF Maizieres J'vi 32.84 54 *e*P **P 10 15 39.4 +0.2**
comp=Z,175nm,1.5s
MEZF Maizieres J'vi 32.84 54 *e*P **P 10 15 39.4 +0.2**
comp=Z,4µm,19.0s
CMAH Djebel Manchou 34.90 75 P P 10 15 54.0 -3.3
BFO Black Forest 34.99 54 *e*P **P 10 15 58.1 +0.2**
comp=Z,186nm,1.9s
BFO Black Forest 34.99 54 *e*P **P 10 15 57.8 -0.1**
comp=Z,17µm,20.0s
BFO Black Forest 34.99 54 *e*P **P 10 15 57.8 -0.1**
comp=Z,197nm,1.8s
BFO LR LR
comp=Z,17µm,20.0s
ABSA Djebel Ababsia 35.02 75 P **P 10 15 59.1 +0.8**
ABSA Djebel Ababsia 35.02 75 P **P 10 15 59.1 +0.8**
SDDR Presa de Saban 35.18 252 *e*P **P 10 16 01.2 +1.4**
comp=Z,81nm,1.5s
SDDR Presa de Saban 35.18 252 *e*P **P 10 16 01.2 +1.4**
comp=Z,81nm,1.5s
SDDR LR LR
comp=Z,4µm,19.0s
IBBN Ibbenburen 35.20 47 *e*P **P 10 16 00.0 +0.4**
comp=Z,132nm,1.4s
IBBN Ibbenburen 35.20 47 *e*P **P 10 16 00.0 +0.4**
comp=Z,132nm,1.4s
TNS Taunus Mts 35.28 51 *e*P **P 10 16 01.1 +0.7**
comp=Z,129nm,1.7s
TNS Taunus Mts 35.28 51 *e*P **P 10 16 01.1 +0.7**
comp=Z,129nm,1.7s
PGF Pioggiola 35.37 64 *e*P **P 10 16 01.2 -0.1**
comp=Z,137nm,1.4s
PGF Pioggiola 35.37 64 *e*P **P 10 16 01.2 -0.1**
comp=Z,69nm,1.4s
PGF Pioggiola 35.37 64 *e*P **P 10 16 01.2 -0.1**
comp=Z,137nm,1.4s
TUE Stuetta 35.57 58 *e*P **P 10 16 04.0 +0.9**
comp=Z,494nm,2.1s
TUE Stuetta 35.57 58 *e*P **P 10 16 04.0 +0.9**
comp=Z,494nm,2.1s
TUE LR LR
comp=Z,17µm,21.0s
STU Stuttgart 35.60 54 *e*P **P 10 16 03.1 0.0**
comp=Z,134nm,2.0s
STU Stuttgart 35.60 54 *e*P **P 10 16 03.1 0.0**
comp=Z,134nm,2.0s
STU Stuttgart 35.60 54 PFAKE 10 16 20.0 +17
STU LR LR
comp=Z,17µm,20.0s
BLA Blacksburg 35.68 286 *e*P **P 10 16 05.6 +1.7**
comp=Z,3µm,18.0s
BLA Blacksburg 35.68 286 *e*P **P 10 16 05.6 +1.7**
comp=Z,337nm,2.6s
BLA LR LR
comp=Z,3µm,18.0s
DAVOX Davos/Dischmat 35.94 57 P **P 10 16 06.0 -0.3**
DAVOX Davos/Dischmat 35.94 57 P **P 10 16 06.0 -0.3**
VSL Villasalto 35.96 70 *e*P **P 10 16 06.4 +0.1**
comp=Z,554nm,2.6s
VSL Villasalto 35.96 70 *e*P **P 10 16 06.4 +0.1**
comp=Z,554nm,2.6s
VSL LR LR
comp=Z,24µm,21.0s
DAVA Damuels 35.96 56⇓ *i*P **P 10 16 06.6 +0.2**
comp=Z,654nm,4.3s,SNR=7.3
PCRV Puerto La Cruz 36.16 233 P P 10 16 03.3 -4.8
FUORN Ofenpass-Fuorn 36.20 57 *e*P P 10 16 12.5 +4.0
comp=Z,182nm,1.8s
FUORN LR LR
comp=Z,16µm,22.0s
VLC Villacollemand 36.31 62 PFAKE 10 16 20.0 +11
VLC LR LR
comp=Z,13µm,22.0s
UBBA Unterbreizbach 36.35 50 *e*P **P 10 16 09.8 +0.5**
comp=Z,100nm,1.9s
UBBA Unterbreizbach 36.35 50 *e*P **P 10 16 09.8 +0.5**
comp=Z,100nm,1.9s
FETA Feichten 36.53 57⇓ *i*P **P 10 16 11.0 -0.3**
comp=Z,449nm,3.5s,SNR=8.9
RETA Reute 36.57 56⇓ *i*P **P 10 16 11.3 -0.2**
comp=Z,837nm,5.9s,SNR=19
KEST Kesra 36.61 76 *e*P **P 10 16 12.9 +0.9**
KEST Kesra 36.61 76 *e*P **P 10 16 12.9 +0.9**
NRDL Niedersach Rie 36.66 47 *e*P **P 10 16 12.7 +0.8**
comp=Z,136nm,1.5s
NRDL Niedersach Rie 36.66 47 *e*P **P 10 16 12.7 +0.8**
comp=Z,136nm,1.5s
CLZ Clausthal 36.72 49 *e*P **P 10 16 13.1 +0.5**
comp=Z,133nm,1.6s
CLZ Clausthal 36.72 49 *e*P **P 10 16 13.1 +0.5**
comp=Z,133nm,1.6s
MOTA Moosalm 36.80 56⇑ *i*P **P 10 16 12.7 -0.8**
comp=Z,415nm,2.5s
KMSC Kings Mountain 36.84 283 *e*P **P 10 16 16.2 +2.4**
comp=Z,88nm,1.8s
KMSC Kings Mountain 36.84 283 *e*P **P 10 16 16.2 +2.4**
comp=Z,88nm,1.8s
KMSC Kings Mountain 36.84 283 ⇑P **P 10 16 13.1 -0.7**
baz=37
FUR Furstenfeldbru 36.95 55 *e*P **P 10 16 14.7 +0.1**
comp=Z,201nm,2.1s
FUR Furstenfeldbru 36.95 55 *e*P **P 10 16 14.7 +0.1**
comp=Z,201nm,2.1s
MUD Monsted U'grnd 36.98 41 *i*P **P 10 16 17.6 +2.9**
MUD Monsted U'grnd 36.98 41 *e*P **P 10 16 17.6 +2.9**
comp=Z,28µm,21.0s
JSC Jenkinsville 36.99 282 *e*P **P 10 16 16.9 +1.8**
comp=Z,71nm,1.6s
JSC Jenkinsville 36.99 282 *e*P **P 10 16 16.9 +1.8**
comp=Z,71nm,1.6s
GRFO Grafenberg 37.01 52 *e*P P 10 16 18.9 +3.8
comp=Z,62nm,1.3s
GRFO LR LR
comp=Z,24µm,22.0s
GRA1 Grafenberg Arr 37.01 52 *e*P **P 10 16 15.3 +0.2**
comp=Z,125nm,1.7s
GRF Grafenberg Arr 37.01 52 *e*P **P 10 16 15.3 +0.2**
comp=Z,125nm,1.7s
GRF *e*L L 10 28 14.6
comp=Z,20µm,22.0s
BSEG Bad Segeberg 37.04 45 *e*P **P 10 16 15.5 +0.3**
comp=Z,540nm,1.9s
BSEG Bad Segeberg 37.04 45 *e*P **P 10 16 15.5 +0.3**
comp=Z,540nm,1.9s
WATA Walderalm 37.12 56⇑ *i*P **P 10 16 15.9 -0.4**
comp=Z,527nm,2.4s
WTTA Wattenberg 37.16 56 *i*P **P 10 16 16.5 -0.1**
comp=Z,1µm,5.6s,SNR=17
ACSO Alum Creek Sta 37.18 292 PFAKE 10 16 30.0 +13
ACSO LR LR
comp=Z,4µm,20.0s
MOX Moxa 37.35 51 *e*P **P 10 16 19.0 +1.0**
comp=Z,89nm,1.8s
MOX *e*L L 10 28 29.9
comp=Z,37µm,22.0s
MOX Moxa 37.35 51 *e*P **P 10 16 19.0 +1.0**
comp=Z,89nm,1.8s
SUMG Summit 37.39 359 *i*P **P 10 16 18.2 -0.3**
SUMG *e*S **S 10 22 06.6 +0.7**
SUMG Summit 37.39 359 *e*P **P 10 16 17.5 -1.0**
comp=Z,8µm,21.0s
SUMG Summit 37.39 359 *e*P **P 10 16 17.5 -1.0**
comp=Z,190nm,1.1s
SUMG LR LR
comp=Z,8µm,21.0s
AAM Ann Arbor 37.45 295 *e*P **P 10 16 21.3 +2.4**
comp=Z,4µm,20.0s
AAM Ann Arbor 37.45 295 *e*P **P 10 16 21.3 +2.4**
comp=Z,42nm,1.0s
AAM LR LR
comp=Z,4µm,20.0s
NEUB Neuenburg 37.51 50 *e*P **P 10 16 19.6 +0.3**
comp=Z,158nm,1.9s
NEUB Neuenburg 37.51 50 *e*P **P 10 16 19.6 +0.3**
comp=Z,158nm,1.9s
MANZ Manzenberg 37.60 52 *e*P **P 10 16 20.6 +0.4**
comp=Z,190nm,2.4s
MANZ Manzenberg 37.60 52 *e*P **P 10 16 20.6 +0.4**
comp=Z,190nm,2.4s
ROTZ Rotzenmuhle 37.65 52 *e*P **P 10 16 20.8 +0.3**
comp=Z,89nm,2.0s
ROTZ Rotzenmuhle 37.65 52 *e*P **P 10 16 20.8 +0.3**
comp=Z,89nm,2.0s
GTBY Guantanamo Bay 37.67 257 PFAKE 10 16 30.0 +9.0
GTBY LR LR
comp=Z,6µm,19.0s
PLN Plauen 37.68 51 *e*P **P 10 16 20.9 +0.2**
comp=Z,144nm,2.2s
PLN Plauen 37.68 51 *e*P **P 10 16 20.9 +0.2**
comp=Z,144nm,2.2s
ABTA Abfaltersbach 37.75 57⇑ *i*P **P 10 16 19.1 -2.4**
comp=Z,548nm,5.4s,SNR=11
SFJD Kangerlussuaq 32.88 349 *i*P **P 10 15 37.3 -1.9**
SFJD Kangerlussuaq 32.88 349 *e*P **P 10 15 39.9 +0.7**
comp=Z,22µm,20.0s
SFJD Kangerlussuaq 32.88 349 *e*P **P 10 15 39.9 +0.7**
comp=Z,74nm,1.3s
SFJD LR LR
comp=Z,22µm,20.0s
GIVF Givet 32.97 51 *e*P **P 10 15 40.3 +0.1**
comp=Z,176nm,1.5s
GIVF Givet 32.97 51 *e*P **P 10 15 40.3 +0.1**
comp=Z,88nm,1.5s
GIVF Givet 32.97 51 *e*P **P 10 15 40.3 +0.1**
comp=Z,176nm,1.5s
ORIF Oris-en-Rattie 33.08 60 *e*P **P 10 15 42.8 +1.4**
comp=Z,266nm,1.8s
ORIF *e*R
comp=Z,32µm,20.2s
ORIF Oris-en-Rattie 33.08 60 *e*P **P 10 15 42.8 +1.4**
comp=Z,133nm,1.8s
ORIF Oris-en-Rattie 33.08 60 *e*P **P 10 15 42.8 +1.4**
comp=Z,266nm,1.8s
CBN Corbin Frederi 33.14 287 PFAKE 10 15 50.0 +8.2
CBN LR LR
comp=Z,3µm,18.0s
MMNY Mt. Morris Dam 33.18 296 *e*P **P 10 15 41.9 -0.2**
comp=Z,221nm,1.1s
MMNY Mt. Morris Dam 33.18 296 *e*P **P 10 15 41.9 -0.2**
comp=Z,221nm,1.1s
MMNY LR LR
comp=Z,7µm,20.0s
SSPA Standing Stone 33.27 292 *e*P **P 10 15 44.4 +1.4**
comp=Z,19nm,1.1s
SSPA Standing Stone 33.27 292 *e*P **P 10 15 44.4 +1.4**
comp=Z,19nm,1.1s
SSPA LR LR
comp=Z,4µm,19.0s
PAGF Fort de Pagny 33.30 54 *e*P **P 10 15 43.2 +0.1**
comp=Z,52nm,1.6s
PAGF Fort de Pagny 33.30 54 *e*P **P 10 15 43.2 +0.1**
comp=Z,26nm,1.6s
PAGF Fort de Pagny 33.30 54 *e*P **P 10 15 43.2 +0.1**
comp=Z,52nm,1.5s
BCLA Clavier 33.33 50 P **P 10 15 44.8 +1.4**
comp=Z,31nm,2.2s
CABF La Chapelle 33.33 57 *e*P **P 10 15 44.1 +0.6**
comp=Z,385nm,1.7s
CABF La Chapelle 33.33 57 *e*P **P 10 15 44.1 +0.6**
comp=Z,192nm,1.7s
CABF La Chapelle 33.33 57 *e*P **P 10 15 44.1 +0.6**
comp=Z,385nm,1.7s
URVA University of 33.36 286 *e*P **P 10 15 46.2 +2.4**
URVA University of 33.36 286 *e*P **P 10 15 46.2 +2.4**
SET Setif 33.38 76 P **P 10 15 46.0 +1.9**
SET Setif 33.38 76 P **P 10 15 46.0 +1.9**
LMR La Mourre 33.52 63 *e*P **P 10 15 45.5 +0.4**
comp=Z,298nm,1.9s
LMR La Mourre 33.52 63 *e*P **P 10 15 45.5 +0.4**
comp=Z,149nm,1.9s
LMR La Mourre 33.52 63 *e*P **P 10 15 45.5 +0.4**
comp=Z,298nm,1.9s
JSRW J. Sargeant Re 33.61 287 *e*P **P 10 15 48.3 +2.4**
JSRW J. Sargeant Re 33.61 287 *e*P **P 10 15 48.3 +2.4**
BEBN Eben Emael 33.64 50 P **P 10 15 48.5 +2.5**
HAU Haudompre 33.64 55 *e*P **P 10 15 46.1 -0.1**
comp=Z,287nm,1.7s
HAU *e*R
comp=Z,24µm,22.8s
HAU Haudompre 33.64 55 *e*P **P 10 15 46.1 -0.1**
comp=Z,143nm,1.7s
HAU Haudompre 33.64 55 *e*P **P 10 15 46.1 -0.1**
comp=Z,287nm,1.7s
BNI Bardonecchia 33.66 60 *e*P **P 10 15 47.8 +1.3**
comp=Z,25µm,20.0s
BNI Bardonecchia 33.66 60 *e*P **P 10 15 47.8 +1.3**
comp=Z,175nm,1.6s
BNI LR LR
comp=Z,25µm,20.0s
GRTK Grand Turk 33.68 255 PFAKE 10 16 00.0 +13
GRTK LR LR
comp=Z,7µm,20.0s
DFRA Djebel Bou Aff 33.70 75 P **P 10 15 47.4 +0.5**
DFRA Djebel Bou Aff 33.70 75 P **P 10 15 47.4 +0.5**
LPL La Plagne 33.71 59 *e*P **P 10 15 48.1 +1.1**
comp=Z,112nm,1.3s
LPL La Plagne 33.71 59 *e*P **P 10 15 48.1 +1.1**
comp=Z,56nm,1.3s
LPL La Plagne 33.71 59 *e*P **P 10 15 48.1 +1.1**
comp=Z,112nm,1.3s
MBDF Montbardon 33.71 61 *e*P **P 10 15 48.1 +1.1**
comp=Z,192nm,1.6s
MBDF Montbardon 33.71 61 *e*P **P 10 15 48.1 +1.1**
comp=Z,96nm,1.6s
MBDF Montbardon 33.71 61 *e*P **P 10 15 48.1 +1.1**
comp=Z,192nm,1.6s
LPG La Plagne 33.72 59 *e*P **P 10 15 48.3 +1.1**
comp=Z,280nm,1.7s
LPG La Plagne 33.72 59 *e*P **P 10 15 48.3 +1.1**
comp=Z,140nm,1.7s
LPG La Plagne 33.72 59 *e*P **P 10 15 48.3 +1.1**
comp=Z,280nm,1.7s
WLF Walferdange 33.74 52 P **P 10 15 47.4 +0.5**
comp=Z,50nm,1.9s
WLF Walferdange 33.74 52 *e*P **P 10 15 47.1 +0.2**
comp=Z,205nm,1.9s
WLF Walferdange 33.74 52 *e*P **P 10 15 47.1 +0.2**
comp=Z,205nm,1.9s
WLF Walferdange 33.74 52 *e*P **P 10 15 47.6 +0.7**
comp=Z,99nm,1.4s
WLF LR LR
comp=Z,35µm,22.0s
HGN Heimansgroeve 33.79 50 *e*P **P 10 15 46.1 -1.2**
comp=Z,159nm,2.4s
HGN *e*S **S 10 21 13.5 +3.1**
HGN *e*L L 10 26 31.9
comp=Z,36µm,22.0s
HGN Heimansgroeve 33.79 50 *e*P **P 10 15 46.1 -1.2**
comp=Z,159nm,2.4s
MEM Membach 33.81 50 PFAKE 10 16 00.0 +12
MEM LR LR
comp=Z,30µm,18.0s
HINF Hinteralfeld 33.96 55 *e*P **P 10 15 49.0 +0.1**
comp=Z,274nm,1.9s
HINF Hinteralfeld 33.96 55 *e*P **P 10 15 49.0 +0.1**
comp=Z,137nm,1.9s
HINF Hinteralfeld 33.96 55 *e*P **P 10 15 49.0 +0.1**
comp=Z,274nm,1.9s
CNNC Cliffs of the 34.07 282 PFAKE 10 16 00.0 +10
CNNC LR LR
comp=Z,3µm,21.0s
SENIN Lac Senin/Sane 34.15 58 *e*P **P 10 15 51.5 +0.7**
SENIN Lac Senin/Sane 34.15 58 *e*P **P 10 15 51.5 +0.7**
SBF Sospel 34.18 62 *e*P **P 10 15 51.6 +0.6**
comp=Z,110nm,1.1s
SBF Sospel 34.18 62 *e*P **P 10 15 51.6 +0.6**
comp=Z,55nm,1.1s
SBF Sospel 34.18 62 *e*P **P 10 15 51.6 +0.6**
comp=Z,110nm,1.1s
CTEI Djebel Teioual 34.21 76 P P 10 15 59.4 +8.0
CTEI Djebel Teioual 34.21 76 P P 10 15 59.4 +8.0
CASM Ain Smara 34.24 76 P P 10 15 59.9 +8.4
CASM Ain Smara 34.24 76 P P 10 15 59.9 +8.4
CDF Champ du Feu 34.30 54 *e*P **P 10 15 52.1 +0.1**
comp=Z,293nm,1.7s
CDF Champ du Feu 34.30 54 *e*P **P 10 15 52.1 +0.1**
comp=Z,146nm,1.7s
CDF Champ du Feu 34.30 54 *e*P **P 10 15 52.1 +0.1**
comp=Z,293nm,1.7s
CKFL Kef-Lekhel 34.39 75 P **P 10 15 53.5 +0.6**
CKFL Kef-Lekhel 34.39 75 P **P 10 15 53.5 +0.6**
CAEH 'Ain El Ouahch 34.42 75 P **P 10 15 53.5 +0.4**
CAEH 'Ain El Ouahch 34.42 75 P **P 10 15 53.5 +0.4**
WTSB Winterswijk 34.56 48 *e*P **P 10 15 54.0 0.0**
comp=Z,219nm,2.0s
WTSB Winterswijk 34.56 48 *e*P **P 10 15 54.0 0.0**
comp=Z,219nm,2.0s
BUG Bochum--Univer 34.74 49 *e*P **P 10 15 56.0 +0.4**
comp=Z,171nm,1.7s
BUG Bochum--Univer 34.74 49 *e*P **P 10 15 56.0 +0.4**
comp=Z,171nm,1.7s
FRB Frobisher Bay 34.76 335 P P 10 15 49.5 -6.1
ALLY Alegheny Colle 34.89 294 *e*P **P 10 15 58.8 +1.7**
comp=Z,64nm,1.1s
ALLY Alegheny Colle 34.89 294 *e*P **P 10 15 58.8 +1.7**
comp=Z,64nm,1.1s
ALLY LR LR

WERD	**Werda**	**37.77**	**51**	*e*P		**P**	**10 16 21.6**	**+0.1**
	comp=Z,104nm,2.1s								
WERD	**Werda**	**37.77**	**51**	*e*P		**P**	**10 16 21.6**	**+0.1**
	comp=Z,104nm,2.1s								
GUNZ	**Gunzen**	**37.78**	**51**	*e*P		**P**	**10 16 22.0**	**+0.4**
	comp=Z,81nm,1.8s								
GUNZ	**Gunzen**	**37.78**	**51**	*e*P		**P**	**10 16 22.0**	**+0.4**
	comp=Z,81nm,1.8s								
WERN	**Wernitzgruen**	**37.80**	**51**	*e*P		**P**	**10 16 22.2**	**+0.4**
	comp=Z,142nm,1.9s								
WERN	**Wernitzgruen**	**37.80**	**51**	*e*P		**P**	**10 16 22.2**	**+0.4**
	comp=Z,142nm,1.9s								
NKC	**Novy Kostel**	**37.84**	**52**	*e*P		**P**	**10 16 20.5**	**-1.7**
NKC				*e*pP		**pP**	**10 16 22.4**	**-4.5**
NKC				*e*x		x	10 16 33.4	
NKC				*e*PP		**PP**	**10 17 46.8**	**-1.7**
NKC				*e*S		**S**	**10 22 17.9**	**+5.3**
NKC				AMS		AMS	10 30 20.0	
	comp=Z,14µm,13.2s								
NKC	**Novy Kostel**	**37.84**	**52**	*e*P		**P**	**10 16 20.5**	**-1.7**
TANN	**Tannenbergstha**	**37.86**	**51**	*e*P		**P**	**10 16 22.5**	**+0.1**
	comp=Z,70nm,1.8s								
RJOB	**Jochberg**	**37.95**	**56**	*e*P		**P**	**10 16 23.4**	**+0.2**
	comp=Z,96nm,1.9s								
GLMI	**Grayling**	**37.96**	**300**	*e*P		**P**	**10 16 25.8**	**+2.5**
	comp=Z,92nm,0.8s								
GLMI	**Grayling**	**37.96**	**300**	*e*P		**P**	**10 16 25.8**	**+2.5**
	comp=Z,92nm,0.8s								
GLMI				LR		LR			
	comp=Z,2µm,20.0s								
WET	**Wettzell**	**38.05**	**53**	*e*P		**P**	**10 16 23.9**	**-0.1**
	comp=Z,91nm,2.0s								
KONO	**Kongsberg**	**38.15**	**36**	PFAKE			10 16 40.0	+15
KONO				LR		LR			
	comp=Z,16µm,21.0s								
TZTN	**Tazewell**	**38.27**	**286**	*e*P		**P**	**10 16 25.7**	**-0.3**
	comp=Z,51nm,1.2s								
TZTN	**Tazewell**	**38.27**	**286**	*e*P		**P**	**10 16 25.7**	**-0.3**
	comp=Z,51nm,1.2s								
CLL	**Collm**	**38.28**	**50**	*e*P		**P**	**10 16 26.0**	**+0.2**
	comp=Z,99nm,1.9s								
CLL	**Collm**	**38.28**	**50**	*e*P		**P**	**10 16 24.0**	**-1.8**
	comp=Z,38nm,1.9s								
CLL				*i* pP		**pP**	**10 16 28.1**	**-2.5**
	comp=Z,98nm,1.9s								
CLL				*i*			10 16 40.4		
CLL				*e*PP		**PP**	**10 17 50.0**	**-3.3**
CLL				*i* PPP		PPP	10 18 11.4		
CLL				*e*S		**S**	**10 22 24.0**	**+4.8**
CLL				*e*SS		**SS**	**10 25 06.0**	**-1.4**
CLL				*e*SSS		SSS	10 25 21.0		
CLL				LmV			10 29 00.0		
	comp=Z,24µm,21.7s								
CLL				Lm		MLR	14 16 00.0		
	comp=Z,400nm,19.8s								
CLL	**Collm**	**38.28**	**50**	*e*P		**P**	**10 16 26.3**	**+0.5**
	comp=Z,30nm,1.1s								
CLL	**Collm**	**38.28**	**50**	*e*P		**P**	**10 16 26.3**	**+0.5**
	comp=Z,30nm,1.1s								
CLL				LR		LR			
	comp=Z,32µm,22.0s								
KBA	**Koelnbreinsper**	**38.32**	**57**	⇓*i*P		**P**	**10 16 25.1**	**-1.4**
	comp=Z,862nm,5.6s,SNR=12								
FBE	**Freiberg**	**38.47**	**50**	*e*P		**P**	**10 16 27.7**	**+0.3**
	comp=Z,133nm,1.9s								
KHC	**Kasperske Hory**	**38.51**	**53**	*e*P		**P**	**10 16 27.6**	**-0.2**
KHC				*e*x		x	10 16 39.3		
KHC				*e*PP		**PP**	**10 17 51.9**	**-4.0**
KHC				*e*S		**S**	**10 22 23.4**	**+0.6**
KHC				AMS		AMS	10 30 50.0		
	comp=Z,12µm,12.8s								
KHC	**Kasperske Hory**	**38.51**	**53**	*e*P		**P**	**10 16 27.6**	**-0.2**
KHC				*e*S		**S**	**10 22 23.4**	**+0.6**
MYKA	**Terra Mystica**	**38.53**	**57**⇑	*i*P		**P**	**10 16 26.7**	**-1.3**
	comp=Z,442nm,4.5s,SNR=7.0								
COP	**Copenhagen**	**38.58**	**43**	*i* P		**P**	**10 16 30.2**	**+2.0**
COP				*e*S		S	10 22 30.5	+7.0	
COP	**Copenhagen**	**38.58**	**43**	*e*P		**P**	**10 16 30.2**	**+2.0**
	comp=Z,11µm,17.0s								
GEC2	**GERESS Array S**	**38.58**	**54**	*e*P		**P**	**10 16 28.6**	**+0.1**
	comp=Z,83nm,1.9s								
GEC2	**GERESS Array S**	**38.58**	**54**	*e*P		**P**	**10 16 29.2**	**+0.7**
GEC2	**GERESS Array S**	**38.58**	**54**	*e*P		**P**	**10 16 29.2**	**+0.7**
GERES	**GERESS Array B**	**38.58**	**54**	P		**P**	**10 16 28.6**	**+0.1**
CADS	**Cadrg**	**38.61**	**58**	*e*P		**P**	**10 16 30.1**	**+1.5**
CADS				*e*S		**S**	**10 22 26.2**	**+1.8**
AQU	**L'Aquila**	**38.64**	**64**	*e*P		**P**	**10 16 29.5**	**+0.5**
	comp=Z,115nm,1.3s								
AQU	**L'Aquila**	**38.64**	**64**	*e*P		**P**	**10 16 29.5**	**+0.5**
	comp=Z,115nm,1.3s								
AQU				LR		LR			
	comp=Z,28µm,22.0s								
TRI	**Trieste**	**38.64**	**59**	PFAKE			10 16 40.0	+11	
TRI				LR		LR			
	comp=Z,13µm,22.0s								
TKL	**Tuckaleechee C**	**38.65**	**285**	*e*P		**P**	**10 16 28.6**	**-0.6**
TKL	**Tuckaleechee C**	**38.65**	**285**	*e*P		**P**	**10 16 28.6**	**-0.6**
BRG	**Berggiesshubel**	**38.84**	**51**	*e*P		**P**	**10 16 30.3**	**-0.2**
	comp=Z,127nm,1.9s								
BRG				PP		**PP**	**10 17 56.0**	**-3.4**
BRG				S		**S**	**10 22 25.0**	**-2.6**
BRG				SS		SnSn	10 25 04.0	-13	
	comp=N,12µm,12.9s								
	comp=E,15µm,15.1s								
	comp=Z,26µm,16.6s								
BRG	**Berggiesshubel**	**38.84**	**51**	*e*P		**P**	**10 16 30.6**	**+0.1**
	comp=Z,127nm,1.9s								
BRG	**Berggiesshubel**	**38.84**	**51**	*e*P		**P**	**10 16 30.3**	**-0.2**
	comp=Z,127nm,1.9s								
BRG				S		**S**	**10 22 25.0**	**-2.6**
RUE	**Ruedersdorf**	**38.88**	**48**	*e*P		**P**	**10 16 31.1**	**+0.3**
	comp=Z,189nm,1.5s								
RUE	**Ruedersdorf**	**38.88**	**48**	PFAKE			10 16 40.0	+9.2	
RUE				LR		LR			
	comp=Z,30µm,22.0s								
RGN	**Rugen**	**38.88**	**45**	PFAKE			10 16 40.0	+9.2	
RGN				LR		LR			
	comp=Z,43µm,19.0s								
MOA	**Molln**	**38.95**	**55**⇑	*i*P		**P**	**10 16 30.9**	**-0.6**
	comp=Z,811nm,5.0s,SNR=12								
GOGA	**Godfrey**	**38.99**	**281**	*e*P		P	10 16 37.5	+5.5	
	comp=Z,113nm,1.8s								
GOGA	**Godfrey**	**38.99**	**281**	*e*P		P	10 16 37.5	+5.5	
	comp=Z,113nm,1.8s								
PRA	**Prague**	**39.10**	**52**	*e*P		**P**	**10 16 33.3**	**+0.6**
PRA				*e*x		x	10 16 45.1		
PRA				*e*PP		**PP**	**10 18 01.5**	**-0.8**
PRA				*e*S		**S**	**10 22 34.0**	**+2.4**
PRA				AMS		AMS	10 33 00.0		
	comp=Z,18µm,14.5s								
PRA	**Prague**	**39.10**	**52**	*e*P		**P**	**10 16 33.3**	**+0.6**
PRA				*e*S		**S**	**10 22 34.0**	**+2.4**
OBKA	**Obir**	**39.16**	**58**⇑	*i*P		**P**	**10 16 32.6**	**-0.8**
	comp=Z,348nm,2.9s,SNR=6.5								
LJU	**Ljubljana**	**39.16**	**58**	*e*P		**P**	**10 16 33.7**	**+0.4**
LJU				*e*S		**S**	**10 22 34.3**	**+1.7**
PRU	**Pruhonice**	**39.17**	**52**	*e*P		**P**	**10 16 31.5**	**-1.8**
PRU				*e*PP		**PP**	**10 17 58.0**	**-5.0**
PRU				*e*S		**S**	**10 22 35.4**	**+2.8**
PRU				AMS		AMS	10 33 10.0		
	comp=Z,15µm,14.8s								
PRU	**Pruhonice**	**39.17**	**52**	*e*P		**P**	**10 16 31.5**	**-1.8**
PRU				*e*S		**S**	**10 22 35.4**	**+2.8**
	comp=Z,15µm,14.8s								
NBO02	**NORSAR Array S**	**39.20**	**34**	*e*P		**P**	**10 16 32.4**	**-1.0**
NBO02	**NORSAR Array S**	**39.20**	**34**	*e*P		**P**	**10 16 32.4**	**-1.0**
PVCC	**Panska Ves**	**39.22**	**51**	*e*P		**P**	**10 16 34.4**	**+0.7**
PVCC				*e*PP		**PnPn**	**10 18 05.0**	**-1.2**
PVCC				*e*S		**S**	**10 22 31.1**	**-2.2**
PVCC				AMS		AMS	10 31 50.0		
	comp=Z,23µm,15.0s								
PVCC	**Panska Ves**	**39.22**	**51**	*e*P		**P**	**10 16 34.4**	**+0.7**
PVCC				*e*S		**S**	**10 22 31.1**	**-2.2**
	comp=Z,23µm,15.0s								
CPCT	**Cooper Cave**	**39.30**	**285**	*e*P		P	10 16 38.3	+3.8	
CPCT	**Cooper Cave**	**39.30**	**285**	*e*P		P	10 16 38.4	+3.8	
GOPC	**GO Pecny, Ondr**	**39.33**	**52**	*e*P		**P**	**10 16 33.7**	**-0.9**
GOPC				*e*x		x	10 16 46.4		
GOPC				*e*PP		**PnPn**	**10 18 06.7**	**-0.8**
GOPC				*e*S		**S**	**10 22 37.2**	**+2.2**
GOPC				AMS		AMS	10 32 40.0		
	comp=Z,15µm,13.5s								
NB2	**NORSAR Subarra**	**39.37**	**34**	P		**P**	**10 16 33.3**	**-1.5**
	comp=Z,193nm,2.0s,baz=252,slow=8.6								
NB2	**NORSAR Subarra**	**39.37**	**34**	P		**P**	**10 16 33.3**	**-1.5**
	comp=Z,193nm,2.0s,SNR=2.0								
NB200	**NORSAR Array S**	**39.37**	**34**	*e*P		**P**	**10 16 33.0**	**-1.8**
NB200	**NORSAR Array S**	**39.37**	**34**	*e*P		**P**	**10 16 33.0**	**-1.8**
NOA	**NORSAR Array B**	**39.37**	**34**	P		**P**	**10 16 33.0**	**-1.8**
SOKA	**Soboth**	**39.49**	**57**⇑	*i*P		**P**	**10 16 34.4**	**-1.7**
	comp=Z,153nm,3.0s,SNR=10								
BOJS	**Bojanci**	**39.70**	**59**	*e*P		**P**	**10 16 37.7**	**0.0**
BOJS				*e*S		**S**	**10 22 41.5**	**+0.9**
BOJS				*e*SS		SnSn	10 25 48.4	+10	
TREC	**Trest**	**39.77**	**53**	*e*P		**P**	**10 16 38.0**	**-0.3**
TREC				*e*pP		**pP**	**10 16 41.1**	**-2.0**
TREC				*e*PP		**PP**	**10 18 09.9**	**+0.3**
TREC				*e*S		**S**	**10 22 45.6**	**+3.9**
TREC				AMS		AMS	10 31 40.0		
	comp=Z,14µm,13.1s								
TREC	**Trest**	**39.77**	**53**	*e*P		**P**	**10 16 38.0**	**-0.3**
ARSA	**Arzberg**	**39.81**	**56**⇓	*i*P		**P**	**10 16 37.3**	**-1.4**
	comp=Z,265nm,3.1s,SNR=6.8								
BSD	**Bornholm Skovb**	**39.88**	**44**	*i* P		**P**	**10 16 39.5**	**+0.4**
BSD				*e*S		**S**	**10 22 46.4**	**+3.3**
	comp=Z,24µm,13.0s								
BSD	**Bornholm Skovb**	**39.88**	**44**	*e*P		**P**	**10 16 39.5**	**+0.4**
	comp=Z,24µm,13.0s								
CONA	**Conrad Observa**	**40.02**	**55**⇓	*i*P		**P**	**10 16 38.4**	**-2.1**
	comp=Z,533nm,4.7s,SNR=6.5								
BLO	**Bloomington**	**40.05**	**291**	*e*P		**P**	**10 16 42.8**	**+2.1**
	comp=Z,110nm,1.6s								
BLO	**Bloomington**	**40.05**	**291**	*e*P		**P**	**10 16 42.9**	**+2.1**
	comp=Z,110nm,1.6s								
WCI	**Wyandotte Cave**	**40.05**	**290**	*e*P		**P**	**10 16 42.4**	**+1.6**
	comp=Z,34nm,1.2s								
WCI	**Wyandotte Cave**	**40.05**	**290**	*e*P		**P**	**10 16 42.4**	**+1.6**
	comp=Z,34nm,1.2s								
WCI				LR		LR			
	comp=Z,2µm,20.0s								
UPC	**Upice**	**40.13**	**51**	*e*P		**P**	**10 16 41.3**	**0.0**
UPC	**Upice**	**40.13**	**51**	*e*P		**P**	**10 16 41.3**	**0.0**
TIC	**Toumodi**	**40.24**	**128**	*e*P		**P**	**10 16 40.3**	**-2.3**
HFS	**Hagfors**	**40.27**	**36**	P		**P**	**10 16 40.5**	**-1.8**
SFIN	**Lafayette**	**40.27**	**293**	*e*P		**P**	**10 16 42.6**	**+0.1**
	comp=Z,67nm,1.4s								
SFIN	**Lafayette**	**40.27**	**293**	*e*P		**P**	**10 16 42.6**	**+0.1**
	comp=Z,68nm,1.4s								
SFIN				LR		LR			
	comp=Z,5µm,20.0s								
SFIN	**Lafayette**	**40.27**	**293**	⇓P		**P**	**10 16 41.2**	**-1.4**
	baz=40								
KSP	**Ksiaz**	**40.32**	**51**	*e*P		**P**	**10 16 42.6**	**-0.3**
KSP				*e*pP		**pP**	**10 16 45.7**	**-2.0**
KSP				*e*S		S	10 22 56.1	+6.2	
KSP				LMZ		LR	10 29 01.0		
KSP	**Ksiaz**	**40.32**	**51**	*e*P		**P**	**10 16 42.6**	**-0.3**
DBIC	**Dimbokro**	**40.33**	**128**	*e*P		**P**	**10 16 41.5**	**-1.8**
	comp=Z,141nm,1.5s								
DPC	**Dobruska-Polom**	**40.33**	**52**	*e*P		**P**	**10 16 41.4**	**-1.6**
DPC				*e*pP		**P**	**10 16 43.1**	**+0.1**
DPC				*e*x		x	10 16 50.0		
DPC				*e*PP		**PP**	**10 18 13.3**	**-2.4**
DPC				*e*S		**S**	**10 22 54.8**	**+4.7**
DPC				AMS		AMS	10 33 20.0		
	comp=Z,14µm,15.1s								
DPC	**Dobruska-Polom**	**40.33**	**52**	*e*P		**P**	**10 16 43.2**	**+0.2**
	comp=Z,445nm,1.5s								
DPC	**Dobruska-Polom**	**40.33**	**52**	*e*P		**P**	**10 16 43.2**	**+0.2**
	comp=Z,445nm,1.5s								
DPC				LR		LR			
	comp=Z,130µm,19.0s								
TOA0	**Torodi Ar. Sit**	**40.44**	**114**	*e*P		**P**	**10 16 41.3**	**-2.9**
TOA0	**Torodi Ar. Sit**	**40.44**	**114**	*e*P		**P**	**10 16 41.3**	**-2.9**
TORD	**Torodi Ar. Bea**	**40.44**	**114**	P		**P**	**10 16 41.0**	**-3.2**
SWET	**Sewanee**	**40.47**	**285**	*e*P		**P**	**10 16 43.7**	**-0.6**
SWET	**Sewanee**	**40.47**	**285**	*e*P		**P**	**10 16 43.7**	**-0.6**
VRAC	**Vranov**	**40.49**	**53**	⇓*i*P		**P**	**10 16 44.5**	**+0.2**
VRAC	**Vranov**	**40.49**	**53**	P		**P**	**10 16 43.5**	**-0.8**
SOP	**Sopron**	**40.49**	**56**	⇓*e*P		**P**	**10 16 43.2**	**-1.1**
MTDJ	**Mount Denham**	**40.51**	**256**	*e*P		**P**	**10 16 44.2**	**-0.7**
	comp=Z,146nm,1.4s								
MTDJ	**Mount Denham**	**40.51**	**256**	*e*P		**P**	**10 16 44.2**	**-0.7**
	comp=Z,146nm,1.4s								
MTDJ				LR		LR			
	comp=Z,5µm,22.0s								
LIC	**Lamto**	**40.55**	**128**	*e*P		**P**	**10 16 43.4**	**-1.7**
	comp=Z,93nm,1.1s,baz=320								
LIC				*e*R					
	comp=Z,30µm,21.0s								
LIC	**Lamto**	**40.55**	**128**	*e*P		**P**	**10 16 43.4**	**-1.7**
	comp=Z,35nm,1.1s								
LIC	**Lamto**	**40.55**	**128**	*e*P		**P**	**10 16 43.4**	**-1.7**
	comp=Z,93nm,1.1s								
KRLC	**Kraliky**	**40.62**	**52**	*e*P		**P**	**10 16 45.5**	**+0.1**
KRLC	**Kraliky**	**40.62**	**52**	*e*P		**P**	**10 16 45.5**	**+0.1**
KIC	**Kosan Boka**	**40.64**	**128**	*e*P		**P**	**10 16 44.2**	**-1.6**
	comp=Z,45nm,1.1s								
WDD	**Wield Dalam**	**40.67**	**74**	*e*P		**P**	**10 16 47.9**	**+2.0**
	comp=Z,288nm,1.4s								
WDD	**Wield Dalam**	**40.67**	**74**	*e*P		**P**	**10 16 47.9**	**+2.0**
	comp=Z,288nm,1.4s								
WDD				LR		LR			
	comp=Z,12µm,20.0s								
BEHE	**Becsehely**	**40.70**	**57**⇓	*e*P		**P**	**10 16 47.5**	**+1.5**
KULLO	**Kullorsuaq**	**40.71**	**351**	*i* P		**P**	**10 16 46.2**	**+0.5**
KULLO				*e*S		**S**	**10 22 53.3**	**-1.7**
CUC	**Castrocucco**	**40.78**	**67**	*e*P		**P**	**10 16 47.2**	**+0.3**
	comp=Z,134nm,1.3s								
CUC	**Castrocucco**	**40.78**	**67**	*e*P		**P**	**10 16 47.2**	**+0.3**
	comp=Z,134nm,1.3s								
CUC				LR		LR			
	comp=Z,15µm,20.0s								
RCBR	**Riachuelo**	**40.89**	**180**	P		**P**	**10 16 45.4**	**-2.5**
RCBR				LR		LR			
	comp=Z,12µm,21.0s								
GKP	**Gorka Klasztor**	**41.04**	**47**	*e*P		**P**	**10 16 49.3**	**+0.6**
GKP				*e*pP		**pP**	**10 16 52.9**	**-0.6**
GKP				LMZ		LR	10 30 10.5		
GKP	**Gorka Klasztor**	**41.04**	**47**	*e*P		**P**	**10 16 49.4**	**+0.7**
COWI	**Conover**	**41.06**	**302**	*e*P		**P**	**10 16 48.4**	**-0.7**
	comp=Z,80nm,1.6s								
COWI	**Conover**	**41.06**	**302**	*e*P		**P**	**10 16 48.4**	**-0.7**
	comp=Z,80nm,1.6s								
COWI				LR		LR			
	comp=Z,3µm,19.0s								
MORC	**Moravsky Berou**	**41.11**	**52**	⇓*i*P		**P**	**10 16 50.4**	**+1.0**
MORC	**Moravsky Berou**	**41.11**	**52**	*e*P		**P**	**10 16 49.3**	**-0.1**
	comp=Z,96nm,2.0s								
MORC	**Moravsky Berou**	**41.11**	**52**	*e*P		**P**	**10 16 49.3**	**-0.1**
	comp=Z,96nm,2.0s								
MORC				LR		LR			
	comp=Z,12µm,21.0s								
SDV	**Santo Domingo**	**41.16**	**239**	*e*P		**P**	**10 16 52.1**	**+1.8**
	comp=Z,87nm,1.3s								
SDV	**Santo Domingo**	**41.16**	**239**	*e*P		**P**	**10 16 52.1**	**+1.8**
	comp=Z,87nm,1.3s								
SDV				LR		LR			
	comp=Z,1µm,21.0s								
CEL	**Celeste**	**41.18**	**70**	*e*P		**P**	**10 16 50.6**	**+0.4**
	comp=Z,88nm,1.7s								
CEL	**Celeste**	**41.18**	**70**	*e*P		**P**	**10 16 50.6**	**+0.4**
	comp=Z,88nm,1.7s								
CEL				LR		LR			
	comp=Z,20µm,22.0s								
OLIL	**Olney**	**41.34**	**291**	*e*P		**P**	**10 16 51.5**	**+0.1**
	comp=Z,80nm,1.4s								
OLIL	**Olney**	**41.34**	**291**	*e*P		**P**	**10 16 51.5**	**+0.1**
	comp=Z,80nm,1.4s								
OLIL				LR		LR			
	comp=Z,3µm,18.0s								
OKC	**Ostrava-Krasne**	**41.50**	**52**	*e*P		**P**	**10 16 52.2**	**-0.4**
OKC				*e*x		x	10 17 04.4		
OKC				*e*PP		**PP**	**10 18 28.6**	**+0.2**
OKC				*e*S		**S**	**10 23 06.1**	**-1.3**
OKC				AMS		AMS	10 34 20.0		
	comp=Z,11µm,15.8s								
OKC	**Ostrava-Krasne**	**41.50**	**52**	*e*P		**P**	**10 16 52.2**	**-0.4**
OKC				*e*S		**S**	**10 23 06.1**	**-1.3**
PKST	**T˜'s**	**41.51**	**56**	*e*P		**P**	**10 16 52.4**	**-0.4**
RAC	**Raciborz**	**41.53**	**52**	*e*P		**P**	**10 16 54.8**	**+2.0**
RAC				*e*S		**S**	**10 23 07.6**	**-0.2**
TIP	**Timpagrande**	**41.65**	**68**	*e*P		**P**	**10 16 54.4**	**+0.3**
	comp=Z,31nm,1.2s								
TIP	**Timpagrande**	**41.65**	**68**	*e*P		**P**	**10 16 54.4**	**+0.3**
	comp=Z,31nm,1.2s								
TIP				LR		LR			
	comp=Z,17µm,22.0s								
PKS9	**Tamasi**	**41.73**	**57**	*e*P		**P**	**10 16 54.3**	**-0.2**
WVT	**Waverly**	**41.73**	**287**	*e*P		**P**	**10 16 54.0**	**-0.6**
	comp=Z,46nm,1.4s								
WVT	**Waverly**	**41.73**	**287**	*e*P		**P**	**10 16 54.0**	**-0.6**
	comp=Z,46nm,1.4s								
PKSG		**41.75**	**56**	*e*P		**P**	**10 16 53.7**	**-0.9**
HDIL	**Hopedale**	**41.89**	**294**	*e*P		**P**	**10 16 57.3**	**+1.4**
	comp=Z,65nm,1.3s								
HDIL	**Hopedale**	**41.89**	**294**	*e*P		**P**	**10 16 57.3**	**+1.4**
	comp=Z,65nm,1.3s								
HDIL				LR		LR			
	comp=Z,300nm,20.0s								
LRAL	**Lakeview Retre**	**41.93**	**282**	*e*P		**P**	**10 16 58.9**	**+2.6**
	comp=Z,365nm,2.8s								
LRAL	**Lakeview Retre**	**41.93**	**282**	*e*P		**P**	**10 16 58.9**	**+2.6**
	comp=Z,365nm,2.8s								
VYHS	**Vyhne**	**41.99**	**54**	*e*P		**P**	**10 16 56.1**	**-0.5**
	comp=Z,45nm,2.2s								
VYHS	**Vyhne**	**41.99**	**54**	*e*P		**P**	**10 16 56.1**	**-0.5**
VYHS				*e*S		**S**	**10 23 12.5**	**-2.2**
PKSM	**Moragy**	**42.01**	**58**⇑	*i*P		**P**	**10 16 56.7**	**-0.1**
PKSM	**Moragy**	**42.01**	**58**⇑	*i*P		**P**	**10 16 56.7**	**-0.1**
PKSM	**Moragy**	**42.01**	**58**⇓	*e*P		**P**	**10 16 56.0**	**-0.8**
BUD	**Budapest**	**42.17**	**56**⇓	*e*P		**P**	**10 16 57.3**	**-0.8**
JFWS	**Jewell Farm**	**42.20**	**297**	*e*P		**P**	**10 16 59.7**	**+1.2**
	comp=Z,32nm,0.9s								
JFWS	**Jewell Farm**	**42.20**	**297**	*e*P		**P**	**10 16 59.6**	**+1.2**
	comp=Z,32nm,0.9s								
JFWS				LR		LR			
	comp=Z,3µm,20.0s								
PKS2	**Kecel**	**42.38**	**57**	*e*P		**P**	**10 17 00.7**	**+0.9**
EYMN	**Ely**	**42.54**	**305**	*e*P		**P**	**10 17 00.0**	**-1.2**
	comp=Z,85nm,1.4s								
EYMN	**Ely**	**42.54**	**305**	*e*P		**P**	**10 17 00.0**	**-1.2**
	comp=Z,85nm,1.4s								
EYMN				LR		LR			
	comp=Z,6µm,21.0s								
OJC	**Ojcow**	**42.56**	**52**	*e*P		**P**	**10 17 00.8**	**-0.4**
OJC				*e*pP		**pP**	**10 17 04.1**	**-1.9**
OJC				*e*S		**S**	**10 23 27.7**	**+4.6**
OJC				LMZ		LR	10 30 08.8		
OJC	**Ojcow**	**42.56**	**52**	*e*P		**P**	**10 17 01.3**	**+0.1**
	comp=Z,133nm,1.6s								
OJC	**Ojcow**	**42.56**	**52**	*e*P		**P**	**10 17 01.3**	**+0.1**
	comp=Z,133nm,1.6s								
PSZ	**Piszkesteto**	**42.73**	**55**⇓	*i*P		**P**	**10 17 03.3**	**+0.6**
PSZ	**Piszkesteto**	**42.73**	**55**	*e*P		**P**	**10 17 02.7**	**0.0**
	comp=Z,100nm,1.7s								
PSZ	**Piszkesteto**	**42.73**	**55**	*e*P		**P**	**10 17 02.7**	**0.0**
	comp=Z,100nm,1.7s								
PSZ				LR		LR			
	comp=Z,14µm,19.0s								
PSZ	**Piszkesteto**	**42.73**	**55**⇓	*e*P		**P**	**10 17 02.0**	**-0.7**
SLM	**Saint Louis**	**42.99**	**291**	*e*P		**P**	**10 17 06.2**	**+1.3**
	comp=Z,77nm,1.2s								
SLM	**Saint Louis**	**42.99**	**291**	*e*P		**P**	**10 17 06.2**	**+1.3**
	comp=Z,77nm,1.2s								
PVMO	**Portageville**	**43.12**	**288**	PFAKE			10 17 20.0	+14	
PVMO				LR		LR			
	comp=Z,3µm,19.0s								
BEL	**Belsk**	**43.16**	**49**	*e*P		**P**	**10 17 06.2**	**+0.1**
BEL				*e*pP		**pP**	**10 17 10.0**	**-0.9**
BEL				LMZ		LR	10 30 25.8		
BEL	**Belsk**	**43.16**	**49**	*e*P		**P**	**10 17 06.2**	**+0.1**
DIVS	**Divibare**	**43.20**	**61**	P		**P**	**10 17 06.5**	**-0.2**
DIVS	**Divibare**	**43.20**	**61**⇑	*i*P		**P**	**10 17 06.4**	**-0.2**
DIVS	**Divibare**	**43.20**	**61**⇑	*i*P		**P**	**10 17 06.4**	**-0.2**
OXF	**Oxford**	**43.41**	**285**	*e*P		**P**	**10 17 07.7**	**-0.7**
	comp=Z,133nm,1.0s								
OXF	**Oxford**	**43.41**	**285**	*e*P		**P**	**10 17 07.7**	**-0.7**
	comp=Z,133nm,1.0s								
STHS	**Stebnicka Huta**	**43.53**	**53**	*e*P		**P**	**10 17 10.1**	**+1.0**
	comp=Z,11nm,1.4s								
STHS	**Stebnicka Huta**	**43.53**	**53**	*e*P		**P**	**10 17 10.1**	**+1.0**
TIR	**Tirane**	**43.56**	**65**	*e*P		P	10 17 13.4	+4.0	
TIR	**Tirane**	**43.56**	**65**	*e*P		P	10 17 13.4	+4.0	
PBMO	**Poplar Bluff**	**43.59**	**289**	PFAKE			10 17 20.0

baz=48
340A Bronson 47.98 283 ⇑P P 10 17 43.4 -1.1
baz=48
TUL1 Leonard 47.99 289 *e*P P 10 17 43.0 -1.5
comp=Z,58nm,1.2s
TUL1 Leonard 47.99 289 *e*P P 10 17 43.0 -1.5
comp=Z,58nm,1.2s
TUL1 LR LR
comp=Z,2µm,19.0s
TUL1 Leonard 47.99 289 ⇑P P 10 17 42.2 -2.3
baz=48
Q34A Chapman 48.00 293 ⇓P P 10 17 42.8 -1.7
baz=48
X37A Clayton 48.07 287 ⇓P P 10 17 43.4 -1.8
baz=48,SNR=17
D29A Pettibone, Tap 48.10 305 ⇑P P 10 17 44.1 -1.2
baz=48
G30A Faulkton 48.15 302 ⇓P P 10 17 43.5 -2.2
baz=48
BRSD Miller 48.15 301 *e*P P 10 17 49.6 +3.9
comp=Z,92nm,1.1s
BRSD LR LR
comp=Z,4µm,18.0s
BRSD Miller 48.15 301 ⇓P P 10 17 43.7 -2.1
baz=48
RES Resolute Bay 48.21 342 *e*P P 10 17 46.2 +0.6
comp=Z,73nm,1.1s
RES Resolute Bay 48.21 342 *e*P P 10 17 46.2 +0.6
comp=Z,73nm,1.1s
Z38A Mt. Pleasant 48.21 285 ⇑P P 10 17 44.9 -1.4
baz=48
ALN Alexandroupoli 48.21 64 P P 10 17 45.8 -0.4
ALN Alexandroupoli 48.21 64 P P 10 17 45.8 -0.4
ALN Alexandroupoli 48.21 64 P P 10 17 45.8 -0.4
E29A Napoleon 48.22 304 ⇑P P 10 17 44.0 -2.2
baz=48
239A Gary 48.23 284 ⇓P P 10 17 44.6 -1.8
baz=48
JMB Yambol 48.23 62 ⇓*i*P P 10 17 46.9 +0.6
JMB Yambol 48.23 62 P P 10 17 44.8 -1.5
JMB Yambol 48.23 62 ⇓*i*P P 10 17 46.9 +0.6
T35A Sooner Cattle 48.24 291 ⇑P P 10 17 44.2 -2.2
baz=48
A28A Rude Farm, Bot 48.24 307 ⇑P P 10 17 44.8 -1.6
baz=48
SPA0 Spitsbergen Ar 48.25 13 *e*P P 10 17 43.8 -2.2
SPA0 Spitsbergen Ar 48.25 13 *e*P P 10 17 43.8 -2.2
SPITS Spitsbergen Ar 48.25 13 P P 10 17 43.8 -2.2
BGNE Belgrade 48.26 297 PFAKE 10 18 00.0 +13
BGNE LR LR
comp=Z,4µm,21.0s
BGNE Belgrade 48.26 297 ⇓P P 10 17 44.6 -1.9
baz=48,SNR=12
B28A Dugan Ranch, T 48.38 307 ⇑P P 10 17 45.3 -2.1
baz=48,SNR=7.8
P33A Williams Farm, 48.42 294 ⇓P P 10 17 46.0 -1.9
baz=48
S34A Willow Spring 48.47 292 ⇓P P 10 17 46.6 -1.6
baz=48
NATX Nacogdoches 48.47 283 *e*P P 10 17 50.0 +1.7
comp=Z,547nm,2.5s
F29A Eureka 48.48 303 ⇓P P 10 17 46.5 -1.7
baz=48
BOZC Bozcaada 48.49 65 *i*P P 10 17 51.2 +2.9
AK11 Malin Array Si 48.49 50 *e*P P 10 17 46.2 -1.9
AK11 Malin Array Si 48.49 50 *e*P P 10 17 46.2 -1.9
EDRB Edirne 48.49 62 P P 10 17 51.2 +2.9
EDRB Edirne 48.49 62 P P 10 17 51.2 +2.9
EDRB Edirne 48.49 62 P P 10 17 51.2 +2.9
138A Matatall Enter 48.49 285 ⇑P P 10 17 47.1 -1.4
baz=48
KIEV Kiev 48.51 50 *e*P P 10 17 47.6 -0.7
comp=Z,75nm,1.2s
KIEV Kiev 48.51 50 *e*P P 10 17 47.6 -0.7
comp=Z,75nm,1.2s
KIEV LR LR
comp=Z,14µm,18.0s
C28A Hausauer Farms 48.52 306 ⇓P P 10 17 46.9 -1.6
baz=48
AKASG Malin Array Be 48.52 50 P P 10 17 46.4 -2.0
AKBB Malin Array Si 48.52 50 *e*P P 10 17 46.4 -2.0
AKBB Malin Array Si 48.52 50 *e*P P 10 17 46.4 -2.0
N32A Stulken Farm, 48.52 296 ⇑P P 10 17 47.0 -1.7
baz=48
339A Huntington 48.54 283 ⇑P P 10 17 47.6 -1.2
baz=48
W36A Wetumka 48.56 288 ⇑P P 10 17 47.4 -1.5
baz=48
L31A Butterfield Fa 48.57 298 ⇓P P 10 17 46.9 -2.1
baz=48,SNR=12
I30A Oacoma 48.60 300 ⇓P P 10 17 46.7 -2.4
baz=48
FFC Flin Flon 48.62 315 *e*P P 10 17 50.2 +1.1
comp=Z,71nm,1.1s
FFC Flin Flon 48.62 315 *e*P P 10 17 50.2 +1.1
comp=Z,71nm,1.1s
FFC LR LR
comp=Z,6µm,18.0s
O32A Brockman Farm, 48.64 295 ⇓P P 10 17 47.0 -2.5
baz=48,SNR=12
Q33A Connelly Farm, 48.65 294 ⇓P P 10 17 47.3 -2.3
baz=48
G29A Hoven 48.67 302 ⇓P P 10 17 47.5 -2.2
baz=48
T34A McClaskey Farm 48.72 291 ⇓P P 10 17 47.6 -2.6
baz=49
Z37A Pogue Cattle C 48.73 286 ⇑P P 10 17 48.5 -1.7
baz=49
D28A Regan 48.73 305 ⇓P P 10 17 48.4 -1.7
baz=49
CFR Carcaliu 48.74 58 ⇓*i*P P 10 17 49.7 -0.4
238A Jacksonville 48.75 284 ⇑P P 10 17 48.5 -2.0
baz=49
MSAB Monastry St. A 48.75 59 ⇓*i*P P 10 17 50.1 -0.1
J30A Dallas 48.77 300 ⇑P P 10 17 48.6 -2.0
baz=49
TLB Topalu 48.80 59 ⇓*i*P P 10 17 48.7 -1.9
V35A Meyer Ranch, C 48.84 289 ⇑P P 10 17 49.0 -2.1
baz=49
X36A Centrahoma 48.84 288 ⇓P P 10 17 49.0 -2.2
baz=49
KIS Kishinev 48.85 55 *e*P P 10 17 48.0 -3.0
comp=Z,200nm,1.8s
KIS Kishinev 48.85 55 *e*PP PP 10 19 46.0 +1.9
KIS Kishinev 48.85 55 *e*PPP PPP 10 20 26.0
KIS *e*S S 10 24 48.0 -5.7
comp=Z,2µm,16.0s
KIS Kishinev 48.85 55 *e*PP PP 10 19 46.0 +1.9
A27A Ledoux Ranch, 48.87 307 ⇓P P 10 17 49.4 -1.8
baz=49
APE Apeiranthos 48.88 69 ⇑*i*P P 10 17 51.7 +0.3
APE Apeiranthos 48.88 69 ⇑*i*P P 10 17 51.7 +0.3
M31A Lambtecht Ranc 48.88 297 ⇓P P 10 17 48.8 -2.6
baz=49
CHOS Chios island 48.89 67 P P 10 17 52.4 +0.9
CHOS Chios island 48.89 67 P P 10 17 52.4 +0.9
CHOS Chios island 48.89 67 P P 10 17 52.4 +0.9
439A Center Grove, 48.90 282 ⇑P P 10 17 49.9 -1.7
baz=49
E28A Huff 48.93 304 ⇓P P 10 17 49.2 -2.5
baz=49
IDI Anoyia 48.93 71 P P 10 17 51.8 -0.1
R33A Olander Ranch, 48.95 293 ⇓P P 10 17 49.8 -2.1
baz=49,SNR=11
B27A Peters Farms, 48.98 307 ⇑P P 10 17 51.0 -1.0
baz=49,SNR=7.9
N31A Bailey Ranch, 48.99 296 ⇑P P 10 17 49.9 -2.3
baz=49
H29A Onida 48.99 302 ⇓P P 10 17 49.7 -2.4
baz=49
K30A Basset 49.01 299 ⇓P P 10 17 50.0 -2.3
baz=49
SANT Santorini 49.03 70 *e*P P 10 17 52.8 +0.2
comp=Z,163nm,1.3s
SANT Santorini 49.03 70 *e*P P 10 17 52.8 +0.2
comp=Z,163nm,1.3s
P32A Huiting Farm, 49.05 295 ⇓P P 10 17 50.8 -1.9
baz=49,SNR=11
W35A Tecumseh 49.06 289 ⇑P P 10 17 50.6 -2.2
baz=49
TIRR Tirgusor 49.08 59 ⇓*i*P P 10 17 51.8 -1.0
TIRR Tirgusor 49.08 59 *e*P P 10 17 51.4 -1.4
comp=Z,40nm,1.0s
TIRR Tirgusor 49.08 59 *e*P P 10 17 51.4 -1.4
comp=Z,40nm,1.0s
TIRR LR LR
comp=Z,9µm,22.0s

SART Tekirdag 49.10 64 *i*P P 10 17 54.2 +1.1
F28A McLaughlin 49.15 303 ⇑P P 10 17 51.2 -2.1
baz=49
U34A Anderson Ranch 49.17 290 *e*P P 10 17 54.2 +0.6
comp=Z,33nm,0.8s
U34A Anderson Ranch 49.17 290 *e*P P 10 17 54.2 +0.6
comp=Z,33nm,0.8s
U34A LR LR
comp=Z,3µm,19.0s
U34A Anderson Ranch 49.17 290 ⇑P P 10 17 51.4 -2.2
baz=49
S33A Kaszmaul Farm, 49.17 292 ⇓P P 10 17 51.5 -2.1
baz=49
I29A Vivian Onida 49.19 301 ⇑P P 10 17 52.0 -1.7
baz=49,SNR=11
Q32A Meitler Ranch, 49.19 294 ⇓P P 10 17 51.6 -2.2
baz=49
C27A Sayler Ranch, 49.26 306 ⇓P P 10 17 51.5 -2.7
baz=49
L30A Spencer Herefo 49.26 298 ⇓P P 10 17 51.7 -2.6
baz=49
ZEY ¯zmir 49.27 67 *i*P P 10 17 54.5 +0.2
237A Washetta, Mont 49.30 284 ⇑P P 10 17 52.9 -1.7
baz=49
V34A Guthrie 49.34 290 *e*P P 10 17 55.0 0.0
comp=Z,258nm,2.1s
V34A Guthrie 49.34 290 *e*P P 10 17 55.0 0.0
comp=Z,258nm,2.1s
V34A LR LR
comp=Z,3µm,20.0s
V34A Guthrie 49.34 290 ⇓P P 10 17 53.2 -1.7
baz=49,SNR=11
J29A Okreek 49.35 300 ⇑P P 10 17 52.8 -2.1
baz=49
X35A Drake 49.38 288 ⇓P P 10 17 52.9 -2.4
baz=49,SNR=17
G28A Parade 49.39 302 ⇑P P 10 17 52.4 -2.9
baz=49
D27A Center 49.39 305 ⇓P P 10 17 52.2 -3.0
baz=49
A26A Wade Farm, Ken 49.40 307 ⇑P P 10 17 52.9 -2.3
baz=49
O31A Woolen Ranch, 49.44 296 ⇑P P 10 17 53.4 -2.3
baz=49,SNR=9.6
R32A Long Quarter, 49.47 293 ⇓P P 10 17 54.1 -1.8
baz=49,SNR=12
M30A Dale-Ortello V 49.48 297 ⇓P P 10 17 53.3 -2.7
baz=49
438A Sam Houston St 49.49 283 ⇓P P 10 17 53.5 -2.6
baz=49
K29A Lazy Trails An 49.49 299 ⇑P P 10 17 53.6 -2.5
baz=49
T33A Patterson Ranc 49.51 291 ⇑P P 10 17 53.9 -2.4
baz=49
H28A Mission Ridge 49.55 302 ⇓P P 10 17 54.0 -2.5
baz=49
337A Centerville 49.60 283 ⇓P P 10 17 55.3 -1.7
baz=50
U33A Lingo Farm, Me 49.61 291 ⇓P P 10 17 54.9 -2.1
baz=50
B26A Jensen Ranch, 49.62 307 ⇓P P 10 17 54.7 -2.2
baz=50
C26A Wahner Farm, P 49.63 306 ⇑P P 10 17 54.2 -2.9
baz=50
P31A Stockton 49.65 295 ⇑P P 10 17 55.4 -1.9
baz=50,SNR=13
BALY Balya 49.68 65 *i*P P 10 17 56.9 -0.6
538A Harpers Horsep 49.70 282 ⇓P P 10 17 56.5 -1.2
baz=50
W34A Bridge Creek, 49.73 289 *e*P P 10 17 58.4 +0.4
comp=Z,67nm,1.2s
W34A Bridge Creek, 49.73 289 *e*P P 10 17 58.4 +0.4
comp=Z,67nm,1.2s
W34A LR LR
comp=Z,2µm,18.0s
W34A Bridge Creek, 49.73 289 ⇑P P 10 17 56.4 -1.6
baz=50
L29A Maesberg Ranch 49.78 298 ⇑P P 10 17 56.8 -1.5
baz=50
I28A Midland 49.80 301 ⇓P P 10 17 56.8 -1.6
baz=50,SNR=12
Q31A Ellis 49.81 294 ⇑P P 10 17 56.6 -1.9
baz=50,SNR=8.0
N30A Hueftle Ranch, 49.84 297 ⇑P P 10 17 56.6 -2.1
baz=50
S32A Newby Ranch, P 49.85 292 ⇓P P 10 17 57.3 -1.5
baz=50
236A Katherine and 49.87 285 ⇓P P 10 17 57.5 -1.5
baz=50
ELBA Catalca 49.89 63 *i*P P 10 18 06.7 +7.6
V33A Lossen Ranch, 49.94 290 ⇓P P 10 17 57.5 -2.0
baz=50,SNR=11
Z35A Perchaven, San 49.97 286 ⇓P P 10 17 58.2 -1.5
baz=50
F27A Lemmon 49.97 303 ⇑P P 10 17 57.7 -2.0
baz=50
O30A MW Ranch, Wils 49.97 296 ⇓P P 10 17 57.7 -2.1
baz=50
GCAM G?zelcaml? 49.98 68 *i*P P 10 18 01.1 +1.4
X34A Smith Ranch, M 49.99 288 ⇑P P 10 17 58.1 -1.8
baz=50
437A Phantom Ranch, 49.99 283 ⇑P P 10 17 59.1 -0.8
baz=50
J28A Allard Ranch, 49.99 300 ⇑P P 10 17 56.7 -3.1
baz=50,SNR=9.1
T32A Huddler Ranch, 50.00 292 ⇓P P 10 17 58.2 -1.8
baz=50
G27A Dupree 50.02 303 ⇓P P 10 17 58.4 -1.6
baz=50
AKHS Akhisar 50.07 66 *i*P P 10 18 03.3 +2.9
APA Apatity 50.08 28 *i*P P 10 17 59.8 -0.2
comp=Z,25nm,0.6s
APA Apatity 50.08 28 *i*PcP PcP 10 19 20.0 +0.5
APA *i*S S 10 25 08.0 -2.4
HKT Hockley 50.08 282 *e*P P 10 18 04.2 +3.7
comp=Z,48nm,1.4s
HKT Hockley 50.08 282 *e*P P 10 18 04.2 +3.7
comp=Z,48nm,1.4s
A25A Svangstu Ranch 50.09 308 ⇓P P 10 17 58.9 -1.6
baz=50
M29A Burnside Ranch 50.09 298 ⇑P P 10 17 58.7 -2.0
baz=50
R31A Burdett 50.12 293 ⇑P P 10 17 58.7 -2.2
baz=50,SNR=11
Y34A Reagan Ranch, 50.15 287 ⇑P P 10 17 59.5 -1.5
baz=50
E26A Carlson Angus 50.15 304 ⇑P P 10 17 59.3 -1.6
baz=50
N29A Votaw Ranch, W 50.22 297 ⇑P P 10 17 59.8 -1.9
baz=50
B25A Knox Farm, Ray 50.25 307 ⇓P P 10 17 59.7 -2.0
baz=50
K28A Ten Mile Ranch 50.26 299 ⇓P P 10 18 00.1 -1.8
baz=50
S31A Mullinville 50.29 292 ⇑P P 10 18 00.1 -2.0
baz=50
H27A Howes 50.29 302 ⇑P P 10 17 59.7 -2.4
baz=50,SNR=13
P30A Selden 50.29 295 ⇑P P 10 18 00.1 -2.1
baz=50,SNR=8.7
W33A Caddo, Fort Co 50.30 289 ⇓P P 10 18 00.8 -1.5
baz=50
U32A Winter Ranch, 50.31 291 ⇓P P 10 18 00.3 -2.0
baz=50,SNR=9.8
BDRM Kayabasi 50.33 68 *i*P P 10 18 04.3 +1.8
336A Riesel 50.34 284 ⇑P P 10 18 01.1 -1.5
baz=50
DURS Dursunbey 50.35 65 *i*P P 10 18 03.8 +1.1
135A Vickery Place, 50.36 286 ⇓P P 10 18 01.4 -1.4
baz=50
I27A Quinn 50.41 301 ⇓P P 10 18 00.6 -2.4
baz=50,SNR=11
537A Green Hill Far 50.41 282 ⇓P P 10 18 01.3 -1.8
baz=50
C25A Freed Ranch, W 50.42 306 ⇑P P 10 18 01.4 -1.6
baz=50,SNR=12
F26A Lodgepole 50.42 304 ⇓P P 10 18 01.3 -1.8
baz=50
Q30A Quinter 50.44 294 ⇓P P 10 18 01.2 -2.1
baz=50,SNR=15
Z34A Collier Ranch, 50.47 287 ⇓P P 10 18 01.5 -2.0
baz=50
BUY Buyukada 50.47 63 *i*P P 10 18 02.6 -0.8
G26A Maurine 50.50 303 ⇑P P 10 18 01.5 -2.1
baz=50
X33A Lawton 50.52 288 ⇑P P 10 18 01.9 -2.1
baz=50,SNR=12
436A Wall Ranch, Ga 50.53 283 ⇑P P 10 18 02.6 -1.4

comp=Z,153nm,1.8s
UALR University of 45.64 286 *e*P P 10 17 26.3 +0.1
comp=Z,153nm,1.8s
DRO Drossia 45.71 69 P P 10 17 28.9 +2.2
DRO Drossia 45.71 69 *e*P P 10 17 28.6 +1.9
DRO Drossia 45.71 69 P P 10 17 28.9 +2.2
MAKR Makrakomi, Fth 45.76 67 *e*P P 10 17 27.8 +0.7
VTS Vitosha 45.77 62 ⇓*i*P P 10 17 28.2 +1.0
VTS Vitosha 45.77 62 *i*P P 10 17 29.4 +2.2
VTS Vitosha 45.77 62 *i*P P 10 17 29.4 +2.2
LIT Litokhoron 45.77 66 *e*P P 10 17 28.0 +0.8
AMT Artemida-Makis 45.82 69 *e*P P 10 17 34.6 +7.0
KKB Krupnik 45.82 63 *i*P P 10 17 29.4 +1.9
KNT Kendrikon 45.84 64 *e*P P 10 17 27.2 -0.4
AGG Agios Georgios 45.91 67 P P 10 17 29.7 +1.4
AGG Agios Georgios 45.91 67 *e*P P 10 17 24.5 -3.8
AGG Agios Georgios 45.91 67 P P 10 17 29.7 +1.4
AGG Agios Georgios 45.91 67 PFAKE 10 17 40.0 +12
AGG LR LR
comp=Z,14µm,20.0s
KALE Kalithea 45.92 68 P P 10 17 30.6 +2.2
KALE Kalithea 45.92 68 *e*P P 10 17 30.0 +1.6
KALE Kalithea 45.92 68 P P 10 17 30.6 +2.2
KALE Kalithea 45.92 68 P P 10 17 30.6 +2.2
MPEP Malo Peshtene 46.00 61 *i*P P 10 17 28.6 -0.3
PYL PYLOS 46.02 70 *e*P P 10 17 28.7 -0.4
KLV Kalavryta, Ach 46.02 69 P P 10 17 29.6 +0.4
KLV Kalavryta, Ach 46.02 69 *e*P P 10 17 29.1 -0.1
KLV Kalavryta, Ach 46.02 69 P P 10 17 29.6 +0.4
KLV Kalavryta, Ach 46.02 69 P P 10 17 29.6 +0.4
Q37A Longview Farm, 46.13 293 ⇓P P 10 17 28.4 -1.6
baz=46
DSF Desfina 46.21 68 *e*P P 10 17 31.9 +1.2
AXAR Agios Charalam 46.22 68 P P 10 17 33.8 +3.1
AXAR Agios Charalam 46.22 68 *e*P P 10 17 31.6 +0.9
AXAR Agios Charalam 46.22 68 P P 10 17 33.8 +3.1
AXAR Agios Charalam 46.22 68 P P 10 17 33.8 +3.1
SOH Sokhos 46.25 65 *e*P P 10 17 32.7 +1.8
ARR Arges 46.27 58 ⇓*i*P P 10 17 31.1 0.0
BUR04 Bucovina Ar. S 46.33 55 *e*P P 10 17 31.2 -0.3
BUR04 Bucovina Ar. S 46.33 55 *e*P P 10 17 31.2 -0.3
BURAR Bucovina Array 46.33 55 ⇓*i*P P 10 17 32.5 +0.9
VLX Viachokerasia 46.38 69 *e*P P 10 17 32.8 +0.7
PLG Polygyros 46.42 65 *e*P P 10 17 32.2 -0.1
FIA0 FINESS Array S 46.47 36 *e*P P 10 17 30.3 -2.0
FIA0 FINESS Array S 46.47 36 *e*P P 10 17 30.2 -2.0
FINES FINESS Array B 46.47 36 P P 10 17 30.2 -2.0
XOR Xorichti 46.47 67 P P 10 17 32.6 -0.1
XOR Xorichti 46.47 67 P P 10 17 32.6 -0.1
XOR Xorichti 46.47 67 P P 10 17 32.6 -0.1
LKR Lokris 46.51 68 *e*P P 10 17 34.2 +1.3
NEO Neokhori 46.51 67 *e*P P 10 17 33.6 +0.6
VOIR 46.55 58 ⇑*i*P P 10 17 33.4 +0.1
R37A Teagarden Farm 46.56 292 ⇓P P 10 17 31.2 -2.2
baz=46,SNR=9.7
ROSC El Rosal 46.58 238 *e*P P 10 17 35.7 +1.5
ROSC El Rosal 46.58 238 *e*P P 10 17 35.7 +1.5
VSU Vasula 46.64 40 *i*P P 10 17 32.0 -1.6
comp=Z,34µm,17.0s
ECSD EROS Data Cent 46.64 300 PFAKE 10 17 50.0 +16
ECSD LR LR
comp=Z,3µm,18.0s
ECSD EROS Data Cent 46.64 300 ⇓P P 10 17 31.8 -2.2
baz=46,SNR=18
MIAR Mount Ida 46.68 287 *e*P P 10 17 33.0 -1.4
comp=Z,60nm,1.1s
MIAR Mount Ida 46.68 287 *e*P P 10 17 33.0 -1.4
comp=Z,60nm,1.1s
NACGM Naroch 46.69 45 *e*P P 10 17 32.0 -2.1
NACGM Naroch 46.69 45 *e*P P 10 17 32.0 -2.1
DOPR Dopca 46.70 57 ⇓*i*P P 10 17 34.6 +0.3
PAIG Paliouri 46.70 66 *e*P P 10 17 34.6 +0.2
Q36A Arnold C. Orve 46.87 293 ⇓P P 10 17 33.8 -2.0
baz=47
MRKA Markates 46.94 67 P P 10 17 36.1 -0.3
MRKA Markates 46.94 67 *e*P P 10 17 37.0 +0.6
MRKA Markates 46.94 67 P P 10 17 36.1 -0.3
PLD Plovdiv 46.95 63 *i*P P 10 17 37.5 +1.2
A30A Hoffart Farm, 46.96 307 ⇓P P 10 17 34.9 -1.4
baz=47,SNR=6.4
VLI Veliai 46.99 70 P P 10 17 38.4 +1.7
VLI Veliai 46.99 70 *e*P P 10 17 38.2 +1.5
VLI Veliai 46.99 70 P P 10 17 38.4 +1.7
VLI Veliai 46.99 70 P P 10 17 38.4 +1.7
DID Didima 47.00 69 *e*P P 10 17 38.9 +2.1
AOS Alonnisos 47.04 67 P P 10 17 36.6 -0.5
AOS Alonnisos 47.04 67 P P 10 17 36.6 -0.5
AOS Alonnisos 47.04 67 P P 10 17 36.6 -0.5
B30A Myrvik Farm, E 47.04 306 ⇓P P 10 17 35.7 -1.3
baz=47,SNR=16
RZN Rozhen 47.05 63 *i*P P 10 17 39.7 +2.3
R36A Gordon, Harris 47.07 292 ⇑P P 10 17 35.2 -2.2
baz=47,SNR=8.3
P35A Duane Minner, 47.15 294 ⇓P P 10 17 36.0 -2.0
baz=47,SNR=12
MLR Muntele Rosu 47.16 58 ⇑*i*P P 10 17 38.8 +0.7
MLR Muntele Rosu 47.16 58 P P 10 17 38.0 -0.1
MLR Muntele Rosu 47.16 58 P P 10 17 38.0 -0.1
C30A Mose, Pekin 47.25 305 ⇑P P 10 17 36.9 -1.7
baz=47
W38A Poteau 47.26 288 ⇓P P 10 17 37.3 -1.5
baz=47
S36A Lake Cedric, C 47.30 291 ⇑P P 10 17 37.1 -2.1
baz=47
MNK Minsk 47.31 45 *e*P P 10 17 40.0 +1.0
Q35A Mercer Eighty, 47.33 293 ⇑P P 10 17 37.7 -1.7
baz=47
MICGM Minsk 47.34 45 ⇑*e*P P 10 17 40.0 +0.8
TESR Tescani 47.47 56 ⇓*i*P P 10 17 39.5 -0.8
ARA0 ARCESS Array S 47.48 25 *e*P P 10 17 39.5 -0.6
ARA0 ARCESS Array S 47.48 25 *e*P P 10 17 39.5 -0.6
ARCES ARCESS Array B 47.48 25 P P 10 17 38.0 -2.1
D30A Buchanan 47.53 305 ⇓P P 10 17 39.0 -1.8
baz=47
ASCN Ascension 47.56 150 PFAKE 10 17 50.0 +8.7
ASCN LR LR
comp=Z,19µm,21.0s
A29A Manning Farm, 47.57 307 ⇓P P 10 17 38.8 -2.3
baz=47,SNR=13
KDZ Kurdzhali 47.57 63 ⇑*i*P P 10 17 41.4 +0.2
KDZ Kurdzhali 47.57 63 *i*P P 10 17 42.6 +1.4
KDZ Kurdzhali 47.57 63 *i*P P 10 17 42.6 +1.4
Z39A Irene McRaven, 47.58 285 ⇓P P 10 17 39.6 -1.7
baz=48
PLOR Plostina 47.58 57 ⇑*i*P P 10 17 42.0 +0.7
SZH Strazhica 47.59 61 *i*P P 10 17 43.5 +2.2
VRI Vrincioaia 47.63 57 ⇓*i*P P 10 17 43.2 +1.5
ISR Istrita 47.64 58 ⇑*i*P P 10 17 43.0 +1.2
KSU1 Kansas State U 47.70 293 *e*P P 10 17 43.0 +0.8
comp=Z,59nm,0.7s
KSU1 Kansas State U 47.70 293 *e*P P 10 17 43.0 +0.8
comp=Z,59nm,0.7s
KSU1 LR LR
comp=Z,3µm,20.0s
KSU1 Kansas State U 47.70 293 ⇑P P 10 17 40.6 -1.6
baz=48
T36A Boggs Farm, Ca 47.71 291 ⇓P P 10 17 40.8 -1.6
baz=48
B29A Wagenman Farm, 47.71 306 ⇑P P 10 17 40.6 -1.7
baz=48
E30A Jud 47.73 304 ⇑P P 10 17 41.0 -1.4
baz=48
S35A Otter Creek Ra 47.87 292 ⇓P P 10 17 41.7 -1.8
baz=48
KBS Kingsbay 47.91 11 *e*P P 10 17 45.4 +2.1
comp=Z,17nm,1.3s
KBS Kingsbay 47.91 11 *e*P P 10 17 45.4 +2.1
comp=Z,17nm,1.3s
KBS LR LR
comp=Z,4µm,19.0s
F30A Leola 47.93 303 ⇑P P 10 17 42.5 -1.5
baz=48
139A Bunkhouse Ranc 47.94 285 ⇑P P 10 17 42.5 -1.6
baz=48
SMTH Samothraki Isl 47.94 65 *e*P P 10 17 47.4 +3.3
W37A Quinton 47.94 288 ⇓P P 10 17 42.6 -1.5
baz=48
MDND Maddock 47.97 306 *e*P P 10 17 44.1 -0.2
comp=Z,1µm,1.3s
MDND Maddock 47.97 306 *e*P P 10 17 44.1 -0.2
comp=Z,1µm,1.3s
MDND LR LR
comp=Z,5µm,18.0s
MDND Maddock 47.97 306 ⇑P P 10 17 42.6 -1.7

baz=50
O29A 4D Ranch, Culb 50.53 296 ⇑P P 10 18 02.5 -1.5
baz=50
L28A Connealy Angus 50.55 298 ⇓P P 10 18 02.1 -2.0
baz=50
V32A Arapaho 50.55 290 ⇑P P 10 18 02.7 -1.5
baz=50
LVZ Lovozero 50.57 28 PFAKE 10 18 20.0 +16
LVZ LR LR
comp=Z,10µm,21.0s
J27A Elkhorn Farm, 50.57 300 ⇑P P 10 18 02.6 -1.7
baz=50
D25A Fairfield 50.58 305 ⇑P P 10 18 02.2 -2.0
baz=50
TGUH Tegucigalpa,Un 50.59 259 PFAKE 10 18 20.0 +15
TGUH LR LR
comp=Z,4µm,19.0s
T31A Randall Ranch, 50.60 292 ⇓P P 10 18 02.6 -1.9
baz=50
M28A Bar X Bar Ranc 50.60 298 ⇓P P 10 18 02.7 -1.9
baz=50
WHTX Lake Whitney, 50.60 285 *e*P P 10 18 04.9 +0.4
comp=Z,135nm,1.3s
WHTX Lake Whitney, 50.60 285 *e*P P 10 18 05.0 +0.4
comp=Z,135nm,1.3s
WHTX LR LR
comp=Z,2µm,20.0s
WHTX Lake Whitney, 50.60 285 ⇓P P 10 18 03.3 -1.2
baz=50
A24A Westby 50.67 308 ⇑P P 10 18 03.4 -1.5
baz=50,SNR=6.4
WMOK Wichita Mounta 50.68 289 *e*P P 10 18 03.8 -1.3
comp=Z,20nm,0.8s
WMOK Wichita Mounta 50.68 289 *e*P P 10 18 03.8 -1.3
comp=Z,20nm,0.8s
WMOK LR LR
comp=Z,2µm,20.0s
R30A Dighton 50.68 294 ⇓P P 10 18 03.1 -2.1
baz=50,SNR=13
DEMI Demirci 50.69 65 *i* P P 10 18 04.9 -0.4
E25A Miller Ranch, 50.77 305 ⇓P P 10 18 04.0 -1.8
baz=51
H26A Fairpoint 50.78 302 ⇓P P 10 18 04.0 -1.8
baz=51
P29A Atwood 50.78 295 ⇓P P 10 18 03.8 -2.1
baz=51,SNR=8.2
Y33A Hilltop Ranch, 50.80 288 ⇑P P 10 18 04.8 -1.3
baz=51
335A Moody 50.84 284 ⇑P P 10 18 05.0 -1.4
baz=51
K27A Flueckinger Fa 50.88 300 ⇓P P 10 18 05.1 -1.6
baz=51
134A White-Moore Ra 50.88 286 ⇓P P 10 18 05.2 -1.5
baz=51
DGMT Dagmar 50.88 307 *e*P P 10 18 07.9 +1.4
comp=Z,83nm,1.1s
DGMT Dagmar 50.88 307 *e*P P 10 18 07.9 +1.4
comp=Z,83nm,1.1s
DGMT LR LR
comp=Z,2µm,20.0s
DGMT Dagmar 50.88 307 ⇓P P 10 18 05.0 -1.5
baz=51,SNR=10
W32A Sentinel 50.91 289 ⇑P P 10 18 05.2 -1.6
baz=51
N28A Pribbeno Ranch 50.92 297 ⇑P P 10 18 05.1 -1.9
baz=51
F25A Bowman 50.94 304 ⇑P P 10 18 05.5 -1.5
baz=51
JTS JuntasAbangare 50.94 253 PFAKE 10 18 20.0 +13
JTS LR LR
comp=Z,5µm,22.0s
U31A Nine Bar Ranch 50.96 291 ⇓P P 10 18 05.5 -1.8
baz=51
SAML Samuel 50.97 216 *e*P P 10 18 07.1 -0.3
comp=Z,69nm,1.4s
SAML Samuel 50.97 216 *e*P P 10 18 07.1 -0.3
comp=Z,69nm,1.4s
SAML LR LR
comp=Z,5µm,19.0s
I26A New Underwood 50.98 301 ⇓P P 10 18 05.2 -2.2
baz=51
536A Bastrop 51.01 282 ⇓P P 10 18 06.1 -1.6
baz=51
S30A Montezuma 51.02 293 ⇓P P 10 18 06.0 -1.7
baz=51
Q29A Oakley 51.03 294 ⇓P P 10 18 05.4 -2.4
baz=51,SNR=16
SSN San Juan del S 51.05 255 PFAKE 10 18 20.0 +12
SSN LR LR
comp=Z,2µm,22.0s
G25A Newell 51.08 303 ⇓P P 10 18 05.4 -2.6
baz=51
L27A T5 Ranch, Ells 51.10 299 ⇑P P 10 18 06.4 -1.9
baz=51
234A Clairette 51.14 285 ⇓P P 10 18 07.1 -1.5
baz=51,SNR=5.4
V31A Spring Creek L 51.15 290 ⇓P P 10 18 07.4 -1.3
baz=51,SNR=14
435B Jarrell 51.16 283 ⇑P P 10 18 07.3 -1.5
baz=51
Z33A Whitaker Ranch 51.17 287 ⇑P P 10 18 07.0 -1.8
baz=51,SNR=15
X32A Elmer 51.17 288 ⇑P P 10 18 07.3 -1.6
baz=51,SNR=17
OGNE Ogallala 51.21 297 ⇓P P 10 18 07.2 -1.9
baz=51
A23A Redstone 51.23 308 ⇓P P 10 18 07.6 -1.5
baz=51
C24A Savage 51.23 306 ⇓P P 10 18 08.5 -0.6
baz=51,SNR=12
636A Smothers Creek 51.24 282 ⇑P P 10 18 08.2 -1.2
baz=51
GDZ Gediz 51.25 65 *i* P P 10 18 10.6 +1.1
O28A Krutsinger Ran 51.25 296 ⇑P P 10 18 07.8 -1.6
baz=51
T30A Plains 51.26 292 ⇑P P 10 18 07.9 -1.6
baz=51
D24A Glendive 51.26 306 ⇑P P 10 18 08.0 -1.4
baz=51
R29A Marienthal 51.29 294 ⇑P P 10 18 07.8 -2.0
baz=51,SNR=10
M27A Reverse DX Ran 51.30 298 ⇑P P 10 18 08.0 -1.8
baz=51
J26A Sides Ranch, S 51.31 300 ⇑P P 10 18 08.1 -1.8
baz=51
H25A Fruitdale 51.35 302 ⇑P P 10 18 08.3 -1.8
baz=51
DNZL Cakiroluk 51.35 67 *i* P P 10 18 12.8 +2.5
E24A Baker 51.37 305 ⇑P P 10 18 08.6 -1.7
baz=51
P28A Saint Francis 51.40 296 ⇑P P 10 18 09.1 -1.5
baz=51
B23A Brockton 51.40 307 ⇑P P 10 18 09.4 -1.0
baz=51,SNR=12
W31A Holland Ranch, 51.42 290 ⇑P P 10 18 09.0 -1.8
baz=51
535A Dale 51.44 283 ⇓P P 10 18 09.0 -1.8
baz=51
Y32A R-V Farms, Ver 51.44 288 ⇓P P 10 18 09.3 -1.6
baz=51,SNR=18
334A Lometa 51.47 284 ⇑P P 10 18 10.0 -1.1
baz=51
KHAL Karahalli 51.47 66 *i* P P 10 18 33.6 +22
U30A WK&E Inc. Balk 51.52 292 ⇑P P 10 18 09.8 -1.7
baz=51
S29A Ulysses 51.52 293 ⇑P P 10 18 09.7 -1.8
baz=51
133A Hamilton Ranch 51.53 286 ⇓P P 10 18 10.0 -1.6
baz=51,SNR=12
K26A Motz Farm, Whi 51.55 300 ⇓P P 10 18 10.1 -1.6
baz=51
Q28A Sharon Springs 51.61 295 ⇑P P 10 18 10.3 -1.9
baz=52
N27A Anderson Farm, 51.61 297 ⇓P P 10 18 10.2 -1.9
baz=52
F24A Ekalaka 51.63 304 ⇑P P 10 18 09.8 -2.4
baz=52
X31A McDonald Ranch 51.64 289 ⇑P P 10 18 10.6 -1.7
baz=52
L26A Underwood Farm 51.66 299 ⇑P P 10 18 10.2 -2.3
baz=52
C23A Lambert 51.67 307 ⇓P P 10 18 11.3 -1.1
baz=52,SNR=7.2
434A Burnet 51.69 284 ⇓P P 10 18 11.0 -1.8
baz=52
Z32A Haskell 51.72 287 ⇑P P 10 18 11.0 -1.9
baz=52
BORA Eskisehir 51.73 64 *i* P P 10 18 12.4 -0.7

233A Rising Star 51.73 285 ⇓P P 10 18 11.1 -2.1
baz=52
G24A Alzada 51.74 303 ⇑P P 10 18 10.8 -2.2
baz=52
O27A Beecher Island 51.75 297 ⇓P P 10 18 10.9 -2.3
baz=52
RSSD Black Hills 51.78 302 *e*P P 10 18 14.2 +0.7
comp=Z,12nm,1.1s
RSSD Black Hills 51.78 302 *e*P P 10 18 14.2 +0.7
comp=Z,12nm,1.1s
RSSD LR LR
comp=Z,4µm,18.0s
V30A Spur Ranch, Mi 51.80 291 ⇓P P 10 18 11.7 -1.9
baz=52,SNR=12
T29A Hugoton 51.80 292 ⇑P P 10 18 11.6 -2.0
baz=52
J25A Sunshine Ranch 51.80 301 ⇓P P 10 18 11.4 -2.2
baz=52,SNR=13
R28A Tribune 51.81 294 ⇓P P 10 18 11.8 -1.9
baz=52,SNR=14
D23A Lindsay 51.83 306 ⇑P P 10 18 11.7 -1.9
baz=52
635A Leesville 51.85 282 ⇓P P 10 18 13.1 -0.8
baz=52
M26A McRoberts Ranc 51.86 298 ⇓P P 10 18 11.8 -2.2
baz=52
GOLH Golhisar 51.88 67 *i* P P 10 18 15.8 +1.6
A22A Carney Farms, 51.89 308 ⇑P P 10 18 12.3 -1.8
baz=52
W30A Crocket Farms 51.91 290 ⇓P P 10 18 12.6 -1.8
baz=52
BDFB Brasilia 51.92 195 P P 10 18 12.7 -1.9
BTAS Taskesti 51.92 63 *i* P P 10 18 13.5 -0.9
H24A Dirks Ranch, A 51.98 303 ⇑P P 10 18 12.7 -2.1
baz=52
TMCR Tamitsa 51.98 32 *e*P P 10 18 14.3 -0.1
comp=Z,58nm,1.3s
P27A Ficken Ranch, 52.01 296 ⇑P P 10 18 13.5 -1.7
baz=52,SNR=9.2
U29A Oasis Ranch, S 52.02 292 ⇑P P 10 18 12.8 -2.5
baz=52
E23A Ismay 52.05 305 ⇑P P 10 18 12.8 -2.5
baz=52
333A Richland Sprin 52.06 285 ⇑P P 10 18 13.6 -1.9
baz=52,SNR=24
K25A Mack Ranch, Ha 52.06 300 ⇓P P 10 18 13.4 -2.1
baz=52
735A Kenedy 52.09 281 ⇓P P 10 18 14.7 -1.0
baz=52
B22A Reddig Ranch S 52.09 307 ⇓P P 10 18 13.5 -2.0
baz=52
Y31A Rekieta Farm, 52.09 288 ⇑P P 10 18 13.9 -1.9
baz=52,SNR=14
ABTX Abilene, Hawle 52.09 286 *e*P P 10 18 16.4 +0.6
comp=Z,66nm,1.5s
ABTX Abilene, Hawle 52.09 286 *e*P P 10 18 16.4 +0.6
comp=Z,66nm,1.5s
ABTX LR LR
comp=Z,2µm,19.0s
ABTX Abilene, Hawle 52.09 286 ⇑P P 10 18 14.0 -1.8
baz=52
N26A Koester Ranch, 52.10 297 ⇑P P 10 18 13.8 -2.1
baz=52
S28A Manter 52.12 293 ⇑P P 10 18 14.2 -1.7
baz=52,SNR=12
534A Blanco 52.16 283 ⇑P P 10 18 14.7 -1.6
baz=52,SNR=21
KSCO Kaye Shedlock' 52.21 295 *e*P P 10 18 16.8 +0.1
comp=Z,62nm,1.4s
KSCO Kaye Shedlock' 52.21 295 *e*P P 10 18 16.8 +0.1
comp=Z,62nm,1.4s
KSCO LR LR
comp=Z,4µm,20.0s
KSCO Kaye Shedlock' 52.21 295 ⇓P P 10 18 14.7 -2.1
baz=52
Z31A Sharp Cattle R 52.23 288 ⇑P P 10 18 15.1 -1.7
baz=52,SNR=16
AKAS Kas 52.25 69 *i* P P 10 18 18.1 +1.1
I24A Kuemmerle Ranc 52.26 302 ⇓P P 10 18 15.0 -2.0
baz=52
L25A Engebretsen Ra 52.26 299 ⇓P P 10 18 15.6 -1.4
baz=52
OBN Obninsk 52.27 44 *i* P P 10 18 15.6 -1.1
comp=Z,147nm,1.7s
OBN *i* S S 10 25 43.1 +2.2
comp=Z,11µm,17.0s
OBN Obninsk 52.27 44 *e*P P 10 18 15.5 -1.1
comp=Z,301nm,1.6s
OBN LR LR
comp=Z,22µm,19.0s
F23A Volborg 52.31 304 ⇑P P 10 18 15.2 -2.1
baz=52
634A China Grove, S 52.31 282 ⇑P P 10 18 16.5 -0.9
baz=52
835A Beeville 52.34 281 ⇑P P 10 18 16.3 -1.3
baz=52
O26A Horse Wrangler 52.34 297 ⇓P P 10 18 15.9 -1.7
baz=52
433A Art 52.36 284 ⇓P P 10 18 16.0 -1.8
baz=52,SNR=18
232A Coleman 52.37 286 ⇓P P 10 18 15.7 -2.2
baz=52
SNET Serv Nac Est T 52.38 260 PFAKE 10 18 30.0 +12
SNET LR LR
comp=Z,4µm,21.0s
X30A Coker Ranch, T 52.40 289 ⇑P P 10 18 16.3 -1.8
baz=52,SNR=13
V29A Stinnett 52.40 291 ⇓P P 10 18 15.9 -2.2
baz=52
J24A Dixon Ranch, L 52.42 301 ⇑P P 10 18 15.5 -2.7
baz=52
T28A Walsh 52.43 293 ⇑P P 10 18 16.3 -2.0
baz=52,SNR=13
BOLV Bolvadin 52.45 65 *i* P P 10 18 20.6 +2.1
D22A Cohagen 52.48 306 ⇑P P 10 18 16.9 -1.5
baz=52
E22A Miles City 52.50 305 ⇑P P 10 18 16.5 -2.2
baz=52
M25A Palm-Egli Farm 52.53 298 ⇓P P 10 18 17.0 -2.0
baz=52
A21A Bergtoll Ranch 52.54 308 ⇑P P 10 18 17.1 -1.8
baz=52
KORT Korkueli 52.56 67 *i* P P 10 18 19.1 -0.2
R27A Eads 52.57 294 ⇑P P 10 18 18.0 -1.3
baz=52,SNR=14
P26A Davis Ranch, A 52.58 296 ⇓P P 10 18 17.8 -1.6
baz=52,SNR=8.1
533A Kerrville 52.59 283 ⇓P P 10 18 17.6 -1.9
baz=52
H23A Clabaugh Cattl 52.61 303 ⇓P P 10 18 17.3 -2.2
baz=52
Y30A Stafford Cattl 52.62 288 ⇓P P 10 18 17.7 -2.0
baz=52
LAO LASA Array 52.62 305 PFAKE 10 18 30.0 +10
LAO LR LR
comp=Z,4µm,19.0s
BCAM Yenicaga 52.63 62 *i* P P 10 18 19.6 -0.1
332A Millersview 52.64 285 ⇓P P 10 18 18.0 -1.8
baz=52,SNR=20
131A Roby 52.66 287 ⇓P P 10 18 18.4 -1.6
baz=52
734A La Parita Cree 52.69 282 ⇓P P 10 18 18.9 -1.3
baz=53
K24A Anderson Ranch 52.70 300 ⇑P P 10 18 18.0 -2.3
baz=52
B21A Ellsworth Farm 52.73 308 ⇓P P 10 18 18.5 -1.8
baz=52
OTAV Otavalo 52.74 238 *e*P P 10 18 21.9 +0.7
comp=Z,116nm,1.7s
OTAV Otavalo 52.74 238 *e*P P 10 18 21.9 +0.7
comp=Z,116nm,1.7s
OTAV LR LR
comp=Z,3µm,22.0s
W29A Amarillo 52.76 290 ⇑P P 10 18 19.4 -1.3
baz=53
MOS Moscow 52.76 43 *e*P P 10 18 20.2 -0.1
comp=Z,86nm,1.7s
U28A Mallet 52.76 292 ⇑P P 10 18 19.3 -1.5
baz=53
I23A Meade Ranch, G 52.81 302 ⇓P P 10 18 19.3 -1.8
baz=53
S27A Las Animas 52.84 294 ⇓P P 10 18 19.8 -1.6
baz=53
AMTX Amarillo 52.87 290 *e*P P 10 18 20.4 -1.2
comp=Z,39nm,0.9s
AMTX Amarillo 52.87 290 *e*P P 10 18 20.4 -1.2
comp=Z,39nm,0.9s
AMTX LR LR
comp=Z,3µm,18.0s
AMTX Amarillo 52.87 290 ⇑P P 10 18 19.7 -1.8
baz=53
432A Menard 52.87 285 ⇑P P 10 18 19.8 -1.8
baz=53
F22A Rosebud 52.87 304 ⇓P P 10 18 19.6 -1.8
baz=53
231A Bronte 52.88 286 ⇓P P 10 18 20.1 -1.6
baz=53
Q26A Hugo 52.90 295 ⇓P P 10 18 19.7 -2.1
baz=53,SNR=12
T27A Campo 52.91 293 ⇓P P 10 18 20.1 -1.8
baz=53
C21A Desert Coulee 52.92 307 ⇓P P 10 18 19.8 -1.9
baz=53
633A Saathoff Ranch 52.94 283 ⇓P P 10 18 20.7 -1.3
baz=53
V28A Channing 52.98 291 ⇓P P 10 18 20.8 -1.6
baz=53
834A Tilden 52.98 281 ⇓P P 10 18 21.1 -1.3
baz=53
KLMR Klimovskoe 52.99 36 PcP PcP 10 19 28.3 -2.1
KLMR *e*S S 10 25 49.9 -0.7
Z30A Sanderson Ranc 53.01 288 ⇓P P 10 18 20.5 -2.1
baz=53,SNR=15
J23A Dilts Ranch, B 53.03 301 ⇑P P 10 18 20.6 -2.1
baz=53
JCT Junction City 53.03 284 *e*P P 10 18 23.4 +0.6
comp=Z,31nm,0.9s
JCT Junction City 53.03 284 *e*P P 10 18 23.4 +0.6
comp=Z,31nm,0.9s
JCT Junction City 53.03 284 ⇑P P 10 18 21.4 -1.4
baz=53,SNR=11
X29A Tulia 53.04 289 ⇓P P 10 18 21.2 -1.6
baz=53
G22A Birney 53.05 304 ⇓P P 10 18 21.0 -1.7
baz=53
R26A Arlington 53.05 295 ⇑P P 10 18 21.2 -1.7
baz=53,SNR=13
035A Encino 53.12 279 ⇑P P 10 18 21.9 -1.5
baz=53
W28A Vega 53.14 291 ⇓P P 10 18 21.6 -2.0
baz=53
130A Snyder 53.14 287 ⇓P P 10 18 22.3 -1.2
baz=53,SNR=8.1
934A Benavides 53.18 280 ⇓P P 10 18 22.7 -1.1
baz=53
U27A Thompson Grove 53.20 292 ⇑P P 10 18 22.3 -1.8
baz=53
331A San Angelo 53.21 285 ⇓P P 10 18 22.2 -1.8
baz=53
A20A Cobblestone Ra 53.21 308 ⇓P P 10 18 21.9 -1.9
baz=53
Y29A Porterfield Fa 53.22 289 ⇓P P 10 18 22.2 -2.1
baz=53
E21A Keefer Ranch, 53.23 305 ⇓P P 10 18 22.2 -1.8
baz=53
H22A Clearmont 53.25 303 ⇓P P 10 18 22.2 -2.1
baz=53
532A Rocksprings 53.26 284 ⇑P P 10 18 23.0 -1.4
baz=53
S26A Kim 53.29 294 ⇓P P 10 18 23.1 -1.6
baz=53
733A Divot King Ran 53.34 282 ⇓P P 10 18 24.0 -0.9
baz=53
B20A Solberg Farm, 53.37 308 ⇓P P 10 18 23.7 -1.3
baz=53,SNR=7.6
X28A Dimmitt 53.39 290 ⇑P P 10 18 23.6 -1.8
baz=53
632A Uvalde 53.41 283 ⇓P P 10 18 24.3 -1.2
baz=53,SNR=12
BR231 Keskin MP Arra 53.44 63 *e*P P 10 18 28.8 +3.1
BR231 Keskin MP Arra 53.44 63 *e*P P 10 18 28.8 +3.1
V27A Dan Dippiter Fa 53.44 291 ⇓P P 10 18 23.9 -1.9
baz=53
ANTO Ankara 53.45 63 *e*P P 10 18 26.2 +0.5
comp=Z,191nm,1.9s
ANTO Ankara 53.45 63 P P 10 18 26.4 +0.6
SNR=14
ANTO Ankara 53.45 63 *e*P P 10 18 26.2 +0.5
comp=Z,191nm,1.9s
ANTO LR LR
comp=Z,9µm,22.0s
F21A Absaloka Mine, 53.45 305 ⇑P P 10 18 24.0 -1.7
baz=53
Z29A Hungry Hill Ra 53.47 288 ⇓P P 10 18 24.2 -1.8
baz=53,SNR=12
230A Sterling City 53.52 286 ⇑P P 10 18 25.7 -0.7
baz=53,SNR=13
T26A Comanche Natio 53.53 293 ⇑P P 10 18 25.7 -0.9
baz=53,SNR=18
034A Hebbronville 53.53 280 ⇑P P 10 18 24.2 -2.2
baz=53
I22A 9 Mile Ranch, 53.54 302 ⇑P P 10 18 25.2 -1.3
baz=53,SNR=15
C20A Veseth Ranch, 53.54 307 ⇑P P 10 18 25.4 -0.9
baz=53,SNR=7.3
PHWY Pilot Hill 53.58 299 PFAKE 10 18 40.0 +13
PHWY LR LR
comp=Z,3µm,19.0s
833A Chaparral WMA, 53.58 281 ⇑P P 10 18 25.5 -1.3
baz=54
431A Sonora 53.59 285 ⇑P P 10 18 25.4 -1.6
baz=54,SNR=12
Y28A McKinney Farm, 53.65 289 ⇑P P 10 18 25.8 -1.6
baz=54
G21A Lodge Grass 53.67 304 ⇑P P 10 18 25.7 -1.6
baz=54
J22A Midwest 53.67 301 ⇑P P 10 18 25.5 -1.9
baz=54,SNR=16
ELDT Eldivan 53.71 62 *i* P P 10 18 29.0 +1.2
H21A Big Horn, Sher 53.72 303 ⇑P P 10 18 25.6 -2.1
baz=54
A19A Klindworth Far 53.72 309 ⇑P P 10 18 26.3 -1.3
baz=54,SNR=12
ILGA Ilgaz 53.75 62 *i* P P 10 18 30.0 +1.9
531A Rocksprings 53.75 284 ⇓P P 10 18 27.0 -1.1
baz=54,SNR=14
330A Mertzon 53.76 286 ⇑P P 10 18 27.2 -1.0
baz=54,SNR=16
933A Laredo 53.78 281 ⇓P P 10 18 27.1 -1.2
baz=54
D20A Manuel Ranch, 53.79 306 ⇓P P 10 18 26.8 -1.3
baz=54,SNR=20
BBAL Bala 53.79 64 *i* P P 10 18 30.7 +2.4
129A Stewart Farms, 53.83 287 ⇑P P 10 18 27.0 -1.6
baz=54
K22A Casper 53.93 301 *e*P P 10 18 28.2 -1.1
comp=Z,25nm,0.9s
K22A Casper 53.93 301 *e*P P 10 18 28.2 -1.1
comp=Z,25nm,0.9s
K22A LR LR
comp=Z,4µm,18.0s
K22A Casper 53.93 301 ⇓P P 10 18 27.1 -2.3
baz=54
E20A Meyer Farm, Mu 53.94 306 ⇓P P 10 18 27.9 -1.3
baz=54,SNR=21
B19A Brinkman Farms 53.97 308 ⇓P P 10 18 28.0 -1.4
baz=54,SNR=24
Z28A Tucker Farm, M 53.99 288 ⇑P P 10 18 28.8 -1.1
baz=54
MSTX Muleshoe 54.04 289 *e*P P 10 18 28.8 -1.4
comp=Z,54nm,1.4s
MSTX Muleshoe 54.04 289 *e*P P 10 18 28.8 -1.4
comp=Z,54nm,1.4s
MSTX LR LR
comp=Z,2µm,19.0s
MSTX Muleshoe 54.04 289 ⇑P P 10 18 28.7 -1.4
baz=54
229A Bryant Ranch, 54.04 287 ⇓P P 10 18 29.1 -1.1
baz=54
430A Baggett Ranch, 54.05 285 ⇑P P 10 18 28.7 -1.6
baz=54,SNR=24
N23A Red Feather La 54.05 298 *e*P P 10 18 29.0 -1.4
comp=Z,101nm,1.4s
N23A Red Feather La 54.05 298 *e*P P 10 18 28.9 -1.4
comp=Z,101nm,1.4s
N23A LR LR
comp=Z,3µm,21.0s
N23A Red Feather La 54.05 298 ⇓P P 10 18 29.2 -1.2
baz=54,SNR=12
832A Faith Ranch, C 54.06 282 ⇓P P 10 18 29.2 -1.1
baz=54
631A Perdido Creek 54.08 283 ⇓P P 10 18 29.1 -1.4
baz=54
Q24A Divide 54.09 296 *e*P P 10 18 31.9 +1.1
comp=Z,35nm,1.3s
Q24A Divide 54.09 296 *e*P P 10 18 31.9 +1.1

comp=Z,35nm,1.3s
Q24A LR LR
comp=Z,4µm,19.0s
Q24A Divide 54.09 296 ⇓P **P** 10 18 29.3 -1.4
baz=54
BR101 Keskin Array S 54.11 63 *eP* **P** 10 18 30.2 -0.5
BR101 Keskin Array S 54.11 63 *eP* **P** 10 18 30.2 -0.5
BRTR Keskin Array B 54.11 63 P **P** 10 18 30.2 -0.4
I21A Big Trails, Te 54.12 302 ⇑P **P** 10 18 28.7 -2.0
baz=54,SNR=16
LPSR Galich'ya Gora 54.13 47 *eP* **P** 10 18 29.9 -0.5
comp=Z,9.0nm,0.8s
LPSR *eS* **S** 10 26 06.5 +0.2
comp=Z,120nm,4.2s
F20A Billings 54.14 305 ⇑P **P** 10 18 29.2 -1.6
baz=54,SNR=9.6
T25A Trinidad 54.16 293 *eP* **P** 10 18 31.4 +0.2
comp=Z,23nm,1.1s
T25A Trinidad 54.16 293 *eP* **P** 10 18 31.4 +0.2
comp=Z,23nm,1.1s
T25A LR LR
comp=Z,4µm,20.0s
T25A Trinidad 54.16 293 ⇓P **P** 10 18 29.9 -1.3
baz=54
ISCO Idaho Springs 54.16 297 *eP* **P** 10 18 31.1 -0.2
comp=Z,94nm,2.0s
ISCO Idaho Springs 54.16 297 *eP* **P** 10 18 31.1 -0.2
comp=Z,94nm,2.0s
ISCO LR LR
comp=Z,4µm,19.0s
ISCO Idaho Springs 54.16 297 ⇑P **P** 10 18 30.4 -0.8
baz=54,SNR=14
C19A Slack Wire Ran 54.22 307 ⇓P **P** 10 18 30.2 -1.1
baz=54,SNR=16
O23A Lake Granby, G 54.25 298 ⇓P **P** 10 18 30.4 -1.4
baz=54,SNR=14
D19A Cripps Ranch, 54.26 307 ⇑P **P** 10 18 30.0 -1.6
baz=54,SNR=11
YKA Yellowknife Ar 54.27 326 P P 10 18 25.8 -5.5
YKB5 Yellowknife Ar 54.27 326 *eP* **P** 10 18 31.9 +0.6
YKB5 Yellowknife Ar 54.27 326 *eP* **P** 10 18 31.9 +0.6
GAZI Gazipasa 54.30 68 *i* P **P** 10 18 33.2 +1.2
128A Castleberry Fa 54.32 288 ⇑P **P** 10 18 30.2 -2.0
baz=54,SNR=8.3
G20A Bridger 54.35 304 ⇓P **P** 10 18 30.3 -2.0
baz=54,SNR=20
329A Wagon Wheel Ra 54.36 286 ⇑P **P** 10 18 30.9 -1.6
baz=54
J21A Lysite 54.37 302 ⇓P **P** 10 18 30.9 -1.7
baz=54,SNR=13
530A J-C Ranch, Com 54.38 284 ⇓P **P** 10 18 31.5 -1.2
baz=54,SNR=24
E19A Rath Farm, Rou 54.39 306 ⇑P **P** 10 18 31.4 -1.1
baz=54,SNR=17
H20A Greybull 54.41 303 ⇑P **P** 10 18 31.0 -1.7
baz=54,SNR=17
N22A Wattenberg Ran 54.45 298 ⇑P **P** 10 18 31.8 -1.5
baz=54
P23A Jefferson 54.46 297 ⇑P **P** 10 18 31.5 -2.0
baz=54,SNR=22
228A UT Block 9, Go 54.59 287 ⇓P **P** 10 18 32.7 -1.5
baz=54
VSR Storozhevoye 54.59 48 *eP* **P** 10 18 32.0 -1.8
VSR *eS* **S** 10 26 12.5 -0.2
EGMT Eagleton 54.60 308 *eP* **P** 10 18 33.8 -0.2
comp=Z,76nm,1.3s
EGMT Eagleton 54.60 308 *eP* **P** 10 18 33.8 -0.2
comp=Z,76nm,1.3s
EGMT LR LR
comp=Z,4µm,21.0s
EGMT Eagleton 54.60 308 ⇓P **P** 10 18 32.6 -1.5
baz=54,SNR=10
ERMK Ermenek 54.61 67 *i* P **P** 10 18 36.0 +1.6
ERMK Ermenek 54.61 67 *i* P **P** 10 18 36.0 +1.6
Q23A Hartsel 54.62 296 ⇓P **P** 10 18 32.9 -1.7
baz=54
429A Davenport Ranc 54.63 285 ⇓P **P** 10 18 32.8 -1.7
baz=54
I20A Worland 54.66 303 ⇓P **P** 10 18 33.0 -1.6
baz=54,SNR=13
F19A Roth Farm, Mol 54.66 305 ⇑P **P** 10 18 32.3 -2.2
baz=54,SNR=14
CDAG Cicekdag 54.68 63 *i* P **P** 10 18 33.6 -1.2
CDAG Cicekdag 54.68 63 *i* P **P** 10 18 33.6 -1.2
O22A Kremmling 54.72 298 ⇑P **P** 10 18 33.4 -1.9
baz=55,SNR=15
VORD Divnogorie 54.73 48 *eP* **P** 10 18 33.6 -1.2
SDCO Great Sand Dun 54.76 295 *eP* **P** 10 18 36.8 +1.1
comp=Z,14nm,1.0s
SDCO Great Sand Dun 54.76 295 *eP* **P** 10 18 36.8 +1.1
comp=Z,14nm,1.0s
SDCO LR LR
comp=Z,4µm,22.0s
SDCO Great Sand Dun 54.76 295 ⇓P **P** 10 18 32.6 -3.0
baz=55
R23A Moffat 54.85 295 ⇓P **P** 10 18 33.6 -2.6
baz=55,SNR=9.4
H19A Powell 55.03 304 ⇑P **P** 10 18 35.4 -1.9
baz=55,SNR=11
P22A Eagle 55.06 297 ⇑P **P** 10 18 35.5 -2.2
baz=55,SNR=5.3
RLMT Red Lodge 55.09 304 *eP* **P** 10 18 39.3 +1.5
comp=Z,114nm,1.8s
RLMT Red Lodge 55.09 304 *eP* **P** 10 18 39.3 +1.5
comp=Z,114nm,1.8s
RLMT LR LR
comp=Z,3µm,20.0s
529A Stev Forest Ra 55.09 285 ⇓P **P** 10 18 36.2 -1.7
baz=55,SNR=19
AYK Aydincik 55.10 67 *i* P P 10 18 54.0 +16
S23A Nye Farm, Mont 55.15 295 ⇑P **P** 10 18 35.3 -3.1
baz=55
HAVZ Havza 55.18 61 *i* P **P** 10 18 39.8 +1.5
HAVZ Havza 55.18 61 *i* P **P** 10 18 39.8 +1.5
ANN Anapa 55.21 56 *eP* **P** 10 18 35.7 -2.7
comp=Z,102nm,1.3s
ANN *i* S **S** 10 26 21.4 +0.3
I19A Meeteetse 55.23 303 ⇓P **P** 10 18 37.0 -1.9
baz=55,SNR=17
SMCO Snowmass 55.36 297 *eP* **P** 10 18 38.6 -1.4
comp=Z,21nm,1.0s
SMCO Snowmass 55.36 297 *eP* **P** 10 18 38.6 -1.4
comp=Z,21nm,1.0s
SMCO LR LR
comp=Z,5µm,21.0s
EDM Edmonton 55.48 315 *eP* **P** 10 18 39.3 -1.0
EDM Edmonton 55.48 315 *eP* **P** 10 18 39.2 -1.0
H18A Shoshone NF, C 55.49 304 ⇓P **P** 10 18 38.9 -1.9
baz=55,SNR=15
J19A Crowheart 55.51 302 ⇓P **P** 10 18 39.1 -1.7
baz=55,SNR=13
CSS Prodhromos 55.53 69 *eP* **P** 10 18 41.1 +0.2
comp=Z,80nm,2.1s
CSS Prodhromos 55.53 69 *eP* **P** 10 18 41.1 +0.2
comp=Z,80nm,2.1s
CSS LR LR
comp=Z,2µm,21.0s
KIZK Mersin 55.59 67 *i* P **P** 10 18 42.7 +1.4
KIZK Mersin 55.59 67 *i* P **P** 10 18 42.7 +1.4
N20A Spence Gulch, 55.73 299 ⇓P **P** 10 18 40.2 -2.4
baz=56
S22A 4UR Ranch, Cre 55.75 295 *eP* **P** 10 18 43.0 +0.3
comp=Z,57nm,1.9s
S22A 4UR Ranch, Cre 55.75 295 *eP* **P** 10 18 43.0 +0.3
comp=Z,57nm,1.9s
S22A LR LR
comp=Z,4µm,21.0s
S22A 4UR Ranch, Cre 55.75 295 ⇓P **P** 10 18 41.4 -1.4
baz=56,SNR=9.6
O20A White River Ci 55.95 298 *eP* **P** 10 18 45.3 +1.2
comp=Z,45nm,1.1s
O20A White River Ci 55.95 298 *eP* **P** 10 18 45.3 +1.2
comp=Z,45nm,1.1s
O20A LR LR
comp=Z,3µm,19.0s
O20A White River Ci 55.95 298 ⇑P **P** 10 18 42.5 -1.6
baz=56
BW06 Boulder Array 56.02 302 *eP* **P** 10 18 43.1 -1.4
comp=Z,40nm,1.2s
BW06 Boulder Array 56.02 302 *eP* **P** 10 18 43.1 -1.4
comp=Z,40nm,1.2s
BW06 LR LR
comp=Z,2µm,20.0s
PDAR Pinedale Array 56.02 302 P P 10 18 37.6 -6.9
LKWY Lake 56.03 304 *eP* **P** 10 18 45.0 +0.4
comp=Z,49nm,1.2s
LKWY Lake 56.03 304 *eP* **P** 10 18 45.0 +0.4
comp=Z,49nm,1.2s
LKWY LR LR
comp=Z,6µm,20.0s
YNR Norris Junctio 56.17 304 *eP* P 10 18 49.1 +3.5
comp=Z,98nm,1.8s
H17A Grant Village 56.20 304 *eP* **P** 10 18 47.9 +2.1
comp=Z,22nm,1.2s
H17A Grant Village 56.20 304 *eP* **P** 10 18 47.9 +2.1
comp=Z,22nm,1.2s
H17A LR LR
comp=Z,5µm,19.0s
H17A Grant Village 56.20 304 ⇑P **P** 10 18 43.6 -2.3
baz=56
HRY Holter Researc 56.33 307 *eP* **P** 10 18 45.5 -1.1
HRY Holter Researc 56.33 307 *eP* **P** 10 18 45.5 -1.1
I17A Pilgrim Ck. 56.35 303 ⇓P **P** 10 18 44.8 -2.1
baz=56
YFT Old Faithful 56.36 304 *eP* **P** 10 18 49.6 +2.6
comp=Z,31nm,1.0s
YFT Old Faithful 56.36 304 *eP* **P** 10 18 49.6 +2.6
comp=Z,31nm,1.0s
YFT LR LR
comp=Z,7µm,20.0s
FLWY Flagg Ranch 56.38 303 *eP* **P** 10 18 47.2 +0.1
comp=Z,36nm,1.0s
FLWY Flagg Ranch 56.38 303 *eP* **P** 10 18 47.2 +0.1
comp=Z,36nm,1.0s
FLWY LR LR
comp=Z,3µm,21.0s
LOHW Long Hollow 56.47 303 *eP* **P** 10 18 46.8 -1.0
comp=Z,185nm,2.4s
LOHW Long Hollow 56.47 303 *eP* **P** 10 18 46.8 -1.0
comp=Z,185nm,2.4s
LOHW LR LR
comp=Z,4µm,22.0s
PINB Pinarbasi 56.48 63 *i* P **P** 10 18 49.1 +1.1
PINB Pinarbasi 56.48 63 *i* P **P** 10 18 49.1 +1.2
ANMO Albuquerque 56.49 292 *eP* **P** 10 18 49.7 +1.7
comp=Z,16nm,1.1s
ANMO Albuquerque 56.49 292 *eP* **P** 10 18 49.7 +1.7
comp=Z,16nm,1.1s
ANMO LR LR
comp=Z,3µm,20.0s
BOZ Bozeman (W) 56.52 305 *eP* **P** 10 18 47.1 -0.9
comp=Z,32nm,1.2s
BOZ Bozeman (W) 56.52 305 *eP* **P** 10 18 47.1 -0.9
comp=Z,32nm,1.2s
BOZ LR LR
comp=Z,4µm,21.0s
MOOW Moose Ponds 56.52 303 *eP* **P** 10 18 46.5 -1.6
comp=Z,90nm,2.0s
MOOW Moose Ponds 56.52 303 *eP* **P** 10 18 46.5 -1.6
comp=Z,90nm,2.0s
LTX Lajitas 56.56 284 *eP* P 10 18 43.7 -4.8
LTX Lajitas 56.56 284 *eP* P 10 18 43.7 -4.8
TXAR Lajitas Array 56.56 284 P P 10 18 43.7 -4.8
IMW Indian Meadow 56.61 303 *eP* **P** 10 18 47.5 -1.3
comp=Z,33nm,1.0s
IMW Indian Meadow 56.61 303 *eP* **P** 10 18 47.5 -1.3
comp=Z,33nm,1.0s
IMW LR LR
comp=Z,3µm,20.0s
SNOW Snow King Moun 56.62 303 PFAKE 10 19 00.0 +11
SNOW LR LR
comp=Z,4µm,22.0s
QLMT Earthquake Lak 56.64 304 *eP* **P** 10 18 50.4 +1.5
QLMT Earthquake Lak 56.64 304 *eP* **P** 10 18 50.4 +1.5
REDW Red Top Meadow 56.72 303 *eP* **P** 10 18 48.0 -1.5
comp=Z,96nm,1.5s
REDW Red Top Meadow 56.72 303 *eP* **P** 10 18 48.0 -1.5
comp=Z,96nm,1.5s
REDW LR LR
comp=Z,4µm,22.0s
TPAW Teton Pass 56.75 303 *eP* **P** 10 18 48.3 -1.5
comp=Z,52nm,1.3s
TPAW Teton Pass 56.75 303 *eP* **P** 10 18 48.3 -1.5
comp=Z,52nm,1.3s
TPAW LR LR
comp=Z,4µm,22.0s
FXWY Fox Creek 56.75 303 *eP* **P** 10 18 50.2 +0.4
comp=Z,22nm,0.9s
FXWY Fox Creek 56.75 303 *eP* **P** 10 18 50.1 +0.4
comp=Z,22nm,0.9s
FXWY LR LR
comp=Z,3µm,20.0s
ANDN Andirin 56.84 65 *i* P **P** 10 18 49.7 -0.6
ANDN Andirin 56.84 65 *i* P **P** 10 18 49.7 -0.6
LPM Los Pinos Moun 56.87 291 *eP* **P** 10 18 50.8 +0.1
LPM Los Pinos Moun 56.87 291 *eP* **P** 10 18 50.8 +0.1
PV01 Paradox Valley 56.89 296 *eP* **P** 10 18 51.1 +0.2
PV01 Paradox Valley 56.89 296 *eP* **P** 10 18 51.1 +0.2
BNM Barren Site 56.93 291 *eP* **P** 10 18 52.0 +0.8
BNM Barren Site 56.93 291 *eP* **P** 10 18 52.0 +0.8
MNTX Cornudas Mount 56.94 288 *eP* **P** 10 18 49.6 -1.4
comp=Z,205nm,2.8s
MNTX Cornudas Mount 56.94 288 *eP* **P** 10 18 49.6 -1.4
comp=Z,205nm,2.8s
MNTX LR LR
comp=Z,2µm,20.0s
MNTX Cornudas Mount 56.94 288 ⇓P **P** 10 18 49.7 -1.4
baz=57,SNR=11
WALA Waterton Lakes 56.96 310 *eP* **P** 10 18 49.5 -1.5
WALA Waterton Lakes 56.96 310 *eP* **P** 10 18 49.5 -1.5
WALA LR LR
comp=Z,4µm,19.0s
LRM Limekiln Ridge 57.01 306 *eP* **P** 10 18 49.4 -2.2
LRM Limekiln Ridge 57.01 306 *eP* **P** 10 18 49.4 -2.2
PV04 Paradox Valley 57.05 296 *eP* **P** 10 18 52.3 +0.4
PV04 Paradox Valley 57.05 296 *eP* **P** 10 18 52.3 +0.4
AHID Auburn Hatcher 57.09 302 *eP* **P** 10 18 53.7 +1.6
comp=Z,42nm,0.9s
AHID Auburn Hatcher 57.09 302 *eP* **P** 10 18 53.7 +1.6
comp=Z,42nm,0.9s
AHID LR LR
comp=Z,4µm,22.0s
PV10 Paradox Valley 57.15 296 *eP* **P** 10 18 53.9 +1.2
PV10 Paradox Valley 57.15 296 *eP* **P** 10 18 53.9 +1.2
SOC Sochi 57.16 57 *i* P **P** 10 18 55.1 +2.8
comp=Z,29nm,0.8s
SOC *eS* **S** 10 26 50.3 +3.3
comp=Z,4µm,14.0s
PV09 Paradox Valley 57.17 297 *eP* **P** 10 18 54.8 +1.9
PV09 Paradox Valley 57.17 297 *eP* **P** 10 18 54.8 +1.9
MVCO Mesa Verde 57.18 295 *eP* **P** 10 18 52.5 -0.4
comp=Z,89nm,1.4s
MVCO Mesa Verde 57.18 295 *eP* **P** 10 18 52.5 -0.4
comp=Z,89nm,1.4s
MVCO LR LR
comp=Z,3µm,19.0s
MVCO Mesa Verde 57.18 295 ⇓P **P** 10 18 51.6 -1.3
baz=57,SNR=23
Y22D IRIS PASSCAL I 57.18 291 ⇑P **P** 10 18 50.8 -2.0
baz=57
CHMT Chamberlain Mo 57.19 307 *eP* **P** 10 18 51.2 -1.6
CHMT Chamberlain Mo 57.19 307 *eP* **P** 10 18 51.2 -1.6
KAMA Osmaniye 57.22 65 *i* P **P** 10 18 53.3 +0.3
LAZ Ladron 57.22 291 *eP* **P** 10 18 52.1 -1.1
LAZ Ladron 57.22 291 *eP* **P** 10 18 52.1 -1.1
YAYL Yayladag 57.23 66 *i* P **P** 10 18 51.9 -1.2
YAYL Yayladag 57.23 66 *i* P **P** 10 18 51.9 -1.2
SLMT Seeley Lake 57.25 308 *eP* **P** 10 18 51.8 -1.3
SLMT Seeley Lake 57.25 308 *eP* **P** 10 18 51.8 -1.3
SUSE Susehri 57.25 61 *i* P **P** 10 18 54.6 +1.4
SUSE Susehri 57.25 61 *i* P **P** 10 18 54.6 +1.3
DLMT Dillon 57.26 305 *eP* P 10 18 47.7 -5.5
comp=Z,66nm,1.2s
DLMT LR LR
comp=Z,4µm,22.0s
PV05 Paradox Valley 57.30 296 *eP* **P** 10 18 53.8 +0.1
PV05 Paradox Valley 57.30 296 *eP* **P** 10 18 53.8 +0.1
HCB Kahramanmara 57.34 65 *i* P **P** 10 18 54.4 +0.6
YBMT Yellow Bay 57.39 309 *eP* **P** 10 18 52.5 -1.6
YBMT Yellow Bay 57.39 309 *eP* **P** 10 18 52.5 -1.6
SWMT Swartz Lake 57.49 308 *eP* **P** 10 18 53.3 -1.4
SWMT Swartz Lake 57.49 308 *eP* **P** 10 18 53.4 -1.4
BLMT Blacktail Moun 57.57 309 *eP* **P** 10 18 55.5 +0.1
BLMT Blacktail Moun 57.57 309 *eP* **P** 10 18 55.5 +0.1
JTMT Jette 57.60 308 *eP* **P** 10 18 54.5 -1.0
JTMT Jette 57.60 308 *eP* **P** 10 18 54.5 -1.0
MCMT McKenzie Canyo 57.60 305 *eP* **P** 10 18 55.2 -0.5
MCMT McKenzie Canyo 57.60 305 *eP* **P** 10 18 55.2 -0.5
MSO Missoula 57.67 307 *eP* **P** 10 18 54.8 -1.2
comp=Z,269nm,2.8s
MSO Missoula 57.67 307 *eP* **P** 10 18 54.9 -1.2
comp=Z,269nm,2.8s
MSO LR LR
comp=Z,3µm,20.0s
MSO Missoula 57.67 307 ⇓P **P** 10 18 54.3 -1.8
baz=58,SNR=15
KUZU Kuzuini 57.68 65 *i* P **P** 10 18 57.4 +1.2
KUZU Kuzuini 57.68 65 *i* P **P** 10 18 57.4 +1.2
AKCD Akcadag 57.73 63 *i* P **P** 10 18 57.4 +0.7
AKCD Akcadag 57.73 63 *i* P **P** 10 18 57.4 +0.8
HWUT Hardware Ranch 57.81 301 *eP* P 10 18 52.3 -4.9
comp=Z,46nm,1.1s
HWUT LR LR
comp=Z,2µm,18.0s
MMAI Mount Meron Ar 57.88 70 P **P** 10 18 57.9 +0.2
TCUT Toone Canyon 57.88 300 PFAKE 10 19 10.0 +12
TCUT LR LR
comp=Z,5µm,22.0s
BSMT Bassoo Peak 57.89 309 *eP* **P** 10 18 56.4 -1.2
BSMT Bassoo Peak 57.89 309 *eP* **P** 10 18 56.4 -1.2
SRU San Rafael Swe 57.97 298 *eP* **P** 10 18 57.9 -0.4
comp=Z,79nm,1.9s
SRU San Rafael Swe 57.97 298 *eP* **P** 10 18 57.9 -0.4
comp=Z,79nm,1.9s
KELT Kelkit 58.02 61 *i* P **P** 10 19 00.9 +2.2
KELT Kelkit 58.02 61 *i* P **P** 10 19 00.9 +2.2
JLU Jordanelle 58.09 300 *eP* **P** 10 18 58.8 -0.5
comp=Z,44nm,1.2s
JLU Jordanelle 58.09 300 *eP* **P** 10 18 58.8 -0.5
comp=Z,44nm,1.2s
JLU LR LR
comp=Z,4µm,18.0s
MALT Malatya 58.10 63 ⇓*i* P **P** 10 19 00.8 +1.6
MALT Malatya 58.10 63 ⇓*i* P **P** 10 19 00.8 +1.6
TMUT Trail Mountain 58.39 298 *eP* **P** 10 19 03.2 +1.8
comp=Z,109nm,1.9s
TMUT Trail Mountain 58.39 298 *eP* **P** 10 19 03.2 +1.8
comp=Z,109nm,1.9s
TMUT LR LR
comp=Z,3µm,19.0s
MPU Maple Canyon 58.43 299 *eP* **P** 10 19 02.5 +0.9
comp=Z,92nm,1.8s
MPU Maple Canyon 58.43 299 *eP* **P** 10 19 02.5 +0.9
comp=Z,92nm,1.8s
MPU LR LR
comp=Z,5µm,19.0s
ELZG Elazig 58.43 63 *i* P **P** 10 19 03.9 +2.3
ELZG Elazig 58.43 63 *i* P **P** 10 19 03.9 +2.3
SHEL Horse Pasture 58.46 145 PFAKE 10 19 10.0 +8.3
SHEL LR LR
comp=Z,9µm,22.0s
121A Cookes Peak, D 58.46 290 ⇑P **P** 10 19 01.1 -0.8
baz=58,SNR=14
HVU Hansel Valley 58.60 301 *eP* **P** 10 19 01.8 -0.9
HVU Hansel Valley 58.60 301 *eP* **P** 10 19 01.8 -0.9
HVU LR LR
comp=Z,2µm,20.0s
NLU North Lily Min 58.77 299 *eP* **P** 10 19 03.6 -0.4
comp=Z,53nm,1.5s
NLU North Lily Min 58.77 299 *eP* **P** 10 19 03.6 -0.4
comp=Z,53nm,1.5s
NLU LR LR
comp=Z,5µm,18.0s
GOF Gofitskoye 58.90 54 *eP* **P** 10 19 05.3 +0.8
comp=Z,50nm,1.2s
W18A Petrified Fore 58.91 293 PFAKE 10 19 20.0 +15
W18A LR LR
comp=Z,4µm,20.0s
W18A Petrified Fore 58.91 293 ⇓P **P** 10 19 03.5 -1.5
baz=59
EIL Elat 58.91 74 P **P** 10 19 04.9 +0.1
KIV Kislovodsk 59.05 56 *eP* **P** 10 19 05.9 +0.2
comp=Z,16nm,1.1s
KIV Kislovodsk 59.05 56 *e*PcP **PcP** 10 19 55.7 +1.2
KIV *eS* **S** 10 27 12.8 +0.8
KIV Kislovodsk 59.05 56 P **P** 10 19 06.4 +0.7
SNR=9.9
KIV Kislovodsk 59.05 56 ⇓*i* P **P** 10 19 05.6 -0.1
SNR=9.8
KIV Kislovodsk 59.05 56 PFAKE 10 19 20.0 +14
KIV LR LR
comp=Z,6µm,19.0s
MSKU Masuku 59.06 118 *eP* **P** 10 19 04.8 -1.2
comp=Z,62nm,1.6s
MSKU Masuku 59.06 118 *eP* **P** 10 19 04.8 -1.2
comp=Z,62nm,1.6s
MSKU LR LR
comp=Z,12µm,20.0s
BGU Big Grassy Mou 59.09 301 *eP* **P** 10 19 05.0 -1.1
comp=Z,92nm,1.3s
BGU Big Grassy Mou 59.09 301 *eP* **P** 10 19 05.0 -1.1
comp=Z,92nm,1.3s
BGU LR LR
comp=Z,3µm,22.0s
HLID Hailey 59.09 304 *eP* **P** 10 19 07.7 +1.6
comp=Z,216nm,2.6s
HLID Hailey 59.09 304 *eP* **P** 10 19 07.7 +1.6
comp=Z,216nm,2.6s
HLID LR LR
comp=Z,2µm,19.0s
HLID Hailey 59.09 304 ⇑P **P** 10 19 05.1 -1.0
baz=59,SNR=16
DUG Dugway, Tooele 59.21 300 *eP* **P** 10 19 04.3 -2.6
comp=Z,119nm,1.6s
DUG Dugway, Tooele 59.21 300 *eP* **P** 10 19 04.3 -2.6
comp=Z,119nm,1.6s
DUG LR LR
comp=Z,3µm,21.0s
DUG Dugway, Tooele 59.21 300 ⇑P **P** 10 19 05.5 -1.4
baz=59,SNR=20
NEW Newport 59.23 310 *eP* P 10 19 00.8 -6.1
comp=Z,33nm,0.8s
NEW LR LR
comp=Z,4µm,19.0s
NEW Newport 59.23 310 ⇓P **P** 10 19 06.0 -0.8
baz=59,SNR=18
KBZ Khabaz 59.27 56 P **P** 10 19 06.8 -0.3
DBOC Borcka 59.29 59 *i* P **P** 10 19 09.1 +1.8
DBOC Borcka 59.29 59 *i* P **P** 10 19 09.1 +1.7
X18A Snowflake 59.30 293 ⇑P **P** 10 19 06.2 -1.5
baz=59
MSU Marysvale 59.39 298 *eP* **P** 10 19 09.3 +1.0
MSU Marysvale 59.39 298 *eP* **P** 10 19 09.3 +1.0
MVU Marysvale 59.41 298 *eP* **P** 10 19 09.6 +1.1
comp=Z,71nm,1.5s
MVU Marysvale 59.41 298 *eP* **P** 10 19 09.6 +1.1
comp=Z,71nm,1.5s
MVU LR LR
comp=Z,3µm,19.0s
DDEM Demirkent 59.52 59 *i* P **P** 10 19 09.2 +0.2
DDEM Demirkent 59.52 59 *i* P **P** 10 19 09.2 +0.2
ARTV Artvin 59.53 59 *i* P **P** 10 19 09.6 +0.3
ARTV Artvin 59.53 59 *i* P **P** 10 19 09.6 +0.3
DAGI Agillar 59.56 59 *i* P **P** 10 19 10.7 +1.4
HOMI Horasan 59.95 60 *i* P **P** 10 19 13.8 +1.7
WUAZ Wupatki 59.97 294 *eP* **P** 10 19 12.5 +0.2
comp=Z,35nm,1.2s
WUAZ Wupatki 59.97 294 *eP* **P** 10 19 12.5 +0.2
comp=Z,35nm,1.2s
WUAZ LR LR
comp=Z,2µm,20.0s
WUAZ Wupatki 59.97 294 ⇑P **P** 10 19 11.0 -1.4
baz=60,SNR=8.0
DPW Davenport 60.05 310 P **P** 10 19 12.7 +0.2
DPW Davenport 60.05 310 P **P** 10 19 12.7 +0.2
ONI Oni 60.07 57 P **P** 10 19 14.1 +1.4
F10A Beach Ranch, E 60.10 307 *eP* **P** 10 19 13.4 +0.5
comp=Z,49nm,0.5s
F10A Beach Ranch, E 60.10 307 *eP* **P** 10 19 13.4 +0.5
comp=Z,49nm,0.5s
319A Douglas 60.10 289 ⇑P **P** 10 19 12.1 -1.1
baz=60
MFID Camas Ranch 60.10 304 PFAKE 10 19 30.0 +17
MFID LR LR
comp=Z,3µm,21.0s
C09A Chrisman Ranch 60.12 310 PFAKE 10 19 30.0 +17
C09A LR LR
comp=Z,4µm,20.0s
U15A North Rim 60.29 296 ⇑P **P** 10 19 13.3 -1.3
baz=60,SNR=12
ZEI Tsey 60.30 57 *eP* **P** 10 19 13.9 -0.6
comp=Z,132nm,1.9s
INK Inuvik 60.42 335 P P 10 19 09.3 -5.2
EATA Eleskirt 60.43 60 *i* P **P** 10 19 17.2 +1.6
EATA Eleskirt 60.43 60 *i* P **P** 10 19 17.2 +1.6
KNB Kanab 60.44 296 *eP* **P** 10 19 14.3 -1.2
comp=Z,55nm,1.6s
KNB Kanab 60.44 296 *eP* **P** 10 19 14.3 -1.2

	comp=Z,55nm,1.6s									
KNB					LR	LR				
	comp=Z,4µm,20.0s									
X16A	**Lo Mia Camp, P**	**60.47**	**293**	⇑	P	**P**	**10**	**19**	**14.8**	**-1.0**
	baz=60,SNR=7.3									
E09A	**Wood Farm, Sta**	**60.50**	**308**		*e*P	**P**	**10**	**19**	**16.0**	**+0.5**
	comp=Z,33nm,1.0s									
E09A	**Wood Farm, Sta**	**60.50**	**308**		*e*P	**P**	**10**	**19**	**16.0**	**+0.5**
	comp=Z,33nm,1.0s									
E09A					LR	LR				
	comp=Z,4µm,20.0s									
AKH	**Akhalkalaki**	**60.54**	**58**		P	**P**	**10**	**19**	**18.9**	**+2.8**
BMO	**Blue Mountains**	**60.56**	**306**		*e*P	**P**	**10**	**19**	**14.8**	**-1.3**
	comp=Z,12nn,0.9s									
BMO	**Blue Mountains**	**60.56**	**306**		*e*P	**P**	**10**	**19**	**14.8**	**-1.3**
	comp=Z,12nn,0.9s									
BMO					LR	LR				
	comp=Z,4µm,18.0s									
B08A	**Colville Reser**	**60.58**	**310**		*e*P	**P**	**10**	**19**	**16.1**	**0.0**
	comp=Z,30nm,1.5s									
B08A	**Colville Reser**	**60.58**	**310**		*e*P	**P**	**10**	**19**	**16.1**	**0.0**
	comp=Z,30nm,1.5s									
ELK	**Elko**	**60.71**	**301**		*e*P	**P**	**10**	**19**	**18.2**	**+0.9**
	comp=Z,65nm,1.7s									
ELK	**Elko**	**60.71**	**301**		*e*P	**P**	**10**	**19**	**18.2**	**+0.9**
	comp=Z,65nm,1.7s									
D08A	**Wollman Farm,**	**60.79**	**309**		*e*P	**P**	**10**	**19**	**18.3**	**+0.8**
	comp=Z,253nm,2.8s									
D08A	**Wollman Farm,**	**60.79**	**309**		*e*P	**P**	**10**	**19**	**18.3**	**+0.8**
	comp=Z,253nm,2.8s									
D08A					LR	LR				
	comp=Z,4µm,20.0s									
TATV	**Tatvan**	**60.80**	**62**	*i*	P	**P**	**10**	**19**	**21.1**	**+3.1**
DIGO	**Kars**	**60.84**	**59**	*i*	P	**P**	**10**	**19**	**18.7**	**+0.4**
DIGO	**Kars**	**60.84**	**59**	*i*	P	**P**	**10**	**19**	**18.7**	**+0.5**
TUTA	**Tutak**	**60.84**	**60**	*i*	P	**P**	**10**	**19**	**21.0**	**+2.7**
TUTA	**Tutak**	**60.84**	**60**	*i*	P	**P**	**10**	**19**	**21.0**	**+2.7**
TUC	**Tucson**	**60.86**	**291**		*e*P	**P**	**10**	**19**	**19.5**	**+1.2**
	comp=Z,56nm,2.0s									
TUC	**Tucson**	**60.86**	**291**		*e*P	**P**	**10**	**19**	**19.4**	**+1.2**
	comp=Z,56nm,2.0s									
TUC					LR	LR				
	comp=Z,3µm,20.0s									
NNA	**Nana**	**60.90**	**227**		PFAKE					
NNA					LR	LR				
	comp=Z,3µm,21.0s									
EAK	**Akyaka**	**60.90**	**59**	*i*	P	**P**	**10**	**19**	**20.7**	**+2.1**
EAK	**Akyaka**	**60.90**	**59**	*i*	P	**P**	**10**	**19**	**20.7**	**+2.1**
TBLG	**Delisi**	**61.28**	**57**		P	**P**	**10**	**19**	**21.4**	**+0.5**
NLW	**Nelson Butte**	**61.31**	**310**		P	**P**	**10**	**19**	**21.3**	**+0.1**
NLW	**Nelson Butte**	**61.31**	**310**		P	**P**	**10**	**19**	**21.3**	**+0.1**
DYDN	**Diyadin**	**61.41**	**60**	*i*	P	**P**	**10**	**19**	**22.7**	**+0.6**
DYDN	**Diyadin**	**61.41**	**60**	*i*	P	**P**	**10**	**19**	**22.7**	**+0.6**
HAWA	**Hanford**	**61.43**	**308**		*e*P	**P**	**10**	**19**	**21.8**	**-0.1**
	comp=Z,226nm,2.1s									
HAWA	**Hanford**	**61.43**	**308**		*e*P	**P**	**10**	**19**	**21.8**	**-0.1**
	comp=Z,226nm,2.1s									
HAWA					LR	LR				
	comp=Z,3µm,20.0s									
GEVA	**Gevas**	**61.45**	**62**	*i*	P	**P**	**10**	**19**	**23.9**	**+1.5**
GEVA	**Gevas**	**61.45**	**62**	*i*	P	**P**	**10**	**19**	**23.9**	**+1.6**
G08A	**Pilot Rock**	**61.48**	**307**		*e*P	**P**	**10**	**19**	**23.0**	**+0.7**
	comp=Z,25nm,1.5s									
G08A	**Pilot Rock**	**61.48**	**307**		*e*P	**P**	**10**	**19**	**23.1**	**+0.7**
	comp=Z,25nm,1.5s									
G08A					LR	LR				
	comp=Z,4µm,21.0s									
ETW	**Entiat**	**61.48**	**310**		P	**P**	**10**	**19**	**22.1**	**-0.2**
ETW	**Entiat**	**61.48**	**310**		P	**P**	**10**	**19**	**22.1**	**-0.2**
TVAN	**Van**	**61.62**	**61**	*i*	P	**P**	**10**	**19**	**26.4**	**+2.9**
DGRG	**David-gareji**	**61.83**	**57**		P	**P**	**10**	**19**	**25.9**	**+1.2**
LTY	**Liberty**	**61.83**	**310**		*e*P	**P**	**10**	**19**	**24.2**	**-0.4**
	comp=Z,82nm,1.3s									
LTY	**Liberty**	**61.83**	**310**		*e*P	**P**	**10**	**19**	**24.2**	**-0.4**
	comp=Z,82nm,1.3s									
Y14A	**Wickenburg**	**61.85**	**293**	⇓	P	**P**	**10**	**19**	**24.3**	**-0.7**
	baz=62,SNR=5.3									
GNI	**Garni**	**61.91**	**59**		*e*P	**P**	**10**	**19**	**26.6**	**+1.2**
	comp=Z,125nm,1.5s									
GNI	**Garni**	**61.91**	**59**		P	**P**	**10**	**19**	**26.4**	**+1.0**
	SNR=13									
GNI	**Garni**	**61.91**	**59**	⇑	*i*P	**P**	**10**	**19**	**26.4**	**+1.0**
	SNR=12									
GNI	**Garni**	**61.91**	**59**		*e*P	**P**	**10**	**19**	**26.6**	**+1.2**
	comp=Z,125nm,1.5s									
GNI					LR	LR				
	comp=Z,4µm,21.0s									
R11A	**Troy Canyon, C**	**61.91**	**299**		*e*P	**P**	**10**	**19**	**24.1**	**-1.3**
	comp=Z,30nm,1.3s									
R11A	**Troy Canyon, C**	**61.91**	**299**		*e*P	**P**	**10**	**19**	**24.1**	**-1.3**
	comp=Z,30nm,1.3s									
R11A					LR	LR				
	comp=Z,3µm,21.0s									
R11A	**Troy Canyon, C**	**61.91**	**299**	⇓	P	**P**	**10**	**19**	**24.5**	**-0.9**
	baz=62,SNR=18									
W13A	**Hualapai Mount**	**62.02**	**295**	⇑	P	**P**	**10**	**19**	**26.0**	**-0.3**
	baz=62,SNR=6.5									
A05A	**Maple Falls**	**62.04**	**312**		PFAKE					
A05A					LR	LR				
	comp=Z,3µm,19.0s									
Z14A	**Wintersburg**	**62.05**	**293**	⇓	P	**P**	**10**	**19**	**25.5**	**-0.7**
	baz=62									
TRW	**Toppenish Ridg**	**62.12**	**309**		P	**P**	**10**	**19**	**27.7**	**+1.2**
TRW	**Toppenish Ridg**	**62.12**	**309**		P	**P**	**10**	**19**	**27.7**	**+1.2**
NAC	**Naches**	**62.12**	**309**		P	**P**	**10**	**19**	**27.0**	**+0.4**
NAC	**Naches**	**62.12**	**309**		P	**P**	**10**	**19**	**27.0**	**+0.4**
BMN	**Battle Mountai**	**62.22**	**301**		*e*P	**P**	**10**	**19**	**28.1**	**+0.7**
	comp=Z,22nn,0.9s									
BMN	**Battle Mountai**	**62.22**	**301**		*e*P	**P**	**10**	**19**	**28.1**	**+0.7**
	comp=Z,22nn,0.9s									
BMN					LR	LR				
	comp=Z,2µm,22.0s									
HAKT	**HAKKARI**	**62.23**	**62**	*i*	P	**P**	**10**	**19**	**29.0**	**+1.3**
HAKT	**HAKKARI**	**62.23**	**62**	*i*	P	**P**	**10**	**19**	**29.0**	**+1.3**
I07A	**Izee**	**62.31**	**306**		*e*P	**P**	**10**	**19**	**28.2**	**+0.3**
	comp=Z,123nn,2.3s									
I07A	**Izee**	**62.31**	**306**		*e*P	**P**	**10**	**19**	**28.2**	**+0.3**
	comp=Z,123nn,2.3s									
SHPR	**Sheep Range**	**62.36**	**297**		*e*P	**P**	**10**	**19**	**29.6**	**+1.1**
SHPR	**Sheep Range**	**62.36**	**297**		*e*PKiKP	**PKiKP**	**10**	**26**	**19.1**	**-1.3**
SHPR	**Sheep Range**	**62.36**	**297**		*e*P	**P**	**10**	**19**	**29.6**	**+1.1**
SHPR					*e*PKiKP	**PKiKP**	**10**	**26**	**19.1**	**-1.3**
WVOR	**Wild Horse Val**	**62.38**	**304**		*e*P	**P**	**10**	**19**	**27.1**	**-1.4**
	comp=Z,79nm,1.4s									
WVOR	**Wild Horse Val**	**62.38**	**304**		*e*P	**P**	**10**	**19**	**27.1**	**-1.4**
	comp=Z,79nm,1.4s									
WVOR					LR	LR				
	comp=Z,3µm,21.0s									
PDMCI	**Parker Dam,Lak**	**62.55**	**294**	⇑	P	**P**	**10**	**19**	**28.7**	**-0.9**
	baz=62									
214A	**Organ Pipe Nat**	**62.56**	**291**	⇓	P	**P**	**10**	**19**	**28.7**	**-1.0**
	baz=62									
G06A	**Carlson Farm,**	**62.59**	**308**		*e*P	**P**	**10**	**19**	**30.8**	**+1.1**
	comp=Z,351nm,2.5s									
G06A	**Carlson Farm,**	**62.59**	**308**		*e*P	**P**	**10**	**19**	**30.8**	**+1.1**
	comp=Z,351nm,2.5s									
MAK	**Makhachkala**	**62.67**	**55**		*e*P	**P**	**10**	**19**	**27.7**	**-2.5**
	comp=Z,44nm,0.3s									
MAK					*e*ScS	**ScS**	**10**	**29**	**23.5**	**+1.4**
NEE2	**Needles Airpor**	**62.70**	**295**	⇑	P	**P**	**10**	**19**	**29.3**	**-1.3**
	baz=62									
DLBC	**Dease Lake**	**62.72**	**324**		*e*P	**P**	**10**	**19**	**29.3**	**-1.1**
DLBC	**Dease Lake**	**62.72**	**324**		*e*P	**P**	**10**	**19**	**29.3**	**-1.1**
DLBC					LR	LR				
	comp=Z,4µm,22.0s									
LON	**Longmire**	**62.74**	**310**		*e*P	**P**	**10**	**19**	**30.1**	**-0.6**
LON	**Longmire**	**62.74**	**310**		*e*P	**P**	**10**	**19**	**30.1**	**-0.6**
LON					LR	LR				
	comp=Z,3µm,18.0s									
113A	**Mohawk Valley,**	**62.93**	**292**	⇓	P	**P**	**10**	**19**	**31.4**	**-0.7**
	baz=63,SNR=9.8									
TPNV	**Topopah Spring**	**62.97**	**298**		*e*P	**P**	**10**	**19**	**34.0**	**+1.4**
	comp=Z,33nm,1.3s									
TPNV	**Topopah Spring**	**62.97**	**298**		*e*P	**P**	**10**	**19**	**34.0**	**+1.4**
	comp=Z,33nm,1.3s									
TPNV					LR	LR				
	comp=Z,5µm,21.0s									
TPNV	**Topopah Spring**	**62.97**	**298**	⇑	P	**P**	**10**	**19**	**31.5**	**-1.0**
	baz=63,SNR=5.7									
PGC	**Sidney**	**63.00**	**312**		PFAKE					
PGC					LR	LR				
	comp=Z,3µm,18.0s									
G05D	**Wamic, OR**	**63.03**	**308**	⇑	P	**P**	**10**	**19**	**31.1**	**-1.6**
	baz=63									
Y12C	**Blythe**	**63.07**	**294**	⇓	P	**P**	**10**	**19**	**32.6**	**-0.5**
	baz=63									
VFP	**Flag Point**	**63.09**	**308**		P	**P**	**10**	**19**	**34.3**	**+1.1**
VFP	**Flag Point**	**63.09**	**308**		P	**P**	**10**	**19**	**34.3**	**+1.1**
TPH	**Tonopah**	**63.19**	**299**		*e*P	**P**	**10**	**19**	**32.0**	**-2.0**
	comp=Z,28nm,1.1s									
TPH	**Tonopah**	**63.19**	**299**		*e*P	**P**	**10**	**19**	**32.0**	**-2.0**
	comp=Z,28nm,1.1s									
TPH					LR	LR				
	comp=Z,3µm,18.0s									
PINOR	**Pine Mountain**	**63.32**	**306**		*e*P	**P**	**10**	**19**	**31.5**	**-3.0**
	comp=Z,585nm,2.2s									
IRM	**Iron Mountain**	**63.36**	**294**	⇑	P	**P**	**10**	**19**	**34.2**	**-0.8**
	baz=63,SNR=6.7									
TUQ	**Turquoise Moun**	**63.38**	**296**	⇓	P	**P**	**10**	**19**	**34.8**	**-0.4**
	baz=63									
I05D	**Terrebonne, OR**	**63.41**	**307**	⇑	P	**P**	**10**	**19**	**34.4**	**-0.8**
	baz=63									
SHOC	**Shoshone, Teco**	**63.44**	**297**	⇓	P	**P**	**10**	**19**	**34.9**	**-0.6**
	baz=63									
GMRC	**Granite Mounta**	**63.47**	**295**	⇓	P	**P**	**10**	**19**	**35.3**	**-0.6**
	baz=63,SNR=5.6									
GLA	**Glamis**	**63.61**	**293**		*e*P	**P**	**10**	**19**	**36.3**	**-0.4**
GLA	**Glamis**	**63.61**	**293**		*e*P	**P**	**10**	**19**	**36.3**	**-0.4**
GLA	**Glamis**	**63.61**	**293**	⇓	P	**P**	**10**	**19**	**36.1**	**-0.5**
	baz=63,SNR=5.4									
FURC	**Furnace Creek,**	**63.62**	**297**	⇓	P	**P**	**10**	**19**	**36.9**	**+0.3**
	baz=63,SNR=8.9									
ARU	**Arti**	**63.74**	**38**		*e*P	**P**	**10**	**19**	**38.0**	**+0.9**
	comp=Z,140nm,1.6s									
ARU	**Arti**	**63.74**	**38**		PcP	**PcP**	**10**	**20**	**11.5**	**-1.5**
ARU					S	**S**	**10**	**28**	**11.2**	**+0.3**
	comp=Z,17µm,18.0s									
ARU	**Arti**	**63.74**	**38**		*e*P	**P**	**10**	**19**	**38.0**	**+0.9**
	comp=Z,140nm,1.6s									
ARU					LR	LR				
	comp=Z,18µm,18.0s									
GRAC	**Grapevine Rang**	**63.76**	**298**	⇓	P	**P**	**10**	**19**	**36.9**	**-0.7**
	baz=64									
NLWA	**Neilton Lookou**	**63.77**	**311**		PFAKE		10	19	50.0	+13
NLWA					LR	LR				
	comp=Z,6µm,22.0s									
F04D	**Rainier, OR**	**63.77**	**309**	⇑	P	**P**	**10**	**19**	**36.0**	**-1.5**
	baz=64									
J05D	**Fort Rock, OR**	**63.78**	**306**	⇓	P	**P**	**10**	**19**	**37.0**	**-0.8**
	baz=64,SNR=15									
K05A	**Summer Lake**	**63.78**	**305**		*e*P	**P**	**10**	**19**	**39.6**	**+1.7**
	comp=Z,182nm,1.5s									
K05A	**Summer Lake**	**63.78**	**305**		*e*P	**P**	**10**	**19**	**39.6**	**+1.7**
	comp=Z,182nm,1.5s									
BC3	**Big Chuckawall**	**63.81**	**294**	⇓	P	**P**	**10**	**19**	**37.3**	**-0.8**
	baz=64									
NV01	**Mina Array Sit**	**63.81**	**300**		*e*P	**P**	**10**	**19**	**36.6**	**-1.6**
NV01	**Mina Array Sit**	**63.81**	**300**		*e*P	**P**	**10**	**19**	**36.6**	**-1.6**
NVAR	**Mina Array Bea**	**63.81**	**300**		P	P	10	19	32.6	-5.6
H04A	**Detroit Lake**	**63.82**	**308**		*e*P	**P**	**10**	**19**	**38.4**	**+0.5**
	comp=Z,43nm,1.4s									
H04A	**Detroit Lake**	**63.82**	**308**		*e*P	**P**	**10**	**19**	**38.4**	**+0.5**
	comp=Z,43nm,1.4s									
ON2	**Olympics--Nort**	**63.93**	**310**		P	**P**	**10**	**19**	**39.6**	**+1.1**
ON2	**Olympics--Nort**	**63.93**	**310**		P	**P**	**10**	**19**	**39.6**	**+1.1**
BELC	**Belle Mtn. Jos**	**64.06**	**295**	⇑	P	**P**	**10**	**19**	**38.7**	**-1.1**
	baz=64									
GSC	**Goldstone, Bar**	**64.09**	**296**		*e*P	**P**	**10**	**19**	**41.7**	**+1.9**
	comp=Z,39nm,1.4s									
GSC	**Goldstone, Bar**	**64.09**	**296**		*e*P	**P**	**10**	**19**	**41.7**	**+1.9**
	comp=Z,39nm,1.4s									
GSC	**Goldstone, Bar**	**64.09**	**296**	⇑	P	**P**	**10**	**19**	**38.5**	**-1.4**
	baz=64									
F03A	**Seaside**	**64.18**	**309**		PFAKE		10	19	50.0	+10
F03A					LR	LR				
	comp=Z,3µm,20.0s									
DAC	**Darwin (Calif)**	**64.23**	**297**		*e*P	**P**	**10**	**19**	**41.1**	**+0.1**
	comp=Z,29nm,1.1s									
DAC	**Darwin (Calif)**	**64.23**	**297**		*e*P	**P**	**10**	**19**	**41.1**	**+0.1**
	comp=Z,29nm,1.1s									
DAC					LR	LR				
	comp=Z,4µm,22.0s									
MPMC	**Manual Prospec**	**64.25**	**297**	⇑	P	**P**	**10**	**19**	**40.7**	**-0.4**
	baz=64,SNR=12									
G03D	**McMinnville, O**	**64.30**	**308**	⇑	P	**P**	**10**	**19**	**39.1**	**-1.9**
	baz=64									
I04A	**Tendick Farm,**	**64.34**	**307**	⇑	P	**P**	**10**	**19**	**39.6**	**-1.7**
	baz=64									
DAWY	**Dawson**	**64.36**	**332**		*e*P	**P**	**10**	**19**	**40.0**	**-1.1**
DAWY	**Dawson**	**64.36**	**332**		*e*P	**P**	**10**	**19**	**40.0**	**-1.1**
DAWY					LR	LR				
	comp=Z,3µm,19.0s									
J04D	**Umpqua Nationa**	**64.38**	**306**	⇓	P	**P**	**10**	**19**	**40.3**	**-1.5**
	baz=64,SNR=5.3									
K04D	**Chiloquin, OR**	**64.40**	**305**	⇓	P	**P**	**10**	**19**	**41.2**	**-0.7**
	baz=64									
MTUM	**Tungsten Hills**	**64.47**	**299**		*e*P	**P**	**10**	**19**	**43.3**	**+0.9**
MTUM	**Tungsten Hills**	**64.47**	**299**		*e*P	**P**	**10**	**19**	**43.3**	**+0.9**
CWC	**Cottonwood Cre**	**64.52**	**298**	⇓	P	**P**	**10**	**19**	**41.1**	**-1.6**
	baz=64									
CPUP	**Villa Florida**	**64.54**	**201**		*e*P	**P**	**10**	**19**	**44.8**	**+2.3**
CPUP	**Villa Florida**	**64.54**	**201**		*e*P	**P**	**10**	**19**	**44.8**	**+2.3**
MLAC	**Mammoth, Mammo**	**64.54**	**299**	⇓	P	**P**	**10**	**19**	**41.7**	**-1.2**
	baz=64									
PFO	**Pinyon Flats O**	**64.58**	**294**		*e*P	**P**	**10**	**19**	**42.8**	**-0.4**
	comp=Z,63nm,1.4s									
PFO	**Pinyon Flats O**	**64.58**	**294**		*e*P	**P**	**10**	**19**	**42.8**	**-0.4**
	comp=Z,63nm,1.4s									
PFO					LR	LR				
	comp=Z,2µm,18.0s									
PFO	**Pinyon Flats O**	**64.58**	**294**	⇓	P	**P**	**10**	**19**	**41.9**	**-1.3**
	baz=64,SNR=6.7									
COR	**Corvallis**	**64.59**	**308**		PFAKE		10	20	00.0	+17
COR					LR	LR				
	comp=Z,3µm,19.0s									
SVE	**Sverdlovsk**	**64.61**	**37**		*e*P	**P**	**10**	**19**	**43.2**	**+0.5**
	comp=Z,81nm,1.6s									
BBRC	**Big Bear Solar**	**64.63**	**295**	⇓	P	**P**	**10**	**19**	**42.8**	**-0.8**
	baz=64									
LRMC	**Laurel Mtn Rad**	**64.66**	**297**	⇑	P	**P**	**10**	**19**	**42.8**	**-0.8**
	baz=64,SNR=7.5									
EGAK	**Eagle**	**64.69**	**333**		*e*P	**P**	**10**	**19**	**42.7**	**-0.5**
	comp=Z,27nm,1.0s									
EGAK	**Eagle**	**64.69**	**333**		*e*P	**P**	**10**	**19**	**42.7**	**-0.5**
	comp=Z,27nm,1.0s									
EGAK					LR	LR				
	comp=Z,3µm,22.0s									
WRAK	**Wrangell Islan**	**64.70**	**322**		PFAKE		10	19	50.0	+6.7
WRAK					LR	LR				
	comp=Z,6µm,22.0s									
SKAG	**Skagway**	**64.77**	**326**		*e*P	**P**	**10**	**19**	**45.5**	**+1.7**
	comp=Z,64nm,1.8s									
SKAG	**Skagway**	**64.77**	**326**		*e*P	**P**	**10**	**19**	**45.5**	**+1.7**
	comp=Z,64nm,1.8s									
M04C	**Macdoel**	**64.82**	**304**	⇓	P	**P**	**10**	**19**	**44.1**	**-0.5**
	baz=65,SNR=10									
MONP	**Monument Peak,**	**64.88**	**294**	⇑	P	**P**	**10**	**19**	**43.7**	**-1.5**
	baz=65									
BBOR	**Butler Butte**	**64.91**	**306**		P	**P**	**10**	**19**	**44.8**	**-0.4**
BBOR	**Butler Butte**	**64.91**	**306**		P	**P**	**10**	**19**	**44.8**	**-0.4**
BESE	**Bessie Mountai**	**64.95**	**325**		PFAKE		10	20	00.0	+15
BESE					LR	LR				
	comp=Z,1µm,18.0s									
I03D	**Drain, OR**	**65.00**	**307**	⇓	P	**P**	**10**	**19**	**44.0**	**-1.5**
	baz=65									
HYT	**Haines Junctio**	**65.11**	**328**		*e*P	P	10	19	50.0	+3.9
MURC	**Murrieta**	**65.14**	**295**	⇑	P	**P**	**10**	**19**	**45.6**	**-1.1**
	baz=65									
EDW2	**Edwards Air Fo**	**65.14**	**296**	⇓	P	**P**	**10**	**19**	**45.6**	**-1.1**
	baz=65,SNR=5.5									
ISA	**Isabella, Lake**	**65.15**	**297**		*e*P	**P**	**10**	**19**	**48.8**	**+2.0**
	comp=Z,17nn,1.0s									
ISA	**Isabella, Lake**	**65.15**	**297**		*e*P	**P**	**10**	**19**	**48.8**	**+2.0**
	comp=Z,17nn,1.0s									
ISA	**Isabella, Lake**	**65.15**	**297**	⇑	P	**P**	**10**	**19**	**46.4**	**-0.4**
	baz=65,SNR=6.8									
BAR	**Barrett**	**65.16**	**293**		*e*P	**P**	**10**	**19**	**49.0**	**+2.2**
	comp=Z,5.3nn,1.1s									
BAR	**Barrett**	**65.16**	**293**		*e*P	**P**	**10**	**19**	**49.0**	**+2.2**
	comp=Z,5.3nn,1.1s									
BFSC	**Mount Baldy Ra**	**65.19**	**295**	⇓	P	**P**	**10**	**19**	**46.3**	**-0.8**
	baz=65									
HUMO	**Hull Mountain**	**65.21**	**306**		PFAKE		10	20	00.0	+13
HUMO					LR	LR				
	comp=Z,3µm,22.0s									
FYU	**Fort Yukon**	**65.23**	**335**		*e*P	**P**	**10**	**19**	**48.6**	**+1.9**
	comp=Z,80nm,1.4s									
FYU	**Fort Yukon**	**65.23**	**335**		*e*P	**P**	**10**	**19**	**48.6**	**+1.9**
	comp=Z,80nm,1.4s									
FYU					LR	LR				
	comp=Z,2µm,21.0s									
109C	**Camp Elliot, M**	**65.39**	**294**	⇑	P	**P**	**10**	**19**	**47.2**	**-1.1**
	baz=65									
RCTC	**Rector, Farmer**	**65.41**	**298**	⇓	P	**P**	**10**	**19**	**47.2**	**-1.1**
	baz=65									
YBH	**Yreka Blue Hor**	**65.43**	**305**		*e*P	**P**	**10**	**19**	**48.3**	**-0.2**
	comp=Z,127nm,2.6s									
YBH	**Yreka Blue Hor**	**65.43**	**305**		*e*P	**P**	**10**	**19**	**48.3**	**-0.2**
	comp=Z,127nm,2.6s									
YBH					LR	LR				
	comp=Z,2µm,19.0s									
CMB	**Columbia Colle**	**65.46**	**300**		*e*P	**P**	**10**	**19**	**48.2**	**-0.5**
	comp=Z,60nm,1.8s									
CMB	**Columbia Colle**	**65.46**	**300**		*e*P	**P**	**10**	**19**	**48.2**	**-0.5**
	comp=Z,60nm,1.8s									
CMB					LR	LR				
	comp=Z,3µm,21.0s									
MWC	**Mount Wilson**	**65.49**	**296**		*e*P	**P**	**10**	**19**	**48.5**	**-0.6**
	comp=Z,29nm,1.2s									
MWC	**Mount Wilson**	**65.49**	**296**		*e*P	**P**	**10**	**19**	**48.5**	**-0.6**
	comp=Z,29nm,1.2s									
MWC					LR	LR				
	comp=Z,5µm,22.0s									
VES	**Vestal, Richgr**	**65.51**	**298**	⇓	P	**P**	**10**	**19**	**47.9**	**-1.1**
	baz=65									
LVC	**Limon Verde**	**65.52**	**214**		*e*P	**P**	**10**	**19**	**49.8**	**+0.5**
	comp=Z,473nm,3.0s									
LVC	**Limon Verde**	**65.52**	**214**		*e*P	**P**	**10**	**19**	**49.9**	**+0.5**
	comp=Z,473nm,3.0s									
LVC					LR	LR				
	comp=Z,5µm,22.0s									
PASC	**Pasadena Art C**	**65.61**	**296**		PFAKE			10	20	00.0 +10
PASC					LR	LR				
	comp=Z,4µm,21.0s									
ARVC	**Arvin**	**65.65**	**297**	⇑	P	**P**	**10**	**19**	**48.6**	**-1.3**
	baz=66									
OHCM	**Honcut**	**65.65**	**302**		*e*P	**P**	**10**	**19**	**49.1**	**-0.7**
OHCM	**Honcut**	**65.65**	**302**		*e*P	**P**	**10**	**19**	**49.1**	**-0.7**
N02D	**Trinity Center**	**65.76**	**304**	⇑	P	**P**	**10**	**19**	**48.8**	**-1.8**
	baz=66									
OSI	**Osito Audit: C**	**65.80**	**296**	⇓	P	**P**	**10**	**19**	**50.0**	**-1.0**
	baz=66									
WDC	**Whiskeytown Da**	**65.83**	**304**		PFAKE			10	20	00.0 +9.0
WDC					LR	LR				
	comp=Z,3µm,22.0s									
L02D	**Cave Junction,**	**65.84**	**305**	⇑	P	**P**	**10**	**19**	**49.5**	**-1.5**
	baz=66									
KEBM	**Edson Butte**	**66.01**	**306**		PFAKE			10	20	00.0 +7.8
KEBM					LR	LR				
	comp=Z,3µm,20.0s									
AKTK	**Aktyubinsk**	**66.05**	**44**		P	**P**	**10**	**19**	**51.0**	**-1.2**
	comp=Z,102nm,1.7s									
AKTO	**Aktyubinsk**	**66.05**	**44**		P	**P**	**10**	**19**	**50.9**	**-1.3**
SCRK	**Sand Creek**	**66.16**	**333**		*e*P	**P**	**10**	**19**	**54.6**	**+1.8**
	comp=Z,24nn,0.9s									
SCRK	**Sand Creek**	**66.16**	**333**		*e*P	**P**	**10**	**19**	**54.6**	**+1.8**
	comp=Z,24nn,0.9s									
SCRK					LR	LR				
	comp=Z,1µm,18.0s									
KBO	**Bosley Butte**	**66.23**	**306**		PFAKE			10	20

comp=Z,58nm,0.8s
BWN Browne 68.05 334 *e*P P 10 20 05.6 +0.9
comp=Z,58nm,0.8s
BWN LR LR
comp=Z,2µm,20.0s
MCK McKinley 68.11 334 *e*P P 10 20 07.0 +1.8
comp=Z,44nm,1.4s
MCK McKinley 68.11 334 *e*P P 10 20 07.0 +1.8
comp=Z,44nm,1.4s
MCK LR LR
comp=Z,2µm,21.0s
RND Reindeer 68.28 333 *e*P P 10 20 07.5 +1.3
comp=Z,34nm,1.3s
RND Reindeer 68.28 333 *e*P P 10 20 07.5 +1.3
comp=Z,34nm,1.3s
RND LR LR
comp=Z,2µm,20.0s
RAGM Ragged Mountai 68.37 330 *e*P P 10 20 08.4 +1.5
comp=Z,98nm,1.7s
RAGM Ragged Mountai 68.37 330 *e*P P 10 20 08.4 +1.5
comp=Z,98nm,1.7s
RAGM LR LR
comp=Z,4µm,21.0s
IM04 Indian Mountai 68.40 337 *e*P P 10 20 06.1 -0.8
IM04 Indian Mountai 68.40 337 *e*P P 10 20 06.1 -0.8
DIV Divide 68.40 331 *e*P P 10 20 08.3 +1.2
comp=Z,38nm,1.0s
DIV Divide 68.40 331 *e*P P 10 20 08.3 +1.2
comp=Z,38nm,1.0s
DIV LR LR
comp=Z,2µm,19.0s
SCM Sheep Creek Mo 68.62 332 *e*P P 10 20 09.6 +1.2
comp=Z,45nm,1.3s
SCM Sheep Creek Mo 68.62 332 *e*P P 10 20 09.6 +1.2
comp=Z,45nm,1.3s
SCM LR LR
comp=Z,3µm,21.0s
BPAW Bear Paw Mtn. 68.62 335 *e*P P 10 20 07.9 -0.4
comp=Z,50nm,2.4s
BPAW Bear Paw Mtn. 68.62 335 *e*P P 10 20 07.9 -0.4
comp=Z,50nm,2.4s
EYAK Cordova Ski Ar 68.72 330 *e*P P 10 20 10.7 +1.8
comp=Z,75nm,1.7s
EYAK Cordova Ski Ar 68.72 330 *e*P P 10 20 10.7 +1.8
comp=Z,75nm,1.7s
TRF Thorofare Moun 68.77 334 *e*P P 10 20 10.4 +0.9
comp=Z,66nm,1.4s
TRF Thorofare Moun 68.77 334 *e*P P 10 20 10.4 +0.9
comp=Z,66nm,1.4s
TRF LR LR
comp=Z,2µm,21.0s
KTH Kantishna Hill 68.93 334 *e*P P 10 20 11.0 +0.6
comp=Z,43nm,1.0s
KTH Kantishna Hill 68.93 334 *e*P P 10 20 11.0 +0.6
comp=Z,43nm,1.0s
KTH LR LR
comp=Z,2µm,21.0s
CAST Castle Rocks 69.43 334 *e*P P 10 20 13.5 +0.2
comp=Z,73nm,2.2s
CAST Castle Rocks 69.43 334 *e*P P 10 20 13.5 +0.2
comp=Z,73nm,2.2s
CAST LR LR
comp=Z,1µm,20.0s
PMR Palmer 69.46 332 *e*P P 10 20 14.7 +1.2
PMR Palmer 69.46 332 *e*P P 10 20 14.7 +1.2
PPLA Purkeypile 69.79 334 *e*P P 10 20 16.4 +0.6
comp=Z,170nm,1.8s
PPLA Purkeypile 69.79 334 *e*P P 10 20 16.4 +0.6
comp=Z,170nm,1.8s
PPLA LR LR
comp=Z,2µm,21.0s
RC01 Rabbit Creek A 69.99 332 PFAKE 10 20 30.0 +13
RC01 LR LR
comp=Z,2µm,22.0s
RAYN Ar Rayn 70.12 75 *e*P P 10 20 19.3 +1.0
comp=Z,20nm,1.5s
RAYN Ar Rayn 70.12 75 *e*P P 10 20 19.3 +1.0
comp=Z,20nm,1.5s
RAYN LR LR
comp=Z,5µm,21.0s
SEW Seward 70.48 331 *e*P P 10 20 20.7 +1.0
comp=Z,52nm,1.2s
SEW Seward 70.48 331 *e*P P 10 20 20.7 +1.0
comp=Z,52nm,1.2s
SEW LR LR
comp=Z,2µm,22.0s
SPU Mount Spurr 70.82 333 *e*P P 10 20 24.8 +2.9
SPU Mount Spurr 70.82 333 *e*P P 10 20 24.8 +2.9
BRLK Bradley Lake 71.26 331 PFAKE 10 20 40.0 +15
BRLK LR LR
comp=Z,2µm,22.0s
BRVK Borovoye 71.30 38 *e*P P 10 20 25.0 +0.1
comp=Z,79nm,1.4s
BRVK Borovoye 71.30 38 P P **10 20 25.3 +0.3**
SNR=21
BRVK Borovoye 71.30 38 *e*P P 10 20 25.1 +0.1
comp=Z,79nm,1.4s
BRVK LR LR
comp=Z,14µm,18.0s
MBAR Mbarara 71.46 104 *e*P P 10 20 30.4 +3.7
IKAZ Kazeroun 71.83 66 *e*P P 10 20 27.8 -1.2
IKAZ Kazeroun 71.83 66 *e*P P 10 20 27.8 -1.2
LCO Las Campanas 71.87 212 PFAKE 10 20 40.0 +11
LCO LR LR
comp=Z,3µm,18.0s
FURI Furi 72.37 92 PFAKE 10 20 40.0 +7.6
FURI LR LR
comp=Z,14µm,18.0s
TIXI Tiksi 72.82 5 *i*P P 10 20 33.8 +0.1
comp=Z,2µm,24.0s
TIXI Tiksi 72.82 5 *e*P P 10 20 33.4 -0.3
comp=Z,214nm,2.4s
TNA Tin City 72.83 341 PFAKE 10 20 50.0 +16
TNA LR LR
comp=Z,2µm,22.0s
ISRV Sarvestan 72.99 66 *e*P P 10 20 35.0 -0.9
ISRV Sarvestan 72.99 66 *e*P P 10 20 35.0 -0.9
KDAK Kodiak Island 73.20 330 *e*P P 10 20 37.1 +1.0
comp=Z,75nm,1.6s
KDAK Kodiak Island 73.20 330 *e*P P 10 20 37.1 +1.0
comp=Z,75nm,1.6s
KDAK LR LR
comp=Z,3µm,22.0s
OHAK Old Harbor 73.86 330 *e*P P 10 20 41.7 +1.7
comp=Z,442nm,2.8s
OHAK Old Harbor 73.86 330 *e*P P 10 20 41.7 +1.7
comp=Z,442nm,2.8s
OHAK *e*PP PP 10 23 30.3 +6.1
DAMY Dhamar 73.93 83 PFAKE 10 20 50.0 +8.5
DAMY LR LR
comp=Z,11µm,18.0s
TSUM Tsumeb 74.24 128 *e*P P 10 20 47.5 +4.6
TSUM LR LR
comp=Z,9µm,22.0s
GAMB Gambell 75.24 341 PFAKE 10 21 00.0 +12
GAMB LR LR
comp=Z,2µm,19.0s
TRIS Tristan da Cun 75.26 161 PFAKE 10 21 00.0 +12
TRIS LR LR
comp=Z,7µm,22.0s
BILL Bilibino 75.65 352 *i*P P 10 20 49.3 -0.9
comp=Z,20nm,1.7s
BILL Bilibino 75.65 352 *e*PcP PcP 10 21 06.0 +3.0
BILL Bilibino 75.65 352 *e*P P 10 20 51.7 +1.4
BILL LR LR
comp=Z,6µm,22.0s
NVS Novosibirsk 76.21 31 *e*P P 10 20 54.1 +0.5
comp=Z,114nm,1.4s
CHGN Chignik 76.55 331 *e*P P 10 20 57.5 +1.9
CHGN Chignik 76.55 331 *e*P P 10 20 57.5 +1.9
KURK Kurchatov 76.84 36 *e*P P 10 20 57.8 +0.5
comp=Z,64nm,1.1s
KURK Kurchatov 76.84 36 P P **10 20 57.6 +0.3**
SNR=25
KURK Kurchatov 76.84 36 *e*P P 10 20 57.8 +0.5
comp=Z,64nm,1.1s
KURK LR LR
comp=Z,4µm,20.0s
TRQA Tornquist 76.86 201 PFAKE 10 21 10.0 +13
TRQA LR LR
comp=Z,5µm,18.0s
KMBO Kilima Mbogo 76.98 101 *e*P P 10 20 58.6 -0.4
comp=Z,31nm,1.5s
KMBO Kilima Mbogo 76.98 101 *e*P P 10 20 58.6 -0.4
comp=Z,31nm,1.5s
KMBO LR LR
comp=Z,10µm,18.0s

KK31 Karatay Array 77.18 46 *i*P P 10 20 58.5 -0.9
comp=Z,9.0nm,0.8s
KKAR Karatay Array 77.18 46 *e*P P 10 21 00.5 +1.0
KKAR Karatay Array 77.18 46 *e*P P 10 21 00.5 +1.0
BANOM Banah 77.22 67 P P **10 21 00.0 +0.1**
SNR=9.2
BANOM Banah 77.22 67⇑ *i*P P 10 20 60.0 +0.1
SNR=9.2
ZAA1 Zalesovo Array 77.49 31 *e*P P 10 21 00.2 -0.7
ZAA1 Zalesovo Array 77.49 31 *e*P P 10 21 00.2 -0.7
ZAA0 Zalesovo Array 77.50 31 *e*P P 10 21 02.1 +1.2
ZAA0 Zalesovo Array 77.50 31 *e*P P 10 21 02.1 +1.2
ZALV Zalesovo Beam 77.50 31 P P **10 21 00.2 -0.8**
HATD Hatta, Dubai 77.69 68 P P **10 21 02.8 +0.2**
SNR=16
HATD Hatta, Dubai 77.69 68 P P **10 21 02.8 +0.2**
SNR=16
HATD Hatta, Dubai 77.69 68⇑ *i*P P 10 21 00.8 -1.7
SNR=12
ASHO Ashiyiah 77.71 69 P P **10 21 01.3 -1.4**
SNR=5.5
ASHO Ashiyiah 77.71 69⇓ *i*P P 10 21 01.3 -1.4
SNR=5.5
LSZ Lusaka 78.81 118 *e*P P 10 21 10.8 +1.9
comp=Z,14µm,19.0s
LSZ Lusaka 78.81 118 *e*P P 10 21 10.8 +1.9
comp=Z,43nm,1.4s
LSZ LR LR
comp=Z,14µm,19.0s
EKS2 Erkin-Say 79.36 45 *e*P P 10 21 13.1 +1.5
comp=Z,73nm,1.5s
EKS2 Erkin-Say 79.36 45 *e*P P 10 21 13.2 +1.5
comp=Z,73nm,1.5s
EKS2 LR LR
comp=Z,13µm,19.0s
AML Almayashu 79.64 45 P P **10 21 14.8 +1.3**
SNR=16
FRU Bishkek 79.73 44 *e*P P 10 21 14.0 +0.4
comp=Z,120nm,2.0s
AAK Ala-Archa 79.79 45 *e*P P 10 21 15.6 +1.5
comp=Z,14µm,22.0s
AAK Ala-Archa 79.79 45 *e*P P 10 21 15.6 +1.5
comp=Z,120nm,2.0s
AAK LR LR
comp=Z,14µm,22.0s
TKM2 Tokmak 2 80.23 44 *e*P P 10 21 17.9 +1.4
comp=Z,17µm,22.0s
TKM2 Tokmak 2 80.23 44 *e*P P 10 21 17.9 +1.4
comp=Z,149nm,2.0s
TKM2 LR LR
comp=Z,17µm,22.0s
AAA Alma-Ata 80.77 43 *e*P P 10 21 21.7 +2.5
comp=Z,800nm,6.8s
MK31 Makanchi Array 81.26 38 *i*P P 10 21 20.5 -1.2
comp=Z,34nm,0.9s
MK32 Makanchi Array 81.26 38 *e*P P 10 21 20.7 -1.0
MK32 Makanchi Array 81.26 38 *e*P P 10 21 20.7 -1.0
MK32 *e*PKKPbc **PKKPbc 10 39 54.7 -1.6**
MKAR Makanchi Array 81.26 38 *e*P P 10 21 21.2 -0.5
MKAR Makanchi Array 81.26 38 *e*P P 10 21 21.2 -0.5
MKAR PKKPbc **PKKPbc 10 39 54.7 -1.6**
MK01 Makanchi Array 81.28 38 *e*P P 10 21 21.1 -0.7
MK01 Makanchi Array 81.28 38 *e*P P 10 21 21.1 -0.7
KBL Kabul 81.37 54 PFAKE 10 21 30.0 +7.2
KBL LR LR
comp=Z,3µm,22.0s
UNV Unalaska Valle 81.49 333 *e*P P 10 21 24.8 +2.1
comp=Z,147nm,1.9s
UNV Unalaska Valle 81.49 333 *e*P P 10 21 24.8 +2.1
comp=Z,147nm,1.9s
UNV LR LR
comp=Z,1µm,20.0s
SEY Seymchan 81.89 356 *i*P P 10 21 24.5 -0.1
SEY Seymchan 81.89 356 P P **10 21 21.9 -2.8**
PLCA Paso Flores 82.08 206 *e*P P 10 21 28.5 +2.7
PLCA Paso Flores 82.08 206 *e*P P 10 21 28.5 +2.7
YAK Yakutsk 82.33 7 *e*P P 10 21 26.4 -0.5
comp=Z,5.0nm,1.1s
KSH Kashi 82.63 46 P P **10 21 30.8 +1.7**
KSH pP **pP 10 21 35.8 +1.5**
KSH sP **sP 10 21 37.5 +1.4**
KSH PP **PP 10 24 43.0 +4.8**
KSH S **S 10 31 47.3 +1.2**
KSH SS **SS 10 37 13.0 +6.1**
KSH PMZ
comp=Z,98nm,1.6s
KSH PMZ
comp=Z,460nm,3.8s
KSH LN
comp=Z,12µm,19.8s
KSH LE
comp=Z,10µm,19.6s
KSH LZ
comp=Z,24µm,22.8s
UPI Upington 83.17 132 *e*P P 10 21 31.0 -0.8
UPI Upington 83.17 132 *e*P P 10 21 31.0 -0.8
LBTB Lobatse 83.57 127 *e*P P 10 21 35.3 +1.3
comp=Z,50nm,1.6s
LBTB Lobatse 83.57 127 *e*P P 10 21 35.3 +1.3
comp=Z,50nm,1.6s
MSNA Messina 84.77 122 *e*P P 10 21 43.9 +3.8
SWZ Schweizer 84.89 128 *e*P P 10 21 41.3 +0.6
SWZ Schweizer 84.89 128 *e*P P 10 21 41.3 +0.6
ATKA Atka Island 85.55 336 PFAKE 10 21 50.0 +6.4
ATKA LR LR
comp=Z,600nm,22.0s
SUR Sutherland 85.81 135 PFAKE 10 22 00.0 +15
SUR LR LR
comp=Z,6µm,18.0s
BOSA Boshof 85.83 129 *e*P P 10 21 49.8 +4.4
comp=Z,35nm,1.4s
SLR Silverton 85.84 125 *e*P P 10 21 49.0 +3.5
PRYS Parys 86.03 127 *e*P P 10 21 48.5 +2.0
WMQ Urumqi 86.06 37 P P **10 21 48.3 +1.9**
WMQ pP **pP 10 21 53.0 +1.5**
WMQ sP **sP 10 21 55.3 +1.9**
WMQ PP **PP 10 25 10.0 +4.1**
WMQ SKS **SKSac 10 32 11.5 -0.4**
WMQ S **S 10 32 21.0 +0.9**
WMQ SS **SS 10 38 01.5 +4.5**
WMQ PMZ
comp=Z,40nm,1.4s
WMQ PMZ
comp=Z,510nm,3.8s
ERPM east rand prop 86.22 126 *e*P P 10 21 49.0 +1.6
ERPM east rand prop 86.22 126 *e*P P 10 21 49.0 +1.6
TLY Talaya 86.43 24 P P 10 21 56.7 +8.7
SNR=9.8
TLY Talaya 86.43 24 PFAKE 10 22 00.0 +12
TLY LR LR
comp=Z,6µm,22.0s
ADK Adak 86.64 337 PFAKE 10 22 00.0 +11
ADK LR LR
comp=Z,2µm,22.0s
SEK Senekal 87.15 128 *e*P P 10 21 51.8 -0.1
SEK Senekal 87.15 128 *e*P P 10 21 51.8 -0.1
HVD Gariep Dam 87.36 131 *e*P P 10 21 57.9 +5.1
ZAK Zakamensk 87.41 25 *e*P P 10 21 54.0 +1.1
comp=Z,14nm,2.1s
DHRM DHARAMSHALA 87.53 52 *e*P P 10 21 54.0 0.0
EFI East Falkland 88.74 194 PFAKE 10 22 10.0 +11
EFI LR LR
comp=Z,6µm,22.0s
SMLA Simla 88.82 52 *e*P P 10 21 59.7 -0.2
DDI Dehra Dun 89.93 52 *e*P P 10 22 06.3 +1.2
DDI AMB AMB 10 22 09.5
comp=Z,34nm,1.7s
NDI New Delhi 90.46 54 *ex* x 10 22 20.0
NDI *e*S **SKSac 10 32 38.0 -0.7**
SONA1 Songino Array 90.64 24 *e*P P 10 22 08.9 +0.6
SONA1 Songino Array 90.64 24 *e*P P 10 22 08.9 +0.6
SONA0 Songino Array 90.65 24 *e*P P 10 22 06.4 -1.9
SONA0 Songino Array 90.65 24 *e*P PP 10 25 42.2 -0.3
SONA0 Songino Array 90.65 24 *e*P P 10 22 06.4 -1.9
SONA0 *e*PP **PP 10 25 42.2 -0.3**
SONM Songino Array 90.65 24 P P **10 22 06.4 -1.9**
SONM PP **PP 10 25 42.2 -0.3**
ULN Ulaanbaatar 90.85 24 *e*P P 10 22 09.9 +0.7
ULN Ulaanbaatar 90.85 24 P P 10 22 15.5 +6.3
SNR=8.4
ULN Ulaanbaatar 90.85 24 *e*P P 10 22 09.9 +0.7
PET Petropavlovsk 91.14 351 PFAKE 10 22 20.0 +10
PET LR LR
comp=Z,2µm,22.0s
MSEY Mahe Island 93.82 93 PFAKE 10 22 30.0 +6.7

MSEY LR LR
comp=Z,9µm,19.0s
BHPL Bhopal 94.17 58 *ex* P 10 22 27.1 +2.2
POO Poona 94.65 64 *e*P P 10 22 26.4 -0.7
GTA Gaotai 95.19 33 ⇑P P 10 22 30.3 +1.0
GTA pP **pP 10 22 35.0 +0.5**
GTA sP **sP 10 22 37.3 +1.0**
GTA PP PP 10 26 24.0 +5.7
GTA SKS **SKSac 10 33 03.5 -1.4**
GTA S **S 10 33 43.5 -0.7**
GTA sS **sS 10 33 51.8 -1.0**
GTA PMZ
comp=Z,3.0nm,1.3s
GTA PMZ
comp=Z,83nm,5.2s
GTA LN
comp=Z,7µm,26.1s
GTA LE
comp=Z,8µm,28.0s
GTA LZ
comp=Z,6µm,28.5s
ABPO Ambohimpanom 95.40 109 PFAKE 10 22 40.0 +9.4
ABPO LR LR
comp=Z,13µm,19.0s
AKL Akola 95.54 60 *e*P P 10 22 28.8 -2.3
HABR Khabarovsk 96.23 6 *e*P P 10 22 31.2 -2.5
comp=Z,37nm,1.9s
HABR Khabarovsk 96.23 6 *e*S S 10 33 50.3 -2.3
GOA Goa 96.55 66 *e*P P 10 22 35.6 -0.2
GOA AMB AMB 10 22 44.9
comp=Z,20nm,1.7s
NGP Nagpur 96.68 58 *e*P P 10 22 35.3 -1.0
YSS Yuzh-Sakhalins 98.13 1 PFAKE 10 22 50.0 +7.7
YSS LR LR
comp=Z,2µm,22.0s
LSA Lhasa 98.38 45 PFAKE 10 23 00.0 +16
LSA LR LR
comp=Z,8µm,22.0s
HHC Hu-ho-hao-te 98.56 24 *e*P P 10 22 43.8 -0.7
HHC sP **sP 10 22 52.3 +0.8**
HHC PP **PP 10 26 46.8 +2.7**
HHC SKS **SKSac 10 33 17.8 -4.4**
HHC S S 10 34 06.8 -6.3
HHC SS **SS 10 40 54.8 -1.3**
HHC PMZ
comp=Z,14nm,0.8s
HHC PMZ
comp=Z,80nm,5.7s
HHC LN
comp=Z,7µm,17.1s
HHC LE
comp=Z,6µm,17.7s
HHC LZ
comp=Z,4µm,17.8s
HYBB Hyderabad (bro 98.78 62 *e*Pdif P 10 22 44.0 -1.9
HYBB *e*PP **PP 10 26 47.0 +0.3**
HYBB *e*SS SS 10 41 02.2 +1.2
HYB Hyderabad 98.78 62 *i*P P 10 22 44.0 -1.8
HYB *e*PP **PP 10 26 50.0 +3.2**
HYB *e*SKS **SKSac 10 33 25.0 +1.1**
HYB *e*SPP SPP 10 36 20.0
HYB *e*SS **SS 10 41 06.0 +5.0**
HYB *e* 10 42 04.0
HYB *e*SSS SSS 10 44 50.0
HYB Hyderabad 98.78 62 *e*P Pdif 10 22 46.2 +0.3
HYB AMB AMB 10 22 50.4
comp=Z,16nm,2.6s
MDJ Mudanjiang 99.39 10 P **Pdif 10 22 46.5 -1.5**
MDJ S **S 10 34 21.3 +1.6**
MDJ SS **SS 10 41 05.3 -1.9**
MDJ PMZ
comp=Z,6.0nm,0.7s
MDJ PMZ
comp=Z,270nm,4.7s
MDJ LN
comp=Z,3µm,37.2s
MDJ LE
comp=Z,10µm,35.8s
MDJ LZ
comp=Z,2µm,29.2s
MDJ Mudanjiang 99.39 10 PFAKE 10 23 00.0 +12
MDJ LR LR
comp=Z,3µm,21.0s
URV Uravakonda 99.44 64 *e*PP PP 10 26 54.0 +2.2
URV *e*SS SS 10 41 12.9 +2.4
BOK Bokaro 99.47 52 *e*P Pdif 10 22 47.8 -0.9
BOK AMB AMB 10 23 02.8
comp=Z,15nm,0.5s
CN2 Changchun 99.48 14 *e*P Pdif 10 22 47.0 -1.4
CN2 *e*S S 10 34 14.5 -6.0
CN2 PMZ
comp=Z,10.0nm,0.7s
CN2 PMZ
comp=Z,300nm,5.0s
CN2 LN
comp=Z,500nm,18.0s
CN2 LE
comp=Z,1µm,18.0s
LZH Lanzhou 99.72 32 *e*P Pdif 10 22 50.3 +0.4
LZH pP **pP 10 22 53.5 -1.6**
LZH sP **sP 10 22 55.0 -1.9**
LZH PP **PP 10 26 57.0 +3.8**
LZH SKS **SKSac 10 33 27.5 -0.8**
LZH S **ScS 10 34 17.0 -6.2**
LZH SS **SS 10 41 11.3 -1.5**
LZH PMZ
comp=Z,53nm,1.3s
LZH PMZ
comp=Z,170nm,6.0s
LZH LN
comp=Z,7µm,18.0s
LZH LE
comp=Z,4µm,16.0s
LZH LZ
comp=Z,7µm,19.7s
NJS Nagarjunasagar 99.89 62 *e*Pdif Pdif 10 22 52.5 +1.7
NJS *e*SS SS 10 41 20.7 +4.2
BJI Beijing 100.76 21 P **Pdif 10 22 52.8 -1.4**
BJI S **Sdif 10 34 24.8 -6.5**
BJI PMZ
comp=Z,7.0nm,0.7s
BJI LN
comp=Z,6µm,16.7s
BJI LE
comp=Z,4µm,14.1s
BJI LZ
comp=Z,4µm,20.3s
BJT Baijiatuan 100.78 21 PFAKE 10 23 10.0 +16
BJT LR LR
comp=Z,6µm,20.0s
POHA Pohakuloa 100.80 304 PFAKE 10 23 10.0 +15
POHA LR LR
comp=Z,3µm,21.0s
YUK Yuzh-Kuril'sk 101.04 359 P **Pdif 10 22 52.6 -2.7**
SHL Shillong 101.91 47 *e*P Pdif 10 22 59.1 -0.7
SHL AMB AMB 10 23 08.3
comp=Z,5.6nm,3.0s
CHLP Challavanipeta 101.93 57 *e*Pdif Pdif 10 23 06.8 +7.1
CHLP *e*PP **PP 10 27 11.6 +1.2**
CHLP *e*SKSac **SKSac 10 33 39.7 +0.6**
CHLP *e*SS SS 10 41 52.2 +7.7
VIS Vishakhapatnam 101.96 58 *e*P Pdif 10 22 57.2 -2.7
VIS AMB AMB 10 23 07.3
comp=Z,23nm,0.5s
SKHT Srikalahasti 102.03 64 *e*Pdif Pdif 10 23 02.1 +1.9
SKHT *e*PP **PP 10 27 09.1 -2.2**
SKHT *e*SKSac **SKSac 10 33 34.8 -4.9**
SKHT *e*SS **SS 10 41 50.3 +4.0**
INCN Inchon 105.81 14 PFAKE 10 27 40.0
INCN LR LR
comp=Z,3µm,19.0s
PALK Pallekele 106.95 68 PFAKE 10 27 40.0
PALK LR LR
comp=Z,5µm,21.0s
ENH Enshi 107.12 31 *e*Pdif Pdif 10 23 20.9 -1.9
ENH LR LR
comp=Z,5µm,20.0s
MAJO Matsushiro 108.33 5 PFAKE 10 27 50.0
MAJO LR LR
comp=Z,2µm,20.0s
WHN Wuhan 108.80 27 Pdif **Pdif 10 23 31.5 +1.4**
WHN S **Sdif 10 35 38.0 -0.7**
WHN SS **SS 10 43 18.0 +1.1**
WHN LZ

comp=Z,12μm,16.6s
GYA Guiyang 109.14 35 Pdif Pdif 10 23 31.0 -0.9
GYA PP PP 10 28 05.8 +2.5
GYA PKS PKSdf 10 31 10.3 -2.5
GYA SS SS 10 43 20.8 -1.4
GYA PPMZ
comp=Z,190nm,8.5s
SNAA Sanae 109.19 169 PFAKE 10 27 50.0
SNAA LR LR
comp=Z,4μm,20.0s
DGAR Diego Garcia 109.25 85 PFAKE 10 27 50.0
DGAR LR LR
comp=Z,6μm,19.0s
RKT Rikitea 110.05 255 *e*PP PP 10 28 08.7 -2.4
comp=Z,209nm,29.2s
RKT *e*SP SP 10 37 35.3 -3.1
comp=Z,815nm,36.0s
RKT *e*SS **SS 10 43 37.8 +1.2**
comp=Z,2μm,26.8s
SSE Sheshan 110.55 21 PKP 10 27 34.8
SSE PP **PP 10 28 17.8 +4.8**
SSE SS SS 10 43 44.3 +4.0
SSE PPMZ
comp=Z,96nm,5.9s
SSE LN
comp=Z,6μm,17.0s
SSE LE
comp=Z,4μm,17.0s
SSE LZ
comp=Z,5μm,17.9s
JNU Nakatsue 110.84 12 PFAKE 10 27 50.0
JNU LR LR
comp=Z,4μm,20.0s
CHTO Chiang Mai 111.25 46 PFAKE 10 27 50.0
CHTO LR LR
comp=Z,4μm,21.0s
QZH Quanzhou 115.43 26 *e*Pdif **Pdif 10 23 59.0 -0.7**
QZH *e*PP **PP 10 28 51.0 +3.1**
QZH S **Sdif 10 36 29.0 -5.2**
QZH LN
comp=Z,9μm,18.2s
QZH LE
comp=Z,10μm,16.8s
QZH LZ
comp=Z,10μm,16.7s
TATO Taipei 116.37 23 PFAKE 10 28 00.0 +10
TATO LR LR
comp=Z,3μm,18.0s
YHNB Yeheng 116.62 23 PFAKE 10 28 00.0 +10
YHNB LR LR
comp=Z,5μm,21.0s
QIZ Qiongzhong 116.97 37 PKP PKPdf 10 27 50.3 -0.6
QIZ PP **PP 10 28 58.5 -0.6**
QIZ SS SS 10 45 04.8 -1.2
QIZ LN
comp=Z,3μm,20.3s
QIZ LE
comp=Z,1μm,19.8s
QIZ LZ
comp=Z,5μm,23.4s
QIZ Qiongzhong 116.97 37 PFAKE 10 28 00.0 +9.1
QIZ LR LR
comp=Z,4μm,19.0s
NACB Ninganchiao 117.15 23 PFAKE 10 28 00.0 +8.8
NACB LR LR
comp=Z,6μm,22.0s
YOJ Yonaguni jima 117.32 22 PFAKE 10 28 00.0 +8.5
YOJ LR LR
comp=Z,5μm,18.0s
TPUB Ta-pu 117.64 24 PFAKE 10 28 00.0 +7.8
TPUB LR LR
comp=Z,5μm,20.0s
YULB Yu-li 117.78 24 PFAKE 10 28 00.0 +7.6
YULB LR LR
comp=Z,6μm,22.0s
TWG Pinlang 118.24 24 PFAKE 10 28 10.0 +17
TWG LR LR
comp=Z,17μm,19.0s
PPT2 Papeete2 119.05 268 *e*PP PP 10 29 15.2 +0.3
comp=Z,175nm,28.5s
PPT2 Papeete2 119.05 268 *e*PS PS 10 39 02.7 0.0
comp=Z,528nm,27.5s
PPT2 *e*SS SS 10 45 37.7 +2.3
comp=Z,4μm,30.8s
PPT2 Papeete2 119.05 268 *e*LQ LQ 10 58 56.8
comp=Z,6μm,33.2s
PPT2 *e*LR LR 11 04 04.0
comp=Z,1μm,24.5s
LHMI Lhok Sumawe 120.16 58 PFAKE 10 28 10.0 +13
LHMI LR LR
comp=Z,2μm,20.0s
TBI Tubuai 121.78 262 *e*PP PP 10 29 33.2 -0.3
comp=Z,143nm,30.2s
TBI Tubuai 121.78 262 *e*PS PS 10 39 28.3 +1.4
comp=Z,554nm,30.0s
TBI *e*SS SS 10 46 09.2 -1.1
comp=Z,2μm,36.2s
TBI Tubuai 121.78 262 *e*LQ LQ 11 00 12.7
comp=Z,4μm,40.5s
TBI *e*LR LR 11 05 24.6
comp=Z,2μm,34.8s
KULM Kulim 122.62 54 PFAKE 10 28 10.0 +8.1
KULM LR LR
comp=Z,3μm,20.0s
PSI Prapat 123.26 58 PFAKE 10 28 20.0 +17
PSI LR LR
comp=Z,4μm,20.0s
GSI Gunungsitoli 123.38 60 PFAKE 10 28 20.0 +17
GSI LR LR
comp=Z,4μm,20.0s
IPM Ipoh 123.47 55 PFAKE 10 28 20.0 +16
IPM LR LR
comp=Z,4μm,21.0s
QSPA South Pole Qui 125.17 180 *e*PKIKP **PKPdf 10 28 07.1 +1.9**
QSPA South Pole Qui 125.17 180 *e*PKPdf **PKPdf 10 28 07.1 +1.9**
QSPA LR LR
comp=Z,5μm,21.0s
BKNI Bangkinang 126.50 58 PFAKE 10 28 20.0 +11
BKNI LR LR
comp=Z,3μm,22.0s
MYKOM Kota Tinggi 127.34 54 PFAKE 10 28 20.0 +9.1
MYKOM LR LR
comp=Z,3μm,21.0s
MNAI Manna 131.16 61 PFAKE 10 28 30.0 +12
MNAI LR LR
comp=Z,3μm,20.0s
KKM Kota Kinabalu 131.24 38 PFAKE 10 28 30.0 +12
KKM LR LR
comp=Z,3μm,22.0s
COCO West Island 131.59 74 PFAKE 10 28 30.0 +11
COCO LR LR
comp=Z,2μm,19.0s
KSM Kuching 131.71 48 PFAKE 10 28 30.0 +11
KSM LR LR
comp=Z,3μm,22.0s
SBUM Sibu 132.06 45 PFAKE 10 28 30.0 +10
SBUM LR LR
comp=Z,5μm,21.0s
DAV Davao City (W) 134.41 26 PFAKE 10 28 40.0 +16
DAV LR LR
comp=Z,3μm,20.0s
SBA Scott Base 136.21 187 *e*PKPdf **PKPdf 10 28 30.9 +5.1**
CISI Cisompet, Garu 136.82 59 PFAKE 10 28 40.0 +11
CISI LR LR
comp=Z,3μm,21.0s
VNDA Vanda 136.95 186 *e*PKIKP **PKPdf 10 28 31.2 +4.1**
VNDA Vanda 136.95 186 PKP **PKPdf 10 28 24.6 -2.6**
VNDA *e*PKPdf **PKPdf 10 28 31.2 +4.1**
TOLI Toli-Toli 137.75 36 PFAKE 10 28 40.0 +9.4
TOLI LR LR
comp=Z,2μm,22.0s
LUWI Luwuk 140.58 35 PFAKE 10 28 50.0 +14
LUWI LR LR
comp=Z,2μm,22.0s
TNTI Ternate 140.88 27 PFAKE 10 28 50.0 +14
TNTI LR LR
comp=Z,1μm,22.0s
JAGI Jajag, Banyuwa 141.78 53 PFAKE 10 28 50.0 +12
JAGI LR LR
comp=Z,2μm,22.0s
KAPI Kappang 142.44 42 PFAKE 10 28 50.0 +11
KAPI LR LR
comp=Z,486nm,20.0s
CASY Casey 143.30 158 PFAKE 10 28 50.0 +11
CASY LR LR
comp=Z,5μm,18.0s

MSVF Nonsavu 145.15 291 *e*PKPbc **PKPbc 10 28 42.0 -1.2**
MSVF Nonsavu 145.15 291 *e*PKPbc **PKPbc 10 28 42.0 -1.2**
MSVF LR LR
comp=Z,2μm,22.0s
FAKI Fak Fak 145.98 21 PFAKE 10 29 00.0 +14
FAKI LR LR
comp=Z,2μm,22.0s
MMRI Maumere 146.80 42 PFAKE 10 29 00.0 +10
MMRI LR LR
comp=Z,1μm,20.0s
SOEI Soe 148.82 40 PFAKE 10 29 00.0 +2.3
SOEI LR LR
comp=Z,2μm,21.0s
HNR Honiara 150.46 327 *e*PKIKP **PKPdf 10 28 50.6 -1.9**
HNR Honiara 150.46 327 *e*PKPdf **PKPdf 10 28 50.6 -1.9**
HNR LR LR
comp=Z,18μm,22.0s
BKZ Black Stump Fm 153.97 252 PFAKE 10 29 10.0 +4.9
BKZ LR LR
comp=Z,4μm,20.0s
PMG Port Moresby 154.09 353 PFAKE 10 29 10.0 +4.0
PMG LR LR
comp=Z,9μm,22.0s
MBWA Marble Bar 154.44 63 PFAKE 10 29 10.0 +3.5
MBWA LR LR
comp=Z,3μm,21.0s
COEN Coen 158.75 2 PFAKE 10 29 20.0 +16
COEN LR LR
comp=Z,5μm,22.0s
WRA Warramunga Arr 162.47 32 PKP PKPdf 10 29 05.4 -2.5
WRA PKPab **PKPab 10 29 53.5 -2.0**
AS12 Alice Springs 165.44 40 *e*PKIKP **PKPdf 10 29 08.2 -2.3**
AS12 Alice Springs 165.44 40 *e*PKPab **PKPab 10 30 07.6 -1.0**
AS12 Alice Springs 165.44 40 *e*PKPdf **PKPdf 10 29 08.2 -2.3**
AS12 *e*PKPab **PKPab 10 30 07.6 -1.0**
ASAR Alice Springs 165.44 40 PKP PKPdf 10 29 08.2 -2.3
ASAR PKPab **PKPab 10 30 07.6 -1.0**
AS01 Alice Springs 165.47 40 *e*PKPab **PKPab 10 30 08.6 -0.1**
AS01 Alice Springs 165.47 40 *e*PKPab **PKPab 10 30 08.6 -0.1**

*ISK **25** 10:10:30.6, 40.62N×38.35E, h5km, MD2.9*
*DDA **25** 10:10:31.2, 40.66N×38.35E, h9km, MD2.8*
*CSEM **25** 10:10:31.5±0.2, 40.64N×38.37E, h2km, MD2.8, Error ellipse: s-maj=6.0km s-min=4.7km az=2.0*
ISC 25 10:10:31.5±1.0, 40.64N±0.03×38.35E±0.02, h8km±10km, n20, σ0.62/33, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRSN	**GIRESUNGRSN**	**0.29**	**348**	*i* P	**Pg**	**10 10 37.0**	**-0.3**
GRSN				*i* S	**Sg**	**10 10 41.2**	**0.0**
GRSN	**GIRESUNGRSN**	**0.29**	**348**	*i* P	**Pg**	**10 10 37.0**	**-0.3**
GRSN				*i* S	**Sg**	**10 10 41.2**	**0.0**
ESPY	**Espiye-Giresun**	**0.40**	**46**	*e*PG	**Pg**	**10 10 39.1**	**-0.2**
ESPY	**Espiye-Giresun**	**0.40**	**46**	*e*Pg	**Pg**	**10 10 39.1**	**-0.2**
SUSE	**Susehri**	**0.45**	**195**	*i* P	**Pg**	**10 10 40.5**	**+0.3**
SUSE				*i* S	**Sb**	**10 10 47.6**	**-1.1**
SUSE	**Susehri**	**0.45**	**195**	*i* P	**Pg**	**10 10 40.5**	**+0.3**
SUSE				*i* S	**Sb**	**10 10 47.6**	**-1.1**
RSDY	**Resadiye-TOKAT**	**0.82**	**253**	*e*PG	**Pg**	**10 10 46.6**	**-0.6**
RSDY				*e*SG	**Sg**	**10 10 58.3**	**+0.4**
RSDY	**Resadiye-TOKAT**	**0.82**	**253**	*e*Pg	**Pg**	**10 10 46.6**	**-0.6**
RSDY				*e*Sg	**Sg**	**10 10 58.3**	**+0.4**
KELT	**Kelkit**	**0.85**	**125**	*i* P	**Pg**	**10 10 47.7**	**-0.2**
KELT				*i* S	**Sg**	**10 10 58.9**	**-0.1**
KELT	**Kelkit**	**0.85**	**125**	*i* P	**Pg**	**10 10 47.7**	**-0.2**
KELT				*i* S	**Sg**	**10 10 58.9**	**-0.1**
GUMT	**Gumushane**	**0.88**	**102**	*e*PG	**Pg**	**10 10 47.4**	**-1.1**
GUMT	**Gumushane**	**0.88**	**102**	*e*Pg	**Pg**	**10 10 47.4**	**-1.1**
SVSK	**Karacayir**	**1.26**	**235**	*e*PN	**Pg**	**10 10 55.3**	**-0.4**
SVSK				*e*SN	**Sn**	**10 11 12.4**	**-0.1**
SVSK	**Karacayir**	**1.26**	**235**	*e*Pn	**Pg**	**10 10 55.3**	**-0.4**
SVSK				*e*Sn	**Sn**	**10 11 12.5**	**-0.1**
KOPT	**Kop Dagi**	**1.76**	**110**	*i* P	**Pb**	**10 11 04.3**	**+0.1**
KOPT	**Kop Dagi**	**1.76**	**110**	*i* P	**Pb**	**10 11 04.3**	**+0.1**
KOPT				*i* S	**Sg**	**10 11 29.5**	**+1.5**
PTK	**Pertek**	**1.92**	**155**	*e*PN	**Pn**	**10 11 05.4**	**+0.6**
PTK	**Pertek**	**1.92**	**155**	*e*Pn	**Pn**	**10 11 05.4**	**+0.6**
HAVZ	**Havza**	**2.04**	**283**	*i* P	**Pb**	**10 11 08.5**	**-0.4**
HAVZ				*i* S	**Sb**	**10 11 35.3**	**+0.8**
HAVZ	**Havza**	**2.04**	**283**	*i* P	**Pb**	**10 11 08.5**	**-0.4**
HAVZ				*i* S	**Sb**	**10 11 35.3**	**+0.8**

DDA 25 10:12:00.5, 36.31N×37.01E, h7km, MD2.9, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUZU	**Kuzuini**	**0.46**	**7**	*i* P	Pg	10 12 09.5	-0.1
KUZU				*i* S	Sg	10 12 16.3	+0.6
YAYL	**Yayladag**	**0.78**	**249**	*i* P	Pg	10 12 15.0	-0.6
YAYL				*i* S	Sb	10 12 27.3	-0.2
KAMA	**Osmaniye**	**0.91**	**343**	*i* P	Pg	10 12 18.4	+0.2
KAMA				*i* S	Sg	10 12 30.6	+0.4
HCB	**Kahramanmara¯**	**1.03**	**356**	*i* P	Pb	10 12 20.7	-0.1
HCB				*i* S	Sn	10 12 35.6	-0.7
ANDN	**Andirin**	**1.37**	**337**	*i* P	Pn	10 12 25.8	-0.4
ANDN				*i* S	Sg	10 12 46.2	+1.2

*ISCJB **25** 10:15:07.0±0.5, 59.77N±0.03×24.35E±0.07, h0km, Error ellipse: s-maj=5.0km s-min=4.4km az=22.9*
*IDC **25** 10:15:07.0±2.1, 59.68N×24.78E, h0km, mb1 3.4/3, mb1mx3.2/48, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=22.7km s-min=7.6km az=142.0*
*HEL **25** 10:15:08.6±0.0, 59.77N×24.44E, h0km, ML2.0, Explosion*
ISC 25 10:15:07.2±0.9, 59.76N±0.03×24.45E±0.04, h0km, n16, σ1.25/26, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**0.46**	**357**	*e*P	**Pg**	**10 15 16.5**	**+0.5**
MEF				*e*S	**Sg**	**10 15 22.4**	**+0.5**
PVF	**Pernaja**	**1.06**	**41**	*e*P	**Pg**	**10 15 27.5**	**0.0**
MTSE	**Matsula**	**1.10**	**197**	*e*P	**Pb**	**10 15 28.6**	**-0.4**
MTSE				*e*SB	**Sb**	**10 15 43.6**	**-0.2**
VJF	**Virojoki**	**1.74**	**62**	*e*P	**Pb**	**10 15 39.4**	**-0.6**
VJF				MSG		10 16 00.3	
comp=Z,14nm,0.2s							
VSU	**Vasula**	**1.76**	**137**	*e*SN	**Sg**	**10 16 03.5**	**-0.1**
RAF	**Rauma**	**1.84**	**315**	*e*PN	**Pn**	**10 15 41.2**	**+1.2**
RAF				MSG		10 16 02.9	
comp=Z,15nm,0.2s							
RAF				*e*SN	**Sn**	**10 16 05.1**	**+1.2**
FIA0	**FINESS Array S**	**1.87**	**25**	*e*PN	**Pb**	**10 15 41.8**	**-0.4**
FIA0				*e*SG	**Sn**	**10 16 05.8**	**+1.1**
FINES	**FINESS Array B**	**1.87**	**25**	Pn	**Pb**	**10 15 42.0**	**-0.2**
comp=Z,3.0nm,0.3s,baz=199,slow=17,SNR=147							
FINES				Lg	Lg	10 16 06.1	
comp=Z,3.2nm,0.3s,baz=201,slow=27,SNR=15							
AAL	**Aland**	**2.28**	**283**	*e*PB	**Pn**	**10 15 48.0**	**+2.0**
AAL				*e*SB	**Sb**	**10 16 17.7**	**-0.1**
KEF	**Keuruu**	**2.42**	**5**	*e*PB	**Pb**	**10 15 50.8**	**-0.8**
KEF				MSG		10 16 19.8	
comp=Z,8.8nm,0.2s							
KEF				*e*SG	**Sb**	**10 16 22.5**	**+0.5**
KAF	**Kangasniemi**	**2.53**	**20**	*e*PB	**Pb**	**10 15 52.4**	**-1.0**
KAF				MSG		10 16 22.6	
comp=Z,4.2nm,0.2s							
KAF				*e*SG	**Sb**	**10 16 25.3**	**+0.3**
SUF	**Sumiainen**	**3.08**	**15**	*e*P	**Pn**	**10 15 58.9**	**+1.9**
SUF				MSG		10 16 38.7	
comp=Z,1.9nm,0.2s							
UMAU	**Umeaa**	**4.51**	**338**	*e*PG	**Pb**	**10 16 28.5**	**+1.4**
UMAU				*e*SG	**Sg**	**10 17 28.1**	**-3.7**
HFS	**Hagfors**	**5.42**	**279**	Pn	**Pn**	**10 16 29.7**	**+0.6**
comp=Z,0.1nm,0.3s,baz=96,slow=14,SNR=7.7							
HFS				Sn	**Sn**	**10 17 32.0**	**-0.1**
comp=Z,0.3nm,0.3s,baz=93,slow=24,SNR=3.8							
NOA	**NORSAR Array B**	**6.68**	**287**	Pn	**Pn**	**10 16 45.9**	**-0.7**
comp=Z,0.5nm,0.3s,baz=91,slow=13,SNR=6.1							
NOA				Sn	**Sn**	**10 18 02.6**	**-0.7**
comp=Z,0.1nm,0.3s,baz=106,slow=17,SNR=1.9							
ARCES	**ARCESS Array B**	**9.83**	**2**	Pn	**Pn**	**10 17 27.4**	**-2.1**
comp=Z,0.2nm,0.3s,baz=180,slow=13,SNR=5.6							

IGQ 25 10:22:41±0.3, 0.46S×77.39W, h2km±13km, Mb4.3, 14C-28D, Error ellipse: s-maj=1.7km s-min=0.7km az=8.9, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAV4	**Lava4-Reventad**	**0.43**	**326**	||P	Pg	10 22 49.1	-0.6
CONE	**Cono NE Rev Vo**	**0.46**	**326**	||P	Pg	10 22 50.8	+0.5
CHAR	**Charly**	**0.46**	**322**	P		Pg	10 22 50.9	+0.5
ELAGU	**Cayambe Volc**	**0.74**	**305**	||P	Pg	10 22 55.1	-0.8
ANTI	**Antisana**	**0.77**	**270**	||P	Pg	10 22 57.0	+0.4
CAYR	**Refugio Cayamb**	**0.77**	**307**	||P	Pg	10 22 56.7	0.0
CAYA	**Cayambe**	**0.80**	**311**	||P	Pg	10 22 56.0	-1.0
COV1	**Cotopaxi Volc**	**0.98**	**258**	||P	Pn	10 23 02.1	-0.5
TAMB	**Tambo**	**1.01**	**256**	||P	Pb	10 23 01.8	-0.1
BTAM	**Cotopaxi Volca**	**1.03**	**258**	||S	Sg	10 23 16.1	+0.6
BTAM	**Cotopaxi Volca**	**1.03**	**258**	||P	Pg	10 23 01.2	-0.3
VC1	**Cotopaxi 1**	**1.03**	**260**	||P	Pg	10 23 01.1	-0.4
BVC2	**Cotopaxi Volca**	**1.04**	**259**	||P	Pg	10 23 01.4	-0.3
BVC2	**Cotopaxi Volca**	**1.04**	**259**	||S	Sg	10 23 17.6	+0.4
PITA	**Cotopaxi Volc**	**1.05**	**264**	||P	Pg	10 23 01.1	-0.7
BREF	**Cotopaxi Volca**	**1.07**	**259**	||S	Sb	10 23 18.9	+0.7
BREF	**Cotopaxi Volca**	**1.07**	**259**	||P	Pg	10 23 02.1	-0.4
MOV1	**Cotopaxi Vol s**	**1.08**	**256**	||P	Pb	10 23 03.0	-0.3
NAS2	**Nasa**	**1.10**	**260**	P		Pb	10 23 03.6	+0.2
BMOR	**Cotopaxi Volca**	**1.10**	**256**	||S	Sg	10 23 16.1	-1.7
BMOR	**Cotopaxi Volca**	**1.10**	**256**	||P	Pg	10 23 02.3	-0.7
CAMI	**Rancho Maria**	**1.14**	**259**	⇑P		Pg	10 23 03.3	-0.2
PISA	**Pisayambo**	**1.16**	**239**	||P	Pg	10 23 03.2	-0.8
YANA	**Yana**	**1.23**	**286**	||P	Pg	10 23 04.4	-0.9
COTA	**Cotacachi**	**1.23**	**310**	P		Pb	10 23 05.8	+0.1
GGP	**Refugio Guagua**	**1.24**	**283**	||P	Pb	10 23 05.7	-0.1
JUA2	**San Juan 2**	**1.24**	**281**	||P	Pg	10 23 05.6	+0.2
URCU	**Urcuqui**	**1.24**	**316**	||P	Pb	10 23 05.6	-0.1
TERV	**Terraza Guagua**	**1.25**	**283**	||P	Pg	10 23 05.1	-0.6
PINO	**Pino**	**1.25**	**284**	||P	Pg	10 23 05.0	-0.9
OTAV	**Otavalo**	**1.27**	**303**	||P	Pg	10 23 05.5	-0.4
OTAV	**Otavalo**	**1.27**	**303**	||S	Sg	10 23 21.5	-1.2
PAST	**Pastocalle**	**1.27**	**259**	P		Pg	10 23 06.1	+0.1
BRUN	**Tungurahua Vol**	**1.40**	**227**	⇑S		Sg	10 23 26.8	-0.1
BRUN	**Tungurahua Vol**	**1.40**	**227**	⇑P		Pn	10 23 07.3	-0.8
RUN5	**Runtun**	**1.41**	**227**	P		Pn	10 23 07.2	-0.9
RUN5	**Runtun**	**1.41**	**227**	S		Sg	10 23 25.4	-1.6
BULB	**Ulba Tungurahu**	**1.41**	**226**	⇑P		Pn	10 23 07.3	-1.0
BULB	**Ulba Tungurahu**	**1.41**	**226**	⇑S		Sg	10 23 26.1	-1.2
ULBA	**Ulba**	**1.42**	**226**	P		Pn	10 23 07.2	-1.1
JUI6	**Juive**	**1.45**	**228**	P		Pn	10 23 08.7	+0.1
JUI6	**Juive**	**1.45**	**228**	S		Sb	10 23 27.4	-0.9
RETU	**Refugio**	**1.45**	**227**	S		Sb	10 23 27.4	-1.3
RETU	**Refugio**	**1.45**	**227**	P		Pn	10 23 09.0	+0.1
BPAT	**Tungurahua Vol**	**1.48**	**225**	⇑P		Pn	10 23 08.4	-0.8
BPAT	**Tungurahua Vol**	**1.48**	**225**	⇑S		Sb	10 23 28.6	-0.8
BBIL	**Ulba Tungurahu**	**1.48**	**228**	⇑S		Sb	10 23 28.3	-0.9
BBIL	**Ulba Tungurahu**	**1.48**	**228**	⇑P		Pn	10 23 08.4	-0.7
PAT1	**Patacocha**	**1.48**	**225**	P		Pn	10 23 09.5	+0.2
BIL2	**Estacion Bilba**	**1.49**	**228**	P		Pb	10 23 09.6	-0.3
ARRY	**Arrayan**	**1.49**	**226**	⇑P		Pn	10 23 08.4	-0.9
BMAS	**Trigal station**	**1.51**	**226**	⇑P		Pn	10 23 09.7	+0.2
BMAS	**Trigal station**	**1.51**	**226**	⇑S		Sn	10 23 29.8	-0.3
LITE	**Lita**	**1.59**	**322**	P		Pn	10 23 10.8	+0.4
LITE	**Lita**	**1.59**	**322**	S		Sn	10 23 30.4	-1.2
IGUA	**Igualata**	**1.62**	**231**	P		Pg	10 23 12.6	-0.2
IGUA	**Igualata**	**1.62**	**231**	S		Sn	10 23 32.6	-0.7
RIOE	**Riobamba**	**1.79**	**224**	S		Sb	10 23 38.5	+0.3
RIOE	**Riobamba**	**1.79**	**224**	P		Pb	10 23 14.8	-0.2
GOLV	**Golondrinas**	**1.87**	**291**	P		Pb	10 23 15.2	-0.8
MACE	**Macas**	**1.96**	**204**	⇑P		Pn	10 23 16.4	+0.8
MACE	**Macas**	**1.96**	**204**	⇑S		Sb	10 23 43.4	+0.5
MAG1	**Magdalena**	**2.41**	**279**	P		Pg	10 23 26.6	-0.8
PECV	**Mancha de Ca P**	**2.68**	**263**	P		Pg	10 23 31.7	-0.8

IDC 25 10:31:06.5±39.0, 17.71S×169.27E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.6/19, mbtmp3.6/4, ML3.3/1, MS3.3/1, Ms1 3.3/1, ms1mx3.1/18, Error ellipse: s-maj=662.0km s-min=64.7km az=80.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.09**	**211**	Pn	Pn	10 32 23.6	-0.7
1.1nm,0.3s,baz=270,slow=20,SNR=20							
DZM				Sn	Sn	10 33 20.2	-3.7
0.4nm,0.3s,baz=90,slow=20,SNR=1.9							
DZM				LR	LR	10 33 47.1	
comp=Z,301nm,21.2s,baz=181,slow=32							
STKA	**Stephens Creek**	**28.71**	**235**	P	P	10 37 06.0	+0.4
1.2nm,0.7s,baz=63,slow=8.9,SNR=2.5							
WRA	**Warramunga Arr**	**33.10**	**261**	P	P	10 37 43.9	-0.6
0.5nm,0.9s,baz=80,slow=6.1,SNR=7.4							
ASAR	**Alice Springs**	**33.55**	**254**	P	P	10 37 48.7	+0.3
0.7nm,0.8s,baz=81,slow=8.6,SNR=9.6							

IDC 25 10:44:03.0±55.0, 20.09S×176.35W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/28, mbtmp4.0/3, Error ellipse: s-maj=1030.0km s-min=170.7km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.36**	**244**	P	P	10 51 34.0	-0.3
0.9nm,0.4s,baz=93,slow=11,SNR=4.0							
ASAR	**Alice Springs**	**46.12**	**256**	P	P	10 52 29.2	-0.2
2.0nm,0.7s,baz=98,slow=7.7,SNR=31							
WRA	**Warramunga Arr**	**46.19**	**261**	P	P	10 52 30.1	+0.1
0.8nm,0.3s,baz=95,slow=8.1,SNR=64							

IDC 25 10:57:58.3±3.5, 5.43S×151.50E, h0km, mb3.9/2, mb1 4.3/2, mb1mx3.5/18, mbtmp4.0/2, Error ellipse: s-maj=140.4km s-min=48.0km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.06**	**228**	P	P	11 02 54.7	-0.3
0.8nm,0.6s,baz=52,slow=9.8,SNR=15							
ASAR	**Alice Springs**	**24.82**	**221**	P	P	11 03 22.7	+0.2
6.0nm,0.4s,baz=57,slow=9.2,SNR=9.8							
TORD	**Torodi Ar. Bea**	**149.25**	**287**	PKPbc	PKPbc	11 17 49.5	-0.6
0.4nm,0.7s,baz=84,slow=1.6,SNR=2.6							

MEX 25 11:11:33.7±0.4, 17.11N×99.52W, h58km±10km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.72**	**266**	*e*P	Pn	11 11 46.6	-1.4
CAIG				*e*S	Sn	11 11 56.9	-1.7
TLIG	**Tlapa**	**1.02**	**63**	*e*P	Sn	11 11 50.9	-1.2
TLIG				*e*S	Sn	11 12 03.4	-2.3
PLIG	**Platanillo**	**1.28**	**1**	*e*P	Pn	11 11 54.2	-1.3
PLIG				*e*S	Sn	11 12 10.1	-1.7
ARIG	**Puente Sto Nin**	**1.41**	**326**	*e*P	Pn	11 11 55.4	-1.8
ARIG				*e*S	Sn	11 12 12.8	-2.1

IGQ 25 11:21:23±0.2, 1.76S×78.88W, h3km±17km, Mb4.3, 3C-26D, Error ellipse: s-maj=1.7km s-min=1.0km az=8.7, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIOE	**Riobamba**	**0.25**	**88**	P	Pb	11 21 29.8	-0.9
RIOE	**Riobamba**	**0.25**	**88**	S	Sg	11 21 32.4	+0.4
IGUA	**Igualata**	**0.36**	**42**	||P	Pb	11 21 32.6	-0.3
BMAS	**Trigal station**	**0.48**	**58**	||P	Pg	11 21 33.1	+0.4
BIL2	**Estacion Bilba**	**0.49**	**51**	||P	Pb	11 21 34.6	0.0
ARRY	**Arrayan**	**0.50**	**59**	||P	Pg	11 21 33.2	+0.1
BBIL	**Ulba Tungurahu**	**0.50**	**52**	||P	Pb	11 21 34.7	-0.3
PAT1	**Patacocha**	**0.51**	**60**	||P	Pb	11 21 34.8	-0.5
BPAT	**Tungurahua Vol**	**0.52**	**60**	||S	Sg	11 21 41.9	+1.1
BPAT	**Tungurahua Vol**	**0.52**	**60**	||P	Pb	11 21 34.8	-0.7
JUI6	**Juive**	**0.53**	**51**	||P	Pg	11 21 34.1	+0.5
RETU	**Refugio**	**0.54**	**55**	||P	Pg	11 21 34.4	+0.4
ULBA	**Ulba**	**0.57**	**57**	||P	Pb	11 21 35.8	-0.3
BULB	**Ulba Tungurahu**	**0.57**	**56**	||P	Pb	11 21 35.8	-0.4
RUN5	**Runtun**	**0.57**	**53**	||P	Pb	11 21 35.7	-0.5
BRUN	**Tungurahua Vol**	**0.58**	**54**	||P	Pb	11 21 35.7	-0.6
MACE	**Macas**	**0.84**	**126**	P	Pb	11 21 40.6	0.0
MACE	**Macas**	**0.84**	**126**	S	Sg	11 21 50.7	+0.1
PISA	**Pisayambo**	**0.86**	**36**	||P	Pb	11 21 41.5	+0.3
PAST	**Pastocalle**	**1.09**	**13**	P	Pb	11 21 45.2	+0.2

BMOR	**Cotopaxi Volca**	**1.11**	**23**	⇓P		Pg	11 21 45.2	+0.2
MOV1	**Cotopaxi Vol s**	**1.13**	**23**	S		Sg	11 22 00.4	-0.4
MOV1	**Cotopaxi Vol s**	**1.13**	**23**	P		Pg	11 21 45.5	-0.1
CAMI	**Rancho Maria**	**1.14**	**19**	⇑P		Pb	11 21 46.1	0.0
BREF	**Cotopaxi Volca**	**1.17**	**22**	⇓P		Pn	11 21 47.6	+0.4
BREF	**Cotopaxi Volca**	**1.17**	**22**	⇓S		Sn	11 22 03.8	-0.5
TAMB	**Tambo**	**1.18**	**26**	⇓P		Pg	11 21 46.4	+0.1
BTAM	**Cotopaxi Volca**	**1.18**	**24**	⇓S		Sg	11 22 02.3	-0.1
BTAM	**Cotopaxi Volca**	**1.18**	**24**	⇓P		Pn	11 21 47.6	+0.3
NAS2	**Nasa**	**1.18**	**21**	P		Pn	11 21 48.0	+0.8
BVC2	**Cotopaxi Volca**	**1.19**	**23**	⇓S		Sb	11 22 03.6	+0.2
BVC2	**Cotopaxi Volca**	**1.19**	**23**	⇓P		Pn	11 21 47.8	+0.4
VC1	**Cotopaxi 1**	**1.21**	**23**	⇓P		Pb	11 21 47.2	-0.1
COV1	**Cotopaxi Volc**	**1.22**	**25**	P		Pb	11 21 47.6	0.0
PITA	**Cotopaxi Volc**	**1.28**	**21**	P		Pn	11 21 48.4	0.0
ANTI	**Antisana**	**1.49**	**29**	P		Pn	11 21 51.1	-0.4
PECV	**Mancha de Ca P**	**1.52**	**310**	P		Pg	11 21 56.5	+4.2
JUA2	**San Juan 2**	**1.56**	**10**	P		Pb	11 21 53.2	-0.1
TERV	**Terraza Guagua**	**1.60**	**10**	P		Pb	11 21 54.0	+0.1
GGP	**Refugio Guagua**	**1.60**	**10**	P		Pg	11 21 54.7	+0.2
PINO	**Pino**	**1.62**	**10**	⇓P		Pg	11 21 55.0	+0.1
YANA	**Yana**	**1.66**	**11**	S		Sg	11 22 18.8	+1.2
YANA	**Yana**	**1.66**	**11**	P		Pb	11 21 54.4	-0.5
MAG1	**Magdalena**	**1.90**	**332**	P		Pg	11 21 59.8	+0.3
CAYR	**Refugio Cayamb**	**1.97**	**26**	P		Pg	11 22 01.4	-0.2
CHIS	**Cerro-Chispas-**	**1.97**	**291**	P		Pb	11 21 59.0	-0.7
JAMA	**Jama**	**1.99**	**318**	P		Pn	11 21 58.2	+0.4
CAYA	**Cayambe**	**2.03**	**26**	⇑P		Pg	11 22 02.3	-0.4
OTAV	**Otavalo**	**2.03**	**12**	P		Pb	11 22 01.8	+0.6
CHAR	**Charly**	**2.06**	**36**	P		Pg	11 22 03.3	+0.2
CONE	**Cono NE Rev Vo**	**2.09**	**36**	P		Pg	11 22 03.9	+0.3
ARNL	**Arenillas**	**2.13**	**214**	P		Pb	11 22 01.0	-1.3
COTA	**Cotacachi**	**2.15**	**15**	P		Pg	11 22 04.2	-0.8
ISPT	**Isla de la Pla**	**2.24**	**283**	⇑P		Pb	11 22 02.8	-1.4
URCU	**Urcuqui**	**2.27**	**16**	P		Pb	11 22 05.2	-0.1

MAN 25 11:23:37.2, 12°44'N × 120°46'E, h9km, mb4.4, ML3.2, MS3.1, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUSP	**Coron**	**0.50**	**210**	*e*P	Pg	11 23 47.2	+0.4
SJMP	**San Jose**	**0.65**	**88**	*e*P	Pb	11 23 50.8	+0.4
SJMP				*e*S	Sb	11 23 58.9	-0.6
PGP	**Puerto Galera**	**1.16**	**24**	⇓*i*P	Pn	11 24 00.1	+0.6
PGP				*i* S	Sn	11 24 15.3	-0.2
LUBP	**Lubang**	**1.30**	**351**	*e*P	Pg	11 24 02.0	0.0
LUBP				*e*S	Sn	11 24 18.8	-0.1
ENPP	**El Nido**	**1.59**	**220**	*e*P	Pb	11 24 06.4	-0.2
CUYO	**Cuyo Island**	**1.67**	**161**	*e*P	Pn	11 24 05.8	-0.7

*IDC **25** 11:28:42.0±1.4, 37.°31N×74.°69E, h0km, mb3.3/4, mb1 3.5/9, mb1mx3.4/31, mbtmp3.4/9, ML3.3/4, MS4.3/1, Ms1 4.3/1, ms1mx3.4/23, Error ellipse: s-maj=30.9km s-min=25.4km az=106.0*

*ISCJB **25** 11:28:43.1±0.9, 37.°20N±0.°07×74.°79E±0.°07, h10km, mb3.2/4, MS4.3/1, Error ellipse: s-maj=10.1km s-min=8.4km az=175.6*

*NNC **25** 11:28:45.7±3.9, 37.°31N×74.°71E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=30.2km s-min=21.6km az=143.0*

*BJI **25** 11:28:46.4, 37.°44N×74.°79E, h10km, ML3.4/4*

ISC 25 11:28:44.4±0.9, 37°25'N±0.°06×74°76'E±0.°08, h10km, n27, σ1§92/26, mb3.3/4, 8C-6D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**2.46**	**22**	Pg	Pn	11 29 19.0	-5.7
KSH				Sg	Sn	11 29 40.5	-14
KSH				SMN			
	710nm,0.6s						
KSH				SME			
	430nm,0.7s						
SFK	**Sufi-Kurgan**	**2.93**	**341**	⇓Pn	**Pn**	**11 29 33.8**	**+2.6**
	35nm,0.5s						
SFK				⇓Sn	**Sb**	**11 30 11.3**	**-1.5**
	54nm,0.4s						
CEP	**Cherat**	**4.13**	**215**	P	Pb	11 29 54.4	-2.9
CEP				S	**Sg**	**11 30 58.0**	**+1.0**
KZA	**Kyzart**	**4.84**	**4**	P	**Pn**	**11 29 60.0**	**+2.3**
	SNR=16						
DZET	**Dzherino**	**4.93**	**290**	⇓Pn	**Pn**	**11 29 59.6**	**+1.0**
	6.7nm,0.4s						
DZET				⇑Sn	**Sn**	**11 30 57.8**	**+1.9**
	56nm,0.6s						
AML	**Almayashu**	**4.95**	**351**	P	**Pn**	**11 30 02.0**	**+2.9**
	SNR=8.3						
UCH	**Uchtor**	**4.98**	**358**	P	**Pn**	**11 30 01.8**	**+2.2**
	SNR=20						
THW	**Thamme Wali**	**5.08**	**210**	P	Pn	11 30 07.9	+7.2
KBK	**Karagaybulak**	**5.40**	**1**	P	**Pn**	**11 30 08.0**	**+2.8**
	SNR=5.5						
EKS2	**Erkin-Say**	**5.46**	**352**	P	Pn	11 30 09.8	+3.9
	SNR=5.5						
MNAS	**Manas**	**5.51**	**342**	⇓Pn	**Pn**	**11 30 07.8**	**+1.2**
	5.1nm,0.5s						
MNAS				⇑Sn	**Sn**	**11 31 10.3**	**+0.2**
	11nm,0.6s						
TKM2	**Tokmak 2**	**5.70**	**6**	P	**Pn**	**11 30 12.2**	**+2.9**
	SNR=19						
TKM2	**Tokmak 2**	**5.70**	**6**	⇑Pn	**Pn**	**11 30 11.8**	**+2.5**
	5.8nm,0.3s						
TKM2				⇑Sn	**Sn**	**11 31 16.5**	**+1.6**
	18nm,0.5s						
KK31	**Karatay Array**	**6.69**	**332**	⇑Pn	**Pn**	**11 30 23.7**	**+1.0**
	1.2nm,0.3s,baz=140,slow=14,SNR=21						
KK31				⇓Sn	**Sn**	**11 31 37.8**	**-1.1**
	2.7nm,0.4s,baz=146,slow=24,SNR=3.8						
PDGK	**Podgornoye**	**7.07**	**29**	⇓Pn	**Pn**	**11 30 30.5**	**+2.7**
	2.9nm,0.5s						
PDGK				⇑Lg	Lg	11 32 24.1	
	15nm,1.1s						
MKAR	**Makanchi Array**	**11.06**	**28**	Pn	**Pn**	**11 31 22.9**	**+0.3**
	0.1nm,0.3s,baz=197,slow=14,SNR=3.3						
KURBB	**Kurchatov Arra**	**13.64**	**10**	Pn	Pn	11 31 55.1	-2.6
	baz=200,slow=13,SNR=4.8						
KURBB				Lg	Lg	11 35 47.6	
	0.0nm,0.3s,baz=199,slow=28,SNR=3.1						
BVAR	**Borovoye Array**	**16.07**	**350**	Pn	Pn	11 32 25.9	-4.4
	0.2nm,0.3s,baz=154,slow=8.0,SNR=2.6						
AB31	**Akbulak array**	**16.10**	**323**	⇑P	**Pn**	**11 32 31.8**	**+1.0**
	0.6nm,0.5s,baz=122,slow=16,SNR=5.8						
AKTO	**Aktyubinsk**	**17.82**	**323**	⇑P	**P**	**11 32 54.2**	**+1.1**
	2.5nm,0.8s						
AKTO	**Aktyubinsk**	**17.82**	**323**	P	**Pn**	**11 32 49.9**	**-2.5**
	0.1nm,0.3s,baz=123,slow=12,SNR=3.3						
ZALV	**Zalesovo Beam**	**18.09**	**19**	P	**Pn**	**11 32 54.0**	**-1.6**
	0.3nm,0.3s,baz=213,slow=10,SNR=2.7						
SONM	**Songino Array**	**25.43**	**55**	P	**P**	**11 34 11.0**	**-1.3**
	0.2nm,0.3s,baz=256,slow=9.3,SNR=2.6						
ARCES	**ARCESS Array B**	**41.64**	**336**	LR	LR	11 52 44.4	
	comp=Z,406nm,20.5s,baz=108,slow=35						
TORD	**Torodi Ar. Bea**	**68.73**	**271**	P	**P**	**11 39 47.5**	**-1.1**
	0.2nm,0.4s,baz=44,slow=5.8,SNR=3.8						
WRA	**Warramunga Arr**	**79.88**	**125**	P	**P**	**11 40 53.4**	**0.0**
	0.4nm,1.0s,baz=291,slow=7.0,SNR=3.4						
YKA	**Yellowknife Ar**	**80.32**	**4**	P	**P**	**11 40 54.1**	**-1.1**
	0.1nm,0.5s,baz=345,slow=5.5,SNR=3.5						

*ISCJB **25** 11:39:16.0±1.1, 35.°13N±0.°05×23.°35E±0.°06, h3km±7km, Error ellipse: s-maj=10.6km s-min=4.8km az=44.8*

*THE **25** 11:39:15.9, 35.°10N×23.°32E, h0km±2km, ML2.8/2, Error ellipse: s-maj=3.1km s-min=0.9km az=207.0*

*ATH **25** 11:39:16.5, 35.°15N×23.°34E, h9km±1km, MD3.5/6*

*CSEM **25** 11:39:16.2±0.6, 35.°14N×23.°36E, h1km±1km, MD3.5, Error ellipse: s-maj=13.8km s-min=6.0km az=44.0*

ISC 25 11:39:17.2±1.5, 35°18'N±0.°04×23°42'E±0.°05, h2km±14km, n27, σ0§89/41, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARN	**Karanos**	**0.46**	**61**	P	**Pg**	**11 39 26.9**	**+0.9**
KARN				S	**Sb**	**11 39 35.5**	**+0.3**
KARN	**Karanos**	**0.46**	**61**	*e*PB	**Pg**	**11 39 26.8**	**+0.8**
KARN				*e*SB	**Sb**	**11 39 34.3**	**-0.9**
KARN	**Karanos**	**0.46**	**61**	P	**Pg**	**11 39 26.9**	**+0.9**
KARN				*e*Sb	**Sb**	**11 39 34.3**	**-0.9**
KARN				S	**Sb**	**11 39 35.5**	**+0.3**
GVD	**Gavdhos**	**0.64**	**122**	P	**Pg**	**11 39 28.9**	**-0.6**
GVD				S	**Sb**	**11 39 29.5**	**+0.3**
GVD	**Gavdhos**	**0.64**	**122**	*e*PG	**Pg**	**11 39 29.5**	**0.0**
GVD				*e*SB	**Sb**	**11 39 39.5**	**-1.0**
GVD	**Gavdhos**	**0.64**	**122**	P	**Pg**	**11 39 28.9**	**-0.6**
GVD	**Gavdhos**	**0.64**	**122**	*e*Pg	**Pg**	**11 39 29.5**	**0.0**
GVD				*e*Sb	**Sb**	**11 39 39.5**	**-1.0**
GVD				S	**Sb**	**11 39 41.8**	**+1.3**
VAM	**Vamos**	**0.67**	**70**	P	**Pg**	**11 39 27.9**	**-2.2**
VAM	**Vamos**	**0.67**	**70**	P	**Pg**	**11 39 27.9**	**-2.2**
ANKY	**Antikythira Is**	**0.69**	**352**	P	**Pg**	**11 39 30.4**	**0.0**
ANKY				S	**Sb**	**11 39 41.8**	**-0.1**
ANKY	**Antikythira Is**	**0.69**	**352**	*e*PB	**Pg**	**11 39 30.4**	**0.0**
ANKY				*e*SB	**Sg**	**11 39 40.2**	**+0.8**
ANKY	**Antikythira Is**	**0.69**	**352**	P	**Pg**	**11 39 30.4**	**0.0**
ANKY				*e*Sb	**Sg**	**11 39 40.2**	**+0.8**
ANKY				S	**Sb**	**11 39 41.8**	**-0.1**
KYTH	**Kithira**	**1.14**	**344**	P	**Pg**	**11 39 38.2**	**-0.8**
KYTH	**Kithira**	**1.14**	**344**	*e*PG	**Pg**	**11 39 38.1**	**-0.9**
KYTH	**Kithira**	**1.14**	**344**	P	**Pg**	**11 39 38.2**	**-0.8**
SIVA	**Sivas**	**1.15**	**98**	P	**Pg**	**11 39 39.0**	**-0.2**
SIVA	**Sivas**	**1.15**	**98**	*e*PG	**Pg**	**11 39 39.2**	**0.0**
SIVA	**Sivas**	**1.15**	**98**	*e*Pg	**Pg**	**11 39 39.2**	**0.0**
VLI	**Veliai**	**1.58**	**346**	P	**Pn**	**11 39 45.4**	**-0.8**
VLI				S	**Sg**	**11 40 08.0**	**0.0**
VLI	**Veliai**	**1.58**	**346**	*e*PB	**Pn**	**11 39 46.4**	**+0.2**
VLI	**Veliai**	**1.58**	**346**	P	**Pn**	**11 39 45.4**	**-0.8**
VLI	**Veliai**	**1.58**	**346**	*e*Pb	**Pn**	**11 39 46.4**	**+0.2**
VLI				S	**Sg**	**11 40 08.0**	**0.0**
NPS	**Neapolis**	**1.79**	**87**	*e*PN	**Pb**	**11 39 50.3**	**-0.4**
PYL	**PYLOS**	**2.19**	**322**	*e*PN	**Pn**	**11 39 54.8**	**+0.3**
PYL	**PYLOS**	**2.19**	**322**	*e*Pn	**Pn**	**11 39 54.8**	**+0.3**
DID	**Didima**	**2.32**	**356**	*e*PN	**Pn**	**11 39 58.0**	**+1.6**
KLV	**Kalavryta, Ach**	**3.03**	**341**	*e*PB	**Pn**	**11 40 07.5**	**+1.3**

*MEX **25** 12:00:28.6±1.0, 33.°08N×115.°80W, h17km±999km, MD3.5*

*ISCJB **25** 12:00:30.6±0.5, 32.°69N±0.°05×115.°88W±0.°04, h11km±5km, Error ellipse: s-maj=7.9km s-min=5.3km az=175.4*

*ECX **25** 12:00:31.3±0.6, 32.°68N×115.°87W, h3km, MD2.4, ML2.5*

ISC 25 12:00:30.4±1.0, 32°67'N±0.°04×115°87'W±0.°03, h13km±7km, n17, σ0§32/23, 7C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUH	**Yuha Desert**	**0.05**	**241**	⇑*i*P	**Pg**	**12 00 32.8**	**-0.1**
SGL	**Mount Signal**	**0.13**	**99**	⇑*i*P	**Pg**	**12 00 33.6**	**-0.2**
WESC	**Westside Schoo**	**0.15**	**54**	⇑*e*P	**Pg**	**12 00 34.0**	**0.0**
RMX	**La Rumorosa**	**0.18**	**249**	⇑*e*P	**Pg**	**12 00 35.0**	**+0.3**
RMX				*e*S	**Sg**	**12 00 37.9**	**+0.2**
RMX				IAML		12 00 39.0	
	comp=N,1μm,0.2s						
RMX				⇑*e*		12 00 39.0	
ERPC	**Ernies Place**	**0.19**	**68**	⇑*i*P	**Pg**	**12 00 35.0**	**+0.3**
COK	**Cook Ranch**	**0.22**	**35**	⇑*i*P	**Pg**	**12 00 35.4**	**+0.2**
CRR	**Carrizo Plain**	**0.23**	**340**	⇓*i*P	**Pg**	**12 00 35.4**	**0.0**
DREC	**Desert Rsrch C**	**0.39**	**69**	*e*P	**Pb**	**12 00 38.8**	**-0.4**
CPBX	**Cerro Prieto**	**0.54**	**117**	*e*P9	**Pg**	**12 00 41.6**	**+0.5**
CPBX				*e*S	**Sb**	**12 00 49.3**	**-0.2**
BAR	**Barrett**	**0.67**	**271**	*e*P	**Pg**	**12 00 43.7**	**+0.1**
RDX	**Rancho Dawling**	**0.74**	**184**	⇓*e*P	**Pg**	**12 00 44.5**	**-0.4**
CBX	**Cerro Bola**	**0.76**	**242**	*e*P	**Pg**	**12 00 45.2**	**+0.1**
CBX				*e*S	**Sg**	**12 00 55.6**	**+0.6**
CBX	**Cerro Bola**	**0.76**	**242**	*e*P	**Pg**	**12 00 45.4**	**+0.2**
CBX				*e*S	**Sg**	**12 00 55.2**	**+0.2**
CBX				IAML		12 00 56.7	
	comp=N,194nm,0.4s						
CBX				⇓*e*		12 00 56.7	
SDRC	**San Diego Road**	**0.90**	**274**	*e*P	**Pb**	**12 00 47.6**	**-0.3**
ECNX	**Esteban Cantu**	**1.18**	**211**	*e*P	**Pn**	**12 00 52.6**	**-0.2**
ZAX	**El Zacaton**	**1.20**	**196**	*e*P	**Pn**	**12 00 52.7**	**-0.3**
ZAX				*e*S	**Sb**	**12 01 08.8**	**+0.2**
ZAX				*e*		12 01 13.0	
ZAX				IAML		12 01 13.0	
	comp=N,118nm,0.5s						
SPIG	**San Pedro Mart**	**1.66**	**168**	*e*P	**Pn**	**12 00 59.7**	**+0.2**
SPIG				*e*S	**Sg**	**12 01 24.4**	**+0.6**

*KRSC **25** 12:27:35.2±1.6, 51.°39N×153.°06E, h461km±28km, ML4.4*

*ISCJB **25** 12:27:37.4±0.4, 51.°96N±0.°07×152.°18E±0.°08, h400km, mb3.5/13, Error ellipse: s-maj=10.0km s-min=5.8km az=161.1*

*MOS **25** 12:27:37.9±1.5, 51.°54N×153.°29E, h466km, mb3.9/4, Error ellipse: s-maj=26.6km s-min=12.9km az=61.9*

*IDC **25** 12:27:39.1±1.4, 51.°81N×152.°50E, h416km±15km, mb3.2/13, mb1 3.4/17, mb1mx3.2/46, mbtmp4.0/17, Error ellipse: s-maj=17.4km s-min=10.0km az=126.0*

ISC 25 12:27:38.4±0.6, 51°91'N±0.°08×152°51'E±0.°08, h400km, n54, σ1§66/65, mb3.6/13, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.57**	**117**	*e*P	**Pn**	**12 28 40.3**	**+2.1**
SKR				*e*S	**S**	**12 29 29.5**	**+2.9**
MIPR	**Malaya Ipel'ka**	**2.65**	**80**	*e*P	**Pn**	**12 28 40.0**	**+1.3**
PAU	**Pauzhetka**	**2.71**	**98**	*e*P	**Pn**	**12 28 40.1**	**+0.9**
PAU	**Pauzhetka**	**2.71**	**98**	PN	**Pn**	**12 28 40.1**	**+0.9**
APC	**Apacha**	**3.02**	**68**	*e*P	**Pn**	**12 28 43.2**	**+1.6**
ASAK	**Asacha**	**3.35**	**80**	*e*P	**Pn**	**12 28 46.9**	**+2.3**
PETK	**Petropavlovsk-**	**3.39**	**67**	P	**Pn**	**12 28 46.1**	**+1.3**
	1.4nm,0.3s,baz=230,slow=6.7,SNR=28						
PETK	**Petropavlovsk-**	**3.39**	**67**	PN	**Pn**	**12 28 46.1**	**+1.3**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MTVR	**Mutnovka**	**3.54**	**78**	*e*P	**Pn**	**12 28 48.6**	**+2.3**
MTVR				*e*S	**S**	**12 29 43.5**	**+2.2**
RUS	**Russkaya**	**3.73**	**80**	*e*P	**Pn**	**12 28 48.8**	**+1.0**
RUS				*e*S	**S**	**12 29 44.0**	**-0.2**
RUS	**Russkaya**	**3.73**	**80**	PN	**Pn**	**12 28 48.8**	**+1.0**
RUS				S	**S**	**12 29 44.0**	**-0.2**
GNL	**Ganaly**	**3.75**	**59**	*e*P	**Pn**	**12 28 49.9**	**+1.8**
PET	**Petropavlovsk**	**3.92**	**71**	*e*P	**Pn**	**12 28 51.2**	**+1.6**
PET				*e*S	**S**	**12 29 48.8**	**+1.4**
PET	**Petropavlovsk**	**3.92**	**71**	PN	**Pn**	**12 28 51.2**	**+1.6**
PET				S	**S**	**12 29 48.8**	**+1.4**
KOK	**Koryaka**	**3.98**	**67**	*e*P	**Pn**	**12 28 52.1**	**+1.8**
KRK	**Arik**	**4.01**	**66**	*e*P	**Pn**	**12 28 52.3**	**+1.7**
AVH	**Avacha**	**4.03**	**68**	*e*P	**Pn**	**12 28 52.6**	**+1.8**
AVH				*e*S	**S**	**12 29 51.0**	**+1.5**
UGLR	**Uglovaya**	**4.07**	**69**	*e*P	**Pn**	**12 28 53.4**	**+2.3**
UGLR				*e*S	**S**	**12 29 51.9**	**+1.7**
SMAR	**Somma**	**4.07**	**68**	*e*P	**Pn**	**12 28 52.9**	**+1.6**
SDLR	**Sedlovina**	**4.12**	**68**	*e*P	**Pn**	**12 28 53.0**	**+1.4**
SDLR				*e*S	**S**	**12 29 51.3**	**+0.2**
NLC	**Nalytchevo**	**4.36**	**70**	*e*P	**Pn**	**12 28 54.5**	**+0.7**
NLC				*e*S	**S**	**12 29 55.2**	**+0.1**
NLC	**Nalytchevo**	**4.36**	**70**	PN	**Pn**	**12 28 54.5**	**+0.7**
NLC				S	**S**	**12 29 55.2**	**+0.1**
SPN	**Mys Shipunski**	**4.74**	**72**	*e*P	**Pn**	**12 28 57.7**	**+0.1**
SPN				*e*S	**S**	**12 29 58.8**	**-3.3**
SPN	**Mys Shipunski**	**4.74**	**72**	PN	**Pn**	**12 28 57.7**	**+0.1**
SPN				S	**S**	**12 29 58.8**	**-3.3**
ESO	**Esso**	**5.44**	**40**	*e*P	Pn	12 29 10.1	+5.3
ESO	**Esso**	**5.44**	**40**	PN	Pn	12 29 10.1	+5.3
TUMR	**Tumrok**	**5.67**	**50**	*e*P	Pn	12 29 10.9	+3.5
TUMR				*e*S	**S**	**12 30 23.2**	**+3.3**
SRDR	**Sredinnyy**	**6.12**	**41**	*e*P	Pn	12 29 16.1	+3.9
MKZ	**Mys Kozlova**	**6.14**	**61**	*e*P	**Pn**	**12 29 12.4**	**+0.1**
MKZ				*e*S	**S**	**12 30 24.6**	**-4.4**
MKZ	**Mys Kozlova**	**6.14**	**61**	PN	**Pn**	**12 29 12.4**	**+0.1**
MKZ				S	**S**	**12 30 24.6**	**-4.4**
BKI	**Bering**	**8.66**	**62**	*e*P	**P**	**12 29 42.2**	**+1.3**
BKI				*e*S	S	12 31 16.0	-5.3
BKI	**Bering**	**8.66**	**62**	PN	**P**	**12 29 42.2**	**+1.3**
BKI				S	S	12 31 16.0	-5.3
OSSR	**Ossora**	**9.47**	**35**	*e*P	Pn	12 29 53.3	+3.4
ASAJ	**Asahikawa**	**10.23**	**224**	P	**Pn**	**12 29 59.2**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=73,slow=17,SNR=4.6						
SEY	**Seymchan**	**11.06**	**360**	P	**Pn**	**12 30 10.0**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=176,slow=8.5,SNR=10						
SEY	**Seymchan**	**11.06**	**360**	PN	**Pn**	**12 30 10.0**	**+1.7**
MJAR	**Matsushiro Arr**	**18.41**	**219**	P	**P**	**12 31 26.2**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=24,slow=8.1,SNR=3.4						
ILAR	**Eielson Array**	**32.90**	**43**	P	**P**	**12 33 36.9**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=275,slow=10.0,SNR=23						
INK	**Inuvik**	**37.60**	**36**	P	**P**	**12 34 16.2**	**+0.1**
	comp=Z,2.0nm,0.3s,baz=303,slow=11,SNR=36						
MKAR	**Makanchi Array**	**44.41**	**292**	P	**P**	**12 35 11.2**	**0.0**
	comp=Z,0.2nm,0.3s,baz=62,slow=6.0,SNR=5.4						
RES	**Resolute Bay**	**46.09**	**20**	P	**P**	**12 35 23.4**	**-0.3**
	comp=Z,1.6nm,0.9s,baz=355,slow=6.5,SNR=3.8						
YKA	**Yellowknife Ar**	**47.09**	**39**	P	**P**	**12 35 31.5**	**0.0**
	comp=Z,2.2nm,0.6s,baz=303,slow=7.1,SNR=34						
YKA	**Yellowknife Ar**	**47.09**	**39**	P	**P**	**12 35 31.5**	**0.0**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES	**ARCESS Array B**	**52.87**	**339**	P	**P**	**12 36 14.4**	**+0.2**
	comp=Z,5.0nm,0.9s,baz=41,slow=8.4,SNR=2.8						
ARCES	**ARCESS Array B**	**52.87**	**339**	P	**P**	**12 36 14.4**	**+0.2**
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
FINES	**FINESS Array B**	**59.23**	**333**	P	**P**	**12 36 57.7**	**-1.0**
	comp=Z,2.2nm,0.9s,baz=54,slow=7.1,SNR=5.6						
NVAR	**Mina Array Bea**	**60.47**	**64**	P	**P**	**12 37 07.2**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=303,slow=7.9,SNR=5.1						
PDAR	**Pinedale Array**	**62.09**	**56**	P	**P**	**12 37 18.4**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=8.8,slow=3.0,SNR=8.5						
SCHQ	**Schefferville**	**68.71**	**23**	P	**P**	**12 37 58.3**	**-1.5**
	comp=Z,0.9nm,0.4s,baz=14,slow=12,SNR=4.2						
WRA	**Warramunga Arr**	**73.29**	**198**	P	**P**	**12 38 25.4**	**-1.8**
	comp=Z,1.2nm,0.5s,baz=14,slow=6.0,SNR=45						
WRA	**Warramunga Arr**	**73.29**	**198**	P	**P**	**12 38 25.5**	**-1.8**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**75.32**	**61**	P	**P**	**12 38 39.2**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=296,slow=5.2,SNR=18						
ASAR	**Alice Springs**	**77.00**	**197**	P	**P**	**12 38 47.1**	**-1.1**
	comp=Z,1.8nm,0.5s,baz=11,slow=4.9,SNR=70						
ASAR	**Alice Springs**	**77.00**	**197**	P	**P**	**12 38 47.1**	**-1.1**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						

DDA 25 12:37:13.1, 37.°26N×37.°21E, h7km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HCB	**Kahramanmara˜**	**0.25**	**290**	*i* P	Pg	12 37 18.0	-0.1
HCB				*i* S	Sg	12 37 22.9	+1.3
KAMA	**Osmaniye**	**0.43**	**261**	*i* P	Pg	12 37 22.1	+0.4
KAMA				*i* S	Sg	12 37 28.6	+1.1

*ISK **25** 12:41:40.5, 38.°01N×36.°45E, h5km, MD2.6*

*CSEM **25** 12:41:41.4±0.4, 38.°07N×36.°43E, h2km, MD2.9, Error ellipse: s-maj=9.3km s-min=6.8km az=105.0*

DDA 25 12:41:40.8, 38.°06N×36.°34E, h6km, MD2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANDN	**Andirin**	**0.48**	**180**	*i* P	Pg	12 41 49.3	-0.9
ANDN				*i* S	Sb	12 41 58.3	-0.9
ANDN	**Andirin**	**0.48**	**180**	*i* P	Pg	12 41 49.3	-0.9
ANDN				*i* S	Sb	12 41 58.3	-0.9
PINB	**Pinarbasi**	**0.61**	**4**	*i* P	Pg	12 41 53.3	+0.3
PINB				*i* S	Sn	12 42 05.5	-1.3
PINB	**Pinarbasi**	**0.61**	**4**	*i* P	Pg	12 41 53.3	+0.3
PINB				*i* S	Sn	12 42 05.5	-1.3
KMRS	**Kahramanmaras**	**0.71**	**141**	*e*PG	Pg	12 41 53.5	-1.0
KMRS				*e*SG	Sg	12 42 03.3	-0.5
KMRS	**Kahramanmaras**	**0.71**	**141**	*e*Pg	Pg	12 41 53.5	-1.0
KMRS				*e*Sg	Sg	12 42 03.3	-0.5
KOZT	**Kozan**	**0.71**	**215**	*e*PG	Pb	12 41 55.1	-0.4
KOZT				*e*SG	Sb	12 42 06.8	+1.3
KOZT	**Kozan**

PYL	PYLOS	2.09	322	P	Pn	12 58 18.8	-1.7
PYL	PYLOS	2.09	322	*e*Pn	Pb	12 58 22.5	-0.6
PYL				S	Sn	12 58 46.8	-0.2
ITM	Ithomi	2.23	329	*e*PN	Pb	12 58 24.8	-0.8
ITM	Ithomi	2.23	329	*e*Pn	Pb	12 58 24.8	-0.8
DID	Didima	2.23	357	*e*Pn	Pb	12 58 23.9	-1.8
DID	Didima	2.23	357	*e*Pn	Pb	12 58 23.9	-1.8
APE	Apeiranthos	2.51	44	*e*PN	Pb	12 58 27.9	-2.5
APE	Apeiranthos	2.51	44	*e*Pn	Pb	12 58 27.9	-2.5
AMT	Artemida-Makis	2.62	330	*e*PN	Pb	12 58 30.4	-1.9
AMT	Artemida-Makis	2.62	330	*e*Pn	Pb	12 58 30.4	-1.9
LTK	Loutraki	2.77	354	*e*PN	Pn	12 58 31.7	+1.8
LTK	Loutraki	2.77	354	*e*Pn	Pn	12 58 31.7	+1.8
GUR	Goura	2.79	343	*e*PN	Pn	12 58 32.3	+2.1
GUR	Goura	2.79	343	*e*Pn	Pn	12 58 32.3	+2.1
KLV	Kalavryta, Ach	2.94	341	*e*PB	Pn	12 58 34.4	+2.2
KLV	Kalavryta, Ach	2.94	341	*e*Pb	Pn	12 58 34.4	+2.2
KARP	Karpathos	3.12	84	*e*PN	Pn	12 58 36.4	+1.7
KARP	Karpathos	3.12	84	*e*Pn	Pn	12 58 36.4	+1.7
DSF	Desfina	3.21	348	*e*PN	Pn	12 58 37.9	+1.9
DSF	Desfina	3.21	348	*e*Pn	Pn	12 58 37.9	+1.9
KALE	Kalithea	3.27	343	*e*PB	Pn	12 58 39.4	+2.6
KALE	Kalithea	3.27	343	*e*Pb	Pn	12 58 39.4	+2.6
EFP	Efpalio	3.36	340	*e*PN	Pn	12 58 39.8	+1.8
EFP	Efpalio	3.36	340	*e*Pn	Pn	12 58 39.8	+1.8
MRKA	Markates	3.44	3	*e*PN	Pn	12 58 41.2	+2.1
MRKA	Markates	3.44	3	*e*Pn	Pn	12 58 41.2	+2.1
PDO	Prodromos	3.75	333	*e*PN	Pn	12 58 45.5	+2.1
PDO	Prodromos	3.75	333	*e*Pn	Pn	12 58 45.5	+2.1
AGG	Agios Georgios	3.83	348	*e*PN	Pn	12 58 46.1	+1.5
AGG	Agios Georgios	3.83	348	*e*Pn	Pn	12 58 46.1	+1.5
MAKR	Makrakomi, Fth	3.86	346	*e*PN	Pn	12 58 47.4	+2.4
MAKR	Makrakomi, Fth	3.86	346	*e*Pn	Pn	12 58 47.4	+2.4

ISCJB ***25*** *13:03:15.2≤0.2,38°.33N≤0°.02×58°.04E≤0°.03,h10km, mb3.9/28,MS3.7/2,Error ellipse: s-maj=4.3km s-min=3.0km az=40.0*

NEIC ***25*** *13:03:16.7,38°.36N×58°.11E,h6km,mb4.4/7,MN4.5(TEH), After TEH.*

IDC ***25*** *13:03:16.1≤0.8,38°.25N×57°.59E,h0km,mb3.7/19, mb1 3.9/24,mb1mx3.8/36,mbtmp3.8/24,ML3.4/3,Error ellipse: s-maj=17.3km s-min=11.7km az=169.0*

TEH ***25*** *13:03:16.7,38°.36N×58°.11E,h6km,ML4.5*

THR ***25*** *13:03:17.9≤0.3,38°.25N×57°.94E,h26km±4km,ML4.3*

NNC ***25*** *13:03:17.9≤1.1,38°.45N×58°.37E,h0km,mb4.6,mpv4.5, Error ellipse: s-maj=16.0km s-min=4.0km az=101.0*

MOS ***25*** *13:03:18.8≤2.1,38°.36N×58°.01E,h33km,mb4.1/15,Error ellipse: s-maj=7.9km s-min=5.9km az=80.9*

CSEM ***25*** *13:03:18.3≤0.1,38°.30N×58°.00E,h20km,mb4.1/15, ML4.5/4,Error ellipse: s-maj=6.0km s-min=4.2km az=132.0*

ISC 25 13:03:17.1≤0.4,38°.31N≤0°.04×58°.00E≤0°.03,h10km,n185, σ1ϑ41/197,mb4.1/28,16C-8D,Turkmenistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ASHT	**Ashkhabad**	**0.48**	**141**	⇑P		**Pb**	**13 03 28.0**	**+0.5**
	2μm,0.4s							
ASHT				⇓S		**Sb**	**13 03 35.0**	**+0.3**
	17μm,0.4s							
ASHT	**Ashkhabad**	**0.48**	**141**	P		**Pb**	**13 03 28.1**	**+0.5**
ASHT				S		**Sb**	**13 03 35.0**	**+0.3**
ASHT				pmax	pmax			
	comp=Z,2μm,0.4s							
ASHT	**Ashkhabad**	**0.48**	**141**	P		**Pb**	**13 03 28.1**	**+0.5**
	comp=Z,2μm,0.4s							
ASHT				S		**Sb**	**13 03 35.0**	**+0.3**
BJRD	**Bojnurd**	**0.77**	**218**	*e*Pg		**Pg**	**13 03 31.4**	**-0.6**
BJRD				AML		AML	13 03 41.8	
	comp=E,17μm,0.4s							
BJRD	**Bojnurd**	**0.77**	**218**	*e*Pg		**Pg**	**13 03 31.4**	**-0.6**
ISHV	**Shirvan**	**0.81**	**197**	*e*Pg		**Pg**	**13 03 32.4**	**-0.5**
ISHV				*e*			13 03 32.9	
	comp=Z,1297μm,0.1s							
ISHV	**Shirvan**	**0.81**	**197**	Pg		**Pg**	**13 03 32.3**	**-0.5**
ISHV	**Shirvan**	**0.81**	**197**	Pg		**Pg**	**13 03 32.3**	**-0.5**
ISFR	**Sfrayin**	**1.26**	**180**	*e*Pg		**Pn**	**13 03 40.4**	**-0.6**
ISFR				*e*			13 04 02.4	
	comp=Z,59μm,0.3s							
ISFR	**Sfrayin**	**1.26**	**180**	Pg		**Pn**	**13 03 40.4**	**-0.6**
MRVT	**Maraveh tapeh**	**1.65**	**247**	*e*Pg		**Pn**	**13 03 46.4**	**+0.3**
MRVT				*e*Sg		**Sn**	**13 04 07.2**	**-0.2**
MRVT				AML		AML	13 04 12.5	
	comp=N,2μm,0.5s							
MRVT	**Maraveh tapeh**	**1.65**	**247**	*e*Pg		**Pn**	**13 03 46.4**	**+0.3**
MRVT				*e*Sg		**Sn**	**13 04 07.2**	**-0.2**
IAKL	**Akhelmad**	**1.81**	**160**	*e*Pn		**Pn**	**13 03 48.7**	**0.0**
IAKL				*e*			13 04 18.0	
	comp=Z,52μm,0.3s							
IAKL	**Akhelmad**	**1.81**	**160**	Pn		**Pn**	**13 03 48.6**	**0.0**
IAKL	**Akhelmad**	**1.81**	**160**	Pn		**Pn**	**13 03 48.6**	**0.0**
SHRO	**Shahrood**	**2.81**	**215**	*e*Pn		**Pn**	**13 04 02.2**	**-0.1**
SHRO	**Shahrood**	**2.81**	**215**	*e*Pn		**Pn**	**13 04 02.2**	**-0.1**
IGLO	**Ghaloghah**	**3.78**	**243**	*e*Pn		**Pn**	**13 04 18.8**	**+3.1**
IGLO				*e*			13 05 32.0	
	comp=Z,7μm,0.3s							
IGLO	**Ghaloghah**	**3.78**	**243**	Pn		**Pn**	**13 04 18.7**	**+3.1**
IANJ	**Anjilo**	**4.33**	**230**	*e*Pn		**Pn**	**13 04 23.9**	**+0.5**
IANJ				*e*			13 05 43.9	
	comp=Z,2μm,0.2s							
IANJ	**Anjilo**	**4.33**	**230**	Pn		**Pn**	**13 04 23.8**	**+0.5**
IANJ	**Anjilo**	**4.33**	**230**	Pn		**Pn**	**13 04 23.8**	**+0.5**
ISHM	**Shahmirzad**	**4.52**	**238**	*e*Pn		**Pn**	**13 04 26.8**	**+0.9**
ISHM				*e*			13 05 50.4	
	comp=Z,2μm,0.3s							
ISHM	**Shahmirzad**	**4.52**	**238**	Pn		**Pn**	**13 04 26.8**	**+0.9**
ISHM	**Shahmirzad**	**4.52**	**238**	Pn		**Pn**	**13 04 26.8**	**+0.9**
IALA	**Alasht**	**4.70**	**243**	*e*Pn		**Pn**	**13 04 28.8**	**+0.4**
IALA				*e*			13 05 32.7	
	comp=Z,2μm,0.1s							
IALA	**Alasht**	**4.70**	**243**	*e*Pn		**Pn**	**13 04 28.8**	**+0.4**
IALA	**Alasht**	**4.70**	**243**	Pn		**Pn**	**13 04 28.8**	**+0.4**
IPRN	**Peran**	**4.97**	**247**	*e*Pn		**Pn**	**13 04 32.4**	**+0.5**
IPRN				*e*			13 06 05.2	
	comp=Z,4μm,0.3s							
IPRN	**Peran**	**4.97**	**247**	Pn		**Pn**	**13 04 32.4**	**+0.5**
ILAS	**Lasjerd**	**4.99**	**236**	*e*Pn		**Pn**	**13 04 33.3**	**+1.0**
ILAS				*e*			13 06 14.7	
	comp=N,2μm,0.3s							
ILAS	**Lasjerd**	**4.99**	**236**	*e*Pn		**Pn**	**13 04 33.3**	**+1.0**
ILAS	**Lasjerd**	**4.99**	**236**	Pn		**Pn**	**13 04 33.3**	**+1.0**
ITEG	**Tejag**	**5.44**	**173**	*e*Pn		**Pn**	**13 04 38.1**	**-0.3**
ITEG				*e*			13 04 51.1	
	comp=Z,687nm,0.1s							
ITEG	**Tejag**	**5.44**	**173**	*e*Pn		**Pn**	**13 04 38.1**	**-0.3**
ITEG	**Tejag**	**5.44**	**173**	Pn		**Pn**	**13 04 38.0**	**-0.3**
IBAF	**Bafgh**	**7.00**	**197**	*e*Pn		**Pn**	**13 05 00.2**	**+0.3**
IBAF				*e*			13 05 35.9	
	comp=Z,218nm,0.3s							
IBAF	**Bafgh**	**7.00**	**197**	Pn		**Pn**	**13 05 00.1**	**+0.3**
IBAF	**Bafgh**	**7.00**	**197**	Pn		**Pn**	**13 05 00.1**	**+0.3**
IZEF	**Zefreh**	**7.11**	**222**	*e*Pn		**Pn**	**13 05 01.8**	**+0.3**
IZEF	**Zefreh**	**7.11**	**222**	Pn		**Pn**	**13 05 01.7**	**+0.3**
IZEF	**Zefreh**	**7.11**	**222**	Pn		**Pn**	**13 05 01.7**	**+0.3**
IKLH	**Kolahrood**	**7.21**	**228**	*e*Pn		**Pn**	**13 05 02.0**	**-0.9**
IKLH				*e*			13 06 35.2	
	comp=N,360nm,0.1s							
IKLH	**Kolahrood**	**7.21**	**228**	*e*Pn		**Pn**	**13 05 02.0**	**-0.9**
IKLH	**Kolahrood**	**7.21**	**228**	Pn		**Pn**	**13 05 02.0**	**-0.9**
IMEH	**Mehriz**	**7.45**	**203**	*e*			13 05 16.1	
	comp=Z,403nm,0.3s							
IMEH				*e*Pn		**Pn**	**13 05 05.3**	**-0.8**
IMEH	**Mehriz**	**7.45**	**203**	*e*Pn		**Pn**	**13 05 05.3**	**-0.8**
IMEH	**Mehriz**	**7.45**	**203**	Pn		**Pn**	**13 05 05.2**	**-0.8**
IPIR	**Pirpir**	**8.07**	**228**	*e*Pn		**Pn**	**13 05 15.7**	**+1.0**
IPIR				*e*			13 06 57.2	
	comp=Z,99nm,0.3s							
IPIR	**Pirpir**	**8.07**	**228**	Pn		**Pn**	**13 05 15.6**	**+1.0**
IPIR	**Pirpir**	**8.07**	**228**	Pn		**Pn**	**13 05 15.6**	**+1.0**
DZET	**Dzherino**	**8.50**	**83**	⇑Pn		**Pn**	**13 05 20.2**	**-0.1**
	comp=Z,4.7nm,0.4s							
DZET				⇑Sn		Sn	13 06 50.0	-6.3
	comp=Z,43nm,0.5s							
GNI	**Garni**	**10.45**	**284**	Pn		Pn	13 05 44.1	-3.0
	comp=Z,1.1nm,0.3s,baz=49,slow=19,SNR=2.3							
GNI				Sn		**Sn**	**13 07 43.4**	**-0.9**
	comp=Z,1.5nm,0.3s,baz=311,slow=11,SNR=2.2							
GNI	**Garni**	**10.45**	**284**	P		**Pn**	**13 05 47.0**	**-0.2**
GNI				pmax	pmax			
	comp=Z,14nm,0.6s							
GNI	**Garni**	**10.45**	**284**	P		**Pn**	**13 05 47.0**	**-0.2**
	comp=Z,14nm,0.6s							
GNI	**Garni**	**10.45**	**284**	Pn		**Pn**	**13 05 47.0**	**-0.2**
	comp=Z,14nm,0.6s							
KK31	**Karatay Array**	**10.63**	**59**	⇓Pn		**Pn**	**13 05 49.9**	**+0.4**
	comp=Z,9.6nm,0.6s,baz=246,slow=15,SNR=77							
KK31				⇓Sn		Sn	13 07 40.9	-7.6
	comp=Z,4.3nm,0.4s,baz=242,slow=22,SNR=2.7							
KK31	**Karatay Array**	**10.63**	**59**	*e*P		**Pn**	**13 05 49.2**	**-0.3**
KK31							13 07 40.3	
KK31				pmax	pmax			
	comp=Z,7.0nm,0.3s							
KK31				smax	smax			
	comp=N,8.0nm,0.4s							
KK31	**Karatay Array**	**10.63**	**59**	*e*P		**Pn**	**13 05 49.2**	**-0.3**
	comp=N,7.0nm,0.3s							
KK31	**Karatay Array**	**10.63**	**59**	Pn		**Pn**	**13 05 49.9**	**+0.4**
	comp=N,9.6nm,0.6s,SNR=77							
KK31				S		Sn	13 07 40.3	-8.2
	comp=N,8.0nm,0.4s							
KKAR	**Karatay Array**	**10.63**	**59**	*e*P		**Pn**	**13 05 48.6**	**-0.9**
KKAR				pmax	pmax			
	comp=Z,11nm,0.4s							
KKAR	**Karatay Array**	**10.63**	**59**	*e*P		**Pn**	**13 05 48.6**	**-0.9**
	comp=Z,11nm,0.4s							
KKAR	**Karatay Array**	**10.63**	**59**	*e*Pn		**Pn**	**13 05 48.5**	**-0.9**
	comp=Z,11nm,0.4s							
KKAR				*e*Sn		Sn	13 07 38.1	-10
AB31	**Akbulak array**	**11.03**	**7**	⇓Pn		**Pn**	**13 05 54.7**	**-0.2**
	comp=Z,4.4nm,0.3s,baz=186,slow=14							
AB31				⇑Sn		Sn	13 07 52.9	-5.3
	comp=Z,6.6nm,0.3s,baz=187,slow=22							
AB31	**Akbulak array**	**11.03**	**7**	P		**Pn**	**13 05 54.6**	**-0.2**
AB31							13 07 55.3	
AB31				pmax	pmax			
	comp=Z,7.0nm,0.2s							
AB31	**Akbulak array**	**11.03**	**7**	P		**Pn**	**13 05 54.6**	**-0.2**
	comp=Z,7.0nm,0.2s							
AB31				S		**Sn**	**13 07 55.3**	**-2.9**
ABKAR	**Akbulak array**	**11.03**	**7**	*e*Pn		**Pn**	**13 05 54.4**	**-0.4**
	comp=Z,11nm,0.3s							
ABKAR	**Akbulak array**	**11.03**	**7**	*e*Pn		**Pn**	**13 05 54.4**	**-0.4**
	comp=Z,11nm,0.3s							
MNAS	**Manas**	**11.81**	**65**	⇑Pn		**Pn**	**13 06 05.9**	**+0.1**
	comp=Z,2.5nm,0.4s							
MNAS				⇓Sn		Sn	13 08 09.9	-7.9
	comp=Z,10.0nm,0.5s							
MNAS	**Manas**	**11.81**	**65**	P		**Pn**	**13 06 05.4**	**-0.4**
MNAS							13 08 11.4	
MNAS				pmax	pmax			
	comp=Z,3.0nm,0.4s							
MNAS	**Manas**	**11.81**	**65**	P		**Pn**	**13 06 05.4**	**-0.4**
	comp=Z,3.0nm,0.4s							
MNAS				S		Sn	13 08 11.4	-6.3
AKTK	**Aktyubinsk**	**12.12**	**0**	P		**Pn**	**13 06 09.6**	**-0.2**
	comp=Z,15nm,0.3s							
AKTO	**Aktyubinsk**	**12.12**	**0**	⇓Pn		**Pn**	**13 06 09.0**	**-0.8**
	comp=Z,23nm,0.5s							
AKTO				⇑Sn		**Sn**	**13 08 22.9**	**-2.0**
	comp=Z,31nm,0.7s							
AKTO	**Aktyubinsk**	**12.12**	**0**	Pn		**Pn**	**13 06 09.4**	**-0.4**
	comp=Z,16nm,0.3s,baz=180,slow=11,SNR=78							
AKTO				Sn		**Sn**	**13 08 21.0**	**-4.0**
	comp=Z,1.8nm,0.3s,baz=253,slow=20,SNR=2.9							
AKTO	**Aktyubinsk**	**12.12**	**0**	P		**Pn**	**13 06 09.6**	**-0.2**
AKTO				pmax	pmax			
	comp=Z,15nm,0.3s							
AKTO	**Aktyubinsk**	**12.12**	**0**	Pn		**Pn**	**13 06 09.0**	**-0.8**
	comp=Z,23nm,0.5s							
AKTO				Sn		**Sn**	**13 08 22.9**	**-2.0**
	comp=Z,31nm,0.7s							
SFK	**Sufi-Kurgan**	**12.15**	**77**	⇑Pn		**Pn**	**13 06 11.0**	**+0.5**
	comp=Z,2.4nm,0.4s							
SFK				⇓Sn		**Sn**	**13 08 23.8**	**-2.4**
	comp=Z,5.5nm,0.4s							
SFK	**Sufi-Kurgan**	**12.15**	**77**	P		**Pn**	**13 06 10.5**	**0.0**
SFK							13 08 23.0	
SFK				pmax	pmax			
	comp=Z,2.0nm,0.4s							
SFK	**Sufi-Kurgan**	**12.15**	**77**	P		**Pn**	**13 06 10.5**	**0.0**
	comp=Z,2.0nm,0.4s							
SFK	**Sufi-Kurgan**	**12.15**	**77**	Pn		**Pn**	**13 06 11.0**	**+0.5**
	comp=Z,2.4nm,0.4s							
SFK				S		**Sn**	**13 08 23.0**	**-3.2**
SFK				Sn		Sn	13 08 23.8	-2.6
	comp=Z,5.5nm,0.4s							
KBZ	**Khabaz**	**12.62**	**300**	Pn		Pn	13 06 12.3	-4.3
	comp=Z,0.5nm,0.3s,baz=236,slow=24,SNR=7.6							
KBZ				Sn		Sn	13 08 25.3	-12
	comp=Z,1.2nm,0.3s,baz=233,slow=20,SNR=3.1							
KIV	**Kislovodsk**	**12.84**	**301**	*e*P		Pn	13 06 15.2	-4.6
KIV				*e*S		Sn	13 08 37.1	-5.7
KIV				pmax	pmax			
	comp=Z,6.0nm,0.9s							
KIV	**Kislovodsk**	**12.84**	**301**	*e*P		Pn	13 06 15.2	-4.6
	comp=Z,6.0nm,0.9s							
KIV				*e*S		Sn	13 08 37.1	-5.7
AAK	**Ala-Archa**	**13.28**	**66**	⇑Pn		**Pn**	**13 06 25.5**	**-0.2**
	comp=Z,7.1nm,0.5s							
AAK				⇑Sn		**Sn**	**13 08 52.3**	**-1.2**
	comp=Z,8.0nm,0.8s							
AAK	**Ala-Archa**	**13.28**	**66**	*i* P		**Pn**	**13 06 24.9**	**-0.8**
AAK				pmax	pmax			
	comp=Z,7.0nm,0.5s							
AAK	**Ala-Archa**	**13.28**	**66**	*i* P		**Pn**	**13 06 24.9**	**-0.8**
	comp=Z,7.0nm,0.5s							
AAK	**Ala-Archa**	**13.28**	**66**	Pn		**Pn**	**13 06 25.5**	**-0.2**
	comp=Z,7.1nm,0.5s							
AAK				Sn		**Sn**	**13 08 52.3**	**-1.2**
	comp=Z,8.0nm,0.8s							
TKM2	**Tokmak 2**	**14.13**	**65**	⇑Pn		Pn	13 06 33.0	-4.5
	comp=Z,2.1nm,0.5s							
TKM2				⇑Sn		**Sn**	**13 09 12.1**	**-2.3**
	comp=Z,6.8nm,0.6s							
TKM2	**Tokmak 2**	**14.13**	**65**	P		Pn	13 06 35.0	-2.5
TKM2				pmax	pmax			
	comp=Z,3.0nm,0.5s							
TKM2	**Tokmak 2**	**14.13**	**65**	P		Pn	13 06 35.0	-2.5
	comp=Z,3.0nm,0.5s							
TKM2				Sn		**Sn**	**13 09 12.1**	**-2.3**
	comp=Z,6.8nm,0.6s							
TKM2	**Tokmak 2**	**14.13**	**65**	P		Pn	13 06 35.0	-2.5
	comp=Z,3.3nm,0.5s							
BRVK	**Borovoye**	**17.02**	**26**	*ce*P		**Pn**	**13 07 15.0**	**-0.1**
BRVK				pmax	pmax			
	comp=Z,28nm,1.1s							
BRVK	**Borovoye**	**17.02**	**26**	*e*P		Pn	**13 07 15.0**	**-0.1**
	comp=Z,28nm,1.1s							
BRVK	**Borovoye**	**17.02**	**26**	*e*P		**Pn**	**13 07 14.7**	**-0.4**
	comp=Z,16nm,0.6s							
BVA0	**Borovoye Array**	**17.03**	**26**	⇑Pn		**Pn**	**13 07 14.6**	**-0.6**
	comp=Z,15nm,0.6s,baz=206,slow=14,SNR=58							
BVA0				⇑Sn		**Sn**	**13 10 20.7**	**-3.8**
	comp=Z,7.9nm,0.8s,baz=270,slow=13,SNR=4.8							
BVA0	**Borovoye Array**	**17.03**	**26**	Pn		**Pn**	**13 07 14.6**	**-0.6**
	comp=Z,15nm,0.6s,SNR=58							
BVA0				Sn		**Sn**	**13 10 20.7**	**-3.8**
	comp=Z,7.9nm,0.8s,SNR=4.8							
BVAR	**Borovoye Array**	**17.03**	**26**	Pn		**Pn**	**13 07 14.6**	**-0.7**
	comp=Z,4.5nm,0.3s,baz=200,slow=11,SNR=48							
BVAR				Sn		Sn	13 10 12.9	-12
	comp=Z,0.5nm,0.3s,baz=227,slow=19,SNR=3.2							
BVAR	**Borovoye Array**	**17.03**	**26**	P		**Pn**	**13 07 14.6**	**-0.7**
BVAR							13 10 12.9	
BVAR				pmax	pmax			
	comp=Z,5.0nm,0.3s							
BVAR				smax	smax			
	comp=N,1.0nm,0.3s							
ARU	**Arti**	**18.13**	**1**	*d* P		**Pn**	**13 07 28.6**	**-0.2**
ARU				S		**Sn**	**13 10 48.0**	**-3.0**
ARU				pmax	pmax			
	comp=Z,22nm,0.8s							
ARU	**Arti**	**18.13**	**1**	*i* P		**Pn**	**13 07 28.6**	**-0.2**
	comp=Z,22nm,0.8s							
ARU				S		**Sn**	**13 10 48.0**	**-3.0**
ARU	**Arti**	**18.13**	**1**	*e*P		**Pn**	**13 07 27.4**	**-1.4**
	comp=Z,22nm,0.8s							
RAYN	**Ar Rayn**	**18.20**	**219**	*e*P		**Pn**	**13 07 27.4**	**-2.6**
	comp=Z,4.7nm,0.7s							
RAYN	**Ar Rayn**	**18.20**	**219**	*e*P		**Pn**	**13 07 27.4**	**-2.6**
	comp=Z,4.7nm,0.7s							
VORD	**Divnogorie**	**18.30**	**320**	*e*P		**Pn**	**13 07 31.2**	**+0.3**
VORD				pmax	pmax			
	comp=N,50nm,0.6s							
VORD				pmax	pmax			
	comp=E,10.0nm,0.6s							
VORD				pmax	pmax			
	comp=Z,10.0nm,0.6s							
VORD	**Divnogorie**	**18.30**	**320**	*e*P		**Pn**	**13 07 31.2**	**+0.3**
VSR	**Storozhevoye**	**18.51**	**320**	*e*P		**P**	**13 07 33.4**	**0.0**
VSR				*e*S		**Sn**	**13 11 00.2**	**-0.1**
VSR				pmax	pmax			
	comp=N,7.0nm,0.6s							
VSR				pmax	pmax			
	comp=E,10.0nm,0.6s							
VSR				pmax	pmax			
	comp=Z,10.0nm,0.6s							
VSR				smax	smax			
	comp=E,60nm,2.0s							
VSR				smax	smax			
	comp=Z,90nm,2.5s							
VSR				smax	smax			
	comp=N,40nm,1.3s							
VSR	**Storozhevoye**	**18.51**	**320**	*e*P		**P**	**13 07 33.4**	**0.0**
VSR				*e*S		**Sn**	**13 11 00.2**	**-0.1**
	comp=N,40nm,1.3s							
SVE	**Sverdlovsk**	**18.61**	**5**	*e*P		**Pn**	**13 07 36.2**	**+1.5**
SVE				*e*S		**Sn**	**13 11 04.0**	**+1.5**
SVE				pmax	pmax			
	comp=Z,24nm,1.3s							
SVE	**Sverdlovsk**	**18.61**	**5**	*e*P		**Pn**	**13 07 36.2**	**+1.5**
	comp=Z,24nm,1.3s							
SVE				*e*S		**Sn**	**13 11 04.0**	**+1.5**
BRTR	**Keskin Array B**	**18.97**	**282**	Pn		**P**	**13 07 36.5**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=120,slow=12,SNR=2.4							
KURBB	**Kurchatov Arra**	**19.06**	**43**	Pn		**P**	**13 07 38.7**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=246,slow=12,SNR=4.0							
KURK	**Kurchatov**	**19.16**	**43**	P		**P**	**13 07 38.7**	**-1.7**
KURK	**Kurchatov**	**19.16**	**43**	P		**P**	**13 07 38.7**	**-1.7**
KURK	**Kurchatov**	**19.16**	**43**	*e*P		**P**	**13 07 41.5**	**+1.1**
LPSR	**Galich'ya Gora**	**19.49**	**323**	*e*P		**P**	**13 07 45.7**	**+1.6**
LPSR				*e*S		**Sn**	**13 11 20.1**	**-3.7**
LPSR				pmax	pmax			
	comp=Z,20nm,0.9s							
LPSR				pmax	pmax			
	comp=N,3.0nm,0.6s							
LPSR				pmax	pmax			
	comp=E,10.0nm,0.7s							
LPSR				smax	smax			
	comp=N,40nm,1.9s							
LPSR				smax	smax			
	comp=Z,6.0nm,0.9s							
LPSR				smax	smax			
	comp=E,10.0nm,1.7s							
LPSR	**Galich'ya Gora**	**19.49**	**323**	*e*P		**P**	**13 07 45.7**	**+1.6**
	comp=E,3.0nm,0.6s							
MK31	**Makanchi Array**	**19.74**	**57**	*e*P		**P**	**13 07 49.0**	**+2.1**
MK31	**Makanchi Array**	**19.74**	**57**	*e*P		**P**	**13 07 49.0**	**+2.1**
MK31	**Makanchi Array**	**19.74**	**57**	*e*P		**P**	**13 07 49.0**	**+2.1**
MKAR	**Makanchi Array**	**19.74**	**57**	P		**P**	**13 07 48.9**	**+1.9**
	comp=E,4.6nm,0.7s,baz=245,slow=11,SNR=9.3							
MKAR	**Makanchi Array**	**19.74**	**57**	P		**P**	**13 07 48.9**	**+1.9**
MKAR				pmax	pmax			
	comp=Z,5.0nm,0.7s							
OBN	**Obninsk**	**22.18**	**326**	*ce*P		P	13 08 08.5	-4.6
OBN				*e*			13 08 20.0	
OBN				pmax	pmax			
	comp=Z,9.0nm,0.4s							
OBN				MLR	MLR			
	comp=Z,115nm,17.0s							
NVS	**Novosibirsk**	**23.76**	**38**	*e*P		**P**	**13 08 33.8**	**+4.3**
AK02	**Malin Array Si**	**23.80**	**311**	*e*P		**P**	**13 08 30.0**	**+0.1**
AK02	**Malin Array Si**	**23.80**	**311**	*e*P		**P**	**13 08 30.0**	**+0.1**
AKASG	**Malin Array Be**	**23.80**	**311**	P		**P**	**13 08 28.2**	**-1.7**
	comp=Z,1.0nm,0.4s,baz=104,slow=9.0,SNR=4.5							
AKASG	**Malin Array Be**	**23.80**	**311**	P		**P**	**13 08 28.2**	**-1.7**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKBB	**Malin Array Si**	**23.80**	**311**	P		**P**	**13 08 31.5**	**+1.6**
AKBB	**Malin Array Si**	**23.80**	**311**	P		**P**	**13 08 31.5**	**+1.6**
AKBB	**Malin Array Si**	**23.80**	**311**	P		**P**	**13 08 31.5**	**+1.6**
AK01	**Malin Array Si**	**23.81**	**311**	*e*P		**P**	**13 08 29.1**	**-0.9**
AK01	**Malin Array Si**	**23.81**	**311**	*e*P		**P**	**13 08 29.1**	**-0.9**
KIEV	**Kiev**	**23.81**	**311**	*e

	comp=Z,6.0nm,3.2s								
TIXI	**Tiksi**	**48.14**	**24**	*e*P		**P**		**13 11 55.6**	**-1.2**
	comp=Z,6.0nm,3.2s								
TIXI	**Tiksi**	**48.14**	**24**	*e*P		**P**		**13 11 55.2**	**-1.7**
	comp=Z,2.0nm,0.4s								
YAK	**Yakutsk**	**48.62**	**37**	*i* P		P		13 11 57.3	-3.3
YAK				pmax		pmax			
	comp=Z,5.0nm,0.6s								
KSRS	**Korea Array**	**53.93**	**68**	P		**P**		**13 12 43.2**	**+2.4**
	comp=Z,0.4nm,0.5s,baz=280,slow=5.3,SNR=2.5								
TORD	**Torodi Ar. Bea**	**55.62**	**259**	P		**P**		**13 12 51.8**	**-1.6**
	comp=Z,1.1nm,0.6s,baz=46,slow=7.6,SNR=21								
BILL	**Bilibino**	**61.36**	**24**	*e*P		**P**		**13 13 33.3**	**+0.6**
BILL				*e*				13 13 41.6	
BILL				pmax		pmax			
	comp=Z,2.0nm,1.0s								
BILL	**Bilibino**	**61.36**	**24**	*e*P		**P**		**13 13 33.3**	**+0.6**
	comp=Z,2.0nm,1.0s								
BILL	**Bilibino**	**61.36**	**24**	*e*P		**P**		**13 13 33.4**	**+0.6**
	comp=Z,5.9nm,1.0s								
PETK	**Petropavlovsk-**	**65.63**	**41**	P		P		13 14 04.4	+3.3
	comp=Z,1.9nm,0.8s,baz=278,slow=11,SNR=2.7								
PETK	**Petropavlovsk-**	**65.63**	**41**	P		P		13 14 04.4	+3.3
PETK				pmax		pmax			
	comp=Z,2.0nm,0.8s								
BOSA	**Boshof**	**73.29**	**210**	P		**P**		**13 14 47.6**	**-1.1**
	comp=Z,2.6nm,0.3s,baz=30,slow=10,SNR=5.0								
BOSA	**Boshof**	**73.29**	**210**	*e*P		**P**		**13 14 47.6**	**-1.1**
BOSA				pmax		pmax			
	comp=Z,7.0nm,0.7s								
BOSA	**Boshof**	**73.29**	**210**	*e*P		**P**		**13 14 47.6**	**-1.1**
	comp=Z,6.9nm,0.7s								
BOSA	**Boshof**	**73.29**	**210**	*e*P		**P**		**13 14 47.6**	**-1.1**
	comp=Z,6.9nm,0.7s								
INK	**Inuvik**	**73.35**	**4**	P		**P**		**13 14 49.7**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=344,slow=7.4,SNR=2.0								
INK	**Inuvik**	**73.35**	**4**	P		**P**		**13 14 49.7**	**+1.2**
INK				pmax		pmax			
	comp=Z,1.0nm,0.8s								
ILAR	**Eielson Array**	**75.41**	**11**	P		**P**		**13 15 02.4**	**+1.7**
	comp=Z,0.1nm,0.6s,baz=308,slow=4.4,SNR=2.5								
YKA	**Yellowknife Ar**	**79.36**	**357**	P		**P**		**13 15 23.8**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=6.2,slow=6.3,SNR=4.6								

NNC ***25*** *13:04:05.0±0.5, 50.°01N×78.°72E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=14.1km s-min=2.7km az=76.0*
IDC ***25*** *13:04:06.2±1.0, 50.°09N×78.°82E, h0km, mb1 2.8/2, mb1mx2.8/29, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=13.7km s-min=6.4km az=63.0*

ISC 25 13:04:06.2±1.7, 50.°04N±0.°08×78.°7E±0.°2, h8km±14km, n15, σ0§69/25, 16C-6D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.55**	**350**	⇑P		**Pg**	**13 04 16.7**	**-0.1**
KUR07				⇑S		**Sb**	**13 04 25.8**	**-0.4**
KUR06	**Kurchatov Arra**	**0.57**	**351**	⇓P		**Pg**	**13 04 16.9**	**-0.3**
KUR06				⇓S		**Sb**	**13 04 26.4**	**-0.2**
KUR14	**Kurchatov Arra**	**0.58**	**356**	⇑P		**Pg**	**13 04 16.8**	**-0.5**
KUR14				⇑S		**Sg**	**13 04 25.6**	**+0.7**
KUR15	**Kurchatov Arra**	**0.58**	**354**	⇑P		**Pg**	**13 04 17.0**	**-0.5**
KUR15				⇑S		**Sg**	**13 04 26.0**	**+1.0**
KURBB	**Kurchatov Arra**	**0.59**	**352**	⇑P		**Pg**	**13 04 17.2**	**-0.4**
	14nm,0.3s							
KURBB				⇑S		**Sg**	**13 04 25.8**	**+0.5**
	19nm,0.3s							
KURBB	**Kurchatov Arra**	**0.59**	**352**	Pg		**Pg**	**13 04 17.1**	**-0.4**
	2.5nm,0.3s,baz=160,slow=18,SNR=149							
KURBB				Lg		Lg	13 04 25.8	
	3.0nm,0.3s,baz=160,slow=33,SNR=35							
KUR16	**Kurchatov Arra**	**0.60**	**350**	⇓P		**Pg**	**13 04 17.4**	**-0.4**
KUR16				⇓S		**Sg**	**13 04 26.1**	**+0.6**
KUR17	**Kurchatov Arra**	**0.60**	**348**	⇑P		**Pg**	**13 04 17.4**	**-0.5**
KUR17				⇑S		**Sb**	**13 04 26.9**	**-0.8**
KUR05	**Kurchatov Arra**	**0.61**	**352**	⇑P		**Pg**	**13 04 17.5**	**-0.5**
KUR05				⇑S		**Sg**	**13 04 26.4**	**+0.5**
KUR04	**Kurchatov Arra**	**0.63**	**353**	⇑P		**Pg**	**13 04 17.7**	**-0.6**
KUR04				⇑S		**Sg**	**13 04 27.2**	**+0.7**
KURK	**Kurchatov**	**0.68**	**358**	⇑P		**Pg**	**13 04 18.5**	**-0.7**
	4.3nm,0.4s							
KURK				⇓S		**Sg**	**13 04 28.7**	**+0.7**
	4.0nm,0.4s							
MK31	**Makanchi Array**	**4.05**	**142**	⇓Pn		**Pn**	**13 05 09.5**	**+1.1**
	0.5nm,0.3s,baz=323,slow=14,SNR=6.8							
MK31				⇑Lg		Lg	13 06 12.5	
	5.8nm,0.6s,baz=329,slow=25,SNR=13							
MKAR	**Makanchi Array**	**4.05**	**142**	Pn		**Pn**	**13 05 09.4**	**+1.0**
	0.2nm,0.3s,baz=322,slow=10,SNR=21							
MKAR				Pg		**Pb**	**13 05 16.8**	**-1.0**
	0.5nm,0.3s,baz=326,slow=16,SNR=13							
MKAR				Lg		Lg	13 06 11.9	
	1.8nm,0.3s,baz=328,slow=27,SNR=14							
ZALV	**Zalesovo Beam**	**5.46**	**42**	Pn		**Pn**	**13 05 28.3**	**+0.6**
	0.8nm,0.3s,baz=231,slow=15,SNR=7.4							
I46RU	**ZALESOVO INFRA**	**5.46**	**42**	*i*			13 34 30.0	
	baz=226,slow=296,SNR=2.0							

IDC ***25*** *13:04:09.9±0.9, 0.°44S×131.°81E, h0km, mb3.8/7, mb1 4.0/9, mb1mx3.7/38, mbtmp3.9/9, ML3.8/2, MS3.5/1, Ms1 3.5/1, ms1mx3.0/23, Error ellipse: s-maj=36.5km s-min=17.7km az=76.0*
NEIC ***25*** *13:04:14.1±4.8, 0.°53S×131.°66E, h26km±36km, mb3.9/1, Error ellipse: s-maj=23.1km s-min=7.8km az=48.0*
NEIC Felt [II] at Sorong.
DJA ***25*** *13:04:18.7±0.3, 1.°S±4.°×13.°2E±.°, h13km, M4.7/10, mb4.1/5, mB5.3/3, MLv5.0/10, Mw(mB)4.7/3*

ISC 25 13:04:15.3±0.7, 0.°56S±0.°07×131.°63E±0.°06, h35km, n30, σ1§42/23, mb4.0/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.43**	**165**	P		**Pn**	**13 04 52.1**	**-0.5**
FAKI				S		**Sn**	**13 05 18.5**	**-2.6**
FAKI	**Fak Fak**	**2.43**	**165**	*e*Pn		**Pn**	**13 04 52.4**	**-0.2**
RKPI	**Ransiki, Papua**	**2.72**	**110**	P		**Pn**	**13 04 58.7**	**+2.1**
RKPI				S		**Sn**	**13 05 30.0**	**+1.7**
MSAI	**Masohi**	**3.87**	**224**	P		**Pn**	**13 05 15.1**	**+2.8**
BNDI	**Bandanaira**	**4.30**	**204**	P		**Pn**	**13 05 19.3**	**+1.0**
TNTI	**Ternate**	**4.46**	**287**	P		Pn	13 05 28.9	+8.4
TNTI	**Ternate**	**4.46**	**287**	P		**Pn**	**13 05 20.8**	**+0.3**
AAI	**Ambon**	**4.63**	**228**	P		**Pn**	**13 05 25.7**	**+2.9**
NLAI	**Namlea**	**5.25**	**239**	P		Pn	13 05 35.6	+4.2
	32nm,0.5s,1.1nm							
SANI	**Sanana**	**5.83**	**255**	P		Pn	13 05 44.8	+5.5
	12nm,0.9s,0.3nm							
MRSI	**Marisa**	**9.74**	**276**	P		Pn	13 06 40.1	+7.1
	9.2nm,0.8s,2μm							
APSI	**Ampana**	**9.98**	**268**	P		Pn	13 06 42.3	+5.9
MPSI	**Mapaga**	**11.76**	**274**	P		Pn	13 07 08.0	+7.3
	5.2nm,1.7s,656nm							
KAPI	**Kappang**	**12.66**	**249**	Pn		**Pn**	**13 07 14.0**	**+1.0**
	0.3nm,0.3s,baz=58,slow=18,SNR=4.7							
KAPI	**Kappang**	**12.66**	**249**	P		**Pn**	**13 07 12.6**	**-0.4**
	5.1nm,0.8s							
COEN	**Coen**	**17.55**	**140**	*e*P		**Pn**	**13 08 17.2**	**-0.2**
WRAB	**Tennant Creek**	**19.44**	**172**	*e*P		**P**	**13 08 39.0**	**0.0**
	8.3nm,1.1s							
WRA	**Warramunga Arr**	**19.45**	**172**	P		**P**	**13 08 39.0**	**-0.1**
	0.4nm,0.3s,baz=353,slow=11,SNR=17							
AS31	**Alice Springs**	**23.08**	**175**	*e*P				
ASAR	**Alice Springs**	**23.08**	**175**	P		**P**	**13 09 18.1**	**+0.1**
	1.6nm,0.5s,baz=353,slow=8.5,SNR=15						**13 09 18.2**	**+0.1**
STKA	**Stephens Creek**	**32.55**	**164**	P		**P**	**13 10 43.9**	**+0.6**
	2.5nm,0.9s,baz=336,slow=13,SNR=3.9							
CMAR	**Chiang Mai Arr**	**37.27**	**302**	P		**P**	**13 11 24.0**	**-0.2**
	0.3nm,0.3s,baz=98,slow=10,SNR=3.1							
H11N1	**WAKE ISLAND Hy**	**40.01**	**58**	T		T	13 54 43.4	
	baz=245							
H11N2	**WAKE ISLAND Hy**	**40.02**	**58**	T		T	13 54 55.2	
	baz=245							
H11N3	**WAKE ISLAND Hy**	**40.03**	**58**	T		T	13 54 54.4	
	baz=245							
USRK	**Ussuriysk Ar.**	**44.56**	**0**	P		**P**	**13 12 22.5**	**-1.3**
	2.3nm,0.9s,baz=174,slow=16,SNR=2.9							
USRK				LR		LR	13 30 03.4	
	comp=Z,68nm,21.4s,baz=141,slow=35							
MKAR	**Makanchi Array**	**63.85**	**325**	P		**P**	**13 14 46.2**	**+1.8**
	1.2nm,0.7s,baz=113,slow=9.1,SNR=4.2							
KURK	**Kurchatov**	**67.97**	**327**	P		**P**	**13 15 10.2**	**-0.6**
KURBB	**Kurchatov Arra**	**67.97**	**327**	P		**P**	**13 15 10.2**	**-0.6**
	1.6nm,0.9s,baz=110,slow=6.6,SNR=3.4							
ILAR	**Eielson Array**	**86.86**	**25**	P		**P**	**13 16 54.7**	**-1.4**

0.2nm,0.6s,baz=276,slow=4.4,SNR=3.0

LDG ***25*** *13:05:09.8±0.1, 35.°96N×4.°08E, h2km, Ml3.4/8, Error ellipse: s-maj=2.5km s-min=1.7km az=174.0*
CRAAG ***25*** *13:05:09.0, 35.°82N×4.°09E, Ml4.8*
IDC ***25*** *13:05:10.1±1.2, 35.°88N×4.°09E, h0km, mb3.6/4, mb1 3.7/8, mb1mx3.5/32, mbtmp3.5/8, ML3.9/4, MS3.2/1, Ms1 3.2/1, ms1mx2.5/36, Error ellipse: s-maj=26.6km s-min=17.9km az=154.0*
ISCJB ***25*** *13:05:11.0±0.3, 36.°26N±0.°03×4.°15E±0.°02, h10km, mb3.5/4, MS3.0/1, Error ellipse: s-maj=4.7km s-min=2.7km az=1.5*
MDD ***25*** *13:05:11.8±0.5, 35.°88N×4.°12E, h0km, mb4.4/20, Error ellipse: s-maj=9.5km s-min=3.2km az=11.0, PRXIMO*
CSEM ***25*** *13:05:12.2±0.2, 36.°27N×4.°13E, h10km, ML3.3/6, Error ellipse: s-maj=5.7km s-min=3.4km az=174.0*

ISC 25 13:05:11.8±0.7, 36.°21N±0.°05×4.°11E±0.°03, h10km, n139, σ1§61/144, mb3.5/4, 1D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AKET	**Djebel Ketaf**	**0.25**	**229**	P		**Pg**	**13 05 15.5**	**-1.5**
AKET	**Djebel Ketaf**	**0.25**	**229**	P		**Pg**	**13 05 15.5**	**-1.5**
ATAF	**Djebel Tarf**	**0.36**	**159**	P		Pg	13 05 13.6	-5.4
ATAF	**Djebel Tarf**	**0.36**	**159**	P		Pg	13 05 13.6	-5.4
ADJB	**Djebel Djouab**	**0.55**	**265**	P		**Pg**	**13 05 22.6**	**+0.1**
ADJB	**Djebel Djouab**	**0.55**	**265**	P		**Pg**	**13 05 22.6**	**+0.1**
ADJB	**Djebel Djouab**	**0.55**	**265**	P		**Pg**	**13 05 22.6**	**+0.1**
EMHD	**Djebel Mahouad**	**0.94**	**270**	P		**Pg**	**13 05 30.9**	**+1.0**
EMHD	**Djebel Mahouad**	**0.94**	**270**	P		**Pg**	**13 05 30.9**	**+1.0**
EMHD	**Djebel Mahouad**	**0.94**	**270**	P		**Pg**	**13 05 30.9**	**+1.0**
SET	**Setif**	**1.04**	**90**	P		**Pg**	**13 05 32.0**	**+0.2**
SET	**Setif**	**1.04**	**90**	P		**Pg**	**13 05 32.0**	**+0.2**
SET	**Setif**	**1.04**	**90**	P		**Pg**	**13 05 32.0**	**+0.2**
ABA	**Alger-Bouzarea**	**1.05**	**304**	P		**Pn**	**13 05 32.6**	**0.0**
ABA	**Alger-Bouzarea**	**1.05**	**304**	P		**Pn**	**13 05 32.6**	**0.0**
ABA	**Alger-Bouzarea**	**1.05**	**304**	P		**Pn**	**13 05 32.6**	**0.0**
CKHR	**Kef el Ahmar**	**1.15**	**99**	P		**Pb**	**13 05 33.3**	**-0.5**
CKHR	**Kef el Ahmar**	**1.15**	**99**	P		**Pb**	**13 05 33.3**	**-0.5**
CKHR	**Kef el Ahmar**	**1.15**	**99**	P		**Pb**	**13 05 33.3**	**-0.5**
DFRA	**Djebel Bou Aff**	**1.46**	**76**	P		**Pg**	**13 05 41.7**	**+1.9**
DFRA	**Djebel Bou Aff**	**1.46**	**76**	P		**Pg**	**13 05 41.7**	**+1.9**
DFRA	**Djebel Bou Aff**	**1.46**	**76**	P		**Pg**	**13 05 41.7**	**+1.9**
CTEI	**Djebel Teioual**	**1.86**	**94**	P		**Pn**	**13 05 44.7**	**+0.8**
CTEI	**Djebel Teioual**	**1.86**	**94**	P		**Pn**	**13 05 44.7**	**+0.8**
CTEI	**Djebel Teioual**	**1.86**	**94**	P		**Pn**	**13 05 44.7**	**+0.8**
CASM	**Ain Smara**	**1.92**	**88**	P		**Pn**	**13 05 45.2**	**+0.6**
CASM	**Ain Smara**	**1.92**	**88**	P		**Pn**	**13 05 45.2**	**+0.6**
CASM	**Ain Smara**	**1.92**	**88**	P		**Pn**	**13 05 45.2**	**+0.6**
EBNR	**Beni Rached**	**2.09**	**273**	P		Pg	13 05 56.6	+4.7
CKFL	**Kef-Lekhel**	**2.11**	**84**	P		**Pn**	**13 05 47.4**	**+0.1**
CKFL	**Kef-Lekhel**	**2.11**	**84**	P		**Pn**	**13 05 47.4**	**+0.1**
CKFL	**Kef-Lekhel**	**2.11**	**84**	P		**Pn**	**13 05 47.4**	**+0.1**
ECHA	**Ech Chlef**	**2.22**	**269**	P		**Pn**	**13 05 47.5**	**-1.2**
ECHA	**Ech Chlef**	**2.22**	**269**	P		**Pn**	**13 05 47.5**	**-1.2**
ECHF	**Ech Chlef**	**2.25**	**269**	P		**Pn**	**13 05 47.5**	**-1.5**
ECHF	**Ech Chlef**	**2.25**	**269**	P		**Pn**	**13 05 47.5**	**-1.5**
CAEH	**'Ain El Ouahch**	**2.28**	**75**	P		**Pb**	**13 05 51.8**	**-1.2**
CAEH	**'Ain El Ouahch**	**2.28**	**75**	P		**Pb**	**13 05 51.8**	**-1.2**
CAEH	**'Ain El Ouahch**	**2.28**	**75**	P		**Pb**	**13 05 51.8**	**-1.2**
ETRT	**Tiaret**	**2.43**	**251**	P		**Pn**	**13 05 51.0**	**-0.7**
ETRT	**Tiaret**	**2.43**	**251**	P		**Pn**	**13 05 51.0**	**-0.7**
ETRT	**Tiaret**	**2.43**	**251**	P		**Pn**	**13 05 51.0**	**-0.7**
EANR	**'Ain N'Sour**	**2.46**	**265**	P		**Pn**	**13 05 52.2**	**+0.2**
EANR	**'Ain N'Sour**	**2.46**	**265**	P		**Pn**	**13 05 52.2**	**+0.2**
EANR	**'Ain N'Sour**	**2.46**	**265**	P		**Pn**	**13 05 52.2**	**+0.2**
CMAH	**Djebel Manchou**	**2.70**	**80**	P		**Pn**	**13 05 55.2**	**-0.1**
CMAH	**Djebel Manchou**	**2.70**	**80**	P		**Pn**	**13 05 55.2**	**-0.1**
CMAH	**Djebel Manchou**	**2.70**	**80**	P		**Pn**	**13 05 55.2**	**-0.1**
ABSA	**Djebel Ababsia**	**2.72**	**88**	P		**Pn**	**13 05 55.4**	**-0.2**
ABSA	**Djebel Ababsia**	**2.72**	**88**	P		**Pn**	**13 05 55.4**	**-0.2**
CABS	**Djebel Ababsia**	**2.72**	**88**	P		**Pn**	**13 05 55.4**	**-0.2**
CABS	**Djebel Ababsia**	**2.72**	**88**	P		**Pn**	**13 05 55.4**	**-0.2**
OKGL	**Djebel Kef Gue**	**2.82**	**267**	P		**Pn**	**13 05 56.0**	**-0.9**
OKGL	**Djebel Kef Gue**	**2.82**	**267**	P		**Pn**	**13 05 56.8**	**-0.1**
	103nm,0.4s,SNR=7.9							
OKGL				S		**Sn**	**13 06 31.9**	**+1.0**
	1μm,0.7s,SNR=7.9							
OKGL	**Djebel Kef Gue**	**2.82**	**267**	P		**Pn**	**13 05 56.8**	**-0.1**
	103nm,0.4s,SNR=7.9							
OKGL				S		**Sn**	**13 06 31.9**	**+1.0**
	1μm,0.7s,SNR=7.9							
OJGS	**Djebel Guires**	**2.82**	**257**	P		Pn	13 05 50.0	-7.0
OJGS	**Djebel Guires**	**2.82**	**257**	P		Pn	13 05 50.0	-7.0
OJBR	**Djebel Berber**	**3.12**	**260**	P		Pn	13 05 48.0	-13
OJBR	**Djebel Berber**	**3.12**	**260**	P		Pn	13 05 48.0	-13
EIBI	**Ibiza**	**3.57**	**323**	P		Pn	13 06 10.8	+3.6
	10nm,0.2s,SNR=27							
EIBI				S		**Sb**	**13 06 55.1**	**-3.3**
	14nm,0.3s,SNR=7.9							
ODJA	**Bouhanifia**	**3.58**	**257**	P		Pn	13 05 58.0	-9.4
ODJA	**Bouhanifia**	**3.58**	**257**	P		Pn	13 05 58.0	-9.4
ETOS	**Mallorca**	**3.70**	**344**	P		Pb	13 06 12.8	-4.4
	11nm,0.4s,SNR=14							
ETOS				S		**Sb**	**13 06 59.5**	**-2.5**
	9.6nm,0.4s,SNR=7.9							
EBEN	**Beniarda**	**4.25**	**307**	P		Pn	13 06 20.2	+3.5
	2.3nm,0.3s,SNR=6.2							
EBEN				S		**Sn**	**13 07 11.3**	**+4.8**
	9.7nm,0.7s,SNR=7.9							
KEST	**Kesra**	**4.27**	**95**	Pn		**Pn**	**13 06 16.6**	**-0.3**
	1.2nm,0.3s,baz=82,slow=6.3,SNR=31							
KEST				Sn		**Sn**	**13 07 07.8**	**+0.9**
	2.2nm,0.3s,baz=157,slow=13,SNR=5.1							
EMUR	**La Murta**	**4.58**	**292**	P		**Pn**	**13 06 22.8**	**+1.6**
	24nm,0.4s,SNR=14							
EMUR				S		**Sn**	**13 07 17.6**	**+3.1**
	20nm,0.7s,SNR=7.9							
EMUR	**La Murta**	**4.58**	**292**	P		**Pn**	**13 06 22.8**	**+1.6**
	24nm,0.4s,SNR=14							
OLHC	**Oulhaca**	**4.60**	**260**	P		Pn	13 05 55.0	-27
OLHC	**Oulhaca**	**4.60**	**260**	P		Pn	13 05 55.0	-27
ETOB	**Tobarra**	**5.12**	**300**	P		Pn	13 06 31.8	+3.2
	9.6nm,0.3s,SNR=17							
ETOB				S		**Sn**	**13 07 32.1**	**+4.3**
	13nm,0.4s,SNR=7.9							
ENIJ	**Nijar**	**5.14**	**280**	P		**Pn**	**13 06 29.3**	**+0.4**
	8.4nm,0.2s,SNR=7.9							
ENIJ	**Nijar**	**5.14**	**280**	P		**Pn**	**13 06 29.3**	**+0.4**
	8.4nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**5.50**	**320**	P		Pn	13 06 37.3	+3.4
	5.7nm,0.4s,SNR=7.9							
EMOS				S		**Sn**	**13 07 39.2**	**+2.0**
	9.1nm,0.5s,SNR=7.9							
EHUE	**Huescar**	**5.60**	**289**	P		Pn	13 06 38.9	+3.7
	9.0nm,0.2s,SNR=7.9							
SESP	**Santiago Espad**	**5.65**	**292**	P		**Pn**	**13 06 39.1**	**+3.2**
	14nm,0.2s,SNR=7.9							
SESP				S		**Sn**	**13 07 44.5**	**+3.5**
	18nm,0.3s,SNR=7.9							
EPOB	**Poblet**	**5.65**	**336**	P		Pn	13 06 39.8	+3.9
	4.1nm,0.5s,SNR=7.9							
EPOB				S		**Sn**	**13 07 43.7**	**+2.8**
	3.9nm,0.4s,SNR=4.0							
EBER	**Berja**	**5.68**	**279**	P		**Pn**	**13 06 36.6**	**+0.2**
	12nm,0.4s,SNR=19							
EBER				S		**Sn**	**13 07 43.3**	**+1.5**
	19nm,0.5s,SNR=7.9							
EBER	**Berja**	**5.68**	**279**	P		**Pn**	**13 06 36.6**	**+0.2**
	12nm,0.4s,SNR=19							
EBER				S		**Sn**	**13 07 43.3**	**+1.5**
	19nm,0.5s,SNR=7.9							
CFON	**Fontmartina**	**5.70**	**347**	P		Pn	13 06 41.1	+4.6
	5.7nm,0.4s,SNR=4.0							
EVIA	**Vianos**	**5.80**	**297**	P		**Pn**	**13 06 39.9**	**+2.0**
	22nm,0.4s,SNR=8.4							
EVIA				S		**Sn**	**13 07 48.4**	**+3.9**
	10nm,0.4s,SNR=7.9							
EVIA	**Vianos**	**5.80**	**297**	P		**Pn**	**13 06 39.9**	**+2.0**
	22nm,0.4s,SNR=8.4							
EQES	**Quesada**	**5.96**	**288**	P		**Pn**	**13 06 42.9**	**+2.6**
	16nm,0.3s,SNR=55							
EQES				S		**Sn**	**13 07 52.7**	**+4.0**
	24nm,0.5s,SNR=7.9							
EQES	**Quesada**	**5.96**	**288**	P		**Pn**	**13 06 42.9**	**+2.6**
	16nm,0.3s,SNR=55							
EMIR	**Miracle**	**6.04**	**341**	P		Pn	13 06 46.2	+4.9
	3.8nm,0.2s,SNR=7.9							
EMIR				S		Sn	13 07 55.9	+5.5
	11nm,0.6s,SNR=7.9							
EQUE	**Quentar**	**6.15**	**282**	P		**Pn**	**13 06 44.1**	**+1.3**
	8.2nm,0.3s,SNR=12							
EGUA	**Guajares**	**6.22**	**278**	⇓P		**Pn**	**13 06 44.9**	**+1.3**
	7.1nm,0.3s,SNR=18							
EGUA	**Guajares**	**6.22**	**278**	P		**Pn**	**13 06 44.9**	**+1.3**
	7.1nm,0.3s,SNR=18							
EJON	**La Jonquera**	**6.30**	**352**	P		Pn	13 06 49.7	+4.9
	5.8nm,0.4s,SNR=7.9							
SJAF	**Saint Jean de**	**6.34**	**352**	P		Pn	13 06 49.9	+4.6
	2.7nm,0.2s,SNR=7.9							
SJAF				S		**Sn**	**13 08 00.2**	**+2.5**
	0.8nm,0.2s,SNR=7.9							
CLLI	**Llivia**	**6.47**	**346**	P		Pn	13 06 53.5	+6.2
	3.6nm,0.4s,SNR=7.9							
CSOR	**Sort**	**6.57**	**340**	P		Pn	13 06 53.3	+4.7
	3.4nm,0.4s,SNR=7.9							
CSOR				S		**Sn**	**13 08 08.3**	**+4.6**
	8.1nm,0.6s,SNR=7.9							
EBAN	**Banos Encina**	**6.60**	**290**	P		**Pn**	**13 06 50.8**	**+1.9**
	8.4nm,0.5s,SNR=7.9							
EBAN	**Banos Encina**	**6.60**	**290**	P		**Pn**	**13 06 50.8**	**+1.9**
	8.4nm,0.5s,SNR=7.9							
ETOR	**Torete**	**6.67**	**315**	P		Pn	13 06 55.3	+5.4
	6.1nm,0.4s,SNR=7.9							
EADA	**Adamuz**	**7.21**	**288**	P		**Pn**	**13 06 58.2**	**+1.0**
	1.1nm,0.4s,SNR=7.9							
EADA				S		**Sn**	**13 08 20.5**	**+1.3**
	12nm,0.4s,SNR=7.9							
EADA	**Adamuz**	**7.21**	**288**	P		**Pn**	**13 06 58.2**	**+1.0**
	1.1nm,0.4s,SNR=7.9							
EADA				S		**Sn**	**13 08 20.5**	**+1.3**
	12nm,0.4s,SNR=7.9							
ESDC	**Sonseca Array**	**7.26**	**301**	Pn		**Pn**	**13 06 58.7**	**+0.8**
	1.5nm,0.3s,baz=118,slow=14,SNR=6.1							
MTLF	**Montolieu**	**7.27**	**349**	*e*Pn		**Pn**	**13 06 57.5**	**-0.5**
MTLF	**Montolieu**	**7.27**	**349**	*e*Pn		**Pn**	**13 06 57.5**	**-0.5**
LMR	**La Mourre**	**7.35**	**14**	*e*Pn		**Pn**	**13 06 58.9**	**-0.2**
LMR				*e*Sn		**Sn**	**13 08 20.8**	**-1.7**
	3.1nm,0.3s							
LMR	**La Mourre**	**7.35**	**14**	*e*Pn		**Pn**	**13 06 58.9**	**-0.2**
LMR				*e*Sn		**Sn**	**13 08 20.8**	**-1.7**
	1.5nm,0.3s							
PGF	**Pioggiola**	**7.37**	**29**	*e*Pn		**Pn**	**13 06 59.5**	**0.0**
PGF				*e*Sn		**Sn**	**13 08 20.9**	**-2.4**
	7.1nm,0.5s							
PGF	**Pioggiola**	**7.37**	**29**	*e*Pn		**Pn**	**13 06 59.5**	**0.0**
PGF				*e*Sn		**Sn**	**13 08 20.9**	**-2.4**
	3.5nm,0.5s							
EPF	**Esparros**	**7.41**	**338**	*e*Pn		**Pn**	**13 06 59.2**	**-0.8**
EPF				*e*Sn		**Sn**	**13 08 21.5**	**-2.5**
	3.5nm,0.2s							
EPF	**Esparros**	**7.41**	**338**	*e*Pn		**Pn**	**13 06 59.2**	**-0.8**
EPF				*e*Sn		**Sn**	**13 08 21.5**	**-2.5**
	1.8nm,0.2s							
ETSF	**Etsaut**	**7.59**	**333**	*e*Pn		**Pn**	**13 07 02.3**	**-0.2**
ETSF				*e*Sn		**Sn**	**13 08 25.7**	**-2.9**

530nm,0.9s,4μm1.4nm
GENI Genyem 8.74 103 P **Pn** 13 07 40.2 +0.9
66nm,1.1s,1μm
LUWI Luwuk 8.88 267 P **Pn** 13 07 38.9 -2.3
188nm,1.1s,2μm
LUWI Luwuk 8.88 267 *e*P **Pn** 13 07 38.7 -2.5
181nm,0.9s
MRSI Marisa 9.77 277 P **Pn** 13 07 54.5 +1.1
70nm,1.0s
APSI Ampana 10.00 268 P **Pn** 13 07 54.4 -2.2
296nm,0.8s,3μm
TOLI Toli-Toli 10.99 279 P Pn 13 08 06.2 -4.0
SOEI Soe 11.65 219 P **Pn** 13 08 20.0 +0.7
86nm,1.3s
SOEI Soe 11.65 219 *e*P **Pn** 13 08 17.8 -1.5
92nm,1.0s
MPSI Mapaga 11.79 275 P **Pn** 13 08 21.2 +0.1
43nm,1.8s,628nm
PCI Palu 11.81 269 P **Pn** 13 08 20.0 -1.4
120nm,1.0s,1μm
MMRI Maumere 12.28 229 P **Pn** 13 08 29.9 +2.1
60nm,1.5s
MMRI Maumere 12.28 229 *e*P Pn 13 08 23.3 -4.5
47nm,0.9s
SPSI Sidrap Palu 12.31 254 P **Pn** 13 08 29.1 +0.8
52nm,1.1s,547nm
BSSI Bau Bau, Buton 12.40 244 P **Pn** 13 08 30.8 +1.4
40nm,0.9s
BKSI Bulukumba 12.40 248 P **Pn** 13 08 30.8 +1.3
53nm,1.4s,818nm
KAPI Kappang 12.64 250 Pn **Pn** 13 08 34.6 +1.9
2.6nm,0.3s,baz=111,slow=5.9,SNR=25
KAPI LR LR 13 14 07.7
comp=Z,333nm,20.2s,baz=87,slow=40
KAPI Kappang 12.64 250 P **Pn** 13 08 30.4 -2.4
55nm,0.9s
WBSI Waikabubak, Su 15.11 233 P **Pn** 13 09 08.0 +1.5
101nm,1.0s,9μm
KBKI Kotabaru 15.69 260 P **Pn** 13 09 14.2 +0.2
37nm,1.4s,2μm
BBKI Banjar Baru 17.02 260 P P 13 09 42.2 +9.5
COEN Coen 17.47 140 *e*P **Pn** 13 09 34.9 -1.7
25nm,1.1s
PMG Port Moresby 17.72 120 *d iP* **P** 13 09 43.4 +2.9
PMG pmax pmax
comp=Z,169nm,1.2s
PMG Port Moresby 17.72 120 *e*P **P** 13 09 41.9 +1.4
comp=Z,63nm,1.2s
SRBI Singaraja 17.96 245 P **P** 13 09 43.6 +0.5
comp=Z,46nm,1.5s
ABJI Asem Bagus 18.75 247 P **Pn** 13 09 53.2 +0.9
comp=Z,109nm,1.2s
JAGI Jajag, Banyuwa 19.08 245 P **Pn** 13 09 56.8 +0.5
comp=Z,90nm,1.1s
JAGI Jajag, Banyuwa 19.08 245 *e*P **P** 13 09 55.2 -0.2
comp=Z,71nm,0.9s
GUMO Guam 19.28 42 LR LR 13 16 38.1
comp=Z,172nm,19.4s,baz=220,slow=35
BLJI Banyuglugur 19.32 248 P Pn 13 10 15.0 +16
WRAB Tennant Creek 19.35 172 *e*P **P** 13 09 57.3 -1.0
WRAB pmax pmax
comp=Z,39nm,0.8s
WRAB Tennant Creek 19.35 172 *e*P **P** 13 09 57.3 -1.0
comp=Z,39nm,0.8s
WRA Warramunga Arr 19.36 172 P **P** 13 09 57.2 -1.2
comp=Z,3.3nm,0.3s,baz=351,slow=11,SNR=25
WRA S Sn 13 13 20.6 -16
comp=Z,0.6nm,0.3s,baz=360,slow=24,SNR=4.6
WRA LR LR 13 18 59.4
comp=Z,539nm,18.2s,baz=350,slow=42
GMJI Gumukmas 19.65 247 P Pn 13 10 13.1 +10
GRJI Gresik 20.10 252 P **P** 13 10 06.9 +0.3
comp=Z,996nm,0.9s,comp=Z,11μm
STKI Sintang 20.18 272 P Pn 13 10 08.8 -0.6
comp=Z,27nm,1.4s,comp=Z,13μm
PWJI Pagerwojo 21.08 249 P P 13 10 27.2 +10
KSM Kuching 21.44 276 *e*P **P** 13 10 19.9 -1.1
comp=Z,19nm,0.8s
AS31 Alice Springs 22.98 175 *e*P **P** 13 10 36.1 -1.4
ASAR Alice Springs 22.99 175 P **P** 13 10 36.5 -1.0
comp=Z,11nm,0.5s,baz=352,slow=7.8,SNR=18
ASAR S **S** 13 14 45.8 -1.2
comp=Z,1.4nm,0.7s,baz=351,slow=23,SNR=2.7
ASAR LR LR 13 21 23.8
comp=Z,423nm,18.5s,baz=352,slow=41
MBWA Marble Bar 23.47 209 *e*P **P** 13 10 40.9 -1.5
comp=Z,28nm,0.9s
CTA Charters Tower 24.04 144 P **P** 13 10 45.7 -2.1
comp=Z,4.5nm,0.5s,baz=306,slow=9.6,SNR=10
CTAO Charters Tower 24.04 144 *e*P **P** 13 10 47.5 -0.3
CTAO pmax pmax
comp=Z,14nm,0.9s
CTAO Charters Tower 24.04 144 *e*P **P** 13 10 47.5 -0.3
comp=Z,14nm,0.9s
TPI Tanjungpandan 24.07 265 P **P** 13 10 50.6 +2.4
comp=Z,28nm,1.4s
LEM Lembang 24.74 255 P P 13 11 02.1 +7.6
JOW Kunigami 27.51 353 LR LR 13 20 06.4
comp=Z,25nm,21.2s,baz=216,slow=32
KASI Kota Agung 27.53 259 P **P** 13 11 21.1 +1.6
comp=Z,37nm,1.2s
MDSI Maura Dua 27.70 262 P **P** 13 11 21.8 +0.7
comp=Z,18nm,1.1s
QIZ Qiongzhong 28.99 314 P **P** 13 11 32.8 +0.2
QIZ S **S** 13 16 25.0 +2.3
QIZ PMZ
comp=Z,13nm,1.9s
IPM Ipoh 31.01 280 *e*P **P** 13 11 49.6 -1.0
comp=Z,7.1nm,0.6s
CHBT CHBT 31.98 296 P **P** 13 12 01.4 +2.4
comp=Z,43nm,0.8s,comp=Z,2μm
SKNT Sakolnakorn 32.41 304 P **P** 13 12 05.3 +2.6
comp=Z,21nm,1.2s
STKA Stephens Creek 32.45 164 P **P** 13 12 02.8 -0.2
comp=Z,31nm,0.9s,baz=340,slow=7.6,SNR=42
STKA LR LR 13 27 05.0
comp=Z,444nm,18.2s,baz=351,slow=40
STKA Stephens Creek 32.45 164 *e*P **P** 13 12 02.3 -0.6
STKA pmax pmax
comp=Z,9.0nm,1.0s
STKA Stephens Creek 32.45 164 *e*P **P** 13 12 02.3 -0.6
comp=Z,9.0nm,1.0s
PSI Prapat 32.89 276 P **P** 13 12 04.3 -2.8
comp=Z,7.7nm,0.6s,baz=78,slow=3.8,SNR=6.6
KHON Khomkaen 33.07 302 P P 13 12 11.9 +3.4
comp=Z,9.3nm,0.8s
GSI Gunungsitoli 34.12 273 P **P** 13 12 19.0 +1.2
comp=Z,26nm,1.4s
NJ2 Nanjing 34.70 341 *e*P **P** 13 12 23.5 +1.0
NJ2 PMZ
comp=Z,50nm,1.0s
PBKT Sadao Pong 34.76 301 P **P** 13 12 26.2 +3.0
comp=Z,14nm,0.9s,comp=Z,846nm
NWAO Narrogin (SRO) 34.86 201 P **P** 13 12 26.0 +2.1
comp=Z,6.0nm,0.8s,baz=330,slow=5.5,SNR=4.6
LOEI Loei 34.93 303 P P 13 12 21.5 -3.2
comp=Z,25nm,1.1s
WHN Wuhan 35.12 334 P P 13 12 32.3 +6.2
ARMA Armidale 35.17 149 *e*P **P** 13 12 26.3 -0.5
comp=Z,9.3nm,0.7s
UTTA Uttaradit 35.64 302 P P 13 12 38.2 +7.4
UTHA Uthaitani 35.66 298 P **P** 13 12 33.6 +2.7
comp=Z,10nm,0.8s,comp=Z,81nm
GYA Guiyang 36.14 320 *e*P **P** 13 12 36.8 +1.7
GYA PP **PP** 13 14 00.3 +2.7
GYA S **S** 13 18 15.5 +1.5
GYA ScP **ScP** 13 18 47.5 +1.3
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,110nm,4.8s
GYA LN
comp=Z,540nm,16.8s
GYA LE
comp=Z,480nm,17.2s
GYA LZ
comp=Z,510nm,16.6s
LAMP Lampang 36.78 303 P P 13 12 44.3 +3.8
comp=Z,5.3nm,0.9s
CM31 Chiang Mai Arr 37.33 302 *e*P **P** 13 12 46.8 +1.6
comp=Z,8.9nm,0.9s
CMAR Chiang Mai Arr 37.33 302 P **P** 13 12 45.1 -0.1
comp=Z,8.7nm,0.9s,baz=124,slow=7.0,SNR=17
CHTO Chiang Mai 37.49 303 P **P** 13 12 49.7 +3.1
comp=Z,53nm,2.1s
CHTO Chiang Mai 37.49 303 *e*P **P** 13 12 45.2 -1.4
CHTO pmax pmax
comp=Z,16nm,1.3s
CHTO Chiang Mai 37.49 303 *e*P **P** 13 12 45.2 -1.4
comp=Z,16nm,1.3s
MJAR Matsushiro Arr 37.50 9 P **P** 13 12 45.6 -0.8
comp=Z,1.8nm,1.0s,baz=159,slow=10,SNR=3.8
KMI Kunming 37.93 315 P P 13 12 54.8 +4.3
KMI pP pP 13 12 57.5 +0.4
KMI PMZ
comp=Z,9.0nm,0.7s
KMI LN
comp=Z,170nm,18.7s
KMI LE
comp=Z,110nm,15.6s
KMI LZ
comp=Z,160nm,20.8s
H11N1 WAKE ISLAND Hy 40.04 58 T T 13 55 58.9
baz=245,slow=75,SNR=24
H11N2 WAKE ISLAND Hy 40.05 58 T T 13 56 02.5
baz=245,slow=75,SNR=7.3
H11N3 WAKE ISLAND Hy 40.06 58 T T 13 56 00.3
baz=245,slow=75,SNR=9.9
XAN Xi'an 40.57 330 P **P** 13 13 10.0 -2.2
XAN PMZ
comp=Z,3.0nm,1.2s
CD2 Chengdu 41.07 322 *e*P **P** 13 13 18.0 +1.6
CD2 pP **pP** 13 13 23.0 -0.1
CD2 sP **sP** 13 13 25.5 -0.2
CD2 PP **PnPn** 13 14 56.8 +1.0
CD2 PcS **PcS** 13 19 08.0 +0.8
CD2 S **S** 13 19 31.0 +2.8
CD2 sS **sS** 13 19 38.5 -0.6
CD2 SS **SS** 13 22 29.0 -2.1
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,160nm,5.6s
IMP Imphal 44.41 307 *e*P P 13 13 34.5 -9.1
USRK Ussuriysk Ar. 44.65 0 P **P** 13 13 43.9 -1.2
comp=Z,3.1nm,0.8s,baz=184,slow=8.3,SNR=5.7
LZH Lanzhou 44.77 328 *e*P **P** 13 13 48.5 +2.0
LZH pP **pP** 13 13 53.0 -0.2
LZH sP **sP** 13 13 55.5 -0.3
LZH PP **PP** 13 15 34.5 +3.2
LZH PMZ
comp=Z,25nm,1.3s
LZH PMZ
comp=Z,86nm,6.2s
LZH LN
comp=Z,380nm,14.0s
LZH LE
comp=Z,400nm,14.3s
LZH LZ
comp=Z,610nm,18.0s
MDJ Mudanjiang 45.10 358 P **P** 13 13 50.3 +1.5
MDJ PMZ
comp=Z,4.0nm,1.2s
MDJ PMZ
comp=Z,200nm,3.7s
HHC Hu-ho-hao-te 45.16 338 *e*P **P** 13 13 52.0 +2.6
HHC sP **sP** 13 14 00.0 +1.2
HHC PP **PP** 13 15 38.8 +3.5
HHC S **S** 13 20 31.5 +3.5
HHC sS **sS** 13 20 41.3 +2.2
HHC SS **ScS** 13 23 47.0 +1.5
HHC PMZ
comp=Z,12nm,0.9s
HHC PMZ
comp=Z,120nm,5.1s
HHC LN
comp=Z,180nm,13.7s
HHC LE
comp=Z,220nm,10.4s
HHC LZ
comp=Z,98nm,13.7s
GTA Gaotai 49.38 327 *e*P **P** 13 14 22.0 -0.4
GTA pP **pP** 13 14 26.5 -2.6
GTA sP **sP** 13 14 29.0 -2.8
GTA S **S** 13 21 27.5 -0.7
GTA SS **SS** 13 24 55.3 -5.0
GTA PMZ
comp=Z,3.0nm,0.9s
GTA PMZ
comp=Z,34nm,5.0s
GTA LN
comp=Z,160nm,19.0s
GTA LE
comp=Z,190nm,18.5s
GTA LZ
comp=Z,160nm,16.6s
TAPN Taplejung 50.55 307 *e*P P 13 14 28.0 -3.7
comp=Z,36nm,1.2s
ODAN Odare 50.60 306 *e*P **P** 13 14 30.0 -2.0
comp=Z,39nm,0.9s
RAMN Ramite 51.27 306 *e*P **P** 13 14 35.4 -1.7
comp=Z,55nm,1.1s
JIRN Jiri 51.90 307 *e*P P 13 14 38.0 -3.9
GUN Gumba 52.26 307 *e*P P 13 14 41.1 -3.4
comp=Z,36nm,0.8s
PKI Pulchoki 52.50 306 *e*P **P** 13 14 43.4 -2.9
KKN Kakani 52.69 306 *e*P P 13 14 44.2 -3.4
comp=Z,22nm,0.8s
DMN Daman 52.76 306 *e*P **P** 13 14 45.6 -2.5
SONM Songino Array 53.06 339 P **P** 13 14 48.7 -1.1
comp=Z,1.2nm,0.8s,baz=157,slow=7.5,SNR=5.9
GKN Gorkha 53.30 306 *e*P **P** 13 14 49.4 -2.6
comp=Z,41nm,1.0s
KOLN Koldanda 54.04 306 *e*P **P** 13 14 55.8 -1.7
comp=Z,52nm,0.7s
ZAK Zakamensk 56.31 339 *e*P **P** 13 15 13.0 -0.3
ZAK *e* 13 16 10.8
ZAK pmax pmax
comp=Z,3.0nm,1.4s
TLY Talaya 57.26 340 ⇑ *iP* **P** 13 15 19.8 -0.1
TLY pmax pmax
comp=Z,3.0nm,0.9s
PEA0B Petropavlovsk- 57.82 18 *e*P P 13 15 28.1 +4.3
PETK Petropavlovsk- 57.82 18 P **P** 13 15 23.3 -0.6
comp=Z,1.4nm,0.6s,baz=182,slow=3.9,SNR=2.2
PET Petropavlovsk 58.05 19 ⇑ *iP* P 13 15 28.9 +3.5
PET pmax pmax
comp=Z,40nm,1.0s
MOY Mondy 58.20 338 *e*P **P** 13 15 26.9 +0.2
WMQ Urumqi 59.11 324 *e*P **P** 13 15 35.3 +2.1
WMQ pP **pP** 13 15 39.8 -0.2
WMQ sP **sP** 13 15 42.3 -0.3
WMQ PcP **PcP** 13 16 24.5 +2.8
WMQ PP **PP** 13 17 47.5 +3.5
WMQ ScP **ScP** 13 20 22.8 +1.4
WMQ PcS **PcS** 13 20 24.3 +0.7
WMQ S **S** 13 23 40.5 +1.1
WMQ ScS **ScS** 13 25 21.0 -1.2
WMQ SS **SS** 13 27 38.0 +4.2
WMQ PMZ
comp=Z,12nm,0.5s
WMQ PMZ
comp=Z,170nm,5.0s
BOD Bodaibo 59.97 349 *e*P **P** 13 15 37.5 -1.2
BOD pmax pmax
comp=Z,5.0nm,1.4s
YAK Yakutsk 62.53 359 *e*P **P** 13 15 58.0 +2.1
YAK pmax pmax
comp=Z,33nm,0.8s
YAK Yakutsk 62.53 359 *e*P **P** 13 15 58.0 +2.1
comp=Z,33nm,0.8s
MK31 Makanchi Array 63.94 325 *e*P **P** 13 16 04.8 -0.9
MK31 Makanchi Array 63.94 325 *e*P **P** 13 16 04.8 -0.9
MKAR Makanchi Array 63.94 325 P **P** 13 16 04.6 -1.0
comp=Z,5.9nm,0.8s,baz=118,slow=7.9,SNR=12
KSH Kashi 64.59 315 P **P** 13 16 10.8 +0.6
KSH pP **pP** 13 16 15.5 -1.6
KSH PP **PP** 13 18 34.0 +1.5
KSH PcS 13 20 47.5
KSH S **S** 13 24 47.0 -2.0
KSH ScS **SKSac** 13 26 01.0 -2.8
KSH SS **SS** 13 28 58.8 -1.1
KSH PMZ
comp=Z,13nm,1.1s
KSH PMZ
comp=Z,100nm,4.3s
KSH LN
comp=Z,87nm,5.7s
KSH LE
comp=Z,120nm,6.4s
KSH LZ
comp=Z,180nm,6.0s
SEY Seymchan 65.30 10 ⇑ *iP* **P** 13 16 15.2 +1.0
TKM2 Tokmak 2 66.26 318 *e*P **P** 13 16 20.0 -1.0
TKM2 pmax pmax
comp=Z,9.0nm,0.9s
TKM2 Tokmak 2 66.26 318 *e*P **P** 13 16 20.0 -1.0
comp=Z,9.0nm,0.9s
ZALV Zalesovo Beam 66.71 332 P **P** 13 16 21.6 -1.8
comp=Z,2.5nm,0.9s,baz=64,slow=6.6,SNR=5.3
KURK Kurchatov 68.06 327 *e*P **P** 13 16 30.6 -1.4
KURK pmax pmax
comp=Z,26nm,1.0s
KURK Kurchatov 68.06 327 *e*P **P** 13 16 30.6 -1.4
comp=Z,26nm,1.0s
KURBB Kurchatov Arra 68.06 327 P **P** 13 16 31.1 -1.0
comp=Z,8.5nm,0.9s,baz=122,slow=6.0,SNR=16
KKAR Karatay Array 69.76 317 *e*P **P** 13 16 41.5 -1.3
KKAR pmax pmax
comp=Z,17nm,1.1s
KKAR Karatay Array 69.76 317 *e*P **P** 13 16 41.5 -1.3
comp=Z,17nm,1.1s
TIXI Tiksi 72.20 359 ⇑ *iP* **P** 13 16 56.5 -0.5
TIXI Tiksi 72.20 359 *e*P **P** 13 16 56.1 -0.9
comp=Z,6.4nm,0.8s
BILL Bilibino 72.60 13 *i* P **P** 13 17 01.2 +1.8
BILL pmax pmax
comp=Z,4.0nm,1.7s
BVAR Borovoye Array 73.65 326 P **P** 13 17 04.8 -1.2
comp=Z,4.1nm,0.9s,baz=121,slow=7.1,SNR=7.3
BRVK Borovoye 73.72 327 *e*P **P** 13 17 05.2 -1.2
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BRVK Borovoye 73.72 327 *e*P **P** 13 17 05.5 -0.9
comp=Z,15nm,1.1s
VNDA Vanda 78.53 174 P **P** 13 17 33.5 +0.2
comp=Z,2.0nm,0.6s,baz=323,slow=6.5,SNR=17
VNDA Vanda 78.53 174 *e*P **P** 13 17 33.4 +0.2
VNDA pmax pmax
comp=Z,5.0nm,1.0s
VNDA Vanda 78.53 174 *e*P **P** 13 17 33.4 +0.1
comp=Z,5.0nm,1.0s
ABKAR Akbulak array 78.63 321 *e*P **P** 13 17 32.2 -2.2
comp=Z,4.5nm,0.7s
SVE Sverdlovsk 80.24 328 *e*P P 13 17 49.9 +6.9
SVE pmax pmax
comp=Z,21nm,1.1s
ARU Arti 81.24 327 *c iP* **P** 13 17 46.5 -1.9
ARU S S 13 27 50.2 -7.3
ARU pmax pmax
comp=Z,8.0nm,1.0s
ARU Arti 81.24 327 *e*P P 13 17 43.8 -4.6
comp=Z,18nm,1.1s
MAW Mawson 81.42 201 P **P** 13 17 49.9 +0.8
comp=Z,3.1nm,0.8s,baz=95,slow=9.3,SNR=3.1
IM04 Indian Mountai 84.34 23 P **P** 13 18 06.8 +2.5
KTH Kantishna Hill 84.99 26 *e*P **P** 13 18 10.4 +2.7
comp=Z,6.0nm,0.9s
BPAW Bear Paw Mtn. 85.07 25 *e*P **P** 13 18 08.9 +0.8
comp=Z,2.8nm,1.5s
RAYN Ar Rayn 86.71 293 *e*P **P** 13 18 15.8 -1.3
comp=Z,17nm,1.1s
ILAR Eielson Array 86.94 25 P **P** 13 18 15.8 -1.4
comp=Z,0.7nm,0.6s,baz=263,slow=5.4,SNR=10
QSPA South Pole Qui 89.29 180 P **P** 13 18 28.5 0.0
comp=Z,7.0nm,0.9s,baz=316,slow=1.4,SNR=17
KIV Kislovodsk 89.69 314 *e*P **P** 13 18 28.7 -2.2
KIV pmax pmax
comp=Z,16nm,0.9s
INK Inuvik 92.39 22 P **P** 13 18 40.6 -2.1
comp=Z,1.0nm,1.0s,baz=315,slow=4.3,SNR=3.0
OBN Obninsk 93.44 325 *e*P **P** 13 18 47.2 -0.6
OBN pmax pmax
comp=Z,5.0nm,0.8s
ANN Anapa 93.45 315 *e*P **P** 13 18 45.4 -2.7
ANN *e**PP **pP** 13 18 57.9 +2.6
ANN *e* 13 22 31.4
ANN *e*S **SKSac** 13 29 16.0 -5.5
ANN *e*SS **SS** 13 36 09.6 -2.4
ARCES ARCESS Array B 96.22 340 P **P** 13 18 57.8 -2.5
comp=Z,3.6nm,0.8s,baz=96,slow=9.2,SNR=2.5
BRTR Keskin Array B 96.58 310 P **P** 13 19 02.5 -0.4
comp=Z,0.2nm,0.5s,baz=163,slow=5.3,SNR=2.4
FINES FINESS Array B 97.98 332 P **P** 13 19 06.4 -2.0
comp=Z,0.6nm,0.4s,baz=123,slow=6.8,SNR=3.0
YKA Yellowknife Ar 101.36 26 P **Pdif** 13 19 23.3 -0.2
comp=Z,0.3nm,0.9s,baz=295,slow=5.5,SNR=3.5
TXAR Lajitas Array 120.16 56 PKP **PKPdf** 13 24 22.9 -1.4
comp=Z,0.4nm,0.7s,baz=225,slow=2.4,SNR=2.7
TORD Torodi Ar. Bea 128.90 286 PKP **PKPdf** 13 24 42.1 +0.9
comp=Z,1.2nm,0.7s,baz=91,slow=0.8,SNR=3.3
PLCA Paso Flores 134.13 156 PKP **PKPdf** 13 24 50.7 +0.1
comp=Z,3.5nm,1.0s,baz=196,slow=4.8,SNR=3.6
NNA Nana 149.05 115 PKPbc **PKPbc** 13 25 20.9 -0.8
comp=Z,7.4nm,0.7s,baz=262,slow=7.1,SNR=2.8
NNA Nana 149.05 115 PKP2 **PKPbc** 13 25 21.0 -0.8
LVC Limon Verde 149.41 140 PKPbc **PKPbc** 13 25 23.3 +0.5
comp=Z,7.5nm,0.4s,baz=238,slow=5.7,SNR=4.6

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*SJA **25** 13:09:13.8±1.6, 37.°63S×74.°94W, h50km, ML5.1, MW5.4, Fault plane solution: NP1:φs348.00000°, δ26.00000°, λ99.00000°.*

*IDC **25** 13:09:20.2±0.4, 37.°70S×72.°98W, h0km, mb5.0/17, mb1 5.0/21, mb1mx5.0/23, mbtmp4.9/21, ML4.5/3, MS4.6/18, Ms1 4.6/18, ms1mx4.6/21, Error ellipse: s-maj=19.0km s-min=10.9km az=79.0*

*MOS **25** 13:09:24.9±1.0, 37.°61S×72.°94W, h33km, mb5.3/34, MS4.9/4, Error ellipse: s-maj=16.1km s-min=8.4km az=103.3*

*ISCJB **25** 13:09:24.4±0.1, 37.°62S±0.°03×72.°92W±0.°04, h33km, mb5.0/116, MS4.8/23, Error ellipse: s-maj=4.8km s-min=3.8km az=160.0*

*GUC **25** 13:09:25.9±0.6, 37.°65S×73.°18W, h48km±6km, ML5.8*

*NEIC **25** 13:09:26.0±0.1, 37.°62S×72.°85W, mb5.1/101, Error ellipse: s-maj=6.6km s-min=3.7km az=66.0*

NEIC Felt [V] at Chillan, Collipulli, Curacautin, Curanilahue, La Laja and Los Angeles; [IV] at Angol, Concepcion, Negrete, Penco, Puerto Saavedra, Puren, Renaico and San Rosendo; [III] at Cobquecura, Linares, Parral, Pucon, Temuco, Tolten, Valdivia and Yerbas Buenas. Also felt at Canete, Loncoche, Nacimiento, Santiago, Victoria and Yumbel. Felt at Cutral-Co and Neuquen, Argentina.

*BJI **25** 13:09:26.3, 37.°60S×72.°90W, h35km, mB5.2/17, Ms5.2/17, Ms7 5.1/18*

*GCMT **25** 13:09:26.0±0.2, 37.°83S×73.°49W, h48km±1km, MW5.3/80, Moment Tensor Solution. s57,c77; s80,c118; Duration: 1‡1 Moment tensor: Scale 10^17 Nm; Mrr0.88±.04; Mθθ-0.02±.03; Mφφ-0.85±.03; Mrθ0.29±.02; Mrφ0.28±.02; Mθφ-0.66±.03; Best double couple: Mo1.15900×10^17 NP1:φs158.00000°, δ64.00000°, λ86.00000°. NP2: φs348.00000°, δ26.00000°, λ99.00000°. Principal axes: T 1.1290, Plg70.0000°, Azm59.0000°; N 0.0590, Plg4.0000°, Azm160.0000°; P -1.1880, Plg19.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 25 13:09:25.5±0.2, 37.°64S±0.°03×73.°03W±0.°06, h33km, h34km: pP-P, n661, σ1‡05/691, mb5.1/115, MS4.8/23, 160C-171D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
CCSP	**San Pedro de C**	**0.79**	**356**	⇓ *iP*		**Pb**	**13 09 41.4**	**+0.5**
CCSP				*i* S		**Sb**	**13 09 52.3**	**+1.0**
LNCH	**Linares**	**2.12**	**33**	*e*P		**Pn**	**13 10 00.4**	**+1.8**
LNCH				AML		AML	13 10 54.1	
	comp=N,37μm,0.6s							
VLCH	**Valdivia**	**2.17**	**184**	*e*P		**Pn**	**13 09 59.7**	**+0.4**
VLCH				*i* S		**Sn**	**13 10 25.4**	**+0.3**
VLCH				AML		AML	13 10 37.2	
	comp=E,143μm,0.6s							
TALC	**Talca**	**2.50**	**27**	⇓ *iP*		**Pn**	**13 10 05.6**	**+1.7**
TALC				AML		AML	13 10 52.1	
	comp=E,59μm,0.4s							
OSCH	**Osorno**	**2.94**	**181**	*e*P		**Pn**	**13 10 10.7**	**+0.8**
OSCH				AML		AML	13 10 58.3	
	comp=N,45μm,0.6s							
NICH	**Los Niches**	**3.00**	**30**	*i* P		**Pn**	**13 10 12.5**	**+1.7**
NICH				AML		AML	13 11 12.5	
	comp=E,25μm,0.6s							
PUYE	**Entre Lagos**	**3.06**	**174**	*e*P		**Pn**	**13 10 11.7**	**+0.1**
PLCA	**Paso Flores**	**3.65**	**149**	Pn		**Pn**	**13 10 18.9**	**-0.8**

comp=E,29nm,0.3s,baz=321,slow=10.0,SNR=505
PLCA Lg Lg 13 11 14.2
comp=E,172nm,0.3s,baz=225,slow=20,SNR=4.3
PLCA LR LR 13 11 54.3
comp=E,9µm,18.4s,baz=330,slow=43
PLCA Paso Flores 3.65 149 *eP* **Pn 13 10 21.6 +1.9**
PLCA Paso Flores 3.65 149 ⇑*iP* **Pn 13 10 21.3 +1.7**
PLCA Paso Flores 3.65 149 *eP* **Pn 13 10 21.6 +1.9**
PLCA Lg Lg 13 11 14.2
PLCA Paso Flores 3.65 149 *eP* **Pn 13 10 21.6 +1.9**
PLCA *eS* **Sb 13 11 13.8 +0.7**
LNV Longovilo 3.90 20 ⇓*iP* **Pn 13 10 23.6 +0.5**
TACH Talagante 4.32 24 *i* P **Pn 13 10 29.3 +0.3**
PCH Pirque 4.50 28 *eP* **Pn 13 10 32.3 +0.8**
PEL Peldehue 4.87 24 ⇓*iP* **Pn 13 10 37.2 +0.6**
PEL *eS* **Sn 13 11 31.6 -0.3**
AAGR Agrelo 5.69 38 *eP* **Pn 13 10 49.8 +1.9**
ARCO CERRO ARCO 5.84 36 *eP* **Pn 13 10 52.1 +2.1**
ARCO AML AML 13 12 48.0
comp=Z,383nm,0.7s
ASAL Salagasta 6.09 36 *eP* **Pn 13 10 55.3 +1.9**
AUSP Uspallata 6.17 30 *eP* **Pn 13 10 56.0 +1.3**
RTLS Leoncito 6.58 29 *eP* **Pn 13 11 01.6 +1.4**
RTCV Cerro Valdivia 6.84 34 *eP* **Pn 13 11 04.1 +0.4**
SJA San Juan 7.12 32 *eP* **Pn 13 11 08.5 +1.1**
ACAN Cantantal 7.18 44 *eP*4 **Pn 13 11 10.4 +2.1**
CFAA Coronel Fontan 7.20 35 Pn **Pn 13 11 08.0 -0.4**
comp=Z,1.8nm,0.3s,baz=201,slow=16,SNR=176
CFAA Sn **Sn 13 12 29.4 +0.3**
baz=178,slow=18,SNR=2.1
CFAA LR LR 13 14 08.1
comp=Z,1µm,20.2s,baz=213,slow=40
CFAA Coronel Fontan 7.20 35 *eP*4 **Pn 13 11 08.2 -0.3**
CFAA *eS* Sn 13 12 42.1 +13
RTLL Cerro Villicun 7.33 32 *eP* **Pn 13 11 10.2 0.0**
AMOG MOGNA 7.66 31 *eP* **Pn 13 11 14.5 -0.3**
SUCO SUCO 7.90 60 *eP* Pn 13 11 23.2 +5.0
TRQA Tornquist 8.76 96 *eP* **Pn 13 11 31.7 +1.9**
comp=Z,311nm,1.0s
LCO Las Campanas 8.82 13 *eP* **Pn 13 11 30.0 -1.0**
comp=Z,226nm,0.8s
CHRN Cochrane 9.51 179 *eP* **Pn 13 11 42.1 +2.1**
FSA Cafayete 12.96 29 *eP*4 Pn 13 12 23.6 -3.9
LVC Limon Verde 15.39 14 Pn **Pn 13 12 59.7 -0.8**
comp=Z,41nm,0.3s,baz=192,slow=8.4,SNR=9.8
LVC LR LR 13 19 58.4
comp=Z,8µm,19.4s,baz=198,slow=41
LVC Limon Verde 15.39 14 *eP* **Pn 13 12 59.1 -1.4**
comp=Z,62nm,0.8s
CPUP Villa Florida 17.42 54 *eP* **Pn 13 13 25.6 -0.4**
CPUP Villa Florida 17.42 54 *eP* **Pn 13 13 25.6 -0.4**
comp=Z,0.5nm,0.7s
USHA Ushuaia 17.49 171 P **Pn 13 13 26.3 -0.3**
comp=Z,0.6nm,0.3s,baz=328,slow=13,SNR=5.1
USHA LR LR 13 20 35.4
comp=Z,4µm,18.3s,baz=335,slow=39
EFI East Falkland 17.57 148 Pn **P 13 13 29.3 +0.9**
comp=Z,997nm,0.6s,SNR=15
EFI East Falkland 17.57 148 *i* P **Pn 13 13 26.9 -0.7**
EFI pmax pmax
comp=Z,670nm,1.6s
EFI East Falkland 17.57 148 *eP* **Pn 13 13 27.9 +0.3**
comp=Z,314nm,1.1s
LPAZ La Paz 21.70 13 P **P 13 14 15.8 +1.5**
comp=Z,26nm,0.9s,baz=187,slow=9.0,SNR=55
LPAZ LR LR 13 23 11.9
comp=Z,2µm,20.8s,baz=156,slow=38
LPAZ La Paz 21.70 13 *eP* **P 13 14 15.3 +0.9**
LPAZ pmax pmax
comp=Z,86nm,1.0s
LPAZ La Paz 21.70 13 *eP* **P 13 14 15.2 +0.9**
comp=Z,86nm,1.0s
SIV San Ignacio 24.01 29 P **P 13 14 36.7 -0.7**
comp=Z,45nm,0.7s,baz=219,slow=9.3,SNR=126
SIV LR LR 13 25 43.5
comp=Z,3µm,19.1s,baz=212,slow=41
NNA Nana 25.77 351 P **P 13 14 53.4 0.0**
comp=Z,30nm,0.8s,baz=199,slow=12,SNR=8.5
NNA LR LR 13 22 49.7
comp=Z,968nm,20.9s,baz=174,slow=31
NNA Nana 25.77 351 *eP* **P 13 14 53.6 +0.2**
NNA pmax pmax
comp=Z,64nm,1.3s
NNA Nana 25.77 351 *eP* **P 13 14 53.6 +0.2**
comp=Z,64nm,1.3s
PMSA Palmer Station 27.70 172 LR LR 13 25 40.5
comp=Z,3µm,19.8s,baz=337,slow=36
SAML Samuel 29.91 20 *eP* **P 13 15 29.9 -0.6**
comp=Z,46nm,1.3s
ATAH Atahualpa 30.75 350 P **P 13 15 39.5 +1.3**
comp=Z,21nm,1.0s,baz=176,slow=14,SNR=7.1
BDFB Brasilia 31.13 52 P **P 13 15 39.7 -1.6**
comp=Z,19nm,0.7s,baz=242,slow=7.3,SNR=10
BDFB LR LR 13 29 40.9
comp=Z,4µm,18.4s,baz=214,slow=39
OTAV Otavalo 38.02 351 P **P 13 16 42.6 +1.4**
comp=Z,45nm,1.2s
ROSC El Rosal 42.29 358 P **P 13 17 16.7 +0.2**
comp=Z,25nm,0.7s,baz=160,slow=2.4,SNR=10
ROSC El Rosal 42.29 358 P **P 13 17 18.7 +2.2**
RCBR Riachuelo 46.29 56 *eP* **P 13 17 49.1 +0.9**
comp=Z,31nm,1.0s
SDV Santo Domingo 46.33 3 *eP* **P 13 17 47.9 -0.7**
comp=Z,24nm,0.8s
VNA1 Neumayer--Stat 46.68 156 P **P 13 17 51.9 +1.4**
VNA2 Neumayer--Watz 47.01 156 P **P 13 17 53.7 +0.5**
baz=291,slow=5.6
SNAA Sanae 48.55 157 P **P 13 18 03.7 -1.5**
SNAA Sanae 48.55 157 S **S 13 25 02.3 -1.8**
SNAA Sanae 48.55 157 *eP* **P 13 18 04.0 -1.2**
SNAA AMB AMB 13 18 05.1
comp=Z,95nm,1.1s
SNAA Sanae 48.55 157 P **P 13 18 05.4 +0.2**
comp=Z,25nm,0.9s,baz=278,slow=6.5,SNR=152
SNAA Sanae 48.55 157 *eP* **P 13 18 03.4 -1.8**
SNAA pmax pmax
comp=Z,111nm,1.0s
SNAA Sanae 48.55 157 *eP* **P 13 18 03.4 -1.8**
comp=Z,111nm,1.0s
TGUH Tegucigalpa,Un 53.13 343 *eP* **P 13 18 41.2 +1.1**
comp=Z,42nm,0.8s
NVL N'lazarevskaya 53.33 156 ⇓*iP* P 13 18 34.4 -6.5
NVL *eS* **S 13 26 07.3 -2.7**
NVL pmax pmax
comp=Z,29nm,0.8s
RKT Rikitea 54.47 267 *eS* S 13 26 18.3 -8.3
comp=Z,486nm,28.2s
RKT *eSS* **SKiKP 13 30 01.2 +4.0**
comp=Z,227nm,30.2s
RKT *eLR* LR 13 34 51.0
comp=Z,3µm,25.2s,baz=125
RKT Rikitea 54.47 267 *eT* T 14 16 51.6
comp=Z,1.6nm,0.2s
CRPR Cabo Rojo, PR 55.62 7 *eP* **P 13 18 57.0 -1.1**
comp=Z,19nm,0.8s
SJG San Juan 55.83 8 *eP* **P 13 18 58.2 -1.4**
SJG pmax pmax
comp=Z,26nm,0.9s
SJG San Juan 55.83 8 *eP* **P 13 18 58.2 -1.4**
comp=Z,26nm,0.9s
SDDR Presa de Saban 56.34 2 *eP* **P 13 19 02.7 -0.6**
comp=Z,10nm,0.8s
GTBY Guantanamo Bay 57.29 358 *eP* **P 13 19 09.7 -0.3**
comp=Z,40nm,1.1s
SBA Scott Base 59.36 192 *eP* **P 13 19 25.4 +1.6**
comp=Z,136nm,2.3s
VNDA Vanda 60.39 192 P **P 13 19 31.8 +0.9**
comp=Z,3.6nm,1.1s,baz=236,slow=3.0,SNR=3.2
VNDA LR LR 13 41 38.9
comp=Z,258nm,19.7s,baz=128,slow=32
VNDA Vanda 60.39 192 *eP* **P 13 19 32.2 +1.3**
VNDA Vanda 60.39 192 *eP* **P 13 19 32.2 +1.3**
SYO Syowa Base 62.80 158 ⇑*iP* **P 13 19 45.4 -1.8**
TBI Tubuai 65.74 259 *eS* S 13 28 43.6 -7.8
comp=Z,698nm,31.0s
TBI Tubuai 65.74 259 *eLR* LR 13 39 34.5
comp=Z,2µm,26.8s,baz=125
MEH Mehetia 67.62 264 *eT* T 14 33 16.1
comp=Z,20nm,0.3s
035Z Hargill 67.96 336 ⇓P **P 13 20 22.7 +1.7**
baz=68
035A Encino 68.41 336 ⇓P **P 13 20 25.3 +1.4**
baz=69
034A Hebbronville 68.72 336 ⇑P **P 13 20 27.1 +1.3**
baz=69
TIAR Tiarei 68.81 264 *eT* T 14 34 45.2
comp=Z,3.7nm,0.2s
PPT2 Papeete2 68.97 264 *eS* **S 13 29 26.0 -4.5**
comp=Z,1µm,28.2s
PPT2 Papeete2 68.97 264 *eLR* LR 13 41 05.0
comp=Z,2µm,25.0s,baz=115
PPT Papeete 68.98 264 LR LR 13 42 28.9
comp=Z,776nm,18.7s,baz=118,slow=29
934A Benavides 69.16 336 ⇑P **P 13 20 30.0 +1.4**
baz=70
933A Laredo 69.42 335 ⇑P **P 13 20 31.6 +1.4**
baz=70
738A Farr-Stevens R 69.44 339 ⇓P **P 13 20 32.0 +1.8**
baz=70
835A Beeville 69.58 337 ⇑P **P 13 20 33.0 +1.9**
baz=70
MAW Mawson 69.93 164 P **P 13 20 31.7 -1.2**
comp=Z,25nm,0.9s,baz=230,slow=8.4,SNR=20
736A Circle Diamond 69.97 338 ⇓P **P 13 20 35.0 +1.5**
baz=70
833A Chaparral WMA, 70.11 335 ⇓P **P 13 20 35.3 +0.8**
baz=70
832A Faith Ranch, C 70.27 335 ⇓P **P 13 20 36.5 +1.1**
baz=71
734A La Parita Cree 70.33 336 ⇓P **P 13 20 37.2 +1.5**
baz=71
539A Croc D Ranch, 70.38 340 ⇓P **P 13 20 37.8 +1.8**
baz=71
636A Smothers Creek 70.46 338 ⇑P **P 13 20 37.7 +1.3**
baz=71
732A Laxson Ranch, 70.68 335 ⇓P **P 13 20 38.2 +0.3**
baz=71,SNR=12
439A Center Grove, 71.04 340 ⇓P **P 13 20 41.5 +1.4**
baz=71
633A Saathoff Ranch 71.09 336 ⇑P **P 13 20 41.2 +0.8**
baz=71
438A Sam Houston St 71.19 340 ⇓P **P 13 20 42.0 +1.1**
baz=72
632A Uvalde 71.34 336 ⇓P **P 13 20 42.5 +0.6**
baz=72,SNR=13
GOGA Godfrey 71.35 351 *eP* **P 13 20 39.4 -2.4**
GOGA pmax pmax
comp=Z,19nm,1.1s
GOGA Godfrey 71.35 351 *eP* **P 13 20 39.4 -2.4**
comp=Z,19nm,1.1s
340A Bronson 71.41 341 ⇑P **P 13 20 43.0 +0.8**
baz=72
339A Huntington 71.50 341 ⇓P **P 13 20 44.0 +1.2**
baz=72
LRAL Lakeview Retre 71.50 348 *eP* **P 13 20 43.1 +0.4**
comp=Z,20nm,0.9s
631A Perdido Creek 71.51 335 ⇑P **P 13 20 43.6 +0.7**
baz=72
436A Wall Ranch, Ga 71.59 339 ⇓P **P 13 20 44.4 +1.0**
baz=72
533A Kerrville 71.62 336 ⇓P **P 13 20 44.5 +0.9**
baz=72
338A Crockett 71.72 340 ⇓P **P 13 20 45.4 +1.3**
baz=72
435B Jarrell 71.83 338 ⇓P **P 13 20 45.5 +0.6**
baz=72
532A Rocksprings 71.95 336 ⇑P **P 13 20 46.3 +0.7**
baz=72,SNR=18
434A Burnet 72.07 337 ⇓P **P 13 20 46.4 +0.1**
baz=72
239A Gary 72.13 341 ⇑P **P 13 20 47.0 +0.5**
baz=72
336A Riesel 72.18 339 ⇓P **P 13 20 47.4 +0.6**
baz=72
CER Ceres 72.19 119 *eP* **P 13 20 47.6 +0.4**
CER AMB AMB 13 20 49.1
comp=Z,44nm,0.9s
CER Ceres 72.19 119 P **P 13 20 47.6 +0.4**
comp=Z,44nm,0.9s
531A Rocksprings 72.19 335 ⇓P **P 13 20 47.7 +0.7**
baz=73,SNR=15
JCT Junction City 72.24 336 *eP* **P 13 20 47.6 +0.3**
JCT pmax pmax
comp=Z,30nm,1.0s
JCT Junction City 72.24 336 *eP* **P 13 20 47.6 +0.3**
comp=Z,30nm,1.0s
JCT Junction City 72.24 336 ⇑P **P 13 20 47.6 +0.3**
baz=73,SNR=11
335A Moody 72.25 338 ⇓P **P 13 20 47.9 +0.5**
baz=73
433A Art 72.27 337 ⇑P **P 13 20 47.6 +0.1**
baz=73
238A Jacksonville 72.28 340 ⇑P **P 13 20 47.8 +0.3**
baz=73
530A J-C Ranch, Com 72.45 334 ⇑P **P 13 20 49.2 +0.7**
baz=73,SNR=23
237A Washetta, Mont 72.47 340 ⇑P **P 13 20 49.1 +0.6**
baz=73
TXAR Lajitas Array 72.54 332 P **P 13 20 49.6 +0.4**
comp=Z,8.1nm,0.8s,baz=152,slow=8.0,SNR=66
TXAR LR LR 13 47 54.3
comp=Z,278nm,18.6s,baz=0.0,slow=32
334A Lometa 72.54 338 ⇓P **P 13 20 49.5 +0.4**
baz=73
432A Menard 72.60 336 ⇓P **P 13 20 49.6 +0.1**
baz=73
236A Katherine and 72.67 339 ⇑P **P 13 20 50.2 +0.5**
baz=73
431A Sonora 72.69 335 ⇑P **P 13 20 50.6 +0.6**
baz=73,SNR=11
529A Stev Forest Ra 72.73 334 ⇓P **P 13 20 50.4 +0.1**
baz=73,SNR=15
139A Bunkhouse Ranc 72.73 341 ⇓P **P 13 20 50.3 +0.1**
baz=73
333A Richland Sprin 72.76 337 ⇓P **P 13 20 50.3 -0.1**
baz=73
KMSC Kings Mountain 72.82 353 *eP* **P 13 20 50.5 -0.1**
comp=Z,10nm,0.7s
KMSC Kings Mountain 72.82 353 ⇓P **P 13 20 50.6 0.0**
baz=73
KOMG Komaggas 72.88 115 *eP* **P 13 20 51.3 0.0**
KOMG AMB AMB 13 21 12.1
comp=Z,58nm,1.6s
KOMG Komaggas 72.88 115 P **P 13 20 51.3 0.0**
comp=Z,58nm,1.6s
138A Matatall Enter 72.90 341 ⇓P **P 13 20 51.1 0.0**
baz=73
WHTX Lake Whitney, 72.92 338 *eP* **P 13 20 51.5 +0.2**
comp=Z,20nm,0.9s
WHTX Lake Whitney, 72.92 338 ⇓P **P 13 20 51.2 -0.1**
baz=73
DRV Dumont d'Urvil 72.98 193 S S 13 30 08.0 -7.5
DRV L L 13 40 00.0
DRV R 13 44 00.0
430A Baggett Ranch, 73.00 335 ⇓P **P 13 20 51.9 0.0**
baz=73,SNR=20
137A Heron Place, G 73.02 340 ⇑P **P 13 20 51.8 0.0**
baz=73
332A Millersview 73.06 336 ⇓P **P 13 20 52.5 +0.4**
baz=73
429A Davenport Ranc 73.07 334 ⇑P **P 13 20 52.7 +0.4**
baz=73,SNR=17
234A Clairette 73.14 338 ⇑P **P 13 20 52.6 0.0**
baz=74
331A San Angelo 73.21 336 ⇑P **P 13 20 52.6 -0.4**
baz=74,SNR=9.3
233A Rising Star 73.38 337 ⇓P **P 13 20 54.0 0.0**
baz=74
Z38A Mt. Pleasant 73.43 341 ⇓P **P 13 20 54.7 +0.5**
baz=74
232A Coleman 73.49 337 ⇑P **P 13 20 54.6 -0.1**
baz=74
330A Mertzon 73.55 335 ⇓P **P 13 20 55.0 -0.1**
baz=74
Z37A Pogue Cattle C 73.55 340 ⇓P **P 13 20 54.9 0.0**
baz=74
134A White-Moore Ra 73.65 338 ⇑P **P 13 20 55.5 -0.1**
baz=74
231A Bronte 73.75 336 ⇓P **P 13 20 56.0 -0.3**
baz=74,SNR=5.8
SUR Sutherland 73.80 118 *eP* **P 13 20 58.1 +1.1**
SUR AMB AMB 13 21 46.3
comp=Z,49nm,4.8s
SUR Sutherland 73.80 118 P **P 13 20 58.4 +1.4**
comp=Z,163nm,1.1s,SNR=6.3
SUR Sutherland 73.80 118 *eP* **P 13 20 57.5 +0.5**
comp=Z,11nm,1.1s
329A Wagon Wheel Ra 73.89 335 ⇑P **P 13 20 57.0 -0.1**
baz=74
133A Hamilton Ranch 73.94 337 ⇓P **P 13 20 56.6 -0.7**
baz=74
230A Sterling City 73.97 335 ⇑P **P 13 20 57.0 -0.6**
baz=74
Z35A Perchaven, San 74.12 339 ⇓P **P 13 20 59.0 +0.7**
baz=74
ABTX Abilene, Hawle 74.17 337 *eP* **P 13 20 58.5 -0.2**
comp=Z,29nm,1.2s
ABTX Abilene, Hawle 74.17 337 ⇑P **P 13 20 59.1 +0.4**
baz=74
229A Bryant Ranch, 74.27 335 ⇓P **P 13 20 59.7 +0.4**
baz=75
Z34A Collier Ranch, 74.35 339 ⇓P **P 13 20 59.8 +0.2**
baz=75
131A Roby 74.45 336 ⇓P **P 13 21 00.3 0.0**
baz=75,SNR=6.3
Z33A Whitaker Ranch 74.52 338 ⇓P **P 13 21 00.2 -0.4**
baz=75
130A Snyder 74.57 336 ⇑P **P 13 21 01.2 +0.2**
baz=75
WVT Waverly 74.67 348 *eP* **P 13 21 00.6 -0.8**
WVT *e* 13 21 11.8
WVT pmax pmax
comp=Z,31nm,1.0s
WVT Waverly 74.67 348 *eP* **P 13 21 00.6 -0.8**
comp=Z,31nm,1.0s
WVT *e* 13 21 11.8
228A UT Block 9, Go 74.68 334 ⇓P **P 13 21 01.5 -0.2**
baz=75,SNR=9.2
Z32A Haskell 74.76 337 ⇓P **P 13 21 02.2 +0.2**
baz=75
X37A Clayton 74.80 341 ⇑P **P 13 21 02.5 +0.3**
baz=75
Y34A Reagan Ranch, 74.85 339 ⇑P **P 13 21 02.6 +0.1**
baz=75
129A Stewart Farms, 74.90 335 ⇑P **P 13 21 03.0 +0.1**
baz=75
Z31A Sharp Cattle R 74.97 337 ⇑P **P 13 21 03.0 -0.4**
baz=75,SNR=6.6
X36A Centrahoma 75.04 340 ⇑P **P 13 21 03.6 0.0**
baz=75,SNR=6.8
W38A Poteau 75.04 342 ⇑P **P 13 21 03.9 +0.3**
baz=75
X35A Drake 75.05 340 ⇓P **P 13 21 03.5 -0.1**
baz=75
128A Castleberry Fa 75.10 335 ⇓P **P 13 21 03.9 -0.2**
baz=76,SNR=13
Y33A Hilltop Ranch, 75.15 338 ⇓P **P 13 21 04.4 +0.1**
baz=76
Z30A Sanderson Ranc 75.26 336 ⇑P **P 13 21 04.8 -0.1**
baz=76,SNR=12
MNTX Cornudas Mount 75.30 332 *eP* **P 13 21 04.9 -0.3**
comp=Z,10nm,0.9s
MNTX *e* 13 21 14.9
MNTX Cornudas Mount 75.30 332 ⇓P **P 13 21 05.1 -0.2**
baz=76
W37A Quinton 75.33 341 ⇑P **P 13 21 04.9 -0.4**
baz=76
Y32A R-V Farms, Ver 75.39 338 ⇑P **P 13 21 05.7 +0.1**
baz=76
Z29A Hungry Hill Ra 75.42 335 ⇑P **P 13 21 05.4 -0.6**
baz=76,SNR=11
X34A Smith Ranch, M 75.48 339 ⇓P **P 13 21 06.2 +0.1**
baz=76
W36A Wetumka 75.54 341 ⇓P **P 13 21 06.4 -0.1**
baz=76
Y31A Rekieta Farm, 75.61 337 ⇑P **P 13 21 07.1 +0.2**
baz=76,SNR=5.6
X33A Lawton 75.61 339 ⇑P **P 13 21 07.0 +0.1**
baz=76
Z28A Tucker Farm, M 75.67 335 ⇑P **P 13 21 07.3 -0.1**
baz=76
Y30A Stafford Cattl 75.73 336 ⇑P **P 13 21 07.4 -0.3**
baz=76
W35A Tecumseh 75.73 340 ⇓P **P 13 21 07.2 -0.4**
baz=76
X32A Elmer 75.73 338 ⇓P **P 13 21 07.8 +0.2**
baz=76
WMOK Wichita Mounta 75.88 338 *eP* **P 13 21 08.2 -0.3**
WMOK pmax pmax
comp=Z,17nm,1.3s
WMOK Wichita Mounta 75.88 338 *eP* **P 13 21 08.2 -0.3**
comp=Z,18nm,1.3s
Y29A Porterfield Fa 75.96 336 ⇓P **P 13 21 09.1 +0.1**
baz=76
W34A Bridge Creek, 76.06 339 ⇑P **P 13 21 09.7 +0.2**
baz=76
X31A McDonald Ranch 76.14 337 ⇓P **P 13 21 09.9 -0.1**
baz=76
TUL1 Leonard 76.16 341 *eP* **P 13 21 09.7 -0.3**
comp=Z,33nm,0.9s
TUL1 Leonard 76.16 341 ⇑P **P 13 21 10.0 0.0**
baz=76
W33A Caddo, Fort Co 76.17 339 ⇓P **P 13 21 10.5 +0.3**
baz=76
Y28A McKinney Farm, 76.20 335 ⇓P **P 13 21 10.7 +0.3**
baz=77
X30A Coker Ranch, T 76.24 337 ⇑P **P 13 21 11.1 +0.5**
baz=77
V35A Meyer Ranch, C 76.29 340 ⇓P **P 13 21 11.1 +0.4**
baz=77
W32A Sentinel 76.38 338 ⇓P **P 13 21 11.3 +0.1**
baz=77,SNR=13
CASY Casey 76.38 181 *eP* **P 13 21 11.4 +0.4**
comp=Z,27nm,1.1s
UPI Upington 76.40 115 *eP* **P 13 21 10.8 -1.1**
UPI AMB AMB 13 21 18.1
comp=Z,41nm,2.9s
UPI Upington 76.40 115 P **P 13 21 10.8 -1.1**
comp=Z,41nm,2.9s
MSTX Muleshoe 76.43 335 *eP* **P 13 21 11.6 -0.1**
comp=Z,15nm,0.9s
MSTX Muleshoe 76.43 335 ⇑P **P 13 21 11.7 0.0**
baz=77,SNR=6.3
USIN University of 76.43 348 *eP* **P 13 21 11.0 -0.4**
X29A Tulia 76.51 336 ⇑P **P 13 21 12.7 +0.6**
baz=77
V34A Guthrie 76.55 340 *eP* **P 13 21 12.3 +0.1**
comp=Z,23nm,1.0s
V34A *e* 13 21 23.1
V34A Guthrie 76.55 340 ⇓P **P 13 21 12.1 -0.1**
baz=77
319A Douglas 76.55 329 ⇑P **P 13 21 12.9 +0.4**
baz=77
W31A Holland Ranch, 76.64 338 ⇓P **P 13 21 13.2 +0.4**
baz=77
LIC Lamto 76.70 71 *eP* **P 13 21 13.6 0.0**
comp=Z,59nm,0.6s
X28A Dimmitt 76.74 336 ⇑P **P 13 21 13.6 +0.2**
baz=77
V33A Lossen Ranch, 76.75 339 ⇓P **P 13 21 13.6 +0.2**
baz=77,SNR=5.4
V32A Arapaho 76.87 339 ⇓P **P 13 21 14.9 +0.8**
baz=77
SOE Somerset East 76.88 121 *eP* **P 13 21 14.3 -0.3**
SOE AMB AMB 13 21 15.0
comp=Z,48nm,2.0s
SOE Somerset East 76.88 121 P **P 13 21 14.3 -0.3**
comp=Z,48nm,2.0s
AMTX Amarillo 76.90 336 *eP* **P 13 21 14.9 +0.5**
comp=Z,45nm,1.1s
AMTX Amarillo 76.90 336 ⇑P **P 13 21 14.4 +0.1**
baz=77
121A Cookes Peak, D 76.97 330 *eP* **P 13 21 15.8 +1.0**
comp=Z,14nm,1.1s
121A Cookes Peak, D 76.97 330 ⇓P **P 13 21 15.7 +0.9**
baz=77
TIC Toumodi 76.97 71 *eP* **P 13 21 15.9 +0.7**
KIC Kosan Boka 77.00 71 *eP* **P 13 21 15.4 +0.1**
comp=Z,103nm,0.8s
W29A Amarillo 77.11 336 ⇑P **P 13 21 15.2 -0.3**
baz=78,SNR=7.0
DBIC Dimbokro 77.11 71 *eP* **P 13 21 16.1 +0.2**
DBIC Dimbokro 77.11 71 P **P 13 21 16.1 +0.2**
comp=Z,41nm,0.7s,baz=202,slow=5.8,SNR=62
DBIC LR LR 13 52 31.4
comp=Z,337nm,19.2s,baz=226,slow=34
DBIC Dimbokro 77.11 71 *eP* **P 13 21 16.0 +0.1**
DBIC pmax pmax
comp=Z,43nm,0.7s
DBIC Dimbokro 77.11 71 *eP* **P 13 21 16.0 +0.1**
comp=Z,43nm,0.7s
U34A Anderson Ranch 77.12 340 ⇓P **P 13 21 16.0 +0.6**
baz=78
V31A Spring Creek L 77.16 338 ⇑P **P 13 21 16.5 +0.8**
baz=78
GRM Grahamstown 77.16 122 *eP* **P 13 21 16.0 -0.1**
GRM AMB AMB 13 21 26.1
comp=Z,79nm,6.0s
GRM Grahamstown 77.16 122 P **P 13 21 16.0 -0.1**
pmax pmax
comp=Z,79nm,6.0s
GRM Grahamstown 77.16 122 P **P 13 21 16.0 -0.1**

comp=Z,79nm,6.0s
T36A **Boggs Farm, Ca** 77.27 341 ⇑P P 13 21 16.1 -0.1
baz=78
U33A **Lingo Farm, Me** 77.27 339 ⇓P P 13 21 16.3 0.0
baz=78
T35A **Sooner Cattle** 77.30 341 ⇓P P 13 21 16.9 +0.5
baz=78
V30A **Spur Ranch, Mi** 77.40 337 ⇑P P 13 21 17.7 +0.6
baz=78
W28A **Vega** 77.42 336 ⇑P P 13 21 17.6 +0.3
baz=78
U32A **Winter Ranch,** 77.47 339 ⇓P P 13 21 17.6 +0.2
baz=78
T34A **McClaskey Farm** 77.57 340 ⇓P P 13 21 18.0 0.0
baz=78
U31A **Nine Bar Ranch** 77.71 338 ⇓P P 13 21 19.5 +0.7
baz=78
S36A **Lake Cedric, C** 77.83 342 ⇑P P 13 21 19.1 -0.2
baz=78
T33A **Patterson Ranc** 77.92 340 ⇑P P 13 21 19.7 -0.1
baz=78,SNR=7.5
S35A **Otter Creek Ra** 77.97 341 ⇑P P 13 21 20.5 +0.4
baz=78
TUC **Tucson** 77.99 328 eP P 13 21 22.2 +1.7
TUC pmax pmax
comp=Z,12nm,1.3s
TUC **Tucson** 77.99 328 eP P 13 21 22.2 +1.7
comp=Z,12nm,1.3s
ACSO **Alum Creek Sta** 78.03 352 eP P 13 21 20.1 -0.3
comp=Z,18nm,0.7s
V27A **Dan Oppiter Fa** 78.08 336 ⇓P P 13 21 21.2 +0.3
baz=78
HVD **Gariep Dam** 78.08 119 eP P 13 21 21.3 -0.1
HVD AMB AMB 13 21 22.0
comp=Z,46nm,1.9s
HVD **Gariep Dam** 78.08 119 P P 13 21 21.3 -0.1
HVD pmax pmax
comp=Z,46nm,1.9s
HVD **Gariep Dam** 78.08 119 P P 13 21 21.3 -0.1
comp=Z,46nm,1.9s
U30A **WK&E Inc. Balk** 78.10 338 ⇑P P 13 21 20.7 -0.2
baz=78,SNR=5.8
LPM **Los Pinos Moun** 78.10 332 eP P 13 21 22.2 +1.0
comp=Z,8.5nm,0.8s
R37A **Teagarden Farm** 78.20 343 ⇑P P 13 21 21.6 +0.2
baz=79
S33A **Kaszmaul Farm,** 78.33 340 ⇑P P 13 21 22.6 +0.5
baz=79
T31A **Randall Ranch,** 78.34 339 ⇑P P 13 21 22.7 +0.5
baz=79
LAZ **Ladron** 78.37 332 eP P 13 21 24.4 +1.6
comp=Z,15nm,1.3s
R36A **Gordon, Harris** 78.37 342 ⇑P P 13 21 22.9 +0.5
baz=79
U28A **Mallet** 78.45 336 ⇑P P 13 21 23.3 +0.3
baz=79
214A **Organ Pipe Nat** 78.56 326 P P 13 21 24.9 +1.4
comp=Z,15nm,1.1s
214A **Organ Pipe Nat** 78.56 326 ⇑P P 13 21 25.4 +1.8
baz=79
ANMO **Albuquerque** 78.60 333c iP P 13 21 25.1 +1.2
ANMO pmax pmax
comp=Z,75nm,1.0s
ANMO **Albuquerque** 78.60 333 eP P 13 21 25.1 +1.2
comp=Z,19nm,1.0s
U27A **Thompson Grove** 78.68 336 ⇓P P 13 21 25.3 +1.0
baz=79
SFIN **Lafayette** 78.70 349 ⇑P P 13 21 25.0 +0.9
baz=79
S31A **Mullinville** 78.77 339 ⇓P P 13 21 25.2 +0.6
baz=79
T29A **Hugoton** 78.87 337 ⇑P P 13 21 26.0 +0.8
baz=79
R33A **Olander Ranch,** 79.00 340 ⇓P P 13 21 26.3 +0.5
baz=79
TSUM **Tsumeb** 79.00 106 eP P 13 21 27.0 +0.3
TSUM **Tsumeb** 79.00 106 eP P 13 21 26.9 +0.3
comp=Z,42nm,1.3s
Q35A **Mercer Eighty,** 79.01 342 ⇓P P 13 21 26.4 +0.5
baz=79
S30A **Montezuma** 79.07 338 ⇓P P 13 21 26.6 +0.3
baz=79
T28A **Walsh** 79.09 337 ⇓P P 13 21 26.6 +0.1
baz=80,SNR=6.4
BOSA **Boshof** 79.10 118 eP P 13 21 26.9 -0.2
BOSA AMB AMB 13 21 27.1
comp=Z,50nm,2.0s
BOSA **Boshof** 79.10 118 P P 13 21 26.4 -0.6
comp=Z,24nm,0.8s,baz=231,slow=4.5,SNR=34
BOSA LR LR 13 56 13.7
comp=Z,362nm,18.3s,baz=240,slow=36
BOSA **Boshof** 79.10 118 eP P 13 21 26.2 -0.8
BOSA pmax pmax
comp=Z,33nm,0.8s
BOSA **Boshof** 79.10 118 eP P 13 21 26.2 -0.8
comp=Z,33nm,0.8s
BRYW **Bryant College** 79.19 1 P P 13 21 26.9 +0.1
comp=Z,31nm,1.0s
HDIL **Hopedale** 79.23 347 eP P 13 21 27.2 +0.2
comp=Z,15nm,0.8s
T27A **Campo** 79.23 336 ⇑P P 13 21 28.0 +0.7
baz=80
S29A **Ulysses** 79.25 338 ⇓P P 13 21 28.0 +0.8
baz=80
Q34A **Chapman** 79.30 341 ⇑P P 13 21 27.6 +0.2
baz=80
R32A **Long Quarter,** 79.30 340 ⇓P P 13 21 28.0 +0.5
baz=80
KSU1 **Kansas State U** 79.38 342 ⇑P P 13 21 27.8 -0.1
baz=80
R31A **Burdett** 79.40 339 ⇑P P 13 21 28.6 +0.6
baz=80
S28A **Manter** 79.46 337 ⇓P P 13 21 28.3 -0.1
baz=80,SNR=6.6
QUA2 **Belchertown** 79.54 1 eP P 13 21 29.1 +0.5
comp=Z,25nm,0.9s
X18A **Snowflake** 79.58 330 ⇑P P 13 21 29.8 +0.5
baz=80
Q33A **Connelly Farm,** 79.60 341 ⇑P P 13 21 29.2 +0.1
baz=80
T26A **Comanche Natio** 79.62 336 ⇓P P 13 21 29.5 +0.1
baz=80,SNR=12
P35A **Duane Minner,** 79.64 342 ⇑P P 13 21 30.0 +0.7
baz=80
113A **Mohawk Valley,** 79.67 326 ⇑P P 13 21 30.4 +0.8
baz=80
HRV **Adam Dziewonsk** 79.78 1 eP P 13 21 30.8 +0.9
HRV pmax pmax
comp=Z,25nm,0.9s
HRV **Adam Dziewonsk** 79.78 1 eP P 13 21 30.8 +0.9
comp=Z,25nm,0.9s
Q32A **Meitler Ranch,** 79.79 340 ⇑P P 13 21 30.5 +0.4
baz=80
Z14A **Wintersburg** 79.82 327 ⇓P P 13 21 31.4 +1.0
baz=80
T25A **Trinidad** 79.86 335 ⇓P P 13 21 30.8 0.0
baz=80,SNR=12
S27A **Las Animas** 79.86 336 ⇓P P 13 21 31.0 +0.3
baz=80
P33A **Williams Farm,** 79.98 341 ⇑P P 13 21 31.1 0.0
baz=80
S26A **Kim** 79.99 336 ⇑P P 13 21 31.8 +0.4
baz=80,SNR=17
TRY **Troy** 79.99 360 eP P 13 21 32.0 +0.9
comp=Z,34nm,0.9s
R29A **Marienthal** 80.00 338 ⇑P P 13 21 32.1 +0.8
baz=80
W18A **Petrified Fore** 80.00 330 eP P 13 21 33.2 +1.6
comp=Z,24nm,1.1s
W18A **Petrified Fore** 80.00 330 ⇓P P 13 21 32.2 +0.6
baz=80
SWZ **Schweizer** 80.01 117 eP P 13 21 31.3 -0.7
SWZ AMB AMB 13 22 21.3
comp=Z,18nm,6.2s
SWZ **Schweizer** 80.01 117 P P 13 21 31.3 -0.7
comp=Z,18nm,6.2s
Q31A **Ellis** 80.03 339 ⇓P P 13 21 32.2 +0.7
baz=80
X16A **Lo Mia Camp, P** 80.09 329 ⇑P P 13 21 32.8 +0.7
baz=80,SNR=16
R28A **Tribune** 80.12 337 ⇓P P 13 21 32.4 +0.4
baz=80,SNR=5.9
Q30A **Quinter** 80.24 339 ⇓P P 13 21 33.0 +0.4
baz=81,SNR=5.5
Y14A **Wickenburg** 80.33 327 ⇑P P 13 21 33.8 +0.6
baz=81,SNR=6.5
R27A **Eads** 80.38 337 ⇓P P 13 21 34.0 +0.6
baz=81,SNR=11

Q29A **Oakley** 80.38 338 ⇓P P 13 21 34.2 +0.8
baz=81
GLA **Glamis** 80.39 325 ⇓P P 13 21 34.2 +0.7
baz=81
P32A **Huiting Farm,** 80.39 340 ⇓P P 13 21 34.1 +0.7
baz=81
P31A **Stockton** 80.51 340 ⇓P P 13 21 35.0 +1.0
baz=81
R26A **Arlington** 80.60 336 ⇑P P 13 21 35.3 +0.7
baz=81,SNR=12
ACCN **Adirondack Com** 80.64 360 eP P 13 21 35.1 +0.5
comp=Z,21nm,0.9s
P30A **Selden** 80.78 339 ⇓P P 13 21 36.1 +0.7
baz=81
SDCO **Great Sand Dun** 80.78 334 eP P 13 21 36.0 +0.2
comp=Z,7.5nm,1.0s
SDCO **Great Sand Dun** 80.78 334 ⇑P P 13 21 36.9 +1.1
baz=81,SNR=14
Q28A **Sharon Springs** 80.79 338 ⇑P P 13 21 36.0 +0.4
baz=81
Y12C **Blythe** 80.84 326 ⇓P P 13 21 37.3 +1.4
baz=81,SNR=6.8
O32A **Brockman Farm,** 80.91 341 ⇑P P 13 21 37.6 +1.5
baz=81
SEK **Senekal** 80.94 119 eP P 13 21 36.7 -0.3
SEK AMB AMB 13 21 44.1
comp=Z,26nm,3.9s
SEK **Senekal** 80.94 119 P P 13 21 36.7 -0.3
comp=Z,26nm,3.9s
HNH **Hanover** 80.97 1 eP P 13 21 37.4 +1.2
comp=Z,20nm,0.9s
KSCO **Kaye Shedlock'** 80.99 337 P P 13 21 37.9 +1.2
KSCO **Kaye Shedlock'** 80.99 337 ⇓P P 13 21 37.3 +0.6
baz=81
WUAZ **Wupatki** 81.01 329 eP P 13 21 38.2 +1.3
comp=Z,18nm,1.1s
WUAZ e 13 21 49.5
WUAZ **Wupatki** 81.01 329 ⇑P P 13 21 37.9 +1.0
baz=81,SNR=11
P29A **Atwood** 81.03 339 ⇑P P 13 21 37.5 +0.7
baz=81
O31A **Woolen Ranch,** 81.08 340 ⇓P P 13 21 37.5 +0.5
baz=82
BC3 **Big Chuckawall** 81.17 325 ⇓P P 13 21 39.2 +1.4
baz=82
Q26A **Hugo** 81.19 336 ⇑P P 13 21 38.8 +1.0
baz=82,SNR=5.3
S22A **4UR Ranch, Cre** 81.24 334 ⇑P P 13 21 39.3 +1.0
baz=82,SNR=11
P28A **Saint Francis** 81.24 338 ⇓P P 13 21 39.4 +1.4
baz=82
MDV **Middlebury** 81.26 360 eP P 13 21 37.9 +0.1
R23A **Moffat** 81.29 334 ⇓P P 13 21 39.8 +1.3
baz=82
O30A **MW Ranch, Wils** 81.31 339 ⇓P P 13 21 39.4 +1.1
baz=82
MVCO **Mesa Verde** 81.37 332 eP P 13 21 39.7 +0.8
comp=Z,17nm,1.0s
MVCO e 13 21 50.8
MVCO **Mesa Verde** 81.37 332 ⇓P P 13 21 39.9 +1.0
baz=82,SNR=8.8
IRM **Iron Mountain** 81.46 326 ⇑P P 13 21 40.5 +1.3
baz=82,SNR=7.3
O29A **4D Ranch, Culb** 81.47 339 ⇓P P 13 21 40.3 +1.2
baz=82
LBTB **Lobatse** 81.51 115 eP P 13 21 39.4 -0.6
LBTB AMB AMB 13 21 40.0
comp=Z,52nm,2.0s
LBTB **Lobatse** 81.51 115 eP P 13 21 39.4 -0.6
LBTB pmax pmax
comp=Z,48nm,0.9s
LBTB **Lobatse** 81.51 115 eP P 13 21 39.4 -0.6
comp=Z,48nm,0.9s
PFO **Pinyon Flats O** 81.59 325 eP P 13 21 41.7 +1.6
PFO e 13 21 52.7
PFO pmax pmax
comp=Z,19nm,1.1s
PFO **Pinyon Flats O** 81.59 325 eP P 13 21 41.7 +1.6
comp=Z,19nm,1.1s
PFO e 13 21 52.7
PFO **Pinyon Flats O** 81.59 325 ⇑P P 13 21 41.9 +1.8
baz=82,SNR=6.3
PRYS **Parys** 81.60 117 eP P 13 21 39.7 -0.8
PRYS AMB AMB 13 22 01.5
comp=Z,18nm,1.2s
PRYS **Parys** 81.60 117 P P 13 21 39.7 -0.8
comp=Z,18nm,1.2s
JFWS **Jewell Farm** 81.69 347 eP P 13 21 39.8 -0.3
JFWS e 13 21 50.3
JFWS pmax pmax
comp=Z,7.0nm,0.9s
JFWS **Jewell Farm** 81.69 347 eP P 13 21 39.8 -0.3
comp=Z,7.1nm,0.9s
JFWS e 13 21 50.3
W13A **Hualapai Mount** 81.70 327 ⇑P P 13 21 42.1 +1.4
baz=82,SNR=6.6
BELC **Belle Mtn. Jos** 81.71 325 ⇓P P 13 21 41.9 +1.2
baz=82
P26A **Davis Ranch, A** 81.72 337 ⇓P P 13 21 42.0 +1.4
baz=82
O28A **Krutsinger Ran** 81.76 338 ⇑P P 13 21 41.8 +1.1
baz=82
Q24A **Divide** 81.76 335 ⇑P P 13 21 41.9 +0.9
baz=82
LONY **Lake Ozonia** 81.89 359 eP P 13 21 41.1 -0.1
comp=Z,16nm,0.9s
MURC **Murrieta** 81.93 324 ⇑P P 13 21 42.9 +1.2
baz=82
BGNE **Belgrade** 81.95 341 eP P 13 21 41.6 0.0
M31A **Lambtecht Ranc** 82.10 341 ⇑P P 13 21 43.8 +1.3
baz=82
U15A **North Rim** 82.17 329 ⇑P P 13 21 44.8 +1.6
baz=82,SNR=14
GMRC **Granite Mounta** 82.21 326 ⇓P P 13 21 44.9 +1.6
baz=83,SNR=7.0
PV01 **Paradox Valley** 82.21 332 eP P 13 21 45.0 +1.6
comp=Z,1µm,1.1s
PV01 e 13 21 55.4
LDFC **Landfair** 82.22 326 eP P 13 21 45.7 +2.5
comp=Z,19nm,0.9s
O26A **Horse Wrangler** 82.33 337 ⇓P P 13 21 44.8 +1.1
baz=83,SNR=5.6
CIS **Catalina Islan** 82.34 323 ⇑P P 13 21 44.9 +1.0
baz=83
BBRC **Big Bear Solar** 82.35 325 ⇓P P 13 21 44.6 +0.4
baz=83
P23A **Jefferson** 82.36 335 ⇓P P 13 21 45.3 +1.1
baz=83
HEC **Hector,Ludlow** 82.55 325 ⇓P P 13 21 46.5 +1.5
baz=83
SMCO **Snowmass** 82.57 334 eP P 13 21 46.2 +0.9
comp=Z,22nm,1.2s
ERPM **east rand prop** 82.58 117 eP P 13 21 45.3 -0.4
ERPM AMB AMB 13 21 46.2
comp=Z,28nm,1.8s
ERPM **east rand prop** 82.58 117 P P 13 21 45.3 -0.4
comp=Z,28nm,1.8s
N27A **Anderson Farm,** 82.61 338 ⇑P P 13 21 46.5 +1.3
baz=83
M29A **Burnside Ranch** 82.66 339 ⇓P P 13 21 46.4 +1.0
baz=83
ISCO **Idaho Springs** 82.66 335 eP P 13 21 46.2 +0.4
ISCO pmax pmax
comp=Z,21nm,1.4s
ISCO **Idaho Springs** 82.66 335 eP P 13 21 46.2 +0.4
comp=Z,21nm,1.4s
ISCO **Idaho Springs** 82.66 335 ⇑P P 13 21 46.5 +0.8
baz=83
BFSC **Mount Baldy Ra** 82.67 324 ⇑P P 13 21 46.9 +1.2
baz=83
M28A **Bar X Bar Ranc** 82.81 339 ⇓P P 13 21 47.6 +1.4
baz=83
N26A **Koester Ranch,** 82.84 337 ⇑P P 13 21 47.2 +0.8
baz=83
L31A **Butterfield Fa** 82.85 341 ⇓P P 13 21 47.3 +1.0
baz=83
L30A **Spencer Herefo** 82.87 340 ⇑P P 13 21 47.4 +0.9
baz=83
P22A **Eagle** 82.87 334 ⇓P P 13 21 47.8 +1.1
baz=83
TUQ **Turquoise Moun** 82.88 326 ⇓P P 13 21 47.9 +1.2
baz=83,SNR=11
SLR **Silverton** 82.99 117 eP P 13 21 47.4 -0.4
SLR AMB AMB 13 21 57.9
comp=Z,34nm,3.9s
SLR **Silverton** 82.99 117 P P 13 21 47.4 -0.4
SLR pmax pmax
comp=Z,34nm,3.9s
SLR **Silverton** 82.99 117 P P 13 21 47.4 -0.4
comp=Z,34nm,3.9s
O23A **Lake Granby, G** 83.14 335 ⇑P P 13 21 49.2 +1.1
baz=84,SNR=9.2
GSC **Goldstone, Bar** 83.16 325 eP P 13 21 48.2 0.0
GSC pmax pmax
comp=Z,7.0nm,0.9s
GSC **Goldstone, Bar** 83.16 325 eP P 13 21 48.2 0.0
comp=Z,6.8nm,0.9s
GSC **Goldstone, Bar** 83.16 325 ⇑P P 13 21 48.8 +0.6
baz=84
M27A **Reverse DX Ran** 83.23 338 ⇑P P 13 21 49.6 +1.2
baz=84
BLG **Laguna Peak, P** 83.23 323 ⇑P P 13 21 49.7 +1.3
baz=84
O22A **Kremmling** 83.30 335 ⇓P P 13 21 50.1 +1.0
baz=84,SNR=15
EDW2 **Edwards Air Fo** 83.36 324 ⇓P P 13 21 50.3 +1.1
baz=84
SHPR **Sheep Range** 83.44 327 eP P 13 21 50.7 +1.1
comp=Z,16nm,1.1s
OSI **Osito Audit: C** 83.48 324 ⇓P P 13 21 51.4 +1.6
baz=84
K30A **Basset** 83.52 341 ⇓P P 13 21 51.2 +1.5
baz=84
LRMC **Laurel Mtn Rad** 83.71 325 ⇓P P 13 21 52.2 +1.2
baz=84
N23A **Red Feather La** 83.76 336 ⇓P P 13 21 52.2 +0.8
baz=84
ECSD **EROS Data Cent** 83.77 343 eP P 13 21 50.2 -0.8
comp=Z,36nm,0.9s
ECSD e 13 22 02.0
ECSD **EROS Data Cent** 83.77 343 ⇑P P 13 21 51.1 +0.2
baz=84
K29A **Lazy Trails An** 83.78 340 ⇓P P 13 21 51.7 +0.6
baz=84
SRU **San Rafael Swe** 83.80 332 eP P 13 21 51.4 -0.1
SRU pmax pmax
comp=Z,12nm,0.9s
SRU **San Rafael Swe** 83.80 332 eP P 13 21 51.4 -0.1
comp=Z,12nm,0.9s
N22A **Wattenberg Ran** 83.85 335 ⇓P P 13 21 52.6 +0.8
baz=84
L26A **Underwood Farm** 83.90 338 ⇑P P 13 21 52.9 +1.1
baz=84
MSU **Marysvale** 83.92 330 eP P 13 21 53.2 +1.1
MSU e 13 22 03.5
MSU pmax pmax
comp=Z,17nm,1.2s
MSU **Marysvale** 83.92 330 eP P 13 21 53.2 +1.1
comp=Z,17nm,1.2s
MSU e 13 22 03.5
MVU **Marysvale** 83.92 330 eP P 13 21 52.9 +0.7
comp=Z,18nm,1.3s
PHWY **Pilot Hill** 83.97 336 eP P 13 21 52.7 +0.3
comp=Z,12nm,1.0s
K28A **Ten Mile Ranch** 84.03 339 ⇑P P 13 21 53.8 +1.4
baz=84,SNR=6.8
PQI **Presque Isle** 84.05 3 P P 13 21 52.8 +0.5
comp=Z,28nm,1.0s
J30A **Dallas** 84.09 341 ⇑P P 13 21 53.1 +0.5
baz=84
MPMC **Manual Prospec** 84.10 325 ⇓P P 13 21 54.0 +1.0
baz=84
FURC **Furnace Creek,** 84.16 326 ⇑P P 13 21 54.3 +1.3
baz=84
ISA **Isabella, Lake** 84.22 324 eP P 13 21 55.4 +1.8
ISA pmax pmax
comp=Z,7.0nm,0.8s
ISA **Isabella, Lake** 84.22 324 eP P 13 21 55.4 +1.8
comp=Z,7.2nm,0.8s
ISA **Isabella, Lake** 84.22 324 ⇓P P 13 21 55.3 +1.8
baz=85,SNR=7.8
PKM **Mcpherson Peak** 84.23 323 ⇓P P 13 21 55.1 +1.4
baz=85,SNR=5.6
L25A **Engebretsen Ra** 84.27 337 ⇓P P 13 21 54.6 +0.9
baz=85
TPNV **Topopah Spring** 84.29 327 ⇑P P 13 21 55.4 +1.4
baz=85,SNR=10
DAC **Darwin (Calif)** 84.33 325 eP P 13 21 55.5 +1.3
DAC e 13 22 06.6
DAC pmax pmax
comp=Z,10.0nm,1.1s
DAC **Darwin (Calif)** 84.33 325 eP P 13 21 55.5 +1.3
comp=Z,10nm,1.1s
DAC e 13 22 06.5
J29A **Okreek** 84.39 340 ⇓P P 13 21 54.8 +0.7
baz=85
SPMN **Marine on St.** 84.39 346 eP P 13 21 53.3 -0.7
comp=Z,4.9nm,0.4s
SPMN e 13 22 04.4
N20A **Spence Gulch,** 84.49 334 ⇓P P 13 21 56.0 +1.0
baz=85
COWI **Conover** 84.61 349 eP P 13 21 53.5 -1.7
comp=Z,12nm,0.8s
I30A **Oacoma** 84.62 341 ⇓P P 13 21 55.7 +0.4
baz=85
J28A **Allard Ranch,** 84.65 340 ⇑P P 13 21 56.0 +0.5
baz=85
K25A **Mack Ranch, Ha** 84.66 338 ⇑P P 13 21 56.1 +0.4
baz=85
J27A **Elkhorn Farm,** 84.70 339 ⇓P P 13 21 56.6 +0.7
baz=85,SNR=7.0
I29A **Vivian Onida** 84.95 341 ⇓P P 13 21 58.3 +1.3
baz=85
K24A **Anderson Ranch** 85.05 337 ⇑P P 13 21 58.5 +0.9
baz=85
J26A **Sides Ranch, S** 85.07 338 ⇑P P 13 21 58.4 +0.7
baz=85,SNR=6.2
NLU **North Lily Min** 85.12 331 eP P 13 21 59.0 +0.8
comp=Z,9.7nm,1.3s
NLU e 13 22 10.3
I28A **Midland** 85.16 340 ⇓P P 13 21 58.6 +0.6
baz=86,SNR=9.6
R11A **Troy Canyon, C** 85.17 328 eP P 13 21 59.7 +1.2
comp=Z,9.2nm,1.0s
R11A **Troy Canyon, C** 85.17 328 ⇓P P 13 21 59.8 +1.4
baz=86,SNR=21
K23A **Bowen Ranch, D** 85.33 337 ⇑P P 13 22 00.1 +1.0
baz=86
J25A **Sunshine Ranch** 85.35 338 ⇓P P 13 21 59.7 +0.6
baz=86,SNR=10
JLU **Jordanelle** 85.44 332 eP P 13 22 00.4 +0.6
comp=Z,8.4nm,0.8s
JLU e 13 22 11.7
I27A **Quinn** 85.47 339 ⇓P P 13 22 00.1 +0.5
baz=86,SNR=6.6
H29A **Onida** 85.49 341 ⇓P P 13 21 59.6 0.0
baz=86
K22A **Casper** 85.53 336 eP P 13 22 00.6 +0.5
comp=Z,28nm,1.1s
K22A e 13 22 11.7
K22A **Casper** 85.53 336 ⇓P P 13 22 00.7 +0.6
baz=86
J24A **Dixon Ranch, L** 85.56 337 ⇓P P 13 22 00.4 +0.3
baz=86,SNR=9.6
DUG **Dugway, Tooele** 85.62 331 eP P 13 22 01.5 +0.9
DUG pmax pmax
comp=Z,21nm,1.3s
DUG **Dugway, Tooele** 85.62 331 eP P 13 22 01.5 +0.9
comp=Z,21nm,1.3s
DUG **Dugway, Tooele** 85.62 331 ⇑P P 13 22 01.4 +0.9
baz=86
TPH **Tonopah** 85.65 327 eP P 13 22 01.9 +1.1
TPH e 13 22 12.3
TPH pmax pmax
comp=Z,15nm,0.9s
TPH **Tonopah** 85.65 327 eP P 13 22 01.9 +1.1
comp=Z,15nm,0.9s
TPH e 13 22 12.3
I26A **New Underwood** 85.66 339 ⇑P P 13 22 01.2 +0.6
baz=86
G30A **Faulkton** 85.69 342 ⇓P P 13 22 01.6 +1.0
baz=86
H28A **Mission Ridge** 85.75 340 ⇑P P 13 22 00.9 0.0
baz=86
TCUT **Toone Canyon** 85.88 332 eP P 13 22 02.6 +0.6
comp=Z,22nm,1.1s
J23A **Dilts Ranch, B** 85.90 337 ⇓P P 13 22 02.5 +0.6
baz=86
G29A **Hoven** 85.95 341 ⇓P P 13 22 02.4 +0.5
baz=86
H27A **Howes** 86.00 340 ⇑P P 13 22 02.6 +0.4
baz=86,SNR=7.1
I24A **Kuemmerle Ranc** 86.03 338 ⇑P P 13 22 03.1 +0.7
baz=86,SNR=6.7

G28A Parade 86.09 341 ⇓P P 13 22 03.5 +0.8
baz=86
H26A Fairpoint 86.18 339 ⇓P P 13 22 03.0 -0.1
baz=87
J22A Midwest 86.20 336 ⇑P P 13 22 03.8 +0.5
baz=87
TOA0 Torodi Ar. Sit 86.20 70 *e*P P 13 22 03.1 -0.7
TOA0 Torodi Ar. Sit 86.20 70 *e*P P 13 22 03.2 -0.6
TORD Torodi Ar. Bea 86.20 70 P P 13 22 03.4 -0.5
comp=Z,21nm,0.8s,baz=242,slow=3.8,SNR=88
TORD LR LR 13 56 36.2
comp=Z,293nm,21.9s,baz=230,slow=33
F30A Leola 86.32 342 ⇑P P 13 22 04.3 +0.6
baz=87
MSNA Messina 86.34 115 *e*P P 13 22 04.9 +0.3
MSNA AMB AMB 13 22 05.4
comp=Z,25nm,2.0s
MSNA Messina 86.34 115 P P 13 22 04.9 +0.3
comp=Z,25nm,2.0s
HWUT Hardware Ranch 86.36 332 *e*P P 13 22 04.1 -0.1
comp=Z,27nm,0.9s
HWUT *e* 13 22 15.2
I23A Meade Ranch, G 86.37 337 ⇑P P 13 22 04.3 +0.1
baz=87
H25A Fruitdale 86.42 339 ⇑P P 13 22 05.0 +0.8
baz=87
NVAR Mina Array Bea 86.42 326 P P 13 22 05.9 +1.3
comp=Z,3.3nm,0.8s,baz=158,slow=6.1,SNR=25
J21A Lysite 86.45 336 ⇑P P 13 22 05.2 +0.5
baz=87
F29A Eureka 86.52 342 ⇓P P 13 22 05.2 +0.5
baz=87
I22A 9 Mile Ranch, 86.63 336 ⇓P P 13 22 05.7 +0.3
baz=87
G27A Dupree 86.65 340 ⇓P P 13 22 06.0 +0.7
baz=87,SNR=5.4
PDAR Pinedale Array 86.65 334 P P 13 22 05.4 -0.3
comp=Z,4.3nm,0.9s,baz=127,slow=4.7,SNR=28
PDAR LR LR 13 57 01.5
comp=Z,302nm,18.6s,baz=152,slow=33
BW06 Boulder Array 86.65 334 *e*P P 13 22 05.7 0.0
comp=Z,9.9nm,1.0s
G26A Maurine 86.75 340 ⇓P P 13 22 06.2 +0.3
baz=87
F28A McLaughlin 86.78 341 ⇑P P 13 22 06.6 +0.6
baz=87
H24A Dirks Ranch, A 86.81 338 ⇓P P 13 22 06.6 +0.3
baz=87,SNR=6.4
I21A Big Trails, Te 86.82 336 ⇑P P 13 22 06.2 -0.2
baz=87
G25A Newell 86.89 339 ⇓P P 13 22 07.0 +0.4
baz=87,SNR=5.6
J19A Crowheart 86.92 335 ⇓P P 13 22 07.8 +0.9
baz=87
HVU Hansel Valley 86.97 331 *e*P P 13 22 07.2 0.0
HVU *e* 13 22 17.8
HVU pmax pmax
comp=Z,10.0nm,0.9s
HVU Hansel Valley 86.97 331 *e*P P 13 22 07.2 0.0
comp=Z,10nm,0.9s
HVU *e* 13 22 17.8
WAKR Walker 86.99 325 *e*P P 13 22 08.9 +1.5
comp=Z,9.6nm,1.2s
ELK Elko 87.05 329 *e*P P 13 22 08.3 +0.6
ELK *e* 13 22 18.6
ELK pmax pmax
comp=Z,7.0nm,0.9s
ELK Elko 87.05 329 *e*P P 13 22 08.2 +0.6
comp=Z,6.5nm,0.9s
ELK *e* 13 22 18.6
F27A Lemmon 87.13 340 ⇑P P 13 22 08.7 +1.0
baz=88
AHID Auburn Hatcher 87.20 333 *e*P P 13 22 09.2 +0.9
D30A Buchanan 87.45 343 ⇓P P 13 22 11.0 +1.9
baz=88
I19A Meeteetse 87.58 335 ⇑P P 13 22 11.7 +1.6
baz=88
REDW Red Top Meadow 87.63 333 *e*P P 13 22 10.7 +0.3
comp=Z,14nm,1.1s
H20A Greybull 87.65 336 ⇑P P 13 22 11.3 +1.0
baz=88
SNOW Snow King Moun 87.68 334 *e*P P 13 22 11.6 +0.8
comp=Z,4.7nm,0.7s
LOHW Long Hollow 87.76 334 *e*P P 13 22 11.6 +0.6
comp=Z,12nm,1.2s
TPAW Teton Pass 87.78 333 *e*P P 13 22 11.7 +0.5
comp=Z,12nm,0.9s
MOOW Moose Ponds 87.93 334 *e*P P 13 22 12.4 +0.6
comp=Z,3.3nm,0.8s
C30A Mose, Pekin 87.95 343 ⇑P P 13 22 12.6 +1.1
baz=88
F23A Volborg 87.95 338 ⇑P P 13 22 12.7 +1.1
baz=88
E25A Miller Ranch, 88.08 340 ⇓P P 13 22 13.8 +1.5
baz=88
IMW Indian Meadow 88.13 334 *e*P P 13 22 12.7 -0.1
comp=Z,13nm,1.0s
H18A Shoshone NF, C 88.37 335 ⇓P P 13 22 14.8 +0.9
baz=89
G20A Bridger 88.37 336 ⇓P P 13 22 14.0 +0.2
baz=89
C28A Hausauer Farms 88.41 342 ⇑P P 13 22 14.2 +0.5
baz=89
B30A Myrvik Farm, E 88.62 343 ⇓P P 13 22 15.7 +1.0
baz=89
QLMT Earthquake Lak 89.11 334 *e*P P 13 22 18.8 +1.4
comp=Z,0.2nm,0.3s
QLMT *e* 13 22 29.7
HLID Hailey 89.11 331 *e*P P 13 22 20.1 +2.7
comp=Z,12nm,1.4s
HLID Hailey 89.11 331 ⇓P P 13 22 18.9 +1.6
baz=90
A29A Manning Farm, 89.27 343 ⇓P P 13 22 18.8 +1.1
baz=90
LSZ Lusaka 89.42 109 *e*P P 13 22 20.9 +1.3
LSZ Lusaka 89.42 109 *e*P P 13 22 20.5 +1.0
LSZ pmax pmax
comp=Z,23nm,1.0s
LSZ Lusaka 89.42 109 *e*P P 13 22 20.5 +1.0
comp=Z,23nm,1.0s
E20A Meyer Farm, Mu 89.49 337 ⇓P P 13 22 20.0 +1.1
baz=90
MFID Camas Ranch 89.54 330 *e*P P 13 22 21.3 +2.0
comp=Z,5.7nm,1.0s
MCMT McKenzie Canyo 89.62 333 *e*P P 13 22 21.2 +1.4
comp=Z,7.3nm,1.2s
B25A Knox Farm, Ray 89.64 340 ⇓P P 13 22 20.4 +0.9
baz=90
E19A Rath Farm, Rou 89.66 336 ⇑P P 13 22 20.4 +0.7
baz=90
ULM Lac du Bonnet 89.80 346 P P 13 22 20.1 -0.1
comp=Z,9.4nm,1.0s,baz=170,slow=7.4,SNR=5.2
D20A Manuel Ranch, 90.01 337 ⇑P P 13 22 22.0 +0.7
baz=90
DGMT Dagmar 90.10 340 ⇓P P 13 22 23.2 +1.5
baz=90
BMO Blue Mountains 91.32 330 *e*P P 13 22 28.3 +0.7
comp=Z,2.2nm,0.9s
SCHQ Schefferville 92.25 4 LR LR 14 06 36.2
comp=Z,63nm,18.9s,baz=168,slow=37
KIP Kipapa 98.98 290 *e*P Pdif 13 23 02.5 -0.4
ESDC Sonseca Array 99.66 47 P Pdif 13 23 05.1 -0.5
comp=Z,0.3nm,0.3s,baz=264,slow=5.7,SNR=6.2
ESDC LR LR 14 06 22.0
comp=Z,404nm,20.0s,baz=225,slow=34
ASAR Alice Springs 113.97 207 PKiKP PKiKP 13 28 00.1 -1.4
comp=Z,1.5nm,0.7s,baz=137,slow=1.9,SNR=26
ASAR PKKPbc PKKPbc 13 38 42.3 +0.2
comp=Z,0.9nm,0.7s,baz=338,slow=2.5,SNR=13
ASAR PKKP PKKPdf 13 39 02.5 -0.5
comp=Z,0.6nm,0.9s,baz=346,slow=4.7,SNR=4.9
NKC Novy Kostel 115.21 45 AMS AMS 14 17 30.0
comp=Z,200nm,17.7s
GERES GERESS Array B 115.25 47 PKP PKPdf 13 28 02.9 -0.2
comp=Z,2.8nm,0.8s,baz=198,slow=1.3,SNR=12
KHC Kasperske Hory 115.32 46 AMS AMS 14 16 40.0
comp=Z,600nm,21.0s
PRA Prague 116.25 46 AMS AMS 14 18 50.0
PRU Pruhonice 116.28 46 AMS AMS 14 18 30.0
comp=Z,600nm,19.6s
GOPC GO Pecny, Ondr 116.38 46 AMS AMS 14 16 30.0
comp=Z,400nm,20.7s
TREC Trest 116.50 47 AMS AMS 14 17 40.0
comp=Z,400nm,18.1s
PVCC Panska Ves 116.55 45 *e*PKP PKPdf 13 28 06.7 +1.3
PVCC Panska Ves 116.55 45 *e*PKiKP PKPdf 13 28 06.7 +1.3
DIVS Divibare 116.86 54 ⇓*i*P PKPdf 13 28 06.9 +0.6

ILAR Eielson Array 117.05 332 PKP PKPdf 13 28 05.2 -0.8
comp=Z,1.2nm,0.8s,baz=174,slow=1.6,SNR=15
ILAR PKKPbc PKKPbc 13 38 29.7 -2.5
comp=Z,0.6nm,0.8s,baz=303,slow=4.0,SNR=6.3
WRA Warramunga Arr 117.20 209 PKP PKPdf 13 28 06.8 -1.0
comp=Z,3.3nm,0.6s,baz=169,slow=1.6,SNR=52
WRA PKKPbc PKKPbc 13 38 30.5 -0.4
comp=Z,1.0nm,0.8s,baz=341,slow=4.0,SNR=7.7
WRAB Tennant Creek 117.20 209 *i* PKiKP PKPdf 13 28 06.3 -1.5
COLA College 117.46 332 ⇑*i*PKiKP PKPdf 13 28 05.7 -1.0
DPC Dobruska-Polom 117.46 46 *e*PKP PKPdf 13 28 07.9 +0.7
DPC *ep*PKP pPKPdf 13 28 20.7 +2.6
DPC AMS AMS 14 17 40.0
comp=Z,400nm,18.7s
DPC Dobruska-Polom 117.46 46 *e*PKiKP PKPdf 13 28 07.9 +0.7
DPC *e* 13 28 20.7
DPC MLR MLR
comp=Z,400nm,18.7s
VYHS Vyhne 118.11 49 *e*PKiKP PKPdf 13 28 08.4 -0.1
VYHS Vyhne 118.11 49 *e*PKP PKPdf 13 28 08.3 -0.2
OKC Ostrava-Krasne 118.29 47 AMS AMS 14 20 10.0
comp=Z,200nm,17.0s
KDZ Kurdzhali 119.34 58 ⇑PKiKP PKPdf 13 28 10.9 -0.2
KDZ Kurdzhali 119.34 58 ⇑*i*P PKPdf 13 28 10.9 -0.2
DRGR 119.76 52 ⇑PKiKP PKPdf 13 28 12.1 +0.3
DRGR 119.76 52 ⇑*i*P PKPdf 13 28 12.1 +0.3
TRPA Tarpa 120.20 50 ⇓*i*P PKPdf 13 28 13.3 +0.8
JMB Yambol 120.47 58 ⇓PKiKP PKPdf 13 28 12.7 -0.5
JMB Yambol 120.47 58 ⇓*i*P PKPdf 13 28 12.7 -0.5
VOIR 120.69 54 ⇑PKiKP PKPdf 13 28 14.1 +0.4
VOIR 120.69 54 ⇑*i*P PKPdf 13 28 14.1 +0.4
DOPR Dopca 121.12 54 ⇑*i*P PKPdf 13 28 16.3 +1.9
MLR Muntele Rosu 121.29 54 ⇑PKiKP PKPdf 13 28 14.8 -0.1
MLR Muntele Rosu 121.29 54 ⇑*i*P PKPdf 13 28 14.8 -0.1
VRI Vrincioaia 121.94 54 ⇑PKiKP PKPdf 13 28 15.5 -0.5
VRI Vrincioaia 121.94 54 ⇑*i*P PKPdf 13 28 15.5 -0.5
TESR Tescani 122.14 54 ⇑*i*P PKPdf 13 28 13.7 -2.6
CFR Carcaliu 122.59 55 ⇓PKiKP PKPdf 13 28 17.0 -0.2
CFR Carcaliu 122.59 55 ⇓*i*P PKPdf 13 28 17.0 -0.2
ANTO Ankara 123.70 63 ⇑PKiKP PKPdf 13 28 20.7 +1.1
ANTO Ankara 123.70 63 ⇑*i*P PKPdf 13 28 20.7 +1.1
BR131 Keskin Array S 124.24 63 *e*PKPdf PKPdf 13 28 20.8 -0.1
BRTR Keskin Array B 124.24 63 PKP PKPdf 13 28 20.6 -0.1
comp=Z,5.1nm,0.7s,baz=193,slow=3.1,SNR=30
BRTR PP PP 13 30 05.4 -1.3
comp=Z,0.8nm,0.8s,baz=216,slow=4.6,SNR=2.6
KIEV Kiev 125.19 50 *e*PKiKP PKPdf 13 28 21.2 -0.8
KIEV Kiev 125.19 50 *e*PKPdf PKPdf 13 28 21.2 -0.8
AKASG Malin Array Be 125.20 50 PKP PKPdf 13 28 21.1 -0.9
comp=Z,3.7nm,0.7s,baz=260,slow=2.8,SNR=22
AKASG PP PP 13 30 08.7 -3.9
comp=Z,0.2nm,0.3s,baz=249,slow=6.2,SNR=5.1
RAYN Ar Rayn 126.11 87 *e*PKPdf PKPdf 13 28 25.1 +0.4
FINES FINESS Array B 126.42 36 PKP PKPdf 13 28 24.1 +0.1
comp=Z,2.6nm,1.0s,baz=221,slow=1.8,SNR=4.3
MALT Malatya 127.15 67 ⇑PKiKP PKPdf 13 28 27.4 +1.1
MALT Malatya 127.15 67 ⇑*i*P PKPdf 13 28 27.4 +1.1
SOC Sochi 129.85 61 *e*PKiKP PKPdf 13 28 30.1 -1.0
SOC *e* 13 30 39.8
SOC *e* 13 35 36.3
SOC pmax pmax
comp=Z,61nm,1.1s
SOC MLR MLR
comp=Z,281nm,22.0s
OBN Obninsk 130.59 45 *e*PKiKP PKPdf 13 28 33.1 +1.0
OBN *e* 13 30 46.5
OBN pmax pmax
comp=Z,15nm,1.3s
KIV Kislovodsk 132.02 61 *i* PKiKP PKPdf 13 28 36.1 +0.7
KIV pmax pmax
comp=Z,11nm,1.1s
KBZ Khabaz 132.10 61 PKhKP PKPpre 13 28 31.5
comp=Z,0.6nm,0.3s,baz=233,slow=20,SNR=3.0
KBZ PKP PKPdf 13 28 35.8 +0.4
comp=Z,3.2nm,0.8s,baz=56,slow=24,SNR=6.3
KLMR Klimovskoe 132.79 38 *c i*PKiKP PKPdf 13 28 35.7 -0.4
BILL Bilibino 135.71 332 *e*PKiKP PKPdf 13 28 43.1 +1.7
BILL 13 31 23.0
BILL pmax pmax
comp=Z,3.0nm,1.1s
BILL MLR MLR
comp=Z,111nm,21.0s
PRGR Permogore 135.73 37 PKHKP PKPpre 13 28 28.5
PRGR pmax pmax
comp=Z,9.0nm,0.6s
KAPI Kappang 135.93 198 PKP PKPdf 13 28 43.6 +0.1
comp=Z,2.7nm,0.7s,baz=108,slow=6.4,SNR=4.3
PETK Petropavlovsk- 142.01 311 PKhKP PKPpre 13 28 49.5
comp=Z,2.9nm,0.9s,baz=96,slow=7.9,SNR=4.4
ARU Arti 142.97 44 *i* PKiKP PKPpre 13 28 51.2
ARU Arti 142.97 44 *e*PKPpre PKPpre 13 28 51.4
KSM Kuching 143.88 186 *e*PKPpre PKPpre 13 28 55.1
SVE Sverdlovsk 144.03 43 *e*PKiKP PKPbc 13 28 56.5 +1.6
SVE pmax pmax
comp=Z,21nm,2.1s
TIXI Tiksi 144.10 348 *e*PKHKP PKPpre 13 28 53.0
TIXI Tiksi 144.10 348 *e*PKPpre PKPpre 13 28 53.0
AB31 Akbulak array 144.48 56 *i* PKiKP PKPab 13 28 56.3 0.0
AB31 pmax pmax
comp=Z,45nm,0.8s
ABKAR Akbulak array 144.48 56 *e*PKP PKPab 13 28 56.3 0.0
PSI Prapat 144.56 166 PKP PKPab 13 28 56.9 -0.8
comp=Z,67nm,0.8s,baz=195,slow=1.1,SNR=53
URV Uravakonda 145.32 123 *e*PKPdf PKPbc 13 28 59.6 -0.6
POO Poona 145.38 114 ⇑*i*P PKPbc 13 29 00.0 -0.3
comp=Z,10.0nm,1.0s
SKHT Srikalahasti 146.03 127 *e*PKPab PKPdf 13 29 02.0 +0.5
IPM Ipoh 146.56 169 *e*PKPdf PKPdf 13 29 03.1 +0.5
KULM Kulim 147.29 168 *e*PKPdf PKPdf 13 29 05.0 +1.2
KTGM Kuala Trenggan 147.65 173 ⇑P PKPbc 13 29 07.4 +0.3
ADKI Addanki 147.76 125 *e*PKiKP PKPbc 13 29 08.7 +1.5
NJS Nagarjunasagar 147.84 123 *e*PKPbc PKPbc 13 29 06.9 -0.6
HYB Hyderabad 147.94 121 *i* PKP PKPdf 13 29 06.0 +1.2
HYB *e* 13 29 34.0
HYBB Hyderabad (bro 147.94 121 *e*PKPbc PKPdf 13 29 07.0 +2.2
RPR Rampur 149.45 120 *e*PKPbc PKPbc 13 29 11.3 -0.3
BRVK Borovoye 150.35 47 PKiKP PKPdf 13 29 07.6 +0.1
BRVK *e* 13 29 13.1
BRVK Borovoye 150.35 47 PKPdf PKPdf 13 29 07.6 +0.1
BRVK *e*PKPbc PKPbc 13 29 13.1 +0.3
BVA0 Borovoye Array 150.42 47 *i* PKiKP PKPbc 13 29 13.0 +0.1
BVA0 pmax pmax
comp=Z,36nm,0.9s
YAK Yakutsk 151.82 337 *e*PKiKP PKPbc 13 29 14.9 -1.0
YAK *e* 13 29 25.5
YAK pmax pmax
comp=Z,71nm,1.0s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK Yakutsk 151.82 337 *e*PKPbc PKPbc 13 29 15.5 -0.3
KK31 Karatay Array 151.84 67 *i* PKiKP PKPbc 13 29 15.2 -1.4
KK31 pmax pmax
comp=Z,5.0nm,0.5s
KKAR Karatay Array 151.84 67 *e*PKiKP PKPbc 13 29 16.5 -0.1
KKAR *e* 13 29 25.2
KKAR Karatay Array 151.84 67 *e*PKPbc PKPbc 13 29 16.5 -0.1
KKAR *e*PKPab PKPab 13 29 25.2 -0.6
CHLP Challavanipeta 152.34 127 *e*PKPab PKPab 13 29 27.5 -0.9
EKS2 Erkin-Say 154.24 68 *e*PKiKP PKPdf 13 29 14.6 +0.8
EKS2 Erkin-Say 154.24 68 *e*PKPdf PKPdf 13 29 14.6 +0.8
FRU Bishkek 154.86 68 *e*PKiKP PKPdf 13 29 14.0 -0.5
TKM2 Tokmak 2 155.57 68 *e*PKiKP PKPdf 13 29 15.3 -0.4
TKM2 *e* 13 29 25.0
TKM2 Tokmak 2 155.57 68 *e*PKPdf PKPdf 13 29 15.3 -0.4
TKM2 *e*PKPbc PKPbc 13 29 25.0
KSH Kashi 155.75 76 PKP PKPdf 13 29 17.3 +1.3
KSH pPKP pPKPdf 13 29 27.5 +0.7
KSH sPKP 13 29 31.5
KSH PKS PKSdf 13 32 49.5 -0.5
KSH SKS SKSdf 13 36 17.8 -2.1
KSH LN
comp=Z,60nm,4.5s
KSH LE
comp=Z,74nm,4.9s
KSH LZ
comp=Z,130nm,7.2s
KURBB Kurchatov Arra 155.98 48 PKP PKPdf 13 29 15.3 -0.3
comp=Z,2.5nm,0.9s,baz=271,slow=1.6,SNR=15
KURBB PKPab PKPab 13 29 43.6 +0.5
comp=Z,8.2nm,0.8s,baz=290,slow=5.4,SNR=14
KURK Kurchatov 156.00 48 PKIKP PKPdf 13 29 15.4 -0.3
KURK 13 29 43.6
KURK Kurchatov 156.00 48 PKP PKPdf 13 29 15.3 -0.3
KURK PKPab PKPab 13 29 43.6 +0.4
NVS Novosibirsk 156.40 36 *e*PKIKP PKPdf 13 29 14.1 -2.0
NVS pmax pmax
comp=Z,29nm,1.4s
NVS pmax pmax
comp=N,4.0nm,0.6s
NVS pmax pmax
comp=E,2.0nm,0.6s
ZAA0 Zalesovo Array 157.68 36 *e*PKPdf PKPdf 13 29 17.0 -0.8
ZALV Zalesovo Beam 157.68 36 PKP PKPdf 13 29 17.1 -0.7
comp=E,8.6nm,1.0s,baz=278,slow=2.2,SNR=22
ZALV PKPab PKPab 13 29 50.9 +0.6
comp=E,4.9nm,0.6s,baz=318,slow=2.6,SNR=4.6
BOD Bodaibo 159.28 349 *e*PKIKP PKPdf 13 29 19.4 -0.2
MK31 Makanchi Array 159.63 55 *e*PKIKP PKPdf 13 29 20.2 -0.2
MK31 *e* 13 29 58.8
MK31 Makanchi Array 159.63 55 *e*PKPdf PKPdf 13 29 20.2 -0.2
MK31 *e*PKPab PKPab 13 29 58.8 -0.3
MKAR Makanchi Array 159.63 55 PKP PKPdf 13 29 19.8 -0.7
comp=E,4.4nm,0.9s,baz=286,slow=1.8,SNR=25
MKAR PKPab PKPab 13 29 58.6 -0.4
comp=E,8.7nm,0.8s,baz=290,slow=3.9,SNR=14
MKAR PP PP 13 33 38.4 -2.6
comp=E,1.4nm,0.8s,baz=278,slow=4.7,SNR=6.0
CMAR Chiang Mai Arr 159.64 158 PKP PKPdf 13 29 20.7 -0.5
comp=E,0.4nm,0.3s,baz=298,slow=1.9,SNR=3.3
CMAR PKPab PKPab 13 29 57.2 -2.3
comp=E,5.2nm,1.1s,baz=231,slow=4.0,SNR=7.5
USRK Ussuriysk Ar. 160.03 297 PKPab PKPab 13 29 59.9 -0.9
comp=E,3.3nm,1.0s,baz=119,slow=12,SNR=3.0
QIZ Qiongzhong 161.29 189 PKP PKPdf 13 29 23.3 +0.3
QIZ PP PP 13 33 50.0 +1.2
QIZ SS SS 13 54 05.5 +3.9
QIZ LZ
comp=E,250nm,24.3s
KSRS Korea Array 163.38 276 PKP PKPdf 13 29 24.0 -0.6
comp=E,2.6nm,0.9s,baz=189,slow=0.8,SNR=7.2
KSRS PKPab PKPab 13 30 16.0 +0.3
comp=E,0.5nm,0.3s,baz=105,slow=3.6,SNR=2.8
KSAR Wonju Array Be 163.41 276 PKIKP PKPdf 13 29 24.0 -0.6
KSAR 13 30 16.0
KSAR Wonju Array Be 163.41 276 PKP PKPdf 13 29 24.0 -0.6
KSAR PKPab PKPab 13 30 16.0 +0.2
WMQ Urumqi 164.15 61 *e*PKP PKPdf 13 29 25.5 +0.3
WMQ PKS PKSdf 13 32 56.0 -2.1
WMQ PP PP 13 34 08.0 +2.6
WMQ SKS SKSdf 13 36 23.3 -3.8
WMQ SKKS SKKSac 13 40 47.5 -2.8
WMQ SS SS 13 54 34.8 +1.1
WMQ PPMZ
comp=E,37nm,9.8s
WMQ LN
comp=E,310nm,23.6s
WMQ LE
comp=E,280nm,23.0s
WMQ LZ
comp=E,320nm,30.0s
ZAK Zakamensk 166.99 11 *e*PKP2 PKPab 13 30 31.6 +0.4
ZAK *e* 13 34 26.6
ZAK pmax pmax
comp=Z,4.0nm,1.0s
KMI Kunming 167.02 163 PKP PKPdf 13 29 29.3 +1.0
KMI pPKP pPKPdf 13 29 37.3 -1.9
KMI SS SS 13 55 00.0 -1.1
KMI LN
comp=Z,170nm,17.6s
KMI LE
comp=Z,110nm,19.9s
KMI LZ
comp=Z,260nm,23.4s
GYA Guiyang 168.85 179 *e*PKP PKPdf 13 29 28.5 -0.9
GYA PKPab PKPab 13 30 41.0 +1.0
GYA PKS PKSdf 13 33 00.8 -1.4
GYA PP PP 13 34 31.3 +3.0
GYA PPMZ
comp=Z,120nm,8.2s
SONM Songino Array 169.80 2 PKP PKPdf 13 29 28.3 -1.0
comp=Z,1.2nm,0.9s,baz=297,slow=0.4,SNR=6.6
SONM PKPab PKPab 13 30 44.5 +0.8
comp=Z,4.7nm,0.9s,baz=338,slow=3.5,SNR=16
SONM PP PP 13 34 32.4 -0.8
comp=Z,0.5nm,0.6s,baz=208,slow=2.8,SNR=2.8
WHN Wuhan 170.65 223 PKP PKPdf 13 29 31.0 +0.8
CD2 Chengdu 172.78 157 PKP PKPdf 13 29 32.0 +0.7
CD2 pPKP pPKPdf 13 29 43.0 +0.8
CD2 sPKP 13 29 46.8
CD2 PKS PKSdf 13 33 03.0 -0.6
CD2 PP PP 13 34 53.0 +4.9
CD2 SKS SKSdf 13 36 30.8 -1.3
CD2 SKKS SKKSac 13 41 35.5 +2.6
CD2 SS SS 13 56 01.0 +2.9
CD2 PPMZ
comp=Z,160nm,5.4s
GTA Gaotai 174.12 70 *e*PKP PKPdf 13 29 32.5 +0.9
GTA pPKP pPKPdf 13 29 43.3 +0.8
GTA sPKP 13 29 47.0
GTA PKPab PKPab 13 31 04.5 +1.1
GTA PP PP 13 34 57.0 +1.0
GTA SKS SKSdf 13 36 30.5 -1.8
GTA SKKS SKKSac 13 41 39.5 -0.1
GTA SS SS 13 56 06.8 -6.7
GTA PPMZ
comp=Z,320nm,20.9s
GTA LN
comp=Z,450nm,21.8s
GTA LZ
comp=Z,330nm,20.9s
HHC Hu-ho-hao-te 175.20 313 *e*PKP PKPdf 13 29 32.3 +0.4
HHC pPKP pPKPdf 13 29 42.8 0.0
HHC PP PP 13 35 02.8 +2.2
HHC SKS SKSdf 13 36 29.5 -2.9
HHC SKKS SKKSac 13 41 45.0 +0.6
HHC SS SS 13 56 21.5 -1.3
HHC PPMZ
comp=Z,82nm,6.8s
HHC LN
comp=Z,320nm,19.6s
HHC LE
comp=Z,180nm,19.1s
HHC LZ
comp=Z,360nm,19.4s
XAN Xi'an 176.08 204 PKP PKPdf 13 29 32.0 -0.2
LZH Lanzhou 177.06 121 *e*PKP PKPdf 13 29 33.0 +0.5
LZH pPKP pPKPdf 13 29 44.5 +1.1
LZH PP PP 13 35 12.8 +2.9
LZH SKKS 13 41 53.3
LZH *e*SS SS 13 56 35.5 -5.7
LZH PPMZ
comp=Z,140nm,9.0s
LZH LN
comp=Z,290nm,19.0s
LZH LE
comp=Z,260nm,18.3s
LZH LZ
comp=Z,470nm,20.5s

*ISCJB **25** 13:40:20.5±0.7,9.96S±0.06×117.58E±0.03,h38km, mb3.3/1,Error ellipse: s-maj=9.0km s-min=3.4km az=7.2*
*DJA **25** 13:40:22.3±0.6, 10.5S±6×11.8E±, h55km±20km, M4.1/17, mb4.2/2,mB4.4/1,MLv4.0/17,Mw(mB)3.5/1*
*IDC **25** 13:40:24.6±2.2, 9.77S×118.68E, h0km, mb3.1/2, mb1 3.4/4, mb1mx3.3/21, mbtmp3.3/4, ML3.2/2, Error ellipse: s-maj=60.6km s-min=25.7km az=66.0*

ISC 25 13:40:22.3±1.1, 9.93S±0.08×117.60E±0.03, h38km, n16, σ1§17/27, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.79**	**81**	P		**Pn**	**13 40 50.6**	**-0.2**
WBSI				S		**Sn**	**13 41 13.5**	**+1.2**
IGBI	**Denpasar**	**2.66**	**294**	P		**Pn**	**13 41 02.4**	**-0.2**
IGBI				S		**Sn**	**13 41 33.5**	**-0.1**
WSI	**Waingapu**	**2.68**	**85**	P		**Pn**	**13 41 02.8**	**-0.1**
WSI				S		**Sn**	**13 41 35.6**	**+1.5**
SRBI	**Singaraja**	**2.98**	**308**	P		**Pn**	**13 41 06.4**	**-0.7**
SRBI				S		**Sn**	**13 41 43.1**	**+1.5**
JAGI	**Jajag, Banyuwa**	**3.70**	**293**	P		**Pn**	**13 41 16.4**	**-0.5**
JAGI				S		**Sn**	**13 41 59.7**	**+0.4**

ABJI	**Asem Bagus**	**3.94**	**302**	P	**Pn**	**13 41 19.9**	**-0.4**
ABJI				S	**Sn**	**13 42 07.4**	**+2.1**
GMJI	**Gumukmas**	**4.42**	**292**	P	**Pn**	**13 41 26.6**	**-0.2**
GMJI				S	**Sn**	**13 42 17.7**	**+0.7**
BLJI	**Banyuglugur**	**4.51**	**298**	P	**Pn**	**13 41 28.1**	**0.0**
BLJI				S	**Sn**	**13 42 19.9**	**+0.6**
KMMI	**Kalianget**	**4.59**	**308**	P	**Pn**	**13 41 28.9**	**-0.3**
KMMI				S	**Sn**	**13 42 23.4**	**+2.1**
BSSI	**Bau Bau, Buton**	**4.73**	**38**	P	**Pn**	**13 41 31.6**	**+0.5**
BSSI				S	**Sn**	**13 42 26.3**	**+1.5**
MMRI	**Maumere**	**4.76**	**75**	P	**Pn**	**13 41 31.5**	**0.0**
BKSI	**Bulukumba**	**5.22**	**29**	P	**Pn**	**13 41 38.3**	**+0.4**
	17nm,0.4s,389nm0.1nm						
BKSI				S	**Sn**	**13 42 37.6**	**+0.8**
	17nm,0.4s,389nm0.1nm						
KAPI	**Kappang**	**5.33**	**24**	Pn	**Pn**	**13 41 38.8**	**-0.6**
	5.4nm,0.3s,baz=200,slow=14,SNR=5.2						
KAPI				Sn	**Sn**	**13 42 36.7**	**-2.9**
	7.9nm,0.3s,baz=48,slow=22,SNR=9.6						
WRA	**Warramunga Arr**	**18.98**	**124**	P	**P**	**13 44 38.7**	**-2.0**
	0.0nm,0.3s,baz=300,slow=12,SNR=2.9						
ASAR	**Alice Springs**	**20.71**	**133**	P	**P**	**13 44 59.7**	**+0.1**
	0.6nm,0.7s,baz=321,slow=12,SNR=7.1						
MKAR	**Makanchi Array**	**64.66**	**334**	P	P	13 51 06.4	+10
	0.2nm,0.6s,baz=152,slow=7.6,SNR=2.2						

GUC 25 13:54:04.1±0.7, 34°40S×72°57W, h6km±3km, ML3.5, 5C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.06**	**66**	*e*P	Pg	13 54 23.3	-1.1
LNV				*i* S	Sg	13 54 38.5	+0.3
NICH	**Los Niches**	**1.26**	**119**	*e*P	Pn	13 54 25.9	-2.3
NICH				*i* S	Sg	13 54 42.4	-2.3
TALC	**Talca**	**1.26**	**142**	*e*P	Pn	13 54 25.4	-2.8
TALC				*i* S	Sg	13 54 41.9	-2.7
LNCH	**Linares**	**1.65**	**151**	*i* P	Pn	13 54 31.9	-1.7
LNCH				*i* S	Sn	13 54 53.8	-1.3
CHCH	**Chadas Angostu**	**1.66**	**74**	*i* P	Pn	13 54 32.6	-1.2
ROCH	**El Roble**	**1.93**	**43**	*i* P	Pn	13 54 36.9	-0.9
ROCH				AML	AML	13 55 11.4	
	comp=E,412nm,0.5s						
CLCH	**Cerro Calan**	**1.97**	**60**	*i* P	Pn	13 54 37.6	-0.5
CLCH				*i* S	Sn	13 55 02.7	-0.5
CLCH				AML	AML	13 55 13.7	
	comp=E,652nm,0.5s						
PEL	**Peldehue**	**2.01**	**52**	*e*P	Pn	13 54 38.1	-0.5
PEL				*i* S	Sn	13 55 03.7	-0.5
PEL				AML	AML	13 55 13.8	
	comp=N,681nm,0.7s						

*CSEM **25** 13:55:58.4±0.2, 39°45N×31°41E, h5km, MD2.8*
*DDA **25** 13:56:00.3, 39°43N×31°26E, h8km, MD2.6*
ISK 25 13:55:57.8, 39°50N×31°42E, h5km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRH	**Sivrihisar-ESK**	**0.09**	**121**	*e*PG	Pg	13 56 00.2	+0.3
SVRH				*e*SG	Sg	13 56 01.9	+0.6
SVRH	**Sivrihisar-ESK**	**0.09**	**121**	*e*Pg	Pg	13 56 00.2	+0.3
SVRH				*e*Sg	Sg	13 56 01.9	+0.5
ESKT	**Eskisehir**	**0.44**	**273**	*e*PG	Pg	13 56 06.8	+0.2
ESKT				*e*SG	Sg	13 56 13.4	+0.9
ESKT	**Eskisehir**	**0.44**	**273**	*e*Pg	Pg	13 56 06.8	+0.3
ESKT				*e*Sg	Sg	13 56 13.4	+0.9
SEYT	**Eskypehyr**	**0.44**	**273**	*i* P	Pg	13 56 06.6	+0.1
SEYT				*i* S	Sg	13 56 13.5	+1.1
SEYT	**Eskypehyr**	**0.44**	**273**	*i* P	Pg	13 56 06.6	0.0
SEYT				*i* S	Sg	13 56 13.5	+1.1
KIZT	**Kizilcal**	**0.71**	**150**	*e*PG	Pb	13 56 12.3	-0.6
KIZT	**Kizilcal**	**0.71**	**150**	*e*Pg	Pb	13 56 12.3	-0.5
BOLV	**Bolvadin**	**0.86**	**205**	*i* P	Pg	13 56 14.3	-0.2
BOLV				*i* S	Sg	13 56 25.2	-0.5
BOLV	**Bolvadin**	**0.86**	**205**	*i* P	Pg	13 56 14.3	-0.2
BOLV				*i* S	Sg	13 56 25.2	-0.5
ALT	**Altintas**	**1.11**	**247**	*e*PN	Pn	13 56 20.4	+0.3
ALT	**Altintas**	**1.11**	**247**	*e*Pn	Pn	13 56 20.4	+0.3
ANTO	**Ankara**	**1.12**	**70**	*e*PN	Pb	13 56 19.9	0.0
ANTO	**Ankara**	**1.12**	**70**	*e*Pn	Pb	13 56 19.9	+0.1
GULT	**Gulveren**	**1.17**	**324**	*e*PN	Pn	13 56 20.8	-0.1
GULT	**Gulveren**	**1.17**	**324**	*e*Pn	Pn	13 56 20.8	-0.1
CAVI	**Cavuskoy**	**1.41**	**301**	*e*PN	Pg	13 56 24.9	+0.1
CAVI	**Cavuskoy**	**1.41**	**301**	*e*Pn	Pg	13 56 24.9	+0.1
BCAM	**Yenicaga**	**1.41**	**20**	*i* P	Pg	13 56 26.8	+1.8
BCAM				*i* S	Sg	13 56 46.8	+3.4
BCAM	**Yenicaga**	**1.41**	**20**	*i* P	Pg	13 56 26.8	+1.8
BCAM				*i* S	Sg	13 56 46.8	+3.3
TVSB	**Tavsanli**	**1.52**	**269**	*e*PN	Pb	13 56 26.8	+0.2
TVSB	**Tavsanli**	**1.52**	**269**	*e*Pn	Pg	13 56 27.9	+0.8
TVSB				*e*SN	Sg	13 56 47.0	+0.1
TVSB	**Tavsanli**	**1.52**	**269**	*e*Pn	Pb	13 56 26.8	+0.2
ULDT	**Uludag**	**1.88**	**291**	*i* P	Pn	13 56 31.7	+0.9

IDC 25 13:56:00.8±3.2, 29°79S×178°20W, h35km±8km, mb3.5/2, mb1 3.7/2, mb1mx3.4/17, mbtmp3.6/2, Error ellipse: s-maj=151.8km s-min=50.8km az=165.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.97**	**266**	P	P	14 03 56.0	-0.8
	0.4nm,0.5s,baz=104,slow=7.4,SNR=11						
ASAR				pP	pP	14 04 06.8	-0.2
	1.4nm,0.5s,baz=105,slow=7.4,SNR=9.9						
WRA	**Warramunga Arr**	**43.90**	**272**	P	P	14 04 04.3	0.0
	0.4nm,0.3s,baz=112,slow=8.0,SNR=23						
WRA				pP	pP	14 04 15.2	+0.6
	1.6nm,0.5s,baz=112,slow=8.0,SNR=12						
FINES	**FINESS Array B**	**144.51**	**340**	PKP	PKPdf	14 15 33.3	+0.6
	1.1nm,0.5s,baz=67,slow=3.6,SNR=5.2						
FINES				pPKP	pPKPdf	14 15 42.1	-2.0
	1.0nm,0.7s,baz=73,slow=4.7,SNR=2.0						

*ISK **25** 13:56:04.4, 39°15N×27°78E, h19km, MD2.6*
*CSEM **25** 13:56:09.0±0.5, 38°81N×27°74E, h10km, MD2.6, Error ellipse: s-maj=9.8km s-min=6.3km az=80.0*
DDA 25 13:56:10.5, 38°87N×27°76E, h7km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.04**	**82**	PG	Pg	13 56 10.7	-1.3
AKS	**Akhisar**	**0.04**	**82**	*i* Pg	Pg	13 56 10.7	-1.3
DEMI	**Demirci**	**0.76**	**77**	*i* P	Pg	13 56 23.8	-1.5
DEMI				*i* S	Sb	13 56 36.9	0.0
DEMI	**Demirci**	**0.76**	**77**	*i* P	Pg	13 56 23.8	-1.5
DEMI				*i* S	Sb	13 56 36.9	0.0
KULA	**Kula-Manisa**	**0.79**	**117**	*e*PG	Pg	13 56 23.7	-2.1
KULA				*e*SG	Sg	13 56 35.9	-0.3
KULA	**Kula-Manisa**	**0.79**	**117**	*e*Pg	Pg	13 56 23.7	-2.1
KULA				*e*Sg	Sg	13 56 35.9	-0.3
BALY	**Balya**	**0.87**	**353**	*i* P	Pg	13 56 27.3	-0.1
BALY				*i* S	Sb	13 56 40.5	+0.4
BALY	**Balya**	**0.87**	**353**	*i* P	Pg	13 56 27.3	-0.1
BALY				*i* S	Sb	13 56 40.5	+0.4
DURS	**Dursunbey**	**0.91**	**37**	*i* P	Pg	13 56 27.8	-0.4
DURS				*i* S	Sg	13 56 40.7	+0.5
DURS	**Dursunbey**	**0.91**	**37**	*i* P	Pg	13 56 27.8	-0.4
DURS				*i* S	Sg	13 56 40.7	+0.5
AYDB	**Zeytinkoy-Aydi**	**0.93**	**174**	*e*PN	Pg	13 56 27.2	-1.4
AYDB				*e*SN	Sb	13 56 42.7	+0.8
AYDB	**Zeytinkoy-Aydi**	**0.93**	**174**	*e*Pn	Pg	13 56 27.2	-1.4
AYDB				*e*Sn	Sb	13 56 42.7	+0.8
ULDT	**Uludag**	**1.65**	**40**	*i* S	Sn	13 57 01.5	-0.4
ULDT	**Uludag**	**1.65**	**40**	*i* S	Sn	13 57 01.5	-0.4

MAN 25 13:58:47, 13°72N×120°79E, h1km, mb4.5, ML3.3, MS3.2, 2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.26**	**144**	*e*P	Pg	13 58 52.6	+0.5
PGP				*i* S	Sg	13 58 56.4	+0.9
LUBP	**Lubang**	**0.53**	**272**	*e*P	Pg	13 58 57.9	+0.7
LUBP				*e*S	Sb	13 59 08.2	+0.8
SJMP	**San Jose**	**1.29**	**166**	*e*P	Pb	13 59 12.0	-0.1
SJMP				*e*S	Sn	13 59 31.4	+1.3
GQP	**Guinayangan**	**1.62**	**83**	*e*P	Pn	13 59 15.3	-1.4
GQP				*i* S	Sg	13 59 39.5	+0.5
BUSP	**Coron**	**1.80**	**199**	*e*P	Pn	13 59 19.1	-0.1
AUQP	**San Andres**	**1.87**	**102**	*e*P	Pb	13 59 22.4	+0.4
BALP	**Baler**	**2.15**	**21**	*e*P	Pb	13 59 25.7	-1.1

*IDC **25** 14:08:14.3±5.5, 0°16N×99°95E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/24, mbtmp3.4/3, Error ellipse: s-maj=290.8km s-min=26.6km az=54.0*
*ISCJB **25** 14:08:32.5±0.7, 0°6N±0°2×100°10E±0°10, h150km, mb3.3/3, Error ellipse: s-maj=25.2km s-min=7.4km az=28.8*
*DJA **25** 14:08:35.0±0.6, 0°N±4°×10°0E±°, h124km±6km, M3.4/8, MLv3.4/8*
ISC 25 14:08:33.4±1.2, 0°5N±0°2×100°1E±0°1, h150km, n7, σ0°76/9, mb3.3/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.57**	**300**	P	**Pn**	**14 08 56.0**	**+0.9**
MNSI				S	**Sn**	**14 09 10.8**	**-0.9**
BKNI	**Bangkinang**	**0.98**	**100**	P	**Pn**	**14 08 58.5**	**+0.5**
BKNI				S	**Sn**	**14 09 15.5**	**-1.2**
SDSI	**Sungai Dareh**	**1.97**	**137**	P	**Pn**	**14 09 08.4**	**+0.2**
SDSI				S	**Sn**	**14 09 34.7**	**-0.1**
GSI	**Gunungsitoli**	**2.62**	**288**	P	**Pn**	**14 09 16.0**	**-0.1**
GSI				S	**Sn**	**14 09 48.6**	**-0.3**
WRA	**Warramunga Arr**	**39.24**	**123**	P	P	14 15 44.3	-3.2
	0.2nm,0.3s,baz=302,slow=9.1,SNR=8.6						
ASAR	**Alice Springs**	**40.70**	**128**	P	P	14 15 55.8	-3.8
	0.3nm,0.4s,baz=296,slow=7.6,SNR=13						
MKAR	**Makanchi Array**	**48.66**	**344**	P	**P**	**14 17 02.4**	**+0.2**
	0.5nm,0.4s,baz=161,slow=8.7,SNR=9.2						

*ISCJB **25** 14:23:18.6±0.9, 35°2N±0°2×36°0W±0°1, h10km, mb3.6/15, MS3.7/23, Error ellipse: s-maj=28.4km s-min=12.7km az=9.9*
*IDC **25** 14:23:19.0±1.2, 35°24N×35°96W, h0km, mb3.7/15, mb1 3.9/15, mb1mx3.7/32, mbtmp3.7/15, MS3.7/23, Ms1 3.7/23, ms1mx3.5/37, Error ellipse: s-maj=40.4km s-min=16.3km az=8.0*
ISC 25 14:23:20.6±1.2, 35°2N±0°2×36°0W±0°1, h10km, n35, σ0°82/16, mb3.7/15, MS3.7/23, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**25.70**	**71**	P	**P**	**14 28 50.0**	**-1.0**
	0.2nm,0.3s,baz=270,slow=8.1,SNR=8.1						
ESDC				LR	LR	14 36 47.9	
	comp=Z,121nm,19.1s,baz=270,slow=32						
MDT	**Midelt**	**26.03**	**86**	P	**P**	**14 28 52.6**	**-1.5**
	0.7nm,0.4s,baz=243,slow=9.0,SNR=2.5						
MDT				LR	LR	14 37 00.9	
	comp=Z,258nm,18.6s,baz=302,slow=32						
SCHQ	**Schefferville**	**28.97**	**322**	LR	LR	14 40 32.7	
	comp=Z,85nm,18.2s,baz=128,slow=36						
DAVOX	**Davos/Dischmat**	**35.98**	**57**	LR	LR	14 42 47.5	
	comp=Z,65nm,21.6s,baz=266,slow=32						
KEST	**Kesra**	**36.64**	**76**	LR	LR	14 42 04.5	
	comp=Z,58nm,20.6s,baz=334,slow=31						
SUMG	**Summit**	**37.44**	**359**	*i* P	**P**	**14 30 34.5**	**+0.4**
GERES	**GERESS Array B**	**38.62**	**54**	LR	LR	14 43 36.4	
	comp=Z,116nm,21.2s,baz=254,slow=32						
NOA	**NORSAR Array B**	**39.42**	**34**	LR	LR	14 43 52.2	
	comp=Z,48nm,21.9s,baz=240,slow=31						
DBIC	**Dimbokro**	**40.30**	**128**	LR	LR	14 46 06.5	
	comp=Z,109nm,18.2s,baz=300,slow=34						
HFS	**Hagfors**	**40.32**	**36**	LR	LR	14 44 42.9	
	comp=Z,121nm,20.9s,baz=263,slow=32						
TORD	**Torodi Ar. Bea**	**40.43**	**113**	P	**P**	**14 30 59.8**	**+0.6**
	1.3nm,1.0s,baz=318,slow=2.0,SNR=6.4						
TORD				LR	LR	14 46 33.9	
	comp=Z,199nm,18.1s,baz=320,slow=34						
ULM	**Lac du Bonnet**	**45.28**	**309**	LR	LR	14 50 07.3	
	comp=Z,133nm,18.9s,baz=62,slow=36						
FINES	**FINESS Array B**	**46.52**	**36**	P	**P**	**14 31 47.0**	**-0.8**
	2.0nm,0.8s,baz=248,slow=5.9,SNR=2.8						
FINES				LR	LR	14 48 11.3	
	comp=Z,136nm,21.1s,baz=259,slow=32						
ROSC	**El Rosal**	**46.54**	**238**	LR	LR	14 49 02.0	
	comp=Z,36nm,18.8s,baz=27,slow=33						
H10N2	**ASCENSION HYDR**	**47.38**	**150**	T	T	15 22 04.9	
	baz=335,slow=75,SNR=45						
H10N3	**ASCENSION HYDR**	**47.38**	**151**	T	T	15 22 05.4	
	baz=335,slow=75,SNR=43						
H10N1	**ASCENSION HYDR**	**47.40**	**150**	T	T	15 22 08.2	
	baz=335,slow=75,SNR=51						
ARCES	**ARCESS Array B**	**47.53**	**25**	LR	LR	14 49 15.7	
	comp=Z,80nm,21.0s,baz=96,slow=33						
H10S1	**ASCENSION HYDR**	**48.32**	**151**	T	T	15 23 14.5	
	baz=336,slow=75,SNR=246						
H10S3	**ASCENSION HYDR**	**48.33**	**151**	T	T	15 23 14.9	
	baz=336,slow=75,SNR=168						
H10S2	**ASCENSION HYDR**	**48.34**	**151**	T	T	15 23 15.8	
	baz=336,slow=75,SNR=273						
AKASG	**Malin Array Be**	**48.57**	**50**	P	**P**	**14 32 03.5**	**-0.4**
	0.8nm,0.6s,baz=277,slow=7.6,SNR=2.4						
AKASG				LR	LR	14 51 51.3	
	comp=Z,120nm,18.4s,baz=220,slow=35						
BDFB	**Brasilia**	**51.87**	**195**	LR	LR	14 49 35.7	
	comp=Z,83nm,21.8s,baz=301,slow=30						
BRTR	**Keskin Array B**	**54.15**	**63**	P	**P**	**14 32 46.6**	**+0.4**
	0.3nm,0.6s,baz=280,slow=7.2,SNR=3.4						
BRTR				LR	LR	14 55 06.1	
	comp=Z,22nm,20.3s,baz=299,slow=35						
YKA	**Yellowknife Ar**	**54.31**	**326**	P	**P**	**14 32 46.7**	**-0.1**
	0.5nm,0.7s,baz=82,slow=7.3,SNR=8.6						
PDAR	**Pinedale Array**	**56.04**	**302**	P	**P**	**14 32 58.6**	**-1.2**
	0.9nm,0.9s,baz=75,slow=12,SNR=5.8						
PDAR				LR	LR	14 55 39.3	
	comp=Z,112nm,21.5s,baz=72,slow=35						
TXAR	**Lajitas Array**	**56.57**	**284**	P	**P**	**14 33 03.8**	**+0.1**
	0.6nm,0.8s,baz=94,slow=7.9,SNR=8.0						
TXAR				LR	LR	14 54 48.7	
	comp=Z,22nm,20.3s,baz=0.0,slow=33						
LPAZ	**La Paz**	**59.64**	**216**	LR	LR	14 57 10.9	
	comp=Z,39nm,20.8s,baz=28,slow=34						
NVAR	**Mina Array Bea**	**63.83**	**300**	P	**P**	**14 33 53.4**	**-0.1**
	0.4nm,0.5s,baz=78,slow=6.8,SNR=3.9						
AKTO	**Aktyubinsk**	**66.09**	**44**	P	**P**	**14 34 08.8**	**+1.1**
	1.0nm,0.5s,baz=307,slow=5.1,SNR=4.0						
AKTO				LR	LR	15 01 09.2	
	comp=Z,140nm,21.1s,baz=293,slow=34						
ILAR	**Eielson Array**	**66.83**	**334**	P	**P**	**14 34 12.4**	**+0.2**
	0.3nm,0.8s,baz=56,slow=5.6,SNR=5.3						
BVAR	**Borovoye Array**	**71.43**	**38**	P	**P**	**14 34 41.7**	**+0.8**
	0.2nm,0.4s,baz=242,slow=3.1,SNR=2.2						
KURBB	**Kurchatov Arra**	**76.90**	**37**	P	**P**	**14 35 13.3**	**+0.4**
	0.8nm,0.8s,baz=312,slow=5.9,SNR=4.4						
MKAR	**Makanchi Array**	**81.31**	**38**	P	**P**	**14 35 37.6**	**+0.4**
	0.3nm,0.6s,baz=304,slow=3.3,SNR=3.1						
MKAR				LR	LR	15 11 52.5	
	comp=Z,67nm,18.5s,baz=344,slow=36						
PLCA	**Paso Flores**	**82.02**	**206**	LR	LR	15 12 29.0	
	comp=Z,40nm,18.3s,baz=104,slow=36						

*ISCJB **25** 14:24:19.3±0.7, 34°80S±0°04×71°8W±0°1, h61km±5km, mb4.0/9, Error ellipse: s-maj=15.9km s-min=4.6km az=17.4*
*GUC **25** 14:24:19.7±0.7, 34°80S×71°70W, h46km±2km, ML4.3*
*SJA **25** 14:24:19.1±1.3, 34°71S×71°90W, h75km, ML3.5, MW3.8*
*IDC **25** 14:24:20.0±0.9, 34°74S×71°59W, h55km±8km, mb3.6/8, mb1 3.7/11, mb1mx3.6/20, mbtmp3.8/11, MS1.6/1, Ms1 1.6/1, ms1mx1.6/20, Error ellipse: s-maj=28.9km s-min=14.3km az=92.0*
ISC 25 14:24:19.8±0.7, 34°79S±0°04×71°74W±0°09, h52km±6km, n44, σ1°54/55, mb4.0/9, 4C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.47**	**117**	*i* P	**Pn**	**14 24 30.2**	**-0.7**
NICH				*i* S	**Sn**	**14 24 38.0**	**-0.8**
TALC	**Talca**	**0.61**	**172**	*i* P	**Pn**	**14 24 32.5**	**0.0**
TALC				*i* S	**Sn**	**14 24 41.9**	**+0.2**
LNV	**Longovilo**	**0.88**	**18**	*i* P	**Pn**	**14 24 36.2**	**+0.2**
LNCH	**Linares**	**1.06**	**174**	*i* P	**Pn**	**14 24 38.6**	**+0.2**
LNCH				*i* S	**Sn**	**14 24 54.6**	**+2.5**
CHCH	**Chadas Angostu**	**1.24**	**47**	*i* P	**Pn**	**14 24 40.5**	**-0.5**
TACH	**Talagante**	**1.31**	**30**	*i* P	**Pn**	**14 24 41.6**	**-0.3**
RCDM	**Rinconada Maip**	**1.51**	**31**	*i* P	**Pn**	**14 24 44.5**	**-0.1**
RCDM				*e*S	**Sn**	**14 25 03.5**	**+0.3**
PCH	**Pirque**	**1.55**	**41**	*i* P	**Pn**	**14 24 45.0**	**-0.1**
PCH				*i* S	**Sn**	**14 25 04.9**	**+0.7**
SAN	**Santiago**	**1.61**	**34**	*e*P	**Pn**	**14 24 46.1**	**+0.3**
SAN				*e*S	**Sn**	**14 25 06.1**	**+0.6**
SJCH	**San Jose de Ma**	**1.62**	**45**	*e*P	**Pn**	**14 24 45.0**	**-1.2**
SJCH				*i* S	**Sn**	**14 25 05.7**	**-0.3**
LACH	**Col Las Americ**	**1.67**	**37**	*e*P	**Pn**	**14 24 46.9**	**+0.2**
LACH				*i* S	**Sn**	**14 25 07.7**	**+0.6**
CLCH	**Cerro Calan**	**1.71**	**36**	*i* P	**Pn**	**14 24 47.3**	**-0.1**
CLCH				*i* S	**Sn**	**14 25 09.0**	**+0.9**
CLCH				AML	AML	14 25 12.9	
	comp=N,4μm,0.3s						
PEL	**Peldehue**	**1.86**	**28**	*i* P	**Pn**	**14 24 50.0**	**+0.6**
PEL				AML	AML	14 25 20.4	
	comp=N,4μm,0.4s						
ROCH	**El Roble**	**1.91**	**19**	*i* P	**Pn**	**14 24 50.9**	**+0.7**
ROCH				*i* S	**Sn**	**14 25 16.2**	**+3.0**
ROCH				AML	AML	14 25 20.7	
	comp=N,4μm,0.3s						
AAGR	**Agrelo**	**2.96**	**56**	*e*P	**Pn**	**14 25 06.5**	**+2.1**
ARCO	**CERRO ARCO**	**3.04**	**51**	*e*P	Pn	14 25 09.0	+3.4
CANA	**Caviahue**	**3.14**	**170**	*e*P	**Pn**	**14 25 09.8**	**+2.8**
CANA				AML	AML	14 26 14.5	
	comp=Z,123nm,0.6s						
AUSP	**Uspallata**	**3.23**	**38**	*e*P	**Pn**	**14 25 11.0**	**+2.7**
ASAL	**Salagasta**	**3.27**	**49**	*e*P	**Pn**	**14 25 11.6**	**+2.9**
ASAL				*e*S	**Sn**	**14 25 48.9**	**+2.5**
RTLS	**Leoncito**	**3.62**	**35**	*e*P	**Pn**	**14 25 15.8**	**+2.2**
RTCV	**Cerro Valdivia**	**3.96**	**43**	*e*P	**Pn**	**14 25 19.3**	**+1.2**
CFAA	**Coronel Fontan**	**4.33**	**44**	P	**Pn**	**14 25 23.4**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=207,slow=14,SNR=19						
CFAA				S	**Sn**	**14 26 17.8**	**+5.5**
	comp=Z,1.6nm,0.3s,baz=111,slow=21,SNR=12						
CFAA				LR	LR	14 26 45.5	
	comp=Z,7.9nm,20.4s,baz=208,slow=35						
CFAA	**Coronel Fontan**	**4.33**	**44**	*e*P	**Pn**	**14 25 24.1**	**+1.0**
RTLL	**Cerro Villicun**	**4.41**	**39**	*e*P	**Pn**	**14 25 25.3**	**+1.0**
ACAN	**Cantantal**	**4.55**	**58**	*e*P	**Pn**	**14 25 27.6**	**+1.3**
AMOG	**MOGNA**	**4.71**	**36**	*e*P	**Pn**	**14 25 29.1**	**+0.6**
PLCA	**Paso Flores**	**6.00**	**171**	P	**Pn**	**14 25 48.5**	**+2.4**
	comp=Z,1.2nm,0.3s,baz=336,slow=12,SNR=36						
LPAZ	**La Paz**	**18.71**	**11**	P	**P**	**14 28 34.5**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=171,slow=6.8,SNR=7.1						
LPAZ				pP	**pP**	**14 28 47.0**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=202,slow=3.2,SNR=5.3						
SIV	**San Ignacio**	**21.03**	**30**	P	**P**	**14 28 57.9**	**-1.4**
	comp=Z,4.3nm,0.9s,baz=221,slow=10,SNR=11						
PMSA	**Palmer Station**	**30.38**	**173**	P	**P**	**14 30 27.6**	**+1.2**
	comp=Z,58nm,1.0s,baz=22,slow=19,SNR=2.3						
SNAA	**Sanae**	**50.76**	**158**	P	**P**	**14 33 14.2**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=284,slow=10.0,SNR=3.8						
QSPA	**South Pole Qui**	**55.45**	**180**	P	**P**	**14 33 49.6**	**+0.7**
	comp=Z,1.3nm,0.9s,baz=91,slow=2.8,SNR=4.2						
QSPA				pP	**pP**	**14 34 03.1**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=314,slow=0.4,SNR=4.4						
TXAR	**Lajitas Array**	**70.55**	**331**	P	**P**	**14 35 30.6**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=156,slow=6.9,SNR=6.9						
TXAR				pP	**pP**	**14 35 44.0**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=160,slow=8.6,SNR=2.3						
DBIC	**Dimbokro**	**75.20**	**71**	P	**P**	**14 35 56.3**	**-0.9**
	comp=Z,2.5nm,0.7s,baz=218,slow=0.6,SNR=3.1						
BOSA	**Boshof**	**79.48**	**117**	P	**P**	**14 36 20.4**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=198,slow=3.2,SNR=3.6						
TORD	**Torodi Ar. Bea**	**84.25**	**70**	P	**P**	**14 36 45.0**	**-1.2**
	comp=Z,1.2nm,0.7s,baz=254,slow=4.2,SNR=7.6						
PDAR	**Pinedale Array**	**84.58**	**333**	P	**P**	**14 36 46.9**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=168,slow=4.6,SNR=2.7						
WRA	**Warramunga Arr**	**120.19**	**209**	PKP	**PKPdf**	**14 43 04.5**	**-1.0**
	comp=Z,0.1nm,0.5s,baz=160,slow=1.7,SNR=5.2						
H11N3	**WAKE ISLAND Hyl**	**126.44**	**270**	T	T	17 02 15.5	
	baz=114						
H11N1	**WAKE ISLAND Hyl**	**126.45**	**270**	T	T	17 02 25.6	
	baz=114						
H11N2	**WAKE ISLAND Hyl**	**126.45**	**270**	T	T	17 02 20.6	
	baz=114						
BVAR	**Borovoye Array**	**147.68**	**44**	PKPbc	**PKPbc**	**14 43 56.8**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=270,slow=2.4,SNR=4.8						
KURBB	**Kurchatov Arra**	**153.27**	**45**	PKPbc	**PKPbc**	**14 44 09.2**	**-2.3**
	comp=Z,0.6nm,0.7s,baz=297,slow=3.0,SNR=6.1						
**MK

CLCH	**Cerro Calan**	**2.69**	**37**	*e*P	Pn	15 56 49.7	+1.8
CLCH				*i* S	Sn	15 57 21.6	+1.9
CLCH				AML	AML	15 57 33.0	
	comp=N,452nm,0.7s						
PEL	**Peldehue**	**2.83**	**32**	*e*P	Pn	15 56 51.6	+1.7
PEL				AML	AML	15 57 38.0	
	comp=E,441nm,0.7s						

IDC 25 16:08:52.3±2.4, 7°03S×118°94E, h0km, mb2.9/2, mb1 3.0/3, mb1mx3.0/30, mbtmp2.9/3, ML2.9/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/9, Error ellipse: s-maj=247.0km s-min=25.8km az=53.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.70**	**132**	P	P	16 13 23.6	+0.1
	0.0nm,0.3s,baz=306,slow=13,SNR=5.8						
ASAR	**Alice Springs**	**21.92**	**141**	P	P	16 13 47.5	0.0
	0.2nm,0.4s,baz=319,slow=8.9,SNR=9.8						
ASAR				LR	LR	16 21 53.1	
	comp=Z,37nm,20.4s,baz=240,slow=36						
MKAR	**Makanchi Array**	**62.69**	**333**	P	P	16 19 18.9	-0.1
	0.3nm,0.8s,baz=130,slow=4.5,SNR=2.8						

*IDC **25** 16:16:46.9±5.5, 33°91N×142°56E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.2/36, mbtmp3.3/3, ML2.9/1, Error ellipse: s-maj=160.2km s-min=36.2km az=59.0*
*ISCJB **25** 16:16:58.5±0.9, 33°51N±0°05×140°8E±0°1, h74km±9km, mb3.7/2, Error ellipse: s-maj=16.0km s-min=6.7km az=14.9*
*JMA **25** 16:16:59.2±0.2, 33°55N×140°81E, h51km, M2.9*
ISC 25 16:16:59.5±1.4, 33°51N±0°06×140°8E±0°1, h63km±15km, n11, σ0s63/17, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.89**	**244**	P	**Pn**	**16 17 16.5**	**+0.3**
JHJ2				*e*S	**Sn**	**16 17 29.0**	**+0.4**
JHCJ	**Hachijojimakas**	**0.92**	**242**	P	**Pn**	**16 17 16.7**	**0.0**
JHCJ				*e*S	**Sn**	**16 17 28.9**	**-0.5**
BSO1	**Boso 1**	**1.16**	**8**	P	**Pn**	**16 17 18.6**	**-0.6**
BSO2	**Boso 2**	**1.24**	**359**	*e*S	**Sn**	**16 17 36.8**	**+0.5**
BSO3	**Boso 3**	**1.31**	**351**	P	**Pn**	**16 17 21.1**	**-0.4**
BSO3				*e*S	**Sn**	**16 17 38.6**	**+0.6**
BSO4	**Boso 4**	**1.52**	**346**	P	**Pn**	**16 17 24.9**	**+0.4**
BSO4				*e*S	**Sn**	**16 17 43.4**	**+0.1**
KTJJ	**Kamata 2**	**2.00**	**315**	P	**Pn**	**16 17 31.0**	**0.0**
KTJJ				*e*S	**Sn**	**16 17 54.1**	**-0.9**
JOD2	**Odawara 2**	**2.24**	**322**	P	**Pn**	**16 17 34.3**	**+0.1**
JOD2				*e*S	**Sn**	**16 17 59.7**	**-1.1**
MJAR	**Matsushiro Arr**	**3.69**	**326**	Pn	**Pn**	**16 17 55.2**	**+1.1**
	0.6nm,0.3s,baz=119,slow=16,SNR=9.4						
WRA	**Warramunga Arr**	**53.50**	**188**	P	**P**	**16 26 13.4**	**-0.2**
	0.6nm,0.3s,baz=5.8,slow=7.6,SNR=34						
ASAR	**Alice Springs**	**57.23**	**187**	P	**P**	**16 26 40.4**	**0.0**
	0.1nm,0.4s,baz=2.1,slow=6.3,SNR=9.5						

MAN 25 16:25:56, 9°83N×125°34E, h13km, mb4.2, ML3.0, MS2.8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.16**	**106**	*i* P	Pb	16 26 00.4	-0.4
SCPH				*i* S	Sb	16 26 03.8	-0.2
MSLP	**Maasin**	**0.56**	**303**	*e*P	Pg	16 26 07.3	+0.3
MSLP				*e*S	Sn	16 26 17.7	-1.2
BUTP	**Butuan**	**0.90**	**162**	*e*P	Pg	16 26 13.2	-0.2
OCLP	**Ormoc**	**1.41**	**330**	*e*P	Pn	16 26 21.6	+0.2
TBP	**Tagbilaran**	**1.46**	**265**	*e*P	Pn	16 26 21.3	-0.8
TBP				*e*S	Sb	16 26 41.8	+0.3

*CSEM **25** 16:36:25.6, 40°63N×29°23E, h5km, MD3.1*
DDA 25 16:36:25.6, 40°63N×29°23E, h5km, MD3.1, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUY	**Buyukada**	**0.24**	**340**	*i* P	Pg	16 36 33.3	+2.9
BUY				*i* S	Sg	16 36 39.6	+6.0
ULDT	**Uludag**	**0.49**	**188**	*i* P	Pg	16 36 34.9	-0.4
ULDT				*i* S	Sg	16 36 39.6	-2.3
ELBA	**Catalca**	**0.80**	**311**	*i* P	Pn	16 36 48.4	+4.8
ELBA				*i* S	Sn	16 37 00.8	+4.9
ELBA	**Catalca**	**0.80**	**311**	*i* P	Pn	16 36 48.4	+4.8
ELBA				*i* S	Sn	16 37 00.8	+4.9
DURS	**Dursunbey**	**1.18**	**210**	*i* P	Pn	16 36 48.9	0.0
DURS				*i* S	Sn	16 37 05.7	+0.3
DURS	**Dursunbey**	**1.18**	**210**	*i* P	Pn	16 36 48.9	+0.1
DURS				*i* S	Sn	16 37 05.7	+0.4
BTAS	**Taskesti**	**1.35**	**92**	*i* P	Pg	16 36 51.9	+0.2
BTAS				*i* S	Sn	16 37 12.3	+2.7
BTAS	**Taskesti**	**1.35**	**92**	*i* P	Pg	16 36 51.9	+0.3
BTAS				*i* S	Sn	16 37 12.3	+2.6
BALY	**Balya**	**1.52**	**235**	*i* P	Pn	16 36 53.3	-0.2
BALY				*i* S	Sg	16 37 18.0	+3.4
BALY	**Balya**	**1.52**	**235**	*i* P	Pn	16 36 53.3	-0.3
BALY				*i* S	Sg	16 37 18.0	+3.4
GDZ	**Gediz**	**1.55**	**173**	*i* P	Pb	16 36 55.2	+0.2
GDZ				*i* S	Sg	16 37 16.7	+1.0
GDZ	**Gediz**	**1.55**	**173**	*i* P	Pb	16 36 55.2	+0.2
GDZ				*i* S	Sg	16 37 16.7	+1.0
DEMI	**Demirci**	**1.63**	**194**	*i* P	Pn	16 36 54.6	-0.5
DEMI				*i* S	Sg	16 37 18.5	+0.3
DEMI	**Demirci**	**1.63**	**194**	*i* P	Pn	16 36 54.6	-0.5
DEMI				*i* S	Sg	16 37 18.5	+0.2
SEYT	**Eskypehyr**	**1.66**	**131**	*i* P	Pg	16 36 57.9	+0.2
SEYT				*i* S	Sg	16 37 20.5	+1.1
SEYT	**Eskypehyr**	**1.66**	**131**	*i* P	Pg	16 36 57.9	+0.1
SEYT				*i* S	Sg	16 37 20.5	+1.1
BCAM	**Yenicaga**	**2.17**	**84**	*i* P	Pb	16 37 04.1	-1.4
BCAM				*i* S	Sg	16 37 35.4	-0.1
BCAM	**Yenicaga**	**2.17**	**84**	*i* P	Pb	16 37 04.1	-1.4
BCAM				*i* S	Sg	16 37 35.4	-0.1
BOLV	**Bolvadin**	**2.32**	**145**	*i* P	Pg	16 37 09.7	-0.7
BOLV				*i* S	Sg	16 37 40.7	+0.1
BOLV	**Bolvadin**	**2.32**	**145**	*i* P	Pg	16 37 09.7	-0.7
BOLV				*i* S	Sg	16 37 40.7	+0.1
BOZC	**Bozcaada**	**2.55**	**253**	*i* P	Pn	16 37 09.2	+1.5
BOZC				*i* S	Sg	16 37 50.4	+2.6

IDC 25 16:36:52.4±329.0, 56°84N×30°09E, h0km, Error ellipse: s-maj=136.1km s-min=80.8km az=96.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.92**	**89**	*i*		17 01 20.0	
	baz=274,slow=320,SNR=0.3						
I26DE	**FREYUNG INFRAS**	**12.70**	**238**	*i*		17 52 30.0	
	baz=43,slow=326,SNR=0.6						
I31KZ	**AKTYUBINSK INF**	**17.70**	**99**	*i*		18 27 10.0	
	baz=302,slow=326,SNR=0.3						
I48TN	**KESRA INFRASON**	**25.27**	**222**	*i*		19 13 10.0	
	baz=28,slow=324,SNR=0.5						

*NNC **25** 16:42:37.2±7.7, 37°95N×74°62E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=68.6km s-min=53.9km az=69.0*
ISC 25 16:42:31.8±4.5, 37°7N±0°2×74°9E±0°2, h10km, n10, σ2s22/14, 8C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.55**	**335**	⇑Pn	**Pb**	**16 43 17.1**	**-0.7**
	1.1nm,0.1s						
SFK				⇑Sn	**Sn**	**16 43 47.2**	**+2.4**
	25nm,0.3s						
KZA	**Kyzart**	**4.38**	**3**	P	**Pn**	**16 43 37.2**	**-1.6**
	SNR=5.6						
AML	**Almayashu**	**4.52**	**349**	P	**Pn**	**16 43 41.1**	**+0.5**
	SNR=9.6						
UCH	**Uchtor**	**4.53**	**356**	P	**Pn**	**16 43 40.4**	**-0.5**
	SNR=16						
AAK	**Ala-Archa**	**4.94**	**357**	P	**Pn**	**16 43 46.6**	**+0.4**
	SNR=7.4						
AAK	**Ala-Archa**	**4.94**	**357**	⇑Pn	**Pn**	**16 43 45.9**	**-0.2**
	2.5nm,0.5s						
AAK				⇑Sn	**Sn**	**16 44 46.6**	**+3.1**
	4.2nm,0.8s						
MNAS	**Manas**	**5.12**	**340**	⇑Pn	**Pn**	**16 43 49.8**	**+1.1**
	3.0nm,0.5s						
MNAS				⇑Sn	**Sn**	**16 44 44.0**	**-3.9**
	2.5nm,0.3s						
TKM2	**Tokmak 2**	**5.24**	**6**	P	**Pn**	**16 43 49.2**	**-1.2**
	SNR=5.4						
TKM2	**Tokmak 2**	**5.24**	**6**	⇓Pg	**Pg**	**16 44 13.4**	**+1.2**
	1.0nm,0.5s						
TKM2				⇑Lg	Lg	16 45 16.6	
	7.2nm,0.8s						
KK31	**Karatay Array**	**6.35**	**330**	⇓Pn	**Pn**	**16 44 06.9**	**+1.4**
	0.2nm,0.2s,baz=150,slow=16,SNR=9.1						
KK31				⇑Sn	**Sn**	**16 45 14.4**	**-3.6**
	0.8nm,0.3s,baz=143,slow=26,SNR=4.5						

MEX 25 16:44:49.0±0.4, 32°37N×115°08W, h34km±7km, MD3.6, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBX	**Cerro Bola**	**1.34**	**268**	*e*P	Pn	16 45 09.8	-1.8
CBX				*e*S	Sn	16 45 25.4	-3.0
SPIG	**San Pedro Mart**	**1.36**	**194**	*e*P	Pn	16 45 09.9	-2.2
SPIG				*e*S	Sn	16 45 26.5	-2.9

KRSC 25 16:46:45.5±2.0, 49°78N×156°94E, h7km±5km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.05**	**330**	*e*P	Pg	16 47 04.6	-1.0
SKR				*e*S	Sg	16 47 18.6	-0.6
PAU	**Pauzhetka**	**1.69**	**357**	*e*P	Pn	16 47 16.2	+0.7
PAU				*e*S	Sb	16 47 38.3	-0.2
MIPR	**Malaya Ipel'ka**	**2.51**	**357**	*e*P	Pn	16 47 27.3	+0.6
ASAK	**Asacha**	**2.68**	**13**	*e*P	Pn	16 47 31.3	+2.1
MTVR	**Mutnovka**	**2.82**	**16**	*e*P	Pn	16 47 33.3	+2.1
MTVR				*e*S	Sb	16 48 08.6	-2.7
RUS	**Russkaya**	**2.84**	**20**	*e*P	Pn	16 47 32.8	+1.6
UGLR	**Uglovaya**	**3.63**	**18**	*e*P	Pn	16 47 45.5	+3.2
AVH	**Avacha**	**3.67**	**17**	*e*P	Pn	16 47 46.7	+3.9
KOK	**Koryaka**	**3.68**	**16**	*e*P	Pb	16 47 47.0	-3.9
SDLR	**Sedlovina**	**3.71**	**18**	*e*P	Pn	16 47 46.0	+2.6
KRX	**Arik**	**3.74**	**16**	*e*P	Pn	16 47 47.3	+3.4
GNL	**Ganaly**	**3.97**	**9**	*e*P	Pb	16 47 52.8	-3.2

*IDC **25** 16:47:28.4±2.1, 6°61S×154°48E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/21, mbtmp3.7/6, MS3.3/1, Ms1 3.2/1, ms1mx2.6/21, Error ellipse: s-maj=66.7km s-min=25.6km az=102.0*
*ISCJB **25** 16:47:34.7±2.7, 6°5S±0°1×154°3E±0°5, h48km, mb3.5/6, MS3.1/1, Error ellipse: s-maj=73.7km s-min=18.7km az=8.2*
ISC 25 16:47:35.8±2.2, 6°7S±0°2×154°4E±0°5, h48km, n8, σ0s92/9, mb3.6/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.50**	**210**	Pn	**P**	**16 51 14.8**	**-0.2**
	0.1nm,0.3s,baz=20,slow=16,SNR=7.2						
WRA	**Warramunga Arr**	**23.50**	**234**	P	**P**	**16 52 40.4**	**-1.2**
	1.7nm,0.9s,baz=60,slow=9.6,SNR=10						
WRA				PcP	**PcP**	**16 56 26.4**	**0.0**
	0.1nm,0.4s,baz=58,slow=2.4,SNR=5.9						
ASAR	**Alice Springs**	**25.93**	**227**	P	**P**	**16 53 03.5**	**-0.3**
	0.5nm,0.7s,baz=58,slow=8.8,SNR=8.6						
STKA	**Stephens Creek**	**27.78**	**204**	P	**P**	**16 53 21.4**	**+1.1**
	2.1nm,0.9s,baz=38,slow=17,SNR=3.2						
STKA				LR	LR	17 03 09.5	
	comp=Z,51nm,18.1s,baz=16,slow=34						
CMAR	**Chiang Mai Arr**	**60.06**	**296**	P	**P**	**16 57 39.6**	**+1.2**
	1.1nm,0.9s,baz=123,slow=4.5,SNR=4.6						
SONM	**Songino Array**	**68.71**	**328**	P	**P**	**16 58 33.9**	**-0.7**
	0.2nm,0.5s,baz=134,slow=4.2,SNR=2.4						
MKAR	**Makanchi Array**	**82.73**	**319**	P	**P**	**16 59 54.9**	**+0.2**
	0.6nm,0.7s,baz=105,slow=5.4,SNR=7.5						
TORD	**Torodi Ar. Bea**	**152.32**	**286**	PKPbc	**PKPbc**	**17 07 26.8**	**-0.7**
	1.8nm,0.7s,baz=67,slow=2.0,SNR=12						

*DJA **25** 17:01:32.9±1.9, 3°S±71°×14°2E±2°3, h60km±33km, M3.4/3, MLv3.4/3*
*IDC **25** 17:01:39.3±9.0, 2°93S×140°10E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.2/29, mbtmp3.2/3, ML3.2/1, Error ellipse: s-maj=357.0km s-min=30.5km az=88.0*
ISC 25 17:01:37.9±2.6, 3°0S±0°2×141°9E±0°3, h35km, n6, σ0s62/6, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.31**	**292**	P	**Pn**	**17 02 00.1**	**+0.4**
GENI	**Genyem**	**1.79**	**283**	P	**Pn**	**17 02 05.9**	**-0.4**
GENI				S	Sn	17 02 33.2	+5.3
SMPI	**Sarmi**	**3.36**	**288**	P	**Pn**	**17 02 28.1**	**+0.2**
SMPI				S	Sn	17 03 12.1	+5.5
WRA	**Warramunga Arr**	**18.38**	**203**	P	**Pn**	**17 05 49.7**	**-0.4**
	0.1nm,0.3s,baz=14,slow=13,SNR=7.5						
ASAR	**Alice Springs**	**21.95**	**200**	P	**P**	**17 06 29.3**	**+0.7**
	0.4nm,0.7s,baz=30,slow=12,SNR=5.7						
MKAR	**Makanchi Array**	**72.00**	**321**	P	**P**	**17 12 57.9**	**-0.3**
	0.5nm,0.9s,baz=120,slow=5.2,SNR=3.4						

IDC 25 17:08:03.0±3.8, 13°02S×75°50W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.7/32, mbtmp3.8/4, ML4.0/1, MS3.1/5, Ms1 3.2/5, ms1mx2.8/28, Error ellipse: s-maj=149.6km s-min=26.1km az=37.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**6.50**	**334**	Pg	Pb	17 10 02.5	+4.9
	1.0nm,0.3s,baz=165,slow=12,SNR=3.5						
ATAH				Lg	Lg	17 11 41.0	
	0.9nm,0.3s,baz=265,slow=23,SNR=6.2						
LPAZ	**La Paz**	**7.84**	**115**	Pn	Pn	17 09 59.9	+0.7
	1.0nm,0.3s,baz=301,slow=10,SNR=35						
LPAZ				LR	LR	17 13 22.8	
	comp=Z,126nm,18.9s,baz=294,slow=41						
SIV	**San Ignacio**	**14.28**	**104**	LR	LR	17 16 57.3	
	comp=Z,60nm,21.0s,baz=337,slow=37						
PCRV	**Puerto La Cruz**	**25.44**	**26**	LR	LR	17 24 05.2	
	comp=Z,60nm,19.0s,baz=221,slow=38						
BDFB	**Brasilia**	**26.75**	**99**	LR	LR	17 25 34.8	
	comp=Z,96nm,20.4s,baz=278,slow=39						
TXAR	**Lajitas Array**	**50.12**	**328**	P	P	17 17 00.6	+0.3
	0.3nm,0.7s,baz=153,slow=8.1,SNR=2.4						
TORD	**Torodi Ar. Bea**	**80.80**	**74**	P	P	17 20 19.0	-0.2
	3.2nm,0.8s,baz=260,slow=5.0,SNR=15						
YKA	**Yellowknife Ar**	**81.20**	**343**	P	P	17 20 19.9	-0.4
	0.2nm,0.7s,baz=145,slow=5.8,SNR=3.0						
NOA	**NORSAR Array B**	**99.69**	**30**	LR	LR	18 07 32.5	
	comp=Z,3.8nm,18.1s,baz=125,slow=36						

IDC 25 17:08:06.1±366.0, 57°09N×30°64E, h0km, Error ellipse: s-maj=152.0km s-min=77.8km az=98.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.63**	**93**	*i*		17 30 30.0	
	baz=279,slow=315,SNR=0.1						
I26DE	**FREYUNG INFRAS**	**13.09**	**238**	*i*		18 30 30.0	
	baz=44,slow=316,SNR=0.6						
I31KZ	**AKTYUBINSK INF**	**17.45**	**101**	*i*		18 58 40.0	
	baz=302,slow=323,SNR=0.6						
I48TN	**KESRA INFRASON**	**25.66**	**223**	*i*		19 45 10.0	
	baz=27,slow=323,SNR=0.4						

IDC 25 17:13:45.7±1.9, 28°94S×74°00E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.4/34, mbtmp3.6/4, MS3.2/1, Ms1 3.2/1, ms1mx2.7/33, Error ellipse: s-maj=54.9km s-min=35.0km az=70.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**21.23**	**356**	T	T	17 40 48.8	
	baz=175,slow=76,SNR=11						
H08S1	**Diego Garcia H**	**21.23**	**356**	T	T	17 40 46.4	
	baz=175,slow=76,SNR=8.6						
H08S3	**Diego Garcia H**	**21.24**	**356**	T	T	17 40 45.0	
	baz=175,slow=76,SNR=11						
H01W2	**Cape Leeuwin H**	**34.41**	**110**	T	T	17 56 01.7	
	baz=268,slow=75,SNR=6.1						
H01W3	**Cape Leeuwin H**	**34.41**	**110**	T	T	17 56 01.9	
	baz=268,slow=75,SNR=5.4						
H01W1	**Cape Leeuwin H**	**34.43**	**110**	T	T	17 56 00.7	
	baz=268,slow=75,SNR=5.4						
LBTB	**Lobatse**	**43.08**	**263**	LR	LR	17 35 14.4	
	comp=Z,29nm,20.0s,baz=161,slow=30						
ASAR	**Alice Springs**	**53.48**	**99**	P	P	17 23 08.3	+0.2
	0.4nm,0.8s,baz=251,slow=6.8,SNR=9.7						
WRA	**Warramunga Arr**	**55.16**	**95**	P	P	17 23 20.1	-0.3
	1.0nm,0.8s,baz=249,slow=7.3,SNR=7.5						
VNDA	**Vanda**	**61.51**	**166**	P	P	17 24 03.7	-0.2
	1.0nm,0.9s,baz=278,slow=7.1,SNR=4.2						
MKAR	**Makanchi Array**	**75.75**	**6**	P	P	17 25 33.0	+0.1
	0.4nm,0.9s,baz=197,slow=4.4,SNR=2.6						

*IDC **25** 17:30:45.4±0.8, 27°87S×63°57E, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.9/36, mbtmp3.9/11, MS3.6/3, Ms1 3.6/3, ms1mx3.0/29, Error ellipse: s-maj=28.7km s-min=21.1km az=43.0*
*ISCJB **25** 17:30:46.5±0.6, 27°8S±0°1×63°7E±0°1, h17km, mb4.0/16, MS3.8/2, Error ellipse: s-maj=18.8km s-min=15.6km az=38.8*
*NEIC **25** 17:30:47.3±0.4, 27°81S×63°67E, h10km, mb4.3/5, Error ellipse: s-maj=14.4km s-min=11.9km az=220.0*
ISC 25 17:30:48.5±0.7, 27°8S±0°1×63°7E±0°2, h17km, n23, σ0s76/17, mb4.1/16, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**17.70**	**298**	LR	LR	17 39 51.8	
	comp=Z,108nm,19.1s,baz=172,slow=31						
LSZ	**Lusaka**	**35.14**	**283**	*e*P	**P**	**17 37 42.3**	**+0.6**
	1.8nm,0.8s						
H01W2	**Cape Leeuwin H**	**43.30**	**112**	T	T	18 24 58.7	
	baz=264,slow=75,SNR=8.0						
H01W3	**Cape Leeuwin H**	**43.32**	**112**	T	T	18 24 58.4	
	baz=264,slow=75,SNR=9.3						
H01W1	**Cape Leeuwin H**	**43.32**	**112**	T	T	18 24 59.4	
	baz=264,slow=75,SNR=8.5						
MBWA	**Marble Bar**	**51.09**	**96**	P	P	17 39 46.0	-4.4
CM31	**Chiang Mai Arr**	**57.30**	**41**	P	**P**	**17 40 35.2**	**-0.5**
	5.2nm,0.9s						
CMAR	**Chiang Mai Arr**	**57.30**	**41**	P	**P**	**17 40 36.5**	**+0.8**
	2.4nm,0.9s,baz=233,slow=6.6,SNR=13						
QSPA	**South Pole Qui**	**62.33**	**180**	P	**P**	**17 41 09.2**	**-0.6**
	2.5nm,1.1s,baz=276,slow=2.7,SNR=6.6						
ASAR	**Alice Springs**	**62.62**	**104**	P	**P**	**17 41 12.3**	**-0.1**
	1.1nm,0.8s,baz=244,slow=6.1,SNR=28						
WRA	**Warramunga Arr**	**64.34**	**100**	P	**P**	**17 41 23.9**	**+0.2**
	2.1nm,1.0s,baz=247,slow=5.9,SNR=18						
WRAB	**Tennant Creek**	**64.35**	**100**	*e*P	**P**	**17 41 23.0**	**-0.7**
	2.9nm,0.9s						
VNDA	**Vanda**	**64.81**	**166**	LR	LR	18 06 04.7	
	comp=Z,81nm,21.5s,baz=234,slow=33						
VNDA	**Vanda**	**64.81**	**166**	P	**P**	**17 41 26.9**	**+1.1**
	1.6nm,1.0s						
EKS2	**Erkin-Say**	**70.75**	**8**	P	**P**	**17 42 04.4**	**+0.7**
	2.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**72.51**	**296**	P	**P**	**17 42 14.1**	**-0.7**
	1.1nm,0.8s,baz=112,slow=5.4,SNR=6.5						
TORD				LR	LR	18 13 24.2	
	comp=Z,31nm,18.6s,baz=175,slow=35						
BRTR	**Keskin Array B**	**72.79**	**336**	P	**P**	**17 42 17.2**	**+1.1**
	0.9nm,0.8s,baz=159,slow=7.3,SNR=5.8						
MKAR	**Makanchi Array**	**76.15**	**13**	P	**P**	**17 42 34.3**	**-1.0**
	0.6nm,0.8s,baz=188,slow=4.5,SNR=6.2						
ZALV	**Zalesovo Beam**	**83.47**	**12**	P	**P**	**17 43 14.6**	**-0.1**
	1.5nm,0.8s,baz=194,slow=5.5,SNR=6.9						
AKASG	**Malin Array Be**	**83.90**	**339**	P	**P**	**17 43 16.4**	**-0.6**
	0.3nm,0.4s,baz=150,slow=4.2,SNR=5.2						
SONM	**Songino Array**	**84.53**	**27**	P	**P**	**17 43 20.5**	**-0.1**
	0.4nm,0.6s,baz=241,slow=3.0,SNR=3.2						
ESDC	**Sonseca Array**	**92.00**	**314**	P	**P**	**17 43 55.5**	**-1.0**
	0.5nm,0.6s,baz=119,slow=3.5,SNR=4.6						
YKA	**Yellowknife Ar**	**145.31**	**359**	PKPbc	**PKPab**	**17 50 24.4**	**-0.2**
	4.1nm,0.8s,baz=346,slow=3.3,SNR=44						

MAN 25 17:42:16, 13°49N×120°29E, h41km, mb4.3, ML3.1, MS2.9, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.25**	**351**	*e*P	Pn	17 42 25.9	+2.0
LUBP				*e*S	Sn	17 42 31.7	+2.4
PGP	**Puerto Galera**	**0.65**	**89**	⇓*e*P	Pn	17 42 30.4	+1.6
PGP				*i* S	Sn	17 42 40.3	+2.3
SJMP	**San Jose**	**1.31**	**141**	*e*P	Pn	17 42 39.0	+1.2
BUSP	**Coron**	**1.48**	**183**	*e*P	Pn	17 42 41.4	+1.2
ENPP	**El Nido**	**2.42**	**200**	*e*P	Pn	17 42 54.3	+1.2
CUYO	**Cuyo Island**	**2.72**	**165**	*e*P	Pn	17 42 57.4	+0.2

*IDC **25** 17:48:25.6±1.0, 51°83N×170°94W, h0km, mb3.4/5, mb1 3.7/7, mb1mx3.4/48, mbtmp3.4/7, ML3.2/2, MS3.0/1, Ms1 3.0/1, ms1mx2.4/31, Error ellipse: s-maj=36.4km s-min=22.1km az=176.0*
*ISCJB **25** 17:48:30.5±0.6, 52°0N±0°1×170°78W±0°06, h42km, mb3.4/5, MS3.0/1, Error ellipse: s-maj=15.1km s-min=2.9km az=161.7*
*NEIC **25** 17:48:31.1, 52°16N×170°82W, h26km, ML3.8(AEIC), After AEIC.*
ISC 25 17:48:31.9±1.0, 52°0N±0°2×170°79W±0°06, h42km, n41, σ0s89/44, mb3.4/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.52**	**50**	P	**Pn**	**17 48 55.0**	**-1.6**
NIKH				S	**Sn**	**17 49 12.9**	**-2.2**
KOFP	**Korovin Flat P**	**2.05**	**278**	P	**Pn**	**17 49 04.5**	**+0.6**
ATKA	**Atka Island**	**2.11**	**276**	P	**Pn**	**17 49 03.8**	**-0.7**
ATKA				S	**Sn**	**17 49 28.9**	**-0.6**
KOKL	**Mount Kliuchef**	**2.12**	**280**	P	**Pn**	**17 49 05.2**	**+0.4**
OKFG	**Magazine Ridge**	**2.24**	**50**	P	**Pn**	**17 49 06.2**	**-0.2**
OKFG				S	**Sn**	**17 49 33.2**	**+0.4**
MSOM	**Makushin Julie**	**2.94**	**51**	P	**Pn**	**17 49 16.4**	**+0

comp=Z,20nm,19.1s,baz=45,slow=35
TXAR Lajitas Array 53.63 88 P **P** **17 57 48.7 -0.4**
0.3nm,0.8s,baz=300,slow=5.7,SNR=4.7
WRA Warrmunga Arr 86.10 230 P **P** **18 01 06.4 -1.8**
0.5nm,1.2s,baz=34,slow=5.8,SNR=3.5
ASAR Alice Springs 89.50 229 P **P** **18 01 24.9 +0.6**
0.1nm,0.5s,baz=29,slow=4.9,SNR=7.3

*CRAAG **25** 18:04:26.0, 35°.96N×4°.11E, MI3.7*
*MDD **25** 18:04:27.6±0.6, 35°.89N×4°.07E, h0km, mb4.1/8, Error ellipse: s-maj=12.4km s-min=3.8km az=15.0, PRXIMO*
*CSEM **25** 18:04:27.4±0.4, 35°.91N×4°.05E, h2km, ML3.7, Error ellipse: s-maj=16.4km s-min=6.7km az=5.0*
ISC 25 18:04:27.0±0.9, 35°.84N±0'.06×4°.04E±0'.02, h10km, n66, σ1$25/68, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ATAF	**Djebel Tarf**	**0.20**	**79**	P			**Pg**	**18 04 29.9**	**-1.3**
ATAF	**Djebel Tarf**	**0.20**	**79**	P			**Pg**	**18 04 29.9**	**-1.3**
ATAF	**Djebel Tarf**	**0.20**	**79**	P			**Pg**	**18 04 29.9**	**-1.3**
AKET	**Djebel Ketaf**	**0.24**	**329**	P			**Pg**	**18 04 31.1**	**-1.0**
AKET	**Djebel Ketaf**	**0.24**	**329**	P			**Pg**	**18 04 31.1**	**-1.0**
AKET	**Djebel Ketaf**	**0.24**	**329**	P			**Pg**	**18 04 31.1**	**-1.0**
ADJB	**Djebel Djouab**	**0.58**	**304**	P			**Pb**	**18 04 38.6**	**-0.8**
ADJB	**Djebel Djouab**	**0.58**	**304**	P			**Pb**	**18 04 38.6**	**-0.8**
ADJB	**Djebel Djouab**	**0.58**	**304**	P			**Pb**	**18 04 38.6**	**-0.8**
EMHD	**Djebel Mahouad**	**0.95**	**293**	P			**Pn**	**18 04 46.2**	**-0.3**
EMHD	**Djebel Mahouad**	**0.95**	**293**	P			**Pn**	**18 04 46.2**	**-0.3**
EMHD	**Djebel Mahouad**	**0.95**	**293**	P			**Pn**	**18 04 46.2**	**-0.3**
SET	**Setif**	**1.16**	**71**	P			Pg	18 04 56.0	+6.7
SET	**Setif**	**1.16**	**71**	P			Pg	18 04 56.0	+6.7
CKHR	**Kef el Ahmar**	**1.21**	**81**	P			**Pn**	**18 04 49.2**	**-0.9**
CKHR	**Kef el Ahmar**	**1.21**	**81**	P			**Pn**	**18 04 49.2**	**-0.9**
CKHR	**Kef el Ahmar**	**1.21**	**81**	P			**Pn**	**18 04 49.2**	**-0.9**
ABA	**Alger-Bouzarea**	**1.26**	**320**	P			**Pn**	**18 04 48.5**	**-2.2**
ABA	**Alger-Bouzarea**	**1.26**	**320**	P			**Pn**	**18 04 48.5**	**-2.2**
ABA	**Alger-Bouzarea**	**1.26**	**320**	P			**Pn**	**18 04 48.5**	**-2.2**
DFRA	**Djebel Bou Aff**	**1.65**	**64**	P			**Pb**	**18 04 57.3**	**-0.2**
DFRA	**Djebel Bou Aff**	**1.65**	**64**	P			**Pb**	**18 04 57.3**	**-0.2**
DFRA	**Djebel Bou Aff**	**1.65**	**64**	P			**Pb**	**18 04 57.3**	**-0.2**
CTEI	**Djebel Teioual**	**1.94**	**83**	P			**Pb**	**18 05 01.9**	**-0.5**
CTEI	**Djebel Teioual**	**1.94**	**83**	P			**Pb**	**18 05 01.9**	**-0.5**
CTEI	**Djebel Teioual**	**1.94**	**83**	P			**Pb**	**18 05 01.9**	**-0.5**
CASM	**Ain Smara**	**2.03**	**77**	P			**Pb**	**18 05 04.8**	**+0.8**
CASM	**Ain Smara**	**2.03**	**77**	P			**Pb**	**18 05 04.8**	**+0.8**
CASM	**Ain Smara**	**2.03**	**77**	P			**Pb**	**18 05 04.8**	**+0.8**
EBNR	**Beni Rached**	**2.08**	**283**	P			**Pb**	**18 05 04.5**	**-0.4**
EBNR	**Beni Rached**	**2.08**	**283**	P			**Pb**	**18 05 04.5**	**-0.4**
ECHA	**Ech Chlef**	**2.19**	**279**	P			**Pb**	**18 05 07.0**	**+0.4**
ECHF	**Ech Chlef**	**2.21**	**279**	P			**Pb**	**18 05 07.0**	**0.0**
ECHF	**Ech Chlef**	**2.21**	**279**	P			**Pb**	**18 05 07.0**	**0.0**
CKFL	**Kef-Lekhel**	**2.24**	**75**	P			**Pg**	**18 05 09.1**	**-0.9**
CKFL	**Kef-Lekhel**	**2.24**	**75**	P			**Pg**	**18 05 09.1**	**-0.9**
ETRT	**Tiaret**	**2.27**	**260**	P			**Pn**	**18 05 04.0**	**-0.7**
ETRT	**Tiaret**	**2.27**	**260**	P			**Pn**	**18 05 04.0**	**-0.7**
ETRT	**Tiaret**	**2.27**	**260**	P			**Pn**	**18 05 04.0**	**-0.7**
EANR	**'Ain N'Sour**	**2.39**	**274**	P			**Pn**	**18 05 06.0**	**-0.2**
EANR	**'Ain N'Sour**	**2.39**	**274**	P			**Pn**	**18 05 06.0**	**-0.2**
EANR	**'Ain N'Sour**	**2.39**	**274**	P			**Pn**	**18 05 06.0**	**-0.2**
CAEH	**'Ain El Ouahch**	**2.46**	**67**	P			**Pg**	**18 05 13.7**	**-0.4**
CAEH	**'Ain El Ouahch**	**2.46**	**67**	P			**Pg**	**18 05 13.7**	**-0.4**
OKGL	**Djebel Kef Gue**	**2.76**	**275**	P			**Pb**	**18 05 13.8**	**-2.7**
	7.4nm,0.1s,SNR=7.9								
OKGL					S		**Sn**	**18 05 45.9**	**+1.1**
	61nm,0.3s,SNR=4.0								
OKGL	**Djebel Kef Gue**	**2.76**	**275**	P			**Pb**	**18 05 13.8**	**-2.7**
	7.4nm,0.1s,SNR=7.9								
OKGL					S		**Sn**	**18 05 45.9**	**+1.1**
	61nm,0.3s,SNR=4.0								
CMAH	**Djebel Manchou**	**2.85**	**73**	P			**Pg**	**18 05 22.4**	**+0.9**
CMAH	**Djebel Manchou**	**2.85**	**73**	P			**Pg**	**18 05 22.4**	**+0.9**
EIBI	**Ibiza**	**3.84**	**327**	P			**Pn**	**18 05 26.2**	**+0.1**
	3.4nm,0.3s,SNR=7.9								
EIBI	**Ibiza**	**3.84**	**327**	P			**Pn**	**18 05 26.2**	**+0.1**
	3.4nm,0.3s,SNR=7.9								
ETOS	**Mallorca**	**4.04**	**347**	P			**Pn**	**18 05 28.4**	**-0.6**
	0.6nm,0.2s,SNR=7.7								
ETOS					S		Sn	18 06 07.9	-8.5
	1.3nm,0.4s,SNR=6.1								
ETOS	**Mallorca**	**4.04**	**347**	P			**Pn**	**18 05 28.4**	**-0.6**
	0.6nm,0.2s,SNR=7.7								
EMUR	**La Murta**	**4.68**	**297**	P			**Pn**	**18 05 38.8**	**+1.1**
	3.2nm,0.3s,SNR=7.9								
EMUR	**La Murta**	**4.68**	**297**	P			**Pn**	**18 05 38.8**	**+1.1**
	3.2nm,0.3s,SNR=7.9								
ETOB	**Tobarra**	**5.26**	**304**	P			**Pn**	**18 05 47.3**	**+1.5**
	1.3nm,0.2s,SNR=5.9								
ETOB					S		**Sn**	**18 06 45.6**	**-0.9**
	2.0nm,0.6s,SNR=7.9								
ETOB	**Tobarra**	**5.26**	**304**	P			**Pn**	**18 05 47.3**	**+1.5**
	1.3nm,0.2s,SNR=5.9								
ETOB					S		**Sn**	**18 06 45.7**	**-0.9**
	2.0nm,0.6s,SNR=7.9								
EBER	**Berja**	**5.69**	**283**	P			**Pn**	**18 05 52.4**	**+0.7**
	0.5nm,0.2s,SNR=7.9								
EBER	**Berja**	**5.69**	**283**	P			**Pn**	**18 05 52.4**	**+0.7**
	0.5nm,0.2s,SNR=7.9								
SESP	**Santiago Espad**	**5.74**	**295**	P			Pn	18 05 54.9	+2.5
	3.8nm,0.3s,SNR=7.9								
SESP	**Santiago Espad**	**5.74**	**295**	P			Pn	18 05 54.9	+2.5
	3.8nm,0.3s,SNR=7.9								
EMOS	**Mosqueruela**	**5.75**	**323**	P			**Pn**	**18 05 54.2**	**+1.6**
	2.3nm,0.3s,SNR=7.9								
EMOS	**Mosqueruela**	**5.75**	**323**	P			**Pn**	**18 05 54.2**	**+1.6**
	2.3nm,0.3s,SNR=7.9								
EQES	**Quesada**	**6.03**	**291**	P			**Pn**	**18 05 58.6**	**+2.3**
	1.6nm,0.2s,SNR=7.9								
EQES					S		**Sn**	**18 07 08.8**	**+3.4**
	1.5nm,0.4s,SNR=7.9								
EQES	**Quesada**	**6.03**	**291**	P			**Pn**	**18 05 58.6**	**+2.3**
	1.6nm,0.2s,SNR=7.9								
EQES					S		**Sn**	**18 07 08.9**	**+3.4**
	1.5nm,0.4s,SNR=7.9								
CFON	**Fontmartina**	**6.05**	**349**	P			**Pn**	**18 05 57.3**	**+0.7**
	1.2nm,0.2s,SNR=7.9								
CFON	**Fontmartina**	**6.05**	**349**	P			**Pn**	**18 05 57.3**	**+0.7**
	1.2nm,0.2s,SNR=7.9								

*MAN **25** 18:06:53, 13°.67N×125°.10E, h1km, mb5.2, ML4.2, MS4.3*
*IDC **25** 18:06:55.1±0.7, 13°.33N×124°.82E, h0km, mb4.0/9, mb1 4.2/10, mb1mx3.9/33, mbtmp4.0/10, ML4.0/1, MS3.3/7, Ms1 3.3/7, ms1mx3.1/27, Error ellipse: s-maj=34.7km s-min=14.6km az=69.0*
*NEIC **25** 18:07:00.1±0.4, 13°.32N×124°.84E, h35km, mb4.2/11, Error ellipse: s-maj=12.9km s-min=6.6km az=70.0*
ISC 25 18:06:55.3±2.3, 13°.41N±0'.05×124°.92E±0'.07, h2km±13km, n50, σ1$08/47, mb4.1/18, MS3.3/6, 5C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.76**	**284**	⇓*i*P			**Pb**	**18 07 12.0**	**+0.7**
PVCP				*i* S			**Sb**	**18 07 22.6**	**+0.4**
CNP	**Catarman**	**0.93**	**195**	*e*P			**Pn**	**18 07 17.3**	**+1.9**
CNP				*e*S			**Sn**	**18 07 31.0**	**+1.8**
MMPH	**Masbate**	**1.64**	**230**	⇑*i*P			**Pg**	**18 07 27.3**	**+0.5**
MMPH				*i* S			**Sg**	**18 07 48.5**	**+0.5**
AUQP	**San Andres**	**2.18**	**268**	*e*P			**Pb**	**18 07 35.8**	**+0.2**
PLP	**Palo**	**2.23**	**178**	⇑*e*P			**Pb**	**18 07 35.8**	**-0.6**
PLP				*i* S			**Sb**	**18 08 03.2**	**-1.3**
GQP	**Guinayangan**	**2.45**	**282**	⇓*e*P			**Pn**	**18 07 37.6**	**+1.3**
GQP				*e*S			**Sb**	**18 08 10.1**	**-0.6**
RCP	**Roxas**	**2.81**	**229**	⇑*e*P			**Pb**	**18 07 43.6**	**-2.6**
RCP				*e*S			**Sb**	**18 08 18.8**	**-2.2**
LQP	**Lukban**	**3.35**	**282**	⇓*e*P			**Pg**	**18 07 59.6**	**-0.1**
GUIM	**Jordan**	**3.58**	**220**	*e*P			**Pn**	**18 07 54.4**	**+2.6**
SCPH	**Surigao**	**3.65**	**171**	*e*P			Pg	18 08 10.3	+4.9
TGY	**Tagaytay City**	**3.93**	**281**	⇑*i*P			**Pn**	**18 07 56.0**	**-0.7**
BALP	**Baler**	**3.98**	**306**	*e*P			**Pn**	**18 07 55.8**	**-1.6**
PCPH	**Palayan**	**4.27**	**300**	⇑*e*P			**Pn**	**18 08 02.3**	**+0.9**
BUTP	**Butuan**	**4.47**	**171**	*e*P			Pb	18 08 11.0	-3.5
BUKP	**Musuan**	**5.50**	**178**	*e*P			Pn	18 08 23.4	+5.1
KSM	**Kuching**	**18.70**	**232**	*e*P			**Pn**	**18 11 15.5**	**+0.1**
	7.4nm,0.3s								
KAPI	**Kappang**	**19.01**	**196**	P			**Pn**	**18 11 19.0**	**-0.1**
	0.5nm,0.3s,baz=158,slow=19,SNR=2.6								
KAPI					LR		LR	18 19 18.6	
	comp=Z,122nm,19.7s,baz=6.8,slow=39								
CM31	**Chiang Mai Arr**	**25.46**	**285**	*e*P			**P**	**18 12 24.0**	**-0.9**
	3.5nm,0.7s								
CMAR	**Chiang Mai Arr**	**25.46**	**285**	P			**P**	**18 12 23.4**	**-1.6**
	2.6nm,0.7s,baz=91,slow=7.9,SNR=20								
CMAR					LR		LR	18 22 59.9	
	comp=Z,80nm,19.0s,baz=155,slow=38								
MJAR	**Matsushiro Arr**	**25.94**	**25**	LR			LR	18 21 07.3	
	comp=Z,41nm,21.7s,baz=190,slow=33								
PSI	**Prapat**	**27.77**	**250**	LR			LR	18 24 18.0	
	comp=Z,149nm,18.1s,baz=91,slow=38								
ASAJ	**Asahikawa**	**34.14**	**23**	LR			LR	18 25 10.8	
	comp=Z,19nm,21.3s,baz=342,slow=32								
WRAB	**Tennant Creek**	**34.41**	**164**	P			**P**	**18 13 42.5**	**-1.7**
	3.1nm,1.0s								
WRA	**Warramunga Arr**	**34.42**	**164**	P			**P**	**18 13 43.0**	**-1.3**
	0.4nm,0.5s,baz=345,slow=8.8,SNR=13								
WRA					PcP		**PcP**	**18 16 19.9**	**-0.1**
	0.7nm,0.5s,baz=343,slow=2.9,SNR=11								
LSA	**Lhasa**	**35.17**	**303**	*e*P			**P**	**18 13 52.1**	**+0.7**
	5.3nm,0.8s								
SONM	**Songino Array**	**37.63**	**339**	P			**P**	**18 14 12.2**	**+0.5**
	1.9nm,0.7s,baz=156,slow=9.6,SNR=12								
AS31	**Alice Springs**	**37.88**	**167**	*e*P			**P**	**18 14 13.3**	**-0.7**
ASAR	**Alice Springs**	**37.88**	**167**	P			**P**	**18 14 13.4**	**-0.5**
	1.4nm,0.4s,baz=344,slow=7.2,SNR=71								
ASAR					PcP		**PcP**	**18 16 30.1**	**-0.3**
	0.7nm,0.7s,baz=359,slow=2.5,SNR=6.1								
H11S3	**WAKE ISLAND Hy 40.41**	**77**		T			T	18 58 04.8	
	baz=269,slow=75,SNR=44								
H11S1	**WAKE ISLAND Hy 40.43**	**77**		T			T	18 58 08.9	
	baz=269,slow=75,SNR=36								
H11S2	**WAKE ISLAND Hy 40.43**	**77**		T			T	18 58 07.0	
	baz=269,slow=75,SNR=40								
H11N1	**WAKE ISLAND Hy 40.64**	**75**		T			T	18 58 32.1	
	baz=268,slow=75,SNR=59								
H11N2	**WAKE ISLAND Hy 40.65**	**75**		T			T	18 58 28.9	
	baz=268,slow=75,SNR=61								
H11N3	**WAKE ISLAND Hy 40.66**	**75**		T			T	18 58 33.7	
	baz=268,slow=75,SNR=73								
STKA	**Stephens Creek**	**47.78**	**161**	P			**P**	**18 15 34.2**	**0.0**
	2.2nm,0.8s,baz=2.2,slow=9.6,SNR=3.7								
STKA	**Stephens Creek**	**47.78**	**161**	P			**P**	**18 15 33.5**	**-0.6**
	1.4nm,1.2s								
MK31	**Makanchi Array**	**48.75**	**322**	*e*P			**P**	**18 15 41.9**	**+0.4**
MK31					*e*PcP		**PcP**	**18 17 06.5**	**-0.1**
MKAR	**Makanchi Array**	**48.75**	**322**	P			**P**	**18 15 42.4**	**+0.8**
	3.3nm,0.7s,baz=116,slow=9.0,SNR=41								
MKAR					PcP		**PcP**	**18 17 06.7**	**+0.1**
	1.0nm,0.7s,baz=109,slow=3.4,SNR=5.3								
ZALV	**Zalesovo Beam**	**51.25**	**331**	P			**P**	**18 16 00.6**	**+0.2**
	1.4nm,0.7s,baz=124,slow=7.8,SNR=7.0								
EKS2	**Erkin-Say**	**52.70**	**314**	P			**P**	**18 16 11.0**	**-0.6**
	2.4nm,1.0s								
KURK	**Kurchatov**	**52.75**	**325**	*e*P			**P**	**18 16 11.8**	**+0.2**
	17nm,0.8s								
BRVK	**Borovoye**	**58.42**	**325**	*e*P			**P**	**18 16 53.0**	**+0.7**
	6.4nm,0.8s								
ABKAR	**Akbulak array**	**63.65**	**319**	*e*P			**P**	**18 17 27.5**	**-0.4**
	2.3nm,0.7s								
ABKAR					*e*PcP		**PcP**	**18 18 03.7**	**-0.6**
ARU	**Arti**	**65.89**	**326**	*e*P			**P**	**18 17 41.8**	**-0.6**
	3.3nm,0.7s								
BPAW	**Bear Paw Mtn.**	**75.46**	**27**	*e*P			**P**	**18 18 42.3**	**+1.6**
	0.5nm,0.8s								
ILAR	**Eielson Array**	**77.21**	**26**	P			**P**	**18 18 51.0**	**+0.4**
	0.2nm,0.6s,baz=235,slow=3.2,SNR=2.5								
FINES	**FINESS Array B**	**82.52**	**331**	P			**P**	**18 19 19.5**	**+0.2**
	2.4nm,0.9s,baz=66,slow=2.3,SNR=4.5								
AKASG	**Malin Array Be**	**83.31**	**320**	LR			LR	18 56 31.1	
	comp=Z,13nm,18.1s,baz=100,slow=36								
KMBO	**Kilima Mbogo**	**87.98**	**268**	LR			LR	18 57 23.4	
	comp=Z,19nm,19.1s,baz=93,slow=34								
PLCA	**Paso Flores**	**149.60**	**156**	PKPbc			**PKPbc**	**18 26 47.0**	**+0.2**
	2.0nm,0.9s,baz=198,slow=3.5,SNR=4.7								

NNC 25 18:11:15.5±7.4, 36°.85N×70°.96E, h0km, mb3.6, mpv3.2, 3C-7D, Error ellipse: s-maj=60.2km s-min=27.7km az=174.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.58**	**320**	⇓P	n		Pn	18 11 58.2	-0.5
	21nm,0.4s								
DZET				⇑S	n		Sb	18 12 33.6	-1.7
	61nm,0.4s								
SFK	**Sufi-Kurgan**	**3.73**	**32**	⇓P	n		Pn	18 12 15.5	+0.8
	2.2nm,0.4s								
SFK				⇓S	n		Sb	18 13 04.6	-4.1
	14nm,0.5s								
MNAS	**Manas**	**5.75**	**11**	⇓P	n		Pn	18 12 39.5	-2.9
	0.6nm,0.4s								
MNAS				⇓S	n		Sn	18 13 47.9	-1.3
	5.0nm,0.5s								
KK31	**Karatay Array**	**6.25**	**357**	⇑P	n		Pn	18 12 47.7	-1.3
	0.3nm,0.3s,baz=178,slow=12,SNR=4.1								
KK31				⇓S	n		Sn	18 13 56.8	-4.4
	4.6nm,0.5s,baz=185,slow=21,SNR=10								
AAK	**Ala-Archa**	**6.38**	**24**	⇓P	n		Pn	18 12 48.6	-2.5
	1.7nm,0.7s								
AAK				⇑S	n		Sn	18 14 04.4	-0.4
	3.2nm,0.5s								

*ISCJB **25** 18:21:25.4±0.6, 38°.07N±0'.03×26°.78E±0'.04, h7km±5km, Error ellipse: s-maj=5.9km s-min=3.9km az=158.2*
*DDA **25** 18:21:25.4, 38°.08N×26°.81E, h28km, MD2.8*
*CSEM **25** 18:21:25.9±0.2, 38°.09N×26°.80E, h10km, MD2.8, Error ellipse: s-maj=4.5km s-min=3.4km az=66.0*
*ATH **25** 18:21:25.8, 38°.06N×26°.74E, h27km, MD3.0/5*
*ISK **25** 18:21:25.2, 38°.08N×26°.81E, h8km, MD3.4*
ISC 25 18:21:26.4±0.9, 38°.09N±0'.02×26°.80E±0'.02, h13km±10km, n64, σ1$09/82, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZEY	**¨zmir**	**0.28**	**304**	*i* P			**Pg**	**18 21 31.8**	**-0.4**
ZEY				*i* S			**Sb**	**18 21 39.0**	**+1.2**
URLA	**Izmir**	**0.32**	**330**	*i* P			**Pg**	**18 21 33.1**	**+0.2**
URLA	**Izmir**	**0.32**	**330**	*i* P			**Pg**	**18 21 33.1**	**+0.2**
BLCB	**Balcova**	**0.36**	**33**	PG			**Pg**	**18 21 32.4**	**-1.2**
BLCB				*e*SG			**Sg**	**18 21 38.1**	**-0.4**
BLCB	**Balcova**	**0.36**	**33**	*i* Pg			**Pg**	**18 21 32.4**	**-1.2**
BLCB				*e*Sg			**Sg**	**18 21 38.1**	**-0.4**
SMG	**Samos**	**0.38**	**175**	*e*PB			**Pg**	**18 21 33.9**	**-0.1**
SMG				*e*SB			**Sb**	**18 21 40.1**	**-0.6**
SMG	**Samos**	**0.38**	**175**	*e*Pb			**Pg**	**18 21 33.9**	**-0.1**
SMG				*e*Sb			**Sb**	**18 21 40.1**	**-0.6**
IZM	**Izmir**	**0.48**	**49**	PG			**Pg**	**18 21 35.0**	**-0.9**
IZM	**Izmir**	**0.48**	**49**	*i* Pg			**Pg**	**18 21 35.0**	**-0.9**
GCAM	**G?zelcaml?**	**0.52**	**138**	*i* P			**Pg**	**18 21 36.0**	**-0.5**
GCAM	**G?zelcaml?**	**0.52**	**138**	*i* P			**Pg**	**18 21 36.0**	**-0.5**
CHOS	**Chios island**	**0.66**	**298**	*e*PG			**Pg**	**18 21 39.1**	**-0.1**
CHOS	**Chios island**	**0.66**	**298**	*e*PN			**Pg**	**18 21 38.8**	**-0.4**
CHOS				*e*SN			**Sg**	**18 21 47.9**	**0.0**
CHOS	**Chios island**	**0.66**	**298**	*e*Pn			**Pg**	**18 21 38.8**	**-0.4**
CHOS	**Chios island**	**0.66**	**298**	*e*Pg			**Pg**	**18 21 39.1**	**-0.1**
CHOS				*e*Sn			**Sg**	**18 21 47.9**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**0.88**	**99**	*e*PG			**Pb**	**18 21 42.0**	**-1.5**
AYDB	**Zeytinkoy-Aydi**	**0.88**	**99**	*e*Pg			**Pb**	**18 21 42.0**	**-1.5**
BODT	**Bodrum**	**1.10**	**158**	*e*PN			**Pn**	**18 21 46.8**	**-0.7**
BODT	**Bodrum**	**1.10**	**158**	*e*Pn			**Pn**	**18 21 46.8**	**-0.7**
AKHS	**Akhisar**	**1.12**	**45**	*i* P			**Pn**	**18 21 47.1**	**-0.8**
AKHS	**Akhisar**	**1.12**	**45**	*i* P			**Pn**	**18 21 47.1**	**-0.8**
AKHS				*i* S			**Sg**	**18 22 06.9**	**+4.1**
AKS	**Akhisar**	**1.12**	**45**	*e*PN			**Pn**	**18 21 47.2**	**-0.6**
AKS	**Akhisar**	**1.12**	**45**	*e*Pn			**Pn**	**18 21 47.2**	**-0.6**
BDRM	**Kayabasi**	**1.14**	**153**	*i* P			**Pb**	**18 21 47.6**	**-0.4**
BDRM	**Kayabasi**	**1.14**	**153**	*i* P			**Pb**	**18 21 47.6**	**-0.4**
BDRM				*i* S			**Sg**	**18 22 07.8**	**+4.6**
AYVA	**Ayvalik**	**1.22**	**356**	*i* P			**Pn**	**18 21 48.9**	**-0.3**
AYVA	**Ayvalik**	**1.22**	**356**	*i* P			**Pn**	**18 21 48.9**	**-0.3**
AYVA				*i* S			**Sg**	**18 22 08.6**	**+2.7**
PRK	**Paraskevi**	**1.23**	**341**	*e*PN			**Pb**	**18 21 49.1**	**-0.4**
PRK				*e*SN			**Sg**	**18 22 06.2**	**+0.1**
PRK	**Paraskevi**	**1.23**	**341**	*e*Pn			**Pb**	**18 21 49.1**	**-0.4**
PRK				*e*Sn			**Sg**	**18 22 06.2**	**+0.1**
SIGR	**SIGRI**	**1.34**	**327**	*e*PN			**Pn**	**18 21 50.7**	**-0.1**
SIGR	**SIGRI**	**1.34**	**327**	*e*PN			**Pn**	**18 21 50.7**	**-0.1**
SIGR				*e*SN			**Sg**	**18 22 09.3**	**-0.4**
SIGR	**SIGRI**	**1.34**	**327**	*e*Pn			**Pn**	**18 21 50.7**	**-0.1**
SIGR				*e*Sn			**Sg**	**18 22 09.3**	**-0.4**
APE	**Apeiranthos**	**1.43**	**225**	*e*PN			**Pn**	**18 21 51.3**	**-0.8**
APE	**Apeiranthos**	**1.43**	**225**	*e*PN			**Pn**	**18 21 51.2**	**-0.8**
APE	**Apeiranthos**	**1.43**	**225**	*e*Pn			**Pn**	**18 21 51.3**	**-0.8**
DAT	**Datca**	**1.49**	**155**	*e*PN			**Pn**	**18 21 52.4**	**-0.5**
DAT	**Datca**	**1.49**	**155**	*e*Pn			**Pn**	**18 21 52.4**	**-0.5**
YER	**Yerkesik**	**1.52**	**128**	*e*PN			**Pn**	**18 21 53.1**	**-0.1**
YER	**Yerkesik**	**1.52**	**128**	*e*Pn			**Pn**	**18 21 53.1**	**-0.1**
KULA	**Kula-Manisa**	**1.53**	**73**	*e*PN			**Pb**	**18 21 54.3**	**-0.3**
KULA	**Kula-Manisa**	**1.53**	**73**	*e*Pn			**Pb**	**18 21 54.3**	**-0.3**
BALB	**Balikesir**	**1.77**	**28**	*e*PN			**Pn**	**18 21 57.1**	**+0.4**
BALB	**Balikesir**	**1.77**	**28**	*e*Pn			**Pn**	**18 21 57.1**	**+0.4**
BALY	**Balya**	**1.77**	**21**	*i* P			**Pn**	**18 21 56.2**	**-0.6**
BALY	**Balya**	**1.77**	**21**	*i* P			**Pn**	**18 21 56.2**	**-0.6**
BALY				*i* S			**Sg**	**18 22 23.7**	**+0.2**
DEMI	**Demirci**	**1.78**	**57**	*i* P			**Pb**	**18 21 58.8**	**-0.2**
DEMI	**Demirci**	**1.78**	**57**	*i* P			**Pb**	**18 21 58.8**	**-0.2**
BOZC	**Bozcaada**	**1.85**	**342**	*i* P			**Pn**	**18 21 58.0**	**+0.2**
BOZC				*i* S			**Sg**	**18 22 28.0**	**+2.2**
TURN	**Turunc**	**1.88**	**130**	*i* P			**Pn**	**18 21 55.9**	**-2.3**
TURN	**Turunc**	**1.88**	**130**	*i* P			**Pn**	**18 21 55.9**	**-2.3**
TURN				*i* S			**Sg**	**18 22 27.1**	**+0.3**
DALY	**Dalyan (Mu¨la**	**1.95**	**130**	*e*PN			**Pn**	**18 21 59.4**	**+0.3**
DALY	**Dalyan (Mu¨la**	**1.95**	**130**	*e*Pn			**Pn**	**18 21 59.4**	**+0.3**
DURS	**Dursunbey**	**2.00**	**40**	*i* P			**Pn**	**18 21 59.2**	**-0.8**
DURS	**Dursunbey**	**2.00**	**40**	*i* P			**Pn**	**18 21 59.2**	**-0.8**
DURS				*i* S			**Sg**	**18 22 32.8**	**+2.1**
LIA	**Limnos Island**	**2.20**	**326**	*e*PN			**Pn**	**18 22 03.1**	**+0.5**
LIA	**Limnos Island**	**2.20**	**326**	*e*Pn			**Pn**	**18 22 03.1**	**+0.5**
FETY	**Fethiye**	**2.33**	**128**	*e*PN			**Pn**	**18 22 05.6**	**+1.2**
FETY	**Fethiye**	**2.33**	**128**	*e*Pn			**Pn**	**18 22 05.6**	**+1.2**
TVSB	**Tavsanli**	**2.49**	**56**	*e*PN			**Pn**	**18 22 07.1**	**+0.4**
TVSB	**Tavsanli**	**2.49**	**56**	*e*Pn			**Pn**	**18 22 07.1**	**+0.4**
SMTH	**Samothraki Isl**	**2.58**	**338**	*e*PN			**Pn**	**18 22 08.0**	**+0.2**
SMTH	**Samothraki Isl**	**2.58**	**338**	*e*Pn			**Pn**	**18 22 08.0**	**+0.2**
ALT	**Altintas**	**2.77**	**69**	*e*PN			**Pn**	**18

AKAS				*i* S		**Sn**	**18 24 29.4**	**-0.4**
GUR	**Goura**	**4.23**	**329**	*e*PN		**Pn**	**18 23 44.4**	**+2.0**
GUR	**Goura**	**4.23**	**329**	*e*Pn		**Pn**	**18 23 44.4**	**+2.0**
GOLH	**Golhisar**	**4.64**	**50**	*i* P		**Pn**	**18 23 49.8**	**+1.7**
GOLH				*i* S		**Sn**	**18 24 42.7**	**+0.7**
GOLH	**Golhisar**	**4.64**	**50**	*i* P		**Pn**	**18 23 49.8**	**+1.7**
GOLH				*i* S		**Sn**	**18 24 42.7**	**+0.7**
MMAI	**Mount Meron Ar**	**8.69**	**96**	Pn		**Pn**	**18 24 42.1**	**-1.5**
	1.0nm,0.3s,baz=294,slow=11,SNR=3.8							
AKASG	**Malin Array Be**	**16.63**	**9**	Pn		**Pn**	**18 26 29.9**	**-0.9**
	0.7nm,0.3s,baz=201,slow=10,SNR=6.3							
GERES	**GERESS Array B**	**16.79**	**333**	Pn		**P**	**18 26 34.4**	**-0.8**
	0.5nm,0.3s,baz=147,slow=12,SNR=8.9							
NOA	**NORSAR Array B**	**28.18**	**346**	P		**P**	**18 28 30.8**	**+0.6**
	0.4nm,0.6s,baz=147,slow=12,SNR=2.5							
TORD	**Torodi Ar. Bea**	**29.93**	**231**	P		**P**	**18 28 45.8**	**-0.3**
	0.7nm,0.6s,baz=34,slow=8.8,SNR=9.9							
MKAR	**Makanchi Array**	**44.27**	**56**	P		**P**	**18 30 46.8**	**-0.7**
	0.2nm,0.5s,baz=279,slow=6.4,SNR=5.2							
ZALV	**Zalesovo Beam**	**45.61**	**46**	P		**P**	**18 30 56.5**	**-1.5**
	0.7nm,0.4s,baz=270,slow=9.2,SNR=5.9							

WEL 25 18:41:53.0±0.2, 40.72S×173.53E, h141km±1km, ML3.5/13, 6C-2D, Error ellipse: s-maj=1.0km s-min=0.6km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUWZ	**D'Urville Isla**	**0.31**	**107**	PN	Pn	18 42 12.6	0.0
DUWZ				SN	Sn	18 42 26.4	-0.9
TCW	**Tory Channel**	**0.75**	**132**	PN	Pn	18 42 15.1	+0.2
TCW				SN	Sn	18 42 30.1	-1.4
TCW				AML	AML	18 42 30.5	
QRZ	**Quartz Range**	**0.77**	**261**	PN	Pn	18 42 14.6	-0.4
TUWZ	**Tuamarina**	**0.78**	**157**	PN	Pn	18 42 15.1	0.0
TUWZ				AML	AML	18 42 15.7	
TUWZ				AML	AML	18 42 31.8	
BSWZ	**Blackbirch Sta**	**1.03**	**166**	PN	Pn	18 42 17.5	+0.2
BSWZ				SN	Sn	18 42 34.9	-0.8
KIW	**Kapiti Island**	**1.06**	**98**	↑PN	Pn	18 42 17.4	-0.1
KIW				AML	AML	18 42 34.7	
KIW				AML	AML	18 42 35.0	
WEL	**Wellington**	**1.10**	**122**	↑PN	Pn	18 42 17.8	0.0
WEL				AML	AML	18 42 34.8	
WEL				AML	AML	18 42 35.7	
THZ	**Tophouse**	**1.15**	**204**	PN	Pn	18 42 18.4	0.0
CMWZ	**Cape Campbell**	**1.15**	**154**	PN	Pn	18 42 18.9	+0.6
BHW	**Baring Head**	**1.23**	**125**	PN	Pn	18 42 18.9	-0.2
BHW				AML	AML	18 42 37.2	
OGWZ	**Otaki Gorge**	**1.25**	**95**	PN	Pn	18 42 19.3	+0.1
NMEZ	**Namu Road**	**1.33**	**12**	PN	Pn	18 42 19.9	-0.2
LREZ	**Lake Rotokare**	**1.42**	**28**	PN	Pn	18 42 21.4	+0.3
PREZ	**Palmer Road**	**1.45**	**20**	PN	Pn	18 42 21.3	-0.2
NWEZ	**Newall Road**	**1.46**	**10**	PN	Pn	18 42 21.5	0.0
KHEZ	**Kahui Hut**	**1.47**	**15**	PN	Pn	18 42 21.5	-0.3
WAZ	**Wanganui**	**1.47**	**50**	PN	Pn	18 42 22.1	+0.5
MSWZ	**Moikau Station**	**1.48**	**119**	PN	Pn	18 42 21.5	-0.2
MSWZ				AML	AML	18 42 41.5	
MSWZ				AML	AML	18 42 42.5	
HOWZ	**Holdsworth Sta**	**1.52**	**98**	PN	Pn	18 42 21.8	-0.3
MTW	**Mount Morrison**	**1.56**	**107**	PN	Pn	18 42 22.3	-0.2
MTW				AML	AML	18 42 42.8	
MTW				AML	AML	18 42 43.6	
PLWZ	**Palliser**	**1.56**	**124**	↑PN	Pn	18 42 22.4	-0.2
MRZ	**Mangatainoka R**	**1.56**	**89**	PN	Pn	18 42 22.2	-0.4
MRZ				AML	AML	18 42 43.4	
MRZ				AML	AML	18 42 43.4	
PKE	**Pukeiti**	**1.56**	**13**	PN	Pn	18 42 22.5	-0.2
PAWZ	**Paruwai Farm**	**1.58**	**116**	↑PN	Pn	18 42 22.6	-0.2
PAWZ				AML	AML	18 42 43.3	
PAWZ				AML	AML	18 42 45.2	
DREZ	**Durham Road**	**1.61**	**19**	PN	Pn	18 42 22.9	-0.2
DSZ	**Denniston Nort**	**1.66**	**231**	PN	Pn	18 42 23.2	-0.6
KHZ	**Kahutara**	**1.70**	**180**	PN	Pn	18 42 24.2	+0.1
POWZ	**Post Office Ro**	**1.73**	**80**	PN	Pn	18 42 24.1	-0.4
TRWZ	**Traveller**	**1.77**	**113**	PN	Pn	18 42 24.9	-0.1
TRWZ				AML	AML	18 42 47.6	
TIWZ	**Tintock**	**1.79**	**93**	PN	Pn	18 42 24.8	-0.4
TIWZ				AML	AML	18 42 49.0	
TIWZ				AML	AML	18 42 50.1	
TMWZ	**Te Maipa**	**1.83**	**103**	PN	Pn	18 42 25.5	-0.2
VRZ	**Vera Road**	**1.85**	**31**	↓PN	Pn	18 42 25.5	-0.4
TSZ	**Takapari Road**	**1.97**	**71**	PN	Pn	18 42 26.7	-0.6
TSZ				AML	AML	18 42 53.9	
DVHZ	**Dannevirke**	**2.05**	**79**	PN	Pn	18 42 27.5	-0.8
BFZ	**Birch Farm**	**2.06**	**90**	PN	Pn	18 42 28.2	-0.2
TRVZ	**Turoa**	**2.10**	**48**	PN	Pn	18 42 28.7	-0.4
WNVZ	**Wahianoa**	**2.11**	**50**	↑PN	Pn	18 42 28.7	-0.5
FWVZ	**Far West T-bar**	**2.13**	**47**	PN	Pn	18 42 29.2	-0.3
MOVZ	**Moawhango**	**2.15**	**53**	PN	Pn	18 42 28.7	-0.8
WPVZ	**Whakapapa**	**2.16**	**46**	PN	Pn	18 42 29.3	-0.4
PNHZ	**Pukenui**	**2.19**	**69**	PN	Pn	18 42 29.2	-0.8
TWVZ	**Taurewa**	**2.20**	**42**	PN	Pn	18 42 29.5	-0.7
WTVZ	**West Tongariro**	**2.25**	**45**	PN	Pn	18 42 30.7	-0.1
ANWZ	**Angora Road**	**2.26**	**84**	PN	Pn	18 42 30.3	-0.4
LTZ	**Lake Taylor**	**2.27**	**204**	PN	Pn	18 42 30.2	-0.7
WPHZ	**Waipukurau**	**2.31**	**75**	PN	Pn	18 42 30.8	-0.6
PRHZ	**Porangahau**	**2.41**	**80**	PN	Pn	18 42 32.1	-0.5
KRHZ	**Kereru**	**2.42**	**65**	PN	Pn	18 42 31.7	-1.1
HIZ	**Hauiti**	**2.42**	**25**	↓PN	Pn	18 42 31.9	-0.9
PXZ	**Pawanui**	**2.63**	**76**	PN	Pn	18 42 34.7	-0.7
KAHZ	**Kahuranaki**	**2.72**	**71**	PN	Pn	18 42 35.8	-0.7
MCHZ	**McNeill Hill**	**2.74**	**63**	PN	Pn	18 42 35.9	-0.8
BKZ	**Black Stump Fm**	**2.75**	**57**	PN	Pn	18 42 35.6	-1.4
OXZ	**Oxford**	**2.83**	**203**	PN	Pn	18 42 36.5	-1.4
MRHZ	**Matea Rd**	**2.91**	**51**	PN	Pn	18 42 37.2	-1.8
CRLZ	**Canterbury Las**	**2.94**	**193**	PN	Pn	18 42 37.6	-1.6
ARHZ	**Aropaoanui**	**3.03**	**63**	PN	Pn	18 42 39.2	-1.3
MQZ	**McQueen's Vall**	**3.06**	**192**	PN	Pn	18 42 39.1	-1.7
WVZ	**Waitaha Valley**	**3.15**	**221**	PN	Pn	18 42 40.7	-1.2
WHHZ	**Waihua**	**3.29**	**61**	PN	Pn	18 42 42.1	-1.6
KNZ	**Kokohu**	**3.61**	**63**	PN	Pn	18 42 45.8	-2.1
URZ	**Urewera**	**3.70**	**50**	PN	Pn	18 42 46.9	-2.2
MWZ	**Matawai**	**3.90**	**54**	PN	Pn	18 42 49.4	-2.4
MWZ				AML	AML	18 44 04.9	
FOZ	**Fox Glacier**	**4.03**	**224**	PN	Pn	18 42 50.7	-2.7
LBZ	**Lake Benmore**	**4.42**	**213**	PN	Pn	18 42 56.7	-1.9
PUZ	**Puketiti**	**4.51**	**56**	↑PN	Pn	18 42 57.0	-2.8
WMGZ	**Waiomatatini S**	**4.77**	**54**	PN	Pn	18 43 00.6	-2.6

*ISCJB **25** 20:09:06.8±0.2, 43.73N±0.02×105.34W±0.02, h0km, mb4.0/3, Error ellipse: s-maj=2.3km s-min=2.1km az=10.0*
*NEIC **25** 20:09:06.4±0.5, 43.69N×105.18W, h0km, ML3.2, Error ellipse: s-maj=6.6km s-min=6.0km az=118.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] SSE of Gillette.
*IDC **25** 20:09:07.1±1.7, 43.82N×105.57W, h0km, mb3.9/3, mb1 3.7/8, mb1mx3.5/46, mbtmp3.6/8, ML2.8/4, MS3.2/1, Ms1 3.2/1, ms1mx2.3/41, Error ellipse: s-maj=54.0km s-min=8.1km az=147.0*
ISC 25 20:09:06.9±0.6, 43.74N±0.02×105.31W±0.02, h0km, n98, σ0§98/107, mb3.9/3, 20C-31D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I23A	**Meade Ranch, G**	**0.25**	**334**	↓P	**Pg**	**20 09 13.0**	**+1.4**
	baz=0.3						
I23A				↑S	**Sg**	**20 09 15.9**	**+1.1**
	baz=0.3						
J23A	**Dilts Ranch, B**	**0.38**	**208**	P	**Pg**	**20 09 15.3**	**+1.2**
	baz=0.4,SNR=127						
I24A	**Kuemmerle Ranc**	**0.51**	**76**	P	**Pg**	**20 09 17.6**	**+0.9**
	baz=0.4,SNR=246						
J24A	**Dixon Ranch, L**	**0.62**	**131**	↓P	**Pg**	**20 09 19.5**	**+0.7**
	baz=0.5						
J24A				↓S	**Sg**	**20 09 27.4**	**+0.4**
	baz=0.5						
H23A	**Clabaugh Cattl**	**0.82**	**356**	↓P	**Pg**	**20 09 23.0**	**+0.3**
	baz=0.9						
I22A	**9 Mile Ranch,**	**0.86**	**281**	P	**Pg**	**20 09 23.9**	**+0.5**
	baz=1.0,SNR=673						
I22A				↓S	**Sg**	**20 09 35.5**	**+1.0**
	baz=1.0						
J22A	**Midwest**	**0.91**	**249**	↓P	**Pg**	**20 09 24.3**	**0.0**
	baz=1.0						
RSSD	**Black Hills**	**1.00**	**67**	*e*Pg	**Pg**	**20 09 25.9**	**-0.2**
K23A	**Bowen Ranch, D**	**1.01**	**193**	↓P	**Pg**	**20 09 26.8**	**+0.6**
	baz=1.0						
K24A	**Anderson Ranch**	**1.08**	**160**	↑P	**Pg**	**20 09 27.7**	**+0.2**
	baz=1.0						
K24A				↑S	**Sb**	**20 09 43.1**	**-0.1**
	baz=1.0						
H22A	**Clearmont**	**1.14**	**319**	↓P	**Pg**	**20 09 28.9**	**+0.2**
	baz=1.2						
H24A	**Dirks Ranch, A**	**1.15**	**28**	↓P	**Pg**	**20 09 28.4**	**-0.4**
	baz=1.1						
H24A				↑S	**Sb**	**20 09 45.3**	**+0.2**
	baz=1.1						
J25A	**Sunshine Ranch**	**1.15**	**107**	P	**Pg**	**20 09 29.0**	**+0.1**
	baz=1.0,SNR=189						
I25A	**Rochford**	**1.18**	**76**	↑P	**Pg**	**20 09 29.3**	**-0.2**
	baz=1.1						
K22A	**Casper**	**1.40**	**220**	*e*Pn	**Pn**	**20 09 33.1**	**-0.8**
K22A	**Casper**	**1.40**	**220**	P	**Pn**	**20 09 33.3**	**-0.6**
	baz=1.4,SNR=146						
K22A				↓S	**Sb**	**20 09 53.1**	**+0.5**
	baz=1.4						
I21A	**Big Trails, Te**	**1.44**	**274**	↓P	**Pn**	**20 09 33.2**	**-1.1**
	baz=1.5						
I21A				↑S	**Sg**	**20 09 53.2**	**+0.2**
	baz=1.5						
H25A	**Fruitdale**	**1.52**	**54**	↑P	**Pn**	**20 09 35.4**	**+0.1**
	baz=1.5,SNR=34						
H25A				↑S	**Sn**	**20 09 57.1**	**+1.2**
	baz=1.5						
H21A	**Big Horn, Sher**	**1.53**	**306**	↑P	**Pb**	**20 09 35.8**	**-0.5**
	baz=1.6,SNR=41						
H21A				↓S	**Sn**	**20 09 57.0**	**+0.8**
	baz=1.6						
K25A	**Mack Ranch, Ha**	**1.54**	**136**	↑Pb	**Pg**	**20 09 36.7**	**+0.3**
	baz=1.4,SNR=50						
J21A	**Lysite**	**1.60**	**257**	P	**Pn**	**20 09 36.2**	**-0.4**
	baz=1.7,SNR=103						
J21A				↑S	**Sg**	**20 09 58.5**	**+0.2**
	baz=1.7						
G22A	**Birney**	**1.64**	**335**	↑Pb	**Pb**	**20 09 37.7**	**-0.3**
	baz=1.7						
J26A	**Sides Ranch, S**	**1.68**	**104**	↓P	**Pb**	**20 09 38.2**	**-0.5**
	baz=1.6,SNR=29						
J26A				↓Sb	**Sg**	**20 10 02.6**	**+1.7**
	baz=1.6						
G24A	**Alzada**	**1.71**	**22**	P	**Pb**	**20 09 38.7**	**-0.6**
	baz=1.7,SNR=51						
G24A				↓Sb	**Sg**	**20 10 03.2**	**+1.2**
	baz=1.7						
I26A	**New Underwood**	**1.80**	**80**	↑P	**Pb**	**20 09 40.1**	**-0.6**
	baz=1.7,SNR=21						
L25A	**Engebretsen Ra**	**1.87**	**148**	↓Pb	**Pb**	**20 09 42.0**	**0.0**
	baz=1.8						
L25A				↑Sb	**Sg**	**20 10 08.0**	**+1.1**
	baz=1.8						
K26A	**Motz Farm, Whi**	**1.87**	**123**	↓P	**Pb**	**20 09 41.5**	**-0.5**
	baz=1.8,SNR=27						
K26A				↓Sb	**Sg**	**20 10 08.3**	**+1.2**
	baz=1.8						
F23A	**Volborg**	**1.98**	**358**	↓P	**Pn**	**20 09 42.3**	**+0.6**
	baz=2.0,SNR=66						
F23A				↑Sb	**Sg**	**20 10 10.7**	**+0.1**
	baz=2.0						
G25A	**Newell**	**1.99**	**42**	↓Pb	**Pb**	**20 09 43.7**	**-0.3**
	baz=2.0						
G25A				↓Sb	**Sg**	**20 10 11.5**	**+0.7**
	baz=2.0						
G21A	**Lodge Grass**	**2.01**	**318**	↑P	**Pn**	**20 09 42.7**	**+0.5**
	baz=2.1,SNR=49						
G21A				↓Sb	**Sg**	**20 10 11.5**	**0.0**
	baz=2.1						
H26A	**Fairpoint**	**2.03**	**63**	↓Pb	**Pb**	**20 09 44.6**	**0.0**
	baz=2.0						
I20A	**Worland**	**2.05**	**277**	↓P	**Pn**	**20 09 43.3**	**+0.6**
	baz=2.1,SNR=27						
J20A	**Shoshoni**	**2.05**	**260**	↓Pb	**Pb**	**20 09 45.1**	**0.0**
	baz=2.1						
J20A				↓Sb	**Sg**	**20 10 12.8**	**0.0**
	baz=2.1						
H20A	**Greybull**	**2.08**	**292**	↓P	**Pn**	**20 09 43.4**	**+0.3**
	baz=2.2,SNR=51						
F22A	**Rosebud**	**2.15**	**342**	↑P	**Pn**	**20 09 44.1**	**+0.1**
	baz=2.2						
F24A	**Ekalaka**	**2.19**	**16**	↓P	**Pn**	**20 09 45.7**	**+1.0**
	baz=2.2,SNR=15						
PHWY	**Pilot Hill**	**2.44**	**183**	*e*Pn	**Pn**	**20 09 48.9**	**+0.6**
G20A	**Bridger**	**2.55**	**306**	↑P	**Pn**	**20 09 49.6**	**0.0**
	baz=2.6						
E22A	**Miles City**	**2.74**	**351**	↑P	**Pn**	**20 09 52.2**	**+0.1**
	baz=2.8						
E23A	**Ismay**	**2.76**	**0**	↓P	**Pn**	**20 09 52.8**	**+0.3**
	baz=2.8						
F20A	**Billings**	**2.89**	**317**	↓P	**Pn**	**20 09 54.2**	**-0.1**
	baz=3.0,SNR=36						
E24A	**Baker**	**2.91**	**14**	↓P	**Pn**	**20 09 55.2**	**+0.7**
	baz=2.9,SNR=24						
LAO	**LASA Array**	**3.02**	**348**	Pn	**Pn**	**20 09 55.3**	**-0.7**
N22A	**Wattenberg Ran**	**3.06**	**197**	↑Pb	**Pb**	**20 10 02.1**	**-0.2**
	baz=3.0						
RLMT	**Red Lodge**	**3.15**	**297**	*e*Pn	**Pn**	**20 09 58.6**	**+0.6**
BW06	**Boulder Array**	**3.25**	**254**	*e*Pn	**Pn**	**20 10 00.3**	**+0.9**
PDAR	**Pinedale Array**	**3.25**	**254**	Pn	**Pn**	**20 10 00.7**	**+1.3**
	3.5nm,0.3s,baz=66,slow=17,SNR=94						
PDAR				Lg	Lg	20 10 43.5	
	5.4nm,0.3s,baz=51,slow=27,SNR=5.3						
OGNE	**Ogallala**	**3.70**	**138**	Pn	Pn	20 09 58.7	-6.7
GCMT	**Greycliff**	**3.72**	**305**	*e*Pn	**Pn**	**20 10 06.7**	**+1.0**
LKWY	**Lake**	**3.75**	**284**	Pn	**Pn**	**20 10 09.3**	**+3.0**
LOHW	**Long Hollow**	**3.84**	**270**	*e*Pn	**Pn**	**20 10 08.6**	**+1.1**
H17A	**Grant Village**	**3.85**	**282**	*e*Pn	**Pn**	**20 10 09.9**	**+2.3**
FLWY	**Flagg Ranch**	**3.91**	**277**	*e*Pn	**Pn**	**20 10 09.7**	**+1.3**
MOOW	**Moose Ponds**	**3.94**	**272**	*e*Pn	**Pn**	**20 10 10.6**	**+1.9**
ISCO	**Idaho Springs**	**3.94**	**183**	*e*Pn	**Pn**	**20 10 07.8**	**-1.2**
SNOW	**Snow King Moun**	**3.96**	**268**	*e*Pn	**Pn**	**20 10 07.4**	**-1.7**
YNR	**Norris Junctio**	**3.98**	**286**	*e*Pn	**Pb**	**20 10 16.9**	**-1.2**
YFT	**Old Faithful**	**4.04**	**282**	*e*Pn	Pn	20 10 13.9	+3.6
REDW	**Red Top Meadow**	**4.04**	**267**	*e*Pn	Pb	20 10 15.2	-3.9
IMW	**Indian Meadow**	**4.08**	**274**	*e*Pn	**Pn**	**20 10 12.6**	**+1.9**
TPAW	**Teton Pass**	**4.10**	**268**	*e*Pn	**Pn**	**20 10 12.7**	**+1.6**
O20A	**White River Ci**	**4.21**	**212**	*e*Pn	**Pn**	**20 10 12.1**	**-0.4**
AHID	**Auburn Hatcher**	**4.34**	**259**	Pn	**Pn**	**20 10 11.9**	**-2.4**
QLMT	**Earthquake Lak**	**4.53**	**286**	Pn	**Pn**	**20 10 16.5**	**-0.4**
SMCO	**Snowmass**	**4.73**	**196**	Pn	**Pn**	**20 10 17.2**	**-2.5**
DGMT	**Dagmar**	**4.79**	**9**	*e*Pn	**Pn**	**20 10 20.7**	**+0.4**
BOZ	**Bozeman (W)**	**4.89**	**295**	*e*Pn	**Pn**	**20 10 21.4**	**-0.5**
HWUT	**Hardware Ranch**	**5.08**	**247**	*e*Pn	**Pn**	**20 10 25.0**	**+0.5**
	11nm,0.6s						
KSCO	**Kaye Shedlock'**	**5.14**	**156**	*e*Pn	**Pn**	**20 10 25.6**	**+0.4**
	34nm,0.4s						
TCUT	**Toone Canyon**	**5.22**	**242**	*e*Pn	**Pn**	**20 10 26.1**	**-0.3**
	26nm,0.5s						
EGMT	**Eagleton**	**5.29**	**326**	*e*Pn	**Pn**	**20 10 27.5**	**+0.3**
	26nm,0.6s						
DLMT	**Dillon**	**5.45**	**290**	*e*Pn	**Pn**	**20 10 30.5**	**+0.9**
	6.2nm,0.6s						
HRY	**Holter Researc**	**5.48**	**305**	*e*Pn	**Pn**	**20 10 30.6**	**+0.8**
	13nm,0.4s						
LRM	**Limekiln Ridge**	**5.49**	**295**	*e*Pn	**Pn**	**20 10 28.6**	**-1.5**
	35nm,0.5s						
MCMT	**McKenzie Canyo**	**5.52**	**284**	Pn	Pn	20 10 35.6	+5.1
	2.2nm,0.4s						
JLU	**Jordanelle**	**5.53**	**238**	Pn	Pn	20 10 26.1	-4.7
	6.9nm,0.5s						
HVU	**Hansel Valley**	**5.83**	**253**	*e*Pn	**Pn**	**20 10 35.0**	**+0.2**
	8.1nm,0.6s						
PV04	**Paradox Valley**	**5.99**	**208**	*e*Pn	Pn	20 10 33.4	-3.6
SRU	**San Rafael Swe**	**6.06**	**222**	*e*Pn	**Pn**	**20 10 37.6**	**-0.3**
	11nm,0.6s						
PV01	**Paradox Valley**	**6.12**	**205**	Pn	**Pn**	**20 10 40.8**	**+2.0**
	576nm,0.7s						
ECSD	**EROS Data Cent**	**6.30**	**87**	*e*Pn	**Pn**	**20 10 40.7**	**-0.4**
	7.9nm,0.8s						
BGU	**Big Grassy Mou**	**6.37**	**246**	*e*Pn	**Pn**	**20 10 44.4**	**+2.2**
	1.5nm,0.4s						
CHMT	**Chamberlain Mo**	**6.43**	**302**	*e*Pn	**Pn**	**20 10 43.4**	**+0.3**
	2.3nm,0.6s						
YBMT	**Yellow Bay**	**7.34**	**307**	*e*Pn	**Pn**	**20 10 56.8**	**+1.4**
	3.6nm,0.4s						
MSU	**Marysvale**	**7.36**	**227**	*e*Pn	**Pn**	**20 10 55.7**	**0.0**
	1.8nm,0.4s						
JTMT	**Jette**	**7.44**	**306**	*e*Pn	**Pn**	**20 10 56.6**	**-0.2**
	3.9nm,0.8s						
BSMT	**Bassoo Peak**	**7.79**	**305**	*e*Pn	**Pn**	**20 11 02.5**	**+0.8**
ELK	**Elko**	**7.95**	**251**	Pn	**Pn**	**20 11 05.5**	**+1.6**
	0.2nm,0.3s,baz=42,slow=14,SNR=3.8						
WALA	**Waterton Lakes**	**7.97**	**315**	*e*Pn	**Pn**	**20 11 02.6**	**-1.5**
	2.6nm,0.6s						
ULM	**Lac du Bonnet**	**9.16**	**41**	Pn	**Pn**	**20 11 19.7**	**-0.5**
	0.7nm,0.3s,baz=233,slow=13,SNR=4.9						
ULM				Pg		20 11 52.5	
	0.8nm,0.3s,baz=224,slow=14,SNR=3.4						
ULM				Lg	Lg	20 13 52.6	
	0.3nm,0.3s,baz=143,slow=20,SNR=3.2						
I56US	**NEWPORT INFRAS**	**9.38**	**303**	*i*		21 05 30.0	
	baz=114,slow=320,SNR=1.4						
WMOK	**Wichita Mounta**	**10.31**	**148**	*e*Pn	Pn	20 11 30.7	-5.4
NVAR	**Mina Array Bea**	**11.14**	**246**	Pn	**Pn**	**20 11 48.0**	**+0.4**
	0.1nm,0.3s,baz=52,slow=10,SNR=3.4						
BBB	**Bella Bella**	**17.39**	**307**	LR	LR	20 20 13.5	
	comp=Z,80nm,19.4s,baz=250,slow=39						
YKA	**Yellowknife Ar**	**19.56**	**347**	P	**P**	**20 13 34.7**	**-1.2**
	0.1nm,0.3s,baz=156,slow=12,SNR=5.7						
ARCES	**ARCESS Array B**	**61.42**	**18**	P	**P**	**20 19 23.5**	**-0.9**
	2.2nm,0.8s,baz=346,slow=10,SNR=3.3						
ZALV	**Zalesovo Beam**	**82.30**	**354**	P	**P**	**20 21 29.7**	**-0.3**
	0.5nm,0.7s,baz=5.0,slow=4.9,SNR=3.2						
MKAR	**Makanchi Array**	**89.60**	**355**	P	**P**	**20 22 05.8**	**-0.5**
	0.5nm,0.7s,baz=350,slow=3.8,SNR=6.8						

*IDC **25** 20:15:15.5±3.0, 8.43S×107.60E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/32, mbtmp3.6/4, Error ellipse: s-maj=164.4km s-min=25.0km az=50.0*
*ISCJB **25** 20:15:20.7±1.5, 8.52S±0.06×107.98E±0.05, h22km±10km, mb3.4/4, Error ellipse: s-maj=11.9km s-min=6.7km az=28.7*
*DJA **25** 20:15:23.6±0.7, 8°S±4°×10°8E±°, h20km±5km, M3.9/11, MLv3.9/11*
ISC 25 20:15:20.7±1.9, 8.47S±0.08×107.86E±0.06, h25km±15km, n12, σ1§43/18, mb3.4/4, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMJI	**Cimerak**	**0.90**	**41**	P	**Pn**	**20 15 37.7**	**0.0**
CMJI				S	**Sb**	**20 15 47.1**	**-2.1**
CISI	**Cisompet, Garu**	**0.91**	**357**	P	**Pn**	**20 15 38.6**	**+0.7**
CISI				S	**Sn**	**20 15 50.7**	**+0.5**
CNJI	**Cibinong**	**1.36**	**328**	P	**Pb**	**20 15 45.9**	**+0.5**
CNJI				S	**Sb**	**20 16 05.0**	**+2.6**
LEMI	**Lembang**	**1.65**	**352**	P	**Pb**	**20 15 50.8**	**+0.3**
LEMI				S	**Sb**	**20 16 11.1**	**+0.2**
CGJI	**Cibinong**	**2.83**	**311**	P	**Pb**	**20 16 08.2**	**-2.3**
SMRI	**Semarang**	**2.92**	**61**	P	**Pn**	**20 16 06.5**	**+0.9**
SMRI				S	**Sn**	**20 16 40.5**	**+0.5**
PCJI	**Pacitan**	**3.30**	**86**	P	**Pn**	**20 16 11.8**	**+1.0**
PWJI	**Pagerwojo**	**3.93**	**84**	P	**Pn**	**20 16 21.0**	**+1.5**
PWJI				S	**Sn**	**20 17 04.2**	**-0.7**
WRA	**Warramunga Arr**	**28.05**	**117**	P	**P**	**20 21 10.5**	**+0.2**
	0.2nm,0.6s,baz=285,slow=12,SNR=5.9						
ASAR	**Alice Springs**	**29.16**	**124**	P	**P**	**20 21 20.1**	**-0.1**
	0.2nm,0.5s,baz=297,slow=8.6,SNR=5.2						
STKA	**Stephens Creek**	**39.04**	**131**	P	**P**	**20 22 46.8**	**+1.2**
	2.1nm,0.7s,baz=306,slow=8.6,SNR=8.4						
MKAR	**Makanchi Array**	**59.55**	**340**	P	**P**	**20 25 19.9**	**-2.2**
	0.4nm,0.5s,baz=156,slow=8.7,SNR=8.2						

*ISCJB **25** 20:19:18.2±0.4, 45.23N±0.07×137.17E±0.08, h350km, mb3.4/9, Error ellipse: s-maj=11.1km s-min=5.9km az=29.6*
*IDC **25** 20:19:19.2±1.2, 45.30N×137.09E, h344km±13km, mb3.1/9, mb1 3.1/14, mb1mx3.0/37, mbtmp3.8/14, Error ellipse: s-maj=17.1km s-min=11.8km az=73.0*
*JMA **25** 20:19:19.6±0.4, 45.06N×137.24E, h352km, M3.2*
ISC 25 20:19:18.8±0.7, 45.16N±0.09×137.22E±0.07, h350km, n24, σ1§36/27, mb3.4/9, Primorye

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSK	**Shakotan**	**2.95**	**126**	P	**Pn**	**20 20 18.3**	**+0.6**
JSH	**Shimam**	**3.24**	**140**	P	**Pn**	**20 20 20.7**	**+0.4**
JWK2

*NEIC **25** 20:49:57.9±1.1,52.93N×160.44E,h49km±9km,mb4.5/18, Error ellipse: s-maj=11.6km s-min=7.6km az=140.0*
ISC 25 20:49:53.4±0.8,52.85N±0.04×160.63E±0.03,h18km±4km, n198,σ1$42/204,mb4.4/49,MS3.5/23,14C-9D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.45**	**305**	*eP*		**Pn**		**20 50 05.0**	**0.0**
SPN				*eS*		**Sb**		**20 50 11.9**	**+2.7**
SPN	**Mys Shipunski**	**0.45**	**305**	PN		**Pn**		**20 50 05.0**	**0.0**
SPN				S		**Sb**		**20 50 11.9**	**+2.7**
NLC	**Nalytchevo**	**0.84**	**293**	*eP*		**Pn**		**20 50 10.8**	**+0.4**
NLC				*eS*		**Sn**		**20 50 22.5**	**+0.1**
NLC	**Nalytchevo**	**0.84**	**293**	PN		**Pn**		**20 50 10.8**	**+0.4**
NLC				S		**Sn**		**20 50 22.5**	**+0.1**
SDLR	**Sedlovina**	**1.14**	**293**	*eP*		**Pg**		**20 50 15.7**	**+0.2**
UGLR	**Uglovaya**	**1.15**	**289**	*eP*		**Pg**		**20 50 15.9**	**+0.2**
SMAR	**Somma**	**1.18**	**291**	*eP*		**Pg**		**20 50 16.5**	**+0.2**
PET	**Petropavlovsk**	**1.21**	**279**	*eP*		**Pg**		**20 50 16.3**	**-0.5**
PET				*eS*		**Sn**		**20 50 33.3**	**+1.9**
PET	**Petropavlovsk**	**1.21**	**279**	*i*PN		**Pg**		**20 50 16.3**	**-0.5**
PET				*eS*		**Sn**		**20 50 32.1**	**+0.7**
PET				pmax		pmax			
	comp=Z,714nm,0.8s								
PET				smax		smax			
	comp=E,6μm,1.1s								
PET				smax		smax			
	comp=N,3μm,0.9s								
PET	**Petropavlovsk**	**1.21**	**279**	*e*Pg		**Pg**		**20 50 16.1**	**-0.7**
AVH	**Avacha**	**1.22**	**291**	*eP*		**Pg**		**20 50 17.0**	**0.0**
AVH				*eS*		**Sn**		**20 50 36.2**	**+4.4**
INSR	**Institute**	**1.25**	**281**	*eP*		**Pg**		**20 50 16.3**	**-1.2**
KOK	**Koryaka**	**1.28**	**291**	*eP*		**Pg**		**20 50 17.9**	**-0.3**
KRX	**Arik**	**1.30**	**294**	*eP*		**Pg**		**20 50 18.0**	**-0.6**
RUS	**Russkaya**	**1.36**	**253**	*eP*		**Pb**		**20 50 17.9**	**-0.4**
RUS				*eS*		**Sn**		**20 50 35.4**	**+0.4**
RUS	**Russkaya**	**1.36**	**253**	PN		**Pb**		**20 50 17.9**	**-0.4**
RUS				S		**Sn**		**20 50 35.4**	**+0.4**
KII	**Karymskiy**	**1.39**	**330**	*eP*		**Pg**		**20 50 20.7**	**+0.5**
MTVR	**Mutnovka**	**1.54**	**257**	*eP*		**Pb**		**20 50 20.8**	**-0.6**
MTVR				*eS*		**Sb**		**20 50 40.7**	**+0.1**
GRL	**Gorelyy**	**1.58**	**260**	*eP*		**Pb**		**20 50 22.3**	**0.0**
GRL				*eS*		**Sg**		**20 50 44.5**	**0.0**
ASAK	**Asacha**	**1.73**	**256**	*eP*		**Pb**		**20 50 24.3**	**-0.4**
PEA0B	**Petropavlovsk-**	**1.79**	**280**	*e*Pn		**Pb**		**20 50 25.0**	**-0.7**
PEA0B				*e*Sn		**Sn**		**20 50 45.6**	**-0.2**
PETK	**Petropavlovsk-**	**1.79**	**280**	Pn		**Pn**		**20 50 23.9**	**+0.4**
	comp=N,76nm,0.3s,baz=103,slow=19,SNR=346								
PETK				Lg		Lg		20 50 51.1	
	comp=N,69nm,0.3s,baz=95,slow=18,SNR=9.5								
GNL	**Ganaly**	**1.83**	**299**	*eP*		**Pg**		**20 50 27.0**	**-1.5**
MKZ	**Mys Kozlova**	**1.83**	**20**	*eP*		**Pb**		**20 50 25.9**	**-0.5**
MKZ				*eS*		**Sb**		**20 50 49.6**	**+0.6**
MKZ	**Mys Kozlova**	**1.83**	**20**	PN		**Pb**		**20 50 25.9**	**-0.5**
MKZ				S		**Sb**		**20 50 49.6**	**+0.6**
APC	**Apacha**	**2.11**	**274**	*eP*		**Pb**		**20 50 30.5**	**-0.6**
APC				*eS*		**Sb**		**20 50 57.0**	**+0.1**
KZV	**Kizimen**	**2.28**	**355**	*eP*		**Pb**		**20 50 34.1**	**0.0**
KZV				*eS*		**Sb**		**20 51 03.0**	**+0.9**
MIPR	**Malaya Ipel'ka**	**2.43**	**258**	*eP*		**Pb**		**20 50 35.7**	**-0.9**
TUMR	**Tumrok**	**2.46**	**353**	*eP*		**Pb**		**20 50 36.5**	**-0.7**
PAU	**Pauzhetka**	**2.73**	**241**	*eP*		**Pb**		**20 50 38.9**	**-2.8**
PAU	**Pauzhetka**	**2.73**	**241**	PN		**Pb**		**20 50 38.9**	**-2.8**
KMNR	**Kamenistaya**	**2.93**	**356**	*eP*		**Pb**		**20 50 44.5**	**-0.6**
KOZ	**Kozyrevsk**	**3.25**	**352**	*eP*		**Pb**		**20 50 49.0**	**-1.6**
KOZR	**Kozyr**	**3.26**	**353**	PN		**Pb**		**20 50 49.0**	**-1.7**
ESO	**Esso**	**3.29**	**341**	*eP*		Pb		20 50 47.8	-3.4
ESO	**Esso**	**3.29**	**341**	PN		Pb		20 50 47.8	-3.4
SRDR	**Sredinnyy**	**3.52**	**352**	*eP*		**Pb**		**20 50 52.2**	**-3.0**
SKR	**Severo-Kuril's**	**3.54**	**234**	*eP*		**Pn**		**20 50 49.4**	**+1.9**
SKR				*eS*		**Sn**		**20 51 28.4**	**-0.5**
SKR	**Severo-Kuril's**	**3.54**	**234**	*e*PN		Pn		20 50 42.3	-5.2
SKR				pmax		pmax			
	comp=Z,80nm,0.5s								
SKR				MLR		MLR			
	comp=Z,3μm,14.0s								
KBTR	**Krutoberegovo**	**3.60**	**20**	*eP*		Pn		20 50 51.7	+3.4
KBTR	**Krutoberegovo**	**3.60**	**20**	PN		Pn		20 50 51.7	+3.4
BKI	**Bering**	**3.94**	**51**	*eP*		**Pn**		**20 50 54.1**	**+1.2**
BKI				*eS*		**Sn**		**20 51 35.4**	**-3.2**
BKI	**Bering**	**3.94**	**51**	PN		**Pn**		**20 50 54.1**	**+1.2**
SEY	**Seymchan**	**11.01**	**340**	*e*PN		Pn		20 52 35.9	+6.0
UGL	**Uglegorsk**	**12.29**	**260**	*e*PN		**Pn**		**20 52 46.2**	**-1.2**
YUK	**Yuzh-Kuril'sk**	**13.16**	**234**	*e*PN		**Pn**		**20 52 59.5**	**+0.2**
ASAJ	**Asahikawa**	**14.78**	**241**	LR		LR		21 00 12.8	
	comp=Z,111nm,18.1s,baz=150,slow=42								
BILL	**Bilibino**	**15.48**	**8**	*eP*		**Pn**		**20 53 31.4**	**+0.8**
BILL				pmax		pmax			
	comp=Z,2.0nm,1.1s								
BILL				MLR		MLR			
	comp=Z,247nm,22.0s								
BILL	**Bilibino**	**15.48**	**8**	*e*Pn		**P**		**20 53 34.1**	**-0.8**
	comp=Z,15nm,0.9s								
HABR	**Khabarovsk**	**16.76**	**265**	*eP*		**Pn**		**20 53 45.7**	**-1.4**
HABR				*eS*		**Sn**		**20 56 50.3**	**-2.4**
HABR				MLR		MLR			
	comp=Z,307nm,18.0s								
KLR	**Kul'dur**	**18.46**	**270**	*eP*		**P**		**20 54 06.7**	**-1.3**
KLR				MLR		MLR			
	comp=Z,600nm,12.0s								
YAK	**Yakutsk**	**18.85**	**311**	*eP*		**P**		**20 54 11.8**	**-0.3**
YAK				pmax		pmax			
	comp=Z,20nm,0.9s								
YAK				pmax		pmax			
	comp=E,10.0nm,1.1s								
YAK				pmax		pmax			
	comp=N,5.0nm,1.0s								
YAK				MLR		MLR			
	comp=N,70nm,13.0s								
YAK				MLR		MLR			
	comp=Z,268nm,18.0s								
YAK				MLR		MLR			
	comp=E,138nm,16.0s								
YAK	**Yakutsk**	**18.85**	**311**	*eP*		**P**		**20 54 11.6**	**-0.5**
	comp=E,17nm,0.6s								
USRK	**Ussuriysk Ar.**	**20.73**	**257**	P		**P**		**20 54 31.2**	**-1.6**
	comp=E,6.2nm,0.9s,baz=74,slow=9.9,SNR=8.2								
USRK				LR		LR		21 03 18.2	
	comp=E,223nm,18.5s,baz=64,slow=39								
MJA0	**Matsu Arr-Jizo**	**22.63**	**233**	*eP*		**P**		**20 54 57.5**	**+4.2**
MJA0				pmax		pmax			
	comp=Z,8.0nm,0.8s								
MAJO	**Matsushiro**	**22.65**	**233**	*eP*		**P**		**20 54 54.9**	**+1.4**
MAJO				pmax		pmax			
	comp=Z,11nm,0.7s								
MAJO	**Matsushiro**	**22.65**	**233**	*eP*		**P**		**20 54 54.9**	**+1.4**
	comp=Z,11nm,0.7s								
MAT	**Matsushiro**	**22.65**	**233**	P		**P**		**20 54 54.6**	**+1.1**
MJAR	**Matsushiro Arr**	**22.65**	**233**	P		**P**		**20 54 54.7**	**+1.2**
	comp=Z,8.3nm,0.8s,baz=20,slow=10,SNR=17								
MJAR				LR		LR		21 04 00.7	
	comp=Z,112nm,21.8s,baz=35,slow=38								
TIXI	**Tiksi**	**23.44**	**335**	*eP*		**P**		**20 55 00.7**	**-0.6**
TIXI				pmax		pmax			
	comp=Z,7.0nm,1.0s								
TIXI	**Tiksi**	**23.44**	**335**	*eP*		**P**		**20 54 59.8**	**-1.4**
	comp=Z,7.0nm,1.0s								
BOD	**Bodaibo**	**26.55**	**300**	*eP*		**P**		**20 55 27.3**	**-2.6**
BOD				pmax		pmax			
	comp=Z,7.0nm,1.6s								
KSRS	**Korea Array**	**27.43**	**249**	P		**P**		**20 55 39.3**	**+1.4**
	comp=Z,3.2nm,0.9s,baz=41,slow=8.2,SNR=4.5								
KSRS				LR		LR		21 07 28.9	
	comp=Z,68nm,18.2s,baz=50,slow=39								
KSRS	**Korea Array**	**27.43**	**249**	*eP*		**P**		**20 55 40.8**	**+2.9**
KSRS				pmax		pmax			
	comp=Z,3.0nm,0.9s								
KSAR	**Wonju Array Be**	**27.46**	**249**	P		**P**		**20 55 39.3**	**+1.1**
KSAR	**Wonju Array Be**	**27.46**	**249**	P		**P**		**20 55 39.3**	**+1.1**
ILAR	**Eielson Array**	**28.76**	**45**	P		**P**		**20 55 50.1**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=261,slow=8.3,SNR=5.4								
ILAR				LR		LR		21 08 32.6	
	comp=Z,62nm,18.1s,baz=281,slow=39								
JNU	**Nakatsue**	**29.04**	**239**	LR		LR		21 07 04.1	
	comp=Z,60nm,18.3s,baz=35,slow=36								
H11N2	**WAKE ISLAND Hy**	**33.41**	**169**	T		T		21 32 00.3	
	baz=353,slow=76,SNR=126								
H11N3	**WAKE ISLAND Hy**	**33.42**	**169**	T		T		21 31 56.2	
	baz=353,slow=76,SNR=111								
H11N1	**WAKE ISLAND Hy**	**33.42**	**169**	T		T		21 31 56.5	
	baz=353,slow=76,SNR=149								
TLY	**Talaya**	**34.12**	**291**	*eP*		**P**		**20 56 37.5**	**+0.6**
TLY				pmax		pmax			
	comp=Z,4.0nm,1.4s								
TLY				MLR		MLR			
	comp=Z,60nm,14.0s								
TLY	**Talaya**	**34.12**	**291**	P		**P**		**20 56 37.0**	**+0.1**
SONM	**Songino Array**	**34.28**	**284**	P		**P**		**20 56 38.1**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=53,slow=7.7,SNR=6.2								
SONM				PcP		**PcP**		**20 59 14.7**	**+0.3**
	comp=Z,1.4nm,0.9s,baz=352,slow=1.1,SNR=6.9								
SONM				LR		LR		21 11 46.4	
	comp=Z,132nm,19.2s,baz=86,slow=38								
H11S1	**WAKE ISLAND Hy**	**34.59**	**170**	T		T		21 34 21.2	
	baz=352,slow=76,SNR=33								
H11S3	**WAKE ISLAND Hy**	**34.60**	**170**	T		T		21 34 22.0	
	baz=352,slow=76,SNR=39								
H11S2	**WAKE ISLAND Hy**	**34.61**	**170**	T		T		21 33 51.3	
	baz=352,slow=76,SNR=26								
HHC	**Hu-ho-hao-te**	**34.97**	**270**	*eP*		**P**		**20 56 46.0**	**+1.6**
HHC				PP		**PnPn**		**20 58 02.0**	**+0.7**
HHC				S		**S**		**21 02 15.8**	**+0.5**
HHC				SS		**SnSn**		**21 04 28.0**	**-2.5**
HHC				ScS		**ScS**		**21 07 04.8**	**+0.2**
HHC				PMZ					
	comp=Z,16nm,0.7s								
HHC				LN					
	comp=Z,150nm,14.8s								
HHC				LE					
	comp=Z,200nm,14.8s								
HHC				LZ					
	comp=Z,110nm,14.8s								
BBB	**Bella Bella**	**41.71**	**61**	LR		LR		21 13 36.7	
	comp=Z,51nm,18.4s,baz=295,slow=34								
GTA	**Gaotai**	**42.96**	**277**	*eP*		**P**		**20 57 52.0**	**+0.6**
GTA				pP		**pP**		**20 57 56.3**	**-0.5**
GTA				sP		**sP**		**20 57 59.3**	**+0.3**
GTA				PMZ					
	comp=Z,4.0nm,1.0s								
YKA	**Yellowknife Ar**	**43.12**	**43**	P		**P**		**20 57 52.2**	**0.0**
	comp=Z,0.7nm,0.8s,baz=301,slow=8.3,SNR=6.3								
ZALV	**Zalesovo Beam**	**43.19**	**303**	P		**P**		**20 57 51.0**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=73,slow=5.1,SNR=5.2								
ZALV				PcP		**PcP**		**20 59 42.5**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=36,slow=5.9,SNR=3.6								
ZALV				LR		LR		21 17 02.8	
	comp=Z,107nm,18.5s,baz=70,slow=38								
ZALV	**Zalesovo Beam**	**43.19**	**303**	*eP*		**P**		**20 57 51.8**	**-1.0**
NVS	**Novosibirsk**	**43.52**	**305**	*eP*		**P**		**20 57 52.9**	**-2.6**
NVS				pmax		pmax			
	comp=Z,8.0nm,0.8s								
NVS				pmax		pmax			
	comp=N,1.0nm,0.4s								
NVS				pmax		pmax			
	comp=E,1.0nm,0.4s								
KURK	**Kurchatov**	**48.14**	**302**	*eP*		**P**		**20 58 30.4**	**-1.6**
KURK				pmax		pmax			
	comp=Z,17nm,1.4s								
KURK	**Kurchatov**	**48.14**	**302**	*eP*		**P**		**20 58 30.4**	**-1.6**
	comp=Z,17nm,1.4s								
MK31	**Makanchi Array**	**48.56**	**296**	*eP*		**P**		**20 58 33.8**	**-1.5**
MK31	**Makanchi Array**	**48.56**	**296**	*eP*		**P**		**20 58 33.8**	**-1.5**
MKAR	**Makanchi Array**	**48.56**	**296**	P		**P**		**20 58 33.4**	**-2.0**
	comp=Z,0.5nm,0.5s,baz=54,slow=7.0,SNR=12								
MKAR				LR		LR		21 20 15.6	
	comp=Z,43nm,18.3s,baz=44,slow=38								
MKAR	**Makanchi Array**	**48.56**	**296**	*eP*		**P**		**20 58 33.9**	**-1.4**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.5s								
NEW	**Newport**	**49.74**	**60**	LR		LR		21 17 47.4	
	comp=Z,48nm,19.2s,baz=321,slow=34								
BRVK	**Borovoye**	**50.83**	**309**	*eP*		**P**		**20 58 51.7**	**-0.8**
BRVK				pmax		pmax			
	comp=Z,1.0nm,0.9s								
BRVK	**Borovoye**	**50.83**	**309**	*eP*		**P**		**20 58 51.6**	**-0.8**
	comp=Z,1.4nm,0.6s								
BSMT	**Bassoo Peak**	**51.23**	**59**	*eP*		**P**		**20 58 54.1**	**-1.7**
	comp=Z,1.4nm,0.7s								
ARCES	**ARCESS Array B**	**53.62**	**342**	P		**P**		**20 59 12.9**	**-0.2**
	comp=Z,8.0nm,1.0s,baz=44,slow=11,SNR=6.1								
ARCES				LR		LR		21 29 13.4	
	comp=Z,31nm,18.0s,baz=56,slow=44								
ARCES	**ARCESS Array B**	**53.62**	**342**	*eP*		**P**		**20 59 13.9**	**+0.9**
ARCES				pmax		pmax			
	comp=Z,8.0nm,1.0s								
ARU	**Arti**	**53.80**	**318**	*c iP*		**P**		**20 59 14.2**	**-0.3**
ARU								21 00 26.4	
ARU				S		**S**		**21 06 43.4**	**-4.5**
ARU				pmax		pmax			
	comp=Z,6.0nm,1.2s								
ARU	**Arti**	**53.80**	**318**	*eP*		**P**		**20 59 14.2**	**-0.3**
	comp=Z,3.5nm,0.8s								
SUMG	**Summit**	**54.17**	**7**	*eP*		**P**		**20 59 18.5**	**+1.0**
SUMG				pmax		pmax			
	comp=Z,12nm,1.0s								
SUMG	**Summit**	**54.17**	**7**	*eP*		**P**		**20 59 18.4**	**+1.0**
	comp=Z,12nm,1.0s								
TKM2	**Tokmak 2**	**54.69**	**296**	P		**P**		**20 59 21.1**	**-0.3**
TKM2				pmax		pmax			
	comp=Z,2.0nm,0.8s								
TKM2	**Tokmak 2**	**54.69**	**296**	P		**P**		**20 59 21.1**	**-0.3**
	comp=Z,2.1nm,0.8s								
LSA	**Lhasa**	**54.77**	**274**	P		**P**		**20 59 21.8**	**-0.7**
LSA	**Lhasa**	**54.77**	**274**	P		**P**		**20 59 21.8**	**-0.7**
EKS2	**Erkin-Say**	**55.85**	**297**	*eP*		**P**		**20 59 29.1**	**-0.6**
EKS2				pmax		pmax			
	comp=Z,5.0nm,1.0s								
EKS2	**Erkin-Say**	**55.85**	**297**	*eP*		**P**		**20 59 29.1**	**-0.6**
	comp=Z,4.7nm,1.0s								
KKAR	**Karatay Array**	**57.29**	**299**	*eP*		**P**		**20 59 38.8**	**-1.0**
KKAR				pmax		pmax			
	comp=Z,4.0nm,1.0s								
KKAR	**Karatay Array**	**57.29**	**299**	*eP*		**P**		**20 59 38.8**	**-1.0**
	comp=Z,3.6nm,1.0s								
PDAR	**Pinedale Array**	**57.36**	**61**	P		**P**		**20 59 41.6**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=330,slow=5.1,SNR=5.3								
FRB	**Frobisher Bay**	**57.60**	**23**	LR		LR		21 26 25.3	
	comp=Z,32nm,19.5s,baz=305,slow=38								
CM31	**Chiang Mai Arr**	**58.45**	**259**	P		P		20 59 44.7	-3.5
CMAR	**Chiang Mai Arr**	**58.45**	**259**	P		**P**		**20 59 47.9**	**-0.3**
	comp=Z,1.9nm,0.9s,baz=21,slow=6.2,SNR=7.4								
CMAR				LR		LR		21 28 55.6	
	comp=Z,74nm,18.3s,baz=203,slow=40								
CMAR	**Chiang Mai Arr**	**58.45**	**259**	*eP*		**P**		**20 59 49.5**	**+1.3**
CMAR				pmax		pmax			
	comp=Z,2.0nm,0.9s								
FIA1	**FINESS Array S**	**60.48**	**337**	*eP*		**P**		**21 00 01.6**	**+0.1**
FINES	**FINESS Array B**	**60.48**	**337**	P		**P**		**21 00 02.2**	**+0.7**
	comp=Z,5.3nm,0.7s,baz=45,slow=6.1,SNR=19								
FINES				LR		LR		21 32 57.7	
	comp=Z,29nm,18.4s,baz=34,slow=43								
OBN	**Obninsk**	**62.90**	**328**	*i*P		**P**		**21 00 18.6**	**+0.6**
OBN				*e*				21 02 35.2	
OBN				pmax		pmax			
	comp=Z,11nm,1.2s								
OBN				MLR		MLR			
	comp=Z,63nm,20.0s								
NB2	**NORSAR Subarra**	**63.87**	**344**	P		**P**		**21 00 24.7**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=24,slow=6.5								
NOA	**NORSAR Array B**	**63.87**	**344**	P		**P**		**21 00 25.2**	**+0.8**
	comp=Z,4.4nm,0.9s,baz=22,slow=6.5,SNR=9.7								
KBL	**Kabul**	**64.22**	**294**	P		**P**		**21 00 30.3**	**+2.9**
KBL	**Kabul**	**64.22**	**294**	P		**P**		**21 00 30.3**	**+2.9**
AKASG	**Malin Array Be**	**68.99**	**329**	P		**P**		**21 00 57.6**	**+0.3**
	comp=Z,4.0nm,0.6s,baz=30,slow=6.1,SNR=25								
AKBB	**Malin Array Si**	**68.99**	**329**	*eP*		**P**		**21 00 57.4**	**+0.1**
AKBB	**Malin Array Si**	**68.99**	**329**	*eP*		**P**		**21 00 57.4**	**+0.1**
KIEV	**Kiev**	**69.00**	**329**	*i*P		**P**		**21 00 57.9**	**+0.6**
KIEV	**Kiev**	**69.00**	**329**	*eP*		**P**		**21 00 57.2**	**-0.1**
	comp=Z,8.8nm,1.0s								
AK02	**Malin Array Si**	**69.04**	**329**	*eP*		**P**		**21 00 57.2**	**-0.4**
KIV	**Kislovodsk**	**69.84**	**317**	*eP*		**P**		**21 01 01.6**	**-1.2**
KIV				pmax		pmax			
	comp=Z,4.0nm,0.9s								
KIV				MLR		MLR			
	comp=Z,60nm,17.0s								
KIV	**Kislovodsk**	**69.84**	**317**	P		**P**		**21 01 02.7**	**-0.1**
KBZ	**Khabaz**	**69.94**	**317**	P		**P**		**21 01 04.4**	**+1.2**
	comp=Z,7.0nm,0.9s,baz=56,slow=24,SNR=12								
TXAR	**Lajitas Array**	**70.43**	**67**	P		**P**		**21 01 08.4**	**+1.8**
	comp=Z,0.7nm,0.7s,baz=308,slow=4.1,SNR=9.5								
STHS	**Stebnicka Huta**	**72.46**	**334**	*eP*		**P**		**21 01 20.1**	**+1.6**
STHS				pmax		pmax			
	comp=Z,5.0nm,1.0s								
STHS	**Stebnicka Huta**	**72.46**	**334**	*eP*		**P**		**21 01 20.1**	**+1.6**
KOLS	**Kolonicke sedl**	**72.62**	**333**	*eP*		**P**		**21 01 20.3**	**+0.9**
KOLS				pmax		pmax			
	comp=Z,5.0nm,1.2s								
KOLS	**Kolonicke sedl**	**72.62**	**333**	*eP*		**P**		**21 01 20.3**	**+0.9**
CLL	**Collm**	**72.70**	**339**	*e*P		**P**		**21 01 21.0**	**+1.2**
	comp=Z,7.0nm,1.1s								
CLL				*i*				21 01 29.1	
CLL	**Collm**	**72.70**	**339**	*e*P		**P**		**21 01 21.0**	**+1.2**
CLL				*i*				21 01 29.1	
CLL				pmax		pmax			
	comp=Z,7.0nm,1.1s								
UPC	**Upice**	**72.78**	**337**	*eP*		**P**		**21 01 22.3**	**+2.0**
UPC				*e*pP		PcP		21 01 31.5	-6.0
UPC	**Upice**	**72.78**	**337**	*eP*		**P**		**21 01 22.3**	**+2.0**
UPC				*e*				21 01 31.5	
DPC	**Dobruska-Polom**	**72.85**	**337**	*eP*		**P**		**21 01 21.7**	**+0.9**
DPC				*ex*		x		21 01 29.8	
DPC				*e*pP		PcP		21 01 32.7	-5.2
DPC				*ex*		x		21 01 36.5	
DPC	**Dobruska-Polom**	**72.85**	**337**	*eP*		**P**		**21 01 21.7**	**+0.9**
DPC				*e*				21 01 29.8	
DPC				*e*				21 01 32.7	
DPC				*e*				21 01 36.5	
BUR08	**Bucovina Ar. S**	**72.93**	**330**	*eP*		**P**		**21 01 22.0**	**+0.6**
BURAR	**Bucovina Array**	**72.95**	**330**	*i*P		**P**		**21 01 22.6**	**+1.1**
PVCC	**Panska Ves**	**73.09**	**338**	*eP*		**P**		**21 01 24.5**	**+2.4**
PVCC				*e*pP		PcP		21 01 32.7	-6.1
PVCC	**Panska Ves**	**73.09**	**338**	*eP*		**P**		**21 01 24.5**	**+2.4**
PVCC				*e*				21 01 32.7	
TRPA	**Tarpa**	**73.27**	**332**	*i*P		**P**		**21 01 24.5**	**+1.3**
TESR	**Tescani**	**73.50**	**329**	*i*P		**P**		**21 01 25.2**	**+0.6**
PRU	**Pruhonice**	**73.60**	**338**	*eP*		**P**		**21 01 27.0**	**+1.8**
PRU				*ex*		x		21 01 34.8	
PRU	**Pruhonice**	**73.60**	**338**	*eP*		**P**		**21 01 27.0**	**+1.8**
PRU				*e*				21 01 34.8	
VRAC	**Vranov**	**73.75**	**336**	*i*P		**P**		**21 01 28.3**	**+2.2**
NKC	**Novy Kostel**	**73.83**	**339**	*eP*		**P**		**21 01 28.9**	**+2.3**
NKC				*ex*		x		21 01 36.0	
NKC	**Novy Kostel**	**73.83**	**339**	*eP*		**P**		**21 01 28.9**	**+2.3**
NKC				*e*				21 01 36.0	
VYHS	**Vyhne**	**73.94**	**335**	*eP*		**P**		**21 01 28.5**	**+1.3**
VYHS				pmax		pmax			
	comp=Z,2.0nm,1.0s								
VYHS	**Vyhne**	**73.94**	**335**	*eP*		**P**		**21 01 28.5**	**+1.3**
VRI	**Vrincioaia**	**74.05**	**328**	*i*P		**P**		**21 01 30.6**	**+2.7**
PSZ	**Piszkesteto**	**74.19**	**334**	P		**P**		**21 01 29.4**	**+0.6**
PSZ				pmax		pmax			
	comp=Z,5.0nm,1.0s								
PSZ	**Piszkesteto**	**74.19**	**334**	P		**P**		**21 01 29.4**	**+0.6**
	comp=Z,5.3nm,1.0s								
CFR	**Carcaliu**	**74.20**	**327**	*i*P		**P**		**21 01 29.1**	**+0.4**
KHC	**Kasperske Hory**	**74.62**	**338**	*eP*		**P**		**21 01 33.1**	**+1.9**
KHC				*ex*		x		21 01 41.1	
KHC				*e*pP		**PcP**		**21 01 44.5**	**-1.0**
KHC				*ex*		x		21 01 47.2	
KHC	**Kasperske Hory**	**74.62**	**338**	*eP*		**P**		**21 01 33.1**	**+1.9**
KHC				*e*				21 01 41.1	
KHC				*e*				21 01 44.5	
KHC				*e*				21 01 47.2	
MLR	**Muntele Rosu**	**74.63**	**329**	*i*P		**P**		**21 01 33.3**	**+1.9**
GERES	**GERESS Array B**	**74.86**	**338**	P		**P**		**21 01 33.3**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=22,slow=4.3,SNR=7.5								
GERES				LR		LR		21 38 47.8	
	comp=Z,40nm,18.2s,baz=20,slow=39								
GERES	**GERESS Array B**	**74.86**	**338**	*eP*		**P**		**21 01 34.4**	**+1.7**
GERES				pmax		pmax			
	comp=Z,1.0nm,0.7s								
VOIR		**74.96**	**329**	*i*P		**P**		**21 01 35.2**	**+1.9**
ARR	**

Error ellipse: s-maj=27.8km s-min=9.3km az=150.8
*IDC **25** 21:16:24.1±1.1,23.47N×94.47E,h0km,mb3.4/6, mb1 3.6/6,mb1mx3.3/27,mbtmp3.4/6,Error ellipse: s-maj=81.5km s-min=19.4km az=57.0*

ISC 25 21:16:25.5±1.1,23.3N±0.1×94.4E±0.2,h10km,n8,σ1§00/9, mb3.6/6,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.53**	**343**	*eP*	Pg	21 17 00.0	+5.1
IMP				*eS*	**Sg**	**21 17 15.5**	**+0.8**
SHL	**Shillong**	**3.22**	**315**	*ePN*	**Pb**	**21 17 23.0**	**+0.1**
SHL				*eSN*	**Sn**	**21 17 55.2**	**+0.4**
MKAR	**Makanchi Array**	**25.38**	**340**	P	**P**	**21 21 52.8**	**-0.1**
	0.7nm,0.5s,baz=155,slow=9.8,SNR=14						
KURBB	**Kurchatov Arra**	**29.94**	**340**	P	**P**	**21 22 32.2**	**-1.4**
	0.1nm,0.5s,baz=148,slow=5.5,SNR=3.0						
BVAR	**Borovoye Array**	**34.83**	**334**	P	**P**	**21 23 15.0**	**-1.5**
	0.2nm,0.4s,baz=128,slow=16,SNR=4.6						
WRA	**Warramunga Arr**	**58.01**	**135**	P	**P**	**21 26 19.3**	**+0.5**
	0.4nm,0.7s,baz=324,slow=7.5,SNR=9.5						
ASAR	**Alice Springs**	**60.43**	**138**	P	**P**	**21 26 36.3**	**+0.8**
	0.4nm,0.6s,baz=322,slow=6.9,SNR=4.9						
TORD	**Torodi Ar. Bea**	**87.34**	**283**	P	**P**	**21 29 13.5**	**+0.2**
	0.2nm,0.5s,baz=64,slow=2.6,SNR=3.3						

*ISCJB **25** 21:18:42.0±0.2,63.57N±0.03×127.06W±0.04,h10km, mb3.4/5,Error ellipse: s-maj=4.9km s-min=2.4km az=4.3*
*IDC **25** 21:18:44.2±0.6,63.49N×127.07W,h0km,mb3.4/5, mb1 3.7/8,mb1mx3.5/41,mbtmp3.5/8,ML3.8/3,MS3.0/1, Ms1 3.0/1,ms1mx2.3/32,Error ellipse: s-maj=11.5km s-min=8.6km az=14.0*
*PGC **25** 21:18:45.4±2.9,63.49N×127.05W,h5km,ML4.2/4, 204km south of Norman Wells, Nt Northwest Territories, Canada*
*NEIC **25** 21:18:45.4,63.49N×127.05W,h5km,ML4.2(OTT), After OTT.*

ISC 25 21:18:44.4±0.6,63.58N±0.04×126.94W±0.04,h10km,n92, σ1§59/107,mb3.6/5,Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROMN	**Roman Lake**	**4.00**	**75**	Pn	**Pn**	**21 19 47.4**	**+1.7**
ROMN				Sn	**Sn**	**21 20 32.5**	**-0.2**
ROMN	**Roman Lake**	**4.00**	**75**	Pn	**Pn**	**21 19 47.4**	**+1.7**
ROMN				Sn	**Sn**	**21 20 32.5**	**-0.2**
GALN	**Gameti Lake**	**4.29**	**79**	Pn	**Pn**	**21 19 51.3**	**+1.5**
GALN				Sn	**Sn**	**21 20 39.2**	**-0.6**
GALN	**Gameti Lake**	**4.29**	**79**	Pn	**Pn**	**21 19 51.3**	**+1.5**
GALN				Sn	**Sn**	**21 20 39.2**	**-0.6**
FNBB	**Fort Nelson**	**5.08**	**156**	Pn	**Pn**	**21 19 59.6**	**-0.9**
FNBB				Sn	**Sn**	**21 20 55.9**	**-3.2**
FNBB	**Fort Nelson**	**5.08**	**156**	Pn	**Pn**	**21 19 59.6**	**-0.9**
FNBB				Sn	**Sn**	**21 20 55.9**	**-3.2**
DLBC	**Dease Lake**	**5.38**	**198**	Pn	**Pn**	**21 20 03.9**	**-0.8**
DLBC				Sg	**Sb**	**21 21 27.7**	**+4.7**
DLBC	**Dease Lake**	**5.38**	**198**	Pn	**Pn**	**21 20 04.1**	**-0.6**
	3.4nm,0.3s,baz=21,slow=9.4,SNR=33						
DLBC				Sn	**Sn**	**21 21 10.1**	**+3.4**
	6.3nm,0.3s,baz=146,slow=20,SNR=3.8						
DLBC				Lg	Lg	21 21 29.3	
	11nm,0.3s,baz=127,slow=26,SNR=7.5						
INK	**Inuvik**	**5.45**	**333**	Pn	**Pn**	**21 20 07.2**	**+1.6**
	baz=162,slow=8.7						
INK				Sn	**Sn**	**21 21 06.8**	**-1.4**
	3.6nm,0.3s,baz=250,slow=13,SNR=1.7						
INK				Lg	Lg	21 21 34.7	
	4.5nm,0.3s,baz=238,slow=30,SNR=7.1						
DAWY	**Dawson**	**5.54**	**281**	Pn	**Pn**	**21 20 06.6**	**-0.2**
DAWY	**Dawson**	**5.54**	**281**	*ePn*	**Pn**	**21 20 06.5**	**-0.2**
DAWY				*eSn*	**Sn**	**21 21 09.9**	**-0.5**
YKR1	**Yellowknife Ar**	**5.57**	**96**	Pn	**Pn**	**21 20 08.2**	**+1.0**
YKR1	**Yellowknife Ar**	**5.57**	**96**	Pn	**Pn**	**21 20 08.2**	**+1.0**
YKR2	**Yellowknife Ar**	**5.59**	**96**	Pn	**Pn**	**21 20 08.5**	**+1.0**
YKR2	**Yellowknife Ar**	**5.59**	**96**	Pn	**Pn**	**21 20 08.5**	**+1.0**
YKR4	**Yellowknife Ar**	**5.63**	**96**	Pn	**Pn**	**21 20 08.9**	**+0.9**
YKR4	**Yellowknife Ar**	**5.63**	**96**	Pn	**Pn**	**21 20 08.9**	**+0.9**
YKR5	**Yellowknife Ar**	**5.65**	**96**	Pn	**Pn**	**21 20 09.2**	**+0.8**
YKR5	**Yellowknife Ar**	**5.65**	**96**	Pn	**Pn**	**21 20 09.2**	**+0.8**
HYT	**Haines Junctio**	**5.66**	**246**	Pn	**Pn**	**21 20 08.0**	**-0.7**
HYT	**Haines Junctio**	**5.66**	**246**	*ePn*	**Pn**	**21 20 08.2**	**-0.5**
HYT				*eSn*	**Sn**	**21 21 12.8**	**-1.0**
YKR6	**Yellowknife Ar**	**5.67**	**96**	Pn	**Pn**	**21 20 09.4**	**+0.7**
YKR6	**Yellowknife Ar**	**5.67**	**96**	Pn	**Pn**	**21 20 09.4**	**+0.7**
YKB0	**Yellowknife Ar**	**5.69**	**94**	Pn	**Pn**	**21 20 10.0**	**+1.1**
YKB0	**Yellowknife Ar**	**5.69**	**94**	Pn	**Pn**	**21 20 10.0**	**+1.1**
YKB9	**Yellowknife Ar**	**5.69**	**95**	Pn	**Pn**	**21 20 09.9**	**+1.0**
YKB9	**Yellowknife Ar**	**5.69**	**95**	Pn	**Pn**	**21 20 09.9**	**+1.0**
YKW3	**Yellowknife Ar**	**5.69**	**95**	Pn	**Pn**	**21 20 10.0**	**+1.0**
YKW3	**Yellowknife Ar**	**5.69**	**95**	Pn	**Pn**	**21 20 10.0**	**+1.0**
YKB8	**Yellowknife Ar**	**5.70**	**95**	Pn	**Pn**	**21 20 09.9**	**+1.0**
YKB8	**Yellowknife Ar**	**5.70**	**95**	Pn	**Pn**	**21 20 09.9**	**+1.0**
YKB7	**Yellowknife Ar**	**5.71**	**95**	Pn	**Pn**	**21 20 10.1**	**+1.0**
YKB7	**Yellowknife Ar**	**5.71**	**95**	Pn	**Pn**	**21 20 10.1**	**+1.0**
YKB6	**Yellowknife Ar**	**5.71**	**95**	Pn	**Pn**	**21 20 10.2**	**+1.0**
YKB6	**Yellowknife Ar**	**5.71**	**95**	Pn	**Pn**	**21 20 10.2**	**+1.0**
YKA	**Yellowknife Ar**	**5.72**	**95**	Pn	**Pn**	**21 20 10.3**	**+1.1**
	2.0nm,0.3s,baz=279,slow=13,SNR=42						
YKA				Pg	**Pg**	**21 20 32.1**	**-1.7**
	3.6nm,0.3s,baz=36,slow=6.2,SNR=24						
YKA				Sn	**Sn**	**21 21 15.3**	**+0.5**
	6.3nm,0.3s,baz=280,slow=23,SNR=6.5						
YKA				Lg	Lg	21 21 42.5	
	8.2nm,0.3s,baz=288,slow=28,SNR=9.9						
YKB5	**Yellowknife Ar**	**5.72**	**95**	*ePn*	**Pn**	**21 20 07.8**	**-1.4**
YKB5				*ePg*	**Pg**	**21 20 32.1**	**-1.7**
YKB5				*eSn*	**Sn**	**21 21 15.3**	**+0.5**
YKR8	**Yellowknife Ar**	**5.72**	**95**	Pn	**Pn**	**21 20 10.1**	**+0.8**
YKB4	**Yellowknife Ar**	**5.72**	**96**	Pn	**Pn**	**21 20 10.3**	**+1.0**
YKB4	**Yellowknife Ar**	**5.72**	**96**	Pn	**Pn**	**21 20 10.3**	**+1.0**
YKB3	**Yellowknife Ar**	**5.73**	**96**	Pn	**Pn**	**21 20 10.5**	**+1.1**
YKB3	**Yellowknife Ar**	**5.73**	**96**	Pn	**Pn**	**21 20 10.5**	**+1.1**
YKB2	**Yellowknife Ar**	**5.74**	**96**	Pn	**Pn**	**21 20 10.6**	**+1.0**
YKB2	**Yellowknife Ar**	**5.74**	**96**	Pn	**Pn**	**21 20 10.6**	**+1.0**
YKR9	**Yellowknife Ar**	**5.74**	**95**	Pn	**Pn**	**21 20 10.5**	**+0.9**
YKR9	**Yellowknife Ar**	**5.74**	**95**	Pn	**Pn**	**21 20 10.5**	**+0.9**
YKB1	**Yellowknife Ar**	**5.74**	**96**	Pn	**Pn**	**21 20 10.7**	**+1.1**
YKB1	**Yellowknife Ar**	**5.74**	**96**	Pn	**Pn**	**21 20 10.7**	**+1.1**
SKAG	**Skagway**	**5.76**	**228**	*ePn*	**Pn**	**21 20 08.9**	**-1.0**
SKAG				*eSn*	**Sn**	**21 21 13.4**	**-2.6**
EGAK	**Eagle**	**6.33**	**287**	*ePn*	**Pn**	**21 20 18.3**	**+0.7**
EGAK				*eSn*	**Sn**	**21 21 27.0**	**-2.8**
SCRK	**Sand Creek**	**7.56**	**281**	*ePn*	**Pn**	**21 20 34.6**	**-0.1**
MENT	**Mentasta**	**7.60**	**273**	*ePn*	**Pn**	**21 20 33.6**	**-1.4**
DOT	**Dot Lake**	**7.63**	**278**	*ePn*	**Pn**	**21 20 36.9**	**+1.4**
DOT				*eSn*	**Sn**	**21 21 58.2**	**-3.6**
DDM	**Donnelly Dome**	**8.41**	**280**	*ePn*	**Pn**	**21 20 44.0**	**-2.1**
DDM				*eLg*	Lg	21 23 14.7	
BMRM	**Bremner River**	**8.63**	**260**	*ePn*	**Pn**	21 20 45.2	-4.2
SNLN	**Sandy Lake, NW**	**8.76**	**86**	Pn	**Pn**	**21 20 52.2**	**+1.3**
SNLN	**Sandy Lake, NW**	**8.76**	**86**	Pn	**Pn**	**21 20 52.2**	**+1.3**
IL1	**Eielson Array**	**8.78**	**287**	*ePn*	**Pn**	**21 20 50.6**	**-0.6**
IL1				*eLg*	Lg	21 23 18.9	
ILAR	**Eielson Array**	**8.78**	**287**	Pn	**Pn**	**21 20 50.9**	**-0.3**
	0.2nm,0.3s,baz=94,slow=11,SNR=32						
ILAR				Lg	Lg	21 23 18.8	
	0.2nm,0.3s,baz=87,slow=31,SNR=4.7						
ILB	**Eielson Array**	**8.78**	**287**	*ePn*	**Pn**	**21 20 50.9**	**-0.3**
ILB				*eLg*	Lg	21 23 18.8	
HDA	**Harding Lake**	**8.82**	**284**	*ePn*	**Pn**	**21 20 49.9**	**-1.9**
HDA				*eLg*	Lg	21 23 24.8	
RAGM	**Ragged Mountai**	**8.93**	**257**	*ePn*	**Pn**	**21 20 51.8**	**-1.6**
DIV	**Divide**	**9.09**	**263**	*ePn*	Pn	21 20 59.3	+3.8
DIV				*eLg*	Lg	21 23 38.8	
CCB	**Clear Creek Bu**	**9.18**	**286**	*ePn*	**Pn**	**21 20 56.6**	**-0.1**
WRH	**Wood River Hil**	**9.31**	**285**	*ePn*	**Pn**	**21 20 58.7**	**+0.2**
MDM	**Murphy Dome**	**9.35**	**288**	*ePn*	**Pn**	**21 20 58.3**	**-0.8**
SCM	**Sheep Creek Mo**	**9.52**	**269**	*ePn*	**Pn**	**21 21 01.1**	**-0.3**
GDLN	**Gardenia Lake,**	**9.71**	**90**	Pn	**Pn**	**21 21 04.2**	**+0.3**
GDLN	**Gardenia Lake,**	**9.71**	**90**	Pn	**Pn**	**21 21 04.2**	**+0.3**
COLD	**Coldfoot**	**10.33**	**301**	*ePn*	**Pn**	**21 21 12.9**	**+0.5**
TRF	**Thorofare Moun**	**10.41**	**280**	*ePn*	**Pn**	**21 21 15.1**	**+1.3**
MLY	**Manley**	**10.41**	**289**	*ePn*	**Pn**	**21 21 13.5**	**-0.1**
EDM	**Edmonton**	**12.56**	**139**	*ePn*	**Pn**	**21 21 42.8**	**-0.2**
BULN	**Bullion Camp,**	**14.46**	**64**	P	**Pn**	**21 22 06.2**	**-2.6**
BULN	**Bullion Camp,**	**14.46**	**64**	P	**Pn**	**21 22 06.2**	**-2.6**
STLN	**Stellar Camp,**	**14.47**	**60**	P	**Pn**	**21 22 06.1**	**-2.8**
STLN	**Stellar Camp,**	**14.47**	**60**	P	**Pn**	**21 22 06.1**	**-2.8**
SVOH	**Skagit Valley**	**15.51**	**169**	*ePn*	P	21 22 32.2	+4.8
SVOH				*eSn*	**Sn**	**21 25 15.7**	**+1.0**
RES	**Resolute Bay**	**15.64**	**32**	P	**Pn**	**21 22 22.5**	**-1.9**
RES				Sn	Sn	21 25 00.1	-17
RES	**Resolute Bay**	**15.64**	**32**	Pn	**Pn**	**21 22 22.5**	**-1.9**
	0.3nm,0.3s,baz=239,slow=12,SNR=11						
RES				Sn	Sn	21 25 08.8	-8.7
	0.7nm,0.3s,baz=160,slow=12,SNR=9.5						
RES				Lg	Lg	21 26 55.7	
	0.3nm,0.3s,baz=14,slow=23,SNR=1.4						
RES				LR	LR	21 28 46.7	
	comp=Z,56nm,20.5s,baz=90,slow=38						
RES	**Resolute Bay**	**15.64**	**32**	*ePn*	**Pn**	**21 22 22.6**	**-1.9**
RES				*eSn*	Sn	21 25 09.2	-8.2
RES				Lg	Lg	21 26 55.7	
FCC	**Fort Churchill**	**16.43**	**92**	*ePn*	**Pn**	**21 22 32.5**	**-2.3**
FCC				*eSn*	Sn	21 25 19.7	-17
JTMT	**Jette**	**17.34**	**150**	*ePn*	**Pn**	**21 22 42.7**	**-3.8**
FRB	**Frobisher Bay**	**25.13**	**63**	P	**P**	**21 24 11.8**	**+2.8**
	1.8nm,0.7s,baz=295,slow=14,SNR=4.4						
GATR	**Gnd/Air Tx Cnt**	**29.33**	**169**	*eP*	**P**	**21 24 45.6**	**-1.4**
LTX	**Lajitas**	**37.37**	**145**	*eP*	**P**	**21 25 59.1**	**+2.0**
TXAR	**Lajitas Array**	**37.37**	**145**	P	**P**	**21 25 59.1**	**+2.0**
	0.2nm,0.5s,baz=348,slow=8.3,SNR=2.6						
KURK	**Kurchatov**	**64.29**	**342**	*eP*	P	21 29 21.7	+2.4
KURBB	**Kurchatov Arra**	**64.39**	**342**	P	**P**	**21 29 21.7**	**+1.7**
	0.3nm,0.4s,baz=16,slow=5.9,SNR=5.4						
MK32	**Makanchi Array**	**67.56**	**339**	*eP*	**P**	**21 29 42.3**	**+1.8**
MKAR	**Makanchi Array**	**67.56**	**339**	P	**P**	**21 29 42.3**	**+1.8**
	0.1nm,0.4s,baz=4.5,slow=6.0,SNR=3.2						
ESDC	**Sonseca Array**	**67.61**	**44**	P	**P**	**21 29 43.6**	**+2.6**
	0.3nm,0.7s,baz=352,slow=8.2,SNR=3.5						

*KRSC **25** 21:21:58.5±1.8,52.76N×160.81E,h22km±9km,ML3.7*
*ISCJB **25** 21:22:00.3±1.1,52.78N±0.04×160.69E±0.07,h19km±7km, mb3.8/3,Error ellipse: s-maj=8.8km s-min=5.0km az=139.4*
*IDC **25** 21:22:00.4±7.5,52.07N×160.40E,h52km±49km,mb3.3/3, mb1 3.3/3,mb1mx2.9/52,mbtmp3.5/3,Error ellipse: s-maj=87.0km s-min=50.2km az=25.0*

ISC 25 21:22:00.0±1.9,52.75N±0.06×160.73E±0.05,h24km±13km, n34,σ1§56/40,mb3.7/3,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.55**	**310**	*eP*	**Pb**	**21 22 11.3**	**+0.2**
SPN				*eS*	**Sb**	**21 22 17.0**	**-1.6**
NLC	**Nalytchevo**	**0.94**	**297**	*eP*	**Pn**	**21 22 17.0**	**-0.7**
NLC				*eS*	**Sn**	**21 22 27.8**	**-2.5**
SDLR	**Sedlovina**	**1.24**	**296**	*eP*	**Pn**	**21 22 21.9**	**0.0**
UGLR	**Uglovaya**	**1.24**	**293**	*eP*	**Pn**	**21 22 22.1**	**+0.2**
SMAR	**Somma**	**1.27**	**295**	*eP*	**Pn**	**21 22 22.5**	**0.0**
PET	**Petropavlovsk**	**1.29**	**283**	*eP*	**Pn**	**21 22 22.6**	**+0.1**
PET				*eS*	**Sn**	**21 22 37.7**	**-1.2**
AVH	**Avacha**	**1.31**	**294**	*eP*	**Pn**	**21 22 23.2**	**+0.3**
KOK	**Koryaka**	**1.38**	**294**	*eP*	**Pn**	**21 22 24.2**	**+0.4**
RUS	**Russkaya**	**1.39**	**258**	*eP*	**Pn**	**21 22 24.3**	**+0.5**
RUS				*eS*	**Sn**	**21 22 41.1**	**-0.3**
KRX	**Arik**	**1.40**	**297**	*eP*	**Pn**	**21 22 24.2**	**+0.1**
KII	**Karymskiy**	**1.50**	**330**	*eP*	**Pn**	**21 22 26.5**	**+1.0**
KII				*eS*	**Sn**	**21 22 44.1**	**-0.2**
MTVR	**Mutnovka**	**1.58**	**261**	*eP*	**Pn**	**21 22 27.3**	**+0.7**
MTVR				*eS*	**Sn**	**21 22 46.8**	**+0.5**
GRL	**Gorelyy**	**1.63**	**264**	*eP*	**Pn**	**21 22 28.3**	**+1.0**
ASAK	**Asacha**	**1.77**	**259**	*eP*	**Pn**	**21 22 30.4**	**+1.3**
PETK	**Petropavlovsk-**	**1.87**	**282**	P	**Pn**	**21 22 31.0**	**+0.5**
	40nm,0.3s,baz=93,slow=14,SNR=292						
PETK				S	**Sn**	**21 22 54.8**	**+1.4**
	12nm,0.3s,baz=86,slow=40,SNR=3.6						
PETK				LR	LR	21 23 25.9	
	comp=Z,81nm,19.6s,baz=117,slow=44						
MKZ	**Mys Kozlova**	**1.91**	**18**	*eP*	**Pn**	**21 22 32.1**	**+1.2**
MKZ				*eS*	**Sn**	**21 22 53.6**	**-0.5**
GNL	**Ganaly**	**1.93**	**301**	*eP*	**Pn**	**21 22 33.1**	**+1.7**
GNL				*eS*	**Sn**	**21 22 55.7**	**+0.8**
APC	**Apacha**	**2.17**	**276**	*eP*	**Pn**	**21 22 36.8**	**+2.2**
APC				*eS*	**Sn**	**21 23 03.2**	**+2.4**
KZV	**Kizimen**	**2.38**	**354**	*eP*	**Pn**	**21 22 40.0**	**+2.3**
KZV				*eS*	**Sn**	**21 23 07.8**	**+1.6**
MIPR	**Malaya Ipel'ka**	**2.47**	**261**	*eP*	**Pn**	**21 22 41.0**	**+2.2**
TUMR	**Tumrok**	**2.56**	**352**	*eP*	**Pn**	**21 22 42.7**	**+2.6**
TUMR				*eS*	**Sn**	**21 23 12.4**	**+1.8**
PAU	**Pauzhetka**	**2.74**	**244**	*eP*	**Pn**	**21 22 44.9**	**+2.5**
KMNR	**Kamenistaya**	**3.03**	**355**	*eP*	Pn	21 22 50.1	+3.6
KBTR	**Krutoberegovo**	**3.67**	**19**	*eP*	**Pn**	**21 22 57.8**	**+2.6**
BKI	**Bering**	**3.95**	**49**	*eP*	**Pn**	**21 22 59.7**	**+0.7**
BKI				*eS*	**Sn**	**21 23 41.6**	**-3.0**
H11N2	**WAKE ISLAND Hy**	**33.30**	**169**	T	T	22 03 59.7	
	baz=353,slow=76,SNR=91						
H11N3	**WAKE ISLAND Hy**	**33.32**	**169**	T	T	22 03 58.4	
	baz=353,slow=76,SNR=64						
H11N1	**WAKE ISLAND Hy**	**33.32**	**169**	T	T	22 03 59.0	
	baz=353,slow=76,SNR=85						
H11S1	**WAKE ISLAND Hy**	**34.49**	**170**	T	T	22 05 22.5	
	baz=350						
H11S3	**WAKE ISLAND Hy**	**34.50**	**170**	T	T	22 05 23.3	
	baz=350						
H11S2	**WAKE ISLAND Hy**	**34.51**	**170**	T	T	22 05 24.3	
	baz=350,SNR=8.9						
KURBB	**Kurchatov Arra**	**48.34**	**302**	P	**P**	**21 30 38.1**	**-1.2**
	0.3nm,0.4s,baz=61,slow=7.3,SNR=3.1						
MKAR	**Makanchi Array**	**48.65**	**296**	P	**P**	**21 30 39.2**	**-2.5**
	0.2nm,0.5s,baz=59,slow=6.3,SNR=5.1						
FINES	**FINESS Array B**	**60.59**	**337**	P	**P**	**21 32 08.6**	**+0.6**
	1.1nm,0.6s,baz=32,slow=8.2,SNR=9.1						

*IDC **25** 21:47:07.1±2.0,41.26N×116.37W,h0km,mb1 2.7/1, mb1mx2.6/25,mbtmp2.2/1,ML2.2/1,Error ellipse: s-maj=17.8km s-min=6.6km az=173.0*
*ISCJB **25** 21:47:10.7±0.4,40.96N±0.03×116.73W±0.05,h0km,Error ellipse: s-maj=5.3km s-min=4.1km az=32.7*
*NEIC **25** 21:47:12.6±0.6,41.02N×116.64W,h0km,Error ellipse: s-maj=8.0km s-min=7.3km az=134.0,Suspected Mining explosion.*
NEIC 50 km [30 miles] NNE of Battle Mountain.

ISC 25 21:47:10.1±0.8,41.08N±0.03×116.52W±0.03,h0km,n19, σ1§50/25,Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMN	**Battle Mountai**	**0.84**	**220**	*ePg*	**Pb**	**21 47 27.2**	**-0.5**
BMN				*eSg*	**Sg**	**21 47 37.0**	**-0.2**
ELK	**Elko**	**1.02**	**109**	Pg	**Pg**	**21 47 28.6**	**-1.2**
	4.4nm,0.3s,baz=278,slow=16,SNR=87						
ELK				Lg	Lg	21 47 38.7	
	7.5nm,0.3s,baz=294,slow=17,SNR=18						
WVOR	**Wild Horse Val**	**2.08**	**311**	*ePn*	**Pg**	**21 47 49.8**	**-0.3**
WVOR				*eSn*	**Sn**	**21 48 11.2**	**-2.0**
MFID	**Camas Ranch**	**2.39**	**12**	*ePn*	**Pb**	**21 47 53.9**	**-0.2**
MFID				*eSn*	**Sg**	**21 48 28.7**	**+1.9**
BGU	**Big Grassy Mou**	**2.64**	**92**	*ePn*	**Pb**	**21 47 59.0**	**+0.6**
BGU				*eSn*	**Sb**	**21 48 31.4**	**-0.1**
R11A	**Troy Canyon, C**	**2.82**	**165**	*ePn*	**Pn**	**21 47 58.8**	**+2.1**
R11A				*eSn*	**Sn**	**21 48 30.7**	**-0.8**
HVU	**Hansel Valley**	**2.90**	**75**	*ePn*	**Pb**	**21 48 00.7**	**-2.1**
HVU				*eSn*	**Sb**	**21 48 39.7**	**+0.9**
HLID	**Hailey**	**2.93**	**31**	*ePn*	**Pb**	**21 48 01.7**	**-1.6**
HLID				*eSn*	**Sb**	**21 48 41.2**	**+1.5**
DUG	**Dugway, Tooele**	**2.95**	**106**	*ePn*	**Pn**	**21 47 59.3**	**+0.9**
NV01	**Mina Array Sit**	**2.99**	**208**	*ePn*	**Pn**	**21 47 59.2**	**+0.3**
NV01				*ePg*	**Pb**	**21 48 05.1**	**+0.8**
NV01				*eSn*	**Sn**	**21 48 31.7**	**-3.8**
NV01				*eLg*	Lg	21 48 47.0	
NVAR	**Mina Array Bea**	**2.99**	**208**	Pn	**Pn**	**21 47 58.3**	**-0.7**
	0.3nm,0.3s,baz=29,slow=19,SNR=5.9						
NVAR				Pg	**Pb**	**21 48 05.1**	**+0.8**
	0.8nm,0.3s,baz=30,slow=16,SNR=10						
NVAR				Lg	Lg	21 48 47.0	
	0.4nm,0.3s,baz=124,slow=37,SNR=2.7						
TPH	**Tonopah**	**3.05**	**191**	*ePn*	**Pg**	**21 48 08.7**	**+0.1**
BEND	**Bend**	**4.64**	**312**	*eSn*	**Sn**	**21 49 17.0**	**+0.8**
BDM	**Black Diamond**	**5.18**	**235**	*eSn*	Sn	21 49 21.4	-8.1
BKC	**Brookwood Rese**	**5.35**	**236**	*ePn*	**Pn**	**21 48 30.8**	**-0.4**
PD31	**Pinedale Array**	**5.46**	**70**	*ePn*	Pn	21 48 38.1	+5.2
PDAR	**Pinedale Array**	**5.46**	**70**	Pg	Pn	21 48 38.1	+5.2
	0.0nm,0.3s,baz=256,slow=15,SNR=2.7						
DJJ	**Donna J Jenkin**	**7.13**	**193**	*ePn*	**Pn**	**21 48 58.3**	**+2.6**
I56US	**NEWPORT INFRAS**	**7.20**	**357**	*i*		22 31 39.9	
	baz=176,slow=321,SNR=0.8						

*IDC **25** 21:47:25.1±1.1,30.44S×177.35W,h0km,mb4.0/4, mb1 4.2/4,mb1mx3.7/27,mbtmp4.0/4,MS3.3/1,Ms1 3.3/1, ms1mx2.7/29,Error ellipse: s-maj=35.9km s-min=19.1km az=74.0*
*ISCJB **25** 21:47:29.2±1.8,30.50S±0.08×177.5W±0.3,h33km, mb4.0/4,mb1mx3.4/29,Error ellipse: s-maj=39.1km s-min=10.8km az=177.4*

ISC 25 21:47:29.8±1.3,30.3S±0.1×177.4W±0.3,h33km,n10, σ1§11/11,mb4.3/4,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.19**	**335**	Pn	**Pb**	**21 47 51.4**	**-0.5**
	197nm,0.3s,baz=91,slow=11,SNR=12						
RAO				Sn	**Sb**	**21 48 07.4**	**+0.4**
	160nm,0.3s,baz=229,slow=22,SNR=6.2						
URZ	**Urewera**	**9.13**	**209**	Sn	Sn	21 51 12.9	-8.0
	1.2nm,0.3s,baz=329,slow=21,SNR=6.7						
DZM	**Mont Dzumac**	**16.70**	**296**	LR	LR	21 56 52.9	
	comp=Z,106nm,18.4s,baz=182,slow=34						
STKA	**Stephens Creek**	**35.04**	**257**	P	**P**	**21 54 19.6**	**-0.1**
	5.4nm,1.2s,baz=96,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**43.67**	**267**	P	**P**	**21 55 31.8**	**0.0**
	0.6nm,0.7s,baz=103,slow=7.6,SNR=5.5						
ASAR				PcP	**PcP**	**21 57 20.2**	**+1.5**
	0.6nm,0.9s,baz=110,slow=5.0,SNR=3.7						
WRA	**Warramunga Arr**	**44.66**	**272**	P	**P**	**21 55 38.9**	**-0.8**
	1.9nm,0.5s,baz=111,slow=7.8,SNR=24						
QSPA	**South Pole Qui**	**59.77**	**180**	P	**P**	**21 57 31.6**	**+0.2**
	2.7nm,1.0s,baz=63,slow=2.3,SNR=7.5						
FINES	**FINESS Array B**	**145.28**	**340**	PKPbc	**PKPbc**	**22 07 02.2**	**-1.0**
	1.6nm,0.6s,baz=69,slow=3.5,SNR=12						
AKASG	**Malin Array Be**	**151.59**	**323**	PKPbc	**PKPbc**	**22 07 19.4**	**-0.9**
	0.1nm,0.3s,baz=65,slow=2.4,SNR=3.2						
AKASG				PKPab	**PKPab**	**22 07 31.0**	**+2.1**
	0.2nm,0.4s,baz=58,slow=3.0,SNR=3.7						
TORD	**Torodi Ar. Bea**	**162.87**	**177**	PKPab	**PKPab**	**22 08 17.5**	**-0.8**
	0.4nm,0.8s,baz=175,slow=4.0,SNR=3.3						

WEL 25 22:00:04.5±0.4,44.61S×168.13E,h88km±4km,ML3.5/14, 4C-2D,Error ellipse: s-maj=2.7km s-min=2.1km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.15**	**246**	⇑PN	Pn	22 00 16.9	-0.1
MSZ				AML	AML	22 00 27.6	
MSZ				AML	AML	22 00 27.6	
MSZ				AML	AML	22 00 27.7	
MSZ				AML	AML	22 00 27.7	
WKZ	**Wanaka**	**0.67**	**109**	⇓PN	Pn	22 00 20.8	+0.2
WKZ				SN	Sn	22 00 31.5	-1.1
WKZ				AML	AML	22 00 32.3	
WKZ				AML	AML	22 00 32.3	
WKZ				AML	AML	22 00 32.

BSWZ	**Blackbirch Sta**	**0.18**	**270**	⇓P*	Pn	22 10 27.9	-3.7
BSWZ				S*	Sn	22 10 32.5	-8.7
BSWZ				AML	AML	22 10 32.7	
TUWZ	**Tuamarina**	**0.31**	**335**	⇑P*	Pn	22 10 29.0	-0.9
TUWZ				S*	Sn	22 10 34.4	-2.5
TUWZ				AML	AML	22 10 34.7	
TCW	**Tory Channel**	**0.52**	**13**	⇓P*	Pn	22 10 32.0	-0.6
TCW				AML	AML	22 10 40.6	
TCW				AML	AML	22 10 41.2	
BHW	**Baring Head**	**0.64**	**62**	⇓P*	Pn	22 10 34.6	+0.2
BHW				S*	Sn	22 10 44.3	+1.1
BHW				AML	AML	22 10 45.3	
WEL	**Wellington**	**0.65**	**49**	⇓P*	Pn	22 10 34.7	+0.3
KHZ	**Kahutara**	**0.82**	**211**	P*	Pn	22 10 36.8	0.0
KHZ				AML	AML	22 10 51.5	
KHZ				AML	AML	22 10 53.7	
PLWZ	**Palliser**	**0.86**	**81**	P*	Pn	22 10 37.1	-0.2
MSWZ	**Moikau Station**	**0.90**	**71**	⇓P*	Pn	22 10 37.8	0.0
MSWZ				S*	Sn	22 10 50.1	+0.5
MSWZ				AML	AML	22 10 53.0	
THZ	**Tophouse**	**0.91**	**267**	⇑P*	Pn	22 10 37.5	-0.6
DUWZ	**D'Urville Isla**	**0.92**	**351**	P*	Pn	22 10 37.9	-0.2
CAW	**Cannon Point**	**0.94**	**50**	⇓P*	Pn	22 10 38.5	+0.2
CAW				AML	AML	22 10 53.0	
CAW				AML	AML	22 10 53.4	
PAWZ	**Paruwai Farm**	**1.03**	**72**	P*	Pn	22 10 39.3	-0.3
PAWZ				AML	AML	22 10 58.2	
PAWZ				AML	AML	22 10 58.4	
KIW	**Kapiti Island**	**1.04**	**35**	⇓P*	Pn	22 10 40.1	+0.4
KIW				AML	AML	22 10 56.6	
KIW				AML	AML	22 10 59.7	
MTW	**Mount Morrison**	**1.18**	**62**	⇓PN	Pn	22 10 41.1	-0.5
MTW				AML	AML	22 11 02.1	
MTW				AML	AML	22 11 04.1	
OGWZ	**Otaki Gorge**	**1.20**	**42**	⇓PN	Pn	22 10 42.0	+0.2
TRWZ	**Traveller**	**1.22**	**76**	PN	Pn	22 10 41.6	-0.5
TRWZ				AML	AML	22 10 60.0	
TRWZ				AML	AML	22 11 12.8	
HOWZ	**Holdsworth Sta**	**1.33**	**53**	⇓PN	Pn	22 10 43.2	-0.5
TMWZ	**Te Maipa**	**1.46**	**66**	PN	Pn	22 10 44.7	-0.8
QRZ	**Quartz Range**	**1.49**	**306**	PN	Pn	22 10 46.6	+0.7
MRZ	**Mangatainoka R**	**1.52**	**47**	PN	Pn	22 10 46.0	-0.4
MRZ				AML	AML	22 11 18.3	
MRZ				AML	AML	22 11 20.1	
TIWZ	**Tintock**	**1.63**	**55**	PN	Pn	22 10 46.9	-0.9
TIWZ				AML	AML	22 11 09.3	
TIWZ				AML	AML	22 11 19.3	
DSZ	**Denniston Nort**	**1.73**	**268**	PN	Pn	22 10 49.7	+0.4
LTZ	**Lake Taylor**	**1.74**	**232**	PN	Pn	22 10 49.1	-0.3
POWZ	**Post Office Ro**	**1.81**	**44**	PN	Pn	22 10 49.6	-0.7
PRWZ	**Pori Road**	**1.81**	**51**	⇓PN	Pn	22 10 49.6	-0.7
BFZ	**Birch Farm**	**1.91**	**58**	⇑PN	Pn	22 10 50.2	-1.4
WAZ	**Wanganui**	**2.06**	**19**	PN	Pn	22 10 55.8	+2.0
TSZ	**Takapari Road**	**2.16**	**41**	⇓PN	Pn	22 10 54.5	-0.7
TSZ				AML	AML	22 11 40.8	
ANWZ	**Angora Road**	**2.18**	**56**	PN	Pn	22 10 53.8	-1.5
MQZ	**McQueen's Vall**	**2.27**	**208**	PN	Pn	22 10 54.4	-2.1
PNHZ	**Pukenui**	**2.39**	**42**	⇓PN	Pn	22 10 57.3	-1.1
WPHZ	**Waipukurau**	**2.41**	**48**	PN	Pn	22 10 57.4	-1.2
MOVZ	**Moawhango**	**2.62**	**29**	PN	Pn	22 11 01.4	-0.1
VRZ	**Vera Road**	**2.63**	**11**	PN	Pn	22 11 03.3	+1.7
WHVZ	**Whangaehu Hut**	**2.68**	**25**	PN	Pn	22 11 03.4	+0.9
KRHZ	**Kereru**	**2.68**	**40**	PN	Pn	22 11 01.1	-1.3
FWVZ	**Far West T-bar**	**2.69**	**24**	PN	Pn	22 11 03.3	+0.7

MEX ***25*** *22:14:14.3±0.7, 33.°04N×115.°89W, h16km±999km, MD3.5*
ISCJB ***25*** *22:14:15.2±0.6, 32.°66N±0.°04×115.°88W±0.°03, h7km±5km, Error ellipse: s-maj=7.5km s-min=4.8km az=177.8*
ECX ***25*** *22:14:16.0±0.7, 32.°67N×115.°85W, h3km, MD2.5, ML2.7*

ISC 25 22:14:14.5±1.0, 32.°68N±0.°05×115.°86W±0.°03, h14km±6km, n15, σ0s45/22, 7C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUH	**Yuha Desert**	**0.06**	**242**	⇑*i*P	**Pg**	**22 14 16.9**	**-0.4**
SGL	**Mount Signal**	**0.12**	**103**	⇑*i*P	**Pg**	**22 14 18.0**	**+0.1**
WESC	**Westside Schoo**	**0.14**	**52**	⇑*i*P	**Pb**	**22 14 19.0**	**+0.2**
ERPC	**Ernies Place**	**0.18**	**68**	⇑*i*P	**Pg**	**22 14 19.2**	**+0.5**
RMX	**La Rumorosa**	**0.20**	**249**	⇑*e*P	**Pg**	**22 14 19.1**	**-0.1**
RMX				*e*S	**Sg**	**22 14 22.2**	**-0.1**
CPBX	**Cerro Prieto**	**0.54**	**119**	*e*P9	**Pg**	**22 14 25.3**	**+0.2**
CPBX				*e*S	**Sb**	**22 14 33.2**	**0.0**
BAR	**Barrett**	**0.69**	**271**	⇑*e*P	**Pb**	**22 14 28.4**	**+0.2**
RDX	**Rancho Dawling**	**0.75**	**185**	⇓*e*P	**Pg**	**22 14 29.1**	**0.0**
RDX				*e*S	**Sg**	**22 14 39.3**	**+0.3**
RDX				IAML		22 14 40.4	
	comp=N,153nm,0.3s						
RDX				⇓*e*		22 14 40.4	
CBX	**Cerro Bola**	**0.77**	**242**	*e*P	**Pg**	**22 14 29.5**	**0.0**
CBX				*e*S	**Sg**	**22 14 40.0**	**+0.3**
CBX	**Cerro Bola**	**0.77**	**242**	*e*P	**Pb**	**22 14 30.4**	**+0.7**
CBX				*e*		22 14 42.0	
CBX				IAML		22 14 42.0	
	comp=E,367nm,0.2s						
SDRC	**San Diego Road**	**0.92**	**274**	*e*P	**Pg**	**22 14 32.3**	**0.0**
ECNX	**Esteban Cantu**	**1.19**	**212**	*e*P	**Pn**	**22 14 37.0**	**+0.1**
ZAX	**El Zacaton**	**1.21**	**197**	*e*P	**Pb**	**22 14 37.5**	**+0.2**
ZAX				*e*S	**Sn**	**22 14 53.2**	**+0.3**
ZAX				⇓*e*		22 14 55.0	
ZAX				IAML		22 14 55.0	
	comp=N,133nm,0.4s						
ZAX				IAML		22 14 56.0	
	comp=E,152nm,0.3s						
ZAX				⇑*e*		22 14 56.0	
ECBX	**El Chinero**	**1.38**	**150**	*e*P9	**Pn**	**22 14 38.2**	**-1.1**
ECBX				*e*S	**Sn**	**22 14 56.6**	**-0.8**
ECBX				⇓*e*		22 14 57.8	
ECBX				IAML		22 14 57.8	
	comp=E,99nm,0.4s						
SPIG	**San Pedro Mart**	**1.66**	**168**	*e*P	**Pg**	**22 14 46.4**	**0.0**
SPIG				*e*S	**Sg**	**22 15 08.7**	**+0.6**

MEX 25 22:17:34.7±0.8, 15.°33N×94.°77W, h16km±13km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.36**	**289**	*e*P	Pn	22 17 56.0	-3.0
HUIG				*e*S	Sn	22 18 11.2	-5.4
PCIG		**1.54**	**76**	*e*P	Pn	22 17 57.3	-4.2
PCIG				*e*S	Sn	22 18 14.9	-6.3
TGIG		**2.14**	**48**	*e*P	Pn	22 18 06.1	-3.7
TGIG				*e*S	Sn	22 18 32.3	-3.9
CCIG	**Comitan**	**2.71**	**69**	*e*P	Pn	22 18 15.6	-2.3
CCIG				*e*S	Sn	22 18 50.3	-0.1

IDC ***25*** *22:20:39.6±4.2, 17.°37N×98.°87W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.5/31, mbtmp3.4/3, ML3.0/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/28, Error ellipse: s-maj=136.7km s-min=58.0km az=69.0*
MEX ***25*** *22:20:41.4±0.8, 16.°62N×101.°49W, h49km±150km, MD4.1*

ISC 25 22:20:43.5±2.1, 16.°8N±0.°1×101.°43W±0.°10, h35km, n13, σ2s74/15, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.79**	**357**	*e*P	**Pn**	**22 20 57.0**	**-1.2**
ZIIG				*e*S	**Sn**	**22 21 05.7**	**-3.0**
CAIG	**El Cayaco**	**1.14**	**78**	*e*P	**Pn**	**22 21 02.0**	**-0.9**
CAIG				*e*S	**Sn**	**22 21 12.8**	**-4.4**
ARIG	**Puente Sto Nin**	**1.79**	**35**	*e*P	**Pn**	**22 21 10.2**	**-1.6**
ARIG				*e*S	Sn	22 21 26.7	-6.7
MEIG	**Mezcala**	**2.05**	**57**	*e*P	**Pn**	**22 21 14.9**	**-0.7**
MEIG				*e*S	**Sn**	**22 21 36.5**	**-3.4**
PLIG	**Platanillo**	**2.42**	**49**	*e*P	**Pn**	**22 21 20.9**	**+0.3**
PLIG				*e*S	**Sn**	**22 21 49.4**	**+0.3**
TLIG	**Tlapa**	**2.83**	**74**	*e*P	**Pn**	**22 21 26.9**	**+0.5**
TLIG				*e*S	**Sn**	**22 22 04.6**	**+5.2**
YAIG	**Yautepec**	**3.03**	**48**	*e*P	Pn	22 21 26.3	-2.8
YAIG				*e*S	**Sn**	**22 22 05.4**	**+1.1**
PNIG	**Pinotepa**	**3.19**	**97**	*e*P	Pn	22 21 15.9	-15
PNIG				*e*S	**Sn**	**22 22 04.7**	**-3.4**
TXAR	**Lajitas Array**	**12.63**	**351**	Pn	**Pn**	**22 23 43.0**	**+2.3**
	0.0nm,0.3s,baz=160,slow=13,SNR=2.7						
TXAR				Lg	Lg	22 27 21.8	
	0.0nm,0.3s,baz=167,slow=26,SNR=3.8						

ANMO	**Albuquerque**	**18.61**	**347**	LR	LR	22 32 38.7	
	comp=Z,43nm,20.4s,baz=194,slow=38						
NVAR	**Mina Array Bea**	**26.13**	**329**	P	P	22 26 23.2	+8.7
	0.8nm,0.6s,baz=146,slow=12,SNR=3.6						
YKA	**Yellowknife Ar**	**46.56**	**352**	P	**P**	**22 29 07.8**	**+0.3**
	0.9nm,0.8s,baz=157,slow=7.9,SNR=6.2						
RES	**Resolute Bay**	**57.99**	**2**	LR	LR	22 56 19.7	
	comp=Z,31nm,20.5s,baz=24,slow=37						

SZGRF ***25*** *22:37:47.0, 33.°03N×136.°33E, h33km, mb5.0, Near south coast of western Honshu, Japan*
NIED ***25*** *22:38:00, 32.°90N×136.°80E, h400km, Mw4.6 Best double couple: M0 7.72000×10^15 NP1:φs306.00000°, δ47.00000°, λ-24.00000°. NP2:φs53.00000°, δ73.00000°, λ-134.00000°.*
MOS ***25*** *22:38:25.3±0.8, 32.°92N×136.°70E, h416km, mb4.5/49, Error ellipse: s-maj=8.6km s-min=4.5km az=111.7*
BJI ***25*** *22:38:25.4, 32.°92N×136.°70E, h421km, mb4.8/46, mB4.5/22*
ISCJB ***25*** *22:38:26.2±0.2, 32.°90N±0.°03×136.°78E±0.°03, h426km±1km, mb4.4/143, Error ellipse: s-maj=4.7km s-min=3.6km az=139.3*
JMA ***25*** *22:38:26.8±0.3, 32.°95N×136.°80E, h428km±3km, M3.8*
NEIC ***25*** *22:38:27.0±0.3, 32.°86N×136.°69E, h422km±3km, mb4.6/46, MW4.5(NIED), Error ellipse: s-maj=4.4km s-min=3.8km az=118.0*
IDC ***25*** *22:38:27.4±0.6, 32.°94N×136.°66E, h422km±6km, mb4.0/40, mb1 4.1/45, mb1mx4.0/59, mbtmp4.8/45, Error ellipse: s-maj=8.8km s-min=5.8km az=76.0*

ISC 25 22:38:26.7±0.4, 32.°92N±0.°04×136.°76E±0.°04, h419km±3km, h418km:pP-P, n452, σ1s06/533, mb4.5/146, 28C-32D, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TTO1	**TONANKAI O.B.S**	**0.70**	**1**	P	**P**	**22 39 20.9**	**+2.4**
TTO2	**TONANKAI O.B.S**	**0.84**	**15**	⇓P	**P**	**22 39 21.5**	**+2.7**
TTO2				S	**S**	**22 40 05.7**	**+4.6**
JWZ	**Kozaga**	**1.07**	**305**	⇓P	**P**	**22 39 21.0**	**+1.1**
JWZ				S	**S**	**22 40 03.4**	**+0.4**
TK02	**Tokai 2**	**1.32**	**39**	⇓P	**P**	**22 39 22.7**	**+2.1**
JIE	**Ise**	**1.47**	**358**	⇓P	**P**	**22 39 23.1**	**+1.6**
JIE				S	**S**	**22 40 06.9**	**+1.0**
JWY	**Kouya**	**1.62**	**323**	⇑P	**P**	**22 39 23.8**	**+1.5**
JWY				S	**S**	**22 40 08.0**	**+0.6**
JAI	**Aioi**	**2.12**	**295**	P	**P**	**22 39 26.4**	**+1.4**
JAI				S	**S**	**22 40 13.5**	**+1.2**
JMN	**Monobe**	**2.54**	**289**	⇑P	**P**	**22 39 29.7**	**+1.8**
JMN				S	**S**	**22 40 18.7**	**+1.1**
JHJ2	**Mitsune**	**2.57**	**85**	P	**P**	**22 39 28.6**	**+0.6**
JHJ2	**Mitsune**	**2.57**	**85**	*e*P	**P**	**22 39 28.6**	**+0.6**
JHJ2				*e*S	**S**	**22 40 14.2**	**-3.6**
JWT	**Wachi**	**2.61**	**335**	⇑P	**P**	**22 39 29.7**	**+1.5**
JWT				S	**S**	**22 40 18.1**	**-0.2**
JOD2	**Odawara 2**	**3.03**	**39**	P	**P**	**22 39 32.3**	**+0.9**
JOD2				S	**S**	**22 40 24.6**	**+0.5**
JTO	**Tosashimizu**	**3.33**	**270**	P	**P**	**22 39 35.5**	**+1.5**
JTO				S	**S**	**22 40 29.9**	**+1.3**
JKG	**Kaga**	**3.36**	**354**	⇑P	**P**	**22 39 35.1**	**+1.0**
JRY	**Ryogami san**	**3.56**	**29**	P	**P**	**22 39 36.6**	**+0.8**
JRY				S	**S**	**22 40 31.8**	**-0.3**
JNA	**Nagahama**	**3.65**	**281**	P	**P**	**22 39 38.6**	**+2.0**
JNA				S	**S**	**22 40 34.6**	**+1.1**
JHS	**Saijyo**	**3.67**	**305**	P	**P**	**22 39 38.2**	**+1.4**
JHS				S	**S**	**22 40 34.9**	**+0.9**
MAJO	**Matsushiro**	**3.80**	**18**	*c iP*	**P**	**22 39 38.5**	**+0.6**
MAJO	**Matsushiro**	**3.80**	**18**	*e*P	**P**	**22 39 38.6**	**+0.7**
MAJO				*e*S	**S**	**22 40 34.7**	**-1.3**
MAT	**Matsushiro**	**3.80**	**18**	P	**P**	**22 39 38.4**	**+0.5**
MAT				S	**S**	**22 40 35.2**	**-0.8**
MJAR	**Matsushiro Arr**	**3.80**	**18**	P	**P**	**22 39 38.4**	**+0.5**
	18nm,0.3s,baz=194,slow=8.8,SNR=341						
MJAR				S	**S**	**22 40 35.5**	**-0.5**
	4.4nm,0.3s,baz=196,slow=15,SNR=16						
MJAR	**Matsushiro Arr**	**3.80**	**18**	P	**P**	**22 39 38.4**	**+0.5**
MJAR				S	**S**	**22 40 35.5**	**-0.5**
MJAR				pmax	pmax		
	comp=Z,19nm,0.3s						
MJAR				smax	smax		
	comp=N,4.0nm,0.3s						
MJA0	**Matsu Arr-Jizo**	**3.81**	**18**	*e*P	**P**	**22 39 38.4**	**+0.4**
MJA0				pmax	pmax		
	comp=Z,19nm,0.3s						
BSO1	**Boso 1**	**3.91**	**63**	P	**P**	**22 39 37.8**	**-0.5**
BSO1				S	**S**	**22 40 34.5**	**-2.3**
JNU	**Nakatsue**	**4.95**	**274**	P	**P**	**22 39 50.5**	**+1.6**
	comp=Z,6.7nm,0.3s,baz=75,slow=1.4,SNR=44						
JNU	**Nakatsue**	**4.95**	**274**	*e*P	**P**	**22 39 50.7**	**+1.8**
JCJ	**Chichijima**	**7.47**	**140**	P	**P**	**22 40 13.9**	**-2.4**
	comp=Z,27nm,0.3s,baz=277,slow=20,SNR=7.5						
JCJ				S	S	22 41 37.0	-8.6
	comp=Z,148nm,0.3s,baz=294,slow=23,SNR=19						
CBI	**Chichi jima**	**7.48**	**140**	*e*P	**P**	**22 40 13.9**	**-2.5**
CBI				*e*S	S	22 41 37.0	-8.7
TJN	**Taejon**	**8.48**	**297**	*e*P	**P**	**22 40 28.2**	**+1.2**
KSRS	**Korea Array**	**8.53**	**304**	P	**P**	**22 40 29.1**	**+1.5**
	comp=Z,3.5nm,0.3s,baz=122,slow=10,SNR=56						
KSRS				S	**S**	**22 42 09.1**	**+2.1**
	baz=112,slow=21,SNR=13						
KSRS	**Korea Array**	**8.53**	**304**	*e*P	**P**	**22 40 29.8**	**+2.2**
KSRS				pmax	pmax		
	comp=Z,4.0nm,0.3s						
KS15	**Wonju Array Si**	**8.55**	**304**	*e*P	**P**	**22 40 29.1**	**+1.3**
KS15				*e*S	**S**	**22 42 09.1**	**+1.6**
KS01	**Wonju Array Si**	**8.56**	**305**	*e*P	**P**	**22 40 28.8**	**+0.8**
INCN	**Inchon**	**9.45**	**302**	*e*P	**P**	**22 40 39.2**	**+1.3**
JOW	**Kunigami**	**9.54**	**233**	P	**P**	**22 40 40.5**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=153,slow=27,SNR=5.9						
JOW				S	**S**	**22 42 29.5**	**+1.3**
	baz=140,slow=26,SNR=1.8						
ERM	**Erimo**	**10.40**	**27**	*i* P	**P**	**22 40 47.9**	**-0.2**
ERM				pmax	pmax		
	comp=Z,118nm,0.7s						
ERM	**Erimo**	**10.40**	**27**	*e*P	**P**	**22 40 48.8**	**+0.7**
ERM				*e*S	**S**	**22 42 41.8**	**-3.2**
USRK	**Ussuriysk Ar.**	**11.86**	**343**	P	**P**	**22 41 04.6**	**+0.4**
	comp=Z,5.2nm,0.3s,baz=148,slow=10,SNR=108						
ASAJ	**Asahikawa**	**12.07**	**20**	P	**P**	**22 41 07.4**	**+0.9**
	comp=Z,9.4nm,0.3s,baz=229,slow=11,SNR=40						
ASAJ				S	**S**	**22 43 17.0**	**-1.5**
	comp=Z,0.9nm,0.3s,baz=336,slow=28,SNR=2.3						
ASAJ	**Asahikawa**	**12.07**	**20**	P	**P**	**22 41 07.4**	**+0.9**
ASAJ				S	**S**	**22 43 17.0**	**-1.5**
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ASAJ				smax	smax		
	comp=N,1.0nm,0.3s						
MDJ	**Mudanjiang**	**12.94**	**337**	*e*P	**P**	**22 41 16.9**	**+0.8**
YOJ	**Yonaguni jima**	**14.71**	**239**	*e*P	**P**	**22 41 34.2**	**-1.3**
YOJ	**Yonaguni jima**	**14.71**	**239**	*e*P	**P**	**22 41 34.2**	**-1.3**
YSS	**Yuzh-Sakhalins**	**14.74**	**16**	*e*P	**P**	**22 41 36.8**	**+1.2**
YSS	**Yuzh-Sakhalins**	**14.74**	**16**	*e*P	**P**	**22 41 36.8**	**+1.2**
HABR	**Khabarovsk**	**15.59**	**356**	*e*P	**P**	**22 41 44.2**	**-0.4**
HABR				S	**S**	**22 44 31.5**	**+3.2**
YHNB	**Yeheng**	**15.79**	**243**	*e*P	**P**	**22 41 46.0**	**-1.2**
	comp=N,86nm,1.5s						
NACB	**Ninganchiao**	**15.91**	**241**	*e*P	**P**	**22 41 45.8**	**-2.7**
	comp=N,19nm,0.4s						
TIA	**Tai'an**	**16.51**	**287**	⇓P	**P**	**22 41 54.0**	**-0.7**
TIA				PMZ			
	comp=N,40nm,0.8s						
YULB	**Yu-li**	**16.60**	**239**	*e*P	**P**	**22 41 52.5**	**-3.3**
	comp=N,12nm,0.6s						
SSLB	**Suanglung**	**16.61**	**241**	*e*P	**P**	**22 41 53.4**	**-2.6**
	comp=N,89nm,1.8s						
SSLB				*e*S	**S**	**22 44 45.1**	**-4.0**
UGL	**Uglegorsk**	**16.62**	**12**	*e*P	**P**	**22 41 54.4**	**-1.2**
UGL				*e*S	**S**	**22 44 49.9**	**+1.4**
KLR	**Kul'dur**	**16.72**	**349**	*e*P	**P**	**22 41 52.2**	**-4.5**
KLR				*e*S	**S**	**22 44 45.2**	**-5.2**
KLR				pmax	pmax		
	comp=E,28nm,1.0s						
KLR				pmax	pmax		
	comp=Z,44nm,1.0s						
TPUB	**Ta-pu**	**17.14**	**240**	*e*P	**P**	**22 42 01.0**	**-0.6**
	comp=Z,90nm,1.6s						
BJT	**Baijiatuan**	**17.99**	**299**	*e*P	**P**	**22 42 09.4**	**-1.0**
BJT				pmax	pmax		
	comp=Z,74nm,1.1s						
BJT	**Baijiatuan**	**17.99**	**299**	*e*P	**P**	**22 42 09.3**	**-1.0**
	comp=Z,74nm,1.1s						
GUMO	**Guam**	**20.62**	**157**	P	**P**	**22 42 35.8**	**+0.1**
	comp=Z,138nm,0.9s,baz=159,slow=9.8,SNR=7.4						
GUMO	**Guam**	**20.62**	**157**	P	**P**	**22 42 35.8**	**+0.1**
GUMO				pmax	pmax		
	comp=Z,138nm,0.9s						
GUMO	**Guam**	**20.62**	**157**	*e*P	**P**	**22 42 36.3**	**+0.6**
HHC	**Hu-ho-hao-te**	**21.60**	**299**	*e*P	**P**	**22 42 44.8**	**+0.2**
HHC				sP	**sP**	**22 44 41.5**	**+0.5**
HHC				PcS	**PcS**	**22 50 08.5**	**+0.2**
HHC				ScS	**ScS**	**22 53 11.5**	**+0.4**
HHC				PMZ			
	comp=Z,51nm,0.7s						
HHC				PMZ			
	comp=Z,110nm,5.4s						
XAN	**Xi'an**	**23.23**	**280**	P	**P**	**22 42 58.5**	**-0.8**
XAN				PMZ			
	comp=Z,16nm,1.1s						
ENH	**Enshi**	**23.36**	**271**	*e*P	**P**	**22 43 00.4**	**-0.1**
	comp=Z,37nm,1.0s						
ENH				*e*pP	pP	22 44 24.2	+16
PETK	**Petropavlovsk-**	**25.15**	**30**	P	**P**	**22 43 17.2**	**+1.0**
	comp=Z,5.2nm,0.9s,baz=228,slow=1.8,SNR=5.5						
PETK	**Petropavlovsk-**	**25.15**	**30**	P	**P**	**22 43 17.2**	**+1.0**
PETK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
PEA2	**Petropavlovsk-**	**25.16**	**30**	*e*P	**P**	**22 43 17.2**	**+1.0**
GYA	**Guiyang**	**26.87**	**264**	⇑*i*P	**P**	**22 43 30.5**	**-1.4**
GYA				PMZ			
	comp=Z,20nm,0.8s						
LZH	**Lanzhou**	**27.24**	**286**	*e*P	**P**	**22 43 34.0**	**-1.1**
LZH				PMZ			
	comp=Z,22nm,1.3s						
SONA0	**Songino Array**	**27.30**	**312**	*e*P	**P**	**22 43 36.1**	**+0.7**
SONA0				*e*pP	**pP**	**22 44 51.4**	**+2.4**
SONA0				*e*PcP	**PcP**	**22 46 42.6**	**+0.5**
SONA0				*e*ScP	**ScP**	**22 49 42.4**	**+0.2**
SONA1	**Songino Array**	**27.30**	**312**	*e*P	**P**	**22 43 36.0**	**+0.6**
SONA1				*e*pP	**pP**	**22 44 51.9**	**+2.8**
SONA1				*e*ScP	**ScP**	**22 49 42.0**	**-0.2**
SONM	**Songino Array**	**27.30**	**312**	P	**P**	**22 43 36.1**	**+0.7**
	comp=Z,9.0nm,0.5s,baz=115,slow=8.1,SNR=80						
SONM				pP	**pP**	**22 44 51.4**	**+2.4**
	comp=Z,3.1nm,1.1s,baz=123,slow=11,SNR=2.0						
SONM				PcP	**PcP**	**22 46 42.6**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=33,slow=1.1,SNR=5.5						
SONM				ScP	**ScP**	**22 49 42.4**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=156,slow=4.1,SNR=7.2						
SONM	**Songino Array**	**27.30**	**312**	*e*P	**P**	**22 43 36.2**	**+0.8**
SONM				pmax	pmax		
	comp=Z,9.0nm,0.5s						
BOD	**Bodaibo**	**29.31**	**335**	*e*P	**P**	**22 43 51.1**	**-1.6**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ZAK	**Zakamensk**	**30.16**	**315**	*e*P	**P**	**22 43 58.9**	**-1.5**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
GTA	**Gaotai**	**30.37**	**293**	*e*P	**P**	**22 44 02.0**	**-0.5**
GTA				PMZ			
	comp=Z,18nm,0.9s						
TLY	**Talaya**	**30.47**	**318**	*e*P	**P**	**22 44 04.7**	**+1.7**
TLY				pmax	pmax		
	comp=Z,9.0nm,0.6s						
TLY	**Talaya**	**30.47**	**318**	*e*P	**P**	**22 44 04.8**	**+1.7**
	comp=Z,12nm,0.8s						
KMI	**Kunming**	**30.65**	**264**	P	**P**	**22 44 05.0**	**-0.2**
KMI				PMZ			
	comp=Z,17nm,0.7s						
SEY	**Seymchan**	**31.62**	**14**	P	**P**	**22 44 13.6**	**+0.8**
	comp=Z,1.3nm,0.4s,baz=225,slow=8.5,SNR=3.8						
MOY	**Mondy**	**31.98**	**317**	*e*P	**P**	**22 44 16.6**	**+0.4**
SKNT	**Sakolnakorn**	**33.52**	**250**	P	**P**	**22 44 30.2**	**+0.5**
	comp=Z,21nm,1.3s						
CRAI	**Chiangrai**	**34.74**	**258**	P	**P**	**22 44 37.5**	**-2.5**
	comp=Z,12nm,0.8s						
LOEI	**Loei**	**35.40**	**253**	P	**P**	**22 44 42.5**	**-3.0**
	comp=Z,59nm,1.1s,comp=Z,4μm						
UTTA	**Uttaradit**	**35.85**	**254**	P	**P**	**22 44 49.4**	**+0.1**
	comp=Z,11nm,0.7s,comp=Z,91nm						
PBKT	**Sadao Pong**	**36.14**	**252**	P	**P**	**22 44 52.1**	**+0.4**
	comp=Z,25nm,0.9s						
LAMP	**Lampang**	**36.19**	**256**	P	**P**	**22 44 52.9**	**+0.7**
	comp=Z,8.9nm,0.7s,comp=Z,198nm						
CMMT	**Chiang Mai**	**36.61**	**257**	P	**P**	**22 44 56.7**	**+1.1**
	comp=Z,16nm,1.7s						
CHTO	**Chiang Mai**	**36.61**	**257**	P	**P**	**22 44 57.6**	**+1.9**
	comp=Z,51nm,0.7s						
CHTO	**Chiang Mai**	**36.61**	**257**	*e*P	**P**	**22 44 55.7**	**0.0**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CHTO	**Chiang Mai**	**36.61**	**257**	*e*P	**P**	**22 44 55.7**	**0.0**
	comp

comp=Z,41nm,1.1s
MKAR Makanchi Array 43.21 305 *e*P **P 22 45 49.1 +0.3**
MKAR *e*PcP **PcP 22 47 29.3 +0.1**
MKAR *e*ScP **ScP 22 50 39.2 -0.7**
PMG Port Moresby 43.24 165 *e*P **P 22 45 48.5 -0.8**
PMG pmax pmax
comp=Z,35nm,0.7s
RAMN Ramite 43.55 276 *e*P **P 22 45 51.9 -0.1**
JIRN Jiri 43.65 277 *e*P **P 22 45 53.5 +0.6**
comp=Z,201nm,0.4s
IPM Ipoh 43.73 237 *e*P **P 22 45 51.5 -1.8**
comp=Z,16nm,0.5s
GUN Gumba 43.83 277 *e*P **P 22 45 54.6 +0.3**
comp=Z,120nm,0.7s
PKI Pulchoki 44.33 277 *e*P **P 22 45 57.9 -0.3**
comp=Z,60nm,0.7s
PKIN Phulchoki 44.34 277 *e*P **P 22 45 58.3 +0.1**
KKN Kakani 44.37 278 *e*P **P 22 45 58.3 0.0**
comp=Z,105nm,0.8s
DMN Daman 44.57 277 *e*P **P 22 45 59.9 -0.1**
GKN Gorkha 44.83 278 *e*P **P 22 46 01.8 -0.1**
comp=Z,91nm,0.8s
KURK Kurchatov 45.59 311 *e*P **P 22 46 07.3 +0.1**
KURK *e* 22 47 37.1
KURK *e* 22 48 02.2
KURK *e*S **S 22 52 15.3 -2.1**
KURK pmax pmax
comp=Z,2.0nm,0.7s
KURK Kurchatov 45.59 311 *e*P **P 22 46 07.3 +0.1**
comp=Z,2.4nm,0.7s
KURK *e*PcP **PcP 22 47 36.9 -0.5**
KURK *e*PcP pP 22 47 37.1 +8.3
KURK *e*PP **PP 22 48 02.2 +1.8**
KURK *e*S **S 22 52 15.3 -2.1**
KURBB Kurchatov Arra 45.65 311 P **P 22 46 07.3 -0.4**
comp=Z,19nm,0.5s,baz=90,slow=9.1,SNR=471
KURBB PcP **PcP 22 47 37.1 -0.4**
comp=Z,4.3nm,0.7s,baz=93,slow=4.0,SNR=7.8
KURBB PP **PP 22 48 02.2 +1.3**
comp=Z,0.6nm,0.8s,baz=92,slow=11,SNR=5.0
KURBB S **S 22 52 15.3 -2.9**
comp=Z,0.4nm,1.1s,baz=171,slow=6.4,SNR=3.2
KOLN Koldanda 45.77 278 *e*P **P 22 46 09.4 +0.2**
PSI Prapat 46.40 238 P **P 22 46 14.1 0.0**
comp=Z,7.7nm,0.5s,baz=16,slow=7.3,SNR=3.6
COEN Coen 47.02 171 *e*P **P 22 46 19.2 +0.7**
comp=Z,3.1nm,0.6s
ULHL Ulahol 47.96 300 P **P 22 46 26.4 +0.6**
SNR=8.7
TKM2 Tokmak 2 48.32 300 P **P 22 46 29.1 +0.7**
SNR=18
TKM2 Tokmak 2 48.32 300 *e*P **P 22 46 29.0 +0.6**
TKM2 pmax pmax
comp=Z,12nm,0.6s
TKM2 Tokmak 2 48.32 300 *e*P **P 22 46 29.0 +0.6**
comp=Z,12nm,0.6s
GSI Gunungsitoli 48.40 238 *e*P **P 22 46 28.9 -0.2**
comp=Z,59nm,0.6s
GSI *e*S **S 22 52 57.8 +0.2**
KZA Kyzart 48.72 299 P **P 22 46 32.9 +1.3**
SNR=17
KBK Karagaybulak 48.83 300 P **P 22 46 32.8 +0.5**
SNR=5.9
CHMS Chumysh 48.92 301 P **P 22 46 32.7 0.0**
SNR=10
USP Ospenovka 49.05 301 P **P 22 46 33.9 +0.2**
SNR=11
AAK Ala-Archa 49.17 300 P **P 22 46 34.9 +0.2**
SNR=21
AAK Ala-Archa 49.17 300 *i* P **P 22 46 34.7 0.0**
AAK pmax pmax
comp=Z,11nm,0.6s
AAK Ala-Archa 49.17 300 *e*P **P 22 46 34.9 +0.2**
comp=Z,14nm,0.6s
UCH Uchtor 49.23 300 P **P 22 46 36.3 +0.8**
SNR=14
EKS2 Erkin-Say 49.68 300 P **P 22 46 38.6 0.0**
SNR=10.0
EKS2 Erkin-Say 49.68 300 *e*P **P 22 46 38.5 0.0**
EKS2 pmax pmax
comp=Z,11nm,1.0s
EKS2 Erkin-Say 49.68 300 *e*P **P 22 46 38.5 0.0**
comp=Z,11nm,1.0s
OTUK Ortayu 49.83 308 *i* P **P 22 46 39.6 +0.2**
OTUK pmax pmax
comp=Z,30nm,0.7s
AML Almayashu 49.84 300 P **P 22 46 40.9 +0.9**
SNR=34
BVAR Borovoye Array 50.60 314 P **P 22 46 44.6 -0.3**
comp=Z,8.4nm,0.3s,baz=100,slow=7.5,SNR=13
BVAR PcP **PcP 22 47 55.6 +0.1**
comp=Z,5.8nm,0.5s,baz=89,slow=3.3,SNR=10
BVAR ScP **ScP 22 51 10.0 -0.8**
comp=Z,1.0nm,0.5s,baz=109,slow=5.2,SNR=4.7
BVAR S **S 22 53 24.9 -2.0**
comp=Z,0.9nm,0.6s,baz=91,slow=13,SNR=5.8
BVAR Borovoye Array 50.60 314 P **P 22 46 44.6 -0.3**
BVAR 22 47 55.6
BVAR S **S 22 53 24.9 -2.0**
BVAR pmax pmax
comp=Z,8.0nm,0.4s
BVAR smax smax
comp=N,1.0nm,0.6s
BRVK Borovoye 50.66 314 *d* P **P 22 46 45.2 -0.2**
BRVK *i* *PP **PcP 22 47 52.8 -3.0**
BRVK pmax pmax
comp=Z,18nm,1.3s
BRVK Borovoye 50.66 314 *e*P **P 22 46 45.3 -0.1**
comp=Z,17nm,0.9s
NDI New Delhi 50.74 282 *e*P **P 22 46 45.0 -1.4**
KK31 Karatay Array 51.95 302 ⇑ *e*P **P 22 46 55.1 +0.1**
KK31 pmax pmax
comp=Z,52nm,0.6s
KKAR Karatay Array 51.95 302 *e*P **P 22 46 55.0 0.0**
KKAR Karatay Array 51.95 302 *e*P **P 22 46 55.0 0.0**
WRAB Tennant Creek 52.61 183 *e*P **P 22 46 59.7 -0.2**
WRAB pmax pmax
comp=Z,29nm,0.3s
WRAB Tennant Creek 52.61 183 *e*P **P 22 46 59.7 -0.2**
comp=Z,29nm,0.3s
WRA Warramunga Arr 52.62 183 P **P 22 46 59.8 -0.2**
comp=Z,15nm,0.3s,baz=0.2,slow=7.6,SNR=61
WRA ScP **ScP 22 51 19.8 -0.1**
comp=Z,1.5nm,0.7s,baz=356,slow=4.6,SNR=5.5
WRA S **S 22 53 53.3 -1.4**
comp=Z,0.4nm,0.8s,baz=356,slow=13,SNR=4.8
CTA Charters Tower 53.49 169 P **P 22 47 06.4 +0.2**
comp=Z,2.8nm,0.5s,baz=7.7,slow=6.6,SNR=6.3
HYB Hyderabad 54.27 268 *i* P **P 22 47 11.0 -1.1**
ILAR Eielson Array 54.98 31 P **P 22 47 16.7 +0.4**
comp=Z,0.6nm,0.6s,baz=278,slow=5.2,SNR=5.7
ILB Eielson Array 54.98 31 *e*P **P 22 47 16.7 +0.4**
KBL Kabul 55.35 292 *e*P **P 22 47 19.5 -0.2**
KBL pmax pmax
comp=Z,17nm,0.8s
KBL Kabul 55.35 292 *e*P **P 22 47 19.5 -0.2**
comp=Z,17nm,0.8s
SVE Sverdlovsk 55.76 320 *e*P **P 22 47 21.6 -0.2**
SVE pmax pmax
comp=Z,14nm,0.8s
AS01 Alice Springs 56.34 183 *e*P **P 22 47 26.0 -0.3**
AS12 Alice Springs 56.34 183 *e*P **P 22 47 26.2 -0.2**
AS12 *e*ScP **ScP 22 51 36.8 +0.6**
AS12 *e*S **S 22 54 43.3 -0.5**
ASAR Alice Springs 56.34 183 P **P 22 47 26.2 -0.2**
comp=Z,7.3nm,0.4s,baz=354,slow=4.3,SNR=90
ASAR ScP **ScP 22 51 36.8 +0.6**
comp=Z,0.9nm,0.8s,baz=360,slow=4.6,SNR=4.3
ASAR S **S 22 54 43.3 -0.5**
comp=Z,0.7nm,0.8s,baz=18,slow=21,SNR=6.7
ASAR Alice Springs 56.34 183 P **P 22 47 26.2 -0.2**
ASAR S **S 22 54 43.3 -0.5**
ASAR pmax pmax
comp=Z,7.0nm,0.4s
ASAR smax smax
comp=N,1.0nm,0.8s
ARU Arti 56.95 320 *d* *i*P **P 22 47 29.8 -0.4**
ARU 22 48 18.6
ARU *PP **pP 22 48 52.5 -3.9**
ARU *SP sP 22 49 36.9 -5.3
ARU 22 49 40.7
ARU S **S 22 54 53.7 +2.8**
ARU SS **SS 22 58 44.8 -1.9**
ARU pmax pmax
comp=Z,15nm,0.7s
ARU Arti 56.95 320 *e*P **P 22 47 29.9 -0.2**
comp=Z,14nm,0.7s
AB31 Akbulak array 57.70 311 ⇑ *e*P **P 22 47 35.3 -0.2**
AB31 pmax pmax
comp=Z,14nm,0.3s
ABKAR Akbulak array 57.70 311 *e*P **P 22 47 35.4 -0.1**
AKTO Aktyubinsk 58.61 313 P **P 22 47 41.5 -0.2**
comp=Z,9.3nm,0.5s,baz=74,slow=14,SNR=29
DZM Mont Dzumac 61.59 149 P **P 22 48 03.9 +1.9**
comp=Z,12nm,0.6s,baz=270,slow=24,SNR=16
PRGR Permogore 62.14 327 *e*P P 22 47 59.6 -5.4
PRGR pmax pmax
comp=Z,10.0nm,0.3s
FORT Forrest 63.89 188 *e*P **P 22 48 16.9 +0.2**
comp=Z,32nm,0.6s
STKA Stephens Creek 64.61 175 P **P 22 48 21.9 +0.7**
comp=Z,13nm,0.6s,baz=349,slow=6.3,SNR=40
STKA Stephens Creek 64.61 175 *e*P **P 22 48 22.0 +0.7**
STKA pmax pmax
comp=Z,2.0nm,0.7s
STKA Stephens Creek 64.61 175 *e*P **P 22 48 22.0 +0.7**
comp=Z,2.3nm,0.7s
KLMR Klimovskoe 65.18 328 *e*P **P 22 48 21.9 -2.7**
KLMR pmax pmax
comp=Z,24nm,1.0s
ARA0 ARCESS Array S 66.48 339 *e*P **P 22 48 32.9 +0.2**
ARCES ARCESS Array B 66.48 339 P **P 22 48 32.9 +0.2**
comp=Z,14nm,0.7s,baz=60,slow=8.6,SNR=57
ARCES ARCESS Array B 66.48 339 *e*P **P 22 48 33.0 +0.4**
ARCES pmax pmax
comp=Z,14nm,0.7s
RES Resolute Bay 67.49 13 *e*P **P 22 48 39.8 +1.0**
RES pmax pmax
comp=Z,3.0nm,0.8s
RES Resolute Bay 67.49 13 *e*P **P 22 48 39.8 +1.0**
comp=Z,3.3nm,0.8s
NWAO Narrogin (SRO) 68.04 198 P **P 22 48 42.7 0.0**
comp=Z,10nm,1.0s,baz=331,slow=10,SNR=4.8
NWAO Narrogin (SRO) 68.04 198 *e*P **P 22 48 42.7 0.0**
comp=Z,0.1nm,1.0s
LPSR Galich'ya Gora 68.98 320 *e*P **P 22 48 47.7 -0.6**
LPSR pmax pmax
comp=N,7.0nm,0.7s
LPSR pmax pmax
comp=E,10.0nm,0.7s
LPSR pmax pmax
comp=Z,9.0nm,0.7s
OBN Obninsk 69.07 323 *c* *i*P **P 22 48 48.3 -0.5**
OBN *e* 22 49 10.6
OBN *e**PP **pP 22 50 17.0 -2.1**
OBN *e* 22 51 29.2
OBN pmax pmax
comp=Z,17nm,1.3s
OBN Obninsk 69.07 323 *e*P **P 22 48 48.7 -0.1**
comp=Z,15nm,0.8s
YKA Yellowknife Ar 69.25 28 P **P 22 48 50.3 +0.6**
comp=Z,1.1nm,0.8s,baz=295,slow=6.0,SNR=7.1
YKA PcP **PcP 22 49 11.6 +1.4**
comp=Z,0.5nm,0.7s,baz=294,slow=4.1,SNR=4.6
YKA Yellowknife Ar 69.25 28 P **P 22 48 50.3 +0.6**
YKA 22 49 11.6
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKB5 Yellowknife Ar 69.25 28 *e*P **P 22 48 50.3 +0.6**
YKB5 *e*PcP **PcP 22 49 11.7 +1.4**
VSR Storozhevoye 69.47 318 *e*P **P 22 48 50.9 -0.4**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.1s
HATD Hatta, Dubai 69.50 287 ⇓ *i*P **P 22 48 52.7 +0.7**
SNR=8.0
VORD Divnogorie 69.52 318 *e*P **P 22 48 51.0 -0.6**
VORD pmax pmax
comp=Z,10.0nm,1.5s
VORD pmax pmax
comp=N,10.0nm,1.6s
VORD pmax pmax
comp=E,10.0nm,0.8s
ASHO Ashiyiah 69.62 287 ⇑ *i*P **P 22 48 53.0 +0.3**
SNR=7.9
GOF Gofitskoye 69.94 311 *e*P **P 22 48 54.5 +0.2**
GOF pmax pmax
comp=Z,30nm,0.9s
ZEI Tsey 70.42 309 *e*P **P 22 48 56.1 -1.3**
ZEI pmax pmax
comp=Z,24nm,1.3s
FIA0 FINESS Array S 70.63 332 *e*P **P 22 48 57.8 -0.3**
FIA0 FINESS Array S 70.63 332 *e*P **P 22 48 57.8 -0.3**
FINES FINESS Array B 70.63 332 P **P 22 48 57.8 -0.3**
comp=Z,13nm,0.5s,baz=73,slow=5.1,SNR=207
FINES FINESS Array B 70.63 332 *e*P **P 22 48 57.9 -0.2**
FINES pmax pmax
comp=Z,13nm,0.5s
KBZ Khabaz 70.64 310 P **P 22 48 58.9 +0.5**
comp=Z,26nm,0.8s,baz=56,slow=24,SNR=54
KIV Kislovodsk 70.67 310 *e*P **P 22 48 59.1 +0.3**
KIV pmax pmax
comp=Z,41nm,1.1s
KIV Kislovodsk 70.67 310 ⇓ *i*P **P 22 48 59.5 +0.7**
SNR=17
KIV Kislovodsk 70.67 310 *e*P **P 22 48 59.3 +0.5**
comp=Z,28nm,0.8s
GNI Garni 71.05 306 P **P 22 49 02.2 +1.0**
comp=Z,3.5nm,0.5s,baz=16,slow=0.7,SNR=6.0
GNI Garni 71.05 306 P **P 22 49 02.2 +1.0**
GNI pmax pmax
comp=Z,4.0nm,0.5s
VSU Vasula 72.01 329 *d* *i*P **P 22 49 05.7 -0.6**
VSU pmax pmax
comp=Z,110nm,1.4s
PIER Pier 30 Seattl 73.11 44 *e*P **P 22 49 12.5 -0.3**
IDID Didziasalis 73.79 326 *e*P **P 22 49 17.3 +0.7**
IDID AMB AMB 22 49 18.0
comp=Z,9.5nm,0.7s
ISAL Salakas 73.93 326 *e*P **P 22 49 18.1 +0.7**
ISAL AMB AMB 22 49 18.9
comp=Z,14nm,0.6s
IIGN Ignalina 74.01 326 *e*P **P 22 49 18.6 +0.7**
IIGN AMB AMB 22 49 19.2
comp=Z,9.6nm,0.6s
SUMG Summit 74.73 359 ⇓ *i*P **P 22 49 23.5 +1.3**
comp=Z,13nm,0.7s
SUMG Summit 74.73 359 ⇓ *i*P **P 22 49 23.5 +1.3**
SUMG pmax pmax
comp=Z,13nm,0.7s
SUMG Summit 74.73 359 *e*P **P 22 49 23.6 +1.3**
comp=Z,14nm,0.7s
DBO Dodson Butte 74.84 48 *e*P **P 22 49 22.2 -0.7**
AKASG Malin Array Be 75.15 321 P **P 22 49 24.0 -0.4**
comp=Z,2.6nm,0.3s,baz=51,slow=5.9,SNR=40
AKASG Malin Array Be 75.15 321 *e*P **P 22 49 24.0 -0.4**
AKASG pmax pmax
comp=Z,3.0nm,0.3s
AKBB Malin Array Si 75.15 321 *e*P **P 22 49 24.0 -0.4**
AKBB Malin Array Si 75.15 321 *e*P **P 22 49 24.0 -0.4**
KIEV Kiev 75.16 321 *e*P **P 22 49 24.2 -0.3**
KIEV pmax pmax
comp=Z,13nm,0.9s
KIEV Kiev 75.16 321 *e*P **P 22 49 24.2 -0.3**
comp=Z,13nm,0.9s
AK11 Malin Array Si 75.19 321 *e*P **P 22 49 24.1 -0.6**
HFS Hagfors 76.19 334 P **P 22 49 29.8 -0.3**
comp=Z,12nm,0.5s,baz=80,slow=3.6,SNR=78
HFS Hagfors 76.19 334 P **P 22 49 29.8 -0.3**
HFS pmax pmax
comp=Z,13nm,0.5s
SUW Suwalki 76.23 326 *e*P **P 22 49 31.0 +0.6**
SUW pmax pmax
comp=Z,51nm,1.1s
SUW Suwalki 76.23 326 *e*P **P 22 49 31.0 +0.6**
comp=Z,51nm,1.1s
MALT Malatya 76.23 307 ⇓ *i*P **P 22 49 32.0 +1.1**
NB2 NORSAR Subarra 76.43 336 P **P 22 49 30.9 -0.6**
comp=Z,14nm,0.7s,baz=44,slow=5.6
NB2 NORSAR Subarra 76.43 336 P **P 22 49 30.9 -0.6**
baz=44,slow=5.6
NB200 NORSAR Array S 76.43 336 *e*P **P 22 49 31.2 -0.2**
NOA NORSAR Array B 76.43 336 P **P 22 49 31.2 -0.2**
comp=Z,15nm,0.7s,baz=45,slow=5.6,SNR=52
NOA NORSAR Array B 76.43 336 *e*P **P 22 49 31.2 -0.2**
NOA pmax pmax
comp=Z,15nm,0.7s
NBO02 NORSAR Array S 76.55 336 *e*P **P 22 49 31.9 -0.1**
SLMT Seeley Lake 78.33 41 *e*P **P 22 49 43.3 +1.1**
RAYN Ar Rayn 78.60 291 *e*P **P 22 49 44.2 +0.1**
comp=Z,15nm,0.7s
BR101 Keskin Array S 78.64 310 *e*P **P 22 49 44.1 +0.1**
BRTR Keskin Array B 78.64 310 P **P 22 49 44.1 +0.1**
comp=Z,11nm,0.7s,baz=108,slow=4.4,SNR=68
BRTR Keskin Array B 78.64 310 P **P 22 49 44.2 +0.1**
BRTR pmax pmax
comp=Z,11nm,0.7s
CFR Carcaliu 78.91 317 ⇓ *i*P **P 22 49 45.1 -0.1**
TESR Tescani 78.96 319 ⇑ *i*P **P 22 49 45.3 -0.2**
BURAR Bucovina Array 79.08 320 ⇓ *i*P **P 22 49 46.6 +0.3**
BUR04 Bucovina Ar. S 79.09 320 *e*P **P 22 49 46.6 +0.3**
ANTO Ankara 79.10 310 *e*P **P 22 49 47.0 +0.5**
ANTO pmax pmax
comp=Z,13nm,0.7s
ANTO Ankara 79.10 310 ⇓ *i*P **P 22 49 46.8 +0.3**
ANTO Ankara 79.10 310 *e*P **P 22 49 47.0 +0.5**
comp=Z,13nm,0.7s
BR231 Keskin MP Arra 79.12 310 *e*P **P 22 49 44.7 -1.9**
TIRR Tirgusor 79.17 316 ⇑ *i*P **P 22 49 47.0 +0.4**
BSD Bornholm Skovb 79.18 330 *i* P **P 22 49 45.8 -0.6**
comp=Z,39nm,0.9s
BSD Bornholm Skovb 79.18 330 *i* P **P 22 49 45.8 -0.6**
BSD pmax pmax
comp=Z,39nm,0.9s
VRI Vrincioaia 79.30 318 ⇑ *i*P **P 22 49 48.1 +0.8**
TLB Topalu 79.31 316 ⇑ *i*P **P 22 49 47.6 +0.3**
MSAB Monastry St. A 79.72 316 ⇓ *i*P **P 22 49 50.2 +0.6**
PGOR Pogoanele 79.73 317 ⇓ *i*P **P 22 49 50.7 +1.1**
PSN Preselentsi 79.75 316 ⇑ *i*P **P 22 49 51.0 +1.3**
KOLS Kolonicke sedl 79.82 322 *e*P **P 22 49 49.9 -0.1**
KOLS pmax pmax
comp=Z,8.0nm,1.5s
KOLS Kolonicke sedl 79.82 322 *e*P **P 22 49 49.9 -0.1**
MLR Muntele Rosu 79.97 318 P **P 22 49 51.1 +0.1**
comp=Z,0.8nm,0.6s,baz=346,slow=12,SNR=7.2
MLR Muntele Rosu 79.97 318 ⇑ *i*P **P 22 49 51.5 +0.5**
BMR Baia Mare 79.97 321 ⇑ *i*P **P 22 49 51.5 +0.7**
DOPR Dopca 79.99 319 ⇓ *i*P **P 22 49 52.2 +1.2**
STHS Stebnicka Huta 80.04 323 *e*P **P 22 49 51.7 +0.5**
STHS pmax pmax
comp=Z,6.0nm,1.0s
STHS Stebnicka Huta 80.04 323 *e*P **P 22 49 51.7 +0.5**
SECR 80.17 318 ⇓ *i*P **P 22 49 53.0 +1.0**
TRPA Tarpa 80.19 322 ⇑ *i*P **P 22 49 52.3 +0.4**
OJC Ojcow 80.24 324 *e*P **P 22 49 52.6 +0.4**
OJC pmax pmax
comp=Z,18nm,1.0s
OJC Ojcow 80.24 324 *e*P **P 22 49 52.6 +0.4**
comp=Z,18nm,1.0s
VOIR 80.50 318 ⇑ *i*P **P 22 49 54.6 +0.8**
NV01 Mina Array Sit 80.53 50 *e*P **P 22 49 56.5 +2.3**
NVAR Mina Array Bea 80.53 50 P **P 22 49 55.6 +1.4**
comp=Z,1.4nm,0.6s,baz=301,slow=5.0,SNR=6.3
ARR Arges 80.77 319 ⇓ *i*P **P 22 49 56.3 +1.1**
DRGR 80.94 321 ⇓ *i*P **P 22 49 55.1 -0.9**
ELK Elko 81.13 47 P **P 22 49 59.1 +1.8**
comp=Z,0.8nm,0.6s,baz=16,slow=13,SNR=4.1
ELK Elko 81.13 47 *e*P **P 22 49 59.1 +1.8**
ELK pmax pmax
comp=Z,5.0nm,1.5s
ELK Elko 81.13 47 *e*P **P 22 49 59.1 +1.8**
comp=Z,5.4nm,1.5s
MMAI Mount Meron Ar 81.13 304 P **P 22 49 57.4 +0.1**
comp=Z,3.0nm,0.5s,baz=51,slow=6.6,SNR=11
LOT Lotru 81.20 319 ⇑ *i*P **P 22 49 58.1 +0.6**
OKC Ostrava-Krasne 81.29 325 *e*P **P 22 49 57.7 0.0**
OKC *e*PCP **PcP 22 50 00.5 -2.0**
OKC Ostrava-Krasne 81.29 325 *e*P **P 22 49 57.7 0.0**
JMB Yambol 81.42 315 ⇑ *i*P **P 22 49 59.4 +0.9**
CSS Prodhromos 81.48 306 *e*P **P 22 49 58.8 -0.2**
comp=Z,2.4nm,0.8s
RUE Ruedersdorf 81.49 329 *e*P **P 22 49 59.1 +0.5**
comp=Z,22nm,1.1s
H17A Grant Village 81.67 42 *e*P P 22 50 03.6 +3.5
comp=Z,6.5nm,1.0s
PSZ Piszkesteto 81.69 323 *e*P **P 22 49 59.2 -0.7**
PSZ pmax pmax
comp=Z,12nm,1.0s
PSZ Piszkesteto 81.69 323 ⇓ *i*P **P 22 50 00.3 +0.4**
PSZ Piszkesteto 81.69 323 *e*P **P 22 49 59.2 -0.7**
comp=Z,12nm,1.0s
GZR Gura Zlata 81.78 319 ⇑ *i*P **P 22 50 00.6 +0.2**
KRLC Kraliky 81.78 326 *e*P **P 22 50 00.5 +0.2**
KRLC *e*PCP **PcP 22 50 04.1 -0.7**
KRLC Kraliky 81.78 326 *e*P **P 22 50 00.5 +0.2**
DPC Dobruska-Polom 81.81 326 *e*P **P 22 50 01.0 +0.5**
DPC *e*PCP **PcP 22 50 04.7 -0.2**
DPC Dobruska-Polom 81.81 326 *e*P **P 22 50 00.5 +0.1**
DPC Dobruska-Polom 81.81 326 *e*P **P 22 50 00.5 +0.1**
comp=Z,75nm,0.7s
VYHS Vyhne 81.84 324 *e*P **P 22 50 01.0 +0.4**
VYHS pmax pmax
comp=Z,7.0nm,1.1s
VYHS Vyhne 81.84 324 *e*P **P 22 50 01.0 +0.4**
UPC Upice 81.85 326 *e*P **P 22 50 01.0 +0.4**
UPC Upice 81.85 326 *e*P **P 22 50 01.0 +0.4**
FXWY Fox Creek 81.88 43 *e*P **P 22 50 03.1 +1.9**
comp=Z,34nm,2.7s
BSEG Bad Segeberg 81.91 331 *e*P **P 22 50 01.0 +0.3**
comp=Z,18nm,0.9s
BZS Buzias 82.27 320 ⇓ *i*P **P 22 50 02.8 0.0**
R11A Troy Canyon, C 82.31 49 *e*P **P 22 50 04.7 +1.2**
comp=Z,2.3nm,0.8s
VRAC Vranov 82.40 325 P **P 22 50 03.8 +0.4**
comp=Z,10nm,0.7s,baz=56,slow=4.1,SNR=21
VRAC Vranov 82.40 325 ⇓ *i*P **P 22 50 04.0 +0.6**
PVCC Panska Ves 82.50 327 *e*P **P 22 50 04.4 +0.5**
PVCC Panska Ves 82.50 327 *e*P **P 22 50 04.4 +0.5**
BRG Berggiesshubel 82.55 328 *i* PKP **P 22 50 04.4 +0.2**
comp=Z,12nm,0.9s
BRG Berggiesshubel 82.55 328 *e*P **P 22 50 04.3 +0.2**
comp=Z,13nm,0.9s
BRG Berggiesshubel 82.55 328 *i* P **P 22 50 04.4 +0.2**
BRG pmax pmax
comp=Z,12nm,0.9s
KDZ Kurdzhali 82.61 315 ⇓ *i*P **P 22 50 05.5 +0.9**
CLL Collm 82.66 328 *e*P **P 22 50 04.6 0.0**
comp=Z,20nm,0.7s
CLL Collm 82.66 328 ⇓ *i*P **P 22 50 04.6 0.0**
comp=Z,21nm,0.8s
CLL Collm 82.66 328 *e*P **P 22 50 04.7 0.0**
CLL pmax pmax
comp=Z,25nm,0.8s
CLL Collm 82.66 328 *e*P **P 22 50 04.7 0.0**
comp=Z,25nm,0.8s
FBE Freiberg 82.78 328 *e*P **P 22 50 05.8 +0.5**
comp=Z,24nm,0.8s
GOPC GO Pecny, Ondr 82.83 326 *e*P **P 22 50 05.7 +0.1**
RDO Rodhopi 82.84 315 *e*P **P 22 50 06.2 +0.4**
comp=Z,20nm,1.0s
PRA Prague 82.89 327 *e*P **P 22 50 05.7 -0.1**
PRA Prague 82.89 327 *e*P **P 22 50 05.7 -0.1**
PRU Pruhonice 82.89 327 *e*P **P 22 50 05.7 -0.2**
PRU Pruhonice 82.89 327 *e*P **P 22 50 05.7 -0.2**
TREC Trest 82.93 326 *e*P **P 22 50 06.4 +0.3**
TREC Trest 82.93 326 *e*P **P 22 50 06.4 +0.3**
DUG Dugway, Tooele 82.94 46 *e*P **P 22 50 08.4 +1.9**
DUG Dugway, Tooele 82.94 46 *e*P **P 22 50 08.4 +1.9**
DUG epP **pP 22 51 37.5 -3.3**
BW06 Boulder Array 83.27 43 *e*P **P 22 50 08.5 +0.3**
BW06 Boulder Array 83.27 43 *e*P **P 22 50 08.8 +0.6**
PD31 Pinedale Array 83.27 43 *e*P **P 22 50 09.0 +0.7**
PDAR Pinedale Array 83.27 43 P **P 22 50 09.0 +0.7**
comp=Z,1.4nm,0.8s,baz=344,slow=3.1,SNR=11
NEUB Neuenburg 83.27 329 *e*P **P 22 50 07.9 +0.1**
comp=Z,34nm,1.2s
EIL Elat 83.31 301 P **P 22 50 08.0 -0.4**
comp=Z,6.7nm,0.6s,baz=94,slow=3.8,SNR=8.9
VTS Vitosha 83.31 317 ⇑ *i*P **P 22 50 09.4 +1.1**
CLZ Clausthal 83.42 330 *e*P **P 22 50 08.8 +0.3**
comp=Z,23nm,1.1s
PKSM Moragy 83.46 322 ⇑ *i*P **P 22 50 08.8 0.0**
TANN Tannenbergstha 83.54 328 *e*P **P 22 50 09.2 0.0**
comp=Z,3.0nm,0.9s
WERD Werda 83.58 328 *e*P **P 22 50 09.4 0.0**
comp=Z,8.0nm,1.1s
PLN Plauen 83.62 328 *e*P **P 22 50 09.6 0.0**
comp=Z,6.0nm,0.8s
GUNZ Gunzen 83.63 328 *e*P **P 22 50 09.8 +0.1**
comp=Z,14nm,1.0s
MMB Musomiste 83.64 316 ⇓ *i*P **P 22 50 10.3 +0.4**
WERN Wernitzgruen 83.67 328 *e*P **P 22 50 10.1 +0.3**
comp=Z,17nm,1.2s

NKC	**Novy Kostel**	**83.68**	**328**	*eP*		**P**	**22 50 09.6**	**-0.3**
NKC	**Novy Kostel**	**83.68**	**328**	*eP*		**P**	**22 50 09.6**	**-0.3**
CONA	**Conrad Observa**	**83.69**	**325**	⇑*i*PcP		**P**	**22 50 10.7**	**+0.7**
	comp=Z,6.7nm,0.7s							
MOX	**Moxa**	**83.75**	**328**	*eP*		**P**	**22 50 10.8**	**+0.6**
	comp=Z,7.0nm,1.0s							
KHC	**Kasperske Hory**	**83.94**	**326**	*eP*		**P**	**22 50 11.1**	**-0.1**
KHC	**Kasperske Hory**	**83.94**	**326**	*eP*		**P**	**22 50 11.1**	**-0.1**
MANZ	**Manzenberg**	**84.00**	**328**	*eP*		**P**	**22 50 11.5**	**0.0**
	comp=Z,7.0nm,0.9s							
GEC2	**GERESS Array S**	**84.09**	**326**	*eP*		**P**	**22 50 11.6**	**-0.5**
	comp=Z,7.0nm,1.0s							
GEC2	**GERESS Array S**	**84.09**	**326**	*eP*		**P**	**22 50 11.8**	**-0.3**
GEC2	**GERESS Array S**	**84.09**	**326**	*eP*		**P**	**22 50 11.8**	**-0.3**
GERES	**GERESS Array B**	**84.09**	**326**	P		**P**	**22 50 11.5**	**-0.5**
	comp=Z,3.4nm,0.6s,baz=38,slow=5.5,SNR=34							
GERES	**GERESS Array B**	**84.09**	**326**	*eP*		**P**	**22 50 11.6**	**-0.5**
GERES				pmax	pmax			
	comp=Z,3.0nm,0.6s							
ROTZ	**Rotzenmuhle**	**84.12**	**328**	*eP*		**P**	**22 50 12.5**	**+0.4**
	comp=Z,24nm,1.6s							
DIVS	**Divibare**	**84.14**	**320**	⇓*i*P		**P**	**22 50 12.0**	**-0.4**
WET	**Wettzell**	**84.26**	**327**	*eP*		**P**	**22 50 12.7**	**-0.1**
	comp=Z,5.0nm,1.2s							
VAY	**Valandovo**	**84.48**	**316**	*i* P		**P**	**22 50 13.3**	**-0.6**
GRF	**Grafenberg Arr**	**84.61**	**328**	*eP*		**P**	**22 50 14.7**	**+0.2**
	comp=Z,12nm,1.1s							
SKO	**Skopje**	**84.71**	**317**	*eP*		**P**	**22 50 13.7**	**-1.5**
SOKA	**Soboth**	**84.97**	**324**	⇓*i*P		**P**	**22 50 16.0**	**-0.5**
	comp=Z,4.3nm,0.6s							
K22A	**Casper**	**85.05**	**41**	*eP*		**P**	**22 50 14.4**	**-2.7**
	comp=Z,14nm,1.0s							
APE	**Apeiranthos**	**85.35**	**312**	*d*iP		**P**	**22 50 16.3**	**-2.1**
APE				pmax	pmax			
	comp=Z,5.0nm,0.8s							
EKA	**Eskdalemuir Ar**	**85.63**	**338**	P		**P**	**22 50 19.4**	**+0.1**
	comp=Z,2.2nm,0.5s,baz=44,slow=4.6,SNR=13							
OHR	**Ohrid**	**85.64**	**317**	*eP*		**P**	**22 50 18.6**	**-1.1**
STU	**Stuttgart**	**86.19**	**328**	*eP*		**P**	**22 50 22.9**	**+0.7**
	comp=Z,5.0nm,0.7s							
RETA	**Reutte**	**86.43**	**327**	⇑*i*PcP		**P**	**22 50 23.2**	**-0.3**
	comp=Z,4.8nm,0.7s							
FETA	**Feichten**	**86.79**	**326**	⇓*i*PcP		**P**	**22 50 24.7**	**-0.6**
	comp=Z,4.5nm,0.7s							
WLF	**Walferdange**	**86.82**	**330**	*eP*		**P**	**22 50 26.1**	**+0.9**
	comp=Z,7.0nm,1.1s							
IDI	**Anoyia**	**86.86**	**311**	P		**P**	**22 50 23.9**	**-1.8**
	comp=Z,3.0nm,0.3s,baz=44,slow=8.3,SNR=24							
BFO	**Black Forest**	**86.91**	**328**	*eP*		**P**	**22 50 25.3**	**-0.3**
BFO				pmax	pmax			
	comp=Z,4.0nm,0.6s							
BFO	**Black Forest**	**86.91**	**328**	*eP*		**P**	**22 50 25.3**	**-0.3**
	comp=Z,3.9nm,0.6s							
DAVA	**Damuels**	**86.99**	**327**	⇑*i*PcP		**P**	**22 50 26.0**	**-0.2**
	comp=Z,8.5nm,0.6s							
GIVF	**Givet**	**87.03**	**331**	*eP*		**P**	**22 50 26.0**	**-0.1**
GIVF	**Givet**	**87.03**	**331**	*eP*		**P**	**22 50 26.0**	**-0.1**
GIVF	**Givet**	**87.03**	**331**	*eP*		**P**	**22 50 26.0**	**-0.1**
FUORN	**Ofenpass-Fuorn**	**87.30**	**326**	*eP*		**P**	**22 50 27.7**	**-0.1**
	comp=Z,20nm,0.8s							
CDF	**Champ du Feu**	**87.30**	**329**	*eP*		**P**	**22 50 27.1**	**-0.5**
	comp=Z,6.4nm,0.6s							
CDF	**Champ du Feu**	**87.30**	**329**	*eP*		**P**	**22 50 27.1**	**-0.5**
CDF	**Champ du Feu**	**87.30**	**329**	*eP*		**P**	**22 50 27.1**	**-0.5**
DAVOX	**Davos/Dischmat**	**87.36**	**327**	P		**P**	**22 50 27.6**	**-0.5**
	comp=Z,11nm,0.6s,baz=23,slow=2.6,SNR=23							
PAGF	**Fort de Pagny**	**87.86**	**330**	*eP*		**P**	**22 50 29.8**	**-0.3**
	comp=Z,1.6nm,0.4s							
PAGF	**Fort de Pagny**	**87.86**	**330**	*eP*		**P**	**22 50 29.8**	**-0.3**
HINF	**Hinteralfeld**	**87.94**	**329**	*eP*		**P**	**22 50 29.6**	**-0.9**
	comp=Z,3.1nm,0.6s							
HINF	**Hinteralfeld**	**87.94**	**329**	*eP*		**P**	**22 50 29.6**	**-0.9**
HINF	**Hinteralfeld**	**87.94**	**329**	*eP*		**P**	**22 50 29.6**	**-0.9**
SFTF	**Sexfontaines**	**88.42**	**330**	*eP*		**P**	**22 50 32.3**	**-0.4**
SFTF	**Sexfontaines**	**88.42**	**330**	*eP*		**P**	**22 50 32.3**	**-0.4**
LOR	**Lormes**	**89.65**	**330**	*eP*		**P**	**22 50 37.6**	**-0.9**
LOR				eR				
	comp=Z,49nm,21.0s							
LOR	**Lormes**	**89.65**	**330**	*eP*		**P**	**22 50 37.6**	**-0.9**
LOR	**Lormes**	**89.65**	**330**	*eP*		**P**	**22 50 37.6**	**-0.9**
LPL	**La Plagne**	**89.75**	**327**	*eP*		**P**	**22 50 38.7**	**-0.6**
LPL	**La Plagne**	**89.75**	**327**	*eP*		**P**	**22 50 38.7**	**-0.6**
LPL	**La Plagne**	**89.75**	**327**	*eP*		**P**	**22 50 38.7**	**-0.6**
LPG	**La Plagne**	**89.76**	**327**	*eP*		**P**	**22 50 38.9**	**-0.5**
	comp=Z,10nm,0.6s							
LPG	**La Plagne**	**89.76**	**327**	*eP*		**P**	**22 50 38.9**	**-0.5**
LPG	**La Plagne**	**89.76**	**327**	*eP*		**P**	**22 50 38.9**	**-0.5**
SSF	**Saint Saulge**	**89.96**	**330**	*eP*		**P**	**22 50 39.3**	**-0.6**
	comp=Z,8.4nm,0.9s							
SSF	**Saint Saulge**	**89.96**	**330**	*eP*		**P**	**22 50 39.3**	**-0.6**
SSF	**Saint Saulge**	**89.96**	**330**	*eP*		**P**	**22 50 39.3**	**-0.6**
SMF	**Signal de Mont**	**90.14**	**330**	*eP*		**P**	**22 50 40.2**	**-0.6**
	comp=Z,7.7nm,0.8s							
SMF	**Signal de Mont**	**90.14**	**330**	*eP*		**P**	**22 50 40.2**	**-0.6**
SMF	**Signal de Mont**	**90.14**	**330**	*eP*		**P**	**22 50 40.2**	**-0.6**
AVF	**Avril sur Loir**	**90.24**	**330**	*eP*		**P**	**22 50 40.6**	**-0.6**
	comp=Z,5.7nm,0.7s							
AVF	**Avril sur Loir**	**90.24**	**330**	*eP*		**P**	**22 50 40.6**	**-0.6**
AVF	**Avril sur Loir**	**90.24**	**330**	*eP*		**P**	**22 50 40.6**	**-0.6**
GRR	**Gorron**	**90.62**	**333**	*eP*		**P**	**22 50 42.7**	**-0.2**
	comp=Z,26nm,0.7s							
GRR	**Gorron**	**90.62**	**333**	*eP*		**P**	**22 50 42.7**	**-0.2**
GRR	**Gorron**	**90.62**	**333**	*eP*		**P**	**22 50 42.7**	**-0.2**
TCF	**Toulx Ste Croi**	**91.11**	**330**	*eP*		**P**	**22 50 44.9**	**-0.4**
	comp=Z,11nm,0.7s							
TCF	**Toulx Ste Croi**	**91.11**	**330**	*eP*		**P**	**22 50 44.9**	**-0.4**
TCF	**Toulx Ste Croi**	**91.11**	**330**	*eP*		**P**	**22 50 44.9**	**-0.4**
VIVF	**Saint-Julien-l**	**91.19**	**328**	*eP*		**P**	**22 50 45.2**	**-0.5**
VIVF	**Saint-Julien-l**	**91.19**	**328**	*eP*		**P**	**22 50 45.2**	**-0.5**
VIVF	**Saint-Julien-l**	**91.19**	**328**	*eP*		**P**	**22 50 45.2**	**-0.5**
SGMF	**Saint Gilles**	**91.37**	**334**	*eP*		**P**	**22 50 46.2**	**-0.2**
	comp=Z,12nm,0.6s							
SGMF	**Saint Gilles**	**91.37**	**334**	*eP*		**P**	**22 50 46.2**	**-0.2**
SGMF	**Saint Gilles**	**91.37**	**334**	*eP*		**P**	**22 50 46.2**	**-0.2**
ROSF	**Rostrenen**	**91.56**	**335**	*eP*		**P**	**22 50 47.1**	**-0.2**
	comp=Z,30nm,0.9s							
ROSF	**Rostrenen**	**91.56**	**335**	*eP*		**P**	**22 50 47.1**	**-0.2**
ROSF	**Rostrenen**	**91.56**	**335**	*eP*		**P**	**22 50 47.1**	**-0.2**
MFF	**Saint Martin d**	**91.82**	**332**	*eP*		**P**	**22 50 48.4**	**-0.1**
	comp=Z,26nm,0.9s							
MFF	**Saint Martin d**	**91.82**	**332**	*eP*		**P**	**22 50 48.4**	**-0.1**
MFF	**Saint Martin d**	**91.82**	**332**	*eP*		**P**	**22 50 48.4**	**-0.1**
QUIF	**Quistinic**	**91.87**	**334**	*eP*		**P**	**22 50 48.3**	**-0.4**
	comp=Z,4.8nm,0.6s							
QUIF	**Quistinic**	**91.87**	**334**	*eP*		**P**	**22 50 48.3**	**-0.4**
QUIF	**Quistinic**	**91.87**	**334**	*eP*		**P**	**22 50 48.3**	**-0.4**
LASF	**Ste Croix**	**92.16**	**328**	*eP*		**P**	**22 50 49.7**	**-0.5**
LASF	**Ste Croix**	**92.16**	**328**	*eP*		**P**	**22 50 49.7**	**-0.5**
RJF	**Les Rejaudoux**	**92.19**	**330**	*eP*		**P**	**22 50 50.2**	**-0.1**
	comp=Z,15nm,0.8s							
RJF				eR				
	comp=Z,34nm,20.8s							
RJF	**Les Rejaudoux**	**92.19**	**330**	*eP*		**P**	**22 50 50.2**	**-0.1**
RJF	**Les Rejaudoux**	**92.19**	**330**	*eP*		**P**	**22 50 50.2**	**-0.1**
CAF	**Calviac**	**92.27**	**330**	*eP*		**P**	**22 50 50.7**	**+0.1**
	comp=Z,6.3nm,0.7s							
CAF	**Calviac**	**92.27**	**330**	*eP*		**P**	**22 50 50.7**	**+0.1**
CAF	**Calviac**	**92.27**	**330**	*eP*		**P**	**22 50 50.7**	**+0.1**
LFF	**La Frestale**	**92.81**	**330**	*eP*		**P**	**22 50 53.2**	**+0.1**
	comp=Z,24nm,0.6s							
LFF	**La Frestale**	**92.81**	**330**	*eP*		**P**	**22 50 53.2**	**+0.1**
LFF	**La Frestale**	**92.81**	**330**	*eP*		**P**	**22 50 53.2**	**+0.1**
LTX	**Lajitas**	**95.67**	**50**	*eP*		**P**	**22 51 07.7**	**+1.1**
LTX	**Lajitas**	**95.67**	**50**	*eP*		**P**	**22 51 07.7**	**+1.1**
TXAR	**Lajitas Array**	**95.67**	**50**	P		**P**	**22 51 07.7**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=260,slow=2.7,SNR=5.8							
TXAR	**Lajitas Array**	**95.67**	**50**	P		**P**	**22 51 07.7**	**+1.1**
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ESDC	**Sonseca Array**	**99.12**	**330**	P		**Pdif**	**22 51 21.1**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=23,slow=4.7,SNR=4.6							
TOA0	**Torodi Ar. Sit**	**117.24**	**309**	*e*PKPdf		**PKPdf**	**22 56 22.9**	**-0.9**
TORD	**Torodi Ar. Bea**	**117.24**	**309**	PKP		**PKPdf**	**22 56 22.9**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=29,slow=1.1,SNR=55							
SDV	**Santo Domingo**	**130.91**	**37**	*e*PKPdf		**PKPdf**	**22 56 50.7**	**+0.4**
SNAA	**Sanae**	**135.71**	**197**	P		**SKPbc**	**22 59 47.4**	**-1.3**
VNA2	**Neumayer--Watz**	**137.31**	**196**	P		**SKPbc**	**22 59 54.6**	**+1.2**
	baz=101,slow=2.9							
VNA1	**Neumayer--Stat**	**137.71**	**196**	P		**SKPbc**	**22 59 55.3**	**+0.8**
SAML	**Samuel**	**149.85**	**42**	*e*PKPbc		**PKPbc**	**22 57 29.3**	**+0.3**
LPAZ	**La Paz**	**152.06**	**60**	PKPbc		**PKPbc**	**22 57 35.5**	**+0.7**
	comp=Z,1.5nm,0.5s,baz=8.4,slow=3.5,SNR=9.1							

IDC 25 22:42:38.8±6.0, 6°94S×129°75E, h59km±65km, mb3.1/2, mb1 3.6/5, mb1mx3.2/36, mbtmp3.6/5, ML3.8/3, Error ellipse: s-maj=72.0km s-min=30.7km az=47.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**10.12**	**280**	P	Pn	22 45 02.6	+1.1
	0.6nm,0.3s,baz=92,slow=14,SNR=1.6						
WRA	**Warramunga Arr**	**13.67**	**161**	P	Pn	22 45 49.0	-0.9
	0.6nm,0.3s,baz=340,slow=14,SNR=25						
WRA				S	Sn	22 48 12.9	-7.5
	0.8nm,0.3s,baz=323,slow=25,SNR=4.6						
ASAR	**Alice Springs**	**17.11**	**167**	P	P	22 46 35.1	+0.1
	0.4nm,0.3s,baz=349,slow=9.4,SNR=17						
ASAR				S	Sn	22 49 37.0	-6.6
	0.2nm,0.3s,baz=357,slow=28,SNR=4.2						
SONM	**Songino Array**	**58.30**	**342**	P	P	22 52 27.3	-0.4
	0.2nm,0.3s,baz=145,slow=8.8,SNR=2.1						
MKAR	**Makanchi Array**	**68.04**	**327**	P	P	22 53 32.1	0.0
	0.3nm,0.8s,baz=110,slow=7.8,SNR=3.6						

*IDC **25** 22:44:29.9±1.9, 16°88N×100°82W, h0km, mb4.1/6, mb1 4.2/10, mb1mx4.0/26, mbtmp4.0/10, ML3.5/3, MS3.5/14, Ms1 3.5/14, ms1mx3.4/30, Error ellipse: s-maj=39.0km s-min=26.3km az=16.0*

*ISCJB **25** 22:44:33.2±0.6, 17°11N±0°04×100°56W±0°02, h28km±4km, mb4.3/24, MS3.4/11, Error ellipse: s-maj=7.6km s-min=3.4km az=16.5*

*MEX **25** 22:44:35.4±0.6, 17°09N×100°57W, h23km±7km, MD4.5*

*NEIC **25** 22:44:35.4, 17°09N×100°57W, h23km, mb4.3/27, MD4.5(MEX), After MEX.*

ISC 25 22:44:33.2±0.9, 17°14N±0°04×100°58W±0°03, h13km±6km, n94, σ1s80/101, mb4.2/23, MS3.5/11, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.32**	**107**	*eP*	**Pb**	**22 44 40.6**	**-0.1**
CAIG				*eS*	**Sb**	**22 44 45.8**	**+0.1**
CAIG	**El Cayaco**	**0.32**	**107**	*eP*g	**Pb**	**22 44 40.6**	**-0.1**
CAIG				*eS*g	**Sb**	**22 44 45.8**	**+0.1**
ACP2	**Acapulco**	**0.72**	**111**	*i* P	**Pg**	**22 44 46.7**	**-0.4**
ACP2				*i* S	**Sg**	**22 44 55.5**	**-1.1**
ZIIG	**Zihuatanejo**	**0.96**	**299**	*eP*	**Pb**	**22 44 50.9**	**-0.8**
ZIIG				*eS*	**Sg**	**22 45 03.7**	**-0.7**
ZIIG	**Zihuatanejo**	**0.96**	**299**	*eP*g	**Pb**	**22 44 50.9**	**-0.8**
ZIIG				*eS*n	**Sg**	**22 45 03.7**	**-0.7**
ARIG	**Puente Sto Nin**	**1.16**	**11**	*eP*	**Pb**	**22 44 53.6**	**-1.5**
ARIG				*eS*	**Sb**	**22 45 08.4**	**-1.6**
PLIG	**Platanillo**	**1.62**	**39**	*eP*	**Pn**	**22 45 00.4**	**-1.1**
PLIG				*i* S	**Sn**	**22 45 20.4**	**-1.9**
PLIG	**Platanillo**	**1.62**	**39**	*eP*n	**Pn**	**22 45 00.4**	**-1.1**
PLIG				*eS*n	**Sn**	**22 45 20.4**	**-1.9**
TLIG	**Tlapa**	**1.97**	**77**	*eP*	**Pn**	**22 45 05.4**	**-1.0**
TLIG				*i* S	**Sn**	**22 45 28.5**	**-2.5**
YAIG	**Yautepec**	**2.24**	**40**	*eP*	**Pn**	**22 45 08.6**	**-1.6**
YAIG				*i* S	**Sn**	**22 45 36.3**	**-1.4**
YAIG	**Yautepec**	**2.24**	**40**	*eP*n	**Pn**	**22 45 08.6**	**-1.6**
YAIG				*eS*n	**Sn**	**22 45 36.3**	**-1.4**
PNIG	**Pinotepa**	**2.47**	**107**	*eP*	**Pn**	**22 45 11.7**	**-1.5**
PNIG				*eS*	**Sn**	**22 45 40.5**	**-2.7**
PNIG	**Pinotepa**	**2.47**	**107**	*eP*n	**Pn**	**22 45 11.7**	**-1.5**
PNIG				*eS*n	**Sn**	**22 45 40.5**	**-2.7**
PPM	**Popocatepetl**	**2.67**	**44**	*eP*	**Pn**	**22 45 15.1**	**-1.3**
PPM				*i* S	**Sn**	**22 45 46.9**	**-1.9**
PPM	**Popocatepetl**	**2.67**	**44**	*eP*n	**Pn**	**22 45 15.1**	**-1.3**
PPM				*eS*n	**Sn**	**22 45 46.9**	**-1.9**
MMIG	**Aquila**	**2.87**	**294**	*eP*	**Pn**	**22 45 17.6**	**-1.0**
MMIG				*i* S	**Sn**	**22 45 51.8**	**-1.2**
MMIG	**Aquila**	**2.87**	**294**	*eP*n	**Pn**	**22 45 17.6**	**-1.0**
MMIG				*eS*n	**Sn**	**22 45 51.8**	**-1.2**
TPIG	**Tehuac#an**	**3.32**	**67**	*eP*	**Pn**	**22 45 23.8**	**-1.2**
TPIG				*i* S	**Sn**	**22 46 03.0**	**-1.5**
TPIG	**Tehuac#an**	**3.32**	**67**	*eP*n	**Pn**	**22 45 23.8**	**-1.2**
TPIG				*eS*n	**Sn**	**22 46 03.0**	**-1.5**
VHO	**Vista Hermosa**	**3.68**	**90**	*i* P	**Pn**	**22 45 28.8**	**-1.2**
VHO				*eS*	**Sn**	**22 46 11.3**	**-2.1**
VHO	**Vista Hermosa**	**3.68**	**90**	*eP*n	**Pn**	**22 45 28.8**	**-1.2**
VHO				*eS*n	**Sn**	**22 46 11.3**	**-2.1**
HUIG	**Huatulco**	**4.50**	**107**	*eP*	**Pn**	**22 45 40.4**	**-0.8**
HUIG				*i* S	**Sn**	**22 46 30.9**	**-2.5**
HUIG	**Huatulco**	**4.50**	**107**	*eP*n	**Pn**	**22 45 40.4**	**-0.8**
HUIG				*eS*n	**Sn**	**22 46 30.9**	**-2.5**
CMIG	**Matias Romero**	**5.45**	**90**	Pn	**Pn**	**22 45 54.2**	**+0.1**
	0.8nm,0.3s,baz=257,slow=13,SNR=5.9						
CMIG				Sn	**Sn**	**22 46 58.7**	**+1.9**
	3.5nm,0.3s,baz=305,slow=13,SNR=4.2						
CMIG				Lg	Lg	22 47 19.0	
	5.2nm,0.3s,baz=0.5,slow=12,SNR=10						
CMIG				LR	LR	22 48 21.2	
	comp=Z,339nm,19.1s,baz=237,slow=41						
H06E1	**SOCORRO T-PHAS**	**9.98**	**281**	T	T	22 57 02.4	
	SNR=4.8						
TEIG	**Tepich**	**12.06**	**73**	Pn	**Pn**	**22 47 27.8**	**+2.9**
	0.8nm,0.3s,baz=220,slow=8.2,SNR=3.3						
TEIG				Sn	**Sn**	**22 49 41.7**	**+2.5**
	0.8nm,0.3s,baz=294,slow=13,SNR=5.1						
TEIG	**Tepich**	**12.06**	**73**	*eP*n	**Pn**	**22 47 27.8**	**+2.9**
TEIG				*eS*n	**Sn**	**22 49 43.0**	**+3.8**
LTX	**Lajitas**	**12.46**	**347**	*eP*n	**Pn**	**22 47 32.9**	**+2.5**
TX31	**Lajitas Ar. Si**	**12.46**	**347**	*eP*n	**Pn**	**22 47 33.3**	**+2.9**
TXAR	**Lajitas Array**	**12.46**	**347**	Pn	**Pn**	**22 47 32.9**	**+2.5**
	baz=163,slow=14,SNR=6.8						
TXAR				LR	LR	22 52 46.2	
	comp=Z,539nm,18.4s,baz=0.0,slow=39						
HKT	**Hockley**	**13.47**	**18**	*eP*n	**P**	**22 47 54.3**	**+1.0**
WHTX	**Lake Whitney,**	**15.06**	**10**	*eP*n	**P**	**22 48 10.3**	**-0.7**
	48nm,0.9s						
MNTX	**Cornudas Mount**	**15.14**	**344**	*eP*n	**P**	**22 48 09.5**	**-2.4**
	17nm,0.9s						
ABTX	**Abilene, Hawle**	**15.44**	**3**	*eP*n	**Pn**	**22 48 10.1**	**-0.8**
	29nm,0.9s						
MSTX	**Muleshoe**	**16.88**	**354**	*eP*n	**Pn**	**22 48 28.9**	**-0.4**
	19nm,0.8s						
WMOK	**Wichita Mounta**	**17.60**	**5**	*eP*n	**Pn**	**22 48 34.4**	**-3.9**
	8.6nm,1.1s						
AMTX	**Amarillo**	**17.70**	**357**	*eP*n	**Pn**	**22 48 39.7**	**+0.1**
	23nm,1.0s						
BNM	**Barren Site**	**17.79**	**343**	*eP*n	**P**	**22 48 42.4**	**+0.9**
LENM	**Lemitar**	**17.90**	**343**	*eP*n	**Pn**	**22 48 40.8**	**-1.3**
LAZ	**Ladron**	**18.17**	**342**	*eP*n	**Pn**	**22 48 42.1**	**-3.3**
MIAR	**Mount Ida**	**18.44**	**19**	*eP*	Pn	22 48 54.3	+5.8
	18nm,0.9s						
ANMO	**Albuquerque**	**18.50**	**345**	P	**Pn**	**22 48 49.9**	**+0.5**
	0.1nm,0.3s,baz=145,slow=11,SNR=9.5						
ANMO				LR	LR	22 56 42.0	
	comp=Z,520nm,19.4s,baz=172,slow=39						
ANMO	**Albuquerque**	**18.50**	**345**	*eP*	**Pn**	**22 48 49.9**	**+0.5**
	14nm,1.0s						
V34A	**Guthrie**	**18.82**	**8**	*eP*	**P**	**22 48 50.9**	**-1.8**
	40nm,1.3s						
UALR	**University of**	**19.05**	**21**	*eP*	**P**	**22 48 55.4**	**+0.3**
TUL1	**Leonard**	**19.18**	**12**	*eP*	**P**	**22 48 54.4**	**-2.1**
TUL1				*ep*P	**pP**	**22 49 02.3**	**+2.1**
WUAZ	**Wupatki**	**20.67**	**334**	*eP*	Pn	22 49 14.9	-0.5
	17nm,1.0s						
YUH	**Yuha Desert**	**20.75**	**321**	*eP*	Pn	22 49 15.5	-0.6
YUH				*eS*	Sn	22 53 13.7	+3.6
SDCO	**Great Sand Dun**	**20.98**	**349**	*eP*	**P**	**22 49 16.3**	**-0.1**
	5.8nm,0.9s						
MVCO	**Mesa Verde**	**21.18**	**342**	*eP*	**P**	**22 49 22.3**	**+3.7**
	11nm,1.0s						
S22A	**4UR Ranch, Cre**	**21.25**	**346**	*eP*	**P**	**22 49 19.7**	**+0.3**
	12nm,1.2s						
PBMO	**Poplar Bluff**	**21.53**	**23**	*eP*	**P**	**22 49 23.4**	**+1.4**
	22nm,0.8s						
PFO	**Pinyon Flats O**	**21.74**	**322**	LR	LR	22 57 22.7	
	comp=Z,79nm,20.9s,baz=153,slow=36						
SNDA	**J Saunders Pla**	**21.79**	**322**	*eP*	**P**	**22 49 22.6**	**-2.4**
DNR	**Dunn Ranch,Anz**	**21.81**	**322**	*eP*	**P**	**22 49 28.8**	**+3.5**
KSCO	**Kaye Shedlock'**	**21.86**	**356**	*eP*	**P**	**22 49 24.8**	**-1.0**
	26nm,0.8s						
WVT	**Waverly**	**22.04**	**28**	*eP*	**P**	**22 49 27.1**	**-0.5**
	7.7nm,0.7s						
PV05	**Paradox Valley**	**22.16**	**342**	*eP*	**P**	**22 49 24.6**	**-4.6**
KNB	**Kanab**	**22.56**	**334**	*eP*	**P**	**22 49 34.5**	**+1.1**
	7.8nm,1.1s						
ISCO	**Idaho Springs**	**23.00**	**350**	*eP*	**P**	**22 49 38.6**	**+0.5**
	4.5nm,0.8s						
TKL	**Tuckaleechee C**	**23.74**	**36**	P	**P**	**22 49 48.4**	**+3.2**
	4.6nm,0.7s,baz=189,slow=13,SNR=4.9						
TKL				LR	LR	23 01 17.7	
	comp=Z,53nm,21.7s,baz=192,slow=42						
TPNV	**Topopah Spring**	**24.10**	**328**	*eP*	**P**	**22 49 50.9**	**+2.1**
	83nm,2.5s						
R11A	**Troy Canyon, C**	**24.89**	**331**	*eP*	P	22 50 02.2	+6.3
	2.3nm,0.8s						
HDIL	**Hopedale**	**25.30**	**20**	*eP*	**P**	**22 49 58.6**	**-0.8**
	28nm,0.8s						
DUG	**Dugway, Tooele**	**25.30**	**338**	*eP*	**P**	**22 50 00.8**	**+1.1**
	39nm,2.5s						
HWUT	**Hardware Ranch**	**26.15**	**341**	*eP*	**P**	**22 50 08.2**	**+0.8**
	4.6nm,0.9s						
NV01	**Mina Array Sit**	**26.28**	**327**	*eP*	**P**	**22 50 09.6**	**+0.9**
NVAR	**Mina Array Bea**	**26.28**	**327**	P	**P**	**22 50 09.8**	**+1.1**
	3.1nm,1.0s,baz=152,slow=9.6,SNR=9.2						
PDAR	**Pinedale Array**	**26.67**	**345**	LR	LR	23 01 53.9	
	comp=Z,222nm,18.2s,baz=180,slow=39						
ELK	**Elko**	**26.71**	**335**	LR	LR	23 02 11.4	
	comp=Z,215nm,21.6s,baz=155,slow=40						
ECSD	**EROS Data Cent**	**26.72**	**6**	*eP*	P	22 50 18.3	+6.0
	122nm,2.8s						
F10A	**Beach Ranch, E**	**31.92**	**338**	*eP*	**P**	**22 50 58.6**	**+0.1**
	13nm,1.3s						
G08A	**Pilot Rock**	**32.01**	**335**	*eP*	**P**	**22 50 59.2**	**-0.2**
	5.2nm,1.1s						
SADO	**Sadowa**	**32.91**	**29**	P	**P**	**22 51 09.4**	**+2.3**
	2.3nm,0.7s,baz=259,slow=10,SNR=4.4						
ULM	**Lac du Bonnet**	**33.25**	**6**	P	**P**	**22 51 10.9**	**+1.0**
	4.0nm,0.8s,baz=141,slow=6.5,SNR=2.9						
ULM				LR	LR	23 05 06.8	
	comp=Z,63nm,18.1s,baz=220,slow=37						
SP2	**Seward Park 2**	**35.18**	**334**	*eP*	P	22 51 22.3	-4.5
PIER	**Pier 30 Seattl**	**35.24**	**334**	*eP*	**P**	**22 51 27.2**	**-0.1**
PIER				*eS*	**S**	**22 57 04.2**	**+3.7**
NIHS	**Ingelmoor High**	**35.32**	**334**	*eP*	**P**	**22 51 27.3**	**-0.7**
SCHQ	**Schefferville**	**45.66**	**27**	LR	LR	23 14 11.5	
	comp=Z,53nm,18.9s,baz=250,slow=39						
LPAZ	**La Paz**	**46.11**	**134**	LR	LR	23 10 26.7	
	comp=Z,48nm,18.2s,baz=301,slow=34						
YKA	**Yellowknife Ar**	**46.36**	**351**	P	**P**	**22 52 57.2**	**-1.6**
	1.4nm,0.9s,baz=162,slow=7.4,SNR=12						
TAOE	**Nuku Hiva Isla**	**46.87**	**240**	*eT*	T	23 43 01.5	
	146nm,0.2s						
RKT	**Rikitea**	**52.26**	**221**	*eT*	T	23 49

BJI ***25*** *23:32:45.5, 31°.34N × 103°.53E, h20km, ML3.7/17, Ms3.1/1*
IDC ***25*** *23:32:46.4±1.4, 30°.94N × 103°.36E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.2/40, mbtmp3.4/5, ML3.1/1, Error ellipse: s-maj=83.7km s-min=22.9km az=59.0*
ISC 25 23:32:48.3±0.8, **31°.30N**±0°.04 × **103°.48E**±0°.08, **h13**km, **n10**, σ2≥**39**/**18**, **mb3.4**/**4**, **1C**, **Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.46**	**148**	↑*i*Pg	**Pg**	**23 32 56.0**	**-1.4**
CD2				Sg	**Sg**	**23 33 02.3**	**-1.3**
CD2	3μm,0.6s			SMN			
CD2	7μm,0.4s			SME			
LZH	**Lanzhou**	**4.78**	**4**	*e*Pg	**Pg**	**23 34 18.3**	**-1.6**
LZH				Sg	**Sg**	**23 35 19.0**	**-2.8**
LZH	comp=N,75nm,1.1s			smax	smax		
LZH	comp=E,67nm,1.2s			smax	smax		
LZH	comp=N,250nm,6.0s			LR	LR		
LZH	comp=E,470nm,8.0s			LR	LR		
LZH	comp=Z,360nm,8.6s			LR	LR		
XAN	**Xi'an**	**5.34**	**58**	Pn	**Pn**	**23 34 05.8**	**-2.0**
XAN				Pg	**Pb**	**23 34 21.3**	**-0.2**
XAN				Sg	**Sb**	**23 35 30.3**	**+4.7**
XAN	comp=Z,130nm,0.7s			SMN			
XAN	comp=Z,44nm,0.7s			SME			
GYA	**Guiyang**	**5.58**	**149**	Pn	**Pn**	**23 34 11.5**	**+0.4**
GYA				Sn	**Sn**	**23 35 17.5**	**+2.3**
GYA				Sg	**Sg**	**23 35 44.5**	**-2.9**
GYA	comp=Z,70nm,0.8s			SMN			
GYA	comp=Z,80nm,0.8s			SME			
SONM	**Songino Array**	**16.66**	**7**	P	**P**	**23 36 45.6**	**+1.6**
WMQ	**Urumqi**	**17.64**	**320**	*e*P	**Pn**	**23 36 52.5**	**-1.3**
WMQ				pP	**P**	**23 36 56.0**	**+1.2**
WMQ				sP	**sP**	**23 36 59.5**	**-0.6**
MKAR	**Makanchi Array**	**22.48**	**320**	P	**P**	**23 37 48.1**	**+0.8**
ZALV	comp=Z,0.4nm,0.7s,baz=122,slow=10,SNR=3.9 **Zalesovo Beam**	**26.31**	**335**	P	**P**	**23 38 27.6**	**+4.1**
KURBB	comp=Z,0.8nm,0.7s,baz=126,slow=7.3,SNR=3.9 **Kurchatov Arra**	**26.76**	**323**	P	**P**	**23 38 29.7**	**+2.2**
WRA	comp=Z,0.4nm,0.6s,baz=126,slow=10,SNR=3.6 **Warramunga Arr**	**58.94**	**146**	P	**P**	**23 42 45.9**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=339,slow=7.9,SNR=8.7						

IDC ***25*** *23:36:12.6±0.6, 17°.30N × 100°.84W, h0km, mb4.3/20, mb1 4.5/24, mb1mx4.4/31, mbtmp4.3/24, ML3.7/4, MS4.3/28, Ms1 4.3/28, ms1mx4.2/31, Error ellipse: s-maj=20.9km s-min=12.6km az=60.0*
NEIC ***25*** *23:36:14.6, 17°.15N × 101°.16W, h4km, mb4.8/105, MD5.0(MEX), After MEX.*
NEIC Felt at Atoyac, Lazaro Cardenas, Mexico and Zihuatanejo.
MEX ***25*** *23:36:14.6±0.5, 17°.15N × 101°.16W, h4km±5km, MD5.0*
GCMT ***25*** *23:36:14.6±0.3, 17°.39N × 100°.96W, h24km, MW5.1/85, Moment Tensor Solution. s62,c81; s85,c128; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr4.35±.18; Mθθ-3.76±.13; Mφφ-0.58±.12; Mrθ2.95±.18; Mrφ1.90±.09; Mθφ-2.05±.18; Best double couple: Ms5.76000×10^16 NP1:φs288.00000°, δ64.00000°, λ96.00000°. NP2: φs288.00000°, δ26.00000°, λ78.00000°. Principal axes: T 5.6380, Plg70.0000°, Azm43.0000°; N 0.2460, Plg5.0000°, Azm299.0000°; P -5.8810, Plg19.0000°, Azm207.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***25*** *23:36:15.0, 17°.50N × 100°.80W, h10km, mB5.6/6, Ms5.2/7, Ms7 4.9/7*
ISCJB ***25*** *23:36:16.1±0.6, 17°.42N±0°.02 × 100°.94W±0°.02, h28km±3km, mb4.7/116, MS4.3/27, Error ellipse: s-maj=4.5km s-min=2.6km az=31.7*
ISC 25 23:36:13.5±0.8, **17°.22N**±0°.04 × **101°.06W**±0°.03, **h8**km±4km, **n629**, σ1≥**22**/639, **mb4.8**/117, **MS4.4**/27, **175C-154D, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.55**	**314**	*e*P	**Pg**	**23 36 24.6**	**+0.5**
ZIIG				*i* S	**Sg**	**23 36 32.9**	**+1.6**
ZIIG	**Zihuatanejo**	**0.55**	**314**	*e*Pg	**Pg**	**23 36 24.6**	**+0.5**
ZIIG				*e*Sg	**Sg**	**23 36 32.9**	**+1.6**
CAIG	**El Cayaco**	**0.77**	**103**	*e*P	**Pb**	**23 36 29.2**	**+0.1**
CAIG				*i* S	**Sb**	**23 36 40.3**	**+0.4**
CAIG	**El Cayaco**	**0.77**	**103**	*e*Pg	**Pb**	**23 36 29.2**	**+0.1**
CAIG				*e*Sg	**Sb**	**23 36 40.3**	**+0.4**
ACP2	**Acapulco**	**1.17**	**107**	*e*P	**Pn**	**23 36 36.1**	**0.0**
ACP2				*i* S	**Sn**	**23 36 52.6**	**+0.3**
ACX	**Acapulco**	**1.20**	**107**	*e*P	**Pg**	**23 36 36.2**	**-0.3**
ACX				*i* S	**Sn**	**23 36 52.2**	**-0.8**
ACX	**Acapulco**	**1.20**	**107**	*e*Pn	**Pg**	**23 36 36.2**	**-0.3**
ACX				*e*Sn	**Sn**	**23 36 52.2**	**-0.8**
ARIG	**Puente Sto Nin**	**1.25**	**33**	*e*P	**Pb**	**23 36 36.8**	**-0.5**
ARIG				*i* S	**Sn**	**23 36 54.0**	**-0.3**
MEIG	**Mezcala**	**1.54**	**63**	*e*P	**Pn**	**23 36 41.1**	**-0.2**
MEIG	**Mezcala**	**1.54**	**63**	*e*Pn	**Pn**	**23 36 41.1**	**-0.2**
PLIG	**Platanillo**	**1.88**	**52**	*e*P	**Pn**	**23 36 46.5**	**+0.5**
PLIG				*i* S	**Sb**	**23 37 10.6**	**-1.3**
PLIG	**Platanillo**	**1.88**	**52**	*e*Pn	**Pn**	**23 36 46.5**	**+0.5**
PLIG				*e*Sn	**Sb**	**23 37 10.6**	**-1.3**
MAVM	**Malinalco, Edo**	**2.28**	**40**	*e*P	**Pn**	**23 36 50.7**	**-0.9**
MAVM				*i* S	**Sn**	**23 37 20.4**	**+0.5**
TLIG	**Tlapa**	**2.40**	**82**	*e*P	**Pn**	**23 36 53.7**	**+0.5**
TLIG				*e*S	**Sn**	**23 37 22.8**	**0.0**
MMIG	**Aquila**	**2.43**	**296**	*e*P	**Pn**	**23 36 51.6**	**-1.8**
MMIG				*i* S	**Sn**	**23 37 18.7**	**-4.6**
MMIG	**Aquila**	**2.43**	**296**	*e*Pn	**Pn**	**23 36 51.6**	**-1.8**
MMIG				*e*Sn	**Sn**	**23 37 18.7**	**-4.6**
YAIG	**Yautepec**	**2.50**	**49**	*e*P	**Pn**	**23 36 54.1**	**-0.4**
YAIG				*i* S	**Sb**	**23 37 26.5**	**-3.2**
YAIG	**Yautepec**	**2.50**	**49**	*e*Pn	**Pn**	**23 36 54.1**	**-0.4**
YAIG				*e*Sn	**Sb**	**23 37 26.5**	**-3.2**
MZVM		**2.62**	**41**	*i* P	**Pn**	**23 36 57.0**	**+1.0**
MZVM				*i* S	**Sn**	**23 37 28.2**	**+0.3**
PNIG	**Pinotepa**	**2.92**	**106**	*e*P	**Pn**	**23 36 59.9**	**-0.4**
PNIG				*i* S	**Sn**	**23 37 35.6**	**0.0**
PNIG	**Pinotepa**	**2.92**	**106**	*e*Pn	**Pn**	**23 36 59.9**	**-0.4**
PNIG				*e*Sn	**Sn**	**23 37 35.6**	**0.0**
PPM	**Popocatepetl**	**2.95**	**51**	*e*P	**Pn**	**23 37 01.1**	**0.0**
PPM				*i* S	**Sn**	**23 37 39.0**	**+2.1**
PPM	**Popocatepetl**	**2.95**	**51**	*e*Pn	**Pn**	**23 37 01.1**	**0.0**
PPM				*e*Sn	**Sn**	**23 37 39.0**	**+2.1**
EZ5V		**3.30**	**313**	*e*P	**Pn**	**23 37 06.3**	**+0.6**
R15V		**3.39**	**305**	*e*P	**Pn**	**23 37 09.4**	**+2.6**
TPIG	**Tehuac#an**	**3.71**	**71**	*e*P	**Pn**	**23 37 11.8**	**+0.5**
TPIG	**Tehuac#an**	**3.71**	**71**	*e*Pn	**Pn**	**23 37 11.8**	**+0.5**
VHO	**Vista Hermosa**	**4.13**	**91**	*e*P	**Pn**	**23 37 18.4**	**+1.2**
VHO				*i* S	**Sn**	**23 38 06.4**	**+0.6**
VHO	**Vista Hermosa**	**4.13**	**91**	*e*Pn	**Pn**	**23 37 18.4**	**+1.2**
VHO				*e*Sn	**Sn**	**23 38 06.4**	**+0.6**
CMIG	**Matias Romero**	**5.90**	**90**	*i* P	**Pn**	**23 37 42.3**	**+1.0**
CMIG				*i* S	**Sn**	**23 38 49.5**	**+0.5**
CMIG	**Matias Romero**	**5.90**	**90**	Pn	**Pn**	**23 37 40.1**	**-1.1**
CMIG	2.3nm,0.3s,baz=272,slow=11,SNR=13			Lg	Lg	23 39 17.9	
CMIG	66nm,0.3s,baz=2.7,slow=15,SNR=8.8			LR	LR	23 39 46.6	
CMIG	comp=Z,2μm,18.5s,baz=256,slow=38 **Matias Romero**	**5.90**	**90**	*e*Pn	**Pn**	**23 37 42.3**	**+1.0**
CMIG				*e*Sn	**Sn**	**23 38 49.5**	**+0.5**
CMIG				*e*Sg	**Sg**	**23 39 17.9**	**-5.2**
LNIG	**Linares**	**7.78**	**11**	*e*P	Pg	23 38 37.5	-5.1
H06E1	**SOCORRO T-PHAS** SNR=98	**9.52**	**281**	T	T	23 48 11.1	
035Z	**Hargill** baz=9.7	**9.60**	**16**	⇓P	**Pn**	**23 38 30.2**	**-1.8**
034A	**Hebbronville** baz=10	**10.04**	**12**	↑P	**Pn**	**23 38 38.3**	**+0.3**
035A	**Encino** baz=10	**10.05**	**15**	⇓P	**Pn**	**23 38 38.4**	**+0.3**
933A	**Laredo**	**10.47**	**9**	⇓P	**Pn**	**23 38 46.8**	**+2.8**
	baz=11,SNR=7.0						
SLBS	**Sierra La Lagu**	**10.52**	**309**	*e*Pn	**Pn**	**23 38 44.8**	**+0.1**
934A	**Benavides** baz=11	**10.59**	**12**	↑P	**Pn**	**23 38 46.3**	**+0.7**
LPIG	**La Paz** comp=Z,3μm,20.3s,baz=126,slow=35	**11.04**	**310**	LR	LR	23 42 42.3	
832A	**Faith Ranch, C** baz=11,SNR=8.3	**11.05**	**5**	⇓P	**Pn**	**23 38 54.1**	**+2.2**
834A	**Tilden** baz=11	**11.09**	**12**	↑P	**Pn**	**23 38 52.9**	**+0.4**
833A	**Chaparral WMA,** baz=11,SNR=8.2	**11.15**	**8**	⇓P	**Pn**	**23 38 55.4**	**+2.1**
835A	**Beeville** baz=12	**11.41**	**15**	⇓P	**Pn**	**23 38 57.0**	**+0.3**
732A	**Laxson Ranch,** baz=12,SNR=14	**11.50**	**5**	↑P	**Pn**	**23 38 59.3**	**+1.3**
733A	**Divot King Ran** baz=12,SNR=5.0	**11.56**	**8**	⇓P	**Pn**	**23 38 59.0**	**+0.2**
734A	**La Parita Cree** baz=12	**11.80**	**11**	⇓P	**Pn**	**23 39 03.3**	**+1.2**
735A	**Kenedy** baz=12	**11.96**	**14**	⇓P	**Pn**	**23 39 05.1**	**+0.8**
631A	**Perdido Creek** baz=12,SNR=7.4	**12.14**	**2**	⇓P	**Pn**	**23 39 08.2**	**+1.4**
736A	**Circle Diamond** baz=12	**12.24**	**17**	⇓P	**Pn**	**23 39 09.0**	**+0.9**
632A	**Uvalde** baz=12	**12.28**	**5**	↑P	**Pn**	**23 39 10.2**	**+1.5**
LTX	**Lajitas**	**12.29**	**349**	*e*Pn	Pn	23 39 12.7	+3.7
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=168,slow=13,SNR=23	**12.29**	**349**	Pn	Pn	23 39 12.7	+3.7
TXAR	0.1nm,0.3s,baz=168,slow=24,SNR=5.9			Lg	Lg	23 42 45.9	
TXAR	comp=Z,1μm,21.5s,baz=0.0,slow=37			LR	LR	23 43 43.5	
TX31	**Lajitas Ar. Si**	**12.29**	**349**	*e*Pn	**Pn**	**23 39 08.3**	**-0.7**
633A	**Seathoff Ranch** baz=12	**12.30**	**8**	↑P	**Pn**	**23 39 10.2**	**+1.2**
634A	**China Grove, S** baz=12	**12.35**	**11**	↑P	**Pn**	**23 39 10.8**	**+1.1**
TEIG	**Tepich** 0.9nm,0.3s,baz=276,slow=19,SNR=4.4	**12.47**	**74**	Pn	**Pn**	**23 39 09.9**	**-1.5**
TEIG	2.7nm,0.3s,baz=226,slow=22,SNR=1.5			Sn	Sn	23 41 23.1	-7.4
TEIG	comp=Z,1μm,20.4s,baz=256,slow=42			LR	LR	23 44 44.2	
TEIG	**Tepich**	**12.47**	**74**	*e*Pn	**Pn**	**23 39 09.8**	**-1.5**
TEIG				*e*Sn	Sn	23 41 36.1	+5.6
635A	**Leesville** baz=13	**12.48**	**13**	⇓P	**Pn**	**23 39 12.1**	**+0.8**
636A	**Smothers Creek** baz=13	**12.74**	**16**	⇓P	**Pn**	**23 39 15.3**	**+0.3**
530A	**J-C Ranch, Com** baz=13,SNR=12	**12.87**	**359**	↑P	**Pn**	**23 39 18.8**	**+2.0**
529A	**Stev Forest Ra** baz=13,SNR=9.2	**12.89**	**355**	⇓P	Pn	23 39 21.0	+3.9
532A	**Rocksprings** baz=13	**12.89**	**4**	⇓P	**Pn**	**23 39 18.1**	**+1.0**
531A	**Rocksprings** baz=13,SNR=5.4	**12.89**	**2**	⇓P	**Pn**	**23 39 18.6**	**+1.5**
533A	**Kerrville** baz=13,SNR=6.1	**12.92**	**8**	↑P	**Pn**	**23 39 19.1**	**+1.6**
534A	**Blanco** baz=13	**12.96**	**10**	⇓P	**Pn**	**23 39 18.6**	**+0.5**
535A	**Dale** baz=13	**13.14**	**13**	⇓P	**Pn**	**23 39 21.2**	**+0.8**
JCT	**Junction City**	**13.25**	**5**	*e*Pn	**Pn**	**23 39 21.1**	**-0.9**
JCT	**Junction City** baz=13	**13.25**	**5**	⇓P	**Pn**	**23 39 22.8**	**+0.9**
536A	**Bastrop** baz=14	**13.30**	**15**	⇓P	**Pn**	**23 39 23.4**	**+0.7**
429A	**Davenport Ranc** baz=14,SNR=6.0	**13.36**	**357**	↑P	Pn	23 39 26.8	+3.2
431A	**Sonora** baz=14	**13.41**	**2**	↑P	**Pn**	**23 39 25.7**	**+1.5**
430A	**Baggett Ranch,** baz=14,SNR=11	**13.51**	**359**	↑P	Pn	23 39 28.6	+3.1
537A	**Green Hill Far** baz=14	**13.51**	**18**	↑P	**Pn**	**23 39 25.4**	**-0.1**
HKT	**Hockley**	**13.54**	**20**	*e*Pn	**Pn**	**23 39 22.9**	**-2.9**
433A	**Art** baz=14	**13.59**	**7**	↑P	**Pn**	**23 39 27.7**	**+1.1**
432A	**Menard** baz=14,SNR=7.2	**13.64**	**5**	↑P	**Pn**	**23 39 28.8**	**+1.5**
TGUH	**Tegucigalpa,Un**	**13.64**	**101**	*e*Pn	Pn	23 39 30.7	+3.4
TGUH				*e*Sn	**Sn**	**23 42 02.6**	**+3.4**
434A	**Burnet** baz=14,SNR=8.4	**13.77**	**10**	↑P	**Pn**	**23 39 30.4**	**+1.4**
435B	**Jarrell** baz=14	**13.87**	**13**	⇓P	**Pn**	**23 39 30.1**	**-0.3**
538A	**Harpers Horsep** baz=14	**13.90**	**20**	↑P	**Pn**	**23 39 30.3**	**-0.6**
331A	**San Angelo** baz=14,SNR=6.5	**14.04**	**2**	⇓P	**Pn**	**23 39 34.4**	**+1.6**
436A	**Wall Ranch, Ga** baz=14	**14.04**	**15**	⇓P	**Pn**	**23 39 32.6**	**0.0**
539A	**Cross D Ranch,** baz=14	**14.07**	**23**	⇓P	**Pn**	**23 39 32.2**	**-0.9**
330A	**Mertzon** baz=14,SNR=13	**14.12**	**360**	⇓P	**Pn**	**23 39 35.8**	**+1.9**
332A	**Millersview** baz=14	**14.15**	**5**	↑P	**Pn**	**23 39 34.7**	**+0.4**
333A	**Richland Sprin** baz=14	**14.17**	**7**	↑P	**Pn**	**23 39 34.5**	**+0.1**
329A	**Wagon Wheel Ra** baz=14,SNR=6.5	**14.23**	**357**	↑P	**Pn**	**23 39 36.8**	**+1.4**
437A	**Phantom Ranch,** baz=14	**14.27**	**17**	↑P	**Pn**	**23 39 35.1**	**-0.7**
334A	**Lometa** baz=14,SNR=8.4	**14.28**	**10**	↑P	**Pn**	**23 39 35.9**	**-0.2**
335A	**Moody** baz=14	**14.38**	**13**	⇓P	**Pn**	**23 39 37.1**	**-0.3**
438A	**Sam Houston St** baz=15	**14.39**	**20**	↑P	**Pn**	**23 39 36.5**	**-1.1**
230A	**Sterling City** baz=15	**14.60**	**360**	↑P	**Pn**	**23 39 41.4**	**+0.9**
336A	**Riesel** baz=15	**14.61**	**14**	↑P	**Pn**	**23 39 39.8**	**-0.7**
232A	**Coleman** baz=15,SNR=16	**14.66**	**5**	⇓P	**Pn**	**23 39 40.9**	**-0.3**
231A	**Bronte** baz=15,SNR=8.8	**14.66**	**2**	↑P	**Pn**	**23 39 41.3**	**0.0**
439A	**Center Grove,** baz=15	**14.68**	**22**	↑P	**Pn**	**23 39 40.8**	**-0.7**
229A	**Bryant Ranch,** baz=15,SNR=10	**14.70**	**357**	⇓P	**Pn**	**23 39 42.8**	**+1.0**
337A	**Centerville** baz=15,SNR=7.5	**14.80**	**18**	⇓P	**Pn**	**23 39 42.0**	**-1.1**
233A	**Rising Star** baz=15,SNR=22	**14.86**	**7**	⇓P	**Pn**	**23 39 43.3**	**-0.7**
228A	**UT Block 9, Go** baz=15	**14.90**	**355**	↑P	**Pn**	**23 39 44.5**	**0.0**
MNTX	**Cornudas Mount**	**14.94**	**346**	*e*Pn	**P**	**23 39 49.6**	**-1.1**
MNTX	**Cornudas Mount** baz=15,SNR=27	**14.94**	**346**	⇓P	**Pn**	**23 39 46.1**	**+1.1**
234A	**Clairette** baz=15,SNR=14	**14.95**	**10**	↑P	**Pn**	**23 39 44.6**	**-0.6**
338A	**Crockett** baz=15,SNR=6.3	**15.01**	**19**	⇓P	**Pn**	**23 39 44.9**	**-1.0**
WHTX	**Lake Whitney,** 91nm,1.0s	**15.06**	**12**	*e*Pn	**P**	**23 39 51.8**	**-0.3**
WHTX	**Lake Whitney,** baz=15,SNR=7.5	**15.06**	**12**	⇓P	**Pn**	**23 39 45.3**	**-1.3**
339A	**Huntington** baz=15,SNR=7.5	**15.24**	**22**	⇓P	**Pn**	**23 39 47.5**	**-1.5**
236A	**Katherine and** baz=15	**15.27**	**15**	↑P	**Pn**	**23 39 48.0**	**-1.5**
130A	**Snyder** baz=16,SNR=7.1	**15.31**	**0**	↑P	**Pn**	**23 39 49.1**	**-0.9**
129A	**Stewart Farms,** baz=16,SNR=7.5	**15.36**	**357**	⇓P	**Pn**	**23 39 49.9**	**-0.7**
128A	**Castleberry Fa** baz=16	**15.39**	**355**	↑P	**Pn**	**23 39 50.9**	**-0.2**
ABTX	**Abilene, Hawle** 114nm,1.1s	**15.39**	**4**	*e*Pn	**P**	**23 39 55.1**	**-0.6**
ABTX	**Abilene, Hawle** baz=16,SNR=13	**15.39**	**4**	↑P	**Pn**	**23 39 50.0**	**-1.0**
131A	**Roby** baz=16,SNR=9.1	**15.40**	**2**	↑P	**Pn**	**23 39 50.3**	**-0.8**
133A	**Hamilton Ranch** baz=16,SNR=17	**15.44**	**7**	↑P	**Pn**	**23 39 50.3**	**-1.4**
237A	**Washetta, Mont** baz=16,SNR=6.8	**15.46**	**17**	↑P	**Pn**	**23 39 50.2**	**-1.8**
134A	**White-Moore Ra** baz=16,SNR=9.2	**15.52**	**9**	↑P	**Pn**	**23 39 51.3**	**-1.4**
340A	**Bronson** baz=16,SNR=11	**15.56**	**23**	↑P	**Pn**	**23 39 51.8**	**-1.4**
135A	**Vickery Place,**	**15.62**	**12**	⇓P	**Pn**	**23 39 53.0**	**-1.1**
	baz=16,SNR=5.5						
238A	**Jacksonville** baz=16,SNR=8.2	**15.67**	**19**	↑P	**Pn**	**23 39 55.1**	**+0.5**
239A	**Gary** baz=16	**15.89**	**21**	⇓P	**Pn**	**23 39 57.0**	**-0.5**
319A	**Douglas** baz=16	**15.95**	**334**	⇓P	**Pn**	**23 39 59.5**	**+1.0**
Z29A	**Hungry Hill Ra** baz=16,SNR=8.8	**15.98**	**358**	⇓P	**Pn**	**23 39 58.0**	**-0.7**
Z30A	**Sanderson Ranc** baz=16,SNR=17	**16.00**	**360**	↑P	**Pn**	**23 39 58.5**	**-0.4**
137A	**Heron Place, G** baz=16	**16.04**	**16**	↑P	**Pn**	**23 39 58.2**	**-1.2**
Z28A	**Tucker Farm, M** baz=16	**16.04**	**356**	⇓P	**Pn**	**23 39 59.7**	**+0.1**
Z31A	**Sharp Cattle R** baz=16,SNR=21	**16.05**	**3**	⇓P	**Pn**	**23 39 58.4**	**-1.1**
Z32A	**Haskell** baz=16,SNR=9.6	**16.08**	**5**	↑P	**Pn**	**23 39 59.2**	**-0.7**
Z33A	**Whitaker Ranch** baz=16,SNR=6.1	**16.13**	**7**	⇓P	**Pn**	**23 39 59.2**	**-1.4**
138A	**Matatall Enter** baz=16	**16.29**	**18**	⇓P	**Pn**	**23 40 01.2**	**-1.4**
Z34A	**Collier Ranch,** baz=16	**16.33**	**9**	↑P	**Pn**	**23 40 02.7**	**-0.4**
Z35A	**Perchaven, San** baz=17	**16.40**	**11**	⇓P	**Pn**	**23 40 03.6**	**-0.5**
121A	**Cookes Peak, D** baz=16,SNR=10	**16.41**	**339**	↑P	**Pn**	**23 40 04.9**	**+0.5**
139A	**Bunkhouse Ranc** baz=17	**16.52**	**20**	⇓P	**Pn**	**23 40 04.1**	**-1.5**
Y29A	**Porterfield Fa** baz=17,SNR=7.8	**16.58**	**358**	↑P	**Pn**	**23 40 05.6**	**-0.8**
Y30A	**Stafford Cattl** baz=17	**16.59**	**0**	⇓P	**Pn**	**23 40 05.9**	**-0.5**
Z37A	**Pogue Cattle C** baz=17	**16.64**	**16**	⇓P	**Pn**	**23 40 05.8**	**-1.4**
Y28A	**McKinney Farm,** baz=17	**16.65**	**357**	↑P	**Pn**	**23 40 07.6**	**+0.2**
Y31A	**Rekieta Farm,** baz=17	**16.68**	**2**	↑P	**Pn**	**23 40 07.6**	**-0.1**
MSTX	**Muleshoe** 347nm,2.2s	**16.75**	**355**	*e*Pn	**Pn**	**23 40 08.8**	**+0.2**
MSTX				*e*Sn	**Sn**	**23 43 08.3**	**-6.5**
MSTX	**Muleshoe** baz=17,SNR=7.1	**16.75**	**355**	↑P	**Pn**	**23 40 08.0**	**-0.6**
Y32A	**R-V Farms, Ver** baz=17	**16.77**	**5**	⇓P	**Pn**	**23 40 08.7**	**-0.2**
Y33A	**Hilltop Ranch,** baz=17	**16.86**	**7**	↑P	**Pn**	**23 40 09.9**	**0.0**
Z38A	**Mt. Pleasant** baz=17	**16.87**	**18**	↑P	**Pn**	**23 40 09.6**	**-0.4**
JTS	**JuntasAbangare** 0.4nm,0.3s,baz=252,slow=9.6,SNR=2.2	**17.08**	**112**	Pn	**P**	**23 40 15.0**	**+0.4**
JTS	comp=Z,245nm,21.2s,baz=304,slow=31			LR	LR	23 45 00.6	
JTS	**JuntasAbangare** 56nm,1.2s	**17.08**	**112**	*e*Pn	**P**	**23 40 15.0**	**+0.4**
Z39A	**Irene McRaven,** baz=17	**17.11**	**20**	⇓P	**Pn**	**23 40 12.0**	**-1.0**
X30A	**Coker Ranch, T** baz=17	**17.15**	**1**	↑P	**Pn**	**23 40 13.6**	**0.0**
X29A	**Tulia** baz=17	**17.16**	**358**	↑P	**Pn**	**23 40 13.9**	**+0.1**
X32A	**Elmer** baz=17,SNR=5.8	**17.20**	**5**	↑P	**Pn**	**23 40 13.3**	**-0.9**
X28A	**Dimmitt** baz=17	**17.25**	**357**	↑P	**Pn**	**23 40 14.3**	**-0.6**
X31A	**McDonald Ranch** baz=18,SNR=5.8	**17.36**	**3**	⇓P	**Pn**	**23 40 15.4**	**-0.8**
X33A	**Lawton** baz=18	**17.40**	**7**	↑P	**Pn**	**23 40 16.2**	**-0.5**
TUC	**Tucson** 138nm,2.6s	**17.41**	**331**	*e*Pn	**P**	**23 40 19.6**	**+1.4**
X35A	**Drake** baz=18	**17.49**	**11**	⇓P	**Pn**	**23 40 17.8**	**0.0**
X34A	**Smith Ranch, M** baz=18	**17.55**	**9**	↑P	**Pn**	**23 40 18.6**	**+0.1**
WMOK	**Wichita Mounta** 11nm,0.7s	**17.56**	**6**	*e*Pn	**Pn**	**23 40 18.5**	**-0.2**
BNM	**Barren Site**	**17.58**	**345**	*e*Pn	**P**	**23 40 22.2**	**+2.0**
Y22D	**IRIS PASSCAL I** baz=18	**17.59**	**344**	⇓P	**P**	**23 40 20.2**	**0.0**
AMTX	**Amarillo** 44nm,1.0s	**17.60**	**358**	*e*Pn	**Pn**	**23 40 18.8**	**-0.4**
AMTX	**Amarillo** baz=18	**17.60**	**358**	⇓P	**Pn**	**23 40 19.4**	**+0.2**
LENM	**Lemitar**	**17.69**	**344**	*e*Pn	**P**	**23 40 23.8**	**+2.4**
LPM	**Los Pinos Moun**	**17.74**	**345**	*e*Pn	**P**	**23 40 23.8**	**+1.9**
X36A	**Centrahoma** baz=18	**17.78**	**13**	↑P	**Pn**	**23 40 20.5**	**-0.9**
W29A	**Amarillo** baz=18	**17.83**	**358**	⇓P	**Pn**	**23 40 21.3**	**-0.9**
W30A	**Crocket Farms** baz=18	**17.89**	**1**	↑P	**Pn**	**23 40 22.5**	**-0.4**
W32A	**Sentinel** baz=18	**17.90**	**5**	⇓P	**Pn**	**23 40 22.2**	**-0.7**
W31A	**Holland Ranch,** baz=18	**17.92**	**3**	⇓P	**Pn**	**23 40 22.6**	**-0.5**
LAZ	**Ladron**	**17.95**	**343**	*e*Pn	**P**	**23 40 26.8**	**+2.4**
W28A	**Vega** baz=18	**17.99**	**357**	⇓P	**Pn**	**23 40 23.4**	**-0.7**
W33A	**Caddo, Fort Co** baz=18	**18.00**	**7**	↑P	**Pn**	**23 40 24.0**	**-0.2**
X37A	**Clayton** baz=18	**18.03**	**15**	↑P	**Pn**	**23 40 23.9**	**-0.5**
214A	**Organ Pipe Nat** baz=18,SNR=10	**18.13**	**326**	⇓P	**P**	**23 40 27.0**	**+0.9**
W34A	**Bridge Creek,** 40nm,0.6s	**18.18**	**9**	*e*Pn	**P**	**23 40 28.3**	**+1.7**
W34A	**Bridge Creek,** baz=18	**18.18**	**9**	↑P	**Pn**	**23 40 24.9**	**-1.3**
W35A	**Tecumseh** baz=18,SNR=7.0	**18.24**	**11**	↑P	**Pn**	**23 40 25.8**	**-1.3**
ANMO	**Albuquerque** 0.3nm,0.3s,baz=151,slow=12,SNR=26	**18.30**	**346**	P	**P**	**23 40 29.2**	**+1.2**
ANMO	baz=33,slow=23,SNR=7.7			Lg	Lg	23 45 56.8	
ANMO	comp=Z,2μm,20.6s,baz=168,slow=40			LR	LR	23 48 23.2	
ANMO	**Albuquerque** 248nm,2.8s	**18.30**	**346**	*e*Pn	**P**	**23 40 29.3**	**+1.2**
W36A	**Wetumka** baz=18	**18.36**	**13**	↑P	**Pn**	**23 40 28.1**	**-0.4**
V30A	**Spur Ranch, Mi** baz=19	**18.47**	**1**	↑P	**P**	**23 40 28.3**	**-1.5**
V28A	**Channing** baz=19	**18.48**	**357**	↑P	**P**	**23 40 28.5**	**-1.6**
MIAR	**Mount Ida** 19nm,0.9s	**18.51**	**20**	*e*P	**P**	**23 40 28.9**	**-1.2**
V31A	**Spring Creek L** baz=19,SNR=6.6	**18.51**	**3**	↑P	**P**	**23 40 29.1**	**-1.1**
V32A	**Arapaho** baz=19	**18.51**	**5**	⇓P	**Pn**	**23 40 30.4**	**+0.1**
V27A	**Dan Oppiter Fa** baz=19	**18.53**	**355**	⇓P	**P**	**23 40 30.7**	**+0.2**
W37A	**Quinton** baz=19,SNR=9.6	**

TUL1 **Leonard** 19.19 13 ⇑P P 23 40 36.3 -1.4
baz=19,SNR=17
U30A **WK&E Inc. Balk** 19.24 1 ⇑P P 23 40 38.5 +0.3
baz=19
113A **Mohawk Valley,** 19.27 326 ⇓P Pn 23 40 40.0 +0.5
baz=19,SNR=9.9
Z14A **Wintersburg** 19.31 329 ⇑P P 23 40 39.9 +0.9
baz=19
U33A **Lingo Farm, Me** 19.31 7 ⇑P P 23 40 38.2 -0.8
baz=20,SNR=5.5
U34A **Anderson Ranch** 19.39 9 *eP* P 23 40 38.8 -1.1
31nm,0.6s
U34A **Anderson Ranch** 19.39 9 ⇓P P 23 40 39.4 -0.4
baz=20
W18A **Petrified Fore** 19.43 338 *eP* P 23 40 40.7 +0.2
16nm,0.9s
W18A **Petrified Fore** 19.43 338 ⇓P P 23 40 41.2 +0.7
baz=20
X16A **Lo Mia Camp, P** 19.49 333 ⇑P Pn 23 40 43.0 +0.7
baz=20
T30A **Plains** 19.76 1 ⇓P P 23 40 43.9 -0.1
baz=20
Y14A **Wickenburg** 19.80 329 ⇓P P 23 40 44.9 +0.4
baz=20,SNR=6.5
T27A **Campo** 19.82 356 ⇓P P 23 40 44.5 -0.2
baz=20
T31A **Randall Ranch,** 19.84 3 ⇑P P 23 40 44.5 -0.3
baz=20
T28A **Walsh** 19.84 358 ⇓P P 23 40 44.4 -0.5
baz=20
T29A **Hugoton** 19.86 359 ⇓P P 23 40 44.3 -0.8
baz=20
T33A **Patterson Ranc** 19.94 7 ⇓P P 23 40 44.1 -1.7
baz=20,SNR=5.9
T32A **Huddler Ranch,** 19.97 5 ⇑P P 23 40 44.3 -1.9
baz=20,SNR=5.2
T26A **Comanche Natio** 20.00 354 ⇑P P 23 40 46.3 -0.4
baz=20,SNR=6.3
T34A **McClaskey Farm** 20.02 9 ⇓P P 23 40 44.6 -2.1
baz=20,SNR=6.8
T35A **Sooner Cattle** 20.02 11 ⇓P P 23 40 44.9 -1.9
baz=20
T25A **Trinidad** 20.06 352 *eP* P 23 40 48.3 +0.9
49nm,1.4s
T25A **Trinidad** 20.06 352 ⇑P P 23 40 47.6 +0.2
baz=20,SNR=5.8
GLA **Glamis** 20.06 324 *eP* Pn 23 40 50.3 +1.2
35nm,1.2s
GLA **Glamis** 20.06 324 ⇓P P 23 40 47.8 +0.5
baz=20,SNR=7.8
LRAL **Lakeview Retre** 20.21 36 *eP* P 23 40 47.7 -1.2
24nm,0.9s
T36A **Boggs Farm, Ca** 20.28 12 ⇓P P 23 40 47.9 -1.6
baz=20,SNR=5.6
S28A **Manter** 20.30 358 ⇑P P 23 40 48.7 -1.2
baz=20
S29A **Ulysses** 20.32 360 ⇑P P 23 40 48.2 -1.9
baz=20,SNR=7.4
S30A **Montezuma** 20.35 1 ⇑P P 23 40 49.2 -1.2
baz=20
S31A **Mullinville** 20.37 4 ⇑P P 23 40 49.2 -1.4
baz=20,SNR=6.0
YUH **Yuha Desert** 20.40 322 *eP* P 23 40 47.8 -3.1
YUH eScS ScS 23 52 20.3 -3.1
WUAZ **Wupatki** 20.41 335 *eP* Pn 23 40 53.7 +0.4
48nm,0.8s
WUAZ **Wupatki** 20.41 335 ⇑P P 23 40 52.2 +1.1
baz=20,SNR=50
Y12C **Blythe** 20.43 326 ⇓P P 23 40 52.0 +0.9
baz=20,SNR=14
S26A **Kim** 20.43 354 ⇓P P 23 40 51.1 -0.2
baz=21,SNR=7.2
S27A **Las Animas** 20.45 356 ⇓P P 23 40 50.7 -0.8
baz=21
S33A **Kaszmaul Farm,** 20.47 7 ⇓P P 23 40 50.2 -1.5
baz=21
S32A **Newby Ranch, P** 20.48 5 ⇓P P 23 40 51.2 -0.7
baz=21
IBP **Imperial Bould** 20.51 321 ⇑P P 23 40 52.5 +0.3
baz=20
SWSC **Sam W. Stewart** 20.53 322 ⇑P P 23 40 52.6 +0.3
baz=21
T37A **Cheneyville 18** 20.55 14 ⇓P P 23 40 50.7 -1.8
baz=21
PDMCI **Parker Dam,Lak** 20.65 328 ⇑P P 23 40 54.4 +0.7
baz=21,SNR=21
S34A **Willow Spring** 20.69 9 ⇓P P 23 40 52.9 -1.2
baz=21
S35A **Otter Creek Ra** 20.80 11 ⇓P P 23 40 53.2 -2.1
baz=21,SNR=10
SDCO **Great Sand Dun** 20.82 350 *eP* P 23 40 56.5 +0.8
46nm,1.1s
SDCO **Great Sand Dun** 20.82 350 ⇓P P 23 40 55.5 -0.2
baz=21,SNR=12
BC3 **Big Chuckawall** 20.86 324 ⇓P P 23 40 56.4 +0.4
baz=21,SNR=22
MONP **Monument Peak,** 20.86 321 ⇓P P 23 40 57.3 +1.1
baz=21
S23A **Nye Farm, Mont** 20.86 349 ⇑P P 23 40 55.7 -0.5
baz=21
MVCO **Mesa Verde** 20.97 343 *eP* P 23 40 58.4 +1.1
23nm,0.9s
MVCO **Mesa Verde** 20.97 343 ⇓P P 23 40 57.2 0.0
baz=21
S36A **Lake Cedric, C** 20.98 12 ⇑P P 23 40 54.8 -2.4
baz=21,SNR=6.8
R30A **Dighton** 20.99 2 ⇓P P 23 40 55.9 -1.4
baz=21
R31A **Burdett** 21.03 3 ⇑P P 23 40 56.3 -1.5
baz=21
R27A **Eads** 21.04 356 ⇑P P 23 40 56.3 -1.6
baz=21,SNR=8.9
R28A **Tribune** 21.05 358 ⇓P P 23 40 57.1 -1.0
baz=21,SNR=8.1
S22A **4UR Ranch, Cre** 21.07 347 *eP* P 23 40 59.5 +1.0
25nm,0.9s
S22A **4UR Ranch, Cre** 21.07 347 ⇓P P 23 40 58.2 -0.2
baz=21,SNR=11
IRM **Iron Mountain** 21.07 326 ⇑P P 23 40 59.8 +1.5
baz=21,SNR=32
GNAR **Gosnell** 21.09 26 *eP* P 23 40 56.1 -2.1
R26A **Arlington** 21.10 355 ⇑P P 23 40 58.4 -0.2
baz=21,SNR=10
W13A **Hualapai Mount** 21.16 330 ⇓P P 23 41 00.2 +0.8
baz=21
R33A **Olander Ranch,** 21.18 7 ⇓P P 23 40 58.0 -1.3
baz=21
R32A **Long Quarter,** 21.22 5 ⇓P P 23 40 58.9 -0.9
baz=21
TIGA **Tifton** 21.25 45 *eP* P 23 40 60.0 -0.2
164nm,1.1s
TIGA **Tifton** 21.25 45 ⇓P P 23 40 59.2 -1.0
baz=21
R34A **Isabella, Hill** 21.26 8 ⇑P P 23 40 58.2 -2.0
baz=21
NEE2 **Needles Airpor** 21.27 328 ⇑P P 23 41 01.3 +1.1
baz=21
109C **Camp Elliot, M** 21.28 320 ⇓P P 23 41 01.4 +1.0
baz=21
R23A **Moffat** 21.30 350 ⇑P P 23 41 01.1 +0.2
baz=21,SNR=5.1
PFO **Pinyon Flats O** 21.40 323 P P 23 41 04.2 +2.4
5.9nm,0.8s,baz=134,slow=13,SNR=5.6
PFO LR LR 23 49 24.2
comp=Z,676nm,18.2s,baz=146,slow=37
PFO **Pinyon Flats O** 21.40 323 *eP* P 23 41 04.7 +2.9
34nm,1.0s
PFO **Pinyon Flats O** 21.40 323 ⇓P P 23 41 03.0 +1.2
baz=21,SNR=6.5
BELC **Belle Mtn. Jos** 21.42 324 ⇑P P 23 41 02.5 +0.4
baz=22
R35A **Emporia Munici** 21.45 10 ⇑P P 23 41 00.8 -1.4
baz=22
U15A **North Rim** 21.57 335 ⇓P P 23 41 04.3 +0.5
baz=22,SNR=14
R36A **Gordon, Harris** 21.58 12 ⇓P P 23 41 01.6 -2.0
baz=22,SNR=8.2
Q29A **Oakley** 21.59 0 ⇓P P 23 41 02.0 -1.7
baz=22,SNR=12
PBMO **Poplar Bluff** 21.63 24 *eP* P 23 41 07.3 +3.2
78nm,0.9s
Q30A **Quinter** 21.69 2 ⇑P P 23 41 03.4 -1.4
baz=22
R37A **Teagarden Farm** 21.71 13 ⇑P P 23 41 03.0 -2.0
baz=22,SNR=6.6
Q26A **Hugo** 21.73 355 ⇑P P 23 41 04.4 -1.0
baz=22
Q31A **Ellis** 21.75 3 ⇓P P 23 41 04.5 -0.9
baz=22
KSCO **Kaye Shedlock'** 21.75 357 *eP* P 23 41 05.4 -0.2
77nm,1.0s
KSCO **Kaye Shedlock'** 21.75 357 ⇓P P 23 41 04.4 -1.1
baz=22
Q28A **Sharon Springs** 21.77 358 ⇓P P 23 41 04.2 -1.5
baz=22
Q32A **Meitler Ranch,** 21.80 5 ⇑P P 23 41 04.3 -1.6
baz=22
GMRC **Granite Mounta** 21.82 326 ⇑P P 23 41 06.4 0.0
baz=22,SNR=19
MURC **Murrieta** 21.83 321 ⇑P P 23 41 07.6 +1.2
baz=22
PV01 **Paradox Valley** 21.85 344 *eP* P 23 41 05.5 -1.2
Q33A **Connelly Farm,** 21.88 7 ⇑P P 23 41 04.9 -1.9
baz=22
UTMT **University of** 21.90 27 *eP* P 23 41 08.8 +1.8
312nm,1.0s
Q34A **Chapman** 21.92 9 ⇑P P 23 41 06.2 -1.0
baz=22
PV05 **Paradox Valley** 21.95 343 *eP* P 23 41 08.6 +0.9
Q24A **Divide** 21.95 351 ⇓P P 23 41 06.7 -1.3
baz=22
Q35A **Mercer Eighty,** 22.00 11 ⇓P P 23 41 05.9 -2.2
baz=22,SNR=5.1
Q23A **Hartsel** 22.00 350 ⇓P P 23 41 08.0 -0.5
baz=22
KSU1 **Kansas State U** 22.14 9 *eP* P 23 41 08.4 -1.2
38nm,0.9s
KSU1 **Kansas State U** 22.14 9 ⇓P P 23 41 08.0 -1.6
baz=22
WVT **Waverly** 22.19 29 *eP* P 23 41 09.1 -1.0
23nm,0.7s
Q36A **Arnold C. Orve** 22.20 12 ⇑P P 23 41 09.8 -0.5
baz=22
HEC **Hector,Ludlow** 22.22 325 ⇑P P 23 41 11.8 +1.2
baz=22
SCI **San Clemente I** 22.24 318 ⇑P P 23 41 11.9 +1.2
baz=22
P30A **Selden** 22.25 2 ⇓P P 23 41 10.5 -0.4
baz=22
P31A **Stockton** 22.27 3 ⇑P P 23 41 10.4 -0.6
baz=22
P28A **Saint Francis** 22.28 359 ⇓P P 23 41 10.8 -0.4
baz=22
KNB **Kanab** 22.29 335 *eP* P 23 41 13.4 +2.0
93nm,1.8s
P27A **Ficken Ranch,** 22.29 357 ⇓P P 23 41 10.7 -0.7
baz=22
P29A **Atwood** 22.30 0 ⇑P P 23 41 10.5 -0.9
baz=22
P33A **Williams Farm,** 22.33 7 ⇑P P 23 41 10.7 -0.9
baz=22
Q37A **Longview Farm,** 22.33 14 ⇑P P 23 41 10.4 -1.3
baz=22
P26A **Davis Ranch, A** 22.35 355 ⇑P P 23 41 11.1 -0.9
baz=22
P32A **Huiting Farm,** 22.42 5 ⇓P P 23 41 12.7 0.0
baz=23
SWET **Sewanee** 22.43 34 *eP* P 23 41 13.6 +0.9
TUQ **Turquoise Moun** 22.46 327 ⇓P P 23 41 14.0 +0.8
baz=22
P23A **Jefferson** 22.46 350 ⇓P P 23 41 14.5 +1.1
baz=23
SMCO **Snowmass** 22.48 348 *eP* P 23 41 14.4 +0.7
38nm,1.4s
BFSC **Mount Baldy Ra** 22.55 322 ⇓P P 23 41 15.8 +1.6
baz=23
GOGA **Godfrey** 22.59 41 *eP* P 23 41 14.3 -0.1
17nm,0.8s
RRX **Edison Barstow** 22.63 324 ⇓P P 23 41 16.0 +1.1
baz=23
GSC **Goldstone, Bar** 22.83 325 *eP* P 23 41 18.9 +1.8
22nm,1.1s
GSC **Goldstone, Bar** 22.83 325 ⇑P P 23 41 17.4 +0.3
baz=23,SNR=7.5
P22A **Eagle** 22.84 349 ⇑P P 23 41 17.7 +0.4
baz=23
ISCO **Idaho Springs** 22.84 351 *eP* P 23 41 17.5 +0.1
7.7nm,0.8s
ISCO **Idaho Springs** 22.84 351 ⇓P P 23 41 16.8 -0.6
baz=23,SNR=7.0
O30A **M Ranch, Wils** 22.89 2 ⇓P P 23 41 16.9 -0.7
baz=23
O31A **Woolen Ranch,** 22.90 3 ⇓P P 23 41 17.7 0.0
baz=23
SHPR **Sheep Range** 22.91 330 *eP* P 23 41 15.1 -2.9
O27A **Beecher Island** 22.92 357 ⇑P P 23 41 18.0 0.0
baz=23
DECC **Green Verdugo** 22.95 321 ⇑P P 23 41 19.5 +1.2
baz=23
O33A **Hebron** 22.97 7 ⇓P P 23 41 18.0 -0.4
baz=23
SHOC **Shoshone, Teco** 23.00 327 ⇑P P 23 41 19.7 +0.9
baz=23
EDW2 **Edwards Air Fo** 23.19 323 ⇓P P 23 41 22.0 +1.1
baz=23
O23A **Lake Granby, G** 23.29 351 ⇓P P 23 41 21.9 -0.1
baz=23
SRU **San Rafael Swe** 23.32 341 *eP* P 23 41 23.4 +1.2
10nm,0.8s
MSU **Marysvale** 23.34 338 *eP* P 23 41 23.8 +1.4
MVU **Marysvale** 23.34 337 *eP* P 23 41 24.0 +1.5
14nm,1.1s
O22A **Kremmling** 23.35 349 ⇑P P 23 41 22.0 -0.7
baz=24,SNR=5.8
OSI **Osito Audit: C** 23.44 321 ⇓P P 23 41 24.4 +1.0
baz=24
LRMC **Laurel Mtn Rad** 23.45 324 ⇑P P 23 41 24.4 +1.0
baz=24
N27A **Anderson Farm,** 23.54 357 ⇑P P 23 41 24.0 -0.3
baz=24
BSC **Santa Cruz Isl** 23.59 319 ⇑P P 23 41 26.3 +1.6
baz=24
OGNE **Ogallala** 23.66 358 ⇓P P 23 41 24.6 -0.8
baz=24
O20A **White River Ci** 23.67 346 ⇑P P 23 41 25.9 +0.2
baz=24
TMUT **Trail Mountain** 23.71 340 *eP* P 23 41 26.6 +0.4
125nm,2.1s
FURC **Furnace Creek,** 23.73 327 ⇓P P 23 41 27.0 +0.9
baz=24
MPMC **Manual Prospec** 23.76 325 ⇑P P 23 41 27.2 +0.5
baz=24,SNR=5.1
TPNV **Topopah Spring** 23.79 329 *eP* P 23 41 28.5 +1.6
38nm,0.9s
TPNV **Topopah Spring** 23.79 329 ⇓P P 23 41 27.3 +0.4
baz=24,SNR=30
ARVC **Arvin** 23.86 322 ⇓P P 23 41 28.5 +1.2
baz=24
N34A **Lincoln** 23.86 9 ⇑P P 23 41 26.9 -0.4
baz=24
SBC **Santa Barbara** 23.93 319 ⇑P P 23 41 28.8 +0.8
baz=24
TKL **Tuckaleechee C** 23.94 37 P P 23 41 26.2 -1.9
4.5nm,0.6s,baz=202,slow=12,SNR=5.9
TKL LR LR 23 54 11.7
comp=Z,592nm,18.7s,baz=218,slow=45
TKL **Tuckaleechee C** 23.94 37 *eP* P 23 41 30.0 +1.9
N22A **Wattenberg Ran** 23.96 350 ⇑P P 23 41 28.5 0.0
baz=24
N23A **Red Feather La** 23.96 351 *eP* P 23 41 29.1 +0.5
20nm,1.0s
N23A **Red Feather La** 23.96 351 ⇓P P 23 41 27.8 -0.8
baz=24,SNR=6.6
DAC **Darwin (Calif)** 23.98 326 *eP* P 23 41 30.2 +1.5
44nm,1.6s
N35A **Tabor** 24.02 10 ⇓P P 23 41 26.9 -1.8
baz=24
ISA **Isabella, Lake** 24.02 323 *eP* P 23 41 31.1 +2.1
ISA **Isabella, Lake** 24.02 323 ⇑P P 23 41 30.4 +1.4
baz=24
M28A **Bar X Bar Ranc** 24.09 359 ⇓P P 23 41 28.5 -1.1
baz=24
M31A **Lambtecht Ranc** 24.11 4 ⇑P P 23 41 28.8 -0.8
baz=24
WASM **Alta Sierra Ca** 24.12 323 *eP* P 23 41 29.6 -0.5
M29A **Burnside Ranch** 24.14 1 ⇑P P 23 41 29.3 -0.8
baz=24
M26A **McRoberts Ranc** 24.23 356 ⇑P P 23 41 30.2 -0.7
baz=24
M27A **Reverse DX Ran** 24.25 358 ⇑P P 23 41 30.2 -0.8
baz=24
M25A **Palm-Egli Farm** 24.27 355 ⇓P P 23 41 31.7 +0.4
baz=24
N20A **Spence Gulch,** 24.34 347 ⇓P P 23 41 32.0 0.0
baz=24
NLU **North Lily Min** 24.59 339 *eP* P 23 41 36.0 +1.7
18nm,1.8s
R11A **Troy Canyon, C** 24.60 332 *eP* P 23 41 35.2 +0.9
75nm,1.9s
R11A **Troy Canyon, C** 24.60 332 ⇑P P 23 41 35.4 +1.0
baz=25,SNR=13
WCI **Wyandotte Cave** 24.61 29 *eP* P 23 41 34.1 -0.1
25nm,0.7s
TZTN **Tazewell** 24.71 35 *eP* P 23 41 33.7 -1.5
24nm,1.0s
TIN **Tinemaha, Big** 24.90 326 ⇓P P 23 41 38.8 +1.8
baz=25
KMSC **Kings Mountain** 25.05 41 *eP* P 23 41 39.2 +0.9
193nm,2.1s
KMSC **Kings Mountain** 25.05 41 ⇓P P 23 41 37.5 -0.7
baz=25
DUG **Dugway, Tooele** 25.06 338 *eP* P 23 41 39.1 +0.7
12nm,0.9s
DUG **Dugway, Tooele** 25.06 338 ⇓P P 23 41 38.5 0.0
baz=25,SNR=11
TPH **Tonopah** 25.16 329 *eP* P 23 41 41.2 +1.8
29nm,1.0s
HDIL **Hopedale** 25.38 21 *eP* P 23 41 40.4 -0.8
43nm,0.8s
K30A **Basset** 25.40 2 ⇓P P 23 41 41.4 0.0
baz=26
K28A **Ten Mile Ranch** 25.41 359 ⇑P P 23 41 41.0 -0.5
baz=26
K27A **Flueckinger Fa** 25.42 358 ⇑P P 23 41 42.2 +0.6
baz=26
K25A **Mack Ranch, Ha** 25.42 355 ⇑P P 23 41 42.3 +0.7
baz=26
K26A **Motz Farm, Whi** 25.46 356 ⇑P P 23 41 42.2 +0.2
baz=26
K29A **Lazy Trails An** 25.46 1 ⇑P P 23 41 42.0 +0.1
baz=26,SNR=6.2
MLAC **Mammoth, Mammo** 25.65 326 ⇑P P 23 41 44.9 +0.9
baz=26
K23A **Bowen Ranch, D** 25.75 352 ⇓P P 23 41 44.8 +0.1
baz=26
K22A **Casper** 25.77 351 *eP* P 23 41 46.7 +1.8
15nm,0.8s
K22A **Casper** 25.77 351 ⇑P P 23 41 45.4 +0.5
baz=26
BGU **Big Grassy Mou** 25.78 339 *eP* P 23 41 45.7 +0.7
15nm,1.1s
HWUT **Hardware Ranch** 25.93 342 *eP* P 23 41 47.0 +0.7
J27A **Elkhorn Farm,** 25.96 358 ⇑P P 23 41 46.4 -0.1
baz=26
NV01 **Mina Array Sit** 25.97 328 *eP* P 23 41 48.4 +1.5
NVAR **Mina Array Bea** 25.97 328 P P 23 41 49.0 +2.1
13nm,0.9s,baz=149,slow=9.8,SNR=28
NVAR PcP PcP 23 45 15.4 +0.1
0.6nm,0.5s,baz=108,slow=2.4,SNR=4.2
SFIN **Lafayette** 26.05 25 *eP* P 23 41 45.8 -1.4
28nm,0.7s
SFIN **Lafayette** 26.05 25 ⇓P P 23 41 46.7 -0.5
baz=26
J30A **Dallas** 26.05 3 ⇓P P 23 41 47.6 +0.3
baz=26
J26A **Sides Ranch, S** 26.06 357 ⇑P P 23 41 48.4 +0.9
baz=26
J29A **Okreek** 26.11 1 ⇑P P 23 41 48.1 +0.3
baz=26
J28A **Allard Ranch,** 26.12 360 ⇓P P 23 41 48.4 +0.5
baz=26,SNR=5.5
J25A **Sunshine Ranch** 26.19 355 ⇑P P 23 41 48.9 +0.3
baz=26
J24A **Dixon Ranch, L** 26.20 354 ⇑P P 23 41 49.0 +0.2
baz=26
ELK **Elko** 26.45 335 P P 23 41 51.9 +0.7
0.3nm,0.3s,baz=169,slow=6.3,SNR=3.1
ELK PcP PcP 23 45 17.1 +0.6
0.6nm,0.7s,baz=135,slow=1.4,SNR=2.6
ELK **Elko** 26.45 335 *eP* P 23 41 51.9 +0.7
17nm,1.9s
HVU **Hansel Valley** 26.46 340 *eP* P 23 41 52.6 +1.5
40nm,2.2s
BW06 **Boulder Array** 26.47 346 *eP* P 23 41 50.7 -0.6
BW06 *eP* pP 23 41 51.3 -2.6
PD31 **Pinedale Array** 26.47 346 *eP* P 23 41 51.9 +0.5
PDAR **Pinedale Array** 26.47 346 P P 23 41 51.9 +0.5
4.6nm,0.9s,baz=134,slow=8.5,SNR=24
PDAR PcP PcP 23 45 16.3 -0.2
1.2nm,1.0s,baz=123,slow=3.3,SNR=4.1
PDAR LR LR 23 53 51.7
comp=Z,880nm,20.1s,baz=188,slow=40
J22A **Midwest** 26.51 351 ⇑P P 23 41 52.0 +0.4
baz=27
J21A **Lysite** 26.60 350 ⇓P P 23 41 53.3 +0.9
baz=27
WAKR **Walker** 26.61 326 *eP* P 23 41 55.3 +2.7
I28A **Midland** 26.69 360 ⇑P P 23 41 53.4 +0.3
baz=27
ECSD **EROS Data Cent** 26.69 7 *eP* P 23 41 53.8 +0.7
14nm,1.0s
J20A **Shoshoni** 26.72 349 ⇓P P 23 41 53.7 +0.2
baz=27,SNR=8.0
I24A **Kuemmerle Ranc** 26.73 354 ⇑P P 23 41 54.3 +0.8
baz=27
CMB **Columbia Colle** 26.79 325 *eP* P 23 41 56.0 +2.0
5.4nm,1.0s
I25A **Rochford** 26.81 356 ⇑P P 23 41 55.0 +0.7
baz=27
BLA **Blacksburg** 26.97 38 *eP* P 23 41 55.0 -0.7
22nm,0.8s
I21A **Big Trails, Te** 27.03 350 ⇑P P 23 41 57.2 +0.9
baz=27
BMN **Battle Mountai** 27.03 332 *eP* P 23 41 58.1 +1.8
12nm,0.9s
JFWS **Jewell Farm** 27.21 18 *eP* P 23 41 59.3 +1.5
10nm,0.8s
I20A **Worland** 27.31 349 ⇑P P 23 41 59.2 +0.5
baz=27,SNR=5.5
H27A **Howes** 27.34 358 ⇑P P 23 41 58.9 -0.1
baz=28
REDW **Red Top Meadow** 27.35 344 *eP* P 23 42 00.5 +1.3
23nm,1.4s
TPAW **Teton Pass** 27.50 344 *eP* P 23 42 02.1 +1.5
8.4nm,0.8s
LOHW **Long Hollow** 27.52 345 *eP* P 23 42 01.2 +0.4
16nm,1.2s
FXWY **Fox Creek** 27.66 344 *eP* P 23 42 03.1 +1.1
11nm,1.2s
MOOW **Moose Ponds** 27.69 345 *eP* P 23 42 03.5 +1.2
8.4nm,1.1s
IMW **Indian Meadow** 27.88 345 *eP* P 23 42 04.5 +0.5
9.4nm,1.3s
G26A **Maurine** 28.02 358 ⇓P P 23 42 05.2 +0.2
baz=28
G22A **Birney** 28.26 352 ⇑P P 23 42 07.9 +0.7
baz=28
SDDR **Presa de Saban** 28.33 82 *eP* P 23 42 09.3 +1.2
27nm,0.8s
HLID **Hailey** 28.59 339 *eP* P 23 42 11.8 +1.5
2.5nm,0.8s
HLID **Hailey** 28.59 339 ⇑P P 23 42 10.2 -0.1
baz=29,SNR=5.6
F24A **Ekalaka** 28.68 355 ⇓P P 23 42 11.1 +0.1
baz=29
ROSC **El Rosal** 28.91 112 LR LR 23 52 05.2
comp=Z,138nm,19.0s,baz=13,slow=33
F20A **Billings** 29.10 350 ⇑P P 23 42 14.7 0.0
baz=29,SNR=5.1
E20A **Meyer Farm, Mu** 29.78 350 ⇓P P 23 42 20.6 -0.1
baz=30
E19A **Rath Farm, Rou** 29.85 349 ⇑P P 23 42 21.3 0.0
baz=30
D30A **Buchanan** 29.86 3 ⇑P P 23 42 21.4 +0.1
baz=30
D24A **Glendive** 29.93 356 ⇓P P 23 42 21.9 -0.1
baz=30
LRM **Limekiln Ridge** 30.06 344 *eP* P 23 42 24.5 +1.1
N02D **Trinity Center** 30.14 326 ⇑P P 23 42 24.9 +0.9
baz=30
D22A **Cohagen** 30.14 353 ⇑P P 23 42 23.2 -0.6
baz=30
D20A **Manuel Ranch,** 30.36 350 ⇓P P 23 42 26.4 +0.7
baz=30
C27A **Sayler Ranch,** 30.41 359 ⇓P P 23 42 26.4 +0.2
baz=31
M02C **Callahan** 30.51 327 ⇓P P 23 42 27.5 +0.3
baz=31
D19A **Cripps Ranch,** 30.55 349 ⇓P P 23 42 27.3 -0.2
baz=31,SNR=8.5
YBH **Yreka Blue Hor** 30.68 327 LR LR 23 53 59.5
comp=Z,454nm,21.9s,baz=165,slow=35
SDV **Santo Domingo** 30.74 102 *eP* P 23 42 31.0 +1.4
38nm,1.9s

BMO	Blue Mountains	30.74	337	*e*P		P	23 42 29.3	0	0.0
	18nm,1.8s								
C21A	Desert Coulee	30.92	352	⇑P		P	23 42 31.3	+0.5	
	baz=31								
C20A	Veseth Ranch,	30.94	351	⇑P		P	23 42 31.4	+0.6	
	baz=31								
B25A	Knox Farm, Ray	31.01	357	⇑P		P	23 42 31.5	0	0.0
	baz=31								
C19A	Slack Wire Ran	31.13	350	⇓P		P	23 42 32.7	+0.1	
	baz=31,SNR=5.5								
B30A	Myrvik Farm, E	31.23	4	⇑P		P	23 42 33.1	-0.3	
	baz=31								
CHMT	Chamberlain Mo	31.28	344	*e*P		P	23 42 34.5	+0.4	
AGMN	Agassiz Nation	31.28	7	*e*P		P	23 42 32.9	-0.9	
	11nm,1.1s								
L02D	Cave Junction,	31.45	327	⇑P		P	23 42 36.7	+1.2	
	baz=32								
J04D	Umpqua Nationa	31.50	330	⇑P		P	23 42 36.7	+0.7	
	baz=32								
EGMT	Eagleton	31.54	349	*e*P		P	23 42 37.0	+0.8	
	12nm,1.1s								
EGMT	Eagleton	31.54	349	⇑P		P	23 42 35.4	-0.8	
	baz=32,SNR=5.9								
F10A	Beach Ranch, E	31.67	338	*e*P		P	23 42 37.9	+0.4	
	9.4nm,0.8s								
G08A	Pilot Rock	31.74	336	*e*P		P	23 42 38.3	+0.2	
	5.8nm,0.9s								
B19A	Brinkman Farms	31.81	350	⇓P		P	23 42 38.5	0	0.0
	baz=32								
A22A	Carney Farms,	31.93	354	⇑P		P	23 42 39.7	+0.1	
	baz=32								
SWMT	Swartz Lake	32.03	343	*e*P		P	23 42 40.8	+0.3	
A19A	Klindworth Far	32.24	350	⇑P		P	23 42 42.5	+0.2	
	baz=32								
I03D	Drain, OR	32.44	329	⇓P		P	23 42 44.9	+0.8	
	baz=32								
H04A	Detroit Lake	32.63	332	*e*P		P	23 42 47.1	+1.4	
	18nm,1.3s								
G05D	Wamic, OR	32.68	333	⇓P		P	23 42 46.9	+0.7	
	baz=33								
SADO	Sadowa	33.06	29	P		P	23 42 46.9	-2.5	
	2.9nm,0.5s,baz=246,slow=7.7,SNR=6.3								
SADO				LR		LR	23 58 34.5		
	comp=Z,517nm,19.0s,baz=273,slow=41								
G04A	Mulino	33.17	332	*e*PP		PP	23 44 05.8	+0.5	
ULM	Lac du Bonnet	33.21	6	P		P	23 42 49.4	-1.3	
	3.9nm,0.8s,baz=144,slow=15,SNR=3.1								
ULM				LR		LR	23 57 34.3		
	comp=Z,805nm,18.4s,baz=218,slow=39								
HUMP	Col San Antoni	33.52	83	*e*P		P	23 42 53.1	-0.7	
	15nm,0.9s								
G03D	McMinnville, O	33.53	331	⇑P		P	23 42 54.4	+0.9	
	baz=34								
NEW	Newport	33.63	340	P		P	23 42 54.1	-0.4	
	0.8nm,0.4s,baz=158,slow=11,SNR=3.6								
NEW				PcP		PcP	23 45 34.4	-0.2	
	1.9nm,0.7s,baz=146,slow=7.3,SNR=3.5								
NEW				LR		LR	23 57 57.8		
	comp=Z,1µm,18.8s,baz=162,slow=39								
NEW	Newport	33.63	340	*e*P		P	23 42 54.1	-0.4	
	49nm,2.5s								
NEW	Newport	33.63	340	⇑P		P	23 42 54.6	+0.1	
	baz=34								
LON	Longmire	34.09	334	*e*P		P	23 43 00.1	+1.6	
	6.5nm,1.1s								
B08A	Colville Reser	34.46	338	*e*P		P	23 43 02.2	+0.6	
	56nm,2.1s								
PIER	Pier 30 Seattl	34.97	335	*e*P		P	23 43 09.5	+3.5	
PIER				*e*ScS		ScS	23 53 20.5	-7.1	
LONY	Lake Ozonia	35.22	34	*e*P		P	23 43 07.2	-1.1	
	74nm,2.5s								
EDM	Edmonton	37.19	348	*e*P		P	23 43 25.9	+0.9	
	12nm,0.8s								
BBB	Bella Bella	40.90	335	LR		LR	00 01 45.7		
	comp=Z,406nm,20.7s,baz=147,slow=38								
FCC	Fort Churchill	41.79	5	*e*P		P	23 44 03.1	-0.1	
	131nm,0.8s								
SAML	Samuel	45.58	122	*e*P		P	23 44 33.1	-1.3	
	6.2nm,1.2s								
SCHQ	Schefferville	45.80	27	P		P	23 44 33.7	-1.8	
	7.3nm,0.7s,baz=229,slow=7.1,SNR=14								
SCHQ				LR		LR	00 05 44.0		
	comp=Z,455nm,19.3s,baz=230,slow=39								
SCHQ	Schefferville	45.80	27	*e*P		P	23 44 35.3	-0.2	
	154nm,2.5s								
YKA	Yellowknife Ar	46.21	351	P		P	23 44 38.1	-0.6	
	11nm,0.7s,baz=159,slow=7.2,SNR=112								
YKA				PcP		PcP	23 46 14.1	-0.1	
	1.4nm,0.7s,baz=157,slow=3.6,SNR=7.1								
YKB5	Yellowknife Ar	46.21	351	*e*P		P	23 44 37.6	-1.0	
DLBC	Dease Lake	46.36	339	P		P	23 44 40.4	+0.3	
	19nm,0.9s,baz=160,slow=6.2,SNR=32								
DLBC				PcP		PcP	23 46 16.2	+1.2	
	5.3nm,0.9s,baz=162,slow=4.0,SNR=3.1								
DLBC				LR		LR	00 05 54.5		
	comp=Z,674nm,19.4s,baz=138,slow=38								
DLBC	Dease Lake	46.36	339	*e*P		P	23 44 41.7	+1.7	
LPAZ	La Paz	46.50	134	P		P	23 44 42.2	0.0	
	1.5nm,0.8s,baz=340,slow=7.0,SNR=5.1								
LPAZ				LR		LR	00 02 30.6		
	comp=Z,318nm,18.5s,baz=315,slow=34								
HYT	Haines Junctio	50.71	338	*e*P		P	23 45 15.8	+2.2	
RKT	Rikitea	52.03	221	*e*LR		LR	00 00 34.4		
	560nm,26.0s								
RKT	Rikitea	52.03	221	*e*T		T	00 41 20.1		
	20nm,0.2s								
DAWY	Dawson	53.56	340	*e*P		P	23 45 35.8	+1.1	
EGAK	Eagle	54.61	340	*e*P		P	23 45 42.8	+0.6	
	12nm,0.8s								
DOT	Dot Lake	54.88	338	*e*P		P	23 45 46.2	+2.0	
	32nm,1.4s								
SCRK	Sand Creek	55.06	338	*e*P		P	23 45 46.4	+0.7	
	20nm,1.4s								
BRLK	Bradley Lake	55.54	332	*e*P		P	23 45 50.6	+1.5	
	12nm,0.8s								
OHAK	Old Harbor	55.58	329	*e*P		P	23 45 49.7	+0.4	
	24nm,1.1s								
PMR	Palmer	55.68	334	*e*P		P	23 45 51.1	+1.1	
	6.4nm,0.7s								
PMOR	Pomariorio Ree	56.22	238	*e*T		T	00 46 28.1		
	29nm,0.2s								
HDA	Harding Lake	56.36	338	*e*P		P	23 45 56.0	+1.2	
	14nm,1.0s								
RND	Reindeer	56.51	336	*e*P		P	23 45 57.2	+1.2	
	20nm,1.1s								
IL1	Eielson Array	56.55	338	*e*P		P	23 45 56.0	-0.1	
ILAR	Eielson Array	56.55	338	P		P	23 45 56.5	+0.4	
	3.3nm,0.9s,baz=148,slow=5.6,SNR=24								
ILAR				PcP		PcP	23 46 53.0	+0.3	
	1.9nm,0.6s,baz=153,slow=2.5,SNR=11								
ILB	Eielson Array	56.55	338	*e*P		P	23 45 56.5	+0.4	
RSO	Redoubt South	56.69	332	*e*P		P	23 45 58.7	+1.2	
SPU	Mount Spurr	56.71	333	*e*P		P	23 45 58.4	+0.9	
MCK	McKinley	56.72	337	*e*P		P	23 45 58.9	+1.5	
	14nm,1.2s								
CCB	Clear Creek Bu	56.80	338	*e*P		P	23 45 58.2	+0.3	
	41nm,2.4s								
WRH	Wood River Hil	56.81	338	*e*P		P	23 45 58.9	+0.9	
	5.1nm,1.0s								
TRF	Thorofare Moun	57.09	336	*e*P		P	23 46 01.3	+1.0	
	16nm,0.9s								
BWN	Browne	57.15	337	*e*P		P	23 46 01.3	+0.9	
	107nm,1.5s								
PPLA	Purkeypile	57.57	335	*e*P		P	23 46 04.3	+0.7	
	36nm,1.7s								
RES	Resolute Bay	57.57	2	*e*P		P	23 46 02.6	-0.7	
	6.9nm,0.8s								
BPAW	Bear Paw Mtn.	57.69	337	*e*P		P	23 46 07.0	+2.8	
	4.1nm,1.6s								
MLY	Manley	58.07	338	*e*P		P	23 46 07.6	+0.7	
SVW2	Sparrevohn	58.22	332	*e*P		P	23 46 06.7	-1.3	
	8.7nm,1.0s								
TIAR	Tiarei	58.77	236	*e*T		T	00 49 38.4		
	4.4nm,0.5s								
PPT	Papeete	58.96	237	LR		LR	00 04 58.2		
	comp=Z,222nm,18.3s,baz=18,slow=29								
PPT2	Papeete2	58.98	237	*e*S		S	23 54 18.2	-2.7	
	149nm,26.8s								
PPT2				*e*LR		LR	00 03 36.8		
	573nm,24.8s								
COLD	Coldfoot	59.04	340	*e*P		P	23 46 15.1	+1.4	
	21nm,1.6s								
BDFB	Brasilia	61.66	119	P		P	23 46 32.5	+0.1	
	3.4nm,0.8s,baz=292,slow=8.4,SNR=6.1								
KULLO	Kullorsuaq	62.10	12	*i* P		P	23 46 34.6	+0.3	
KULLO				*i*			23 46 42.5		
TBI	Tubuai	62.15	231	*e*LR		LR	00 05 02.2		
	524nm,27.2s								
PLCA	Paso Flores	64.25	155	P		P	23 46 49.9	+0.7	
	3.0nm,0.9s,baz=339,slow=5.8,SNR=5.2								
PLCA				LR		LR	00 10 17.1		
	comp=Z,287nm,18.1s,baz=336,slow=32								
PLCA	Paso Flores	64.25	155	*e*P		P	23 46 49.9	+0.7	
	142nm,2.8s								
SUMG	Summit	65.60	17	*i* P		P	23 46 57.5	-0.5	
	60nm,1.8s								
SUMG				*i*			23 47 06.7		
SUMG	Summit	65.60	17	*e*P		P	23 46 57.7	-0.3	
	28nm,1.1s								
BILL	Bilibino	75.17	337	*e*P		P	23 47 56.7	+0.6	
	14nm,1.3s								
EVOP	Sao Brissos	81.71	52	*e*P		P	23 48 31.7	-1.1	
EVO	Evora	81.79	52	*e*P		P	23 48 31.7	-1.5	
	40nm,1.4s								
EVO				*e*R					
	187nm,21.5s								
SEY	Seymchan	82.12	334	P		P	23 48 34.3	-0.1	
	2.5nm,0.5s,baz=71,slow=5.5,SNR=7.1								
SGMF	Saint Gilles	82.85	42	*e*P		P	23 48 38.6	+0.1	
	88nm,1.7s								
SGMF	Saint Gilles	82.85	42	*e*P		P	23 48 38.6	+0.1	
FLN	La Foliniere	84.00	41	*e*P		P	23 48 44.4	0.0	
	42nm,1.2s								
FLN				*e*R					
	255nm,20.2s								
FLN	La Foliniere	84.00	41	*e*P		P	23 48 44.4	0.0	
PAB	San Pablo	84.24	51	*e*P		P	23 48 45.7	-0.3	
	11nm,1.3s								
LDF	La Druitiere	84.28	41	*e*P		P	23 48 45.7	-0.2	
	49nm,1.3s								
LDF	La Druitiere	84.28	41	*e*P		P	23 48 45.7	-0.2	
ESDC	Sonseca Array	84.49	50	P		P	23 48 47.3	+0.1	
	0.8nm,0.7s,baz=296,slow=5.2,SNR=8.9								
ESDC				LR		LR	00 27 10.5		
	comp=Z,86nm,18.7s,baz=285,slow=36								
ES19	SONSECA Array	84.53	50	*e*P		P	23 48 47.4	0.0	
MFF	Saint Martin d	84.93	43	*e*P		P	23 48 48.9	-0.3	
	33nm,1.4s								
MFF	Saint Martin d	84.93	43	*e*P		P	23 48 48.9	-0.3	
SJPF	Ste Jean	85.36	46	*e*P		P	23 48 51.4	-0.1	
SJPF	Ste Jean	85.36	46	*e*P		P	23 48 51.4	-0.1	
NB2	NORSAR Subarra	85.37	27	P		P	23 48 51.3	+0.1	
	comp=Z,1.8nm,0.8s,baz=295,slow=4.6								
NB200	NORSAR Array S	85.37	27	*e*P		P	23 48 51.6	+0.5	
NOA	NORSAR Array B	85.37	27	P		P	23 48 51.6	+0.5	
	comp=Z,1.2nm,0.7s,baz=296,slow=4.7,SNR=5.1								
NOA				LR		LR	00 27 42.9		
	comp=Z,161nm,21.5s,baz=290,slow=36								
ARCES	ARCESS Array B	85.69	16	LR		LR	00 28 14.8		
	comp=Z,133nm,19.4s,baz=306,slow=36								
ETSF	Etsaut	85.89	46	*e*P		P	23 48 54.2	0.0	
	comp=Z,10nm,0.8s								
ETSF	Etsaut	85.89	46	*e*P		P	23 48 54.2	0.0	
LFF	La Frestale	86.08	44	*e*P		P	23 48 54.6	-0.4	
	comp=Z,42nm,1.2s								
LFF	La Frestale	86.08	44	*e*P		P	23 48 54.6	-0.4	
BAIF	Baives	86.40	39	*e*P		P	23 48 55.4	-1.0	
	comp=Z,15nm,1.0s								
BAIF	Baives	86.40	39	*e*P		P	23 48 55.4	-1.0	
RJF	Les Rejaudoux	86.46	44	*e*P		P	23 48 56.2	-0.7	
	comp=Z,24nm,1.2s								
RJF				*e*R					
	comp=Z,259nm,22.8s								
RJF	Les Rejaudoux	86.46	44	*e*P		P	23 48 56.2	-0.7	
EPF	Esparros	86.47	46	*e*P		P	23 48 56.6	-0.4	
	comp=Z,25nm,1.2s								
EPF	Esparros	86.47	46	*e*P		P	23 48 56.6	-0.4	
TCF	Toulx Ste Croi	86.56	43	*e*P		P	23 48 56.8	-0.6	
	comp=Z,8.9nm,0.8s								
TCF	Toulx Ste Croi	86.56	43	*e*P		P	23 48 56.8	-0.6	
H11S1	WAKE ISLAND Hy	86.71	288	T		T	01 25 44.5		
	baz=80,slow=74,SNR=3.7								
H11S2	WAKE ISLAND Hy	86.71	288	T		T	01 25 45.2		
	baz=80								
H11S3	WAKE ISLAND Hy	86.73	288	T		T	01 25 45.4		
	baz=80,slow=74,SNR=4.0								
GIVF	Givet	86.75	38	*e*P		P	23 48 57.1	-1.1	
	comp=Z,28nm,1.1s								
GIVF	Givet	86.75	38	*e*P		P	23 48 57.1	-1.1	
BGF	Bois d'Agland	86.87	42	*e*P		P	23 48 58.3	-0.6	
	comp=Z,11nm,0.9s								
BGF	Bois d'Agland	86.87	42	*e*P		P	23 48 58.3	-0.6	
CAF	Calviac	86.96	44	*e*P		P	23 48 58.6	-0.8	
	comp=Z,11nm,1.0s								
CAF	Calviac	86.96	44	*e*P		P	23 48 58.6	-0.8	
SSF	Saint Saulge	87.11	41	*e*P		P	23 48 59.6	-0.4	
	comp=Z,14nm,1.0s								
SSF	Saint Saulge	87.11	41	*e*P		P	23 48 59.6	-0.4	
AVF	Avril sur Loir	87.11	42	*e*P		P	23 48 59.1	-0.9	
	comp=Z,7.7nm,1.1s								
AVF	Avril sur Loir	87.11	42	*e*P		P	23 48 59.1	-0.9	
LOR	Lormes	87.25	41	*e*P		P	23 49 00.5	-0.2	
	comp=Z,16nm,0.9s								
LOR				*e*R					
	comp=Z,221nm,20.0s								
LOR	Lormes	87.25	41	*e*P		P	23 49 00.5	-0.2	
SMF	Signal de Mont	87.48	42	*e*P		P	23 49 00.8	-1.0	
SMF	Signal de Mont	87.48	42	*e*P		P	23 49 00.8	-1.0	
MEZF	Maizieres J'vi	87.51	40	*e*P		P	23 49 00.8	-1.1	
	comp=Z,29nm,1.2s								
MEZF	Maizieres J'vi	87.51	40	*e*P		P	23 49 00.8	-1.1	
SFTF	Sexfontaines	87.62	40	*e*P		P	23 49 02.0	-0.5	
SFTF	Sexfontaines	87.62	40	*e*P		P	23 49 02.0	-0.5	
PAGF	Fort de Pagny	87.90	40	*e*P		P	23 49 02.7	-1.1	
	comp=Z,4.6nm,1.1s								
PAGF	Fort de Pagny	87.90	40	*e*P		P	23 49 02.7	-1.1	
VIVF	Saint-Julien-l	88.70	43	*e*P		P	23 49 07.1	-0.6	
VIVF	Saint-Julien-l	88.70	43	*e*P		P	23 49 07.1	-0.6	
CABF	La Chapelle	88.91	41	*e*P		P	23 49 07.7	-1.0	
CABF	La Chapelle	88.91	41	*e*P		P	23 49 07.7	-1.0	
LPL	La Plagne	89.77	42	*e*P		P	23 49 12.4	-0.6	
LPL	La Plagne	89.77	42	*e*P		P	23 49 12.4	-0.6	
FINES	FINESS Array B	91.10	23	LR		LR	00 30 08.4		
	comp=Z,247nm,21.7s,baz=310,slow=36								
PVCC	Panska Ves	92.14	35	AMS		AMS	00 32 40.0		
KHC	Kasperske Hory	92.28	37	AMS		AMS	00 31 10.0		
	comp=Z,200nm,18.6s								
PRA	Prague	92.29	36	AMS		AMS	00 34 10.0		
PRU	Pruhonice	92.39	36	AMS		AMS	00 33 50.0		
	comp=Z,200nm,17.1s								
GEC2	GERESS Array S	92.49	37	*e*P		P	23 49 24.8	-0.6	
GERES	GERESS Array B	92.49	37	P		P	23 49 24.8	-0.6	
	comp=Z,0.2nm,0.4s,baz=330,slow=3.7,SNR=3.5								
GERES				LR		LR	00 31 01.7		
	comp=Z,164nm,21.1s,baz=286,slow=36								
GOPC	GO Pecny, Ondr	92.57	36	AMS		AMS	00 34 10.0		
	comp=Z,300nm,18.0s								
TREC	Trest	93.28	36	AMS		AMS	00 33 20.0		
	comp=Z,200nm,15.7s								
OKC	Ostrava-Krasne	94.45	35	AMS		AMS	00 34 30.0		
	comp=Z,200nm,20.3s								
KEST	Kesra	95.74	50	LR		LR	00 33 23.9		
	comp=Z,24nm,18.2s,baz=258,slow=36								
TOA0	Torodi Ar. Sit	97.99	74	*e*P		P	23 49 49.4	-1.6	
TORD	Torodi Ar. Bea	97.99	74	P		P	23 49 49.4	-1.6	
	comp=Z,0.4nm,0.9s,baz=292,slow=3.8,SNR=2.8								
TORD				LR		LR	00 30 39.9		
	comp=Z,127nm,21.2s,baz=285,slow=33								
AKASG	Malin Array Be	99.55	29	LR		LR	00 36 52.8		
	comp=Z,75nm,18.9s,baz=295,slow=37								
ZALV	Zalesovo Beam	108.94	356	PP		PP	23 55 09.3	-0.3	
	comp=Z,0.6nm,0.5s,baz=319,slow=7.7,SNR=3.4								
HHC	Hu-ho-hao-te	114.77	333	*e*PKP		PKPdf	23 54 56.5	+1.4	
HHC				PP		PP	23 55 57.5	+5.6	
HHC				PPMZ					
	comp=Z,82nm,6.8s								
HHC				LN					
	comp=Z,190nm,17.5s								
HHC				LE					
	comp=Z,200nm,18.5s								
HHC				LZ					
	comp=Z,220nm,17.3s								
MK32	Makanchi Array	116.21	357	*e*PKPdf		PKPdf	23 54 56.5	-1.2	
MKAR	Makanchi Array	116.21	357	PKP		PKPdf	23 54 56.5	-1.2	
	comp=Z,0.4nm,0.7s,baz=46,slow=3.5,SNR=3.9								
WMQ	Urumqi	118.73	353	*e*PKP		PKPdf	23 55 03.5	+0.9	
WMQ				PP		PP	23 56 25.3	+6.1	
WMQ				PKS		PKSdf	23 58 39.0	-0.3	
WMQ				SKS		SKSdf	00 02 14.0	-1.2	
WMQ				SKKS		SKKSac	00 03 19.0	-2.4	
WMQ				SS		SS	00 12 39.5	+2.5	
WMQ				PPMZ					
	comp=Z,170nm,4.8s								
WMQ				LN					
	comp=Z,250nm,24.0s								
WMQ				LE					
	comp=Z,270nm,26.2s								
WMQ				LZ					
	comp=Z,260nm,23.0s								
STKA	Stephens Creek	121.88	243	PKP		PKPdf	23 55 09.0	+0.2	
	comp=Z,2.6nm,0.9s,baz=34,slow=3.6,SNR=4.7								
LZH	Lanzhou	121.98	336	*e*PKP		PKPdf	23 55 11.3	+2.1	
LZH				sPKP			23 55 15.8		
LZH				LN					
	comp=Z,140nm,18.0s								
LZH				LE					
	comp=Z,120nm,18.3s								
LZH				LZ					
	comp=Z,170nm,20.1s								
KSH	Kashi	123.49	3	*e*PKP		PKPdf	23 55 15.3	+3.3	
KSH				PP		PP	23 57 01.0	+9.3	
KSH				PKS		PKSdf	23 58 50.8	+2.1	
KSH				SKS		SKSdf	00 02 26.0	+1.5	
KSH				SKKS		SKKSac	00 03 52.8	+0.1	
KSH				SS		SS	00 13 45.0	+7.0	
KSH				PPMZ					
	comp=Z,100nm,5.8s								
KSH				LN					
	comp=Z,78nm,7.8s								
KSH				LE					
	comp=Z,81nm,4.6s								
KSH				LZ					
	comp=Z,120nm,8.5s								
CD2	Chengdu	126.53	333	PKP		PKPdf	23 55 18.0	+0.1	
CD2				PP		PP	23 57 16.5	+4.1	
CD2				PKS		PKSdf	23 58 53.3	-1.4	
CD2				SKS		SKSdf	00 02 27.3	-3.1	
CD2				SKKS		SKKSac	00 04 07.3	-4.9	
CD2				SS		SS	00 14 15.8	-1.1	
CD2				PPMZ					
	comp=Z,120nm,5.4s								
WRA	Warramunga Arr	127.62	258	PKP		PKPdf	23 55 20.2	0.0	
	comp=Z,2.5nm,1.0s,baz=74,slow=2.2,SNR=14								
ASAR	Alice Springs	128.25	253	PKP		PKPdf	23 55 21.6	+0.1	
	comp=Z,1.5nm,1.0s,baz=77,slow=2.1,SNR=8.0								
MAW	Mawson	128.59	172	PKP		PKPdf	23 55 20.9	+0.4	
	comp=Z,3.3nm,0.8s,baz=280,slow=6.1,SNR=4.4								
BOSA	Boshof	129.63	113	PKP		PKPdf	23 55 23.9	0.0	
	comp=Z,2.9nm,0.9s,baz=278,slow=4.3,SNR=4.6								
CMAR	Chiang Mai Arr	139.45	330	PKP		PKPdf	23 55 43.0	+0.6	
	comp=Z,2.0nm,0.3s,baz=338,slow=1.3,SNR=4.0								

KLM ***25*** *23:42:48.7, 6.91°S ± 115.93°E, h597 km, mb4.6, MS5.3*
ISCJB ***25*** *23:42:49.0 ± 0.3, 6.80°S ± 0.06 × 115.95°E ± 0.05, h550 km, mb3.7/8, Error ellipse: s-maj=7.5km s-min=6.6km az=163.6*
DJA ***25*** *23:42:49.9 ± 0.4, 7.7°S ± 5.1 × 11.6°E ± 3.1°, h547 km ± 6 km, M4.1/25, mb4.4/14, mBA7.7/7, MLv4.0/25, Mw(mB)4.0/7*
IDC ***25*** *23:42:51.2 ± 1.6, 6.62°S × 116.17°E, h557 km ± 13 km, mb3.2/8, mb1 3.3/9, mb1mx3.1/23, mbtmp4.1/9, Error ellipse: s-maj=33.3km s-min=8.8km az=56.0*

ISC 25 23:42:49.9 ± 0.6, 6.78°S ± 0.08 × 115.98°E ± 0.09, h550 km, n41, o0°88/47, mb3.8/8, 1D, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SRBI	Singaraja	1.50	210	P	P	P	23 43 56.6	-1.1
ABJI	Asem Bagus	2.00	240	P	P	P	23 43 59.3	-0.4
KMMI	Kalianget	2.01	262	P	P	P	23 43 59.9	+0.2
DNP	Denpasar	2.03	202	P	P	P	23 43 59.1	-0.7
DNP				S	S	S	23 44 55.4	-1.2
IGBI	Denpasar	2.19	202	P	P	P	23 43 58.0	-2.5
BLJI	Banyuglugur	2.55	248	P	P	P	23 44 02.0	-0.4
GMJI	Gumukmas	2.92	239	P	P	P	23 44 02.0	-2.5
KBKI	Kotabaru	3.46	3	P	P	P	23 44 07.9	-0.2
BBKI	Banjar Baru	3.48	341	P	P	P	23 44 08.0	-0.2
TBJI	Tambak Boyo	4.10	269	P	P	P	23 44 12.2	-0.4
KAPI	Kappang	4.14	65	P	P	P	23 44 12.7	-0.3
	3.8nm,0.3s,baz=151,slow=2.3,SNR=13							
KAPI				S	S	S	23 45 19.8	-0.7
	baz=216,slow=24,SNR=11							
PWJI	Pagerwojo	4.32	253	P	P	P	23 44 13.8	-0.5
BKSI	Bulukumba	4.37	71	P	P	P	23 44 14.6	-0.1
WBSI	Waikabubak, Su	4.42	130	P	P	P	23 44 14.5	-0.6
BSSI	Bau Bau, Buton	4.53	82	P	P	P	23 44 15.9	-0.1
SPSI	Sidrap Palu	4.70	54	P	P	P	23 44 17.2	-0.1
SMRI	Semarang	5.50	267	P	P	P	23 44 24.5	+0.3
	145nm,0.9s,0.6nm							
MTKI	Muara Teweh, K	5.90	349	P	P	P	23 44 27.7	0.0
	157nm,0.7s,0.6nm							
PCI	Palu	6.99	34	P	P	P	23 44 38.2	+0.3
	77nm,0.9s,0.2nm							
MPSI	Mapaga

LPAZ La Paz 3.15 48 P Pn 00 20 47.8 +0.9
0.4nm,0.3s,baz=246,slow=13,SNR=9.9

LVC Limon Verde 4.45 160 P Pn 00 21 03.2 -0.7
14nm,0.3s,baz=352,slow=12,SNR=11

LVC S Sn 00 21 55.5 +0.7
49nm,0.3s,baz=307,slow=20,SNR=3.7

SIV San Ignacio 9.39 77 P Pn 00 22 09.2 -1.8
0.4nm,0.3s,baz=269,slow=14,SNR=3.4

TORD Torodi Ar. Bea 77.84 72 P P 00 31 46.4 +0.3
0.3nm,0.9s,baz=250,slow=4.4,SNR=2.8

YKA Yellowknife Ar 87.78 341 P P 00 32 36.2 -0.2
0.4nm,0.6s,baz=135,slow=5.0,SNR=7.2

*IDC **26** 00:22:58.9±2.5, 7°.48S×128°.69E, h88km±23km, mb4.2/15, mb1 4.2/18, mb1mx4.1/24, mbtmp4.5/18, MS3.2/1, Ms1 3.2/1, ms1mx2.6/23, Error ellipse: s-maj=17.6km s-min=11.8km az=67.0*
*ISCJB **26** 00:22:59.5±0.4, 7°.75S±0°.03×128°.69E±0°.03, h128km±4km, mb4.4/25, Error ellipse: s-maj=4.8km s-min=4.3km az=166.8*
*BJI **26** 00:22:59.5, 7°.66S×128°.87E, h131km, mb4.9/25, mB5.0/11*
*NEIC **26** 00:22:59.3±0.6, 7°.62S×128°.62E, h99km±6km, mb4.5/15, Error ellipse: s-maj=7.3km s-min=5.6km az=53.0*
*DJA **26** 00:23:00.9±0.3, 8°.5S±3°×12°.9E±1°, h75km±15km, M4.7/20, mb4.8/20, mB5.2/13, MLv4.8/11, Mw(mB)4.6/13*

ISC 26 00:22:59.9±0.6, 7°.66S±0°.04×128°.64E±0°.04, h104km±6km, n109, σ1°58/131, mb4.5/26, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.65**	**97**	P	**Pn**	**00 23 41.4**	**+0.2**
SAUI				S	**Sn**	**00 24 12.7**	**-0.2**
SAUI	**Saumlaki**	**2.65**	**97**	*e*Pn	**Pn**	**00 23 43.8**	**+2.6**
SAUI				*e*Sn	**Sn**	**00 24 12.4**	**-0.5**
BNDI	**Bandanaira**	**3.36**	**22**	P	**Pn**	**00 23 51.2**	**+0.6**
BNDI				S	**Sn**	**00 24 33.1**	**+3.3**
NLAI	**Namlea**	**4.65**	**341**	P	**Pn**	**00 24 10.7**	**+2.7**
SOEI	**Soe**	**4.80**	**244**	P	**Pn**	**00 24 11.4**	**+1.3**
SOEI				S	**Sn**	**00 25 06.1**	**+1.4**
SOEI	**Soe**	**4.80**	**244**	*e*Pn	**Pn**	**00 24 08.7**	**-1.4**
SOEI				*e*Sn	**Sn**	**00 25 02.0**	**-2.6**
FAKI	**Fak Fak**	**5.92**	**38**	P	**Pn**	**00 24 25.3**	**0.0**
	103nm,0.8s,2µm0.6nm						
FAKI				S	**Sn**	**00 25 29.2**	**-2.6**
	103nm,0.8s,2µm0.6nm						
FAKI	**Fak Fak**	**5.92**	**38**	*e*Pn	**Pn**	**00 24 25.0**	**-0.3**
FAKI				*e*Sn	**Sn**	**00 25 27.4**	**-4.4**
SANI	**Sanana**	**6.17**	**334**	P	**Pn**	**00 24 31.3**	**+2.7**
	93nm,0.8s,725nm0.3nm						
BBSI	**Bau Bau**	**6.41**	**289**	P	**Pn**	**00 24 34.4**	**+2.6**
	102nm,1.2s,1µm0.4nm						
MMRI	**Maumere**	**6.41**	**261**	P	**Pn**	**00 24 32.2**	**+0.3**
	101nm,0.7s,0.4nm						
MMRI				S	**Sn**	**00 25 46.9**	**+3.2**
	101nm,0.7s,0.4nm						
MMRI	**Maumere**	**6.41**	**261**	*e*Pn	**Pn**	**00 24 31.9**	**0.0**
LBMI	**Labuha**	**7.07**	**351**	P	**Pn**	**00 24 43.6**	**+2.8**
	149nm,0.8s,2µm0.6nm						
SIJI	**Sorong**	**7.24**	**21**	P	**Pn**	**00 24 44.5**	**+1.4**
	8.3nm,0.3s,baz=187,slow=17,SNR=7.9						
SIJI				S	**Sn**	**00 26 03.7**	**-0.1**
	5.6nm,0.3s,baz=205,slow=23,SNR=15						
SWI	**Sorong**	**7.24**	**21**	P	**Pn**	**00 24 45.0**	**+1.9**
	51nm,0.9s,2µm0.4nm						
RKPI	**Ransiki, Papua**	**8.23**	**42**	P	**Pn**	**00 24 56.9**	**+0.3**
	140nm,0.6s						
RKPI				S	**Sn**	**00 26 31.3**	**+3.3**
	140nm,0.6s						
BSSI	**Bau Bau, Buton**	**8.23**	**280**	P	**Pn**	**00 24 58.4**	**+1.8**
	71nm,1.3s,916nm						
BASI	**Baing, Sumba**	**8.36**	**252**	P	**Pn**	**00 24 58.4**	**0.0**
	300nm,1.1s,4µm						
TNTI	**Ternate**	**8.47**	**351**	*e*Pn	**Pn**	**00 24 57.7**	**-2.2**
BKSI	**Bulukumba**	**8.78**	**285**	P	**Pn**	**00 25 06.6**	**+2.6**
	76nm,0.9s,787nm						
LUWI	**Luwuk**	**8.80**	**318**	P	**Pn**	**00 25 07.1**	**+2.7**
	57nm,1.2s,5µm						
LUWI	**Luwuk**	**8.80**	**318**	*e*Pn	**Pn**	**00 25 07.2**	**+2.9**
KAPI	**Kappang**	**9.22**	**286**	P	**Pn**	**00 25 08.7**	**-1.3**
	0.8nm,0.3s,baz=126,slow=8.8,SNR=8.6						
KAPI				S	**Sn**	**00 26 52.3**	**+0.3**
	0.1nm,0.3s,baz=246,slow=20,SNR=1.6						
KAPI				LR	LR	00 28 11.3	
	comp=Z,149nm,21.3s,baz=129,slow=34						
KAPI	**Kappang**	**9.22**	**286**	*e*Pn	**Pn**	**00 25 08.1**	**-1.9**
KAPI				*e*Sn	**Sn**	**00 26 52.3**	**+0.3**
WBSI	**Waikabubak, Su**	**9.36**	**257**	P	**Pn**	**00 25 12.9**	**+1.0**
	68nm,0.6s,12µm						
KMSI	**Cibinong**	**9.41**	**330**	P	**Pn**	**00 25 15.5**	**+2.9**
	241nm,1.2s,3µm						
SPSI	**Sidrap Palu**	**9.56**	**292**	P	**Pn**	**00 25 16.8**	**+2.1**
	19nm,0.6s						
MRSI	**Marisa**	**10.49**	**320**	P	**Pn**	**00 25 30.1**	**+2.8**
	20nm,0.4s						
SMPI	**Sarmi**	**11.50**	**61**	P	**Pn**	**00 25 40.8**	**-0.2**
	20nm,0.9s,2µm						
JAY	**Jayapura**	**13.05**	**68**	P	**Pn**	**00 26 00.3**	**-1.2**
	0.8nm,0.3s,baz=229,slow=15,SNR=6.2						
JAY				S	**Sn**	**00 28 26.6**	**+1.4**
	0.4nm,0.3s,baz=90,slow=17,SNR=3.0						
WRAB	**Tennant Creek**	**13.40**	**156**	*e*Pn	**Pn**	**00 26 05.0**	**-0.9**
WRAB				*e*Sn	Sn	00 28 23.6	-10
WRA	**Warramunga Arr**	**13.40**	**156**	P	**Pn**	**00 26 04.0**	**-2.0**
	3.2nm,0.3s,baz=350,slow=13,SNR=60						
WRA				S	Sn	00 28 23.2	-10
	8.9nm,0.3s,baz=334,slow=21,SNR=8.6						
COEN	**Coen**	**15.58**	**115**	*e*Pn	**Pn**	**00 26 33.3**	**-0.6**
	2.4nm,0.6s						
COEN				*e*Sn	Sn	00 29 12.5	-14
MBWA	**Marble Bar**	**15.94**	**212**	*e*Pn	**Pn**	**00 26 36.8**	**-1.6**
	66nm,1.4s						
MBWA				*e*Sn	Sn	00 29 19.3	-16
AS12	**Alice Springs**	**16.70**	**163**	*e*Pn	**P**	**00 26 47.8**	**-0.5**
AS12				*e*Sn	Sn	00 29 42.5	-11
ASAR	**Alice Springs**	**16.70**	**163**	P	**P**	**00 26 47.8**	**-0.5**
	1.0nm,0.3s,baz=334,slow=8.9,SNR=40						
ASAR				S	Sn	00 29 42.5	-11
	0.8nm,0.3s,baz=341,slow=18,SNR=4.3						
AS01	**Alice Springs**	**16.71**	**163**	*e*Pn	**Pn**	**00 26 47.1**	**-0.7**
AS01				*e*Sn	Sn	00 29 43.4	-10
PMG	**Port Moresby**	**18.39**	**97**	*e*P	**Pn**	**00 27 10.7**	**+2.5**
	18nm,0.7s						
KKM	**Kota Kinabalu**	**18.41**	**317**	*e*P	**P**	**00 27 07.6**	**+0.3**
	32nm,1.1s						
SBUM	**Sibu**	**19.22**	**301**	*e*P	**Pn**	**00 27 18.0**	**0.0**
	48nm,1.6s						
KSM	**Kuching**	**20.41**	**296**	*e*P	**P**	**00 27 27.1**	**-1.9**
	15nm,0.8s						
CTA	**Charters Tower**	**21.06**	**128**	P	**P**	**00 27 37.2**	**+1.4**
	0.9nm,0.4s,baz=305,slow=13,SNR=3.1						
CTA				S	Sn	00 31 34.1	-3.9
	1.7nm,0.8s,baz=318,slow=14,SNR=2.4						
CTAO	**Charters Tower**	**21.06**	**128**	*e*P	**P**	**00 27 36.3**	**+0.5**
	12nm,1.0s						
STKA	**Stephens Creek**	**26.95**	**155**	P	**P**	**00 28 34.0**	**+2.3**
	2.1nm,0.5s,baz=317,slow=7.3,SNR=5.9						
STKA	**Stephens Creek**	**26.95**	**155**	*e*P	**P**	**00 28 34.0**	**+2.3**
	35nm,2.8s						
NWAO	**Narrogin (SRO)**	**27.28**	**201**	P	**P**	**00 28 36.6**	**+2.0**
	11nm,0.9s,baz=329,slow=8.3,SNR=3.7						
PSI	**Prapat**	**31.42**	**288**	P	**P**	**00 29 11.2**	**-0.5**
	3.2nm,0.4s,baz=3.8,slow=15,SNR=3.8						
UTTA	**Uttaradit**	**37.51**	**313**	P	**P**	**00 30 04.9**	**+1.0**
	2.9nm,1.0s						
CM01	**Chiang Mai Arr**	**39.11**	**312**	*e*P	**P**	**00 30 17.7**	**+0.4**
CM31	**Chiang Mai Arr**	**39.14**	**312**	*e*P	**P**	**00 30 18.2**	**+0.5**
CM31				*e*PcP	**PcP**	**00 32 26.5**	**+1.1**
CMAR	**Chiang Mai Arr**	**39.14**	**312**	P	**P**	**00 30 18.2**	**+0.5**
	5.2nm,0.9s,baz=144,slow=7.3,SNR=18						
CMAR				PcP	**PcP**	**00 32 26.5**	**+1.1**
	0.9nm,0.3s,baz=162,slow=2.5,SNR=5.5						
CRAI	**Chiangrai**	**39.26**	**315**	P	**P**	**00 30 15.9**	**-2.7**
	12nm,1.0s						
CMMT	**Chiang Mai**	**39.36**	**312**	P	**P**	**00 30 20.4**	**+0.9**
	24nm,1.6s						
CHTO	**Chiang Mai**	**39.37**	**312**	P	**P**	**00 30 20.4**	**+0.9**
	80nm,1.4s						
WHN	**Wuhan**	**40.39**	**341**	P	**P**	**00 30 27.3**	**-0.4**
WHN				LZ			
	420nm,17.8s						
KMI	**Kunming**	**41.21**	**323**	P	**P**	**00 30 35.5**	**+0.6**
KMI				PMZ			
	12nm,1.3s						
KS15	**Wonju Array Si**	**44.87**	**359**	*e*P	**P**	**00 31 03.5**	**-0.4**
KSAR	**Wonju Array Be**	**44.87**	**359**	P	**P**	**00 31 03.5**	**-0.4**
MJAR	**Matsushiro Arr**	**44.88**	**11**	P	**P**	**00 31 01.9**	**-2.2**
	5.5nm,0.8s,baz=187,slow=9.6,SNR=12						
MAJO	**Matsushiro**	**44.88**	**11**	*e*P	**P**	**00 31 01.9**	**-2.2**
	55nm,1.8s						
KSRS	**Korea Array**	**44.88**	**359**	P	**P**	**00 31 03.5**	**-0.5**
	3.8nm,0.8s,baz=176,slow=11,SNR=8.2						
CD2	**Chengdu**	**45.16**	**329**	*e*P	**P**	**00 31 04.8**	**-1.6**
CD2				PP	**PP**	**00 32 51.0**	**-3.1**
CD2				S	**S**	**00 37 41.5**	**+3.1**
CD2				SS	**ScS**	**00 40 55.0**	**+1.9**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	140nm,5.2s						
XAN	**Xi'an**	**45.49**	**337**	P	**P**	**00 31 07.0**	**-2.0**
XAN				S	**S**	**00 37 45.5**	**+2.4**
XAN				PMZ			
	5.0nm,1.2s						
XAN				LN			
	220nm,17.0s						
XAN				LZ			
	95nm,15.6s						
LZH	**Lanzhou**	**49.37**	**333**	ǁP	**P**	**00 31 39.5**	**+0.4**
LZH				PMZ			
	43nm,1.0s						
LZH				PMZ			
	150nm,4.0s						
HHC	**Hu-ho-hao-te**	**50.77**	**343**	*e*P	P	00 31 53.0	+3.5
HHC				pP	pP	00 32 22.3	+7.9
HHC				sP	sP	00 32 36.5	+10
HHC				S	**S**	**00 38 58.8**	**+1.4**
HHC				sS	sS	00 39 50.8	+11
HHC				PMZ			
	20nm,1.0s						
HHC				PMZ			
	160nm,5.7s						
HHC				LN			
	330nm,13.6s						
HHC				LE			
	280nm,13.6s						
HHC				LZ			
	310nm,14.8s						
USRK	**Ussuriysk Ar.**	**51.71**	**3**	P	**P**	**00 31 56.0**	**-0.3**
	3.2nm,0.5s,baz=186,slow=6.9,SNR=11						
ODAN	**Odare**	**52.69**	**312**	*e*P	**P**	**00 32 03.7**	**-0.5**
	20nm,0.7s						
TAPN	**Taplejung**	**52.73**	**313**	*e*P	**P**	**00 32 03.8**	**-0.8**
	53nm,1.1s						
RAMN	**Ramite**	**53.32**	**312**	*e*P	**P**	**00 32 08.5**	**-0.4**
	47nm,0.7s						
GTA	**Gaotai**	**53.92**	**332**	*e*P	**P**	**00 32 12.8**	**-0.1**
GTA				PMZ			
	25nm,1.2s						
GTA				PMZ			
	190nm,5.5s						
GTA				LN			
	260nm,18.1s						
GTA				LE			
	140nm,19.9s						
GTA				LZ			
	290nm,16.2s						
JIRN	**Jiri**	**54.02**	**312**	*e*P	**P**	**00 32 13.3**	**-0.8**
	18nm,0.7s						
GUN	**Gumba**	**54.38**	**312**	*e*P	**P**	**00 32 15.9**	**-0.9**
	33nm,0.7s						
PKI	**Pulchoki**	**54.54**	**312**	*e*P	**P**	**00 32 16.6**	**-1.3**
PKIN	**Phulchoki**	**54.56**	**312**	*e*P	**P**	**00 32 17.0**	**-0.9**
	6.5nm,0.5s						
KKN	**Kakani**	**54.76**	**312**	*e*P	**P**	**00 32 18.3**	**-1.0**
	14nm,0.7s						
DMN	**Daman**	**54.79**	**312**	*e*P	**P**	**00 32 18.8**	**-0.8**
	9.3nm,0.3s						
GKN	**Gorkha**	**55.35**	**312**	*e*P	**P**	**00 32 21.7**	**-1.8**
KOLN	**Koldanda**	**56.00**	**311**	*e*P	**P**	**00 32 27.1**	**-1.1**
	22nm,0.8s						
SONA0	**Songino Array**	**58.65**	**343**	*e*P	**P**	**00 32 46.7**	**+0.4**
SONM	**Songino Array**	**58.65**	**343**	P	**P**	**00 32 46.7**	**+0.4**
	16nm,0.9s,baz=162,slow=7.5,SNR=59						
SONA1	**Songino Array**	**58.66**	**343**	*e*P	**P**	**00 32 46.1**	**-0.4**
TLY	**Talaya**	**62.89**	**343**	*e*P	**P**	**00 33 15.5**	**+0.6**
	8.2nm,0.7s						
PETK	**Petropavlovsk-**	**65.37**	**19**	P	**P**	**00 33 30.8**	**-0.2**
	5.6nm,0.9s,baz=193,slow=5.9,SNR=4.5						
PEA2	**Petropavlovsk-**	**65.38**	**19**	*e*P	**P**	**00 33 30.8**	**-0.2**
MK01	**Makanchi Array**	**68.03**	**328**	*e*P	**P**	**00 33 47.4**	**-0.7**
MK32	**Makanchi Array**	**68.05**	**328**	*e*P	**P**	**00 33 48.3**	**+0.1**
MK32				*e*pP	**pP**	**00 34 14.4**	**0.0**
MKAR	**Makanchi Array**	**68.05**	**328**	P	**P**	**00 33 48.3**	**+0.1**
	6.3nm,0.5s,baz=118,slow=8.3,SNR=130						
MKAR				PcP	**pP**	**00 34 14.4**	**0.0**
	2.1nm,0.5s,baz=132,slow=6.4,SNR=5.9						
EKS2	**Erkin-Say**	**70.65**	**320**	*e*P	**P**	**00 34 05.6**	**+1.1**
	60nm,2.8s						
ZAA0	**Zalesovo Array**	**71.59**	**334**	*e*P	**P**	**00 34 08.3**	**-1.4**
ZALV	**Zalesovo Beam**	**71.59**	**334**	P	**P**	**00 34 08.6**	**-1.1**
	16nm,0.7s,baz=124,slow=4.9,SNR=54						
ZAA1	**Zalesovo Array**	**71.59**	**334**	*e*P	**P**	**00 34 08.6**	**-1.2**
VNDA	**Vanda**	**71.96**	**173**	P	**P**	**00 34 13.8**	**+2.2**
	1.5nm,0.7s,baz=314,slow=8.8,SNR=12						
KURK	**Kurchatov**	**72.39**	**329**	*e*P	**P**	**00 34 13.4**	**-1.1**
	21nm,0.8s						
SEY	**Seymchan**	**72.70**	**11**	P	**P**	**00 34 16.3**	**+0.1**
	5.8nm,0.7s,baz=209,slow=3.4,SNR=17						
BRVK	**Borovoye**	**77.98**	**328**	*e*P	**P**	**00 34 45.8**	**-0.8**
	6.6nm,1.0s						
ABKAR	**Akbulak array**	**82.19**	**322**	*e*P	**P**	**00 35 08.5**	**-0.9**
ARU	**Arti**	**85.56**	**328**	*e*P	**P**	**00 35 23.9**	**-2.4**
	6.9nm,1.0s						
RAYN	**Ar Rayn**	**86.78**	**294**	*e*P	**P**	**00 35 31.5**	**-1.6**
	2.2nm,0.8s						
ILAR	**Eielson Array**	**94.52**	**25**	P	**P**	**00 36 07.2**	**-1.1**
	0.3nm,0.6s,baz=258,slow=4.4,SNR=3.7						
ILB	**Eielson Array**	**94.52**	**25**	*e*P	**P**	**00 36 07.2**	**-1.1**
ARA0	**ARCESS Array S**	**101.72**	**340**	*e*Pdif	**Pdif**	**00 36 41.6**	**+1.0**
ARCES	**ARCESS Array B**	**101.72**	**340**	P	**Pdif**	**00 36 41.6**	**+1.0**
	1.6nm,0.9s,baz=80,slow=2.8,SNR=4.1						
YKA	**Yellowknife Ar**	**108.93**	**26**	PKiKP	**PKiKP**	**00 41 16.2**	**-0.6**
	0.4nm,0.9s,baz=294,slow=2.1,SNR=4.4						
YKA				PKKPbc	**PKKPbc**	**00 52 25.8**	**-1.5**
	0.2nm,0.8s,baz=86,slow=2.7,SNR=3.9						
GERES	**GERESS Array B**	**112.06**	**320**	PKiKP	**PKiKP**	**00 41 22.4**	**-0.9**
	0.3nm,0.5s,baz=93,slow=2.7,SNR=3.8						
PDAR	**Pinedale Array**	**118.31**	**45**	PKP	**PKPdf**	**00 41 35.9**	**+0.2**
	0.5nm,0.7s,baz=353,slow=3.4,SNR=4.5						
TXAR	**Lajitas Array**	**126.42**	**59**	PKP	**PKPdf**	**00 41 52.3**	**+0.9**
	0.3nm,0.5s,baz=190,slow=4.2,SNR=3.8						
TORD	**Torodi Ar. Bea**	**127.61**	**281**	PKP	**PKPdf**	**00 41 54.0**	**0.0**
	0.7nm,0.7s,baz=64,slow=1.4,SNR=7.8						
SCHQ	**Schefferville**	**131.35**	**12**	PKP	**PKPdf**	**00 42 00.9**	**+0.9**
	2.0nm,0.8s,baz=0.0,slow=3.0,SNR=3.3						
LPAZ	**La Paz**	**150.99**	**145**	PKPbc	**PKPbc**	**00 42 44.1**	**+1.7**
	4.1nm,0.8s,baz=76,slow=3.2,SNR=12						

*GUC **26** 00:24:19.5±0.3, 30°.15S×71°.17W, h79km±1km, ML3.6*
*ISCJB **26** 00:24:21.3±1.2, 30°.14S±0°.05×71°.0W±0°.1, h68km±15km, Error ellipse: s-maj=16.3km s-min=8.4km az=171.2*
*SJA **26** 00:24:33.8±1.7, 30°.96S×70°.12W, h121km±20km, MD3.1, ML2.6*

ISC 26 00:24:20.2±1.8, 30°.13S±0°.06×71°.15W±0°.10, h78km±11km, n13, σ1°83/18, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSCH	**La Serena**	**0.23**	**339**	*i* P	**Pn**	**00 24 31.5**	**-0.4**
LSCH				*i* S	**Sn**	**00 24 40.5**	**+0.1**
TLL	**Tololo Astrono**	**0.30**	**98**	*i* P	**Pn**	**00 24 32.7**	**+0.1**
TLL				*i* S	**Sn**	**00 24 42.6**	**+0.9**
TLL				AML	AML	00 24 44.5	
	comp=N,5µm,0.5s						
VACH	**Vallenar**	**1.58**	**12**	*i* P	**Pn**	**00 24 46.5**	**-0.1**
VACH				*i* S	**Sn**	**00 25 07.1**	**+0.6**
RTLS	**Leoncito**	**2.30**	**137**	*i* P	**Pn**	**00 24 58.0**	**+1.6**
RTLS				*i* S	Sn	00 25 16.8	-7.1
AMOG	**MOGNA**	**2.43**	**110**	*i* P	**Pn**	**00 25 00.0**	**+2.2**
AMOG				*i* S	**Sn**	**00 25 21.3**	**-5.4**
AUSP	**Uspallata**	**2.58**	**145**	*i* P	**Pn**	**00 25 01.5**	**+1.4**
AUSP				*i* S	Sn	00 25 22.5	-8.1
RTLL	**Cerro Villicun**	**2.59**	**118**	*i* P	**Pn**	**00 25 01.1**	**+1.0**
RTLL				*i* S	Sn	00 25 22.7	-7.9
RTCV	**Cerro Valdivia**	**2.83**	**128**	*i* P	**Pn**	**00 25 04.3**	**+1.0**
RTCV				*i* S	Sn	00 25 25.8	-11
CFAA	**Coronel Fontan**	**2.90**	**121**	*i* P	**Pn**	**00 25 05.1**	**+0.9**
ASAL	**Salagasta**	**3.15**	**142**	*i* P	**Pn**	**00 25 09.1**	**+1.5**
CLCH	**Cerro Calan**	**3.30**	**171**	*e*P	**Pn**	**00 25 09.2**	**-0.5**
CLCH				*e*S	**Sn**	**00 25 47.4**	**-0.5**
CLCH				AML	AML	00 25 49.1	
	comp=E,102nm,0.5s						
ARCO	**CERRO ARCO**	**3.30**	**146**	*i* P	**Pn**	**00 25 10.3**	**+0.5**
ARCO				*i* S	Sn	00 25 37.4	-11
ARCO				AML	AML	00 25 42.2	
	comp=Z,30nm,0.8s						
AAGR	**Agrelo**	**3.55**	**147**	*i* P	**Pn**	**00 25 14.0**	**+0.9**
AAGR				*i* S	Sn	00 25 41.4	-13

*ISCJB **26** 00:24:25.3±1.8, 38°.25N±0°.09×26°.63E±0°.08, h6km±18km, Error ellipse: s-maj=15.8km s-min=9.1km az=158.3*
*DDA **26** 00:24:25.5, 38°.28N×26°.58E, h7km, MD2.6*

ISC 26 00:24:25.3±1.8, 38°.27N±0°.09×26°.59E±0°.05, h9km±9km, n4, σ0°39/7, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZEY	**˜zmir**	**0.08**	**246**	*i* P	**Pg**	**00 24 27.5**	**0.0**
ZEY				*i* S	**Sg**	**00 24 29.1**	**0.0**
URLA	**Izmir**	**0.09**	**1**	*i* P	**Pg**	**00 24 27.7**	**0.0**
URLA				*i* S	**Sg**	**00 24 29.6**	**+0.1**
BLCB	**Balcova**	**0.37**	**72**	*e*PG	**Pg**	**00 24 32.8**	**+0.2**
CHOS	**Chios island**	**0.44**	**286**	*e*PG	**Pg**	**00 24 34.3**	**+0.4**
CHOS				*e*SG	**Sb**	**00 24 41.4**	**-0.5**

*ISCJB **26** 00:25:26.5±0.8, 23°.45S±0°.06×66°.37W±0°.09, h201km, mb3.5/1, Error ellipse: s-maj=11.1km s-min=8.2km az=178.6*
*IDC **26** 00:25:28.3±1.3, 23°.30S×66°.47W, h206km±19km, mb3.4/1, mb1 3.6/6, mb1mx3.3/20, mbtmp4.0/6, Error ellipse: s-maj=25.8km s-min=18.5km az=112.0*

ISC 26 00:25:27.2±0.9, 23°.46S±0°.07×66°.43W±0°.09, h201km, n7, σ2°27/11, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.44**	**290**	P	**Pn**	**00 26 12.0**	**+1.2**
	366nm,0.3s,baz=100,slow=6.2,SNR=44						
LVC				S	**S**	**00 26 44.9**	**+0.9**
	486nm,0.3s,baz=139,slow=19,SNR=42						
LPAZ	**La Paz**	**7.31**	**347**	P	**Pn**	**00 27 11.9**	**-0.3**
	2.2nm,0.3s,baz=159,slow=14,SNR=48						
LPAZ				S	**S**	**00 28 32.7**	**-2.7**
	0.2nm,0.3s,baz=288,slow=20,SNR=3.1						
CFAA	**Coronel Fontan**	**8.27**	**191**	P	**Pn**	**00 27 26.8**	**+2.8**
	0.4nm,0.3s,baz=4.7,slow=13,SNR=4.5						
CFAA				S	**S**	**00 28 53.9**	**-3.2**
	0.2nm,0.3s,baz=154,slow=17,SNR=5.2						
SIV	**San Ignacio**	**8.98**	**35**	P	**Pn**	**00 27 32.4**	**-1.0**
	1.9nm,0.3s,baz=230,slow=14,SNR=40						
SIV				S	**S**	**00 29 17.5**	**+3.3**
	0.2nm,0.3s,baz=315,slow=20,SNR=2.6						
BDFB	**Brasilia**	**19.00**	**69**	P	**Pn**	**00 29 35.9**	**-1.3**
	1.3nm,0.3s,baz=236,slow=9.8,SNR=9.7						
TORD	**Torodi Ar. Bea**	**75.89**	**69**	P	**P**	**00 36 51.6**	**-0.4**
	0.6nm,0.4s,baz=246,slow=6.0,SNR=21						
MKAR	**Makanchi Array**	**145.78**	**39**	PKPbc	**PKPab**	**00 44 43.2**	**-0.1**
	0.7nm,0.8s,baz=316,slow=2.6,SNR=6.2						

*SJA **26** 00:29:48.3±1.2, 34°.23S×73°.45W, h40km, MD3.9, ML3.9*
*GUC **26** 00:29:55.7±0.4, 34°.01S×72°.44W, h25km±3km, ML4.0*

ISC 26 00:29:54.6±2.3, 33°.99S±0°.05×72°.5W±0°.1, h17km, n14, σ1°04/25, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TACH	**Talagante**	**1.33**	**76**	ǁP	**Pb**	**00 30 19.8**	**+0.7**
TACH				*i* S	**Sg**	**00 30 37.2**	**-0.4**
NICH	**Los Niches**	**1.45**	**135**	*e*P	**Pn**	**00 30 21.0**	**+1.0**
NICH				*e*S	**Sg**	**00 30 40.5**	**-0.8**
NICH				AML	AML	00 30 49.2	
	comp=N,6µm,0.5s						
CHCH	**Chadas Angostu**	**1.52**	**88**	*i* P	**Pb**	**00 30 22.6**	**+0.2**
CHCH				*e*S	**Sg**	**00 30 43.0**	**-0.7**
ROCH	**El Roble**	**1.59**	**51**	*e*P	**Pb**	**00 30 24.3**	**+0.6**
ROCH				*e*S	**Sg**	**00 30 46.1**	**+0.1**
ROCH				AML	AML	00 30 56.5	
	comp=N,2µm,0.6s						
PCH	**Pirque**	**1.68**	**78**	*e*P	**Pb**	**00 30 25.2**	**+0.1**
PEL	**Peldehue**	**1.72**	**61**	*i* P	**Pb**	**00 30 25.8**	**0.0**
PEL				*e*S	**Sb**	**00 30 48.3**	**+1.1**
PEL				AML	AML	00 30 56.5	
	comp=N,3µm,0.7s						
CLCH	**Cerro Calan**	**1.73**	**70**	*i* P	**Pb**	**00 30 25.9**	**0.0**
CLCH				*e*S	**Sb**	**00 30 47.5**	**+0.2**
CLCH				AML	AML	00 30 58.0	
	comp=E,2µm,0.3s						
LNCH	**Linares**	**1.99**	**159**	*e*P	**Pb**	**00 30 29.6**	**-0.7**
AUSP	**Uspallata**	**3.14**	**57**	*i* P	**Pb**	**00 30 50.3**	**+0.2**
AUSP				*i* S	**Sg**	**00 31 35.8**	**+0.3**
ARCO	**CERRO ARCO**	**3.18**	**70**	*i* P	**Pb**	**

AKHS	**Akhisar**	**0.47**	**115**	*i* P	**Pg**	01 59 04.8	**-0.4**
AKHS				*i* S	**Sg**	01 59 11.9	**+0.5**
AKHS	**Akhisar**	**0.47**	**115**	*i* P	**Pg**	01 59 04.8	**-0.4**
AKHS				*i* S	**Sg**	01 59 11.9	**+0.5**
AYVA	**Ayvalik**	**0.50**	**297**	*i* P	**Pg**	01 59 06.3	**+0.6**
AYVA	**Ayvalik**	**0.50**	**297**	*i* P	**Pg**	01 59 06.3	**+0.6**
AYVA				*i* S	**Sb**	01 59 14.1	**-1.0**
IZM	**Izmir**	**0.68**	**180**	*e*PG	**Pg**	01 59 08.9	**-0.2**
IZM	**Izmir**	**0.68**	**180**	*e*Pg	**Pg**	01 59 08.9	**-0.2**
BLCB	**Balcova**	**0.71**	**194**	*e*PG	**Pg**	01 59 09.6	**-0.2**
BLCB	**Balcova**	**0.71**	**194**	*e*Pg	**Pg**	01 59 09.6	**-0.2**
BALY	**Balya**	**0.72**	**23**	*i* P	**Pg**	01 59 09.8	**0.0**
BALY				*i* S	**Sg**	01 59 20.1	**+1.0**
BALY	**Balya**	**0.72**	**23**	*i* P	**Pg**	01 59 09.8	**0.0**
BALY				*i* S	**Sg**	01 59 20.1	**+1.0**
BALB	**Balikesir**	**0.74**	**40**	*e*PG	**Pg**	01 59 09.9	**-0.3**
BALB				*e*SG	**Sb**	01 59 20.9	**-1.1**
BALB	**Balikesir**	**0.74**	**40**	*e*Pg	**Pg**	01 59 09.9	**-0.3**
BALB				*e*Sg	**Sb**	01 59 20.9	**-1.1**
PRK	**Paraskevi**	**0.79**	**283**	P	**Pg**	01 59 11.2	**0.0**
PRK				S	**Sb**	01 59 23.3	**-0.1**
PRK	**Paraskevi**	**0.79**	**283**	*e*PN	**Pg**	01 59 11.6	**+0.4**
PRK				*e*SN	**Sg**	01 59 22.1	**+0.7**
PRK	**Paraskevi**	**0.79**	**283**	P	**Pg**	01 59 11.2	**0.0**
PRK	**Paraskevi**	**0.79**	**283**	*e*Pn	**Pg**	01 59 11.6	**+0.4**
PRK				*e*Sn	**Sg**	01 59 22.1	**+0.7**
PRK				S	**Sb**	01 59 23.3	**-0.1**
URLA	**Izmir**	**0.89**	**216**	*i* P	**Pg**	01 59 12.7	**-0.4**
URLA	**Izmir**	**0.89**	**216**	*i* P	**Pg**	01 59 12.7	**-0.4**
URLA				*i* S	**Sn**	01 59 28.7	**0.0**
ZEY	**˜zmir**	**1.03**	**216**	*i* P	**Pg**	01 59 14.9	**-0.9**
ZEY				*i* S	**Sb**	01 59 31.0	**+0.8**
EZN	**Ezine**	**1.04**	**316**	*e*PG	**Pg**	01 59 14.6	**-0.4**
EZN	**Ezine**	**1.04**	**316**	*e*Pg	**Pg**	01 59 15.6	**-0.4**
DURS	**Dursunbey**	**1.07**	**61**	*i* P	**Pg**	01 59 15.8	**-0.9**
DURS				*i* S	**Sg**	01 59 30.6	**0.0**
DURS	**Dursunbey**	**1.07**	**61**	*i* P	**Pg**	01 59 15.8	**-0.9**
DURS				*i* S	**Sg**	01 59 30.6	**0.0**
SIGR	**SIGRI**	**1.10**	**277**	*e*PN	**Pb**	01 59 17.6	**-0.1**
SIGR	**SIGRI**	**1.10**	**277**	P	**Pg**	01 59 16.9	**-0.3**
SIGR				S	**Sb**	01 59 32.8	**+0.4**
SIGR	**SIGRI**	**1.10**	**277**	*e*PN	**Pg**	01 59 16.9	**-0.3**
SIGR				*e*SN	**Sg**	01 59 30.6	**-0.9**
SIGR	**SIGRI**	**1.10**	**277**	P	**Pg**	01 59 16.9	**-0.3**
SIGR	**SIGRI**	**1.10**	**277**	*e*Pn	**Pb**	01 59 17.6	**-0.1**
SIGR				*e*Sn	**Sg**	01 59 30.6	**-0.9**
SIGR				S	**Sb**	01 59 32.8	**+0.4**
DEMI	**Demirci**	**1.13**	**91**	*i* P	**Pg**	01 59 17.2	**-0.6**
DEMI				*i* S	**Sg**	01 59 31.6	**-0.9**
DEMI	**Demirci**	**1.13**	**91**	*i* P	**Pg**	01 59 17.2	**-0.6**
DEMI				*i* S	**Sg**	01 59 31.6	**-0.9**
CHOS	**Chios island**	**1.17**	**234**	*e*PN	**Pg**	01 59 18.3	**-0.2**
CHOS	**Chios island**	**1.17**	**234**	P	**Pg**	01 59 17.7	**-0.8**
CHOS				S	**Sn**	01 59 35.5	**-0.2**
CHOS	**Chios island**	**1.17**	**234**	*e*PN	**Pg**	01 59 18.0	**-0.5**
CHOS				*e*SN	**Sg**	01 59 33.0	**-0.7**
CHOS	**Chios island**	**1.17**	**234**	P	**Pg**	01 59 17.7	**-0.8**
CHOS	**Chios island**	**1.17**	**234**	*e*Pn	**Pg**	01 59 18.3	**-0.2**
CHOS				*e*Sn	**Sg**	01 59 33.0	**-0.7**
CHOS				S	**Sn**	01 59 35.5	**-0.2**
DST	**Dursunbey**	**1.18**	**63**	*e*PN	**Pg**	01 59 18.1	**-0.5**
DST	**Dursunbey**	**1.18**	**63**	*e*Pn	**Pg**	01 59 18.2	**-0.5**
BOZC	**Bozcaada**	**1.21**	**310**	*i* P	**Pg**	01 59 18.8	**-0.4**
BOZC				*i* S	**Sn**	01 59 36.1	**-0.4**
BOZC				*i* S	**Sn**	01 59 36.2	**-0.4**
KULA	**Kula-Manisa**	**1.23**	**117**	*e*PN	**Pg**	01 59 18.6	**-1.1**
KULA	**Kula-Manisa**	**1.23**	**117**	P	**Pg**	01 59 17.9	**-1.3**
KULA				S	**Sg**	01 59 35.6	**0.0**
KULA	**Kula-Manisa**	**1.23**	**117**	P	**Pg**	01 59 18.4	**-1.3**
KULA				S	**Sg**	01 59 35.6	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.23**	**156**	*e*PN	**Pg**	01 59 19.0	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**1.23**	**156**	*e*Pn	**Pg**	01 59 19.0	**-0.7**
EDC	**Edincik**	**1.35**	**20**	*e*PN	**Pn**	01 59 20.6	**-1.1**
EDC	**Edincik**	**1.35**	**20**	*e*Pn	**Pn**	01 59 20.6	**-1.1**
LPK	**Lapseki**	**1.35**	**344**	*e*PN	**Pn**	01 59 21.4	**-0.3**
LPK	**Lapseki**	**1.35**	**344**	*e*Pn	**Pn**	01 59 21.4	**-0.3**
BNT	**Bandirma**	**1.37**	**22**	*e*PN	**Pn**	01 59 21.1	**-1.0**
BNT	**Bandirma**	**1.37**	**22**	*e*Pn	**Pn**	01 59 21.1	**-1.0**
GCAM	**G?zelcaml?**	**1.38**	**181**	*i* P	**Pn**	01 59 21.4	**-0.7**
GCAM				*i* S	**Sn**	01 59 41.6	**+0.9**
GCAM	**G?zelcaml?**	**1.38**	**181**	*i* P	**Pn**	01 59 21.4	**-0.7**
GCAM				*i* S	**Sn**	01 59 41.6	**+0.9**
SMG	**Samos**	**1.41**	**194**	P	**Pn**	01 59 22.0	**-0.5**
SMG				S	**Sn**	01 59 41.7	**+0.2**
SMG	**Samos**	**1.41**	**194**	*e*PN	**Pn**	01 59 22.0	**-0.5**
SMG				*e*SN	**Sn**	01 59 40.4	**-0.9**
SMG	**Samos**	**1.41**	**194**	P	**Pn**	01 59 22.0	**-0.5**
SMG				*e*Sn	**Sg**	01 59 40.4	**-0.9**
SMG				S	**Sn**	01 59 41.7	**+0.2**
GELI	**Tayfur-Gelibol**	**1.45**	**336**	*e*PN	**Pn**	01 59 22.9	**-0.2**
GELI	**Tayfur-Gelibol**	**1.45**	**336**	*e*Pn	**Pn**	01 59 22.9	**-0.2**
KCTX	**Karacabey (Bur**	**1.46**	**35**	*e*PN	**Pn**	01 59 22.3	**-0.9**
KCTX	**Karacabey (Bur**	**1.46**	**35**	*e*Pn	**Pn**	01 59 22.3	**-0.9**
GADA	**Gvkgeada**	**1.53**	**317**	*e*PN	**Pn**	01 59 23.9	**-0.3**
GADA	**Gvkgeada**	**1.53**	**317**	*e*Pn	**Pn**	01 59 23.9	**-0.3**
MRMT	**Marmara Adasi**	**1.54**	**9**	*e*PN	**Pn**	01 59 23.5	**-0.9**
MRMT	**Marmara Adasi**	**1.54**	**9**	*e*Pn	**Pn**	01 59 23.5	**-0.9**
ORLT	**Orhaneli**	**1.59**	**52**	*e*PN	**Pn**	01 59 25.0	**-0.1**
ORLT	**Orhaneli**	**1.59**	**52**	*e*Pn	**Pn**	01 59 25.0	**-0.1**
SART	**Tekirdag**	**1.61**	**358**	*i* P	**Pn**	01 59 24.5	**-0.9**
SART				*i* S	**Sn**	01 59 46.1	**-0.5**
SART	**Tekirdag**	**1.61**	**358**	*i* P	**Pn**	01 59 24.5	**-0.9**
SART				*i* S	**Sn**	01 59 46.1	**-0.5**
ERIK	**Erikli-Kesan**	**1.69**	**340**	*e*PN	**Pn**	01 59 26.6	**+0.3**
ERIK	**Erikli-Kesan**	**1.69**	**340**	*e*Pn	**Pn**	01 59 26.7	**+0.3**
GDZ	**Gediz**	**1.73**	**89**	*i* P	**Pb**	01 59 28.0	**-0.5**
GDZ				*i* S	**Sg**	01 59 51.3	**-0.3**
GDZ	**Gediz**	**1.73**	**89**	*i* P	**Pb**	01 59 28.0	**-0.5**
GDZ				*i* S	**Sg**	01 59 51.3	**-0.3**
TVSB	**Tavsanli**	**1.75**	**77**	*e*PN	**Pn**	01 59 27.6	**+0.3**
TVSB	**Tavsanli**	**1.75**	**77**	*e*Pn	**Pn**	01 59 27.6	**+0.3**
MDNY	**Mudanya-Bursa**	**1.80**	**44**	*e*PN	**Pn**	01 59 27.5	**-0.3**
MDNY	**Mudanya-Bursa**	**1.80**	**44**	*e*Pn	**Pn**	01 59 27.5	**-0.3**
ULDT	**Uludag**	**1.80**	**53**	*i* P	**Pn**	01 59 28.8	**+0.8**
ULDT				*i* S	**Sg**	01 59 53.5	**-0.3**
ULDT	**Uludag**	**1.80**	**53**	*i* P	**Pn**	01 59 28.8	**+0.8**
ULDT				*i* S	**Sg**	01 59 53.5	**-0.3**
LIA	**Limnos Island**	**1.80**	**298**	P	**Pn**	01 59 27.5	**-0.4**
LIA				S	**Sn**	01 59 51.9	**+0.6**
LIA	**Limnos Island**	**1.80**	**298**	*e*PB	**Pn**	01 59 27.5	**-0.4**
LIA				*e*SN	**Sn**	01 59 49.6	**-1.7**
LIA	**Limnos Island**	**1.80**	**298**	P	**Pn**	01 59 27.5	**-0.4**
LIA				*e*Sn	**Sn**	01 59 49.6	**-1.7**
LIA				S	**Sn**	01 59 51.9	**+0.6**
ENEZ	**Enez**	**1.86**	**333**	*e*PN	**Pn**	01 59 29.3	**+0.6**
ENEZ	**Enez**	**1.86**	**333**	*e*Pn	**Pn**	01 59 29.3	**+0.6**
KHAL	**Karahalli**	**1.88**	**111**	*i* S	**Sn**	01 59 54.0	**+0.6**
KHAL	**Karahalli**	**1.88**	**111**	*i* P	**Sn**	01 59 50.2	**-3.2**
KHAL				*i* S	**Sn**	01 59 54.0	**+0.6**
TKR	**Tekirdag**	**1.92**	**6**	*e*PN	**Pn**	01 59 29.8	**+0.2**
TKR	**Tekirdag**	**1.92**	**6**	*e*Pn	**Pn**	01 59 29.8	**+0.2**
KHL	**Karahalli**	**1.92**	**112**	*e*PN	**Pn**	01 59 30.2	**+0.5**
KHL	**Karahalli**	**1.92**	**112**	*e*Pn	**Pn**	01 59 30.2	**+0.5**
SMTH	**Samothraki Isl**	**1.93**	**317**	P	**Pn**	01 59 29.2	**-0.5**
SMTH				S	**Sn**	01 59 54.5	**+0.1**
SMTH	**Samothraki Isl**	**1.93**	**317**	*e*PN	**Pn**	01 59 28.9	**-0.8**
SMTH	**Samothraki Isl**	**1.93**	**317**	*e*Pn	**Pn**	01 59 28.9	**-0.8**
SMTH	**Samothraki Isl**	**1.93**	**317**	P	**Pn**	01 59 29.2	**-0.5**
SMTH				S	**Sn**	01 59 54.5	**+0.1**
ARMT	**Armutlu**	**1.93**	**39**	*e*PN	**Pn**	01 59 30.2	**+0.5**
ARMT	**Armutlu**	**1.93**	**39**	*e*Pn	**Pn**	01 59 30.2	**+0.5**
DNZL	**Cakiroluk**	**1.97**	**134**	*i* P	**Pn**	01 59 29.0	**-1.5**
DNZL	**Cakiroluk**	**1.97**	**134**	*i* P	**Pn**	01 59 29.0	**-1.5**
GEMT	**Gemlik**	**2.01**	**47**	*e*PN	**Pn**	01 59 31.1	**+0.3**
GEMT	**Gemlik**	**2.01**	**47**	*e*Pn	**Pn**	01 59 31.1	**+0.3**
BODT	**Bodrum**	**2.01**	**179**	*e*PN	**Pn**	01 59 31.1	**+0.2**
BODT	**Bodrum**	**2.01**	**179**	*e*Pn	**Pn**	01 59 31.1	**+0.2**
BDRM	**Kayabasi**	**2.02**	**176**	*i* P	**Pg**	01 59 36.0	**+1.3**
ALN	**Alexandroupoli**	**2.04**	**333**	*e*PN	**Pn**	01 59 31.1	**-0.1**
ALN	**Alexandroupoli**	**2.04**	**333**	P	**Pn**	01 59 30.9	**-0.3**
ALN				S	**Sn**	01 59 57.7	**+0.5**
ALN	**Alexandroupoli**	**2.04**	**333**	*e*PN	**Pn**	01 59 31.1	**-0.1**
ALN	**Alexandroupoli**	**2.04**	**333**	*e*Pn	**Pn**	01 59 31.1	**-0.1**
ALN				S	**Sn**	01 59 57.7	**+0.5**
CRLT	**Corlu**	**2.08**	**10**	*e*PN	**Pn**	01 59 32.5	**+0.7**
CRLT	**Corlu**	**2.08**	**10**	*e*Pn	**Pn**	01 59 32.5	**+0.7**
YER	**Yerkesik**	**2.10**	**157**	*e*PN	**Pn**	01 59 32.9	**+0.8**
YER	**Yerkesik**	**2.10**	**157**	*e*Pn	**Pn**	01 59 32.9	**+0.8**
IZI	**Iznik**	**2.12**	**53**	*e*PN	**Pn**	01 59 32.5	**+0.1**
IZI	**Iznik**	**2.12**	**53**	*e*Pn	**Pn**	01 59 32.5	**+0.1**
ALT	**Altintas**	**2.22**	**90**	*e*PN	**Pn**	01 59 34.2	**+0.5**
ALT	**Altintas**	**2.22**	**90**	P	**Pn**	01 59 33.0	**-0.7**
ALT	**Altintas**	**2.22**	**90**	P	**Pn**	01 59 33.0	**-0.7**
ALT	**Altintas**	**2.22**	**90**	*e*Pn	**Pn**	01 59 34.2	**+0.5**
SLVT	**Silivri**	**2.27**	**18**	*e*PN	**Pn**	01 59 35.1	**+0.8**
SLVT	**Silivri**	**2.27**	**18**	*e*Pn	**Pn**	01 59 35.1	**+0.8**
BUY	**Buyukada**	**2.27**	**38**	*i* P	**Pn**	01 59 32.7	**-1.7**
BUY	**Buyukada**	**2.27**	**38**	*i* P	**Pn**	01 59 32.7	**-1.7**
CAVI	**Cavuskoy**	**2.29**	**60**	*e*PN	**Pn**	01 59 35.6	**+1.0**
CAVI	**Cavuskoy**	**2.29**	**60**	*e*Pn	**Pn**	01 59 35.6	**+1.0**
ADVT	**Abdulvahap**	**2.34**	**54**	*e*PN	**Pn**	01 59 36.0	**+0.7**
ADVT	**Abdulvahap**	**2.34**	**54**	*e*Pn	**Pn**	01 59 36.0	**+0.7**
CTKS	**Kestanelik-??a**	**2.36**	**23**	*e*PN	**Pn**	01 59 36.5	**+0.9**
CTKS	**Kestanelik-??a**	**2.36**	**23**	*e*Pn	**Pn**	01 59 36.5	**+0.9**
DAT	**Datca**	**2.36**	**174**	*e*PN	**Pn**	01 59 36.0	**+0.3**
DAT	**Datca**	**2.36**	**174**	*e*Pn	**Pn**	01 59 36.0	**+0.3**
ISK	**Istanbul-Kandi**	**2.42**	**34**	*e*PN	**Pn**	01 59 36.9	**+0.5**
ISK	**Istanbul-Kandi**	**2.42**	**34**	*e*Pn	**Pn**	01 59 36.9	**+0.5**
APE	**Apeiranthos**	**2.43**	**215**	*e*PN	**Pn**	01 59 37.0	**+0.4**
APE	**Apeiranthos**	**2.43**	**215**	*e*PN	**Pn**	01 59 36.8	**+0.2**
APE	**Apeiranthos**	**2.43**	**215**	*e*Pn	**Pn**	01 59 36.8	**+0.2**
RDO	**Rodhopi**	**2.45**	**328**	P	**Pn**	01 59 37.0	**+0.1**
RDO	**Rodhopi**	**2.45**	**328**	*e*PN	**Pn**	01 59 36.9	**+0.1**
RDO	**Rodhopi**	**2.45**	**328**	*e*Pn	**Pn**	01 59 36.9	**+0.1**
DALY	**Dalyan (Mu˘la**	**2.51**	**154**	*e*PN	**Pn**	01 59 38.2	**+0.6**
DALY	**Dalyan (Mu˘la**	**2.51**	**154**	*e*Pn	**Pn**	01 59 38.2	**+0.6**
CTYL	**Yal??k??y-??at**	**2.52**	**18**	*e*PN	**Pn**	01 59 38.2	**+0.4**
CTYL	**Yal??k??y-??at**	**2.52**	**18**	*e*Pn	**Pn**	01 59 38.2	**+0.4**
HRT	**Hereke**	**2.54**	**46**	*e*PN	**Pn**	01 59 39.1	**+1.0**
HRT	**Hereke**	**2.54**	**46**	*e*Pn	**Pn**	01 59 39.1	**+1.0**
KLYT	**Kilyos**	**2.56**	**32**	*e*PN	**Pn**	01 59 39.1	**+0.7**
KLYT	**Kilyos**	**2.56**	**32**	*e*Pn	**Pn**	01 59 39.1	**+0.7**
GOLH	**Golhisar**	**2.58**	**135**	*i* P	**Pn**	01 59 37.9	**-0.9**
GOLH	**Golhisar**	**2.58**	**135**	*i* P	**Pn**	01 59 37.9	**-0.9**
BORA	**Eskisehir**	**2.60**	**71**	*i* P	**Pn**	01 59 38.3	**-0.6**
BORA	**Eskisehir**	**2.60**	**71**	*i* P	**Pn**	01 59 38.3	**-0.6**
BORA				*i* S	**Pb**	01 59 45.8	**+2.6**
SHUT	**Suhut-Afyon**	**2.62**	**101**	*e*PN	**Pn**	01 59 40.0	**+0.7**
SHUT	**Suhut-Afyon**	**2.62**	**101**	*e*Pn	**Pn**	01 59 40.0	**+0.7**
AOS	**Alonnisos**	**2.63**	**273**	*e*PN	**Pn**	01 59 39.1	**-0.2**
AOS	**Alonnisos**	**2.63**	**273**	*e*Pn	**Pn**	01 59 39.1	**-0.2**
SILT	**Sile**	**2.76**	**41**	*e*PN	**Pn**	01 59 41.8	**+0.7**
SILT	**Sile**	**2.76**	**41**	*e*Pn	**Pn**	01 59 41.8	**+0.7**
EDRB	**Edirne**	**2.79**	**352**	*e*PN	**Pn**	01 59 41.8	**+0.3**
EDRB	**Edirne**	**2.79**	**352**	P	**Pn**	01 59 40.9	**-0.7**
EDRB	**Edirne**	**2.79**	**352**	P	**Pn**	01 59 40.9	**-0.7**
EDRB	**Edirne**	**2.79**	**352**	*e*Pn	**Pn**	01 59 41.8	**+0.3**
ESKT	**Eskisehir**	**2.82**	**80**	*e*PN	**Pn**	01 59 42.7	**+0.7**
ESKT	**Eskisehir**	**2.82**	**80**	*e*Pn	**Pn**	01 59 42.7	**+0.7**
OUR	**Ouranopolis**	**2.82**	**297**	*e*PN	**Pn**	01 59 42.5	**+0.6**
OUR	**Ouranopolis**	**2.82**	**297**	*e*PN	**Pn**	01 59 41.5	**-0.5**
OUR	**Ouranopolis**	**2.82**	**297**	*e*Pn	**Pn**	01 59 41.5	**-0.5**
GULT	**Gulveren**	**2.85**	**61**	*e*PN	**Pn**	01 59 43.1	**+0.8**
GULT	**Gulveren**	**2.85**	**61**	*e*Pn	**Pn**	01 59 43.2	**+0.8**
KAVA	**Kavala**	**2.85**	**313**	*e*PN	**Pn**	01 59 42.6	**+0.3**
KAVA	**Kavala**	**2.85**	**313**	*e*Pn	**Pn**	01 59 42.6	**+0.3**
PAIG	**Paliouri**	**2.90**	**288**	*e*PN	**Pn**	01 59 42.5	**-0.5**
PAIG	**Paliouri**	**2.90**	**288**	*e*Pn	**Pn**	01 59 42.5	**-0.5**
KDZ	**Kurdzhali**	**2.93**	**332**	P	**Pn**	01 59 43.6	**+0.1**
KDZ	**Kurdzhali**	**2.93**	**332**	P	**Pn**	01 59 43.6	**+0.1**
ARG	**Arkhangelos**	**2.94**	**166**	*e*PN	**Pn**	01 59 45.1	**+1.5**
ARG	**Arkhangelos**	**2.94**	**166**	*e*Pn	**Pn**	01 59 45.1	**+1.5**
ELL	**Elmali**	**3.13**	**137**	*e*PN	**Pn**	01 59 47.2	**+0.9**
ELL	**Elmali**	**3.13**	**137**	*e*Pn	**Pn**	01 59 47.2	**+0.9**
SVRH	**Sivrihisar-ESK**	**3.33**	**82**	*e*PN	**Pn**	01 59 49.8	**+0.8**
SVRH	**Sivrihisar-ESK**	**3.33**	**82**	*e*Pn	**Pn**	01 59 49.8	**+0.8**
NVR	**Nevrokopi**	**3.45**	**312**	*e*PN	**Pn**	01 59 50.5	**-0.2**
NVR	**Nevrokopi**	**3.45**	**312**	*e*Pn	**Pn**	01 59 50.5	**-0.2**
SOH	**Sokhos**	**3.47**	**301**	*e*PN	**Pn**	01 59 50.7	**-0.2**
SOH	**Sokhos**	**3.47**	**301**	*e*Pn	**Pn**	01 59 50.7	**-0.2**
SRS	**Serrai**	**3.47**	**307**	*e*PN	**Pn**	01 59 50.5	**-0.4**
SRS	**Serrai**	**3.47**	**307**	*e*Pn	**Pn**	01 59 50.5	**-0.4**
HORT	**Hortiatis**	**3.54**	**297**	*e*PN	**Pn**	01 59 52.4	**+0.5**
HORT	**Hortiatis**	**3.54**	**297**	*e*PN	**Pn**	01 59 51.8	**-0.2**
HORT	**Hortiatis**	**3.54**	**297**	*e*Pn	**Pn**	01 59 51.8	**-0.2**
KIZT	**Kizilcal**	**3.60**	**92**	*e*PN	**Pn**	01 59 54.3	**+1.5**
KIZT	**Kizilcal**	**3.60**	**92**	*e*Pn	**Pn**	01 59 54.3	**+1.5**
KONT	**Konya--Tatoy**	**4.16**	**104**	*e*PN	**Pn**	02 00 02.3	**+2.0**
KONT	**Konya--Tatoy**	**4.16**	**104**	*e*Pn	**Pn**	02 00 02.3	**+2.0**

*IDC **26** 02:15:35.3±0.9, 38˚.09S×73˚.58W, h0km, mb3.9/8, mb1 4.1/9, mb1mx4.0/17, mbtmp3.9/9, ML3.7/2, MS3.1/4, Ms1 3.1/4, ms1mx2.9/19, Error ellipse: s-maj=33.9km s-min=18.3km az=90.0*

*ISCJB **26** 02:15:37.2±0.5, 37˚.98S±0˚.06×73˚.54W±0˚.10, h22km, mb4.1/17, MS3.3/2, Error ellipse: s-maj=10.8km s-min=8.2km az=179.9*

*NEIC **26** 02:15:40.4±0.4, 38˚.06S×73˚.58W, h35km, mb4.3/11, Error ellipse: s-maj=10.4km s-min=8.0km az=67.0*

ISC 26 02:15:38.5±0.7, 38˚.02S±0˚.06×73˚.66W±0˚.10, h22km, n30, σ1s11/32, mb4.2/17, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.62**	**139**	Pn	**Pn**	**02 16 32.6**	**-0.7**
	3.3nm,0.3s,baz=314,slow=9.5,SNR=121						
PLCA				Sn	**Sn**	02 17 18.4	**+3.0**
	12nm,0.3s,baz=286,slow=17,SNR=4.4						
PLCA				LR	LR	02 18 10.8	
	comp=Z,410nm,19.3s,baz=244,slow=44						
PLCA	**Paso Flores**	**3.62**	**139**	*e*Pn	**Pn**	**02 16 32.9**	**-0.4**
PLCA				*e*Sn	**Sb**	02 17 24.0	**-1.4**
CFAA	**Coronel Fontan**	**7.80**	**36**	Pn	**Pn**	**02 17 30.1**	**-0.6**
	0.2nm,0.3s,baz=199,slow=10,SNR=14						
CFAA				Sn	**Sn**	**02 18 57.3**	**-1.1**
	0.2nm,0.3s,baz=176,slow=15,SNR=2.9						
CFAA				LR	LR	02 20 34.1	
	comp=Z,20nm,19.8s,baz=226,slow=38						
TRQA	**Tornquist**	**9.22**	**94**	*e*Pn	**Pn**	**02 17 51.0**	**+0.9**
	13nm,0.9s						
CPUP	**Villa Florida**	**18.05**	**55**	*e*P	**P**	**02 19 48.6**	**+0.5**
	0.1nm,0.9s						
LPAZ	**La Paz**	**22.19**	**14**	P	**P**	**02 20 35.9**	**+2.0**
	0.6nm,0.3s,baz=186,slow=6.5,SNR=19						
LPAZ	**La Paz**	**22.19**	**14**	*e*P	**P**	**02 20 35.9**	**+2.0**
	2.2nm,0.6s						
SIV	**San Ignacio**	**24.59**	**30**	P	**P**	**02 20 57.9**	**+0.8**
	1.4nm,0.7s,baz=215,slow=9.9,SNR=4.4						
SIV				LR	LR	02 32 19.9	
	comp=Z,74nm,18.7s,baz=187,slow=41						
SAML	**Samuel**	**30.45**	**21**	*e*P	**P**	**02 21 49.5**	**-0.1**
	1.9nm,0.9s						
BDFB	**Brasilia**	**31.76**	**52**	P	P	02 22 04.9	+3.7
	1.7nm,0.5s,baz=190,slow=12,SNR=3.3						
BDFB				LR	LR	02 35 20.5	
	comp=Z,77nm,18.3s,baz=197,slow=37						
OTAV	**Otavalo**	**38.33**	**352**	*e*P	**P**	**02 22 56.9**	**-1.4**
	11nm,1.4s						
VNA2	**Neumayer--Watz**	**46.86**	**156**	P	**P**	**02 24 06.3**	**-0.1**
	baz=286,slow=9.0						
SNAA	**Sanae**	**48.40**	**156**	P	**P**	**02 24 16.5**	**-2.0**
SNAA	**Sanae**	**48.40**	**156**	P	**P**	**02 24 18.1**	**-0.4**
	0.7nm,0.8s,baz=293,slow=7.2,SNR=6.8						
SNAA	**Sanae**	**48.40**	**156**	*e*P	**P**	**02 24 17.7**	**-0.7**
	7.1nm,1.1s						
QSPA	**South Pole Qui**	**52.22**	**180**	P	**P**	**02 24 48.0**	**+0.5**
	2.3nm,0.9s,baz=344,slow=1.1,SNR=10						
QSPA	**South Pole Qui**	**52.22**	**180**	*e*P	**P**	**02 24 47.8**	**+0.3**
	5.9nm,1.0s						
LRAL	**Lakeview Retre**	**71.78**	**348**	*e*P	**P**	**02 26 59.6**	**+0.6**
	5.4nm,1.0s						
TXAR	**Lajitas Array**	**72.65**	**333**	P	**P**	**02 27 05.1**	**+0.7**
	0.6nm,0.5s,baz=155,slow=7.0,SNR=3.6						
ABTX	**Abilene, Hawle**	**74.34**	**337**	*e*P	**P**	**02 27 14.5**	**+0.4**
	4.4nm,0.7s						
MNTX	**Cornudas Mount**	**75.41**	**332**	*e*P	**P**	**02 27 21.0**	**+0.7**
	1.4nm,0.9s						
TUL1	**Leonard**	**76.37**	**342**	*e*P	**P**	**02 27 26.6**	**+0.9**
	6.6nm,0.7s						
DBIC	**Dimbokro**	**77.71**	**71**	P	**P**	**02 27 33.9**	**+0.1**
	2.7nm,0.7s,baz=190,slow=5.9,SNR=5.4						
ANMO	**Albuquerque**	**78.72**	**333**	*e*P	**P**	**02 27 39.5**	**+0.3**
	1.4nm,1.0s						
HWUT	**Hardware Ranch**	**86.47**	**333**	*e*P	**P**	**02 28 20.4**	**+1.0**
	2.0nm,0.8s						
PDAR	**Pinedale Array**	**86.78**	**334**	P	**P**	**02 28 22.1**	**+1.2**
	0.4nm,0.8s,baz=165,slow=6.2,SNR=3.8						
TOA0	**Torodi Ar. Sit**	**86.80**	**71**	*e*P	**P**	**02 28 20.5**	**-0.8**
TORD	**Torodi Ar. Bea**	**86.80**	**71**	P	**P**	**02 28 20.5**	**-0.8**
	1.4nm,0.6s,baz=218,slow=5.1,SNR=22						
WRA	**Warramunga Arr**	**116.62**	**210**	PKP	**PKPdf**	**02 34 20.6**	**-0.7**
	0.2nm,0.5s,baz=156,slow=1.4,SNR=5.8						
MKAR	**Makanchi Array**	**160.26**	**56**	PKPab	**PKPab**	**02 36 16.2**	**-0.2**
	0.2nm,0.5s,baz=277,slow=2.6,SNR=3.6						

IDC 26 02:16:47.0±1.8, 7˚.69S×118˚.44E, h0km, mb3.4/2, mb1 3.5/4, mb1mx3.4/23, mbtmp3.3/4, ML3.2/2, Error ellipse: s-maj=45.6km s-min=23.9km az=70.0, Flores Sea

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time h

PKI	Pulchoki	14.99	123	*e*P		P	03 54 54.2	-0.4
	7.5nm,0.3s							
GUN	Gumba	15.10	121	*e*P		Pn	03 54 54.5	-0.7
TORD	Torodi Ar. Bea	65.94	269	P		P	04 01 50.2	-6.2
	0.2nm,0.8s,baz=52,slow=6.7,SNR=4.4							
WRA	Warramunga Arr	81.88	122	P		P	04 03 23.9	-4.7
	0.1nm,0.5s,baz=324,slow=4.8,SNR=5.0							

IDC ***26*** *03:52:43.7±2.0,32°.29N×117°.43W,h0km,mb3.3/1, mb1 3.4/5,mb1mx3.3/27,mbtmp3.1/5,ML3.0/4,Error ellipse: s-maj=21.9km s-min=19.1km az=60.0*

NEIC ***26*** *03:52:43.7,32°.21N×117°.61W,h14km,ML3.7(PAS),After PAS.*

NEIC Felt [II] at Tijuana. Also felt at Rosarito. Felt [III] at Imperial Beach and [II] at Chula Vista and San Diego, California. Also felt at Coronado, El Cajon, La Jolla and Santee.

ECX ***26*** *03:52:44.3±0.5,32°.16N×117°.54W,h10km,MD3.6,ML3.8*

ISC 26 03:52:41.0±1.4,32°.13N±0°.04×117°.65W±0°.03,h1km±10km, n71,σ1§35/100,32C-21D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SDRC	San Diego Road	0.85	44	⇓	*e*P	Pg	03 52 57.7	+0.3
CBX	Cerro Bola	0.86	77	⇑	*e*P	Pg	03 52 58.3	+0.9
CBX					*e*S	Sg	03 53 08.2	-0.4
CBX					IAML		03 53 13.5	
	comp=N,7μm,0.6s							
CBX				⇑	*e*		03 53 13.5	
PBX	Punta Banda	0.88	116	⇑	*e*P	Pb	03 52 58.4	-0.6
PBX					*e*S	Sg	03 53 09.3	+0.2
109C	Camp Elliot, M	0.89	31	⇑	P	Pg	03 52 58.1	0.0
	baz=0.8							
109C				⇑	S	Sg	03 53 09.0	-0.6
	baz=0.8							
BAR	Barrett	0.99	56		*e*Pg	Pb	03 53 00.6	-0.5
BAR					*e*S	Sb	03 53 12.0	-2.6
BAR	Barrett	0.99	56	⇑	*i*P	Pb	03 52 59.9	-1.1
BAR					*e*S	Sb	03 53 12.1	-2.6
ECNX	Esteban Cantu	1.01	117	⇓	*e*P	Pb	03 53 00.7	-0.7
ECNX					*e*S	Sb	03 53 13.9	-1.3
SCI	San Clemente I	1.14	319	⇑	P	Pb	03 53 02.3	-1.2
	baz=1.1							
MONP	Monument Peak,	1.29	54	⇑	P	Pn	03 53 04.6	-1.8
	baz=1.2							
MONP				⇑	S	Sb	03 53 19.5	-3.8
	baz=1.2							
ZAX	El Zacaton	1.32	117	⇓	*e*P	Pn	03 53 05.6	-1.1
ZAX					*e*S	Sb	03 53 22.6	-1.6
ZAX				⇓	*e*		03 53 24.2	
ZAX					IAML		03 53 24.2	
	comp=N,2μm,0.5s							
RMX	La Rumorosa	1.41	70	⇑	*e*P	Pn	03 53 07.0	-0.9
IBP	Imperial Bould	1.42	68	⇑	P	Pn	03 53 07.2	-0.9
	baz=1.4							
IBP				⇓	S	Sn	03 53 25.9	-1.5
	baz=1.4							
CIS	Catalina Islan	1.42	334	⇑	P	Pn	03 53 06.2	-1.8
	baz=1.4							
CIS				⇓	S	Sn	03 53 25.6	-1.8
	baz=1.4							
RDX	Rancho Dawling	1.47	97	⇓	*e*P	Pn	03 53 08.0	-0.7
MURC	Murrieta	1.52	14	⇑	P	Pn	03 53 07.3	-2.0
	baz=1.4							
MURC				⇑	S	Sn	03 53 27.5	-2.2
	baz=1.4							
FMP	Fort Macarthur	1.67	341	⇓	Sb	Sb	03 53 34.0	-0.1
	baz=1.6							
SWSC	Sam W. Stewart	1.77	62	⇑	P	Pn	03 53 12.2	-0.5
	baz=1.7							
SWSC				⇑	Sb	Sb	03 53 36.8	0.0
	baz=1.7							
PFO	Pinyon Flats O	1.79	34		Pg	Pn	03 53 12.4	-0.7
	comp=N,26nm,0.3s,baz=224,slow=16,SNR=135							
PFO					Lg	Lg	03 53 34.0	
	comp=N,146nm,0.3s,baz=171,slow=2.6,SNR=5.6							
PFO	Pinyon Flats O	1.79	34		*e*Pn	Pn	03 53 12.5	-0.7
PFO					Lg	Lg	03 53 34.0	
PFO					*e*S	Sb	03 53 36.0	-1.6
PFO	Pinyon Flats O	1.79	34	⇑	P	Pn	03 53 12.3	-0.8
	baz=1.7							
PFO				⇓	S	Sn	03 53 34.6	-1.9
	baz=1.7							
PASC	Pasadena Art C	2.09	348		*e*Pn	Pn	03 53 16.8	-0.3
PASC					*e*Pg	Pg	03 53 21.6	+0.6
PASC					*e*S	Sb	03 53 45.0	-1.1
BFSC	Mount Baldy Ra	2.11	360	⇑	P	Pn	03 53 16.2	-1.3
	baz=2.0							
BFSC				⇓	Sb	Sb	03 53 45.7	-1.0
	baz=2.0							
MWC	Mount Wilson	2.12	351		*e*Pn	Pn	03 53 15.8	-1.9
MWC					*e*Pg	Pb	03 53 21.4	+1.0
MWC					*e*S	Sb	03 53 48.0	+0.8
SPX	San Pedro Mart	2.16	119		IAML		03 53 59.6	
	comp=N,272nm,0.7s							
DECC	Green Verdugo	2.19	345	⇑	P	Pn	03 53 17.3	-1.3
	baz=2.1							
BBRC	Big Bear Solar	2.22	16	⇑	P	Pn	03 53 18.6	-0.4
	baz=2.1							
BBRC				⇓	Sb	Sb	03 53 49.5	-0.6
	baz=2.1							
BLG	Laguna Peak, P	2.31	329	⇑	P	Pn	03 53 19.6	-0.5
	baz=2.3							
BELC	Belle Mtn. Jos	2.33	36	⇑	P	Pn	03 53 18.6	-1.9
	baz=2.2							
BELC				⇓	Sb	Sb	03 53 52.8	-0.4
	baz=2.2							
BC3	Big Chuckawall	2.40	50	⇑	P	Pn	03 53 20.4	-1.0
	baz=2.3							
BSC	Santa Cruz Isl	2.50	319	⇓	P	Pn	03 53 21.3	-1.5
	baz=2.5							
GLA	Glamis	2.56	68		*e*Pn	Pn	03 53 23.3	-0.3
GLA					*e*Pg	Pb	03 53 28.7	+1.0
GLA					*e*S	Sg	03 54 01.5	-1.6
GLA	Glamis	2.56	68	⇓	P	Pn	03 53 22.7	-0.9
	baz=2.5							
OSI	Osito Audit: C	2.64	340		Pn	Pn	03 53 25.4	+0.6
OSI					*e*Pg	Pg	03 53 31.8	+0.2
OSI					*e*S	Sb	03 54 01.7	-0.3
EDW2	Edwards Air Fo	2.76	354	⇑	P	Pn	03 53 25.6	-0.8
	baz=2.7							
RRX	Edison Barstow	2.80	11	⇓	Sb	Sb	03 54 06.9	+0.3
	baz=2.7							
HEC	Hector,Ludlow	2.91	22	⇑	P	Pn	03 53 27.6	-1.0
	baz=2.8							
HEC				⇓	Sb	Sb	03 54 10.2	+0.3
	baz=2.8							
IRM	Iron Mountain	2.92	45	⇓	P	Pn	03 53 28.0	-0.6
	baz=2.8							
IRM				⇑	Sb	Sb	03 54 10.9	+0.8
	baz=2.8							
GMRC	Granite Mounta	3.13	32	⇑	P	Pn	03 53 31.2	-0.3
	baz=3.0							
ARVC	Arvin	3.15	342	⇓	P	Pn	03 53 31.2	-0.5
	baz=3.1							
GSC	Goldstone, Bar	3.24	12	⇓	P	Pn	03 53 32.4	-0.7
	baz=3.2							
ISA	Isabella, Lake	3.59	349		*e*Pn	Pn	03 53 37.6	-0.2
ISA					*e*S	Sn	03 54 22.5	+1.5
TUQ	Turquoise Moun	3.60	23	⇓	Sb	Sb	03 54 31.6	+1.8
	baz=3.5							
LDFC	Landfair	3.63	35		*e*Pn	Pn	03 53 38.7	+0.3
LDFC					*e*Pg	Pg	03 53 51.6	+1.0
LDFC					*e*S	Sb	03 54 33.0	+2.4
MPMC	Manual Prospec	3.92	2	⇑	P	Pn	03 53 42.1	-0.5
	baz=3.9							
214A	Organ Pipe Nat	4.11	91		*e*Pn	Pn	03 53 44.2	-0.8
214A	Organ Pipe Nat	4.11	91	⇑	P	Pn	03 53 44.0	-1.0
	baz=4.1							
DAC	Darwin (Calif)	4.14	1		*e*Pn	Pn	03 53 45.6	+0.1
DAC					*e*Pg	Pg	03 53 59.6	-0.8
DAC					*e*S	Sg	03 54 54.6	+0.6
Z14A	Wintersburg	4.15	71	⇑	P	Pn	03 53 45.4	-0.1
	baz=4.1							
SHPR	Sheep Range	4.83	25		*e*Pn	Pn	03 53 55.8	+0.8
SHPR					*e*S	Sg	03 55 12.7	-3.5
TPNV	Topopah Spring	4.95	13	⇓	P	Pn	03 53 57.5	+1.0
	baz=4.9							
X16A	Lo Mia Camp, P	5.68	65	⇑	P	Pn	03 54 07.7	+1.0
	baz=5.6							
TUC	Tucson	5.82	86		Pn	Pn	03 54 08.5	0.0
TUC					*e*S	Sg	03 55 50.6	+2.6
TPH	Tonopah	5.95	3		*e*Pn	Pn	03 54 10.0	-0.3
	comp=N,12nm,1.0s							
TPH					*e*Pg	Pg	03 54 34.1	-0.8
TPH					*e*S	Sg	03 55 49.7	-2.3
WUAZ	Wupatki	6.22	55		*e*Pn	Pn	03 54 19.0	+4.9
	comp=N,4.6nm,0.7s							
WUAZ					*e*S	Sg	03 56 02.5	+1.6
NVAR	Mina Array Bea	6.31	355		Pn	Pn	03 54 17.0	+1.7
	comp=N,0.2nm,0.3s,baz=172,slow=13,SNR=3.4							
R11A	Troy Canyon, C	6.43	15		Pn	Pn	03 54 18.6	+1.6
	comp=N,3.0nm,0.7s							
R11A					*e*S	Sb	03 55 57.9	+6.5
X18A	Snowflake	6.88	68	⇑	P	Pn	03 54 24.6	+1.5
	baz=6.8							
MVU	Marysvale	7.76	33		Pn	Pn	03 54 36.2	+0.9
	comp=N,3.6nm,0.6s							
MSU	Marysvale	7.78	34		*e*Pn	Pn	03 54 36.0	+0.4
	comp=N,3.8nm,0.7s							
121A	Cookes Peak, D	8.36	85		*e*Pn	Pn	03 54 44.5	+1.0
	comp=N,4.2nm,0.6s							
ELK	Elko	8.82	12		Pn	Pn	03 54 51.2	+1.4
	comp=N,0.1nm,0.3s,baz=193,slow=14,SNR=3.0							
ELK					Lg	Lg	03 57 19.7	
	comp=N,0.1nm,0.3s,baz=280,slow=16,SNR=4.0							
MVCO	Mesa Verde	9.08	54		Pn	Pn	03 54 56.0	+2.5
	comp=N,4.8nm,0.6s							
ANMO	Albuquerque	9.76	70		Pn	Pn	03 55 04.4	+1.8
	comp=N,0.0nm,0.3s,baz=266,slow=13,SNR=2.8							
TXAR	Lajitas Array	12.35	99		Pn	Pn	03 55 40.5	+2.5
	comp=N,0.1nm,0.3s,baz=286,slow=14,SNR=4.1							
ILAR	Eielson Array	37.30	340		P	P	03 59 56.0	+1.7
	comp=N,0.4nm,0.8s,baz=149,slow=8.0,SNR=5.9							
H11N3	WAKE ISLAND Hy 67.76	280			T	T	05 17 40.7	
	baz=63,slow=75,SNR=18							
H11N2	WAKE ISLAND Hy 67.77	280			T	T	05 17 41.9	
	baz=63,slow=75,SNR=18							
H11N1	WAKE ISLAND Hy 67.78	280			T	T	05 17 42.2	
	baz=63,slow=75,SNR=26							
H11S1	WAKE ISLAND Hy 68.50	279			T	T	05 18 34.8	
	baz=62,slow=75,SNR=4.9							
H11S2	WAKE ISLAND Hy 68.50	279			T	T	05 18 35.1	
	baz=62,slow=75,SNR=4.8							
H11S3	WAKE ISLAND Hy 68.51	279			T	T	05 18 35.8	
	baz=62,slow=75,SNR=4.0							

ISCJB ***26*** *03:57:26.4±0.5,32°.15N±0°.03×117°.67W±0°.03,h10km, mb3.7/3,MS3.3/3,Error ellipse: s-maj=4.6km s-min=2.6km az=34.2*

IDC ***26*** *03:57:29.8±1.4,32°.30N×117°.46W,h0km,mb3.9/3, mb1 3.9/8,mb1mx3.6/35,mbtmp3.6/8,ML3.5/5,MS3.1/6, Ms1 3.1/6,ms1mx2.9/29,Error ellipse: s-maj=18.3km s-min=12.8km az=70.0*

NEIC ***26*** *03:57:29.3,32°.20N×117°.60W,h17km,ML4.2(PAS), ML4.3(ECX),After PAS.*

NEIC Felt [III] at Tijuana and [II] at Rosarito. Also felt at Primo Tapia and Tecate. Felt [III] at El Cajon and San Diego and [II] in Orange and western San Diego Counties, California.

ECX ***26*** *03:57:29.3±0.4,32°.14N×117°.57W,h10km,MD4.0,ML4.3*

ISC 26 03:57:27.8±0.9,32°.17N±0°.04×117°.64W±0°.03,h10km,n99, σ1§43/114,mb3.6/3,MS3.1/3,24C-35D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SDRC	San Diego Road	0.82	46	⇓	*e*P	Pb	03 57 43.2	-0.9
CBX	Cerro Bola	0.84	80	⇑	*e*P	Pb	03 57 43.8	-0.8
CBX					*e*S	Sg	03 57 54.7	-0.4
CBX					IAML		03 57 59.1	
	comp=N,18μm,0.5s							
CBX					*e*		03 57 59.1	
109C	Camp Elliot, M	0.85	32	⇑	P	Pg	03 57 43.5	-0.7
	baz=0.8							
109C				⇓	S	Sg	03 57 54.2	-1.1
	baz=0.8							
PBX	Punta Banda	0.89	118	⇑	*e*P	Pg	03 57 44.0	-0.9
PBX					*e*S	Sg	03 57 54.8	-1.6
BAR	Barrett	0.97	58		*e*Pn	Pg	03 57 45.8	-0.7
BAR					*e*S	Sg	03 57 57.3	-1.7
BAR	Barrett	0.97	58	⇑	*e*P	Pg	03 57 45.5	-1.0
BAR				⇑	*e*P	Pb	03 57 45.6	-1.1
ECNX	Esteban Cantu	1.02	119	⇓	*e*P	Pg	03 57 46.2	-1.3
SCI	San Clemente I	1.11	317	⇑	P	Pb	03 57 47.8	-1.3
	baz=1.1							
MONP	Monument Peak,	1.26	55	⇑	P	Pn	03 57 50.0	-1.6
	baz=1.2							
MONP				⇓	S	Sb	03 58 06.6	-1.5
	baz=1.2							
ZAX	El Zacaton	1.33	119	⇓	*e*P	Pn	03 57 51.1	-1.5
CIS	Catalina Islan	1.39	333	⇓	P	Pn	03 57 51.1	-2.2
	baz=1.4							
RMX	La Rumorosa	1.39	71	⇑	*e*P	Pn	03 57 52.5	-0.9
IBP	Imperial Bould	1.40	69	⇓	P	Pn	03 57 52.5	-1.0
	baz=1.3							
IBP				⇓	S	Sn	03 58 11.2	-0.9
	baz=1.3							
RDX	Rancho Dawling	1.46	99	⇑	*e*P	Pn	03 57 53.3	-1.2
RDX					*e*S	Sn	03 58 12.6	-1.2
RDX				⇑	*e*		03 58 13.9	
RDX					IAML		03 58 13.9	
	comp=N,4μm,0.3s							
MURC	Murrieta	1.48	14	⇓	P	Pn	03 57 52.6	-1.9
	baz=1.4							
MURC				⇓	S	Sn	03 58 12.8	-1.2
	baz=1.4							
FMP	Fort Macarthur	1.64	341	⇓	P	Pn	03 57 54.6	-2.1
	baz=1.6							
WESC	Westside Schoo	1.72	69	⇑	*e*P	Pn	03 57 57.7	-0.1
SWSC	Sam W. Stewart	1.74	63	⇓	P	Pn	03 57 57.3	-0.8
	baz=1.7							
SWSC				⇓	Sb	Sb	03 58 21.6	-0.1
	baz=1.7							
PFO	Pinyon Flats O	1.75	34		Pg	Pn	03 57 57.9	-0.4
	comp=N,79nm,0.3s,baz=214,slow=16,SNR=85							
PFO					Lg	Lg	03 58 20.8	
	comp=N,293nm,0.3s,baz=131,slow=22,SNR=14							
PFO	Pinyon Flats O	1.75	34		*e*Pn	Pn	03 57 58.0	-0.4
PFO					Lg	Lg	03 58 20.8	
PFO					*e*S	Sb	03 58 21.8	-0.5
PFO	Pinyon Flats O	1.75	34	⇓	P	Pn	03 57 57.6	-0.8
	baz=1.7							
PFO				⇓	Sb	Sb	03 58 21.7	-0.5
	baz=1.7							
PASC	Pasadena Art C	2.05	347		*e*Pn	Pn	03 58 01.1	-1.3
PASC					*e*S	Sg	03 58 32.5	-1.2
BFSC	Mount Baldy Ra	2.07	360	⇓	P	Pn	03 58 01.1	-1.7
	baz=2.0							
BFSC				⇑	Sb	Sb	03 58 30.3	-1.0
	baz=2.0							
MWC	Mount Wilson	2.08	350		*e*Pn	Pn	03 58 01.3	-1.6
MWC					*e*Pg	Pg	03 58 07.6	-0.1
MWC					*e*S	Sg	03 58 33.6	-1.2
SPIG	San Pedro Mart	2.17	120		*e*P2	Pn	03 58 04.3	0.0
SPX	San Pedro Mart	2.17	120		*e*P	Pn	03 58 04.2	-0.1
SPX					IAML		03 58 49.8	
	comp=N,795nm,0.6s							
SPX				⇑	*e*		03 58 49.8	
BBRC	Big Bear Solar	2.18	16	⇓	P	Pn	03 58 03.8	-0.5
	baz=2.1							
BLG	Laguna Peak, P	2.28	329	⇑	P	Pn	03 58 05.2	-0.3
	baz=2.3							
BELC	Belle Mtn. Jos	2.29	37	⇓	P	Pn	03 58 05.0	-0.8
	baz=2.2							
BC3	Big Chuckawall	2.37	51	⇓	P	Pn	03 58 05.7	-1.1
	baz=2.3							
BSC	Santa Cruz Isl	2.47	318	⇑	P	Pn	03 58 07.0	-1.2
	baz=2.5							
GLA	Glamis	2.54	69		*e*Pn	Pn	03 58 08.6	-0.4
GLA					*e*S	Sn	03 58 41.2	+1.2
GLA	Glamis	2.54	69	⇓	P	Pn	03 58 08.5	-0.6
	baz=2.5							
OSI	Osito Audit: C	2.60	340		*e*Pn	Pn	03 58 09.6	-0.4
OSI					*e*Pg	Pg	03 58 17.2	-0.5
OSI					*e*S	Sg	03 58 50.1	-1.4
EDW2	Edwards Air Fo	2.72	354	⇓	P	Pn	03 58 11.4	-0.3
	baz=2.7							
EDW2				⇑	S	Sn	03 58 43.3	-1.4
	baz=2.7							
RRX	Edison Barstow	2.76	11	⇓	P	Pn	03 58 11.9	-0.2
	baz=2.7							
HEC	Hector,Ludlow	2.87	22	⇓	P	Pn	03 58 13.7	0.0
	baz=2.8							
IRM	Iron Mountain	2.88	46	⇑	P	Pn	03 58 13.4	-0.5
	baz=2.8							
Y12C	Blythe	3.06	58	⇓	P	Pn	03 58 16.4	+0.1
	baz=3.0							
GMRC	Granite Mounta	3.09	32	⇑	P	Pn	03 58 16.6	-0.2
	baz=3.0							
ARVC	Arvin	3.12	342	⇑	P	Pn	03 58 16.9	-0.1
	baz=3.1							
GSC	Goldstone, Bar	3.20	12		*e*Pn	Pn	03 58 18.2	-0.1
GSC	Goldstone, Bar	3.20	12	⇑	P	Pn	03 58 18.3	-0.1
	baz=3.2							
PKM	Mcpherson Peak	3.27	327	⇓	P	Pn	03 58 19.3	-0.1
	baz=3.3							
LRMC	Laurel Mtn Rad	3.30	359	⇓	P	Pn	03 58 19.7	0.0
	baz=3.3							
113A	Mohawk Valley,	3.33	79	⇓	P	Pn	03 58 19.5	-0.5
	baz=3.3							
ISA	Isabella, Lake	3.56	349	⇑	P	Pn	03 58 22.9	-0.2
	baz=3.5							
TUQ	Turquoise Moun	3.56	23	⇓	P	Pn	03 58 22.9	-0.3
	baz=3.5							
VES	Vestal, Richgr	3.86	342	⇑	P	Pn	03 58 27.3	+0.2
	baz=3.8							
MPMC	Manual Prospec	3.89	2	⇓	P	Pn	03 58 27.8	0.0
	baz=3.8							
DAC	Darwin (Calif)	4.10	1		*e*Pn	Pn	03 58 31.0	+0.3
DAC					*e*Pg	Pg	03 58 46.7	+0.4
DAC					*e*S	Sg	03 59 40.3	+0.8
214A	Organ Pipe Nat	4.11	92		*e*Pn	Pn	03 58 30.0	-0.7
214A					*e*Pg	Pg	03 58 46.9	+0.5
214A					*e*S	Sn	03 59 21.3	+2.5
214A	Organ Pipe Nat	4.11	92	⇑	P	Pn	03 58 29.7	-1.0
	baz=4.1							
Z14A	Wintersburg	4.13	72	⇑	P	Pn	03 58 30.9	-0.1
	baz=4.1							
Y14A	Wickenburg	4.28	64	⇓	P	Pn	03 58 33.4	+0.4
	baz=4.2							
W13A	Hualapai Mount	4.29	46	⇓	P	Pn	03 58 33.9	+0.6
	baz=4.2							
SHPR	Sheep Range	4.79	25		*e*Pn	Pn	03 58 41.2	+1.0
SHPR					*e*Pg	Pg	03 58 59.7	+0.1
SHPR					*e*S	Sg	03 59 57.9	-3.8
GRAC	Grapevine Rang	4.83	3	⇓	P	Pn	03 58 41.7	+1.1
	baz=4.8							
TPNV	Topopah Spring	4.91	13	⇓	P	Pn	03 58 42.5	+0.7
	baz=4.9							
X16A	Lo Mia Camp, P	5.66	65	⇓	P	Pn	03 58 53.1	+1.0
	baz=5.6							
TUC	Tucson	5.81	87		*e*Pn	Pn	03 58 54.5	+0.4
	comp=N,18nm,0.8s							
TUC					*e*Pg	Pg	03 59 15.7	-3.4
TUC					*e*S	Sb	04 00 15.2	-3.9
TPH	Tonopah	5.91	3		*e*Pn	Pn	03 58 56.4	+0.8
	comp=N,36nm,0.9s							
TPH					*e*Pg	Pg	03 59 19.7	-1.2
TPH					*e*S	Sg	04 00 44.9	+7.5
WUAZ	Wupatki	6.19	56		*e*Pn	Pn	03 58 58.7	-0.8
WUAZ					*e*S	Sg	04 00 50.0	+3.4
CMB	Columbia Colle	6.27	340		*e*Pn	Pn	03 59 01.6	+1.2
	comp=N,6.8nm,0.6s							
CMB					*e*S	Sn	04 00 16.6	+4.5
NVAR	Mina Array Bea	6.27	355		Pn	Pn	03 59 02.6	+2.0
	comp=N,0.4nm,0.3s,baz=176,slow=15,SNR=9.4							
R11A	Troy Canyon, C	6.39	15		*e*Pn	Pn	03 59 03.5	+1.2
	comp=N,8.8nm,0.7s							
R11A					*e*S	Sg	04 00 47.5	-5.5
WAKR	Walker	6.49	347		Pn	Pn	03 59 05.5	+1.9
	comp=N,1.3nm,0.5s							
WAKR					*e*S	Sb	04 00 29.3	-9.4
W18A	Petrified Fore	7.22	64		*e*Pn	Pn	03 59 13.8	+0.2
	comp=N,21nm,0.7s							
W18A					*e*S	Sb	04 01 03.0	+3.3
MVU	Marysvale	7.72	34		Pn	Pn	03 59 22.2	+1.7
	comp=N,9.3nm,0.5s							
MSU	Marysvale	7.75	34		Pn	Pn	03 59 21.2	+0.4
	comp=N,0.1nm,0.4s							
121A	Cookes Peak, D	8.35	85		*e*Pn	Pn	03 59 29.7	+0.7
	comp=N,13nm,0.7s							
121A	Cookes Peak, D	8.35	85	⇓	P	Pn	03 59 29.7	+0.7
	baz=8.3							
ELK	Elko	8.78	12		Pn	Pn	03 59 37.1	+2.1
	comp=N,0.6nm,0.3s,baz=192,slow=11,SNR=10.0							
ELK					Lg	Lg	04 02 01.6	
	comp=N,0.2nm,0.3s,baz=329,slow=12,SNR=2.2							
ELK					LR	LR	04 03 09.2	
	comp=N,140nm,18.7s,baz=190,slow=39							
ELK	Elko	8.78	12		*e*Pn	Pn	03 59 34.8	-0.1
	comp=N,2.0nm,0.4s							
ELK					Lg	Lg	04 02 01.6	
SRU	San Rafael Swe	9.03	38		Pn	Pn	03 59 41.5	+3.2
	comp=N,5.7nm,0.6s							
MVCO	Mesa Verde	9.05	54		Pn	Pn	03 59 41.9	+3.1
	comp=N,14nm,0.6s							
PV04	Paradox Valley	9.46	47		Pn	Pn	03 59 44.7	+0.4
PV01	Paradox Valley	9.52	49		Pn	Pn	03 59 48.2	+3.1
	comp=N,584nm,0.6s							
ANMO	Albuquerque	9.74	70		Pn	Pn	03 59 50.1	+2.0
	comp=N,0.2nm,0.3s,baz=255,slow=14,SNR=3.5							
ANMO	Albuquerque	9.74	70		Pn	Pn	03 59 48.8	+0.7
	comp=N,3.4nm,0.8s							
LPIG	La Paz	10.31	139		LR	LR	04 03 36.0	
	comp=N,64nm,21.6s,baz=232,slow=36							
YBH	Yreka Blue Hor	10.37	338		LR	LR	04 04 07.7	
	comp=N,122nm,19.9s,baz=178,slow=39							
MNTX	Cornudas Mount	10.43	89		*e*Pn	Pn	03 59 58.5	+1.0
	comp=N,3.6nm,0.5s							
TXAR	Lajitas Array	12.35	100		Pn	Pn	04 00 27.2	+3.4
	comp=N,0.3nm,0.3s,baz=281,slow=13,SNR=12							
TXAR					LR	LR	04 05 26.9	
	comp=N,76nm,18.8s

PAU	**Pauzhetka**	**2.75**	**4**	*eP*	**Pn**	04 15 40.4	**-0.1**
PAU				*eS*	**Sn**	04 16 12.2	**-0.2**
PAU	**Pauzhetka**	**2.75**	**4**	PN	**Pn**	04 15 40.4	**-0.1**
PAU				S	**Sn**	04 16 12.2	**-0.2**
MIPR	**Malaya Ipel'ka**	**3.56**	**2**	*eP*	**Pn**	04 15 49.2	**-2.4**
ASAK	**Asacha**	**3.76**	**13**	*eP*	**Pn**	04 15 54.7	**+0.2**
ASAK				*eS*	**Sn**	04 16 38.0	**+0.5**
MTVR	**Mutnovka**	**3.90**	**15**	*eP*	**Pn**	04 15 57.0	**+0.5**
MTVR				*eS*	**Sn**	04 16 41.9	**+0.8**
RUS	**Russkaya**	**3.92**	**18**	*eP*	**Pn**	04 15 56.3	**-0.2**
RUS				*eS*	**Sn**	04 16 41.3	**+0.1**
RUS	**Russkaya**	**3.92**	**18**	PN	**Pn**	04 15 56.3	**-0.2**
RUS				S	**Sn**	04 16 41.3	**+0.1**
RUS	**Russkaya**	**3.92**	**18**	*eP*	**Pn**	04 15 56.3	**-0.2**
RUS				*eS*	**Sn**	04 16 41.3	**+0.1**
UGLR	**Uglovaya**	**4.71**	**17**	*eP*	**Pn**	04 16 08.2	**+0.6**
AVH	**Avacha**	**4.75**	**16**	*eP*	**Pn**	04 16 08.8	**+0.7**
AVH	**Avacha**	**4.75**	**16**	PN	**Pn**	04 16 08.8	**+0.7**
AVH	**Avacha**	**4.75**	**16**	*eP*	**Pn**	04 16 08.8	**+0.7**
KOK	**Koryaka**	**4.76**	**15**	*eP*	**Pn**	04 16 09.0	**+0.8**
KOK	**Koryaka**	**4.76**	**15**	PN	**Pn**	04 16 09.0	**+0.8**
KOK	**Koryaka**	**4.76**	**15**	*eP*	**Pn**	04 16 09.0	**+0.8**
SMAR	**Somma**	**4.76**	**17**	*eP*	**Pn**	04 16 08.8	**+0.5**
SMAR	**Somma**	**4.76**	**17**	PN	**Pn**	04 16 08.8	**+0.5**
SDLR	**Sedlovina**	**4.79**	**17**	*eP*	**Pn**	04 16 08.5	**-0.2**
SDLR	**Sedlovina**	**4.79**	**17**	PN	**Pn**	04 16 08.5	**-0.2**
KRX	**Arik**	**4.83**	**15**	*eP*	**Pn**	04 16 09.6	**+0.5**
SPN	**Mys Shipunski**	**4.90**	**25**	*eP*	**Pn**	04 16 11.2	**+1.2**
SPN				*eS*	**Sn**	04 17 05.9	**+0.5**
SPN	**Mys Shipunski**	**4.90**	**25**	PN	**Pn**	04 16 11.2	**+1.2**
SPN				S	**Sn**	04 17 05.9	**+0.5**
SPN	**Mys Shipunski**	**4.90**	**25**	*eP*	**Pn**	04 16 11.2	**+1.2**
SPN				*eS*	**Sn**	04 17 05.9	**+0.5**
GNL	**Ganaly**	**5.05**	**10**	*eP*	**Pn**	04 16 11.0	**-1.2**
GNL	**Ganaly**	**5.05**	**10**	PN	**Pn**	04 16 11.0	**-1.2**
MKZ	**Mys Kozlova**	**6.67**	**27**	*eP*	**Pn**	04 16 33.7	**-0.6**
MKZ	**Mys Kozlova**	**6.67**	**27**	PN	**Pn**	04 16 33.7	**-0.6**
MKZ	**Mys Kozlova**	**6.67**	**27**	*eP*	**Pn**	04 16 33.7	**-0.6**
TUMR	**Tumrok**	**6.93**	**17**	*eP*	**Pn**	04 16 38.4	**+0.4**
TUMR	**Tumrok**	**6.93**	**17**	PN	**Pn**	04 16 38.4	**+0.4**
KBTR	**Krutoberegovo**	**8.41**	**25**	*eP*	**Pn**	04 16 57.0	**-1.2**
KBTR	**Krutoberegovo**	**8.41**	**25**	PN	**Pn**	04 16 57.0	**-1.2**
BKI	**Bering**	**8.71**	**38**	*eS*	**Sn**	04 18 38.3	**-0.8**
TYV	**Tymovskoe**	**9.23**	**289**	*eP*	**Pn**	04 17 11.4	**+2.0**
YSS	**Yuzh-Sakhalins**	**9.44**	**264**	*eP*	**Pn**	04 17 11.7	**-0.6**
YSS				AMB	AMB	04 17 12.1	
	10.0nm,0.3s						

TAP 26 04:43:39.5, 24°.02N × 121°.61E, h10km ± 1km, ML1.7, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.04**	**188**	P	Pg	04 43 41.2	-0.2
	baz=177						
HWA				*eS*	Sg	04 43 43.0	+0.2
	baz=177						
TWD	**Chiawan**	**0.06**	**346**	P	Pg	04 43 41.5	0.0
	baz=354						
TWD				S	Sg	04 43 43.0	-0.1
	baz=354						
WHF	**Hehuan Shan**	**0.34**	**291**	*eP*	Pg	04 43 46.3	-0.5
	baz=291						

DJA 26 04:47:16.6 ± 1.2, 0°N ± 5° × 122°.4E ± °, h65km ± 12km, M3.6/5, MLv3.6/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.50**	**36**	P	Pn	04 47 29.4	+0.5
KMSI				S	Sn	04 47 41.9	+4.0
LUWI	**Luwuk**	**1.51**	**217**	P	Pn	04 47 42.3	+0.7
LUWI				S	Sn	04 48 01.4	+0.9
MRSI	**Marisa**	**1.78**	**280**	P	Pn	04 47 45.2	+0.1
MRSI				S	Sn	04 48 07.8	+1.0
APSI	**Ampana**	**2.31**	**242**	P	Pn	04 47 52.3	0.0
MPSI	**Mapaga**	**3.80**	**273**	P	Pn	04 48 13.4	+0.8

*SKO **26** 05:00:42.6, 40°.56N × 23°.16E, h27km, M1.0, ML1.4*
*CSEM **26** 05:00:45.5 ± 0.1, 40°.72N × 23°.17E, h19km ± 1km, MD2.7, Error ellipse: s-maj=2.8km s-min=2.8km az=117.0*

ATH 26 05:00:46.3, 40.75N × 23.13E, h8km ± 3km, MD2.7/8, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HORT	**Hortiatis**	**0.15**	**189**	*eP*	Pg	05 00 49.9	+0.2
HORT				*eS*	Sg	05 00 52.4	+0.4
HORT	**Hortiatis**	**0.15**	**189**	*eP*	Pg	05 00 49.9	+0.2
HORT				*eS*	Sg	05 00 52.4	+0.4
THE	**Thessaloniki**	**0.17**	**227**	*eP*	Pg	05 00 50.1	+0.2
THE				*eS*	Sg	05 00 52.3	0.0
THE	**Thessaloniki**	**0.17**	**227**	*eP*	Pg	05 00 50.1	+0.2
THE				*eS*	Sg	05 00 52.3	0.0
SOH	**Sokhos**	**0.18**	**67**	*eP*	Pg	05 00 50.4	+0.2
SOH				*eS*	Sg	05 00 53.1	+0.3
SOH	**Sokhos**	**0.18**	**67**	*eP*	Pg	05 00 50.4	+0.2
SOH				*eS*	Sg	05 00 53.1	+0.3
PLG	**Polygyros**	**0.45**	**147**	*eP*	Pg	05 00 54.2	-0.9
PLG	**Polygyros**	**0.45**	**147**	*eP*	Pg	05 00 54.2	-0.9
KNT	**Kendrikon**	**0.45**	**337**	*eP*	Pg	05 00 55.2	+0.1
KNT				*eS*	Sg	05 01 01.0	0.0
KNT	**Kendrikon**	**0.45**	**337**	*eP*	Pg	05 00 55.2	+0.1
KNT				*eS*	Sg	05 01 01.0	0.0
SRS	**Serrai**	**0.51**	**44**	*eP*	Pg	05 00 55.9	-0.3
SRS	**Serrai**	**0.51**	**44**	*eP*	Pg	05 00 55.9	-0.3
GRG	**Griva**	**0.59**	**291**	*eP*	Pg	05 00 58.1	+0.3
GRG	**Griva**	**0.59**	**291**	*eP*	Pg	05 00 58.1	+0.3
VAY	**Valandovo**	**0.71**	**324**	*i* Pg	Pg	05 01 00.5	+0.5
VAY				*eL*	Lg	05 01 11.0	
	comp=E,8.8nm,0.4s						
VAY				*i* Sg	Sb	05 01 11.6	+0.7
VAY				*eL*	Lg	05 01 11.7	
	comp=N,15nm,0.5s						
VAY	**Valandovo**	**0.71**	**324**	*i* Pg	Pg	05 01 00.4	+0.4
VAY				*eL*	Lg	05 01 11.0	
	comp=N,8.8nm,0.4s						
VAY				*i* Sg	Sb	05 01 11.5	+0.6
NVR	**Nevrokopi**	**0.82**	**42**	*eP*	Pg	05 01 01.6	-0.5
NVR	**Nevrokopi**	**0.82**	**42**	*eP*	Pg	05 01 01.6	-0.5

*ISCJB **26** 05:04:54.9 ± 1.4, 62°.05S ± 0°.1 × 165°.7E ± 0°.9, h10km, mb4.2/5, MS4.0/7, Error ellipse: s-maj=60.8km s-min=8.3km az=165.9*
*IDC **26** 05:04:55.7 ± 2.7, 62°.05S × 165°.60E, h0km, mb4.2/4, mb1 4.3/5, mb1mx4.2/12, mbtmp4.2/5, ML4.2/1, MS4.0/9, Ms1 4.0/9, ms1mx3.8/18, Error ellipse: s-maj=94.5km s-min=22.3km az=77.0*
*NEIC **26** 05:04:56.2 ± 1.4, 62°.04S × 165°.90E, h10km, mb4.6/3, Error ellipse: s-maj=55.5km s-min=7.6km az=77.0*
*AWI **26** 05:05:01.9, 62°.36S × 163°.63E*

ISC 26 05:04:57.0 ± 1.7, 62°.1S ± 0°.1 × 165°.5E ± 0°.5, h10km, n31, σ0°.94/18, mb4.2/5, MS4.0/7, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCQ	**Macquarie Isla**	**8.34**	**333**	Pn	**Pn**	**05 06 57.7**	**0.0**
VNDA	**Vanda**	**15.56**	**183**	Pn	**Pn**	**05 08 35.1**	**-0.9**
	0.9nm,0.3s,baz=6.7,slow=15,SNR=59						
VNDA				LR	LR	05 13 29.2	
	comp=Z,1μm,21.6s,baz=12,slow=33						
VNDA	**Vanda**	**15.56**	**183**	*e*Pn	**Pn**	**05 08 34.9**	**-1.2**
	38nm,1.4s						
VNDA				Pn	**Pn**	**05 08 35.1**	**-0.9**
SBA	**Scott Base**	**15.86**	**179**	*e*Pn	**Pn**	**05 08 40.4**	**+0.6**
	71nm,1.4s						
RPZ	**Rata Peaks**	**18.69**	**13**	LR	LR	05 15 27.6	
	comp=Z,801nm,19.9s,baz=224,slow=34						
URZ	**Urewera**	**24.90**	**22**	LR	LR	05 20 12.7	
	comp=Z,538nm,18.3s,baz=198,slow=37						
QSPA	**South Pole Qui**	**28.01**	**180**	P	**P**	**05 10 48.5**	**+0.7**
	4.8nm,1.0s,baz=339,slow=3.6,SNR=8.4						
QSPA				LR	LR	05 20 59.0	
	comp=Z,424nm,18.9s,baz=25,slow=34						
CAN	**Canberra**	**28.72**	**331**	P	**P**	**05 10 54.1**	**-0.1**
STKA	**Stephens Creek**	**33.91**	**322**	LR	LR	05 23 44.6	
	comp=Z,194nm,18.5s,baz=186,slow=33						
STKA	**Stephens Creek**	**33.91**	**322**	*eP*	**P**	**05 11 39.2**	**-0.7**
EIDS	**Eidsvold**	**37.96**	**339**	*eP*	**P**	**05 12 14.2**	**-0.4**
MAW	**Mawson**	**39.14**	**216**	P	**P**	**05 12 24.8**	**+0.8**
	4.6nm,1.1s,baz=114,slow=10.0,SNR=3.5						
MAW				LR	LR	05 28 47.7	
	comp=Z,345nm,19.4s,baz=58,slow=36						
H01W1	**Cape Leeuwin H**	**41.90**	**286**	T	T	05 57 33.2	
	baz=146,slow=76,SNR=246						
H01W2	**Cape Leeuwin H**	**41.91**	**286**	T	T	05 57 33.5	
	baz=146,slow=76,SNR=286						
H01W3	**Cape Leeuwin H**	**41.92**	**286**	T	T	05 57 34.4	
	baz=146,slow=76,SNR=223						
ASAR	**Alice Springs**	**43.95**	**316**	P	**P**	**05 13 04.6**	**+0.6**
	3.6nm,1.0s,baz=161,slow=7.5,SNR=22						
AS31	**Alice Springs**	**43.95**	**316**	*eP*	**P**	**05 13 04.9**	**+0.8**
SNAA	**Sanae**	**46.28**	**185**	P	**P**	**05 13 20.5**	**-1.5**
SNAA	**Sanae**	**46.28**	**185**	*eP*	**P**	**05 13 20.2**	**-1.8**
	10.0nm,1.1s						
VNA2	**Neumayer--Watz**	**47.18**	**183**	P	**P**	**05 13 29.4**	**+0.4**
	baz=162,slow=6.5						
WRA	**Warramunga Arr**	**47.30**	**319**	P	**P**	**05 13 30.1**	**-0.4**
	1.1nm,0.9s,baz=160,slow=6.8,SNR=5.4						
WRA				PcP	**PcP**	**05 15 02.0**	**+0.6**
	0.4nm,0.3s,baz=155,slow=3.1,SNR=3.6						
VNA1	**Neumayer--Stat**	**47.48**	**183**	P	**P**	**05 13 32.1**	**+0.9**
BOSA	**Boshof**	**84.13**	**214**	LR	LR	05 52 07.2	
	comp=Z,58nm,19.8s,baz=160,slow=34						
H08S2	**Diego Garcia H**	**84.70**	**264**	T	T	06 51 07.4	
	baz=147						
H08S1	**Diego Garcia H**	**84.71**	**264**	T	T	06 51 09.4	
	baz=147						
H08S3	**Diego Garcia H**	**84.72**	**264**	T	T	06 51 11.9	
	baz=147						
H08N1	**Diego Garcia H**	**86.53**	**263**	T	T	06 53 41.2	
	baz=138						
H08N3	**Diego Garcia H**	**86.54**	**263**	T	T	06 53 35.6	
	baz=138						
H08N2	**Diego Garcia H**	**86.55**	**263**	T	T	06 53 37.8	
	baz=138						
NNA	**Nana**	**91.83**	**120**	LR	LR	05 49 56.5	
	comp=Z,45nm,21.4s,baz=176,slow=29						
CMAR	**Chiang Mai Arr**	**95.72**	**299**	LR	LR	05 59 44.2	
	comp=Z,31nm,19.6s,baz=150,slow=34						

*ISCJB **26** 05:08:02.1 ± 2.2, 42°.76N ± 0°.10 × 43°.45E ± 0°.08, h5km ± 7km, Error ellipse: s-maj=16.9km s-min=9.6km az=169.3*
*TIF **26** 05:08:02.3, 42°.54N × 43°.58E, h13km ± 2km*
*CSEM **26** 05:08:02.0 ± 1.4, 42°.76N × 43°.48E, h0km ± 4km, MD2.8, Error ellipse: s-maj=27.4km s-min=12.2km az=169.0*
*DDA **26** 05:08:06.5, 42°.51N × 43°.23E, h5km, MD2.8*

ISC 26 05:08:03.1 ± 1.8, 42°.5N ± 0°.1 × 43°.45E ± 0°.04, h14km ± 14km, n11, σ0°.45/22, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.05**	**4**	P	**Pg**	**05 08 05.7**	**-0.2**
ONI				S	**Sg**	**05 08 07.9**	**+0.1**
ONI	**Oni**	**0.05**	**4**	P	**Pg**	**05 08 05.7**	**-0.2**
ONI				S	**Sg**	**05 08 07.9**	**+0.1**
ARTV	**Artvin**	**1.77**	**221**	*i* P	**Pb**	**05 08 35.6**	**+0.3**
ARTV				*i* S	**Sg**	**05 09 00.3**	**+0.4**
ARTV	**Artvin**	**1.77**	**221**	*i* P	**Pb**	**05 08 35.6**	**+0.3**
ARTV				*i* S	**Sg**	**05 09 00.3**	**+0.4**
DGRG	**David-gareji**	**1.80**	**126**	P	**Pb**	**05 08 35.7**	**-0.1**
DGRG				S	**Sg**	**05 09 01.5**	**+0.5**
DGRG	**David-gareji**	**1.80**	**126**	P	**Pb**	**05 08 35.7**	**-0.1**
DGRG				S	**Sg**	**05 09 01.5**	**+0.5**
DAGI	**Agillar**	**1.86**	**219**	*i* P	**Pb**	**05 08 36.3**	**-0.4**
DAGI				*i* S	**Sg**	**05 09 02.5**	**-0.3**
DBAD	**Bademkaya**	**2.01**	**221**	*i* P	**Pb**	**05 08 39.9**	**+0.6**
DBAD				*i* S	**Sg**	**05 09 07.8**	**+0.2**
DBAD	**Bademkaya**	**2.01**	**221**	*i* P	**Pb**	**05 08 39.9**	**+0.6**
DBAD				*i* S	**Sg**	**05 09 07.8**	**+0.2**
DDEM	**Demirkent**	**2.08**	**218**	*i* P	**Pg**	**05 08 42.3**	**-0.7**
DDEM				*i* S	**Sg**	**05 09 10.4**	**+0.5**
DDEM	**Demirkent**	**2.08**	**218**	*i* P	**Pg**	**05 08 42.3**	**-0.7**
DDEM				*i* S	**Sg**	**05 09 10.4**	**+0.5**

NNC 26 05:12:11.6 ± 4.5, 37.77N × 71.28E, h0km, mb3.6, mpv3.2, 6C-3D, Error ellipse: s-maj=41.2km s-min=13.1km az=166.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	**Dzherino**	**2.19**	**299**	⇑P	Pn	05 12 48.7	-0.7
	12nm,0.4s						
DZET				⇓S	Sb	05 13 19.1	-0.9
	78nm,0.5s						
SFK	**Sufi-Kurgan**	**2.83**	**37**	⇑P	Pn	05 12 58.0	-0.5
	2.1nm,0.3s						
SFK				⇓S	Sn	05 13 35.6	+2.0
	19nm,0.6s						
MNAS	**Manas**	**4.81**	**11**	⇓P	Pn	05 13 25.5	0.0
	1.1nm,0.5s						
MNAS				⇑S	Sn	05 14 22.3	+0.4
	3.2nm,0.3s						
KK31	**Karatay Array**	**5.36**	**354**	P	Pn	05 13 33.3	+0.4
	0.4nm,0.2s,baz=188,slow=15,SNR=19						
KK31				⇑S	Sn	05 14 35.6	+0.2
	2.2nm,0.5s,baz=180,slow=21,SNR=5.6						
AAK	**Ala-Archa**	**5.45**	**26**	⇑P	Pn	05 13 33.7	-0.6
	2.1nm,0.4s						
AAK				⇑S	Sn	05 14 37.1	-0.8
	4.3nm,0.6s						

*CSEM **26** 05:14:28.8, 51°.41N × 16°.08E, h0km*

PRU 26 05:14:27.2, 51°.46N × 16°.11E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.63**	**169**	*e*Pg	Pg	05 14 39.4	+0.1
KSP				*e*Sg	Sb	05 14 49.0	-1.4
UPC	**Upice**	**0.96**	**184**	*e*PG	Pg	05 14 45.2	-0.4
UPC				*e*SG	Sg	05 14 57.7	-0.3
	comp=Z,3.3nm,0.2s						
UPC	**Upice**	**0.96**	**184**	Pg	Pg	05 14 45.2	-0.4
UPC				Sg	Sg	05 14 57.7	-0.3
	3.3nm,0.2s						
DPC	**Dobruska-Polom**	**1.12**	**173**	*e*PG	Pg	05 14 48.2	-0.6
DPC				*e*SG	Sg	05 15 02.9	-0.4
	comp=Z,3.3nm,0.3s						
DPC	**Dobruska-Polom**	**1.12**	**173**	Pg	Pg	05 14 48.2	-0.6
DPC				Sg	Sg	05 15 02.9	-0.4
	3.3nm,0.3s						
PVCC	**Panska Ves**	**1.35**	**227**	*e*PG	Pg	05 14 52.4	-0.7
PVCC				*e*SG	Sg	05 15 10.5	-0.1
	comp=Z,25nm,0.2s						
PVCC	**Panska Ves**	**1.35**	**227**	Pg	Pg	05 14 52.4	-0.7
PVCC				Sg	Sg	05 15 10.5	-0.1
	25nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.76**	**209**	*e*PG	Pn	05 14 59.5	+0.5
GOPC				*e*SG	Sb	05 15 23.3	+0.2
	comp=Z,2.7nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.76**	**209**	Pg	Pn	05 14 59.5	+0.5
GOPC				Sg	Sb	05 15 23.3	+0.2
	2.7nm,0.2s						
PRU	**Pruhonice**	**1.78**	**215**	*e*SG	Sb	05 15 23.8	+0.3
	comp=Z,5.7nm,0.3s						
PRU	**Pruhonice**	**1.78**	**215**	Sg	Sb	05 15 23.8	+0.3
	5.7nm,0.3s						
TREC	**Trest**	**2.20**	**191**	*e*SG	Sg	05 15 37.3	-0.8
	comp=Z,4.1nm,0.3s						
TREC	**Trest**	**2.20**	**191**	Sg	Sg	05 15 37.3	-0.8
	4.1nm,0.3s						
NKC	**Novy Kostel**	**2.63**	**244**	*e*SG	Sg	05 15 51.1	-0.6
	comp=Z,3.3nm,0.3s						
NKC	**Novy Kostel**	**2.63**	**244**	Sg	Sg	05 15 51.1	-0.6
	3.3nm,0.3s						
KHC	**Kasperske Hory**	**2.84**	**216**	*e*PG	Pb	05 15 19.1	+0.2
KHC				*e*SN	Sn	05 15 47.5	-1.3
KHC				*e*SG	Sg	05 15 57.4	-1.2
	comp=Z,1.9nm,0.4s						
KHC	**Kasperske Hory**	**2.84**	**216**	Pg	Pb	05 15 19.1	+0.2
KHC				Sn	Sn	05 15 47.5	-1.3
KHC				Sg	Sg	05 15 57.4	-1.2
	1.9nm,0.4s						

*BUC **26** 05:16:56.7 ± 1.3, 44°.89N × 22°.37E, h9km ± 8km, MD2.9/5, Error ellipse: s-maj=8.8km s-min=7.1km az=61.0*
*CSEM **26** 05:16:58.1 ± 0.2, 44°.92N × 22°.46E, h0km ± 2km, ML2.4, Error ellipse: s-maj=3.3km s-min=2.5km az=121.0*
*BEO **26** 05:16:58.6 ± 0.2, 44°.89N × 22°.50E, h0km, ML2.4/1*

ISC 26 05:16:57.9 ± 1.1, 44°.91N ± 0°.02 × 22°.44E ± 0°.02, h2km ± 9km, n79, σ1°.11/127, 29C-18D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJES	**Djerdap**	**0.25**	**166**	*e*Pg	**Pg**	**05 17 02.6**	**-0.1**
DJES				*e*Sg	**Sg**	**05 17 06.0**	**+0.1**
RMGR	**Halanga-Turnu**	**0.31**	**144**	S	**Sb**	**05 17 09.4**	**-2.1**
RMGR	**Halanga-Turnu**	**0.31**	**144**	*i* S	**Sb**	**05 17 09.4**	**-2.1**
RMGR	**Halanga-Turnu**	**0.31**	**144**	S	**Sb**	**05 17 09.4**	**-2.1**
GZR	**Gura Zlata**	**0.54**	**26**	⇑*i* Pg	**Pg**	**05 17 08.4**	**+0.2**
GZR				*i* Sg	**Sg**	**05 17 15.5**	**+0.3**
GZR	**Gura Zlata**	**0.54**	**26**	⇑*i* P	**Pg**	**05 17 08.5**	**+0.2**
GZR	**Gura Zlata**	**0.54**	**26**	⇑*i* P	**Pg**	**05 17 08.5**	**+0.2**
GZR				*i* S	**Sg**	**05 17 15.8**	**+0.6**
GZR	**Gura Zlata**	**0.54**	**26**	⇑*i* P	**Pg**	**05 17 08.5**	**+0.2**
GZR				*i* Sg	**Sg**	**05 17 15.5**	**+0.3**
SRE	**Strehaia**	**0.60**	**114**	⇑*i* P	**Pg**	**05 17 10.2**	**+0.8**
SRE	**Strehaia**	**0.60**	**114**	⇑*i* P	**Pg**	**05 17 10.2**	**+0.8**
SRE				*i* S	**Sb**	**05 17 18.8**	**-1.2**
SRE	**Strehaia**	**0.60**	**114**	⇑*i* P	**Pg**	**05 17 10.2**	**+0.8**
SRE				S	**Sb**	**05 17 18.8**	**-1.2**
BZS	**Buzias**	**0.91**	**321**	*e*Pg	**Pg**	**05 17 16.4**	**+1.0**
BZS				*e*Sg	**Sg**	**05 17 28.9**	**+1.7**
BZS	**Buzias**	**0.91**	**321**	⇑*i* P	**Pg**	**05 17 15.7**	**+0.3**
BZS	**Buzias**	**0.91**	**321**	⇑*i* P	**Pg**	**05 17 15.7**	**+0.3**
BZS				*i* S	**Sg**	**05 17 26.6**	**-0.6**
BZS	**Buzias**	**0.91**	**321**	⇑*i* P	**Pg**	**05 17 15.7**	**+0.3**
BZS	**Buzias**	**0.91**	**321**	*e*Pg	**Pg**	**05 17 16.4**	**+1.0**
BZS				S	**Sg**	**05 17 26.6**	**-0.6**
BZS				*e*Sg	**Sg**	**05 17 28.9**	**+1.7**
DEV	**Deva**	**1.03**	**18**	⇓*i* P	**Pg**	**05 17 17.9**	**+0.3**
DEV	**Deva**	**1.03**	**18**	⇓*i* P	**Pg**	**05 17 17.9**	**+0.3**
DEV				*i* S	**Sg**	**05 17 32.1**	**+1.2**
DEV	**Deva**	**1.03**	**18**	⇓*i* P	**Pg**	**05 17 17.9**	**+0.3**
DEV				S	**Sg**	**05 17 32.1**	**+1.2**
BANR	**Banloc**	**1.04**	**298**	S	**Sg**	**05 17 29.9**	**-1.2**
BANR	**Banloc**	**1.04**	**298**	*i* S	**Sg**	**05 17 29.9**	**-1.2**
BANR	**Banloc**	**1.04**	**298**	S	**Sg**	**05 17 29.9**	**-1.2**
LOT	**Lotru**	**1.08**	**60**	⇓*i* P	**Pg**	**05 17 17.8**	**-0.9**
LOT	**Lotru**	**1.08**	**60**	⇓*i* P	**Pg**	**05 17 17.8**	**-0.9**
LOT				*i* S	**Sg**	**05 17 33.9**	**+1.2**
LOT	**Lotru**	**1.08**	**60**	⇓*i* P	**Pg**	**05 17 17.8**	**-0.9**
LOT				S	**Sg**	**05 17 33.9**	**+1.2**
BOLS	**Boljevac**	**1.14**	**198**	*e*Pg	**Pg**	**05 17 17.7**	**-1.9**
BOLS				*e*Sg	**Sg**	**05 17 33.9**	**-0.4**
SIRR	**Siria**	**1.46**	**338**	⇑*i* P	**Pn**	**05 17 24.9**	**-0.4**
SIRR	**Siria**	**1.46**	**338**	⇑*i* P	**Pn**	**05 17 24.9**	**-0.4**
SIRR				*i* S	**Sg**	**05 17 44.8**	**-0.1**
SIRR	**Siria**	**1.46**	**338**	⇑*i* P	**Pn**	**05 17 24.9**	**-0.4**
GRUS	**Gruza**	**1.60**	**231**	*e*Sg	**Sg**	**05 17 49.8**	**+0.5**
GRUS	**Gruza**	**1.60**	**231**	*e*Sg	**Sg**	**05 17 49.8**	**+0.5**
TRUS	**Trudelj**	**1.61**	**245**	⇑*i* Pn	**Pn**	**05 17 26.3**	**-0.9**
TRUS				*e*Sg	**Sg**	**05 17 50.0**	**+0.6**
TRUS	**Trudelj**	**1.61**	**245**	⇑*i* Pn	**Pn**	**05 17 26.3**	**-0.9**
TRUS				*e*Sg	**Sg**	**05 17 50.0**	**+0.6**
ARR	**Arges**	**1.62**	**73**	S	**Sn**	**05 17 49.7**	**+0.7**
ARR	**Arges**	**1.62**	**73**	*i* S	**Sn**	**05 17 49.7**	**+0.7**
ARR	**Arges**	**1.62**	**73**	S	**Sn**	**05 17 49.7**	**+0.7**
ZAPS	**Zavoj**	**1.64**	**175**	*e*Pn	**Pn**	**05 17 28.2**	**+0.5**
ZAPS				*e*Sn	**Sn**	**05 17 49.3**	**-0.1**
MDB	**Medias**	**1.84**	**47**	⇑*i* P	**Pn**	**05 17 29.5**	**-0.9**
MDB	**Medias**	**1.84**	**47**	⇑*i* P	**Pn**	**05 17 29.5**	**-0.9**
MDB				*i* S	**Sn**	**05 17 54.6**	**+0.3**
MDB	**Medias**	**1.84**	**47**	⇑*i* P	**Pn**	**05 17 29.5**	**-0.9**
MDB				S	**Sn**	**05 17 54.6**	**+0.3**
DRGR		**1.89**	**6**	*e*Pn	**Pb**	**05 17 33.0**	**-0.1**
DRGR				*e*Sn	**Sn**	**05 17 57.1**	**+1.4**
DRGR		**1.89**	**6**	⇓*i* P	**Pn**	**05 17 30.3**	**-0.9**
DRGR		**1.89**	**6**	⇓*i* P	**Pn**	**05 17 30.3**	**-0.9**
DRGR				*i* S	**Sn**	**05 17 54.8**	**-0.9**
DRGR		**1.89**	**6**	⇓*i* P	**Pn**	**05 17 30.3**	**-0.9**
DRGR		**1.89**	**6**	*e*Pn	**Pb**	**05 17 33.0**	**-0.1**
DRGR				S	**Sn**	**05 17 54.8**	**-0.9**
DRGR				*e*Sn	**Sn**	**05 17 57.1**	**+1.4**
VOIR		**1.92**	**73**	⇑*i* P	**Pn**

IANJ	**Anjilo**	**0.53**	**188**	⇑	*e*Pg		**Pg**	**05 25 42.2**	**-0.1**
ISHM	**Shahmirzad**	**0.61**	**252**		*e*Pg		**Pg**	**05 25 43.5**	**-0.2**
ISHM					*e*Sg		**Sg**	**05 25 53.4**	**+1.6**
ISHM					*e*			05 25 55.1	
	comp=Z,67μm,0.1s								
IALA	**Alasht**	**0.97**	**275**	⇑	*e*Pg		**Pg**	**05 25 49.9**	**-0.7**
IALA					*e*			05 26 10.2	
	comp=Z,20μm,0.1s								
IALA	**Alasht**	**0.97**	**275**	⇑	*e*Pg		**Pg**	**05 25 49.9**	**-0.7**
ILAS	**Lasjerd**	**1.05**	**234**	⇑	*e*Pg		**Pg**	**05 25 51.5**	**-0.6**
ILAS					*e*			05 26 14.5	
	comp=Z,25μm,0.1s								
ILAS	**Lasjerd**	**1.05**	**234**	⇑	*e*Pg		**Pg**	**05 25 51.4**	**-0.6**
IFIR	**Firoozkooh**	**1.07**	**251**	⇑	*e*Pg		**Pg**	**05 25 51.8**	**-0.8**
IFIR					*e*			05 26 16.2	
	comp=Z,26μm,0.1s								
IFIR	**Firoozkooh**	**1.07**	**251**	⇑	*e*Pg		**Pg**	**05 25 51.8**	**-0.8**
IPRN	**Peran**	**1.37**	**281**		*e*Pn		**Pn**	**05 25 56.7**	**-0.5**
IPRN					*e*			05 26 02.7	
	comp=Z,15μm,0.2s								
SHRO	**Shahrood**	**1.63**	**90**		*e*Pg		**Pn**	**05 26 01.6**	**+0.9**
SHRO	**Shahrood**	**1.63**	**90**		*e*Pg		**Pn**	**05 26 01.6**	**+0.9**
IDMV	**Damavand**	**1.66**	**256**	⇓	*e*Pg		**Pn**	**05 26 02.2**	**+0.9**
IDMV	**Damavand**	**1.66**	**256**	⇓	*e*Pg		**Pn**	**05 26 02.2**	**+0.9**
DAMV	**Damavand**	**1.69**	**258**		*e*Pg		**Pn**	**05 26 02.6**	**+0.9**
DAMV					AML		AML	05 26 33.3	
	comp=N,616nm,0.5s								
DAMV	**Damavand**	**1.69**	**258**		*e*Pg		**Pn**	**05 26 02.6**	**+0.9**
	comp=N,617nm,0.5s								
IVRN	**Varamin**	**2.11**	**242**		*e*Sg		**Sb**	**05 26 38.0**	**+1.5**
IVRN					*e*Pn		**Pn**	**05 26 08.2**	**+0.9**
IVRN					*e*			05 26 40.5	
	comp=Z,23μm,0.2s								
IVRN	**Varamin**	**2.11**	**242**		*e*Pn		**Pn**	**05 26 08.2**	**+0.9**
IVRN					*e*Sg		**Sb**	**05 26 38.0**	**+1.5**
MRVT	**Maraveh tapeh**	**2.36**	**45**		*e*Pn		**Pn**	**05 26 12.4**	**+1.7**
MRVT					*e*Sg		**Sb**	**05 26 45.6**	**+1.9**
MRVT					AML		AML	05 26 55.1	
	comp=N,229nm,0.3s								
MRVT	**Maraveh tapeh**	**2.36**	**45**		*e*Pn		**Pn**	**05 26 12.4**	**+1.7**
MRVT					*e*Sg		**Sb**	**05 26 45.6**	**+1.9**
	comp=N,229nm,0.3s								
IR3	**Iran Long-Peri**	**2.48**	**259**		*e*Pn		**Pb**	**05 26 16.0**	**-0.6**
GHVR	**GHOM**	**2.68**	**236**		*e*Pn		**Pn**	**05 26 17.3**	**+2.1**
GHVR	**GHOM**	**2.68**	**236**		*e*Pn		**Pn**	**05 26 17.3**	**+2.1**
IMHD	**Mahdasht**	**2.73**	**264**		*e*Pn		**Pn**	**05 26 18.4**	**+2.6**
IMHD					*e*			05 27 04.6	
	comp=Z,2μm,0.1s								
IMHD	**Mahdasht**	**2.73**	**264**		*e*Pn		**Pn**	**05 26 18.4**	**+2.6**
IGZV	**Ghazvin**	**3.08**	**278**		*e*Pn		Pn	05 26 24.2	+3.3
IGZV	**Ghazvin**	**3.08**	**278**		*e*Pn		Pn	05 26 24.2	+3.3
NASN	**Na'in**	**3.34**	**198**		*e*Pn		**Pn**	**05 26 25.3**	**+0.8**
NASN	**Na'in**	**3.34**	**198**		*e*Pn		**Pn**	**05 26 25.3**	**+0.8**
IRAZ	**Razeghan**	**3.37**	**261**		*e*Pn		**Pn**	**05 26 26.6**	**+1.9**
IRAZ					*e*			05 27 35.5	
	comp=Z,2μm,0.2s								
IRAZ	**Razeghan**	**3.37**	**261**		*e*Pn		Pn	05 26 26.6	+1.9
TABS	**Tabas**	**3.47**	**132**		*e*Pn		**Pn**	**05 26 27.5**	**+1.4**
TABS	**Tabas**	**3.47**	**132**		*e*Pn		Pn	05 26 27.5	+1.4
ASAO	**Ashtian**	**3.56**	**247**		*e*Pn		**Pn**	**05 26 29.2**	**+1.8**
ASAO	**Ashtian**	**3.56**	**247**		*e*Pn		Pn	05 26 29.2	+1.8
LKRN	**Lenkeran, Azer**	**4.96**	**305**	⇓	P		**Pn**	**05 26 47.7**	**+1.2**
LKRN				⇓	S		**Sn**	**05 27 43.0**	**-0.9**
LKRN	**Lenkeran, Azer**	**4.96**	**305**		P		**Pn**	**05 26 47.7**	**+1.2**
LKRN					S		**Sn**	**05 27 43.0**	**-0.9**
LRK	**Lerik**	**5.23**	**302**	⇓	P		**Pn**	**05 26 51.8**	**+1.5**
LRK				⇓	S		**Sn**	**05 27 51.1**	**+0.4**
LRK	**Lerik**	**5.23**	**302**		P		**Pn**	**05 26 51.8**	**+1.5**
LRK					S		**Sn**	**05 27 51.1**	**+0.4**
GLBA	**Clilabad**	**5.50**	**308**	⇑	P		**Pn**	**05 26 55.5**	**+1.6**
GLBA				⇑	S		**Sn**	**05 27 57.0**	**-0.3**
GLBA	**Clilabad**	**5.50**	**308**		P		**Pn**	**05 26 55.5**	**+1.6**
GLBA					S		**Sn**	**05 27 57.0**	**-0.3**
GRMI	**Germi**	**5.61**	**302**		*e*Pn		**Pn**	**05 26 57.3**	**+1.8**
GRMI	**Germi**	**5.61**	**302**		*e*Pn		**Pn**	**05 26 57.3**	**+1.8**
SHRT	**Shahrakht**	**5.68**	**113**		*e*Pn		**Pn**	**05 26 58.0**	**+1.6**
SHRT	**Shahrakht**	**5.68**	**113**		*e*Pn		**Pn**	**05 26 58.0**	**+1.6**
AB31	**Akbulak array**	**13.95**	**16**	⇑	P		**Pn**	**05 28 48.0**	**-1.5**
	comp=Z,1.3nm,0.6s,baz=188,slow=12,SNR=13								
AB31				⇓	S		Sn	05 31 13.2	-11
	comp=Z,0.4nm,0.4s,baz=167,slow=26								
AB31	**Akbulak array**	**13.95**	**16**		P		**Pn**	**05 28 48.0**	**-1.5**
	comp=Z,1.3nm,0.6s,SNR=13								
AB31					S		Sn	05 31 13.2	-11
	comp=Z,0.4nm,0.4s								
AKTO	**Aktyubinsk**	**14.72**	**10**	⇑	P		**Pn**	**05 28 58.5**	**-1.6**
	comp=Z,5.6nm,0.5s								
AKTO				⇑	S		Sn	05 31 34.6	-8.6
	comp=Z,3.2nm,0.8s								
AKTO	**Aktyubinsk**	**14.72**	**10**		P		**Pn**	**05 28 58.5**	**-1.6**
	comp=Z,5.6nm,0.5s								
AKTO					S		Sn	05 31 34.6	-8.6
	comp=Z,3.2nm,0.8s								
BVA0	**Borovoye Array**	**20.57**	**29**	⇓	P		**P**	**05 30 08.7**	**-1.9**
	comp=Z,2.5nm,0.7s,baz=243,slow=43,SNR=17								
BVA0	**Borovoye Array**	**20.57**	**29**		P		**P**	**05 30 08.7**	**-1.9**
	comp=Z,2.5nm,0.7s,SNR=17								

MEX 26 05:29:07.7±1.2, 16.72N×99.94W, h15km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACP2	**Acapulco**	**0.16**	**19**	*e*P	Pg	05 29 10.2	-1.6
ACP2				*e*S	Sg	05 29 13.2	-1.3
ACX	**Acapulco**	**0.17**	**29**	*e*P	Pg	05 29 10.6	-1.4
ACX				*e*S	Sg	05 29 13.4	-1.3
CAIG	**El Cayaco**	**0.45**	**316**	*e*P	Pg	05 29 15.0	-1.7
CAIG				*e*S	Sg	05 29 21.8	-1.0
MEIG	**Mezcala**	**1.24**	**14**	*e*P	Pn	05 29 26.8	-3.8
MEIG				*e*S	Sb	05 29 42.4	-4.4
TLIG	**Tlapa**	**1.56**	**57**	*e*P	Pn	05 29 30.9	-4.1
TLIG				*e*S	Sn	05 29 51.8	-3.4
ARIG	**Puente Sto Nin**	**1.60**	**346**	*e*P	Pn	05 29 33.1	-2.4
ARIG				*e*S	Sn	05 29 54.1	-1.8
PLIG	**Platanillo**	**1.71**	**14**	*e*P	Pn	05 29 35.0	-2.2
PLIG				*e*S	Sn	05 29 57.2	-1.8

GUC 26 05:39:19.8±0.4, 34.96S×71.78W, h44km±1km, ML3.8, 1C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.45**	**165**	⇑*i*P	Pn	05 39 30.5	+0.4
TALC				*i* S	Sn	05 39 38.2	+0.7
NICH	**Los Niches**	**0.45**	**95**	⇓*i*P	Pn	05 39 30.4	+0.2
NICH				*i* S	Sn	05 39 38.2	+0.7
LNCH	**Linares**	**0.90**	**171**	⇓*i*P	Pn	05 39 35.9	-0.1
LNCH				*i* S	Sn	05 39 48.6	+0.7
LNV	**Longovilo**	**1.05**	**17**	*i* P	Pn	05 39 38.8	+0.7
LNV				*i* S	Sn	05 39 53.2	+1.6
CHCH	**Chadas Angostu**	**1.39**	**43**	⇓*i*P	Pn	05 39 43.3	+0.6
CHCH				*i* S	Sn	05 40 01.5	+1.6
TACH	**Talagante**	**1.48**	**28**	*e*P	Pn	05 39 44.5	+0.5
TACH				*i* S	Sn	05 40 03.6	+1.4
PCH	**Pirque**	**1.70**	**38**	*i* P	Pn	05 39 47.8	+0.7
PCH				*i* S	Sn	05 40 09.7	+1.9
SAN	**Santiago**	**1.77**	**32**	*i* P	Pn	05 39 48.6	+0.6
SAN				*i* S	Sn	05 40 10.7	+1.4
SJCH	**San Jose de Ma**	**1.77**	**42**	*i* P	Pn	05 39 47.8	-0.3
SJCH				*i* S	Sn	05 40 09.8	+0.3
CLCH	**Cerro Calan**	**1.87**	**34**	*e*P	Pn	05 39 50.3	+0.8
CLCH				*i* S	Sn	05 40 13.4	+1.5
CLCH				AML	AML	05 40 18.4	
	comp=N,936nm,0.3s						
PEL	**Peldehue**	**2.03**	**27**	*e*P	Pn	05 39 52.3	+0.7
PEL				*i* S	Sn	05 40 17.1	+1.3
PEL				AML	AML	05 40 25.8	
	comp=E,1μm,0.3s						
ROCH	**El Roble**	**2.08**	**18**	AML	AML	05 40 24.8	
	comp=N,984nm,0.4s						

*ISCJB **26** 05:58:02.2±0.3, 31.52S±0.03×68.75W±0.04, h113km±3km, mb3.8/7, Error ellipse: s-maj=5.6km s-min=5.0km az=12.8*
*IDC **26** 05:58:02.9±0.8, 31.55S×68.65W, h104km±5km, mb3.6/7, mb1 3.8/10, mb1mx3.6/20, mbtmp4.0/10, Error ellipse: s-maj=23.8km s-min=15.4km az=80.0*
*SJA **26** 05:58:02.8±1.0, 31.57S×68.74W, h103km±4km, ML3.9*
ISC 26 05:58:02.9±0.6, 31.52S±0.04×68.76W±0.04, h106km±4km, n34, σ0.978/54, mb3.7/7, 1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJA	**San Juan**	**0.17**	**92**	*i* P	**Pn**	**05 58 18.2**	**+0.3**
SJA				*i* S	**Sn**	**05 58 28.5**	**-0.6**
SJA				AML	AML	05 58 38.6	
	comp=Z,3μm,0.5s						
RTLL	**Cerro Villicun**	**0.31**	**52**	*i* P	**Pn**	**05 58 18.5**	**+0.1**
RTLL				*i* S	**Sn**	**05 58 30.6**	**+0.7**
RTCV	**Cerro Valdivia**	**0.39**	**151**	*i* P	**Pn**	**05 58 19.0**	**+0.2**
RTCV				*i* S	**Sn**	**05 58 30.2**	**-0.5**
CFAA	**Coronel Fontan**	**0.46**	**101**	P	**Pn**	**05 58 19.2**	**0.0**
	comp=Z,20nm,0.3s,baz=282,slow=5.1,SNR=2793						
CFAA				S	**Sn**	**05 58 31.6**	**+0.3**
	comp=Z,141nm,0.3s,baz=155,slow=19,SNR=408						
CFAA	**Coronel Fontan**	**0.46**	**101**	*i* P	**Pn**	**05 58 19.5**	**+0.4**
CFAA				*i* S	**Sn**	**05 58 31.4**	**+0.1**
RTLS	**Leoncito**	**0.54**	**238**	*i* P	**Pn**	**05 58 20.3**	**+0.4**
RTLS				*i* S	**Sn**	**05 58 34.2**	**+1.5**
AMOG	**MOGNA**	**0.62**	**22**	*i* P	**Pn**	**05 58 21.1**	**+0.7**
AUSP	**Uspallata**	**0.88**	**217**	*i* P	**Pn**	**05 58 23.2**	**+0.3**
AUSP				*i* S	**Sn**	**05 58 38.0**	**0.0**
ARCO	**CERRO ARCO**	**1.33**	**186**	*i* P	**Pn**	**05 58 28.0**	**+0.4**
ARCO				*i* S	**Sn**	**05 58 46.7**	**+0.3**
ARCO				AML	AML	05 58 48.5	
	comp=Z,2μm,0.8s						
AVFE	**Valle Fertil**	**1.41**	**53**	*i* P	**Pn**	**05 58 29.3**	**+0.8**
AVFE				*i* S	**Sn**	**05 58 49.0**	**+1.0**
AVFE				AML	AML	05 58 51.7	
	comp=Z,965nm,0.5s						
ACAN	**Cantantal**	**1.54**	**120**	*i* P	**Pn**	**05 58 30.7**	**+0.7**
ACAN				*i* S	**Sn**	**05 58 50.1**	**-0.5**
AAGR	**Agrelo**	**1.56**	**182**	*i* P	**Pn**	**05 58 30.6**	**+0.1**
TLL	**Tololo Astrono**	**2.21**	**307**	*i* P	**Pn**	**05 58 39.5**	**+0.8**
TLL				*i* S	**Sn**	**05 59 08.0**	**+1.8**
APLL	**PUNTA DE LOS L**	**2.22**	**60**	*i* P	**Pn**	**05 58 39.5**	**+0.9**
APLL				*i* P	**Pn**	**05 58 39.5**	**+0.9**
PEL	**Peldehue**	**2.30**	**225**	*i* P	**Pn**	**05 58 40.0**	**+0.3**
PEL				*e*S	**Sn**	**05 59 08.5**	**+0.7**
CLCH	**Cerro Calan**	**2.40**	**218**	*i* P	**Pn**	**05 58 41.9**	**+1.0**
CLCH				*i* S	**Sn**	**05 59 11.9**	**+1.8**
LSCH	**La Serena**	**2.67**	**306**	⇓*i*P	**Pn**	**05 58 44.2**	**-0.3**
LSCH				*i* S	**Sn**	**05 59 15.7**	**-0.7**
CHCH	**Chadas Angostu**	**2.89**	**213**	*i* P	**Pn**	**05 58 48.0**	**+0.7**
LNV	**Longovilo**	**3.30**	**222**	*i* P	**Pn**	**05 58 51.4**	**-1.4**
VACH	**Vallenar**	**3.41**	**329**	*i* P	**Pn**	**05 58 54.3**	**0.0**
VACH				*i* S	**Sn**	**05 59 33.7**	**-0.3**
LVC	**Limon Verde**	**8.87**	**359**	P	**Pn**	**06 00 06.4**	**-2.1**
	comp=Z,73nm,0.3s,baz=182,slow=7.2,SNR=18						
PLCA	**Paso Flores**	**9.31**	**188**	P	**Pn**	**06 00 13.0**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=15,slow=14,SNR=2.6						
LPAZ	**La Paz**	**15.17**	**2**	P	**Pn**	**06 01 32.1**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=209,slow=8.1,SNR=16						
USHA	**Ushuaia**	**23.30**	**180**	P	**P**	**06 03 00.0**	**-1.2**
	comp=Z,20nm,0.9s,baz=333,slow=10.0,SNR=7.5						
SNAA	**Sanae**	**52.86**	**159**	P	**P**	**06 07 07.4**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=328,slow=7.5,SNR=5.4						
VNDA	**Vanda**	**67.05**	**191**	P	**P**	**06 08 45.0**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=124,slow=5.5,SNR=4.0						
TXAR	**Lajitas Array**	**69.02**	**328**	P	**P**	**06 08 57.3**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=152,slow=8.1,SNR=3.8						
BOSA	**Boshof**	**78.74**	**117**	P	**P**	**06 09 54.0**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=230,slow=13,SNR=2.6						
TORD	**Torodi Ar. Bea**	**80.75**	**68**	P	**P**	**06 10 04.8**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=281,slow=6.5,SNR=15						
TORD				pP	**pP**	**06 10 31.5**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=282,slow=5.6,SNR=2.7						
NVAR	**Mina Array Bea**	**83.50**	**323**	P	**P**	**06 10 20.0**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=108,slow=2.9,SNR=2.3						
WRA	**Warramunga Arr**	**124.24**	**207**	PKP	**PKPdf**	**06 16 49.0**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=174,slow=1.9,SNR=12						
KURBB	**Kurchatov Arra**	**149.18**	**42**	PKPbc	**PKPbc**	**06 17 38.2**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=297,slow=3.1,SNR=7.4						
KURBB				pPKPbc	**pPKPbc**	**06 18 07.7**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=301,slow=3.3,SNR=3.3						
ZALV	**Zalesovo Beam**	**150.66**	**32**	PKPbc	**PKPbc**	**06 17 42.2**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=295,slow=3.6,SNR=7.2						
ZALV				pPKPbc	**pPKPbc**	**06 18 11.1**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=275,slow=3.7,SNR=2.5						
MKAR	**Makanchi Array**	**153.06**	**47**	PKPbc	**PKPbc**	**06 17 47.7**	**0.0**
	comp=Z,0.4nm,0.7s,baz=284,slow=1.4,SNR=4.3						
MKAR				PKPab	**PKPab**	**06 17 59.6**	**0.0**
	comp=Z,0.6nm,0.7s,baz=197,slow=1.3,SNR=6.0						

*ISCJB **26** 06:08:17.8±2.8, 34.88S±0.06×72.75W±0.08, h12km±20km, mb3.6/2, Error ellipse: s-maj=12.7km s-min=8.6km az=142.8*
*IDC **26** 06:08:17.8±1.6, 34.77S×72.49W, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.7/18, mbtmp3.6/4, ML3.6/2, MS3.1/1, Ms1 3.1/1, ms1mx2.8/14, Error ellipse: s-maj=59.5km s-min=31.2km az=73.0*
*GUC **26** 06:08:20.4±0.3, 34.87S×72.51W, h21km±1km, ML4.1*
ISC 26 06:08:18.5±2.1, 34.81S±0.05×72.52W±0.09, h5km±13km, n9, σ0.963/14, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.93**	**129**	*i* P	**Pb**	**06 08 37.4**	**+0.2**
TALC				*i* S	**Sb**	**06 08 50.4**	**+0.5**
TALC				AML	AML	06 08 55.6	
	comp=E,15μm,0.4s						
NICH	**Los Niches**	**1.07**	**101**	*e*P	**Pn**	**06 08 40.3**	**0.0**
NICH				*e*S	**Sn**	**06 08 55.5**	**-0.2**
NICH				AML	AML	06 09 03.9	
	comp=E,8μm,0.4s						
LNCH	**Linares**	**1.28**	**145**	*i* P	**Pg**	**06 08 43.0**	**-0.1**
LNCH				*e*S	**Sn**	**06 09 00.1**	**-0.6**
CLCH	**Cerro Calan**	**2.16**	**50**	*i* P	**Pb**	**06 08 58.4**	**+0.2**
CLCH				*i* S	**Sg**	**06 09 27.4**	**-0.6**
CLCH				AML	AML	06 09 37.1	
	comp=N,2μm,0.7s						
PEL	**Peldehue**	**2.25**	**43**	*e*P	**Pb**	**06 08 59.6**	**-0.1**
PEL				*e*S	**Sb**	**06 09 29.4**	**+1.5**
PEL				AML	AML	06 09 37.0	
	comp=E,1μm,0.6s						
PLCA	**Paso Flores**	**6.12**	**166**	Pn	**Pn**	**06 09 50.4**	**+0.7**
	comp=E,0.4nm,0.3s,baz=340,slow=10.0,SNR=16						
PLCA				Lg	Lg	06 11 25.7	
	comp=E,1.0nm,0.3s,baz=73,slow=22,SNR=2.9						
PLCA				LR	LR	06 12 33.0	
	comp=E,172nm,18.9s,baz=287,slow=42						
LPAZ	**La Paz**	**18.86**	**13**	P	**P**	**06 12 40.1**	**-0.1**
	comp=E,0.1nm,0.3s,baz=188,slow=8.2,SNR=7.8						
TXAR	**Lajitas Array**	**70.25**	**331**	P	**P**	**06 19 32.7**	**-0.1**
	comp=E,0.5nm,0.6s,baz=152,slow=7.9,SNR=7.7						
TORD	**Torodi Ar. Bea**	**84.85**	**70**	P	**P**	**06 20 54.3**	**-0.4**
	comp=E,0.3nm,0.6s,baz=250,slow=4.3,SNR=3.9						

*IDC **26** 06:08:07.3±45.0, 2.39N×122.94E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.4/30, mbtmp3.8/3, Error ellipse: s-maj=756.5km s-min=261.1km az=153.0*
*ISCJB **26** 06:08:19.9±1.6, 0.6N±0.1×120.36E±0.06, h47km, mb3.6/3, Error ellipse: s-maj=15.5km s-min=8.1km az=162.4*
*DJA **26** 06:08:20.6±0.5, 1.1°N±8°×12.1°E±°, h36km±15km, M3.7/6, MLv3.7/6*
ISC 26 06:08:20.0±1.8, 0.6N±0.1×120.37E±0.06, h47km, n8, σ2.502/11, mb3.7/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MPSI	**Mapaga**	**0.53**	**243**	P	**Pn**	**06 08 33.2**	**+1.8**
PCI	**Palu**	**1.57**	**200**	P	**Pn**	**06 08 45.3**	**-0.1**
PCI				S	**Sn**	**06 09 05.4**	**+0.9**
MRSI	**Marisa**	**1.58**	**94**	P	**Pn**	**06 08 46.0**	**+0.5**
MRSI				S	**Sn**	**06 09 05.5**	**+0.8**
APSI	**Ampana**	**1.96**	**139**	P	**Pn**	**06 08 51.2**	**+0.5**
APSI				S	**Sn**	**06 09 15.4**	**+1.3**
LUWI	**Luwuk**	**2.89**	**124**	P	**Pn**	**06 09 04.8**	**+1.2**
LUWI				S	**Sn**	**06 09 39.5**	**+2.4**
WRA	**Warramunga Arr**	**24.57**	**147**	P	**P**	**06 13 31.6**	**-4.0**
	1.4nm,0.6s,baz=336,slow=9.2,SNR=28						
ASAR	**Alice Springs**	**27.46**	**152**	P	**P**	**06 14 00.3**	**-1.5**
	0.5nm,0.4s,baz=343,slow=15,SNR=8.5						
STKA	**Stephens Creek**	**38.03**	**150**	P	P	06 15 30.4	-3.4
	1.2nm,0.6s,baz=337,slow=13,SNR=2.9						

*ISCJB **26** 06:09:09.9±0.9, 1.74S±0.08×99.48E±0.07, h30km, mb3.7/4, MS3.0/2, Error ellipse: s-maj=12.0km s-min=8.3km az=31.9*

*IDC **26** 06:09:09.8±3.1, 1.37S×100.23E, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.6/29, mbtmp3.7/6, ML3.9/2, MS3.2/2, Ms1 3.3/2, ms1mx2.7/30, Error ellipse: s-maj=139.3km s-min=24.8km az=56.0*
*NEIC **26** 06:09:09.3±0.9, 1.69S×99.72E, h10km, mb4.4/1, Error ellipse: s-maj=18.3km s-min=8.6km az=223.0*
NEIC Felt [II] on Siberut.
*DJA **26** 06:09:14.1±1.2, 1°S±6°×9°9E±°, h12km±7km, M3.8/6, MLv3.8/6*
ISC 26 06:09:11.2±1.1, 1.68S±0.10×99.57E±0.07, h30km, n25, σ1.942/20, mb3.8/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**1.18**	**49**	P	**Pb**	**06 09 32.5**	**-0.5**
PDSI				S	**Sb**	**06 09 48.0**	**+0.2**
SDSI	**Sungai Dareh**	**2.00**	**68**	P	**Pb**	**06 09 47.0**	**0.0**
SDSI				S	**Sb**	**06 10 14.9**	**+3.4**
MNSI	**Mandailing Nat**	**2.46**	**0**	P	**Pn**	**06 09 51.6**	**+2.3**
BKNI	**Bangkinang**	**2.48**	**36**	P	**Pb**	**06 09 53.7**	**-1.4**
BKNI				S	Sb	06 10 35.3	+10
GSI	**Gunungsitoli**	**3.57**	**326**	P	**Pn**	**06 10 05.5**	**+0.8**
GSI				S	**Sn**	**06 10 44.9**	**-1.0**
GSI	**Gunungsitoli**	**3.57**	**326**	*e*Pn	**Pn**	**06 10 05.6**	**+1.0**
PSI	**Prapat**	**4.50**	**352**	Pn	**Pn**	**06 10 17.4**	**-0.1**
	1.4nm,0.3s,baz=309,slow=18,SNR=11						
KULM	**Kulim**	**7.01**	**9**	*e*Pn	**Pn**	**06 10 52.0**	**+0.2**
KSM	**Kuching**	**11.19**	**74**	Pn	**Pn**	**06 11 47.2**	**-2.0**
KKM	**Kota Kinabalu**	**18.31**	**65**	Pn	**P**	**06 13 22.0**	**-1.1**
CMAR	**Chiang Mai Arr**	**20.02**	**358**	P	**P**	**06 13 41.9**	**0.0**
	0.4nm,0.3s,baz=187,slow=10.0,SNR=5.6						
CMAR				LR	LR	06 22 33.0	
	comp=Z,38nm,19.7s,baz=195,slow=41						
KAPI	**Kappang**	**20.41**	**100**	P	**P**	**06 13 45.1**	**-1.1**
	5.3nm,1.1s						
H08S2	**Diego Garcia H**	**27.62**	**257**	T	T	06 43 19.3	
	baz=79,slow=76,SNR=117						
H08S3	**Diego Garcia H**	**27.62**	**257**	T	T	06 43 27.0	
	baz=79,slow=76,SNR=103						
H08S1	**Diego Carcia H**	**27.64**	**257**	T	T	06 43 20.7	
	baz=79,slow=76,SNR=64						
H01W3	**Cape Leeuwin H**	**35.71**	**159**	T	T	06 53 54.0	
	baz=336,slow=76,SNR=19						
H01W2	**Cape Leeuwin H**	**35.73**	**159**	T	T	06 53 53.5	
	baz=336,slow=76,SNR=24						
H01W1	**Cape Leeuwin H**	**35.73**	**159**	T	T	06 53 52.8	
	baz=336,slow=76,SNR=19						
WRA	**Warramunga Arr**	**38.52**	**121**	P	**P**	**06 16 31.4**	**0.0**
	0.2nm,0.5s,baz=302,slow=9.3,SNR=5.1						
WRA				LR	LR	06 33 59.9	
	comp=Z,55nm,20.9s,baz=205,slow=39						
WRAB	**Tennant Creek**	**38.53**	**121**	*e*P	**P**	**06 16 31.9**	**+0.5**
MKAR	**Makanchi Array**	**50.61**	**345**	P	**P**	**06 18 09.8**	**+2.4**
	0.8nm,0.5s,baz=148,slow=7.7,SNR=10						
KURBB	**Kurchatov Arra**	**55.13**	**344**	P	P	06 18 44.0	+3.3
	0.3nm,0.5s,baz=157,slow=7.3,SNR=4.5						
KURK	**Kurchatov**	**55.19**	**344**	P	P	06 18 44.0	+2.9
ZALV	**Zalesovo Beam**	**56.78**	**350**	P	**P**	**06 18 52.5**	**+0.1**
	0.7nm,0.3s,baz=180,slow=4.3,SNR=3.0						
TXAR	**Lajitas Array**	**144.71**	**37**	PKP	**PKPdf**	**06 28 46.0**	**0.0**
	0.5nm,0.5s,baz=226,slow=0.8,SNR=16						

MEX 26 06:14:22.1±0.6, 17.11N×101.19W, h12km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.56**

STKA	**Stephens Creek**	**34.98**	**135**	P		**P**	**06 32 12.6**	**+2.3**
	3.3nm,0.4s,baz=313,slow=8.4,SNR=14							
MJAR	**Matsushiro Art**	**50.86**	**26**	P		**P**	**06 34 15.9**	**-2.3**
	4.1nm,0.9s,baz=199,slow=8.5,SNR=6.4							
USRK	**Ussuriysk Ar.**	**55.43**	**16**	P		**P**	**06 34 50.9**	**-0.5**
	4.7nm,0.7s,baz=172,slow=3.6,SNR=8.2							
SONM	**Songino Array**	**56.70**	**355**	P		**P**	**06 35 00.3**	**-0.2**
	0.7nm,0.3s,baz=167,slow=8.9,SNR=3.7							
MKAR	**Makanchi Array**	**61.80**	**336**	P		**P**	**06 35 35.0**	**-0.6**
	1.2nm,0.3s,baz=146,slow=7.7,SNR=15							
TKM2	**Tokmak 2**	**61.81**	**329**	*eP*		**P**	**06 35 35.1**	**-0.9**
	2.7nm,0.8s							
ZALV	**Zalesovo Beam**	**66.94**	**342**	P		**P**	**06 36 08.1**	**-0.8**
	2.2nm,0.6s,baz=155,slow=5.5,SNR=7.5							

MEX 26 06:38:03.8±0.6, 18°30N×100°14W, h58km±11km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.19**	**264**	*eP*	Pn	06 38 11.4	-1.6
ARIG				*eS*	Sn	06 38 17.9	-1.9
PLIG	**Platanillo**	**0.62**	**81**	*eP*	Pn	06 38 15.6	-1.5
PLIG				*eS*	Sn	06 38 25.1	-1.7
MEIG	**Mezcala**	**0.62**	**127**	*eP*	Pn	06 38 15.7	-1.4
MEIG				*eS*	Sn	06 38 25.3	-1.6
TLIG	**Tlapa**	**1.67**	**116**	*eP*	Pn	06 38 30.5	-0.5
TLIG				*eS*	Sn	06 38 46.5	-5.0

*IDC **26** 06:41:54.9±4.3, 35°20N×141°61E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/28, mbtmp3.4/4, ML2.9/1, MS2.9/2, Ms1 3.0/2, ms1mx2.5/37, Error ellipse: s-maj=133.5km s-min=27.1km az=58.0*
*ISCJB **26** 06:41:57.3±1.1, 35°09N±0°06×141°5E±0°1, h27km, mb3.6/3, MS3.3/1, Error ellipse: s-maj=12.6km s-min=8.4km az=23.4*
*JMA **26** 06:41:58.3±0.3, 35°09N×141°42E, h37km±4km, M2.6*
ISC 26 06:41:59.7±1.5, 35°10N±0°06×141°4E±0°1, h27km, n18, σ0s86/12, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.54**	**214**	P	**Pb**	**06 42 09.7**	**-0.6**
BSO1				*eS*	**Sb**	**06 42 18.4**	**+0.9**
CHOJ	**Chosi**	**0.72**	**326**	P	**Pb**	**06 42 12.6**	**-1.0**
BSO3	**Boso 3**	**0.75**	**247**	P	**Pb**	**06 42 13.1**	**-0.9**
BSO3				*eS*	**Sn**	**06 42 25.2**	**+0.6**
BSO4	**Boso 4**	**0.83**	**263**	P	**Pb**	**06 42 15.3**	**-0.2**
JYT	**Yasato**	**1.46**	**320**	P	**Pn**	**06 42 24.7**	**+0.4**
JIM2	**Oshima 3**	**1.62**	**257**	P	**Pn**	**06 42 25.3**	**-1.2**
MJAR	**Matsushiro Arr**	**2.93**	**300**	Pn	**Pn**	**06 42 45.4**	**+0.9**
	1.4nm,0.3s,baz=116,slow=9.9,SNR=7.2						
ASAJ	**Asahikawa**	**9.05**	**6**	LR	LR	06 48 05.0	
	comp=Z,32nm,18.0s,baz=85,slow=41						
H11N2	**WAKE ISLAND Hy**	**27.26**	**117**	T	T	07 16 17.5	
	baz=309,slow=75,SNR=6.2						
H11N1	**WAKE ISLAND Hy**	**27.26**	**118**	T	T	07 16 23.2	
	baz=309,slow=75,SNR=4.6						
H11N3	**WAKE ISLAND Hy**	**27.27**	**117**	T	T	07 16 27.9	
	baz=309,slow=75,SNR=5.3						
H11S3	**WAKE ISLAND Hy**	**27.90**	**120**	T	T	07 17 07.5	
	baz=312,slow=76,SNR=7.5						
H11S1	**WAKE ISLAND Hy**	**27.90**	**120**	T	T	07 17 12.0	
	baz=312,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**27.92**	**120**	T	T	07 17 03.5	
	baz=312,slow=76,SNR=7.0						
MKAR	**Makanchi Array**	**45.12**	**304**	P	**P**	**06 50 13.3**	**-0.3**
	0.4nm,0.7s,baz=87,slow=9.2,SNR=4.7						
WRA	**Warramunga Arr**	**55.15**	**188**	P	**P**	**06 51 29.7**	**-0.1**
	1.3nm,0.7s,baz=4.7,slow=7.5,SNR=19						
ASAR	**Alice Springs**	**58.87**	**188**	P	**P**	**06 51 56.9**	**+0.8**
	0.2nm,0.5s,baz=11,slow=11,SNR=4.4						
NOA	**NORSAR Array B**	**75.94**	**337**	LR	LR	07 30 05.3	
	comp=Z,14nm,19.3s,baz=75,slow=38						

*GUC **26** 06:46:11.4±0.6, 33°66S×71°20W, h57km±5km, ML3.8*
*ISCJB **26** 06:46:12.1±0.6, 33°71S±0°03×71°23W±0°06, h40km±12km, Error ellipse: s-maj=8.5km s-min=4.4km az=30.6*
*SJA **26** 06:46:12.3±1.3, 33°80S×70°96W, h116km±39km, ML3.3*
ISC 26 06:46:11.6±1.2, 33°69S±0°03×71°24W±0°04, h28km±11km, n25, σ0s95/40, 7C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	**Talagante**	**0.26**	**82**	*i*P	**Pn**	**06 46 20.5**	**+0.9**
LNV	**Longovilo**	**0.30**	**208**	*e*P	**Pn**	**06 46 21.0**	**+0.9**
SAN	**Santiago**	**0.54**	**64**	*i*P	**Pb**	**06 46 23.1**	**+0.4**
SAN				*e*S	**Sn**	**06 46 31.6**	**0.0**
CHCH	**Chadas Angostu**	**0.55**	**116**	*i*P	**Pb**	**06 46 23.3**	**+0.5**
PCH	**Pirque**	**0.61**	**84**	*e*P	**Pb**	**06 46 23.9**	**0.0**
PCH				*i* S	**Sb**	**06 46 32.8**	**+0.6**
LACH	**Col Las Americ**	**0.64**	**68**	*e*P	**Pb**	**06 46 23.8**	**-0.5**
LACH				*e*S	**Sb**	**06 46 33.5**	**+0.6**
CLCH	**Cerro Calan**	**0.66**	**64**	*e*P	**Pb**	**06 46 24.7**	**+0.1**
CLCH				*e*S	**Sn**	**06 46 34.4**	**-0.1**
CLCH				AML	AML	06 46 35.5	
	comp=E,8μm,0.5s						
PEL	**Peldehue**	**0.72**	**41**	*e*P	**Pb**	**06 46 25.4**	**-0.2**
PEL				*e*S	**Sb**	**06 46 35.6**	**+0.5**
PEL				AML	AML	06 46 40.3	
	comp=N,6μm,0.7s						
SJCH	**San Jose de Ma**	**0.74**	**86**	*e*P	**Pb**	**06 46 24.7**	**-1.4**
SJCH				*e*S	**Sb**	**06 46 35.3**	**-0.6**
IHA	**Instituto Hidr**	**0.74**	**333**	*e*P	**Pb**	**06 46 25.5**	**-0.5**
ROCH	**El Roble**	**0.74**	**15**	*e*P	**Pb**	**06 46 26.0**	**-0.2**
ROCH				*e*S	**Sn**	**06 46 36.8**	**-0.1**
YECH	**El Yeso**	**0.97**	**89**	*e*P	**Pn**	**06 46 29.0**	**-0.6**
YECH				*e*S	**Sn**	**06 46 41.9**	**-0.6**
NICH	**Los Niches**	**1.31**	**180**	*e*P	**Pn**	**06 46 33.9**	**-0.1**
NICH				*e*S	**Sn**	**06 46 50.7**	**+0.2**
TALC	**Talca**	**1.73**	**191**	*e*P	**Pn**	**06 46 40.2**	**+0.4**
TALC				*e*S	**Sn**	**06 47 01.6**	**+0.6**
AAGR	**Agrelo**	**2.11**	**74**	*i*P	**Pn**	**06 46 46.3**	**+1.2**
AAGR				*i* S	**Sn**	**06 47 09.9**	**-0.5**
ARCO	**CERRO ARCO**	**2.11**	**67**	*i*P	**Pn**	**06 46 46.8**	**+1.6**
ARCO				AML	AML	06 47 06.7	
	comp=Z,105nm,0.4s						
ARCO				*i* S	**Sn**	**06 47 11.0**	**+0.4**
AUSP	**Uspallata**	**2.14**	**47**	*i*P	**Pn**	**06 46 47.1**	**+1.4**
AUSP				*i* S	**Sb**	**06 47 14.6**	**-1.5**
LNCH	**Linares**	**2.17**	**188**	*e*P	**Pn**	**06 46 45.8**	**0.0**
RTLS	**Leoncito**	**2.50**	**42**	*i*P	**Pn**	**06 46 52.9**	**+2.3**
RTLS				*i* S	**Sb**	**06 47 23.7**	**-2.8**
RTCV	**Cerro Valdivia**	**2.92**	**52**	*i*P	**Pn**	**06 46 57.4**	**+1.2**
CFAA	**Coronel Fontan**	**3.28**	**51**	*i*P	**Pn**	**06 47 01.7**	**+0.5**
CFAA				*i*P	**Pn**	**06 47 01.7**	**+0.5**
RTLL	**Cerro Villicun**	**3.32**	**46**	*i*P	**Pn**	**06 47 02.8**	**+1.1**
AMOG	**MOGNA**	**3.60**	**41**	*i*P	**Pn**	**06 47 06.2**	**+0.6**
ACAN	**Cantantal**	**3.69**	**69**	*i*P	**Pn**	**06 47 07.2**	**+0.5**
AVFE	**Valle Fertil**	**4.41**	**48**	*i*P	**Pn**	**06 47 16.6**	**-0.1**
AVFE				AML	AML	06 48 14.5	
	comp=Z,57nm,0.6s						

IDC 26 06:53:03.7±1.3, 13°68N×92°85E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/26, mbtmp3.6/5, ML4.3/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/32, Error ellipse: s-maj=46.8km s-min=23.0km az=49.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.54**	**50**	Pn	Pn	06 54 56.4	+1.4
	1.2nm,0.3s,baz=238,slow=15,SNR=4.1						
MKAR	**Makanchi Array**	**34.18**	**347**	P	P	06 59 49.6	-1.2
	0.6nm,0.7s,baz=157,slow=9.8,SNR=5.7						
WRA	**Warramunga Arr**	**52.76**	**128**	P	P	07 02 21.0	+0.1
	0.2nm,0.5s,baz=309,slow=9.0,SNR=7.7						
ASAR	**Alice Springs**	**54.68**	**132**	P	P	07 02 34.5	-0.4
	0.3nm,0.3s,baz=306,slow=6.8,SNR=5.8						
BRTR	**Keskin Array B**	**57.77**	**308**	P	P	07 02 57.5	+0.5
	0.6nm,0.6s,baz=80,slow=10,SNR=3.2						
BRTR				LR	LR	07 29 17.0	
	comp=Z,12nm,18.8s,baz=162,slow=38						

*SJA **26** 07:10:51.5±1.6, 34°04S×72°62W, h40km, ML4.3*
*IDC **26** 07:10:54.1±0.7, 33°69S×72°11W, h0km, mb3.8/7, mb1 4.0/11, mb1mx3.9/30, mbtmp3.8/11, ML3.7/3, MS3.5/2, Ms1 3.5/2, ms1mx3.0/19, Error ellipse: s-maj=28.2km s-min=17.3km az=94.0*
*GUC **26** 07:10:55.7±0.4, 33°68S×72°16W, h35km±2km, ML4.4*
ISC 26 07:11:00.6±1.7, 33°79S±0°06×72°0W±0°1, h43km±16km, n35, σ1s49/37, mb3.8/7, 2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSR	**Penalolen**	**1.28**	**76**	*i*P	**Pn**	**07 11 20.1**	**-2.0**
FSR				*i* S	**Sn**	**07 11 38.2**	**0.0**
LACH	**Col Las Americ**	**1.29**	**75**	*i*P	Pn	07 11 19.7	-2.5
LACH				*i* S	**Sn**	**07 11 37.8**	**-0.5**
PEL	**Peldehue**	**1.29**	**60**	*i*P	Pn	07 11 19.4	-2.8
PEL				*i* S	**Sn**	**07 11 37.1**	**-1.2**
PEL				AML	AML	07 11 40.5	
	comp=N,17μm,0.5s						
CLCH	**Cerro Calan**	**1.30**	**73**	*i*P	**Pn**	**07 11 20.0**	**-2.3**
CLCH				*e*S	**Sn**	**07 11 38.1**	**-0.5**
CLCH				AML	AML	07 11 47.7	
	comp=E,5μm,0.5s						
NICH	**Los Niches**	**1.38**	**152**	*i*P	**Pn**	**07 11 21.7**	**-1.6**
NICH				*i* S	**Sn**	**07 11 42.0**	**+1.7**
NICH				AML	AML	07 11 46.8	
	comp=E,8μm,0.3s						
SJCH	**San Jose de Ma**	**1.40**	**84**	*e*P	**Pn**	**07 11 21.8**	**-1.9**
TALC	**Talca**	**1.64**	**169**	*i*P	**Pn**	**07 11 25.3**	**-1.6**
TALC				*i* S	**Sn**	**07 11 47.5**	**+0.7**
TALC				AML	AML	07 11 54.4	
	comp=E,6μm,0.4s						
AUSP	**Uspallata**	**2.71**	**55**	*i*P	**Pn**	**07 11 43.3**	**+1.4**
AUSP				*i* S	Sn	07 12 21.9	+8.3
ARCO	**CERRO ARCO**	**2.75**	**71**	*i*P	Pn	07 11 45.3	+2.9
ARCO				*i* S	Sn	07 12 21.9	+7.4
ARCO				AML	AML	07 12 29.2	
	comp=Z,788nm,0.5s						
AAGR	**Agrelo**	**2.76**	**76**	*i*P	**Pn**	**07 11 43.2**	**+0.7**
AAGR				*i* S	Sn	07 12 21.1	+6.4
RTLS	**Leoncito**	**3.03**	**50**	*i*P	**Pn**	**07 11 48.1**	**+1.8**
RTLS				*i* S	Sn	07 12 29.7	+8.2
RTCV	**Cerro Valdivia**	**3.50**	**58**	*i*P	**Pn**	**07 11 53.4**	**+0.8**
SJA	**San Juan**	**3.69**	**53**	*i*P	**Pn**	**07 11 55.8**	**+0.6**
SJA				*i* S	Sn	07 12 44.7	+7.2
SJA				AML	AML	07 13 09.6	
	comp=Z,227nm,0.5s						
CFAA	**Coronel Fontan**	**3.86**	**57**	Pn	**Pn**	**07 11 57.1**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=226,slow=10,SNR=94						
CFAA				Sn	**Sn**	**07 12 43.7**	**+2.0**
	comp=Z,1.4nm,0.3s,baz=231,slow=13,SNR=3.5						
CFAA	**Coronel Fontan**	**3.86**	**57**	*i*P	**Pn**	**07 11 58.5**	**+1.0**
RTLL	**Cerro Villicun**	**3.87**	**52**	*i*P	**Pn**	**07 11 58.4**	**+0.8**
RTLL				*i* S	Sn	07 12 48.1	+6.2
AMOG	**MOGNA**	**4.12**	**47**	⇓*i*P	**Pn**	**07 12 03.2**	**+2.1**
AMOG				⇓*i*P	**Pn**	**07 12 03.2**	**+2.1**
ACAN	**Cantantal**	**4.33**	**71**	*i*P	**Pn**	**07 12 04.7**	**+0.7**
AVFE	**Valle Fertil**	**4.97**	**52**	*i*P	**Pn**	**07 12 13.2**	**+0.4**
AVFE				AML	AML	07 13 26.8	
	comp=Z,173nm,0.5s						
PLCA	**Paso Flores**	**7.03**	**171**	Pn	**Pn**	**07 12 40.9**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=334,slow=11,SNR=38						
PLCA				Lg	Lg	07 14 34.9	
	comp=Z,0.2nm,0.3s,baz=267,slow=14,SNR=4.1						
LVC	**Limon Verde**	**11.47**	**15**	Pn	Pn	07 13 38.7	-3.3
	comp=Z,11nm,0.3s,baz=253,slow=19,SNR=9.4						
LPAZ	**La Paz**	**17.78**	**12**	P	**Pn**	**07 15 00.9**	**-4.6**
	comp=Z,0.1nm,0.3s,baz=217,slow=5.5,SNR=5.8						
SIV	**San Ignacio**	**20.29**	**32**	LR	LR	07 24 00.9	
	comp=Z,82nm,19.3s,baz=8.5,slow=39						
BDFB	**Brasilia**	**28.20**	**56**	LR	LR	07 29 16.9	
	comp=Z,152nm,18.9s,baz=202,slow=39						
VNA2	**Neumayer--Watz**	**50.20**	**157**	P	**P**	**07 19 52.8**	**+1.1**
	baz=285,slow=8.5						
SNAA	**Sanae**	**51.77**	**158**	P	**P**	**07 20 03.1**	**-0.5**
SNAA	**Sanae**	**51.77**	**158**	P	**P**	**07 20 03.5**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=216,slow=8.7,SNR=5.7						
QSPA	**South Pole Qui**	**56.45**	**180**	P	**P**	**07 20 38.3**	**+0.6**
	comp=Z,1.4nm,0.9s,baz=125,slow=3.5,SNR=6.7						
VNDA	**Vanda**	**64.31**	**191**	P	**P**	**07 21 31.9**	**+0.8**
	comp=Z,0.9nm,0.9s,baz=19,slow=3.5,SNR=3.1						
TXAR	**Lajitas Array**	**69.56**	**331**	P	**P**	**07 22 05.1**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=154,slow=8.8,SNR=4.7						
PDAR	**Pinedale Array**	**83.58**	**333**	P	**P**	**07 23 23.7**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=152,slow=6.0,SNR=3.1						
NVAR	**Mina Array Bea**	**83.72**	**325**	P	**P**	**07 23 24.6**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=138,slow=7.2,SNR=3.5						
TORD	**Torodi Ar. Bea**	**84.12**	**70**	P	**P**	**07 23 26.9**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=253,slow=4.3,SNR=7.0						
WRA	**Warramunga Arr**	**120.95**	**209**	PKP	**PKPdf**	**07 29 47.7**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=162,slow=1.7,SNR=4.9						
MKAR	**Makanchi Array**	**156.62**	**49**	PKPab	**PKPab**	**07 31 18.9**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=296,slow=3.2,SNR=3.0						

*BJI **26** 07:14:12.5, 4°57N×125°99E, h132km, mb4.6/25, mB4.8/17*
*ISCJB **26** 07:14:14.1±0.2, 4°51N±0°02×125°90E±0°04, h150km, mb4.4/32, Error ellipse: s-maj=5.5km s-min=3.0km az=164.4*
*IDC **26** 07:14:14.8±1.6, 4°54N×125°64E, h132km±13km, mb4.0/19, mb1 4.2/20, mb1mx4.0/37, mbtmp4.4/20, Error ellipse: s-maj=18.0km s-min=8.0km az=75.0*
*NEIC **26** 07:14:14.7±0.9, 4°55N×125°85E, h136km±9km, mb4.6/11, Error ellipse: s-maj=9.6km s-min=6.0km az=63.0*
*DJA **26** 07:14:20.7±0.6, 4°N±5°×12°6E±°, h89km±5km, M4.9/22, mb5.0/22, mB5.4/14, MLv5.1/16, Mw(mB)4.8/14*
ISC 26 07:14:15.9±0.4, 4°52N±0°03×125°85E±0°05, h150km, n103, σ1s98/143, mb4.5/32, 2C-4D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.89**	**201**	P	Pn	07 14 34.7	-5.1
SGSI				S	Sn	07 14 49.7	-8.3
GSPH	**General Santos**	**1.80**	**330**	⇓*i*P	Pn	07 14 44.0	-4.8
GSPH				*i* S	Sn	07 15 06.8	-7.4
MATI	**Mati**	**2.45**	**10**	*e*P	**Pn**	**07 14 53.4**	**-3.0**
MATI				*e*S	**Sn**	**07 15 22.9**	**-4.8**
CTBH	**Cotabato--PC H**	**3.12**	**329**	⇑*i*P	**Pn**	**07 15 02.0**	**-2.8**
BUKP	**Musuan**	**3.43**	**347**	*e*P	**Pn**	**07 15 06.9**	**-1.9**
BIPH	**Bislig**	**3.68**	**8**	⇓*i*P	**Pn**	**07 15 10.6**	**-1.4**
BIPH				*i* S	**Sn**	**07 16 01.3**	**+5.8**
TNTI	**Ternate**	**4.02**	**158**	P	**Pn**	**07 15 13.8**	**-2.7**
TNTI				S	**Sn**	**07 15 58.6**	**-4.9**
TNTI	**Ternate**	**4.02**	**158**	*e*Pn	**Pn**	**07 15 13.7**	**-2.7**
TNTI				*e*Sn	**Sn**	**07 16 01.1**	**-2.4**
CGP	**Cagayan de Oro**	**4.08**	**344**	⇓*e*P	**Pn**	**07 15 15.6**	**-1.6**
PAGZ	**Pagadian**	**4.12**	**324**	*e*P	Pn	07 15 14.4	-3.3
KMSI	**Cibinong**	**4.34**	**206**	P	**Pn**	**07 15 19.3**	**-1.3**
SCPH	**Surigao**	**5.24**	**356**	*e*P	Pn	07 15 37.0	+4.4
LBMI	**Labuha**	**5.38**	**162**	P	**Pn**	**07 15 33.0**	**-1.4**
LBMI				S	**Sn**	**07 16 31.8**	**-4.0**
MRSI	**Marisa**	**5.60**	**224**	P	**Pn**	**07 15 35.1**	**-2.2**
	348nm,0.7s,3μm1.2nm						
MRSI				S	**Sn**	**07 16 35.9**	**-5.0**
	348nm,0.7s,3μm1.2nm						
LUWI	**Luwuk**	**6.32**	**209**	P	**Pn**	**07 15 47.1**	**+0.2**
	320nm,0.7s,6μm1.5nm						
LUWI				S	**Sn**	**07 17 00.6**	**+2.4**
	320nm,0.7s,6μm1.5nm						
LUWI	**Luwuk**	**6.32**	**209**	*e*Pn	**Pn**	**07 15 46.6**	**-0.3**
LUWI				*e*Sn	**Sn**	**07 16 58.7**	**+0.5**
SANI	**Sanana**	**6.53**	**179**	P	Pn	07 15 45.8	-3.9
	135nm,0.7s,4μm0.8nm						
SANI				S	Sn	07 16 51.7	-11
	135nm,0.7s,4μm0.8nm						
APSI	**Ampana**	**6.83**	**218**	P	**Pn**	**07 15 54.2**	**+0.4**
	128nm,0.6s,2μm0.6nm						
MPSI	**Mapaga**	**7.25**	**235**	P	**Pn**	**07 15 57.8**	**-1.5**
	23nm,0.8s,669nm0.1nm						
SWI	**Sorong**	**7.60**	**135**	P	**Pn**	**07 16 03.5**	**-0.6**
	46nm,0.7s,0.2nm						
SWI				S	**Sn**	**07 17 26.4**	**-2.6**
	46nm,0.7s,0.2nm						
NLAI	**Namlea**	**7.81**	**171**	P	**Pn**	**07 16 03.7**	**-3.1**
	95nm,0.7s,4μm2.1nm						
NLAI				S	Sn	07 17 24.4	-10
	95nm,0.7s,4μm2.1nm						
AAI	**Ambon**	**8.48**	**164**	P	**Pn**	**07 16 14.1**	**-1.7**
	82nm,0.7s,5μm0.5nm						
AAI				S	**Sn**	**07 17 44.8**	**-5.4**
	82nm,0.7s,5μm0.5nm						
KDI	**Kendari**	**9.02**	**201**	P	**Pn**	**07 16 21.6**	**-1.3**
	57nm,0.8s						
TTSI	**Tana Toraja**	**9.63**	**219**	P	**Pn**	**07 16 31.8**	**+0.7**
	150nm,0.9s,1μm						
KKM	**Kota Kinabalu**	**9.71**	**279**	*e*Pn	**Pn**	**07 16 32.4**	**+0.1**
FAKI	**Fak Fak**	**9.77**	**139**	P	**Pn**	**07 16 33.3**	**+0.3**
	34nm,0.6s						
FAKI				S	**Sn**	**07 18 21.4**	**+0.1**
	34nm,0.6s						
FAKI	**Fak Fak**	**9.77**	**139**	*e*Pn	**Pn**	**07 16 31.7**	**-1.3**
SPSI	**Sidrap Palu**	**10.39**	**216**	P	**Pn**	**07 16 40.7**	**-0.4**
	42nm,0.7s,1μm						
KAPI	**Kappang**	**11.26**	**213**	P	**Pn**	**07 16 51.9**	**-0.6**
	2.9nm,0.3s,baz=26,slow=9.2,SNR=57						
KAPI	**Kappang**	**11.26**	**213**	*e*Pn	**Pn**	**07 16 51.8**	**-0.8**
BKSI	**Bulukumba**	**11.32**	**210**	P	**Pn**	**07 16 52.4**	**-1.0**
	20nm,0.7s						
KBKI	**Kotabaru**	**12.40**	**231**	P	**Pn**	**07 17 10.1**	**+2.6**
	48nm,0.9s,3μm						
BBKI	**Banjar Baru**	**13.56**	**234**	P	**P**	**07 17 27.3**	**+1.1**
SBUM	**Sibu**	**13.76**	**262**	*e*Pn	**P**	**07 17 29.5**	**+1.1**
SOEI	**Soe**	**14.27**	**186**	P	**Pn**	**07 17 32.1**	**+0.7**
SOEI	**Soe**	**14.27**	**186**	*e*Pn	**Pn**	**07 17 31.4**	**0.0**
KSM	**Kuching**	**15.81**	**259**	*e*Pn	**Pn**	**07 17 50.5**	**+0.1**
	12nm,0.9s						
DLV	**T Lat**	**18.69**	**294**	*e*P	**P**	**07 18 22.9**	**-0.1**
SSLB	**Suanglung**	**19.73**	**347**	*e*P	**P**	**07 18 32.5**	**-1.5**
	16nm,0.5s						
QIZ	**Qiongzhong**	**21.26**	**314**	P	**P**	**07 18 49.8**	**-0.7**
QIZ				sP	sP	07 19 30.3	-5.7
QIZ				S	**S**	**07 22 40.0**	**+1.9**
QIZ				sS	**sS**	**07 23 22.0**	**-1.4**
QIZ				PMZ			
	23nm,1.6s						
JOW	**Kunigami**	**22.31**	**6**	P	**P**	**07 19 01.3**	**0.0**
	baz=262,slow=19						
IPM	**Ipoh**	**24.75**	**271**	*e*P	**P**	**07 19 24.1**	**+0.2**
SKNT	**Sakolnakorn**	**24.75**	**302**	P	**P**	**07 19 24.5**	**+0.7**
	68nm,0.8s						
KHON	**Khomkaen**	**25.47**	**299**	P	**P**	**07 19 32.3**	**+2.0**
	28nm,0.8s						
WRAB	**Tennant Creek**	**25.70**	**161**	*e*P	**P**	**07 19 31.5**	**-0.8**
	13nm,0.8s						
WRA	**Warramunga Arr**	**25.70**	**161**	P	**P**	**07 19 32.5**	**+0.1**
	10nm,0.6s,baz=342,slow=10.0,SNR=100						
WRA				S	S	07 23 57.9	+7.9
	0.8nm,0.7s,baz=343,slow=15,SNR=2.8						
WRA				ScP	**ScP**	**07 26 27.2**	**+2.7**
	0.6nm,0.5s,baz=337,slow=2.8,SNR=7.5						
MBWA	**Marble Bar**	**26.21**	**193**	*e*P	**P**	**07 19 36.6**	**-0.3**
	12nm,0.8s						
PSI	**Prapat**	**26.92**	**267**	P	**P**	**07 19 43.7**	**+0.2**
	2.1nm,0.4s,baz=134,slow=14,SNR=3.0						
PBKT	**Sadao Pong**	**27.19**	**298**	P	**P**	**07 19 46.8**	**+1.1**
	19nm,1.0s						
NJ2	**Nanjing**	**28.16**	**347**	*e*P	**P**	**07 19 52.0**	**-2.2**
NJ2				PMZ			
	40nm,1.0s						
GYA	**Guiyang**	**28.51**	**322**	*e*P	**P**	**07 19 58.8**	**+1.3**
GYA				pP	**pP**	**07 20 26.8**	**-2.4**
GYA				sP	**sP**	**07 20 42.3**	**-4.2**
GYA				PP	**PnPn**	**07 20 57.0**	**+1.4**
GYA				PcP	**PcP**	**07 23 06.3**	**+0.7**
GYA				S	**S**	**07 24 36.5**	**+2.1**
GYA				sS	**sS**	**07 25 27.8**	**-2.4**
GYA				PMZ			
	10.0nm,0.8s						
GYA				PMZ			
	80nm,4.6s						
AS31	**Alice Springs**	**29.09**	**165**	*e*P	**P**	**07 20 02.7**	**+0.1**
ASAR	**Alice Springs**	**29.09**	**165**	P	**P**	**07 20 03.1**	**+0.5**
	6.1nm,0.6s,baz=348,slow=7.8,SNR=97						
ASAR				S	**S**	**07 24 44.3**	**+0.8**
	0.4nm,0.6s,baz=349,slow=19,SNR=3.3						
ASAR				ScP	**ScP**	**07 26 37.2**	**+2.4**
	0.8nm,0.6s,baz=349,slow=2.9,SNR=5.3						
LAMP	**Lampang**	**29.15**	**301**	P	**P**	**07 20 04.6**	**+1.4**
	9.3nm,0.7s,76nm						
CMAR	**Chiang Mai Arr**	**29.72**	**300**	P	**P**	**07 20 08.8**	**+0.6**
	8.1nm,0.7s,baz=119,slow=7.5,SNR=27						
CMAR				ScP	**ScP**	**07 26 39.8**	**+2.9**
	0.9nm,0.3s,baz=168,slow=4.6,SNR=4.3						
CMMT	**Chiang Mai**	**29.86**	**301**	P	**P**	**07 20 10.5**	**+1.0**
	42nm,0.9s						
CHTO	**Chiang Mai**	**29.86**	**301**	P	**P**	**07 20 10.6**	**+1.1**
	143nm,1.0s						
CHTO	**Chiang Mai**	**29.86**	**

KOLN	**Koldanda**	**46.35**	**305**	*e*P		**P**	**07 22 27.7**	**+0.2**
	42nm,0.6s								
WMQ	**Urumqi**	**51.58**	**325**	*e*P		**P**	**07 23 08.0**	**+1.2**
WMQ				pP		**pP**	**07 23 37.3**	**-3.9**
WMQ				sP		sP	07 23 51.5	-6.4
WMQ				PcP		**PcP**	**07 24 20.5**	**+1.8**
WMQ				PP		**PP**	**07 25 07.5**	**+1.7**
WMQ				ScP		**ScP**	**07 28 03.5**	**+2.1**
WMQ				S		**S**	**07 30 17.5**	**+1.4**
WMQ				sS		sS	07 31 08.5	-7.3
WMQ				SS		**SS**	**07 33 53.8**	**-0.6**
WMQ				PMZ				
	9.0nm,0.5s								
WMQ				PMZ				
	96nm,4.0s								
WMQ				LN				
	51nm,21.4s								
WMQ				LE				
	110nm,15.4s								
WMQ				LZ				
	28nm,20.8s								
MK31	**Makanchi Array**	**56.41**	**325**	*e*P		**P**	**07 23 40.7**	**-1.1**
MKAR	**Makanchi Array**	**56.41**	**325**	P		**P**	**07 23 41.2**	**-0.6**
	5.3nm,0.4s,baz=120,slow=7.9,SNR=60								
MKAR				PcP		**PcP**	**07 24 38.5**	**+1.4**
	1.9nm,0.8s,baz=117,slow=5.7,SNR=3.7								
MKAR				ScP		**ScP**	**07 28 23.2**	**+0.7**
	0.9nm,0.5s,baz=107,slow=5.3,SNR=8.9								
KSH	**Kashi**	**56.87**	**315**	*e*P		P	07 23 50.0	+4.7
KSH				sP		sP	07 24 34.0	-2.8
KSH				PP		PP	07 26 00.3	+6.9
KSH				PcS		**PcS**	**07 28 42.0**	**+1.8**
KSH				S		S	07 31 35.3	+7.9
KSH				sS		sS	07 32 27.3	-0.7
KSH				PMZ				
	64nm,4.5s								
KSH				LN				
	100nm,6.5s								
KSH				LE				
	73nm,5.4s								
KSH				LZ				
	130nm,6.4s								
ZALV	**Zalesovo Beam**	**59.49**	**333**	P		**P**	**07 24 03.5**	**+0.5**
	1.5nm,0.4s,baz=188,slow=9.0,SNR=5.5								
KURBB	**Kurchatov Arra**	**60.60**	**327**	P		**P**	**07 24 09.4**	**-1.3**
	5.9nm,0.6s,baz=129,slow=6.4,SNR=37								
KURBB	**Kurchatov Arra**	**60.60**	**327**	⇓P		**P**	**07 24 10.2**	**-0.5**
	5.6nm,0.7s								
KURK	**Kurchatov**	**60.61**	**328**	*e*P		**P**	**07 24 09.0**	**-1.7**
	17nm,0.4s								
KURK	**Kurchatov**	**60.61**	**328**	⇑P		**P**	**07 24 09.0**	**-1.7**
	3.2nm,0.5s								
SEY	**Seymchan**	**61.47**	**13**	P		**P**	**07 24 19.0**	**+2.7**
	2.1nm,0.6s,baz=184,slow=12,SNR=6.2								
BVAR	**Borovoye Array**	**66.18**	**327**	P		**P**	**07 24 46.2**	**-1.2**
	1.0nm,0.4s,baz=134,slow=8.5,SNR=10								
BRVK	**Borovoye**	**66.26**	**327**	*e*P		**P**	**07 24 47.7**	**-0.1**
	3.8nm,0.8s								
TIXI	**Tiksi**	**67.07**	**1**	*e*P		**P**	**07 24 52.6**	**0.0**
	12nm,0.5s								
ABKAR	**Akbulak array**	**70.99**	**321**	*e*P		**P**	**07 25 16.4**	**-0.8**
AKTO	**Aktyubinsk**	**72.50**	**322**	P		**P**	**07 25 24.8**	**-1.5**
	2.1nm,0.6s,baz=102,slow=11,SNR=6.1								
COLD	**Coldfoot**	**83.51**	**23**	*e*P		**P**	**07 26 27.0**	**+0.3**
	2.7nm,0.8s								
VNDA	**Vanda**	**84.31**	**173**	P		**P**	**07 26 32.0**	**+1.6**
	2.8nm,0.7s,baz=317,slow=6.3,SNR=26								
ILAR	**Eielson Array**	**84.78**	**25**	P		**P**	**07 26 34.4**	**+1.3**
	0.5nm,0.6s,baz=248,slow=5.4,SNR=11								
BRTR	**Keskin Array B**	**88.84**	**310**	P		**P**	**07 26 52.0**	**-1.5**
	1.0nm,0.5s,baz=136,slow=4.8,SNR=6.2								
FINES	**FINESS Array B**	**90.73**	**332**	P		**P**	**07 26 60.0**	**-1.6**
	1.1nm,0.7s,baz=72,slow=6.2,SNR=6.2								
TXAR	**Lajitas Array**	**121.81**	**51**	PKP		**PKPdf**	**07 32 55.0**	**+1.9**
	0.1nm,0.6s,baz=206,slow=3.9,SNR=3.3								
TORD	**Torodi Ar. Bea**	**121.84**	**288**	PKP		**PKPdf**	**07 32 53.4**	**+0.1**
	0.2nm,0.3s,baz=51,slow=1.8,SNR=7.0								

GUC 26 07:18:15.2±0.3, 34°.86S × 72°.65W, h31 km ±3km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.99**	**123**	*i* P	Pb	07 18 33.7	-0.2
TALC				*i* S	Sb	07 18 48.4	+1.8
TALC				AML	AML	07 18 48.7	
	comp=E,3μm,0.3s						
NICH	**Los Niches**	**1.18**	**98**	*i* P	Pb	07 18 36.8	-0.1
NICH				*i* S	Sb	07 18 53.1	+1.3
NICH				AML	AML	07 18 57.6	
	comp=E,2μm,0.4s						
LNCH	**Linares**	**1.31**	**139**	*i* P	Pb	07 18 39.0	-0.2
LNCH				*i* S	Sb	07 18 56.7	+1.0
LNCH				AML	AML	07 19 06.5	
	comp=N,1μm,0.5s						
CLCH	**Cerro Calan**	**2.28**	**51**	*i* P	Pb	07 18 53.4	-2.4
CLCH				*i* S	Sb	07 19 22.9	-0.7
CLCH				AML	AML	07 19 32.5	
	comp=N,492nm,0.7s						

*NNC **26** 07:19:50.2±5.9, 36°.97N × 71°.24E, h0 km, mb4.1, mpv3.6, Error ellipse: s-maj=49.3km s-min=21.0km az=170.0*

ISC 26 07:19:52.6±3.7, 36°.9N±0°.2 × 71°.24E±0°.08, h88 km, n13, σ2§19/17, 8C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.71**	**316**	⇑P	**Pn**	**07 20 33.7**	**-0.6**
	5.6nm,0.3s						
DZET				⇑S	**Sn**	**07 21 09.7**	**+3.4**
	161nm,0.6s						
SFK	**Sufi-Kurgan**	**3.60**	**29**	⇓P	Pn	07 20 48.2	+1.8
	0.7nm,0.2s						
SFK				⇑S	**Sn**	**07 21 33.5**	**+5.5**
	24nm,0.3s						
AML	**Almayashu**	**5.58**	**19**	P	**Pn**	**07 21 12.9**	**-0.5**
	SNR=50						
MNAS	**Manas**	**5.69**	**9**	⇓P	**Pn**	**07 21 13.2**	**-1.5**
	4.0nm,0.4s						
MNAS				⇑S	**Sn**	**07 22 18.8**	**+0.2**
	26nm,0.8s						
UCH	**Uchtor**	**5.91**	**24**	P	**Pn**	**07 21 17.4**	**-0.6**
	SNR=13						
KZA	**Kyzart**	**6.05**	**30**	P	Pn	07 21 14.4	-5.4
	SNR=6.1						
EKS2	**Erkin-Say**	**6.10**	**18**	P	**Pn**	**07 21 19.4**	**-0.8**
	SNR=7.4						
KK31	**Karatay Array**	**6.24**	**355**	⇑P	**Pn**	**07 21 19.9**	**-2.2**
	3.3nm,0.7s,baz=185,slow=12,SNR=30						
KK31				⇑S	**Sn**	**07 22 30.0**	**-2.0**
	4.5nm,0.5s,baz=167,slow=14,SNR=18						
AAK	**Ala-Archa**	**6.27**	**23**	P	**Pn**	**07 21 21.9**	**-0.7**
	SNR=11						
AAK	**Ala-Archa**	**6.27**	**23**	⇑P	**Pn**	**07 21 21.7**	**-0.9**
	5.0nm,0.4s						
AAK				⇑S	**Sn**	**07 22 34.0**	**+1.1**
	11nm,0.7s						
ULHL	**Ulahol**	**6.61**	**34**	P	**Pn**	**07 21 26.1**	**-1.2**
	SNR=5.6						
TKM2	**Tokmak 2**	**6.90**	**28**	P	**Pn**	**07 21 29.8**	**-1.5**
	SNR=5.6						
TKM2	**Tokmak 2**	**6.90**	**28**	⇓P	**Pn**	**07 21 28.9**	**-2.4**
	4.3nm,0.5s						
TKM2				⇓S	**Sn**	**07 22 49.0**	**+0.7**

MEX 26 07:32:00.9±0.9, 16°.26N × 98°.46W, h5 km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.34**	**67**	*i* P	Pg	07 32 07.0	-0.7
PNIG				*i* S	Sg	07 32 12.1	-0.1
ACX	**Acapulco**	**1.48**	**295**	*e*P	Pn	07 32 24.9	-3.3
VHO	**Vista Hermosa**	**1.84**	**64**	*e*P	Pn	07 32 30.3	-3.1
VHO				*e*S	Sn	07 32 53.8	-3.5
CAIG	**El Cayaco**	**1.91**	**295**	*e*P	Pn	07 32 28.9	-5.2
MEIG	**Mezcala**	**2.00**	**326**	*e*P	Pn	07 32 31.4	-4.0

*IDC **26** 07:42:55.0±2.6, 53°.55N × 87°.68E, h0 km, mb1 3.3/2, mb1mx3.1/36, mbtmp3.3/2, ML3.0/2, Error ellipse: s-maj=25.4km s-min=16.7km az=86.0*

*NNC **26** 07:43:00.2±2.8, 53°.31N × 87°.24E, h0 km, mb3.5, mpv3.1, Error ellipse: s-maj=21.4km s-min=17.4km az=20.0*

ISC 26 07:42:59.9±3.7, 53°.6N±0°.1 × 87°.6E±0°.2, h35 km, n8, σ1§08/13, 6C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.71**	**285**	*i*		07 54 20.0	
	baz=100,slow=317,SNR=2.0						
ZALV	**Zalesovo Beam**	**1.71**	**285**	Pn	**Pn**	**07 43 26.2**	**-1.0**
	2.8nm,0.3s,baz=103,slow=14,SNR=21						
ZALV				Sn	**Sn**	**07 43 50.2**	**+2.4**
	8.7nm,0.3s,baz=99,slow=27,SNR=17						
KURK	**Kurchatov**	**6.23**	**246**	⇓Pn	**Pn**	**07 44 28.9**	**-0.2**
	1.7nm,1.2s						
KURK				⇑Sn	**Sn**	**07 45 38.1**	**-0.9**
	0.8nm,0.5s						
KURK				⇑Lg	Lg	07 46 09.5	
	8.6nm,1.0s						
KURBB	**Kurchatov Arra**	**6.32**	**246**	⇓Pn	**Pn**	**07 44 30.1**	**-0.4**
	2.0nm,0.5s						
KURBB				⇑Sn	**Sn**	**07 45 41.4**	**-0.1**
	3.2nm,0.6s						
KURBB				⇓Lg	Lg	07 46 11.8	
	27nm,1.1s						
KURBB	**Kurchatov Arra**	**6.32**	**246**	Pn	**Pn**	**07 44 30.5**	**0.0**
	0.2nm,0.3s,baz=63,slow=14,SNR=18						
KURBB				Sn	**Sn**	**07 45 42.7**	**+1.3**
	0.1nm,0.3s,baz=66,slow=24,SNR=3.9						
KURBB				Lg	Lg	07 46 14.1	
	0.1nm,0.3s,baz=60,slow=28,SNR=7.1						
MK31	**Makanchi Array**	**7.58**	**209**	⇑Pn	**Pn**	**07 44 48.1**	**+0.4**
	0.3nm,0.5s,baz=29,slow=13,SNR=12						
MK31				⇑Sn	**Sn**	**07 46 11.6**	**-0.9**
	0.7nm,0.6s,baz=34,slow=27,SNR=4.0						
MK31				⇑Lg	Lg	07 46 50.2	
	3.6nm,0.8s,baz=38,slow=29,SNR=5.3						
MKAR	**Makanchi Array**	**7.58**	**209**	Pn	**Pn**	**07 44 48.1**	**+0.4**
	0.4nm,0.3s,baz=30,slow=14,SNR=14						
MKAR				Sn	**Sn**	**07 46 13.3**	**+0.9**
	0.1nm,0.3s,baz=28,slow=25,SNR=6.3						
MKAR				Lg	Lg	07 46 53.2	
	0.1nm,0.3s,baz=36,slow=27,SNR=3.8						
BVAR	**Borovoye Array**	**10.34**	**274**	Sn	**Sn**	**07 47 19.3**	**-0.6**
	0.2nm,0.3s,baz=80,slow=24,SNR=7.7						

*IDC **26** 07:48:50.9±0.4, 9°.98S × 121°.48E, h0 km, mb4.9/24, mb1 4.9/25, mb1mx4.8/30, mbtmp4.9/25, ML4.7/1, MS3.8/2, Ms1 3.8/2, ms1mx3.2/30, Error ellipse: s-maj=16.2km s-min=11.1km az=83.0*

*ISCJB **26** 07:48:50.3±0.2, 10°.15S±0°.03 × 121°.58E±0°.03, h10 km, mb5.0/67, MS4.1/4, Error ellipse: s-maj=4.9km s-min=4.1km az=141.7*

*BJI **26** 07:48:51.4, 10°.00S × 121°.60E, h10 km, mb5.0/48, mB5.0/29, Ms4.7/34, Ms7 4.3/35*

*MOS **26** 07:48:54.0±1.1, 9°.98S × 121°.52E, h33 km, mb5.1/23, Error ellipse: s-maj=12.6km s-min=7.0km az=115.4*

*DJA **26** 07:48:55.3±0.3, 10°.S ± 3°.× 12°.1E ± °, h10 km, M5.1/33, mb5.4/33, mB5.5/27, MLv5.4/21, Mw(mB)5.0/27, Mwp4.8/1*

*NEIC **26** 07:48:56.8±0.7, 10°.10S × 121°.49E, h43 km ± 6 km, mb4.9/28, Error ellipse: s-maj=7.1km s-min=4.9km az=48.0*

ISC 26 07:48:53.3±0.4, 10°.10S±0°.04 × 121°.54E±0°.03, h17 km ±2km, n284, σ1§48/299, mb5.0/65, MS4.0/4, 9C-3D, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**0.95**	**263**	P	**Pb**	**07 49 10.1**	**-1.2**
BASI				S	**Sn**	**07 49 26.1**	**+1.2**
WSI	**Waingapu**	**1.29**	**289**	P	**Pn**	**07 49 16.4**	**-0.1**
WSI				S	**Sg**	**07 49 38.4**	**+3.3**
MMRI	**Maumere**	**1.61**	**26**	P	**Pb**	**07 49 22.1**	**-0.4**
MMRI				S	**Sb**	**07 49 42.9**	**+0.3**
MMRI	**Maumere**	**1.61**	**26**	*e*Pn	**Pb**	**07 49 22.3**	**-0.3**
WBSI	**Waikabubak, Su**	**2.16**	**282**	P	**Pn**	**07 49 29.6**	**+1.1**
WBSI				S	**Sb**	**07 49 58.7**	**+0.2**
SOEI	**Soe**	**2.71**	**83**	P	**Pb**	**07 49 41.0**	**-0.4**
SOEI	**Soe**	**2.71**	**83**	*e*Pn	**Pb**	**07 49 41.0**	**-0.4**
BSSI	**Bau Bau, Buton**	**4.06**	**345**	P	**Pn**	**07 49 56.5**	**+1.8**
BBSI	**Bau Bau**	**4.70**	**13**	P	Pn	07 50 07.2	+3.8
BKSI	**Bulukumba**	**4.95**	**343**	P	Pn	07 50 10.9	+4.1
	628nm,0.7s,5μm2.2nm						
KAPI	**Kappang**	**5.35**	**341**	Pn	Pn	07 50 16.0	+3.6
	4μm,0.5s						
KAPI	**Kappang**	**5.35**	**341**	Pn	Pn	07 50 15.9	+3.5
	70nm,0.3s,baz=196,slow=10,SNR=172						
KDI	**Kendari**	**6.20**	**10**	P	Pn	07 50 27.9	+3.9
	796nm,0.9s,6μm2.4nm						
SPSI	**Sidrap Palu**	**6.34**	**344**	P	Pn	07 50 31.1	+5.1
	219nm,1.2s,3μm0.9nm						
DNP	**Denpasar**	**6.40**	**282**	P	**Pb**	**07 50 45.8**	**+1.6**
IGBI	**Denpasar**	**6.43**	**281**	P	**Pn**	**07 50 28.9**	**+1.7**
	486nm,1.0s,6μm2.4nm						
IGBI				S	**Sn**	**07 51 38.0**	**-2.2**
	486nm,1.0s,6μm2.4nm						
SRBI	**Singaraja**	**6.56**	**287**	P	**Pn**	**07 50 31.2**	**+2.3**
	196nm,1.2s,2μm0.8nm						
TTSI	**Tana Toraja**	**7.21**	**346**	P	Pn	07 50 45.1	+7.2
	500nm,0.8s,4μm1.5nm						
JAGI	**Jajag, Banyuwa**	**7.46**	**282**	P	**Pn**	**07 50 41.6**	**+0.2**
	189nm,0.8s,2μm0.9nm						
JAGI				S	**Sn**	**07 52 03.3**	**-2.5**
	189nm,0.8s,2μm0.9nm						
JAGI	**Jajag, Banyuwa**	**7.46**	**282**	*e*Pn	**Pn**	**07 50 40.9**	**-0.6**
	139nm,0.7s						
KMMI	**Kalianget**	**8.07**	**291**	P	Pn	07 51 01.2	+11
BLJI	**Banyuglugur**	**8.19**	**286**	P	Pn	07 50 57.8	+6.5
KBKI	**Kotabaru**	**8.60**	**321**	P	Pn	07 51 01.4	+4.3
	217nm,0.9s,2μm						
NLAI	**Namlea**	**8.77**	**39**	P	Pn	07 51 08.1	+8.7
	283nm,1.0s,2μm						
LUWI	**Luwuk**	**9.08**	**8**	P	Pn	07 51 08.6	+5.0
	471nm,0.9s,5μm						
LUWI	**Luwuk**	**9.08**	**8**	*e*Pn	Pn	07 51 07.7	+4.0
	558nm,0.9s						
SANI	**Sanana**	**9.14**	**29**	P	Pn	07 51 10.4	+6.0
	99nm,0.8s,1μm						
AAI	**Ambon**	**9.18**	**47**	P	Pn	07 51 12.6	+7.6
	120nm,0.9s						
PCI	**Palu**	**9.29**	**349**	P	Pn	07 51 13.4	+6.9
	209nm,1.1s,2μm						
BBKI	**Banjar Baru**	**9.36**	**314**	P	Pn	07 51 12.7	+5.2
	270nm,1.1s,12μm						
PWJI	**Pagerwojo**	**9.83**	**281**	P	Pn	07 51 20.3	+6.4
SAUI	**Saumlaki**	**9.87**	**78**	P	Pn	07 51 18.9	+4.4
	527nm,0.8s,6μm						
BKB	**Balikpapan**	**9.92**	**332**	P	Pn	07 51 23.3	+8.2
	346nm,0.9s,3μm						
MSAI	**Masohi**	**9.94**	**48**	P	Pn	07 51 23.0	+7.5
	38nm,0.9s,887nm						
PCJI	**Pacitan**	**10.40**	**280**	P	Pn	07 51 32.1	+10
MPSI	**Mapaga**	**10.49**	**351**	P	Pn	07 51 30.1	+7.1
	33nm,1.1s						
MRSI	**Marisa**	**10.51**	**2**	P	Pn	07 51 27.2	+3.9
	178nm,0.8s,1μm						
WOJI	**Wonogiri, Jawa**	**10.72**	**281**	P	Pn	07 51 36.2	+10
LBMI	**Labuha**	**11.12**	**33**	P	Pn	07 51 40.1	+8.6
	138nm,1.0s,2μm						
MBWA	**Marble Bar**	**11.13**	**189**	*e*Pn	**Pn**	**07 51 29.3**	**-2.4**
MTKI	**Muara Teweh, K**	**11.24**	**324**	P	Pn	07 51 37.4	+4.2
	960nm,0.6s,58μm						
FAKI	**Fak Fak**	**12.81**	**57**	P	**Pn**	**07 51 55.4**	**+0.7**
	114nm,0.8s,1μm						
FAKI	**Fak Fak**	**12.81**	**57**	*e*Pn	**Pn**	**07 51 55.9**	**+1.2**
SWI	**Sorong**	**13.33**	**47**	P	**Pn**	**07 52 03.8**	**+2.0**
SBUM	**Sibu**	**15.54**	**323**	*e*Pn	**Pn**	**07 52 33.8**	**+2.1**
	102nm,0.8s						
WRA	**Warramunga Arr**	**15.76**	**130**	Pn	**Pn**	**07 52 31.6**	**-3.0**
	2.2nm,0.3s,baz=301,slow=14,SNR=81						
WRA				Sn	Sn	07 55 18.8	-10
	1.9nm,0.3s,baz=307,slow=20,SNR=6.7						
WRAB	**Tennant Creek**	**15.76**	**130**	Pn	**Pn**	**07 52 32.0**	**-2.5**
	206nm,1.1s,SNR=18						
WRAB	**Tennant Creek**	**15.76**	**130**	*c* *i*P	**Pn**	**07 52 32.1**	**-2.5**
WRAB				pmax	pmax		
	comp=Z,100nm,1.2s						
WRAB	**Tennant Creek**	**15.76**	**130**	*e*Pn	**Pn**	**07 52 30.9**	**-3.8**
	comp=Z,30nm,0.9s						
KSM	**Kuching**	**16.03**	**315**	*e*P	**P**	**07 52 43.4**	**+1.9**
	comp=Z,70nm,0.8s						
KKM	**Kota Kinabalu**	**16.89**	**341**	⇑P	**P**	**07 52 51.1**	**+0.1**
KKM	**Kota Kinabalu**	**16.89**	**341**	*e*P	**P**	**07 52 50.9**	**-0.2**
	comp=Z,52nm,0.6s						
CTBH	**Cotabato--PC H**	**17.42**	**9**	⇓ *i*P	**P**	**07 53 00.1**	**+3.4**
AS31	**Alice Springs**	**17.93**	**140**	*e*Pn	**Pn**	**07 53 01.5**	**-0.5**
ASAR	**Alice Springs**	**17.93**	**140**	P	**Pn**	**07 53 01.4**	**-0.5**
	comp=Z,2.2nm,0.3s,baz=317,slow=12,SNR=151						
MYKOM	**Kota Tinggi**	**21.20**	**303**	*e*P	**P**	**07 53 38.9**	**+0.7**
	comp=Z,26nm,0.9s						
FORT	**Forrest**	**21.45**	**164**	*e*P	**P**	**07 53 41.3**	**+0.5**
	comp=Z,148nm,1.0s						
COEN	**Coen**	**21.51**	**102**	*e*P	**P**	**07 53 43.5**	**+1.9**
	comp=Z,3.7nm,0.8s						
NWAO	**Narrogin (SRO)**	**23.06**	**189**	P	**P**	**07 53 57.2**	**-0.7**
	comp=Z,26nm,0.7s,baz=328,slow=6.3,SNR=19						
KTGM	**Kuala Trenggan**	**23.89**	**309**	⇑P	**P**	**07 54 07.9**	**+1.6**
IPM	**Ipoh**	**25.04**	**304**	*e*P	**P**	**07 54 17.2**	**+0.4**
	comp=Z,34nm,0.9s						
PMG	**Port Moresby**	**25.26**	**91**	*e*P	**P**	**07 54 20.3**	**+1.5**
PMG				pmax	pmax		
	comp=Z,33nm,0.7s						
PMG	**Port Moresby**	**25.26**	**91**	*e*P	**P**	**07 54 19.4**	**+0.6**
	comp=Z,33nm,0.9s						
CTA	**Charters Tower**	**25.82**	**116**	P	**P**	**07 54 25.8**	**+2.0**
	comp=Z,9.9nm,0.8s,baz=286,slow=12,SNR=12						
CTAO	**Charters Tower**	**25.82**	**116**	*e*P	**P**	**07 54 24.8**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,23nm,1.1s						
CTAO	**Charters Tower**	**25.82**	**116**	*e*Pn	**P**	**07 54 24.8**	**+1.0**
	comp=Z,23nm,1.1s						
KULM	**Kulim**	**25.82**	**305**	*e*P	**P**	**07 54 22.5**	**-1.3**
	comp=Z,30nm,1.1s						
PSI	**Prapat**	**25.91**	**298**	P	**P**	**07 54 23.8**	**-1.0**
	comp=Z,20nm,0.8s,baz=140,slow=8.1,SNR=18						
BBOO	**Buckleboo**	**26.27**	**152**	*e*P	**P**	**07 54 28.3**	**+0.5**
	comp=Z,2.2nm,0.8s						
GSI	**Gunungsitoli**	**26.40**	**294**	*e*P	**P**	**07 54 30.7**	**+1.6**
	comp=Z,43nm,1.0s						
STKA	**Stephens Creek**	**28.54**	**142**	P	**P**	**07 54 49.6**	**+1.4**
	comp=Z,42nm,0.6s,baz=316,slow=8.7,SNR=163						
STKA	**Stephens Creek**	**28.54**	**142**	*e*P	**P**	**07 54 49.5**	**+1.4**
STKA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
STKA	**Stephens Creek**	**28.54**	**142**	*e*P	**P**	**07 54 49.5**	**+1.3**
	comp=Z,9.2nm,0.6s						
KHON	**Khomkaen**	**32.14**	**325**	P	**P**	**07 55 20.9**	**+0.8**
	comp=Z,23nm,0.8s						
GUMO	**Guam**	**33.02**	**45**	P	**P**	**07 55 26.2**	**-1.6**
	comp=Z,96nm,0.8s,baz=207,slow=9.8,SNR=5.6						
PBKT	**Sadao Pong**	**33.41**	**322**	P	**P**	**07 55 32.1**	**+0.9**
	comp=Z,58nm,0.8s						
UTHA	**Uthaitani**	**33.59**	**319**	P	**P**	**07 55 34.1**	**+1.3**
	comp=Z,17nm,0.8s,comp=Z,142nm						
UTTA	**Uttaradit**	**34.57**	**323**	P	**P**	**07 55 41.9**	**+0.6**
	comp=Z,15nm,0.6s,comp=Z,132nm						
CM31	**Chiang Mai Arr**	**36.09**	**322**	*e*P	**P**	**07 55 54.7**	**+0.3**
CMAR	**Chiang Mai Arr**	**36.09**	**322**	P	**P**	**07 55 54.4**	**0.0**
	comp=Z,16nm,0.7s,baz=148,slow=6.8,SNR=58						
CMAR				ScP	**ScP**	**08 02 06.2**	**0.0**
	comp=Z,2.2nm,0.5s,baz=170,slow=3.0,SNR=7.2						
CMMT	**Chiang Mai**	**36.35**	**322**	P	**P**	**07 55 57.3**	**+0.6**
	comp=Z,50nm,0.7s						
CHTO	**Chiang Mai**	**36.36**	**322**	P	**P**	**07 55 57.4**	**+0.7**
	comp=Z,163nm,0.7s						
CHTO	**Chiang Mai**	**36.36**	**322**	*e*P	**P**	**07 55 57.0**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,24nm,0.6s						
CHTO	**Chiang Mai**	**36.36**	**322**	*e*P	**P**	**07 55 57.0**	**+0.3**
	comp=Z,24nm,0.6s						
CRAI	**Chiangrai**	**36.63**	**325**	P	**P**	**07 55 56.6**	**-2.4**
	comp=Z,34nm,0.9s,comp=Z,2μm						
KMI	**Kunming**	**39.51**	**333**	P	**P**	**07 56 25.8**	**+2.3**
KMI				pP	**pP**	**07 56 29.0**	**+0.1**
KMI				PP	**PnPn**	**07 58 00.5**	**+3.1**
KMI				S	**S**	**08 02 28.5**	**+3.0**
KMI				SS	**SS**	**08 05 16.3**	**-4.1**
KMI				PMZ			
	comp=Z,20nm,0.8s						
KMI				PMZ			
	comp=Z,44nm,3.1s						
KMI				LN			
	comp=Z,280nm,16.1s						
KMI				LE			
	comp=Z,290nm,17.1s						
KMI				LZ			
	comp=Z,430nm,19.3s						
NJ2	**Nanjing**	**41.99**	**357**	*e*P	**P**	**07 56 42.0**	**-1.5**
NJ2				PMZ			
	comp=Z,20nm,0.6s						
CBIJ	**Chichi jima**	**42.05**	**28**	P	**P**	**07 56 43.4**	**-0.8**
JCJ	**Chichijima**	**42.05**	**28**	P	**P**	**07 56 43.4**	**-0.8**
	comp=Z,174nm,0.7s,baz=66,slow=20,SNR=4.2						
CD2	**Chengdu**	**44.20**	**338**	*e*P	**P**	**07 57 02.3**	**+0.7**
CD2				pP	**pP**	**07 57 06.8**	**-0.2**
CD2				sP	**sP**	**07 57 09.3**	**+0.2**
CD2				PP	**PcP**	**07 58 47.3**	**+1.1**
CD2				PcS	**PcS**	**08 02 38.8**	**-0.7**
CD2				S	**S**	**08 03 36.3**	**+2.0**
CD2				sS	**sS**	**08 03 43.3**	**0.0**
CD2				SS	**SS**	**08 06 46.5**	**-6.3**
CD2				PMZ			
	comp=Z,50nm,0.5s						
CD2				PMZ			
	comp=Z,220nm,5.6s						
CD2				LN			
	comp=Z,390nm,20.6s						
CD2				LZ			
	comp=Z,390nm,21.5s						
XAN	**Xi'an**	**45.50**	**345**	P	**P**	**07 57 11.3**	**-0.6**
XAN				S	**S**	**08 03 59.0**	**+5.9**
XAN				PMZ			
	comp=Z,5.

BJI PMZ
comp=Z,44nm,0.8s
BJI LN
comp=Z,200nm,20.6s
BJI LE
comp=Z,140nm,9.5s
BJI LZ
comp=Z,170nm,21.2s
HYB Hyderabad 50.51 302 *i* P **P** 07 57 49.0 -1.9
HYB *es*P sP 07 58 10.0 +11
JIRN Jiri 50.80 319 *e*P **P** **07 57 52.4 -1.0**
GUN Gumba 51.17 319 *e*P **P** **07 57 55.1 -1.1**
comp=Z,173nm,0.7s
PKI Pulchoki 51.26 318 *e*P **P** **07 57 55.4 -1.4**
comp=Z,73nm,0.6s
PKIN Phulchoki 51.27 318 *e*P **P** **07 57 55.8 -1.0**
comp=Z,33nm,0.6s
DMN Daman 51.48 318 *e*P **P** **07 57 57.8 -0.6**
comp=Z,107nm,0.9s
KKN Kakani 51.49 318 *e*P **P** **07 57 57.8 -0.5**
comp=Z,62nm,0.8s
HHC Hu-ho-hao-te 51.52 350 *e*P **P** **07 58 00.5 +2.3**
HHC PP **PP** **07 59 58.8 +3.0**
HHC S **S** **08 05 20.0 +2.0**
HHC sS **sS** **08 05 27.8 +0.7**
HHC SS **SS** **08 08 54.5 0.0**
HHC PMZ
comp=Z,27nm,0.7s
HHC PMZ
comp=Z,43nm,7.4s
HHC LN
comp=Z,290nm,14.8s
HHC LE
comp=Z,250nm,18.5s
HHC LZ
comp=Z,230nm,19.7s
GKN Gorkha 52.05 318 *e*P **P** **07 58 01.4 -1.1**
comp=Z,72nm,0.6s
KOLN Koldanda 52.59 317 *e*P **P** **07 58 05.2 -1.4**
comp=Z,65nm,0.7s
GTA Gaotai 53.23 339 *e*P **P** **07 58 10.5 -0.5**
GTA pP **pP** **07 58 15.3 -1.2**
GTA sP **sP** **07 58 17.8 -0.8**
GTA PcP **PcP** **07 59 19.0 +0.2**
GTA ScP **ScP** **08 03 17.0 +1.2**
GTA PcS **PcS** **08 03 19.5 +1.8**
GTA S **S** **08 05 42.5 +0.9**
GTA sS **sS** **08 05 49.8 -0.8**
GTA ScS **ScS** **08 07 54.5 -5.6**
GTA SS **SS** **08 09 21.8 +0.1**
GTA PMZ
comp=Z,8.0nm,0.8s
GTA PMZ
comp=Z,26nm,4.8s
GTA LN
comp=Z,210nm,18.0s
GTA LE
comp=Z,340nm,20.4s
GTA LZ
comp=Z,230nm,21.4s
USRK Ussuriysk Ar. 54.87 9 P **P** **07 58 21.2 -1.5**
comp=Z,8.2nm,0.8s,baz=204,slow=5.7,SNR=11
ASAJ Asahikawa 57.25 18 P **P** **07 58 39.8 +0.1**
comp=Z,28nm,0.8s,baz=202,slow=4.4,SNR=8.4
ASAJ Asahikawa 57.25 18 *e*P **P** **07 58 39.5 -0.2**
AJM Ajmer 58.27 310 *e*P **P** **07 58 45.0 -2.3**
SONM Songino Array 59.22 348 P **P** **07 58 53.0 -0.7**
comp=Z,8.6nm,0.6s,baz=166,slow=8.4,SNR=15
SONM Songino Array 59.22 348 P **P** **07 58 53.0 -0.7**
WMQ Urumqi 61.85 333 P **P** **07 59 12.0 +0.4**
WMQ pP **pP** **07 59 15.8 -1.4**
WMQ sP **sP** **07 59 18.5 -0.7**
WMQ PcP **PcP** **07 59 53.0 +0.6**
WMQ PP **PP** **08 01 30.5 +2.5**
WMQ PcS **PcS** **08 03 54.5 -0.9**
WMQ S **S** **08 07 33.3 -1.2**
WMQ ScS **SKSac** **08 09 01.0 -1.7**
WMQ SS **SS** **08 11 36.3 -0.7**
WMQ PMZ
comp=Z,29nm,0.5s
WMQ PMZ
comp=Z,120nm,5.6s
WMQ LN
comp=Z,210nm,21.4s
WMQ LE
comp=Z,360nm,24.0s
WMQ LZ
comp=Z,150nm,21.4s
ZAK Zakamensk 62.30 347 *e*P P 07 59 09.9 -4.6
ZAK pmax pmax
comp=Z,4.0nm,0.9s
TLY Talaya 63.44 348 *e*P **P** **07 59 21.4 -0.6**
TLY pmax pmax
comp=Z,6.0nm,0.6s
TLY MLR MLR
comp=Z,34nm,10.0s
TLY Talaya 63.44 348 *e*P **P** **07 59 21.6 -0.4**
comp=Z,6.2nm,0.8s
MOY Mondy 64.03 346 *e*P **P** **07 59 25.5 -0.4**
KSH Kashi 64.98 322 P **P** **07 59 31.5 -1.0**
KSH PP **PP** **08 01 54.0 -1.7**
KSH PcS 08 04 07.3
KSH S S 08 08 07.5 -6.4
KSH ScS **SKSac** **08 09 20.5 -6.4**
KSH PMZ
comp=Z,51nm,2.6s
KSH LN
comp=Z,120nm,5.8s
KSH LE
comp=Z,75nm,5.3s
KSH LZ
comp=Z,140nm,5.8s
MK31 Makanchi Array 66.58 332 P **P** **07 59 41.5 -1.0**
MK31 pmax pmax
comp=Z,15nm,0.6s
MK31 Makanchi Array 66.58 332 *e*P **P** **07 59 42.2 -0.4**
MKAR Makanchi Array 66.58 332 P **P** **07 59 42.2 -0.3**
comp=Z,18nm,0.5s,baz=143,slow=7.3,SNR=261
KBL Kabul 66.63 314 *e*P **P** **07 59 42.5 -0.9**
KBL pmax pmax
comp=Z,31nm,0.6s
KBL Kabul 66.63 314 *e*P **P** **07 59 42.5 -0.9**
comp=Z,31nm,0.6s
AAK Ala-Archa 67.81 324 *i* P **P** **07 59 49.6 -1.0**
AAK pmax pmax
comp=Z,4.0nm,0.6s
BOD Bodaibo 67.96 356 *e*P **P** **07 59 49.7 -1.3**
BOD pmax pmax
comp=Z,10.0nm,0.9s
EKS2 Erkin-Say 68.24 324 *e*P **P** **07 59 53.0 -0.3**
EKS2 pmax pmax
comp=Z,5.0nm,0.8s
EKS2 Erkin-Say 68.24 324 *e*P **P** **07 59 53.0 -0.3**
comp=Z,5.2nm,0.8s
MAW Mawson 69.08 201 P **P** **07 59 59.1 +1.3**
comp=Z,4.3nm,0.8s,baz=63,slow=8.2,SNR=7.2
MAW Mawson 69.08 201 *e*P **P** **07 59 59.2 +1.3**
MAW pmax pmax
comp=Z,6.0nm,1.6s
MAW Mawson 69.08 201 *e*P **P** **07 59 59.2 +1.3**
comp=Z,5.5nm,1.6s
PETK Petropavlovsk- 70.11 22 P **P** **08 00 05.2 +0.8**
comp=Z,11nm,0.6s,baz=189,slow=7.8,SNR=13
KKAR Karatay Array 70.43 323 *e*P **P** **08 00 06.5 -0.1**
KKAR Karatay Array 70.43 323 *e*P **P** **08 00 06.5 -0.1**
VNDA Vanda 70.53 171 P **P** **08 00 08.3 +1.7**
comp=Z,6.5nm,0.6s,baz=316,slow=6.6,SNR=56
VNDA Vanda 70.53 171 *e*P **P** **08 00 08.0 +1.3**
VNDA pmax pmax
comp=Z,35nm,1.5s
VNDA Vanda 70.53 171 *e*P **P** **08 00 08.0 +1.3**
comp=Z,35nm,1.5s
ZAA0 Zalesovo Array 70.97 338 *e*P **P** **08 00 08.1 -1.6**
ZALV Zalesovo Beam 70.97 338 P **P** **08 00 08.1 -1.5**
comp=Z,28nm,0.7s,baz=134,slow=4.3,SNR=58
KURK Kurchatov 71.10 333 P **P** **08 00 10.7 +0.2**
comp=Z,78nm,0.8s,SNR=15
KURK Kurchatov 71.10 333 P **P** **08 00 09.1 -1.4**
KURK pmax pmax
comp=Z,8.0nm,0.8s
KURK Kurchatov 71.10 333 *e*P **P** **08 00 09.8 -0.7**
OPO Ambohidratompo 72.11 254 P **P** **08 00 18.2 +0.6**
comp=Z,3.4nm,0.7s,baz=99,slow=5.2,SNR=6.8
YAK Yakutsk 72.19 4 *e*P **P** **08 00 16.3 -0.5**
YAK pmax pmax
comp=Z,71nm,1.0s
YAK pmax pmax
comp=N,13nm,1.1s
YAK pmax pmax
comp=E,4.0nm,0.8s
YAK Yakutsk 72.19 4 *e*P **P** **08 00 16.5 -0.3**
NVS Novosibirsk 72.25 338 *i* P **P** **08 00 14.7 -2.6**
NVS pmax pmax
comp=Z,40nm,0.9s
NVS pmax pmax
comp=N,5.0nm,0.6s
NVS pmax pmax
comp=E,4.0nm,0.6s
IAKL Akhelmad 74.99 312 *e*P **P** **08 00 34.3 0.0**
IBAF Bafgh 75.44 306 *e*P **P** **08 00 37.0 +0.2**
ISFR Sfrayin 75.73 312 *e*P **P** **08 00 38.9 +0.4**
ISHV Shirvan 76.14 313 *e*P **P** **08 00 41.5 +0.8**
BVA0 Borovoye Array 76.45 331 *i* P **P** **08 00 40.7 -1.2**
BVA0 pmax pmax
comp=Z,13nm,0.9s
BVAR Borovoye Array 76.45 331 LR LR 08 39 43.3
comp=Z,134nm,20.6s,baz=124,slow=40
BRVK Borovoye 76.52 331 P **P** **08 00 41.4 -0.9**
comp=Z,66nm,0.7s,SNR=6.2
BRVK Borovoye 76.52 331 *ce*P **P** **08 00 41.8 -0.5**
BRVK pmax pmax
comp=Z,7.0nm,0.7s
BRVK Borovoye 76.52 331 *e*P **P** **08 00 41.7 -0.6**
SEY Seymchan 76.59 14 P **P** **08 00 43.2 +0.8**
comp=Z,14nm,0.7s,baz=214,slow=4.2,SNR=26
ISRV Sarvestan 76.64 303 *e*P **P** **08 00 45.3 +1.4**
IPAR Pars 76.85 304 *e*P **P** **08 00 46.2 +1.2**
SYO Syowa Base 77.75 201 ‖ *e*P **P** **08 00 48.2 -0.7**
IPIR Pirpir 79.54 306 *e*P **P** **08 00 59.3 -0.6**
QSPA South Pole Qui 79.90 180 *e*P **P** **08 01 02.0 +0.9**
AB31 Akbulak array 79.90 324 *i* P **P** **08 01 00.2 -0.9**
AB31 pmax pmax
comp=Z,7.0nm,0.6s
ABKAR Akbulak array 79.90 324 *e*P **P** **08 01 00.1 -1.0**
comp=Z,8.7nm,0.6s
DAMY Dhamar 80.29 287 *e*P **P** **08 01 06.1 +1.8**
RAYN Ar Rayn 81.43 296 P **P** **08 01 10.2 +0.3**
comp=Z,133nm,1.1s,SNR=8.4
AKTO Aktyubinsk 81.56 325 P **P** **08 01 09.0 -0.9**
AKTO pmax pmax
comp=Z,12nm,0.7s
TIXI Tiksi 81.71 2 *ce*P **P** **08 01 09.6 -0.7**
TIXI pmax pmax
comp=Z,13nm,0.9s
TIXI Tiksi 81.71 2 *e*P **P** **08 01 09.4 -0.9**
comp=Z,17nm,1.0s
ARU Arti 84.05 330 *d i*P **P** **08 01 21.8 -0.9**
ARU 08 04 33.3
ARU S **S** **08 11 41.8 -4.4**
ARU SS SS 08 17 06.1 -9.0
ARU pmax pmax
comp=Z,7.0nm,1.0s
BILL Bilibino 84.16 15 ‖ *e*P **P** **08 01 23.7 +0.6**
BILL *e* 08 04 39.1
BILL *es*S **S** **08 11 43.2 -3.8**
BILL pmax pmax
comp=Z,5.0nm,1.2s
KMBO Kilima Mbogo 84.17 270 P **P** **08 01 24.7 +0.1**
comp=Z,1.4nm,0.3s,baz=58,slow=8.1,SNR=4.9
KMBO Kilima Mbogo 84.17 270 *e*P **P** **08 01 24.1 -0.6**
KMBO pmax pmax
comp=Z,4.0nm,0.9s
KMBO Kilima Mbogo 84.17 270 *e*P **P** **08 01 24.1 -0.6**
comp=Z,4.4nm,0.9s
DGRG David-gareji 86.44 313 P **P** **08 01 36.9 +1.8**
NVL N'lazarevskaya 86.88 198 *e*P P 08 01 30.8 -5.9
NVL pmax pmax
comp=Z,6.0nm,0.7s
TBLG Delisi 86.97 313 P **P** **08 01 39.7 +1.9**
AKH Akhalkalaki 87.78 313 P **P** **08 01 44.2 +2.3**
ONI Oni 88.13 314 P **P** **08 01 45.0 +1.8**
KBZ Khabaz 88.82 315 P **P** **08 01 47.5 +1.1**
comp=Z,7.9nm,0.9s,baz=56,slow=24,SNR=16
KIV Kislovodsk 89.02 315 *e*P **P** **08 01 48.0 +0.5**
KIV pmax pmax
comp=Z,7.0nm,1.0s
GOF Gofitskoye 89.06 316 *e*P **P** **08 01 48.3 +0.7**
CHVG Ch'k'valeri 89.13 314 P **P** **08 01 48.7 +0.7**
SNAA Sanae 90.61 195 P **P** **08 01 54.2 -0.2**
SNAA Sanae 90.61 195 *c i*P **P** **08 01 53.6 -0.8**
SNAA pmax pmax
comp=Z,11nm,1.0s
SNAA Sanae 90.61 195 *e*P **P** **08 01 53.8 -0.6**
comp=Z,9.1nm,1.0s
BOSA Boshof 90.67 241 P **P** **08 01 56.3 +0.6**
comp=Z,0.8nm,0.4s,baz=101,slow=4.3,SNR=3.0
VNA2 Neumayer--Watz 92.23 195 P **P** **08 02 03.3 +1.4**
baz=134,slow=4.3
VNA1 Neumayer--Stat 92.63 195 P **P** **08 02 04.9 +1.2**
BR131 Keskin Array S 94.76 309 *e*P **P** **08 02 13.9 -0.4**
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 94.76 309 P **P** **08 02 13.6 -0.7**
comp=Z,2.6nm,0.9s,baz=103,slow=4.3,SNR=9.7
OBN Obninsk 95.33 325 ‖ *e*P **P** **08 02 15.1 -1.2**
OBN pmax pmax
comp=Z,6.0nm,1.2s
APA Apatity 98.54 337 *e*P Pdif 08 02 37.0 +6.4
APA MLR MLR
comp=Z,300nm,14.0s
COLD Coldfoot 98.56 23 *e*P **P** **08 02 30.5 -0.2**
comp=Z,6.2nm,1.1s
AKASG Malin Array Be 99.19 320 P **Pdif** **08 02 32.6 -1.2**
comp=Z,1.5nm,0.6s,baz=81,slow=4.5,SNR=7.6
KIEV Kiev 99.20 320 *e*P **Pdif** **08 02 33.7 -0.2**
ILAR Eielson Array 99.73 26 P **Pdif** **08 02 34.4 -1.6**
comp=Z,0.6nm,0.6s,baz=234,slow=5.7,SNR=11
ILAR PP PP 08 06 34.2 -6.1
comp=Z,0.5nm,0.9s,baz=268,slow=7.0,SNR=3.9
FINES FINESS Array B 101.41 331 P **Pdif** **08 02 42.4 -1.1**
comp=Z,1.1nm,0.6s,baz=177,slow=11,SNR=3.7
STHS Stebnicka Huta 104.29 318 *e*P **Pdif** **08 02 57.2 +0.6**
STHS Stebnicka Huta 104.29 318 PDIF **Pdif** **08 02 57.2 +0.6**
RES Resolute Bay 112.24 10 PKiKP **PKiKP** **08 07 27.1 -0.3**
comp=Z,0.9nm,0.9s,baz=191,slow=1.5,SNR=4.7
BFO Black Forest 112.87 318 *i* PKiKP **PKiKP** **08 07 27.8 -1.6**
YKA Yellowknife Ar 114.14 25 PKP PKPdf 08 07 31.7 +0.4
comp=Z,1.3nm,0.5s,baz=299,slow=2.0,SNR=28
NVAR Mina Array Bea 119.76 51 PKP **PKPdf** **08 07 46.2 +3.1**
comp=Z,0.6nm,0.8s,baz=270,slow=2.7,SNR=3.7
BSMT Bassoo Peak 119.77 40 *e*PKPdf **PKPdf** **08 07 43.1 +0.3**
SWMT Swartz Lake 120.39 40 *e*PKPdf **PKPdf** **08 07 44.4 +0.4**
TOA0 Torodi Ar. Sit 121.11 279 *e*PKP2 **PKPdf** **08 07 46.4 +0.3**
TOA0 Torodi Ar. Sit 121.11 279 *e*PKP2 **PKPdf** **08 07 47.0 +0.9**
TOA0 Torodi Ar. Sit 121.11 279 *e*PKPdf **PKPdf** **08 07 46.1 0.0**
TORD Torodi Ar. Bea 121.11 279 PKP **PKPdf** **08 07 46.5 +0.3**
comp=Z,6.5nm,0.5s,baz=57,slow=1.7,SNR=118
EGMT Eagleton 122.86 39 *e*PKPdf **PKPdf** **08 07 49.2 +0.6**
EGMT Eagleton 122.86 39 P **PKPdf** **08 07 49.9 +1.2**
baz=123
A19A Klindworth Far 123.09 37 P **PKPdf** **08 07 49.5 +0.4**
baz=123
B19A Brinkman Farms 123.17 38 P **PKPdf** **08 07 50.0 +0.8**
baz=123
DUG Dugway, Tooele 123.48 48 *e*PKiKP **PKPdf** **08 07 49.5 -0.7**
DUG Dugway, Tooele 123.48 48 *e*PKPdf **PKPdf** **08 07 49.5 -0.7**
GLA Glamis 123.55 57 *e*PKiKP **PKPdf** **08 07 52.1 +1.7**
GLA Glamis 123.55 57 *e*PKPdf **PKPdf** **08 07 52.1 +1.7**
GLA Glamis 123.55 57 P **PKPdf** **08 07 53.1 +2.7**
baz=124
A20A Cobblestone Ra 123.60 37 P **PKPdf** **08 07 51.2 +1.2**
baz=124
B20A Solberg Farm, 123.73 38 P **PKPdf** **08 07 51.4 +1.2**
baz=124
REDW Red Top Meadow 123.88 44 *e*PKPdf **PKPdf** **08 07 52.2 +1.3**
SNOW Snow King Moun 123.92 44 *e*PKPdf **PKPdf** **08 07 52.6 +1.6**
C20A Veseth Ranch, 124.06 38 P **PKPdf** **08 07 52.1 +1.1**
baz=124
E19A Rath Farm, Rou 124.09 40 P **PKPdf** **08 07 52.2 +1.1**
baz=124
FCC Fort Churchill 124.46 22 *e*PKiKP **PKPdf** **08 07 51.4 +0.2**
FCC Fort Churchill 124.46 22 *e*PKPdf **PKPdf** **08 07 51.4 +0.2**
C21A Desert Coulee 124.56 38 P **PKPdf** **08 07 52.8 +0.9**
baz=125
PDAR Pinedale Array 124.98 44 PKP **PKPdf** **08 07 54.5 +1.4**
comp=Z,0.3nm,0.5s,baz=33,slow=2.2,SNR=3.0
H20A Greybull 125.39 42 P **PKPdf** **08 07 54.8 +1.1**
baz=125
D22A Cohagen 125.42 38 P **PKPdf** **08 07 54.6 +1.1**
baz=125
I20A Worland 125.51 43 P **PKPdf** **08 07 54.5 +0.6**
baz=126
C23A Lambert 125.72 37 P **PKPdf** **08 07 55.1 +1.0**
baz=126
D23A Lindsay 126.00 38 P **PKPdf** **08 07 55.7 +1.0**
baz=126
C24A Savage 126.30 37 P **PKPdf** **08 07 56.2 +1.0**
baz=126
KIC Kosan Boka 126.75 270 *e*PKP2 **PKPdf** **08 07 57.1 +0.1**
comp=Z,25nm,1.3s
J22A Midwest 126.82 43 P **PKPdf** **08 07 57.2 +0.7**
baz=127
LIC Lamto 127.01 270 *e*PKP2 **PKPdf** **08 07 58.2 +0.7**
comp=Z,11nm,0.5s
TIC Toumodi 127.06 271 *e*PKP2 **PKPdf** **08 07 58.7 +1.1**
comp=Z,13nm,0.4s
RSSD Black Hills 128.12 41 *e*PKiKP **PKPdf** **08 07 58.3 -0.7**
RSSD Black Hills 128.12 41 *e*PKPdf **PKPdf** **08 07 58.3 -0.7**
PLCA Paso Flores 128.21 168 PKP **PKPdf** **08 07 58.6 -0.5**
comp=Z,1.0nm,0.8s,baz=108,slow=6.4,SNR=2.9
D27A Center 128.22 36 P **PKPdf** **08 07 58.7 -0.2**
baz=128
I25A Rochford 128.36 41 P **PKPdf** **08 07 59.3 -0.2**
baz=128
G26A Maurine 128.48 39 P **PKPdf** **08 07 59.9 +0.4**
baz=128
G27A Dupree 128.85 39 P **PKPdf** **08 08 01.0 +0.9**
baz=129
H27A Howes 129.12 39 P **PKPdf** **08 08 01.1 +0.3**
baz=129
ULM Lac du Bonnet 129.47 30 PKP **PKPdf** **08 08 01.5 +0.4**
comp=Z,1.6nm,0.6s,baz=306,slow=8.7,SNR=4.5
I28A Midland 130.00 40 P **PKPdf** **08 08 03.0 +0.7**
baz=130
ECSD EROS Data Cent 132.95 38 P **PKPdf** **08 08 09.0 +1.0**
baz=133
TXAR Lajitas Array 133.69 59 PKhKP PKPpre 08 07 59.3
comp=Z,0.1nm,0.5s,baz=238,slow=2.1,SNR=3.6
TXAR PKP **PKiKP** **08 08 11.3 +0.1**
comp=Z,0.3nm,0.7s,baz=268,slow=2.9,SNR=5.2
SCHQ Schefferville 134.89 7 PKP **PKPdf** **08 08 12.1 +0.8**
comp=Z,2.2nm,0.5s,baz=312,slow=0.8,SNR=11
OXF Oxford 142.72 45 *e*PKiKP **PKPdf** **08 08 23.0 -3.1**
OXF Oxford 142.72 45 *e*PKPdf **PKPdf** **08 08 23.0 -3.1**
WVT Waverly 142.85 41 *e*PKiKP **PKPdf** **08 08 23.7 -2.6**
WVT Waverly 142.85 41 *e*PKPdf **PKPdf** **08 08 23.7 -2.6**
BINY Binghamton 144.52 23 *e*PKPdf PKPbc 08 08 28.2 +0.5
SSPA Standing Stone 145.06 26 *e*PKPbc **PKPdf** **08 08 30.0 -0.1**
LRAL Lakeview Retre 145.21 45 *e*PKPbc **PKPab** **08 08 30.4 +0.2**
CPCT Cooper Cave 145.37 39 *e*PKPbc **PKPab** **08 08 31.2 +0.4**
TKL Tuckaleechee C 145.69 38 *e*PKP2 **PKPab** **08 08 32.4 +0.4**
TKL Tuckaleechee C 145.69 38 *e*PKPbc **PKPab** **08 08 32.4 +0.4**
QUA2 Belchertown 145.71 18 *e*PKPdf **PKPdf** **08 08 29.1 -2.0**
LVC Limon Verde 145.92 163 *e*PKPdf **PKPdf** **08 08 32.0 -0.4**
BRAL Brewton 146.27 48 *e*PKPbc **PKPab** **08 08 34.6 +0.3**
GOGA Godfrey 147.35 41 *e*PKP2 **PKPbc** **08 08 36.9 +0.4**
GOGA Godfrey 147.35 41 *e*PKPbc **PKPbc** **08 08 36.9 +0.4**
JSRW J. Sargeant Re 147.44 29 *e*PKPdf **PKPdf** **08 08 35.3 +1.1**
KMSC Kings Mountain 147.50 36 *e*PKPbc **PKPbc** **08 08 37.5 +0.6**
LPAZ La Paz 152.09 160 PKPbc **PKPbc** **08 08 49.4 -0.1**
comp=Z,1.1nm,0.5s,baz=93,slow=3.6,SNR=9.1
LPAZ PKPab **PKPab** **08 09 00.8 +2.0**
comp=Z,13nm,0.7s,baz=349,slow=5.0,SNR=41
BDFB Brasilia 152.41 202 PKPbc **PKPbc** **08 08 50.5 +0.9**
comp=Z,2.2nm,0.5s,baz=185,slow=1.5,SNR=6.8
BDFB PKPab **PKPab** **08 09 00.8 +1.3**
comp=Z,1.5nm,0.4s,baz=196,slow=7.8,SNR=4.0

IDC ***26*** *07:51:03.8±0.4,9.°94S×121.°52E, h0km, mb4.9/25, mb1 4.9/26,mb1mx4.8/34,mbtmp4.8/26,ML4.6/1,MS4.2/4, Ms1 4.2/4,ms1mx3.7/27,Error ellipse: s-maj=16.9km s-min=11.6km az=72.0*

BJI ***26*** *07:51:06.8,10.°10S×121.°40E,h31km,mb4.9/34,mB4.9/24, Ms4.6/23,Ms7 4.3/23*

ISCJB ***26*** *07:51:07.1±0.3,10.°12S±0.°04×121.°48E±0.°04,h33km, mb4.9/53,MS4.3/4,Error ellipse: s-maj=5.5km s-min=5.1km az=2.6*

MOS ***26*** *07:51:07.0±1.1,9.°96S×121.°60E,h33km,mb5.3/11,Error ellipse: s-maj=15.2km s-min=8.5km az=114.8*

NEIC ***26*** *07:51:09.7±0.3,10.°12S×121.°45E,h35km,mb5.0/19,Error ellipse: s-maj=10.7km s-min=7.3km az=58.0*

DJA ***26*** *07:51:10.5±0.5,10°S±4°×12°1E±°,h10km,MS5.3/9,mb5.5/1, mB5.5/1,MLv5.2/9,Mw(mB)5.0/1*

ISC 26 07:51:08.7±0.5,**10.°11S**±0.°04×**121.°48E**±0.°04,**h30**km±2km, **h30**km:**pP-P,n193,**σ1§**58**/221,**mb5.0**/54,**MS4.3**/4,**3C, Savu Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**0.90**	**263**	P	**Pb**	**Pb**	**07 51 25.7**	**0.0**
BASI				S	**Sn**	**Sn**	**07 51 35.9**	**-1.3**
MMRI	**Maumere**	**1.65**	**27**	P	**Pb**	**Pb**	**07 51 37.3**	**-1.1**
MMRI				S	**Sn**	**Sn**	**07 51 56.2**	**+0.5**
WBSI	**Waikabubak, Su**	**2.11**	**283**	P	**Pb**	**Pb**	**07 51 44.7**	**-1.7**
WBSI				S	**Sb**	**Sb**	**07 52 10.4**	**-1.8**
SOEI	**Soe**	**2.77**	**83**	P	**Pb**	**Pb**	**07 51 56.1**	**-1.5**
BSSI	**Bau Bau, Buton**	**4.06**	**346**	P	**Pn**	**Pn**	**07 52 11.1**	**+2.3**
BBSI	**Bau Bau**	**4.72**	**13**	P	**Pn**	**Pn**	**07 52 19.4**	**+1.5**
BKSI	**Bulukumba**	**4.94**	**344**	P	**Pn**	**Pn**	**07 52 22.4**	**+1.5**
KAPI	**Kappang** 3μm,0.6s,SNR=12	**5.34**	**341**	Pn	Pn	Pn	07 52 31.5	+5.0
KAPI	42nm,0.3s,baz=170,slow=12,SNR=14			Pn	Pn	Pn	07 52 29.7	+3.3
KAPI				LR	LR		07 54 41.1	
	comp=Z,2μm,21.6s,baz=177,slow=42							
KDI	**Kendari**	**6.22**	**11**	P	**Pn**	**Pn**	**07 52 40.3**	**+1.8**
IGBI	**Denpasar**	**6.38**	**281**	P	Pb	Pb	07 52 54.0	-5.0
TTSI	**Tana Toraja**	**7.21**	**347**	P	Pn	Pn	07 52 56.9	+4.8
KBKI	**Kotabaru**	**8.58**	**322**	P	**Pn**	**Pn**	**07 53 12.1**	**+1.2**
NLAI	**Namlea**	**8.82**	**40**	P	Pn	Pn	07 53 18.8	+4.6
LUWI	**Luwuk**	**9.10**	**8**	Pn	**Pn**	**Pn**	**07 53 20.8**	**+2.7**
SANI	**Sanana**	**9.18**	**30**	P	Pn	Pn	07 53 23.8	+4.7
BBKI	**Banjar Baru**	**9.33**	**315**	P	**Pn**	**Pn**	**07 53 20.5**	**-0.7**
FAKI	**Fak Fak**	**12.86**	**57**	*e*Pn	**Pn**	**Pn**	**07 54 09.1**	**-0.5**
SBUM	**Sibu** 95nm,0.8s	**15.52**	**323**	*e*Pn	**Pn**	**Pn**	**07 54 47.0**	**+1.5**
WRA	**Warramunga Arr** 1.9nm,0.3s,baz=303,slow=14,SNR=5.7	**15.79**	**130**	Pn	Pn	Pn	07 54 44.1	-4.9
WRA				Sn	Sn	Sn	07 57 31.9	-11
	1.9nm,0.3s,baz=304,slow=23,SNR=4.7							
KSM	**Kuching** 90nm,1.0s	**16.00**	**315**	*e*P	**P**	**07 54 55.0**	**0.0**	
KKM	**Kota Kinabalu** 99nm,1.2s	**16.88**	**342**	*e*Pn	**Pn**	**07 55 03.1**	**+0.1**	
ASAR	**Alice Springs** 1.8nm,0.3s,baz=322,slow=13,SNR=7.7	**17.95**	**140**	P	**Pn**	**07 55 15.3**	**-0.9**	
ASAR				S	Sn	07 58 24.3	-12	
	1.2nm,0.3s,baz=309,slow=21,SNR=5.1							
MYKOM	**Kota Tinggi** 28nm,1.0s	**21.16**	**303**	*e*P	**P**	**07 55 52.6**	**+1.0**	
NWAO	**Narrogin (SRO)** 21nm,0.6s,baz=328,slow=6.5,SNR=4.1	**23.04**	**189**	P	**P**	**07 56 10.3**	**-1.2**	
IPM	**Ipoh** 35nm,0.9s	**25.00**	**304**	*e*P	**P**	**07 56 30.6**	**+0.4**	
KULM	**Kulim** 36nm,1.2s	**25.78**	**305**	*e*P	**P**	**07 56 36.5**	**-0.7**	
CTA	**Charters Tower** 15nm,1.0s,baz=282,slow=14,SNR=5.1	**25.86**	**115**	P	**P**	**07 56 38.6**	**+0.7**	
PSI	**Prapat** 15nm,0.7s,baz=157,slow=9.3,SNR=9.7	**25.87**	**299**	P	**P**	**07 56 37.1**	**-1.0**	
STKA	**Stephens Creek** 32nm,0.7s,baz=314,slow=9.3,SNR=14	**28.56**	**142**	P	**P**	**07 57 02.4**	**+0.3**	
STKA				LR	LR	08 09 30.4		
	comp=Z,822nm,20.4s,baz=310,slow=39							
QIZ	**Qiongzhong**	**31.15**	**338**	P	**P**	**07 57 27.0**	**+2.0**	
QIZ				S	**S**	**08 02 32.0**	**+3.0**	
QIZ	410nm,20.2s			LN				
QIZ	590nm,20.4s			LZ				
SKNT	**Sakolnakorn** 58nm,0.8s	**31.99**	**327**	P	**P**	**07 57 32.6**	**+0.1**	
KHON	**Khomkaen** 26nm,0.7s	**32.12**	**325**	P	**P**	**07 57 34.6**	**+1.1**	
GUMO	**Guam** 94nm,0.8s,baz=220,slow=12,SNR=4.9	**33.06**	**45**	P	P	07 57 38.2	-3.6	
GUMO	**Guam**	**33.06**	**45**	*e*P	**P**	**07 57 39.8**	**-2.1**	
GUMO	**Guam**	**33.06**	**45**	*e*P	**P**	**07 57 39.8**	**-2.1**	
PBKT	**Sadao Pong** 44nm,0.8s	**33.38**	**322**	P	**P**	**07 57 45.0**	**+0.4**	
UTHA	**Uthaitani** 13nm,0.7s,111nm	**33.57**	**319**	P	**P**	**07 57 47.4**	**+1.1**	
UTTA	**Uttaradit**	**34.54**	**323**	P	**P**	**07 57 55.9**	**+1.2**	

9.3nm,0.8s,76nm
LAMP Lampang 35.70 323 P P 07 58 05.6 +0.9
15nm,0.7s,132nm
CMAR Chiang Mai Arr 36.06 322 P P 07 58 07.8 +0.1
12nm,0.7s,baz=149,slow=6.8,SNR=16
CMAR PcP **PcP 08 00 35.0 +1.2**
1.9nm,0.4s,baz=166,slow=3.1,SNR=5.9
CMAR ScP **ScP 08 04 21.3 +3.2**
1.6nm,0.3s,baz=171,slow=3.3,SNR=10
CMAR LR LR 08 13 50.7
comp=Z,437nm,20.4s,baz=160,slow=38
CMMT Chiang Mai 36.33 322 P P 07 58 10.5 +0.4
40nm,1.0s
CHTO Chiang Mai 36.33 322 P P 07 58 10.6 +0.5
134nm,1.0s
CHTO Chiang Mai 36.33 322 *e*P **P 07 58 10.1 0.0**
CHTO pmax pmax
comp=Z,16nm,0.7s
CHTO Chiang Mai 36.33 322 *e*P **P 07 58 10.1 0.0**
comp=Z,16nm,0.7s
CRAI Chiangrai 36.61 325 P **P 07 58 09.9 -2.6**
comp=Z,42nm,1.3s
GYA Guiyang 39.10 339⇑ *i*P **P 07 58 31.8 -1.7**
GYA pP **pP 07 58 45.5 +3.0**
GYA PP **PnPn 08 00 11.0 +4.8**
GYA PcP **PcP 08 00 44.5 +1.4**
GYA ScP **ScP 08 04 30.3 +0.8**
GYA S **S 08 04 34.8 +3.4**
GYA SS **SS 08 07 20.0 -4.8**
GYA PMZ
comp=Z,10.0nm,0.8s
GYA PMZ
comp=Z,120nm,5.0s
GYA LN
comp=Z,830nm,17.8s
GYA LE
comp=Z,670nm,18.2s
GYA LZ
comp=Z,720nm,17.5s
KMI Kunming 39.50 333 P **P 07 58 38.5 +1.5**
KMI pP **pP 07 58 48.0 +2.0**
KMI PP **PnPn 08 00 15.8 +4.7**
KMI PcS **PcS 08 04 37.0 +2.2**
KMI S **S 08 04 40.5 +2.8**
KMI PMZ
comp=Z,23nm,0.8s
KMI PMZ
comp=Z,51nm,3.1s
KMI LN
comp=Z,280nm,15.2s
KMI LE
comp=Z,280nm,20.9s
KMI LZ
comp=Z,330nm,14.5s
NJ2 Nanjing 42.00 357 *e*P **P 07 58 58.0 +0.8**
NJ2 PMZ
comp=Z,60nm,0.6s
CD2 Chengdu 44.19 338 *e*P **P 07 59 14.0 -1.1**
CD2 pP **pP 07 59 23.3 -0.9**
CD2 sP **sP 07 59 27.0 -0.9**
CD2 PP **PP 08 00 58.8 +0.2**
CD2 PcS **PcS 08 04 50.0 -2.9**
CD2 S **S 08 05 45.5 -1.1**
CD2 sS **sS 08 06 01.0 -0.6**
CD2 SS SS 08 08 56.0 -9.4
CD2 PMZ
comp=Z,50nm,0.5s
CD2 PMZ
comp=Z,200nm,5.4s
CD2 LN
comp=Z,390nm,30.6s
CD2 LZ
comp=Z,400nm,31.5s
XAN Xi'an 45.50 345 P **P 07 59 24.3 -1.2**
XAN S **S 08 06 04.5 -1.0**
XAN PMZ
comp=Z,3.0nm,0.6s
XAN PMZ
comp=Z,21nm,6.3s
XAN LN
comp=Z,140nm,19.5s
XAN LE
comp=Z,72nm,19.0s
XAN LZ
comp=Z,80nm,17.6s
CHLP Challavanipeta 46.60 307 *e*P **P 07 59 34.1 -0.2**
CHLP IAmb IAmb 07 59 34.4
comp=Z,47nm,1.3s
SKHT Srikalahasti 47.74 299 *e*P **P 07 59 42.8 -0.5**
H08S2 Diego Garcia H 48.43 269 T T 08 51 45.5
baz=97,slow=75,SNR=11
H08S3 Diego Garcia H 48.44 269 T T 08 51 54.4
baz=97,slow=75,SNR=8.9
H08S1 Diego Garcia H 48.45 269 T T 08 52 08.7
baz=97,slow=75,SNR=11
MJAR Matsushiro Arr 49.00 18 P P 07 59 49.4 -3.3
comp=Z,5.9nm,0.7s,baz=191,slow=9.7,SNR=10
MAT Matsushiro 49.00 18 P **P 07 59 50.4 -2.3**
LSA Lhasa 49.19 325 *e*P **P 07 59 54.2 -0.6**
LSA pmax pmax
comp=Z,42nm,0.7s
LSA Lhasa 49.19 325 *e*P **P 07 59 54.2 -0.6**
comp=Z,42nm,0.7s
NJS Nagarjunasagar 49.42 302 *e*P **P 07 59 54.8 -1.4**
NJS IAmb IAmb 07 59 58.3
comp=Z,32nm,1.1s
NJS *e*pP **pP 08 00 04.9 -0.5**
ODAN Odare 49.45 319 *e*P **P 07 59 56.5 -0.1**
comp=Z,57nm,0.9s
TAPN Taplejung 49.58 320 *e*P **P 07 59 56.4 -1.2**
comp=Z,152nm,0.9s
RAMN Ramite 50.03 318 *e*P **P 08 00 01.0 0.0**
comp=Z,176nm,1.0s
URV Uravakonda 50.40 299 *e*P **P 08 00 02.3 -1.4**
URV *e*pP **pP 08 00 13.3 +0.3**
HYB Hyderabad 50.47 303 *i*P **P 08 00 02.0 -2.2**
HYBB Hyderabad (bro 50.47 303 *e*P **P 08 00 02.7 -1.5**
HYBB IAmb IAmb 08 00 05.7
comp=Z,21nm,0.7s
HYBB *e*pP **pP 08 00 12.9 -0.6**
RPR Rampur 50.59 305 *e*P **P 08 00 03.2 -1.9**
RPR IAmb IAmb 08 00 04.4
comp=Z,17nm,0.8s
RPR *e*pP **pP 08 00 13.8 -0.4**
JIRN Jiri 50.77 319 *e*P **P 08 00 05.4 -1.4**
comp=Z,100nm,0.7s
GUN Gumba 51.15 319 *e*P **P 08 00 08.9 -0.6**
comp=Z,143nm,0.7s
PKI Pulchoki 51.23 318 *e*P **P 08 00 09.3 -0.8**
comp=Z,49nm,0.5s
PKIN Phulchoki 51.24 318 *e*P **P 08 00 09.7 -0.4**
comp=Z,25nm,0.6s
DMN Daman 51.45 318 *e*P **P 08 00 11.3 -0.4**
KKN Kakani 51.46 318 *e*P **P 08 00 11.5 -0.2**
comp=Z,82nm,1.0s
HHC Hu-ho-hao-te 51.52 350 *e*P P 08 00 15.0 +3.2
HHC PP **PP 08 02 13.3 +3.8**
HHC S **S 08 07 32.8 +2.4**
HHC sS sS 08 07 49.5 +3.9
HHC SS **SS 08 11 07.3 +0.3**
HHC PMZ
comp=Z,13nm,0.9s
HHC PMZ
comp=Z,90nm,7.4s
HHC LN
comp=Z,260nm,16.0s
HHC LE
comp=Z,260nm,18.5s
HHC LZ
comp=Z,300nm,21.0s
GKN Gorkha 52.02 318 *e*P **P 08 00 15.2 -0.7**
comp=Z,54nm,0.6s
KOLN Koldanda 52.56 317 *e*P **P 08 00 19.7 -0.3**
comp=Z,47nm,0.7s
GTA Gaotai 53.23 339 *e*P P 08 00 29.5 +5.0
GTA pP pP 08 00 39.5 +5.7
GTA sP sP 08 00 43.5 +6.1
GTA PcP **PcP 08 01 35.8 +3.6**
GTA ScP **ScP 08 05 30.0 +2.2**
GTA PcS **PcS 08 05 33.0 +1.9**
GTA S **S 08 07 59.5 +5.7**
GTA PMZ
comp=Z,9.0nm,1.0s
GTA PMZ
comp=Z,81nm,5.2s
GTA LN
comp=Z,210nm,18.0s
GTA LE
comp=Z,340nm,19.5s
GTA LZ
comp=Z,230nm,20.9s
RPZ Rata Peaks 54.33 137 P **P 08 00 33.4 +0.9**
comp=Z,1.1nm,0.6s,baz=184,slow=2.5,SNR=4.0
USRK Ussuriysk Ar. 54.89 9 P **P 08 00 33.3 -3.1**
comp=Z,2.6nm,0.4s,baz=194,slow=6.1,SNR=6.5
USRK LR LR 08 24 24.1
comp=Z,98nm,20.8s,baz=160,slow=37
POO Poona 54.93 301⇑ *i*P **P 08 00 37.0 -0.3**
comp=Z,3.0nm,1.0s
MDJ Mudanjiang 54.96 7 P P 08 00 44.0 +7.1
MDJ pmax pmax
comp=Z,16nm,1.1s
MDJ pmax pmax
comp=Z,63nm,3.5s
ASAJ Asahikawa 57.27 18 P **P 08 00 51.9 -1.5**
comp=Z,21nm,0.8s,baz=176,slow=9.6,SNR=4.3
SONM Songino Array 59.22 348 P **P 08 01 05.0 -2.2**
comp=Z,5.2nm,0.5s,baz=164,slow=7.5,SNR=5.7
WMQ Urumqi 61.83 333 P **P 08 01 25.5 +0.5**
WMQ pP **pP 08 01 35.5 +1.1**
WMQ sP **sP 08 01 39.5 +1.5**
WMQ PP **PP 08 03 43.8 +2.3**
WMQ PcS **PcS 08 06 08.0 -0.8**
WMQ S **S 08 09 44.8 -1.8**
WMQ sS **sS 08 10 01.8 -0.3**
WMQ ScS **SKSac 08 11 09.8 -4.9**
WMQ SS **SS 08 13 47.8 -1.4**
WMQ PMZ
comp=Z,14nm,0.6s
WMQ PMZ
comp=Z,180nm,4.4s
WMQ LN
comp=Z,210nm,22.6s
WMQ LE
comp=Z,260nm,23.6s
WMQ LZ
comp=Z,130nm,22.6s
MOY Mondy 64.02 346 *e*P **P 08 01 38.2 -1.3**
KSH Kashi 64.96 322 P **P 08 01 44.5 -1.4**
KSH sP **sP 08 01 58.8 -0.1**
KSH PP **PP 08 04 08.0 -1.2**
KSH PcS 08 06 21.3
KSH S S 08 10 19.3 -6.6
KSH sS sS 08 10 36.0 -5.5
KSH ScS **SKSac 08 11 32.0 -6.8**
KSH PMZ
comp=Z,35nm,2.6s
KSH LN
comp=Z,74nm,6.8s
KSH LE
comp=Z,91nm,5.5s
KSH LZ
comp=Z,150nm,5.4s
MK31 Makanchi Array 66.57 332 *e*P **P 08 01 55.1 -0.9**
MK31 Makanchi Array 66.57 332 *e*P **P 08 01 55.0 -0.9**
MKAR Makanchi Array 66.57 332 P **P 08 01 55.1 -0.9**
comp=Z,12nm,0.6s,baz=144,slow=7.2,SNR=21
MKAR Makanchi Array 66.57 332 *e*P **P 08 01 55.2 -0.8**
KBL Kabul 66.60 315 *e*P **P 08 01 55.3 -1.4**
KBL pmax pmax
comp=Z,24nm,0.7s
KBL Kabul 66.60 315 *e*P **P 08 01 55.2 -1.4**
comp=Z,24nm,0.7s
BOD Bodaibo 67.97 356 *e*P **P 08 02 02.8 -1.7**
BOD pmax pmax
comp=Z,8.0nm,0.8s
EKS2 Erkin-Say 68.22 324 *e*P **P 08 02 06.7 +0.1**
EKS2 pmax pmax
comp=Z,11nm,1.3s
EKS2 Erkin-Say 68.22 324 *e*P **P 08 02 06.7 +0.1**
comp=Z,11nm,1.3s
MAW Mawson 69.05 201 P **P 08 02 11.6 +0.4**
comp=Z,5.1nm,0.9s,baz=59,slow=6.2,SNR=4.8
MAW Mawson 69.05 201 *e*P **P 08 02 12.2 +1.0**
MAW Mawson 69.05 201 *e*P **P 08 02 12.2 +1.0**
PETK Petropavlovsk- 70.14 22 P **P 08 02 18.0 -0.1**
comp=Z,7.7nm,0.5s,baz=212,slow=5.0,SNR=12
PETK Petropavlovsk- 70.14 22 P **P 08 02 18.0 -0.1**
VNDA Vanda 70.52 171 P **P 08 02 21.0 +0.8**
comp=Z,5.7nm,0.6s,baz=318,slow=6.8,SNR=11
ZAA0 Zalesovo Array 70.96 338 *e*P **P 08 02 21.0 -2.1**
ZALV Zalesovo Beam 70.96 338 P **P 08 02 20.9 -2.2**
comp=Z,9.0nm,0.4s,baz=134,slow=4.3,SNR=13
KURBB Kurchatov Arra 71.06 333 P **P 08 02 22.6 -1.2**
comp=Z,3.9nm,0.5s,baz=141,slow=5.7,SNR=19
KURK Kurchatov 71.08 333 P **P 08 02 22.0 -1.9**
comp=Z,44nm,0.8s,SNR=6.1
KURK Kurchatov 71.08 333 *e*P **P 08 02 22.7 -1.2**
KURK Kurchatov 71.08 333 *e*P **P 08 02 22.7 -1.2**
OPO Ambohidratompo 72.06 254 P **P 08 02 30.4 -0.3**
comp=Z,2.5nm,0.6s,baz=111,slow=12,SNR=7.2
YAK Yakutsk 72.20 4 *e*P **P 08 02 28.9 -1.5**
YAK pmax pmax
comp=Z,61nm,0.9s
YAK pmax pmax
comp=N,17nm,1.1s
YAK Yakutsk 72.20 4 *e*P **P 08 02 29.4 -1.0**
comp=N,56nm,0.8s
BRVK Borovoye 76.50 331 P **P 08 02 54.9 -0.8**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 76.50 331 P **P 08 02 54.9 -0.8**
comp=Z,2.7nm,0.6s
SEY Seymchan 76.62 14 P **P 08 02 56.1 0.0**
comp=Z,18nm,0.7s,baz=217,slow=4.9,SNR=18
SYO Syowa Base 77.72 201⇑ *e*X **P 08 03 00.5 -1.8**
ABKAR Akbulak array 79.88 324 *e*P **P 08 03 13.5 -0.9**
QSPA South Pole Qui 79.89 180 P **P 08 03 15.2 +0.7**
comp=Z,18nm,1.1s,baz=332,slow=2.3
QSPA South Pole Qui 79.89 180 *e*P **P 08 03 15.2 +0.7**
comp=Z,24nm,1.2s
RAYN Ar Rayn 81.39 296 P **P 08 03 23.9 +0.7**
comp=Z,143nm,0.9s,SNR=7.4
RAYN Ar Rayn 81.39 296 *e*P **P 08 03 23.5 +0.3**
comp=Z,9.9nm,0.8s
TIXI Tiksi 81.73 2 *e*P **P 08 03 22.5 -1.3**
TIXI pmax pmax
comp=Z,12nm,0.8s
TIXI Tiksi 81.73 2 *e*P **P 08 03 22.5 -1.3**
comp=Z,12nm,0.8s
KMBO Kilima Mbogo 84.12 270 P **P 08 03 38.7 +0.8**
comp=Z,2.6nm,0.6s,baz=45,slow=6.4,SNR=5.5
KMBO Kilima Mbogo 84.12 270 *e*P **P 08 03 38.3 +0.4**
KMBO pmax pmax
comp=Z,17nm,2.5s
KMBO Kilima Mbogo 84.12 270 *e*P **P 08 03 38.3 +0.4**
comp=Z,17nm,2.5s
ZEI Tsey 87.83 314 *e*P **P 08 03 56.9 +1.4**
ZEI pmax pmax
comp=Z,36nm,1.4s
KBZ Khabaz 88.79 315 P **P 08 04 00.1 +0.4**
comp=Z,5.8nm,0.9s,baz=57,slow=24,SNR=5.2
LSZ Lusaka 90.51 254 *e*P **P 08 04 09.1 +0.5**
LSZ pmax pmax
comp=Z,5.0nm,0.6s
LSZ Lusaka 90.51 254 *e*P **P 08 04 09.1 +0.5**
comp=Z,5.3nm,0.6s
SNAA Sanae 90.58 195 P **P 08 04 07.0 -0.8**
SNAA Sanae 90.58 195 *e*P **P 08 04 06.3 -1.5**
SNAA pmax pmax
comp=Z,9.0nm,0.9s
SNAA Sanae 90.58 195 *e*P **P 08 04 06.3 -1.5**
comp=Z,9.4nm,0.9s
BOSA Boshof 90.62 241 P **P 08 04 09.2 +0.3**
comp=Z,1.3nm,0.5s,baz=194,slow=2.6,SNR=3.2
VNA2 Neumayer--Watz 92.20 195 P **P 08 04 16.0 +0.8**
baz=137,slow=4.0
VNA1 Neumayer--Stat 92.60 195 P **P 08 04 17.9 +0.9**
BRTR Keskin Array B 94.73 309 P **P 08 04 26.1 -1.5**
comp=Z,2.0nm,1.0s,baz=97,slow=5.1,SNR=4.9
IM04 Indian Mountai 97.02 24 *e*P Pdif 08 04 38.0 +0.7
APA Apatity 98.53 337 *e*P Pdif 08 04 49.4 +5.4
APA MLR MLR
comp=Z,300nm,18.0s
COLD Coldfoot 98.59 23 *e*P Pdif 08 04 46.3 +2.0
comp=Z,16nm,1.8s
AKASG Malin Array Be 99.16 320 P **Pdif 08 04 45.9 -1.2**
comp=Z,0.8nm,0.6s,baz=77,slow=4.9,SNR=4.7
TIRR Tirgusor 99.17 314 *e*PP PP 08 08 51.4 +1.1
ILAR Eielson Array 99.76 26 P **Pdif 08 04 48.2 -1.4**
comp=Z,0.8nm,1.0s,baz=229,slow=5.3,SNR=4.6
FINES FINESS Array B 101.39 331 P **Pdif 08 04 55.1 -1.7**
comp=Z,1.5nm,0.7s,baz=100,slow=13,SNR=3.2
STHS Stebnicka Huta 104.26 318 *e*P **Pdif 08 05 12.6 +2.7**
STHS Stebnicka Huta 104.26 318 PDIF **Pdif 08 05 12.6 +2.7**
RES Resolute Bay 112.26 10 PKiKP **PKiKP 08 09 41.0 +0.2**
comp=Z,1.4nm,1.0s,baz=236,slow=7.3,SNR=3.1
YKA Yellowknife Ar 114.18 25 PKP PKPdf 08 09 44.6 -0.2
comp=Z,0.4nm,0.4s,baz=298,slow=1.9,SNR=9.5
NVAR Mina Array Bea 119.81 51 PKP **PKPdf 08 09 57.8 +1.2**
comp=Z,0.5nm,0.6s,baz=258,slow=4.5,SNR=3.3
TORD Torodi Ar. Bea 121.06 279 PKP **PKPdf 08 09 59.6 +0.3**
comp=Z,6.7nm,0.6s,baz=53,slow=1.7,SNR=35
EGMT Eagleton 122.90 39 *e*PKPdf **PKPdf 08 10 03.3 +1.2**
EGMT Eagleton 122.90 39 P **PKPdf 08 10 03.0 +0.8**
baz=123
HVU Hansel Valley 123.09 46 *e*PKIKP **PKPdf 08 10 03.6 +0.8**
HVU Hansel Valley 123.09 46 *e*PKPdf **PKPdf 08 10 03.6 +0.8**
B19A Brinkman Farms 123.21 38 P **PKPdf 08 10 03.3 +0.6**
baz=123
C19A Slack Wire Ran 123.45 39 P **PKPdf 08 10 04.5 +1.3**
baz=123
DUG Dugway, Tooele 123.53 48 P **PKPdf 08 10 04.3 +0.6**
baz=124
B20A Solberg Farm, 123.78 38 P **PKPdf 08 10 04.3 +0.5**
baz=124
REDW Red Top Meadow 123.93 44 *e*PKPdf **PKPdf 08 10 06.2 +1.7**
SNOW Snow King Moun 123.96 44 *e*PKPdf **PKPdf 08 10 06.0 +1.5**
C20A Veseth Ranch, 124.10 38 P **PKPdf 08 10 05.2 +0.8**
baz=124
C21A Desert Coulee 124.60 38 P **PKPdf 08 10 06.3 +0.9**
baz=125
PDAR Pinedale Array 125.03 44 PKP **PKPdf 08 10 07.0 +0.4**
comp=Z,0.5nm,0.7s,baz=316,slow=5.0,SNR=2.6
D22A Cohagen 125.46 38 P **PKPdf 08 10 07.8 +0.7**
baz=125
I20A Worland 125.56 43 P **PKPdf 08 10 08.0 +0.6**
baz=126
B23A Brockton 125.56 36 P **PKPdf 08 10 07.6 +0.5**
baz=126
LAO LASA Array 125.64 39 *e*PKPdf **PKPdf 08 10 09.4 +2.0**
C23A Lambert 125.76 37 P **PKPdf 08 10 08.1 +0.5**
baz=126
J20A Shoshoni 125.81 43 P **PKPdf 08 10 08.5 +0.5**
baz=126
F23A Volborg 126.58 40 P **PKPdf 08 10 09.8 +0.5**
baz=127
O20A White River Ci 126.87 47 P **PKPdf 08 10 08.4 -1.8**
baz=127
ULM Lac du Bonnet 129.51 30 SKPbc SKPab 08 13 32.6 -1.0
comp=Z,2.3nm,0.6s,baz=293,slow=7.3,SNR=4.8
AGMN Agassiz Nation 130.74 32 *e*SKPbc **SKPab 08 13 39.4 +0.4**
MNTX Cornudas Mount 131.69 56 *e*SKPbc **SKPab 08 13 44.2 +0.7**
ECSD EROS Data Cent 132.99 38 *e*SKPbc **SKPab 08 13 48.0 -0.8**
MSTX Muleshoe 133.09 53 *e*SKPbc **SKPab 08 13 50.1 +0.5**
BGNE Belgrade 133.26 41 *e*PKPdf **PKPdf 08 10 23.3 +1.3**
AMTX Amarillo 133.61 51 *e*SKPbc **SKPab 08 13 52.4 +0.6**
TXAR Lajitas Array 133.74 59 PKP **PKPdf 08 10 21.5 -1.9**
comp=Z,0.4nm,0.8s,baz=197,slow=2.8,SNR=2.8
SCHQ Schefferville 134.91 7 PKP **PKPdf 08 10 23.3 -1.4**
comp=Z,2.6nm,0.8s,baz=254,slow=7.4,SNR=3.5
WMOK Wichita Mounta 135.87 50 *e*SKPbc **SKPbc 08 13 57.6 +0.9**
PBMO Poplar Bluff 140.81 42 *e*SKPbc **SKPbc 08 14 11.7 +1.0**
MET Memphis--Engin 142.07 44 *e*PKPdf **PKPdf 08 10 37.9 -0.4**
SSPA Standing Stone 145.09 26 *e*PKPab **PKPab 08 10 43.2 +0.2**
LVC Limon Verde 145.92 163 *e*PKPab **PKPab 08 10 48.2 +1.3**
ODNJ Ogdensburg 146.03 22 *e*PKPdf **PKPab 08 10 46.6 +0.2**
PAL Palisades 146.36 21 *e*PKP2 **PKPab 08 10 47.3 -0.4**
PAL Palisades 146.36 21 *e*PKPdf **PKPab 08 10 47.3 -0.4**
BRNJ Basking Ridge 146.40 22 *e*PKPdf **PKPab 08 10 47.5 -0.4**
KMSC Kings Mountain 147.54 36 *e*PKPdf **PKPbc 08 10 50.8 +0.3**
LPAZ La Paz 152.10 160 PKPbc **PKPbc 08 11 03.1 +0.2**
comp=Z,3.4nm,1.0s,baz=31,slow=1.7,SNR=3.6
LPAZ PKPab **PKPab 08 11 13.9 +1.6**
comp=Z,10nm,0.5s,baz=139,slow=1.9,SNR=19
LPAZ La Paz 152.10 160 PKPbc **PKPbc 08 11 03.1 +0.2**
LPAZ *e*PKPdf **PKiKP 08 11 04.7 +1.4**
LPAZ PKPab **PKPab 08 11 13.9 +1.6**
BDFB Brasilia 152.38 202 PKPbc **PKPbc 08 11 03.8 +0.8**
comp=Z,3.5nm,0.7s,baz=118,slow=2.1,SNR=4.1
BDFB PKPab **PKPab 08 11 13.2 +0.4**
comp=Z,3.3nm,0.5s,baz=53,slow=1.7,SNR=3.5
SAML Samuel 160.51 166 *e*PKPab **PKPab 08 11 48.2 +0.7**

LJU 26 08:03:53.0, 46°39N×15°07E, h0km Rockburst, Northwestern Balkan Peninsula

DDA **26** *08:07:32.7, 39°30N×29°30E, h13km, MD3.3*
ISK **26** *08:07:32.2, 39°29N×29°30E, h5km, MD3.1*
CSEM **26** *08:07:33.0±0.1, 39°29N×29°31E, h2km, MD3.1, Error ellipse: s-maj=2.1km s-min=1.9km az=159.0*
ISC 26 08:07:33.2±0.9, **39°29N**±0°02×**29°31E**±0°02, **h9**km±8km, **n97**, **s0°876**/125, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.20**	**38**	*e*PG		**Pg**	**08 07 37.7**	**+0.3**
TVSB				*e*SG		**Sg**	**08 07 40.7**	**+0.5**
TVSB	**Tavsanli**	**0.20**	**38**	*e*Pg		**Pg**	**08 07 37.7**	**+0.3**
TVSB				*e*Sg		**Sg**	**08 07 40.7**	**+0.5**
GDZ	**Gediz**	**0.24**	**146**	*i*P		**Pg**	**08 07 38.1**	**-0.1**
GDZ				*i*S		**Sg**	**08 07 41.4**	**-0.1**
GDZ	**Gediz**	**0.24**	**146**	*i*P		**Pg**	**08 07 38.1**	**-0.1**
GDZ				*i*S		**Sg**	**08 07 41.4**	**-0.1**
DEMI	**Demirci**	**0.52**	**242**	*i*P		**Pg**	**08 07 43.1**	**-0.3**
DEMI				*i*S		**Sg**	**08 07 49.5**	**-0.7**
DEMI	**Demirci**	**0.52**	**242**	*i*P		**Pg**	**08 07 43.1**	**-0.3**
DEMI				*i*S		**Sg**	**08 07 49.5**	**-0.7**
ALT	**Altintas**	**0.67**	**110**	*e*PG		**Pg**	**08 07 45.8**	**-0.3**
ALT				*e*SG		**Sb**	**08 07 56.5**	**-0.1**
ALT	**Altintas**	**0.67**	**110**	*e*Pg		**Pg**	**08 07 45.8**	**-0.3**
ALT				*e*Sg		**Sb**	**08 07 56.5**	**-0.1**
DURS	**Dursunbey**	**0.71**	**296**	*i*P		**Pg**	**08 07 46.7**	**-0.3**
DURS	**Dursunbey**	**0.71**	**296**	*i*P		**Pg**	**08 07 46.7**	**-0.3**
ORLT	**Orhaneli**	**0.82**	**337**	*e*PG		**Pg**	**08 07 48.6**	**-0.3**
ORLT	**Orhaneli**	**0.82**	**337**	*e*Pg		**Pg**	**08 07 48.7**	**-0.3**
ULDT	**Uludag**	**0.86**	**351**	*i*P		**Pg**	**08 07 49.3**	**-0.5**
ULDT	**Uludag**	**0.86**	**351**	*i*P		**Pg**	**08 07 49.3**	**-0.5**
KULA	**Kula-Manisa**	**0.93**	**213**	*e*PG		**Pg**	**08 07 50.2**	**-0.8**
KULA	**Kula-Manisa**	**0.93**	**213**	*e*Pg		**Pg**	**08 07 50.2**	**-0.8**
KHL	**Karahalli**	**0.98**	**170**	*e*PG		**Pg**	**08 07 51.5**	**-0.6**
KHL	**Karahalli**	**0.98**	**170**	*e*Pg		**Pg**	**08 07 51.5**	**-0.6**
CAVI	**Cavuskoy**	**1.00**	**24**	*e*PG		**Pb**	**08 07 52.4**	**-0.4**
CAVI	**Cavuskoy**	**1.00**	**24**	*e*Pg		**Pb**	**08 07 52.4**	**-0.4**
BORA	**Eskisehir**	**1.06**	**56**	*i*P		**Pg**	**08 07 53.0**	**-0.7**
BORA				*i*S		**Sb**	**08 08 07.9**	**-0.1**
BORA	**Eskisehir**	**1.06**	**56**	*i*P		**Pg**	**08 07 53.0**	**-0.7**
BORA				*i*S		**Sb**	**08 08 07.9**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.12**	**343**	*e*PN		**Pn**	**08 07 55.0**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.12**	**343**	*e*Pn		**Pn**	**08 07 55.0**	**-0.2**
GEMT	**Gemlik**	**1.15**	**356**	*e*PN		**Pn**	**08 07 55.3**	**-0.2**
GEMT	**Gemlik**	**1.15**	**356**	*e*Pn		**Pn**	**08 07 55.3**	**-0.2**
BALB	**Balikesir**	**1.16**	**288**	*e*PN		**Pn**	**08 07 55.9**	**+0.3**
BALB	**Balikesir**	**1.16**	**288**	*e*Pn		**Pn**	**08 07 55.9**	**+0.3**
ADVT	**Abdulvahap**	**1.19**	**16**	*e*PN		**Pb**	**08 07 55.8**	**-0.2**
ADVT	**Abdulvahap**	**1.19**	**16**	*e*Pn		**Pb**	**08 07 55.8**	**-0.2**
KCTX	**Karacabey (Bur**	**1.22**	**323**	*e*PN		**Pn**	**08 07 56.7**	**+0.2**
KCTX	**Karacabey (Bur**	**1.22**	**323**	*e*Pn		**Pn**	**08 07 56.7**	**+0.2**
ESKT	**Eskisehir**	**1.22**	**79**	*e*PN		**Pn**	**08 07 57.1**	**+0.5**
ESKT	**Eskisehir**	**1.22**	**79**	*e*Pn		**Pn**	**08 07 57.1**	**+0.5**
SEYT	**Eskypehyr**	**1.22**	**79**	*i*P		**Pb**	**08 07 56.5**	**0.0**
SEYT				*i*S		**Sg**	**08 08 11.8**	**-0.6**
SEYT	**Eskypehyr**	**1.22**	**79**	*i*P		**Pb**	**08 07 56.5**	**0.0**
SEYT				*i*S		**Sg**	**08 08 11.8**	**-0.6**
SHUT	**Suhut-Afyon**	**1.22**	**127**	*e*PN		**Pn**	**08 07 57.0**	**+0.4**
SHUT	**Suhut-Afyon**	**1.22**	**127**	*e*Pn		**Pn**	**08 07 57.0**	**+0.4**
AKHS	**Akhisar**	**1.23**	**251**	*i*P		**Pn**	**08 07 56.6**	**-0.1**
AKHS				*i*S		**Sg**	**08 08 12.3**	**-0.6**
AKHS	**Akhisar**	**1.23**	**251**	*i*P		**Pn**	**08 07 56.6**	**-0.1**
AKHS				*i*S		**Sg**	**08 08 12.3**	**-0.6**
AKS	**Akhisar**	**1.23**	**251**	*e*PN		**Pn**	**08 07 56.8**	**+0.1**
AKS	**Akhisar**	**1.23**	**251**	*e*Pn		**Pn**	**08 07 56.8**	**+0.1**
GPA	**Golpazari**	**1.26**	**38**	*e*PN		**Pb**	**08 07 57.6**	**+0.4**
GPA	**Golpazari**	**1.26**	**38**	*e*Pn		**Pb**	**08 07 57.6**	**+0.4**
ARMT	**Armutlu**	**1.32**	**345**	*e*PN		**Pn**	**08 07 57.7**	**-0.2**
ARMT	**Armutlu**	**1.32**	**345**	*e*Pn		**Pn**	**08 07 57.7**	**-0.2**
BALY	**Balya**	**1.38**	**289**	*i*P		**Pn**	**08 07 58.5**	**-0.2**
BALY				*i*S		**Sn**	**08 08 18.0**	**+0.8**
BALY	**Balya**	**1.38**	**289**	*i*P		**Pn**	**08 07 58.5**	**-0.2**
BALY				*i*S		**Sn**	**08 08 18.0**	**+0.8**
BOLV	**Bolvadin**	**1.40**	**114**	*i*P		**Pn**	**08 07 59.2**	**0.0**
BOLV				*i*S		**Sg**	**08 08 18.5**	**+0.1**

BOLV	**Bolvadin**	**1.40**	**114**	*i* P	**Pn**	**08 07 59.2**	**0.0**
BOLV				*i* S	**Sg**	**08 08 18.5**	**+0.1**
GULT	**Gulveren**	**1.47**	**39**	*e*PN	**Pb**	**08 08 00.9**	**+0.1**
GULT	**Gulveren**	**1.47**	**39**	*e*Pn	**Pb**	**08 08 01.0**	**+0.1**
EDC	**Edincik**	**1.53**	**314**	*e*PN	**Pb**	**08 08 01.8**	**0.0**
EDC	**Edincik**	**1.53**	**314**	*e*Pn	**Pb**	**08 08 01.8**	**0.0**
HRT	**Hereke**	**1.55**	**10**	*e*PN	**Pb**	**08 08 02.1**	**-0.1**
HRT	**Hereke**	**1.55**	**10**	*e*Pn	**Pb**	**08 08 02.1**	**-0.1**
BUY	**Buyukada**	**1.56**	**355**	*i* P	**Pn**	**08 08 00.9**	**-0.3**
BUY				*i* S	**Sg**	**08 08 23.5**	**0.0**
BUY	**Buyukada**	**1.56**	**355**	*i* P	**Pn**	**08 08 00.9**	**-0.3**
BUY				*i* S	**Sg**	**08 08 23.5**	**0.0**
SPNC	**Sapanca-Adapaz**	**1.59**	**29**	*e*PN	**Pb**	**08 08 02.7**	**-0.1**
SPNC	**Sapanca-Adapaz**	**1.59**	**29**	*e*Pn	**Pb**	**08 08 02.7**	**-0.1**
DNZL	**Cakiroluk**	**1.61**	**187**	*i* P	**Pb**	**08 08 02.7**	**-0.6**
DNZL				*i* S	**Sg**	**08 08 28.5**	**+3.4**
DNZL	**Cakiroluk**	**1.61**	**187**	*i* P	**Pb**	**08 08 02.7**	**-0.6**
DNZL				*i* S	**Sg**	**08 08 28.5**	**+3.4**
SVRH	**Sivrihisar-ESK**	**1.73**	**84**	*e*PN	**Pb**	**08 08 04.9**	**-0.3**
SVRH	**Sivrihisar-ESK**	**1.73**	**84**	*e*Pn	**Pb**	**08 08 04.9**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**1.74**	**220**	*e*PN	**Pb**	**08 08 04.8**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.74**	**220**	*e*Pn	**Pb**	**08 08 04.8**	**-0.6**
ISP	**Isparta**	**1.75**	**147**	*e*PN	**Pb**	**08 08 04.8**	**-0.8**
ISP	**Isparta**	**1.75**	**147**	*e*Pn	**Pb**	**08 08 04.8**	**-0.8**
ISK	**Istanbul-Kandi**	**1.78**	**354**	*e*PN	**Pb**	**08 08 05.6**	**-0.5**
ISK	**Istanbul-Kandi**	**1.78**	**354**	*e*Pn	**Pb**	**08 08 05.6**	**-0.5**
BTAS	**Taskesti**	**1.82**	**45**	*i* P	**Pn**	**08 08 05.0**	**+0.1**
BTAS				*i* S	**Sb**	**08 08 29.3**	**-0.5**
BTAS	**Taskesti**	**1.82**	**45**	*i* P	**Pn**	**08 08 05.0**	**+0.1**
BTAS				*i* S	**Sb**	**08 08 29.3**	**-0.5**
IZM	**Izmir**	**1.83**	**241**	*e*PN	**Pb**	**08 08 05.8**	**-1.1**
IZM	**Izmir**	**1.83**	**241**	*e*Pn	**Pb**	**08 08 05.8**	**-1.1**
MRMT	**Marmara Adasi**	**1.85**	**315**	*e*PN	**Pb**	**08 08 06.5**	**-0.9**
MRMT	**Marmara Adasi**	**1.85**	**315**	*e*Pn	**Pb**	**08 08 06.5**	**-0.9**
SILT	**Sile**	**1.88**	**8**	*e*PN	**Pb**	**08 08 06.8**	**-0.9**
SILT	**Sile**	**1.88**	**8**	*e*Pn	**Pb**	**08 08 06.8**	**-0.9**
KLYT	**Kilyos**	**1.97**	**354**	*e*PN	**Pb**	**08 08 08.2**	**-1.1**
KLYT	**Kilyos**	**1.97**	**354**	*e*Pn	**Pb**	**08 08 08.2**	**-1.1**
ELBA	**Catalca**	**1.97**	**340**	*i* S	**Sg**	**08 08 36.8**	**+0.2**
ELBA	**Catalca**	**1.97**	**340**	*i* P	Pg	08 08 15.1	+4.1
ELBA				*i* S	**Sg**	**08 08 36.8**	**+0.2**
BLCB	**Balcova**	**1.99**	**244**	*e*PN	**Pb**	**08 08 08.1**	**-1.4**
BLCB	**Balcova**	**1.99**	**244**	*e*Pn	**Pb**	**08 08 08.1**	**-1.4**
AYVA	**Ayvalik**	**2.03**	**271**	*i* P	**Pg**	**08 08 12.0**	**-0.1**
AYVA				*i* S	**Sg**	**08 08 38.5**	**+0.1**
AYVA	**Ayvalik**	**2.03**	**271**	*i* P	**Pg**	**08 08 12.0**	**-0.1**
AYVA				*i* S	**Sg**	**08 08 38.5**	**+0.1**
CTKS	**Kestanelik-??a**	**2.04**	**343**	*e*PN	**Pb**	**08 08 09.0**	**-1.4**
CTKS	**Kestanelik-??a**	**2.04**	**343**	*e*Pn	**Pb**	**08 08 09.0**	**-1.4**
SLVT	**Silivri**	**2.11**	**337**	*e*PN	**Pn**	**08 08 10.0**	**+1.3**
SLVT	**Silivri**	**2.11**	**337**	*e*Pn	**Pn**	**08 08 10.0**	**+1.3**
SART	**Tekirdag**	**2.15**	**311**	*i* P	**Pb**	**08 08 13.0**	**+0.6**
SART				*i* S	**Sb**	**08 08 39.7**	**+0.5**
SART	**Tekirdag**	**2.15**	**311**	*i* P	**Pb**	**08 08 13.0**	**+0.6**
SART				*i* S	**Sb**	**08 08 39.7**	**+0.5**
EZN	**Ezine**	**2.36**	**284**	*e*PN	**Pn**	**08 08 13.7**	**+1.5**
EZN	**Ezine**	**2.36**	**284**	*e*Pn	**Pn**	**08 08 13.7**	**+1.5**
GELI	**Tayfur-Gelibol**	**2.44**	**298**	*e*PN	**Pn**	**08 08 14.7**	**+1.4**
GELI	**Tayfur-Gelibol**	**2.44**	**298**	*e*Pn	**Pn**	**08 08 14.7**	**+1.4**
BCAM	**Yenicaga**	**2.61**	**53**	*i* P	**Pg**	**08 08 22.0**	**-1.2**

IDC 26 08:11:29.4±2.0, 9.76S×121.91E, h0km, mb3.9/2, mb1 3.7/4, mb1mx3.6/25, mbtmp3.6/4, ML3.3/2, Error ellipse: s-maj=233.5km s-min=26.5km az=54.0, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.70**	**132**	Pn	Pn	08 15 10.3	-1.9
	0.1nm,0.3s,baz=305,slow=14,SNR=6.3						
WRA				Sn	Sn	08 17 55.0	-12
	0.1nm,0.3s,baz=311,slow=22,SNR=5.6						
ASAR	**Alice Springs**	**17.96**	**142**	P	Pn	08 15 41.0	+0.2
	0.1nm,0.3s,baz=316,slow=12,SNR=6.3						
STKA	**Stephens Creek**	**28.58**	**143**	P	P	08 17 27.8	+0.4
	0.8nm,0.5s,baz=314,slow=7.0,SNR=5.4						
MKAR	**Makanchi Array**	**66.47**	**331**	P	P	08 22 20.7	-0.1
	0.7nm,0.6s,baz=128,slow=8.2,SNR=5.1						

*MEX **26** 08:11:47.9±0.3, 24.63N×100.30W, h3km±14km, MD3.9*
ISC 26 08:11:50.1±3.9, 24.4N±0.2×99.7W±0.1, h10km, n34, σ0.54/47, 17C-27D, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNIG	**Linares**	**0.55**	**27**	*i* P	**Pb**	**08 12 02.0**	**+0.2**
LNIG				*e*S	**Sn**	**08 12 13.1**	**-0.2**
035Z	**Hargill**	**2.54**	**36**	⇑P	**Pn**	**08 12 32.1**	**+0.7**
	baz=2.4						
034A	**Hebbronville**	**2.81**	**20**	⇑P	**Pn**	**08 12 35.1**	**-0.1**
	baz=2.6						
034A				⇑S	**Sn**	**08 13 10.4**	**+1.3**
	baz=2.6						
035A	**Encino**	**2.92**	**30**	⇓S	**Sn**	**08 13 10.9**	**-0.9**
	baz=2.8						
ZAIG	**Zacatecas**	**3.06**	**238**	*e*P	Pn	08 12 30.7	-8.1
933A	**Laredo**	**3.22**	**7**	⇑P	**Pn**	**08 12 40.5**	**-0.2**
	baz=3.0						
933A				⇓S	**Sn**	**08 13 20.0**	**+0.8**
	baz=3.0						
833A	**Chaparral WMA,**	**3.91**	**4**	⇓P	**Pn**	**08 12 50.2**	**-0.1**
	baz=3.7						
734A	**La Parita Cree**	**4.55**	**13**	⇑S	**Sn**	**08 13 52.1**	**+0.2**
	baz=4.4						
631A	**Perdido Creek**	**5.04**	**352**	⇓P	**Pn**	**08 13 05.6**	**-0.2**
	baz=4.9						
633A	**Saathoff Ranch**	**5.06**	**6**	⇓P	**Pn**	**08 13 05.4**	**-0.6**
	baz=4.9,SNR=8.8						
633A				⇑S	**Sn**	**08 14 05.3**	**+0.8**
	baz=4.9						
632A	**Uvalde**	**5.08**	**360**	⇓P	**Pn**	**08 13 06.0**	**-0.4**
	baz=4.9						
632A				⇓S	**Sn**	**08 14 06.0**	**+0.9**
	baz=4.9						
LVIG	**Laguna Verde**	**5.59**	**146**	*e*P	Pn	08 13 16.4	+3.0
533A	**Kerrville**	**5.68**	**6**	⇑P	**Pn**	**08 13 14.5**	**-0.1**
	baz=5.5,SNR=12						
533A				⇑S	**Sn**	**08 14 19.3**	**-0.6**
	baz=5.5						
532A	**Rocksprings**	**5.70**	**359**	⇓P	**Pn**	**08 13 14.6**	**-0.3**
	baz=5.5,SNR=5.7						
532A				⇓S	**Sn**	**08 14 19.4**	**-1.0**
	baz=5.5						
534A	**Blanco**	**5.71**	**11**	⇓P	**Pn**	**08 13 15.0**	**0.0**
	baz=5.5,SNR=17						
534A				⇑S	**Sn**	**08 14 19.6**	**-1.0**
	baz=5.5						
531A	**Rocksprings**	**5.78**	**353**	⇓P	**Pn**	**08 13 16.1**	**+0.1**
	baz=5.6						
531A				⇓S	**Sn**	**08 14 22.0**	**-0.3**
	baz=5.6						
530A	**J-C Ranch, Com**	**5.89**	**346**	⇓P	**Pn**	**08 13 17.5**	**-0.1**
	baz=5.7						
535A	**Dale**	**5.92**	**19**	⇑P	**Pn**	**08 13 18.3**	**+0.4**
	baz=5.8						
JCT	**Junction City**	**6.05**	**359**	*e*PP	**Pn**	**08 13 20.1**	**+0.4**
JCT	**Junction City**	**6.05**	**359**	⇓P	**Pn**	**08 13 19.6**	**-0.1**
	baz=5.9,SNR=11						
JCT				⇑S	**Sn**	**08 14 29.8**	**+0.8**
	baz=5.9						
433A	**Art**	**6.35**	**5**	⇓P	**Pn**	**08 13 23.7**	**0.0**
	baz=6.2						
432A	**Menard**	**6.44**	**360**	⇓P	**Pn**	**08 13 25.3**	**+0.2**
	baz=6.3,SNR=9.3						
432A				⇑S	**Sn**	**08 14 39.1**	**+0.4**
	baz=6.3						
434A	**Burnet**	**6.51**	**11**	⇓P	**Pn**	**08 13 25.6**	**-0.4**
	baz=6.3						
434A				⇓S	**Sn**	**08 14 40.5**	**+0.1**
	baz=6.3						
333A	**Richland Sprin**	**6.92**	**5**	⇓P	**Pn**	**08 13 31.7**	**0.0**
	baz=6.8,SNR=5.5						
333A				⇓S	**Sn**	**08 14 51.0**	**+0.5**
	baz=6.8						
332A	**Millersview**	**6.95**	**360**	⇑P	**Pn**	**08 13 32.0**	**-0.1**
	baz=6.8						
332A				⇓S	**Sn**	**08 14 51.6**	**+0.5**
	baz=6.8						
334A	**Lometa**	**7.03**	**11**	⇑S	**Sn**	**08 14 52.8**	**-0.2**
	baz=6.9						
438A	**Sam Houston St**	**7.36**	**30**	⇓S	**Sn**	**08 15 00.0**	**-1.3**
	baz=7.2						
232A	**Coleman**	**7.45**	**1**	⇓P	**Pn**	**08 13 38.7**	**-0.2**
	baz=7.3,SNR=10.0						
232A				⇑S	**Sn**	**08 15 03.0**	**-0.6**
	baz=7.3						
233A	**Rising Star**	**7.62**	**5**	⇓P	**Pn**	**08 13 41.0**	**-0.2**
	baz=7.4,SNR=5.6						
ABTX	**Abilene, Hawle**	**8.19**	**1**	⇑P	**Pn**	**08 13 49.0**	**-0.1**
	baz=8.0,SNR=8.7						
133A	**Hamilton Ranch**	**8.20**	**5**	⇓P	**Pn**	**08 13 49.0**	**-0.2**
	baz=8.0,SNR=6.6						
Z32A	**Haskell**	**8.87**	**1**	⇑P	**Pn**	**08 13 58.1**	**-0.3**
	baz=8.7,SNR=6.3						
Z33A	**Whitaker Ranch**	**8.89**	**5**	⇓P	**Pn**	**08 13 58.3**	**-0.3**
	baz=8.7						
Y32A	**R-V Farms, Ver**	**9.56**	**1**	⇓P	**Pn**	**08 14 07.5**	**-0.4**
	baz=9.4						

*BJI **26** 08:22:06.2, 1.75N×128.74E, h82km, mb4.7/26, mB5.0/14, Ms4.5/11, Ms7 4.1/8*
*ISCJB **26** 08:22:10.7±0.6, 2.21N±0.04×128.49E±0.04, h87km±6km, mb4.4/31, Error ellipse: s-maj=7.1km s-min=5.2km az=137.5*
*IDC **26** 08:22:12.8±1.9, 2.21N×128.39E, h95km±16km, mb4.1/16, mb1 4.2/17, mb1mx4.0/33, mbtmp4.4/17, Error ellipse: s-maj=23.9km s-min=11.5km az=81.0*
*NEIC **26** 08:22:12.3±1.1, 2.23N×128.54E, h88km±12km, mb4.5/15, Error ellipse: s-maj=12.0km s-min=7.8km az=53.0*
*DJA **26** 08:22:14.1±0.4, 2.1N±3×12.8E±°, h52km±6km, M4.8/15, mb5.0/12, mB5.2/9, MLv4.8/15, Mw(mB)4.6/9*
ISC 26 08:22:12.1±0.4, 2.19N±0.04×128.46E±0.06, h86km±2km, h86km:pP-P, n92, σ1.951/129, mb4.5/31, 1C-1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.79**	**218**	P	**Pn**	**08 22 40.8**	**-0.6**
TNTI				S	**Sn**	**08 23 03.0**	**-0.7**
TNTI	**Ternate**	**1.79**	**218**	*e*Pn	**Pn**	**08 22 41.0**	**-0.4**
LBMI	**Labuha**	**2.97**	**199**	P	**Pn**	**08 22 58.8**	**+1.6**
LBMI				S	**Sn**	**08 23 33.1**	**+1.2**
SGSI	**Sangihe**	**3.29**	**297**	P	**Pn**	**08 23 02.1**	**+0.6**
SGSI				S	**Sn**	**08 23 39.7**	**+0.1**
SWI	**Sorong**	**4.12**	**137**	P	**Pn**	**08 23 13.5**	**+0.6**
SWI				S	**Sn**	**08 23 59.6**	**-0.4**
KMSI	**Cibinong**	**4.76**	**250**	P	**Pn**	**08 23 21.9**	**+0.4**
KMSI				S	**Sn**	**08 24 15.9**	**+0.4**
SANI	**Sanana**	**4.88**	**210**	P	**Pn**	**08 23 22.5**	**-0.7**
SANI				S	**Sn**	**08 24 16.3**	**-2.2**
NLAI	**Namlea**	**5.56**	**194**	P	**Pn**	**08 23 33.7**	**+1.2**
	38nm,0.7s,0.1nm						
BIPH	**Bislig**	**6.31**	**341**	⇑*i*P	**Pn**	**08 23 43.3**	**+0.6**
BIPH				*i* S	Sn	08 24 46.3	-7.0
FAKI	**Fak Fak**	**6.33**	**143**	P	**Pn**	**08 23 43.6**	**+0.7**
	164nm,0.8s,3μm0.8nm						
FAKI	**Fak Fak**	**6.33**	**143**	*e*Pn	**Pn**	**08 23 43.7**	**+0.8**
CTBH	**Cotabato--PC H**	**6.53**	**320**	⇓*i*P	**Pn**	**08 23 45.3**	**-0.4**
LUWI	**Luwuk**	**6.53**	**241**	P	**Pn**	**08 23 46.2**	**+0.5**
	139nm,0.9s,5μm0.6nm						
LUWI	**Luwuk**	**6.53**	**241**	*e*Pn	**Pn**	**08 23 47.0**	**+1.3**
MRSI	**Marisa**	**6.74**	**255**	P	**Pn**	**08 23 49.7**	**+1.2**
	103nm,1.5s,1μm0.4nm						
MRSI				S	**Sn**	**08 25 02.1**	**-1.7**
	103nm,1.5s,1μm0.4nm						
RKPI	**Ransiki, Papua**	**6.79**	**123**	P	Pn	08 23 56.3	+7.1
APSI	**Ampana**	**7.48**	**246**	P	**Pn**	**08 23 58.6**	**0.0**
	159nm,0.7s,1μm0.6nm						
KDI	**Kendari**	**8.45**	**224**	P	**Pn**	**08 24 11.9**	**0.0**
	119nm,0.7s,2μm						
TTSI	**Tana Toraja**	**10.09**	**239**	P	**Pn**	**08 24 32.9**	**-1.3**
	206nm,0.8s,2μm						
SPSI	**Sidrap Palu**	**10.62**	**235**	P	**Pn**	**08 24 41.5**	**0.0**
	156nm,0.8s,1μm						
BKSI	**Bulukumba**	**11.19**	**228**	P	**Pn**	**08 24 50.9**	**+1.7**
	66nm,0.7s,761nm						
KAPI	**Kappang**	**11.27**	**231**	P	**Pn**	**08 24 51.3**	**+1.0**
	5.8nm,0.3s,baz=13,slow=8.3,SNR=11						
SBUM	**Sibu**	**16.23**	**271**	*e*P	**P**	**08 25 58.9**	**+2.2**
	15nm,1.0s						
WRAB	**Tennant Creek**	**22.73**	**166**	*e*P	**P**	**08 27 06.6**	**-0.6**
	11nm,1.1s						
WRA	**Warramunga Arr**	**22.74**	**166**	P	**P**	**08 27 07.0**	**-0.3**
	2.2nm,0.5s,baz=340,slow=11,SNR=59						
WRA				ScP	**ScP**	**08 34 25.8**	**-0.9**
	0.4nm,0.6s,baz=338,slow=2.9,SNR=6.6						
YHNB	**Yeheng**	**23.37**	**344**	*e*P	**P**	**08 27 12.7**	**-0.7**
	16nm,0.6s						
QIZ	**Qiongzhong**	**24.75**	**314**	P	**P**	**08 27 26.8**	**+0.9**
QIZ				S	**S**	**08 31 43.8**	**+1.7**
QIZ				LZ			
	160nm,13.4s						
AS31	**Alice Springs**	**26.24**	**169**	*e*P	**P**	**08 27 40.4**	**+1.0**
ASAR	**Alice Springs**	**26.24**	**169**	P	**P**	**08 27 40.0**	**+0.7**
	0.5nm,0.4s,baz=344,slow=11,SNR=9.0						
ASAR				PcP	**PcP**	**08 31 02.0**	**-2.1**
	0.2nm,0.3s,baz=350,slow=1.8,SNR=4.6						
ASAR				ScP	**ScP**	**08 34 35.7**	**-0.7**
	1.1nm,0.9s,baz=354,slow=1.6,SNR=8.0						
NJ2	**Nanjing**	**31.05**	**344**	*e*P	**P**	**08 28 20.0**	**-2.0**
GYA	**Guiyang**	**31.95**	**321**	*e*P	**P**	**08 28 31.3**	**+1.2**
GYA				PMZ			
	10.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**33.14**	**301**	P	**P**	**08 28 42.6**	**+2.1**
	3.7nm,0.7s,baz=118,slow=7.4,SNR=12						
CHTO	**Chiang Mai**	**33.30**	**302**	P	**P**	**08 28 42.9**	**+1.0**
	4.3nm,0.7s						
KMI	**Kunming**	**33.69**	**315**	P	**P**	**08 28 47.3**	**+1.9**
KMI				PMZ			
	13nm,0.9s						
KSAR	**Wonju Array Be**	**35.09**	**359**	P	**P**	**08 28 57.0**	**0.0**
KSRS	**Korea Array**	**35.10**	**359**	P	**P**	**08 28 57.0**	**-0.1**
	5.5nm,0.5s,baz=176,slow=9.7,SNR=16						
MJAR	**Matsushiro Arr**	**35.35**	**14**	P	**P**	**08 28 57.6**	**-1.7**
	14nm,0.8s,baz=184,slow=9.8,SNR=34						
MAJO	**Matsushiro**	**35.35**	**14**	*e*P	**P**	**08 28 58.0**	**-1.3**
	24nm,0.8s						
MAT	**Matsushiro**	**35.35**	**14**	P	**P**	**08 28 57.9**	**-1.5**
STKA	**Stephens Creek**	**36.10**	**161**	P	**P**	**08 29 06.1**	**+0.3**
	0.9nm,0.3s,baz=339,slow=8.6,SNR=7.0						
XAN	**Xi'an**	**36.57**	**332**	P	**P**	**08 29 09.5**	**-0.4**
XAN				pP	**pP**	**08 29 32.0**	**+2.0**
XAN				S	**S**	**08 34 46.0**	**-0.4**
XAN				PMZ			
	2.0nm,0.8s						
XAN				LN			
	43nm,7.5s						
XAN				LE			
	20nm,6.5s						
CD2	**Chengdu**	**36.90**	**323**	*e*P	**P**	**08 29 14.0**	**+1.2**
CD2				pP	**pP**	**08 29 34.0**	**+1.1**
CD2				PP	**PnPn**	**08 30 43.0**	**+3.4**
CD2				S	**S**	**08 34 53.0**	**+1.5**
CD2				sS	**sS**	**08 35 27.0**	**+0.8**
CD2				SS	**SnSn**	**08 37 26.5**	**-6.1**
CD2				PMZ			
	10.0nm,0.5s						
BJI	**Beijing**	**39.29**	**345**	P	**P**	**08 29 33.0**	**+0.4**
BJI				pP	**pP**	**08 29 52.8**	**-0.2**
BJI				sP	**sP**	**08 30 02.3**	**-0.6**
BJI				S	**S**	**08 35 29.8**	**+2.6**
BJI				PMZ			
	7.0nm,0.6s						
BJI				LN			
	55nm,6.3s						
BJI				LE			
	200nm,4.4s						
IMP	**Imphal**	**40.17**	**307**	*e*P	**P**	**08 29 40.0**	**-0.3**
LZH	**Lanzhou**	**40.70**	**329**	*e*P	**P**	**08 29 46.3**	**+1.7**
LZH				pP	**pP**	**08 30 04.3**	**-0.7**
LZH				sP	**sP**	**08 30 12.5**	**-2.4**
LZH				PMZ			
	15nm,1.0s						
H11S3	**WAKE ISLAND Hy**	**40.80**	**64**	T	T	09 13 18.3	
	baz=251,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy**	**40.82**	**64**	T	T	09 13 17.3	
	baz=251,slow=75,SNR=9.9						
H11S1	**WAKE ISLAND Hy**	**40.82**	**64**	T	T	09 13 19.1	
	baz=251,slow=75,SNR=10.0						
H11N1	**WAKE ISLAND Hy**	**41.39**	**62**	T	T	09 14 00.2	
	baz=250,slow=75,SNR=14						
H11N2	**WAKE ISLAND Hy**	**41.40**	**62**	T	T	09 14 05.4	
	baz=250,slow=75,SNR=9.0						
HHC	**Hu-ho-hao-te**	**41.41**	**341**	*e*P	**P**	**08 29 52.5**	**+2.3**
HHC				PP	**PnPn**	**08 31 32.8**	**-0.1**
HHC				S	**S**	**08 36 02.3**	**+3.3**
HHC				sS	**sS**	**08 36 34.0**	**-0.1**
HHC				SS	**SS**	**08 39 04.0**	**-2.3**
HHC				PMZ			
	15nm,0.7s						
HHC				PMZ			
	73nm,7.4s						
HHC				LN			
	210nm,17.3s						
HHC				LE			
	280nm,17.3s						
HHC				LZ			
	240nm,18.5s						
H11N3	**WAKE ISLAND Hy**	**41.41**	**62**	T	T	09 14 01.6	
	baz=250,slow=75,SNR=14						
USRK	**Ussuriysk Ar.**	**41.95**	**4**	P	**P**	**08 29 54.0**	**-0.4**
	2.0nm,0.4s,baz=180,slow=7.7,SNR=7.8						
LSA	**Lhasa**	**44.75**	**311**	*e*P	**P**	**08 30 18.5**	**+0.7**
	9.7nm,0.7s						
GTA	**Gaotai**	**45.30**	**328**	*e*P	**P**	**08 30 22.3**	**+0.7**
GTA				pP	**pP**	**08 30 42.5**	**+0.1**
GTA				sP	**sP**	**08 30 51.8**	**-0.4**
GTA				PMZ			
	6.0nm,1.0s						
TAPN	**Taplejung**	**46.32**	**307**	*e*P	**P**	**08 30 30.9**	**+0.8**
	78nm,0.9s						
ODAN	**Odare**	**46.37**	**306**	*e*P	**P**	**08 30 31.1**	**+0.7**
RAMN	**Ramite**	**47.05**	**306**	*e*P	**P**	**08 30 36.7**	**+1.0**
	103nm,0.7s						
JIRN	**Jiri**	**47.67**	**306**	*e*P	**P**	**08 30 41.5**	**+0.8**
	81nm,0.7s						
GUN	**Gumba**	**48.03**	**306**	*e*P	**P**	**08 30 44.0**	**+0.6**
	82nm,0.7s						
PKI	**Pulchoki**	**48.27**	**306**	*e*P	**P**	**08 30 45.3**	**+0.1**
	45nm,0.9s						
KKN	**Kakani**	**48.46**	**306**	*e*P	**P**	**08 30 47.0**	**+0.4**
DMN	**Daman**	**48.53**	**306**	*e*P	**P**	**08 30 47.8**	**+0.7**
	54nm,0.9s						
GKN	**Gorkha**	**49.07**	**306**	*e*P	**P**	**08 30 51.4**	**+0.3**
	48nm,1.0s						
SONM	**Songino Array**	**49.31**	**340**	P	**P**	**08 30 52.5**	**-0.1**
	2.7nm,0.6s,baz=153,slow=8.4,SNR=8.1						
KOLN	**Koldanda**	**49.82**	**305**	*e*P	**P**	**08 30 57.8**	**+0.9**
	64nm,0.7s						
HYB	**Hyderabad**	**51.27**	**291**	*i* P	**P**	**08 31 07.0**	**-0.8**
WMQ	**Urumqi**	**54.97**	**325**	*e*P	**P**	**08 31 35.5**	**+0.9**
WMQ				pP	**pP**	**08 31 54.5**	**-1.5**
WMQ				sP	**sP**	**08 32 03.3**	**-2.3**
WMQ				PP	**PP**	**08 33 40.5**	**+2.0**
WMQ				ScP	**ScP**	**08 36 27.0**	**+0.5**
WMQ				S	**S**	**08 39 08.0**	**-2.1**
WMQ				ScS	**ScS**	**08 41 13.8**	**-2.0**
WMQ				SS	**SS**	**08 42 54.3**	**-0.7**
WMQ				PMZ			
	16nm,0.5s						
WMQ				PMZ			
	170nm,4.0s						
WMQ				LN			
	40nm,24.4s						
WMQ				LE			
	89nm,24.8s						
WMQ				LZ			
	42nm,23.4s						
PETK	**Petropavlovsk-**	**56.22**	**21**	P	**P**	**08 31 44.0**	**+0.7**
	5.6nm,0.6s,baz=176,slow=5.7,SNR=15						
MK31	**Makanchi Array**	**59.80**	**325**	*e*P	**P**	**08 32 08.1**	**-0.3**
MKAR	**Makanchi Array**	**59.80**	**325**	P	**P**	**08 32 08.3**	**-0.2**
	7.3nm,0.6s,baz=117,slow=8.3,SNR=78						
MKAR				PcP	**PcP**	**08 32 52.6**	**-1.7**
	2.4nm,0.8s,baz=123,slow=5.0,SNR=5.4						
MKAR				ScP	**ScP**	**08 36 45.6**	**-2.1**
	0.3nm,0.6s,baz=132,slow=4.3,SNR=3.0						
KSH	**Kashi**	**60.35**	**315**	P	**P**	**08 32 13.8**	**+1.3**
KSH				pP	**pP**	**08 32 33.5**	**-0.7**
KSH				sP	**sP**	**08 32 41.8**	**-2.0**
KSH				PP	**PP**	**08 34 28.8**	**+2.3**
KSH				S	**S**	**08 40 18.8**	**-2.0**
KSH				PMZ			
	93nm,4.1s						
KSH				LN			
	82nm,7.0s						
KSH				LE			
	160nm,5.9s						
KSH				LZ			
	130nm,6.5s						
ZAA0	**Zalesovo Array**	**62.74**	**333**	*e*P	**P**	**08 32 27.5**	**-0.6**
ZALV	**Zalesovo Beam**	**62.74**	**333**	P	**P**	**08 32 26.6**	**-1.5**
	1.3nm,0.3s,baz=96,slow=6.6,SNR=6.5						
EKS2	**Erkin-Say**	**63.15**	**318**	*e*P	**P**	**08 32 31.5**	**+0.2**
	1.6nm,0.6s						
SEY	**Seymchan**	**63.15**	**12**	P	**P**	**08 32 31.4**	**+0.8**
	3.6nm,0.9s,baz=173,slow=8.1,SNR=4.3						
KURBB	**Kurchatov Arra**	**63.96**	**327**	P	**P**	**08 32 35.6**	**-0.6**
	7.2nm,0.6s,baz=126,slow=6.1,SNR=79						
KURBB				pP	**pP**	**08 33 03.2**	**+5.0**
	3.1nm,0.7s,baz=124,slow=6.1,SNR=7.3						
KURK	**Kurchatov**	**63.96**	**327**	*e*P	**P**	**08 32 35.4**	**-0.8**
	10nm,0.8s						
KURK				pP	**pP**	**08 33 03.2

NICH	**Los Niches**	**1.44**	**154**	*i* P	Pn	08 29 30.1	+1.9
NICH				*i* S	Sn	08 29 49.5	+3.6
NICH				AML	AML	08 29 55.2	
	comp=E,3μm,0.3s						
TALC	**Talca**	**1.72**	**170**	*e*P	Pn	08 29 33.8	+1.9
TALC				*i* S	Sn	08 29 56.5	+3.9
TALC				AML	AML	08 29 58.6	
	comp=E,4μm,0.5s						

IDC ***26*** *08:42:56.7±0.9, 10.°08S×121.°36E, h0km, mb4.3/5, mb1 4.3/6, mb1mx3.9/27, mbtmp4.2/6, ML3.7/1, MS2.6/1, Ms1 2.6/1, ms1mx2.5/26, Error ellipse: s-maj=56.7km s-min=18.6km az=64.0*

ISCJB ***26*** *08:43:00.5±0.4, 10.°24S±0.°04×121.°57E±0.°04, h33km, mb4.2/7, Error ellipse: s-maj=6.3km s-min=5.3km az=0.1*

NEIC ***26*** *08:43:02.1±1.1, 10.°18S×121.°39E, h39km±12km, mb4.1/2, Error ellipse: s-maj=15.2km s-min=7.7km az=73.0*

DJA ***26*** *08:43:03.4±0.6, 10.°S±5.°×12.°1E±.°, h17km±10km, M4.0/10, mb4.2/1, MLv3.9/10*

ISC 26 08:43:02.0±0.7, 10.°17S±0.°06×121.°50E±0.°05, h35km, n27, σ1§61/28, mb4.2/7, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**0.91**	**267**	P	**Pn**	**08 43 19.2**	**+1.0**
BASI				S	**Sn**	**08 43 31.3**	**+1.2**
WSI	**Waingapu**	**1.28**	**293**	P	**Pn**	**08 43 24.7**	**+1.3**
MMRI	**Maumere**	**1.69**	**26**	P	**Pn**	**08 43 28.4**	**-0.6**
MMRI				S	**Sn**	**08 43 51.1**	**+1.7**
MMRI	**Maumere**	**1.69**	**26**	*e*Pn	**Pn**	**08 43 28.4**	**-0.6**
MMRI				*e*Sn	**Sn**	**08 43 49.2**	**-0.2**
WBSI	**Waikabubak, Su**	**2.14**	**284**	P	**Pn**	**08 43 36.6**	**+1.3**
SOEI	**Soe**	**2.76**	**82**	P	Pn	08 43 47.4	+3.6
SOEI	**Soe**	**2.76**	**82**	*e*Pn	**Pn**	**08 43 46.7**	**+2.9**
BSSI	**Bau Bau, Buton**	**4.12**	**346**	P	**Pn**	**08 44 04.4**	**+1.9**
BBSI	**Bau Bau**	**4.77**	**13**	P	**Pn**	**08 44 13.6**	**+2.2**
BKSI	**Bulukumba**	**5.00**	**344**	P	**Pn**	**08 44 17.0**	**+2.4**
KAPI	**Kappang**	**5.41**	**341**	Pn	**Pn**	**08 44 22.4**	**+2.3**
	3.4nm,0.3s,baz=175,slow=8.1,SNR=22						
KAPI				LR	LR	08 46 15.3	
	comp=Z,64nm,21.1s,baz=197,slow=38						
KAPI	**Kappang**	**5.41**	**341**	*e*Pn	**Pn**	**08 44 21.4**	**+1.3**
	14nm,0.6s						
MBWA	**Marble Bar**	**11.06**	**189**	*e*Pn	**Pn**	**08 45 37.2**	**-0.5**
WRA	**Warramunga Arr**	**15.74**	**130**	Pn	**Pn**	**08 46 37.6**	**-3.6**
	0.3nm,0.3s,baz=303,slow=14,SNR=19						
WRA				Sn	Sn	08 49 23.1	-12
	0.3nm,0.3s,baz=289,slow=26,SNR=6.8						
WRAB	**Tennant Creek**	**15.75**	**130**	*e*Pn	**Pn**	**08 46 42.1**	**+0.8**
AS31	**Alice Springs**	**17.90**	**140**	*e*Pn	**Pn**	**08 47 07.7**	**-0.7**
ASAR	**Alice Springs**	**17.90**	**140**	P	**P**	**08 47 09.1**	**+0.4**
	0.3nm,0.3s,baz=313,slow=12,SNR=17						
ASAR				S	Sn	08 50 18.5	-8.4
	0.1nm,0.3s,baz=316,slow=21,SNR=6.6						
FORT	**Forrest**	**21.40**	**164**	*e*P	**P**	**08 47 47.1**	**+0.4**
	12nm,0.6s						
NWAO	**Narrogin (SRO)**	**22.99**	**189**	P	**P**	**08 48 03.0**	**-0.7**
	9.3nm,1.0s,baz=330,slow=20,SNR=3.0						
STKA	**Stephens Creek**	**28.51**	**142**	P	**P**	**08 48 55.7**	**+1.5**
	2.2nm,0.5s,baz=310,slow=9.3,SNR=13						
CMAR	**Chiang Mai Arr**	**36.12**	**322**	P	**P**	**08 50 00.5**	**-0.5**
	1.0nm,0.3s,baz=147,slow=6.3,SNR=5.1						
MK31	**Makanchi Array**	**66.63**	**332**	*e*P	**P**	**08 53 48.1**	**-0.8**
MKAR	**Makanchi Array**	**66.63**	**332**	P	**P**	**08 53 48.1**	**-0.8**
	2.1nm,0.6s,baz=144,slow=7.3,SNR=28						
ZALV	**Zalesovo Beam**	**71.02**	**338**	P	**P**	**08 54 13.9**	**-2.2**
	1.6nm,0.3s,baz=137,slow=5.2,SNR=6.4						
ABKAR	**Akbulak array**	**79.94**	**324**	*e*P	**P**	**08 55 06.0**	**-1.3**
	0.6nm,0.5s						
YKA	**Yellowknife Ar**	**114.22**	**25**	PKP	PKPdf	09 01 38.0	+0.6
	0.3nm,0.6s,baz=308,slow=2.2,SNR=3.8						
TORD	**Torodi Ar. Bea**	**121.08**	**279**	PKP	**PKPdf**	**09 01 52.9**	**+0.9**
	0.6nm,0.6s,baz=109,slow=1.3,SNR=10.0						

IDC 26 08:48:44.8±2.2, 6.°96S×129.°91E, h0km, mb3.7/1, mb1 3.9/3, mb1mx3.6/34, mbtmp3.7/3, ML3.9/2, Error ellipse: s-maj=141.9km s-min=31.7km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.61**	**162**	Pn	Pn	08 51 58.8	-0.5
	0.6nm,0.3s,baz=345,slow=13,SNR=10						
WRA				Sn	Sn	08 54 21.5	-10
	0.8nm,0.3s,baz=337,slow=22,SNR=9.1						
ASAR	**Alice Springs**	**17.05**	**167**	P	Pn	08 52 45.3	+0.4
	0.3nm,0.3s,baz=339,slow=8.8,SNR=13						
ASAR				S	Sn	08 55 47.2	-8.1
	0.2nm,0.3s,baz=349,slow=24,SNR=5.5						
MKAR	**Makanchi Array**	**68.14**	**327**	P	P	08 59 46.9	0.0
	0.3nm,0.4s,baz=114,slow=8.1,SNR=7.2						

NIED ***26*** *08:53:00, 25.°70N×130.°00E, h8km, Mw6.4 Best double couple: M0 3.93000×10^18 NP1:φ=71.00000°, δ=51.00000°, λ=-53.00000°. NP2:φ=201.00000°, δ=52.00000°, λ=-126.00000°.*

ISCJB ***26*** *08:53:05.7±0.5, 25.°80N±0.°01×129.°99E±0.°01, h2km±3km, mb6.0/498, MS6.2/382, Error ellipse: s-maj=2.0km s-min=1.8km az=39.8*

IDC ***26*** *08:53:06.5±0.3, 25.°80N×129.°95E, h0km, mb5.8/48, mb1 5.8/54, mb1mx5.8/55, mbtmp5.8/54, ML5.2/6, MS6.1/31, Ms1 6.1/31, ms1mx6.0/37, Error ellipse: s-maj=9.6km s-min=7.2km az=55.0*

BJI ***26*** *08:53:07.8, 25.°90N×129.°76E, h10km, mb6.0/71, mB6.4/62, Ms6.5/98, MS7 6.3/84*

JMA ***26*** *08:53:07.1, 25.°74N×129.°99E, h48km, M6.4*

JMA Felt IV J1.

NEIC ***26*** *08:53:08.0±0.0, 25.°80N×129.°96E, h15km, Moment Tensor Solution. s67 Moment tensor: Scale 10^18Nm; Mrr=2.33; Mθθ=1.07; Mφφ=1.26; Mrθ=1.85; Mθφ=3.35; Mφr=3.44; Best double couple: M0 5.30000×10^18 NP1:φ=204.00000°, δ=72.00000°, λ=-110.00000°. NP2:φ=76.00000°, δ=27.00000°, λ=-40.00000°. Principal axes: T 6.2000, Plg24.0000°, Azm310.0000°; N -1.7800, Plg20.0000°, Azm211.0000°; P -4.4200, Plg57.0000°, Azm85.0000°;*

NEIC ***26*** *08:53:08.0±0.1, 25.°77N×129.°94E, h10km, mb6.2/291, ME6.6, MS6.2/298, MW6.4, MW6.5, MW6.5, MW6.3(NIED) Error ellipse: s-maj=2.7km s-min=2.3km az=143.0, Moment Tensor Solution. s71 Moment tensor: Scale 10^18Nm; Mrr=4.37; Mθθ=2.14; Mφφ=2.23; Mrθ=-3.23; Mθφ=4.21; Mφr=1.71; Best double couple: M0 6.70000×10^18 NP1: φ=195.00000°, δ=49.00000°, λ=-139.00000°. NP2: φ=75.00000°, δ=60.00000°, λ=-49.00000°. Principal axes: T 6.5100, Plg6.0000°, Azm137.0000°; N 0.4300, Plg34.0000°, Azm231.0000°; P -6.9400, Plg54.0000°, Azm38.0000°; Complex earthquake, with two events occurring about 3 seconds apart, observed on broadband displacement seismograms. Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt [IV] at Urasoe and [III] at Chatan, Ginowan, Ishikawa, Okinawa and Yomitan. Also felt at Gushikawa, Itoman, Naha and Nishihara. Recorded [3 JMA] in the Kerama-retto and on Okinawa and [2 JMA] from Uke-jima to Kume-jima and as far as Akuseki-jima.

GCMT ***26*** *08:53:08.0±0.0, 25.°80N×130.°01E, h12km, MW6.4/130, Moment Tensor Solution. s126, c302; s130, c504; Duration: 4ˢ0 Moment tensor: Scale 10^18Nm; Mrr=3.07±.03; Mθθ=0.85±.03; Mφφ=2.22±.03; Mrθ=-0.22±.07; Mθφ=5.52±.02; Mφr=0.38±.07; Best double couple: M0 5.64000×10^18 NP1:φ=178.00000°, δ=76.00000°, λ=-165.00000°. NP2:φ=85.00000°, δ=75.00000°, λ=-14.00000°. Principal axes: T 7.0990, Plg1.0000°, Azm311.0000°; N -2.9180, Plg70.0000°, Azm219.0000°; P -4.1810, Plg20.0000°, Azm42.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

MOS ***26*** *08:53:09.5±0.9, 25.°81N×130.°08E, h33km, mb6.4/145, MS6.3/114 Error ellipse: s-maj=7.1km s-min=4.0km az=104.0*

NEIC ***26*** *08:53:21.8±0.0, 25.°85N×130.°19E, h17km, Moment Tensor Solution. s121 Moment tensor: Scale 10^18Nm; Mrr=4.48; Mθθ=1.15; Mφφ=3.33; Mrθ=-3.58; Mθφ=5.11; Mφr=0.54; Best double couple: M0 7.40000×10^18 NP1:φ=187.00000°, δ=48.00000°, λ=-142.00000°. NP2:φ=70.00000°, δ=63.00000°, λ=-48.00000°. Principal axes: T 7.7600, Plg9.0000°, Azm131.0000°; N -0.6700, Plg36.0000°, Azm228.0000°; P -7.0900, Plg52.0000°, Azm29.0000°;*

ISC 26 08:53:08.4±0.3, 25.°74N±0.°02×129.°96E±0.°02, h12km±1km, h12km: pP-P, n2495, σ1§43/2663, mb6.1/522, MS6.2/398, 301C-363D, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMZ	**Minamidaito 2**	**1.14**	**86**	⇑P	Pb	08 53 26.7	-3.4
JMZ				*e*S	**Sb**	**08 53 41.0**	**-4.0**
JOW	**Kunigami**	**1.86**	**306**	⇑P	**Pn**	**08 53 37.8**	**-2.4**
JOW				S	**Sn**	**08 54 00.4**	**-3.2**
JOW	**Kunigami**	**1.86**	**306**	Pn	**Pn**	**08 53 37.8**	**-2.4**
	baz=94,slow=16						
JOW				Sn	**Sn**	**08 54 02.5**	**-1.1**
	baz=90,slow=20						
JOW	**Kunigami**	**1.86**	**306**	*e*Pn	Pn	08 53 37.3	-2.9
JOW				Sn	**Sn**	**08 54 02.5**	**-1.1**
JNTH	**Nagotoyohara**	**1.90**	**295**	P	**Pn**	**08 53 38.2**	**-2.5**
JNTH				*e*S	**Sn**	**08 54 01.9**	**-2.7**
JJT2	**Tamagusuku 2**	**2.03**	**282**	⇑P	**Pn**	**08 53 40.5**	**-1.9**
JOKE	**Okinoerabujima**	**2.04**	**323**	P	**Pn**	**08 53 40.3**	**-2.3**
JIH	**Iheya**	**2.20**	**306**	⇑P	**Pn**	**08 53 42.7**	**-2.1**
JIH				S	**Sn**	**08 54 08.3**	**-3.7**
JTK	**Tokunoshima**	**2.23**	**336**	⇑P	**Pn**	**08 53 42.8**	**-2.4**
JTK				*e*S	**Sn**	**08 54 09.4**	**-3.3**
JZK	**Kikaishima**	**2.57**	**0**	P	**Pn**	**08 53 47.9**	**-1.9**
JZK				*e*S	**Sn**	**08 54 17.6**	**-3.4**
JAGN	**Aguni-jima**	**2.58**	**290**	⇑P	**Pn**	**08 53 47.8**	**-2.2**
JAMN	**Amaminishikomi**	**2.59**	**345**	P	**Pn**	**08 53 47.7**	**-2.5**
JAM	**Amami Oshima**	**2.68**	**353**	⇑P	**Pn**	**08 53 49.1**	**-2.3**
JAM				*e*S	**Sn**	**08 54 18.7**	**-5.1**
JKE	**Kume jima 2**	**2.91**	**282**	⇑P	Pn	08 53 51.8	-2.8
JKE				*e*S	**Sn**	**08 54 26.5**	**-3.0**
JTAJ	**Takarajima**	**3.47**	**349**	P	**Pn**	**08 53 59.6**	**-2.6**
JOGS	**Gusukube**	**4.23**	**258**	P	**Pn**	**08 54 10.7**	**-2.1**
JOGS				*e*S	**Sn**	**08 54 59.7**	**-2.4**
JMJ	**Miyako jima 2**	**4.32**	**259**	P	**Pn**	**08 54 11.9**	**-2.0**
JMJ				*e*S	**Sn**	**08 55 00.2**	**-4.1**
JIKM	**Ikemajima**	**4.34**	**260**	P	**Pn**	**08 54 12.1**	**-2.1**
JIKM				*e*S	**Sn**	**08 55 01.3**	**-3.4**
JIRB	**Irabujima**	**4.42**	**259**	P	**Pn**	**08 54 12.9**	**-2.5**
JIRB				*e*S	**Sn**	**08 55 02.7**	**-4.1**
JTJ	**Tarama**	**4.88**	**258**	P	Pn	08 54 19.0	-2.7
JTJ				S	**Sn**	**08 55 14.7**	**-3.5**
JISG	**Ishigakijimahi**	**5.24**	**259**	P	Pn	08 54 23.4	-3.2
JISG				S	**Sn**	**08 55 23.5**	**-3.5**
JIJ	**Ishigaki jima**	**5.45**	**257**	P	**Pn**	**08 54 26.9**	**-2.5**
JIJ				*e*S	Sn	08 55 26.6	-5.5
JKRS	**Kuro-shima**	**5.60**	**256**	P	**Pn**	**08 54 29.2**	**-2.3**
IRIF	**Iriomote-Funau**	**5.82**	**257**	P	**Pn**	**08 54 32.3**	**-2.2**
HATJ	**Hateruma jima**	**5.83**	**255**	P	Pn	08 54 31.9	-2.8
YOJ	**Yonaguni jima**	**6.42**	**260**	P	Pn	08 54 40.0	-2.9
YOJ				*e*S	**Sn**	**08 55 52.7**	**-3.4**
YOJ	**Yonaguni jima**	**6.42**	**260**	*e*P	**Pn**	**08 54 40.8**	**-2.1**
YOJ	**Yonaguni jima**	**6.42**	**260**	*e*Pn	**Pn**	**08 54 40.8**	**-2.1**
JYNG	**Yonagunijimaku**	**6.48**	**260**	P	**Pn**	**08 54 41.7**	**-2.0**
JNU	**Nakatsue**	**7.40**	**6**	Pn	**Pn**	**08 54 55.3**	**-1.0**
	40nm,0.3s,baz=207,slow=6.4,SNR=210						
JNU				Sn	Sn	08 56 12.9	-7.4
	baz=214,slow=17,SNR=3.6						
TATO	**Taipei**	**7.70**	**266**	P	**Pn**	**08 55 01.6**	**+1.3**
	SNR=11						
TATO	**Taipei**	**7.70**	**266**	*e*Pn	**Pn**	**08 54 59.6**	**-0.8**
NACB	**Ninganchiao**	**7.75**	**260**	*e*Pn	Pn	08 54 57.5	-3.6
	420nm,0.3s						
YHNB	**Yeheng**	**7.84**	**264**	*e*Pn	**Pn**	**08 55 02.3**	**-0.2**
	1μm,1.0s						
KSSGP	**Seogwipo**	**8.07**	**339**	P	**Pn**	**08 55 05.7**	**+0.1**
	SNR=29						
KSSGP	**Seogwipo**	**8.07**	**339**	P	**Pn**	**08 55 07.3**	**+1.8**
	SNR=30						
KSJJU	**Jeju**	**8.22**	**340**	P	**Pn**	**08 55 07.7**	**+0.1**
	SNR=60						
KSJJU	**Jeju**	**8.22**	**340**	P	**Pn**	**08 55 09.1**	**+1.5**
	SNR=34						
YULB	**Yu-li**	**8.22**	**255**	*e*Pn	Pn	08 55 02.9	-4.7
	210nm,0.5s						
KSGOS	**Gosan**	**8.22**	**337**	P	**Pn**	**08 55 08.5**	**+0.9**
	SNR=28						
KSGOS	**Gosan**	**8.22**	**337**	P	**Pn**	**08 55 09.7**	**+2.1**
	SNR=7.4						
SSLB	**Suanglung**	**8.41**	**259**	*e*Pn	Pn	08 55 06.2	-4.0
TWG	**Pinlang**	**8.61**	**252**	*e*Pn	Pn	08 55 08.3	-4.6
	2μm,0.5s						
TPUB	**Ta-pu**	**8.83**	**256**	*e*Pn	**Pn**	**08 55 15.1**	**-0.9**
	436nm,0.7s						
TPUB				*e*Sn	**Sn**	**08 56 52.9**	**-2.6**
KSWAN	**Wando**	**9.07**	**343**	P	**Pn**	**08 55 19.8**	**+0.7**
	SNR=87						
KSWAN	**Wando**	**9.07**	**343**	P	**Pn**	**08 55 19.8**	**+0.7**
	SNR=87						
KSKOH	**Goheung**	**9.14**	**346**	P	**Pn**	**08 55 20.0**	**-0.1**
	SNR=100						
KSKOH	**Goheung**	**9.14**	**346**	P	**Pn**	**08 55 22.0**	**+1.9**
	SNR=41						
KSNAH	**Namhae**	**9.22**	**350**	P	**Pn**	**08 55 22.6**	**+1.4**
	SNR=86						
KSNAH	**Namhae**	**9.22**	**350**	P	**Pn**	**08 55 22.6**	**+1.4**
	SNR=86						
KSJDO	**Jindo**	**9.25**	**341**	P	**Pn**	**08 55 22.0**	**+0.3**
	SNR=188						
KSJDO	**Jindo**	**9.25**	**341**	P	**Pn**	**08 55 22.7**	**+0.9**
	SNR=33						
SSE	**Sheshan**	**9.38**	**307**	P	**Pn**	**08 55 23.3**	**-0.2**
SSE				S	**Sn**	**08 57 09.3**	**+0.4**
SSE				PMZ			
	390nm,1.1s						
SSE				PMZ			
	15μm,11.3s						
SSE				LN			
	168μm,27.6s						
SSE				LE			
	89μm,27.6s						
SSE				LZ			
	171μm,29.2s						
KSBUS	**Busan**	**9.51**	**356**	P	**Pn**	**08 55 28.0**	**+2.8**
	SNR=11						
KSBUS	**Busan**	**9.51**	**356**	P	**Pn**	**08 55 27.1**	**+2.0**
	SNR=13						
KSJIN	**Jinju**	**9.54**	**350**	P	**Pn**	**08 55 27.6**	**+2.0**
	SNR=21						
KSJIN	**Jinju**	**9.54**	**350**	P	**Pn**	**08 55 26.5**	**+0.9**
	SNR=20						
KSHUK	**Heuksando**	**9.73**	**337**	P	**Pn**	**08 55 28.7**	**+0.5**
	SNR=182						
KSHUK	**Heuksando**	**9.73**	**337**	P	**Pn**	**08 55 29.7**	**+1.5**
	SNR=67						
KSKWJ	**Gwangju**	**9.73**	**345**	P	**Pn**	**08 55 28.8**	**+0.6**
	SNR=95						
KSKWJ	**Gwangju**	**9.73**	**345**	P	**Pn**	**08 55 29.9**	**+1.7**
	SNR=28						
KSGWJ	**Gwangju-acc**	**9.77**	**345**	P	**Pn**	**08 55 29.4**	**+0.7**
	SNR=28						
KSGWJ	**Gwangju-acc**	**9.77**	**345**	P	**Pn**	**08 55 30.3**	**+1.6**
	SNR=32						
KSDAG	**Daegu**	**10.04**	**355**	P	**Pn**	**08 55 33.2**	**+0.7**
	SNR=53						
KSJEU	**Jeongeup**	**10.06**	**346**	P	**Pn**	**08 55 34.2**	**+1.4**
	SNR=37						
KSYOC	**YEONGCHEON**	**10.24**	**355**	P	**Pn**	**08 55 36.9**	**+1.8**
	SNR=19						
QZH	**Quanzhou**	**10.31**	**268**	⇓*i*P	Pn	08 55 32.8	-3.4
QZH				S	Sn	08 57 23.0	-8.7
QZH				LN			
	275μm,18.4s						
QZH				LE			
	60μm,17.3s						
QZH				LZ			
	202μm,26.2s						
KSJEO	**Jeonju**	**10.42**	**348**	P	**Pn**	**08 55 38.9**	**+1.2**
	SNR=37						
KSPHA	**Pohang**	**10.43**	**357**	P	**Pn**	**08 55 38.9**	**+1.0**
	SNR=8.1						
KSCPR	**CHUPUNGNYEONG**	**10.59**	**351**	P	**Pn**	**08 55 40.8**	**+0.9**
	SNR=47						
KSGUS	**GUNSAN**	**10.62**	**346**	P	**Pn**	**08 55 41.5**	**+1.1**
	SNR=34						
KSEUS	**ULSEONG**	**10.63**	**354**	P	**Pn**	**08 55 41.5**	**+0.9**
	SNR=49						
KSSAJ	**Sangju**	**10.75**	**352**	P	**Pn**	**08 55 43.1**	**+0.9**
	SNR=40						
KSTEJ	**Daejeon**	**10.82**	**349**	P	**Pn**	**08 55 44.0**	**+0.8**
	SNR=26						
TJN	**Taejon**	**10.83**	**349**	*i* P	**Pn**	**08 55 43.6**	**+0.3**
KSBON	**Boeun**	**10.88**	**351**	P	**Pn**	**08 55 46.0**	**+2.0**
	SNR=21						
KSULJ	**Uljin**	**10.94**	**358**	P	**Pn**	**08 55 46.2**	**+1.4**
	SNR=14						
KSKOJ	**Gongju**	**10.96**	**348**	P	**Pn**	**08 55 46.7**	**+1.6**
	SNR=22						
CBIJ	**Chichi jima**	**11.04**	**80**	*e*Pn	**Pn**	**08 55 43.9**	**-2.4**
CBIJ				Sn	Sn	08 57 37.5	-12
CBIJ				*e*Sn	Sn	08 57 43.6	-6.2
JCJ	**Chichijima**	**11.04**	**80**	Pn	**Pn**	**08 55 43.9**	**-2.4**
	82nm,0.3s,baz=268,slow=15,SNR=15						
JCJ				Sn	Sn	08 57 37.5	-12
	50nm,0.3s,baz=270,slow=19,SNR=2.7						
JCJ				LR	LR	08 59 23.2	
	comp=Z,61μm,18.9s,baz=256,slow=34						
KSCEJ	**CHEONGJU**	**11.07**	**349**	P	**Pn**	**08 55 47.9**	**+1.3**
	SNR=13						
KSCHJ	**Chungju**	**11.23**	**352**	P	**Pn**	**08 55 50.3**	**+1.6**
	SNR=14						
KSCEA	**Cheonan**	**11.29**	**349**	P	**Pn**	**08 55 50.4**	**+0.8**
	SNR=48						
JHJ2	**Mitsune**	**11.30**	**47**	*e*Pn	**Pn**	**08 55 51.0**	**+1.3**
KSTBA	**Taebaek**	**11.38**	**356**	P	**Pn**	**08 55 51.6**	**+0.7**
	SNR=26						
KSSES	**Seosan**	**11.41**	**346**	P	**Pn**	**08 55 52.2**	**+0.9**
	SNR=52						
KSYOW	**Yeongwol**	**11.47**	**354**	P	**Pn**	**08 55 53.3**	**+1.2**
	SNR=26						
NJ2	**Nanjing**	**11.58**	**305**	*e*P	**Pn**	**08 55 53.8**	**+0.2**
NJ2				pP		08 55 59.5	
NJ2				sP		08 56 03.5	
NJ2				PMZ			
	120nm,0.8s						
NJ2				LN			
	206μm,19.9s						
NJ2				LE			
	308μm,22.6s						
NJ2				LZ			
	330μm,24.6s						
KSJES	**JEONGSEON**	**11.71**	**355**	P	**Pn**	**08 55 57.0**	**+1.6**
	SNR=14						
KSICN	**Icheon**	**11.72**	**350**	P	**Pn**	**08 55 56.6**	**+1.1**
	SNR=50						
KSWJU	**Wonju**	**11.74**	**353**	P	**Pn**	**08 55 57.6**	**+1.8**
	SNR=18						
KSSWO	**Suwon**	**11.77**	**348**	P	**Pn**	**08 55 57.7**	**+1.5**
	SNR=46						
KSAR	**Wonju Array Be**	**11.80**	**352**	P	**Pn**	**08 55 56.6**	**0.0**
KSAR	**Wonju Array Be**	**11.80**	**352**	Pn	**Pn**	**08 55 56.5**	**0.0**
KSAR				PcP	**PcP**	**09 01 45.5**	**+0.7**
KSRS	**Korea Array**	**11.81**	**352**	Pn	**Pn**	**08 55 56.5**	**-0.1**
	7.6nm,0.3s,baz=175,slow=14,SNR=131						
KSRS				LR	LR	09 00 59.4	
	comp=Z,153μm,18.3s,baz=169,slow=40						
KSRS				PcP	**PcP**	**09 01 45.5**	**+0.7**
	0.3nm,0.3s,baz=154,slow=1.3,SNR=5.0						
KS01	**Wonju Array Si**	**11.83**	**352**	*e*Pn	**Pn**	**08 55 58.0**	**+1.0**
KSDGY	**Daegwallycong**	**11.96**	**355**	P	**Pn**	**08 56 00.8**	**+1.9**
	SNR=16						
KSSEO	**Seoul**	**11.99**	**348**	P	**Pn**	**08 56 00.6**	**+1.4**
	SNR=11						
SZP	**Santa**	**12.01**	**229**	*e*Pn	Pn	08 56 05.5	+6.0
INCN	**Inchon**	**12.04**	**347**	Pn	**Pn**	**08 56 01.3**	**+1.4**
	SNR=29						
INCN	**Inchon**	**12.04**	**347**	*e*Pn	**Pn**	**08 56 00.8**	**+0.8**
KSCHC	**Chuncheon**	**12.14**	**352**	P	**Pn**	**08 56 02.8**	**+1.6**
	SNR=10.0						
KSJMJ	**Jumunjin**	**12.15**	**355**	P	**Pn**	**08 56 02.9**	**+1.5**
	SNR=22						
KSGAH	**Ganghwa**	**12.30**	**347**	P	**Pn**	**08 56 04.3**	**+0.9**
	SNR=42						
KSIJA	**INJE**	**12.31**	**353**	P	**Pn**	**08 56 05.3**	**+1.7**
	SNR=17						
KSDDC	**Dongducheon**	**12.37**	**349**	P	**Pn**	**08 56 05.5**	**+1.2**
	SNR=17						
KSMUS	**Musan**	**12.41**	**348**	P	**Pn**	**08 56 06.2**	**+1.3**
	SNR=25						
KSCWO	**Cheorwon**	**12.48**	**351**	P	**Pn**	**08 56 07.3**	**+1.4**
	SNR=12						
YNCB	**YEONCHEON**	**12.53**	**349**	P	**Pn**	**08 56 08.1**	**+1.5**
	SNR=12						
KSSKC	**Sokcho**	**12.57**	**355**	P	**Pn**	**08 56 08.7**	**+1.6**
	SNR=22						
SEHB	**SEOHWA**	**12.58**	**354**	P	**Pn**	**08 56 08.8**	**+1.6**
	SNR=30						
BCPH	**Baguio City Da**	**12.77**	**225**	⇓*i*P	**Pn**	**08 56 13.2**	**+3.1**
MAJO	**Matsushiro**	**12.87**	**31**	*d i*P	**Pn**	**08 56 10.4**	**-0.9**
MAJO	**Matsushiro**	**12.87**	**31**	*e*Pn	**Pn**	**08 56 10.6**	**-0.7**
MAT	**Matsushiro**	**12.87**	**31**	P	**Pn**	**08 56 10.8**	**-0.5**
MAT				S	**Sn**	**08 58 32.8**	**-1.7**
MJAR	**Matsushiro Arr**	**12.87**	**31**	Pn	**Pn**	**08 56 11.4**	**+0.1**
	19nm,0.3s,baz=206,slow=14,SNR=66						
MJAR				LR	LR	09 00 49.2	
	comp=Z,89μm,18.0s,baz=215,slow=36						
KSBAR	**Backryungdo**	**12.98**	**341**	P	**Pn**	**08 56 14.5**	**+1.7**
	SNR=20						
PCPH	**Palayan**	**13.08**	**221**	⇑*e*P	**Pn**	**08 56 14.7**	**+0.5**
GQP	**Guinayangan**	**13.72**	**212**	⇑*e*P	**Pn**	**08 56 20.7**	**-2.2**
LQP	**Lukban**	**14.01**	**216**	⇑*e*P	**Pn**	**08 56 27.1**	**+0.1**
AUQP	**San Andres**	**14.12**	**210**	*e*P	P	08 56 32.2	-3.9
TGY	**Tagaytay City**	**14.34**	**218**	LR	LR	09 03 19.0	
	comp=Z,169nm,18.0s,baz=32,slow=43						
WHN	**Wuhan**	**14.57**	**293**	⇑*i*P	**Pn**	**08 56 32.0**	**-2.5**
WHN				S	**Sn**	**08 59 19.8**	**+3.8**
WHN				LN			
	142μm,11.8s						
WHN				LE			
	82μm,12.6s						
WHN				LZ			
	149μm,12.2s						
HKC	**Hong Kong Obse**	**14.82**	**260**	⇓*i*P	**P**	**08 56 42.0**	**-1.8**
PGP	**Puerto Galera**

CGP Cagayan de Oro 17.90 197 *e*P P 08 57 19.4 +1.4
DCPH Dipolog City 18.18 201⇑*e*P P 08 57 24.1 +3.0
BJT Baijiatuau 18.32 324 *e*P P 08 57 22.7 +0.2
BJT pmax pmax
comp=Z,3μm,1.3s
BJT Baijiatuau 18.32 324 *e*P P 08 57 22.7 +0.2
comp=Z,3μm,1.3s
BJI Beijing 18.33 324 P Pn 08 57 21.5 -1.0
BJI S **Sn** **09 00 42.3 -4.9**
BJI PMZ
comp=Z,350nm,1.5s
BJI PMZ
comp=Z,18μm,8.6s
BJI LN
comp=Z,106μm,17.9s
BJI LE
comp=Z,29μm,16.4s
BJI LZ
comp=Z,125μm,33.0s
BUKP Musuan 18.36 196 *e*P P 08 57 25.5 +2.4
CN2 Changchun 18.39 350 ⇓P Pn 08 57 24.3 +1.1
CN2 *e*S **Sn** **09 00 46.5 -2.0**
CN2 PcP **PcP** **09 01 55.8 +1.8**
CN2 PMZ
comp=Z,180nm,0.9s
CN2 PMZ
comp=Z,2μm,3.0s
CN2 LN
comp=Z,98μm,16.0s
CN2 LE
comp=Z,112μm,16.0s
USRK Ussuriysk Ar. 18.49 5 P Pn 08 57 24.8 +0.3
comp=Z,9.1nm,0.3s,baz=178,slow=9.1,SNR=82
USRK S **Sn** **09 00 51.4 +0.5**
baz=161,slow=18,SNR=1.6
USRK PcP **PcP** **09 01 57.4 +3.2**
comp=Z,0.4nm,0.3s,baz=225,slow=1.9,SNR=4.8
USRK LR LR 09 04 37.2
comp=Z,135μm,19.4s,baz=172,slow=38
USRK P3KPbc 09 32 06.1
comp=Z,0.2nm,0.3s,baz=352,slow=3.1,SNR=6.9
GUMO Guam 18.51 128 P P 08 57 24.7 0.0
comp=Z,15nm,0.3s,baz=327,slow=2.3,SNR=20
GUMO S **S** **09 00 55.9 +0.1**
comp=Z,2.5nm,0.3s,baz=228,slow=12,SNR=1.8
GUMO LR LR 09 03 22.0
comp=Z,77μm,20.0s,baz=302,slow=33
GUMO Guam 18.51 128 P P 08 57 24.7 0.0
GUMO *e*Pn **Pn** **08 57 26.0 +1.2**
GUMO S **S** **09 00 55.9 +0.1**
ENH Enshi 18.62 289 *e*P Pn 08 57 27.5 +1.3
comp=Z,430nm,0.8s
MDJ Mudanjiang 18.84 359 P P 08 57 27.5 -0.6
MDJ pP **pP** **08 57 30.8 -0.7**
MDJ sP **sP** **08 57 32.5 -0.6**
MDJ S **Sn** **09 00 58.3 -1.0**
MDJ sS **sS** **09 01 07.5 -0.1**
MDJ PcP **PcP** **09 01 59.3 +4.6**
MDJ PcS **PcS** **09 05 34.0 +2.5**
MDJ PMZ
comp=Z,130nm,1.4s
MDJ PMZ
comp=Z,12μm,8.7s
MDJ LN
comp=Z,41μm,29.0s
MDJ LE
comp=Z,90μm,25.5s
MDJ LZ
comp=Z,101μm,15.8s
MDJ Mudanjiang 18.84 359 *e*P Pn 08 57 29.0 +0.4
comp=Z,672nm,1.3s
PAGZ Pagadian 18.86 201 *e*P Pn 08 57 31.8 +2.7
MATI Mati 19.02 191 *e*P Pn 08 57 33.1 +2.1
DAV Davao City (W) 19.03 193 P Pn 08 57 34.0 +2.9
SNR=23
TIY Taiyuan 19.06 313 *e*P Pn 08 57 31.5 0.0
TIY S **S** **09 01 06.3 -0.6**
TIY PMZ
comp=Z,870nm,1.3s
TIY PMZ
comp=Z,32μm,4.4s
TIY LN
comp=Z,136μm,13.6s
TIY LE
comp=Z,118μm,15.1s
TIY LZ
comp=Z,97μm,26.1s
CTBH Cotabato--PC H 19.20 197⇓*i*P Pn 08 57 36.6 +3.3
ERM Erimo 19.55 31*c i*P P 08 57 35.2 -0.8
ERM pmax pmax
comp=Z,658nm,1.2s
ERM MLR MLR
comp=Z,89μm,19.0s
ERM Erimo 19.55 31 *e*P P 08 57 35.1 -0.8
comp=Z,721nm,1.0s
QIZ Qiongzhong 19.75 254 P P 08 57 38.3 0.0
QIZ S **S** **09 01 20.5 -0.3**
QIZ PMZ
comp=Z,11μm,13.1s
QIZ LN
comp=Z,54μm,23.2s
QIZ LE
comp=Z,14μm,23.5s
QIZ LZ
comp=Z,46μm,18.2s
QIZ Qiongzhong 19.75 254 *e*P Pn 08 57 42.5 +2.7
comp=Z,439nm,1.2s
XAN Xi'an 20.00 299 P P 08 57 39.5 -1.5
XAN S **S** **09 01 24.5 -1.3**
XAN PMZ
comp=Z,290nm,1.2s
XAN LN
comp=Z,93μm,22.2s
XAN LE
comp=Z,14μm,22.8s
XAN LZ
comp=Z,21μm,17.2s
GYA Guiyang 20.93 277⇑*i*P P 08 57 51.5 +0.3
GYA PP **PnPn** **08 58 15.0 +5.2**
GYA S **S** **09 01 39.8 -4.7**
GYA SS **SnSn** **09 02 12.5 +7.5**
GYA ScP **ScP** **09 05 35.5 -0.2**
GYA PMZ
comp=Z,710nm,1.0s
GYA LN
comp=Z,65μm,15.9s
GYA LE
comp=Z,37μm,16.2s
GYA LZ
comp=Z,38μm,15.5s
ASAJ Asahikawa 21.02 26 P P 08 57 51.0 -0.8
comp=Z,173nm,0.8s,baz=217,slow=11,SNR=31
ASAJ S S 09 01 37.0 -8.6
comp=Z,10nm,0.9s,baz=144,slow=19,SNR=1.8
ASAJ LR LR 09 06 44.7
comp=Z,79nm,18.2s,baz=232,slow=39
ASAJ Asahikawa 21.02 26 P P 08 57 51.0 -0.8
ASAJ S S 09 01 37.1 -8.6
ASAJ pmax pmax
comp=Z,173nm,0.8s
ASAJ smax smax
comp=N,10.0nm,0.9s
ASAJ MLR MLR
comp=Z,79μm,18.3s
ASAJ Asahikawa 21.02 26 *e*P P 08 57 50.2 -1.6
comp=Z,2μm,2.5s
ASAJ S S 09 01 37.0 -8.6
HHC Hu-ho-hao-te 21.46 319 *e*P P 08 57 59.0 +2.2
HHC PP **PnPn** **08 58 23.0 +6.0**
HHC PMZ
comp=Z,100nm,1.3s
HHC PMZ
comp=Z,18μm,7.4s
HHC LN
comp=Z,116μm,14.5s
HHC LE
comp=Z,52μm,14.7s
HHC LZ
comp=Z,100μm,14.9s
BTO Baotou 22.25 317 *e*P P 08 58 06.0 +0.7
SGSI Sangihe 22.34 192 P P 08 58 07.4 +1.2
comp=Z,3μm,0.8s,comp=Z,28μm
YUK Yuzh-Kuril'sk 22.37 31*d i*P P 08 58 06.9 +0.6
YUK *i* 08 58 33.6
YUK *i* S S **09 02 11.8 -0.1**
YUK *i* SS **SnSn** **09 02 44.9 +5.0**
YUK pmax pmax
comp=Z,12μm,10.6s
YUK pmax pmax
comp=N,2μm,2.2s
YUK pmax pmax
comp=E,1μm,2.2s
YUK pmax pmax
comp=Z,2μm,2.2s
YUK MLR MLR
comp=N,42μm,21.0s
YUK MLR MLR
comp=E,31μm,21.0s
YUK MLR MLR
comp=Z,53μm,21.0s
KDM Kudat 22.52 216 ⇓P P 08 58 10.5 +2.3
HABR Khabarovsk 23.04 9*c e*P P 08 58 10.9 -2.5
HABR *e*SP 08 58 15.0
HABR *e* 08 58 43.3
HABR 09 01 59.9
HABR *e*S **S** **09 02 22.2 -1.8**
HABR *e*SS **SnSn** **09 02 55.7 -0.7**
HABR *e*SSS SSS 09 03 09.2
HABR *e* 09 09 24.1
HABR pmax pmax
comp=Z,2μm,2.2s
HABR MLR MLR
comp=E,85μm,13.0s
HABR MLR MLR
comp=N,62μm,17.0s
HABR MLR MLR
comp=Z,87μm,17.0s
SDKM Sandakan 23.42 214 ⇓P P 08 58 17.9 +0.3
YSS Yuzh-Sakhalins 23.49 22*c i*P P 08 58 17.0 -1.0
YSS *e* 08 58 44.0
YSS *e*PPP PPP 08 59 05.0
YSS *i* S **S** **09 02 30.0 -1.4**
YSS *e*SS SnSn 09 03 22.0 +15
YSS pmax pmax
comp=Z,800nm,1.5s
YSS smax smax
comp=E,33μm,17.0s
YSS smax smax
comp=N,42μm,16.0s
YSS MLR MLR
comp=N,58μm,16.0s
YSS MLR MLR
comp=Z,52μm,16.0s
YSS MLR MLR
comp=E,26μm,14.0s
YSS Yuzh-Sakhalins 23.49 22 *e*P P 08 58 16.1 -1.8
KLR Kul'dur 23.49 3 *e*P P 08 58 12.0 -6.0
KLR *e*S S 09 02 19.0 -12
KLR *e*SSS SSS 09 03 18.0
KLR pmax pmax
comp=N,8μm,10.0s
KLR pmax pmax
comp=Z,18μm,10.0s
KKM Kota Kinabalu 23.58 216 ⇓P P 08 58 22.2 +2.9
KKM Kota Kinabalu 23.58 216 *e*P P 08 58 20.9 +1.6
comp=Z,662nm,1.1s
KKM LR LR
comp=Z,23μm,18.0s
CD2 Chengdu 23.60 289 ⇑P P 08 58 16.3 -3.1
CD2 pP **pP** **08 58 20.5 -2.4**
CD2 sP **sP** **08 58 23.3 -1.2**
CD2 PP **PnPn** **08 58 48.5 +2.2**
CD2 S S 09 02 26.0 -7.7
CD2 sS sS 09 02 33.0 -6.7
CD2 SS **SnSn** **09 03 14.0 +3.5**
CD2 PMZ
comp=Z,1μm,0.6s
CD2 PMZ
comp=Z,18μm,7.4s
CD2 LN
comp=Z,136μm,19.6s
CD2 LE
comp=Z,71μm,15.6s
CD2 LZ
comp=Z,51μm,17.2s
KUR Kuril'sk 24.21 32⇑*i*P P 08 58 22.0 -2.9
KUR pmax pmax
comp=Z,4μm,2.6s
KUR pmax pmax
comp=N,598nm,1.2s
KUR pmax pmax
comp=Z,1μm,1.2s
KUR pmax pmax
comp=E,139nm,0.6s
KUR MLR MLR
comp=N,41μm,19.0s
KUR MLR MLR
comp=E,47μm,19.0s
KUR MLR MLR
comp=Z,3μm,19.0s
TSM Tawau 24.27 211 ⇓P P 08 58 27.2 +1.6
DLV T Lat 24.46 240 *e*P P 08 58 29.4 +1.7
KMI Kunming 24.57 275 P P 08 58 30.0 +1.3
KMI pP **pP** **08 58 32.3 0.0**
KMI sP **sP** **08 58 34.0 +0.2**
KMI S **S** **09 02 48.5 -1.1**
KMI sS **sS** **09 02 52.5 -3.1**
KMI SS **SnSn** **09 03 42.0 +7.4**
KMI PMZ
comp=Z,390nm,1.0s
KMI PMZ
comp=Z,8μm,4.4s
KMI LN
comp=Z,115μm,18.0s
KMI LE
comp=Z,34μm,17.0s
KMI LZ
comp=Z,41μm,18.0s
LZH Lanzhou 24.59 301 ⇑P P 08 58 30.8 +2.1
LZH pP **pP** **08 58 33.5 +1.1**
LZH sP **sP** **08 58 35.3 +1.4**
LZH PP **PnPn** **08 59 06.8 +6.9**
LZH S **S** **09 02 49.0 -0.7**
LZH sS **sS** **09 02 56.0 +0.3**
LZH SS **SnSn** **09 03 41.8 +7.0**
LZH PMZ
comp=Z,760nm,1.2s
LZH PMZ
comp=Z,6μm,5.0s
LZH LN
comp=Z,93μm,13.6s
LZH LE
comp=Z,56μm,13.6s
LZH LZ
comp=Z,70μm,17.6s
HIA Hailar 24.80 344 *e*P P 08 58 30.4 +0.2
HIA pmax pmax
comp=Z,713nm,1.2s
HIA MLR MLR
comp=Z,49μm,20.0s
HIA Hailar 24.80 344 *e*P P 08 58 30.4 +0.2
comp=Z,713nm,1.2s
HIA LR LR
comp=Z,49μm,20.0s
TNTI Ternate 24.95 186 P P 08 58 33.8 +2.0
comp=Z,1μm,0.9s,comp=Z,20μmcomp=Z,33μm
TNTI Ternate 24.95 186 *e*P P 08 58 33.4 +1.6
UGL Uglegorsk 25.14 19 *e*P P 08 58 33.9 +0.6
UGL *e* 08 59 12.3
UGL *e*S **S** **09 02 55.8 -2.0**
UGL *e*SS **SnSn** **09 03 46.8 -1.0**
UGL *e*SSS SSS 09 04 01.1
UGL *e* 09 09 32.9
KMSI Cibinong 25.67 194 P P 08 58 40.9 +2.5
comp=Z,2μm,0.9s,comp=Z,24μm
SKNT Sakolnakorn 25.68 255 P P 08 58 41.1 +2.6
comp=Z,497nm,1.7s,comp=Z,11μm
TOLI Toli-Toli 26.02 201 *e*P P 08 58 44.1 +2.6
comp=Z,562nm,0.9s
TOLI LR LR
comp=Z,34μm,21.0s
MRSI Marisa 26.28 198 P P 08 58 43.8 -0.1
comp=Z,356nm,1.5s,comp=Z,6μm
LBMI Labuha 26.33 186 P P 08 58 44.1 -0.2
comp=Z,558nm,1.0s,comp=Z,10μm
SWI Sorong 26.48 177 P P 08 58 46.6 +1.0
comp=Z,229nm,1.2s,comp=Z,6μmcomp=Z,93μm
SIJI Sorong 26.48 177 LR LR 09 09 14.3
comp=Z,26μm,19.4s,baz=16,slow=36
KHON Khomkaen 26.95 255 P P 08 58 52.7 +2.7
comp=Z,158nm,0.7s,comp=Z,2μm
MPSI Mapaga 27.05 203 P P 08 58 52.0 +1.1
comp=Z,342nm,1.6s,comp=Z,5μm
RKPI Ransiki, Papua 27.39 171 P P 08 58 56.7 +2.8
LUWI Luwuk 27.51 196 P P 08 58 56.8 +1.8
comp=Z,297nm,1.5s,comp=Z,7μmcomp=Z,25μm
LUWI Luwuk 27.51 196 *e*P P 08 58 57.1 +2.2
comp=Z,472nm,1.2s
BTM Bintulu 27.66 219 ⇑P P 08 58 58.4 +2.1
APSI Ampana 27.68 198 P P 08 58 55.9 -0.6
comp=Z,358nm,1.4s,comp=Z,6μmcomp=Z,18μm
CRAI Chiangrai 27.75 265 P P 08 58 56.6 -0.5
comp=Z,228nm,1.4s,comp=Z,3μm
SANI Sanana 27.89 188 P P 08 58 56.7 -1.6
comp=Z,279nm,1.2s,comp=Z,5μm
SRPI Serui, Papua 28.11 167 P P 08 59 07.8 +7.5
PCI Palu 28.24 202 P P 08 59 00.8 -0.7
comp=Z,340nm,1.5s,comp=Z,5μm
UTTA Uttaradit 28.40 260 P P 08 59 05.3 +2.4
comp=Z,44nm,1.2s,comp=Z,422nm
PBKT Sadao Pong 28.48 257 P P 08 59 06.2 +2.6
comp=Z,346nm,0.9s,comp=Z,5μm
FAKI Fak Fak 28.57 175 P P 08 59 03.9 -0.6
comp=Z,459nm,1.5s,comp=Z,8μmcomp=Z,41μm
FAKI Fak Fak 28.57 175 *e*P P 08 59 03.7 -0.8
comp=Z,766nm,1.3s
GTA Gaotai 28.68 306 ⇑P P 08 59 04.3 -1.1
GTA pP **pP** **08 59 08.5 -0.6**
GTA sP **sP** **08 59 11.3 +0.7**
GTA PP **PnPn** **08 59 56.0 +0.4**
GTA PcP **PcP** **09 02 16.0 +0.1**
GTA S **S** **09 03 53.0 -1.2**
GTA sS **sS** **09 03 59.5 -0.7**
GTA SS **SnSn** **09 05 19.3 +4.9**
GTA PMZ
comp=Z,220nm,1.6s
GTA PMZ
comp=Z,8μm,9.7s
GTA LN
comp=Z,105μm,17.1s
GTA LE
comp=Z,77μm,19.0s
GTA LZ
comp=Z,76μm,21.8s
SBUM Sibu 28.76 219 ⇑P P 08 59 06.4 +0.3
SBUM Sibu 28.76 219 *e*P P 08 59 06.9 +0.7
comp=Z,590nm,1.6s
SBUM LR LR
comp=Z,27μm,19.0s
SONM Songino Array 28.82 326 P P 08 59 06.7 +0.2
comp=Z,33nm,0.9s,baz=138,slow=6.9,SNR=50
SONM LR LR 09 12 34.1
comp=Z,47μm,18.2s,baz=135,slow=41
SONA1 Songino Array 28.82 326 *e*P P 08 59 06.2 -0.4
SMPI Sarmi 28.84 162 P P 08 59 07.0 +0.2
comp=Z,528nm,1.5s,comp=Z,8μm
MSAI Masohi 28.93 182 P P 08 59 09.2 +1.6
NLAI Namlea 28.94 186 P P 08 59 09.0 +1.3
comp=Z,194nm,1.6s,comp=Z,3μm
LAMP Lampang 28.95 262 P P 08 59 08.6 +0.8
comp=Z,141nm,0.8s,comp=Z,996nm
CMAI Chiengmai2 29.02 265 P P 08 59 11.4 +2.7
comp=Z,184nm,1.2s,comp=Z,3μm
CIT Chita 29.05 339 *e*P P 08 59 09.0 +0.6
CIT *e* 08 59 17.7
CIT *e* 08 59 23.0
CIT *e* 09 00 07.0
CIT pmax pmax
comp=Z,501nm,1.3s
AAI Ambon 29.30 184 P P 08 59 12.5 +1.6
comp=Z,473nm,1.2s,comp=Z,5μm
CHTO Chiang Mai 29.46 263 P P 08 59 14.4 +2.0
comp=Z,1μm,0.8s,comp=Z,15μm
CHTO Chiang Mai 29.46 263 *e*P P 08 59 13.8 +1.3
CHTO pmax pmax
comp=Z,153nm,0.7s
CHTO MLR MLR
comp=Z,24μm,20.0s
CHTO Chiang Mai 29.46 263 P P 08 59 15.0 +2.5
SNR=28
CHTO Chiang Mai 29.46 263 *e*P P 08 59 13.8 +1.3
comp=Z,153nm,0.7s
CHTO LR LR
comp=Z,24μm,20.0s
CM01 Chiang Mai Arr 29.58 262 *e*P P 08 59 15.4 +1.9
CM01 *e*PcP **PcP** **09 02 19.7 +1.3**
CM31 Chiang Mai Arr 29.58 262 *e*P P 08 59 15.7 +2.2
comp=Z,54nm,0.5s
CMAR Chiang Mai Arr 29.58 262 P P 08 59 14.9 +1.4
comp=Z,23nm,0.9s,baz=62,slow=8.2,SNR=59
CMAR PcP **PcP** **09 02 19.9 +1.5**
comp=Z,11nm,0.8s,baz=56,slow=1.7,SNR=5.4
CMAR LR LR 09 12 24.7
comp=Z,30μm,18.9s,baz=72,slow=39
BKB Balikpapan 29.66 207 P P 08 59 15.6 +1.5
comp=Z,949nm,1.6s,comp=Z,13μm
GENI Genyem 29.85 159 P P 08 59 17.8 +2.0
comp=Z,470nm,1.5s,comp=Z,9μm
JAY Jayapura 29.95 158 P P 08 59 18.8 +2.0
JAY Jayapura 29.95 158 LR LR 09 10 22.0
comp=Z,30μm,18.8s,baz=354,slow=34
BNDI Bandanaira 30.08 180 P P 08 59 18.5 +0.7
comp=Z,418nm,1.8s,comp=Z,10μmcomp=Z,22μm
PATY Pattaya 30.18 251 P P 08 59 22.7 +3.9
comp=Z,32nm,1.1s,comp=Z,926nm
UTHA Uthaitani 30.23 256 P P 08 59 22.4 +3.2
comp=Z,44nm,1.3s,comp=Z,500nm
TTSI Tana Toraja 30.25 200 P P 08 59 21.5 +2.2
MTKI Muara Teweh, K 30.26 211 P P 08 59 21.3 +1.9
KDI Kendari 30.36 195 P P 08 59 21.1 +0.8
comp=Z,283nm,1.6s,comp=Z,5μmcomp=Z,36μm
KSM Kuching 30.66 221 ⇑P P 08 59 24.8 +1.8
KSM Kuching 30.66 221 *e*P P 08 59 23.9 +0.9
comp=Z,629nm,1.1s
KSM LR LR
comp=Z,19μm,21.0s
SPSI Sidrap Palu 31.14 200 P P 08 59 31.7 +4.6
comp=Z,57nm,1.4s,comp=Z,4μm
STKI Sintang 31.14 218 P P 08 59 29.2 +2.0
CLNS Chul'man 31.29 355 *e*P P 08 59 28.2 0.0
CLNS *e**PP pP 08 59 46.0 +14
CLNS *e* 09 00 33.6
CLNS *e* 09 02 20.4
CLNS *e*S **S** **09 04 30.3 -4.3**
CLNS *e*SS **SnSn** **09 06 19.5 +2.0**
CLNS pmax pmax
comp=Z,96nm,1.1s
CLNS pmax pmax
comp=N,126nm,1.3s
CLNS pmax pmax
comp=E,40nm,1.1s
CLNS pmax pmax
comp=Z,38nm,1.1s
CLNS pmax pmax
comp=E,34nm,0.9s
CLNS pmax pmax
comp=N,42nm,1.0s
CLNS smax smax
comp=E,7μm,12.8s
CLNS smax smax
comp=N,3μm,12.8s
CLNS MLR MLR
comp=Z,20μm,13.0s
CLNS MLR MLR
comp=N,32μm,14.0s
CLNS MLR MLR
comp=N,46μm,16.0s
KHLT Khaolaem Dam 31.29 256 P P 08 59 31.9 +3.3
comp=N,95nm,1.4s,comp=N,2μm
KBKI Kotabaru 31.81 207 P P 08 59 33.6 +0.5
comp=N,622nm,1.6s,comp=N,7μm
BBSI Bau Bau 31.86 194 P P 08 59 34.9 +1.4
comp=N,242nm,1.4s,comp=N,4μm
ZAK Zakamensk 32.03 327 *e*P P 08 59 33.9 -1.0
ZAK *e* 09 02 22.9
ZAK pmax pmax
comp=Z,48nm,1.3s
KAPI Kappang 32.13 199 P P 08 59 36.5 +0.6
SNR=36
KAPI Kappang 32.13 199 *e*P P 08 59 34.0 -2.0
comp=Z,56nm,1.5s
KAPI LR LR
comp=Z,3μm,20.0s
BKSI Bulukumba 32.32 199 P P 08 59 38.3 +0.8
comp=Z,73nm,1.3s,comp=Z,3μm
BBKI Banjar Baru 32.52 209 P P 08 59 40.1 +0.8
comp=Z,962nm,1.6s,comp=Z,13μm

IMP	**Imphal**	**32.53**	**276**	*ex*		**P**		**08 59 39.0**	**-0.5**
IMP				*ex*		x		09 05 04.0	
TLY	**Talaya**	**32.72**	**329**	P		**P**		**08 59 41.3**	**+0.5**
	comp=Z,326nm,1.0s,SNR=16								
TLY	**Talaya**	**32.72**	**329**	*eP*		**P**		**08 59 40.7**	**-0.1**
TLY				*e*				09 00 44.8	
TLY				*eS*		**S**		**09 04 56.4**	**-0.6**
TLY				*e*				09 07 00.0	
TLY					pmax	pmax			
	comp=Z,81nm,1.2s								
TLY					MLR	MLR			
	comp=Z,27µm,18.0s								
KTGM	**Kuala Trenggan**	**32.72**	**236**	⇓P		**P**		**08 59 43.3**	**+2.2**
IRK	**Irkutsk**	**32.82**	**331**	*eP*		**P**		**08 59 41.7**	**+0.1**
IRK				*e*				09 01 02.3	
IRK				*e*				09 02 25.4	
IRK					pmax	pmax			
	comp=Z,247nm,2.1s								
BSSI	**Bau Bau, Buton**	**33.00**	**197**	P		**P**		**08 59 43.1**	**-0.4**
	comp=Z,302nm,1.7s,comp=Z,7µm								
SKLT	**Songkhla**	**33.51**	**242**	P		**P**		**08 59 50.7**	**+2.6**
	comp=Z,83nm,1.7s,comp=Z,2µm								
SAUI	**Saumlaki**	**33.54**	**178**	P		**P**		**08 59 50.3**	**+2.0**
	comp=Z,846nm,1.3s,comp=Z,11µm								
SAUI	**Saumlaki**	**33.54**	**178**	*eP*		**P**		**08 59 49.8**	**+1.6**
	comp=Z,1µm,1.3s								
TRTT	**Trang**	**33.87**	**244**	P		P		08 59 54.7	+3.5
	comp=Z,73nm,1.6s,comp=Z,2µm								
MOY	**Mondy**	**33.97**	**327**	*eP*		**P**		**08 59 51.3**	**-0.5**
MOY					pmax	pmax			
	comp=Z,200nm,1.6s								
SURT	**Suratani**	**33.97**	**246**	P		**P**		**08 59 55.1**	**+3.0**
	comp=Z,65nm,1.4s,comp=Z,1µm								
BOD	**Bodaibo**	**34.01**	**345**	⇓*iP*		**P**		**08 59 51.0**	**-0.9**
BOD					pmax	pmax			
	comp=Z,109nm,1.2s								
SHL	**Shillong**	**34.24**	**278**	*i* P		**P**		**08 59 56.0**	**+1.4**
SHL				*eS*		**S**		**09 05 23.0**	**+1.5**
PEA0	**Petropavlovsk-**	**34.33**	**30**	*eP*		**P**		**08 59 53.4**	**-1.4**
PEA0B	**Petropavlovsk-**	**34.33**	**30**	*eP*		**P**		**08 59 53.9**	**-0.9**
PETK	**Petropavlovsk-**	**34.33**	**30**	P		**P**		**08 59 53.8**	**-1.0**
	comp=Z,258nm,0.9s,baz=202,slow=6.2,SNR=70								
PETK				PcP		**PcP**		**09 02 29.9**	**-0.8**
	comp=Z,26nm,0.7s,baz=185,slow=5.5,SNR=4.2								
PETK					LR	LR		09 14 15.5	
	comp=Z,26µm,18.3s,baz=218,slow=37								
WAKE	**Wake Island**	**34.43**	**93**	*eP*		**P**		**08 59 55.9**	**-0.1**
WAKE				*es*P		**sP**		**09 00 04.9**	**+3.7**
WAKE					LR	LR			
	comp=Z,15µm,22.0s								
LSA	**Lhasa**	**34.47**	**286**	P		**P**		**08 59 54.5**	**-2.3**
LSA				S		S		09 05 18.8	-6.7
LSA				PMZ					
	comp=Z,460nm,1.0s								
LSA				LN					
	comp=Z,38µm,26.0s								
LSA				LE					
	comp=Z,28µm,26.0s								
LSA				LZ					
	comp=Z,38µm,23.0s								
LSA	**Lhasa**	**34.47**	**286**	*eP*		**P**		**08 59 58.2**	**+1.3**
LSA					pmax	pmax			
	comp=Z,128nm,0.8s								
LSA					MLR	MLR			
	comp=Z,39µm,21.0s								
LSA	**Lhasa**	**34.47**	**286**	*eP*		**P**		**08 59 58.1**	**+1.3**
	comp=Z,128nm,0.8s								
LSA					LR	LR			
	comp=Z,39µm,21.0s								
H11N1	**WAKE ISLAND Hy**	**34.51**	**92**	P		**P**		**08 59 56.4**	**-0.1**
	baz=265,slow=11,SNR=8.5								
H11N1				T		T		09 35 56.8	
	baz=283,slow=74,SNR=3.9								
H11N2	**WAKE ISLAND Hy**	**34.51**	**92**	P		**P**		**08 59 56.5**	**0.0**
	baz=265,slow=11,SNR=11								
H11N2				T		T		09 35 35.3	
	baz=283,slow=74,SNR=3.3								
H11N3	**WAKE ISLAND Hy**	**34.53**	**92**	P		**P**		**08 59 56.9**	**+0.2**
	baz=265,slow=11,SNR=8.8								
H11N3				T		T		09 35 51.9	
	baz=283,slow=74,SNR=4.1								
MYKOM	**Kota Tinggi**	**34.62**	**231**	⇓P		**P**		**09 00 00.4**	**+2.7**
MYKOM	**Kota Tinggi**	**34.62**	**231**	*eP*		**P**		**08 59 59.0**	**+1.3**
MYKOM					LR	LR			
	comp=Z,22µm,20.0s								
KULM	**Kulim**	**34.64**	**239**	⇑P		**P**		**09 00 00.5**	**+2.6**
KULM	**Kulim**	**34.64**	**239**	*eP*		**P**		**08 59 57.7**	**-0.2**
	comp=Z,142nm,1.1s								
KULM					LR	LR			
	comp=Z,17µm,22.0s								
H11S3	**WAKE ISLAND Hy**	**34.70**	**94**	P		**P**		**08 59 57.8**	**-0.4**
	baz=209,slow=77,SNR=3.2								
H11S3				T		T		09 36 05.0	
	baz=288,slow=75,SNR=4.2								
PET	**Petropavlovsk**	**34.70**	**31**	*de*P		**P**		**08 59 57.5**	**-0.5**
PET				*eS*		**S**		**09 05 25.6**	**-2.0**
PET					pmax	pmax			
	comp=Z,4µm,13.9s								
PET					pmax	pmax			
	comp=Z,473nm,1.2s								
PET					pmax	pmax			
	comp=Z,4µm,14.2s								
PET					MLR	MLR			
	comp=Z,39µm,19.0s								
PET					MLR	MLR			
	comp=Z,32µm,17.0s								
PET	**Petropavlovsk**	**34.70**	**31**	*eP*		**P**		**08 59 56.2**	**-1.7**
	comp=Z,487nm,1.1s								
PET					LR	LR			
	comp=Z,35µm,20.0s								
H11S1	**WAKE ISLAND Hy**	**34.71**	**94**	P		**P**		**08 59 58.1**	**-0.2**
	baz=209,slow=77,SNR=4.3								
H11S1				T		T		09 36 13.2	
	baz=288,slow=75,SNR=5.7								
H11S2	**WAKE ISLAND Hy**	**34.72**	**94**	P		**P**		**08 59 58.5**	**+0.2**
	baz=209,slow=77,SNR=4.5								
H11S2				T		T		09 35 43.2	
	baz=288,slow=75,SNR=4.3								
TPRI	**Tanjung Pinang**	**34.78**	**229**	P		**P**		**09 00 01.6**	**+2.5**
KGM	**Kluang**	**34.84**	**232**	⇑P		**P**		**09 00 01.7**	**+2.2**
IPM	**Ipoh**	**34.87**	**238**	⇓P		**P**		**09 00 00.3**	**+0.4**
IPM	**Ipoh**	**34.87**	**238**	*eP*		**P**		**08 59 59.6**	**-0.2**
	comp=Z,226nm,1.1s								
IPM					LR	LR			
	comp=Z,15µm,21.0s								
PKDT	**Phuket**	**34.94**	**245**	P		P		09 00 04.5	+4.0
	comp=Z,167nm,0.9s,comp=Z,11µm								
MMRI	**Maumere**	**34.98**	**193**	P		**P**		**09 00 03.2**	**+2.5**
MMRI	**Maumere**	**34.98**	**193**	*eP*		**P**		**09 00 01.1**	**+0.4**
	comp=Z,772nm,1.4s								
FRIM	**Kepong**	**35.23**	**235**	⇓P		**P**		**09 00 04.6**	**+1.7**
TPI	**Tanjungpandan**	**35.62**	**221**	P		**P**		**09 00 08.3**	**+2.0**
	comp=Z,425nm,1.4s,comp=Z,8µm								
SOEI	**Soe**	**35.71**	**190**	P		**P**		**09 00 05.6**	**-1.6**
	comp=Z,573nm,0.9s,comp=Z,6µm								
SOEI	**Soe**	**35.71**	**190**	*eP*		**P**		**09 00 04.8**	**-2.3**
	comp=Z,483nm,0.9s								
DSRI	**Dabo**	**35.78**	**227**	P		**P**		**09 00 09.6**	**+1.9**
	comp=Z,549nm,1.0s,comp=Z,10µm								
PPBI	**Pangkal Pinang**	**36.07**	**223**	P		**P**		**09 00 12.5**	**+2.4**
KMMI	**Kalianget**	**36.11**	**208**	P		**P**		**09 00 10.3**	**-0.1**
	comp=Z,191nm,0.9s,comp=Z,5µm								
YAK	**Yakutsk**	**36.28**	**360**	*di*P		**P**		**09 00 09.9**	**-1.5**
YAK				*e*				09 01 27.1	
YAK				*e*				09 02 35.5	
YAK				*eS*		**S**		**09 05 50.2**	**-1.4**
YAK				*eSS*		**SnSn**		**09 08 18.1**	**-0.3**
YAK				*eSSS*		SSS		09 08 38.3	
YAK				*e*				09 10 27.8	
YAK					pmax	pmax			
	comp=Z,455nm,0.8s								
YAK					pmax	pmax			
	comp=N,276nm,1.0s								
YAK					pmax	pmax			
	comp=E,40nm,1.1s								
YAK					pmax	pmax			
	comp=E,405nm,2.6s								
YAK					pmax	pmax			
	comp=N,620nm,3.2s								
YAK					pmax	pmax			
	comp=Z,948nm,3.6s								
YAK					smax	smax			
	comp=N,3µm,3.0s								
YAK					smax	smax			
	comp=E,2µm,3.2s								
YAK					MLR	MLR			
	comp=N,36µm,17.0s								
YAK					MLR	MLR			
	comp=E,17µm,16.0s								
YAK					MLR	MLR			
	comp=Z,45µm,17.0s								
YAK	**Yakutsk**	**36.28**	**360**	*eP*		**P**		**09 00 10.1**	**-1.4**
	comp=Z,1µm,0.7s								
YAK					LR	LR			
	comp=Z,51µm,19.0s								
SRBI	**Singaraja**	**36.55**	**205**	P		**P**		**09 00 14.4**	**+0.2**
	comp=Z,377nm,1.4s,comp=Z,6µm								
WBSI	**Waikabubak, Su**	**36.64**	**198**	P		**P**		**09 00 17.6**	**+2.6**
ABJI	**Asem Bagus**	**36.67**	**207**	P		**P**		**09 00 15.6**	**+0.4**
	comp=Z,259nm,1.4s,comp=Z,6µm								
TBJI	**Tambak Boyo**	**36.84**	**211**	P		**P**		**09 00 17.4**	**+0.7**
	comp=Z,815nm,1.8s,comp=Z,12µm								
BASI	**Baing, Sumba**	**36.89**	**195**	P		**P**		**09 00 18.0**	**+0.9**
	comp=Z,283nm,1.3s,comp=Z,4µm								
BLJI	**Banyuglugur**	**36.89**	**208**	P		**P**		**09 00 16.7**	**-0.4**
	comp=Z,320nm,1.3s,comp=Z,5µm								
UWJI	**Ujung Watu**	**36.92**	**213**	P		**P**		**09 00 18.5**	**+1.1**
	comp=Z,791nm,1.4s,comp=Z,13µm								
DGPR	**DIGLIPUR**	**36.95**	**257**	*eP*		**P**		**09 00 17.0**	**-0.7**
DNP	**Denpasar**	**37.09**	**205**	P		P		09 00 23.2	+4.4
IGBI	**Denpasar**	**37.25**	**205**	P		**P**		**09 00 20.4**	**+0.3**
	comp=Z,366nm,1.2s,comp=Z,7µm								
JMBI	**JAMBI**	**37.26**	**227**	P		P		09 00 25.1	+4.8
JAGI	**Jajag, Banyuwa**	**37.32**	**206**	P		**P**		**09 00 19.8**	**-0.9**
	comp=Z,411nm,1.4s,comp=Z,7µm								
JAGI	**Jajag, Banyuwa**	**37.32**	**206**	*eP*		**P**		**09 00 20.3**	**-0.4**
	comp=Z,850nm,1.4s								
JAGI					LR	LR			
	comp=Z,10µm,18.0s								
GMJI	**Gumukmas**	**37.43**	**208**	P		**P**		**09 00 20.4**	**-1.3**
	comp=Z,163nm,1.6s,comp=Z,6µm								
PMBI	**Palembang**	**37.51**	**224**	P		P		09 00 32.3	+10
PSI	**Prapat**	**37.54**	**238**	P		**P**		**09 00 23.9**	**+1.0**
	comp=Z,102nm,0.9s,baz=26,slow=5.2,SNR=48								
PSI				PcP		**PcP**		**09 02 41.5**	**+0.5**
	comp=Z,40nm,1.0s,baz=337,slow=2.0,SNR=3.6								
PSI	**Prapat**	**37.54**	**238**	P		**P**		**09 00 23.9**	**+1.0**
PSI								09 02 41.5	
PSI					MLR	MLR			
	comp=Z,16µm,20.0s								
PSI	**Prapat**	**37.54**	**238**	P		**P**		**09 00 23.9**	**+1.0**
PSI				PcP		**PcP**		**09 02 41.5**	**+0.5**
PSI				LR		LR			
	comp=Z,16µm,20.0s								
LHMI	**Lhok Sumawe**	**37.59**	**243**	P		**P**		**09 00 24.7**	**+1.5**
	comp=Z,272nm,1.4s,comp=Z,8µm								
BKNI	**Bangkinang**	**37.64**	**232**	P		**P**		**09 00 24.7**	**+1.2**
	comp=Z,505nm,1.2s,comp=Z,8µm								
BKNI	**Bangkinang**	**37.64**	**232**	*eP*		**P**		**09 00 24.3**	**+0.8**
	comp=Z,797nm,1.3s								
BKNI					LR	LR			
	comp=Z,13µm,20.0s								
TAPN	**Taplejung**	**37.70**	**282**	*eP*		**P**		**09 00 25.5**	**+1.2**
SMRI	**Semarang**	**37.71**	**213**	P		**P**		**09 00 25.4**	**+1.3**
	comp=Z,598nm,1.8s,comp=Z,19µm								
SMRI	**Semarang**	**37.71**	**213**	*eP*		**P**		**09 00 25.6**	**+1.5**
	comp=Z,2µm,1.7s								
SMRI					LR	LR			
	comp=Z,18µm,20.0s								
PWJI	**Pagerwojo**	**37.92**	**210**	P		**P**		**09 00 25.6**	**-0.2**
	comp=Z,464nm,1.3s,comp=Z,8µm								
ODAN	**Odare**	**38.05**	**281**	*eP*		**P**		**09 00 28.4**	**+1.2**
	comp=Z,1µm,0.7s								
WOJI	**Wonogiri, Jawa**	**38.16**	**212**	P		**P**		**09 00 28.9**	**+1.0**
	comp=Z,943nm,1.5s								
SDSI	**Sungai Dareh**	**38.25**	**230**	P		**P**		**09 00 29.9**	**+1.2**
	comp=Z,207nm,1.5s,comp=Z,25µm								
PCJI	**Pacitan**	**38.36**	**211**	P		**P**		**09 00 28.9**	**-0.6**
	comp=Z,374nm,1.9s,comp=Z,8µm								
MNSI	**Mandailing Nat**	**38.37**	**235**	P		**P**		**09 00 30.6**	**+0.9**
	comp=Z,342nm,1.1s,comp=Z,4µm								
UGM	**Wanagama**	**38.42**	**212**	P		**P**		**09 00 30.4**	**+0.3**
	comp=Z,2µm,1.4s,comp=Z,26µm								
UGM	**Wanagama**	**38.42**	**212**	*eP*		**P**		**09 00 30.8**	**+0.7**
	comp=Z,3µm,1.2s								
UGM					LR	LR			
	comp=Z,11µm,21.0s								
WMQ	**Urumqi**	**38.63**	**309**	P		**P**		**09 00 33.3**	**+1.6**
WMQ				pP		**pP**		**09 00 37.8**	**+2.3**
WMQ				sP		**sP**		**09 00 40.3**	**+3.3**
WMQ				PP		**PnPn**		**09 02 04.8**	**+2.7**
WMQ				PcP		**PcP**		**09 02 46.0**	**+2.1**
WMQ				S		**ScP**		**09 06 32.0**	**+0.1**
WMQ				PcS		**PcS**		**09 06 34.5**	**+1.4**
WMQ				SS		**SnSn**		**09 09 10.0**	**-5.8**
WMQ				ScS		**ScS**		**09 10 43.0**	**+0.7**
WMQ				PMZ					
	comp=Z,280nm,1.4s								
WMQ				PMZ					
	comp=Z,9µm,5.4s								
WMQ				LN					
	comp=Z,67µm,18.0s								
WMQ				LE					
	comp=Z,61µm,16.2s								
WMQ				LZ					
	comp=Z,59µm,22.6s								
RAMN	**Ramite**	**38.73**	**282**	*eP*		**P**		**09 00 33.9**	**+0.9**
PMG	**Port Moresby**	**38.74**	**152**	*eP*		**P**		**09 00 31.7**	**-1.0**
PMG					pmax	pmax			
	comp=Z,45nm,0.8s								
PMG					MLR	MLR			
	comp=Z,67µm,21.0s								
PMG	**Port Moresby**	**38.74**	**152**	*eP*		**P**		**09 00 31.7**	**-1.0**
	comp=Z,45nm,0.8s								
PMG					LR	LR			
	comp=Z,67µm,21.0s								
BSI	**Banda Aceh**	**38.78**	**245**	P		**P**		**09 00 33.6**	**+0.4**
	comp=Z,145nm,1.3s,comp=Z,4µm								
PDSI	**Padang**	**38.91**	**232**	P		**P**		**09 00 35.5**	**+1.2**
KLI	**Kotabumi**	**38.97**	**222**	P		**P**		**09 00 37.8**	**+3.1**
TNG	**Tangerang**	**38.97**	**219**	P		**P**		**09 00 36.9**	**+2.2**
	comp=Z,2µm,0.9s,comp=Z,35µm								
LEM	**Lembang**	**38.98**	**217**	P		**P**		**09 00 36.5**	**+1.6**
	comp=Z,937nm,1.1s,comp=Z,13µm								
LHSI	**Lahat**	**38.99**	**225**	P		**P**		**09 00 37.1**	**+2.2**
	comp=Z,313nm,1.4s,comp=Z,8µm								
JIRN	**Jiri**	**39.00**	**283**	*eP*		**P**		**09 00 36.3**	**+1.0**
	comp=Z,460nm,0.8s								
MDSI	**Maura Dua**	**39.09**	**223**	P		**P**		**09 00 37.2**	**+1.5**
	comp=Z,205nm,1.4s,comp=Z,4µm								
BLSI	**Bandar Lampung**	**39.13**	**221**	P		**P**		**09 00 37.5**	**+1.4**
	comp=Z,327nm,1.2s,comp=Z,6µm								
SBJI	**Serang**	**39.22**	**219**	P		**P**		**09 00 39.1**	**+2.3**
GUN	**Gumba**	**39.24**	**283**	*eP*		**P**		**09 00 38.7**	**+1.4**
	comp=Z,2µm,1.0s								
MASI	**Maura Aman, Be**	**39.31**	**227**	P		**P**		**09 00 39.6**	**+2.0**
	comp=Z,967nm,1.4s,comp=Z,17µm								
CMJI	**Cimerak**	**39.34**	**215**	P		**P**		**09 00 37.4**	**-0.4**
	comp=Z,166nm,1.2s,comp=Z,5µm								
CISI	**Cisompet, Garu**	**39.48**	**216**	P		**P**		**09 00 39.7**	**+0.7**
CISI	**Cisompet, Garu**	**39.48**	**216**	*eP*		**P**		**09 00 38.8**	**-0.2**
	comp=Z,1µm,1.3s								
CISI					LR	LR			
	comp=Z,15µm,21.0s								
KWAJ	**Kwajalein Atol**	**39.52**	**108**	PFAKE				09 00 50.0	+11
KWAJ					LR	LR			
	comp=Z,16µm,22.0s								
GSI	**Gunungsitoli**	**39.53**	**237**	P		**P**		**09 00 39.4**	**-0.1**
	comp=Z,510nm,1.4s,comp=Z,6µm								
GSI	**Gunungsitoli**	**39.53**	**237**	*eP*		**P**		**09 00 39.8**	**+0.3**
GSI					LR	LR			
	comp=Z,15µm,21.0s								
LWLI	**Liwa**	**39.58**	**223**	P		P		09 00 47.0	+7.1
CNJI	**Cibinong**	**39.64**	**217**	P		**P**		**09 00 39.4**	**-0.9**
	comp=Z,404nm,1.4s,comp=Z,5µm								
PKI	**Pulchoki**	**39.70**	**283**	*eP*		**P**		**09 00 42.2**	**+1.1**
	comp=Z,1µm,0.9s								
PKIN	**Phulchoki**	**39.70**	**283**	*eP*		**P**		**09 00 42.0**	**+0.9**
	comp=Z,2µm,1.5s								
KASI	**Kota Agung**	**39.71**	**222**	P		**P**		**09 00 40.4**	**-0.5**
	comp=Z,136nm,1.4s,comp=Z,3µm								
MNAI	**Manna**	**39.76**	**225**	P		**P**		**09 00 41.6**	**+0.2**
	comp=Z,545nm,1.6s,comp=Z,12µm					comp=Z,20µm			
MNAI	**Manna**	**39.76**	**225**	PFAKE				09 00 50.0	+8.6
MNAI					LR	LR			
	comp=Z,13µm,20.0s								
KKN	**Kakani**	**39.78**	**283**	*eP*		**P**		**09 00 42.7**	**+1.0**
	comp=Z,2µm,1.1s								
SNSI	**Sinabang, Aceh**	**39.79**	**240**	P		**P**		**09 00 44.3**	**+2.7**
CGJI	**Cibinong**	**39.88**	**220**	P		**P**		**09 00 42.8**	**+0.6**
BOK	**Bokaro**	**39.93**	**277**	*eP*		**P**		**09 00 43.8**	**+1.1**
DMN	**Daman**	**39.96**	**283**	*eP*		**P**		**09 00 44.5**	**+1.3**
	comp=Z,1µm,0.9s								
SEY	**Seymchan**	**40.05**	**16**	P		**P**		**09 00 42.6**	**-0.6**
	comp=Z,70nm,0.8s,baz=218,slow=6.1,SNR=57								
GKN	**Gorkha**	**40.31**	**284**	*eP*		**P**		**09 00 47.2**	**+1.1**
	comp=Z,1µm,1.0s								
KRAR	**Krasnoyarsk**	**40.41**	**329**	*di*P		**P**		**09 00 47.6**	**+1.4**
KRAR					pmax	pmax			
	comp=Z,463nm,1.7s								
KRAR					MLR	MLR			
	comp=Z,17µm,14.0s								
KOLN	**Koldanda**	**41.26**	**283**	*eP*		**P**		**09 00 54.9**	**+1.0**
	comp=Z,623nm,0.9s								
COEN	**Coen**	**41.50**	**160**	*eP*		**P**		**09 00 55.4**	**-0.3**
COEN					LR	LR			
	comp=Z,8µm,21.0s								
SMY	**Shemya**	**42.57**	**39**	*eP*		**P**		**09 01 04.2**	**+0.2**
SMY					pmax	pmax			
	comp=Z,501nm,1.2s								
SMY	**Shemya**	**42.57**	**39**	*eP*		**P**		**09 01 04.2**	**+0.2**
	comp=Z,501nm,1.2s								
CHLP	**Challavanipeta**	**42.95**	**270**	*eP*		**P**		**09 01 09.8**	**+2.2**
CHLP					IAmb	IAmb		09 01 10.9	
	comp=Z,696nm,2.0s								
CHLP				*eS*		**S**		**09 07 35.5**	**+2.7**
CHLP					IVMs_BB	IVMs_BB		09 20 27.5	
	comp=Z,4µm,18.2s								
MK01	**Makanchi Array**	**43.01**	**312**	*eP*		**P**		**09 01 08.1**	**+0.4**
MK31	**Makanchi Array**	**43.02**	**312**	*i* P		**P**		**09 01 07.6**	**-0.2**
MK31					pmax	pmax			
	comp=Z,548nm,0.9s								
MK31	**Makanchi Array**	**43.02**	**312**	*eP*		**P**		**09 01 07.7**	**-0.1**
MKAR	**Makanchi Array**	**43.02**	**312**	P		**P**		**09 01 07.5**	**-0.4**
	comp=Z,110nm,0.7s,baz=98,slow=9.7,SNR=323								
MKAR					S	S		09 07 18.7	-14
	comp=Z,3.4nm,0.9s,baz=92,slow=8.9,SNR=2.4								
MKAR					LR	LR		09 21 19.6	
	comp=Z,21µm,18.4s,baz=97,slow=39								
MKAR					P3KP			09 31 56.3	
	comp=Z,0.5nm,0.9s,baz=300,slow=2.4,SNR=4.1								
MKAR					PKP2ab			09 34 17.9	
	comp=Z,2.1nm,1.1s,baz=308,slow=2.8,SNR=5.7								
MKAR					P4KPbc			09 39 07.0	
	comp=Z,1.4nm,0.7s,baz=95,slow=6.0,SNR=13								
XMIS	**Christmas Isla**	**43.08**	**216**	*eP*		**P**		**09 01 07.8**	**-0.7**
	comp=Z,251nm,1.0s								
ZAA0	**Zalesovo Array**	**43.58**	**323**	*eP*		**P**		**09 01 12.0**	**-0.2**
ZALV	**Zalesovo Beam**	**43.58**	**323**	P		**P**		**09 01 11.9**	**-0.3**
	comp=Z,173nm,0.8s,baz=108,slow=7.8,SNR=144								
ZALV					PcP	**PcP**		**09 03 00.1**	**+0.5**
	comp=Z,26nm,0.7s,baz=98,slow=4.4,SNR=2.2								
ZALV					S	S		09 07 22.1	-19
	comp=Z,7.4nm,0.8s,baz=123,slow=5.3,SNR=3.2								
ZALV					LR	LR		09 20 11.9	
	comp=Z,19µm,20.2s,baz=96,slow=37								
VIS	**Vishakhapatnam**	**43.86**	**269**	*eP*		**P**		**09 01 14.8**	**-0.1**
VIS					AMB	AMB		09 01 19.6	
	comp=Z,120nm,0.3s								
LGTI	**Lohaghat**	**43.95**	**287**	*eP*		**P**		**09 01 16.1**	**+0.6**
NVS	**Novosibirsk**	**44.77**	**323**	⇑*iP*		**P**		**09 01 20.5**	**-1.2**
NVS				*i* S		**S**		**09 07 57.9**	**-0.4**
NVS					pmax	pmax			
	comp=N,134nm,1.5s								
NVS					pmax	pmax			
	comp=E,298nm,1.5s								
NVS					pmax	pmax			
	comp=Z,499nm,1.5s								
NVS					smax	smax			
	comp=N,238nm,2.5s								
NVS					smax	smax			
	comp=E,867nm,3.6s								
HNR	**Honiara**	**45.54**	**136**	*eP*		**P**		**09 01 29.6**	**+1.3**
HNR					pmax	pmax			
	comp=Z,691nm,1.0s								
HNR	**Honiara**	**45.54**	**136**	*eP*		**P**		**09 01 29.6**	**+1.3**
	comp=Z,691nm,1.0s								
WRAB	**Tennant Creek**	**45.60**	**174**	*ce*P		**P**		**09 01 27.6**	**-1.1**
WRAB					pmax	pmax			
	comp=Z,1µm,1.7s								
WRAB					MLR	MLR			
	comp=Z,26µm,19.0s								
WRAB	**Tennant Creek**	**45.60**	**174**	*eP*		**P**		**09 01 27.5**	**-1.1**
	comp=Z,255nm,0.9s								
WRA	**Warramunga Arr**	**45.61**	**174**	P		**P**		**09 01 27.5**	**-1.2**
	comp=Z,73nm,0.7s,baz=351,slow=8.6,SNR=196								
WRA					S	**S**		**09 08 08.9**	**-2.2**
	comp=Z,30nm,1.3s,baz=350,slow=14,SNR=8.9								
WRA					P4KPbc			09 39 17.2	
	comp=Z,1.0nm,0.8s,baz=352,slow=5.0,SNR=7.7								
DDI	**Dehra Dun**	**45.72**	**288**	*eP*		**P**		**09 01 30.5**	**+0.8**
DDI					AMB	AMB		09 01 35.7	
	comp=Z,223nm,1.0s								
TIXI	**Tiksi**	**45.95**	**360**	*eP*		**P**		**09 01 29.1**	**-1.7**
TIXI					pmax	pmax			
	comp=Z,4µm,2.5s								
TIXI					MLR	MLR			
	comp=Z,60µm,18.0s								
TIXI	**Tiksi**	**45.95**	**360**	*eP*		**P**		**09 01 29.1**	**-1.7**
	comp=Z,2µm,2.6s								
TIXI

KZA Kyzart 47.44 304 P P 09 01 45.2 +1.7
SNR=76
BHPL Bhopal 47.61 279 eP P 09 01 44.5 -0.1
BILL Bilibino 47.66 18d iP P 09 01 43.2 -1.1
BILL i 09 03 14.3
BILL e 09 03 32.8
BILL ePPP PPP 09 04 21.6
BILL i S S 09 08 37.4 -2.2
BILL pmax pmax
comp=Z,300nm,0.9s
BILL MLR MLR
comp=Z,42μm,20.0s
BILL Bilibino 47.66 18 eP P 09 01 43.4 -0.8
comp=Z,331nm,1.1s
BILL LR LR
comp=Z,32μm,20.0s
MBWA Marble Bar 47.66 193 P P 09 01 46.1 +1.3
SNR=35
MBWA Marble Bar 47.66 193 eP P 09 01 43.6 -1.2
KBK Karagaybulak 47.69 305 P P 09 01 47.8 +2.7
SNR=7.9
CHMS Chumysh 47.85 306 P P 09 01 47.1 +0.9
SNR=28
NJS Nagarjunasagar 47.87 269 eP P 09 01 47.5 +0.9
NJS IAmb IAmb 09 01 49.6
comp=Z,347nm,1.7s
NJS eS S 09 08 46.7 +2.8
NJS IVMs_BB IVMs_BB 09 21 55.3
comp=Z,5μm,26.1s
FRU Bishkek 47.94 305⇓iP P 09 01 48.0 +1.1
FRU i S S 09 08 47.0 +2.6
FRU pmax pmax
comp=Z,650nm,1.9s
FRU MLR MLR
comp=E,43μm,17.0s
UCH Uchtor 48.00 305 P P 09 01 49.3 +1.5
SNR=184
AAK Ala-Archa 48.02 305 P P 09 01 48.2 +0.5
SNR=33
AAK Ala-Archa 48.02 305 eP P 09 01 48.4 +0.7
AAK pmax pmax
comp=Z,149nm,1.3s
AAK MLR MLR
comp=Z,24μm,18.0s
AAK Ala-Archa 48.02 305 eP P 09 01 48.4 +0.7
comp=Z,149nm,1.3s
AAK LR LR
comp=Z,24μm,18.0s
USP Ospenovka 48.05 306 P P 09 01 49.8 +2.1
SNR=24
CTA Charters Tower 48.23 159 P P 09 01 49.2 0.0
comp=Z,161nm,0.7s,baz=334,slow=9.8,SNR=79
CTAO Charters Tower 48.23 159 eP P 09 01 48.9 -0.3
CTAO pmax pmax
comp=Z,330nm,1.1s
CTAO MLR MLR
comp=Z,18μm,20.0s
CTAO Charters Tower 48.23 159 eP P 09 01 48.9 -0.3
comp=Z,330nm,1.1s
CTAO LR LR
comp=Z,18μm,20.0s
HYB Hyderabad 48.27 271 i P P 09 01 50.0 +0.3
comp=Z,120nm,1.0s
HYB ePcP PcP 09 03 18.0 +1.3
HYB ePP PP 09 03 44.0 +1.8
HYB eS S 09 08 44.0 -5.5
HYB e 09 09 40.0
HYB eSS SS 09 12 16.0 -3.0
HYB LR LR
comp=Z,46nm,20.0s
HYB Hyderabad 48.27 271 eP P 09 01 50.4 +0.6
HYBB Hyderabad (bro 48.27 271 eP P 09 01 51.1 +1.4
HYBB IVmB_BB 09 02 04.6
comp=Z,2μm,3.8s
HYBB eS S 09 08 49.0 -0.5
HYBB IVMs_BB IVMs_BB 09 21 55.9
comp=Z,6μm,23.5s
MDRS Chennai 48.29 265 eP P 09 01 49.6 -0.3
SKHT Srikalahasti 48.52 266 eP P 09 01 53.7 +2.1
SKHT IAmb IAmb 09 01 55.0
comp=Z,357nm,1.4s
SKHT IVMs_BB IVMs_BB 09 20 16.0
comp=Z,4μm,24.0s
EKS2 Erkin-Say 48.55 305 P P 09 01 52.5 +0.8
SNR=22
EKS2 Erkin-Say 48.55 305 eP P 09 01 52.5 +0.8
EKS2 pmax pmax
comp=Z,312nm,1.6s
EKS2 MLR MLR
comp=Z,24μm,20.0s
EKS2 Erkin-Say 48.55 305 eP P 09 01 52.5 +0.8
comp=Z,312nm,1.6s
EKS2 LR LR
comp=Z,24μm,20.0s
AML Almayashu 48.60 304 P P 09 01 53.9 +1.4
SNR=38
AKL Akola 48.65 276 eP P 09 01 53.4 +0.8
AKL AMB AMB 09 01 55.9
comp=Z,285nm,0.7s
AS31 Alice Springs 49.26 175 eP P 09 01 56.7 -0.4
ASAR Alice Springs 49.26 175 P P 09 01 56.5 -0.6
comp=Z,29nm,0.8s,baz=2.3,slow=8.0,SNR=173
ASAR S S 09 09 01.6 -1.6
comp=Z,15nm,1.2s,baz=6.0,slow=20,SNR=9.3
ASAR LR LR 09 23 41.5
comp=Z,7μm,20.5s,baz=1.5,slow=37
ASAR PKP2ab 09 33 50.6
comp=Z,1.3nm,1.0s,baz=180,slow=2.8,SNR=4.1
ASAR P4KPbc 09 39 33.7
comp=Z,0.8nm,0.8s,baz=357,slow=4.1,SNR=8.1
AS01 Alice Springs 49.26 175 eP P 09 01 56.8 -0.3
ATKA Atka Island 49.31 42 eP P 09 01 55.6 -1.5
comp=Z,229nm,1.3s
ATKA LR LR
comp=Z,5μm,20.0s
AJM Ajmer 49.34 284 ex P 09 01 58.0 +0.1
COCO West Island 49.61 225 PFAKE 09 02 10.0 +10
COCO LR LR
comp=Z,6μm,22.0s
URV Uravakonda 50.28 268 eP P 09 02 06.7 +1.6
URV IAmb IAmb 09 02 07.9
comp=Z,334nm,1.4s
URV eS S 09 09 18.2 +0.4
URV IVMs_BB IVMs_BB 09 23 32.7
comp=Z,5μm,27.1s
PALK Pallekele 50.33 258 eP P 09 02 08.2 +2.6
PALK pmax pmax
comp=Z,153nm,1.6s
PALK MLR MLR
comp=Z,8μm,21.0s
PALK Pallekele 50.33 258 P P 09 02 08.7 +3.2
SNR=5.8
PALK Pallekele 50.33 258⇑iP P 09 02 07.6 +2.0
SNR=7.3
PALK Pallekele 50.33 258 eP P 09 02 08.2 +2.6
comp=Z,153nm,1.6s
PALK LR LR
comp=Z,8μm,21.0s
KK31 Karatay Array 50.96 306 i P P 09 02 10.2 +0.3
KK31 pmax pmax
comp=Z,356nm,1.2s
KKAR Karatay Array 50.96 306 eP P 09 02 11.5 +1.6
KKAR Karatay Array 50.96 306 eP P 09 02 11.5 +1.6
BVA0 Borovoye Array 51.67 318 iP P 09 02 14.4 -0.7
BVA0 pmax pmax
comp=Z,505nm,1.4s
BVAR Borovoye Array 51.67 318 PcP PcP 09 03 31.7 +3.1
comp=Z,72nm,0.7s,baz=99,slow=4.5,SNR=3.6
BVAR S S 09 09 34.5 -1.6
comp=Z,6.5nm,1.1s,baz=98,slow=10,SNR=2.3
BRVK Borovoye 51.74 318deP P 09 02 15.3 -0.3
BRVK pmax pmax
comp=Z,338nm,1.7s
BRVK MLR MLR
comp=Z,89μm,22.0s
BRVK Borovoye 51.74 318 P P 09 02 15.8 +0.2
SNR=290
BRVK Borovoye 51.74 318 eP P 09 02 15.5 0.0
BRVK LR LR
comp=Z,66μm,22.0s
POO Poona 52.15 274⇓iP P 09 02 19.0 -0.2
comp=Z,223nm,1.0s
POO eP pP 09 02 19.4 -3.6
SPIA Saint Paul Isl 52.46 36 eP P 09 02 21.6 +0.8
comp=Z,774nm,1.4s
NIKH Nikolski High 52.64 42 eP P 09 02 21.2 -1.1
comp=Z,365nm,0.7s
KBL Kabul 52.72 295 eP P 09 02 24.4 +1.0
KBL MLR MLR
comp=Z,11μm,18.0s
KBL Kabul 52.72 295 eP P 09 02 24.4 +1.0
KBL LR LR
comp=Z,11μm,18.0s
TRD Trivandrum 53.10 261 eP P 09 02 27.8 +1.6
GOA Goa 53.18 271 eP P 09 02 26.8 0.0
GAMB Gambell 53.33 28 eP P 09 02 28.4 +1.2
UNV Unalaska Valle 54.12 41 eP P 09 02 33.7 +0.6
UNV LR LR
comp=Z,12μm,22.0s
AKUT Akutan 54.58 41 eP P 09 02 37.2 +0.7
EIDS Eidsvold 54.76 156 eP P 09 02 37.3 -0.7
EIDS LR LR
comp=Z,14μm,21.0s
TNA Tin City 55.37 27 eP P 09 02 42.3 +0.3
comp=Z,338nm,1.1s
TNA LR LR
comp=Z,18μm,21.0s
FORT Forrest 56.23 182 eP P 09 02 48.1 -0.3
SVE Sverdlovsk 57.59 322c iP P 09 02 59.0 +1.0
SVE e 09 05 15.2
SVE eS S 09 10 56.9 +1.2
SVE e 09 12 47.8
SVE pmax pmax
comp=Z,283nm,1.5s
SVE pmax pmax
comp=Z,4μm,16.9s
SVE MLR MLR
comp=E,33μm,14.0s
SVE MLR MLR
comp=Z,46μm,14.0s
SVE MLR MLR
comp=N,14μm,14.0s
SDPT Sand Point 57.70 39 eP P 09 02 56.7 -2.0
AB31 Akbulak array 58.11 314 iP P 09 03 01.5 -0.2
AB31 pmax pmax
comp=Z,106nm,0.7s
ABKAR Akbulak array 58.11 314 eP P 09 03 01.7 0.0
comp=Z,126nm,0.8s
ABKAR ⇑e 09 32 53.2
STKA Stephens Creek 58.36 168 P P 09 03 02.8 -0.8
comp=Z,80nm,0.6s,baz=351,slow=6.5,SNR=131
STKA LR LR 09 27 45.0
comp=Z,14μm,21.3s,baz=341,slow=36
STKA PKP2bc 09 32 48.9
comp=Z,6.9nm,1.2s,baz=167,slow=5.7,SNR=2.6
BBOO Buckleboo 58.51 174 eP P 09 03 03.7 -0.9
comp=Z,12nm,1.3s
ARU Arti 58.73 322 P P 09 03 06.7 +0.7
comp=Z,1μm,1.2s,SNR=28
ARU Arti 58.73 322d iP P 09 03 05.1 -0.9
ARU 09 03 50.5
ARU 09 05 11.7
ARU PPP PPP 09 06 38.4
ARU S S 09 11 11.6 +1.0
ARU 09 12 56.8
ARU SS SS 09 14 57.7 -5.6
ARU pmax pmax
comp=Z,250nm,1.7s
ARU pmax pmax
comp=Z,2μm,8.0s
ARU MLR MLR
comp=Z,57μm,16.0s
ARU Arti 58.73 322 eP P 09 03 05.3 -0.7
ARU LR LR
comp=Z,21μm,22.0s
CHGN Chignik 58.87 38 eP P 09 03 04.7 -2.2
DZM Mont Dzumac 59.25 140 eP P 09 03 09.9 -0.2
comp=Z,537nm,0.9s
DZM eS S 09 11 07.6 -11
comp=Z,103μm,27.6s
DZM eLR LR 09 20 13.4
comp=Z,73μm,23.5s
DZM Mont Dzumac 59.25 140 LR LR 09 25 30.5
comp=Z,35μm,21.8s,baz=0.5,slow=33
AKTO Aktyubinsk 59.28 315 P P 09 03 09.7 -0.2
comp=Z,75nm,1.1s,baz=76,slow=4.4,SNR=59
AKTO S S 09 11 15.8 -2.1
comp=Z,1.4nm,0.6s,baz=331,slow=19,SNR=2.2
AKTO Aktyubinsk 59.28 315 P P 09 03 09.2 -0.7
AKTO pmax pmax
comp=Z,81nm,1.0s
ARMA Armidale 59.57 158 eP P 09 03 12.3 +0.2
SOKR Solikamsk 59.69 326d iP P 09 03 13.3 +0.9
SOKR PPP PPP 09 06 54.7
SOKR S S 09 11 19.6 -3.1
SOKR SS SS 09 15 18.2 +0.2
SOKR pmax pmax
comp=Z,280nm,1.1s
SOKR MLR MLR
comp=Z,24μm,20.0s
SVW2 Sparrevohn 60.34 33 eP P 09 03 16.3 -0.7
IDAH Dahanechah 60.57 295 eP P 09 03 20.5 +1.1
IAKL Akhelmad 60.64 299 eP P 09 03 21.4 +1.6
ISFR Sfrayin 61.14 300 eP P 09 03 24.4 +1.2
IM04 Indian Mountai 61.20 27 eP P 09 03 22.3 -0.5
ISHV Shirvan 61.28 300 eP P 09 03 25.9 +1.9
IKOO Kooshah 61.35 294 eP P 09 03 25.3 +0.6
ITEG Tejag 61.45 295 eP P 09 03 25.6 +0.3
OHAK Old Harbor 61.65 37 eP P 09 03 24.4 -1.5
RSO Redoubt South 61.74 33 eP P 09 03 26.2 -0.5
comp=Z,622nm,0.9s
PPLA Purkeypile 61.91 31 eP P 09 03 27.7 -0.1
comp=Z,425nm,1.1s
PPLA LR LR
comp=Z,10μm,20.0s
CAST Castle Rocks 61.94 30 eP P 09 03 27.7 -0.2
comp=Z,226nm,0.9s
CAST LR LR
comp=Z,12μm,22.0s
KDAK Kodiak Island 61.99 36 eP P 09 03 27.0 -1.2
KDAK MLR MLR
comp=Z,17μm,21.0s
KDAK Kodiak Island 61.99 36 eP P 09 03 27.0 -1.2
KDAK LR LR
comp=Z,17μm,21.0s
SPU Mount Spurr 62.05 32 eP P 09 03 27.7 -0.9
BPAW Bear Paw Mtn. 62.41 29 eP P 09 03 30.8 -0.2
comp=Z,1μm,0.6s
KTH Kantishna Hill 62.46 30 eP P 09 03 31.0 -0.4
comp=Z,255nm,1.2s
KTH LR LR
comp=Z,11μm,20.0s
MLY Manley 62.48 28 eP P 09 03 31.3 -0.1
comp=Z,281nm,0.9s
MLY LR LR
comp=Z,10μm,20.0s
COLD Coldfoot 62.63 26 eP P 09 03 32.3 -0.1
comp=Z,156nm,1.1s
COLD ⇑e 09 32 46.4
COLD LR LR
comp=Z,11μm,20.0s
BRLK Bradley Lake 62.72 34 eP P 09 03 32.2 -0.9
comp=Z,424nm,0.9s
BRLK LR LR
comp=Z,11μm,22.0s
TRF Thorofare Moun 62.75 30 eP P 09 03 32.8 -0.7
comp=Z,109nm,1.0s
TRF LR LR
comp=Z,15μm,21.0s
BWN Browne 63.07 29 eP P 09 03 35.9 +0.6
comp=Z,545nm,1.2s
BWN LR LR
comp=Z,16μm,18.0s
KNTN Kanton 63.11 108 eP P 09 03 35.2 -1.2
comp=Z,147nm,0.9s
KNTN LR LR
comp=Z,10μm,19.0s
RC01 Rabbit Creek A 63.17 32 eP P 09 03 35.1 -0.9
comp=Z,24nm,0.9s
RC01 ⇑e 09 32 46.2
RC01 LR LR
comp=Z,6μm,19.0s
MCK McKinley 63.33 29 eP P 09 03 36.3 -0.8
MCK pmax pmax
comp=Z,723nm,1.1s
MCK MLR MLR
comp=Z,16μm,18.0s
MCK McKinley 63.33 29 eP P 09 03 36.3 -0.8
comp=Z,723nm,1.1s
MCK LR LR
comp=Z,16μm,18.0s
CAN Canberra 63.35 163 eP P 09 03 37.9 +0.4
CAN pmax pmax
comp=Z,410nm,1.4s
CAN Canberra 63.35 163 eP P 09 03 37.9 +0.4
comp=Z,410nm,1.4s
RND Reindeer 63.40 30 eP P 09 03 36.4 -1.2
RND pmax pmax
comp=Z,380nm,0.8s
RND MLR MLR
comp=Z,12μm,22.0s
RND Reindeer 63.40 30 eP P 09 03 36.4 -1.2
comp=Z,380nm,0.8s
RND LR LR
comp=Z,12μm,22.0s
SEW Seward 63.41 34 eP P 09 03 36.4 -1.2
comp=Z,411nm,1.1s
SEW LR LR
comp=Z,9μm,20.0s
PMR Palmer 63.42 32 eP P 09 03 36.7 -1.0
PMR Palmer 63.42 32 eP P 09 03 36.7 -1.0
MDM Murphy Dome 63.55 28 eP P 09 03 38.6 +0.1
comp=Z,688nm,1.0s
MDM LR LR
comp=Z,12μm,20.0s
WRH Wood River Hil 63.64 29 eP P 09 03 40.2 +1.1
comp=Z,156nm,1.0s
WRH LR LR
comp=Z,14μm,22.0s
MSVF Nonsavu 63.68 128 eP P 09 03 40.6 +0.5
MSVF pmax pmax
comp=Z,177nm,1.1s
MSVF MLR MLR
comp=Z,19μm,18.0s
MSVF Nonsavu 63.68 128 eP P 09 03 40.6 +0.5
comp=Z,177nm,1.1s
MSVF ⇑e 09 32 38.5
MSVF LR LR
comp=Z,19μm,18.0s
COLA College 63.71 28 eP P 09 03 39.4 -0.1
COLA pmax pmax
comp=Z,193nm,0.8s
COLA MLR MLR
comp=Z,12μm,20.0s
COLA College 63.71 28 eP P 09 03 39.4 -0.1
comp=Z,193nm,0.8s
COLA LR LR
comp=Z,12μm,20.0s
CCB Clear Creek Bu 63.75 28 eP P 09 03 39.7 -0.1
comp=Z,226nm,1.2s
CCB LR LR
comp=Z,12μm,22.0s
WBK Wadi Bani Khal 64.11 284 P P 09 03 45.2 +2.3
SNR=16
IL1 Eielson Array 64.13 28 eP P 09 03 40.3 -2.0
ILAR Eielson Array 64.13 28 P P 09 03 40.5 -1.9
comp=Z,33nm,0.7s,baz=263,slow=4.6,SNR=118
ILAR PKPPKP P'P'df 09 32 32.2 -7.1
comp=Z,4.5nm,1.2s,baz=100,slow=1.1,SNR=9.0
ILAR LR LR 09 33 51.5
comp=Z,8μm,19.2s,baz=288,slow=38
HDA Harding Lake 64.14 29 PFAKE 09 03 50.0 +7.6
HDA LR LR
comp=Z,13μm,21.0s
SCM Sheep Creek Mo 64.25 32 eP P 09 03 42.5 -0.8
SCM pmax pmax
comp=Z,576nm,1.2s
SCM MLR MLR
comp=Z,9μm,21.0s
SCM Sheep Creek Mo 64.25 32 eP P 09 03 42.5 -0.8
comp=Z,576nm,1.2s
SCM LR LR
comp=Z,9μm,21.0s
IBAF Bafgh 64.39 294 eP P 09 03 45.7 +0.9
IGLO Ghaloghah 64.53 300 eP P 09 03 46.6 +0.9
FYU Fort Yukon 64.63 26 eP P 09 03 46.0 +0.5
comp=Z,910nm,1.4s
FYU LR LR
comp=Z,9μm,19.0s
DDM Donnelly Dome 64.69 29 eP P 09 03 44.9 -1.1
comp=Z,272nm,0.9s
DDM LR LR
comp=Z,12μm,18.0s
IKIA Kiasar 64.72 300 eP P 09 03 48.8 +1.8
SMDO Samad 64.77 285 P P 09 03 49.3 +2.0
SNR=21
DGAR Diego Garcia 64.83 248d iP P 09 03 47.9 +0.2
DGAR Diego Garcia 64.83 248 PFAKE 09 04 00.0 +12
DGAR LR LR
comp=Z,7μm,19.0s
JMDO Jabal Madar 64.95 284 P P 09 03 50.2 +1.8
SNR=17
PAX Paxson 64.97 30 eP P 09 03 47.2 -0.8
PAX pmax pmax
comp=Z,181nm,0.9s
PAX MLR MLR
comp=Z,11μm,20.0s
PAX Paxson 64.97 30 eP P 09 03 47.2 -0.8
comp=Z,181nm,0.9s
PAX LR LR
comp=Z,11μm,20.0s
PRGR Permogore 65.04 328⇑iP P 09 03 48.0 -0.3
PRGR pmax pmax
comp=Z,356nm,0.8s
DIV Divide 65.08 32 eP P 09 03 48.2 -0.5
comp=Z,675nm,1.0s
DIV LR LR
comp=Z,10μm,20.0s
ICHK Chekchek 65.16 295 eP P 09 03 50.4 +0.5
IMEH Mehriz 65.23 294 eP P 09 03 50.8 +0.4
HOQ Hoqain 65.25 285 P P 09 03 51.4 +1.0
SNR=48
BANOM Banah 65.39 288 P P 09 03 54.1 +2.8
SNR=10
BANOM Banah 65.39 288 ⇓P P 09 03 52.9 +1.6
KIP Kipapa 65.41 77 PFAKE 09 04 00.0 +8.6
KIP LR LR
comp=Z,19μm,21.0s
IALA Alasht 65.43 300 eP P 09 03 52.1 +0.4
SCRK Sand Creek 65.48 29 eP P 09 03 50.0 -1.3
comp=Z,313nm,1.0s
SCRK LR LR
comp=Z,11μm,21.0s
DOT Dot Lake 65.50 29 eP P 09 03 50.3 -1.0
comp=Z,322nm,0.9s
DOT LR LR
comp=Z,16μm,22.0s
IFIR Firoozkooh 65.59 299 eP P 09 03 54.6 +1.9
BMRM Bremner River 65.67 32 eP P 09 03 51.9 -0.6
comp=Z,776nm,1.0s
BMRM LR LR
comp=Z,11μm,22.0s
RAGM Ragged Mountai 65.73 33 eP P 09 03 52.8 -0.1
comp=Z,420nm,1.0s
RAGM LR LR
comp=Z,17μm,18.0s
IPRN Peran 65.76 300 eP P 09 03 54.9 +1.3
ISAD Sadrabad 65.84 295 eP P 09 03 56.3 +1.9
HATD Hatta, Dubai 65.88 287 P P 09 03 56.1 +1.7
SNR=19
HATD Hatta, Dubai 65.88 287⇑iP P 09 03 55.8 +1.4
SNR=22
ASHO Ashiyiah 65.99 287 P P 09 03 56.6 +1.5
SNR=28
ASHO Ashiyiah 65.99 287⇓iP P 09 03 56.8 +1.6
SNR=18
ARQ Araqi 66.02 285 P P 09 03 56.9 +1.5
SNR=20
IDMV Damavand 66.17 299 eP P 09 03 57.3 +0.8
NAZ Nazwa, Dubai 66.23 287 P P 09 03 58.5 +1.9
SNR=12
NAZ Nazwa, Dubai 66.23 287⇓iP P 09 03 58.0 +1.3
SNR=12
FAQ Al Faqa, Dubai 66.37 287⇑iP P 09 03 58.8 +1.2
SNR=21
EGAK Eagle 66.56 28 eP P 09 03 57.1 -1.0
comp=Z,151nm,0.9s
EGAK eP'P'df P'P'df 09 32 32.8 -2.4
EGAK LR LR
comp=Z,9μm,20.0s
IVRN Varamin 66.57 299 eP P 09 03 59.2 +0.4
ASUD Al Ashush, Dub 66.64 287 P P 09 04 02.0 +2.7
SNR=6.4
ASUD Al Ashush, Dub 66.64 287⇓iP P 09 04 00.9 +1.7
SNR=6.7
IZEF Zefreh 66.67 296 eP P 09 04 01.0 +1.3
IPAR Pars 66.96 293 eP P 09 04 02.4 +0.7
IR3 Iran Long-Peri 66.99 300 eP P 09 04 02.4 +0.9
ISRV Sarvestan 67.05 293 eP P 09 04 02.5 +0.3

IKLH	**Kolahrood**	**67.15**	**297**	*e*P	P	09 04 05.9	+3.2		
DAWY	**Dawson**	**67.46**	**28**	*e*P	**P**	**09 04 03.3**	**-0.6**		
DAWY				*e*P'P'df	P'P'df	09 32 22.7	-11		
MAK	**Makhachkala**	**67.65**	**308**	*e*P	**P**	**09 04 06.1**	**+0.8**		
MAK				*e*		09 04 35.7			
MAK				*e*PPP	PPP	09 08 13.3			
MAK				*e*S	**S**	**09 13 03.3**	**+0.9**		
MAK				*e*		09 14 00.8			
MAK				*e*SS	SS	09 17 16.1	-6.8		
MAK				pmax	pmax				
	comp=Z,365nm,1.6s								
MAK				MLR	MLR				
	comp=Z,22µm,20.0s								
IRAZ	**Razeghan**	**67.87**	**300**	*e*P	**P**	**09 04 07.7**	**+0.5**		
IPIR	**Pirpir**	**67.89**	**297**	*e*P	**P**	**09 04 06.7**	**-0.7**		
TMCR	**Tamitsa**	**67.98**	**332**	*e*P	**P**	**09 04 08.3**	**+1.3**		
TMCR				pmax	pmax				
	comp=Z,567nm,0.8s								
IKAZ	**Kazeroun**	**67.98**	**293**	*e*P	**P**	**09 04 08.8**	**+0.6**		
KLMR	**Klimovskoe**	**68.08**	**328**	*d*iP	**P**	**09 04 08.0**	**+0.2**		
KLMR						09 04 34.4			
KLMR				*i* S	**S**	**09 13 06.9**	**-0.1**		
KLMR				*e*SS	**SS**	**09 17 30.9**	**+2.1**		
KLMR				pmax	pmax				
	comp=Z,547nm,1.9s								
POHA	**Pohakuloa**	**68.16**	**78**	*e*P	**P**	**09 04 08.2**	**-1.1**		
	comp=Z,253nm,0.8s								
POHA				LR	LR				
	comp=Z,12µm,18.0s								
LVZ	**Lovozero**	**68.39**	**336**	*de*P	**P**	**09 04 09.4**	**-0.2**		
LVZ				pmax	pmax				
	comp=Z,136nm,1.7s								
LVZ				MLR	MLR				
	comp=Z,16µm,22.0s								
LVZ	**Lovozero**	**68.39**	**336**	*e*P	**P**	**09 04 09.5**	**-0.2**		
	comp=Z,118nm,1.0s								
LVZ				LR	LR				
	comp=Z,21µm,19.0s								
HOPEN	**Hopen**	**68.58**	**346**	⇓*i*P	**P**	**09 04 11.0**	**+0.3**		
HOPEN				*e*S	**S**	**09 13 14.7**	**+2.3**		
HOPEN				IAMs_20	IAMs_20	09 37 42.9			
	comp=Z,25µm,21.3s								
HOPEN				IVMs_BB	IVMs_BB	09 39 49.5			
	comp=Z,11µm,16.9s								
SHAO	**Shalim**			P	**P**	**09 04 14.4**	**+2.6**		
	SNR=6.5								
STCH	**Steam Cracks**	**68.65**	**78**	*e*P	**P**	**09 04 12.5**	**+0.3**		
INK	**Inuvik**	**68.72**	**23**	P	**P**	**09 04 11.0**	**-0.6**		
	comp=Z,76nm,0.7s,baz=281,slow=7.1,SNR=60								
INK				S	**S**	**09 13 16.4**	**+2.0**		
	comp=Z,2.0nm,0.3s,baz=258,slow=20,SNR=2.4								
INK	**Inuvik**	**68.72**	**23**	P	**P**	**09 04 11.0**	**-0.6**		
INK				S	**S**	**09 13 16.4**	**+2.0**		
INK				*e*P'P'df	P'P'df	09 32 22.5	-9.0		
APA	**Apatity**	**68.94**	**336**	⇓*i*P	**P**	**09 04 13.0**	**0.0**		
APA				*i*		09 04 36.0			
APA				*i*		09 06 49.8			
APA				*i* S	**S**	**09 13 20.0**	**+3.0**		
APA				pmax	pmax				
	comp=Z,25nm,0.8s								
AFI	**Afiamalu**	**69.06**	**118**	*e*P	**P**	**09 04 15.7**	**+1.1**		
AFI				pmax	pmax				
	comp=Z,58nm,0.9s								
AFI				MLR	MLR				
	comp=Z,3µm,20.0s								
AFI	**Afiamalu**	**69.06**	**118**	*e*P	**P**	**09 04 15.7**	**+1.1**		
	comp=Z,58nm,0.9s								
AFI				LR	LR				
	comp=Z,3µm,20.0s								
HYT	**Haines Junctio**	**69.09**	**32**	*e*P	**P**	**09 04 14.2**	**-0.1**		
HYT				*e*P'P'df	P'P'df	09 32 19.8	-11		
DGRG	**David-gareji**	**69.58**	**307**	P	**P**	**09 04 19.5**	**+1.9**		
SPA0	**Spitsbergen Ar**	**69.62**	**348**	*e*P	**P**	**09 04 16.1**	**-1.1**		
SPA0				IAmb	IAmb	09 04 22.1			
	comp=Z,254nm,1.0s								
SPA0				*e*S	**S**	**09 13 22.1**	**-2.8**		
SPA0				*e*SS	**SS**	**09 17 53.6**	**+1.6**		
SPA0				IAMs_20	IAMs_20	09 33 50.1			
	comp=Z,23µm,19.4s								
SPA0				IVMs_BB	IVMs_BB	09 38 04.8			
	comp=Z,9µm,16.4s								
SPITS	**Spitsbergen Ar**	**69.62**	**348**	P	**P**	**09 04 16.4**	**-0.8**		
	comp=Z,137nm,0.8s,baz=91,slow=14,SNR=31								
DUS	**Dusheti**	**69.88**	**308**	P	**P**	**09 04 22.2**	**+2.8**		
SEAG	**Tbilisi Sea**	**69.90**	**307**	P	**P**	09 04 29.8	+10		
TBLG	**Delisi**	**69.96**	**307**	*e*P	**P**	**09 04 20.8**	**+0.9**		
TBLG	**Delisi**	**69.96**	**307**	P	**P**	**09 04 21.1**	**+1.3**		
KBS	**Kingsbay**	**70.01**	**350**	⇓*i*P	**P**	**09 04 19.8**	**+0.4**		
KBS				IAmb	IAmb	09 04 24.3			
	comp=Z,86nm,0.9s								
KBS				*e*S	**S**	**09 13 29.6**	**+0.2**		
KBS				IAMs_20	IAMs_20	09 38 29.8			
	comp=Z,22µm,19.1s								
KBS	**Kingsbay**	**70.01**	**350**	*e*P	**P**	**09 04 18.9**	**-0.6**		
KBS				MLR	MLR				
	comp=Z,21µm,19.0s								
KBS	**Kingsbay**	**70.01**	**350**	*e*P	**P**	**09 04 18.9**	**-0.6**		
KBS				LR	LR				
	comp=Z,21µm,19.0s								
RBK	**Rabkut**	**70.06**	**280**	P	**P**	**09 04 21.2**	**+0.3**		
	SNR=36								
TAU	**Tasmania Unive**	**70.16**	**167**	*e*P	**P**	**09 04 21.8**	**+1.1**		
TAU				pmax	pmax				
	comp=Z,267nm,1.1s								
TAU				MLR	MLR				
	comp=Z,19µm,20.0s								
TAU	**Tasmania Unive**	**70.16**	**167**	*e*P	**P**	**09 04 21.8**	**+1.1**		
	comp=Z,267nm,1.1s								
TAU				LR	LR				
	comp=Z,19µm,20.0s								
GOF	**Gofitskoye**	**70.18**	**311**	⇓*i*P	**P**	**09 04 22.3**	**+1.2**		
GOF				*e*S	**S**	**09 13 36.1**	**+3.8**		
GOF				pmax	pmax				
	comp=Z,170nm,0.8s								
ZEI	**Tsey**	**70.24**	**309**	*e*P	P	09 04 18.2	-3.6		
ZEI				*e*		09 06 54.5			
ZEI				*e*S	**S**	**09 13 32.9**	**-0.7**		
ZEI				pmax	pmax				
	comp=Z,288nm,0.8s								
ZEI				pmax	pmax				
	comp=E,498nm,0.9s								
ZEI				pmax	pmax				
	comp=N,250nm,0.7s								
ZEI				pmax	pmax				
	comp=Z,2µm,9.7s								
ZEI				MLR	MLR				
	comp=Z,20µm,18.0s								
ZEI				MLR	MLR				
	comp=E,7µm,14.0s								
	comp=N,13µm,15.0s								
HSPB	**Hornsund (broa**	**70.35**	**347**	*e*P	**P**	**09 04 20.6**	**-1.0**		
HSPB				*e*S	**S**	**09 13 32.9**	**-0.4**		
HSPB				IAMs_20	IAMs_20	09 39 01.1			
	comp=Z,23µm,21.8s								
HSPB				IVMs_BB	IVMs_BB	09 40 00.3			
	comp=Z,9µm,18.7s								
MOS	**Moscow**	**70.40**	**323**	k *i*P	**P**	**09 04 22.6**	**+0.4**		
MOS				*i*		09 04 31.6			
MOS				*e*PPP	PPP	09 08 41.8			
MOS				*e*S	**S**	**09 13 33.8**	**-0.7**		
MOS				*e*		09 14 09.8			
MOS				pmax	pmax				
	comp=Z,1µm,2.2s								
MOS				pmax	pmax				
	comp=Z,376nm,1.5s								
MOS				pmax	pmax				
	comp=E,94nm,1.0s								
MOS				pmax	pmax				
	comp=N,122nm,1.2s								
MOS				smax	smax				
	comp=N,2µm,4.0s								
MOS				smax	smax				
	comp=E,2µm,4.6s								
MOS				MLR	MLR				
	comp=E,42µm,15.0s								
MOS				MLR	MLR				
	comp=Z,46µm,15.0s								
GNI	**Garni**	**70.42**	**306**	P	**P**	**09 04 23.0**	**+0.1**		
	comp=Z,88nm,1.0s,baz=114,slow=0.7,SNR=44								
GNI	**Garni**	**70.42**	**306**	*e*P	**P**	**09 04 23.0**	**+0.1**		
GNI				pmax	pmax				
	comp=Z,260nm,1.1s								
GNI				MLR	MLR				
	comp=Z,11µm,21.0s								
GNI	**Garni**	**70.42**	**306**	P	**P**	**09 04 24.8**	**+1.9**		
	SNR=89								
GNI	**Garni**	**70.42**	**306**	*i* P	**P**	**09 04 25.4**	**+2.5**		
	SNR=49								
GNI	**Garni**	**70.42**	**306**	*e*P	**P**	**09 04 22.9**	**+0.1**		
	comp=Z,260nm,1.1s								
GNI				LR	LR				
	comp=Z,11µm,21.0s								
KEV	**Kevo**	**70.45**	**339**	*e*P	**P**	**09 04 21.8**	**-0.5**		
KEV				pmax	pmax				
	comp=Z,164nm,0.8s								
KEV				MLR	MLR				
	comp=Z,36µm,19.0s								
KEV	**Kevo**	**70.45**	**339**	*e*P	**P**	**09 04 21.8**	**-0.5**		
	comp=Z,164nm,0.8s								
KEV				LR	LR				
	comp=Z,36µm,19.0s								
SKAG	**Skagway**	**70.52**	**33**	*e*P	**P**	**09 04 22.8**	**-0.1**		
LPSR	**Galich'ya Gora**	**70.58**	**320**	*e*P	**P**	**09 04 22.8**	**-0.6**		
LPSR				*e*S	**S**	**09 13 34.0**	**-2.8**		
LPSR				pmax	pmax				
	comp=Z,230nm,1.2s								
LPSR				pmax	pmax				
	comp=N,40nm,1.4s								
LPSR				pmax	pmax				
	comp=E,190nm,1.4s								
LPSR				smax	smax				
	comp=E,3µm,10.8s								
LPSR				smax	smax				
	comp=Z,250nm,7.0s								
LPSR				smax	smax				
	comp=N,2µm,11.7s								
LPSR				MLR	MLR				
	comp=Z,21µm,20.0s								
LPSR				MLR	MLR				
	comp=N,17µm,21.0s								
LPSR				MLR	MLR				
	comp=E,29µm,25.0s								
ONI	**Oni**	**70.62**	**309**	P	**P**	**09 04 26.1**	**+2.2**		
KBZ	**Khabaz**	**70.67**	**310**	P	**P**	**09 04 24.5**	**+0.4**		
	comp=E,196nm,0.9s,baz=53,slow=23,SNR=188								
KBZ				S	**S**	**09 13 41.6**	**+3.6**		
	comp=E,0.5nm,0.3s,baz=246,slow=20,SNR=3.1								
KBZ				LR	LR	09 38 17.4			
	comp=E,16µm,19.4s,baz=230,slow=38								
VOR	**Voronezh**	**70.68**	**319**	*e*P	**P**	**09 04 22.0**	**-2.0**		
VOR				pmax	pmax				
	comp=Z,500nm,1.4s								
BJO	**Bjornoya**	**70.73**	**345**	*e*P	**P**	**09 04 24.8**	**+0.9**		
BJO				*e*S	**S**	**09 13 39.7**	**+1.9**		
BJO				IVMs_BB	IVMs_BB	09 40 22.7			
	comp=Z,7µm,15.5s								
KIV	**Kislovodsk**	**70.75**	**310**	P	**P**	**09 04 25.2**	**+0.5**		
	comp=Z,2µm,1.3s,SNR=84								
KIV	**Kislovodsk**	**70.75**	**310**	*e*P	**P**	**09 04 26.4**	**+1.7**		
KIV	**Kislovodsk**	**70.75**	**310**	*e*P	**P**	**09 04 25.2**	**+0.5**		
KIV				*e*S	**S**	**09 13 41.0**	**+1.8**		
KIV				*e*SS	**SS**	**09 18 05.3**	**-5.5**		
KIV				pmax	pmax				
	comp=Z,357nm,3.3s								
KIV				pmax	pmax				
	comp=Z,508nm,1.1s								
KIV				MLR	MLR				
	comp=Z,20µm,18.0s								
KIV	**Kislovodsk**	**70.75**	**310**	P	**P**	**09 04 25.4**	**+0.8**		
	SNR=207								
KIV	**Kislovodsk**	**70.75**	**310**	⇓*i*P	**P**	**09 04 26.3**	**+1.7**		
	SNR=137								
KIV	**Kislovodsk**	**70.75**	**310**	*e*P	**P**	**09 04 25.5**	**+0.8**		
	comp=Z,419nm,0.9s								
KIV				LR	LR				
	comp=Z,10µm,19.0s								
VORD	**Divnogorie**	**70.85**	**318**	*e*P	**P**	**09 04 24.9**	**-0.1**		
VORD				*e*PPP	PPP	09 08 39.7			
VORD				*e*S	**S**	**09 13 36.6**	**-3.4**		
VORD				pmax	pmax				
	comp=Z,180nm,1.4s								
VORD				pmax	pmax				
	comp=N,20nm,0.6s								
VORD				pmax	pmax				
	comp=E,100nm,0.9s								
VORD				smax	smax				
	comp=E,990nm,5.4s								
VORD				smax	smax				
	comp=Z,850nm,6.9s								
VORD				smax	smax				
	comp=N,480nm,4.4s								
VORD				MLR	MLR				
	comp=Z,23µm,21.0s								
VORD				MLR	MLR				
	comp=N,7µm,13.0s								
VORD				MLR	MLR				
	comp=E,13µm,19.0s								
VSR	**Storozhevoye**	**70.85**	**318**	*e*P	**P**	**09 04 25.2**	**+0.1**		
VSR				*e*PPP	PPP	09 08 41.4			
VSR				*e*S	**S**	**09 13 39.1**	**-0.9**		
VSR				pmax	pmax				
	comp=Z,330nm,1.4s								
VSR				pmax	pmax				
	comp=N,90nm,1.0s								
VSR				pmax	pmax				
	comp=E,230nm,1.2s								
VSR				smax	smax				
	comp=N,2µm,9.9s								
VSR				smax	smax				
	comp=Z,890nm,10.4s								
VSR				smax	smax				
	comp=E,1µm,6.2s								
VSR				MLR	MLR				
	comp=Z,26µm,20.0s								
VSR				MLR	MLR				
	comp=N,6µm,13.0s								
VSR				MLR	MLR				
	comp=E,13µm,17.0s								
ABTO	**Aybut**	**70.92**	**280**	P	**P**	**09 04 27.4**	**+1.2**		
	SNR=26								
AKH	**Akhalkalaki**	**70.95**	**307**	*e*P	**P**	**09 04 28.3**	**+2.2**		
AKH	**Akhalkalaki**	**70.95**	**307**	P	**P**	**09 04 28.3**	**+2.2**		
ARA0	**ARCESS Array S**	**71.03**	**339**	*e*P	**P**	**09 04 24.8**	**-1.0**		
ARCES	**ARCESS Array B**	**71.03**	**339**	P	**P**	**09 04 25.2**	**-0.6**		
	comp=E,86nm,0.8s,baz=64,slow=8.2,SNR=38								
ARCES				LR	LR	09 41 10.8			
	comp=E,31µm,18.6s,baz=39,slow=41								
ARE0	**ARCESS Array S**	**71.03**	**339**	*e*P	**P**	**09 04 25.1**	**-0.7**		
ARE0				*e*S	**S**	**09 13 41.6**	**+0.2**		
ARE0				IAMs_20	IAMs_20	09 41 03.0			
	comp=Z,32µm,18.7s								
ARE0				IVMs_BB	IVMs_BB	09 42 20.4			
	comp=Z,13µm,15.8s								
ARE0	**ARCESS Array S**	**71.03**	**339**	*e*P	**P**	**09 04 25.0**	**-0.7**		
BESE	**Bessie Mountai**	**71.03**	**33**	*e*P	**P**	**09 04 26.2**	**+0.1**		
	comp=Z,138nm,1.4s								
BESE				LR	LR				
	comp=Z,4µm,21.0s								
EAK	**Akyaka**	**71.08**	**307**	*i* P	**P**	**09 04 28.9**	**+2.0**		
OBN	**Obninsk**	**71.16**	**323**	*ce*P	**P**	**09 04 26.1**	**-0.7**		
OBN				*i*		09 04 47.0			
OBN				*i* S	**S**	**09 13 44.1**	**+0.7**		
OBN				*i* SS	**SS**	**09 18 23.1**	**+6.7**		
OBN				pmax	pmax				
	comp=Z,347nm,1.6s								
OBN				MLR	MLR				
	comp=Z,48µm,20.0s								
OBN	**Obninsk**	**71.16**	**323**	*e*P	**P**	**09 04 26.4**	**-0.4**		
	comp=Z,96nm,0.6s								
OBN				LR	LR				
	comp=Z,13µm,19.0s								
SIT	**Sitka**	**71.27**	**35**	*e*P	**P**	**09 04 27.5**	**+0.1**		
SIT				pmax	pmax				
	comp=Z,362nm,1.3s								
SIT	**Sitka**	**71.27**	**35**	*e*P	**P**	**09 04 27.5**	**+0.1**		
	comp=Z,362nm,1.3s								
CLDR	**Caldiran**	**71.34**	**305**	*e*P	**P**	**09 04 30.5**	**+2.0**		
DIGO	**Kars**	**71.34**	**306**	*i* P	**P**	**09 04 29.9**	**+1.3**		
DYDN	**Diyadin**	**71.38**	**305**	*i* P	**P**	**09 04 29.1**	**+0.3**		
KARS	**Kars**	**71.48**	**307**	*e*P	**P**	**09 04 31.3**	**+2.0**		
CHVG	**Ch'k'valeri**	**71.54**	**309**	P	**P**	**09 04 31.0**	**+1.6**		
ALE	**Alert**	**71.79**	**2**	P	**P**	**09 04 30.1**	**-0.2**		
	comp=Z,1µm,0.9s,SNR=67								
AGRB	**Hanur-Agry**	**71.88**	**306**	*e*P	**P**	**09 04 33.5**	**+1.8**		
VANB	**Van**	**71.90**	**305**	*e*P	**P**	**09 04 33.3**	**+1.5**		
TVAN	**Van**	**71.91**	**305**	*i* P	**P**	**09 04 32.6**	**+0.6**		
HKR	**Hakkari**	**71.97**	**304**	*e*P	**P**	**09 04 34.0**	**+1.7**		
HAKT	**HAKKARI**	**72.00**	**304**	*i* P	**P**	**09 04 32.0**	**-0.6**		
TUTA	**Tutak**	**72.07**	**306**	*i* P	P	09 04 37.2	+4.2		
ARTV	**Artvin**	**72.14**	**308**	*i* P	**P**	**09 04 33.7**	**+0.3**		
EATA	**Eleskirt**	**72.15**	**306**	*i* P	**P**	**09 04 34.7**	**+1.1**		
CUKT	**Cukurca**	**72.17**	**303**	*e*P	**P**	**09 04 34.3**	**+0.8**		
DAGI	**Agillar**	**72.18**	**307**	*i* P	**P**	**09 04 32.2**	**-1.3**		
GEVA	**Gevas**	**72.24**	**304**	*i* P	**P**	**09 04 35.4**	**+1.4**		
BCA	**Borcka**	**72.27**	**308**	*e*P	**P**	**09 04 34.8**	**+0.9**		
DBOC	**Borcka**	**72.27**	**308**	*i* P	**P**	**09 04 34.8**	**+0.9**		
DBAD	**Bademkaya**	**72.36**	**307**	*i* P	**P**	**09 04 35.2**	**+0.7**		
DDEM	**Demirkent**	**72.36**	**307**	*i* P	**P**	**09 04 35.2**	**+0.7**		
TATV	**Tatvan**	**72.76**	**305**	*i* P	**P**	**09 04 38.5**	**+1.4**		
PUL	**Pulkovo**	**72.78**	**329**	*e*P	**P**	**09 04 37.5**	**+1.1**		
PUL				pmax	pmax				
	comp=Z,386nm,0.7s								
SOC	**Sochi**	**72.90**	**311**	*d*iP	**P**	**09 04 38.0**	**+0.5**		
SOC				*e*		09 04 52.4			
SOC				*e*		09 07 21.6			
SOC				*e*PPP	PPP	09 09 04.7			
SOC				*i* S	**S**	**09 14 03.8**	**-0.1**		
SOC				*e*		09 14 43.8			
SOC				pmax	pmax				
	comp=Z,897nm,1.6s								
SOC				pmax	pmax				
	comp=Z,392nm,0.8s								
SOC				MLR	MLR				
	comp=Z,14µm,18.0s								
CRAG	**Craig**	**72.95**	**36**	*e*P	**P**	**09 04 38.4**	**+0.8**		
	comp=Z,287nm,1.2s								
ERZM	**Erzurum**	**72.96**	**306**	*i* P	**P**	**09 04 40.2**	**+1.9**		
EZM	**Erzurum**	**72.96**	**306**	*e*P	**P**	**09 04 40.3**	**+2.0**		
SIRT	**Sirnak**	**72.97**	**304**	*e*P	**P**	**09 04 38.6**	**+0.4**		
WRAK	**Wrangell Islan**	**73.03**	**35**	*e*P	**P**	**09 04 38.6**	**+0.7**		
	comp=Z,206nm,1.2s								
WRAK				LR	LR				
	comp=Z,9µm,21.0s								
TRO	**Tromso**	**73.07**	**340**	⇓*i*P	**P**	**09 04 36.8**	**-1.2**		
TRO				*e*PP	**PP**	**09 07 19.8**	**-0.4**		
TRO				*e*S	**S**	**09 14 05.9**	**+1.1**		
TRO				IAMs_20	IAMs_20	09 40 49.7			
	comp=Z,31µm,22.0s								
TRO				IVMs_BB	IVMs_BB	09 44 03.0			
	comp=Z,11µm,17.1s								
VRTB	**Varto-Mus**	**73.14**	**306**	*e*P	**P**	**09 04 41.1**	**+1.8**		
OUZ	**Omahuta**	**73.36**	**144**	*e*P	**P**	**09 04 40.2**	**+0.1**		
	comp=Z,76nm,0.8s								
OUZ				LR	LR				
	comp=Z,17µm,21.0s								
BNGL	**BINGOL**	**73.44**	**306**	*i* P	**P**	**09 04 42.0**	**+0.9**		
XMAS	**Kiritimati**	**73.45**	**96**	*e*P	**P**	**09 04 43.0**	**+1.7**		
	comp=Z,167nm,0.9s								
DLBC	**Dease Lake**	**73.45**	**33**	*e*P	**P**	**09 04 40.7**	**+0.1**		
	comp=Z,225nm,1.2s								
DLBC				LR	LR				
	comp=Z,9µm,20.0s								
KOPT	**Kop Dagi**	**73.55**	**307**	*i* P	**P**	**09 04 43.3**	**+1.5**		
SVAN	**Silvan-Diyarba**	**73.67**	**305**	*e*P	**P**	**09 04 43.6**	**+1.3**		
MACK	**Trabzon**	**73.76**	**308**	*i* P	**P**	**09 04 43.5**	**+0.8**		
ANN	**Anapa**	**74.03**	**312**	*i* P	**P**	**09 04 44.2**	**0.0**		
ANN				*e*		09 04 58.9			
ANN				*e*S	**S**	**09 14 17.3**	**+0.7**		
ANN				pmax	pmax				
	comp=N,332nm,1.6s								
ANN				pmax	pmax				
	comp=Z,1µm,1.6s								
ANN				pmax	pmax				
	comp=E,316nm,1.6s								
ANN				pmax	pmax				
	comp=N,258nm,1.6s								
ANN				pmax	pmax				
	comp=Z,753nm,1.6s								
ANN				pmax	pmax				
	comp=E,189nm,1.6s								
ANN				smax	smax				
	comp=N,2µm,4.8s								
ANN				MLR	MLR				
	comp=N,15µm,20.0s								
ANN				MLR	MLR				
	comp=Z,21µm,20.0s								
ANN				MLR	MLR				
	comp=E,19µm,20.0s								
FINES	**FINESS Array B**	**74.05**	**331**	P	**P**	**09 04 43.1**	**-0.8**		
	comp=E,95nm,0.7s,baz=80,slow=4.1,SNR=84								
FINES				LR	LR	09 43 27.2			
	comp=E,22µm,18.1s,baz=71,slow=41								
H02N1	**VAN INLET T-PH**	**74.07**	**38**	P	**P**	**09 04 44.6**	**+0.2**		
RAO	**Raoul Island**	**74.10**	**134**	LR	LR	09 32 13.4			
	comp=E,10µm,21.7s,baz=308,slow=32								
H02S1	**DAWSON INLET T**	**74.12**	**38**	P	**P**	**09 04 43.7**	**-0.8**		
GUMT	**Gumushane**	**74.13**	**308**	*e*P	**P**	**09 04 45.9**	**+0.9**		
EUZM	**Uzumlu**	**74.13**	**307**	*i* P	**P**	**09 04 47.0**	**+1.3**		
ERZN	**Erzincan**	**74.26**	**307**	*e*P	**P**	**09 04 47.6**	**+1.9**		
MAZI	**Mazidag**	**74.47**	**304**	*e*P	**P**	**09 04 47.9**	**+0.8**		
ESPY	**Espiye-Giresun**	**74.50**	**308**	*e*P	**P**	**09 04 47.1**	**+0.1**		
DYBB	**Diyarbakir**	**74.53**	**305**	*e*P	**P**	**09 04 49.1**	**+1.9**		
DIYA	**Diyarbakir**	**74.55**	**305**	*i* P	**P**	**09 04 47.7**	**+0.3**		
PTK	**Pertek**	**74.74**	**306**	*e*P	**P**	**09 04 49.2**	**+0.5**		
GRSN	**GIRESUNGRSN**	**74.83**	**308**	*i* P	**P**	**09 04 47.2**	**-1.7**		
SVRC	**Sivrice-ELAZID**	**74.99**	**306**	*e*P	**P**	**09 04 51.6**	**+1.5**		
VSU	**Vasula**	**74.99**	**328**	*d*iP	**P**	**09 04 50.1**	**+0.7**		
STEI	**Steigen**	**75.09**	**339**	*e*P	**P**	**09 04 50.0**	**+0.2**		
STEI				IAmb	IAmb	09 04 54.4			
	comp=Z,171nm,1.0s								
SUSE	**Susehri**	**75.13**	**308**	*i* P	**P**	**09 04 50.3**	**-0.6**		
ILIC	**ilic-Erzincan**	**75.14**	**307**	*e*P	**P**	**09 04 52.7**	**+1.8**		
ELZG	**Elazig**	**75.18**	**306**	*i* P	**P**	**09 04 51.5**	**+0.3**		
RAYN	**Ar Rayn**	**75.44**	**289**	*e*P	**P**	**09 04 52.8**	**+0.1**		
	comp=Z,340nm,1.2s								
RAYN				LR	LR				
	comp=Z,9µm,22.0s								
LOF	**Lofoten**	**75.51**	**340**	*e*P	**P**	**09 04 52.3**	**0.0**		
URFA	**Urfa**	**75.69**	**305**	*e*P	**P**	**09 04 54.4**	**+0.4**		
RES	**Resolute Bay**	**75.73**	**11**	P	**P**	**09 04 52.8**	**-0.7**		
	comp=Z,132nm,0.7s,baz=311,slow=6.0,SNR=105								
AKCD	**Akcadag**	**76.03**	**306**	*i* P	**P**	**09 04 57.5**	**+1.4**		
ATAB	**Bozova**	**76.06**	**305**	*i* P	**P**	**09 04 57.4**	**+1.3**		
MICGM	**Minsk**	**76.07**	**324**	⇓*i*P	**P**	**09 04 55.0**	**-0.7**		
MNK	**Minsk**	**76.09**	**324**	*d*iP	**P**	**09 04 55.0**	**-0.9**		
MNK				*e*		09 05 04.0			
MNK				*e*S	**S**	**09 14 36.0**	**-3.2**		
MNK				*e*PS	PnS	09 14 56.0	-20		
MNK				pmax	pmax				
	comp=Z,9µm,16.0s								
MNK				pmax	pmax				
	comp=Z,

IIGN AMB AMB 09 05 04.3
comp=Z,102nm,0.9s
FLOS Flostrand 76.57 338 *eP* **P 09 04 57.3 -1.0**
GZT Gaziantep 76.65 305 *i* P **P 09 04 60.0 +0.4**
TGRZ Tauranga 76.66 144 *eP** **P 09 04 59.1 0.0**
DIKM Dikmen 76.67 310 *eP* **P 09 04 59.7 +0.3**
STOK Stokkvaagen 76.69 338 *eP* **P 09 04 59.1 +0.1**
STOK IAmb IAmb 09 05 03.4
comp=Z,162nm,1.0s
OPRZ Ohinepanea 76.90 144 P* **P 09 05 00.3 -0.2**
AKASG Malin Array Be 76.91 320 P **P 09 04 59.4 -1.1**
comp=Z,72nm,0.7s,baz=53,slow=6.0,SNR=229
AKASG LR LR 09 41 13.8
comp=Z,34µm,21.5s,baz=55,slow=38
AKBB Malin Array Si 76.91 320 *eP* **P 09 04 59.8 -0.7**
AKBB Malin Array Si 76.91 320 *eP* **P 09 04 59.8 -0.7**
AK01 Malin Array Si 76.92 320 *eP* **P 09 04 59.8 -0.8**
KIEV Kiev 76.92 320 *eP* **P 09 04 59.9 -0.7**
KIEV pmax pmax
comp=Z,224nm,0.8s
KIEV MLR MLR
comp=Z,36µm,22.0s
KIEV Kiev 76.92 320 *eP* **P 09 04 59.9 -0.7**
comp=Z,224nm,0.8s
KIEV LR LR
comp=Z,36µm,22.0s
AK02 Malin Array Si 76.94 320 *eP* **P 09 04 59.9 -0.8**
AK11 Malin Array Si 76.95 320 *eP* **P 09 04 59.9 -0.9**
OMRZ Omania 76.99 144 P* **P 09 05 00.8 -0.3**
PINB Pinarbasi 76.99 307 *i* P **P 09 05 02.1 +0.5**
BOYT Boyabat 77.00 310 *i* P **P 09 05 01.0 -0.4**
KMRS Kahramanmaras 77.08 305 *eP* **P 09 05 03.0 +1.1**
HCB Kahramanmara˙ 77.13 305 *i* P **P 09 05 03.7 +1.5**
WPRZ Whakapapaterin 77.19 145 *eP** **P 09 05 00.7 -1.5**
KUZU Kuzuini 77.23 305 *i* P **P 09 05 03.3 +0.6**
KAMA Osmaniye 77.37 305 *i* P **P 09 05 03.8 +0.2**
CTKT Corum 77.39 309 *i* P **P 09 05 05.4 +1.6**
BZK Bozkurt 77.41 311 *eP* **P 09 05 04.5 +0.9**
ANDN Andirin 77.46 306 *i* P **P 09 05 04.1 +0.1**
URZ Urewera 77.50 144 LR LR 09 33 39.8
comp=Z,3µm,21.9s,baz=312,slow=31
URZ Urewera 77.50 144 P* **P 09 05 02.2 -1.7**
URZ Urewera 77.50 144 *eP* **P 09 05 02.8 -1.0**
comp=Z,176nm,0.8s
CORM Corum 77.68 309 *eP* **P 09 05 05.7 +0.5**
TOS Tosya 77.76 310 *eP* **P 09 05 05.5 -0.2**
MWZ Matawai 77.78 144 P* **P 09 05 04.6 -0.9**
BKZ Black Stump Fm 77.84 145 P* **P 09 05 04.2 -1.6**
BKZ Black Stump Fm 77.84 145 *eP* **P 09 05 05.6 -0.2**
comp=Z,164nm,0.9s
BKZ LR LR
comp=Z,15µm,21.0s
KOZT Kozan 77.88 306 *eP* **P 09 05 06.5 +0.2**
ILGA Ilgaz 77.97 310 *i* P **P 09 05 07.0 0.0**
AVNT Avonos 78.07 307 *i* P **P 09 05 07.9 +0.4**
CDAG Cicekdag 78.08 308 *i* P **P 09 05 06.9 -0.6**
NSS Namsos 78.09 337 *eP* **P 09 05 06.3 -0.5**
NSS IAmb IAmb 09 05 11.0
comp=Z,138nm,0.8s
NSS *ePP* **PP 09 08 04.8 +2.2**
NSS *eS* **S 09 14 59.4 -1.1**
NSS *eSS* **SS 09 20 05.3 +4.2**
NSS IVMs_BB IVMs_BB 09 45 43.6
comp=Z,11µm,16.6s
CEYT Ceyhan 78.12 305 *eP* **P 09 05 08.2 +0.7**
MSEY Mahe Island 78.13 259 *eP* **P 09 05 08.6 +0.5**
MSEY pmax pmax
comp=Z,166nm,1.4s
MSEY MLR MLR
comp=Z,5µm,20.0s
MSEY Mahe Island 78.13 259 P **P 09 05 09.9 +1.8**
SNR=6.8
MSEY Mahe Island 78.13 259 *eP* **P 09 05 08.6 +0.5**
comp=Z,166nm,1.4s
MSEY LR LR
comp=Z,5µm,20.0s
YAYL Yayladag 78.23 304 *i* P **P 09 05 07.2 -1.3**
YKA Yellowknife Ar 78.31 25 P **P 09 05 07.3 -0.8**
comp=Z,78nm,0.8s,baz=300,slow=5.4,SNR=157
YKA PKKPbc **PKKPbc 09 24 02.7 -4.3**
comp=Z,0.8nm,0.5s,baz=127,slow=2.3,SNR=14
YKA PKPPKP P'P'df 09 31 57.6 -17
comp=Z,0.3nm,0.7s,baz=139,slow=4.3,SNR=3.7
YKB5 Yellowknife Ar 78.31 25 *eP* **P 09 05 06.8 -1.3**
YKB5 *ePKKPbc* **PKKPbc 09 24 02.7 -4.3**
KNZ Kokohu 78.36 144 *eP** **P 09 05 09.5 +0.9**
ELDT Eldivan 78.40 309 *i* P **P 09 05 10.0 +0.7**
MRZ Mangatainoka R 78.49 146 P* **P 09 05 08.1 -1.3**
NIG Nigde 78.51 307 *eP* **P 09 05 09.8 -0.3**
KARA Karaisali 78.53 306 *eP* **P 09 05 10.8 +0.9**
DCZ Deep Cove 78.55 154 *eP* **P 09 05 10.2 +0.7**
comp=Z,124nm,1.3s
DCZ LR LR
comp=Z,10µm,22.0s
SNZO South Karori 78.55 147 PFAKE 09 05 20.0 +10
SNZO LR LR
comp=Z,17µm,22.0s
BR131 Keskin Array S 78.56 309 *eP* **P 09 05 10.1 0.0**
comp=Z,106nm,0.8s
BRTR Keskin Array B 78.56 309 P **P 09 05 09.8 -0.4**
comp=Z,101nm,0.9s,baz=104,slow=4.4,SNR=233
BRTR LR LR 09 44 35.0
comp=Z,6µm,20.5s,baz=39,slow=39
KRTS Karatas 78.56 305 *eP* **P 09 05 11.5 +1.5**
SAFT Safranbolu 78.60 310 *eP* **P 09 05 10.3 0.0**
KIS Kishinev 78.72 317 ⇓*iP* **P 09 05 10.0 -0.7**
comp=Z,600nm,1.6s
KIS Kishinev 78.72 317 *i* PcP **PcP 09 05 17.0 -2.6**
KIS Kishinev 78.72 317 *ePP* PP 09 07 00.0 -68
KIS Kishinev 78.72 317 *ePPP* PPP 09 09 12.0
KIS Kishinev 78.72 317 *ePsP* 09 12 00.0
KIS *iS* **S 09 15 06.0 -1.9**
KIS Kishinev 78.72 317 *i* PS 09 15 46.0
KIS *eSS* SS 09 20 20.0 +8.5
KIS *eSSS* SSS 09 23 38.0
KIS *eLQ* LQ 09 32 57.0
comp=Z,23µm,16.0s
KIS LRM MLR 09 45 56.0
comp=Z,19µm,16.0s
KIS Kishinev 78.72 317κ *iP* **P 09 05 10.0 -0.7**
KIS *i* 09 05 17.0
KIS *iS* **S 09 15 06.0 -1.9**
KIS *iPS* **PnS 09 15 46.0 -3.7**
KIS *eSSS* SSS 09 23 38.0
KIS pmax pmax
comp=Z,600nm,1.6s
KIS pmax pmax
comp=Z,1µm,3.0s
RPZ Rata Peaks 78.73 151 LR LR 09 32 57.9
comp=Z,2µm,21.7s,baz=328,slow=30
RPZ Rata Peaks 78.73 151 *eP* **P 09 05 11.0 +0.3**
comp=Z,303nm,1.0s
SUW Suwalki 78.75 325 *eP* **P 09 05 10.3 -0.5**
SUW *epP* **pP 09 05 11.8 -2.9**
SUW *eS* **S 09 15 09.2 +1.2**
SUW LMZ LR 09 40 49.5
SUW Suwalki 78.75 325 *eP* **P 09 05 10.3 -0.5**
SUW *eS* **S 09 15 09.2 +1.2**
SUW MLR MLR
comp=Z,24µm,23.8s
SUW Suwalki 78.75 325 *eP* **P 09 05 10.5 -0.3**
comp=Z,1µm,0.9s
SUW LR LR
comp=Z,22µm,18.0s
BFZ Birch Farm 78.84 146 *eP* **P 09 05 12.2 +1.0**
comp=Z,623nm,1.7s
KHZ Kahutara 78.84 149 *eP* **P 09 05 10.1 -1.1**
comp=Z,96nm,0.9s
BBAL Bala 78.99 309 *i* P **P 09 05 13.4 +0.8**
HWQ Hawqa 79.05 303 *eP* **P 09 05 13.6 +0.7**
AFSR Af˙ar-Bala (A 79.07 308 *eP* **P 09 05 13.5 +0.6**
MERS Mersin 79.07 306 *eP* **P 09 05 12.8 -0.2**
BR231 Keskin MP Arra 79.12 309 *eP* **P 09 05 10.6 -2.6**
ASF Jabal al Asfar 79.16 300 P **P 09 05 14.4 +0.8**
comp=Z,113nm,0.8s,baz=13,slow=2.0,SNR=103
BCAM Yenicaga 79.21 310 *i* P **P 09 05 13.9 +0.2**
JMIC Jan Mayen 79.23 347 *eP* **P 09 05 14.6 +1.5**
JMIC *ePP* **PP 09 08 13.0 +0.9**
JMIC *eS* **S 09 15 13.4 +0.8**
JMIC *eSS* **SS 09 20 17.8 -0.2**
JMIC Jan Mayen 79.23 347 P **P 09 05 14.4 +1.3**
comp=Z,242nm,0.8s,baz=87,slow=3.5,SNR=8.9
SULT Sultanhani-AKS 79.26 307 *eP* **P 09 05 14.5 +0.5**
LEOM Leova 79.30 316 *eP* **P 09 05 14.0 +0.1**
LEOM Leova 79.30 316 ⇓*iP* **P 09 05 14.8 +0.9**
BHL Bhannes 79.42 302 *eP* **P 09 05 15.3 +0.3**
RCY Rachaya 79.45 302 *eP* **P 09 05 16.1 +0.9**
TBLU Trondheim 79.46 336 ⇓*iP* **P 09 05 13.3 -1.1**
TBLU IAmb IAmb 09 05 15.5
comp=Z,299nm,1.2s
TBLU IVMs_BB IVMs_BB 09 46 03.4
comp=Z,9µm,18.2s
TLCR 79.51 315 ⇓*iP* **P 09 05 15.4 +0.4**
KIZK Mersin 79.51 305 *i* P **P 09 05 14.0 -1.3**
DQRL Deir Qamar 79.57 302 *eP* **P 09 05 16.2 +0.5**
GIUM Giurgiulesti 79.76 316 ⇑*iP* **P 09 05 17.7 +1.3**
KULLO Kullorsuaq 79.82 2 *iP* **P 09 05 14.8 -1.4**
comp=Z,144nm,0.9s
KULLO *i* S S 09 15 12.2 -6.5
comp=Z,18µm,19.0s
DAMY Dhamar 79.89 281 *eP* **P 09 05 18.8 +0.8**
comp=Z,273nm,1.4s
DAMY LR LR
comp=Z,5µm,21.0s
CFR Carcaliu 79.94 315 ⇑*iP* **P 09 05 18.1 +0.7**
HFS Hagfors 79.97 333 P **P 09 05 16.4 -0.9**
comp=Z,256nm,0.8s,baz=59,slow=5.7,SNR=96
MMAI Mount Meron Ar 79.97 302 P **P 09 05 17.9 0.0**
comp=Z,56nm,0.8s,baz=67,slow=6.4,SNR=54
BTAS Taskesti 80.05 310 *i* P **P 09 05 18.5 +0.3**
AIS Amsterdam Isla 80.07 220 S S 09 15 11.0 -11
AIS L L 09 26 00.0
AIS R 09 30 00.0
TIRR Tirgusor 80.08 315 P **P 09 05 18.2 +0.1**
TIRR Tirgusor 80.08 315 *eP* **P 09 05 17.9 -0.3**
TIRR pmax pmax
comp=Z,129nm,1.0s
TIRR MLR MLR
comp=Z,14µm,21.0s
TIRR Tirgusor 80.08 315 ⇑*iP* **P 09 05 18.3 +0.1**
TIRR Tirgusor 80.08 315 *eP* **P 09 05 17.9 -0.3**
comp=Z,129nm,1.0s
TIRR LR LR
comp=Z,14µm,21.0s
LADK Ladik-KONYA 80.09 308 *eP* **P 09 05 17.8 -0.7**
KDHN Kadinhani 80.13 308 *i* P **P 09 05 17.5 -1.3**
PRAR RASCA 80.14 318 ⇓*iP* **P 09 05 19.1 +0.6**
SVRH Sivrihisar-ESK 80.16 309 *eP* **P 09 05 19.1 +0.2**
MMLL Mount Malkishu 80.20 301 *eP* **P 09 05 20.5 +1.3**
KONT Konya--Tatoy 80.20 307 *eP* **P 09 05 19.1 0.0**
TLB Topalu 80.26 315 ⇓*iP* **P 09 05 19.6 +0.4**
TESR Tescani 80.27 317 ⇑*iP* **P 09 05 19.0 -0.2**
LVV L'vov 80.28 321 *i* P **P 09 05 19.1 -0.1**
LVV *i* 09 08 22.0
LVV *iS* **S 09 15 25.0 +0.5**
LVV *eSS* **SS 09 20 39.6 +4.8**
LVV pmax pmax
comp=Z,700nm,2.0s
LVV MLR MLR
comp=N,12µm,17.0s
LVV MLR MLR
comp=E,16µm,17.0s
LVV MLR MLR
comp=Z,20µm,17.0s
HARR Harsova 80.29 315 ⇑*iP* **P 09 05 19.5 +0.2**
ERMK Ermenek 80.34 306 *i* P **P 09 05 19.4 -0.7**
NB2 NORSAR Subarra 80.43 334 P **P 09 05 18.5 -1.3**
comp=Z,320nm,0.8s,baz=51,slow=5.3
NB2 NORSAR Subarra 80.43 334 P **P 09 05 18.5 -1.3**
baz=51,slow=5.3
NOA NORSAR Array B 80.43 334 P **P 09 05 19.2 -0.6**
comp=Z,49nm,0.8s,baz=51,slow=5.3,SNR=200
NOA PKKPbc **PKKPbc 09 24 01.4 -0.9**
comp=Z,3.6nm,1.1s,baz=233,slow=2.3,SNR=3.6
NOA LR LR 09 44 21.6
comp=Z,20µm,21.3s,baz=50,slow=38
GULT Gulveren 80.44 310 *eP* **P 09 05 20.6 +0.2**
LFK Lefkose 80.46 304 *eP* **P 09 05 20.8 +0.3**
NC602 NORSAR Array S 80.48 334 ⇓*iP* **P 09 05 19.4 -0.7**
NC602 IAmb IAmb 09 05 24.3
comp=Z,149nm,1.1s
NC602 *eS* **S 09 15 27.6 +1.5**
NC602 *eSS* **SS 09 20 37.8 +0.6**
NC602 IAMs_20 IAMs_20 09 41 38.9
comp=Z,26µm,21.9s
NC602 IVMs_BB IVMs_BB 09 47 41.3
comp=Z,11µm,17.5s
VRI Vrincioaia 80.52 316 *eP* **P 09 05 21.3 +0.8**
VRI Vrincioaia 80.52 316 ⇓*iP* **P 09 05 21.8 +1.2**
NBO02 NORSAR Array S 80.56 334 *eP* **P 09 05 19.1 -1.5**
PLOR Plostina 80.57 316 ⇑*iP* **P 09 05 22.0 +1.1**
PSN Preselentsi 80.58 314 ⇓*iP* **P 09 05 22.4 +1.5**
PSN Preselentsi 80.58 314 P **P 09 05 21.3 +0.4**
GRER 80.58 316 ⇑*iP* **P 09 05 22.6 +1.7**
SEYT Eskypehyr 80.60 309 *i* P **P 09 05 21.9 +0.7**
MSAB Monastry St. A 80.62 314 ⇓*iP* **P 09 05 21.4 +0.3**
BUR08 Bucovina Ar. s 80.63 318 *eP* **P 09 05 21.3 0.0**
BURAR Bucovina Array 80.63 318 ⇓*iP* **P 09 05 21.0 -0.2**
BUR04 Bucovina Ar. S 80.63 318 *eP* **P 09 05 20.9 -0.4**
BUR04 *ePKKPbc* **PKKPbc 09 24 02.7 +1.1**
DOMB Dombas 80.64 336 *eP* **P 09 05 21.2 +0.3**
DOMB IAmb IAmb 09 05 25.5
comp=Z,125nm,0.8s
AMRR Amara 80.70 315 ⇑*iP* **P 09 05 23.7 +2.2**
BORA Eskisehir 80.72 310 *i* P **P 09 05 21.5 -0.4**
SILT Sile 80.72 311 *eP* **P 09 05 21.8 +0.1**
CSS Prodhromos 80.74 304 *eP* **P 09 05 22.9 +0.9**
CSS Prodhromos 80.74 304 P **P 09 05 22.0 0.0**
CSS Prodhromos 80.74 304 P **P 09 05 20.6 -1.4**
CSS Prodhromos 80.74 304 *eP* **P 09 05 21.5 -0.5**
CSS *eSKSac* **SKSac 09 15 41.1 +0.5**
CSS LR LR
comp=Z,3µm,21.0s
PGOR Pogoanele 80.79 315 ⇓*iP* **P 09 05 24.3 +2.3**
HRT Hereke 80.85 311 *eP* **P 09 05 22.6 +0.1**
MOL Molde 80.85 337 ⇓*iP* **P 09 05 22.3 +0.3**
MOL IAmb IAmb 09 05 26.9
comp=Z,161nm,0.7s
BOLV Bolvadin 80.87 309 *i* P **P 09 05 22.6 -0.2**
GAZI Gazipasa 80.95 306 *i* P **P 09 05 20.9 -2.2**
ISR Istrita 80.97 316 ⇓*iP* **P 09 05 24.9 +1.8**
LEF Lefka 81.00 305 *eP* **P 09 05 22.3 -1.0**
CAVI Cavuskoy 81.00 310 *eP* **P 09 05 23.6 +0.3**
BEL Belsk 81.08 324 *eP* **P 09 05 23.6 +0.2**
BEL *epP* **pP 09 05 24.9 -2.5**
BEL *eS* **S 09 15 35.0 +2.3**
BEL LMZ LR 09 41 30.7
BEL Belsk 81.08 324 *eP* **P 09 05 23.7 +0.3**
BEL *eS* **S 09 15 35.0 +2.3**
KLYT Kilyos 81.08 311 *eP* **P 09 05 23.3 -0.3**
KWP Kalwaria Pacla 81.13 321 *eP* **P 09 05 25.0 +1.3**
KWP *eS* **S 09 15 35.3 +2.0**
KWP LMZ LR 09 40 35.7
KWP Kalwaria Pacla 81.13 321 ⇓*eP* **P 09 05 25.0 +1.3**
KWP *eS* **S 09 15 35.3 +2.0**
ISK Istanbul-Kandi 81.16 311 P **P 09 05 23.9 -0.1**
ISK Istanbul-Kandi 81.16 311 P **P 09 05 23.9 -0.1**
ISK Istanbul-Kandi 81.16 311 P **P 09 05 23.9 -0.1**
SZAC Souni-Zanaja 81.16 304 P **P 09 05 25.4 +1.2**
MLR Muntele Rosu 81.18 316 P **P 09 05 24.9 +0.7**
comp=Z,18nm,0.9s,baz=40,slow=3.9,SNR=81
MLR S **S 09 15 34.6 +0.4**
comp=Z,0.3nm,0.4s,baz=196,slow=20,SNR=5.7
MLR Muntele Rosu 81.18 316 ⇓*iP* **P 09 05 24.2 0.0**
ALFC Alevga 81.20 305 P **P 09 05 25.2 +0.7**
BUY Buyukada 81.21 311 *i* P **P 09 05 24.2 -0.2**
SHUT Suhut-Afyon 81.23 308 *eP* **P 09 05 24.6 0.0**
PGC Sidney 81.23 40 *eP* **P 09 05 24.1 -0.1**
comp=Z,307nm,1.2s
PGC LR LR
comp=Z,6µm,20.0s
OSL Oslo 81.29 334 *eP* **P 09 05 23.4 -0.9**
OSL IAmb IAmb 09 05 29.0
comp=Z,349nm,0.7s
DOPR Dopca 81.30 317 ⇓*iP* **P 09 05 25.1 +0.4**
PRD Provadia 81.30 314 P **P 09 05 25.2 +0.5**
AKN Aaknes 81.30 337 ⇓*iP* **P 09 05 24.6 +0.2**
AKN *eSS* SS 09 20 49.1 -0.3
AKN IAMs_20 IAMs_20 09 45 00.2
comp=Z,28µm,19.5s
AKN IVMs_BB IVMs_BB 09 45 13.4
comp=Z,10µm,20.4s
ALT Altintas 81.32 309 *eP* **P 09 05 25.9 +0.8**
ALT Altintas 81.32 309 P **P 09 05 24.0 -1.1**
ALT Altintas 81.32 309 P **P 09 05 24.0 -1.1**
SULR 81.36 315 ⇓*iP* **P 09 05 26.1 +1.1**
AKMC Akamas 81.46 305 P **P 09 05 25.5 -0.3**
HRFI Mount Harif 81.49 299 P **P 09 05 26.6 +0.6**
CTYL Yal??k??y-??at 81.49 312 *eP* **P 09 05 25.9 +0.1**
PPCY Paphos 81.51 305 P **P 09 05 26.0 0.0**
ARMT Armutlu 81.51 311 *eP* **P 09 05 25.9 -0.1**
ULDT Uludag 81.51 310 *iP* **P 09 05 25.8 -0.4**
ELBA Catalca 81.55 312 *iP* P 09 05 32.7 +6.6
ISP Isparta 81.56 308 *eP* **P 09 05 26.6 +0.2**
ISP Isparta 81.56 308 P **P 09 05 24.7 -1.7**
ISP Isparta 81.56 308 *eP* **P 09 05 26.0 -0.4**
ISP pmax pmax
comp=Z,224nm,1.2s
ISP MLR MLR
comp=Z,10µm,22.0s
ISP Isparta 81.56 308 ⇓*iP* **P 09 05 26.4 0.0**
ISP Isparta 81.56 308 *eP* **P 09 05 26.0 -0.4**
comp=Z,224nm,1.2s
ISP LR LR
comp=Z,10µm,22.0s
NLWA Neilton Lookou 81.59 41 *eP* **P 09 05 26.5 +0.2**
comp=Z,271nm,1.2s
NLWA LR LR
comp=Z,5µm,18.0s
TVSB Tavsanli 81.60 310 *eP* **P 09 05 26.6 +0.1**
KZIT Kziot 81.62 300 P **P 09 05 27.1 +0.3**
SUMG Summit 81.62 356 *iP* **P 09 05 26.5 +0.1**
comp=Z,528nm,0.8s
SUMG Summit 81.62 356 *iS* **S 09 15 40.0 +1.5**
comp=Z,20µm,18.0s
SUMG Summit 81.62 356 *iP* **P 09 05 26.5 +0.1**
SUMG *iS* **S 09 15 40.0 +1.5**
SUMG pmax pmax
comp=Z,530nm,0.8s
SUMG MLR MLR
comp=Z,20µm,18.0s
SUMG Summit 81.62 356 *eP* **P 09 05 26.5 +0.1**
comp=Z,551nm,0.8s
SUMG LR LR
comp=Z,20µm,19.0s
BMR Baia Mare 81.63 319 ⇓*iP* **P 09 05 28.1 +1.7**
EIL Elat 81.71 299 *eP* **P 09 05 28.1 +0.9**
EIL Elat 81.71 299 P **P 09 05 28.3 +1.1**
comp=Z,43nm,0.9s,baz=47,slow=1.4,SNR=38
EIL S **S 09 15 40.2 +0.2**
comp=Z,2.5nm,0.6s,baz=148,slow=19,SNR=2.1
KOLS Kolonicke sedl 81.72 321 *eP* **P 09 05 28.0 +1.1**
KOLS pmax pmax
comp=Z,210nm,1.8s
KOLS Kolonicke sedl 81.72 321 *eP* **P 09 05 28.0 +1.1**
GDZ Gediz 81.74 309 *iP* **P 09 05 27.0 -0.4**
VOIR 81.76 317 ⇓*iP* **P 09 05 28.1 +0.8**
MTUR Matau 81.85 316 ⇓*iP* **P 09 05 29.8 +2.0**
UZH Uzhgorod 81.86 320 *eP* P 09 05 23.6 -4.0
UZH *e* 09 05 32.2
UZH *e* 09 08 31.2
UZH *ePPP* PPP 09 10 24.0
UZH *eS* S 09 15 31.2 -10
UZH *ePS* **PnS 09 16 23.4 -5.4**
UZH *eSS* **SS 09 20 55.4 -2.8**
UZH *eSSS* SSS 09 24 25.6
UZH MLR MLR
comp=N,18µm,19.0s
UZH MLR MLR
comp=E,25µm,19.0s
UZH MLR MLR
comp=Z,11µm,19.0s
KONO Kongsberg 81.92 334 ⇓*iP* **P 09 05 27.4 -0.3**
KONO *eS* **S 09 15 42.0 +1.0**
KONO *eSS* **SS 09 21 00.4 +1.9**
KONO IVMs_BB IVMs_BB 09 48 25.3
comp=Z,8µm,16.9s
KONO Kongsberg 81.92 334 *eP* **P 09 05 27.4 -0.3**
KONO pmax pmax
comp=Z,68nm,0.8s
KONO MLR MLR
comp=Z,22µm,18.0s
KONO Kongsberg 81.92 334 *eP* **P 09 05 27.4 -0.3**
comp=Z,68nm,0.8s
KONO LR LR
comp=Z,22µm,18.0s
PHSR Pinarhisar 81.94 312 *eP* **P 09 05 28.6 +0.5**
TRPA Tarpa 81.96 320 ⇑*iP* **P 09 05 28.8 +0.7**
TRPA Tarpa 81.96 320 ⇓*eP* **P 09 05 29.4 +1.3**
KCTX Karacabey (Bur 81.99 311 *eP* **P 09 05 28.1 -0.4**
CJR Cluj-Napoca 82.03 318 ⇓*iP* **P 09 05 30.4 +1.8**
KORT Korkueli 82.05 307 *iP* **P 09 05 28.3 -0.7**
ARR Arges 82.05 317 ⇓*iP* **P 09 05 30.3 +1.5**
STHS Stebnicka Huta 82.06 321 *eP* **P 09 05 30.2 +1.5**
STHS pmax pmax
comp=Z,101nm,1.3s
STHS Stebnicka Huta 82.06 321 *eP* **P 09 05 30.1 +1.4**
JMB Yambol 82.17 313 P **P 09 05 29.1 -0.3**
JMB Yambol 82.17 313 P **P 09 05 29.1 -0.3**
JMB Yambol 82.17 313 P **P 09 05 30.6 +1.2**
JMB Yambol 82.17 313 P **P 09 05 29.1 -0.3**
GKP Gorka Klasztor 82.18 326 *eP* **P 09 05 30.2 +1.1**
GKP LMZ LR 09 43 08.0
GKP Gorka Klasztor 82.18 326 ⇓*eP* **P 09 05 30.3 +1.1**
GKP MLR MLR
comp=Z,22µm,23.7s
DURS Dursunbey 82.21 310 *iP* **P 09 05 28.5 -1.3**
SZH Strazhica 82.22 314 P **P 09 05 30.0 +0.4**
HUMR Humele 82.23 316 ⇓*iP* **P 09 05 30.1 +0.4**
HYA Hoyanger 82.26 336 *eP* **P 09 05 28.0 -1.4**
HYA IAmb IAmb 09 05 31.4
comp=Z,356nm,1.3s
HYA *eS* **S 09 15 43.9 -0.5**
BSD Bornholm Skovb 82.29 328 ⇓*iP* **P 09 05 30.1 +0.4**
comp=Z,571nm,1.1s
BSD Bornholm Skovb 82.29 328 *iS* **S 09 15 45.6 +0.6**
comp=Z,20µm,17.0s
BSD Bornholm Skovb 82.29 328 ⇓*iP* **P 09 05 30.1 +0.4**
BSD *iS* **S 09 15 45.6 +0.6**
BSD pmax pmax
comp=Z,570nm,1.1s
BSD MLR MLR
comp=Z,20µm,17.0s
EDC Edincik 82.29 311 *eP* **P 09 05 30.1 +0.1**
DEMI Demirci 82.30 310 *iP* **P 09 05 29.8 -0.4**
JCW Jim Creek 82.34 40 P **P 09 05 30.2 +0.1**
EDRB Edirne 82.35 313 *eP* **P 09 05 30.6 +0.3**
EDRB Edirne 82.35 313 P **P 09 05 30.2 -0.1**
EDRB Edirne 82.35 313 P **P 09 05 30.2 -0.1**
MRMT Marmara Adasi 82.36 311 *eP* **P 09 05 29.1 -1.4**
FOO Floro 82.38 337 ⇓*iP* **P 09 05 29.8 -0.2**
FOO IAmb IAmb 09 05 31.9
comp=Z,30nm,0.9s
B06A Marblemount 82.43 39 *eP* **P 09 05 30.2 -0.4**
comp=Z,358nm,1.0s
OJC Ojcow 82.45 323 *eP* **P 09 05 30.6 -0.1**
OJC *epP* **pP 09 05 32.0 -2.7**
OJC *eS* **S 09 15 48.2 +1.2**
OJC LMZ LR 09 44 07.1
OJC Ojcow 82.45 323 *eP* **P 09 05 30.7 0.0**
OJC *eS* **S 09 15 48.2 +1.2**
OJC MLR MLR
comp=Z,32µm,21.1s
OJC Ojcow 82.45 323 *eP* **P 09 05 31.0 +0.3**
comp=Z,287nm,0.8s
ELL Elmali 82.48 307 *eP* **P 09 05 31.4 +0.1**
F03A Seaside 82.49 42 *eP* **P 09 05 31.4 +0.4**
comp=Z,431nm,1.2s
GOLH Golhisar 82.51 308 *iP* **P 09 05 30.2 -1.2**
DRGR 82.53 319 ⇑*iP* **P 09 05 32.2 +1.0**
LOT Lotru 82.54 317 *eP* **P 09 05 32.2 +0.8**
LOT Lotru 82.54 317 ⇓*iP* **P 09 05 32.6 +1.2**
KULA Kula-Manisa 82.57 309 *eP* **P 09 05 31.1 -0.5**
KULA Kula-Manisa 82.57 309 P **P 09 05 30.7 -1.0**
KULA Kula-Manisa 82.57 309 P **P 09 05 30.7 -1.0**
NIE Niedzica 82.58 322 *eP* **P 09 05 31.9 +0.5**
NIE *epP* **pP 09 05 33.0 -2.4**
NIE *eS* **S 09 15 51.1 +2.7**
NIE LMZ LR 09 44 12.1
NIE Niedzica 82.58 322 *eP* **P 09 05 31.9 +0.5**
NIE *eS* **S 09 15 51.2 +2.8**
NIE MLR MLR
comp=Z,29µm,22.5s
SART Tekirdag 82.60 312 *iP* **P 09 05 31.6 -0.1**
BALB Balikesir 82.60 310 *eP* **P 09 05 32.1 +0.5**
PVL Pavlikeni 82.63 314 P **P 09 05 32.9 +1.2**
DNZL Cakiroluk 82.67 308 *iP* **P 09 05 32.2 -0.1**
BALY Balya 82.73 311 *iP* **P 09 05 32.4 0.0**
F04D Rainier, OR 82.75 42 ⇑P **P 09 05 33.1 +0.8**
baz=82

D05A	**Enumclaw**	**82.81**	**41**	*e*P		**P**	**09 05 33.2**	**+0.6**	
	comp=Z,375nm,1.3s								
SUE	**Sulen**	**82.85**	**336**	*e*P		**P**	**09 05 31.7**	**-0.8**	
SUE				IAmb		IAmb	09 05 36.9		
	comp=Z,177nm,0.7s								
SUE				IAMs_20		IAMs_20	09 44 02.0		
	comp=Z,24µm,21.0s								
SUE				IVMs_BB		IVMs_BB	09 48 31.1		
	comp=Z,9µm,16.1s								
CHZP	**Chorzow**	**82.86**	**323**	P		**P**	**09 05 33.8**	**+1.0**	
DEV	**Deva**	**82.86**	**318**	⇓*i*P		**P**	**09 05 34.7**	**+1.8**	
ODD1	**Odda**	**82.91**	**335**	*e*P		**P**	**09 05 32.2**	**-0.7**	
ODD1				IAmb		IAmb	09 05 37.1		
	comp=Z,877nm,0.7s								
AKAS	**Kas**	**82.93**	**307**	*i* P		**P**	**09 05 31.8**	**-1.8**	
AKHS	**Akhisar**	**83.00**	**310**	*i* P		**P**	**09 05 32.6**	**-1.1**	
G03D	**McMinnville, O**	**83.03**	**43**	⇓P		**P**	**09 05 34.3**	**+0.5**	
	baz=83								
ERIK	**Erikli-Kesan**	**83.06**	**312**	*e*P		**P**	**09 05 34.9**	**+0.9**	
DIM	**Dimitrovgrad**	**83.06**	**313**	P		**P**	**09 05 35.7**	**+1.7**	
RUND	**Rundenannen**	**83.06**	**336**	*e*P		**P**	**09 05 32.3**	**-1.4**	
ASK	**Askoy**	**83.07**	**336**	⇓*i*P		**P**	**09 05 33.8**	**+0.1**	
ASK				IAmb		IAmb	09 05 35.8		
	comp=Z,328nm,1.7s								
BER	**Bergen**	**83.09**	**336**	*e*P		**P**	**09 05 34.0**	**+0.2**	
BER				IAmb		IAmb	09 05 37.4		
	comp=Z,126nm,0.9s								
BER				*e*S		**S**	**09 15 50.7**	**-2.3**	
BER				*e*SS		**SS**	**09 21 17.3**	**+1.6**	
BER				IAMs_20		IAMs_20	09 47 20.2		
	comp=Z,28µm,19.9s								
BER				IVMs_BB		IVMs_BB	09 49 48.4		
	comp=Z,11µm,16.5s								
TDL	**Tradedollar La**	**83.09**	**42**	P		**P**	**09 05 34.3**	**0.0**	
COP	**Copenhagen**	**83.11**	**330**	⇓*i*P		**P**	**09 05 35.0**	**+1.0**	
	comp=Z,316nm,0.9s								
COP	**Copenhagen**	**83.11**	**330**	*i* S		**S**	**09 15 54.7**	**+1.3**	
	comp=Z,13µm,16.0s								
COP	**Copenhagen**	**83.11**	**330**	⇓*i*P		**P**	**09 05 35.0**	**+1.0**	
COP				*i* S		**S**	**09 15 54.7**	**+1.3**	
COP				pmax		pmax			
	comp=Z,320nm,0.9s								
COP				MLR		MLR			
	comp=Z,13µm,16.0s								
FETY	**Fethiye**	**83.12**	**307**	*e*P		**P**	**09 05 34.4**	**-0.1**	
LON	**Longmire**	**83.14**	**41**	*e*P		**P**	**09 05 34.3**	**-0.1**	
LON				pmax		pmax			
	comp=Z,87nm,1.1s								
LON				MLR		MLR			
	comp=Z,4µm,20.0s								
LON	**Longmire**	**83.14**	**41**	*e*P		**P**	**09 05 34.3**	**-0.1**	
	comp=Z,87nm,1.1s								
LON				LR		LR			
	comp=Z,4µm,20.0s								
GZR	**Gura Zlata**	**83.18**	**317**	⇓*i*P		**P**	**09 05 35.6**	**+0.9**	
GELI	**Tayfur-Gelibol**	**83.21**	**312**	*e*P		**P**	**09 05 35.2**	**+0.4**	
HOMB	**Homborsund**	**83.22**	**333**	⇓*i*P		**P**	**09 05 33.9**	**-0.6**	
HOMB				IAmb		IAmb	09 05 36.1		
	comp=Z,298nm,1.4s								
HOMB				*e*S		**S**	**09 15 53.5**	**-0.9**	
HOMB				*e*SS		**SS**	**09 21 24.1**	**+6.2**	
HOMB				IVMs_BB		IVMs_BB	09 48 34.5		
	comp=Z,11µm,14.3s								
ALN	**Alexandroupoli**	**83.26**	**312**	*e*P		**P**	**09 05 35.3**	**+0.2**	
ALN	**Alexandroupoli**	**83.26**	**312**	P		**P**	**09 05 34.7**	**-0.4**	
ALN	**Alexandroupoli**	**83.26**	**312**	*e*P		**P**	**09 05 34.5**	**-0.6**	
ALN	**Alexandroupoli**	**83.26**	**312**	P		**P**	**09 05 34.7**	**-0.4**	
ALN	**Alexandroupoli**	**83.26**	**312**	P		**P**	**09 05 34.7**	**-0.4**	
ENEZ	**Enez**	**83.27**	**312**	*e*P		**P**	**09 05 35.7**	**+0.6**	
SRE	**Strehaia**	**83.28**	**317**	⇓*i*P		**P**	**09 05 36.5**	**+1.4**	
BLS5	**Blasjo**	**83.30**	**335**	*e*P		**P**	**09 05 34.1**	**-0.8**	
BLS5				IAmb		IAmb	09 05 39.8		
	comp=Z,246nm,1.0s								
BLS5				IVMs_BB		IVMs_BB	09 48 17.4		
	comp=Z,13µm,15.5s								
COR	**Corvallis**	**83.31**	**44**	*e*P		**P**	**09 05 35.7**	**+0.5**	
COR				pmax		pmax			
	comp=Z,430nm,0.9s								
COR				MLR		MLR			
	comp=Z,6µm,20.0s								
COR	**Corvallis**	**83.31**	**44**	*e*P		**P**	**09 05 35.7**	**+0.5**	
	comp=Z,430nm,0.9s								
COR				LR		LR			
	comp=Z,6µm,20.0s								
WPW	**White Pass**	**83.32**	**41**	P		**P**	**09 05 35.5**	**+0.1**	
KDZ	**Kurdzhali**	**83.32**	**313**	⇓*i*P		**P**	**09 05 36.7**	**+1.3**	
KDZ	**Kurdzhali**	**83.32**	**313**	P		**P**	**09 05 35.4**	**0.0**	
TURN	**Turunc**	**83.36**	**308**	*i* P		**P**	**09 05 37.7**	**+2.0**	
RGN	**Rugen**	**83.37**	**328**	*e*P		**P**	**09 05 36.3**	**+1.0**	
	comp=Z,890nm,1.4s								
RGN				*e*S		**S**	**09 15 58.0**	**+2.0**	
RGN	**Rugen**	**83.37**	**328**	*e*P		**P**	**09 05 35.7**	**+0.4**	
	comp=Z,577nm,0.8s								
RGN				LR		LR			
	comp=Z,31µm,18.0s								
AYDB	**Zeytinkoy-Aydi**	**83.37**	**309**	*e*P		**P**	**09 05 35.7**	**-0.2**	
RAC	**Raciborz**	**83.40**	**323**	*e*P		**P**	**09 05 36.0**	**+0.4**	
RAC				*e*S		**S**	**09 16 00.4**	**+3.8**	
RAC				MLR		MLR			
	comp=Z,19µm,20.5s								
SIRR	**Siria**	**83.42**	**318**	⇑*i*P		**P**	**09 05 36.3**	**+0.5**	
LLD	**Lille Linde**	**83.42**	**329**	*i* P		**P**	**09 05 36.9**	**+1.3**	
LLD	**Lille Linde**	**83.42**	**329**	*i* P		**P**	**09 05 36.9**	**+1.3**	
YER	**Yerkesik**	**83.47**	**308**	*e*P		**P**	**09 05 34.9**	**-1.4**	
RDO	**Rodhopi**	**83.48**	**313**	P		**P**	**09 05 35.1**	**-1.1**	
RDO	**Rodhopi**	**83.48**	**313**	*e*P		**P**	**09 05 36.0**	**-0.2**	
RDO	**Rodhopi**	**83.48**	**313**	*e*P		**P**	**09 05 35.6**	**-0.6**	
KEBM	**Edson Butte**	**83.50**	**45**	*e*P		**P**	**09 05 37.1**	**+0.7**	
	comp=Z,751nm,1.1s								
LTY	**Liberty**	**83.55**	**40**	*e*P		**P**	**09 05 35.9**	**-0.6**	
	comp=Z,249nm,1.4s								
LTY				LR		LR			
	comp=Z,5µm,21.0s								
OKC	**Ostrava-Krasne**	**83.56**	**323**	⇓*e*P		**P**	**09 05 36.4**	**0.0**	
OKC				*e*pP		**pP**	**09 05 37.7**	**-2.7**	
OKC				*e*PP		PP	09 08 55.1	+6.8	
OKC				*e*SKS		**S**	**09 15 58.1**	**-0.1**	
OKC				*e*SS		SS	09 21 34.6	+11	
OKC				AMS		AMS	09 46 40.0		
	comp=Z,29µm,16.3s								
OKC	**Ostrava-Krasne**	**83.56**	**323**	*e*P		**P**	**09 05 36.4**	**0.0**	
OKC				*e*			09 08 55.1		
OKC				*e*			09 15 58.1		
OKC				MLR		MLR			
	comp=Z,29µm,16.3s								
ETW	**Entiat**	**83.56**	**40**	P		**P**	**09 05 36.2**	**-0.5**	
PLD	**Plovdiv**	**83.57**	**314**	P		**P**	**09 05 36.7**	**+0.1**	
PLD	**Plovdiv**	**83.57**	**314**	P		**P**	**09 05 36.7**	**+0.1**	
PLD	**Plovdiv**	**83.57**	**314**	P		**P**	**09 05 37.5**	**+0.9**	
PLD	**Plovdiv**	**83.57**	**314**	P		**P**	**09 05 36.7**	**+0.1**	
EZN	**Ezine**	**83.58**	**311**	*e*P		**P**	**09 05 36.7**	**0.0**	
MPEP	**Malo Peshtene**	**83.58**	**315**	P		**P**	**09 05 37.2**	**+0.5**	
PSZ	**Piszkesteto**	**83.60**	**321**	*e*P		**P**	**09 05 37.2**	**+0.4**	
PSZ				pmax		pmax			
	comp=Z,402nm,1.5s								
PSZ				MLR		MLR			
	comp=Z,27µm,22.0s								
PSZ	**Piszkesteto**	**83.60**	**321**	⇓*i*P		**P**	**09 05 38.0**	**+1.2**	
PSZ	**Piszkesteto**	**83.60**	**321**	*e*P		**P**	**09 05 37.2**	**+0.4**	
	comp=Z,402nm,1.5s								
PSZ				LR		LR			
	comp=Z,27µm,22.0s								
PSZ	**Piszkesteto**	**83.60**	**321**	⇓*e*P		**P**	**09 05 38.0**	**+1.2**	
IZM	**Izmir**	**83.60**	**310**	*e*P		**P**	**09 05 36.9**	**0.0**	
GADA	**Gvkgeada**	**83.69**	**312**	*e*P		**P**	**09 05 37.2**	**-0.1**	
PGB	**Panagyurishte**	**83.70**	**314**	P		**P**	**09 05 38.2**	**+0.8**	
PGB				P		**P**	**09 05 38.2**	**+0.8**	
SNART	**Snartemo**	**83.71**	**333**	*e*P		**P**	**09 05 34.6**	**-2.4**	
SNART				IAmb		IAmb	09 05 40.6		
	comp=Z,252nm,0.9s								
I03D	**Drain, OR**	**83.72**	**44**	⇓P		**P**	**09 05 37.5**	**+0.2**	
	baz=84								
WTV	**Waterville**	**83.73**	**40**	P		**P**	**09 05 37.0**	**-0.5**	
B08A	**Colville Reser**	**83.74**	**39**	*e*P		**P**	**09 05 37.0**	**-0.5**	
B08A				*e*P'P'df		P'P'df	09 31 58.2	-6.2	
BLCB	**Balcova**	**83.76**	**310**	*e*P		**P**	**09 05 36.9**	**-0.8**	
RZN	**Rozhen**	**83.77**	**313**	P		**P**	**09 05 38.7**	**+0.8**	
BZS	**Buzias**	**83.77**	**318**	P		**P**	**09 05 37.9**	**+0.2**	
BZS	**Buzias**	**83.77**	**318**	⇑*i*P		**P**	**09 05 37.2**	**-0.4**	
SMTH	**Samothraki Isl**	**83.81**	**312**	P		**P**	**09 05 36.7**	**-1.2**	
SMTH	**Samothraki Isl**	**83.81**	**312**	P		**P**	**09 05 36.7**	**-1.2**	
VLL	**Laurance Lake**	**83.87**	**42**	P		**P**	**09 05 38.4**	**+0.1**	
KBO	**Bosley Butte**	**83.89**	**46**	*e*P		**P**	**09 05 39.3**	**+0.9**	
	comp=Z,309nm,1.3s								
KBO				LR		LR			
	comp=Z,8µm,22.0s								
PRK	**Paraskevi**	**83.89**	**311**	P		**P**	**09 05 38.3**	**0.0**	
PRK	**Paraskevi**	**83.89**	**311**	*e*P		**P**	**09 05 38.0**	**-0.3**	
PRK	**Paraskevi**	**83.89**	**311**	P		**P**	**09 05 38.3**	**0.0**	
PRK	**Paraskevi**	**83.89**	**311**	P		**P**	**09 05 38.3**	**0.0**	
KMY	**Karmoy**	**83.90**	**335**	⇓*i*P		**P**	**09 05 38.2**	**+0.3**	
KMY				IAmb		IAmb	09 05 42.7		
	comp=Z,209nm,0.8s								
MORC	**Moravsky Berou**	**83.92**	**323**	*e*P		**P**	**09 05 38.8**	**+0.4**	
MORC				pmax		pmax			
	comp=Z,458nm,1.4s								
MORC				MLR		MLR			
	comp=Z,28µm,19.0s								
MORC	**Moravsky Berou**	**83.92**	**323**	⇓*i*P		**P**	**09 05 38.5**	**+0.1**	
MORC	**Moravsky Berou**	**83.92**	**323**	*e*P		**P**	**09 05 38.8**	**+0.4**	
	comp=Z,458nm,1.4s								
MORC				LR		LR			
	comp=Z,28µm,19.0s								
GCAM	**G?zelcaml?**	**83.95**	**309**	*i* P		**P**	**09 05 38.9**	**+0.2**	
H04A	**Detroit Lake**	**83.95**	**43**	*e*P		**P**	**09 05 38.4**	**-0.2**	
	comp=Z,275nm,1.2s								
ARG	**Arkhangelos**	**84.00**	**307**	P		**P**	**09 05 39.5**	**+0.5**	
ARG	**Arkhangelos**	**84.00**	**307**	*e*P		**P**	**09 05 39.5**	**+0.5**	
ARG	**Arkhangelos**	**84.00**	**307**	P		**P**	**09 05 39.5**	**+0.5**	
ARG	**Arkhangelos**	**84.00**	**307**	P		**P**	**09 05 39.5**	**+0.5**	
KSP	**Ksiaz**	**84.00**	**324**	*e*P		**P**	**09 05 38.7**	**0.0**	
KSP				*e*pP		**pP**	**09 05 40.2**	**-2.5**	
KSP				*e*S		**S**	**09 16 04.7**	**+2.1**	
KSP				LMZ		LR	09 43 11.1		
KSP	**Ksiaz**	**84.00**	**324**	*e*P		**P**	**09 05 38.7**	**0.0**	
KSP				*e*S		**S**	**09 16 04.7**	**+2.1**	
KSP				MLR		MLR			
	comp=Z,20nm,26.0s								
SAW	**Saint Andrews**	**84.05**	**39**	P		**P**	**09 05 38.5**	**-0.6**	
MUD	**Monsted U'grnd**	**84.09**	**331**	*i* P		**P**	**09 05 38.1**	**-0.9**	
	comp=Z,564nm,1.3s								
	comp=Z,21µm,14.0s								
MUD	**Monsted U'grnd**	**84.09**	**331**	*i* P		**P**	**09 05 38.1**	**-0.9**	
MUD				pmax		pmax			
	comp=Z,560nm,1.3s								
MUD				MLR		MLR			
	comp=Z,21µm,14.0s								
DAT	**Datca**	**84.15**	**308**	*e*P		**P**	**09 05 39.5**	**-0.3**	
EDM	**Edmonton**	**84.18**	**33**	*e*P		**P**	**09 05 39.2**	**-0.4**	
EDM				pmax		pmax			
	comp=Z,440nm,1.3s								
EDM				MLR		MLR			
	comp=Z,9µm,19.0s								
EDM	**Edmonton**	**84.18**	**33**	*e*P		**P**	**09 05 39.2**	**-0.4**	
	comp=Z,440nm,1.3s								
EDM				LR		LR			
	comp=Z,9µm,19.0s								
BANR	**Banloc**	**84.18**	**318**	⇓*i*P		**P**	**09 05 40.8**	**+1.1**	
BODT	**Bodrum**	**84.19**	**308**	*e*P		**P**	**09 05 40.3**	**+0.4**	
SIGR	**SIGRI**	**84.19**	**311**	*e*P		**P**	**09 05 40.2**	**+0.4**	
SIGR	**SIGRI**	**84.19**	**311**	P		**P**	**09 05 39.9**	**0.0**	
SIGR	**SIGRI**	**84.19**	**311**	*e*P		**P**	**09 05 39.5**	**-0.4**	
SIGR	**SIGRI**	**84.19**	**311**	P		**P**	**09 05 39.9**	**0.0**	
G05D	**Wamic, OR**	**84.20**	**42**	⇑P		**P**	**09 05 40.4**	**+0.6**	
	baz=84								
ZEY	**˙zmir**	**84.20**	**310**	*i* P		**P**	**09 05 39.5**	**-0.5**	
SMG	**Samos**	**84.22**	**309**	P		**P**	**09 05 40.2**	**+0.1**	
SMG	**Samos**	**84.22**	**309**	P		**P**	**09 05 40.2**	**+0.1**	
KAVA	**Kavala**	**84.23**	**313**	P		**P**	**09 05 40.5**	**+0.5**	
KAVA	**Kavala**	**84.23**	**313**	*e*P		**P**	**09 05 41.0**	**+1.0**	
KAVA	**Kavala**	**84.23**	**313**	P		**P**	**09 05 40.5**	**+0.5**	
DPC	**Dobruska-Polom**	**84.26**	**324**	*e*P		**P**	**09 05 40.4**	**+0.3**	
DPC				*e*pP		**pP**	**09 05 45.4**	**+1.3**	
DPC				*e*x		x	09 05 51.5		
DPC				*e*PP		PP	09 09 01.1	+7.0	
DPC				*e*S		**S**	**09 16 06.5**	**+1.1**	
DPC				*e*SP		**SPn**	**09 16 56.5**	**-0.1**	
DPC				*e*SS		**SS**	**09 21 36.6**	**+2.8**	
DPC				*e*PKKP		**PKKPbc**	**09 23 52.1**	**-1.2**	
DPC				AMS		AMS	09 47 10.0		
	comp=Z,26µm,14.6s								
DPC	**Dobruska-Polom**	**84.26**	**324**	*e*P		**P**	**09 05 40.8**	**+0.7**	
DPC	**Dobruska-Polom**	**84.26**	**324**	*e*P		**P**	**09 05 40.8**	**+0.7**	
	comp=Z,1µm,0.8s								
DPC				LR		LR			
	comp=Z,149µm,20.0s								
I04A	**Tendick Farm,**	**84.26**	**44**	⇑P		**P**	**09 05 39.5**	**-0.7**	
	baz=84								
VTS	**Vitosha**	**84.30**	**315**	P		**P**	**09 05 41.2**	**+0.7**	
VTS	**Vitosha**	**84.30**	**315**	P		**P**	**09 05 41.2**	**+0.7**	
VTS	**Vitosha**	**84.30**	**315**	⇓*i*P		**P**	**09 05 40.8**	**+0.2**	
VTS	**Vitosha**	**84.30**	**315**	P		**P**	**09 05 41.3**	**+0.7**	
VTS	**Vitosha**	**84.30**	**315**	P		**P**	**09 05 41.2**	**+0.7**	
LIA	**Limnos Island**	**84.32**	**312**	P		**P**	**09 05 40.0**	**-0.5**	
LIA	**Limnos Island**	**84.32**	**312**	*e*P		**P**	**09 05 40.5**	**0.0**	
LIA	**Limnos Island**	**84.32**	**312**	P		**P**	**09 05 40.0**	**-0.5**	
L02D	**Cave Junction,**	**84.32**	**46**	⇑P		**P**	**09 05 40.9**	**+0.4**	
	baz=84								
BUD	**Budapest**	**84.33**	**320**	⇓*e*P		**P**	**09 05 41.6**	**+1.2**	
UPC	**Upice**	**84.34**	**324**	⇓*e*P		**P**	**09 05 40.7**	**+0.3**	
UPC				*e*pP		**PcP**	**09 05 42.3**	**-1.8**	
UPC				*e*sP		**sP**	**09 05 45.5**	**-0.3**	
UPC				*e*x		x	09 05 53.2		
UPC	**Upice**	**84.34**	**324**	*e*P		**P**	**09 05 40.7**	**+0.3**	
UPC				*e*			09 05 53.2		
RUE	**Ruedersdorf**	**84.35**	**327**	*e*P		**P**	**09 05 41.4**	**+1.0**	
	comp=Z,751nm,1.2s								
RUE				*e*S		**S**	**09 16 07.0**	**+1.0**	
RUE	**Ruedersdorf**	**84.35**	**327**	*e*P		**P**	**09 05 41.0**	**+0.7**	
	comp=Z,472nm,0.9s								
RUE				LR		LR			
	comp=Z,33µm,20.0s								
E07A	**Sunnyside**	**84.39**	**41**	*e*P		**P**	**09 05 42.2**	**+1.4**	
	comp=Z,407nm,1.3s								
CHOS	**Chios island**	**84.44**	**310**	P		**P**	**09 05 40.9**	**-0.4**	
CHOS	**Chios island**	**84.44**	**310**	*e*P		**P**	**09 05 40.5**	**-0.8**	
CHOS	**Chios island**	**84.44**	**310**	P		**P**	**09 05 40.9**	**-0.4**	
MMB	**Musomiste**	**84.46**	**314**	⇓*i*P		**P**	**09 05 41.0**	**-0.3**	
MMB	**Musomiste**	**84.46**	**314**	P		**P**	**09 05 41.0**	**-0.3**	
NVR	**Nevrokopi**	**84.49**	**313**	P		**P**	**09 05 41.2**	**-0.2**	
NVR	**Nevrokopi**	**84.49**	**313**	*e*P		**P**	**09 05 41.0**	**-0.4**	
NVR	**Nevrokopi**	**84.49**	**313**	P		**P**	**09 05 41.2**	**-0.2**	
HUMO	**Hull Mountain**	**84.51**	**45**	*e*P		**P**	**09 05 42.1**	**+0.6**	
	comp=Z,182nm,1.2s								
HUMO				LR		LR			
	comp=Z,12µm,22.0s								
G06A	**Carlson Farm,**	**84.61**	**42**	*e*P		**P**	**09 05 41.8**	**-0.2**	
	comp=Z,394nm,1.4s								
C09A	**Chrisman Ranch**	**84.64**	**39**	*e*P		**P**	**09 05 42.0**	**0.0**	
	comp=Z,460nm,1.4s								
I05D	**Terrebonne, OR**	**84.65**	**43**	⇓P		**P**	**09 05 41.7**	**-0.5**	
	baz=84								
HAWA	**Hanford**	**84.66**	**41**	*e*P		**P**	**09 05 42.1**	**0.0**	
	comp=Z,220nm,1.1s								
HAWA				LR		LR			
	comp=Z,5µm,20.0s								
D08A	**Wollman Farm,**	**84.67**	**40**	*e*P		**P**	**09 05 41.9**	**-0.3**	
	comp=Z,293nm,1.0s								
SMOL	**Smolenice**	**84.67**	**322**	*e*P		**P**	**09 05 43.9**	**+1.7**	
SMOL	**Smolenice**	**84.67**	**322**	*e*P		**P**	**09 05 43.9**	**+1.7**	
VRAC	**Vranov**	**84.69**	**323**	P		**P**	**09 05 42.5**	**+0.2**	
	comp=Z,285nm,1.1s,baz=62,slow=5.2,SNR=196								
VRAC				S		**S**	**09 16 11.7**	**+2.1**	
	comp=Z,1.2nm,0.3s,baz=186,slow=19,SNR=2.6								
VRAC	**Vranov**	**84.69**	**323**	⇓*i*P		**P**	**09 05 43.7**	**+1.4**	
J04D	**Umpqua Nationa**	**84.73**	**44**	⇓P		**P**	**09 05 42.8**	**0.0**	
	baz=84								
PKSG		**84.74**	**321**	⇓*e*P		**P**	**09 05 43.3**	**+0.8**	
KKB	**Krupnik**	**84.74**	**314**	P		**P**	**09 05 43.1**	**+0.5**	
SRS	**Serrai**	**84.78**	**313**	*e*P		**P**	**09 05 43.5**	**+0.6**	
KHMM	**Horse Mountain**	**84.87**	**47**	*e*P		**P**	**09 05 43.8**	**+0.3**	
	comp=Z,281nm,1.4s								
KHMM				LR		LR			
	comp=Z,7µm,19.0s								
OUR	**Ouranopolis**	**84.91**	**312**	*e*P		**P**	**09 05 43.4**	**-0.1**	
OUR	**Ouranopolis**	**84.91**	**312**	P		**P**	**09 05 43.4**	**-0.1**	
OUR	**Ouranopolis**	**84.91**	**312**	*e*P		**P**	**09 05 44.0**	**+0.5**	
OUR	**Ouranopolis**	**84.91**	**312**	P		**P**	**09 05 43.4**	**-0.1**	
OUR	**Ouranopolis**	**84.91**	**312**	P		**P**	**09 05 43.4**	**-0.1**	
KARP	**Karpathos**	**85.00**	**307**	P		**P**	**09 05 44.2**	**+0.1**	
KARP	**Karpathos**	**85.00**	**307**	*e*P		**P**	**09 05 44.0**	**-0.1**	
KARP	**Karpathos**	**85.00**	**307**	P		**P**	**09 05 44.2**	**+0.1**	
PKST	**T˙˙s**	**85.02**	**321**	*e*P		**P**	**09 05 43.9**	**0.0**	
NEW	**Newport**	**85.03**	**38**	P		**P**	**09 05 43.6**	**-0.4**	
	comp=Z,53nm,0.8s,baz=302,slow=4.7,SNR=70								
NEW	**Newport**	**85.03**	**38**	P		**P**	**09 05 43.6**	**-0.4**	
NEW				MLR		MLR			
	comp=Z,7µm,18.0s								
NEW	**Newport**	**85.03**	**38**	P		**P**	**09 05 43.6**	**-0.4**	
NEW				LR		LR			
	comp=Z,7µm,18.0s								
NEW	**Newport**	**85.03**	**38**	⇓P		**P**	**09 05 43.7**	**-0.3**	
	baz=85								
PVCC	**Panska Ves**	**85.08**	**325**	⇓*e*P		**P**	**09 05 44.8**	**+0.6**	
PVCC				*e*pP		**PcP**	**09 05 46.2**	**-1.2**	
PVCC				*e*sP		**sP**	**09 05 49.4**	**-0.2**	
PVCC				*e*x		x	09 05 55.3		
PVCC				*e*PP		**PP**	**09 09 04.5**	**+3.8**	
PVCC				*e*SKS		**SKSac**	**09 16 10.8**	**+2.1**	
PVCC				*e*SP		**SPn**	**09 17 08.6**	**+2.1**	
PVCC				*e*SS		**SS**	**09 21 49.8**	**+4.0**	
PVCC				*e*PKKP		**PKKPbc**	**09 23 51.1**	**-0.2**	
PVCC				AMS		AMS	09 47 50.0		
	comp=Z,28µm,13.9s								
PVCC	**Panska Ves**	**85.08**	**325**	*e*P		**P**	**09 05 44.8**	**+0.6**	
PVCC				*e*			09 05 55.3		
PVCC				*e*			09 09 04.5		
PVCC				*e*			09 16 10.8		
PVCC				*e*SP		SP	09 17 08.6		
PVCC				*e*SS		**SS**	**09 21 49.8**	**+4.0**	
PVCC				MLR		MLR			
	comp=Z,28µm,13.9s								
SOH	**Sokhos**	**85.08**	**313**	*e*P		**P**	**09 05 44.5**	**+0.1**	
YBH	**Yreka Blue Hor**	**85.11**	**46**	P		**P**	**09 05 44.6**	**0.0**	
	comp=Z,131nm,1.2s,baz=242,slow=1.6,SNR=39								
YBH	**Yreka Blue Hor**	**85.11**	**46**	P		**P**	**09 05 44.6**	**0.0**	
YBH				pmax		pmax			
	comp=Z,131nm,1.2s								
YBH	**Yreka Blue Hor**	**85.11**	**46**	*e*P		**P**	**09 05 45.0**	**+0.4**	
YBH				LR		LR			
	comp=Z,8µm,22.0s								
BSEG	**Bad Segeberg**	**85.15**	**329**	*e*P		**P**	**09 05 45.2**	**+0.8**	
	comp=Z,334nm,1.3s								
BSEG				*e*S		**S**	**09 16 15.9**	**+2.0**	
M02C	**Callahan**	**85.19**	**46**	⇑P		**P**	**09 05 45.1**	**+0.1**	
	baz=85								
KMRM	**Mail Ridge**	**85.21**	**48**	*e*P		**P**	**09 05 46.6**	**+1.5**	
	comp=Z,169nm,1.2s								
KMRM				LR		LR			
	comp=Z,15µm,22.0s								
BRG	**Berggiesshubel**	**85.21**	**325**	*i* P		**P**	**09 05 45.2**	**+0.5**	
	comp=Z,225nm,1.3s								
BRG				PP		**PP**	**09 08 57.0**	**-4.7**	
BRG				S		**S**	**09 16 12.0**	**-2.6**	
BRG				PKKP		**PKKPbc**	**09 23 50.4**	**-0.7**	
	comp=Z,6.3nm,1.2s								
BRG				*e*PKPPKP		**P'P'df**	**09 31 57.2**	**-4.5**	
	comp=Z,3.2nm,0.8s								
	comp=N,17µm,15.9s								
	comp=E,15µm,15.2s								
	comp=Z,33µm,16.8s								
BRG	**Berggiesshubel**	**85.21**	**325**	*e*P		**P**	**09 05 45.5**	**+0.7**	
	comp=Z,225nm,1.4s								
BRG				*e*S		**S**	**09 16 16.5**	**+1.9**	
BRG	**Berggiesshubel**	**85.21**	**325**	*i* P		**P**	**09 05 45.2**	**+0.5**	
BRG							09 08 57.0		
BRG				S		**S**	**09 16 12.0**	**-2.6**	
BRG				pmax		pmax			
	comp=Z,225nm,1.3s								
BRG				MLR		MLR			
	comp=N,17µm,15.9s								
BRG				MLR		MLR			
	comp=E,15µm,15.2s								
BRG				MLR		MLR			
	comp=Z,33µm,16.8s								
KNT	**Kendrikon**	**85.21**	**314**	*e*P		**P**	**09 05

CLL eS S 09 16 16.5 -0.3
CLL Collm 85.43 326 eP P 09 05 45.0 -0.9
CLL ⇑iPmax 09 05 47.3
comp=Z,263nm,1.3s
CLL ePmax 09 05 49.0
CLL iSP sP 09 05 50.2 -1.1
comp=Z,268nm,0.9s
CLL i 09 05 56.1
CLL e 09 06 15.0
CLL ePP PP 09 09 06.0 +2.5
CLL ePPmax 09 09 13.0
CLL eS S 09 16 15.0 -1.8
CLL ePS PnS 09 17 13.0 +0.5
CLL eSS SS 09 21 54.0 +3.1
CLL ePKKPdf PKKPdf 09 23 39.0 -2.9
CLL ePKKPbc PKKPbc 09 23 50.0 -0.5
CLL e 09 26 30.0
CLL ePKPPKPdP'P'df 09 31 56.0 -5.2
CLL LmV 09 48 00.0
comp=Z,39µm,18.7s
CLL Collm 85.43 326 eP P 09 05 45.0 -0.9
CLL i 09 05 56.1
CLL eS S 09 16 15.0 -1.8
CLL pmax pmax
comp=Z,263nm,1.3s
CLL MLR MLR
comp=Z,39µm,18.7s
CLL Collm 85.43 326 eP P 09 05 45.3 -0.5
comp=Z,269nm,0.8s
CLL LR LR
comp=Z,47µm,18.0s
THE Thessaloniki 85.44 313 eP P 09 05 45.5 -0.6
APE Apeiranthos 85.44 309 eP P 09 05 45.5 -0.8
APE Apeiranthos 85.44 309 iP P 09 05 44.3 -2.0
APE pmax pmax
comp=Z,98nm,1.7s
APE Apeiranthos 85.44 309⇑iP P 09 05 44.9 -1.4
N02D Trinity Center 85.49 46⇓P P 09 05 47.0 +0.5
baz=85
DIVS Divibare 85.55 317 P P 09 05 46.0 -0.7
DIVS Divibare 85.55 317⇓iP P 09 05 46.1 -0.7
AOS Alonnisos 85.55 311 P P 09 05 46.2 -0.5
AOS Alonnisos 85.55 311 eP P 09 05 46.5 -0.2
AOS Alonnisos 85.55 311 P P 09 05 46.2 -0.5
KCPM Cahto Peak 85.56 48 eP P 09 05 47.3 +0.4
comp=Z,119nm,1.2s
KCPM LR LR
comp=Z,6µm,20.0s
LRW Lerwick 85.58 338 eP P 09 05 45.3 -1.1
G08A Pilot Rock 85.59 41 eP P 09 05 47.1 +0.1
comp=Z,210nm,1.4s
G08A ePKKPbc PKKPbc 09 23 51.5 +1.3
G08A eP'P'df P'P'df 09 31 58.9 -2.2
SOP Sopron 85.62 322⇓eP P 09 05 47.9 +1.0
GRG Griva 85.64 314 eP P 09 05 46.5 -0.7
GRG Griva 85.64 314 P P 09 05 46.5 -0.7
GRG Griva 85.64 314 eP P 09 05 45.5 -1.7
GRG Griva 85.64 314 P P 09 05 46.5 -0.7
GRG Griva 85.64 314 P P 09 05 46.5 -0.7
M004C Macdoel 85.64 45⇑P P 09 05 47.3 -0.1
baz=85
WAL1 Walls 85.64 338 eP P 09 05 45.6 -1.2
SAN1 Sandwick 85.69 338 eP P 09 05 45.7 -1.3
SKO Skopje 85.75 315 P P 09 05 48.0 +0.3
SKO Skopje 85.75 315 iP P 09 05 48.1 +0.5
SKO Skopje 85.75 315 P P 09 05 48.0 +0.3
SKO Skopje 85.75 315 P P 09 05 48.0 +0.3
K05A Summer Lake 85.76 44 eP P 09 05 48.4 +0.4
comp=Z,331nm,1.1s
WDC Whiskeytown Da 85.80 47 eP P 09 05 48.0 +0.1
WDC pmax pmax
comp=Z,161nm,1.1s
WDC MLR MLR
comp=Z,7µm,20.0s
WDC Whiskeytown Da 85.80 47 eP P 09 05 48.0 +0.1
comp=Z,160nm,1.1s
WDC LR LR
comp=Z,7µm,20.0s
SANT Santorini 85.83 308 eP P 09 05 46.9 -1.3
comp=Z,540nm,1.4s
SANT LR LR
comp=Z,8µm,21.0s
CONA Conrad Observa 85.87 322⇑iPcP P 09 05 48.6 +0.4
comp=Z,1µm,2.0s,SNR=205
ZKR Zakros 85.89 307 P P 09 05 48.6 +0.1
ZKR Zakros 85.89 307 P P 09 05 48.6 +0.1
I07A Izee 85.91 43 eP P 09 05 48.2 -0.4
comp=Z,275nm,1.5s
XOR Xorichti 85.92 312 P P 09 05 47.7 -0.9
XOR Xorichti 85.92 312 eP P 09 05 47.0 -1.6
XOR Xorichti 85.92 312 P P 09 05 47.7 -0.9
NEO Neokhori 85.93 312 eP P 09 05 48.0 -0.6
MRKA Markates 85.98 311 P P 09 05 47.2 -1.7
MRKA Markates 85.98 311 eP P 09 05 48.0 -0.9
LIT Litokhoron 86.02 313 P P 09 05 48.5 -0.6
LIT Litokhoron 86.02 313 eP P 09 05 48.0 -1.1
LIT Litokhoron 86.02 313 P P 09 05 48.5 -0.6
LIT Litokhoron 86.02 313 P P 09 05 48.5 -0.6
HLG Helgoland 86.10 330 eP P 09 05 49.4 +0.3
HLG eS S 09 16 21.9 -1.4
NEUB Neuenburg 86.11 326 eP P 09 05 49.7 +0.5
comp=Z,364nm,1.8s
NEUB eS S 09 16 23.6 +0.1
NRDL Niedersach Rie 86.14 328 eP P 09 05 50.0 +0.7
comp=Z,207nm,1.8s
NRDL eS S 09 16 27.1 +3.5
SMIA Simia 86.15 311 eP P 09 05 50.5 +0.8
BEHE Becsehely 86.17 320⇓eP P 09 05 50.6 +0.9
F10A Beach Ranch, E 86.24 40 eP P 09 05 50.1 0.0
comp=Z,129nm,1.3s
F10A LR LR
comp=Z,4µm,20.0s
TANN Tannenbergstha 86.24 325 eP P 09 05 49.7 -0.3
comp=Z,122nm,1.5s
TANN eS S 09 16 26.0 +1.0
HOPS Hopland Field 86.25 48 eP P 09 05 50.5 +0.3
comp=Z,22nm,1.1s
HOPS LR LR
comp=Z,3µm,20.0s
NPS Neapolis 86.25 307 P P 09 05 50.0 -0.3
NPS Neapolis 86.25 307 eP P 09 05 50.5 +0.2
NPS Neapolis 86.25 307 P P 09 05 50.0 -0.3
NPS Neapolis 86.25 307 P P 09 05 50.0 -0.3
IVA Berane 86.25 316 eP P 09 05 50.2 -0.1
ATH Athens Observa 86.25 310 eP P 09 05 51.0 +0.8
PLE Pljevlja 86.32 317⇓iP P 09 05 51.2 +0.6
WALA Waterton Lakes 86.33 36 eP P 09 05 50.5 -0.1
comp=Z,213nm,1.1s
WALA LR LR
comp=Z,9µm,21.0s
NKC Novy Kostel 86.36 325⇓AMS AMS 09 48 30.0
comp=Z,24µm,16.0s
PVY Plav 86.36 316⇓iP P 09 05 51.1 +0.3
KZN Kozani 86.39 313 P P 09 05 49.9 -1.0
KZN Kozani 86.39 313 eP P 09 05 50.0 -1.0
KZN Kozani 86.39 313 P P 09 05 49.9 -1.0
KZN Kozani 86.39 313 P P 09 05 49.9 -1.0
LAST Lasithi 86.39 307 P P 09 05 51.1 0.0
LAST Lasithi 86.39 307 eP P 09 05 51.5 +0.4
LAST Lasithi 86.39 307 P P 09 05 51.1 0.0
FNA Florina 86.40 314 eP P 09 05 49.4 -1.6
FNA Florina 86.40 314 P P 09 05 50.0 -1.0
FNA Florina 86.40 314 eP P 09 05 50.0 -1.0
FNA Florina 86.40 314 P P 09 05 50.0 -1.0
FNA Florina 86.40 314 P P 09 05 50.0 -1.0
LKR Lokris 86.41 311 P P 09 05 49.3 -1.7
LKR Lokris 86.41 311 eP P 09 05 49.5 -1.5
LKR Lokris 86.41 311 P P 09 05 49.3 -1.7
CLZ Clausthal 86.42 327 eP P 09 05 51.2 +0.4
comp=Z,84nm,1.1s
CLZ eS S 09 16 27.2 +0.6
KHC Kasperske Hory 86.42 324 eP P 09 05 50.3 -0.6
KHC epP PcP 09 05 51.5 -1.9
KHC ex x 09 05 55.8
KHC ex x 09 06 02.1
KHC ePP PP 09 09 13.3 +1.7
KHC eS S 09 16 22.2 -4.5
KHC eSP SPn 09 17 22.9 +0.2
KHC eSS SS 09 22 12.3 +6.7
KHC ePKKP PKKPbc 09 23 46.6 -1.6
KHC AMS AMS 09 48 20.0
comp=Z,42µm,15.6s
KHC Kasperske Hory 86.42 324 eP P 09 05 50.3 -0.6
KHC e 09 06 02.1
KHC e 09 09 13.3
KHC e 09 16 22.2
KHC eSP SPn 09 17 22.9 +0.2
KHC eSS SS 09 22 12.3 +6.7
KHC MLR MLR
comp=Z,42µm,15.6s
ARSA Arzberg 86.44 322 iPcP P 09 05 51.4 +0.4
comp=Z,2µm,4.2s,SNR=61
NAIG Nisos Aigina 86.52 310 eP P 09 05 49.0 -2.5
GEC2 GERESS Array S 86.52 324 eP P 09 05 52.8 +1.3
comp=Z,191nm,1.4s
GEC2 GERESS Array S 86.52 324 eP P 09 05 51.2 -0.3
GEC2 GERESS Array S 86.52 324 eP P 09 05 51.2 -0.3
GERES GERESS Array B 86.52 324 P P 09 05 50.5 -0.9
comp=Z,65nm,1.0s,baz=46,slow=5.8,SNR=100
GERES PKKPbc PKKPbc 09 23 47.5 -0.6
comp=Z,2.7nm,0.8s,baz=204,slow=2.9,SNR=10
PHP Peshkopia 86.53 315 iPN P 09 05 51.8 +0.2
MOX Moxa 86.53 326 eP P 09 05 52.0 +0.6
comp=Z,61nm,1.2s
MOX eS S 09 16 27.2 -0.5
MOX eL L 09 49 46.1
comp=Z,15µm,18.5s
BSMT Bassoo Peak 86.56 38 eP P 09 05 51.9 +0.1
comp=Z,284nm,1.3s
MOD Modoc Plateau 86.56 45 P P 09 05 51.6 -0.3
AXAR Agios Charalam 86.58 312 eP P 09 05 48.0 -3.8
OHR Ohrid 86.60 314 iP P 09 05 51.4 -0.6
THL Klokotos Trika 86.60 313 P P 09 05 50.1 -1.8
THL Klokotos Trika 86.60 313 eP P 09 05 50.5 -1.4
AGG Agios Georgios 86.67 312 eP P 09 05 50.0 -2.3
AGG Agios Georgios 86.67 312 P P 09 05 50.7 -1.6
AGG Agios Georgios 86.67 312 eP P 09 05 50.5 -1.8
AGG Agios Georgios 86.67 312 eP P 09 05 51.1 -1.2
AGG MLR MLR
comp=Z,8µm,22.0s
AGG Agios Georgios 86.67 312 eP P 09 05 51.1 -1.2
AGG LR LR
comp=Z,8µm,22.0s
MANZ Manzenberg 86.68 325 eP P 09 05 52.0 -0.1
comp=Z,143nm,1.5s
MANZ eS S 09 16 27.8 -1.4
UPM Unac-Piva 86.69 317 eP P 09 05 52.0 -0.5
PUK Puka 86.69 316 iPN P 09 05 52.2 -0.2
BLMT Blacktail Moun 86.70 37 eP P 09 05 53.2 +0.7
comp=Z,269nm,1.3s
LTK Loutraki 86.74 311 P P 09 05 50.0 -2.7
LTK Loutraki 86.74 311 eP P 09 05 50.0 -2.7
LTK Loutraki 86.74 311 P P 09 05 50.0 -2.7
IDI Anoyia 86.75 308 P P 09 05 52.0 -0.8
comp=Z,8.6nm,0.6s,baz=7.3,slow=18,SNR=9.4
IDI S S 09 16 24.2 -6.4
comp=Z,2.1nm,0.6s,baz=286,slow=20,SNR=2.9
ROTZ Rotzenmuhle 86.76 325 eP P 09 05 52.3 -0.2
comp=Z,213nm,1.4s
ROTZ eS S 09 16 29.0 -0.9
WET Wettzell 86.78 324 eP P 09 05 52.6 -0.1
comp=Z,117nm,1.5s
WET eS S 09 16 29.6 -0.6
MOA Molln 86.80 323⇑iPcP P 09 05 53.1 +0.4
comp=Z,1µm,3.2s,SNR=50
MCCM Marconi Confer 86.80 49 eP P 09 05 51.1 -1.8
comp=Z,175nm,1.0s
MCCM LR LR
comp=Z,8µm,19.0s
NEST Nestorio 86.80 314 P P 09 05 51.6 -1.4
NEST Nestorio 86.80 314 eP P 09 05 52.5 -0.5
MAKR Makrakomi, Fth 86.81 312 P P 09 05 52.0 -1.0
MAKR Makrakomi, Fth 86.81 312 eP P 09 05 51.0 -2.0
MAKR Makrakomi, Fth 86.81 312 P P 09 05 52.0 -1.0
BMO Blue Mountains 86.81 41 eP P 09 05 52.3 -0.7
comp=Z,198nm,1.3s
BMO LR LR
comp=Z,6µm,21.0s
DID Didima 86.82 310 P P 09 05 49.8 -3.3
DID Didima 86.82 310 eP P 09 05 50.5 -2.6
DID Didima 86.82 310 P P 09 05 49.8 -3.3
NKY Niksic 86.84 317⇓iP P 09 05 52.9 -0.3
DSF Desfina 86.85 311 eP P 09 05 51.0 -2.2
KBN Korca 86.86 314 iPN P 09 05 52.5 -0.8
TTG Podgorica 86.89 316⇓iP P 09 05 52.8 -0.4
NKME Niksic 86.89 316⇓iP P 09 05 52.8 -0.6
JTMT Jette 86.90 37 eP P 09 05 53.4 0.0
comp=Z,133nm,1.2s
SIVA Sivas 86.94 307 P P 09 05 53.7 0.0
SIVA Sivas 86.94 307 eP P 09 05 54.0 +0.3
SIVA Sivas 86.94 307 P P 09 05 53.7 0.0
YBMT Yellow Bay 86.98 37 eP P 09 05 53.8 0.0
comp=Z,93nm,1.3s
PERS Pernice 87.02 321 eP P 09 05 53.6 -0.4
PERS eSKSac SKSac 09 16 26.3 +5.2
SOKA Soboth 87.05 321⇓iPcP P 09 05 54.3 +0.2
comp=Z,1µm,2.8s,SNR=38
DRME Dracevica, Mon 87.06 316⇓iP P 09 05 54.2 +0.1
EVR Evrytania 87.07 312 eP P 09 05 51.5 -2.9
TIR Tirane 87.08 315 iPN P 09 05 54.6 +0.4
TIR Tirane 87.08 315 eP P 09 05 54.4 +0.2
TIR pmax pmax
comp=Z,242nm,1.0s
TIR MLR MLR
comp=Z,15µm,20.0s
TIR Tirane 87.08 315 eP P 09 05 54.4 +0.2
comp=Z,242nm,1.0s
TIR LR LR
comp=Z,15µm,20.0s
BRY Bratogost 87.08 317⇓iP P 09 05 53.2 -1.2
BORG Borgarnes 87.08 348 P P 09 05 53.9 +0.1
comp=Z,184nm,1.2s,baz=28,slow=4.6,SNR=18
BORG Borgarnes 87.08 348 P P 09 05 53.9 +0.1
BORG pmax pmax
comp=Z,184nm,1.2s
BORG Borgarnes 87.08 348 eP P 09 05 54.0 +0.3
BORG LR LR
comp=Z,10µm,21.0s
KALE Kalithea 87.12 311 P P 09 05 53.0 -1.6
KALE Kalithea 87.12 311 eP P 09 05 53.5 -1.1
KALE Kalithea 87.12 311 P P 09 05 53.0 -1.6
ULC Ulcinj 87.14 316⇓iP P 09 05 53.7 -0.9
BUM Brajici-Budva 87.18 316⇓iP P 09 05 53.7 -1.1
VAM Vamos 87.19 308 P P 09 05 52.5 -2.4
VAM Vamos 87.19 308 eP P 09 05 53.0 -1.9
VAM Vamos 87.19 308 P P 09 05 52.5 -2.4
VAM Vamos 87.19 308 P P 09 05 52.5 -2.4
SWMT Swartz Lake 87.19 38 eP P 09 05 54.4 -0.4
comp=Z,138nm,1.2s
GUR Goura 87.21 311 P P 09 05 53.4 -1.6
GUR Goura 87.21 311 eP P 09 05 53.5 -1.6
GUR Goura 87.21 311 P P 09 05 53.4 -1.6
UBBA Unterbreizbach 87.23 327 eP P 09 05 54.7 +0.1
comp=Z,66nm,1.2s
UBBA eS S 09 16 31.9 -2.3
EFP Efpalio 87.26 312 P P 09 05 53.9 -1.2
EFP Efpalio 87.26 312 eP P 09 05 54.5 -0.6
KLV Kalavryta, Ach 87.29 311 P P 09 05 53.9 -1.4
KLV Kalavryta, Ach 87.29 311 eP P 09 05 54.0 -1.4
KLV Kalavryta, Ach 87.29 311 P P 09 05 53.9 -1.4
GRF Grafenberg Arr 87.31 325 eP P 09 05 55.3 +0.1
comp=Z,294nm,1.6s
GRF eS S 09 16 32.5 -2.8
GRF eL L 09 49 32.4
comp=Z,20µm,18.9s
GRFO Grafenberg 87.32 325 eP P 09 05 55.8 +0.6
GRFO pmax pmax
comp=Z,188nm,1.2s
GRFO MLR MLR
comp=Z,14µm,18.0s
GRFO Grafenberg 87.32 325 eP P 09 05 55.8 +0.6
comp=Z,188nm,1.2s
GRFO LR LR
comp=Z,14µm,18.0s
JAN Janina 87.33 313 eP P 09 05 55.5 0.0
WVOR Wild Horse Val 87.33 44 eP P 09 05 55.2 -0.4
WVOR pmax pmax
comp=Z,123nm,1.0s
WVOR MLR MLR
comp=Z,5µm,19.0s
WVOR Wild Horse Val 87.33 44 eP P 09 05 55.1 -0.4
comp=Z,123nm,1.0s
WVOR LR LR
comp=Z,5µm,19.0s
HCY Herceg Novi 87.35 316⇓iP P 09 05 54.6 -0.9
IBBN Ibbenburen 87.37 329 eP P 09 05 55.3 -0.1
comp=Z,211nm,1.5s
IBBN eS S 09 16 31.3 -4.4
KARN Karanos 87.39 308 P P 09 05 55.2 -0.7
KARN Karanos 87.39 308 eP P 09 05 56.0 +0.1
KARN Karanos 87.39 308 P P 09 05 55.2 -0.7
SAC San Andreas 87.40 49 eP P 09 05 51.9 -4.0
SAC pmax pmax
comp=Z,235nm,1.1s
SAC San Andreas 87.40 49 eP P 09 05 51.9 -4.0
comp=Z,235nm,1.1s
OBKA Obir 87.42 321⇑iP P 09 05 54.6 -1.3
comp=Z,1µm,3.4s,SNR=29
PDKS Podkum 87.42 321 eP P 09 05 55.4 -0.4
VLI Veliai 87.42 310 P P 09 05 53.5 -2.5
VLI Veliai 87.42 310 P P 09 05 53.5 -2.5
DSL Palaion Diasel 87.44 313 P P 09 05 54.6 -1.4
DSL Palaion Diasel 87.44 313 eP P 09 05 55.0 -1.0
DSL Palaion Diasel 87.44 313 P P 09 05 54.6 -1.4
VLX Vlachokerasia 87.47 311 P P 09 05 54.7 -1.6
VLX Vlachokerasia 87.47 311 eP P 09 05 56.0 -0.3
VLX Vlachokerasia 87.47 311 P P 09 05 54.7 -1.6
GVD Gavdhos 87.55 308 eP P 09 05 57.0 +0.4
GVD Gavdhos 87.55 308 eP P 09 05 59.7 +3.1
comp=Z,269nm,0.7s
GVD LR LR
comp=Z,18µm,21.0s
SFJD Kangerlussuaq 87.55 0 iP P 09 05 54.4 -1.6
comp=Z,241nm,0.9s
comp=Z,16µm,23.0s
SFJD Kangerlussuaq 87.55 0 P P 09 05 54.9 -1.0
comp=Z,212nm,0.9s,baz=8.6,slow=5.7,SNR=26
SFJD Kangerlussuaq 87.55 0 iP P 09 05 54.4 -1.6
SFJD pmax pmax
comp=Z,240nm,0.9s
SFJD MLR MLR
comp=Z,16µm,23.0s
SFJD Kangerlussuaq 87.55 0 eP P 09 05 54.6 -1.4
comp=Z,275nm,0.9s
SFJD LR LR
comp=Z,18µm,22.0s
KYTH Kithira 87.57 309 eP P 09 05 57.0 +0.3
ANKY Antikythira Is 87.59 309 P P 09 05 56.1 -0.7
ANKY Antikythira Is 87.59 309 eP P 09 05 56.0 -0.7
ANKY Antikythira Is 87.59 309 P P 09 05 56.1 -0.7
BOJS Bojanci 87.59 320 eP P 09 05 57.1 +0.5
BOJS eSKSac SKSac 09 16 29.8 +5.3
BOJS eSS SS 09 22 29.1 +6.2
STON Ston 87.61 317 P P 09 05 55.8 -0.9
MSO Missoula 87.62 38 eP P 09 05 56.2 -0.7
comp=Z,140nm,1.2s
MSO ePKKPdf PKKPbc 09 23 45.6 +0.2
MSO LR LR
comp=Z,10µm,21.0s
MSO Missoula 87.62 38⇓P P 09 05 56.4 -0.4
baz=87
SLMT Seeley Lake 87.62 38 eP P 09 05 56.2 -0.8
comp=Z,320nm,1.2s
DRO Drossia 87.63 311 eP P 09 05 56.5 -0.5
PDO Prodromos 87.66 312 P P 09 05 56.4 -0.6
PDO Prodromos 87.66 312 eP P 09 05 56.0 -1.0
RJOB Jochberg 87.66 323 eP P 09 05 57.1 +0.1
comp=Z,142nm,1.1s
RJOB eS S 09 16 36.1 -2.7
LJU Ljubljana 87.70 321 eP P 09 05 58.2 +1.0
LJU i 09 06 12.0
LJU eSKSac SKSac 09 16 31.3 +6.1
MLA1 Latheron 87.70 337 eP P 09 05 56.0 -0.8
IGT Igoumenitsa 87.73 313 eP P 09 05 56.7 -0.7
IGT Igoumenitsa 87.73 313 eP P 09 05 57.0 -0.4
RLS Riolos of Patr 87.74 311 eP P 09 05 57.0 -0.5
KBA Koelnbreinsper 87.75 322 iPcP P 09 05 57.1 -0.5
comp=Z,422nm,1.8s,SNR=35
SGD Sagiada 87.75 313 eP P 09 05 57.5 0.0
SGD Sagiada 87.75 313 eP P 09 05 57.5 0.0
SRN Sarande 87.77 314 iPN P 09 05 57.5 0.0
AMT Artemida-Makis 87.85 311 P P 09 05 54.3 -3.7
AMT Artemida-Makis 87.85 311 eP P 09 05 56.5 -1.5
UDBI Udbina 87.85 319 P P 09 05 58.4 +0.5
MYKA Terra Mystica 87.85 322⇓iP P 09 05 57.1 -0.9
comp=Z,413nm,2.3s,SNR=21
ITM Ithomi 87.88 311 P P 09 05 57.3 -0.9
ITM Ithomi 87.88 311 eP P 09 05 57.5 -0.7
ITM Ithomi 87.88 311 eP P 09 05 57.5 -0.7
ITM Ithomi 87.88 311 P P 09 05 57.3 -0.9
LKD2 Lefkada island 87.91 312 P P 09 05 57.5 -0.8
LKD2 Lefkada island 87.91 312 eP P 09 05 58.0 -0.3
LKD2 Lefkada island 87.91 312 P P 09 05 57.5 -0.8
CHMT Chamberlain Mo 87.95 38 eP P 09 05 58.3 -0.3
comp=Z,86nm,1.5s
KEK Kerkira 87.99 314 P P 09 05 58.0 -0.6
KEK Kerkira 87.99 314 eP P 09 05 58.0 -0.6
KEK Kerkira 87.99 314 P P 09 05 58.0 -0.6
CADS Cadrg 88.04 321 eP P 09 05 57.2 -1.6
WTSB Winterswijk 88.04 329 eP P 09 05 58.6 0.0
comp=Z,169nm,1.4s
JAVS Javornik 88.05 321 eP P 09 05 58.7 -0.2
JAVS iSKSac SKSac 09 16 30.3 +2.8
PYL PYLOS 88.16 310 P P 09 05 58.3 -1.2
PYL PYLOS 88.16 310 eP P 09 05 57.0 -2.5
PYL PYLOS 88.16 310 P P 09 05 58.3 -1.2
BUG Bochum--Univer 88.17 328 eP P 09 05 58.9 -0.3
comp=Z,144nm,1.2s
BUG eS S 09 16 38.4 -4.9
KFL Anninata 88.17 312 P P 09 05 59.0 -0.5
MCD Coleburn Disti 88.21 337 eP P 09 05 57.9 -1.4
FUR Furstenfeldbru 88.22 324 eP P 09 06 00.0 +0.4
comp=Z,379nm,1.3s
FUR eS S 09 16 37.9 -6.1
FCC Fort Churchill 88.24 21 eP P 09 05 58.5 -0.9
FCC pmax pmax
comp=Z,268nm,1.0s
FCC MLR MLR
comp=Z,12µm,18.0s
FCC Fort Churchill 88.24 21 eP P 09 05 58.5 -0.9
comp=Z,268nm,1.0s
FCC LR LR
comp=Z,12µm,18.0s
VLS Valsamata 88.27 312 P P 09 05 57.8 -2.2
VLS Valsamata 88.27 312 eP P 09 05 59.5 -0.5
VLS Valsamata 88.27 312 P P 09 05 57.8 -2.2
VLS Valsamata 88.27 312 P P 09 05 57.8 -2.2
MVH1 Achvaich 88.27 337 eP P 09 05 58.0 -1.6
MVH1 eP P 09 05 58.2 -1.4
SKDS Skadanscina 88.28 321 iP P 09 05 59.0 -0.9
FFC Flin Flon 88.33 27 eP P 09 05 59.3 -0.6
FFC pmax pmax
comp=Z,226nm,1.0s
FFC MLR MLR
comp=Z,7µm,18.0s
FFC Flin Flon 88.33 27 eP P 09 05 59.3 -0.6
comp=Z,226nm,1.0s
FFC LR LR
comp=Z,7µm,18.0s
TRI Trieste 88.33 321 PFAKE 09 06 10.0 +10
TRI LR LR
comp=Z,23µm,18.0s
TNS Taunus Mts 88.38 327 eP P 09 06 00.6 +0.2
comp=Z,56nm,1.3s
TNS eS S 09 16 40.2 -5.4
ABTA Abfaltersbach 88.41 322⇑iP P 09 05 58.8 -1.8
comp=Z,231nm,1.6s,SNR=42
DRUM Mains of Drumt 88.44 336 eP P 09 05 58.1 -2.3
DRUM AMB AMB 09 06 00.7
comp=Z,75nm,1.4s
DRUM AMS AMS 09 44 18.8
comp=Z,17µm,25.6s
MFID Camas Ranch 88.50 42 eP P 09 06 01.1 0.0
comp=Z,361nm,1.3s
MFID LR LR
comp=Z,5µm,20.0s
CMB Columbia Colle 88.54 48 eP P 09 06 01.0 -0.4
CMB pmax pmax
comp=Z,184nm,1.1s
CMB MLR MLR
comp=Z,11µm,22.0s
CMB Columbia Colle 88.54 48 eP P 09 06 00.9 -0.4
comp=Z,184nm,1.1s
CMB LR LR
comp=Z,11µm,22.0s
WATA Walderalm 88.56 323⇑iPcP P 09 06 01.0 -0.4
comp=Z,138nm,1.3s,SNR=18
WTTA Wattenberg 88.58 323⇓iP P 09 06 00.4 -1.1
comp=Z,2µm,4.8s,SNR=59
MDO Dochfour 88.71 337 eP P 09 05 59.8 -1.9
MOTA Moosalm 88.81 323⇓iP P 09 06 01.2 -1.4

comp=Z,53nm,0.9s,SNR=48
HRY Holter Researc 88.86 37 *e*P **P 09 06 02.8 +0.1**
comp=Z,74nm,0.8s
RETA Reutte 88.91 324⇑*i*PcP **P 09 06 02.5 -0.4**
comp=Z,956nm,4.2s,SNR=18
WAKR Walker 88.93 47 *e*P **P 09 06 03.5 +0.2**
comp=Z,74nm,1.1s
STU Stuttgart 88.93 325 *e*P **P 09 06 03.0 +0.1**
comp=Z,101nm,1.4s
STU *e*S S 09 16 40.8 -10
STU Stuttgart 88.93 325 *e*P **P 09 06 02.6 -0.3**
STU pmax pmax
comp=Z,126nm,1.1s
STU MLR MLR
comp=Z,21µm,19.0s
STU Stuttgart 88.93 325 *e*P **P 09 06 02.6 -0.3**
comp=Z,126nm,1.1s
STU LR LR
comp=Z,21µm,19.0s
KAC Achnashellach 88.98 338 *e*P **P 09 06 00.5 -2.4**
LRM Limekiln Ridge 89.05 38 *e*P **P 09 06 03.8 -0.1**
comp=Z,3µm,1.6s
A19A Klindworth Far 89.11 34⇓P **P 09 06 03.5 -0.3**
baz=89
EGMT Eagleton 89.16 35 *e*P **P 09 06 03.6 -0.4**
comp=Z,227nm,1.0s
EGMT LR LR
comp=Z,7µm,21.0s
EGMT Eagleton 89.16 35⇑P **P 09 06 03.8 -0.3**
baz=89
FETA Feichten 89.22 323⇑*i*PcP **P 09 06 03.9 -0.6**
comp=Z,28nm,1.1s,SNR=44
ESY Stoneypath 89.23 336 *e*P **P 09 06 02.6 -1.6**
KPL Plockton 89.23 338 *e*P **P 09 06 03.2 -0.9**
KPL AMB AMB 09 06 08.0
comp=Z,158nm,2.2s
KPL AMS AMS 09 47 33.6
comp=Z,17µm,21.1s
DLMT Dillon 89.24 39 *e*P **P 09 06 04.6 -0.1**
comp=Z,308nm,1.2s
DLMT LR LR
comp=Z,6µm,18.0s
HGN Heimansgroeve 89.25 328 *e*P **P 09 06 03.5 -0.8**
comp=Z,166nm,1.4s
HGN *e*PP PP 09 09 44.9 +11
HGN *e*S **SKSac 09 16 31.5 -2.6**
HGN *e*SS **SS 09 22 49.3 +2.9**
HLID Hailey 89.26 41 *e*P **P 09 06 05.0 +0.2**
comp=Z,189nm,1.1s
HLID LR LR
comp=Z,7µm,21.0s
HLID Hailey 89.26 41⇓P **P 09 06 05.2 +0.4**
baz=89
PPT Papeete 89.26 110 LR LR 09 39 47.6
comp=Z,15µm,19.8s,baz=298,slow=31
PPT2 Papeete2 89.27 110 *e*S S 09 16 48.4 -6.5
comp=Z,15µm,29.8s
PPT2 *e*SS **SS 09 22 42.8 -6.9**
comp=Z,10µm,26.5s
PPT2 *e*LQ LQ 09 30 29.4
comp=Z,49µm,31.8s
PPT2 *e*LR LR 09 34 12.6
comp=Z,75µm,27.2s,baz=294
B19A Brinkman Farms 89.30 35⇓P **P 09 06 04.4 -0.3**
baz=89
BMN Battle Mountai 89.31 45 P **P 09 06 05.7 +0.6**
BMN pmax pmax
comp=Z,154nm,1.3s
BMN MLR MLR
comp=Z,7µm,18.0s
BMN Battle Mountai 89.31 45 P **P 09 06 05.7 +0.6**
comp=Z,154nm,1.3s
BMN LR LR
comp=Z,7µm,18.0s
MEM Membach 89.31 328 P **P 09 06 03.9 -0.7**
comp=Z,49nm,1.6s
MEM AP **pP 09 06 07.7 -1.0**
MEM Membach 89.31 328 *e*P **P 09 06 05.2 +0.6**
MEM pmax pmax
comp=Z,71nm,0.9s
MEM MLR MLR
comp=Z,24µm,18.0s
MEM Membach 89.31 328 *e*P **P 09 06 05.2 +0.6**
comp=Z,71nm,0.9s
MEM LR LR
comp=Z,24µm,18.0s
BEBN Eben Emael 89.35 328 P **P 09 06 05.0 +0.3**
BEBN AP **pP 09 06 08.3 -0.5**
MCMT McKenzie Canyo 89.42 39 *e*P **P 09 06 05.7 +0.1**
comp=Z,20nm,1.1s
EBL Broad Law 89.50 336 *e*P **P 09 06 04.1 -1.3**
LANF Langenberg 89.50 326⇑*e*P **P 09 06 05.0 -0.6**
DAVA Damuels 89.50 324⇑*i*PcP **P 09 06 05.0 -0.8**
comp=Z,416nm,2.4s,SNR=41
PMOR Pomariorio Ree 89.55 107 *e*P **P 09 06 08.8 +2.6**
comp=Z,329nm,1.2s
PMOR Pomariorio Ree 89.55 107 *e*T T 10 43 58.7
comp=Z,8nm,0.2s
A20A Cobblestone Ra 89.55 34⇑P **P 09 06 05.2 -0.7**
baz=89
BOZ Bozeman (W) 89.61 38 *e*P **P 09 06 05.8 -0.6**
BOZ pmax pmax
comp=Z,87nm,1.1s
BOZ MLR MLR
comp=Z,9µm,19.0s
BOZ Bozeman (W) 89.61 38 *e*P **P 09 06 05.8 -0.6**
comp=Z,87nm,1.1s
BOZ LR LR
comp=Z,9µm,19.0s
FRB Frobisher Bay 89.63 8 P **P 09 06 05.3 -0.5**
comp=Z,51nm,1.0s,baz=334,slow=4.9,SNR=31
BFO Black Forest 89.65 325 *e*P **P 09 06 06.3 0.0**
comp=Z,83nm,1.4s
BFO *e*S **SKSac 09 16 43.8 +7.0**
BFO Black Forest 89.65 325 *e*P **P 09 06 05.3 -1.0**
BFO pmax pmax
comp=Z,63nm,1.2s
BFO MLR MLR
comp=Z,18µm,18.0s
BFO Black Forest 89.65 325 *e*P **P 09 06 05.3 -1.0**
comp=Z,63nm,1.2s
BFO LR LR
comp=Z,18µm,18.0s
EAB Aberfoyle 89.66 336 *e*P **P 09 06 04.6 -1.6**
C19A Slack Wire Ran 89.71 35⇓P **P 09 06 06.6 -0.1**
baz=89
FUORN Ofenpass-Fuorn 89.71 323 *e*P **P 09 06 06.4 -0.5**
comp=Z,230nm,1.3s
FUORN *e*PKKPdf **PKKPbc 09 23 42.1 +1.6**
FUORN LR LR
comp=Z,40µm,18.0s
NV01 Mina Array Sit 89.72 47 *e*P **P 09 06 06.6 -0.5**
NVAR Mina Array Bea 89.72 47 P **P 09 06 07.0 -0.1**
comp=Z,29nm,0.8s,baz=281,slow=4.4,SNR=76
NVAR PKKPbc PKKPbc 09 23 48.9 +8.7
comp=Z,0.7nm,0.7s,baz=170,slow=2.5,SNR=4.2
BCLA Clavier 89.78 328 P **P 09 06 06.8 0.0**
comp=Z,51nm,1.7s
BCLA AP **pP 09 06 10.1 -0.7**
B20A Solberg Farm, 89.79 34⇓P **P 09 06 06.4 -0.5**
baz=90
MLAC Mammoth, Mammo 89.80 48⇓P **P 09 06 07.2 -0.2**
baz=90
DAVOX Davos/Dischmat 89.82 324 P **P 09 06 07.4 0.0**
comp=Z,98nm,0.8s,baz=38,slow=1.6,SNR=44
DAVOX PP **PP 09 09 40.9 +1.8**
comp=Z,9.3nm,0.8s,baz=39,slow=12,SNR=2.2
DAVOX S **SKSac 09 16 42.6 +4.4**
comp=Z,1.1nm,0.3s,baz=349,slow=9.4,SNR=2.2
WLF Walferdange 89.87 327 P **P 09 06 08.2 +0.9**
comp=Z,106nm,1.6s
WLF Walferdange 89.87 327 *e*P **P 09 06 07.7 +0.4**
comp=Z,218nm,1.4s
WLF *e*S SKSac 09 16 46.1 +8.2
WLF Walferdange 89.87 327 *e*P **P 09 06 07.0 -0.3**
WLF pmax pmax
comp=Z,87nm,0.8s
WLF MLR MLR
comp=Z,30µm,18.0s
WLF Walferdange 89.87 327 *e*P **P 09 06 07.0 -0.3**
comp=Z,87nm,0.8s
WLF LR LR
comp=Z,30µm,18.0s
EKA Eskdalemuir Ar 89.87 335 P **P 09 06 05.8 -1.3**
comp=Z,49nm,0.8s,baz=46,slow=5.0,SNR=33
EKA PP **PP 09 09 38.5 -0.4**
comp=Z,5.2nm,0.9s,baz=38,slow=8.1,SNR=4.2

VAH Vaihoa 89.88 107 *e*P **P 09 06 10.2 +2.4**
comp=Z,216nm,1.3s
ESK Eskdalemuir 89.90 335 *e*P **P 09 06 05.7 -1.6**
ESK AMB AMB 09 06 11.3
comp=Z,103nm,1.0s
ESK AMS AMS 09 50 43.6
comp=Z,16µm,21.2s
ESK Eskdalemuir 89.90 335 *e*P **P 09 06 05.9 -1.4**
ESK pmax pmax
comp=Z,94nm,0.8s
ESK MLR MLR
comp=Z,21µm,21.0s
ESK Eskdalemuir 89.90 335 *e*P **P 09 06 05.9 -1.4**
comp=Z,94nm,0.8s
ESK LR LR
comp=Z,21µm,21.0s
UCC Uccle 89.96 329 P **P 09 06 07.6 0.0**
comp=Z,148nm,1.8s
UCC AP **pP 09 06 10.8 -0.9**
UCC Uccle 89.96 329 *e*P **P 09 06 08.2 +0.5**
UCC pmax pmax
comp=Z,84nm,0.8s
UCC MLR MLR
comp=Z,25µm,18.0s
UCC Uccle 89.96 329 *e*P **P 09 06 08.2 +0.5**
comp=Z,84nm,0.8s
UCC LR LR
comp=Z,25µm,18.0s
ECK Cauldkaine Hil 89.97 335 *e*P **P 09 06 06.3 -1.3**
A21A Bergtoll Ranch 89.98 33⇓P **P 09 06 07.5 -0.4**
baz=90
CDF Champ du Feu 90.14 326 *e*P **P 09 06 08.4 -0.3**
comp=Z,181nm,1.0s
CDF Champ du Feu 90.14 326 *e*P **P 09 06 08.4 -0.3**
CDF pmax pmax
comp=Z,181nm,1.0s
CDF Champ du Feu 90.14 326 *e*P **P 09 06 08.4 -0.3**
comp=Z,181nm,1.0s
D19A Cripps Ranch, 90.16 36⇑P **P 09 06 08.4 -0.3**
baz=90
SNF Seneffe 90.20 329 P **P 09 06 09.0 +0.2**
SNF AP **pP 09 06 12.3 -0.5**
GIVF Givet 90.22 328 *e*P **P 09 06 08.9 0.0**
comp=Z,123nm,0.9s
GIVF Givet 90.22 328 *e*P **P 09 06 08.9 0.0**
GIVF pmax pmax
comp=Z,123nm,0.9s
GIVF Givet 90.22 328 *e*P **P 09 06 08.9 0.0**
comp=Z,123nm,0.9s
QLMT Earthquake Lak 90.22 39 *e*P **P 09 06 09.8 +0.5**
comp=Z,9.4nm,0.9s
RCTC Rector, Farmer 90.24 49⇑P **P 09 06 08.9 -0.3**
baz=90
SMMC Simmler 90.25 50⇑P **P 09 06 09.4 0.0**
baz=90
TIP Timpagrande 90.25 314 P **P 09 06 09.2 -0.2**
TIP Timpagrande 90.25 314 *e*P **P 09 06 09.6 +0.2**
TIP LR LR
comp=Z,10µm,22.0s
C20A Veseth Ranch, 90.26 35⇑P **P 09 06 09.2 -0.1**
baz=90
TUE Stuetta 90.30 323 *e*P **P 09 06 09.0 -0.7**
comp=Z,64nm,0.8s
TUE LR LR
comp=Z,31µm,20.0s
B21A Ellsworth Farm 90.30 34⇑P **P 09 06 09.1 -0.3**
baz=90
HPK Haverah Park 90.30 334 *e*P **P 09 06 08.2 -1.0**
HPK AMB AMB 09 06 12.8
comp=Z,134nm,1.2s
HPK AMS AMS 09 50 35.2
comp=Z,15µm,20.9s
ECH Echery 90.32 326⇑*e*P **P 09 06 08.4 -1.1**
DOU Dourbes 90.33 328 P **P 09 06 09.5 +0.1**
comp=Z,49nm,1.6s
DOU AP **pP 09 06 12.3 -1.1**
ELK Elko 90.38 44 *e*P **P 09 06 10.3 +0.1**
ELK pmax pmax
comp=Z,97nm,1.2s
ELK Elko 90.38 44 *e*P **P 09 06 10.3 +0.1**
comp=Z,97nm,1.2s
CUC Castrocucco 90.39 315 *e*P **P 09 06 09.6 -0.4**
comp=Z,89nm,1.4s
CUC LR LR
comp=Z,10µm,22.0s
YHB Horse Butte 90.40 39 *e*P **P 09 06 11.0 +0.9**
KESW Keswick, Cumbr 90.41 335 *e*P **P 09 06 09.2 -0.5**
KESW AMB AMB 09 06 13.4
comp=Z,104nm,2.1s
KESW AMS AMS 09 52 17.8
comp=Z,12µm,18.7s
A22A Carney Farms, 90.48 33⇓P **P 09 06 09.6 -0.6**
baz=90
AQU L'Aquila 90.51 318 *e*P **P 09 06 10.4 -0.1**
AQU pmax pmax
comp=Z,237nm,1.0s
AQU MLR MLR
comp=Z,25µm,20.0s
AQU L'Aquila 90.51 318 *e*P **P 09 06 10.4 -0.1**
comp=Z,237nm,1.0s
AQU LR LR
comp=Z,25µm,20.0s
TIN Tinemaha, Big 90.52 48⇑P **P 09 06 10.5 -0.2**
baz=90
BAIF Baives 90.54 328 *e*P **P 09 06 10.3 -0.1**
comp=Z,90nm,0.9s
BAIF Baives 90.54 328 *e*P **P 09 06 10.3 -0.1**
BAIF pmax pmax
comp=Z,90nm,0.9s
BAIF Baives 90.54 328 *e*P **P 09 06 10.3 -0.1**
comp=Z,90nm,0.9s
MOF Molkenrain 90.57 326⇑*e*P **P 09 06 09.2 -1.5**
PKM Mcpherson Peak 90.59 50⇓P **P 09 06 11.0 -0.1**
baz=90
VES Vestal, Richgr 90.59 49⇑P **P 09 06 10.2 -0.7**
baz=90
D20A Manuel Ranch, 90.59 35⇓P **P 09 06 11.0 +0.2**
baz=90
GCMT Greycliff 90.60 37 *e*P **P 09 06 10.8 -0.2**
comp=Z,40nm,0.9s
TPH Tonopah 90.62 47 *e*P **P 09 06 11.5 +0.2**
TPH pmax pmax
comp=Z,121nm,1.2s
TPH MLR MLR
comp=Z,9µm,20.0s
TPH Tonopah 90.62 47 *e*P **P 09 06 11.5 +0.2**
comp=Z,121nm,1.2s
TPH LR LR
comp=Z,9µm,20.0s
C21A Desert Coulee 90.66 34⇓P **P 09 06 10.5 -0.6**
baz=90
E19A Rath Farm, Rou 90.66 36⇑P **P 09 06 11.1 0.0**
baz=90
LHO Holmfirth 90.70 334 *e*P **P 09 06 10.5 -0.5**
YNR Norris Junctio 90.72 38 *e*P **P 09 06 13.1 +1.5**
comp=Z,84nm,1.1s
HINF Hinteralfeld 90.74 326 *e*P **P 09 06 10.7 -0.7**
comp=Z,68nm,1.1s
HINF Hinteralfeld 90.74 326 *e*P **P 09 06 10.7 -0.7**
HINF pmax pmax
comp=Z,68nm,1.1s
HINF Hinteralfeld 90.74 326 *e*P **P 09 06 10.7 -0.7**
comp=Z,68nm,1.1s
YFT Old Faithful 90.79 39 *e*P **P 09 06 13.9 +1.9**
comp=Z,190nm,1.0s
GAL1 Galloway 90.81 336 *e*P **P 09 06 10.8 -0.7**
GAL1 AMB AMB 09 06 15.5
comp=Z,126nm,1.1s
GAL1 AMS AMS 09 53 54.1
comp=Z,14µm,15.8s
PAGF Fort de Pagny 90.82 327 *e*P **P 09 06 11.6 -0.1**
comp=Z,34nm,0.8s,baz=71
PAGF Fort de Pagny 90.82 327 *e*P **P 09 06 11.6 -0.1**
comp=Z,34nm,0.8s
HAU Haudompre 90.87 326 *e*P **P 09 06 11.3 -0.7**
comp=Z,40nm,0.7s
HAU *e*R
comp=Z,29µm,21.8s
HAU Haudompre 90.87 326 *e*P **P 09 06 11.3 -0.7**
HAU pmax pmax
comp=Z,40nm,0.7s
HAU Haudompre 90.87 326 *e*P **P 09 06 11.3 -0.7**
comp=Z,40nm,0.7s
B22A Reddig Ranch S 90.90 34⇓P **P 09 06 11.8 -0.3**
baz=91
SBC Santa Barbara 90.91 51⇓P **P 09 06 12.4 0.0**
baz=91

THEF They Montfort 90.91 326 *e*P **P 09 06 11.5 -0.7**
CWC Cottonwood Cre 90.95 48⇓P **P 09 06 12.5 -0.3**
baz=91
F19A Roth Farm, Mol 90.96 37⇑P **P 09 06 12.7 +0.1**
baz=91
LKWY Lake 90.97 38 *e*P **P 09 06 14.3 +1.4**
LKWY pmax pmax
comp=Z,140nm,0.9s
LKWY MLR MLR
comp=Z,13µm,21.0s
LKWY Lake 90.97 38 *e*P **P 09 06 14.2 +1.4**
comp=Z,140nm,0.9s
LKWY LR LR
comp=Z,13µm,21.0s
H17A Grant Village 90.97 39 *e*P **P 09 06 14.7 +1.8**
comp=Z,189nm,1.1s
H17A LR LR
comp=Z,11µm,20.0s
H17A Grant Village 90.97 39⇑P **P 09 06 14.5 +1.6**
baz=91
E20A Meyer Farm, Mu 90.98 36⇓P **P 09 06 12.8 +0.2**
baz=91
A23A Redstone 91.01 33⇓P **P 09 06 12.3 -0.3**
baz=91
LOMF Lomont 91.06 325⇑*e*P **P 09 06 11.4 -1.6**
IMW Indian Meadow 91.07 39 *e*P **P 09 06 14.0 +0.6**
comp=Z,112nm,1.1s
IMW LR LR
comp=Z,6µm,20.0s
FLWY Flagg Ranch 91.09 39 *e*P **P 09 06 14.6 +1.2**
comp=Z,214nm,1.1s
FLWY LR LR
comp=Z,6µm,18.0s
ISA Isabella, Lake 91.11 49 *e*P **P 09 06 13.0 -0.5**
ISA pmax pmax
comp=Z,26nm,1.1s
ISA Isabella, Lake 91.11 49 *e*P **P 09 06 13.0 -0.5**
comp=Z,26nm,1.1s
ISA Isabella, Lake 91.11 49⇓P **P 09 06 12.9 -0.5**
baz=91
GRAC Grapevine Rang 91.12 48⇓P **P 09 06 13.5 +0.1**
baz=91
YTP The Promontory 91.14 38 *e*P **P 09 06 15.2 +1.6**
ARVC Arvin 91.15 50⇓P **P 09 06 13.9 +0.3**
baz=91
VLC Villacollemand 91.17 321 PFAKE 09 06 20.0 +6.5
VLC LR LR
comp=Z,30µm,19.0s
FXWY Fox Creek 91.18 39 *e*P **P 09 06 14.2 +0.4**
comp=Z,105nm,1.3s
FXWY *e*P'P'df **P'P'df 09 31 46.2 -4.5**
FXWY LR LR
comp=Z,5µm,20.0s
MEZF Maizieres J'vi 91.19 327 *e*P **P 09 06 13.5 +0.1**
MEZF Maizieres J'vi 91.19 327 *e*P **P 09 06 13.5 +0.1**
BSC Santa Cruz Isl 91.20 51⇑P **P 09 06 13.8 0.0**
baz=91
RLMT Red Lodge 91.24 37 *e*P **P 09 06 13.9 -0.1**
comp=Z,116nm,1.1s
RLMT LR LR
comp=Z,6µm,22.0s
I17A Pilgrim Ck. 91.27 39⇑P **P 09 06 15.1 +0.9**
baz=91
MOOW Moose Ponds 91.28 39 *e*P **P 09 06 14.5 +0.3**
comp=Z,96nm,1.5s
HVU Hansel Valley 91.28 42 *e*P **P 09 06 14.5 +0.3**
HVU pmax pmax
comp=Z,100nm,0.9s
HVU MLR MLR
comp=Z,7µm,19.0s
HVU Hansel Valley 91.28 42 *e*P **P 09 06 14.5 +0.3**
comp=Z,100nm,0.9s
HVU LR LR
comp=Z,7µm,19.0s
B23A Brockton 91.29 33⇓P **P 09 06 13.9 -0.1**
baz=91
H18A Shoshone NF, C 91.31 38⇓P **P 09 06 14.9 +0.6**
baz=91
TPAW Teton Pass 91.32 40 *e*P **P 09 06 15.2 +0.7**
comp=Z,83nm,1.0s
TPAW LR LR
comp=Z,6µm,21.0s
CEL Celeste 91.33 314 *e*P **P 09 06 13.6 -0.8**
comp=Z,122nm,0.8s
CEL *e*PP PP 09 10 00.1 +8.9
CEL LR LR
comp=Z,10µm,21.0s
DAC Darwin (Calif) 91.37 48 *e*P **P 09 06 14.3 -0.5**
DAC *e* 09 09 52.9
DAC pmax pmax
comp=Z,59nm,1.3s
DAC MLR MLR
comp=Z,9µm,21.0s
DAC Darwin (Calif) 91.37 48 *e*P **P 09 06 14.3 -0.5**
comp=Z,59nm,1.3s
DAC *e*PP **PP 09 09 52.9 +1.1**
DAC LR LR
comp=Z,9µm,21.0s
SFTF Sexfontaines 91.39 327 *e*P **P 09 06 14.0 -0.4**
comp=Z,308nm,1.4s
SFTF Sexfontaines 91.39 327 *e*P **P 09 06 14.0 -0.4**
comp=Z,308nm,1.4s
F20A Billings 91.42 36⇓P **P 09 06 14.7 0.0**
baz=91
LOHW Long Hollow 91.44 39 *e*P **P 09 06 15.1 +0.1**
comp=Z,66nm,1.4s
LOHW LR LR
comp=Z,6µm,21.0s
SNOW Snow King Moun 91.45 39 *e*P **P 09 06 15.7 +0.6**
comp=Z,155nm,1.5s
SNOW LR LR
comp=Z,6µm,21.0s
REDW Red Top Meadow 91.45 40 *e*P **P 09 06 15.5 +0.4**
comp=Z,155nm,1.4s
REDW LR LR
comp=Z,6µm,21.0s
A24A Westby 91.45 32⇑P **P 09 06 14.9 +0.2**
baz=91
SENIN Lac Senin/Sane 91.46 324 *e*P **P 09 06 15.0 0.0**
OSI Osito Audit: C 91.50 50 *e*P **P 09 06 15.6 +0.3**
comp=Z,38nm,0.8s
OSI Osito Audit: C 91.50 50⇓P **P 09 06 15.0 -0.3**
baz=91
E21A Keefer Ranch, 91.51 35⇓P **P 09 06 14.9 -0.1**
baz=91
MTUT Morton Thiokol 91.52 42 *e*P **P 09 06 15.7 +0.4**
R11A Troy Canyon, C 91.53 46 *e*P **P 09 06 15.2 -0.3**
comp=Z,134nm,1.3s
R11A LR LR
comp=Z,10µm,21.0s
R11A Troy Canyon, C 91.53 46⇑P **P 09 06 15.5 0.0**
baz=91
BLG Laguna Peak, P 91.54 51⇓P **P 09 06 15.2 -0.2**
baz=91
MPMC Manual Prospec 91.56 48⇑P **P 09 06 15.5 -0.2**
baz=91
D22A Cohagen 91.57 35⇑P **P 09 06 15.6 +0.3**
baz=91
C23A Lambert 91.64 34⇓P **P 09 06 16.3 +0.7**
baz=91
BGU Big Grassy Mou 91.64 42 *e*P **P 09 06 15.9 0.0**
comp=Z,105nm,1.2s
BGU LR LR
comp=Z,8µm,19.0s
DGMT Dagmar 91.67 33 *e*P **P 09 06 15.3 -0.4**
comp=Z,310nm,1.5s
DGMT LR LR
comp=Z,9µm,20.0s
DGMT Dagmar 91.67 33⇑P **P 09 06 15.9 +0.2**
baz=91
AHID Auburn Hatcher 91.68 40 PFAKE 09 06 30.0 +14
AHID LR LR
comp=Z,5µm,21.0s
H19A Powell 91.69 38⇓P **P 09 06 16.1 0.0**
baz=91
PAF Port-aux-Franc 91.69 214 SKS S 09 16 35.0 -41
PAF SS SS 09 23 09.0 -15
PAF L L 09 30 00.0
PAF R 09 36 00.0
FOEL Foel Wylfa 91.73 334 *e*P **P 09 06 14.6 -1.3**
FOEL AMB AMB 09 06 19.7
comp=Z,111nm,2.0s
FOEL AMS AMS 09 50 19.7
comp=Z,15µm,20.2s
LRMC Laurel Mtn Rad 91.74 49⇓P **P 09 06 16.8 +0.4**
baz=92
GMM Mts of Mourne 91.75 336 *e*P **P 09 06 14.2 -1.7**

FURC Furnace Creek, 91.75 48 ⇑P P 09 06 16.0 -0.3
baz=92
G20A Bridger 91.76 37 ⇑P P 09 06 16.4 +0.1
baz=92
ABPO Ambohimpanom 91.83 250 eP P 09 06 16.7 -0.3
ABPO e 09 09 58.7
ABPO pmax pmax
comp=Z,60nm,1.2s
ABPO MLR MLR
comp=Z,6µm,19.0s
ABPO Ambohimpanom 91.83 250 eP P 09 06 16.7 -0.3
comp=Z,60nm,1.2s
ABPO ePP PP 09 09 58.7 +2.3
ABPO LR LR
comp=Z,6µm,19.0s
LAO LASA Array 91.85 35 eP P 09 06 16.6 0.0
comp=Z,162nm,1.2s
LAO LR LR
comp=Z,8µm,19.0s
EDW2 Edwards Air Fo 91.87 50 ⇑P P 09 06 17.0 +0.1
baz=92
A25A Svangstu Ranch 91.87 32 ⇑P P 09 06 16.9 +0.3
baz=92
HLM1 Long Mynd 91.88 333 eP P 09 06 15.5 -1.1
HLM1 AMB AMB 09 06 17.2
comp=Z,103nm,1.8s
HLM1 AMS AMS 09 54 38.2
comp=Z,18µm,17.6s
TPNV Topopah Spring 91.89 47 eP P 09 06 17.0 -0.2
TPNV pmax pmax
comp=Z,144nm,1.2s
TPNV MLR MLR
comp=Z,10µm,22.0s
TPNV Topopah Spring 91.89 47 eP P 09 06 17.0 -0.2
comp=Z,144nm,1.2s
TPNV LR LR
comp=Z,10µm,22.0s
TPNV Topopah Spring 91.89 47 ⇑P P 09 06 16.5 -0.7
baz=92
CABF La Chapelle 91.93 325 eP P 09 06 16.4 -0.6
CABF La Chapelle 91.93 325 eP P 09 06 16.4 -0.6
CABF La Chapelle 91.93 325 eP P 09 06 16.4 -0.6
F21A Absaloka Mine, 91.95 36 ⇓P P 09 06 16.6 -0.5
baz=92
DECC Green Verdugo 91.97 50 ⇓P P 09 06 17.3 -0.2
baz=92
GZU Grizzly Peak 91.97 42 eP P 09 06 17.8 +0.1
TBI Tubuai 91.98 115 ePP PP 09 09 47.5 -10
comp=Z,868nm,27.0s
TBI eS S 09 17 11.9 -7.5
comp=Z,9µm,25.8s
TBI Tubuai 91.98 115 ePS PS 09 18 28.4 -2.3
comp=Z,6µm,33.0s
TBI Tubuai 91.98 115 eLQ LQ 09 31 28.6
comp=Z,28µm,33.8s
TBI eLR LR 09 35 31.9
comp=Z,47µm,38.0s,baz=296
I19A Meeteetse 92.08 38 ⇓P P 09 06 17.7 -0.3
baz=92
HWUT Hardware Ranch 92.11 41 eP P 09 06 18.6 +0.5
comp=Z,231nm,1.2s
HWUT LR LR
comp=Z,8µm,20.0s
PASC Pasadena Art C 92.12 50 eP P 09 06 18.3 +0.2
comp=Z,93nm,1.3s
PASC LR LR
comp=Z,15µm,21.0s
STRD Stroud 92.14 333 eP P 09 06 16.6 -1.1
STRD AMB AMB 09 06 19.2
comp=Z,357nm,1.4s
E22A Miles City 92.16 35 ⇑P P 09 06 17.8 -0.2
baz=92
MWC Mount Wilson 92.18 50 eP P 09 06 18.5 -0.1
MWC e 09 10 00.3
MWC pmax pmax
comp=Z,91nm,1.1s
MWC Mount Wilson 92.18 50 eP P 09 06 18.5 -0.1
comp=Z,91nm,1.1s
MWC ePP PP 09 10 00.3 +2.1
SWN1 Swindon 92.19 332 eP P 09 06 16.1 -1.9
SWN1 AMB AMB 09 06 19.5
comp=Z,398nm,1.5s
SAIU Southern Antel 92.19 42 eP P 09 06 18.4 0.0
C24A Savage 92.20 33 ⇑P P 09 06 18.6 +0.4
baz=92
DUG Dugway, Tooele 92.20 43 eP P 09 06 18.7 +0.2
DUG pmax pmax
comp=Z,194nm,1.1s
DUG MLR MLR
comp=Z,7µm,20.0s
DUG Dugway, Tooele 92.20 43 eP P 09 06 18.6 +0.2
comp=Z,194nm,1.1s
DUG LR LR
comp=Z,7µm,20.0s
DUG Dugway, Tooele 92.20 43 ⇓P P 09 06 18.6 0.0
baz=92
FMP Fort Macarthur 92.29 51 ⇑P P 09 06 18.4 -0.4
baz=92
G21A Lodge Grass 92.30 36 ⇓P P 09 06 18.4 -0.4
baz=92
B25A Knox Farm, Ray 92.31 32 ⇑P P 09 06 18.7 0.0
baz=92
LPL La Plagne 92.31 324 eP P 09 06 18.8 -0.2
comp=Z,72nm,0.8s
LPL La Plagne 92.31 324 eP P 09 06 18.8 -0.2
LPL pmax pmax
comp=Z,72nm,0.8s
LPL La Plagne 92.31 324 eP P 09 06 18.8 -0.2
comp=Z,72nm,0.8s
LPG La Plagne 92.31 324 eP P 09 06 18.9 -0.2
comp=Z,100nm,0.7s
LPG La Plagne 92.31 324 eP P 09 06 18.9 -0.2
LPG pmax pmax
comp=Z,100nm,0.7s
LPG La Plagne 92.31 324 eP P 09 06 18.9 -0.2
comp=Z,100nm,0.7s
MCH1 Michaelchurch 92.32 333 eP P 09 06 17.6 -1.0
H20A Greybull 92.34 37 ⇑P P 09 06 18.9 -0.2
baz=92
MONM Monmouth 92.36 333 eP P 09 06 17.0 -1.7
MONM AMB AMB 09 06 20.0
comp=Z,140nm,1.3s
CIS Catalina Islan 92.38 51 ⇓P P 09 06 19.0 -0.3
baz=92
A26A Wade Farm, Ken 92.41 31 ⇓P P 09 06 19.0 -0.1
baz=92
DRV Dumont d'Urvil 92.43 176 P P 09 05 59.0 -19
DRV PP PP 09 09 50.0 -10
DRV S **SKSac 09 16 48.0 -3.1**
DRV SS SS 09 23 05.0 -28
DRV L L 09 30 00.0
DRV R 09 35 00.0
F22A Rosebud 92.44 36 ⇑P P 09 06 19.1 -0.2
baz=92
GSC Goldstone, Bar 92.44 49 eP P 09 06 19.5 -0.1
GSC e 09 10 04.2
GSC Goldstone, Bar 92.44 49 eP P 09 06 19.5 -0.1
GSC ePP PP 09 10 04.2 +4.0
GSC Goldstone, Bar 92.44 49 ⇓P P 09 06 19.5 -0.1
baz=92
BFSC Mount Baldy Ra 92.45 50 ⇓P P 09 06 19.7 0.0
baz=92
E23A Ismay 92.45 35 ⇑P P 09 06 19.2 -0.2
baz=92
SHOC Shoshone, Teco 92.46 48 ⇑P P 09 06 19.6 0.0
baz=92
RBU Red Butte Cany 92.47 42 eP P 09 06 20.5 +0.8
TCUT Toone Canyon 92.50 42 eP P 09 06 20.4 +0.4
comp=Z,174nm,1.2s
TCUT LR LR
comp=Z,9µm,18.0s
SCI San Clemente I 92.51 52 ⇑P P 09 06 19.7 -0.2
baz=92
D24A Glendive 92.53 34 ⇑P P 09 06 19.4 -0.4
baz=92
J19A Crowheart 92.54 39 ⇑P P 09 06 19.8 -0.3
baz=92
MHD Mile High Driv 92.54 42 eP P 09 06 20.8 +0.7
RRX Edison Barstow 92.54 49 ⇑P P 09 06 19.7 -0.4
baz=92
BW06 Boulder Array 92.56 39 eP P 09 06 19.9 -0.4
comp=Z,71nm,1.2s
BW06 ePKKPdf **PKKPdf 09 23 31.5 +1.5**
BW06 eP'P'df P'P'df 09 31 41.1 -7.0
BW06 LR LR
comp=Z,8µm,21.0s

PDAR Pinedale Array 92.56 39 P P 09 06 19.6 -0.7
comp=Z,42nm,1.1s,baz=7.5,slow=0.9,SNR=69
PDAR PP PP 09 09 58.8 -2.2
comp=Z,6.2nm,1.1s,baz=286,slow=5.9,SNR=4.0
PDAR PKKP **PKKPbc 09 23 31.6 -1.6**
comp=Z,0.8nm,0.7s,baz=118,slow=3.1,SNR=4.6
PDAR PKPPKP P'P'df 09 31 41.0 -7.1
comp=Z,0.6nm,0.9s,baz=123,slow=5.5,SNR=4.1
LOR Lormes 92.61 327 eP P 09 06 19.3 -0.8
comp=Z,66nm,1.2s
LOR eR
comp=Z,21µm,20.5s
LOR Lormes 92.61 327 eP P 09 06 19.3 -0.8
LOR pmax pmax
comp=Z,66nm,1.2s
LOR Lormes 92.61 327 eP P 09 06 19.3 -0.8
comp=Z,66nm,1.2s
GMU Granite Mounta 92.62 42 eP P 09 06 21.2 +0.7
I20A Worland 92.62 38 ⇑P P 09 06 20.0 -0.3
baz=92
BNI Bardonecchia 92.64 324 eP P 09 06 19.9 -0.5
BNI e 09 10 02.1
BNI pmax pmax
comp=Z,52nm,1.0s
BNI MLR MLR
comp=Z,32µm,18.0s
BNI Bardonecchia 92.64 324 eP P 09 06 19.9 -0.5
comp=Z,52nm,1.0s
BNI ePP PP 09 10 02.1 +0.8
BNI LR LR
comp=Z,32µm,18.0s
C25A Freed Ranch, W 92.65 33 ⇓P P 09 06 20.2 -0.1
baz=92
LPW Lampeter 92.67 334 eP P 09 06 18.7 -1.4
LPW AMB AMB 09 06 21.7
comp=Z,168nm,1.4s
B26A Jensen Ranch, 92.68 32 ⇓P P 09 06 20.0 -0.4
baz=92
DSB Dubin 92.69 335 eP P 09 06 20.5 +0.2
comp=Z,52nm,1.1s
DSB LR LR
comp=Z,8µm,20.0s
A27A Ledoux Ranch, 92.74 31 ⇓P P 09 06 20.4 -0.2
baz=92
H21A Big Horn, Sher 92.77 37 ⇓P P 09 06 20.6 -0.5
baz=92
G22A Birney 92.79 36 ⇓P P 09 06 20.7 -0.3
baz=92
JLU Jordanelle 92.79 42 eP P 09 06 22.1 +0.7
comp=Z,90nm,1.3s
JLU LR LR
comp=Z,7µm,22.0s
NLU North Lily Min 92.80 43 eP P 09 06 22.1 +0.7
comp=Z,85nm,1.1s
NLU LR LR
comp=Z,9µm,20.0s
MBDF Montbardon 92.81 323 eP P 09 06 20.2 -1.0
comp=Z,89nm,0.9s
MBDF Montbardon 92.81 323 eP P 09 06 20.2 -1.0
MBDF pmax pmax
comp=Z,89nm,0.9s
MBDF Montbardon 92.81 323 eP P 09 06 20.2 -1.0
comp=Z,89nm,0.9s
SAOF Saorge 92.86 322⇑eP P 09 06 21.4 +0.1
SHPR Sheep Range 92.86 47 eP P 09 06 21.6 -0.1
comp=Z,120nm,1.1s
E24A Baker 92.92 34 ⇑P P 09 06 21.3 -0.3
baz=93
F23A Volborg 92.92 35 ⇓P P 09 06 21.3 -0.3
baz=93
KMBO Kilima Mbogo 92.92 270 P P 09 06 22.1 -0.3
comp=Z,11nm,0.7s,baz=44,slow=5.8,SNR=21
KMBO Kilima Mbogo 92.92 270 P P 09 06 22.1 -0.3
KMBO pmax pmax
comp=Z,11nm,0.7s
KMBO Kilima Mbogo 92.92 270 P P 09 06 23.6 +1.2
SNR=16
KMBO Kilima Mbogo 92.92 270 eP P 09 06 22.3 -0.1
KMBO LR LR
comp=Z,12µm,21.0s
AUTN L'Aution 92.93 322⇑eP P 09 06 21.8 -0.1
SSF Saint Saulge 92.93 327 eP P 09 06 20.8 -0.7
comp=Z,29nm,0.9s
SSF Saint Saulge 92.93 327 eP P 09 06 20.8 -0.7
SSF pmax pmax
comp=Z,29nm,0.9s
SSF Saint Saulge 92.93 327 eP P 09 06 20.8 -0.7
comp=Z,29nm,0.9s
BBRC Big Bear Solar 92.94 50 ⇓P P 09 06 22.0 -0.2
baz=93
TUQ Turquoise Moun 92.96 48 ⇑P P 09 06 22.3 +0.2
baz=93
PGF Pioggiola 92.97 321 eP P 09 06 21.9 0.0
comp=Z,161nm,0.8s
PGF Pioggiola 92.97 321 eP P 09 06 21.9 0.0
PGF pmax pmax
comp=Z,161nm,0.8s
PGF Pioggiola 92.97 321 eP P 09 06 21.9 0.0
comp=Z,161nm,0.8s
D25A Fairfield 93.01 33 ⇑P P 09 06 21.8 -0.1
baz=93
SBF Sospel 93.01 322 eP P 09 06 21.5 -0.5
comp=Z,277nm,0.7s
SBF Sospel 93.01 322 eP P 09 06 21.5 -0.5
SBF Sospel 93.01 322 eP P 09 06 21.5 -0.5
comp=Z,277nm,0.7s
TOUF Mont Tournerai 93.01 323⇑eP P 09 06 21.2 -1.0
J20A Shoshoni 93.03 38 ⇓P P 09 06 22.9 +0.6
baz=93
HEC Hector,Ludlow 93.03 49 ⇑P P 09 06 22.1 -0.2
baz=93
MPU Maple Canyon 93.04 43 eP P 09 06 22.9 +0.5
comp=Z,168nm,1.3s
MPU LR LR
comp=Z,7µm,21.0s
SMF Signal de Mont 93.05 326 eP P 09 06 21.4 -0.7
comp=Z,59nm,0.8s
SMF Signal de Mont 93.05 326 eP P 09 06 21.4 -0.7
SMF pmax pmax
comp=Z,59nm,0.8s
SMF Signal de Mont 93.05 326 eP P 09 06 21.4 -0.7
comp=Z,59nm,0.8s
FLU Fool Peak 93.09 43 eP P 09 06 22.7 0.0
MURC Murrieta 93.12 50 ⇑P P 09 06 22.7 0.0
baz=93
B27A Peters Farms, 93.12 31 ⇑P P 09 06 22.1 -0.3
baz=93
REVF Revere 93.12 322⇑eP P 09 06 22.6 0.0
C26A Wahner Farm, P 93.13 32 ⇓P P 09 06 21.8 -0.7
baz=93
MVIF Mont Vial 93.14 323 eP P 09 06 21.6 -1.2
ORIF Oris-en-Rattie 93.16 324 eP P 09 06 22.4 -0.3
comp=Z,60nm,0.9s
ORIF eR
comp=Z,33nm,22.8s
ORIF Oris-en-Rattie 93.16 324 eP P 09 06 22.4 -0.3
ORIF pmax pmax
comp=Z,60nm,0.9s
ORIF Oris-en-Rattie 93.16 324 eP P 09 06 22.4 -0.3
comp=Z,60nm,0.9s
H22A Clearmont 93.17 37 ⇑P P 09 06 22.1 -0.7
baz=93
I21A Big Trails, Te 93.17 38 ⇓P P 09 06 22.4 -0.5
baz=93
AVF Avril sur Loir 93.19 326 eP P 09 06 22.0 -0.7
comp=Z,44nm,0.9s
AVF Avril sur Loir 93.19 326 eP P 09 06 22.0 -0.7
AVF pmax pmax
comp=Z,44nm,0.9s
AVF Avril sur Loir 93.19 326 eP P 09 06 22.0 -0.7
comp=Z,44nm,0.9s
HYF Humbligny 93.22 327 eP P 09 06 22.9 +0.1
HYF Humbligny 93.22 327 eP P 09 06 22.9 +0.1
A28A Rude Farm, Bot 93.22 31 ⇑P P 09 06 22.8 -0.1
baz=93
BACC Bachelor Mtn. 93.22 50 eP P 09 06 23.5 +0.3
LEVU Levan 93.23 43 eP P 09 06 24.4 +1.0
DWU Dry Willow Pea 93.33 45 eP P 09 06 23.9 0.0
F24A Ekalaka 93.33 35 ⇑P P 09 06 23.3 -0.2
baz=93
CALN Calern 93.38 323⇑eP P 09 06 23.4 -0.5
J21A Lysite 93.39 38 ⇑P P 09 06 23.4 -0.6
baz=93
E25A Miller Ranch, 93.41 34 ⇓P P 09 06 23.9 +0.1
baz=93
C27A Sayler Ranch, 93.50 32 ⇓P P 09 06 23.9 -0.2
baz=93

B28A Dugan Ranch, T 93.51 31 ⇑P P 09 06 24.1 -0.1
baz=93
GMRC Granite Mounta 93.51 49 ⇓P P 09 06 24.4 -0.2
baz=93
D26A Manning 93.53 33 ⇑P P 09 06 24.2 -0.1
baz=93
I22A 9 Mile Ranch, 93.56 37 ⇓P P 09 06 24.4 -0.3
baz=93
109C Camp Elliot, M 93.58 51 ⇑P P 09 06 24.2 -0.6
baz=93
LDF La Druitiere 93.58 329 eP P 09 06 24.2 -0.3
comp=Z,144nm,0.9s
LDF La Druitiere 93.58 329 eP P 09 06 24.2 -0.3
LDF pmax pmax
comp=Z,144nm,0.9s
LDF La Druitiere 93.58 329 eP P 09 06 24.2 -0.3
comp=Z,144nm,0.9s
MVU Marysvale 93.59 44 eP P 09 06 25.2 +0.2
comp=Z,129nm,1.2s
MVU eP'P'df **P'P'df 09 31 43.2 -3.0**
WDD Wield Dalam 93.59 313 PFAKE 09 06 40.0 +15
WDD LR LR
comp=Z,9µm,22.0s
BGF Bois d'Agland 93.61 327 eP P 09 06 24.0 -0.7
comp=Z,22nm,0.8s
BGF Bois d'Agland 93.61 327 eP P 09 06 24.0 -0.7
BGF pmax pmax
comp=Z,22nm,0.8s
BGF Bois d'Agland 93.61 327 eP P 09 06 24.0 -0.7
comp=Z,22nm,0.8s
MSU Marysvale 93.61 44 eP P 09 06 25.6 +0.5
MSU pmax pmax
comp=Z,221nm,1.3s
MSU Marysvale 93.61 44 eP P 09 06 25.6 +0.5
comp=Z,221nm,1.3s
SSB Saint Sauveur 93.62 325 eP P 09 06 24.3 -0.5
SSB pmax pmax
comp=Z,16nm,0.8s
SSB Saint Sauveur 93.62 325 eP P 09 06 24.3 -0.5
comp=Z,16nm,0.8s
PLDF La Plantade 93.62 326⇑eP P 09 06 23.6 -1.2
FLN La Foliniere 93.63 330 eP P 09 06 24.3 -0.4
comp=Z,178nm,1.2s,baz=59
FLN eR
comp=Z,26µm,20.0s
FLN La Foliniere 93.63 330 eP P 09 06 24.3 -0.4
FLN pmax pmax
comp=Z,178nm,1.2s
FLN La Foliniere 93.63 330 eP P 09 06 24.3 -0.4
comp=Z,178nm,1.2s
PFO Pinyon Flats O 93.63 50 LR LR 09 41 12.6
comp=Z,15µm,22.0s,baz=292,slow=31
PFO Pinyon Flats O 93.63 50 eP P 09 06 25.0 -0.2
PFO pmax pmax
comp=Z,215nm,1.1s
PFO Pinyon Flats O 93.63 50 eP P 09 06 25.0 -0.2
comp=Z,215nm,1.1s
PFO Pinyon Flats O 93.63 50 ⇓P P 09 06 24.9 -0.3
baz=93
FRF La Foret Royal 93.64 322 eP P 09 06 24.4 -0.5
comp=Z,136nm,0.9s
FRF La Foret Royal 93.64 322 eP P 09 06 24.4 -0.5
FRF pmax pmax
comp=Z,136nm,0.9s
FRF La Foret Royal 93.64 322 eP P 09 06 24.4 -0.5
comp=Z,136nm,0.9s
A29A Manning Farm, 93.68 30 ⇓P P 09 06 24.0 -1.0
baz=93
HTL Hartland 93.69 333 eP P 09 06 24.0 -0.9
HTL AMB AMB 09 06 28.9
comp=Z,115nm,0.9s
HTL AMS AMS 09 55 32.5
comp=Z,24µm,16.5s
OG26 St.-Nazaire-De 93.69 324⇑eP P 09 06 25.6 +0.4
G24A Alzada 93.70 35 ⇓P P 09 06 24.9 -0.3
baz=93
H23A Clabaugh Cattl 93.70 36 ⇑P P 09 06 25.2 -0.1
baz=93
LDFC Landfair 93.71 48 eP P 09 06 25.8 +0.2
comp=Z,404nm,1.2s
LDFC ePP PP 09 10 09.6 -0.6
BELC Belle Mtn. Jos 93.72 49 ⇑P P 09 06 25.2 -0.5
baz=94
TMUT Trail Mountain 93.73 43 eP P 09 06 27.1 +1.3
comp=Z,44nm,1.1s
TMUT LR LR
comp=Z,7µm,20.0s
F25A Bowman 93.78 34 ⇑P P 09 06 25.4 -0.2
baz=94
AGO Saint Agoulin 93.81 326⇑eP P 09 06 24.6 -1.0
VIVF Saint-Julien-l 93.84 324 eP P 09 06 25.2 -0.6
comp=Z,40nm,0.8s
VIVF Saint-Julien-l 93.84 324 eP P 09 06 25.2 -0.6
VIVF pmax pmax
comp=Z,41nm,0.8s
VIVF Saint-Julien-l 93.84 324 eP P 09 06 25.2 -0.6
comp=Z,40nm,0.8s
LMR La Mourre 93.86 322 eP P 09 06 25.6 -0.3
comp=Z,281nm,1.1s
LMR La Mourre 93.86 322 eP P 09 06 25.6 -0.3
LMR pmax pmax
comp=Z,281nm,1.1s
LMR La Mourre 93.86 322 eP P 09 06 25.6 -0.3
comp=Z,281nm,1.1s
J22A Midwest 93.88 37 ⇑P P 09 06 26.0 -0.2
baz=94
DYA Yadsworthy 93.89 332 eP P 09 06 24.4 -1.5
DYA AMB AMB 09 06 27.0
comp=Z,133nm,1.7s
DYA AMS AMS 09 56 30.0
comp=Z,20µm,15.0s
DYA Yadsworthy 93.89 332 eP P 09 06 25.6 -0.2
comp=Z,103nm,0.8s
COLF Collangettes 93.89 325⇑eP P 09 06 26.3 +0.2
E26A Carlson Angus 93.90 33 ⇑P P 09 06 26.0 0.0
baz=94
D27A Center 93.91 32 ⇓P P 09 06 26.0 -0.1
baz=94
OWUT Old Woman Plat 93.91 43 eP P 09 06 27.9 +1.3
SMRF Simiane la Rot 93.95 323 eP P 09 06 26.1 -0.2
comp=Z,162nm,1.4s
SMRF Simiane la Rot 93.95 323 eP P 09 06 26.1 -0.2
comp=Z,162nm,1.4s
B29A Wagenman Farm, 93.96 30 ⇓P P 09 06 26.1 -0.1
baz=94
BAR Barrett 93.99 51 eP P 09 06 26.7 -0.1
comp=Z,171nm,1.1s
H24A Dirks Ranch, A 94.02 36 ⇑P P 09 06 26.1 -0.6
baz=94
C28A Hausauer Farms 94.02 31 ⇓P P 09 06 26.3 -0.2
baz=94
ROA Roan Cliffs 94.02 42 eP P 09 06 28.2 +1.1
MONP Monument Peak, 94.05 51 ⇑P P 09 06 26.7 -0.6
baz=94
I23A Meade Ranch, G 94.07 37 ⇑P P 09 06 26.5 -0.5
baz=94
GRR Gorron 94.07 330 eP P 09 06 26.6 -0.1
comp=Z,110nm,0.9s
GRR Gorron 94.07 330 eP P 09 06 26.6 -0.1
GRR pmax pmax
comp=Z,110nm,0.9s
GRR Gorron 94.07 330 eP P 09 06 26.6 -0.1
comp=Z,110nm,0.9s
JSA Saint Aubin 94.07 331 eP P 09 06 26.6 -0.1
JSA AMB AMB 09 06 30.3
comp=Z,130nm,1.5s
JSA AMS AMS 09 56 24.4
comp=Z,20µm,16.5s
A30A Hoffart Farm, 94.08 30 ⇑P P 09 06 26.2 -0.6
baz=94
PYM Petit Puy Mans 94.08 326⇑eP P 09 06 25.7 -1.3
KNB Kanab 94.09 46 eP P 09 06 27.6 +0.3
KNB pmax pmax
comp=Z,318nm,1.1s
KNB MLR MLR
comp=Z,10µm,20.0s
KNB Kanab 94.09 46 eP P 09 06 27.6 +0.3
comp=Z,318nm,1.1s
KNB LR LR
comp=Z,10µm,20.0s
TCF Toulx Ste Croi 94.11 327 eP P 09 06 26.6 -0.4
comp=Z,42nm,0.9s
TCF Toulx Ste Croi 94.11 327 eP P 09 06 26.6 -0.4
TCF pmax pmax
comp=Z,42nm,0.9s
TCF Toulx Ste Croi 94.11 327 eP P 09 06 26.6 -0.4
comp=Z,42nm,0.9s

ULM	**Lac du Bonnet**	**94.15**	**27**	P		**P**	**09 06 26.0**	**-1.1**
	comp=Z,55nm,1.0s,baz=325,slow=5.7,SNR=18							
ULM				LR		LR	09 52 54.7	
	comp=Z,6µm,18.7s,baz=340,slow=38							
ULM	**Lac du Bonnet**	**94.15**	**27**	P		**P**	**09 06 26.0**	**-1.1**
LEPF	**PUYLOUBIER**	**94.18**	**323**	⇑*eP*		**P**	**09 06 27.1**	**-0.3**
IRM	**Iron Mountain**	**94.21**	**49**	⇓P		**P**	**09 06 27.8**	**+0.1**
	baz=94							
NEE2	**Needles Airpor**	**94.22**	**48**	⇑P		**P**	**09 06 27.6**	**-0.2**
	baz=94							
F26A	**Lodgepole**	**94.23**	**34**	⇓P		**P**	**09 06 27.3**	**-0.3**
	baz=94							
BTU	**Barney Top**	**94.25**	**44**	*eP*		**P**	**09 06 29.7**	**+1.4**
SRU	**San Rafael Swe**	**94.27**	**43**	*eP*		**P**	**09 06 27.8**	**-0.3**
SRU				*e*			09 10 10.5	
SRU				pmax		pmax		
	comp=Z,68nm,1.0s							
SRU				MLR		MLR		
	comp=Z,7µm,20.0s							
SRU	**San Rafael Swe**	**94.27**	**43**	*eP*		**P**	**09 06 27.8**	**-0.3**
	comp=Z,68nm,1.0s							
SRU				*e*PP		**PP**	**09 10 10.5**	**-3.8**
SRU				LR		LR		
	comp=Z,7µm,20.0s							
BC3	**Big Chuckawall**	**94.29**	**50**	⇓P		**P**	**09 06 27.9**	**-0.3**
	baz=94							
MDND	**Maddock**	**94.29**	**31**	*eP*		**P**	**09 06 28.1**	**+0.3**
	comp=Z,254nm,1.1s							
MDND				LR		LR		
	comp=Z,8µm,20.0s							
MDND	**Maddock**	**94.29**	**31**	⇓P		**P**	**09 06 27.2**	**-0.6**
	baz=94							
G25A	**Newell**	**94.31**	**35**	⇓P		**P**	**09 06 27.4**	**-0.6**
	baz=94							
D28A	**Regan**	**94.31**	**32**	⇓P		**P**	**09 06 27.9**	**0.0**
	baz=94							
LBL	**Lubilhac**	**94.32**	**325**	*eP*		**P**	**09 06 26.4**	**-1.7**
MMU	**Miners Mountai**	**94.35**	**44**	*eP*		**P**	**09 06 29.7**	**+1.1**
K22A	**Casper**	**94.35**	**38**	*eP*		**P**	**09 06 28.8**	**+0.4**
	comp=Z,54nm,1.3s							
K22A				LR		LR		
	comp=Z,7µm,21.0s							
K22A	**Casper**	**94.35**	**38**	⇑P		**P**	**09 06 27.7**	**-0.7**
	baz=94							
E27A	**Carson**	**94.37**	**33**	⇓P		**P**	**09 06 28.1**	**-0.2**
	baz=94							
J23A	**Dilts Ranch, B**	**94.39**	**37**	⇓P		**P**	**09 06 27.6**	**-0.9**
	baz=94							
IBP	**Imperial Bould**	**94.41**	**51**	⇑P		**P**	**09 06 28.5**	**-0.3**
	baz=94							
B30A	**Myrvik Farm, E**	**94.43**	**30**	⇓P		**P**	**09 06 28.2**	**-0.2**
	baz=94							
SWSC	**Sam W. Stewart**	**94.46**	**50**	⇓P		**P**	**09 06 28.8**	**0.0**
	baz=94							
W13A	**Hualapai Mount**	**94.52**	**48**	⇑P		**P**	**09 06 28.8**	**-0.6**
	baz=94							
N20A	**Spence Gulch,**	**94.54**	**40**	⇓P		**P**	**09 06 29.2**	**-0.2**
	baz=94							
F27A	**Lemmon**	**94.54**	**34**	⇓P		**P**	**09 06 28.8**	**-0.2**
	baz=94							
I24A	**Kuemmerle Ranc**	**94.58**	**36**	⇑P		**P**	**09 06 28.5**	**-0.9**
	baz=94							
RWWY	**Rawlins**	**94.59**	**39**	PFAKE			09 06 40.0	+10
RWWY				LR		LR		
	comp=Z,7µm,21.0s							
H25A	**Fruitdale**	**94.61**	**35**	⇑P		**P**	**09 06 28.7**	**-0.7**
	baz=94							
G26A	**Maurine**	**94.65**	**34**	⇓P		**P**	**09 06 29.1**	**-0.4**
	baz=94							
VSL	**Villasalto**	**94.67**	**318**	*eP*		**P**	**09 06 28.7**	**-1.0**
	comp=Z,44nm,1.1s							
VSL				LR		LR		
	comp=Z,10µm,18.0s							
E28A	**Huff**	**94.69**	**32**	⇓P		**P**	**09 06 28.8**	**-0.9**
	baz=94							
RSSD	**Black Hills**	**94.72**	**36**	*eP*		**P**	**09 06 29.9**	**-0.2**
RSSD				pmax		pmax		
	comp=Z,56nm,1.4s							
RSSD				MLR		MLR		
	comp=Z,8µm,19.0s							
RSSD	**Black Hills**	**94.72**	**36**	*eP*		**P**	**09 06 29.9**	**-0.2**
	comp=Z,56nm,1.4s							
RSSD				LR		LR		
	comp=Z,8µm,19.0s							
K23A	**Bowen Ranch, D**	**94.78**	**38**	⇑P		**P**	**09 06 29.4**	**-0.9**
	baz=94							
U15A	**North Rim**	**94.78**	**46**	⇑P		**P**	**09 06 30.1**	**-0.6**
	baz=94							
LASF	**Ste Croix**	**94.80**	**324**	*eP*		**P**	**09 06 29.9**	**-0.3**
	comp=Z,62nm,0.9s							
LASF	**Ste Croix**	**94.80**	**324**	*eP*		**P**	**09 06 29.9**	**-0.3**
	comp=Z,62nm,0.9s							
PDMCI	**Parker Dam,Lak**	**94.81**	**48**	⇓P		**P**	**09 06 30.1**	**-0.3**
	baz=95							
D29A	**Pettibone, Tap**	**94.87**	**31**	⇓P		**P**	**09 06 30.1**	**-0.4**
	baz=95							
Y12C	**Blythe**	**94.87**	**49**	⇓P		**P**	**09 06 30.8**	**+0.1**
	baz=95							
C30A	**Mose, Pekin**	**94.92**	**30**	⇓P		**P**	**09 06 29.8**	**-0.9**
	baz=95							
J24A	**Dixon Ranch, L**	**94.92**	**37**	⇑P		**P**	**09 06 29.9**	**-1.0**
	baz=95							
G27A	**Dupree**	**94.93**	**34**	⇑P		**P**	**09 06 30.3**	**-0.6**
	baz=95							
SGMF	**Saint Gilles**	**94.94**	**330**	*eP*		**P**	**09 06 30.6**	**-0.1**
	comp=Z,135nm,0.9s							
SGMF	**Saint Gilles**	**94.94**	**330**	*eP*		**P**	**09 06 30.6**	**-0.1**
SGMF				pmax		pmax		
	comp=Z,135nm,0.9s							
SGMF	**Saint Gilles**	**94.94**	**330**	*eP*		**P**	**09 06 30.6**	**-0.1**
	comp=Z,135nm,0.9s							
I25A	**Rochford**	**94.95**	**36**	⇓P		**P**	**09 06 30.7**	**-0.4**
	baz=95							
O20A	**White River Ci**	**95.00**	**41**	*eP*		**P**	**09 06 32.2**	**+0.8**
	comp=Z,42nm,1.0s							
O20A				LR		LR		
	comp=Z,7µm,20.0s							
O20A	**White River Ci**	**95.00**	**41**	⇓P		**P**	**09 06 31.2**	**-0.3**
	baz=95							
MFF	**Saint Martin d**	**95.03**	**328**	*eP*		**P**	**09 06 31.0**	**-0.2**
	comp=Z,75nm,1.0s							
MFF	**Saint Martin d**	**95.03**	**328**	*eP*		**P**	**09 06 31.0**	**-0.2**
MFF				pmax		pmax		
	comp=Z,75nm,1.0s							
MFF	**Saint Martin d**	**95.03**	**328**	*eP*		**P**	**09 06 31.0**	**-0.2**
	comp=Z,75nm,1.0s							
H26A	**Fairpoint**	**95.03**	**35**	⇓P		**P**	**09 06 30.9**	**-0.5**
	baz=95							
GLA	**Glamis**	**95.06**	**50**	*eP*		**P**	**09 06 31.7**	**0.0**
GLA				pmax		pmax		
	comp=Z,188nm,1.1s							
GLA	**Glamis**	**95.06**	**50**	*eP*		**P**	**09 06 31.7**	**0.0**
	comp=Z,188nm,1.1s							
GLA	**Glamis**	**95.06**	**50**	⇓P		**P**	**09 06 31.6**	**-0.1**
	baz=95							
CAF	**Calviac**	**95.14**	**326**	*eP*		**P**	**09 06 31.8**	**0.0**
	comp=Z,84nm,0.8s							
CAF	**Calviac**	**95.14**	**326**	*eP*		**P**	**09 06 31.8**	**0.0**
CAF				pmax		pmax		
	comp=Z,84nm,0.8s							
CAF	**Calviac**	**95.14**	**326**	*eP*		**P**	**09 06 31.8**	**0.0**
	comp=Z,84nm,0.8s							
RJF	**Les Rejaudoux**	**95.15**	**326**	*eP*		**P**	**09 06 31.5**	**-0.3**
	comp=Z,80nm,0.9s							
RJF				*e*R				
	comp=Z,30µm,22.8s							
RJF	**Les Rejaudoux**	**95.15**	**326**	*eP*		**P**	**09 06 31.5**	**-0.3**
RJF				pmax		pmax		
	comp=Z,80nm,0.9s							
RJF	**Les Rejaudoux**	**95.15**	**326**	*eP*		**P**	**09 06 31.5**	**-0.3**
	comp=Z,80nm,0.9s							
VAL	**Valentia**	**95.15**	**337**	*eP*		**P**	**09 06 30.2**	**-1.4**
VAL				*e*PP		**PP**	**09 10 20.7**	**+0.3**
VAL	**Valentia**	**95.15**	**337**	⇓S		**S**	**09 17 48.3**	**+1.8**
F28A	**McLaughlin**	**95.16**	**33**	⇓P		**P**	**09 06 31.8**	**-0.1**
	baz=95							
ROSF	**Rostrenen**	**95.19**	**331**	*eP*		**P**	**09 06 31.9**	**0.0**
	comp=Z,146nm,0.8s							
ROSF	**Rostrenen**	**95.19**	**331**	*eP*		**P**	**09 06 31.9**	**0.0**
ROSF				pmax		pmax		
	comp=Z,146nm,0.8s							
ROSF	**Rostrenen**	**95.19**	**331**	*eP*		**P**	**09 06 31.9**	**0.0**
	comp=Z,146nm,0.8s							
E29A	**Napoleon**	**95.20**	**32**	⇓P		**P**	**09 06 31.0**	**-1.1**
	baz=95							
D30A	**Buchanan**	**95.22**	**31**	⇓P		**P**	**09 06 31.5**	**-0.5**
	baz=95							
K24A	**Anderson Ranch**	**95.25**	**37**	⇑P		**P**	**09 06 31.8**	**-0.7**
	baz=95							
J25A	**Sunshine Ranch**	**95.34**	**36**	⇑P		**P**	**09 06 32.3**	**-0.5**
	baz=95							
H27A	**Howes**	**95.38**	**34**	⇓P		**P**	**09 06 32.2**	**-0.7**
	baz=95							
I26A	**New Underwood**	**95.40**	**35**	⇑P		**P**	**09 06 32.9**	**-0.1**
	baz=95							
QUIF	**Quistinic**	**95.46**	**330**	*eP*		**P**	**09 06 32.8**	**-0.3**
	comp=Z,73nm,0.8s							
QUIF	**Quistinic**	**95.46**	**330**	*eP*		**P**	**09 06 32.8**	**-0.3**
QUIF				pmax		pmax		
	comp=Z,73nm,0.8s							
QUIF	**Quistinic**	**95.46**	**330**	*eP*		**P**	**09 06 32.8**	**-0.3**
	comp=Z,73nm,0.8s							
PV09	**Paradox Valley**	**95.50**	**43**	*eP*		**P**	**09 06 34.6**	**+0.8**
E30A	**Jud**	**95.60**	**32**	⇓P		**P**	**09 06 33.1**	**-0.7**
	baz=95							
N22A	**Wattenberg Ran**	**95.60**	**39**	⇓P		**P**	**09 06 34.2**	**-0.1**
	baz=95							
PV10	**Paradox Valley**	**95.63**	**43**	*eP*		**P**	**09 06 35.7**	**+1.3**
AGMN	**Agassiz Nation**	**95.64**	**29**	*eP*		**P**	**09 06 33.0**	**-0.9**
	comp=Z,30nm,1.0s							
AGMN				*e*PP		**PP**	**09 10 25.2**	**+0.8**
AGMN				LR		LR		
	comp=Z,7µm,19.0s							
AGMN	**Agassiz Nation**	**95.64**	**29**	⇓P		**P**	**09 06 32.9**	**-1.0**
	baz=95							
F29A	**Eureka**	**95.64**	**32**	⇓P		**P**	**09 06 33.7**	**-0.3**
	baz=95							
G28A	**Parade**	**95.65**	**34**	⇓P		**P**	**09 06 33.5**	**-0.6**
	baz=95							
PV04	**Paradox Valley**	**95.70**	**43**	*eP*		**P**	**09 06 35.6**	**+0.9**
J26A	**Sides Ranch, S**	**95.78**	**36**	⇑P		**P**	**09 06 34.5**	**-0.3**
	baz=96							
PV05	**Paradox Valley**	**95.78**	**43**	*eP*		**P**	**09 06 35.9**	**+0.8**
I27A	**Quinn**	**95.79**	**35**	⇑P		**P**	**09 06 34.2**	**-0.6**
	baz=96							
Y14A	**Wickenburg**	**95.79**	**48**	⇑P		**P**	**09 06 34.6**	**-0.4**
	baz=96							
LFF	**La Frestale**	**95.79**	**326**	*eP*		**P**	**09 06 34.5**	**-0.2**
	comp=Z,34nm,0.8s							
LFF	**La Frestale**	**95.79**	**326**	*eP*		**P**	**09 06 34.5**	**-0.2**
LFF				pmax		pmax		
	comp=Z,34nm,0.8s							
LFF	**La Frestale**	**95.79**	**326**	*eP*		**P**	**09 06 34.5**	**-0.2**
	comp=Z,34nm,0.8s							
K25A	**Mack Ranch, Ha**	**95.83**	**37**	⇑P		**P**	**09 06 34.3**	**-0.8**
	baz=96							
N23A	**Red Feather La**	**95.83**	**39**	*eP*		**P**	**09 06 36.2**	**+0.9**
	comp=Z,76nm,1.3s							
N23A				LR		LR		
	comp=Z,8µm,20.0s							
N23A	**Red Feather La**	**95.83**	**39**	⇑P		**P**	**09 06 34.7**	**-0.6**
	baz=96							
PHWY	**Pilot Hill**	**95.84**	**39**	*eP'P'df*		P'P'df	09 31 43.7	+1.8
H28A	**Mission Ridge**	**95.89**	**34**	⇑P		**P**	**09 06 34.5**	**-0.7**
	baz=96							
WUAZ	**Wupatki**	**95.92**	**46**	*eP*		**P**	**09 06 36.4**	**+0.7**
	comp=Z,111nm,1.1s							
WUAZ				LR		LR		
	comp=Z,9µm,22.0s							
WUAZ	**Wupatki**	**95.92**	**46**	⇓P		**P**	**09 06 35.8**	**0.0**
	baz=96							
113A	**Mohawk Valley,**	**95.96**	**49**	⇓P		**P**	**09 06 36.1**	**+0.4**
	baz=96							
O22A	**Kremmling**	**95.97**	**40**	⇑P		**P**	**09 06 35.6**	**-0.4**
	baz=96							
F30A	**Leola**	**96.03**	**32**	⇑P		**P**	**09 06 35.3**	**-0.5**
	baz=96							
G29A	**Hoven**	**96.06**	**33**	⇑P		**P**	**09 06 35.5**	**-0.5**
	baz=96							
PV01	**Paradox Valley**	**96.07**	**43**	*eP*		**P**	**09 06 36.9**	**+0.5**
	comp=Z,3µm,1.0s							
L25A	**Engebretsen Ra**	**96.09**	**37**	⇑P		**P**	**09 06 35.5**	**-0.8**
	baz=96							
K26A	**Motz Farm, Whi**	**96.14**	**36**	⇓P		**P**	**09 06 35.6**	**-0.9**
	baz=96							
MIR	**Mirnyy**	**96.16**	**194**	*eP*		P	09 06 46.0	+10
MIR				pmax		pmax		
	comp=Z,8.0nm,0.5s							
MTLF	**Montolieu**	**96.16**	**325**	*eP*		**P**	**09 06 36.0**	**-0.4**
	comp=Z,41nm,0.9s							
MTLF	**Montolieu**	**96.16**	**325**	*eP*		**P**	**09 06 36.0**	**-0.4**
MTLF				pmax		pmax		
	comp=Z,41nm,0.9s							
MTLF	**Montolieu**	**96.16**	**325**	*eP*		**P**	**09 06 36.0**	**-0.4**
	comp=Z,41nm,0.9s							
Z14A	**Wintersburg**	**96.17**	**49**	⇓P		**P**	**09 06 36.5**	**-0.1**
	baz=96							
P22A	**Eagle**	**96.22**	**41**	⇓P		**P**	**09 06 37.0**	**-0.1**
	baz=96							
I28A	**Midland**	**96.29**	**34**	⇓P		**P**	**09 06 36.4**	**-0.6**
	baz=96							
O23A	**Lake Granby, G**	**96.30**	**40**	⇓P		**P**	**09 06 37.0**	**-0.6**
	baz=96							
H29A	**Onida**	**96.32**	**33**	⇑P		**P**	**09 06 36.3**	**-0.8**
	baz=96							
SMCO	**Snowmass**	**96.36**	**41**	*eP*		**P**	**09 06 38.4**	**+0.5**
	comp=Z,26nm,1.1s							
SMCO				LR		LR		
	comp=Z,6µm,21.0s							
J27A	**Elkhorn Farm,**	**96.38**	**35**	⇓P		**P**	**09 06 36.1**	**-1.4**
	baz=96							
G30A	**Faulkton**	**96.49**	**33**	⇓P		**P**	**09 06 36.8**	**-1.1**
	baz=96							
M25A	**Palm-Egli Farm**	**96.53**	**38**	⇓P		**P**	**09 06 37.6**	**-0.8**
	baz=96							
X16A	**Lo Mia Camp, P**	**96.54**	**47**	⇑P		**P**	**09 06 38.0**	**-0.6**
	baz=96							
K27A	**Flueckinger Fa**	**96.64**	**36**	⇑P		**P**	**09 06 38.2**	**-0.6**
	baz=96							
J28A	**Allard Ranch,**	**96.66**	**35**	⇑P		**P**	**09 06 37.9**	**-0.9**
	baz=96							
MVCO	**Mesa Verde**	**96.70**	**43**	*eP*		**P**	**09 06 39.4**	**+0.1**
	comp=Z,50nm,1.3s							
MVCO				LR		LR		
	comp=Z,6µm,20.0s							
MVCO	**Mesa Verde**	**96.70**	**43**	⇑P		**P**	**09 06 38.7**	**-0.6**
	baz=96							
I29A	**Vivian Onida**	**96.71**	**34**	⇑P		**P**	**09 06 38.4**	**-0.5**
	baz=96							
ISCO	**Idaho Springs**	**96.75**	**40**	*eP*		**P**	**09 06 40.0**	**+0.4**
ISCO				pmax		pmax		
	comp=Z,14nm,1.1s							
ISCO				MLR		MLR		
	comp=Z,7µm,19.0s							
ISCO	**Idaho Springs**	**96.75**	**40**	*eP*		**P**	**09 06 40.0**	**+0.4**
	comp=Z,14nm,1.1s							
ISCO				LR		LR		
	comp=Z,7µm,19.0s							
ISCO	**Idaho Springs**	**96.75**	**40**	⇓P		**P**	**09 06 37.7**	**-1.8**
	baz=97							
P23A	**Jefferson**	**96.90**	**40**	⇑P		**P**	**09 06 40.0**	**-0.3**
	baz=97							
VALF	**Valcebollere**	**96.92**	**324**	⇑*eP*		**P**	**09 06 39.1**	**-1.0**
M26A	**McRoberts Ranc**	**97.01**	**37**	⇑P		**P**	**09 06 39.5**	**-1.0**
	baz=97							
MLS	**Moulis**	**97.02**	**325**	⇑*eP*		**P**	**09 06 38.0**	**-2.3**
L27A	**T5 Ranch, Ells**	**97.03**	**36**	⇑P		**P**	**09 06 39.8**	**-0.7**
	baz=97							
KEST	**Kesra**	**97.04**	**315**	P		Pdif	09 06 40.9	+0.2
	comp=Z,4.9nm,1.1s,baz=306,slow=1.8,SNR=7.5							
KEST				PP		**PP**	**09 10 37.3**	**+1.5**
	comp=Z,1.8nm,0.8s,baz=8.1,slow=12,SNR=3.2							
KEST				LR		LR	09 57 10.1	
	comp=Z,4µm,18.3s,baz=331,slow=40							
KEST	**Kesra**	**97.04**	**315**	*eP*		**P**	**09 06 40.6**	**-0.1**
KEST				PP		**PP**	**09 10 37.3**	**+1.5**
BRSD	**Miller**	**97.08**	**33**	*eP*		**P**	**09 06 40.4**	**-0.2**
	comp=Z,57nm,0.9s							
BRSD				LR		LR		
	comp=Z,10µm,19.0s							
BRSD	**Miller**	**97.08**	**33**	⇓P		**P**	**09 06 40.2**	**-0.4**
	baz=97							
214A	**Organ Pipe Nat**	**97.09**	**50**	*eP*		Pdif	09 06 41.6	+0.6
	comp=Z,54nm,1.3s							
214A	**Organ Pipe Nat**	**97.09**	**50**	⇓P		Pdif	09 06 41.5	+0.5
	baz=97							
K28A	**Ten Mile Ranch**	**97.09**	**35**	⇓P		**P**	**09 06 40.7**	**-0.1**
	baz=97							
J29A	**Okreek**	**97.14**	**34**	⇓P		**P**	**09 06 40.9**	**0.0**
	baz=97							
Q23A	**Hartsel**	**97.21**	**41**	⇓P		**P**	**09 06 40.9**	**-0.7**
	baz=97							
W18A	**Petrified Fore**	**97.23**	**46**	PFAKE			09 06 50.0	+8.2
W18A				LR		LR		
	comp=Z,11µm,22.0s							
W18A	**Petrified Fore**	**97.23**	**46**	⇑P		**P**	**09 06 41.0**	**-0.7**
	baz=97							
I30A	**Oacoma**	**97.23**	**34**	⇓P		**P**	**09 06 40.9**	**-0.4**
	baz=97							
EPF	**Esparros**	**97.36**	**325**	*eP*		**P**	**09 06 40.9**	**-1.0**
	comp=Z,18nm,0.9s							
EPF	**Esparros**	**97.36**	**325**	*eP*		**P**	**09 06 40.9**	**-1.0**
EPF				pmax		pmax		
	comp=Z,19nm,0.9s							
EPF	**Esparros**	**97.36**	**325**	*eP*		**P**	**09 06 40.9**	**-1.0**
	comp=Z,18nm,0.9s							
S22A	**4UR Ranch, Cre**	**97.38**	**42**	*eP*		Pdif	09 06 43.5	+1.0
	comp=Z,22nm,1.1s							
S22A				LR		LR		
	comp=Z,9µm,20.0s							
S22A	**4UR Ranch, Cre**	**97.38**	**42**	⇓P		**P**	**09 06 42.1**	**-0.3**
	baz=97							
M27A	**Reverse DX Ran**	**97.38**	**37**	⇑P		**P**	**09 06 41.1**	**-1.0**
	baz=97							
N26A	**Koester Ranch,**	**97.41**	**38**	⇓P		**P**	**09 06 42.0**	**-0.3**
	baz=97							
X18A	**Snowflake**	**97.45**	**46**	⇓P		**P**	**09 06 42.4**	**-0.3**
	baz=97							
L28A	**Connealy Angus**	**97.51**	**36**	⇑P		**P**	**09 06 41.7**	**-1.0**
	baz=97							
RESF	**Ens**	**97.52**	**325**	⇑*eP*		**P**	**09 06 42.2**	**-0.5**
Q24A	**Divide**	**97.57**	**40**	*eP*		**P**	**09 06 42.6**	**-0.7**
Q24A				*e*pP		**pP**	**09 06 49.8**	**+2.5**
Q24A				LR		LR		
	comp=Z,5µm,20.0s							
Q24A	**Divide**	**97.57**	**40**	⇓P		**P**	**09 06 42.5**	**-0.8**
	baz=97							
K29A	**Lazy Trails An**	**97.61**	**35**	⇑P		**P**	**09 06 43.0**	**-0.1**
	baz=97							
J30A	**Dallas**	**97.62**	**34**	⇓P		**P**	**09 06 42.4**	**-0.7**
	baz=97							
VIEF	**Viey**	**97.62**	**325**	⇑*eP*		**P**	**09 06 43.1**	**-0.1**
R23A	**Moffat**	**97.69**	**41**	⇑P		**P**	**09 06 42.0**	**-1.8**
	baz=97							
EYMN	**Ely**	**97.75**	**27**	*eP*		**P**	**09 06 42.2**	**-1.3**
	comp=Z,44nm,1.1s							
EYMN				LR		LR		
	comp=Z,10µm,18.0s							
O26A	**Horse Wrangler**	**97.76**	**38**	⇓P		**P**	**09 06 43.2**	**-0.7**
	baz=98							
N27A	**Anderson Farm,**	**97.80**	**37**	⇑P		**P**	**09 06 43.6**	**-0.4**
	baz=98							
ATE	**Arette**	**97.85**	**326**	⇑*eP*		**P**	**09 06 43.4**	**-0.7**
S23A	**Nye Farm, Mont**	**97.90**	**42**	⇓P		**P**	**09 06 44.4**	**-0.3**
	baz=98							
ETSF	**Etsaut**	**97.91**	**326**	*eP*		Pdif	09 06 44.6	+0.1
	comp=Z,50nm,1.0s							
ETSF	**Etsaut**	**97.91**	**326**	*eP*		Pdif	09 06 44.6	+0.1
ETSF				pmax		pmax		
	comp=Z,50nm,1.0s							
ETSF	**Etsaut**	**97.91**	**326**	*eP*		Pdif	09 06 44.6	+0.1
	comp=Z,50nm,1.0s							
OGNE	**Ogallala**	**97.98**	**37**	⇓P		**P**	**09 06 44.2**	**-0.6**
	baz=98							
L29A	**Maesberg Ranch**	**98.02**	**35**	⇑P		**P**	**09 06 44.2**	**-0.7**
	baz=98							
M28A	**Bar X Bar Ranc**	**98.02**	**36**	⇑P		**P**	**09 06 44.6**	**-0.4**
	baz=98							
LARF	**Larrau**	**98.03**	**326**	⇑*eP*		**P**	**09 06 44.5**	**-0.4**
K30A	**Basset**	**98.03**	**35**	⇓P		**P**	**09 06 44.5**	**-0.5**
	baz=98							
SJPF	**Ste Jean**	**98.09**	**326**	*eP*		Pdif	09 06 46.5	+1.3
	comp=Z,40nm,1.2s							
SJPF	**Ste Jean**	**98.09**	**326**	*eP*		Pdif	09 06 46.5	+1.3
SJPF				pmax		pmax		
	comp=Z,40nm,1.2s							
SJPF	**Ste Jean**	**98.09**	**326**	*eP*		Pdif	09 06 46.5	+1.3
	comp=Z,40nm,1.2s							
SDCO	**Great Sand Dun**	**98.17**	**41**	*eP*		Pdif	09 06 46.9	+0.9
	comp=Z,18nm,1.3s							
SDCO				LR		LR		
	comp=Z,8µm,21.0s							
SDCO	**Great Sand Dun**	**98.17**	**41**	⇓P		Pdif	09 06 46.2	+0.2
	baz=98							
P26A	**Davis Ranch, A**	**98.20**	**39**	⇑P		**P**	**09 06 44.6**	**-1.3**
	baz=98							
TUC	**Tucson**	**98.25**	**48**	*eP*		**P**	**09 06 46.0**	**-0.2**
TUC				*e*			09 10 46.6	
TUC				pmax		pmax		
	comp=Z,36nm,1.4s							
TUC				MLR		MLR		
	comp=Z,14µm,21.0s							
TUC	**Tucson**	**98.25**	**48**	*eP*		**P**	**09 06 46.0**	**-0.2**
	comp=Z,36nm,1.4s							
TUC				*e*PP		**PP**	**09 10 46.6**	**+1.4**
TUC				LR		LR		
	comp=Z,14µm,21.0s							
O27A	**Beecher Island**	**98.26**	**38**	⇓P		**P**	**09 06 44.8**	**-1.3**
	baz=98							
M29A	**Burnside Ranch**	**98.35**	**36**	⇑P		**P**	**09 06 45.2**	**-1.3**
	baz=98							
N28A	**Pribbeno Ranch**	**98.42**	**37**	⇓P		**P**	**09 06 45.8**	**-1.0**
	baz=98							
SCHQ	**Schefferville**	**98.47**	**10**	P		Pdif	09 06 47.0	+0.4
	comp=Z,9.9nm,0.7s,baz=17,slow=6.0,SNR=10.0							
SCHQ				PKKP		**PKKPbc**	**09 23 17.2**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=139,slow=5.5,SNR=4.3							
SCHQ				LR		LR	09 52 13.0	
	comp=Z,22µm,21.8s,baz=350,slow=36							
L30A	**Spencer Herefo**	**98.50**	**35**	⇑P		**P**	**09 06 46.2**	**-0.9**
	baz=98							
Q26A	**Hugo**	**98.54**	**39**	⇑P		**P**	**09 06 46.8**	**-0.6**
	baz=98							
MBAR	**Mbarara**	**98.57**	**273**	*eP*		Pdif

ANMO comp=Z,26nm,1.4s *e*PP **PP** 09 10 53.4 **-0.7**
ANMO LR LR
S26A comp=Z,8µm,19.0s **Kim** 99.45 **40** ⇑Pdiff **Pdiff** 09 06 50.3 **-1.2**
baz=99
P29A **Atwood** 99.52 **37** ⇓Pdiff **Pdiff** 09 06 50.4 **-1.3**
baz=99
O30A **MW Ranch, Wils** 99.58 **37** ⇑Pdiff **Pdiff** 09 06 50.4 **-1.5**
baz=99
T26A **Comanche Natio** 99.68 **41** ⇓Pdiff **Pdiff** 09 06 52.1 **-0.6**
baz=99
Y22D **IRIS PASSCAL I** 99.69 **45** ⇑Pdiff **Pdiff** 09 06 51.8 **-0.9**
baz=99
BGNE **Belgrade** 99.70 **35** *e*Pdif **Pdif** 09 06 52.2 **-0.1**
BGNE LR LR
BGNE comp=Z,10µm,20.0s **Belgrade** 99.70 **35** ⇓Pdiff **Pdiff** 09 06 51.8 **-0.6**
baz=99
N31A **Bailey Ranch,** 99.71 **35** ⇓Pdiff **Pdiff** 09 06 51.9 **-0.5**
baz=99
S27A **Las Animas** 99.74 **40** ⇑Pdiff **Pdiff** 09 06 50.4 **-2.4**
baz=100
BNM **Barren Site** 99.82 **45** *e*Pdif **Pdif** 09 06 54.6 **+1.2**
BNM *e*PP **PP** 09 10 59.9 **+2.6**
319A **Douglas** 99.83 **48** ⇓Pdiff **Pdif** 09 06 51.8 **-1.5**
baz=100
R28A **Tribune** 99.91 **39** ⇓Pdiff **Pdif** 09 06 51.6 **-1.9**
baz=100
P30A **Selden** 99.93 **37** ⇑Pdiff **Pdif** 09 06 52.9 **-0.7**
baz=100
Q29A **Oakley** 99.99 **38** ⇑Pdiff **Pdif** 09 06 53.4 **-0.4**
baz=100
O31A **Woolen Ranch,** 100.00 **36** ⇓Pdiff **Pdif** 09 06 53.2 **-0.5**
baz=100
N32A **Stulken Farm,** 100.09 **35** ⇓Pdiff **Pdif** 09 06 52.9 **-1.3**
baz=100
121A **Cookes Peak, D** 100.11 **47** ⇑Pdiff **Pdif** 09 06 53.6 **-1.0**
baz=100
COWI **Conover** 100.19 **26** PFAKE 09 07 10.0 +16
COWI LR LR
R29A comp=Z,12µm,20.0s **Marienthal** 100.23 **38** ⇑Pdiff **Pdif** 09 06 53.7 **-1.2**
baz=100
T27A **Campo** 100.27 **40** ⇑Pdiff **Pdif** 09 06 53.5 **-1.6**
baz=100
Q30A **Quinter** 100.35 **37** ⇓Pdiff **Pdif** 09 06 54.3 **-1.1**
baz=100
S28A **Manter** 100.38 **39** ⇑Pdiff **Pdif** 09 06 54.5 **-1.1**
baz=100
P31A **Stockton** 100.42 **37** ⇑Pdiff **Pdif** 09 06 54.3 **-1.4**
baz=100
O32A **Brockman Farm,** 100.47 **35** ⇑Pdiff **Pdif** 09 06 54.8 **-1.0**
baz=100
T28A **Walsh** 100.58 **40** ⇑Pdiff **Pdif** 09 06 55.7 **-0.9**
baz=100
U27A **Thompson Grove** 100.64 **41** ⇓Pdiff **Pdif** 09 06 56.6 **-0.3**
baz=100
EMHD **Djebel Mahouad** 100.67 **319** P PP 09 11 12.0 +8.6
P32A **Huiting Farm,** 100.76 **36** ⇓Pdiff **Pdif** 09 06 55.8 **-1.4**
baz=100
Q31A **Ellis** 100.78 **37** ⇓Pdiff **Pdif** 09 06 56.2 **-1.1**
baz=100
S29A **Ulysses** 100.81 **39** ⇑Pdiff **Pdif** 09 06 56.6 **-0.8**
baz=100
R30A **Dighton** 100.81 **38** ⇑Pdiff **Pdif** 09 06 56.8 **-0.7**
baz=100
N34A **Lincoln** 100.96 **34** ⇑Pdiff **Pdif** 09 06 56.3 **-1.6**
baz=101
O33A **Hebron** 100.97 **35** ⇑Pdiff **Pdif** 09 06 56.1 **-2.0**
baz=101
U28A **Mallet** 101.03 **41** ⇓Pdiff **Pdif** 09 06 57.4 **-1.1**
baz=101
T29A **Hugoton** 101.03 **39** ⇓Pdiff **Pdif** 09 06 56.3 **-2.2**
baz=101
V27A **Dan Oppiter Fa** 101.09 **41** ⇑Pdiff **Pdif** 09 06 58.8 **0.0**
baz=101
S30A **Montezuma** 101.16 **39** ⇓Pdiff **Pdif** 09 06 58.7 **-0.3**
baz=101
R31A **Burdett** 101.22 **38** ⇓Pdiff **Pdif** 09 06 58.6 **-0.7**
baz=101
Q32A **Meitler Ranch,** 101.24 **37** ⇑Pdiff **Pdif** 09 06 58.0 **-1.3**
baz=101
N35A **Tabor** 101.37 **34** ⇓Pdiff **Pdif** 09 06 58.5 **-1.3**
baz=101
P33A **Williams Farm,** 101.38 **36** ⇓Pdiff **Pdif** 09 06 59.2 **-0.7**
baz=101
V28A **Channing** 101.46 **41** ⇑Pdiff **Pdif** 09 06 59.3 **-1.1**
baz=101
U29A **Oasis Ranch, S** 101.53 **40** ⇑Pdiff **Pdif** 09 07 00.5 **-0.2**
baz=101
T30A **Plains** 101.54 **39** ⇑Pdiff **Pdif** 09 06 59.9 **-0.8**
baz=101
R32A **Long Quarter,** 101.57 **37** ⇑Pdiff **Pdif** 09 06 58.9 **-1.9**
baz=101
Q33A **Connelly Farm,** 101.62 **36** ⇓Pdiff **Pdif** 09 06 59.7 **-1.3**
baz=101
O35A **Humboldt** 101.68 **34** ⇑Pdiff **Pdif** 09 07 00.3 **-0.9**
baz=101
S31A **Mullinville** 101.72 **38** ⇑Pdiff **Pdif** 09 07 00.6 **-0.9**
baz=102
SCIA **State Center** 101.75 **31** PFAKE 09 07 10.0 +8.5
SCIA LR LR
PBRG comp=Z,8µm,19.0s **Braganca** 101.76 **328** *e*Pdif **Pdif** 09 07 01.5 **-0.1**
PBRG **Braganca** 101.76 **328** *e*PP PP 09 11 12.4 +1.0
PBRG **Braganca** 101.76 **328** *e*LR LR 09 41 45.0
V29A comp=Z,14µm,20.0s **Stinnett** 101.79 **40** ⇑Pdiff **Pdif** 09 07 00.8 **-1.1**
baz=102
W28A **Vega** 101.81 **41** ⇓Pdiff **Pdif** 09 07 00.3 **-1.7**
baz=102
U30A **WK&E Inc. Balk** 101.83 **39** ⇓Pdiff **Pdif** 09 07 01.8 **-0.2**
baz=102
ES19 **SONSECA Array** 101.96 **325** *e*Pdif **Pdif** 09 07 01.8 **-0.8**
ES19 *e*PKKPbc **PKKPdf** **09 23 10.7** **-2.3**
S32A **Newby Ranch, P** 101.97 **38** ⇑Pdiff **Pdif** 09 07 01.9 **-0.7**
baz=102
T31A **Randall Ranch,** 101.99 **39** ⇓Pdiff **Pdif** 09 07 02.5 **-0.2**
baz=102
ESDC **Sonseca Array** 102.02 **325** P **Pdif** 09 07 02.5 **-0.3**
comp=Z,7.9nm,0.8s,baz=32,slow=4.0,SNR=25
ESDC PP PP 09 11 04.3 -9.1
comp=Z,1.2nm,0.6s,baz=36,slow=8.5,SNR=4.0
ESDC PKKPbc **PKKPbc** **09 23 07.7** **+0.5**
comp=Z,0.5nm,0.3s,baz=257,slow=1.8,SNR=9.3
R33A **Olander Ranch,** 102.05 **37** ⇓Pdiff **Pdif** 09 07 00.3 **-2.6**
baz=102
Q34A **Chapman** 102.15 **36** ⇑Pdiff **Pdif** 09 07 02.5 **-0.8**
baz=102
P35A **Duane Minner,** 102.18 **35** ⇑Pdiff **Pdif** 09 07 03.3 **-0.2**
baz=102
KSU1 **Kansas State U** 102.19 **35** PFAKE 09 07 10.0 +6.5
KSU1 LR LR
MNTX comp=Z,8µm,21.0s **Cornudas Mount** 102.20 **46** *e*Pdif **Pdif** 09 07 04.7 **+0.9**
MNTX *e*PP **PP** **09 11 12.2** **-2.9**
MNTX LR LR
MNTX comp=Z,9µm,20.0s **Cornudas Mount** 102.20 **46** ⇓Pdiff **Pdif** 09 07 03.3 **-0.5**
baz=102
W29A **Amarillo** 102.23 **41** ⇑Pdiff **Pdif** 09 07 04.0 **+0.1**
baz=102
O36A **Bolckow** 102.26 **34** ⇓Pdiff **Pdif** 09 07 03.6 **-0.2**
baz=102
X28A **Dimmitt** 102.32 **42** ⇓Pdiff **Pdif** 09 07 03.9 **-0.4**
baz=102
MSTX **Muleshoe** 102.34 **43** *e*Pdif **Pdif** 09 07 07.2 **+2.8**
MSTX LR LR
MSTX comp=Z,8µm,20.0s **Muleshoe** 102.34 **43** ⇓Pdiff **Pdif** 09 07 02.7 **-1.8**
baz=102
T32A **Huddler Ranch,** 102.35 **38** ⇓Pdiff **Pdif** 09 07 02.9 **-1.4**
baz=102
V30A **Spur Ranch, Mi** 102.35 **40** ⇓Pdiff **Pdif** 09 07 03.4 **-1.0**
baz=102
PGAV **Gavieira, Arco** 102.35 **329** *e*PP PP 09 11 21.9 +6.1
PGAV **Gavieira, Arco** 102.35 **329** *e*SS SS 09 25 57.2 +4.7
PGAV **Gavieira, Arco** 102.35 **329** *e*LR LR 09 41 55.2
AMTX comp=Z,10µm,22.0s **Amarillo** 102.38 **41** PFAKE 09 07 20.0 +15
AMTX LR LR
AMTX comp=Z,7µm,19.0s **Amarillo** 102.38 **41** ⇑Pdiff **Pdif** 09 07 02.6 **-2.0**
baz=102
MVO **Moncorvo** 102.40 **328** *e*Pdif **Pdif** 09 07 04.2 **-0.3**
MVO **Moncorvo** 102.40 **328** *e*PP PP 09 11 16.9 +0.7
MVO **Moncorvo** 102.40 **328** *e*LR LR 09 41 55.8
U31A comp=Z,12µm,20.0s **Nine Bar Ranch** 102.40 **39** ⇓Pdiff **Pdif** 09 07 04.1 **-0.5**
baz=102
PCAB **Cabril** 102.44 **329** *e*PP PP 09 11 19.4 +3.0
R34A **Isabella, Hill** 102.45 **36** ⇓Pdiff **Pdif** 09 07 03.6 **-1.1**
baz=102
S33A **Kaszmaul Farm,** 102.56 **37** ⇓Pdiff **Pdif** 09 07 04.9 **-0.3**
baz=102
POLO **Lamas de Olo** 102.59 **329** *e*PP PP 09 11 16.3 -1.4
POLO **Lamas de Olo** 102.59 **329** *e*SS SS 09 26 01.9 +6.0
POLO **Lamas de Olo** 102.59 **329** *e*LR LR 09 41 52.2
PVRL comp=Z,6µm,22.0s **Vila Real** 102.64 **329** *e*PP PP 09 11 21.9 +4.0
X29A **Tulia** 102.67 **42** ⇑Pdiff **Pdif** 09 07 04.1 **-1.8**
baz=102
Q35A **Mercer Eighty,** 102.67 **35** ⇓Pdiff **Pdif** 09 07 04.3 **-1.3**
baz=102
T33A **Patterson Ranc** 102.79 **38** ⇓Pdiff **Pdif** 09 07 04.7 **-1.5**
baz=102
W30A **Crocket Farms** 102.82 **40** ⇑Pdiff **Pdif** 09 07 05.3 **-1.2**
baz=103
V31A **Spring Creek L** 102.83 **40** ⇓Pdiff **Pdif** 09 07 04.4 **-2.1**
baz=103
U32A **Winter Ranch,** 102.88 **39** ⇓Pdiff **Pdif** 09 07 06.0 **-0.7**
baz=103
Q36A **Arnold C. Orve** 102.89 **35** ⇑Pdiff **Pdif** 09 07 06.2 **-0.4**
baz=103
S34A **Willow Spring** 102.96 **37** ⇓Pdiff **Pdif** 09 07 06.0 **-0.9**
baz=103
R35A **Emporia Munici** 102.99 **36** ⇑Pdiff **Pdif** 09 07 06.3 **-0.8**
baz=103
GLMI **Grayling** 103.01 **24** PFAKE 09 07 20.0 +13
GLMI LR LR
Z28A comp=Z,7µm,18.0s **Tucker Farm, M** 103.04 **43** ⇓Pdiff **Pdif** 09 07 06.6 **-0.9**
baz=103
Y29A **Porterfield Fa** 103.08 **42** ⇑Pdiff **Pdif** 09 07 06.7 **-1.0**
baz=103
PVIS **Viseu** 103.16 **328** *e*Pdif **Pdif** 09 07 07.6 **-0.2**
PVIS **Viseu** 103.16 **328** *e*PP PP 09 11 23.8 +2.0
X30A **Coker Ranch, T** 103.16 **41** ⇑Pdiff **Pdif** 09 07 07.6 **-0.3**
baz=103
W31A **Holland Ranch,** 103.19 **40** ⇑Pdiff **Pdif** 09 07 07.4 **-0.7**
baz=103
MTE **Manteigas** 103.24 **328** *e*Pdif **Pdif** 09 07 08.3 **+0.1**
MTE **Manteigas** 103.24 **328** *e*PP PP 09 11 23.8 +1.3
MTE **Manteigas** 103.24 **328** *e*LR LR 09 41 51.2
MTE comp=Z,18µm,18.0s **Manteigas** 103.24 **328** *e*Pdif **Pdif** 09 07 08.8 **+0.6**
MTE LR LR
V32A comp=Z,17µm,20.0s **Arapaho** 103.32 **39** ⇑Pdiff **Pdif** 09 07 07.9 **-0.7**
baz=103
U33A **Lingo Farm, Me** 103.34 **38** ⇓Pdiff **Pdif** 09 07 07.2 **-1.4**
baz=103
R36A **Gordon, Harris** 103.35 **35** ⇑Pdiff **Pdif** 09 07 07.7 **-1.0**
baz=103
S35A **Otter Creek Ra** 103.40 **36** ⇓Pdiff **Pdif** 09 07 08.1 **-0.8**
baz=103
T34A **McClaskey Farm** 103.42 **37** ⇓Pdiff **Pdif** 09 07 07.8 **-1.2**
baz=103
128A **Castleberry Fa** 103.43 **43** ⇑Pdiff **Pdif** 09 07 08.3 **-1.0**
baz=103
Q37A **Longview Farm,** 103.47 **34** ⇑Pdiff **Pdif** 09 07 07.9 **-1.3**
baz=103
Z29A **Hungry Hill Ra** 103.47 **43** ⇑Pdiff **Pdif** 09 07 09.1 **-0.4**
baz=103
Y30A **Stafford Cattl** 103.54 **42** ⇑Pdiff **Pdif** 09 07 08.6 **-1.1**
baz=103
X31A **McDonald Ranch** 103.56 **40** ⇑Pdiff **Pdif** 09 07 08.5 **-1.2**
baz=103
W32A **Sentinel** 103.63 **40** ⇓Pdiff **Pdif** 09 07 09.1 **-1.0**
baz=103
PCBR **Castelo Branco** 103.64 **328** *e*PP PP 09 11 27.5 +2.1
U34A **Anderson Ranch** 103.65 **38** PFAKE 09 07 20.0 +10
U34A LR LR
U34A comp=Z,6µm,20.0s **Anderson Ranch** 103.65 **38** ⇑Pdiff **Pdif** 09 07 09.0 **-1.1**
baz=103
V33A **Lossen Ranch,** 103.68 **39** ⇑Pdiff **Pdif** 09 07 08.4 **-1.8**
baz=103
228A **UT Block 9, Go** 103.70 **44** ⇑Pdiff **Pdif** 09 07 09.4 **-1.1**
baz=104
R37A **Teagarden Farm** 103.70 **35** ⇑Pdiff **Pdif** 09 07 09.2 **-1.1**
baz=103
S36A **Lake Cedric, C** 103.75 **36** ⇑Pdiff **Pdif** 09 07 08.8 **-1.7**
baz=104
129A **Stewart Farms,** 103.81 **43** ⇑Pdiff **Pdif** 09 07 09.8 **-1.1**
baz=104
Z30A **Sanderson Ranc** 103.81 **42** ⇓Pdiff **Pdif** 09 07 09.3 **-1.6**
baz=104
Y31A **Rekieta Farm,** 103.86 **41** ⇓Pdiff **Pdif** 09 07 09.2 **-1.8**
baz=104
T35A **Sooner Cattle** 103.86 **37** ⇑Pdiff **Pdif** 09 07 09.3 **-1.7**
baz=104
PMRV **Marv??o** 103.92 **327** *e*Pdif **Pdif** 09 07 10.3 **-0.9**
PMRV **Marv??o** 103.92 **327** *e*PP PP 09 11 30.0 +2.5
PMRV **Marv??o** 103.92 **327** *e*SS SS 09 26 20.1 +6.0
PMRV **Marv??o** 103.92 **327** *e*LR LR 09 42 16.8
PCAS comp=Z,15µm,16.0s **Casmilo, Conde** 103.96 **328** *e*Pdif **Pdif** 09 07 10.2 **-1.2**
PCAS **Casmilo, Conde** 103.96 **328** *e*PP PP 09 11 30.5 +2.7
PCAS **Casmilo, Conde** 103.96 **328** *e*LQ LQ 09 38 02.0
PCAS *e*LR LR 09 42 46.0
RKT comp=Z,17µm,20.0s **Rikitea** 104.01 **109** *e*PP PP 09 11 28.9 -0.7
comp=Z,801nm,32.0s
RKT **Rikitea** 104.01 **109** *e*PS PS 09 20 39.7 -1.4
RKT comp=Z,4µm,34.2s *e*SS SS 09 26 15.5 -2.4
comp=Z,11µm,31.0s
RKT **Rikitea** 104.01 **109** *e*LQ LQ 09 36 34.9
RKT comp=Z,18µm,33.2s *e*LR LR 09 41 05.9
comp=Z,57µm,40.5s,baz=290
SLBS **Sierra La Lagu** 104.01 **55** PFAKE 09 07 20.0 +8.0
SLBS LR LR
W33A comp=Z,5µm,20.0s **Caddo, Fort Co** 104.06 **39** ⇓Pdiff **Pdif** 09 07 10.0 **-1.9**
baz=104
T36A **Boggs Farm, Ca** 104.09 **36** ⇑Pdiff **Pdif** 09 07 10.3 **-1.7**
baz=104
V34A **Guthrie** 104.10 **38** PFAKE 09 07 20.0 +7.9
V34A LR LR
V34A comp=Z,8µm,19.0s **Guthrie** 104.10 **38** ⇑Pdiff **Pdif** 09 07 09.8 **-2.3**
baz=104
X32A **Elmer** 104.11 **40** ⇓Pdiff **Pdif** 09 07 10.6 **-1.6**
baz=104
WMOK **Wichita Mounta** 104.17 **40** PFAKE 09 07 20.0 +7.5
WMOK LR LR
PTOM comp=Z,6µm,20.0s **Tomar** 104.26 **328** *e*Pdif **Pdif** 09 07 12.3 **-0.4**
PTOM **Tomar** 104.26 **328** *e*PP PP 09 11 34.3 +4.3
229A **Bryant Ranch,** 104.29 **44** ⇓Pdiff **Pdif** 09 07 10.4 **-2.7**
baz=104
Y32A **F-V Farms, Ver** 104.31 **41** ⇓Pdiff **Pdif** 09 07 12.0 **-1.1**
baz=104
Z31A **Sharp Cattle R** 104.38 **42** ⇑Pdiff **Pdif** 09 07 12.3 **-1.1**
baz=104
130A **Snyder** 104.38 **43** ⇓Pdiff **Pdif** 09 07 12.6 **-0.8**
baz=104
W34A **Bridge Creek,** 104.39 **39** *e*PKiKP **PKiKP** **09 11 30.8** **+1.0**
W34A *e*PKKPab **PKKPab** **09 23 18.6** **-2.5**
W34A LR LR
W34A comp=Z,7µm,19.0s **Bridge Creek,** 104.39 **39** ⇓Pdiff **Pdif** 09 07 12.2 **-1.2**
baz=104
PESTR **Estremoz** 104.45 **327** *e*Pdif **Pdif** 09 07 12.3 **-1.3**
PESTR **Estremoz** 104.45 **327** *e*PP PP 09 11 29.4 -2.1
PESTR **Estremoz** 104.45 **327** *e*SS SS 09 26 26.2 +4.8
PESTR **Estremoz** 104.45 **327** *e*LR LR 09 43 06.2
X33A comp=Z,14µm,18.0s **Lawton** 104.48 **40** ⇑Pdiff **Pdif** 09 07 13.1 **-0.7**
baz=104
329A **Wagon Wheel Ra** 104.51 **44** ⇓Pdiff **Pdif** 09 07 13.3 **-0.7**
baz=104
V35A **Meyer Ranch, C** 104.53 **38** ⇑Pdiff **Pdif** 09 07 12.4 **-1.6**
baz=104
T37A **Cheneyville 18** 104.56 **36** ⇓Pdiff **Pdif** 09 07 13.0 **-1.1**
baz=104
PMTG **Montargil** 104.60 **328** *e*PP PP 09 11 34.5 +1.9
PMTG **Montargil** 104.60 **328** *e*SS SS 09 26 26.8 +3.4
PMTG **Montargil** 104.60 **328** *e*LR LR 09 42 41.0
HDIL comp=Z,13µm,18.0s **Hopedale** 104.62 **30** PFAKE 09 07 30.0 +16
HDIL LR LR
131A comp=Z,700nm,18.0s **Roby** 104.68 **42** ⇑Pdiff **Pdif** 09 07 14.4 **-0.4**
baz=104
PBAR **Barrancos** 104.71 **326** *e*Pdif **Pdif** 09 07 14.2 **-0.5**
PBAR **Barrancos** 104.71 **326** *e*PP PP 09 11 34.3 +0.9
PBAR **Barrancos** 104.71 **326** *e*SS SS 09 26 30.5 +5.5
PBAR **Barrancos** 104.71 **326** *e*LR LR 09 43 12.7
VNDA comp=Z,34µm,20.0s **Vanda** 104.77 **173** Pdiff **Pdif** 09 07 14.1 **+0.2**
comp=Z,0.9nm,0.8s,baz=306,slow=5.5,SNR=4.6
VNDA PKiKP **PKiKP** **09 11 29.8** **+0.7**
comp=Z,3.8nm,0.9s,baz=284,slow=4.6,SNR=4.5
VNDA PKKPbc **PKKPbc** **09 23 01.9** **+1.8**
comp=Z,4.6nm,0.8s,baz=238,slow=1.7,SNR=15
230A **Sterling City** 104.78 **43** ⇑Pdiff **Pdif** 09 07 13.6 **-1.6**
baz=104
Z32A **Haskell** 104.78 **41** ⇓Pdiff **Pdif** 09 07 14.3 **-0.8**
baz=104
Y33A **Hilltop Ranch,** 104.79 **40** ⇑Pdiff **Pdif** 09 07 14.2 **-0.9**
baz=104
X34A **Smith Ranch, M** 104.82 **39** ⇓Pdiff **Pdif** 09 07 13.8 **-1.5**
baz=104
TX31 **Lajitas Ar. Si** 104.87 **47** *e*Pdif **Pdif** 09 07 15.5 **-0.2**
TX31 *e*PKiKP **PKiKP** **09 11 28.9** **-2.0**
TX31 *e*PKKPbc **PKKPbc** **09 22 58.5** **0.0**
TXAR **Lajitas Array** 104.87 **47** Pdiff **Pdif** 09 07 15.4 **-0.4**
comp=Z,3.7nm,0.9s,baz=298,slow=2.7,SNR=18
TXAR PKiKP **PKiKP** **09 11 31.3** **+0.3**
comp=Z,11nm,1.0s,baz=304,slow=0.8,SNR=9.0
TXAR PKKPbc **PKKPbc** **09 22 57.9** **-0.6**
comp=Z,2.1nm,0.8s,baz=146,slow=5.8,SNR=15
EVO **Evora** 104.92 **327** *e*PKiKP **PKiKP** **09 11 34.0** **+3.4**
comp=Z,165nm,1.6s
EVO *e*R
W35A comp=Z,24µm,21.5s **Tecumseh** 104.96 **38** ⇓Pdiff **Pdif** 09 07 14.9 **-1.0**
baz=105
TUL1 **Leonard** 104.99 **37** *e*PKiKP **PKiKP** **09 11 33.4** **+2.5**
TUL1 LR LR
TUL1 comp=Z,8µm,20.0s **Leonard** 104.99 **37** ⇓Pdiff **Pdif** 09 07 14.9 **-1.1**
baz=105
DRLN **Deer Lake** 105.05 **5** PFAKE 09 11 40.0
DRLN LR LR
330A comp=Z,11µm,21.0s **Mertzon** 105.07 **44** ⇓Pdiff **Pdif** 09 07 15.2 **-1.4**
baz=105
PACT **Alcochete** 105.13 **328** *e*PP PP 09 11 44.4 +8.0
429A **Davenport Ranc** 105.15 **45** ⇓Pdiff **Pdif** 09 07 14.3 **-2.6**
baz=105
ABTX **Abilene, Hawle** 105.16 **42** PFAKE 09 11 40.0
ABTX LR LR
ABTX comp=Z,9µm,20.0s **Abilene, Hawle** 105.16 **42** ⇓Pdiff **Pdif** 09 07 16.0 **-0.8**
baz=105
PMAFR **Mafra** 105.20 **328** *e*Pdif **Pdif** 09 07 17.2 **+0.3**
PMAFR **Mafra** 105.20 **328** *e*PP PP 09 11 38.7 +1.7
PMAFR **Mafra** 105.20 **328** *e*LR LR 09 43 51.0
Z33A comp=Z,19µm,20.0s **Whitaker Ranch** 105.22 **41** ⇑Pdiff **Pdif** 09 07 14.9 **-2.2**
baz=105
231A **Bronte** 105.23 **43** ⇑Pdiff **Pdif** 09 07 15.9 **-1.3**
baz=105
529A **Stev Forest Ra** 105.28 **45** ⇓PKiKP **PKiKP** **09 11 30.8** **-0.8**
baz=105
Y34A **Reagan Ranch,** 105.32 **40** ⇓PKiKP **PKiKP** **09 11 31.3** **-0.2**
baz=105
LIS **Lisbon** 105.33 **328** *e*P **Pdif** **09 07 16.4** **-1.0**
LIS *e*PP **PP** **09 11 37.9** **0.0**
LIS *e*S **SKSac** **09 17 55.4** **-2.3**
LIS *e*SS **SKKPbc** **09 26 35.8** **-1.2**
LIS AMS AMS 09 56 42.3
LIS comp=N,24µm,21.6s **Lisbon** 105.33 **328** *e*P **Pdif** **09 07 16.4** **-1.0**
LIS *e* 09 11 37.9
LIS *e*S **SKSac** **09 17 55.3** **-2.3**
LIS *e*SS **SKKPbc** **09 26 35.7** **-1.2**
W36A **Wetumka** 105.33 **38** ⇑PKiKP **PKiKP** **09 11 30.9** **-0.6**
baz=105
MAW **Mawson** 105.33 **201** Pdiff **Pdif** 09 07 21.3 **+4.8**
comp=N,2.2nm,0.9s,baz=119,slow=10,SNR=2.7
MAW PKiKP **PKiKP** **09 11 31.8** **+1.5**
comp=N,2.2nm,0.8s,baz=54,slow=2.6,SNR=2.8
MAW PKKPbc **PKKPbc** **09 22 58.7** **+0.4**
comp=N,9.8nm,0.8s,baz=257,slow=5.0,SNR=12
X35A **Drake** 105.45 **39** ⇓PKiKP **PKiKP** **09 11 30.5** **-1.2**
baz=105
430A **Baggett Ranch,** 105.45 **44** ⇑PKiKP **PKiKP** **09 11 31.4** **-0.5**
baz=105
PNCL **Nicolau / Gran** 105.50 **327** *e*Pdif **Pdif** 09 07 17.9 **-0.3**
PNCL **Nicolau / Gran** 105.50 **327** *e*PP PP 09 11 40.4 +1.2
PNCL **Nicolau / Gran** 105.50 **327** *e*LR LR 09 42 55.3
AAM comp=N,13µm,22.0s **Ann Arbor** 105.52 **25** PFAKE 09 11 40.0
AAM LR LR
MESJ comp=Z,10µm,20.0s **Messejana** 105.56 **327** *e*P **Pdif** **09 07 17.4** **-1.2**
MESJ *e*PP **PP** **09 11 39.5** **-0.2**
MESJ *e*S **SKSac** **09 17 57.9** **-0.9**
MESJ *e*SS **SS** **09 26 38.2** **+1.7**
MESJ AMS AMS 09 52 46.0
MESJ comp=E,28µm,22.1s **Messejana** 105.56 **327** *e*Pdif **Pdif** **09 07 18.3** **-0.2**
MESJ **Messejana** 105.56 **327** *e*PP PP 09 11 40.5 +0.8
MESJ **Messejana** 105.56 **327** *e*P **Pdif** **09 07 17.3** **-1.2**
MESJ *e* 09 11 39.5
MESJ *e*S **SKSac** **09 17 57.8** **-0.9**
MESJ *e*SS **SS** **09 26 38.2** **+1.7**
331A **San Angelo** 105.60 **43** ⇑PKiKP **PKiKP** **09 11 31.7** **-0.5**
baz=105
133A **Hamilton Ranch** 105.61 **41** ⇑PKiKP **PKiKP** **09 11 31.5** **-0.7**
baz=105
SBA **Scott Base** 105.61 **172** *e*PKPdf **PKiKP** **09 11 29.4** **-1.2**
SBA LR LR
PCVE comp=Z,6µm,20.0s **Castro Verde** 105.63 **327** *e*Pdif **Pdif** **09 07 14.6** **-4.2**
PCVE **Castro Verde** 105.63 **327** *e*PP PP 09 11 40.7 +0.5
PCVE **Castro Verde** 105.63 **327** *e*LR LR 09 44 12.8
PVAQ comp=Z,45µm,20.0s **Vaqueiros** 105.65 **326** *e*Pdif **Pdif** **09 07 19.1** **+0.2**
PVAQ **Vaqueiros** 105.65 **326** *e*PP PP 09 11 39.0 -1.4
PVAQ **Vaqueiros** 105.65 **326** *e*LR LR 09 43 37.4
Z34A comp=Z,15µm,22.0s **Collier Ranch,** 105.65 **40** ⇓PKiKP **PKiKP** **09 11 30.9** **-1.2**
baz=105
232A **Coleman** 105.67 **42** ⇓PKiKP **PKiKP** **09 11 31.8** **-0.5**
baz=105
X36A **Centrahoma** 105.67 **38** ⇑PKiKP **PKiKP** **09 11 31.2** **-0.9**
baz=105
SLM **Saint Louis** 105.72 **32** PFAKE 09 11 40.0
SLM LR LR
SFIN comp=Z,8µm,18.0s **Lafayette** 105.73 **29** PFAKE 09 11 40.0
SFIN LR LR
SFIN comp=Z,9µm,22.0s **Lafayette** 105.73 **29** ⇓PKiKP **PKiKP** **09 11 32.1** **0.0**
baz=105
W37A **Quinton** 105.77 **37** ⇓PKiKP **PKiKP** **09 11 32.0** **-0.3**
baz=106
530A **J-C Ranch, Com** 105.83 **45** ⇑PKiKP **PKiKP** **09 11 32.0** **-0.6**
baz=106
PBDV **Barranco-do-Ve** 105.88 **326** *e*Pdif **Pdif** **09 07 19.2** **-0.8**
PBDV **Barranco-do-Ve** 105.88 **326** *e*PP PP 09 11 44.5 +2.4
PBDV **Barranco-do-Ve** 105.88 **326** *e*SS SS 09 26 45.8 +4.7
PBDV **Barranco-do-Ve** 105.88 **326** *e*LR LR 09 44 06.0
431A comp=Z,15µm,18.0s **Sonora** 105.92 **44** ⇓PKiKP **PKiKP** **09 11 32.0** **-0.7**
baz=106
332A **Millersview** 105.97 **43** ⇑PKiKP **PKiKP** **09 11 32.0** **-0.8**
baz=106
233A **Rising Star** 106.03 **42** ⇑PKiKP **PKiKP** **09 11 32.0** **-0.9**
baz=106
Z35A **Perchaven, San** 106.07 **40** ⇓PKiKP **PKiKP** **09 11 31.5** **-1.4**
baz=106
134A **White-Moore Ra** 106.13 **41** ⇓PKiKP **PKiKP** **09 11 32.3** **-0.8**
baz=106
MORF **Marmelete** 106.19 **327** *e*P **Pdif** **09 07 20.1** **-1.3**
MORF *e*PP **PP** **09 11 43.8** **-0.6**
MORF *e*S **SKSac** **09 17 58.7** **-3.0**
MORF *e*SS **SS** **09 26 47.1** **+1.8**
MORF AMS AMS 09 53 14.1
MORF comp=E,27µm,21.7s **Marmelete** 106.19 **327** *e*PP PP 09 11 47.8 +3.4
MORF **Marmelete** 106.19 **327** *e*LR LR 09 44 56.9
comp=E,14µm,20.0s

MORF Marmelete 106.19 327 *e*P **Pdif** 09 07 20.1 -1.3
MORF *e* 09 11 43.7
MORF *e*S **SKSac** 09 17 58.7 -3.0
MORF *e*SS **SS** 09 26 47.1 +1.8

X37A Clayton 106.20 38 ⇑PKiKP **PKiKP** 09 11 32.5 -0.6
baz=106
432A Menard 106.29 43 ⇓PKiKP **PKiKP** 09 11 33.6 +0.1
baz=106
W38A Poteau 106.31 37 ⇑PKiKP **PKiKP** 09 11 33.2 -0.1
baz=106
531A Rocksprings 106.31 44 ⇓PKiKP **PKiKP** 09 11 34.1 +0.6
baz=106
PFVI Vila Bisbo 106.41 327 *e*PP PP 09 11 46.8 +0.8
PFVI Vila Bisbo 106.41 327 *e*LR LR 09 43 36.1
comp=E,17µm,22.0s
333A Richland Sprin 106.47 42 ⇓PKiKP **PKiKP** 09 11 33.2 -0.6
baz=106
234A Clairette 106.50 41 ⇑PKiKP **PKiKP** 09 11 34.0 +0.2
baz=106
135A Vickery Place, 106.53 40 ⇓PKiKP **PKiKP** 09 11 33.0 -0.8
baz=106
JCT Junction City 106.56 43 *e*PKPdf **PKiKP** 09 11 34.5 +0.5
JCT LR LR
comp=Z,7µm,18.0s
JCT Junction City 106.56 43 ⇑PKiKP **PKiKP** 09 11 33.5 -0.5
baz=106
532A Rocksprings 106.74 44 ⇑PKiKP **PKiKP** 09 11 32.9 -1.4
baz=106
433A Art 106.81 43 ⇓PKiKP **PKiKP** 09 11 33.7 -0.7
baz=107
631A Perdido Creek 106.81 45 ⇓PKiKP **PKiKP** 09 11 33.5 -0.9
baz=107
LSZ Lusaka 106.89 261 PFAKE 09 11 50.0
LSZ LR LR
comp=Z,4µm,20.0s
WHTX Lake Whitney, 106.91 41 *e*Pdif **Pdif** 09 07 32.7 +8.1
WHTX LR LR
comp=Z,6µm,18.0s
WHTX Lake Whitney, 106.91 41 ⇑PKiKP **PKiKP** 09 11 33.6 -0.9
baz=107
334A Lometa 106.92 42 ⇓PKiKP **PKiKP** 09 11 34.4 -0.2
baz=107
Z37A Pogue Cattle C 107.09 39 ⇓PKiKP **PKiKP** 09 11 33.7 -1.1
baz=107
PBMO Poplar Bluff 107.10 33 *e*PP PP 09 11 48.5 -2.5
PBMO LR LR
comp=Z,11µm,22.0s
NCB Newcomb 107.17 18 PFAKE 09 11 50.0
NCB LR LR
comp=Z,9µm,20.0s
MMNY Mt. Morris Dam 107.19 21 PFAKE 09 11 50.0
MMNY LR LR
comp=Z,28µm,18.0s
PKME Peaks-Kenny Pk 107.19 14 PFAKE 09 11 50.0
PKME LR LR
comp=Z,9µm,20.0s
MIAR Mount Ida 107.22 37 *e*PKPdf **PKiKP** 09 11 35.6 +0.6
MIAR LR LR
comp=Z,8µm,19.0s
632A Uvalde 107.24 44 ⇑PKiKP **PKiKP** 09 11 34.2 -1.1
baz=107
434A Burnet 107.27 42 ⇑PKiKP **PKiKP** 09 11 34.3 -0.9
baz=107
533A Kerrville 107.32 43 ⇓PKiKP **PKiKP** 09 11 35.1 -0.2
baz=107
ALLY Alegheny Colle 107.39 23 PFAKE 09 11 50.0
ALLY LR LR
comp=Z,19µm,18.0s
335A Moody 107.44 41 ⇑PKiKP **PKiKP** 09 11 34.7 -0.8
baz=107
236A Katherine and 107.45 40 ⇑PKiKP **PKiKP** 09 11 34.6 -0.9
baz=107
ACSO Alum Creek Sta 107.56 26 *e*PKiKP **PKiKP** 09 11 38.5 +3.0
ACSO LR LR
comp=Z,10µm,19.0s
633A Saathoff Ranch 107.66 44 ⇑PKiKP **PKiKP** 09 11 35.7 -0.3
baz=107
732A Laxson Ranch, 107.66 45 ⇑PKiKP **PKiKP** 09 11 35.4 -0.6
baz=107
534A Blanco 107.69 43 ⇓PKiKP **PKiKP** 09 11 35.1 -1.0
baz=107
435B Jarrell 107.70 42 ⇑PKiKP **PKiKP** 09 11 35.0 -1.0
baz=107
336A Riesel 107.71 41 ⇓PKiKP **PKiKP** 09 11 33.9 -2.1
baz=108
PVMO Portageville 107.75 33 PFAKE 09 11 50.0
PVMO LR LR
comp=Z,9µm,18.0s
WVL Waterville 107.77 15 PFAKE 09 11 50.0
WVL LR LR
comp=Z,11µm,20.0s
138A Matatall Enter 107.79 39 ⇓PKiKP **PKiKP** 09 11 34.5 -1.6
baz=108
WCI Wyandotte Cave 107.86 29 *e*PKiKP **PKiKP** 09 11 38.6 +2.5
WCI LR LR
comp=Z,7µm,20.0s
237A Washetta, Mont 107.87 40 ⇑PKiKP **PKiKP** 09 11 35.1 -1.1
baz=108
Z39A Irene McRaven, 107.87 38 ⇓PKiKP **PKiKP** 09 11 35.4 -0.9
baz=108
ACCN Adirondack Com 107.87 18 PFAKE 09 11 50.0
ACCN LR LR
comp=Z,9µm,21.0s
HNH Hanover 107.94 17 PFAKE 09 11 50.0
HNH LR LR
comp=Z,9µm,19.0s
832A Faith Ranch, C 107.97 45 ⇑PKiKP **PKiKP** 09 11 35.4 -1.2
baz=108
733A Divot King Ran 108.10 44 ⇑PKiKP **PKiKP** 09 11 34.6 -2.2
baz=108
EMMW East Machias 108.11 13 PFAKE 09 11 50.0
EMMW LR LR
comp=Z,21µm,22.0s
139A Bunkhouse Ranc 108.17 38 ⇓PKiKP **PKiKP** 09 11 34.1 -2.7
baz=108
436A Wall Ranch, Ga 108.18 41 ⇑PKiKP **PKiKP** 09 11 35.5 -1.4
baz=108
634A China Grove, S 108.23 43 ⇓PKiKP **PKiKP** 09 11 36.8 -0.2
baz=108
535A Dale 108.25 42 ⇑PKiKP **PKiKP** 09 11 35.2 -1.8
baz=108
238A Jacksonville 108.26 39 ⇑PKiKP **PKiKP** 09 11 35.7 -1.3
baz=108
BINY Binghamton 108.28 20 PFAKE 09 11 50.0
BINY LR LR
comp=Z,11µm,19.0s
833A Chaparral WMA, 108.31 45 ⇓PKiKP **PKiKP** 09 11 36.0 -1.2
baz=108
337A Centerville 108.32 40 ⇑PKiKP **PKiKP** 09 11 36.0 -1.2
baz=108
FFD Franklin Falls 108.32 16 PFAKE 09 11 50.0
FFD LR LR
comp=Z,9µm,20.0s
734A La Parita Cree 108.47 44 ⇓PKiKP **PKiKP** 09 11 37.3 -0.2
baz=108
TRY Troy 108.47 18 PFAKE 09 11 50.0
TRY LR LR
comp=Z,9µm,22.0s
536A Bastrop 108.52 42 ⇑PKiKP **PKiKP** 09 11 36.6 -0.9
baz=108
635A Leesville 108.58 43 ⇓PKiKP **PKiKP** 09 11 36.4 -1.3
baz=108
239A Gary 108.62 39 ⇓PKiKP **PKiKP** 09 11 37.0 -0.6
baz=108
338A Crockett 108.63 40 ⇑PKiKP **PKiKP** 09 11 36.6 -1.2
baz=108
PTCN Pitcairn Islan 108.86 109 PFAKE 09 11 50.0
PTCN LR LR
comp=Z,24µm,22.0s
933A Laredo 108.88 45 ⇑PKiKP **PKiKP** 09 11 37.9 -0.3
baz=109
WVT Waverly 108.88 32 PFAKE 09 11 50.0
WVT LR LR
comp=Z,14µm,20.0s
KSPA Keystone Colle 108.93 20 PFAKE 09 11 50.0
KSPA LR LR
comp=Z,12µm,20.0s
735A Kenedy 108.93 43 ⇓PKiKP **PKiKP** 09 11 38.0 -0.3
baz=109
636A Smothers Creek 108.95 42 ⇓PKiKP **PKiKP** 09 11 38.1 -0.3
baz=109
537A Green Hill Far 108.97 41 ⇓PKiKP **PKiKP** 09 11 37.8 -0.5
baz=109
834A Tilden 108.98 44 ⇑PKiKP **PKiKP** 09 11 38.4 -0.1
baz=109
SSPA Standing Stone 109.07 22 *e*PKPdf **PKiKP** 09 11 36.6 -1.6
SSPA LR LR
comp=Z,13µm,19.0s
HRV Adam Dziewonsk 109.25 17 PFAKE 09 11 50.0
HRV LR LR
comp=Z,7µm,20.0s
736A Circle Diamond 109.32 43 ⇑PKiKP **PKiKP** 09 11 37.9 -1.2
baz=109
835A Beeville 109.32 44 ⇓PKiKP **PKiKP** 09 11 36.5 -2.5
baz=109
HKT Hockley 109.35 41 PFAKE 09 11 50.0
HKT LR LR
comp=Z,11µm,18.0s
538A Harpers Horsep 109.35 41 ⇑PKiKP **PKiKP** 09 11 37.7 -1.4
baz=109
439A Center Grove, 109.36 40 ⇑PKiKP **PKiKP** 09 11 37.6 -1.5
baz=109
934A Benavides 109.36 45 ⇓PKiKP **PKiKP** 09 11 37.7 -1.4
baz=109
340A Bronson 109.40 39 ⇓PKiKP **PKiKP** 09 11 36.4 -2.8
baz=109
OXF Oxford 109.40 34 PFAKE 09 11 50.0
OXF LR LR
comp=Z,14µm,18.0s
034A Hebbronville 109.63 45 ⇓PKiKP **PKiKP** 09 11 38.4 -1.3
baz=109
ODNJ Ogdensburg 109.72 19 *e*PKiKP **PKiKP** 09 11 42.6 +3.1
ODNJ LR LR
comp=Z,9µm,22.0s
KVTX Kingsville 109.80 44 PFAKE 09 11 50.0
KVTX LR LR
comp=Z,8µm,18.0s
539A Cross D Ranch, 109.89 40 ⇓PKiKP **PKiKP** 09 11 39.7 -0.4
baz=110
LUPA Lehigh Univers 109.92 20 *e*PP PP 09 12 10.4 -0.9
LUPA LR LR
comp=Z,2µm,20.0s
YLE Yale 109.99 18 PFAKE 09 11 50.0
YLE LR LR
comp=Z,11µm,19.0s
PAL Palisades 110.00 19 PFAKE 09 11 50.0
PAL LR LR
comp=Z,10µm,21.0s
035A Encino 110.09 45 ⇑PKiKP **PKiKP** 09 11 39.8 -0.8
baz=110
035Z Hargill 110.44 45 ⇑PKiKP **PKiKP** 09 11 40.1 -1.2
baz=110
VBMS Vicksburg 110.63 36 PFAKE 09 11 50.0
VBMS LR LR
comp=Z,9µm,21.0s
TKL Tuckaleechee C 111.11 29 PKKP **PKKPdf** 09 22 57.2 +1.2
comp=Z,4.3nm,0.8s,baz=159,slow=8.6,SNR=3.5
BLA Blacksburg 111.17 26 PFAKE 09 11 50.0
BLA LR LR
comp=Z,18µm,18.0s
CBN Corbin Frederi 111.42 23 PFAKE 09 11 50.0
CBN LR LR
comp=Z,13µm,19.0s
LRAL Lakeview Retre 111.78 33 PFAKE 09 11 50.0
LRAL LR LR
comp=Z,12µm,22.0s
PGRA Graciosa 112.34 342 *e*PP PP 09 12 35.3 +6.7
PGRA Graciosa 112.34 342 *e*LQ LQ 09 38 56.7
PGRA *e*LR LR 09 45 37.8
comp=Z,2µm,22.3s
KMSC Kings Mountain 112.59 27 PFAKE 09 12 00.0
KMSC LR LR
comp=Z,11µm,21.0s
KMSC Kings Mountain 112.59 27 ⇓PKiKP **PKiKP** 09 11 44.2 -0.9
baz=112
LBTB Lobatse 112.62 252 *e*PKiKP **PKiKP** 09 11 46.0 +0.6
LBTB Lobatse 112.62 252 *e*PKiKP **PKiKP** 09 11 46.0 +0.6
LBTB *e*PKKPbc **PKKPbc** 09 22 36.4 +2.6
ROSA Rosais 112.71 342 *e*PP PP 09 12 32.2 +1.0
ROSA Rosais 112.71 342 *e*SS SS 09 28 08.0 -4.1
ROSA Rosais 112.71 342 *e*LQ LQ 09 40 26.2
ROSA *e*LR LR 09 44 54.8
comp=Z,2µm,26.3s
PSET Sete Cidades 112.77 339 *e*PP PP 09 12 36.2 +4.4
PSET Sete Cidades 112.77 339 *e*SS SS 09 28 08.9 -4.3
PSET Sete Cidades 112.77 339 *e*LR LR 09 44 58.4
comp=Z,2µm,21.0s
GOGA Godfrey 113.14 30 PFAKE 09 12 00.0
GOGA LR LR
comp=Z,11µm,20.0s
PSMN Pico do Norte, 113.31 338 *e*PP PP 09 12 35.6 0.0
PSMN Pico do Norte, 113.31 338 *e*SS SS 09 28 16.5 -3.7
PSMN Pico do Norte, 113.31 338 *e*LQ LQ 09 41 12.8
PSMN *e*LR LR 09 46 49.4
comp=Z,1µm,21.0s
BRAL Brewton 113.39 34 PFAKE 09 12 00.0
BRAL LR LR
comp=Z,12µm,18.0s
CNNC Cliffs of the 113.87 25 PFAKE 09 12 00.0
CNNC LR LR
comp=Z,13µm,19.0s
SYO Syowa Base 113.89 203 ||*e*P **PKiKP** 09 11 45.0 -1.3
PMOZ Porto Moniz, M 113.89 330 *e*LR LR 09 46 23.4
comp=Z,6µm,22.0s
BOSA Boshof 114.02 249 PKP PKPdf 09 11 46.4 -1.6
comp=Z,2.3nm,0.6s,baz=4.7,slow=5.2,SNR=2.4
BOSA PKKPab **PKKPab** 09 22 36.3 +1.2
comp=Z,4.5nm,0.9s,baz=209,slow=4.7,SNR=3.1
MSKU Masuku 114.36 280 *e*PKiKP PKPdf 09 11 48.9 -0.1
MSKU LR LR
comp=Z,6µm,22.0s
TIGA Tifton 114.73 31 PFAKE 09 12 00.0 +11
TIGA LR LR
comp=Z,11µm,18.0s
TIGA Tifton 114.73 31 ⇑PKiKP **PKiKP** 09 11 48.7 -0.6
baz=114
QSPA South Pole Qui 115.52 180 *e*PKPdf **PKPdf** 09 11 48.8 -0.9
QSPA LR LR
comp=Z,8µm,21.0s
TOA0 Torodi Ar. Sit 116.52 301 *e*PKiKP **PKPdf** 09 11 51.9 -1.2
TOA0 Torodi Ar. Sit 116.52 301 *e*PKPdf **PKPdf** 09 11 51.8 -1.3
TOA0 *e*PKKPbc **PKKPbc** 09 22 20.7 +0.5
TORD Torodi Ar. Bea 116.52 301 PKP **PKPdf** 09 11 51.6 -1.5
comp=Z,14nm,0.7s,baz=24,slow=2.5,SNR=30
TORD PP PP 09 12 51.8 -7.7
comp=Z,8.5nm,1.1s,baz=32,slow=7.2,SNR=5.6
TORD PKKPbc **PKKPbc** 09 22 19.5 -0.7
comp=Z,2.0nm,0.6s,baz=230,slow=2.1,SNR=10
TSUM Tsumeb 117.75 261 *e*PKPdf **PKPdf** 09 11 56.1 +0.6
TSUM *e*PKKPbc **PKKPab** 09 22 22.7 +3.4
TSUM LR LR
comp=Z,4µm,22.0s
SUR Sutherland 118.72 246 *e*PKPdf **PKPdf** 09 11 57.9 +0.8
SUR LR LR
comp=Z,6µm,20.0s
CMIG Matias Romero 119.05 50 PKKPab PKKPab 09 22 13.4 -2.3
comp=Z,5.5nm,0.9s,baz=186,slow=5.3,SNR=5.1
BBSR BB Station 120.55 14 PFAKE 09 12 10.0 +10
BBSR LR LR
comp=Z,6µm,20.0s
TEIG Tepich 121.12 43 PFAKE 09 12 10.0 +8.2
TEIG LR LR
comp=Z,6µm,20.0s
NVL N'lazarevskaya 123.26 200 ⇑*i*PKiKP PKPdf 09 11 57.0 -7.3
NVL *e**PP **PKiKP** 09 12 05.1 +0.5
NVL pmax pmax
comp=Z,19nm,0.8s
KIC Kosan Boka 125.66 300 *e*PKiKP **PKPdf** 09 12 10.3 -0.4
comp=Z,93nm,0.9s
TIC Toumodi 125.70 300 *e*PKiKP **PKPdf** 09 12 10.2 -0.6
comp=Z,53nm,0.7s
LIC Lamto 125.97 300 *e*PKiKP **PKPdf** 09 12 10.7 -0.6
comp=Z,70nm,0.9s
LIC *e*R
comp=Z,9µm,21.0s
LIC Lamto 125.97 300 *e*PKiKP **PKPdf** 09 12 10.8 -0.6
comp=Z,150nm,1.3s
LIC Lamto 125.97 300 *e*PKPdf **PKPdf** 09 12 10.7 -0.6
TGUH Tegucigalpa,Un 126.35 47 *e*PKPdf **PKPdf** 09 12 13.8 +1.9
TGUH *e*PP **PP** 09 14 06.4 +0.3
TGUH LR LR
comp=Z,7µm,19.0s
SNAA Sanae 127.13 197 P **PKPdf** 09 12 10.5 -1.4
SNAA Sanae 127.13 197 *e*PKiKP **PKPdf** 09 12 09.8 -2.1
SNAA MLR MLR
comp=Z,6µm,20.0s
SNAA Sanae 127.13 197 *e*PKPdf **PKPdf** 09 12 09.8 -2.1
SNAA LR LR
comp=Z,6µm,20.0s
GTBY Guantanamo Bay 128.49 31 PFAKE 09 12 30.0 +14
GTBY LR LR
comp=Z,7µm,21.0s
VNA2 Neumayer--Watz 128.75 197 P **PKPdf** 09 12 14.6 -0.3
baz=84,slow=1.5
GRTK Grand Turk 128.77 25 PFAKE 09 12 30.0 +14
GRTK LR LR
comp=Z,9µm,22.0s
MTDJ Mount Denham 128.77 34 PFAKE 09 12 30.0 +13
MTDJ LR LR
comp=Z,7µm,19.0s
VNA1 Neumayer--Stat 129.15 197 P **PKPdf** 09 12 16.6 +0.9
WSYH La Gonave Hosp 130.45 29 *e*PKPdf **PKPdf** 09 12 20.8 +1.1
JTS Juntas Abangare 130.63 48 PKP **PKPdf** 09 12 19.0 -1.2
comp=Z,31nm,1.1s,baz=0.0,slow=8.1,SNR=5.1
JTS JuntasAbangare 130.63 48 PKIKP **PKPdf** 09 12 19.0 -1.2
JTS MLR MLR
comp=Z,3µm,19.0s
JTS JuntasAbangare 130.63 48 PKP **PKPdf** 09 12 19.0 -1.2
JTS LR LR
comp=Z,3µm,19.0s
SDDR Presa de Saban 130.98 27 *e*PKPdf **PKPdf** 09 12 21.5 +0.7
SDDR *ep*PKPdf **pPKPdf** 09 12 30.9 +5.9
SDDR LR LR
comp=Z,10µm,22.0s
SMN1 Samana, DR 131.59 25 *e*PKPdf **PKPdf** 09 12 23.2 +1.3
SACV Santiago Islan 132.04 325 PFAKE 09 12 30.0 +7.2
SACV LR LR
comp=Z,4µm,20.0s
OBIP Obispado Ponce 133.59 22 *e*PKPdf **PKPdf** 09 12 25.7 0.0
SJG San Juan 133.68 21 *e*PKIKP **PKPdf** 09 12 26.1 +0.2
SJG MLR MLR
comp=Z,19µm,20.0s
SJG San Juan 133.68 21 *e*PKPdf **PKPdf** 09 12 26.1 +0.2
SJG LR LR
comp=Z,19µm,20.0s
ICMP Isla Caja de M 133.77 22 *e*PKPdf **PKPdf** 09 12 22.9 -3.0
STVI Saint Thomas 133.84 20 *e*PKPdf **PKPdf** 09 12 25.4 -0.8
PAYG Puerto Ayora 133.91 64 PFAKE 09 12 40.0 +14
PAYG LR LR
comp=Z,5µm,18.0s
SMRT St. Maarten 134.67 18 *e*PKPdf **PKPdf** 09 12 30.0 +2.3
BCIP Isla Barro Col 134.79 44 *e*PKPdf **PKPdf** 09 12 27.1 -0.9
BCIP LR LR
comp=Z,7µm,18.0s
ANWB Willy Bob 135.37 16 PFAKE 09 12 40.0 +11
ANWB LR LR
comp=Z,6µm,21.0s
SHEL Horse Pasture 137.64 274 PFAKE 09 12 40.0 +6.8
SHEL LR LR
comp=Z,3µm,20.0s
FDF Fort de France 138.34 16 *e*PKIKP **PKPdf** 09 12 33.8 -0.8
FDF Fort de France 138.34 16 *e*PKPdf **PKPdf** 09 12 33.8 -0.8
SDV Santo Domingo 140.18 33 *e*PKPdf **PKPdf** 09 12 36.0 -2.3
SDV LR LR
comp=Z,3µm,20.0s
BBGH Gun Hill 140.26 15 PFAKE 09 12 50.0 +12
BBGH LR LR
comp=Z,9µm,22.0s
GRGR Grenville 140.70 18 PFAKE 09 12 50.0 +11
GRGR LR LR
comp=Z,10µm,22.0s
ROSC El Rosal 141.53 41 PKhKP PKPpre 09 12 37.5
comp=Z,8.1nm,0.5s,baz=94,slow=3.4,SNR=9.4
ROSC PKP **PKPdf** 09 12 41.1 +0.2
comp=Z,18nm,0.8s,baz=111,slow=17,SNR=14
ROSC El Rosal 141.53 41 PKPpre PKPpre 09 12 37.5
ROSC *e*PKPdf **PKPdf** 09 12 38.9 -2.0
ROSC PKP **PKPdf** 09 12 41.1 +0.2
PCRV Puerto La Cruz 141.58 24 PKP **PKPdf** 09 12 40.2 -0.4
comp=Z,25nm,0.7s,baz=188,slow=4.2,SNR=7.6
ASCN Ascension 141.71 291 PFAKE 09 12 50.0 +9.3
ASCN LR LR
comp=Z,4µm,22.0s
OTAV Otavalo 142.33 51 *e*PKPdf **PKPdf** 09 12 37.9 -4.5
OTAV LR LR
comp=Z,4µm,21.0s
ATAH Atahualpa 147.24 61 PKPbc **PKPbc** 09 12 52.2 -0.9
comp=Z,78nm,0.9s,baz=299,slow=2.3,SNR=46
USHA Ushuaia 147.94 160 PKPbc **PKPdf** 09 12 51.4 +1.2
comp=Z,66nm,1.1s,baz=189,slow=3.6,SNR=2.4
HOPE Hope Point 149.77 196 *e*PKPdf **PKPdf** 09 12 53.6 +0.5
HOPE LR LR
comp=Z,5µm,21.0s
NNA Nana 151.27 67 PKPbc **PKPbc** 09 13 02.7 -0.1
comp=Z,95nm,0.8s,baz=324,slow=4.7,SNR=29
NNA Nana 151.27 67 *e*PKIKP **PKPdf** 09 12 57.6 +0.8
NNA 09 13 02.7
NNA MLR MLR
comp=Z,6µm,20.0s
NNA Nana 151.27 67 *e*PKPdf **PKPdf** 09 12 57.6 +0.8
NNA *e*PKPbc **PKPbc** 09 13 02.3 -0.5
NNA PKPbc **PKPbc** 09 13 02.7 -0.1
NNA LR LR
comp=Z,6µm,20.0s
EFI East Falkland 153.39 169 *e*PKIKP **PKPdf** 09 12 59.2 +0.5
EFI MLR MLR
comp=Z,5µm,19.0s
EFI East Falkland 153.39 169 *e*PKPdf **PKPdf** 09 12 59.2 +0.5
EFI LR LR
comp=Z,5µm,19.0s
RCBR Riachuelo 156.02 323 PKP **PKPdf** 09 13 01.5 -2.1
comp=Z,14nm,1.0s,baz=326,slow=11,SNR=3.7
RCBR PKPab **PKPab** 09 13 31.8 +1.1
comp=Z,36nm,0.8s,baz=12,slow=4.5,SNR=9.0
RCBR Riachuelo 156.02 323 PKP **PKPdf** 09 13 01.5 -2.1
RCBR *e*PKPdf **PKPdf** 09 13 02.0 -1.7
RCBR PKPab **PKPab** 09 13 31.8 +1.1
RCBR LR LR
comp=Z,4µm,21.0s
PLCA Paso Flores 157.32 136 PKP **PKPdf** 09 13 02.4 -2.1
comp=Z,8.3nm,1.0s,baz=280,slow=2.2,SNR=5.7
PLCA PKPab **PKPab** 09 13 37.3 +1.6
comp=Z,43nm,0.9s,baz=232,slow=5.1,SNR=11
PLCA PKKPab 09 19 44.8
comp=Z,2.2nm,1.0s,baz=133,slow=5.4,SNR=3.0
PLCA Paso Flores 157.32 136 PKP **PKPdf** 09 13 02.4 -2.1
PLCA *e*PKPdf **PKPdf** 09 13 04.3 -0.2
PLCA PKPab **PKPab** 09 13 37.3 +1.6
PLCA PKKPab 09 19 44.8
SAML Samuel 159.15 39 *e*PKPdf **PKPdf** 09 13 07.3 -0.1
SAML LR LR
comp=Z,2µm,22.0s
PSGC Pisagua 160.50 76 *e*P **PKPdf** 09 13 10.7 +1.8
LPAZ La Paz 160.69 64 PKP **PKPdf** 09 13 10.2 +0.4
comp=Z,36nm,1.1s,baz=1.0,slow=3.7,SNR=33
LPAZ PKPab **PKPab** 09 13 52.7 +1.0
comp=Z,25nm,1.1s,baz=25,slow=9.8,SNR=7.4
LPAZ PP **PP** 09 17 33.0 -1.2
comp=Z,18nm,1.2s,baz=345,slow=3.8,SNR=4.2
LPAZ La Paz 160.69 64 *e*P **PKPdf** 09 13 10.8 +0.9
LPAZ La Paz 160.69 64 PKP **PKPdf** 09 13 10.2 +0.4
LPAZ *e*PKPdf **PKPdf** 09 13 10.6 +0.8
LPAZ PKPab **PKPab** 09 13 52.7 +1.0
LPAZ PP **PP** 09 17 33.0 -1.2
MNMC Minimini 160.78 74 *e*P **PKPdf** 09 13 10.8 +1.3
PATCX Punta Patache 160.90 79 *e*P **PKPdf** 09 13 12.0 +2.7
TLL Tololo Astrono 161.14 108 *e*P PKPab 09 13 58.9 +5.9
PB10 IPOC Station P 161.22 88 *e*P **PKPdf** 09 13 13.6 +4.1
LCO Las Campanas 161.37 105 *e*PKPdf **PKPdf** 09 13 10.1 +0.2
LCO *e*PKPab **PKPab** 09 13 55.8 +1.8
PB07 IPOC Station P 161.40 82 *e*P **PKPdf** 09 13 11.2 +1.2
PB01 IPOC Station P 161.56 79 *e*P **PKPdf** 09 13 11.2 +1.2
PB04 IPOC Station P 161.90 83 *e*P **PKPdf** 09 13 13.2 +3.0
PB06 IPOC Station P 161.94 84 *e*P **PKPdf** 09 13 11.7 +1.2
LVC Limon Verde 162.51 84 PKP **PKPdf** 09 13 12.1 +0.9
comp=Z,133nm,1.3s,baz=139,slow=0.8,SNR=12
LVC PKPab **PKPab** 09 13 59.8 +0.7
comp=Z,97nm,1.1s,baz=262,slow=7.9,SNR=6.0
LVC Limon Verde 162.51 84 *e*PKPdf **PKPdf** 09 13 11.8 +0.7
LVC PKP **PKPdf** 09 13 12.1 +0.9
LVC PKPab **PKPab** 09 13 59.8 +0.7
CFAA Coronel Fontan 163.00 114 PKP **PKPdf** 09 13 10.4 -0.7
comp=Z,1.7nm,1.0s,baz=228,slow=1.6,SNR=12
CFAA PKPab **PKPab** 09 14 01.4 +0.6
comp=Z,6.5nm,1.1s,baz=254,slow=2.8,SNR=9.7
TRQA Tornquist 164.10 143 *e*PKPdf **PKPdf** 09 13 10.7 -1.2
SIV San Ignacio 165.86 49 PKP **PKPdf** 09 13 14.7 +0.7
comp=Z,32nm,1.1s,baz=333,slow=1.0,SNR=36
SIV PKPab **PKPab** 09 14 14.2 +0.7
comp=Z,20nm,1.0s,baz=293,slow=8.5,SNR=5.9
SIV PP **PP** 09 18 00.1 -0.2
comp=Z,15nm,1.1s,baz=281,slow=5.8,SNR=3.4
BDFB Brasilia 169.78 349 PKP **PKPdf** 09 13 15.6 -1.3
comp=Z,34nm,1.1s,baz=359,slow=2.2,SNR=23
BDFB PKPab **PKPab** 09 14 30.5 -0.2
comp=Z,25nm,0.9s,baz=18,slow=1.0,SNR=7.1

JMA 26 09:02:22.3±0.1, 25°80N×130°11E, h41km, M3.8, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JMZ	**Minamidaito 2**	**1.00**	**89**	P		Pn	09 02 40.3	+0.4
JMZ				*e*S		Sn	09 02 52.3	-0.5
JOW	**Kunigami**	**1.94**	**302**	P		Pn	09 02 53.9	+1.1
JOW				*e*S		Sn	09 03 16.4	+0.4
JNTH	**Nagotoyohara**	**2.01**	**291**	P		Pn	09 02 54.5	+0.8
JNTH				*e*S		Sn	09 03 17.6	0.0
JOKE	**Okinoerabujima**	**2.08**	**319**	P		Pn	09 02 56.4	+1.7
JOKE				*e*S		Sn	09 03 19.8	+0.4
JJT2	**Tamagusuku 2**	**2.15**	**280**	P		Pn	09 02 57.0	+1.3
JJT2				*e*S		Sn	09 03 22.3	+1.1
JTK	**Tokunoshima**	**2.23**	**333**	P		Pn	09 02 58.5	+1.7
JTK				*e*S		Sn	09 03 23.3	+0.1
JIH	**Iheya**	**2.28**	**303**	P		Pn	09 02 58.8	+1.3
JIH				*e*S		Sn	09 03 24.4	+0.1
JAMN	**Amaminishikomi**	**2.57**	**341**	P		Pn	09 03 03.0	+1.5
JAMN				*e*S		Sn	09 03 31.2	-0.3
JAM	**Amami Oshima**	**2.64**	**350**	P		Pn	09 03 04.3	+1.9
JAM				*e*S		Sn	09 03 32.4	-0.8
JAGN	**Aguni-jima**	**2.69**	**288**	P		Pn	09 03 04.5	+1.4
JAGN				*e*S		Sn	09 03 34.6	+0.1
JKE	**Kume jima 2**	**3.04**	**281**	P		Pn	09 03 08.8	+1.0
JKE				*e*S		Sn	09 03 41.5	-1.4

*IDC **26** 09:08:07.8±0.7,25°.77N×130°.09E, h0km, mb3.9/13, mb1 4.1/16,mb1mx4.0/36,mbtmp3.9/16,ML3.6/3, Error ellipse: s-maj=25.5km s-min=14.8km az=71.0*
*JMA **26** 09:08:08.9±0.1,25°.82N×130°.07E, h41km, M3.9*
*ISCJB **26** 09:08:10.8±0.5,25°.87N±0°.04×129°.95E±0°.04, h33km, mb3.9/13, Error ellipse: s-maj=5.8km s-min=4.7km az=13.8*

ISC 26 09:08:13.1±0.7, 25°86N±0°.06×129°92E±0°.06, h35km, n33, σ1°75/43, mb4.0/13, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JMZ	**Minamidaito 2**	**1.17**	**91**	P		Pn	09 08 27.5	-5.5
JMZ				S		Sn	09 08 39.8	-7.9
JOW	**Kunigami**	**1.77**	**304**	P		**Pn**	**09 08 40.0**	**-1.3**
JOW				S		**Sn**	**09 09 00.9**	**-1.7**
JOW	**Kunigami**	**1.77**	**304**	Pn		**Pn**	**09 08 40.2**	**-1.0**
	7.4nm,0.3s,baz=139,slow=14,SNR=45							
JOW				Sn		**Sn**	**09 09 02.2**	**-0.3**
	baz=319,slow=20							
JOW				T		T	09 10 32.5	
	3.8nm,0.3s,baz=119,slow=19,SNR=4.4							
JNTH	**Nagotoyohara**	**1.83**	**292**	P		**Pn**	**09 08 40.4**	**-1.7**
JNTH				S		**Sn**	**09 09 02.9**	**-1.1**
JOKE	**Okinoerabujima**	**1.93**	**321**	P		**Pn**	**09 08 42.7**	**-0.7**
JOKE				S		**Sn**	**09 09 05.2**	**-1.2**
JJT2	**Tamagusuku 2**	**1.98**	**279**	P		**Pn**	**09 08 43.2**	**-0.9**
JJT2				S		**Sn**	**09 09 07.9**	**+0.3**
JTK	**Tokunoshima**	**2.11**	**336**	P		**Pn**	**09 08 45.1**	**-0.8**
JTK				S		**Sn**	**09 09 09.1**	**-1.8**
JIH	**Iheya**	**2.11**	**304**	P		**Pn**	**09 08 44.9**	**-1.0**
JIH				S		**Sn**	**09 09 09.4**	**-1.5**
JAMN	**Amaminishikomi**	**2.47**	**344**	P		**Pn**	**09 08 49.3**	**-1.6**
JAMN				S		**Sn**	**09 09 17.8**	**-2.0**
JAGN	**Aguni-jima**	**2.52**	**287**	P		**Pn**	**09 08 50.5**	**-1.0**
JAGN				S		**Sn**	**09 09 20.4**	**-0.5**
JAM	**Amami Oshima**	**2.56**	**354**	P		**Pn**	**09 08 50.5**	**-1.6**
JAM				S		**Sn**	**09 09 18.9**	**-3.2**
JKE	**Kume jima 2**	**2.86**	**280**	P		**Pn**	**09 08 54.4**	**-1.8**
JKE				S		**Sn**	**09 09 27.1**	**-2.3**
JTAJ	**Takarajima**	**3.35**	**349**	P		**Pn**	**09 09 01.4**	**-1.5**
JTAJ				S		**Sn**	**09 09 37.2**	**-4.2**
JOGS	**Gusukube**	**4.23**	**256**	S		**Sn**	**09 10 01.6**	**-1.7**
JIRB	**Irabujima**	**4.42**	**258**	S		**Sn**	**09 10 05.2**	**-2.7**
JTJ	**Tarama**	**4.88**	**257**	S		**Sn**	**09 10 14.9**	**-4.4**
JNU	**Nakatsue**	**7.29**	**6**	Pn		**Pn**	**09 09 57.8**	**+0.7**
	1.7nm,0.3s,baz=203,slow=7.0,SNR=10							
MJAR	**Matsushiro Arr**	**12.79**	**32**	Pn		**Pn**	**09 11 11.8**	**-0.6**
	0.5nm,0.3s,baz=208,slow=14,SNR=3.3							
USRK	**Ussuriysk Ar.**	**18.38**	**5**	P		**Pn**	**09 12 26.0**	**+0.9**
	0.2nm,0.3s,baz=178,slow=9.3,SNR=5.1							
MKAR	**Makanchi Array**	**42.92**	**312**	P		**P**	**09 16 10.2**	**+1.8**
	3.0nm,0.6s,baz=96,slow=9.1,SNR=18							
ZALV	**Zalesovo Beam**	**43.47**	**323**	P		**P**	**09 16 13.3**	**+0.7**
	3.3nm,0.6s,baz=107,slow=7.9,SNR=8.1							
WRA	**Warramunga Arr**	**45.73**	**174**	P		**P**	**09 16 30.0**	**-1.0**
	0.8nm,0.6s,baz=354,slow=8.6,SNR=14							
KURBB	**Kurchatov Arra**	**46.17**	**316**	P		**P**	**09 16 36.0**	**+1.8**
	4.1nm,1.0s,baz=104,slow=8.0,SNR=10							
ASAR	**Alice Springs**	**49.38**	**175**	P		**P**	**09 16 59.2**	**-0.2**
	0.6nm,0.8s,baz=5.8,slow=13,SNR=7.6							
BVAR	**Borovoye Array**	**51.57**	**318**	P		**P**	**09 17 17.5**	**+1.9**
	2.5nm,0.6s,baz=94,slow=9.1,SNR=7.2							
STKA	**Stephens Creek**	**58.48**	**168**	P		**P**	**09 18 04.5**	**-1.2**
	0.8nm,0.6s,baz=2.4,slow=6.4,SNR=5.5							
ILAR	**Eielson Array**	**64.05**	**28**	P		**P**	**09 18 42.5**	**-0.5**
	0.4nm,0.9s,baz=262,slow=7.2,SNR=4.6							
KBZ	**Khabaz**	**70.57**	**310**	P		**P**	**09 19 26.2**	**+1.6**
	2.6nm,0.8s,baz=236,slow=24,SNR=6.1							
AKASG	**Malin Array Be**	**76.80**	**320**	P		**P**	**09 20 02.1**	**+1.0**
	1.1nm,0.6s,baz=55,slow=6.0,SNR=3.8							
YKA	**Yellowknife Ar**	**78.22**	**25**	P		**P**	**09 20 08.2**	**-0.6**
	0.4nm,0.8s,baz=293,slow=4.9,SNR=3.2							
BRTR	**Keskin Array B**	**78.46**	**309**	P		**P**	**09 20 11.3**	**+0.5**
	0.7nm,0.7s,baz=68,slow=8.0,SNR=5.5							
NB2	**NORSAR Subarra**	**80.31**	**334**	P		P	09 20 13.1	-7.3
	comp=Z,2.6nm,1.1s,baz=50,slow=5.6							
NOA	**NORSAR Array B**	**80.31**	**334**	P		**P**	**09 20 22.7**	**+2.3**
	comp=Z,1.2nm,0.7s,baz=53,slow=5.2,SNR=4.9							

BUC 26 09:21:10.9±0.5, 44°27N×28°31E, h11km±6km, MD2.1/3, 4C-4D, Error ellipse: s-maj=2.2km s-min=1.3km az=104.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TIRR	**Tirgusor**	**0.20**	**22**	↑*i*	P	Pg	09 21 15.5	+0.2
TIRR	**Tirgusor**	**0.20**	**22**	S		Sg	09 21 19.2	+0.9
TIRR	**Tirgusor**	**0.20**	**22**	↑*i*	P	Pg	09 21 15.5	+0.2
TIRR				*i*	S	Sg	09 21 19.2	+0.9
TLB	**Topalu**	**0.37**	**329**	↑*i*	P	Pg	09 21 18.7	+0.4
TLB	**Topalu**	**0.37**	**329**	S		Sb	09 21 24.4	-0.8
TLB	**Topalu**	**0.37**	**329**	↑*i*	P	Pg	09 21 18.7	+0.4
TLB				*i*	S	Sb	09 21 24.4	-0.8
MSAB	**Monastry St. A**	**0.39**	**243**	↓*i*	P	Pg	09 21 19.0	+0.4
MSAB	**Monastry St. A**	**0.39**	**243**	S		Sb	09 21 25.3	-0.4
MSAB	**Monastry St. A**	**0.39**	**243**	↓*i*	P	Pg	09 21 19.0	+0.4
MSAB				*i*	S	Sb	09 21 25.3	-0.4
MANR	**Mangalia**	**0.50**	**156**	S		Sg	09 21 26.8	-0.4
MANR	**Mangalia**	**0.50**	**156**	*i*	S	Sg	09 21 26.8	-0.4
CFR	**Carcaliu**	**0.92**	**353**	↓*i*	P	Pn	09 21 29.3	-0.4
CFR				S		Sn	09 21 42.1	-0.7
CFR	**Carcaliu**	**0.92**	**353**	↓*i*	P	Pn	09 21 29.3	-0.4
CFR				*i*	S	Sn	09 21 42.1	-0.7

*SZGRF **26** 09:20:59.9, 18°.73S×174°.85W, h33km, Tonga Islands*
*ISCJB **26** 09:21:44.2±0.5, 18°.5S±0°.1×177°.9W±0°.1, h400km, mb4.0/17, Error ellipse: s-maj=18.4km s-min=12.6km az=24.6*
*IDC **26** 09:21:44.7±5.0, 18°.47S×177°.85W, h394km±53km, mb3.7/18, mb1 3.9/18, mb1mx3.9/29, mbtmp4.4/18, Error ellipse: s-maj=18.3km s-min=15.3km az=64.0*

ISC 26 09:21:45.1±0.6, 18°5S±0°.1×177°8W±0°.2, h400km, n72, σ0°79/73, mb4.0/17, 15C-9D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**20.20**	**192**	P		**P**	**09 25 49.4**	**-1.8**
	34nm,0.5s,baz=278,slow=1.3,SNR=29							
STKA	**Stephens Creek**	**38.84**	**242**	P		**P**	**09 28 34.9**	**+1.1**
	4.4nm,0.3s,baz=86,slow=8.8,SNR=40							
WRA	**Warramunga Arr**	**45.07**	**260**	P		**P**	**09 29 22.9**	**-0.7**
	0.8nm,0.3s,baz=97,slow=6.6,SNR=56							
WRA				S		S	09 35 20.8	-11
	1.0nm,0.9s,baz=104,slow=13,SNR=5.0							
ASAR	**Alice Springs**	**45.16**	**255**	P		**P**	**09 29 24.8**	**+0.4**
	3.0nm,0.4s,baz=89,slow=9.0,SNR=141							
ASAR				S		S	09 35 25.2	-8.3
	1.4nm,0.8s,baz=89,slow=16,SNR=10							
VNDA	**Vanda**	**59.92**	**185**	P		**P**	**09 31 11.3**	**+1.2**
	1.5nm,0.5s,baz=355,slow=6.2,SNR=22							
MJAR	**Matsushiro Arr**	**68.69**	**323**	P		**P**	**09 32 06.6**	**-0.4**
	7.1nm,0.8s,baz=158,slow=6.0,SNR=19							
MAT	**Matsushiro**	**68.69**	**323**	P		**P**	**09 32 06.9**	**-0.1**
PETK	**Petropavlovsk-**	**74.37**	**345**	P		**P**	**09 32 40.5**	**+0.5**
	12nm,0.7s,baz=139,slow=9.8,SNR=22							
KSRS	**Korea Array**	**75.49**	**318**	P		**P**	**09 32 47.3**	**+0.6**
	1.3nm,0.7s,baz=133,slow=6.2,SNR=4.1							
USRK	**Ussuriysk Ar.**	**77.39**	**326**	P		**P**	**09 32 57.4**	**+0.2**
	2.1nm,0.6s,baz=150,slow=6.4,SNR=8.2							
NVAR	**Mina Array Bea**	**79.46**	**44**	P		**P**	**09 33 09.8**	**+1.0**
	1.6nm,0.7s,baz=224,slow=8.4,SNR=14							
MAW	**Mawson**	**83.51**	**200**	P		**P**	**09 33 28.5**	**-0.4**
	1.5nm,0.5s,baz=159,slow=8.6,SNR=6.0							
SEY	**Seymchan**	**84.45**	**347**	P		**P**	**09 33 33.3**	**-0.2**
	11nm,0.6s,baz=144,slow=8.7,SNR=34							
TXAR	**Lajitas Array**	**85.84**	**57**	P		**P**	**09 33 43.2**	**+2.0**
	2.0nm,0.7s,baz=218,slow=6.2,SNR=26							
ILAR	**Eielson Array**	**86.32**	**13**	P		**P**	**09 33 41.6**	**-1.0**
	0.8nm,0.5s,baz=226,slow=4.5,SNR=23							
PDAR	**Pinedale Array**	**87.39**	**43**	P		**P**	**09 33 48.8**	**+0.3**
	0.9nm,0.8s,baz=270,slow=0.1,SNR=6.8							
CMAR	**Chiang Mai Arr**	**89.59**	**290**	P		**P**	**09 33 59.6**	**+0.5**
	1.8nm,0.9s,baz=106,slow=2.3,SNR=4.4							
SONM	**Songino Array**	**94.34**	**319**	P		**P**	**09 34 21.2**	**+0.8**
	0.8nm,0.7s,baz=105,slow=3.4,SNR=2.8							
YKA	**Yellowknife Ar**	**94.62**	**25**	P		**P**	**09 34 20.1**	**-1.0**
	0.5nm,0.6s,baz=246,slow=4.4,SNR=7.4							
ARCES	**ARCESS Array B**	**126.97**	**350**	PKP		**PKPdf**	**09 40 00.5**	**-1.1**
	3.5nm,0.8s,baz=10,slow=2.1,SNR=13							
FINES	**FINESS Array B**	**133.88**	**344**	PKP		**PKPdf**	**09 40 13.6**	**-1.3**
	1.6nm,0.8s,baz=116,slow=4.4,SNR=3.7							
BSEG	**Bad Segeberg**	**144.06**	**352**	*e*PKPbc		PKPbc	09 40 32.0	-0.5
BURAR	**Bucovina Array**	**145.37**	**332**	↑*i*	P	**PKPbc**	**09 40 37.0**	**0.0**
NRDL	**Niedersach Rie**	**145.49**	**351**	*e*PKPbc		**PKPbc**	**09 40 36.4**	**-0.6**
BRTR	**Keskin Array B**	**145.57**	**315**	PKPbc		**PKPdf**	**09 40 36.6**	**-0.3**
	3.1nm,0.9s,baz=131,slow=3.4,SNR=10							
CFR	**Carcaliu**	**145.71**	**327**	↓*i*	P	**PKPab**	**09 40 38.4**	**-0.7**
VRI	**Vrincioaia**	**145.95**	**329**	↑*i*	P	**PKPbc**	**09 40 38.0**	**-0.7**
CLZ	**Clausthal**	**146.09**	**347**	*e*PKPbc		**PKPbc**	**09 40 38.6**	**-0.3**
TRPA	**Tarpa**	**146.09**	**335**	↑*i*	P	**PKPbc**	**09 40 38.4**	**-0.5**
CLL	**Collm**	**146.14**	**348**	*e*PKPbc		**PKPbc**	**09 40 38.5**	**-0.5**
CLL	**Collm**	**146.14**	**348**	↓*i*	PKP	**PKPbc**	**09 40 38.5**	**-0.5**
	comp=Z,34nm,0.8s							
CLL				*e*			09 42 31.0	
TLB	**Topalu**	**146.16**	**326**	↑*i*	P	**PKPbc**	**09 40 38.7**	**-0.5**
UPC	**Upice**	**146.19**	**344**	*e*P		**PKPbc**	**09 40 38.6**	**-0.6**
UPC				*ex*		x	09 40 40.9	
DPC	**Dobruska-Polom**	**146.25**	**344**	*e*P		**PKPbc**	**09 40 39.2**	**-0.2**
DPC				*ex*		x	09 40 41.3	
BRG	**Berggiesshubel**	**146.35**	**347**	*i* PKP		**PKPbc**	**09 40 39.0**	**-0.6**
	comp=Z,12nm,0.7s							
BRG				*i*			09 40 41.0	
	comp=Z,9.5nm,0.9s							
BRG	**Berggiesshubel**	**146.35**	**347**	*e*PKPbc		**PKPbc**	**09 40 39.0**	**-0.6**
KRLC	**Kraliky**	**146.37**	**343**	*e*P		**PKPbc**	**09 40 39.4**	**-0.4**
MORC	**Moravsky Berou**	**146.42**	**342**	↑*i*	P	**PKPbc**	**09 40 39.8**	**-0.1**
FBE	**Freiberg**	**146.43**	**347**	*e*PKPbc		**PKPbc**	**09 40 39.7**	**-0.1**
DOPR	**Dopca**	**146.52**	**330**	↑*i*	P	**PKPbc**	**09 40 40.2**	**-0.1**
MLR	**Muntele Rosu**	**146.60**	**329**	↑*i*	P	**PKPbc**	**09 40 40.8**	**+0.1**
MOX	**Moxa**	**147.04**	**349**	*e*PKPbc		**PKPbc**	**09 40 41.5**	**0.0**
PRU	**Pruhonice**	**147.04**	**345**	*e*P		**PKPbc**	**09 40 40.6**	**-0.9**
PRU				*ex*		x	09 40 44.1	
GOPC	**GO Pecny, Ondr**	**147.05**	**345**	*e*P		**PKPbc**	**09 40 41.3**	**-0.3**
GOPC				*ex*		x	09 40 44.7	
TANN	**Tannenbergstha**	**147.09**	**348**	*e*PKPbc		**PKPbc**	**09 40 41.1**	**-0.7**
WERD	**Werda**	**147.09**	**348**	*e*PKPbc		**PKPbc**	**09 40 41.2**	**-0.5**
VRAC	**Vranov**	**147.12**	**343**	↑*i*	P	**PKPab**	**09 40 44.9**	**+0.4**
UBBA	**Unterbreizbach**	**147.14**	**351**	*e*PKPbc		**PKPbc**	**09 40 40.8**	**-0.8**
GUNZ	**Gunzen**	**147.17**	**348**	*e*PKPbc		**PKPbc**	**09 40 41.5**	**-0.4**
WERN	**Wernitzgruen**	**147.23**	**348**	*e*PKPbc		**PKPbc**	**09 40 41.8**	**-0.3**
NKC	**Novy Kostel**	**147.27**	**348**	*e*P		**PKPbc**	**09 40 41.2**	**-1.0**
NKC				*ex*		x	09 40 44.8	
PSZ	**Piszkesteto**	**147.27**	**338**	↓*i*	P	**PKPbc**	**09 40 41.7**	**-0.6**
TREC	**Trest**	**147.44**	**344**	*e*P		**PKPbc**	**09 40 42.0**	**-0.7**
TREC				*ex*		x	09 40 45.6	
MANZ	**Manzenberg**	**147.57**	**348**	*e*PKPbc		**PKPbc**	**09 40 42.5**	**-0.5**
ROTZ	**Rotzenmuhle**	**147.76**	**348**	*e*PKPbc		**PKPbc**	**09 40 43.2**	**-0.3**
TNS	**Taunus Mts**	**147.94**	**352**	*e*PKPbc		**PKPbc**	**09 40 43.4**	**-0.6**
GRF	**Grafenberg Arr**	**148.02**	**349**	*e*PKPbc		**PKPbc**	**09 40 43.3**	**-0.9**
KHC	**Kasperske Hory**	**148.06**	**346**	*e*P		**PKPbc**	**09 40 44.1**	**-0.2**
KHC				*ex*		x	09 40 48.5	
GZR	**Gura Zlata**	**148.16**	**332**	↑*i*	P	**PKPbc**	**09 40 43.6**	**-1.1**
GERES	**GERESS Array B**	**148.30**	**345**	PKPbc		**PKPbc**	**09 40 44.5**	**-0.5**
	comp=Z,5.4nm,0.7s,baz=28,slow=3.2,SNR=32							
BZS	**Buzias**	**148.49**	**333**	↑*i*	P	**PKPbc**	**09 40 44.1**	**-1.3**
CSNA	**Conrad Observa**	**148.57**	**342**	↑*i*	PKPbc	**PKPbc**	**09 40 45.0**	**-0.7**
	comp=Z,15nm,1.2s							
RJOB	**Jochberg**	**149.55**	**346**	*e*PKPbc		**PKPbc**	**09 40 47.9**	**-0.2**
BFO	**Black Forest**	**149.81**	**352**	*e*PKPbc		**PKPbc**	**09 40 47.5**	**-1.1**
SOKA	**Soboth**	**149.95**	**342**	↓*i*	PKPbc	**PKPbc**	**09 40 47.7**	**-1.4**
	comp=Z,9.7nm,1.2s							
KBA	**Koelnbreinsper**	**150.04**	**345**	↑*i*	PKPbc	**PKPbc**	**09 40 48.2**	**-1.2**
	comp=Z,7.9nm,0.9s							
KBA				↓*i*	PKPab	**PKPab**	**09 40 57.2**	**+0.5**
	comp=Z,8.9nm,0.7s							
WTTA	**Wattenberg**	**150.26**	**347**	↓*i*	PKPbc	**PKPbc**	**09 40 49.1**	**-0.8**
	comp=Z,14nm,0.6s							
MOTA	**Moosalm**	**150.29**	**348**	↑*i*	PKPbc	**PKPbc**	**09 40 49.0**	**-1.0**
	comp=Z,5.1nm,0.7s							
DIVS	**Divibare**	**150.40**	**333**	↓*i*	P	**PKPbc**	**09 40 48.8**	**-1.4**
ABTA	**Abfaltersbach**	**150.55**	**345**	↑*i*	PKPbc	**PKPbc**	**09 40 49.2**	**-1.2**
	comp=Z,17nm,0.9s							
ABTA				↑↑*i*	PKPab	**PKPab**	**09 40 57.9**	**-0.8**
	comp=Z,7.2nm,0.7s							
DAVA	**Damsels**	**150.58**	**349**	↓*i*	PKPbc	**PKPbc**	**09 40 49.8**	**-0.8**
	comp=Z,13nm,1.3s							
FETA	**Feichten**	**150.68**	**348**	↓*i*	PKPbc	**PKPbc**	**09 40 50.1**	**-0.8**
	comp=Z,8.9nm,0.9s							

*IDC **26** 09:26:17.2±1.2,34°.90S×72°.64W, h0km, mb3.8/3, mb1 4.0/6,mb1mx3.8/23,mbtmp3.8/6,ML4.2/2, Error ellipse: s-maj=34.9km s-min=25.1km az=109.0*
*ISCJB **26** 09:26:18.3±1.0,34°.85S±0°.07×72°.75W±0°.09, h18km, mb3.6/3, Error ellipse: s-maj=10.5km s-min=10.1km az=10.0*
*GUC **26** 09:26:19.6±0.5,34°.79S×72°.64W, h44km±3km, ML4.3*

ISC 26 09:26:19.9±1.1, 34°88S±0°.06×72°63W±0°.08, h18km, n13, σ0°89/18, mb3.7/3, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NICH	**Los Niches**	**1.16**	**96**	*i*	P	**Pb**	**09 26 41.1**	**-0.4**
NICH				*i*	S	**Sg**	**09 26 57.4**	**-0.2**
NICH					AML	AML	09 27 01.9	
	comp=E,13μm,0.3s							
LNCH	**Linares**	**1.28**	**139**	*i*	P	**Pb**	**09 26 43.3**	**-0.2**
LNCH				*i*	S	**Sg**	**09 27 02.0**	**+0.5**
LNCH					AML	AML	09 27 09.5	
	comp=N,8μm,0.6s							
LNV	**Longovilo**	**1.37**	**48**	↓*i*	P	**Pn**	**09 26 43.3**	**-0.8**
TACH	**Talagante**	**1.86**	**49**	*i*	P	**Pn**	**09 26 50.1**	**-0.8**
CLCH	**Cerro Calan**	**2.28**	**50**	*i*	P	**Pn**	**09 26 56.5**	**-0.3**
CLCH				*e*	S	**Sn**	**09 27 25.0**	**+0.5**
CLCH					AML	AML	09 27 36.8	
	comp=N,2μm,0.6s							
PEL	**Peldehue**	**2.37**	**44**	*i*	P	**Pn**	**09 26 57.8**	**-0.2**
PEL				*i*	S	**Sn**	**09 27 26.3**	**-0.3**
PEL					AML	AML	09 27 37.5	
	comp=E,2μm,0.7s							
CFAA	**Coronel Fontan**	**4.92**	**50**	Pn		**Pn**	**09 27 33.8**	**+0.7**
	comp=E,0.4nm,0.3s,baz=238,slow=14,SNR=73							
CFAA					Sn	**Sn**	**09 28 31.8**	**+2.2**
	comp=E,0.4nm,0.3s,baz=234,slow=15,SNR=3.2							
CFAA					Lg	Lg	09 28 44.8	
	comp=E,0.3nm,0.3s,baz=61,slow=4.0,SNR=4.0							
PLCA	**Paso Flores**	**6.07**	**165**	Pn		**Pn**	**09 27 50.2**	**+1.4**
	comp=E,1.8nm,0.3s,baz=336,slow=11,SNR=50							
LPAZ	**La Paz**	**18.95**	**13**	P		**Pn**	**09 30 41.7**	**+0.3**
	comp=E,0.2nm,0.3s,baz=203,slow=9.8,SNR=13							
SIV	**San Ignacio**	**21.48**	**32**	P		**P**	**09 31 07.0**	**-0.7**
	comp=E,1.9nm,0.6s,baz=220,slow=12,SNR=6.9							
TXAR	**Lajitas Array**	**70.27**	**331**	P		**P**	**09 37 33.0**	**+0.9**
	comp=E,0.6nm,0.5s,baz=158,slow=8.2,SNR=16							
TORD	**Torodi Ar. Bea**	**84.97**	**70**	P		**P**	**09 38 54.0**	**-0.4**
	comp=E,0.3nm,0.6s,baz=204,slow=3.2,SNR=5.6							
WRA	**Warramunga Arr**	**119.75**	**209**	PKP		**PKPdf**	**09 45 08.5**	**-1.0**
	comp=E,0.2nm,0.6s,baz=159,slow=1.5,SNR=5.6							

*JMA **26** 09:41:57.7±0.1,25°.83N×130°.09E, h41km, M3.7*
*ISCJB **26** 09:41:58.3±0.6,25°.80N±0°.04×129°.97E±0°.04, h33km, mb3.8/5, Error ellipse: s-maj=5.9km s-min=5.0km az=145.5*
*IDC **26** 09:41:58.2±4.4,25°.64N×129°.78E, h0km, mb3.9/5, mb1 3.9/5,mb1mx3.6/28,mbtmp3.9/5,MS4.7/1,Ms1 4.7/1, ms1mx3.9/32, Error ellipse: s-maj=242.5km s-min=26.2km az=66.0*

ISC 26 09:41:59.4±1.0, 25°78N±0°.05×130°06E±0°.04, h35km, n24, σ2°08/37, mb4.0/5, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JMZ	**Minamidaito 2**	**1.05**	**87**	P		**Pn**	**09 42 15.9**	**-1.7**
JMZ				S		**Sn**	**09 42 28.4**	**-2.6**
JOW	**Kunigami**	**1.92**	**304**	P		**Pn**	**09 42 29.0**	**-0.5**
JOW				S		**Sn**	**09 42 51.0**	**-1.4**
JNTH	**Nagotoyohara**	**1.97**	**292**	P		**Pn**	**09 42 29.6**	**-0.7**
JNTH				S		**Sn**	**09 42 52.1**	**-1.7**
JOKE	**Okinoerabujima**	**2.06**	**320**	P		**Pn**	**09 42 31.2**	**-0.4**
JOKE				S		**Sn**	**09 42 54.0**	**-2.1**
JJT2	**Tamagusuku 2**	**2.11**	**280**	P		**Pn**	**09 42 32.3**	**+0.1**
JJT2				S		**Sn**	**09 42 56.7**	**-0.5**
JTK	**Tokunoshima**	**2.23**	**334**	P		**Pn**	**09 42 33.6**	**-0.3**
JTK				S		**Sn**	**09 42 57.7**	**-2.5**
JIH	**Iheya**	**2.25**	**304**	P		**Pn**	**09 42 33.9**	**-0.3**
JIH				S		**Sn**	**09 42 58.8**	**-2.0**
JAMN	**Amaminishikomi**	**2.58**	**342**	P		**Pn**	**09 42 38.2**	**-0.4**
JAMN				S		**Sn**	**09 43 06.4**	**-2.4**
JAM	**Amami Oshima**	**2.66**	**351**	P		**Pn**	**09 42 39.2**	**-0.5**
JAM				S		**Sn**	**09 43 07.5**	**-3.1**
JAGN	**Aguni-jima**	**2.66**	**288**	P		**Pn**	**09 42 39.6**	**-0.1**
JAGN				S		**Sn**	**09 43 09.7**	**-1.0**
JKE	**Kume jima 2**	**2.99**	**281**	P		**Pn**	**09 42 43.4**	**-0.9**
JKE				S		**Sn**	**09 43 16.3**	**-2.7**
JTAJ	**Takarajima**	**3.45**	**347**	P		**Pn**	**09 42 50.0**	**-0.6**
JOGS	**Gusukube**	**4.33**	**257**	P		**Pn**	**09 43 02.5**	**-0.2**
JOGS				S		**Sn**	**09 43 51.1**	**-0.9**
JIKM	**Ikemajima**	**4.43**	**260**	P		**Pn**	**09 43 04.5**	**+0.3**
JIKM				S		**Sn**	**09 43 52.2**	**-2.4**
JIRB	**Irabujima**	**4.52**	**259**	P		**Pn**	**09 43 04.8**	**-0.5**
JIRB				S		**Sn**	**09 43 54.3**	**-2.4**
JTJ	**Tarama**	**4.98**	**258**	P		**Pn**	**09 43 11.0**	**-0.7**
JTJ				S		**Sn**	**09 44 04.2**	**-3.9**
JISG	**Ishigakijimahi**	**5.34**	**258**	P		**Pn**	**09 43 15.8**	**-0.8**
JISG				S		**Sn**	**09 44 11.9**	**-5.0**
JIJ	**Ishigaki jima**	**5.54**	**257**	P		**Pn**	**09 43 18.4**	**-1.0

GERES	**GERESS Array B**	**86.50**	**324**	P		**P**	**10 03 36.2**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=64,slow=6.1,SNR=4.6							
NVAR	**Mina Array Bea**	**89.59**	**47**	P		**P**	**10 03 52.5**	**+1.5**
	comp=Z,0.9nm,0.8s,baz=280,slow=4.4,SNR=7.1							
PDAR	**Pinedale Array**	**92.44**	**39**	P		**P**	**10 04 04.5**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=343,slow=4.6,SNR=4.3							
TORD	**Torodi Ar. Bea**	**116.54**	**301**	PKP		**PKPdf**	**10 09 37.0**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=27,slow=3.3,SNR=2.7							

*ISCJB **26** 09:54:00.4±0.6,36°.31N±0°.10×138°.2E±0°.2, h213km±4km, mb3.3/4, Error ellipse: s-maj=23.8km s-min=15.0km az=167.2*
*IDC **26** 09:54:01.1±0.6,36°.27N×138°.22E, h203km±4km, mb3.1/4, mb1 3.3/5, mb1mx3.0/36, mbtmp3.7/5, Error ellipse: s-maj=29.4km s-min=15.0km az=73.0*
*JMA **26** 09:54:02.1±0.1,36°.25N×138°.18E, h205km±1km, M2.6*
ISC 26 09:54:01.5±0.9, 36°.3N±0°.1×138°.2E±0°.2, h207km±6km, n15, σ0$61/20, mb3.4/4, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
JNG	**Nsakai**	**0.12**	**319**	P			**Pn**	**09 54 29.1**	**+0.5**
JNG				S			**S**	**09 54 49.7**	**-0.2**
MJAR	**Matsushiro Arr**	**0.22**	**3**	P			**Pn**	**09 54 29.0**	**+0.4**
	3.4nm,0.3s,baz=186,slow=3.9,SNR=26								
MJAR				S			**S**	**09 54 49.7**	**-0.4**
	2.0nm,0.3s,baz=80,slow=28,SNR=14								
MAT	**Matsushiro**	**0.23**	**2**	P			**Pn**	**09 54 29.0**	**+0.3**
MAT				S			**S**	**09 54 49.5**	**-0.6**
MAT	**Matsushiro**	**0.23**	**2**	P			**Pn**	**09 54 29.2**	**+0.6**
MAT				S			**S**	**09 54 49.8**	**-0.3**
JRY	**Ryogami san**	**0.65**	**118**	P			**Pn**	**09 54 30.5**	**+0.5**
JRY				S			**S**	**09 54 51.8**	**-0.3**
JYN	**Shimob**	**0.87**	**161**	P			**Pn**	**09 54 31.3**	**0.0**
JAG	**Ashikaga**	**1.02**	**84**	P			**Pn**	**09 54 32.7**	**+0.6**
JHK	**Hiroka**	**1.14**	**35**	P			**Pn**	**09 54 33.6**	**+0.7**
JOD2	**Odawara 2**	**1.28**	**145**	P			**Pn**	**09 54 34.3**	**+0.3**
ASAJ	**Asahikawa**	**8.48**	**22**	P			**Pn**	**09 55 59.6**	**-1.2**
	1.2nm,0.3s,baz=205,slow=20,SNR=8.2								
MKAR	**Makanchi Array**	**42.31**	**302**	P			**P**	**10 01 35.2**	**+0.4**
	0.5nm,0.5s,baz=85,slow=10.0,SNR=4.0								
KURBB	**Kurchatov Arra**	**44.41**	**308**	P			**P**	**10 01 51.1**	**-0.3**
	baz=84,slow=7.9								
WRA	**Warramunga Arr**	**56.07**	**184**	P			**P**	**10 03 18.8**	**-0.4**
	0.3nm,0.3s,baz=360,slow=7.6,SNR=20								
ASAR	**Alice Springs**	**59.80**	**185**	P			**P**	**10 03 44.1**	**-0.8**
	0.2nm,0.7s,baz=354,slow=5.0,SNR=3.7								
ARCES	**ARCESS Array B**	**63.74**	**339**	P			**P**	**10 04 11.4**	**+0.7**
	3.3nm,0.9s,baz=58,slow=9.0,SNR=2.9								

*CASC **26** 10:03:49.6±2.2, 7°.21N×82°.49W, h36km±42km, MD4.0*
*IDC **26** 10:03:50.7±3.6, 7°.84N×81°.83W, h0km, mb3.6/7, mb1 4.0/9, mb1mx3.8/24, mbtmp3.7/9, ML4.1/2, Error ellipse: s-maj=120.1km s-min=27.9km az=26.0*
ISC 26 10:03:52.9±2.8, 7°.6N±0°.1×82°.08W±0°.09, h25km±18km, n21, σ1$94/25, mb3.6/7, 1C-4D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
BRU	**Baru**	**1.31**	**339**	*eS*			Sn	10 04 42.0	+8.9
ACR	**Cerro Adams**	**1.52**	**315**	*eP*			Pn	10 04 14.2	-4.4
ACR				*eS*			**Sn**	**10 04 35.3**	**-2.2**
AZU	**Azuero**	**1.81**	**83**	*iP*		↓	**Pb**	**10 04 24.0**	**-1.3**
AZU				*eS*			**Sb**	**10 04 50.7**	**+3.1**
CNI	**Changuinola**	**1.88**	**347**	*iP*		↑	**Pb**	**10 04 27.9**	**+1.3**
BUS	**Buena Vista**	**2.57**	**320**	*eP*			**Pn**	**10 04 30.7**	**-2.8**
BUS				*eS*			**Sn**	**10 05 03.0**	**-1.2**
ZANG	**Zanguenga, Cho**	**2.59**	**58**	*eP*		↓	**Pb**	**10 04 37.6**	**-1.1**
ZANG				*eS*			**Sb**	**10 05 12.3**	**+2.2**
PINA	**Piqa, Costa Ab**	**2.60**	**50**	*eP*		↓	**Pb**	**10 04 38.1**	**-0.8**
BCIP	**Isla Barro Col**	**2.73**	**54**	*eP*		↓	**Pb**	**10 04 39.4**	**-1.6**
BCIP				*eS*			Sb	10 05 18.0	+3.9
URSC	**Urasca**	**2.80**	**323**	*eP*			**Pn**	**10 04 34.3**	**-2.1**
URSC				*eS*			**Sn**	**10 05 08.1**	**-1.5**
UPA	**Univ. de Panam**	**2.88**	**61**	*eP*			**Pb**	**10 04 41.4**	**-2.4**
CGA2	**Cerro Gallo 2**	**3.38**	**316**	*eP*			**Pn**	**10 04 41.2**	**-3.1**
CGA2				*eS*			**Sn**	**10 05 20.6**	**-3.1**
JCR	**Jicaral**	**3.75**	**307**	*eP*			Pn	10 04 44.6	-4.8
JTS	**JuntasAbangare**	**3.91**	**314**	Pn			**Pn**	**10 04 50.3**	**-1.2**
	70nm,0.3s,baz=110,slow=12,SNR=394								
JTS				Sn			**Sn**	**10 05 36.7**	**0.0**
	5.9nm,0.3s,baz=86,slow=23,SNR=4.6								
CMIG	**Matias Romero**	**15.67**	**308**	Pn			**Pn**	**10 07 33.7**	**+1.5**
	0.1nm,0.3s,baz=119,slow=16,SNR=2.7								
TXAR	**Lajitas Array**	**29.68**	**320**	P			**P**	**10 09 57.4**	**+0.3**
	0.3nm,0.8s,baz=146,slow=12,SNR=4.0								
PDAR	**Pinedale Array**	**42.58**	**330**	P			**P**	**10 11 47.9**	**+0.7**
	0.3nm,0.6s,baz=115,slow=10,SNR=3.4								
ULM	**Lac du Bonnet**	**44.07**	**347**	P			**P**	**10 11 58.6**	**-0.2**
	2.3nm,0.7s,baz=153,slow=4.5,SNR=3.3								
NVAR	**Mina Array Bea**	**44.83**	**319**	P			**P**	**10 12 07.8**	**+2.4**
	0.7nm,0.6s,baz=130,slow=7.1,SNR=7.8								
YKA	**Yellowknife Ar**	**59.73**	**343**	P			**P**	**10 13 55.7**	**+0.4**
	0.5nm,0.6s,baz=134,slow=7.0,SNR=10								
ILAR	**Eielson Array**	**72.59**	**336**	P			**P**	**10 15 18.9**	**+1.0**
	0.4nm,0.7s,baz=113,slow=4.0,SNR=6.6								
TORD	**Torodi Ar. Bea**	**82.28**	**78**	P			**P**	**10 16 13.1**	**0.0**
	0.4nm,0.8s,baz=264,slow=2.9,SNR=2.3								

*NEIC **26** 10:09:20.0, 36°.36S×144°.80E, h10km, ML3.0(AUST), After AUST.*
NEIC Felt at Knowsley, Puckapunyal, Rushworth and Seymour.
*IDC **26** 10:09:23.5±6.3, 36°.70S×144°.17E, h0km, mb1 3.3/3, mb1mx3.3/22, mbtmp3.1/3, ML3.2/3, Error ellipse: s-maj=209.9km s-min=49.2km az=69.0*
ISC 26 10:09:21.3±1.2, 36°.68S±0°.09×144°.54E±0°.08, h10km, n8, σ2$54/11, Victoria

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
CAN	**Canberra**	**3.86**	**71**	*eP*			Pn	10 10 14.4	-6.3
CAN				*eSg*			**Sb**	**10 11 14.3**	**-2.0**
STKA	**Stephens Creek**	**5.37**	**332**	Pn			**Pn**	**10 10 43.9**	**+2.4**
	1.3nm,0.3s,baz=157,slow=11,SNR=67								
STKA				Sn			**Sn**	**10 11 44.2**	**+0.8**
	1.6nm,0.3s,baz=171,slow=12,SNR=3.3								
STKA				Lg			Lg	10 12 11.5	
	1.1nm,0.3s,baz=43,slow=23,SNR=3.1								
STKA	**Stephens Creek**	**5.37**	**332**	*ePn*			**Pn**	**10 10 42.8**	**+1.3**
	0.6nm,0.5s								
STKA				*eSn*			**Sn**	**10 11 44.2**	**+0.8**
TAU	**Tasmania Unive**	**6.58**	**162**	*ePn*			**Pn**	**10 10 58.0**	**-0.1**
BBOO	**Buckleboo**	**7.97**	**296**	*ePn*			**Pn**	**10 11 18.9**	**+1.7**
BBOO				*eSn*			**Sn**	**10 12 44.4**	**-3.1**
ARMA	**Armidale**	**8.60**	**45**	*ePn*			Pn	10 11 21.2	-4.7
ASAR	**Alice Springs**	**15.88**	**322**	Pn			**Pn**	**10 13 05.3**	**+0.4**
	0.1nm,0.3s,baz=147,slow=12,SNR=4.9								
ASAR				Sn			**Sn**	**10 15 56.4**	**-4.8**
	0.1nm,0.3s,baz=150,slow=22,SNR=4.2								
WRA	**Warramunga Arr**	**18.91**	**329**	P			**Pn**	**10 13 44.7**	**+1.9**
	0.0nm,0.3s,baz=152,slow=11,SNR=4.5								

*ISCJB **26** 10:25:49.4±0.4, 32°.48N±0°.02×115°.58W±0°.02, h13km±4km, Error ellipse: s-maj=4.0km s-min=3.4km az=16.7*
*NEIC **26** 10:25:50.6, 32°.44N×115°.59W, h4km, ML3.5(PAS), ML3.6(ECX), After ECX.*
*ECX **26** 10:25:50.6±0.6, 32°.44N×115°.59W, h4km, MD3.3, ML3.6*
*MEX **26** 10:25:51.2±0.6, 32°.61N×115°.45W, h48km±30km, MD3.7*
ISC 26 10:25:49.5±0.9, 32°.42N±0°.02×115°.55W±0°.02, h15km±8km, n32, σ0$84/50, 4C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
CPBX	**Cerro Prieto**	**0.21**	**91**	*eP*			**Pb**	**10 25 54.9**	**-0.1**
CPBX				*eS*			**Sb**	**10 25 59.4**	**+0.8**
CPBX	**Cerro Prieto**	**0.21**	**91**	*eP9*			**Pg**	**10 25 54.1**	**-0.1**
CPBX				*eS*			**Sg**	**10 25 58.0**	**+0.6**
CPBX				*e*				10 26 00.8	
CPBX				IAML				10 26 00.8	
	comp=N,39μm,0.5s								
SGL	**Mount Signal**	**0.27**	**327**	*iP*		↓	**Pg**	**10 25 54.8**	**-0.5**
MBIG	**Mexicali**	**0.30**	**93**	*eP*			**Pn**	**10 25 58.5**	**-0.7**
YUH	**Yuha Desert**	**0.39**	**306**	*iP*		↓	**Pg**	**10 25 56.8**	**-0.6**
RMX	**La Rumorosa**	**0.48**	**292**	*eP*			**Pg**	**10 25 58.6**	**-0.5**
RMX				*eS*			**Sg**	**10 26 05.3**	**-0.4**
COA	**Coachella**	**0.57**	**39**	*iP*		↑	**Pg**	**10 26 00.8**	**+0.1**
EMSC	**East Mesa**	**0.57**	**56**	*iP*		↑	**Pg**	**10 26 01.1**	**+0.3**
RDX	**Rancho Dawling**	**0.59**	**214**	*eP*		↑	**Pg**	**10 26 00.9**	**-0.3**
RDX				*eS*			**Sg**	**10 26 09.3**	**+0.1**
GLA	**Glamis**	**0.88**	**44**	*ePg*			**Pb**	**10 26 05.3**	**-1.2**
GLA				*eSg*			**Sb**	**10 26 17.5**	**-0.4**
CBX	**Cerro Bola**	**0.95**	**264**	*eP*			**Pn**	**10 26 08.6**	**+0.2**
CBX				*eS*			**Sb**	**10 26 20.4**	**+0.2**
CBX	**Cerro Bola**	**0.95**	**264**	*eP*			**Pn**	**10 26 08.6**	**+0.2**
CBX				*eS*			**Sb**	**10 26 20.4**	**+0.2**
CBX	**Cerro Bola**	**0.95**	**264**	*eP9*			**Pn**	**10 26 08.4**	**0.0**
CBX				*eS*			**Sg**	**10 26 21.1**	**+0.7**
CBX				*e*				10 26 28.5	
CBX				IAML				10 26 28.5	
	comp=E,2μm,0.4s								
BAR	**Barrett**	**0.98**	**286**	*ePg*			**Pb**	**10 26 07.7**	**-0.6**
BAR				*eSg*			**Sb**	**10 26 20.8**	**-0.3**
ECBX	**El Chinero**	**1.04**	**156**	*eP9*			Pg	10 26 06.0	-3.5
ECBX				*eS*			**Sb**	**10 26 20.4**	**-2.1**
ECBX				*e*		↑		10 26 26.0	
	comp=E,1μm,0.9s								
ZAX	**El Zacaton**	**1.09**	**214**	*eP*			**Pb**	**10 26 10.0**	**-0.2**
ZAX				*eS*			**Sb**	**10 26 24.5**	**+0.2**
ECNX	**Esteban Cantu**	**1.17**	**230**	*eP*			**Pn**	**10 26 11.4**	**-0.1**
ECNX				*eS*			**Sb**	**10 26 26.4**	**-0.2**
PBX	**Punta Banda**	**1.21**	**236**	*eP*			**Pn**	**10 26 11.8**	**-0.1**
PBX				*eS*			**Sb**	**10 26 27.5**	**0.0**
SPIG	**San Pedro Mart**	**1.37**	**177**	*eP*			**Pb**	**10 26 15.1**	**0.0**
SPIG				*eS*			**Sg**	**10 26 34.5**	**+0.6**
SPIG	**San Pedro Mart**	**1.37**	**177**	*eP*			**Pb**	**10 26 15.1**	**0.0**
SPIG				*eS*			**Sg**	**10 26 34.5**	**+0.6**
SPX	**San Pedro Mart**	**1.37**	**177**	*eP*			**Pn**	**10 26 14.5**	**+0.1**
SPX				*eS*			**Sb**	**10 26 33.3**	**+0.7**
SPX	**San Pedro Mart**	**1.37**	**177**	*eP*			**Pn**	**10 26 15.0**	**+0.6**
SPX				IAML				10 26 41.2	
	comp=E,605nm,0.9s								
SPX					*e*	↓		10 26 41.2	
PFO	**Pinyon Flats O**	**1.41**	**328**	*ePn*			**Pn**	**10 26 13.2**	**-1.5**
PFO				*eSg*			**Sb**	**10 26 34.2**	**+0.7**
214A	**Organ Pipe Nat**	**2.37**	**101**	*ePn*			**Pn**	**10 26 26.8**	**-1.0**
PASC	**Pasadena Art C**	**2.81**	**309**	*ePn*			**Pn**	**10 26 35.5**	**+1.5**
PASC				*eSg*			**Sg**	**10 27 19.2**	**-0.8**
GSC	**Goldstone, Bar**	**3.06**	**340**	Pn			**Pn**	**10 26 38.4**	**+1.0**
OSI	**Osito Audit: C**	**3.44**	**310**	*ePg*			**Pg**	**10 26 54.7**	**-0.7**
OSI				*eSg*			**Sg**	**10 27 42.7**	**+2.7**
TUC	**Tucson**	**4.03**	**90**	Pn			Pn	10 26 54.3	+3.5
TUC				*eSg*			**Sg**	**10 27 58.1**	**-0.9**
SHPR	**Sheep Range**	**4.09**	**4**	*ePn*			**Pn**	**10 26 52.3**	**+0.7**
DAC	**Darwin (Calif)**	**4.20**	**337**	*ePn*			**Pn**	**10 26 52.9**	**-0.3**
WUAZ	**Wupatki**	**4.64**	**47**	*ePn*			**Pn**	**10 27 00.3**	**+1.1**
W18A	**Petrified Fore**	**5.54**	**59**	*ePn*			**Pn**	**10 27 13.3**	**+1.7**

*IDC **26** 10:36:10.9±4.2, 25°.64N×129°.78E, h0km, mb3.7/4, mb1 3.7/4, mb1mx3.5/32, mbtmp3.7/4, Error ellipse: s-maj=203.7km s-min=20.8km az=61.0*
*JMA **26** 10:36:11.9±0.1, 25°.80N×130°.01E, h42km, M3.9*
ISC 26 10:36:08.9±1.8, 25°.79N±0°.05×129°.93E±0°.05, h4km±14km, n23, σ1$85/38, mb3.7/4, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
JMZ	**Minamidaito 2**	**1.16**	**88**	P			**Pg**	**10 36 31.1**	**-0.1**
JMZ				S			**Sb**	**10 36 44.2**	**-2.8**
JOW	**Kunigami**	**1.81**	**305**	P			**Pb**	**10 36 42.5**	**-0.2**
JOW				S			**Sn**	**10 37 03.3**	**-1.1**
JOW	**Kunigami**	**1.81**	**305**	Pn			**Pb**	**10 36 42.5**	**-0.2**
	baz=90,slow=9.3								
JOW				Sn			**Sn**	**10 37 03.0**	**-1.5**
	baz=73,slow=19								
JNTH	**Nagotoyohara**	**1.86**	**293**	P			**Pb**	**10 36 43.0**	**-0.5**
JNTH				S			**Sn**	**10 37 04.3**	**-1.3**
JOKE	**Okinoerabujima**	**1.98**	**322**	P			**Pb**	**10 36 45.2**	**-0.4**
JOKE				S			**Sn**	**10 37 08.4**	**-0.2**
JJT2	**Tamagusuku 2**	**2.00**	**280**	P			**Pb**	**10 36 45.5**	**-0.3**
JJT2				S			**Sn**	**10 37 09.0**	**+0.1**
JIH	**Iheya**	**2.15**	**306**	P			**Pb**	**10 36 47.4**	**-1.1**
JIH				S			**Sn**	**10 37 12.1**	**-0.7**
JTK	**Tokunoshima**	**2.17**	**336**	P			**Pb**	**10 36 47.9**	**-0.9**
JTK				S			**Sn**	**10 37 11.3**	**-2.0**
JZK	**Kikaishima**	**2.52**	**1**	S			**Sn**	**10 37 21.2**	**-0.5**
JAMN	**Amaminishikomi**	**2.54**	**345**	P			**Pn**	**10 36 52.3**	**+1.5**
JAMN				S			**Sn**	**10 37 19.9**	**-2.3**
JAGN	**Aguni-jima**	**2.54**	**289**	P			**Pb**	**10 36 53.0**	**-2.1**
JAGN				S			**Sn**	**10 37 22.1**	**-0.3**
JAM	**Amami Oshima**	**2.63**	**354**	P			**Pn**	**10 36 53.5**	**+1.4**
JAM				S			**Sn**	**10 37 21.8**	**-2.7**
JKE	**Kume jima 2**	**2.88**	**281**	P			**Pn**	**10 36 56.7**	**+1.1**
JKE				S			**Sn**	**10 37 28.8**	**-1.9**
JTAJ	**Takarajima**	**3.41**	**349**	P			**Pn**	**10 37 04.3**	**+1.4**
JTAJ				S			**Sn**	**10 37 40.6**	**-3.2**
JOGS	**Gusukube**	**4.22**	**257**	P			**Pn**	**10 37 15.7**	**+1.6**
JOGS				S			**Sn**	**10 38 02.4**	**-1.5**
JIKM	**Ikemajima**	**4.32**	**259**	S			**Sn**	**10 38 04.3**	**-2.1**
JIRB	**Irabujima**	**4.41**	**258**	P			**Pn**	**10 37 17.5**	**+0.8**
JIRB				S			**Sn**	**10 38 06.4**	**-2.1**
JTJ	**Tarama**	**4.87**	**258**	P			**Pn**	**10 37 24.1**	**+1.1**
JTJ				S			**Sn**	**10 38 16.7**	**-3.2**
JISG	**Ishigakijimahi**	**5.23**	**258**	S			**Sn**	**10 38 23.8**	**-4.9**
MKAR	**Makanchi Array**	**42.97**	**312**	P			P	10 44 13.1	+3.9
	2.0nm,0.6s,baz=102,slow=10.0,SNR=23								
WRA	**Warramunga Arr**	**45.66**	**174**	P			**P**	**10 44 32.9**	**+2.0**
	0.4nm,0.6s,baz=354,slow=8.7,SNR=5.2								
ASAR	**Alice Springs**	**49.31**	**175**	P			**P**	**10 45 00.3**	**+1.0**
	0.3nm,0.8s,baz=5.6,slow=10,SNR=5.3								
BRTR	**Keskin Array B**	**78.51**	**309**	P			**P**	**10 48 13.4**	**+1.7**
	0.8nm,0.9s,baz=16,slow=11,SNR=2.4								

IDC 26 10:39:46.3±3.3, 4°.10S×154°.14E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/33, mbtmp3.7/3, Error ellipse: s-maj=107.0km s-min=50.5km az=109.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
WRA	**Warramunga Arr**	**24.91**	**229**	P			P	10 45 11.1	-0.1
	1.3nm,0.5s,baz=54,slow=9.9,SNR=13								
ASAR	**Alice Springs**	**27.57**	**223**	P			P	10 45 35.2	-0.1
	0.2nm,0.4s,baz=59,slow=9.4,SNR=4.9								
STKA	**Stephens Creek**	**30.04**	**202**	P			P	10 45 57.2	+0.1
	1.4nm,0.8s,baz=33,slow=13,SNR=4.0								
TORD	**Torodi Ar. Bea**	**151.34**	**290**	PKPbc			PKPbc	10 59 42.9	-0.2
	0.8nm,1.0s,baz=54,slow=2.5,SNR=4.0								

MEX 26 10:47:11.9±0.6, 14°.25N×93°.23W, h16km±999km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
THIG		**1.15**	**55**	*eP*			P	10 47 29.3	-4.0
THIG				*eS*			Sb	10 47 43.7	-4.3
PCIG		**1.45**	**1**	*eP*			P	10 47 32.5	-4.9
PCIG				*eS*			Sn	10 47 49.4	-6.8
CCIG	**Comitan**	**2.28**	**27**	*eP*			Pn	10 47 47.6	-1.6
CCIG				*eS*			Sn	10 48 16.8	-0.4
TGIG		**2.52**	**2**	*eP*			Pn	10 47 49.6	-2.7
TGIG				*eS*			Sn	10 48 18.6	-4.2

*IDC **26** 10:49:37.6±2.1, 36°.82S×178°.98W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.7/27, mbtmp3.7/3, ML3.3/1, Error ellipse: s-maj=63.9km s-min=42.9km az=11.0*
*WEL **26** 10:49:40.8±0.3, 36°.98S×178°.88W, h33km, ML4.3/12, Error ellipse: s-maj=4.2km s-min=3.5km az=0.0*
ISC 26 10:49:42.3±1.6, 37°.3S±0°.1×179°.01W±0°.10, h30km, n46, σ1$01/49, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
WMGZ	**Waiomatatini S**	**2.12**	**255**	Pn			**Pn**	**10 50 16.1**	**+0.4**
WMGZ				Sn			**Sb**	**10 50 43.2**	**-2.8**
MXZ	**Matakaoa Point**	**2.16**	**262**	Pn			**Pn**	**10 50 15.8**	**-0.4**
MXZ				Sn			**Sn**	**10 50 42.1**	**+0.1**
MXZ				AML			AML	10 50 42.7	
MXZ				AML			AML	10 50 42.7	
MXZ				AML			AML	10 50 42.7	
PUZ	**Puketiti**	**2.31**	**249**	PN			**Pn**	**10 50 18.7**	**+0.3**
PUZ				AML			AML	10 50 48.8	
PUZ				AML			AML	10 50 57.1	
CNGZ	**Carnagh Statio**	**2.51**	**241**	PN			**Pn**	**10 50 22.0**	**+0.9**
TWGZ	**Tauwhareparae**	**2.55**	**249**	PN			**Pn**	**10 50 22.4**	**+0.7**
TWGZ				SN			**Sn**	**10 50 53.2**	**+1.4**
HAZ	**Te Kaha**	**2.60**	**259**	PN			**Pn**	**10 50 22.6**	**+0.3**
TKGZ	**Te Karaka**	**2.75**	**244**	PN			**Pn**	**10 50 24.9**	**+0.6**
TKGZ				SN			**Sn**	**10 50 58.1**	**+1.7**
RIGZ	**Rimuhau**	**2.92**	**240**	PN			**Pn**	**10 50 27.4**	**+0.5**
RIGZ				SN			**Sn**	**10 51 03.3**	**+2.3**
MWZ	**Matawai**	**2.94**	**248**	PN			**Pn**	**10 50 27.4**	**+0.3**
MWZ				AML			AML	10 51 03.4	
MWZ				AML			AML	10 51 03.8	
MWZ				AML			AML	10 51 05.4	
MWZ				AML			AML	10 51 21.7	
PRGZ	**Paritu Road**	**2.95**	**235**	PN			**Pn**	**10 50 27.5**	**+0.3**
RAGZ	**Rawiri**	**3.08**	**246**	PN			**Pn**	**10 50 30.1**	**+1.1**
KNZ	**Kokohu**	**3.14**	**235**	PN			**Pn**	**10 50 29.8**	**+0.1**
URZ	**Urewera**	**3.23**	**251**	PN			**Pn**	**10 50 31.1**	**+0.4**
URZ				AML			AML	10 51 09.7	
URZ				AML			AML	10 51 10.0	
URZ	**Urewera**	**3.23**	**251**	Pn			**Pn**	**10 50 31.5**	**+0.5**
	2.6nm,0.3s,baz=267,slow=4.7,SNR=24								
URZ				Sn			**Sn**	**10 51 08.7**	**+0.3**
	14nm,0.3s,baz=179,slow=21,SNR=32								
SNGZ	**Shannon Statio**	**3.25**	**241**	PN			**Pn**	**10 50 32.1**	**+0.8**
WHHZ	**Waihua**	**3.46**	**238**	PN			**Pn**	**10 50 34.8**	**+0.6**
WHHZ				SN			**Sn**	**10 51 16.1**	**+1.9**
RAHZ	**Arahi**	**3.49**	**241**	PN			**Pn**	**10 50 35.1**	**+0.5**
RAHZ				SN			**Sn**	**10 51 16.2**	**+1.3**
TARZ	**Mount Tarawera**	**3.68**	**254**	PN			Pn	10 50 39.5	+2.2
ARHZ	**Aropaoanui**	**3.72**	**237**	PN			**Pn**	**10 50 38.5**	**+0.8**
NMHZ	**Naumai**	**3.77**	**240**	PN			**Pn**	**10 50 38.9**	**+0.4**
MCHZ	**McNeill Hill**	**4.01**	**236**	PN			**Pn**	**10 50 41.8**	**+0.1**
BKZ	**Black Stump Fm**	**4.01**	**241**	PN			**Pn**	**10 50 41.9**	**+0.1**
BKZ				AML			AML	10 51 29.2	
BKZ				AML			AML	10 51 30.4	
KAHZ	**Kahuranaki**	**4.09**	**231**	PN			**Pn**	**10 50 43.1**	**+0.2**
PXZ	**Pawanui**	**4.24**	**228**	PN			**Pn**	**10 50 44.3**	**-0.6**
PXZ				AML			AML	10 51 34.4	
PXZ				AML			AML	10 51 44.5	
KUZ	**Kuaotunu**	**4.25**	**276**	PN			**Pn**	**10 50 44.0**	**-1.1**
BHHZ	**Black Hill Sta**	**4.46**	**239**	PN			**Pn**	**10 50 48.0**	**+0.1**
PNHZ	**Pukenui**	**4.58**	**234**	PN			**Pn**	**10 50 49.3**	**-0.3**
MOVZ	**Moawhango**	**4.63**	**241**	PN			**Pn**	**10 50 51.6**	**+1.2**
MKAZ	**Moumakai**	**4.66**	**270**	PN			**Pn**	**10 50 51.1**	**+0.6**
WNVZ	**Wahianoa**	**4.71**	**243**	PN			**Pn**	**10 50 51.9**	**+0.4**
FWVZ	**Far West T-bar**	**4.71**	**244**	AML			AML	10 52 12.3	
FWVZ				AML			AML	10 52 43.2	
ANWZ	**Angora Road**	**4.75**	**227**	PN			**Pn**	**10 50 50.8**	**-1.0**
TSZ	**Takapari Road**	**4.82**	**233**	PN			**Pn**	**10 50 52.3**	**-0.6**
TSZ				AML			AML	10 51 31.7	
TSZ				AML			AML	10 52 20.0	
MTVZ	**Mangateitei**	**4.83**	**242**	AML			AML	10 51 58.5	
DVHZ	**Dannevirke**	**4.83**	**230**	PN			**Pn**	**10 50 52.0**	**-1.0**
PRWZ	**Pori Road**	**5.10**	**229**	PN			**Pn**	**10 50 55.9**	**-0.8**
POWZ	**Post Office Ro**	**5.13**	**231**	PN			**Pn**	**10 50 57.0**	**-0.1**
TIWZ	**Tintock**	**5.29**	**227**	AML			AML	10 52 02.7	
TIWZ				AML			AML	10 52 05.1	
MRZ	**Mangatainoka R**	**5.40**	**230**	PN			**Pn**	**10 50 59.4**	**-1.5**
MRZ				AML			AML	10 52 01.2	
MRZ				AML			AML	10 52 01.6	
HOWZ	**Holdsworth Sta**	**5.59**	**228**	PN			**Pn**	**10 51 01.5**	**-1.9**
CTZ	**Chatham Island**	**6.70**	**165**	PN			Pn	10 51 20.5	+1.9
LTZ	**Lake Taylor**	**8.66**	**228**	PN			**Pn**	**10 51 43.8**	**-1.7**
LTZ				AML			AML	10 54 16.0	
LTZ	

*TAP **26** 11:06:46.8,24˚.88N×122˚.55E,h5km±1km,ML4.2,D*
ISC 26 11:06:46.5±1.1,24˚.89N±0˚.03×122˚.62E±0˚.02,h11km±7km, n82,σ0s93/104,mb4.0/13,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.53**	**145**	P	**Pb**	**11 06 57.7**	**-0.1**
JYNG				S	**Sb**	**11 07 06.6**	**+1.2**
YOJ	**Yonaguni jima**	**0.56**	**140**	P	**Pb**	**11 06 58.2**	**0.0**
YOJ				S	**Sb**	**11 07 07.4**	**+1.2**
TWB1	**Santiao Chiao** baz=284	**0.58**	**282**	P	**Pg**	**11 06 58.2**	**+0.4**
TWB1	baz=284			S	**Sg**	**11 07 05.3**	**-0.3**
EGS		**0.62**	**266**	*e*P	**Pg**	**11 06 58.8**	**+0.2**
EGS	baz=266			*e*S	**Sb**	**11 07 07.8**	**-0.3**
TWC	**Suao** baz=246	**0.75**	**248**	*e*P	**Pg**	**11 07 00.8**	**-0.2**
TWC	baz=246			*e*S	**Sg**	**11 07 10.6**	**-0.3**
NWF	**Wu-fen Shan** baz=285	**0.78**	**284**	*e*P	**Pb**	**11 07 02.0**	**-0.1**
ILA	**Ilan** baz=261	**0.80**	**261**	*e*P	**Pb**	**11 07 02.3**	**-0.1**
ILA	baz=261			*e*S	**Sb**	**11 07 14.2**	**+1.0**
TWE	**Neicheng** baz=258	**0.88**	**259**	*e*P	**Pg**	**11 07 03.5**	**+0.1**
TWE	baz=258			*e*S	**Sb**	**11 07 15.4**	**0.0**
PCYT	**Pengchaiyu** baz=330	**0.89**	**326**	P	**Pb**	**11 07 04.1**	**+0.2**
PCYT	baz=330			*e*S	**Sn**	**11 07 19.3**	**+1.5**
ENA	**Nanau** baz=238	**0.92**	**240**	*e*P	**Pg**	**11 07 04.0**	**-0.2**
ENA	baz=238			*e*S	**Sg**	**11 07 15.9**	**-0.3**
TWA	**Mucha** baz=276	**0.94**	**276**	*e*P	**Pb**	**11 07 04.8**	**0.0**
TWA	baz=276			*e*S	**Sg**	**11 07 16.6**	**-0.4**
ENTT	**Nioudou** baz=254	**0.99**	**256**	*e*P	**Pg**	**11 07 05.1**	**-0.4**
ENTT	baz=254			*e*S	**Sb**	**11 07 19.0**	**+0.4**
TWY	**Chenhua** baz=294	**1.00**	**293**	*e*P	**Pb**	**11 07 06.0**	**+0.2**
TAP1	**Taipei** baz=279	**1.00**	**279**	*e*P	**Pb**	**11 07 05.9**	**0.0**
TAP1	baz=279			*e*S	**Sn**	**11 07 20.2**	**-0.4**
TAP	**Taipei** baz=279	**1.02**	**279**	*e*P	**Pn**	**11 07 07.4**	**+0.7**
TAP	baz=279			*e*S	**Sn**	**11 07 20.4**	**-0.5**
TWS1	**Kuangyinshan** baz=282	**1.11**	**281**	*e*P	**Pn**	**11 07 08.1**	**+0.1**
TWS1	baz=282			*e*S	**Sn**	**11 07 23.6**	**+0.4**
IRIF	**Iriomote-Funau**	**1.15**	**118**	P	**Pb**	**11 07 08.2**	**-0.2**
NSK	**Sanguang** baz=259	**1.16**	**260**	*e*P	**Pb**	**11 07 08.3**	**-0.4**
NSK	baz=259			*e*S	**Sb**	**11 07 23.3**	**-0.5**
NNS	**Nan Shan** baz=247	**1.22**	**249**	*e*P	**Pn**	**11 07 08.7**	**-0.9**
NNS	baz=247			*e*S	**Sn**	**11 07 26.6**	**+0.6**
TWD	**Chiawan** baz=227	**1.23**	**229**	*e*P	**Pn**	**11 07 09.8**	**+0.2**
HWA	**Hwalien** baz=223	**1.29**	**226**	*e*P	**Pg**	**11 07 13.5**	**+2.1**
NCU	**National Centr** baz=274	**1.30**	**274**	*e*P	**Pg**	**11 07 13.4**	**+1.9**
HATJ	**Hateruma jima**	**1.36**	**127**	P	**Pn**	**11 07 11.7**	**+0.3**
JKRS	**Kuro-shima**	**1.42**	**117**	P	**Pb**	**11 07 13.2**	**+0.1**
WHF	**Hehuan Shan** baz=237	**1.44**	**239**	*e*P	**Pn**	**11 07 13.5**	**+0.7**
WHF	baz=237			*e*S	**Sn**	**11 07 31.7**	**-0.2**
TWT	**Tachien** baz=243	**1.46**	**245**	*e*P	**Pn**	**11 07 13.5**	**+0.6**
JIJ	**Ishigaki jima**	**1.48**	**110**	P	**Pn**	**11 07 12.7**	**-0.4**
NSTT	**Nanjuang** baz=260	**1.49**	**260**	*e*P	**Pn**	**11 07 13.4**	**+0.2**
HSN	**Hsinchu** baz=267	**1.50**	**267**	*e*P	**Pg**	**11 07 17.2**	**+1.9**
ESL	**Shilin** baz=223	**1.52**	**226**	*e*P	**Pn**	**11 07 13.6**	**0.0**
ESL	baz=223			*e*S	**Sg**	**11 07 36.3**	**+0.9**
JISG	**Ishigakijimahi**	**1.57**	**101**	P	**Pn**	**11 07 13.9**	**-0.4**
NSY	**Sanyi** baz=254	**1.75**	**255**	*e*P	**Pg**	**11 07 20.4**	**+0.2**
WDT	**Danda** baz=228	**1.76**	**231**	*e*P	**Pn**	**11 07 18.0**	**+0.8**
WDT	baz=228			*e*S	**Sg**	**11 07 43.5**	**+0.2**
TWQ1	**Liyutan** baz=251	**1.76**	**253**	*e*P	**Pg**	**11 07 20.3**	**0.0**
EHY	**Hungye** baz=219	**1.81**	**221**	*e*P	**Pn**	**11 07 18.4**	**+0.7**
SMLT	**Sun Moon Lake** baz=236	**1.86**	**238**	*e*P	**Pb**	**11 07 19.7**	**-0.8**
TYC	**Yuchr** baz=237	**1.88**	**239**	*e*P	**Pb**	**11 07 20.2**	**-0.6**
TCU	**Taichung** baz=246	**1.92**	**248**	*e*P	**Pg**	**11 07 23.2**	**-0.1**
TWF1	**Yuli** baz=216	**1.95**	**219**	P	**Pn**	**11 07 19.6**	**+0.1**
WNT	**Mingjian** baz=239	**2.03**	**241**	*e*P	**Pb**	**11 07 24.3**	**+0.9**
YUS	**Yu-Shan** baz=226	**2.06**	**228**	*e*P	**Pn**	**11 07 22.6**	**+1.1**
CHKT	**Chengkung** baz=211	**2.12**	**213**	*e*P	**Pn**	**11 07 21.9**	**+0.1**
ALS	**Alishan** baz=229	**2.15**	**231**	*e*P	**Pb**	**11 07 24.5**	**-1.1**
CHN5	**Tsauling** baz=233	**2.19**	**234**	*e*P	**Pb**	**11 07 25.5**	**-0.7**
WGK	**Gukeng** baz=236	**2.22**	**238**	*e*P	**Pb**	**11 07 26.5**	**-0.2**
ELDTW	**Lidau** baz=219	**2.24**	**221**	*e*P	**Pn**	**11 07 23.8**	**+0.2**
CHN2	**Minshiung** baz=234	**2.38**	**236**	*e*P	**Pb**	**11 07 29.8**	**+0.5**
CHN4	**Tsaushan** baz=229	**2.40**	**231**	*e*P	**Pb**	**11 07 28.1**	**-1.6**
CHN4	baz=229			*e*S	**Sb**	**11 08 00.2**	**+0.9**
STYT	**Tauyuan** baz=223	**2.42**	**225**	*e*P	**Pn**	**11 07 27.5**	**+1.5**
CHY	**Chiayi** baz=234	**2.43**	**236**	*e*P	**Pb**	**11 07 30.5**	**+0.2**
WTP	**Ta-pu** baz=227	**2.45**	**229**	*e*P	**Pn**	**11 07 28.7**	**+2.2**
TWG	**Pinlang** baz=213	**2.50**	**215**	*e*P	**Pn**	**11 07 27.6**	**+0.6**
TTN	**Taitung** baz=211	**2.52**	**213**	*e*P	**Pn**	**11 07 29.0**	**+1.8**
TTN	baz=211			*e*S	**Sn**	**11 07 59.2**	**+1.3**
TWK	**Hsinying** baz=229	**2.53**	**231**	*e*P	**Pb**	**11 07 30.1**	**-1.9**
CHN1	**Nanshi** baz=227	**2.55**	**229**	*e*P	**Pb**	**11 07 30.8**	**-1.6**
SGST	**Jiashian** baz=225	**2.59**	**226**	*e*P	**Pb**	**11 07 30.9**	**-2.0**
ECL	**Taimali** baz=212	**2.74**	**214**	*e*P	**Pn**	**11 07 30.7**	**+0.3**
TWM1	**Shoushan** baz=223	**2.87**	**225**	*e*P	**Pb**	**11 07 36.0**	**-1.8**
SGLT	**Jiouru** baz=221	**2.90**	**223**	*e*P	**Pb**	**11 07 37.8**	**-0.5**
EAST	**Anshuo** baz=212	**2.97**	**213**	*e*P	**Pn**	**11 07 34.3**	**+0.6**
EAST	baz=212			*e*S	**Sn**	**11 08 10.9**	**+1.5**
LAY	**Lan-yu** baz=197	**3.00**	**199**	*e*P	**Pn**	**11 07 33.4**	**-0.6**
SCZT	**Fangliau** baz=215	**3.10**	**217**	*e*P	**Pb**	**11 07 38.8**	**-2.9**
HEN	**Hengchun** baz=210	**3.35**	**211**	*e*P	Pn	11 07 42.0	+3.3
TWK1	**Hengchun**	**3.37**	**210**	*e*P	Pn	11 07 42.4	+3.3
	baz=208						
JKE	**Kume jima 2**	**4.03**	**68**	P	Pn	11 07 52.3	+4.2
JIH	**Iheya**	**5.27**	**65**	P	Pn	11 08 09.1	+3.9
KSRS	**Korea Array** 0.2nm,0.3s,baz=195,slow=11,SNR=4.3	**13.32**	**19**	Pn	**Pn**	**11 09 53.5**	**-2.0**
KSRS	comp=Z,762nm,18.5s,baz=106,slow=42			LR	LR	11 16 02.4	
MJAR	**Matsushiro Arr** 0.1nm,0.3s,baz=220,slow=8.8,SNR=3.2	**17.71**	**45**	P	**P**	**11 10 54.3**	**+0.3**
USRK	**Ussuriysk Ar.** 2.7nm,0.9s,baz=205,slow=11,SNR=2.6	**20.73**	**19**	P	**P**	**11 11 26.7**	**-0.2**
CMAR	**Chiang Mai Arr** 0.5nm,0.4s,baz=67,slow=7.4,SNR=3.8	**22.89**	**258**	P	**P**	**11 11 51.4**	**+1.0**
CMAR	0.4nm,0.3s,baz=48,slow=1.3,SNR=6.7			PcP	**PcP**	**11 15 42.0**	**+0.9**
SONM	**Songino Array** 2.4nm,0.9s,baz=156,slow=9.1,SNR=7.4	**26.26**	**335**	P	**P**	**11 12 23.0**	**+1.2**
MKAR	**Makanchi Array** 2.7nm,0.8s,baz=108,slow=10,SNR=23	**38.76**	**315**	P	**P**	**11 14 11.3**	**+0.4**
MKAR	0.4nm,0.7s,baz=108,slow=4.7,SNR=3.2			PcP	**PcP**	**11 16 20.6**	**-1.8**
ZALV	**Zalesovo Beam** 1.8nm,0.5s,baz=111,slow=8.1,SNR=8.9	**40.38**	**326**	P	**P**	**11 14 23.4**	**-0.8**
KURBB	**Kurchatov Arra** 2.4nm,0.9s,baz=108,slow=7.8,SNR=20	**42.42**	**319**	P	**P**	**11 14 41.4**	**+0.3**
WRA	**Warramunga Arr** 1.7nm,0.8s,baz=346,slow=8.6,SNR=19	**46.00**	**165**	P	**P**	**11 15 09.9**	**0.0**
WRA	0.8nm,1.0s,baz=341,slow=4.0,SNR=3.0			PcP	**PcP**	**11 16 45.0**	**-1.6**
BVAR	**Borovoye Array** 2.1nm,0.7s,baz=108,slow=9.5,SNR=12	**47.97**	**320**	P	**P**	**11 15 25.8**	**+0.7**
ASAR	**Alice Springs** 0.5nm,0.7s,baz=345,slow=9.3,SNR=9.6	**49.49**	**166**	P	**P**	**11 15 37.5**	**+0.5**
ASAR	0.5nm,0.9s,baz=339,slow=3.4,SNR=2.6			PcP	**PcP**	**11 16 58.9**	**-0.2**
ASAR	comp=Z,467nm,21.6s,baz=191,slow=36			LR	LR	11 36 01.7	
FINES	**FINESS Array B** 1.7nm,0.7s,baz=72,slow=8.9,SNR=3.5	**71.50**	**330**	P	**P**	**11 18 07.1**	**+0.2**
BRTR	**Keskin Array B** 0.4nm,0.7s,baz=81,slow=8.9,SNR=2.5	**73.80**	**307**	P	**P**	**11 18 21.0**	**-0.3**
NOA	**NORSAR Array B** 1.7nm,0.8s,baz=58,slow=5.8,SNR=3.5	**78.21**	**332**	P	**P**	**11 18 45.2**	**-0.7**
YKA	**Yellowknife Ar** 1.2nm,0.6s,baz=308,slow=5.3,SNR=24	**81.81**	**23**	P	**P**	**11 19 05.1**	**-0.2**
NVAR	**Mina Array Bea** 0.2nm,0.6s,baz=309,slow=5.7,SNR=1.9	**95.03**	**44**	P	**P**	**11 20 10.1**	**+0.3**

*ISCJB **26** 11:07:00.8±0.9,22˚.2S±0˚.1×68˚.4W±0˚.2,h117km,mb3.4/1, Error ellipse: s-maj=28.0km s-min=11.8km az=32.4*
*IDC **26** 11:07:00.7±1.0,22˚.17S×68˚.09W,h84km±17km,mb3.4/1, mb1 3.6/4,mb1mx3.3/23,mbtmp3.7/4,Error ellipse: s-maj=48.8km s-min=16.8km az=128.0*
ISC 26 11:07:01.1±1.0,22˚.2S±0˚.1×68˚.2W±0˚.2,h117km,n6, σ3s12/8,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde** 2μm,0.3s,baz=29,slow=7.7,SNR=730	**0.76**	**235**	P	**Pn**	**11 07 19.4**	**-1.5**
LVC	4μm,0.3s,baz=307,slow=20,SNR=90			S	**Sn**	**11 07 32.9**	**-3.0**
LPAZ	**La Paz** 0.6nm,0.3s,baz=180,slow=2.9,SNR=19	**5.86**	**1**	P	**Pn**	**11 08 27.3**	**+1.0**
SIV	**San Ignacio** 0.7nm,0.3s,baz=245,slow=14,SNR=15	**9.15**	**49**	P	**Pn**	**11 09 10.2**	**-0.1**
SIV	0.1nm,0.3s,baz=294,slow=20,SNR=2.4			S	**Sn**	**11 10 46.7**	**-5.0**
PLCA	**Paso Flores** 0.1nm,0.3s,baz=3.2,slow=10,SNR=5.0	**18.60**	**186**	P	**Pn**	**11 11 13.2**	**+2.2**
TORD	**Torodi Ar. Bea** 0.3nm,0.4s,baz=253,slow=5.8,SNR=8.0	**77.00**	**70**	P	**P**	**11 18 43.9**	**+2.3**
MKAR	**Makanchi Array** 0.6nm,0.7s,baz=327,slow=2.4,SNR=5.9	**145.81**	**37**	PKPbc	**PKPab**	**11 26 28.6**	**+1.4**

DJA 26 11:11:29.6±0.9,1˚N±11˚×12˚0E±˚,h12km±7km,M3.6/6, MLv3.6/6,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**0.92**	**219**	P	Pg	11 11 45.5	-2.0
MPSI				S	Sg	11 11 56.8	-2.7
MRSI	**Marisa**	**1.57**	**112**	P	Pn	11 11 56.3	-1.0
PCI	**Palu**	**2.06**	**198**	P	Pn	11 12 04.8	+0.8
PCI				S	Sn	11 12 30.6	+1.0
APSI	**Ampana**	**2.28**	**149**	P	Pn	11 12 06.7	-0.4
APSI				S	Sn	11 12 35.7	+0.6
LUWI	**Luwuk**	**3.10**	**132**	P	Pn	11 12 17.2	-1.2
LUWI				S	Sn	11 12 57.5	+2.1

*IDC **26** 11:16:12.6±0.9,25˚.02N×123˚.01E,h0km,mb3.8/9, mb1 3.9/9,mb1mx3.7/53,mbtmp3.8/9,Error ellipse: s-maj=40.1km s-min=18.3km az=69.0*
*ISCJB **26** 11:16:13.9±0.4,24˚.95N±0˚.04×122˚.60E±0˚.05,h16km, mb3.9/10,Error ellipse: s-maj=7.4km s-min=4.6km az=39.8*
*JMA **26** 11:16:14.3±0.3,24˚.95N×122˚.61E,h20km±5km,M3.3*
*NEIC **26** 11:16:15.1±1.6,24˚.85N×122˚.57E,h14km±12km,mb4.6/2, Error ellipse: s-maj=10.8km s-min=8.5km az=139.0*
ISC 26 11:16:15.0±0.6,24˚.89N±0˚.06×122˚.61E±0˚.04,h16km,n27, σ0s93/29,mb3.8/10,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.53**	**145**	P	**Pg**	**11 16 25.3**	**-0.3**
JYNG				S	**Sb**	**11 16 33.9**	**+0.4**
YOJ	**Yonaguni jima**	**0.56**	**139**	P	**Pg**	**11 16 26.1**	**-0.1**
YOJ				S	**Sb**	**11 16 34.5**	**+0.2**
YOJ	**Yonaguni jima**	**0.56**	**139**	*e*Pg	**Pg**	**11 16 26.2**	**+0.1**
TATO	**Taipei**	**1.02**	**275**	*e*Pn	**Pb**	**11 16 33.2**	**-1.1**
YHNB	**Yeheng**	**1.14**	**259**	*e*Pn	**Pn**	**11 16 35.6**	**-0.9**
IRIF	**Iriomote-Funau**	**1.16**	**118**	P	**Pn**	**11 16 35.4**	**-1.2**
NACB	**Ninganchiao**	**1.17**	**233**	*e*Pn	**Pn**	**11 16 35.5**	**-1.2**
HATJ	**Hateruma jima**	**1.37**	**127**	P	**Pn**	**11 16 39.5**	**0.0**
JKRS	**Kuro-shima**	**1.43**	**117**	P	**Pn**	**11 16 40.4**	**+0.1**
JIJ	**Ishigaki jima**	**1.49**	**110**	P	**Pn**	**11 16 40.7**	**-0.5**
JISG	**Ishigakijimahi**	**1.57**	**101**	P	**Pn**	**11 16 41.4**	**-0.9**
SSLB	**Suanglung**	**1.87**	**234**	*e*Pn	**Pn**	**11 16 46.9**	**+0.4**
YULB	**Yu-li**	**1.91**	**219**	*e*Pn	**Pn**	**11 16 46.1**	**-0.9**
TPUB	**Ta-pu**	**2.41**	**229**	*e*Pn	**Pn**	**11 16 54.2**	**+0.4**
TWG	**Pinlang**	**2.50**	**215**	*e*Pn	**Pn**	**11 16 53.9**	**-1.1**
USRK	**Ussuriysk Ar.** 1.5nm,0.8s,baz=193,slow=5.8,SNR=3.1	**20.73**	**19**	P	**P**	**11 20 53.2**	**-1.5**
SONM	**Songino Array** 0.7nm,0.6s,baz=150,slow=10.0,SNR=3.3	**26.25**	**335**	P	**P**	**11 21 50.3**	**+0.8**
MK31	**Makanchi Array**	**38.78**	**315**	*e*P	**P**	**11 23 39.8**	**+1.2**
MKAR	**Makanchi Array** 1.5nm,0.7s,baz=109,slow=9.4,SNR=14	**38.75**	**315**	P	**P**	**11 23 39.9**	**+1.3**
ZALV	**Zalesovo Beam** 2.5nm,0.3s,baz=115,slow=8.8,SNR=4.4	**40.37**	**326**	P	**P**	**11 23 52.7**	**+0.7**
WRA	**Warramunga Arr** 1.0nm,0.8s,baz=346,slow=8.6,SNR=8.9	**46.00**	**165**	P	**P**	**11 24 38.0**	**+0.2**
TIXI	**Tiksi** 13nm,1.4s	**46.92**	**3**	*e*P	**P**	**11 24 45.1**	**+0.7**
ASAR	**Alice Springs** 0.3nm,0.8s,baz=345,slow=9.0,SNR=5.6	**49.49**	**166**	P	**P**	**11 25 05.6**	**+0.7**
ABKAR	**Akbulak array** 2.8nm,0.8s	**53.88**	**314**	*e*P	**P**	**11 25 38.5**	**+1.0**
AKTO	**Aktyubinsk** 0.5nm,0.3s,baz=27,slow=6.8,SNR=2.0	**55.18**	**315**	P	**P**	**11 25 48.1**	**+1.2**
NOA	**NORSAR Array B** 0.4nm,0.5s,baz=62,slow=5.1,SNR=3.1	**78.21**	**332**	P	**P**	**11 28 13.9**	**+0.2**
YKA	**Yellowknife Ar** 0.6nm,0.6s,baz=308,slow=5.3,SNR=13	**81.81**	**23**	P	**P**	**11 28 31.1**	**-2.0**

*IDC **26** 11:51:21.8±0.5,25˚.75N×130˚.29E,h0km,mb4.5/19, mb1 4.7/25,mb1mx4.6/35,mbtmp4.5/25,ML4.2/6,Error ellipse: s-maj=17.4km s-min=12.4km az=75.0*
*ISCJB **26** 11:51:22.6±0.2,25˚.76N±0˚.03×130˚.06E±0˚.02,h10km, mb4.8/109,MS4.1/5,Error ellipse: s-maj=3.8km s-min=2.6km az=1.3*
*BJI **26** 11:51:23.2,25˚.80N×130˚.12E,h6km,mb4.6/48,mB4.9/32, Ms4.3/33,Ms7 4.0/31*
*NEIC **26** 11:51:23.8±0.2,25˚.72N×130˚.10E,h10km,mb5.0/80,Error ellipse: s-maj=5.0km s-min=3.6km az=156.0*
NEIC Felt [II] at Chatan. Also felt at Ginowan and Yomitan.
*JMA **26** 11:51:23.7±0.2,25˚.80N×130˚.21E,h40km,M5.1*
*MOS **26** 11:51:26.2±1.1,25˚.83N×130˚.30E,h33km,mb5.1/45,Error ellipse: s-maj=10.0km s-min=5.4km az=99.0*
ISC 26 11:51:24.2±0.4,25˚.74N±0˚.04×130˚.19E±0˚.03,h13km±1km, h12km:pP-P,n340,σ1s79/386,mb5.0/111,MS4.1/5, 17C-13D,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMZ	**Minamidaito 2**	**0.94**	**85**	P	**Pb**	**11 51 40.5**	**-1.8**
JMZ				S	**Sb**	**11 51 51.1**	**-3.5**
JOW	**Kunigami**	**2.03**	**303**	P	**Pn**	**11 51 56.6**	**-1.6**
JOW				S	**Sn**	**11 52 19.6**	**-3.9**
JOW	**Kunigami** 333nm,0.3s,baz=126,slow=15,SNR=5416	**2.03**	**303**	Pn	**Pn**	**11 51 56.7**	**-1.6**
JOW	74nm,0.3s,baz=108,slow=19,SNR=14			Sn	**Sn**	**11 52 18.5**	**-4.9**
JOW	**Kunigami**	**2.03**	**303**	*e*Pn	**Pn**	**11 51 56.6**	**-1.6**
JOW				*e*Sn	**Sn**	**11 52 21.3**	**-2.2**
JNTH	**Nagotoyohara**	**2.10**	**292**	P	**Pn**	**11 51 57.1**	**-1.9**
JNTH				S	**Sn**	**11 52 21.1**	**-3.9**
JOKE	**Okinoerabujima**	**2.17**	**319**	P	**Pn**	**11 51 58.7**	**-1.4**
JOKE				S	**Sn**	**11 52 23.2**	**-3.7**
JJT2	**Tamagusuku 2**	**2.23**	**281**	P	**Pn**	**11 51 59.5**	**-1.4**
JJT2				S	**Sn**	**11 52 25.2**	**-3.1**
JTK	**Tokunoshima**	**2.32**	**332**	P	**Pn**	**11 52 00.7**	**-1.4**
JTK				S	**Sn**	**11 52 25.9**	**-4.7**
JIH	**Iheya**	**2.37**	**303**	P	**Pn**	**11 52 00.0**	**-2.8**
JIH				S	**Sn**	**11 52 27.7**	**-4.1**
JZK	**Kikaishima**	**2.57**	**356**	P	**Pn**	**11 52 05.3**	**-0.3**
JZK				S	**Sn**	**11 52 33.6**	**-3.2**
JAMN	**Amaminishikomi**	**2.65**	**340**	P	**Pn**	**11 52 05.1**	**-1.6**
JAMN				S	**Sn**	**11 52 35.0**	**-3.8**
JAM	**Amami Oshima**	**2.71**	**349**	P	**Pn**	**11 52 06.1**	**-1.4**
JAM				S	**Sn**	**11 52 35.5**	**-4.7**
JAGN	**Aguni-jima**	**2.78**	**288**	P	**Pn**	**11 52 06.9**	**-1.5**
JAGN				S	**Sn**	**11 52 38.4**	**-3.4**
JKE	**Kume jima 2**	**3.12**	**282**	P	**Pn**	**11 52 10.1**	**-3.0**
JKE				S	**Sn**	**11 52 45.6**	**-4.6**
JTAJ	**Takarajima**	**3.51**	**346**	P	**Pn**	**11 52 16.5**	**-2.0**
JTAJ				S	**Sn**	**11 52 54.5**	**-5.5**
JOGS	**Gusukube**	**4.44**	**258**	P	**Pn**	**11 52 29.6**	**-1.6**
JOGS				S	**Sn**	**11 53 18.1**	**-4.7**
JMJ	**Miyako jima 2**	**4.53**	**259**	P	**Pn**	**11 52 30.8**	**-1.6**
JMJ				S	**Sn**	**11 53 20.5**	**-4.4**
JIKM	**Ikemajima**	**4.54**	**261**	P	**Pn**	**11 52 30.9**	**-1.8**
JIKM				S	Sn	11 53 19.1	-6.3
JIRB	**Irabujima**	**4.63**	**260**	P	**Pn**	**11 52 31.8**	**-2.1**
JIRB				S	**Sn**	**11 53 22.2**	**-5.3**
JTJ	**Tarama**	**5.09**	**259**	P	**Pn**	**11 52 38.2**	**-2.0**
JTJ				S	Sn	11 53 32.4	-6.4
JISG	**Ishigakijimahi**	**5.45**	**259**	P	**Pn**	**11 52 42.1**	**-3.0**
JISG				S	Sn	11 53 40.1	-7.6
JIJ	**Ishigaki jima**	**5.65**	**257**	P	**Pn**	**11 52 45.3**	**-2.6**
JIJ				S	Sn	11 53 45.2	-7.5
JKRS	**Kuro-shima**	**5.80**	**256**	P	**Pn**	**11 52 47.7**	**-2.3**
JKRS				S	**Sn**	**11 53 50.9**	**-5.5**
IRIF	**Iriomote-Funau**	**6.02**	**258**	P	**Pn**	**11 52 49.9**	**-3.1**
HATJ	**Hateruma jima**	**6.03**	**255**	P	**Pn**	**11 52 50.6**	**-2.6**
YOJ	**Yonaguni jima**	**6.63**	**260**	P	**Pn**	**11 52 58.5**	**-2.9**
YOJ	**Yonaguni jima**	**6.63**	**260**	*e*P	**Pn**	**11 52 58.4**	**-2.9**
YOJ	**Yonaguni jima**	**6.63**	**260**	*e*Pn	**Pn**	**11 52 58.4**	**-3.0**
JYNG	**Yonagunijimaku**	**6.69**	**261**	P	**Pn**	**11 52 59.3**	**-2.9**
JYNG				S	Sn	11 54 10.1	-8.2
JNU	**Nakatsue** 3.5nm,0.3s,baz=202,slow=10,SNR=48	**7.38**	**5**	Pn	**Pn**	**11 53 11.0**	**-0.8**
JNU	2.6nm,0.3s,baz=192,slow=9.3,SNR=3.3			Sn	Sn	11 54 28.9	-6.6
JNU	**Nakatsue**	**7.38**	**5**	*e*Pn	**Pn**	**11 53 11.7**	**-0.1**
JNU				*e*Sn	Sn	11 54 28.9	-6.6
TATO	**Taipei**	**7.91**	**266**	*e*Pn	**Pn**	**11 53 18.4**	**-0.5**
NACB	**Ninganchiao**	**7.95**	**261**	*e*Pn	Pn	11 53 16.2	-3.3
YHNB	**Yeheng**	**8.05**	**264**	*e*Pn	**Pn**	**11 53 19.8**	**-1.2**
YULB	**Yu-li**	**8.42**	**256**	*e*Pn	Pn	11 53 21.4	-4.7
SSLB	**Suanglung**	**8.61**	**259**	*e*Pn	Pn	11 53 24.9	-3.8
SSLB				*e*Sn	Sn	11 54 59.5	-6.2
TWG	**Pinlang**	**8.81**	**253**	*e*Pn	Pn	11 53 26.6	-4.6
TWG				*e*Sn	Sn	11 55 01.1	-9.4
TPUB	**Ta-pu**	**9.04**	**256**	*e*Pn	**Pn**	**11 53 32.0**	**-2.4**
CBIJ	**Chichi jima**	**10.84**	**80**	Pn	Pn	11 53 55.8	-3.4
JCJ	**Chichijima** 8.9nm,0.3s,baz=270,slow=20,SNR=4.2	**10.84**	**80**	Pn	Pn	11 53 55.8	-3.4
NJ2	**Nanjing** 20nm,0.6s	**11.75**	**305**	*e*P	**Pn**	**11 54 11.5**	**-0.1**
NJ2				PMZ			
KSAR	**Wonju Array Be**	**11.83**	**351**	P	**Pn**	**11 54 13.1**	**+0.4**
KSAR	**Wonju Array Be**	**11.83**	**351**	Pn	Pn	**11 54 13.1**	**+0.4**
KSRS	**Korea Array** 0.5nm,0.3s,baz=169,slow=13,SNR=16	**11.84**	**351**	Pn	Pn	**11 54 13.1**	**+0.3**
KSRS	**Korea Array**	**11.84**	**351**	P	**Pn**	**11 54 13.1**	**+0.3**
KSRS				pmax	pmax		
KS01	**Wonju Array Si** comp=Z,1.0nm,0.3s	**11.87**	**351**	*e*Pn	**Pn**	**11 54 13.6**	**+0.5**
MAJO	**Matsushiro**	**12.77**	**31**	*e*P	**Pn**	**11 54 25.2**	**-0.3**
MAJO	**Matsushiro**	**12.77**	**31**	*e*Pn	**Pn**	**11 54 26.3**	**+0.8**
MAT	**Matsushiro**	**12.77**	**31**	P	**Pn**	**11 54 25.9**	**+0.4**
MJAR	**Matsushiro Arr** comp=Z,1.8nm,0.3s,baz=205,slow=13,SNR=18	**12.77**	**31**	Pn	**Pn**	**11 54 24.5**	**-1.0**
BJI	**Beijing**	**18.46**	**324**	P	**Pn**	**11 55 40.8**	**+1.1**
BJI				S	**Sn**	**11 59 03.3**	**-2.4**
BJI	comp=Z,9.0nm,0.5s			PMZ			
BJI	comp=Z,320nm,19.5s			LN			
BJI	comp=Z,430nm,20.8s			LE			
BJI	comp=Z,560nm,21.2s			LZ			
USRK	**Ussuriysk Ar.** comp=Z,0.9nm,0.3s,baz=178,slow=10,SNR=21	**18.48**	**4**	P	**Pn**	**11 55 40.5**	**+0.6**
ENH	**Enshi** comp=Z,17nm,0.8s	**18.82**	**289**	*e*P	**Pn**	**11 55 44.8**	**+0.5**
MDJ	**Mudanjiang**	**18.84**	**359**	P	**Pn**	**11 55 45.5**	**+1.1**
MDJ	comp=Z,18nm,1.6s			PMZ			
MDJ	comp=Z,210nm,4.2s			PMZ			
QIZ	**Qiongzhong**	**19.95**	**255**	P	**P**	**11 55 56.5**	**+0.4**
QIZ				S	**Sn**	**11 59 43.0**	**+0.9**
QIZ	comp=Z,270nm,22.8s			LN			
QIZ	comp=Z,430nm,20.0s			LZ			
XAN	**Xi'an**	**20.18**	**299**	P	Pn	11 55 59.8	-0.8
XAN				S	Sn	11 59 48.3	+0.6
XAN	comp=Z,9.0nm,0.7s			PMZ			
XAN	comp=Z,160nm,20.5s			LN			
XAN	comp=Z,77nm,19.9s			LE			
ASAJ	**Asahikawa** comp=Z,6.5nm,0.8s,baz=224,slow=15

HABR *e* 11 56 59.1
HABR *e* 12 00 16.0
HABR *eS* **S** **12 00 37.9 -1.1**
HABR SS **SnSn** **12 01 10.8 -0.5**
HABR *e*SSS SSS 12 01 24.3
HABR *e* 12 07 40.0
HABR pmax pmax
comp=Z,21nm,1.1s
HABR MLR MLR
comp=Z,469nm,22.0s
YSS Yuzh-Sakhalins 23.41 22⇓ *eP* **P** **11 56 33.3 +0.4**
YSS pmax pmax
comp=Z,60nm,1.0s
YSS pmax pmax
comp=N,90µm,1.2s
YSS MLR MLR
comp=Z,600nm,20.0s
YSS Yuzh-Sakhalins 23.41 22 *eP* **P** **11 56 33.2 +0.4**
comp=Z,69nm,1.1s
KLR Kul'dur 23.48 3 *eP* **P** **11 56 28.9 -4.6**
KLR pmax pmax
comp=Z,45nm,1.6s
CD2 Chengdu 23.80 289 *eP* **P** **11 56 37.0 +0.1**
CD2 pP **pP** **11 56 41.3 +0.5**
CD2 sP **sP** **11 56 44.0 +1.6**
CD2 PP **PnPn** **11 57 10.0 +5.3**
CD2 S **S** **12 00 49.0 -3.4**
CD2 sS **sS** **12 00 55.3 -3.5**
CD2 SS **SnSn** **12 01 37.8 +6.8**
CD2 PMZ
comp=Z,50nm,0.5s
CD2 PMZ
comp=Z,260nm,5.4s
CD2 LN
comp=Z,520nm,24.0s
CD2 LE
comp=Z,480nm,17.1s
CD2 LZ
comp=Z,480nm,23.5s
LZH Lanzhou 24.77 301 *eP* **P** **11 56 47.0 +1.0**
LZH pP **pP** **11 56 50.8 +0.9**
LZH sP **sP** **11 56 52.5 +1.0**
LZH PP **PnPn** **11 57 23.5 +5.4**
LZH *eS* **S** **12 01 05.3 -2.9**
LZH sS **sS** **12 01 12.0 -2.6**
LZH SS SnSn 12 02 04.0 +9.2
LZH PMZ
comp=Z,35nm,1.2s
LZH PMZ
comp=Z,140nm,4.7s
LZH LN
comp=Z,320nm,13.6s
LZH LE
comp=Z,340nm,14.2s
LZH LZ
comp=Z,340nm,15.6s
KMI Kunming 24.78 275 P **P** **11 56 46.5 +0.3**
KMI pP **pP** **11 56 49.0 -1.1**
KMI sP **sP** **11 56 50.5 -1.2**
KMI PP **PnPn** **11 57 22.5 +4.2**
KMI S **S** **12 01 05.0 -3.6**
KMI sS sS 12 01 10.0 -5.0
KMI SS **SnSn** **12 02 01.3 +6.0**
KMI PMZ
comp=Z,9.0nm,0.9s
KMI PMZ
comp=Z,62nm,3.1s
KMI LN
comp=Z,260nm,18.7s
KMI LE
comp=Z,310nm,15.9s
KMI LZ
comp=Z,430nm,17.6s
CRAI Chiangrai 27.95 265 P P 11 57 20.0 +5.4
comp=Z,36nm,0.9s,comp=Z,1µm
GTA Gaotai 28.85 306 *eP* **P** **11 57 23.0 +0.5**
GTA pP **pP** **11 57 26.8 +0.3**
GTA sP **sP** **11 57 29.3 +1.2**
GTA PMZ
comp=Z,11nm,0.9s
SONM Songino Array 28.93 326 P **P** **11 57 23.2 0.0**
comp=Z,3.2nm,0.9s,baz=141,slow=9.2,SNR=11
SONM PcP **PcP** **12 00 31.8 -0.2**
comp=Z,1.2nm,0.7s,baz=161,slow=3.6,SNR=5.1
LAMP Lampang 29.15 262 P P 11 57 35.1 +10
comp=Z,5.9nm,0.7s
CHTO Chiang Mai 29.67 263 P P 11 57 38.8 +8.9
comp=Z,95nm,0.7s
CHTO Chiang Mai 29.67 263 *eP* P 11 57 38.2 +8.3
CHTO pmax pmax
comp=Z,15nm,0.7s
CHTO Chiang Mai 29.67 263 *eP* P 11 57 38.2 +8.3
comp=Z,15nm,0.7s
CMAR Chiang Mai Arr 29.79 262 P P 11 57 40.4 +9.4
comp=Z,3.5nm,0.6s,baz=57,slow=8.1,SNR=3.8
CMAR PcP **PcP** **12 00 35.8 +1.3**
comp=Z,0.5nm,0.3s,baz=47,slow=1.9,SNR=4.1
PETK Petropavlovsk- 34.23 30 P **P** **11 58 09.1 -0.4**
comp=Z,3.3nm,0.8s,baz=195,slow=6.0,SNR=6.6
PETK PcP **PcP** **12 00 44.7 -1.3**
comp=Z,1.1nm,0.6s,baz=270,slow=2.9,SNR=2.7
LSA Lhasa 34.67 286 *eP* P 11 58 17.4 +3.2
LSA pmax pmax
comp=Z,9.0nm,0.6s
LSA Lhasa 34.67 286 *eP* P 11 58 17.4 +3.2
comp=Z,9.4nm,0.6s
YAK Yakutsk 36.29 360 *eP* **P** **11 58 26.1 -1.0**
YAK pmax pmax
comp=Z,67nm,1.0s
YAK pmax pmax
comp=N,22nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK Yakutsk 36.29 360 *eP* **P** **11 58 26.7 -0.4**
comp=E,92nm,1.1s
TAPN Taplejung 37.90 282 *eP* P 11 58 47.5 +5.8
comp=E,10nm,0.4s
ODAN Odare 38.25 281 *eP* P 11 58 49.9 +5.3
comp=E,56nm,0.5s
WMQ Urumqi 38.80 309 *eP* **P** **11 58 49.5 +0.8**
WMQ pP **pP** **11 58 54.0 +1.3**
WMQ sP **sP** **11 58 56.5 +2.2**
WMQ PcP **PcP** **12 01 01.8 +1.8**
WMQ S **S** **12 04 46.5 +0.5**
WMQ SS **SnSn** **12 07 28.5 -6.8**
WMQ ScS **ScS** **12 09 00.8 +2.0**
WMQ PMZ
comp=E,16nm,0.5s
WMQ PMZ
comp=E,240nm,5.0s
WMQ LN
comp=E,190nm,19.8s
WMQ LE
comp=E,360nm,22.6s
WMQ LZ
comp=E,230nm,19.6s
RAMN Ramite 38.94 282 *eP* P 11 58 55.7 +5.4
comp=E,14nm,0.5s
JIRN Jiri 39.20 283 *eP* P 11 58 57.5 +4.8
comp=E,14nm,0.4s
GUN Gumba 39.44 283 *eP* P 11 59 00.6 +5.9
comp=E,17nm,0.4s
PKI Pulchoki 39.90 283 *eP* P 11 59 03.2 +4.7
comp=E,28nm,0.4s
PKIN Phulchoki 39.91 283 *eP* P 11 59 03.3 +4.8
comp=E,12nm,0.4s
KKN Kakani 39.98 283 *eP* P 11 59 04.3 +5.3
DMN Daman 40.16 283 *eP* P 11 59 04.7 +4.2
comp=E,13nm,0.4s
GKN Gorkha 40.52 284 *eP* P 11 59 08.2 +4.8
comp=E,23nm,0.4s
COEN Coen 41.43 161 *eP* **P** **11 59 11.2 +0.4**
comp=E,6.6nm,1.0s
MK31 Makanchi Array 43.17 312 *eP* **P** **11 59 25.3 +0.6**
MK31 *e* 12 01 13.6
MK31 Makanchi Array 43.17 312 *eP* **P** **11 59 25.3 +0.6**
MK31 *e*PcP **PcP** **12 01 13.6 -0.5**
MKAR Makanchi Array 43.17 312 P **P** **11 59 25.5 +0.8**
comp=E,6.8nm,0.8s,baz=108,slow=9.5,SNR=50
MKAR PcP **PcP** **12 01 14.3 +0.1**
comp=E,0.6nm,0.6s,baz=91,slow=3.2,SNR=3.8
MKAR Makanchi Array 43.17 312 P **P** **11 59 25.5 +0.8**
MKAR 12 01 14.3
MKAR pmax pmax
comp=Z,7.0nm,0.8s
ZAA0 Zalesovo Array 43.70 322 *eP* **P** **11 59 28.9 +0.1**
ZALV Zalesovo Beam 43.70 322 P **P** **11 59 29.2 +0.4**
comp=Z,6.0nm,0.6s,baz=112,slow=8.3,SNR=18
NVS Novosibirsk 44.89 323 *eP* **P** **11 59 39.0 +0.7**
WRAB Tennant Creek 45.58 175 P **P** **11 59 44.0 0.0**
comp=Z,43nm,1.0s,SNR=7.0
WRAB Tennant Creek 45.58 175 *eP* **P** **11 59 44.1 0.0**
WRAB pmax pmax
comp=Z,7.0nm,0.9s
WRAB Tennant Creek 45.58 175 *eP* **P** **11 59 44.1 0.0**
comp=Z,6.9nm,0.9s
WRA Warramunga Arr 45.59 175 P **P** **11 59 43.8 -0.3**
comp=Z,4.6nm,0.7s,baz=354,slow=8.6,SNR=35
WRA PcP **PcP** **12 01 21.8 -0.8**
comp=Z,0.8nm,0.7s,baz=349,slow=4.1,SNR=3.4
TIXI Tiksi 45.95 359⇑ *eP* **P** **11 59 46.5 0.0**
TIXI pmax pmax
comp=Z,18nm,2.5s
TIXI MLR MLR
comp=Z,204nm,20.0s
TIXI Tiksi 45.95 359 *eP* **P** **11 59 45.9 -0.6**
comp=Z,15nm,1.5s
KURK Kurchatov 46.39 317 P **P** **11 59 50.0 -0.2**
comp=Z,37nm,1.0s,SNR=6.0
KURK Kurchatov 46.39 317 *eP* **P** **11 59 50.5 +0.3**
KURK pmax pmax
comp=Z,16nm,1.1s
KURK Kurchatov 46.39 317 *eP* **P** **11 59 50.5 +0.3**
comp=Z,16nm,1.1s
KSH Kashi 47.02 301 P P 11 59 59.8 +4.2
KSH pP pP 12 00 04.0 +4.4
KSH sP sP 12 00 06.8 +5.6
KSH PP **PP** **12 01 50.3 +4.2**
KSH S **S** **12 06 52.5 +5.4**
KSH ScS **ScS** **12 09 50.5 +0.4**
KSH SS **SS** **12 10 13.5 -0.4**
KSH PMZ
comp=Z,140nm,5.2s
KSH LN
comp=Z,83nm,5.4s
KSH LE
comp=Z,110nm,4.7s
KSH LZ
comp=Z,180nm,6.6s
TKM2 Tokmak 2 47.40 306 *eP* **P** **11 59 59.6 +1.1**
TKM2 pmax pmax
comp=Z,7.0nm,0.9s
TKM2 Tokmak 2 47.40 306 *eP* **P** **11 59 59.6 +1.1**
comp=Z,7.1nm,0.9s
BILL Bilibino 47.60 17 *d iP* **P** **11 59 59.2 -0.2**
BILL *e* 12 01 27.9
BILL *e* 12 01 47.7
BILL pmax pmax
comp=Z,16nm,1.0s
BILL Bilibino 47.60 17 *eP* **P** **11 59 59.6 +0.2**
comp=Z,16nm,1.1s
CTAO Charters Tower 48.15 160 *eP* **P** **12 00 04.4 +0.1**
CTAO pmax pmax
comp=Z,8.0nm,0.8s
CTAO Charters Tower 48.15 160 *eP* **P** **12 00 04.4 +0.1**
comp=Z,8.1nm,0.8s
AS31 Alice Springs 49.24 175 *eP* **P** **12 00 12.5 -0.1**
ASAR Alice Springs 49.24 176 P **P** **12 00 12.9 +0.3**
comp=Z,1.8nm,0.6s,baz=353,slow=6.5,SNR=32
ASAR PcP **PcP** **12 01 35.7 +0.1**
comp=Z,1.3nm,0.8s,baz=0.3,slow=3.5,SNR=4.9
KKAR Karatay Array 51.13 306 *eP* **P** **12 00 28.3 +1.5**
KKAR pmax pmax
comp=Z,7.0nm,1.2s
KKAR Karatay Array 51.13 306 *eP* **P** **12 00 28.3 +1.5**
comp=Z,6.6nm,1.2s
BRVK Borovoye 51.88 318⇑ *eP* **P** **12 00 32.8 +0.6**
BRVK pmax pmax
comp=Z,15nm,1.2s
BRVK Borovoye 51.88 318 *eP* **P** **12 00 32.5 +0.3**
comp=Z,10nm,1.0s
SVE Sverdlovsk 57.72 322 *eP* **P** **12 01 15.1 +0.6**
SVE pmax pmax
comp=Z,21nm,1.2s
ABKAR Akbulak array 58.26 314 *eP* **P** **12 01 18.9 +0.5**
STKA Stephens Creek 58.32 169 P **P** **12 01 18.6 -0.3**
comp=Z,1.9nm,0.5s,baz=344,slow=6.3,SNR=15
ARU Arti 58.87 322 *d iP* **P** **12 01 22.3 -0.2**
ARU 12 03 28.4
ARU S **S** **12 09 28.6 +0.8**
ARU SS **SS** **12 13 15.4 -5.5**
ARU pmax pmax
comp=Z,15nm,1.2s
ARU Arti 58.87 322 *eP* **P** **12 01 22.6 0.0**
comp=Z,13nm,1.1s
IM04 Indian Mountai 61.11 27 *eP* **P** **12 01 38.0 +0.2**
RSO Redoubt South 61.63 33 *eP* **P** **12 01 41.9 +0.3**
CAST Castle Rocks 61.84 30 *eP* **P** **12 01 43.3 +0.5**
comp=Z,10.0nm,0.8s
KDAK Kodiak Island 61.87 36 *eP* **P** **12 01 42.7 -0.3**
KDAK pmax pmax
comp=Z,19nm,0.8s
KDAK Kodiak Island 61.87 36 *eP* **P** **12 01 42.7 -0.3**
comp=Z,19nm,0.8s
BPAW Bear Paw Mtn. 62.31 29 *eP* **P** **12 01 46.5 +0.6**
comp=Z,2.2nm,1.1s
MLY Manley 62.38 28 *eP* **P** **12 01 47.1 +0.7**
comp=Z,13nm,1.0s
COLD Coldfoot 62.54 26 *eP* **P** **12 01 48.4 +1.0**
comp=Z,8.6nm,1.3s
BRLK Bradley Lake 62.60 34 *eP* **P** **12 01 48.8 +0.8**
comp=Z,12nm,0.8s
TRF Thorofare Moun 62.65 30 *eP* **P** **12 01 48.7 +0.3**
comp=Z,37nm,2.0s
RC01 Rabbit Creek A 63.06 32 *eP* **P** **12 01 51.0 0.0**
comp=Z,29nm,1.5s
MCK McKinley 63.23 29 *eP* **P** **12 01 52.1 0.0**
MCK pmax pmax
comp=Z,16nm,0.8s
MCK McKinley 63.23 29 *eP* **P** **12 01 52.0 0.0**
comp=Z,16nm,0.8s
RND Reindeer 63.29 30 *eP* **P** **12 01 52.2 -0.4**
RND pmax pmax
comp=Z,19nm,0.7s
RND Reindeer 63.29 30 *eP* **P** **12 01 52.2 -0.4**
comp=Z,18nm,0.7s
SEW Seward 63.29 34 *eP* **P** **12 01 52.0 -0.5**
comp=Z,14nm,1.1s
MDM Murphy Dome 63.45 28 *eP* **P** **12 01 54.0 +0.5**
comp=Z,18nm,0.8s
WRH Wood River Hil 63.55 29 *eP* **P** **12 01 54.6 +0.5**
comp=Z,5.4nm,1.0s
COLA College 63.62 28 *eP* **P** **12 01 55.4 +0.9**
COLA pmax pmax
comp=Z,10.0nm,0.8s
COLA College 63.62 28 *eP* **P** **12 01 55.4 +0.9**
comp=Z,9.9nm,0.8s
CCB Clear Creek Bu 63.65 28 *eP* **P** **12 01 54.9 +0.1**
comp=Z,3.9nm,0.8s
ILAR Eielson Array 64.04 28 P **P** **12 01 56.1 -1.2**
comp=Z,1.9nm,0.7s,baz=264,slow=5.0,SNR=37
ILAR PcP **PcP** **12 02 30.5 -2.1**
comp=Z,0.6nm,0.6s,baz=276,slow=4.1,SNR=3.0
SCM Sheep Creek Mo 64.14 32 *eP* **P** **12 01 58.3 +0.1**
SCM pmax pmax
comp=Z,11nm,0.8s
SCM Sheep Creek Mo 64.14 32 *eP* **P** **12 01 58.3 +0.1**
comp=Z,11nm,0.8s
FYU Fort Yukon 64.54 26 *eP* **P** **12 02 02.6 +2.1**
comp=Z,17nm,1.1s
DDM Donnelly Dome 64.58 29 *eP* **P** **12 02 00.5 -0.6**
comp=Z,10nm,0.8s
PAX Paxson 64.86 30 *eP* **P** **12 02 03.0 +0.1**
PAX pmax pmax
comp=Z,5.0nm,0.9s
PAX Paxson 64.86 30 *eP* **P** **12 02 03.0 +0.1**
comp=Z,4.7nm,0.9s
DIV Divide 64.97 32 *eP* **P** **12 02 04.0 +0.4**
comp=Z,15nm,0.7s
PRGR Permogore 65.15 328 *eP* **P** **12 02 03.0 -1.6**
PRGR pmax pmax
comp=Z,19nm,0.6s
SCRK Sand Creek 65.38 29 *eP* **P** **12 02 05.8 -0.5**
comp=Z,12nm,0.9s
DOT Dot Lake 65.40 29 *eP* **P** **12 02 05.5 -0.7**
comp=Z,19nm,1.0s
BMRM Bremner River 65.56 32 *eP* **P** **12 02 07.6 +0.2**
comp=Z,23nm,1.0s
RAGM Ragged Mountai 65.62 33 *eP* **P** **12 02 08.3 +0.6**
comp=Z,23nm,1.1s
EGAK Eagle 66.47 28 *eP* **P** **12 02 12.9 -0.2**
comp=Z,4.0nm,0.8s
DAWY Dawson 67.36 28 *eP* **P** **12 02 19.2 +0.3**
comp=Z,6.9nm,1.0s
TMCR Tamitsa 68.08 332 *eP* **P** **12 02 23.5 +0.2**
TMCR pmax pmax
comp=Z,19nm,0.4s
KLMR Klimovskoe 68.19 328 P **P** **12 02 21.9 -2.2**
KLMR pmax pmax
comp=Z,27nm,1.5s
INK Inuvik 68.64 23 *eP* **P** **12 02 26.9 +0.1**
INK pmax pmax
comp=Z,17nm,1.4s
INK Inuvik 68.64 23 *eP* **P** **12 02 26.9 +0.1**
comp=Z,17nm,1.4s
HYT Haines Junctio 68.98 32 *eP* **P** **12 02 29.8 +0.6**
KBZ Khabaz 70.83 310 P **P** **12 02 41.7 +1.0**
comp=Z,18nm,0.8s,baz=53,slow=20,SNR=40
KIV Kislovodsk 70.91 310 *eP* **P** **12 02 42.2 +0.9**
KIV pmax pmax
comp=Z,25nm,1.1s
KIV Kislovodsk 70.91 310 *eP* **P** **12 02 42.7 +1.4**
comp=Z,60nm,1.5s
ARCES ARCESS Array B 71.10 339 P **P** **12 02 41.8 -0.1**
comp=Z,6.6nm,0.9s,baz=54,slow=6.2,SNR=6.5
OBN Obninsk 71.29 323⇑ *iP* **P** **12 02 43.5 +0.3**
OBN *e* 12 03 03.1
OBN *e* 12 05 18.9
OBN pmax pmax
comp=Z,18nm,1.2s
OBN MLR MLR
comp=Z,130nm,24.0s
DLBC Dease Lake 73.34 33 *eP* **P** **12 02 56.6 +1.0**
FINES FINESS Array B 74.15 331 P **P** **12 03 00.1 0.0**
comp=Z,7.3nm,0.8s,baz=71,slow=5.8,SNR=22
RAYN Ar Rayn 75.64 289 *eP* **P** **12 03 10.6 +1.1**
comp=Z,9.3nm,1.1s
RES Resolute Bay 75.69 11 *eP* **P** **12 03 08.9 0.0**
RES Resolute Bay 75.69 11 *eP* **P** **12 03 08.8 0.0**
MALT Malatya 75.83 306⇑ *iP* **P** **12 03 12.2 +1.8**
MALT Malatya 75.83 306⇑ *iP* **P** **12 03 12.2 +1.8**
SIM Simferopol' **76.33 313** *eP* **P** **12 03 13.5 +0.5**
SIM pmax pmax
comp=Z,21nm,0.9s
AKASG Malin Array Be 77.04 320 P **P** **12 03 16.6 -0.3**
comp=Z,12nm,0.8s,baz=56,slow=6.1,SNR=40
AK01 Malin Array Si 77.05 320 *eP* **P** **12 03 16.7 -0.2**
KIEV Kiev 77.05 320 *eP* **P** **12 03 16.8 -0.2**
KIEV pmax pmax
comp=Z,13nm,0.9s
KIEV Kiev 77.05 320 *eP* **P** **12 03 16.8 -0.2**
comp=Z,13nm,0.9s
AK02 Malin Array Si 77.07 320 *eP* **P** **12 03 16.7 -0.4**
YKA Yellowknife Ar 78.22 25 P **P** **12 03 23.2 0.0**
comp=Z,5.7nm,0.8s,baz=300,slow=5.4,SNR=60
BR131 Keskin Array S 78.72 309 *eP* **P** **12 03 27.1 +0.4**
comp=Z,7.0nm,0.9s
BRTR Keskin Array B 78.72 309 P **P** **12 03 26.6 -0.1**
comp=Z,5.9nm,0.8s,baz=88,slow=4.7,SNR=28
SUW Suwalki 78.88 325 *eP* **P** **12 03 27.4 +0.4**
SUW Suwalki 78.88 325 *eP* **P** **12 03 27.4 +0.4**
TIRR Tirgusor 80.23 315⇑ *iP* **P** **12 03 34.9 +0.3**
TIRR Tirgusor 80.23 315⇑ *iP* **P** **12 03 34.9 +0.3**
TIRR Tirgusor 80.23 315 *eP* **P** **12 03 34.9 +0.3**
comp=Z,7.8nm,1.0s
TESR Tescani 80.41 317⇑ *iP* **P** **12 03 35.9 +0.3**
NB2 NORSAR Subarra 80.52 334 P **P** **12 03 35.1 -0.8**
comp=Z,12nm,0.7s,baz=52,slow=5.3
NB2 NORSAR Subarra 80.52 334 P **P** **12 03 35.1 -0.8**
baz=52,slow=5.3
NOA NORSAR Array B 80.52 334 P **P** **12 03 35.5 -0.5**
comp=Z,9.7nm,0.7s,baz=50,slow=5.3,SNR=42
VRI Vrincioaia 80.66 316⇓⇓ *P* **P** **12 03 38.6 +1.6**
VRI Vrincioaia 80.66 316⇓ *iP* **P** **12 03 38.6 +1.6**
PLOR Plostina 80.72 316⇑⇑ *P* **P** **12 03 36.6 -0.7**
PLOR Plostina 80.72 316⇑ *iP* **P** **12 03 36.6 -0.7**
BUR08 Bucovina Ar. S 80.77 319 *eP* **P** **12 03 38.0 +0.4**
MSAB Monastry St. A 80.77 315⇓ *iP* **P** **12 03 38.5 +1.0**
KWP Kalwaria Pacla 81.26 321 *eP* **P** **12 03 40.8 +0.7**
KWP Kalwaria Pacla 81.26 321 *eP* **P** **12 03 40.9 +0.8**
MLR Muntele Rosu 81.32 316⇑⇑ *P* **P** **12 03 42.0 +1.4**
MLR Muntele Rosu 81.32 316⇑ *iP* **P** **12 03 42.0 +1.4**
SUMG Summit 81.64 357⇓ *iP* **P** **12 03 42.5 +0.3**
comp=Z,16nm,0.9s
SUMG Summit 81.64 357⇓ *iP* **P** **12 03 42.5 +0.3**
SUMG pmax pmax
comp=Z,16nm,0.9s
SUMG Summit 81.64 357 *eP* **P** **12 03 42.4 +0.3**
comp=Z,17nm,0.9s
UZH Uzhgorod 81.99 320 *eP* P 12 03 40.2 -3.7
UZH *e* 12 03 46.8
STHS Stebnicka Huta 82.19 321 *eP* **P** **12 03 46.1 +1.1**
STHS pmax pmax
comp=Z,4.0nm,1.2s
STHS Stebnicka Huta 82.19 321 *eP* **P** **12 03 46.1 +1.1**
OJC Ojcow 82.58 323 *eP* **P** **12 03 47.6 +0.6**
OJC Ojcow 82.58 323 *eP* **P** **12 03 47.6 +0.6**
OJC *e* 12 06 55.6
OJC pmax pmax
comp=Z,14nm,0.9s
OJC Ojcow 82.58 323 *eP* **P** **12 03 47.5 +0.6**
comp=Z,14nm,0.9s
OJC *e*PP **PP** **12 06 55.5 -0.4**
NIE Niedzica 82.71 322 *eP* **P** **12 03 48.7 +1.0**
NIE Niedzica 82.71 322 *eP* **P** **12 03 48.8 +1.0**
B08A Colville Reser 83.61 39 *eP* **P** **12 03 52.6 +0.2**
comp=Z,11nm,0.8s
OKC Ostrava-Krasne 83.69 323 *eP* **P** **12 03 53.7 +1.0**
OKC *e*pP **pP** **12 03 57.1 +0.1**
OKC Ostrava-Krasne 83.69 323 *eP* **P** **12 03 53.7 +1.0**
MORC Moravsky Berou 84.05 323 *eP* **P** **12 03 55.0 +0.3**
MORC pmax pmax
comp=Z,9.0nm,1.1s
MORC Moravsky Berou 84.05 323⇑ *iP* **P** **12 03 55.2 +0.6**
MORC Moravsky Berou 84.05 323 *eP* **P** **12 03 55.0 +0.3**
comp=Z,1.1nm,1.1s
EDM Edmonton 84.06 33 *eP* **P** **12 03 55.0 +0.4**
EDM Edmonton 84.06 33 *eP* **P** **12 03 55.0 +0.4**
I04A Tendick Farm, 84.12 44 P **P** **12 03 55.3 +0.2**
baz=84
KSP Ksiaz 84.12 324 *eP* **P** **12 03 55.8 +0.9**
KSP Ksiaz 84.12 324 *eP* **P** **12 03 55.9 +1.0**
KRLC Kraliky 84.29 324 *eP* **P** **12 03 56.5 +0.6**
KRLC *e*pP **pP** **12 04 00.8 +0.6**
KRLC Kraliky 84.29 324 *eP* **P** **12 03 56.5 +0.6**
DPC Dobruska-Polom 84.39 324 *eP* **P** **12 03 56.5 +0.2**
DPC *e*pP **pP** **12 04 00.9 +0.3**
DPC Dobruska-Polom 84.39 324 *eP* **P** **12 03 56.5 +0.2**
DPC Dobruska-Polom 84.39 324 *eP* **P** **12 03 56.9 +0.6**
comp=Z,38nm,0.8s
UPC Upice 84.46 324 *eP* **P** **12 03 57.3 +0.6**
UPC Upice 84.46 324 *eP* **P** **12 03 57.3 +0.6**
G06A Carlson Farm, 84.47 42 *eP* **P** **12 03 57.6 +0.7**
comp=Z,133nm,2.6s
C09A Chrisman Ranch 84.51 39 *eP* **P** **12 03 57.6 +0.7**
I05D Terrebonne, OR 84.51 43 P **P** **12 03 57.5 +0.4**
baz=84
HAWA Hanford 84.53 41 *eP* **P** **12 03 57.8 +0.7**
comp=Z,12nm,1.3s
D08A Wollman Farm, 84.53 40 *eP* **P** **12 03 57.8 +0.6**
VRAC Vranov 84.82 323⇓⇓ *P* **P** **12 03 59.9 +1.4**
VRAC Vranov 84.82 323⇓ *iP* **P** **12 03 59.9 +1.4**
NEW Newport 84.90 38 *eP* **P** **12 03 59.5 +0.5**
NEW pmax pmax
comp=Z,9.0nm,1.1s
NEW Newport 84.90 38 *eP* **P** **12 03 59.5 +0.5**
comp=Z,8.6nm,1.1s
NEW Newport 84.90 38 P **P** **12 03 58.9 -0.1**
baz=85
M02C Callahan 85.03 46 P **P** **12 04 00.0 +0.2**
baz=85
J05D Fort Rock, OR 85.11 44 P **P** **12 04 00.7 +0.4**
baz=85
E09A Wood Farm, Sta 85.28 40 *eP* **P** **12 04 01.7 +0.8**
PKSM Moragy 85.37 320⇑ *P* **P** **12 04 01.6 +0.3**
PKSM Moragy 85.37 320⇑ *iP* **P** **12 04 01.6 +0.3**
TREC Trest 85.43 323 *eP* **P** **12 04 02.3 +0.7**
TREC Trest 85.43 323 *eP* **P** **12 04 02.3 +0.7**
GOPC GO Pecny, Ondr 85.45 324 *eP* **P** **12 04 02.6 +1.0**
GOPC *e*pP **pP** **12 04 06.6 +0.7**
M04C Macdoel 85.50 46 P **P** **12 04 02.4 +0.2**
baz=85
PRU Pruhonice 85.53 324 *eP* **P** **12 04 02.8 +0.8**
PRU Pruhonice 85.53 324 *eP* **P** **12 04 02.8 +0.8**
CLL Collm 85.55 326⇓ *iP* **P** **12 04 02.4 +0.3**
comp=Z,6.0nm,0.9s

CLL				LmV			12 46 00.0
	comp=Z,200nm,19.8s						
CLL	**Collm**	**85.55**	**326**	⇓*iP*		**P**	**12 04 02.4 +0.3**
CLL				pmax		pmax	
	comp=Z,6.0nm,0.9s						
CLL				MLR		MLR	
	comp=Z,200nm,19.8s						
CONA	**Conrad Observa**	**86.00**	**322**	⇑*i*PcP		**P**	**12 04 05.5 +1.0**
	comp=Z,12nm,0.7s						
WALA	**Waterton Lakes**	**86.21**	**36**	*eP*		**P**	**12 04 06.3 +0.8**
	comp=Z,8.1nm,1.0s						
BSMT	**Bassoo Peak**	**86.43**	**38**	*eP*		**P**	**12 04 07.7 +0.8**
NKC	**Novy Kostel**	**86.48**	**325**	*eP*		**P**	**12 04 07.3 +0.6**
NKC	**Novy Kostel**	**86.48**	**325**	*eP*		**P**	**12 04 07.3 +0.6**
GERES	**GERESS Array B**	**86.65**	**324**	P		**P**	**12 04 07.2 -0.5**
	comp=Z,1.2nm,0.5s,baz=54,slow=5.7,SNR=10.0						
BMO	**Blue Mountains**	**86.67**	**41**	*eP*		**P**	**12 04 08.4 +0.5**
BMO				pmax		pmax	
	comp=Z,3.0nm,0.8s						
BMO	**Blue Mountains**	**86.67**	**41**	*eP*		**P**	**12 04 08.4 +0.5**
	comp=Z,3.0nm,0.8s						
MOA	**Molln**	**86.92**	**323**	⇓*i*PcP		**P**	**12 04 09.7 +0.7**
	comp=Z,6.1nm,0.6s						
WVOR	**Wild Horse Val**	**87.18**	**44**	*eP*		**P**	**12 04 10.9 +0.4**
WVOR				pmax		pmax	
	comp=Z,8.0nm,1.1s						
WVOR	**Wild Horse Val**	**87.18**	**44**	*eP*		**P**	**12 04 10.9 +0.4**
	comp=Z,7.7nm,1.1s						
MSO	**Missoula**	**87.49**	**38**	P		**P**	**12 04 12.3 +0.4**
	baz=87						
SLMT	**Seeley Lake**	**87.50**	**38**	*eP*		**P**	**12 04 11.5 -0.5**
FCC	**Fort Churchill**	**88.16**	**21**	*eP*		**P**	**12 04 14.6 0.0**
FCC				pmax		pmax	
	comp=Z,10.0nm,1.0s						
FCC	**Fort Churchill**	**88.16**	**21**	*eP*		**P**	**12 04 14.6 0.0**
	comp=Z,9.9nm,1.0s						
FFC	**Flin Flon**	**88.23**	**27**	*eP*		**P**	**12 04 15.2 +0.1**
FFC				pmax		pmax	
	comp=Z,8.0nm,0.8s						
FFC	**Flin Flon**	**88.23**	**27**	*eP*		**P**	**12 04 15.2 +0.1**
	comp=Z,8.2nm,0.8s						
MFID	**Camas Ranch**	**88.36**	**42**	*eP*		**P**	**12 04 17.0 +0.9**
	comp=Z,12nm,1.3s						
CMB	**Columbia Colle**	**88.39**	**48**	*eP*		**P**	**12 04 16.5 +0.3**
CMB				pmax		pmax	
	comp=Z,4.0nm,0.8s						
CMB	**Columbia Colle**	**88.39**	**48**	*eP*		**P**	**12 04 16.5 +0.3**
	comp=Z,3.6nm,0.8s						
HRY	**Holter Researc**	**88.73**	**37**	*eP*		**P**	**12 04 18.4 +0.6**
LRM	**Limekiln Ridge**	**88.92**	**38**	*eP*		**P**	**12 04 19.3 +0.5**
	comp=Z,46nm,1.2s						
A19A	**Klindworth Far**	**88.99**	**34**	P		**P**	**12 04 19.1 +0.3**
	baz=89						
EGMT	**Eagleton**	**89.03**	**36**	*eP*		**P**	**12 04 19.5 +0.3**
	comp=Z,6.2nm,0.8s						
EGMT	**Eagleton**	**89.03**	**36**	P		**P**	**12 04 18.8 -0.4**
	baz=89						
DLMT	**Dillon**	**89.11**	**39**	*eP*		**P**	**12 04 20.4 +0.8**
	comp=Z,7.5nm,0.8s						
HLID	**Hailey**	**89.12**	**41**	*eP*		**P**	**12 04 20.6 +0.8**
	comp=Z,8.2nm,1.1s						
HLID	**Hailey**	**89.12**	**41**	P		**P**	**12 04 20.2 +0.4**
	baz=89						
B19A	**Brinkman Farms**	**89.19**	**35**	P		**P**	**12 04 19.4 -0.4**
	baz=89						
A20A	**Cobblestone Ra**	**89.43**	**34**	P		**P**	**12 04 21.3 +0.4**
	baz=89						
BOZ	**Bozeman (W)**	**89.48**	**38**	*eP*		**P**	**12 04 21.8 +0.4**
BOZ				pmax		pmax	
	comp=Z,46nm,2.6s						
BOZ	**Bozeman (W)**	**89.48**	**38**	*eP*		**P**	**12 04 21.8 +0.4**
	comp=Z,46nm,2.6s						
NVAR	**Mina Array Bea**	**89.56**	**47**	P		**P**	**12 04 22.3 +0.3**
	comp=Z,2.0nm,0.8s,baz=280,slow=5.3,SNR=12						
C19A	**Slack Wire Ran**	**89.59**	**35**	P		**P**	**12 04 21.7 0.0**
	baz=89						
FUORN	**Ofenpass-Fuorn**	**89.84**	**323**	*eP*		**P**	**12 04 23.0 -0.2**
	comp=Z,5.5nm,0.9s						
C20A	**Veseth Ranch,**	**90.14**	**35**	P		**P**	**12 04 24.8 +0.5**
	baz=90						
B21A	**Ellsworth Farm**	**90.19**	**34**	P		**P**	**12 04 24.7 +0.2**
	baz=90						
A22A	**Carney Farms,**	**90.36**	**33**	P		**P**	**12 04 25.1 -0.2**
	baz=90						
D20A	**Manuel Ranch,**	**90.47**	**36**	P		**P**	**12 04 26.4 +0.5**
	baz=90						
E19A	**Rath Farm, Rou**	**90.53**	**36**	P		**P**	**12 04 26.6 +0.4**
	baz=90						
F19A	**Roth Farm, Mol**	**90.83**	**37**	P		**P**	**12 04 27.7 +0.1**
	baz=91						
LKWY	**Lake**	**90.84**	**39**	*eP*		**P**	**12 04 30.5 +2.6**
LKWY				pmax		pmax	
	comp=Z,5.0nm,0.9s						
LKWY	**Lake**	**90.84**	**39**	*eP*		**P**	**12 04 30.5 +2.6**
	comp=Z,5.3nm,0.9s						
H17A	**Grant Village**	**90.84**	**39**	*eP*		**P**	**12 04 30.7 +2.8**
	comp=Z,8.9nm,1.1s						
H17A	**Grant Village**	**90.84**	**39**	P		**P**	**12 04 30.0 +2.1**
	baz=91						
IMW	**Indian Meadow**	**90.94**	**39**	*eP*		**P**	**12 04 30.0 +1.6**
FLWY	**Flagg Ranch**	**90.96**	**39**	*eP*		**P**	**12 04 30.2 +1.8**
	comp=Z,6.4nm,0.8s						
RLMT	**Red Lodge**	**91.12**	**38**	*eP*		**P**	**12 04 30.1 +1.0**
	comp=Z,61nm,2.8s						
HVU	**Hansel Valley**	**91.14**	**42**	*eP*		**P**	**12 04 30.4 +1.2**
HVU				pmax		pmax	
	comp=Z,5.0nm,0.8s						
HVU	**Hansel Valley**	**91.14**	**42**	*eP*		**P**	**12 04 30.4 +1.2**
	comp=Z,5.3nm,0.8s						
TPAW	**Teton Pass**	**91.18**	**40**	*eP*		**P**	**12 04 30.8 +1.3**
	comp=Z,6.1nm,1.1s						
R11A	**Troy Canyon, C**	**91.38**	**46**	*eP*		**P**	**12 04 31.1 +0.7**
	comp=Z,1.8nm,0.8s						
R11A	**Troy Canyon, C**	**91.38**	**46**	P		**P**	**12 04 30.6 +0.2**
	baz=91						
MPMC	**Manual Prospec**	**91.40**	**49**	P		**P**	**12 04 30.8 +0.2**
	baz=91						
D22A	**Cohagen**	**91.45**	**35**	P		**P**	**12 04 30.4 0.0**
	baz=91						
HWUT	**Hardware Ranch**	**91.97**	**41**	*eP*		**P**	**12 04 34.2 +1.2**
	comp=Z,10.0nm,1.2s						
DUG	**Dugway, Tooele**	**92.06**	**43**	*eP*		**P**	**12 04 34.4 +0.9**
DUG				pmax		pmax	
	comp=Z,4.0nm,0.8s						
DUG	**Dugway, Tooele**	**92.06**	**43**	*eP*		**P**	**12 04 34.4 +0.9**
	comp=Z,4.3nm,0.8s						
DUG	**Dugway, Tooele**	**92.06**	**43**	P		**P**	**12 04 33.7 +0.2**
	baz=92						
PDAR	**Pinedale Array**	**92.43**	**40**	P		**P**	**12 04 34.1 -1.2**
	comp=Z,1.1nm,0.9s,baz=336,slow=4.2,SNR=7.5						
GMRC	**Granite Mounta**	**93.36**	**49**	P		**P**	**12 04 39.8 +0.3**
	baz=93						
MSU	**Marysvale**	**93.46**	**44**	*eP*		**P**	**12 04 41.4 +1.3**
MSU	**Marysvale**	**93.46**	**44**	*eP*		**P**	**12 04 41.4 +1.3**
PFO	**Pinyon Flats O**	**93.47**	**50**	P		**P**	**12 04 40.0 -0.1**
	baz=93						
LDFC	**Landfair**	**93.56**	**48**	*eP*		**P**	**12 04 40.8 +0.3**
	comp=Z,12nm,1.4s						
BELC	**Belle Mtn. Jos**	**93.56**	**50**	P		**P**	**12 04 40.3 -0.2**
	baz=93						
MONP	**Monument Peak,**	**93.89**	**51**	P		**P**	**12 04 42.5 +0.4**
	baz=94						
KNB	**Kanab**	**93.94**	**46**	*eP*		**P**	**12 04 43.4 +1.2**
KNB				pmax		pmax	
	comp=Z,9.0nm,0.9s						
KNB	**Kanab**	**93.94**	**46**	*eP*		**P**	**12 04 43.4 +1.2**
	comp=Z,8.8nm,0.9s						
BC3	**Big Chuckawall**	**94.13**	**50**	P		**P**	**12 04 43.5 +0.4**
	baz=94						
W13A	**Hualapai Mount**	**94.37**	**48**	P		**P**	**12 04 44.7 +0.4**
	baz=94						
LTC	**Little Chuckwa**	**94.49**	**50**	*eP*		**P**	**12 04 45.6 +1.0**
U15A	**North Rim**	**94.63**	**46**	P		**P**	**12 04 45.0 -0.5**
	baz=94						
GLA	**Glamis**	**94.91**	**50**	P		**P**	**12 04 46.0 -0.6**
	baz=95						
PV10	**Paradox Valley**	**95.49**	**43**	*eP*		**P**	**12 04 50.5 +1.1**
PHWY	**Pilot Hill**	**95.71**	**39**	*eP*		P	12 04 56.2 +5.8
WUAZ	**Wupatki**	**95.77**	**46**	*eP*		**P**	**12 04 51.6 +1.0**
	comp=Z,3.9nm,0.9s						
WUAZ	**Wupatki**	**95.77**	**46**	P		**P**	**12 04 50.8 +0.2**
	baz=96						
X16A	**Lo Mia Camp, P**	**96.39**	**47**	P		**P**	**12 04 53.2 -0.3**
	baz=96						
TXAR	**Lajitas Array**	**104.72**	**47**	Pdiff		**Pdif**	**12 05 29.9 -0.7**
	comp=Z,0.3nm,0.8s,baz=270,slow=2.5,SNR=3.7						
SFIN	**Lafayette**	**105.63**	**29**	*e*PKPdf		**PKiKP**	**12 09 46.3 -1.2**
TORD	**Torodi Ar. Bea**	**116.69**	**301**	PKP		**PKPdf**	**12 10 07.6 -1.4**
	comp=Z,0.9nm,0.7s,baz=32,slow=2.3,SNR=5.9						

IDC 26 11:59:11.5±14.0, 55.36S×128.26W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.7/21, mbtmp3.8/2, Error ellipse: s-maj=796.4km s-min=121.7km az=134.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**75.15**	**250**	P	P	12 10 55.7	+0.1
	0.6nm,0.8s,baz=143,slow=6.3,SNR=7.7						
WRA	**Warramunga Arr**	**77.93**	**253**	P	P	12 11 11.3	0.0
	0.6nm,0.7s,baz=148,slow=5.8,SNR=11						
H11S2	**WAKE ISLAND Hy**	**91.72**	**301**	T	T	13 54 47.1	
	baz=149						
H11S3	**WAKE ISLAND Hy**	**91.74**	**301**	T	T	13 54 56.5	
	baz=149						
H11S1	**WAKE ISLAND Hy**	**91.74**	**301**	T	T	13 54 53.3	
	baz=149						
H11N3	**WAKE ISLAND Hy**	**92.67**	**301**	T	T	13 55 53.2	
	baz=145						
H11N1	**WAKE ISLAND Hy**	**92.67**	**301**	T	T	13 56 00.2	
	baz=145						
H11N2	**WAKE ISLAND Hy**	**92.69**	**301**	T	T	13 55 55.9	
	baz=145						
SONM	**Songino Array**	**146.02**	**281**	PKPbc	PKPdf	12 18 51.6	0.0
	1.4nm,0.7s,baz=150,slow=3.5,SNR=6.2						
MKAR	**Makanchi Array**	**159.12**	**259**	PKPab	PKPab	12 19 47.4	-0.3
	0.3nm,0.6s,baz=103,slow=5.4,SNR=4.5						

*ISCJB **26** 12:23:17.4±0.9, 40.10N±0.04×34.96E±0.07, h3km±9km, Error ellipse: s-maj=8.7km s-min=6.4km az=6.6*
*CSEM **26** 12:23:17.4±0.3, 40.09N×34.92E, h10km, MD2.7, Error ellipse: s-maj=8.4km s-min=5.6km az=83.0*
*DDA **26** 12:23:18.1, 40.10N×34.76E, h7km, MD2.7*
ISC 26 12:23:17.7±1.3, 40.09N±0.03×34.90E±0.04, h2km±11km, n14, σ1s05/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CORM	**Corum**	**0.23**	**293**	*e*PG	**Pg**	**12 23 21.7**	**-0.4**
CORM				*e*SG	**Sg**	**12 23 26.2**	**+1.1**
CORM	**Corum**	**0.23**	**293**	*e*Pg	**Pg**	**12 23 21.7**	**-0.4**
CORM				*e*Sg	**Sg**	**12 23 26.2**	**+1.1**
CTKT	**Corum**	**0.54**	**351**	*i* P	**Pg**	**12 23 28.3**	**+0.2**
CTKT				*i* S	**Sg**	**12 23 36.4**	**+1.4**
CTKT	**Corum**	**0.54**	**351**	*i* P	**Pg**	**12 23 28.3**	**+0.2**
CTKT				*i* S	**Sg**	**12 23 36.4**	**+1.4**
YOZ	**Yozgat**	**0.55**	**144**	*e*PG	**Pg**	**12 23 28.4**	**+0.1**
YOZ	**Yozgat**	**0.55**	**144**	*e*Pg	**Pg**	**12 23 28.4**	**+0.1**
CDAG	**Cicekdag**	**0.62**	**221**	*i* P	**Pg**	**12 23 29.2**	**-0.4**
CDAG				*i* S	**Sb**	**12 23 40.7**	**+0.1**
CDAG	**Cicekdag**	**0.62**	**221**	*i* P	**Pg**	**12 23 29.2**	**-0.4**
CDAG				*i* S	**Sb**	**12 23 40.7**	**+0.1**
ELDT	**Eldivan**	**1.20**	**290**	*i* P	**Pn**	**12 23 41.5**	**-0.2**
ELDT				*i* S	**Sn**	**12 24 00.2**	**+1.6**
ELDT	**Eldivan**	**1.20**	**290**	*i* P	**Pn**	**12 23 41.5**	**-0.2**
ELDT				*i* S	**Sn**	**12 24 00.2**	**+1.6**
ILGA	**Ilgaz**	**1.32**	**317**	*i* P	**Pn**	**12 23 41.6**	**-1.8**
ILGA				*i* S	**Sg**	**12 23 59.2**	**-0.9**
ILGA	**Ilgaz**	**1.32**	**317**	*i* P	**Pn**	**12 23 41.6**	**-1.8**
ILGA				*i* S	**Sg**	**12 23 59.2**	**-0.9**
BOYT	**Boyabat**	**1.33**	**360**	*i* P	**Pn**	**12 23 41.9**	**-1.4**
BOYT				*i* S	**Sb**	**12 24 00.8**	**-0.1**
BOYT	**Boyabat**	**1.33**	**360**	*i* P	**Pn**	**12 23 41.9**	**-1.4**
BOYT				*i* S	**Sb**	**12 24 00.8**	**-0.1**

*IDC **26** 12:31:27.9±2.4, 54.15N×86.44E, h0km, mb1 3.5/2, mb1mx3.1/37, mbtmp3.5/2, ML3.2/2, Error ellipse: s-maj=19.4km s-min=11.8km az=57.0*
ISC 26 12:31:29.7±4.8, 54.3N±0.2×86.4E±0.2, h35km, n6, σ2s08/8, 5C, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**247**	*i*		12 37 50.0	
	baz=80,slow=311,SNR=1.4						
ZALV	**Zalesovo Beam**	**1.00**	**247**	Pg	**Pn**	**12 31 45.3**	**-1.9**
	4.4nm,0.3s,baz=77,slow=16,SNR=60						
ZALV				Lg	Lg	12 32 00.0	
	6.9nm,0.3s,baz=79,slow=28,SNR=20						
KURBB	**Kurchatov Arra**	**6.07**	**235**	⇑Pn	**Pn**	**12 32 58.5**	**+1.6**
	2.2nm,0.3s,baz=57,slow=12						
KURBB				⇑Sn	**Sn**	**12 34 05.4**	**+0.4**
	1.1nm,0.4s						
KURBB				⇑Lg	Lg	12 34 37.8	
	5.9nm,0.8s						
KURBB	**Kurchatov Arra**	**6.07**	**235**	Pn	**Pn**	**12 32 58.7**	**+1.8**
	0.4nm,0.3s,baz=54,slow=13,SNR=14						
KURBB				Lg	Lg	12 34 37.4	
	0.0nm,0.3s,baz=55,slow=34,SNR=4.9						
MK31	**Makanchi Array**	**7.99**	**201**	Pn	**Pn**	**12 33 23.7**	**+0.4**
	0.1nm,0.2s,baz=26,slow=14,SNR=39						
MK31				⇑Sn	**Sn**	**12 34 49.3**	**-3.1**
	0.6nm,0.8s						
MK31				⇑Lg	Lg	12 35 27.2	
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**7.99**	**201**	Pn	**Pn**	**12 33 23.5**	**+0.2**
	0.5nm,0.3s,baz=24,slow=14,SNR=32						
MKAR				Sn	**Sn**	**12 34 53.8**	**+1.4**
	0.1nm,0.3s,baz=23,slow=26,SNR=3.7						
MKAR				Lg	Lg	12 35 35.0	
	0.1nm,0.3s,baz=24,slow=33,SNR=4.0						

*DDA **26** 12:31:44.9, 37.03N×34.46E, h20km, MD2.6*
ISC 26 12:31:44.6±2.3, 37.06N±0.09×34.4E±0.1, h11km±15km, n4, σ0s70/8, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MERS	**Mersin**	**0.22**	**148**	*e*PG	**Pg**	**12 31 48.7**	**-0.7**
MERS				*e*SG	**Sg**	**12 31 53.2**	**+0.7**
GULE	**Gulek**	**0.39**	**55**	*i* P	**Pg**	**12 31 52.2**	**-0.2**
GULE				*i* S	**Sb**	**12 31 59.0**	**-0.8**
KARA	**Karaisali**	**0.58**	**69**	*e*PG	**Pg**	**12 31 56.3**	**+0.4**
KARA				*e*SG	**Sb**	**12 32 05.3**	**+0.3**
KIZK	**Mersin**	**0.61**	**198**	*i* P	**Pg**	**12 31 56.4**	**0.0**
KIZK				*i* S	**Sb**	**12 32 05.9**	**0.0**

JMA 26 12:33:46.2±0.1, 25.82N×130.12E, h41km, M3.5, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMZ	**Minamidaito 2**	**0.99**	**90**	P	Pn	12 34 04.0	+0.4
JMZ				S	Sn	12 34 15.9	-0.6
JOW	**Kunigami**	**1.94**	**302**	P	Pn	12 34 17.9	+1.2
JOW				S	Sn	12 34 40.0	+0.2
JNTH	**Nagotoyohara**	**2.01**	**291**	P	Pn	12 34 18.4	+0.8
JNTH				S	Sn	12 34 40.4	-1.1
JOKE	**Okinoerabujima**	**2.07**	**318**	P	Pn	12 34 20.1	+1.6
JJT2	**Tamagusuku 2**	**2.16**	**279**	P	Pn	12 34 21.0	+1.3
JJT2				S	Sn	12 34 45.1	-0.1
JTK	**Tokunoshima**	**2.22**	**332**	P	Pn	12 34 22.4	+1.9
JTK				S	Sn	12 34 46.6	-0.1
JIH	**Iheya**	**2.28**	**303**	P	Pn	12 34 22.8	+1.5
JIH				S	Sn	12 34 47.8	-0.4
JAMN	**Amaminishikomi**	**2.56**	**341**	P	Pn	12 34 26.9	+1.8
JAMN				S	Sn	12 34 54.4	-0.6
JAM	**Amami Oshima**	**2.62**	**350**	P	Pn	12 34 27.9	+1.9
JAM				S	Sn	12 34 56.3	-0.3
JAGN	**Aguni-jima**	**2.70**	**287**	P	Pn	12 34 27.7	+0.6
JAGN				S	Sn	12 34 58.3	-0.2
JKE	**Kume jima 2**	**3.04**	**280**	P	Pn	12 34 32.1	+0.3
JKE				S	Sn	12 35 05.5	-1.5
JTAJ	**Takarajima**	**3.42**	**346**	S	Sn	12 35 14.7	-1.6
JOGS	**Gusukube**	**4.39**	**257**	S	Sn	12 35 38.7	-1.7
JIKM	**Ikemajima**	**4.50**	**260**	S	Sn	12 35 40.4	-2.5
JIRB	**Irabujima**	**4.58**	**259**	S	Sn	12 35 42.4	-2.6
JTJ	**Taramа**	**5.04**	**258**	S	Sn	12 35 52.9	-3.5
JIJ	**Ishigaki jima**	**5.61**	**256**	S	Sn	12 36 06.2	-4.1

*CASC **26** 12:46:55.0±3.5, 9.73N×85.50W, h28km±9km, MD4.6*
*MOS **26** 12:46:55.6±1.0, 9.99N×85.21W, h33km, mb5.1/42, Error ellipse: s-maj=13.0km s-min=5.5km az=113.4*
*NEIC **26** 12:46:55.9±0.7, 9.89N×85.31W, h28km±5km, mb4.8/108, MD5.1(UCR), Error ellipse: s-maj=7.1km s-min=3.4km az=222.0*
NEIC Felt [IV] at Hojancha, Mal Pais and Samara; [III] at Liberia, Puntarenas, Quesada and San Jose; [II] at Heredia, Nicoya, Sabanilla and Sardinal. Felt in much of western Costa Rica and the Valle Central.
*ISCJB **26** 12:46:56.4±0.4, 9.83N±0.03×85.40W±0.03, h51km±2km, mb4.7/140, MS4.0/14, Error ellipse: s-maj=6.6km s-min=2.9km az=38.7*
*BJI **26** 12:46:58.9, 10.00N×85.20W, h52km, mB5.2/5, Ms4.8/2, Ms7 4.4/4*
*IDC **26** 12:46:58.0±1.3, 9.93N×85.32W, h49km±10km, mb4.3/20, mb1 4.5/23, mb1mx4.4/35, mbtmp4.6/23, ML3.9/3, MS3.9/15, Ms1 4.0/15, ms1mx3.9/22, Error ellipse: s-maj=19.4km s-min=11.1km az=55.0*
ISC 26 12:46:56.4±0.3, 9.69N±0.04×85.51W±0.05, h38km±1km, n653, σ1s36/696, mb4.8/140, MS4.0/14, 160C-185D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCR	**Jicaral**	**0.43**	**67**	⇓*i*P	Pn	12 47 02.1	-3.9
JCR				*e*S	**Sn**	**12 47 11.7**	**-1.2**
JCR	**Jicaral**	**0.43**	**67**	⇓*i*P	Pn	12 47 02.1	-3.9
VCR	**Vista de Mar**	**0.45**	**345**	⇓*i*P	Pn	12 47 00.6	-5.9
VCR				*e*S	**Sn**	**12 47 08.9**	**-4.7**
VCR	**Vista de Mar**	**0.45**	**345**	⇑*i*P	Pn	12 47 00.6	-5.9
A492	**Arado**	**0.53**	**351**	*i* P	**Pn**	**12 47 04.6**	**-2.9**
A492				*i* S	**Sn**	**12 47 12.3**	**-3.1**
A495	**El Viejo**	**0.70**	**4**	*i* P	**Pn**	**12 47 07.8**	**-2.1**
JTS	**JuntasAbangare**	**0.82**	**42**	⇓*e*P	**Pn**	**12 47 10.7**	**-0.7**
JTS				*e*S	**Sn**	**12 47 21.9**	**-0.5**
JTS	**JuntasAbangare**	**0.82**	**42**	P	**Pn**	**12 47 10.8**	**-0.7**
	baz=239,slow=12						
JTS				S	**Sn**	**12 47 23.1**	**+0.8**
	19μm,0.3s,baz=258,slow=18,SNR=41						
JTS				LR	LR	12 47 26.6	
	comp=Z,2μm,18.4s,baz=83,slow=56						
JTS	**JuntasAbangare**	**0.82**	**42**	*i* Pn	**Pn**	**12 47 10.7**	**-0.7**
JTS				*e*Sn	**Sn**	**12 47 21.3**	**-1.1**
JTS				S	**Sn**	**12 47 23.1**	**+0.8**
NY14	**Universidad de**	**0.96**	**359**	⇓*i*P	**Pn**	**12 47 12.1**	**-1.3**
NY14				*i* S	**Sn**	**12 47 25.9**	**+0.1**
COLC	**Colonia**	**1.02**	**17**	*i* P	**Pn**	**12 47 13.1**	**-1.1**
CUI	**Cuipilapa**	**1.03**	**19**	*i* P	**Pn**	**12 47 13.3**	**-1.0**
AMAS	**Alto Masis**	**1.05**	**29**	*i* P	**Pn**	**12 47 13.8**	**-0.9**
CASO	**Castillo**	**1.07**	**46**	⇓*i*P	**Pn**	**12 47 15.0**	**+0.2**
CASO				*i* S	**Sn**	**12 47 30.6**	**+2.1**
GPS2	**Hotel Rinc˜‡n**	**1.07**	**8**	*i* P	**Pn**	**12 47 13.7**	**-1.3**
GPS3	**Bodega del ICE**	**1.07**	**8**	*i* P	**Pn**	**12 47 13.7**	**-1.3**
GPS3				*i* S	**Sn**	**12 47 28.1**	**-0.5**
HORNC	**Hornillas**	**1.07**	**18**	⇓*i*P	**Pn**	**12 47 13.9**	**-1.1**
LAPC	**Finca la Perla**	**1.08**	**4**	*i* P	**Pn**	**12 47 13.5**	**-1.5**
CGA2	**Cerro Gallo 2**	**1.08**	**72**	⇓*i*P	**Pn**	**12 47 12.1**	**-3.1**
CGA2				*e*S	**Sn**	**12 47 32.3**	**+3.3**
CGA2	**Cerro Gallo 2**	**1.08**	**72**	⇓*e*P	**Pn**	**12 47 12.1**	**-3.1**
GBS3	**Finca Las Im˜¡**	**1.09**	**3**	*i* P	**Pn**	**12 47 13.6**	**-1.6**
GPS1	**Guardaparques**	**1.09**	**8**	*i* P	**Pn**	**12 47 14.0**	**-1.3**
MESS	**Mesas**	**1.09**	**17**	*i* P	**Pn**	**12 47 14.3**	**-1.0**
CEDE	**Laguna Cede˜–o**	**1.13**	**45**	⇓*i*P	**Pn**	**12 47 16.2**	**+0.5**
GB1A	**Borinquen Arri**	**1.13**	**6**	*i* P	**Pn**	**12 47 14.4**	**-1.4**
FORC	**Fortuna**	**1.14**	**47**	⇑*i*P	**Pn**	**12 47 16.3**	**+0.5**
GBS2	**Las Lilas**	**1.15**	**3**	⇓*i*P	**Pn**	**12 47 14.5**	**-1.5**
URSC	**Urasca**	**1.71**	**85**	⇑*i*P	**Pn**	**12 47 21.6**	**-2.4**
URSC	**Urasca**	**1.71**	**85**	⇑*i*P	**Pn**	**12 47 21.5**	**-2.4**
BUS	**Buena Vista**	**1.73**	**94**	⇑*i*P	**Pn**	**12 47 21.4**	**-3.0**
BUS	**Buena Vista**	**1.73**	**94**	⇑*i*P	**Pn**	**12 47 21.4**	**-3.0**
ACR	**Cerro Adams**	**2.53**	**114**	⇓*i*P	**Pn**	**12 47 32.1**	**-2.9**
ACR				*e*S	**Sn**	**12 47 59.9**	**-4.7**
ACR	**Cerro Adams**	**2.53**	**114**	⇓*i*eP	**Pn**	**12 47 32.1**	**-2.9**
CNI	**Changuinola**	**2.97**	**95**	*e*P	**Pn**	**12 47 40.8**	**-0.1**
CNI	**Changuinola**	**2.97**	**95**	*e*P	**Pn**	**12 47 38.5**	**-2.4**
BRU	**Baru**	**3.04**	**106**	*e*P	**Pn**	**12 47 43.9**	**+1.5**
BRU				*e*S	**Sn**	**12 48 19.0**	**+1.2**
CNCH	**Conchagua**	**4.23**	**328**	*e*P	**Pn**	**12 47 57.9**	**-0.6**
CNCH				*e*S	Sn	12 48 35.1	-12
VSM	**San Miguel**	**4.60**	**324**	*e*P	**Pn**	**12 48 03.3**	**-0.4**
VSM				*e*S	Sn	12 48 47.0	-9.1
TGUH	**Tegucigalpa,Un**	**4.67**	**339**	*e*Pn	**Pn**	**12 48 04.8**	**+0.3**
PINA	**Piqa, Costa Ab**	**5.39**	**94**	⇓*i*P	**Pn**	**12 48 14.8**	**+0.5**
PINA	**Piqa, Costa Ab**	**5.39**	**94**	*e*P	**Pn**	**12 48 14.7**	**+0.4**
BOQS	**Boqueron**	**5.46**	**318**	*e*P	**Pn**	**12 48 16.1**	**+0.7**
AZU	**Azuero**	**5.51**	**110**	*e*P	**Pn**	**12 48 17.0**	**+1.0**
AZU				*e*S	Sn	12 49 25.4	+7.3
AZU	**Azuero**	**5.51**	**110**	*e*P	**Pn**	**12 48

VBMS Vicksburg 22.90 349 *e*P P 12 51 56.7 -0.1
comp=Z,135nm,1.3s
438A Sam Houston St 22.92 338 ⇓P P 12 51 56.9 -0.2
baz=23
733A Divot King Ran 22.93 328 ⇓P P 12 51 56.8 -0.5
baz=23
832A Faith Ranch, C 22.96 326 ⇑P P 12 51 57.5 -0.2
baz=23,SNR=14
536A Bastrop 22.98 334 ⇑P P 12 51 57.2 -0.6
baz=23
340A Bronson 22.98 341 ⇓P P 12 51 57.4 -0.3
baz=23
535A Dale 23.16 333 ⇓P P 12 51 58.8 -0.8
baz=23,SNR=7.4
NNA Nana 23.19 158 P P 12 51 59.8 -0.3
comp=Z,7.7nm,0.5s,baz=319,slow=11,SNR=4.8
NNA Nana 23.19 158 P P 12 52 02.7 +2.6
NNA Nana 23.19 158 P P 12 52 02.7 +2.6
LRAL Lakeview Retre 23.28 357 *e*P P 12 52 00.3 -0.4
comp=Z,91nm,0.8s
732A Laxson Ranch, 23.31 326 ⇓P P 12 52 00.1 -1.0
baz=23,SNR=28
338A Crockett 23.41 339 ⇑P P 12 52 00.8 -1.3
baz=23
633A Saathoff Ranch 23.47 329 ⇓P P 12 52 01.4 -1.3
baz=24
NATX Nacogdoches 23.55 340 *e*P P 12 52 02.5 -0.8
comp=Z,36nm,0.8s
534A Blanco 23.59 331 ⇑P P 12 52 02.5 -1.3
baz=24,SNR=20
GOGA Godfrey 23.69 4 *e*P P 12 52 03.9 -0.8
GOGA pmax pmax
comp=Z,83nm,1.0s
GOGA Godfrey 23.69 4 *e*P P 12 52 03.9 -0.8
comp=Z,83nm,1.0s
239A Gary 23.72 341 ⇑P P 12 52 03.6 -1.4
baz=24
435B Jarrell 23.81 334 ⇓P P 12 52 04.9 -1.0
baz=24
632A Uvalde 23.82 328 ⇑P P 12 52 05.1 -0.9
baz=24
533A Kerrville 23.89 330 ⇓P P 12 52 05.7 -1.0
baz=24
238A Jacksonville 23.93 340 ⇓P P 12 52 05.5 -1.4
baz=24
336A Riesel 24.02 336 ⇓P P 12 52 07.2 -0.6
baz=24
434A Burnet 24.15 332 ⇓P P 12 52 08.1 -0.9
baz=24
631A Perdido Creek 24.17 326 ⇑P P 12 52 08.7 -0.5
baz=24,SNR=30
237A Washetta, Mont 24.17 338 ⇑P P 12 52 08.5 -0.7
baz=24
335A Moody 24.18 334 ⇓P P 12 52 08.5 -0.7
baz=24
532A Rocksprings 24.38 329 ⇓P P 12 52 10.3 -0.9
baz=24,SNR=16
236A Katherine and 24.44 337 ⇑P P 12 52 10.8 -0.9
baz=24
433A Art 24.48 331 ⇓P P 12 52 11.2 -0.9
baz=24,SNR=35
138A Matatall Enter 24.52 340 ⇑P P 12 52 11.0 -1.4
baz=24
334A Lometa 24.57 333 ⇑P P 12 52 11.7 -1.2
baz=25,SNR=11
JCT Junction City 24.61 329 *e*P P 12 52 12.6 -0.7
JCT pmax pmax
comp=Z,25nm,0.8s
JCT Junction City 24.61 329 *e*P P 12 52 12.6 -0.7
comp=Z,25nm,0.8s
JCT Junction City 24.61 329 ⇑P P 12 52 12.8 -0.5
baz=25,SNR=11
137A Heron Place, G 24.69 339 ⇓P P 12 52 12.9 -0.9
baz=25
531A Rocksprings 24.74 328 ⇑P P 12 52 14.5 +0.1
baz=25,SNR=11
Z39A Irene McRaven, 24.77 342 ⇓P P 12 52 13.7 -0.9
baz=25
WHTX Lake Whitney, 24.80 335 *e*P P 12 52 14.4 -0.6
comp=Z,43nm,0.6s
WHTX Lake Whitney, 24.80 335 ⇑P P 12 52 14.4 -0.6
baz=25,SNR=20
333A Richland Sprin 24.91 332 ⇑P P 12 52 15.5 -0.4
baz=25,SNR=34
432A Menard 24.93 330 ⇓P P 12 52 15.4 -0.7
baz=25,SNR=6.4
OXF Oxford 24.97 352 *e*P P 12 52 15.4 -1.0
OXF pmax pmax
comp=Z,81nm,0.9s
OXF Oxford 24.97 352 *e*P P 12 52 15.4 -1.0
comp=Z,81nm,0.9s
Z38A Mt. Pleasant 25.02 341 ⇑P P 12 52 15.8 -1.1
baz=25
234A Clairette 25.10 334 ⇑P P 12 52 16.6 -1.1
baz=25,SNR=9.3
530A J-C Ranch, Com 25.16 326 ⇑P P 12 52 18.4 +0.1
baz=25,SNR=40
431A Sonora 25.18 328 ⇑P P 12 52 18.4 -0.1
baz=25,SNR=28
135A Vickery Place, 25.28 336 ⇑P P 12 52 18.9 -0.3
baz=25
332A Millersview 25.32 331 ⇑P P 12 52 19.2 -0.5
baz=25,SNR=24
233A Rising Star 25.45 333 ⇑P P 12 52 20.7 -0.2
baz=25,SNR=23
134A White-Moore Ra 25.57 335 ⇓P P 12 52 21.3 -0.6
baz=26
331A San Angelo 25.59 329 ⇓P P 12 52 22.5 +0.3
baz=26,SNR=16
430A Baggett Ranch, 25.60 327 ⇑P P 12 52 21.9 -0.3
baz=26
KMSC Kings Mountain 25.63 8 *e*P P 12 52 22.6 +0.2
KMSC Kings Mountain 25.63 8 ⇓P P 12 52 22.4 +0.1
baz=26,SNR=8.0
529A Stev Forest Ra 25.63 325 ⇑P P 12 52 22.8 +0.3
baz=26,SNR=7.0
CPCT Cooper Cave 25.66 2 *e*P P 12 52 21.9 -0.8
232A Coleman 25.69 331 ⇓P P 12 52 22.9 -0.1
baz=26,SNR=48
UALR University of 25.75 347 *e*P P 12 52 22.7 -0.7
MIAR Mount Ida 25.82 345 *e*P P 12 52 23.6 -0.6
MIAR pmax pmax
comp=Z,44nm,0.7s
MIAR Mount Ida 25.82 345 *e*P P 12 52 23.6 -0.6
comp=Z,44nm,0.7s
429A Davenport Ranc 25.83 326 ⇑P P 12 52 24.4 +0.1
baz=26,SNR=40
Z35A Perchaven, San 25.90 337 ⇑P P 12 52 24.3 -0.6
baz=26
TKL Tuckaleechee C 25.90 3 P P 12 52 23.6 -1.3
comp=Z,23nm,1.0s,baz=160,slow=10,SNR=5.9
TXAR Lajitas Array 25.91 321 P P 12 52 25.8 +0.7
comp=Z,20nm,0.5s,baz=141,slow=9.2,SNR=166
TXAR PcP PcP 12 55 53.7 +0.2
comp=Z,3.0nm,0.8s,baz=131,slow=5.1,SNR=7.4
133A Hamilton Ranch 25.96 333 ⇑P P 12 52 25.0 -0.4
baz=26,SNR=7.8
231A Bronte 26.05 330 ⇑P P 12 52 26.9 +0.6
baz=26,SNR=21
330A Mertzon 26.05 328 ⇓P P 12 52 25.9 -0.4
baz=26,SNR=6.2
Z34A Collier Ranch, 26.20 336 ⇑P P 12 52 26.7 -0.8
baz=26
ABTX Abilene, Hawle 26.30 332 ⇓P P 12 52 28.3 -0.3
baz=26,SNR=14
X37A Clayton 26.38 341 ⇑P P 12 52 28.2 -1.0
baz=26,SNR=11
230A Sterling City 26.41 329 ⇓P P 12 52 29.2 -0.3
baz=26
WVT Waverly 26.41 356 *e*P P 12 52 27.5 -1.9
WVT pmax pmax
comp=Z,19nm,1.0s
WVT Waverly 26.41 356 *e*P P 12 52 27.5 -1.9
comp=Z,19nm,1.0s
Z33A Whitaker Ranch 26.47 334 ⇓P P 12 52 29.8 -0.3
baz=26
329A Wagon Wheel Ra 26.54 327 ⇑P P 12 52 30.5 -0.3
baz=27
W38A Poteau 26.57 343 ⇓P P 12 52 30.7 -0.3
baz=26,SNR=12
Y34A Reagan Ranch, 26.65 337 ⇓P P 12 52 31.2 -0.5
baz=27
X36A Centrahoma 26.69 340 ⇑P P 12 52 31.0 -0.9
baz=27
131A Roby 26.69 331 ⇓P P 12 52 31.4 -0.6
baz=27,SNR=12
X35A Drake 26.75 339 ⇓P P 12 52 31.5 -1.0
baz=27

Z32A Haskell 26.80 333 ⇓P P 12 52 32.5 -0.5
baz=27,SNR=13
229A Bryant Ranch, 26.83 328 ⇓P P 12 52 32.3 -1.1
baz=27
130A Snyder 26.90 330 ⇓P P 12 52 32.8 -1.2
baz=27
W37A Quinton 26.91 342 ⇑P P 12 52 33.2 -0.7
baz=27,SNR=9.9
Y33A Hilltop Ranch, 27.04 336 ⇑P P 12 52 34.5 -0.7
baz=27
Z31A Sharp Cattle R 27.11 332 ⇑P P 12 52 35.4 -0.4
baz=27,SNR=6.2
W36A Wetumka 27.16 341 ⇑P P 12 52 34.8 -1.4
baz=27
X34A Smith Ranch, M 27.25 337 ⇑P P 12 52 35.9 -1.1
baz=27
PBMO Poplar Bluff 27.34 351 *e*P P 12 52 36.6 -1.2
comp=Z,22nm,1.1s
228A UT Block 9, Go 27.36 327 ⇓P P 12 52 37.1 -1.1
baz=27
Y32A R-V Farms, Ver 27.38 334 ⇑P P 12 52 37.0 -1.2
baz=27
129A Stewart Farms, 27.38 329 ⇓P P 12 52 37.5 -0.8
baz=27
W35A Tecumseh 27.39 339 ⇓P P 12 52 37.0 -1.3
baz=27
X33A Lawton 27.45 336 ⇓P P 12 52 37.8 -1.1
baz=27,SNR=7.5
Z30A Sanderson Ranc 27.54 331 ⇑P P 12 52 38.9 -0.9
baz=28,SNR=7.8
X32A Elmer 27.67 335 ⇓P P 12 52 40.1 -0.7
baz=28
128A Castleberry Fa 27.69 328 ⇑P P 12 52 40.9 -0.2
baz=28,SNR=7.0
Y31A Rekieta Farm, 27.70 333 ⇑P P 12 52 40.1 -1.0
baz=28
TUL1 Leonard 27.73 342 *e*P P 12 52 41.2 -0.2
comp=Z,19nm,0.9s
TUL1 Leonard 27.73 342 ⇓P P 12 52 40.0 -1.4
baz=28
WMOK Wichita Mounta 27.74 336 *e*P P 12 52 39.9 -1.5
WMOK pmax pmax
comp=Z,13nm,0.9s
WMOK Wichita Mounta 27.74 336 *e*P P 12 52 39.9 -1.5
comp=Z,12nm,0.9s
W34A Bridge Creek, 27.79 338 *e*P P 12 52 40.2 -1.7
comp=Z,60nm,0.9s
W34A Bridge Creek, 27.79 338 ⇓P P 12 52 41.0 -0.9
baz=28,SNR=5.1
BLA Blacksburg 27.79 9 *e*P P 12 52 44.7 +2.8
BLA pmax pmax
comp=Z,55nm,1.2s
BLA Blacksburg 27.79 9 *e*P P 12 52 44.6 +2.8
comp=Z,55nm,1.2s
Z29A Hungry Hill Ra 27.80 330 ⇓P P 12 52 41.3 -0.9
baz=28
VWCC Virginia Weste 27.89 9 *e*P P 12 52 43.9 +1.1
Y30A Stafford Cattl 27.92 332 ⇑P P 12 52 43.0 -0.2
baz=28,SNR=6.6
V35A Meyer Ranch, C 27.93 340 ⇓P P 12 52 41.6 -1.5
baz=28
W33A Caddo, Fort Co 27.98 337 ⇑P P 12 52 42.6 -1.0
baz=28
X31A McDonald Ranch 28.14 334 ⇑P P 12 52 44.4 -0.7
baz=28
Z28A Tucker Farm, M 28.17 329 ⇑P P 12 52 44.5 -0.9
baz=28
V34A Guthrie 28.23 339 *e*P P 12 52 44.2 -1.6
comp=Z,34nm,0.9s
V34A Guthrie 28.23 339 ⇓P P 12 52 44.5 -1.3
baz=28
W32A Sentinel 28.26 336 ⇓P P 12 52 44.8 -1.3
baz=28
Y29A Portertield Fa 28.27 331 ⇑P P 12 52 46.7 +0.3
baz=28,SNR=7.4
X30A Coker Ranch, T 28.38 333 ⇑P P 12 52 46.5 -0.8
baz=28
WCI Wyandotte Cave 28.43 359 *e*P P 12 52 46.1 -1.5
WCI pmax pmax
comp=Z,41nm,1.0s
WCI Wyandotte Cave 28.43 359 *e*P P 12 52 46.1 -1.5
comp=Z,41nm,1.0s
V33A Lossen Ranch, 28.50 338 ⇓P P 12 52 46.7 -1.5
baz=28
T37A Cheneyville 18 28.61 344 ⇓P P 12 52 47.3 -1.9
baz=29
MNTX Cornudas Mount 28.63 323 *e*P P 12 52 49.8 +0.4
comp=Z,8.0nm,0.9s
MNTX Cornudas Mount 28.63 323 ⇑P P 12 52 49.0 -0.4
baz=29,SNR=10
V32A Arapaho 28.70 337 ⇑P P 12 52 48.9 -1.1
baz=29
JSRW J. Sargeant Re 28.72 13 *e*P P 12 52 48.1 -2.0
U34A Anderson Ranch 28.78 340 ⇑P P 12 52 49.4 -1.3
baz=29
T36A Boggs Farm, Ca 28.82 343 ⇑P P 12 52 49.8 -1.2
baz=29
T35A Sooner Cattle 28.88 342 ⇑P P 12 52 50.0 -1.6
baz=29
SAML Samuel 28.93 129 *e*P P 12 52 52.4 +0.1
U33A Lingo Farm, Me 28.98 339 ⇑P P 12 52 51.8 -0.6
baz=29
OLIL Olney 29.02 356 *e*P P 12 52 54.6 +1.9
X28A Dimmitt 29.06 331 ⇓P P 12 52 52.4 -0.9
baz=29
V31A Spring Creek L 29.07 336 ⇓P P 12 52 52.7 -0.6
baz=29
AMTX Amarillo 29.12 332 ⇑P P 12 52 53.0 -0.8
baz=29
S36A Lake Cedric, C 29.36 344 ⇑P P 12 52 54.1 -1.8
baz=29,SNR=11
S35A Otter Creek Ra 29.53 342 ⇓P P 12 52 56.1 -1.2
baz=30,SNR=7.7
R36A Gordon, Harris 29.90 344 ⇓P P 12 52 58.9 -1.6
baz=30
U30A WK&E Inc. Balk 30.05 335 ⇓P P 12 53 00.7 -1.4
baz=30
R35A Emporia Munici 30.09 343 ⇓P P 12 53 01.3 -1.0
baz=30
T31A Randall Ranch, 30.15 337 ⇓P P 12 53 01.1 -1.7
baz=30
R34A Isabella, Hill 30.38 342 ⇑P P 12 53 03.2 -1.7
baz=30
Q36A Arnold C. Orve 30.48 345 ⇓P P 12 53 03.6 -2.1
baz=30
ACSO Alum Creek Sta 30.50 4 *e*P P 12 53 05.1 -0.8
comp=Z,38nm,0.8s
S31A Mullinville 30.54 338 ⇓P P 12 53 04.4 -1.9
baz=30
Q35A Mercer Eighty, 30.54 344 ⇓P P 12 53 04.3 -2.0
baz=30
SFIN Lafayette 30.60 358 *e*P P 12 53 04.6 -2.1
comp=Z,21nm,0.6s
SFIN Lafayette 30.60 358 ⇑P P 12 53 04.2 -2.5
baz=30
U28A Mallet 30.60 333 ⇑P P 12 53 05.1 -1.8
baz=31
R33A Olander Ranch, 30.63 341 ⇑P P 12 53 05.2 -1.8
baz=31
121A Cookes Peak, D 30.67 321 *e*P P 12 53 09.5 +1.9
comp=Z,10nm,0.8s
121A *e*PP PnPn 12 54 11.7 +3.6
121A Cookes Peak, D 30.67 321 ⇓P P 12 53 06.3 -1.4
baz=31
319A Douglas 30.87 318 ⇑P P 12 53 09.1 -0.3
baz=31,SNR=5.6
U27A Thompson Grove 30.91 332 ⇑P P 12 53 08.3 -1.4
baz=31
HDIL Hopedale 30.93 354 *e*P P 12 53 11.7 +2.0
comp=Z,1.7nm,0.8s
LPAZ La Paz 31.01 146 P P 12 53 12.3 +1.0
comp=Z,3.8nm,0.8s,baz=332,slow=9.1,SNR=11
LPAZ LR LR 13 06 36.2
comp=Z,551nm,18.0s,baz=342,slow=38
LPAZ La Paz 31.01 146 *e*P P 12 53 12.6 +1.3
LPAZ *e* 12 56 07.7
LPAZ La Paz 31.01 146 *e*P P 12 53 12.6 +1.3
LPAZ *e*PcP PcP 12 56 07.7 +0.7
R31A Burdett 31.14 338 ⇓P P 12 53 10.1 -1.5
baz=31
P35A Duane Minner, 31.16 344 ⇓P P 12 53 10.1 -1.7
baz=31
T28A Walsh 31.17 334 ⇑P P 12 53 10.2 -1.7
baz=31
S29A Ulysses 31.17 336 ⇓P P 12 53 10.3 -1.6
baz=31
Q33A Connelly Farm, 31.20 341 ⇓P P 12 53 10.7 -1.4
baz=31,SNR=6.5

T27A Campo 31.39 333 ⇑P P 12 53 12.7 -1.3
baz=31
R30A Dighton 31.42 337 ⇑P P 12 53 13.0 -1.0
baz=31
Q32A Meitler Ranch, 31.43 340 ⇓P P 12 53 13.0 -1.2
baz=31
SSPA Standing Stone 31.56 11 *e*P P 12 53 14.4 -0.8
comp=Z,22nm,0.8s
ANMO Albuquerque 31.60 326 *e*P P 12 53 17.2 +1.3
ANMO pmax pmax
comp=Z,27nm,1.1s
ANMO Albuquerque 31.60 326 *e*P P 12 53 16.8 +0.9
Q30A Quinter 32.00 338 ⇓P P 12 53 17.7 -1.5
baz=32
P32A Huiting Farm, 32.02 341 ⇑P P 12 53 17.8 -1.5
baz=32,SNR=15
R28A Tribune 32.07 335 ⇑P P 12 53 18.3 -1.5
baz=32
O33A Hebron 32.12 342 ⇑P P 12 53 18.3 -1.9
baz=32
ALLY Alegheny Colle 32.19 8 P P 12 53 17.9 -2.8
comp=Z,14nm,0.4s
P31A Stockton 32.19 340 ⇓P P 12 53 19.2 -1.6
baz=32
S26A Kim 32.19 333 ⇑P P 12 53 20.3 -0.6
baz=32
Q29A Oakley 32.21 337 ⇓P P 12 53 20.3 -0.8
baz=32
T25A Trinidad 32.23 331 ⇑P P 12 53 20.5 -0.9
baz=32
N35A Tabor 32.32 346 ⇓P P 12 53 20.3 -1.6
baz=32
R27A Eads 32.44 334 ⇑P P 12 53 22.0 -1.1
baz=32
TUC Tucson 32.45 318 *e*P P 12 53 25.5 +2.2
TUC pmax pmax
comp=Z,8.0nm,1.1s
TUC Tucson 32.45 318 *e*P P 12 53 25.5 +2.2
comp=Z,8.1nm,1.1s
O32A Brockman Farm, 32.50 342 ⇓P P 12 53 21.6 -1.9
baz=32
N34A Lincoln 32.52 344 ⇓P P 12 53 22.2 -1.4
baz=32
Q28A Sharon Springs 32.70 336 ⇑P P 12 53 24.5 -0.8
baz=33
R26A Arlington 32.73 333 ⇓P P 12 53 24.3 -1.4
baz=33
P29A Atwood 32.82 338 ⇓P P 12 53 25.4 -0.9
baz=33
PAL Palisades 32.84 16 *e*P P 12 53 30.1 +3.7
PAL pmax pmax
comp=Z,37nm,1.1s
PAL Palisades 32.84 16 *e*P P 12 53 30.1 +3.7
comp=Z,37nm,1.1s
KSPA Keystone Colle 32.89 14 *e*P P 12 53 28.6 +1.7
N32A Stulken Farm, 32.96 342 ⇑P P 12 53 26.2 -1.4
baz=33
KSCO Kaye Shedlock' 32.98 335 ⇓P P 12 53 26.6 -1.2
baz=33
O30A MW Ranch, Wils 33.01 339 ⇓P P 12 53 27.5 -0.5
baz=33,SNR=6.3
P28A Saint Francis 33.10 337 ⇑P P 12 53 28.4 -0.5
baz=33
SDCO Great Sand Dun 33.24 330 ⇑P P 12 53 30.7 +0.3
baz=33,SNR=16
Q26A Hugo 33.28 334 ⇓P P 12 53 30.3 -0.2
baz=33
X18A Snowflake 33.35 322 ⇓P P 12 53 33.2 +2.0
baz=33,SNR=7.5
JFWS Jewell Farm 33.36 354 *e*P P 12 53 29.6 -1.4
JFWS pmax pmax
comp=Z,12nm,0.6s
JFWS Jewell Farm 33.36 354 *e*P P 12 53 29.6 -1.4
comp=Z,12nm,0.6s
BINY Binghamton 33.45 13 *e*P P 12 53 29.7 -2.1
comp=Z,46nm,0.9s
BGNE Belgrade 33.51 343 ⇑P P 12 53 33.2 +0.8
baz=34
MMNY Mt. Morris Dam 33.59 10 *e*P P 12 53 31.9 -1.0
W18A Petrified Fore 33.61 323 *e*P P 12 53 35.3 +1.8
comp=Z,12nm,0.7s
W18A Petrified Fore 33.61 323 ⇑P P 12 53 34.9 +1.4
baz=34
214A Organ Pipe Nat 33.62 315 *e*P P 12 53 34.8 +1.4
comp=Z,22nm,1.2s
214A Organ Pipe Nat 33.62 315 ⇓P P 12 53 35.6 +2.2
baz=34,SNR=7.8
M31A Lambtecht Ranc 33.70 342 ⇑P P 12 53 34.7 +0.7
baz=34
P26A Davis Ranch, A 33.74 335 ⇓P P 12 53 34.8 +0.3
baz=34
R23A Moffat 33.75 331 ⇑P P 12 53 35.5 +0.7
baz=34,SNR=16
S22A 4UR Ranch, Cre 33.90 329 ⇑P P 12 53 36.8 +0.7
baz=34
N28A Pribbeno Ranch 33.99 338 ⇓P P 12 53 37.1 +0.5
baz=34
Q24A Divide 34.05 332 ⇑P P 12 53 37.6 +0.2
baz=34
M30A Dale-Ortello V 34.16 341 ⇑P P 12 53 38.4 +0.3
baz=34
X16A Lo Mia Camp, P 34.20 320 ⇓P P 12 53 39.4 +0.8
baz=34,SNR=21
MVCO Mesa Verde 34.38 326 *e*P P 12 53 42.0 +1.8
comp=Z,4.9nm,0.4s
OGNE Ogallala 34.40 338 ⇓P P 12 53 39.5 -0.6
baz=34
N27A Anderson Farm, 34.47 337 ⇑P P 12 53 40.8 0.0
baz=34
TRY Troy 34.52 15 *e*P P 12 53 32.6 -8.4
comp=Z,30nm,1.1s
P23A Jefferson 34.69 332 ⇑P P 12 53 43.8 +0.8
baz=35,SNR=7.3
113A Mohawk Valley, 34.74 316 ⇓P P 12 53 44.9 +1.8
baz=35,SNR=5.8
L29A Maesberg Ranch 34.83 340 ⇑P P 12 53 43.4 -0.4
baz=35
WUAZ Wupatki 34.87 322 *e*P P 12 53 46.3 +1.9
WUAZ Wupatki 34.87 322 ⇓P P 12 53 46.1 +1.7
baz=35,SNR=16
Y14A Wickenburg 34.92 318 ⇑P P 12 53 45.5 +0.8
baz=35
ISCO Idaho Springs 34.93 332 *e*P P 12 53 44.7 -0.3
ISCO pmax pmax
comp=Z,3.0nm,0.7s
ISCO Idaho Springs 34.93 332 *e*P P 12 53 44.7 -0.3
comp=Z,2.8nm,0.7s
ISCO Idaho Springs 34.93 332 ⇑P P 12 53 45.1 +0.1
baz=35
M27A Reverse DX Ran 35.04 338 ⇓P P 12 53 45.5 -0.1
baz=35
SMCO Snowmass 35.08 330 *e*P P 12 53 47.1 +0.7
PV01 Paradox Valley 35.10 328 *e*P P 12 53 46.9 +0.5
comp=Z,772nm,1.3s
K30A Basset 35.11 342 ⇑P P 12 53 46.0 -0.2
baz=35
L28A Connealy Angus 35.14 339 ⇓P P 12 53 46.2 -0.3
baz=35
ECSD EROS Data Cent 35.27 346 *e*P P 12 53 44.7 -2.9
comp=Z,7.4nm,0.6s
ECSD EROS Data Cent 35.27 346 ⇑P P 12 53 44.9 -2.6
baz=35,SNR=7.5
P22A Eagle 35.30 331 ⇑P P 12 53 48.2 +0.1
baz=35
O23A Lake Granby, G 35.40 333 ⇑P P 12 53 47.4 -1.6
baz=35
K29A Lazy Trails An 35.41 341 ⇓P P 12 53 47.3 -1.4
baz=35
PV04 Paradox Valley 35.47 327 *e*P P 12 53 50.2 +0.7
GLA Glamis 35.64 315 *e*P P 12 53 52.7 +1.8
GLA pmax pmax
comp=Z,37nm,1.1s
GLA Glamis 35.64 315 *e*P P 12 53 52.7 +1.8
comp=Z,37nm,1.1s
GLA Glamis 35.64 315 ⇓P P 12 53 52.1 +1.2
baz=36,SNR=11
O22A Kremmling 35.65 332 ⇓P P 12 53 51.2 0.0
baz=36,SNR=8.8
J30A Dallas 35.66 342 ⇑P P 12 53 50.2 -0.7
baz=36,SNR=5.7
K28A Ten Mile Ranch 35.71 340 ⇓P P 12 53 50.7 -0.7
baz=36
Y12C Blythe 35.83 316 ⇑P P 12 53 53.1 +0.7
baz=36,SNR=5.3
PTN Potsdam (NY) 35.93 13 *e*P P 12 53 52.1 -1.1
PTN Potsdam (NY) 35.93 13 *e*P P 12 53 52.0 -1.1
N23A Red Feather La 35.96 333 ⇑P P 12 53 52.3 -1.5
baz=36

SPMN **Marine on St.** 35.97 351 *e*P P 12 53 50.3 -3.1
comp=Z,14nm,0.5s
SPMN **Marine on St.** 35.97 351 ⇓P P 12 53 52.0 -1.4
baz=36
LVC **Limon Verde** 35.98 153 *e*P P 12 53 56.2 +2.1
J29A **Okreek** 35.99 342 ⇓P P 12 53 52.5 -1.3
baz=36,SNR=6.2
K27A **Flueckinger Fa** 36.01 339 ⇑P P 12 53 53.5 -0.4
baz=36
U15A **North Rim** 36.03 322 ⇓P P 12 53 54.7 +0.2
baz=36,SNR=16
LONY **Lake Ozonia** 36.07 13 *e*P P 12 53 52.5 -1.8
comp=Z,50nm,0.9s
N22A **Wattenberg Ran** 36.12 333 ⇓P P 12 53 54.5 -0.6
baz=36
L25A **Engebretsen Ra** 36.18 337 ⇑P P 12 53 54.8 -0.7
baz=36
I30A **Oacoma** 36.18 343 ⇑P P 12 53 55.0 -0.3
baz=36
W13A **Hualapai Mount** 36.20 319 ⇓P P 12 53 54.8 -1.0
baz=36
SWSC **Sam W. Stewart** 36.26 314 ⇓P P 12 53 55.6 -0.5
baz=36,SNR=7.0
J28A **Allard Ranch,** 36.30 341 ⇓P P 12 53 54.9 -1.5
baz=36
IBP **Imperial Bould** 36.32 314 ⇑P P 12 53 55.4 -1.4
baz=36
K26A **Motz Farm, Whi** 36.35 338 ⇑P P 12 53 55.1 -1.8
baz=36
BC3 **Big Chuckawall** 36.41 315 ⇑P P 12 53 57.8 +0.3
baz=36,SNR=11
COWI **Conover** 36.42 356 *e*P P 12 53 56.5 -0.9
comp=Z,8.9nm,0.8s
O20A **White River Ci** 36.44 330 *e*P P 12 53 58.8 +0.9
O20A **White River Ci** 36.44 330 ⇓P P 12 53 56.5 -1.4
baz=36
IRM **Iron Mountain** 36.49 316 ⇓P P 12 53 58.8 +0.7
baz=36,SNR=9.0
BRSD **Miller** 36.53 344 *e*P P 12 53 56.8 -1.6
comp=Z,55nm,1.0s
BRSD *e*pP pP 12 54 10.2 +1.1
BRSD **Miller** 36.53 344 ⇓P P 12 53 57.1 -1.2
baz=36
I29A **Vivian Onida** 36.54 342 ⇓P P 12 53 57.0 -1.4
baz=36
MONP **Monument Peak,** 36.67 314 ⇑P P 12 54 00.4 +0.5
baz=37,SNR=6.0
I28A **Midland** 36.79 341 ⇑P P 12 54 00.2 -0.4
baz=37
J26A **Sides Ranch, S** 36.84 338 ⇓P P 12 54 00.5 -0.5
baz=37
BELC **Belle Mtn. Jos** 36.98 316 ⇑P P 12 54 03.3 +0.8
baz=37,SNR=10
N20A **Spence Gulch,** 36.99 331 ⇓P P 12 54 02.6 +0.1
baz=37,SNR=12
LDFC **Landfair** 36.99 318 *e*P P 12 54 05.2 +2.7
comp=Z,24nm,0.8s
H29A **Onida** 37.06 343 ⇓P P 12 54 02.5 -0.3
baz=37
PFO **Pinyon Flats O** 37.08 315 ⇑P P 12 54 04.2 +0.9
baz=37,SNR=11
I27A **Quinn** 37.14 340 ⇑P P 12 54 03.5 0.0
baz=37
J25A **Sunshine Ranch** 37.17 338 ⇓P P 12 54 04.0 +0.1
baz=37,SNR=5.0
MSU **Marysvale** 37.36 325 *e*P P 12 54 06.6 +0.9
MSU pmax pmax
comp=Z,12nm,1.0s
MSU **Marysvale** 37.36 325 *e*P P 12 54 06.6 +0.9
comp=Z,12nm,1.0s
MVU **Marysvale** 37.37 324 *e*P P 12 54 05.9 0.0
comp=Z,10nm,1.0s
J24A **Dixon Ranch, L** 37.45 337 ⇓P P 12 54 05.1 -1.2
baz=37
G29A **Hoven** 37.49 343 ⇑P P 12 54 05.3 -1.2
baz=38
MURC **Murrieta** 37.60 314 ⇓P P 12 54 09.1 +1.5
baz=38,SNR=8.5
K22A **Casper** 37.64 334 *e*P P 12 54 08.2 +0.2
comp=Z,18nm,1.3s
K22A **Casper** 37.64 334 ⇑P P 12 54 07.5 -0.4
baz=38
H27A **Howes** 37.65 341 ⇓P P 12 54 07.1 -0.8
baz=38,SNR=7.3
HEC **Hector,Ludlow** 37.67 316 ⇓P P 12 54 09.8 +1.7
baz=38,SNR=6.0
I25A **Rochford** 37.69 338 ⇓P P 12 54 08.3 0.0
baz=38
TUQ **Turquoise Moun** 37.74 318 ⇑P P 12 54 10.5 +1.7
baz=38
BBRC **Big Bear Solar** 37.76 315 ⇓P P 12 54 11.1 +2.0
baz=38,SNR=12
H26A **Fairpoint** 37.87 340 ⇑P P 12 54 10.8 +1.1
baz=38
SHPR **Sheep Range** 37.87 320 *e*P P 12 54 12.6 +2.6
comp=Z,22nm,1.4s
I24A **Kuemmerle Ranc** 37.88 337 ⇑P P 12 54 10.2 +0.3
baz=38
RSSD **Black Hills** 37.89 338 *e*P P 12 54 10.3 +0.2
RSSD pmax pmax
comp=Z,3.0nm,0.7s
RSSD **Black Hills** 37.89 338 *e*P P 12 54 10.3 +0.2
comp=Z,3.3nm,0.7s
F29A **Eureka** 38.06 344 ⇑P P 12 54 11.0 -0.2
baz=38
MPU **Maple Canyon** 38.10 327 *e*P P 12 54 12.3 +0.4
comp=Z,14nm,0.9s
J22A **Midwest** 38.25 335 ⇑P P 12 54 13.0 -0.1
baz=38,SNR=6.5
GSC **Goldstone, Bar** 38.26 317 *e*P P 12 54 15.0 +1.9
GSC *e* 12 56 28.2
GSC pmax pmax
comp=Z,18nm,1.2s
GSC **Goldstone, Bar** 38.26 317 *e*P P 12 54 15.0 +1.9
comp=Z,18nm,1.2s
GSC *e*PcP PcP 12 56 28.2 +1.3
GSC **Goldstone, Bar** 38.26 317 ⇓P P 12 54 14.9 +1.7
baz=38,SNR=8.2
BFSC **Mount Baldy Ra** 38.26 315 ⇓P P 12 54 15.1 +1.8
baz=38,SNR=7.7
G27A **Dupree** 38.27 341 ⇓P P 12 54 12.7 -0.3
baz=38
F28A **McLaughlin** 38.35 343 ⇓P P 12 54 14.5 +0.8
baz=38
CIS **Catalina Islan** 38.36 313 ⇑P P 12 54 14.8 +0.8
baz=38
G26A **Maurine** 38.41 340 ⇑P P 12 54 14.4 +0.2
baz=38
E30A **Jud** 38.43 345 ⇓P P 12 54 14.6 +0.2
baz=38
MWC **Mount Wilson** 38.54 314 *e*P P 12 54 17.5 +1.9
MWC pmax pmax
comp=Z,27nm,1.1s
MWC **Mount Wilson** 38.54 314 *e*P P 12 54 17.5 +1.9
comp=Z,27nm,1.1s
G25A **Newell** 38.60 340 ⇑P P 12 54 15.9 +0.1
baz=39
PASC **Pasadena Art C** 38.60 314 *e*P P 12 54 19.8 +3.8
comp=Z,7.6nm,0.4s
J21A **Lysite** 38.60 334 ⇓P P 12 54 16.0 -0.1
baz=39,SNR=8.7
H24A **Dirks Ranch, A** 38.61 338 ⇑P P 12 54 15.8 -0.2
baz=39,SNR=6.0
I22A **9 Mile Ranch,** 38.64 336 ⇓P P 12 54 16.4 +0.1
baz=39,SNR=5.4
TCUT **Toone Canyon** 38.78 328 *e*P P 12 54 18.0 +0.4
comp=Z,8.2nm,0.6s
EDW2 **Edwards Air Fo** 38.84 315 ⇓P P 12 54 18.8 +0.8
baz=39,SNR=10
TPNV **Topopah Spring** 38.84 319 ⇓P P 12 54 19.0 +0.8
baz=39,SNR=17
DUG **Dugway, Tooele** 38.87 326 *e*P P 12 54 20.0 +1.6
DUG pmax pmax
comp=Z,7.0nm,1.0s
DUG **Dugway, Tooele** 38.87 326 *e*P P 12 54 20.0 +1.6
comp=Z,7.2nm,1.0s
DUG **Dugway, Tooele** 38.87 326 ⇓P P 12 54 19.0 +0.6
baz=39,SNR=7.3
J20A **Shoshoni** 38.88 334 ⇑P P 12 54 18.4 0.0
baz=39
I21A **Big Trails, Te** 38.91 335 ⇓P P 12 54 17.6 -1.1
baz=39
F26A **Lodgepole** 38.93 341 ⇑P P 12 54 18.6 +0.1
baz=39
D30A **Buchanan** 38.96 346 ⇑P P 12 54 16.8 -2.0
baz=39,SNR=7.6
E28A **Huff** 38.98 343 ⇑P P 12 54 17.5 -1.5
baz=39

BW06 **Boulder Array** 39.09 332 *e*P P 12 54 17.5 -2.8
comp=Z,5.1nm,0.8s
BW06 *e*PcP PcP 12 56 29.7 +0.1
PDAR **Pinedale Array** 39.09 332 P P 12 54 19.0 -1.3
comp=Z,1.6nm,0.8s,baz=125,slow=8.9,SNR=15
PDAR PcP PcP 12 56 29.2 -0.4
comp=Z,1.7nm,0.9s,baz=107,slow=4.9,SNR=4.7
PDAR LR LR 13 13 31.4
comp=Z,175nm,20.1s,baz=141,slow=41
MPMC **Manual Prospec** 39.14 317 ⇓P P 12 54 21.1 +0.4
baz=39,SNR=28
HWUT **Hardware Ranch** 39.21 329 *e*P P 12 54 21.1 -0.1
comp=Z,15nm,0.8s
J19A **Crowheart** 39.25 333 ⇓P P 12 54 21.3 -0.2
baz=39
R11A **Troy Canyon, C** 39.27 322 *e*P P 12 54 23.4 +1.7
comp=Z,8.3nm,0.8s
R11A **Troy Canyon, C** 39.27 322 ⇑P P 12 54 22.7 +0.9
baz=39,SNR=6.9
DAC **Darwin (Calif)** 39.33 317 *e*P P 12 54 24.0 +1.7
DAC pmax pmax
comp=Z,14nm,1.2s
DAC **Darwin (Calif)** 39.33 317 *e*P P 12 54 24.0 +1.7
comp=Z,14nm,1.2s
I20A **Worland** 39.38 334 ⇓P P 12 54 22.0 -0.5
baz=39,SNR=7.1
C30A **Mose, Pekin** 39.45 346 ⇓P P 12 54 21.3 -1.5
baz=39
AGMN **Agassiz Nation** 39.46 349 *e*P P 12 54 20.0 -2.9
comp=Z,18nm,0.9s
AGMN **Agassiz Nation** 39.46 349 ⇑P P 12 54 21.6 -1.3
baz=39,SNR=7.0
H21A **Big Horn, Sher** 39.48 336 ⇑P P 12 54 22.4 -0.9
baz=40
BGU **Big Grassy Mou** 39.50 327 *e*P P 12 54 24.3 +0.7
comp=Z,12nm,1.1s
BGU *e*PcP PcP 12 56 31.7 +0.8
D28A **Regan** 39.51 344 ⇓P P 12 54 22.4 -1.0
baz=40
F24A **Ekalaka** 39.52 339 ⇓P P 12 54 22.9 -0.7
baz=40
BSC **Santa Cruz Isl** 39.54 313 ⇑P P 12 54 24.1 +0.2
baz=40
ISA **Isabella, Lake** 39.59 316 *e*P P 12 54 26.7 +2.4
ISA pmax pmax
comp=Z,8.0nm,0.8s
ISA **Isabella, Lake** 39.59 316 *e*P P 12 54 26.6 +2.4
comp=Z,7.8nm,0.8s
ISA **Isabella, Lake** 39.59 316 ⇑P P 12 54 24.3 0.0
baz=40,SNR=6.2
GRAC **Grapevine Rang** 39.60 318 ⇑P P 12 54 25.5 +1.2
baz=40,SNR=10
G22A **Birney** 39.67 337 ⇓P P 12 54 24.3 -0.5
baz=40
D27A **Center** 39.70 343 ⇑P P 12 54 23.7 -1.3
baz=40
I19A **Meeteetse** 39.83 333 ⇑P P 12 54 25.0 -1.3
baz=40
D26A **Manning** 39.90 342 ⇑P P 12 54 25.4 -1.3
baz=40
HVU **Hansel Valley** 39.97 328 *e*P P 12 54 28.7 +1.2
HVU *e* 12 56 32.6
HVU pmax pmax
comp=Z,5.0nm,0.8s
HVU **Hansel Valley** 39.97 328 *e*P P 12 54 28.6 +1.2
comp=Z,5.2nm,0.8s
HVU *e*PcP PcP 12 56 32.6 +0.3
E24A **Baker** 40.09 340 ⇓P P 12 54 26.6 -1.7
baz=40
VES **Vestal, Richgr** 40.10 316 ⇓P P 12 54 30.6 +2.1
baz=40,SNR=6.1
B30A **Myrvik Farm, E** 40.12 347 ⇓P P 12 54 27.0 -1.4
baz=40
F22A **Rosebud** 40.13 337 ⇑P P 12 54 27.2 -1.4
baz=40
PKM **Mcpherson Peak** 40.13 314 ⇓P P 12 54 30.6 +1.7
baz=40,SNR=7.2
TPH **Tonopah** 40.13 320 *e*P P 12 54 30.0 +1.1
TPH pmax pmax
comp=Z,21nm,0.9s
TPH **Tonopah** 40.13 320 *e*P P 12 54 30.0 +1.1
comp=Z,21nm,0.9s
REDW **Red Top Meadow** 40.16 331 *e*P P 12 54 28.9 -0.2
comp=Z,52nm,1.4s
SNOW **Snow King Moun** 40.19 331 *e*P P 12 54 29.5 +0.1
comp=Z,13nm,0.8s
LOHW **Long Hollow** 40.23 332 *e*P P 12 54 31.1 +1.4
comp=Z,21nm,1.5s
C27A **Sayler Ranch,** 40.24 343 ⇑P P 12 54 29.4 -0.1
baz=40
TPAW **Teton Pass** 40.31 331 *e*P P 12 54 31.2 +0.8
comp=Z,31nm,1.4s
B29A **Wagenman Farm,** 40.37 346 ⇓P P 12 54 30.0 -0.5
baz=40
MOOW **Moose Ponds** 40.40 332 *e*P P 12 54 30.9 -0.2
comp=Z,7.9nm,1.0s
MOOW *e*PcP PcP 12 56 34.3 +0.6
G20A **Bridger** 40.44 335 ⇑P P 12 54 31.2 -0.1
baz=40
RCTC **Rector, Farmer** 40.46 316 ⇓P P 12 54 32.1 +0.7
baz=40
C26A **Wahner Farm, P** 40.52 343 ⇑P P 12 54 31.8 0.0
baz=40
E22A **Miles City** 40.57 338 ⇓P P 12 54 32.0 -0.3
baz=41,SNR=6.6
A30A **Hoffart Farm,** 40.57 347 ⇓P P 12 54 31.2 -0.9
baz=40
D24A **Glendive** 40.58 340 ⇑P P 12 54 31.4 -0.9
baz=41
B28A **Dugan Ranch, T** 40.61 345 ⇓P P 12 54 31.3 -1.1
baz=41
ELK **Elko** 40.61 325 *e*P P 12 54 34.6 +1.7
ELK pmax pmax
comp=Z,9.0nm,0.8s
ELK **Elko** 40.61 325 *e*P P 12 54 34.6 +1.7
comp=Z,9.3nm,0.8s
IMW **Indian Meadow** 40.61 332 *e*P P 12 54 32.6 -0.3
comp=Z,3.6nm,0.5s
FLWY **Flagg Ranch** 40.64 332 *e*P P 12 54 33.4 +0.4
comp=Z,7.4nm,0.7s
A29A **Manning Farm,** 40.77 346 ⇓P P 12 54 32.8 -1.0
baz=41
RLMT **Red Lodge** 40.81 334 *e*P P 12 54 33.7 -0.8
comp=Z,8.6nm,0.9s
RLMT *e*PcP PcP 12 56 35.9 +0.9
H17A **Grant Village** 40.82 332 *e*P P 12 54 38.2 +3.6
comp=Z,3.6nm,0.8s
LAO **LASA Array** 40.88 338 *e*P P 12 54 35.9 +1.1
comp=Z,15nm,1.2s
LAO *e*PcP PcP 12 56 35.8 +0.8
F20A **Billings** 40.89 336 ⇓P P 12 54 33.9 -1.0
baz=41
NVAR **Mina Array Bea** 41.03 320 P P 12 54 38.0 +1.7
comp=Z,23nm,0.6s,baz=125,slow=7.8,SNR=74
NVAR PcP PcP 12 56 36.8 +1.0
comp=Z,3.0nm,0.8s,baz=135,slow=3.9,SNR=3.8
F19A **Roth Farm, Mol** 41.26 335 ⇓P P 12 54 37.7 -0.3
baz=41,SNR=6.5
D22A **Cohagen** 41.26 339 ⇑P P 12 54 37.3 -0.5
baz=41,SNR=6.4
ULM **Lac du Bonnet** 41.34 350 P P 12 54 36.4 -2.1
comp=Z,19nm,1.1s,baz=170,slow=9.5,SNR=5.9
ULM PcP PcP 12 56 36.6 +0.2
comp=Z,12nm,0.9s,baz=115,slow=2.0,SNR=5.9
E20A **Meyer Farm, Mu** 41.45 336 ⇓P P 12 54 39.4 -0.1
baz=41,SNR=20
C23A **Lambert** 41.47 340 ⇓P P 12 54 38.9 -0.7
baz=42
GCMT **Greycliff** 41.51 334 *e*P P 12 54 39.0 -1.1
comp=Z,5.1nm,0.9s
QLMT **Earthquake Lak** 41.55 332 *e*P P 12 54 40.0 -0.5
comp=Z,0.7nm,0.7s
QLMT *e*PcP PcP 12 56 36.9 -0.5
BMN **Battle Mountai** 41.56 323 *e*P P 12 54 41.9 +1.2
BMN pmax pmax
comp=Z,22nm,0.8s
BMN **Battle Mountai** 41.56 323 *e*P P 12 54 41.9 +1.2
comp=Z,22nm,0.8s
E19A **Rath Farm, Rou** 41.68 336 ⇑P P 12 54 40.9 -0.5
baz=42,SNR=5.7
DGMT **Dagmar** 41.73 341 ⇓P P 12 54 40.9 -0.8
baz=42
WAKR **Walker** 41.80 319 *e*P P 12 54 45.0 +2.3
comp=Z,32nm,0.9s
D20A **Manuel Ranch,** 41.94 337 ⇓P P 12 54 43.1 -0.4
baz=42
B23A **Brockton** 41.98 341 ⇓P P 12 54 43.7 -0.1
baz=42,SNR=5.4

A24A **Westby** 42.07 342 ⇓P P 12 54 43.9 -0.6
baz=42
HLID **Hailey** 42.08 328 *e*P P 12 54 45.0 +0.1
comp=Z,11nm,1.0s
HLID **Hailey** 42.08 328 ⇑P P 12 54 44.8 0.0
baz=42,SNR=12
C21A **Desert Coulee** 42.16 338 ⇓P P 12 54 45.2 0.0
baz=42
CMB **Columbia Colle** 42.16 318 *e*P P 12 54 48.0 +2.6
CMB pmax pmax
comp=Z,9.0nm,0.9s
CMB **Columbia Colle** 42.16 318 *e*P P 12 54 48.0 +2.6
comp=Z,8.6nm,0.9s
B22A **Reddig Ranch S** 42.17 340 ⇑P P 12 54 44.9 -0.4
baz=42
MCMT **McKenzie Canyo** 42.21 331 *e*P P 12 54 45.8 -0.2
comp=Z,3.7nm,0.8s
BOZ **Bozeman (W)** 42.26 333 *e*P P 12 54 45.8 -0.5
BOZ *e* 12 56 40.5
BOZ pmax pmax
comp=Z,9.0nm,1.0s
BOZ **Bozeman (W)** 42.26 333 *e*P P 12 54 45.8 -0.5
comp=Z,9.0nm,1.0s
BOZ *e*PcP PcP 12 56 40.5 +0.8
D19A **Cripps Ranch,** 42.29 336 ⇓P P 12 54 46.8 +0.5
baz=42
DLMT **Dillon** 42.49 332 *e*P P 12 54 48.2 +0.1
comp=Z,13nm,1.2s
DLMT *e*PP PP 12 56 26.7 -0.4
MFID **Camas Ranch** 42.72 327 *e*P P 12 54 50.4 +0.4
comp=Z,4.9nm,0.6s
MFID *e*pP pP 12 55 04.5 +3.5
MFID *es*P sP 12 55 13.1 +7.6
MFID *e*PcP PcP 12 56 42.4 +1.2
A22A **Carney Farms,** 42.74 340 ⇓P P 12 54 49.5 -0.5
baz=43
LRM **Limekiln Ridge** 42.77 332 *e*P P 12 54 50.0 -0.5
comp=Z,39nm,0.9s
LRM *e*PcP PcP 12 56 43.0 +1.5
C19A **Slack Wire Ran** 42.82 337 ⇓P P 12 54 50.4 -0.3
baz=43,SNR=7.4
B20A **Solberg Farm,** 43.01 338 ⇓P P 12 54 51.8 -0.4
baz=43
A21A **Bergtoll Ranch** 43.09 339 ⇓P P 12 54 52.2 -0.6
baz=43
HRY **Holter Researc** 43.17 334 *e*P P 12 54 53.7 +0.1
comp=Z,5.8nm,0.8s
EGMT **Eagleton** 43.33 336 ⇑P P 12 54 54.3 -0.5
baz=43
A20A **Cobblestone Ra** 43.34 338 ⇓P P 12 54 55.1 +0.2
baz=43,SNR=6.6
B19A **Brinkman Farms** 43.37 337 ⇑P P 12 54 54.3 -0.8
baz=43
WVOR **Wild Horse Val** 43.65 324 *e*P P 12 54 57.1 -0.4
WVOR *e* 12 56 44.5
WVOR pmax pmax
comp=Z,20nm,0.7s
WVOR **Wild Horse Val** 43.65 324 *e*P P 12 54 57.1 -0.4
comp=Z,20nm,0.7s
WVOR *e*PcP PcP 12 56 44.5 +0.2
A19A **Klindworth Far** 43.69 338 ⇑P P 12 54 56.9 -0.7
baz=44
CHMT **Chamberlain Mo** 43.95 333 *e*P P 12 54 59.1 -0.9
comp=Z,2.2nm,1.0s
CHMT *e*PcP PcP 12 56 45.6 +0.2
MSO **Missoula** 44.21 332 ⇑P P 12 55 02.3 +0.4
baz=44,SNR=5.8
CFAA **Coronel Fontan** 44.26 159 P P 12 55 03.2 +0.8
comp=Z,0.8nm,0.8s,baz=332,slow=6.8,SNR=8.7
CFAA PcP PP 12 56 45.8 -0.4
comp=Z,0.2nm,0.6s,baz=289,slow=5.1,SNR=5.4
SLMT **Seeley Lake** 44.31 333 *e*P P 12 55 04.0 +1.2
BMO **Blue Mountains** 44.48 328 *e*P P 12 55 03.3 -0.8
comp=Z,7.1nm,0.9s
BDFB **Brasilia** 44.86 124 P P 12 55 08.4 +0.9
comp=Z,14nm,0.7s,baz=287,slow=10.0,SNR=21
BDFB PcP PcP 12 56 49.7 +0.8
comp=Z,4.8nm,0.6s,baz=275,slow=4.4,SNR=3.3
BDFB LR LR 13 14 16.5
comp=Z,376nm,18.3s,baz=306,slow=36
CPUP **Villa Florida** 45.08 143 *e*P P 12 55 08.7 -0.2
CPUP **Villa Florida** 45.08 143 *e*P P 12 55 08.7 -0.2
comp=Z,0.5nm,1.1s
KCPM **Cahto Peak** 45.15 318 *e*P P 12 55 12.3 +2.8
comp=Z,5.6nm,0.5s
M04C **Macdoel** 45.17 321 ⇓P P 12 55 09.6 -0.1
baz=45
N02D **Trinity Center** 45.26 320 ⇓P P 12 55 09.8 -0.5
baz=45
M02C **Callahan** 45.58 320 ⇓P P 12 55 12.9 -0.1
baz=46
J05D **Fort Rock, OR** 45.68 323 ⇑P P 12 55 12.9 -0.8
baz=46
YBH **Yreka Blue Hor** 45.68 321 *e*P P 12 55 13.6 -0.1
YBH pmax pmax
comp=Z,4.0nm,0.6s
YBH **Yreka Blue Hor** 45.68 321 *e*P P 12 55 13.6 -0.1
comp=Z,3.8nm,0.6s
WALA **Watertable Lakes** 45.86 334 *e*P P 12 55 15.4 +0.4
comp=Z,9.6nm,1.1s
WALA *e*PcP PcP 12 56 52.6 +0.8
KHMM **Horse Mountain** 45.87 319 *e*P P 12 55 16.6 +1.3
comp=Z,24nm,0.8s
J04D **Umpqua Nationa** 46.17 323 ⇑P P 12 55 16.6 -1.0
baz=46
HUMO **Hull Mountain** 46.32 322 *e*P P 12 55 19.6 +0.9
I05D **Terrebonne, OR** 46.37 325 ⇑P P 12 55 18.4 -0.6
baz=46
L02D **Cave Junction,** 46.47 321 ⇓P P 12 55 19.6 -0.2
baz=46
HAWA **Hanford** 46.67 328 *e*P P 12 55 21.3 +0.1
comp=Z,7.8nm,0.8s
I04A **Tendick Farm,** 46.67 323 ⇓P P 12 55 21.5 +0.2
baz=47
NEW **Newport** 46.73 331 ⇑P P 12 55 21.8 0.0
baz=47
G05D **Wamic, OR** 46.91 326 ⇓P P 12 55 24.0 +0.8
baz=47,SNR=6.6
I03D **Drain, OR** 47.17 323 ⇓P P 12 55 25.7 +0.5
baz=47
SCHQ **Schefferville** 47.41 15 P P 12 55 24.7 -2.3
comp=Z,25nm,0.8s,baz=206,slow=6.0,SNR=16
SCHQ LR LR 13 16 00.8
comp=Z,193nm,19.1s,baz=220,slow=37
G03D **McMinnville, O** 47.99 324 ⇑P P 12 55 32.0 +0.5
baz=48
LON **Longmire** 48.11 327 *e*P P 12 55 33.2 +0.7
LON *e* 12 57 00.0
LON pmax pmax
comp=Z,7.0nm,0.8s
LON **Longmire** 48.11 327 *e*P P 12 55 33.2 +0.7
comp=Z,6.5nm,0.8s
LON *e*PcP PcP 12 56 60.0 +0.2
EDM **Edmonton** 48.87 338 *e*P P 12 55 36.9 -1.4
EDM pmax pmax
comp=Z,14nm,0.9s
EDM **Edmonton** 48.87 338 *e*P P 12 55 36.9 -1.4
comp=Z,14nm,0.9s
FCC **Fort Churchill** 49.40 354 *e*P P 12 55 40.8 -1.3
FCC pmax pmax
comp=Z,7.0nm,0.9s
FCC **Fort Churchill** 49.40 354 *e*P P 12 55 40.8 -1.3
comp=Z,7.0nm,0.9s
PLCA **Paso Flores** 52.03 166 LR LR 13 13 33.8
comp=Z,134nm,20.2s,baz=10.0,slow=31
YKA **Yellowknife Ar** 56.77 344 P P 12 56 33.9 -2.4
comp=Z,4.3nm,0.8s,baz=144,slow=6.7,SNR=22
YKA **Yellowknife Ar** 56.77 344 P P 12 56 34.0 -2.4
TAOE **Nuku Hiva Isla** 57.43 253 *e*T T 13 58 43.5
comp=Z,430nm,0.3s
RKT **Rikitea** 58.35 235 *e*T T 13 59 49.0
comp=Z,5.2nm,0.2s
DLBC **Dease Lake** 59.21 335 *e*P P 12 56 53.3 -0.4
comp=Z,23nm,1.0s
HYT **Haines Junctio** 63.69 334 P P 12 57 24.2 +0.2
comp=Z,5.8nm,0.9s
EFI **East Falkland** 65.54 162 *e*P P 12 57 35.6 -0.2
PMOR **Pomariorio Ree** 66.50 249 *e*T T 14 10 04.0
comp=Z,3.9nm,0.2s
DIV **Divide** 67.45 333 *e*P P 12 57 47.7 -0.4
comp=Z,14nm,1.0s
PAX **Paxson** 68.03 335 *e*P P 12 57 51.3 -0.5
PAX pmax pmax
comp=Z,6.0nm,0.6s
PAX **Paxson** 68.03 335 *e*P P 12 57 51.3 -0.5
comp=Z,6.1nm,0.6s
SUMG **Summit** 68.79 14 *i*P P 12 57 57.9 +1.1

comp=Z,18nm,1.1s
SUMG Summit 68.79 14 *i* P **P** **12 57 57.9 +1.1**
SUMG pmax pmax
comp=Z,18nm,1.1s
SUMG Summit 68.79 14 *e*P **P** **12 57 54.2 -2.6**
comp=Z,14nm,0.9s
PPT2 Papeete2 68.83 247 *e*LR LR 13 18 53.0
comp=Z,208nm,24.8s
ILAR Eielson Array 69.30 336 P **P** **12 57 58.4 -1.2**
comp=Z,6.9nm,0.8s,baz=111,slow=4.4,SNR=29
ILAR PP **PP** **13 00 32.1 -0.7**
comp=Z,0.8nm,1.0s,baz=112,slow=5.7,SNR=5.0
ILAR LR LR 13 31 10.3
comp=Z,114nm,20.6s,baz=127,slow=38
COLA College 69.72 336 *e*P **P** **12 58 03.4 +1.3**
COLA pmax pmax
comp=Z,30nm,1.0s
RSO Redoubt South 70.48 331 *e*P **P** **12 58 07.5 +0.4**
comp=Z,41nm,0.8s
TBI Tubuai 70.60 241 *e*T T 14 15 12.5
comp=Z,7.6nm,0.3s
EVOP Sao Brissos 74.19 53 *e*P **P** **12 58 28.8 -0.6**
EVOP pmax pmax
comp=Z,7.0nm,0.7s
EVOP Sao Brissos 74.19 53 *e*P **P** **12 58 28.8 -0.6**
comp=Z,6.7nm,0.7s
EVO Evora 74.27 53 *e*P **P** **12 58 28.8 -1.1**
comp=Z,6.7nm,0.7s
MDT Midelt 77.20 58 P **P** **12 58 45.6 -1.4**
comp=Z,3.1nm,0.8s,baz=282,slow=6.5,SNR=7.3
ESDC Sonseca Array 77.40 51 P **P** **12 58 46.7 -1.2**
comp=Z,3.6nm,0.8s,baz=280,slow=5.6,SNR=17
ESDC LR LR 13 29 18.9
comp=Z,88nm,19.9s,baz=295,slow=33
EKA Eskdalemuir Ar 77.75 35 P **P** **12 58 47.3 -2.1**
comp=Z,1.5nm,0.7s,baz=260,slow=4.9,SNR=5.1
GRR Gorron 79.29 42 *e*P **P** **12 58 57.2 -0.8**
comp=Z,14nm,0.7s
GRR Gorron 79.29 42 *e*P **P** **12 58 57.2 -0.8**
GRR pmax pmax
comp=Z,14nm,0.7s
GRR Gorron 79.29 42 *e*P **P** **12 58 57.2 -0.8**
comp=Z,14nm,0.7s
SJPF Ste Jean 79.30 48 *e*P **P** **12 58 58.2 0.0**
comp=Z,7.4nm,0.7s
SJPF Ste Jean 79.30 48 *e*P **P** **12 58 58.2 0.0**
SJPF pmax pmax
comp=Z,7.0nm,0.7s
SJPF Ste Jean 79.30 48 *e*P **P** **12 58 58.2 0.0**
comp=Z,7.4nm,0.7s
TIC Toumodi 79.57 85 *e*P **P** **12 59 00.4 +0.1**
LIC Lamto 79.63 85 *e*P **P** **12 59 00.9 +0.4**
comp=Z,54nm,0.9s,baz=275
LIC Lamto 79.63 85 *e*P **P** **12 59 00.6 +0.1**
comp=Z,70nm,1.2s
LIC Lamto 79.63 85 *e*P **P** **12 59 00.9 +0.4**
comp=Z,54nm,0.9s
DBIC Dimbokro 79.73 85 P **P** **12 59 01.2 +0.1**
comp=Z,12nm,0.9s,baz=227,slow=5.5,SNR=7.5
KIC Kosan Boka 79.89 85 *e*P **P** **12 59 02.2 +0.2**
comp=Z,57nm,1.1s
EPF Esparros 80.45 48 *e*P **P** **12 59 04.4 -0.1**
comp=Z,4.1nm,0.4s
TCF Toulx Ste Croi 81.51 44 *e*P **P** **12 59 09.7 -0.4**
TCF Toulx Ste Croi 81.51 44 *e*P **P** **12 59 09.7 -0.4**
TCF Toulx Ste Croi 81.51 44 *e*P **P** **12 59 09.7 -0.4**
MTLF Montolieu 81.79 47 *e*P **P** **12 59 10.8 -0.8**
comp=Z,14nm,1.2s
MTLF Montolieu 81.79 47 *e*P **P** **12 59 10.8 -0.8**
MTLF pmax pmax
comp=Z,14nm,1.2s
MTLF Montolieu 81.79 47 *e*P **P** **12 59 10.8 -0.8**
comp=Z,14nm,1.2s
NB2 NORSAR Subarra 84.85 29 P **P** **12 59 25.3 -1.7**
comp=Z,8.1nm,1.2s,baz=280,slow=5.1
NOA NORSAR Array B 84.85 29 P **P** **12 59 25.3 -1.7**
comp=Z,2.8nm,0.9s,baz=280,slow=5.0,SNR=6.2
NOA LR LR 13 38 53.6
comp=Z,29nm,18.1s,baz=310,slow=37
TOA0 Torodi Ar. Sit 85.15 78 *e*P **P** **12 59 28.5 -0.9**
TORD Torodi Ar. Bea 85.15 78 P **P** **12 59 28.5 -0.9**
comp=Z,1.8nm,0.5s,baz=287,slow=5.0,SNR=20
HFS Hagfors 86.23 30 P **P** **12 59 32.2 -1.7**
comp=Z,3.9nm,0.9s,baz=225,slow=5.9,SNR=5.1
PGF Pioggiola 86.83 48 *e*P **P** **12 59 36.3 -1.0**
comp=Z,12nm,0.8s
PGF Pioggiola 86.83 48 *e*P **P** **12 59 36.3 -1.0**
PGF pmax pmax
comp=Z,12nm,0.8s
PGF Pioggiola 86.83 48 *e*P **P** **12 59 36.3 -1.0**
comp=Z,12nm,0.8s
BILL Bilibino 87.77 339‖ *e*P **P** **12 59 41.8 +0.6**
BILL *e*PPP PPP 13 05 05.4
BILL *e*S **S** **13 10 26.0 +5.4**
BILL pmax pmax
comp=Z,10.0nm,1.2s
BILL MLR MLR
comp=Z,78nm,24.0s
CLL Collm 87.80 38 *e*P **P** **12 59 42.0 +0.4**
CLL *e*pP **pP** **12 59 50.0 -3.5**
CLL Collm 87.80 38 *e*P **P** **12 59 42.0 +0.4**
CLL *e* 12 59 50.0
ARCES ARCESS Array B 88.16 19 P **P** **12 59 41.5 -1.5**
comp=Z,3.1nm,0.9s,baz=285,slow=4.6,SNR=5.7
ARCES LR LR 13 39 48.4
comp=Z,45nm,19.6s,baz=285,slow=36
KEST Kesra 88.32 54 P **P** **12 59 44.7 +0.1**
comp=Z,1.8nm,0.9s,baz=300,slow=7.2,SNR=4.9
ABTA Abfaltersbach 88.47 43‖ *i*P **P** **12 59 44.2 -0.9**
comp=Z,7.6nm,1.3s
GERES GERESS Array B 88.79 41 P **P** **12 59 46.3 -0.2**
comp=Z,0.4nm,0.5s,baz=270,slow=1.3,SNR=4.8
FINES FINESS Array B 91.59 27 LR LR 13 39 44.3
comp=Z,45nm,19.5s,baz=251,slow=35
VNA1 Neumayer--Stat 94.88 161 P **P** **13 00 14.3 +0.3**
VNA2 Neumayer--Watz 95.23 161 P **P** **13 00 15.2 -0.4**
baz=303,slow=5.4
TIXI Tiksi 95.69 350 *e*P **P** **13 00 17.2 -0.6**
TIXI pmax pmax
comp=Z,6.0nm,1.2s
SNAA Sanae 96.82 162 P **P** **13 00 21.1 -1.9**
AKASG Malin Array Be 97.66 36 LR LR 13 45 53.9
comp=Z,28nm,18.3s,baz=290,slow=36
PETK Petropavlovsk- 97.73 327 LR LR 13 48 32.6
comp=Z,32nm,18.0s,baz=55,slow=38
OBN Obninsk 99.44 30‖ *e*P **Pdif** **13 00 29.7 -5.3**
OBN *e*S **SKSac** **13 11 11.1 +0.6**
OBN *e*SS **SS** **13 18 50.2 -3.9**
OBN pmax pmax
comp=Z,4.0nm,0.7s
OBN MLR MLR
comp=Z,61nm,17.0s
ABKAR Akbulak array 113.94 24 *e*PKPdf **PKiKP** **13 05 34.1 +2.7**
ABKAR *e*PP **PP** **13 06 20.9 -3.7**
ZAK Zakamensk 119.70 354 *e*PKIKP **PKPdf** **13 05 42.8 +0.2**
ZAK pmax pmax
comp=Z,2.0nm,1.8s
MKAR Makanchi Array 122.73 10 PKP **PKPdf** **13 05 47.8 -0.6**
comp=Z,0.3nm,0.4s,baz=346,slow=2.2,SNR=3.2
KSRS Korea Array 123.61 328 PKP **PKPdf** **13 05 50.7 +0.4**
comp=Z,4.1nm,0.7s,baz=17,slow=1.3,SNR=12
KSAR Wonju Array Be 123.64 328 PKIKP **PKPdf** **13 05 50.7 +0.3**
KSAR Wonju Array Be 123.64 328 PKP **PKPdf** **13 05 50.7 +0.3**
TKM2 Tokmak 2 124.88 17 *e*PKIKP **PKPdf** **13 05 53.8 +0.8**
TKM2 Tokmak 2 124.88 17 *e*PKPdf **PKPdf** **13 05 53.8 +0.8**
WMQ Urumqi 126.39 6 *e*PKP **PKPdf** **13 05 57.3 +1.7**
WMQ PKS **PKSdf** **13 09 33.5 +1.3**
WMQ SKS **SKSdf** **13 13 03.0 -1.8**
WMQ SKKS **SKKSac** **13 14 44.3 -1.8**
WMQ SS **SS** **13 24 53.5 +3.2**
WMQ LN
comp=Z,86nm,23.0s
WMQ LE
comp=Z,55nm,24.6s
WMQ LZ
comp=Z,79nm,21.2s
HHC Hu-ho-hao-te 127.31 344 *e*PKP **PKPdf** **13 05 58.5 +1.0**
HHC PP **PP** **13 08 00.3 +4.4**
HHC SKS **SKSdf** **13 13 05.3 -1.4**
HHC SS **SS** **13 25 02.5 +0.5**
HHC PPMZ
comp=Z,58nm,8.6s
HHC LN
comp=Z,65nm,16.0s
HHC LE
comp=Z,98nm,14.8s
HHC LZ
comp=Z,67nm,17.3s
KSH Kashi 128.12 18 PKP **PKPdf** **13 06 01.8 +2.7**
KSH sPKP 13 06 16.0
KSH PP PP 13 08 09.0 +7.6
KSH PKS **PKSdf** **13 09 37.3 +1.5**
KSH PPMZ
comp=Z,100nm,6.1s
KSH LZ
comp=Z,130nm,5.6s
CTA Charters Tower 129.09 252 PKP **PKPdf** **13 06 01.5 +0.2**
comp=Z,3.6nm,0.7s,baz=111,slow=4.1,SNR=7.0
GTA Gaotai 130.91 355 *e*PKP **PKPdf** **13 06 05.5 +1.1**
GTA PP **PP** **13 08 23.3 +4.0**
GTA SKS **SKSdf** **13 13 10.8 -2.6**
GTA SKKS **SKKSac** **13 15 10.8 -3.8**
GTA SS **SS** **13 25 44.3 -2.0**
GTA PPMZ
comp=Z,88nm,5.9s
GTA LZ
comp=Z,75nm,20.4s
LZH Lanzhou 133.63 350 *e*PKP **PKPdf** **13 06 11.0 +1.3**
LZH sPKP 13 06 28.8
CD2 Chengdu 138.67 348 PKP **PKPdf** **13 06 18.3 -0.8**
CD2 sPKP 13 06 37.8
CD2 PP **PP** **13 09 12.3 +3.8**
CD2 PKS **PKSdf** **13 09 53.0 -2.3**
CD2 SKS **SKSdf** **13 13 22.0 -5.1**
CD2 SS **SS** **13 27 17.8 -1.8**
CD2 PPMZ
comp=Z,120nm,6.4s
AS31 Alice Springs 139.91 245 *e*PKPdf **PKPdf** **13 06 21.6 +0.1**
ASAR Alice Springs 139.91 245 PKhKP PKPpre 13 06 13.6
comp=Z,1.1nm,0.8s,baz=108,slow=3.0,SNR=11
ASAR PKP **PKPdf** **13 06 21.5 0.0**
comp=Z,4.6nm,0.7s,baz=99,slow=1.8,SNR=47
WRAB Tennant Creek 140.23 251 *e*PKIKP **PKPdf** **13 06 22.6 +0.5**
WRAB Tennant Creek 140.23 251 *e*PKPdf **PKPdf** **13 06 22.6 +0.5**
WRA Warramunga Arr 140.24 250 PKhKP PKPpre 13 06 15.0
comp=Z,2.0nm,0.8s,baz=100,slow=2.9,SNR=16
WRA PKP **PKPdf** **13 06 22.7 +0.6**
comp=Z,8.9nm,0.8s,baz=96,slow=2.5,SNR=54
LSA Lhasa 140.71 5 *e*PKIKP **PKPdf** **13 06 24.2 +0.8**
LSA Lhasa 140.71 5 *e*PKPdf **PKPdf** **13 06 24.1 +0.8**
KMI Kunming 144.48 347 PKP **PKPab** **13 06 28.0 -0.1**
MSAI Masohi 145.23 278 P **PKPdf** **13 06 34.9 +3.8**
IMP Imphal 145.74 *e*P **PKPab** **13 06 32.5 0.0**
AAI Ambon 146.02 278 P **PKPab** **13 06 33.8 -0.1**
NLAI Namlea 146.99 279 P **PKPbc** **13 06 36.5 +0.4**
QIZ Qiongzhong 147.70 332 PKPbc **PKPdf** **13 06 35.8 +0.6**
QIZ PP **PP** **13 10 05.0 +1.7**
QIZ SS SS 13 29 06.0 +1.5
SANI Sanana 147.78 282 P **PKPbc** **13 06 38.9 +0.6**
NWAO Narrogin (SRO) 148.77 219 PKPbc **PKPbc** **13 06 40.1 -0.2**
comp=Z,21nm,1.0s,baz=168,slow=0.1,SNR=4.3
SOEI Soe 150.65 267 P **PKPbc** **13 06 47.0 +1.4**
SOEI Soe 150.65 267 *e*PKPbc **PKPbc** **13 06 47.2 +1.5**
CHTO Chiang Mai 151.34 351 *e*PKIKP **PKPbc** **13 06 47.3 +0.3**
CHTO Chiang Mai 151.34 351 *e*PKPbc **PKPbc** **13 06 47.3 +0.3**
CMAR Chiang Mai Arr 151.69 351 PKP **PKPdf** **13 06 41.6 +0.1**
comp=Z,0.7nm,0.4s,baz=331,slow=2.5,SNR=8.4
CMAR PKPbc **PKPbc** **13 06 47.8 -0.1**
comp=Z,6.2nm,0.9s,baz=324,slow=3.0,SNR=19
CMAR PKPab **PKPab** **13 06 56.2 -0.1**
comp=Z,19nm,1.0s,baz=342,slow=4.7,SNR=17
MBWA Marble Bar 153.17 242 *e*PKPbc **PKPbc** **13 06 50.8 -0.2**

*ISCJB **26** 13:03:43.7±0.5,0.˝83S±0.˝08×6.˝30E±0.˝07, h10km, mb3.9/16, Error ellipse: s-maj=13.9km s-min=7.6km az=41.1*
*IDC **26** 13:03:44.7±0.9,0.˝84S×6.˝42E, h0km, mb3.9/15, mb1 4.0/18, mb1mx3.9/32, mbtmp3.9/18, ML4.0/3, Error ellipse: s-maj=30.7km s-min=15.2km az=65.0*
*NEIC **26** 13:03:46.1±0.5,0.˝79S×6.˝41E, h10km, mb4.5/2, Error ellipse: s-maj=14.3km s-min=7.8km az=54.0*
ISC 26 13:03:46.0±0.7,0.˝8S±0.˝1×6.˝4E±0.˝1, h10km, n36, σ1.˝21/30, mb3.9/16, South Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSKU	**Masuku**	**7.26**	**97**	Pn		**Pn**		**13 05 31.8**	**-0.5**
	4.9nm,0.3s,baz=234,slow=15,SNR=6.8								
MSKU				Sn		Sn		13 06 45.4	-9.5
	21nm,0.3s,baz=345,slow=21,SNR=5.3								
KIC	**Kosan Boka**	**13.21**	**303**	*e*P		**Pn**		**13 06 52.8**	**-1.0**
	9.8nm,0.3s								
LIC	**Lamto**	**13.38**	**302**	*e*P		**Pn**		**13 06 55.4**	**-0.8**
	22nm,0.3s								
DBIC	**Dimbokro**	**13.47**	**304**	Pn		**Pn**		**13 06 55.5**	**-1.9**
	1.3nm,0.3s,baz=107,slow=12,SNR=17								
DBIC	**Dimbokro**	**13.47**	**304**	*e*Pn		**Pn**		**13 06 56.4**	**-1.0**
DBIC				*e*Sn		Sn		13 09 13.8	-14
TIC	**Toumodi**	**13.60**	**303**	*e*P		**Pn**		**13 06 56.3**	**-2.8**
TOA0	**Torodi Ar. Sit**	**14.64**	**342**	*e*Pn		**Pn**		**13 07 12.0**	**-1.4**
TORD	**Torodi Ar. Bea**	**14.64**	**342**	Pn		**Pn**		**13 07 12.0**	**-1.4**
	0.3nm,0.3s,baz=161,slow=15,SNR=15								
TORD				Sn		Sn		13 09 45.6	-10
	0.4nm,0.3s,baz=171,slow=25,SNR=4.7								
TOC2	**Torodi Ar. Sit**	**14.64**	**342**	*e*P		**Pn**		**13 07 15.6**	**+2.2**
TSUM	**Tsumeb**	**21.31**	**150**	P		**P**		**13 08 33.4**	**+0.1**
	2.7nm,0.8s,baz=344,slow=11,SNR=7.2								
H10N1	**ASCENSION HYDR**	**21.95**	**251**	T		T		13 32 11.0	
	baz=70,slow=75,SNR=42								
H10N2	**ASCENSION HYDR**	**21.95**	**251**	T		T		13 32 14.0	
	baz=70,slow=75,SNR=25								
H10N3	**ASCENSION HYDR**	**21.96**	**251**	T		T		13 32 12.5	
	baz=70,slow=75,SNR=28								
H10S1	**ASCENSION HYDR**	**22.45**	**248**	T		T		13 32 50.0	
	baz=68,slow=75,SNR=8.2								
H10S2	**ASCENSION HYDR**	**22.46**	**248**	T		T		13 32 50.6	
	baz=68,slow=75,SNR=8.6								
H10S3	**ASCENSION HYDR**	**22.47**	**248**	T		T		13 32 51.7	
	baz=68,slow=75,SNR=14								
LSZ	**Lusaka**	**25.87**	**125**	P		**P**		**13 09 18.8**	**+0.4**
	4.9nm,0.8s,baz=354,slow=13,SNR=5.2								
LSZ	**Lusaka**	**25.87**	**125**	*e*P		**P**		**13 09 17.9**	**-0.4**
	22nm,1.5s								
MATP	**Matopo**	**29.10**	**133**	P		**P**		**13 09 47.2**	**-0.1**
	0.6nm,0.4s,baz=312,slow=12,SNR=3.3								
ESDC	**Sonseca Array**	**41.40**	**348**	P		**P**		**13 11 34.3**	**+1.6**
	0.4nm,0.5s,baz=162,slow=7.9,SNR=7.3								
BRTR	**Keskin Array B**	**47.42**	**29**	P		**P**		**13 12 20.6**	**-0.5**
	0.2nm,0.3s,baz=206,slow=6.9,SNR=2.4								
GERES	**GERESS Array B**	**49.87**	**6**	P		**P**		**13 12 39.1**	**-0.6**
	0.4nm,0.3s,baz=194,slow=11,SNR=4.2								
AKASG	**Malin Array Be**	**54.89**	**18**	P		**P**		**13 13 16.5**	**-0.2**
	0.1nm,0.3s,baz=217,slow=7.5,SNR=4.2								
EKA	**Eskdalemuir Ar**	**56.51**	**353**	P		**P**		**13 13 28.5**	**+0.2**
	2.5nm,0.8s,baz=180,slow=8.3,SNR=7.2								
HFS	**Hagfors**	**61.05**	**4**	P		**P**		**13 13 59.7**	**0.0**
	1.4nm,0.6s,baz=177,slow=10,SNR=4.5								
NOA	**NORSAR Array B**	**61.80**	**3**	P		**P**		**13 14 04.4**	**-0.5**
	0.5nm,0.7s,baz=171,slow=8.6,SNR=2.1								
SAML	**Samuel**	**69.71**	**261**	P		**P**		**13 14 58.1**	**+1.3**
	4.1nm,1.2s								
SNAA	**Sanae**	**70.99**	**183**	P		**P**		**13 15 02.4**	**-1.3**
	0.6nm,1.0s,baz=13,slow=18,SNR=2.9								
BVAR	**Borovoye Array**	**75.31**	**34**	P		**P**		**13 15 29.0**	**-0.5**
	1.2nm,0.9s,baz=281,slow=2.4,SNR=5.1								
BVAR	**Borovoye Array**	**75.31**	**34**	P		**P**		**13 15 29.0**	**-0.5**
MK31	**Makanchi Array**	**80.96**	**42**	*e*P		**P**		**13 16 01.8**	**+0.8**
MKAR	**Makanchi Array**	**80.96**	**42**	P		**P**		**13 16 01.8**	**+0.8**
	1.9nm,0.9s,baz=251,slow=3.7,SNR=9.8								
SCHQ	**Schefferville**	**81.06**	**326**	P		**P**		**13 16 03.7**	**+2.3**
	2.8nm,0.9s,baz=117,slow=9.0,SNR=2.3								
ZALV	**Zalesovo Beam**	**83.85**	**36**	P		**P**		**13 16 17.1**	**+1.3**
	0.5nm,0.5s,baz=287,slow=5.6,SNR=2.7								
ASAR	**Alice Springs**	**123.54**	**119**	PKP		**PKPdf**		**13 22 44.6**	**-0.1**
	0.3nm,0.7s,baz=306,slow=2.2,SNR=4.3								
WRA	**Warramunga Arr**	**125.00**	**115**	PKP		**PKPdf**		**13 22 47.9**	**+0.3**
	0.5nm,1.0s,baz=246,slow=4.8,SNR=3.6								

IDC 26 13:07:08.9±4.2,5.˝60S×151.˝66E, h0km, mb2.9/2, mb1 3.2/2, mb1mx3.1/19, mbtmp2.9/2, Error ellipse: s-maj=197.6km s-min=49.3km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.07**	**228**	P		P	P	13 12 06.2	+0.5
	0.3nm,0.7s,baz=52,slow=10.0,SNR=2.9								
ASAR	**Alice Springs**	**24.80**	**222**	P		P	P	13 12 32.4	-0.5
	0.4nm,1.0s,baz=60,slow=9.5,SNR=6.1								
TORD	**Torodi Ar. Bea**	**149.46**	**286**	PKPbc		PKPbc		13 27 00.8	-0.4
	0.6nm,1.1s,baz=60,slow=3.5,SNR=3.3								

*TIR **26** 13:07:11.0±2.2,39.˝71N×20.˝48E, h0km, 999km, ML2.5*
*ISCJB **26** 13:07:15.5±0.4,39.˝73N±0.˝02×20.˝43E±0.˝02, h0km, 4km, Error ellipse: s-maj=3.2km s-min=3.1km az=22.1*
*ATH **26** 13:07:15.5,39.˝73N×20.˝41E, h12km±1km, MD3.1/19*
*SKO **26** 13:07:16.8,39.˝68N×20.˝46E, h4km, M2.2, ML2.5*
*CSEM **26** 13:07:16.0±0.1,39.˝71N×20.˝42E, h2km, ML2.8, Error ellipse: s-maj=3.4km s-min=2.7km az=65.0*
*THE **26** 13:07:16.1,39.˝73N×20.˝42E, h0km, 2km, ML2.8/6, Error ellipse: s-maj=2.2km s-min=0.7km az=328.0*
ISC 26 13:07:16.3±0.9,39.˝72N±0.˝02×20.˝40E±0.˝02, h9km±7km, n94, σ1.˝02/127, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGD	**Sagiada**	**0.17**	**232**	P		**P**	**Pg**	**13 07 19.3**	**-0.5**
SGD				S		**S**	**Sg**	**13 07 22.9**	**+0.6**
SGD	**Sagiada**	**0.17**	**232**	P		**P**	**Pg**	**13 07 19.3**	**-0.5**
SGD				S		**S**	**Sg**	**13 07 22.9**	**+0.6**
IGT	**Igoumenitsa**	**0.19**	**197**	P		**P**	**Pg**	**13 07 19.5**	**-0.8**
IGT				S		**S**	**Sg**	**13 07 23.6**	**+0.6**
IGT	**Igoumenitsa**	**0.19**	**197**	*e*PG		**P**	**Pg**	**13 07 19.5**	**-0.8**
IGT				*e*SG		**S**	**Sg**	**13 07 23.6**	**+0.6**
IGT	**Igoumenitsa**	**0.19**	**197**	P		**P**	**Pg**	**13 07 19.5**	**-0.8**
IGT				S		**S**	**Sg**	**13 07 23.6**	**+0.6**
JAN	**Janina**	**0.35**	**100**	P		**P**	**Pg**	**13 07 22.3**	**-0.9**
JAN				S		**S**	**Sg**	**13 07 27.7**	**-0.2**
JAN	**Janina**	**0.35**	**100**	*e*PG		**P**	**Pg**	**13 07 22.1**	**-1.1**
JAN				*e*SB		**S**	**Sg**	**13 07 27.5**	**-0.4**
JAN	**Janina**	**0.35**	**100**	P		**P**	**Pg**	**13 07 22.3**	**-0.9**
JAN				*e*Sb		**S**	**Sg**	**13 07 27.5**	**-0.4**
SRN	**Sarande**	**0.35**	**298**	*i* PG		**P**	**Pg**	**13 07 22.9**	**-0.3**
SRN				*i* SG		**S**	**Sb**	**13 07 29.6**	**-0.7**
SRN	**Sarande**	**0.35**	**298**	P		**P**	**Pg**	**13 07 22.7**	**-0.5**
SRN	**Sarande**	**0.35**	**298**	P		**P**	**Pg**	**13 07 22.7**	**-0.5**
SRN				*i* Sg		**S**	**Sb**	**13 07 29.6**	**-0.7**
	SNR=90								
KEK	**Kerkira**	**0.47**	**270**	P		**P**	**Pg**	**13 07 24.9**	**-0.4**
KEK				S		**S**	**Sg**	**13 07 32.6**	**+1.1**
KEK	**Kerkira**	**0.47**	**270**	*e*PB		**P**	**Pg**	**13 07 25.0**	**-0.4**
KEK				*e*SB		**S**	**Sg**	**13 07 31.5**	**0.0**
KEK	**Kerkira**	**0.47**	**270**	*e*Pb		**P**	**Pg**	**13 07 25.0**	**-0.4**
KEK				*e*Sb		**S**	**Sg**	**13 07 31.5**	**0.0**
KEK				S		**S**	**Sg**	**13 07 32.6**	**+1.1**
DSL	**Palaion Diasel**	**0.79**	**137**	P		**P**	**Pg**	**13 07 30.1**	**-1.4**
DSL				S		**S**	**Sb**	**13 07 42.6**	**-0.4**
DSL	**Palaion Diasel**	**0.79**	**137**	*e*PG		**P**	**Pg**	**13 07 30.2**	**-1.3**
DSL				*e*SB		**S**	**Sg**	**13 07 42.2**	**+0.4**
DSL	**Palaion Diasel**	**0.79**	**137**	*e*Pg		**P**	**Pg**	**13 07 30.2**	**-1.3**
DSL				*e*Sb		**S**	**Sg**	**13 07 42.2**	**+0.4**
NEST	**Nestorio**	**0.85**	**35**	P		**P**	**Pg**	**13 07 31.6**	**-1.2**
NEST	**Nestorio**	**0.85**	**35**	*e*PB		**P**	**Pg**	**13 07 31.6**	**-1.2**
NEST	**Nestorio**	**0.85**	**35**	P		**P**	**Pg**	**13 07 31.6**	**-1.2**
KZN	**Kozani**	**1.20**	**60**	P		**P**	**Pg**	**13 07 38.2**	**-1.2**
KZN	**Kozani**	**1.20**	**60**	*e*PB		**P**	**Pg**	**13 07 38.1**	**-1.3**
KZN	**Kozani**	**1.20**	**60**	P		**P**	**Pg**	**13 07 38.2**	**-1.2**
THL	**Klokotos Trika**	**1.25**	**96**	P		**P**	**Pg**	**13 07 39.2**	**-1.1**
THL				S		**S**	**Sb**	**13 07 56.9**	**+0.7**
THL	**Klokotos Trika**	**1.25**	**96**	*e*PB		**P**	**Pg**	**13 07 39.0**	**-1.3**
THL				*e*SB		**S**	**Sb**	**13 07 56.7**	**+0.5**
THL	**Klokotos Trika**	**1.25**	**96**	P		**P**	**Pg**	**13 07 39.2**	**-1.1**
THL				*e*Sb		**S**	**Sb**	**13 07 56.7**	**+0.5**
PDO	**Prodromos**	**1.27**	**151**	P		**P**	**Pg**	**13 07 39.6**	**-1.0**
PDO	**Prodromos**	**1.27**	**151**	*e*PB		**P**	**Pg**	**13 07 39.8**	**-0.8**
PDO	**Prodromos**	**1.27**	**151**	P		**P**	**Pg**	**13 07 39.6**	**-1.0**
FNA	**Florina**	**1.30**	**35**	P		**P**	**Pg**	**13 07 39.8**	**-1.5**
FNA				S		**S**	**Sn**	**13 07 59.9**	**+1.8**
FNA	**Florina**	**1.30**	**35**	*e*PB		**P**	**Pg**	**13 07 39.7**	**-1.5**
FNA	**Florina**	**1.30**	**35**	P		**P**	**Pg**	**13 07 39.8**	**-1.5**
EVR	**Evrytania**	**1.35**	**126**	*e*PB		**P**	**Pg**	**13 07 41.6**	**-0.6**
EVR	**Evrytania**	**1.35**	**126**	*e*Pb		**P**	**Pg**	**13 07 41.6**	**-0.6**
OHR	**Ohrid**	**1.43**	**12**	*i* Pg		**P**	**Pb**	**13 07 43.2**	**+0.2**
OHR				*i* Sg		**S**	**Sn**	**13 08 03.6**	**+2.4**
OHR				*e*Lg		Lg		13 08 11.4	
	comp=E,82nm,0.5s								
OHR				*e*Lg		Lg		13 08 11.7	
	comp=N,75nm,0.7s								
OHR	**Ohrid**	**1.43**	**12**	*i* Pg		**P**	**Pb**	**13 07 43.2**	**+0.2**
OHR				*i* Sg		**S**	**Sn**	**13 08 03.6**	**+2.4**
OHR				*e*Lg		Lg		13 08 11.7	
	comp=N,75nm,0.7s								
MAKR	**Makrakomi, Fth**	**1.51**	**117**	P		**P**	**Pn**	**13 07 43.6**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.51**	**117**	P		**P**	**Pn**	**13 07 43.6**	**+0.1**
VLS	**Valsamata**	**1.54**	**175**	*e*PG		**P**	**Pn**	**13 07 44.5**	**+0.6**
VLS	**Valsamata**	**1.54**	**175**	*e*Pg		**P**	**Pn**	**13 07 44.5**	**+0.6**
KFL	**Anninata**	**1.63**	**169**	P		**P**	**Pn**	**13 07 44.8**	**-0.3**
KFL				S		**S**	**Sg**	**13 08 08.2**	**-0.5**
KFL	**Anninata**	**1.63**	**169**	P		**P**	**Pn**	**13 07 44.8**	**-0.3**
KFL				S		**S**	**Sg**	**13 08 08.2**	**-0.5**
AGG	**Agios Georgios**	**1.65**	**114**	P		**P**	**Pn**	**13 07 45.7**	**+0.3**
AGG	**Agios Georgios**	**1.65**	**114**	*e*PG		**P**	**Pn**	**13 07 46.0**	**+0.6**
AGG	**Agios Georgios**	**1.65**	**114**	P		**P**	**Pn**	**13 07 45.7**	**+0.3**
AGG	**Agios Georgios**	**1.65**	**114**	*e*Pg		**P**	**Pn**	**13 07 46.0**	**+0.6**
LIT	**Litokhoron**	**1.65**	**76**	P		**P**	**Pn**	**13 07 46.0**	**+0.6**
LIT				S		**S**	**Sn**	**13 08 07.6**	**+0.9**
LIT	**Litokhoron**	**1.65**	**76**	P		**P**	**Pn**	**13 07 46.0**	**+0.6**
LIT				S		**S**	**Sn**	**13 08 07.6**	**+0.9**
EFP	**Efpalio**	**1.74**	**137**	P		**P**	**Pn**	**13 07 47.0**	**+0.7**
EFP	**Efpalio**	**1.74**	**137**	*e*PG		**P**	**Pn**	**13 07 47.9**	**-0.4**
EFP	**Efpalio**	**1.74**	**137**	P		**P**	**Pn**	**13 07 47.3**	**+0.7**
EFP	**Efpalio**	**1.74**	**137**	*e*Pg		**P**	**Pb**	**13 07 47.9**	**-0.4**
GRG	**Griva**	**1.97**	**50**	*e*PN		**P**	**Pn**	**13 07 50.7**	**+0.9**
GRG	**Griva**	**1.97**	**50**	*e*Pn		**P**	**Pn**	**13 07 50.7**	**+0.9**
PHP	**Peshkopia**	**1.97**	**1**	P		**P**	**Pn**	**13 07 50.2**	**+0.4**
PHP	**Peshkopia**	**1.97**	**1**	P		**P**	**Pn**	**13 07 50.2**	**+0.4**
DRO	**Drossia**	**2.04**	**150**	P		**P**	**Pn**	**13 07 51.5**	**+0.8**
DRO	**Drossia**	**2.04

BUC 26 13:09:32.0±0.6, 46°12'N×22°05'E, h4km, MD2.3/3, 6C-6D, Error ellipse: s-maj=5.7km s-min=4.3km az=328.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIRR	**Siria**	**0.31**	**299**	⇓*i*P	Pg	13 09 38.3	+0.3
SIRR	**Siria**	**0.31**	**299**	S	Sg	13 09 43.5	+1.4
SIRR	**Siria**	**0.31**	**299**	⇓*i*P	Pg	13 09 38.3	+0.3
SIRR				*i*S	Sg	13 09 43.5	+1.4
BZS	**Buzias**	**0.58**	**211**	⇑*i*P	Pg	13 09 43.6	+0.3
BZS	**Buzias**	**0.58**	**211**	S	Sb	13 09 52.9	-0.6
BZS	**Buzias**	**0.58**	**211**	⇑*i*P	Pg	13 09 43.6	+0.3
BZS				*i*S	Sb	13 09 52.9	-0.6
BZS	**Buzias**	**0.58**	**211**	S	Sb	13 09 52.9	-0.6
DRGR		**0.81**	**34**	⇓*i*P	Pb	13 09 48.7	-0.2
DRGR		**0.81**	**34**	⇓*i*P	Pb	13 09 48.7	-0.2
DRGR				*i*S	Sb	13 09 59.9	-0.4
GZR	**Gura Zlata**	**0.89**	**145**	⇑*i*P	Pn	13 09 50.8	-0.6
GZR	**Gura Zlata**	**0.89**	**145**	⇑*i*P	Pn	13 09 50.8	-0.6
GZR				*i*S	Sb	13 10 02.9	+0.6
LOT	**Lotru**	**1.38**	**118**	⇓*i*P	Pg	13 09 58.8	+0.2
LOT	**Lotru**	**1.38**	**118**	⇓*i*P	Pg	13 09 58.8	+0.2
LOT				*i*S	Sn	13 10 17.0	0.0
VOIR		**2.21**	**107**	⇑*i*P	Pn	13 10 10.2	+0.6
VOIR		**2.21**	**107**	⇑*i*P	Pn	13 10 10.2	+0.6
VOIR				*i*S	Sn	13 10 38.4	+1.0

MAN 26 13:17:11, 9°42N×125°43E, h5km, mb4.6, ML3.5, MS3.4, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.37**	**9**	⇑*i*P	Pb	13 17 20.1	0.0
SCPH				*i*S	Sb	13 17 25.3	-0.8
BUTP	**Butuan**	**0.48**	**157**	*e*P	Pb	13 17 21.4	-0.6
BUTP				*e*S	Sb	13 17 29.9	+0.5
CGP	**Cagayan de Oro**	**1.20**	**217**	*e*P	Pb	13 17 34.4	+0.1
CGP				*i*S	Sn	13 17 51.8	+0.6
BIPH	**Bislig**	**1.53**	**143**	⇓*e*P	Pn	13 17 37.9	-1.2
BIPH				*i*S	Sn	13 17 58.4	-0.9
BUKP	**Musuan**	**1.57**	**194**	*e*P	Pb	13 17 40.1	-0.5
TBP	**Tagbilaran**	**1.57**	**280**	*e*P	Pn	13 17 40.0	+0.4
TBP				*i*S	Sg	13 18 01.8	+0.2
PLP	**Palo**	**1.79**	**346**	⇑*e*P	Pn	13 17 42.8	+0.1
PLP				*e*S	Sg	13 18 09.0	+0.2
CTBH	**Cotabato--PC H**	**2.48**	**208**	⇑*i*P	Pn	13 17 53.6	+1.6
PAGZ	**Pagadian**	**2.56**	**233**	*e*P	Pn	13 17 55.0	+1.9

*IDC **26** 13:59:52.6±6.2, 10°07S×121°86E, h76km±53km, mb3.4/1, mb1 3.2/4, mb1mx3.0/21, mbtmp3.3/4, ML3.1/3, Error ellipse: s-maj=217.5km s-min=19.9km az=57.0*
*DJA **26** 13:59:52.5±0.9, 10°S±6°×12°1E±°, h29km±11km, M3.4/7, MLv3.4/7*

ISC 26 13:59:48.8±1.0, 10°41S±0°08×121°38E±0°07, h35km, n11, σ2.9/17/13, Savu Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BASI	**Baing, Sumba**	**0.82**	**283**	P	**Pn**	**14 00 03.3**	**-0.5**
WSI	**Waingapu**	**1.30**	**304**	P	**Pn**	**14 00 12.5**	**+2.1**
WSI				S	**Sn**	**14 00 28.2**	**+1.6**
MMRI	**Maumere**	**1.95**	**26**	P	Pn	14 00 15.9	-3.6
WBSI	**Waikabubak, Su**	**2.11**	**291**	P	Pn	14 00 25.8	+4.2
WBSI				S	**Sn**	**14 00 49.5**	**+2.9**
SOEI	**Soe**	**2.91**	**77**	P	**Pn**	**14 00 35.5**	**+2.7**
BSSI	**Bau Bau, Buton**	**4.33**	**348**	P	**Pn**	**14 00 51.2**	**-1.0**
BKSI	**Bulukumba**	**5.21**	**346**	P	**Pn**	**14 01 01.8**	**-2.4**
KAPI	**Kappang**	**5.60**	**343**	P	**Pn**	**14 01 11.1**	**+1.5**
	1.0nm,0.3s,baz=154,slow=10,SNR=4.1						
KAPI				S	**Sn**	**14 02 13.0**	**+0.3**
	baz=81,slow=19,SNR=1.8						
WRA	**Warramunga Arr**	**15.68**	**129**	P	**Pn**	**14 03 26.2**	**-1.0**
	0.1nm,0.3s,baz=304,slow=14,SNR=5.6						
WRA				S	Sn	14 06 10.1	-10
	0.1nm,0.3s,baz=310,slow=22,SNR=5.8						
ASAR	**Alice Springs**	**17.79**	**139**	P	**P**	**14 03 55.4**	**+1.1**
	0.1nm,0.3s,baz=321,slow=12,SNR=9.6						
ASAR				S	**Sn**	**14 07 07.8**	**-3.3**
	0.1nm,0.3s,baz=312,slow=21,SNR=4.9						
MKAR	**Makanchi Array**	**66.79**	**332**	P	**P**	**14 10 35.5**	**-1.3**
	0.4nm,0.5s,baz=144,slow=7.5,SNR=7.0						

*IDC **26** 14:12:38.1±0.8, 9°98S×121°35E, h0km, mb3.9/9, mb1 4.0/11, mb1mx3.8/34, mbtmp3.9/11, ML3.5/2, MS2.9/2, Ms1 2.9/2, ms1mx2.6/25, Error ellipse: s-maj=59.2km s-min=16.2km az=63.0*
*ISCJB **26** 14:12:41.3±0.4, 10°22S±0°04×121°54E±0°04, h33km, mb3.9/10, MS3.0/1, Error ellipse: s-maj=6.0km s-min=4.8km az=24.6*
*NEIC **26** 14:12:41.7±3.4, 10°14S×121°31E, h25km±26km, mb4.1/1, Error ellipse: s-maj=15.7km s-min=8.2km az=85.0*
*DJA **26** 14:12:43.7±0.5, 10°S±4°×12°1E±°, h10km, M3.9/6, MLv3.9/6*

ISC 26 14:12:43.3±0.6, 10°16S±0°06×121°47E±0°05, h35km, n34, σ1.9/66/31, mb3.9/10, Savu Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BASI	**Baing, Sumba**	**0.88**	**266**	P	**Pn**	**14 12 57.6**	**-1.6**
BASI				S	**Sn**	**14 13 09.9**	**-0.9**
WSI	**Waingapu**	**1.25**	**293**	P	**Pn**	**14 13 04.6**	**+0.3**
WSI				S	**Sn**	**14 13 21.7**	**+1.7**
MMRI	**Maumere**	**1.69**	**27**	P	**Pn**	**14 13 10.5**	**+0.1**
MMRI				S	**Sn**	**14 13 30.8**	**-0.1**
MMRI	**Maumere**	**1.69**	**27**	*e*Pn	**Pn**	**14 13 09.6**	**-0.9**
WBSI	**Waikabubak, Su**	**2.11**	**284**	P	**Pn**	**14 13 18.5**	**+2.3**
WBSI				S	**Sn**	**14 13 43.7**	**+2.4**
SOEI	**Soe**	**2.79**	**82**	P	Pn	14 13 29.4	+3.8
SOEI	**Soe**	**2.79**	**82**	*e*Pn	**Pn**	**14 13 28.4**	**+2.7**
BSSI	**Bau Bau, Buton**	**4.11**	**346**	P	**Pn**	**14 13 45.0**	**+1.4**
BKSI	**Bulukumba**	**4.99**	**344**	P	**Pn**	**14 13 58.5**	**+2.7**
KAPI	**Kappang**	**5.39**	**341**	Pn	Pn	14 13 55.8	-5.5
	1.4nm,0.3s,baz=86,slow=13,SNR=2.7						
KAPI				LR	LR	14 16 10.9	
	comp=Z,84nm,20.6s,baz=228,slow=41						
KAPI	**Kappang**	**5.39**	**341**	*e*Pn	Pn	14 13 55.9	-5.4
FITZ	**Fitzroy Crossi**	**8.87**	**153**	*e*Pn	**Pn**	**14 14 48.8**	**-0.3**
LUWI	**Luwuk**	**9.15**	**8**	Pn	Pn	**14 14 54.5**	**+1.6**
MBWA	**Marble Bar**	**11.06**	**188**	*e*Pn	**Pn**	**14 15 19.0**	**-0.2**
FAKI	**Fak Fak**	**12.90**	**57**	P	**Pn**	**14 15 44.1**	**-0.1**
WRA	**Warramunga Arr**	**15.77**	**130**	Pn	**Pn**	**14 16 19.8**	**-3.2**
	0.1nm,0.3s,baz=302,slow=14,SNR=11						
WRA				S	Sn	14 19 04.5	-12
	0.3nm,0.3s,baz=302,slow=28,SNR=8.4						
WRAB	**Tennant Creek**	**15.78**	**130**	*e*P	**Pn**	**14 16 20.7**	**-2.3**
	1.9nm,0.6s						
AS31	**Alice Springs**	**17.93**	**140**	*e*P	**P**	**14 16 50.5**	**+0.2**
ASAR	**Alice Springs**	**17.93**	**140**	P	**Pn**	**14 16 49.8**	**-0.2**
	0.2nm,0.3s,baz=320,slow=12,SNR=30						
ASAR				S	Sn	14 19 58.6	-10
	0.2nm,0.3s,baz=314,slow=22,SNR=8.8						
COEN	**Coen**	**21.56**	**102**	*e*P	**P**	**14 17 31.4**	**+1.4**
STKA	**Stephens Creek**	**28.53**	**142**	P	**P**	**14 18 37.7**	**+1.9**
	1.9nm,0.6s,baz=318,slow=8.4,SNR=11						
CMAR	**Chiang Mai Arr**	**36.09**	**322**	P	**P**	**14 19 39.8**	**-2.3**
	0.9nm,0.7s,baz=144,slow=6.3,SNR=3.7						
JCJ	**Chichijima**	**42.14**	**28**	LR	LR	14 37 25.7	
	comp=Z,23nm,21.1s,baz=88,slow=35						
H08S2	**Diego Garcia H**	**48.41**	**269**	T	T	15 13 20.5	
	baz=101						
H08S3	**Diego Garcia H**	**48.43**	**269**	T	T	15 13 17.1	
	baz=101						
H08S1	**Diego Garcia H**	**48.43**	**269**	T	T	15 13 19.4	
	baz=101						
SONM	**Songino Array**	**59.27**	**348**	P	**P**	**14 22 40.7**	**-0.8**
	0.4nm,0.6s,baz=165,slow=7.1,SNR=3.0						
MKAR	**Makanchi Array**	**66.61**	**332**	P	**P**	**14 23 29.9**	**-0.3**
	1.3nm,0.6s,baz=143,slow=7.4,SNR=18						
VNDA	**Vanda**	**70.48**	**171**	P	**P**	**14 23 55.7**	**+1.8**
	0.5nm,0.6s,baz=329,slow=6.5,SNR=4.5						
ZALV	**Zalesovo Beam**	**71.00**	**338**	P	**P**	**14 23 55.4**	**-2.0**
	1.4nm,0.5s,baz=123,slow=5.5,SNR=7.2						
KURBB	**Kurchatov Arra**	**71.09**	**333**	P	**P**	**14 23 56.1**	**-1.9**
	0.8nm,0.8s,baz=143,slow=5.3,SNR=8.9						
KURK	**Kurchatov**	**71.12**	**333**	*e*P	**P**	**14 23 57.1**	**-1.0**
	3.1nm,1.0s						
BVAR	**Borovoye Array**	**76.47**	**331**	P	**P**	**14 24 28.8**	**-0.6**
	0.6nm,0.6s,baz=116,slow=6.7,SNR=3.1						
SEY	**Seymchan**	**76.67**	**14**	P	**P**	**14 24 30.4**	**0.0**
	1.2nm,0.6s,baz=140,slow=2.3,SNR=6.8						

JMA 26 14:15:28.5±0.1, 25°83N×130°11E, h41km, M3.5, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMZ	**Minamidaito 2**	**1.00**	**90**	P	Pn	14 15 46.5	+0.4
JMZ				S	Sn	14 15 58.4	-0.6
JOW	**Kunigami**	**1.93**	**302**	P	Pn	14 16 00.2	+1.4
JOW				S	Sn	14 16 21.1	-0.7
JNTH	**Nagotoyohara**	**2.00**	**291**	P	Pn	14 16 00.7	+0.9
JNTH				S	Sn	14 16 22.9	-0.6
JOKE	**Okinoerabujima**	**2.06**	**318**	P	Pn	14 16 02.3	+1.7
JOKE				S	Sn	14 16 25.7	+0.7
JJT2	**Tamagusuku 2**	**2.15**	**279**	P	Pn	14 16 03.3	+1.5
JJT2				S	Sn	14 16 27.4	+0.2
JTK	**Tokunoshima**	**2.21**	**332**	P	Pn	14 16 04.6	+1.9
JTK				S	Sn	14 16 28.7	0.0
JIH	**Iheya**	**2.27**	**302**	P	Pn	14 16 05.0	+1.6
JIH				S	Sn	14 16 30.2	+0.1
JAMN	**Amaminishikomi**	**2.54**	**341**	P	Pn	14 16 09.1	+1.8
JAMN				S	Sn	14 16 36.4	-0.6
JAM	**Amami Oshima**	**2.61**	**350**	P	Pn	14 16 10.3	+2.1
JAM				S	Sn	14 16 38.5	-0.1
JAGN	**Aguni-jima**	**2.69**	**287**	P	Pn	14 16 10.5	+1.3
JAGN				S	Sn	14 16 40.5	0.0
JKE	**Kume jima 2**	**3.03**	**280**	P	Pn	14 16 14.4	+0.4
JKE				S	Sn	14 16 47.1	-1.9
JOGS	**Gusukube**	**4.39**	**257**	S	Sn	14 17 22.4	-0.1

*MOS **26** 14:22:17.8±1.0, 36°63N×29°86E, h10km, mb4.6/24, Error ellipse: s-maj=6.2km s-min=4.1km az=110.3*
*IDC **26** 14:22:17.4±0.6, 36°61N×29°85E, h0km, mb4.3/24, mb1 4.4/34, mb1mx4.3/42, mbtmp4.3/34, ML4.1/7, MS3.2/5, Ms1 3.2/5, ms1mx2.8/32, Error ellipse: s-maj=13.5km s-min=10.6km az=178.0*
*ATH **26** 14:22:18.0, 36°75N×29°92E, h14km, MD4.0/11, ML4.1*
*BJI **26** 14:22:18.2, 36°70N×30°00E, h10km, mb4.6/12, mB4.9/8, Ms4.5/3, Ms7 4.3/1*
*ISK **26** 14:22:19.2, 36°70N×29°78E, h6km, ML4.3*
*NEIC **26** 14:22:19.8±0.3, 36°67N×29°95E, h10km, mb4.4/24, ML4.1(THE), ML4.3(ISK), Error ellipse: s-maj=4.9km s-min=3.4km az=183.0*
*NIC **26** 14:22:19.6, 36°89N×29°66E, h66km, mb4.4, ML4.1*
*CSEM **26** 14:22:20.6±0.1, 36°67N×29°87E, h10km, mb4.5/18, Ms3.0, Error ellipse: s-maj=2.8km s-min=2.1km az=9.0*
*DDA **26** 14:22:21.3, 36°73N×29°69E, h21km, ML4.5*
*THE **26** 14:22:23.0, 36°71N×29°92E, h19km±3km, ML4.1/1, Error ellipse: s-maj=3.0km s-min=0.8km az=99.0*

ISC 26 14:22:20.1±0.4, 36°63N±0°02×29°85E±0°01, h14km±2km, h14km:pP-P, n706, σ1.9&46/750, mb4.5/47, 25C-11D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELL	**Elmali**	**0.13**	**23**	PG	**Pg**	**14 22 21.7**	**-2.0**
ELL				*e*SG	**Sg**	**14 22 24.2**	**-2.0**
ELL	**Elmali**	**0.13**	**23**	*i* Pg	**Pg**	**14 22 21.7**	**-2.0**
ELL				*e*Sg	**Sg**	**14 22 24.2**	**-2.0**
AKAS	**Kas**	**0.44**	**206**	*i* P	**Pg**	**14 22 28.8**	**-0.2**
AKAS				S	**Sn**	**14 22 39.4**	**-0.6**
AKAS	**Kas**	**0.44**	**206**	*i* P	**Pg**	**14 22 28.8**	**-0.2**
AKAS				*i* S	**Sn**	**14 22 39.4**	**-0.6**
KSL	**Kastellorizon**	**0.53**	**204**	*e*PB	**Pg**	**14 22 30.6**	**+0.1**
KORT	**Korkueli**	**0.55**	**48**	*i* P	**Pg**	**14 22 29.4**	**-1.5**
KORT				*i* S	**Sn**	**14 22 41.1**	**-1.4**
KORT	**Korkueli**	**0.55**	**48**	*i* P	**Pg**	**14 22 29.4**	**-1.5**
KORT				*i* S	**Sn**	**14 22 41.1**	**-1.4**
FETY	**Fethiye**	**0.61**	**270**	PG	**Pg**	**14 22 30.9**	**-1.2**
FETY	**Fethiye**	**0.61**	**270**	*i* Pg	**Pg**	**14 22 30.9**	**-1.2**
GOLH	**Golhisar**	**0.65**	**339**	*i* P	**Pg**	**14 22 30.7**	**-2.0**
GOLH				*i* S	**Sn**	**14 22 43.9**	**-1.0**
GOLH	**Golhisar**	**0.65**	**339**	*i* P	**Pg**	**14 22 30.7**	**-2.0**
GOLH				*i* S	**Sn**	**14 22 43.9**	**-1.0**
ANTB	**Antalya**	**0.70**	**67**	PG	**Pg**	**14 22 33.5**	**-0.3**
ANTB	**Antalya**	**0.70**	**67**	*i* Pg	**Pg**	**14 22 33.5**	**-0.3**
DALY	**Dalyan (Mu¨la**	**0.98**	**281**	PG	**Pb**	**14 22 37.1**	**-1.7**
BCK	**Bucak**	**1.02**	**35**	PG	**Pb**	**14 22 39.0**	**-0.5**
BCK	**Bucak**	**1.02**	**35**	*i* Pg	**Pb**	**14 22 39.0**	**-0.5**
TURN	**Turunc**	**1.03**	**284**	*i* P	**Pn**	**14 22 42.5**	**+2.5**
TURN	**Turunc**	**1.03**	**284**	*i* P	**Pn**	**14 22 42.5**	**+2.5**
TURN				*i* S	Sn	14 23 03.4	+9.3
DNZL	**Cakiroluk**	**1.23**	**329**	*i* P	**Pn**	**14 22 40.6**	**-2.4**
DNZL				*i* S	**Sg**	**14 23 00.4**	**+0.4**
DNZL	**Cakiroluk**	**1.23**	**329**	*i* P	**Pn**	**14 22 40.6**	**-2.4**
DNZL				*i* S	**Sg**	**14 23 00.4**	**+0.4**
DENT	**Denizli**	**1.29**	**330**	*e*PN	**Pn**	**14 22 42.8**	**-0.9**
DENT	**Denizli**	**1.29**	**330**	*e*Pn	**Pn**	**14 22 42.8**	**-0.9**
ISP	**Isparta**	**1.30**	**24**	*e*PN	**Pn**	**14 22 43.9**	**-0.1**
ISP	**Isparta**	**1.30**	**24**	P	**Pn**	**14 22 43.5**	**-0.4**
ISP				S	**Sb**	**14 22 59.1**	**-1.9**
ISP	**Isparta**	**1.30**	**24**	*e*P	**Pb**	**14 22 44.1**	**-0.3**
ISP				S	**Sb**	**14 22 59.1**	**-1.9**
ISP	**Isparta**	**1.30**	**24**	⇑*i*P	**Pg**	**14 22 46.2**	**+1.0**
ISP				S	**Sg**	**14 23 05.3**	**+3.0**
ISP	**Isparta**	**1.30**	**24**	*e*P	**Pb**	**14 22 44.1**	**-0.3**
ISP				S	**Sb**	**14 22 59.1**	**-1.9**
ISP	**Isparta**	**1.30**	**24**	*e*Pn	**Pb**	**14 22 44.1**	**-0.3**
ISP				S	**Sb**	**14 22 59.1**	**-1.9**
ISP				*e*Sg	**Sg**	**14 23 05.2**	**+3.0**
YER	**Yerkesik**	**1.35**	**292**	*e*PN	**Pn**	**14 22 43.4**	**-1.1**
YER	**Yerkesik**	**1.35**	**292**	*e*Pn	**Pn**	**14 22 43.4**	**-1.1**
ARG	**Arkhangelos**	**1.45**	**254**	P	**Pb**	**14 22 47.3**	**+0.5**
ARG				S	**Sg**	**14 23 06.8**	**0.0**
ARG	**Arkhangelos**	**1.45**	**254**	*e*PB	**Pb**	**14 22 47.0**	**+0.2**
ARG				*e*SB	**Sg**	**14 23 08.2**	**+1.4**
ARG	**Arkhangelos**	**1.45**	**254**	P	**Pb**	**14 22 47.3**	**+0.5**
ARG	**Arkhangelos**	**1.45**	**254**	*e*Pb	**Pb**	**14 22 47.0**	**+0.2**
ARG	**Arkhangelos**	**1.45**	**254**	P	**Pb**	**14 22 47.3**	**+0.5**
ARG				S	**Sg**	**14 23 06.8**	**0.0**
ARG				*e*Sb	**Sg**	**14 23 08.2**	**+1.4**
ARG	**Arkhangelos**	**1.45**	**254**	P	**Pb**	**14 22 47.3**	**+0.5**
KHL	**Karahalli**	**1.71**	**351**	*e*PN	**Pn**	**14 22 49.9**	**+0.4**
KHL	**Karahalli**	**1.71**	**351**	*e*Pn	**Pn**	**14 22 49.9**	**+0.4**
DAT	**Datca**	**1.83**	**274**	*e*PN	**Pn**	**14 22 52.0**	**+0.9**
DAT	**Datca**	**1.83**	**274**	*e*Pn	**Pn**	**14 22 52.0**	**+0.9**
BDRM	**Kayabasi**	**1.98**	**283**	*i* P	**Pn**	**14 22 54.3**	**+1.3**
BDRM				*i* S	**Sb**	**14 23 20.3**	**+0.1**
BDRM	**Kayabasi**	**1.98**	**283**	*i* P	**Pn**	**14 22 54.3**	**+1.3**
BDRM				*i* S	**Sb**	**14 23 20.3**	**+0.1**
SHUT	**Suhut-Afyon**	**2.00**	**16**	*e*PN	**Pn**	**14 22 54.3**	**+0.8**
SHUT	**Suhut-Afyon**	**2.00**	**16**	*e*Pn	**Pn**	**14 22 54.3**	**+0.8**
GAZI	**Gazipasa**	**2.03**	**101**	*i* P	**Pn**	**14 22 54.9**	**+1.1**
GAZI				*i* S	**Sg**	**14 23 24.6**	**-0.8**
GAZI	**Gazipasa**	**2.03**	**101**	*i* P	**Pn**	**14 22 54.9**	**+1.1**
GAZI				*i* S	**Sg**	**14 23 24.6**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**2.04**	**311**	*e*PN	**Pn**	**14 22 54.4**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**2.04**	**311**	*e*Pn	**Pn**	**14 22 54.4**	**+0.4**
BODT	**Bodrum**	**2.08**	**283**	*e*PN	**Pn**	**14 22 55.2**	**+0.7**
BODT	**Bodrum**	**2.08**	**283**	*e*Pn	**Pn**	**14 22 55.2**	**+0.7**
KULA	**Kula-Manisa**	**2.10**	**334**	*e*PN	**Pn**	**14 22 55.3**	**+0.4**
KULA	**Kula-Manisa**	**2.10**	**334**	P	**Pn**	**14 22 55.2**	**+0.4**
KULA	**Kula-Manisa**	**2.10**	**334**	*e*Pn	**Pn**	**14 22 55.3**	**+0.4**
KULA	**Kula-Manisa**	**2.10**	**334**	P	**Pn**	**14 22 55.2**	**+0.4**
BOLV	**Bolvadin**	**2.26**	**22**	*i* P	**Pn**	**14 22 58.4**	**+1.3**
BOLV				*i* S	**Sn**	**14 23 26.0**	**+1.2**
BOLV	**Bolvadin**	**2.26**	**22**	*i* P	**Pn**	**14 22 58.4**	**+1.3**
BOLV				*i* S	**Sn**	**14 23 26.0**	**+1.2**
GCAM	**G?zelcaml?**	**2.34**	**298**	*i* P	**Pn**	**14 22 58.3**	**+0.2**
GCAM	**G?zelcaml?**	**2.34**	**298**	*i* P	**Pn**	**14 22 58.3**	**+0.2**
GCAM				*i* S	**Sg**	**14 23 34.8**	**-0.6**
KONT	**Konya--Tatoy**	**2.40**	**56**	*e*PN	**Pn**	**14 23 00.8**	**+1.9**
KONT	**Konya--Tatoy**	**2.40**	**56**	*e*Pn	**Pn**	**14 23 00.8**	**+1.9**
ALT	**Altintas**	**2.43**	**5**	*e*PN	**Pn**	**14 22 59.7**	**+0.3**
ALT	**Altintas**	**2.43**	**5**	P	**Pn**	**14 22 59.6**	**+0.2**
ALT	**Altintas**	**2.43**	**5**	*e*Pn	**Pn**	**14 22 59.7**	**+0.3**
ALT	**Altintas**	**2.43**	**5**	P	**Pn**	**14 22 59.6**	**+0.2**
KARP	**Karpathos**	**2.43**	**244**	P	**Pn**	**14 23 01.1**	**+1.8**
KARP				S	**Sb**	**14 23 31.7**	**-1.6**
KARP	**Karpathos**	**2.43**	**244**	*e*PN	**Pn**	**14 23 01.2**	**+1.9**
KARP				*e*SN	**Sb**	**14 23 32.7**	**-0.6**
KARP	**Karpathos**	**2.43**	**244**	P	**Pn**	**14 23 01.1**	**+1.8**
KARP				S	**Sb**	**14 23 31.7**	**-1.6**
KARP				*e*Sn	**Sb**	**14 23 32.7**	**-0.6**
KARP	**Karpathos**	**2.43**	**244**	P	**Pn**	**14 23 01.1**	**+1.8**
KARP				S	**Sb**	**14 23 31.7**	**-1.6**
ERMK	**Ermenek**	**2.47**	**89**	*i* P	**Pb**	**14 23 04.1**	**-0.2**
ERMK	**Ermenek**	**2.47**	**89**	*i* P	**Pb**	**14 23 04.1**	**-0.2**
ERMK				*i* S	**Sg**	**14 23 37.6**	**-1.8**
GDZ	**Gediz**	**2.47**	**353**	*i* P	**Pn**	**14 23 00.1**	**+0.1**
GDZ	**Gediz**	**2.47**	**353**	*i* P	**Pn**	**14 23 00.1**	**+0.1**
GDZ				*i* S	**Sg**	**14 23 39.3**	**-0.2**
LADK	**Ladik-KONYA**	**2.54**	**51**	*e*PN	**Pn**	**14 23 02.3**	**+1.3**
LADK	**Ladik-KONYA**	**2.54**	**51**	*e*Pn	**Pn**	**14 23 02.3**	**+1.3**
DEMI	**Demirci**	**2.57**	**340**	*i* P	**Pn**	**14 23 01.6**	**+0.3**
DEMI				*i* S	**Sn**	**14 23 32.8**	**+0.5**
DEMI	**Demirci**	**2.57**	**340**	*i* P	**Pn**	**14 23 01.6**	**+0.3**
DEMI				*i* S	**Sn**	**14 23 32.8**	**+0.5**
AKMC	**Akamas**	**2.58**	**128**	P	**Pn**	**14 23 03.2**	**+1.9**
	baz=311						
AKMC	**Akamas**	**2.58**	**128**	P	**Pn**	**14 23 02.3**	**+1.9**
KDHN	**Kadinhani**	**2.61**	**43**	*i* P	**Pn**	**14 23 03.7**	**+1.8**
KDHN				*i* S	**Sn**	**14 23 34.3**	**+0.9**
KDHN	**Kadinhani**	**2.61**	**43**	*i* P	**Pn**	**14 23 03.7**	**+1.8**
KDHN				*i* S	**Sn**	**14 23 34.3**	**+0.9**
SMG	**Samos**	**2.63**	**295**	P	**Pn**	**14 23 02.5**	**+0.4**
SMG	**Samos**	**2.63**	**295**	*e*PB	**Pn**	**14 23 02.6**	**+0.4**
SMG	**Samos**	**2.63**	**295**	P	**Pn**	**14 23 02.5**	**+0.4**
SMG	**Samos**	**2.63**	**295**	P	**Pn**	**14 23 02.5**	**+0.4**
ALFC	**Alevga**	**2.68**	**123**	P	**Pn**	**14 23 04.6**	**+1.9**
	baz=306						
ALFC				S	**Sb**	**14 23 39.8**	**-0.6**
ALFC	**Alevga**	**2.68**	**123**	P	**Pn**	**14 23 04.6**	**+1.9**
ALFC				S	**Sb**	**14 23 39.8**	**-0.6**
PPCY	**Paphos**	**2.68**	**130**	P	**Pn**	**14 23 04.9**	**+2.2**
	baz=313						
PPCY	**Paphos**	**2.68**	**130**	P	**Pn**	**14 23 04.9**	**+2.2**
IZM	**Izmir**	**2.71**	**311**	*e*PN	**Pn**	**14 23 03.6**	**+0.5**
IZM	**Izmir**	**2.71**	**311**	*e*Pn	**Pn**	**14 23 03.6**	**+0.5**
AKHS	**Akhisar**	**2.76**	**325**	*i* P	**Pn**	**14 23 04.0**	**+0.1**
AKHS				*i* S	**Sn**	**14 23 35.9**	**-1.1**
AKHS	**Akhisar**	**2.76**	**325**	*i* P	**Pn**	**14 23 04.0**	**+0.1**
AKHS				*i* S	**Sn**	**14 23 35.9**	**-1.1**
AKS	**Akhisar**	**2.76**	**325**	*e*PN	**Pn**	**14 23 04.2**	**+0.3**
AKS	**Akhisar**	**2.76**	**325**	*e*Pn	**Pn**	**14 23 04.2**	**+0.3**
KIZT	**Kizilcal**	**2.76**	**35**	*e*PN	**Pn**	**14 23 05.4**	**+1.4**
KIZT	**Kizilcal**	**2.76**	**35**	*e*Pn	**Pn**	**14 23 05.4**	**+1.4**
TVSB	**Tavsanli**	**2.83**	**354**	*e*PN	**Pn**	**14 23 05.2**	**+0.3**
TVSB	**Tavsanli**	**2.83**	**354**	*e*Pn	**Pn**	**14 23 05.2**	**+0.3**
BLCB	**Balcova**	**2.83**	**309**	*e*PN	**Pn**	**14 23 05.0**	**+0.2**
BLCB	**Balcova**	**2.83**	**309**	*e*Pn	**Pn**	**14 23 05.1**	**+0.2**
AKDN	**Akdeniz- K¨–br**	**2.86**	**117**	*e*PN	**Pn**	**14 23 07.7**	**+2.5**
AKDN	**Akdeniz- K¨–br**	**2.86**	**117**	*e*Pn	**Pn**	**14 23 07.7**	**+2.5**
LEF	**Lefka**	**2.90**	**121**	*e*PN	**Pn**	**14 23 06.0**	**+0.3**
LEF	**Lefka**	**2.90**	**121**	*e*Pn	**Pn**	**14 23 06.0**	**+0.3**
ESKT	**Eskisehir**	**2.99**	**15**	*e*PN	**Pn**	**14 23 07.9**	**+0.8**
ESKT	**Eskisehir**	**2.99**	**15**	*e*Pn	**Pn**	**14 23 07.9**	**+0.8**
SEYT	**Eskypehyr**	**2.99**

BTAS Taskesti 4.04 13 *i* P Pn 14 23 22.0 +0.6
NIG Nigde 4.07 67 *e*PN Pn 14 23 24.6 +2.5
NIG Nigde 4.07 67 *e*Pn Pn 14 23 24.6 +2.5
SIGR SIGRI 4.07 310 *e*PN Pn 14 23 22.5 +0.7
SIGR SIGRI 4.07 310 P Pn 14 23 22.4 +0.5
SIGR SIGRI 4.07 310 *e*PN Pn 14 23 22.4 +0.5
SIGR SIGRI 4.07 310 *e*Pn Pn 14 23 22.5 +0.7
SIGR SIGRI 4.07 310 P Pn 14 23 22.4 +0.5
KAMT Kaman 4.10 47 *e*PN Pn 14 23 24.2 +1.9
KAMT Kaman 4.10 47 *e*Pn Pn 14 23 24.2 +1.9
HRT Hereke 4.18 358 *e*PN Pn 14 23 23.6 +0.1
HRT Hereke 4.18 358 *e*Pn Pn 14 23 23.6 +0.1
KARA Karaisali 4.22 80 *e*PN Pn 14 23 26.8 +2.9
KARA Karaisali 4.22 80 *e*Pn Pn 14 23 26.8 +2.9
EZN Ezine 4.22 320 *e*PN Pn 14 23 24.5 +0.5
EZN Ezine 4.22 320 *e*Pn Pn 14 23 24.5 +0.5
IDI Anoyia 4.24 253 Pn Pn 14 23 25.1 +0.8
17nm,0.3s,baz=64,slow=16,SNR=79
IDI Sn Sn 14 24 13.9 +0.4
15nm,0.3s,baz=121,slow=5.9,SNR=6.1
IDI LR LR 14 25 12.9
comp=Z,199nm,20.1s,baz=112,slow=41
BRTR Keskin Array B 4.30 43 Pn Pn 14 23 26.6 +1.5
9.0nm,0.3s,baz=218,slow=15,SNR=133
BRTR Sn Sn 14 24 17.6 +2.6
18nm,0.3s,baz=210,slow=20,SNR=20
BR131 Keskin Array S 4.30 43 *e*Pn Pn 14 23 26.6 +1.5
MRMT Marmara Adasi 4.34 337 *e*PN Pn 14 23 26.4 +0.8
MRMT Marmara Adasi 4.34 337 *e*Pn Pn 14 23 26.4 +0.8
SIVA Sivas 4.40 250 *e*PN Pn 14 23 28.7 +2.3
SIVA Sivas 4.40 250 *e*Pn Pn 14 23 28.7 +2.3
KRTS Karatas 4.45 89 *e*PN Pn 14 23 30.4 +3.4
LPK Lapseki 4.45 328 *e*PN Pn 14 23 28.1 +1.0
LPK Lapseki 4.45 328 *e*Pn Pn 14 23 28.1 +1.0
ISK Istanbul-Kandi 4.47 352 *e*PN Pn 14 23 27.6 +0.3
ISK Istanbul-Kandi 4.47 352 P Pn 14 23 27.2 -0.1
ISK Istanbul-Kandi 4.47 352 P Pn 14 23 27.2 -0.1
ISK Istanbul-Kandi 4.47 352 P Pn 14 23 27.2 -0.1
ISK Istanbul-Kandi 4.47 352 *e*Pn Pn 14 23 27.6 +0.3
ISK Istanbul-Kandi 4.47 352 P Pn 14 23 27.2 -0.1
AVNT Avonos 4.51 60 *i* P Pn 14 23 31.8 +3.7
AVNT Avonos 4.51 60 *i* P Pn 14 23 31.8 +3.7
SILT Sile 4.52 358 *e*PN Pn 14 23 28.4 +0.4
SILT Sile 4.52 358 *e*Pn Pn 14 23 28.4 +0.4
BCAM Yenicaga 4.52 22 *i* P Pn 14 23 29.7 +1.5
BCAM Yenicaga 4.52 22 *i* P Pn 14 23 29.7 +1.5
SART Tekirdag 4.56 334 *i* P Pn 14 23 29.3 +0.7
SART Tekirdag 4.56 334 *i* P Pn 14 23 29.3 +0.7
GELI Tayfur-Gelibol 4.60 326 *e*PN Pn 14 23 30.3 +1.2
GELI Tayfur-Gelibol 4.60 326 *e*Pn Pn 14 23 30.3 +1.2
CDAG Cicekdag 4.65 49 *i* P Pn 14 23 32.2 +2.3
CDAG Cicekdag 4.65 49 *i* P Pn 14 23 32.2 +2.3
CDAG *i* S Sn 14 24 16.6 -7.2
KLYT Kilyos 4.66 353 *e*PN Pn 14 23 30.9 +1.0
KLYT Kilyos 4.66 353 *e*Pn Pn 14 23 30.9 +1.0
CTKS Kestanelik-??a 4.71 348 *e*PN Pn 14 23 31.5 +0.8
CTKS Kestanelik-??a 4.71 348 *e*Pn Pn 14 23 31.5 +0.8
GADA Gvkgeada 4.71 320 *e*PN Pn 14 23 31.7 +1.0
GADA Gvkgeada 4.71 320 *e*Pn Pn 14 23 31.7 +1.0
CEYT Ceyhan 4.75 84 *e*PN Pn 14 23 34.4 +3.2
SLVT Silivri 4.76 345 *e*PN Pn 14 23 32.5 +1.1
SLVT Silivri 4.76 345 *e*Pn Pn 14 23 32.5 +1.1
ERIK Erikli-Kesan 4.80 328 *e*PN Pn 14 23 32.8 +0.9
ERIK Erikli-Kesan 4.80 328 *e*Pn Pn 14 23 32.8 +0.9
KOZT Kozan 4.86 78 *e*PN Pn 14 23 36.2 +3.5
LIA Limnos Island 4.91 313 P Pn 14 23 34.4 +1.1
LIA Limnos Island 4.91 313 *e*PN Pn 14 23 34.4 +1.1
LIA Limnos Island 4.91 313 P Pn 14 23 34.4 +1.1
LIA Limnos Island 4.91 313 P Pn 14 23 34.4 +1.1
PTL Penteli 4.97 288 *e*PN Pn 14 23 36.0 +1.7
PTL Penteli 4.97 288 *e*Pn Pn 14 23 36.0 +1.7
CTYL Yal??k??y-??at 4.99 346 *e*PN Pn 14 23 34.9 +0.5
CTYL Yal??k??y-??at 4.99 346 *e*Pn Pn 14 23 34.9 +0.5
ENEZ Enez 5.01 326 *e*PN Pn 14 23 36.1 +1.3
ENEZ Enez 5.01 326 *e*Pn Pn 14 23 36.1 +1.3
GVD Gavdhos 5.01 251 *e*Pn Pn 14 23 36.5 +1.6
218nm,0.7s
GVD Gavdhos 5.01 251 *e*Pn Pn 14 23 36.5 +1.6
218nm,0.7s
ATH Athens Observa 5.07 287 *e*PN Pn 14 23 37.3 +1.8
ATH Athens Observa 5.07 287 *e*Pn Pn 14 23 37.3 +1.8
YAYL Yayladag 5.09 95 *i* P Pn 14 23 36.5 +0.5
YAYL *i* S Sn 14 24 35.9 +1.3
YAYL Yayladag 5.09 95 *i* P Pn 14 23 36.5 +0.5
YAYL *i* S Sn 14 24 35.9 +1.3
SMTH Samothraki Isl 5.11 320 P Pn 14 23 36.8 +0.6
SMTH Samothraki Isl 5.11 320 *e*PN Pn 14 23 36.8 +0.6
SMTH Samothraki Isl 5.11 320 P Pn 14 23 36.8 +0.6
SMTH Samothraki Isl 5.11 320 P Pn 14 23 36.8 +0.6
CORM Corum 5.16 45 *e*PN Pn 14 23 39.7 +2.7
CORM Corum 5.16 45 *e*Pn Pn 14 23 39.7 +2.7
ALN Alexandroupoli 5.19 326 *e*PN Pn 14 23 38.4 +1.2
ALN Alexandroupoli 5.19 326 P Pn 14 23 37.9 +0.7
ALN Alexandroupoli 5.19 326 P Pn 14 23 37.9 +0.7
ALN Alexandroupoli 5.19 326 P Pn 14 23 37.9 +0.7
ALN Alexandroupoli 5.19 326 *e*Pn Pn 14 23 38.4 +1.2
ALN Alexandroupoli 5.19 326 P Pn 14 23 37.9 +0.7
ANDN Andirin 5.28 78 *i* P Pn 14 23 43.1 +4.5
ANDN Andirin 5.28 78 *i* P Pn 14 23 43.1 +4.5
PHSR Pinarhisar 5.31 341 *e*PN Pn 14 23 39.7 +0.9
PHSR Pinarhisar 5.31 341 *e*Pn Pn 14 23 39.7 +0.9
ANKY Antikythira Is 5.34 264 P Pn 14 23 41.0 +1.6
ANKY Antikythira Is 5.34 264 *e*PN Pn 14 23 42.0 +2.6
ANKY Antikythira Is 5.34 264 P Pn 14 23 41.0 +1.6
ANKY Antikythira Is 5.34 264 *e*Pn Pn 14 23 42.0 +2.6
ANKY Antikythira Is 5.34 264 P Pn 14 23 41.0 +1.6
AOS Alonnisos 5.36 300 *e*PN Pn 14 23 41.0 +1.5
AOS Alonnisos 5.36 300 P Pn 14 23 40.8 +1.3
AOS Alonnisos 5.36 300 P Pn 14 23 40.8 +1.3
AOS Alonnisos 5.36 300 P Pn 14 23 40.8 +1.3
DID Didima 5.36 281 P Pn 14 23 41.4 +1.8
DID Didima 5.36 281 *e*PN Pn 14 23 41.1 +1.5
DID Didima 5.36 281 *e*Pn Pn 14 23 41.1 +1.5
DID Didima 5.36 281 P Pn 14 23 41.4 +1.8
DID Didima 5.36 281 P Pn 14 23 41.4 +1.8
BHL Bhannes 5.47 118 *e*P Pn 14 23 41.6 +0.3
BHL Bhannes 5.47 118 *e*P Pn 14 23 41.6 +0.3
KAMA Osmaniye 5.49 82 *i* P Pn 14 23 45.3 +3.8
KYTH Kithira 5.50 268 P Pn 14 23 43.6 +2.1
KYTH Kithira 5.50 268 *e*PN Pn 14 23 43.7 +2.2
KYTH Kithira 5.50 268 P Pn 14 23 43.6 +2.1
KYTH Kithira 5.50 268 P Pn 14 23 43.6 +2.1
HWQ Hawqa 5.50 113 *e*P Pn 14 23 42.9 +1.2
HWQ Hawqa 5.50 113 *e*P Pn 14 23 42.9 +1.2
DQRL Deir Qamar 5.52 120 *e*P Pn 14 23 42.3 +0.4
DQRL Deir Qamar 5.52 120 *e*P Pn 14 23 42.3 +0.4
VLI Veliai 5.55 273 P Pn 14 23 44.5 +2.2
VLI Veliai 5.55 273 *e*PN Pn 14 23 44.8 +2.5
VLI Veliai 5.55 273 P Pn 14 23 44.5 +2.2
VLI Veliai 5.55 273 *e*Pn Pn 14 23 44.8 +2.5
VLI Veliai 5.55 273 P Pn 14 23 44.5 +2.2
PINB Pinarbasi 5.59 67 *i* P Pn 14 23 47.7 +4.7
LTK Loutraki 5.66 286 P Pn 14 23 45.7 +2.0
LTK Loutraki 5.66 286 P Pn 14 23 45.7 +2.0
LTK Loutraki 5.66 286 P Pn 14 23 45.7 +2.0
HCB Kahramanmara˜ 5.70 81 *i* P Pn 14 23 49.7 +5.4
KMRS Kahramanmaras 5.71 79 *e*PN Pn 14 23 47.8 +3.4
EDRB Edirne 5.74 336 *e*PN Pn 14 23 45.5 +0.8
EDRB Edirne 5.74 336 P Pn 14 23 45.1 +0.4
EDRB Edirne 5.74 336 P Pn 14 23 45.1 +0.4
EDRB Edirne 5.74 336 *e*Pn Pn 14 23 45.5 +0.8
EDRB Edirne 5.74 336 P Pn 14 23 45.1 +0.4
KUZU Kuzuini 5.81 86 *i* P Pn 14 23 48.6 +2.8
KUZU *i* S Sn 14 24 53.5 +1.3
KUZU Kuzuini 5.81 86 *i* P Pn 14 23 48.6 +2.8
KUZU *i* S Sn 14 24 53.5 +1.3
MMAI Mount Meron Ar 5.82 127 Pn Pn 14 23 47.0 +1.0
133nm,0.3s,baz=311,slow=12,SNR=287
MMAI Sn Sn 14 24 52.4 -0.2
50nm,0.3s,baz=305,slow=26,SNR=15
RCY Rachaya 5.82 121 *e*P Pn 14 23 47.2 +1.1
RCY Rachaya 5.82 121 *e*P Pn 14 23 47.2 +1.1
XOR Xorichti 5.92 299 P Pn 14 23 48.3 +1.0
XOR Xorichti 5.92 299 P Pn 14 23 48.3 +1.0
XOR Xorichti 5.92 299 P Pn 14 23 48.3 +1.0
KAVA Kavala 6.03 318 P Pn 14 23 49.5 +0.8
KAVA Kavala 6.03 318 P Pn 14 23 49.5 +0.8
KAVA Kavala 6.03 318 P Pn 14 23 49.5 +0.8
KDZ Kurdzhali 6.08 327⇑ *i*P Pn 14 23 50.7 +1.2
KDZ Kurdzhali 6.08 327 P Pn 14 23 50.5 +1.0
KDZ Kurdzhali 6.08 327 P Pn 14 23 50.7 +1.2
DSF Desfina 6.08 289 P Pn 14 23 52.0 +2.4
DSF Desfina 6.08 289 P Pn 14 23 52.0 +2.4
DSF Desfina 6.08 289 P Pn 14 23 52.0 +2.4
GUR Goura 6.12 285 P Pn 14 23 52.8 +2.6
GUR Goura 6.12 285 P Pn 14 23 52.8 +2.6
GUR Goura 6.12 285 P Pn 14 23 52.8 +2.6
KLV Kalavryta, Ach 6.29 285 P Pn 14 23 55.1 +2.7
KLV Kalavryta, Ach 6.29 285 *e*PN Pn 14 23 55.1 +2.7
KLV Kalavryta, Ach 6.29 285 P Pn 14 23 55.1 +2.7
KLV Kalavryta, Ach 6.29 285 P Pn 14 23 55.1 +2.7
JMB Yambol 6.35 338⇑ *i*P Pn 14 23 55.1 +2.0
JMB Yambol 6.35 338 P Pn 14 23 54.1 +1.0
JMB Yambol 6.35 338⇑ *i*P Pn 14 23 55.1 +2.0
ITM Ithomi 6.37 277 P Pn 14 23 58.7 +5.2
ITM Ithomi 6.37 277 P Pn 14 23 58.7 +5.2
KALE Kalithea 6.37 288 P Pn 14 23 56.2 +2.7
KALE Kalithea 6.37 288 P Pn 14 23 56.2 +2.7
KALE Kalithea 6.37 288 P Pn 14 23 56.2 +2.7
AGG Agios Georgios 6.41 294 P Pn 14 23 56.4 +2.4
AGG Agios Georgios 6.41 294 P Pn 14 23 56.4 +2.4
AGG Agios Georgios 6.41 294 P Pn 14 23 56.4 +2.4
AGG Agios Georgios 6.41 294 P Pn 14 23 56.4 +2.4
RZN Rozhen 6.43 323 P Pn 14 23 55.2 +0.7
PYL PYLOS 6.51 275 P Pn 14 23 59.1 +3.7
PYL PYLOS 6.51 275 P Pn 14 23 59.1 +3.7
PYL PYLOS 6.51 275 P Pn 14 23 59.1 +3.7
MAKR Makrakomi, Fth 6.55 294 P Pn 14 23 58.6 +2.6
MAKR Makrakomi, Fth 6.55 294 P Pn 14 23 58.6 +2.6
MAKR Makrakomi, Fth 6.55 294 P Pn 14 23 58.6 +2.6
EFP Efpalio 6.56 288 P Pn 14 23 58.9 +2.9
EFP Efpalio 6.56 288 P Pn 14 23 58.9 +2.9
SRS Serrai 6.62 314 P Pn 14 23 58.8 +1.9
SRS Serrai 6.62 314 P Pn 14 23 58.8 +1.9
SRS Serrai 6.62 314 P Pn 14 23 58.8 +1.9
SRS Serrai 6.62 314 P Pn 14 23 58.8 +1.9
NVR Nevrokopi 6.62 317 P Pn 14 23 58.1 +1.1
NVR Nevrokopi 6.62 317 P Pn 14 23 58.1 +1.1
NVR Nevrokopi 6.62 317 P Pn 14 23 58.1 +1.1
EVR Evrytania 6.76 292 P Pn 14 24 01.9 +3.0
EVR Evrytania 6.76 292 P Pn 14 24 01.9 +3.0
EVR Evrytania 6.76 292 P Pn 14 24 01.9 +3.0
PLD Plovdiv 6.76 325 P Pn 14 24 00.3 +1.5
THL Klokotos Trika 6.83 298 P Pn 14 24 02.3 +2.5
THL Klokotos Trika 6.83 298 P Pn 14 24 02.3 +2.5
MMB Musomiste 6.86 318⇑ *i*P Pn 14 24 01.0 +0.7
MMB Musomiste 6.86 318 P Pn 14 24 01.0 +0.7
MMB Musomiste 6.86 318⇑ *i*P Pn 14 24 01.0 +0.7
MALT Malatya 7.03 274⇑ *i*P Pn 14 24 09.4 +6.8
PDO Prodromos 7.15 289 P Pn 14 24 08.2 +4.0
PSN Preselentsi 7.16 350⇑ *i*P Pn 14 24 04.8 +0.6
PSN Preselentsi 7.16 350 P Pn 14 24 04.3 +0.1
PSN Preselentsi 7.16 350⇑ *i*P Pn 14 24 04.8 +0.6
GRG Griva 7.24 309 P Pn 14 24 07.8 +2.4
GRG Griva 7.24 309 P Pn 14 24 07.8 +2.4
GRG Griva 7.24 309 P Pn 14 24 07.8 +2.4
GRG Griva 7.24 309 P Pn 14 24 07.8 +2.4
SZH Strazhica 7.28 337 P Pn 14 24 06.2 +0.3
ASF Jabal al Asfar 7.33 125 Pn Pn 14 24 09.0 +2.2
3.3nm,0.3s,baz=102,slow=1.6,SNR=10
ASF Sn Sn 14 25 30.8 +1.0
1.0nm,0.3s,baz=278,slow=7.1,SNR=2.2
DSL Palaion Diasel 7.36 292 P Pn 14 24 10.8 +3.8
DSL Palaion Diasel 7.36 292 P Pn 14 24 10.8 +3.8
KKB Krupnik 7.41 317 P Pn 14 24 08.7 +1.0
PVL Pavlikeni 7.43 334 P Pn 14 24 08.6 +0.6
MSAB Monastry St. A 7.61 349⇓ *i*P Pn 14 24 12.9 +2.5
VTS Vitosha 7.85 321⇑ *i*P Pn 14 24 15.0 +1.1
VTS Vitosha 7.85 321 P Pn 14 24 16.4 +2.5
VTS Vitosha 7.85 321 P Pn 14 24 16.4 +2.5
TIRR Tirgusor 7.89 353 *e*P Pn 14 24 14.9 +0.6
TIRR pmax pmax
comp=Z,57nm,0.8s
TIRR Tirgusor 7.89 353⇑ *i*P Pn 14 24 15.6 +1.3
TIRR Tirgusor 7.89 353 *e*P Pn 14 24 14.9 +0.6
comp=Z,57nm,0.8s
TIRR Tirgusor 7.89 353 *e*Pn Pn 14 24 14.9 +0.6
comp=Z,57nm,0.8s
TLB Topalu 8.06 351⇑ *i*P Pn 14 24 17.7 +1.1
SGD Sagiada 8.14 294 P Pn 14 24 21.6 +3.9
EIL Elat 8.15 147 Pn Pn 14 24 18.5 +0.5
comp=Z,7.9nm,0.3s,baz=270,slow=3.8,SNR=26
EIL Sn Sn 14 25 47.5 -2.4
comp=Z,4.0nm,0.3s,baz=66,slow=21,SNR=8.2
EIL LR LR 14 27 55.9
comp=Z,150nm,20.1s,baz=262,slow=42
HARR Harsova 8.18 350⇓ *i*P Pn 14 24 19.9 +1.7
SEV Sevastopol' 8.42 19 *e*P Pn 14 24 23.3 +1.8
SEV *e*S Sn 14 25 54.4 -1.9
SEV Sevastopol' 8.42 19 *e*P Pn 14 24 23.3 +1.8
SEV *e*S Sn 14 25 54.4 -1.9
YAL Yalta 8.50 21 *e*P Pn 14 24 29.8 +7.1
YAL *e*S Sn 14 25 56.2 -2.1
TLCR 8.58 355⇑ *i*P Pn 14 24 25.5 +1.8
CFR Carcaliu 8.63 352⇓ *i*P Pn 14 24 26.3 +1.8
ALU Alushta 8.75 22 *e*P Pn 14 24 27.0 +0.9
ALU Alushta 8.75 22 *e*P Pn 14 24 27.0 +0.9
SIM Simferopol' 8.91 20 *e*P Pn 14 24 30.9 +2.6
SIM *e*S Sn 14 26 09.0 +0.5
SIM pmax pmax
comp=Z,27nm,0.8s
SIM smax smax
comp=E,37nm,0.7s
SIM MLR MLR
comp=E,92nm,8.7s
SIM Simferopol' 8.91 20 *e*P Pn 14 24 30.9 +2.6
comp=E,27nm,0.8s
SIM *e*S Sn 14 26 09.0 +0.5
SUDU Sudak 9.13 24 *e*P Pn 14 24 34.8 +3.6
SUDU *e*S Sn 14 26 15.1 +1.4
MTUR Matau 9.31 339⇑ *i*P Pn 14 24 34.7 +0.8
MLR Muntele Rosu 9.33 343 Pn Pn 14 24 35.9 +1.8
comp=E,0.6nm,0.3s,baz=128,slow=1.6,SNR=25
MLR Muntele Rosu 9.33 343⇓ *i*P Pn 14 24 36.1 +2.0
VOIR 9.51 339⇓ *i*P Pn 14 24 38.0 +1.4
PLOR Plostina 9.52 346⇓ *i*P Pn 14 24 38.6 +1.9
VRI Vrincioaia 9.52 347⇑ *i*P Pn 14 24 38.6 +2.0
ARR Arges 9.57 337⇑ *i*P Pn 14 24 38.7 +1.3
TESR Tescani 10.16 347⇓ *i*P Pn 14 24 47.2 +1.8
GZR Gura Zlata 10.25 331⇓ *i*P Pn 14 24 46.8 +0.1
TIP Timpagrande 10.65 288 P Pn 14 24 54.6 +2.4
TIP Timpagrande 10.65 288 *e*P Pn 14 24 52.9 +0.7
comp=E,18nm,1.0s
TIP Timpagrande 10.65 288 *e*P Pn 14 24 52.9 +0.7
comp=E,18nm,1.0s
BZS Buzias 10.90 328⇑ *i*P Pn 14 24 56.3 +0.7
CEL Celeste 11.21 283 *e*P Pn 14 25 03.7 +3.8
comp=E,33nm,0.9s
CEL Celeste 11.21 283 *e*P Pn 14 25 03.7 +3.8
comp=E,33nm,0.9s
CUC Castrocucco 11.52 291 *e*P Pn 14 25 05.5 +1.4
comp=E,14nm,0.6s
CUC Castrocucco 11.52 291 *e*P Pn 14 25 05.5 +1.4
comp=E,14nm,0.6s
BUR08 Bucovina Ar. S 11.53 344 *e*P Pn 14 25 06.0 +1.8
GNI Garni 12.20 69 Pn Pn 14 25 17.0 +3.5
comp=E,0.9nm,0.3s,baz=260,slow=1.6,SNR=5.5
GNI LR LR 14 30 07.6
comp=E,69nm,19.1s,baz=264,slow=38
KIV Kislovodsk 12.22 49 *e*P Pn 14 25 18.2 +4.5
KIV *e*S Sn 14 27 36.5 +6.8
KIV pmax pmax
comp=Z,7.0nm,0.9s
KIV MLR MLR
comp=Z,24nm,10.0s
KBZ Khabaz 12.23 51 Pn Pn 14 25 18.4 +4.7
comp=Z,0.1nm,0.3s,baz=233,slow=20,SNR=2.3
ZEI Tsey 12.44 56 *e*P P 14 25 24.8 -3.9
ZEI pmax pmax
comp=Z,11nm,1.1s
PKSM Moragy 12.73 322⇑ *i*P Pn 14 25 20.9 +0.4
AK02 Malin Array Si 14.03 358 P Pn 14 25 36.9 -1.3
AK02 Malin Array Si 14.03 358 P Pn 14 25 36.9 -1.3
AK01 Malin Array Si 14.06 358 *e*P Pn 14 25 40.1 +1.4
AK01 Malin Array Si 14.06 358 *e*P Pn 14 25 40.1 +1.4
AKASG Malin Array Be 14.07 358 Pn Pn 14 25 37.8 -1.0
comp=Z,1.0nm,0.3s,baz=173,slow=12,SNR=7.0
AKASG Malin Array Be 14.07 358 P Pn 14 25 37.8 -1.0
AKASG pmax pmax
comp=Z,1.0nm,0.3s
STHS Stebnicka Huta 14.23 337 *e*P Pn 14 25 41.4 +0.4
STHS Stebnicka Huta 14.23 337 *e*PN Pn 14 25 41.4 +0.4
OKC Ostrava-Krasne 15.69 331 *e*P P 14 26 08.1 +3.6
OKC *ex* x 14 26 14.3
OKC Ostrava-Krasne 15.69 331 *e*P P 14 26 08.1 +3.6
VRAC Vranov 15.92 327 Pn P 14 26 09.1 +1.9
comp=Z,0.8nm,0.3s,baz=104,slow=11,SNR=4.4
KBA Koelnbreinsper 16.09 316⇑ *i*P P 14 26 10.8 +1.5
comp=Z,16nm,1.2s
KBA Koelnbreinsper 16.09 316 P P 14 26 10.8 +1.5
comp=Z,16nm,1.2s
TREC Trest 16.41 325 AMS AMS 14 33 30.0
comp=Z,200nm,9.0s
KRLC Kraliky 16.42 329 *e*P P 14 26 15.9 +3.2
KRLC *ex* x 14 26 20.2
KRLC *ex* x 14 26 27.3
KRLC Kraliky 16.42 329 *e*P P 14 26 15.9 +3.2
KRLC Kraliky 16.42 329 *e*P P 14 26 15.9 +3.2
KEST Kesra 16.58 273 Pn Pn 14 26 13.2 +1.1
comp=Z,0.1nm,0.3s,baz=62,slow=1.9,SNR=3.6
KEST Kesra 16.58 273 P Pn 14 26 12.8 +0.7
DPC Dobruska-Polom 16.82 329 *e*P P 14 26 19.5 +2.3
DPC *e*pP pP 14 26 22.8 +1.6
DPC *e*sP sP 14 26 24.7 +1.6
DPC *ex* x 14 26 32.7
DPC AMS AMS 14 34 10.0
comp=Z,200nm,10.5s
DPC Dobruska-Polom 16.82 329 *e*P P 14 26 19.5 +2.3
DPC MLR MLR
comp=Z,200nm,10.5s
DPC Dobruska-Polom 16.82 329 *e*P P 14 26 19.5 +2.3
comp=Z,200nm,10.5s
GERES GERESS Array B 16.97 321 Pn P 14 26 20.0 +1.1
comp=Z,0.3nm,0.3s,baz=128,slow=11,SNR=5.7
GERES PcP PcP 14 31 02.5 -0.3
comp=Z,0.2nm,0.3s,baz=169,slow=2.2,SNR=3.9
GERES GERESS Array B 16.97 321 P P 14 26 20.0 +1.1
GERES GERESS Array B 16.97 321 P P 14 26 20.0 +1.1
UPC Upice 17.07 329 *e*P P 14 26 23.4 +3.5
UPC Upice 17.07 329 *e*P P 14 26 23.4 +3.5
KHC Kasperske Hory 17.22 322 *e*P P 14 26 22.0 +0.4
KHC *e*pP pP 14 26 26.0 +0.4
KHC *ex* x 14 26 37.7
KHC Kasperske Hory 17.22 322 *e*P P 14 26 22.0 +0.4
KHC Kasperske Hory 17.22 322 *e*P P 14 26 22.0 +0.4
MOTA Moosalm 17.52 313⇑ *i*pP pP 14 26 27.9 -1.3
comp=Z,5.3nm,0.7s
FETA Feichten 17.58 312⇑ *i*pP pP 14 26 28.5 -1.3
comp=Z,17nm,0.9s
PVCC Panska Ves 17.71 326 *e*P P 14 26 29.7 +2.8
PVCC AMS AMS 14 34 30.0
PVCC Panska Ves 17.71 326 *e*P P 14 26 29.7 +2.8
PVCC Panska Ves 17.71 326 *e*P P 14 26 29.7 +2.8
IPIR Pirpir 17.75 97 *e*P P 14 26 28.0 +0.2
IPIR Pirpir 17.75 97 *e*P P 14 26 28.0 +0.2
IKLH Kolahrood 18.11 94 *e*P P 14 26 32.8 +1.1
IKLH Kolahrood 18.11 94 *e*P P 14 26 32.8 +1.1
DAVA Damuels 18.22 312⇑ *i*P P 14 26 33.8 +1.1
comp=Z,7.6nm,0.5s
DAVA Damuels 18.22 312 P P 14 26 33.8 +1.1
comp=Z,7.6nm,0.5s
BRG Berggiesshubel 18.23 326 *e*P P 14 26 38.5 +5.8
comp=Z,1.6nm,0.6s
BRG SS S 14 30 06.0 +5.1
BRG Berggiesshubel 18.23 326 *e*P P 14 26 38.5 +5.8
BRG pmax pmax
comp=Z,2.0nm,0.6s
NKC Novy Kostel 18.50 323 *e*P Pn 14 26 38.1 +2.3
NKC *e*pP pP 14 26 45.8 +6.1
NKC Novy Kostel 18.50 323 *e*P Pn 14 26 38.1 +2.3
NKC Novy Kostel 18.50 323 *e*P Pn 14 26 38.1 +2.3
SBF Sospel 18.54 300 *e*P P 14 26 35.9 -0.3
comp=Z,40nm,0.8s
SBF Sospel 18.54 300 *e*P P 14 26 35.9 -0.3
SBF pmax pmax
comp=Z,40nm,0.8s
SBF Sospel 18.54 300 *e*P P 14 26 35.9 -0.3
comp=Z,20nm,0.8s
SBF Sospel 18.54 300 *e*P P 14 26 35.9 -0.3
comp=Z,40nm,0.8s
RAYN Ar Rayn 18.79 130 *e*P Pn 14 26 40.7 +1.2
comp=Z,10nm,0.9s
RAYN Ar Rayn 18.79 130 *e*P Pn 14 26 40.7 +1.2
comp=Z,10nm,0.9s
IZEF Zefreh 18.84 95 *e*P Pn 14 26 40.4 +0.1
IZEF Zefreh 18.84 95 *e*P Pn 14 26 40.4 +0.1
ISHM Shahmirzad 18.93 85 *e*P P 14 26 40.2 -0.6
CLL Collm 18.96 326 *e*P Pn 14 26 42.0 +0.6
comp=Z,7.0nm,1.3s
CLL *i* sP sP 14 26 45.3 -1.4
comp=Z,73nm,2.7s
CLL *e* 14 27 12.0
CLL *e*S Sn 14 30 14.0 +0.7
CLL Collm 18.96 326 *e*P Pn 14 26 42.0 +0.6
CLL *e*S Sn 14 30 14.0 +0.7
CLL pmax pmax
comp=Z,7.0nm,1.3s
CLL Collm 18.96 326 *e*P Pn 14 26 42.0 +0.6
comp=Z,7.0nm,1.3s
OBN Obninsk 19.05 12⇑ *e*P Pn 14 26 44.6 +2.2
OBN pmax pmax
comp=Z,17nm,1.0s
OBN MLR MLR
comp=Z,64nm,18.0s
OBN Obninsk 19.05 12 *e*P Pn 14 26 44.6 +2.2
comp=Z,64nm,18.0s
MBDF Montbardon 19.23 302 *e*P Pn 14 26 44.8 -0.1
comp=Z,24nm,0.9s
MBDF Montbardon 19.23 302 *e*P Pn 14 26 44.8 -0.1
MBDF pmax pmax
comp=Z,24nm,0.9s
MBDF Montbardon 19.23 302 *e*P Pn 14 26 44.8 -0.1
comp=Z,12nm,0.9s
MBDF Montbardon 19.23 302 *e*P Pn 14 26 44.8 -0.1
comp=Z,24nm,0.9s
IGLO Ghalogh ah 19.26 83 *e*P P 14 26 42.7 -1.6
BNI Bardonecchia 19.39 303 *e*P Pn 14 26 46.9 +0.1
BNI pmax pmax
comp=Z,14nm,1.1s
BNI Bardonecchia 19.39 303 *e*P Pn 14 26 46.9 +0.1
comp=Z,14nm,1.1s
BNI Bardonecchia 19.39 303 *e*P Pn 14 26 46.9 +0.1
comp=Z,14nm,1.1s
LPG La Plagne 19.48 304 *e*P Pn 14 26 47.6 -0.4
comp=Z,48nm,1.1s
LPG La Plagne 19.48 304 *e*P Pn 14 26 47.6 -0.4
LPG pmax pmax
comp=Z,48nm,1.1s
LPG La Plagne 19.48 304 *e*P Pn 14 26 47.6 -0.4
comp=Z,24nm,1.1s
LPG La Plagne 19.48 304 *e*P Pn 14 26 47.6 -0.4
comp=Z,48nm,1.1s
LPL La Plagne 19.50 304 *e*P P 14 26 46.8 -0.1
comp=Z,49nm,1.2s
LPL La Plagne 19.50 304 *e*P P 14 26 46.8 -0.1
LPL pmax pmax
comp=Z,49nm,1.2s
LPL La Plagne 19.50 304 *e*P P 14 26 46.8 -0.1
comp=Z,24nm,1.2s
LPL La Plagne 19.50 304 *e*P P 14 26 46.8 -0.1
comp=Z,49nm,1.2s
IKAZ Kazeroun 19.61 104 *e*P Pn 14 26 49.8 +0.1
IKAZ Kazeroun 19.61 104 *e*P Pn 14 26 49.8 +0.1
BFO Black Forest 19.64 313 *e*P Pn 14 26 49.1 -0.4
BFO pmax pmax
comp=Z,10.0nm,0.8s
BFO Black Forest 19.64 313 *e*P Pn 14 26 49.1 -0.4
comp=Z,9.8nm,0.8s
BFO Black Forest 19.64 313 *e*P Pn 14 26 49.1 -0.4
comp=Z,9.8nm,0.8s
MOS Moscow 19.83 13 *e*P P 14 26 50.3 +0.2
MOS Moscow 19.83 13 *e*P P 14 26 50.3 +0.2
ORIF Oris-en-Rattie 19.90 302 *e*P P 14 26 50.5 -0.6
comp=Z,20nm,0.8s
ORIF *e*R 14 27 09.0
comp=Z,124nm,20.2s
ORIF Oris-en-Rattie 19.90 302 *e*P P 14 26 50.5 -0.6
ORIF pmax pmax
comp=Z,20nm,0.8s
ORIF Oris-en-Rattie 19.90 302 *e*P P 14 26 50.5 -0.6
comp=Z,10nm,0.8s
ORIF Oris-en-Rattie 19.90 302 *e*P P 14 26 50.5 -0.6
comp=Z,20nm,0.8s
ECH Echery 20.28 312 *e*P P 14 26 55.4 +0.3
ECH pmax pmax
comp=Z,7.0nm,0.8s
ECH Echery 20.28 312 *e*P P 14 26 55.4 +0.3

	comp=Z,7.4nm,0.8s								
ECH	**Echery**	**20.28**	**312**	*e*P		**P**	**14 26 55.4**	**+0.3**
	comp=Z,7.4nm,0.8s								
HINF	**Hinteralfeld**	**20.29**	**311**	*e*P		**P**	**14 26 55.1**	**-0.2**
HINF	**Hinteralfeld**	**20.29**	**311**	*e*P		**P**	**14 26 55.1**	**-0.2**
HINF	**Hinteralfeld**	**20.29**	**311**	*e*P		**P**	**14 26 55.1**	**-0.2**
HINF	**Hinteralfeld**	**20.29**	**311**	*e*P		**P**	**14 26 55.1**	**-0.2**
CDF	**Champ du Feu**	**20.30**	**313**	*e*P		**P**	**14 26 56.1**	**+0.7**
	comp=Z,29nm,1.1s								
CDF	**Champ du Feu**	**20.30**	**313**	*e*P		**P**	**14 26 56.1**	**+0.7**
CDF				pmax	pmax				
	comp=Z,29nm,1.1s								
CDF	**Champ du Feu**	**20.30**	**313**	*e*P		**P**	**14 26 56.1**	**+0.7**
	comp=Z,14nm,1.1s								
CDF	**Champ du Feu**	**20.30**	**313**	*e*P		**P**	**14 26 56.1**	**+0.7**
	comp=Z,29nm,1.1s								
CABF	**La Chapelle**	**20.30**	**307**	*e*P		**P**	**14 26 55.7**	**+0.3**
CABF	**La Chapelle**	**20.30**	**307**	*e*P		**P**	**14 26 55.7**	**+0.3**
CABF	**La Chapelle**	**20.30**	**307**	*e*P		**P**	**14 26 55.7**	**+0.3**
CABF	**La Chapelle**	**20.30**	**307**	*e*P		**P**	**14 26 55.7**	**+0.3**
IPAR	**Pars**	**20.53**	**103**	*e*P		Pn	14 27 00.3	-0.3
IPAR	**Pars**	**20.53**	**103**	*e*P		Pn	14 27 00.3	-0.3
HAU	**Haudompre**	**20.68**	**311**	*e*P		**P**	**14 26 59.6**	**+0.2**
	comp=Z,22nm,0.9s								
HAU				*e*R					
	comp=Z,71nm,22.0s								
HAU	**Haudompre**	**20.68**	**311**	*e*P		**P**	**14 26 59.6**	**+0.2**
HAU				pmax	pmax				
	comp=Z,22nm,0.9s								
HAU	**Haudompre**	**20.68**	**311**	*e*P		**P**	**14 26 59.6**	**+0.2**
	comp=Z,11nm,0.9s								
HAU	**Haudompre**	**20.68**	**311**	*e*P		**P**	**14 26 59.6**	**+0.2**
	comp=Z,22nm,0.9s								
VIVF	**Saint-Julien-l**	**20.71**	**301**	*e*P		Pn	14 27 01.4	-0.8
	comp=Z,17nm,0.8s								
VIVF	**Saint-Julien-l**	**20.71**	**301**	*e*P		Pn	14 27 01.4	-0.8
VIVF				pmax	pmax				
	comp=Z,17nm,0.8s								
VIVF	**Saint-Julien-l**	**20.71**	**301**	*e*P		Pn	14 27 01.4	-0.8
	comp=Z,8.4nm,0.8s								
VIVF	**Saint-Julien-l**	**20.71**	**301**	*e*P		Pn	14 27 01.4	-0.8
	comp=Z,17nm,0.8s								
ISRV	**Sarvestan**	**20.78**	**104**	*e*P		**P**	**14 27 02.1**	**+1.1**
ISRV	**Sarvestan**	**20.78**	**104**	*e*P		**P**	**14 27 02.1**	**+1.1**
IMEH	**Mehriz**	**21.16**	**97**	*e*P		**P**	**14 27 05.7**	**+0.6**
IMEH	**Mehriz**	**21.16**	**97**	*e*P		**P**	**14 27 05.7**	**+0.6**
SMF	**Signal de Mont**	**21.77**	**305**	*e*P		**P**	**14 27 10.7**	**-0.5**
	comp=Z,17nm,0.9s								
SMF	**Signal de Mont**	**21.77**	**305**	*e*P		**P**	**14 27 10.7**	**-0.5**
SMF				pmax	pmax				
	comp=Z,17nm,0.9s								
SMF	**Signal de Mont**	**21.77**	**305**	*e*P		**P**	**14 27 10.7**	**-0.5**
	comp=Z,8.4nm,0.9s								
SMF	**Signal de Mont**	**21.77**	**305**	*e*P		**P**	**14 27 10.7**	**-0.5**
	comp=Z,17nm,0.9s								
IBAF	**Bafgh**	**21.85**	**96**	*e*P		**P**	**14 27 13.3**	**+0.9**
IBAF	**Bafgh**	**21.85**	**96**	*e*P		**P**	**14 27 13.3**	**+0.9**
VSU	**Vasula**	**21.94**	**356**	*e*P		**P**	**14 27 15.6**	**+2.8**
VSU				pmax	pmax				
	comp=Z,54nm,1.0s								
VSU	**Vasula**	**21.94**	**356**	*e*P		**P**	**14 27 15.6**	**+2.8**
	comp=Z,54nm,1.0s								
LOR	**Lormes**	**21.96**	**307**	*e*P		**P**	**14 27 12.1**	**-1.1**
LOR				*e*R					
	comp=Z,68nm,19.5s								
LOR	**Lormes**	**21.96**	**307**	*e*P		**P**	**14 27 12.1**	**-1.1**
LOR	**Lormes**	**21.96**	**307**	*e*P		**P**	**14 27 12.1**	**-1.1**
LOR	**Lormes**	**21.96**	**307**	*e*P		**P**	**14 27 12.1**	**-1.1**
SSF	**Saint Saulge**	**22.12**	**306**	*e*P		**P**	**14 27 14.7**	**-0.2**
	comp=Z,15nm,0.9s								
SSF	**Saint Saulge**	**22.12**	**306**	*e*P		**P**	**14 27 14.7**	**-0.2**
SSF				pmax	pmax				
	comp=Z,15nm,0.9s								
SSF	**Saint Saulge**	**22.12**	**306**	*e*P		**P**	**14 27 14.7**	**-0.2**
	comp=Z,7.4nm,0.9s								
SSF	**Saint Saulge**	**22.12**	**306**	*e*P		**P**	**14 27 14.7**	**-0.2**
	comp=Z,15nm,0.9s								
AVF	**Avril sur Loir**	**22.13**	**306**	*e*P		**P**	**14 27 14.6**	**-0.5**
	comp=Z,12nm,0.9s								
AVF	**Avril sur Loir**	**22.13**	**306**	*e*P		**P**	**14 27 14.6**	**-0.5**
AVF				pmax	pmax				
	comp=Z,12nm,0.9s								
AVF	**Avril sur Loir**	**22.13**	**306**	*e*P		**P**	**14 27 14.6**	**-0.5**
	comp=Z,6.1nm,0.9s								
AVF	**Avril sur Loir**	**22.13**	**306**	*e*P		**P**	**14 27 14.6**	**-0.5**
	comp=Z,12nm,0.9s								
GIVF	**Givet**	**22.50**	**315**	*e*P		**P**	**14 27 17.3**	**-1.7**
GIVF	**Givet**	**22.50**	**315**	*e*P		**P**	**14 27 17.3**	**-1.7**
GIVF	**Givet**	**22.50**	**315**	*e*P		**P**	**14 27 17.3**	**-1.7**
DOU	**Dourbes**	**22.63**	**314**	P		**P**	**14 27 20.8**	**+0.5**
	comp=Z,12nm,2.0s								
BAIF	**Baives**	**22.83**	**314**	*e*P		**P**	**14 27 21.0**	**-1.5**
BAIF	**Baives**	**22.83**	**314**	*e*P		**P**	**14 27 21.0**	**-1.5**
BAIF	**Baives**	**22.83**	**314**	*e*P		**P**	**14 27 21.0**	**-1.5**
MFF	**Saint Martin d**	**24.40**	**303**	*e*P		**P**	**14 27 37.1**	**-0.8**
MFF	**Saint Martin d**	**24.40**	**303**	*e*P		**P**	**14 27 37.1**	**-0.8**
MFF	**Saint Martin d**	**24.40**	**303**	*e*P		**P**	**14 27 37.1**	**-0.8**
MFF	**Saint Martin d**	**24.40**	**303**	*e*P		**P**	**14 27 37.1**	**-0.8**
AKTK	**Aktyubinsk**	**24.46**	**47**	P		**P**	**14 27 37.4**	**-1.0**
AKTO	**Aktyubinsk**	**24.46**	**47**	P		**P**	**14 27 37.4**	**-1.0**
	comp=Z,6.6nm,0.6s,baz=251,slow=8.9,SNR=20								
LDF	**La Druitiere**	**24.92**	**308**	*e*P		**P**	**14 27 41.5**	**-1.0**
LDF	**La Druitiere**	**24.92**	**308**	*e*P		**P**	**14 27 41.5**	**-1.0**
LDF	**La Druitiere**	**24.92**	**308**	*e*P		**P**	**14 27 41.5**	**-1.0**
LDF	**La Druitiere**	**24.92**	**308**	*e*P		**P**	**14 27 41.5**	**-1.0**
FINES	**FINESS Array B**	**24.95**	**356**	P		**P**	**14 27 42.5**	**-0.1**
	comp=Z,7.4nm,0.5s,baz=159,slow=12,SNR=62								
FINES				PcP		**PcP**	**14 31 16.9**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=147,slow=3.9,SNR=4.8								
FINES	**FINESS Array B**	**24.95**	**356**	*e*P		**P**	**14 27 41.8**	**-0.8**
FIA1	**FINESS Array S**	**24.95**	**356**	*e*P		**P**	**14 27 42.4**	**-0.2**
FIA1	**FINESS Array S**	**24.95**	**356**	*e*P		**P**	**14 27 42.4**	**-0.2**
KLMR	**Klimovskoe**	**25.01**	**11**	*e*P		P	14 27 38.3	-4.9
KLMR				pmax	pmax				
	comp=Z,32nm,1.4s								
TAM	**Tamanrasset**	**25.14**	**243**	P		**P**	**14 27 46.5**	**+1.6**
TAM				pmax	pmax				
	comp=Z,4.0nm,0.9s								
TAM	**Tamanrasset**	**25.14**	**243**	P		**P**	**14 27 46.5**	**+1.6**
	comp=Z,4.1nm,0.9s								
TAM	**Tamanrasset**	**25.14**	**243**	P		**P**	**14 27 46.5**	**+1.6**
	comp=Z,4.1nm,0.9s								
ABKAR	**Akbulak array**	**25.20**	**50**	*e*P		**P**	**14 27 44.8**	**-0.3**
	comp=Z,3.6nm,0.5s								
ABKAR	**Akbulak array**	**25.20**	**50**	*e*P		**P**	**14 27 44.8**	**-0.3**
	comp=Z,3.6nm,0.5s								
HFS	**Hagfors**	**25.70**	**341**	P		**P**	**14 27 49.5**	**0.0**
	comp=Z,3.0nm,0.5s,baz=141,slow=9.6,SNR=11								
ESDC	**Sonseca Array**	**26.67**	**287**	P		**P**	**14 27 58.5**	**0.0**
	comp=Z,0.5nm,0.4s,baz=77,slow=9.7,SNR=8.9								
PRGR	**Permogore**	**26.92**	**17**	*e*P		**P**	**14 27 56.3**	**-4.1**
PRGR				pmax	pmax				
	comp=Z,10.0nm,0.6s								
NB2	**NORSAR Subarra**	**27.13**	**340**	P		**P**	**14 28 02.1**	**-0.3**
	comp=Z,3.5nm,0.8s,baz=145,slow=10								
NB2	**NORSAR Subarra**	**27.13**	**340**	P		**P**	**14 28 02.1**	**-0.3**
	comp=Z,3.5nm,0.8s,SNR=2.1								
NOA	**NORSAR Array B**	**27.13**	**340**	P		**P**	**14 28 01.7**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=143,slow=8.9,SNR=5.8								
ARU	**Arti**	**27.64**	**35**	*d*	*i* P	**P**	**14 28 10.7**	**+3.8**
ARU							14 28 51.7		
ARU				S		**S**	**14 32 54.2**	**+6.1**
ARU				SS		**SnSn**	**14 33 59.5**	**+0.1**
ARU				pmax	pmax				
	comp=Z,4.0nm,0.8s								
EKA	**Eskdalemuir Ar**	**29.19**	**320**	P		**P**	**14 28 21.4**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=106,slow=10,SNR=3.3								
KKAR	**Karatay Array**	**31.64**	**65**	*e*P		**P**	**14 28 42.6**	**0.0**
KKAR				pmax	pmax				
	comp=Z,3.0nm,0.6s								
KKAR	**Karatay Array**	**31.64**	**65**	*e*P		**P**	**14 28 42.6**	**0.0**
	comp=Z,2.7nm,0.6s								
KKAR	**Karatay Array**	**31.64**	**65**	*e*P		**P**	**14 28 42.6**	**0.0**
	comp=Z,2.7nm,0.6s								
BRVK	**Borovoye**	**32.52**	**47**	*e*P		**P**	**14 28 50.3**	**+0.1**
BRVK				pmax	pmax				
	comp=Z,6.0nm,1.7s								
BRVK	**Borovoye**	**32.52**	**47**	*e*P		**P**	**14 28 50.3**	**+0.1**
	comp=Z,6.0nm,1.7s								
BRVK	**Borovoye**	**32.52**	**47**	*e*P		**P**	**14 28 49.5**	**-0.7**
	comp=Z,4.0nm,0.9s								
BVAR	**Borovoye Array**	**32.57**	**47**	P		**P**	**14 28 50.7**	**0.0**
	comp=Z,1.0nm,0.6s,baz=257,slow=5.8,SNR=10								
ARCES	**ARCESS Array B**	**33.05**	**357**	P		**P**	**14 28 54.6**	**0.0**
	comp=Z,11nm,0.8s,baz=173,slow=8.6,SNR=21								
ARCES	**ARCESS Array B**	**33.05**	**357**	*e*P		**P**	**14 28 53.8**	**-0.8**
TOA0	**Torodi Ar. Sit**	**34.40**	**234**	*e*P		**P**	**14 29 06.4**	**-0.5**
TOA0	**Torodi Ar. Sit**	**34.40**	**234**	*e*P		**P**	**14 29 06.4**	**-0.5**
TORD	**Torodi Ar. Bea**	**34.40**	**234**	P		**P**	**14 29 07.6**	**+0.7**
	comp=Z,5.7nm,0.6s,baz=34,slow=9.3,SNR=45								
TORD				PcP		**PcP**	**14 31 41.3**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=46,slow=1.1,SNR=3.3								
TOC6	**Torodi Ar. Sit**	**34.41**	**234**	*e*P		**P**	**14 29 07.9**	**+0.8**
AAK	**Ala-Archa**	**34.59**	**66**	P		**P**	**14 29 09.3**	**+0.7**
	comp=Z,3.3nm,0.5s,baz=226,slow=3.9,SNR=9.3								
AAK	**Ala-Archa**	**34.59**	**66**	*e*P		**P**	**14 29 09.5**	**+0.9**
AAK				pmax	pmax				
	comp=Z,15nm,1.2s								
AAK	**Ala-Archa**	**34.59**	**66**	*e*P		**P**	**14 29 09.5**	**+0.9**
	comp=Z,15nm,1.2s								
AAK	**Ala-Archa**	**34.59**	**66**	*e*P		**P**	**14 29 09.2**	**+0.7**
	comp=Z,4.7nm,0.9s								
TKM2	**Tokmak 2**	**35.37**	**65**	*e*P		**P**	**14 29 15.3**	**0.0**
TKM2				pmax	pmax				
	comp=Z,3.0nm,0.8s								
TKM2	**Tokmak 2**	**35.37**	**65**	*e*P		**P**	**14 29 15.3**	**0.0**
	comp=Z,2.8nm,0.8s								
TKM2	**Tokmak 2**	**35.37**	**65**	*e*P		**P**	**14 29 15.3**	**0.0**
	comp=Z,2.8nm,0.8s								
KURBB	**Kurchatov Arra**	**37.23**	**52**	P		**P**	**14 29 30.9**	**+0.1**
	comp=Z,13nm,0.6s,baz=275,slow=8.9,SNR=122								
KURBB				PP		**PnPn**	**14 31 01.9**	**+5.8**
	comp=Z,1.2nm,0.9s,baz=275,slow=12,SNR=5.5								
KURK	**Kurchatov**	**37.29**	**52**	P		**P**	**14 29 30.9**	**-0.4**
KURK							14 31 01.9		
KURK				pmax	pmax				
	comp=Z,13nm,0.6s								
KURK				pmax	pmax				
	comp=Z,1.0nm,0.9s								
KURK	**Kurchatov**	**37.29**	**52**	P		**P**	**14 29 30.9**	**-0.4**
	comp=Z,13nm,0.6s								
KURK	**Kurchatov**	**37.29**	**52**	*e*P		**P**	**14 29 30.6**	**-0.7**
	comp=Z,15nm,0.8s								
KURK				PP		**PnPn**	**14 31 01.9**	**+5.1**
MKAR	**Makanchi Array**	**39.78**	**58**	P		**P**	**14 29 52.5**	**+0.1**
	comp=Z,10nm,0.6s,baz=278,slow=6.7,SNR=127								
NVS	**Novosibirsk**	**40.35**	**46**	↓*i* P		**P**	**14 29 56.7**	**-0.2**
NVS				pmax	pmax				
	comp=Z,17nm,1.1s								
NVS				pmax	pmax				
	comp=N,4.0nm,1.0s								
NVS				pmax	pmax				
	comp=E,7.0nm,1.0s								
NVS	**Novosibirsk**	**40.35**	**46**	*i* P		**P**	**14 29 56.7**	**-0.2**
	comp=E,17nm,1.1s								
ZAA0	**Zalesovo Array**	**41.23**	**47**	*e*P		**P**	**14 30 03.1**	**-1.1**
ZAA0	**Zalesovo Array**	**41.23**	**47**	*e*P		**P**	**14 30 03.1**	**-1.1**
ZALV	**Zalesovo Beam**	**41.23**	**47**	P		**P**	**14 30 03.4**	**-0.9**
	comp=E,3.8nm,0.5s,baz=264,slow=9.1,SNR=17								
SPITS	**Spitsbergen Ar**	**42.04**	**356**	P		**P**	**14 30 10.6**	**0.0**
	comp=E,2.5nm,0.7s,baz=144,slow=9.3,SNR=12								
DBIC	**Dimbokro**	**43.49**	**235**	LR		LR	14 50 30.8		
	comp=E,49nm,18.2s,baz=92,slow=39								
TIC	**Toumodi**	**43.62**	**235**	*e*P		**P**	**14 30 23.6**	**-0.5**
KIC	**Kosan Boka**	**43.65**	**235**	*e*P		**P**	**14 30 23.5**	**-0.8**
	comp=E,19nm,0.8s								
LIC	**Lamto**	**43.94**	**235**	*e*P		**P**	**14 30 26.4**	**-0.3**
	comp=E,69nm,1.7s								
LIC	**Lamto**	**43.94**	**235**	*e*P		**P**	**14 30 26.3**	**-0.4**
	comp=E,33nm,1.4s								
LIC	**Lamto**	**43.94**	**235**	*e*P		**P**	**14 30 26.4**	**-0.3**
	comp=E,34nm,1.7s								
LIC	**Lamto**	**43.94**	**235**	*e*P		**P**	**14 30 26.4**	**-0.3**
	comp=E,69nm,1.7s								
WMQ	**Urumqi**	**43.97**	**62**	*e*P		**P**	**14 30 28.5**	**+1.8**
WMQ				pP		**pP**	**14 30 33.0**	**+1.8**
WMQ				sP		**sP**	**14 30 35.5**	**+2.5**
WMQ				PMZ					
	comp=E,11nm,0.5s								
WMQ				PMZ					
	comp=E,140nm,4.0s								
WMQ				LN					
	comp=E,55nm,22.6s								
WMQ				LE					
	comp=E,39nm,19.2s								
KOLN	**Koldanda**	**45.83**	**85**	*e*P		**P**	**14 30 41.8**	**-0.1**
GKN	**Gorkha**	**46.56**	**84**	*e*P		**P**	**14 30 47.4**	**-0.2**
HYB	**Hyderabad**	**46.88**	**101**	*i* P		**P**	**14 30 50.0**	**0.0**
DMN	**Daman**	**47.10**	**84**	*e*P		**P**	**14 30 51.6**	**-0.4**
	comp=E,50nm,0.6s								
KKN	**Kakani**	**47.17**	**84**	*e*P		**P**	**14 30 52.0**	**-0.4**
	comp=E,28nm,0.6s								
PKIN	**Phulchoki**	**47.35**	**84**	*e*P		**P**	**14 30 53.9**	**0.0**
	comp=E,15nm,0.7s								
PKI	**Pulchoki**	**47.36**	**84**	*e*P		**P**	**14 30 53.7**	**-0.4**
	comp=E,35nm,0.8s								
GUN	**Gumba**	**47.59**	**84**	*e*P		**P**	**14 30 55.6**	**-0.3**
	comp=E,46nm,0.9s								
JIRN	**Jiri**	**47.95**	**84**	*e*P		**P**	**14 30 58.6**	**-0.1**
	comp=E,30nm,0.7s								
RAMN	**Ramite**	**48.59**	**84**	*e*P		**P**	**14 31 02.3**	**-1.2**
	comp=E,54nm,0.9s								
SUMG	**Summit**	**49.00**	**338**	*i* P		**P**	**14 31 06.7**	**+0.5**
	comp=E,3.9nm,0.8s								
SUMG	**Summit**	**49.00**	**338**	*e*P		**P**	**14 31 06.7**	**+0.5**
SUMG				pmax	pmax				
	comp=Z,4.0nm,0.8s								
SUMG	**Summit**	**49.00**	**338**	*e*P		**P**	**14 31 06.7**	**+0.5**
	comp=Z,4.0nm,0.8s								
ODAN	**Odare**	**49.26**	**84**	*e*P		**P**	**14 31 08.2**	**-0.4**
TAPN	**Taplejung**	**49.30**	**83**	*e*P		**P**	**14 31 08.3**	**-0.7**
LSA	**Lhasa**	**51.03**	**79**	*e*P		**P**	**14 31 22.3**	**0.0**
LSA				pmax	pmax				
	comp=Z,7.0nm,0.7s								
LSA	**Lhasa**	**51.03**	**79**	*e*P		**P**	**14 31 22.3**	**0.0**
	comp=Z,6.9nm,0.7s								
LSA	**Lhasa**	**51.03**	**79**	*e*P		**P**	**14 31 22.3**	**0.0**
	comp=Z,6.9nm,0.7s								
TLY	**Talaya**	**52.80**	**49**	*e*P		**P**	**14 31 31.7**	**-2.9**
TLY				pmax	pmax				
	comp=Z,2.0nm,0.5s								
ZAK	**Zakamensk**	**52.90**	**50**	*e*P		**P**	**14 31 33.1**	**-2.4**
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.0s								
GTA	**Gaotai**	**53.91**	**64**	*e*P		**P**	**14 31 42.8**	**-0.3**
GTA				pP		**pP**	**14 31 46.3**	**-1.4**
GTA				sP		**sP**	**14 31 48.8**	**-0.7**
GTA				PMZ					
	comp=Z,6.0nm,0.9s								
SONM	**Songino Array**	**55.59**	**53**	P		**P**	**14 31 54.9**	**-0.3**
	comp=Z,3.1nm,0.7s,baz=288,slow=7.4,SNR=17								
BOD	**Bodaibo**	**56.93**	**39**	*e*P		**P**	**14 32 01.5**	**-2.9**
BOD				pmax	pmax				
	comp=Z,3.0nm,0.6s								
CD2	**Chengdu**	**60.31**	**72**	*e*P		**P**	**14 32 29.5**	**+1.0**
CMAR	**Chiang Mai Arr**	**62.65**	**87**	P		**P**	**14 32 43.8**	**-0.6**
	comp=Z,3.8nm,0.8s,baz=297,slow=8.0,SNR=16								
CMAR				LR		LR	15 06 51.1		
	comp=Z,21nm,18.7s,baz=210,slow=43								
YAK	**Yakutsk**	**62.67**	**32**	*e*P		**P**	**14 32 44.1**	**+0.3**
YAK				pmax	pmax				
	comp=Z,7.0nm,0.8s								
YAK	**Yakutsk**	**62.67**	**32**	*e*P		**P**	**14 32 44.1**	**+0.3**
	comp=Z,7.0nm,0.8s								
SCHQ	**Schefferville**	**64.50**	**320**	P		**P**	**14 32 54.0**	**-2.1**
	comp=Z,2.0nm,0.5s,baz=68,slow=7.6,SNR=6.1								
QIZ	**Qiongzhong**	**71.05**	**80**	P		**P**	**14 33 35.5**	**-2.4**
QIZ				S		**S**	**14 42 50.0**	**-3.9**
USRK	**Ussuriysk Ar.**	**73.08**	**47**	P		**P**	**14 33 48.4**	**-1.2**
	comp=Z,3.5nm,0.7s,baz=291,slow=4.8,SNR=6.1								
KSAR	**Wonju Array Be**	**74.33**	**55**	P		**P**	**14 33 56.1**	**-1.0**
KSAR	**Wonju Array Be**	**74.33**	**55**	P		**P**	**14 33 56.1**	**-1.0**
KSAR	**Wonju Array Be**	**74.33**	**55**	P		**P**	**14 33 56.0**	**-1.0**
KSRS	**Korea Array**	**74.35**	**55**	P		**P**	**14 33 56.0**	**-1.2**
	comp=Z,3.9nm,0.7s,baz=305,slow=4.5,SNR=12								
KSRS	**Korea Array**	**74.35**	**55**	P		**P**	**14 33 56.0**	**-1.2**
KSRS				pmax	pmax				
	comp=Z,4.0nm,0.7s								
INK	**Inuvik**	**74.64**	**354**	P		**P**	**14 33 57.7**	**-0.6**
	comp=Z,1.9nm,0.2s,baz=336,slow=20,SNR=3.2								
YKA	**Yellowknife Ar**	**77.16**	**344**	P		**P**	**14 34 12.1**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=31,slow=5.7,SNR=7.4								
ILAR	**Eielson Array**	**78.90**	**359**	P		**P**	**14 34 22.1**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=349,slow=4.3,SNR=4.3								
BPAW	**Bear Paw Mtn.**	**79.60**	**0**	P		**P**	**14 34 25.2**	**-1.2**
MJAR	**Matsushiro Arr**	**81.48**	**51**	P		**P**	**14 34 35.7**	**-1.3**
	comp=Z,2.1nm,0.9s,baz=301,slow=3.0,SNR=4.7								
PDAR	**Pinedale Array**	**92.74**	**331**	P		**P**	**14 35 30.9**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=41,slow=8.4,SNR=3.4								
WRA	**Warramunga Arr**	**113.00**	**98**	PKiKP		**PKiKP**	**14 40 55.2**	**-1.9**
	comp=Z,0.3nm,0.8s,baz=290,slow=1.7,SNR=4.6								
ASAR	**Alice Springs**	**114.60**	**102**	PKP		PKPdf	**14 40 58.8**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=304,slow=1.4,SNR=8.9								
ASAR				PKKPbc		**PKKPbc**	**14 51 37.1**	**-0.2**
	comp=Z,0.3nm,1.0s,baz=115,slow=3.6,SNR=4.6								
STKA	**Stephens Creek**	**124.46**	**107**	PKP		**PKPdf**	**14 41 18.0**	**-0.8**
	comp=Z,2.0nm,0.9s,baz=334,slow=9.7,SNR=3.0								
STKA	**Stephens Creek**	**124.46**	**107**	PKIKP		**PKPdf**	**14 41 18.0**	**-0.8**

*ISCJB **26** 14:23:49.0±0.4, 6°.43N±0°.05×124°.53E±0°.10, h450km, mb3.8/18, Error ellipse: s-maj=13.3km s-min=6.7km az=170.3*

*IDC **26** 14:23:51.0±1.5, 6°.42N×124°.48E, h449km±17km, mb3.5/18, mb1 3.6/19, mb1mx3.4/30, mbtmp4.3/19, Error ellipse: s-maj=18.3km s-min=7.9km az=65.0*

*MAN **26** 14:23:50, 6°.61N×124°.46E, h413km, mb5.0, ML3.9, MS4.0*

*DJA **26** 14:24:08.1±1.0, 5°.7N±8°×12°.4E±°, h296km±15km, M4.4/7, mb4.1/7, mB4.6/3, MLv4.5/6, Mw(mB)3.8/3, Mwp5.9/1*

ISC 26 14:23:50.7±0.5, 6°.46N±0°.08×124°.6E±0°.1, h450km, n35, σ1§30/35, mb3.8/18, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.82**	**338**	↓*i* P		P	14 24 42.7	-3.8
BUKP	**Musuan**	**1.50**	**19**	*e*P		P	14 24 45.5	-3.4
MATI	**Mati**	**1.76**	**74**	*e*P		P	14 24 45.4	-4.6
MATI				*e*S		S	14 25 15.2	-23
PAGZ	**Pagadian**	**1.81**	**320**	*e*P		P	14 24 46.6	-3.7
DCPH	**Dipolog City**	**2.43**	**331**	↓*i* P		P	14 24 50.7	-3.1
KMSI	**Cibinong**	**5.87**	**186**	P		P	14 25 18.4	-5.4
TNTI	**Ternate**	**6.30**	**153**	P		**P**	**14 25 26.3**	**-1.9**
	40nm,1.1s							
MRSI	**Marisa**	**6.49**	**204**	P		**P**	**14 25 27.4**	**-2.8**
MPSI	**Mapaga**	**7.65**	**218**	P		**P**	**14 25 40.9**	**-1.6**
	14nm,0.9s,759nm59μm0.1nm							
SANI	**Sanana**	**8.57**	**170**	P		**P**	**14 25 49.6**	**-2.8**
	25nm,0.7s,726nm0.3nm							
PCI	**Palu**	**8.70**	**213**	P		**P**	**14 25 54.0**	**+0.2**
	41nm,1.0s,0.1nm							
NLAI	**Namlea**	**9.96**	**165**	P		**P**	**14 26 08.6**	**+1.1**
	11nm,0.6s,1μm0.3nm							
SPSI	**Sidrap Palu**	**11.40**	**205**	P		**P**	**14 26 25.9**	**+2.7**
	23nm,0.9s							
JAY	**Jayapura**	**18.42**	**118**	P		**P**	**14 27 39.5**	**+1.7**
	1.5nm,0.3s,baz=295,slow=14,SNR=10							
JOW	**Kunigami**	**20.57**	**9**	P		**P**	**14 27 58.1**	**+0.8**
	0.5nm,0.5s,baz=273,slow=17,SNR=2.3							
PSI	**Prapat**	**25.80**	**263**	P		**P**	**14 28 44.3**	**-0.3**
	7.8nm,0.8s,baz=104,slow=4.4,SNR=7.4							
CMAR	**Chiang Mai Arr**	**27.66**	**298**	P		**P**	**14 29 01.1**	**+0.2**
	1.3nm,0.7s,baz=97,slow=7.0,SNR=7.8							
WRA	**Warramunga Arr**	**27.94**	**160**	P		**P**	**

	comp=N,0.4nm,1.1s,baz=164,slow=1.6,SNR=3.3							
ZALV	**Zalesovo Beam**	**154.37**	**32**	PKPbc	**PKPbc**	**14 44 47.1**	**+0.5**
	comp=N,1.1nm,0.6s,baz=314,slow=3.6,SNR=5.6							
ZALV				PKPab	**PKPab**	**14 45 00.8**	**0.0**
	comp=N,0.8nm,0.5s,baz=336,slow=6.3,SNR=3.2							
MKAR	**Makanchi Array**	**156.96**	**49**	PKPab	**PKPab**	**14 45 12.1**	**-0.1**
	comp=N,0.3nm,0.6s,baz=287,slow=4.9,SNR=4.0							

*IDC **26** 14:28:09.1±1.7, 14°.95S×173°.79W, h0km, mb3.6/7, mb1 3.9/7, mb1mx3.8/19, mbtmp3.6/7, Error ellipse: s-maj=101.7km s-min=21.8km az=145.0*

*ISCJB **26** 14:28:17.1±1.4, 15°.05S±0°.5×173°.9W±0°.4, h73km, mb3.4/7, Error ellipse: s-maj=89.4km s-min=17.9km az=146.2*

ISC 26 14:28:18.4±1.5, 15°.05S±0°.5×173°.9W±0°.4, h73km, n15, σ0.996/9, mb3.6/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S2	**WAKE ISLAND Hy**	**38.43**	**329**	T	T	15 17 10.1	
	baz=147,slow=74,SNR=5.4						
H11S3	**WAKE ISLAND Hy**	**38.45**	**329**	T	T	15 17 05.5	
	baz=147,slow=74,SNR=8.2						
H11S1	**WAKE ISLAND Hy**	**38.45**	**329**	T	T	15 17 10.7	
	baz=147,SNR=5.2						
H11N3	**WAKE ISLAND Hy**	**39.38**	**331**	T	T	15 18 11.3	
	baz=149						
H11N1	**WAKE ISLAND Hy**	**39.39**	**331**	T	T	15 18 05.1	
	baz=149						
H11N2	**WAKE ISLAND Hy**	**39.40**	**331**	T	T	15 18 09.6	
	baz=149						
STKA	**Stephens Creek**	**43.84**	**240**	P	**P**	**14 36 16.5**	**-1.1**
	1.0nm,0.8s,baz=78,slow=9.9,SNR=3.9						
WRA	**Warramunga Arr**	**49.50**	**256**	P	**P**	**14 37 02.8**	**+0.8**
	0.3nm,0.5s,baz=94,slow=6.9,SNR=11						
ASAR	**Alice Springs**	**49.81**	**252**	P	**P**	**14 37 05.1**	**+0.8**
	1.3nm,0.5s,baz=86,slow=8.6,SNR=51						
TXAR	**Lajitas Array**	**80.78**	**56**	P	**P**	**14 40 25.5**	**+1.0**
	0.2nm,0.8s,baz=245,slow=5.9,SNR=2.5						
ILAR	**Eielson Array**	**82.18**	**11**	P	**P**	**14 40 30.2**	**-0.8**
	0.2nm,0.5s,baz=216,slow=4.5,SNR=3.3						
PDAR	**Pinedale Array**	**82.29**	**42**	P	**P**	**14 40 31.6**	**-0.7**
	0.3nm,0.7s,baz=243,slow=4.0,SNR=3.3						
YKA	**Yellowknife Ar**	**89.94**	**24**	P	**P**	**14 41 09.1**	**-0.1**
	0.4nm,1.0s,baz=253,slow=4.2,SNR=3.0						
BRTR	**Keskin Array B**	**145.60**	**321**	PKPbc	**PKPbc**	**14 47 49.1**	**0.0**
	1.0nm,0.8s,baz=43,slow=2.4,SNR=5.0						
GERES	**GERESS Array B**	**145.72**	**351**	PKPbc	**PKPab**	**14 47 50.5**	**+1.0**
	0.3nm,0.3s,baz=347,slow=4.0,SNR=3.1						

IDC 26 15:12:06.3±9.4, 5.73S×147.54E, h218km±85km, mb3.4/2, mb1 3.6/4, mb1mx3.2/18, mbtmp4.1/4, Error ellipse: s-maj=78.5km s-min=45.7km az=100.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**14.33**	**185**	P	P	15 15 20.4	-0.4
	0.2nm,0.3s,baz=18,slow=9.6,SNR=2.8						
WRA	**Warramunga Arr**	**19.09**	**221**	P	P	15 16 12.5	-0.3
	2.3nm,0.3s,baz=47,slow=11,SNR=201						
ASAR	**Alice Springs**	**22.15**	**215**	P	P	15 16 44.8	+0.2
	3.9nm,0.5s,baz=49,slow=8.3,SNR=260						
MKAR	**Makanchi Array**	**77.63**	**320**	P	P	15 23 38.6	0.0
	0.3nm,0.6s,baz=99,slow=5.2,SNR=4.7						
TORD	**Torodi Ar. Bea**	**145.54**	**285**	PKPbc	PKPdf	15 31 19.2	-0.4
	0.2nm,0.6s,baz=68,slow=4.4,SNR=3.4						

*ISCJB **26** 15:21:43.5±0.4, 38°.83S±0°.03×175°.63E±0°.04, h130km±3km, mb3.2/2, Error ellipse: s-maj=5.4km s-min=3.7km az=34.5*

*IDC **26** 15:21:43.5±1.2, 38°.87S×175°.70E, h116km±16km, mb3.0/2, mb1 3.3/3, mb1mx3.2/15, mbtmp3.6/3, Error ellipse: s-maj=37.8km s-min=22.0km az=144.0*

*WEL **26** 15:21:45.3±0.1, 38°.78S×175°.66E, h116km±1km, ML4.6/19, Error ellipse: s-maj=0.8km s-min=0.6km az=90.0, reported intensity MM 4.*

WEL Felt from Auckland to Wellington, and from Taranaki to Hawke"s Bay, maximum.

*NEIC **26** 15:21:45.3, 38°.78S×175°.65E, h116km, MG4.6(WEL), After WEL.*

ISC 26 15:21:43.9±0.9, 38°.82S±0°.04×175°.63E±0°.04, h127km±5km, n198, σ0.971/205, 25C-23D, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATZ	**Rangitukua**	**0.12**	**114**	↑PN	**Pn**	**15 22 01.0**	**-0.2**
RATZ				SN	**Sn**	**15 22 13.9**	**-0.6**
RATZ	**Rangitukua**	**0.12**	**114**	Pn	**Pn**	**15 22 01.1**	**-0.2**
WATZ	**Wairara**	**0.14**	**37**	PN	**Pn**	**15 22 01.3**	**0.0**
WATZ				SN	**Sn**	**15 22 13.8**	**-0.6**
WATZ	**Wairara**	**0.14**	**37**	Pn	**Pn**	**15 22 01.3**	**0.0**
KATZ	**Kakaramea**	**0.17**	**161**	↑PN	**Pn**	**15 22 01.3**	**-0.2**
KATZ				SN	**Sn**	**15 22 14.1**	**-0.8**
KATZ	**Kakaramea**	**0.17**	**161**	Pn	**Pn**	**15 22 01.3**	**-0.2**
RITZ	**Rihia Road**	**0.24**	**131**	↑PN	**Pn**	**15 22 01.7**	**+0.2**
RITZ				SN	**Sn**	**15 22 14.7**	**-0.2**
RITZ	**Rihia Road**	**0.24**	**131**	Pn	**Pn**	**15 22 01.7**	**+0.2**
KRVZ	**Karewarewa**	**0.28**	**178**	PN	**Pn**	**15 22 01.6**	**-0.1**
KRVZ	**Karewarewa**	**0.28**	**178**	Pn	**Pn**	**15 22 01.8**	**-0.1**
TWVZ	**Taurewa**	**0.29**	**210**	↑PN	**Pn**	**15 22 01.8**	**0.0**
TWVZ				SN	**Sn**	**15 22 14.5**	**-0.9**
TWVZ	**Taurewa**	**0.29**	**210**	Pn	**Pn**	**15 22 01.8**	**0.0**
TWVZ				Sn	**Sn**	**15 22 14.5**	**-0.9**
WTVZ	**West Tongariro**	**0.30**	**186**	↑PN	**Pn**	**15 22 01.9**	**0.0**
WTVZ	**West Tongariro**	**0.30**	**186**	Pn	**Pn**	**15 22 01.9**	**0.0**
WHTZ	**Whakaora**	**0.30**	**60**	↓PN	**Pn**	**15 22 01.8**	**0.0**
WHTZ	**Whakaora**	**0.30**	**60**	Pn	**Pn**	**15 22 01.8**	**0.0**
OTVZ	**Oturere**	**0.35**	**175**	↑PN	**Pn**	**15 22 02.1**	**0.0**
OTVZ	**Oturere**	**0.35**	**175**	Pn	**Pn**	**15 22 02.1**	**0.0**
NGZ	**Ngauruhoe**	**0.36**	**183**	↑PN	**Pn**	**15 22 02.0**	**-0.1**
NGZ	**Ngauruhoe**	**0.36**	**183**	Pn	**Pn**	**15 22 02.0**	**-0.1**
KUTZ	**Kaahu Road**	**0.36**	**25**	↓PN	**Pn**	**15 22 02.0**	**-0.1**
HATZ	**Hinemaiaia**	**0.37**	**101**	PN	**Pn**	**15 22 01.8**	**-0.2**
HATZ				SN	**Sn**	**15 22 14.3**	**-1.4**
HATZ	**Hinemaiaia**	**0.37**	**101**	Pn	**Pn**	**15 22 01.8**	**-0.2**
HATZ				Sn	**Sn**	**15 22 14.3**	**-1.4**
COVZ	**Chateau Observ**	**0.39**	**190**	PN	**Pn**	**15 22 02.0**	**0.0**
WPVZ	**Whakapapa**	**0.39**	**189**	PN	**Pn**	**15 22 02.0**	**0.0**
WPVZ	**Whakapapa**	**0.39**	**189**	Pn	**Pn**	**15 22 02.0**	**-0.2**
FWVZ	**Far West T-bar**	**0.44**	**188**	PN	**Pn**	**15 22 02.6**	**0.0**
FWVZ	**Far West T-bar**	**0.44**	**188**	Pn	**Pn**	**15 22 02.4**	**-0.2**
TUVZ	**Tukino**	**0.45**	**177**	PN	**Pn**	**15 22 02.7**	**+0.2**
TUVZ	**Tukino**	**0.45**	**177**	Pn	**Pn**	**15 22 02.7**	**+0.2**
DRZ	**Dome Shelter**	**0.46**	**186**	PN	**Pn**	**15 22 03.0**	**+0.2**
DRZ	**Dome Shelter**	**0.46**	**186**	Pn	**Pn**	**15 22 03.0**	**+0.2**
WHVZ	**Whangaehu Hut**	**0.46**	**184**	↑PN	**Pn**	**15 22 02.8**	**+0.1**
TRVZ	**Turoa**	**0.48**	**187**	PN	**Pn**	**15 22 02.8**	**-0.1**
TRVZ	**Turoa**	**0.48**	**187**	Pn	**Pn**	**15 22 02.8**	**-0.1**
TLZ	**Tolley Road**	**0.49**	**352**	↓PN	**Pn**	**15 22 02.4**	**-0.3**
WNVZ	**Wahianoa**	**0.51**	**183**	↑PN	**Pn**	**15 22 03.2**	**+0.3**
WNVZ	**Wahianoa**	**0.51**	**183**	Pn	**Pn**	**15 22 03.2**	**+0.3**
WPRZ	**Whakapapatarin**	**0.52**	**55**	↓PN	**Pn**	**15 22 02.5**	**-0.3**
PKVZ	**Pokaka**	**0.52**	**205**	↑PN	**Pn**	**15 22 03.1**	**+0.3**
PKVZ	**Pokaka**	**0.52**	**205**	Pn	**Pn**	**15 22 03.1**	**+0.3**
MTVZ	**Mangateitei**	**0.58**	**192**	↑PN	**Pn**	**15 22 03.5**	**+0.3**
MTVZ	**Mangateitei**	**0.58**	**192**	Pn	**Pn**	**15 22 03.5**	**+0.3**
MOVZ	**Moawhango**	**0.60**	**171**	↑PN	**Pn**	**15 22 03.3**	**0.0**
MOVZ	**Moawhango**	**0.60**	**171**	Pn	**Pn**	**15 22 03.3**	**0.0**
GRRZ	**Galatos Road**	**0.60**	**39**	↓PN	**Pn**	**15 22 03.3**	**0.0**
ALRZ	**Allen Road**	**0.62**	**66**	PN	**Pn**	**15 22 03.1**	**-0.3**
ALRZ	**Allen Road**	**0.62**	**66**	Pn	**Pn**	**15 22 03.1**	**-0.3**
HRRZ	**Handcock Road**	**0.67**	**50**	↓PN	**Pn**	**15 22 03.7**	**-0.1**
HRRZ	**Handcock Road**	**0.67**	**50**	Pn	**Pn**	**15 22 03.7**	**-0.1**
HIZ	**Hauiti**	**0.68**	**297**	PN	**Pn**	**15 22 03.8**	**0.0**
HIZ	**Hauiti**	**0.68**	**297**	Pn	**Pn**	**15 22 03.8**	**0.0**
PRRZ	**Plateau Road**	**0.68**	**62**	PN	**Pn**	**15 22 03.4**	**-0.4**
PRRZ	**Plateau Road**	**0.68**	**62**	Pn	**Pn**	**15 22 03.4**	**-0.4**
HSRZ	**Hossack Road**	**0.70**	**44**	↓PN	**Pn**	**15 22 04.0**	**0.0**
VRZ	**Vera Road**	**0.74**	**245**	PN	**Pn**	**15 22 04.4**	**+0.2**
VRZ	**Vera Road**	**0.74**	**245**	Pn	**Pn**	**15 22 04.4**	**+0.2**
BHHZ	**Black Hill Sta**	**0.75**	**153**	↑PN	**Pn**	**15 22 04.5**	**+0.1**
BHHZ	**Black Hill Sta**	**0.75**	**153**	Pn	**Pn**	**15 22 04.5**	**+0.1**
BKZ	**Black Stump Fm**	**0.76**	**118**	↓PN	**Pn**	**15 22 04.4**	**-0.1**
BKZ				AML	AML	15 22 20.1	
BKZ				AML	AML	15 22 25.2	
BKZ	**Black Stump Fm**	**0.76**	**118**	Pn	**Pn**	**15 22 04.4**	**-0.1**
UTU	**Utuhina**	**0.78**	**35**	↓PN	**Pn**	**15 22 04.8**	**+0.1**
UTU	**Utuhina**	**0.78**	**35**	Pn	**Pn**	**15 22 04.8**	**+0.1**
HLRZ	**Highlands Stat**	**0.80**	**45**	↓PN	**Pn**	**15 22 05.3**	**+0.5**
RRRZ	**Republican Roa**	**0.84**	**56**	↓PN	**Pn**	**15 22 05.0**	**-0.2**
RRRZ	**Republican Roa**	**0.84**	**56**	Pn	**Pn**	**15 22 05.0**	**-0.2**
TARZ	**Mount Tarawera**	**0.90**	**50**	↓PN	**Pn**	**15 22 05.9**	**+0.1**
TARZ	**Mount Tarawera**	**0.90**	**50**	Pn	**Pn**	**15 22 05.9**	**+0.1**
OMRZ	**Omania**	**0.92**	**40**	PN	**Pn**	**15 22 05.8**	**0.0**
OMRZ	**Omania**	**0.92**	**40**	Pn	**Pn**	**15 22 05.5**	**-0.3**
KARZ	**Kaharoa**	**0.93**	**31**	↓PN	**Pn**	**15 22 05.9**	**-0.1**
KARZ	**Kaharoa**	**0.93**	**31**	Pn	**Pn**	**15 22 05.9**	**-0.1**
NMHZ	**Naumai**	**0.96**	**107**	PN	**Pn**	**15 22 07.0**	**+0.8**
KRHZ	**Kereru**	**1.01**	**145**	PN	**Pn**	**15 22 07.4**	**+0.8**
MCHZ	**McNeill Hill**	**1.04**	**127**	Pn	**Pn**	**15 22 08.3**	**+1.4**
MCHZ	**McNeill Hill**	**1.04**	**127**	Pn	**Pn**	**15 22 08.3**	**+1.4**
MHEZ	**Mangahewa**	**1.05**	**255**	PN	**Pn**	**15 22 08.0**	**+1.0**
MHEZ	**Mangahewa**	**1.05**	**255**	Pn	**Pn**	**15 22 08.0**	**+1.0**
WAZ	**Wanganui**	**1.06**	**208**	PN	**Pn**	**15 22 08.0**	**+1.0**
WAZ	**Wanganui**	**1.06**	**208**	Pn	**Pn**	**15 22 08.1**	**+1.0**
TOZ	**Tahuroa Road**	**1.09**	**355**	PN	**Pn**	**15 22 07.4**	**0.0**
TOZ	**Tahuroa Road**	**1.09**	**355**	Pn	**Pn**	**15 22 07.2**	**-0.2**
EDRZ	**Edgecumbe**	**1.12**	**51**	↓PN	**Pn**	**15 22 07.7**	**-0.1**
EDRZ	**Edgecumbe**	**1.12**	**51**	Pn	**Pn**	**15 22 07.7**	**-0.1**
RAHZ	**Arahi**	**1.14**	**95**	PN	**Pn**	**15 22 08.4**	**+0.5**
RAHZ	**Arahi**	**1.14**	**95**	Pn	**Pn**	**15 22 08.5**	**+0.6**
LREZ	**Lake Rotokare**	**1.15**	**236**	↑PN	**Pn**	**15 22 09.1**	**+1.2**
ARHZ	**Aropaoanui**	**1.15**	**113**	PN	**Pn**	**15 22 09.0**	**+1.0**
MARZ	**Manawahe**	**1.17**	**45**	↓PN	**Pn**	**15 22 08.3**	**+0.1**
MARZ	**Manawahe**	**1.17**	**45**	Pn	**Pn**	**15 22 08.3**	**+0.1**
DREZ	**Durham Road**	**1.17**	**251**	PN	**Pn**	**15 22 09.2**	**+1.0**
DREZ	**Durham Road**	**1.17**	**251**	Pn	**Pn**	**15 22 09.2**	**+1.0**
PNHZ	**Pukenui**	**1.18**	**158**	PN	**Pn**	**15 22 09.1**	**+0.7**
TGRZ	**Tauranga**	**1.20**	**25**	↓PN	**Pn**	**15 22 08.6**	**+0.1**
TGRZ	**Tauranga**	**1.20**	**25**	Pn	**Pn**	**15 22 08.6**	**+0.1**
OPRZ	**Ohinepanea**	**1.22**	**37**	PN	**Pn**	**15 22 08.6**	**0.0**
OPRZ	**Ohinepanea**	**1.22**	**37**	Pn	**Pn**	**15 22 08.3**	**-0.3**
PREZ	**Palmer Road**	**1.26**	**245**	PN	**Pn**	**15 22 10.4**	**+1.3**
TSZ	**Takapari Road**	**1.27**	**168**	↑PN	**Pn**	**15 22 10.0**	**+0.7**
TSZ				AML	AML	15 22 34.3	
TSZ				AML	AML	15 22 35.4	
TSZ	**Takapari Road**	**1.27**	**168**	↑Pn	**Pn**	**15 22 10.0**	**+0.7**
NEZ	**North Egmont**	**1.27**	**249**	PN	**Pn**	**15 22 10.7**	**+1.3**
NEZ	**North Egmont**	**1.27**	**249**	Pn	**Pn**	**15 22 10.7**	**+1.3**
WHHZ	**Waihua**	**1.28**	**102**	PN	**Pn**	**15 22 10.0**	**+0.7**
URZ	**Urewera**	**1.29**	**65**	↓PN	**Pn**	**15 22 08.9**	**-0.5**
URZ				AML	AML	15 22 33.8	
URZ				AML	AML	15 22 37.0	
URZ	**Urewera**	**1.29**	**65**	P	**Pn**	**15 22 09.0**	**-0.5**
	115nm,0.3s,baz=247,slow=7.1,SNR=490						
URZ				S	**Sn**	**15 22 26.2**	**-2.7**
	98nm,0.3s,baz=186,slow=18,SNR=5.7						
PKE	**Pukeiti**	**1.33**	**253**	PN	**Pn**	**15 22 10.8**	**+0.9**
PKE	**Pukeiti**	**1.33**	**253**	Pn	**Pn**	**15 22 10.8**	**+0.9**
SNGZ	**Shannon Statio**	**1.34**	**89**	PN	**Pn**	**15 22 10.8**	**+0.8**
KHEZ	**Kahui Hut**	**1.34**	**249**	↓PN	**Pn**	**15 22 11.1**	**+1.1**
KAHZ	**Kahuranaki**	**1.38**	**136**	↑PN	**Pn**	**15 22 11.5**	**+1.2**
KAHZ	**Kahuranaki**	**1.38**	**136**	Pn	**Pn**	**15 22 11.6**	**+1.2**
WPHZ	**Waipukurau**	**1.40**	**153**	↑PN	**Pn**	**15 22 11.4**	**+0.8**
WPHZ	**Waipukurau**	**1.40**	**153**	Pn	**Pn**	**15 22 11.4**	**+0.8**
CKHZ	**Cape Kidnapper**	**1.40**	**127**	PN	**Pn**	**15 22 11.8**	**+1.2**
CKHZ	**Cape Kidnapper**	**1.40**	**127**	Pn	**Pn**	**15 22 11.8**	**+1.2**
RAGZ	**Rawiri**	**1.44**	**78**	PN	**Pn**	**15 22 10.9**	**-0.3**
NWEZ	**Newall Road**	**1.44**	**251**	PN	**Pn**	**15 22 12.1**	**+1.0**
NWEZ	**Newall Road**	**1.44**	**251**	Pn	**Pn**	**15 22 12.1**	**+1.0**
NMEZ	**Namu Road**	**1.48**	**246**	PN	**Pn**	**15 22 12.6**	**+1.1**
DVHZ	**Dannevirke**	**1.54**	**164**	PN	**Pn**	**15 22 12.6**	**+0.4**
DVHZ	**Dannevirke**	**1.54**	**164**	Pn	**Pn**	**15 22 12.6**	**+0.4**
PAWZ	**Pawanui**	**1.54**	**142**	↑PN	**Pn**	**15 22 13.0**	**+0.8**
PXZ				AML	AML	15 22 35.2	
PXZ				AML	AML	15 22 37.0	
PXZ	**Pawanui**	**1.54**	**142**	Pn	**Pn**	**15 22 13.0**	**+0.8**
MWZ	**Matawai**	**1.57**	**73**	PN	**Pn**	**15 22 12.2**	**-0.3**
MWZ				AML	AML	15 22 41.5	
MWZ				AML	AML	15 22 45.0	
MWZ	**Matawai**	**1.57**	**73**	Pn	**Pn**	**15 22 12.2**	**-0.3**
POWZ	**Post Office Ro**	**1.57**	**176**	PN	**Pn**	**15 22 13.0**	**+0.4**
POWZ	**Post Office Ro**	**1.57**	**176**	Pn	**Pn**	**15 22 13.0**	**+0.4**
KNZ	**Kokohu**	**1.61**	**98**	PN	**Pn**	**15 22 13.3**	**+0.3**
KNZ	**Kokohu**	**1.61**	**98**	Pn	**Pn**	**15 22 13.3**	**+0.3**
PRHZ	**Porangahau**	**1.64**	**152**	↑PN	**Pn**	**15 22 14.2**	**+0.8**
PRHZ	**Porangahau**	**1.64**	**152**	Pn	**Pn**	**15 22 14.2**	**+0.8**
RIGZ	**Rimuhau**	**1.67**	**87**	PN	**Pn**	**15 22 14.3**	**+0.5**
MKAZ	**Moumakai**	**1.74**	**348**	PN	**Pn**	**15 22 14.5**	**-0.1**
MKAZ	**Moumakai**	**1.74**	**348**	Pn	**Pn**	**15 22 14.5**	**-0.1**
PRNZ	**Pori Road**	**1.75**	**171**	↑PN	**Pn**	**15 22 15.4**	**+0.7**
PRGZ	**Paritu Road**	**1.76**	**94**	↓PN	**Pn**	**15 22 15.2**	**+0.3**
PRGZ	**Paritu Road**	**1.76**	**94**	Pn	**Pn**	**15 22 15.2**	**+0.3**
ANWZ	**Angora Road**	**1.77**	**159**	↑PN	**Pn**	**15 22 15.6**	**+0.8**
TKGZ	**Te Karaka**	**1.78**	**78**	↓PN	**Pn**	**15 22 15.7**	**+0.7**
MHGZ	**Mahia Peninsul**	**1.81**	**101**	Pn	**Pn**	**15 22 15.6**	**+0.3**
MRZ	**Mangatainoka R**	**1.84**	**181**	PN	**Pn**	**15 22 15.8**	**+0.1**
MRZ				AML	AML	15 22 41.0	
MRZ				AML	AML	15 22 41.0	
MRZ	**Mangatainoka R**	**1.84**	**181**	Pn	**Pn**	**15 22 15.5**	**-0.2**
BFZ	**Birch Farm**	**1.92**	**166**	PN	**Pn**	**15 22 16.9**	**+0.3**
ETAZ	**East Tamaki Re**	**1.94**	**343**	↑PN	**Pn**	**15 22 17.1**	**+0.1**
TWGZ	**Tauwhareparae**	**1.96**	**72**	↓PN	**Pn**	**15 22 17.6**	**+0.4**
TIWZ	**Tintock**	**1.97**	**174**	PN	**Pn**	**15 22 17.5**	**+0.2**
TIWZ				AML	AML	15 22 43.4	
TIWZ				AML	AML	15 22 45.1	
TIWZ	**Tintock**	**1.97**	**174**	Pn	**Pn**	**15 22 17.5**	**+0.2**
HAZ	**Te Haha**	**2.00**	**59**	PN	**Pn**	**15 22 18.9**	**+0.8**
OGWZ	**Otaki Gorge**	**2.03**	**190**	PN	**Pn**	**15 22 18.1**	**+0.2**
OGWZ	**Otaki Gorge**	**2.03**	**190**	Pn	**Pn**	**15 22 18.2**	**+0.2**
KUZ	**Kuaotunu**	**2.07**	**2**	PN	**Pn**	**15 22 18.4**	**-0.2**
KUZ	**Kuaotunu**	**2.07**	**2**	Pn	**Pn**	**15 22 18.4**	**-0.2**
HOWZ	**Holdsworth Sta**	**2.08**	**182**	PN	**Pn**	**15 22 18.5**	**-0.2**
HOWZ	**Holdsworth Sta**	**2.08**	**182**	Pn	**Pn**	**15 22 18.5**	**-0.2**
KIW	**Kapiti Island**	**2.11**	**195**	PN	**Pn**	**15 22 18.9**	**-0.2**
KIW				AML	AML	15 22 51.5	
KIW				AML	AML	15 22 52.9	
KIW	**Kapiti Island**	**2.11**	**195**	Pn	**Pn**	**15 22 18.9**	**-0.2**
CPWZ	**Castlepoint**	**2.13**	**168**	↑PN	**Pn**	**15 22 19.9**	**+0.6**
PUZ	**Puketiti**	**2.19**	**71**	↓PN	**Pn**	**15 22 19.8**	**-0.3**
PUZ				AML	AML	15 22 48.7	
PUZ				AML	AML	15 23 00.6	
PUZ	**Puketiti**	**2.19**	**71**	↓Pn	**Pn**	**15 22 19.8**	**-0.3**
TMWZ	**Te Maipa**	**2.29**	**175**	PN	**Pn**	**15 22 21.0**	**-0.3**
TMWZ	**Te Maipa**	**2.29**	**175**	Pn	**Pn**	**15 22 21.0**	**-0.3**
CAW	**Cannon Point**	**2.33**	**190**	PN	**Pn**	**15 22 21.3**	**-0.4**
CAW				AML	AML	15 22 59.2	
CAW				AML	AML	15 23 01.8	
CAW	**Cannon Point**	**2.33**	**190**	Pn	**Pn**	**15 22 21.3**	**-0.4**
MTW	**Mount Morrison**	**2.34**	**182**	↑PN	**Pn**	**15 22 21.4**	**-0.5**
MTW				AML	AML	15 22 50.7	
MTW				AML	AML	15 22 50.9	
MTW	**Mount Morrison**	**2.34**	**182**	Pn	**Pn**	**15 22 21.4**	**-0.5**
WMGZ	**Waiomatatini S**	**2.41**	**66**	PN	**Pn**	**15 22 22.2**	**-0.5**
MXZ	**Matakaoa Point**	**2.46**	**60**	PN	**Pn**	**15 22 23.4**	**+0.1**
MXZ				AML	AML	15 23 02.6	
MXZ				AML	AML	15 23 05.4	
MXZ	**Matakaoa Point**	**2.46**	**60**	Pn	**Pn**	**15 22 23.4**	**+0.1**
WEL	**Wellington**	**2.55**	**195**	PN	**Pn**	**15 22 23.8**	**-0.8**
PAWZ	**Paruwai Farm**	**2.56**	**183**	PN	**Pn**	**15 22 24.0**	**-0.8**
PAWZ				AML	AML	15 22 58.2	
PAWZ				AML	AML	15 22 59.7	
PAWZ	**Paruwai Farm**	**2.56**	**183**	Pn	**Pn**	**15 22 24.0**	**-0.8**
GRZ	**Great Barrier**	**2.57**	**357**	PN	**Pn**	**15 22 25.0**	**+0.2**
TRWZ	**Traveller**	**2.58**	**179**	PN	**Pn**	**15 22 24.3**	**-0.6**
TRWZ				AML	AML	15 22 56.5	
TRWZ				AML	AML	15 22 58.4	
TRWZ	**Traveller**	**2.58**	**179**	Pn	**Pn**	**15 22 24.3**	**-0.6**
TCW	**Tory Channel**	**2.61**	**203**	PN	**Pn**	**15 22 24.5**	**-0.7**
TCW				AML	AML	15 22 59.0	
TCW				AML	AML	15 23 03.9	
TCW	**Tory Channel**	**2.61**	**203**	Pn	**Pn**	**15 22 24.5**	**-0.7**
MSWZ	**Moikau Station**	**2.61**	**186**	PN	**Pn**	**15 22 24.5**	**-0.8**
MSWZ				AML	AML	15 22 58.9	
MSWZ				AML	AML	15 22 59.1	
MSWZ	**Moikau Station**	**2.61**	**186**	Pn	**Pn**	**15 22 24.5**	**-0.8**
PLWZ	**Palliser**	**2.76**	**186**	PN	**Pn**	**15 22 26.2**	**-1.1**
PLWZ	**Palliser**	**2.76**	**186**	Pn	**Pn**	**15 22 26.2**	**-1.1**
TUWZ	**Tuamarina**	**2.91**	**206**	PN	**Pn**	**15 22 28.1**	**-1.1**
TUWZ				AML	AML	15 23 03.7	
TUWZ				AML	AML	15 23 04.5	
TUWZ	**Tuamarina**	**2.91**	**206**	Pn	**Pn**	**15 22 28.1**	**-1.1**
QRZ	**Quartz Range**	**3.12**	**229**	PN	**Pn**	**15 22 31.1**	**-0.7**
QRZ	**Quartz Range**	**3.12**	**229**	Pn	**Pn**	**15 22 31.1**	**-0.7**
BSWZ	**Blackbirch Sta**	**3.19**	**204**	AML	AML	15 23 10.9	
BSWZ				AML	AML	15 23 12.0	
THZ	**Tophouse**	**3.60**	**214**	PN	**Pn**	**15 22 37.2**	**-1.1**
THZ	**Tophouse**	**3.60**	**214**	Pn	**Pn**	**15 22 37.4**	**-0.9**
KHZ	**Kahutara**	**3.93**	**203**	PN	**Pn**	**15 22 40.9**	**-1.6**
KHZ				AML	AML	15 23 28.3	
KHZ				AML	AML	15 23 30.4	
KHZ	**Kahutara**	**3.93**	**203**	Pn	**Pn**	**15 22 40.9**	**-1.6**
DSZ	**Denniston Nort**	**4.13**	**224**	PN	**Pn**	**15 22 43.7**	**-1.6**
MQZ	**McQueen's Vall**	**5.37**	**204**	PN	Pn	15 22 58.4	-3.4
RPZ	**Rata Peaks**	**5.98**	**214**	P	**Pn**	**15 23 07.5**	**-2.6**
	2.6nm,0.3s,baz=39,slow=4.8,SNR=6.7						
RPZ				S	Sn	15 24 08.0	-9.3
	6.1nm,0.3s,baz=22,slow=9.0,SNR=4.0						
ODZ	**Otahua Downs**	**7.24**	**209**	PN	**Pn**	**15 23 24.1**	**-2.9**
ASAR	**Alice Springs**	**38.39**	**281**	P	**P**	**15 28 54.5**	**+1.6**
	0.3nm,0.3s,baz=119,slow=7.6,SNR=13						
WRA	**Warramunga Arr**	**40.19**	**286**	P	**P**	**15 29 08.9**	**+1.1**
	0.2nm,0.5s,baz=122,slow=7.9,SNR=5.1						
ARCES	**ARCESS Array B**	**145.35**	**342**	PKPbc	**PKPdf**	**15 41 05.7**	**+0.4**
	2.3nm,0.8s,baz=40,slow=4.7,SNR=4.2						
FINES	**FINESS Array B**	**150.59**	**330**	PKPbc	**PKPbc**	**15 41 19.3**	**-0.4**
	1.2nm,0.8s,baz=59,slow=4.1,SNR=3.1						
TORD	**Torodi Ar. Bea**	**153.87**	**194**	PKPab	**PKPab**	**15 41 42.8**	**+0.9**
	0.2nm,0.5s,baz=159,slow=2.6,SNR=3.9						

*ISCJB **26** 15:32:19.5±0.6, 25°.80N±0°.05×130°.02E±0°.04, h10km, mb3.4/4, Error ellipse: s-maj=7

BLSI **Bandar Lampung** 9.13 295 P Pn 15 58 08.7 +2.4
157nm,0.6s
STKI **Sintang** 9.60 348 P Pn 15 58 15.8 +3.1
KLI **Kotabumi** 9.71 297 P Pn 15 58 15.7 +1.5
KASI **Kota Agung** 9.74 292 P Pn 15 58 14.8 +0.1
164nm,0.6s,3µm
PPBI **Pangkal Pinang** 10.27 314 P Pn 15 58 23.2 +1.3
75nm,0.7s,619nm
LWLI **Liwa** 10.35 294 P Pn 15 58 24.0 +0.9
MDSI **Maura Dua** 10.48 297 P Pn 15 58 26.0 +1.3
47nm,0.9s,530nm
PCI **Palu** 10.49 37 P Pn 15 58 28.0 +3.1
KDI **Kendari** 10.50 60 P Pn 15 58 26.2 +1.1
43nm,0.7s
SOEI **Soe** 10.59 93 P Pn 15 58 26.3 -0.1
SOEI **Soe** 10.59 93 *e*Pn Pn 15 58 25.3 -1.1
88nm,0.7s
KSM **Kuching** 11.24 343 ⇑P Pn 15 58 37.5 +2.4
KSM **Kuching** 11.24 343 *e*Pn Pn 15 58 35.7 +0.6
20nm,0.6s
LHSI **Lahat** 11.37 298 P Pn 15 58 38.3 +1.4
90nm,1.1s
MPSI **Mapaga** 11.54 34 P Pn 15 58 42.8 +3.6
MNAI **Manna** 11.62 295 P Pn 15 58 39.3 -1.1
MNAI **Manna** 11.62 295 *e*Pn Pn 15 58 39.2 -1.1
397nm,0.6s
APSI **Ampana** 11.66 44 P Pn 15 58 44.9 +4.1
SBUM **Sibu** 11.82 354 ⇓P Pn 15 58 46.5 +3.5
MASI **Maura Aman, Be** 12.82 298 P Pn 15 58 53.6 -3.1
MBWA **Marble Bar** 13.15 154 *e*Pn Pn 15 58 54.7 -6.4
65nm,0.5s
TPRI **Tanjung Pinang** 13.60 318 P P 15 59 15.7 +1.8
KMSI **Cibinong** 14.35 47 P P 15 59 20.5 -1.7
SANI **Sanana** 14.36 60 P Pn 15 59 18.0 +0.7
55nm,1.2s
FITZ **Fitzroy Crossi** 14.61 128 P Pn 15 59 15.9 -4.5
MYKOM **Kota Tinggi** 14.70 318 ⇑P P 15 59 26.9 +0.7
NLAI **Namlea** 14.79 67 P Pn 15 59 24.9 +2.1
KGM **Kluang** 15.22 318 ⇓P P 15 59 32.0 +0.1
KKM **Kota Kinabalu** 15.55 10 *e*Pn Pn 15 59 33.4 +0.8
37nm,0.8s
BKNI **Bangkinang** 15.74 307 *e*Pn Pn 15 59 35.0 +0.1
KDM **Kudat** 16.51 12 ⇓P P 15 59 50.3 +4.0
BNDI **Bandanaira** 16.95 75 P P 15 59 51.2 +0.1
TNTI **Ternate** 17.07 55 P Pn 15 59 51.7 +0.1
TNTI **Ternate** 17.07 55 *e*Pn Pn 15 59 51.4 -0.2
21nm,0.6s
MNSI **Mandailing Nat** 17.18 305 P Pn 15 59 49.0 -4.0
FRIM **Kepong** 17.26 316 ⇓P P 15 59 59.4 +4.9
KTGM **Kuala Trenggan** 17.91 324 ⇓P Pn 16 00 07.0 +5.1
IPM **Ipoh** 18.57 317 *e*P P 16 00 08.6 -0.4
20nm,0.6s
PSI **Prapat** 18.93 309 LR LR 16 07 53.6
comp=Z,502nm,21.3s,baz=127,slow=38
GSI **Gunungsitoli** 19.11 303 P P 16 00 10.3 -4.6
GSI **Gunungsitoli** 19.11 303 *e*P P 16 00 11.1 -3.8
16nm,0.6s
KULM **Kulim** 19.42 318 ⇑P Pn 16 00 22.0 +2.0
KULM **Kulim** 19.42 318 *e*P P 16 00 16.3 -2.0
12nm,0.6s
FAKI **Fak Fak** 19.67 72 P P 16 00 21.9 +0.8
FAKI **Fak Fak** 19.67 72 *e*P P 16 00 18.3 -2.7
48nm,0.6s
TRTT **Trang** 21.96 321 P P 16 00 46.9 +1.2
59nm,0.6s
RKPI **Ransiki, Papua** 21.97 70 P P 16 00 44.2 -1.6
WRA **Warramunga Arr** 22.68 120 P P 16 00 52.9 -0.5
29nm,0.5s,baz=297,slow=11,SNR=515
WRA PcP PcP 16 04 45.0 +1.2
3.1nm,0.7s,baz=294,slow=2.0,SNR=4.9
WRA ScP ScP 16 08 16.6 +0.6
2.9nm,0.7s,baz=304,slow=2.2,SNR=6.1
WRA LR LR 16 09 53.8
comp=Z,400nm,21.5s,baz=295,slow=37
WRAB **Tennant Creek** 22.68 120 *e*P P 16 00 52.5 -1.0
WRAB pmax pmax
comp=Z,61nm,0.8s
WRAB **Tennant Creek** 22.68 120 *e*P P 16 00 52.5 -1.0
comp=Z,61nm,0.8s
NWAO **Narrogin (SRO)** 23.69 172 P P 16 01 03.5 +0.5
comp=Z,22nm,0.7s,baz=330,slow=7.1,SNR=10
ASAR **Alice Springs** 24.10 129 P P 16 01 07.3 +0.5
comp=Z,24nm,0.6s,baz=301,slow=8.3,SNR=736
ASAR PcP PcP 16 04 48.0 +1.1
comp=Z,5.3nm,0.6s,baz=304,slow=1.7,SNR=10
ASAR ScP ScP 16 08 21.4 +1.6
comp=Z,2.9nm,0.7s,baz=336,slow=2.1,SNR=5.8
ASAR LR LR 16 10 29.1
comp=Z,190nm,20.3s,baz=292,slow=36
AS31 **Alice Springs** 24.10 129 *e*P P 16 01 07.1 +0.2
FORT **Forrest** 25.24 150 *e*P P 16 01 16.9 -0.2
comp=Z,157nm,0.7s
SMPI **Sarmi** 26.09 75 P P 16 01 23.6 -1.3
QIZ **Qiongzhong** 28.46 353 P P 16 01 47.0 +0.9
QIZ pP pP 16 02 02.0 -0.1
QIZ sP sP 16 02 09.8 -0.1
QIZ S S 16 06 31.8 +2.9
QIZ sS sS 16 06 57.5 +1.2
QIZ PMZ
comp=Z,13nm,1.4s
COEN **Coen** 29.37 102 *e*P P 16 01 53.8 -0.6
comp=Z,6.0nm,0.3s
LAMP **Lampang** 30.93 334 P P 16 02 10.1 +2.1
comp=Z,5.0nm,0.6s
CM31 **Chiang Mai Arr** 31.18 332 *e*P P 16 02 09.8 -0.4
comp=Z,5.0nm,0.6s
CMAR **Chiang Mai Arr** 31.18 332 P P 16 02 10.6 +0.4
comp=Z,8.0nm,0.8s,baz=164,slow=9.0,SNR=56
CMAR ScP ScP 16 08 42.9 +1.6
comp=Z,4.5nm,0.9s,baz=186,slow=3.8,SNR=17
CMAR LR LR 16 16 17.5
comp=Z,189nm,18.6s,baz=161,slow=39
BBOO **Buckleboo** 31.25 142 *e*P P 16 02 11.0 +0.3
comp=Z,41nm,0.6s
PMG **Port Moresby** 33.17 93 *e*P P 16 02 26.7 -1.0
PMG pmax pmax
comp=Z,57nm,1.0s
PMG **Port Moresby** 33.17 93 *e*P P 16 02 27.2 -0.5
comp=Z,12nm,0.8s
CTA **Charters Tower** 33.32 112 P P 16 02 29.9 +0.9
comp=Z,16nm,0.7s,baz=282,slow=12,SNR=33
CTA PcP PcP 16 05 10.0 +0.1
comp=Z,3.2nm,0.8s,baz=328,slow=9.5,SNR=3.2
CTAO **Charters Tower** 33.32 112 *e*P P 16 02 29.8 +0.7
CTAO pmax pmax
comp=Z,15nm,0.7s
CTAO **Charters Tower** 33.32 112 *e*P P 16 02 29.8 +0.7
comp=Z,15nm,0.7s
STKA **Stephens Creek** 34.32 135 P P 16 02 38.5 +1.0
comp=Z,43nm,0.5s,baz=312,slow=8.7,SNR=232
STKA PcP PcP 16 05 13.2 +0.7
comp=Z,5.3nm,0.7s,baz=322,slow=9.1,SNR=2.9
STKA ScP ScP 16 08 53.8 +1.8
comp=Z,2.3nm,0.8s,baz=281,slow=6.1,SNR=3.7
STKA LR LR 16 17 49.7
comp=Z,283nm,19.7s,baz=290,slow=38
STKA **Stephens Creek** 34.32 135 *e*P P 16 02 38.3 +0.7
STKA 16 05 13.2
STKA pmax pmax
comp=Z,12nm,0.8s
STKA **Stephens Creek** 34.32 135 *e*P P 16 02 38.3 +0.7
comp=Z,12nm,0.8s
STKA PcP PcP 16 05 13.2 +0.7
STKA ScP ScP 16 08 53.8 +1.8
KMI **Kunming** 35.87 343 P P 16 02 54.3 +3.2
KMI S S 16 08 29.3 +4.8
KMI PMZ
comp=Z,5.0nm,1.5s
KMI PMZ
comp=Z,100nm,3.3s
KMI LN
comp=Z,160nm,15.6s
KMI LE
comp=Z,160nm,16.2s
KMI LZ
comp=Z,170nm,27.6s
GYA **Guiyang** 36.24 350 *e*P P 16 02 55.8 +1.7
GYA pP pP 16 03 12.5 +2.0
GYA sP sP 16 03 20.5 +2.3
GYA PP PnPn 16 04 21.8 +4.0
GYA S S 16 08 31.5 +1.5
GYA ScP ScP 16 08 59.0 -0.1
GYA sS sS 16 09 01.0 +3.2
GYA PMZ
comp=Z,10.0nm,0.8s
GYA PMZ
comp=Z,110nm,4.9s
GYA LN
comp=Z,540nm,17.8s
GYA LE
comp=Z,470nm,18.2s
GYA LZ
comp=Z,520nm,17.5s
H08S2 **Diego Garcia H** 40.61 269 T T 16 46 25.3
baz=95,slow=75,SNR=15
H08S3 **Diego Garcia H** 40.62 269 T T 16 46 24.7
baz=95,slow=75,SNR=6.5
H08S1 **Diego Garcia H** 40.63 269 T T 16 46 28.7
baz=95,slow=75,SNR=7.2
CD2 **Chengdu** 41.14 347 *e*P P 16 03 35.0 0.0
CD2 pP pP 16 03 51.5 -0.1
CD2 sP sP 16 03 59.3 0.0
CD2 PP PnPn 16 05 14.5 -1.7
CD2 PcS PcS 16 09 23.0 -1.7
CD2 S S 16 09 44.3 +0.8
CD2 sS sS 16 10 12.5 +0.8
CD2 SS SS 16 12 45.0 -3.8
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,160nm,5.4s
NJ2 **Nanjing** 41.50 7 *e*P P 16 03 37.8 -0.1
NJ2 PMZ
comp=Z,30nm,0.6s
HYB **Hyderabad** 43.63 308 *i* P P 16 03 53.0 -2.5
HYB *e*pP pP 16 04 14.0 +1.8
ODAN **Odare** 44.06 326 *e*P P 16 03 58.5 -0.5
comp=Z,111nm,0.6s
TAPN **Taplejung** 44.26 326 *e*P P 16 04 00.5 -0.2
comp=Z,79nm,0.7s
RAMN **Ramite** 44.57 325 *e*P P 16 04 02.6 -0.6
JIRN **Jiri** 45.35 325 *e*P P 16 04 09.0 -0.5
comp=Z,158nm,0.6s
GUN **Gumba** 45.72 325 *e*P P 16 04 11.8 -0.6
comp=Z,131nm,0.6s
PKI **Pulchoki** 45.73 324 *e*P P 16 04 11.3 -1.1
comp=Z,30nm,0.6s
PKIN **Phulchoki** 45.74 324 *e*P P 16 04 11.3 -1.1
comp=Z,25nm,0.6s
DMN **Daman** 45.93 324 *e*P P 16 04 13.1 -0.8
comp=Z,101nm,0.6s
KKN **Kakani** 45.97 324 *e*P P 16 04 13.3 -0.9
comp=Z,57nm,0.7s
LZH **Lanzhou** 46.13 349 *e*P P 16 04 16.3 +1.1
LZH pP pP 16 04 33.3 +1.3
LZH sP sP 16 04 39.5 -0.2
LZH PMZ
comp=Z,29nm,1.0s
LZH PMZ
comp=Z,130nm,4.0s
LZH LN
comp=Z,330nm,12.2s
LZH LE
comp=Z,290nm,14.6s
LZH LZ
comp=Z,180nm,12.9s
GKN **Gorkha** 46.50 324 *e*P P 16 04 17.4 -0.9
comp=Z,60nm,0.5s
KOLN **Koldanda** 46.94 323 *e*P P 16 04 20.8 -1.0
comp=Z,106nm,0.6s
KSAR **Wonju Array Be** 48.47 15 P P 16 04 33.4 +0.2
KSAR **Wonju Array Be** 48.47 15 P P 16 04 33.4 +0.2
KSRS **Korea Array** 48.49 15 P P 16 04 33.4 0.0
comp=Z,1.8nm,0.8s,baz=201,slow=7.1,SNR=5.3
BJI **Beijing** 49.22 3 P P 16 04 40.5 +1.6
BJI pP pP 16 04 56.0 +0.1
BJI sP sP 16 05 03.3 -0.1
BJI PP PP 16 06 35.3 +1.9
BJI S S 16 11 39.8 0.0
BJI sS sS 16 12 08.5 -0.1
BJI ScS ScS 16 14 24.5 -0.2
BJI PMZ
comp=Z,14nm,0.5s
BJI LN
comp=Z,98nm,7.3s
BJI LE
comp=Z,240nm,15.6s
BJI LZ
comp=Z,100nm,32.5s
HHC **Hu-ho-hao-te** 50.00 358 *e*P P 16 04 47.8 +2.8
HHC PP PP 16 06 44.8 +4.1
HHC S S 16 11 54.0 +3.0
HHC sS sS 16 12 21.0 +1.2
HHC PMZ
comp=Z,12nm,0.7s
HHC PMZ
comp=Z,100nm,8.6s
HHC LN
comp=Z,270nm,14.8s
HHC LE
comp=Z,240nm,14.8s
HHC LZ
comp=Z,270nm,16.0s
GTA **Gaotai** 50.18 346 *e*P P 16 04 47.3 +0.9
GTA pP pP 16 05 01.5 -1.9
GTA sP sP 16 05 09.3 -1.7
GTA PcP PcP 16 06 07.5 +2.7
GTA ScP ScP 16 09 56.3 +1.3
GTA S S 16 11 55.3 +1.7
GTA sS sS 16 12 22.5 +0.1
GTA ScS ScS 16 14 30.0 -1.6
GTA PMZ
comp=Z,6.0nm,1.2s
GTA PMZ
comp=Z,50nm,6.9s
GTA LN
comp=Z,81nm,18.0s
GTA LE
comp=Z,130nm,19.0s
GTA LZ
comp=Z,130nm,18.5s
MJAR **Matsushiro Arr** 51.23 26 P P 16 04 51.6 -2.6
comp=Z,0.8nm,0.5s,baz=197,slow=8.2,SNR=3.5
USRK **Ussuriysk Ar.** 55.88 16 P P 16 05 26.6 -1.5
comp=Z,2.9nm,0.6s,baz=206,slow=5.3,SNR=7.1
SONM **Songino Array** 57.31 354 P P 16 05 37.6 -0.6
comp=Z,7.0nm,0.5s,baz=176,slow=8.3,SNR=86
SONM ScP ScP 16 10 26.0 0.0
comp=Z,0.5nm,0.6s,baz=147,slow=3.4,SNR=3.6
SONM LR LR 16 33 20.9
comp=Z,71nm,18.1s,baz=200,slow=39
WMQ **Urumqi** 57.91 338 P P 16 05 43.0 +0.5
WMQ pP pP 16 05 59.0 -0.9
WMQ sP sP 16 06 06.0 -1.4
WMQ PcP PcP 16 06 34.8 +0.6
WMQ ScP ScP 16 10 27.5 -1.1
WMQ PcS PcS 16 10 34.3 -1.2
WMQ S S 16 13 35.8 -1.8
WMQ ScS ScS 16 15 26.5 +0.3
WMQ SS SS 16 17 28.5 -1.3
WMQ PMZ
comp=Z,27nm,0.5s
WMQ PMZ
comp=Z,180nm,4.4s
WMQ LN
comp=Z,85nm,24.8s
WMQ LE
comp=Z,88nm,23.8s
WMQ LZ
comp=Z,81nm,30.0s
KSH **Kashi** 59.83 327 P P 16 05 54.3 -1.7
KSH pP pP 16 06 10.3 -3.2
KSH *e*PP PP 16 08 07.5 -1.4
KSH PcS PcS 16 10 42.5 -1.9
KSH S S 16 13 55.5 -7.3
KSH ScS ScS 16 15 35.0 -5.7
KSH PMZ
comp=Z,6.0nm,0.7s
KSH PMZ
comp=Z,85nm,5.1s
KSH LN
comp=Z,71nm,4.6s
KSH LE
comp=Z,85nm,4.8s
KSH LZ
comp=Z,180nm,5.8s
ZAK **Zakamensk** 60.17 352 *e*P P 16 05 56.2 -1.9
ZAK pmax pmax
comp=Z,3.0nm,1.7s
RPZ **Rata Peaks** 60.28 135 P P 16 06 00.5 +1.5
comp=Z,45nm,1.0s,baz=126,slow=21,SNR=4.8
TLY **Talaya** 61.40 353 *e*P P 16 06 04.4 -1.9
TLY pmax pmax
comp=Z,8.0nm,1.7s
TLY MLR MLR
comp=Z,74nm,18.0s
MOY **Mondy** 61.75 351 *e*P P 16 06 07.8 -1.0
KZA **Kyzart** 62.05 329 P P 16 06 11.1 -0.3
SNR=7.8
MK31 **Makanchi Array** 62.48 336 *e*P P 16 06 12.6 -1.0
MK31 **Makanchi Array** 62.48 336 *e*P P 16 06 12.6 -1.0
MKAR **Makanchi Array** 62.48 336 P P 16 06 13.1 -0.6
comp=Z,14nm,0.5s,baz=148,slow=7.3,SNR=226
MKAR ScP ScP 16 10 48.9 +0.1
comp=Z,0.3nm,0.6s,baz=131,slow=4.0,SNR=2.8
TKM2 **Tokmak 2** 62.49 329 P P 16 06 13.6 -0.5
SNR=13
TKM2 **Tokmak 2** 62.49 329 *e*P P 16 06 13.2 -0.9
TKM2 pmax pmax
comp=Z,10.0nm,0.8s
TKM2 **Tokmak 2** 62.49 329 *e*P P 16 06 13.2 -0.9
comp=Z,9.8nm,0.8s
KBK **Karagaybulak** 62.63 329 P P 16 06 15.1 +0.2
SNR=15
AAK **Ala-Archa** 62.84 329 *c e*P P 16 06 15.8 -0.6
AAK pmax pmax
comp=Z,12nm,0.7s
AAK **Ala-Archa** 62.84 329 *e*P P 16 06 15.9 -0.4
comp=Z,9.3nm,0.9s
AML **Almayashu** 62.90 328 P P 16 06 16.7 -0.3
SNR=10
EKS2 **Erkin-Say** 63.23 328 P P 16 06 18.8 -0.1
SNR=13
EKS2 **Erkin-Say** 63.23 328 *e*P P 16 06 18.5 -0.4
EKS2 pmax pmax
comp=Z,8.0nm,0.7s
EKS2 **Erkin-Say** 63.23 328 *e*P P 16 06 18.5 -0.4
comp=Z,8.2nm,0.7s
USP **Ospenovka** 63.29 329 P P 16 06 18.9 -0.3
SNR=7.7
KKAR **Karatay Array** 65.28 327 *e*P P 16 06 30.8 -1.3
KKAR pmax pmax
comp=Z,3.0nm,0.6s
KKAR **Karatay Array** 65.28 327 *e*P P 16 06 30.8 -1.3
comp=Z,2.7nm,0.6s
HATD **Hatta, Dubai** 65.45 303 ⇑ *i*P P 16 06 33.8 +0.2
SNR=8.5
ASHO **Ashiyiah** 65.45 303 ⇓ *i*P P 16 06 33.7 +0.1
SNR=6.8
FAQ **Al Faqa, Dubai** 65.86 302 ⇓ *i*P P 16 06 36.2 -0.1
SNR=9.0
ASUD **Al Ashush, Dub** 66.04 302 *i* P P 16 06 37.7 +0.3
SNR=17
IDAH **Dahanechah** 66.07 312 *e*P P 16 06 35.6 -2.1
IBND **Bandar-abas** 66.20 305 *e*P P 16 06 54.7 +16
BOD **Bodaibo** 66.96 0 *e*P P 16 06 40.7 -1.8
BOD pmax pmax
comp=Z,24nm,1.0s
MAW **Mawson** 67.10 199 P P 16 06 45.1 +1.8
comp=Z,14nm,0.8s,baz=53,slow=6.2,SNR=8.3
MAW LR LR 16 32 05.8
comp=Z,210nm,19.5s,baz=60,slow=32
ZAA0 **Zalesovo Array** 67.60 342 *e*P P 16 06 45.1 -1.5
ZALV **Zalesovo Beam** 67.60 342 P P 16 06 45.3 -1.3
comp=Z,6.5nm,0.6s,baz=149,slow=4.1,SNR=34
IBAF **Bafgh** 68.76 309 *e*P P 16 06 53.3 -1.3
IAKL **Akhelmad** 68.78 315 *e*P P 16 06 54.0 -0.8
NVS **Novosibirsk** 68.85 342 *e*P P 16 06 51.7 -2.7
IMEH **Mehriz** 69.40 309 *e*P P 16 06 56.8 -1.9
ISRV **Sarvestan** 69.75 306 *e*P P 16 06 59.4 -1.6
ISAD **Sadrabad** 70.34 309 *e*P P 16 07 03.1 -1.4
BVAR **Borovoye Array** 72.18 334 P P 16 07 14.1 -0.7
comp=Z,2.6nm,0.6s,baz=143,slow=9.0,SNR=14
YAK **Yakutsk** 72.29 8 *e*P P 16 07 12.9 -2.3
YAK pmax pmax
comp=Z,12nm,1.4s
YAK **Yakutsk** 72.29 8 *e*P P 16 07 13.7 -1.5
comp=Z,9.2nm,0.6s
VNDA **Vanda** 72.50 170 P P 16 07 17.8 +1.4
VNDA LR LR 16 36 12.2
comp=Z,65nm,21.3s,baz=278,slow=33
VNDA **Vanda** 72.50 170 *e*P P 16 07 17.7 +1.3
VNDA pmax pmax
comp=Z,5.0nm,0.8s
VNDA **Vanda** 72.50 170 *e*P P 16 07 17.7 +1.3
comp=Z,5.4nm,0.8s
PETK **Petropavlovsk-** 72.68 26 P P 16 07 16.4 -1.4
comp=Z,1.6nm,0.6s,baz=231,slow=2.5,SNR=5.6
IPIR **Pirpir** 72.81 308 *e*P P 16 07 17.4 -2.0
IVRN **Varamin** 73.12 311 *e*P P 16 07 20.3 -0.6
IDMV **Damavand** 73.14 312 *e*P P 16 07 19.7 -1.6
RAYN **Ar Rayn** 74.06 298 *e*P P 16 07 24.8 -1.9
comp=Z,8.8nm,1.1s
ABKAR **Akbulak array** 74.84 327 *e*P P 16 07 30.1 -0.5
comp=Z,18nm,0.5s
SYO **Syowa Base** 75.56 201 ⇑ *e*P P 16 07 34.4 0.0
SVE **Sverdlovsk** 78.92 333 *e*P P 16 07 53.3 0.0
SVE pmax pmax
comp=Z,20nm,0.9s
ARU **Arti** 79.62 332 *c i*P P 16 07 56.6 -0.5
ARU S S 16 17 57.7 +3.8
ARU SS SS 16 22 58.8 -4.9
ARU pmax pmax
comp=Z,23nm,1.7s
ARU **Arti** 79.62 332 *e*P P 16 07 56.4 -0.7
comp=Z,14nm,1.0s
QSPA **South Pole Qui** 80.63 180 P P 16 08 03.9 +1.3
comp=Z,2.0nm,0.7s,baz=202,slow=1.0,SNR=7.9
TIXI **Tiksi** 81.49 5 *e*P P 16 08 05.1 -1.7
TIXI pmax pmax
comp=Z,8.0nm,0.8s
TIXI **Tiksi** 81.49 5 *e*P P 16 08 05.1 -1.7
comp=Z,8.1nm,0.8s
ZEI **Tsey** 81.76 316 *e*P P 16 08 07.1 -2.1
ZEI pmax pmax
comp=Z,12nm,0.6s
KBZ **Khabaz** 82.78 316 P P 16 08 14.9 +0.8
comp=Z,5.0nm,0.8s,baz=53,slow=20,SNR=12
KIV **Kislovodsk** 83.00 317 *e*P P 16 08 13.6 -1.9
KIV pmax pmax
comp=Z,9.0nm,0.9s
KIV **Kislovodsk** 83.00 317 P P 16 08 15.1 -0.4
comp=Z,8.4nm,0.8s
BOSA **Boshof** 84.08 242 P P 16 08 22.7 +1.2
comp=Z,3.8nm,1.0s,baz=116,slow=4.3,SNR=3.7
BILL **Bilibino** 85.71 17 ⇑ *e*P P 16 08 28.5 0.0
BILL *e* 16 11 47.2
BILL *e*PPP PPP 16 13 39.2
BILL pmax pmax
comp=Z,1.0nm,1.0s
BILL MLR MLR
comp=Z,59nm,18.0s
VORD **Divnogorie** 87.47 322 *e*P P 16 08 36.8 -0.7
VORD pmax pmax
comp=Z,30nm,1.5s
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,30nm,1.9s
VSR **Storozhevoye** 87.62 323 *e*P P 16 08 37.8 -0.4
VSR pmax pmax
comp=Z,30nm,0.5s
VSR pmax pmax
comp=N,9.0nm,1.3s
VSR pmax pmax
comp=E,10.0nm,0.6s
LPSR **Galich'ya Gora** 88.19 324 *e*P P 16 08 40.8 0.0
LPSR pmax pmax
comp=Z,20nm,0.7s
LPSR pmax pmax
comp=N,6.0nm,0.6s
LPSR pmax pmax
comp=E,20nm,1.4s
BR131 **Keskin Array S** 88.25 311 *e*P P 16 08 41.6 0.0
comp=E,3.9nm,0.8s
BRTR **Keskin Array B** 88.25 311 P P 16 08 41.6 0.0
comp=E,4.3nm,0.9s,baz=140,slow=5.0,SNR=17
BRTR LR LR 16 52 22.3
comp=E,16nm,18.4s,baz=94,slow=38
SNAA **Sanae** 89.15 196 P P 16 08 45.8 +0.5
SNAA **Sanae** 89.15 196 P P 16 08 47.2 +2.0
comp=E,2.0nm,0.9s,baz=132,slow=5.4,SNR=11
SNAA **Sanae** 89.15 196 *e*P P 16 08 45.7 +0.5
SNAA pmax pmax
comp=Z,6.0nm,1.1s

SNAA	**Sanae**	**89.15**	**196**	*e*P	**P**	**16 08 45.7**	**+0.4**
	comp=Z,6.5nm,1.1s							
OBN	**Obninsk**	**90.26**	**326**	⇓*e*P	**P**	**16 08 50.8**	**+0.3**
OBN				*e*		16 12 19.6		
OBN				*e*S	S	16 19 28.3	-11	
OBN				pmax	pmax			
	comp=Z,30nm,1.4s							
OBN				MLR	MLR			
	comp=Z,28nm,14.0s							
VNA2	**Neumayer--Watz**	**90.80**	**196**	P	**P**	**16 08 55.3**	**+2.4**
	baz=99,slow=3.8							
AKASG	**Malin Array Be**	**93.59**	**321**	P	**P**	**16 09 05.1**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=83,slow=4.5,SNR=9.1							
FINES	**FINESS Array B**	**96.94**	**331**	P	**P**	**16 09 20.6**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=46,slow=8.2,SNR=3.8							
FINES				LR	LR	16 58 02.2		
	comp=Z,41nm,20.0s,baz=73,slow=38							
ARCES	**ARCESS Array B**	**98.02**	**339**	P	**P**	**16 09 24.4**	**-1.4**
	comp=Z,1.9nm,0.8s,baz=111,slow=4.9,SNR=4.7							
ARCES				LR	LR	16 59 09.8		
	comp=Z,44nm,18.6s,baz=74,slow=39							
TORD	**Torodi Ar. Bea**	**113.22**	**280**	PKiKP	**PKiKP**	**16 14 28.2**	**0.0**	
	comp=Z,0.2nm,0.4s,baz=58,slow=2.2,SNR=2.9							
YKA	**Yellowknife Ar**	**116.68**	**23**	PKP	**PKPdf**	**16 14 32.8**	**-0.7**	
	comp=Z,0.9nm,0.8s,baz=300,slow=2.1,SNR=8.9							
YKA				SKP		16 18 03.1		
	comp=Z,0.3nm,0.5s,baz=315,slow=1.9,SNR=4.8							
NVAR	**Mina Array Bea**	**125.38**	**49**	PKP	**PKPdf**	**16 14 53.3**	**+2.0**	
	comp=Z,0.8nm,0.7s,baz=264,slow=2.0,SNR=5.4							
PDAR	**Pinedale Array**	**129.80**	**41**	PKP	**PKPdf**	**16 15 01.4**	**+1.7**	
	comp=Z,0.3nm,0.5s,baz=333,slow=1.0,SNR=3.2							
PDAR				SKPbc	SKPab	16 18 15.2	-0.6	
	comp=Z,1.1nm,0.9s,baz=243,slow=0.7,SNR=6.4							
ULM	**Lac du Bonnet**	**132.53**	**25**	PKP	**PKPdf**	**16 15 04.3**	**+0.1**	
	comp=Z,2.0nm,0.7s,baz=355,slow=12,SNR=1.5							
ULM				SKPbc	**SKPbc**	**16 18 25.2**	**-0.3**	
	comp=Z,6.4nm,0.7s,baz=307,slow=6.4,SNR=6.4							
TXAR	**Lajitas Array**	**139.92**	**55**	PKhKP	PKPpre	16 15 11.9		
	comp=Z,0.5nm,0.7s,baz=294,slow=1.2,SNR=6.8							
TXAR				PKP	**PKPdf**	**16 15 18.9**	**+0.1**	
	comp=Z,0.4nm,0.7s,baz=334,slow=2.6,SNR=4.4							
TXAR				SKPbc	**SKPbc**	**16 18 50.0**	**+1.0**	
	comp=Z,0.9nm,0.9s,baz=225,slow=1.2,SNR=5.0							
MIAR	**Mount Ida**	**144.73**	**41**	*e*PKIKP	**PKPdf**	**16 15 26.5**	**-0.5**	
MIAR	**Mount Ida**	**144.73**	**41**	*e*PKPdf	PKPbc	16 15 26.4	+0.4	
OLIL	**Olney**	**144.91**	**30**	*e*PKP	**PKPab**	**16 15 26.4**	**0.0**	
MDV	**Middlebury**	**145.01**	**8**	PKPbc	**PKPbc**	**16 15 25.8**	**-0.8**	
HNH	**Hanover**	**145.42**	**7**	*e*PKP	**PKPab**	**16 15 29.0**	**+0.8**	
ACCN	**Adirondack Com**	**145.54**	**9**	*e*PKP	**PKPab**	**16 15 29.0**	**+0.4**	
WVT	**Waverly**	**147.03**	**33**	*e*PKP2	**PKPbc**	**16 15 33.4**	**+0.4**	
WVT	**Waverly**	**147.03**	**33**	*e*PKPbc	**PKPbc**	**16 15 33.4**	**+0.4**	
OXF	**Oxford**	**147.32**	**37**	*e*PKP2	**PKPbc**	**16 15 33.9**	**+0.1**	
OXF	**Oxford**	**147.32**	**37**	*e*PKPbc	**PKPbc**	**16 15 33.9**	**+0.1**	
LVC	**Limon Verde**	**148.12**	**176**	*e*PKPbc	**PKPab**	**16 15 39.5**	**0.0**	
BDFB	**Brasilia**	**149.15**	**216**	PKPbc	**PKPbc**	**16 15 39.3**	**0.0**	
	comp=Z,2.6nm,0.5s,baz=117,slow=4.5,SNR=3.1							
GOGA	**Godfrey**	**151.40**	**31**	*e*PKIKP	**PKPbc**	**16 15 44.0**	**-0.1**	
GOGA	**Godfrey**	**151.40**	**31**	*e*PKPbc	**PKPbc**	**16 15 44.0**	**-0.1**	
LPAZ	**La Paz**	**154.45**	**176**	PKPbc	**PKPbc**	**16 15 53.6**	**+1.6**	
	comp=Z,0.8nm,0.6s,baz=170,slow=6.9,SNR=3.2							
LPAZ				PKPab	**PKPab**	**16 16 08.6**	**+2.4**	
	comp=Z,4.4nm,0.6s,baz=196,slow=3.3,SNR=16							

NIED ***26*** *16:19:00.2±5.9*^{0}*0N×130.1*^{0}*10E,h8km,Mw4.4 Best double couple: M*$_0$*3.83000×10*^{15} *NP1:*ϕ*261.00000°,*δ*59.00000°,* λ*-26.00000°. NP2:*ϕ*6.00000°,*δ*68.00000°,*λ*-146.00000°.*

BJI ***26*** *16:19:06.4,25.96N×130.34E,h11km,mb4.5/27,mB4.7/15, Ms4.1/13,Ms7 3.8/11*

ISCJB ***26*** *16:19:06.5±1.1,25.76N±0.03×129.94E±0.03,h10km±7km, mb4.2/25,MS3.4/6,Error ellipse: s-maj=5.7km s-min=4.7km az=159.0*

IDC ***26*** *16:19:06.4±0.7,25.80N×130.11E,h0km,mb4.1/13, mb1 4.2/17,mb1mx4.2/25,mbtmp4.1/17,ML3.6/4,MS3.4/7, Ms1 3.4/7,ms1mx3.1/29,Error ellipse: s-maj=23.8km s-min=14.2km az=78.0*

NEIC ***26*** *16:19:08.4±4.5,25.77N×130.13E,h11km±28km,mb4.4/9, Error ellipse: s-maj=13.1km s-min=9.8km az=69.0*

NEIC Recorded [1 JMA] on Kitadaito-jima.

JMA ***26*** *16:19:08.1±0.1,25.82N×130.10E,h41km,M4.8*

JMA Felt I J1.

ISC 26 16:19:08.7±0.6,25°79N±0°05×130°07E±0°04,h14km±3km, n83,σ2ⁿ53/100,mb4.3/25,MS3.2/6,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMZ	**Minamidaito 2**	**1.04**	**88**	P	**Pb**	**16 19 26.3**	**-2.1**
JMZ				S	**Sb**	**16 19 38.4**	**-3.5**
JOW	**Kunigami**	**1.92**	**303**	P	**Pn**	**16 19 39.6**	**-1.4**
JOW				S	**Sn**	**16 20 01.9**	**-3.1**
JOW	**Kunigami**	**1.92**	**303**	Pn	**Pn**	**16 19 39.8**	**-1.2**
	115nm,0.3s,baz=115,slow=22,SNR=1875						
JOW				Sn	**Sn**	**16 20 00.7**	**-4.3**
	17nm,0.3s,baz=129,slow=18,SNR=5.4						
JNTH	**Nagotoyohara**	**1.98**	**292**	P	**Pn**	**16 19 40.1**	**-1.7**
JNTH				S	**Sn**	**16 20 02.2**	**-4.2**
JOKE	**Okinoerabujima**	**2.07**	**320**	P	**Pn**	**16 19 41.7**	**-1.3**
JOKE				S	**Sn**	**16 20 05.3**	**-3.3**
JJT2	**Tamagusuku 2**	**2.12**	**280**	P	**Pn**	**16 19 42.7**	**-1.0**
JJT2				S	**Sn**	**16 20 07.4**	**-2.5**
JTK	**Tokunoshima**	**2.23**	**334**	P	**Pn**	**16 19 43.9**	**-1.4**
JTK				S	**Sn**	**16 20 07.9**	**-4.7**
JIH	**Iheya**	**2.26**	**304**	P	**Pn**	**16 19 44.4**	**-1.3**
JIH				S	**Sn**	**16 20 09.8**	**-3.5**
JZK	**Kikaishima**	**2.52**	**358**	P	**Pn**	**16 19 48.3**	**-1.0**
JAMN	**Amaminishikomi**	**2.58**	**342**	P	**Pn**	**16 19 48.2**	**-1.8**
JAMN				S	**Sn**	**16 20 16.1**	**-5.0**
JAM	**Amami Oshima**	**2.65**	**351**	P	**Pn**	**16 19 49.5**	**-1.5**
JAM				S	**Sn**	**16 20 18.4**	**-4.5**
JAGN	**Aguni-jima**	**2.67**	**288**	P	**Pn**	**16 19 49.9**	**-1.3**
JAGN				S	**Sn**	**16 20 19.7**	**-3.6**
JKE	**Kume jima 2**	**3.00**	**281**	P	**Pn**	**16 19 53.9**	**-2.0**
JKE				S	**Sn**	**16 20 26.9**	**-4.8**
JTAJ	**Takarajima**	**3.44**	**347**	P	**Pn**	**16 20 00.3**	**-1.6**
JTAJ				S	Sn	16 20 36.3	-6.2
JOGS	**Gusukube**	**4.35**	**257**	P	**Pn**	**16 20 13.2**	**-1.1**
JOGS				S	**Sn**	**16 21 00.4**	**-4.4**
JMJ	**Miyako jima 2**	**4.43**	**258**	P	**Pn**	**16 20 14.2**	**-1.3**
JMJ				S	**Sn**	**16 21 02.5**	**-4.4**
JIKM	**Ikemajima**	**4.45**	**260**	P	**Pn**	**16 20 14.4**	**-1.3**
JIKM				S	**Sn**	**16 21 02.2**	**-5.1**
JIRB	**Irabujima**	**4.54**	**259**	P	**Pn**	**16 20 15.2**	**-1.7**
JIRB				S	**Sn**	**16 21 04.3**	**-5.2**
JTJ	**Tarama**	**5.00**	**258**	P	**Pn**	**16 20 21.4**	**-1.9**
JTJ				S	Sn	16 21 14.7	-6.1
JISG	**Ishigakijimahi**	**5.35**	**258**	P	**Pn**	**16 20 25.7**	**-2.5**
JISG				S	Sn	16 21 22.6	-7.1
JIJ	**Ishigaki jima**	**5.56**	**257**	P	**Pn**	**16 20 28.8**	**-2.2**
JIJ				S	Sn	16 21 27.7	-7.0
JKRS	**Kuro-shima**	**5.71**	**256**	P	**Pn**	**16 20 31.1**	**-2.0**
JKRS				S	Sn	16 21 32.5	-6.0
IRIF	**Iriomote-Funau**	**5.93**	**257**	P	**Pn**	**16 20 34.2**	**-1.9**
IRIF				S	Sn	16 21 37.0	-6.8
HATJ	**Hateruma jima**	**5.94**	**255**	P	**Pn**	**16 20 34.4**	**-1.9**
HATJ				S	Sn	16 21 36.8	-7.4
YOJ	**Yonaguni jima**	**6.53**	**260**	P	**Pn**	**16 20 42.3**	**-2.1**
YOJ				S	Sn	16 21 51.2	-7.6
JYNG	**Yonagunijimaku**	**6.59**	**260**	P	**Pn**	**16 20 43.4**	**-1.9**
JNU	**Nakatsue**	**7.34**	**5**	Pn	**Pn**	**16 20 54.9**	**-0.7**
	1.6nm,0.3s,baz=198,slow=9.5,SNR=14						
JNU				Sn	Sn	16 22 11.6	-7.2
	baz=233,slow=20,SNR=2.6						
JNU	**Nakatsue**	**7.34**	**5**	*e*P	**Pn**	**16 20 56.4**	**+0.8**
JNU				S	Sn	16 22 11.6	-7.2
NJ2	**Nanjing**	**11.64**	**305**	*e*P	Pn	16 21 59.3	+4.9
NJ2				S	**Sn**	**16 24 05.5**	**+1.4**
NJ2				PMZ			
	10.0nm,0.8s						
NJ2				LN			
	870nm,12.9s						
NJ2				LE			
	590nm,13.8s						
NJ2				LZ			
	530nm,14.3s						
KSAR	**Wonju Array Be**	**11.77**	**351**	Pn	**Pn**	**16 21 57.4**	**+1.2**
KSRS	**Korea Array**	**11.78**	**352**	Pn	**Pn**	**16 21 57.4**	**+1.1**
	0.2nm,0.3s,baz=169,slow=14,SNR=4.7						
MAT	**Matsushiro**	**12.78**	**31**	P	**Pn**	**16 22 11.1**	**+1.1**
MJAR	**Matsushiro Arr**	**12.78**	**31**	Pn	**Pn**	**16 22 10.3**	**+0.3**
	1.2nm,0.3s,baz=206,slow=13,SNR=12						

BJT	**Baijiatuao**	**18.34**	**324**	*e*P	**Pn**	**16 23 22.4**	**-0.3**	
	23nm,0.8s							
USRK	**Ussuriysk Ar.**	**18.44**	**4**	P	**P**	**16 23 22.4**	**-1.3**	
	0.2nm,0.3s,baz=168,slow=8.9,SNR=6.9							
GUMO	**Guam**	**18.45**	**128**	LR	LR	16 28 47.5		
	comp=Z,87nm,21.7s,baz=6.5,slow=32							
HHC	**Hu-ho-hao-te**	**21.50**	**319**	*e*P	**P**	**16 24 00.0**	**+2.8**	
HHC				PP	**PnPn**	**16 24 24.3**	**+6.8**	
HHC				S	**S**	**16 27 51.5**	**-3.7**	
HHC				sS	**sS**	**16 27 57.8**	**-4.0**	
HHC				SS	**SnSn**	**16 28 25.3**	**+6.6**	
HHC				PMZ				
	12nm,1.0s							
HHC				PMZ				
	130nm,8.6s							
HHC				LN				
	300nm,14.9s							
HHC				LE				
	320nm,14.8s							
HHC				LZ				
	320nm,12.9s							
CD2	**Chengdu**	**23.69**	**289**	*e*P	**P**	**16 24 20.0**	**-0.1**	
CD2				PMZ				
	10.0nm,0.5s							
KMI	**Kunming**	**24.68**	**274**	P	**P**	**16 24 31.5**	**+2.0**	
KMI				pP	**pP**	**16 24 33.5**	**-0.4**	
KMI				S	**S**	**16 28 48.5**	**-2.5**	
KMI				PMZ				
	9.0nm,1.4s							
KMI				PMZ				
	120nm,4.2s							
KMI				LN				
	300nm,13.4s							
KMI				LE				
	170nm,11.9s							
KMI				LZ				
	160nm,12.7s							
GTA	**Gaotai**	**28.73**	**306**	*e*P	**P**	**16 25 05.8**	**-0.1**	
GTA				pP	**pP**	**16 25 09.3**	**-1.0**	
GTA				sP	**sP**	**16 25 12.0**	**-0.1**	
GTA				S	S	16 29 47.5	-7.3	
GTA				PMZ				
	5.0nm,1.1s							
GTA				PMZ				
	69nm,5.5s							
GTA				LN				
	200nm,13.8s							
GTA				LE				
	190nm,19.5s							
GTA				LZ				
	130nm,19.0s							
SONM	**Songino Array**	**28.84**	**326**	P	**P**	**16 25 09.9**	**+3.2**	
	2.4nm,0.8s,baz=136,slow=9.1,SNR=14							
CHTO	**Chiang Mai**	**29.57**	**263**	*e*P	P	16 25 21.4	+8.1	
	4.8nm,0.6s							
CMAR	**Chiang Mai Arr**	**29.69**	**262**	P	P	16 25 21.6	+7.2	
	1.2nm,0.7s,baz=55,slow=8.0,SNR=10							
CMAR				LR	LR	16 38 13.4		
	comp=Z,50nm,18.1s,baz=225,slow=39							
JAY	**Jayapura**	**29.96**	**158**	LR	LR	16 37 36.0		
	comp=Z,32nm,18.1s,baz=300,slow=37							
KAPI	**Kappang**	**32.21**	**200**	LR	LR	16 38 52.7		
	comp=Z,53nm,19.2s,baz=270,slow=37							
PETK	**Petropavlovsk-**	**34.23**	**30**	P	**P**	**16 25 54.3**	**+0.4**	
	5.6nm,1.1s,baz=229,slow=3.3,SNR=3.5							
LSA	**Lhasa**	**34.56**	**285**	*e*P	**P**	**16 26 00.2**	**+2.7**	
	2.7nm,0.6s							
TAPN	**Taplejung**	**37.79**	**282**	*e*P	P	16 26 28.3	+3.2	
	75nm,1.7s							
ODAN	**Odare**	**38.14**	**281**	*e*P	**P**	**16 26 29.9**	**+2.0**	
	26nm,0.6s							
WMQ	**Urumqi**	**38.69**	**309**	*e*P	**P**	**16 26 33.8**	**+1.7**	
WMQ				pP	**pP**	**16 26 38.5**	**+1.9**	
WMQ				sP	**sP**	**16 26 40.8**	**+2.4**	
WMQ				S	**ScP**	**16 32 31.0**	**-0.7**	
WMQ				SS	**SnSn**	**16 35 12.8**	**-4.1**	
WMQ				PMZ				
	11nm,0.4s							
WMQ				PMZ				
	110nm,3.6s							
WMQ				LN				
	73nm,17.6s							
WMQ				LE				
	79nm,20.0s							
WMQ				LZ				
	80nm,22.0s							
GUN	**Gumba**	**39.33**	**283**	*e*P	**P**	**16 26 40.8**	**+2.8**	
	28nm,0.9s							
PKI	**Pulchoki**	**39.79**	**283**	*e*P	**P**	**16 26 43.9**	**+2.1**	
	18nm,0.7s							
KKN	**Kakani**	**39.87**	**283**	*e*P	**P**	**16 26 45.1**	**+2.7**	
	23nm,0.8s							
DMN	**Daman**	**40.05**	**283**	*e*P	**P**	**16 26 46.3**	**+2.4**	
GKN	**Gorkha**	**40.41**	**284**	*e*P	**P**	**16 26 49.1**	**+2.3**	
	17nm,0.7s							
KOLN	**Koldanda**	**41.35**	**283**	*e*P	**P**	**16 26 57.0**	**+2.4**	
	11nm,0.8s							
MK31	**Makanchi Array**	**43.06**	**312**	*e*P	**P**	**16 27 08.6**	**+0.5**	
MKAR	**Makanchi Array**	**43.06**	**312**	P	**P**	**16 27 08.8**	**+0.7**	
	3.5nm,0.7s,baz=97,slow=10.0,SNR=19							
ZAA0	**Zalesovo Array**	**43.60**	**323**	*e*P	**P**	**16 27 12.6**	**+0.3**	
ZALV	**Zalesovo Beam**	**43.60**	**323**	P	**P**	**16 27 12.7**	**+0.4**	
	8.7nm,1.0s,baz=110,slow=8.1,SNR=18							
ZALV				LR	LR	16 45 14.4		
	comp=Z,25nm,18.3s,baz=70,slow=36							
WRAB	**Tennant Creek**	**45.63**	**174**	*e*P	**P**	**16 27 28.5**	**-0.3**	
	3.8nm,0.8s							
WRA	**Warramunga Arr**	**45.64**	**174**	P	**P**	**16 27 28.8**	**-0.1**	
	3.0nm,0.7s,baz=354,slow=8.5,SNR=49							
KURK	**Kurchatov**	**46.28**	**317**	*e*P	P	16 27 29.3	-4.4	
	15nm,1.3s							
TKM2	**Tokmak 2**	**47.28**	**306**	*e*P	**P**	**16 27 44.2**	**+2.2**	
	6.9nm,1.0s							
AS31	**Alice Springs**	**49.30**	**175**	*e*P	**P**	**16 27 58.4**	**+1.0**	
ASAR	**Alice Springs**	**49.30**	**175**	P	**P**	**16 27 58.0**	**+0.6**	
	1.0nm,0.8s,baz=5.9,slow=12,SNR=40							
BRVK	**Borovoye**	**51.77**	**318**	*e*P	**P**	**16 28 17.4**	**+1.6**	
	3.8nm,0.8s							
ABKAR	**Akbulak array**	**58.16**	**314**	*e*P	**P**	**16 29 02.6**	**+0.6**	
STKA	**Stephens Creek**	**58.38**	**168**	P	**P**	**16 29 03.1**	**-0.5**	
	1.1nm,0.5s,baz=355,slow=5.3,SNR=7.3							
ILAR	**Eielson Array**	**64.04**	**28**	P	**P**	**16 29 40.3**	**-1.4**	
	0.7nm,0.7s,baz=248,slow=5.1,SNR=6.9							
KBZ	**Khabaz**	**70.72**	**310**	P	P	16 30 28.9	+4.6	
	0.6nm,0.3s,baz=53,slow=20,SNR=2.9							
FINES	**FINESS Array B**	**74.06**	**331**	P	**P**	**16 30 43.8**	**-0.1**	
	3.0nm,0.9s,baz=74,slow=5.9,SNR=3.3							
AKASG	**Malin Array Be**	**76.94**	**320**	P	**P**	**16 31 00.6**	**0.0**	
	2.3nm,0.8s,baz=54,slow=6.3,SNR=7.6							
AKASG				LR	LR	17 06 45.5		
	comp=Z,58nm,20.3s,baz=175,slow=37							
YKA	**Yellowknife Ar**	**78.22**	**25**	P	**P**	**16 31 07.7**	**+0.1**	
	0.8nm,0.8s,baz=303,slow=5.5,SNR=9.4							
BRTR	**Keskin Array B**	**78.61**	**309**	P	**P**	**16 31 10.9**	**+0.6**	
	1.4nm,0.8s,baz=87,slow=6.8,SNR=5.6							
NB2	**NORSAR Subarra**	**80.44**	**334**	P	**P**	**16 31 19.0**	**-0.8**	
	comp=Z,1.4nm,0.7s,baz=50,slow=5.3							
NOA	**NORSAR Array B**	**80.44**	**334**	P	**P**	**16 31 19.3**	**-0.4**	
	comp=Z,2.8nm,0.8s,baz=50,slow=5.3,SNR=6.4							
SUMG	**Summit**	**81.58**	**357**	*i* P	P	16 31 30.1	+4.0	
	comp=Z,8.8nm,0.9s							
SUMG	**Summit**	**81.58**	**357**	*e*P	**P**	**16 31 27.1**	**+0.9**	
	comp=Z,9.8nm,1.0s							
BRG	**Berggiesshubel**	**85.23**	**325**	*e*(P)	P	16 31 49.5	+4.7	
	comp=Z,2.7nm,0.7s							
CLL	**Coll m**	**85.45**	**326**	*e*(P)	**P**	**16 31 49.0**	**+3.1**	
GERES	**GERESS Array B**	**86.55**	**324**	P	**P**	**16 31 50.2**	**-1.3**	
	comp=Z,0.3nm,0.5s,baz=52,slow=6.4,SNR=3.4							
SCHQ	**Schefferville**	**98.41**	**10**	LR	LR	17 19 21.6		
	comp=Z,35nm,20.7s,baz=297,slow=37							

IDC ***26*** *16:35:00.5±0.7,21.24N×144.34E,h0km,mb3.8/15, mb1 4.0/15,mb1mx3.9/27,mbtmp3.8/15,MS2.8/3, Ms1 2.8/3,ms1mx2.5/32,Error ellipse: s-maj=28.1km s-min=16.3km az=88.0*

ISCJB ***26*** *16:35:03.8±0.6,21.20N±0.09×144.3E±0.2,h33km, mb3.8/15,MS2.6/3,Error ellipse: s-maj=22.2km s-min=13.0km az=175.1*

ISC 26 16:35:05.6±0.8,21.2N±0.1×144.3E±0.2,h35km,n23, σ0.66/16,mb3.8/15,MS2.7/3,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**16.17**	**342**	Pn	Pn	16 38 45.4	-4.9
	0.6nm,0.3s,baz=151,slow=14,SNR=8.4						
H11N1	**WAKE ISLAND Hy**	**21.19**	**90**	T	T	17 01 36.6	
	baz=277,slow=75,SNR=14						
H11N2	**WAKE ISLAND Hy**	**21.19**	**90**	T	T	17 01 39.4	
	baz=277,slow=75,SNR=8.0						
H11S3	**WAKE ISLAND Hy**	**21.20**	**93**	T	T	17 01 35.9	
	baz=280,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**21.20**	**90**	T	T	17 01 37.9	
	baz=277,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**21.21**	**93**	T	T	17 01 38.1	
	baz=280,slow=75,SNR=7.3						
H11S2	**WAKE ISLAND Hy**	**21.21**	**93**	T	T	17 01 38.2	
	baz=280,slow=75,SNR=8.9						
KSRS	**Korea Array**	**21.54**	**322**	P	**P**	**16 39 52.0**	**+0.2**
	1.3nm,0.9s,baz=149,slow=9.2,SNR=3.0						
KSRS				LR	LR	16 48 23.8	
	comp=Z,26nm,18.5s,baz=70,slow=37						
ASAJ	**Asahikawa**	**22.88**	**357**	P	**P**	**16 40 05.5**	**-0.6**
	13nm,0.9s,baz=220,slow=7.1,SNR=3.0						
ASAJ				LR	LR	16 48 13.5	
	comp=Z,30nm,21.6s,baz=5.0,slow=35						
PETK	**Petropavlovsk-**	**33.45**	**15**	LR	LR	16 57 27.4	
	comp=Z,10nm,18.2s,baz=239,slow=40						
SONM	**Songino Array**	**40.38**	**320**	P	**P**	**16 42 40.6**	**+0.3**
	0.3nm,0.5s,baz=141,slow=7.8,SNR=2.5						
WRA	**Warramunga Arr**	**42.06**	**194**	P	**P**	**16 42 54.5**	**+0.3**
	1.7nm,0.6s,baz=14,slow=8.8,SNR=24						
ASAR	**Alice Springs**	**45.76**	**193**	P	**P**	**16 43 24.2**	**+0.4**
	0.9nm,0.6s,baz=15,slow=8.6,SNR=29						
STKA	**Stephens Creek**	**52.86**	**183**	P	**P**	**16 44 17.4**	**-0.5**
	0.9nm,0.7s,baz=323,slow=5.1,SNR=2.9						
ZALV	**Zalesovo Beam**	**55.24**	**322**	P	**P**	**16 44 35.2**	**0.0**
	0.7nm,0.4s,baz=105,slow=7.6,SNR=4.8						
MKAR	**Makanchi Array**	**55.80**	**313**	P	**P**	**16 44 39.4**	**0.0**
	0.6nm,0.6s,baz=92,slow=9.9,SNR=9.3						
MKAR				PcP	**PcP**	**16 45 38.3**	**+0.2**
	0.3nm,0.5s,baz=85,slow=4.4,SNR=3.8						
ILAR	**Eielson Array**	**61.97**	**27**	P	**P**	**16 45 23.4**	**+1.5**
	0.3nm,0.8s,baz=255,slow=6.4,SNR=2.9						
YKA	**Yellowknife Ar**	**76.37**	**28**	P	**P**	**16 46 49.8**	**-1.3**
	0.2nm,0.5s,baz=294,slow=5.4,SNR=2.9						
NVAR	**Mina Array Bea**	**82.60**	**52**	P	**P**	**16 47 25.8**	**+0.1**
	0.6nm,0.8s,baz=217,slow=7.1,SNR=4.2						
KBZ	**Khabaz**	**83.47**	**314**	P	**P**	**16 47 30.1**	**+0.3**
	2.6nm,0.9s,baz=236,slow=24,SNR=6.1						
FINES	**FINESS Array B**	**84.07**	**335**	P	**P**	**16 47 31.8**	**-0.7**
	1.3nm,0.5s,baz=99,slow=3.4,SNR=12						
PDAR	**Pinedale Array**	**86.97**	**45**	P	**P**	**16 47 48.0**	**+0.3**
	0.3nm,0.7s,baz=347,slow=3.7,SNR=1.6						
AKASG	**Malin Array Be**	**88.51**	**325**	P	**P**	**16 47 54.5**	**-0.1**
	0.2nm,0.3s,baz=51,slow=3.7,SNR=5.9						

IDC 26 16:51:44.3±2.0,12.66S×74.74W,h0km,mb3.5/2, mb1 3.6/4,mb1mx3.5/21,mbtmp3.5/4,ML3.2/2,Error ellipse: s-maj=86.5km s-min=16.6km az=17.0,Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.16**	**288**	Pn	Pn	16 52 19.9	-1.7
	6.5nm,0.3s,baz=154,slow=11,SNR=5.2						
NNA				Lg	Lg	16 52 53.7	
	21nm,0.3s,baz=203,slow=14,SNR=4.7						
LPAZ	**La Paz**	**7.35**	**120**	Pn	Pn	16 53 35.1	+1.4
	0.3nm,0.3s,baz=301,slow=9.2,SNR=5.2						
TXAR	**Lajitas Array**	**50.23**	**327**	P	P	17 00 43.3	+0.9
	0.3nm,0.8s,baz=151,slow=7.7,SNR=2.9						
TORD	**Torodi Ar. Bea**	**80.00**	**74**	P	P	17 03 55.5	-0.7
	0.7nm,0.7s,baz=268,slow=4.6,SNR=4.6						

IDC 26 16:58:41.1±63.0,17.42S×176.71W,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.6/21,mbtmp3.7/3,Error ellipse: s-maj=1173.0km s-min=182.6km az=79.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.28**	**241**	P	P	17 06 20.6	+0.5
	0.8nm,0.5s,baz=90,slow=10,SNR=4.0						
WRA	**Warramunga Arr**	**46.31**	**259**	P	P	17 07 08.1	-1.0
	0.2nm,0.8s,baz=100,slow=7.4,SNR=5.0						
ASAR	**Alice Springs**	**46.48**	**254**	P	P	17 07 10.6	+0.1
	1.8nm,0.5s,baz=90,slow=7.9,SNR=72						

IDC ***26*** *17:21:46.5±1.1,38.11N×71.60E,h0km,mb3.8/12, mb1 4.0/18,mb1mx3.8/33,mbtmp3.8/18,ML3

	comp=Z,8.9nm,0.5s								
TKM2					⇓Sn		Sn	17 24 21.1	+0.9
	comp=Z,12nm,0.7s								
TKM2					⇓Lg		Lg	17 24 46.4	
	comp=Z,38nm,1.1s								
TKM2	**Tokmak 2**	**5.66**	**35**	*e*PN			**Pn**	**17 23 14.9**	**-0.2**
TKM2					pmax		pmax		
	comp=Z,12nm,0.5s								
TKM2	**Tokmak 2**	**5.66**	**35**	*e*Pn			**Pn**	**17 23 14.9**	**-0.2**
	comp=Z,12nm,0.5s								
IAKL	**Akhelmad**	**10.03**	**264**	*e*P			**Pn**	**17 24 14.8**	**-0.4**
MK31	**Makanchi Array**	**11.74**	**41**	⇑Pn			**Pn**	**17 24 38.9**	**+0.6**
	comp=Z,8.2nm,1.1s,baz=214,slow=11,SNR=52								
MK31	**Makanchi Array**	**11.74**	**41**	*e*P			**Pn**	**17 24 37.4**	**-0.9**
MK31	**Makanchi Array**	**11.74**	**41**	*e*Pn			**Pn**	**17 24 37.4**	**-0.9**
MKAR	**Makanchi Array**	**11.74**	**41**	Pn			**Pn**	**17 24 37.5**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=230,slow=13,SNR=23								
MKAR	**Makanchi Array**	**11.74**	**41**	*e*P			**Pn**	**17 24 39.0**	**+0.7**
KURBB	**Kurchatov Arra**	**13.32**	**21**	Pn			Pn	17 24 56.4	-3.5
	comp=Z,0.0nm,0.3s,baz=214,slow=12,SNR=4.3								
KURK	**Kurchatov**	**13.43**	**21**	P			Pn	17 24 56.4	-4.9
KURK	**Kurchatov**	**13.43**	**21**	Pn			Pn	17 24 56.4	-4.9
AB31	**Akbulak array**	**13.56**	**327**	⇓Pn			**Pn**	**17 25 01.8**	**-1.3**
	comp=Z,1.6nm,0.6s,baz=134,slow=13,SNR=18								
AB31					⇑Sn		**Sn**	**17 27 32.7**	**-1.1**
	comp=Z,1.9nm,0.6s,baz=132,slow=28,SNR=6.1								
ABKAR	**Akbulak array**	**13.56**	**327**	*e*P			**Pn**	**17 25 01.0**	**-2.1**
	comp=Z,2.0nm,0.5s								
BVA0	**Borovoye Array**	**14.67**	**358**	⇓Pn			**Pn**	**17 25 19.3**	**+1.0**
	comp=Z,4.6nm,1.4s,baz=179,slow=15,SNR=10								
BVAR	**Borovoye Array**	**14.67**	**358**	Pn			**Pn**	**17 25 16.8**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=160,slow=9.5,SNR=11								
BRVK	**Borovoye**	**14.71**	**358**	⇑Pn			**Pn**	**17 25 18.4**	**-0.4**
	comp=Z,13nm,1.5s								
BRVK	**Borovoye**	**14.71**	**358**	*e*P			**Pn**	**17 25 20.6**	**+1.8**
AKTO	**Aktyubinsk**	**15.27**	**326**	⇓Pn			**P**	**17 25 30.6**	**-0.6**
	comp=Z,15nm,1.2s								
AKTO					⇑Sn		**Sn**	**17 28 14.7**	**-0.8**
	comp=Z,3.7nm,1.4s								
AKTO	**Aktyubinsk**	**15.27**	**326**	Pn			**Pn**	**17 25 26.9**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=143,slow=10,SNR=5.0								
AKTO					LR		LR	17 31 47.4	
	comp=Z,42nm,19.2s,baz=136,slow=38								
ZAA0	**Zalesovo Array**	**18.17**	**27**	*e*P			**Pn**	**17 26 00.7**	**-2.4**
ZALV	**Zalesovo Beam**	**18.17**	**27**	P			**Pn**	**17 26 00.2**	**-2.9**
	comp=Z,0.3nm,0.3s,baz=221,slow=12,SNR=15								
NVS	**Novosibirsk**	**18.40**	**23**	*e*P			**P**	**17 26 06.8**	**+1.0**
ARU	**Arti**	**19.93**	**339**	*c i*P			**Pn**	**17 26 24.0**	**-0.2**
ARU					pmax		pmax		
	comp=Z,6.0nm,1.0s								
KBZ	**Khabaz**	**21.94**	**293**	P			**P**	**17 26 44.4**	**0.0**
	comp=Z,2.4nm,0.7s,baz=233,slow=20,SNR=6.3								
KIV	**Kislovodsk**	**22.11**	**294**	*e*P			**P**	**17 26 47.0**	**+0.7**
KIV					pmax		pmax		
	comp=Z,7.0nm,0.9s								
KIV					MLR		MLR		
	comp=Z,29nm,14.0s								
GTA	**Gaotai**	**22.28**	**78**	*e*P			**P**	**17 26 50.0**	**+1.7**
GTA					pP		**pP**	**17 26 54.5**	**+3.4**
GTA					sP		**sP**	**17 26 57.0**	**+4.6**
GTA					PMZ				
	comp=Z,3.0nm,1.2s								
ZAK	**Zakamensk**	**25.69**	**52**	*e*P			**P**	**17 27 20.5**	**-0.5**
ZAK					pmax		pmax		
	comp=Z,2.0nm,1.3s								
SONM	**Songino Array**	**27.20**	**58**	P			P	17 27 29.8	-4.9
	comp=Z,0.2nm,0.7s,baz=248,slow=11,SNR=2.9								
SONM					LR		LR	17 39 10.1	
	comp=Z,40nm,20.1s,baz=262,slow=39								
OBN	**Obninsk**	**28.64**	**317**	*de*P			**P**	**17 27 47.7**	**+0.4**
OBN				*e*				17 28 43.2	
OBN				*e*PPP		PPP		17 28 50.5	
OBN					pmax		pmax		
	comp=Z,6.0nm,1.0s								
OBN					MLR		MLR		
	comp=Z,27nm,17.0s								
BRTR	**Keskin Array B**	**29.05**	**285**	P			**P**	**17 27 52.4**	**+1.1**
	comp=Z,0.7nm,0.9s,baz=90,slow=7.2,SNR=6.2								
BRTR	**Keskin Array B**	**29.05**	**285**	*e*P			**P**	**17 27 53.3**	**+2.0**
BRTR					pmax		pmax		
	comp=Z,1.0nm,0.9s								
HHC	**Hu-ho-hao-te**	**31.02**	**72**	*e*P			**P**	**17 28 07.5**	**-1.2**
HHC					PP		**PnPn**	**17 29 09.5**	**-0.1**
HHC					S		**S**	**17 33 07.8**	**-5.9**
HHC					sS		sS	17 33 24.0	+5.3
HHC					SS		**SnSn**	**17 34 53.0**	**-1.0**
HHC					PMZ				
	comp=Z,7.0nm,1.0s								
HHC					PMZ				
	comp=Z,54nm,9.9s								
AKASG	**Malin Array Be**	**31.92**	**306**	P			**P**	**17 28 16.6**	**+0.3**
	comp=Z,0.2nm,0.2s,baz=82,slow=7.4,SNR=5.5								
FINES	**FINESS Array B**	**36.03**	**325**	P			**P**	**17 28 52.5**	**+0.6**
	comp=Z,3.9nm,0.6s,baz=118,slow=10.0,SNR=22								
FINES					LR		LR	17 44 22.1	
	comp=Z,37nm,18.4s,baz=350,slow=37								
ARCES	**ARCESS Array B**	**39.48**	**337**	P			**P**	**17 29 21.3**	**+0.3**
	comp=Z,3.3nm,0.6s,baz=111,slow=7.4,SNR=23								
VRAC	**Vranov**	**40.05**	**304**	LR			LR	17 47 41.4	
	comp=Z,17nm,19.6s,baz=17,slow=38								
NB2	**NORSAR Subarra**	**42.99**	**322**	P			**P**	**17 29 49.7**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=90,slow=7.9								
NOA	**NORSAR Array B**	**42.99**	**322**	P			**P**	**17 29 50.0**	**0.0**
	comp=Z,1.8nm,0.7s,baz=93,slow=7.9,SNR=9.8								
TIXI	**Tiksi**	**44.00**	**23**	⇓*e*P			**P**	**17 29 56.0**	**-1.9**
TIXI					pmax		pmax		
	comp=Z,4.0nm,1.0s								
TIXI	**Tiksi**	**44.00**	**23**	*e*P			**P**	**17 29 55.7**	**-2.1**
	comp=Z,3.5nm,0.8s								
ESDC	**Sonseca Array**	**56.73**	**297**	P			**P**	**17 31 35.3**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=52,slow=7.8,SNR=4.6								
BILL	**Bilibino**	**56.88**	**27**	⇓*e*P			**P**	**17 31 34.8**	**-0.5**
BILL				*e*				17 32 31.2	
BILL				*e*				17 33 47.0	
BILL				*e*PPP		PPP		17 34 59.6	
BILL					pmax		pmax		
	comp=Z,2.0nm,1.2s								
BILL					MLR		MLR		
	comp=Z,32nm,16.0s								
TORD	**Torodi Ar. Bea**	**65.92**	**268**	P			**P**	**17 32 36.7**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=47,slow=5.6,SNR=25								
ILAR	**Eielson Array**	**72.95**	**16**	P			**P**	**17 33 18.4**	**-1.6**
	comp=Z,0.5nm,0.9s,baz=307,slow=6.6,SNR=4.6								
YKA	**Yellowknife Ar**	**79.38**	**3**	P			**P**	**17 33 55.2**	**-1.4**
	comp=Z,0.8nm,0.7s,baz=350,slow=5.7,SNR=13								
WRA	**Warramunga Arr**	**82.86**	**122**	P			P	17 34 11.7	-4.0
	comp=Z,0.2nm,0.6s,baz=316,slow=4.9,SNR=3.7								

*LDG **26** 17:29:01.3±0.3,30.˚48N×9.˚90W, h2km, Ml3.5/3, Error ellipse: s-maj=12.0km s-min=5.0km az=135.0*
*ISCJB **26** 17:29:04.7±0.5,30.˚62N±0.˚03×9.˚35W±0.˚05, h10km, Error ellipse: s-maj=6.4km s-min=4.2km az=32.3*
*CSEM **26** 17:29:04.8±0.3,30.˚41N×9.˚28W, h2km, MD3.8, Error ellipse: s-maj=9.0km s-min=5.9km az=117.0*
*CNRM **26** 17:29:05.9,30.˚42N×9.˚33W, h5km, MD3.8*
*MDD **26** 17:29:06.9±0.8,30.˚37N×9.˚77W, h11km±6km, mb4.3/11, Error ellipse: s-maj=4.1km s-min=2.5km az=107.0*
*INMG **26** 17:29:08.9±0.9,30.˚70N×9.˚38W, h0km, ML2.8, Error ellipse: s-maj=16.1km s-min=7.0km az=101.0*
*IGIL **26** 17:29:10.0,30.˚46N×9.˚43W, h31km*

ISC 26 17:29:04.4±0.9, 30.˚49N±0.˚04×9.˚36W±0.˚05, h10km, n78, σ2.9 04/92, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFS	**Agadir Fac de**	**0.14**	**240**	P		P	**Pg**	**17 29 08.0**	**+0.4**
AFS				S			**Sg**	**17 29 11.0**	**+1.2**
AFS	**Agadir Fac de**	**0.14**	**240**	*i* P		P	**Pg**	**17 29 08.0**	**+0.4**
AFS				*e*S			**Sg**	**17 29 11.0**	**+1.2**
YBT	**Youssef Ben Ta**	**0.65**	**190**	P			**Pg**	**17 29 16.0**	**-1.1**
YBT				S			**Sg**	**17 29 25.0**	**-0.6**
YBT	**Youssef Ben Ta**	**0.65**	**190**	*i* P			**Pg**	**17 29 16.0**	**-1.1**
YBT				*i* S			**Sg**	**17 29 25.0**	**-0.6**
TZC	**Tazercounte**	**2.96**	**55**	P			**Pn**	**17 29 53.0**	**+1.3**
TZC				S			**Sn**	**17 30 27.0**	**-0.4**
TZC	**Tazercounte**	**2.96**	**55**	*e*P			**Pn**	**17 29 53.0**	**+1.3**
TZC				*i* S			**Sn**	**17 30 27.0**	**-0.4**
KIB	**El Ksiba**	**3.52**	**53**	P			**Pn**	**17 30 02.0**	**+2.8**
KIB				S			**Sn**	**17 30 41.0**	**0.0**
KIB	**El Ksiba**	**3.52**	**53**	*e*P			**Pn**	**17 30 02.0**	**+2.8**
KIB				*i* S			**Sn**	**17 30 41.0**	**0.0**
EFAM	**Famara**	**3.87**	**250**	P			Pn	17 29 57.2	-6.8
	2.6nm,0.2s,SNR=7.9								
EFAM				S			Sn	17 30 35.9	-14
	15nm,0.2s,SNR=7.9								
CZD	**Col de Zad**	**4.47**	**54**	P			**Pn**	**17 30 13.0**	**+0.5**
CZD				S			**Sn**	**17 31 03.0**	**-1.7**
CZD	**Col de Zad**	**4.47**	**54**	*e*P			**Pn**	**17 30 13.0**	**+0.5**
CZD				*i* S			**Sn**	**17 31 03.0**	**-1.7**
ZFT	**Errachidia**	**4.56**	**69**	P			**Pn**	**17 30 14.0**	**+0.4**
ZFT				S			**Sn**	**17 31 05.0**	**-1.8**
ZFT	**Errachidia**	**4.56**	**69**	*e*P			**Pn**	**17 30 14.0**	**+0.4**
ZFT				*i* S			**Sn**	**17 31 05.0**	**-1.8**
MIF	**Mishlifen**	**4.56**	**49**	P			**Pn**	**17 30 14.0**	**+0.3**
MIF				S			**Sn**	**17 31 05.0**	**-1.9**
MIF	**Mishlifen**	**4.56**	**49**	*e*P			**Pn**	**17 30 14.0**	**+0.3**
MIF				S			**Sn**	**17 31 05.0**	**-1.9**
CFTV	**Fuerteventura**	**4.61**	**244**	S			Sn	17 30 57.6	-10
	3.6nm,0.2s,SNR=7.9								
TGT	**Taghat**	**5.10**	**44**	P			Pn	17 30 24.0	+3.0
TGT				S			**Sn**	**17 31 19.0**	**-1.0**
TGT	**Taghat**	**5.10**	**44**	*e*P			Pn	17 30 24.0	+3.0
TGT				*e*S			**Sn**	**17 31 19.0**	**-1.0**
PFVI	**Vila Bisbo**	**6.64**	**4**	*e*Pn			**Pn**	**17 30 43.7**	**+1.6**
PFVI				*e*Sn			**Sn**	**17 31 56.0**	**-1.8**
PFVI				A			A	17 32 00.2	
	5.7nm,0.5s								
PFVI	**Vila Bisbo**	**6.64**	**4**	P			**Pn**	**17 30 43.3**	**+1.2**
	6.2nm,0.2s,SNR=5.9								
PFVI	**Vila Bisbo**	**6.64**	**4**	P			**Pn**	**17 30 43.3**	**+1.2**
	6.2nm,0.2s,SNR=5.9								
PFVI	**Vila Bisbo**	**6.64**	**4**	*e*Pn			**Pn**	**17 30 43.7**	**+1.6**
CRAJ	**Montana Rajada**	**6.69**	**252**	P			Pn	17 30 39.6	-3.5
	14nm,0.1s,SNR=4.0								
MORF	**Marmelete**	**6.82**	**5**	*e*P			**Pn**	**17 30 45.9**	**+1.2**
MORF	**Marmelete**	**6.82**	**5**	*e*Pn			**Pn**	**17 30 46.2**	**+1.6**
MORF				*e*Sn			**Sn**	**17 32 00.9**	**-1.5**
MORF				A			A	17 32 02.2	
	5.0nm,0.7s								
MORF	**Marmelete**	**6.82**	**5**	*e*Pn			**Pn**	**17 30 46.2**	**+1.6**
PBDV	**Barranco-do-Ve**	**6.84**	**10**	*e*Pn			**Pn**	**17 30 47.3**	**+2.5**
PBDV				*e*Sn			**Sn**	**17 32 01.4**	**-1.4**
PBDV				A			A	17 32 06.8	
	3.5nm,0.5s								
PBDV	**Barranco-do-Ve**	**6.84**	**10**	*e*Pn			**Pn**	**17 30 47.3**	**+2.5**
ESPR	**Espera**	**7.00**	**24**	P			Pn	17 30 50.5	+3.5
	0.6nm,0.2s,SNR=4.0								
ESPR				S			**Sn**	**17 32 03.3**	**-3.3**
	2.1nm,0.2s,SNR=4.0								
ESPR	**Espera**	**7.00**	**24**	P			Pn	17 30 50.5	+3.5
	0.6nm,0.2s,SNR=4.0								
PVAQ	**Vaqueiros**	**7.03**	**11**	*e*Pn			**Pn**	**17 30 49.7**	**+2.3**
PVAQ				*e*Sn			**Sn**	**17 32 04.7**	**-2.7**
PVAQ				A			A	17 32 12.4	
	3.7nm,0.3s								
PVAQ	**Vaqueiros**	**7.03**	**11**	*e*Pn			**Pn**	**17 30 49.7**	**+2.3**
PTEO	**Sao Teotonio**	**7.06**	**4**	*e*Pn			**Pn**	**17 30 49.8**	**+2.0**
PTEO				*e*Sn			**Sn**	**17 32 04.9**	**-3.2**
PTEO				A			A	17 32 12.0	
	10nm,0.5s								
PTEO	**Sao Teotonio**	**7.06**	**4**	*e*Pn			**Pn**	**17 30 49.8**	**+2.0**
EMIJ	**Mijas**	**7.17**	**31**	P			Pn	17 30 53.9	+4.6
	1.4nm,0.3s,SNR=4.0								
EMIJ				S			**Sn**	**17 32 13.0**	**+2.2**
	2.2nm,0.3s,SNR=4.0								
EMIJ	**Mijas**	**7.17**	**31**	S			**Sn**	**17 32 13.0**	**+2.2**
	2.2nm,0.3s,SNR=4.0								
EGRO	**El Granado**	**7.20**	**12**	P			**Pn**	**17 30 52.0**	**+2.3**
	3.6nm,0.3s,SNR=9.3								
EGRO				S			**Sn**	**17 32 09.4**	**-2.1**
	4.0nm,0.3s,SNR=4.7								
EGRO	**El Granado**	**7.20**	**12**	P			**Pn**	**17 30 52.0**	**+2.3**
	3.6nm,0.3s,SNR=9.3								
MESJ	**Messejana**	**7.39**	**7**	*e*P			**Pn**	**17 30 53.6**	**+1.3**
MESJ	**Messejana**	**7.39**	**7**	*e*Pn			**Pn**	**17 30 54.8**	**+2.4**
MESJ				*e*Sn			**Sn**	**17 32 14.2**	**-2.1**
MESJ				A			A	17 32 19.5	
	2.8nm,0.5s								
MESJ	**Messejana**	**7.39**	**7**	*e*Pn			**Pn**	**17 30 54.8**	**+2.4**
EMIN	**Mina Concepcio**	**7.59**	**16**	P			**Pn**	**17 30 57.4**	**+2.3**
	2.0nm,0.2s,SNR=16								
EMIN				S			**Sn**	**17 32 17.3**	**-3.9**
	0.9nm,0.2s,SNR=5.6								
EMIN	**Mina Concepcio**	**7.59**	**16**	P			**Pn**	**17 30 57.4**	**+2.3**
	2.0nm,0.2s,SNR=16								
PNCL	**Nicolau / Gran**	**7.63**	**5**	*e*Pn			**Pn**	**17 30 57.9**	**+2.2**
PNCL				*e*Sn			**Sn**	**17 32 19.3**	**-2.9**
PNCL				A			A	17 32 22.4	
	2.5nm,0.6s								
PNCL	**Nicolau / Gran**	**7.63**	**5**	*e*Pn			**Pn**	**17 30 57.9**	**+2.2**
PBAR	**Barrancos**	**7.90**	**13**	*e*Pn			Pn	17 31 02.3	+2.9
PBAR				*e*Sn			**Sn**	**17 32 26.5**	**-2.4**
PBAR				A			A	17 32 31.7	
	3.9nm,0.3s								
PBAR	**Barrancos**	**7.90**	**13**	*e*Pn			Pn	17 31 02.3	+2.9
EVOP	**Sao Brissos**	**8.08**	**7**	*e*P			**Pn**	**17 31 03.2**	**+1.4**
EVO	**Evora**	**8.10**	**8**	*e*P			**Pn**	**17 31 03.2**	**+1.1**
EVO				*e*Sn			Sn	17 32 26.1	-7.6
	5.8nm,0.4s								
EVO	**Evora**	**8.10**	**8**	*e*Pn			**Pn**	**17 31 04.6**	**+2.5**
EVO	**Evora**	**8.10**	**8**	*e*Pn			**Pn**	**17 31 04.6**	**+2.5**
ECAB	**El Cabril**	**8.24**	**22**	P			**Pn**	**17 31 06.3**	**+2.3**
	1.0nm,0.2s,SNR=10								
ECAB				S			**Sn**	**17 32 34.0**	**-3.1**
	0.6nm,0.2s,SNR=7.9								
ECAB	**El Cabril**	**8.24**	**22**	P			**Pn**	**17 31 06.3**	**+2.3**
	1.0nm,0.2s,SNR=10								
PMAFR	**Mafra**	**8.45**	**0**	P			Pn	17 31 10.5	+3.7
	7.2nm,0.2s,SNR=4.0								
PMAFR	**Mafra**	**8.45**	**0**	P			Pn	17 31 10.5	+3.7
	7.2nm,0.2s,SNR=4.0								
EBAD	**Badajoz**	**8.47**	**13**	P			**Pn**	**17 31 09.2**	**+2.0**
	1.4nm,0.2s,SNR=5.4								
EBAD				S			**Sn**	**17 32 38.2**	**-4.6**
	1.1nm,0.2s,SNR=7.9								
EBAD	**Badajoz**	**8.47**	**13**	P			**Pn**	**17 31 09.2**	**+2.0**
	1.4nm,0.2s,SNR=5.4								
PMTG	**Montargil**	**8.61**	**6**	*e*Pn			**Pn**	**17 31 10.6**	**+1.5**
PMTG				*e*Sn			**Sn**	**17 32 43.4**	**-2.8**
PMTG	**Montargil**	**8.61**	**6**	*e*Pn			**Pn**	**17 31 10.6**	**+1.5**
EADA	**Adamuz**	**8.62**	**26**	P			**Pn**	**17 31 11.8**	**+2.6**
	1.3nm,0.2s,SNR=20								
EADA				S			**Sn**	**17 32 42.9**	**-3.6**
	1.0nm,0.2s,SNR=7.9								
EADA	**Adamuz**	**8.62**	**26**	P			**Pn**	**17 31 11.8**	**+2.6**
	1.3nm,0.2s,SNR=20								
EQES	**Quda**	**8.96**	**34**	P			Pn	17 31 19.1	+5.1
	0.4nm,0.2s,SNR=4.0								
PMRV	**Marv??o**	**9.06**	**10**	*e*Pn			**Pn**	**17 31 17.4**	**+2.1**
PMRV				A			A	17 33 06.4	
	1.7nm,0.5s								
PMRV	**Marv??o**	**9.06**	**10**	*e*Pn			**Pn**	**17 31 17.4**	**+2.1**
	1.7nm,0.5s								
EVIA	**Vianos**	**9.90**	**33**	P			Pn	17 31 31.4	+4.6
	2.6nm,0.2s,SNR=4.0								
EPLA	**Plasencia**	**9.92**	**15**	P			**Pn**	**17 31 29.7**	**+2.6**
	0.5nm,0.3s,SNR=4.0								
EPLA	**Plasencia**	**9.92**	**15**	P			**Pn**	**17 31 29.7**	**+2.6**
	0.5nm,0.2s,SNR=4.0								
GUD	**Guadarrama**	**10.98**	**21**	P			Pn	17 31 45.9	+4.2
	0.1nm,0.2s,SNR=7.9								
GUD	**Guadarrama**	**10.98**	**21**	P			Pn	17 31 45.9	+4.2
	0.1nm,0.2s,SNR=7.9								
ELOB	**Lobios**	**11.40**	**5**	P			**Pn**	**17 31 48.9**	**+1.5**
	0.2nm,0.1s,SNR=4.0								
ELOB	**Lobios**	**11.40**	**5**	P			**Pn**	**17 31 48.9**	**+1.5**
	0.2nm,0.1s,SNR=4.0								
ECAL	**Calabor**	**11.62**	**10**	P			**Pn**	**17 31 52.2**	**+1.8**
	0.3nm,0.2s,SNR=4.0								
ECAL	**Calabor**	**11.62**	**10**	P			**Pn**	**17 31 52.2**	**+1.8**
	0.3nm,0.2s,SNR=4.0								
ETOR	**Torete**	**11.89**	**28**	P			Pn	17 31 57.8	+3.7
	1.5nm,0.2s,SNR=4.0								
ETOR	**Torete**	**11.89**	**28**	P			Pn	17 31 57.8	+3.7
	1.5nm,0.2s,SNR=4.0								
SJPF	**Ste Jean**	**14.17**	**25**	*e*Pn			**Pn**	**17 32 22.9**	**-2.3**
SJPF				*e*Sn			Sn	17 34 54.7	-7.8
	0.6nm,0.3s								
ETSF	**Etsaut**	**14.24**	**27**	*e*Pn			**Pn**	**17 32 24.2**	**-2.0**
ETSF				*e*Sn			Sn	17 34 56.8	-7.5
	1.1nm,0.3s								
EPF	**Esparros**	**14.72**	**29**	*e*Pn			**Pn**	**17 32 30.7**	**-2.0**

IDC 26 17:46:42.3±3.0, 19.˚76S×178.˚93W, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.6/21, mbtmp3.8/4, ML4.3/1, Error ellipse: s-maj=62.4km s-min=46.2km az=90.0, Fiji

Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.76**	**190**	P		P	Pn	17 51 03.3	+0.1
	1.0nm,0.3s,baz=82,slow=18,SNR=5.3								
STKA	**Stephens Creek**	**37.34**	**243**	P		P	P	17 53 55.2	-1.5
	0.5nm,0.5s,baz=90,slow=9.1,SNR=3.0								
WRA	**Warramunga Arr**	**43.84**	**261**	P		P	P	17 54 51.1	+0.5
	0.4nm,0.3s,baz=97,slow=7.4,SNR=23								
ASAR	**Alice Springs**	**43.84**	**256**	P		P	P	17 54 51.0	+0.3
	0.2nm,0.5s,baz=89,slow=8.6,SNR=13								
BRTR	**Keskin Array B**	**145.70**	**313**	PKPbc		PKPdf		18 06 22.5	-0.7
	0.3nm,0.6s,baz=64,slow=3.4,SNR=2.3								

*IDC **26** 17:49:43.4±1.5,36.˚08N×3.˚87E, h0km, mb3.3/2, mb1 3.2/5, mb1mx3.1/42, mbtmp3.2/5, ML2.8/3, Error ellipse: s-maj=34.8km s-min=25.5km az=160.0*
*MDD **26** 17:49:45.3±0.6,35.˚72N×4.˚39E, h0km, mb4.3/14, Error ellipse: s-maj=6.4km s-min=3.6km az=137.0, PRXIMO*
*CSEM **26** 17:49:45.6±0.2,35.˚83N×4.˚12E, h5km, ML3.8, Error ellipse: s-maj=8.0km s-min=2.9km az=3.0*
*CRAAG **26** 17:49:45.4,35.˚91N×4.˚11E, Ml3.8*
*ISCJB **26** 17:49:46.4±0.5,35.˚95N±0.˚05×4.˚12E±0.˚03, h20km±5km, mb3.4/2, Error ellipse: s-maj=7.8km s-min=3.6km az=7.9*

ISC 26 17:49:46.0±1.1, 35.˚90N±0.˚05×4.˚15E±0.˚02, h11km±7km, n103, σ1.9 25/121, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATAF	**Djebel Tarf**	**0.11**	**104**	P		P	**Pg**	**17 49 49.0**	**0.0**
ATAF	**Djebel Tarf**	**0.11**	**104**	P		P	**Pg**	**17 49 49.0**	**0.0**
ATAF	**Djebel Tarf**	**0.11**	**104**	P		P	**Pg**	**17 49 49.0**	**0.0**
AKET	**Djebel Ketaf**	**0.26**	**305**	P		P	**Pg**	**17 49 50.8**	**-0.7**
AKET	**Djebel Ketaf**	**0.26**	**305**	P		P	**Pg**	**17 49 50.8**	**-0.7**
AKET	**Djebel Ketaf**	**0.26**	**305**	P		P	**Pg**	**17 49 50.8**	**-0.7**
ADJB	**Djebel Djouab**	**0.63**	**294**	P		P	**Pg**	**17 49 58.0**	**-0.3**
ADJB	**Djebel Djouab**	**0.63**	**294**	P		P	**Pg**	**17 49 58.0**	**-0.3**
ADJB	**Djebel Djouab**	**0.63**	**294**	P		P	**Pg**	**17 49 58.0**	**-0.3**
EMHD	**Djebel Mahouad**	**1.01**	**288**	P		P	**Pg**	**17 50 05.6**	**+0.1**
EMHD	**Djebel Mahouad**	**1.01**	**288**	P		P	**Pg**	**17 50 05.6**	**+0.1**
EMHD	**Djebel Mahouad**	**1.01**	**288**	P		P	**Pg**	**17 50 05.6**	**+0.1**
SET	**Setif**	**1.06**	**73**	P		P	**Pn**	**17 50 07.0**	**+0.2**
SET	**Setif**	**1.06**	**73**	P		P	**Pn**	**17 50 07.0**	**+0.2**
SET	**Setif**	**1.06**	**73**	P		P	**Pn**	**17 50 07.0**	**+0.2**
CKHR	**Kef el Ahmar**	**1.11**	**84**	P		P	**Pb**	**17 50 07.8**	**+0.5**
CKHR	**Kef el Ahmar**	**1.11**	**84**	P		P	**Pb**	**17 50 07.8**	**+0.5**
CKHR	**Kef el Ahmar**	**1.11**	**84**	P		P	**Pb**	**17 50 07.8**	**+0.5**
DFRA	**Djebel Bou Aff**	**1.54**	**65**	P		P	**Pg**	**17 50 16.1**	**+0.5**
DFRA	**Djebel Bou Aff**	**1.54**	**65**	P		P	**Pg**	**17 50 16.1**	**+0.5**
DFRA	**Djebel Bou Aff**	**1.54**	**65**	P		P	**Pg**	**17 50 16.1**	**+0.5**
CTEI	**Djebel Teioual**	**

	4.0nm,0.3s,SNR=7.9						
EVIA	**Vianos**	**5.96**	**299**	P	**Pn**	**17 51 14.6**	**+0.3**
	2.4nm,0.2s,SNR=7.9						
EVIA				S	**Sn**	**17 52 25.1**	**+2.5**
	4.2nm,0.3s,SNR=7.9						
EVIA	**Vianos**	**5.96**	**299**	P	**Pn**	**17 51 14.6**	**+0.3**
	2.4nm,0.2s,SNR=7.9						
EVIA				S	**Sn**	**17 52 25.1**	**+2.5**
	4.2nm,0.3s,SNR=7.9						
CFON	**Fontmartina**	**6.00**	**348**	P	**Pn**	**17 51 14.4**	**-0.4**
	0.5nm,0.2s,SNR=5.8						
CFON				S	**Sn**	**17 52 21.9**	**-1.6**
	2.6nm,0.3s,SNR=4.0						
CFON	**Fontmartina**	**6.00**	**348**	P	**Pn**	**17 51 14.4**	**-0.4**
	0.5nm,0.2s,SNR=5.8						
EQES	**Quesada**	**6.09**	**290**	P	**Pn**	**17 51 17.3**	**+1.3**
	4.9nm,0.3s,SNR=17						
EQES				S	**Sn**	**17 52 25.7**	**0.0**
	2.9nm,0.4s						
EQES	**Quesada**	**6.09**	**290**	P	**Pn**	**17 51 17.3**	**+1.3**
	4.9nm,0.3s,SNR=17						
EQES				S	**Sn**	**17 52 25.7**	**0.0**
	2.9nm,0.4s						
EQUE	**Quentar**	**6.24**	**284**	P	**Pn**	**17 51 18.8**	**+0.7**
	2.8nm,0.2s,SNR=9.6						
EQUE				S	**Sn**	**17 52 32.9**	**+3.4**
	0.4nm,0.1s						
EQUE	**Quentar**	**6.24**	**284**	P	**Pn**	**17 51 18.8**	**+0.7**
	2.8nm,0.2s,SNR=9.6						
EGUA	**Guajares**	**6.29**	**281**	P	**Pn**	**17 51 19.1**	**+0.4**
	3.5nm,0.3s,SNR=7.9						
EGUA	**Guajares**	**6.29**	**281**	P	**Pn**	**17 51 19.1**	**+0.4**
	3.5nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**6.61**	**352**	P	**Pn**	**17 51 25.2**	**+2.1**
	0.6nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**6.61**	**352**	P	**Pn**	**17 51 25.2**	**+2.1**
	0.6nm,0.1s,SNR=7.9						
SJAF	**Saint Jean de**	**6.65**	**352**	P	**Pn**	**17 51 25.7**	**+2.1**
	0.3nm,0.2s,SNR=7.9						
SJAF	**Saint Jean de**	**6.65**	**352**	P	**Pn**	**17 51 25.7**	**+2.1**
	0.3nm,0.2s,SNR=7.9						
CLLI	**Llivia**	**6.78**	**346**	P	**Pn**	**17 51 27.8**	**+2.3**
	0.2nm,0.2s,SNR=4.0						
CLLI	**Llivia**	**6.78**	**346**	P	**Pn**	**17 51 27.8**	**+2.3**
	0.2nm,0.2s,SNR=4.0						
CSOR	**Sort**	**6.88**	**341**	P	**Pn**	**17 51 29.1**	**+2.3**
	0.4nm,0.2s,SNR=7.9						
CSOR	**Sort**	**6.88**	**341**	P	**Pn**	**17 51 29.1**	**+2.3**
	0.4nm,0.2s,SNR=7.9						
ETOR	**Torete**	**6.92**	**317**	P	Pn	17 51 31.1	+3.8
	3.4nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**7.44**	**303**	P	**Pn**	**17 51 34.9**	**+0.4**
	0.3nm,0.1s,baz=114,slow=13,SNR=5.4						
ESDC	**Sonseca Array**	**7.44**	**303**	Pn	Pn	17 51 28.4	-6.2
	0.1nm,0.3s,baz=122,slow=12,SNR=2.1						
ESDC	**Sonseca Array**	**7.44**	**303**	P	**Pn**	**17 51 34.9**	**+0.4**
	0.3nm,0.1s,SNR=5.4						
MDT	**Midelt**	**7.87**	**250**	Pn	**Pn**	**17 51 38.6**	**-1.8**
	0.2nm,0.3s,baz=59,slow=12,SNR=3.5						
ECAB	**El Cabril**	**7.96**	**289**	P	Pn	17 51 38.1	-3.4
	0.1nm,0.1s,SNR=7.9						
TORD	**Torodi Ar. Bea**	**22.76**	**186**	P	**P**	**17 54 48.4**	**0.0**
	0.4nm,0.7s,baz=11,slow=10,SNR=3.8						
MKAR	**Makanchi Array**	**57.40**	**53**	P	**P**	**17 59 34.1**	**-0.3**
	0.6nm,0.7s,baz=283,slow=7.0,SNR=7.7						

*DDA **26** 17:53:17.6,36.69N×29.80E,h7km,MD2.6*

CSEM 26 17:53:14.0±0.5,36.71N×29.66E,h10km,MD2.6,Error ellipse: s-maj=16.0km s-min=11.8km az=142.0,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELL	**Elmali**	**0.20**	**80**	*e*PG	Pg	17 53 15.9	-2.5
ELL				*e*SG	Sg	17 53 18.4	-3.0
FETY	**Fethiye**	**0.47**	**261**	*e*PG	Pg	17 53 22.9	-0.4
FETY	**Fethiye**	**0.47**	**261**	*e*Pg	Pg	17 53 22.9	-0.4
AKAS	**Kas**	**0.48**	**186**	*i* P	Pg	17 53 24.1	+0.5
AKAS				*i* S	Sb	17 53 34.6	+2.6
AKAS	**Kas**	**0.48**	**186**	*i* P	Pg	17 53 24.1	+0.5
AKAS				*i* S	Sb	17 53 34.6	+2.6
GOLH	**Golhisar**	**0.53**	**351**	*i* P	Pb	17 53 25.1	-0.5
GOLH				*i* S	Sn	17 53 37.5	+0.5
GOLH	**Golhisar**	**0.53**	**351**	*i* P	Pb	17 53 25.1	-0.4
GOLH				*i* S	Sn	17 53 37.5	+0.5
KORT	**Korkueli**	**0.62**	**62**	*i* P	Pg	17 53 25.0	-1.3
KORT				*i* S	Sb	17 53 36.8	+0.7
KORT	**Korkueli**	**0.62**	**62**	*i* P	Pg	17 53 25.0	-1.3
KORT				*i* S	Sb	17 53 36.8	+0.7
YER	**Yerkesik**	**1.18**	**291**	*e*PN	Pn	17 53 36.7	0.0
YER	**Yerkesik**	**1.18**	**291**	*e*Pn	Pn	17 53 36.7	0.0

*IDC **26** 18:01:54.5±1.4,14.80S×168.00E,h0km,mb4.0/9, mb1 4.1/10,mb1mx3.9/28,mbtmp4.0/10,ML3.9/1,Error ellipse: s-maj=43.3km s-min=20.6km az=124.0*

*ISCJB **26** 18:01:58.3±0.9,14.93S±0.07×168.0E±0.2,h36km, mb3.9/9,Error ellipse: s-maj=25.3km s-min=10.0km az=9.3*

ISC 26 18:01:59.6±1.3,14.8S±0.1×168.0E±0.2,h36km,n11, σ0.80/10,mb3.7/7,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.34**	**191**	Pn	**Pn**	**18 03 44.0**	**-0.4**
	2.0nm,0.3s,baz=270,slow=24,SNR=33						
DZM				Sn	**Sn**	**18 05 06.7**	**+0.1**
	0.3nm,0.3s,baz=85,slow=24,SNR=5.7						
CTA	**Charters Tower**	**21.39**	**253**	P	**P**	**18 06 44.0**	**-0.4**
	4.1nm,1.1s,baz=75,slow=12,SNR=2.7						
STKA	**Stephens Creek**	**29.47**	**230**	P	**P**	**18 08 01.4**	**+1.1**
	1.5nm,0.8s,baz=71,slow=9.5,SNR=3.8						
WRA	**Warramunga Arr**	**32.49**	**256**	P	**P**	**18 08 26.5**	**-0.7**
	0.9nm,0.8s,baz=85,slow=8.3,SNR=7.9						
ASAR	**Alice Springs**	**33.30**	**249**	P	**P**	**18 08 34.4**	**+0.1**
	4.4nm,0.9s,baz=77,slow=9.2,SNR=28						
SONM	**Songino Array**	**83.01**	**323**	P	**P**	**18 14 22.2**	**+0.9**
	0.5nm,0.9s,baz=134,slow=6.2,SNR=5.3						
ILAR	**Eielson Array**	**86.41**	**18**	P	**P**	**18 14 38.1**	**+0.2**
	0.3nm,0.6s,baz=227,slow=4.8,SNR=3.2						
YKA	**Yellowknife Ar**	**97.32**	**27**	P	Pdif	18 15 29.0	+0.3
	0.3nm,0.7s,baz=256,slow=5.0,SNR=4.0						
MKAR	**Makanchi Array**	**97.78**	**316**	P	Pdif	18 15 32.3	+1.1
	0.8nm,1.0s,baz=98,slow=6.4,SNR=1.3						
ZALV	**Zalesovo Beam**	**97.91**	**324**	P	**P**	**18 15 30.3**	**-1.2**
	0.6nm,0.4s,baz=122,slow=5.4,SNR=3.7						
KURBB	**Kurchatov Arra**	**100.99**	**320**	P	**Pdif**	**18 15 44.9**	**-0.5**
	0.1nm,0.2s,baz=104,slow=12,SNR=3.0						

*ISCJB **26** 18:03:31.8±0.6,35.91S±0.05×72.78W±0.07,h35km, mb3.7/7,MS3.2/1,Error ellipse: s-maj=10.0km s-min=4.9km az=36.9*

*IDC **26** 18:03:32.9±0.7,35.85S×72.62W,h33km±5km,mb3.5/7, mb1 3.8/9,mb1mx3.7/26,mbtmp3.7/9,ML4.0/2,MS2.6/3, Ms1 2.6/3,ms1mx2.5/18,Error ellipse: s-maj=28.5km s-min=15.3km az=92.0*

*GUC **26** 18:03:32.2±0.5,35.90S×72.73W,h17km±3km,ML4.3*

ISC 26 18:03:33.0±0.6,35.94S±0.06×72.70W±0.08,h35km,n20, σ1.25/27,mb3.7/7,1C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNCH	**Linares**	**0.89**	**84**	*i* P	**Pn**	**18 03 48.8**	**-0.3**
LNCH				*i* S	**Sn**	**18 04 01.0**	**+0.3**
CCSP	**San Pedro de C**	**0.96**	**200**	*i* P	**Pn**	**18 03 49.7**	**-0.3**
CCSP				*i* S	**Sn**	**18 04 02.8**	**+0.4**
TALC	**Talca**	**1.02**	**58**	*e*P	**Pn**	**18 03 50.4**	**-0.4**
TALC				*i* S	**Sn**	**18 04 03.6**	**-0.2**
NICH	**Los Niches**	**1.52**	**52**	⇑*i*P	**Pn**	**18 03 58.2**	**+0.6**
NICH				*i* S	**Sn**	**18 04 17.6**	**+1.4**
CLCH	**Cerro Calan**	**3.10**	**36**	*i* P	**Pn**	**18 04 21.4**	**+2.0**
CLCH				*i* S	**Sn**	**18 04 58.3**	**+3.1**
CLCH				AML	AML	18 05 22.9	
	comp=N,848nm,0.5s						
PEL	**Peldehue**	**3.25**	**31**	AML	AML	18 05 24.3	
	comp=N,652nm,0.5s						
ROCH	**El Roble**	**3.27**	**26**	AML	AML	18 05 19.6	
	comp=N,467nm,0.4s						
PLCA	**Paso Flores**	**5.07**	**161**	Pn	**Pn**	**18 04 48.8**	**+2.2**
	comp=N,1.7nm,0.3s,baz=339,slow=7.8,SNR=37						
PLCA				Lg	Lg	18 06 10.0	
	comp=N,2.5nm,0.3s,baz=253,slow=19,SNR=2.9						
PLCA				LR	LR	18 07 13.6	
	comp=N,64nm,20.0s,baz=154,slow=43						
CFAA	**Coronel Fontan**	**5.70**	**42**	Pn	**Pn**	**18 04 54.8**	**-0.4**
	comp=N,0.1nm,0.3s,baz=227,slow=5.8,SNR=2.7						
CFAA				Sn	**Sn**	**18 05 57.5**	**-1.8**
	comp=N,0.1nm,0.3s,baz=215,slow=16,SNR=2.4						
CFAA				LR	LR	18 07 26.1	
	comp=N,9.5nm,21.8s,baz=218,slow=42						
LPAZ	**La Paz**	**19.99**	**13**	P	**P**	**18 08 03.6**	**+0.5**
	comp=N,0.1nm,0.3s,baz=254,slow=7.4,SNR=2.3						
SIV	**San Ignacio**	**22.41**	**31**	P	**P**	**18 08 27.8**	**-0.8**
	comp=N,1.2nm,0.8s,baz=224,slow=6.6,SNR=4.7						
BDFB	**Brasilia**	**29.89**	**54**	LR	LR	18 21 50.8	
	comp=N,59nm,21.6s,baz=326,slow=37						
SNAA	**Sanae**	**50.00**	**157**	P	**P**	**18 12 24.1**	**+0.7**
	comp=N,0.3nm,0.6s,baz=287,slow=8.7,SNR=4.3						
SNAA				pP	**pP**	**18 12 34.3**	**+0.5**
	comp=N,0.5nm,0.9s,baz=230,slow=7.5,SNR=3.4						
QSPA	**South Pole Qui**	**54.30**	**180**	P	**P**	**18 12 57.1**	**+1.6**
	comp=N,0.9nm,0.4s,baz=225,slow=0.3,SNR=6.9						
VNDA	**Vanda**	**62.10**	**192**	P	**P**	**18 13 49.3**	**-0.3**
	comp=N,1.7nm,0.9s,baz=16,slow=7.5,SNR=3.1						
TXAR	**Lajitas Array**	**71.17**	**332**	P	**P**	**18 14 48.2**	**+0.1**
	comp=N,0.4nm,0.6s,baz=151,slow=7.7,SNR=5.4						
TXAR				pP	**pP**	**18 14 58.0**	**-1.0**
	comp=N,0.4nm,0.5s,baz=160,slow=7.8,SNR=5.5						
NVAR	**Mina Array Bea**	**85.17**	**326**	P	**P**	**18 16 06.0**	**+0.3**
	comp=N,0.6nm,0.8s,baz=158,slow=5.2,SNR=3.6						
NVAR				pP	**pP**	**18 16 16.3**	**-0.4**
	comp=N,0.4nm,0.6s,baz=144,slow=6.3,SNR=2.9						
TORD	**Torodi Ar. Bea**	**85.38**	**70**	P	**P**	**18 16 05.5**	**-1.4**
	comp=N,0.6nm,1.0s,baz=258,slow=7.1,SNR=3.1						
BVAR	**Borovoye Array**	**149.05**	**45**	PKPbc	**PKPbc**	**18 23 16.6**	**-0.2**
	comp=N,0.2nm,0.5s,baz=270,slow=2.5,SNR=3.0						
BVAR				pPKPbc	**pPKPbc**	**18 23 26.8**	**-1.4**
	comp=N,0.6nm,0.7s,baz=285,slow=2.9,SNR=4.1						
MKAR	**Makanchi Array**	**158.41**	**52**	PKPab	**PKPab**	**18 23 59.1**	**-1.8**
	comp=N,1.0nm,0.5s,baz=305,slow=5.1,SNR=2.1						

*ISCJB **26** 18:06:52.4±0.5,50.06S±0.08×119.7E±0.3,h10km, mb4.2/12,MS4.2/13,Error ellipse: s-maj=27.0km s-min=9.8km az=14.4*

*IDC **26** 18:06:52.5±0.9,50.07S×119.61E,h0km,mb4.1/8, mb1 4.2/8,mb1mx4.1/16,mbtmp4.1/8,MS4.2/13, Ms1 4.2/13,ms1mx4.2/15,Error ellipse: s-maj=42.7km s-min=17.6km az=103.0*

*GCMT **26** 18:06:54.6±0.2,50.14S×119.93E,h13km,MW5.1/91, Moment Tensor Solution. s34,c44; s91,c145; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-5.35±.27; Mθθ4.81±.18; Mϕϕ0.53±.15; Mrθ-0.86±.35; Mθϕ-1.21±.10; Mϕr0.86±.41; Best double couple: Mo5.37700×10¹⁶ NP1:ϕs279.00000°,δ40.00000°,λ-99.00000°. Principal axes: T 5.2350, Plg6.0000°, Azm195.0000°; N 0.2810, Plg6.0000°, Azm286.0000°; P -5.5190, Plg82.0000°, Azm62.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **26** 18:06:54.6±0.4,50.01S×119.62E,h10km,mb4.5/5 Error ellipse: s-maj=20.7km s-min=8.2km az=99.0*

*AWI **26** 18:07:08.5,51.625N×118.51E*

ISC 26 18:06:54.2±0.7,50.1S±0.1×119.6E±0.2,h10km,n43, σ0.67/29,mb4.2/12,MS4.3/13,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.67**	**343**	T	T	18 26 42.6	
	baz=165,slow=74,SNR=60						
H01W1	**Cape Leeuwin H**	**15.67**	**343**	T	T	18 26 42.6	
	baz=165,slow=74,SNR=90						
H01W3	**Cape Leeuwin H**	**15.68**	**343**	T	T	18 26 43.2	
	baz=165,slow=74,SNR=101						
NWAO	**Narrogin (SRO)**	**17.21**	**353**	LR	LR	18 15 52.5	
	comp=Z,12nm,19.3s,baz=150,slow=31						
STKA	**Stephens Creek**	**24.46**	**50**	P	**P**	**18 12 12.4**	**-0.8**
	10nm,1.0s,baz=199,slow=10,SNR=12						
STKA				LR	LR	18 19 58.3	
	comp=Z,990nm,21.1s,baz=217,slow=32						
ASAR	**Alice Springs**	**28.62**	**28**	*e*P	**P**	**18 12 50.8**	**0.0**
	5.8nm,1.1s,baz=197,slow=8.6,SNR=23						
ASAR				LR	LR	18 22 48.0	
	comp=Z,2μm,21.3s,baz=198,slow=33						
AS31	**Alice Springs**	**28.62**	**28**	*e*P	**P**	**18 12 51.0**	**+0.2**
VNDA	**Vanda**	**31.79**	**164**	P	**P**	**18 13 18.1**	**-0.2**
	2.1nm,1.0s,baz=325,slow=6.7,SNR=6.3						
VNDA				LR	LR	18 25 19.0	
	comp=Z,1μm,19.9s,baz=319,slow=35						
VNDA	**Vanda**	**31.79**	**164**	*e*P	**P**	**18 13 18.6**	**+0.4**
	4.8nm,1.2s						
WRA	**Warramunga Arr**	**32.26**	**27**	P	**P**	**18 13 21.9**	**-1.0**
	3.3nm,1.1s,baz=199,slow=8.3,SNR=6.7						
WRA				LR	LR	18 25 03.6	
	comp=Z,897nm,20.9s,baz=200,slow=34						
WRAB	**Tennant Creek**	**32.27**	**27**	*e*P	**P**	**18 13 23.1**	**+0.1**
	9.5nm,1.3s						
MAW	**Mawson**	**32.68**	**216**	LR	LR	18 23 51.0	
	comp=Z,445nm,21.2s,baz=64,slow=31						
SBA	**Scott Base**	**32.85**	**163**	*e*P	**P**	**18 13 28.8**	**+1.2**
	9.9nm,1.6s						
QSPA	**South Pole Qui**	**40.07**	**180**	P	**P**	**18 14 27.3**	**-2.1**
	2.8nm,1.1s,baz=254,slow=3.4,SNR=3.7						
QSPA	**South Pole Qui**	**40.07**	**180**	*e*P	**P**	**18 14 29.0**	**-0.4**
	17nm,1.5s						
SNAA	**Sanae**	**51.98**	**200**	P	**P**	**18 16 02.5**	**-0.6**
SNAA	**Sanae**	**51.98**	**200**	P	**P**	**18 16 03.5**	**+0.5**
	1.0nm,1.0s,baz=111,slow=12,SNR=4.6						
VNA2	**Neumayer--Watz**	**53.52**	**199**	P	**P**	**18 16 14.5**	**+0.2**
	baz=136,slow=6.2						
VNA1	**Neumayer--Stat**	**53.91**	**199**	P	**P**	**18 16 18.0**	**+0.8**
GUMO	**Guam**	**67.15**	**27**	P	**P**	**18 17 48.6**	**+0.5**
	63nm,1.0s,baz=180,slow=20,SNR=2.4						
CMAR	**Chiang Mai Arr**	**70.62**	**339**	P	**P**	**18 18 09.5**	**-0.2**
	0.8nm,0.7s,baz=194,slow=4.8,SNR=5.9						
CMAR				LR	LR	18 44 53.7	
	comp=Z,100nm,21.7s,baz=183,slow=32						
BOSA	**Boshof**	**71.26**	**248**	LR	LR	18 44 05.1	
	comp=Z,262nm,18.8s,baz=182,slow=31						
PPT	**Papeete**	**77.26**	**102**	LR	LR	18 46 24.7	
	comp=Z,143nm,18.6s,baz=200,slow=31						
LSA	**Lhasa**	**83.33**	**335**	*e*P	**P**	**18 19 22.7**	**+1.2**
	1.3nm,0.4s						
KSRS	**Korea Array**	**87.45**	**7**	LR	LR	19 03 47.3	
	comp=Z,46nm,18.0s,baz=176,slow=39						
MJAR	**Matsushiro Arr**	**87.78**	**15**	LR	LR	18 58 23.4	
	comp=Z,76nm,20.0s,baz=185,slow=35						
PLCA	**Paso Flores**	**89.15**	**172**	LR	LR	18 55 02.5	
	comp=Z,126nm,21.6s,baz=161,slow=32						
USRK	**Ussuriysk Ar.**	**94.50**	**9**	LR	LR	19 03 14.8	
	comp=Z,55nm,21.9s,baz=155,slow=36						
SONM	**Songino Array**	**98.17**	**351**	P	**P**	**18 20 29.7**	**-1.2**
	0.1nm,0.3s,baz=141,slow=4.8,SNR=2.8						
SONM				LR	LR	19 08 39.9	
	comp=Z,49nm,18.1s,baz=230,slow=38						
H10S2	**ASCENSION HYDR**	**109.03**	**228**	T	T	20 24 28.1	
	baz=151,slow=75,SNR=5.6						
H10S3	**ASCENSION HYDR**	**109.04**	**228**	T	T	20 24 40.0	
	baz=151,slow=75,SNR=5.4						
H10S1	**ASCENSION HYDR**	**109.04**	**228**	T	T	20 24 36.0	
	baz=151,slow=75,SNR=5.7						
TRF	**Thorofare Moun**	**133.12**	**38**	*e*PKPdf	**PKPdf**	**18 26 08.3**	**-0.7**
ILAR	**Eielson Array**	**135.05**	**37**	PKhKP	PKPpre	18 26 05.6	
	0.3nm,0.7s,baz=209,slow=9.2,SNR=3.4						
ILAR				PKP	**PKPdf**	**18 26 11.6**	**-0.7**
	0.3nm,0.6s,baz=220,slow=2.5,SNR=4.8						
TXAR	**Lajitas Array**	**141.49**	**106**	PKP	**PKPdf**	**18 26 26.6**	**+1.2**
	0.1nm,0.4s,baz=198,slow=7.6,SNR=4.6						
CHMT	**Chamberlain Mo**	**145.43**	**74**	*e*PKPdf	**PKPab**	**18 26 32.3**	**+0.1**
LRM	**Limekiln Ridge**	**145.46**	**77**	*e*PKPdf	**PKPab**	**18 26 32.8**	**+0.5**
IMW	**Indian Meadow**	**145.53**	**80**	*e*PKPdf	**PKPab**	**18 26 33.5**	**+0.8**
PDAR	**Pinedale Array**	**145.86**	**83**	PKPbc	**PKPbc**	**18 26 33.5**	**+0.1**
	3.8nm,1.2s,baz=207,slow=1.3,SNR=15						
BOZ	**Bozeman (W)**	**145.90**	**77**	*e*PKPdf	**PKPab**	**18 26 34.2**	**+0.4**
ABTX	**Abilene, Hawle**	**146.25**	**106**	*e*PKPbc	**PKPbc**	**18 26 34.8**	**+0.2**
HKT	**Hockley**	**146.68**	**114**	*e*PKPbc	**PKPab**	**18 26 37.0**	**+0.1**
YKA	**Yellowknife Ar**	**148.45**	**46**	PKPbc	**PKPbc**	**18 26 39.8**	**+0.1**
	0.5nm,0.5s,baz=281,slow=2.2,SNR=11						

*NIED **26** 18:14:00,25.80N×130.10E,h8km,Mw3.4 Best double couple: Mo1.42000×10¹⁴ NP1:ϕs234.00000°,δ39.00000°, λ-62.00000°. NP2:ϕs20.00000°,δ56.00000°, λ-111.00000°.*

JMA 26 18:14:21.7±0.1,25.77N×130.06E,h42km,M3.5, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMZ	**Minamidaito 2**	**1.05**	**87**	P	Pn	18 14 40.4	+0.5
JMZ				*e*S	Sn	18 14 53.2	-0.2
JOW	**Kunigami**	**1.92**	**304**	P	Pn	18 14 53.1	+1.2
JOW				*e*S	Sn	18 15 15.5	+0.6
JNTH	**Nagotoyohara**	**1.98**	**293**	P	Pn	18 14 53.6	+0.9
JNTH				*e*S	Sn	18 15 15.7	-0.6
JOKE	**Okinoerabujima**	**2.07**	**320**	P	Pn	18 14 55.4	+1.4
JOKE				*e*S	Sn	18 15 19.0	+0.4
JJT2	**Tamagusuku 2**	**2.11**	**280**	P	Pn	18 14 55.9	+1.4
JJT2				*e*S	Sn	18 15 19.8	+0.2
JTK	**Tokunoshima**	**2.24**	**334**	P	Pn	18 14 57.9	+1.6
JTK				*e*S	Sn	18 15 23.0	+0.3
JIH	**Iheya**	**2.26**	**304**	P	Pn	18 14 57.9	+1.3
JIH				*e*S	Sn	18 15 23.3	+0.1
JZK	**Kikaishima**	**2.54**	**358**	*e*S	Sn	18 15 31.2	+1.2
JAMN	**Amaminishikomi**	**2.59**	**342**	P	Pn	18 15 02.6	+1.5
JAMN				*e*S	Sn	18 15 30.0	-1.3
JAGN	**Aguni-jima**	**2.66**	**288**	P	Pn	18 15 03.4	+1.3
JAGN				S	Sn	18 15 33.0	-0.1
JAM	**Amami Oshima**	**2.66**	**351**	P	Pn	18 15 03.8	+1.7
JAM				*e*S	Sn	18 15 31.8	-1.3
JKE	**Kume jima 2**	**3.00**	**281**	P	Pn	18 15 07.2	+0.5
JKE				*e*S	Sn	18 15 40.4	-1.0
JTAJ	**Takarajima**	**3.46**	**347**	P	Pn	18 15 15.2	+2.2
JTAJ				*e*S	Sn	18 15 51.0	-1.7
JOGS	**Gusukube**	**4.33**	**258**	P	Pn	18 15 26.7	+1.7
JIKM	**Ikemajima**	**4.43**	**260**	*e*S	Sn	18 16 15.1	-1.7
JIRB	**Irabujima**	**4.52**	**259**	*e*S	Sn	18 16 17.5	-1.5

*ECX **26** 18:37:12.5±1.4,32.12N×115.27W,h8km,MD2.8,ML3.0*

*NEIC **26** 18:37:13.1,32.14N×115.29W,h10km,ML2.9(ECX), ML3.0(PAS),After ECX.*

*MEX **26** 18:37:14.7±0.4,32.05N×114.81W,h20km±9km,MD3.9*

ISC 26 18:37:11.3±1.0,32.09N±0.03×115.16W±0.03, h12km±10km,n23,σ2.9 11/34,2C-4D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.34**	**340**	*e*P	**Pg**	**18 37 17.7**	**-0.6**
CPBX				*e*S	**Sb**	**18 37 29.1**	**+4.3**
CPBX	**Cerro Prieto**	**0.34**	**340**	⇓*e*P	**Pg**	**18 37 18.7**	**-0.4**
CPBX				*e*S	**Sg**	**18 37 21.7**	**-1.2**
CPBX				⇓*e*		18 37 25.1	
CPBX				IAML		18 37 25.1	
	comp=E,5μm,0.4s						
CPBX				*e*		18 37 37.6	
CPBX				IAML		18 37 37.6	
	comp=N,6μm,0.3s						
ECBX	**El Chinero**	**0.63**	**171**	*e*P	**Pg**	**18 37 22.3**	**-1.2**
EMSC	**East Mesa**	**0.66**	**13**	*e*P2	**Pg**	**18 37 24.6**	**+0.4**
RDX	**Rancho Dawling**	**0.68**	**256**	⇑*e*P	**Pb**	**18 37 25.6**	**+0.4**
RDX				*e*S	**Sg**	**18 37 33.8**	**+0.2**
RDX				*e*		18 37 35.7	
	comp=N,568nm,0.2s						
SGL	**Mount Signal**	**0.73**	**319**	⇓*i*P	**Pg**	**18 37 24.1**	**-1.3**
YUH	**Yuha Desert**	**0.85**	**311**	⇑*i*P	**Pg**	**18 37 26.1**	**-1.6**
RMX	**La Rumorosa**	**0.93**	**303**	*e*P	**Pg**	**18 37 27.6**	**-1.6**
RMX				*e*S	**Sg**	**18 37 38.0**	**-3.3**
RMX				IAML		18 37 38.5	
	comp=N,508nm,0.1s						
RMX				⇓*e*		18 37 38.5	
GLA	**Glamis**	**1.00**	**16**	*e*Pg	**Pg**	**18 37 28.9**	**-1.6**
SPIG	**San Pedro Mart**	**1.08**	**194**	*e*P	**Pb**	**18 37 32.5**	**+0.5**
SPIG				*e*S	**Sg**	**18 37 46.7**	**+0.6**
SPIG	**San Pedro Mart**	**1.08**	**194**	*e*P	**Pb**	**18 37 32.5**	**+0.5**
SPIG				*e*S	**Sg**	**18 37 46.7**	**+0.6**
SPX	**San Pedro Mart**	**1.08**	**194**	*e*P	**Pb**	**18 37 32.3**	**+0.3**
SPX				*e*S	**Sg**	**18 37 46.2**	**+0.1**
SPX	**San Pedro Mart**	**1.08**	**194**	*e*P	**Pb**	**18 37 32.6**	**+0.6**
SPX				*e*S	**Sg**	**18 37 46.8**	**+0.7**
CBX	**Cerro Bola**	**1.29**	**280**	*e*P	**Pg**	**18 37 38.5**	**+2.4**
CBX				*e*S	**Sg**	**18 37 58.0**	**+5.1**
CBX	**Cerro Bola**	**1.29**	**280**	*e*P	**Pg**	**18 37 38.5**	**+2.4**
CBX				*e*S	**Sg**	**18 37 58.0**	**+5.1**
CBX	**Cerro Bola**	**1.29**	**280**	*e*P	**Pn**	**18 37 33.7**	**-1.5**
CBX				*e*S	**Sb**	**18 37 49.6**	**-2.6**
ECNX	**Esteban Cantu**	**1.30**	**251**	*e*P4	**

SIV	**San Ignacio**	**35.01**	**232**	P	**P**	**18 57 07.9**	**-0.2**	
	0.4nm,0.3s,baz=128,slow=12,SNR=2.2							
TORD	**Torodi Ar. Bea**	**35.05**	**75**	P	**P**	**18 57 08.2**	**-0.3**	
	1.9nm,0.8s,baz=266,slow=9.0,SNR=12							
TORD				LR	LR	19 09 13.1		
	comp=Z,248nm,21.6s,baz=200,slow=32							
LPAZ	**La Paz**	**40.91**	**238**	P	**P**	**18 57 58.1**	**-0.5**	
	1.0nm,0.7s,baz=90,slow=3.0,SNR=4.6							
LPAZ				LR	LR	19 15 57.1		
	comp=Z,233nm,19.1s,baz=142,slow=38							
LPAZ	**La Paz**	**40.91**	**238**	*e*P	**P**	**18 57 58.5**	**-0.2**	
	10nm,1.6s							
ROSC	**El Rosal**	**41.17**	**271**	LR	LR	19 16 00.3		
	comp=Z,118nm,20.1s,baz=172,slow=38							
ESDC	**Sonseca Array**	**42.98**	**33**	P	**P**	**18 58 15.2**	**+0.5**	
	0.5nm,0.7s,baz=233,slow=8.0,SNR=6.5							
KEST	**Kesra**	**49.20**	**46**	LR	LR	19 19 11.4		
	comp=Z,55nm,19.9s,baz=206,slow=35							
DAVOX	**Davos/Dischmat**	**55.27**	**35**	LR	LR	19 20 43.9		
	comp=Z,53nm,19.8s,baz=247,slow=33							
PLCA	**Paso Flores**	**57.41**	**213**	LR	LR	19 25 02.8		
	comp=Z,160nm,18.0s,baz=63,slow=36							
GERES	**GERESS Array B**	**58.56**	**34**	P	**P**	**19 00 10.7**	**-1.3**	
	0.7nm,0.8s,baz=256,slow=4.0,SNR=6.3							
BRG	**Berggiesshubel**	**59.77**	**32**	*e*(P)	**P**	**19 00 21.2**	**+0.9**	
	8.5nm,1.5s							
VRAC	**Vranov**	**60.43**	**35**	LR	LR	19 25 51.0		
	comp=Z,50nm,18.5s,baz=80,slow=35							
IDI	**Anoyia**	**60.85**	**52**	LR	LR	19 27 17.9		
	comp=Z,106nm,21.0s,baz=271,slow=37							
NB2	**NORSAR Subarra**	**64.57**	**22**	P	**P**	**19 00 51.9**	**-0.4**	
	comp=Z,2.0nm,0.8s,baz=232,slow=6.5							
NOA	**NORSAR Array B**	**64.57**	**22**	P	**P**	**19 00 52.1**	**-0.2**	
	comp=Z,1.2nm,0.8s,baz=232,slow=6.5,SNR=4.2							
NOA				LR	LR	19 27 19.4		
	comp=Z,39nm,18.9s,baz=75,slow=34							
MLR	**Muntele Rosu**	**64.65**	**42**	LR	LR	19 27 09.0		
	comp=Z,14nm,19.5s,baz=174,slow=34							
HFS	**Hagfors**	**64.97**	**24**	LR	LR	19 27 53.7		
	comp=Z,46nm,18.9s,baz=105,slow=35							
BOSA	**Boshof**	**65.43**	**125**	LR	LR	19 24 17.6		
	comp=Z,52nm,20.1s,baz=325,slow=31							
EIL	**Elat**	**68.18**	**60**	LR	LR	19 31 24.8		
	comp=Z,100nm,19.3s,baz=253,slow=36							
AKASG	**Malin Array Be**	**68.43**	**37**	P	**P**	**19 01 16.8**	**-0.4**	
	comp=Z,0.2nm,0.3s,baz=249,slow=6.7,SNR=5.9							
BRTR	**Keskin Array B**	**68.63**	**49**	P	**P**	**19 01 19.6**	**+0.7**	
	comp=Z,0.6nm,1.0s,baz=264,slow=2.6,SNR=3.3							
BRTR				LR	LR	19 33 55.8		
	comp=Z,33nm,19.1s,baz=229,slow=38							
FINES	**FINESS Array B**	**70.83**	**26**	P	**P**	**19 01 31.5**	**-0.3**	
	comp=Z,1.7nm,0.8s,baz=246,slow=10,SNR=2.3							
PDAR	**Pinedale Array**	**76.47**	**313**	P	**P**	**19 02 06.1**	**+0.5**	
	comp=Z,0.6nm,0.8s,baz=72,slow=5.9,SNR=4.1							
YKA	**Yellowknife Ar**	**81.33**	**332**	P	**P**	**19 02 30.7**	**-0.9**	
	comp=Z,0.4nm,0.8s,baz=94,slow=5.3,SNR=6.7							
NVAR	**Mina Array Bea**	**82.99**	**308**	P	**P**	**19 02 42.7**	**+1.6**	
	comp=Z,0.2nm,0.5s,baz=79,slow=4.7,SNR=2.8							
ILAR	**Eielson Array**	**95.04**	**337**	P	**P**	**19 03 37.3**	**-0.7**	
	comp=Z,0.4nm,0.7s,baz=59,slow=2.3,SNR=3.7							
CMAR	**Chiang Mai Arr**	**127.01**	**62**	PKP	**PKPdf**	**19 09 21.6**	**+1.1**	
	comp=Z,0.5nm,0.9s,baz=340,slow=2.4,SNR=3.2							

*ISCJB **26** 18:55:48.7±0.9,50.1S±0.1×120.2E±0.4,h10km,mb3.5/7, MS3.5/4,Error ellipse: s-maj=38.0km s-min=14.1km az=14.8*

*IDC **26** 18:55:49.1±0.9,50.10S×120.29E,h0km,mb3.6/7, mb1 3.8/7,mb1mx3.7/21,mbtmp3.6/7,MS3.7/4,Ms1 3.6/4, ms1mx3.2/18,Error ellipse: s-maj=44.9km s-min=17.2km az=102.0*

ISC 26 18:55:50.6±1.0,50.1S±0.1×120.3E±0.3,h10km,n12, σ0§55/8,mb3.5/7,MS3.6/4,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.86**	**341**	T		T	T	19 15 36.0	
	baz=164,slow=73,SNR=16								
H01W1	**Cape Leeuwin H**	**15.86**	**341**	T		T	T	19 15 38.8	
	baz=164,slow=73,SNR=19								
H01W3	**Cape Leeuwin H**	**15.87**	**341**	T		T	T	19 15 37.5	
	baz=164,slow=73,SNR=15								
STKA	**Stephens Creek**	**24.14**	**49**	P		**P**	**P**	**19 01 05.7**	**-0.9**
	3.1nm,1.1s,baz=175,slow=10,SNR=5.8								
STKA				LR		LR	LR	19 08 42.5	
	comp=Z,107nm,21.9s,baz=210,slow=32								
ASAR	**Alice Springs**	**28.45**	**27**	P		**P**	**P**	**19 01 46.1**	**+0.5**
	0.7nm,0.7s,baz=206,slow=8.4,SNR=15								
ASAR				LR		LR	LR	19 11 42.4	
	comp=Z,193nm,20.4s,baz=207,slow=34								
VNDA	**Vanda**	**31.61**	**164**	P		**P**	**P**	**19 02 13.2**	**+0.2**
	0.7nm,1.0s,baz=315,slow=11,SNR=3.7								
VNDA				LR		LR	LR	19 14 14.3	
	comp=Z,160nm,19.4s,baz=312,slow=35								
WRA	**Warramunga Arr**	**32.10**	**25**	P		**P**	**P**	**19 02 18.1**	**+0.3**
	0.6nm,1.0s,baz=198,slow=8.0,SNR=2.8								
MAW	**Mawson**	**32.92**	**216**	LR		LR	LR	19 13 52.5	
	comp=Z,102nm,20.1s,baz=60,slow=33								
QSPA	**South Pole Qui**	**40.02**	**180**	P		**P**	**P**	**19 03 25.6**	**+0.3**
	0.7nm,0.6s,baz=309,slow=8.7,SNR=2.7								
SNAA	**Sanae**	**52.09**	**200**	P		**P**	**P**	**19 04 59.8**	**-0.5**
	0.7nm,1.1s,baz=117,slow=11,SNR=3.4								
CMAR	**Chiang Mai Arr**	**70.83**	**339**	P		**P**	**P**	**19 07 07.2**	**-0.1**
	0.5nm,0.5s,baz=186,slow=5.9,SNR=4.0								
YKA	**Yellowknife Ar**	**148.15**	**46**	PKPbc		**PKPbc**	**P**	**19 15 35.4**	**+0.2**
	0.8nm,0.8s,baz=272,slow=2.3,SNR=7.2								

*IDC **26** 19:01:05.5±1.6,35.99S×73.72W,h0km,mb3.7/2, mb1 4.0/3,mb1mx3.7/20,mbtmp3.5/3,ML3.6/1,Error ellipse: s-maj=322.5km s-min=22.1km az=63.0*

*ISCJB **26** 19:01:07.9±0.9,35.90S±0.04×73.48W±0.09,h33km, mb3.6/2,Error ellipse: s-maj=10.3km s-min=5.7km az=18.6*

*GUC **26** 19:01:07.5±0.5,35.93S×73.45W,h36km±2km,ML4.2*

ISC 26 19:01:09.7±1.1,35.92S±0.05×73.45W±0.09,h35km,n9, σ1§24/15,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.96**	**164**	*e*P		**Pn**	**Pn**	**19 01 24.7**	**-2.0**
CCSP				*e*S		**Sn**	**Sn**	**19 01 37.5**	**-1.6**
CCSP				AML		AML	AML	19 01 39.3	
	comp=E,9μm,0.5s								
LNCH	**Linares**	**1.50**	**88**	*e*P		**Pn**	**Pn**	**19 01 33.5**	**-0.6**
LNCH				*e*S		**Sn**	**Sn**	**19 01 52.8**	**+0.3**
TALC	**Talca**	**1.57**	**71**	*e*P		**Pn**	**Pn**	**19 01 34.3**	**-0.7**
TALC				*e*S		**Sn**	**Sn**	**19 01 54.6**	**+0.6**
CLCH	**Cerro Calan**	**3.48**	**44**	*e*P		**Pn**	**Pn**	**19 02 00.6**	**-0.9**
CLCH				*e*S		**Sn**	**Sn**	**19 02 41.1**	**-0.3**
CLCH				AML		AML	AML	19 03 12.9	
	comp=N,520nm,0.8s								
ROCH	**El Roble**	**3.56**	**35**	*e*P		**Pn**	**Pn**	**19 02 00.9**	**-1.9**
ROCH				*e*S		**Sn**	**Sn**	**19 02 42.3**	**-1.4**
ROCH				AML		AML	AML	19 03 10.9	
	comp=E,246nm,0.7s								
PEL	**Peldehue**	**3.59**	**40**	*e*P		**Pn**	**Pn**	**19 02 02.0**	**-0.9**
PEL				*e*S		**Sn**	**Sn**	**19 02 43.6**	**-0.4**
PEL				AML		AML	AML	19 03 07.3	
	comp=E,361nm,0.6s								
PLCA	**Paso Flores**	**5.32**	**156**	Pn		**Pn**	**Pn**	**19 02 27.4**	**+0.8**
	comp=E,0.5nm,0.3s,baz=326,slow=9.6,SNR=11								
PLCA				Lg		Lg	Lg	19 03 54.7	
	comp=E,1.1nm,0.3s,baz=246,slow=17,SNR=5.1								
TXAR	**Lajitas Array**	**70.87**	**332**	P		**P**	**P**	**19 12 23.7**	**+0.6**
	comp=E,0.4nm,0.5s,baz=155,slow=8.5,SNR=6.2								
NVAR	**Mina Array Bea**	**84.82**	**326**	P		**P**	**P**	**19 13 42.1**	**+1.5**
	comp=E,0.3nm,0.5s,baz=156,slow=6.8,SNR=3.5								

*ISCJB **26** 19:16:45.9±1.0,43.73N±0.06×147.40E±0.08,h45km, Error ellipse: s-maj=11.2km s-min=5.1km az=141.0*

*JMA **26** 19:16:45.8±0.2,43.60N×147.34E,h24km,M3.5*

*SKHL **26** 19:16:46.6±0.5,43.73N×147.45E,h35km±1km,mb4.8/4*

ISC 26 19:16:46.4±1.6,43.69N±0.09×147.44E±0.08,h45km,n13, σ0§98/22,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.48**	**292**	*e*P		**Pn**	**Pn**	**19 16 56.5**	**-0.5**
SHO				AMB		AMB	AMB	19 16 56.6	
	350nm,0.2s								
SHO				*e*S		**Sn**	**Sn**	**19 17 03.5**	**-1.1**
SHO				A		A	A	19 17 03.9	
	1μm,0.3s								
YUK	**Yuzh-Kuril'sk**	**1.19**	**287**	*i* P		**Pn**	**Pn**	**19 17 06.1**	**-0.5**
YUK				AMB		AMB	AMB	19 17 07.8	
	40nm,0.2s								
YUK				AMB		AMB	AMB	19 17 07.8	
	50nm,0.2s								
YUK				AMB		AMB	AMB	19 17 07.8	
	100nm,0.2s								
YUK				*i* S		**Sn**	**Sn**	**19 17 20.8**	**-0.8**
YUK				A		A	A	19 17 23.1	
	200nm,0.3s								
YUK				A		A	A	19 17 23.1	
	200nm,0.3s								
YUK				A		A	A	19 17 23.1	
	70nm,0.3s								
NEM2	**Nemuro 2**	**1.28**	**256**	P		**Pn**	**Pn**	**19 17 07.0**	**-0.7**
NEM2				*e*S		**Sn**	**Sn**	**19 17 22.4**	**-1.2**
KUR	**Kuril'sk**	**1.57**	**11**	*i* P		**Pn**	**Pn**	**19 17 11.2**	**-0.6**
KUR				AMB		AMB	AMB	19 17 13.0	
	600nm,0.1s								
KUR				AMB		AMB	AMB	19 17 13.0	
	10.0nm,0.1s								
KUR				AMB		AMB	AMB	19 17 13.0	
	160nm,0.1s								
KUR				*i* S		**Sn**	**Sn**	**19 17 30.0**	**-0.9**
KUR				A		A	A	19 17 31.2	
	100nm,0.2s								
KUR				A		A	A	19 17 31.2	
	80nm,0.2s								
KUR				A		A	A	19 17 31.2	
	60nm,0.2s								
JRA	**Rausu**	**1.70**	**279**	P		**Pn**	**Pn**	**19 17 13.6**	**+0.1**
JRA				*e*S		**Sn**	**Sn**	**19 17 34.1**	**+0.1**
JNK	**Nakash**	**1.98**	**268**	*e*S		**Sn**	**Sn**	**19 17 40.8**	**-0.1**
JAK	**Akkeshi**	**2.12**	**252**	P		**Pn**	**Pn**	**19 17 19.2**	**-0.1**
JTKR	**Abashiri--Toko**	**2.57**	**277**	P		**Pn**	**Pn**	**19 17 26.5**	**+1.0**
JAR	**Ashorobuto**	**2.70**	**263**	P		**Pn**	**Pn**	**19 17 28.3**	**+1.0**
JAR				*e*S		**Sn**	**Sn**	**19 17 59.3**	**+0.6**
JOB	**Onbets**	**2.75**	**255**	P		**Pn**	**Pn**	**19 17 28.5**	**+0.6**
JOB				*e*S		**Sn**	**Sn**	**19 17 59.9**	**+0.1**
JCH	**Churui**	**3.17**	**252**	*e*S		**Sn**	**Sn**	**19 18 10.4**	**+0.1**
YSS	**Yuzh-Sakhalins**	**4.64**	**316**	*e*P		**Pn**	**Pn**	**19 17 55.6**	**+1.7**
YSS				*e*S		**Sn**	**Sn**	**19 18 46.2**	**-0.3**
YSS				A		A	A	19 18 48.3	
	40nm,0.3s								
SKR	**Severo-Kuril's**	**9.15**	**37**	*e*P		**Pn**	**Pn**	**19 18 57.5**	**+1.8**
SKR				AMB		AMB	AMB	19 19 07.5	
	140nm,1.0s								
SKR				*e*S		**Sn**	**Sn**	**19 20 35.4**	**-1.8**
SKR				A		A	A	19 20 52.5	
	190nm,0.9s								

*IDC **26** 19:16:40.2±0.8,23.75N×121.49E,h0km,mb3.5/8, mb1 3.6/10,mb1mx3.5/41,mbtmp3.5/10,ML3.1/2,MS2.8/2, Ms1 2.9/2,ms1mx2.6/22,Error ellipse: s-maj=32.4km s-min=16.9km az=73.0*

*ISCJB **26** 19:16:47.4±0.2,23.86N±0.02×121.74E±0.02,h60km±3km, mb3.4/8,Error ellipse: s-maj=3.0km s-min=1.8km az=143.0*

*JMA **26** 19:16:47.1,23.84N×121.68E,h43km±1km,M4.5*

*TAP **26** 19:16:47.7,23.87N×121.68E,h49km,ML4.6,B*

ISC 26 19:16:47.5±0.7,23.87N±0.02×121.72E±0.02,h49km±5km, n112,σ1§53/170,mb3.5/8,24C-17D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.15**	**316**	⇓*i*P		**Pn**	**Pn**	**19 16 55.8**	**+0.4**
HWA									
	baz=333								
				*e*S		**Sn**	**Sn**	**19 17 02.3**	**+1.3**
	baz=333								
ESF	**Shoufeng Towns**	**0.20**	**271**	⇓*i*P		**Pn**	**Pn**	**19 16 56.6**	**+0.9**
ESF									
	baz=283								
				*e*S		**Sn**	**Sn**	**19 17 03.2**	**+1.8**
	baz=283								
TEGC	**Jichi Village**	**0.23**	**226**	⇑*e*P		**Pn**	**Pn**	**19 16 57.4**	**+1.5**
	baz=210								
TWD	**Chiawan**	**0.24**	**332**	⇓*i*P		**Pn**	**Pn**	**19 16 56.2**	**+0.2**
TWD									
	baz=331								
				*e*S		**Sn**	**Sn**	**19 17 03.2**	**+1.1**
	baz=331								
ESL	**Shilin**	**0.27**	**259**	⇑*i*P		**Pn**	**Pn**	**19 16 56.0**	**-0.2**
	baz=254								
EHP	**Heping Village**	**0.44**	**3**	*e*P		**Pn**	**Pn**	**19 16 59.1**	**+1.1**
EHP	baz=15								
				*e*S		**Sn**	**Sn**	**19 17 07.3**	**+1.8**
	baz=15								
WHF	**Hehuan Shan**	**0.50**	**304**	⇑*i*P		**Pn**	**Pn**	**19 16 58.9**	**-0.2**
	baz=306								
EHY	**Hungye**	**0.51**	**226**	⇑*i*P		**Pn**	**Pn**	**19 16 58.3**	**-0.5**
	baz=221								
EHY				*e*S		**Sn**	**Sn**	**19 17 05.4**	**-1.5**
	baz=221								
WDT	**Danda**	**0.55**	**259**	⇑*i*P		**Pn**	**Pn**	**19 16 59.5**	**0.0**
	baz=253								
ENA	**Nanau**	**0.56**	**2**	⇓*i*P		**Pn**	**Pn**	**19 16 59.7**	**+0.3**
	baz=12								
TWT	**Tachien**	**0.63**	**308**	⇑*i*P		**Pn**	**Pn**	**19 17 01.0**	**+0.5**
TWT	baz=308								
				i S		**Sn**	**Sn**	**19 17 09.7**	**-0.1**
	baz=308								
TWF1	**Yuli**	**0.64**	**217**	⇑*i*P		**Pn**	**Pn**	**19 17 00.0**	**-0.5**
	baz=220								
TWF1				*e*S		**Sn**	**Sn**	**19 17 09.5**	**-0.3**
	baz=220								
NNS	**Nan Shan**	**0.65**	**331**	⇑P		**Pn**	**Pn**	**19 17 00.9**	**+0.2**
	baz=332								
NNS				S		**Sn**	**Sn**	**19 17 09.6**	**-0.7**
	baz=332								
TWC	**Suao**	**0.75**	**9**	⇓*i*P		**Pn**	**Pn**	**19 17 02.8**	**+0.9**
	baz=22								
TWC				S		**Sn**	**Sn**	**19 17 13.4**	**+1.1**
	baz=22								
SMLT	**Sun Moon Lake**	**0.75**	**271**	⇑*i*P		**Pn**	**Pn**	**19 17 02.2**	**+0.3**
	baz=270								
SMLT				*e*S		**Sn**	**Sn**	**19 17 13.8**	**+1.4**
	baz=270								
ENTT	**Nioudou**	**0.78**	**350**	⇓*i*P		**Pn**	**Pn**	**19 17 02.6**	**+0.3**
	baz=354								
ENTT				*e*S		**Sn**	**Sn**	**19 17 13.4**	**+0.3**
	baz=354								
TYC	**Yuchr**	**0.79**	**273**	⇑*i*P		**Pn**	**Pn**	**19 17 02.6**	**+0.3**
	baz=272								
YUS	**Yu-Shan**	**0.80**	**242**	⇑*i*P		**Pn**	**Pn**	**19 17 03.5**	**+0.5**
	baz=234								
YUS				S		**Sn**	**Sn**	**19 17 13.7**	**-0.4**
	baz=234								
CHKT	**Chengkung**	**0.83**	**203**	⇓*i*P		**Pn**	**Pn**	**19 17 03.1**	**+0.2**
	baz=190								
CHKT				*e*S		**Sn**	**Sn**	**19 17 15.3**	**+1.2**
	baz=190								
TWE	**Neicheng**	**0.85**	**357**	*e*P		**Pn**	**Pn**	**19 17 03.6**	**+0.4**
	baz=352								
NSK	**Sanguang**	**0.87**	**338**	⇓*i*P		**Pn**	**Pn**	**19 17 04.0**	**+0.5**
	baz=341								
NSK				*e*S		**Sn**	**Sn**	**19 17 14.0**	**-1.2**
	baz=341								
ILA	**Ilan**	**0.90**	**2**	*e*P		**Pn**	**Pn**	**19 17 04.8**	**+1.0**
	baz=357								
ILA				*e*S		**Sn**	**Sn**	**19 17 18.2**	**+2.5**
	baz=357								
ALS	**Alishan**	**0.91**	**247**	⇑*i*P		**Pn**	**Pn**	**19 17 05.0**	**+0.8**
	baz=239								
ALS				*e*S		**Sn**	**Sn**	**19 17 16.6**	**+0.1**
	baz=239								
WNT	**Mingjian**	**0.95**	**271**	⇑*i*P		**Pn**	**Pn**	**19 17 05.8**	**+1.3**
	baz=270								
WNT				*e*S		**Sn**	**Sn**	**19 17 18.7**	**+1.7**
	baz=270								
TWQ1	**Liyutan**	**0.99**	**299**	⇑*i*P		**Pn**	**Pn**	**19 17 06.1**	**+1.0**
	baz=299								
TWQ1				*i* S		**Sn**	**Sn**	**19 17 19.4**	**+1.4**
	baz=299								
CHN5	**Tsauling**	**0.99**	**255**	⇑*i*P		**Pn**	**Pn**	**19 17 06.0**	**+0.9**
	baz=253								
CHN5				S		**Sn**	**Sn**	**19 17 19.6**	**+1.5**
	baz=253								
EGS		**0.99**	**11**	⇓P		**Pn**	**Pn**	**19 17 06.6**	**+1.5**
EGS	baz=17								
				*e*S		**Sn**	**Sn**	**19 17 23.0**	**+5.0**
	baz=17								
TCU	**Taichung**	**0.99**	**287**	⇑*i*P		**Pn**	**Pn**	**19 17 06.5**	**+1.4**
	baz=286								
TCU				*e*S		**Sn**	**Sn**	**19 17 20.1**	**+2.0**
	baz=286								
NSTT	**Nanjuang**	**1.00**	**319**	⇑*i*P		**Pn**	**Pn**	**19 17 06.5**	**+1.2**
	baz=308								
NSTT				*i* S		**Sn**	**Sn**	**19 17 19.4**	**+1.1**
	baz=308								
NSY	**Sanyi**	**1.03**	**302**	⇑*i*P		**Pn**	**Pn**	**19 17 06.8**	**+1.1**
	baz=302								
NSY				*i* S		**Sn**	**Sn**	**19 17 20.5**	**+1.4**
	baz=302								
WGK	**Gukeng**	**1.08**	**261**	⇑*i*P		**Pn**	**Pn**	**19 17 07.3**	**+1.1**
	baz=259								
WGK				*e*S		**Sn**	**Sn**	**19 17 24.3**	**+4.2**
	baz=259								
TWA	**Mucha**	**1.12**	**354**	⇓*i*P		**Pn**	**Pn**	**19 17 07.6**	**+0.8**
	baz=343								
TWA				*e*S		**Sn**	**Sn**	**19 17 22.6**	**+1.6**
	baz=343								
STYT	**Tauyuan**	**1.13**	**232**	⇓*i*P		**Pn**	**Pn**	**19 17 08.0**	**+1.0**
	baz=238								
STYT				S		**Sn**	**Sn**	**19 17 22.6**	**+1.2**
	baz=238								
CHN4	**Tsaushan**	**1.15**	**244**	*e*P		**Pn**	**Pn**	**19 17 08.5**	**+1.2**
	baz=242								
CHN4				S		**Sn**	**Sn**	**19 17 24.0**	**+2.0**
	baz=242								
HSN	**Hsinchu**	**1.16**	**324**	*e*P		**Pn**	**Pn**	**19 17 08.7**	**+1.4**
	baz=325								
HSN				*e*S		**Sn**	**Sn**	**19 17 24.1**	**+2.1**
	baz=325								
TWB1	**Santiao Chiao**	**1.16**	**12**	⇓*i*P		**Pn**	**Pn**	**19 17 08.8**	**+1.4**
	baz=28								
TWB1				*e*S		**Sn**	**Sn**	**19 17 25.2**	**+3.0**
	baz=28								
TAP1	**Taipei**	**1.18**	**351**	⇓*e*P		**Pn**	**Pn**	**19 17 08.2**	**+0.6**
	baz=353								
TAP1				*e*S		**Sn**	**Sn**	**19 17 23.9**	**+1.4**
	baz=353								
TAP	**Taipei**	**1.18**	**351**	*e*P		**Pn**	**Pn**	**19 17 08.1**	**+0.5**
	baz=353								
TAP				*e*S		**Sn**	**Sn**	**19 17 24.2**	**+1.5**
	baz=353								
WTP	**Ta-pu**	**1.19**	**239**	⇓P		**Pn**	**Pn**	**19 17 09.0**	**+1.2**
	baz=236								
WTP				*e*S		**Sn**	**Sn**	**19 17 24.9**	**+2.0**
	baz=236								
CHN2	**Minshiung**	**1.19**	**254**	⇑P		**Pn**	**Pn**	**19 17 09.3**	**+1.6**
	baz=253								
CHN2				*i* S		**Sn**	**Sn**	**19 17 25.1**	**+2.4**
	baz=253								
TWG	**Pinlang**	**1.20**	**210**	⇓*e*P		**Pn**	**Pn**	**19 17 06.9**	**-1.0**
	baz=198								
NWF	**Wu-fen Shan**	**1.20**	**3**	*e*P		**Pn**	**Pn**	**19 17 08.9**	**+0.9**
	baz=354								
NWF				S		**Sn**	**Sn**	**19 17 24.7**	**+1.5**
	baz=354								
NCU	**National Centr**	**1.20**	**336**	⇑P		**Pn**	**Pn**	**19 17 09.0**	**+1.1**
	baz=337								
NCU				*e*S		**Sn**	**Sn**	**19 17 25.3**	**+2.2**
	baz=337								
TTN	**Taitung**	**1.23**	**206**	*e*P		**Pn**	**Pn**	**19 17 08.1**	**-0.1**
	baz=202								
CHY	**Chiayi**	**1.24**	**253**	P		**Pn**	**Pn**	**19 17 09.7**	**+1.2**
	baz=252								
CHY				*e*S		**Sn**	**Sn**	**19 17 26.0**	**+1.9**
	baz=252								
TWS1	**Kuangyinshan**	**1.26**	**347**	*e*P		**Pn**	**Pn**	**19 17 09.4**	**+0.8**
	baz=348								
TWS1				*e*S		**Sn**	**Sn**	**19 17 25.9**	**+1.4**
	baz=348								
JYNG	**Yonaguni jima**	**1.26**	**62**	P		**Pn**	**Pn**	**19 17 09.7**	**+1.0**
JYNG				*e*S		**Sn**	**Sn**	**19 17 25.9**	**+1.3**
TWK	**Hsinying**	**1.28**	**242**	*e*P		**Pn**	**Pn**	**19 17 10.1**	**+1.1**
	baz=240								
TWK				*e*S		**Sn**	**Sn**	**19 17 26.6**	**+1.5**
	baz=240								
CHN1	**Nanshi**	**1.29**	**238**	*e*P		**Pn**	**Pn**	**19 17 10.3**	**+1.2**
	baz=236								
CHN1				*e*S		**Sn**	**Sn**	**19 17 27.0**	**+1.7**
	baz=236								
SGST	**Jiashian**	**1.30**	**233**	⇓*i*P		**Pn**	**Pn**	**19 17 11.0**	**+1.7**
	baz=231								
SGST				*e*S		**Sn**	**Sn**	**19 17 27.8**	**+2.2**
	baz=231								
WTCT	**Ta-ch'eng**	**1.32**	**270**	P		**Pn**	**Pn**	**19 17 10.5**	**+1.0**
	baz=269								
WTCT				*e*S		**Sn**	**Sn**	**19 17 28.0**	**+2.1**
	baz=269								
YOJ	**Yonaguni jima**	**1.32**	**63**	P		**Pn**	**Pn**	**19 17 10.6**	**+1.1**
YOJ				*e*S		**Sn**	**Sn**	**19 17 27.3**	**+1.3**
YOJ	**Yonaguni jima**	**1.32**	**63**	⇑P		**Pn**	**Pn**	**19 17 10.6**	**+1.1**
	baz=67								
YOJ				*i* S		**Sn**	**Sn**	**19 17 27.7**	**+1.7**
	baz=67								
WSF	**Szhu**	**1.39**	**261**	⇑*i*P		**Pn**	**Pn**	**19 17 11.6**	**+1.1**
	baz=260								
WSF				*e*S		**Sn**	**Sn**	**19 17 30.0**	**+2.3**

QZH					smax		smax	
	comp=E,330nm,0.4s							
KNM	**Kinmen**	**3.05**	**281**	*eP*		**Pn**	**19 17 34.0**	**+0.8**
	baz=280							
JIRB	**Irabujima**	**3.29**	**72**	P		**Pn**	**19 17 37.3**	**+0.8**
JIRB				*eS*		**Sn**	**19 18 15.3**	**+0.9**
JIKM	**Ikemajima**	**3.38**	**71**	P		**Pn**	**19 17 38.6**	**+0.8**
JIKM				*eS*		**Sn**	**19 18 17.5**	**+0.8**
JMJ	**Miyako jima 2**	**3.39**	**73**	P		**Pn**	**19 17 39.2**	**+1.3**
JMJ				*eS*		**Sn**	**19 18 17.6**	**+0.7**
JOGS	**Gusukube**	**3.48**	**74**	P		**Pn**	**19 17 40.5**	**+1.4**
JOGS				*eS*		**Sn**	**19 18 20.8**	**+1.8**
JKE	**Kume jima 2**	**5.21**	**61**	P		**Pn**	**19 18 03.2**	**+0.4**
JKE				*eS*		**Sn**	**19 19 02.0**	**+0.5**
JNTH	**Nagotoyohara**	**6.29**	**64**	P		**Pn**	**19 18 18.0**	**+0.3**
JIH	**Iheya**	**6.47**	**60**	P		**Pn**	**19 18 20.2**	**+0.1**
JOW	**Kunigami**	**6.62**	**62**	P		**Pn**	**19 18 21.6**	**-0.7**
JOW	**Kunigami**	**6.62**	**62**	Pn		**Pn**	**19 18 21.6**	**-0.7**
	comp=E,0.8nm,0.3s,baz=214,slow=11,SNR=52							
JOW				Sn		**Sn**	**19 19 33.6**	**-2.9**
	comp=E,0.3nm,0.3s,baz=139,slow=20,SNR=3.3							
JOW	**Kunigami**	**6.62**	**62**	*eP*		**Pn**	**19 18 21.5**	**-0.7**
	baz=65							
JOKE	**Okinoerabujima**	**7.09**	**59**	P		**Pn**	**19 18 27.5**	**-1.2**
JTK	**Tokunoshima**	**7.59**	**58**	P		**Pn**	**19 18 34.5**	**-1.1**
JAMN	**Amaminishikomi**	**8.00**	**55**	P		**Pn**	**19 18 39.5**	**-1.5**
KSRS	**Korea Array**	**14.55**	**20**	Pn		**Pn**	**19 20 09.7**	**-0.7**
	comp=E,0.1nm,0.3s,baz=201,slow=12,SNR=2.3							
CD2	**Chengdu**	**17.41**	**298**	*eP*		**P**	**19 20 49.0**	**+1.2**
JCJ	**Chichijima**	**18.75**	**76**	LR		LR	19 26 44.7	
	comp=E,36nm,18.5s,baz=357,slow=32							
CMAR	**Chiang Mai Arr**	**21.90**	**260**	LR		LR	19 29 41.6	
	comp=E,18nm,18.2s,baz=170,slow=36							
SONM	**Songino Array**	**26.85**	**337**	P		**P**	**19 22 23.8**	**+0.3**
	comp=E,0.2nm,0.4s,baz=156,slow=11,SNR=2.3							
MKAR	**Makanchi Array**	**38.91**	**316**	P		**P**	**19 24 06.5**	**-1.9**
	comp=E,0.2nm,0.5s,baz=96,slow=10,SNR=5.2							
ZALV	**Zalesovo Beam**	**40.78**	**327**	P		**P**	**19 24 22.2**	**-1.5**
	comp=E,0.4nm,0.4s,baz=108,slow=9.3,SNR=3.0							
H11N1	**WAKE ISLAND Hy**	**42.02**	**87**	T		T	20 10 03.2	
	baz=283,slow=75,SNR=12							
H11N2	**WAKE ISLAND Hy**	**42.02**	**87**	T		T	20 10 03.0	
	baz=283,slow=75,SNR=17							
H11N3	**WAKE ISLAND Hy**	**42.03**	**87**	T		T	20 10 04.1	
	baz=283,slow=75,SNR=16							
H11S3	**WAKE ISLAND Hy**	**42.14**	**88**	T		T	20 10 03.7	
	baz=281							
H11S1	**WAKE ISLAND Hy**	**42.15**	**88**	T		T	20 10 14.6	
	baz=281,slow=74							
H11S2	**WAKE ISLAND Hy**	**42.16**	**88**	T		T	20 10 37.5	
	baz=281,slow=74							
WRA	**Warramunga Arr**	**45.25**	**163**	P		**P**	**19 24 58.6**	**-1.7**
	comp=E,0.6nm,0.6s,baz=345,slow=8.6,SNR=9.5							
ASAR	**Alice Springs**	**48.71**	**165**	P		**P**	**19 25 26.6**	**-0.6**
	comp=E,0.3nm,0.5s,baz=337,slow=6.7,SNR=10							
STKA	**Stephens Creek**	**58.60**	**160**	P		**P**	**19 26 38.7**	**-0.8**
	comp=E,1.6nm,1.0s,baz=344,slow=8.9,SNR=3.5							
ILAR	**Eielson Array**	**69.27**	**27**	P		**P**	**19 27 50.8**	**+1.6**
	comp=E,0.2nm,0.7s,baz=291,slow=7.6,SNR=3.6							
YKA	**Yellowknife Ar**	**83.07**	**23**	P		**P**	**19 29 07.3**	**-0.3**
	comp=E,0.4nm,0.5s,baz=310,slow=4.8,SNR=6.0							

CSEM ***26*** *19:17:44.3±0.1,46.°53N×10.°66E,h15km,MD1.7,Error ellipse: s-maj=1.1km s-min=0.8km az=178.0*

ROM 26 19:17:44.5±0.2,46.°53N×10.°64E,h13km±6km,Md1.7/6,3C, Error ellipse: s-maj=4.2km s-min=2.1km az=161.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOSI	**Grossmontoni**	**0.11**	**326**	Pg	Pg	19 17 48.1	+0.1
MOSI				Sg	Sg	19 17 50.4	0.0
MOSI	**Grossmontoni**	**0.11**	**326**	Pg	Pg	19 17 48.1	+0.1
MOSI				Sg	Sg	19 17 50.4	0.0
BRMO	**Bormio**	**0.19**	**255**	Pg	Pg	19 17 49.4	+0.4
BRMO				Sg	Sg	19 17 52.1	0.0
BRMO	**Bormio**	**0.19**	**255**	Pg	Pg	19 17 49.4	+0.4
BRMO				Sg	Sg	19 17 52.1	0.0
FUORN	**Ofenpass-Fuorn**	**0.28**	**290**	Pg	Pg	19 17 50.9	+0.3
FUORN				Sg	Sg	19 17 55.1	+0.3
FUORN	**Ofenpass-Fuorn**	**0.28**	**290**	Pg	Pg	19 17 50.9	+0.3
FUORN				Sg	Sg	19 17 55.1	+0.3
BERNI	**Berninapass**	**0.44**	**256**	Pg	Pg	19 17 53.7	+0.1
BERNI				Sg	Sg	19 17 59.7	-0.1
BERNI	**Berninapass**	**0.44**	**256**	Pg	Pg	19 17 53.7	+0.1
BERNI				Sg	Sg	19 17 59.7	-0.1
ABSI	**Aberstueckl**	**0.51**	**66**	Pg	Pg	19 17 54.2	-0.7
ABSI	**Aberstueckl**	**0.51**	**66**	Pg	Pg	19 17 54.2	-0.7
ABSI				*e*Sg	Sg	19 18 01.5	-0.4
KOSI	**Kohlern**	**0.52**	**97**	⇑*e*Pg	Pg	19 17 54.5	-0.4
KOSI				*e*Sg	Sg	19 18 01.1	-0.8
RNI	**Roncone**	**0.54**	**180**	⇑*e*Pg	Pg	19 17 55.4	0.0
RNI				*e*Sg	Sg	19 18 02.5	-0.3
RNI	**Roncone**	**0.54**	**180**	⇑*e*Pg	Pg	19 17 55.4	0.0
RNI				*e*Sg	Sg	19 18 02.5	-0.3
MAGA	**Magasa**	**0.75**	**181**	Pg	Pg	19 17 59.4	+0.2
MAGA				Sg	Sg	19 18 09.0	-0.2
MAGA	**Magasa**	**0.75**	**181**	Pg	Pg	19 17 59.4	+0.2
MAGA				Sg	Sg	19 18 09.0	-0.2

ROM ***26*** *19:18:36.9±0.1,46.°52N×10.°66E,h12km,Md2.2/9,Ml2.0/9, Error ellipse: s-maj=1.0km s-min=0.6km az=175.0*

ISCJB ***26*** *19:18:36.6±0.3,46.°52N±0.°02×10.°69E±0.°02,h9km±5km, Error ellipse: s-maj=2.7km s-min=2.5km az=10.1*

VIE ***26*** *19:18:36.5±0.2,46.°52N×10.°67E,h14km±2km,mb2.0/5, ML2.1/11,Error ellipse: s-maj=2.0km s-min=1.0km az=163.0 15 km SW of Silandro*

ZUR ***26*** *19:18:37.4,46.°49N×10.°63E,h9km±3km,ML2.1/5*

CSEM ***26*** *19:18:37.0±0.1,46.°53N×10.°67E,h2km,ML2.8/13,Error ellipse: s-maj=2.7km s-min=2.2km az=174.0*

PRU ***26*** *19:18:40.8,46.°56N×10.°86E,h0km*

ISC 26 19:18:36.6±0.8,46.°54N±0.°02×10.°68E±0.°01,h16km±5km, n67,σ0.°67/118,15C-12D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOSI	**Grossmontoni**	**0.12**	**312**	Pg	**Pg**	**19 18 40.7**	**+0.2**
MOSI				Sg	**Sg**	**19 18 43.0**	**-0.1**
	336nm,0.3s						
MOSI	**Grossmontoni**	**0.12**	**312**	Pg	**Pg**	**19 18 40.7**	**+0.2**
MOSI				Sg	**Sg**	**19 18 43.0**	**-0.1**
	336nm,0.3s						
BRMO	**Bormio**	**0.22**	**254**	Pg	**Pg**	**19 18 42.0**	**+0.2**
BRMO				Sg	**Sg**	**19 18 44.8**	**-0.4**
	251nm,0.1s						
BRMO	**Bormio**	**0.22**	**254**	Pg	**Pg**	**19 18 42.0**	**+0.2**
BRMO				Sg	**Sg**	**19 18 44.8**	**-0.4**
	251nm,0.1s						
FUORN	**Ofenpass-Fuorn**	**0.30**	**286**	⇑*i*Pg	**Pg**	**19 18 43.5**	**+0.4**
	504nm,0.4s						
FUORN				*e*Sg	**Sg**	**19 18 47.8**	**+0.2**
	504nm,0.4s						
FUORN	**Ofenpass-Fuorn**	**0.30**	**286**	Pg	**Pg**	**19 18 43.5**	**+0.4**
FUORN				Sg	**Sg**	**19 18 47.5**	**-0.1**
FUORN	**Ofenpass-Fuorn**	**0.30**	**286**	⇑*i*Pg	**Pg**	**19 18 43.5**	**+0.4**
	504nm,0.4s						
FUORN				Sg	**Sg**	**19 18 47.5**	**-0.1**
APPI	**Appiano**	**0.39**	**99**	Pg	**Pb**	**19 18 45.1**	**0.0**
APPI				Sg	**Sb**	**19 18 51.3**	**+0.5**
	200nm,0.2s						
APPI	**Appiano**	**0.39**	**99**	Pg	**Pb**	**19 18 45.1**	**0.0**
APPI				Sg	**Sb**	**19 18 51.3**	**+0.5**
	200nm,0.2s						
BERNI	**Berninapass**	**0.47**	**255**	⇑*i*Pg	**Pg**	**19 18 46.3**	**+0.2**
	236nm,0.2s						
BERNI	**Berninapass**	**0.47**	**255**	Pg	**Pg**	**19 18 46.3**	**+0.2**
BERNI				Sg	**Sg**	**19 18 52.4**	**-0.1**
BERNI	**Berninapass**	**0.47**	**255**	⇑*i*Pg	**Pg**	**19 18 46.3**	**+0.2**
	236nm,0.2s						
BERNI				Sg	**Sg**	**19 18 52.4**	**-0.1**
ABSI	**Aberstueckl**	**0.48**	**66**	Pg	**Pg**	**19 18 46.2**	**-0.2**
ABSI				Sg	**Sg**	**19 18 53.6**	**+0.6**
	102nm,0.3s						
ABSI	**Aberstueckl**	**0.48**	**66**	⇑*i*Pg	**Pg**	**19 18 46.8**	**+0.4**
ABSI				Sg	**Sg**	**19 18 53.6**	**+0.6**
	102nm,0.3s						
FETA	**Feichten**	**0.49**		4⇑*e*Pg	**Pb**	**19 18 47.1**	**+0.2**
	SNR=6.0						
FETA				⇓*e*Sg	**Sg**	**19 18 53.7**	**+0.7**
	24nm,0.2s,SNR=5.4						
FETA	**Feichten**	**0.49**	**4**	Pg	**Pb**	**19 18 47.1**	**+0.2**
	SNR=6.0						
FETA				Sg	**Sg**	**19 18 53.7**	**+0.7**
	24nm,0.2s,SNR=5.4						
KOSI	**Kohlern**	**0.49**	**98**	Pg	**Pg**	**19 18 46.7**	**+0.2**
KOSI				Sg	**Sg**	**19 18 53.5**	**+0.3**
	48nm,0.5s						
KOSI	**Kohlern**	**0.49**	**98**	Pg	**Pg**	**19 18 46.7**	**+0.2**
KOSI				*i* Sg	**Sg**	**19 18 53.4**	**+0.3**
MABI	**Malga Bissina**	**0.49**	**193**	Pg	**Pg**	**19 18 46.7**	**+0.1**
MABI				Sg	**Sg**	**19 18 52.6**	**-0.7**
	57nm,0.1s						
MABI	**Malga Bissina**	**0.49**	**193**	Pg	**Pg**	**19 18 46.7**	**+0.1**
MABI				Sg	**Sg**	**19 18 52.6**	**-0.7**
	57nm,0.1s						
RNI	**Roncone**	**0.56**	**182**	⇑*i*Pg	**Pg**	**19 18 48.0**	**+0.3**
RNI				*e*Sg	**Sg**	**19 18 55.0**	**-0.1**
RNI	**Roncone**	**0.56**	**182**	⇑*i*Pg	**Pg**	**19 18 48.0**	**+0.3**
RNI				*e*Sg	**Sg**	**19 18 55.0**	**-0.1**
DAVOX	**Davos/Dischmat**	**0.60**	**294**	⇓*i*Pg	**Pb**	**19 18 49.0**	**+0.2**
	117nm,0.5s						
DAVOX				*e*Sg	**Sg**	**19 18 57.1**	**+0.6**
	117nm,0.5s						
DAVOX	**Davos/Dischmat**	**0.60**	**294**	Pg	**Pb**	**19 18 48.9**	**+0.2**
DAVOX				Sg	**Sg**	**19 18 56.9**	**+0.4**
DAVOX	**Davos/Dischmat**	**0.60**	**294**	⇓*i*Pg	**Pb**	**19 18 49.0**	**+0.2**
	117nm,0.5s						
DAVOX				*e*Sg	**Sg**	**19 18 57.1**	**+0.6**
	117nm,0.5s						
PANI	**Panarotta**	**0.66**	**138**	*e*Pg	**Pn**	**19 18 51.1**	**-0.3**
PANI	**Panarotta**	**0.66**	**138**	*e*Pg	**Pn**	**19 18 51.1**	**-0.3**
DDS	**Dosso del Somm**	**0.75**	**151**	*e*Pg	**Pn**	**19 18 52.3**	**-0.3**
DDS				Sg	**Sb**	**19 19 01.6**	**+0.3**
DDS	**Dosso del Somm**	**0.75**	**151**	*e*Pg	**Pn**	**19 18 52.3**	**-0.3**
DDS				Sg	**Sb**	**19 19 01.6**	**+0.3**
MAGA	**Magasa**	**0.76**	**182**	Pg	**Pb**	**19 18 51.4**	**-0.1**
MAGA				Sg	**Sb**	**19 19 01.3**	**-0.4**
	97nm,0.2s						
MAGA	**Magasa**	**0.76**	**182**	Pg	**Pb**	**19 18 51.4**	**-0.1**
MAGA				Sg	**Sb**	**19 19 01.3**	**-0.4**
	97nm,0.2s						
SQTA	**Sankt Quirin**	**0.78**	**28**	⇑*i*Pg	**Pg**	**19 18 52.4**	**+0.6**
SQTA	**Sankt Quirin**	**0.78**	**28**	Pg	**Pg**	**19 18 52.4**	**+0.6**
VDL	**Val di Lei**	**0.85**	**267**	*e*Pg	**Pb**	**19 18 52.7**	**-0.3**
	62nm,0.3s						
MOTA	**Moosalm**	**0.86**	**20**	⇑*e*Pg	**Pg**	**19 18 53.9**	**+0.5**
	SNR=6.9						
MOTA				⇓*i*Sg	**Sg**	**19 19 05.8**	**+1.1**
	4.9nm,0.2s						
MOTA	**Moosalm**	**0.86**	**20**	Pg	**Pg**	**19 18 53.9**	**+0.5**
	SNR=6.9						
MOTA				Sg	**Sg**	**19 19 05.8**	**+1.1**
	4.9nm,0.2s						
DAVA	**Damuels**	**0.93**	**324**	⇓*i*Sg	**Sn**	**19 19 08.3**	**+0.2**
	13nm,0.3s						
DAVA	**Damuels**	**0.93**	**324**	Sg	**Sn**	**19 19 08.3**	**+0.2**
	13nm,0.3s						
ROVR	**Rover˜¤ Verone**	**0.93**	**163**	Pg	**Pg**	**19 18 54.9**	**+0.2**
ROVR				Sg	**Sb**	**19 19 06.3**	**-0.3**
ROVR	**Rover˜¤ Verone**	**0.93**	**163**	Pg	**Pg**	**19 18 54.9**	**+0.2**
ROVR				Sg	**Sb**	**19 19 06.3**	**-0.3**
WTTA	**Wattenberg**	**0.98**	**42**	⇑*i*Pg	**Pg**	**19 18 55.8**	**+0.1**
WTTA				⇓*i*Sg	**Sg**	**19 19 09.3**	**+0.7**
	5.5nm,0.2s						
WTTA	**Wattenberg**	**0.98**	**42**	Pg	**Pg**	**19 18 55.8**	**+0.1**
WTTA				Sg	**Sg**	**19 19 09.3**	**+0.7**
	5.5nm,0.2s						
AGOR	**Agordo**	**0.98**	**105**	⇑*e*Pg	**Pn**	**19 18 56.0**	**+0.3**
AGOR				*e*Sg	**Sg**	**19 19 08.6**	**+0.1**
AGOR	**Agordo**	**0.98**	**105**	Pg	**Pn**	**19 18 56.0**	**+0.3**
AGOR				Sg	**Sg**	**19 19 08.8**	**+0.3**
	40nm,0.2s						
WATA	**Walderalm**	**1.01**	**37**	⇓*e*Pg	**Pg**	**19 18 56.5**	**+0.3**
	SNR=6.1						
WATA	**Walderalm**	**1.01**	**37**	Pg	**Pg**	**19 18 56.5**	**+0.3**
	SNR=6.1						
VARN	**Col Varnada, M**	**1.13**	**118**	*e*Pg	**Pg**	**19 18 58.6**	**+0.1**
VARN	**Col Varnada, M**	**1.13**	**118**	*e*Pg	**Pg**	**19 18 58.6**	**+0.1**
CIMO	**Cimolais**	**1.24**	**100**	⇓*e*Pg	**Pg**	**19 19 00.6**	**+0.1**
CIMO				*e*Sg	**Sg**	**19 19 16.9**	**+0.2**
CIMO	**Cimolais**	**1.24**	**100**	⇓*e*Pg	**Pg**	**19 19 00.6**	**+0.1**
CIMO				*e*Sg	**Sg**	**19 19 16.9**	**+0.2**
ABTA	**Abfaltersbach**	**1.28**	**80**	⇑*e*Pg	**Pg**	**19 18 01.3**	**-0.1**
	SNR=21						
ABTA				⇓*i*Sn	**Sg**	**19 19 18.1**	**0.0**
ABTA	**Abfaltersbach**	**1.28**	**80**	Pg	**Pg**	**19 18 01.3**	**-0.1**
	SNR=21						
ABTA				Sn	**Sg**	**19 19 18.1**	**0.0**
MUGIO	**Muggio**	**1.29**	**242**	*e*P	**Pb**	**19 19 00.8**	**+0.3**
	54nm,0.4s						
MUGIO	**Muggio**	**1.29**	**242**	*e*P	**Pb**	**19 19 00.8**	**+0.3**
	54nm,0.4s						
POLC	**Polcenigo**	**1.36**	**111**	⇑*e*Pg	**Pg**	**19 19 04.6**	**+1.7**
POLC				*e*Sg	**Sg**	**19 19 22.5**	**+1.8**
FVI	**Forni Avoltri**	**1.45**	**87**	Pg	**Pb**	**19 19 03.4**	**+0.1**
FVI				Sg	**Sg**	**19 19 23.3**	**-0.2**
	12nm,0.2s						
FVI	**Forni Avoltri**	**1.45**	**87**	Pg	**Pb**	**19 19 03.4**	**+0.1**
FVI				Sg	**Sg**	**19 19 23.3**	**-0.2**
	12nm,0.2s						
VARE	**Varese**	**1.48**	**244**	Pg	**Pb**	**19 19 03.7**	**-0.1**
VARE				Sg	**Sb**	**19 19 23.0**	**+0.6**
VARE	**Varese**	**1.48**	**244**	Pg	**Pb**	**19 19 03.7**	**-0.1**
VARE				Sg	**Sb**	**19 19 23.0**	**+0.6**
ZOU	**Zoufplan**	**1.59**	**88**	*e*Pg	**Pg**	**19 19 06.7**	**-0.4**
VINO	**Villanova**	**1.82**	**98**	⇓*e*Pn	**Pg**	**19 19 11.5**	**-0.2**
VINO				*e*Sn	**Sg**	**19 19 35.8**	**+0.4**
VINO	**Villanova**	**1.82**	**98**	⇓*e*Pn	**Pg**	**19 19 11.5**	**-0.2**
VINO				*e*Sn	**Sg**	**19 19 35.8**	**+0.4**
KBA	**Koelnbreinsper**	**1.91**	**73**	⇑*i*Pg	**Pg**	**19 19 12.8**	**-0.5**
KBA	**Koelnbreinsper**	**1.91**	**73**	Pg	**Pg**	**19 19 12.8**	**-0.5**
ACOM	**Acomizza, Ital**	**1.96**	**89**	Pg	**Pn**	**19 19 10.7**	**+1.4**
ACOM				Sg	**Sb**	**19 19 35.3**	**-0.9**
KHC	**Kasperske Hory**	**3.25**	**36**	*e*PG	**Pg**	**19 19 37.4**	**-1.4**
KHC				*ex*	x	19 19 40.3	
KHC				*e*SN	**Sb**	**19 20 09.8**	**-3.4**
KHC				*e*SG	**Sg**	**19 20 21.2**	**+0.3**
	comp=Z,2.0nm,0.3s						
KHC	**Kasperske Hory**	**3.25**	**36**	Pg	**Pg**	**19 19 37.4**	**-1.4**
KHC				Sn	**Sb**	**19 20 09.8**	**-3.4**

KRNET ***26*** *19:24:44.6±0.1,41.°72N×79.°55E,h2km,mb3.1*

NNC ***26*** *19:24:45.3±3.0,41.°87N×79.°83E,h0km,mb3.7,mpv3.3, Error ellipse: s-maj=28.2km s-min=13.6km az=156.0*

ISC 26 19:24:46.4±2.2,41.°9N±0.°1×79.°54E±0.°08,h15km,n16, σ1°32/22,15C-8D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANVS	**Anan'yevo**	**1.66**	**304**	*i* P	**Pg**	**19 25 17.8**	**-0.5**
	baz=308						
KDJ	**Kajisay**	**1.78**	**279**	*e*P	**Pn**	**19 25 17.0**	**+0.2**
	baz=284						
KDJ				*e*S	**Sg**	**19 25 43.1**	**-0.6**
	baz=284						
KNDC	**Almaty**	**2.33**	**306**	⇓Pn	**Pb**	**19 25 28.2**	**+0.1**
	28nm,0.5s						
KNDC				⇑Sn	**Sg**	**19 26 01.5**	**+0.4**
	43nm,0.6s						
ULHL	**Ulahol**	**2.49**	**280**	⇓*i*P	**Pb**	**19 25 30.0**	**-0.9**
	baz=283						
ULHL				⇓*i*S	**Sg**	**19 26 07.5**	**+1.2**
	baz=283						
TKM2	**Tokmak 2**	**3.10**	**291**	⇓Pn	**Pn**	**19 25 38.1**	**+3.1**
	7.8nm,0.6s						
TKM2				⇓Lg	Lg	19 26 26.4	
	47nm,0.7s						
TKM2	**Tokmak 2**	**3.10**	**291**	⇑*i*P	**Pb**	**19 25 41.2**	**-0.2**
	baz=294						
TKM2				⇑*i*S	**Sg**	**19 26 25.2**	**-0.9**
	baz=294						
KZA	**Kyzart**	**3.21**	**275**	⇑*i*P	**Pb**	**19 25 42.8**	**-0.5**
	baz=278						
KZA				⇑*i*S	**Sg**	**19 26 29.8**	**+0.3**
	baz=278						
KBK	**Karagaybulak**	**3.50**	**284**	⇑*i*P	**Pb**	**19 25 48.7**	**+0.6**
	baz=287						
KBK				⇑*i*S	**Sg**	**19 26 37.7**	**-1.0**
	baz=287						
UCH	**Uchtor**	**3.76**	**277**	*e*P	**Pb**	**19 25 51.9**	**-0.8**
	baz=279						
AAK	**Ala-Archa**	**3.82**	**283**	⇑Pn	**Pn**	**19 25 47.4**	**+2.6**
	2.2nm,0.8s						
AAK				⇑Pg	**Pg**	**19 25 58.8**	**-0.8**
	5.0nm,0.4s						
AAK				⇓Lg	Lg	19 26 48.6	
	26nm,1.1s						
AAK	**Ala-Archa**	**3.82**	**283**	⇑*i*P	**Pb**	**19 25 54.0**	**+0.4**
	baz=285						
USP	**Ospenovka**	**3.98**	**292**	⇑*i*P	**Pb**	**19 25 53.8**	**-2.3**
	baz=294						
MK31	**Makanchi Array**	**5.29**	**21**	⇑Pn	**Pn**	**19 26 05.4**	**+0.5**
	0.5nm,0.3s,baz=217,slow=25,SNR=71						
MK31				⇑Sn	**Sn**	**19 27 05.7**	**+0.2**
	0.6nm,0.3s,baz=205,slow=28,SNR=8.9						
KK31	**Karatay Array**	**6.79**	**283**	⇓Pg	**Pg**	**19 26 54.3**	**-2.0**
	1.5nm,0.6s,baz=92,slow=16,SNR=5.8						
KK31				⇓Lg	Lg	19 28 23.1	
	4.0nm,0.6s,baz=99,slow=26,SNR=8.2						
KURBB	**Kurchatov Arra**	**8.77**	**356**	⇑Lg	Lg	19 29 23.4	
	1.3nm,0.2s						
KURK	**Kurchatov**	**8.86**	**356**	⇑Lg	Lg	19 29 25.3	
	0.4nm,0.3s						

RSPR 26 19:29:52.0,19.°39N×68.°81W,h109km±15km,MD3.7/4, 3C-3D,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**1.85**	**119**	⇓*e*P	Pn	19 30 22.0	-1.1
AGPR	**Aguadilla, PR**	**1.85**	**119**	*e*S	Sn	19 30 46.5	-0.3
CRPR	**Cabo Rojo, PR**	**2.12**	**130**	⇑*e*P	Pn	19 30 25.1	-1.4
CRPR	**Cabo Rojo, PR**	**2.12**	**130**	*e*S	Sn	19 30 53.1	+0.3
AOPR	**Arecibo Observ**	**2.21**	**118**	⇓*e*P	Pn	19 30 26.8	-0.9
AOPR	**Arecibo Observ**	**2.21**	**118**	*e*S	Sn	19 30 55.7	+0.7
SDDR	**Presa de Saban**	**2.37**	**261**	⇓*e*P	Pn	19 30 29.9	0.0
OBIP	**Obispado Ponce**	**2.48**	**122**	⇑*e*P	Pn	19 30 31.6	+0.4
HUMP	**Col San Antoni**	**3.07**	**113**	⇑*e*P	Pn	19 30 39.7	+0.8

IDC 26 19:31:11.7±12.0,3.°30N×95.°06E,h87km±109km,mb3.1/5, mb1 3.3/6,mb1mx3.1/27,mbtmp3.4/6,ML3.3/1,Error ellipse: s-maj=87.9km s-min=28.9km az=55.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**15.54**	**14**	P	Pn	19 34 46.0	+0.1
	0.1nm,0.3s,baz=207,slow=12,SNR=5.5						
H08S2	**Diego Garcia H**	**25.00**	**244**	T	T	20 02 15.5	
	baz=66,slow=75,SNR=33						
H08S3	**Diego Garcia H**	**25.01**	**244**	T	T	20 02 15.7	
	baz=66,slow=75,SNR=28						
H08S1	**Diego Garcia H**	**25.02**	**244**	T	T	20 02 16.9	
	baz=66,slow=75,SNR=29						
H01W3	**Cape Leeuwin H**	**42.00**	**156**	T	T	20 22 54.7	
	baz=327						
H01W2	**Cape Leeuwin H**	**42.01**	**156**	T	T	20 22 58.8	
	baz=327						
H01W1	**Cape Leeuwin H**	**42.01**	**156**	T	T	20 22 53.7	
	baz=327						
MKAR	**Makanchi Array**	**44.72**	**348**	P	P	19 39 16.1	-0.1
	0.2nm,0.5s,baz=152,slow=9.5,SNR=6.8						
WRA	**Warramunga Arr**	**44.95**	**123**	P	P	19 39 18.3	-0.2
	0.1nm,0.6s,baz=300,slow=9.2,SNR=2.5						
SONM	**Songino Array**	**45.43**	**11**	P	P	19 39 21.3	-0.7
	0.2nm,0.5s,baz=196,slow=7.6,SNR=2.6						
ZALV	**Zalesovo Beam**	**51.18**	**352**	P	P	19 40 06.1	+0.2
	0.6nm,0.5s,baz=165,slow=6.0,SNR=3.9						
MJAR	**Matsushiro Arr**	**51.65**	**45**	P	P	19 40 10.1	+0.3
	0.7nm,0.7s,baz=259,slow=7.5,SNR=2.8						

ISCJB ***26*** *19:39:26.2±0.7,25.°46N±0.°06×109.°66W±0.°08,h10km, mb4.0/10,MS4.0/15,Error ellipse: s-maj=10.5km s-min=8.2km az=32.7*

IDC ***26*** *19:39:27.4±1.1,25.°59N×109.°82W,h0km,mb3.7/3, mb1 4.0/8,mb1mx3.8/37,mbtmp3.7/8,ML3.8/5,MS4.0/21, Ms1 4.0/21,ms1mx3.9/32,Error ellipse: s-maj=24.8km s-min=10.5km az=107.0*

GCMT ***26*** *19:39:29.1±0.5,25.°65N×109.°98W,h19km±1km,MW4.8/73, Moment Tensor Solution. s14,c15; s73,c93; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr0.16±.10; Mθθ-2.06±.11; Mφφ 1.90±.10; Mrθ 0.05±.20; Mθφ-0.30±.07; Mφr-0.00±.

YBH Yreka Blue Hor 19.33 330 LR LR 19 50 47.0
comp=Z,207nm,20.5s,baz=156,slow=35
BMO Blue Mountains 20.19 345 *eP* **P** **19 44 03.6 -0.3**
5.8nm,1.1s
TEIG Tepich 20.59 100 LR LR 19 53 13.2
comp=Z,570nm,21.6s,baz=287,slow=40
ECSD EROS Data Cent 21.14 27 *eP* **P** **19 44 12.8 -1.3**
17nm,1.3s
CHMT Chamberlain Mo 21.51 354 *eP* **P** **19 44 18.7 +0.5**
9.8nm,1.3s
WVT Waverly 21.64 56 *eP* **P** **19 44 21.5 +2.0**
11nm,1.0s
SWMT Swartz Lake 22.18 353 *eP* **P** **19 44 24.9 -0.4**
6.7nm,1.2s
LON Longmire 23.21 339 *eP* P 19 44 30.5 -5.6
11nm,1.0s
NEW Newport 23.39 348 P **P** **19 44 37.2 -0.8**
2.1nm,0.6s,baz=141,slow=16,SNR=3.4
NEW LR LR 19 54 17.4
comp=Z,429nm,18.1s,baz=178,slow=38
TKL Tuckaleechee C 24.57 60 LR LR 19 55 16.9
comp=Z,737nm,19.3s,baz=255,slow=39
ULM Lac du Bonnet 26.95 20 LR LR 19 55 10.1
comp=Z,183nm,21.4s,baz=216,slow=35
YKA Yellowknife Ar 37.09 356 P **P** **19 46 37.5 -1.6**
1.5nm,1.1s,baz=175,slow=7.9,SNR=6.0
ROSC El Rosal 39.78 115 LR LR 20 03 44.0
comp=Z,123nm,18.5s,baz=344,slow=37
SDV Santo Domingo 40.79 107 *eP* **P** **19 47 13.1 +2.1**
6.5nm,1.0s
ILAR Eielson Array 45.85 339 P **P** **19 47 51.5 +0.5**
1.1nm,0.9s,baz=147,slow=6.8,SNR=10
ILAR LR LR 20 08 47.5
comp=Z,99nm,20.3s,baz=132,slow=38
BPAW Bear Paw Mtn. 46.84 337 *eP* **P** **19 47 58.8 0.0**
2.7nm,1.6s
PPT2 Papeete2 57.70 226 *eLR* LR 20 06 11.7
228nm,24.8s
BDFB Brasilia 72.81 117 LR LR 20 25 13.9
comp=Z,82nm,19.0s,baz=340,slow=38
PLCA Paso Flores 75.38 150 LR LR 20 18 12.6
comp=Z,95nm,19.0s,baz=278,slow=31
NOA NORSAR Array B 81.53 25 LR LR 20 29 17.8
comp=Z,37nm,18.3s,baz=305,slow=37
ESDC Sonseca Array 85.34 48 LR LR 20 28 39.1
comp=Z,106nm,19.1s,baz=220,slow=35
MJAR Matsushiro Arr 90.99 312 LR LR 20 27 53.1
comp=Z,54nm,20.2s,baz=55,slow=32
DZM Mont Dzumac 93.88 248 *eLR* LR 20 22 51.5
240nm,26.1s
AKASG Malin Array Be 95.94 25 LR LR 20 37 20.3
comp=Z,57nm,19.0s,baz=315,slow=36
KEST Kesra 96.30 46 LR LR 20 36 11.1
comp=Z,34nm,18.3s,baz=286,slow=35
ZALV Zalesovo Beam 99.83 351 LR LR 20 45 08.5
comp=Z,38nm,18.2s,baz=68,slow=40
SONM Songino Array 100.02 336 LR LR 20 40 13.3
comp=Z,68nm,21.2s,baz=56,slow=36

IDC 26 19:39:41.7±5.6, 13°85'N×93°12'E, h0km, mb3.4/4, mb1 3.3/5, mb1mx3.2/28, mbtmp3.3/5, ML3.2/1, Error ellipse: s-maj=96.1km s-min=33.6km az=164.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.23**	**50**	Pn	Pn	19 41 30.1	+1.3
	0.1nm,0.3s,baz=238,slow=18,SNR=2.4						
CMAR				Sn	Sn	19 42 46.7	-5.0
	0.3nm,0.3s,baz=241,slow=20,SNR=3.7						
CMAR				Lg	Lg	19 43 30.2	
	baz=226,slow=32,SNR=5.3						
MKAR	**Makanchi Array**	**34.08**	**347**	P	P	19 46 28.5	+0.7
	0.4nm,0.8s,baz=151,slow=7.8,SNR=3.8						
SONM	**Songino Array**	**35.64**	**15**	P	P	19 46 41.4	-0.1
	0.2nm,0.3s,baz=214,slow=7.0,SNR=3.4						
KURBB	**Kurchatov Arra**	**38.55**	**345**	P	P	19 47 05.3	-0.6
	0.3nm,0.6s,baz=165,slow=8.3,SNR=5.3						
ZALV	**Zalesovo Beam**	**40.54**	**352**	P	P	19 47 22.0	-0.5
	0.4nm,0.6s,baz=167,slow=8.1,SNR=2.5						

*MAN **26** 19:41:29, 16°.47N×122°.39E, h22km, mb5.1, ML4.1, MS4.2*
*ISCJB **26** 19:41:30.2±1.1, 16°.53N±0°.03×122°.44E±0°.04, h33km±9km, mb3.7/12, MS3.0/2, Error ellipse: s-maj=6.8km s-min=4.9km az=166.9*
*IDC **26** 19:41:31.5±3.5, 16°.42N×122°.40E, h38km±33km, mb3.5/12, mb1 3.6/14, mb1mx3.5/28, mbtmp3.7/14, ML2.8/2, MS3.2/2, Ms1 3.3/2, ms1mx2.6/23, Error ellipse: s-maj=26.4km s-min=16.0km az=79.0*
ISC 26 19:41:29.2±1.6, 16°.52N±0°.04×122°.39E±0°.05, h17km±10km, n36, σ1°03/39, mb3.8/12, 3C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAUP	**Cauayan**	**0.69**	**308**	*eP*	**Pg**	**19 41 42.7**	**0.0**
CAUP				*eS*	**Sb**	**19 41 52.8**	**+0.9**
BALP	**Baler**	**1.09**	**225**	*eP*	**Pb**	**19 41 49.1**	**-0.6**
BALP				*eS*	**Sn**	**19 42 03.8**	**-0.7**
CVP	**Callao Caves**	**1.30**	**336**	*iP*	**Pn**	**19 41 53.0**	**+0.5**
CVP				*iS*	Sn	19 41 59.5	-10
PCPH	**Palayan**	**1.56**	**233**	*eP*	**Pb**	**19 41 56.9**	**-0.7**
PCPH				*eS*	**Sn**	**19 42 15.5**	**-0.5**
APYP	**Conner**	**1.73**	**321**	*eP*	**Pn**	**19 41 58.6**	**+0.2**
APYP				*eS*	**Sb**	**19 42 21.8**	**-0.1**
BCPH	**Baguio City Da**	**1.74**	**266**	*iP*	**Pb**	**19 42 01.1**	**+0.4**
BCPH				*iS*	**Sn**	**19 42 21.0**	**+0.4**
SGCP	**Mt. Cagua**	**1.75**	**349**	*eP*	**Pn**	**19 42 00.0**	**+1.3**
ABRA	**Dolores**	**1.96**	**305**	*eP*	**Pn**	**19 42 02.7**	**+1.1**
ABRA				*eS*	**Sn**	**19 42 25.7**	**-0.1**
SIPP	**Brgy, Tapao**	**2.31**	**308**	*eP*	**Pb**	**19 42 08.9**	**-1.6**
SIPP				*eS*	**Sg**	**19 42 43.7**	**0.0**
BOLP	**Bolinao**	**2.38**	**267**	*eP*	**Pb**	**19 42 10.5**	**-1.0**
PIP	**Pasuquin**	**2.47**	**317**	*iP*	**Pn**	**19 42 10.5**	**+1.8**
PIP				*eS*	**Sb**	**19 42 44.5**	**+1.3**
SCZP	**Santa Cruz**	**2.49**	**253**	*eP*	**Pn**	**19 42 11.0**	**+2.1**
GQP	**Guinayangan**	**2.60**	**179**	*eP*	**Pn**	**19 42 11.9**	**+1.5**
GQP				*iS*	**Sn**	**19 42 42.3**	**+0.8**
TGY	**Tagaytay City**	**2.78**	**210**	Pn	**Pn**	**19 42 13.1**	**+0.2**
	11nm,0.3s,baz=63,slow=16,SNR=2.2						
PVCP	**Virac**	**3.37**	**149**	*eP*	**Pn**	**19 42 21.9**	**+0.8**
PVCP				*iS*	**Sn**	**19 43 01.6**	**+1.0**
JOW	**Kunigami**	**11.63**	**27**	Pn	**Pn**	**19 44 14.5**	**0.0**
	0.1nm,0.3s,baz=241,slow=10,SNR=2.4						
JOW				Sn	Sn	19 46 17.1	-6.9
	0.1nm,0.3s,baz=96,slow=18,SNR=2.5						
KSRS	**Korea Array**	**21.42**	**12**	P	**P**	**19 46 16.4**	**+0.1**
	1.0nm,0.7s,baz=198,slow=11,SNR=4.5						
GUMO	**Guam**	**21.90**	**95**	LR	LR	19 53 55.3	
	comp=Z,35nm,18.0s,baz=310,slow=34						
CMAR	**Chiang Mai Arr**	**22.44**	**278**	P	**P**	**19 46 27.6**	**+0.1**
	0.4nm,0.8s,baz=82,slow=8.3,SNR=3.4						
CMAR				LR	LR	19 55 38.0	
	comp=Z,73nm,18.1s,baz=203,slow=38						
SONM	**Songino Array**	**33.90**	**341**	P	**P**	**19 48 11.3**	**+0.1**
	0.6nm,0.5s,baz=157,slow=10.0,SNR=5.0						
WRA	**Warramunga Arr**	**38.09**	**162**	P	**P**	**19 48 46.3**	**-0.9**
	1.8nm,0.9s,baz=341,slow=9.5,SNR=7.6						
ASAR	**Alice Springs**	**41.49**	**164**	P	**P**	**19 49 13.1**	**-2.5**
	0.1nm,0.4s,baz=338,slow=6.7,SNR=5.3						
H11S3	**WAKE ISLAND Hy**	**42.22**	**81**	T	T	20 34 33.2	
	baz=275,slow=75,SNR=103						
H11S1	**WAKE ISLAND Hy**	**42.23**	**81**	T	T	20 34 34.2	
	baz=275,slow=75,SNR=83						
H11S2	**WAKE ISLAND Hy**	**42.24**	**81**	T	T	20 34 38.5	
	baz=275,slow=75,SNR=69						
H11N1	**WAKE ISLAND Hy**	**42.33**	**79**	T	T	20 34 41.2	
	baz=273,slow=74,SNR=102						
H11N2	**WAKE ISLAND Hy**	**42.34**	**79**	T	T	20 34 36.3	
	baz=273,slow=74,SNR=82						
H11N3	**WAKE ISLAND Hy**	**42.35**	**79**	T	T	20 34 37.3	
	baz=273,slow=74,SNR=57						
MKAR	**Makanchi Array**	**44.81**	**321**	P	**P**	**19 49 43.0**	**+0.8**
	0.7nm,0.7s,baz=115,slow=9.6,SNR=7.4						
PETK	**Petropavlovsk-**	**45.79**	**29**	P	**P**	**19 49 51.1**	**+1.3**
	3.1nm,0.9s,baz=235,slow=5.1,SNR=2.7						
ZALV	**Zalesovo Beam**	**47.37**	**331**	P	**P**	**19 50 01.2**	**-0.9**
	0.4nm,0.3s,baz=125,slow=7.6,SNR=3.2						
KURBB	**Kurchatov Arra**	**48.82**	**324**	P	**P**	**19 50 13.8**	**+0.2**
	2.3nm,0.6s,baz=121,slow=8.4,SNR=44						
FINES	**FINESS Array B**	**78.63**	**331**	P	**P**	**19 53 29.3**	**-0.7**
	2.6nm,0.9s,baz=48,slow=5.7,SNR=6.0						
NB2	**NORSAR Subarra**	**85.52**	**333**	P	**P**	**19 54 05.3**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=62,slow=5.3						
NOA	**NORSAR Array B**	**85.52**	**333**	P	**P**	**19 54 04.7**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=65,slow=5.0,SNR=4.2						
YKA	**Yellowknife Ar**	**89.56**	**23**	P	**P**	**19 54 26.1**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=312,slow=20,SNR=2.7						

IDC 26 20:06:35.9±1.4, 6°.76N×124°.52E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/24, mbtmp3.5/4, Error ellipse: s-maj=153.9km s-min=21.7km az=68.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.24**	**160**	P	P	20 12 31.0	+0.1
	0.4nm,0.3s,baz=341,slow=9.2,SNR=15						
ASAR	**Alice Springs**	**31.60**	**163**	P	P	20 13 00.6	-0.1
	0.4nm,0.5s,baz=341,slow=7.1,SNR=12						
SONM	**Songino Array**	**43.75**	**342**	P	P	20 14 43.9	+0.7
	0.1nm,0.4s,baz=152,slow=6.4,SNR=1.9						
MKAR	**Makanchi Array**	**53.82**	**325**	P	P	20 15 59.9	-0.7
	0.2nm,0.4s,baz=122,slow=6.8,SNR=5.8						

*ISCJB **26** 20:08:55.5±1.2, 50°.0S±0°.1×119°.8E±0°.4, h10km, mb3.5/6, MS3.8/1, Error ellipse: s-maj=37.7km s-min=20.8km az=6.3*
*IDC **26** 20:08:55.9±1.5, 50°.02S×119°.88E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.7/14, mbtmp3.6/6, MS3.8/1, Ms1 3.8/1, ms1mx3.0/12, Error ellipse: s-maj=52.5km s-min=28.5km az=95.0*
ISC 26 20:08:57.3±1.2, 50°.0S±0°.2×119°.9E±0°.3, h10km, n11, σ1°07/7, mb3.6/6, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**15.68**	**342**	T	T	20 28 44.2	
	baz=165,slow=74,SNR=14						
H01W1	**Cape Leeuwin H**	**15.69**	**342**	T	T	20 28 43.1	
	baz=165,slow=74,SNR=14						
H01W3	**Cape Leeuwin H**	**15.69**	**342**	T	T	20 28 47.6	
	baz=165,slow=74,SNR=17						
STKA	**Stephens Creek**	**24.31**	**50**	P	**P**	**20 14 15.2**	**+0.2**
	1.0nm,0.6s,baz=182,slow=9.6,SNR=4.0						
ASAR	**Alice Springs**	**28.51**	**28**	P	**P**	**20 14 52.9**	**0.0**
	0.4nm,0.8s,baz=198,slow=8.8,SNR=7.4						
VNDA	**Vanda**	**31.78**	**164**	P	**P**	**20 15 21.5**	**+0.3**
	0.5nm,0.7s,baz=302,slow=8.4,SNR=3.8						
WRA	**Warramunga Arr**	**32.15**	**26**	P	**P**	**20 15 25.4**	**+0.3**
	0.4nm,1.0s,baz=198,slow=8.1,SNR=2.6						
JAY	**Jayapura**	**50.54**	**27**	LR	LR	20 37 22.1	
	comp=Z,94nm,20.4s,slow=34						
CMAR	**Chiang Mai Arr**	**70.64**	**339**	P	**P**	**20 20 14.1**	**+1.2**
	0.3nm,0.5s,baz=187,slow=6.4,SNR=3.2						
SONM	**Songino Array**	**98.16**	**351**	P	**P**	**20 22 32.4**	**-1.4**
	0.3nm,0.9s,baz=153,slow=4.4,SNR=2.1						
YKA	**Yellowknife Ar**	**148.31**	**46**	PKPbc	**PKPbc**	**20 28 41.4**	**-0.9**
	0.6nm,0.8s,baz=271,slow=2.7,SNR=5.6						

*ISCJB **26** 20:12:56.5±0.4, 21°.19N±0°.05×144°.23E±0°.09, h33km, mb4.2/35, MS3.4/8, Error ellipse: s-maj=11.8km s-min=6.5km az=166.8*
*IDC **26** 20:12:58.0±6.4, 21°.20N×144°.26E, h33km±48km, mb3.9/22, mb1 4.2/24, mb1mx4.1/32, mbtmp4.2/24, ML3.9/2, MS3.3/9, Ms1 3.4/9, ms1mx3.1/32, Error ellipse: s-maj=20.4km s-min=14.1km az=93.0*
*NEIC **26** 20:12:58.3±4.3, 21°.21N×144°.29E, h34km±29km, mb4.5/11, Error ellipse: s-maj=12.6km s-min=9.5km az=108.0*
ISC 26 20:12:58.3±0.6, 21°.18N±0°.07×144°.4E±0°.1, h35km, n55, σ1°17/47, mb4.3/35, MS3.4/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**6.21**	**342**	Pn	**Pn**	**20 14 25.9**	**-1.6**
CBIJ				Sn	**Sn**	**20 15 38.7**	**+1.4**
JCJ	**Chichijima**	**6.21**	**342**	Pn	**Pn**	**20 14 25.9**	**-1.6**
	3.1nm,0.3s,baz=294,slow=20,SNR=1.8						
JCJ				Sn	**Sn**	**20 15 38.7**	**+1.4**
	23nm,0.3s,baz=249,slow=23,SNR=7.2						
GUMO	**Guam**	**7.56**	**176**	LR	LR	20 17 16.1	
	comp=Z,162nm,21.7s,baz=26,slow=34						
MJAR	**Matsushiro Arr**	**16.22**	**342**	Pn	**Pn**	**20 16 43.4**	**-0.1**
	0.4nm,0.3s,baz=164,slow=10,SNR=6.9						
MAT	**Matsushiro**	**16.22**	**342**	P	**P**	**20 16 46.7**	**+0.4**
H11N1	**WAKE ISLAND Hy**	**21.17**	**90**	T	T	20 39 31.4	
	baz=277,slow=75,SNR=30						
H11N2	**WAKE ISLAND Hy**	**21.17**	**90**	T	T	20 39 32.3	
	baz=277,slow=75,SNR=25						
H11S3	**WAKE ISLAND Hy**	**21.18**	**93**	T	T	20 39 32.0	
	baz=281,slow=75,SNR=43						
H11N3	**WAKE ISLAND Hy**	**21.19**	**90**	T	T	20 39 46.3	
	baz=277,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy**	**21.19**	**93**	T	T	20 39 32.8	
	baz=281,slow=75,SNR=38						
H11S2	**WAKE ISLAND Hy**	**21.20**	**93**	T	T	20 39 33.6	
	baz=281,slow=75,SNR=40						
KSRS	**Korea Array**	**21.59**	**322**	P	**P**	**20 17 44.5**	**-0.5**
	2.8nm,0.9s,baz=135,slow=12,SNR=4.2						
KSAR	**Wonju Array Be**	**21.60**	**322**	P	**P**	**20 17 44.5**	**-0.6**
ASAJ	**Asahikawa**	**22.92**	**357**	LR	LR	20 27 35.3	
	comp=Z,85nm,20.2s,baz=170,slow=38						
USRK	**Ussuriysk Ar.**	**25.15**	**339**	P	**P**	**20 18 22.6**	**+2.5**
	1.0nm,0.5s,baz=134,slow=10.0,SNR=2.8						
PETK	**Petropavlovsk-**	**33.49**	**15**	LR	LR	20 31 42.3	
	comp=Z,45nm,20.1s,baz=134,slow=34						
SONM	**Songino Array**	**40.43**	**320**	P	**P**	**20 20 33.4**	**+0.1**
	0.7nm,0.5s,baz=134,slow=6.6,SNR=8.1						
WRAB	**Tennant Creek**	**42.01**	**194**	*eP*	**P**	**20 20 46.7**	**+0.3**
WRA	**Warramunga Arr**	**42.03**	**194**	P	**P**	**20 20 46.5**	**0.0**
	4.1nm,0.6s,baz=13,slow=8.8,SNR=36						
SEY	**Seymchan**	**42.09**	**5**	P	**P**	**20 20 45.4**	**-1.1**
	0.6nm,0.5s,baz=341,slow=18,SNR=2.1						
CMAR	**Chiang Mai Arr**	**42.70**	**275**	P	**P**	**20 20 50.2**	**-1.9**
	0.4nm,0.6s,baz=63,slow=7.9,SNR=3.0						
ASAR	**Alice Springs**	**45.72**	**193**	P	**P**	**20 21 16.3**	**+0.1**
	2.1nm,0.6s,baz=14,slow=8.5,SNR=44						
PSI	**Prapat**	**47.81**	**254**	P	**P**	**20 21 35.4**	**+2.6**
	2.1nm,0.7s,baz=90,slow=1.0,SNR=2.9						
DZM	**Mont Dzumac**	**48.09**	**152**	LR	LR	20 39 20.6	
	comp=Z,46nm,19.2s,baz=1.0,slow=33						
LSA	**Lhasa**	**48.44**	**291**	*eP*	**P**	**20 21 39.4**	**+1.4**
	3.1nm,0.8s						
TIXI	**Tiksi**	**51.28**	**354**	*eP*	**P**	**20 21 57.8**	**-0.5**
STKA	**Stephens Creek**	**52.82**	**183**	P	**P**	**20 22 10.2**	**-0.1**
	3.9nm,1.2s,baz=357,slow=21,SNR=3.2						
ZALV	**Zalesovo Beam**	**55.29**	**322**	P	**P**	**20 22 27.2**	**-0.9**
	2.1nm,0.5s,baz=116,slow=8.1,SNR=11						
MKAR	**Makanchi Array**	**55.85**	**313**	P	**P**	**20 22 32.6**	**+0.3**
	2.4nm,0.6s,baz=92,slow=9.3,SNR=30						
MKAR				PcP	**PcP**	**20 23 30.9**	**-0.1**
	1.3nm,0.7s,baz=77,slow=5.2,SNR=5.5						
KURK	**Kurchatov**	**58.59**	**317**	*eP*	**P**	**20 22 51.0**	**-0.6**
	8.2nm,1.0s						
SEW	**Seward**	**60.03**	**32**	*eP*	**P**	**20 23 03.6**	**+2.3**
	5.3nm,0.7s						
BPAW	**Bear Paw Mtn.**	**60.13**	**27**	*eP*	**P**	**20 23 03.2**	**+1.2**
	0.7nm,0.8s						
TRF	**Thorofare Moun**	**60.28**	**28**	*eP*	**P**	**20 23 03.3**	**0.0**
	5.4nm,0.8s						
TKM2	**Tokmak 2**	**60.52**	**308**	*eP*	**P**	**20 23 06.0**	**+0.7**
	3.8nm,1.0s						
ILAR	**Eielson Array**	**62.01**	**27**	P	**P**	**20 23 14.0**	**-0.7**
	1.1nm,0.8s,baz=253,slow=5.6,SNR=9.0						
ILAR				LR	LR	20 53 15.2	
	comp=Z,20nm,18.0s,baz=190,slow=39						
BRVK	**Borovoye**	**63.83**	**320**	*eP*	**P**	**20 23 26.5**	**-0.5**
	5.0nm,0.8s						
KKAR	**Karatay Array**	**64.23**	**309**	*eP*	**P**	**20 23 30.0**	**+0.2**
	3.0nm,0.8s						
INK	**Inuvik**	**67.61**	**23**	P	**P**	**20 23 52.0**	**+1.0**
	2.7nm,0.3s,baz=250,slow=7.1,SNR=4.4						
ABKAR	**Akbulak array**	**70.68**	**316**	*eP*	**P**	**20 24 09.9**	**-0.5**
	3.6nm,0.6s						
YKA	**Yellowknife Ar**	**76.40**	**28**	P	**P**	**20 24 44.2**	**+0.4**
	0.7nm,0.6s,baz=292,slow=5.7,SNR=7.4						
ARCES	**ARCESS Array B**	**79.75**	**342**	P	**P**	**20 25 02.1**	**-0.3**
	3.0nm,0.9s,baz=74,slow=9.1,SNR=6.5						
ARCES				LR	LR	21 03 17.8	
	comp=Z,17nm,20.3s,baz=48,slow=38						
NEW	**Newport**	**79.94**	**42**	P	**P**	**20 25 05.2**	**+1.4**
	1.4nm,0.5s,baz=27,slow=4.5,SNR=2.7						
NVAR	**Mina Array Bea**	**82.61**	**52**	P	**P**	**20 25 20.0**	**+1.6**
	1.9nm,0.9s,baz=268,slow=5.9,SNR=8.7						
KBZ	**Khabaz**	**83.51**	**314**	P	**P**	**20 25 22.9**	**+0.3**
	7.6nm,0.8s,baz=56,slow=24,SNR=21						
ELK	**Elko**	**83.95**	**49**	P	**P**	**20 25 24.0**	**-1.3**
	0.8nm,0.7s,baz=248,slow=5.5,SNR=2.9						
FINES	**FINESS Array B**	**84.11**	**335**	P	**P**	**20 25 24.0**	**-1.3**
	2.3nm,0.5s,baz=73,slow=4.3,SNR=33						
PFO	**Pinyon Flats O**	**85.79**	**56**	P	**P**	**20 25 34.1**	**-0.5**
	1.1nm,0.5s,baz=333,slow=4.5,SNR=2.6						
RLMT	**Red Lodge**	**86.14**	**43**	*eP*	**P**	**20 25 37.8**	**+1.6**
	2.1nm,0.6s						
SUMG	**Summit**	**86.47**	**1**	*iP*	**P**	**20 25 38.5**	**+1.1**
	5.5nm,0.8s						
PDAR	**Pinedale Array**	**86.99**	**45**	P	**P**	**20 25 41.3**	**+0.9**
	0.4nm,0.8s,baz=291,slow=7.5,SNR=3.9						
PDAR				LR	LR	21 00 41.4	
	comp=Z,29nm,18.7s,baz=262,slow=33						
NOA	**NORSAR Array B**	**89.82**	**339**	P	**P**	**20 25 51.2**	**-2.0**
	0.4nm,0.8s,baz=52,slow=4.4,SNR=3.7						
NOA				LR	LR	21 10 15.0	
	comp=Z,14nm,19.6s,baz=120,slow=38						
BRTR	**Keskin Array B**	**91.49**	**314**	P	**P**	**20 26 00.4**	**-1.2**
	0.5nm,0.6s,baz=105,slow=1.6,SNR=4.6						
SCHQ	**Schefferville**	**99.73**	**18**	LR	LR	21 18 53.5	
	comp=Z,17nm,18.0s,baz=297,slow=40						
PLCA	**Paso Flores**	**144.60**	**131**	PKP	**PKPdf**	**20 32 30.8**	**-0.7**
	4.4nm,1.0s,baz=237,slow=4.6,SNR=4.6						
LPAZ	**La Paz**	**148.89**	**87**	PKPbc	**PKPbc**	**20 32 42.9**	**-1.0**
	0.6nm,0.3s,baz=306,slow=4.7,SNR=7.3						

*NIED **26** 20:15:00, 25°.80N×130°.10E, h11km, Mw3.8 Best double couple: M0 6.04000×10^14 NP1:φs 14.00000°, δ46.00000°, λ174.00000°. NP2:φs 109.00000°, δ85.00000°, λ44.00000°.*
*ISCJB **26** 20:15:56.7±0.7, 25°.78N±0°.04×130°.05E±0°.04, h33km, Error ellipse: s-maj=6.2km s-min=4.8km az=174.1*
*JMA **26** 20:15:57.1±0.1, 25°.82N×130°.09E, h42km, M3.5*
ISC 26 20:15:57.4±1.4, 25°.78N±0°.06×130°.10E±0°.04, h35km, n17, σ0°64/29, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMZ	**Minamidaito 2**	**1.01**	**87**	P	**Pn**	**20 16 15.3**	**+0.1**
JMZ				*eS*	**Sn**	**20 16 27.8**	**-0.4**
JOW	**Kunigami**	**1.94**	**303**	P	**Pn**	**20 16 28.4**	**+0.4**
JOW				*eS*	**Sn**	**20 16 50.4**	**-0.8**
JOW	**Kunigami**	**1.94**	**303**	*eP*	**Pn**	**20 16 28.3**	**+0.4**
	70nm,0.4s						
JNTH	**Nagotoyohara**	**2.00**	**292**	P	**Pn**	**20 16 28.9**	**+0.1**
JNTH				*eS*	**Sn**	**20 16 52.1**	**-0.5**
JOKE	**Okinoerabujima**	**2.09**	**319**	P	**Pn**	**20 16 30.6**	**+0.7**
JOKE				*eS*	**Sn**	**20 16 54.1**	**-0.6**
JJT2	**Tamagusuku 2**	**2.14**	**280**	P	**Pn**	**20 16 31.5**	**+0.8**
JJT2				*eS*	**Sn**	**20 16 56.3**	**+0.2**
JTK	**Tokunoshima**	**2.25**	**333**	P	**Pn**	**20 16 32.7**	**+0.6**
JTK				*eS*	**Sn**	**20 16 57.9**	**-0.8**
JIH	**Iheya**	**2.28**	**304**	P	**Pn**	**20 16 33.2**	**+0.6**
JIH				S	**Sn**	**20 16 58.9**	**-0.6**
JAMN	**Amaminishikomi**	**2.59**	**342**	P	**Pn**	**20 16 37.3**	**+0.5**
JAMN				*eS*	**Sn**	**20 17 06.8**	**-0.3**
JAM	**Amami Oshima**	**2.66**	**351**	P	**Pn**	**20 16 38.3**	**+0.5**
JAM				*eS*	**Sn**	**20 17 08.9**	**+0.1**
JAGN	**Aguni-jima**	**2.69**	**288**	P	**Pn**	**20 16 39.0**	**+0.8**
JAGN				*eS*	**Sn**	**20 17 09.1**	**-0.4**
JKE	**Kume jima 2**	**3.03**	**281**	P	**Pn**	**20 16 42.9**	**0.0**
JKE				*eS*	**Sn**	**20 17 16.1**	**-1.8**
JTAJ	**Takarajima**	**3.46**	**347**	P	**Pn**	**20 16 49.1**	**+0.4**
JOGS	**Gusukube**	**4.36**	**258**	P	**Pn**	**20 17 02.2**	**+0.9**
JOGS				*eS*	**Sn**	**20 17 50.8**	**-0.1**
JTJ	**Tarama**	**5.01**	**258**	P	**Pn**	**20 17 10.9**	**+0.7**
JISG	**Ishigakijimahi**	**5.37**	**258**	P	**Pn**	**20 17 15.1**	**0.0**
JIJ	**Ishigaki jima**	**5.58**	**257**	P	**Pn**	**20 17 18.0**	**+0.1**

*IDC **26** 20:23:23.6±1.6, 25°.61N×109°.77W, h0km, mb3.3/2, mb1 3.6/7, mb1mx3.5/27, mbtmp3.3/7, ML3.4/5, MS3.2/5, Ms1 3.2/5, ms1mx3.0/16, Error ellipse: s-maj=27.1km s-min=18.2km az=123.0*
ISC 26 20:23:24.1±0.9, 25°.63N±0°.07×110°.0W±0°.2, h10km, n10, σ1°44/9, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**1.55**	**191**	Pn	**Pb**	**20 23 52.7**	**-0.3**
	17nm,0.3s,baz=236,slow=20,SNR=3.6						
LPIG				Sn	**Sn**	**20 24 11.8**	**-0.2**
	41nm,0.3s,baz=205,slow=4.7,SNR=7.8						
TXAR	**Lajitas Array**	**6.71**	**55**	Pn	**Pn**	**20 25 02.2**	**-0.6**
	0.1nm,0.3s,baz=232,slow=14,SNR=7.4						
TXAR				Lg	Lg	20 26 51.1	
	1.6nm,0.3s,baz=233,slow=31,SNR=5.1						
TXAR				LR	LR	20 27 59.2	
	comp=Z,253nm,18.0s,baz=0.0,slow=42						
ANMO	**Albuquerque**	**9.77**	**17**	Pn	**Pn**	**20 25 43.2**	**-1.6**
	0.2nm,0.3s,baz=281,slow=9.1,SNR=2.9						
ANMO				Lg

*CRAAG **26** 20:47:38.6, 35°.99N×4°.22E, MI3.8*
*IDC **26** 20:47:39.5±1.2, 36°.02N×4°.11E, h0km, mb3.3/3, mb1 3.3/6, mb1mx3.1/32, mbtmp3.2/6, ML3.3/3, Error ellipse: s-maj=32.4km s-min=21.1km az=151.0*
*CSEM **26** 20:47:41.0±0.2, 35°.90N×4°.09E, h5km, ML3.8, Error ellipse: s-maj=8.5km s-min=3.8km az=1.0*
*MDD **26** 20:47:44.5±0.3, 35°.91N×4°.05E, h0km, mb4.3/16, Error ellipse: s-maj=2.9km s-min=2.2km az=156.0, PRXIMO*

ISC 26 20:47:40.7±1.2, 35°.93N±0°.04×4°.11E±0°.02, h9km±8km, n123, σ1°33/143, mb3.5/3, 2C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAF	**Djebel Tarf**	**0.14**	**113**	P	**Pg**	**20 47 43.3**	**-0.7**
ATAF	**Djebel Tarf**	**0.14**	**113**	P	**Pg**	**20 47 43.3**	**-0.7**
ATAF	**Djebel Tarf**	**0.14**	**113**	P	**Pg**	**20 47 43.3**	**-0.7**
AKET	**Djebel Ketaf**	**0.22**	**302**	P	**Pg**	**20 47 45.5**	**+0.2**
AKET	**Djebel Ketaf**	**0.22**	**302**	P	**Pg**	**20 47 45.5**	**+0.2**
AKET	**Djebel Ketaf**	**0.22**	**302**	P	**Pg**	**20 47 45.5**	**+0.2**
ADJB	**Djebel Djouab**	**0.59**	**293**	P	**Pg**	**20 47 52.9**	**+0.7**
ADJB	**Djebel Djouab**	**0.59**	**293**	P	**Pg**	**20 47 52.9**	**+0.7**
ADJB	**Djebel Djouab**	**0.59**	**293**	P	**Pg**	**20 47 52.9**	**+0.7**
EMHD	**Djebel Mahouad**	**0.98**	**286**	P	**Pb**	**20 48 00.0**	**+0.1**
EMHD	**Djebel Mahouad**	**0.98**	**286**	P	**Pb**	**20 48 00.0**	**+0.1**
EMHD	**Djebel Mahouad**	**0.98**	**286**	P	**Pb**	**20 48 00.0**	**+0.1**
SET	**Setif**	**1.08**	**75**	P	**Pb**	**20 48 02.0**	**+0.4**
SET	**Setif**	**1.08**	**75**	P	**Pb**	**20 48 02.0**	**+0.4**
SET	**Setif**	**1.08**	**75**	P	**Pb**	**20 48 02.0**	**+0.4**
CKHR	**Kef el Ahmar**	**1.14**	**85**	P	**Pb**	**20 48 03.0**	**+0.3**
CKHR	**Kef el Ahmar**	**1.14**	**85**	P	**Pb**	**20 48 03.0**	**+0.3**
CKHR	**Kef el Ahmar**	**1.14**	**85**	P	**Pb**	**20 48 03.0**	**+0.3**
DFRA	**Djebel Bou Aff**	**1.55**	**66**	P	**Pg**	**20 48 11.4**	**+0.9**
DFRA	**Djebel Bou Aff**	**1.55**	**66**	P	**Pg**	**20 48 11.4**	**+0.9**
DFRA	**Djebel Bou Aff**	**1.55**	**66**	P	**Pg**	**20 48 11.4**	**+0.9**
CTEI	**Djebel Teioual**	**1.86**	**85**	P	**Pb**	**20 48 15.2**	**+0.1**
CTEI	**Djebel Teioual**	**1.86**	**85**	P	**Pb**	**20 48 15.2**	**+0.1**
CTEI	**Djebel Teioual**	**1.86**	**85**	P	**Pb**	**20 48 15.2**	**+0.1**
CASM	**Ain Smara**	**1.95**	**80**	P	**Pb**	**20 48 16.1**	**-0.4**
CASM	**Ain Smara**	**1.95**	**80**	P	**Pb**	**20 48 16.1**	**-0.4**
CASM	**Ain Smara**	**1.95**	**80**	P	**Pb**	**20 48 16.1**	**-0.4**
EBNR	**Beni Rached**	**2.12**	**280**	P	**Pn**	**20 48 17.0**	**+0.6**
EBNR	**Beni Rached**	**2.12**	**280**	P	**Pn**	**20 48 17.0**	**+0.6**
CKFL	**Kef-Lekhel**	**2.16**	**77**	P	**Pn**	**20 48 17.6**	**+0.6**
CKFL	**Kef-Lekhel**	**2.16**	**77**	P	**Pn**	**20 48 17.6**	**+0.6**
CKFL	**Kef-Lekhel**	**2.16**	**77**	P	**Pn**	**20 48 17.6**	**+0.6**
ECHA	**Ech Chlef**	**2.24**	**276**	P	**Pn**	**20 48 18.4**	**+0.5**
ECHA	**Ech Chlef**	**2.24**	**276**	P	**Pn**	**20 48 18.4**	**+0.5**
ECHF	**Ech Chlef**	**2.26**	**277**	P	**Pn**	**20 48 18.4**	**+0.1**
ECHF	**Ech Chlef**	**2.26**	**277**	P	**Pn**	**20 48 18.4**	**+0.1**
ETRT	**Tiaret**	**2.35**	**258**	P	**Pn**	**20 48 20.3**	**+0.6**
ETRT	**Tiaret**	**2.35**	**258**	P	**Pn**	**20 48 20.3**	**+0.6**
ETRT	**Tiaret**	**2.35**	**258**	P	**Pn**	**20 48 20.3**	**+0.6**
CAEH	**'Ain El Ouahch**	**2.37**	**68**	P	**Pn**	**20 48 20.0**	**+0.2**
CAEH	**'Ain El Ouahch**	**2.37**	**68**	P	**Pn**	**20 48 20.0**	**+0.2**
CAEH	**'Ain El Ouahch**	**2.37**	**68**	P	**Pn**	**20 48 20.0**	**+0.2**
EANR	**'Ain N'Sour**	**2.44**	**271**	P	**Pn**	**20 48 21.6**	**+0.7**
EANR	**'Ain N'Sour**	**2.44**	**271**	P	**Pn**	**20 48 21.6**	**+0.7**
EANR	**'Ain N'Sour**	**2.44**	**271**	P	**Pn**	**20 48 21.6**	**+0.7**
ABSA	**Djebel Ababsia**	**2.75**	**82**	P	**Pb**	**20 48 30.7**	**+0.6**
CABS	**Djebel Ababsia**	**2.75**	**82**	P	**Pb**	**20 48 30.7**	**+0.6**
CABS	**Djebel Ababsia**	**2.75**	**82**	P	**Pb**	**20 48 30.7**	**+0.6**
CMAH	**Djebel Manchou**	**2.76**	**75**	P	**Pn**	**20 48 25.2**	**0.0**
CMAH	**Djebel Manchou**	**2.76**	**75**	P	**Pn**	**20 48 25.2**	**0.0**
CMAH	**Djebel Manchou**	**2.76**	**75**	P	**Pn**	**20 48 25.2**	**0.0**
OJGS	**Djebel Guires**	**2.77**	**262**	P	**Pg**	**20 48 35.0**	**+1.2**
OJGS	**Djebel Guires**	**2.77**	**262**	P	**Pg**	**20 48 35.0**	**+1.2**
OKGL	**Djebel Kef Gue** 91nm,0.4s,SNR=18	**2.82**	**273**	⇑P	**Pn**	**20 48 26.4**	**+0.4**
OKGL	349nm,0.8s,SNR=4.0			S	**Sn**	**20 48 59.5**	**-0.6**
OKGL	**Djebel Kef Gue** 91nm,0.4s,SNR=18	**2.82**	**273**	P	**Pn**	**20 48 26.4**	**+0.4**
OKGL	349nm,0.8s,SNR=4.0			S	**Sn**	**20 48 59.5**	**-0.6**
OJBR	**Djebel Berber**	**3.08**	**265**	P	**Pg**	**20 48 39.0**	**-0.9**
OJBR	**Djebel Berber**	**3.08**	**265**	P	**Pg**	**20 48 39.0**	**-0.9**
ODJA	**Bouhanifia**	**3.52**	**261**	P	**Pg**	**20 48 50.0**	**+1.7**
ODJA	**Bouhanifia**	**3.52**	**261**	P	**Pg**	**20 48 50.0**	**+1.7**
EIBI	**Ibiza** 2.1nm,0.2s,SNR=8.4	**3.79**	**325**	P	**Pn**	**20 48 40.5**	**+1.1**
EIBI	6.9nm,0.5s			S	**Sn**	**20 49 22.2**	**-1.9**
EIBI	**Ibiza** 2.1nm,0.2s,SNR=8.4	**3.79**	**325**	P	**Pn**	**20 48 40.5**	**+1.1**
EIBI	6.9nm,0.5s			S	**Sn**	**20 49 22.2**	**-1.9**
ETOS	**Mallorca** 5.3nm,0.5s,SNR=9.9	**3.96**	**345**	P	**Pn**	**20 48 42.5**	**+0.7**
ETOS	1.8nm,0.4s			S	**Sn**	**20 49 26.9**	**-1.5**
ETOS	**Mallorca** 5.3nm,0.5s,SNR=9.9	**3.96**	**345**	P	**Pn**	**20 48 42.5**	**+0.7**
ETOS	1.8nm,0.4s			S	**Sn**	**20 49 26.9**	**-1.5**
KEST	**Kesra** 0.4nm,0.3s,baz=225,slow=11,SNR=22	**4.26**	**91**	Pn	**Pn**	**20 48 46.9**	**+1.1**
KEST	0.1nm,0.3s,baz=246,slow=20,SNR=2.0			Sn	**Sn**	**20 49 34.8**	**-0.8**
EBEN	**Beniarda** 0.8nm,0.2s,SNR=7.9	**4.43**	**310**	P	**Pn**	**20 48 50.1**	**+1.9**
EBEN	**Beniarda** 0.8nm,0.2s,SNR=7.9	**4.43**	**310**	P	**Pn**	**20 48 50.1**	**+1.9**
EMUR	**La Murta** 14nm,0.3s,SNR=22	**4.70**	**296**	P	**Pn**	**20 48 52.4**	**+0.6**
EMUR	3.7nm,0.4s			S	**Sn**	**20 49 44.3**	**-2.1**
EMUR	**La Murta** 14nm,0.3s,SNR=22	**4.70**	**296**	P	**Pn**	**20 48 52.4**	**+0.6**
EMUR	3.7nm,0.4s			S	**Sn**	**20 49 44.3**	**-2.1**
ENIJ	**Nijar** SNR=7.9	**5.20**	**283**	P	**Pn**	**20 48 58.4**	**-0.3**
ENIJ	**Nijar** SNR=7.9	**5.20**	**283**	P	**Pn**	**20 48 58.4**	**-0.3**
ETOB	**Tobarra** 5.0nm,0.4s,SNR=15	**5.26**	**303**	P	**Pn**	**20 49 01.2**	**+1.6**
ETOB	1.4nm,0.3s			S	**Sn**	**20 49 58.2**	**-2.3**
ETOB	**Tobarra** 5.0nm,0.4s,SNR=15	**5.26**	**303**	P	**Pn**	**20 49 01.2**	**+1.6**
ETOB	1.4nm,0.3s			S	**Sn**	**20 49 58.2**	**-2.3**
EBR	**Ebro Roquetas** 22nm,0.2s,SNR=7.9	**5.65**	**331**	P	**Pn**	**20 49 05.2**	**+0.3**
EBR	**Ebro Roquetas** 22nm,0.2s,SNR=7.9	**5.65**	**331**	P	**Pn**	**20 49 05.2**	**+0.3**
EHUE	**Huescar** 4.6nm,0.2s,SNR=7.9	**5.70**	**291**	P	**Pn**	**20 49 08.6**	**+3.0**
EHUE	**Huescar** 4.6nm,0.2s,SNR=7.9	**5.70**	**291**	P	**Pn**	**20 49 08.6**	**+3.0**
EMOS	**Mosqueruela** 0.5nm,0.4s,SNR=7.9	**5.71**	**322**	P	**Pn**	**20 49 06.3**	**+0.4**
EMOS	1.0nm,0.3s,SNR=7.9			S	**Sn**	**20 50 06.7**	**-5.0**
EMOS	**Mosqueruela** 0.5nm,0.4s,SNR=7.9	**5.71**	**322**	P	**Pn**	**20 49 06.3**	**+0.4**
EBER	**Berja** 8.4nm,0.4s,SNR=14	**5.73**	**282**	P	**Pn**	**20 49 06.1**	**-0.1**
EBER	2.0nm,0.4s			S	**Sn**	**20 50 08.6**	**-3.5**
EBER	**Berja** 8.4nm,0.4s,SNR=14	**5.73**	**282**	P	**Pn**	**20 49 06.1**	**-0.1**
SESP	**Santiago Espad** 9.5nm,0.3s,SNR=18	**5.76**	**294**	⇑P	**Pn**	**20 49 08.7**	**+2.2**
SESP	5.9nm,0.4s,SNR=7.9			S	**Sn**	**20 50 10.1**	**-2.7**
SESP	**Santiago Espad** 9.5nm,0.3s,SNR=18	**5.76**	**294**	P	**Pn**	**20 49 08.7**	**+2.2**
ERTA	**Horta de San J** 0.5nm,0.2s,SNR=7.9	**5.83**	**331**	P	**Pn**	**20 49 09.4**	**+2.0**
ERTA	**Horta de San J** 0.5nm,0.2s,SNR=7.9	**5.83**	**331**	P	**Pn**	**20 49 09.4**	**+2.0**
EPOB	**Poblet** 0.5nm,0.2s,SNR=7.9	**5.91**	**337**	P	**Pn**	**20 49 09.6**	**+1.0**
EPOB	**Poblet** 0.5nm,0.2s,SNR=7.9	**5.91**	**337**	P	**Pn**	**20 49 09.6**	**+1.0**
EVIA	**Vianos** 7.6nm,0.3s,SNR=5.0	**5.93**	**299**	P	**Pn**	**20 49 09.8**	**+1.0**
EVIA	3.2nm,0.3s			S	**Sn**	**20 50 14.8**	**-2.1**
EVIA	**Vianos** 7.6nm,0.3s,SNR=5.0	**5.93**	**299**	P	**Pn**	**20 49 09.8**	**+1.0**
EVIA				S	**Sn**	**20 50 14.8**	**-2.1**
CFON	**Fontmartina** 1.3nm,0.2s,SNR=7.9	**5.97**	**348**	P	**Pn**	**20 49 10.5**	**+1.2**
CFON	**Fontmartina** 1.3nm,0.2s,SNR=7.9	**5.97**	**348**	P	**Pn**	**20 49 10.5**	**+1.2**
EQES	**Quesada** 4.6nm,0.3s,SNR=25	**6.05**	**290**	P	**Pn**	**20 49 12.3**	**+1.7**
EQES	2.7nm,0.3s			S	**Sn**	**20 50 16.9**	**-3.1**
EQES	**Quesada** 4.6nm,0.3s,SNR=25	**6.05**	**290**	P	**Pn**	**20 49 12.3**	**+1.7**
EQUE	**Quentar** 3.5nm,0.5s,SNR=12	**6.21**	**284**	P	**Pn**	**20 49 14.0**	**+1.3**
EQUE	**Quentar** 3.5nm,0.5s,SNR=12	**6.21**	**284**	P	**Pn**	**20 49 14.0**	**+1.3**
EGUA	**Guajares** 3.5nm,0.3s,SNR=7.9	**6.26**	**281**	P	**Pn**	**20 49 14.4**	**+1.1**
EGUA	**Guajares** 3.5nm,0.3s,SNR=7.9	**6.26**	**281**	P	**Pn**	**20 49 14.4**	**+1.1**
EMIR	**Miracle** 3.9nm,0.4s,SNR=5.5	**6.30**	**342**	P	**Pn**	**20 49 16.0**	**+2.1**
EMIR	3.9nm,0.4s,SNR=7.9			S	**Sn**	**20 50 24.9**	**-1.2**
EMIR	**Miracle** 3.9nm,0.4s,SNR=5.5	**6.30**	**342**	P	**Pn**	**20 49 16.0**	**+2.1**
EMIR	3.9nm,0.4s,SNR=7.9			S	**Sn**	**20 50 24.9**	**-1.2**
EJON	**La Jonquera** 1.4nm,0.3s,SNR=7.9	**6.58**	**352**	P	**Pn**	**20 49 19.4**	**+1.8**
EJON	**La Jonquera** 1.4nm,0.3s,SNR=7.9	**6.58**	**352**	P	**Pn**	**20 49 19.4**	**+1.8**
SJAF	**Saint Jean de** 0.2nm,0.2s,SNR=4.0	**6.61**	**352**	P	**Pn**	**20 49 20.1**	**+2.0**
SJAF	**Saint Jean de** 0.2nm,0.2s,SNR=4.0	**6.61**	**352**	P	**Pn**	**20 49 20.1**	**+2.0**
CSOR	**Sort** 0.8nm,0.2s,SNR=7.9	**6.84**	**341**	P	**Pn**	**20 49 21.0**	**-0.3**
CSOR	**Sort** 0.8nm,0.2s,SNR=7.9	**6.84**	**341**	P	**Pn**	**20 49 21.0**	**-0.3**
ETOR	**Torete** 2.3nm,0.3s,SNR=7.9	**6.88**	**317**	P	**Pn**	**20 49 22.5**	**+0.7**
ETOR	**Torete** 2.3nm,0.3s,SNR=7.9	**6.88**	**317**	P	**Pn**	**20 49 22.5**	**+0.7**
EMIJ	**Mijas** 2.3nm,0.4s,SNR=7.9	**7.21**	**278**	P	**Pn**	**20 49 25.4**	**-0.9**
EMIJ	**Mijas** 2.3nm,0.4s,SNR=7.9	**7.21**	**278**	P	**Pn**	**20 49 25.4**	**-0.9**
EADA	**Adamuz** 0.5nm,0.3s,SNR=7.9	**7.30**	**290**	P	**Pn**	**20 49 27.6**	**0.0**
EADA	**Adamuz** 0.5nm,0.3s,SNR=7.9	**7.30**	**290**	P	**Pn**	**20 49 27.6**	**0.0**
ESDC	**Sonseca Array** 2.3nm,0.3s,baz=120,slow=14,SNR=8.2	**7.40**	**303**	P	**Pn**	**20 49 29.9**	**+0.9**
ESDC	**Sonseca Array** 0.7nm,0.3s,baz=118,slow=14,SNR=10	**7.40**	**303**	Pn	**Pn**	**20 49 29.8**	**+0.8**
ESDC	**Sonseca Array** 2.3nm,0.3s,SNR=8.2	**7.40**	**303**	P	**Pn**	**20 49 29.9**	**+0.9**
MDT	**Midelt** 0.1nm,0.3s,baz=66,slow=20,SNR=3.9	**7.86**	**249**	Pn	**Pn**	**20 49 34.7**	**-0.6**
MDT	0.2nm,0.3s,baz=288,slow=18,SNR=2.5			Sn	**Sn**	**20 51 04.7**	**+0.3**
ECAB	**El Cabril** 1.0nm,0.3s,SNR=7.9	**7.92**	**288**	P	**Pn**	**20 49 35.3**	**-0.8**
ECAB	**El Cabril** 1.0nm,0.3s,SNR=7.9	**7.92**	**288**	P	**Pn**	**20 49 35.3**	**-0.8**
EARI	**Arriondas** 0.8nm,0.4s,SNR=7.9	**10.29**	**319**	P	**Pn**	**20 50 11.4**	**+2.9**
EARI	**Arriondas** 0.8nm,0.4s,SNR=7.9	**10.29**	**319**	P	**Pn**	**20 50 11.4**	**+2.9**
ECAL	**Calabor** 1.5nm,0.3s,SNR=7.9	**10.36**	**309**	P	**Pn**	**20 50 11.0**	**+1.4**
ECAL	**Calabor** 1.5nm,0.3s,SNR=7.9	**10.36**	**309**	P	**Pn**	**20 50 11.0**	**+1.4**
TORD	**Torodi Ar. Bea** 0.4nm,0.8s,baz=11,slow=12,SNR=3.2	**22.79**	**186**	P	**P**	**20 52 45.0**	**+1.3**
KURBB	**Kurchatov Arra** 0.4nm,0.8s,baz=291,slow=7.8,SNR=3.9	**53.90**	**49**	P	**P**	**20 57 04.1**	**-0.1**
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=302,slow=6.5,SNR=3.5	**57.40**	**53**	P	**P**	**20 57 28.5**	**-1.1**

IDC 26 20:50:02.2±11.0, 24°.71S×177°.52W, h451km±138km, mb3.1/4, mb1 3.3/5, mb1mx3.0/33, mbtmp4.1/5, Error ellipse: s-maj=222.6km s-min=64.8km az=81.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 2.3nm,0.3s,baz=326,slow=3.6,SNR=8.5	**14.26**	**197**	P	P	20 53 05.7	+0.4
URZ	0.7nm,0.3s,baz=246,slow=20,SNR=5.4			S	S	20 55 32.7	-3.8
CTA	**Charters Tower** 2.8nm,0.7s,baz=84,slow=9.2,SNR=3.3	**33.74**	**270**	P	P	20 56 04.8	-0.1
STKA	**Stephens Creek** 0.8nm,0.7s,baz=86,slow=9.2,SNR=3.3	**36.54**	**249**	P	P	20 56 27.9	-0.3
ASAR	**Alice Springs** 0.5nm,0.3s,baz=92,slow=7.1,SNR=21	**44.14**	**261**	P	P	20 57 29.4	-0.1
WRA	**Warramunga Arr** 0.8nm,0.3s,baz=99,slow=7.0,SNR=41	**44.61**	**266**	P	P	20 57 33.1	-0.1

*ISCJB **26** 20:57:33.8±0.8, 19°.0N±0°.1×145°.6E±0°.2, h214km, mb3.3/10, Error ellipse: s-maj=23.1km s-min=15.7km az=174.1*
*IDC **26** 20:57:43.1±4.8, 18°.98N×145°.45E, h292km±49km, mb3.1/10, mb1 3.3/11, mb1mx3.1/28, mbtmp3.7/11, Error ellipse: s-maj=27.1km s-min=14.0km az=85.0*

ISC 26 20:57:35.3±0.9, 19°.0N±0°.1×145°.5E±0°.2, h214km, n12, σ1°07/12, mb3.4/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami** baz=138,slow=2.6	**17.71**	**299**	P	**Pn**	**21 01 30.2**	**+0.9**
MJAR	**Matsushiro Arr** 0.4nm,0.3s,baz=176,slow=10,SNR=5.7	**18.65**	**341**	P	**P**	**21 01 38.5**	**+1.3**
WRA	**Warramunga Arr** 0.6nm,0.5s,baz=6.7,slow=8.9,SNR=16	**40.20**	**196**	P	**P**	**21 04 51.6**	**+0.4**
SONM	**Songino Array** 0.4nm,0.5s,baz=138,slow=9.8,SNR=6.1	**42.84**	**321**	P	**P**	**21 05 12.6**	**+0.2**
ASAR	**Alice Springs** 0.2nm,0.6s,baz=20,slow=6.4,SNR=4.4	**43.87**	**195**	P	**P**	**21 05 20.9**	**+0.1**
MKAR	**Makanchi Array** 0.5nm,0.5s,baz=85,slow=9.0,SNR=4.5	**58.17**	**314**	P	**P**	**21 07 06.7**	**-0.2**
KURBB	**Kurchatov Arra** 0.6nm,0.4s,baz=92,slow=7.5,SNR=15	**61.02**	**318**	P	**P**	**21 07 25.8**	**-0.4**
ILAR	**Eielson Array** 0.5nm,0.7s,baz=290,slow=3.7,SNR=5.1	**63.47**	**26**	P	**P**	**21 07 41.8**	**-0.4**
BVAR	**Borovoye Array** 1.2nm,0.4s,baz=95,slow=6.9,SNR=8.5	**66.17**	**320**	P	**P**	**21 07 59.4**	**-0.4**
YKA	**Yellowknife Ar** 0.4nm,0.5s,baz=294,slow=5.5,SNR=3.6	**77.82**	**28**	P	**P**	**21 09 08.7**	**0.0**
NVAR	**Mina Array Bea** 0.4nm,0.6s,baz=263,slow=5.4,SNR=4.1	**83.09**	**52**	P	**P**	**21 09 38.8**	**+1.3**
FINES	**FINESS Array B** 0.5nm,0.4s,baz=61,slow=3.5,SNR=9.3	**86.58**	**335**	P	**P**	**21 09 51.8**	**-2.3**

*ISCJB **26** 20:59:40.6±1.4, 50°.1S±0°.1×119°.9E±0°.5, h10km, mb3.6/5, Error ellipse: s-maj=42.8km s-min=21.0km az=6.4*
*IDC **26** 20:59:41.2±1.4, 50°.11S×120°.02E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/24, mbtmp3.8/5, Error ellipse: s-maj=51.4km s-min=26.8km az=94.0*

ISC 26 20:59:42.7±1.3, 50°.1S±0°.2×120°.0E±0°.4, h10km, n10, σ0°52/7, mb3.9/5, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H** baz=164,slow=74,SNR=6.1	**15.81**	**342**	T	T	21 19 32.3	
H01W1	**Cape Leeuwin H** baz=164,slow=74,SNR=6.0	**15.81**	**342**	T	T	21 19 29.8	
H01W3	**Cape Leeuwin H** baz=164,slow=74,SNR=6.9	**15.82**	**342**	T	T	21 19 36.9	
STKA	**Stephens Creek** 3.5nm,0.9s,baz=186,slow=10,SNR=7.0	**24.28**	**49**	P	**P**	**21 05 00.4**	**+0.4**
ASAR	**Alice Springs** 2.0nm,1.0s,baz=200,slow=8.3,SNR=12	**28.54**	**27**	P	**P**	**21 05 38.6**	**+0.2**
VNDA	**Vanda** 0.7nm,0.9s,baz=305,slow=14,SNR=4.0	**31.65**	**164**	P	**P**	**21 06 05.7**	**+0.2**
WRA	**Warramunga Arr** 0.6nm,1.0s,baz=200,slow=7.7,SNR=2.8	**32.19**	**26**	P	**P**	**21 06 10.4**	**-0.3**
CMAR	**Chiang Mai Arr** 0.9nm,0.9s,baz=188,slow=6.1,SNR=4.9	**70.77**	**339**	P	**P**	**21 10 59.4**	**+0.3**
PDAR	**Pinedale Array** 0.7nm,1.0s,baz=298,slow=1.9,SNR=3.6	**145.59**	**83**	PKPbc	**PKPdf**	**21 19 20.5**	**-0.3**
YKA	**Yellowknife Ar** 0.5nm,0.9s,baz=277,slow=2.1,SNR=4.3	**148.29**	**46**	PKPbc	**PKPbc**	**21 19 26.9**	**-0.8**

*ISCJB **26** 21:10:15.8±3.0, 19°.3S±0°.2×168°.9E±0°.5, h104km, mb3.7/5, Error ellipse: s-maj=65.7km s-min=14.5km az=23.2*
*IDC **26** 21:10:15.6±6.0, 19°.27S×169°.01E, h95km±52km, mb3.6/5, mb1 3.7/6, mb1mx3.4/35, mbtmp3.9/6, Error ellipse: s-maj=60.9km s-min=41.3km az=154.0*

ISC 26 21:10:16.0±2.0, 19°.4S±0°.2×169°.1E±0°.3, h104km, n8, σ0°73/9, mb3.5/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 2.5nm,0.3s,baz=89,slow=23,SNR=3.0	**3.65**	**222**	P	**Pn**	**21 11 10.0**	**-0.6**
DZM	8.7nm,0.3s,baz=94,slow=20,SNR=5.9			S	**Sn**	**21 11 53.7**	**+0.7**
CTA	**Charters Tower** 1.0nm,0.4s,baz=76,slow=12,SNR=1.6	**21.49**	**264**	P	**P**	**21 14 56.1**	**-0.4**
STKA	**Stephens Creek** 0.7nm,0.5s,baz=77,slow=9.4,SNR=5.4	**27.65**	**238**	P	**P**	**21 15 54.9**	**+0.8**
WRA	**Warramunga Arr** 0.8nm,0.5s,baz=90,slow=8.4,SNR=23	**32.68**	**263**	P	**P**	**21 16 38.1**	**-0.6**
ASAR	**Alice Springs** 3.9nm,0.5s,baz=85,slow=9.1,SNR=90	**32.95**	**256**	P	**P**	**21 16 41.0**	**+0.1**
SONM	**Songino Array** 0.3nm,0.8s,baz=123,slow=5.3,SNR=2.6	**87.22**	**323**	P	**P**	**21 22 51.7**	**+0.9**
ARCES	**ARCESS Array B** 0.8nm,0.5s,baz=56,slow=2.1,SNR=7.5	**125.14**	**345**	PKP	**PKPdf**	**21 29 03.2**	**-0.5**
GERES	**GERESS Array B** 1.0nm,0.6s,baz=42,slow=5.1,SNR=11	**144.52**	**332**	PKP	**PKPdf**	**21 29 40.0**	**-0.3**

IDC 26 21:17:51.1±2.3, 6°.79S×129°.03E, h0km, mb3.3/1, mb1 3.5/3, mb1mx3.3/19, mbtmp3.3/3, ML3.6/2, Error ellipse: s-maj=144.2km s-min=32.4km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=341,slow=13,SNR=17	**14.06**	**159**	Pn	Pn	21 21 12.0	+0.2
WRA	0.2nm,0.3s,baz=334,slow=23,SNR=3.8			Sn	Sn	21 23 40.0	-8.6
ASAR	**Alice Springs** 0.1nm,0.3s,baz=346,slow=12,SNR=7.5	**17.43**	**165**	P	Pn	21 21 55.6	-0.3
ASAR	0.1nm,0.3s,baz=356,slow=22,SNR=4.5			S	S	21 25 18.9	-0.5
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=121,slow=7.0,SNR=4.1	**67.52**	**327**	P	P	21 28 49.3	0.0

*CRAAG **26** 21:17:57.1, 35°.85N×4°.12E, MI3.4*
*MDD **26** 21:17:59.0±0.6, 35°.91N×4°.22E, h0km, mb3.8/5, Error ellipse: s-maj=18.8km s-min=4.5km az=33.0, PRXIMO SOLUCIN POBRE*
*ISCJB **26** 21:17:59.6±0.7, 35°.95N±0°.08×4°.03E±0°.05, h10km, Error ellipse: s-maj=11.4km s-min=5.1km az=7.0*
*CSEM **26** 21:17:59.3±0.4, 35°.91N×4°.11E, h2km, mb3.8, Error ellipse: s-maj=17.6km s-min=6.0km az=4.0*

ISC 26 21:17:58.1±1.1, 35°.80N±0°.07×4°.10E±0°.03, h10km, n52, σ1°23/54, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAF	**Djebel Tarf**	**0.16**	**64**	P	**Pg**	**21 18 00.0**	**-1.7**
ATAF	**Djebel Tarf**	**0.16**	**64**	P	**Pg**	**21 18 00.0**	**-1.7**
ATAF	**Djebel Tarf**	**0.16**	**64**	P	**Pg**	**21 18 00.0**	**-1.7**
AKET	**Djebel Ketaf**	**0.30**	**324**	P	**Pg**	**21 18 04.0**	**-0.2**
AKET	**Djebel Ketaf**	**0.30**	**324**	P	**Pg**	**21 18 04.0**	**-0.2**
AKET	**Djebel Ketaf**	**0.30**	**324**	P	**Pg**	**21 18 04.0**	**-0.2**
ADJB	**Djebel Djouab**	**0.64**	**304**	P	**Pb**	**21 18 11.5**	**0.0**
ADJB	**Djebel Djouab**	**0.64**	**304**	P	**Pb**	**21 18 11.5**	**0.0**
ADJB	**Djebel Djouab**	**0.64**	**304**	P	**Pb**	**21 18 11.5**	**0.0**
EMHD	**Djebel Mahouad**	**1.01**	**293**	P	**Pn**	**21 18 18.6**	**+0.1**
EMHD	**Djebel Mahouad**	**1.01**	**293**	P	**Pn**	**21 18 18.6**	**+0.1**
EMHD	**Djebel Mahouad**	**1.01**	**293**	P	**Pn**	**21 18 18.6**	**+0.1**
SET	**Setif**	**1.13**	**69**	P	**Pn**	**21 18 20.0**	**-0.1**
SET	**Setif**	**1.13**	**69**	P	**Pn**	**21 18 20.0**	**-0.1**
SET	**Setif**	**1.13**	**69**	P	**Pn**	**21 18 20.0**	**-0.1**
CKHR	**Kef el Ahmar**	**1.17**	**79**	P	**Pn**	**21 18 21.1**	**+0.4**
CKHR	**Kef el Ahmar**	**1.17**	**79**	P	**Pn**	**21 18 21.1**	**+0.4**
CKHR	**Kef el Ahmar**	**1.17**	**79**	P	**Pn**	**21 18 21.1**	**+0.4**
DFRA	**Djebel Bou Aff**	**1.62**	**62**	P	**Pg**	**21 18 30.0**	**+0.8**
DFRA	**Djebel Bou Aff**	**1.62**	**62**	P	**Pg**	**21 18 30.0**	**+0.8**
DFRA	**Djebel Bou Aff**	**1.62**	**62**	P	**Pg**	**21 18 30.0**	**+0.8**
CASM	**Ain Smara**	**1.99**	**76**	P	**Pb**	**21 18 35.0**	**+0.5**
CASM	**Ain Smara**	**1.99**	**76**	P	**Pb**	**21 18 35.0**	**+0.5**
CASM	**Ain Smara**	**1.99**	**76**	P	**Pb**	**21 18 35.0**	**+0.5**
EBNR	**Beni Rached**	**2.14**	**284**	P	**Pn**	**21 18 32.9**	**-1.0**
EBNR	**Beni Rached**	**2.14**	**284**	P	**Pn**	**21 18 32.9**	**-1.0**
ECHA	**Ech Chlef**	**2.24**	**280**	P	**Pn**	**21 18 33.9**	**-1.4**
ECHA	**Ech Chlef**	**2.24**	**280**	P	**Pn**	**21 18 33.9**	**-1.4**

VLO	Vlora	0.34	185	P	Pb	21 36 46.6	+0.6
VLO	Vlora	0.34	185	P	Pb	21 36 46.6	+0.6
TIR	Tirane	0.59	25	*i* PG	Pb	21 36 50.3	0.0
TIR				*i* SG	Sg	21 36 56.9	+0.1
TIR	Tirane	0.59	25	P	Pb	21 36 50.8	+0.5
TIR	Tirane	0.59	25	*e*Pg	Pb	21 36 51.2	+0.9
TIR				*e*Sg	Sb	21 36 59.7	+0.8
TIR	Tirane	0.59	25	*i* Pg	Pb	21 36 50.3	0.0
	SNR=95						
TIR	Tirane	0.59	25	P	Pb	21 36 50.8	+0.5
TIR				*i* Sg	Sg	21 36 56.9	+0.1
	SNR=95						
KBN	Korca	0.97	101	*i* PG	Pg	21 36 55.8	-0.4
KBN	Korca	0.97	101	P	Pg	21 36 56.2	0.0
KBN				S	Sn	21 37 11.1	-0.7
KBN	Korca	0.97	101	*i* Pg	Pg	21 36 55.8	-0.4
	SNR=93						
KBN	Korca	0.97	101	P	Pg	21 36 56.2	0.0
KBN				S	Sn	21 37 11.1	-0.7
SRN	Sarande	0.99	159	*i* PG	Pn	21 36 58.0	0.0
SRN				*i* SG	Sn	21 37 13.1	+0.8
SRN	Sarande	0.99	159	P	Pn	21 36 57.2	-0.8
SRN				S	Sn	21 37 12.3	0.0
SRN	Sarande	0.99	159	P	Pn	21 36 57.2	-0.8
SRN	Sarande	0.99	159	*i* Pg	Pn	21 36 58.0	0.0
	SNR=93						
SRN				S	Sn	21 37 12.3	0.0
SRN				*i* Sg	Sn	21 37 13.1	+0.8
	SNR=93						
OHR	Ohrid	1.00	72	*i* Pg	Pg	21 36 55.7	-1.1
OHR				*i* Sg	Sg	21 37 09.1	-0.8
OHR				*e*Lg	Lg	21 37 12.7	
	comp=E,56nm,0.5s						
OHR				*e*Lg	Lg	21 37 13.3	
	comp=N,50nm,0.5s						
OHR	Ohrid	1.00	72	*i* Pg	Pg	21 36 55.7	-1.1
OHR				*i* Sg	Sg	21 37 09.1	-0.8
OHR				*e*Lg	Lg	21 37 12.7	
	comp=N,56nm,0.5s						
PHP	Peshkopia	1.11	38	*i* PG	Pn	21 36 59.5	-0.1
PHP				*i* SG	Sn	21 37 17.2	+2.0
PHP	Peshkopia	1.11	38	P	Pn	21 36 59.6	0.0
PHP				S	Sn	21 37 15.8	+0.6
PHP	Peshkopia	1.11	38	*i* Pg	Pn	21 36 59.5	-0.1
	SNR=93						
PHP				S	Sn	21 37 15.8	+0.6
PHP				*i* Sg	Sn	21 37 17.2	+2.0
	SNR=93						
KEK	Kerkira	1.11	170	P	Pn	21 37 00.1	+0.4
KEK				S	Sn	21 37 15.9	+0.7
KEK	Kerkira	1.11	170	*e*P	Pn	21 37 00.0	+0.4
KEK				*e*S	Sn	21 37 15.8	+0.6
KEK	Kerkira	1.11	170	P	Pn	21 37 00.1	+0.4
KEK				*e*Sn	Sn	21 37 15.8	+0.6
ULC	Ulcinj	1.17	349	⇑*i* PG	Pg	21 37 00.6	+0.5
ULC				*e*Sg	Sn	21 37 18.6	+1.8
ULC	Ulcinj	1.17	349	⇑*i* PG	Pg	21 37 00.6	+0.5
ULC				*e*Sg	Sn	21 37 18.6	+1.8
NEST	Nestorio	1.22	108	P	Pn	21 37 00.9	-0.3
NEST				S	Sn	21 37 19.6	+1.7
NEST	Nestorio	1.22	108	*e*P	Pn	21 37 00.9	-0.3
NEST				*e*S	Sn	21 37 19.8	+1.9
NEST	Nestorio	1.22	108	P	Pn	21 37 00.9	-0.3
NEST				*e*Sn	Sn	21 37 19.8	+1.9
SGD	Sagiada	1.31	156	P	Pg	21 37 03.0	+0.3
SGD				S	Sg	21 37 22.1	+2.4
SGD	Sagiada	1.31	156	P	Sg	21 37 03.0	+0.3
SGD				S	Sg	21 37 22.1	+2.4
FNA	Florina	1.40	90	P	Pn	21 37 03.2	-0.4
FNA				S	Sg	21 37 23.1	+0.6
FNA	Florina	1.40	90	*e*P	Pn	21 37 03.5	-0.1
FNA				*e*S	Sg	21 37 23.1	+0.6
FNA	Florina	1.40	90	P	Pn	21 37 03.2	-0.4
FNA	Florina	1.40	90	*e*Pn	Pn	21 37 03.5	-0.1
FNA				S	Sg	21 37 23.1	+0.6
DRME	Dracevica, Mon	1.40	349	⇓*i* Pg	Pb	21 37 04.2	+0.1
DRME				*e*Sg	Sg	21 37 24.7	+2.1
DRME	Dracevica, Mon	1.40	349	⇓*i* Pg	Pb	21 37 04.2	+0.1
DRME				*e*Sg	Sg	21 37 24.7	+2.1
IGT	Igoumenitsa	1.42	154	P	Pg	21 37 04.8	+0.1
IGT				S	Sg	21 37 24.1	+1.0
IGT	Igoumenitsa	1.42	154	*e*P	Pb	21 37 04.1	-0.2
IGT				*e*S	Sg	21 37 24.1	+1.0
IGT	Igoumenitsa	1.42	154	*e*Pn	Pb	21 37 04.1	-0.2
IGT	Igoumenitsa	1.42	154	P	Pg	21 37 04.8	+0.1
IGT				S	Sg	21 37 24.1	+1.0
JAN	Janina	1.53	138	P	Pg	21 37 06.8	-0.1
JAN				S	Sg	21 37 26.6	-0.2
JAN	Janina	1.53	138	*e*P	Pg	21 37 06.8	-0.1
JAN				*e*S	Sg	21 37 28.2	+1.4
JAN	Janina	1.53	138	P	Pg	21 37 06.8	-0.1
JAN				S	Sg	21 37 26.6	-0.2
JAN				*e*Sn	Sg	21 37 28.2	+1.4
BUM	Brajici-Budva	1.56	342	⇑*i* Pg	Pb	21 37 06.6	-0.4
BUM				*e*Sg	Sg	21 37 28.8	+0.9
BUM	Brajici-Budva	1.56	342	⇑*i* Pg	Pb	21 37 06.6	-0.4
BUM				*e*Sg	Sg	21 37 28.8	+0.9
PDG	Podgorica	1.63	353	P	Pb	21 37 07.4	-0.6
PDG				S	Sg	21 37 29.9	-0.2
PDG	Podgorica	1.63	353	*e*Pn	Pg	21 37 09.0	+0.1
PDG				*e*Sn	Sg	21 37 31.9	+1.8
PDG	Podgorica	1.63	353	P	Pb	21 37 07.4	-0.6
PDG				S	Sg	21 37 29.9	-0.2
PDG				*e*Sn	Sg	21 37 30.6	+0.5
TTG	Podgorica	1.63	353	⇓*i* Pn	Pb	21 37 07.2	-0.8
TTG				*e*Sn	Sg	21 37 30.6	+0.5
PVY	Plav	1.81	10	⇓*i* Pn	Pb	21 37 10.9	-0.3
PVY				*e*Sn	Sb	21 37 34.5	+0.4
PVY	Plav	1.81	10	⇓*i* Pn	Pb	21 37 10.9	-0.3
PVY				*e*Sn	Sb	21 37 34.5	+0.4
HCY	Herceg Novi	1.81	335	⇓*i* Pn	Pn	21 37 09.8	+0.5
HCY				*e*Sn	Sg	21 37 35.2	-0.7
HCY	Herceg Novi	1.81	335	⇓*i* Pn	Pn	21 37 09.8	+0.5
HCY				*e*Sn	Sg	21 37 35.2	-0.7
SKO	Skopje	1.84	50	*e*Pn	Pb	21 37 11.3	-0.4
SKO				*e*Sn	Sb	21 37 35.9	+1.0
SKO	Skopje	1.84	50	*i* Pg	Pb	21 37 11.2	-0.4
SKO				*i* Sg	Sb	21 37 35.4	+0.5
SKO	Skopje	1.84	50	*e*Pn	Pb	21 37 11.3	-0.4
SKO				*i* Sg	Sb	21 37 35.4	+0.5
NKME	Niksic	2.00	348	⇑*i* Pn	Pn	21 37 12.8	+0.9
NKME				*e*Sn	Sb	21 37 39.7	+0.1
NKME	Niksic	2.00	348	⇑*i* Pn	Pn	21 37 12.8	+0.9
NKME				*e*Sn	Sb	21 37 39.7	+0.1
NKY	Niksic	2.04	349	⇓*i* Pn	Pn	21 37 13.4	+0.9
NKY				*e*Sn	Sb	21 37 40.5	-0.3
NKY	Niksic	2.04	349	⇓*i* Pn	Pn	21 37 13.4	+0.9
NKY				*e*Sn	Sb	21 37 40.5	-0.3
DSL	Palaion Diasel	2.06	144	*e*P	Pn	21 37 13.3	+0.6
DSL	Palaion Diasel	2.06	144	*e*Pn	Pn	21 37 13.3	+0.6
BEY	Berane	2.08	7	⇑*i* Pn	Pb	21 37 15.0	-0.7
BEY				*e*Sn	Sb	21 37 41.2	-0.6
IVA	Berane	2.08	7	⇑*i* Pn	Pb	21 37 15.0	-0.7
IVA				*e*Sn	Sb	21 37 41.2	-0.6
TREB	Trebinje	2.10	335	*e*Pn	Pb	21 37 15.1	-1.0
TREB				*e*Sn	Sg	21 37 44.7	-0.4
TREB	Trebinje	2.10	335	*e*Pn	Pb	21 37 15.1	-1.0
TREB				*e*Sn	Sg	21 37 44.7	-0.4
GRG	Griva	2.18	85	*e*P	Pn	21 37 14.4	+0.1
GRG	Griva	2.18	85	*e*Pn	Pn	21 37 14.4	+0.1
LKD2	Lefkada island	2.20	156	P	Pn	21 37 14.7	+0.2
LKD2	Lefkada island	2.20	156	*e*P	Pn	21 37 14.3	-0.2
LKD2	Lefkada island	2.20	156	*e*Pn	Pn	21 37 14.3	-0.2
LKD2	Lefkada island	2.20	156	P	Pn	21 37 14.7	+0.2
BRY	Bratogost	2.22	341	⇓*i* Pn	Pn	21 37 15.8	+0.8
BRY				*e*Sn	Sb	21 37 44.9	-1.0
BRY	Bratogost	2.22	341	⇓*i* Pn	Pn	21 37 15.8	+0.8
BRY				*e*Sn	Sb	21 37 44.9	-1.0
THL	Klokotos Trika	2.27	122	P	Pn	21 37 16.8	+1.3
THL	Klokotos Trika	2.27	122	P	Pn	21 37 16.8	+1.3
VAY	Valandovo	2.35	76	*i* Pn	Pn	21 37 17.5	+0.8
VAY				*e*Lg	Lg	21 37 49.0	
	comp=E,22nm,1.4s						
VAY				*e*Lg	Lg	21 37 56.8	
	comp=N,18nm,0.7s						
VAY	Valandovo	2.35	76	*i* Pn	Pn	21 37 17.4	+0.8
VAY				*e*Lg	Lg	21 37 56.8	
	comp=N,18nm,0.7s						
LIT	Litokhoron	2.36	106	*e*P	Pn	21 37 17.9	+1.1
LIT	Litokhoron	2.36	106	*e*Pn	Pn	21 37 17.9	+1.1
UPM	Unac-Piva	2.44	349	⇑*i* Pn	Pn	21 37 18.8	+0.8
UPM				*e*Sn	Sn	21 37 49.7	+1.5
UPM	Unac-Piva	2.44	349	⇑*i* Pn	Pn	21 37 18.8	+0.8
UPM				*e*Sn	Sn	21 37 49.7	+1.5
STON	Ston	2.48	327	*e*Pn	Pn	21 37 18.0	-0.3
STON				Sn	Sn	21 37 47.6	-1.2
STON	Ston	2.48	327	*e*Pn	Pb	21 37 21.7	-0.7
STON				*e*Sn	Sb	21 37 53.8	+0.7
STON	Ston	2.48	327	*e*Pn	Pn	21 37 18.0	-0.3
STON				Sn	Sn	21 37 47.6	-1.2
PDO	Prodromos	2.55	150	*e*P	Pn	21 37 19.4	0.0
PDO	Prodromos	2.55	150	*e*Pn	Pn	21 37 19.4	0.0
KNT	Kendrikon	2.57	81	P	Pn	21 37 20.5	+0.8
KNT	Kendrikon	2.57	81	*e*P	Pn	21 37 20.0	+0.3
KNT	Kendrikon	2.57	81	*e*Pn	Pn	21 37 20.0	+0.3
KNT	Kendrikon	2.57	81	P	Pn	21 37 20.5	+0.8
EVR	Evrytania	2.58	137	P	Pb	21 37 21.9	-2.3
EVR				S	Sb	21 37 53.8	-2.3
EVR	Evrytania	2.58	137	*e*P	Pn	21 37 21.2	+1.4
EVR	Evrytania	2.58	137	*e*Pn	Pn	21 37 21.2	+1.4
EVR	Evrytania	2.58	137	P	Pb	21 37 21.9	-2.3
EVR				S	Sb	21 37 53.8	-2.3
BARS	Barje	2.63	40	*e*Pn	Pb	21 37 23.2	-1.9
BARS				*e*Sn	Sb	21 37 56.8	-0.8
BARS	Barje	2.63	40	*e*Pn	Pb	21 37 23.2	-1.9
BARS				*e*Sn	Sb	21 37 56.8	-0.8
SELS	Selova	2.68	26	*e*Pn	Pb	21 37 23.7	-2.2
MAKR	Makrakomi, Fth	2.68	131	*e*P	Pn	21 37 22.7	+1.4
MAKR	Makrakomi, Fth	2.68	131	*e*Pn	Pn	21 37 22.7	+1.4
VLS	Valsamata	2.75	162	*e*P	Pn	21 37 21.5	-0.7
VLS	Valsamata	2.75	162	*e*Pn	Pn	21 37 21.5	-0.7
AGG	Agios Georgios	2.79	129	P	Pn	21 37 24.1	+1.3
AGG	Agios Georgios	2.79	129	*e*P	Pn	21 37 24.6	+1.8
AGG	Agios Georgios	2.79	129	P	Pn	21 37 24.1	+1.3
AGG	Agios Georgios	2.79	129	*e*Pn	Pn	21 37 24.6	+1.8
IVAS	Ivanjica	2.80	9	*e*Pn	Pb	21 37 25.7	-2.3
IVAS				*e*Sn	Sb	21 38 00.8	-1.8
IVAS	Ivanjica	2.80	9	*e*Pn	Pb	21 37 25.7	-2.3
IVAS				*e*Sn	Sb	21 38 00.8	-1.8
SOH	Sokhos	2.90	89	*e*P	Pn	21 37 24.1	-0.1
SOH	Sokhos	2.90	89	*e*Pn	Pn	21 37 24.1	-0.1
EFP	Efpalio	3.00	142	*e*P	Pn	21 37 26.7	+1.1
EFP	Efpalio	3.00	142	*e*Pn	Pn	21 37 26.7	+1.1
PLG	Polygyros	3.01	97	*e*P	Pn	21 37 26.4	+0.7
PLG	Polygyros	3.01	97	*e*Pn	Pn	21 37 26.4	+0.7
KALE	Kalithea	3.14	139	*e*P	Pn	21 37 28.8	+1.2
KALE	Kalithea	3.14	139	*e*Pn	Pn	21 37 28.8	+1.2
XOR	Xorichti	3.15	116	*e*P	Pn	21 37 28.4	+0.7
XOR	Xorichti	3.15	116	*e*Pn	Pn	21 37 28.4	+0.7
GRUS	Gruza	3.20	15	*e*Pn	Pn	21 37 31.1	+2.8
GRUS	Gruza	3.20	15	*e*Pn	Pn	21 37 31.1	+2.8
VTS	Vitosha	3.27	56	*e*Pn	Pn	21 37 31.3	+1.8
VTS	Vitosha	3.27	56	*e*Pn	Pn	21 37 31.3	+1.8
DRO	Drossia	3.31	149	*e*P	Pn	21 37 30.1	+0.2
DRO	Drossia	3.31	149	*e*Pn	Pn	21 37 30.1	+0.2
ZAPS	Zavoj	3.37	42	*e*Pn	Pn	21 37 32.5	+1.8
OUR	Ouranopolis	3.42	97	*e*P	Pn	21 37 31.2	-0.1
OUR	Ouranopolis	3.42	97	*e*Pn	Pn	21 37 31.2	-0.1
KLV	Kalavryta, Ach	3.42	143	*e*P	Pn	21 37 32.5	+1.0
KLV	Kalavryta, Ach	3.42	143	*e*Pn	Pn	21 37 32.5	+1.0
AMT	Artemida-Makis	3.68	152	*e*P	Pn	21 37 35.3	+0.3
AMT	Artemida-Makis	3.68	152	*e*Pn	Pn	21 37 35.3	+0.3
NVLJ	Novalja	5.09	319	*e*Pn	Pn	21 37 54.6	+0.4
NVLJ				Sn	Sn	21 38 50.3	-2.9
NVLJ	Novalja	5.09	319	*e*Pn	Pn	21 37 54.6	+0.4
NVLJ				Sn	Sn	21 38 50.3	-2.9

KRSC 26 21:59:11.4±2.9, 49°.94N×157°.30E, h50^{km}±25^{km}, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	1.06	315	*e*P	Pn	21 59 29.2	-0.7
SKR				*e*S	Sn	21 59 42.0	-1.6
PAU	Pauzhetka	1.56	349	*e*P	Pn	21 59 38.7	+2.1
PAU				*e*S	Sn	21 59 58.1	+2.4
MIPR	Malaya Ipel'ka	2.36	352	*e*P	Pn	21 59 50.0	+2.3
MIPR				*e*S	Sn	22 00 17.9	+2.5
ASAK	Asacha	2.47	9	*e*P	Pn	21 59 52.9	+3.6
ASAK				*e*S	Sn	22 00 23.2	+4.9
MTVR	Mutnovka	2.60	12	*e*P	Pn	21 59 54.9	+3.7
MTVR				*e*S	Sn	22 00 26.3	+4.6
RUS	Russkaya	2.61	17	*e*P	Pn	21 59 54.4	+3.4
RUS				*e*S	Sn	22 00 25.1	+3.7
APC	Apacha	2.99	358	*e*P	Pn	21 59 58.9	+2.7
UGLR	Uglovaya	3.41	16	*e*P	Pn	22 00 07.0	+4.9
AVH	Avacha	3.44	15	*e*P	Pn	22 00 07.6	+5.0
SMAR	Somma	3.45	15	*e*P	Pn	22 00 07.4	+4.5
KOK	Koryaka	3.46	13	*e*P	Pn	22 00 07.7	+4.9
NLC	Nalytchevo	3.48	21	*e*P	Pn	22 00 05.6	+2.7
NLC				*e*S	Sn	22 00 45.5	+2.8
SDLR	Sedlovina	3.48	16	*e*P	Pn	22 00 07.3	+4.1
KRX	Arik	3.52	13	*e*P	Pn	22 00 08.2	+4.4
SPN	Mys Shipunski	3.59	27	*e*P	Pn	22 00 08.8	+4.4
SPN				*e*S	Sn	22 00 50.6	+5.1
GNL	Ganaly	3.78	6	*e*P	Pn	22 00 10.9	+3.7
MKZ	Mys Kozlova	5.36	29	*e*P	Pn	22 00 32.0	+3.3
TUMR	Tumrok	5.62	17	*e*P	Pn	22 00 37.8	+5.3
KBTR	Krutoberegovo	7.10	26	*e*P	Pn	22 00 55.6	+3.0
BKI	Bering	7.46	42	*e*S	Sn	22 02 19.8	-0.8

IDC 26 22:17:14.0±6.5, 30°.62S×178°.31W, h0^{km}, mb3.7/2, mb1 4.0/2, mb1mx3.7/18, mbtmp3.7/2, Error ellipse: s-maj=262.9km s-min=56.4km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	42.83	267	P	P	22 25 13.7	-0.3
	0.5nm,0.6s,baz=104,slow=7.0,SNR=5.1						
WRA	Warramunga Arr	43.84	273	P	P	22 25 22.1	0.0
	0.7nm,0.4s,baz=113,slow=7.9,SNR=17						
FINES	FINESS Array B	145.25	340	PKPbc	PKPbc	22 36 51.7	-0.9
	2.8nm,0.9s,baz=72,slow=4.5,SNR=7.7						

*IDC **26** 22:30:49.2±0.6, 50°.56N×175°.55E, h0^{km}, mb4.1/22, mb1 4.2/24, mb1mx4.1/51, mbtmp4.1/24, ML3.7/2, MS3.0/6, Ms1 3.0/6, ms1mx2.8/30, Error ellipse: s-maj=18.9km s-min=14.0km az=171.0*

*ISCJB **26** 22:30:53.5±0.3, 50°.86N±0°.06×175°.45E±0°.05, h33^{km}, mb4.4/72, MS3.1/5, Error ellipse: s-maj=8.7km s-min=4.6km az=0.9*

*NEIC **26** 22:30:56.6±0.4, 50°.99N×175°.60E, h35^{km}, mb4.5/50, Error ellipse: s-maj=10.5km s-min=5.0km az=183.0*

ISC 26 22:30:55.3±0.6, 50°.84N±0°.09×175°.38E±0°.05, h35^{km}, n126, σ1§44/117, mb4.4/72, MS3.2/5, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMY	Shemya	2.05	338	*e*Pn	Pn	22 31 25.1	-2.1
SMY				*e*Sn	Sn	22 31 48.2	-3.4
AMKA	Amchitka	2.53	76	*e*Pn	Pn	22 31 29.2	-4.6
AMKA				*e*Sn	Sn	22 31 55.5	-7.9
GSCK	Great Sitkin C	5.42	74	*e*Pn	Pn	22 32 10.6	-2.9
ATKA	Atka Island	6.65	74	*e*Pn	Pn	22 32 27.2	-3.1
NIKH	Nikolski High	9.98	72	*e*Pn	Pn	22 33 11.4	-4.6
PEA2	Petropavlovsk-	11.14	289	*e*Pn	Pn	22 33 32.2	+0.4
PEA2				*e*Sn	Sn	22 35 30.6	-4.4
PEA0	Petropavlovsk-	11.14	289	*e*Pn	Pn	22 33 32.7	+0.8
PETK	Petropavlovsk-	11.14	289	Pn	Pn	22 33 32.2	+0.3
	1.6nm,0.3s,baz=96,slow=20,SNR=19						
PETK				Sn	Sn	22 35 30.6	-4.5
	0.3nm,0.3s,baz=90,slow=26,SNR=3.9						
PETK				LR	LR	22 38 50.1	
	comp=Z,22nm,18.8s,baz=114,slow=42						
SEY	Seymchan	17.32	323	P	P	22 34 55.6	+0.5
	0.3nm,0.3s,baz=180,slow=20,SNR=2.2						
KDAK	Kodiak Island	19.80	57	*e*P	P	22 35 16.9	-5.4
	12nm,0.9s						
RSO	Redoubt South	20.20	49	*e*P	P	22 35 26.2	-0.7
BRLK	Bradley Lake	20.96	52	*e*P	P	22 35 32.8	-2.2
	13nm,0.6s						
PPLA	Purkeypile	21.17	43	*e*P	P	22 35 38.0	+0.7
	17nm,0.9s						
CAST	Castle Rocks	21.40	42	*e*P	P	22 35 39.2	-0.4
	14nm,0.8s						
RC01	Rabbit Creek A	21.78	48	*e*P	P	22 35 45.9	+2.1
	8.7nm,1.2s						
IM04	Indian Mountai	21.81	34	*e*P	P	22 35 42.7	-1.4
BPAW	Bear Paw Mtn.	22.09	40	*e*P	P	22 35 46.6	-0.5
	2.1nm,1.1s						
TRF	Thorofare Moun	22.17	42	*e*P	P	22 35 46.8	-1.2
	7.7nm,0.6s						
MLY	Manley	22.54	38	*e*P	P	22 35 45.3	-6.6
	6.1nm,0.8s						
BWN	Browne	22.75	41	*e*P	P	22 35 56.8	+2.8
	36nm,1.2s						
RND	Reindeer	22.77	43	*e*P	P	22 35 52.9	-1.4
	9.9nm,0.6s						
MCK	McKinley	22.83	42	*e*P	P	22 35 53.9	-1.0
	13nm,0.4s						
SCM	Sheep Creek Mo	23.07	47	*e*P	P	22 35 56.2	-1.2
	12nm,0.7s						
WRH	Wood River Hil	23.41	40	*e*P	P	22 35 58.5	-2.2
	8.5nm,1.0s						
MDM	Murphy Dome	23.51	39	*e*P	P	22 36 00.2	-1.5
	14nm,1.0s						
CCB	Clear Creek Bu	23.58	40	*e*P	P	22 36 00.8	-1.5
	7.4nm,1.0s						
DIV	Divide	23.69	49	*e*P	P	22 36 02.1	-1.4
	8.0nm,0.9s						
HDA	Harding Lake	23.86	41	*e*P	P	22 36 04.8	-0.1
	89nm,1.1s						
IL1	Eielson Array	24.00	40	*e*P	P	22 36 04.9	-1.4
ILAR	Eielson Array	24.00	40	P	P	22 36 03.0	-3.3
	3.3nm,0.8s,baz=254,slow=8.6,SNR=22						
ILB	Eielson Array	24.00	40	*e*P	P	22 36 03.0	-3.3
RAGM	Ragged Mountai	24.13	51	*e*P	P	22 36 07.4	-0.2
	22nm,1.2s						
PAX	Paxson	24.15	45	*e*P	P	22 36 04.0	-3.8
	16nm,0.6s						
DDM	Donnelly Dome	24.16	43	*e*P	P	22 36 06.2	-1.6
	13nm,0.9s						
BMRM	Bremner River	24.23	50	*e*P	P	22 36 07.0	-1.4
	25nm,1.6s						
DOT	Dot Lake	24.91	44	*e*P	P	22 36 11.2	-3.4
	14nm,1.3s						
SCRK	Sand Creek	25.01	43	*e*P	P	22 36 14.5	-1.1
	10nm,1.1s						
HYT	Haines Junctio	27.68	51	*e*P	P	22 36 40.0	+0.2
MJAR	Matsushiro Arr	30.08	256	LR	LR	22 47 18.0	
	comp=Z,20nm,21.4s,baz=200,slow=33						
H11N2	WAKE ISLAND Hy	31.76	195	T	T	23 10 31.3	
	baz=10,slow=76,SNR=6.6						
H11N3	WAKE ISLAND Hy	31.77	195	T	T	23 10 31.9	
	baz=10,slow=76,SNR=5.3						
H11N1	WAKE ISLAND Hy	31.78	195	T	T	23 10 32.1	
	baz=10,slow=76,SNR=5.8						
H11S1	WAKE ISLAND Hy	32.99	195	T	T	23 12 04.1	
	baz=10,slow=76,SNR=4.2						
H11S3	WAKE ISLAND Hy	33.00	195	T	T	23 12 05.0	
	baz=10,slow=76,SNR=4.6						
H11S2	WAKE ISLAND Hy	33.01	195	T	T	23 12 05.3	
	baz=10,slow=76,SNR=4.2						
KSRS	Korea Array	35.96	267	LR	LR	22 54 14.1	
	comp=Z,22nm,18.0s,baz=45,slow=39						
YKA	Yellowknife Ar	38.23	45	P	P	22 38 11.2	-0.2
	2.3nm,0.6s,baz=283,slow=8.5,SNR=21						
YKB5	Yellowknife Ar	38.23	45	*e*P	P	22 38 10.6	-0.8
LTY	Liberty	40.90	69	*e*P	P	22 38 33.7	-0.2
	15nm,1.6s						
B08A	Colville Reser	41.15	67	*e*P	P	22 38 35.8	-0.1
	8.7nm,0.9s						
RES	Resolute Bay	41.73	24	*e*P	P	22 38 40.9	+0.6
	29nm,1.5s						
HAWA	Hanford	42.01	70	*e*P	P	22 38 43.3	+0.3
	24nm,1.3s						
D08A	Wollman Farm,	42.04	69	*e*P	P	22 38 42.7	-0.4
	9.2nm,1.0s						
C09A	Chrisman Ranch	42.05	67	*e*P	P	22 38 42.8	-0.4
	15nm,1.0s						
EDM	Edmonton	42.24	58	*e*P	P	22 38 44.5	-0.3
NEW	Newport	42.48	66	*e*P	P	22 38 46.3	-0.4
	9.3nm,0.8s						
E09A	Wood Farm, Sta	42.77	69	*e*P	P	22 38 48.9	-0.2
	17nm,1.2s						
I07A	Izee	43.25	73	*e*P	P	22 38 54.0	+0.8
	4.9nm,1.0s						
SONA1	Songino Array	43.55	294	*e*P	P	22 38 57.4	+1.9
SONA0	Songino Array	43.56	294	*e*P	P	22 38 56.4	+0.8
SONM	Songino Array	43.56	294	P	P	22 38 56.4	+0.8
	0.8nm,0.6s,baz=56,slow=8.0,SNR=7.1						
F10A

ABKAR	**Akbulak array**	**66.06**	**320**	*e*P		**P**	**22 41 40.1**	**+2.0**
CM31	**Chiang Mai Arr**	**67.39**	**272**	*e*P		**P**	**22 41 47.3**	**+0.2**
CMAR	**Chiang Mai Arr**	**67.39**	**272**	P		**P**	**22 41 47.3**	**+0.2**
	1.1nm,0.3s,baz=26,slow=7.4,SNR=7.6							
NB200	**NORSAR Array S**	**67.75**	**352**	*e*P		**P**	**22 41 49.9**	**+1.1**
NOA	**NORSAR Array B**	**67.75**	**352**	P		**P**	**22 41 49.9**	**+1.1**
	0.4nm,0.6s,baz=8.7,slow=6.2,SNR=3.1							
HFS	**Hagfors**	**68.40**	**350**	P		**P**	**22 41 53.7**	**+0.9**
	1.2nm,0.7s,baz=57,slow=5.3,SNR=3.0							
EKA	**Eskdalemuir Ar**	**74.19**	**359**	P		**P**	**22 42 28.7**	**+0.9**
	1.4nm,0.8s,baz=345,slow=5.1,SNR=3.4							
WRA	**Warramunga Arr**	**79.18**	**219**	P		**P**	**22 42 54.8**	**-1.6**
	1.3nm,0.7s,baz=34,slow=6.3,SNR=10							
GEC2	**GERESS Array S**	**79.46**	**348**	*e*P		**P**	**22 42 58.9**	**+1.1**
GERES	**GERESS Array B**	**79.46**	**348**	P		**P**	**22 42 58.9**	**+1.1**
	0.2nm,0.4s,baz=9.8,slow=6.4,SNR=3.8							
AS01	**Alice Springs**	**82.69**	**218**	*e*P		**P**	**22 43 14.2**	**-0.8**
AS12	**Alice Springs**	**82.71**	**218**	*e*P		**P**	**22 43 14.0**	**-1.1**
ASAR	**Alice Springs**	**82.71**	**218**	P		**P**	**22 43 14.0**	**-1.1**
	1.3nm,0.8s,baz=16,slow=4.7,SNR=10							
BR101	**Keskin Array S**	**83.78**	**331**	*e*P		**P**	**22 43 21.9**	**+1.0**
BRTR	**Keskin Array B**	**83.78**	**331**	P		**P**	**22 43 21.9**	**+1.0**
	0.7nm,0.8s,baz=41,slow=3.9,SNR=4.5							
BR231	**Keskin MP Arra**	**83.94**	**332**	*e*P		**P**	**22 43 22.9**	**+1.3**
STKA	**Stephens Creek**	**87.59**	**208**	P		**P**	**22 43 38.1**	**-1.3**
	1.9nm,1.0s,baz=19,slow=3.1,SNR=3.1							
BOSA	**Boshof**	**148.41**	**303**	PKPbc		**PKPbc**	**22 50 37.4**	**-0.5**
	1.9nm,0.8s,baz=259,slow=1.1,SNR=3.5							

LDG **26** *22:44:51.8±0.1, 42.˙45N×13.˙26E, h10km, Ml2.6/6, Error ellipse: s-maj=4.5km s-min=3.2km az=63.0*
ISCJB **26** *22:44:52.6±0.2, 42.˙48N±0.˙01×13.˙25E±0.˙02, h15km±2km, Error ellipse: s-maj=2.4km s-min=1.8km az=157.1*
ROM **26** *22:44:52.3±0.1, 42.˙47N×13.˙24E, h10km, Ml2.9/58, Error ellipse: s-maj=0.7km s-min=0.5km az=77.0*
CSEM **26** *22:44:52.0±0.1, 42.˙46N×13.˙22E, h10km, ML3.7/26, Error ellipse: s-maj=2.1km s-min=1.6km az=61.0*
PRU **26** *22:44:53.3, 42.˙49N×13.˙49E, h2km*

ISC 26 22:44:52.1±0.7,**42.˙47N**±0.˙01×**13.˙22E**±0.˙01,**h17**km±4km, **n177,**σ1**912**/252**, 2D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T0107	**San Pelino (Ca**	**0.02**	**94**	Pg	**Pg**	**22 44 54.8**	**-0.5**
T0107				Sg	**Sg**	**22 44 56.0**	**-1.4**
T0104	**Madonna delle**	**0.14**	**142**	Pg	**Pg**	**22 44 55.9**	**-0.3**
T0104				Sg	**Sg**	**22 44 58.6**	**-0.4**
CAMP	**Campotosto**	**0.15**	**66**	Pg	**Pg**	**22 44 55.9**	**-0.5**
CAMP				Sg	**Sg**	**22 44 58.5**	**-0.8**
	8µm,0.5s						
CAMP	**Campotosto**	**0.15**	**66**	Pg	**Pg**	**22 44 55.9**	**-0.5**
CAMP				Sg	**Sg**	**22 44 58.5**	**-0.8**
	8µm,0.5s						
SMA1	**SAN MARTINO**	**0.18**	**29**	Pg	**Pg**	**22 44 56.6**	**-0.2**
SMA1				Sg	**Sg**	**22 44 59.9**	**0.0**
	39µm,0.3s						
SMA1	**SAN MARTINO**	**0.18**	**29**	Pg	**Pg**	**22 44 56.6**	**-0.2**
SMA1				Sg	**Sg**	**22 44 59.9**	**0.0**
	39µm,0.3s						
AQU	**L'Aquila**	**0.18**	**132**	Pg	**Pg**	**22 44 56.3**	**-0.4**
AQU				Sg	**Sg**	**22 44 59.8**	**0.0**
	7µm,0.3s						
AQU	**L'Aquila**	**0.18**	**132**	Pg	**Pg**	**22 44 56.3**	**-0.4**
AQU				Sg	**Sg**	**22 44 59.8**	**0.0**
	7µm,0.3s						
LNSS	**Leonessa**	**0.18**	**314**	Pg	**Pg**	**22 44 57.1**	**+0.2**
LNSS				Sg	**Sb**	**22 45 00.8**	**+0.2**
	5µm,0.3s						
LNSS	**Leonessa**	**0.18**	**314**	Pg	**Pg**	**22 44 57.1**	**+0.2**
LNSS				Sg	**Sb**	**22 45 00.8**	**+0.2**
	5µm,0.3s						
T0106	**Roio Piano**	**0.21**	**144**	Pg	**Pg**	**22 44 56.9**	**-0.3**
T0106				Sg	**Sg**	**22 45 00.6**	**0.0**
	4µm,0.2s						
FIAM	**Fiamignano**	**0.22**	**200**	Pg	**Pg**	**22 44 57.4**	**+0.1**
FIAM				Sg	**Sg**	**22 45 01.3**	**+0.4**
	3µm,0.4s						
FIAM	**Fiamignano**	**0.22**	**200**	Pg	**Pg**	**22 44 57.4**	**+0.1**
FIAM				Sg	**Sg**	**22 45 01.3**	**+0.4**
	3µm,0.4s						
TERO	**Teramo**	**0.32**	**62**	Pg	**Pg**	**22 44 58.2**	**-0.8**
TERO				Sg	**Sb**	**22 45 04.4**	**0.0**
	3µm,0.6s						
TERO	**Teramo**	**0.32**	**62**	Pg	**Pg**	**22 44 58.2**	**-0.8**
TERO				Sg	**Sb**	**22 45 04.4**	**0.0**
	3µm,0.6s						
FAGN	**Fagnano**	**0.34**	**128**	Pg	**Pg**	**22 44 58.9**	**-0.4**
FAGN				Sg	**Sb**	**22 45 05.8**	**+0.8**
	4µm,0.4s						
FAGN	**Fagnano**	**0.34**	**128**	Pg	**Pg**	**22 44 58.9**	**-0.4**
NRCA	**Norcia**	**0.37**	**348**	Pg	**Pg**	**22 44 59.8**	**0.0**
NRCA				Sg	**Sb**	**22 45 05.7**	**-0.1**
	3µm,0.1s						
NRCA	**Norcia**	**0.37**	**348**	Pg	**Pg**	**22 44 59.8**	**0.0**
NRCA				Sg	**Sb**	**22 45 05.7**	**-0.1**
	3µm,0.1s						
MNS	**Montasola**	**0.41**	**258**	Pg	**Pg**	**22 45 00.7**	**+0.2**
MNS				Sg	**Sb**	**22 45 07.4**	**+0.5**
	927nm,0.3s						
MNS	**Montasola**	**0.41**	**258**	Pg	**Pg**	**22 45 00.7**	**+0.2**
MNS				Sg	**Sb**	**22 45 07.4**	**+0.5**
	927nm,0.3s						
PTQR	**Pietraquaria**	**0.47**	**163**	Pg	**Pg**	**22 45 01.1**	**-0.6**
PTQR				Sg	**Sb**	**22 45 09.0**	**+0.3**
PTQR	**Pietraquaria**	**0.47**	**163**	Pg	**Pg**	**22 45 01.1**	**-0.6**
PTQR				Sg	**Sb**	**22 45 09.0**	**+0.3**
T0110	**Collepietro**	**0.48**	**121**	Pg	**Pg**	**22 45 01.4**	**-0.5**
T0110				Sg	**Sb**	**22 45 08.9**	**-0.2**
CESX	**Cesi**	**0.49**	**286**	Pg	**Pg**	**22 45 02.0**	**0.0**
CESX				Sg	**Sb**	**22 45 09.7**	**+0.4**
	921nm,0.2s						
CESX	**Cesi**	**0.49**	**286**	Pg	**Pg**	**22 45 02.0**	**0.0**
CESX				Sg	**Sb**	**22 45 09.7**	**+0.4**
	921nm,0.2s						
CERT	**Cerreto**	**0.55**	**199**	Pg	**Pg**	**22 45 02.8**	**-0.4**
CERT				Sg	**Sb**	**22 45 11.5**	**+0.4**
	542nm,0.3s						
CERT	**Cerreto**	**0.55**	**199**	Pg	**Pg**	**22 45 02.8**	**-0.4**
CERT				Sg	**Sb**	**22 45 11.5**	**+0.4**
	542nm,0.3s						
FDMO	**Fiordimonte**	**0.57**	**350**	Pg	**Pg**	**22 45 03.3**	**-0.2**
FDMO				Sg	**Sb**	**22 45 12.3**	**+0.7**
	630nm,0.3s						
FDMO	**Fiordimonte**	**0.57**	**350**	Pg	**Pg**	**22 45 03.3**	**-0.2**
FDMO				Sg	**Sb**	**22 45 12.3**	**+0.7**
	630nm,0.3s						
MTCE	**Montecelio**	**0.57**	**218**	Pg	**Pg**	**22 45 03.2**	**-0.3**
MTCE				Sg	**Sb**	**22 45 12.4**	**+0.8**
	574nm,0.4s						
MTCE	**Montecelio**	**0.57**	**218**	Pg	**Pg**	**22 45 03.2**	**-0.3**
MTCE				Sg	**Sb**	**22 45 12.4**	**+0.8**
	574nm,0.4s						
OFFI	**Offida**	**0.57**	**37**	Pg	**Pg**	**22 45 03.6**	**0.0**
OFFI				Sg	**Sb**	**22 45 12.3**	**+0.6**
	2µm,0.5s						
OFFI	**Offida**	**0.57**	**37**	Pg	**Pg**	**22 45 03.6**	**0.0**
OFFI				Sg	**Sb**	**22 45 12.3**	**+0.6**
	2µm,0.5s						
CESI	**CESI - Serrava**	**0.58**	**336**	Pg	**Pg**	**22 45 03.6**	**-0.1**
CESI				Sg	**Sb**	**22 45 12.8**	**+0.9**
	142nm,0.3s						
CESI	**CESI - Serrava**	**0.58**	**336**	Pg	**Pg**	**22 45 03.6**	**-0.1**
CESI				Sg	**Sb**	**22 45 12.8**	**+0.9**
	142nm,0.3s						
TRTR	**Tortoreto Alta**	**0.61**	**57**	Pg	**Pg**	**22 45 04.3**	**+0.1**
TRTR				Sg	**Sb**	**22 45 13.0**	**+0.3**
	1µm,0.5s						
TRTR	**Tortoreto Alta**	**0.61**	**57**	Pg	**Pg**	**22 45 04.3**	**+0.1**
TRTR				Sg	**Sb**	**22 45 13.0**	**+0.3**
	1µm,0.5s						
VVLD	**Villa Vallelon**	**0.67**	**153**	Pg	**Pb**	**22 45 05.8**	**+0.3**
VVLD				Sg	**Sb**	**22 45 14.9**	**+0.4**
	439nm,0.6s						
VVLD	**Villa Vallelon**	**0.67**	**153**	Pg	**Pb**	**22 45 05.8**	**+0.3**
VVLD				Sg	**Sb**	**22 45 14.9**	**+0.4**
	439nm,0.6s						
INTR	**Introdacqua**	**0.69**	**132**	Pg	**Pg**	**22 45 04.7**	**-1.0**
INTR				Sg	**Sb**	**22 45 15.8**	**+0.8**
	1µm,0.8s						
INTR	**Introdacqua**	**0.69**	**132**	Pg	**Pg**	**22 45 04.7**	**-1.0**
INTR				Sg	**Sb**	**22 45 15.8**	**+0.8**
	1µm,0.8s						
RMP	**Rome, Mte Porz**	**0.77**	**210**	Pg	**Pg**	**22 45 06.5**	**-0.6**
	617nm,0.6s						
RMP	**Rome, Mte Porz**	**0.77**	**210**	Pg	**Pg**	**22 45 06.5**	**-0.6**
	617nm,0.6s						
GUMA	**Gualdo di Mace**	**0.79**	**42**	Pg	Pg	22 45 03.9	-3.7
GUMA				Sg	**Sg**	**22 45 13.2**	**-4.8**
	3µm,0.5s						
RDP	**Rocca di Papa**	**0.81**	**208**	Pg	**Pg**	**22 45 07.8**	**-0.1**
	867nm,0.4s						
RDP	**Rocca di Papa**	**0.81**	**208**	Pg	**Pg**	**22 45 07.8**	**-0.1**
	867nm,0.4s						
SNTG	**Esanatoglia**	**0.81**	**345**	Pg	**Pg**	**22 45 07.3**	**-0.6**
SNTG				Sg	**Sn**	**22 45 20.0**	**-0.4**
	261nm,0.6s						
SNTG	**Esanatoglia**	**0.81**	**345**	Pg	**Pg**	**22 45 07.3**	**-0.6**
SNTG				Sg	**Sn**	**22 45 20.0**	**-0.4**
	261nm,0.6s						
MA9	**Marino**	**0.82**	**211**	Pg	**Pb**	**22 45 08.4**	**+0.5**
MA9				Sg	**Sb**	**22 45 19.7**	**+1.1**
	621nm,0.5s						
MA9	**Marino**	**0.82**	**211**	Pg	**Pb**	**22 45 08.4**	**+0.5**
MA9				Sg	**Sb**	**22 45 19.7**	**+1.1**
	621nm,0.5s						
ROM9	**Roma**	**0.83**	**219**	Pg	Pg	**22 45 08.3**	**0.0**
	731nm,0.6s						
ROM9	**Roma**	**0.83**	**219**	Pg	Pg	**22 45 08.3**	**0.0**
	731nm,0.6s						
LPEL	**Lama dei Pelig**	**0.83**	**121**	Pg	**Pg**	**22 45 06.7**	**-1.7**
LPEL				Sg	**Sg**	**22 45 18.9**	**-0.5**
	469nm,0.3s						
LPEL	**Lama dei Pelig**	**0.83**	**121**	Pg	**Pg**	**22 45 06.7**	**-1.7**
LPEL				Sg	**Sg**	**22 45 18.9**	**-0.5**
	469nm,0.3s						
SAMA	**S.Maria delle**	**0.84**	**214**	Pg	**Pg**	**22 45 07.7**	**-0.7**
	325nm,0.5s						
SAMA	**S.Maria delle**	**0.84**	**214**	Pg	**Pg**	**22 45 07.7**	**-0.7**
	325nm,0.5s						
POFI	**Posta Fibreno**	**0.84**	**154**	Pg	Pg	**22 45 08.3**	**-0.2**
	282nm,0.6s						
POFI	**Posta Fibreno**	**0.84**	**154**	Pg	Pg	**22 45 08.3**	**-0.2**
	282nm,0.6s						
CAFR	**Castel Frentan**	**0.87**	**106**	Pg	Pg	**22 45 08.0**	**-1.1**
	581nm,0.5s						
CAFR	**Castel Frentan**	**0.87**	**106**	Pg	Pg	**22 45 08.0**	**-1.1**
	581nm,0.5s						
SDI	**San Donato**	**0.88**	**150**	Pg	**Pg**	**22 45 08.4**	**-0.9**
SDI				Sg	**Sb**	**22 45 21.1**	**+0.6**
	99nm,0.3s						
SDI	**San Donato**	**0.88**	**150**	Pg	**Pg**	**22 45 08.4**	**-0.9**
SDI				Sg	**Sb**	**22 45 21.1**	**+0.6**
	99nm,0.3s						
LAV9	**Lanuvio**	**0.89**	**206**	Pg	Pg	**22 45 09.6**	**+0.2**
	665nm,0.4s						
LAV9	**Lanuvio**	**0.89**	**206**	Pg	Pg	**22 45 09.6**	**+0.2**
	665nm,0.4s						
CING	**Cingoli**	**0.90**	**359**	Pg	**Pb**	**22 45 09.0**	**-0.4**
CING				Sg	**Sb**	**22 45 22.2**	**+1.1**
	421nm,0.5s						
CING	**Cingoli**	**0.90**	**359**	Pg	**Pb**	**22 45 09.0**	**-0.4**
CING				Sg	**Sb**	**22 45 22.2**	**+1.1**
	421nm,0.5s						
GIUL	**Giuliano Di Ro**	**0.92**	**178**	Pg	**Pb**	**22 45 09.3**	**-0.3**
GIUL				Sg	**Sg**	**22 45 22.6**	**+0.6**
	263nm,0.7s						
GIUL	**Giuliano Di Ro**	**0.92**	**178**	Pg	**Pb**	**22 45 09.3**	**-0.3**
GIUL				Sg	**Sg**	**22 45 22.6**	**+0.6**
	263nm,0.7s						
MGAB	**Montegabbione**	**0.93**	**299**	Pg	**Pb**	**22 45 10.0**	**+0.2**
MGAB				Sg	**Sg**	**22 45 23.1**	**+0.7**
	452nm,0.4s						
MGAB	**Montegabbione**	**0.93**	**299**	Pg	**Pb**	**22 45 10.0**	**+0.2**
MGAB				Sg	**Sg**	**22 45 23.1**	**+0.7**
	452nm,0.4s						
MURB	**Monte Urbino**	**0.94**	**327**	Pg	**Pg**	**22 45 10.5**	**+0.1**
MURB	**Monte Urbino**	**0.94**	**327**	Pg	**Pg**	**22 45 10.5**	**+0.1**
TOLF	**Tolfa**	**0.99**	**246**	Pg	**Pb**	**22 45 10.9**	**0.0**
TOLF				Sg	**Sg**	**22 45 24.8**	**+0.4**
	362nm,0.9s						
TOLF	**Tolfa**	**0.99**	**246**	Pg	**Pb**	**22 45 10.9**	**0.0**
TOLF				Sg	**Sg**	**22 45 24.8**	**+0.4**
	362nm,0.9s						
ATFO	**Monte Foce - G**	**1.01**	**332**	Pg	**Pb**	**22 45 11.6**	**+0.3**
	215nm,0.4s						
ATFO	**Monte Foce - G**	**1.01**	**332**	Pg	**Pb**	**22 45 11.6**	**+0.3**
	215nm,0.4s						
SACS	**San Casciano d**	**1.04**	**292**	Pg	**Pn**	**22 45 12.6**	**+0.6**
	559nm,1.5s						
RNI2	**Rionero Sannit**	**1.04**	**138**	Pg	**Pb**	**22 45 12.0**	**+0.3**
	380nm,0.8s						
RNI2	**Rionero Sannit**	**1.04**	**138**	Pg	**Pb**	**22 45 12.0**	**+0.3**
	380nm,0.8s						
ARVD	**Arcevia**	**1.04**	**349**	Pg	**Pb**	**22 45 11.4**	**-0.4**
ARVD				Sg	**Sg**	**22 45 26.2**	**+0.1**
	468nm,0.9s						
ARVD	**Arcevia**	**1.04**	**349**	Pg	**Pb**	**22 45 11.4**	**-0.4**
ARVD				Sg	**Sg**	**22 45 26.2**	**+0.1**
	468nm,0.9s						
LATE	**Laterza**	**1.06**	**278**	Pg	**Pn**	**22 45 12.6**	**+0.4**
	297nm,0.4s						
LATE	**Laterza**	**1.06**	**278**	Pg	**Pn**	**22 45 12.6**	**+0.4**
	297nm,0.4s						
CERA	**Filignano**	**1.06**	**146**	Pg	Pb	**22 45 11.8**	**-0.2**
	228nm,0.7s						
CERA	**Filignano**	**1.06**	**146**	Pg	Pb	**22 45 11.8**	**-0.2**
	228nm,0.7s						
ATVO	**AVT- Monte Val**	**1.09**	**327**	Pg	**Pb**	**22 45 12.7**	**+0.2**
	215nm,0.7s						
ATVO	**AVT- Monte Val**	**1.09**	**327**	Pg	**Pb**	**22 45 12.7**	**+0.2**
	215nm,0.7s						
AOI	**Ancona**	**1.11**	**14**	Pg	**Pb**	**22 45 12.9**	**0.0**
	205nm,0.3s						
AOI	**Ancona**	**1.11**	**14**	Pg	**Pb**	**22 45 12.9**	**0.0**
	205nm,0.3s						
MIDA	**Miranda**	**1.13**	**137**	Pg	**Pb**	**22 45 12.6**	**-0.7**
	182nm,0.6s						
MIDA	**Miranda**	**1.13**	**137**	Pg	**Pb**	**22 45 12.6**	**-0.7**
	182nm,0.6s						
ATPI	**Pietralunga -**	**1.15**	**329**	Pg	**Pg**	**22 45 14.4**	**+0.1**
	294nm,0.7s						
ATPI	**Pietralunga -**	**1.15**	**329**	Pg	**Pg**	**22 45 14.4**	**+0.1**
	294nm,0.7s						
ATPC	**Poggio Castell**	**1.15**	**331**	Pg	Pn	**22 45 14.1**	**+0.6**
	478nm,0.7s						
ATPC	**Poggio Castell**	**1.15**	**331**	Pg	Pn	**22 45 14.1**	**+0.6**
	478nm,0.7s						
PIEI	**Pieia**	**1.17**	**335**	Pg	Pn	**22 45 13.9**	**0.0**
	169nm,0.4s						
PIEI	**Pieia**	**1.17**	**335**	Pg	Pn	**22 45 13.9**	**0.0**
	169nm,0.4s						
TRIV	**Trivento**	**1.22**	**125**	Pg	**Pb**	**22 45 15.2**	**+0.5**
TRIV	**Trivento**	**1.22**	**125**	Pg	**Pb**	**22 45 15.2**	**+0.5**
SENI	**Senigallia**	**1.23**	**0**	Pg	Pn	**22 45 15.1**	**+0.5**
	169nm,0.7s						
SENI	**Senigallia**	**1.23**	**0**	Pg	Pn	**22 45 15.1**	**+0.5**
	169nm,0.7s						
CAFI	**Castiglion Fio**	**1.26**	**313**	Pg	Pb	**22 45 16.1**	**+0.7**
	135nm,0.7s						
CAFI	**Castiglion Fio**	**1.26**	**313**	Pg	Pb	**22 45 16.1**	**+0.7**
	135nm,0.7s						
BADI	**Badiali**	**1.26**	**326**	Pg	Pg	**22 45 16.6**	**+0.2**
	152nm,0.6s						
BADI	**Badiali**	**1.26**	**326**	Pg	Pg	**22 45 16.6**	**+0.2**
	152nm,0.6s						
FSSB	**Fossombrone**	**1.26**	**345**	Pg	Pb	**22 45 15.7**	**+0.2**
	80nm,0.4s						
FSSB	**Fossombrone**	**1.26**	**345**	Pg	Pb	**22 45 15.7**	**+0.2**
	80nm,0.4s						
VAGA	**Valle Agricola**	**1.30**	**144**	Pg	Pn	**22 45 16.1**	**+0.5**
	80nm,0.5s						
VAGA	**Valle Agricola**	**1.30**	**144**	Pg	Pn	**22 45 16.1**	**+0.5**
	80nm,0.5s						
ARCI	**Arcidosso**	**1.34**	**287**	Pg	Pb	**22 45 17.5**	**+0.6**
	63nm,1.0s						
ARCI	**Arcidosso**	**1.34**	**287**	Pg	Pb	**22 45 17.5**	**+0.6**
	63nm,1.0s						
PARC	**Parchiule**	**1.38**	**329**	Pg	Pg	**22 45 18.5**	**-0.2**
	210nm,0.8s						
PARC	**Parchiule**	**1.38**	**329**	Pg	Pg	**22 45 18.5**	**-0.2**
	210nm,0.8s						
BSSO	**Busso**	**1.38**	**132**	Pg	Pb	**22 45 17.6**	**0.0**
	164nm,1.2s						
BSSO	**Busso**	**1.38**	**132**	Pg	Pb	**22 45 17.6**	**0.0**
	164nm,1.2s						
SGG	**Gregorio Mates**	**1.39**	**141**	Pg	Pb	**22 45 18.0**	**+0.3**
	72nm,0.6s						
SGG	**Gregorio Mates**	**1.39**	**141**	Pg	Pb	**22 45 18.0**	**+0.3**
	72nm,0.6s						
MSC	**Monte Massico**	**1.40**	**156**	Pg	Pb	**22 45 18.2**	**+0.4**
MSC	**Monte Massico**	**1.40**	**156**	Pg	**Pb**	**22 45 18.2**	**+0.4**
MODR	**Mondragone**	**1.42**	**159**	Pg	Pg	**22 45 18.9**	**-0.5**
	67nm,0.9s						
MODR	**Mondragone**	**1.42**	**159**	Pg	**Pg**	**22 45 18.9**	**-0.5**
	67nm,0.9s						
CRE	**Caprese Michel**	**1.48**	**321**	Pg	**Pb**	**22 45 19.3**	**+0.1**
	34nm,0.7s						
CRE	**Caprese Michel**	**1.48**	**321**	Pg	**Pb**	**22 45 19.3**	**+0.1**
	34nm,0.7s						
PTRJ	**Pietraroja**	**1.48**	**138**	Pg	**Pb**	**22 45 19.3**	**+0.1**
	241nm,0.8s						
PTRJ	**Pietraroja**	**1.48**	**138**	Pg	**Pb**	**22 45 19.3**	**+0.1**
	241nm,0.8s						
CIGN	**Sant'Elia a Pi**	**1.50**	**123**	Pg	**Pb**	**22 45 19.6**	**+0.1**
CIGN	**Sant'Elia a Pi**	**1.50**	**123**	Pg	**Pb**	**22 45 19.6**	**+0.1**
GATE	**Gambatesa**	**1.58**	**127**	Pg	**Pb**	**22 45 21.0**	**0.0**
GATE	**Gambatesa**	**1.58**	**127**	Pg	**Pb**	**22 45 21.0**	**0.0**
MELA	**Melanico ??? S**	**1.61**	**118**	Pg	**Pb**	**22 45 21.8**	**+0.3**
	128nm,0.7s						
MELA	**Melanico ??? S**	**1.61**	**118**	Pg	**Pb**	**22 45 21.8**	**+0.3**
	128nm,0.7s						
GRFL	**Gerfalco**	**1.78**	**293**	Pg	**Pb**	**22 45 23.9**	**-0.5**
	1.0nm,0.2s						
GRFL	**Gerfalco**	**1.78**	**293**	Pg	**Pb**	**22 45 23.9**	**-0.5**
	1.0nm,0.2s						
NVLJ	**Novalja**	**2.41**	**29**	*e*Pn	**Pn**	**22 45 32.0**	**+1.2**
NVLJ				Sn	**Sn**	**22 46 01.1**	**+1.3**
NVLJ	**Novalja**	**2.41**	**29**	*e*Pn	**Pn**	**22 45 31.9**	**+1.2**
NVLJ				Sn	**Sn**	**22 46 01.1**	**+1.3**
UDBI	**Udbina**	**2.76**	**41**	*i* Pn	**Pn**	**22 45 38.1**	**+2.3**
UDBI				Sn	**Sn**	**22 46 10.9**	**+2.2**
UDBI	**Udbina**	**2.76**	**41**	*i* Pn	**Pn**	**22 45 38.0**	**+2.3**
UDBI				Sn	**Sn**	**22 46 10.9**	**+2.2**
PGF	**Pioggiola**	**3.12**	**273**	*e*P	**Pn**	**22 45 42.8**	**+2.1**
PGF				*e*Sn	**Sn**	**22 46 14.8**	**-2.8**
	11nm,0.9s						
PGF	**Pioggiola**	**3.12**	**273**	*e*P	**Pn**	**22 45 42.8**	**+2.1**
PGF				*e*Sn	**Sn**	**22 46 14.8**	**-2.8**
	5.6nm,0.9s						
SKDS	**Skadanscina**	**3.12**	**10**	*i* Pn	**Pn**	**22 45 41.7**	**+1.1**
SKDS	**Skadanscina**	**3.12**	**10**	*i* Pn	**Pn**	**22 45 41.7**	**+1.1**
STON	**Ston**	**3.33**	**82**	*e*Pn	**Pn**	**22 45 45.0**	**+1.6**
STON				Sn	**Sn**	**22 46 23.3**	**+0.7**
STON	**Ston**	**3.33**	**82**	*e*Pn	**Pn**	**22 45 44.9**	**+1.6**
STON				Sn	**Sn**	**22 46 23.2**	**+0.7**
JAVS	**Javornik**	**3.47**	**10**	*i* Pn	**Pn**	**22 45 46.8**	**+1.3**
JAVS	**Javornik**	**3.47**	**10**	*i* Pn	**Pn**	**22 45 46.8**	**+1.3**
VOJS	**Vojsko**	**3.59**	**7**	*i* Pn	**Pn**	**22 45 48.6**	**+1.5**
VOJS	**Vojsko**	**3.59**	**7**	*i* Pn	**Pn**	**22 45 48.6**	**+1.5**
CADS	**Cadrg**	**3.77**	**5**	*i* Pn	**Pn**	**22 45 51.1**	**+1.5**
CADS	**Cadrg**	**3.77**	**5**	*i* Pn	**Pn**	**22 45 51.1**	**+1.5**
ROBS	**Robic**	**3.77**	**3**	*i* Pn	**Pn**	**22 45 50.7**	**+1.2**
ROBS	**Robic**	**3.77**	**3**	*i* Pn	**Pn**	**22 45 50.7**	**+1.2**
TREB	**Trebinje**	**3.79**	**85**	*e*Pn	**Pn**	**22 45 51.6**	**+1.8**
ABTA	**Abfaltersbach**	**4.30**	**354**	‖ *i* Pn	**Pn**	**22 45 58.9**	**+2.0**
ABTA	**Abfaltersbach**	**4.30**	**354**	Pn	**Pn**	**22 45 58.9**	**+2.0**
SBF	**Sospel**	**4.45**	**290**	*e*Pn	**Pn**	**22 45 57.6**	**-1.3**
SBF				*e*Sn	**Sn**	**22 46 47.2**	**-3.2**
	2.5nm,0.4s						
SBF	**Sospel**	**4.45**	**290**	*e*Pn	**Pn**	**22 45 57.6**	**-1.3**
SBF				*e*Sn	**Sn**	**22 46 47.2**	**-3.2**
	1.2nm,0.4s						
WTTA	**Wattenberg**	**4.92**	**347**	‖ *i* Pn	**Pn**	**22 46 07.3**	**+1.8**
WTTA	**Wattenberg**	**4.92**	**347**	Pn	**Pn**	**22 46 07.3**	**+1.8**
FRF	**La Foret Royal**	**4.94**	**285**	*e*P	**Pn**	**22 46 08.0**	**+2.4**
FRF				*e*Sn	**Sn**	**22 46 59.0**	**-3.3**
	0.2nm,0.2s						
FRF	**La Foret Royal**	**4.94**	**285**	*e*P	**Pn**	**22 46 08.0**	**+2.4**
FRF				*e*Sn	**Sn**	**22 46 59.0**	**-3.3**
	0.1nm,0.2s						
LMR	**La Mourre**	**5.00**	**282**	*e*Pn	**Pn**	**22 46 06.0**	**-0.4**
LMR	**La Mourre**	**5.00**	**282**	*e*Pn	**Pn**	**22 46 06.0**	**-0.4**
TEKS	**Tekeris**	**5.04**	**64**	*e*Pn	**Pn**	**22 46 05.2**	**-1.3**
MBDF	**Montbardon**	**5.20**	**298**	*e*Pn	**Pn**	**22 46 08.6**

AS12				*e*S		Sn	23 06 57.4	-5.3	
ASAR	**Alice Springs**	**21.50**	**210**	P		**P**	**23 02 55.4**	**-0.6**	
	8.2nm,0.8s,baz=31,slow=14,SNR=39								
ASAR				PcP		**PcP**	**23 06 57.4**	**+0.6**	
	0.7nm,0.8s,baz=15,slow=1.2,SNR=4.4								
ASAR				LR		LR	23 11 37.9		
	comp=Z,89nm,20.6s,baz=34,slow=37								
LUWI	**Luwuk**	**22.84**	**279**	*e*P		**P**	**23 03 09.8**	**-0.6**	
	44nm,0.9s								
DZM	**Mont Dzumac**	**26.55**	**132**	LR		LR	23 13 23.9		
	comp=Z,79nm,19.1s,baz=1.0,slow=34								
STKA	**Stephens Creek**	**26.89**	**187**	P		**P**	**23 03 47.3**	**0.0**	
	1.5nm,0.5s,baz=1.6,slow=7.9,SNR=10								
STKA	**Stephens Creek**	**26.89**	**187**	*e*P		**P**	**23 03 47.3**	**0.0**	
	24nm,2.8s								
CBI	**Chichi jima**	**32.11**	**355**	*e*P		**P**	**23 04 32.1**	**-1.4**	
JCJ	**Chichijima**	**32.12**	**355**	P		**P**	**23 04 32.1**	**-1.5**	
	91nm,1.0s,baz=128,slow=11,SNR=3.0								
MJAR	**Matsushiro Arr**	**41.92**	**351**	P		**P**	**23 05 57.1**	**+0.4**	
	0.7nm,0.2s,baz=166,slow=8.5,SNR=3.1								
MAJO	**Matsushiro**	**41.93**	**351**	*e*P		**P**	**23 05 57.1**	**+0.4**	
	92nm,2.2s								
GSI	**Gunungsitoli**	**48.09**	**276**	*e*P		**P**	**23 06 45.2**	**-0.8**	
	11nm,0.6s								
USRK	**Ussuriysk Ar.**	**50.49**	**348**	P		**P**	**23 07 02.8**	**-0.9**	
	1.1nm,0.6s,baz=178,slow=10,SNR=3.8								
SONA0	**Songino Array**	**62.78**	**332**	*e*P		**P**	**23 08 31.3**	**+0.2**	
SONM	**Songino Array**	**62.78**	**332**	P		**P**	**23 08 31.3**	**+0.2**	
	0.4nm,0.6s,baz=131,slow=6.6,SNR=3.2								
VNDA	**Vanda**	**72.94**	**176**	P		**P**	**23 09 35.0**	**+0.7**	
	0.5nm,0.5s,baz=326,slow=5.8,SNR=6.8								
MK32	**Makanchi Array**	**75.71**	**321**	*e*P		**P**	**23 09 50.9**	**-0.1**	
MKAR	**Makanchi Array**	**75.71**	**321**	P		**P**	**23 09 50.9**	**-0.1**	
	0.4nm,0.4s,baz=101,slow=7.5,SNR=9.1								
ZAA0	**Zalesovo Array**	**77.33**	**328**	*e*P		**P**	**23 10 01.1**	**+1.2**	
ZALV	**Zalesovo Beam**	**77.33**	**328**	P		**P**	**23 09 59.7**	**-0.2**	
	0.7nm,0.5s,baz=122,slow=5.4,SNR=4.3								
ZALV				LR		LR	23 43 56.8		
	comp=Z,12nm,19.9s,baz=70,slow=36								
ZAA1	**Zalesovo Array**	**77.33**	**328**	*e*P		**P**	**23 09 59.7**	**-0.2**	
MAW	**Mawson**	**82.45**	**203**	P		**P**	**23 10 27.6**	**+0.3**	
	0.8nm,0.5s,baz=91,slow=3.6,SNR=5.3								
MAW	**Mawson**	**82.45**	**203**	*e*P		**P**	**23 10 27.6**	**+0.3**	
	25nm,3.0s								
MLY	**Manley**	**83.91**	**23**	*e*P		**P**	**23 10 36.8**	**+1.8**	
	65nm,3.0s								
CCB	**Clear Creek Bu**	**84.89**	**23**	*e*P		**P**	**23 10 40.2**	**+0.4**	
	3.7nm,1.0s								
ILAR	**Eielson Array**	**85.31**	**23**	P		**P**	**23 10 41.5**	**-0.4**	
	1.7nm,0.7s,baz=251,slow=5.1,SNR=14								
ILB	**Eielson Array**	**85.31**	**23**	*e*P		**P**	**23 10 41.5**	**-0.4**	
GERES	**GERESS Array B**	**120.18**	**325**	PKP		**PKPdf**	**23 16 56.3**	**+0.1**	
	0.1nm,0.3s,baz=46,slow=2.8,SNR=3.6								
TORD	**Torodi Ar. Bea**	**143.22**	**285**	PKhKP		PKPpre	23 17 36.5		
	1.2nm,0.7s,baz=81,slow=2.3,SNR=19								
TORD				PKP		**PKPdf**	**23 17 41.5**	**+1.3**	
	0.3nm,0.3s,baz=101,slow=2.0,SNR=4.7								
KIC	**Kosan Boka**	**150.16**	**274**	*e*PKIKP		**PKPbc**	**23 17 57.7**	**+0.6**	
	12nm,0.8s								
DBIC	**Dimbokro**	**150.27**	**275**	PKPbc		**PKPbc**	**23 17 57.7**	**+0.4**	
	6.2nm,0.7s,baz=103,slow=2.9,SNR=7.7								
TIC	**Toumodi**	**150.43**	**274**	*e*PKIKP		**PKPbc**	**23 17 57.9**	**+0.2**	
LIC	**Lamto**	**150.45**	**274**	*e*P		**PKPbc**	**23 17 57.2**	**-0.5**	
	27nm,0.8s								

*ISCJB **26** 23:38:18.8±0.2, 42°.58N±0°.02×13°.18E±0°.02, h14km±1km, Error ellipse: s-maj=2.9km s-min=2.2km az=44.7*
*LDG **26** 23:38:19.8±0.5, 42°.58N×13°.35E, h10km, Ml2.9/3, Error ellipse: s-maj=14.6km s-min=5.7km az=74.0*
*ROM **26** 23:38:19.2±0.1, 42°.57N×13°.23E, h10km, Md3.1/40, Ml3.0/42, Error ellipse: s-maj=0.9km s-min=0.7km az=63.0*
*CSEM **26** 23:38:19.3±0.1, 42°.56N×13°.19E, h8km, ML3.5/9, Error ellipse: s-maj=2.2km s-min=1.8km az=51.0*
*PRU **26** 23:38:20.5, 42°.54N×13°.59E, h0km*
ISC 26 23:38:19.3±0.4, 42°.59N±0°.01×13°.21E±0°.02, h14km±3km, n154, σ1$30/180, 13C, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMA1	**SAN MARTINO**	**0.10**	**66**	⇑*i*Pg	**Pg**	**23 38 22.3**	**-0.3**
SMA1				Sg	**Sg**	**23 38 24.4**	**-0.4**
	40μm,0.5s						
SMA1	**SAN MARTINO**	**0.10**	**66**	⇑*i*Pg	**Pg**	**23 38 22.3**	**-0.3**
SMA1				Sg	**Sg**	**23 38 24.4**	**-0.4**
	40μm,0.5s						
LNSS	**Leonessa**	**0.12**	**277**	⇑*i*Pg	**Pg**	**23 38 23.0**	**+0.2**
LNSS				Sg	**Sg**	**23 38 25.7**	**+0.5**
	17μm,0.2s						
LNSS	**Leonessa**	**0.12**	**277**	⇑*i*Pg	**Pg**	**23 38 23.0**	**+0.2**
LNSS				Sg	**Sg**	**23 38 25.7**	**+0.5**
	17μm,0.2s						
CAMP	**Campotosto**	**0.16**	**109**	⇑*i*Pg	**Pg**	**23 38 22.9**	**-0.4**
CAMP				Sg	**Sg**	**23 38 25.3**	**-0.7**
	7μm,0.5s						
CAMP	**Campotosto**	**0.16**	**109**	⇑*i*Pg	**Pg**	**23 38 22.9**	**-0.4**
CAMP				Sg	**Sg**	**23 38 25.3**	**-0.7**
	7μm,0.5s						
T0104	**Madonna delle**	**0.25**	**157**	Pg	**Pg**	**23 38 24.5**	**-0.2**
T0104				Sg	**Sg**	**23 38 28.5**	**+0.2**
NRCA	**Norcia**	**0.25**	**344**	Pg	**Pg**	**23 38 25.0**	**+0.2**
NRCA				Sg	**Sg**	**23 38 29.3**	**+0.8**
	2μm,0.2s						
NRCA	**Norcia**	**0.25**	**344**	Pg	**Pg**	**23 38 25.0**	**+0.2**
NRCA				Sg	**Sg**	**23 38 29.3**	**+0.8**
	2μm,0.2s						
AQU	**L'Aquila**	**0.28**	**148**	Pg	**Pg**	**23 38 24.8**	**-0.3**
AQU				Sg	**Sg**	**23 38 28.9**	**-0.1**
	2μm,0.3s						
AQU	**L'Aquila**	**0.28**	**148**	Pg	**Pg**	**23 38 24.8**	**-0.3**
AQU				Sg	**Sg**	**23 38 28.9**	**-0.1**
	2μm,0.3s						
TERO	**Teramo**	**0.29**	**83**	⇑*i*Pg	**Pg**	**23 38 25.1**	**-0.4**
TERO				Sg	**Sg**	**23 38 29.3**	**-0.3**
TERO	**Teramo**	**0.29**	**83**	⇑*i*Pg	**Pg**	**23 38 25.1**	**-0.4**
TERO				Sg	**Sg**	**23 38 29.3**	**-0.3**
T0106	**Roio Piano**	**0.31**	**155**	Pg	**Pg**	**23 38 25.5**	**-0.3**
	1μm,0.3s						
FIAM	**Fiamignano**	**0.33**	**192**	⇑*i*Pg	**Pg**	**23 38 25.9**	**-0.2**
FIAM				Sg	**Sg**	**23 38 30.9**	**+0.3**
FIAM	**Fiamignano**	**0.33**	**192**	⇑*i*Pg	**Pg**	**23 38 25.9**	**-0.2**
FIAM				Sg	**Sg**	**23 38 30.9**	**+0.3**
FAGN	**Fagnano**	**0.43**	**139**	Pg	**Pg**	**23 38 27.3**	**-0.5**
	3μm,0.5s						
FAGN	**Fagnano**	**0.43**	**139**	Pg	**Pg**	**23 38 27.3**	**-0.5**
	3μm,0.5s						
MNS	**Montasola**	**0.44**	**243**	⇑*i*Pg	**Pg**	**23 38 28.1**	**0.0**
MNS				Sg	**Sb**	**23 38 35.0**	**-0.4**
	1μm,0.3s						
MNS	**Montasola**	**0.44**	**243**	⇑*i*Pg	**Pg**	**23 38 28.1**	**0.0**
MNS				Sg	**Sb**	**23 38 35.0**	**-0.4**
	1μm,0.3s						
FDMO	**Fiordimonte**	**0.46**	**349**	Pg	**Pg**	**23 38 28.6**	**+0.2**
FDMO				Sg	**Sb**	**23 38 36.1**	**+0.2**
	327nm,0.2s						
FDMO	**Fiordimonte**	**0.46**	**349**	Pg	**Pg**	**23 38 28.6**	**+0.2**
FDMO				Sg	**Sb**	**23 38 36.1**	**+0.2**
	327nm,0.2s						
CESX	**Cesi**	**0.46**	**273**	Pg	**Pg**	**23 38 28.5**	**0.0**
CESX				Sg	**Sb**	**23 38 36.0**	**-0.1**
	873nm,0.7s						
CESX	**Cesi**	**0.46**	**273**	Pg	**Pg**	**23 38 28.5**	**0.0**
CESX				Sg	**Sb**	**23 38 36.0**	**-0.1**
	873nm,0.7s						
CESI	**CESI - Serrava**	**0.47**	**332**	Pg	**Pg**	**23 38 28.9**	**+0.2**
CESI				Sg	**Sb**	**23 38 36.5**	**+0.1**
	92nm,0.3s						
CESI	**CESI - Serrava**	**0.47**	**332**	Pg	**Pg**	**23 38 28.9**	**+0.2**
CESI				Sg	**Sb**	**23 38 36.5**	**+0.1**
	92nm,0.3s						
OFFI	**Offida**	**0.49**	**45**	Pg	**Pb**	**23 38 29.8**	**0.0**
	3μm,0.6s						
OFFI	**Offida**	**0.49**	**45**	Pg	**Pb**	**23 38 29.8**	**0.0**
	3μm,0.6s						
TRTR	**Tortoreto Alta**	**0.56**	**67**	Pg	**Pb**	**23 38 31.1**	**+0.1**
	1μm,0.4s						
TRTR	**Tortoreto Alta**	**0.56**	**67**	Pg	**Pb**	**23 38 31.1**	**+0.1**
	1μm,0.4s						
PTQR	**Pietraquaria**	**0.58**	**166**	Pg	**Pg**	**23 38 30.3**	**-0.5**
	74nm,0.3s						
PTQR	**Pietraquaria**	**0.58**	**166**	Pg	**Pg**	**23 38 30.3**	**-0.5**
	74nm,0.3s						
CERT	**Cerreto**	**0.66**	**195**	Pg	**Pg**	**23 38 31.4**	**-0.8**
	625nm,0.5s						
CERT	**Cerreto**	**0.66**	**195**	Pg	**Pg**	**23 38 31.4**	**-0.8**
	625nm,0.5s						
MTCE	**Montecelio**	**0.66**	**212**	Pg	**Pg**	**23 38 31.5**	**-0.7**
	687nm,0.6s						
MTCE	**Montecelio**	**0.66**	**212**	Pg	**Pg**	**23 38 31.5**	**-0.7**
	687nm,0.6s						
SNTG	**Esanatoglia**	**0.69**	**344**	Pg	**Pb**	**23 38 33.0**	**-0.3**
	162nm,0.6s						
SNTG	**Esanatoglia**	**0.69**	**344**	Pg	**Pb**	**23 38 33.0**	**-0.3**
	162nm,0.6s						
GUMA	**Gualdo di Mace**	**0.71**	**48**	Pg	Pg	23 38 29.3	-3.9
GUMA				Sg	**Sg**	**23 38 37.4**	**-5.3**
	3μm,0.3s						
INTR	**Introdacqua**	**0.78**	**138**	Pg	**Pg**	**23 38 33.3**	**-1.1**
	1μm,1.0s						
INTR	**Introdacqua**	**0.78**	**138**	Pg	**Pg**	**23 38 33.3**	**-1.1**
	1μm,1.0s						
VVLD	**Villa Vallelon**	**0.78**	**157**	Pg	**Pg**	**23 38 34.3**	**-0.2**
	410nm,0.8s						
VVLD	**Villa Vallelon**	**0.78**	**157**	Pg	**Pg**	**23 38 34.3**	**-0.2**
	410nm,0.8s						
CING	**Cingoli**	**0.79**	**359**	Pg	**Pg**	**23 38 34.5**	**-0.1**
	285nm,0.6s						
CING	**Cingoli**	**0.79**	**359**	Pg	**Pg**	**23 38 34.5**	**-0.1**
	285nm,0.6s						
RMP	**Rome, Mte Porz**	**0.86**	**206**	Pg	**Pg**	**23 38 35.1**	**-0.9**
	775nm,0.6s						
RMP	**Rome, Mte Porz**	**0.86**	**206**	Pg	**Pg**	**23 38 35.1**	**-0.9**
	775nm,0.6s						
MGAB	**Montegabbione**	**0.87**	**292**	Pg	**Pg**	**23 38 36.0**	**-0.1**
	518nm,0.4s						
MGAB	**Montegabbione**	**0.87**	**292**	Pg	**Pg**	**23 38 36.0**	**-0.1**
	518nm,0.4s						
LPEL	**Lama dei Pelig**	**0.90**	**126**	Pg	**Pg**	**23 38 35.3**	**-1.5**
	494nm,0.2s						
LPEL	**Lama dei Pelig**	**0.90**	**126**	Pg	**Pg**	**23 38 35.3**	**-1.5**
	494nm,0.2s						
RDP	**Rocca di Papa**	**0.91**	**204**	Pg	**Pg**	**23 38 36.1**	**-0.7**
	1μm,0.5s						
RDP	**Rocca di Papa**	**0.91**	**204**	Pg	**Pg**	**23 38 36.1**	**-0.7**
	1μm,0.5s						
ATFO	**Monte Foce - G**	**0.91**	**329**	Pg	**Pb**	**23 38 36.8**	**-0.1**
	271nm,0.9s						
ATFO	**Monte Foce - G**	**0.91**	**329**	Pg	**Pb**	**23 38 36.8**	**-0.1**
	271nm,0.9s						
MA9	**Marino**	**0.91**	**207**	Pg	**Pb**	**23 38 37.3**	**+0.3**
	1μm,0.6s						
MA9	**Marino**	**0.91**	**207**	Pg	**Pb**	**23 38 37.3**	**+0.3**
	1μm,0.6s						
CAFR	**Castel Frentan**	**0.92**	**113**	Pg	**Pg**	**23 38 36.3**	**-0.8**
	717nm,0.4s						
CAFR	**Castel Frentan**	**0.92**	**113**	Pg	**Pg**	**23 38 36.3**	**-0.8**
	717nm,0.4s						
SAMA	**S.Maria delle**	**0.93**	**210**	Pg	**Pg**	**23 38 36.9**	**-0.3**
	596nm,0.7s						
SAMA	**S.Maria delle**	**0.93**	**210**	Pg	**Pg**	**23 38 36.9**	**-0.3**
	596nm,0.7s						
ARVD	**Arcevia**	**0.93**	**348**	Pg	**Pg**	**23 38 37.5**	**+0.2**
	215nm,0.7s						
ARVD	**Arcevia**	**0.93**	**348**	Pg	**Pb**	**23 38 37.5**	**+0.2**
	215nm,0.7s						
POFI	**Posta Fibreno**	**0.95**	**157**	Pg	**Pg**	**23 38 36.9**	**-0.7**
	176nm,0.6s						
POFI	**Posta Fibreno**	**0.95**	**157**	Pg	**Pg**	**23 38 36.9**	**-0.7**
	176nm,0.6s						
ATVO	**AVT- Monte Val**	**0.99**	**324**	Pg	**Pg**	**23 38 38.1**	**-0.3**
	255nm,0.8s						
ATVO	**AVT- Monte Val**	**0.99**	**324**	Pg	**Pg**	**23 38 38.1**	**-0.3**
	255nm,0.8s						
SDI	**San Donato**	**0.99**	**153**	Pg	**Pg**	**23 38 37.3**	**-1.1**
	86nm,0.3s						
SDI	**San Donato**	**0.99**	**153**	Pg	**Pg**	**23 38 37.3**	**-1.1**
	86nm,0.3s						
SACS	**San Casciano d**	**0.99**	**286**	Pg	**Pg**	**23 38 38.2**	**-0.3**
	259nm,0.7s						
AOI	**Ancona**	**1.00**	**17**	Pg	**Pg**	**23 38 38.4**	**-0.3**
	270nm,0.8s						
AOI	**Ancona**	**1.00**	**17**	Pg	**Pg**	**23 38 38.4**	**-0.3**
	270nm,0.8s						
GIUL	**Giuliano Di Ro**	**1.03**	**178**	Pg	**Pg**	**23 38 38.7**	**-0.5**
	203nm,0.7s						
GIUL	**Giuliano Di Ro**	**1.03**	**178**	Pg	**Pg**	**23 38 38.7**	**-0.5**
	203nm,0.7s						
LATE	**Laterza**	**1.04**	**272**	Pg	**Pg**	**23 38 39.0**	**-0.3**
	370nm,0.6s						
LATE	**Laterza**	**1.04**	**272**	Pg	**Pg**	**23 38 39.0**	**-0.3**
	370nm,0.6s						
TOLF	**Tolfa**	**1.04**	**240**	Pg	**Pg**	**23 38 38.6**	**-0.7**
	269nm,0.7s						
TOLF	**Tolfa**	**1.04**	**240**	Pg	**Pg**	**23 38 38.6**	**-0.7**
	269nm,0.7s						
ATPI	**Pietralunga -**	**1.04**	**326**	Pg	**Pg**	**23 38 38.9**	**-0.6**
	207nm,0.7s						
ATPI	**Pietralunga -**	**1.04**	**326**	Pg	**Pg**	**23 38 38.9**	**-0.6**
	207nm,0.7s						
ATPC	**Poggio Castell**	**1.05**	**329**	Pg	**Pg**	**23 38 39.3**	**-0.2**
	250nm,0.6s						
ATPC	**Poggio Castell**	**1.05**	**329**	Pg	**Pg**	**23 38 39.3**	**-0.2**
	250nm,0.6s						
PIEI	**Pieia**	**1.07**	**333**	Pg	**Pg**	**23 38 39.5**	**-0.4**
	112nm,0.5s						
PIEI	**Pieia**	**1.07**	**333**	Pg	**Pg**	**23 38 39.5**	**-0.4**
	112nm,0.5s						
RNI2	**Rionero Sannit**	**1.13**	**141**	Pg	**Pg**	**23 38 40.0**	**-1.1**
	628nm,1.2s						
RNI2	**Rionero Sannit**	**1.13**	**141**	Pg	**Pg**	**23 38 40.0**	**-1.1**
	628nm,1.2s						
CAFI	**Castiglion Fio**	**1.17**	**310**	Pg	**Pg**	**23 38 41.6**	**-0.3**
	199nm,1.1s						
CAFI	**Castiglion Fio**	**1.17**	**310**	Pg	**Pg**	**23 38 41.6**	**-0.3**
	199nm,1.1s						
MIDA	**Miranda**	**1.23**	**140**	Pg	**Pn**	**23 38 40.8**	**-1.3**
	219nm,0.8s						
MIDA	**Miranda**	**1.23**	**140**	Pg	**Pn**	**23 38 40.8**	**-1.3**
	219nm,0.8s						
NVLJ	**Novalja**	**2.31**	**31**	*e*Pn	**Pn**	**23 38 58.0**	**+1.0**
NVLJ				Sn	**Sn**	**23 39 26.9**	**+1.6**
NVLJ	**Novalja**	**2.31**	**31**	*e*Pn	**Pn**	**23 38 58.0**	**+1.0**
NVLJ				Sn	**Sn**	**23 39 26.8**	**+1.6**
UDBI	**Udbina**	**2.69**	**43**	*e*Pn	**Pn**	**23 39 04.5**	**+2.3**
UDBI				Sn	**Sn**	**23 39 37.5**	**+3.2**
UDBI	**Udbina**	**2.69**	**43**	*e*Pn	**Pn**	**23 39 04.5**	**+2.3**
UDBI				Sn	**Sn**	**23 39 37.8**	**+3.2**
PGF	**Pioggiola**	**3.11**	**271**	*e*Pn	**Pn**	**23 39 09.5**	**+1.4**
PGF	**Pioggiola**	**3.11**	**271**	*e*Pn	**Pn**	**23 39 09.5**	**+1.4**
STON	**Ston**	**3.32**	**84**	*e*Pn	**Pn**	**23 39 12.3**	**+1.4**
STON				Sn	**Sn**	**23 39 50.5**	**+0.3**
STON	**Ston**	**3.32**	**84**	*e*Pn	**Pn**	**23 39 12.2**	**+1.4**
STON				Sn	**Sn**	**23 39 50.4**	**+0.3**
TREB	**Trebinje**	**3.80**	**86**	*e*Pn	**Pn**	**23 39 19.0**	**+1.6**
ABTA	**Abfaltersbach**	**4.19**	**353**	⇑*i*Pn	**Pn**	**23 39 24.8**	**+2.0**
ABTA	**Abfaltersbach**	**4.19**	**353**	Pn	**Pn**	**23 39 24.8**	**+2.0**
SBF	**Sospel**	**4.41**	**289**	*e*Pn	**Pn**	**23 39 26.5**	**+0.6**
SBF	**Sospel**	**4.41**	**289**	*e*Pn	**Pn**	**23 39 26.5**	**+0.6**
FRF	**La Foret Royal**	**4.90**	**284**	*e*Pn	**Pn**	**23 39 33.9**	**+1.3**
FRF	**La Foret Royal**	**4.90**	**284**	*e*Pn	**Pn**	**23 39 33.9**	**+1.3**
LMR	**La Mourre**	**4.97**	**281**	*e*Pn	**Pn**	**23 39 34.6**	**+1.1**
LMR	**La Mourre**	**4.97**	**281**	*e*Pn	**Pn**	**23 39 34.6**	**+1.1**
TEKS	**Tekeris**	**4.99**	**65**	*e*Pn	**Pn**	**23 39 35.5**	**+1.6**
MBDF	**Montbardon**	**5.13**	**297**	*e*Pn	**Pn**	**23 39 35.8**	**-0.1**
MBDF	**Montbardon**	**5.13**	**297**	*e*Pn	**Pn**	**23 39 35.8**	**-0.1**
DIVS	**Divibare**	**5.17**	**71**	*e*Pn	**Pn**	**23 39 38.3**	**+1.9**
IVAS	**Ivanjica**	**5.18**	**77**	*e*Pn	**Pn**	**23 39 38.6**	**+2.1**
LPG	**La Plagne**	**5.49**	**304**	*e*Pn	**Pn**	**23 39 40.7**	**-0.2**
LPG	**La Plagne**	**5.49**	**304**	*e*Pn	**Pn**	**23 39 40.7**	**-0.2**
LPL	**La Plagne**	**5.51**	**304**	*e*Pn	**Pn**	**23 39 40.8**	**-0.3**
LPL	**La Plagne**	**5.51**	**304**	*e*Pn	**Pn**	**23 39 40.8**	**-0.3**
SMRF	**Simiane la Rot**	**5.74**	**287**	*e*Pn	**Pn**	**23 39 46.2**	**+2.0**
SMRF	**Simiane la Rot**	**5.74**	**287**	*e*Pn	**Pn**	**23 39 46.2**	**+2.0**
KEK	**Kerkira**	**5.75**	**118**	*e*P	**Pn**	**23 39 45.4**	**+1.2**
ORIF	**Oris-en-Rattie**	**5.79**	**296**	*e*Pn	**Pn**	**23 39 45.2**	**+0.2**
ORIF	**Oris-en-Rattie**	**5.79**	**296**	*e*Pn	**Pn**	**23 39 45.2**	**+0.2**
SELS	**Selova**	**5.84**	**81**	*e*Pn	**Pn**	**23 39 46.5**	**+0.9**
IGT	**Igoumenitsa**	**6.19**	**117**	*e*P	**Pn**	**23 39 53.0**	**+2.7**
NEST	**Nestorio**	**6.28**	**108**	*e*P	**Pn**	**23 39 54.7**	**+3.1**
FNA	**Florina**	**6.38**	**104**	*e*P	Pn	23 39 56.9	+4.0
KHC	**Kasperske Hory**	**6.55**	**2**	*e*PN	**Pn**	**23 39 57.8**	**+2.6**
KHC				*e*PB	Pb	23 40 09.8	-3.2
KHC				*e*SN	**Sn**	**23 41 09.7**	**0.0**
KHC				*ex*	x	23 41 28.1	
KHC	**Kasperske Hory**	**6.55**	**2**	Pn	**Pn**	**23 39 57.8**	**+2.6**
KHC				Sn	**Sn**	**23 41 09.7**	**0.0**
LKD2	**Lefkada island**	**6.82**	**121**	*e*P	**Pn**	**23 40 01.3**	**+2.4**
HINF	**Hinteralfeld**	**6.89**	**322**	*e*Pn	**Pn**	**23 39 59.6**	**-0.3**
HINF				*e*Sn	**Sn**	**23 41 14.1**	**-4.0**
	3.1nm,0.6s						
HINF	**Hinteralfeld**	**6.89**	**322**	*e*Pn	**Pn**	**23 39 59.6**	**-0.3**
DSL	**Palaion Diasel**	**6.90**	**117**	*e*P	Pn	23 40 03.5	+3.4
ZAPS	**Zavoj**	**6.95**	**81**	*e*Pn	**Pn**	**23 40 03.9**	**+3.1**
GRG	**Griva**	**7.06**	**100**	*e*P	**Pn**	**23 40 05.0**	**+2.7**
VLS	**Valsamata**	**7.15**	**126**	*e*P	**Pn**	**23 40 06.6**	**+3.1**
CDF	**Champ du Feu**	**7.16**	**326**	*e*Pn	**Pn**	**23 40 04.6**	**+0.9**
CDF				*e*Sn	**Sn**	**23 41 20.6**	**-4.2**
	2.3nm,0.6s						
CDF	**Champ du Feu**	**7.16**	**326**	*e*Pn	**Pn**	**23 40 04.6**	**+0.9**
HAU	**Haudompre**	**7.26**	**321**	*e*Pn	**Pn**	**23 40 05.6**	**+0.6**
HAU				*e*Sn	**Sn**	**23 41 23.7**	**-3.5**
	3.9nm,0.6s						
HAU	**Haudompre**	**7.26**	**321**	*e*Pn	**Pn**	**23 40 05.6**	**+0.6**
PDO	**Prodromos**	**7.26**	**121**	*e*P	Pn	23 40 08.7	+3.7
THL	**Klokotos Trika**	**7.31**	**111**	*e*P	**Pn**	**23 40 08.5**	**+2.9**
KNT	**Kendrikon**	**7.37**	**98**	*e*P	**Pn**	**23 40 09.5**	**+3.0**
EVR	**Evrytania**	**7.49**	**116**	*e*P	Pn	23 40 11.6	+3.4
RLS	**Riolos of Patr**	**7.76**	**123**	*e*P	**Pn**	**23 40 14.0**	**+2.1**
AGG	**Agios Georgios**	**7.78**	**114**	*e*P	Pn	23 40 15.9	+3.7
DRO	**Drossia**	**7.98**	**123**	*e*P	Pn	23 40 18.3	+3.4
NVR	**Nevrokopi**	**8.04**	**95**	*e*P	**Pn**	**23 40 17.9**	**+2.2**
LOR	**Lormes**	**8.12**	**308**	*e*Pn	**Pn**	**23 40 16.0**	**-0.7**
LOR	**Lormes**	**8.12**	**308**	*e*Pn	**Pn**	**23 40 16.0**	**-0.7**
KLV	**Kalavryta, Ach**	**8.20**	**121**	*e*P	Pn	23 40 21.6	+3.6
XOR	**Xorichti**	**8.21**	**110**	*e*P	**Pn**	**23 40 20.0**	**+1.9**
SSF	**Saint Saulge**	**8.22**	**306**	*e*Pn	**Pn**	**23 40 18.2**	**+0.1**
SSF	**Saint Saulge**	**8.22**	**306**	*e*Pn	**Pn**	**23 40 18.2**	**+0.1**
NEO	**Neokhori**	**8.26**	**110**	*e*P	Pn	23 40 09.5	-9.2
GUR	**Goura**	**8.39**	**121**	*e*P	**Pn**	**23 40 23.7**	**+3.1**

*ISCJB **26** 23:44:36.8±0.5, 32°.33N±0°.02×115°.37W±0°.03, h9km±4km, Error ellipse: s-maj=4.9km s-min=4.0km az=8.1*
*NEIC **26** 23:44:37.7, 32°.30N×115°.42W, h4km, ML3.1(PAS), After PAS.*
*MEX **26** 23:44:38.0±0.6, 32°.55N×115°.23W, h42km±8km, MD3.9*
*ECX **26** 23:44:38.6±0.5, 32°.32N×115°.41W, h4km, ML3.2*
ISC 26 23:44:37.0±0.9, 32°.32N±0°.03×115°.42W±0°.03, h9km±7km, n42, σ1$11/52, 3C, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.14**	**45**	*e*Pg	**Pg**	**23 44 40.8**	**+0.6**
CPBX	**Cerro Prieto**	**0.14**	**45**	*e*P9	**Pg**	**23 44 39.6**	**-0.6**
CPBX				*e*S	**Sg**	**23 44 41.6**	**-0.8**
CPBX				IAML		23 44 44.5	
	comp=N,24μm,0.3s						
CPBX				⇑*e*		23 44 44.5	
MBIG	**Mexicali**	**0.21**	**65**	*e*P	**Pb**	**23 44 44.5**	**+3.1**
ERPC	**Ernies Place**	**0.47**	**335**	*e*Pg	**Pb**	**23 44 47.2**	**-0.3**
WESC	**Westside Schoo**	**0.51**	**329**	*e*P	**Pb**	**23 44 47.9**	**-0.3**
YUH	**Yuha Desert**	**0.54**	**308**	*e*Pg	**Pg**	**23 44 48.3**	**+0.8**
EMSC	**East Mesa**	**0.56**	**41**	*e*Pg	**Pg**	**23 44 48.2**	**+0.3**
RDX	**Rancho Dawling

GUC 27 00:00:06.1±0.4,34°06S×72°29W,h15km±2km,MLM.3.8
ISC 27 00:00:03.8±2.6,34°10S±0°06×72°24W±0°1,h5km±13km,n11,
σ1°53/18,4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.84**	**80**	⇓*iP*	**Pg**	**00 00 20.1**	**+0.1**
LNV				*iS*	**Sg**	**00 00 30.7**	**-0.3**
TACH	**Talagante**	**1.31**	**70**	⇓*iP*	**Pn**	**00 00 27.4**	**-1.3**
NICH	**Los Niches**	**1.33**	**133**	*iP*	**Pn**	**00 00 28.4**	**-0.6**
NICH				*iS*	**Sb**	**00 00 46.4**	**-0.2**
NICH				AML	AML	00 00 52.6	
	comp=E,6μm,0.6s						
TALC	**Talca**	**1.44**	**154**	*iP*	**Pb**	**00 00 31.6**	**+0.4**
TALC				*iS*	**Sb**	**00 00 50.9**	**+1.0**
SAN	**Santiago**	**1.59**	**67**	*eP*	**Pn**	**00 00 32.1**	**-0.6**
SAN				*eS*	**Sn**	**00 00 52.1**	**-1.6**
SAN				AML	AML	00 00 57.3	
	comp=E,1μm,0.5s						
CLCH	**Cerro Calan**	**1.71**	**66**	⇓*iP*	**Pn**	**00 00 34.6**	**+0.2**
CLCH				*iS*	**Sn**	**00 00 56.1**	**-0.7**
CLCH				AML	AML	00 01 06.0	
	comp=N,1μm,0.6s						
PEL	**Peldehue**	**1.73**	**57**	⇓*iP*	**Pn**	**00 00 34.6**	**0.0**
PEL				*iS*	**Sn**	**00 00 55.8**	**-1.3**
PEL				AML	AML	00 01 02.4	
	comp=N,3μm,0.6s						
CFAA	**Coronel Fontan**	**4.30**	**56**	Pn	**Pn**	**00 01 11.1**	**+1.1**
	comp=N,0.2nm,0.3s,baz=233,slow=10,SNR=17						
CFAA				Sn	**Sn**	**00 02 05.4**	**+4.7**
	comp=N,0.3nm,0.3s,baz=228,slow=16,SNR=2.4						
CFAA				LR	LR	00 03 05.8	
	comp=N,18nm,18.8s,baz=239,slow=41						
PLCA	**Paso Flores**	**6.78**	**168**	Pn	**Pn**	**00 01 44.7**	**+0.6**
	comp=N,0.3nm,0.3s,baz=341,slow=12,SNR=7.6						
PLCA				Lg	Lg	00 03 37.3	
	comp=N,0.0nm,0.3s,baz=233,slow=20,SNR=2.8						
LPAZ	**La Paz**	**18.15**	**13**	P	**Pn**	**00 04 16.8**	**-0.6**
	comp=N,0.1nm,0.3s,baz=193,slow=10,SNR=3.3						
TORD	**Torodi Ar. Bea**	**84.54**	**70**	P	**P**	**00 12 37.9**	**-0.4**
	comp=N,0.5nm,1.0s,baz=250,slow=4.3,SNR=4.7						

GUC 27 00:29:48.7±0.4,34°37S×72°59W,h16km±3km,MLM.4.0,1D,
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.06**	**67**	*iP*	Pb	00 30 08.4	-0.2
LNV				*iS*	Sn	00 30 23.9	+0.7
NICH	**Los Niches**	**1.29**	**120**	*iP*	Pb	00 30 12.7	+0.2
NICH				*iS*	Sg	00 30 30.7	+0.3
NICH				AML	AML	00 30 31.3	
	comp=N,4μm,0.3s						
TALC	**Talca**	**1.29**	**143**	⇓*iP*	Pb	00 30 12.7	+0.1
TALC				*iS*	Sg	00 30 30.6	+0.1
LNCH	**Linares**	**1.68**	**152**	*eP*	Pb	00 30 18.6	-0.7
LNCH				*eS*	Sb	00 30 41.2	+0.9
LNCH				AML	AML	00 30 44.7	
	comp=N,3μm,0.5s						

IDC 27 00:50:18.5±8.0,47°55N×152°53E,h0km,mb3.8/8,
mb1 3.9/8,mb1mx3.6/34,mbtmp3.8/8,Error ellipse:
s-maj=185.4km s-min=41.6km az=158.0,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N2	**WAKE ISLAND Hy 30.11**	**152**		T	T	01 28 24.4	
	baz=341,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy 30.13**	**152**		T	T	01 28 23.3	
	baz=341,slow=76,SNR=6.8						
H11N3	**WAKE ISLAND Hy 30.13**	**152**		T	T	01 28 22.8	
	baz=341,slow=76,SNR=8.7						
H11S1	**WAKE ISLAND Hy 31.20**	**153**		T	T	01 29 45.4	
	baz=342,slow=76,SNR=30						
H11S3	**WAKE ISLAND Hy 31.21**	**153**		T	T	01 29 42.0	
	baz=342,slow=76,SNR=29						
H11S2	**WAKE ISLAND Hy 31.22**	**153**		T	T	01 29 42.0	
	baz=342,slow=76,SNR=4.1						
ZALV	**Zalesovo Beam**	**41.82**	**305**	P	P	00 58 10.9	+1.3
	0.5nm,0.5s,baz=55,slow=7.6,SNR=2.4						
MKAR	**Makanchi Array**	**46.23**	**296**	P	P	00 58 45.5	+0.4
	0.3nm,0.6s,baz=69,slow=4.8,SNR=2.9						
MKAR	**Makanchi Array**	**46.23**	**296**	P	S	01 05 36.2	+3.7
	0.2nm,0.4s,baz=124,slow=8.7,SNR=4.8						
RES	**Resolute Bay**	**50.20**	**19**	P	P	00 59 16.8	+1.4
	0.7nm,0.5s,baz=310,slow=7.6,SNR=4.6						
ARCES	**ARCESS Array B**	**56.97**	**340**	P	P	01 00 05.3	+0.2
	1.9nm,0.9s,baz=27,slow=8.1,SNR=3.3						
FINES	**FINESS Array B**	**63.15**	**334**	P	P	01 00 46.3	-1.2
	1.6nm,0.8s,baz=45,slow=6.6,SNR=12						
NB2	**NORSAR Subarra**	**67.34**	**341**	P	P	01 01 14.4	-0.5
	comp=Z,0.4nm,0.5s,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.34**	**341**	P	P	01 01 14.8	-0.1
	comp=Z,0.8nm,0.6s,baz=27,slow=6.5,SNR=4.8						
AKASG	**Malin Array Be**	**70.66**	**326**	P	P	01 01 34.4	-1.2
	comp=Z,0.8nm,0.4s,baz=35,slow=6.6,SNR=2.8						
BRTR	**Keskin Array B**	**77.54**	**316**	P	P	01 02 16.2	+0.1
	comp=Z,0.4nm,0.7s,baz=89,slow=5.9,SNR=4.3						

CSEM 27 00:55:45.5,13°70N×45°63E,h15km,ML4.2
DHMR 27 00:55:45.5±1.2,13°70N×45°63E,h15km±4km,ML4.2,
4C-3D,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDHA	**Al Bayda'**	**0.28**	**347**	⇑*iP*	Pg	00 55 52.0	+0.2
BDHA				*iS*	Sg	00 55 55.5	-0.6
BDHA				AML	AML	00 55 55.5	
	comp=E,16μm,0.1s						
BDHA	**Al Bayda'**	**0.28**	**347**	⇑*iP*	Pg	00 55 52.0	+0.2
BDHA				*iS*	Sg	00 55 55.5	-0.6
	comp=E,8μm,0.1s						
LBOS		**0.41**	**294**	⇓*iP*	Pg	00 55 54.0	-0.2
LBOS				*iS*	Sg	00 55 58.9	-1.1
DHBB	**Dhamar BB**	**1.48**	**306**	⇑*iP*	Pn	00 56 12.4	+0.4
DHBB				*iS*	Sb	00 56 32.8	+0.6
DHBB	**Dhamar BB**	**1.48**	**306**	⇑*iP*	Pn	00 56 12.4	+0.3
DHBB				*iS*	Sb	00 56 32.8	+0.7
TRBA	**At Turbah**	**1.55**	**253**	⇓*iP*	Pb	00 56 13.7	-0.5
TRBA				*iS*	Sb	00 56 34.8	+0.9
TRBA	**At Turbah**	**1.55**	**253**	⇓*iP*	Pb	00 56 13.7	-0.5
TRBA				*iS*	Sb	00 56 34.8	+0.9
SANA	**San'a**	**2.17**	**321**	*iP*	Pb	00 56 23.2	-1.7
SANA				*iS*	Sb	00 56 52.9	+1.0
SANA				AML	AML	00 56 55.4	
	comp=E,3μm,0.4s						
HAJJ	**Hajjah**	**2.79**	**315**	*iP*	Pn	00 56 32.5	+2.5
HAJJ				*iS*	Sb	00 56 52.5	+2.5
HAJJ	**Hajjah**	**2.79**	**315**	*iP*	Pn	00 56 32.5	+2.5
HAJJ				*iS*	Sb	00 57 09.9	+0.2
MUKL	**Al Mukalla**	**3.39**	**77**	*iP*	Pn	00 56 40.0	+2.2
MUKL				*iS*	Sb	00 57 23.1	-3.3

MAN 27 00:59:05,8°37N×125°91E,h18km,mb4.7,ML3.6,MS3.6
ISCJB 27 00:59:06.0±0.6,8°26N±0°05×125°95E±0°04,h34km,
mb3.2/2,Error ellipse: s-maj=7.8km s-min=5.5km az=22.0
ISC 27 00:59:05.2±0.9,8°27N±0°04×125°90E±0°05,h34km,n11,
σ1°15/16,1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.46**	**101**	⇑*iP*	**Pb**	**00 59 15.0**	**-0.3**
BIPH				*iS*	**Sn**	**00 59 22.9**	**+0.4**
BUTP	**Butuan**	**0.74**	**338**	*eP*	**Pn**	**00 59 17.9**	**-1.4**
BUTP				*eS*	**Sb**	**00 59 31.0**	**+1.2**
BUKP	**Musuan**	**0.92**	**245**	*eP*	**Pn**	**00 59 22.5**	**+0.8**
BUKP				*eS*	**Sb**	**00 59 35.7**	**+1.0**
CGP	**Cagayan de Oro**	**1.21**	**279**	*eP*	**Pn**	**00 59 26.0**	**+0.3**
CGP				*iS*	**Sb**	**00 59 43.9**	**+1.1**
MATI	**Mati**	**1.37**	**165**	*eP*	**Pb**	**00 59 30.4**	**+0.2**
SCPH	**Surigao**	**1.55**	**345**	*eP*	**Pb**	**00 59 33.6**	**+0.2**
CTBH	**Cotabato--PC H**	**1.94**	**238**	⇓*iP*	**Pb**	**00 59 39.2**	**-0.8**
TBP	**Tagbilaran**	**2.46**	**305**	*eP*	**Pn**	**00 59 44.7**	**+1.8**
TBP				*eS*	**Sb**	**01 00 16.9**	**-1.7**
PAGZ	**Pagadian**	**2.53**	**261**	*eP*	**Pn**	**00 59 42.1**	**-1.8**
WRA	**Warramunga Arr**	**29.24**	**164**	P	**P**	**01 05 03.5**	**-0.7**
	0.2nm,0.8s,baz=344,slow=8.8,SNR=2.9						
ASAR	**Alice Springs**	**32.70**	**166**	P	**P**	**01 05 34.9**	**+0.3**
	0.3nm,0.5s,baz=341,slow=7.1,SNR=6.0						

IDC 27 01:18:27.9±4.3,1°80S×77°75W,h136km±45km,mb3.3/5,
mb1 3.5/8,mb1mx3.3/23,mbtmp3.8/8,Error ellipse:
s-maj=48.8km s-min=20.4km az=55.0
IGQ 27 01:18:27.1±0.4,2°00S×77°95W,h2km±26km,Mb4.1,Error
ellipse: s-maj=4.5km s-min=1.9km az=167.5
ISCJB 27 01:18:30.1±0.4,1°99S±0°03×78°07W±0°07,h150km,
mb3.4/5,Error ellipse: s-maj=10.5km s-min=4.6km az=1.9
ISC 27 01:18:29.7±0.7,1°94S±0°05×78°03W±0°08,h150km,n59,
σ1°11/60,mb3.4/5,1C-26D,Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACE	**Macas**	**0.35**	**209**	S	**Sn**	**01 19 07.7**	**+1.0**
MACE	**Macas**	**0.35**	**209**	P	**Pn**	**01 18 51.5**	**+0.8**
BPAT	**Tungurahua Vol**	**0.59**	**317**	⇓P	**Pn**	**01 18 52.1**	**0.0**
PAT1	**Patacocha**	**0.59**	**316**	⇓P	**Pn**	**01 18 52.2**	**+0.1**
PAT1	**Patacocha**	**0.59**	**316**	⇓S	**Sn**	**01 19 12.6**	**+3.4**
ARRY	**Arrayan**	**0.61**	**315**	⇓S	**Sn**	**01 19 07.7**	**-1.4**
ARRY	**Arrayan**	**0.61**	**315**	⇓P	**Pn**	**01 18 52.0**	**-0.1**
ULBA	**Ulba**	**0.62**	**322**	⇓P	**Pn**	**01 18 52.2**	**+0.1**
BMAS	**Trigal station**	**0.63**	**314**	⇓S	**Sn**	**01 19 09.3**	**0.0**
BMAS	**Trigal station**	**0.63**	**314**	⇓P	**Pn**	**01 18 52.2**	**0.0**
BULB	**Ulba Tungurahu**	**0.63**	**323**	⇓P	**Pn**	**01 18 52.2**	**-0.1**
BULB	**Ulba Tungurahu**	**0.63**	**323**	⇓S	**Sn**	**01 19 10.7**	**+1.3**
RIOE	**Riobamba**	**0.63**	**287**	P	**Pn**	**01 18 52.2**	**0.0**
RETU	**Refugio**	**0.64**	**319**	P	**Pn**	**01 18 52.4**	**-0.1**
BRUN	**Tungurahua Vol**	**0.64**	**323**	⇓S	**Sn**	**01 19 11.4**	**+1.9**
BRUN	**Tungurahua Vol**	**0.64**	**323**	⇓P	**Pn**	**01 18 52.3**	**0.0**
RUN5	**Runtun**	**0.66**	**323**	⇓P	**Pn**	**01 18 52.4**	**0.0**
RUN5	**Runtun**	**0.66**	**323**	⇓S	**Sn**	**01 19 12.1**	**+2.5**
BBIL	**Ulba Tungurahu**	**0.67**	**317**	⇓P	**Pn**	**01 18 53.5**	**+1.1**
JUI6	**Juive**	**0.68**	**119**	P	**Pn**	**01 18 52.3**	**-0.1**
IGUA	**Igualata**	**0.76**	**306**	P	**Pn**	**01 18 54.8**	**+1.5**
PISA	**Pisayambo**	**0.95**	**338**	⇓P	**Pn**	**01 18 56.0**	**+1.3**
BMOR	**Cotopaxi Volca**	**1.28**	**340**	⇓P	**Pn**	**01 18 58.1**	**+0.5**
TAMB	**Tambo**	**1.28**	**345**	⇓P	**Pn**	**01 18 58.1**	**+0.4**
MOV1	**Cotopaxi Vol s**	**1.29**	**341**	P	**Pn**	**01 18 58.1**	**+0.3**
COV1	**Cotopaxi Volc**	**1.31**	**346**	P	**Pn**	**01 18 59.0**	**+1.0**
BTAM	**Cotopaxi Volca**	**1.31**	**344**	⇓P	**Pn**	**01 18 58.4**	**+0.4**
BREF	**Cotopaxi Volca**	**1.33**	**342**	⇓P	**Pn**	**01 18 59.9**	**+1.6**
BVC2	**Cotopaxi Volca**	**1.33**	**343**	⇓P	**Pn**	**01 18 59.7**	**+1.5**
CAMI	**Rancho Maria**	**1.34**	**339**	P	**Pn**	**01 18 59.2**	**+1.0**
VC1	**Cotopaxi 1**	**1.34**	**344**	P	**Pn**	**01 18 58.5**	**+0.2**
PAST	**Pastocalle**	**1.38**	**334**	P	**Pn**	**01 18 59.3**	**+0.7**
PITA	**Cotopaxi Volc**	**1.43**	**344**	P	**Pn**	**01 19 00.8**	**+1.6**
ANTI	**Antisana**	**1.49**	**355**	⇓P	**Pn**	**01 19 00.7**	**+0.9**
JUA2	**San Juan 2**	**1.81**	**341**	P	**Pn**	**01 19 03.2**	**0.0**
GGP	**Refugio Guagua**	**1.84**	**342**	P	**Pn**	**01 19 04.5**	**+0.8**
TERV	**Terraza Guagua**	**1.85**	**342**	P	**Pn**	**01 19 05.0**	**+1.3**
PINO	**Pino**	**1.86**	**342**	P	**Pn**	**01 19 04.8**	**+0.9**
CHAR	**Charly**	**1.88**	**11**	P	**Pn**	**01 19 04.1**	**-0.2**
YANA	**Yana**	**1.89**	**343**	P	**Pn**	**01 19 05.0**	**+0.8**
CONE	**Cono NE Rev Vo**	**1.90**	**12**	P	**Pn**	**01 19 04.9**	**+0.9**
CAYR	**Refugio Cayamb**	**1.94**	**1**	P	**Pn**	**01 19 05.2**	**+0.3**
CAYA	**Cayambe**	**2.00**	**1**	P	**Pn**	**01 19 06.7**	**+1.3**
OTAV	**Otavalo**	**2.21**	**349**	⇑P	**Pn**	**01 19 07.1**	**-0.6**
URCU	**Urcuqui**	**2.38**	**354**	⇓P	**Pn**	**01 19 10.2**	**+0.4**
MAG1	**Magdalena**	**2.55**	**317**	P	**Pn**	**01 19 11.7**	**+0.2**
ARNL	**Arenillas**	**2.59**	**232**	⇓P	**Pn**	**01 19 10.0**	**-1.9**
ARNL	**Arenillas**	**2.59**	**232**	⇓S	**Sn**	**01 19 43.7**	**-0.8**
LITE	**Lita**	**2.75**	**353**	⇓P	**Pn**	**01 19 14.0**	**-0.1**
CHIS	**Cerro-Chispas-**	**2.84**	**288**	P	**Pn**	**01 19 16.8**	**+1.7**
ATAH	**Atahualpa**	**5.17**	**184**	P	**Pn**	**01 19 46.4**	**+0.6**
	6.0nm,0.3s,baz=15,slow=9.0,SNR=22						
ATAH				S	**Sn**	**01 20 45.9**	**+0.7**
	5.1nm,0.3s,baz=222,slow=23,SNR=5.8						
NNA	**Nana**	**10.05**	**173**	P	**Pn**	**01 20 52.4**	**+1.9**
	2.4nm,0.3s,baz=338,slow=11,SNR=4.0						
LPAZ	**La Paz**	**17.27**	**146**	P	**P**	**01 22 21.7**	**0.0**
	0.2nm,0.3s,baz=337,slow=4.1,SNR=4.9						
PLCA	**Paso Flores**	**39.20**	**171**	P	**P**	**01 25 44.3**	**+1.0**
	1.3nm,0.7s,baz=350,slow=9.6,SNR=3.5						
TXAR	**Lajitas Array**	**39.61**	**324**	P	**P**	**01 25 47.5**	**+0.6**
	0.3nm,0.4s,baz=158,slow=11,SNR=3.8						
ANMO	**Albuquerque**	**45.35**	**327**	P	**P**	**01 26 33.1**	**-0.1**
	1.1nm,0.5s,baz=135,slow=11,SNR=5.4						
TORD	**Torodi Ar. Bea**	**80.44**	**76**	P	**P**	**01 30 23.2**	**-2.2**
	0.4nm,0.7s,baz=280,slow=5.7,SNR=8.2						
ILAR	**Eielson Array**	**82.87**	**336**	P	**P**	**01 30 36.1**	**-1.1**
	0.4nm,0.8s,baz=125,slow=5.7,SNR=4.8						
WRA	**Warramunga Arr**	**141.51**	**234**	PKhKP	PKPpre	01 37 37.5	
	0.2nm,0.3s,baz=119,slow=2.6,SNR=2.7						
WRA				PKP	**PKPdf**	**01 37 43.2**	**-0.8**
	0.4nm,0.7s,baz=111,slow=2.7,SNR=3.4						

ISK 27 01:19:50.7,36°87N×27°53E,h10km,MD3.5
DDA 27 01:19:50.3,36°84N×27°49E,h5km,MD3.2
THE 27 01:19:51.0,36°88N×27°59E,h0km,ML3.3/5,Error ellipse:
s-maj=1.2km s-min=0.6km az=70.0
ATH 27 01:19:51.2,36°91N×27°66E,h39km±7km,MD3.8/21,
ML3.2
CSEM 27 01:19:51.6±0.1,36°88N×27°51E,h5km,MD3.5,Error
ellipse: s-maj=2.9km s-min=2.3km az=26.0
ISCJB 27 01:19:51.2±0.4,36°87N±0°02×27°51E±0°02,h10km±3km,
Error ellipse: s-maj=3.6km s-min=2.6km az=44.5
NIC 27 01:19:59.7,35°33N×27°48E,h50km,mb4.2,ML3.6
ISC 27 01:19:51.6±0.8,36°86N±0°02×27°52E±0°02,h10km±5km,
n203,σ0°88/233,2C,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.14**	**161**	*e*PG	**Pg**	**01 19 54.4**	**-0.5**
DAT				*e*SG	**Sg**	**01 19 56.8**	**-0.3**
DAT	**Datca**	**0.14**	**161**	*e*Pg	**Pg**	**01 19 54.4**	**-0.5**
DAT				*e*Sg	**Sg**	**01 19 56.8**	**-0.3**
BDRM	**Kayabasi**	**0.22**	**343**	*i*P	**Pg**	**01 19 55.8**	**-0.3**
BDRM				*i*S	**Sg**	**01 20 00.1**	**+0.9**
BDRM	**Kayabasi**	**0.22**	**343**	*i*P	**Pg**	**01 19 55.9**	**-0.3**
BDRM				*i*S	**Sg**	**01 20 00.1**	**+0.9**
BODT	**Bodrum**	**0.27**	**320**	*e*PG	**Pg**	**01 19 56.9**	**-0.1**
BODT				*e*SG	**Sg**	**01 20 01.4**	**+0.7**
BODT	**Bodrum**	**0.27**	**320**	*e*Pg	**Pg**	**01 19 56.9**	**-0.1**
BODT				*e*Sg	**Sg**	**01 20 01.4**	**+0.7**
YER	**Yerkesik**	**0.67**	**65**	*e*PG	**Pg**	**01 20 04.3**	**-0.3**
YER	**Yerkesik**	**0.67**	**65**	*e*Pg	**Pg**	**01 20 04.3**	**-0.3**
ARG	**Arkhangelos**	**0.80**	**143**	P	**Pg**	**01 20 06.2**	**-0.9**
ARG				S	**Sb**	**01 20 19.7**	**+1.1**
ARG	**Arkhangelos**	**0.80**	**143**	*e*PN	**Pg**	**01 20 06.4**	**-0.7**
ARG				*e*SN	**Sb**	**01 20 18.9**	**+0.3**
ARG	**Arkhangelos**	**0.80**	**143**	P	**Pg**	**01 20 06.2**	**-0.9**
ARG				*e*Sn	**Sb**	**01 20 18.9**	**+0.3**
ARG				S	**Sb**	**01 20 19.7**	**+1.1**
TURN	**Turunc**	**0.87**	**89**	*i*P	Pg	01 20 02.4	-6.0
TURN				*i*S	Sg	01 20 12.0	-7.6
GCAM	**G?zelcaml?**	**0.87**	**345**	*i*P	**Pb**	**01 20 08.4**	**-0.5**
GCAM				*i*S	**Sn**	**01 20 21.7**	**-1.0**
GCAM	**G?zelcaml?**	**0.87**	**345**	*i*P	**Pb**	**01 20 08.4**	**-0.5**
GCAM				*i*S	**Sn**	**01 20 21.7**	**-1.0**
DALY	**Dalyan (Mu¨la**	**0.91**	**92**	*e*PG	**Pg**	**01 20 08.0**	**-1.1**
DALY	**Dalyan (Mu¨la**	**0.91**	**92**	*e*Pg	**Pg**	**01 20 08.0**	**-1.1**
SMG	**Samos**	**1.01**	**327**	P	**Pg**	**01 20 10.2**	**-0.8**
SMG				S	**Sn**	**01 20 25.6**	**-0.6**
SMG	**Samos**	**1.01**	**327**	*e*PB	**Pg**	**01 20 10.3**	**-0.8**
SMG				*e*SN	**Sn**	**01 20 25.7**	**-0.5**
SMG	**Samos**	**1.01**	**327**	P	**Pg**	**01 20 10.2**	**-0.8**
SMG				*e*Sn	**Sn**	**01 20 25.7**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.13**	**15**	*e*PN	**Pg**	**01 20 11.9**	**-1.4**
AYDB	**Zeytinkoy-Aydi**	**1.13**	**15**	*e*Pn	**Pg**	**01 20 11.9**	**-1.4**
FETY	**Fethiye**	**1.27**	**100**	*e*PN	**Pn**	**01 20 15.5**	**0.0**
FETY	**Fethiye**	**1.27**	**100**	*e*Pn	**Pn**	**01 20 15.5**	**0.0**
KARP	**Karpathos**	**1.34**	**193**	P	**Pn**	**01 20 15.2**	**-1.3**
KARP				S	**Sg**	**01 20 35.9**	**+1.1**
KARP	**Karpathos**	**1.34**	**193**	*e*PB	**Pn**	**01 20 15.2**	**-1.3**
KARP	**Karpathos**	**1.34**	**193**	P	**Pn**	**01 20 15.2**	**-1.3**
KARP				S	**Sg**	**01 20 35.9**	**+1.1**
DNZL	**Cakiroluk**	**1.47**	**55**	*i*P	**Pg**	**01 20 19.1**	**-0.1**
DNZL				*i*S	**Sg**	**01 20 40.0**	**+0.9**
DNZL	**Cakiroluk**	**1.47**	**55**	*i*P	**Pg**	**01 20 19.1**	**-0.1**
DNZL				*i*S	**Sg**	**01 20 40.0**	**+0.9**
IZM	**Izmir**	**1.55**	**352**	*e*PN	**Pn**	**01 20 18.7**	**-0.7**
IZM	**Izmir**	**1.55**	**352**	*e*Pn	**Pn**	**01 20 18.7**	**-0.7**
BLCB	**Balcova**	**1.57**	**346**	*e*PN	**Pn**	**01 20 18.6**	**-1.0**
BLCB	**Balcova**	**1.57**	**346**	*e*Pn	**Pn**	**01 20 18.6**	**-1.0**
APE	**Apeiranthos**	**1.61**	**278**	P	**Pn**	**01 20 19.1**	**-1.1**
APE				S	**Sg**	**01 20 43.6**	**+0.2**
APE	**Apeiranthos**	**1.61**	**278**	*e*PN	**Pn**	**01 20 19.2**	**-1.0**
APE	**Apeiranthos**	**1.61**	**278**	*e*Pn	**Pn**	**01 20 19.2**	**-1.0**
APE				S	**Sg**	**01 20 43.6**	**+0.2**
GOLH	**Golhisar**	**1.67**	**76**	*i*P	**Pg**	**01 20 23.1**	**-0.7**
GOLH				*i*S	**Sg**	**01 20 47.6**	**+2.1**
GOLH	**Golhisar**	**1.67**	**76**	*i*P	**Pg**	**01 20 23.1**	**-0.7**
GOLH				*i*S	**Sg**	**01 20 47.6**	**+2.1**
THR2	**Thira island,**	**1.73**	**257**	P	**Pn**	**01 20 21.4**	**-0.4**
THR2	**Thira island,**	**1.73**	**257**	P	**Pn**	**01 20 21.4**	**-0.4**
SANT	**Santorini**	**1.73**	**254**	P	**Pn**	**01 20 21.6**	**-0.2**
SANT	**Santorini**	**1.73**	**254**	*e*PN	**Pn**	**01 20 22.7**	**+0.9**
SANT	**Santorini**	**1.73**	**254**	P	**Pn**	**01 20 21.6**	**-0.2**
SANT	**Santorini**	**1.73**	**254**	*e*Pn	**Pn**	**01 20 22.7**	**+0.9**
THR6	**Thira Island,**	**1.78**	**254**	P	**Pn**	**01 20 22.7**	**+0.2**
THR6	**Thira Island,**	**1.78**	**254**	P	**Pn**	**01 20 22.7**	**+0.2**
AKAS	**Kas**	**1.79**	**110**	*i*P	**Pg**	**01 20 25.5**	**-0.5**
AKAS	**Kas**	**1.79**	**110**	*i*P	**Pg**	**01 20 25.5**	**-0.5**
AKAS				*i*S	**Sg**	**01 20 52.8**	**+3.6**
KULA	**Kula-Manisa**	**1.88**	**28**	*e*PN	**Pn**	**01 20 23.5**	**-0.5**
KULA	**Kula-Manisa**	**1.88**	**28**	*e*Pn	**Pn**	**01 20 23.5**	**-0.5**
ELL	**Elmali**	**1.92**	**93**	*e*PN	**Pn**	**01 20 25.1**	**+0.6**
ELL	**Elmali**	**1.92**	**93**	*e*Pn	**Pn**	**01 20 25.1**	**+0.6**
CHOS	**Chios island**	**1.92**	**323**	P	**Pn**	**01 20 23.7**	**-0.8**
CHOS				S	**Sn**	**01 20 49.7**	**+1.0**
CHOS	**Chios island**	**1.92**	**323**	*e*PN	**Pn**	**01 20 23.7**	**-0.8**
CHOS	**Chios island**	**1.92**	**323**	P	**Pn**	**01 20 23.7**	**-0.8**
CHOS				S	**Sn**	**01 20 49.7**	**+1.0**
AKS	**Akhisar**	**2.03**	**6**	*e*PN	**Pn**	**01 20 25.5**	**-0.5**
AKS	**Akhisar**	**2.03**	**6**	*e*Pn	**Pn**	**01 20 25.5**	**-0.5**
ZKR	**Zakros**	**2.04**	**212**	P	**Pn**	**01 20 26.1**	**+0.1**
ZKR	**Zakros**	**2.04**	**212**	P	**Pn**	**01 20 26.1**	**+0.1**
KHL	**Karahalli**	**2.16**	**47**	*e*PN	**Pn**	**01 20 27.6**	**-0.2**
KHL	**Karahalli**	**2.16**	**47**	*e*Pn	**Pn**	**01 20 27.6**	**-0.2**
NPS	**Neapolis**	**2.22**	**225**	P	**Pn**	**01 20 28.8**	**+0.3**
NPS	**Neapolis**	**2.22**	**225**	*e*PN	**Pn**	**01 20 28.9**	**+0.4**
NPS	**Neapolis**	**2.22**	**225**	*e*Pn	**Pn**	**01 20 28.9**	**+0.4**
KORT	**Korkueli**	**2.27**	**86**	*i*P	**Pb**	**01 20 31.8**	**-1.0**
KORT	**Korkueli**	**2.27**	**86**	*i*P	**Pb**	**01 20 31.8**	**-1.0**
KORT				*i*S	**Sg**	**01 21 03.1**	**-1.5**
LAST	**Lasithi**	**2.37**	**225**	P	**Pn**	**01 20 30.6**	**-0.1**
LAST	**Lasithi**	**2.37**	**225**	*e*PN	**Pn**	**01 20 31.5**	**+0.8**
LAST	**Lasithi**	**2.37**	**225**	P	**Pn**	**01 20 30.6**	**-0.1**
LAST	**Lasithi**	**2.37**	**225**	*e*Pn	**Pn**	**01 20 31.5**	**+0.8**
ANTB	**Antalya**	**2.51**	**88**	*e*PN	**Pn**	**01 20 32.8**	**+0.3**
ANTB	**Antalya**	**2.51**	**88**	*e*Pn	**Pn**	**01 20 32.8**	**+0.3**
BCK	**Bucak**	**2.52**	**75**	*e*PN	**Pn**	**01 20 33.6**	**+0.8**
BCK	**Bucak**	**2.52**	**75**	*e*Pn	**Pn**	**01 20 33.6**	**+0.8**
PRK	**Paraskevi**	**2.58**	**338**	P	**Pn**	**01 20 32.9**	**-0.6**
PRK				S	**Sn**	**01 21 05.7**	**+0.8**
PRK	**Paraskevi**	**2.58**	**338**	*e*PN	**Pn**	**01 20

SZAC	**Souni-Zanaja**	**4.83**	**114**	⇑P		**Pn**	**01 21 05.9 +1.4**
	baz=278						
SZAC				S		**Sn**	**01 21 58.0 -2.6**
SZAC	**Souni-Zanaja**	**4.83**	**114**	⇑P		**Pn**	**01 21 05.9 +1.4**
SZAC				S		**Sn**	**01 21 58.0 -2.6**
EVR	**Evrytania**	**4.96**	**296**	*e*PN		**Pn**	**01 21 05.1 -1.3**
EVR	**Evrytania**	**4.96**	**296**	*e*Pn		**Pn**	**01 21 05.1 -1.3**
CSS	**Prodhromos**	**5.08**	**110**	P		**Pn**	**01 21 10.3 +2.4**
	baz=276						
CSS	**Prodhromos**	**5.08**	**110**	P		**Pn**	**01 21 10.3 +2.4**
HORT	**Hortiatis**	**5.09**	**319**	*e*PN		**Pn**	**01 21 09.4 +1.4**
HORT	**Hortiatis**	**5.09**	**319**	*e*Pn		**Pn**	**01 21 09.4 +1.4**
THL	**Klokotos Trika**	**5.11**	**304**	*e*PN		**Pn**	**01 21 09.6 +1.4**
THL	**Klokotos Trika**	**5.11**	**304**	*e*Pn		**Pn**	**01 21 09.6 +1.4**
SOH	**Sokhos**	**5.12**	**322**	*e*PN		**Pn**	**01 21 08.7 +0.2**
SOH	**Sokhos**	**5.12**	**322**	*e*Pn		**Pn**	**01 21 08.7 +0.2**
SRS	**Serrai**	**5.24**	**325**	*e*PN		**Pn**	**01 21 09.7 -0.4**
SRS	**Serrai**	**5.24**	**325**	*e*Pn		**Pn**	**01 21 09.7 -0.4**
DSL	**Palaion Diasel**	**5.56**	**296**	*e*PN		**Pn**	**01 21 15.9 +1.4**
DSL	**Palaion Diasel**	**5.56**	**296**	*e*Pn		**Pn**	**01 21 15.9 +1.4**
KNT	**Kendrikon**	**5.61**	**321**	*e*PN		**Pn**	**01 21 16.6 +1.5**
KNT	**Kendrikon**	**5.61**	**321**	*e*Pn		**Pn**	**01 21 16.6 +1.5**
GRG	**Griva**	**5.72**	**317**	*e*PN		**Pn**	**01 21 17.0 +0.4**
GRG	**Griva**	**5.72**	**317**	*e*Pn		**Pn**	**01 21 17.0 +0.4**

IDC ***27*** *01:20:42.6±1.0, 53.°72N× 163.°59W, h0km, mb4.2/23, mb1 4.3/24, mb1mx4.1/35, mbtmp4.1/24, ML3.6/1, MS3.4/2, Ms1 3.5/2, ms1mx2.8/42, Error ellipse: s-maj=28.1km s-min=14.4km az=174.0*

ISCJB ***27*** *01:20:43.2±1.3, 53.°45N±0.°05× 163.°33W±0.°04, h22km±9km, mb4.2/26, MS2.9/1, Error ellipse: s-maj=8.5km s-min=4.1km az=166.7*

NEIC ***27*** *01:20:44.8, 53.°45N× 163.°40W, h26km, mb4.3/4, After AEIC.*

ISC 27 01:20:45.6±2.1, 53.°55N±0.°09× 163.°41W±0.°04, h25km±13km**, n82,** σ1**9**10/87**, mb4.3**/26**, Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WESE	**West Dahl East**	**1.16**	**324**	P		**Pn**	**01 21 05.9**	**-0.4**
WESP	**Westdahl Peak**	**1.22**	**321**	P		**Pn**	**01 21 07.0**	**-0.2**
WESP				S		**Sb**	**01 21 24.8**	**+1.3**
SSLW	**Shishaldin Wes**	**1.30**	**341**	P		**Pn**	**01 21 08.3**	**+0.1**
ISNN	**Isanotski Nort**	**1.31**	**351**	P		**Pb**	**01 21 09.1**	**-0.4**
FALS	**False Pass**	**1.31**	**360**	*e*Pn		**Pn**	**01 21 08.1**	**-0.2**
FALS				S		**Sb**	**01 21 27.8**	**+1.8**
WEBT	**Westdahl Beart**	**1.31**	**323**	P		**Pn**	**01 21 08.5**	**+0.1**
SSLN	**Shishaldin Nor**	**1.31**	**345**	P		**Pn**	**01 21 08.9**	**+0.5**
AKSA	**Akutan Strait**	**1.48**	**294**	P		**Pn**	**01 21 10.0**	**-0.6**
AKSA				S		**Sn**	**01 21 29.7**	**+0.5**
AKUT	**Akutan**	**1.52**	**294**	P		**Pn**	**01 21 10.9**	**-0.3**
AKUT				S		**Sn**	**01 21 30.7**	**+0.6**
ZRO	**Akutan Zero**	**1.62**	**291**	P		**Pn**	**01 21 12.2**	**-0.3**
AKGG	**Akutan Green G**	**1.66**	**294**	P		**Pn**	**01 21 12.8**	**-0.3**
AKRB	**Akutan Reef Bi**	**1.68**	**291**	P		**Pn**	**01 21 13.3**	**-0.1**
DT1	**Dutton Round H**	**1.70**	**22**	P		**Pn**	**01 21 13.5**	**-0.1**
UNV	**Unalaska Valle**	**1.86**	**280**	*e*Pn		**Pn**	**01 21 14.8**	**-1.1**
UNV				*e*S		**Sn**	**01 21 38.5**	**-0.1**
MREP	**Makushin Rep't**	**2.00**	**279**	P		**Pn**	**01 21 18.0**	**+0.1**
MSW	**Makushin Switc**	**2.04**	**282**	P		**Pn**	**01 21 17.9**	**-0.5**
MSW				S		**Sb**	**01 21 45.8**	**-1.0**
MSOM	**Makushin Julie**	**2.12**	**279**	P		**Pn**	**01 21 19.2**	**-0.3**
SDPT	**Sand Point**	**2.49**	**42**	*e*Pn		**Pn**	**01 21 24.8**	**+0.3**
SDPT				*e*S		**Sn**	**01 21 54.2**	**+0.2**
OKFG	**Magazine Ridge**	**2.69**	**269**	P		**Pn**	**01 21 26.3**	**-1.0**
OKSP	**Okmok Steeple**	**2.94**	**266**	P		**Pn**	**01 21 30.6**	**-0.1**
NIKH	**Nikolski High**	**3.32**	**262**	P		**Pn**	**01 21 35.0**	**-0.9**
CHGN	**Chignik**	**3.99**	**44**	*e*Pn		**Pn**	**01 21 45.6**	**+0.6**
CHGN				*e*S		**Sn**	**01 22 31.1**	**+0.2**
OHAK	**Old Harbor**	**6.84**	**53**	*e*Pn		**Pn**	**01 22 22.6**	**-1.6**
	23nm,0.6s							
OHAK				*e*S		Sb	01 24 10.8	+6.1
KDAK	**Kodiak Island**	**7.45**	**51**	*e*Pn		Pn	01 22 28.3	-4.2
	9.6nm,0.8s							
KDAK				*e*S		**Sn**	**01 23 51.8**	**-4.2**
RSO	**Redoubt South**	**9.04**	**36**	*e*Pn		**Pn**	**01 22 55.8**	**+1.3**
	19nm,0.7s							
BPAW	**Bear Paw Mtn.**	**12.35**	**26**	*e*Pn		**Pn**	**01 23 39.9**	**+0.3**
	0.6nm,0.7s							
BMRM	**Bremner River**	**12.57**	**46**	*e*Pn		**Pn**	**01 23 42.0**	**-0.6**
	6.2nm,0.8s							
BMRM				*e*S		**Sn**	**01 25 57.3**	**-4.3**
IM04	**Indian Mountai**	**13.35**	**17**	*e*Pn		**Pn**	**01 23 55.0**	**+1.8**
ILAR	**Eielson Array**	**14.02**	**30**	Pn		**Pn**	**01 23 59.6**	**-2.9**
	0.1nm,0.3s,baz=222,slow=10,SNR=6.1							
ILAR				LR		LR	01 29 59.4	
	comp=Z,298nm,18.6s,baz=246,slow=40							
DOT	**Dot Lake**	**14.22**	**37**	*e*Pn		**Pn**	**01 24 05.2**	**+0.1**
	3.4nm,0.6s							
COLD	**Coldfoot**	**15.14**	**20**	*e*Pn		**Pn**	**01 24 16.8**	**-0.7**
	13nm,0.9s							
HYT	**Haines Junctio**	**15.73**	**52**	*e*Pn		**P**	**01 24 28.0**	**-1.2**
EGAK	**Eagle**	**15.91**	**36**	*e*Pn		**P**	**01 24 29.9**	**-1.1**
	3.7nm,0.6s							
DLBC	**Dease Lake**	**19.17**	**62**	P		**Pn**	**01 25 10.1**	**+2.1**
	0.1nm,0.3s,baz=264,slow=9.2,SNR=3.9							
INK	**Inuvik**	**20.40**	**32**	P		**P**	**01 25 18.6**	**-1.6**
	3.3nm,0.9s,baz=247,slow=12,SNR=10							
PETK	**Petropavlovsk-**	**23.04**	**285**	P		**P**	**01 25 47.3**	**-1.4**
	2.6nm,0.5s,baz=88,slow=13,SNR=11							
PETK				LR		LR	01 34 35.1	
	comp=Z,47nm,20.5s,baz=89,slow=36							
YKA	**Yellowknife Ar**	**26.72**	**51**	P		**P**	**01 26 24.1**	**+1.5**
	2.8nm,0.9s,baz=270,slow=8.1,SNR=20							
PDAR	**Pinedale Array**	**36.67**	**85**	P		**P**	**01 27 51.6**	**+1.3**
	0.4nm,0.8s,baz=346,slow=6.5,SNR=2.8							
H11N2	**WAKE ISLAND Hy**	**40.75**	**226**	T		T	02 12 11.4	
	baz=26,slow=76,SNR=42							
H11N3	**WAKE ISLAND Hy**	**40.75**	**226**	T		T	02 11 59.0	
	baz=26,slow=76,SNR=42							
H11N1	**WAKE ISLAND Hy**	**40.77**	**226**	T		T	02 12 05.4	
	baz=26,slow=76,SNR=37							
H11S1	**WAKE ISLAND Hy**	**41.92**	**225**	T		T	02 13 30.6	
	baz=26,slow=76,SNR=29							
H11S2	**WAKE ISLAND Hy**	**41.93**	**225**	T		T	02 13 29.5	
	baz=26,slow=76,SNR=13							
H11S3	**WAKE ISLAND Hy**	**41.94**	**225**	T		T	02 13 42.6	
	baz=26,slow=76,SNR=4.3							
SUMG	**Summit**	**48.53**	**19**	*i* P		**P**	**01 29 27.0**	**+0.6**
	11nm,0.8s							
SUMG	**Summit**	**48.53**	**19**	*e*P		**P**	**01 29 26.6**	**+0.3**
	9.9nm,0.9s							
KSRS	**Korea Array**	**48.80**	**280**	P		**P**	**01 29 29.4**	**+1.1**
	1.6nm,0.6s,baz=39,slow=8.0,SNR=5.6							
KSAR	**Wonju Array Be**	**48.83**	**280**	P		**P**	**01 29 29.4**	**+0.8**
TXAR	**Lajitas Array**	**49.18**	**95**	P		**P**	**01 29 33.0**	**+1.4**
	0.4nm,0.6s,baz=305,slow=6.0,SNR=5.4							
TXAR				PcP		**PcP**	**01 30 55.3**	**+0.8**
	0.2nm,0.6s,baz=205,slow=1.9,SNR=2.3							
SCHQ	**Schefferville**	**52.05**	**47**	P		**P**	**01 29 52.6**	**-0.2**
	1.9nm,0.7s,baz=299,slow=13,SNR=3.3							
SONM	**Songino Array**	**53.73**	**303**	P		**P**	**01 30 05.1**	**-0.3**
	2.2nm,0.8s,baz=45,slow=7.3,SNR=15							
ARCES	**ARCESS Array B**	**57.05**	**356**	P		**P**	**01 30 27.7**	**-1.1**
	1.4nm,0.7s,baz=7.6,slow=8.2,SNR=3.8							
ZALV	**Zalesovo Beam**	**58.91**	**320**	P		**P**	**01 30 40.4**	**-1.6**
	2.0nm,0.8s,baz=44,slow=6.6,SNR=7.1							
ZALV				PcP		**PcP**	**01 31 30.6**	**-0.5**
	1.3nm,0.7s,baz=69,slow=4.9,SNR=4.3							
KURK	**Kurchatov**	**63.80**	**321**	P		**P**	**01 31 15.6**	**+0.5**
KURBB	**Kurchatov Arra**	**63.91**	**321**	P		**P**	**01 31 15.6**	**-0.3**
	3.7nm,1.0s,baz=41,slow=6.7,SNR=23							
BVAR	**Borovoye Array**	**64.75**	**327**	P		**P**	**01 31 21.2**	**-0.2**
	4.6nm,0.7s,baz=46,slow=6.4,SNR=27							
BRVK	**Borovoye**	**64.75**	**327**	*e*P		**P**	**01 31 20.2**	**-1.2**
	5.3nm,0.9s							
FINES	**FINESS Array B**	**65.11**	**355**	P		**P**	**01 31 22.8**	**-0.7**
	2.8nm,0.8s,baz=349,slow=3.9,SNR=5.8							
MKAR	**Makanchi Array**	**65.52**	**317**	P		**P**	**01 31 25.1**	**-1.4**
	1.3nm,0.8s,baz=53,slow=6.2,SNR=13							
NB2	**NORSAR Subarra**	**65.68**	**3**	P		**P**	**01 31 27.3**	**0.0**
	comp=Z,1.3nm,0.8s,baz=357,slow=6.9							
NOA	**NORSAR Array B**	**65.68**	**3**	P		**P**	**01 31 27.3**	**0.0**
	comp=Z,2.5nm,0.8s,baz=358,slow=6.6,SNR=10							
AKTO	**Aktyubinsk**	**70.69**	**333**	P		**P**	**01 31 58.9**	**+0.1**
	comp=Z,8.7nm,0.8s,baz=23,slow=5.4,SNR=31							
ABKAR	**Akbulak array**	**71.22**	**332**	*e*P		**P**	**01 32 02.3**	**+0.2**
	comp=Z,7.9nm,0.9s							
AAK	**Ala-Archa**	**72.09**	**319**	P		**P**	**01 32 08.1**	**+0.5**
	comp=Z,2.0nm,0.6s,baz=0.4,slow=2.7,SNR=6.3							
CLL	**Collm**	**75.47**	**2**	*i* P		**P**	**01 32 27.3**	**+0.2**
	comp=Z,5.0nm,1.1s							

AKASG	**Malin Array Be**	**75.58**	**352**	P		**P**	**01 32 27.2 -0.5**
	comp=Z,2.2nm,0.6s,baz=9.1,slow=5.6,SNR=12						
GERES	**GERESS Array B**	**77.95**	**2**	P		**P**	**01 32 41.4 +0.2**
	comp=Z,1.1nm,0.7s,baz=25,slow=3.5,SNR=7.8						
CMAR	**Chiang Mai Arr**	**79.80**	**287**	P		**P**	**01 32 51.8 +0.1**
	comp=Z,2.2nm,0.3s,baz=14,slow=5.2,SNR=5.4						
KBZ	**Khabaz**	**80.51**	**341**	P		**P**	**01 32 56.2 +1.1**
	comp=Z,2.8nm,0.9s,baz=16,slow=5.0,SNR=7.0						
GNI	**Garni**	**83.56**	**339**	P		**P**	**01 33 12.1 +0.6**
	comp=Z,2.0nm,0.4s,baz=346,slow=4.2,SNR=3.5						
KNT	**Kendrikon**	**85.51**	**355**	*e*P		**P**	**01 33 22.0 +0.9**
SRS	**Serrai**	**85.52**	**355**	*e*P		**P**	**01 33 21.5 +0.4**
ALN	**Alexandroupoli**	**85.58**	**353**	*e*P		**P**	**01 33 22.5 +1.1**
KAVA	**Kavala**	**85.58**	**354**	*e*P		**P**	**01 33 22.0 +0.6**
GRG	**Griva**	**85.74**	**356**	*e*P		**P**	**01 33 22.5 +0.2**
BR131	**Keskin Array S**	**85.94**	**347**	*e*P		**P**	**01 33 24.1 +0.6**
	comp=Z,2.2nm,0.9s						
BRTR	**Keskin Array B**	**85.94**	**347**	P		**P**	**01 33 23.9 +0.5**
	comp=Z,2.1nm,0.8s,baz=37,slow=2.8,SNR=16						
FNA	**Florina**	**85.95**	**356**	*e*P		**P**	**01 33 23.0 -0.4**
OUR	**Ouranopolis**	**86.27**	**354**	*e*P		**P**	**01 33 25.0 +0.1**
IGT	**Igoumenitsa**	**87.24**	**357**	*e*P		**P**	**01 33 30.0 +0.4**
XOR	**Xorichti**	**87.28**	**355**	*e*P		**P**	**01 33 29.0 -0.9**
MAKR	**Makrakomi, Fth**	**87.69**	**356**	*e*P		**P**	**01 33 32.0 +0.2**

BJI ***27*** *01:29:53.5, 34.°25N× 67.°58E, h5km, mb4.7/34, mB4.9/20, ML5.0/1, Ms4.4/21, Ms7 3.9/19*

ISCJB ***27*** *01:29:58.7±0.2, 34.°14N±0.°02× 68.°22E±0.°02, h10km, mb4.2/50, MS3.8/22, Error ellipse: s-maj=3.4km s-min=2.7km az=12.6*

TEH ***27*** *01:29:58.0, 33.°95N× 68.°35E, h10km, ML4.4*

IDC ***27*** *01:29:59.0±0.6, 34.°20N× 68.°19E, h0km, mb4.0/22, mb1 4.2/28, mb1mx4.2/33, mbtmp4.1/28, ML4.0/5, MS3.7/22, Ms1 3.7/22, ms1mx3.6/45, Error ellipse: s-maj=15.8km s-min=12.0km az=174.0*

NEIC ***27*** *01:30:00.2±1.5, 34.°19N× 68.°17E, h7km±9km, mb4.4/12, Error ellipse: s-maj=6.5km s-min=5.6km az=179.0*

NEIC Felt at Kabul.

NNC ***27*** *01:30:01.5±3.3, 34.°45N× 67.°88E, h0km, mb4.8, mpv4.6, Error ellipse: s-maj=42.0km s-min=24.4km az=141.0*

MOS ***27*** *01:30:02.3±0.9, 34.°26N× 68.°24E, h33km, mb4.7/22, Error ellipse: s-maj=8.0km s-min=5.5km az=94.2*

ISC 27 01:30:00.4±0.4, 34.°16N±0.°04× 68.°21E±0.°03, h10km**, n193,** σ1**9**76/208**, mb4.3**/50**, MS3.8**/22**, 8C-7D, Southeastern Afghanistan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBL	**Kabul**	**0.79**	**61**	*e*P		**Pg**	**01 30 14.8**	**-0.8**
KBL				*e*S		**Sg**	**01 30 25.5**	**-0.4**
KBL	**Kabul**	**0.79**	**61**	*e*Pg		**Pg**	**01 30 14.8**	**-0.8**
KBL				*e*S		**Sg**	**01 30 25.4**	**-0.4**
CEP	**Cherat**	**3.09**	**95**	P		**Pb**	**01 30 54.0**	**-1.5**
CEP				S		**Sg**	**01 31 44.0**	**+4.3**
THW	**Thamme Wali**	**3.25**	**114**	P		**Pb**	**01 30 57.3**	**-0.9**
CHCP	**Chirah Chowk**	**4.23**	**95**	P		Pn	01 31 09.1	+4.1
DLH	**Dalhousie**	**6.69**	**102**	*e*P		**Pn**	**01 31 41.0**	**+2.1**
DLH				*ex*		x	01 33 00.0	
PONG	**Pong**	**6.86**	**107**	*e*P		**Pn**	**01 31 40.5**	**-0.5**
DHRM	**DHARAMSHALA**	**7.04**	**103**	*e*P		**Pn**	**01 31 45.2**	**+1.5**
DHRM				*ex*		x	01 32 53.9	
DHRM				AML		AML	01 33 58.3	
	comp=E,1μm,0.7s							
DHRM				AML		AML	01 34 03.5	
	comp=N,792nm,0.6s							
IDAH	**Dahanechah**	**7.12**	**261**	*e*P		Pn	01 31 49.9	+5.1
BHK	**Bhakra**	**7.43**	**109**	*e*P		Pn	01 31 56.4	+7.5
BHK				*e*S		Sn	01 33 20.0	+6.7
SDNR	**Sundarnagar**	**7.83**	**107**	*e*P		**Pn**	**01 31 57.0**	**+2.5**
SDNR				*ex*		x	01 34 03.0	
IKOO	**Kooshah**	**7.90**	**260**	*e*P		**Pn**	**01 31 56.9**	**+1.3**
ITEG	**Tejag**	**8.00**	**264**	*e*P		Pn	01 31 59.9	+3.0
IAKL	**Akhelmad**	**8.10**	**290**	*e*P		**Pn**	**01 31 57.8**	**-0.4**
SMLA	**Simla**	**8.14**	**109**	*e*P		**Pn**	**01 32 00.6**	**+2.1**
SMLA				*e*S		**Sn**	**01 33 26.2**	**-4.3**
SMLA				AML		AML	01 34 40.3	
	comp=E,408nm,0.7s							
SMLA				AML		AML	01 34 40.6	
	comp=N,306nm,0.4s							
KSH	**Kashi**	**8.20**	**47**	P		**Pn**	**01 31 58.0**	**-1.5**
KSH				SMN				
	comp=N,670nm,1.6s							
KSH				SME				
	comp=N,200nm,0.8s							
ISFR	**Sfrayin**	**8.80**	**292**	*e*P		**Pn**	**01 32 09.7**	**+1.8**
KHET	**Khetri**	**8.90**	**131**	*e*P		**Pn**	**01 32 09.1**	**0.0**
KHET				*ex*		x	01 33 49.4	
KHET				AML		AML	01 34 55.4	
	comp=E,152nm,0.1s							
KHET				AML		AML	01 34 56.8	
	comp=N,111nm,0.2s							
AML	**Almayashu**	**9.05**	**27**	P		**Pn**	**01 32 13.2**	**+1.8**
	SNR=54							
KK31	**Karatay Array**	**9.11**	**11**	Pn		**Pn**	**01 32 11.9**	**+0.1**
	comp=N,17nm,0.7s,baz=200,slow=14,SNR=87							
KK31				⇑Sn		**Sn**	**01 33 52.8**	**-1.6**
	comp=N,36nm,0.8s,baz=196,slow=28,SNR=4.9							
KKAR	**Karatay Array**	**9.11**	**11**	*e*P		**Pn**	**01 32 13.0**	**+1.2**
KKAR				*e*S		**Sn**	**01 33 55.0**	**+0.6**
KKAR	**Karatay Array**	**9.11**	**11**	*e*Pn		**Pn**	**01 32 13.0**	**+1.2**
KKAR				*e*S		**Sn**	**01 33 55.0**	**+0.6**
ISHV	**Shirvan**	**9.17**	**295**	*e*P		**Pn**	**01 32 13.4**	**+0.5**
KUDL	**Kundal**	**9.29**	**128**	*e*P		**Pn**	**01 32 13.8**	**-0.6**
KUDL				*e*S		**Sn**	**01 33 53.8**	**-5.1**
KUDL				AML		AML	01 35 16.5	
	comp=N,42nm,0.3s							
KUDL				AML		AML	01 35 17.6	
	comp=E,55nm,0.8s							
UCH	**Uchtor**	**9.45**	**30**	P		**Pn**	**01 32 18.6**	**+1.6**
	SNR=54							
AJM	**Ajmer**	**9.46**	**142**	*ex*		**Pn**	**01 32 18.0**	**+1.2**
EKS2	**Erkin-Say**	**9.54**	**26**	P		Pn	01 32 22.6	+4.7
	SNR=11							
EKS2	**Erkin-Say**	**9.54**	**26**	*e*P		**Pn**	**01 32 19.1**	**+1.2**
EKS2				*e*S		Sn	01 34 11.5	+6.3
EKS2	**Erkin-Say**	**9.54**	**26**	*e*Pn		**Pn**	**01 32 19.1**	**+1.2**
EKS2				*e*S		Sn	01 34 11.5	+6.3
SONA	**Sohna**	**9.61**	**125**	*e*P		**Pn**	**01 32 18.4**	**-0.4**
SONA				*e*S		Sn	01 34 00.2	-6.7
SONA				AML		AML	01 35 23.6	
	comp=E,44nm,0.8s							
SONA				AML		AML	01 35 26.2	
	comp=N,43nm,0.6s							
KZA	**Kyzart**	**9.65**	**33**	P		**Pn**	**01 32 21.7**	**+2.0**
	SNR=25							
AAK	**Ala-Archa**	**9.79**	**28**	P		Pn	01 32 26.0	+4.7
	SNR=18							
AAK	**Ala-Archa**	**9.79**	**28**	⇑Pn		**Pn**	**01 32 22.3**	**+1.0**
	comp=N,38nm,0.8s							
AAK				⇓Sn		**Sn**	**01 34 11.6**	**+0.3**
	comp=N,69nm,1.1s							
AAK	**Ala-Archa**	**9.79**	**28**	Pn		**Pn**	**01 32 22.7**	**+1.4**
	comp=N,3.7nm,0.3s,baz=199,slow=5.6,SNR=30							
AAK				Sn		**Sn**	**01 34 11.4**	**+0.1**
	baz=323,slow=20,SNR=1.9							
AAK				LR		LR	01 36 00.1	
	comp=N,228nm,21.7s,baz=208,slow=37							
AAK	**Ala-Archa**	**9.79**	**28**	*ce*P		**Pn**	**01 32 22.6**	**+1.3**
AAK				pmax		pmax		
	comp=Z,64nm,0.8s							
AAK	**Ala-Archa**	**9.79**	**28**	*e*Pn		**Pn**	**01 32 22.7**	**+1.4**
AAK				*e*S		Sn	01 34 00.2	-11
AAK				Sn		Sn	01 34 11.4	-0.1
KBK	**Karagaybulak**	**9.99**	**30**	P		Pn	01 32 29.3	+5.2
	SNR=8.8							
FRU	**Bishkek**	**10.00**	**28**	*e*P		**Pn**	**01 32 24.0**	**-0.2**
FRU				*e*S		**Sn**	**01 34 19.0**	**+2.5**
FRU				smax		smax		
	comp=E,240μm,2.0s							
CHMS	**Chumysh**	**10.20**	**28**	P		Pn	01 32 31.6	+4.8
	SNR=30							
ULHL	**Ulahol**	**10.24**	**36**	P		**Pn**	**01 32 30.3**	**+2.7**
	SNR=30							
JOSI	**Joshimath**	**10.25**	**107**	*e*P		**Pn**	**01 32 29.5**	**+1.8**
JOSI				*e*S		Sn	01 34 16.1	-6.7
JOSI				AML		AML	01 34 53.4	
	comp=N,802nm,0.6s							
JOSI				AML		AML	01 34 53.6	
	comp=E,418nm,0.8s							
USP	**Ospenovka**	**10.33**	**27**	P		Pn	01 32 32.7	+4.1
	SNR=8.9							

TKM2	**Tokmak 2**	**10.48**	**31**	P		**Pn**	**01 32 31.8 +0.9**
	SNR=38						
TKM2	**Tokmak 2**	**10.48**	**31**	⇑Pn		**Pn**	**01 32 31.2 +0.4**
	comp=E,48nm,0.7s						
TKM2				⇑Sn		**Sn**	**01 34 32.4 +4.1**
	comp=E,34nm,1.1s						
TKM2	**Tokmak 2**	**10.48**	**31**	*e*P		**Pn**	**01 32 31.7 +0.9**
TKM2	**Tokmak 2**	**10.48**	**31**	*e*Pn		**Pn**	**01 32 31.7 +0.9**
AGRA	**Agra**	**10.86**	**127**	*e*P		**Pn**	**01 32 35.2 -0.6**
AGRA				*e*S		Sn	01 34 31.0 -6.4
AGRA				AML		AML	01 36 12.3
	comp=N,70nm,0.3s						
AGRA				AML		AML	01 36 13.1
	comp=E,120nm,0.3s						
LGTI	**Lohaghat**	**11.26**	**111**	*ex*		**Pn**	**01 32 44.1 +2.7**
AAA	**Alma-Ata**	**11.36**	**34**	*i* P		Pn	01 32 45.9 +3.1
AAA				*i* S		**Sn**	**01 34 51.3 +1.5**
AAA				pmax		pmax	
	comp=Z,100nm,0.3s						
AAA				smax		smax	
	comp=N,300nm,1.5s						
AAA				MLR		MLR	
	comp=Z,900nm,3.0s						
IGLO	**Ghaloghah**	**11.97**	**285**	*e*P		**Pn**	**01 32 53.4 +2.0**
KOLN	**Koldanda**	**14.65**	**112**	*e*P		**Pn**	**01 33 27.8 -0.2**
	comp=Z,52nm,0.5s						
GKN	**Gorkha**	**15.35**	**109**	*e*P		**Pn**	**01 33 36.3 -0.9**
	comp=Z,87nm,0.5s						
DMN	**Daman**	**15.90**	**110**	*e*P		**Pn**	**01 33 43.5 -1.0**
	comp=Z,82nm,0.6s						
KKN	**Kakani**	**15.95**	**109**	*e*P		**Pn**	**01 33 43.7 -1.4**
	comp=Z,85nm,0.6s						
PKIN	**Phulchoki**	**16.14**	**109**	*e*P		**Pn**	**01 33 46.0 -1.6**
PKIN				*e*S		Sn	01 36 36.9 -10
PKI	**Pulchoki**	**16.15**	**109**	*e*P		**Pn**	**01 33 46.4 -1.5**
	comp=Z,103nm,0.6s						
AB31	**Akbulak array**	**16.28**	**340**	⇑Pn		**Pn**	**01 33 47.2 -1.7**
	comp=Z,7.9nm,0.8s,baz=136,slow=16,SNR=57						
ABKAR	**Akbulak array**	**16.28**	**340**	*e*Pn		**Pn**	**01 33 48.1 -0.9**
ABKAR				*e*S		**Sn**	**01 36 51.1 +1.6**
GUN	**Gumba**	**16.37**	**108**	*e*P		**Pn**	**01 33 50.0 -0.6**
	comp=Z,124nm,0.7s						
MK31	**Makanchi Array**	**16.52**	**36**	⇓Pn		**P**	**01 33 53.9 -0.9**
	comp=Z,9.7nm,0.6s,baz=31,slow=11,SNR=79						
MK31	**Makanchi Array**	**16.52**	**36**	*e*P		**Pn**	**01 33 51.1 -1.0**
MK31	**Makanchi Array**	**16.52**	**36**	*e*Pn		**Pn**	**01 33 51.0 -1.0**
MKAR	**Makanchi Array**	**16.52**	**36**	Pn		**Pn**	**01 33 51.0 -1.1**
	comp=Z,0.5nm,0.3s,baz=216,slow=13,SNR=19						
MKAR				LR		LR	01 40 29.9	
	comp=Z,156nm,21.9s,baz=226,slow=38						
MKAR	**Makanchi Array**	**16.52**	**36**	P		**Pn**	**01 33 51.0 -1.1**
MKAR				pmax		pmax	
	comp=Z,1.0nm,0.3s						
MKAR				MLR		MLR	
	comp=Z,156nm,21.9s						
MKAR	**Makanchi Array**	**16.52**	**36**	*e*Pn		**Pn**	**01 33 51.1 -1.0**
JIRN	**Jiri**	**16.73**	**108**	*e*P		**Pn**	**01 33 55.0 -0.2**
RAMN	**Ramite**	**17.38**	**109**	*e*P		**Pn**	**01 34 02.9 -0.4**
	comp=Z,89nm,0.6s						
AKTO	**Aktyubinsk**	**17.89**	**338**	⇓Pn		**Pn**	**01 34 07.9 -1.4**
	comp=Z,22nm,1.0s				

NVS comp=N,24nm,1.8s smax smax
comp=E,20nm,2.2s
ARU Arti 23.23 346 *i* P **P** **01 35 07.6 +0.1**
ARU PP **PnPn** **01 35 33.5 +0.5**
ARU S **S** **01 39 20.4 +1.0**
ARU SS **SnSn** **01 39 56.5 +3.4**
ARU Arti 23.23 346 *eP* **P** **01 35 07.6 +0.1**
comp=E,24nm,1.0s
SVE Sverdlovsk 23.25 349 *eP* **P** **01 35 08.6 +0.9**
SVE *eS* **S** **01 39 16.0 -3.7**
SVE pmax pmax
comp=Z,21nm,1.3s
SVE MLR MLR
comp=Z,363nm,12.0s
GTA Gaotai 25.77 69 *eP* **P** **01 35 34.0 +2.5**
GTA pP **pP** **01 35 38.5 +4.0**
GTA sP sP 01 35 41.0 +5.2
GTA S **S** **01 40 04.8 +4.1**
GTA sS sS 01 40 12.8 +7.1
GTA PMZ
comp=Z,6.0nm,1.4s
GTA PMZ
comp=Z,100nm,5.7s
GTA LN
comp=Z,220nm,16.6s
GTA LE
comp=Z,200nm,13.8s
GTA LZ
comp=Z,210nm,14.2s
VORD Divnogorie 26.88 317 *eP* **P** **01 35 44.3 +3.1**
VORD pmax pmax
comp=Z,7.0nm,1.0s
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.6s
VSR Storozhevoye 27.06 318 *eP* **P** **01 35 46.6 +3.8**
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR pmax pmax
comp=Z,9.0nm,1.0s
VSR pmax pmax
comp=N,10.0nm,0.9s
LPSR Galich'ya Gora 27.86 320 *eP* **P** **01 35 52.2 +2.2**
LPSR pmax pmax
comp=E,10.0nm,1.3s
LPSR pmax pmax
comp=Z,10.0nm,1.3s
LPSR pmax pmax
comp=N,3.0nm,0.5s
BRTR Keskin Array B 28.07 292 P **P** **01 35 53.1 +1.0**
comp=N,0.9nm,0.9s,baz=115,slow=8.8,SNR=4.6
BRTR LR LR 01 48 03.2
comp=N,97nm,21.8s,baz=84,slow=39
EIL Elat 28.51 270 LR LR 01 49 00.6
comp=N,296nm,18.7s,baz=76,slow=40
LZH Lanzhou 29.11 76 *eP* **P** **01 35 59.8 -1.7**
LZH pP **pP** **01 36 02.3 -2.3**
LZH PMZ
comp=N,17nm,1.0s
CD2 Chengdu 30.05 86 *eP* **P** **01 36 08.0 -1.8**
CD2 PMZ
comp=N,10.0nm,0.5s
ZAK Zakamensk 30.25 47 *eP* P 01 36 04.8 -6.5
ZAK pmax pmax
comp=Z,3.0nm,1.5s
OBN Obninsk 30.34 323 *eP* **P** **01 36 09.0 -2.9**
OBN pmax pmax
comp=Z,6.0nm,1.2s
CMAR Chiang Mai Arr 31.52 112 P **P** **01 36 23.6 +0.8**
comp=Z,3.0nm,0.3s,baz=299,slow=8.4,SNR=8.3
CMAR LR LR 01 51 43.4
comp=Z,130nm,18.8s,baz=310,slow=41
SONM Songino Array 31.55 53 P **P** **01 36 23.4 +0.5**
comp=Z,3.5nm,0.8s,baz=254,slow=8.0,SNR=21
SONM LR LR 01 50 50.4
comp=Z,236nm,18.5s,baz=260,slow=40
AKASG Malin Array Be 32.73 312 P **P** **01 36 34.1 +1.0**
comp=Z,0.7nm,0.4s,baz=104,slow=7.1,SNR=4.6
AKASG LR LR 01 51 14.0
comp=Z,179nm,20.5s,baz=100,slow=39
XAN Xi'an 33.55 79 P **P** **01 36 42.0 +1.5**
XAN PMZ
comp=Z,2.0nm,1.0s
HHC Hu-ho-hao-te 34.76 66 *eP* **P** **01 36 49.3 -1.7**
HHC PP **PnPn** **01 38 06.5 -0.4**
HHC S **S** **01 42 18.0 -3.3**
HHC PMZ
comp=Z,14nm,0.9s
HHC PMZ
comp=Z,140nm,7.4s
HHC LN
comp=Z,220nm,14.8s
HHC LE
comp=Z,220nm,21.0s
HHC LZ
comp=Z,310nm,19.7s
IDI Anoyia 35.41 284 P **P** **01 36 57.1 +0.5**
comp=Z,2.8nm,0.7s,baz=106,slow=8.1,SNR=10
KOLS Kolonicke sedl 36.82 308 *eP* **P** **01 37 10.0 +1.5**
KOLS Kolonicke sedl 36.82 308 *esP* **P** **01 37 10.0 +1.5**
STHS Stebnicka Huta 37.55 308 *eP* **P** **01 37 13.4 -1.2**
STHS Stebnicka Huta 37.55 308 *eP* **P** **01 37 13.4 -1.2**
STHS *e* 02 08 43.8
FINES FINESS Array B 38.22 329 P **P** **01 37 20.9 +0.9**
comp=Z,2.5nm,1.0s,baz=126,slow=7.2,SNR=3.5
FINES LR LR 01 57 13.3
comp=Z,52nm,19.5s,baz=126,slow=43
BOD Bodaibo 38.59 38 *eP* **P** **01 37 23.0 -0.3**
BOD pmax pmax
comp=Z,4.0nm,1.4s
TIA Tai'an 39.69 73 ⇑P **P** **01 37 35.5 +2.7**
DPC Dobruska-Polom 40.79 310 *eP* **P** **01 37 43.0 +1.2**
DPC *ex* x 01 37 50.1
DPC *ex* x 01 37 55.6
DPC Dobruska-Polom 40.79 310 *eP* **P** **01 37 40.6 -1.2**
DPC Dobruska-Polom 40.79 310 *eP* **P** **01 37 40.6 -1.2**
CUC Castrocucco 41.71 294 *eP* **P** **01 37 50.0 +0.6**
comp=Z,2.8nm,0.6s
GERES GERESS Array B 42.47 307 P **P** **01 37 55.8 +0.2**
comp=Z,0.5nm,0.7s,baz=107,slow=9.7,SNR=4.2
ARCES ARCESS Array B 42.48 339 P **P** **01 37 54.4 -0.9**
comp=Z,2.0nm,0.7s,baz=144,slow=6.4,SNR=3.1
ARCES LR LR 01 57 22.1
comp=Z,73nm,20.5s,baz=95,slow=39
CN2 Changchun 44.73 60 *eP* **P** **01 38 11.5 -2.2**
NB2 NORSAR Subarra 44.92 325 P **P** **01 38 14.5 -0.6**
comp=Z,2.4nm,0.8s,baz=100,slow=8.6
NOA NORSAR Array B 44.92 325 P **P** **01 38 14.5 -0.6**
comp=Z,0.6nm,0.7s,baz=107,slow=7.5,SNR=3.3
KMBO Kilima Mbogo 45.57 226 LR LR 02 00 21.2
comp=Z,63nm,19.4s,baz=81,slow=40
LPG La Plagne 47.47 303 *eP* **P** **01 38 35.2 -0.5**
comp=Z,6.6nm,0.7s
LPG La Plagne 47.47 303 *eP* **P** **01 38 35.2 -0.5**
LPG pmax pmax
comp=Z,7.0nm,0.7s
LPG La Plagne 47.47 303 *eP* **P** **01 38 35.2 -0.5**
comp=Z,6.6nm,0.7s
LPL La Plagne 47.48 303 *eP* **P** **01 38 35.2 -0.5**
LPL La Plagne 47.48 303 *eP* **P** **01 38 35.2 -0.5**
LPL La Plagne 47.48 303 *eP* **P** **01 38 35.2 -0.5**
KEST Kesra 47.64 290 P **P** **01 38 37.6 +0.7**
comp=Z,1.2nm,0.6s,baz=107,slow=5.3,SNR=5.0
KEST LR LR 02 03 23.4
comp=Z,19nm,18.4s,baz=332,slow=42
KSAR Wonju Array Be 47.81 68 P **P** **01 38 38.5 +0.5**
KSAR Wonju Array Be 47.81 68 P **P** **01 38 38.5 +0.5**
KSRS Korea Array 47.83 68 P **P** **01 38 38.5 +0.3**
comp=Z,0.6nm,0.3s,baz=274,slow=7.2,SNR=3.6
KSRS LR LR 02 01 53.5
comp=Z,92nm,19.4s,baz=279,slow=40
KSRS Korea Array 47.83 68 P **P** **01 38 38.5 +0.3**
KSRS pmax pmax
comp=Z,1.0nm,0.3s
KSRS MLR MLR
comp=Z,92nm,19.5s
ORIF Oris-en-Rattie 48.17 302 *eP* **P** **01 38 41.3 +0.4**
comp=Z,9.4nm,1.0s
ORIF Oris-en-Rattie 48.17 302 *eP* **P** **01 38 41.3 +0.4**
ORIF pmax pmax
comp=Z,9.0nm,1.0s
ORIF Oris-en-Rattie 48.17 302 *eP* **P** **01 38 41.3 +0.4**
comp=Z,9.4nm,1.0s
TIXI Tiksi 48.78 22 *eP* **P** **01 38 43.2 -1.9**
TIXI pmax pmax
comp=Z,1.0nm,1.1s
VIVF Saint-Julien-l 49.02 303 *eP* **P** **01 38 47.0 -0.4**
comp=Z,22nm,1.2s
VIVF Saint-Julien-l 49.02 303 *eP* **P** **01 38 47.0 -0.4**
VIVF pmax pmax
comp=Z,22nm,1.2s
VIVF Saint-Julien-l 49.02 303 *eP* **P** **01 38 47.0 -0.4**
comp=Z,22nm,1.2s
SMF Signal de Mont 49.29 305 *eP* **P** **01 38 49.0 -0.3**
comp=Z,8.5nm,0.6s
SMF Signal de Mont 49.29 305 *eP* **P** **01 38 49.0 -0.3**
SMF pmax pmax
comp=Z,9.0nm,0.6s
SMF Signal de Mont 49.29 305 *eP* **P** **01 38 49.0 -0.3**
comp=Z,8.5nm,0.6s
USRK Ussuriysk Ar. 49.32 58 P P 01 38 54.2 +4.7
comp=Z,1.5nm,0.7s,baz=272,slow=8.6,SNR=4.8
USRK LR LR 02 01 53.7
comp=Z,202nm,18.9s,baz=279,slow=39
AVF Avril sur Loir 49.59 305 *eP* **P** **01 38 51.2 -0.4**
comp=Z,8.6nm,0.9s
AVF Avril sur Loir 49.59 305 *eP* **P** **01 38 51.2 -0.4**
AVF pmax pmax
comp=Z,9.0nm,0.9s
AVF Avril sur Loir 49.59 305 *eP* **P** **01 38 51.2 -0.4**
comp=Z,8.6nm,0.9s
TCF Toulx Ste Croi 50.46 305 *eP* **P** **01 38 58.3 0.0**
comp=Z,8.6nm,0.9s
TCF Toulx Ste Croi 50.46 305 *eP* **P** **01 38 58.3 0.0**
TCF pmax pmax
comp=Z,9.0nm,0.9s
TCF Toulx Ste Croi 50.46 305 *eP* **P** **01 38 58.3 0.0**
comp=Z,8.6nm,0.9s
CAF Calviac 50.83 303 *eP* **P** **01 39 01.1 0.0**
comp=Z,6.8nm,0.8s
CAF Calviac 50.83 303 *eP* **P** **01 39 01.1 0.0**
CAF pmax pmax
comp=Z,7.0nm,0.8s
CAF Calviac 50.83 303 *eP* **P** **01 39 01.1 0.0**
comp=Z,6.8nm,0.8s
TGY Tagaytay City 51.50 99 LR LR 02 03 06.5
comp=Z,90nm,20.5s,baz=219,slow=39
ETSF Etsaut 53.15 301 *eP* **P** **01 39 17.9 -0.5**
comp=Z,9.5nm,0.8s
ETSF Etsaut 53.15 301 *eP* **P** **01 39 17.9 -0.5**
ETSF pmax pmax
comp=Z,10.0nm,0.8s
ETSF Etsaut 53.15 301 *eP* **P** **01 39 17.9 -0.5**
comp=Z,9.5nm,0.8s
MJAR Matsushiro Arr 55.96 66 P **P** **01 39 38.2 -0.7**
comp=Z,0.7nm,0.3s,baz=302,slow=9.0,SNR=2.4
ESDC Sonseca Array 56.54 298 P **P** **01 39 42.6 -0.5**
comp=Z,0.2nm,0.4s,baz=61,slow=7.7,SNR=6.7
SEY Seymchan 57.62 33 LR LR 02 04 51.1
comp=Z,114nm,20.8s,baz=360,slow=36
BILL Bilibino 61.69 25 *i* P **P** **01 40 15.5 -2.7**
BILL *e* 01 40 54.6
BILL *i* 01 42 32.2
BILL pmax pmax
comp=Z,3.0nm,1.0s
BILL MLR MLR
comp=Z,97nm,18.0s
TOA0 Torodi Ar. Sit 63.37 268 *eP* **P** **01 40 28.3 -1.9**
TOA0 Torodi Ar. Sit 63.37 268 *eP* **P** **01 40 28.3 -1.9**
TORD Torodi Ar. Bea 63.37 268 P **P** **01 40 28.6 -1.7**
comp=Z,5.3nm,0.9s,baz=51,slow=5.2,SNR=14
TORD LR LR 02 11 18.2
comp=Z,118nm,18.8s,baz=55,slow=39
DBIC Dimbokro 72.28 266 P **P** **01 41 26.1 -0.3**
comp=Z,4.7nm,0.8s,baz=40,slow=5.9,SNR=5.2
DBIC LR LR 02 16 02.3
comp=Z,120nm,18.4s,baz=36,slow=38
KIC Kosan Boka 72.35 266 *eP* **P** **01 41 29.5 +2.6**
comp=Z,16nm,0.9s
TIC Toumodi 72.43 266 *eP* **P** **01 41 29.8 +2.5**
LIC Lamto 72.67 266 *eP* P 01 41 31.8 +3.1
comp=Z,28nm,1.2s
BOSA Boshof 74.50 218 P **P** **01 41 40.4 +1.2**
comp=Z,1.4nm,0.7s,baz=359,slow=8.8,SNR=4.0
ILAR Eielson Array 77.63 15 P **P** **01 41 56.5 0.0**
comp=Z,1.5nm,1.1s,baz=324,slow=4.4,SNR=7.5
PAX Paxson 79.52 15 *eP* P 01 42 01.9 -5.2
PAX pmax pmax
comp=Z,2.0nm,0.8s
PAX Paxson 79.52 15 *eP* P 01 42 01.9 -5.2
comp=Z,2.3nm,0.8s
WRA Warramunga Arr 82.75 120 P **P** **01 42 25.4 +0.6**
comp=Z,1.1nm,0.6s,baz=320,slow=4.7,SNR=5.2
WRAB Tennant Creek 82.75 120 P **P** **01 42 21.8 -3.0**
WRAB pmax pmax
comp=Z,6.0nm,1.4s
WRAB Tennant Creek 82.75 120 P **P** **01 42 21.8 -3.0**
comp=Z,5.7nm,1.4s
SCHQ Schefferville 83.31 336 LR LR 02 19 10.4
comp=Z,46nm,19.2s,baz=358,slow=35
YKA Yellowknife Ar 83.65 1 P **P** **01 42 29.3 +0.5**
comp=Z,0.8nm,0.7s,baz=348,slow=5.6,SNR=4.9
ASAR Alice Springs 84.85 123 P **P** **01 42 36.2 +0.7**
comp=Z,2.2nm,0.6s,baz=310,slow=5.5,SNR=20
ULM Lac du Bonnet 94.78 350 LR LR 02 31 22.0
comp=Z,62nm,18.8s,baz=20,slow=39

IDC ***27*** *01:45:10.4±0.9, 13.˚16N×145.˚88E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.7/27, mbtmp3.7/9, Error ellipse: s-maj=22.4km s-min=19.7km az=40.0*
ISCJB ***27*** *01:45:15.6±0.7, 13.˚1N±0.˚1×145.˚81E±0.˚10, h50km, mb3.7/9, Error ellipse: s-maj=18.6km s-min=11.2km az=31.1*
ISC 27 01:45:17.3±0.8, 13.˚1N±0.˚2×145.˚8E±0.˚1, h50km, n12, σ0s84/13, mb3.8/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
GUMO	**Guam**	**0.97**	**298**	Pn	**Pn**	**01 45 33.5**	**-1.1**
	320nm,0.3s,baz=117,slow=7.0,SNR=129						
GUMO				Sn	**Sn**	**01 45 48.3**	**+0.9**
	492nm,0.3s,baz=342,slow=19,SNR=17						
WRA	**Warramunga Arr**	**34.74**	**199**	P	**P**	**01 52 03.2**	**+0.3**
	0.8nm,0.7s,baz=14,slow=9.6,SNR=10.0						
ASAR	**Alice Springs**	**38.37**	**198**	P	**P**	**01 52 33.7**	**-0.1**
	0.3nm,0.5s,baz=21,slow=7.3,SNR=4.1						
MKAR	**Makanchi Array**	**62.41**	**316**	P	**P**	**01 55 36.1**	**+0.9**
	0.5nm,0.5s,baz=91,slow=8.7,SNR=5.3						
KURBB	**Kurchatov Arra**	**65.52**	**320**	P	**P**	**01 55 55.5**	**+0.1**
	0.5nm,0.3s,baz=103,slow=6.9,SNR=2.8						
ILAR	**Eielson Array**	**68.61**	**25**	P	**P**	**01 56 14.3**	**-0.5**
	0.2nm,0.4s,baz=246,slow=5.9,SNR=4.5						
BVAR	**Borovoye Array**	**70.81**	**322**	P	**P**	**01 56 29.3**	**+0.7**
	0.5nm,0.5s,baz=103,slow=8.4,SNR=3.5						
YKA	**Yellowknife Ar**	**82.86**	**27**	P	**P**	**01 57 37.2**	**+1.0**
	0.2nm,0.5s,baz=286,slow=4.9,SNR=3.0						
NVAR	**Mina Array Bea**	**86.53**	**52**	P	**P**	**01 57 55.6**	**0.0**
	0.2nm,0.3s,baz=260,slow=5.4,SNR=2.3						
FINES	**FINESS Array B**	**91.93**	**335**	P	**P**	**01 58 18.7**	**-1.5**
	1.3nm,0.8s,baz=45,slow=6.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	**135.83**	**305**	PKP	**PKPdf**	**02 04 33.3**	**-0.1**
	0.4nm,1.1s,baz=22,slow=3.0,SNR=2.7						
DBIC	**Dimbokro**	**144.79**	**302**	PKP	**PKPdf**	**02 04 49.6**	**-0.1**
	1.3nm,0.8s,baz=48,slow=4.1,SNR=3.2						

ISCJB ***27*** *01:45:27.4±0.9, 34.˚24N×0.˚03×68.˚24E±0.˚04, h10km, mb3.9/21, MS3.4/15, Error ellipse: s-maj=5.3km s-min=3.7km az=137.2*
IDC ***27*** *01:45:27.4±0.9, 34.˚24N×68.˚05E, h0km, mb3.9/12, mb1 4.0/16, mb1mx3.9/28, mbtmp3.9/16, ML3.9/4, MS3.4/19, Ms1 3.4/19, ms1mx3.2/49, Error ellipse: s-maj=21.9km s-min=17.4km az=4.0*
NNC ***27*** *01:45:29.3±2.6, 34.˚36N×67.˚98E, h0km, mb4.4, mpv4.3, Error ellipse: s-maj=31.2km s-min=17.2km az=155.0*
NEIC ***27*** *01:45:31.1±2.0, 34.˚39N×68.˚33E, h14km±13km, mb4.0/10, Error ellipse: s-maj=12.6km s-min=9.3km az=184.0*
ISC 27 01:45:29.9±0.6, 34.˚27N±0.˚06×68.˚27E±0.˚04, h10km, n82, σ1s77/72, mb3.9/21, MS3.4/15, 7C-1D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
KBL	**Kabul**	**0.70**	**67**	*eP*g	**Pg**	**01 45 43.2**	**-0.2**
KBL				*eS*	**Sb**	**01 45 53.5**	**-0.6**
CEP	**Cherat**	**3.06**	**97**	P	**Pb**	**01 46 24.0**	**-0.5**
CEP				S	**Sg**	**01 47 12.0**	**+3.9**
THW	**Thamme Wali**	**3.25**	**116**	P	Pn	01 46 24.6	+3.5
CHCP	**Chirah Chowk**	**4.20**	**97**	P	Pn	01 46 38.0	+4.0
SARP	**Sargodha**	**4.38**	**121**	P	**Pn**	**01 46 38.9**	**+2.5**
DLH	**Dalhousie**	**6.67**	**103**	*eP*	**Pn**	**01 47 10.0**	**+1.9**
DLH				*ex*	x	01 48 35.0	
DHRM	**DHARAMSHALA**	**7.02**	**104**	*eP*	Pn	01 47 17.1	+4.0
DHRM				*eS*	**Sn**	**01 48 34.1**	**+1.0**
BHK	**Bhakra**	**7.42**	**110**	*eP*	Pn	01 47 26.0	+7.6
BHK				*eS*	Sn	01 48 49.2	+6.5
SDNR	**Sundarnagar**	**7.82**	**108**	*eP*	**Pn**	**01 47 25.0**	**+1.2**
SDNR				*ex*	x	01 49 41.0	
SMLA	**Simla**	**8.13**	**110**	*eP*	**Pn**	**01 47 31.0**	**+3.0**
SMLA				*eS*	**Sn**	**01 48 58.2**	**-1.6**
SMLA				AML	AML	01 50 12.3	
	comp=E,184nm,0.4s						
SMLA				AML	AML	01 50 12.5	
	comp=N,269nm,0.8s						
KHET	**Khetri**	**8.93**	**132**	*eP*	**Pn**	**01 47 38.7**	**-0.4**
KHET				*eS*	**Sn**	**01 49 16.2**	**-3.6**
KHET				AML	AML	01 50 34.1	
	comp=N,117nm,0.7s						
KHET				AML	AML	01 50 34.3	
	comp=E,138nm,1.6s						
KK31	**Karatay Array**	**8.99**	**11**	⇑Pn	**Pn**	**01 47 41.3**	**+1.5**
	comp=E,5.1nm,0.4s,baz=192,slow=14,SNR=18						
KK31				Sn	**Sn**	**01 49 25.1**	**+3.9**
	comp=E,34nm,0.7s,baz=194,slow=27,SNR=4.2						
KUDL	**Kundal**	**9.32**	**129**	*eP*	**Pn**	**01 47 45.2**	**+1.0**
KUDL				*eS*	Sn	01 49 24.2	-4.9
KUDL				AML	AML	01 50 41.2	
	comp=E,38nm,0.2s						
KUDL				AML	AML	01 50 43.5	
	comp=N,23nm,0.5s						
NDI	**New Delhi**	**9.45**	**124**	*eP*	**Pn**	**01 47 46.5**	**+0.3**
NDI				*ex*	x	01 49 23.0	
AJM	**Ajmer**	**9.52**	**143**	*ex*	Pn	01 47 44.0	-3.1
SONA	**Sohna**	**9.64**	**126**	*eP*	**Pn**	**01 47 47.9**	**-0.8**
SONA				*eS*	**Sn**	**01 49 34.0**	**-3.0**
SONA				AML	AML	01 50 42.4	
	comp=E,43nm,0.8s						
SONA				AML	AML	01 50 55.3	
	comp=N,21nm,1.4s						
AAK	**Ala-Archa**	**9.67**	**28**	Pn	**Pn**	**01 47 51.3**	**+2.0**
AAK				Sn	**Sn**	**01 49 39.5**	**+1.4**
AAK	**Ala-Archa**	**9.67**	**28**	Pn	Pn	01 47 53.9	+4.6
	comp=N,3.8nm,0.3s,baz=214,slow=11,SNR=3.8						
AAK				Sn	**Sn**	**01 49 39.5**	**+1.4**
	comp=N,0.6nm,0.3s,baz=314,slow=19,SNR=2.2						
AAK				LR	LR	01 52 22.0	
	comp=N,202nm,18.3s,baz=210,slow=42						
CHMS	**Chumysh**	**10.08**	**28**	P	Pn	01 47 60.0	+5.2
	SNR=9.0						
JOSI	**Joshimath**	**10.23**	**108**	*eP*	Pn	01 48 00.5	+3.4
JOSI				*ex*	x	01 49 49.8	
TKM2	**Tokmak 2**	**10.37**	**31**	⇑Pn	**Pn**	**01 48 00.0**	**+1.2**
	comp=N,14nm,0.6s						
TKM2				Sn	Sn	01 49 59.5	+4.4
KOLN	**Koldanda**	**14.65**	**112**	*eP*	**Pn**	**01 48 55.8**	**-1.7**
GKN	**Gorkha**	**15.34**	**110**	*eP*	**Pn**	**01 49 05.0**	**-1.7**
DMN	**Daman**	**15.89**	**110**	*eP*	**Pn**	**01 49 12.1**	**-1.9**
KKN	**Kakani**	**15.94**	**109**	*eP*	**Pn**	**01 49 13.7**	**-0.9**
PKIN	**Phulchoki**	**16.13**	**110**	*eP*	**Pn**	**01 49 15.6**	**-1.5**
PKI	**Pulchoki**	**16.14**	**110**	*eP*	**Pn**	**01 49 15.3**	**-2.0**
	comp=N,74nm,0.6s						
AB31	**Akbulak array**	**16.20**	**340**	Pn	**Pn**	**01 49 15.4**	**-2.1**
	comp=N,2.0nm,0.5s,baz=118,slow=17,SNR=36						
ABKAR	**Akbulak array**	**16.20**	**340**	*ePn*	**Pn**	**01 49 14.6**	**-2.9**
	comp=N,2.8nm,0.5s						
GUN	**Gumba**	**16.36**	**108**	*eP*	**Pn**	**01 49 19.0**	**-1.0**
	comp=N,117nm,0.8s						
MK31	**Makanchi Array**	**16.40**	**36**	⇑Pn	**P**	**01 49 22.7**	**-0.3**
	comp=N,24nm,1.2s,baz=215,slow=10,SNR=26						
MK31	**Makanchi Array**	**16.40**	**36**	*ePn*	**Pn**	**01 49 20.7**	**+0.5**
MKAR	**Makanchi Array**	**16.40**	**36**	Pn	**Pn**	**01 49 19.2**	**-1.0**
	comp=N,0.4nm,0.3s,baz=225,slow=12,SNR=19						
MKAR				LR	LR	01 55 57.7	
	comp=N,90nm,20.6s,baz=235,slow=38						
JIRN	**Jiri**	**16.71**	**108**	*eP*	**Pn**	**01 49 23.9**	**-0.7**
	comp=N,59nm,0.4s						
RAMN	**Ramite**	**17.37**	**110**	*eP*	**Pn**	**01 49 31.0**	**-1.8**
AKTO	**Aktyubinsk**	**17.81**	**338**	⇑Pn	**Pn**	**01 49 37.3**	**-0.5**
	comp=N,7.8nm,0.8s						
AKTO	**Aktyubinsk**	**17.81**	**338**	P	**Pn**	**01 49 36.3**	**-1.5**
	comp=N,0.4nm,0.3s,baz=146,slow=13,SNR=17						
AKTO				LR	LR	01 56 15.8	
	comp=N,63nm,18.4s,baz=175,slow=36						
KURBB	**Kurchatov Arra**	**17.98**	**22**	⇓Pn	**P**	**01 49 40.4**	**0.0**
	comp=N,7.9nm,0.6s						
KURBB	**Kurchatov Arra**	**17.98**	**22**	P	**Pn**	**01 49 38.0**	**-1.8**
	comp=N,0.2nm,0.3s,baz=212,slow=11,SNR=31						
ODAN	**Odare**	**18.03**	**109**	*eP*	**Pn**	**01 49 40.1**	**-0.8**
	comp=N,40nm,0.6s						
TAPN	**Taplejung**	**18.05**	**107**	*eP*	**Pn**	**01 49 40.9**	**-0.4**
	comp=N,58nm,0.8s						
KURK	**Kurchatov**	**18.09**	**22**	⇑Pn	**P**	**01 49 41.6**	**0.0**
	comp=N,3.0nm,0.7s						
KURK	**Kurchatov**	**18.09**	**22**	*ePn*	**Pn**	**01 49 40.8**	**-0.4**
	comp=N,7.2nm,0.8s						
BVA0	**Borovoye Array**	**18.81**	**4**	⇑Pn	**P**	**01 49 49.0**	**-0.6**
	comp=N,11nm,1.0s,baz=169,slow=12,SNR=32						
BVAR	**Borovoye Array**	**18.81**	**4**	P	**Pn**	**01 49 49.5**	**-0.5**
	comp=N,0.6nm,0.3s,baz=174,slow=10,SNR=12						
BRVK	**Borovoye**	**18.84**	**4**	⇑Pn	**P**	**01 49 49.4**	**-0.4**
	comp=N,26nm,1.2s						
BRVK	**Borovoye**	**18.84**	**4**	*ePn*	**P**	**01 49 49.5**	**-0.4**
	comp=N,8.5nm,0.7s						
BRVK				*eS*	**Sn**	**01 53 15.0**	**-6.0**
GNI	**Garni**	**19.61**	**294**	P	**Pn**	**01 50 03.0**	**+3.1**
	comp=N,0.4nm,0.3s,baz=90,slow=3.2,SNR=4.7						
GNI				LR	LR	02 00 25.7	
	comp=N,63nm,18.1s,baz=90,slow=46						
GNI	**Garni**	**19.61**	**294**	*eP*	**Pn**	**01 50 01.0**	**+1.1**
	comp=N,4.1nm,0.8s						
LSA	**Lhasa**	**19.93**	**97**	*eP*	**P**	**01 50 01.5**	**-0.9**
	comp=N,22nm,0.8s						
KBZ	**Khabaz**	**21.79**	**303**	P	**P**	**01 50 24.8**	**+2.9**
	comp=N,3.3nm,0.9s,baz=56,slow=24,SNR=7.7						
KBZ				LR	LR	01 59 29.8	
	comp=N,112nm,20.7s,baz=156,slow=39						
KIV	**Kislovodsk**	**22.00**	**304**	P	**P**	**01 50 25.0**	**+0.6**
	comp=N,2.4nm,0.5s						
RAYN	**Ar Rayn**	**22.57**	**248**	P	**P**	**01 50 31.4**	**+0.8**
	comp=N,2.2nm,0.7s						
ZAA0	**Zalesovo Array**	**22.88**	**26**	*eP*	**P**	**01 50 31.6**	**-1.9**
ZALV	**Zalesovo Beam**	**22.88**	**26**	P	**P**	**01 50 32.7**	**-0.8**
	comp=N,3.6nm,0.4s,baz=223,slow=10,SNR=11						
ZALV				LR	LR	02 00 18.8	
	comp=N,151nm,19.7s,baz=250,slow=39						
ARU	**Arti**	**23.14**	**346**	*eP*	**P**	**01 50 35.5**	**-0.7**
	comp=N,6.2nm,0.8s						
IMP	**Imphal**	**24.20**	**106**	*ex*	x	01 50 02.0	
MMAI	**Mount Meron Ar**	**27.33**	**277**	LR	LR	02 03 03.4	
	comp=N,48nm,18.2s,baz=135,slow=39						
BRTR	**Keskin Array B**	**28.07**	**291**	P	**P**	**01 51 20.6**	**-1.1**
	comp=N,0.2nm,0.5s,baz=88,slow=9.1,SNR=3.1						
BRTR				LR	LR	02 03 09.1	
	comp=N,38nm,21.0s,baz=83,slow=38						
EIL	**Elat**	**28.56**	**270**	LR	LR	02 04 08.3	
	comp=N,78nm,22.0s,baz=78,slow=40						
SONM	**Songino Array**	**31.45**	**53**	P	**P**	**01 51 51.8**	**+0.2**
	comp=N,2.4nm,0.8s,baz=258,slow=9.3,SNR=13						
CMAR	**Chiang Mai Arr**	**31.52**	**112**	P	**P**	**01 51 52.3**	**0.0**
	comp=N,0.9nm,0.3s,baz=290,slow=11,SNR=3.7						
CMAR				LR	LR	02 05 40.2	
	comp=N,63nm,19.2s,baz=250,slow=38						
AKASG	**Malin Array Be**	**32.69**	**312**	P	P	01 52 06.9	+4.6
	comp=N,0.5nm,0.4s,baz=98,slow=8.3,SNR=4.1						
AKASG				LR	LR	02 06 52.9	
	comp=N,96nm,19.6s,baz=50,slow=40						
FINES	**FINESS Array B**	**38.15**	**329**	P	**P**	**01 52 47.3**	**-1.8**
	comp=N,1.5nm,0.9s,baz=114,slow=9.3,SNR=2.3						
FINES				LR	LR	02 10 08.0	
	comp=N,54nm,18.3s,baz=157,slow=39						
VRAC	**Vranov**	**40.54**	**308**	LR	LR	02 12 54.7	
	comp=N,34nm,21.4s,baz=78,slow=41						
CUC	**Castrocucco**	**41.71**	**294**	*eP*	**P**	**01 53 20.7**	**+1.7**
	comp=N,1.4nm,0.6s						
ARCES	**ARCESS Array B**	**42.39**	**339**	P	**P**	**01 53 22.2**	**-1.9**
	comp=N,5.6nm,1.0s,baz=119,slow=11,SNR=2.7						
AQU	**L'Aquila**	**43.16**	**298**	*eP*	**P**	**01 53 30.1**	**-0.7**
	comp=N,2.2nm,0.4s						
HFS	**Hagfors**	**43.49**	**324**	LR	LR	02 13 39.7	
	comp=N,90nm,21.8s,baz=104,slow=39						
NB2	**NORSAR Subarra**	**44.86**	**325**	P	**P**	**01 53 43.8**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=100,slow=8.6						
NOA	**NORSAR Array B**	**44.86**	**325**	P	**P**	**01 53 43.8**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=100,slow=8.0,SNR=2.6						

NOA				LR	LR	02 14 11.4		
	comp=Z,76nm,21.9s,baz=115,slow=38							
DAVOX	**Davos/Dischmat**	**45.13**	**304**	LR	LR	02 16 09.2		
	comp=Z,45nm,18.5s,baz=72,slow=41							
KEST	**Kesra**	**47.65**	**289**	P	**P**	**01 54 08.7**	**+2.2**	
	comp=Z,1.3nm,0.8s,baz=355,slow=6.0,SNR=5.4							
USRK	**Ussuriysk Ar.**	**49.22**	**58**	LR	LR	02 17 11.3		
	comp=Z,129nm,21.9s,baz=247,slow=38							
MJAR	**Matsushiro Arr**	**55.87**	**66**	LR	LR	02 23 14.0		
	comp=Z,39nm,19.9s,baz=170,slow=40							
ESDC	**Sonseca Array**	**56.53**	**298**	P	P	01 55 09.3	-3.2	
	comp=Z,0.1nm,0.3s,baz=71,slow=7.4,SNR=3.5							
JCJ	**Chichijima**	**62.71**	**75**	LR	LR	02 27 50.3		
	comp=Z,50nm,19.4s,slow=40							
TORD	**Torodi Ar. Bea**	**63.42**	**268**	P	P	01 55 56.9	-3.2	
	comp=Z,1.3nm,0.7s,baz=51,slow=5.4,SNR=13							
INK	**Inuvik**	**76.44**	**8**	P	**P**	**01 57 19.2**	**-0.1**	
	comp=Z,2.1nm,0.9s,baz=342,slow=9.4,SNR=3.7							
ILAR	**Eielson Array**	**77.51**	**15**	P	**P**	**01 57 27.4**	**+2.0**	
	comp=Z,0.9nm,1.1s,baz=271,slow=5.6,SNR=5.0							
YKA	**Yellowknife Ar**	**83.55**	**1**	P	**P**	**01 57 58.1**	**+0.3**	
	comp=Z,0.4nm,0.7s,baz=350,slow=4.7,SNR=3.7							
ASAR	**Alice Springs**	**84.86**	**123**	P	**P**	**01 58 05.7**	**+0.6**	
	comp=Z,0.7nm,0.5s,baz=311,slow=5.4,SNR=6.7							

ISCJB ***27*** *01:52:11.6±1.4, 12°.19S±0°.07×166°.51E±0°.06, h62km±12km, mb4.6/36, Error ellipse: s-maj=12.2km s-min=9.0km az=34.4*

IDC ***27*** *01:52:12.1±0.7, 12°.12S×166°.65E, h62km±4km, mb4.1/15, mb1 4.3/16, mb1mx4.2/20, mbtmp4.3/16, MS3.7/7, Ms1 3.7/7, ms1mx3.3/27, Error ellipse: s-maj=23.9km s-min=13.7km az=130.0*

NEIC ***27*** *01:52:14.7±1.0, 12°.14S×166°.54E, h82km±9km, mb4.8/18, Error ellipse: s-maj=8.9km s-min=7.1km az=188.0*

BJI ***27*** *01:52:15.1, 11°.87S×166°.32E, h75km, mb4.8/29, mB5.0/19, Ms4.9/11, Ms7 4.5/13*

ISC 27 01:52:13.6±0.4, 12°.11S±0°.06×166°.59E±0°.06, h71km±2km, h71km:pP-P, n87, σ1s94/121, mb4.7/37, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**7.04**	**292**	*eP*		**Pn**	**01 53 54.0**	**-0.1**
HNR				*eS*		**Sn**	**01 55 12.0**	**-0.8**
HNR	**Honiara**	**7.04**	**292**	*ePn*		**Pn**	**01 53 54.5**	**+0.3**
HNR				*eS*		**Sn**	**01 55 10.3**	**-2.5**
DZM	**Mont Dzumac**	**9.91**	**181**	*ePn*		**Pn**	**01 54 32.4**	**-1.0**
	80nm,0.8s							
DZM				*eLR*		LR	01 56 50.8	
	991nm,26.2s							
DZM	**Mont Dzumac**	**9.91**	**181**	P		**Pn**	**01 54 32.7**	**-0.7**
	1.7nm,0.3s,baz=90,slow=24,SNR=15							
DZM				S		**Sn**	**01 56 27.2**	**+4.1**
	0.7nm,0.3s,baz=73,slow=20,SNR=2.1							
DZM				LR		LR	01 58 00.3	
	comp=Z,617nm,21.2s,baz=0.0,slow=35							
DZM	**Mont Dzumac**	**9.91**	**181**	*eP*		**Pn**	**01 54 32.3**	**-1.0**
MSVF	**Nonsavu**	**12.41**	**118**	*ePn*		**Pn**	**01 55 10.3**	**+2.8**
PMG	**Port Moresby**	**19.27**	**276**	*ePn*		**Pn**	**01 56 33.8**	**-0.6**
	12nm,1.1s							
EIDS	**Eidsvold**	**19.71**	**226**	*eP*		**P**	**01 56 37.8**	**+0.4**
	37nm,0.8s							
CTA	**Charters Tower**	**21.07**	**245**	P		**P**	**01 56 52.5**	**+0.3**
	5.5nm,0.8s,baz=92,slow=16,SNR=6.0							
CTA				pP		**pP**	**01 57 05.0**	**-2.0**
	10nm,0.9s,baz=65,slow=12,SNR=4.3							
CTAO	**Charters Tower**	**21.07**	**245**	P		**P**	**01 56 51.7**	**-0.5**
	2.2nm,0.7s							
RAO	**Raoul Island**	**22.34**	**142**	LR		LR	02 04 35.1	
	comp=Z,72nm,20.9s,baz=246,slow=33							
COEN	**Coen**	**22.88**	**263**	*eP*		**P**	**01 57 10.4**	**-1.2**
	2.5nm,0.9s							
JAY	**Jayapura**	**27.35**	**288**	P		**P**	**01 57 52.4**	**0.0**
	10nm,0.9s,baz=155,slow=1.4,SNR=4.3							
STKA	**Stephens Creek**	**30.27**	**225**	P		**P**	**01 58 18.4**	**+0.4**
	16nm,0.7s,baz=36,slow=7.2,SNR=44							
STKA				pP		**pP**	**01 58 33.2**	**-1.7**
	10nm,0.7s,baz=36,slow=12,SNR=4.7							
STKA	**Stephens Creek**	**30.27**	**225**	*eP*		**P**	**01 58 18.1**	**0.0**
	4.3nm,0.8s							
STKA				pP		**pP**	**01 58 33.2**	**-1.7**
H11S2	**WAKE ISLAND Hy**	**30.40**	**0**	T		T	02 28 56.7	
	baz=181,slow=76,SNR=34							
H11S3	**WAKE ISLAND Hy**	**30.41**	**0**	T		T	02 28 57.0	
	baz=181,slow=76,SNR=21							
H11S1	**WAKE ISLAND Hy**	**30.42**	**0**	T		T	02 28 35.7	
	baz=181,slow=76,SNR=8.3							
H11N1	**WAKE ISLAND Hy**	**31.62**	**1**	T		T	02 30 30.9	
	baz=182,slow=76,SNR=5.2							
H11N3	**WAKE ISLAND Hy**	**31.63**	**1**	T		T	02 30 28.6	
	baz=182,slow=76,SNR=3.6							
H11N2	**WAKE ISLAND Hy**	**31.64**	**1**	T		T	02 30 29.8	
	baz=182,slow=76,SNR=4.2							
WRAB	**Tennant Creek**	**31.90**	**252**	*eP*		**P**	**01 58 31.3**	**-1.3**
	7.7nm,0.9s							
WRA	**Warramunga Arr**	**31.91**	**252**	P		**P**	**01 58 31.5**	**-1.2**
	6.2nm,0.8s,baz=82,slow=8.9,SNR=16							
WRA				pP		**pP**	**01 58 47.5**	**-2.2**
	1.9nm,0.6s,baz=83,slow=8.7,SNR=3.0							
WRA				LR		LR	02 11 18.9	
	comp=Z,90nm,20.7s,baz=95,slow=36							
ASAR	**Alice Springs**	**33.08**	**245**	P		**P**	**01 58 41.2**	**-1.7**
	7.7nm,0.7s,baz=72,slow=9.6,SNR=79							
NLAI	**Namlea**	**40.06**	**279**	P		**P**	**01 59 43.7**	**+1.3**
FORT	**Forrest**	**40.13**	**236**	*eP*		**P**	**01 59 42.2**	**-0.5**
	69nm,0.7s							
SANI	**Sanana**	**41.45**	**281**	P		**P**	**01 59 56.9**	**+3.1**
	22nm,0.8s							
PPT	**Papeete**	**42.65**	**103**	LR		LR	02 14 03.4	
	comp=Z,186nm,20.5s,baz=288,slow=31							
PPT2	**Papeete2**	**42.65**	**103**	*eLR*		LR	02 12 01.2	
	578nm,29.2s							
TBI	**Tubuai**	**43.18**	**111**	*eLR*		LR	02 12 15.7	
	396nm,32.0s							
PMOR	**Pomariorio Ree**	**44.29**	**99**	*eT*		T	02 47 44.0	
	2.8nm,0.2s							
MBWA	**Marble Bar**	**45.65**	**252**	*eP*		**P**	**02 00 27.6**	**0.0**
	27nm,0.8s							
KAPI	**Kappang**	**46.79**	**274**	*eP*		**P**	**02 00 36.9**	**+0.3**
	3.3nm,0.9s							
MPSI	**Mapaga**	**47.96**	**282**	P		**P**	**02 00 45.6**	**0.0**
JOW	**Kunigami**	**53.69**	**317**	*eP*		**P**	**02 01 29.7**	**+1.2**
	12nm,0.9s							
MJAR	**Matsushiro Arr**	**55.29**	**332**	P		**P**	**02 01 38.7**	**-1.2**
	1.2nm,0.6s,baz=146,slow=8.8,SNR=3.3							
SBUM	**Sibu**	**55.91**	**281**	*eP*		**P**	**02 01 45.6**	**+0.8**
	7.6nm,1.0s							
KSRS	**Korea Array**	**61.21**	**325**	P		**P**	**02 02 21.4**	**+0.2**
	0.5nm,0.3s,baz=148,slow=7.2,SNR=4.2							
KSAR	**Wonju Array Be**	**61.23**	**325**	P		**P**	**02 02 21.4**	**+0.1**
NJ2	**Nanjing**	**63.35**	**315**	*eP*		**P**	**02 02 36.8**	**+1.2**
NJ2				PMZ				
	10.0nm,0.7s							
QIZ	**Qiongzhong**	**63.91**	**298**	P		**P**	**02 02 41.0**	**+1.5**
QIZ				pP		**pP**	**02 02 59.0**	**+0.9**
QIZ				sP		**sP**	**02 03 06.8**	**+0.8**
QIZ				S		**S**	**02 11 11.3**	**+1.2**
QIZ				sS		**sS**	**02 11 44.0**	**+2.3**
QIZ				PMZ				
	300nm,2.7s							
USRK	**Ussuriysk Ar.**	**64.26**	**333**	P		**P**	**02 02 42.0**	**+0.7**
	2.1nm,0.9s,baz=98,slow=3.9,SNR=4.7							
USRK				pP		**pP**	**02 02 58.7**	**-1.3**
	1.5nm,0.8s,baz=140,slow=9.1,SNR=3.1							
VNDA	**Vanda**	**65.45**	**181**	*eP*		**P**	**02 02 47.4**	**-1.2**
	15nm,1.6s							
WHN	**Wuhan**	**65.71**	**312**	*eP*		P	02 02 54.8	+3.8
SBA	**Scott Base**	**65.74**	**180**	*eP*		**P**	**02 02 50.4**	**-0.1**
	10nm,0.9s							
CN2	**Changchun**	**67.07**	**329**	*eP*		P	02 03 03.8	+4.4
IPM	**Ipoh**	**67.22**	**280**	*eP*		**P**	**02 03 01.0**	**0.0**
	28nm,1.0s							
SKNT	**Sakolnakorn**	**68.27**	**294**	P		**P**	**02 03 07.8**	**+0.2**
	34nm,1.1s							
GYA	**Guiyang**	**69.69**	**304**	*eP*		**P**	**02 03 18.0**	**+1.6**
GYA				pP		**PcP**	**02 03 39.5**	**+0.7**
GYA				sP		**sP**	**02 03 47.3**	**+4.3**
GYA				PP		**PP**	**02 05 55.5**	**+4.1**
GYA				ScP			02 07 34.3	
GYA				S		**S**	**02 12 20.0**	**0.0**
GYA				sS		**SKiKP**	**02 12 55.8**	**-2.1**
GYA				SKS		**SKSac**	**02 13 06.0**	**-5.3**
GYA				SS		**SS**	**02 16 50.3**	**+0.5**
GYA				PMZ				
	10.0nm,1.0s							
GYA				PMZ				
	90nm,5.4s							
GYA				LN				
	490nm,19.4s							
GYA				LE				
	420nm,20.0s							
GYA				LZ				
	460nm,19.8s							
GSI	**Gunungsitoli**	**69.79**	**276**	*eP*		**P**	**02 03 16.9**	**-0.2**
	28nm,0.9s							
PBKT	**Sadao Pong**	**70.84**	**292**	P		**P**	**02 03 24.3**	**+0.9**
	9.7nm,1.0s							
XAN	**Xi'an**	**71.44**	**312**	P		**P**	**02 03 27.0**	**+0.2**
XAN				PMZ				
	3.0nm,0.9s							
KMI	**Kunming**	**72.38**	**301**	P		**P**	**02 03 34.0**	**+1.3**
KMI				PcP		**PcP**	**02 03 50.3**	**-0.1**
KMI				pP		**pP**	**02 03 55.3**	**+3.6**
KMI				S		**S**	**02 12 48.3**	**-3.1**
KMI				PMZ				
	24nm,1.0s							
KMI				PMZ				
	120nm,3.1s							
KMI				LZ				
	67nm,20.3s							
CRAI	**Chiangrai**	**72.61**	**296**	P		**P**	**02 03 31.9**	**-2.1**
	16nm,0.8s							
LAMP	**Lampang**	**72.69**	**294**	P		**P**	**02 03 35.9**	**+1.4**
	7.8nm,0.8s							
HHC	**Hu-ho-hao-te**	**73.17**	**320**	*eP*		**P**	**02 03 40.0**	**+3.0**
HHC				PP		PP	02 06 26.5	+5.5
HHC				S		**SKiKP**	**02 13 01.5**	**-1.1**
HHC				sS		**SKSac**	**02 13 35.8**	**-1.1**
HHC				PMZ				
	8.0nm,0.7s							
HHC				PMZ				
	84nm,7.4s							
HHC				LN				
	190nm,19.7s							
HHC				LE				
	130nm,17.3s							
HHC				LZ				
	170nm,19.7s							
CMAR	**Chiang Mai Arr**	**73.29**	**294**	P		**P**	**02 03 39.4**	**+1.3**
	5.8nm,0.8s,baz=125,slow=4.7,SNR=25							
CMAR				pP		**PcP**	**02 03 54.5**	**+0.4**
	2.4nm,0.5s,baz=108,slow=4.6,SNR=2.1							
CMMT	**Chiang Mai**	**73.40**	**294**	P		**P**	**02 03 39.6**	**+0.9**
	17nm,1.2s							
CHTO	**Chiang Mai**	**73.41**	**294**	P		**P**	**02 03 39.6**	**+0.9**
	59nm,1.2s							
CHTO	**Chiang Mai**	**73.41**	**294**	*eP*		**P**	**02 03 39.2**	**+0.5**
	12nm,1.1s							
CMAI	**Chiengmai2**	**73.69**	**295**	P		**P**	**02 03 41.5**	**+1.0**
CD2	**Chengdu**	**73.90**	**307**	*eP*		**P**	**02 03 43.0**	**+1.6**
CD2				pP		**pP**	**02 04 04.5**	**+4.1**
CD2				sP		sP	02 04 13.5	+5.3
CD2				PP		**PP**	**02 06 31.3**	**+4.0**
CD2				S		**S**	**02 13 08.0**	**-0.1**
CD2				sS		**SKKSac**	**02 13 44.0**	**+1.1**
CD2				SS		**SS**	**02 17 56.0**	**+2.0**
CD2				PMZ				
	10.0nm,0.5s							
CD2				PMZ				
	120nm,5.4s							
LZH	**Lanzhou**	**76.08**	**312**	*eP*		**P**	**02 03 55.3**	**+1.3**
LZH				pP		**pP**	**02 04 17.3**	**+4.2**
LZH				PMZ				
	28nm,1.0s							
LZH				PMZ				
	170nm,4.2s							
ULN	**Ulaanbaatar**	**79.64**	**324**	*eP*		P	02 04 18.9	+5.4
	3.9nm,0.8s							
IMP	**Imphal**	**79.74**	**298**	*eP*		**P**	**02 04 13.0**	**-1.4**
SONM	**Songino Array**	**80.00**	**324**	P		**P**	**02 04 15.2**	**-0.2**
	0.8nm,0.4s,baz=116,slow=3.4,SNR=8.1							
SONM				pP		**pP**	**02 04 31.6**	**-3.1**
	1.0nm,0.6s,baz=142,slow=7.5,SNR=4.1							
GTA	**Gaotai**	**80.38**	**314**	*eP*		**P**	**02 04 19.0**	**+1.3**
GTA				pP		**pP**	**02 04 36.0**	**-1.0**
GTA				sP		**sP**	**02 04 42.8**	**-1.9**
GTA				S		**S**	**02 14 19.0**	**+0.7**
GTA				SKS		**SKSac**	**02 14 27.8**	**-1.8**
GTA				sS		**sS**	**02 14 48.0**	**-3.1**
GTA				PMZ				
	6.0nm,1.0s							
GTA				PMZ				
	110nm,6.4s							
GTA				LN				
	80nm,18.1s							
GTA				LE				
	100nm,17.1s							
GTA				LZ				
	130nm,19.0s							
YBH	**Yreka Blue Hor**	**84.05**	**45**	*eP*		pP	02 04 54.7	-1.4
	4.9nm,0.9s,baz=270,slow=5.0,SNR=4.4							
MAW	**Mawson**	**84.05**	**202**	P		P	02 04 50.4	+14
	5.6nm,0.9s,baz=87,slow=6.8,SNR=8.2							
ILAR	**Eielson Array**	**84.25**	**18**	P		**P**	**02 04 35.5**	**-1.6**
	1.1nm,0.5s,baz=240,slow=4.8,SNR=20							
ILAR				pP		**pP**	**02 04 54.1**	**-2.4**
	1.7nm,0.7s,baz=232,slow=5.2,SNR=5.7							
ILAR				LR		LR	02 34 52.5	
	comp=Z,59nm,21.7s,baz=197,slow=30							
NVAR	**Mina Array Bea**	**86.08**	**50**	pP		pP	02 05 04.3	-2.3
	2.1nm,0.7s,baz=233,slow=8.3,SNR=8.5							
WVOR	**Wild Horse Val**	**87.13**	**46**	*eP*		**P**	**02 04 53.1**	**+1.0**
	16nm,1.1s							
WMQ	**Urumqi**	**90.42**	**315**	*eP*		**P**	**02 05 09.3**	**+1.8**
WMQ				pP		**pP**	**02 05 30.0**	**+2.9**
WMQ				sP		**sP**	**02 05 38.3**	**+3.5**
WMQ				PP		**PP**	**02 08 47.0**	**+4.0**
WMQ				S		**S**	**02 15 57.0**	**+0.2**
WMQ				sS		**sS**	**02 16 31.5**	**+1.3**
WMQ				SS		**SS**	**02 22 01.3**	**+2.3**
WMQ				PMZ				
	9.0nm,0.4s							
WMQ				PMZ				
	94nm,5.8s							
WMQ				LN				
	40nm,24.2s							
WMQ				LE				
	82nm,22.0s							
WMQ				LZ				
	52nm,20.0s							
JLU	**Jordanelle**	**91.78**	**49**	*eP*		**P**	**02 05 14.5**	**+0.4**
	16nm,1.7s							
PDAR	**Pinedale Array**	**93.66**	**47**	LR		LR	02 45 09.2	
	comp=Z,28nm,18.1s,baz=342,slow=34							
MKAR	**Makanchi Array**	**94.86**	**317**	P		**P**	**02 05 27.3**	**-0.5**
	3.2nm,0.8s,baz=95,slow=6.2,SNR=25							
MKAR				pP		**pP**	**02 05 43.2**	**-4.3**
	1.6nm,0.6s,baz=90,slow=6.5,SNR=7.6							
MKAR	**Makanchi Array**	**94.86**	**317**	*eP*		**P**	**02 05 27.7**	**-0.2**
MKAR				pP		**pP**	**02 05 43.2**	**-4.3**
ZALV	**Zalesovo Beam**	**94.89**	**324**	P		**P**	**02 05 26.8**	**-1.0**
	0.8nm,0.6s,baz=97,slow=7.4,SNR=2.7							
ZALV				pP		**pP**	**02 05 44.3**	**-3.1**
	2.2nm,0.8s,baz=108,slow=4.8,SNR=3.5							
YKA	**Yellowknife Ar**	**95.53**	**27**	P		**P**	**02 05 29.8**	**-0.7**
	0.2nm,0.4s,baz=255,slow=4.4,SNR=2.5							
TXAR	**Lajitas Array**	**95.61**	**61**	P		**P**	**02 05 30.8**	**-1.0**
	0.2nm,0.6s,baz=262,slow=6.3,SNR=2.8							
TXAR				pP		**pP**	**02 05 48.9**	**-2.5**
	0.4nm,0.7s,baz=215,slow=6.4,SNR=4.9							
TXAR				LR		LR	02 40 20.3	
	comp=Z,43nm,21.2s,baz=0.0,slow=30							
KSH	**Kashi**	**98.06**	**309**	P		Pdif	02 05 44.0	+1.3
KSH				pP		pP	02 06 04.8	+2.5
KSH				PP		**PP**	**02 09 44.5**	**+1.8**
KSH				S		**S**	**02 17 00.3**	**-3.9**
KSH				SS		**SS**	**02 23 48.0**	**-0.1**
KSH				PMZ				
	89nm,4.7s							
KSH				LN				
	62nm,6.7s							
KSH				LE				
	93nm,6.2s							
KSH				LZ				
	140nm,6.1s							
ARCES	**ARCESS Array B**	**117.56**	**346**	PKP		**PKPdf**	**02 10 49.7**	**-1.2**
	0.6nm,0.3s,baz=52,slow=2.1,SNR=16							
NOA	**NORSAR Array B**	**127.94**	**345**	PKP		**PKPdf**	**02 11 10.1**	**-0.9**
	0.6nm,0.8s,baz=32,slow=2.0,SNR=3.2							
KOLS	**Kolonicke sedl**	**132.88**	**328**	*ePKP*		**PKPdf**	**02 11 20.9**	**+0.1**
KEST	**Kesra**	**148.75**	**323**	PKPbc		**PKPbc**	**02 11 53.2**	**-0.4**
	1.8nm,0.8s,baz=111,slow=2.6,SNR=7.2							
KEST				pPKPbc		**pPKPbc**	**02 12 10.8**	**-2.9**
	2.0nm,0.9s,baz=75,slow=2.9,SNR=4.3							
ESDC	**Sonseca Array**	**151.30**	**345**	PKPbc		**PKPbc**	**02 11 58.8**	**-0.7**
	0.1nm,0.4s,baz=16,slow=1.4,SNR=6.2							
ESDC				pPKPbc		**pPKPbc**	**02 12 18.0**	**-1.8**
	1.4nm,0.7s,baz=20,slow=2.1,SNR=3.0							
TORD	**Torodi Ar. Bea**	**165.22**	**276**	PKPab		**PKPab**	**02 13 08.0**	**-0.6**
	2.0nm,0.9s,baz=98,slow=3.2,SNR=8.5							

IDC ***27*** *02:11:06.5±5.5, 1°.98N×126°.58E, h33km±42km, mb4.1/20, mb1 4.2/21, mb1mx4.1/26, mbtmp4.2/21, ML4.0/1, MS3.2/6, Ms1 3.2/6, ms1mx3.0/30, Error ellipse: s-maj=23.0km s-min=11.2km az=71.0*

ISCJB ***27*** *02:11:08.0±0.3, 2°.05N±0°.04×126°.79E±0°.04, h63km, mb4.3/25, Error ellipse: s-maj=6.1km s-min=5.0km az=155.7*

DJA ***27*** *02:11:08.2±1.9, 2°.N±3°×12°.7E±°, h28km±29km, M4.6/4, MLv4.6/4*

NEIC ***27*** *02:11:09.7±1.1, 1°.96N×126°.61E, h63km±11km, mb4.3/6, Error ellipse: s-maj=11.2km s-min=8.3km az=45.0*

ISC 27 02:11:09.6±0.5, 2°.05N±0°.05×126°.83E±0°.06, h63km, n45, σ1s07/49, mb4.3/25, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TNTI	**Ternate**	**1.38**	**157**	P		**Pn**	**02 11 31.6**	**-1.2**
TNTI				S		**Sn**	**02 11 51.1**	**+1.0**
TNTI	**Ternate**	**1.38**	**157**	*ePn*		**Pn**	**02 11 31.9**	**-0.9**
TNTI				*eS*		Sn	02 11 57.0	+6.8
SGSI	**Sangihe**	**2.08**	**322**	P		**Pn**	**02 11 41.1**	**-1.2**
SGSI				S		**Sn**	**02 12 07.0**	**-0.1**
KMSI	**Cibinong**	**3.20**	**243**	P		**Pn**	**02 11 58.2**	**+0.7**
KMSI				S		**Sn**	**02 12 37.1**	**+2.6**
SANI	**Sanana**	**4.16**	**192**	P		**Pn**	**02 12 09.0**	**-1.6**
LUWI	**Luwuk**	**5.08**	**233**	*ePn*		Pn	02 12 18.9	-4.5
LUWI				*eSn*		**Sn**	**02 13 20.0**	**-0.7**
MRSI	**Marisa**	**5.13**	**252**	P		**Pn**	**02 12 23.6**	**-0.3**
MRSI				S		**Sn**	**02 13 23.7**	**+1.9**
SIJI	**Sorong**	**5.30**	**123**	Pn		**Pn**	**02 12 27.9**	**+1.6**
	4.2nm,0.3s,baz=289,slow=8.6,SNR=10.0							
FAKI	**Fak Fak**	**7.33**	**132**	*ePn*		**Pn**	**02 12 56.0**	**+1.9**
	6.6nm,0.6s							
KAPI	**Kappang**	**9.96**	**225**	Pn		**Pn**	**02 13 30.0**	**-0.1**
	1.1nm,0.3s,baz=357,slow=4.6,SNR=5.0							
KAPI				LR		LR	02 16 39.1	
	comp=Z,54nm,20.5s,baz=115,slow=34							
JAY	**Jayapura**	**14.60**	**108**	Pn		**P**	**02 14 37.4**	**-0.4**
	0.3nm,0.3s,baz=275,slow=6.7,SNR=6.1							
JAY				LR		LR	02 19 49.5	
	comp=Z,132nm,20.4s,baz=22,slow=35							
WRAB	**Tennant Creek**	**23.06**	**162**	*eP*		**P**	**02 16 08.6**	**-1.4**
	9.7nm,0.6s							
WRAB				*e*			02 20 17.0	
WRA	**Warramunga Arr**	**23.06**	**162**	P		**P**	**02 16 08.6**	**-1.4**
	6.5nm,0.5s,baz=342,slow=11,SNR=56							
WRA				PcP		**PcP**	**02 19 58.1**	**+0.6**
	0.2nm,0.3s,baz=338,slow=2.4,SNR=5.1							
WRA				S		**S**	**02 20 15.8**	**-0.5**
	2.6nm,0.8s,baz=336,slow=21,SNR=9.4							
AS31	**Alice Springs**	**26.47**	**165**	*eP*		**P**	**02 16 40.9**	**-0.2**
ASAR	**Alice Springs**	**26.47**	**165**	P		**P**	**02 16 40.9**	**-0.2**
	3.0nm,0.6s,baz=343,slow=9.5,SNR=13							
ASAR				PcP		**PcP**	**02 20 05.7**	**+0.7**
	0.6nm,0.6s,baz=359,slow=2.3,SNR=5.1							
ASAR				S		S	02 21 22.9	+12
	1.5nm,0.9s,baz=345,slow=25,SNR=8.5							
PSI	**Prapat**	**27.89**	**272**	P		**P**	**02 16 51.4**	**-2.7**
	5.0nm,0.3s,baz=161,slow=10,SNR=3.2							
CTA	**Charters Tower**	**29.11**	**140**	P		**P**	**02 17 04.1**	**-0.6**
	1.1nm,0.3s,baz=338,slow=16,SNR=2.1							
CMAR	**Chiang Mai Arr**	**31.83**	**303**	P		**P**	**02 17 28.4**	**-0.3**
	1.2nm,0.3s,baz=98,slow=6.5,SNR=3.6							
KSAR	**Wonju Array Be**	**35.24**	**1**	P		**P**	**02 17 58.9**	**+0.8**
KSRS	**Korea Array**	**35.25**	**2**	P		**P**	**02 17 58.9**	**+0.7**
	2.5nm,0.6s,baz=181,slow=9.7,SNR=11							
KSRS				LR		LR	02 34 36.8	
	comp=Z,16nm,18.9s,baz=158,slow=40							
MJAR	**Matsushiro Arr**	**35.90**	**16**	P		**P**	**02 18 03.3**	**-0.6**
	1.5nm,0.6s,baz=186,slow=10,SNR=4.0							
STKA	**Stephens Creek**	**36.53**	**159**	P		**P**	**02 18 09.2**	**-0.1**
	3.6nm,0.6s,baz=330,slow=8.7,SNR=9.9							
USRK	**Ussuriysk Ar.**	**42.22**	**6**	P		**P**	**02 18 57.2**	**+0.7**
	5.3nm,0.7s,baz=198,slow=6.8,SNR=16							
DZM	**Mont Dzumac**	**45.51**	**124**	P		P	02 19 25.3	+2.0
	6.3nm,0.9s,baz=90,slow=20							
SONM	**Songino Array**	**48.91**	**342**	P		**P**	**02 19 49.0**	**-0.5**
	1.0nm,0.6s,baz=149,slow=8.5,SNR=4.6							
SONM				LR		LR	02 42 11.1	
	comp=Z,33nm,19.2s,baz=97,slow=38							
PETK	**Petropavlovsk-**	**56.95**	**22**	P		**P**	**02 20 49.2**	**+0.9**
	1.4nm,0.6s,baz=189,slow=7.5,SNR=3.6							
MK31	**Makanchi Array**	**58.99**	**326**	*eP*		**P**	**02 21 02.0**	**-0.8**
MKAR	**Makanchi Array**	**58.99**	**326**	P		**P**	**02 21 01.9**	**-1.0**
	1.8nm,0.5s,baz=124,slow=8.6,SNR=16							
ZALV	**Zalesovo Beam**	**62.12**	**333**	P		**P**	**02 21 23.4**	**-0.5**
	0.7nm,0.5s,baz=142,slow=8.3,SNR=2.7							
KURBB	**Kurchatov Arra**	**63.20**	**328**	P		**P**	**02 21 30.3**	**-0.9**
	baz=123,slow=5.7							
KURK	**Kurchatov**	**63.20**	**328**	*eP*		**P**	**02 21 30.3**	**-1.0**
	7.9nm,0.6s							
BVAR	**Borovoye Array**	**68.78**	**327**	LR	

BRTR Keskin Array B 145.42 318 PKPbc PKPdf 02 40 38.9 -0.3
0.2nm,0.5s,baz=92,slow=2.3,SNR=4.4

NIED **27** *02:48:00,25.˚80N×130.˚00E,h5km,Mw4.5 Best double couple: M₀6.31000×10¹⁵ NP1:ϕs13.00000°,δ35.00000°, λ-139.00000°. NP2:ϕs248.00000°,δ68.00000°, λ-63.00000°.*
IDC **27** *02:48:07.8±0.6,25.˚73N×130.˚06E,h0km,mb4.3/21, mb1 4.4/25,mb1mx4.3/33,mbtmp4.2/25,ML3.7/4,MS3.5/21, Ms1 3.5/21,ms1mx3.4/33,Error ellipse: s-maj=18.8km s-min=13.0km az=73.0*
JMA **27** *02:48:09.2±0.1,25.˚76N×130.˚05E,h42km,M4.5*
NEIC **27** *02:48:09.8±0.4,25.˚70N×129.˚89E,h10km,mb4.7/12, MW4.5(NIED),Error ellipse: s-maj=10.0km s-min=7.8km az=109.0*
BJI **27** *02:48:09.9,25.˚71N×129.˚82E,h14km,mb4.5/42,mB4.7/28, Ms4.2/33,Ms7 3.9/35*
ISCJB **27** *02:48:09.5±0.9,25.˚78N±0.˚03×129.˚82E±0.˚03,h14km±6km, mb4.4/41,MS3.6/19,Error ellipse: s-maj=5.0km s-min=3.9km az=146.7*
MOS **27** *02:48:11.6±1.3,25.˚78N×130.˚04E,h33km,mb4.8/17,Error ellipse: s-maj=13.0km s-min=6.2km az=103.7*
ISC 27 02:48:10.5±0.5,25.˚72N±0.˚04×129.˚91E±0.˚04,h13km±2km, h12km:pP-P,n146,σ2s33/190,mb4.4/41,MS3.6/19,2C-1D, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
JMZ	**Minamidaito 2**	**1.19**	**85**	P		Pn	02 48 28.1	-4.8
JMZ				*e*S		Sb	02 48 40.4	-7.8
JOW	**Kunigami**	**1.84**	**307**	P		**Pn**	**02 48 40.5**	**-1.3**
JOW				*e*S		**Sn**	**02 49 01.9**	**-3.1**
JOW	**Kunigami**	**1.84**	**307**	Pn		**Pn**	**02 48 40.6**	**-1.2**
	30nm,0.3s,baz=126,slow=17,SNR=416							
JOW				Sn		**Sn**	**02 49 01.3**	**-3.7**
	35nm,0.3s,baz=105,slow=20,SNR=22							
JOW				LR		LR	02 49 07.0	
	comp=Z,79nm,19.4s,baz=128,slow=30							
JOW	**Kunigami**	**1.84**	**307**	*e*Pn		**Pn**	**02 48 40.6**	**-1.3**
JOW				*e*S		Sn	02 48 57.7	-7.3
JOW						**Sn**	**02 49 01.3**	**-3.7**
JNTH	**Nagotoyohara**	**1.87**	**295**	P		**Pn**	**02 48 40.9**	**-1.4**
JNTH				*e*S		**Sn**	**02 49 02.6**	**-3.2**
JJT2	**Tamagusuku 2**	**1.99**	**282**	P		**Pn**	**02 48 42.9**	**-1.0**
JJT2				*e*S		**Sn**	**02 49 07.4**	**-1.3**
JOKE	**Okinoerabujima**	**2.02**	**324**	P		**Pn**	**02 48 43.1**	**-1.3**
JOKE				*e*S		**Sn**	**02 49 06.9**	**-2.7**
JIH	**Iheya**	**2.18**	**307**	P		**Pn**	**02 48 45.3**	**-1.2**
JIH				*e*S		**Sn**	**02 49 10.7**	**-2.7**
JTK	**Tokunoshima**	**2.23**	**338**	P		**Pn**	**02 48 45.4**	**-1.8**
JTK				*e*S		**Sn**	**02 49 10.8**	**-3.8**
JAGN	**Aguni-jima**	**2.55**	**290**	P		**Pn**	**02 48 50.6**	**-1.0**
JAGN				S		**Sn**	**02 49 20.6**	**-1.9**
JZK	**Kikaishima**	**2.58**	**1**	*e*S		**Sn**	**02 49 19.9**	**-3.5**
JAMN	**Amaminishikomi**	**2.59**	**346**	P		**Pn**	**02 48 50.2**	**-2.0**
JAMN				S		**Sn**	**02 49 19.1**	**-4.5**
JAM	**Amami Oshima**	**2.69**	**354**	P		**Pn**	**02 48 51.4**	**-2.2**
JAM				S		**Sn**	**02 49 21.0**	**-5.0**
JKE	**Kume jima 2**	**2.87**	**283**	P		**Pn**	**02 48 54.6**	**-1.5**
JKE				S		**Sn**	**02 49 27.3**	**-3.2**
JTAJ	**Takarajima**	**3.47**	**350**	P		**Pn**	**02 49 02.5**	**-1.8**
JTAJ				*e*S		Sn	02 49 38.9	-6.5
JOGS	**Gusukube**	**4.19**	**258**	P		**Pn**	**02 49 13.5**	**-0.7**
JOGS				*e*S		**Sn**	**02 50 01.2**	**-1.8**
JMJ	**Miyako jima 2**	**4.28**	**259**	P		**Pn**	**02 49 14.5**	**-0.9**
JMJ				*e*S		**Sn**	**02 50 02.7**	**-2.5**
JIKM	**Ikemajima**	**4.29**	**260**	P		**Pn**	**02 49 14.7**	**-0.9**
JIKM				*e*S		**Sn**	**02 50 01.7**	**-3.9**
JIRB	**Irabujima**	**4.38**	**259**	P		**Pn**	**02 49 15.6**	**-1.2**
JIRB				*e*S		**Sn**	**02 50 04.4**	**-3.3**
JTJ	**Tarama**	**4.84**	**258**	P		**Pn**	**02 49 21.6**	**-1.5**
JTJ				*e*S		**Sn**	**02 50 14.6**	**-4.4**
JISG	**Ishigakijimahi**	**5.20**	**259**	P		**Pn**	**02 49 26.4**	**-1.6**
JISG				*e*S		**Sn**	**02 50 24.6**	**-3.3**
JIJ	**Ishigaki jima**	**5.40**	**257**	P		**Pn**	**02 49 29.3**	**-1.6**
JIJ				*e*S		**Sn**	**02 50 27.6**	**-5.4**
JKRS	**Kuro-shima**	**5.55**	**256**	P		**Pn**	**02 49 33.3**	**+0.4**
JKRS				*e*S		**Sn**	**02 50 32.5**	**-4.2**
IRIF	**Iriomote-Funau**	**5.77**	**257**	P		**Pn**	**02 49 36.0**	**+0.1**
IRIF				*e*S		**Sn**	**02 50 38.8**	**-3.3**
JNU	**Nakatsue**	**7.42**	**6**	Pn		**Pn**	**02 49 58.3**	**-0.3**
	2.2nm,0.3s,baz=236,slow=4.2,SNR=13							
JNU				Sn		**Sn**	**02 51 18.1**	**-4.7**
	1.4nm,0.3s,baz=180,slow=20,SNR=4.2							
JNU				LR		LR	02 52 48.2	
	comp=Z,91nm,20.8s,baz=178,slow=38							
JNU	**Nakatsue**	**7.42**	**6**	*e*Pn		**Pn**	**02 49 58.4**	**-0.2**
JNU				*e*S		Sn	02 51 12.7	-10
NACB	**Ninganchiao**	**7.70**	**260**	*e*Pn		**Pn**	**02 49 59.9**	**-2.6**
NACB				*e*S		Sn	02 51 12.5	-17
YULB	**Yu-li**	**8.18**	**255**	*e*Pn		Pn	02 50 05.0	-4.0
YULB				*e*S		Sn	02 51 32.6	-8.7
TJN	**Taejon**	**10.84**	**349**	*e*P		**Pn**	**02 50 45.5**	**0.0**
JCJ	**Chichijima**	**11.09**	**80**	LR		LR	02 54 28.0	
	comp=Z,113nm,18.7s,baz=187,slow=35							
NJ2	**Nanjing**	**11.55**	**306**	*e*P		**Pn**	**02 50 53.3**	**-1.9**
NJ2				S		**Sn**	**02 53 02.0**	**-2.2**
NJ2				PMZ				
	30nm,0.6s							
NJ2				LN				
	1μm,10.8s							
NJ2				LE				
	1μm,10.8s							
NJ2				LZ				
	1μm,11.5s							
KSAR	**Wonju Array Be**	**11.81**	**352**	P		**Pn**	**02 50 57.9**	**-0.8**
KSAR	**Wonju Array Be**	**11.81**	**352**	Pn		**Pn**	**02 50 57.9**	**-0.8**
KSRS	**Korea Array**	**11.82**	**352**	Pn		**Pn**	**02 50 57.9**	**-0.9**
	0.3nm,0.3s,baz=170,slow=14,SNR=8.3							
KSRS				LR		LR	02 55 21.8	
	comp=Z,64nm,21.7s,baz=172,slow=37							
MAJO	**Matsushiro**	**12.91**	**31**	*e*P		**Pn**	**02 51 15.7**	**+1.9**
MJAR	**Matsushiro Arr**	**12.91**	**31**	Pn		**Pn**	**02 51 13.7**	**-0.1**
	0.8nm,0.3s,baz=205,slow=13,SNR=5.0							
MJAR				LR		LR	02 55 53.9	
	comp=Z,142nm,18.9s,baz=210,slow=36							
WHN	**Wuhan**	**14.54**	**293**	*e*P		**Pn**	**02 51 36.5**	**+0.4**
WHN				S		**Sn**	**02 54 16.3**	**-0.9**
WHN				LZ				
	660nm,10.7s							
BJT	**Baijiatuan**	**18.31**	**325**	*e*P		**Pn**	**02 52 23.4**	**-0.8**
BJT				pmax	pmax			
	comp=Z,31nm,0.7s							
BJT	**Baijiatuan**	**18.31**	**325**	*e*Pn		**Pn**	**02 52 23.4**	**-0.8**
	comp=Z,31nm,0.7s							
BJI	**Beijing**	**18.32**	**325**	P		**Pn**	**02 52 24.0**	**-0.4**
BJI				S		**Sn**	**02 55 48.5**	**-0.3**
BJI				PMZ				
	comp=Z,51nm,0.6s							
BJI				PMZ				
	comp=Z,94nm,3.9s							
BJI				LN				
	comp=Z,320nm,13.5s							
BJI				LE				
	comp=Z,150nm,12.6s							
BJI				LZ				
	comp=Z,190nm,21.9s							
CN2	**Changchun**	**18.40**	**350**	*e*P		**P**	**02 52 26.8**	**+1.5**
USRK	**Ussuriysk Ar.**	**18.51**	**5**	P		**Pn**	**02 52 26.6**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=181,slow=9.3,SNR=7.1							
QIZ	**Qiongzhong**	**19.70**	**254**	P		**P**	**02 52 38.0**	**-1.8**
QIZ				S		**S**	**02 56 17.3**	**-4.6**
XAN	**Xi'an**	**19.97**	**299**	P		**P**	**02 52 42.5**	**-0.2**
XAN				S		**S**	**02 56 26.0**	**-1.2**
XAN				PMZ				
	comp=Z,5.0nm,1.4s							
XAN				LN				
	comp=Z,190nm,22.6s							
XAN				LE				
	comp=Z,100nm,22.6s							
XAN				LZ				
	comp=Z,61nm,14.3s							
GYA	**Guiyang**	**20.89**	**277**	*i*P		Pn	02 52 54.0	-1.3
GYA				PP		**PnPn**	**02 53 14.3**	**+3.0**
GYA				S		**S**	**02 56 38.5**	**-7.1**
GYA				ScP		**ScP**	**03 00 39.0**	**+1.5**
GYA				PMZ				
	comp=Z,20nm,1.0s							
GYA				PMZ				
	comp=Z,110nm,4.6s							
GYA				LN				
	comp=Z,380nm,15.8s							
GYA				LE				
	comp=Z,420nm,16.0s							
GYA				LZ				
	comp=Z,360nm,15.4s							
HHC	**Hu-ho-hao-te**	**21.45**	**319**	*e*P		**P**	**02 52 59.5**	**+0.8**
HHC				PP		**PnPn**	**02 53 23.0**	**+4.2**
HHC				S		**S**	**02 56 50.8**	**-5.6**
HHC				sS		sS	02 56 57.3	-4.9
HHC				SS		**SnSn**	**02 57 24.8**	**+5.2**
HHC				PMZ				
	comp=Z,24nm,0.7s							
HHC				PMZ				
	comp=Z,85nm,7.4s							
HHC				LN				
	comp=Z,450nm,13.5s							
HHC				LE				
	comp=Z,350nm,14.3s							
HHC				LZ				
	comp=Z,420nm,12.6s							
KKM	**Kota Kinabalu**	**23.55**	**216**	*e*P		**P**	**02 53 22.3**	**+1.4**
	comp=Z,16nm,1.0s							
CD2	**Chengdu**	**23.57**	**289**	*e*P		**P**	**02 53 20.3**	**-0.7**
CD2				pP		**pP**	**02 53 24.8**	**0.0**
CD2				sP		**sP**	**02 53 27.5**	**+1.1**
CD2				PP		**PnPn**	**02 53 52.0**	**+4.1**
CD2				S		**S**	**02 57 29.5**	**-5.6**
CD2				sS		sS	02 57 35.8	-5.6
CD2				SS		**SnSn**	**02 58 16.0**	**+4.4**
CD2				PMZ				
	comp=Z,20nm,0.5s							
CD2				PMZ				
	comp=Z,160nm,5.4s							
CD2				LN				
	comp=Z,640nm,13.5s							
CD2				LE				
	comp=Z,450nm,13.0s							
CD2				LZ				
	comp=Z,490nm,10.7s							
KMI	**Kunming**	**24.53**	**275**	P		**P**	**02 53 29.5**	**-0.8**
KMI				pP		**pP**	**02 53 33.0**	**-1.1**
KMI				PP		**PnPn**	**02 54 04.0**	**+2.7**
KMI				S		**S**	**02 57 45.8**	**-5.1**
KMI				SS		**SnSn**	**02 58 39.0**	**+3.5**
KMI				PMZ				
	comp=Z,8.0nm,0.6s							
KMI				PMZ				
	comp=Z,76nm,3.2s							
KMI				LN				
	comp=Z,380nm,13.6s							
KMI				LE				
	comp=Z,180nm,12.3s							
KMI				LZ				
	comp=Z,160nm,15.6s							
LZH	**Lanzhou**	**24.57**	**301**	*e*P		**P**	**02 53 26.8**	**-3.7**
LZH				*e*S		S	02 57 43.0	-8.2
LZH				sS		**sS**	**02 57 53.5**	**-4.0**
LZH				SS		**SnSn**	**02 58 36.3**	**+0.2**
LZH				PMZ				
	comp=Z,17nm,1.0s							
LZH				PMZ				
	comp=Z,120nm,4.1s							
LZH				LN				
	comp=Z,250nm,12.9s							
LZH				LE				
	comp=Z,200nm,13.1s							
LZH				LZ				
	comp=Z,200nm,14.3s							
GTA	**Gaotai**	**28.65**	**306**	*e*P		P	02 54 10.3	+3.1
GTA				pP		pP	02 54 14.5	+3.5
GTA				sP		sP	02 54 17.3	+4.7
GTA				PP		**PnPn**	**02 55 03.3**	**+6.0**
GTA				S		**S**	**02 58 59.0**	**+3.3**
GTA				sS		sS	02 59 06.3	+4.2
GTA				PMZ				
	comp=Z,8.0nm,1.0s							
GTA				PMZ				
	comp=Z,100nm,6.2s							
GTA				LN				
	comp=Z,240nm,17.1s							
GTA				LE				
	comp=Z,290nm,14.7s							
GTA				LZ				
	comp=Z,220nm,16.6s							
SONM	**Songino Array**	**28.81**	**326**	P		**P**	**02 54 07.6**	**-0.9**
	comp=Z,1.9nm,0.9s,baz=140,slow=9.0,SNR=9.5							
SONM				LR		LR	03 06 57.8	
	comp=Z,94nm,18.4s,baz=110,slow=39							
CMAR	**Chiang Mai Arr**	**29.54**	**262**	LR		LR	03 06 44.7	
	comp=Z,84nm,18.1s,baz=260,slow=38							
JAY	**Jayapura**	**29.95**	**158**	LR		LR	03 04 52.0	
	comp=Z,35nm,21.4s,baz=306,slow=34							
KSM	**Kuching**	**30.63**	**221**	*e*P		**P**	**02 54 25.9**	**+1.2**
	comp=Z,24nm,1.0s							
PETK	**Petropavlovsk-**	**34.36**	**30**	P		**P**	**02 54 55.0**	**-2.1**
	comp=Z,3.2nm,0.7s,baz=212,slow=5.1,SNR=4.4							
PETK				LR		LR	03 09 02.2	
	comp=Z,42nm,18.0s,baz=188,slow=37							
PETK	**Petropavlovsk-**	**34.36**	**30**	P		**P**	**02 54 55.0**	**-2.1**
TAPN	**Taplejung**	**37.66**	**282**	*e*P		**P**	**02 55 27.4**	**+1.4**
ODAN	**Odare**	**38.01**	**281**	*e*P		**P**	**02 55 29.9**	**+1.0**
	comp=Z,37nm,0.7s							
WMQ	**Urumqi**	**38.61**	**309**	*e*P		**P**	**02 55 35.0**	**+1.5**
WMQ				pP		**pP**	**02 55 39.5**	**+2.0**
WMQ				sP		**sP**	**02 55 42.0**	**+3.0**
WMQ				PP		**PnPn**	**02 57 06.3**	**+2.4**
WMQ				PcP		**PcP**	**02 57 48.5**	**+2.7**
WMQ				S		**S**	**03 01 30.5**	**+0.9**
WMQ				sS		**sS**	**03 01 38.8**	**+2.7**
WMQ				SS		**SnSn**	**03 04 08.3**	**-8.9**
WMQ				PMZ				
	comp=Z,10.0nm,0.4s							
WMQ				PMZ				
	comp=Z,100nm,4.4s							
WMQ				LN				
	comp=Z,98nm,18.6s							
WMQ				LE				
	comp=Z,130nm,21.8s							
WMQ				LZ				
	comp=Z,130nm,23.2s							
GUN	**Gumba**	**39.20**	**283**	*e*P		**P**	**02 55 40.1**	**+1.1**
PKI	**Pulchoki**	**39.66**	**283**	*e*P		**P**	**02 55 43.6**	**+0.8**
	comp=Z,17nm,0.8s							
KKN	**Kakani**	**39.74**	**283**	*e*P		**P**	**02 55 44.9**	**+1.5**
SEY	**Seymchan**	**40.08**	**16**	P		**P**	**02 55 45.9**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=96,slow=9.8,SNR=2.9							
GKN	**Gorkha**	**40.28**	**284**	*e*P		**P**	**02 55 48.6**	**+0.8**
KOLN	**Koldanda**	**41.22**	**284**	*e*P		**P**	**02 55 57.0**	**+1.4**
MK31	**Makanchi Array**	**43.00**	**312**	*e*P		**P**	**02 56 10.5**	**+0.8**
MK31	**Makanchi Array**	**43.00**	**312**	*e*P		**P**	**02 56 10.4**	**+0.8**
MKAR	**Makanchi Array**	**43.00**	**312**	P		**P**	**02 56 09.9**	**+0.3**
	comp=Z,4.9nm,0.7s,baz=99,slow=9.9,SNR=39							
MKAR				LR		LR	03 15 01.5	
	comp=Z,68nm,19.6s,baz=108,slow=37							
MKAR	**Makanchi Array**	**43.00**	**312**	P		**P**	**02 56 09.9**	**+0.3**
MKAR				pmax		pmax		
	comp=Z,5.0nm,0.7s							
MKAR				MLR		MLR		
	comp=Z,69nm,19.6s							
MKAR	**Makanchi Array**	**43.00**	**312**	*e*P		**P**	**02 56 10.6**	**+1.0**
ZAA0	**Zalesovo Array**	**43.56**	**323**	*e*P		**P**	**02 56 14.5**	**+0.5**
ZALV	**Zalesovo Beam**	**43.56**	**323**	P		**P**	**02 56 14.2**	**+0.1**
	comp=Z,5.7nm,0.6s,baz=116,slow=8.2,SNR=18							
ZALV				LR		LR	03 16 16.6	
	comp=Z,57nm,18.6s,baz=70,slow=39							
WRAB	**Tennant Creek**	**45.59**	**174**	*e*P		**P**	**02 56 30.0**	**-0.5**
WRAB				pmax		pmax		
	comp=Z,46nm,2.5s							
WRAB	**Tennant Creek**	**45.59**	**174**	*e*P		**P**	**02 56 29.7**	**-0.8**
	comp=Z,10.0nm,0.6s							
WRA	**Warramunga Arr**	**45.60**	**174**	P		**P**	**02 56 29.7**	**-0.9**
	comp=Z,4.6nm,0.7s,baz=354,slow=8.4,SNR=55							
TIXI	**Tiksi**	**45.97**	**360**	*e*P		**P**	**02 56 33.8**	**+0.9**
TIXI				pmax		pmax		
	comp=Z,6.0nm,2.5s							
KURK	**Kurchatov**	**46.22**	**317**	*e*P		**P**	**02 56 35.5**	**+0.2**
KURK				pmax		pmax		
	comp=Z,24nm,1.2s							
KURK	**Kurchatov**	**46.22**	**317**	*e*P		**P**	**02 56 35.5**	**+0.2**
	comp=Z,24nm,1.2s							
KURBB	**Kurchatov Arra**	**46.26**	**316**	P		**P**	**02 56 35.7**	**+0.2**
	comp=Z,7.7nm,1.0s,baz=103,slow=8.7,SNR=22							
KSH	**Kashi**	**46.82**	**301**	P		P	02 56 45.0	+4.7
KSH				pP		pP	02 56 49.3	+5.0
KSH				S		S	03 03 36.3	+5.7
KSH				sS		sS	03 03 44.0	+6.9
KSH				PMZ				
	comp=Z,35nm,1.8s							
KSH				PMZ				
	comp=Z,69nm,3.6s							
KSH				LN				
	comp=Z,180nm,5.9s							
KSH				LE				
	comp=Z,120nm,6.4s							
KSH				LZ				
	comp=Z,160nm,6.8s							
TKM2	**Tokmak 2**	**47.20**	**306**	*e*P		**P**	**02 56 44.1**	**+0.7**
TKM2				pmax		pmax		
	comp=Z,19nm,1.3s							
TKM2	**Tokmak 2**	**47.20**	**306**	*e*P		**P**	**02 56 44.1**	**+0.7**
	comp=Z,19nm,1.3s							
BILL	**Bilibino**	**47.69**	**18**	*i* P		**P**	**02 56 45.0**	**-1.5**
BILL				*i*			02 56 59.3	
BILL				*i*			02 58 17.1	
BILL				*i*			02 58 38.0	
BILL				pmax		pmax		
	comp=Z,3.0nm,1.0s							
BILL				MLR		MLR		
	comp=Z,71nm,20.0s							
AAK	**Ala-Archa**	**48.00**	**305**	*e*P		**P**	**02 56 50.7**	**+1.2**
AAK				pmax		pmax		
	comp=Z,5.0nm,1.2s							
ASAR	**Alice Springs**	**49.25**	**175**	P		**P**	**02 56 58.5**	**-0.6**
	comp=Z,2.2nm,0.7s,baz=7.0,slow=9.9,SNR=26							
COCO	**West Island**	**49.57**	**225**	*i* P		**P**	**02 56 59.0**	**-2.6**
BVAR	**Borovoye Array**	**51.66**	**318**	P		**P**	**02 57 17.6**	**+0.6**
	comp=Z,3.2nm,0.5s,baz=87,slow=9.2,SNR=14							
BRVK	**Borovoye**	**51.72**	**318**	*e*P		**P**	**02 57 18.3**	**+0.8**
BRVK				pmax		pmax		
	comp=Z,14nm,1.2s							
BRVK	**Borovoye**	**51.72**	**318**	*e*P		**P**	**02 57 18.2**	**+0.8**
	comp=Z,13nm,1.1s							
ABKAR	**Akbulak array**	**58.09**	**314**	*e*P		**P**	**02 58 03.9**	**+0.3**
	comp=Z,13nm,0.7s							
STKA	**Stephens Creek**	**58.35**	**168**	P		**P**	**02 58 04.8**	**-0.8**
	comp=Z,3.7nm,0.5s,baz=347,slow=6.6,SNR=29							
STKA				LR		LR	03 22 36.7	
	comp=Z,25nm,21.6s,baz=28,slow=36							
ARU	**Arti**	**58.72**	**322**	*d* iP		**P**	**02 58 09.2**	**+1.3**
ARU							03 00 13.0	
ARU				S		**S**	**03 06 15.7**	**+3.4**
ARU				SS		**SS**	**03 10 11.1**	**+6.1**
ARU				pmax		pmax		
	comp=Z,12nm,1.7s							
ARU	**Arti**	**58.72**	**322**	*e*P		**P**	**02 58 09.0**	**+1.2**
	comp=Z,8.3nm,1.2s							
AKTO	**Aktyubinsk**	**59.26**	**315**	P		**P**	**02 58 12.3**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=81,slow=12,SNR=4.7							
DZM	**Mont Dzumac**	**59.27**	**140**	LR		LR	03 19 40.0	
	comp=Z,98nm,19.7s,baz=0.0,slow=32							
KDAK	**Kodiak Island**	**62.03**	**36**	*ce*P		**P**	**02 58 30.6**	**+0.2**
MCK	**McKinley**	**63.37**	**29**	*e*P		**P**	**02 58 41.3**	**+2.0**
MCK	**McKinley**	**63.37**	**29**	*e*P		**P**	**02 58 41.3**	**+2.0**
ILAR	**Eielson Array**	**64.17**	**28**	P		**P**	**02 58 43.0**	**-1.6**
	comp=Z,0.6nm,0.7s,baz=252,slow=5.9,SNR=8.0							
ILAR	**Eielson Array**	**64.17**	**28**	P		**P**	**02 58 43.0**	**-1.6**
BMRM	**Bremner River**	**65.70**	**32**	*e*P		**P**	**02 58 56.1**	**+1.4**
	comp=Z,10nm,1.0s							
INK	**Inuvik**	**68.76**	**23**	P		**P**	**02 59 12.6**	**-1.2**
	comp=Z,1.8nm,0.6s,baz=303,slow=5.8,SNR=9.2							
ZEI	**Tsey**	**70.22**	**309**	*e*P		**P**	**02 59 23.4**	**-0.3**
ZEI				pmax		pmax		
	comp=Z,13nm,1.4s							
KBZ	**Khabaz**	**70.64**	**310**	P		**P**	**02 59 26.9**	**+1.0**
	comp=Z,5.5nm,0.8s,baz=53,slow=20,SNR=14							
KBZ				LR		LR	03 33 23.3	
	comp=Z,53nm,19.0s,baz=136,slow=38							
KIV	**Kislovodsk**	**70.72**	**310**	*e*P		**P**	**02 59 26.2**	**-0.4**
KIV				pmax		pmax		
	comp=Z,10.0nm,0.9s							
KIV				MLR		MLR		
	comp=Z,38nm,17.0s							
ARCES	**ARCESS Array B**	**71.02**	**339**	LR		LR	03 35 58.7	
	comp=Z,32nm,18.1s,baz=36,slow=40							
OBN	**Obninsk**	**71.15**	**323**	*e*P		**P**	**02 59 31.0**	**+2.3**
OBN				pmax		pmax		
	comp=Z,3.0nm,0.8s							
FINES	**FINESS Array B**	**74.04**	**331**	P		**P**	**02 59 44.6**	**-1.2**
	comp=Z,1.6nm,0.6s,baz=82,slow=4.2,SNR=12							
FINES				LR		LR	03 36 49.1	
	comp=Z,69nm,18.0s,baz=66,slow=39							
RAYN	**Ar Rayn**	**75.40**	**289**	*e*P		**P**	**02 59 55.4**	**+0.8**
AKASG	**Malin Array Be**	**76.89**	**320**	P		**P**	**03 00 02.1**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=52,slow=6.1,SNR=9.9							
AKASG				LR		LR	03 37 05.7	
	comp=Z,57nm,18.9s,baz=90,slow=38							
YKA	**Yellowknife Ar**	**78.34**	**25**	P		**P**	**03 00 08.6**	**-1.7**
	comp=Z,1.2nm,0.8s,baz=302,slow=5.6,SNR=9.9							
BR131	**Keskin Array S**	**78.53**	**309**	*e*P		**P**	**03 00 12.2**	**+0.2**
	comp=Z,2.9nm,0.8s							
BRTR	**Keskin Array B**	**78.53**	**309**	P		**P**	**03 00 12.5**	**+0.5**
	comp=Z,3.4nm,0.9s,baz=90,slow=5.6,SNR=19							
BRTR				LR		LR	03 39 30.5	
	comp=Z,18nm,18.5s,baz=49,slow=39							
NB2	**NORSAR Subarra**	**80.43**	**334**	P		**P**	**03 00 20.7**	**-1.1**
	comp=Z,2.9nm,0.7s,baz=51,slow=5.3							
NOA	**NORSAR Array B**	**80.43**	**334**	P		**P**	**03 00 21.1**	**-0.7**
	comp=Z,3.0nm,0.7s,baz=51,slow=5.1,SNR=14							
NOA				LR		LR	03 39 53.1	
	comp=Z,35nm,20.0s,baz=300,slow=39							
KWP	**Kalwaria Pacla**	**81.11**	**321**	*e*P		**P**	**03 00 26.3**	**+0.6**
KWP	**Kalwaria Pacla**	**81.11**	**321**	*e*P		**P**	**03 00 26.4**	**+0.7**
SUMG	**Summit**	**81.64**	**356**	*i* P		**P**	**03 00 28.7**	**+0.2**
	comp=Z,6.6nm,0.8s							
SUMG	**Summit**	**81.64**	**356**	*i* P		**P**	**03 00 28.7**	**+0.2**
SUMG				pmax		pmax		
	comp=Z,7.0nm,0.8s							
SUMG	**Summit**	**81.64**	**356**	*e*P		**P**	**03 00 28.7**	**+0.2**
	comp=Z,7.3nm,1.1s							
KOLS	**Kolonicke sedl**	**81.70**	**321**	*e*P		**P**	**03 00 31.7**	**+2.9**
KOLS				pmax		pmax		
	comp=Z,3.0nm,1.1s							
KOLS	**Kolonicke sedl**	**81.70**	**321**	*e*P		**P**	**03 00 31.7**	**+2.9**
STHS	**Stebnicka Huta**	**82.05**	**321**	*e*P		P	03 00 34.7

TORD Torodi Ar. Bea 116.49 301 PKP **PKPdf 03 06 53.5 -1.5**
comp=Z,0.6nm,0.8s,baz=54,slow=1.6,SNR=6.2

*NNC **27** 03:00:16.7±5.3,38°.14N×71°.91E,h212km±84km,mb2.4, mpv3.6, Error ellipse: s-maj=68.1km s-min=32.1km az=25.0*
ISC 27 03:00:12.5±3.6, 37°.8N±0°.2×71°.6E±0°.1, h100km, n10, σ1§70/13, 2C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.61**	**20**	P	**Pn**	**03 01 21.0**	**+0.8**
	SNR=12						
UCH	**Uchtor**	**4.95**	**26**	P	**Pn**	**03 01 25.2**	**+0.3**
	SNR=7.2						
EKS2	**Erkin-Say**	**5.12**	**18**	P	**Pn**	**03 01 28.3**	**+1.3**
	SNR=9.2						
AAK	**Ala-Archa**	**5.30**	**24**	P	**Pn**	**03 01 30.3**	**+0.9**
	SNR=10						
AAK	**Ala-Archa**	**5.30**	**24**	⇓P	**Pn**	**03 01 29.4**	**0.0**
	4.9nm,0.3s						
AAK				⇓S	**Sn**	**03 02 29.5**	**+0.2**
	6.0nm,0.6s						
KK31	**Karatay Array**	**5.36**	**351**	P	**Pn**	**03 01 32.7**	**+2.6**
	3.3nm,0.3s,baz=166,slow=12,SNR=48						
KK31				⇑S	**Sn**	**03 02 32.4**	**+1.9**
	2.6nm,0.3s,baz=163,slow=19,SNR=12						
CHMS	**Chumysh**	**5.71**	**24**	P	**Pn**	**03 01 35.5**	**+0.6**
	SNR=5.7						
TKM2	**Tokmak 2**	**5.94**	**29**	P	**Pn**	**03 01 38.1**	**-0.1**
	SNR=5.7						
TKM2	**Tokmak 2**	**5.94**	**29**	⇓P	**Pn**	**03 01 38.4**	**+0.2**
	3.3nm,0.8s						
AB31	**Akbulak array**	**14.22**	**327**	P	**Pn**	**03 03 28.8**	**-0.3**
	0.3nm,0.3s,baz=124,slow=16,SNR=8.9						
AB31				⇑S	**Sn**	**03 06 01.7**	**-3.9**
	1.2nm,0.6s,baz=130,slow=27,SNR=4.5						

*ISCJB **27** 03:05:14.8±1.2,23°.6S±0°.2×179°.8W±0°.2, h536km, mb3.9/6, Error ellipse: s-maj=24.5km s-min=21.9km az=164.3*
*IDC **27** 03:05:15.2±6.0,23°.66S×179°.70W, h528km±66km, mb3.3/6, mb1 3.5/7, mb1mx3.2/20, mbtmp4.3/7, Error ellipse: s-maj=42.7km s-min=24.2km az=25.0*
ISC 27 03:05:15.6±1.0, 23°.7S±0°.2×179°.7W±0°.2, h536km, n12, σ0§46/12, mb3.9/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.79**	**190**	P	**P**	**03 08 22.9**	**+0.1**
	2.5nm,0.3s,baz=254,slow=2.5,SNR=9.5						
RPZ	**Rata Peaks**	**21.38**	**199**	P	**P**	**03 09 24.9**	**+0.3**
	7.7nm,0.5s,baz=59,slow=1.3,SNR=3.3						
STKA	**Stephens Creek**	**35.04**	**248**	P	**P**	**03 11 23.0**	**-0.6**
	0.5nm,0.4s,baz=100,slow=12,SNR=3.0						
ASAR	**Alice Springs**	**42.32**	**260**	P	**P**	**03 12 23.3**	**+0.6**
	1.5nm,0.5s,baz=97,slow=7.0,SNR=17						
WRA	**Warramunga Arr**	**42.67**	**266**	P	**P**	**03 12 25.6**	**+0.1**
	2.3nm,0.3s,baz=95,slow=8.5,SNR=131						
SIJI	**Sorong**	**52.60**	**288**	P	**P**	**03 13 40.0**	**+0.1**
	5.2nm,0.5s,baz=166,slow=10,SNR=3.8						
TXAR	**Lajitas Array**	**90.10**	**58**	P	**P**	**03 17 18.9**	**+0.1**
	0.5nm,0.7s,baz=216,slow=6.2,SNR=7.6						
ARCES	**ARCESS Array B**	**131.72**	**348**	PKP	**PKPdf**	**03 23 26.0**	**-0.9**
	3.0nm,0.9s,baz=53,slow=3.5,SNR=4.1						
AKASG	**Malin Array Be**	**144.92**	**328**	PKP	**PKPdf**	**03 23 51.5**	**+0.1**
	0.5nm,0.5s,baz=43,slow=4.1,SNR=6.2						
BRTR	**Keskin Array B**	**147.64**	**308**	PKPbc	**PKPbc**	**03 24 00.1**	**-0.1**
	0.4nm,0.4s,baz=134,slow=5.7,SNR=3.8						
BRG	**Berggiesshubel**	**150.85**	**342**	*eP*	**PKPbc**	**03 24 07.9**	**+0.5**
	4.2nm,1.0s						
TORD	**Torodi Ar. Bea**	**169.44**	**188**	PKPab	**PKPab**	**03 25 38.7**	**-0.1**
	0.3nm,0.7s,baz=181,slow=5.4,SNR=3.2						

CASC 27 03:08:47.8±1.0, 11°.75N×86°.47W, h80km±7km, MD3.8, 1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**0.44**	**344**	*eP*	Pn	03 09 01.2	+0.1
COPN				*eS*	Sn	03 09 11.7	+0.8
HUEN		**0.65**	**26**	*eP*	Pn	03 09 02.9	-0.1
VCR	**Vista de Mar**	**1.81**	**153**	*eP*	Pn	03 09 17.8	+0.3
CNCH	**Conchagua**	**2.02**	**319**	*eP*	Pn	03 09 20.0	-0.1
CNCH				*eS*	Sn	03 09 45.1	+0.3
JCR	**Jicaral**	**2.31**	**145**	*eP*	Pn	03 09 24.4	+0.4
JCR				*eS*	Sn	03 09 52.4	+0.7
VSM	**San Miguel**	**2.42**	**314**	*eP*	Pn	03 09 26.6	+0.8
CGA2	**Cerro Gallo 2**	**2.62**	**131⇑**	*eP*	Pn	03 09 28.4	+0.3
CGA2				*eS*	Sn	03 10 01.1	+1.9
LFRS	**El Faro**	**3.14**	**307**	*eP*	Pn	03 09 35.9	+0.7
BUS	**Buena Vista**	**3.44**	**129**	*eP*	Pn	03 09 40.9	+1.1
BUS				*eS*	Sn	03 10 20.9	+0.9
SBLS	**San Blas**	**3.71**	**304**	*eP*	Pn	03 09 43.6	+0.5

*NIED **27** 03:09:00, 26°.00N×128°.60E, h11km, Mw3.8 Best double couple: M₀4.80000×10¹⁴ NP1:φs77.00000°, δ57.00000°, λ-26.00000°. NP2:φs181.00000°, δ69.00000°, λ-144.00000°.*
*IDC **27** 03:09:36.3±1.1, 25°.97N×128°.77E, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.8/25, mbtmp3.9/10, ML4.0/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/30, Error ellipse: s-maj=57.9km s-min=17.2km az=73.0*
*JMA **27** 03:09:40.5±0.3, 26°.01N×128°.63E, h45km, M3.7*
ISC 27 03:09:37.6±1.7, 25°.91N±0°.04×128°.70E±0°.04, h13km±10km, n36, σ1§83/54, mb3.8/9, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNTH	**Nagotoyohara**	**0.86**	**315**	P	**Pb**	**03 09 54.5**	**+0.1**
JNTH				*eS*	**Sg**	**03 10 04.7**	**-0.8**
JJT2	**Tamagusuku 2**	**0.88**	**285**	P	**Pn**	**03 09 55.6**	**-0.1**
JJT2				*eS*	**Sb**	**03 10 07.2**	**+0.7**
JOW	**Kunigami**	**0.99**	**338**	P	**Pg**	**03 09 56.8**	**0.0**
JOW				*eS*	**Sb**	**03 10 08.3**	**-1.5**
JOW	**Kunigami**	**0.99**	**338**	Pn	**Pg**	**03 09 56.9**	**+0.1**
	15nm,0.3s,baz=141,slow=21,SNR=269						
JOW				Sn	**Sb**	**03 10 06.8**	**-3.0**
	31nm,0.3s,baz=117,slow=18,SNR=25						
JIH	**Iheya**	**1.30**	**330**	P	**Pn**	**03 10 01.5**	**0.0**
JIH				*eS*	**Sb**	**03 10 16.7**	**-1.8**
JOKE	**Okinoerabujima**	**1.45**	**356**	P	**Pn**	**03 10 03.4**	**-0.2**
JOKE				S	**Sn**	**03 10 19.8**	**-2.7**
JAGN	**Aguni-jima**	**1.47**	**298**	P	**Pn**	**03 10 04.0**	**+0.2**
JAGN				*eS*	**Sn**	**03 10 21.2**	**-1.7**
JKE	**Kume jima 2**	**1.77**	**284**	P	**Pn**	**03 10 07.5**	**-0.4**
JKE				*eS*	**Sn**	**03 10 27.5**	**-2.7**
JTK	**Tokunoshima**	**1.88**	**7**	P	**Pn**	**03 10 09.3**	**-0.2**
JTK				*eS*	**Sn**	**03 10 30.4**	**-2.8**
JMZ	**Minamidaito 2**	**2.28**	**92**	P	**Pn**	**03 10 14.0**	**-0.9**
JMZ				*eS*	**Sn**	**03 10 38.0**	**-4.8**
JAMN	**Amaminishikomi**	**2.37**	**10**	P	**Pn**	**03 10 15.9**	**-0.2**
JAMN				*eS*	**Sn**	**03 10 42.5**	**-2.5**
JAM	**Amami Oshima**	**2.62**	**18**	P	**Pn**	**03 10 19.1**	**-0.6**
JAM				*eS*	**Sn**	**03 10 49.0**	**-2.4**
JZK	**Kikaishima**	**2.65**	**25**	P	**Pn**	**03 10 20.3**	**+0.2**
JZK				*eS*	**Sn**	**03 10 51.2**	**-1.0**
JOGS	**Gusukube**	**3.19**	**250**	P	**Pn**	**03 10 27.9**	**+0.5**
JOGS				*eS*	**Sn**	**03 11 03.3**	**-2.0**
JTAJ	**Takarajima**	**3.26**	**8**	P	**Pn**	**03 10 28.4**	**-0.1**
JMJ	**Miyako jima 2**	**3.27**	**251**	P	**Pn**	**03 10 28.9**	**+0.4**
JMJ				*eS*	**Sn**	**03 11 05.7**	**-1.5**
JIKM	**Ikemajima**	**3.27**	**253**	P	**Pn**	**03 10 28.5**	**0.0**
JIRB	**Irabujima**	**3.36**	**252**	P	**Pn**	**03 10 29.7**	**-0.2**
JIRB				*eS*	**Sn**	**03 11 08.2**	**-1.5**
JTJ	**Tarama**	**3.83**	**252**	P	**Pn**	**03 10 35.7**	**-0.6**
JTJ				*eS*	**Sn**	**03 11 18.6**	**-2.6**
JISG	**Ishigakijimahi**	**4.18**	**253**	P	**Pn**	**03 10 38.5**	**-2.6**
JISG				*eS*	**Sn**	**03 11 25.1**	**-4.8**
JIJ	**Ishigaki jima**	**4.40**	**251**	P	**Pn**	**03 10 42.9**	**-1.3**
JKRS	**Kuro-shima**	**4.56**	**250**	P	**Pn**	**03 10 45.6**	**-0.8**
IRIF	**Iriomote-Funau**	**4.76**	**252**	P	**Pn**	**03 10 48.3**	**-0.8**
IRIF				*eS*	**Sn**	**03 11 39.3**	**-5.0**
YOJ	**Yonaguni jima**	**5.35**	**256**	P	**Pn**	**03 10 56.6**	**-0.5**
JYNG	**Yonagunijimaku**	**5.41**	**256**	P	**Pn**	**03 10 56.9**	**-1.1**
JNU	**Nakatsue**	**7.44**	**14**	Pn	**Pn**	**03 11 27.1**	**+1.2**
	2.2nm,0.3s,baz=199,slow=8.1,SNR=25						
KSRS	**Korea Array**	**11.53**	**357**	LR	LR	03 16 55.1	
	comp=Z,38nm,18.3s,baz=225,slow=38						
SONM	**Songino Array**	**28.05**	**327**	P	**P**	**03 15 31.2**	**+2.5**
	0.9nm,0.4s,baz=145,slow=12,SNR=8.4						
MKAR	**Makanchi Array**	**42.06**	**312**	P	**P**	**03 17 30.7**	**+1.7**
	0.4nm,0.5s,baz=94,slow=11,SNR=6.6						
WRA	**Warramunga Arr**	**45.91**	**173**	P	**P**	**03 18 01.6**	**+1.5**
	0.8nm,0.8s,baz=353,slow=8.7,SNR=6.4						
ASAR	**Alice Springs**	**49.54**	**174**	P	**P**	**03 18 29.4**	**+1.1**
	0.6nm,0.9s,baz=350,slow=7.9,SNR=5.2						
ARCES	**ARCESS Array B**	**70.46**	**339**	P	**P**	**03 20 51.2**	**-0.2**
	1.6nm,0.7s,baz=50,slow=7.2,SNR=3.3						
FINES	**FINESS Array B**	**73.35**	**331**	P	**P**	**03 21 09.0**	**+0.2**
	5.7nm,1.1s,baz=90,slow=7.6,SNR=6.6						
AKASG	**Malin Array Be**	**76.05**	**320**	P	**P**	**03 21 24.5**	**-0.2**
	0.5nm,0.5s,baz=55,slow=8.5,SNR=2.9						
BRTR	**Keskin Array B**	**77.56**	**308**	P	**P**	**03 21 34.6**	**+1.0**
	0.3nm,0.6s,baz=86,slow=6.3,SNR=3.8						
NOA	**NORSAR Array B**	**79.78**	**334**	P	**P**	**03 21 45.8**	**+0.4**
	0.3nm,0.6s,baz=48,slow=5.9,SNR=2.7						

*IDC **27** 03:14:21.8±6.0, 17°.23S×178°.79W, h504km±67km, mb3.3/7, mb1 3.5/8, mb1mx3.2/34, mbtmp4.1/8, Error ellipse: s-maj=51.9km s-min=26.4km az=144.0*
*ISCJB **27** 03:14:23.3±1.2, 17°.2S±0°.4×178°.9W±0°.3, h533km, mb3.6/7, Error ellipse: s-maj=58.5km s-min=16.0km az=146.0*
ISC 27 03:14:24.0±1.3, 17°.3S±0°.4×178°.8W±0°.3, h533km, n10, σ0§64/10, mb3.5/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.68**	**249**	P	**P**	**03 17 30.8**	**+0.2**
	0.5nm,0.3s,baz=90,slow=24,SNR=6.4						
STKA	**Stephens Creek**	**38.60**	**240**	P	**P**	**03 21 01.5**	**+0.1**
	2.4nm,0.4s,baz=88,slow=9.8,SNR=15						
WRA	**Warramunga Arr**	**44.37**	**259**	P	**P**	**03 21 46.7**	**-0.6**
	0.8nm,0.5s,baz=97,slow=6.8,SNR=23						
ASAR	**Alice Springs**	**44.59**	**254**	P	**P**	**03 21 48.9**	**-0.2**
	9.4nm,0.6s,baz=88,slow=8.1,SNR=128						
PETK	**Petropavlovsk-**	**73.00**	**345**	P	**P**	**03 24 58.8**	**-0.4**
	0.9nm,0.4s,baz=143,slow=12,SNR=5.7						
ILAR	**Eielson Array**	**85.38**	**13**	P	**P**	**03 26 04.8**	**+0.3**
	0.3nm,0.4s,baz=226,slow=5.1,SNR=10						
TXAR	**Lajitas Array**	**85.99**	**58**	P	**P**	**03 26 07.4**	**-1.0**
	0.8nm,0.9s,baz=216,slow=6.6,SNR=7.0						
PDAR	**Pinedale Array**	**87.17**	**44**	P	**P**	**03 26 14.6**	**+0.8**
	0.4nm,0.4s,baz=213,slow=3.1,SNR=3.4						
BRTR	**Keskin Array B**	**144.08**	**315**	PKP	**PKPdf**	**03 32 59.5**	**0.0**
	0.5nm,0.5s,baz=116,slow=2.3,SNR=5.7						
GERES	**GERESS Array B**	**146.93**	**345**	PKPbc	**PKPbc**	**03 33 07.5**	**+0.8**
	1.0nm,0.6s,baz=20,slow=2.7,SNR=9.5						

GUC 27 03:33:47.3±0.3, 36°.05S×72°.47W, h84km±4km, ML3.9, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNCH	**Linares**	**0.73**	**74**	*i* P	Pn	03 34 03.7	+0.1
LNCH				*i* S	Sn	03 34 16.3	+0.5
TALC	**Talca**	**0.94**	**47**	⇓*i* P	Pn	03 34 05.8	-0.1
TALC				*i* S	Sn	03 34 20.1	+0.3
NICH	**Los Niches**	**1.46**	**44**	*eP*	Pn	03 34 12.6	+0.4
LNV	**Longovilo**	**2.26**	**23**	*eP*	Pn	03 34 23.0	+0.2
CLCH	**Cerro Calan**	**3.09**	**32**	AML	AML	03 35 35.7	
	comp=E,279nm,0.6s						
PEL	**Peldehue**	**3.25**	**27**	AML	AML	03 35 32.2	
	comp=E,220nm,0.4s						
ROCH	**El Roble**	**3.30**	**22**	⇑*i* P	Pn	03 34 37.6	+0.5
ROCH				*i* S	Sn	03 35 16.2	+0.8
ROCH				AML	AML	03 35 33.9	
	comp=N,126nm,0.4s						

*MOS **27** 03:45:39.3±1.5, 49°.32N×155°.41E, h29km, mb4.2/15, Error ellipse: s-maj=21.3km s-min=6.3km az=75.3*
*ISCJB **27** 03:45:42.5±0.5, 49°.31N±0°.06×155°.7E±0°.1, h54km, mb4.1/33, MS3.4/3, Error ellipse: s-maj=12.5km s-min=4.2km az=37.4*
*IDC **27** 03:45:46.0±0.6, 49°.48N×155°.50E, h68km±4km, mb3.7/22, mb1 3.9/26, mb1mx3.8/31, mbtmp4.0/26, MS3.4/3, Ms1 3.4/3, ms1mx2.8/28, Error ellipse: s-maj=17.0km s-min=10.7km az=139.0*
*KRSC **27** 03:45:45.2±2.6, 49°.36N×156°.97E, h41km±26km, ML4.9*
ISC 27 03:45:45.0±0.5, 49°.43N±0°.07×155°.73E±0°.08, h54km, n104, σ1§76/117, mb4.2/33, MS3.3/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.28**	**11**	*eP*	**Pn**	**03 46 07.9**	**+1.4**
SKR				*eS*	**Sn**	**03 46 24.6**	**+2.0**
SKR	**Severo-Kuril's**	**1.28**	**11**	*ePN*	Pn	03 46 01.2	-5.3
SKR				*i* S	**Sn**	**03 46 17.0**	**-5.6**
SKR				pmax	pmax		
	comp=N,730nm,0.5s						
SKR				pmax	pmax		
	comp=Z,920nm,0.5s						
SKR				pmax	pmax		
	comp=E,460nm,0.3s						
SKR				smax	smax		
	comp=N,6μm,0.3s						
SKR				smax	smax		
	comp=E,5μm,0.3s						
PAU	**Pauzhetka**	**2.15**	**18**	*eP*	**Pn**	**03 46 19.8**	**+1.4**
PAU				*eS*	**Sn**	**03 46 45.7**	**+1.7**
PAU	**Pauzhetka**	**2.15**	**18**	PN	**Pn**	**03 46 19.8**	**+1.4**
PAU				S	**Sn**	**03 46 45.7**	**+1.7**
MIPR	**Malaya Ipel'ka**	**2.92**	**13**	*eP*	**Pn**	**03 46 30.8**	**+1.8**
ASAK	**Asacha**	**3.26**	**24**	*eP*	**Pn**	**03 46 35.4**	**+1.7**
MTVR	**Mutnovka**	**3.43**	**26**	*eP*	**Pn**	**03 46 37.6**	**+1.6**
MTVR				*eS*	**Sn**	**03 47 16.6**	**+1.1**
GRL	**Gorelyy**	**3.46**	**24**	*eP*	**Pn**	**03 46 38.7**	**+2.3**
GRL				*eS*	**Sn**	**03 47 18.1**	**+1.9**
RUS	**Russkaya**	**3.49**	**29**	*eP*	**Pn**	**03 46 37.1**	**+0.5**
RUS				*eS*	**Sn**	**03 47 15.1**	**-1.5**
RUS	**Russkaya**	**3.49**	**29**	PN	**Pn**	**03 46 37.1**	**+0.5**
APC	**Apacha**	**3.62**	**14**	*eP*	Pn	03 46 41.7	+3.3
PETK	**Petropavlovsk-**	**3.89**	**18**	P	**Pn**	**03 46 44.4**	**+2.2**
	comp=E,24nm,0.3s,baz=180,slow=12,SNR=140						
PETK	**Petropavlovsk-**	**3.89**	**18**	PN	**Pn**	**03 46 44.4**	**+2.2**
PETK				pmax	pmax		
	comp=Z,24nm,0.3s						
PET	**Petropavlovsk**	**4.04**	**26**	*eP*	**Pn**	**03 46 46.1**	**+1.8**
PET				*eS*	**Sn**	**03 47 31.5**	**+1.2**
PET	**Petropavlovsk**	**4.04**	**26**	*ePN*	**Pn**	**03 46 45.9**	**+1.6**
UGLR	**Uglovaya**	**4.25**	**26**	*eP*	**Pn**	**03 46 49.5**	**+2.2**
KOK	**Koryaka**	**4.28**	**24**	*eP*	Pn	03 46 50.6	+3.0
AVH	**Avacha**	**4.28**	**25**	*eP*	**Pn**	**03 46 50.2**	**+2.6**
SMAR	**Somma**	**4.30**	**25**	*eP*	**Pn**	**03 46 50.1**	**+2.1**
SDLR	**Sedlovina**	**4.33**	**26**	*eP*	**Pn**	**03 46 49.9**	**+1.5**
KRX	**Arik**	**4.34**	**24**	*eP*	**Pn**	**03 46 51.2**	**+2.7**
NLC	**Nalytchevo**	**4.38**	**30**	*eP*	**Pn**	**03 46 48.7**	**-0.2**
NLC				*eS*	**Sn**	**03 47 35.6**	**-3.0**
NLC	**Nalytchevo**	**4.38**	**30**	PN	**Pn**	**03 46 48.7**	**-0.2**
GNL	**Ganaly**	**4.49**	**17**	*eP*	Pn	03 46 53.7	+3.2
SPN	**Mys Shipunski**	**4.56**	**35**	*eP*	**Pn**	**03 46 51.0**	**-0.3**
SPN				*eS*	**Sn**	**03 47 39.8**	**-3.1**
SPN	**Mys Shipunski**	**4.56**	**35**	PN	**Pn**	**03 46 51.0**	**-0.3**
MKZ	**Mys Kozlova**	**6.33**	**34**	*eP*	**Pn**	**03 47 15.2**	**-0.4**
MKZ				*eS*	**Sn**	**03 48 22.3**	**-4.2**
MKZ	**Mys Kozlova**	**6.33**	**34**	PN	**Pn**	**03 47 15.2**	**-0.4**
TUMR	**Tumrok**	**6.46**	**23**	*eP*	**Pn**	**03 47 19.9**	**+2.4**
KBTR	**Krutoberegovo**	**8.03**	**30**	*eP*	**Pn**	**03 47 38.8**	**-0.1**
KBTR	**Krutoberegovo**	**8.03**	**30**	PN	**Pn**	**03 47 38.8**	**-0.1**
BKI	**Bering**	**8.53**	**43**	*eP*	**Pn**	**03 47 44.0**	**-1.7**
BKI				*eS*	Sn	03 49 10.5	-10
BKI	**Bering**	**8.53**	**43**	PN	**Pn**	**03 47 44.0**	**-1.7**
ASAJ	**Asahikawa**	**10.45**	**244**	P	**Pn**	**03 48 13.1**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=162,slow=20,SNR=4.1						
ASAJ	**Asahikawa**	**10.45**	**244**	PN	**Pn**	**03 48 13.1**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SEY	**Seymchan**	**13.66**	**354**	P	**Pn**	**03 48 56.7**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=179,slow=24,SNR=5.8						
USRK	**Ussuriysk Ar.**	**17.04**	**261**	P	**P**	**03 49 39.4**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=60,slow=13,SNR=1.9						
BILL	**Bilibino**	**19.39**	**12**	*i* P	**P**	**03 50 04.7**	**-1.4**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**30.95**	**159**	T	T	04 24 47.5	
	baz=346,slow=76,SNR=66						
H11N1	**WAKE ISLAND Hy**	**30.97**	**159**	T	T	04 24 46.2	
	baz=346,slow=76,SNR=33						
H11N3	**WAKE ISLAND Hy**	**30.97**	**159**	T	T	04 24 42.2	
	baz=346,slow=76,SNR=97						
H11S1	**WAKE ISLAND Hy**	**32.09**	**160**	T	T	04 26 03.5	
	baz=346,slow=76,SNR=1420						
H11S3	**WAKE ISLAND Hy**	**32.10**	**160**	T	T	04 26 05.9	
	baz=346,slow=76,SNR=1217						
H11S2	**WAKE ISLAND Hy**	**32.11**	**160**	T	T	04 25 56.9	
	baz=346,slow=76,SNR=984						
ILAR	**Eielson Array**	**33.37**	**41**	P	**P**	**03 52 17.7**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=262,slow=7.5,SNR=15						
ILAR				pP	**pP**	**03 52 33.4**	**+2.0**
	comp=Z,1.0nm,0.7s,baz=261,slow=5.9,SNR=5.6						
ILAR	**Eielson Array**	**33.37**	**41**	P	**P**	**03 52 17.7**	**+0.1**
ILAR				*PP	**pP**	**03 52 33.4**	**+2.0**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**38.45**	**34**	P	**P**	**03 53 01.5**	**+0.5**
	comp=Z,2.7nm,0.6s,baz=305,slow=6.7,SNR=17						
INK				pP	**pP**	**03 53 18.9**	**+4.0**
	comp=Z,1.1nm,0.6s,baz=295,slow=9.3,SNR=2.1						
ZALV	**Zalesovo Beam**	**42.51**	**304**	P	**P**	**03 53 32.4**	**-2.2**
	comp=Z,0.7nm,0.3s,baz=51,slow=7.6,SNR=2.6						
ZALV	**Zalesovo Beam**	**42.51**	**304**	P	**P**	**03 53 32.4**	**-2.2**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**47.29**	**296**	P	**P**	**03 54 10.4**	**-2.4**
	comp=Z,0.7nm,0.7s,baz=64,slow=8.6,SNR=7.2						
MKAR				LR	LR	04 14 35.7	
	comp=Z,32nm,18.7s,baz=28,slow=37						
MKAR	**Makanchi Array**	**47.29**	**296**	P	**P**	**03 54 10.4**	**-2.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR				MLR	MLR		
	comp=Z,32nm,18.7s						
RES	**Resolute Bay**	**47.73**	**20**	P	**P**	**03 54 15.5**	**-0.2**
	comp=Z,1.4nm,0.4s,baz=317,slow=3.9,SNR=20						
RES	**Resolute Bay**	**47.73**	**20**	P	**P**	**03 54 15.5**	**-0.2**
RES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA	**Yellowknife Ar**	**47.73**	**39**	P	**P**	**03 54 16.4**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=302,slow=8.2,SNR=3.9						
YKA				pP	**pP**	**03 54 33.3**	**+3.1**
	comp=Z,0.7nm,0.8s,baz=298,slow=7.7,SNR=4.0						
CMAR	**Chiang Mai Arr**	**54.70**	**257**	P	**P**	**03 55 08.8**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=35,slow=6.6,SNR=4.3						
CMAR				pP	**pP**	**03 55 25.2**	**+1.9**
	comp=Z,1.1nm,0.4s,baz=56,slow=10,SNR=1.9						
CMAR	**Chiang Mai Arr**	**54.70**	**257**	P	**P**	**03 55 08.8**	**+0.1**
CMAR				*PP	**pP**	**03 55 25.2**	**+1.9**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARCES	**ARCESS Array B**	**55.89**	**341**	P	**P**	**03 55 16.7**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=32,slow=8.6,SNR=3.6						
ARCES	**ARCESS Array B**	**55.89**	**341**	P	**P**	**03 55 16.7**	**+0.1**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NVAR	**Mina Array Bea**	**59.68**	**65**	P	**P**	**03 55 44.5**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=290,slow=3.7,SNR=3.4						
PDAR	**Pinedale Array**	**61.78**	**56**	P	**P**	**03 55 57.3**	**-0.8**
	comp=Z,0.3nm,0.9s,baz=275,slow=9.9,SNR=2.9						
PDAR				pP	**pP**	**03 56 15.8**	**+2.9**
	comp=Z,1.1nm,0.9s,baz=329,slow=2.6,SNR=7.7						
FINES	**FINESS Array B**	**62.35**	**335**	P	**P**	**03 55 58.9**	**-2.4**
	comp=Z,0.7nm,0.4s,baz=19,slow=8.8,SNR=6.9						
FINES	**FINESS Array B**	**62.35**	**335**	P	**P**	**03 55 58.9**	**-2.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NB2	**NORSAR Subarra**	**66.24**	**342**	P	**P**	**03 56 24.4**	**-2.4**
	comp=Z,0.1nm,0.6s,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**66.24**	**342**	P	**P**	**03 56 24.8**	**-2.0**
	comp=Z,0.8nm,0.6s,baz=25,slow=6.6,SNR=4.6						
NOA				LR	LR	04 29 54.3	
	comp=Z,11nm,18.1s,baz=100,slow=40						
NOA	**NORSAR Array B**	**66.24**	**342**	P	**P**	**03 56 24.8**	**-2.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA				MLR	MLR		
	comp=Z,11nm,18.2s						
SCHQ	**Schefferville**	**70.15**	**25**	P	**P**	**03 56 50.9**	**-0.5**
	comp=Z,2.8n

mb3.5/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.63**	**105**	Pn	**Pn**	**03 53 40.3**	**+0.6**
	2.1nm,0.3s,baz=287,slow=14,SNR=5.3						
PSI				Sn	**Sn**	**03 54 21.4**	**0.0**
	5.3nm,0.3s,baz=264,slow=20,SNR=4.2						
CMAR	**Chiang Mai Arr**	**15.03**	**13**	Pn	**P**	**03 56 19.4**	**-1.3**
	0.6nm,0.3s,baz=204,slow=13,SNR=2.8						
CMAR				LR	LR	04 01 57.9	
	comp=Z,45nm,18.4s,baz=355,slow=36						
H08S2	**Diego Garcia H**	**25.51**	**244**	T	T	04 26 11.2	
	baz=62,slow=74						
H08S3	**Diego Garcia H**	**25.51**	**244**	T	T	04 26 05.0	
	baz=62,slow=74						
H08S1	**Diego Garcia H**	**25.53**	**244**	T	T	04 26 12.5	
	baz=62						
MKAR	**Makanchi Array**	**44.38**	**347**	P	**P**	**04 00 53.8**	**+1.0**
	0.4nm,0.5s,baz=158,slow=8.7,SNR=5.9						
WRA	**Warramunga Arr**	**44.90**	**123**	P	**P**	**04 00 56.9**	**-0.5**
	0.4nm,0.5s,baz=301,slow=9.3,SNR=8.1						
SONM	**Songino Array**	**44.94**	**10**	P	**P**	**04 00 57.5**	**+0.1**
	0.9nm,0.6s,baz=199,slow=8.8,SNR=3.7						
ASAR	**Alice Springs**	**46.35**	**128**	P	**P**	**04 01 08.1**	**-0.8**
	0.2nm,0.5s,baz=305,slow=9.6,SNR=3.2						
ZALV	**Zalesovo Beam**	**50.80**	**352**	P	**P**	**04 01 42.9**	**+0.4**
	1.4nm,0.5s,baz=163,slow=7.0,SNR=2.6						

SJA ***27*** *03:53:50.7±0.5, 35.03S×72.85W, h153km±66km, ML4.3*
IDC ***27*** *03:54:01.9±0.5, 34.70S×71.56W, h42km±4km, mb4.2/14, mb1 4.3/17, mb1mx4.2/21, mbtmp4.4/17, ML4.8/3, MS3.4/5, Ms1 3.4/5, ms1mx3.1/18, Error ellipse: s-maj=20.0km s-min=11.7km az=82.0*
ISCJB ***27*** *03:54:02.3±0.4, 34.76S±0.03×71.63W±0.07, h64km±3km, mb4.5/28, Error ellipse: s-maj=9.5km s-min=4.7km az=9.0*
NEIC ***27*** *03:54:02.0, 34.74S×71.70W, h44km, mb4.6/20, After GUC.*
NEIC Felt [IV] at Curico, Hualane, Molina, Pencahue, Pichilemu, San Fernando, Santa Cruz and Talca; [III] at Linares, Paredones and San Javier; [II] at Cauquenes, Navidad, Parral, Rancagua, San Antonio and Santiago. Also felt at Rengo and San Bernardo.
GUC ***27*** *03:54:02.3±0.7, 34.74S×71.70W, h44km±2km, ML4.8*
BJI ***27*** *03:54:04.5, 34.70S×71.70W, h44km, mB4.8/2, Ms5.1/2, Ms7 4.9/2*

ISC 27 03:54:01.9±0.5, 34.74S±0.03×71.72W±0.06, h45km±4km, h45km:pP-P, n92, σ1°34/106, mb4.6/28, 5C-9D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.48**	**123**	⇓*i*P	**Pn**	**03 54 13.2**	**+0.5**
NICH				*i* S	**Sn**	**03 54 21.3**	**+1.0**
TALC	**Talca**	**0.66**	**174**	⇑*i*P	**Pn**	**03 54 15.5**	**+0.5**
TALC				*i* S	**Sn**	**03 54 25.1**	**+0.7**
LNV	**Longovilo**	**0.82**	**18**	⇓*i*P	**Pn**	**03 54 17.8**	**+0.7**
LNCH	**Linares**	**1.11**	**175**	⇓*i*P	**Pn**	**03 54 22.7**	**+1.6**
CHCH	**Chadas Angostu**	**1.19**	**48**	⇑*i*P	**Pn**	**03 54 23.1**	**+0.8**
TACH	**Talagante**	**1.26**	**31**	⇑*i*P	**Pn**	**03 54 24.1**	**+1.0**
PCH	**Pirque**	**1.50**	**42**	⇑*i*P	**Pn**	**03 54 27.5**	**+1.1**
PCH				*i* S	**Sn**	**03 54 46.7**	**+2.0**
SAN	**Santiago**	**1.55**	**35**	⇓*i*P	**Pn**	**03 54 28.4**	**+1.2**
SAN				*i* S	**Sn**	**03 54 47.9**	**+1.8**
SJCH	**San Jose de Ma**	**1.57**	**46**	*i* P	**Pn**	**03 54 28.3**	**+0.9**
SJCH				*i* S	**Sn**	**03 54 48.4**	**+1.7**
LACH	**Col Las Americ**	**1.62**	**38**	*e*P	**Pn**	**03 54 28.8**	**+0.7**
LACH				*i* S	**Sn**	**03 54 49.4**	**+1.7**
CLCH	**Cerro Calan**	**1.66**	**37**	⇓*i*P	**Pn**	**03 54 29.7**	**+1.1**
CLCH				*i* S	**Sn**	**03 54 51.2**	**+2.5**
CLCH				AML	AML	03 55 08.0	
	comp=E,13μm,0.5s						
IHA	**Instituto Hidr**	**1.71**	**2**	⇓*i*P	**Pn**	**03 54 30.5**	**+1.3**
YECH	**El Yeso**	**1.73**	**52**	⇓*i*P	**Pn**	**03 54 31.8**	**+2.1**
PEL	**Peldehue**	**1.81**	**29**	⇓*i*P	**Pn**	**03 54 32.1**	**+1.4**
PEL				*e*S	**Sn**	**03 54 54.0**	**+1.7**
PEL				AML	AML	03 55 00.7	
	comp=E,19μm,0.4s						
ROCH	**El Roble**	**1.86**	**19**	⇓*i*P	**Pn**	**03 54 33.0**	**+1.5**
ROCH				*i* S	**Sn**	**03 54 55.7**	**+1.8**
ROCH				AML	AML	03 55 03.6	
	comp=N,13μm,0.4s						
ARCO	**CERRO ARCO**	**2.99**	**52**	*i* P	Pn	03 54 51.1	+4.1
AUSP	**Uspallata**	**3.17**	**38**	*i* P	**Pn**	**03 54 52.5**	**+2.9**
ASAL	**Salagasta**	**3.22**	**49**	*i* P	Pn	03 54 53.9	+3.8
RTLS	**Leoncito**	**3.56**	**35**	*i* P	**Pn**	**03 54 57.9**	**+3.0**
RTCV	**Cerro Valdivia**	**3.91**	**44**	*i* P	**Pn**	**03 55 01.9**	**+2.4**
SJA	**San Juan**	**4.16**	**40**	*i* P	**Pn**	**03 55 05.2**	**+2.3**
SJA				*i* S	Sn	03 56 00.3	+10
SJA				AML	AML	03 56 19.3	
	comp=Z,314nm,0.5s						
CFAA	**Coronel Fontan**	**4.28**	**44**	P	**Pn**	**03 55 05.8**	**+1.3**
	comp=Z,1.0nm,0.3s,baz=217,slow=14,SNR=134						
CFAA				S	Sn	03 56 03.1	+10
	comp=Z,4.0nm,0.3s,baz=152,slow=18,SNR=8.8						
CFAA				LR	LR	03 56 58.2	
	comp=Z,72nm,20.7s,baz=227,slow=42						
RTLL	**Cerro Villicun**	**4.36**	**40**	*i* P	**Pn**	**03 55 07.8**	**+2.2**
AMOG	**MOGNA**	**4.66**	**37**	*i* P	**Pn**	**03 55 11.4**	**+1.6**
AMOG				*i* P	**Pn**	**03 55 11.4**	**+1.6**
LCO	**Las Campanas**	**5.78**	**9**	*e*Pn	**Pn**	**03 55 24.6**	**-0.8**
LCO				*e*S	**Sn**	**03 56 30.2**	**-0.2**
PLCA	**Paso Flores**	**6.05**	**172**	P	**Pn**	**03 55 30.9**	**+2.0**
	comp=Z,4.4nm,0.3s,baz=343,slow=11,SNR=56						
PLCA				LR	LR	03 58 21.0	
	comp=Z,245nm,19.2s,baz=358,slow=43						
PLCA	**Paso Flores**	**6.05**	**172**	*e*Pn	**Pn**	**03 55 31.3**	**+2.4**
PLCA				*e*S	**Sn**	**03 56 41.9**	**+4.9**
PLCA	**Paso Flores**	**6.05**	**172**	AML	AML	03 57 37.9	
	comp=Z,47nm,0.8s						
TRQA	**Tornquist**	**8.52**	**116**	*e*Pn	**Pn**	**03 56 03.8**	**+1.1**
TRQA				*e*S	Sn	03 58 11.1	+34
LVC	**Limon Verde**	**12.33**	**12**	P	**Pn**	**03 56 55.5**	**+0.4**
	comp=Z,28nm,0.3s,baz=195,slow=6.9,SNR=7.5						
LVC				LR	LR	04 01 42.8	
	comp=Z,540nm,18.8s,baz=212,slow=38						
LVC	**Limon Verde**	**12.33**	**12**	*e*Pn	**Pn**	**03 56 54.2**	**-0.8**
CPUP	**Villa Florida**	**14.95**	**60**	*e*Pn	**Pn**	**03 57 29.4**	**-0.9**
CPUP				*e*S	**Sn**	**04 00 13.6**	**-1.1**
LPAZ	**La Paz**	**18.65**	**11**	P	**Pn**	**03 58 17.8**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=171,slow=8.1,SNR=20						
LPAZ	**La Paz**	**18.65**	**11**	*e*Pn	**Pn**	**03 58 18.0**	**+0.7**
	comp=Z,7.0nm,0.8s						
EFI	**East Falkland**	**19.58**	**154**	*e*P	**P**	**03 58 25.9**	**+0.1**
	comp=Z,31nm,0.9s						
USHA	**Ushuaia**	**20.22**	**174**	P	Pn	03 58 34.2	-0.9
	comp=Z,8.5nm,0.8s,baz=17,slow=12,SNR=3.3						
SIV	**San Ignacio**	**20.97**	**30**	P	**P**	**03 58 40.5**	**-0.8**
	comp=Z,19nm,0.7s,baz=217,slow=10.0,SNR=48						
NNA	**Nana**	**23.12**	**347**	*e*P	**P**	**03 59 03.6**	**-0.5**
	comp=Z,19nm,1.1s						
SAML	**Samuel**	**26.84**	**19**	*e*P	**P**	**03 59 37.6**	**-0.5**
	comp=Z,3.2nm,0.8s						
BDFB	**Brasilia**	**28.54**	**54**	P	**P**	**03 59 51.8**	**-1.7**
	comp=Z,3.6nm,0.6s,baz=223,slow=10,SNR=6.3						
BDFB				LR	LR	04 12 21.7	
	comp=Z,146nm,19.4s,baz=174,slow=39						
ROSC	**El Rosal**	**39.46**	**356**	P	**P**	**04 01 29.5**	**+1.2**
	comp=Z,5.5nm,0.5s,baz=82,slow=7.6,SNR=6.0						
ROSC	**El Rosal**	**39.46**	**356**	*e*P	P	04 01 32.2	+3.9
SDV	**Santo Domingo**	**43.40**	**2**	*e*P	**P**	**04 01 60.0**	**-0.4**
	comp=Z,4.5nm,0.8s						
SNAA	**Sanae**	**50.80**	**158**	P	P	04 02 54.1	-3.2
SNAA	**Sanae**	**50.80**	**158**	P	**P**	**04 02 57.2**	**-0.2**
	comp=Z,1.8nm,0.9s,baz=287,slow=6.9,SNR=11						
SNAA	**Sanae**	**50.80**	**158**	*e*P	P	04 02 53.7	-3.6
	comp=Z,6.7nm,1.0s						
QSPA	**South Pole Qui**	**55.50**	**180**	P	**P**	**04 03 32.9**	**+0.8**
	comp=Z,5.8nm,0.9s,baz=141,slow=3.0,SNR=14						
QSPA				pP	**pP**	**04 03 45.5**	**+0.7**
	comp=Z,3.2nm,0.5s,baz=220,slow=1.2,SNR=5.8						
QSPA	**South Pole Qui**	**55.50**	**180**	*e*P	**P**	**04 03 32.9**	**+0.8**
	comp=Z,6.5nm,0.9s						
QSPA				pP	**pP**	**04 03 45.5**	**+0.7**
TEIG	**Tepich**	**56.88**	**341**	*e*P	**P**	**04 03 42.5**	**+0.4**
	comp=Z,9.2nm,0.9s						
SYO	**Syowa Base**	**65.08**	**158**	⇑*e*P	**P**	**04 04 35.8**	**-1.4**
TXAR	**Lajitas Array**	**70.51**	**331**	P	**P**	**04 05 12.9**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=156,slow=8.5,SNR=25						
TXAR				pP	**pP**	**04 05 24.1**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=159,slow=8.7,SNR=12						
TXAR				LR	LR	04 30 18.8	
	comp=Z,27nm,19.9s,baz=0.0,slow=31						
ABTX	**Abilene, Hawle**	**71.96**	**335**	*e*P	**P**	**04 05 21.4**	**+0.8**
	comp=Z,5.9nm,0.9s						
WVT	**Waverly**	**72.09**	**346**	*e*P	**P**	**04 05 20.9**	**-0.3**
	comp=Z,16nm,0.7s						
MAW	**Mawson**	**72.40**	**163**	P	**P**	**04 05 23.2**	**+0.4**
	comp=Z,3.7nm,0.8s,baz=242,slow=11,SNR=7.7						
MAW	**Mawson**	**72.40**	**163**	*e*P	**P**	**04 05 23.3**	**+0.4**
	comp=Z,0.9nm,0.9s						
MNTX	**Cornudas Mount**	**73.28**	**330**	*e*P	**P**	**04 05 28.6**	**+0.1**
	comp=Z,1.9nm,0.7s						
MNTX				*e*pP	**pP**	**04 05 41.5**	**-0.1**
LIC	**Lamto**	**74.76**	**71**	*e*P	**P**	**04 05 36.9**	**-0.6**
	comp=Z,73nm,2.1s						
TIC	**Toumodi**	**75.02**	**71**	*e*P	**P**	**04 05 38.1**	**-0.9**
KIC	**Kosan Boka**	**75.07**	**71**	*e*P	**P**	**04 05 38.8**	**-0.5**
	comp=Z,18nm,0.6s						
DBIC	**Dimbokro**	**75.17**	**71**	P	**P**	**04 05 39.5**	**-0.3**
	comp=Z,7.0nm,0.6s,baz=192,slow=5.2,SNR=16						
DBIC				pP	**PcP**	**04 05 53.0**	**-0.2**
	comp=Z,2.8nm,0.8s,baz=214,slow=7.2,SNR=4.1						
ACSO	**Alum Creek Sta**	**75.32**	**351**	*e*P	**P**	**04 05 39.8**	**-0.2**
	comp=Z,14nm,0.8s						
HDIL	**Hopedale**	**76.66**	**346**	*e*P	**P**	**04 05 47.7**	**0.0**
	comp=Z,1.2nm,1.0s						
TSUM	**Tsumeb**	**78.76**	**106**	*e*P	**P**	**04 06 00.6**	**+0.4**
	comp=Z,30nm,1.9s						
BOSA	**Boshof**	**79.50**	**117**	P	**P**	**04 06 03.6**	**-0.5**
	comp=Z,12nm,0.8s,baz=246,slow=2.9,SNR=22						
BOSA				pP	**pP**	**04 06 16.5**	**-1.0**
	comp=Z,4.2nm,0.8s,baz=291,slow=1.8,SNR=3.4						
SMCO	**Snowmass**	**80.45**	**333**	*e*P	**P**	**04 06 10.7**	**+1.6**
	comp=Z,7.0nm,1.4s						
PV04	**Paradox Valley**	**80.52**	**331**	*e*P	**P**	**04 06 10.3**	**+1.1**
PV04				*e*PP	**PP**	**04 09 12.0**	**-1.5**
ECSD	**EROS Data Cent**	**81.33**	**342**	*e*P	**P**	**04 06 13.2**	**0.0**
	comp=Z,7.5nm,0.9s						
LBTB	**Lobatse**	**81.76**	**115**	*e*P	**P**	**04 06 15.8**	**-0.4**
	comp=Z,15nm,1.1s						
R11A	**Troy Canyon, C**	**83.32**	**327**	*e*P	**P**	**04 06 24.5**	**+0.5**
	comp=Z,11nm,1.9s						
TORD	**Torodi Ar. Bea**	**84.21**	**70**	P	**P**	**04 06 28.5**	**-0.4**
	comp=Z,5.5nm,0.8s,baz=274,slow=5.0,SNR=35						
TORD				pP	**pP**	**04 06 42.5**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=268,slow=4.8,SNR=3.9						
TOA1	**Torodi Ar. Sit**	**84.22**	**70**	*e*P	**P**	**04 06 27.0**	**-1.9**
PDAR	**Pinedale Array**	**84.54**	**333**	P	**P**	**04 06 30.4**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=158,slow=4.8,SNR=6.7						
PDAR				pP	**pP**	**04 06 42.6**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=140,slow=4.7,SNR=6.6						
NVAR	**Mina Array Bea**	**84.64**	**325**	P	**P**	**04 06 32.3**	**+1.6**
	comp=Z,0.7nm,0.7s,baz=125,slow=11,SNR=4.5						
NVAR				pP	**pP**	**04 06 44.3**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=161,slow=5.7,SNR=3.2						
ULM	**Lac du Bonnet**	**87.28**	**345**	P	**P**	**04 06 43.0**	**-0.2**
	comp=Z,2.0nm,0.8s,baz=57,slow=0.6,SNR=4.0						
WRA	**Warramunga Arr**	**120.24**	**209**	PKP	**PKPdf**	**04 12 47.7**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=155,slow=1.7,SNR=6.5						
WRA				pPKP	**pPKPdf**	**04 13 00.5**	**-2.0**
	comp=Z,0.3nm,0.4s,baz=157,slow=1.7,SNR=2.6						
BRTR	**Keskin Array B**	**121.96**	**61**	PKP	**PKPdf**	**04 12 51.0**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=185,slow=4.2,SNR=5.4						
AKASG	**Malin Array Be**	**122.49**	**48**	pPKP	pPKPdf	04 13 04.1	-1.6
	comp=Z,0.2nm,0.3s,baz=258,slow=2.6,SNR=3.2						
H11S2	**WAKE ISLAND Hyd**	**126.02**	**268**	T	T	06 31 32.2	
	baz=118						
H11S1	**WAKE ISLAND Hyd**	**126.03**	**268**	T	T	06 31 32.8	
	baz=118						
H11S3	**WAKE ISLAND Hyd**	**126.04**	**268**	T	T	06 31 34.1	
	baz=118						
H11N3	**WAKE ISLAND Hyd**	**126.45**	**270**	T	T	06 32 04.3	
	baz=115						
H11N1	**WAKE ISLAND Hyd**	**126.47**	**270**	T	T	06 32 02.3	
	baz=115						
H11N2	**WAKE ISLAND Hyd**	**126.47**	**270**	T	T	06 32 02.3	
	baz=115						
EKS2	**Erkin-Say**	**152.08**	**63**	*e*PKPbc	**PKPbc**	**04 13 52.5**	**+0.3**
AAK	**Ala-Archa**	**152.61**	**63**	*e*PKPbc	**PKPbc**	**04 13 53.8**	**+0.3**
KSH	**Kashi**	**153.88**	**70**	*e*PKPbc	**PKPbc**	**04 13 55.5**	**-0.8**
KSH				sPKP		04 14 10.3	
KSH				PKS	PKSdf	04 17 28.0	+5.4
KSH				PPMZ			
	comp=Z,93nm,5.1s						
KSH				LN			
	comp=Z,79nm,6.1s						
KSH				LE			
	comp=Z,59nm,4.5s						
KSH				LZ			
	comp=Z,160nm,5.8s						
MKAR	**Makanchi Array**	**157.04**	**51**	PKPab	**PKPab**	**04 14 21.1**	**-1.6**
	comp=Z,1.2nm,0.8s,baz=277,slow=4.9,SNR=8.7						
MKAR				pPKPab	**pPKPab**	**04 14 36.8**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=317,slow=5.1,SNR=3.2						
WMQ	**Urumqi**	**161.70**	**54**	*e*PKP	**PKPdf**	**04 13 58.0**	**+0.3**
KMI	**Kunming**	**169.28**	**152**	PKP	**PKPdf**	**04 14 04.5**	**-0.2**
HHC	**Hu-ho-hao-te**	**173.37**	**338**	*e*PKP	**PKPdf**	**04 14 06.5**	**+0.3**
HHC				PP	**PP**	**04 19 29.5**	**+3.5**
HHC				SKS	**SKSdf**	**04 21 04.5**	**-1.1**
HHC				SS	**SS**	**04 40 38.8**	**+1.1**
HHC				PPMZ			
	comp=Z,55nm,9.9s						
HHC				LN			
	comp=Z,82nm,19.7s						
HHC				LE			
	comp=Z,130nm,19.7s						
HHC				LZ			
	comp=Z,64nm,18.5s						
CD2	**Chengdu**	**174.61**	**134**	PKP	**PKPdf**	**04 14 06.0**	**-0.8**
XAN	**Xi'an**	**179.12**	**217**	PKP	**PKPdf**	**04 14 05.8**	**-1.7**

DJA 27 04:13:10.1±0.7, 10.5°S±7.1°×12.0°E±0.8°, h34km±10km, M3.4/4, MLv3.4/4, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**0.17**	**121**	P	Pb	04 13 18.6	+2.1
WSI				S	Sb	04 13 23.5	+2.6
WSI	**Waingapu**	**0.17**	**121**	P	Pb	04 13 18.0	+1.5
WSI				S	Sb	04 13 23.0	+2.1
WBSI	**Waikabubak, Su**	**0.75**	**265**	P	Pb	04 13 25.3	+0.4
WBSI	**Waikabubak, Su**	**0.75**	**265**	P	Pn	04 13 24.2	-0.2
WBSI				S	Sb	04 13 36.2	+1.2
MMRI	**Maumere**	**2.27**	**66**	P	Pn	04 13 46.6	+1.4
MMRI				S	Sn	04 14 14.4	+2.5

ISCJB ***27*** *04:30:56.7±2.4, 5.9N±0.5×32.3W±0.2, h10km, mb3.5/7, MS3.4/5, Error ellipse: s-maj=72.6km s-min=25.1km az=178.0*
IDC ***27*** *04:30:57.0±2.8, 5.97N×32.35W, h0km, mb3.5/7, mb1 3.8/7, mb1mx3.6/30, mbtmp3.5/7, MS3.3/6, Ms1 3.3/6, ms1mx3.0/21, Error ellipse: s-maj=87.6km s-min=27.4km az=177.0*

ISC 27 04:30:58.7±2.7, 6.0N±0.6×32.3W±0.2, h10km, n18, σ1°46/7, mb3.5/7, MS3.4/5, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**12.25**	**197**	LR	LR	04 37 13.7	
	comp=Z,72nm,19.8s,baz=27,slow=31						
H10N3	**ASCENSION HYDR**	**22.45**	**127**	T	T	04 59 36.4	
	baz=305,slow=75,SNR=52						
H10N2	**ASCENSION HYDR**	**22.45**	**127**	T	T	04 59 36.4	
	baz=305,slow=75,SNR=60						
H10N1	**ASCENSION HYDR**	**22.47**	**127**	T	T	04 59 37.6	
	baz=305,slow=75,SNR=79						
H10S3	**ASCENSION HYDR**	**23.01**	**130**	T	T	05 00 14.9	
	baz=308,slow=75,SNR=56						
H10S1	**ASCENSION HYDR**	**23.01**	**130**	T	T	05 00 15.2	
	baz=308,slow=75,SNR=60						
H10S2	**ASCENSION HYDR**	**23.02**	**130**	T	T	05 00 16.1	
	baz=308,slow=75,SNR=39						
BDFB	**Brasilia**	**26.51**	**216**	LR	LR	04 45 28.3	
	comp=Z,102nm,18.6s,baz=50,slow=33						
DBIC	**Dimbokro**	**27.30**	**87**	LR	LR	04 45 24.8	
	comp=Z,68nm,20.7s,baz=222,slow=32						
TORD	**Torodi Ar. Bea**	**34.26**	**75**	P	**P**	**04 37 45.8**	**+0.5**
	1.6nm,0.9s,baz=270,slow=6.9,SNR=9.8						
TORD				LR	LR	04 49 50.5	
	comp=Z,76nm,21.8s,baz=190,slow=33						
ROSC	**El Rosal**	**41.83**	**271**	LR	LR	04 56 16.5	
	comp=Z,67nm,18.4s,baz=126,slow=36						
ESDC	**Sonseca Array**	**42.16**	**33**	P	**P**	**04 38 52.5**	**+0.9**
	0.1nm,0.4s,baz=234,slow=7.8,SNR=4.6						
GERES	**GERESS Array B**	**57.74**	**34**	P	**P**	**04 40 48.4**	**-1.5**
	0.2nm,0.4s,baz=240,slow=7.8,SNR=4.9						
NOA	**NORSAR Array B**	**63.82**	**22**	LR	LR	05 05 02.1	
	comp=Z,17nm,21.8s,baz=225,slow=32						
AKASG	**Malin Array Be**	**67.60**	**37**	P	**P**	**04 41 54.6**	**-1.0**
	0.5nm,0.5s,baz=252,slow=6.1,SNR=5.7						
BRTR	**Keskin Array B**	**67.77**	**50**	P	**P**	**04 41 57.5**	**+0.3**
	0.6nm,1.0s,baz=225,slow=5.7,SNR=3.3						
TXAR	**Lajitas Array**	**70.85**	**299**	P	**P**	**04 42 15.4**	**-0.9**
	0.2nm,0.7s,baz=119,slow=7.3,SNR=2.6						
YKA	**Yellowknife Ar**	**81.17**	**332**	P	**P**	**04 43 16.2**	**+1.8**
	0.4nm,0.8s,baz=85,slow=5.3,SNR=3.9						

IDC ***27*** *04:36:13.9±0.9, 6.11S×154.57E, h0km, mb4.0/11, mb1 4.2/12, mb1mx4.1/19, mbtmp3.9/12, ML3.8/1, MS3.4/4, Ms1 3.4/4, ms1mx3.0/18, Error ellipse: s-maj=34.8km s-min=19.1km az=120.0*
ISCJB ***27*** *04:36:14.2±0.7, 6.19S±0.10×154.6E±0.1, h10km, mb3.8/11, MS3.4/3, Error ellipse: s-maj=21.2km s-min=12.5km az=23.2*

ISC 27 04:36:15.3±0.6, 6.2S±0.1×154.6E±0.1, h10km, n31, σ1°05/27, mb3.8/10, MS3.4/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.20**	**122**	P	Pg	04 38 09.0	-5.2
HNR				*e*S	**Sb**	**04 39 18.0**	**+0.2**
JAY	**Jayapura**	**14.32**	**284**	LR	LR	04 45 34.0	
	comp=Z,139nm,18.5s,baz=209,slow=39						
CTA	**Charters Tower**	**16.01**	**210**	Pn	**P**	**04 40 02.8**	**-1.5**
	0.2nm,0.3s,baz=18,slow=16,SNR=9.0						
WRA	**Warramunga Arr**	**23.96**	**233**	P	**P**	**04 41 30.3**	**+0.2**
	2.4nm,0.8s,baz=56,slow=9.4,SNR=18						
WRA				PcP	**PcP**	**04 45 13.7**	**+1.2**
	1.5nm,0.5s,baz=56,slow=2.6,SNR=14						
ASAR	**Alice Springs**	**26.42**	**227**	P	**P**	**04 41 52.0**	**-0.5**
	1.3nm,0.9s,baz=61,slow=8.9,SNR=8.5						
ASAR				PcP	**PcP**	**04 45 18.9**	**+0.9**
	0.4nm,0.5s,baz=51,slow=2.9,SNR=6.4						
H11S3	**WAKE ISLAND Hy**	**27.28**	**26**	T	T	05 10 34.9	
	baz=204,slow=76,SNR=10						
H11S2	**WAKE ISLAND Hy**	**27.28**	**26**	T	T	05 10 34.9	
	baz=204,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy**	**27.29**	**26**	T	T	05 10 32.3	
	baz=204,slow=76,SNR=8.7						
STKA	**Stephens Creek**	**28.30**	**204**	P	**P**	**04 42 09.4**	**+0.2**
	0.9nm,0.7s,baz=49,slow=11,SNR=2.6						
STKA				LR	LR	04 53 09.8	
	comp=Z,92nm,18.8s,baz=25,slow=36						
URZ	**Urewera**	**37.90**	**151**	LR	LR	04 58 45.2	
	comp=Z,117nm,18.9s,baz=332,slow=36						
KSRS	**Korea Array**	**50.05**	**332**	P	**P**	**04 45 08.2**	**-2.1**
	0.7nm,0.4s,baz=133,slow=7.3,SNR=4.1						
PETK	**Petropavlovsk-**	**59.13**	**2**	LR	LR	05 07 16.2	
	comp=Z,18nm,22.0s,baz=143,slow=32						
CMAR	**Chiang Mai Arr**	**60.08**	**295**	P	**P**	**04 46 24.3**	**+1.1**
	1.6nm,0.3s,baz=103,slow=3.8,SNR=5.0						
SONM	**Songino Array**	**68.45**	**327**	P	**P**	**04 47 18.8**	**+1.1**
	0.4nm,0.4s,baz=126,slow=7.3,SNR=2.6						
TAPN	**Taplejung**	**72.65**	**301**	*e*P	**P**	**04 47 45.1**	**+1.0**
	13nm,0.6s						
ODAN	**Odare**	**72.79**	**300**	*e*P	**P**	**04 47 45.8**	**+1.0**
	27nm,0.7s						
RAMN	**Ramite**	**73.49**	**300**	*e*P	**P**	**04 47 49.5**	**+0.5**
	37nm,0.5s						
JIRN	**Jiri**	**74.03**	**301**	*e*P	**P**	**04 47 53.0**	**+0.7**
GUN	**Gumba**	**74.37**	**301**	*e*P	**P**	**04 47 55.3**	**+1.1**
	24nm,0.7s						
PKI	**Pulchoki**	**74.68**	**301**	*e*P	**P**	**04 47 56.5**	**+0.5**
	30nm,1.0s						
PKIN	**Phulchoki**	**74.69**	**301**	*e*P	**P**	**04 47 57.4**	**+1.4**
KKN	**Kakani**	**74.84**	**301**	*e*P	**P**	**04 47 57.8**	**+1.0**
DMN	**Daman**	**74.95**	**301**	*e*P	**P**	**04 47 58.5**	**+1.0**
	37nm,0.7s						
GKN	**Gorkha**	**75.45**	**301**	*e*P	**P**	**04 48 00.9**	**+0.6**
KOLN	**Koldanda**	**76.28**	**300**	*e*P	**P**	**04 48 05.8**	**+0.8**
	23nm,0.6s						
MKAR	**Makanchi Array**	**82.54**	**319**	P	**P**	**04 48 38.5**	**-0.1**
	0.5

VNA1				S	Sn	04 45 39.5	-5.7	
VNA2	Neumayer--Watz	13.55	152	P	Pn	04 43 27.5	+1.7	
	baz=306,slow=16							
VNA2				S	Sn	04 45 45.4	-10	
	baz=308,slow=21							
SNAA	Sanae	15.15	151	P	Pn	04 43 45.1	-2.4	
SNAA				S	Sn	04 46 18.7	-15	
SNAA	Sanae	15.15	151	Pn	Pn	04 43 48.8	+1.4	
	1.0nm,0.3s,baz=7.4,slow=13,SNR=67							
SNAA				Sn	Sn	04 46 22.7	-11	
	0.5nm,0.3s,baz=320,slow=17,SNR=9.4							
SNAA	Sanae	15.15	151	ePn	Pn	04 43 44.6	-2.9	
	11nm,0.5s							
SNAA				eS	Sn	04 46 17.4	-17	
PMSA	Palmer Station	17.73	238	LR	LR	04 49 57.8		
	comp=Z,317nm,19.5s,baz=105,slow=33							
USHA	Ushuaia	22.70	265	P	P	04 45 11.6	-3.0	
	28nm,1.1s,baz=316,slow=1.4,SNR=3.7							
USHA				LR	LR	04 52 23.7		
	comp=Z,184nm,18.0s,baz=140,slow=32							
QSPA	South Pole Qui	30.28	180	P	P	04 46 25.5	+1.6	
	4.6nm,1.1s,baz=168,slow=1.4,SNR=10							
PLCA	Paso Flores	33.06	286	P	P	04 46 48.7	+0.2	
	2.1nm,0.5s,baz=144,slow=8.1,SNR=13							
MAW	Mawson	36.94	140	P	P	04 47 22.0	+0.6	
	6.5nm,1.0s,baz=256,slow=8.2,SNR=7.5							
MAW				LR	LR	05 00 53.5		
	comp=Z,82nm,19.4s,baz=243,slow=34							
CPUP	Villa Florida	39.62	314	eP	P	04 47 44.7	+0.4	
	0.4nm,1.1s							
SUR	Sutherland	41.63	70	P	P	04 48 00.5	-0.7	
	3.1nm,0.7s,baz=238,slow=6.1,SNR=3.6							
VNDA	Vanda	42.67	183	P	P	04 48 11.3	+2.4	
	2.2nm,0.7s,baz=184,slow=5.9,SNR=10							
VNDA	Vanda	42.67	183	eP	P	04 48 11.1	+2.2	
	1.4nm,0.8s							
BOSA	Boshof	46.88	72	P	P	04 48 43.6	+0.4	
	6.4nm,0.8s,baz=215,slow=4.6,SNR=8.7							
BDFB	Brasilia	46.88	332	P	P	04 48 42.2	-1.0	
	4.4nm,0.5s,baz=149,slow=7.3,SNR=12							
LBTB	Lobatse	50.08	70	eP	P	04 49 07.9	+0.2	
	6.8nm,0.8s							
H10S2	ASCENSION HYDR	51.71	15	T	T	05 45 10.2		
	baz=188,slow=74,SNR=9.0							
H10S3	ASCENSION HYDR	51.72	15	T	T	05 45 02.2		
	baz=188,slow=74,SNR=3.4							
H10S1	ASCENSION HYDR	51.73	15	T	T	05 45 03.2		
	baz=188,slow=74,SNR=3.9							
H10N3	ASCENSION HYDR	52.83	15	T	T	05 46 30.5		
	baz=265,slow=74,SNR=4.6							
H10N2	ASCENSION HYDR	52.85	15	T	T	05 46 35.8		
	baz=189,slow=74,SNR=2.8							
LPAZ	La Paz	52.85	307	P	P	04 49 29.8	+0.6	
	5.4nm,0.4s,baz=95,slow=5.8,SNR=68							
LPAZ	La Paz	52.85	307	eP	P	04 49 30.0	+0.8	
	5.5nm,0.4s							
SAML	Samuel	57.73	316	eP	P	04 50 02.9	-0.7	
	4.7nm,0.7s							
LSZ	Lusaka	59.69	66	eP	P	04 50 17.4	0.0	
	6.9nm,0.8s							
LIC	Lamto	68.20	23	eP	P	04 51 12.7	-0.4	
	14nm,0.5s							
KIC	Kosan Boka	68.39	24	eP	P	04 51 14.3	0.0	
	39nm,1.5s							
TIC	Toumodi	68.61	23	eP	P	04 51 15.5	-0.2	
DBIC	Dimbokro	68.67	24	P	P	04 51 16.1	+0.1	
	3.0nm,0.5s,baz=182,slow=6.2,SNR=9.7							
DBIC				LR	LR	05 14 28.9		
	comp=Z,35nm,18.3s,baz=131,slow=30							
TOA0	Torodi Ar. Sit	76.39	29	eP	P	04 52 02.5	+0.6	
TOA0	Torodi Ar. Sit	76.39	29	eP	P	04 52 02.3	+0.4	
TORD	Torodi Ar. Bea	76.39	29	P	P	04 52 02.5	+0.7	
	16nm,0.5s,baz=198,slow=6.3,SNR=466							
STKA	Stephens Creek	88.01	170	P	P	04 53 03.4	+0.8	
	4.1nm,0.9s,baz=141,slow=3.3,SNR=4.7							
ASAR	Alice Springs	95.20	162	P	P	04 53 36.2	0.0	
	1.4nm,0.6s,baz=186,slow=3.9,SNR=14							
WRA	Warramunga Arr	98.92	162	P	P	04 53 52.7	-0.4	
	0.4nm,0.8s,baz=193,slow=4.6,SNR=3.1							
WRA				LR	LR	05 35 38.2		
	comp=Z,69nm,22.0s,baz=305,slow=34							
PDAR	Pinedale Array	122.53	300	PKP	PKPdf	04 59 05.9	-1.5	
	0.3nm,0.7s,baz=93,slow=4.5,SNR=2.8							
CMAR	Chiang Mai Arr	123.44	113	PKP	PKPdf	04 59 10.1	+0.5	
	2.2nm,0.7s,baz=229,slow=3.5,SNR=7.6							
NB2	NORSAR Subarra	124.20	21	PKPdf	PKPdf	04 59 08.8	-0.9	
	comp=Z,0.9nm,0.9s,baz=202,slow=1.9							
NOA	NORSAR Array B	124.20	21	PKP	PKPdf	04 59 09.8	+0.1	
	comp=Z,0.8nm,0.8s,baz=178,slow=1.1,SNR=4.4							
FINES	FINESS Array B	127.74	29	PKP	PKPdf	04 59 15.8	-0.6	
	comp=Z,2.2nm,0.7s,baz=77,slow=2.5,SNR=6.3							
ABKAR	Akbulak array	129.37	58	ePKPdf	PKPdf	04 59 19.7	-0.2	
ARCES	ARCESS Array B	134.50	23	PKP	PKPdf	04 59 28.6	-0.4	
	comp=Z,5.4nm,0.8s,baz=194,slow=2.5,SNR=5.8							
MKAR	Makanchi Array	137.83	75	PKP	PKPdf	04 59 34.9	-1.1	
	comp=Z,0.9nm,1.0s,baz=264,slow=1.4,SNR=3.5							
YKA	Yellowknife Ar	139.14	315	PKP	PKPdf	04 59 36.9	-0.9	
	comp=Z,0.4nm,0.3s,baz=134,slow=2.2,SNR=13							
YKA				SKPbc	SKiKP	05 03 12.2	-0.9	
	comp=Z,0.2nm,0.6s,baz=138,slow=3.6,SNR=3.8							
ZALV	Zalesovo Beam	143.78	68	PKhKP	PKPpre	04 59 43.5		
	comp=Z,8.9nm,0.4s,baz=229,slow=4.2,SNR=15							
SONM	Songino Array	150.55	93	PKPbc	PKPbc	05 00 03.9	+0.4	
	comp=Z,8.9nm,0.7s,baz=211,slow=2.7,SNR=18							
KSAR	Wonju Array Be	152.29	133	PKPbc	PKPbc	05 00 08.2	+0.5	
KSAR				PKPab	PKPab	05 00 19.1	+1.4	
KSRS	Korea Array	152.31	133	PKPbc	PKPbc	05 00 08.2	+0.5	
	comp=Z,2.3nm,0.8s,baz=210,slow=4.3,SNR=6.0							
KSRS				PKPab	PKPab	05 00 19.1	+1.3	
	comp=Z,1.8nm,0.7s,baz=217,slow=4.1,SNR=4.6							
ILAR	Eielson Array	152.72	306	PKPbc	PKPbc	05 00 06.8	-0.9	
	comp=Z,1.2nm,0.3s,baz=161,slow=1.6,SNR=33							
ILAR				PKPab	PKPab	05 00 19.1	+0.2	
	comp=Z,0.4nm,0.6s,baz=194,slow=1.1,SNR=4.7							

*NEIC **27** 04:51:26.1,37.04S×177.68E,h114km,MG4.0(WEL), After WEL.*

WEL 27 04:51:25.9±0.3,37.04S×177.70E,h118km±2km,ML4.1/15, 9C-7D,Error ellipse: s-maj=2.5km s-min=1.7km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	White Island	0.64	219	PN	Pn	04 51 44.1	-0.3
MXZ	Matakaoa Point	0.72	137	⇑PN	Pn	04 51 44.9	-0.2
MXZ				AML	AML	04 51 46.1	
MXZ				SN	Sn	04 52 00.3	+0.7
MXZ				AML	AML	04 52 01.5	
MXZ				AML	AML	04 52 02.1	
MXZ	Matakaoa Point	0.72	137	Pn	Pn	04 51 44.9	-0.2
HAZ	Te Kaha	0.72	175	PN	Pn	04 51 45.0	-0.1
HAZ				SN	Sn	04 51 60.0	+0.3
WMGZ	Waiomatatini S	0.97	144	⇑PN	Pn	04 51 47.5	+0.1
PUZ	Puketiti	1.13	157	PN	Pn	04 51 48.6	-0.4
PUZ				SN	Sn	04 52 06.4	-0.2
PUZ				AML	AML	04 52 14.4	
PUZ	Puketiti	1.13	157	Pn	Pn	04 51 48.8	-0.2
TWGZ	Tauwhareparae	1.16	169	⇑PN	Pn	04 51 49.9	+0.5
OPRZ	Ohinepanea	1.22	228	PN	Pn	04 51 50.0	+0.1
OPRZ				SN	Sn	04 52 07.7	-0.5
OPRZ	Ohinepanea	1.22	228	Pn	Pn	04 51 49.7	-0.2
OPRZ				SN	Sn	04 52 07.7	-0.4
MARZ	Manawahe	1.25	220	⇑PN	Pn	04 51 50.6	+0.3
MARZ	Manawahe	1.25	220	Pn	Pn	04 51 50.6	+0.3
MWZ	Matawai	1.30	186	PN	Pn	04 51 50.3	-0.7
MWZ				SN	Sn	04 52 09.6	-0.4
MWZ				AML	AML	04 52 11.7	
MWZ				AML	AML	04 52 11.7	
MWZ				AML	AML	04 52 12.3	
MWZ	Matawai	1.30	186	Pn	Pn	04 51 50.6	-0.4
URZ	Urewera	1.31	201	⇓PN	Pn	04 51 50.5	-0.4
URZ				AML	AML	04 52 15.9	
URZ				AML	AML	04 52 15.9	
URZ	Urewera	1.31	201	Pn	Pn	04 51 50.5	-0.4
EDRZ	Edgecumbe	1.31	215	ePN	Pn	04 51 51.2	+0.2
EDRZ	Edgecumbe	1.31	215	Pn	Pn	04 51 51.2	+0.2
TKGZ	Te Karaka	1.40	175	PN	Pn	04 51 52.1	+0.1
RAGZ	Rawiri	1.47	189	⇓PN	Pn	04 51 53.0	0.0
CNGZ	Carnagh Statio	1.50	164	PN	Pn	04 51 53.5	+0.3
CNGZ	Carnagh Statio	1.50	164	Pn	Pn	04 51 53.5	+0.3
KARZ	Kaharoa	1.52	229	⇓PN	Pn	04 51 53.6	+0.3
KARZ	Kaharoa	1.52	229	Pn	Pn	04 51 53.6	+0.3
TARZ	Mount Tarawera	1.52	218	PN	Pn	04 51 54.1	+0.5
TARZ	Mount Tarawera	1.52	218	Pn	Pn	04 51 54.2	+0.7
RRRZ	Republican Roa	1.60	215	PN	Pn	04 51 55.0	+0.6
RRRZ	Republican Roa	1.60	215	Pn	Pn	04 51 55.0	+0.6
KUZ	Kuaotunu	1.61	280	⇑PN	Pn	04 51 54.3	-0.1
KUZ	Kuaotunu	1.61	280	Pn	Pn	04 51 54.3	-0.1
RIGZ	Rimuhau	1.67	178	PN	Pn	04 51 54.6	-0.6
HRRZ	Handcock Road	1.75	219	PN	Pn	04 51 56.9	+0.7
HRRZ	Handcock Road	1.75	219	Pn	Pn	04 51 56.9	+0.7
SNGZ	Shannon Statio	1.76	189	PN	Pn	04 51 55.9	-0.5
PRRZ	Plateau Road	1.79	215	PN	Pn	04 51 56.6	0.0
PRRZ	Plateau Road	1.79	215	Pn	Pn	04 51 56.8	+0.2
ALRZ	Allen Road	1.86	215	PN	Pn	04 51 57.9	+0.4
ALRZ	Allen Road	1.86	215	Pn	Pn	04 51 57.9	+0.4
TOZ	Tahuroa Road	1.88	248	⇓PN	Pn	04 51 58.2	+0.5
TOZ	Tahuroa Road	1.88	248	Pn	Pn	04 51 58.2	+0.5
PRGZ	Paritu Road	1.89	176	ePN	Pn	04 51 57.3	-0.5
PRGZ	Paritu Road	1.89	176	Pn	Pn	04 51 57.3	-0.5
WPRZ	Whakapapataran	1.91	219	PN	Pn	04 51 59.1	+0.9
RAHZ	Arahi	1.94	194	PN	Pn	04 51 58.1	-0.4
RAHZ	Arahi	1.94	194	Pn	Pn	04 51 58.1	-0.4
GRZ	Great Barrier	1.96	293	PN	Pn	04 51 58.8	0.0
KNZ	Kokohu	1.98	180	PN	Pn	04 51 57.9	-1.0
KNZ	Kokohu	1.98	180	Pn	Pn	04 51 58.0	-0.9
MRHZ	Matea Rd	2.06	209	PN	Pn	04 51 59.6	-0.4
WHHZ	Waihua	2.07	190	PN	Pn	04 51 59.4	-0.6
MHGZ	Mahia Peninsul	2.12	176	Pn	Pn	04 51 59.9	-0.8
NMHZ	Naumai	2.17	199	PN	Pn	04 52 01.3	-0.2
NMHZ	Naumai	2.17	199	Pn	Pn	04 52 01.3	-0.2
ARPZ	Aropaoanui	2.29	194	PN	Pn	04 52 02.1	-0.7
BKZ	Black Stump Fm	2.33	204	PN	Pn	04 52 02.3	-1.1
BKZ				AML	AML	04 52 34.5	
BKZ				AML	AML	04 54 33.1	
BKZ	Black Stump Fm	2.33	204	Pn	Pn	04 52 02.4	-1.1
MCHZ	McNeill Hill	2.53	198	PN	Pn	04 52 05.0	-0.9
MCHZ	McNeill Hill	2.53	198	Pn	Pn	04 52 05.1	-0.8
KRVZ	Karewarewa	2.62	218	PN	Pn	04 52 07.3	+0.1
KRVZ	Karewarewa	2.62	218	Pn	Pn	04 52 07.3	+0.1
OTVZ	Oturere	2.66	216	PN	Pn	04 52 07.5	-0.3
OTVZ	Oturere	2.66	216	Pn	Pn	04 52 07.5	-0.3
HIZ	Hauiti	2.69	236	PN	Pn	04 52 09.1	+1.1
HIZ	Hauiti	2.69	236	Pn	Pn	04 52 09.1	+1.0
NGZ	Ngauruhoe	2.70	217	PN	Pn	04 52 08.1	-0.2
COVZ	Chateau Observ	2.75	218	PN	Pn	04 52 08.3	-0.6
TUVZ	Tukino	2.75	215	PN	Pn	04 52 08.4	-0.6
TUVZ	Tukino	2.75	215	Pn	Pn	04 52 08.4	-0.6
WPVZ	Whakapapa	2.75	217	PN	Pn	04 52 08.8	-0.1
WPVZ	Whakapapa	2.75	217	Pn	Pn	04 52 08.8	-0.1
BHHZ	Black Hill Sta	2.76	207	PN	Pn	04 52 07.9	-1.2
BHHZ	Black Hill Sta	2.76	207	Pn	Pn	04 52 07.9	-1.2
FWVZ	Far West T-bar	2.79	217	⇓PN	Pn	04 52 08.9	-0.6
FWVZ	Far West T-bar	2.79	217	Pn	Pn	04 52 08.9	-0.6
WHVZ	Whangaehu Hut	2.79	216	Pn	Pn	04 52 08.9	-0.7
KRHZ	Kereru	2.80	201	⇑PN	Pn	04 52 07.7	-1.9
MOVZ	Moawhango	2.82	212	PN	Pn	04 52 08.5	-1.3
MOVZ	Moawhango	2.82	212	Pn	Pn	04 52 08.5	-1.3
WNVZ	Wahianoa	2.82	215	⇑PN	Pn	04 52 09.1	-0.8
WNVZ	Wahianoa	2.82	215	Pn	Pn	04 52 09.1	-0.8
TRVZ	Turoa	2.82	216	⇓PN	Pn	04 52 09.5	-0.5
TRVZ	Turoa	2.82	216	Pn	Pn	04 52 09.6	-0.5
KAHZ	Kahuranaki	2.83	193	PN	Pn	04 52 08.3	-1.6
KAHZ	Kahuranaki	2.83	193	Pn	Pn	04 52 08.3	-1.5
PKVZ	Pokaka	2.91	219	PN	Pn	04 52 10.7	-0.3
MTVZ	Mangateitei	2.93	216	⇓PN	Pn	04 52 10.6	-0.6
MTVZ	Mangateitei	2.93	216	Pn	Pn	04 52 10.6	-0.6
PXZ	Pawanui	3.06	192	⇑PN	Pn	04 52 10.5	-2.3
PXZ				AML	AML	04 52 46.7	
PXZ				AML	AML	04 52 47.8	
PXZ				AML	AML	04 52 47.8	
PXZ				AML	AML	04 52 48.6	
PXZ	Pawanui	3.06	192	Pn	Pn	04 52 10.5	-2.3
PNHZ	Pukenui	3.10	202	PN	Pn	04 52 11.1	-2.4
PNHZ	Pukenui	3.10	202	Pn	Pn	04 52 11.1	-2.4
WPHZ	Waipukurau	3.18	198	PN	Pn	04 52 12.0	-2.5
WPHZ	Waipukurau	3.18	198	Pn	Pn	04 52 12.3	-2.2
TSZ	Takapari Road	3.31	204	PN	Pn	04 52 13.5	-2.7
TSZ				AML	AML	04 52 56.6	
TSZ				AML	AML	04 52 57.7	
TSZ	Takapari Road	3.31	204	Pn	Pn	04 52 13.5	-2.7
PRHZ	Porangahau	3.33	194	PN	Pn	04 52 14.0	-2.4
WAZ	Wanganui	3.45	217	PN	Pn	04 52 17.6	-0.5
WAZ	Wanganui	3.45	217	Pn	Pn	04 52 17.1	-0.9
DVHZ	Dannevirke	3.47	200	PN	Pn	04 52 15.2	-3.1
DVHZ	Dannevirke	3.47	200	Pn	Pn	04 52 15.3	-3.1
ANWZ	Angora Road	3.55	195	PN	Pn	04 52 16.4	-2.9
POWZ	Post Office Ro	3.67	204	PN	Pn	04 52 18.2	-2.8
POWZ	Post Office Ro	3.67	204	Pn	Pn	04 52 18.2	-2.7
PRWZ	Pori Road	3.76	200	PN	Pn	04 52 19.3	-2.9
BFZ	Birch Farm	3.81	197	PN	Pn	04 52 19.9	-2.9
BFZ	Birch Farm	3.81	197	Pn	Pn	04 52 19.4	-3.4
MRZ	Mangatainoka R	3.98	204	PN	Pn	04 52 21.7	-3.4
MRZ				AML	AML	04 53 09.0	
MRZ				AML	AML	04 53 09.6	
MRZ	Mangatainoka R	3.98	204	Pn	Pn	04 52 21.0	-4.0
TIWZ	Tintock	3.99	200	PN	Pn	04 52 21.9	-3.3
TIWZ				AML	AML	04 53 08.8	
TIWZ				AML	AML	04 53 11.4	
TIWZ	Tintock	3.99	200	Pn	Pn	04 52 21.9	-3.3
HOWZ	Holdsworth Sta	4.21	203	PN	Pn	04 52 24.2	-4.0
HOWZ	Holdsworth Sta	4.21	203	Pn	Pn	04 52 24.2	-4.0
OGWZ	Otaki Gorge	4.26	207	PN	Pn	04 52 25.3	-3.5
OGWZ	Otaki Gorge	4.26	207	Pn	Pn	04 52 25.4	-3.4
TMWZ	Te Maipa	4.30	199	⇑PN	Pn	04 52 25.6	-3.8
TMWZ	Te Maipa	4.30	199	Pn	Pn	04 52 25.6	-3.8
KIW	Kapiti Island	4.39	209	PN	Pn	04 52 27.0	-3.7
KIW	Kapiti Island	4.39	209	Pn	Pn	04 52 27.0	-3.7
MTW	Mount Morrison	4.46	202	PN	Pn	04 52 27.2	-4.2
MTW				AML	AML	04 53 22.5	
MTW	Mount Morrison	4.46	202	Pn	Pn	04 52 27.2	-4.2
CAW	Cannon Point	4.55	206	PN	Pn	04 52 28.6	-4.1
CAW				AML	AML	04 53 24.1	
CAW	Cannon Point	4.55	206	Pn	Pn	04 52 28.6	-4.1
TRWZ	Traveller	4.63	199	PN	Pn	04 52 29.6	-4.1
TRWZ				AML	AML	04 53 23.2	
TRWZ	Traveller	4.63	199	Pn	Pn	04 52 29.7	-4.0
PAWZ	Paruwai Farm	4.68	201	PN	Pn	04 52 30.0	-4.4
PAWZ				AML	AML	04 53 22.7	
PAWZ	Paruwai Farm	4.68	201	Pn	Pn	04 52 30.1	-4.4
MSWZ	Moikau Station	4.77	203	PN	Pn	04 52 30.9	-4.7
MSWZ				AML	AML	04 53 27.0	
MSWZ	Moikau Station	4.77	203	Pn	Pn	04 52 30.9	-4.7
DUWZ	D'Urville Isla	4.78	217	PN	Pn	04 52 32.8	-3.6
SNZO	South Karori	4.86	208	ePn	Pn	04 52 32.8	-4.0
SNZO				eS	Sn	04 53 27.3	-4.7
PLWZ	Palliser	4.91	202	PN	Pn	04 52 32.7	-4.8
PLWZ	Palliser	4.91	202	Pn	Pn	04 52 32.7	-4.8
TCW	Tory Channel	4.95	211	PN	Pn	04 52 33.5	-4.5
TCW				AML	AML	04 53 33.3	
TCW				AML	AML	04 53 33.9	
TCW	Tory Channel	4.95	211	Pn	Pn	04 52 33.5	-4.4
TUWZ	Tuamarina	5.27	212	PN	Pn	04 52 37.9	-4.4
TUWZ	Tuamarina	5.27	212	Pn	Pn	04 52 37.3	-5.0
QRZ	Quartz Range	5.53	225	PN	Pn	04 52 42.2	-3.6
BSWZ	Blackbirch Sta	5.53	211	PN	Pn	04 52 41.1	-4.8
THZ	Tophouse	6.00	217	ePN	Pn	04 52 47.9	-4.5
THZ	Tophouse	6.00	217	Pn	Pn	04 52 48.1	-4.2

WEL 27 05:01:46.0±0.1,40.87S×174.05E,h66km±2km,ML3.5/16, 4C-3D,Error ellipse: s-maj=1.2km s-min=0.8km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	D'Urville Isla	0.11	303	⇓PN	Pn	05 01 55.0	-0.9
DUWZ				SN	Sn	05 02 02.6	-0.5
TCW	Tory Channel	0.39	154	⇑PN	Pn	05 01 57.6	+0.1
TCW				SN	Sn	05 02 06.3	+0.4
TCW				AML	AML	05 02 06.8	
TUWZ	Tuamarina	0.57	188	⇑PN	Pn	05 01 58.7	-0.5
TUWZ				SN	Sn	05 02 08.3	-0.7
TUWZ				AML	AML	05 02 09.3	
KIW	Kapiti Island	0.66	90	⇑PN	Pn	05 02 00.4	+0.2
KIW				SN	Sn	05 02 10.9	+0.3
KIW				AML	AML	05 02 13.2	
WEL	Wellington	0.69	128	PN	Pn	05 02 00.7	+0.2
WEL				AML	AML	05 02 14.8	
WEL				AML	AML	05 02 14.8	
CAW	Cannon Point	0.81	108	PN	Pn	05 02 01.9	-0.1
CAW				AML	AML	05 02 18.7	
CAW				AML	AML	05 02 19.6	
BHW	Baring Head	0.83	131	PN	Pn	05 02 02.8	+0.7
BHW				AML	AML	05 02 19.1	
BHW				AML	AML	05 02 20.1	
OGWZ	Otaki Gorge	0.85	87	PN	Pn	05 02 02.7	+0.2
BSWZ	Blackbirch Sta	0.86	189	PN	Pn	05 02 02.7	+0.1
BSWZ				AML	AML	05 02 15.7	
BSWZ				AML	AML	05 02 15.8	
MSWZ	Moikau Station	1.06	122	AML	AML	05 02 27.8	
MSWZ				AML	AML	05 02 28.1	
HOWZ	Holdsworth Sta	1.11	92	PN	Pn	05 02 05.4	-0.4
MTW	Mount Morrison	1.14	105	PN	Pn	05 02 05.6	-0.6
MTW				AML	AML	05 02 26.7	
MTW				AML	AML	05 02 29.6	
QRZ	Quartz Range	1.15	271	⇓PN	Pn	05 02 04.8	-1.5
PLWZ	Palliser	1.15	128	ePN	Pn	05 02 05.7	-0.6
PAWZ	Paruwai Farm	1.16	117	PN	Pn	05 02 06.2	-0.2
PAWZ				AML	AML	05 02 27.5	
PAWZ				AML	AML	05 02 29.5	
MRZ	Mangatainoka R	1.18	81	PN	Pn	05 02 05.9	-0.8
MRZ				AML	AML	05 02 26.1	
MRZ				AML	AML	05 02 29.2	
THZ	Tophouse	1.24	223	PN	Pn	05 02 07.3	-0.3
WAZ	Wanganui	1.32	33	PN	Pn	05 02 08.9	+0.4
TRWZ	Traveller	1.35	114	ePN	Pn	05 02 08.7	-0.2
TRWZ				AML	AML	05 02 34.4	
TRWZ				AML	AML	05 02 34.6	
POWZ	Post Office Ro	1.39	71	ePN	Pn	05 02 08.4	-1.0
TIWZ	Tintock	1.40	87	PN	Pn	05 02 08.8	-0.8
TIWZ				AML	AML	05 02 28.0	
TIWZ				AML	AML	05 02 33.8	
TMWZ	Te Maipa	1.42	100	PN	Pn	05 02 09.3	-0.5
LREZ	Lake Rotokare	1.43	11	PN	Pn	05 02 10.5	+0.6
NMEZ	Namu Road	1.46	355	PN	Pn	05 02 09.7	-0.5
PREZ	Palmer Road	1.52	3	PN	Pn	05 02 11.1	-0.1
KHEZ	Kahui Hut	1.57	359	PN	Pn	05 02 11.4	-0.6
NEZ	North Egmont	1.59	1	PN	Pn	05 02 11.7	-0.5
NWEZ	Newall Road	1.59	355	PN	Pn	05 02 11.7	-0.5
KHZ	Kahutara	1.60	194	AML	AML	05 02 30.8	
KHZ				AML	AML	05 02 30.9	
TSZ	Takapari Road	1.67	62	AML	AML	05 02 42.5	
PKE	Pukeiti	1.67	358	PN	Pn	05 02 12.8	-0.4
DREZ	Durham Road	1.68	4	PN	Pn	05 02 13.0	-0.3
MHEZ	Mangahewa	1.80	7	PN	Pn	05 02 14.9	0.0
VRZ	Vera Road	1.82	18	⇑PN	Pn	05 02 15.4	+0.3
MTVZ	Mangateitei	1.84	37	PN	Pn	05 02 15.7	+0.3
DSZ	Denniston Nort	1.91	242	PN	Pn	05 02 15.5	-0.9
TRVZ	Turoa	1.94	37	ePN	Pn	05 02 17.3	+0.2
WNVZ	Wahianoa	1.94	38	PN	Pn	05 02 16.9	-0.2
MOVZ	Moawhango	1.96	43	PN	Pn	05 02 16.5	-0.6
WHVZ	Whangaehu Hut	1.98	37	ePN	Pn	05 02 17.8	+0.3
FWVZ	Far West T-bar	1.98	36	PN	Pn	05 02 17.5	-0.1
TUVZ	Tukino	2.02	38	PN	Pn	05 02 18.4	+0.4
WPVZ	Whakapapa	2.02	35	PN	Pn	05 02 18.5	+0.5
NGZ	Ngauruhoe	2.07	36	PN	Pn	05 02 19.6	+0.9
BHHZ	Black Hill Sta	2.07	49	PN	Pn	05 02 17.8	-0.8
OTVZ	Oturere	2.10	37	PN	Pn	05 02 19.3	+0.1
LTZ	Lake Taylor	2.33	214	ePN	Pn	05 02 21.2	-0.9
KAHZ	Kahuranaki	2.41	65	PN	Pn	05 02 21.6	-1.6
HIZ	Hauiti	2.43	15	PN	Pn	05 02 22.9	-0.5
BKZ	Black Stump Fm	2.53	49	PN	P

ELDT				*i* S		Sn	05 16 36.3	+2.7
KDHN	**Kadinhani**	**1.25**	**222**	*i* P		Pn	05 16 20.3	-0.7
KDHN				*i* S		Sb	05 16 34.9	-2.4
KDHN	**Kadinhani**	**1.25**	**222**	*i* P		Pn	05 16 20.3	-0.7
KDHN				*i* S		Sb	05 16 34.9	-2.4
CORM	**Corum**	**1.33**	**56**	*e*PN		Pg	05 16 22.8	0.0
CORM	**Corum**	**1.33**	**56**	*e*Pn		Pg	05 16 22.8	-0.1

ISK ***27*** *05:16:02.6, 37.84N×27.18E, h12km, MD2.7*
CSEM ***27*** *05:16:03.1±0.1, 37.83N×27.18E, h14km, MD2.8, Error ellipse: s-maj=2.7km s-min=1.2km az=87.0*

DDA 27 05:16:03.5, 37.87N×27.23E, h7km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.17**	**179**	*i* P	Pg	05 16 07.4	+0.5
GCAM				*i* S	Sg	05 16 10.1	+0.9
GCAM	**G?zelcaml?**	**0.17**	**179**	*i* P	Pg	05 16 07.4	+0.5
GCAM				*i* S	Sg	05 16 10.1	+1.0
GCAM	**G?zelcaml?**	**0.17**	**179**	*i* P	Pg	05 16 07.2	+0.3
GCAM				*i* S	Sg	05 16 09.9	+0.8
AYDB	**Zeytinkoy-Aydi**	**0.53**	**81**	*e*PG	Pg	05 16 14.3	+0.4
AYDB				*e*SG	Sb	05 16 22.6	-0.7
AYDB	**Zeytinkoy-Aydi**	**0.53**	**81**	*e*Pg	Pg	05 16 14.4	+0.5
AYDB				*e*Sg	Sb	05 16 22.6	-0.7
IZM	**Izmir**	**0.53**	**3**	*e*PG	Pg	05 16 14.3	+0.5
IZM				*e*SG	Sg	05 16 21.7	+0.8
IZM	**Izmir**	**0.53**	**3**	*e*Pg	Pg	05 16 14.3	+0.4
IZM				*e*Sg	Sg	05 16 21.7	+0.8
BLCB	**Balcova**	**0.54**	**344**	*e*PG	Pg	05 16 14.2	+0.3
BLCB				*e*SG	Sg	05 16 22.0	+1.0
BLCB	**Balcova**	**0.54**	**344**	*e*Pg	Pg	05 16 14.3	+0.4
BLCB				*e*Sg	Sg	05 16 22.0	+1.0
BODT	**Bodrum**	**0.81**	**175**	*e*PG	Pg	05 16 18.0	-1.0
BODT	**Bodrum**	**0.81**	**175**	*e*Pg	Pg	05 16 18.0	-1.0
BDRM	**Kayabasi**	**0.82**	**168**	*i* P	Pg	05 16 18.9	-0.4
BDRM	**Kayabasi**	**0.82**	**168**	*i* P	Pg	05 16 18.9	-0.4
BDRM				*i* S	Sg	05 16 30.0	+0.1
AKHS	**Akhisar**	**1.11**	**24**	*i* P	Pg	05 16 24.9	0.0
AKHS				*i* S	Sb	05 16 40.4	+0.6
AKHS	**Akhisar**	**1.11**	**24**	*i* P	Pg	05 16 24.9	0.0
AKHS				*i* S	Sb	05 16 40.4	+0.6
AKS	**Akhisar**	**1.11**	**24**	*e*PN	Pg	05 16 24.9	+0.1
AKS	**Akhisar**	**1.11**	**24**	*e*Pn	Pg	05 16 24.9	0.0
DAT	**Datca**	**1.17**	**166**	*e*PN	Pg	05 16 24.9	-1.3
DAT	**Datca**	**1.17**	**166**	*e*Pn	Pg	05 16 24.9	-1.2

ISCJB ***27*** *05:28:22.5±0.6, 6.43S±0.06×128.4E±0.1, h353km, mb3.6/7, Error ellipse: s-maj=14.5km s-min=7.7km az=172.0*
IDC ***27*** *05:28:26.3±1.6, 6.50S×128.13E, h382km±19km, mb3.4/7, mb1 3.6/12, mb1mx3.3/35, mbtmp4.3/12, Error ellipse: s-maj=24.0km s-min=12.4km az=74.0*

ISC 27 05:28:23.7±0.7, 6.43S±0.07×128.2E±0.1, h353km, n13, σ1§74/15, mb3.8/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.31**	**29**	P	Pn	05 30 03.8	+5.6
	3.5nm,0.3s,baz=233,slow=22,SNR=9.3						
SIJI				S	**S**	**05 31 11.0**	**-3.9**
	6.1nm,0.3s,baz=222,slow=23,SNR=12						
KAPI	**Kappang**	**8.55**	**279**	P	**P**	**05 30 26.6**	**-0.4**
	2.0nm,0.3s,baz=98,slow=15,SNR=4.5						
JAY	**Jayapura**	**13.03**	**73**	P	**Pn**	**05 31 20.4**	**+2.6**
	1.1nm,0.3s,baz=254,slow=12,SNR=5.1						
WRA	**Warramunga Arr**	**14.68**	**157**	P	**P**	**05 31 35.1**	**+0.3**
	3.2nm,0.3s,baz=334,slow=12,SNR=188						
WRA				S	**S**	**05 34 09.8**	**-3.4**
	0.4nm,0.3s,baz=333,slow=21,SNR=7.5						
ASAR	**Alice Springs**	**17.98**	**163**	P	**P**	**05 32 10.9**	**+0.5**
	2.8nm,0.3s,baz=343,slow=12,SNR=165						
ASAR				S	**S**	**05 35 17.8**	**-0.6**
	0.3nm,0.3s,baz=346,slow=25,SNR=18						
STKA	**Stephens Creek**	**28.23**	**155**	P	**P**	**05 33 45.7**	**+0.3**
	2.6nm,0.5s,baz=335,slow=8.9,SNR=14						
KSRS	**Korea Array**	**43.66**	**360**	P	**P**	**05 35 55.4**	**+0.6**
	1.9nm,0.6s,baz=176,slow=10,SNR=6.2						
MJAR	**Matsushiro Arr**	**43.76**	**12**	P	**P**	**05 35 55.0**	**-0.7**
	1.8nm,0.7s,baz=188,slow=10,SNR=3.7						
PETK	**Petropavlovsk-**	**64.36**	**19**	P	**P**	**05 38 23.5**	**+0.9**
	1.9nm,0.6s,baz=150,slow=6.3,SNR=4.8						
MKAR	**Makanchi Array**	**66.80**	**328**	P	**P**	**05 38 38.4**	**+0.1**
	0.5nm,0.4s,baz=121,slow=8.1,SNR=12						
ZALV	**Zalesovo Beam**	**70.31**	**334**	P	**P**	**05 38 59.3**	**-0.3**
	0.7nm,0.4s,baz=126,slow=7.3,SNR=2.9						
KURBB	**Kurchatov Arra**	**71.12**	**329**	P	**P**	**05 39 04.6**	**+0.1**
	0.9nm,0.5s,baz=134,slow=4.9,SNR=8.8						
LPAZ	**La Paz**	**152.22**	**145**	PKPbc	**PKPbc**	**05 47 40.0**	**+0.2**
	0.8nm,0.8s,baz=135,slow=2.9,SNR=3.9						

THE ***27*** *05:31:36.1, 43.17N×18.40E, h7km±3km, ML3.8/4, Error ellipse: s-maj=4.7km s-min=1.1km az=284.0*
VIE ***27*** *05:31:36.9±0.6, 43.00N×18.96E, h10km, mb3.3/7, ML3.1/3, Ms3.6/4, Error ellipse: s-maj=7.5km s-min=2.4km az=80.0*
102 km SSE of Sarajevo
IDC ***27*** *05:31:36.5±1.0, 42.94N×18.57E, h0km, mb3.6/6, mb1 3.7/13, mb1mx3.6/41, mbtmp3.5/13, ML3.5/7, MS2.7/4, Ms1 2.8/4, ms1mx2.4/42, Error ellipse: s-maj=19.0km s-min=15.7km az=31.0*
LDG ***27*** *05:31:36.5±0.1, 43.03N×18.77E, h2km, Ml3.8/16, Error ellipse: s-maj=1.8km s-min=1.6km az=17.0*
PDG ***27*** *05:31:37.1±0.9, 42.99N×18.75E, h5km±1km, MD3.7/11, ML3.7/11, Error ellipse: s-maj=0.8km s-min=1.1km az=0.0*
BEO ***27*** *05:31:37.5±0.2, 43.01N×18.75E, h0km, ML3.5/1*
SKO ***27*** *05:31:37.9, 43.01N×18.79E, h1km, M3.2, ML3.8*
CSEM ***27*** *05:31:37.4±0.1, 43.02N×18.75E, h2km, ML3.7, Ms3.6, Error ellipse: s-maj=2.8km s-min=2.3km az=63.0*
TIR ***27*** *05:31:39.6±4.8, 43.06N×18.84E, h6km±16km, ML3.5*
PRU ***27*** *05:31:39.1, 43.06N×18.82E, h1km*

ISC 27 05:31:37.1±0.8, 43.01N±0.01×18.75E±0.01, h5km±6km, n271, σ1§60/366, mb3.5/6, 41C-28D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRY	**Bratogost**	**0.19**	**236**	*i*↓*i*Pg	**Pg**	**05 31 40.6**	**-0.2**
BRY				*e*Sg	**Sg**	**05 31 43.2**	**-0.1**
BRY	**Bratogost**	**0.19**	**236**	*i*↓*i*Pg	**Pg**	**05 31 40.6**	**-0.2**
BRY				*e*Sg	**Sg**	**05 31 43.2**	**-0.1**
UPM	**Unac-Piva**	**0.23**	**30**	*i*↓*i*Pg	**Pg**	**05 31 41.8**	**+0.3**
UPM				*e*Sg	**Sg**	**05 31 45.6**	**+1.1**
UPM	**Unac-Piva**	**0.23**	**30**	*i*↓*i*Pg	**Pg**	**05 31 41.8**	**+0.3**
UPM				*e*Sg	**Sg**	**05 31 45.6**	**+1.1**
NKY	**Niksic**	**0.26**	**137**	*i*↑*i*Pg	**Pg**	**05 31 42.3**	**+0.1**
NKY				*e*Sg	**Sg**	**05 31 46.4**	**+0.7**
NKY	**Niksic**	**0.26**	**137**	*i*↑*i*Pg	**Pg**	**05 31 42.3**	**+0.1**
NKY				*e*Sg	**Sg**	**05 31 46.4**	**+0.7**
NKME	**Niksic**	**0.28**	**148**	*i*↑*i*Pg	**Pg**	**05 31 42.4**	**-0.2**
NKME				*e*Sg	**Sg**	**05 31 47.1**	**+0.8**
NKME	**Niksic**	**0.28**	**148**	*i*↑*i*Pg	**Pg**	**05 31 42.4**	**-0.2**
NKME				*e*Sg	**Sg**	**05 31 47.1**	**+0.8**
TREB	**Trebinje**	**0.41**	**225**	*i*↑*i*Pg	**Pg**	**05 31 44.4**	**-0.6**
TREB				*i* Sg	**Sg**	**05 31 51.5**	**+1.1**
TREB	**Trebinje**	**0.41**	**225**	*i*↑*i*Pg	**Pg**	**05 31 44.4**	**-0.6**
TREB				*i* Sg	**Sg**	**05 31 51.5**	**+1.1**
PLE	**Pljevlja**	**0.57**	**55**	*i*↓*i*Pg	**Pg**	**05 31 47.9**	**-0.1**
PLE				*e*Sg	**Sb**	**05 31 57.4**	**-0.7**
PLE	**Pljevlja**	**0.57**	**55**	*i*↓*i*Pg	**Pg**	**05 31 47.9**	**-0.1**
PLE				*e*Sg	**Sb**	**05 31 57.4**	**-0.7**
HCY	**Herceg Novi**	**0.59**	**199**	*i*↑*i*Pg	**Pg**	**05 31 47.9**	**-0.5**
HCY				*e*Sg	**Sg**	**05 31 56.9**	**+0.8**
HCY	**Herceg Novi**	**0.59**	**199**	*i*↑*i*Pg	**Pg**	**05 31 47.9**	**-0.5**
HCY				*e*Sg	**Sg**	**05 31 56.9**	**+0.8**
PDG	**Podgorica**	**0.69**	**147**	*e*Pg	**Pg**	**05 31 49.1**	**-1.1**
PDG				*e*Sg	**Sg**	**05 31 59.6**	**+0.4**
PDG	**Podgorica**	**0.69**	**147**	*i*↓*i*Pg	**Pg**	**05 31 49.2**	**-1.0**
PDG				*e*Sg	**Sg**	**05 31 59.6**	**+0.4**
TTG	**Podgorica**	**0.69**	**147**	*i*↓*i*Pg	**Pg**	**05 31 49.2**	**-1.0**
TTG				*e*Sg	**Sb**	**05 32 00.4**	**-0.9**
BUM	**Brajici-Budva**	**0.71**	**171**	*i*↓*i*Pg	**Pg**	**05 31 50.1**	**-0.7**
BUM				*e*Sg	**Sb**	**05 32 01.7**	**-0.5**
BUM	**Brajici-Budva**	**0.71**	**171**	*i*↓*i*Pg	**Pg**	**05 31 50.1**	**-0.7**
BUM				*e*Sg	**Sb**	**05 32 01.7**	**-0.5**
STON	**Ston**	**0.78**	**260**	*i* Pg	**Pg**	**05 31 50.3**	**-1.8**
STON				Sg	**Sg**	**05 32 02.6**	**+0.4**
STON	**Ston**	**0.78**	**260**	*e*Pg	**Pg**	**05 31 51.2**	**-0.9**
STON				*e*Sg	**Sg**	**05 32 02.9**	**+0.6**
STON	**Ston**	**0.78**	**260**	*e*Pg	**Pg**	**05 31 51.2**	**-0.9**
STON				*e*Sg	**Sg**	**05 32 02.9**	**+0.6**
BEY	**Berane**	**0.85**	**99**	*i*↓*i*Pg	**Pg**	**05 31 52.9**	**-0.5**
IVA	**Berane**	**0.85**	**99**	*i*↓*i*Pg	**Pg**	**05 31 52.9**	**-0.5**
IVA				*e*Sg	**Sb**	**05 32 07.1**	**+0.9**
DRME	**Dracevica, Mon**	**0.88**	**159**	*i*↓*i*Pg	**Pg**	**05 31 53.1**	**-0.9**
DRME				*e*Sg	**Sb**	**05 32 07.9**	**+1.0**
DRME	**Dracevica, Mon**	**0.88**	**159**	*i*↓*i*Pg	**Pg**	**05 31 53.1**	**-0.9**
DRME				*e*Sg	**Sb**	**05 32 07.9**	**+1.0**
SJES	**Sjenica**	**0.93**	**74**	*e*Pg	**Pg**	**05 31 54.6**	**-0.3**
SJES				*e*Sg	**Sg**	**05 32 07.6**	**+0.6**
BBLS	**Lazići**	**0.98**	**29**	*e*Pg	**Pg**	**05 31 55.8**	**-0.1**
BBLS	**Lazići**	**0.98**	**29**	*e*Pg	**Pg**	**05 31 55.8**	**-0.1**
PVY	**Plav**	**0.98**	**115**	*i*↑*i*Pg	**Pg**	**05 31 56.0**	**+0.1**
PVY				*e*Sg	**Sn**	**05 32 12.0**	**0.0**
ULC	**Ulcinj**	**1.11**	**161**	*i*↑*i*Pg	**Pg**	**05 31 57.2**	**-1.1**
ULC				*e*Sg	**Sn**	**05 32 14.4**	**-0.5**
ULC	**Ulcinj**	**1.11**	**161**	*i*↑*i*Pg	**Pg**	**05 31 57.2**	**-1.1**
ULC				*e*Sg	**Sn**	**05 32 14.4**	**-0.5**
BCI	**Bajram Curri**	**1.16**	**123**	*i* Pg	**Pg**	**05 31 58.9**	**-0.5**
BCI				*i* SG	**Sb**	**05 32 15.2**	**+0.1**
BCI	**Bajram Curri**	**1.16**	**123**	*i* Pg	**Pg**	**05 31 58.9**	**-0.5**
	SNR=90						
BCI				*i* Sg	**Sb**	**05 32 15.2**	**+0.1**
	SNR=90						
IVAS	**Ivanjica**	**1.17**	**60**	*e*Pg	**Pg**	**05 31 59.1**	**-0.4**
IVAS				*e*Sg	**Sg**	**05 32 14.8**	**+0.1**
IVAS	**Ivanjica**	**1.17**	**60**	*e*Pg	**Pg**	**05 31 59.1**	**-0.4**
IVAS				*e*Sg	**Sg**	**05 32 14.8**	**+0.1**
PUK	**Puka**	**1.28**	**138**	*i* PG	**Pn**	**05 32 01.3**	**-0.4**
PUK				*i* SG	**Sn**	**05 32 19.6**	**+0.2**
PUK	**Puka**	**1.28**	**138**	*i* Pg	**Pn**	**05 32 01.3**	**-0.4**
	SNR=90						
PUK				*i* Sg	**Sn**	**05 32 19.5**	**+0.2**
	SNR=90						
DIVS	**Divibare**	**1.42**	**39**	P	**Pn**	**05 32 03.2**	**-0.4**
DIVS				S	**Sb**	**05 32 22.3**	**-0.1**
DIVS	**Divibare**	**1.42**	**39**	*e*Pn	**Pn**	**05 32 03.4**	**-0.2**
DIVS				*e*Sn	**Sg**	**05 32 24.6**	**+2.0**
DIVS	**Divibare**	**1.42**	**39**	↓*i*P	**Pn**	**05 32 03.3**	**-0.4**
DIVS				S	**Sb**	**05 32 20.4**	**-2.0**
DIVS	**Divibare**	**1.42**	**39**	P	**Pn**	**05 32 03.2**	**-0.4**
DIVS				S	**Sb**	**05 32 22.3**	**-0.1**
DIVS				*e*Sn	**Sg**	**05 32 24.6**	**+2.0**
TEKS	**Tekeris**	**1.64**	**20**	*e*Pn	**Pn**	**05 32 06.5**	**-0.1**
TEKS				*e*Sn	**Sg**	**05 32 29.4**	**-0.4**
TEKS	**Tekeris**	**1.64**	**20**	*e*Pn	**Pn**	**05 32 06.5**	**-0.1**
TEKS				*e*Sn	**Sg**	**05 32 29.4**	**-0.4**
GRUS	**Gruza**	**1.68**	**58**	*e*Pn	**Pn**	**05 32 07.1**	**-0.1**
GRUS				*e*Sn	**Sg**	**05 32 31.0**	**-0.1**
GRUS	**Gruza**	**1.68**	**58**	*e*Pn	**Pn**	**05 32 07.1**	**-0.1**
GRUS				*e*Sn	**Sg**	**05 32 31.0**	**-0.1**
TRUS	**Trudelj**	**1.71**	**44**	*e*Pn	**Pn**	**05 32 06.4**	**-1.2**
TRUS				*e*Sn	**Sb**	**05 32 31.1**	**+0.3**
TRUS	**Trudelj**	**1.71**	**44**	*e*Pn	**Pn**	**05 32 06.4**	**-1.2**
TRUS				*e*Sn	**Sb**	**05 32 31.1**	**+0.3**
SELS	**Selova**	**1.75**	**82**	*e*Pg	**Pn**	**05 32 08.0**	**-0.1**
SELS				*e*Sg	**Sb**	**05 32 32.2**	**+0.3**
SELS	**Selova**	**1.75**	**82**	*e*Pg	**Pn**	**05 32 08.0**	**-0.1**
SELS				*e*Sg	**Sb**	**05 32 32.2**	**+0.3**
PHP	**Peshkopia**	**1.82**	**136**	*i* PN	**Pb**	**05 32 11.2**	**+0.3**
PHP				*i* SN	**Sg**	**05 32 37.0**	**+1.4**
PHP	**Peshkopia**	**1.82**	**136**	P	**Pg**	**05 32 11.8**	**-0.2**
PHP				S	**Sg**	**05 32 38.6**	**+3.0**
PHP	**Peshkopia**	**1.82**	**136**	*i* Pn	**Pb**	**05 32 11.2**	**+0.3**
	SNR=40						
PHP	**Peshkopia**	**1.82**	**136**	P	**Pg**	**05 32 11.8**	**-0.2**
PHP				*i* Sn	**Sg**	**05 32 37.0**	**+1.4**
	SNR=40						
TIR	**Tirane**	**1.85**	**153**	*i* PN	**Pb**	**05 32 11.1**	**-0.4**
TIR				*i* SN	**Sg**	**05 32 38.8**	**+2.2**
TIR	**Tirane**	**1.85**	**153**	P	**Pb**	**05 32 11.8**	**+0.3**
TIR				S	**Sg**	**05 32 39.2**	**+2.6**
TIR	**Tirane**	**1.85**	**153**	*e*Pn	**Pb**	**05 32 11.1**	**-0.4**
TIR	**Tirane**	**1.85**	**153**	*e*P	**Pb**	**05 32 12.1**	**+0.6**
TIR	**Tirane**	**1.85**	**153**	*i* Pn	**Pb**	**05 32 11.1**	**-0.4**
	SNR=40						
TIR	**Tirane**	**1.85**	**153**	P	**Pb**	**05 32 11.8**	**+0.3**
BLY	**Banja Luka**	**2.08**	**327**	*e*Pn	**Pb**	**05 32 14.1**	**-1.2**
BLY				*e*Sn	**Sb**	**05 32 41.7**	**+0.3**
BLY	**Banja Luka**	**2.08**	**327**	*e*Pn	**Pb**	**05 32 14.1**	**-1.2**
BLY				*e*Sn	**Sb**	**05 32 41.7**	**+0.3**
BEO	**Beograd**	**2.19**	**34**	*e*Pn	**Pb**	**05 32 16.0**	**-1.2**
BEO	**Beograd**	**2.19**	**34**	*e*Pn	**Pb**	**05 32 16.0**	**-1.2**
SKO	**Skopje**	**2.24**	**117**	P	**Pb**	**05 32 18.3**	**+0.2**
SKO	**Skopje**	**2.24**	**117**	*i* Pg	**Pb**	**05 32 18.6**	**+0.5**
SKO				*i* Sg	**Sg**	**05 32 49.0**	**-0.2**
SKO	**Skopje**	**2.24**	**117**	*i* Pg	**Pb**	**05 32 18.5**	**+0.5**
SKO				*i* Sg	**Sg**	**05 32 48.9**	**-0.2**
BARS	**Barje**	**2.26**	**94**	*e*Pn	**Pn**	**05 32 15.6**	**+0.5**
BARS	**Barje**	**2.26**	**94**	*e*Pn	**Pn**	**05 32 15.6**	**+0.5**
FGSL	**Fruska Gora**	**2.28**	**19**	*e*Pn	**Pn**	**05 32 14.8**	**-0.6**
FRGS	**Fruska Gora**	**2.28**	**19**	*e*Pn	**Pn**	**05 32 14.8**	**-0.6**
BAI	**Bari**	**2.36**	**217**	*e*Pn	**Pb**	**05 32 20.8**	**+0.8**
PE1	**Pezze di Greco**	**2.41**	**205**	*e*Pn	**Pn**	**05 32 16.2**	**-1.0**
OHR	**Ohrid**	**2.43**	**140**	*i* Pg	**Pb**	**05 32 21.1**	**-0.2**
OHR				*i* Sg	**Sg**	**05 32 55.1**	**-0.1**
OHR				*i* Lg	Lg	05 32 58.0	
	comp=E,479nm,0.7s						
OHR				*i* Lg	Lg	05 32 59.8	
	comp=N,528nm,0.8s						
OHR	**Ohrid**	**2.43**	**140**	*i* Pg	**Pb**	**05 32 21.1**	**-0.2**
OHR				*i* Sg	**Sg**	**05 32 55.1**	**-0.1**
OHR				*i* Lg	Lg	05 32 57.9	
	comp=N,479nm,0.7s						
MS1	**Monte Sant'Ang**	**2.46**	**239**	*e*Pn	**Pb**	**05 32 20.1**	**-1.6**
BOLS	**Boljevac**	**2.47**	**70**	*e*Pn	**Pn**	**05 32 19.9**	**+1.8**
BOLS	**Boljevac**	**2.47**	**70**	*e*Pn	**Pn**	**05 32 19.9**	**+1.8**
UDBI	**Udbina**	**2.64**	**306**	*i* Pn	**Pb**	**05 32 23.8**	**-1.1**
UDBI				Sn	**Sb**	**05 32 57.3**	**-0.5**
UDBI	**Udbina**	**2.64**	**306**	*i* Pn	**Pb**	**05 32 23.8**	**-1.1**
UDBI				Sn	**Sb**	**05 32 57.2**	**-0.5**
SG1	**Sgolgore (BA)**	**2.66**	**216**	*e*Pn	**Pn**	**05 32 20.0**	**-0.7**
SG1				Sn	**Sn**	**05 32 54.6**	**+1.3**
CDT	**Castel del Mon**	**2.67**	**225**	*e*Pn	**Pn**	**05 32 20.2**	**-0.5**
ZAPS	**Zavoj**	**2.85**	**83**	*e*Pn	**Pn**	**05 32 24.3**	**+1.0**
BANR	**Banloc**	**2.93**	**35**	S	**Sn**	**05 32 56.3**	**-3.6**
BANR	**Banloc**	**2.93**	**35**	S	**Sn**	**05 32 56.3**	**-3.6**
FNA	**Florina**	**2.96**	**138**	P	**Pn**	**05 32 27.2**	**+2.3**
FNA				S	**Sb**	**05 33 07.2**	**+0.3**
FNA	**Florina**	**2.96**	**138**	*e*P	**Pb**	**05 32 27.9**	**-2.5**
FNA	**Florina**	**2.96**	**138**	P	**Pn**	**05 32 27.2**	**+2.3**
NEST	**Nestorio**	**3.11**	**146**	P	**Pn**	**05 32 29.0**	**+2.1**
NEST				S	**Sb**	**05 33 10.5**	**-0.7**
NEST	**Nestorio**	**3.11**	**146**	*e*P	**Pb**	**05 32 30.5**	**-2.4**
NEST	**Nestorio**	**3.11**	**146**	P	**Pn**	**05 32 29.0**	**+2.1**
PKSM	**Moragy**	**3.21**	**359**	*e*Pn	**Pn**	**05 32 27.6**	**-0.5**
PKSM	**Moragy**	**3.21**	**359**	*i*↑*i*P	**Pn**	**05 32 27.5**	**-0.5**
PKSM	**Moragy**	**3.21**	**359**	S	**Sn**	**05 33 05.5**	**-1.2**
PKSM	**Moragy**	**3.21**	**359**	*e*Pn	**Pn**	**05 32 27.6**	**-0.5**
PKSM				*e*Sn	**Sn**	**05 33 06.2**	**-0.5**
PKSM	**Moragy**	**3.21**	**359**	↑*i*epn	**Pn**	**05 32 27.6**	**-0.5**
PKSM				*e*sn	**Sn**	**05 33 06.2**	**-0.5**
NVLJ	**Novalja**	**3.21**	**300**	*e*Pn	**Pn**	**05 32 29.8**	**+1.6**
NVLJ				Sn	**Sn**	**05 33 09.1**	**+2.2**
NVLJ	**Novalja**	**3.21**	**300**	*e*Pn	**Pn**	**05 32 29.8**	**+1.6**
NVLJ				Sn	**Sn**	**05 33 09.0**	**+2.2**
SRN	**Sarande**	**3.26**	**163**	P	**Pn**	**05 32 30.4**	**+1.5**
SRN	**Sarande**	**3.26**	**163**	P	**Pn**	**05 32 30.4**	**+1.5**
VAY	**Valandovo**	**3.30**	**119**	*e*Pn	**Pn**	**05 32 30.9**	**+1.5**
VAY				*e*Sn	**Sn**	**05 33 11.0**	**+1.9**
VAY	**Valandovo**	**3.30**	**119**	*i* Pn	**Pn**	**05 32 31.2**	**+1.7**
VAY				*i* Lg	Lg	05 33 17.3	
	comp=E,157nm,0.8s						
VAY				*i* Lg	Lg	05 33 18.3	
	comp=N,170nm,0.9s						
VAY	**Valandovo**	**3.30**	**119**	*e*Pn	**Pn**	**05 32 30.9**	**+1.5**
VAY				*e*Sn	**Sn**	**05 33 11.0**	**+1.9**
VAY				*i* Lg	Lg	05 33 18.2	
	comp=N,170nm,0.9s						
VTS	**Vitosha**	**3.31**	**96**	P	**Pn**	**05 32 30.3**	**+0.6**
VTS	**Vitosha**	**3.31**	**96**	*e*Pn	**Pn**	**05 32 30.4**	**+0.7**
VTS	**Vitosha**	**3.31**	**96**	*e*P	**Pn**	**05 32 30.4**	**+0.7**
VTS	**Vitosha**	**3.31**	**96**	↓*i*P	**Pn**	**05 32 31.1**	**+1.4**
VTS	**Vitosha**	**3.31**	**96**	S	**Sn**	**05 33 12.4**	**+3.0**
VTS	**Vitosha**	**3.31**	**96**	*i* P	**Pn**	**05 32 30.1**	**+0.4**
VTS	**Vitosha**	**3.31**	**96**	P	**Pn**	**05 32 30.3**	**+0.6**
BZS	**Buzias**	**3.32**	**37**	*e*Pn	**Pn**	**05 32 31.0**	**+1.3**
BZS	**Buzias**	**3.32**	**37**	↓*i*P	**Pn**	**05 32 29.5**	**-0.2**
BZS	**Buzias**	**3.32**	**37**	↓*i*P	**Pn**	**05 32 29.5**	**-0.2**
BZS	**Buzias**	**3.32**	**37**	*e*Pn	**Pn**	**05 32 31.0**	**+1.3**
BZS				S	**Sn**	**05 33 07.5**	**-2.1**
KEK	**Kerkira**	**3.38**	**166**	P	**Pn**	**05 32 30.9**	**+0.3**
KEK	**Kerkira**	**3.38**	**166**	*e*P	**Pn**	**05 32 30.9**	**+0.3**
KEK	**Kerkira**	**3.38**	**166**	P	**Pn**	**05 32 30.9**	**+0.3**
KKB	**Krupnik**	**3.40**	**108**	*i* P	**Pb**	**05 32 35.2**	**-2.7**
KKB	**Krupnik**	**3.40**	**108**	*i* P	**Pb**	**05 32 35.2**	**-2.7**
GRG	**Griva**	**3.41**	**126**	P	**Pn**	**05 32 33.5**	**+2.5**
GRG				S	**Sb**	**05 33 18.4**	**-1.3**
GRG	**Griva**	**3.41**	**126**	*e*P	**Pn**	**05 32 33.4**	**+2.5**
GRG	**Griva**	**3.41**	**126**	P	**Pn**	**05 32 33.5**	**+2.5**
BOJS	**Bojanci**	**3.54**	**316**	*e*Pn	**Pn**	**05 32 33.5**	**+0.7**
BOJS				*e*Sn	**Sn**	**05 33 18.6**	**+3.5**
BOJS	**Bojanci**	**3.54**	**316**	*e*Pn	**Pn**	**05 32 33.5**	**+0.7**
BOJS				*e*Sn	**Sn**	**05 33 18.5**	**+3.5**
SGD	**Sagiada**	**3.57**	**161**	P	**Pn**	**05 32 35.3**	**+2.2**
SGD				S	**Sb**	**05 33 20.9**	**-3.5**
SGD	**Sagiada**	**3.57**	**161**	*e*P	**Pn**	**05 32 35.3**	**+2.2**
SGD	**Sagiada**	**3.57**	**161**	P	**Pn**	**05 32 35.3**	**+2.2**
SGD				S	**Sb**	**05 33 20.9**	**-3.5**
PKS9	**Tamasi**	**3.59**	**355**	↓*e*Pn	**Pn**	**05 32 33.4**	**-0.1**
PKS9				*e*Sn	**Sn**	**05 33 14.6**	**-1.7**
PKS9	**Tamasi**	**3.59**	**355**	↓*e*	**Pn**	**05 32 33.4**	**-0.1**
PKS9				*e*		05 33 14.6	
KNT	**Kendrikon**	**3.60**	**119**	P	**Pn**	**05 32 36.0**	**+2.5**
KNT				S	**Sb**	**05 33 23.6**	**-1.5**
KNT	**Kendrikon**	**3.60**	**119**	*e*P	**Pn**	**05 32 36.1**	**+2.5**
KNT	**Kendrikon**	**3.60**	**119**	P	**Pn**	**05 32 36.0**	**+2.5**
SRE	**Strehaia**	**3.62**	**61**	↓*i*P	**Pn**	**05 32 34.6**	**+0.7**
SRE	**Strehaia**	**3.62**	**61**	↓*i*P	**Pn**	**05 32 34.6**	**+0.7**
MPEP	**Malo Peshtene**	**3.67**	**83**	*i* P	**Pn**	**05 32 37.6**	**+3.1**
MPEP	**Malo Peshtene**	**3.67**	**83**	*i* P	**Pn**	**05 32 37.6**	**+3.1**
BEHE	**Becsehely**	**3.74**	**339**	↑*e*Pn	**Pn**	**05 32 36.1**	**+0.7**
BEHE	**Becsehely**	**3.74**	**339**	↑*e*	**Pn**	**05 32 36.1**	**+0.7**
GOLS	**Golise**	**3.74**	**324**	*e*Pn	**Pn**	**05 32 36.3**	**+0.8**
GOLS	**Golise**	**3.74**	**324**	*e*Pn	**Pn**	**05 32 36

MORC	**Moravsky Berou**	**6.82 353**	⇑	*i*P		**Pn**	**05 33 17.5**	**-0.3**
MORC	**Moravsky Berou**	**6.82 353**		S		**Sn**	**05 34 32.3**	**-3.6**
MORC	**Moravsky Berou**	**6.82 353**	⇑	*i*P		**Pn**	**05 33 17.5**	**-0.3**
OKC	**Ostrava-Krasne**	**6.84 357**		*e*SN		**Sn**	**05 34 33.9**	**-2.4**
MOTA	**Moosalm**	**6.93 311**	⇓	*i*Pn		**Pn**	**05 33 20.6**	**+1.2**
	SNR=10							
MOTA	**Moosalm**	**6.93 311**		Pn		**Pn**	**05 33 20.6**	**+1.2**
	SNR=10							
FETA	**Feichten**	**6.96 308**	⇑	*i*Pn		**Pn**	**05 33 20.9**	**+1.1**
FETA			⇑	*i*Sn		**Sn**	**05 34 43.4**	**+4.0**
FETA	**Feichten**	**6.96 308**		Pn		**Pn**	**05 33 20.9**	**+1.1**
KHC	**Kasperske Hory**	**7.10 331**		*e*PN		**Pb**	**05 33 22.8**	**+1.1**
KHC				*ex*		x	05 33 32.0	
KHC				*e*PB		**Pb**	**05 33 38.7**	**-2.2**
KHC				*ex*		x	05 33 46.9	
KHC				*e*SN		**Sn**	**05 34 41.2**	**-1.5**
KHC				*ex*		x	05 34 57.5	
KHC	**Kasperske Hory**	**7.10 331**		Pn		**Pn**	**05 33 22.8**	**+1.1**
PGF	**Pioggiola**	**7.19 270**		*e*Pn		**Pn**	**05 33 23.0**	**0.0**
PGF				*e*Sn		Sn	05 34 38.3	-6.8
	comp=N,2.5nm,0.6s							
PGF	**Pioggiola**	**7.19 270**		*e*Pn		**Pn**	**05 33 23.0**	**0.0**
DAVOX	**Davos/Dischmat**	**7.34 304**		Pn		**Pn**	**05 33 27.9**	**+2.8**
	comp=N,1.8nm,0.3s,baz=163,slow=21,SNR=6.5							
DAVOX				Sn		**Sn**	**05 34 49.5**	**+0.7**
	comp=N,0.7nm,0.3s,baz=282,slow=20,SNR=3.0							
GOPC	**GO Pecny, Ondr**	**7.43 340**		*e*SN		**Sn**	**05 34 48.0**	**-2.8**
GOPC				*ex*		x	05 35 01.0	
DPC	**Dobruska-Polom**	**7.53 348**		*e*PN		**Pn**	**05 33 28.6**	**+1.0**
DPC				*ex*		x	05 33 35.5	
DPC				*e*SN		**Sn**	**05 34 50.8**	**-2.5**
DPC	**Dobruska-Polom**	**7.53 348**		Pn		**Pn**	**05 33 28.6**	**+1.0**
PRU	**Pruhonice**	**7.56 339**		*e*SN		**Sn**	**05 34 51.7**	**-2.3**
PRU				*ex*		x	05 35 03.6	
SBF	**Sospel**	**8.28 280**		*e*Pn		**Pn**	**05 33 36.8**	**-1.1**
SBF				*e*Sn		Sn	05 35 04.4	-7.4
	comp=N,20nm,0.7s							
SBF	**Sospel**	**8.28 280**		*e*Pn		**Pn**	**05 33 36.8**	**-1.1**
BRG	**Berggiesshubel**	**8.53 339**		SG		**Sn**	**05 35 21.6**	**+3.9**
	comp=N,2.6nm,0.7s							
MBDF	**Montbardon**	**8.82 285**		*e*Pn		**Pn**	**05 33 42.5**	**-2.9**
MBDF				*e*Sn		Sn	05 35 17.4	-7.9
	comp=N,12nm,0.7s							
FRF	**La Foret Royal**	**8.85 278**		*e*Pn		**Pn**	**05 33 43.8**	**-1.8**
LMR	**La Mourre**	**8.95 276**		*e*Pn		**Pn**	**05 33 45.1**	**-1.9**
LMR				*e*Sn		Sn	05 35 20.1	-8.1
	comp=N,5.0nm,0.5s							
LPG	**La Plagne**	**8.96 290**		*e*Pn		**Pn**	**05 33 45.6**	**-1.9**
LPG				*e*Sn		Sn	05 35 20.8	-8.1
	comp=N,23nm,0.7s							
LPL	**La Plagne**	**8.98 290**		*e*Pn		**Pn**	**05 33 45.2**	**-2.4**
LPL				*e*Sn		Sn	05 35 21.0	-8.3
	comp=N,13nm,0.5s							
IDI	**Anoyia**	**9.06 146**		Pn		**Pn**	**05 33 48.6**	**0.0**
	comp=N,0.3nm,0.3s,baz=307,slow=15,SNR=2.5							
IDI				Sn		**Sn**	**05 35 28.3**	**-2.8**
	comp=N,0.9nm,0.3s,baz=308,slow=19,SNR=4.2							
CLL	**Collm**	**9.18 337**		*e*Sb		Sn	05 35 57.0	+23
CLL				*i* Sg			05 36 38.3	
ORIF	**Oris-en-Rattie**	**9.48 286**		*e*Pn		**Pn**	**05 33 51.5**	**-2.8**
ORIF				*e*Sn		Sn	05 35 33.0	-8.2
	comp=N,14nm,0.7s							
SMRF	**Simiane la Rot**	**9.63 280**		*e*Pn		**Pn**	**05 33 54.0**	**-2.3**
HINF	**Hinteralfeld**	**9.65 304**		*e*Pn		**Pn**	**05 33 53.7**	**-2.9**
HINF				*e*Sn		Sn	05 35 36.7	-8.6
	comp=N,14nm,0.7s							
CDF	**Champ du Feu**	**9.67 308**		*e*Pn		**Pn**	**05 33 54.2**	**-2.8**
CABF	**La Chapelle**	**9.69 296**		*e*Pn		**Pn**	**05 33 54.5**	**-2.8**
CABF				*e*Sn		Sn	05 35 38.1	-8.4
	comp=N,39nm,1.3s							
HAU	**Haudompre**	**10.04 304**		*e*Pn		**Pn**	**05 33 59.1**	**-2.8**
HAU				*e*Sn		Sn	05 35 45.9	-8.9
	comp=N,15nm,0.7s							
VIVF	**Saint-Julien-l**	**10.32 285**		*e*Pn		Pn	05 34 02.4	-3.4
SMF	**Signal de Mont**	**11.20 294**		*e*Pn		**Pn**	**05 34 14.9**	**-2.8**
SMF				*e*Sn		Sn	05 36 13.4	-10
	comp=N,11nm,0.7s							
LOR	**Lormes**	**11.35 297**		*e*Pn		**Pn**	**05 34 17.0**	**-2.8**
LOR				*e*Sn		Sn	05 36 17.2	-10
	comp=N,4.1nm,0.5s							
SSF	**Saint Saulge**	**11.52 296**		*e*Pn		**Pn**	**05 34 19.5**	**-2.7**
SSF				*e*Sn		Sn	05 36 21.5	-10
	comp=N,6.2nm,0.7s							
MMAI	**Mount Meron Ar**	**16.46 122**		Pn		**Pn**	**05 35 29.6**	**+0.8**
	comp=N,1.3nm,0.3s,baz=338,slow=11,SNR=2.3							
HFS	**Hagfors**	**17.43 352**		P		**P**	**05 35 43.9**	**+1.8**
	comp=N,0.2nm,0.3s,baz=178,slow=13,SNR=4.8							
HFS				LR		LR	05 42 46.7	
	comp=N,24nm,21.4s,baz=360,slow=38							
NOA	**NORSAR Array B**	**18.62 348**		P		**Pn**	**05 35 56.4**	**+0.9**
	comp=N,0.2nm,0.3s,baz=158,slow=9.4,SNR=2.8							
EKA	**Eskdalemuir Ar**	**18.80 319**		P		**P**	**05 35 57.2**	**0.0**
	baz=116,slow=9.2,SNR=3.9							
FINES	**FINESS Array B**	**18.98 11**		P		**Pn**	**05 36 00.8**	**+1.1**
	comp=N,0.1nm,0.3s,baz=200,slow=16,SNR=3.8							
MDT	**Midelt**	**20.99 249**		LR		LR	05 43 14.8	
	comp=N,22nm,21.5s,baz=106,slow=34							
TORD	**Torodi Ar. Bea**	**33.20 211**		P		**P**	**05 38 14.1**	**-0.8**
	comp=N,0.3nm,0.8s,baz=15,slow=7.9,SNR=2.4							
BVAR	**Borovoye Array**	**35.25 55**		P		**P**	**05 38 35.0**	**+2.6**
	comp=N,0.3nm,0.4s,baz=264,slow=2.9,SNR=2.3							
YKA	**Yellowknife Ar**	**68.40 339**		P		**P**	**05 42 38.4**	**-0.9**
	comp=N,0.7nm,0.5s,baz=40,slow=5.4,SNR=12							
ILAR	**Eielson Array**	**71.97 354**		P		**P**	**05 43 01.3**	**+0.2**
	comp=N,0.3nm,0.7s,baz=10,slow=5.5,SNR=5.7							
ILAR				LR		LR	06 14 23.0	
	comp=N,13nm,20.7s,baz=171,slow=36							
PDAR	**Pinedale Array**	**82.82 324**		P		**P**	**05 44 02.8**	**+0.1**
	comp=N,0.3nm,0.8s,baz=46,slow=7.7,SNR=2.7							
TXAR	**Lajitas Array**	**90.69 313**		P		**P**	**05 44 41.6**	**+0.5**
	comp=N,0.4nm,0.9s,baz=65,slow=5.1,SNR=3.5							

BUC 27 05:35:22.3±0.4, 45°25N×26°10E, h18km±3km, MD2.9/4, 16C-16D, Error ellipse: s-maj=4.1km s-min=3.5km az=54.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
SECR		**0.22 186**	⇓	*i*P		Pb	05 35 28.0	+0.5
SECR		**0.22 186**		S		Sg	05 35 33.5	+2.5
SECR		**0.22 186**	⇓	*i*P		Pb	05 35 28.0	+0.5
SECR				*i* S		Sg	05 35 33.5	+2.5
MLR	**Muntele Rosu**	**0.26 336**	⇓	*i*P		Pb	05 35 28.6	-0.1
MLR	**Muntele Rosu**	**0.26 336**	⇓	*i*P		Pb	05 35 28.6	-0.1
MLR				*i* S		Sb	05 35 33.8	+0.8
ISR	**Istrita**	**0.34 112**	⇑	*i*P		Pb	05 35 30.6	+0.6
ISR	**Istrita**	**0.34 112**	⇑	*i*P		Pb	05 35 30.6	+0.6
ISR				*i* S		Sb	05 35 36.0	+0.8
PLOR	**Plostina**	**0.71 33**	⇑	*i*P		Pn	05 35 37.2	-0.4
PLOR	**Plostina**	**0.71 33**	⇑	*i*P		Pn	05 35 37.2	-0.4
PLOR				*i* S		Sn	05 35 47.8	-0.4
VRI	**Vrincioaia**	**0.76 35**	⇓	*i*P		Pn	05 35 38.1	-0.1
VRI	**Vrincioaia**	**0.76 35**	⇓	*i*P		Pn	05 35 38.1	-0.1
VRI				*i* S		Sn	05 35 48.5	-0.7
VOIR		**0.76 285**	⇓	*i*P		Pg	05 35 37.4	0.0
VOIR		**0.76 285**	⇓	*i*P		Pg	05 35 37.4	0.0
VOIR				*i* S		Sg	05 35 48.5	+0.9
CIOR	**Ciorogarla**	**0.82 191**		S		Sn	05 35 51.7	+1.2
CIOR	**Ciorogarla**	**0.82 191**		*i* S		Sn	05 35 51.7	+1.2
DOPR	**Dopca**	**0.87 325**	⇓	*i*P		Pn	05 35 39.7	-0.1
DOPR	**Dopca**	**0.87 325**	⇓	*i*P		Pn	05 35 39.7	-0.1
DOPR				*i* S		Sn	05 35 52.4	+0.3
ARR	**Arges**	**1.04 277**	⇓	*i*P		Pg	05 35 42.8	+0.2
ARR	**Arges**	**1.04 277**	⇓	*i*P		Pg	05 35 42.8	+0.2
ARR				*i* S		Sg	05 35 57.2	+0.8
HUMR	**Humele**	**1.07 228**	⇑	*i*P		Pg	05 35 42.9	-0.2
HUMR	**Humele**	**1.07 228**	⇑	*i*P		Pg	05 35 42.9	-0.2
HUMR				*i* S		Sg	05 35 59.8	+2.6
HARR	**Harsova**	**1.42 113**	⇓	*i*P		Pn	05 35 47.6	+0.5
HARR	**Harsova**	**1.42 113**	⇓	*i*P		Pn	05 35 47.6	+0.5
CFR	**Carcaliu**	**1.44 92**	⇑	*i*P		Pb	05 35 48.2	-0.4
CFR	**Carcaliu**	**1.44 92**	⇑	*i*P		Pb	05 35 48.2	-0.4
CFR				*i* S		Sg	05 36 08.3	-0.6
TLB	**Topalu**	**1.53 115**	⇑	*i*P		Pn	05 35 49.2	+0.5
TLB	**Topalu**	**1.53 115**	⇑	*i*P		Pn	05 35 49.2	+0.5
TLB				*i* S		Sg	05 36 10.6	-1.2
LOT	**Lotru**	**1.65 278**	⇓	*i*P		Pn	05 35 51.5	+0.9
LOT	**Lotru**	**1.65 278**	⇓	*i*P		Pn	05 35 51.5	+0.9
LOT				*i* S		Sb	05 36 13.5	+0.5
MSAB	**Monastry St. A**	**1.69 133**	⇑	*i*P		Pb	05 35 52.2	-0.7
MSAB	**Monastry St. A**	**1.69 133**	⇑	*i*P		Pb	05 35 52.2	-0.7
MSAB				*i* S		Sg	05 36 15.7	-1.2
TIRR	**Tirgusor**	**1.83 115**	⇑	*i*P		Pb	05 35 54.0	-1.2
TIRR	**Tirgusor**	**1.83 115**	⇑	*i*P		Pb	05 35 54.0	-1.2
TIRR				*i* S		Sb	05 36 18.6	+0.9
GZR	**Gura Zlata**	**2.35 275**	⇑	*i*P		Pn	05 36 02.0	+1.9
GZR	**Gura Zlata**	**2.35 275**	⇑	*i*P		Pn	05 36 02.0	+1.9

*IDC **27** 05:38:19.7±0.9, 38°.19N×71°.60E, h0km, mb4.2/16, mb1 4.3/22, mb1mx4.1/57, mbtmp4.1/22, ML3.5/6, MS3.2/9, Ms1 3.3/9, ms1mx2.9/40, Error ellipse: s-maj=19.5km s-min=12.9km az=146.0*

*ISCJB **27** 05:38:21.9±0.3, 38°.39N±0°.03×71°.23E±0°.05, h10km, mb4.2/27, MS3.2/9, Error ellipse: s-maj=5.6km s-min=4.2km az=178.1*

*NNC **27** 05:38:23.0±2.0, 38°.43N×71°.02E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=16.2km s-min=11.3km az=0.0*

*MOS **27** 05:38:26.2±1.3, 38°.41N×71°.43E, h50km, mb4.6/7, Error ellipse: s-maj=10.8km s-min=6.3km az=90.1*

*NEIC **27** 05:38:28.3±0.8, 38°.40N×71°.47E, h58km±8km, mb4.5/4, Error ellipse: s-maj=11.0km s-min=7.4km az=137.0*

ISC 27 05:38:23.3±0.5, 38°.38N±0°.04×71°.14E±0°.06, h10km, n97, σ1°72/88, mb4.2/27, MS3.1/9, 9C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
KBL	**Kabul**	**4.18 204**		*e*PN		Pn	05 39 31.7	+4.3
KBL				*e*			05 40 26.1	
KBL	**Kabul**	**4.18 204**		*e*Pn		Pn	05 39 31.6	+4.3
KBL				*e*Sn		**Sb**	**05 40 26.1**	**-1.7**
AML	**Almayashu**	**4.23 27**		P		**Pn**	**05 39 29.4**	**+1.3**
	SNR=42							
CEP	**Cherat**	**4.58 172**		P		**Pn**	**05 39 35.3**	**+2.5**
CEP				S		**Sb**	**05 40 41.0**	**+1.8**
UCH	**Uchtor**	**4.63 33**		P		**Pn**	**05 39 34.6**	**+0.9**
	SNR=26							
EKS2	**Erkin-Say**	**4.73 24**		P		**Pn**	**05 39 36.5**	**+1.8**
	SNR=15							
EKS2	**Erkin-Say**	**4.73 24**		*e*PN		**Pn**	**05 39 36.5**	**+1.8**
EKS2	**Erkin-Say**	**4.73 24**		*e*Pn		**Pn**	**05 39 36.5**	**+1.8**
KK31	**Karatay Array**	**4.75 354**		⇑Pn		Pn	05 39 37.2	+2.3
	16nm,0.5s,baz=176,slow=13							
KK31				⇑Sn		**Sn**	**05 40 31.7**	**+1.7**
	26nm,0.5s							
KK31				⇑Lg		Lg	05 40 51.4	
	78nm,0.6s,baz=177,slow=29							
KK31	**Karatay Array**	**4.75 354**		PN		Pn	05 39 37.1	+2.3
KK31							05 40 31.6	
KK31				pmax		pmax		
	comp=Z,16nm,0.5s							
KKAR	**Karatay Array**	**4.75 354**		*e*PN		Pn	05 39 37.4	+2.5
KKAR	**Karatay Array**	**4.75 354**		*e*Pn		Pn	05 39 37.4	+2.5
KKAR				*e*Sn		**Sn**	**05 40 29.4**	**-0.5**
KZA	**Kyzart**	**4.85 39**		P		**Pn**	**05 39 37.4**	**+0.7**
	SNR=10							
AAK	**Ala-Archa**	**4.96 30**		P		**Pn**	**05 39 39.6**	**+1.7**
	SNR=16							
AAK	**Ala-Archa**	**4.96 30**	⇑	Pn		**Pn**	**05 39 39.2**	**+1.2**
	comp=Z,17nm,0.6s							
AAK			⇑	Pg		**Pb**	**05 39 52.2**	**+1.9**
	comp=Z,41nm,0.7s							
AAK			⇓	Sn		**Sn**	**05 40 38.9**	**+3.4**
	comp=Z,46nm,1.0s							
AAK			⇓	Lg		Lg	05 40 57.7	
	comp=Z,90nm,0.8s							
AAK	**Ala-Archa**	**4.96 30**		Pn		**Pn**	**05 39 39.1**	**+1.2**
	comp=Z,2.9nm,0.3s,baz=213,slow=7.6,SNR=23							
AAK				Sn		**Sn**	**05 40 37.0**	**+1.6**
	comp=Z,4.8nm,0.3s,baz=351,slow=19,SNR=2.3							
AAK	**Ala-Archa**	**4.96 30**		PN		**Pn**	**05 39 39.2**	**+1.2**
AAK				pmax		pmax		
	comp=Z,48nm,0.8s							
KBK	**Karagaybulak**	**5.17 33**		P		Pn	05 39 47.2	+6.5
	SNR=12							
CHMS	**Chumysh**	**5.37 30**		P		**Pn**	**05 39 44.9**	**+1.4**
	SNR=8.8							
ULHL	**Ulahol**	**5.49 44**		P		Pn	05 39 49.9	+4.6
	SNR=5.6							
USP	**Ospenovka**	**5.51 26**		P		**Pn**	**05 39 47.4**	**+2.0**
	SNR=14							
THW	**Thamme Wali**	**5.59 175**	⇓	P		**Pn**	**05 39 49.1**	**+2.6**
TKM2	**Tokmak 2**	**5.66 35**		P		**Pn**	**05 39 49.6**	**+1.9**
	SNR=18							
TKM2	**Tokmak 2**	**5.66 35**	⇓	Pn		**Pn**	**05 39 48.3**	**+0.6**
	comp=Z,18nm,0.6s							
TKM2			⇑	Lg		Lg	05 41 22.5	
	comp=Z,46nm,0.8s							
TKM2	**Tokmak 2**	**5.66 35**		PN		**Pn**	**05 39 48.2**	**+0.6**
TKM2				pmax		pmax		
	comp=Z,18nm,0.6s							
TKM2	**Tokmak 2**	**5.66 35**		*e*Pn		**Pn**	**05 39 48.4**	**+0.8**
	comp=Z,23nm,0.6s							
DHRM	**DHARAMSHALA**	**7.42 144**		*e*P		**Pn**	**05 40 12.9**	**+1.1**
DHRM				*e*S		Sn	05 41 32.0	-4.3
SMLA	**Simla**	**8.76 144**		*e*P		**Pn**	**05 40 30.2**	**+0.2**
SMLA				*e*S		Sn	05 42 00.6	-8.2
SMLA				*e*S		**Sn**	**05 42 06.2**	**-2.6**
NDI	**New Delhi**	**10.91 151**		*e*P		**Pn**	**05 40 59.0**	**-0.5**
MK31	**Makanchi Array**	**11.75 41**		Pn		**Pn**	**05 41 10.6**	**-0.3**
	comp=Z,23nm,1.1s,baz=222,slow=9.9,SNR=112							
MK31	**Makanchi Array**	**11.75 41**		*i* P		**Pn**	**05 41 10.6**	**-0.3**
MK31				pmax		pmax		
	comp=Z,23nm,1.1s							
MK31	**Makanchi Array**	**11.75 41**		*e*Pn		**Pn**	**05 41 10.9**	**0.0**
MKAR	**Makanchi Array**	**11.75 41**		Pn		**Pn**	**05 41 10.4**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=228,slow=13,SNR=48							
MKAR				Lg		Lg	05 44 25.3	
	comp=Z,0.1nm,0.3s,baz=206,slow=22,SNR=3.5							
MKAR				LR		LR	05 45 32.2	
	comp=Z,35nm,18.4s,baz=229,slow=37							
KURBB	**Kurchatov Arra**	**13.32 21**	⇑	Pn		**Pn**	**05 41 33.4**	**+1.1**
	comp=Z,2.1nm,0.6s							
KURBB	**Kurchatov Arra**	**13.32 21**		Pn		Pn	05 41 28.7	-3.6
	comp=Z,0.1nm,0.3s,baz=210,slow=12,SNR=4.5							
KURBB				Lg		Lg	05 45 21.4	
	comp=Z,0.0nm,0.3s,baz=205,slow=30,SNR=4.2							
KURK	**Kurchatov**	**13.43 21**	⇓	Pn		**Pn**	**05 41 33.7**	**0.0**
	comp=Z,2.4nm,1.1s							
KURK	**Kurchatov**	**13.43 21**		P		Pn	05 41 28.7	-5.1
KURK	**Kurchatov**	**13.43 21**		Pn		Pn	05 41 28.7	-5.1
KURK				Lg		Lg	05 45 21.4	
AB31	**Akbulak array**	**13.53 327**	⇓	Pn		**Pn**	**05 41 34.3**	**-1.0**
	comp=Z,2.6nm,0.5s,baz=132,slow=14,SNR=49							
AB31			⇑	Sn		**Sn**	**05 44 03.1**	**-2.5**
	comp=Z,4.7nm,0.6s							
AB31	**Akbulak array**	**13.53 327**		*e*P		**Pn**	**05 41 34.2**	**-1.0**
AB31							05 44 00.4	
AB31				pmax		pmax		
	comp=Z,3.0nm,0.5s							
AB31				smax		smax		
	comp=Z,8.0nm,0.7s							
ABKAR	**Akbulak array**	**13.53 327**		*e*Pn		**Pn**	**05 41 34.3**	**-0.9**
	comp=Z,5.3nm,0.6s							
ABKAR				*e*Sn		**Sn**	**05 44 02.3**	**-3.3**
BVA0	**Borovoye Array**	**14.66 358**	⇑	Pn		**Pn**	**05 41 49.2**	**-1.4**
	comp=Z,5.8nm,0.8s							
BVA0	**Borovoye Array**	**14.66 358**		P		**Pn**	**05 41 49.2**	**-1.4**
BVA0				pmax		pmax		
	comp=Z,6.0nm,0.9s							
BVAR	**Borovoye Array**	**14.66 358**		Pn		**Pn**	**05 41 48.1**	**-2.5**
	comp=Z,0.4nm,0.3s,baz=167,slow=11,SNR=12							
BRVK	**Borovoye**	**14.70 358**	⇓	Pn		**Pn**	**05 41 51.9**	**+0.8**
	comp=Z,9.1nm,0.8s							
BRVK	**Borovoye**	**14.70 358**		*e*P		**Pn**	**05 41 48.1**	**-3.0**
BRVK				pmax		pmax		
	comp=Z,6.0nm,0.7s							
BRVK	**Borovoye**	**14.70 358**		*e*Pn		**Pn**	**05 41 48.1**	**-3.0**
	comp=Z,5.8nm,0.7s							
AKTO	**Aktyubinsk**	**15.24 326**	⇓	Pn		**Pn**	**05 41 58.9**	**+0.5**
	comp=Z,21nm,0.8s							
AKTO			⇓	Sn		**Sn**	**05 44 47.6**	**+0.3**
	comp=Z,9.9nm,0.8s							
AKTO	**Aktyubinsk**	**15.24 326**		Pn		**Pn**	**05 41 58.5**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=129,slow=16,SNR=4.1							
AKTO				Sn		**Sn**	**05 44 40.1**	**-7.1**
	comp=Z,0.1nm,0.3s,baz=38,slow=19,SNR=2.2							
BHPL	**Bhopal**	**16.02 159**		*e*P		**Pn**	**05 42 08.9**	**+0.2**
BHPL				AMB		AMB	05 42 13.3	
	comp=Z,14nm,0.8s							
ZAA0	**Zalesovo Array**	**18.18 27**		*e*Pn		**Pn**	**05 42 32.6**	**-2.9**
ZALV	**Zalesovo Beam**	**18.18 27**		P		**Pn**	**05 42 32.9**	**-2.6**
	comp=Z,0.9nm,0.3s,baz=220,slow=11,SNR=9.7							
BOK	**Bokaro**	**19.22 135**		*e*P		**P**	**05 42 45.2**	**-2.3**
ARU	**Arti**	**19.91 339**		P		**Pn**	**05 42 59.1**	**+2.7**
ARU	**Arti**	**19.91 339**		*e*P		**Pn**	**05 42 54.9**	**-1.6**
	comp=Z,7.6nm,0.6s							
GNI	**Garni**	**20.50 283**		P		Pn	05 43 05.3	+1.6
	comp=Z,5.0nm,0.3s,baz=126,slow=12,SNR=4.1							
ZEI	**Tsey**	**21.11 291**		*e*P		**P**	**05 43 10.3**	**+2.1**
ZEI				pmax		pmax		
	comp=Z,15nm,1.1s							
HYB	**Hyderabad**	**21.87 161**		*e*P		**P**	**05 43 16.3**	**+0.1**
HYB				AMB		AMB	05 43 39.7	
	comp=Z,24nm,2.1s							
KBZ	**Khabaz**	**21.90 293**		P		**P**	**05 43 17.2**	**+0.8**
	comp=Z,6.1nm,1.0s,baz=236,slow=24,SNR=9.1							
KIV	**Kislovodsk**	**22.07 294**		*e*P		**P**	**05 43 19.7**	**+1.3**
KIV				pmax		pmax		
	comp=Z,7.0nm,0.9s							
KIV				MLR		MLR		
	comp=Z,54nm,15.0s							
GOA	**Goa**	**22.92 173**		AMB		AMB	05 40 23.8	
	comp=Z,28nm,1.5s							
GOA				*e*P		pP	05 43 29.9	-0.4
VORD	**Divnogorie**	**25.69 310**		*e*P		**P**	**05 43 53.3**	**0.0**
VORD				pmax		pmax		
	comp=Z,9.0nm,0.9s							
VORD				pmax		pmax		
	comp=N,20nm,0.6s							
VORD				pmax		pmax		
	comp=E,10.0nm,0.6s							
ZAK	**Zakamensk**	**25.71 52**		*e*P		**P**	**05 43 53.1**	**-0.5**
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.4s							
VSR	**Storozhevoye**	**25.84 310**		*e*P		**P**	**05 43 57.3**	**+2.6**
VSR				pmax		pmax		
	comp=Z,10.0nm,0.8s							
VSR				pmax		pmax		
	comp=N,10.0nm,1.2s							
VSR				pmax		pmax		
	comp=E,20nm,1.0s							
RAYN	**Ar Rayn**	**26.39 243**		*e*P		**P**	**05 44 01.2**	**+1.3**
	comp=E,8.2nm,1.0s							
SONM	**Songino Array**	**27.21 58**		LR		LR	05 55 54.8	
	comp=E,96nm,20.8s,baz=230,slow=39							
BRTR	**Keskin Array B**	**29.02 285**		P		**P**	**05 44 25.4**	**+2.0**
	comp=E,2.5nm,1.0s,baz=95,slow=7.6,SNR=9.9							
EIL	**Elat**	**31.07 265**		LR		LR	05 59 19.1	
	comp=E,52nm,22.0s,baz=67,slow=40							
CMAR	**Chiang Mai Arr**	**31.30 122**		LR		LR	05 59 15.6	
	comp=E,30nm,21.1s,baz=335,slow=41							
AKASG	**Malin Array Be**	**31.89 306**		P		**P**	**05 44 49.4**	**+0.9**
	comp=E,1.8nm,0.8s,baz=83,slow=7.7,SNR=9.3							
AKASG				LR		LR	06 00 34.2	
	comp=E,43nm,19.2s,baz=105,slow=41							
AK01	**Malin Array Si**	**31.90 306**		*e*P		**P**	**05 44 49.1**	**+0.5**
AK02	**Malin Array Si**	**31.90 306**		*e*P		**P**	**05 44 49.7**	**+1.2**
BOD	**Bodaibo**	**33.84 41**		*e*P		P	05 45 02.3	-3.2
BOD				pmax		pmax		
	comp=Z,3.0nm,1.6s							
FINES	**FINESS Array B**	**36.01 325**		P		**P**	**05 45 25.2**	**+1.1**
	comp=Z,5.8nm,0.5s,baz=116,slow=9.5,SNR=31							
FINES				LR		LR	06 01 02.3	
	comp=Z,60nm,18.3s,baz=195,slow=38							
ARCES	**ARCESS Array B**	**39.46 337**		P		**P**	**05 45 53.9**	**+0.6**
	comp=Z,7.9nm,0.7s,baz=109,slow=7.5,SNR=39							
ARCES				LR		LR	06 03 17.8	
	comp=Z,60nm,18.9s,baz=138,slow=38							
BRG	**Berggiesshubel**	**41.57 307**	

AMOG				*i* P		**Pn**	**05 42 32.4**	**+2.8**
AVFE	**Valle Fertil**	**5.48**	**44**	*i* P		**Pn**	**05 42 43.2**	**+2.8**
AVFE				AML		AML	05 44 00.0	
	comp=Z,12nm,0.8s							

ISCJB ***27*** *05:48:29.9±2.3,20.0°S±0.4×66.4°E±0.5, h16km, mb3.8/6, MS3.9/2, Error ellipse: s-maj=86.0km s-min=23.1km az=44.4*

IDC ***27*** *05:48:29.3±1.8, 19.98°S×66.41E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/37, mbtmp3.8/6, MS3.9/2, Ms1 3.9/2, ms1mx3.1/33, Error ellipse: s-maj=70.0km s-min=25.6km az=42.0*

ISC 27 05:48:31.5±1.9, 20.1°S±0.5×66.4°E±0.4, h16km, n18, σ0.946/10, mb4.0/6, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**13.70**	**27**	T	T	06 05 42.6	
	baz=205,slow=76,SNR=236						
H08S2	**Diego Garcia H**	**13.71**	**27**	T	T	06 05 43.4	
	baz=205,slow=76,SNR=151						
H08S3	**Diego Garcia H**	**13.72**	**27**	T	T	06 05 41.0	
	baz=205,slow=76,SNR=208						
H08N3	**Diego Garcia H**	**14.36**	**19**	T	T	06 06 27.9	
	baz=197,slow=76,SNR=37						
H08N1	**Diego Garcia H**	**14.37**	**19**	T	T	06 06 28.7	
	baz=197,slow=76,SNR=32						
H08N2	**Diego Garcia H**	**14.38**	**19**	T	T	06 06 31.6	
	baz=197,slow=76,SNR=39						
PSI	**Prapat**	**39.22**	**58**	LR	LR	06 08 52.9	
	comp=Z,267nm,20.4s,baz=229,slow=31						
ASAR	**Alice Springs**	**62.28**	**107**	P	**P**	**05 58 53.2**	**-0.1**
	0.7nm,0.7s,baz=259,slow=6.7,SNR=4.7						
WRA	**Warramunga Arr**	**63.45**	**103**	P	**P**	**05 59 01.5**	**+0.4**
	1.9nm,1.0s,baz=263,slow=6.0,SNR=7.1						
BRTR	**Keskin Array B**	**66.86**	**333**	P	**P**	**05 59 23.3**	**+0.4**
	0.6nm,0.6s,baz=158,slow=9.6,SNR=3.7						
MKAR	**Makanchi Array**	**68.08**	**12**	P	**P**	**05 59 30.2**	**-0.1**
	1.3nm,0.9s,baz=190,slow=6.6,SNR=4.8						
KURBB	**Kurchatov Arra**	**71.19**	**8**	P	**P**	**05 59 49.6**	**+0.2**
	baz=205,slow=7.2						
ZALV	**Zalesovo Beam**	**75.41**	**11**	P	**P**	**06 00 13.8**	**-0.4**
	1.2nm,0.7s,baz=208,slow=8.0,SNR=3.7						
AKASG	**Malin Array Be**	**77.67**	**337**	P	**P**	**06 00 26.8**	**-0.3**
	0.1nm,0.3s,baz=144,slow=4.6,SNR=6.1						
JCJ	**Chichijima**	**87.10**	**60**	LR	LR	06 37 06.2	
	comp=Z,32nm,18.9s,slow=34						
YKA	**Yellowknife Ar**	**137.60**	**1**	PKP	**PKPdf**	**06 07 53.8**	**-0.4**
	0.1nm,0.6s,baz=339,slow=2.6,SNR=3.3						
ULM	**Lac du Bonnet**	**146.74**	**339**	PKPbc	**PKPbc**	**06 08 11.9**	**-0.6**
	0.6nm,0.4s,baz=74,slow=7.4,SNR=3.5						
TXAR	**Lajitas Array**	**167.06**	**317**	PKPab	**PKPab**	**06 09 41.7**	**+0.6**
	0.3nm,0.8s,baz=42,slow=3.9,SNR=4.0						

GUC 27 05:48:32.6±0.4, 34.80S×72.33W, h22km±2km, ML3.8, 5C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.82**	**136**	*eP*	Pb	05 49 47.6	-0.7
TALC				*i* S	Sb	05 48 58.6	-0.4
NICH	**Los Niches**	**0.93**	**103**	*eP*	Pb	05 48 49.2	-0.8
NICH				*i* S	Sb	05 49 01.8	-0.1
LNV	**Longovilo**	**1.14**	**42**	*i* P	Pn	05 48 52.2	-1.0
LNCH	**Linares**	**1.20**	**151**	*i* P	Pn	05 48 53.7	-0.4
LNCH				*i* S	Sn	05 49 09.4	-0.3
TACH	**Talagante**	**1.62**	**46**	*i* P	Pn	05 48 59.7	-0.3
TACH				*i* S	Sn	05 49 20.8	+0.5
CHCH	**Chadas Angostu**	**1.64**	**59**	*i* P	Pn	05 49 00.7	+0.6
CHCH				*i* S	Sb	05 49 21.6	-0.7
SAN	**Santiago**	**1.93**	**46**	*i* P	Pb	05 49 05.7	-1.4
SAN				*i* S	Sb	05 49 30.4	-0.4
FSR	**Penalolen**	**1.99**	**49**	*i* P	Pb	05 49 07.6	-0.7
FSR				*i* S	Sb	05 49 33.2	+0.5
SJCH	**San Jose de Ma**	**2.00**	**55**	*eP*	Pn	05 49 05.8	+0.5
SJCH				*eS*	Sb	05 49 31.5	-1.6
SJCH				AML	AML	05 49 36.0	
	comp=N,1μm,0.5s						
LACH	**Col Las Americ**	**2.01**	**48**	*eP*	Pn	05 49 05.9	+0.6
LACH				*i* S	Sb	05 49 31.7	-1.5
CLCH	**Cerro Calan**	**2.04**	**47**	*eP*	Pn	05 49 07.0	+1.2
CLCH				*i* S	Sb	05 49 33.0	-1.1
CLCH				AML	AML	05 49 45.0	
	comp=N,1μm,0.6s						
ROCH	**El Roble**	**2.13**	**31**	*i* P	Pn	05 49 06.8	-0.4
ROCH				*i* S	Sn	05 49 34.3	+1.1
ROCH				AML	AML	05 49 44.7	
	comp=N,903nm,0.3s						
PEL	**Peldehue**	**2.14**	**40**	*eP*	Pn	05 49 08.4	+1.2
PEL				*eS*	Sb	05 49 35.5	-1.5
PEL				AML	AML	05 49 39.6	
	comp=N,1μm,0.5s						

ISCJB ***27*** *05:49:46.0±0.9, 6.66N±0.09×127.08E±0.08, h100km, mb3.5/4, Error ellipse: s-maj=14.3km s-min=9.7km az=40.1*

MAN ***27*** *05:49:48, 6.90N×127.04E, h110km, mb4.7, ML3.6, MS3.5*

IDC ***27*** *05:49:49.8±4.6, 6.78N×127.14E, h121km±33km, mb3.2/4, mb1 3.4/4, mb1mx3.1/38, mbtmp3.6/4, Error ellipse: s-maj=168.8km s-min=18.2km az=66.0*

ISC 27 05:49:47.4±1.1, 6.63N±0.10×127.1E±0.1, h100km, n10, σ1.983/14, mb3.5/4, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.85**	**291**	*eP*	Pn	05 50 10.0	+3.7
MATI				*eS*	**Sn**	**05 50 24.1**	**+3.6**
GSPH	**General Santos**	**2.17**	**256**	*i* P	**Pn**	**05 50 21.9**	**-0.4**
GSPH				*i* S	**Sn**	**05 50 46.3**	**-2.6**
BUKP	**Musuan**	**2.33**	**302**	*eP*	**Pn**	**05 50 25.5**	**+1.1**
BUKP				*eS*	**Sn**	**05 50 52.4**	**-0.4**
BUTP	**Butuan**	**2.72**	**329**	*eP*	**Pn**	**05 50 28.0**	**-1.5**
CTBH	**Cotabato--PC H**	**2.85**	**282**	*i* P	Pn	05 50 34.6	+3.4
PAGZ	**Pagadian**	**3.84**	**289**	*eP*	**Pn**	**05 50 45.3**	**+0.8**
WRA	**Warramunga Arr**	**27.36**	**165**	P	**P**	**05 55 24.5**	**+1.1**
	0.3nm,0.4s,baz=346,slow=10,SNR=3.4						
WRA				PcP	**PcP**	**05 58 40.6**	**+0.2**
	0.1nm,0.4s,baz=341,slow=2.6,SNR=2.5						
WRA				ScP	**ScP**	**06 02 09.1**	**-2.8**
	0.2nm,0.4s,baz=346,slow=3.0,SNR=8.0						
ASAR	**Alice Springs**	**30.85**	**168**	P	**P**	**05 55 55.8**	**+1.6**
	0.2nm,0.3s,baz=340,slow=7.2,SNR=4.4						
ASAR				PcP	**PcP**	**05 58 48.8**	**-0.3**
	0.3nm,0.4s,baz=2.9,slow=3.7,SNR=5.0						
MKAR	**Makanchi Array**	**55.39**	**324**	P	**P**	**05 59 10.8**	**-0.5**
	0.4nm,0.5s,baz=122,slow=7.8,SNR=6.9						
KURBB	**Kurchatov Arra**	**59.50**	**326**	P	**P**	**05 59 39.5**	**-0.5**
	0.4nm,0.5s,baz=124,slow=7.0,SNR=5.1						

ISCJB ***27*** *05:55:36.8±0.6, 19.6S±0.1×66.1E±0.2, h10km, mb4.0/13, Error ellipse: s-maj=25.8km s-min=16.1km az=1.0*

IDC ***27*** *05:55:37.0±0.6, 19.61S×65.99E, h0km, mb4.1/12, mb1 4.2/12, mb1mx4.0/37, mbtmp4.1/12, Error ellipse: s-maj=31.9km s-min=18.7km az=93.0*

ISC 27 05:55:38.4±0.6, 19.6S±0.1×66.0E±0.2, h10km, n24, σ1.918/18, mb4.1/13, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**13.46**	**29**	T	T	06 13 39.0	
	baz=206						
H08S2	**Diego Garcia H**	**13.47**	**29**	T	T	06 13 39.7	
	baz=206,slow=74						
H08S3	**Diego Garcia H**	**13.48**	**29**	T	T	06 13 40.7	
	baz=206,slow=74						
H08N3	**Diego Garcia H**	**14.05**	**21**	T	T	06 14 29.6	
	baz=195,slow=76						
H08N1	**Diego Garcia H**	**14.06**	**21**	T	T	06 14 28.1	
	baz=195						
H08N2	**Diego Garcia H**	**14.07**	**21**	T	T	06 14 35.4	
	baz=195,slow=76						
MAW	**Mawson**	**48.03**	**182**	P	**P**	**06 04 18.3**	**+0.8**
	4.0nm,0.8s,baz=17,slow=9.3,SNR=7.9						
CMAR	**Chiang Mai Arr**	**49.78**	**43**	P	**P**	**06 04 32.0**	**+0.4**
	1.5nm,0.5s,baz=241,slow=7.8,SNR=7.5						
WRA	**Warramunga Arr**	**63.91**	**103**	P	P	06 06 08.4	-3.6
	2.9nm,0.7s,baz=260,slow=5.9,SNR=7.8						
BRTR	**Keskin Array B**	**66.28**	**333**	P	**P**	**06 06 28.4**	**+1.2**
	1.3nm,1.0s,baz=166,slow=7.6,SNR=4.4						
MKAR	**Makanchi Array**	**67.71**	**12**	P	**P**	**06 06 36.7**	**+0.9**
	1.2nm,0.8s,baz=167,slow=5.7,SNR=8.6						
QSPA	**South Pole Qui**	**70.51**	**180**	P	**P**	**06 06 52.7**	**-0.6**
	1.6nm,0.9s,baz=353,slow=17,SNR=3.3						
TORD	**Torodi Ar. Bea**	**71.13**	**292**	P	**P**	**06 06 57.6**	**-0.1**
	0.8nm,0.9s,baz=126,slow=6.2,SNR=4.2						
VNDA	**Vanda**	**72.28**	**167**	P	**P**	**06 07 04.3**	**+0.7**
	1.2nm,1.0s,baz=274,slow=10.0,SNR=5.2						
ZALV	**Zalesovo Beam**	**75.02**	**11**	P	**P**	**06 07 20.2**	**+0.4**
	3.0nm,0.8s,baz=206,slow=4.7,SNR=9.3						
SONM	**Songino Array**	**76.29**	**27**	P	**P**	**06 07 27.2**	**-0.3**
	1.6nm,0.8s,baz=217,slow=4.8,SNR=5.5						
AKASG	**Malin Array Be**	**77.11**	**337**	P	**P**	**06 07 32.2**	**+0.4**
	0.2nm,0.3s,baz=147,slow=4.3,SNR=7.5						
ESDC	**Sonseca Array**	**87.83**	**313**	P	**P**	**06 08 28.7**	**+0.5**
	0.2nm,0.3s,baz=104,slow=5.4,SNR=4.0						
MJAR	**Matsushiro Arr**	**88.06**	**50**	P	**P**	**06 08 28.0**	**-1.3**
	1.0nm,0.5s,baz=234,slow=5.9,SNR=4.2						
ILAR	**Eielson Array**	**129.84**	**18**	PKP	**PKPdf**	**06 14 49.1**	**+1.5**
	0.4nm,1.0s,baz=241,slow=0.9,SNR=3.1						
YKA	**Yellowknife Ar**	**137.14**	**0**	PKP	**PKPdf**	**06 15 00.8**	**-0.5**
	0.3nm,0.8s,baz=354,slow=0.6,SNR=3.9						
ULM	**Lac du Bonnet**	**146.17**	**339**	PKPbc	**PKPdf**	**06 15 17.2**	**-0.6**
	6.4nm,1.1s,baz=16,slow=4.9,SNR=4.0						
NVAR	**Mina Array Bea**	**160.87**	**10**	PKPab	**PKPab**	**06 16 21.7**	**0.0**
	0.1nm,0.3s,baz=253,slow=0.9,SNR=2.7						
TXAR	**Lajitas Array**	**166.47**	**318**	PKP	**PKPdf**	**06 15 43.3**	**-1.4**
	0.3nm,1.0s,baz=116,slow=2.1,SNR=2.9						
TXAR				PKPab	**PKPab**	**06 16 43.4**	**-3.1**
	0.6nm,0.9s,baz=119,slow=1.6,SNR=5.0						

ISCJB ***27*** *05:56:22.2±0.7, 19.6S±0.1×66.3E±0.2, h10km, mb4.0/10, Error ellipse: s-maj=31.7km s-min=18.3km az=4.8*

IDC ***27*** *05:56:22.4±0.8, 19.62S×66.28E, h0km, mb4.0/10, mb1 4.1/10, mb1mx3.9/38, mbtmp4.0/10, Error ellipse: s-maj=32.8km s-min=21.2km az=96.0*

ISC 27 05:56:24.0±0.8, 19.6S±0.1×66.3E±0.2, h10km, n13, σ0.879/13, mb4.1/10, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**48.02**	**182**	P	**P**	**06 05 02.6**	**-0.2**
	2.7nm,0.8s,baz=350,slow=11,SNR=2.6						
CMAR	**Chiang Mai Arr**	**49.60**	**42**	P	**P**	**06 05 15.9**	**+0.2**
	0.7nm,0.3s,baz=246,slow=8.8,SNR=3.4						
BRTR	**Keskin Array B**	**66.44**	**333**	P	**P**	**06 07 14.1**	**+0.5**
	1.2nm,0.9s,baz=147,slow=6.2,SNR=2.8						
KBZ	**Khabaz**	**66.59**	**342**	P	**P**	**06 07 15.6**	**+1.4**
	1.2nm,0.7s,baz=232,slow=20,SNR=1.9						
MKAR	**Makanchi Array**	**67.67**	**12**	P	**P**	**06 07 21.1**	**-0.1**
	0.9nm,0.8s,baz=188,slow=5.8,SNR=2.7						
QSPA	**South Pole Qui**	**70.48**	**180**	P	**P**	**06 07 39.1**	**+0.5**
	4.0nm,1.0s,baz=258,slow=7.5,SNR=3.2						
TORD	**Torodi Ar. Bea**	**71.41**	**292**	P	**P**	**06 07 45.5**	**+0.6**
	0.9nm,1.1s,baz=90,slow=2.9,SNR=2.7						
ZALV	**Zalesovo Beam**	**74.99**	**11**	P	**P**	**06 08 04.5**	**-0.7**
	1.3nm,0.7s,baz=198,slow=7.3,SNR=3.9						
SONM	**Songino Array**	**76.18**	**27**	P	**P**	**06 08 12.7**	**+0.3**
	1.0nm,0.9s,baz=192,slow=4.3,SNR=2.3						
AKASG	**Malin Array Be**	**77.24**	**337**	P	**P**	**06 08 17.2**	**-0.9**
	1.2nm,0.7s,baz=140,slow=4.1,SNR=3.4						
ULM	**Lac du Bonnet**	**146.30**	**339**	PKPbc	**PKPdf**	**06 16 02.9**	**-0.7**
	2.4nm,0.8s,baz=44,slow=4.0,SNR=3.0						
NVAR	**Mina Array Bea**	**160.84**	**11**	PKPab	**PKPab**	**06 17 07.2**	**+0.1**
	0.5nm,0.8s,baz=357,slow=4.6,SNR=2.7						
TXAR	**Lajitas Array**	**166.69**	**318**	PKPab	**PKPab**	**06 17 31.8**	**-1.2**
	0.3nm,0.8s,baz=116,slow=4.1,SNR=2.3						

IDC 27 05:58:42.8±4.1, 19.55S×65.73E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/38, mbtmp3.7/5, Error ellipse: s-maj=117.0km s-min=44.6km az=169.0, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**13.53**	**30**	T	T	06 15 56.9	
	baz=206						
H08S2	**Diego Garcia H**	**13.54**	**30**	T	T	06 15 55.8	
	baz=206						
H08S3	**Diego Garcia H**	**13.55**	**30**	T	T	06 16 08.3	
	baz=206						
H08N3	**Diego Garcia H**	**14.09**	**22**	T	T	06 16 42.3	
	baz=197						
H08N1	**Diego Garcia H**	**14.10**	**22**	T	T	06 16 44.2	
	baz=197						
H08N2	**Diego Garcia H**	**14.11**	**22**	T	T	06 16 45.4	
	baz=197						
CMAR	**Chiang Mai Arr**	**49.90**	**43**	P	P	06 07 38.5	+0.1
	0.6nm,0.4s,baz=217,slow=10,SNR=2.8						
BRTR	**Keskin Array B**	**66.15**	**333**	P	P	06 09 31.9	-0.3
	0.2nm,0.3s,baz=134,slow=6.2,SNR=2.5						
MKAR	**Makanchi Array**	**67.71**	**12**	P	P	06 09 42.1	+0.2
	0.7nm,0.9s,baz=180,slow=5.8,SNR=3.7						
ZALV	**Zalesovo Beam**	**75.02**	**12**	P	P	06 10 25.6	-0.2
	0.4nm,0.4s,baz=199,slow=3.1,SNR=3.6						
AKASG	**Malin Array Be**	**76.98**	**337**	P	P	06 10 37.3	+0.2
	0.1nm,0.3s,baz=140,slow=4.7,SNR=4.3						
ULM	**Lac du Bonnet**	**146.06**	**339**	PKPbc	PKPdf	06 18 22.8	-1.0
	0.4nm,0.3s,baz=0.0,slow=3.0,SNR=2.3						
TXAR	**Lajitas Array**	**166.30**	**317**	PKPab	PKPab	06 19 52.6	+0.8
	0.3nm,0.9s,baz=86,slow=3.7,SNR=2.4						

IDC ***27*** *06:01:42.2±1.4, 6.13S×129.77E, h0km, mb4.0/2, mb1 4.3/5, mb1mx3.9/27, mbtmp4.2/5, ML4.3/3, Error ellipse: s-maj=71.1km s-min=22.5km az=75.0*

ISCJB ***27*** *06:01:49.4±0.7, 5.92S±0.05×130.62E±0.06, h146km, mb3.8/2, Error ellipse: s-maj=9.0km s-min=6.1km az=152.6*

DJA ***27*** *06:01:55.4±0.5, 6°S±7°×13°1E±°, h124km±11km, M4.1/6, mb4.2/1, MLv4.0/6*

ISC 27 06:01:48.8±1.1, 6.01S±0.05×130.65E±0.06, h146km, n16, σ2.817/20, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.65**	**333**	P	**Pn**	**06 02 19.9**	**+0.1**
BNDI	**Bandanaira**	**1.65**	**333**	P	**Pn**	**06 02 21.9**	**+2.1**
BNDI				S	**Sn**	**06 02 41.1**	**-2.3**
SAUI	**Saumlaki**	**2.07**	**162**	P	**Sn**	**06 02 48.7**	**-3.3**
MSAI	**Masohi**	**3.15**	**327**	P	**Pn**	**06 02 39.7**	**+1.7**
MSAI				S	**Sn**	**06 03 15.9**	**-0.1**
AAI	**Ambon**	**3.36**	**313**	P	**Pn**	**06 02 40.4**	**-0.3**
AAI	**Ambon**	**3.36**	**313**	P	**Pn**	**06 02 41.4**	**+0.7**
AAI				S	**Sn**	**06 03 20.7**	**-0.2**
FAKI	**Fak Fak**	**3.46**	**28**	P	**Pn**	**06 02 42.3**	**+0.4**
FAKI	**Fak Fak**	**3.46**	**28**	P	**Pn**	**06 02 42.9**	**+1.0**
FAKI				S	**Sn**	**06 03 21.4**	**-1.7**
NLAI	**Namlea**	**4.48**	**308**	P	**Pn**	**06 02 53.0**	**-2.3**
NLAI	**Namlea**	**4.48**	**308**	P	**Pn**	**06 02 58.1**	**+2.8**
NLAI				S	**Sn**	**06 03 45.2**	**-1.9**
SIJI	**Sorong**	**5.14**	**7**	Pn	**Pn**	**06 03 04.8**	**+0.7**
	25nm,0.3s,baz=210,slow=20,SNR=145						
SIJI				Sn	**Sn**	**06 03 58.4**	**-4.4**
	19nm,0.3s,baz=13,slow=23,SNR=4.0						
RKPI	**Ransiki, Papua**	**5.68**	**38**	P	**Pn**	**06 03 13.3**	**+1.9**
	134nm,0.8s,18μm2.0nm						
WRA	**Warramunga Arr**	**14.31**	**166**	Pn	**Pn**	**06 05 07.3**	**+2.4**
	0.8nm,0.3s,baz=339,slow=14,SNR=37						
WRA				Sn	Sn	06 07 38.5	-5.2
	3.4nm,0.3s,baz=335,slow=22,SNR=11						
ASAR	**Alice Springs**	**17.84**	**170**	P	Pn	06 05 54.4	+6.4
	0.9nm,0.3s,baz=347,slow=10,SNR=41						
ASAR				S	**S**	**06 09 02.0**	**-2.4**
	0.6nm,0.3s,baz=347,slow=25,SNR=11						
STKA	**Stephens Creek**	**27.70**	**160**	P	P	06 07 33.3	+10
	1.1nm,0.5s,baz=319,slow=11,SNR=3.7						
MKAR	**Makanchi Array**	**67.76**	**326**	P	P	06 12 39.5	+8.7
	0.8nm,0.5s,baz=116,slow=7.9,SNR=12						

THE ***27*** *06:04:47.8, 38.22N×20.34E, h0km±1km, ML2.9/6, Error ellipse: s-maj=1.8km s-min=0.6km az=244.0*

ATH ***27*** *06:04:47.4, 38.21N×20.37E, h9km±1km, MD3.5/29*

CSEM ***27*** *06:04:47.5±0.3, 38.22N×20.35E, h2km, ML3.1, Error ellipse: s-maj=6.8km s-min=4.0km az=68.0*

ISC 27 06:04:47.3±1.1, 38.22N±0.02×20.30E±0.04, h9km±8km, n88, σ0.991/130, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.23**	**100**	P	**Pg**	**06 04 52.0**	**+0.1**
VLS				S	**Sg**	**06 04 55.0**	**-0.1**
VLS	**Valsamata**	**0.23**	**100**	*e*PG	**Pg**	**06 04 52.1**	**+0.1**
VLS				*e*SG	**Sg**	**06 04 54.9**	**-0.1**
VLS	**Valsamata**	**0.23**	**100**	P	**Pg**	**06 04 52.0**	**+0.1**
VLS				S	**Sg**	**06 04 55.0**	**-0.1**
KFL	**Anninata**	**0.40**	**106**	P	**Pg**	**06 04 55.1**	**0.0**
KFL				S	**Sg**	**06 05 00.8**	**+0.5**
KFL	**Anninata**	**0.40**	**106**	P	**Pg**	**06 04 55.1**	**0.0**
KFL				S	**Sg**	**06 05 00.6**	**+0.3**
LKD2	**Lefkada island**	**0.63**	**26**	P	**Pg**	**06 04 59.1**	**-0.4**
LKD2				S	**Sg**	**06 05 08.5**	**+0.6**
LKD2	**Lefkada island**	**0.63**	**26**	*e*PG	**Pg**	**06 04 59.1**	**-0.4**
LKD2				*e*SB	**Sg**	**06 05 08.2**	**+0.3**
LKD2	**Lefkada island**	**0.63**	**26**	P	**Pg**	**06 04 59.2**	**-0.3**
LKD2				S	**Sg**	**06 05 07.9**	**0.0**
LKD2				*e*Sb	**Sg**	**06 05 08.2**	**+0.3**
PDO	**Prodromos**	**0.79**	**61**	P	**Pg**	**06 05 02.0**	**-0.5**
PDO				S	**Sb**	**06 05 14.0**	**0.0**
PDO	**Prodromos**	**0.79**	**61**	*e*PB	**Pg**	**06 05 01.6**	**-0.9**
PDO				*e*SB	**Sg**	**06 05 12.5**	**-0.3**
PDO	**Prodromos**	**0.79**	**61**	*e*Pb	**Pg**	**06 05 01.6**	**-0.9**
PDO	**Prodromos**	**0.79**	**61**	P	**Pg**	**06 05 02.0**	**-0.5**
PDO				*e*Sb	**Sg**	**06 05 12.5**	**-0.3**
PDO				S	**Sb**	**06 05 14.0**	**0.0**
RLS	**Riolos of Patr**	**0.93**	**100**	P	**Pg**	**06 05 05.1**	**-0.1**
RLS	**Riolos of Patr**	**0.93**	**100**	*e*PB	**Pg**	**06 05 04.2**	**-1.0**
RLS				*e*SB	**Sg**	**06 05 16.2**	**-1.1**
RLS	**Riolos of Patr**	**0.93**	**100**	*e*Pb	**Pg**	**06 05 04.2**	**-1.0**
RLS	**Riolos of Patr**	**0.93**	**100**	P	**Pg**	**06 05 04.9**	**-0.3**
RLS				*e*Sb	**Sg**	**06 05 16.2**	**-1.1**
PVO	**Paravola**	**1.04**	**67**	P	**Pg**	**06 05 07.0**	**-0.3**
PVO				S	**Sb**	**06 05 21.6**	**+0.3**
PVO	**Paravola**	**1.04**	**67**	P	**Pg**	**06 05 07.0**	**-0.3**
PVO				S	**Sb**	**06 05 21.6**	**+0.3**
DSL	**Palaion Diasel**	**1.11**	**34**	P	**Pg**	**06 05 07.7**	**-0.8**
DSL				S	**Sn**	**06 05 24.5**	**+0.1**
DSL	**Palaion Diasel**	**1.11**	**34**	*e*PG	**Pg**	**06 05 07.5**	**-1.0**
DSL				*e*SB	**Sg**	**06 05 22.9**	**0.0**
DSL	**Palaion Diasel**	**1.11**	**34**	P	**Pg**	**06 05 07.7**	**-0.8**
DSL				*e*Sb	**Sg**	**06 05 22.9**	**0.0**
DSL				S	**Sb**	**06 05 24.1**	**+0.9**
SFD	**Strofades**	**1.12**	**149**	*e*PG	**Pg**	**06 05 07.4**	**-1.4**
SFD				*e*SB	**Sg**	**06 05 23.3**	**0.0**
SFD	**Strofades**	**1.12**	**149**	*e*Pg	**Pg**	**06 05 07.4**	**-1.4**
SFD				*e*Sb	**Sg**	**06 05 23.3**	**0.0**
DRO	**Drossia**	**1.14**	**103**	P	**Pg**	**06 05 09.0**	**-0.2**
DRO				S	**Sn**	**06 05 25.5**	**+0.2**
DRO	**Drossia**	**1.14**	**103**	*e*PG	**Pg**	**06 05 07.4**	**-1.8**
DRO				*e*SB	**Sg**	**06 05 22.6**	**-1.5**
DRO	**Drossia**	**1.14**	**103**	*e*Pg	**Pg**	**06 05 07.4**	**-1.8**
DRO	**Drossia**	**1.14**	**103**	P	**Pg**	**06 05 09.0**	**-0.2**
DRO				*e*Sb	**Sg**	**06 05 22.6**	**-1.5**
DRO				S	**Sn**	**06 05 25.5**	**+0.2**
EFP	**Efpalio**	**1.28**	**80**	*e*PB	**Pn**	**06 05 10.6**	**-0.7**
EFP	**Efpalio**	**1.28**	**80**	*e*Pb	**Pn**	**06 05 10.6**	**-0.7**
AMT	**Artemida-Makis**	**1.31**	**121**	P	**Pn**	**06 05 11.7**	**-0.1**
AMT	**Artemida-Makis**	**1.31**	**121**	*e*PB	**Pn**	**06 05 11.0**	**-0.8**
AMT	**Artemida-Makis**	**1.31**	**121**	*e*Pb	**Pn**	**06 05 11.0**	**-0.8**
AMT	**Artemida-Makis**	**1.31**	**121**	P	**Pn**	**06 05 11.7**	**-0.1**
IGT	**Igoumenitsa**	**1.31**	**1**	*e*PB	**Pb**	**06 05 12.4**	**+0.3**
IGT	**Igoumenitsa**	**1.31**	**1**	*e*Pb	**Pb**	**06 05 12.4**	**+0.3**
EVR	**Evrytania**	**1.37**	**59**	*e*PN	**Pn**	**06 05 11.8**	**-0.9**
EVR	**Evrytania**	**1.37**	**59**	*e*Pn	**Pn**	**06 05 11.8**	**-0.9**
SGD	**Sagiada**	**1.39**	**358**	P	**Pg**	**06 05 14.2**	**+0.2**
SGD	**Sagiada**	**1.39**	**358**	P	**Pg**	**06 05 14.2**	**+0.2**
KALE	**Kalithea**	**1.46**	**83**	P	**Pn**	**06 05 13.6**	**-0.3**
KALE				S	**Sg**	**06 05 34.7**	**+0.6**
KALE	**Kalithea**	**1.46**	**83**	*e*PG	**Pn**	**06 05 13.6**	**-0.3**
KALE				*e*SB	**Sn**	**06 05 33.5**	**+0.4**
KALE	**Kalithea**	**1.46**	**83**	P	**Pn**	**06 05 13.6**	**-0.3**
KALE				*e*Sb	**Sn**	**06 05 33.5**	**+0.4**
KALE				S	**Sg**	**06 05 34.7**	**+0.6**
KLV	**Kalavryta, Ach**	**1.47**	**96**	P	**Pn**	**06 05 13.9**	**-0.1**
KLV				S	**Sg**	**06 05 34.9**	**+0.4**
KLV	**Kalavryta, Ach**	**1.47**	**96**	*e*PG	**Pn**	**06 05 13.7**	**-0.3**
KLV				*e*SB	**Sn**	**06 05 33.1**	**-0.3**
KLV	**Kalavryta, Ach**	**1

REDW	**Red Top Meadow**	**1.65**	**6**	*e*Pn	**Pb**	**06 17 26.8**	**-0.4**
REDW				*e*Sn	**Sg**	**06 17 50.4**	**+0.7**
MPU	**Maple Canyon**	**1.75**	**193**	*e*Pn	**Pb**	**06 17 27.7**	**-1.1**
SNOW	**Snow King Moun**	**1.76**	**8**	*e*Pn	**Pb**	**06 17 28.6**	**-0.5**
SNOW				*e*Sn	**Sg**	**06 17 53.5**	**+0.3**
TPAW	**Teton Pass**	**1.77**	**4**	*e*Pn	**Pb**	**06 17 28.9**	**-0.4**
TPAW				*e*Sn	**Sg**	**06 17 53.5**	**-0.1**
NLU	**North Lily Min**	**1.91**	**203**	*e*Pn	**Pn**	**06 17 29.8**	**+0.4**
NLU				*e*Sn	**Sb**	**06 17 54.7**	**-0.9**
LOHW	**Long Hollow**	**1.93**	**11**	*e*Pn	**Pb**	**06 17 30.9**	**-1.0**
DUG	**Dugway, Tooele**	**2.00**	**221**	*e*Pn	**Pn**	**06 17 30.8**	**+0.3**
DUG				*e*Sn	**Sg**	**06 17 59.8**	**-0.9**
DUG	**Dugway, Tooele** baz=2.0	**2.00**	**221**	P	**Pn**	**06 17 31.0**	**+0.5**
DUG				Sb	**Sg**	**06 18 00.4**	**-0.3**
MOOW	**Moose Ponds** baz=2.0	**2.05**	**7**	*e*Pn	**Pn**	**06 17 32.1**	**+0.8**
MOOW				*e*Sn	**Sb**	**06 17 59.3**	**-0.2**
J19A	**Crowheart** baz=2.2	**2.17**	**44**	Pb	**Pb**	**06 17 35.2**	**-0.7**
J19A				Sb	**Sb**	**06 18 03.8**	**+0.8**
IMW	**Indian Meadow** baz=2.2	**2.18**	**3**	*e*Pn	**Pn**	**06 17 34.2**	**+1.1**
IMW				*e*Sn	**Sb**	**06 18 03.6**	**+0.2**
N20A	**Spence Gulch,** baz=2.3	**2.32**	**111**	Pb	**Pb**	**06 17 38.0**	**-0.5**
N20A				Sb	**Sg**	**06 18 08.8**	**-2.2**
FLWY	**Flagg Ranch**	**2.38**	**7**	*e*Pn	**Pn**	**06 17 36.8**	**+1.0**
TMUT	**Trail Mountain**	**2.42**	**182**	*e*Pn	**Pn**	**06 17 37.3**	**+0.9**
SRU	**San Rafael Swe**	**2.64**	**170**	*e*Pn	**Pn**	**06 17 40.2**	**+0.8**
SRU				*e*Sg	**Sb**	**06 18 16.1**	**-0.5**
O20A	**White River Ci**	**2.69**	**125**	*e*Pn	**Pn**	**06 17 41.6**	**+1.6**
O20A				*e*Sg	**Sb**	**06 18 18.6**	**+0.7**
O20A	**White River Ci** baz=2.7	**2.69**	**125**	Sb	**Sb**	**06 18 18.5**	**+0.7**
H17A	**Grant Village**	**2.70**	**8**	*e*Pn	**Pn**	**06 17 42.2**	**+1.9**
YFT	**Old Faithful**	**2.74**	**4**	*e*Pg	**Pg**	**06 17 48.2**	**-0.9**
J20A	**Shoshoni** baz=2.8	**2.77**	**53**	P	**Pb**	**06 17 43.2**	**-3.0**
J20A				Sb	**Sb**	**06 18 20.9**	**+0.8**
I19A	**Meeteetse** baz=2.8	**2.79**	**33**	Pb	**Pb**	**06 17 45.7**	**-0.8**
I19A				Sb	**Sb**	**06 18 21.4**	**+0.5**
LKWY	**Lake**	**2.89**	**10**	*e*Pn	**Pb**	**06 17 47.4**	**-1.0**
HLID	**Hailey**	**3.06**	**308**	*e*Pn	**Pn**	**06 17 47.3**	**+2.2**
HLID				*e*Sg	**Sg**	**06 18 32.4**	**-2.3**
HLID	**Hailey** baz=3.1	**3.06**	**308**	P	**Pb**	**06 17 49.0**	**-2.2**
QLMT	**Earthquake Lak**	**3.12**	**356**	*e*Pn	**Pn**	**06 17 46.9**	**+0.9**
I20A	**Worland** baz=3.2	**3.12**	**43**	P	**Pn**	**06 17 48.0**	**+2.0**
ELK	**Elko** 2.0nm,0.3s,baz=56,slow=13,SNR=24	**3.27**	**254**	Pn	Pn	06 17 51.1	+3.1
ELK				Pg	**Pb**	**06 17 56.2**	**+1.5**
ELK	2.0nm,0.3s,baz=66,slow=14,SNR=26			Lg	Lg	06 18 37.1	
ELK	**Elko** 4.1nm,0.3s,baz=172,slow=19,SNR=10	**3.27**	**254**	*e*Pn	**Pn**	**06 17 47.2**	**-0.8**
ELK				Pg	**Pb**	**06 17 56.2**	**+1.5**
ELK				Lg	Lg	06 18 37.1	
ELK				*e*Sg	**Sg**	**06 18 40.2**	**-1.2**
MSU	**Marysvale**	**3.31**	**195**	*e*Pn	**Pn**	**06 17 49.8**	**+1.2**
MVU	**Marysvale**	**3.32**	**195**	*e*Pn	**Pn**	**06 17 50.6**	**+1.8**
MCMT	**McKenzie Canyo**	**3.36**	**338**	*e*Pn	**Pb**	**06 17 54.1**	**-2.2**
I21A	**Big Trails, Te** baz=3.5	**3.50**	**52**	P	**Pn**	**06 17 53.1**	**+1.9**
K22A	**Casper**	**3.53**	**73**	*e*Pn	**Pn**	**06 17 52.6**	**+1.1**
N22A	**Wattenberg Ran** baz=3.6	**3.62**	**103**	P	**Pn**	**06 17 54.5**	**+1.6**
RLMT	**Red Lodge**	**3.66**	**21**	*e*Pn	**Pn**	**06 17 55.4**	**+2.0**
PV04	**Paradox Valley**	**3.73**	**152**	*e*Pn	**Pn**	**06 17 55.1**	**+0.8**
PV04				*e*Sn	**Sn**	**06 18 41.0**	**+2.7**
O22A	**Kremmling** baz=3.8	**3.79**	**113**	P	**Pn**	**06 17 56.8**	**+1.6**
DLMT	**Dillon**	**3.80**	**344**	*e*Pn	**Pb**	**06 18 01.8**	**-1.9**
J22A	**Midwest** baz=3.8	**3.81**	**62**	P	**Pn**	**06 17 57.5**	**+2.1**
MFID	**Camas Ranch**	**3.88**	**298**	*e*Pg	**Pg**	**06 18 10.7**	**-0.1**
N23A	**Red Feather La** baz=4.0	**3.98**	**100**	P	**Pn**	**06 17 59.4**	**+1.7**
SMCO	**Snowmass**	**4.05**	**127**	*e*Pn	**Pn**	**06 17 59.8**	**+0.9**
PV01	**Paradox Valley**	**4.08**	**151**	*e*Pn	**Pn**	**06 17 59.8**	**+0.7**
PV01				*e*Sn	**Sn**	**06 18 48.0**	**+0.9**
GCMT	**Greycliff**	**4.20**	**14**	*e*Pn	**Pn**	**06 18 03.1**	**+2.4**
LRM	**Limekiln Ridge**	**4.22**	**347**	*e*Pg	**Pg**	**06 18 15.7**	**-1.6**
ISCO	**Idaho Springs**	**4.59**	**113**	*e*Pn	Pn	06 18 09.5	+3.2
MVCO	**Mesa Verde**	**4.93**	**155**	*e*Pn	**Pn**	**06 18 11.8**	**+0.9**
MVCO				*e*Sg	**Sg**	**06 19 32.9**	**-2.1**
WVOR	**Wild Horse Val**	**5.65**	**280**	*e*Pn	Pn	06 18 24.4	+3.8
RSSD	**Black Hills**	**5.72**	**63**	*e*Pn	**Pn**	**06 18 20.4**	**-1.3**
RSSD				*e*Sn	**Sn**	**06 19 29.1**	**+1.6**
SDCO	**Great Sand Dun**	**5.87**	**131**	*e*Pn	**Pn**	**06 18 25.7**	**+1.9**
SHPR	**Sheep Range** 3.7nm,0.9s	**6.08**	**212**	*e*Pn	**Pn**	**06 18 29.2**	**+2.5**
NVAR	**Mina Array Bea** 0.8nm,0.3s,baz=59,slow=13,SNR=17	**6.42**	**242**	Pn	**Pn**	**06 18 34.2**	**+2.9**
NVAR				Lg	Lg	06 20 16.5	
ANMO	**Albuquerque** 0.1nm,0.3s,baz=331,slow=13,SNR=2.7	**7.68**	**150**	Pg	Pg	06 19 17.1	-6.5
ANMO				Lg	Lg	06 20 51.0	
NEW	**Newport** 0.1nm,0.3s,baz=229,slow=20,SNR=3.0	**7.81**	**329**	Lg	Lg	06 20 59.5	
YKA	**Yellowknife Ar** 0.3nm,0.8s,baz=172,slow=11,SNR=2.9	**20.91**	**355**	P	Pn	06 21 41.7	+0.3

MAN 27 06:28:15,8.13N×125.00E,h0km,mb4.6,ML3.5,MS3.4, 1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.26**	**166**	*e*P	Pb	06 28 21.5	-1.1
BUKP				*e*S	Sb	06 28 27.1	-0.6
CGP	**Cagayan de Oro**	**0.44**	**317**	*e*P	Pg	06 28 24.5	+1.0
CGP				*i* S	Sb	06 28 32.3	-0.6
BUTP	**Butuan**	**1.03**	**36**	*e*P	Pb	06 28 36.1	+0.3
CTBH	**Cotabato--PC H**	**1.17**	**220**	⇓*i*P	Pg	06 28 37.7	+0.2
PAGZ	**Pagadian**	**1.63**	**260**	*e*P	Pb	06 28 46.0	+0.1
DCPH	**Dipolog City**	**1.69**	**285**	⇑*e*P	Pb	06 28 46.6	-0.4
SCPH	**Surigao**	**1.71**	**16**	*e*P	Pg	06 28 49.4	+1.6
TBP	**Tagbilaran**	**1.91**	**324**	*e*P	Pn	06 28 49.5	+0.6
TBP				*e*S	Sg	06 29 17.9	+1.3
MSLP	**Maasin**	**1.99**	**356**	*e*P	Pn	06 28 50.9	+0.9

*ISCJB **27** 06:29:18.4±1.0,56.0S±0.2×27.7W±0.5,h112km,mb4.0/4, Error ellipse: s-maj=39.1km s-min=22.3km az=156.4*
*IDC **27** 06:29:23.8±8.9,55.98S×27.76W,h148km±80km,mb3.6/4, mb1 3.7/4,mb1mx3.5/17,mbtmp4.1/4,MS3.7/1,Ms1 3.8/1, ms1mx3.1/13,Error ellipse: s-maj=32.3km s-min=21.2km az=62.0*

ISC 27 06:29:19.6±0.9,55.9S±0.2×27.7W±0.3,h112km,n11, σ0.66/8,mb4.0/4,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**40.42**	**144**	P	**P**	**06 36 46.2**	**+0.1**
VNDA	**Vanda** 1.1nm,0.8s,baz=180,slow=6.8,SNR=11	**46.67**	**183**	P	**P**	**06 37 36.5**	**+0.4**
H10S2	**ASCENSION HYDR** baz=190,slow=74,SNR=4.3	**47.98**	**18**	T	T	07 29 53.0	
H10S3	**ASCENSION HYDR** baz=190,slow=74,SNR=4.0	**47.98**	**18**	T	T	07 29 57.6	
H10S1	**ASCENSION HYDR** baz=190,slow=74,SNR=5.2	**48.00**	**18**	T	T	07 29 56.6	
LPAZ	**La Paz** 0.7nm,0.4s,baz=152,slow=5.9,SNR=8.7	**50.06**	**306**	P	**P**	**06 38 03.8**	**+0.3**
LPAZ	comp=Z,75nm,19.9s,baz=124,slow=38			LR	LR	07 00 53.0	
TORD	**Torodi Ar. Bea** 2.5nm,0.5s,baz=201,slow=6.5,SNR=22	**73.11**	**30**	P	**P**	**06 40 38.2**	**+0.7**
FINES	**FINESS Array B** 1.3nm,0.8s,baz=116,slow=3.2,SNR=4.3	**124.42**	**28**	PKP	**PKPdf**	**06 48 03.1**	**-0.7**
YKA	**Yellowknife Ar** 0.3nm,0.8s,baz=156,slow=1.8,SNR=2.8	**135.88**	**318**	PKPbc	**PKPdf**	**06 48 24.9**	**-0.6**
ILAR	**Eielson Array** 0.7nm,0.6s,baz=117,slow=2.7,SNR=12	**149.81**	**312**	PKPbc	**PKPbc**	**06 48 54.5**	**-0.3**
SONM	**Songino Array**	**151.03**	**87**	PKPbc	**PKPbc**	**06 48 57.8**	**-0.6**

1.7nm,0.4s,baz=216,slow=3.6,SNR=9.5

*ROM **27** 06:34:18.1±0.1,39.69N×13.85E,h616km,Ml4.0/29,Error ellipse: s-maj=7.4km s-min=4.8km az=96.0*
*CSEM **27** 06:34:18.1,39.69N×13.85E,h616km,ML4.0/29*
*ISCJB **27** 06:34:39.8±0.3,39.79N±0.05×13.64E±0.05,h450km, mb3.4/6,Error ellipse: s-maj=7.3km s-min=5.5km az=10.9*
*IDC **27** 06:34:40.6±1.3,39.86N×13.63E,h451km±21km,mb3.0/7, mb1 3.0/15,mb1mx2.8/56,mbtmp3.8/15,Error ellipse: s-maj=17.5km s-min=13.5km az=149.0*

ISC 27 06:34:40.1±0.7,39.73N±0.07×13.74E±0.07,h450km,n110, σ1.09/110,mb3.5/6,2C-21D,Tyrrhenian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IACL	**Alicudi** 46nm,0.5s	**1.29**	**158**	⇓*i*Pg	**P**	**06 35 38.0**	**+0.6**
IACL	**Alicudi** 46nm,0.5s	**1.29**	**158**	⇓*i*Pg	**P**	**06 35 38.0**	**+0.6**
BULG	**Bulgheria - Ca** 49nm,0.3s	**1.31**	**74**	⇓*i*Pg	**P**	**06 35 38.4**	**+1.0**
BULG	**Bulgheria - Ca** 49nm,0.3s	**1.31**	**74**	⇓*i*Pg	**P**	**06 35 38.4**	**+1.0**
IFIL	**Filicudi I Eol**	**1.33**	**151**	Pg	**P**	**06 35 38.1**	**+0.6**
IFIL	**Filicudi I Eol**	**1.33**	**151**	Pg	**P**	**06 35 38.1**	**+0.6**
CMPR	**Campora** 26nm,0.7s	**1.34**	**63**	⇓*i*Pg	**P**	**06 35 38.3**	**+0.8**
CMPR	**Campora** 26nm,0.7s	**1.34**	**63**	⇓*i*Pg	**P**	**06 35 38.3**	**+0.8**
CDRU	**Civita di Ruta** 21nm,0.6s	**1.42**	**57**	⇓*i*Pg	**P**	**06 35 38.6**	**+0.8**
CDRU	**Civita di Ruta** 21nm,0.6s	**1.42**	**57**	⇓*i*Pg	**P**	**06 35 38.6**	**+0.8**
SGO	**Sicignano** 176nm,0.4s	**1.46**	**55**	⇓*i*Pg	**P**	**06 35 39.1**	**+1.2**
SGO	**Sicignano** 176nm,0.4s	**1.46**	**55**	⇓*i*Pg	**P**	**06 35 39.1**	**+1.2**
CSSN	**Cassano Irpino** 26nm,0.4s	**1.50**	**41**	Pg	**P**	**06 35 39.1**	**+1.0**
CSSN	**Cassano Irpino** 26nm,0.4s	**1.50**	**41**	Pg	**P**	**06 35 39.1**	**+1.0**
MCRV	**Calabrutti - M** 29nm,0.7s	**1.52**	**46**	⇓*i*Pg	**P**	**06 35 39.1**	**+0.8**
MCRV	**Calabrutti - M** 29nm,0.7s	**1.52**	**46**	⇓*i*Pg	**P**	**06 35 39.1**	**+0.8**
CUC	**Castrocucco** 49nm,0.3s	**1.62**	**80**	⇓*i*Pg	**P**	**06 35 39.4**	**+0.7**
CUC	**Castrocucco** 49nm,0.3s	**1.62**	**80**	⇓*i*Pg	**P**	**06 35 39.4**	**+0.7**
MTSN	**Montesano sull**	**1.64**	**70**	Pg	**P**	**06 35 39.3**	**+0.5**
MTSN	**Montesano sull**	**1.64**	**70**	Pg	**P**	**06 35 39.3**	**+0.5**
VPL	**Vulcano Piano**	**1.66**	**144**	Pg	**P**	**06 35 39.7**	**+0.7**
VPL	**Vulcano Piano**	**1.66**	**144**	Pg	**P**	**06 35 39.7**	**+0.7**
MRLC	**Muro Lucano** 32nm,0.5s	**1.69**	**52**	Pg	**P**	**06 35 39.9**	**+1.0**
MRLC	**Muro Lucano** 32nm,0.5s	**1.69**	**52**	Pg	**P**	**06 35 39.9**	**+1.0**
SIRI	**Monte Sirino -** 39nm,0.3s	**1.70**	**74**	⇓*i*Pg	**P**	**06 35 39.7**	**+0.6**
SIRI	**Monte Sirino -** 39nm,0.3s	**1.70**	**74**	⇓*i*Pg	**P**	**06 35 39.7**	**+0.6**
SGG	**Gregorio Mates** 36nm,0.5s	**1.73**	**16**	Pg	**P**	**06 35 39.9**	**+0.8**
SGG	**Gregorio Mates** 36nm,0.5s	**1.73**	**16**	Pg	**P**	**06 35 39.9**	**+0.8**
VAGA	**Valle Agricola**	**1.73**	**13**	Pg	**P**	**06 35 40.1**	**+1.0**
VAGA	**Valle Agricola**	**1.73**	**13**	Pg	**P**	**06 35 40.1**	**+1.0**
PTRJ	**Pietraroja** 101nm,0.7s	**1.74**	**20**	Pg	**P**	**06 35 39.8**	**+0.6**
PTRJ	**Pietraroja** 101nm,0.7s	**1.74**	**20**	Pg	**P**	**06 35 39.8**	**+0.6**
MMN	**Mormanno** 23nm,0.2s	**1.74**	**84**	Pg	**P**	**06 35 39.9**	**+0.7**
MMN	**Mormanno** 23nm,0.2s	**1.74**	**84**	Pg	**P**	**06 35 39.9**	**+0.7**
GIB	**Gibilmanna** 88nm,0.8s	**1.75**	**173**	Pg	**P**	**06 35 39.5**	**-0.1**
GIB	**Gibilmanna** 88nm,0.8s	**1.75**	**173**	Pg	**P**	**06 35 39.5**	**-0.1**
PLLN	**Pollina** 45nm,0.5s	**1.77**	**170**	Pg	**P**	**06 35 39.8**	**+0.2**
PLLN	**Pollina** 45nm,0.5s	**1.77**	**170**	Pg	**P**	**06 35 39.8**	**+0.2**
SCHR	**S. Chirico Rap** 21nm,0.4s	**1.86**	**75**	⇓*i*Pg	**P**	**06 35 40.8**	**+0.9**
SGTA	**Sant Agata di** 38nm,0.7s	**1.87**	**41**	Pg	**P**	**06 35 40.2**	**+0.3**
SGTA	**Sant Agata di** 38nm,0.7s	**1.87**	**41**	Pg	**P**	**06 35 40.2**	**+0.3**
MNO	**Monte Soro** 79nm,0.6s	**1.94**	**157**	Pg	**P**	**06 35 41.7**	**+1.0**
MNO	**Monte Soro** 79nm,0.6s	**1.94**	**157**	Pg	**P**	**06 35 41.7**	**+1.0**
MIDA	**Miranda** 27nm,0.5s	**1.95**	**11**	Pg	**P**	**06 35 41.1**	**+0.8**
MIDA	**Miranda** 27nm,0.5s	**1.95**	**11**	Pg	**P**	**06 35 41.1**	**+0.8**
ALJA	**Alia** 112nm,0.3s	**1.98**	**180**	Pg	**P**	**06 35 41.5**	**+0.8**
ALJA	**Alia** 112nm,0.3s	**1.98**	**180**	Pg	**P**	**06 35 41.5**	**+0.8**
MSRU	**Castanea** 52nm,0.5s	**2.01**	**136**	Pg	**P**	**06 35 40.1**	**-0.7**
MSRU	**Castanea** 52nm,0.5s	**2.01**	**136**	Pg	**P**	**06 35 40.1**	**-0.7**
SALB	**San Lorenzo Be** 52nm,0.6s	**2.02**	**85**	Pg	**P**	**06 35 41.3**	**+0.5**
SALB	**San Lorenzo Be** 52nm,0.6s	**2.02**	**85**	Pg	**P**	**06 35 41.3**	**+0.5**
ORI	**Oriolo Calabro** 116nm,0.5s	**2.11**	**80**	Pg	**P**	**06 35 41.9**	**+0.7**
ORI	**Oriolo Calabro** 116nm,0.5s	**2.11**	**80**	Pg	**P**	**06 35 41.9**	**+0.7**
GALF	**Gagliano Caste**	**2.12**	**162**	Pg	**P**	**06 35 42.1**	**+0.6**
GALF	**Gagliano Caste**	**2.12**	**162**	Pg	**P**	**06 35 42.1**	**+0.6**
MMME	**Mongiuffi-Meli** 38nm,0.5s	**2.15**	**146**	Pg	**P**	**06 35 41.5**	**-0.1**
MMME	**Mongiuffi-Meli** 38nm,0.5s	**2.15**	**146**	Pg	**P**	**06 35 41.5**	**-0.1**
CEL	**Celeste** 51nm,0.4s	**2.23**	**130**	Pg	**P**	**06 35 41.2**	**-0.9**
CEL	**Celeste** 51nm,0.4s	**2.23**	**130**	Pg	**P**	**06 35 41.2**	**-0.9**
SERS	**Sersale** 74nm,1.0s	**2.39**	**106**	⇓*i*Pg	**P**	**06 35 42.9**	**-0.2**
SERS	**Sersale** 74nm,1.0s	**2.39**	**106**	⇓*i*Pg	**P**	**06 35 42.9**	**-0.2**
PIPA	**Pietrapaola** 67nm,0.5s	**2.39**	**95**	Pg	**P**	**06 35 43.3**	**+0.4**
PIPA	**Pietrapaola** 67nm,0.5s	**2.39**	**95**	Pg	**P**	**06 35 43.3**	**+0.4**
TIP	**Timpagrande** 27nm,0.5s	**2.40**	**102**	⇓*i*Pg	**P**	**06 35 43.1**	**0.0**
TIP	**Timpagrande** 27nm,0.5s	**2.40**	**102**	⇓*i*Pg	**P**	**06 35 43.1**	**0.0**
MATE	**Matera**	**2.45**	**67**	Pg	**P**	**06 35 42.9**	**-0.3**
MATE	**Matera**	**2.45**	**67**	Pg	**P**	**06 35 42.9**	**-0.3**
SOI	**Samo** 42nm,0.5s	**2.45**	**132**	Pg	**P**	**06 35 42.5**	**-0.9**
SOI	**Samo** 42nm,0.5s	**2.45**	**132**	Pg	**P**	**06 35 42.5**	**-0.9**
PLAC	**Placanica** 98nm,0.9s	**2.46**	**120**	Pg	**P**	**06 35 42.8**	**-0.7**
PLAC	**Placanica** 98nm,0.9s	**2.46**	**120**	Pg	**P**	**06 35 42.8**	**-0.7**
MPAZ	**Palizzi** 41nm,0.3s	**2.51**	**134**	Pg	**P**	**06 35 42.7**	**-1.1**
MPAZ	**Palizzi** 41nm,0.3s	**2.51**	**134**	Pg	**P**	**06 35 42.7**	**-1.1**
LADO	**San Nicola del** 83nm,0.4s	**2.55**	**99**	Pg	**P**	**06 35 43.8**	**-0.2**
LADO	**San Nicola del** 83nm,0.4s	**2.55**	**99**	Pg	**P**	**06 35 43.8**	**-0.2**
RAFF	**Raffo Rosso** 159nm,1.3s	**2.55**	**169**	Pg	**P**	**06 35 44.2**	**+0.1**
RAFF	**Raffo Rosso** 159nm,1.3s	**2.55**	**169**	Pg	**P**	**06 35 44.2**	**+0.1**
VSL	**Villasalto**	**3.38**	**267**	⇑*i*Pg	**P**	**06 35 50.9**	**+0.9**
VSL	**Villasalto**	**3.38**	**267**	⇑*i*Pg	**P**	**06 35 50.9**	**+0.9**
KEK	**Kerkira**	**4.67**	**88**	*e*P	**P**	**06 36 04.0**	**+2.7**
KEST	**Kesra** 0.4nm,0.3s,baz=295,slow=4.5,SNR=7.8	**5.29**	**222**	P	**P**	**06 36 08.3**	**+0.8**
LKD2	**Lefkada island**	**5.45**	**98**	*e*P	P	06 36 12.3	+3.4
VLS	**Valsamata**	**5.56**	**104**	*e*P	**P**	**06 36 13.0**	**+3.0**
NEST	**Nestorio**	**5.65**	**81**	*e*P	**P**	**06 36 13.5**	**+2.6**
THL	**Klokotos Trika**	**6.39**	**89**	*e*P	**P**	**06 36 18.0**	**-0.3**
DRO	**Drossia**	**6.47**	**103**	*e*P	**P**	**06 36 21.3**	**+2.0**
MAKR	**Makrakomi, Fth**	**6.54**	**94**	*e*P	**P**	**06 36 22.2**	**+2.2**
KALE	**Kalithea**	**6.67**	**99**	*e*P	**P**	**06 36 24.0**	**+2.6**
GRG	**Griva**	**6.73**	**77**	*e*P	**P**	**06 36 23.7**	**+1.8**
KLV	**Kalavryta, Ach**	**6.78**	**102**	*e*P	**P**	**06 36 25.0**	**+2.5**
DSF	**Desfina**	**6.96**	**98**	*e*P	**P**	**06 36 26.9**	**+2.4**
KNT	**Kendrikon**	**7.13**	**76**	*e*P	**P**	**06 36 26.9**	**+0.8**
XOR	**Xorichti**	**7.32**	**90**	*e*P	**P**	**06 36 29.8**	**+1.7**
MRKA	**Markates**	**7.72**	**94**	*e*P	**P**	**06 36 34.0**	**+1.6**
AOS	**Alonnisos**	**7.87**	**91**	*e*P	**P**	**06 36 35.1**	**+1.1**
KYTH	**Kithira**	**8.11**	**112**	*e*P	**P**	**06 36 39.5**	**+2.8**
IDI	**Anoyia** 1.1nm,0.3s,baz=277,slow=8.1,SNR=4.8	**9.91**	**113**	P	**P**	**06 36 57.9**	**+1.7**
IDI				S	**S**	**06 38 47.4**	**-1.0**
MLR	**Muntele Rosu** 0.2nm,0.3s,baz=262,slow=16,SNR=6.0	**10.68**	**53**	P	**P**	**06 37 06.5**	**+1.9**
MLR				S	S	06 38 51.8	-12
ESDC	**Sonseca Array** 1.8nm,0.3s,baz=77,slow=11,SNR=18	**13.63**	**275**	P	**P**	**06 37 37.1**	**+0.5**
BRTR	**Keskin Array B** 0.2nm,0.3s,baz=279,slow=8.0,SNR=6.0	**15.32**	**84**	P	**P**	**06 37 56.3**	**+1.6**
AKASG	**Malin Array Be** 2.6nm,0.3s,baz=232,slow=8.5,SNR=7.6	**15.44**	**40**	P	**P**	**06 37 54.6**	**-1.0**
MDT	**Midelt** 0.2nm,0.3s,baz=82,slow=7.1,SNR=3.5	**16.31**	**251**	P	**P**	**06 38 05.9**	**+0.6**
EKA	**Eskdalemuir Ar** baz=139,slow=12,SNR=4.2	**19.25**	**330**	P	**P**	**06 38 32.3**	**-2.0**
HFS	**Hagfors** 0.8nm,0.4s,baz=186,slow=13,SNR=6.6	**20.43**	**360**	P	**P**	**06 38 44.6**	**-0.3**
FINES	**FINESS Array B** 1.0nm,0.3s,baz=191,slow=10,SNR=7.3	**23.03**	**15**	P	**P**	**06 39 07.8**	**-0.6**
TORD	**Torodi Ar. Bea** 0.4nm,0.4s,baz=9.3,slow=8.9,SNR=7.1	**28.53**	**205**	P	**P**	**06 39 58.7**	**+0.9**
MKAR	**Makanchi Array** 1.2nm,0.5s,baz=282,slow=6.7,SNR=18	**48.98**	**58**	P	**P**	**06 42 44.1**	**+0.2**
FRB	**Frobisher Bay** 0.9nm,0.6s,baz=78,slow=9.3,SNR=3.0	**51.96**	**326**	P	**P**	**06 43 04.7**	**-0.7**
SCHQ	**Schefferville** 3.8nm,0.9s,baz=82,slow=7.1,SNR=2.6	**53.67**	**315**	P	**P**	**06 43 17.0**	**-1.0**
YKA	**Yellowknife Ar** 0.2nm,0.5s,baz=42,slow=6.0,SNR=5.2	**70.02**	**337**	P	**P**	**06 45 05.2**	**+0.3**

IDC 27 06:46:00.8±2.5,29.88S×138.92E,h0km,mb1 2.9/3, mb1mx2.9/22,mbtmp2.7/3,ML2.5/3,Error ellipse: s-maj=83.6km s-min=14.8km az=49.0,South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 0.3nm,0.3s,baz=307,slow=14,SNR=6.9	**3.04**	**132**	Pn	Pn	06 46 48.8	-1.3
STKA	1.1nm,0.3s,baz=309,slow=16,SNR=13			Pg	Pg	06 46 57.8	-1.3
STKA	0.9nm,0.3s,baz=236,slow=18,SNR=4.4			Sn	Sn	06 47 26.6	-0.7
STKA	2.7nm,0.3s,baz=210,slow=22,SNR=3.8			Lg	Lg	06 47 37.5	
ASAR	**Alice Springs** 0.0nm,0.3s,baz=149,slow=12,SNR=4.1	**7.64**	**323**	Pn	Pn	06 47 53.0	-0.5
ASAR	0.1nm,0.3s,baz=144,slow=22,SNR=4.0			Sn	Sn	06 49 24.1	+3.3
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=155,slow=11,SNR=5.3	**10.73**	**336**	Pn	Pn	06 48 36.2	+0.3
WRA	0.0nm,0.3s,baz=158,slow=25,SNR=3.4			Sn	Sn	06 50 36.6	-0.2

MEX 27 06:53:21.5±0.6,14.93N×93.93W,h20km,MD3.8,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.03**	**41**	*e*P	Pb	06 53 36.2	-4.4
PCIG				*e*S	Sb	06 53 49.1	-4.7
TGIG		**2.00**	**23**	*e*P	Pn	06 53 51.1	-3.2
TGIG				*e*S	Sn	06 54 16.8	-1.9
CCIG	**Comitan**	**2.19**	**52**	*e*P	Pn	06 53 55.8	-1.2
CCIG				*e*S	Sn	06 54 23.0	-0.7

*ISK **27** 06:54:09.8,37.51N×29.74E,h5km,ML3.4*
*IDC **27** 06:54:09.7±1.4,37.23N×30.09E,h0km,mb3.7/4, mb1 3.7/5,mb1mx3.4/29,mbtmp3.7/5,ML3.0/1,Error ellipse: s-maj=77.2km s-min=19.3km az=141.0*
*DDA **27** 06:54:10.4,37.51N×29.79E,h16km,MD3.3*
*ISCJB **27** 06:54:10.9±0.4,37.55N±0.02×29.74E±0.02,h6km±4km, mb3.7/4,Error ellipse: s-maj=3.6km s-min=3.0km az=165.7*
*CSEM **27** 06:54:11.1±0.1,37.53N×29.73E,h2km,MD3.3,Error ellipse: s-maj=3.1km s-min=2.7km az=26.0*
*THE **27** 06:54:12.5,37.56N×29.88E,h10km±3km,ML3.2/4,Error ellipse: s-maj=4.1km s-min=0.7km az=91.0*

ISC 27 06:54:11.0±1.1,37.55N±0.02×29.77E±0.02,h4km±8km, n112,σ0.92/135,mb3.6/4,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.35**	**207**	*i* P	**Pg**	**06 54 17.2**	**-0.6**
GOLH				*i* S	**Sg**	**06 54 23.1**	**+0.6**
GOLH	**Golhisar**	**0.35**	**207**	*i* P	**Pg**	**06 54 17.2**	**-0.6**
GOLH				*i* S	**Sg**	**06 54 23.1**	**+0.6**
DNZL	**Cakiroluk**	**0.59**	**284**	*i* P	**Pg**	**06 54 21.8**	**-0.5**
DNZL				*i* S	**Sg**	**06 54 31.0**	**+1.1**
DNZL	**Cakiroluk**	**0.59**	**284**	*i* P	**Pg**	**06 54 21.8**	**-0.5**
DNZL				*i* S	**Sg**	**06 54 31.0**	**+1.1**
DENT	**Denizli**	**0.61**	**289**	*e*PG	**Pg**	**06 54 22.8**	**0.0**
DENT	**Denizli**	**0.61**	**289**	*e*Pg	**Pg**	**06 54 22.8**	**0.0**
**IS

DAT	Datca	1.93	245	ePN	Pn	06 54 44.9	+0.2
DAT	Datca	1.93	245	ePn	Pn	06 54 44.9	+0.2
BODT	Bodrum	2.02	257	ePN	Pn	06 54 45.8	+0.1
BODT	Bodrum	2.02	257	ePn	Pn	06 54 45.8	+0.1
AKHS	Akhisar	2.03	311	*i* P	Pn	06 54 44.7	-1.2
AKHS	Akhisar	2.03	311	*i* P	Pn	06 54 44.7	-1.2
AKS	Akhisar	2.03	311	ePN	Pn	06 54 45.4	-0.6
AKS	Akhisar	2.03	311	ePn	Pn	06 54 45.4	-0.6
KONT	Konya--Tatoy	2.09	78	ePN	Pb	06 54 48.1	-1.4
KONT	Konya--Tatoy	2.09	78	ePn	Pb	06 54 48.1	-1.4
KIZT	Kizilcal	2.13	51	ePN	Pn	06 54 47.8	+0.4
KIZT	Kizilcal	2.13	51	ePn	Pn	06 54 47.8	+0.4
IZM	Izmir	2.15	294	ePN	Pn	06 54 47.8	+0.2
IZM	Izmir	2.15	294	ePn	Pn	06 54 47.8	+0.2
LADK	Ladik-KONYA	2.16	72	ePN	Pn	06 54 48.8	+1.0
LADK	Ladik-KONYA	2.16	72	ePn	Pn	06 54 48.8	+1.0
DST	Dursunbey	2.24	337	ePN	Pn	06 54 50.1	+1.3
DST	Dursunbey	2.24	337	ePn	Pn	06 54 50.1	+1.3
BLCB	Balcova	2.31	292	ePN	Pn	06 54 50.8	+1.1
BLCB	Balcova	2.31	292	ePn	Pn	06 54 50.8	+1.1
SMG	Samos	2.33	275	P	Pn	06 54 49.9	-0.2
SMG	Samos	2.33	275	eP	Pn	06 54 49.5	-0.6
SMG	Samos	2.33	275	P	Pn	06 54 49.9	-0.2
SVRH	Sivrihisar-ESK	2.34	36	ePN	Pn	06 54 51.7	+1.4
SVRH	Sivrihisar-ESK	2.34	36	ePn	Pn	06 54 51.7	+1.4
GAZI	Gazipasa	2.43	122	*i* P	Pn	06 54 52.3	+0.9
GAZI	Gazipasa	2.43	122	*i* P	Pn	06 54 52.3	+0.9
BALB	Balikesir	2.56	325	ePN	Pn	06 54 54.0	+0.9
BALB	Balikesir	2.56	325	ePn	Pn	06 54 54.0	+0.9
ERMK	Ermenek	2.68	109	*i* P	Pb	06 54 58.0	-1.6
ERMK	Ermenek	2.68	109	*i* P	Pb	06 54 58.0	-1.6
IZI	Iznik	2.79	355	ePN	Pn	06 54 56.9	+0.5
IZI	Iznik	2.79	355	ePn	Pn	06 54 56.9	+0.5
KARP	Karpathos	2.90	227	P	Pn	06 54 58.5	+0.6
KARP				S	Sn	06 55 33.0	-0.2
KARP	Karpathos	2.90	227	eP	Pn	06 55 00.0	+2.1
KARP	Karpathos	2.90	227	P	Pn	06 54 58.5	+0.6
KARP				S	Sn	06 55 33.0	-0.2
KCTX	Karacabey (Bur	2.92	338	ePN	Pn	06 54 59.9	+1.6
KCTX	Karacabey (Bur	2.92	338	ePn	Pn	06 54 59.9	+1.6
SULT	Sultanhani-AKS	3.04	77	ePN	Pn	06 55 01.8	+2.0
SULT	Sultanhani-AKS	3.04	77	ePn	Pn	06 55 01.8	+2.0
CHOS	Chios island	3.05	287	P	Pn	06 55 00.5	+0.5
CHOS				S	Sn	06 55 37.1	+0.2
CHOS	Chios island	3.05	287	eP	Pn	06 55 00.8	+0.8
CHOS	Chios island	3.05	287	P	Pn	06 55 00.5	+0.5
CHOS				S	Sn	06 55 37.1	+0.2
PRK	Paraskevi	3.22	303	eP	Pn	06 55 02.3	0.0
SIGR	SIGRI	3.49	300	eP	Pn	06 55 06.2	+0.2
LPK	Lapseki	3.66	321	ePN	Pn	06 55 09.3	+1.0
LPK	Lapseki	3.66	321	ePn	Pn	06 55 09.3	+1.0
BRTR	Keskin Array B	3.73	53	Pn	Pn	06 55 09.9	+0.5
	1.3nm,0.3s,baz=225,slow=15,SNR=28						
BRTR				S	Sn	06 55 54.8	+1.0
	1.2nm,0.3s,baz=230,slow=23,SNR=11						
GELI	Tayfur-Gelibol	3.83	319	ePN	Pn	06 55 11.9	+1.3
GELI	Tayfur-Gelibol	3.83	319	ePn	Pn	06 55 11.9	+1.3
NPS	Neapolis	4.05	237	eP	Pn	06 55 14.7	+0.9
LIA	Limnos Island	4.28	305	eP	Pn	06 55 13.3	-3.5
SMTH	Samothraki Isl	4.40	313	P	Pn	06 55 18.7	+0.2
SMTH				S	Sn	06 56 10.8	+0.6
SMTH	Samothraki Isl	4.40	313	eP	Pn	06 55 18.5	0.0
SMTH	Samothraki Isl	4.40	313	P	Pn	06 55 18.7	+0.2
SMTH				S	Sn	06 56 10.8	+0.6
ALN	Alexandroupoli	4.42	320	P	Pn	06 55 18.8	+0.1
ALN				S	Sn	06 56 10.2	-0.3
ALN	Alexandroupoli	4.42	320	eP	Pn	06 55 17.9	-0.8
ALN	Alexandroupoli	4.42	320	P	Pn	06 55 18.8	+0.1
ALN				S	Sn	06 56 10.2	-0.3
AOS	Alonnisos	4.90	291	P	Pn	06 55 26.4	+1.0
AOS	Alonnisos	4.90	291	eP	Pn	06 55 26.0	+0.6
AOS	Alonnisos	4.90	291	P	Pn	06 55 26.4	+1.0
VLI	Veliai	5.52	263	eP	Pn	06 55 36.2	+2.3
AKTO	Aktyubinsk	23.89	48	P	P	06 59 24.7	-0.8
	0.7nm,0.5s,baz=250,slow=11,SNR=3.5						
TORD	Torodi Ar. Bea	34.88	233	P	P	07 01 02.9	-0.7
	0.4nm,0.7s,baz=37,slow=9.2,SNR=4.0						
KURBB	Kurchatov Arra	36.72	53	P	P	07 01 18.5	-0.5
	1.8nm,0.5s,baz=275,slow=8.9,SNR=14						
MKAR	Makanchi Array	39.36	59	P	P	07 01 40.6	-0.7
	1.2nm,0.7s,baz=278,slow=7.3,SNR=7.5						

NNC 27 07:09:39.3±0.4, 50.01N×78.72E, h0km, mb 3.5, mpv 3.2, 8C-4D, Error ellipse: s-maj=6.8km s-min=2.3km az=79.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.59	348	P		Pg	07 09 50.9	+0.3
KUR07				S		Sg	07 09 59.8	+1.5
KUR06	Kurchatov Arra	0.61	348	P		Pg	07 09 51.3	+0.3
KUR06				S		Sg	07 10 00.0	+1.1
KUR14	Kurchatov Arra	0.61	353	P		Pg	07 09 51.3	+0.1
KUR14				S		Sg	07 10 00.1	+1.1
KUR15	Kurchatov Arra	0.62	351	P		Pg	07 09 51.4	+0.1
KUR15				S		Sg	07 10 00.8	+1.5
KURBB	Kurchatov Arra	0.63	349	⇑P		Pg	07 09 51.7	+0.3
	54nm,0.3s							
KURBB				⇑S		Sg	07 10 00.6	+1.1
	319nm,0.7s							
KUR16	Kurchatov Arra	0.64	348	P		Pg	07 09 51.8	+0.3
KUR16				S		Sg	07 10 00.7	+0.9
KUR17	Kurchatov Arra	0.65	346	P		Pg	07 09 51.9	+0.2
KUR17				S		Sg	07 10 01.2	+1.1
KUR05	Kurchatov Arra	0.65	350	P		Pg	07 09 52.0	+0.3
KUR05				S		Sg	07 10 00.6	+0.5
KUR04	Kurchatov Arra	0.67	351	P		Pg	07 09 52.3	+0.2
KUR04				S		Sg	07 10 01.2	+0.4
KURK	Kurchatov	0.71	355	⇑P		Pg	07 09 53.0	0.0
	15nm,0.4s							
KURK				⇓S		Sg	07 10 03.0	+0.7
	50nm,1.0s							
MK31	Makanchi Array	4.00	142	Pn		Pn	07 10 44.0	+2.1
	0.5nm,0.2s,baz=278,slow=6.3,SNR=73							
MK31				⇑Pg		Pb	07 10 51.6	+0.8
	2.6nm,0.3s,baz=325,slow=14,SNR=27							
MK31				⇑Lg		Lg	07 11 44.7	
	19nm,0.6s,baz=330,slow=26,SNR=24							
BVA0	Borovoye Array	6.01	303	⇑Pn		Pn	07 11 10.7	+1.2
	1.9nm,0.9s,baz=108,slow=15,SNR=4.2							
BVA0				⇓Sn		Sn	07 12 19.4	+0.4
	4.7nm,0.6s,baz=116,slow=23,SNR=12							
BVA0				⇓Lg		Lg	07 12 51.7	
	3.7nm,0.5s							
BRVK	Borovoye	6.08	303	⇓Pn		Pn	07 11 10.7	+0.3
	1.4nm,0.5s							
BRVK				⇑Sn		Sn	07 12 20.3	-0.5
	9.0nm,0.7s							
BRVK				⇑Lg		Lg	07 12 52.0	
	8.6nm,0.5s							

SKO 27 07:55:59.0, 41.26N×22.70E, h20km, M2.8, ML3.2
CSEM 27 07:55:59.9±0.1, 41.27N×22.70E, h5km, ML3.1, Error ellipse: s-maj=2.1km s-min=1.8km az=73.0
BEO 27 07:55:59.2±0.5, 41.19N×22.74E, h0km, ML3.2/1
ATH 27 07:55:59.3, 41.28N×22.73E, h23km, MD3.6/34
ISCJB 27 07:55:59.3±0.3, 41.27N±0.01×22.72E±0.01, h6km±2km, Error ellipse: s-maj=2.0km s-min=1.8km az=144.2
SOF 27 07:56:00.3, 41.39N×22.70E, h2km, MD3.3
THE 27 07:56:00.1, 41.29N×22.74E, h8km, ML3.5/15, Error ellipse: s-maj=0.6km s-min=0.4km az=38.0
TIR 27 07:56:05.3, 41.47N×22.68E, h0km, ML3.8

ISC 27 07:56:00.0±0.8, 41.29N±0.01×22.72E±0.01, h11km±4km, n276, σ1s02/371, 31C-8D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VAY	Valandovo	0.12	288	P		Pg	07 56 02.7	-0.3
VAY				S		Sg	07 56 04.7	-0.4
VAY	Valandovo	0.12	288	ePg		Pg	07 56 02.7	-0.3
VAY	Valandovo	0.12	288	⇑*i*Pg		Pg	07 56 03.2	+0.2
VAY				*i* Lg		Lg	07 56 05.2	
	comp=E,17μm,0.2s							
VAY				*i* Sg		Sg	07 56 05.3	+0.1
VAY				*i* Lg		Lg	07 56 05.3	
	comp=N,26μm,0.3s							
VAY	Valandovo	0.12	288	P		Pg	07 56 02.7	-0.3
VAY				S		Sg	07 56 04.7	-0.4
VAY				*i* Sg		Sg	07 56 05.2	+0.1
VAY				*i* Lg		Lg	07 56 05.3	
	comp=N,26μm,0.3s							
KNT	Kendrikon	0.18	132	P		Pg	07 56 04.2	+0.2
KNT				S		Sg	07 56 07.0	+0.1
KNT	Kendrikon	0.18	132	ePB		Pg	07 56 04.3	+0.2
KNT				eSB		Sg	07 56 07.9	+1.0
KNT	Kendrikon	0.18	132	P		Pg	07 56 04.2	+0.2
KNT				S		Sg	07 56 07.0	+0.1
GRG	Griva	0.41	216	P		Pg	07 56 07.9	-0.2
GRG				S		Sg	07 56 14.0	+0.6
GRG	Griva	0.41	216	ePB		Pg	07 56 07.9	-0.2
GRG				eSB		Sg	07 56 14.1	+0.6
GRG	Griva	0.41	216	P		Pg	07 56 07.9	-0.2
GRG				S		Sg	07 56 14.0	+0.6
KKB	Krupnik	0.64	25	*i* Pg		Pg	07 56 11.9	-0.6
KKB	Krupnik	0.64	25	*i* P		Pg	07 56 11.9	-0.6
KKB	Krupnik	0.64	25	*i* Pg		Pg	07 56 11.9	-0.6
SOH	Sokhos	0.67	134	P		Pg	07 56 12.6	-0.4
SOH				S		Sg	07 56 21.7	-0.1
SOH	Sokhos	0.67	134	ePN		Pg	07 56 12.6	-0.4
SOH				eSN		Sg	07 56 21.9	+0.1
SOH	Sokhos	0.67	134	P		Pg	07 56 12.6	-0.4
SOH				S		Sg	07 56 21.7	-0.1
THE	Thessaloniki	0.68	164	P		Pg	07 56 12.8	-0.4
THE				S		Sb	07 56 23.0	-0.2
THE	Thessaloniki	0.68	164	ePN		Pg	07 56 12.8	-0.4
THE				eSN		Sg	07 56 22.2	+0.1
THE	Thessaloniki	0.68	164	P		Pg	07 56 12.8	-0.4
THE				eSn		Sg	07 56 22.2	+0.1
THE				S		Sb	07 56 23.0	-0.2
SRS	Serrai	0.68	104	P		Pg	07 56 12.8	-0.5
SRS				S		Sg	07 56 22.7	+0.5
SRS	Serrai	0.68	104	ePN		Pg	07 56 12.9	-0.4
SRS				eSN		Sg	07 56 22.4	+0.2
SRS	Serrai	0.68	104	P		Pg	07 56 12.8	-0.5
SRS				eSn		Sg	07 56 22.4	+0.2
HORT	Hortiatis	0.75	157	P		Pg	07 56 14.1	-0.4
HORT				S		Sb	07 56 25.3	0.0
HORT	Hortiatis	0.75	157	ePN		Pg	07 56 14.1	-0.4
HORT				eSN		Sg	07 56 24.1	-0.1
HORT	Hortiatis	0.75	157	P		Pg	07 56 14.1	-0.4
HORT				eSn		Sg	07 56 24.1	-0.1
HORT				S		Sb	07 56 25.3	0.0
MMB	Musomiste	0.82	68	⇓*i*P		Pg	07 56 15.3	-0.6
MMB	Musomiste	0.82	68	S		Sg	07 56 26.8	+0.2
MMB	Musomiste	0.82	68	*i* Pg		Pg	07 56 15.5	-0.4
MMB	Musomiste	0.82	68	P		Pg	07 56 15.3	-0.6
MMB	Musomiste	0.82	68	*i* Pg		Pg	07 56 15.5	-0.4
NVR	Nevrokopi	0.87	85	P		Pg	07 56 16.1	-0.6
NVR				S		Sg	07 56 28.5	+0.4
NVR	Nevrokopi	0.87	85	ePN		Pg	07 56 16.2	-0.5
NVR				eSN		Sg	07 56 27.9	-0.2
NVR	Nevrokopi	0.87	85	P		Pg	07 56 16.1	-0.6
NVR				eSn		Sg	07 56 27.9	-0.2
NVR				S		Sg	07 56 28.5	+0.4
PLG	Polygyros	1.07	148	P		Pb	07 56 19.7	-0.8
PLG				S		Sn	07 56 35.8	+0.1
PLG	Polygyros	1.07	148	ePN		Pb	07 56 19.6	-0.9
PLG				eSN		Sb	07 56 33.4	-1.0
PLG	Polygyros	1.07	148	P		Pb	07 56 19.7	-0.8
PLG				eSn		Sb	07 56 33.4	-1.0
PLG				S		Sn	07 56 35.8	+0.1
BIA	Bitola	1.08	256	P		Pg	07 56 21.2	+0.3
BIA	Bitola	1.08	256	P		Pg	07 56 21.2	+0.3
FNA	Florina	1.13	244	P		Pb	07 56 20.8	-0.8
FNA				S		Sn	07 56 38.3	+0.9
FNA	Florina	1.13	244	ePN		Pb	07 56 20.7	-0.8
FNA				eSN		Sn	07 56 36.8	-0.6
FNA	Florina	1.13	244	P		Pb	07 56 20.8	-0.8
FNA				eSn		Sn	07 56 36.8	-0.6
FNA				S		Sn	07 56 38.3	+0.9
SKO	Skopje	1.18	306	P		Pn	07 56 21.9	-0.5
SKO				S		Sb	07 56 37.3	-0.3
SKO	Skopje	1.18	306	ePg		Pb	07 56 22.3	-0.1
SKO				eSg		Sg	07 56 38.3	+0.3
SKO	Skopje	1.18	306	*i* Pg		Pg	07 56 22.8	+0.1
SKO				*i* Sg		Sg	07 56 38.8	+0.8
SKO	Skopje	1.18	306	P		Pn	07 56 21.9	-0.5
SKO	Skopje	1.18	306	*i* Pg		Pg	07 56 22.8	+0.1
SKO				S		Sb	07 56 37.3	-0.3
SKO				eSg		Sg	07 56 38.3	+0.3
LIT	Litokhoron	1.20	188	P		Pn	07 56 21.7	-1.0
LIT				S		Sg	07 56 40.0	+1.5
LIT	Litokhoron	1.20	188	ePN		Pn	07 56 21.5	-1.2
LIT				eSN		Sg	07 56 38.7	+0.2
LIT	Litokhoron	1.20	188	P		Pn	07 56 21.7	-1.0
LIT				eSn		Sg	07 56 38.7	+0.2
LIT				S		Sg	07 56 40.0	+1.5
KZN	Kozani	1.21	217	P		Pn	07 56 22.5	-0.4
KZN				S		Sg	07 56 40.7	+1.6
KZN	Kozani	1.21	217	ePN		Pn	07 56 22.6	-0.4
KZN				eSN		Sg	07 56 39.4	+0.3
KZN	Kozani	1.21	217	P		Pn	07 56 22.5	-0.4
KZN				eSn		Sg	07 56 39.4	+0.3
KZN				S		Sg	07 56 40.7	+1.6
OUR	Ouranopolis	1.35	134	P		Pn	07 56 24.6	-0.2
OUR				S		Sb	07 56 42.7	+0.1
OUR	Ouranopolis	1.35	134	ePN		Pn	07 56 24.7	-0.1
OUR				eSN		Sb	07 56 43.0	+0.4
OUR	Ouranopolis	1.35	134	P		Pn	07 56 24.6	-0.2
OUR				S		Sb	07 56 42.7	+0.1
OUR				eSn		Sb	07 56 43.0	+0.4
VTS	Vitosha	1.36	16	P		Pn	07 56 24.6	-0.4
VTS				S		Sn	07 56 43.0	-0.1
VTS	Vitosha	1.36	16	ePg		Pn	07 56 25.3	+0.3
VTS				eSg		Sg	07 56 44.9	+1.2
VTS	Vitosha	1.36	16	⇓*i*P		Pn	07 56 25.0	0.0
VTS	Vitosha	1.36	16	*i* Pg		Pn	07 56 25.0	0.0
VTS	Vitosha	1.36	16	*i* P		Pn	07 56 25.4	+0.4
VTS	Vitosha	1.36	16	P		Pn	07 56 24.6	-0.4
VTS	Vitosha	1.36	16	ePg		Pn	07 56 25.3	+0.3
VTS				S		Sn	07 56 43.0	-0.1
VTS				eSg		Sg	07 56 44.9	+1.2
KAVA	Kavala	1.39	101	P		Pn	07 56 25.3	0.0
KAVA				S		Sb	07 56 44.0	+0.3
KAVA	Kavala	1.39	101	ePN		Pn	07 56 25.1	-0.2
KAVA				eSN		Sb	07 56 44.0	+0.3
KAVA	Kavala	1.39	101	P		Pn	07 56 25.3	0.0
KAVA				S		Sb	07 56 44.0	+0.3
OHR	Ohrid	1.46	264	*i* Pg		Pn	07 56 25.2	-1.2
OHR				*i* Sg		Sb	07 56 46.1	+0.3
OHR				*i* Lg		Lg	07 56 50.9	
	comp=E,258nm,0.8s							
OHR				*i* Lg		Lg	07 56 53.7	
	comp=N,227nm,0.6s							
OHR	Ohrid	1.46	264	*i* Pg		Pn	07 56 25.1	-1.2
OHR				*i* Sg		Sb	07 56 46.0	+0.3
OHR				*i* Lg		Lg	07 56 50.9	
	comp=N,258nm,0.8s							
NEST	Nestorio	1.53	236	P		Pn	07 56 27.4	0.0
NEST				S		Sb	07 56 47.4	-0.6
NEST	Nestorio	1.53	236	ePN		Pn	07 56 27.4	0.0
NEST				eSN		Sb	07 56 48.2	+0.2
NEST	Nestorio	1.53	236	P		Pn	07 56 27.4	0.0
NEST				S		Sb	07 56 47.4	-0.6
NEST				eSn		Sb	07 56 48.2	+0.2
PAIG	Paliouri	1.54	151	P		Pn	07 56 27.2	-0.2
PAIG				S		Sb	07 56 47.9	-0.2
PAIG	Paliouri	1.54	151	ePN		Pn	07 56 27.1	-0.3
PAIG				eSN		Sb	07 56 47.8	-0.3
PAIG	Paliouri	1.54	151	P		Pn	07 56 27.2	-0.2
PAIG				S		Sb	07 56 47.9	-0.2
RZN	Rozhen	1.56	74	*i* P		Pb	07 56 29.5	+0.6
RZN	Rozhen	1.56	74	*i* P		Pb	07 56 29.5	+0.6
RZN	Rozhen	1.56	74	*i* P		Pb	07 56 29.5	+0.6
KBN	Korca	1.60	246	*i* SN		Pg	07 56 30.3	-0.5
KBN				*i* PN		Sg	07 56 54.7	+3.1
KBN	Korca	1.60	246	P		Pb	07 56 28.8	-0.9
KBN	Korca	1.60	246	P		Pb	07 56 28.8	-0.9
PGB	Panagyurishte	1.66	40	*i* P		Pb	07 56 30.3	-0.5
PGB	Panagyurishte	1.66	40	*i* P		Pb	07 56 30.2	-0.5
PGB	Panagyurishte	1.66	40	*i* P		Pb	07 56 30.3	-0.5
BARS	Barje	1.67	337	ePn		Pb	07 56 30.2	-0.6
BARS				eSn		Sg	07 56 55.3	+1.5
BARS	Barje	1.67	337	ePn		Pb	07 56 30.2	-0.6
BARS				eSn		Sg	07 56 55.3	+1.5
PLD	Plovdiv	1.70	61	P		Pb	07 56 30.7	-0.6
PLD	Plovdiv	1.70	61	ePn		Pb	07 56 31.5	+0.2
PLD				eSn		Sb	07 56 53.5	+0.9
PLD	Plovdiv	1.70	61	*i* P		Pb	07 56 31.3	0.0
PLD	Plovdiv	1.70	61	*i* P		Pb	07 56 31.7	+0.4
PLD	Plovdiv	1.70	61	P		Pb	07 56 30.7	-0.6
PLD	Plovdiv	1.70	61	ePn		Pb	07 56 31.5	+0.2
PLD				eSn		Sb	07 56 53.5	+0.9
PHP	Peshkopia	1.75	284	*i* SN		Pg	07 56 37.8	+4.1
PHP				*i* PN		Sb	07 56 54.1	-0.1
PHP	Peshkopia	1.75	284	P		Pn	07 56 30.1	-0.3
PHP				S		Sb	07 56 54.2	-0.1
PHP	Peshkopia	1.75	284	P		Pn	07 56 30.1	-0.3
PHP				S		Sb	07 56 54.2	-0.1
THL	Klokotos Trika	1.80	198	P		Pn	07 56 30.9	-0.1
THL				S		Sb	07 56 54.2	-1.3
THL	Klokotos Trika	1.80	198	ePN		Pn	07 56 31.5	+0.5
THL	Klokotos Trika	1.80	198	P		Pn	07 56 30.9	-0.1
THL	Klokotos Trika	1.80	198	ePn		Pn	07 56 31.5	+0.5
THL				S		Sb	07 56 54.2	-1.3
XOR	Xorichti	1.95	169	P		Pn	07 56 32.6	-0.5
XOR				S		Sn	07 56 57.7	+0.1
XOR	Xorichti	1.95	169	ePB		Pn	07 56 32.7	-0.4
XOR	Xorichti	1.95	169	P		Pn	07 56 32.6	-0.5
XOR				S		Sn	07 56 57.7	+0.1
ZAPS	Zavoj	1.99	358	ePn		Pb	07 56 35.6	-0.6
ZAPS				eSn		Sb	07 57 01.4	+0.4
NEO	Neokhori	2.01	169	P		Pn	07 56 33.7	-0.3
NEO	Neokhori	2.01	169	ePB		Pn	07 56 33.6	-0.4
NEO	Neokhori	2.01	169	P		Pn	07 56 33.7	-0.3
KDZ	Kurdzhali	2.06	79	⇑*i*P		Pb	07 56 37.0	-0.5
KDZ	Kurdzhali	2.06	79	S		Sb	07 57 03.8	+0.7
KDZ	Kurdzhali	2.06	79	*i* P		Pb	07 56 36.5	-1.0
KDZ	Kurdzhali	2.06	79	*i* P		Pb	07 56 36.3	-1.2
KDZ	Kurdzhali	2.06	79	*i* P		Pb	07 56 36.5	-1.0
RDO	Rodhopi	2.13	93	ePN		Pn	07 56 35.9	+0.3
RDO	Rodhopi	2.13	93	ePn		Pn	07 56 35.9	+0.3
TIR	Tirane	2.15	273	ePn		Pn	07 56 37.0	+1.2
TIR	Tirane	2.15	273	ePn		Pn	07 56 37.0	+1.2
MPEP	Malo Peshtene	2.20	20	P		Pn	07 56 37.2	+0.6
MPEP	Malo Peshtene	2.20	20	*i* P		Pn	07 56 37.2	+0.6
DIM	Dimitrovgrad	2.25	69	*i* P		Pb	07 56 41.0	+0.4
DIM	Dimitrovgrad	2.25	69	*i* P		Pb	07 56 41.6	+1.0
DIM	Dimitrovgrad	2.25	69	*i* P		Pb	07 56 41.0	+0.4
PUK	Puka	2.25	291	*i* PN		Pn	07 56 37.0	-0.2
PUK				*i* SN		Sb	07 57 09.3	+0.8
PUK	Puka	2.25	291	*i* Pn		Pn	07 56 37.0	-0.2
PUK				*i* Sn		Sb	07 57 09.3	+0.8
SELS	Selova	2.27	329	ePn		Pb	07 56 41.0	0.0
SELS				eSn		Sb	07 57 09.1	+0.1
AGG	Agios Georgios	2.28	188	P		Pn	07 56 37.8	+0.2
AGG	Agios Georgios	2.28	188	ePN		Pn	07 56 37.5	-0.1
AGG	Agios Georgios	2.28	188	ePn		Pn	07 56 37.5	-0.1
AGG	Agios Georgios	2.28	188	P		Pn	07 56 37.8	+0.2
SMTH	Samothraki Isl	2.28	110	P		Pn	07 56 37.1	-0.6
SMTH	Samothraki Isl	2.28	110	ePN		Pn	07 56 37.2	-0.5
SMTH	Samothraki Isl	2.28	110	ePn		Pn	07 56 37.2	-0.5
AOS	Alonnisos	2.29	157	P		Pn	07 56 37.2	-0.6
AOS	Alonnisos	2.29	157	ePN		Pn	07 56 37.2	-0.6
AOS	Alonnisos	2.29	157	P		Pn	07 56 37.2	-0.6
MAKR	Makrakomi, Fth	2.31	191	P		Pn	07 56 38.5	+0.4
MAKR	Makrakomi, Fth	2.31	191	ePN		Pn	07 56 38.4	+0.4
MAKR	Makrakomi, Fth	2.31	191	ePn		Pn	07 56 38.4	+0.4
LIA	Limnos Island	2.33	126	P		Pn	07 56 38.2	-0.1
LIA	Limnos Island	2.33	126	ePB		Pn	07 56 39.0	+0.7
LIA	Limnos Island	2.33	126	P		Pn	07 56 38.2	-0.1
LIA	Limnos Island	2.33	126	ePb		Pn	07 56 39.0	+0.7
SMIA	Simia	2.43	171	P		Pn	07 56 39.7	0.0
SMIA	Simia	2.43	171	ePN		Pn	07 56 39.7	0.0
SMIA	Simia	2.43	171	P		Pn	07 56 39.7	0.0
EVR	Evrytania	2.47	197	ePB		Pn	07 56 41.0	+0.8
EVR	Evrytania	2.47	197	ePb		Pn	07 56 41.0	+0.8
DSL	Palaion Diasel	2.48	211	ePB		Pn	07 56 41.6	+1.2

BBLS	**Lazići**	**3.55**	**318**	*e*Pn		Pn	07 56 58.6	+3.4
TREB	**Trebinje**	**3.55**	**295**	*e*Sn		**Sn**	**07 57 38.7**	**+1.6**
TREB	**Trebinje**	**3.55**	**295**	*e*Sn		**Sn**	**07 57 38.7**	**+1.6**
HUMR	**Humele**	**3.64**	**26**	⇓*i*P		**Pg**	**07 57 09.1**	**-0.7**
HUMR	**Humele**	**3.64**	**26**	S		**Sg**	**07 57 55.2**	**-1.8**
MRMT	**Marmara Adasi**	**3.76**	**99**	*e*P		**Pn**	**07 56 58.7**	**+0.7**
MRMT	**Marmara Adasi**	**3.76**	**99**	*e*P		**Pn**	**07 56 58.7**	**+0.7**
DID	**Didima**	**3.80**	**174**	*e*PN		**Pn**	**07 56 58.6**	**+0.1**
DID	**Didima**	**3.80**	**174**	*e*PN		**Pn**	**07 56 58.6**	**+0.1**
CHOS	**Chios island**	**3.87**	**137**	*e*PN		**Pn**	**07 57 00.3**	**+0.8**
CHOS	**Chios island**	**3.87**	**137**	*e*Pn		**Pn**	**07 57 00.3**	**+0.8**
VLX	**Vlachokerasia**	**3.92**	**184**	*e*PN		**Pn**	**07 57 01.2**	**+1.0**
VLX	**Vlachokerasia**	**3.92**	**184**	*e*Pn		**Pn**	**07 57 01.2**	**+1.0**
TEKS	**Tekeris**	**4.01**	**325**	*e*Pn		**Pn**	**07 57 01.5**	**0.0**
TEKS	**Tekeris**	**4.01**	**325**	*e*Pn		**Pn**	**07 57 01.5**	**0.0**
STON	**Ston**	**4.05**	**295**	*e*Pn		**Pn**	**07 57 00.7**	**-1.2**
STON	**Ston**	**4.05**	**295**	*e*Pn		**Pn**	**07 57 00.7**	**-1.2**
GZR	**Gura Zlata**	**4.11**	**1**	⇑*i*P		**Pn**	**07 57 02.7**	**-0.1**
GZR	**Gura Zlata**	**4.11**	**1**	⇑*i*P		**Pn**	**07 57 02.7**	**-0.1**
LOT	**Lotru**	**4.23**	**10**	⇑*i*P		**Pn**	**07 57 04.5**	**0.0**
LOT	**Lotru**	**4.23**	**10**	⇑*i*P		**Pn**	**07 57 04.5**	**0.0**
LOT				S		**Sn**	**07 57 52.6**	**-1.4**
ARR	**Arges**	**4.31**	**18**	⇑*i*P		**Pn**	**07 57 07.4**	**+1.8**
ARR	**Arges**	**4.31**	**18**	⇑*i*P		**Pn**	**07 57 07.4**	**+1.8**
BZS	**Buzias**	**4.40**	**350**	⇑*i*P		**Pn**	**07 57 06.1**	**-0.7**
BZS	**Buzias**	**4.40**	**350**	S		**Sg**	**07 58 16.5**	**-4.8**
BZS	**Buzias**	**4.40**	**350**	⇑*i*P		**Pn**	**07 57 06.1**	**-0.7**
FGSL	**Fruska Gora**	**4.41**	**332**	*e*Pn		**Pn**	**07 57 08.0**	**+1.1**
FRGS	**Fruska Gora**	**4.41**	**332**	*e*Pn		**Pn**	**07 57 08.0**	**+1.1**
VOIR		**4.49**	**22**	⇓*i*P		**Pn**	**07 57 09.3**	**+1.3**
VOIR		**4.49**	**22**	⇓*i*P		**Pn**	**07 57 09.3**	**+1.3**
ISR	**Istrita**	**4.74**	**35**	⇑*i*P		**Pn**	**07 57 13.8**	**+2.3**
ISR	**Istrita**	**4.74**	**35**	⇑*i*P		**Pn**	**07 57 13.8**	**+2.3**
MLR	**Muntele Rosu**	**4.82**	**28**	⇑*i*P		**Pn**	**07 57 14.3**	**+1.7**
MLR	**Muntele Rosu**	**4.82**	**28**	⇑*i*P		**Pn**	**07 57 14.3**	**+1.7**
TLB	**Topalu**	**5.12**	**48**	⇑*i*P		**Pn**	**07 57 18.6**	**+2.1**
TLB	**Topalu**	**5.12**	**48**	S		**Sg**	**07 58 40.5**	**-3.7**
TLB	**Topalu**	**5.12**	**48**	⇑*i*P		**Pn**	**07 57 18.6**	**+2.1**
HARR	**Harsova**	**5.12**	**47**	⇑*i*P		**Pn**	**07 57 18.3**	**+1.7**
HARR	**Harsova**	**5.12**	**47**	⇑*i*P		**Pn**	**07 57 18.3**	**+1.7**
TIRR	**Tirgusor**	**5.25**	**51**	⇓*i*P		**Pn**	**07 57 19.3**	**+0.9**
TIRR	**Tirgusor**	**5.25**	**51**	⇓*i*P		**Pn**	**07 57 19.3**	**+0.9**
PLOR	**Plostina**	**5.38**	**31**	⇑*i*P		**Pn**	**07 57 22.4**	**+2.1**
PLOR	**Plostina**	**5.38**	**31**	⇑*i*P		**Pn**	**07 57 22.4**	**+2.1**
VRI	**Vrincioaia**	**5.43**	**31**	⇑*i*P		**Pn**	**07 57 22.9**	**+2.0**
VRI	**Vrincioaia**	**5.43**	**31**	⇑*i*P		**Pn**	**07 57 22.9**	**+2.0**
CFR	**Carcaliu**	**5.55**	**44**	⇑*i*P		**Pn**	**07 57 24.4**	**+1.9**
CFR	**Carcaliu**	**5.55**	**44**	S		**Sg**	**07 58 53.7**	**-4.4**
CFR	**Carcaliu**	**5.55**	**44**	⇑*i*P		**Pn**	**07 57 24.4**	**+1.9**
PKSM	**Moragy**	**5.74**	**330**	⇑*i*P		**Pn**	**07 57 24.8**	**-0.3**
PKSM	**Moragy**	**5.74**	**330**	⇑*i*P		**Pn**	**07 57 24.8**	**-0.3**
SOKA	**Soboth**	**7.73**	**317**	⇓*i*Pn		**Pn**	**07 57 53.4**	**+0.9**
SOKA	**Soboth**	**7.73**	**317**	Pn		**Pn**	**07 57 53.4**	**+0.9**
OBKA	**Obir**	**7.87**	**314**	⇑*i*Pn		**Pn**	**07 57 55.2**	**+0.7**
OBKA	**Obir**	**7.87**	**314**	Pn		**Pn**	**07 57 55.2**	**+0.7**
STHS	**Stebnicka Huta**	**8.20**	**353**	*e*PN		**Pn**	**07 57 57.0**	**-1.9**

MEX 27 07:58:17.3±0.7, 32°30N×115°05W, h36km±14km, MD3.6, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.16**	**310**	*e*P	Pn	07 58 22.8	-4.9
SPIG	**San Pedro Mart**	**1.30**	**196**	*e*P	Pn	07 58 36.0	-3.3
SPIG				*e*S	Sn	07 58 53.1	-2.7
CBX	**Cerro Bola**	**1.37**	**271**	*e*P	Pn	07 58 39.5	-0.5
CBX				*e*S	Sn	07 58 54.4	-2.6

IDC 27 08:57:40.4±4.3, 30°48N×139°13E, h431km±121km, mb2.5/2, mb1 2.7/4, mb1mx2.4/40, mbtmp3.3/4, Error ellipse: s-maj=257.8km s-min=66.6km az=72.0
JMA 27 08:57:42.7±0.4, 30°88N×138°99E, h462km, M3.3
ISC 27 08:57:39.7±1.1, 30°39N±0°08×138°9E±0°2, h411km, n13, σ2s62/15, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.40**	**137**	S	**S**	**08 59 59.0**	**+0.6**
	24nm,0.3s,baz=277,slow=22,SNR=6.2						
BSO1	**Boso 1**	**4.62**	**22**	P	**P**	**08 59 00.4**	**+3.0**
BSO1				*e*S	**S**	**09 00 03.4**	**+2.3**
BSO3	**Boso 3**	**4.62**	**17**	*e*S	**S**	**09 00 01.9**	**+0.2**
BSO4	**Boso 4**	**4.76**	**15**	*e*S	**S**	**09 00 07.8**	**+3.3**
JHU	**Hanno**	**5.46**	**4**	*e*S	**S**	**09 00 14.6**	**-3.3**
JWT	**Wachi**	**5.68**	**330**	P	**P**	**08 59 11.3**	**+2.4**
JYT	**Yasato**	**5.93**	**11**	*e*S	**S**	**09 00 22.8**	**-4.1**
JAG	**Ashikaga**	**6.04**	**5**	P	**P**	**08 59 13.1**	**+0.4**
JAG				*e*S	**S**	**09 00 25.7**	**-3.4**
MJAR	**Matsushiro Arr**	**6.16**	**355**	P	**P**	**08 59 14.8**	**+0.8**
	0.5nm,0.3s,baz=172,slow=12,SNR=5.5						
JHO	**Hitachi**	**6.37**	**13**	*e*S	**S**	**09 00 32.3**	**-3.3**
USRK	**Ussuriysk Ar.**	**14.82**	**340**	P	**P**	**09 00 49.6**	**0.0**
	0.2nm,0.3s,baz=141,slow=16,SNR=3.5						
WRA	**Warramunga Arr**	**50.23**	**186**	P	**P**	**09 05 55.9**	**-0.2**
	0.2nm,0.3s,baz=3.6,slow=7.8,SNR=14						
ASAR	**Alice Springs**	**53.96**	**186**	P	**P**	**09 06 23.1**	**0.0**
	0.2nm,0.5s,baz=355,slow=5.8,SNR=4.8						

MEX 27 09:12:35.2±0.6, 17°79N×96°82W, h78km±13km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**0.72**	**173**	*e*P	Pn	09 12 49.7	-1.6
VHO				*e*S	Sn	09 13 01.1	-2.0
TPIG	**Tehuac#an**	**0.81**	**320**	*e*P	Pn	09 12 50.8	-1.3
TPIG				*e*S	Sn	09 13 03.1	-1.6
PNIG	**Pinotepa**	**1.87**	**222**	*e*P	Pn	09 13 02.2	-3.2
PNIG				*e*S	Sn	09 13 27.6	-0.7
CMIG	**Matias Romero**	**1.98**	**110**	*e*P	Pn	09 13 05.7	-1.1
CMIG				*e*S	Sn	09 13 29.0	-1.8
HUIG	**Huatulco**	**2.13**	**161**	*e*P	Pn	09 12 59.9	-8.9
HUIG				*e*S	Sn	09 13 34.5	+0.2

PGC 27 09:20:27.1±5.2, 72°95N×136°71W, h35km, MLSn3.8/1, 398km west of Sachs Harbour, Nt Beaufort Sea, Beaufort Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**4.78**	**166**	Pn	Pn	09 21 35.8	-0.7
INK				Sn	Sn	09 22 26.2	-4.4
DAWY	**Dawson**	**8.98**	**188**	Pn	Pn	09 22 31.7	-2.4
DAWY				Sn	Sn	09 24 05.4	-8.5
ROMN	**Roman Lake**	**10.96**	**133**	P	Pn	09 22 59.5	-1.6
ROMN				S	Sn	09 24 51.2	-11
GALN	**Gameti Lake**	**11.28**	**132**	P	Pn	09 23 04.2	-1.3
GALN				S	Sn	09 24 58.2	-12
RES	**Resolute Bay**	**11.60**	**62**	P	Pn	09 23 07.3	-2.5
RES				S	Sn	09 25 05.7	-12
HYT	**Haines Junctio**	**12.18**	**182**	P	Pn	09 23 15.2	-2.8
EUNU	**Eureka**	**13.17**	**36**	P	Pn	09 23 28.7	-2.6
YKB0	**Yellowknife Ar**	**13.20**	**130**	P	Pn	09 23 28.9	-2.8
YKB9	**Yellowknife Ar**	**13.22**	**130**	P	Pn	09 23 30.0	-2.0
YKR1	**Yellowknife Ar**	**13.23**	**131**	P	Pn	09 23 28.8	-3.3
YKR2	**Yellowknife Ar**	**13.24**	**131**	P	Pn	09 23 29.7	-2.5
YKW3	**Yellowknife Ar**	**13.24**	**130**	P	Pn	09 23 30.4	-1.8
YKB8	**Yellowknife Ar**	**13.24**	**130**	P	Pn	09 23 30.5	-1.7
YKR3	**Yellowknife Ar**	**13.25**	**131**	P	Pn	09 23 29.7	-2.6
YKR4	**Yellowknife Ar**	**13.26**	**131**	P	Pn	09 23 29.9	-2.6
YKB7	**Yellowknife Ar**	**13.26**	**130**	P	Pn	09 23 29.8	-2.7
YKR5	**Yellowknife Ar**	**13.27**	**131**	P	Pn	09 23 30.0	-2.7
YKR6	**Yellowknife Ar**	**13.28**	**131**	P	Pn	09 23 30.2	-2.6
YKB6	**Yellowknife Ar**	**13.28**	**131**	P	Pn	09 23 30.3	-2.5
YKB3	**Yellowknife Ar**	**13.34**	**131**	P	Pn	09 23 31.1	-2.6
YKB2	**Yellowknife Ar**	**13.36**	**131**	P	Pn	09 23 31.4	-2.5
SNLN	**Sandy Lake, NW**	**14.71**	**118**	P	Pn	09 23 49.5	-2.8
DLBC	**Dease Lake**	**14.81**	**166**	P	Pn	09 23 51.3	-2.5
FNBB	**Fort Nelson**	**15.11**	**152**	P	Pn	09 23 54.3	-3.4
GDLN	**Gardenia Lake,**	**15.81**	**118**	P	Pn	09 24 05.3	-1.4

DDA 27 09:20:58.4, 37°19N×27°87E, h7km, MD2.6
CSEM 27 09:20:58.4±0.3, 37°18N×27°90E, h1km, MD2.5, Error ellipse: s-maj=8.8km s-min=5.7km az=167.0, Mining explosion.
ISK 27 09:20:57.8, 37°19N×27°88E, h13km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.33**	**100**	*e*PG	Pg	09 21 04.9	+0.3
YER				*e*SG	Sb	09 21 10.2	-0.7
YER	**Yerkesik**	**0.33**	**100**	*e*Pg	Pg	09 21 04.9	+0.3
YER				*e*Sg	Sb	09 21 10.2	-0.6
BDRM	**Kayabasi**	**0.37**	**250**	*i* P	Pg	09 21 05.1	-0.2
BDRM				*i* S	Sb	09 21 11.7	-0.3
BDRM	**Kayabasi**	**0.37**	**250**	*i* P	Pg	09 21 05.1	-0.2
BDRM				*i* S	Sb	09 21 11.7	-0.3
BODT	**Bodrum**	**0.47**	**254**	*e*PG	Pg	09 21 07.2	0.0
BODT				*e*SG	Sb	09 21 14.9	0.0
BODT	**Bodrum**	**0.47**	**254**	*e*Pg	Pg	09 21 07.2	0.0
BODT				*e*Sg	Sb	09 21 14.9	-0.1
DAT	**Datca**	**0.52**	**208**	*e*PG	Pg	09 21 08.5	+0.3
DAT				*e*SG	Sb	09 21 16.4	-0.1
DAT	**Datca**	**0.52**	**208**	*e*Pg	Pg	09 21 08.5	+0.3
DAT				*e*Sg	Sb	09 21 16.4	-0.1
TURN	**Turunc**	**0.66**	**119**	*i* P	Pg	09 21 05.7	-4.9
TURN				*i* S	Sg	09 21 16.2	-3.2
TURN	**Turunc**	**0.66**	**119**	*i* P	Pg	09 21 05.7	-5.0
TURN				*i* S	Sg	09 21 16.2	-3.2
AYDB	**Zeytinkoy-Aydi**	**0.75**	**1**	*e*PG	Pb	09 21 13.4	+0.4
AYDB	**Zeytinkoy-Aydi**	**0.75**	**1**	*e*Pg	Pb	09 21 13.4	+0.4

ROM 27 09:20:58.7±0.1, 40°27N×15°87E, h9km, Md1.4/3, Error ellipse: s-maj=0.8km s-min=0.3km az=62.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCEL	**Monticello**	**0.07**	**318**	Pg	Pg	09 21 01.2	+0.2
MCEL				Sg	Sg	09 21 02.9	+0.3
	49nm,0.6s						
MTSN	**Montesano sull**	**0.09**	**268**	Pg	Pg	09 21 01.3	+0.1
MTSN				Sg	Sg	09 21 03.3	+0.4
	18nm,0.3s						
SIRI	**Monte Sirino -**	**0.09**	**179**	Pg	Pg	09 21 01.4	+0.2
SIRI				Sg	Sg	09 21 03.3	+0.4
	89nm,0.2s						

KRNET 27 09:23:34.1±0.1, 39°55N×75°11E, h2km, mb2.7
NNC 27 09:23:38.1±6.2, 39°71N×74°91E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=48.7km s-min=34.2km az=144.0
ISC 27 09:23:35.4±2.4, 39°5N±0°1×74°93E±0°0, h2km±13km, n17, σ1s16/28, 12C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**2.06**	**23**	*e*P	**Pn**	**09 24 10.6**	**-0.7**
NRN	baz=19						
				*e*S	**Sg**	**09 24 41.4**	**-0.2**
	baz=19						
KZA	**Kyzart**	**2.55**	**5**	P	**Pg**	**09 24 25.6**	**+1.5**
	SNR=6.2						
KZA	**Kyzart**	**2.55**	**5**	⇑*i*P	**Pn**	**09 24 17.3**	**-0.8**
KZA	baz=2.0						
				⇑*i*S	**Sn**	**09 24 50.0**	**+0.1**
	baz=2.0						
UCH	**Uchtor**	**2.70**	**353**	P	**Pn**	**09 24 20.4**	**+0.2**
	SNR=8.2						
UCH	**Uchtor**	**2.70**	**353**	⇑*i*P	**Pn**	**09 24 20.3**	**0.0**
UCH	baz=351						
				⇑*i*S	**Sn**	**09 24 55.0**	**+1.2**
	baz=351						
AML	**Almayashu**	**2.75**	**341**	P	**Pb**	**09 24 23.6**	**-1.9**
	SNR=10						
AML	**Almayashu**	**2.75**	**341**	⇑*i*P	**Pn**	**09 24 20.6**	**-0.3**
AML	baz=338						
				⇑*i*S	**Sb**	**09 24 58.4**	**-1.5**
	baz=338						
KDJ	**Kajisay**	**3.10**	**33**	*e*P	**Pn**	**09 24 25.9**	**+0.4**
KDJ	baz=31						
				*e*S	**Sn**	**09 25 04.3**	**+1.0**
	baz=31						
AAK	**Ala-Archa**	**3.11**	**354**	P	**Pb**	**09 24 30.2**	**-1.3**
	SNR=6.9						
AAK	**Ala-Archa**	**3.11**	**354**	⇑Pn	**Pn**	**09 24 26.5**	**+0.9**
AAK	6.2nm,0.7s						
				⇓Sn	**Sn**	**09 25 04.1**	**+0.7**
	12nm,0.9s						
AAK	**Ala-Archa**	**3.11**	**354**	⇑*i*P	**Pn**	**09 24 26.1**	**+0.5**
AAK	baz=352						
				⇑*i*S	**Sn**	**09 25 05.6**	**+2.2**
	baz=352						
KBK	**Karagaybulak**	**3.11**	**0**	⇑*i*P	**Pn**	**09 24 25.8**	**+0.1**
KBK	baz=358						
				⇑*i*S	**Sn**	**09 25 05.7**	**+2.1**
	baz=358						
BTK	**Batken**	**3.21**	**281**	*e*P	**Pb**	**09 24 31.8**	**-1.3**
BTK	baz=280						
				*e*S	**Sb**	**09 25 12.5**	**-0.1**
	baz=280						
EKS2	**Erkin-Say**	**3.24**	**345**	P	**Pb**	**09 24 32.2**	**-1.4**
	SNR=5.9						
TKM2	**Tokmak 2**	**3.42**	**8**	P	**Pn**	**09 24 29.9**	**+0.1**
	SNR=9.4						
TKM2	**Tokmak 2**	**3.42**	**8**	⇓Pn	**Pn**	**09 24 29.5**	**-0.4**
TKM2	4.3nm,0.5s						
				⇑Sn	**Sn**	**09 25 11.3**	**+0.3**
	13nm,0.6s						
KK31	**Karatay Array**	**4.87**	**318**	⇓Pn	**Pn**	**09 24 51.5**	**+1.8**
	4.4nm,0.8s,baz=135,slow=13,SNR=16						
KK31				⇓Sn	**Sn**	**09 25 45.9**	**-0.7**
	1.2nm,0.5s,baz=127,slow=24,SNR=3.8						

IDC 27 09:24:20.0±2.9, 53°54N×87°70E, h0km, mb1 3.6/2, mb1mx3.2/33, mbtmp3.6/2, ML3.2/2, Error ellipse: s-maj=31.0km s-min=17.0km az=84.0
NNC 27 09:24:23.4±3.9, 53°33N×87°50E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=30.4km s-min=22.5km az=22.0
ISC 27 09:24:23.6±3.9, 53°6N±0°1×87°8E±0°2, h35km, n7, σ0s61/11, 5C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.78**	**282**	*i*		09 36 00.0	
	baz=100,slow=318,SNR=4.8						
ZALV	**Zalesovo Beam**	**1.78**	**282**	Pn	**Pn**	**09 24 51.1**	**-0.8**
	9.2nm,0.3s,baz=103,slow=14,SNR=41						
ZALV				Sn	**Sn**	**09 25 14.6**	**+1.3**
	13nm,0.3s,baz=102,slow=25,SNR=15						
KURK	**Kurchatov**	**6.33**	**246**	⇓Pn	**Pn**	**09 25 54.3**	**0.0**
KURK	0.7nm,0.6s						
				⇓Sn	**Sn**	**09 27 04.9**	**-0.4**
	0.8nm,0.6s						
KURK				⇑Lg	Lg	09 27 36.3	
	2.4nm,0.9s						
KURBB	**Kurchatov Arra**	**6.43**	**246**	⇓Pn	**Pn**	**09 25 55.4**	**-0.2**
	3.5nm,0.3s						
KURBB				⇑Sn	**Sn**	**09 27 07.8**	**+0.1**
	2.8nm,0.3s						
KURBB				⇑Lg	Lg	09 27 38.5	
	11nm,0.7s						
KURBB	**Kurchatov Arra**	**6.43**	**246**	Pn	**Pn**	**09 25 55.7**	**+0.1**
	0.3nm,0.3s,baz=61,slow=14,SNR=18						
KURBB				Lg	Lg	09 27 41.4	
	0.2nm,0.3s,baz=64,slow=32,SNR=6.4						
MK31	**Makanchi Array**	**7.67**	**209**	⇓Pn	**Pn**	**09 26 13.1**	**+0.3**
	0.4nm,0.4s,baz=28,slow=13,SNR=20						
MK31				⇑Sn	**Sn**	**09 27 38.0**	**-0.4**
	0.5nm,0.6s						
MK31				⇑Lg	Lg	09 28 16.8	
	1.7nm,0.8s,baz=28,slow=28,SNR=3.4						
MKAR	**Makanchi Array**	**7.67**	**209**	Pn	**Pn**	**09 26 13.2**	**+0.4**
	0.5nm,0.3s,baz=28,slow=14,SNR=22						
MKAR				Sn	**Sn**	**09 27 38.2**	**-0.2**
	0.2nm,0.3s,baz=28,slow=26,SNR=5.6						
MKAR				Lg	Lg	09 28 17.6	
	0.2nm,0.3s,baz=29,slow=28,SNR=5.9						

IDC 27 09:25:09.7±3.0, 31°75S×177°89W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/18, mbtmp3.7/3, ML2.7/1, Error ellipse: s-maj=70.8km s-min=36.4km az=115.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.68**	**211**	Pn	Pn	09 27 02.8	0.0
	0.1nm,0.3s,baz=41,slow=9.3,SNR=2.2						
URZ				Sn	Sn	09 28 30.5	0.0
	0.2nm,0.3s,baz=135,slow=18,SNR=3.7						

ASAR	**Alice Springs**	**43.15**	**268**	P		P	09 33 12.3	0.0
	0.4nm,0.8s,baz=105,slow=7.2,SNR=7.9							
WRA	**Warramunga Arr**	**44.26**	**273**	P		P	09 33 21.1	-0.2
	0.5nm,0.3s,baz=111,slow=8.0,SNR=13							
FINES	**FINESS Array B**	**146.44**	**339**	PKPbc		PKPdf	09 44 51.2	+0.5
	1.2nm,0.7s,baz=33,slow=3.3,SNR=6.6							

ISCJB 27 09:34:05.7±0.4, 32°47N±0°03×115°53W±0°03, h19km±7km, Error ellipse: s-maj=4.8km s-min=4.0km az=35.6
MEX 27 09:34:06.0±0.6, 32°60N×115°47W, h4km±999km, MD3.6
NEIC 27 09:34:06.5, 32°45N×115°53W, h6km, ML2.8(PAS), ML3.0(ECX), After ECX.
ECX 27 09:34:06.5±0.7, 32°44N×115°53W, h6km, MD2.8, ML3.0
ISC 27 09:34:05.3±0.9, 32°45N±0°03×115°53W±0°03, h23km±8km, n23, σ1s24/38, 2C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.19**	**99**	*e*P	**Pb**	**09 34 11.6**	**+0.9**
CPBX				*e*S	**Sb**	**09 34 14.9**	**+0.5**
CPBX	**Cerro Prieto**	**0.19**	**99**	*e*P9	**Pb**	**09 34 10.3**	**-0.4**
CPBX				*e*S	**Sb**	**09 34 13.0**	**-1.3**
CPBX				⇓*e*		09 34 13.3	
CPBX				IAML		09 34 13.3	
	comp=N,8μm,0.4s						
WESC	**Westside Schoo**	**0.35**	**331**	*e*P	**Pb**	**09 34 13.0**	**-0.1**
COK	**Cook Ranch**	**0.43**	**337**	⇓*i*P	**Pb**	**09 34 14.6**	**+0.2**
RMX	**La Rumorosa**	**0.49**	**288**	*e*P	**Pb**	**09 34 14.8**	**-0.6**
RMX				⇓*e*		09 34 21.9	
RMX				IAML		09 34 21.9	
	comp=N,1μm,0.1s						
COA	**Coachella**	**0.54**	**39**	⇑*i*P	**Pb**	**09 34 16.5**	**+0.4**
RDX	**Rancho Dawling**	**0.63**	**214**	⇓*e*P	**Pb**	**09 34 17.3**	**-0.4**
RDX				*e*S	**Sb**	**09 34 25.8**	**-0.4**
RDX				IAML		09 34 26.4	
	comp=N,877nm,0.3s						
GLA	**Glamis**	**0.84**	**44**	*e*Pg	**Pb**	**09 34 20.9**	**-0.4**
GLA				*e*Sg	**Sb**	**09 34 32.2**	**-0.1**
CBX	**Cerro Bola**	**0.97**	**262**	*e*P	**Pb**	**09 34 23.5**	**0.0**
CBX				*e*S	**Sb**	**09 34 36.1**	**+0.2**
CBX	**Cerro Bola**	**0.97**	**262**	*e*P	**Pb**	**09 34 23.5**	**0.0**
CBX				*e*S	**Sb**	**09 34 36.1**	**+0.2**
CBX	**Cerro Bola**	**0.97**	**262**	⇓*e*P	**Pb**	**09 34 23.5**	**0.0**
CBX				*e*S	**Sb**	**09 34 36.2**	**+0.2**
CBX				⇑*e*		09 34 36.8	
CBX				IAML		09 34 36.8	
	comp=E,524nm,0.2s						
BAR	**Barrett**	**0.99**	**284**	*e*Pg	**Pn**	**09 34 23.6**	**-0.3**
BAR				*e*Sg	**Sb**	**09 34 36.1**	**-0.4**
ECBX	**El Chinero**	**1.05**	**157**	*e*P9	**Pn**	**09 34 25.2**	**+0.6**
ECBX				*e*S	**Sn**	**09 34 39.3**	**+0.7**
ZAX	**El Zacaton**	**1.13**	**214**	*e*P	**Pb**	**09 34 26.3**	**+0.1**
ZAX				*e*S	**Sn**	**09 34 41.4**	**+0.8**
ECNX	**Esteban Cantu**	**1.20**	**229**	*e*P	**Pb**	**09 34 27.6**	**+0.1**
ECNX				*e*S	**Sb**	**09 34 43.4**	**+0.7**
PBX	**Punta Banda**	**1.24**	**236**	*e*P	**Pb**	**09 34 28.2**	**+0.2**
PBX				*e*S	**Sb**	**09 34 44.4**	**+0.9**
PFO	**Pinyon Flats O**	**1.40**	**326**	*e*Pn	**Pn**	**09 34 29.0**	**-0.5**
PFO				*e*Sn	**Sb**	**09 34 49.0**	**+0.8**
SPIG	**San Pedro Mart**	**1.40**	**178**	*e*P	Pb	09 34 34.3	+3.3
SPIG				*e*S	**Sb**	**09 34 50.4**	**+1.9**
SPIG	**San Pedro Mart**	**1.40**	**178**	*e*P	Pb	09 34 34.3	+3.3
SPIG				*e*S	**Sb**	**09 34 50.4**	**+1.9**
SPX	**San Pedro Mart**	**1.40**	**178**	*e*P	**Pb**	**09 34 31.2**	**+0.2**
SPX				*e*S	**Sn**	**09 34 42.2**	**-5.5**
SPX	**San Pedro Mart**	**1.40**	**178**	*e*P	**Pn**	**09 34 30.1**	**+0.3**
SPX				*e*S	**Sb**	**09 34 49.3**	**+0.7**
214A	**Organ Pipe Nat**	**2.35**	**101**	*e*Pn	**Pn**	**09 34 42.1**	**-0.5**
GSC	**Goldstone, Bar**	**3.04**	**340**	*e*Pn	**Pn**	**09 34 54.6**	**+2.5**

ISCJB 27 09:35:11.6±0.5, 59°83N±0°03×24°10E±0°08, h0km, Error ellipse: s-maj=5.6km s-min=3.9km az=14.8
IDC 27 09:35:13.8±2.1, 59°89N×24°34E, h0km, mb1 3.1/3, mb1mx2.9/34, mbtmp3.0/3, ML2.9/3, Error ellipse: s-maj=27.2km s-min=8.2km az=159.0
HEL 27 09:35:13.4±0.2, 59°81N×24°24E, h0km, ML1.8, Explosion
ISC 27 09:35:12.1±0.8, 59°83N±0°03×24°18E±0°04, h0km, n15, σ0s85/20, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC

SOKA	**Soboth**	**0.30**	**354**	⇓*i*Pg	Pg	Pg	09 37 37.6	-0.2
SOKA				⇓*i*Sg	Sg	Sg	09 37 42.5	+0.6
	19nm,0.5s							
SOKA	**Soboth**	**0.30**	**354**	Pg	Pg	Pg	09 37 37.6	-0.2
SOKA				Sg	Sg	Sg	09 37 42.5	+0.6
	19nm,0.5s							
OBKA	**Obir**	**0.39**	**290**	⇑*i*Pg	Pg	Pg	09 37 39.4	0.0
OBKA				⇑*i*Sg	Sg	Sg	09 37 44.8	+0.2
	20nm,0.4s							
OBKA	**Obir**	**0.39**	**290**	Pg	Pg	Pg	09 37 39.4	-0.1
OBKA				Sg	Sg	Sg	09 37 44.8	+0.1
	20nm,0.4s							
ARSA	**Arzberg**	**0.93**	**19**	⇑*i*Pg	Pg	Pg	09 37 48.9	-0.8
ARSA				⇑*i*Sg	Sg	Sg	09 38 02.3	+0.6
	4.7nm,0.6s							
ARSA	**Arzberg**	**0.93**	**19**	Pg	Pg	Pg	09 37 48.9	-0.8
ARSA				Sg	Sg	Sg	09 38 02.3	+0.5
	4.7nm,0.6s							
KBA	**Koelnbreinsper**	**1.39**	**301**	⇑*i*Pg	Pg	Pg	09 37 58.2	-0.5
KBA	**Koelnbreinsper**	**1.39**	**301**	Pg	Pg	Pg	09 37 58.2	-0.4

IDC ***27*** *09:46:23.4±2.7, 53°.51N×87°.81E, h0km, mb1 3.3/2, mb1mx3.0/34, mbtmp3.3/2, ML3.1/2, Error ellipse: s-maj=25.2km s-min=17.3km az=83.0*

ISC 27 09:46:28.8±3.9, 53°.5N±0°.1×87°.7E±0°.2, h35km, n6, σ1§90/9, 2C-1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.77**	**286**	*i*			09 58 20.0	
	baz=99,slow=316,SNR=4.9							
ZALV	**Zalesovo Beam**	**1.77**	**286**	Pn		**Pn**	**09 46 55.6**	**-1.2**
	4.6nm,0.3s,baz=102,slow=15,SNR=24							
ZALV				Sn		**Sn**	**09 47 21.6**	**+3.5**
	10nm,0.3s,baz=106,slow=24,SNR=15							
KURBB	**Kurchatov Arra**	**6.33**	**247**	Pn		**Pn**	**09 47 59.5**	**-0.1**
	0.3nm,0.3s,baz=62,slow=14,SNR=6.4							
KURBB				Sn		**Sn**	**09 49 11.7**	**+1.1**
	0.1nm,0.3s,baz=64,slow=24,SNR=4.7							
KURBB				Lg		Lg	09 49 47.1	
	0.2nm,0.3s,baz=62,slow=32,SNR=7.3							
MK31	**Makanchi Array**	**7.54**	**209**	⇑Pn		**Pn**	**09 48 16.9**	**+0.7**
	0.1nm,0.3s,baz=28,slow=13,SNR=18							
MK31				⇑Sn		**Sn**	**09 49 39.5**	**-1.0**
	1.3nm,0.8s,baz=26,slow=25,SNR=4.6							
MK31				⇓Lg		Lg	09 50 18.8	
	1.8nm,0.8s							
MKAR	**Makanchi Array**	**7.54**	**209**	Pn		**Pn**	**09 48 16.9**	**+0.7**
	0.3nm,0.3s,baz=28,slow=13,SNR=17							
MKAR				Sn		**Sn**	**09 49 41.4**	**+0.9**
	0.1nm,0.3s,baz=30,slow=26,SNR=8.0							
MKAR				Lg		Lg	09 50 24.9	
	0.1nm,0.3s,baz=29,slow=33,SNR=3.5							
BVAR	**Borovoye Array**	**10.38**	**274**	Sn		**Sn**	**09 50 48.0**	**-2.0**
	0.5nm,0.3s,baz=66,slow=25,SNR=4.4							

CSEM ***27*** *09:48:28.4±0.3, 50°.26N×18°.88E, h1km, Error ellipse: s-maj=8.8km s-min=3.6km az=13.0*

PRU 27 09:48:29.2, 50°.22N×18°.88E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CHZP	**Chorzow**	**0.10**	**45**	*e*Pg		Pg	09 48 30.4	-0.8
CHZP				*e*Sg		Sg	09 48 32.1	-0.4
OJC	**Ojcow**	**0.59**	**90**	*e*Pg		Pg	09 48 39.5	-1.1
OJC				*e*Sg		Sg	09 48 47.2	-1.0
OJC	**Ojcow**	**0.59**	**90**	*e*Pg		Pg	09 48 39.5	-1.1
OKC	**Ostrava-Krasne**	**0.61**	**231**	*e*PG		Pg	09 48 40.7	-0.2
OKC				*e*SG		Sg	09 48 49.2	+0.4
	comp=Z,9.8nm,0.4s							
OKC	**Ostrava-Krasne**	**0.61**	**231**	Pg		Pg	09 48 40.7	-0.2
OKC				Sg		Sg	09 48 49.2	+0.4
	9.8nm,0.4s							
NIE	**Niedzica**	**1.23**	**130**	*e*Pg		Pg	09 48 52.8	0.0
NIE				*e*Sg		Sb	09 49 09.3	-0.5
NIE	**Niedzica**	**1.23**	**130**	*e*Pg		Pg	09 48 52.8	0.0
NIE				*e*Sg		Sb	09 49 09.3	-0.5
DPC	**Dobruska-Polom**	**1.65**	**276**	*e*PG		Pn	09 48 58.9	-0.6
DPC				*e*SG		Sb	09 49 22.0	+0.1
	comp=Z,5.6nm,0.4s							
DPC	**Dobruska-Polom**	**1.65**	**276**	Pg		Pn	09 48 58.9	-0.6
DPC				Sg		Sb	09 49 22.0	+0.1
	5.6nm,0.4s							
KSP	**Ksiaz**	**1.77**	**292**	*e*Pg		Pb	09 49 02.6	+0.1
KSP				*e*Sg		Sg	09 49 26.5	+0.5
KSP	**Ksiaz**	**1.77**	**292**	*e*Pg		Pb	09 49 02.6	+0.1
KSP				*e*Sg		Sg	09 49 26.5	+0.5
UPC	**Upice**	**1.86**	**280**	*e*SG		Sg	09 49 29.0	0.0
UPC	**Upice**	**1.86**	**280**	Sg		Sg	09 49 29.0	0.0
GOPC	**GO Pecny, Ondr**	**2.66**	**265**	*e*SG		Sg	09 49 53.4	-1.2
GOPC	**GO Pecny, Ondr**	**2.66**	**265**	Sg		Sg	09 49 53.4	-1.2
PRU	**Pruhonice**	**2.80**	**267**	*e*SG		Sg	09 49 58.1	-1.2
	comp=Z,2.5nm,0.3s							
PRU	**Pruhonice**	**2.80**	**267**	Sg		Sg	09 49 58.1	-1.2
	2.5nm,0.3s							

KRNET ***27*** *10:00:59.8±0.1, 39°.94N×78°.45E, h5km, mb4.3*

IDC ***27*** *10:00:59.2±0.7, 39°.98N×78°.36E, h0km, mb3.9/12, mb1 4.0/18, mb1mx3.9/33, mbtmp3.9/18, ML3.2/6, MS3.1/11, Ms1 3.2/11, ms1mx2.9/34, Error ellipse: s-maj=14.8km s-min=12.3km az=62.0*

ISCJB ***27*** *10:01:00.4±0.3, 39°.88N±0°.03×78°.57E±0°.04, h22km, mb3.9/16, MS3.2/8, Error ellipse: s-maj=5.0km s-min=3.6km az=157.9*

BJI ***27*** *10:01:00.2, 40°.03N×78°.29E, h6km, mb4.0/6, mB4.1/4, ML3.9/10, Ms3.6/4, Ms7 3.6/3*

NEIC ***27*** *10:01:04.6±0.6, 40°.09N×78°.45E, h35km, mb4.2/3, Error ellipse: s-maj=9.9km s-min=8.4km az=197.0*

NNC ***27*** *10:01:06.0±1.7, 40°.31N×78°.17E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=15.8km s-min=12.2km az=6.0*

MOS ***27*** *10:01:06.2±1.4, 40°.27N×78°.37E, h59km, mb4.1/5, Error ellipse: s-maj=12.2km s-min=6.6km az=108.6*

ISC 27 10:01:02.7±0.4, 39°.93N±0°.04×78°.28E±0°.04, h22km, n107, σ1§98/122, mb3.9/15, MS3.2/8, 17C-15D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSH	**Kashi**	**1.83**	**258**	Pn		Pb	10 01 40.3	+4.8
KSH				Sn		Sb	10 02 11.5	+13
KSH				SMN				
	6μm,0.6s							
KSH				SME				
	3μm,0.5s							
NRN	**Naryn**	**2.30**	**312**	*i* P		**Pn**	**10 01 41.6**	**+2.0**
	baz=309							
NRN				*e*S		**Sb**	**10 02 11.6**	**-0.1**
	baz=309							
KDJ	**Kajisay**	**2.35**	**340**	*e*P		**Pn**	**10 01 40.8**	**+0.6**
	baz=337							
KDJ				*e*S		**Sn**	**10 02 07.1**	**-1.5**
	baz=337							
ULHL	**Ulahol**	**2.78**	**327**	P		**Pn**	**10 01 48.0**	**+1.9**
	SNR=167							
ULHL	**Ulahol**	**2.78**	**327**	⇑*i*P		**Pn**	**10 01 47.0**	**+0.8**
	baz=325							
ULHL				⇑*i*S		**Sb**	**10 02 22.5**	**-3.1**
	baz=325							
KZA	**Kyzart**	**3.14**	**314**	P		**Pn**	**10 01 53.7**	**+2.4**
	SNR=9.6							
KZA	**Kyzart**	**3.14**	**314**	⇓*i*P		**Pn**	**10 01 52.8**	**+1.5**
	baz=312							
KZA				⇓*i*S		**Sb**	**10 02 34.8**	**-1.4**
	baz=312							
KNDC	**Almaty**	**3.43**	**344**	⇓Pn		**Pn**	**10 01 56.8**	**+1.8**
	66nm,1.1s							
KNDC				⇑Lg		Lg	10 02 44.2	
	2μm,0.9s							
AAA	**Alma-Ata**	**3.49**	**344**	*i* PN		**Pb**	**10 02 02.2**	**-1.6**
AAA				pmax		pmax		
	comp=Z,512nm,0.4s							
TKM2	**Tokmak 2**	**3.61**	**327**	P		**Pn**	**10 01 59.3**	**+1.8**
	SNR=37							
TKM2	**Tokmak 2**	**3.61**	**327**	⇑Pn		**Pn**	**10 01 59.2**	**+1.8**
	comp=Z,32nm,0.7s							
TKM2				⇓Pg		**Pb**	**10 02 04.2**	**-1.7**
	comp=Z,84nm,0.7s							
TKM2				⇓Lg		Lg	10 02 49.3	
	comp=Z,273nm,0.7s							
TKM2	**Tokmak 2**	**3.61**	**327**	*i* PN		**Pn**	**10 01 59.4**	**+1.8**
TKM2				pmax		pmax		
	comp=Z,9.0nm,0.5s							
TKM2	**Tokmak 2**	**3.61**	**327**	⇑*i*P		**Pn**	**10 01 59.1**	**+1.6**
	baz=325							
TKM2				⇑*i*S		**Sn**	**10 02 43.4**	**+3.9**
	baz=325							
TKM2	**Tokmak 2**	**3.61**	**327**	*e*Pn		**Pn**	**10 01 59.3**	**+1.8**
UCH	**Uchtor**	**3.66**	**310**	P		**Pn**	**10 01 60.0**	**+1.5**
	SNR=24							
UCH	**Uchtor**	**3.66**	**310**	⇑*i*P		**Pn**	**10 02 00.1**	**+1.7**
	baz=309							
UCH				⇑*i*S		**Sb**	**10 02 47.1**	**-4.0**
	baz=309							
KBK	**Karagaybulak**	**3.71**	**318**	P		**Pn**	**10 02 01.1**	**+2.3**
	SNR=34							
KBK	**Karagaybulak**	**3.71**	**318**	⇑*i*P		**Pn**	**10 02 00.9**	**+2.1**
	baz=317							
KBK				⇑*i*S		**Sn**	**10 02 46.4**	**+4.5**
	baz=317							
AAK	**Ala-Archa**	**3.93**	**315**	P		**Pn**	**10 02 04.0**	**+2.0**
	SNR=24							
AAK	**Ala-Archa**	**3.93**	**315**	⇑Pn		**Pn**	**10 02 03.8**	**+1.9**
	comp=Z,6.3nm,0.6s							
AAK				⇓Pg		**Pb**	**10 02 10.2**	**-1.2**
	comp=Z,127nm,0.8s							
AAK				⇓Lg		Lg	10 02 59.7	
	comp=Z,330nm,0.7s							
AAK	**Ala-Archa**	**3.93**	**315**	Pn		**Pn**	**10 02 03.6**	**+1.7**
	comp=Z,2.0nm,0.3s,baz=126,slow=14,SNR=24							
AAK				Pg		**Pb**	**10 02 11.2**	**-0.2**
	comp=Z,22nm,0.3s,baz=136,slow=16,SNR=100							
AAK				Lg		Lg	10 02 59.7	
	comp=Z,27nm,0.3s,baz=314,slow=20,SNR=16							
AAK				LR		LR	10 03 39.0	
	comp=Z,258nm,19.3s,baz=106,slow=40							
AAK	**Ala-Archa**	**3.93**	**315**	PN		**Pb**	**10 02 10.2**	**-1.2**
AAK				pmax		pmax		
	comp=Z,85nm,0.5s							
AAK	**Ala-Archa**	**3.93**	**315**	⇑*i*P		**Pn**	**10 02 03.8**	**+1.9**
	baz=313							
AAK	**Ala-Archa**	**3.93**	**315**	Pn		**Pn**	**10 02 03.6**	**+1.7**
AAK				*e*Pn		**Pn**	**10 02 04.0**	**+2.0**
AAK				Lg		Lg	10 02 59.7	
FRU	**Bishkek**	**4.00**	**318**	*i* PN		Pn	10 02 06.0	+3.2
FRU				*i*			10 02 50.0	
FRU				pmax		pmax		
	comp=Z,480nm,1.6s							
FRU				smax		smax		
	comp=E,680nm,1.8s							
FRU	**Bishkek**	**4.00**	**318**	*e*P		Pn	10 02 06.0	+3.2
	baz=316							
CHMS	**Chumysh**	**4.06**	**320**	P		**Pn**	**10 02 05.7**	**+2.1**
	SNR=25							
CHMS	**Chumysh**	**4.06**	**320**	⇑*i*P		**Pn**	**10 02 05.2**	**+1.7**
	baz=319							
AML	**Almayashu**	**4.11**	**304**	P		**Pn**	**10 02 07.6**	**+3.0**
	SNR=10							
AML	**Almayashu**	**4.11**	**304**	⇑*i*P		**Pn**	**10 02 06.4**	**+1.8**
	baz=303							
EKS2	**Erkin-Say**	**4.36**	**310**	P		**Pn**	**10 02 10.1**	**+2.4**
	SNR=25							
EKS2	**Erkin-Say**	**4.36**	**310**	*e*PN		**Pn**	**10 02 10.0**	**+2.3**
EKS2	**Erkin-Say**	**4.36**	**310**	⇑*i*P		**Pn**	**10 02 09.7**	**+2.0**
	baz=309							
EKS2	**Erkin-Say**	**4.36**	**310**	*e*Pn		**Pn**	**10 02 10.0**	**+2.3**
USP	**Ospenovka**	**4.38**	**321**	P		**Pn**	**10 02 09.6**	**+1.6**
	SNR=8.9							
KK31	**Karatay Array**	**6.64**	**301**	⇓Pg		Pb	10 03 00.9	+3.5
	comp=E,11nm,0.6s,baz=129,slow=14,SNR=29							
KK31				⇓Lg		Lg	10 04 27.0	
	comp=E,28nm,0.8s,baz=113,slow=28,SNR=6.6							
KK31	**Karatay Array**	**6.64**	**301**	*e*PN		**Pb**	**10 02 59.4**	**+2.0**
KK31				pmax		pmax		
	comp=Z,11nm,0.6s							
KKAR	**Karatay Array**	**6.64**	**301**	*e*PN		**Pn**	**10 02 41.7**	**+2.8**
KKAR				pmax		pmax		
	comp=Z,12nm,0.5s							
KKAR	**Karatay Array**	**6.64**	**301**	*e*Pn		**Pn**	**10 02 41.7**	**+2.8**
	comp=Z,12nm,0.5s							
MK31	**Makanchi Array**	**7.46**	**22**	Pn		**Pn**	**10 02 49.9**	**-0.3**
	comp=Z,8.2nm,0.9s,baz=197,slow=12,SNR=29							
MK31				⇓Lg		Lg	10 04 50.5	
	comp=Z,40nm,1.1s							
MK31	**Makanchi Array**	**7.46**	**22**	*e*PN		**Pn**	**10 02 49.9**	**-0.3**
MK31				pmax		pmax		
	comp=Z,1.0nm,0.6s							
MK31	**Makanchi Array**	**7.46**	**22**	*e*Pn		**Pn**	**10 02 48.0**	**-2.2**
MKAR	**Makanchi Array**	**7.46**	**22**	Pn		**Pn**	**10 02 49.6**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=200,slow=12,SNR=17							
MKAR				Sn		**Sn**	**10 04 14.7**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=212,slow=24,SNR=2.6							
MKAR				Lg		Lg	10 04 50.9	
	comp=Z,0.6nm,0.3s,baz=209,slow=30,SNR=3.8							
MKAR				LR		LR	10 05 08.9	
	comp=Z,22nm,18.6s,baz=191,slow=34							
MKAR	**Makanchi Array**	**7.46**	**22**	*e*PN		**Pn**	**10 02 50.1**	**-0.1**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
DLH	**Dalhousie**	**7.60**	**195**	*e*P		**Pn**	**10 02 55.0**	**+2.6**
DLH				*e*S		**Sn**	**10 04 19.0**	**+1.0**
CEP	**Cherat**	**7.95**	**222**	P		**Pn**	**10 02 59.4**	**+2.3**
CEP				S		**Sn**	**10 04 26.0**	**-0.4**
WMQ	**Urumqi**	**8.03**	**58**	P		**Pn**	**10 02 55.0**	**-3.1**
WMQ				S		Sn	10 04 21.3	-6.9
WMQ				SMN				
	comp=Z,45nm,1.4s							
WMQ				SME				
	comp=Z,52nm,1.0s							
KKR	**Kurukshetra**	**10.02**	**187**	*e*S		**Sn**	**10 05 14.3**	**-2.7**
KALG	**Kalgarh**	**10.40**	**178**	*e*S		**Sn**	**10 05 26.3**	**-0.1**
KURBB	**Kurchatov Arra**	**10.70**	**1**	Pn		**Pn**	**10 03 34.2**	**-0.3**
KURBB				Lg		Lg	10 06 30.6	
KURBB	**Kurchatov Arra**	**10.70**	**1**	Pn		**Pn**	**10 03 33.0**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=188,slow=12,SNR=14							
KURBB				Lg		Lg	10 06 35.6	
	comp=Z,0.1nm,0.3s,baz=192,slow=26,SNR=6.3							
KURK	**Kurchatov**	**10.79**	**1**	⇓Pn		**Pn**	**10 03 35.4**	**-0.4**
	comp=Z,7.6nm,0.9s							
KURK				⇑Lg		Lg	10 06 36.5	
	comp=Z,24nm,1.1s							
KURK	**Kurchatov**	**10.79**	**1**	P		**Pn**	**10 03 33.9**	**-1.9**
KURK				pmax		pmax		
	comp=Z,8.0nm,0.9s							
KURK	**Kurchatov**	**10.79**	**1**	Pn		**Pn**	**10 03 33.0**	**-2.8**
KURK				Lg		Lg	10 06 35.6	
RTK	**Rohtak**	**10.98**	**189**	*e*S		**Sn**	**10 05 37.8**	**-2.7**
NDI	**New Delhi**	**11.25**	**185**	*e*P		**Pn**	**10 03 43.0**	**+0.8**
NDI				*e*S		**Sn**	**10 05 44.0**	**-3.3**
SONA	**Sohna**	**11.69**	**185**	*e*S		**Sn**	**10 05 54.2**	**-3.8**
SONA				AML		AML	10 06 00.8	
	comp=N,13nm,0.6s							
SONA				AML		AML	10 06 01.1	
	comp=E,32nm,0.4s							
KHET	**Khetri**	**12.00**	**191**	*e*S		**Sn**	**10 06 01.6**	**-4.0**
KHET				AML		AML	10 06 06.3	
	comp=E,71nm,0.1s							
KHET				AML		AML	10 06 06.5	
	comp=N,76nm,0.2s							
BVA0	**Borovoye Array**	**14.17**	**340**	⇓Pn		**Pn**	**10 04 21.5**	**-0.5**
	comp=N,10nm,0.9s,baz=155,slow=10,SNR=11							
BVA0				⇓Lg		Lg	10 08 23.6	
	comp=N,28nm,1.2s,baz=146,slow=27,SNR=4.6							
BVA0	**Borovoye Array**	**14.17**	**340**	*i* P		Pn	10 04 18.7	-3.3
BVA0				pmax		pmax		
	comp=Z,11nm,0.9s							
BVAR	**Borovoye Array**	**14.17**	**340**	Pn		**Pn**	**10 04 19.2**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=150,slow=12,SNR=7.8							
BVAR				Lg		Lg	10 08 18.4	
	comp=Z,0.3nm,0.3s,baz=148,slow=27,SNR=3.7							
BRVK	**Borovoye**	**14.23**	**340**	⇓Pn		**Pn**	**10 04 21.6**	**-1.1**
	comp=Z,30nm,1.0s							
BRVK				⇑Lg		Lg	10 08 24.0	
	comp=Z,48nm,1.1s							
BRVK	**Borovoye**	**14.23**	**340**	*e*P		**Pn**	**10 04 21.3**	**-1.5**
ZALV	**Zalesovo Beam**	**14.71**	**15**	Pn		**Pn**	**10 04 26.5**	**-2.8**
	comp=Z,0.3nm,0.3s,baz=202,slow=11,SNR=3.0							
ZALV				Lg		Lg	10 08 43.0	
	comp=Z,0.2nm,0.3s,baz=199,slow=30,SNR=3.1							
ZALV				LR		LR	10 10 15.8	
	comp=Z,95nm,19.5s,baz=256,slow=38							
ZALV	**Zalesovo Beam**	**14.71**	**15**	*e*P		**Pn**	**10 04 31.5**	**+2.2**
NVS	**Novosibirsk**	**15.29**	**11**	*e*P		**Pn**	**10 04 36.0**	**-1.0**
AB31	**Akbulak array**	**16.01**	**312**	Pn		**Pn**	**10 04 48.2**	**+1.8**
	comp=Z,1.2nm,1.0s,baz=108,slow=13,SNR=11							
ABKAR	**Akbulak array**	**16.01**	**312**	*e*Pn		**Pn**	**10 04 44.5**	**-1.9**
	comp=Z,2.8nm,0.8s							
GTA	**Gaotai**	**16.59**	**85**	*e*P		**P**	**10 05 00.0**	**+3.6**
GTA				pP		**pP**	**10 05 03.8**	**+1.3**
GTA				sP		**sP**	**10 05 06.3**	**+1.0**
GTA				PMZ				
	comp=Z,4.0nm,1.1s							
GTA				PMZ				
	comp=Z,62nm,5.0s							
AKTO	**Aktyubinsk**	**17.68**	**313**	Pn		**P**	**10 05 08.6**	**+0.4**
AKTO	**Aktyubinsk**	**17.68**	**313**	P		**Pn**	**10 05 06.0**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=93,slow=8.2,SNR=9.0							
AKTO				Lg		Lg	10 10 21.5	
	comp=Z,0.1nm,0.3s,baz=180,slow=20,SNR=2.7							
AKTO				LR		LR	10 12 12.0	
	comp=Z,67nm,21.1s,baz=133,slow=38							
ZAK	**Zakamensk**	**20.40**	**51**	*e*P		**P**	**10 05 37.9**	**-0.2**
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.3s							
ARU	**Arti**	**20.98**	**328**	*d i*P		**P**	**10 05 43.6**	**-0.6**
ARU				S		**S**	**10 09 35.0**	**-1.8**
ARU				SS		**SnSn**	**10 09 54.4**	**-3.6**
ARU				pmax		pmax		
	comp=Z,21nm,1.2s							
SONM	**Songino Array**	**21.66**	**59**	P		**P**	**10 05 50.6**	**-1.2**
	comp=Z,1.9nm,0.7s,baz=258,slow=10,SNR=5.3							
SONM	**Songino Array**	**21.66**	**59**	*e*P		**P**	**10 05 52.5**	**+0.7**
SONM				pmax		pmax		
	comp=Z,3.0nm,0.9s							
CD2	**Chengdu**	**22.57**	**106**	*e*P		**P**	**10 06 02.0**	**+0.5**
HHC	**Hu-ho-hao-te**	**25.29**	**77**	*e*P		**P**	**10 06 26.5**	**-1.1**
HHC				PP		**PnPn**	**10 07 05.5**	**+3.2**
HHC				S		**S**	**10 10 47.8**	**-4.5**
HHC				sS		**sS**	**10 11 03.0**	**-0.2**
HHC				SS		**SnSn**	**10 11 49.5**	**+5.7**
HHC				LN				
	comp=Z,190nm,14.4s							
HHC				LE				
	comp=Z,120nm,12.3s							
HHC				LZ				
	comp=Z,170nm,15.4s							
KIV	**Kislovodsk**	**26.65**	**290**	*e*P		**P**	**10 06 40.3**	**+0.4**
KIV				pmax		pmax		
	comp=Z,4.0nm,0.7s							
KIV				MLR		MLR		
	comp=Z,17nm,15.0s							
CMAR	**Chiang Mai Arr**	**27.86**	**134**	P		**P**	**10 06 51.0**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=310,slow=9.9,SNR=3.3							
RAYN	**Ar Rayn**	**32.10**	**249**	*e*P		**P**	**10 07 29.6**	**+1.3**
	comp=Z,5.5nm,1.1s							
BR131	**Keskin Array S**	**34.01**	**284**	*e*P		**P**	**10 07 45.9**	**+0.8**
	comp=Z,2.8nm,0.6s							
BRTR	**Keskin Array B**	**34.01**	**284**	P		**P**	**10 07 46.0**	**+0.9**
	comp=Z,4.2nm,0.7s,baz=92,slow=8.4,SNR=28							
BRTR	**Keskin Array B**	**34.01**	**284**	*e*P		**P**	**10 07 46.4**	**+1.3**
BRTR				pmax		pmax		
	comp=Z,4.0nm,0.7s							
QIZ	**Qiongzhong**	**34.20**	**118**	P		**P**	**10 07 48.5**	**+1.8**
QIZ				S		**S**	**10 13 15.3**	**+3.1**
QIZ				PMZ				
	comp=Z,12nm,1.6s							
AKASG	**Malin Array Be**	**35.53**	**304**	P		**P**	**10 07 58.0**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=76,slow=8.2,SNR=4.5							
AKASG				LR		LR	10 25 06.1	
	comp=Z,36nm,18.4s,baz=40,slow=41							
AKASG	**Malin Array Be**	**35.53**	**304**	*e*P		**P**	**10 07 58.1**	**+0.3**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**35.53**	**304**	P		**P**	**10 07 58.0**	**+0.2**
KIEV	**Kiev**	**35.54**	**304**	*e*P		**P**	**10 07 56.9**	**-1.0**
FINES	**FINESS Array B**	**38.09**	**322**	P		**P**	**10 08 19.0**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=130,slow=7.7,SNR=4.2							
FINES				LR		LR	10 24 12.8	
	comp=Z,41nm,20.8s,baz=220,slow=37							
FINES	**FINESS Array B**	**38.09**	**322**	*e*P		**P**	**10 08 19.6**	**+0.2**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.5s							
KSRS	**Korea Array**	**38.43**	**77**	LR		LR	10 25 51.8	
	comp=Z,22nm,20.0s,baz=85,slow=39							
ARCES	**ARCESS Array B**	**40.35**	**334**	LR		LR	10 26 20.5	
	comp=Z,31nm,18.1s,baz=66,slow=38							
TIXI	**Tiksi**	**40.45**	**22**	*e*P		**P**	**10 08 37.7**	**-1.3**
TIXI				pmax		pmax		
	comp=Z,3.0nm,1.6s							
DPC	**Dobruska-Polom**	**43.74**	**305**	*e*P		**P**	**10 09 05.7**	**-0.6**
DPC	**Dobruska-Polom**	**43.74**	**305**	*e*P		**P**	**10 09 05.7**	**-0.6**
NOA	**NORSAR Array B**	**45.23**	**321**	P		**P**	**10 09 17.6**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=87,slow=7.9,SNR=3.3							
NOA				LR		LR	10 28 55.8	
	comp=Z,32nm,21.1s,baz=70,slow=37							
NOA	**NORSAR Array B**	**45.23**	**321**	*e*P		**P**	**10 09 19.2**	**+1.2**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
GERES	**GERESS Array B**	**45.73**	**304**	P		**P**	**10 09 22.1**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=64,slow=6.1,SNR=7.6							
GERES	**GERESS Array B**	**45.73**	**304**	*e*P		**P**	**10 09 22.9**	**+0.7**
GERES				pmax

MVO Moncorvo 1.83 190 Lg Lg 10 13 50.4
2.5nm,0.6s,SNR=7.9

BJI ***27*** *10:32:35.9, 51°.41N×157°.04E, h128km, mb4.6/20, mB4.7/17*
MOS ***27*** *10:32:37.7±1.1, 51°.42N×156°.73E, h130km, mb4.5/31, Error ellipse: s-maj=10.1km s-min=5.6km az=78.6*
KRSC ***27*** *10:32:37.6±2.5, 51°.14N×157°.49E, h124km±22km, ML4.2*
ISCJB ***27*** *10:32:38.2±0.4, 51°.32N±0°.04×156°.87E±0°.06, h139km±2km, mb4.2/49, Error ellipse: s-maj=8.3km s-min=4.4km az=141.6*
NEIC ***27*** *10:32:39.6±0.7, 51°.46N×156°.55E, h128km±5km, mb4.6/28, Error ellipse: s-maj=10.5km s-min=6.0km az=139.0*
IDC ***27*** *10:32:41.0±1.0, 51°.46N×156°.70E, h151km±8km, mb3.7/20, mb1 3.8/24, mb1mx3.8/31, mbtmp4.1/24, Error ellipse: s-maj=15.7km s-min=8.8km az=143.0*
ISC 27 10:32:38.2±0.5, 51°.30N±0°.06×156°.98E±0°.05, h131km±2km, h130km: pP-P, n214, σ1.9 39/266, mb4.5/49, 2C-5D, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PAU	**Pauzhetka**	**0.19**	**328**	*e*P		**Pn**	**10 32 57.0**	**+0.9**
PAU				*e*S		**Sn**	**10 33 10.4**	**+0.7**
PAU	**Pauzhetka**	**0.19**	**328**	PN		**Pn**	**10 32 57.0**	**+0.9**
PAU				S		**Sn**	**10 33 10.4**	**+0.7**
SKR	**Severo-Kuril's**	**0.82**	**222**	*i* PN		Pn	10 32 52.0	-7.6
SKR				pmax	pmax			
	comp=E,240nm,0.5s							
SKR				pmax	pmax			
	comp=Z,770nm,0.5s							
SKR				pmax	pmax			
	comp=N,240nm,0.2s							
MIPR	**Malaya Ipel'ka**	**0.98**	**352**	*e*P		**Pn**	**10 33 02.8**	**+1.8**
MIPR				*e*S		**Sn**	**10 33 20.9**	**+2.5**
ASAK	**Asacha**	**1.23**	**28**	*e*P		**Pn**	**10 33 04.9**	**+1.5**
ASAK				*e*S		**Sn**	**10 33 24.4**	**+1.7**
MTVR	**Mutnovka**	**1.40**	**32**	*e*P		**Pn**	**10 33 06.7**	**+1.4**
MTVR				*e*S		**Sn**	**10 33 27.7**	**+1.6**
GRL	**Gorelyy**	**1.42**	**28**	*e*P		**Pn**	**10 33 07.5**	**+1.9**
GRL				*e*S		**Sn**	**10 33 29.0**	**+2.5**
RUS	**Russkaya**	**1.48**	**39**	*e*P		**Pn**	**10 33 06.4**	**+0.4**
RUS				*e*S		**Sn**	**10 33 27.2**	**-0.1**
RUS	**Russkaya**	**1.48**	**39**	PN		**Pn**	**10 33 06.4**	**+0.4**
RUS				S		**Sn**	**10 33 27.2**	**-0.1**
APC	**Apacha**	**1.63**	**4**	*i* P		**Pn**	**10 33 09.6**	**+1.9**
APC				*i* S		**Sn**	**10 33 32.5**	**+2.1**
PETK	**Petropavlovsk-**	**1.86**	**14**	P		**Pn**	**10 33 12.4**	**+2.0**
	comp=N,10nm,0.3s,baz=176,slow=13,SNR=274							
PETK				S		**Sn**	**10 33 38.8**	**+3.5**
	comp=N,14nm,0.3s,baz=167,slow=18,SNR=10							
PETK	**Petropavlovsk-**	**1.86**	**14**	PN		**Pn**	**10 33 12.5**	**+2.0**
PETK				S		**Sn**	**10 33 38.8**	**+3.5**
PETK				pmax	pmax			
	comp=Z,10.0nm,0.3s							
PETK				smax	smax			
	comp=N,14nm,0.3s							
PET	**Petropavlovsk**	**2.01**	**30**	*e*P		**Pn**	**10 33 13.5**	**+1.2**
PET				*e*S		**Sn**	**10 33 39.1**	**+0.7**
PET	**Petropavlovsk**	**2.01**	**30**	*e*PN		**Pn**	**10 33 13.4**	**+1.2**
PET				*e*S		**Sn**	**10 33 39.3**	**+0.9**
PET				pmax	pmax			
	comp=Z,52nm,0.8s							
PET				smax	smax			
	comp=N,324nm,0.5s							
PET				smax	smax			
	comp=E,235nm,0.5s							
PET	**Petropavlovsk**	**2.01**	**30**	*e*Pn		**Pn**	**10 33 13.5**	**+1.2**
PET				*e*Sn		**Sn**	**10 33 38.1**	**-0.3**
UGLR	**Uglovaya**	**2.22**	**30**	*e*P		**Pn**	**10 33 17.2**	**+2.2**
UGLR				*e*S		**Sn**	**10 33 45.5**	**+2.3**
KOK	**Koryaka**	**2.24**	**26**	*e*P		**Pn**	**10 33 17.9**	**+2.7**
KOK				*e*S		**Sn**	**10 33 45.0**	**+1.4**
AVH	**Avacha**	**2.24**	**28**	*e*P		**Pn**	**10 33 17.8**	**+2.6**
AVH				*e*S		**Sn**	**10 33 46.0**	**+2.3**
SMAR	**Somma**	**2.26**	**29**	*e*P		**Pn**	**10 33 17.6**	**+2.0**
SDLR	**Sedlovina**	**2.30**	**30**	*e*P		**Pn**	**10 33 17.6**	**+1.6**
KRX	**Arik**	**2.30**	**26**	*e*P		**Pn**	**10 33 18.2**	**+2.2**
KRX				*e*S		**Sn**	**10 33 45.9**	**+0.8**
NLC	**Nalytchevo**	**2.37**	**37**	*e*P		**Pn**	**10 33 16.7**	**0.0**
NLC				*e*S		**Sn**	**10 33 44.6**	**-1.7**
NLC	**Nalytchevo**	**2.37**	**37**	PN		**Pn**	**10 33 16.7**	**0.0**
NLC				S		**Sn**	**10 33 44.6**	**-1.7**
GNL	**Ganaly**	**2.47**	**13**	*e*P		**Pn**	**10 33 20.3**	**+2.2**
SPN	**Mys Shipunski**	**2.60**	**45**	*e*P		**Pn**	**10 33 19.9**	**+0.3**
SPN				*e*S		**Sn**	**10 33 50.0**	**-1.5**
SPN	**Mys Shipunski**	**2.60**	**45**	PN		**Pn**	**10 33 19.9**	**+0.3**
SPN				S		**Sn**	**10 33 50.0**	**-1.5**
KZV	**Kizimen**	**4.31**	**26**	*e*P		**Pn**	**10 33 43.8**	**+1.7**
KZV				*e*S		**Sn**	**10 34 31.4**	**-0.3**
MKZ	**Mys Kozlova**	**4.35**	**40**	*e*P		**Pn**	**10 33 42.2**	**-0.2**
MKZ				*e*S		**Sn**	**10 34 29.1**	**-3.2**
MKZ	**Mys Kozlova**	**4.35**	**40**	PN		**Pn**	**10 33 42.2**	**-0.2**
MKZ				S		**Sn**	**10 34 29.1**	**-3.2**
TUMR	**Tumrok**	**4.42**	**24**	*e*P		**Pn**	**10 33 46.3**	**+2.8**
KBTR	**Krutoberegovo**	**6.01**	**33**	*e*P		**Pn**	**10 34 05.2**	**+0.5**
KBTR				*e*S		**Sn**	**10 35 08.7**	**-3.6**
KBTR	**Krutoberegovo**	**6.01**	**33**	PN		**Pn**	**10 34 05.2**	**+0.5**
KBTR				S		**Sn**	**10 35 08.7**	**-3.6**
BKI	**Bering**	**6.66**	**51**	*e*P		**Pn**	**10 34 12.6**	**-0.8**
BKI				*e*S		Sn	10 35 20.1	-7.8
BKI	**Bering**	**6.66**	**51**	PN		**Pn**	**10 34 12.6**	**-0.8**
SEY	**Seymchan**	**11.92**	**350**	P		**Pn**	**10 35 22.8**	**-0.9**
	baz=151,slow=12,SNR=4.1							
ASAJ	**Asahikawa**	**12.05**	**239**	P		**Pn**	**10 35 26.6**	**+1.1**
	comp=E,0.2nm,0.3s,baz=64,slow=11,SNR=2.7							
ERM	**Erimo**	**13.26**	**231**	*i* PN		**Pn**	**10 35 41.8**	**+0.6**
ERM	**Erimo**	**13.26**	**231**	Pn		**Pn**	**10 35 41.2**	**-0.1**
HABR	**Khabarovsk**	**14.40**	**267**	*e*P		Pn	10 35 52.4	-3.4
HABR				*e*S		**Sn**	**10 38 29.5**	**-5.4**
HABR				pmax	pmax			
	comp=N,5.0nm,0.7s							
HABR				pmax	pmax			
	comp=E,14nm,1.4s							
HABR				pmax	pmax			
	comp=Z,36nm,2.5s							
HABR				MLR	MLR			
	comp=Z,25nm,15.0s							
KLR	**Kul'dur**	**16.24**	**273**	*e*P		**P**	**10 36 19.2**	**0.0**
BILL	**Bilibino**	**17.39**	**12**	*i* P		**Pn**	**10 36 32.3**	**-0.1**
BILL				pmax	pmax			
	comp=Z,5.0nm,0.5s							
BILL	**Bilibino**	**17.39**	**12**	*e*P		**Pn**	**10 36 32.5**	**+0.1**
	comp=Z,9.8nm,0.4s							
USRK	**Ussuriysk Ar.**	**18.18**	**257**	P		**P**	**10 36 40.4**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=52,slow=13,SNR=4.5							
YAK	**Yakutsk**	**18.29**	**316**	*e*P		**P**	**10 36 40.7**	**-0.9**
YAK				*e*S		**S**	**10 40 00.3**	**-3.4**
YAK				pmax	pmax			
	comp=Z,37nm,0.8s							
YAK				pmax	pmax			
	comp=E,15nm,1.2s							
YAK				pmax	pmax			
	comp=N,8.0nm,1.3s							
YAK				smax	smax			
	comp=N,40nm,3.5s							
YAK				smax	smax			
	comp=E,81nm,4.3s							
YAK	**Yakutsk**	**18.29**	**316**	*e*Pn		**P**	**10 36 41.9**	**+0.3**
	comp=E,62nm,0.6s							
VLA	**Vladivostok**	**18.84**	**254**	*de*P		**P**	**10 36 47.8**	**+0.1**
MAJO	**Matsushiro**	**19.93**	**229**	*e*P		**P**	**10 37 00.6**	**+1.0**
MAJO				pmax	pmax			
	comp=Z,193nm,2.5s							
MAJO	**Matsushiro**	**19.93**	**229**	*e*P		**P**	**10 37 00.6**	**+1.0**
	comp=Z,193nm,2.5s							
MAT	**Matsushiro**	**19.93**	**229**	P		**P**	**10 36 59.9**	**+0.3**
MJAR	**Matsushiro Arr**	**19.93**	**229**	P		**P**	**10 37 00.6**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=20,slow=11,SNR=14							
MJAR	**Matsushiro Arr**	**19.93**	**229**	P		**P**	**10 37 00.6**	**+1.0**
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
CN2	**Changchun**	**22.43**	**263**	*e*P		**P**	**10 37 25.8**	**-0.2**
TIXI	**Tiksi**	**23.98**	**338**	*e*P		**P**	**10 37 39.8**	**-0.2**
TIXI				pmax	pmax			
	comp=Z,6.0nm,0.8s							
TIXI	**Tiksi**	**23.98**	**338**	*e*P		**P**	**10 37 39.8**	**-0.2**
	comp=Z,5.9nm,0.8s							
KSRS	**Korea Array**	**24.76**	**247**	P		**P**	**10 37 48.3**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=44,slow=9.2,SNR=6.4							
KSRS	**Korea Array**	**24.76**	**247**	P		**P**	**10 37 48.3**	**+0.9**
KSRS				pmax	pmax			
	comp=Z,1.0nm,0.6s							
BOD	**Bodaibo**	**25.39**	**302**	*e*P		**P**	**10 37 52.1**	**-0.9**
BOD				pmax	pmax			
	comp=Z,3.0nm,0.9s							
JNU	**Nakatsue**	**26.31**	**236**	P		**P**	**10 38 02.5**	**+1.0**
	comp=Z,6.2nm,0.8s,baz=14,slow=4.2,SNR=3.0							
COLA	**College**	**31.02**	**43**	*e*P		**P**	**10 38 44.1**	**+1.2**
COLA				*e**PP		**pP**	**10 39 09.8**	**-1.3**
COLA				pmax	pmax			
	comp=Z,24nm,1.7s							
ILAR	**Eielson Array**	**31.44**	**43**	P		**P**	**10 38 46.9**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=272,slow=6.3,SNR=10							
ILAR	**Eielson Array**	**31.44**	**43**	P		**P**	**10 38 46.9**	**+0.3**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
SONM	**Songino Array**	**32.46**	**284**	P		**P**	**10 38 56.8**	**+0.9**
	comp=Z,1.6nm,0.4s,baz=90,slow=7.2,SNR=3.1							
SONM	**Songino Array**	**32.46**	**284**	P		**P**	**10 38 56.8**	**+0.9**
SONM				pmax	pmax			
	comp=Z,2.0nm,0.4s							
H11N2	**WAKE ISLAND Hy**	**32.46**	**162**	T		T	11 12 56.3	
	baz=348,slow=76,SNR=70							
H11N1	**WAKE ISLAND Hy**	**32.48**	**162**	T		T	11 12 58.8	
	baz=348,slow=76,SNR=128							
H11N3	**WAKE ISLAND Hy**	**32.48**	**162**	T		T	11 12 57.5	
	baz=348,slow=76,SNR=157							
HHC	**Hu-ho-hao-te**	**32.70**	**269**	*e*P		**P**	**10 38 58.0**	**-0.1**
HHC				PP		**PnPn**	**10 40 10.5**	**-0.6**
HHC				S		**S**	**10 44 01.5**	**-3.2**
HHC				PMZ				
	comp=Z,13nm,1.0s							
HHC				PMZ				
	comp=Z,86nm,7.4s							
HHC				LN				
	comp=Z,130nm,18.5s							
HHC				LE				
	comp=Z,120nm,18.5s							
HHC				LZ				
	comp=Z,420nm,18.5s							
H11S1	**WAKE ISLAND Hy**	**33.62**	**163**	T		T	11 14 19.0	
	baz=348,slow=76,SNR=303							
H11S3	**WAKE ISLAND Hy**	**33.63**	**163**	T		T	11 14 23.5	
	baz=348,slow=76,SNR=370							
H11S2	**WAKE ISLAND Hy**	**33.64**	**163**	T		T	11 14 20.3	
	baz=348,slow=76,SNR=167							
NJ2	**Nanjing**	**33.85**	**250**	*e*P		**P**	**10 39 08.5**	**+0.5**
NJ2				PMZ				
	comp=Z,40nm,0.7s							
INK	**Inuvik**	**36.45**	**36**	P		**P**	**10 39 32.1**	**+2.3**
	comp=Z,2.3nm,0.3s,baz=238,slow=10,SNR=2.1							
INK	**Inuvik**	**36.45**	**36**	P		**P**	**10 39 32.1**	**+2.3**
INK				pmax	pmax			
	comp=Z,2.0nm,0.3s							
GTA	**Gaotai**	**40.89**	**276**	*e*P		**P**	**10 40 09.0**	**+1.6**
GTA				pP		**pP**	**10 40 37.5**	**+0.9**
GTA				sP		**sP**	**10 40 52.0**	**+0.6**
GTA				PMZ				
	comp=Z,4.0nm,0.9s							
CD2	**Chengdu**	**43.87**	**263**	*e*P		**P**	**10 40 31.0**	**-0.4**
CD2				pP		**pP**	**10 41 00.5**	**-0.5**
CD2				sP		**sP**	**10 41 15.5**	**-0.2**
CD2				PP		**PP**	**10 42 16.5**	**+0.5**
CD2				PcS		**PcS**	**10 46 09.0**	**+0.4**
CD2				S		**S**	**10 46 50.0**	**-2.6**
CD2				sS		**sS**	**10 47 41.3**	**-2.5**
CD2				SS		SS	10 50 00.8	-13
CD2				PMZ				
	comp=Z,10.0nm,0.5s							
CD2				PMZ				
	comp=Z,180nm,5.6s							
GYA	**Guiyang**	**45.22**	**256**	*e*P		**P**	**10 40 43.0**	**+0.7**
GYA				pP		**pP**	**10 41 12.8**	**+0.8**
GYA				sP		**sP**	**10 41 28.0**	**+1.3**
GYA				PcP		**PcP**	**10 42 22.5**	**+2.4**
GYA				ScP		**ScP**	**10 46 02.0**	**+1.8**
GYA				S		**S**	**10 47 11.5**	**-0.9**
GYA				sS		**sS**	**10 48 03.0**	**-0.9**
GYA				PMZ				
	comp=Z,10.0nm,0.9s							
WMQ	**Urumqi**	**45.75**	**289**	*e*P		**P**	**10 40 46.8**	**+0.6**
WMQ				pP		**pP**	**10 41 15.5**	**-0.4**
WMQ				sP		**sP**	**10 41 30.0**	**-0.6**
WMQ				PP		**PP**	**10 42 35.3**	**-0.3**
WMQ				PcS		**PcS**	**10 46 16.5**	**+0.5**
WMQ				S		**S**	**10 47 17.5**	**-2.0**
WMQ				sS		**sS**	**10 48 08.5**	**-2.5**
WMQ				ScS		**ScS**	**10 50 28.5**	**+0.2**
WMQ				PMZ				
	comp=Z,12nm,0.4s							
WMQ				PMZ				
	comp=Z,94nm,5.0s							
WMQ				LN				
	comp=Z,41nm,16.4s							
WMQ				LE				
	comp=Z,71nm,14.8s							
WMQ				LZ				
	comp=Z,41nm,15.8s							
YKA	**Yellowknife Ar**	**45.78**	**40**	P		**P**	**10 40 46.8**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=295,slow=7.6,SNR=6.2							
KURK	**Kurchatov**	**47.05**	**302**	*e*P		**P**	**10 40 55.6**	**-0.5**
KURK				pmax	pmax			
	comp=Z,10.0nm,0.6s							
KURK	**Kurchatov**	**47.05**	**302**	*e*P		**P**	**10 40 55.6**	**-0.5**
	comp=Z,9.9nm,0.6s							
MKAR	**Makanchi Array**	**47.20**	**295**	P		**P**	**10 40 56.2**	**-1.2**
	comp=Z,1.4nm,0.5s,baz=53,slow=6.4,SNR=18							
MKAR	**Makanchi Array**	**47.20**	**295**	P		**P**	**10 40 56.2**	**-1.2**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**47.20**	**295**	*e*P		**P**	**10 40 57.3**	**-0.1**
KMI	**Kunming**	**48.60**	**259**	P		**P**	**10 41 11.3**	**+2.6**
KMI				PMZ				
	comp=Z,7.0nm,2.0s							
QIZ	**Qiongzhong**	**48.98**	**247**	P		**P**	**10 41 12.8**	**+1.4**
QIZ				pP		**pP**	**10 41 39.8**	**-1.7**
QIZ				S		**S**	**10 48 06.8**	**+1.2**
QIZ				sS		**sS**	**10 48 55.8**	**-1.9**
QIZ				PMZ				
	comp=Z,15nm,2.1s							
BRVK	**Borovoye**	**50.02**	**308**	*c* P		**P**	**10 41 17.7**	**-1.1**
BRVK				pmax	pmax			
	comp=Z,5.0nm,0.6s							
BRVK	**Borovoye**	**50.02**	**308**	*e*P		**P**	**10 41 17.4**	**-1.4**
	comp=Z,6.1nm,0.6s							
ARU	**Arti**	**53.40**	**317**	*d* P		**P**	**10 41 42.7**	**-1.1**
ARU				*PP		**pP**	**10 42 15.8**	**+1.4**
ARU							10 43 42.4	
ARU				S		**S**	**10 49 04.3**	**-1.2**
ARU				SS		**SKiKP**	**10 52 38.8**	**-6.5**
ARU				pmax	pmax			
	comp=Z,11nm,1.2s							
ARU	**Arti**	**53.40**	**317**	*e*P		**P**	**10 41 42.8**	**-1.1**
	comp=Z,8.7nm,0.4s							
AAK	**Ala-Archa**	**54.13**	**295**	*e*P		**P**	**10 41 48.8**	**-0.8**
AAK				pmax	pmax			
	comp=Z,11nm,1.7s							
AAK	**Ala-Archa**	**54.13**	**295**	*e*P		**P**	**10 41 48.6**	**-1.0**
ARCES	**ARCESS Array B**	**54.38**	**341**	P		**P**	**10 41 49.0**	**-1.8**
	comp=Z,3.5nm,1.0s,baz=34,slow=8.8,SNR=4.2							
ARCES	**ARCESS Array B**	**54.38**	**341**	P		**P**	**10 41 49.0**	**-1.8**
ARCES				pmax	pmax			
	comp=Z,4.0nm,1.0s							
KSH	**Kashi**	**55.30**	**292**	P		P	10 42 02.5	+4.5
KSH				pP		pP	10 42 32.0	+3.2
KSH				PP		PP	10 44 09.0	+6.4
KSH				PcS		**PcS**	**10 47 00.5**	**+3.1**
KSH				S		**S**	**10 49 34.0**	**+2.3**
KSH				sS		sS	10 50 25.8	+1.0
KSH				ScS		**ScS**	**10 51 35.5**	**+1.4**
KSH				PMZ				
	comp=Z,61nm,4.5s							
KSH				LN				
	comp=Z,80nm,6.1s							
KSH				LE				
	comp=Z,91nm,5.1s							
KSH				LZ				
	comp=Z,210nm,5.6s							
CMAR	**Chiang Mai Arr**	**55.91**	**256**	P		**P**	**10 42 02.6**	**+0.1**
	comp=Z,2.6nm,0.6s,baz=31,slow=6.7,SNR=11							
CMAR	**Chiang Mai Arr**	**55.91**	**256**	P		**P**	**10 42 02.6**	**+0.1**
CMAR				pmax	pmax			
	comp=Z,3.0nm,0.6s							
ABKAR	**Akbulak array**	**57.47**	**310**	*e*P		**P**	**10 42 12.2**	**-0.9**
NVAR	**Mina Array Bea**	**58.18**	**67**	P		**P**	**10 42 20.1**	**+1.6**
	comp=Z,1.6nm,0.7s,baz=294,slow=7.5,SNR=12							
H17A	**Grant Village**	**58.43**	**57**	*e*P		P	10 42 23.9	+3.7
PDAR	**Pinedale Array**	**60.09**	**58**	P		**P**	**10 42 32.8**	**+1.3**
	comp=Z,1.7nm,0.7s,baz=355,slow=4.0,SNR=16							
FINES	**FINESS Array B**	**60.98**	**335**	P		**P**	**10 42 35.3**	**-1.7**
	comp=Z,1.2nm,0.4s,baz=45,slow=6.7,SNR=8.5							
FINES	**FINESS Array B**	**60.98**	**335**	P		**P**	**10 42 35.3**	**-1.7**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
SRU	**San Rafael Swe**	**62.11**	**62**	*e*P		**P**	**10 42 47.3**	**+2.1**
SRU	**San Rafael Swe**	**62.11**	**62**	*e*P		**P**	**10 42 47.3**	**+2.1**
NB2	**NORSAR Subarra**	**64.70**	**342**	P		**P**	**10 43 00.8**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=23,slow=6.9							
NOA	**NORSAR Array B**	**64.70**	**342**	P		**P**	**10 43 00.6**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=28,slow=6.0,SNR=7.5							
NOA	**NORSAR Array B**	**64.70**	**342**	P		**P**	**10 43 00.6**	**-1.0**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ANMO	**Albuquerque**	**67.36**	**62**	*e*P		**P**	**10 43 20.8**	**+1.5**
ANMO				pmax	pmax			
	comp=Z,23nm,3.6s							
SCHQ	**Schefferville**	**68.11**	**26**	P		**P**	**10 43 23.7**	**+0.2**
	comp=Z,4.0nm,1.0s,baz=343,slow=11,SNR=3.2							
AKASG	**Malin Array Be**	**69.12**	**327**	P		**P**	**10 43 28.1**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=29,slow=6.2,SNR=3.7							
AKASG	**Malin Array Be**	**69.12**	**327**	P		**P**	**10 43 28.1**	**-1.6**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
TXAR	**Lajitas Array**	**73.13**	**64**	P		**P**	**10 43 55.6**	**+1.3**
	comp=Z,3.4nm,0.7s,baz=296,slow=4.6,SNR=48							
TXAR	**Lajitas Array**	**73.13**	**64**	P		**P**	**10 43 55.6**	**+1.3**
TXAR				pmax	pmax			
	comp=Z,3.0nm,0.7s							
CLL	**Collm**	**73.31**	**337**	*e*P		**P**	**10 43 56.0**	**+1.1**
CLL	**Collm**	**73.31**	**337**	*e*P		**P**	**10 43 53.0**	**-1.9**
CLL				pmax	pmax			
	comp=Z,13nm,1.3s							
WRA	**Warramunga Arr**	**73.67**	**202**	P		**P**	**10 43 57.1**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=17,slow=6.1,SNR=8.5							
WRA	**Warramunga Arr**	**73.67**	**202**	P		**P**	**10 43 57.1**	**-0.2**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
BAIF	**Baives**	**76.39**	**342**	*e*P		**P**	**10 44 12.0**	**-0.6**
	comp=Z,5.7nm,0.8s							
BAIF	**Baives**	**76.39**	**342**	*e*P		**P**	**10 44 12.0**	**-0.6**
BAIF				pmax	pmax			
	comp=Z,6.0nm,0.8s							
BAIF	**Baives**	**76.39**	**342**	*e*P		**P**	**10 44 12.0**	**-0.6**
	comp=Z,5.7nm,0.8s							
BRTR	**Keskin Array B**	**76.74**	**319**	P		**P**	**10 44 15.2**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=57,slow=5.3,SNR=3.2							
CDF	**Champ du Feu**	**77.33**	**340**	*e*P		**P**	**10 44 18.0**	**-0.1**
	comp=Z,6.8nm,0.8s							
CDF	**Champ du Feu**	**77.33**	**340**	*e*P		**P**	**10 44 18.0**	**-0.1**
CDF				pmax	pmax			
	comp=Z,7.0nm,0.8s							
CDF	**Champ du Feu**	**77.33**	**340**	*e*P		**P**	**10 44 18.0**	**-0.1**
	comp=Z,6.8nm,0.8s							
ASAR	**Alice Springs**	**77.36**	**202**	P		**P**	**10 44 19.4**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=14,slow=5.0,SNR=16							
ASAR	**Alice Springs**	**77.36**	**202**	P		**P**	**10 44 19.4**	**+1.1**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
PAGF	**Fort de Pagny**	**77.52**	**341**	*e*P		**P**	**10 44 18.9**	**-0.1**
	comp=Z,2.5nm,0.6s							
PAGF	**Fort de Pagny**	**77.52**	**341**	*e*P		**P**	**10 44 18.9**	**-0.1**
	comp=Z,2.5nm,0.6s							
HINF	**Hinteralfeld**	**77.98**	**340**	*e*P		**P**	**10 44 21.7**	**+0.1**
HINF	**Hinteralfeld**	**77.98**	**340**	*e*P		**P**	**10 44 21.7**	**+0.1**
HINF	**Hinteralfeld**	**77.98**	**340**	*e*P		**P**	**10 44 21.7**	**+0.1**
SFTF	**Sexfontaines**	**77.99**	**341**	*e*P		**P**	**10 44 21.8**	**+0.2**
	comp=Z,14nm,0.6s							
SFTF	**Sexfontaines**	**77.99**	**341**	*e*P		**P**	**10 44 21.8**	**+0.2**
	comp=Z,14nm,0.6s							
FLN	**La Foliniere**	**78.46**	**345**	*e*P		**P**	**10 44 24.3**	**+0.1**
FLN	**La Foliniere**	**78.46**	**345**	*e*P		**P**	**10 44 24.3**	**+0.1**
FLN	**La Foliniere**	**78.46**	**345**	*e*P		**P**	**10 44 24.3**	**+0.1**
LDF	**La Druitiere**	**78.57**	**345**	*e*P		**P**	**10 44 24.6**	**-0.2**
	comp=Z,3.2nm,0.4s							
LDF	**La Druitiere**	**78.57**	**345**	*e*P		**P**	**10 44 24.6**	**-0.2**
LDF				pmax	pmax			
	comp=Z,3.0nm,0.4s							
LDF	**La Druitiere**	**78.57**	**345**	*e*P		**P**	**10 44 24.6**	**-0.2**
	comp=Z,3.2nm,0.4s							
GRR	**Gorron**	**78.89**	**345**	*e*P		**P**	**10 44 26.9**	**+0.4**
	comp=Z,7.8nm,0.6s							
GRR	**Gorron**	**78.89**	**345**	*e*P		**P**	**10 44 26.9**	**+0.4**
GRR				pmax	pmax			
	comp=Z,8.0nm,0.6s							
GRR	**Gorron**	**78.89**	**345**	*e*P		**P**	**10 44 26.9**	**+0.4**
	comp=Z,7.8nm,0.6s							
LOR	**Lormes**	**79.12**	**342**	*e*P		**P**	**10 44 27.9**	**0.0**
	comp=Z,7.1nm,0.6s							
LOR	**Lormes**	**79.12**	**342**	*e*P		**P**	**10 44 27.9**	**0.0**
LOR				pmax	pmax			
	comp=Z,7.0nm,0.6s							
LOR	**Lormes**	**79.12**	**342**	*e*P		**P**	**10 44 27.9**	**0.0**
	comp=Z,7.1nm,0.6s							
SGMF	**Saint Gilles**	**79.28**	**346**	*e*P

	comp=Z,7.8nm,0.7s							
TCF	**Toulx Ste Croi**	**80.38**	**343**	*e*P		**P**	**10 44 35.2**	**+0.5**
	comp=Z,5.8nm,0.7s							
TCF	**Toulx Ste Croi**	**80.38**	**343**	*e*P		**P**	**10 44 35.2**	**+0.5**
TCF				pmax		pmax		
	comp=Z,6.0nm,0.6s							
TCF	**Toulx Ste Croi**	**80.38**	**343**	*e*P		**P**	**10 44 35.2**	**+0.5**
	comp=Z,5.8nm,0.6s							
MFF	**Saint Martin d**	**80.50**	**344**	*e*P		**P**	**10 44 36.0**	**+0.7**
	comp=Z,11nm,0.7s							
MFF	**Saint Martin d**	**80.50**	**344**	*e*P		**P**	**10 44 36.0**	**+0.7**
MFF				pmax		pmax		
	comp=Z,11nm,0.7s							
MFF	**Saint Martin d**	**80.50**	**344**	*e*P		**P**	**10 44 36.0**	**+0.7**
	comp=Z,11nm,0.7s							
ORIF	**Oris-en-Rattie**	**80.95**	**340**	*e*P		**P**	**10 44 38.8**	**+1.0**
	comp=Z,12nm,0.8s							
ORIF	**Oris-en-Rattie**	**80.95**	**340**	*e*P		**P**	**10 44 38.8**	**+1.0**
ORIF				pmax		pmax		
	comp=Z,12nm,0.8s							
ORIF	**Oris-en-Rattie**	**80.95**	**340**	*e*P		**P**	**10 44 38.8**	**+1.0**
	comp=Z,12nm,0.8s							
VIVF	**Saint-Julien-l**	**81.27**	**340**	*e*P		**P**	**10 44 40.2**	**+0.8**
VIVF	**Saint-Julien-l**	**81.27**	**340**	*e*P		**P**	**10 44 40.2**	**+0.8**
VIVF	**Saint-Julien-l**	**81.27**	**340**	*e*P		**P**	**10 44 40.2**	**+0.8**
RJF	**Les Rejaudoux**	**81.46**	**343**	*e*P		**P**	**10 44 41.4**	**+1.0**
	comp=Z,12nm,0.8s							
RJF	**Les Rejaudoux**	**81.46**	**343**	*e*P		**P**	**10 44 41.4**	**+1.0**
RJF				pmax		pmax		
	comp=Z,12nm,0.8s							
RJF	**Les Rejaudoux**	**81.46**	**343**	*e*P		**P**	**10 44 41.4**	**+1.0**
	comp=Z,12nm,0.8s							
SBF	**Sospel**	**81.60**	**338**	*e*P		**P**	**10 44 42.2**	**+1.0**
SBF	**Sospel**	**81.60**	**338**	*e*P		**P**	**10 44 42.2**	**+1.0**
SBF	**Sospel**	**81.60**	**338**	*e*P		**P**	**10 44 42.2**	**+1.0**
SBF	**Sospel**	**81.60**	**338**	*e*P		**P**	**10 44 42.2**	**+1.0**
CAF	**Calviac**	**81.72**	**342**	*e*P		**P**	**10 44 42.9**	**+1.1**
CAF	**Calviac**	**81.72**	**342**	*e*P		**P**	**10 44 42.9**	**+1.1**
CAF	**Calviac**	**81.72**	**342**	*e*P		**P**	**10 44 42.9**	**+1.1**
LFF	**La Frestale**	**81.96**	**343**	*e*P		**P**	**10 44 44.0**	**+1.0**
	comp=Z,7.4nm,0.6s							
LFF	**La Frestale**	**81.96**	**343**	*e*P		**P**	**10 44 44.0**	**+1.0**
LFF				pmax		pmax		
	comp=Z,7.0nm,0.6s							
LFF	**La Frestale**	**81.96**	**343**	*e*P		**P**	**10 44 44.0**	**+1.0**
	comp=Z,7.4nm,0.6s							
FRF	**La Foret Royal**	**82.07**	**339**	*e*P		**P**	**10 44 44.6**	**+1.0**
FRF	**La Foret Royal**	**82.07**	**339**	*e*P		**P**	**10 44 44.6**	**+1.0**
FRF	**La Foret Royal**	**82.07**	**339**	*e*P		**P**	**10 44 44.6**	**+1.0**
MTLF	**Montolieu**	**83.22**	**342**	*e*P		**P**	**10 44 50.4**	**+0.8**
MTLF	**Montolieu**	**83.22**	**342**	*e*P		**P**	**10 44 50.4**	**+0.8**
MTLF	**Montolieu**	**83.22**	**342**	*e*P		**P**	**10 44 50.4**	**+0.8**
RAYN	**Ar Rayn**	**84.38**	**301**	*e*P		**P**	**10 44 55.4**	**-0.4**
	comp=Z,6.5nm,0.7s							
ESDC	**Sonseca Array**	**87.88**	**345**	P		**P**	**10 45 12.1**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=2.1,slow=3.1,SNR=4.3							
PLCA	**Paso Flores**	**145.90**	**91**	PKPbc		**PKPab**	**10 52 02.1**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=256,slow=4.2,SNR=4.6							
PLCA	**Paso Flores**	**145.90**	**91**	PKP2		**PKPab**	**10 52 02.1**	**-0.4**
PLCA				pmax		pmax		
	comp=Z,1.0nm,0.5s							

CSEM 27 10:42:34.2±0.3, 40°39N×3°35W, h1km, ML1.7, Error ellipse: s-maj=7.0km s-min=6.0km az=122.0, Mining explosion., Spain

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUD	**Guadarrama**	**0.67**	**293**	Pg	Pn	10 42 50.1	-0.9
	2.9nm,0.3s,SNR=7.2						
GUD				Lg	Lg	10 42 58.4	
	4.2nm,0.3s,SNR=13						
ESDC	**Sonseca Array**	**0.85**	**214**	Pg	Pb	10 42 51.4	-0.5
	2.7nm,0.2s,baz=39,slow=18,SNR=19						
ESDC				Lg	Lg	10 43 02.4	
	3.3nm,0.8s,baz=39,slow=31,SNR=6.4						
ETOR	**Torete**	**1.07**	**66**	Pg	Pn	10 42 57.9	+1.4
	19nm,0.6s,SNR=19						
ETOR				Lg	Lg	10 43 12.7	
	48nm,0.4s,SNR=12						
EVIA	**Vianos**	**1.86**	**159**	Pg	Pg	10 43 09.8	-0.3
	60nm,0.5s,SNR=14						
EVIA				Lg	Lg	10 43 32.8	
	38nm,0.4s,SNR=8.0						
EPLA	**Plasencia**	**2.12**	**262**	Pg	Pb	10 43 14.0	+0.6
	11nm,0.6s,SNR=8.3						
EPLA				Lg	Lg	10 43 43.5	
	2.5nm,0.8s,SNR=6.7						
EMOS	**Mosqueruela**	**2.20**	**90**	Pg	Pg	10 43 16.8	+0.2
	SNR=7.9						
EMOS				Lg	Lg	10 43 46.0	
	3.7nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**2.23**	**141**	Pg	Pg	10 43 17.5	+0.5
	9.8nm,0.6s,SNR=6.4						
ETOB				Lg	Lg	10 43 45.1	
	0.9nm,0.7s,SNR=5.3						
SESP	**Santiago Espad**	**2.35**	**164**	Pg	Pg	10 43 18.7	-0.7
	SNR=7.9						
SESP				Lg	Lg	10 43 48.0	
	3.4nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**2.41**	**204**	Pg	Pg	10 43 19.8	-0.7
	15nm,1.0s,SNR=6.8						
EADA				Lg	Lg	10 43 50.7	
	2.9nm,0.2s,SNR=5.0						
ESAC	**San Caprasio**	**2.55**	**58**	Lg	Lg	10 44 00.5	
	18nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.59**	**175**	Lg	Lg	10 43 57.7	
	2.2nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**2.81**	**216**	Lg	Lg	10 44 03.4	
	1.4nm,0.3s,SNR=7.9						

GUC 27 10:43:07.3±0.7, 33°55S×72°06W, h24km±8km, ML3.6, 4C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.63**	**34** ⇓	*i*P	Pb	10 43 20.1	+0.4
IHA				*i* S	Sn	10 43 29.3	-0.7
LNV	**Longovilo**	**0.67**	**127** ⇓	*i*P	Pn	10 43 21.0	-0.3
LNV				*i* S	Sn	10 43 30.6	-0.5
TACH	**Talagante**	**0.94**	**96** ⇓	*i*P	Pn	10 43 25.2	+0.2
TACH				*i* S	Sn	10 43 38.8	+1.0
ROCH	**El Roble**	**1.05**	**57** ⇑	*i*P	Pb	10 43 27.1	-0.1
ROCH				*i* S	Sn	10 43 42.7	+1.7
ROCH				AML	AML	10 43 47.5	
	comp=N,2μm,0.5s						
SAN	**Santiago**	**1.17**	**86** ⇑	*i*P	Pb	10 43 29.3	+0.4
SAN				*e*S	Sb	10 43 45.5	+1.7
STL	**Santa Lucia**	**1.19**	**85**	*e*P	Pn	10 43 28.3	-0.3
STL				*e*S	Sb	10 43 44.8	+0.5
PEL	**Peldehue**	**1.22**	**71** ⇑	*i*P	Pb	10 43 30.1	+0.3
PEL				*i* S	Sb	10 43 47.1	+1.9
PEL				AML	AML	10 43 55.0	
	comp=N,4μm,0.6s						
CHCH	**Chadas Angostu**	**1.23**	**108**	*e*P	Pb	10 43 29.8	-0.2
CHCH				*i* S	Sb	10 43 47.4	+1.8
CLCH	**Cerro Calan**	**1.28**	**83** ⇓	*i*P	Pb	10 43 31.0	+0.1
CLCH				*e*S	Sb	10 43 48.6	+1.5
CLCH				AML	AML	10 43 56.1	
	comp=E,2μm,0.7s						
PCH	**Pirque**	**1.29**	**93**	*e*P	Pb	10 43 31.4	+0.3
PCH				*i* S	Sb	10 43 49.1	+1.8
SJCH	**San Jose de Ma**	**1.43**	**94** ⇑	*i*P	Pn	10 43 32.4	+0.5
SJCH				*i* S	Sb	10 43 51.6	+0.4
NICH	**Los Niches**	**1.60**	**155**	*e*P	Pb	10 43 35.6	-0.6
NICH				*i* S	Sb	10 43 57.5	+1.4

IDC 27 10:50:35.4±3.3, 54°45N×87°30E, h0km, mb1 2.8/2, mb1mx2.8/30, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=28.3km s-min=20.4km az=39.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.54**	**252**	*i*		10 57 40.0	
	baz=69,slow=318,SNR=0.6						
ZALV	**Zalesovo Beam**	**1.54**	**252**	Pg	Pn	10 51 03.6	-0.5
	1.0nm,0.3s,baz=67,slow=17,SNR=7.3						
ZALV				Lg	Lg	10 51 24.3	
	1.2nm,0.3s,baz=72,slow=30,SNR=5.7						
KURBB	**Kurchatov Arra**	**6.58**	**238**	Pn	Pn	10 52 13.6	+0.3
	0.1nm,0.3s,baz=56,slow=14,SNR=4.2						
KURBB				Lg	Lg	10 54 03.7	
	0.0nm,0.3s,baz=58,slow=33,SNR=2.7						
MKAR	**Makanchi Array**	**8.29**	**205**	Pn	Pn	10 52 37.8	+0.9
	0.1nm,0.3s,baz=26,slow=13,SNR=5.4						
MKAR				Lg	Lg	10 55 00.5	
	0.1nm,0.3s,baz=22,slow=31,SNR=2.7						

IDC 27 11:00:32.5±5.2, 0°97N×102°41E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/23, mbtmp3.3/3, Error ellipse: s-maj=313.6km s-min=28.3km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**37.56**	**125**	P	P	11 07 47.7	-1.2
	0.1nm,0.3s,baz=304,slow=9.0,SNR=4.5						
ASAR	**Alice Springs**	**39.19**	**131**	P	P	11 08 03.4	+0.8
	0.2nm,0.3s,baz=299,slow=7.7,SNR=8.4						
MKAR	**Makanchi Array**	**48.91**	**342**	P	P	11 09 20.2	-0.1
	0.1nm,0.3s,baz=158,slow=8.3,SNR=5.4						

*ISCJB **27** 11:04:01.4±0.6, 59°81N±0°03×24°15E±0°09, h0km, Error ellipse: s-maj=6.7km s-min=3.9km az=175.8*
*IDC **27** 11:04:02.0±2.3, 59°75N×24°38E, h0km, mb1 3.3/2, mb1mx2.9/30, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=25.5km s-min=8.8km az=145.0*
*HEL **27** 11:04:03.1±0.0, 59°81N×24°23E, h0km, ML1.6, Explosion*
ISC 27 11:04:01.3±0.8, 59°81N±0°03×24°16E±0°05, h0km, n12, σ0s82/16, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRPE	**Suurupi**	**0.36**	**162**	*e*P	**Pg**	**11 04 09.4**	**+1.2**
SRPE				*e*S	**Sg**	**11 04 13.8**	**+0.9**
MEF	**Metsahovi**	**0.43**	**16**	*e*P	**Pg**	**11 04 10.5**	**+1.0**
MEF				*e*S	**Sg**	**11 04 15.9**	**+0.9**
MTSE	**Matsula**	**1.11**	**189**	*e*P	**Pb**	**11 04 23.2**	**-0.2**
MTSE				*e*S	**Sg**	**11 04 36.6**	**-0.3**
PVF	**Pernaja**	**1.13**	**48**	*e*P	**Pg**	**11 04 22.9**	**0.0**
PVF				*e*S	**Sg**	**11 04 37.1**	**-0.4**
RAF	**Rauma**	**1.70**	**317**	*e*P	**Pb**	**11 04 33.8**	**+0.3**
RAF				*e*S	**Sb**	**11 04 55.9**	**+0.5**
VSU	**Vasula**	**1.89**	**134**	*e*P	**Pb**	**11 04 36.5**	**-0.1**
VSU				*e*S	**Sb**	**11 05 00.3**	**-0.5**
FINES	**FINESS Array B**	**1.89**	**29**	Pn	**Pb**	**11 04 36.7**	**0.0**
	1.5nm,0.3s,baz=202,slow=15,SNR=36						
FINES				Lg	Lg	11 05 01.7	
	1.7nm,0.3s,baz=210,slow=24,SNR=14						
KAF	**Kangasniemi**	**2.54**	**23**	MSG		11 05 22.5	
	comp=Z,2.2nm,0.1s						
SUF	**Sumiainen**	**3.08**	**17**	MSG		11 05 40.2	
	comp=Z,1.3nm,0.1s						
VAF	**Ylistaro**	**3.32**	**348**	MSG		11 05 47.3	
	comp=Z,1.3nm,0.2s						
NOA	**NORSAR Array B**	**6.53**	**286**	Pn	**Pn**	**11 05 38.4**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=92,slow=13,SNR=7.2						
NOA				Sn	**Sn**	**11 06 51.7**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=45,slow=13,SNR=2.7						
ARCES	**ARCESS Array B**	**9.79**	**3**	Pn	**Pn**	**11 06 22.9**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=184,slow=14,SNR=5.8						

IDC 27 11:08:56.3±6.6, 33°43S×139°21E, h0km, mb1 3.0/3, mb1mx3.0/16, mbtmp2.8/3, ML2.7/3, Error ellipse: s-maj=71.1km s-min=24.4km az=174.0, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**2.54**	**53**	Pn	Pn	11 09 38.5	-0.3
	1.2nm,0.3s,baz=209,slow=15,SNR=12						
STKA				Sn	Sn	11 10 11.4	+0.9
	2.0nm,0.3s,baz=230,slow=17,SNR=5.5						
STKA				Lg	Lg	11 10 17.4	
	5.0nm,0.3s,baz=121,slow=19,SNR=9.9						
ASAR	**Alice Springs**	**10.79**	**333**	Pn	Pn	11 11 32.7	+0.6
	0.0nm,0.3s,baz=156,slow=10,SNR=3.1						
ASAR				Sn	Sn	11 13 33.6	-0.1
	0.1nm,0.3s,baz=156,slow=22,SNR=3.0						
WRA	**Warramunga Arr**	**14.12**	**341**	Pn	Pn	11 12 17.5	-0.2
	0.0nm,0.3s,baz=157,slow=13,SNR=3.9						

GUC 27 11:16:45.3±0.3, 35°51S×72°33W, h85km±2km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.57**	**79**	*i* P	Pn	11 17 00.3	+0.2
TALC				*i* S	Sn	11 17 11.7	+0.5
TALC				AML	AML	11 17 12.8	
	comp=N,7μm,0.1s						
LNCH	**Linares**	**0.68**	**120**	*i* P	Pn	11 17 01.3	+0.2
LNCH				*i* S	Sn	11 17 13.3	+0.4
LNCH				AML	AML	11 17 19.1	
	comp=N,2μm,0.8s						
NICH	**Los Niches**	**1.03**	**61**	*e*P	Pn	11 17 06.7	+1.7
NICH				*e*S	Sn	11 17 23.7	+4.0
NICH				AML	AML	11 17 29.6	
	comp=E,2μm,0.3s						
CLCH	**Cerro Calan**	**2.58**	**36**	*e*P	Pn	11 17 25.5	+0.4
CLCH				*e*S	Sn	11 17 56.4	+0.7
CLCH				AML	AML	11 18 20.2	
	comp=N,209nm,0.5s						
PEL	**Peldehue**	**2.72**	**30**	*e*P	Pn	11 17 27.6	+0.5
PEL				*e*S	Sn	11 17 59.7	+0.5
PEL				AML	AML	11 18 18.8	
	comp=E,163nm,0.5s						

IDC 27 11:18:40.3±1.1, 5°62S×108°97E, h504km±16km, mb3.0/8, mb1 3.1/8, mb1mx2.9/39, mbtmp3.9/8, Error ellipse: s-maj=58.3km s-min=11.2km az=54.0, Java Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LEM	**Lembang**	**1.81**	**228**	P	P	11 19 45.1	-0.1
	5.5nm,0.3s,baz=357,slow=8.5,SNR=6.2						
CMAR	**Chiang Mai Arr**	**25.89**	**338**	P	P	11 23 32.2	+0.7
	0.7nm,0.3s,baz=166,slow=8.2,SNR=4.6						
WRA	**Warramunga Arr**	**28.48**	**122**	P	P	11 23 54.0	-0.4
	0.1nm,0.3s,baz=300,slow=8.6,SNR=7.2						
WRA				ScP	ScP	11 29 43.3	-0.5
	0.3nm,0.7s,baz=311,slow=2.8,SNR=6.3						
ASAR	**Alice Springs**	**29.96**	**129**	P	P	11 24 07.2	-0.1
	0.3nm,0.3s,baz=306,slow=8.3,SNR=21						
ASAR				ScP	ScP	11 29 48.1	-0.5
	0.4nm,0.8s,baz=308,slow=2.4,SNR=5.1						
STKA	**Stephens Creek**	**40.16**	**135**	P	P	11 25 32.5	+0.2
	2.2nm,0.5s,baz=312,slow=7.0,SNR=8.8						
SONM	**Songino Array**	**53.27**	**358**	P	P	11 27 11.5	0.0
	0.4nm,0.4s,baz=176,slow=7.6,SNR=2.8						
MKAR	**Makanchi Array**	**57.30**	**338**	P	P	11 27 39.1	-0.4
	1.3nm,0.4s,baz=152,slow=7.6,SNR=16						
KURBB	**Kurchatov Arra**	**61.86**	**339**	P	P	11 28 09.8	-0.1
	0.3nm,0.5s,baz=140,slow=5.8,SNR=4.5						
ZALV	**Zalesovo Beam**	**62.72**	**344**	P	P	11 28 15.3	0.0
	0.9nm,0.3s,baz=152,slow=6.5,SNR=3.0						

*NAO **27** 11:19:57.7±1.2, 59°67N×24°47E, ML2.6*
*ISCJB **27** 11:19:57.6±0.5, 59°82N±0°03×24°30E±0°06, h0km, Error ellipse: s-maj=4.5km s-min=3.7km az=20.2*
*BER **27** 11:19:58.1±4.0, 59°64N×24°44E, h0km, ML2.6(NAO), Suspected explosion*
*CSEM **27** 11:19:58.7±0.2, 59°81N×24°34E, h1km, ML2.6, Error ellipse: s-maj=4.1km s-min=3.6km az=119.0, Mining explosion.*
*HEL **27** 11:19:59.4±0.1, 59°81N×24°30E, h0km, ML2.6, Explosion*
*UPP **27** 11:19:59.0, 59°96N×24°38E, h0km, ML2.6, Suspected Mining explosion.*
*IDC **27** 11:20:00.7±1.0, 59°89N×24°22E, h0km, mb1 3.6/4, mb1mx3.2/28, mbtmp3.5/4, ML3.8/3, Error ellipse: s-maj=10.9km s-min=5.8km az=144.0*
ISC 27 11:19:58.0±0.7, 59°82N±0°02×24°24E±0°03, h0km, n48, σ1s09/67, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRPE	**Suurupi**	**0.36**	**169**	*e*P	**Pg**	**11 20 05.6**	**+0.7**
SRPE				*e*S	**Sg**	**11 20 10.5**	**+0.8**
SRPE	**Suurupi**	**0.36**	**169**	P	**Pg**	**11 20 05.6**	**+0.7**
SRPE				S	**Sg**	**11 20 10.4**	**+0.8**
MEF	**Metsahovi**	**0.41**	**11**	*e*P	**Pg**	**11 20 06.6**	**+0.9**
MEF				*e*S	**Sg**	**11 20 11.9**	**+0.9**
PVF	**Pernaja**	**1.09**	**47**	*e*P	**Pg**	**11 20 18.8**	**0.0**
PVF				*e*S	**Sg**	**11 20 32.1**	**-0.8**
PVF	**Pernaja**	**1.09**	**47**	P	**Pg**	**11 20 18.7**	**0.0**
PVF				S	**Sg**	**11 20 32.1**	**-0.8**
MTSE	**Matsula**	**1.13**	**191**	*e*P	**Pg**	**11 20 19.8**	**+0.1**
MTSE				*e*S	**Sg**	**11 20 34.0**	**-0.3**
MTSE	**Matsula**	**1.13**	**191**	P	**Pg**	**11 20 19.7**	**+0.1**
MTSE				S	**Sg**	**11 20 33.9**	**-0.3**
RAF	**Rauma**	**1.72**	**316**	*e*P	**Pb**	**11 20 30.3**	**-0.2**
RAF				*e*S	**Sg**	**11 20 53.5**	**+0.2**
RAF	**Rauma**	**1.72**	**316**	P	**Pb**	**11 20 30.2**	**-0.2**
RAF				S	**Sg**	**11 20 53.5**	**+0.2**
FIA0	**FINESS Array S**	**1.86**	**28**	Pn	**Pb**	**11 20 32.7**	**-0.1**
	baz=202,slow=18						
FIA0				Lg	Lg	11 20 59.0	
	baz=182,slow=28						
FIA0	**FINESS Array S**	**1.86**	**28**	Pn	**Pb**	**11 20 32.7**	**-0.1**
	baz=202,slow=18						
FIA0				Lg	Lg	11 20 59.0	
	baz=182,slow=28						
FIA0	**FINESS Array S**	**1.86**	**28**	Pn	**Pb**	**11 20 32.7**	**-0.1**
	baz=202,slow=17,SNR=50						
FIA0				Lg	Lg	11 20 59.0	
	baz=182,slow=28,SNR=0.8						
FINES	**FINESS Array B**	**1.86**	**28**	Pg	**Pb**	**11 20 32.6**	**-0.2**
	13nm,0.3s,baz=209,slow=17,SNR=155						
FINES				Lg	Lg	11 20 58.1	
	19nm,0.3s,baz=207,slow=34,SNR=31						
VSU	**Vasula**	**1.87**	**136**	Pg	Pn	11 20 27.8	-3.4
VSU	**Vasula**	**1.87**	**136**	Pg	Pn	11 20 27.8	-3.4
VSU	**Vasula**	**1.87**	**136**	Pg	Pn	11 20 27.8	-3.4
	SNR=90						
AAL	**Aland**	**2.17**	**281**	P	**Pb**	**11 20 37.5**	**-0.5**
AAL				S	**Sb**	**11 21 05.7**	**+0.4**
AAL	**Aland**	**2.17**	**281**	P	**Pb**	**11 20 37.5**	**-0.5**
AAL				S	**Sb**	**11 21 05.7**	**+0.4**
KEF	**Keuruu**	**2.38**	**7**	MSG		11 21 14.1	
	comp=Z,26nm,0.2s						
KAF	**Kangasniemi**	**2.51**	**23**	MSG		11 21 17.0	
	comp=Z,25nm,0.3s						
NRTU	**Norrtaelje**	**2.84**	**270**	P	**Pb**	**11 20 47.3**	**-2.3**
	baz=93						
NRTU	**Norrtaelje**	**2.84**	**270**	P	**Pb**	**11 20 47.3**	**-2.3**
	baz=93						
NRTU				S	**Sb**	**11 21 25.4**	**+0.5**
GRAU	**Graesoe**	**2.91**	**283**	P	**Pn**	**11 20 46.1**	**+0.7**
GRAU				S	**Sn**	**11 21 22.3**	**+1.4**
GRAU	**Graesoe**	**2.91**	**283**	P	**Pn**	**11 20 46.1**	**+0.7**
GRAU				S	**Sn**	**11 21 22.3**	**+1.4**
FLYU	**Flymyra**	**3.21**	**278**	P	**Pn**	**11 20 51.3**	**+1.7**
FLYU				S	**Sn**	**11 21 29.1**	**+0.6**
FLYU	**Flymyra**	**3.21**	**278**	P	**Pn**	**11 20 51.3**	**+1.7**
FLYU				S	**Sn**	**11 21 29.1**	**+0.6**
NYNU	**Nynaeshamn**	**3.29**	**258**	P	**Pn**	**11 20 52.6**	**+1.9**
NYNU	**Nynaeshamn**	**3.29**	**258**	P	**Pn**	**11 20 52.6**	**+1.9**
OSTU	**Oestervaala**	**3.59**	**280**	P	**Pn**	**11 20 55.8**	**+1.0**
OSTU				S	**Sn**	**11 21 38.7**	**+0.8**
OSTU	**Oestervaala**	**3.59**	**280**	P	**Pn**	**11 20 55.8**	**+1.0**
OSTU				S	**Sn**	**11 21 38.7**	**+0.8**
BACU	**Backbrunna**	**3.60**	**274**	P	**Pn**	**11 20 57.3**	**+2.4**
BACU	**Backbrunna**	**3.60**	**274**	P	**Pn**	**11 20 57.4**	**+2.4**
ARNU	**Arnoeviken**	**3.86**	**302**	P	**Pn**	**11 20 59.5**	**+1.1**
ARNU	**Arnoeviken**	**3.86**	**302**	P	**Pn**	**11 20 59.5**	**+1.1**
HFS	**Hagfors**	**5.31**	**278**	Pn	**Pn**	**11 21 19.1**	**+0.7**
	baz=91,slow=11						
HFS				Sn	**Sn**	**11 22 20.3**	**+0.1**
	baz=83,slow=28						
HFS	**Hagfors**	**5.31**	**278**	Pn	**Pn**	**11 21 19.1**	**+0.7**
	baz=91,slow=11						
HFS				Sn	**Sn**	**11 22 20.3**	**+0.1**
	baz=83,slow=28						
HFS	**Hagfors**	**5.31**	**278**	Pn	**Pn**	**11 21 19.1**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=86,slow=14,SNR=13						
HFS				Sn	**Sn**	**11 22 19.6**	**-0.6**
	comp=Z,3.2nm,0.3s,baz=86,slow=28,SNR=10						
HFS				Lg	Lg	11 22 48.3	
	comp=Z,6.0nm,0.3s,baz=84,slow=28,SNR=8.2						
HFS	**Hagfors**	**5.31**	**278**	Pn	**Pn**	**11 21 19.1**	**+0.7**
	baz=91,slow=11,SNR=50						
HFS				Sn	**Sn**	**11 22 20.3**	**+0.1**
	baz=83,slow=23,SNR=50						
NB2	**NORSAR Subarra**	**6.57**	**286**	Pn	**Pn**	**11 21 36.0**	**+0.3**
	baz=95,slow=14						
NB2				Sn	**Sn**	**11 22 49.2**	**-2.0**
	baz=96,slow=22						
NB2				Lg	Lg	11 23 21.8	
NB2	**NORSAR Subarra**	**6.57**	**286**	Pn	**Pn**	**11 21 36.0**	**+0.3**
	baz=95,slow=14						
NB2				Sn	**Sn**	**11 22 49.2**	**-2.0**
	baz=96,slow=22						
NB2				Lg	Lg	11 23 21.8	
NB2	**NORSAR Subarra**	**6.57**	**286**	Pn	**Pn**	**11 21 36.0**	**+0.3**
	baz=95,slow=13,SNR=50						
NOA	**NORSAR Array B**	**6.57**	**286**	Pn	**Pn**	**11 21 35.3**	**-0.4**
	comp=Z,1.5nm,0.3s,baz=92,slow=13,SNR=40						
NOA				Sn	**Sn**	**11 22 48.0**	**-3.2**
	comp=Z,1.6nm,0.3s,baz=124,slow=22,SNR=11						
NOA				Lg	Lg	11 23 25.6	
	comp=Z,2.5nm,0.3s,baz=114,slow=20,SNR=5.6						
VRF	**Varrio**	**8.30**	**14**	MSG		11 24 30.7	
	comp=Z,4.0nm,0.2s						
AKASG	**Malin Array Be**	**9.57**	**161**	Pn	**Pn**	**11 22 15.5**	**-1.3**
	comp=Z,1.1nm,0.3s,baz=342,slow=13,SNR=3.3						
AKASG				Lg

FINES	**FINES Array B**	**1.86**	**28**	Pg		**Pb**	**11 31 56.0**	**-0.4**
	2.1nm,0.3s,baz=204,slow=18,SNR=37							
FINES				Lg		Lg	11 32 20.6	
	1.3nm,0.3s,baz=210,slow=29,SNR=10							
KEF	**Keuruu**	**2.37**	**7**	MSG			11 32 37.9	
	comp=Z,2.4nm,0.1s							
KAF	**Kangasniemi**	**2.51**	**23**	MSG			11 32 40.6	
	comp=Z,1.2nm,0.1s							
SUF	**Sumiainen**	**3.05**	**17**	MSG			11 33 10.8	
	comp=Z,1.0nm,0.2s							
HFS	**Hagfors**	**5.30**	**278**	Pn		**Pn**	**11 32 43.4**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=73,slow=17,SNR=3.3							
HFS				Sn		**Sn**	**11 33 43.7**	**0.0**
	comp=Z,0.4nm,0.3s,baz=86,slow=24,SNR=5.9							
NOA	**NORSAR Array B**	**6.56**	**286**	Pn		**Pn**	**11 32 58.8**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=97,slow=13,SNR=6.3							
NOA				Sn		**Sn**	**11 34 12.5**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=49,slow=12,SNR=4.2							
ARCES	**ARCESS Array B**	**9.76**	**3**	Pn		**Pn**	**11 33 43.1**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=181,slow=15,SNR=2.8							

MEX ***27*** *11:48:40.1±0.3,32.2°N×114.6°W,h36km±29km,MD3.8*
ISCJB ***27*** *11:48:41.6±0.5,32.1°N±0.03°×115.1°W±0.04°,h25km±5km, Error ellipse: s-maj=5.7km s-min=4.3km az=6.8*
NEIC ***27*** *11:48:42.7,32.1°N×115.2°W,h8km,ML3.0(PAS), ML3.3(ECX), After ECX.*
ECX ***27*** *11:48:42.7±0.6,32.1°N×115.2°W,h8km,MD3.0,ML3.2*

ISC 27 11:48:41.2±1.0,32.1°N±0.03°×115.1°W±0.03,h22km±5km, n24,σ0°64/40,4C-4D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.24**	**348**	*e*P	**Pn**	**11 48 48.8**	**+1.8**
CPBX	**Cerro Prieto**	**0.28**	**331**	*e*P	**Pb**	**11 48 48.6**	**+0.9**
CPBX				*e*S	**Sn**	**11 48 55.4**	**-0.2**
CPBX	**Cerro Prieto**	**0.28**	**331**	*e*P9	**Pb**	**11 48 47.2**	**-0.5**
CPBX				*e*S	**Sb**	**11 48 51.2**	**-1.0**
CPBX				⇑*e*		11 48 55.4	
CPBX				IAML		11 48 55.4	
	comp=N,10μm,0.3s						
EMSC	**East Mesa**	**0.58**	**13**	⇓*i*P	**Pn**	**11 48 53.8**	**-0.4**
YMD	**Yuma Desert**	**0.63**	**53**	⇓*i*P	**Pb**	**11 48 54.4**	**+0.7**
SGL	**Mount Signal**	**0.68**	**314**	⇓*i*P	**Pb**	**11 48 54.8**	**+0.2**
COA	**Coachella**	**0.69**	**1**	⇓*i*P	**Pb**	**11 48 55.1**	**+0.5**
ECBX	**El Chinero**	**0.70**	**174**	*e*P9	**Pb**	**11 48 54.2**	**-0.6**
ECBX				*e*S	**Sb**	**11 49 03.6**	**-0.5**
RDX	**Rancho Dawling**	**0.72**	**250**	⇑*e*P	**Pb**	**11 48 55.0**	**-0.3**
RDX				*e*S	**Sb**	**11 49 03.8**	**-1.0**
RDX				⇑*e*		11 49 05.4	
RDX				IAML		11 49 05.4	
	comp=N,830nm,0.3s						
RMX	**La Rumorosa**	**0.90**	**299**	*e*P	**Pb**	**11 48 58.2**	**-0.1**
RMX				*e*S	**Sb**	**11 49 09.8**	**-0.1**
GLA	**Glamis**	**0.92**	**17**	*e*Pg	**Pb**	**11 48 58.5**	**+0.1**
GLA				*e*Sg	**Sb**	**11 49 10.2**	**0.0**
SPIG	**San Pedro Mart**	**1.16**	**194**	*e*P	**Pn**	**11 49 02.0**	**-0.4**
SPIG				*e*S	**Sb**	**11 49 18.5**	**+1.0**
SPIG	**San Pedro Mart**	**1.16**	**194**	*e*P	**Pn**	**11 49 02.0**	**-0.4**
SPIG				*e*S	**Sb**	**11 49 18.5**	**+1.0**
SPX	**San Pedro Mart**	**1.16**	**194**	*e*P	**Pn**	**11 49 02.4**	**-0.1**
SPX				*e*S	**Sb**	**11 49 18.4**	**+0.9**
SPX	**San Pedro Mart**	**1.16**	**194**	*e*P	**Pn**	**11 49 02.0**	**-0.5**
SPX				*e*S	**Sb**	**11 49 17.8**	**+0.3**
ZAX	**El Zacaton**	**1.17**	**236**	*e*P	**Pn**	**11 49 02.2**	**-0.2**
CBX	**Cerro Bola**	**1.30**	**277**	*e*P	**Pn**	**11 49 05.6**	**+0.6**
CBX				*e*S	**Sb**	**11 49 22.1**	**+0.8**
CBX	**Cerro Bola**	**1.30**	**277**	*e*P	**Pn**	**11 49 05.6**	**+0.6**
CBX				*e*S	**Sb**	**11 49 22.1**	**+0.8**
CBX	**Cerro Bola**	**1.30**	**277**	*e*P	**Pn**	**11 49 04.0**	**-0.2**
CBX				*e*S	**Sb**	**11 49 21.3**	**0.0**
CBX				IAML		11 49 22.4	
	comp=N,475nm,0.5s						
CBX				⇓*e*		11 49 22.4	
ECNX	**Esteban Cantu**	**1.34**	**248**	*e*P	**Pn**	**11 49 04.9**	**+0.1**
ECNX				*e*S	**Sn**	**11 49 22.3**	**+0.3**
BAR	**Barrett**	**1.39**	**292**	*e*Pn	**Pb**	**11 49 06.9**	**+0.4**
BAR				*e*Sn	**Sb**	**11 49 24.1**	**+0.2**
PBX	**Punta Banda**	**1.41**	**253**	*e*P	**Pn**	**11 49 05.8**	**+0.1**
PBX				*e*S	**Sn**	**11 49 24.1**	**+0.4**
PFO	**Pinyon Flats O**	**1.81**	**323**	*e*Pn	**Pn**	**11 49 10.4**	**-0.8**
214A	**Organ Pipe Nat**	**1.99**	**96**	*e*Pn	**Pn**	**11 49 13.5**	**-0.1**

ISCJB ***27*** *12:00:05.0±0.6,59.87°N±0.04°×24.78°E±0.08,h0km,Error ellipse: s-maj=6.7km s-min=4.2km az=41.0*
IDC ***27*** *12:00:05.1±2.3,59.71°N×25.25°E,h0km,mb1 3.0/3, mb1mx2.8/27,mbtmp2.9/3,ML2.9/2,Error ellipse: s-maj=25.2km s-min=8.0km az=132.0*
HEL ***27*** *12:00:06.7±0.0,59.86°N×24.82°E,h0km,ML1.9,Explosion*

ISC 27 12:00:05.5±0.9,59.87°N±0.04°×24.87°E±0.08,h0km,n11, σ0°92/16,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**0.42**	**326**	*e*P	**Pg**	**12 00 14.1**	**+0.5**
MEF				*e*S	**Sg**	**12 00 19.7**	**+0.6**
SRPE	**Suurupi**	**0.47**	**211**	*e*P	**Pg**	**12 00 14.8**	**+0.2**
SRPE				*e*S	**Sg**	**12 00 20.7**	**0.0**
PVF	**Pernaja**	**0.84**	**36**	*e*P	**Pg**	**12 00 22.2**	**+0.6**
PVF				*e*S	**Sg**	**12 00 33.1**	**+0.5**
VJF	**Virojoki**	**1.50**	**62**	*e*P	**Pn**	**12 00 33.9**	**+0.2**
VJF				*e*S	**Sg**	**12 00 53.8**	**0.0**
FIA0	**FINESS Array S**	**1.69**	**20**	*e*P	**Pb**	**12 00 37.4**	**-0.1**
FIA0				*e*S	**Sg**	**12 00 59.8**	**0.0**
FINES	**FINESS Array B**	**1.69**	**20**	Pn	**Pb**	**12 00 37.5**	**0.0**
	2.0nm,0.3s,baz=190,slow=16,SNR=52						
FINES				Lg	Lg	12 01 00.6	
	1.9nm,0.3s,baz=209,slow=30,SNR=19						
KEF	**Keuruu**	**2.31**	**0**	MSG		12 01 20.0	
	comp=Z,5.4nm,0.1s						
KAF	**Kangasniemi**	**2.36**	**17**	MSG		12 01 20.6	
	comp=Z,4.6nm,0.2s						
HFS	**Hagfors**	**5.61**	**278**	Pn	**Pn**	**12 01 31.0**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=95,slow=18,SNR=4.0						
HFS				Sn	**Sn**	**12 02 34.6**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=86,slow=28,SNR=2.5						
NOA	**NORSAR Array B**	**6.85**	**286**	Pn	**Pn**	**12 01 47.2**	**0.0**
	comp=Z,0.1nm,0.3s,baz=44,slow=12,SNR=3.2						
ARCES	**ARCESS Array B**	**9.71**	**1**	Pn	**Pn**	**12 02 26.8**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=179,slow=14,SNR=7.8						
ARCES				Sn	**Sn**	**12 04 13.0**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=184,slow=22,SNR=3.1						

IDC ***27*** *12:12:31.1±0.8,19.39°×167.92E,h0km,mb4.2/12, mb1 4.4/13,mb1mx4.2/28,mbtmp4.3/13,ML4.1/1,MS3.6/6, Ms1 3.5/6,ms1mx3.2/17,Error ellipse: s-maj=22.8km s-min=18.2km az=123.0*
NEIC ***27*** *12:12:32.5±0.3,19.38S×167.92E,h10km,mb4.8/6,Error ellipse: s-maj=9.0km s-min=8.0km az=92.0*
ISCJB ***27*** *12:12:33.5±0.5,19.49S±0.05°×167.83E±0.09,h26km, mb4.4/15,MS3.6/5,Error ellipse: s-maj=12.7km s-min=7.0km az=17.4*

ISC 27 12:12:35.0±0.6,19.49S±0.07°×167.9E±0.1,h26km,n34, σ0°84/34,mb4.4/15,MS3.7/5,2D,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.91**	**208**	*e*Pn	**Pn**	**12 13 20.0**	**+0.3**
	84nm,0.2s						
DZM				*e*Sn	**Sn**	**12 13 54.7**	**+0.8**
	228nm,0.2s						
DZM	**Mont Dzumac**	**2.91**	**208**	Pn	**Pn**	**12 13 20.0**	**+0.3**
	23nm,0.3s,baz=90,slow=20,SNR=339						
DZM				Sn	**Sn**	**12 13 53.2**	**-0.7**
	35nm,0.3s,baz=101,slow=24,SNR=8.3						
DZM				LR	LR	12 14 00.9	
	comp=Z,427nm,19.0s,baz=0.0,slow=30						
DZM	**Mont Dzumac**	**2.91**	**208**	*e*P	**Pn**	**12 13 19.6**	**-0.1**
DZM				*e*S	**Sn**	**12 13 54.7**	**+0.8**
NOUC	**Port Laguerre**	**3.00**	**210**	*e*P	**Pn**	**12 13 19.2**	**-1.6**
NOUC				*e*S	**Sn**	**12 13 53.3**	**-2.6**
OUZ	**Omahuta**	**16.46**	**163**	*e*Pn	**P**	**12 16 26.1**	**-0.6**
URZ	**Urewera**	**20.35**	**159**	P	**P**	**12 17 09.9**	**+0.5**
	12nm,0.7s,baz=328,slow=13,SNR=2.2						
CTA	**Charters Tower**	**20.37**	**265**	P	**P**	**12 17 10.6**	**+0.8**
	4.1nm,0.8s,baz=90,slow=14,SNR=4.7						
CTAO	**Charters Tower**	**20.37**	**265**	*e*Pn	Pn	12 17 12.3	+0.3
	42nm,1.1s						
STKA	**Stephens Creek**	**26.64**	**237**	P	**P**	**12 18 12.4**	**+0.8**
	4.4nm,1.0s,baz=66,slow=10,SNR=6.4						
STKA				LR	LR	12 27 37.7	
	comp=Z,135nm,21.9s,baz=36,slow=34						
WRA	**Warramunga Arr**	**31.56**	**263**	P	**P**	**12 18 54.8**	**-0.8**
	2.1nm,0.6s,baz=100,slow=8.3,SNR=28						
WRA				PcP	**PcP**	**12 21 47.9**	**0.0**
	0.7nm,0.7s,baz=98,slow=3.3,SNR=4.0						
WRA				LR	LR	12 32 15.7	
	comp=Z,139nm,18.2s,baz=120,slow=38						
ASAR	**Alice Springs**	**31.84**	**256**	P	**P**	**12 18 58.2**	**+0.2**
	6.0nm,0.7s,baz=84,slow=8.6,SNR=67						
ASAR				LR	LR	12 31 40.1	
	comp=Z,158nm,18.5s,baz=118,slow=36						
PPT2	**Papeete2**	**40.29**	**94**	*e*LR	LR	12 31 38.7	
	134nm,28.2s						
SIJI	**Sorong**	**40.36**	**293**	P	**P**	**12 20 10.3**	**-0.6**
	6.3nm,0.8s,baz=99,slow=8.3,SNR=3.7						
VNDA	**Vanda**	**58.15**	**182**	P	**P**	**12 22 27.4**	**+1.4**
	1.2nm,0.8s,baz=10,slow=5.0,SNR=5.6						
KSM	**Kuching**	**60.20**	**283**	*e*P	**P**	**12 22 41.6**	**+0.4**
	7.2nm,0.6s						
IPM	**Ipoh**	**69.89**	**282**	*e*P	**P**	**12 23 44.1**	**-0.2**
	7.6nm,0.6s						
QSPA	**South Pole Qui**	**70.57**	**180**	*e*P	**P**	**12 23 47.5**	**-0.2**
	7.7nm,1.0s						
PETK	**Petropavlovsk-**	**72.83**	**354**	P	**P**	**12 24 01.4**	**+0.3**
	3.4nm,0.7s,baz=162,slow=7.7,SNR=6.6						
CMAR	**Chiang Mai Arr**	**77.45**	**295**	P	**P**	**12 24 29.5**	**+0.9**
	0.5nm,0.3s,baz=132,slow=5.0,SNR=4.0						
SONM	**Songino Array**	**86.66**	**324**	P	**P**	**12 25 16.8**	**+0.4**
	0.6nm,0.4s,baz=134,slow=6.2,SNR=3.4						
BILL	**Bilibino**	**87.28**	**359**	*e*P	**P**	**12 25 18.6**	**-0.1**
	3.0nm,0.8s						
NVAR	**Mina Array Bea**	**89.92**	**49**	P	**P**	**12 25 32.0**	**-0.2**
	1.7nm,1.0s,baz=226,slow=7.4,SNR=7.2						
ILAR	**Eielson Array**	**90.85**	**18**	P	**P**	**12 25 34.6**	**-1.1**
	1.0nm,0.9s,baz=226,slow=6.6,SNR=8.8						
SHPR	**Sheep Range**	**91.42**	**52**	*e*P	**P**	**12 25 39.1**	**-0.1**
	10nm,1.6s						
PDAR	**Pinedale Array**	**97.72**	**47**	LR	LR	13 08 40.9	
	comp=Z,16nm,18.6s,baz=232,slow=34						
TXAR	**Lajitas Array**	**98.00**	**62**	LR	LR	13 04 49.4	
	comp=Z,20nm,18.1s,baz=0.0,slow=32						
YKA	**Yellowknife Ar**	**101.47**	**28**	P	**Pdif**	**12 26 23.1**	**-0.8**
	0.1nm,0.5s,baz=258,slow=4.7,SNR=3.9						
GERES	**GERESS Array B**	**144.10**	**331**	PKP	PKPbc	12 32 07.3	+0.8
	0.6nm,0.5s,baz=48,slow=2.0,SNR=4.7						
KBA	**Koelnbreinsper**	**145.52**	**329**	⇓*i*PKPab	**PKPab**	**12 32 11.4**	**0.0**
	10nm,1.1s						
FETA	**Feichten**	**146.80**	**331**	⇓*i*pPKPdf	**PKPbc**	**12 32 15.8**	**+0.8**
	6.7nm,0.9s						
BFO	**Black Forest**	**146.82**	**335**	*e*PKPdf	**PKPdf**	**12 32 12.4**	**-0.6**
BNI	**Bardonecchia**	**150.12**	**333**	*e*PKPdf	**PKPdf**	**12 32 17.5**	**-1.1**
ESDC	**Sonseca Array**	**158.69**	**342**	PKPab	**PKPab**	**12 33 05.9**	**-0.1**
	0.3nm,0.5s,baz=356,slow=3.9,SNR=2.6						
TORD	**Torodi Ar. Bea**	**165.34**	**247**	PKPab	**PKPab**	**12 33 35.7**	**-0.1**
	0.7nm,1.0s,baz=92,slow=4.5,SNR=4.5						

CSEM ***27*** *12:18:02.0±0.3,39.68°N×29.48E,h1km,MD2.9,Error ellipse: s-maj=6.2km s-min=5.1km az=110.0,Mining explosion.*

DDA 27 12:18:02.1,39.68°N×29.45E,h7km,MD2.9,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ULDT	**Uludag**	**0.53**	**332**	*i*P	Pg	12 18 12.0	-0.5
ULDT				*i*S	Sg	12 18 20.2	+0.6
ULDT	**Uludag**	**0.53**	**332**	*i*P	Pg	12 18 12.0	-0.6
ULDT				*i*S	Sg	12 18 20.2	+0.6
GDZ	**Gediz**	**0.59**	**178**	*i*P	Pg	12 18 13.6	0.0
GDZ				*i*S	Sg	12 18 22.2	+0.8
GDZ	**Gediz**	**0.59**	**178**	*i*P	Pg	12 18 13.6	0.0
GDZ				*i*S	Sg	12 18 22.2	+0.7
DURS	**Dursunbey**	**0.76**	**265**	*i*P	Pg	12 18 16.7	-0.2
DURS				*i*S	Sb	12 18 28.2	-0.2
DURS	**Dursunbey**	**0.76**	**265**	*i*P	Pg	12 18 16.7	-0.1
DURS				*i*S	Sb	12 18 28.2	-0.3
BORA	**Eskisehir**	**0.80**	**75**	*i*P	Pg	12 18 16.6	-1.0
BORA				*i*S	Sg	12 18 29.7	+0.2
BORA	**Eskisehir**	**0.80**	**75**	*i*P	Pg	12 18 16.6	-1.0
BORA				*i*S	Sb	12 18 29.7	+0.2
DEMI	**Demirci**	**0.85**	**222**	*i*P	Pg	12 18 18.2	-0.4
DEMI				*i*S	Sb	12 18 31.3	+0.2
DEMI	**Demirci**	**0.85**	**222**	*i*P	Pg	12 18 18.2	-0.4
DEMI				*i*S	Sb	12 18 31.3	+0.2
BUY	**Buyukada**	**1.20**	**348**	*i*P	Pn	12 18 25.3	0.0
BUY				*i*S	Sn	12 18 42.4	+0.5
BUY	**Buyukada**	**1.20**	**348**	*i*P	Pb	12 18 25.3	0.0
BUY				*i*S	Sn	12 18 42.4	+0.5
BALY	**Balya**	**1.42**	**273**	*i*P	Pb	12 18 29.0	+0.1
BALY				*i*S	Sg	12 18 48.6	+0.8
BALY	**Balya**	**1.42**	**273**	*i*P	Pb	12 18 29.0	+0.1
BALY				*i*S	Sg	12 18 48.6	+0.8

CSEM ***27*** *12:18:25.8,37.26°N×28.21E,h5km,MD2.6*

ISK 27 12:18:25.8,37.26°N×28.21E,h5km,MD2.6,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.13**	**155**	PG	Pg	12 18 29.0	+0.4
YER				*e*SG	Sg	12 18 31.5	+1.0
YER	**Yerkesik**	**0.13**	**155**	*i*Pg	Pg	12 18 29.0	+0.4
YER				*e*Sg	Sg	12 18 31.5	+1.0
DALY	**Dalyan (Mu˘la**	**0.56**	**141**	*e*PG	Pb	12 18 37.9	-0.2
DALY	**Dalyan (Mu˘la**	**0.56**	**141**	*e*Pg	Pb	12 18 37.9	-0.2
DAT	**Datca**	**0.73**	**224**	*e*PG	Pb	12 18 40.8	-0.4
DAT	**Datca**	**0.73**	**224**	*e*Pg	Pb	12 18 40.8	-0.4
AYDB	**Zeytinkoy-Aydi**	**0.74**	**340**	*e*PG	Pb	12 18 41.4	0.0
AYDB	**Zeytinkoy-Aydi**	**0.74**	**340**	*e*Pg	Pb	12 18 41.4	+0.1
BODT	**Bodrum**	**0.75**	**255**	*e*PG	Pb	12 18 41.6	+0.3
BODT	**Bodrum**	**0.75**	**255**	*e*Pg	Pb	12 18 41.7	+0.4
FETY	**Fethiye**	**0.93**	**131**	*e*PG	Pn	12 18 45.3	-0.3
FETY	**Fethiye**	**0.93**	**131**	*e*Pg	Pn	12 18 45.3	-0.3

BUC 27 12:19:11.6±0.5,44.41°N×28.53E,h10km±2km,MD2.0/3, 6C-2D,Error ellipse: s-maj=4.5km s-min=2.4km az=93.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIRR	**Tirgusor**	**0.10**	**299**	⇑*i*P	Pg	12 19 14.3	+0.1
TIRR				*i*S	Sg	12 19 16.5	+0.5
TIRR	**Tirgusor**	**0.10**	**299**	⇑*i*P	Pg	12 19 14.3	+0.1
TIRR				*i*S	Sg	12 19 16.5	+0.5
TLB	**Topalu**	**0.39**	**297**	⇓*i*P	Pg	12 19 19.7	+0.4
TLB	**Topalu**	**0.39**	**297**	S	Sb	12 19 25.6	-1.0
TLB	**Topalu**	**0.39**	**297**	⇓*i*P	Pg	12 19 19.7	+0.4
TLB				*i*S	Sb	12 19 25.6	-1.0
MSAB	**Monastry St. A**	**0.60**	**238**	⇑*i*P	Pb	12 19 23.9	-0.2
MSAB	**Monastry St. A**	**0.60**	**238**	⇑*i*P	Pb	12 19 23.9	-0.2
MSAB				*i*S	Sb	12 19 33.7	+0.8
CFR	**Carcaliu**	**0.82**	**340**	⇑*i*P	Pb	12 19 28.3	+0.5
CFR	**Carcaliu**	**0.82**	**340**	⇑*i*P	Pb	12 19 28.3	+0.5
CFR				*i*S	Sb	12 19 39.9	+1.0

IDC ***27*** *12:28:08.4±2.4,54.19°N×86.40E,h0km,mb1 3.3/2, mb1mx3.0/30,mbtmp3.3/2,ML3.1/2,Error ellipse: s-maj=19.3km s-min=11.7km az=58.0*
NNC ***27*** *12:28:13.7±7.1,53.66°N×86.47E,h0km,mb3.3,mpv2.9, Error ellipse: s-maj=64.7km s-min=50.3km az=77.0*

ISC 27 12:28:16.3±5.6,54.0°N±0.2°×86.1°E±0.3,h35km,n7,σ2°38/7, 2C-4D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.78**	**265**	*i*		12 34 30.0	
	baz=75,slow=311,SNR=2.2						
ZALV	**Zalesovo Beam**	**0.78**	**265**	Pg	Pn	12 28 25.5	-5.2
	3.7nm,0.3s,baz=74,slow=16,SNR=10						
ZALV				Lg	Lg	12 28 40.5	
	10nm,0.3s,baz=76,slow=32,SNR=23						
ZALV				Rg	Rg	12 28 47.1	
	8.5nm,0.6s,baz=78,slow=29,SNR=7.9						
KURK	**Kurchatov**	**5.67**	**237**	⇓Pn	**Pn**	**12 29 37.7**	**-0.2**
	0.6nm,0.7s						
KURK				⇓Lg	Lg	12 31 15.2	
	1.8nm,1.2s						
KURBB	**Kurchatov Arra**	**5.77**	**237**	⇓Pn	**Pn**	**12 29 39.8**	**+0.5**
	1.8nm,0.5s						
KURBB				⇑Lg	Lg	12 31 17.6	
	2.9nm,0.7s						
KURBB	**Kurchatov Arra**	**5.77**	**237**	Pn	**Pn**	**12 29 39.1**	**-0.2**
	0.2nm,0.3s,baz=52,slow=13,SNR=17						
KURBB				Lg	Lg	12 31 19.3	
	0.0nm,0.3s,baz=57,slow=31,SNR=5.2						
MK31	**Makanchi Array**	**7.64**	**200**	Pn	**Pn**	**12 30 05.4**	**+0.3**
	0.3nm,0.5s,baz=26,slow=14,SNR=22						
MK31				⇑Sn	**Sn**	**12 31 27.1**	**-3.3**
	0.1nm,0.4s						
MK31				⇓Lg	Lg	12 32 08.1	
	1.3nm,0.9s,baz=31,slow=29						
MKAR	**Makanchi Array**	**7.64**	**200**	Pn	**Pn**	**12 30 04.8**	**-0.3**
	0.5nm,0.3s,baz=24,slow=13,SNR=24						
MKAR				Sn	**Sn**	**12 31 33.7**	**+3.3**
	0.1nm,0.3s,baz=24,slow=21,SNR=3.3						
MKAR				Lg	Lg	12 32 16.1	
	0.1nm,0.3s,baz=17,slow=31,SNR=8.1						

IDC ***27*** *12:33:46.2±1.5,1.54°N×122.99E,h0km,mb3.5/4, mb1 3.6/4,mb1mx3.4/30,mbtmp3.5/4,Error ellipse: s-maj=196.1km s-min=23.6km az=62.0*
DJA ***27*** *12:34:15.9±0.7,2.2°N±4.4°×122.5E±1.1°,h251km±9km,M4.0/8, mb4.1/3,MLv4.0/8*
ISCJB ***27*** *12:34:17.0±1.4,1.7°N±0.1°×124.79E±0.07,h250km, mb3.2/4,Error ellipse: s-maj=20.2km s-min=9.1km az=6.3*

ISC 27 12:34:15.8±1.7,1.9°N±0.1°×124.77E±0.07,h250km,n10, σ2°20/11,mb3.4/4,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.54**	**211**	P	**Pn**	**12 34 56.1**	**+1.6**
TNTI	**Ternate**	**2.83**	**113**	P	**Pn**	**12 35 07.5**	**+0.9**
TNTI				S	**S**	**12 35 47.8**	**+1.1**
MRSI	**Marisa**	**3.16**	**243**	P	Pn	12 35 05.7	-4.4
MRSI				S	**S**	**12 35 54.5**	**+1.4**
SANI	**Sanana**	**4.12**	**163**	P	**Pn**	**12 35 21.7**	**+0.6**
SANI				S	**S**	**12 36 10.2**	**-2.8**
MPSI	**Mapaga**	**5.11**	**252**	P	**Pn**	**12 35 33.4**	**+0.4**
	4.0nm,1.2s,0.0nm						
NLAI	**Namlea**	**5.62**	**155**	S	**S**	**12 36 50.2**	**+4.2**
WRA	**Warramunga Arr**	**23.66**	**157**	P	**P**	**12 39 03.9**	**-1.2**
	0.9nm,0.7s,baz=331,slow=11,SNR=26						
ASAR	**Alice Springs**	**26.93**	**161**	P	**P**	**12 39 32.5**	**-2.0**
	0.1nm,0.4s,baz=337,slow=8.3,SNR=7.3						
STKA	**Stephens Creek**	**37.20**	**156**	P	**P**	**12 41 02.5**	**-0.9**
	1.5nm,0.9s,baz=332,slow=15,SNR=3.2						
MKAR	**Makanchi Array**	**57.96**	**327**	P	P	12 43 35.5	-6.8
	0.3nm,0.4s,baz=115,slow=8.6,SNR=6.3						

IDC 27 13:10:57.4±27.0,22.50S×174.97W,h0km,mb4.2/4, mb1 4.4/5,mb1mx3.9/21,mbtmp4.3/5,ML4.1/1,Error ellipse: s-maj=492.3km s-min=61.9km az=73.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**17.12**	**202**	P	P	13 14 59.0	-0.9
	0.6nm,0.3s,baz=299,slow=10,SNR=3.7						
CTA	**Charters Tower**	**36.14**	**266**	P	P	13 18 02.7	+1.0
	3.2nm,0.7s,baz=109,slow=8.8,SNR=8.8						
STKA	**Stephens Creek**	**39.53**	**247**	P	P	13 18 29.5	-0.7
	0.8nm,0.7s,baz=95,slow=11,SNR=3.1						
ASAR	**Alice Springs**	**46.84**	**258**	P	P	13 19 28.8	-0.6
	5.5nm,0.4s,baz=98,slow=7.4,SNR=11						
WRA	**Warramunga Arr**	**47.14**	**263**	P	P	13 19 31.4	-0.5
	1.1nm,0.4s,baz=102,slow=8.4,SNR=48						

IDC 27 13:16:50.9±3.6,4.05S×153.25E,h0km,mb4.4/2, mb1 4.6/2,mb1mx3.5/26,mbtmp4.4/2,Error ellipse: s-maj=145.0km s-min=51.2km az=119.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.27**	**228**	P	P	13 22 10.8	+0.7
	1.5nm,0.5s,baz=54,slow=10,SNR=21						
ASAR	**Alice Springs**	**27.00**	**222**	P	P	13 22 34.9	0.0
	8.0nm,0.5s,baz=57,slow=9.0,SNR=6.6						
TORD	**Torodi Ar. Bea**	**150.49**	**290**	PKPbc	PKPbc	13 36 44.6	-1.2
	0.5nm,0.7s,baz=66,slow=2.3,SNR=3.8						

JMA ***27*** *13:32:28.8±0.1,25.76°N×130.01E,h42km,M3.3*
ISCJB ***27*** *13:32:29.4±0.7,25.81°N±0.05°×129.97E±0.04,h33km, mb

CPBX				*e*S		**Sb**	**13 37 22.7**	**-0.4**
CPBX				*e*			13 37 28.3	
CPBX				IAML			13 37 28.3	
	comp=E,13µm,0.3s							
RDX	**Rancho Dawling**	**0.73**	**194**⇓	*e*P		**Pg**	**13 37 21.1**	**-0.4**
RDX				⇓*e*			13 37 34.4	
	comp=E,1µm,0.5s							
RDX				⇓*e*			13 37 34.8	
RDX				IAML			13 37 34.8	
	comp=N,676nm,0.3s							
BAR	**Barrett**	**0.80**	**273**⇑	*e*P		**Pg**	**13 37 22.4**	**-0.3**
CBX	**Cerro Bola**	**0.85**	**248**	*e*P		**Pg**	**13 37 23.8**	**0.0**
CBX				*e*S		**Sg**	**13 37 35.1**	**+0.1**
CBX	**Cerro Bola**	**0.85**	**248**	*e*P		**Pg**	**13 37 23.8**	**0.0**
CBX				*e*S		**Sg**	**13 37 35.1**	**+0.1**
CBX	**Cerro Bola**	**0.85**	**248**⇑	*e*P		**Pg**	**13 37 23.6**	**-0.2**
CBX				*e*S		**Sg**	**13 37 34.9**	**-0.1**
CBX				⇓*e*			13 37 38.8	
CBX				IAML			13 37 38.8	
	comp=E,1µm,0.5s							
GLA	**Glamis**	**0.86**	**61**	*e*Pg		**Pg**	**13 37 23.3**	**-0.8**
GLA				*e*Sg		**Sg**	**13 37 35.1**	**-0.3**
SDRC	**San Diego Road**	**1.03**	**276**	*e*P		**Pg**	**13 37 26.2**	**-0.9**
PFO	**Pinyon Flats O**	**1.14**	**328**	Pn		Pn	13 37 35.3	+6.0
ZAX	**El Zacaton**	**1.21**	**202**	*e*P		**Pb**	**13 37 29.9**	**-0.4**
ZAX				*e*S		**Sb**	**13 37 45.7**	**-0.3**
ECNX	**Esteban Cantu**	**1.23**	**217**	*e*P		**Pn**	**13 37 30.0**	**-0.4**
PBX	**Punta Banda**	**1.23**	**224**	*e*P2		**Pn**	**13 37 29.8**	**-0.6**
PBX				*e*S		**Sb**	**13 37 46.0**	**-0.3**
ECBX	**El Chinero**	**1.30**	**153**	*e*P9		**Pn**	**13 37 31.6**	**+0.3**
ECBX				*e*S		**Sn**	**13 37 49.3**	**+0.6**
ECBX				IAML			13 37 50.3	
	comp=E,696nm,0.4s							
SPIG	**San Pedro Mart**	**1.60**	**172**	*e*P		**Pn**	**13 37 36.9**	**+1.0**
SPIG				*e*S		**Sg**	**13 37 59.8**	**+0.8**
SPIG	**San Pedro Mart**	**1.60**	**172**	*e*P		**Pn**	**13 37 36.9**	**+1.0**
SPIG				*e*S		**Sg**	**13 37 59.8**	**+0.8**
SPX	**San Pedro Mart**	**1.61**	**172**	*e*P		**Pn**	**13 37 36.6**	**+0.7**
SPX				*e*S		**Sg**	**13 37 59.1**	**0.0**
SPX	**San Pedro Mart**	**1.61**	**172**	*e*P		**Pn**	**13 37 36.1**	**+0.2**
SPX				*e*S		**Sb**	**13 37 58.4**	**+0.8**
LDFC	**Landfair**	**2.49**	**12**	*e*Pn		**Pb**	**13 37 52.1**	**+0.1**
LDFC				*e*Pg		Pg	13 37 58.9	+3.9
LDFC				*e*Sn		**Sb**	**13 38 24.1**	**+1.4**
MWC	**Mount Wilson**	**2.51**	**310**	*e*Pn		**Pb**	**13 37 51.9**	**-0.5**
PASC	**Pasadena Art C**	**2.56**	**307**	*e*Pn		**Pb**	**13 37 53.3**	**+0.1**
214A	**Organ Pipe Nat**	**2.56**	**105**	*e*Pn		**Pn**	**13 37 47.0**	**-1.7**
214A				*e*Sn		Sn	13 38 13.7	-6.3
GSC	**Goldstone, Bar**	**2.80**	**342**	*e*Pn		**Pb**	**13 37 58.6**	**+1.2**
GSC				*e*Pg		Pg	13 38 08.1	+7.1
GSC				*e*Sn		**Sg**	**13 38 36.8**	**-0.5**
TUC	**Tucson**	**4.19**	**93**	Pn		**Pn**	**13 38 09.9**	**-1.3**
121A	**Cookes Peak, D**	**6.71**	**89**	*e*Pn		**Pn**	**13 38 44.8**	**-1.1**
	comp=E,7.0nm,0.5s							

*KLM **27** 13:48:21.1,9.77N×125.54E,h60km,mb4.8,MS5.4*
*MOS **27** 13:48:23.2±1.0,9.76N×125.66E,h148km,mb4.6/20,Error ellipse: s-maj=12.0km s-min=6.4km az=112.8*
*NEIC **27** 13:48:24.4±0.5,9.78N×125.62E,h146km±5km,mb4.7/35, Error ellipse: s-maj=5.5km s-min=3.6km az=77.0*
NEIC Felt [I PIVS] at Butuan, Caasinan and Cabadbaran.
*ISCJB **27** 13:48:24.1±0.3,9.81N±0.02×125.66E±0.03,h153km±2km, mb4.5/68,Error ellipse: s-maj=5.7km s-min=3.7km az=167.2*
*BJI **27** 13:48:24.8,9.90N×125.60E,h144km,mb4.5/16,mB4.9/13*
*GCMT **27** 13:48:24.4±0.2,9.82N×125.70E,h147km±2km,MW5.0/86, Moment Tensor Solution. s32,c41; s86,c125; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-3.25±.09; Mθθ3.48±.11; Mϕϕ-0.23±.13; Mrθ-0.19±.10; Mrϕ 1.32±.13; Mθϕ-0.00±.13; Best double couple: Ms3.58100×10^16^ NP1:ϕs73.00000°,δ46.00000°,λ-88.00000°. NP2: ϕs251.00000°,δ44.00000°,λ-92.00000°. Principal axes: T 3.9060, Plg1.0000°, Azm162.0000°; N -0.6510, Plg1.0000°, Azm252.0000°; P -3.2560, Plg88.0000°, Azm22.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **27** 13:48:25.2±1.2,9.77N×125.60E,h151km±10km,mb4.1/28, mb1 4.3/32,mb1mx4.2/34,mbtmp4.6/32,MS3.5/5, Ms1 3.6/5,ms1mx3.1/30 Error ellipse: s-maj=12.4km s-min=6.8km az=77.0*
*MAN **27** 13:48:25,9.81N×125.64E,h121km,mb5.5,ML4.5,MS4.8*
MAN INTENSITY I - BUTUAN CITY; BRGY KAASINAN CABADBARAN CITY AGUSAN DELNORTE.
*DJA **27** 13:48:28.0±1.2,10.1N±10×12.6E±,h105km±8km,M4.8/31, mB5.3/18,mb4.9/31,MLv5.2/2,Mw(mB)4.7/18*
ISC 27 13:48:25.1±0.6,**9.78N**±0.03×**125.60E**±0.05,**h149**km±5km, **n195**,σ1§**46**/205,**mb4.6**/68,**16C-14D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	Time	Res	ISC
							h m s		
SCPH	**Surigao**	**0.11**	**271**	⇓*i*	P		**Pn**	**13 48 46.8**	**+1.8**
SCPH				*i*	S		**Sn**	**13 49 01.7**	**+1.5**
PLP	**Palo**	**1.51**	**336**	⇑*i*	P		**Pn**	**13 48 54.3**	**-0.3**
PLP				*i*	S		**Sn**	**13 49 15.3**	**-2.0**
CGP	**Cagayan de Oro**	**1.59**	**214**	⇑*e*	P		**Pn**	**13 48 55.9**	**+0.4**
CGP				*e*	S		**Sn**	**13 49 18.0**	**-0.9**
TBP	**Tagbilaran**	**1.72**	**267**	⇑*i*	P		**Pn**	**13 48 57.9**	**+1.0**
TBP				*e*	S		**Sn**	**13 49 21.3**	**0.0**
DCPH	**Dipolog City**	**2.52**	**242**	⇓*i*	P		**Pn**	**13 49 07.0**	**+0.6**
DCPH				*i*	S		**Sn**	**13 49 38.1**	**-0.2**
DAV	**Davao City (W)**	**2.69**	**181**	*e*	Pn		**Pn**	**13 49 09.4**	**+0.8**
DAV				*e*	Sn		**Sn**	**13 49 42.4**	**+0.3**
CNP	**Catarman**	**2.87**	**341**	*e*	P		**Pn**	**13 49 10.4**	**-0.3**
CTBH	**Cotabato--PC H**	**2.88**	**208**	⇑*i*	P		**Pn**	**13 49 11.5**	**+0.7**
RCP	**Roxas**	**3.32**	**302**	⇑*e*	P		**Pn**	**13 49 17.7**	**+1.2**
GSPH	**General Santos**	**3.73**	**190**	⇓*i*	P		**Pn**	**13 49 23.2**	**+1.3**
PVCP	**Virac**	**4.05**	**340**	⇑*e*	P		**Pn**	**13 49 24.9**	**-1.1**
OTRP	**Odiongan**	**4.35**	**306**	*e*	P		**Pn**	**13 49 31.2**	**+1.3**
AUQP	**San Andres**	**4.54**	**321**	*e*	P		**Pn**	**13 49 34.9**	**+2.5**
GQP	**Guinayangan**	**5.13**	**323**	⇑*e*	P		**Pn**	**13 49 40.9**	**+0.6**
SJMP	**San Jose**	**5.14**	**302**	*e*	P		**Pn**	**13 49 42.7**	**+2.3**
LQP	**Lukban**	**5.86**	**318**	⇓*e*	P		**Pn**	**13 49 52.1**	**+2.0**
SGSI	**Sangihe** 455nm,0.8s,1.6nm	**6.05**	**181**	P			**Pn**	**13 49 53.2**	**+0.6**
TGY	**Tagaytay City** 46nm,0.3s,baz=152,slow=4.5,SNR=29	**6.27**	**314**	P			**Pn**	**13 49 56.5**	**+1.1**
TNTI	**Ternate** 87nm,0.9s,1µm	**9.12**	**169**	P			**Pn**	**13 50 31.5**	**-2.0**
TNTI	**Ternate** 74nm,0.8s	**9.12**	**169**	*e*Pn			**Pn**	**13 50 31.2**	**-2.2**
KMSI	**Cibinong** 384nm,0.8s,3µm	**9.29**	**190**	P			**Pn**	**13 50 38.6**	**+2.9**
TOLI	**Toli-Toli**	**9.84**	**209**	*e*Pn			**Pn**	**13 50 42.8**	**-0.3**
TOLI				*e*Sn			**Sn**	**13 52 29.0**	**-3.1**
MRSI	**Marisa** 121nm,1.0s	**9.93**	**202**	P			**Pn**	**13 50 46.2**	**+1.9**
KKM	**Kota Kinabalu**	**10.01**	**249**	⇓P			Pn	13 50 40.9	-4.5
KKM	**Kota Kinabalu** 35nm,0.8s	**10.01**	**249**	*e*Pn			**Pn**	**13 50 44.7**	**-0.8**
LUWI	**Luwuk** 265nm,1.0s,5µm	**11.11**	**195**	P			**P**	**13 51 05.1**	**-3.2**
LUWI	**Luwuk** 250nm,1.0s	**11.11**	**195**	Pn			Pn	13 50 55.7	-4.2
APSI	**Ampana** 87nm,0.8s,2µm	**11.33**	**201**	P			**P**	**13 51 09.2**	**-1.4**
SANI	**Sanana**	**11.76**	**178**	P			Pn	13 51 04.1	-4.2
SIJI	**Sorong** 0.8nm,0.3s,baz=321,slow=14,SNR=7.5	**11.99**	**152**	P			**Pn**	**13 51 11.3**	**0.0**
PCI	**Palu** 44nm,1.0s,868nm	**12.07**	**209**	P			**P**	**13 51 18.6**	**-0.3**
NLAI	**Namlea** 68nm,0.9s	**13.02**	**173**	P			**Pn**	**13 51 23.8**	**-0.8**
MSAI	**Masohi** 15nm,0.7s	**13.45**	**166**	P			**P**	**13 51 36.8**	**+2.5**
TWG	**Pinlang** 79nm,0.4s	**13.67**	**342**	*e*Pn			Pn	13 51 29.1	-3.9
BKB	**Balikpapan** 100nm,0.5s	**13.98**	**219**	P			**Pn**	**13 51 37.4**	**+0.5**
TTSI	**Tana Toraja** 67nm,0.8s,812nm	**13.98**	**205**	P			**P**	**13 51 38.7**	**-1.5**
RKPI	**Ransiki, Papua** 46nm,1.0s,1µm	**14.10**	**142**	P			**P**	**13 51 43.4**	**+2.0**
YULB	**Yu-li** 13nm,0.6s	**14.15**	**344**	*e*Pn			**Pn**	**13 51 39.3**	**+0.3**
FAKI	**Fak Fak** 25nm,1.0s	**14.25**	**152**	P			**P**	**13 51 42.0**	**-1.1**
FAKI	**Fak Fak** 20nm,0.8s	**14.25**	**152**	*e*Pn			**Pn**	**13 51 38.8**	**-1.5**
TPUB	**Ta-pu** 42nm,0.3s	**14.26**	**341**	*e*Pn			**Pn**	**13 51 38.1**	**-2.3**
SSLB	**Suanglung** 31nm,0.8s	**14.62**	**343**	Pn			**Pn**	**13 51 42.6**	**-2.2**
SPSI	**Sidrap Palu** 35nm,0.8s	**14.84**	**203**	P			P	13 51 53.5	+3.8
SBUM	**Sibu**	**15.16**	**242**	⇑P			**Pn**	**13 51 51.4**	**-0.2**
YHNB	**Yeheng** 36nm,0.8s	**15.35**	**345**	*e*Pn			**Pn**	**13 51 52.6**	**-1.3**
SRPI	**Serui, Papua** 151nm,0.8s	**15.69**	**137**	P			**P**	**13 52 01.3**	**+2.2**
KAPI	**Kappang** 0.9nm,0.3s,baz=34,slow=8.1,SNR=15	**15.81**	**202**	P			**Pn**	**13 51 59.6**	**0.0**
BKSI	**Bulukumba** 16nm,2.1s,395nm	**15.96**	**200**	P			**P**	**13 52 04.6**	**+2.5**
KBKI	**Kotabaru**	**16.04**	**216**	P			P	13 52 21.0	+18
BSSI	**Bau Bau, Buton** 27nm,2.4s,967nm	**16.62**	**198**	P			Pn	13 52 14.6	+5.1
JOW	**Kunigami** 0.4nm,0.3s,baz=187,slow=11,SNR=13	**17.15**	**8**	P			**P**	**13 52 15.5**	**+0.4**
KSM	**Kuching**	**17.30**	**242**	⇓P			**Pn**	**13 52 18.6**	**+0.8**
KSM	**Kuching** 11nm,0.6s	**17.30**	**242**	*e*P			**P**	**13 52 15.8**	**-1.1**
SMPI	**Sarmi** 172nm,1.1s,3µm	**17.52**	**131**	P			**Pn**	**13 52 23.2**	**+2.8**
QIZ	**Qiongzhong**	**17.81**	**303**	P			P	13 52 16.8	-5.6
QIZ				S			**S**	**13 55 34.5**	**-5.2**
QIZ				LR			LR		
	comp=Z,290nm,17.3s								
GENI	**Genyem** comp=Z,143nm,0.7s,comp=Z,2µm	**19.02**	**130**	P			**Pn**	**13 52 39.2**	**+1.2**
JAY	**Jayapura** comp=Z,1.1nm,0.3s,baz=315,slow=4.4,SNR=6.7	**19.38**	**128**	P			**P**	**13 52 39.5**	**0.0**
SKNT	**Sakolnakorn** comp=Z,14nm,0.6s,comp=Z,7µm	**22.20**	**291**	P			**P**	**13 53 13.9**	**+4.3**
MYKOM	**Kota Tinggi**	**23.04**	**251**	⇓P			**P**	**13 53 19.2**	**+1.7**
KHON	**Khomkaen** comp=Z,13nm,0.4s,comp=Z,960nm	**23.11**	**289**	P			P	13 53 23.1	+4.9
CBIJ	**Chichi jima**	**23.28**	**40**	P			**P**	**13 53 19.2**	**-0.3**
JCJ	**Chichijima** comp=Z,147nm,0.6s,baz=295,slow=21,SNR=7.1	**23.28**	**40**	P			**P**	**13 53 19.2**	**-0.3**
KGM	**Kluang**	**23.45**	**252**	⇓P			**P**	**13 53 23.9**	**+2.6**
CHAI	**Chaiyaphum** comp=Z,9.9nm,0.9s,comp=Z,106nm	**23.80**	**287**	P			**P**	**13 53 28.2**	**+3.7**
IPM	**Ipoh** comp=Z,20nm,0.7s	**24.94**	**260**	P			**P**	**13 53 33.9**	**-1.0**
CRAI	**Chiangrai** comp=Z,5.0nm,0.7s	**26.45**	**296**	P			**P**	**13 53 49.9**	**+1.5**
CMAR	**Chiang Mai Arr** comp=Z,3.8nm,0.9s,baz=100,slow=7.6,SNR=14	**27.23**	**291**	P			**P**	**13 53 55.8**	**+0.5**
CMAR						PcP	**PcP**	**13 57 11.7**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=88,slow=1.0,SNR=11								
CMAR						ScP	**ScP**	**14 00 37.3**	**-1.2**
	comp=Z,0.7nm,0.4s,baz=74,slow=1.7,SNR=4.9								
PSI	**Prapat** comp=Z,4.2nm,0.5s,baz=64,slow=15,SNR=5.0	**27.39**	**257**	P			**P**	**13 53 57.2**	**+0.2**
CMAI	**Chiengmai2** comp=Z,23nm,1.1s	**27.54**	**295**	P			**P**	**13 54 03.1**	**+4.8**
KSAR	**Wonju Array Be**	**27.62**	**4**	P			**P**	**13 53 58.9**	**+0.3**
KSAR	**Wonju Array Be**	**27.62**	**4**	P			**P**	**13 53 58.9**	**+0.3**
KSRS	**Korea Array**	**27.63**	**4**	P			**P**	**13 53 58.9**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=182,slow=10,SNR=9.7								
PMG	**Port Moresby**	**28.70**	**131**	⇑*i*	P		**P**	**13 54 07.4**	**-1.0**
MJAR	**Matsushiro Arr**	**28.99**	**21**	P			**P**	**13 54 09.4**	**-1.4**
	comp=Z,1.8nm,0.8s,baz=197,slow=9.4,SNR=4.0								
COEN	**Coen** comp=Z,21nm,0.8s	**29.33**	**143**	*e*P			**P**	**13 54 13.3**	**-0.7**
WRAB	**Tennant Creek**	**30.76**	**164**	⇓*e*P			**P**	**13 54 25.1**	**-1.4**
WRAB						pmax	pmax		
	comp=Z,45nm,2.5s								
WRAB	**Tennant Creek** comp=Z,5.7nm,1.0s	**30.76**	**164**	*e*P			**P**	**13 54 25.3**	**-1.3**
WRA	**Warramunga Arr** comp=Z,2.1nm,0.5s,baz=345,slow=9.3,SNR=39	**30.76**	**164**	P			**P**	**13 54 25.2**	**-1.4**
WRA						PcP	**PcP**	**13 57 20.3**	**-0.4**
	comp=Z,2.4nm,0.5s,baz=336,slow=3.0,SNR=9.3								
WRA						ScP	**ScP**	**14 00 47.9**	**-1.6**
	comp=Z,0.4nm,0.7s,baz=344,slow=3.6,SNR=3.3								
HHC	**Hu-ho-hao-te**	**33.35**	**340**	*e*P			P	13 54 53.0	+3.9
HHC						PP	**PP**	**13 56 10.0**	**+2.4**
HHC						S	**S**	**14 00 02.8**	**+3.8**
HHC						sS	sS	14 00 56.0	+1.2
HHC						PMZ			
	comp=Z,12nm,1.0s								
HHC						PMZ			
	comp=Z,140nm,7.4s								
HHC						LN			
	comp=Z,130nm,18.5s								
HHC						LE			
	comp=Z,220nm,18.5s								
HHC						LZ			
	comp=Z,320nm,18.5s								
ASAR	**Alice Springs** comp=Z,5.9nm,0.4s,baz=351,slow=7.1,SNR=66	**34.22**	**166**	P			**P**	**13 54 56.1**	**-0.6**
ASAR						PcP	**PcP**	**13 57 29.8**	**-0.4**
	comp=Z,2.8nm,0.7s,baz=3.2,slow=2.1,SNR=9.1								
ASAR						S	**S**	**14 00 13.5**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=356,slow=3.4,SNR=4.9								
ASAR						ScP	**ScP**	**14 01 01.3**	**-0.1**
	comp=Z,1.0nm,1.0s,baz=344,slow=3.3,SNR=3.4								
USRK	**Ussuriysk Ar.** comp=Z,8.8nm,0.8s,baz=195,slow=7.6,SNR=21	**34.74**	**8**	P			**P**	**13 55 01.2**	**+0.3**
USRK						S	**S**	**14 00 20.8**	**+0.8**
	comp=Z,3.8nm,1.0s,baz=194,slow=15,SNR=5.8								
USRK						LR	LR	14 08 48.8	
	comp=Z,55nm,21.6s,baz=171,slow=35								
ERM	**Erimo**	**35.62**	**23**	⇑*e*	P		**P**	**13 55 10.5**	**+2.0**
ERM						pmax	pmax		
	comp=Z,41nm,1.5s								
CTA	**Charters Tower** comp=Z,6.1nm,0.6s,baz=328,slow=10,SNR=18	**35.98**	**146**	P			**P**	**13 55 11.6**	**-0.2**
CTA						PcP	**PcP**	**13 57 36.1**	**+0.8**
	comp=Z,3.5nm,0.6s,baz=35,slow=3.0,SNR=5.5								
CTAO	**Charters Tower** comp=Z,6.0nm,0.6s	**35.98**	**146**	*e*P			**P**	**13 55 10.9**	**-0.9**
CTAO						pmax	pmax		
CTAO	**Charters Tower** comp=Z,6.4nm,0.6s	**35.98**	**146**	*e*P			**P**	**13 55 10.9**	**-0.9**
ASAJ	**Asahikawa** comp=Z,12nm,0.6s,baz=231,slow=8.1,SNR=13	**37.25**	**20**	P			**P**	**13 55 22.6**	**+0.4**
GTA	**Gaotai**	**37.41**	**326**	*e*P			**P**	**13 55 25.8**	**+1.9**
GTA						PMZ			
	comp=Z,3.0nm,1.0s								
GTA						PMZ			
	comp=Z,61nm,5.0s								
GTA						LN			
	comp=Z,100nm,17.6s								
GTA						LE			
	comp=Z,150nm,15.2s								
GTA						LZ			
	comp=Z,210nm,17.1s								
LSA	**Lhasa** comp=Z,7.0nm,0.7s	**37.78**	**307**	P			**P**	**13 55 27.8**	**+0.3**
LSA						pmax	pmax		
LSA	**Lhasa** comp=Z,6.6nm,0.7s	**37.78**	**307**	P			**P**	**13 55 27.8**	**+0.3**
HABR	**Khabarovsk**	**39.38**	**10**	P			**P**	**13 55 37.9**	**-2.1**
HABR				*e*				13 57 44.6	
HABR						*e*S	**S**	**14 01 35.0**	**+4.8**
HABR						MLR	MLR		
	comp=Z,72nm,19.0s								
KLR	**Kul'dur**	**39.66**	**6**	*e*P			**P**	**13 55 40.0**	**-2.3**
TAPN	**Taplejung** comp=Z,16nm,0.4s	**39.74**	**301**	*e*P			**P**	**13 55 44.9**	**+1.2**
ODAN	**Odare**	**39.85**	**300**	*e*P			**P**	**13 55 45.9**	**+1.3**
H11S3	**WAKE ISLAND Hy** baz=260	**40.69**	**73**	T			T	14 39 29.0	
H11S1	**WAKE ISLAND Hy** baz=260	**40.70**	**73**	T			T	14 39 28.4	
H11S2	**WAKE ISLAND Hy** baz=260	**40.71**	**73**	T			T	14 39 28.3	
H11N1	**WAKE ISLAND Hy** baz=265,slow=74,SNR=47	**41.03**	**71**	T			T	14 39 50.5	
H11N2	**WAKE ISLAND Hy** baz=265,slow=74,SNR=34	**41.04**	**71**	T			T	14 39 53.1	
H11N3	**WAKE ISLAND Hy** baz=265,slow=74,SNR=52	**41.05**	**71**	T			T	14 39 51.9	
JIRN	**Jiri** comp=Z,45nm,0.4s	**41.12**	**301**	*e*P			**P**	**13 55 56.2**	**+1.1**
SONM	**Songino Array** comp=Z,1.0nm,0.5s,baz=155,slow=10,SNR=4.7	**41.25**	**340**	P			**P**	**13 55 55.8**	**+0.2**
SONM						PcP	**PcP**	**13 57 51.7**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=145,slow=5.4,SNR=3.7								
SONM						ScP	**ScP**	**14 01 27.2**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=154,slow=4.1,SNR=8.8								
GUN	**Gumba**	**41.45**	**301**	*e*P			**P**	**13 55 59.0**	**+1.2**
PKI	**Pulchoki**	**41.75**	**301**	*e*P			**P**	**13 56 00.8**	**+0.6**
PKIN	**Phulchoki**	**41.76**	**301**	*e*P			**P**	**13 56 00.9**	**+0.6**
KKN	**Kakani**	**41.92**	**301**	*e*P			**P**	**13 56 02.3**	**+0.8**
DMN	**Daman**	**42.02**	**301**	*e*P			**P**	**13 56 03.4**	**+1.1**
GKN	**Gorkha** comp=Z,13nm,0.4s	**42.53**	**301**	*e*P			**P**	**13 56 06.8**	**+0.5**
NWAO	**Narrogin (SRO)** comp=Z,15nm,0.9s,baz=327,slow=6.3,SNR=6.5	**43.21**	**190**	P			**P**	**13 56 11.2**	**-0.3**
KOLN	**Koldanda** comp=Z,56nm,0.7s	**43.34**	**300**	*e*P			**P**	**13 56 14.0**	**+1.0**
STKA	**Stephens Creek** comp=Z,4.3nm,0.5s,baz=336,slow=9.1,SNR=18	**44.16**	**160**	P			**P**	**13 56 19.1**	**+0.1**
BOD	**Bodaibo**	**48.76**	**352**	*e*P			**P**	**13 56 55.9**	**+1.4**
BOD						pmax	pmax		
	comp=Z,3.0nm,1.7s								
PEA0B	**Petropavlovsk-**	**50.35**	**25**	*e*P			**P**	**13 57 05.2**	**-1.6**
PETK	**Petropavlovsk-** comp=Z,7.7nm,0.6s,baz=215,slow=3.8,SNR=18	**50.35**	**25**	P			**P**	**13 57 07.2**	**+0.5**
PETK						LR	LR	14 16 25.6	
	comp=Z,32nm,21.5s,baz=198,slow=33								
PET	**Petropavlovsk**	**50.69**	**25**	*e*P			**P**	**13 57 10.2**	**+1.0**
PET				*e*S		S		14 04 19.8	+7.0
PET						pmax	pmax		
	comp=Z,22nm,1.3s								
PET						MLR	MLR		
	comp=Z,100nm,18.0s								
PET	**Petropavlovsk** comp=Z,6.9nm,0.4s	**50.69**	**25**	*e*P			**P**	**13 57 07.3**	**-1.8**
DZM	**Mont Dzumac**	**51.05**	**129**	*e*P			**P**	**13 57 13.3**	**+0.7**
MKAR	**Makanchi Array** comp=Z,5.7nm,0.6s,baz=124,slow=8.2,SNR=71	**52.02**	**323**	P			**P**	**13 57 19.7**	**+0.4**
MKAR						ScP	**ScP**	**14 02 10.9**	**-1.7**
	comp=Z,1.1nm,0.8s,baz=130,slow=4.9,SNR=4.0								
MKAR	**Makanchi Array**	**52.02**	**323**	*ce*P			**P**	**13 57 20.3**	**+1.0**
MKAR						pmax	pmax		
	comp=Z,6.0nm,0.6s								
YAK	**Yakutsk**	**52.24**	**2**	*e*P			P	13 57 17.1	-3.5
YAK				*e*				13 58 29.6	
YAK				*e*S			**S**	**14 04 30.6**	**-3.2**
YAK				*e*				14 06 48.8	
YAK				*e*SS			**SS**	**14 08 12.2**	**-1.0**
YAK						pmax	pmax		
	comp=Z,12nm,1.0s								
YAK						pmax	pmax		
	comp=E,2.0nm,1.1s								
YAK						pmax	pmax		
	comp=N,5.0nm,1.3s								
YAK						smax	smax		
	comp=N,27nm,2.5s								
YAK						smax	smax		
	comp=E,28nm,2.8s								
TKM2	**Tokmak 2**	**54.56**	**316**	*e*P			**P**	**13 57 37.9**	**-0.3**
TKM2						pmax	pmax		
	comp=Z,2.0nm,0.7s								
TKM2	**Tokmak 2** comp=Z,2.3nm,0.7s	**54.56**	**316**	*e*P			**P**	**13 57 37.9**	**-0.3**
ZALV	**Zalesovo Beam** comp=Z,2.0nm,0.5s,baz=128,slow=6.6,SNR=10	**54.74**	**332**	P			**P**	**13 57 38.5**	**-0.4**
ZALV	**Zalesovo Beam**	**54.74**	**332**	*i* P			**P**	**13 57 38.7**	**-0.3**
ZALV						pmax	pmax		
	comp=Z,2.0nm,0.5s								
AAK	**Ala-Archa** comp=Z,1.2nm,0.5s,baz=197,slow=11,SNR=4.4	**55.21**	**316**	P			**P**	**13 57 42.6**	**-0.2**
AAK	**Ala-Archa**	**55.21**	**316**⇑	*e*P			**P**	**13 57 42.7**	**-0.1**
AAK						pmax	pmax		
	comp=Z,8.0nm,1.7s								
NVS	**Novosibirsk**	**56.02**	**332**	*e*P			**P**	**13 57 46.3**	**-1.8**
KURK	**Kurchatov**	**56.10**	**326**	P			**P**	**13 57 48.9**	**+0.2**
KURK	**Kurchatov**	**56.10**	**326**	P			**P**	**13 57 48.9**	**+0.2**
KURBB	**Kurchatov Arra** comp=Z,4.2nm,0.4s,baz=126,slow=6.5,SNR=53	**56.10**	**326**	P			**P**	**13 57 48.9**	**+0.1**
KKAR	**Karatay Array**	**58.13**	**315**	*e*P			**P**	**13 58 03.2**	**0.0**
KKAR						pmax	pmax		
	comp=Z,2.0nm,0.5s								
KKAR	**Karatay Array** comp=Z,2.4nm,0.5s	**58.13**	**315**	*e*P			**P**	**13 58 03.2**	**0.0**
BRVK	**Borovoye**	**61.77**	**326**⇑	*e*P			**P**	**13 58 28.1**	**+0.3**
BRVK						pmax	pmax		
	comp=Z,5.0nm,0.6s								
BRVK	**Borovoye** comp=Z,5.5nm,0.6s	**61.77**	**326**	*e*P			**P**	**13 58 27.9**	**+0.1**
TIXI	**Tiksi**	**61.85**	**1**⇑	*e*P			**P**	**13 58 27.7**	**-0.3**
TIXI						pmax	pmax		
	comp=Z,9.0nm,1.0s								
TIXI	**Tiksi** comp=Z,5.7nm,0.8s	**61.85**	**1**	*e*P			**P**	**13 58 27.5**	**-0.5**
BILL	**Bilibino**	**64.05**	**16**	⇓*i*	P		**P**	**13 58 42.7**	**+0.1**
BILL				*i*				13 59 16.8	
BILL						pmax	pmax		
	comp=Z,27nm,1.9s								
BILL	**Bilibino**

KMBO	**Kilima Mbogo**	**88.56**	**269**	P		**P**	**14 01 02.5**	**+0.4**
	comp=Z,3.8nm,0.7s,baz=46,slow=8.7,SNR=6.7							
VNDA	**Vanda**	**89.53**	**173**	P		**P**	**14 01 05.3**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=329,slow=4.8,SNR=16							
VNDA				LR		LR	14 41 03.7	
	comp=Z,43nm,18.2s,baz=267,slow=35							
LVV	**L'vov**	**89.97**	**321**	*e*P		**P**	**14 01 06.4**	**-1.3**
STHS	**Stebnicka Huta**	**91.83**	**321**	*e*P		**P**	**14 01 17.7**	**+1.4**
STHS				pmax		pmax		
	comp=Z,3.0nm,0.7s							
STHS	**Stebnicka Huta**	**91.83**	**321**	*e*P		**P**	**14 01 17.7**	**+1.4**
NB2	**NORSAR Subarra**	**92.90**	**334**	P		**P**	**14 01 19.3**	**-1.7**
	comp=Z,2.4nm,0.8s,baz=63,slow=4.6							
NOA	**NORSAR Array B**	**92.90**	**334**	P		**P**	**14 01 19.6**	**-1.4**
	comp=Z,1.6nm,0.8s,baz=63,slow=4.7,SNR=7.5							
NOA				LR		LR	14 45 30.0	
	comp=Z,23nm,20.5s,baz=60,slow=37							
YKA	**Yellowknife Ar**	**94.47**	**24**	P		**P**	**14 01 28.5**	**+0.4**
	comp=Z,3.9nm,0.7s,baz=300,slow=4.6,SNR=42							
YKA				PKKPbc		**PKKPdf**	**14 18 24.5**	**-2.7**
	comp=Z,0.5nm,0.6s,baz=122,slow=2.6,SNR=6.1							
CLL	**Collm**	**96.11**	**324**	*e*P		**P**	**14 01 36.0**	**+0.2**
CLL	**Collm**	**96.11**	**324**	*e*P		**P**	**14 01 36.0**	**+0.2**
GERES	**GERESS Array B**	**96.67**	**322**	P		**P**	**14 01 38.5**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=63,slow=3.6,SNR=5.0							
NVAR	**Mina Array Bea**	**103.65**	**47**	Pdiff		**Pdif**	**14 02 07.2**	**-2.9**
	comp=Z,1.2nm,0.9s,baz=278,slow=4.3,SNR=4.5							
PDAR	**Pinedale Array**	**107.49**	**39**	Pdiff		**Pdif**	**14 02 27.1**	**0.0**
	comp=Z,0.2nm,0.5s,baz=310,slow=2.9,SNR=3.2							
TXAR	**Lajitas Array**	**118.64**	**49**	PKP		**PKPdf**	**14 06 56.1**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=235,slow=1.8,SNR=6.6							
TOA0	**Torodi Ar. Sit**	**119.83**	**291**	*e*PKP1		**PKPdf**	**14 06 57.9**	**-0.8**
TORD	**Torodi Ar. Bea**	**119.83**	**291**	PKP		**PKPdf**	**14 06 58.0**	**-0.7**
	comp=Z,5.1nm,0.8s,baz=59,slow=1.5,SNR=28							
TOA1	**Torodi Ar. Sit**	**119.83**	**291**	*e*PKP1		**PKPdf**	**14 06 58.0**	**-0.7**
KIC	**Kosan Boka**	**128.00**	**286**	*e*PKP1		**PKPdf**	**14 07 15.0**	**+0.6**
	comp=Z,33nm,1.1s							
DBIC	**Dimbokro**	**128.01**	**286**	PKP		**PKPdf**	**14 07 14.1**	**-0.4**
	comp=Z,3.3nm,1.0s,baz=60,slow=4.8,SNR=4.9							
LIC	**Lamto**	**128.31**	**286**	*e*PKP1		**PKPdf**	**14 07 15.4**	**+0.4**
	comp=Z,42nm,1.5s							
PLCA	**Paso Flores**	**146.01**	**158**	PKPbc		**PKPbc**	**14 07 48.1**	**+0.3**
	comp=Z,17nm,0.8s,baz=209,slow=3.0,SNR=17							
SDDR	**Presa de Saban**	**146.92**	**30**	*e*PKPbc		**PKPbc**	**14 07 51.5**	**+0.5**
SMN1	**Samana, DR**	**147.69**	**27**	*e*PKPab		**PKPab**	**14 07 55.0**	**-0.7**
SDV	**Santo Domingo**	**155.40**	**42**	*e*PKPab		**PKPab**	**14 08 28.4**	**+0.3**

IDC 27 13:58:54.4±6.9, 5.63S×128.09E, h187km±85km, mb3.3/1, mb1 3.6/4, mb1mx3.2/22, mbtmp4.1/4, Error ellipse: s-maj=120.3km s-min=20.3km az=80.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.70**	**34**	P	Pn	14 00 18.4	+0.8
	2.8nm,0.3s,baz=218,slow=12,SNR=34						
SIJI				S	Sn	14 01 17.6	-5.6
	5.2nm,0.3s,baz=232,slow=19,SNR=29						
WRA	**Warramunga Arr**	**15.47**	**157**	P	Pn	14 02 22.5	-0.5
	0.8nm,0.3s,baz=338,slow=12,SNR=43						
WRA				S	S	14 05 07.0	-8.6
	0.1nm,0.3s,baz=341,slow=22,SNR=4.8						
ASAR	**Alice Springs**	**18.79**	**163**	P	P	14 03 00.1	+0.3
	0.4nm,0.3s,baz=345,slow=12,SNR=32						
ASAR				S	S	14 06 16.1	-7.6
	0.1nm,0.3s,baz=340,slow=18,SNR=5.2						
MKAR	**Makanchi Array**	**66.05**	**327**	P	P	14 09 20.9	-0.3
	0.5nm,0.5s,baz=121,slow=8.3,SNR=7.3						

*SJA **27** 14:16:48.2±1.2, 32.5°51S×72.05W, h8km, ML3.5*
*GUC **27** 14:16:50.9±0.5, 32.775S×71.78W, h7km±14km, ML3.6*
ISC 27 14:16:48.7±2.6, 32.69S±0.05×71.9W±0.1, h5km±12km, n21, σ1.926/38, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.81**	**110**	*e*P	**Pb**	**14 17 05.2**	**-0.3**
ROCH				*e*S	**Sg**	**14 17 16.2**	**+1.3**
ROCH				AML	AML	14 17 18.2	
	comp=E,4μm,0.5s						
PEL	**Peldehue**	**1.13**	**114**	*e*P	**Pg**	**14 17 10.5**	**+0.1**
PEL				*e*S	**Sg**	**14 17 25.6**	**+0.6**
PEL				AML	AML	14 17 29.4	
	comp=E,12μm,0.3s						
RCDM	**Rinconada Maip**	**1.23**	**131**	*e*P	**Pn**	**14 17 12.1**	**-0.5**
RCDM				AML	AML	14 17 33.3	
	comp=E,2μm,0.6s						
TACH	**Talagante**	**1.26**	**140**	*e*P	**Pn**	**14 17 12.8**	**-0.2**
TACH				*e*S	**Sg**	**14 17 29.2**	**-0.1**
SAN	**Santiago**	**1.30**	**126**	*e*P	**Pn**	**14 17 13.5**	**-0.1**
SAN				*e*S	**Sb**	**14 17 30.5**	**-0.2**
STL	**Santa Lucia**	**1.30**	**125**	*e*P	**Pn**	**14 17 12.5**	**-1.2**
STL				*e*S	**Sb**	**14 17 29.6**	**-1.2**
LNV	**Longovilo**	**1.33**	**161**	*e*P	**Pn**	**14 17 14.1**	**+0.1**
CLCH	**Cerro Calan**	**1.36**	**122**	*e*P	**Pn**	**14 17 14.2**	**-0.2**
CLCH				*e*S	**Sb**	**14 17 32.0**	**-0.3**
CLCH				AML	AML	14 17 38.5	
	comp=N,3μm,0.4s						
FSR	**Penalolen**	**1.41**	**124**	*e*P	**Pg**	**14 17 16.2**	**+0.5**
FSR				*e*S	**Sb**	**14 17 34.6**	**+0.8**
PCH	**Pirque**	**1.50**	**129**	*e*P	**Pn**	**14 17 16.8**	**+0.5**
SJCH	**San Jose de Ma**	**1.62**	**126**	*e*P	**Pn**	**14 17 17.6**	**-0.4**
SJCH				*e*S	**Sn**	**14 17 38.9**	**-0.4**
SJCH				AML	AML	14 17 42.3	
	comp=E,842nm,0.7s						
CHCH	**Chadas Angostu**	**1.63**	**140**	*e*P	**Pb**	**14 17 19.1**	**-0.2**
CHCH				*e*S	**Sn**	**14 17 40.4**	**+0.8**
AUSP	**Uspallata**	**2.19**	**78**	*i*P	**Pb**	**14 17 28.6**	**-0.5**
AUSP				*i*S	**Sg**	**14 17 58.5**	**-0.6**
RTLS	**Leoncito**	**2.39**	**69**	*i*P	**Pb**	**14 17 31.5**	**-1.0**
RTLS				*i*S	**Sb**	**14 18 03.7**	**+1.3**
ARCO	**CERRO ARCO**	**2.52**	**94**	*i*P	**Pb**	**14 17 34.1**	**-0.4**
ARCO				*i*S	**Sg**	**14 18 08.5**	**-1.2**
ARCO				AML	AML	14 18 18.9	
	comp=Z,211nm,0.6s						
ASAL	**Salagasta**	**2.60**	**89**	*i*P	**Pb**	**14 17 35.4**	**-0.6**
ASAL				*i*S	**Sb**	**14 18 08.8**	**+0.5**
AAGR	**Agrelo**	**2.63**	**99**	*i*P	**Pb**	**14 17 35.8**	**-0.6**
AAGR				*i*S	**Sb**	**14 18 10.6**	**+1.6**
RTCV	**Cerro Valdivia**	**2.98**	**75**	*i*P	**Pb**	**14 17 40.1**	**-2.2**
RTCV				*i*P	**Pb**	**14 17 40.1**	**-2.2**
RTCV				*i*S	**Sb**	**14 18 17.4**	**-1.7**
RTLL	**Cerro Villicun**	**3.23**	**66**	*i*P	**Pn**	**14 17 42.3**	**+2.2**
RTLL				*i*S	**Sb**	**14 18 22.8**	**-3.3**
AMOG	**MOGNA**	**3.40**	**60**	*i*P	**Pn**	**14 17 44.6**	**+2.1**
ACAN	**Cantantal**	**4.02**	**85**	*i*P	**Pn**	**14 17 53.3**	**+2.3**

*MEX **27** 14:39:51.3±0.6, 32.51N×115.01W, h45km±8km, MD3.6*
*ISCJB **27** 14:39:52.6±0.4, 32.25N±0.02×115.24W±0.03, h17km, Error ellipse: s-maj=3.6km s-min=3.1km az=137.8*
*NEIC **27** 14:39:54.0, 32.15N×115.18W, h14km, ML2.8(PAS), ML3.2(ECX), After ECX.*
NEIC Felt at El Centro, California.
*ECX **27** 14:39:54.1±0.6, 32.24N×115.31W, h6km, MD2.8, ML3.0*
ISC 27 14:39:52.4±0.8, 32.24N±0.02×115.29W±0.03, h17km, n25, σ0.857/44, 6C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.18**	**355**	*e*P	**Pb**	**14 39 57.1**	**-0.1**
CPBX				*e*S	**Sb**	**14 40 02.8**	**+2.3**
CPBX	**Cerro Prieto**	**0.18**	**355**	*e*P	**Pb**	**14 39 57.2**	**-0.1**
CPBX				*e*S	**Sb**	**14 40 00.9**	**+0.3**
SGL	**Mount Signal**	**0.55**	**318**	⇓*i*P	**Pb**	**14 40 03.5**	**-0.1**
EMSC	**East Mesa**	**0.56**	**27**	⇑*i*P	**Pb**	**14 40 04.3**	**+0.5**
COA	**Coachella**	**0.64**	**13**	*e*P2	**Pg**	**14 40 05.3**	**+0.3**
RDX	**Rancho Dawling**	**0.64**	**241**	⇑*e*P	**Pb**	**14 40 05.2**	**0.0**
RDX				*e*S	**Sb**	**14 40 14.0**	**+0.1**
RDX				⇑*e*		14 40 15.6	
RDX				IAML		14 40 15.6	
	comp=N,387nm,0.2s						
WESC	**Westside Schoo**	**0.64**	**324**	*e*P	**Pb**	**14 40 05.5**	**+0.4**
YUH	**Yuha Desert**	**0.67**	**307**	⇓*i*P	**Pg**	**14 40 05.5**	**-0.2**
YMD	**Yuma Desert**	**0.70**	**63**	⇑*i*P	**Pb**	**14 40 06.2**	**+0.1**
RMX	**La Rumorosa**	**0.76**	**299**	*e*P	**Pb**	**14 40 07.0**	**-0.3**
RMX				*e*S	**Sb**	**14 40 17.4**	**-0.1**
RMX				⇓*e*		14 40 18.3	
RMX				IAML		14 40 18.3	
	comp=N,622nm,0.2s						
ECBX	**El Chinero**	**0.79**	**165**	*e*P9	**Pg**	**14 40 07.1**	**-0.8**
ECBX				*e*S	**Sg**	**14 40 18.2**	**-0.1**
GLA	**Glamis**	**0.90**	**25**	*e*Pg	**Pb**	**14 40 08.9**	**-0.7**
GLA				*e*Sg	**Sg**	**14 40 21.8**	**+0.1**
ZAX	**El Zacaton**	**1.11**	**229**	*e*P	**Pb**	**14 40 13.1**	**-0.1**
ZAX				*e*S	**Sn**	**14 40 28.0**	**-0.2**
ZAX				IAML		14 40 30.7	
	comp=N,508nm,0.7s						
ZAX				⇑*e*		14 40 30.7	
CBX	**Cerro Bola**	**1.17**	**274**	*e*P	**Pb**	**14 40 14.7**	**+0.4**
CBX				*e*S	**Sn**	**14 40 29.8**	**+0.1**
CBX	**Cerro Bola**	**1.17**	**274**	*e*P	**Pb**	**14 40 14.7**	**+0.4**
CBX				*e*S	**Sn**	**14 40 29.8**	**+0.1**
CBX	**Cerro Bola**	**1.17**	**274**	*e*P	**Pn**	**14 40 14.0**	**-0.1**
CBX				*e*S	**Sn**	**14 40 29.5**	**-0.2**
CBX				⇑*e*		14 40 30.8	
CBX				IAML		14 40 30.8	
	comp=E,412nm,0.3s						
SPIG	**San Pedro Mart**	**1.20**	**187**	*e*P	**Pn**	**14 40 14.5**	**-0.2**
SPIG				*e*S	**Sg**	**14 40 32.2**	**+0.8**
SPIG	**San Pedro Mart**	**1.20**	**187**	*e*P	**Pn**	**14 40 14.5**	**-0.2**
SPIG				*e*S	**Sg**	**14 40 32.2**	**+0.8**
SPX	**San Pedro Mart**	**1.20**	**187**	*e*P	**Pb**	**14 40 14.8**	**-0.1**
SPX				*e*S	**Sg**	**14 40 32.4**	**+1.0**
SPX	**San Pedro Mart**	**1.20**	**187**	*e*P	**Pn**	**14 40 14.6**	**-0.2**
SPX				*e*S	**Sg**	**14 40 31.8**	**+0.3**
SPX				⇓*e*		14 40 32.4	
SPX				IAML		14 40 32.4	
	comp=E,201nm,0.5s						
ECNX	**Esteban Cantu**	**1.26**	**243**	*e*P	**Pb**	**14 40 15.9**	**+0.1**
ECNX				*e*S	**Sg**	**14 40 32.7**	**-0.4**
PBX	**Punta Banda**	**1.32**	**248**	*e*P	**Pn**	**14 40 16.1**	**0.0**
PBX				*e*S	**Sb**	**14 40 33.8**	**+0.4**
PFO	**Pinyon Flats O**	**1.68**	**325**	*e*Pn	**Pn**	**14 40 20.1**	**-1.1**
PFO				*e*Sn	**Sg**	**14 40 46.1**	**-0.6**
214A	**Organ Pipe Nat**	**2.12**	**97**	*e*Pn	**Pn**	**14 40 26.4**	**-0.8**
214A				*e*Sn	**Sn**	**14 40 52.3**	**-0.8**
121A	**Cookes Peak, D**	**6.35**	**85**	*e*Pn	**Pn**	**14 41 25.9**	**+0.5**
121A				*e*Sn	**Sn**	**14 42 37.6**	**-0.1**

MEX 27 14:41:56.3±0.8, 16.68N×98.37W, h54km±12km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.36**	**141**	*e*P	Pn	14 42 05.2	-1.3
PNIG				*e*S	Sn	14 42 12.0	-1.8
TLIG	**Tlapa**	**0.90**	**348**	*e*P	Pn	14 42 11.9	-1.2
TLIG				*e*S	Sn	14 42 23.3	-2.0
ACX	**Acapulco**	**1.44**	**278**	*e*P	Pn	14 42 17.1	-3.0
ACX				*e*S	Sn	14 42 29.8	-8.3
VHO	**Vista Hermosa**	**1.61**	**76**	*e*P	Pn	14 42 21.2	-1.5
VHO				*e*S	Sn	14 42 34.0	-8.6
CAIG	**El Cayaco**	**1.86**	**282**	*e*P	Pn	14 42 26.2	+0.4
CAIG				*e*S	Sn	14 42 49.8	+1.7

*IDC **27** 14:44:39.2±1.6, 1.18N×95.80E, h0km, mb3.6/8, mb1 3.7/10, mb1mx3.5/27, mbtmp3.6/10, ML3.4/2, MS3.0/1, Ms1 3.2/1, ms1mx2.6/25, Error ellipse: s-maj=46.2km s-min=18.3km az=61.0*
*ISCJB **27** 14:44:42.2±1.1, 1.2N±0.1×95.8E±0.2, h33km, mb3.5/8, Error ellipse: s-maj=24.8km s-min=13.9km az=152.1*
ISC 27 14:44:44.8±1.4, 1.3N±0.2×95.9E±0.2, h35km, n16, σ0.975/10, mb3.5/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.40**	**63**	Pn	**Pn**	**14 45 35.9**	**+0.5**
	1.9nm,0.3s,baz=299,slow=6.2,SNR=10						
CMAR	**Chiang Mai Arr**	**17.36**	**10**	P	**P**	**14 48 45.7**	**+0.2**
	0.1nm,0.3s,baz=190,slow=11,SNR=6.4						
CMAR				LR	LR	14 56 15.7	
	comp=Z,45nm,19.1s,baz=204,slow=40						
H08S2	**Diego Garcia H**	**24.96**	**249**	T	T	15 17 30.5	
	baz=67,slow=76,SNR=31						
H08S3	**Diego Garcia H**	**24.96**	**249**	T	T	15 17 30.5	
	baz=67,slow=76,SNR=26						
H08S1	**Diego Garcia H**	**24.98**	**249**	T	T	15 17 30.5	
	baz=67,slow=76,SNR=44						
H01W3	**Cape Leeuwin H**	**39.80**	**156**	T	T	15 35 22.2	
	baz=334,slow=76,SNR=5.5						
H01W2	**Cape Leeuwin H**	**39.81**	**156**	T	T	15 35 22.2	
	baz=334,slow=76,SNR=6.0						
H01W1	**Cape Leeuwin H**	**39.82**	**156**	T	T	15 35 22.2	
	baz=334,slow=76,SNR=4.3						
WRA	**Warramunga Arr**	**43.17**	**121**	P	**P**	**14 52 41.7**	**-0.9**
	0.4nm,0.8s,baz=303,slow=9.0,SNR=12						
ASAR	**Alice Springs**	**44.47**	**126**	P	**P**	**14 52 53.4**	**+0.4**
	0.3nm,0.4s,baz=295,slow=7.7,SNR=9.8						
KSRS	**Korea Array**	**46.55**	**36**	P	**P**	**14 53 08.0**	**-1.1**
	0.7nm,0.8s,baz=216,slow=12,SNR=3.1						
MKAR	**Makanchi Array**	**46.89**	**347**	P	**P**	**14 53 11.3**	**-0.4**
	0.3nm,0.5s,baz=163,slow=8.4,SNR=5.1						
SONM	**Songino Array**	**47.28**	**10**	P	**P**	**14 53 15.4**	**+0.5**
	0.2nm,0.4s,baz=219,slow=8.3,SNR=3.7						
KURBB	**Kurchatov Arra**	**51.35**	**346**	P	**P**	**14 53 46.6**	**+0.8**
	0.2nm,0.6s,baz=165,slow=7.0,SNR=3.5						
ZALV	**Zalesovo Beam**	**53.31**	**352**	P	**P**	**14 53 59.7**	**-0.5**
	0.8nm,0.5s,baz=184,slow=19,SNR=4.3						
STKA	**Stephens Creek**	**54.36**	**131**	P	**P**	**14 54 08.7**	**+0.3**
	1.0nm,0.5s,baz=321,slow=6.5,SNR=3.4						

KRSC 27 15:34:12.8±1.5, 49.76N×157.14E, h38km±25km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**1.72**	**353**	*e*P	Pn	15 34 41.5	+1.4
PAU				*e*S	Sn	15 35 03.2	+2.4
MIPR	**Malaya Ipel'ka**	**2.53**	**355**	*e*P	Pn	15 34 53.0	+1.8
MIPR				*e*S	Sn	15 35 23.1	+2.3
ASAK	**Asacha**	**2.67**	**10**	*e*P	Pn	15 34 56.9	+3.6
MTVR	**Mutnovka**	**2.80**	**13**	*e*P	Pn	15 34 58.0	+2.8
MTVR				*e*S	Sn	15 35 31.6	+3.8
RUS	**Russkaya**	**2.81**	**17**	*e*P	Pn	15 34 57.7	+2.6
RUS				*e*S	Sn	15 35 31.3	+3.6
PET	**Petropavlovsk**	**3.40**	**16**	*e*P	Pn	15 35 07.4	+4.2
PET				*e*S	Sn	15 35 47.8	+5.6
UGLR	**Uglovaya**	**3.61**	**16**	*e*P	Pn	15 35 10.4	+4.2
AVH	**Avacha**	**3.65**	**15**	*e*P	Pn	15 35 11.3	+4.6
KOK	**Koryaka**	**3.66**	**14**	*e*P	Pn	15 35 11.8	+5.0
SMAR	**Somma**	**3.66**	**16**	*e*P	Pn	15 35 11.7	+4.7
SDLR	**Sedlovina**	**3.68**	**17**	*e*P	Pn	15 35 10.7	+3.4
KRX	**Arik**	**3.72**	**14**	*e*P	Pn	15 35 12.5	+4.7
SPN	**Mys Shipunski**	**3.80**	**27**	*e*P	Pn	15 35 12.6	+4.0
SPN				*e*S	Sn	15 35 57.4	+5.4
GNL	**Ganaly**	**3.97**	**7**	*e*P	Pn	15 35 15.9	+4.7
KBTR	**Krutoberegovo**	**7.31**	**26**	*e*P	Pn	15 36 00.6	+3.8

IDC 27 15:43:20.8±7.1, 39.84S×78.71E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/20, mbtmp3.6/4, MS3.7/3, Ms1 3.7/3, ms1mx3.2/26, Error ellipse: s-maj=233.8km s-min=42.9km az=35.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**28.46**	**91**	T	T	16 19 05.0	
	baz=248,slow=74,SNR=38						
H01W3	**Cape Leeuwin H**	**28.47**	**91**	T	T	16 19 03.5	
	baz=248,slow=74,SNR=51						
H01W1	**Cape Leeuwin H**	**28.48**	**91**	T	T	16 19 05.1	
	baz=248,slow=74,SNR=39						
MAW	**Mawson**	**29.17**	**192**	LR	LR	15 58 43.3	
	comp=Z,128nm,18.5s,baz=338,slow=32						
H08S2	**Diego Garcia H**	**32.53**	**348**	T	T	16 24 30.3	
	baz=172,slow=76,SNR=5.0						
H08S1	**Diego Garcia H**	**32.54**	**348**	T	T	16 24 30.6	
	baz=172,slow=76,SNR=5.8						
H08S3	**Diego Garcia H**	**32.55**	**348**	T	T	16 24 31.6	
	baz=172,slow=76,SNR=6.6						
BOSA	**Boshof**	**45.00**	**267**	LR	LR	16 06 47.0	
	comp=Z,130nm,18.2s,baz=167,slow=31						
ASAR	**Alice Springs**	**48.88**	**88**	P	P	15 52 08.7	+0.2
	0.2nm,0.8s,baz=239,slow=6.3,SNR=3.2						
STKA	**Stephens Creek**	**50.67**	**102**	P	P	15 52 21.6	-0.4
	2.5nm,1.1s,baz=253,slow=6.2,SNR=3.6						
WRA	**Warramunga Arr**	**51.30**	**84**	P	P	15 52 26.6	-0.3
	0.4nm,0.9s,baz=235,slow=7.6,SNR=2.9						
MKAR	**Makanchi Array**	**86.31**	**2**	P	P	15 56 04.1	0.0
	0.7nm,0.8s,baz=180,slow=4.5,SNR=7.7						
MKAR				LR	LR	16 31 46.6	
	comp=Z,33nm,20.9s,baz=192,slow=34						

*TIF **27** 15:51:55.0, 43.38N×44.97E, h16km±4km*
*MOS **27** 15:51:57.9±1.6, 43.19N×44.80E, h17km, mb4.1/1, Error ellipse: s-maj=9.6km s-min=6.8km az=33.4*
*CSEM **27** 15:51:57.5±0.2, 43.26N×44.92E, h2km, mb4.1, Error ellipse: s-maj=4.0km s-min=2.4km az=9.0*
ISC 27 15:51:57.5±0.9, 43.28N±0.02×44.89E±0.02, h11km±7km, n60, σ1.903/118, 8C-3D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJR	**Sundja**	**0.22**	**196**	⇑*i*PG	**Pg**	**15 52 02.1**	**0.0**
SNJR				*i*S	**Sg**	**15 52 05.6**	**+0.4**
SNJR	**Sundja**	**0.22**	**196**	*i*Pg	**Pg**	**15 52 02.1**	**0.0**
SNJR				*i*Sg	**Sg**	**15 52 05.6**	**+0.4**
BTKR	**Batakoyurt**	**0.27**	**290**	⇑*i*PG	**Pg**	**15 52 02.5**	**-0.6**
BTKR				*i*S	**Sg**	**15 52 07.0**	**+0.1**
BTKR	**Batakoyurt**	**0.27**	**290**	*i*Pg	**Pg**	**15 52 02.5**	**-0.6**
BTKR				*i*Sg	**Sg**	**15 52 07.0**	**+0.1**
VLKR	**Vladikavkaz**	**0.28**	**214**	⇓*i*PG	**Pg**	**15 52 03.2**	**0.0**
VLKR				*i*S	**Sg**	**15 52 07.5**	**+0.4**
VLKR	**Vladikavkaz**	**0.28**	**214**	*i*Pg	**Pg**	**15 52 03.2**	**0.0**
VLKR				*i*Sg	**Sg**	**15 52 07.5**	**+0.4**
ARNR	**Ardon**	**0.46**	**258**	⇑*i*PG	**Pg**	**15 52 06.6**	**+0.2**
ARNR				*e*S	**Sg**	**15 52 13.5**	**+1.0**
ARNR	**Ardon**	**0.46**	**258**	*i*Pg	**Pg**	**15 52 06.6**	**+0.2**
ARNR				*e*Sg	**Sg**	**15 52 13.5**	**+1.0**
TRKR	**Terskaya**	**0.46**	**345**	⇑*i*PG	**Pb**	**15 52 07.6**	**0.0**
TRKR				*e*S	**Sb**	**15 52 14.6**	**+0.2**
TRKR	**Terskaya**	**0.46**	**345**	*i*Pg	**Pb**	**15 52 07.6**	**0.0**
TRKR				*e*Sg	**Sb**	**15 52 14.6**	**+0.2**
STDR	**Stavd-Durt**	**0.61**	**279**	*e*PG	**Pb**	**15 52 10.6**	**+0.4**
STDR				*e*S	**Sb**	**15 52 19.7**	**+0.8**
STDR	**Stavd-Durt**	**0.61**	**279**	*e*Pg	**Pb**	**15 52 10.6**	**+0.4**
STDR				*e*Sg	**Sb**	**15 52 19.7**	**+0.8**
LACR	**Lac**	**0.63**	**224**	⇓*i*PG	**Pg**	**15 52 09.6**	**-0.1**
LACR				*e*S	**Sg**	**15 52 18.6**	**+0.6**
LACR	**Lac**	**0.63**	**224**	*i*Pg	**Pg**	**15 52 09.6**	**-0.1**
LACR				*e*Sg	**Sg**	**15 52 18.6**	**+0.6**
KORR	**Kora**	**0.63**	**253**	*e*PG	**Pg**	**15 52 10.1**	**+0.3**
KORR				*e*S	**Sb**	**15 52 19.3**	**-0.2**
KORR	**Kora**	**0.63**	**253**	*e*Pg	**Pg**	**15 52 10.1**	**+0.3**
KORR				*e*Sg	**Sb**	**15 52 19.3**	**-0.2**
PRTR	**Priterechnaya**	**0.65**	**317**	*e*PG	**Pb**	**15 52 10.4**	**-0.4**
PRTR				*e*S	**Sb**	**15 52 19.9**	**0.0**
PRTR	**Priterechnaya**	**0.65**	**317**	*e*Pg	**Pb**	**15 52 10.4**	**-0.4**
PRTR				*e*Sg	**Sb**	**15 52 19.9**	**0.0**
LSNR	**Lesken**	**0.78**	**270**	⇑*i*PG	**Pb**	**15 52 12.7**	**-0.4**
LSNR				*e*S	**Sg**	**15 52 24.1**	**+1.3**
LSNR	**Lesken**	**0.78**	**270**	*i*Pg	**Pb**	**15 52 12.7**	**-0.4**
LSNR				*e*Sg	**Sg**	**15 52 24.1**	**+1.3**
DIGR	**Digorskoe uzhe**	**1.03**	**249**	⇑*i*PG	**Pb**	**15 52 16.1**	**-1.4**
DIGR				*e*S	**Sb**	**15 52 30.7**	**-0.5**
DIGR	**Digorskoe uzhe**	**1.03**	**249**	*i*Pg	**Pb**	**15 52 16.1**	**-1.4**
DIGR				*e*Sg	**Sb**	**15 52 30.7**	**-0.5**
BTLR	**Botlikh**	**1.15**	**122**	*i*PG	**Pg**	**15 52 19.7**	**+0.1**
BTLR				*e*S	**Sg**	**15 52 37.4**	**+2.8**
BTLR				pmax	pmax		
	comp=Z,53nm,0.2s						
BTLR	**Botlikh**	**1.15**	**122**	*i*Pg	**Pg**	**15 52 19.7**	**+0.1**
	comp=Z,53nm,0.2s						
DUS	**Dusheti**	**1.20**	**187**	P	**Pb**	**15 52 19.8**	**-0.4**
DUS				S	**Sg**	**15 52 39.6**	**+3.6**
DUS	**Dusheti**	**1.20**	**187**	P	**Pb**	**15 52 19.8**	**-0.4**
DUS				S	**Sg**	**15 52 39.6**	**+3.6**
ONI	**Oni**	**1.26**	**237**	P	**Pn**	**15 52 20.4**	**-0.7**
ONI				S	**Sg**	**15 52 38.7**	**+0.6**
ONI	**Oni**	**1.26**	**237**	P	**Pn**	**15 52 20.4**	**-0.7**
ONI				S	**Sg**	**15 52 38.7**

s-min=21.1km az=67.0
NEIC ***27*** *16:03:22.8±0.7, 65.02S×177.65E, h10km, mb4.7/7, Error ellipse: s-maj=25.9km s-min=10.2km az=75.0*

ISC 27 16:03:22.7±0.8, 65.0S±0.1×177.8E±0.2, h10km, n50, σ1§10/25, mb4.5/12, MS3.9/13, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**13.32**	**190**	*e*Pn	**Pn**		**16 06 31.9**	**+0.5**
	136nm,1.7s							
VNDA	**Vanda**	**13.46**	**195**	Pn	**Pn**		**16 06 33.2**	**-0.2**
	0.8nm,0.3s,baz=43,slow=18,SNR=76							
VNDA				LR	LR		16 10 36.7	
	comp=Z,774nm,19.2s,baz=26,slow=32							
VNDA	**Vanda**	**13.46**	**195**	*e*Pn	**Pn**		**16 06 32.7**	**-0.8**
	74nm,1.7s							
RPZ	**Rata Peaks**	**21.68**	**347**	LR	LR		16 14 53.5	
	comp=Z,535nm,19.5s,baz=190,slow=32							
QSPA	**South Pole Qui**	**25.07**	**180**	P	**P**		**16 08 47.8**	**+0.8**
	13nm,1.0s,baz=32,slow=6.0,SNR=17							
QSPA				LR	LR		16 17 18.6	
	comp=Z,350nm,18.6s,baz=40,slow=33							
QSPA	**South Pole Qui**	**25.07**	**180**	*e*P	**P**		**16 08 46.9**	**-0.1**
	18nm,1.1s							
URZ	**Urewera**	**26.80**	**359**	LR	LR		16 18 23.7	
	comp=Z,371nm,18.4s,baz=172,slow=34							
RAO	**Raoul Island**	**35.89**		LR	LR		16 21 28.9	
	comp=Z,190nm,21.0s,baz=267,slow=30							
MAW	**Mawson**	**39.85**	**213**	LR	LR		16 27 20.9	
	comp=Z,895nm,18.4s,baz=118,slow=36							
STKA	**Stephens Creek**	**39.88**	**308**	P	**P**		**16 10 57.3**	**+1.0**
	6.6nm,1.0s,baz=145,slow=3.6,SNR=7.6							
EIDS	**Eidsvold**	**43.20**	**324**	*e*P	**P**		**16 11 22.5**	**-1.1**
	12nm,1.1s							
SNAA	**Sanae**	**43.57**	**180**	P	**P**		**16 11 26.4**	**+0.2**
	3.3nm,0.9s							
DZM	**Mont Dzumac**	**43.58**	**345**	*e*LR	LR		16 23 00.9	
	799nm,29.4s							
DZM	**Mont Dzumac**	**43.58**	**345**	LR	LR		16 26 33.0	
	comp=Z,167nm,21.5s,baz=180,slow=32							
TBI	**Tubuai**	**46.77**	**43**	*e*LQ	LQ		16 22 34.7	
	531nm,28.5s							
TBI				*e*LR	LR		16 24 27.0	
	340nm,29.0s							
TBI	**Tubuai**	**46.77**	**43**	*e*T	T		17 01 05.6	
	30nm,0.3s							
H01W1	**Cape Leeuwin H**	**47.88**	**277**	T	T		17 03 46.5	
	baz=148,slow=76,SNR=289							
H01W2	**Cape Leeuwin H**	**47.89**	**277**	T	T		17 03 46.2	
	baz=148,slow=76,SNR=246							
H01W3	**Cape Leeuwin H**	**47.90**	**277**	T	T		17 03 46.8	
	baz=148,slow=76,SNR=285							
CTA	**Charters Tower**	**49.51**	**320**	P	**P**		**16 12 13.7**	**+0.4**
	3.0nm,0.8s,baz=184,slow=13,SNR=4.4							
CTAO	**Charters Tower**	**49.51**	**320**	*e*P	**P**		**16 12 11.6**	**-1.7**
	7.8nm,1.0s							
ASAR	**Alice Springs**	**50.06**	**304**	P	**P**		**16 12 18.2**	**+0.8**
	1.7nm,0.7s,baz=159,slow=7.0,SNR=15							
ASAR				PcP	**PcP**		**16 13 37.8**	**+0.7**
	0.9nm,1.0s,baz=151,slow=4.2,SNR=3.0							
ASAR				LR	LR		16 31 16.3	
	comp=Z,78nm,18.1s,baz=122,slow=34							
RKT	**Rikitea**	**51.77**	**59**	*e*T	T		17 07 13.8	
	15nm,0.2s							
TVO	**Taravao**	**52.10**	**41**	*e*T	T		17 07 46.3	
	5.4nm,0.3s							
PPT2	**Papeete2**	**52.20**	**41**	*e*LQ	LQ		16 24 49.2	
	441nm,26.0s							
PPT2				*e*LR	LR		16 26 57.3	
	358nm,28.2s							
PPT2	**Papeete2**	**52.20**	**41**	*e*T	T		17 07 54.2	
	6.3nm,0.3s							
PPT	**Papeete**	**52.22**	**41**	LR	LR		16 29 18.1	
	comp=Z,95nm,18.6s,baz=174,slow=30							
WRA	**Warramunga Arr**	**53.34**	**306**	P	**P**		**16 12 40.5**	**-1.4**
	2.7nm,0.9s,baz=156,slow=6.5,SNR=14							
WRA				PcP	**PcP**		**16 13 48.3**	**-1.0**
	0.8nm,0.9s,baz=148,slow=3.1,SNR=3.9							
WRAB	**Tennant Creek**	**53.35**	**306**	*e*P	**P**		**16 12 40.3**	**-1.7**
	13nm,1.2s							
VAH	**Vaihoa**	**54.98**	**42**	*e*T	T		17 11 21.1	
	205nm,0.2s							
PMOR	**Pomariorio Ree**	**55.13**	**42**	*e*T	T		17 11 32.7	
	6.2nm,0.3s							
RPN	**Rapa Nui**	**58.53**	**87**	LR	LR		16 32 12.7	
	comp=Z,222nm,20.8s,baz=32,slow=30							
CFAA	**Coronel Fontan**	**71.04**	**124**	LR	LR		16 40 07.4	
	comp=Z,12nm,21.1s,slow=31							
SIJI	**Sorong**	**72.19**	**310**	P	**P**		**16 14 48.0**	**+0.4**
	11nm,1.1s,baz=100,slow=2.0,SNR=7.1							
CPUP	**Villa Florida**	**79.55**	**132**	P	**P**		**16 15 27.5**	**-1.9**
	0.1nm,0.9s							
KSM	**Kuching**	**81.98**	**291**	P	**P**		**16 15 41.5**	**-1.1**
	4.5nm,0.8s							
BOSA	**Boshof**	**84.25**	**204**	LR	LR		16 50 29.7	
	comp=Z,153nm,20.9s,baz=184,slow=34							
LPAZ	**La Paz**	**85.07**	**118**	LR	LR		16 44 55.8	
	comp=Z,46nm,21.7s,baz=152,slow=29							
KULM	**Kulim**	**89.35**	**284**	P	**P**		**16 16 19.1**	**-0.1**
	15nm,1.3s							
ATAH	**Atahualpa**	**89.37**	**105**	LR	LR		16 47 43.3	
	comp=Z,82nm,21.2s,baz=215,slow=30							
H08S2	**Diego Garcia H**	**89.50**	**253**	T	T		17 56 06.2	
	baz=155,slow=76,SNR=83							
H08S1	**Diego Garcia H**	**89.51**	**253**	T	T		17 56 06.8	
	baz=155,slow=76,SNR=72							
H08S3	**Diego Garcia H**	**89.52**	**253**	T	T		17 56 07.8	
	baz=155,slow=76,SNR=103							
ILAR	**Eielson Array**	**132.03**	**19**	PKhKP	PKPpre		16 22 27.5	
	0.1nm,0.5s,baz=224,slow=3.9,SNR=4.0							
ILAR				PKP	**PKiKP**		**16 22 35.9**	**+0.2**
	0.5nm,0.9s,baz=224,slow=2.5,SNR=3.8							
YKA	**Yellowknife Ar**	**136.62**	**39**	PKP	**PKPdf**		**16 22 45.1**	**+1.8**
	0.2nm,0.7s,baz=204,slow=1.4,SNR=2.4							
ABKAR	**Akbulak array**	**144.48**	**274**	*e*PKPdf	PKPbc		16 22 57.1	+0.6
KBZ	**Khabaz**	**147.23**	**252**	PKPbc	**PKPbc**		**16 23 06.0**	**+0.9**
	0.4nm,0.4s,baz=56,slow=24,SNR=2.2							
BRTR	**Keskin Array B**	**147.32**	**237**	PKPbc	**PKPbc**		**16 23 06.0**	**+0.4**
	1.4nm,0.7s,baz=139,slow=5.5,SNR=7.4							
RES	**Resolute Bay**	**150.17**	**32**	PKPbc	**PKPbc**		**16 23 12.6**	**+0.9**
	1.7nm,0.9s,baz=255,slow=8.5,SNR=3.0							
ARU	**Arti**	**150.22**	**283**	*e*PKPbc	**PKPbc**		**16 23 13.9**	**+1.6**

IDC 27 16:05:07.2±20.0, 21.41S×179.36W, h641km±231km, mb3.1/5, mb1 3.2/5, mb1mx2.9/27, mbtmp4.2/5, Error ellipse: s-maj=177.2km s-min=61.2km az=47.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.15**	**266**	P	P		16 10 46.0	+0.7
	2.7nm,0.4s,baz=97,slow=12							
STKA	**Stephens Creek**	**36.25**	**245**	P	P		16 11 18.4	-0.7
	2.9nm,0.9s,baz=102,slow=7.3,SNR=4.8							
ASAR	**Alice Springs**	**43.08**	**258**	P	P		16 12 13.6	+0.1
	2.7nm,0.8s,baz=97,slow=8.0,SNR=25							
WRA	**Warramunga Arr**	**43.23**	**263**	P	P		16 12 14.6	0.0
	0.9nm,0.3s,baz=94,slow=13,SNR=87							
QSPA	**South Pole Qui**	**68.67**	**180**	P	P		16 15 08.5	+0.2
	1.7nm,0.8s,baz=315,slow=4.3,SNR=7.4							

IDC 27 16:09:34.8±54.0, 16.63S×175.91W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/19, mbtmp3.9/3, MS4.2/1, Ms1 4.2/1, ms1mx2.9/29, Error ellipse: s-maj=1021.0km s-min=166.4km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.33**	**240**	P	P		16 17 22.9	+0.3
	0.7nm,0.3s,baz=98,slow=14,SNR=6.2							
WRA	**Warramunga Arr**	**47.22**	**258**	P	P		16 18 09.2	-0.7
	0.4nm,0.7s,baz=94,slow=8.0,SNR=9.4							
ASAR	**Alice Springs**	**47.44**	**253**	P	P		16 18 11.6	0.0
	1.8nm,0.4s,baz=89,slow=8.0,SNR=37							
JCJ	**Chichijima**	**59.52**	**316**	LR	LR		16 41 45.7	
	comp=Z,206nm,19.4s,baz=272,slow=32							

ISCJB ***27*** *16:18:08.6±0.5, 5.28S±0.08×151.57E±0.06, h57km, mb4.2/15, Error ellipse: s-maj=12.0km s-min=8.3km az=19.8*
IDC ***27*** *16:18:13.1±2.5, 5.36S×151.55E, h85km±20km, mb3.9/12, mb1 4.1/12, mb1mx3.9/19, mbtmp4.2/12, Error ellipse: s-maj=24.9km s-min=13.1km az=124.0*

NEIC ***27*** *16:18:13.3±1.6, 5.40S×151.70E, h91km±15km, mb4.7/4, Error ellipse: s-maj=15.7km s-min=11.1km az=150.0*

ISC 27 16:18:10.0±0.6, 5.28S±0.09×151.50E±0.08, h57km, n22, σ1§54/24, mb4.4/15, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.95**	**226**	*e*Pn	Pn		16 19 41.2	+5.8
	204nm,0.4s							
PMG				*e*Sn	Sn		16 20 19.0	-23
HNR	**Honiara**	**9.34**	**117**	Pn	**Pn**		**16 20 20.8**	**-1.2**
HNR				*e*Sn	**Sn**		**16 22 07.5**	**+2.0**
CTA	**Charters Tower**	**15.58**	**199**	P	**P**		**16 21 52.7**	**+3.3**
	0.7nm,0.3s,baz=25,slow=13,SNR=5.3							
SIJI	**Sorong**	**20.67**	**282**	P	Pn		16 22 48.6	+0.4
	11nm,0.6s,baz=80,slow=9.8,SNR=13							
WRAB	**Tennant Creek**	**22.15**	**227**	*e*P	**P**		**16 23 02.1**	**+0.8**
	24nm,0.4s							
WRA	**Warramunga Arr**	**22.16**	**227**	P	**P**		**16 23 02.3**	**+0.9**
	18nm,0.4s,baz=50,slow=10,SNR=122							
WRA				S	**S**		**16 27 00.7**	**-1.6**
	2.4nm,1.0s,baz=65,slow=16,SNR=4.3							
WRA				ScP	**ScP**		**16 30 26.4**	**-3.1**
	1.3nm,0.7s,baz=43,slow=2.8,SNR=7.4							
ASAR	**Alice Springs**	**24.93**	**221**	P	**P**		**16 23 29.0**	**+0.9**
	12nm,0.7s,baz=54,slow=8.9,SNR=84							
ASAR				ScP	**ScP**		**16 30 34.6**	**-2.3**
	0.5nm,0.7s,baz=55,slow=2.9,SNR=4.6							
STKA	**Stephens Creek**	**28.04**	**198**	P	**P**		**16 23 54.7**	**-1.3**
	0.6nm,0.4s,baz=54,slow=13,SNR=4.1							
MBWA	**Marble Bar**	**34.61**	**240**	*e*P	**P**		**16 24 54.0**	**+0.1**
	10nm,0.7s							
CMAR	**Chiang Mai Arr**	**56.92**	**296**	P	**P**		**16 27 50.4**	**+0.6**
	0.8nm,0.9s,baz=128,slow=5.8,SNR=4.3							
CHTO	**Chiang Mai**	**57.03**	**296**	P	**P**		**16 27 52.0**	**+1.4**
	7.7nm,1.4s							
PETK	**Petropavlovsk-**	**58.41**	**4**	P	**P**		**16 28 00.5**	**+1.0**
	0.7nm,0.5s,baz=166,slow=8.9,SNR=4.0							
SONM	**Songino Array**	**66.05**	**329**	P	**P**		**16 28 51.2**	**+0.2**
	0.7nm,0.6s,baz=86,slow=7.4,SNR=4.0							
VNDA	**Vanda**	**72.40**	**178**	P	**P**		**16 29 30.0**	**+0.4**
	0.2nm,0.6s,baz=319,slow=8.3,SNR=3.5							
MKAR	**Makanchi Array**	**79.84**	**319**	P	**P**		**16 30 12.8**	**+0.3**
	0.2nm,0.3s,baz=103,slow=4.8,SNR=2.4							
ILAR	**Eielson Array**	**83.09**	**22**	P	**P**		**16 30 27.6**	**-1.7**
	1.4nm,0.7s,baz=249,slow=5.1,SNR=16							
KURK	**Kurchatov**	**83.35**	**322**	P	**P**		**16 30 31.2**	**+0.3**
QSPA	**South Pole Qui**	**84.68**	**180**	*e*P	**P**		**16 30 35.8**	**-1.8**
	5.2nm,1.2s							
YBH	**Yreka Blue Hor**	**90.34**	**48**	P	**P**		**16 31 06.1**	**+0.8**
	0.6nm,0.3s,baz=216,slow=7.0,SNR=4.0							
NVAR	**Mina Array Bea**	**93.40**	**52**	P	**P**		**16 31 20.4**	**+0.8**
	2.4nm,0.7s,baz=255,slow=6.5,SNR=16							
PDAR	**Pinedale Array**	**100.13**	**48**	P	**Pdif**		**16 31 49.5**	**-0.6**
	0.5nm,0.8s,baz=143,slow=3.7,SNR=3.9							
TORD	**Torodi Ar. Bea**	**149.22**	**287**	PKPbc	**PKPbc**		**16 37 52.6**	**-0.7**
	0.6nm,0.3s,baz=82,slow=2.0,SNR=17							

IDC 27 16:21:08.9±5.1, 22.36S×178.75W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.8/3, Error ellipse: s-maj=189.9km s-min=65.5km az=144.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.37**	**246**	P	P		16 28 14.0	-1.1
	1.4nm,0.7s,baz=108,slow=13,SNR=3.1							
ASAR	**Alice Springs**	**43.44**	**259**	P	P		16 29 13.7	-0.3
	0.3nm,0.4s,baz=97,slow=7.6,SNR=4.8							
WRA	**Warramunga Arr**	**43.68**	**264**	P	P		16 29 16.5	+0.6
	1.1nm,0.3s,baz=97,slow=8.4,SNR=20							
BRTR	**Keskin Array B**	**147.53**	**310**	PKPbc	PKPbc		16 40 54.6	-0.8
	0.5nm,0.6s,baz=95,slow=4.0,SNR=3.2							

ISCJB ***27*** *16:31:57.4±0.6, 22.92S±0.05×68.6W±0.1, h101km, mb3.8/3, Error ellipse: s-maj=19.5km s-min=7.7km az=179.9*
IDC ***27*** *16:31:58.8±0.5, 22.64S×68.89W, h96km±4km, mb3.6/3, mb1 3.6/5, mb1mx3.4/25, mbtmp3.8/5, Error ellipse: s-maj=25.7km s-min=15.6km az=69.0*

ISC 27 16:31:58.9±0.6, 22.82S±0.06×68.5W±0.1, h101km, n12, σ1§84/21, mb3.7/3, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.44**	**298**	P	**Pn**		**16 32 12.8**	**-1.9**
	47µm,0.3s,baz=144,slow=2.8,SNR=2348							
LVC				S	**Sn**		**16 32 22.9**	**-3.6**
	22µm,0.3s,baz=105,slow=20,SNR=11							
LPAZ	**La Paz**	**6.51**	**3**	P	**Pn**		**16 33 34.4**	**+1.6**
	0.4nm,0.3s,baz=138,slow=3.2,SNR=12							
LPAZ				S	Sn		16 34 28.9	-17
	0.4nm,0.3s,baz=197,slow=12,SNR=1.8							
CFAA	**Coronel Fontan**	**8.75**	**179**	P	**Pn**		**16 34 00.5**	**-2.2**
	0.1nm,0.3s,baz=23,slow=14,SNR=8.4							
CFAA				S	**Sn**		**16 35 37.3**	**-2.2**
	0.1nm,0.3s,baz=269,slow=21,SNR=1.7							
SIV	**San Ignacio**	**9.75**	**47**	P	**Pn**		**16 34 16.7**	**+0.3**
	2.0nm,0.3s,baz=240,slow=14,SNR=18							
SIV				S	**Sn**		**16 35 59.9**	**-4.1**
	0.4nm,0.3s,baz=320,slow=23,SNR=2.0							
PLCA	**Paso Flores**	**17.94**	**185**	P	**Pn**		**16 36 01.6**	**-0.2**
	0.2nm,0.3s,baz=0.0,slow=8.1,SNR=5.0							
SNAA	**Sanae**	**60.91**	**161**	P	**P**		**16 42 02.5**	**+1.8**
	0.3nm,0.7s,baz=287,slow=14,SNR=2.6							
SNAA				pP	**pP**		**16 42 26.8**	**+1.1**
	0.3nm,0.7s,baz=312,slow=14,SNR=2.1							
SNAA				sP	**sP**		**16 42 38.2**	**+1.4**
	1.0nm,1.2s,baz=296,slow=12,SNR=2.1							
TORD	**Torodi Ar. Bea**	**77.44**	**70**	P	**P**		**16 43 45.0**	**+1.4**
	1.9nm,0.5s,baz=257,slow=5.6,SNR=20							
TORD				pP	**pP**		**16 44 10.8**	**+1.3**
	0.6nm,0.6s,baz=251,slow=5.1,SNR=1.8							
YKA	**Yellowknife Ar**	**92.56**	**340**	P	**P**		**16 44 58.8**	**+0.4**
	0.2nm,0.5s,baz=135,slow=4.7,SNR=3.9							
YKA				pP	**pP**		**16 45 24.6**	**-0.4**
	0.3nm,0.6s,baz=139,slow=4.1,SNR=3.1							
ASAR	**Alice Springs**	**128.92**	**207**	PKP	**PKPdf**		**16 50 55.9**	**+0.3**
	0.4nm,0.8s,baz=187,slow=2.1,SNR=4.1							
ASAR				pPKP	**pPKPdf**		**16 51 22.8**	**-0.4**
	0.2nm,0.7s,baz=95,slow=2.0,SNR=2.5							
WRA	**Warramunga Arr**	**132.01**	**209**	PKP	**PKPdf**		**16 51 01.6**	**+0.2**
	0.4nm,0.8s,baz=132,slow=1.9,SNR=4.6							
WRA				pPKP	**pPKPdf**		**16 51 28.1**	**-1.1**
	0.1nm,0.5s,baz=152,slow=1.3,SNR=1.1							
ZALV	**Zalesovo Beam**	**142.97**	**26**	PKP	**PKPdf**		**16 51 22.1**	**+1.6**
	0.3nm,0.3s,baz=266,slow=5.6,SNR=3.4							
MKAR	**Makanchi Array**	**146.46**	**37**	PKPbc	**PKPbc**		**16 51 28.1**	**-0.2**
	0.3nm,0.5s,baz=319,slow=3.9,SNR=4.2							
MKAR				pPKPbc	pPKPbc		16 51 56.3	+0.6
	0.4nm,0.6s,baz=357,slow=2.9,SNR=3.0							

IDC ***27*** *16:41:02.8±11.0, 4.37S×153.72E, h56km±98km, mb3.5/9, mb1 3.7/9, mb1mx3.4/35, mbtmp3.8/9, Error ellipse: s-maj=47.5km s-min=26.2km az=87.0*
ISCJB ***27*** *16:41:04.6±1.0, 4.55S±0.1×153.7E±0.3, h85km, mb3.5/9, Error ellipse: s-maj=39.7km s-min=17.3km az=14.1*

ISC 27 16:41:06.1±1.1, 4.4S±0.2×153.7E±0.3, h85km, n10, σ0§73/12, mb3.6/9, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.37**	**229**	P	**P**		**16 46 16.4**	**-0.1**
	3.0nm,0.6s,baz=54,slow=10.0,SNR=42							
WRA				PcP	**PcP**		**16 49 54.1**	**0.0**
	0.3nm,0.8s,baz=48,slow=3.1,SNR=3.3							
ASAR	**Alice Springs**	**27.04**	**223**	P	**P**		**16 46 39.8**	**-0.9**
	0.4nm,0.7s,baz=56,slow=9.1,SNR=9.9							
ASAR				PcP	**PcP**		**16 50 00.1**	**0.0**
	0.3nm,0.7s,baz=63,slow=2.0,SNR=3.5							
STKA	**Stephens Creek**	**29.60**	**201**	P	**P**		**16 47 03.5**	**+0.2**
	1.7nm,0.6s,baz=43,slow=12,SNR=6.6							
VNDA	**Vanda**	**73.21**	**178**	P	**P**		**16 52 27.9**	**+0.5**
	0.5nm,0.6s,baz=357,slow=5.2,SNR=5.1							
MKAR	**Makanchi Array**	**80.59**	**319**	P	**P**		**16 53 10.4**	**+0.9**
	0.4nm,0.9s,baz=120,slow=5.2,SNR=2.7							
ILAR	**Eielson Array**	**81.45**	**22**	P	**P**		**16 53 13.3**	**-0.3**
	0.4nm,0.9s,baz=243,slow=6.0,SNR=3.5							
KURBB	**Kurchatov Arra**	**84.02**	**322**	P	**P**		**16 53 27.3**	**+0.1**
	0.3nm,0.9s,baz=120,slow=4.2,SNR=3.5							
AAK	**Ala-Archa**	**85.02**	**313**	P	**P**		**16 53 33.9**	**+1.2**
	0.4nm,0.3s,baz=172,slow=3.7,SNR=4.1							
BVAR	**Borovoye Array**	**89.44**	**323**	P	**P**		**16 53 52.9**	**-0.7**
	0.4nm,0.6s,baz=74,slow=6.2,SNR=3.3							
TORD	**Torodi Ar. Bea**	**151.00**	**289**	PKPbc	**PKPbc**		**17 00 49.4**	**-0.9**
	1.0nm,0.7s,baz=59,slow=2.4,SNR=6.3							

CSEM ***27*** *17:02:34.3±0.1, 38.89N×21.17E, h10km, ML1.8, Error ellipse: s-maj=3.5km s-min=2.4km az=31.0*
ATH ***27*** *17:02:34.7, 38.89N×21.16E, h5km±2km, MD3.0/9*

THE 27 17:02:33.4, 38.92N×21.18E, h23km±2km, ML1.8/3, Error ellipse: s-maj=2.9km s-min=0.7km az=327.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DSL	**Palaion Diasel**	**0.22**	**344**	P	Pb		17 02 38.9	-0.4
DSL				S	Sb		17 02 43.3	+0.1
DSL	**Palaion Diasel**	**0.22**	**344**	*e*PG	Pb		17 02 39.1	-0.2
DSL				*e*SG	Sb		17 02 43.5	+0.3
DSL	**Palaion Diasel**	**0.22**	**344**	*e*Pg	Pb		17 02 39.1	-0.2
DSL				*e*Sg	Sb		17 02 43.5	+0.3
PDO	**Prodromos**	**0.32**	**179**	P	Pb		17 02 40.0	-0.6
PDO				S	Sb		17 02 45.8	+0.3
PDO	**Prodromos**	**0.32**	**179**	*e*PG	Pb		17 02 39.9	-0.7
PDO	**Prodromos**	**0.32**	**179**	*e*Pg	Pb		17 02 39.9	-0.7
PDO				S	Sb		17 02 45.8	+0.3
PVO	**Paravola**	**0.41**	**138**	P	Pb		17 02 41.5	-0.5
PVO				S	Sb		17 02 48.5	+0.7
PVO	**Paravola**	**0.41**	**138**	P	Pb		17 02 41.5	-0.5
PVO				S	Sb		17 02 48.5	+0.7
LKD2	**Lefkada island**	**0.42**	**252**	P	Pb		17 02 41.9	-0.4
LKD2				S	Sb		17 02 49.3	+0.9
LKD2	**Lefkada island**	**0.42**	**252**	*e*PG	Pb		17 02 42.1	-0.2
LKD2				*e*SB	Sb		17 02 49.5	+1.1
LKD2	**Lefkada island**	**0.42**	**252**	*e*Pg	Pb		17 02 42.1	-0.2
LKD2				S	Sb		17 02 49.3	+0.9
EVR	**Evrytania**	**0.49**	**90**	P	Pb		17 02 43.3	-0.3
EVR				S	Sb		17 02 51.2	+0.7
EVR	**Evrytania**	**0.49**	**90**	*e*PB	Pn		17 02 44.8	-0.4
EVR				*e*SB	Sn		17 02 52.0	-1.2
EVR	**Evrytania**	**0.49**	**90**	P	Pb		17 02 43.3	-0.3
EVR	**Evrytania**	**0.49**	**90**	*e*Pb	Pn		17 02 44.8	-0.4
EVR				S	Sb		17 02 51.2	+0.7
EVR				*e*Sb	Sn		17 02 52.0	-1.2
MAKR	**Makrakomi, Fth**	**0.75**	**82**	*e*PB	Pn		17 02 49.5	+0.8
MAKR	**Makrakomi, Fth**	**0.75**	**82**	*e*Pb	Pn		17 02 49.5	+0.8
EFP	**Efpalio**	**0.75**	**130**	*e*PB	Pn		17 02 48.9	+0.3
EFP				*e*SB	Sn		17 02 59.6	+0.3
EFP	**Efpalio**	**0.75**	**130**	*e*Pb	Pn		17 02 48.9	+0.3
EFP				*e*Sb	Sn		17 02 59.6	+0.3
IGT	**Igoumenitsa**	**0.90**	**313**	*e*PB	Pn		17 02 52.3	+1.7
IGT				*e*SB	Sn		17 03 05.2	+2.3
IGT	**Igoumenitsa**	**0.90**	**313**	*e*Pb	Pn		17 02 52.3	+1.7
IGT				*e*Sb	Sn		17 03 05.2	+2.3
AGG	**Agios Georgios**	**0.91**	**83**	*e*PB	Pn		17 02 52.1	+1.3
AGG				*e*SB	Sn		17 03 05.8	+2.6
AGG	**Agios Georgios**	**0.91**	**83**	*e*Pb	Pn		17 02 52.1	+1.3
AGG				*e*Sb	Sn		17 03 05.8	+2.6
KALE	**Kalithea**	**0.92**	**125**	*e*PN	Pn		17 02 53.1	+2.1
KALE	**Kalithea**	**0.92**	**125**	*e*Pn	Pn		17 02 53.1	+2.1
SGD	**Sagiada**	**1.01**	**314**	*e*PN	Pb		17 02 54.9	+2.7
SGD				*e*SB	Sn		17 03 08.8	+3.2
SGD	**Sagiada**	**1.01**	**314**	*e*Pn	Pb		17 02 54.9	+2.7
SGD				*e*Sb	Sn		17 03 08.8	+3.2
DRO	**Drossia**	**1.05**	**156**	*e*PG	Pb		17 02 53.9	+0.9
DRO				*e*SB	Sn		17 03 09.9	+3.1
DRO	**Drossia**	**1.05**	**156**	*e*Pg	Pb		17 02 53.9	+0.9
DRO				*e*Sb	Sn		17 03 09.9	+3.1

IDC 27 17:06:41.0±27.0, 23.63S×174.95W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/20, mbtmp4.0/4, Error ellipse: s-maj=497.2km s-min=138.7km az=79.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.11**	**268**	P	P		17 13 45.5	+0.5
	2.9nm,0.4s,baz=89,slow=10,SNR=14							
STKA	**Stephens Creek**	**39.12**	**248**	P	P		17 14 10.7	+0.3
	0.8nm,0.4s,baz=78,slow=9.9,SNR=6.4							
ASAR	**

Tensor Solution. s80 Moment tensor: Scale 10^{19}Nm; M_{rr}4.11; $M_{\theta\theta}$0.34; $M_{\phi\phi}$-4.44; $M_{r\theta}$0.13; $M_{\theta\phi}$1.12; $M_{r\phi}$-0.23; Best double couple: $M_0$4.40000×10^{19} NP1:ϕ_s166.00000°, δ47.00000°, λ88.00000°. NP2:ϕ_s349.00000°, δ43.00000°, λ92.00000°. Principal axes: T 4.1200, Plg87.0000°, Azm42.0000°; N 0.5800, Plg1.0000°, Azm167.0000°; P -4.7000, Plg1.0000°, Azm257.0000°;

ISC 27 17:14:46.9±0.3, **13°67S**±0°03.0×**166°67E**±0°03, **h35**km±1km, **h35**km:**pP-P, n2204,** σ**176**/2206, **mb6.3**/342, **MS7.1**/244, **350C-287D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.82**	**302**	*e*P		**Pn**	**17 16 36.5**	**-1.9**
HNR	**Honiara**	**7.82**	**302**	*i* P		**Pn**	**17 16 39.0**	**+0.7**
HNR				*i* S		Px	17 16 46.0	
HNR	**Honiara**	**7.82**	**302**	*e*P		**Pn**	**17 16 36.5**	**-1.9**
DZM	**Mont Dzumac**	**8.36**	**181**	*e*Pn		**Pn**	**17 16 43.9**	**-1.8**
	2μm,0.3s							
DZM				*e*Sn		Sn	17 18 10.1	-8.8
	1μm,0.3s							
DZM				*e*LR		LR	17 18 35.5	
	3233μm,24.7s							
DZM	**Mont Dzumac**	**8.36**	**181**	Pn		**Pn**	**17 16 43.5**	**-2.2**
	6.3nm,0.3s,baz=90,slow=24,SNR=57							
DZM				Sn		**Sn**	**17 18 19.1**	**+0.2**
	baz=120,slow=20,SNR=1.4							
NOUC	**Port Laguerre**	**8.39**	**182**	*e*P		Pn	17 16 42.7	-3.4
NOUC				*e*S		**Sn**	**17 18 21.0**	**+1.3**
BAYA	**Yate Dam**	**8.44**	**179**	*e*P		**Pn**	**17 16 45.8**	**-0.9**
BAYA				*e*S		**Sn**	**17 18 22.0**	**+1.1**
NORM	**Noumea**	**8.51**	**181**	*e*P		**Pn**	**17 16 47.2**	**-0.5**
MSVF	**Nonsavu**	**11.67**	**112**	*e*P		Pn	17 17 36.3	+5.1
MSVF	**Nonsavu**	**11.67**	**112**	*e*Pn		Pn	17 17 36.3	+5.1
EIDS	**Eidsvold**	**18.72**	**229**	*e*P		**Pn**	**17 19 03.1**	**-0.2**
	11μm,2.3s							
PMG	**Port Moresby**	**19.58**	**280**	*c i*P		**Pn**	**17 19 13.0**	**-0.6**
PMG				pmax		pmax		
	comp=Z,2μm,1.7s							
PMG				MLR		MLR		
	comp=Z,1415μm,17.0s							
PMG	**Port Moresby**	**19.58**	**280**	*e*P		**Pn**	**17 19 13.1**	**-0.6**
	comp=Z,981nm,1.6s							
CTA	**Charters Tower**	**20.54**	**249**	P		**P**	**17 19 23.3**	**+0.7**
	comp=Z,123nm,0.9s,baz=78,slow=14,SNR=87							
CTA				S		Sn	17 23 20.2	+4.3
	comp=Z,64nm,0.8s,baz=159,slow=19,SNR=3.1							
CTA				LR		LR	17 26 38.4	
	comp=Z,239μm,21.7s,baz=70,slow=35							
CTA				ScP		**ScP**	**17 27 08.6**	**+1.2**
	comp=Z,76nm,1.1s,baz=254,slow=3.0,SNR=4.2							
CTAO	**Charters Tower**	**20.54**	**249**	*e*P		**P**	**17 19 22.4**	**-0.2**
CTAO				pmax		pmax		
	comp=Z,3μm,1.5s							
CTAO				MLR		MLR		
	comp=Z,337μm,22.0s							
CTAO	**Charters Tower**	**20.54**	**249**	*e*P		**P**	**17 19 22.4**	**-0.2**
	comp=Z,3μm,1.5s							
CTAO				LR		LR		
	comp=Z,337μm,22.0s							
AFI	**Afiamalu**	**20.93**	**93**	*e*P		Pn	17 19 29.1	-0.5
AFI				pmax		pmax		
	comp=Z,8μm,1.5s							
AFI				MLR		MLR		
	comp=Z,658μm,21.0s							
AFI	**Afiamalu**	**20.93**	**93**	*e*P		Pn	17 19 29.1	-0.6
	comp=Z,8μm,1.5s							
AFI				LR		LR		
	comp=Z,658μm,21.0s							
RAO	**Raoul Island**	**21.08**	**140**	P		**P**	**17 19 28.1**	**-0.2**
	comp=Z,569nm,0.7s,baz=302,slow=19,SNR=3.2							
RAO				LR		LR	17 25 13.6	
	comp=Z,206μm,20.8s,baz=304,slow=30							
RAO	**Raoul Island**	**21.08**	**140**	*e*P		**P**	**17 19 28.3**	**0.0**
RAO				pmax		pmax		
	comp=Z,7μm,1.4s							
RAO	**Raoul Island**	**21.08**	**140**	*e*P		**P**	**17 19 28.3**	**0.0**
	comp=Z,7μm,1.4s							
ARMA	**Armidale**	**21.69**	**217**	*e*P		**P**	**17 19 35.8**	**+0.8**
	comp=Z,3μm,1.5s							
OUZ	**Omahuta**	**22.35**	**165**	PN		**P**	**17 19 43.0**	**+1.2**
OUZ	**Omahuta**	**22.35**	**165**	*e*P		**P**	**17 19 42.9**	**+1.1**
	comp=Z,983nm,1.5s							
KWAJ	**Kwajalein Atol**	**22.35**	**2**	*e*P		**P**	**17 19 44.5**	**+2.5**
KWAJ				pmax		pmax		
	comp=Z,633nm,1.1s							
KWAJ	**Kwajalein Atol**	**22.35**	**2**	*e*P		**P**	**17 19 44.5**	**+2.5**
	comp=Z,633nm,1.1s							
COEN	**Coen**	**22.82**	**266**	*e*P		**P**	**17 19 48.2**	**+1.1**
	comp=Z,2μm,3.0s							
WCZ	**Waipu Caves**	**23.22**	**164**	PN		**P**	**17 19 52.3**	**+1.3**
WTAZ	**Waiatarua**	**24.22**	**164**	*e*PN		**P**	**17 20 01.4**	**+0.9**
MKAZ	**Moumakai**	**24.55**	**163**	PN		**P**	**17 20 04.5**	**+1.1**
TOZ	**Tahuroa Road**	**25.22**	**163**	PN		**P**	**17 20 10.4**	**+0.9**
OPRZ	**Ohinepanea**	**25.63**	**162**	*e*PN		**P**	**17 20 14.1**	**+0.8**
HIZ	**Hauiti**	**25.78**	**165**	PN		**P**	**17 20 15.8**	**+1.1**
HAZ	**Te Kaha**	**25.95**	**160**	PN		**P**	**17 20 18.1**	**+2.0**
MXZ	**Matakaoa Point**	**25.95**	**159**	*e*PN		**P**	**17 20 17.1**	**+0.9**
MXZ				*e*SN		**S**	**17 24 44.0**	**-0.3**
URZ	**Urewera**	**26.18**	**161**	P		**P**	**17 20 17.9**	**-0.4**
	comp=Z,27nm,0.4s,baz=208,slow=1.0,SNR=26							
URZ				S		**S**	**17 24 50.6**	**+2.7**
	comp=Z,63nm,0.8s,baz=177,slow=20,SNR=6.2							
URZ				LR		LR	17 29 27.7	
	comp=Z,789μm,20.0s,baz=338,slow=34							
URZ	**Urewera**	**26.18**	**161**	*e*PN		**P**	**17 20 20.1**	**+1.9**
URZ				SN		**S**	**17 24 48.7**	**+0.8**
URZ	**Urewera**	**26.18**	**161**	*e*P		**P**	**17 20 19.9**	**+1.7**
	comp=Z,994nm,1.0s							
URZ				S		**S**	**17 24 50.6**	**+2.7**
MWZ	**Matawai**	**26.39**	**161**	*e*PN		**P**	**17 20 21.5**	**+1.4**
TWGZ	**Tauwhareparae**	**26.39**	**160**	*e*PN		**P**	**17 20 21.7**	**+1.5**
TWGZ				SN		**S**	**17 24 51.3**	**-0.1**
PUZ	**Puketiti**	**26.39**	**159**	*e*PN		**P**	**17 20 21.0**	**+0.8**
OTVZ	**Oturere**	**26.61**	**164**	*e*PN		**P**	**17 20 24.2**	**+2.0**
SNGZ	**Shannon Statio**	**26.73**	**161**	PN		**P**	**17 20 24.1**	**+0.8**
CNGZ	**Carnagh Statio**	**26.75**	**160**	PN		**P**	**17 20 25.9**	**+2.5**
RIGZ	**Rimuhau**	**26.80**	**160**	*e*PN		**P**	**17 20 24.4**	**+0.5**
CAN	**Canberra**	**26.80**	**213**	*e*P		**P**	**17 20 24.1**	**+0.1**
CAN				pmax		pmax		
	comp=Z,3μm,1.8s							
CAN				MLR		MLR		
	comp=Z,418μm,21.0s							
CAN	**Canberra**	**26.80**	**213**	*e*P		**P**	**17 20 24.1**	**+0.1**
	comp=Z,3μm,1.8s							
CAN				LR		LR		
	comp=Z,418μm,21.0s							
BKZ	**Black Stump Fm**	**26.84**	**163**	PN		**P**	**17 20 22.5**	**-1.7**
BKZ	**Black Stump Fm**	**26.84**	**163**	*e*P		**P**	**17 20 24.0**	**-0.2**
	comp=Z,1μm,1.4s							
MOVZ	**Moawhango**	**26.86**	**164**	PN		**P**	**17 20 27.9**	**+3.5**
NMHZ	**Naumai**	**26.86**	**162**	*e*PN		**P**	**17 20 24.7**	**+0.3**
WAZ	**Wanganui**	**26.99**	**166**	*e*PN		**P**	**17 20 30.2**	**+4.6**
BHHZ	**Black Hill Sta**	**27.02**	**164**	*e*PN		**P**	**17 20 26.0**	**+0.2**
KNZ	**Kokohu**	**27.06**	**161**	*e*PN		**P**	**17 20 24.5**	**-1.6**
KRHZ	**Kereru**	**27.25**	**163**	*e*PN		**P**	**17 20 27.5**	**-0.3**
KAHZ	**Kahuranaki**	**27.53**	**163**	PN		**P**	**17 20 30.5**	**+0.1**
QRZ	**Quartz Range**	**27.53**	**170**	PN		**P**	**17 20 31.7**	**+1.3**
JAY	**Jayapura**	**27.96**	**291**	P		**P**	**17 20 38.4**	**+3.9**
	comp=Z,770nm,1.8s,comp=Z,15μmcomp=Z,606μm							
JAY	**Jayapura**	**27.96**	**291**	P		**P**	**17 20 36.0**	**+1.5**
	comp=Z,38nm,0.8s,baz=110,slow=3.2,SNR=16							
MRZ	**Mangatainoka R**	**28.00**	**165**	PN		**P**	**17 20 34.5**	**0.0**
ANWZ	**Angora Road**	**28.04**	**164**	*e*PN		**P**	**17 20 35.0**	**+0.2**
BFZ	**Birch Farm**	**28.18**	**164**	*e*PN		**P**	**17 20 35.0**	**-1.1**
BFZ	**Birch Farm**	**28.18**	**164**	*e*P		**P**	**17 20 38.0**	**+1.9**
	comp=Z,3μm,2.0s							
HOWZ	**Holdsworth Sta**	**28.20**	**166**	PN		**P**	**17 20 36.2**	**-0.2**
CAW	**Cannon Point**	**28.30**	**167**	*e*PN		**P**	**17 20 37.4**	**+0.1**
TUWZ	**Tuamarina**	**28.37**	**168**	PN		**P**	**17 20 38.6**	**+0.8**
SNZO	**South Karori**	**28.41**	**167**	PFAKE			17 20 50.0	+12
SNZO				LR		LR		
	comp=Z,829μm,19.0s							
GENI	**Genyem**	**28.41**	**290**	P		**P**	**17 20 40.9**	**+2.4**
	comp=Z,2μm,2.3s,comp=Z,27μmcomp=Z,620μm							
MTW	**Mount Morrison**	**28.45**	**166**	*e*PN		**P**	**17 20 37.3**	**-1.3**
KHZ	**Kahutara**	**29.25**	**170**	*e*P		**P**	**17 20 47.0**	**+1.4**
	comp=Z,4μm,2.3s							
STKA	**Stephens Creek**	**29.25**	**228**	P		**P**	**17 20 45.4**	**-0.4**
	comp=Z,180nm,0.7s,baz=38,slow=8.0,SNR=56							
STKA				ScP		**ScP**	**17 27 33.5**	**+2.0**
	comp=Z,49nm,0.9s,baz=38,slow=3.9,SNR=4.2							
STKA				LR		LR	17 31 47.5	
	comp=Z,727μm,21.3s,baz=58,slow=35							
STKA	**Stephens Creek**	**29.25**	**228**	*e*P		**P**	**17 20 45.5**	**-0.4**
STKA							17 27 33.6	
STKA				pmax		pmax		
	comp=Z,1μm,1.8s							
STKA	**Stephens Creek**	**29.25**	**228**	*e*P		**P**	**17 20 45.5**	**-0.4**
	comp=Z,1μm,1.8s							
STKA				ScP		**ScP**	**17 27 33.5**	**+2.0**
LTZ	**Lake Taylor**	**29.41**	**172**	*e*PN		**P**	**17 20 48.5**	**+1.4**
WVZ	**Waitaha Valley**	**29.51**	**174**	PN		**P**	**17 20 48.2**	**+0.3**
FOZ	**Fox Glacier**	**29.90**	**176**	PN		**P**	**17 20 49.0**	**-2.4**
SMPI	**Sarmi**	**29.99**	**290**	P		**P**	**17 20 54.1**	**+1.6**
	comp=Z,1μm,1.5s,comp=Z,32μm							
RPZ	**Rata Peaks**	**30.18**	**174**	P		**P**	**17 20 53.7**	**-0.1**
	comp=Z,223nm,0.8s,baz=79,slow=5.2,SNR=25							
RPZ				S		**S**	**17 25 53.1**	**+2.4**
	comp=Z,30nm,0.9s,baz=57,slow=17,SNR=3.3							
RPZ				ScP		**ScP**	**17 27 35.3**	**+1.0**
	comp=Z,46nm,0.9s,baz=72,slow=3.2,SNR=2.6							
RPZ				LR		LR	17 31 40.7	
	comp=Z,622μm,21.4s,baz=359,slow=34							
RPZ	**Rata Peaks**	**30.18**	**174**	PN		**P**	**17 20 55.0**	**+1.1**
RPZ	**Rata Peaks**	**30.18**	**174**	P		**P**	**17 20 53.7**	**-0.1**
RPZ				*e*P		**P**	**17 20 55.0**	**+1.1**
RPZ				S		**S**	**17 25 53.1**	**+2.4**
RPZ				ScP		**ScP**	**17 27 35.3**	**+1.0**
JCZ	**Jackson Bay**	**30.35**	**177**	*e*PN		**P**	**17 20 57.8**	**+2.3**
MQZ	**McQueen's Vall**	**30.37**	**171**	PN		**P**	**17 20 56.5**	**+1.0**
LBZ	**Lake Benmore**	**30.76**	**175**	*e*PN		**P**	**17 20 58.4**	**-0.6**
MSZ	**Milford Sound**	**30.91**	**178**	PN		**P**	**17 21 01.3**	**+1.0**
WKZ	**Wanaka**	**31.11**	**177**	PN		**P**	**17 21 03.6**	**+1.5**
WRAB	**Tennant Creek**	**31.53**	**254**	*c i*P		**P**	**17 21 03.9**	**-2.2**
WRAB				pmax		pmax		
	comp=Z,700nm,1.2s							
WRAB				MLR		MLR		
	comp=Z,1210μm,23.0s							
WRAB	**Tennant Creek**	**31.53**	**254**	*e*P		**P**	**17 21 03.7**	**-2.4**
	comp=Z,1μm,1.9s							
WRAB				LR		LR		
	comp=Z,406μm,22.0s							
EAZ	**Earnscleugh**	**31.54**	**176**	PN		**P**	**17 21 03.5**	**-2.3**
WRA	**Warramunga Arr**	**31.54**	**254**	P		**P**	**17 21 05.0**	**-1.2**
	comp=Z,71nm,0.7s,baz=86,slow=9.2,SNR=103							
WRA				PcP		**PcP**	**17 23 57.8**	**-0.8**
	comp=Z,72nm,0.8s,baz=80,slow=2.4,SNR=7.2							
WRA				ScP		**ScP**	**17 27 41.0**	**+1.7**
	comp=Z,64nm,1.0s,baz=84,slow=3.4,SNR=7.8							
WRA				PKiKP		**PKiKP**	**17 31 27.4**	**-0.7**
	comp=Z,18nm,0.7s,baz=0.5,slow=0.5,SNR=18							
WRA				LR		LR	17 32 58.8	
	comp=Z,371μm,21.5s,baz=80,slow=35							
WRA	**Warramunga Arr**	**31.54**	**254**	*i* P		**P**	**17 21 03.7**	**-2.5**
WRA				pmax		pmax		
	comp=Z,70nm,0.6s							
MLZ	**Mavora Lakes**	**31.60**	**178**	PN		**P**	**17 21 06.9**	**+0.5**
DCZ	**Deep Cove**	**31.70**	**179**	*e*PN		**P**	**17 21 06.2**	**-1.0**
DCZ	**Deep Cove**	**31.70**	**179**	*e*P		**P**	**17 21 06.4**	**-0.8**
	comp=Z,1μm,1.2s							
WHZ	**Wether Hill Ro**	**32.13**	**178**	*e*PN		**P**	**17 21 08.5**	**-2.5**
WHZ	**Wether Hill Ro**	**32.13**	**178**	*e*P		**P**	**17 21 10.7**	**-0.4**
	comp=Z,1μm,1.5s							
TUZ	**Tuapeka**	**32.28**	**176**	PN		**P**	**17 21 10.5**	**-1.8**
SRPI	**Serui, Papua**	**32.30**	**289**	P		**P**	**17 21 15.8**	**+2.9**
	comp=Z,398nm,1.8s,comp=Z,18μmcomp=Z,307μm							
ASAR	**Alice Springs**	**32.52**	**247**	P		**P**	**17 21 14.8**	**-0.1**
	comp=Z,114nm,0.6s,baz=75,slow=9.5,SNR=132							
ASAR				PcP		**PcP**	**17 24 01.6**	**+0.4**
	comp=Z,53nm,0.7s,baz=84,slow=2.8,SNR=4.2							
ASAR				S		**S**	**17 26 29.9**	**+1.8**
	comp=Z,19nm,1.0s,baz=76,slow=16,SNR=3.1							
ASAR				ScP		**ScP**	**17 27 43.5**	**+0.8**
	comp=Z,99nm,1.0s,baz=86,slow=3.6,SNR=6.4							
ASAR				PKiKP		**PKiKP**	**17 31 28.1**	**-0.5**
	comp=Z,14nm,0.8s,baz=99,slow=1.4,SNR=11							
ASAR				LR		LR	17 33 33.0	
	comp=Z,223μm,21.2s,baz=83,slow=35							
WAKE	**Wake Island**	**32.75**	**360**	*e*P		P	17 21 20.6	+4.0
	comp=Z,353nm,1.4s							
WAKE				LR		LR		
	comp=Z,180μm,19.0s							
SYZ	**Scrubby Hill**	**32.83**	**177**	PN		**P**	**17 21 17.7**	**+0.6**
APZ	**The Paps**	**33.08**	**178**	PN		**P**	**17 21 19.5**	**+0.2**
TAU	**Tasmania Unive**	**33.58**	**206**	*e*P		**P**	**17 21 24.1**	**+0.4**
TAU				pmax		pmax		
	comp=Z,3μm,1.8s							
TAU				MLR		MLR		
	comp=Z,542μm,22.0s							
TAU	**Tasmania Unive**	**33.58**	**206**	*e*P		**P**	**17 21 24.1**	**+0.4**
	comp=Z,3μm,1.8s							
TAU				LR		LR		
	comp=Z,542μm,22.0s							
BBOO	**Buckleboo**	**33.78**	**230**	*e*P		**P**	**17 21 24.7**	**-1.0**
	comp=Z,87nm,1.0s							
RKPI	**Ransiki, Papua**	**34.34**	**288**	P		**P**	**17 21 33.1**	**+2.4**
	comp=Z,961nm,1.7s,comp=Z,34μmcomp=Z,311μm							
GUMO	**Guam**	**34.64**	**321**	P		**P**	**17 21 34.0**	**+0.7**
	comp=Z,329nm,0.8s,baz=158,slow=8.9,SNR=17							
GUMO				LR		LR	17 34 19.9	
	comp=Z,139μm,21.7s,baz=136,slow=34							
GUMO	**Guam**	**34.64**	**321**	*e*P		**P**	**17 21 35.2**	**+2.0**
GUMO				pmax		pmax		
	comp=Z,302nm,1.8s							
GUMO	**Guam**	**34.64**	**321**	*e*P		**P**	**17 21 35.2**	**+2.0**
	comp=Z,302nm,1.8s							
SAUI	**Saumlaki**	**35.17**	**276**	P		P	17 21 48.8	+11
FAKI	**Fak Fak**	**35.64**	**284**	P		**P**	**17 21 43.7**	**+1.7**
	comp=Z,406nm,1.7s,comp=Z,21μmcomp=Z,393μm							
FAKI	**Fak Fak**	**35.64**	**284**	*e*P		**P**	**17 21 42.5**	**+0.5**
	comp=Z,5μm,2.8s							
SIJI	**Sorong**	**37.28**	**287**	P		**P**	**17 21 57.0**	**+1.1**
	comp=Z,158nm,0.8s,baz=81,slow=7.4,SNR=61							
SIJI				LR		LR	17 39 02.3	
	comp=Z,84μm,18.7s,baz=116,slow=39							
BNDI	**Bandanaira**	**37.38**	**281**	P		**P**	**17 21 58.5**	**+1.8**
	comp=Z,4μm,1.7s,comp=Z,85μmcomp=Z,405μm							
MSAI	**Masohi**	**38.65**	**282**	P		P	17 22 17.4	+10
XMAS	**Kiritimati**	**38.85**	**69**	*e*P		**P**	**17 22 10.5**	**+1.3**
	comp=Z,764nm,1.0s							
XMAS				LR		LR		
	comp=Z,241μm,22.0s							
FORT	**Forrest**	**39.35**	**238**	*e*P		**P**	**17 22 11.6**	**-1.5**
	comp=Z,1μm,0.6s							
NLAI	**Namlea**	**40.42**	**281**	P		**P**	**17 22 24.5**	**+2.2**
	comp=Z,4μm,1.1s,comp=Z,27μmcomp=Z,299μm							
MCQ	**Macquarie Isla**	**41.18**	**187**	*e*P		**P**	**17 22 28.3**	**+0.4**
MCQ	**Macquarie Isla**	**41.18**	**187**	*e*P		**P**	**17 22 28.3**	**+0.4**
TNTI	**Ternate**	**41.50**	**287**	P		**P**	**17 22 32.4**	**+1.2**
	comp=Z,2μm,1.5s,comp=Z,54μmcomp=Z,374μm							
TNTI	**Ternate**	**41.50**	**287**	*e*P		**P**	**17 22 31.6**	**+0.4**
SANI	**Sanana**	**41.84**	**282**	P		**P**	**17 22 35.0**	**+1.0**
	comp=Z,998nm,1.6s,comp=Z,41μmcomp=Z,344μm							
PAE	**Paea**	**42.24**	**101**	*e*P		**P**	**17 22 39.2**	**+2.0**
	comp=Z,116nm,1.0s							
PAE				*e*ScP		**ScP**	**17 28 18.6**	**-0.4**
	comp=Z,64nm,1.4s							
PPT	**Papeete**	**42.25**	**101**	P		**P**	**17 22 39.4**	**+2.1**
	comp=Z,432nm,1.0s,baz=270,slow=0.6,SNR=20							
PPT				LR		LR	17 37 59.7	
	comp=Z,112μm,18.2s,baz=268,slow=33							
PPT2	**Papeete2**	**42.25**	**101**	*e*P		**P**	**17 22 39.5**	**+2.2**
	comp=Z,622nm,1.0s							
PPT2				*e*ScP		**ScP**	**17 28 18.6**	**-0.6**
	comp=Z,444nm,2.0s							
PPT2				*e*S		**S**	**17 28 59.0**	**+3.2**
	comp=Z,200μm,31.8s							
PPT2				*e*LQ		LQ	17 32 33.8	
	comp=Z,944μm,30.8s							
PPT2				*e*LR		LR	17 34 19.3	
	comp=Z,1046μm,26.8s,baz=269							
TIAR	**Tiarei**	**42.47**	**101**	*e*P		**P**	**17 22 41.3**	**+2.3**
	comp=Z,102nm,0.8s							
TIAR				*e*ScP		**ScP**	**17 28 19.5**	**-0.5**
	comp=Z,40nm,1.0s							
TVO	**Taravao**	**42.55**	**101**	*e*P		**P**	**17 22 41.9**	**+2.1**
	comp=Z,227nm,1.0s							
TVO				*e*ScP		**ScP**	**17 28 19.9**	**-0.5**
	comp=Z,108nm,1.2s							
TBI	**Tubuai**	**42.55**	**110**	*e*P		**P**	**17 22 41.8**	**+2.2**
	comp=Z,1μm,0.8s							
TBI				*e*ScP		**ScP**	**17 28 19.7**	**-0.5**
	comp=Z,2μm,1.8s							
TBI				*e*S		**S**	**17 29 04.3**	**+4.2**
	comp=Z,141μm,31.5s							
TBI				*e*LQ		LQ	17 32 39.3	
	comp=Z,767μm,28.0s							
TBI				*e*LR		LR	17 34 27.0	
	comp=Z,1003μm,26.0s,baz=281							
MEH	**Mehetia**	**43.68**	**102**	*e*P		**P**	**17 22 51.0**	**+2.2**
	comp=Z,549nm,1.1s							
MEH				*e*ScP		**ScP**	**17 28 24.4**	**-0.5**
	comp=Z,134nm,1.3s							
MMRI	**Maumere**	**43.83**	**272**	P		**P**	**17 22 51.4**	**+1.3**
	comp=Z,1μm,2.4s,comp=Z,29μmcomp=Z,359μm							
MMRI	**Maumere**	**43.83**	**272**	*e*P		**P**	**17 22 50.5**	**+0.4**
	comp=Z,794nm,1.0s							
PMOR	**Pomariorio Ree**	**43.98**	**98**	*e*P		**P**	**17 22 53.9**	**+2.6**
	comp=Z,3μm,1.2s							
PMOR				*e*ScP		**ScP**	**17 28 25.6**	**-0.5**
	comp=Z,780nm,1.5s							
VAH	**Vaihoa**	**44.22**	**98**	*e*ScP		**ScP**	**17 28 26.4**	**-0.7**
	comp=Z,1μm,2.0s							
SGSI	**Sangihe**	**44.32**	**290**	P		P	17 22 57.2	+3.2
	comp=Z,4μm,1.4s,comp=Z,65μm							
MIDW	**Midway**	**44.42**	**20**	*e*P		**P**	**17 22 55.6**	**+1.1**
MIDW				LR		LR		
	comp=Z,197μm,22.0s							
KDI	**Kendari**	**44.52**	**278**	P		P	17 22 59.1	+3.5
	comp=Z,826nm,2.6s,comp=Z,17μmcomp=Z,437μm							
KMSI	**Cibinong**	**44.60**	**285**	P		**P**	**17 22 57.0**	**+0.8**
	comp=Z,5μm,1.2s,comp=Z,57μmcomp=Z,286μm							
MATI	**Mati**	**45.05**	**295**	*e*P		**P**	**17 23 00.8**	**+1.0**
BASI	**Baing, Sumba**	**45.18**	**269**	P		P	17 23 04.7	+3.9
	comp=Z,2μm,1.8s,comp=Z,43μmcomp=Z,294μm							
LUWI	**Luwuk**	**45.21**	**282**	P		**P**	**17 23 03.1**	**+2.0**
	comp=Z,2μm,1.3s,comp=Z,31μmcomp=Z,353μm							
LUWI	**Luwuk**	**45.21**	**282**	*e*P		**P**	**17 23 02.7**	**+1.6**
	comp=Z,3μm,1.5s							
MBWA	**Marble Bar**	**45.27**	**254**	P		**P**	**17 23 03.1**	**+1.6**
	SNR=52							
MBWA				mb			17 23 06.9	
	SNR=66							
MBWA	**Marble Bar**	**45.27**	**254**	*e*P		**P**	**17 23 00.5**	**-1.0**
	comp=Z,394nm,0.9s							
MBWA				LR		LR		
	comp=Z,175μm,20.0s							
WSI	**Waingapu**	**45.54**	**270**	P		P	17 23 07.0	+3.3
	comp=Z,2μm,1.7s,comp=Z,39μmcomp=Z,389μm							
DAV	**Davao City (W)**	**45.71**	**294**	P		P	17 23 09.2	+4.2
	SNR=14							
DAV				mb			17 23 22.6	
	SNR=5.6							
DAV	**Davao City (W)**	**45.71**	**294**	*e*P		P	17 23 08.6	+3.6
	comp=Z,216nm,0.4s							
DAV				LR		LR		
	comp=Z,43μm,21.0s							
GSPH	**General Santos**	**45.84**	**293**	⇑*i* P		**P**	**17 23 07.0**	**+0.7**
BSSI	**Bau Bau, Buton**	**46.04**	**275**	P		**P**	**17 23 10.2**	**+2.5**
	comp=Z,612nm,1.7s,comp=Z,23μmcomp=Z,220μm							
APSI	**Ampana**	**46.32**	**282**	P		**P**	**17 23 10.6**	**+0.7**
	comp=Z,1μm,1.7s,comp=Z,31μmcomp=Z,250μm							
WBSI	**Waikabubak, Su**	**46.42**	**270**	P		**P**	**17 23 13.0**	**+2.2**
	comp=Z,1μm,1.0s,comp=Z,25μmcomp=Z,233μm							
MRSI	**Marisa**	**46.48**	**284**	P		**P**	**17 23 11.7**	**+0.5**
	comp=Z,383nm,0.9s,comp=Z,13μmcomp=Z,213μm							
BUKP	**Musuan**	**46.53**	**295**	*e*P		**P**	**17 23 13.5**	**+2.0**
BUTP	**Butuan**	**46.54**	**297**	*e*P		**P**	**17 23 13.0**	**+1.4**
BKSI	**Bulukumba**	**46.59**	**276**	P		**P**	**17 23 13.7**	**+1.7**
	comp=Z,1μm,2.4s,comp=Z,15μmcomp=Z,209μm							
CTBH	**Cotabato--PC H**	**46.96**	**294**	⇑*i* P		**P**	**17 23 15.6**	**+0.8**
CBIJ	**Chichi jima**	**46.99**	**330**	*e*P		**P**	**17 23 15.9**	**+1.1**
	comp=Z,2μm,1.6s							
JCJ	**Chichijima**	**46.99**	**330**	P		**P**	**17 23 15.8**	**+1.0**
	comp=Z,482nm,0.7s,baz=142,slow=4.1,SNR=25							
JCJ				LR		LR	17 40 31.5	

JOW **Kunigami** 54.88 317 *e*P P **17 24 14.3 +0.1**
comp=Z,870nm,1.4s
BOLP **Bolinao** 55.01 301 *e*P P 17 24 07.6 -7.8
SZP **Santa** 55.16 303 *e*P P **17 24 17.5 +1.0**
comp=Z,607nm,1.1s
UWJI **Ujung Watu** 55.24 272 P P 17 24 20.4 +3.2
comp=Z,770nm,1.6s,comp=Z,20µmcomp=Z,188µm
UGM **Wanagama** 55.35 270 P P **17 24 20.7 +2.7**
comp=Z,1µm,1.2s,comp=Z,28µmcomp=Z,343µm
PBKI **Pangkalan Bun** 55.40 276 P P **17 24 21.1 +2.8**
comp=Z,1µm,2.1s,comp=Z,21µmcomp=Z,280µm
BTM **Bintulu** 55.73 284 ⇓P P **17 24 22.4 +1.8**
DRV **Dumont d'Urvil** 55.84 192 P P 17 23 47.0 -34
DRV PP PP **17 26 21.0 -4.3**
DRV S S 17 31 40.0 -25
DRV SS SS 17 35 37.0 -14
DRV L L 17 37 00.0
DRV R 17 40 00.0
RKT **Rikitea** 55.86 109 *e*P P **17 24 24.2 +2.7**
comp=Z,284nm,1.3s
RKT *e*ScP **ScP** **17 29 16.5 -0.2**
comp=Z,404nm,1.7s
RKT *e*S **S** **17 32 09.5 +2.6**
comp=Z,36µm,27.5s
RKT *e*LQ LQ 17 38 16.3
comp=Z,125µm,29.0s
RKT *e*LR LR 17 40 36.7
comp=Z,548µm,28.5s,baz=267
SBUM **Sibu** 56.31 282 ⇓P P **17 24 26.6 +1.7**
STKI **Sintang** 56.32 279 P P **17 24 26.1 +1.2**
comp=Z,702nm,1.2s,comp=Z,22µmcomp=Z,202µm
MJAR **Matsushiro Arr** 56.71 333 P P **17 24 26.1 -1.0**
comp=Z,252nm,0.9s,baz=168,slow=7.5,SNR=59
MJAR ScP **ScP** **17 29 23.6 +3.6**
comp=Z,12nm,1.1s,baz=172,slow=4.4,SNR=3.9
MJAR LR LR 17 48 20.3
comp=Z,16µm,19.5s,baz=130,slow=36
MJAR PKP2bc 17 54 32.6
comp=Z,8.6nm,1.0s,baz=318,slow=2.6,SNR=7.4
MAJO **Matsushiro** 56.71 333*c* *i*P P **17 24 26.3 -0.9**
MAJO pmax pmax
comp=Z,8µm,2.5s
MAJO **Matsushiro** 56.71 333 *e*P P **17 24 25.5 -1.7**
comp=Z,1µm,1.2s
MAJO LR LR
comp=Z,47µm,21.0s
MAT **Matsushiro** 56.71 333 P P **17 24 25.8 -1.4**
MAT S S **17 32 20.6 +3.0**
YOJ **Yonaguni jima** 57.04 311 *e*P P **17 24 31.7 +1.9**
YOJ pmax pmax
comp=Z,714nm,1.4s
YOJ **Yonaguni jima** 57.04 311 *e*P P **17 24 31.6 +1.9**
comp=Z,714nm,1.4s
CMJI **Cimerak** 57.40 269 P P **17 24 34.7 +2.2**
comp=Z,658nm,1.5s,comp=Z,19µmcomp=Z,202µm
TWG **Pinlang** 57.53 309 *e*P P **17 24 33.6 +0.4**
comp=Z,2µm,1.1s
YULB **Yu-li** 57.68 309 *e*P P **17 24 35.0 +0.7**
comp=Z,1µm,1.4s
JNU **Nakatsue** 57.73 325 P P **17 24 33.9 -0.7**
baz=116,slow=4.2
JNU LR LR 17 46 38.8
comp=Z,54µm,21.4s,slow=33
JNU **Nakatsue** 57.73 325 *e*P P **17 24 33.7 -0.8**
comp=Z,1µm,1.4s
KSM **Kuching** 57.84 281 ⇑P P **17 24 37.2 +1.5**
KSM **Kuching** 57.84 281 *e*P P **17 24 35.0 -0.7**
comp=Z,508nm,1.1s
KSM LR LR
comp=Z,30µm,20.0s
NACB **Ninganchiao** 57.91 310 *e*P P **17 24 37.1 +1.2**
comp=Z,2µm,1.5s
CISI **Cisompet, Garu** 58.06 270 P P **17 24 38.6 +1.4**
comp=Z,947nm,1.2s,comp=Z,22µmcomp=Z,301µm
CISI **Cisompet, Garu** 58.06 270 *e*P P **17 24 36.1 -1.1**
comp=Z,2µm,1.2s
TPUB **Ta-pu** 58.13 309 *e*P P **17 24 38.1 +0.6**
comp=Z,623nm,0.9s
SSLB **Suanglung** 58.17 309 *e*P P **17 24 36.4 -1.3**
comp=Z,1µm,1.5s
YHNB **Yeheng** 58.36 311 *e*P P **17 24 38.7 -0.5**
comp=Z,786nm,0.8s
YHNB LR LR
comp=Z,39µm,20.0s
LEM **Lembang** 58.39 270 P P **17 24 41.1 +1.4**
comp=Z,2µm,1.0s,comp=Z,32µmcomp=Z,380µm
LEM **Lembang** 58.39 270 P P **17 24 40.1 +0.4**
comp=Z,344nm,0.6s,baz=100,slow=7.5,SNR=29
LEM LR LR 17 50 22.7
comp=Z,50µm,21.9s,baz=93,slow=37
TATO **Taipei** 58.46 311 P P **17 24 42.6 +2.9**
SNR=21
TATO **Taipei** 58.46 311 *e*P P **17 24 41.3 +1.6**
comp=Z,866nm,1.1s
TATO LR LR
comp=Z,40µm,21.0s
CNJI **Cibinong** 58.77 270 P P **17 24 44.0 +1.9**
comp=Z,1µm,1.4s,comp=Z,19µmcomp=Z,192µm
TPI **Tanjungpandan** 59.27 275 P P **17 24 48.2 +2.6**
comp=Z,700nm,0.9s,comp=Z,19µmcomp=Z,394µm
SKJI **Sukabumi** 59.39 270 P P **17 24 48.6 +2.1**
comp=Z,1µm,0.9s,comp=Z,24µmcomp=Z,173µm
ERM **Erimo** 59.50 340*d* *i*P P **17 24 46.4 -0.2**
ERM pmax pmax
comp=Z,423nm,2.5s
ERM **Erimo** 59.50 340 *e*P P **17 24 46.9 +0.3**
comp=Z,274nm,1.1s
ERM LR LR
comp=Z,118µm,21.0s
XMIS **Christmas Isla** 59.63 266 *e*P P **17 24 47.5 -0.6**
comp=Z,906nm,1.3s
SBJI **Serang** 59.99 271 P P **17 24 53.1 +2.6**
comp=Z,1µm,1.7s,comp=Z,18µm
PTCN **Pitcairn Islan** 60.27 111 PFAKE 17 25 00.0 +7.7
PTCN LR LR
comp=Z,150µm,22.0s
KSBUS **Busan** 60.28 325 P P **17 24 54.8 +2.7**
SNR=38
KSBUS **Busan** 60.28 325 P P **17 24 54.6 +2.5**
SNR=17
KSSGP **Seogwipo** 60.39 322 P P **17 24 56.0 +3.1**
SNR=10
KSSGP **Seogwipo** 60.39 322 P P **17 24 55.9 +3.1**
SNR=11
KSJJU **Jeju** 60.48 322 P P **17 24 56.7 +3.1**
SNR=46
KSJJU **Jeju** 60.48 322 P P **17 24 56.7 +3.1**
SNR=46
YUK **Yuzh-Kuril'sk** 60.49 343*c* *i*P P **17 24 53.5 +0.2**
YUK *e* 17 25 38.6
YUK *i* 17 27 01.5
YUK *i* PPP PPP 17 28 32.3
YUK *i* S S **17 33 09.7 +3.4**
YUK *i* 17 34 35.6
YUK pmax pmax
comp=Z,10µm,16.8s
YUK pmax pmax
comp=E,232nm,1.8s
YUK pmax pmax
comp=Z,623nm,1.8s
YUK pmax pmax
comp=N,580nm,0.9s
QZH **Quanzhou** 60.59 309 ⇑*i*P P **17 24 55.0 +0.6**
QZH S S **17 33 12.0 +3.6**
QZH PMZ
comp=N,3µm,1.6s
QZH PMZ
comp=N,34µm,6.1s
QZH LN
comp=N,24µm,18.0s
QZH LE
comp=N,43µm,18.8s
QZH LZ
comp=N,155µm,28.8s
KSGOS **Gosan** 60.62 321 P P 17 24 58.0 +3.5
SNR=12
KSNAH **Namhae** 60.64 324 P P 17 24 57.9 +3.3
SNR=38
KSDAG **Daegu** 60.78 325 P P **17 24 56.8 +1.2**
SNR=57
KSDAG **Daegu** 60.78 325 P P **17 24 58.1 +2.5**
SNR=11
KSJIN **Jinju** 60.83 324 P P 17 24 59.1 +3.3
SNR=22
KSPHA **Pohang** 60.83 326 P P **17 24 58.3 +2.5**
SNR=17
KSKOH **Goheung** 60.87 323 P P **17 24 58.6 +2.5**
SNR=23
KSKOH **Goheung** 60.87 323 P P **17 24 58.6 +2.5**
SNR=23
PPBI **Pangkal Pinang** 60.88 275 P P **17 24 59.2 +2.5**
comp=N,1µm,1.1s,comp=N,16µmcomp=N,212µm
KSYOC **YEONGCHEON** 60.90 325 P P **17 24 56.5 +0.2**
SNR=50
KSYOC **YEONGCHEON** 60.90 325 P P **17 24 58.7 +2.4**
SNR=61
KSULL **Ulleungdo** 60.98 328 P P 17 25 00.3 +3.5
SNR=8.5
BLSI **Bandar Lampung** 61.01 271 P P **17 24 58.7 +1.2**
comp=N,495nm,0.7s,comp=N,13µmcomp=N,174µm
KSWAN **Wando** 61.05 323 P P **17 24 59.9 +2.6**
SNR=31
KSWAN **Wando** 61.05 323 P P **17 24 59.9 +2.6**
SNR=31
KUR **Kuril'sk** 61.06 345*c* *i*P P 17 24 50.9 -6.2
KUR *i* S S 17 33 05.0 -8.6
KUR pmax pmax
comp=Z,886nm,1.8s
KUR pmax pmax
comp=N,329nm,1.5s
KUR pmax pmax
comp=E,328nm,1.5s
KUR pmax pmax
comp=Z,555nm,1.5s
KUR MLR MLR
comp=N,77µm,18.0s
KUR MLR MLR
comp=E,17µm,18.0s
KSULJ **Uljin** 61.19 326 P P **17 25 00.3 +2.0**
SNR=34
KSEUS **ULSEONG** 61.32 326 P P **17 25 01.9 +2.7**
SNR=11
KSJDO **Jindo** 61.34 322 P P **17 25 01.3 +1.9**
SNR=36
KSJDO **Jindo** 61.34 322 P P **17 25 01.7 +2.4**
SNR=13
KSKWJ **Gwangju** 61.43 323 P P **17 25 02.5 +2.6**
SNR=46
KSGWJ **Gwangju-acc** 61.49 323 P P **17 25 02.7 +2.4**
SNR=11
KLI **Kotabumi** 61.49 272 P P **17 25 01.9 +1.1**
comp=E,349nm,1.5s,comp=E,8µm
ASAJ **Asahikawa** 61.56 340 P P **17 25 00.5 -0.1**
comp=E,197nm,0.9s,baz=211,slow=9.2,SNR=39
ASAJ LR LR 17 48 10.9
comp=E,141µm,21.0s,baz=185,slow=33
ASAJ PKP2bc 17 54 19.4
comp=E,24nm,1.0s,baz=264,slow=7.4,SNR=4.1
ASAJ **Asahikawa** 61.56 340 *e*P P **17 24 59.9 -0.7**
comp=E,416nm,1.4s
ASAJ P P **17 25 00.5 -0.1**
ASAJ ⇑*e* 17 54 19.4
KSCPR **CHUPUNGNYEONG** 61.63 325 P P **17 25 03.8 +2.5**
SNR=42
KSSAJ **Sangju** 61.66 325 P P **17 25 04.0 +2.5**
SNR=24
KSJEU **Jeongeup** 61.70 324 P P **17 25 04.2 +2.5**
SNR=39
KASI **Kota Agung** 61.70 271 P P **17 25 02.4 +0.2**
comp=E,1µm,1.1s,comp=E,18µmcomp=E,193µm
KSTBA **Taebaek** 61.74 326 P P **17 25 02.0 -0.1**
SNR=115
KSJEO **Jeonju** 61.80 324 P P 17 25 05.8 +3.3
SNR=103
KSBON **Boeun** 61.92 325 P P **17 25 06.0 +2.8**
SNR=11
KSHUK **Heuksando** 62.00 322 P P **17 25 06.7 +2.9**
SNR=19
PMBI **Palembang** 62.02 274 P P 17 25 08.9 +4.5
comp=E,2µm,0.9s,comp=E,25µmcomp=E,323µm
KSYOW **Yeongwol** 62.05 326 P P **17 25 06.6 +2.5**
SNR=55
KSTEJ **Daejeon** 62.07 325 P P **17 25 06.8 +2.6**
SNR=26
TJN **Taejon** 62.08 325 *i*P P **17 25 04.9 +0.6**
KSCHJ **Chungju** 62.10 325 P P **17 25 06.9 +2.6**
SNR=26
KSJES **JEONGSEON** 62.13 326 P P **17 25 07.6 +3.0**
SNR=20
KSGUS **GUNSAN** 62.17 324 P P **17 25 07.6 +2.7**
SNR=27
KSCEJ **CHEONGJU** 62.22 325 P P **17 25 07.9 +2.7**
SNR=26
LWLI **Liwa** 62.23 272 P P **17 25 06.8 +0.8**
comp=E,682nm,1.1s,comp=E,15µm
MDSI **Maura Dua** 62.24 272 P P **17 25 05.4 -0.4**
comp=E,947nm,1.2s,comp=E,13µmcomp=E,191µm
KSKOJ **Gongju** 62.27 325 P P **17 25 07.9 +2.3**
SNR=20
KSDGY **Daegwallycong** 62.31 327 P P **17 25 08.4 +2.5**
SNR=16
SSE **Sheshan** 62.36 316 P P **17 25 06.8 +0.5**
SSE PP PP **17 27 23.0 -0.9**
SSE S S **17 33 31.5 +0.8**
SSE SS SS **17 37 36.8 +1.8**
SSE PMZ
comp=E,560nm,1.1s
SSE PMZ
comp=E,20µm,11.8s
SSE LN
comp=E,29µm,27.9s
SSE LE
comp=E,28µm,27.9s
SSE LZ
comp=E,35µm,27.0s
KSJMJ **Jumunjin** 62.41 327 P P **17 25 09.6 +3.1**
SNR=11
KSWJU **Wonju** 62.44 326 P P **17 25 09.1 +2.4**
SNR=19
KSCEA **Chuncheon** 62.46 325 P P **17 25 09.2 +2.3**
SNR=21
KSRS **Korea Array** 62.55 326 P P **17 25 07.4 0.0**
comp=E,188nm,1.0s,baz=141,slow=4.8,SNR=65
KSRS LR LR 17 49 33.7
comp=E,23µm,20.6s,baz=134,slow=33
KSRS PKPPKP **P'P'df** **17 54 11.4 +2.1**
comp=E,6.5nm,1.0s,baz=320,slow=2.7,SNR=13
KSAR **Wonju Array Be** 62.56 326 P P **17 25 07.4 -0.1**
KSAR **Wonju Array Be** 62.56 326 P P **17 25 07.4 -0.1**
KSAR P'P' 17 54 11.4
HKC **Hong Kong Obse** 62.65 304⇑*i*P P **17 25 10.0 +1.6**
HKC *i* S S **17 33 34.0 -0.6**
KSICN **Icheon** 62.70 325 P P **17 25 11.1 +2.6**
SNR=25
DSRI **Dabo** 62.81 277 P P 17 25 16.0 +6.3
comp=E,3µm,1.1s,comp=E,31µm
KSIJA **INJE** 62.83 326 P P **17 25 12.5 +3.2**
SNR=10.0
KSSKC **Sokcho** 62.84 327 P P **17 25 11.8 +2.5**
SNR=29
KSCHC **Chuncheon** 62.84 326 P P **17 25 12.2 +2.8**
SNR=12
KSSES **Seosan** 62.89 324 P P **17 25 12.5 +2.8**
SNR=26
KSSWO **Suwon** 62.94 325 P P **17 25 12.7 +2.7**
SNR=30
SEHB **SEOHWA** 62.96 327 P P **17 25 13.0 +2.8**
SNR=12
LHSI **Lahat** 63.02 273 P P **17 25 12.5 +1.4**
comp=E,1µm,0.8s,comp=E,17µmcomp=E,192µm
DLV **T Lat** 63.05 291 *e*P P **17 25 13.8 +2.3**
comp=E,809nm,1.6s
KSSEO **Seoul** 63.12 325 P P **17 25 14.1 +2.9**
SNR=45
KSCWO **Cheorwon** 63.22 326 P P **17 25 14.6 +2.7**
SNR=83
TPRI **Tanjung Pinang** 63.23 278 P P **17 25 14.5 +2.0**
comp=E,342nm,1.2s,comp=E,19µmcomp=E,226µm
INCN **Inchon** 63.28 325 P P **17 25 14.7 +2.4**
SNR=115
INCN **Inchon** 63.28 325 *e*P P **17 25 12.2 -0.1**
comp=E,4µm,1.8s
INCN LR LR
comp=Z,55µm,22.0s
KSDDC **Dongducheon** 63.34 326 P P **17 25 15.3 +2.6**
SNR=66
JMBI **JAMBI** 63.43 275 P P 17 25 18.0 +4.2
comp=Z,2µm,1.4s,comp=Z,64µmcomp=Z,387µm
MNAI **Manna** 63.45 272 P P 17 25 17.4 +3.5
comp=Z,1µm,1.4s,comp=Z,31µmcomp=Z,277µm
MNAI **Manna** 63.45 272 *e*P P **17 25 15.4 +1.4**
comp=Z,2µm,1.4s
KSMUS **Musan** 63.50 325 P P **17 25 16.6 +2.9**
SNR=5.6
YNCB **YEONCHEON** 63.51 326 P P **17 25 16.3 +2.5**
SNR=13
KSGAH **Ganghwa** 63.54 325 P P **17 25 16.6 +2.6**
SNR=21
GZH **Guangzhou** 63.70 305 P P **17 25 17.5 +2.1**
GZH ScP 17 29 52.0
GZH S S **17 33 50.3 +2.5**
GZH PMZ
comp=Z,41µm,7.7s
GZH LN
comp=Z,27µm,24.3s
GZH LE
comp=Z,44µm,23.9s
VNDA **Vanda** 63.90 181 P P **17 25 13.8 -2.0**
comp=Z,82nm,0.8s,baz=5.7,slow=6.3,SNR=39
VNDA LR LR 17 51 02.9
comp=Z,77µm,18.7s,baz=39,slow=34
VNDA PKPPKP **P'P'df** **17 54 06.6 -4.7**
comp=Z,1.5nm,0.7s,baz=194,slow=4.2,SNR=4.0
VNDA PKP2bc 17 54 12.7
comp=Z,14nm,1.2s,baz=265,slow=3.8,SNR=6.8
YSS **Yuzh-Sakhalins** 64.05 342α *i*P P **17 25 18.0 +0.9**
YSS *e* 17 25 55.2
YSS *i* S S **17 33 53.0 +1.8**
YSS *e*PPS PPS 17 34 28.0
YSS pmax pmax
comp=Z,1µm,1.8s
YSS pmax pmax
comp=Z,25µm,12.0s
YSS smax smax
comp=E,16µm,12.0s
YSS **Yuzh-Sakhalins** 64.05 342 *e*P P **17 25 17.3 +0.1**
comp=E,1µm,1.4s
YSS LR LR
comp=Z,55µm,20.0s
MYKOM **Kota Tinggi** 64.12 279 ⇑P P **17 25 19.9 +1.6**
SBA **Scott Base** 64.19 180 *e*P P **17 25 16.5 -1.1**
SBA MLR MLR
comp=Z,47µm,20.0s
SBA **Scott Base** 64.19 180 *e*P P **17 25 16.5 -1.1**
comp=Z,18nm,1.0s
SBA LR LR
comp=Z,47µm,20.0s
MASI **Maura Aman, Be** 64.43 273 P P **17 25 22.8 +2.4**
comp=Z,1µm,1.2s,comp=Z,21µm
NJ2 **Nanjing** 64.52 316 *e*P P **17 25 21.8 +1.3**
NJ2 pP **pP** **17 25 29.5 -1.7**
NJ2 sP **sP** **17 25 34.5 -0.7**
NJ2 S S **17 34 02.0 +4.4**
NJ2 PMZ
comp=Z,150nm,0.8s
NJ2 PMZ
comp=Z,24µm,6.7s
NJ2 LN
comp=Z,40µm,24.0s
NJ2 LE
comp=Z,69µm,23.8s
NJ2 LZ
comp=Z,67µm,22.8s
KGM **Kluang** 64.69 279 ⇓P P **17 25 23.2 +1.1**
KSBAR **Backryungdo** 64.70 324 P P **17 25 24.2 +2.6**
SNR=36
QIZ **Qiongzhong** 64.72 299 P P **17 25 23.3 +1.2**
QIZ pP **pP** **17 25 28.3 -4.5**
QIZ S S **17 34 03.0 +2.4**
QIZ SS SS **17 38 17.5 +5.2**
QIZ PMZ
comp=Z,19µm,13.3s
QIZ LN
comp=Z,20µm,21.8s
QIZ LE
comp=Z,9µm,22.5s
QIZ LZ
comp=Z,68µm,34.4s
QIZ **Qiongzhong** 64.72 299 *e*P P **17 25 25.1 +3.0**
comp=Z,620nm,1.3s
QIZ LR LR
comp=Z,25µm,22.0s
SKR **Severo-Kuril's** 64.74 353⇑*i*P P 17 25 14.0 -7.6
SKR *e* 17 25 28.2
SKR *e* 17 27 52.0
SKR *e*PPP PPP 17 29 16.0
SKR *e*S S **17 33 54.0 -5.6**
SKR *e*SS SS **17 38 06.0 -5.5**
SKR pmax pmax
comp=Z,250nm,0.9s
SKR pmax pmax
comp=N,60nm,0.7s
SKR smax smax
comp=N,47µm,20.0s
SKR smax smax
comp=E,26µm,18.0s
SKR MLR MLR
comp=N,24µm,18.0s
SKR MLR MLR
comp=E,6µm,18.0s
SKR MLR MLR
comp=Z,35µm,18.0s
VLA **Vladivostok** 64.88 333⇑*i*P P **17 25 24.4 +1.8**
VLA *e* 17 27 46.2
VLA *i* S S **17 34 02.1 +0.6**
VLA pmax pmax
comp=Z,107nm,1.8s
USRK **Ussuriysk Ar.** 65.69 333 P P **17 25 28.6 +0.7**
comp=Z,377nm,0.9s,baz=123,slow=5.3,SNR=70
USRK PKP2bc 17 54 06.3
comp=Z,6.1nm,1.1s,baz=343,slow=4.5,SNR=9.2
AMKA **Amchitka** 65.71 9 *e*P P **17 25 29.5 +1.7**
comp=Z,346nm,0.9s
SDSI **Sungai Dareh** 65.75 275 P P **17 25 31.2 +2.3**
comp=Z,1µm,1.2s,comp=Z,23µm
KTGM **Kuala Trenggan** 65.82 282 ⇑P P **17 25 30.7 +1.4**
BKNI **Bangkinang** 66.44 276 P P **17 25 35.9 +2.5**
comp=Z,2µm,0.8s,comp=Z,38µmcomp=Z,373µm
BKNI **Bangkinang** 66.44 276 *e*P P **17 25 35.8 +2.4**
comp=Z,3µm,1.5s
PET **Petropavlovsk** 66.78 355α *i*P P **17 25 34.6 -0.1**
PET *e* 17 28 05.7
PET *i* S S **17 34 24.2 -0.1**
PET *e*PS PnS **17 34 55.5 +6.5**
PET *e*SS SS **17 38 47.6 +4.5**
PET pmax pmax
comp=Z,36µm,19.9s
PET pmax pmax
comp=Z,28µm,19.0s
PET pmax pmax
comp=Z,293nm,0.9s
PET pmax pmax
comp=Z,10µm,19.8s
PET smax smax
comp=N,10µm,19.1s
PET smax smax
comp=N,23µm,22.9s
PET **Petropavlovsk** 66.78 355 *e*P P **17 25 34.5 -0.1**
comp=N,233nm,0.9s
PET LR LR
comp=Z,82nm,21.0s
WHN **Wuhan** 66.81 312⇑*i*P P **17 25 35.5 +0.2**
WHN PP PP **17 28 03.5 +0.5**
WHN S S **17 34 27.0 +1.4**
WHN PMZ
comp=Z,19µm,3.7s
WHN LN
comp=Z,51µm,17.3s
WHN LE
comp=Z,65µm,26.6s
WHN LZ
comp=Z,79µm,21.2s
PETK **Petropavlovsk-** 66.96 354 P P **17 25 37.9 +2.0**
comp=Z,125nm,0.6s,baz=152,slow=8.0,SNR=119
PETK PKiKP **PKiKP** **17 32 04.7 +1.0**
comp=Z,5.5nm,0.8s,baz=136,slow=5.9,SNR=3.3
PETK LR LR 17 49 36.3
comp=Z,50µm,21.8s,baz=165,slow=31
PETK PKP2bc 17 54 04.6
comp=Z,41nm,1.3s,baz=29,slow=3.4,SNR=9.9
MDJ **Mudanjiang** 67.08 332 P P **17 25 36.5 -0.3**
MDJ pP **pP** **17 25 46.0 -1.5**
MDJ sP **sP** **17 25 50.3 -1.2**
MDJ PcP **PcP** **17 26 06.3 +1.5**
MDJ PP PP **17 28 02.0 -3.1**
MDJ S S **17 34 33.3 +4.9**
MDJ sS **sS** **17 34 43.8 -2.2**
MDJ ScS **SKKSac** **17 35 31.5 +0.1**
MDJ PMZ
comp=Z,740nm,1.5s
MDJ PMZ

comp=Z,26µm,11.4s
MDJ LN
comp=Z,44µm,27.1s
MDJ LE
comp=Z,28µm,27.1s
MDJ LZ
comp=Z,54µm,24.4s
MDJ Mudanjiang 67.08 332 *e*P **P 17 25 36.5 -0.3**
comp=Z,1µm,1.3s
MDJ LR LR
comp=Z,29µm,21.0s
DL2 Dalian 67.11 323⇑ *i*P **P 17 25 37.5 +0.4**
DL2 S **S 17 34 30.8 +1.9**
DL2 PMZ
comp=Z,1µm,1.1s
DL2 PMZ
comp=Z,15µm,11.2s
DL2 LN
comp=Z,20µm,18.0s
DL2 LZ
comp=Z,26µm,29.2s
GSTR Great Sitkin T 67.18 11 *e*P **P 17 25 38.8 +1.5**
comp=Z,964nm,0.9s
IPM Ipoh 67.58 281⇑P **P 17 25 42.1 +1.4**
IPM Ipoh 67.58 281 *e*P **P 17 25 39.6 -1.0**
comp=Z,465nm,1.0s
COCO West Island 67.86 262 P P 17 25 48.1 +5.8
SNR=12
COCO West Island 67.86 262 PFAKE 17 25 50.0 +7.7
COCO LR LR
comp=Z,86µm,22.0s
HABR Khabarovsk 67.95 338 *c i*P **P 17 25 42.2 +0.1**
HABR *e*SP 17 25 54.0
HABR *e* 17 26 05.8
HABR *e* 17 28 09.6
HABR *e* 17 29 47.7
HABR *e*S **S 17 34 39.2 +0.7**
HABR *e*SS **sS 17 34 53.9 -2.3**
HABR *e* 17 35 36.2
HABR *e*SS **SS 17 38 59.7 -1.7**
HABR pmax pmax
comp=Z,8µm,2.5s
HABR pmax pmax
comp=N,912nm,2.4s
HABR pmax pmax
comp=Z,4µm,2.4s
HABR pmax pmax
comp=E,517nm,2.4s
HABR MLR MLR
comp=Z,15µm,20.0s
HABR MLR MLR
comp=N,12µm,18.0s
HABR MLR MLR
comp=E,12µm,18.0s
MNSI Mandailing Nat 67.97 276 P **P 17 25 41.7 -1.4**
comp=E,451nm,1.1s,comp=E,21µmcomp=E,197µm
SNY Shenyang 68.01 327⇑P **P 17 25 39.8 -2.9**
SNY S S 17 34 32.8 -6.8
SNY SS **SS 17 39 01.5 -1.1**
SNY PMZ
comp=E,340nm,2.5s
SNY LN
comp=E,26µm,17.3s
SNY LE
comp=E,27µm,19.5s
SNY LZ
comp=E,41µm,19.6s
TIA Tai'an 68.17 318⇑P **P 17 25 43.5 -0.4**
TIA PcS 17 30 08.0
TIA S **S 17 34 44.5 +2.7**
TIA PMZ
comp=E,500nm,1.1s
TIA PMZ
comp=E,36µm,12.0s
TIA LN
comp=E,20µm,17.2s
TIA LE
comp=E,36µm,20.0s
TIA LZ
comp=E,36µm,20.7s
KULM Kulim 68.17 281⇓P **P 17 25 46.2 +1.9**
KULM Kulim 68.17 281 *e*P **P 17 25 43.5 -0.8**
comp=E,465nm,1.3s
KULM LR LR
comp=Z,32µm,21.0s
CN2 Changchun 68.45 329⇑ *i*P **P 17 25 44.8 -0.6**
CN2 *e*pP pP 17 25 50.5 -5.7
CN2 *e*S **S 17 34 43.3 -1.5**
CN2 *e*SS **SS 17 39 10.5 +1.1**
CN2 PMZ
comp=Z,790nm,1.0s
CN2 PMZ
comp=Z,34µm,10.0s
CN2 LN
comp=Z,32µm,20.0s
CN2 LE
comp=Z,28µm,20.0s
CN2 LZ
comp=Z,31µm,22.0s
SKLT Songkhla 68.75 283 P **P 17 25 50.8 +2.8**
comp=Z,348nm,1.9s,comp=Z,20µm
CHBT CHBT 68.95 290 P **P 17 25 52.0 +2.9**
comp=Z,819nm,1.7s,comp=Z,21µm
SKNT Sakolnakorn 68.98 294 P **P 17 25 48.8 -0.5**
comp=Z,1µm,1.4s,comp=Z,21µm
PSI Prapat 69.13 278 PKP2bc 17 53 57.8
comp=Z,3.0nm,0.4s,baz=224,slow=12,SNR=3.8
PSI LR LR 17 58 19.7
comp=Z,16µm,19.1s,baz=98,slow=38
TSI Tuntungan 69.67 279 P **P 17 25 55.4 +1.8**
comp=Z,972nm,1.2s,comp=Z,16µm
KHON Khomkaen 69.78 293 P **P 17 25 56.3 +2.1**
comp=Z,154nm,1.1s,comp=Z,1µm
KLR Kul'dur 69.81 336 *e*P P 17 25 49.8 -4.0
KLR *e*S **S 17 35 00.0 -0.7**
KLR pmax pmax
comp=N,380nm,1.8s
KLR pmax pmax
comp=E,800nm,1.8s
KLR pmax pmax
comp=Z,3µm,1.8s
KLR pmax pmax
comp=N,4µm,10.0s
KLR pmax pmax
comp=E,7µm,10.0s
KLR pmax pmax
comp=Z,28µm,10.0s
TRTT Trang 69.83 284 P **P 17 25 57.0 +2.4**
comp=Z,932nm,1.1s,comp=Z,23µm
GSI Gunungsitoli 70.04 276 P **P 17 25 55.9 0.0**
comp=Z,1µm,1.0s,comp=Z,26µmcomp=Z,344µm
GSI Gunungsitoli 70.04 276 *e*P **P 17 25 55.1 -0.9**
comp=Z,822nm,1.2s
ENH Enshi 70.25 309 *e*P **P 17 25 55.8 -1.2**
comp=Z,366nm,0.9s
ENH LR LR
comp=Z,15µm,21.0s
PATY Pattaya 70.36 289 P P 17 26 01.5 +3.7
comp=Z,145nm,1.4s,comp=Z,2µm
GYA Guiyang 70.64 305⇓ *i*P **P 17 25 59.0 -0.5**
GYA pP **pP 17 26 12.0 +1.7**
GYA sP **sP 17 26 18.5 +4.2**
GYA PcP **PcP 17 26 22.8 +2.4**
GYA PP **PP 17 28 41.0 +4.5**
GYA S **S 17 35 15.5 +4.0**
GYA sS **sS 17 35 30.8 +1.5**
GYA SKS **SKSac 17 35 55.0 -4.4**
GYA SS **SS 17 39 45.0 +0.9**
GYA PMZ
comp=Z,530nm,1.0s
GYA LN
comp=Z,20µm,20.7s
GYA LE
comp=Z,31µm,23.4s
GYA LZ
comp=Z,41µm,24.7s
SURT Suratani 71.02 285 P P 17 26 05.4 +3.5
comp=Z,810nm,1.3s,comp=Z,11µm
UNV Unalaska Valle 71.05 16 *e*P **P 17 26 01.4 +0.2**
comp=Z,187nm,0.7s
MIR Mirnyy 71.05 204 *e*P P 17 26 09.0 +7.9
MIR pmax pmax
comp=Z,2µm,2.0s
BJT Baijiatuau 71.08 321 *e*P **P 17 26 01.4 -0.3**
BJT pmax pmax
comp=Z,1µm,1.3s
BJT MLR MLR
comp=Z,75µm,21.0s
BJT Baijiatuau 71.08 321 *e*P **P 17 26 01.4 -0.3**
comp=Z,1µm,1.3s
BJT LR LR
comp=Z,75µm,21.0s
BJI Beijing 71.08 321 P **P 17 26 01.8 +0.1**
BJI PP PP 17 28 45.5 +5.7
BJI S **S 17 35 19.5 +3.7**
BJI SS **SS 17 39 54.0 +3.9**
BJI PMZ
comp=Z,740nm,2.0s
BJI LN
comp=Z,58µm,20.3s
BJI LE
comp=Z,38µm,28.3s
BJI LZ
comp=Z,98µm,30.2s
PKDT Phuket 71.13 283 P P 17 26 07.2 +4.6
comp=Z,955nm,1.8s,comp=Z,24µm
AKUT Akutan 71.51 17 *e*P **P 17 26 05.2 +1.3**
SNSI Sinabang, Aceh 71.53 277 P **P 17 26 07.8 +2.8**
comp=Z,565nm,1.8s,comp=Z,26µm
LHMI Lhok Sumawe 71.69 280 P P 17 26 09.8 +3.9
comp=Z,643nm,1.6s,comp=Z,34µmcomp=Z,366µm
LHMI Lhok Sumawe 71.69 280 *e*P **P 17 26 08.4 +2.5**
comp=Z,593nm,1.3s
TIY Taiyuan 72.09 317 *e*P **P 17 26 10.3 +2.3**
TIY PP **PP 17 28 45.0 -3.7**
TIY S **S 17 35 26.0 -1.8**
TIY SS **SS 17 40 06.0 +0.1**
TIY PMZ
comp=Z,15µm,7.1s
TIY LN
comp=Z,18µm,16.3s
TIY LE
comp=Z,28µm,18.3s
TIY LZ
comp=Z,53µm,29.2s
UTTA Uttaradit 72.31 294 P **P 17 26 09.9 +0.4**
comp=Z,143nm,1.1s,comp=Z,1µm
SRDT SRDT 72.43 290 P P 17 26 13.6 +3.3
comp=Z,1µm,1.4s,comp=Z,47µm
XAN Xi'an 72.55 313 P **P 17 26 10.3 -0.5**
XAN pP **pP 17 26 21.3 -0.3**
XAN PP **PP 17 28 52.0 -0.6**
XAN S **S 17 35 33.0 -0.2**
XAN SS **SS 17 40 13.8 +0.8**
XAN PMZ
comp=Z,210nm,1.6s
XAN PMZ
comp=Z,7µm,10.4s
XAN LN
comp=Z,14µm,21.2s
XAN LE
comp=Z,11µm,21.5s
XAN LZ
comp=Z,12µm,20.1s
KHLT Khaolaem Dam 73.06 290 P P 17 26 17.9 +3.8
comp=Z,254nm,2.0s,comp=Z,9µm
KMI Kunming 73.26 302 P **P 17 26 16.5 +1.1**
KMI pP **pP 17 26 28.3 +2.1**
KMI sP **sP 17 26 32.5 +2.3**
KMI PP **PP 17 29 01.8 +2.7**
KMI S **S 17 35 41.8 -0.1**
KMI sS **sS 17 35 58.0 -1.8**
KMI SKS **SKSac 17 36 15.5 -4.0**
KMI SS **SS 17 40 25.8 +1.4**
KMI PMZ
comp=Z,1µm,1.3s
KMI PMZ
comp=Z,21µm,6.5s
KMI LN
comp=Z,26µm,37.2s
KMI LE
comp=Z,21µm,19.4s
KMI LZ
comp=Z,42µm,17.3s
BSI Banda Aceh 73.34 280 P **P 17 26 17.5 +1.7**
comp=Z,1µm,1.5s,comp=Z,26µmcomp=Z,317µm
CRAI Chiangrai 73.37 296 P P 17 26 12.6 -3.3
comp=Z,563nm,1.2s,comp=Z,11µm
LAMP Lampang 73.41 294 P **P 17 26 16.3 +0.2**
comp=Z,574nm,0.9s,comp=Z,4µm
CMAR Chiang Mai Arr 73.99 294 P **P 17 26 21.4 +1.8**
comp=Z,166nm,0.9s,baz=122,slow=4.5,SNR=82
CMAR PKiKP **PKiKP 17 32 14.9 +0.3**
comp=Z,2.6nm,0.7s,baz=227,slow=1.6,SNR=4.7
CMAR PKKPbc **PKKPbc 17 45 51.8 +0.3**
comp=Z,0.8nm,0.7s,baz=296,slow=3.4,SNR=3.3
CMAR PKP2ab 17 53 37.5
comp=Z,1.3nm,0.7s,baz=262,slow=3.0,SNR=4.7
CMAR PKPPKP **P'P'df 17 53 53.2 +0.1**
comp=Z,2.7nm,0.9s,baz=242,slow=3.8,SNR=4.7
CMAR LR LR 17 57 18.4
comp=Z,14µm,21.2s,baz=128,slow=34
CMAR Chiang Mai Arr 73.99 294 *i* P **P 17 26 19.8 +0.3**
CMAR pmax pmax
comp=Z,166nm,0.9s
CMMT Chiang Mai 74.11 294 P **P 17 26 20.2 0.0**
comp=Z,1µm,1.4s,comp=Z,26µm
CHTO Chiang Mai 74.12 294 P **P 17 26 20.2 -0.1**
comp=Z,4µm,1.3s,comp=Z,74µm
CHTO Chiang Mai 74.12 294 *e*P **P 17 26 20.0 -0.3**
CHTO pmax pmax
comp=Z,648nm,0.9s
CHTO MLR MLR
comp=Z,27µm,21.0s
CHTO Chiang Mai 74.12 294 P **P 17 26 20.7 +0.5**
SNR=208
CHTO Chiang Mai 74.12 294 *e*P **P 17 26 20.0 -0.3**
comp=Z,648nm,0.9s
CHTO LR LR
comp=Z,27µm,21.0s
HHC Hu-ho-hao-te 74.41 320 *e*P **P 17 26 22.3 +0.7**
HHC PP **PP 17 29 10.0 +1.6**
HHC S **S 17 35 55.0 +1.0**
HHC SS **SS 17 40 39.5 -1.7**
HHC PMZ
comp=Z,500nm,1.8s
HHC PMZ
comp=Z,13µm,7.4s
HHC LN
comp=Z,44µm,19.0s
HHC LE
comp=Z,55µm,20.7s
HHC LZ
comp=Z,65µm,20.8s
CMAI Chiengmai2 74.43 295 P **P 17 26 22.3 +0.1**
comp=Z,715nm,1.5s,comp=Z,16µm
MHMT Maesarieng 74.80 293 P **P 17 26 26.8 +2.6**
comp=Z,663nm,1.0s,comp=Z,8µm
CD2 Chengdu 74.91 308 P **P 17 26 24.5 -0.2**
CD2 pP **pP 17 26 36.5 +1.0**
CD2 sP **sP 17 26 41.3 +1.8**
CD2 PP **PP 17 29 15.0 +2.2**
CD2 S **S 17 35 58.0 -1.9**
CD2 SKS **SKSac 17 36 25.5 -5.7**
CD2 SS **SS 17 40 50.0 +0.9**
CD2 PMZ
comp=Z,940nm,1.0s
CD2 PMZ
comp=Z,42µm,5.5s
CD2 LN
comp=Z,30µm,21.5s
CD2 LE
comp=Z,41µm,21.5s
CD2 LZ
comp=Z,27µm,20.0s
CMBY CAMPBELL BAY 75.07 281 *e*P **P 17 26 25.6 -0.3**
CMBY AMB AMB 17 26 42.8
comp=Z,732nm,2.7s
HIA Hailar 75.09 330 *e*P **P 17 26 24.2 -1.1**
HIA pmax pmax
comp=Z,1µm,1.3s
HIA MLR MLR
comp=Z,33µm,21.0s
HIA Hailar 75.09 330 *e*P **P 17 26 24.1 -1.1**
comp=Z,1µm,1.3s
HIA LR LR
comp=Z,33µm,21.0s
BTO Baotou 75.25 319 *e*P **P 17 26 27.3 +0.8**
QSPA South Pole Qui 76.35 180 P **P 17 26 31.0 -1.4**
comp=Z,771nm,1.0s,baz=297,slow=1.3,SNR=57
QSPA LR LR 17 57 27.9
comp=Z,69µm,20.0s,baz=33,slow=34
SEY Seymchan 77.17 353 PKP2bc P'P'df 17 53 33.4 -10
comp=Z,7.4nm,1.2s,baz=261,slow=2.6,SNR=3.9
SEY LR LR 17 55 52.0
comp=Z,105µm,21.9s,baz=158,slow=32
LZH Lanzhou 77.19 312⇑P **P 17 26 38.5 +0.8**
LZH pP **pP 17 26 50.3 +1.8**
LZH sP **sP 17 26 54.8 +2.2**
LZH PP **PP 17 29 32.3 +0.3**
LZH S **S 17 36 24.5 -0.5**
LZH sS **sS 17 36 43.0 0.0**
LZH SS **SS 17 41 23.0 -0.6**
LZH PMZ
comp=Z,2µm,1.3s
LZH PMZ
comp=Z,18µm,9.0s
LZH LN
comp=Z,16µm,17.8s
LZH LE
comp=Z,24µm,18.2s
LZH LZ
comp=Z,25µm,19.1s
PBA Port Blair 77.50 285 *e*P P 17 26 38.9 -0.8
PBA AMB AMB 17 26 45.0
comp=Z,796nm,1.8s
DGPR DIGLIPUR 77.77 287 *e*P **P 17 26 41.1 0.0**
DGPR AMB AMB 17 26 53.1
comp=Z,1µm,2.1s
RPN Rapa Nui 78.63 115 LR LR 17 54 10.8
comp=Z,44µm,21.8s,baz=261,slow=30
KDAK Kodiak Island 78.69 21 *e*P **P 17 26 45.9 +0.7**
KDAK pmax pmax
comp=Z,127nm,0.8s
KDAK MLR MLR
comp=Z,111µm,19.0s
KDAK Kodiak Island 78.69 21 *e*P **P 17 26 45.9 +0.7**
comp=Z,127nm,0.8s
KDAK LR LR
comp=Z,111µm,19.0s
GAMB Gambell 78.99 10 *e*P **P 17 26 47.8 +1.0**
comp=Z,308nm,1.3s
CIT Chita 79.88 330 *e*P **P 17 26 53.9 +1.9**
CIT *e* 17 29 51.0
CIT *e* 17 36 54.6
CIT pmax pmax
comp=Z,3µm,1.9s
IMP Imphal 80.55 298 *ex* **P 17 26 54.0 -2.3**
IMP *ex* x 17 26 57.0
RSO Redoubt South 80.69 19 *e*P **P 17 26 56.1 -0.3**
comp=Z,172nm,0.7s
YAK Yakutsk 80.86 343 *c i*P **P 17 26 55.8 -1.1**
YAK *e* 17 27 02.3
YAK *e*S S 17 36 56.0 -6.6
YAK *e*SS **SPn 17 37 48.4 +0.8**
YAK *e*SS **SS 17 42 16.6 -0.7**
YAK pmax pmax
comp=Z,734nm,1.5s
YAK pmax pmax
comp=N,224nm,1.5s
YAK pmax pmax
comp=E,68nm,0.9s
YAK smax smax
comp=N,6µm,10.3s
YAK smax smax
comp=E,7µm,9.2s
YAK MLR MLR
comp=Z,68µm,19.0s
YAK MLR MLR
comp=N,59µm,23.0s
YAK MLR MLR
comp=E,35µm,24.0s
YAK Yakutsk 80.86 343 *e*P **P 17 26 55.5 -1.5**
comp=E,1µm,1.0s
YAK LR LR
comp=Z,66µm,19.0s
ULN Ulaanbaatar 80.95 324 *e*P P 17 27 01.5 +3.5
ULN pmax pmax
comp=Z,1µm,1.3s
ULN MLR MLR
comp=Z,35µm,22.0s
ULN Ulaanbaatar 80.95 324 P P 17 27 02.4 +4.4
SNR=736
ULN Ulaanbaatar 80.95 324 *e*P P 17 27 01.5 +3.5
comp=Z,1µm,1.3s
ULN LR LR
comp=Z,35µm,22.0s
AIS Amsterdam Isla 81.06 233 P P 17 26 26.0 -33
AIS PP PP 17 29 58.0 -5.8
AIS S S 17 36 49.0 -17
AIS SS SS 17 42 01.0 -20
AIS L L 17 48 00.0
AIS R 17 52 00.0
TNA Tin City 81.28 10 *e*P **P 17 26 59.8 +0.7**
comp=Z,1µm,2.2s
SONM Songino Array 81.31 324 P **P 17 27 00.6 +0.7**
comp=Z,238nm,0.9s,baz=144,slow=6.2,SNR=187
SONM PKKP **PKKPdf 17 45 26.5 -0.9**
comp=Z,1.6nm,0.9s,baz=354,slow=12,SNR=2.5
SONM PKKPbc **PKKPbc 17 45 37.5 +0.4**
comp=Z,6.1nm,0.8s,baz=284,slow=2.7,SNR=7.6
SONM PKP2bc 17 53 12.4
comp=Z,2.5nm,0.9s,baz=251,slow=4.5,SNR=4.1
SONM PKPPKP **P'P'df 17 53 38.3 +0.9**
comp=Z,2.0nm,0.8s,baz=208,slow=2.9,SNR=4.6
BILL Bilibino 81.49 360 *c i*P **P 17 26 59.5 -0.7**
BILL *i* S **S 17 37 03.7 -5.3**
BILL pmax pmax
comp=Z,884nm,2.8s
BILL MLR MLR
comp=Z,19µm,18.0s
BILL Bilibino 81.49 360 *e*P **P 17 26 58.0 -2.2**
comp=Z,149nm,0.6s
BILL LR LR
comp=Z,47µm,22.0s
SEW Seward 81.51 21 *e*P **P 17 27 00.1 -0.4**
comp=Z,123nm,0.9s
GTA Gaotai 81.52 314⇑P **P 17 27 01.0 -0.2**
GTA pP **pP 17 27 11.5 -0.7**
GTA sP **sP 17 27 15.0 -1.1**
GTA PP **PP 17 30 09.3 +1.3**
GTA S **S 17 37 09.5 -1.3**
GTA SKS **SKSac 17 37 13.5 -5.0**
GTA sS **ScS 17 37 27.0 -1.1**
GTA SS **SS 17 42 29.5 +1.0**
GTA PMZ
comp=Z,22µm,7.8s
GTA LN
comp=Z,22µm,19.5s
GTA LE
comp=Z,31µm,20.4s
GTA LZ
comp=Z,30µm,19.9s
MID Middleton Isla 82.12 22 *e*P **P 17 27 03.8 +0.1**
MID Middleton Isla 82.12 22 *e*P **P 17 27 03.8 +0.1**
RC01 Rabbit Creek A 82.14 20 *e*P **P 17 27 03.2 -0.5**
comp=Z,151nm,0.5s
SHL Shillong 82.56 298 *e*P **P 17 27 07.0 0.0**
SHL AMB AMB 17 27 11.5
comp=Z,1µm,2.5s
SHL *e*S **S 17 37 22.0 -0.1**
MAW Mawson 82.64 202 P **P 17 27 06.5 +0.1**
comp=Z,191nm,1.1s,baz=125,slow=5.2,SNR=50
MAW PKPPKP **P'P'df 17 53 36.0 -2.6**
comp=Z,6.5nm,1.0s,baz=281,slow=7.7,SNR=5.2
MAW LR LR 17 58 05.5
comp=Z,166µm,21.8s,baz=96,slow=32
PPLA Purkeypile 82.73 18 *e*P **P 17 27 08.6 +1.6**
comp=Z,62nm,0.7s
BOD Bodaibo 83.28 335 *e*P **P 17 27 08.0 -1.8**
BOD pmax pmax
comp=Z,509nm,1.8s
DIV Divide 83.51 21 *e*P **P 17 27 10.3 -0.7**
comp=Z,148nm,0.7s
MCCM Marconi Confer 83.57 48 *e*P **P 17 27 12.5 +0.8**
comp=Z,123nm,0.8s
KTH Kantishna Hill 83.61 18 *e*P **P 17 27 10.9 -0.5**
comp=Z,28nm,0.6s
KCPM Cahto Peak 83.67 47 *e*P **P 17 27 13.8 +1.4**
comp=Z,86nm,1.0s
SAC San Andreas 83.69 49 *e*P **P 17 27 14.0 +1.6**
SAC pmax pmax
comp=Z,91nm,1.0s
SAC San Andreas 83.69 49 *e*P **P 17 27 14.0 +1.6**
comp=Z,91nm,1.0s
TRF Thorofare Moun 83.72 18 *e*P **P 17 27 10.8 -1.3**
comp=Z,9.3nm,1.0s
HOPS Hopland Field 83.76 48 *e*P **P 17 27 13.8 +1.1**

comp=Z,34nm,1.2s
KIPM Iron Peak 83.79 47 *e*P **P** 17 27 14.4 +1.4
comp=Z,197nm,1.1s
BMRM Bremner River 83.82 22 *e*P **P** 17 27 12.1 -0.4
comp=Z,134nm,0.8s
PAF Port-aux-Franc 83.90 221 *e*P **P** 17 27 14.8 +1.5
PAF pmax pmax
comp=Z,2µm,1.1s
PAF MLR MLR
comp=Z,126µm,21.0s
PAF Port-aux-Franc 83.90 221 P P 17 26 50.0 -23
PAF Port-aux-Franc 83.90 221 S S 17 37 07.0 -28
PAF SS SS 17 42 50.0 -12
PAF L L 17 49 00.0
PAF R 17 55 00.0
PAF Port-aux-Franc 83.90 221 *e*P **P** 17 27 14.8 +1.5
comp=Z,2µm,1.1s
PAF LR LR
comp=Z,126µm,21.0s
BPAW Bear Paw Mtn. 84.00 17 *e*P **P** 17 27 12.1 -1.3
comp=Z,13nm,0.4s
KHMM Horse Mountain 84.04 46 *e*P **P** 17 27 15.9 +1.7
comp=Z,87nm,0.8s
KBO Bosley Butte 84.24 44 *e*P **P** 17 27 16.9 +1.8
comp=Z,444nm,1.7s
MCK McKinley 84.34 18 *e*P **P** 17 27 13.6 -1.5
MCK pmax pmax
comp=Z,180nm,1.3s
MCK McKinley 84.34 18 *e*P **P** 17 27 13.6 -1.5
comp=Z,180nm,1.3s
ZAK Zakamensk 84.36 325 *e*P **P** 17 27 14.5 -1.1
ZAK *e* 17 30 25.3
ZAK pmax pmax
comp=Z,694nm,1.5s
H02N1 VAN INLET T-PH 84.42 32 T T 19 00 33.1
SNR=23
H02S1 DAWSON INLET T 84.42 32 T T 19 00 22.8
SNR=74
KEBM Edson Butte 84.44 44 *e*P **P** 17 27 16.7 +0.5
comp=Z,54nm,0.8s
BSC Santa Cruz Isl 84.49 53 ⇑P **P** 17 27 15.0 -1.6
baz=85
BSC ⇑SKSac **SKSac** 17 37 32.0 -6.1
baz=85
BSC ⇑SKSac **SKSac** 17 37 32.0 -6.1
baz=85
BSC ⇑SKSac **SKSac** 17 37 32.0 -6.1
baz=85
BSC ⇑SKSac **SKSac** 17 37 32.0 -6.1
baz=85
LSA Lhasa 84.51 302 P **P** 17 27 17.5 +0.2
LSA LN
comp=Z,12µm,29.0s
LSA LE
comp=Z,20µm,29.0s
LSA LZ
comp=Z,27µm,30.0s
LSA Lhasa 84.51 302 *e*P **P** 17 27 16.7 -0.6
comp=Z,664nm,0.9s
LSA LR LR
comp=Z,21µm,21.0s
SBC Santa Barbara 84.58 53 ⇓P **P** 17 27 15.8 -1.2
baz=85
L02D Cave Junction, 84.64 44 ⇑P **P** 17 27 16.0 -1.1
baz=85,SNR=13
PKM Mcpherson Peak 84.66 52 ⇓P **P** 17 27 16.9 -0.7
baz=85
SMMC Simmler 84.67 52 ⇓P **P** 17 27 16.5 -1.0
baz=85
IM04 Indian Mountai 84.69 15 *e*P **P** 17 27 15.2 -1.6
IRK Irkutsk 84.74 327 *e*P **P** 17 27 15.6 -1.8
IRK pmax pmax
comp=Z,2µm,1.8s
WDC Whiskeytown Da 84.75 46 *e*P **P** 17 27 17.7 0.0
WDC pmax pmax
comp=Z,407nm,1.8s
WDC Whiskeytown Da 84.75 46 *e*P **P** 17 27 17.7 0.0
comp=Z,407nm,1.8s
N02D Trinity Center 84.79 46 ⇑P **P** 17 27 17.0 -1.0
baz=85
TLY Talaya 84.80 326 P **P** 17 27 17.4 -0.3
comp=Z,3µm,1.4s
TLY Talaya 84.80 326 *c i*P **P** 17 27 17.1 -0.6
TLY *e* 17 30 33.8
TLY *e*S **S** 17 37 39.9 -3.4
TLY *e*PS **PnS** 17 38 41.5 0.0
TLY pmax pmax
comp=Z,1µm,1.6s
TLY MLR MLR
comp=Z,15µm,18.0s
TLY Talaya 84.80 326 P **P** 17 27 17.1 -0.6
SNR=767
TLY Talaya 84.80 326 *e*P **P** 17 27 16.4 -1.2
comp=Z,3µm,1.8s
TLY LR LR
comp=Z,37µm,21.0s
M02C Callahan 84.85 45 ⇑P **P** 17 27 17.2 -1.1
baz=85
PAX Paxson 84.89 20 *e*P **P** 17 27 16.6 -1.4
PAX pmax pmax
comp=Z,122nm,1.1s
PAX Paxson 84.89 20 *e*P **P** 17 27 16.6 -1.4
comp=Z,122nm,1.1s
BLG Laguna Peak, P 84.97 53 ⇑P **P** 17 27 17.6 -1.4
baz=85
SCI San Clemente I 85.00 55 ⇓P **P** 17 27 17.4 -1.7
baz=85
YBH Yreka Blue Hor 85.08 45 PKKP **PKKPdf** 17 45 19.3 -1.3
comp=Z,0.4nm,0.3s,baz=342,slow=3.2,SNR=2.4
YBH PKKPbc **PKKPbc** 17 45 26.3 -1.6
comp=Z,0.6nm,0.4s,baz=110,slow=5.4,SNR=3.7
YBH PKPPKP **P'P'df** 17 53 31.7 +0.4
comp=Z,2.4nm,0.9s,baz=94,slow=3.1,SNR=3.6
YBH LR LR 17 58 06.9
comp=Z,62µm,20.7s,baz=278,slow=31
YBH Yreka Blue Hor 85.08 45 *e*P **P** 17 27 19.3 -0.2
YBH pmax pmax
comp=Z,89nm,1.1s
YBH Yreka Blue Hor 85.08 45 *e*P **P** 17 27 19.3 -0.2
comp=Z,89nm,1.1s
YBH PKKP **PKKPdf** 17 45 19.3 -1.3
YBH PKKPbc **PKKPbc** 17 45 26.3 -1.6
YBH P'P' 17 53 31.7
SIT Sitka 85.14 28 *e*P **P** 17 27 19.1 -0.1
SIT pmax pmax
comp=Z,60nm,1.0s
SIT Sitka 85.14 28 *e*P **P** 17 27 19.1 -0.1
comp=Z,60nm,1.0s
CIS Catalina Islan 85.25 54 ⇓P **P** 17 27 19.3 -1.1
baz=85
HUMO Hull Mountain 85.26 44 *e*P **P** 17 27 20.5 +0.3
comp=Z,86nm,0.9s
CMB Columbia Colle 85.35 49 *e*P **P** 17 27 21.5 +0.6
CMB pmax pmax
comp=Z,52nm,0.8s
CMB Columbia Colle 85.35 49 *e*P **P** 17 27 21.5 +0.6
comp=Z,52nm,0.8s
OSI Osito Audit: C 85.41 53 ⇓P **P** 17 27 20.4 -0.8
baz=86
I03D Drain, OR 85.43 43 ⇑P **P** 17 27 19.8 -1.1
baz=86,SNR=15
FMP Fort Macarthur 85.44 54 ⇓P **P** 17 27 20.2 -1.1
baz=86
COLA College 85.49 18 *c i*P **P** 17 27 19.0 -1.8
COLA pmax pmax
comp=Z,3µm,3.0s
COLA College 85.49 18 *e*P **P** 17 27 20.1 -0.7
comp=Z,113nm,0.6s
COLA LR LR
comp=Z,83µm,22.0s
ARVC Arvin 85.50 52 ⇓P **P** 17 27 20.5 -1.1
baz=86
VES Vestal, Richgr 85.55 52 ⇓P **P** 17 27 20.4 -1.4
baz=86
DECC Green Verdugo 85.59 53 ⇑P **P** 17 27 20.2 -1.9
baz=86
RCTC Rector, Farmer 85.60 51 ⇑P **P** 17 27 20.5 -1.5
baz=86
PASC Pasadena Art C 85.68 53 *e*P **P** 17 27 22.4 -0.1
comp=Z,49nm,0.7s
M04C Macdoel 85.70 45 ⇓P **P** 17 27 21.9 -0.7
baz=86,SNR=25
ILAR Eielson Array 85.71 18 P **P** 17 27 21.4 -0.6
comp=Z,121nm,0.5s,baz=242,slow=5.1,SNR=137
ILAR PKKP **PKKPdf** 17 45 18.9 -1.4
comp=Z,2.5nm,0.9s,baz=228,slow=3.5,SNR=4.8
ILAR SKKPbc SKKPbc 17 49 06.8 +1.6
comp=Z,0.8nm,0.8s,baz=23,slow=2.5,SNR=3.4
ILAR PKPPKP **P'P'df** 17 53 28.3 +0.3
comp=Z,4.5nm,1.1s,baz=344,slow=2.1,SNR=10.0
ILAR LR LR 18 00 53.9
comp=Z,165µm,20.3s,baz=242,slow=32
MWC Mount Wilson 85.80 53 *e*P **P** 17 27 23.9 +0.6
MWC pmax pmax
comp=Z,79nm,0.8s
MWC Mount Wilson 85.80 53 *e*P **P** 17 27 23.9 +0.6
comp=Z,79nm,0.8s
COR Corvallis 85.82 42 *e*P **P** 17 27 22.2 -0.7
COR pmax pmax
comp=Z,104nm,1.1s
COR Corvallis 85.82 42 *e*P **P** 17 27 22.2 -0.7
comp=Z,104nm,1.1s
DOT Dot Lake 85.82 20 *e*P **P** 17 27 22.1 -0.4
comp=Z,3µm,0.6s
ISA Isabella, Lake 85.96 52 ⇓P **P** 17 27 22.9 -1.1
baz=86
EDW2 Edwards Air Fo 86.07 53 ⇑P **P** 17 27 23.0 -1.5
baz=86
J04D Umpqua Nationa 86.08 44 ⇓P **P** 17 27 23.7 -0.8
baz=86,SNR=20
K04D Chiloquin, OR 86.08 45 ⇓P **P** 17 27 23.4 -1.0
baz=86
G03D McMinnville, O 86.09 42 ⇓P **P** 17 27 22.8 -1.4
baz=86
I04A Tendick Farm, 86.09 43 ⇓P **P** 17 27 22.4 -1.9
baz=86,SNR=24
109C Camp Elliot, M 86.11 55 ⇑P **P** 17 27 23.1 -1.5
baz=86
BFSC Mount Baldy Ra 86.11 54 ⇑P **P** 17 27 23.3 -1.6
baz=86
WRAK Wrangell Islan 86.17 29 *e*P **P** 17 27 24.3 -0.1
comp=Z,47nm,0.3s
WRAK LR LR
comp=Z,92µm,22.0s
WAKR Walker 86.22 49 *e*P **P** 17 27 25.5 +0.2
comp=Z,391nm,1.7s
BBB Bella Bella 86.23 34 LR LR 17 58 18.7
comp=Z,129µm,20.8s,baz=249,slow=30
MOY Mondy 86.24 325 *e*P **P** 17 27 24.2 -0.8
MOY pmax pmax
comp=Z,2µm,2.5s
MURC Murrieta 86.27 54 ⇑P **P** 17 27 24.0 -1.4
baz=86
MLAC Mammoth, Mammo 86.36 50 ⇑P **P** 17 27 25.1 -1.0
baz=86
BAR Barrett 86.39 55 *e*P **P** 17 27 26.3 +0.2
comp=Z,53nm,0.6s
HYT Haines Junctio 86.40 24 *e*P **P** 17 27 25.7 +0.1
comp=Z,95nm,1.2s
LRMC Laurel Mtn Rad 86.50 52 ⇓P **P** 17 27 25.4 -1.3
baz=87
CWC Cottonwood Cre 86.52 51 ⇓P **P** 17 27 25.1 -1.7
baz=87
COLD Coldfoot 86.57 15 *e*P **P** 17 27 26.4 +0.3
comp=Z,989nm,0.6s
NLWA Neilton Lookou 86.59 40 *e*P **P** 17 27 27.8 +1.0
comp=Z,115nm,1.3s
NLWA LR LR
comp=Z,92µm,20.0s
F04D Rainier, OR 86.61 41 ⇑P **P** 17 27 26.0 -0.8
baz=87
TIN Tinemaha, Big 86.62 51 ⇑P **P** 17 27 26.0 -1.2
baz=87
MONP Monument Peak, 86.66 55 ⇑P **P** 17 27 26.3 -1.4
baz=87
J05D Fort Rock, OR 86.69 44 ⇓P **P** 17 27 26.2 -1.3
baz=87,SNR=52
BBRC Big Bear Solar 86.70 54 ⇓P **P** 17 27 26.1 -1.7
baz=87
DAC Darwin (Calif) 86.84 52 *e*P **P** 17 27 29.2 +0.8
DAC pmax pmax
comp=Z,172nm,1.5s
DAC Darwin (Calif) 86.84 52 *e*P **P** 17 27 29.2 +0.8
comp=Z,172nm,1.5s
RRX Edison Barstow 86.84 53 ⇑P **P** 17 27 26.8 -1.4
baz=87
MPMC Manual Prospec 86.84 52 ⇓P **P** 17 27 27.3 -1.1
baz=87
IBP Imperial Bould 86.85 55 ⇑P **P** 17 27 27.3 -1.1
baz=87
PFO Pinyon Flats O 86.86 54 PKKP **PKKPdf** 17 45 18.2 +1.0
comp=Z,0.9nm,0.3s,baz=162,slow=6.4,SNR=2.1
PFO PKKPbc **PKKPbc** 17 45 24.0 +0.8
comp=Z,1.2nm,0.5s,baz=79,slow=3.1,SNR=3.9
PFO PKPPKP **P'P'df** 17 53 29.6 +0.6
comp=Z,4.6nm,0.8s,baz=145,slow=0.5,SNR=5.8
PFO LR LR 17 59 11.1
comp=Z,172µm,19.8s,baz=247,slow=31
PFO Pinyon Flats O 86.86 54 *e*P **P** 17 27 28.5 0.0
PFO pmax pmax
comp=Z,46nm,0.7s
PFO Pinyon Flats O 86.86 54 *e*P **P** 17 27 28.5 0.0
comp=Z,46nm,0.7s
PFO PKKP **PKKPdf** 17 45 18.2 +1.0
PFO PKKPbc **PKKPbc** 17 45 24.0 +0.8
PFO P'P' 17 53 29.6
PFO Pinyon Flats O 86.86 54 ⇑P **P** 17 27 26.9 -1.6
baz=87
I05D Terrebonne, OR 87.02 43 ⇑P **P** 17 27 27.7 -1.3
baz=87,SNR=16
NVAR Mina Array Bea 87.03 49 P **P** 17 27 29.3 0.0
comp=Z,27nm,0.7s,baz=232,slow=5.8,SNR=59
NVAR PKKP **PKKPdf** 17 45 16.6 -0.7
comp=Z,2.4nm,0.8s,baz=101,slow=2.3,SNR=3.4
NVAR PKKPbc **PKKPbc** 17 45 21.2 -2.0
comp=Z,3.0nm,0.9s,baz=134,slow=2.6,SNR=6.0
NVAR SKKPbc SKKPbc 17 49 05.7 +5.4
comp=Z,2.2nm,0.8s,baz=169,slow=0.5,SNR=4.7
NVAR PKPPKP P'P'df 17 53 22.8 -5.5
comp=Z,3.2nm,0.9s,baz=126,slow=1.2,SNR=6.0
GSC Goldstone, Bar 87.12 53 *e*P **P** 17 27 29.3 -0.4
GSC pmax pmax
comp=Z,516nm,1.9s
GSC Goldstone, Bar 87.12 53 *e*P **P** 17 27 29.3 -0.4
comp=Z,516nm,1.9s
GSC Goldstone, Bar 87.12 53 ⇑P **P** 17 27 28.3 -1.4
baz=87
SWSC Sam W. Stewart 87.17 55 ⇓P **P** 17 27 28.9 -1.0
baz=87
TDL Tradedollar La 87.22 41 P **P** 17 27 29.5 -0.5
VLL Laurance Lake 87.22 42 P **P** 17 27 30.6 +0.7
BOK Bokaro 87.23 295 *e*P **P** 17 27 28.0 -2.3
BOK AMB AMB 17 27 31.8
comp=Z,476nm,2.8s
GRAC Grapevine Rang 87.25 51 ⇓P **P** 17 27 28.9 -1.3
baz=87
VFP Flag Point 87.30 42 P **P** 17 27 28.9 -1.6
BELC Belle Mtn. Jos 87.34 54 ⇓P **P** 17 27 29.7 -1.2
baz=88
HEC Hector,Ludlow 87.34 53 ⇓P **P** 17 27 29.4 -1.3
baz=88
PGC Sidney 87.37 39 *e*P **P** 17 27 31.5 +1.1
comp=Z,136nm,1.1s
G05D Wamic, OR 87.37 42 ⇓P **P** 17 27 29.8 -0.8
baz=88
CHLP Challavanipeta 87.45 290 *e*P **P** 17 27 31.4 -0.1
CHLP IAmb IAmb 17 27 36.0
comp=Z,3µm,2.2s
CHLP *e*pP **pP** 17 27 41.0 -1.5
CHLP *e*PP **PP** 17 30 55.0 -1.7
CHLP *e*SKSac **SKSac** 17 37 53.3 -3.9
CHLP *e* 17 38 09.0
CHLP *e*SS **SS** 17 43 55.6 -0.8
CHLP IVMs_BB IVMs_BB 17 59 52.4
comp=Z,7µm,35.9s
FURC Furnace Creek, 87.46 52 ⇓P **P** 17 27 30.1 -1.0
baz=88
RAMN Ramite 87.50 298 *e*P **PKKPbc** 17 45 21.2 -0.3
comp=Z,26nm,0.6s
EGAK Eagle 87.52 20 *e*P **P** 17 27 30.1 -0.6
comp=Z,23nm,0.3s
EGAK LR LR
comp=Z,82µm,22.0s
LON Longmire 87.63 41 P **P** 17 27 30.0 -1.8
LON Longmire 87.63 41 P **P** 17 27 30.0 -1.8
BC3 Big Chuckawall 87.67 55 ⇑P **P** 17 27 31.4 -0.9
baz=88
DAWY Dawson 87.67 21 *e*P **P** 17 27 30.9 -0.7
comp=Z,9.3nm,0.9s
TPH Tonopah 87.71 50 *e*P **P** 17 27 33.2 +0.6
TPH pmax pmax
comp=Z,404nm,1.9s
TPH Tonopah 87.71 50 *e*P **P** 17 27 33.2 +0.6
comp=Z,404nm,1.9s
SHOC Shoshone, Teco 87.72 52 ⇑P **P** 17 27 31.6 -0.8
baz=88
WPW White Pass 87.78 41 P **P** 17 27 32.6 0.0
PALK Pallekele 87.81 278 *e*P **P** 17 27 34.2 +0.8
PALK pmax pmax
comp=Z,1µm,1.7s
PALK Pallekele 87.81 278 P P 17 27 38.1 +4.7
SNR=26
PALK Pallekele 87.81 278 ⇑P **P** 17 27 34.6 +1.2
SNR=25
PALK Pallekele 87.81 278 *e*P **P** 17 27 34.2 +0.8
comp=Z,1µm,1.7s
TUQ Turquoise Moun 87.85 53 ⇑P **P** 17 27 32.0 -1.3
baz=88
GMRC Granite Mounta 87.85 54 ⇓P **P** 17 27 32.3 -0.9
baz=88
VIS Vishakhapatnam 87.92 289 *e*P **P** 17 27 31.9 -1.9
VIS AMB AMB 17 27 38.3
comp=Z,346nm,3.1s
GLA Glamis 87.98 55 *e*P **P** 17 27 34.5 +0.7
comp=Z,153nm,0.8s
GLA Glamis 87.98 55 ⇑P **P** 17 27 33.2 -0.6
baz=88
IRM Iron Mountain 88.06 54 ⇓P **P** 17 27 33.3 -0.8
baz=88
TPNV Topopah Spring 88.08 51 ⇓P **P** 17 27 33.4 -0.9
baz=88
WVOR Wild Horse Val 88.16 46 *e*P **P** 17 27 34.1 -0.4
WVOR pmax pmax
comp=Z,211nm,1.4s
WVOR MLR MLR
comp=Z,65µm,20.0s
WVOR Wild Horse Val 88.16 46 *e*P **P** 17 27 34.1 -0.4
comp=Z,211nm,1.4s
WVOR LR LR
comp=Z,65µm,20.0s
NAC Naches 88.25 41 P **P** 17 27 35.1 +0.4
DLBC Dease Lake 88.28 28 PKPPKP **P'P'df** 17 53 23.2 -0.8
comp=Z,1.7nm,0.7s,baz=115,slow=2.0,SNR=3.7
DLBC LR LR 17 58 10.5
comp=Z,37µm,20.9s,baz=240,slow=30
DLBC Dease Lake 88.28 28 *e*P **P** 17 27 34.5 -0.2
comp=Z,41nm,1.1s
DLBC P'P' 17 53 23.2
LDFC Landfair 88.37 53 *e*P **P** 17 27 37.1 +1.4
comp=Z,280nm,0.8s
Y12C Blythe 88.43 55 ⇓P **P** 17 27 34.9 -0.9
baz=89
BMN Battle Mountai 88.49 48 *e*P **P** 17 27 36.4 +0.2
BMN pmax pmax
comp=Z,402nm,1.8s
BMN Battle Mountai 88.49 48 *e*P **P** 17 27 36.4 +0.2
comp=Z,402nm,1.8s
NEE2 Needles Airpor 88.66 54 ⇑P **P** 17 27 35.9 -1.0
baz=89
113A Mohawk Valley, 88.75 56 ⇓P **P** 17 27 36.9 -0.5
baz=89
SHPR Sheep Range 88.77 52 *e*P **P** 17 27 37.9 +0.3
comp=Z,278nm,1.4s
TIXI Tiksi 88.83 349 *c i*P **P** 17 27 35.4 -1.4
TIXI pmax pmax
comp=Z,173nm,1.1s
TIXI Tiksi 88.83 349 *e*P **P** 17 27 35.0 -1.8
comp=Z,129nm,0.9s
TIXI LR LR
comp=Z,61µm,22.0s
KKN Kakani 88.86 299 *e*P **PKKPbc** 17 45 19.0 +0.8
comp=Z,16nm,0.6s
ETW Entiat 88.89 40 P **P** 17 27 37.9 0.0
PDMCI Parker Dam,Lak 88.90 54 ⇑P **P** 17 27 37.3 -0.8
baz=89
DMN Daman 88.96 299 *e*P **PKKPbc** 17 45 19.2 +1.2
comp=Z,16nm,0.7s
HAWA Hanford 88.96 42 *e*P **P** 17 27 39.0 +1.0
comp=Z,78nm,0.8s
HAWA LR LR
comp=Z,33µm,20.0s
R11A Troy Canyon, C 89.02 50 *e*P **P** 17 27 38.2 -0.5
comp=Z,115nm,1.5s
R11A Troy Canyon, C 89.02 50 ⇓P **P** 17 27 37.5 -1.3
baz=89
LPIG La Paz 89.28 65 LR LR 17 59 39.7
comp=Z,46µm,21.2s,baz=244,slow=30
214A Organ Pipe Nat 89.29 57 *e*P **P** 17 27 40.1 +0.2
comp=Z,74nm,0.8s
214A Organ Pipe Nat 89.29 57 ⇑P **P** 17 27 39.1 -0.9
baz=89
W13A Hualapai Mount 89.34 54 ⇑P **P** 17 27 39.4 -1.0
baz=90
SYO Syowa Base 89.55 197 ⇓*i*P **P** 17 27 40.0 -0.4
SYO Syowa Base 89.55 197 *e*SH **SKSac** 17 38 03.6 -4.3
Z14A Wintersburg 89.58 56 ⇓P **P** 17 27 40.3 -1.0
baz=90
MDRS Chennai 89.64 283 *e*P **P** 17 27 39.0 -2.9
MDRS AMB AMB 17 27 46.0
comp=Z,376nm,1.4s
MDRS Chennai 89.64 283 *e*p P 17 27 35.7 -6.2
MDRS *e*s **PP** 17 31 11.2 -3.0
MDRS *e*x **SKSac** 17 38 09.2 -1.1
MDRS *e*x x 17 44 09.2
MDRS *e*x x 17 48 24.2
MDRS *e*x x 17 52 48.2
MDRS *e*x x 17 58 03.2
Y14A Wickenburg 89.70 55 ⇑P **P** 17 27 41.0 -0.9
baz=90
BMO Blue Mountains 89.89 44 *e*P **P** 17 27 42.3 -0.3
BMO MLR MLR
comp=Z,66µm,19.0s
BMO Blue Mountains 89.89 44 *e*P **P** 17 27 42.3 -0.3
comp=Z,25nm,1.4s
BMO LR LR
comp=Z,66µm,19.0s
ELK Elko 90.02 48 *e*P **P** 17 27 43.4 -0.1
ELK pmax pmax
comp=Z,33nm,0.8s
ELK Elko 90.02 48 *e*P **P** 17 27 43.4 -0.1
comp=Z,33nm,0.8s
SKHT Srikalahasti 90.31 284 *e*P **P** 17 27 44.8 -0.3
SKHT IAmb IAmb 17 27 49.4
comp=Z,2µm,2.3s
SKHT ⇓*e*pP **pP** 17 27 54.3 -1.8
SKHT *e*PP **PP** 17 31 18.9 -0.6
SKHT *e*SKSac **SKSac** 17 38 13.5 -0.8
SKHT *e* 17 38 35.6
SKHT *e*SS **SS** 17 44 38.7 +0.6
SKHT IVMs_BB IVMs_BB 18 08 12.6
comp=Z,10µm,21.2s
MFID Camas Ranch 90.43 45 *e*P **P** 17 27 45.9 +0.8
comp=Z,80nm,0.8s
U15A North Rim 90.96 53 ⇓P **P** 17 27 47.3 -0.7
baz=91
TUC Tucson 91.04 57 *e*P **P** 17 27 49.3 +1.1
TUC pmax pmax
comp=Z,63nm,0.8s
TUC MLR MLR
comp=Z,107µm,20.0s
TUC Tucson 91.04 57 *e*P **P** 17 27 49.3 +1.1
comp=Z,63nm,0.8s
TUC LR LR
comp=Z,107µm,20.0s
X16A Lo Mia Camp, P 91.07 55 ⇑P **P** 17 27 47.8 -0.6
baz=91
NEW Newport 91.14 40 PKKPbc PKKPbc 17 45 13.8 +0.6
comp=Z,2.0nm,0.5s,baz=77,slow=4.8,SNR=3.5
NEW Newport 91.14 40 *e*P **P** 17 27 48.4 +0.2
NEW pmax pmax
comp=Z,71nm,1.2s
NEW MLR MLR
comp=Z,47µm,19.0s
NEW Newport 91.14 40 *e*P **P** 17 27 48.4 +0.2
comp=Z,71nm,1.2s
NEW PKKPbc **PKKPbc** 17 45 13.8 +0.6
NEW LR LR
comp=Z,47µm,19.0s
NEW Newport 91.14 40 ⇑P **P** 17 27 46.9 -1.4
baz=91
NJS Nagarjunasagar 91.36 287 *e*P **P** 17 27 49.2 -0.6
NJS IAmb IAmb 17 27 54.8
comp=Z,686nm,1.2s
NJS *e*pP **pP** 17 27 59.4 -1.5
NJS *e*PP **PP** 17 31 27.5 -0.4
NJS *e*SKSac **SKSac** 17 38 16.7 -3.5
NJS *e* 17 38 46.7
NJS *e*SS **SS** 17 44 50.8 -2.4
NJS IVMs_BB IVMs_BB 18 01 10.0
comp=Z,11µm,36.9s

WUAZ Wupatki 91.42 54 *e*P P 17 27 51.2 +1.1
comp=Z,253nm,1.4s
WUAZ LR LR
comp=Z,101µm,19.0s
WUAZ Wupatki 91.42 54 ⇑P P 17 27 48.9 -1.2
baz=92
HLID Hailey 91.46 46 *e*P P 17 27 50.1 +0.1
comp=Z,26nm,0.8s
HLID LR LR
comp=Z,89µm,20.0s
HLID Hailey 91.46 46 ⇓P P 17 27 49.2 -0.8
baz=92
WMQ Urumqi 91.58 315 P P 17 27 50.5 +0.1
WMQ pP **pP** 17 28 01.0 -0.5
WMQ sP **sP** 17 28 05.0 -0.4
WMQ PP **PP** 17 31 31.0 +1.9
WMQ SKS **SKSac** 17 38 18.5 -2.1
WMQ S **S** 17 38 45.5 -2.6
WMQ sS **sS** 17 39 02.5 -4.0
WMQ SS **SS** 17 44 56.3 +0.8
WMQ PMZ
comp=Z,680nm,1.4s
WMQ PMZ
comp=Z,12µm,4.2s
WMQ LN
comp=Z,23µm,20.0s
WMQ LE
comp=Z,26µm,21.2s
WMQ LZ
comp=Z,31µm,24.0s
MVU Marysvale 91.60 51 *e*P P 17 27 52.8 +1.9
comp=Z,167nm,1.5s
DUG Dugway, Tooele 91.62 49 *e*P P 17 27 51.8 +1.0
comp=Z,65nm,1.1s
DUG LR LR
comp=Z,175µm,20.0s
DUG Dugway, Tooele 91.62 49 ⇑P P 17 27 49.8 -1.0
baz=92
MSU Marysvale 91.62 51 *e*P P 17 27 52.0 +1.1
comp=Z,132nm,1.4s
BGU Big Grassy Mou 91.67 48 *e*P P 17 27 51.4 +0.3
comp=Z,70nm,1.3s
TRD Trivandrum 91.70 278 *e*P P 17 27 50.8 -0.7
TRD AMB AMB 17 27 57.1
comp=Z,339nm,2.1s
RPR Rampur 91.91 289 *e*P P 17 27 52.0 -0.4
RPR IAmb IAmb 17 27 57.1
comp=Z,941nm,1.0s
RPR *e*pP **pP** 17 28 02.1 -1.3
RPR *e*PP **PP** 17 31 31.7 -0.5
RPR *e*SKSac **SKSac** 17 38 19.4 -3.9
RPR *e* 17 38 50.9
RPR *e* 17 40 10.1
RPR *e*SS **SS** 17 45 00.9 -0.3
RPR IVMs_BB IVMs_BB 18 03 36.3
comp=Z,11µm,28.0s
319A Douglas 92.03 58 ⇑P P 17 27 52.0 -0.9
baz=92
INK Inuvik 92.08 19 P P 17 27 51.0 -1.1
comp=Z,2.2nm,0.3s,baz=220,slow=9.8,SNR=6.8
INK PKKPbc **PKKPdf** 17 45 09.6 +0.6
comp=Z,3.7nm,0.3s,baz=350,slow=2.8,SNR=3.9
INK PKPPKP **P'P'df** 17 53 13.2 -3.0
comp=Z,1.8nm,0.3s,baz=74,slow=2.9,SNR=5.2
INK LR LR 18 04 41.8
comp=Z,130µm,20.3s,baz=220,slow=33
INK Inuvik 92.08 19 *e*P P 17 27 51.3 -0.7
INK 17 45 09.6
INK pmax pmax
comp=Z,131nm,1.7s
INK Inuvik 92.08 19 *e*P P 17 27 51.3 -0.7
comp=Z,131nm,1.7s
INK PKKPbc **PKKPdf** 17 45 09.6 +0.6
INK P'P' 17 53 13.2
HVU Hansel Valley 92.10 48 *e*P P 17 27 53.4 +0.4
HVU pmax pmax
comp=Z,174nm,1.5s
HVU Hansel Valley 92.10 48 *e*P P 17 27 53.4 +0.4
comp=Z,174nm,1.5s
NLU North Lily Min 92.10 49 *e*P P 17 27 53.9 +0.8
comp=Z,168nm,1.7s
HYB Hyderabad 92.26 287 *i*P P 17 27 52.5 -1.6
comp=Z,120nm,1.0s
HYB *e*PcP **PcP** 17 27 55.0 +0.2
HYB *es*P **sP** 17 28 08.0 -1.1
HYB *e* 17 30 46.0
HYB *e*PP **PP** 17 31 32.0 -3.0
HYB *e*SKS **SKSac** 17 38 20.0 -5.4
HYB *e*S **S** 17 38 52.0 -3.2
HYB *e* 17 39 06.0
HYB LR LR
comp=Z,76nm,30.0s
HYB Hyderabad 92.26 287 *e*P P 17 27 50.0 -4.1
HYB AMB AMB 17 27 57.0
comp=Z,512nm,3.7s
HYBB Hyderabad (bro 92.26 287 *e*P P 17 27 53.8 -0.3
HYBB IAmb IAmb 17 27 58.6
comp=Z,478nm,1.2s
HYBB *e*PP **PP** 17 31 34.4 -0.7
HYBB *e*SKSac **SKSac** 17 38 20.6 -4.8
HYBB *e* 17 38 54.2
HYBB *e* 17 40 15.0
HYBB IVMs_BB IVMs_BB 18 01 11.6
comp=Z,9µm,40.5s
X18A Snowflake 92.29 55 ⇓P P 17 27 53.4 -0.7
baz=92
DGAR Diego Garcia 92.34 262 *e*P P 17 27 54.0 -0.5
DGAR pmax pmax
comp=Z,565nm,1.4s
DGAR MLR MLR
comp=Z,62µm,22.0s
DGAR Diego Garcia 92.34 262 P P 17 27 56.9 +2.4
SNR=5.2
DGAR Diego Garcia 92.34 262 *e*P P 17 27 54.0 -0.5
comp=Z,565nm,1.4s
DGAR LR LR
comp=Z,62µm,22.0s
KRAR Krasnoyarsk 92.41 327 *c i*P P 17 27 53.2 -0.6
KRAR pmax pmax
comp=Z,182nm,1.7s
KRAR MLR MLR
comp=Z,12µm,20.0s
MPU Maple Canyon 92.44 50 *e*P P 17 27 55.7 +1.0
comp=Z,128nm,1.4s
BSMT Bassoo Peak 92.50 41 *e*P P 17 27 54.6 -0.2
comp=Z,33nm,1.1s
TMUT Trail Mountain 92.56 50 *e*P P 17 27 55.6 +0.2
comp=Z,73nm,1.1s
W18A Petrified Fore 92.61 55 *e*P P 17 27 56.6 +1.0
comp=Z,43nm,0.8s
W18A Petrified Fore 92.61 55 ⇑P P 17 27 54.9 -0.6
baz=93
NGP Nagpur 92.67 291 *e*P P 17 27 53.2 -2.7
NGP *ex* x 17 38 22.1
MSO Missoula 92.74 43 ⇓P P 17 27 54.6 -1.2
baz=93
JTMT Jette 92.79 42 *e*P P 17 27 56.1 +0.1
comp=Z,7.7nm,0.8s
BLMT Blacktail Moun 92.82 41 *e*P P 17 27 57.1 +0.8
comp=Z,18nm,0.8s
URV Uravakonda 92.90 285 *e*P P 17 27 57.0 -0.1
URV IAmb IAmb 17 28 00.8
comp=Z,2µm,2.2s
URV *e*PP **PP** 17 31 39.4 -0.7
URV *e*SKSac **SKSac** 17 38 28.3 -0.7
URV *e* 17 39 00.8
URV *e* 17 40 20.4
URV *e*SS **SS** 17 45 15.0 -0.5
URV IVMs_BB IVMs_BB 18 02 14.0
comp=Z,8µm,33.6s
MCMT McKenzie Canyo 92.90 45 *e*P P 17 27 56.7 0.0
comp=Z,41nm,1.6s
SWMT Swartz Lake 92.90 42 *e*P P 17 27 57.5 +1.0
comp=Z,14nm,1.1s
TCUT Toone Canyon 92.90 49 *e*P P 17 27 58.5 +1.6
comp=Z,35nm,0.7s
HWUT Hardware Ranch 92.92 48 *e*P P 17 27 58.0 +1.2
comp=Z,109nm,1.6s
HWUT LR LR
comp=Z,75µm,22.0s
PMSA Palmer Station 92.95 161 P P 17 27 57.3 +1.0
comp=Z,86nm,1.1s,baz=198,slow=20,SNR=4.2
PMSA PKKP **PKKPdf** 17 45 03.9 -1.5
comp=Z,40nm,0.8s,baz=63,slow=5.4,SNR=3.1
PMSA LR LR 18 05 57.7
comp=Z,79µm,18.9s,baz=224,slow=33

YBMT Yellow Bay 93.00 41 *e*P P 17 27 58.6 +1.7
SRU San Rafael Swe 93.03 51 *e*P P 17 27 57.2 -0.2
SRU San Rafael Swe 93.03 51 *e*P P 17 27 57.2 -0.2
comp=Z,4µm,1.2s
SLMT Seeley Lake 93.16 42 *e*P P 17 27 59.0 +1.2
comp=Z,5µm,1.2s
CHMT Chamberlain Mo 93.22 43 *e*P P 17 27 57.5 -0.6
comp=Z,68nm,1.7s
DLMT Dillon 93.22 44 *e*P P 17 27 58.7 +0.6
comp=Z,31nm,0.8s
WALA Waterton Lakes 93.41 40 *e*P P 17 27 59.8 +1.0
comp=Z,94nm,1.5s
LRM Limekiln Ridge 93.45 44 *e*P P 17 27 58.1 -1.1
comp=Z,342nm,1.2s
121A Cookes Peak, D 93.55 58 *e*P P 17 28 00.7 +0.8
comp=Z,39nm,0.9s
121A Cookes Peak, D 93.55 58 ⇑P P 17 27 59.1 -0.9
baz=94
LGTI Lohaghat 93.56 299 *ex* P 17 28 03.1 +3.3
AHID Auburn Hatcher 93.56 47 PFAKE 17 28 10.0 +10
AHID LR LR
comp=Z,115µm,21.0s
TPAW Teton Pass 93.86 46 *e*P P 17 28 03.1 +1.9
comp=Z,119nm,1.8s
QLMT Earthquake Lak 93.87 45 *e*P P 17 28 02.5 +1.3
comp=Z,13nm,1.8s
REDW Red Top Meadow 93.89 46 *e*P P 17 28 04.6 +3.2
comp=Z,113nm,1.6s
BOZ Bozeman (W) 93.95 44 PFAKE 17 28 10.0 +8.5
BOZ LR LR
comp=Z,56µm,19.0s
IMW Indian Meadow 93.97 46 *e*P P 17 28 02.5 +0.7
comp=Z,14nm,0.8s
NVL N'lazarevskaya 94.01 188 ⇓*i*P P 17 27 51.8 -9.3
NVL *e**PP pP 17 28 08.3 -3.8
NVL *e*SS SS 17 45 36.7 +9.0
NVL pmax pmax
comp=Z,180nm,0.6s
NVL MLR MLR
comp=Z,92µm,19.0s
MOOW Moose Ponds 94.07 46 *e*P P 17 28 02.5 +0.4
comp=Z,22nm,1.3s
PV04 Paradox Valley 94.07 52 *e*P P 17 27 58.0 -4.2
MVCO Mesa Verde 94.10 53 *e*P P 17 28 05.7 +3.3
comp=Z,16nm,0.6s
MVCO LR LR
comp=Z,74µm,19.0s
MVCO Mesa Verde 94.10 53 ⇓P P 17 28 01.4 -1.1
baz=94
HRY Holter Researc 94.10 43 *e*P P 17 28 03.0 +0.9
comp=Z,18nm,0.7s
LOHW Long Hollow 94.13 46 *e*P P 17 28 03.1 +0.7
comp=Z,92nm,1.8s
FLWY Flagg Ranch 94.19 46 *e*P P 17 28 03.0 +0.3
comp=Z,22nm,0.4s
I17A Pilgrim Ck. 94.23 46 ⇑P P 17 28 02.5 -0.4
baz=94
H17A Grant Village 94.35 45 *e*P P 17 28 06.7 +3.3
comp=Z,24nm,1.0s
H17A Grant Village 94.35 45 ⇑P P 17 28 03.2 -0.2
baz=94
YNR Norris Junctio 94.36 45 *e*P P 17 28 05.1 +1.6
comp=Z,111nm,1.7s
LAZ Ladron 94.51 56 *e*P P 17 28 04.7 +0.3
comp=Z,46nm,1.7s
LKWY Lake 94.52 45 *e*P P 17 28 04.7 +0.5
LKWY pmax pmax
comp=Z,41nm,1.3s
LKWY MLR MLR
comp=Z,204µm,20.0s
LKWY Lake 94.52 45 *e*P P 17 28 04.7 +0.5
comp=Z,41nm,1.3s
LKWY LR LR
comp=Z,204µm,20.0s
SNAA Sanae 94.56 183 P P 17 27 57.8 -5.9
SNAA Sanae 94.56 183 P P 17 28 01.3 -2.4
comp=Z,95nm,1.2s,baz=205,slow=8.0,SNR=30
SNAA PKKPbc **PKKPdf** 17 45 03.0 +0.2
comp=Z,4.3nm,1.0s,baz=357,slow=6.9,SNR=7.7
SNAA SKKP 17 48 37.3
comp=Z,0.8nm,0.9s,baz=324,slow=2.2,SNR=2.8
SNAA PKPPKP **P'P'df** 17 53 14.3 -2.0
comp=Z,1.9nm,1.1s,baz=287,slow=3.2,SNR=4.4
SNAA Sanae 94.56 183 *e*P P 17 27 56.8 -6.9
SNAA Sanae 94.56 183 *e*P P 17 27 56.8 -6.9
comp=Z,1µm,3.8s
SNAA PKKPbc **PKKPdf** 17 45 03.0 +0.2
SNAA SKKP 17 48 37.3
SNAA P'P' 17 53 14.3
BHPL Bhopal 94.61 293 *e*P P 17 28 02.5 -2.4
BHPL AMB AMB 17 28 07.8
comp=Z,311nm,1.9s
Y22D IRIS PASSCAL I 94.61 56 ⇓P P 17 28 03.9 -0.8
baz=95
BW06 Boulder Array 94.66 47 *e*P P 17 28 06.6 +1.7
comp=Z,458nm,1.5s
BW06 LR LR
comp=Z,81µm,20.0s
PDAR Pinedale Array 94.66 47 P P 17 28 06.1 +1.2
comp=Z,6.6nm,0.7s,baz=176,slow=1.9,SNR=17
PDAR PKKPbc **PKKPdf** 17 45 03.5 -0.5
comp=Z,3.8nm,0.8s,baz=78,slow=5.6,SNR=3.6
PDAR SKKPbc SKKPbc 17 48 46.9 +4.5
comp=Z,2.5nm,0.9s,baz=77,slow=6.5,SNR=4.4
PDAR PKPPKP **P'P'df** 17 53 14.6 +0.6
comp=Z,1.2nm,0.8s,baz=66,slow=2.3,SNR=4.8
PDAR LR LR 18 05 30.3
comp=Z,54µm,19.1s,baz=262,slow=32
LPM Los Pinos Moun 94.90 56 *e*P P 17 28 06.3 +0.2
comp=Z,13nm,0.8s
EDM Edmonton 94.93 36 *e*P P 17 28 06.2 +0.6
EDM pmax pmax
comp=Z,126nm,1.7s
EDM Edmonton 94.93 36 *e*P P 17 28 06.2 +0.6
comp=Z,126nm,1.7s
O20A White River Ci 94.99 50 *e*P P 17 28 07.1 +0.7
comp=Z,33nm,0.8s
O20A White River Ci 94.99 50 ⇑P P 17 28 05.3 -1.1
baz=95
H18A Shoshone NF, C 95.05 45 ⇑P P 17 28 05.7 -0.9
baz=95
N20A Spence Gulch, 95.14 49 ⇑P P 17 28 06.0 -1.1
baz=95
J19A Crowheart 95.14 47 ⇓P P 17 28 06.0 -1.0
baz=95
ANMO Albuquerque 95.18 55 PKKPbc PKKPbc 17 45 03.0 +0.8
comp=Z,5.2nm,0.7s,baz=83,slow=8.1,SNR=5.2
ANMO Albuquerque 95.18 55 *c i*P P 17 28 06.5 -0.9
ANMO pmax pmax
comp=Z,74nm,1.0s
ANMO Albuquerque 95.18 55 *e*P P 17 28 06.9 -0.5
comp=Z,17nm,0.9s
ANMO PKKPbc **PKKPdf** 17 45 03.0 +0.4
ANMO LR LR
comp=Z,125µm,20.0s
GCMT Greycliff 95.32 44 *e*P P 17 28 11.6 +3.9
comp=Z,23nm,1.4s
MNTX Cornudas Mount 95.34 59 *e*P P 17 28 08.1 +0.1
comp=Z,150nm,0.5s
MNTX LR LR
comp=Z,42µm,19.0s
MNTX Cornudas Mount 95.34 59 ⇑P P 17 28 06.7 -1.2
baz=96
I19A Meeteetse 95.36 46 ⇓P P 17 28 07.1 -0.9
baz=96
RLMT Red Lodge 95.43 45 *e*P P 17 28 11.3 +3.0
comp=Z,16nm,1.1s
RLMT LR LR
comp=Z,76µm,21.0s
VNA2 Neumayer--Watz 95.51 182 P P 17 28 06.5 -1.4
baz=183,slow=4.0
S22A 4UR Ranch, Cre 95.52 53 ⇓P P 17 28 08.0 -1.0
baz=96
H19A Powell 95.52 46 ⇓P P 17 28 07.8 -0.8
baz=96
DDI Dehra Dun 95.61 300 *e*P P 17 28 07.3 -2.0
DDI AMB AMB 17 28 12.4
comp=Z,314nm,2.0s
SMCO Snowmass 95.72 51 *e*P P 17 28 10.6 +0.6
comp=Z,21nm,0.9s
EGMT Eagleton 95.80 42 *e*P P 17 28 10.7 +1.0
comp=Z,198nm,1.9s
EGMT LR LR
comp=Z,43µm,19.0s
EGMT Eagleton 95.80 42 ⇓P P 17 28 08.5 -1.3
baz=96
VNA1 Neumayer--Stat 95.81 182 P P 17 28 07.4 -1.9

F19A Roth Farm, Mol 95.83 44 ⇑P P 17 28 09.2 -0.8
baz=96
J20A Shoshoni 95.85 47 ⇑P P 17 28 08.8 -1.4
baz=96
I20A Worland 95.95 46 ⇓P P 17 28 09.4 -1.2
baz=96
NDI New Delhi 95.97 298 *e*P P 17 28 09.0 -1.9
NDI *ex* x 17 32 05.0
P22A Eagle 95.98 51 ⇑P P 17 28 10.2 -0.7
baz=96
MK31 Makanchi Array 96.04 317 *i*P P 17 28 09.7 -1.1
MK31 pmax pmax
comp=Z,668nm,1.1s
MKAR Makanchi Array 96.04 317 P P 17 28 09.7 -1.2
comp=Z,215nm,0.8s,baz=97,slow=6.5,SNR=139
MKAR PP **PP** 17 32 04.5 +0.6
comp=Z,59nm,1.3s,baz=96,slow=8.9,SNR=4.8
MKAR PKIKP **PKiKP** 17 32 49.4 -0.1
comp=Z,5.4nm,0.5s,baz=95,slow=1.7,SNR=14
MKAR PKKPbc **PKKPbc** 17 44 58.0 -2.2
comp=Z,6.3nm,0.7s,baz=268,slow=1.9,SNR=20
MKAR PKPPKP **P'P'df** 17 53 08.0 -2.8
comp=Z,0.8nm,0.9s,baz=298,slow=2.6,SNR=3.7
MKAR LR LR 18 10 24.3
comp=Z,18µm,21.7s,baz=98,slow=35
MKAR Makanchi Array 96.04 317 *ce*P P 17 28 09.6 -1.2
MKAR pmax pmax
comp=Z,218nm,0.8s
E19A Rath Farm, Rou 96.07 44 ⇓P P 17 28 10.4 -0.6
baz=96
S23A Nye Farm, Mont 96.15 53 ⇓P P 17 28 11.1 -0.7
baz=96
H20A Greybull 96.16 46 ⇓P P 17 28 09.9 -1.7
baz=96
D19A Cripps Ranch, 96.17 43 ⇓P P 17 28 11.0 -0.5
baz=96
G20A Bridger 96.18 45 ⇓P P 17 28 10.7 -1.0
baz=96
C19A Slack Wire Ran 96.19 43 ⇑P P 17 28 10.8 -0.7
baz=96
ZALV Zalesovo Beam 96.20 324 P P 17 28 09.6 -1.7
comp=Z,171nm,0.9s,baz=116,slow=4.6,SNR=97
ZALV PP **PP** 17 32 01.1 -3.8
comp=Z,16nm,1.0s,baz=101,slow=7.5,SNR=4.4
ZALV PKIKP **PKiKP** 17 32 49.5 +0.1
comp=Z,8.1nm,1.0s,baz=94,slow=8.7,SNR=3.0
ZALV PKKPbc **PKKPbc** 17 44 59.5 -0.4
comp=Z,1.9nm,0.4s,baz=298,slow=3.9,SNR=5.7
ZALV PKPPKP **P'P'df** 17 53 07.4 -2.3
comp=Z,0.8nm,0.5s,baz=316,slow=6.0,SNR=4.5
ZALV LR LR 18 10 46.3
comp=Z,33µm,21.0s,baz=98,slow=35
ZALV Zalesovo Beam 96.20 324 *i*P P 17 28 11.1 -0.2
ZALV pmax pmax
comp=Z,177nm,0.9s
GOA Goa 96.25 284 *e*P P 17 28 11.2 -1.2
GOA AMB AMB 17 28 16.5
comp=Z,237nm,2.9s
O22A Kremmling 96.26 50 ⇑P P 17 28 11.3 -1.1
baz=96
TXAR Lajitas Array 96.28 61 P P 17 28 12.7 +0.2
comp=Z,5.9nm,0.8s,baz=240,slow=3.6,SNR=32
TXAR PP **PP** 17 32 07.7 +1.4
comp=Z,26nm,1.1s,baz=236,slow=8.8,SNR=9.1
TXAR PKKPbc **PKKPbc** 17 44 58.4 -0.5
comp=Z,3.1nm,0.8s,baz=124,slow=4.5,SNR=6.7
TXAR SKKPbc SKKPbc 17 48 38.2 +1.0
comp=Z,1.7nm,0.9s,baz=103,slow=4.1,SNR=3.3
TXAR PKPPKP **P'P'df** 17 53 07.9 -4.1
comp=Z,3.2nm,1.2s,baz=129,slow=1.8,SNR=3.6
TXAR LR LR 18 02 53.6
comp=Z,84µm,21.9s,baz=0.0,slow=30
J21A Lysite 96.30 47 ⇑P P 17 28 10.8 -1.5
baz=96
F20A Billings 96.36 45 ⇓P P 17 28 11.5 -0.9
baz=96
R23A Moffat 96.39 52 ⇓P P 17 28 11.7 -1.2
baz=96
B19A Brinkman Farms 96.43 42 ⇓P P 17 28 11.4 -1.1
baz=97
CRZF Crozet Islands 96.46 219 P P 17 28 00.0 -13
CRZF PP PP 17 31 47.0 -19
CRZF S S 17 38 49.0 -42
CRZF SS **SS** 17 46 03.0 -0.8
CRZF L L 17 54 00.0
CRZF R 18 00 00.0
N22A Wattenberg Ran 96.47 50 ⇓P P 17 28 12.1 -1.1
baz=97
I21A Big Trails, Te 96.51 47 ⇑P P 17 28 11.7 -1.5
baz=97
E20A Meyer Farm, Mu 96.53 44 ⇓P P 17 28 12.2 -0.9
baz=97
SMLA Simla 96.53 300 *i*P P 17 28 12.6 -0.7
SMLA AMB AMB 17 28 16.6
comp=Z,342nm,3.3s
Q23A Hartsel 96.53 52 ⇑P P 17 28 12.5 -1.1
baz=97
SDCO Great Sand Dun 96.54 53 *e*P P 17 28 13.6 0.0
comp=Z,6.1nm,0.9s
SDCO LR LR
comp=Z,93µm,19.0s
SDCO Great Sand Dun 96.54 53 ⇓P P 17 28 12.4 -1.2
baz=97
P23A Jefferson 96.63 51 ⇑P P 17 28 13.3 -0.8
baz=97
D20A Manuel Ranch, 96.65 43 ⇓P P 17 28 13.1 -0.5
baz=97
A19A Klindworth Far 96.67 41 ⇓P P 17 28 12.5 -1.2
baz=97
O23A Lake Granby, G 96.74 50 ⇑P P 17 28 13.5 -1.0
baz=97
K22A Casper 96.81 48 *e*P P 17 28 16.6 +2.0
comp=Z,120nm,1.9s
K22A Casper 96.81 48 ⇓P P 17 28 12.6 -1.9
baz=97
H21A Big Horn, Sher 96.86 46 ⇑P P 17 28 12.9 -1.9
baz=97
N23A Red Feather La 96.87 50 ⇑P P 17 28 13.5 -1.5
baz=97
POO Poona 96.87 287 *e*P P 17 28 12.8 -2.5
POO ⇓*i*P **PcP** 17 28 14.0 -1.3
comp=Z,31nm,2.0s
POO AMB AMB 17 28 18.5
comp=Z,270nm,1.7s
C20A Veseth Ranch, 96.88 43 ⇑P P 17 28 13.5 -1.1
baz=97
G21A Lodge Grass 96.88 45 ⇓P P 17 28 14.2 -0.5
baz=97
YKA Yellowknife Ar 96.88 27 P P 17 28 13.0 -1.2
comp=Z,9.1nm,0.6s,baz=258,slow=4.6,SNR=47
YKA PP **PP** 17 32 04.7 -5.2
comp=Z,3.5nm,1.0s,baz=252,slow=7.8,SNR=2.6
YKA PKIKP **PKiKP** 17 32 51.4 +1.0
comp=Z,2.6nm,0.7s,baz=249,slow=1.4,SNR=5.4
YKA PKKPbc **PKKPbc** 17 44 55.2 -3.1
comp=Z,2.1nm,0.6s,baz=77,slow=2.8,SNR=7.9
YKA PKPPKP **P'P'df** 17 53 05.7 -2.0
comp=Z,0.8nm,0.8s,baz=49,slow=1.9,SNR=5.3
YKA Yellowknife Ar 96.88 27 P P 17 28 13.0 -1.2
ISCO Idaho Springs 96.89 51 *e*P P 17 28 15.2 0.0
ISCO pmax pmax
comp=Z,32nm,1.4s
ISCO MLR MLR
comp=Z,136µm,21.0s
ISCO Idaho Springs 96.89 51 *e*P P 17 28 15.2 0.0
comp=Z,32nm,1.4s
ISCO LR LR
comp=Z,136µm,21.0s
ISCO Idaho Springs 96.89 51 ⇑P P 17 28 14.3 -0.9
baz=97
J22A Midwest 97.00 47 ⇑P P 17 28 14.0 -1.4
baz=97
B20A Solberg Farm, 97.02 42 ⇑P P 17 28 14.3 -1.0
baz=97
F21A Absaloka Mine, 97.06 45 ⇑P P 17 28 15.1 -0.5
baz=97
Q24A Divide 97.07 52 ⇓P P 17 28 15.0 -1.1
baz=97
I22A 9 Mile Ranch, 97.10 47 ⇓P P 17 28 14.5 -1.3
baz=97
A20A Cobblestone Ra 97.18 42 ⇑P P 17 28 14.6 -1.4
baz=97
BHK Bhakra 97.21 300 *ex* P 17 28 21.6 +5.1
PDGK Podgornoye 97.23 313 P P 17 28 16.0 -0.2
PDGK pmax pmax
comp=Z,320nm,2.1s
E21A Keefer Ranch, 97.24 44 ⇑P P 17 28 15.4 -0.9

baz=97
T25A Trinidad 97.27 54 ⇓P P 17 28 15.8 -1.1
baz=97
PHWY Pilot Hill 97.31 49 eP Pdif 17 28 17.9 +0.8
comp=Z,40nm,1.6s
NVS Novosibirsk 97.32 325 ⇑iP P 17 28 15.6 -0.7
NVS eS SKSac 17 38 47.9 -2.9
NVS pmax pmax
comp=N,130nm,1.9s
NVS pmax pmax
comp=E,311nm,1.9s
NVS pmax pmax
comp=Z,592nm,1.9s
NVS smax smax
comp=E,297nm,2.0s
H22A Clearmont 97.34 46 ⇑P P 17 28 15.6 -1.2
baz=98
DHRM DHARAMSHALA 97.47 301 eP P 17 28 16.8 -1.2
USHA Ushuaia 97.48 151 P Pdif 17 28 17.5 +0.3
comp=E,23nm,1.1s,baz=311,slow=9.3,SNR=2.1
USHA PKKPbc PKKPbc 17 44 55.9 -0.1
comp=E,18nm,0.9s,baz=337,slow=13,SNR=4.0
USHA LR LR 18 03 08.2
comp=E,89µm,21.6s,baz=195,slow=30
K23A Bowen Ranch, D 97.48 48 ⇑P P 17 28 15.9 -1.7
baz=98
C21A Desert Coulee 97.50 43 ⇑P P 17 28 16.3 -1.1
baz=98
G22A Birney 97.51 45 ⇓P P 17 28 16.2 -1.4
baz=98
F22A Rosebud 97.64 45 ⇑P P 17 28 16.8 -1.3
baz=98
J23A Dilts Ranch, B 97.66 47 ⇑P P 17 28 16.6 -1.8
baz=98
B21A Ellsworth Farm 97.67 42 ⇓P P 17 28 16.8 -1.4
baz=98
529A Stev Forest Ra 97.68 61 ⇓P P 17 28 16.6 -2.1
baz=98
228A UT Block 9, Go 97.75 59 ⇑P P 17 28 16.4 -2.5
baz=98
AJM Ajmer 97.76 295 ex P 17 28 20.0 +0.9
I23A Meade Ranch, G 97.84 47 ⇓P P 17 28 17.4 -1.8
baz=98
A21A Bergtoll Ranch 97.85 42 ⇓P P 17 28 17.1 -1.8
baz=98
LAO LASA Array 97.85 44 PFAKE 17 28 30.0 +11
LAO LR LR
comp=Z,76µm,19.0s
T26A Comanche Natio 97.92 54 ⇑P P 17 28 17.8 -1.9
baz=98
128A Castleberry Fa 97.94 58 ⇓P P 17 28 17.9 -1.9
baz=98
MSTX Muleshoe 97.96 57 eP P 17 28 19.2 -0.7
comp=Z,28nm,1.0s
MSTX Muleshoe 97.96 57 ⇑P P 17 28 17.6 -2.3
baz=98
D22A Cohagen 97.97 43 ⇓P P 17 28 18.5 -1.1
baz=98
E22A Miles City 97.99 44 ⇓P P 17 28 18.5 -1.1
baz=98
H23A Clabaugh Cattl 98.00 46 ⇓P P 17 28 18.3 -1.5
baz=98
429A Davenport Ranc 98.05 60 ⇓P P 17 28 18.4 -1.9
baz=98
K24A Anderson Ranch 98.06 48 ⇑Pdiff P 17 28 18.4 -1.8
baz=98
S26A Kim 98.10 53 ⇓Pdiff P 17 28 18.6 -1.9
baz=98
329A Wagon Wheel Ra 98.14 60 ⇓Pdiff P 17 28 18.7 -2.1
baz=98
Z28A Tucker Farm, M 98.15 58 ⇑Pdiff P 17 28 18.9 -1.9
baz=98
F23A Volborg 98.22 45 ⇓Pdiff P 17 28 19.4 -1.3
baz=98
R26A Arlington 98.24 53 ⇓Pdiff P 17 28 19.4 -1.7
baz=98
V27A Dan Oppiter Fa 98.25 55 ⇓Pdiff P 17 28 19.4 -1.7
baz=98
J24A Dixon Ranch, L 98.28 47 ⇓Pdiff P 17 28 19.5 -1.6
baz=98
Q26A Hugo 98.31 52 ⇓Pdiff P 17 28 20.4 -1.0
baz=98
B22A Reddig Ranch S 98.32 42 ⇑Pdiff P 17 28 20.3 -0.8
baz=98
M25A Palm-Egli Farm 98.37 49 ⇓Pdiff P 17 28 20.8 -0.9
baz=98
229A Bryant Ranch, 98.37 59 ⇑Pdiff P 17 28 20.6 -1.2
baz=98
Y28A McKinney Farm, 98.38 57 ⇑Pdiff P 17 28 20.5 -1.3
baz=98
U27A Thompson Grove 98.38 55 ⇓Pdiff P 17 28 19.3 -2.4
baz=98
I24A Kuemmerle Ranc 98.41 47 ⇑Pdiff P 17 28 19.5 -2.2
baz=98
530A J-C Ranch, Com 98.43 61 ⇓Pdiff P 17 28 19.6 -2.5
baz=98
E23A Ismay 98.43 44 ⇑Pdiff P 17 28 20.1 -1.6
baz=99
129A Stewart Farms, 98.45 59 ⇓Pdiff P 17 28 19.8 -2.3
baz=99
A22A Carney Farms, 98.50 42 ⇓Pdiff P 17 28 21.0 -1.0
baz=99
X28A Dimmitt 98.53 57 ⇑Pdiff P 17 28 20.4 -2.1
baz=99
P26A Davis Ranch, A 98.56 51 ⇓Pdiff P 17 28 21.1 -1.4
baz=99
S27A Las Animas 98.56 53 ⇑Pdiff P 17 28 20.6 -1.9
baz=99
L25A Engebretsen Ra 98.57 49 ⇑Pdiff P 17 28 21.4 -1.1
baz=99
T27A Campo 98.58 54 ⇓Pdiff P 17 28 21.2 -1.4
baz=99
D23A Lindsay 98.63 44 ⇑Pdiff P 17 28 22.0 -0.5
baz=99
H24A Dirks Ranch, A 98.63 46 ⇑Pdiff P 17 28 20.9 -1.7
baz=99
430A Baggett Ranch, 98.64 60 ⇓Pdiff P 17 28 20.7 -2.3
baz=99
W28A Vega 98.66 56 ⇓Pdiff P 17 28 21.0 -2.0
baz=99
Z29A Hungry Hill Ra 98.70 58 ⇑Pdiff P 17 28 20.8 -2.5
baz=99
O26A Horse Wrangler 98.70 51 ⇑Pdiff P 17 28 21.5 -1.7
baz=99
K25A Mack Ranch, Ha 98.72 48 ⇑Pdiff P 17 28 22.2 -0.9
baz=99
V28A Channing 98.73 55 ⇑Pdiff P 17 28 21.6 -1.7
baz=99
R27A Eads 98.74 53 ⇑Pdiff P 17 28 22.0 -1.3
baz=99
C23A Lambert 98.76 43 ⇓Pdiff P 17 28 22.2 -0.9
baz=99
330A Mertzon 98.80 60 ⇑Pdiff P 17 28 21.4 -2.3
baz=99
G24A Alzada 98.83 46 ⇓Pdiff P 17 28 21.7 -1.8
baz=99
Y29A Porterfield Fa 98.84 57 ⇑Pdiff P 17 28 21.8 -2.1
baz=99
U28A Mallet 98.85 55 ⇑Pdiff P 17 28 21.7 -2.1
baz=99
RSSD Black Hills 98.88 47 eP Pdif 17 28 24.8 +0.9
RSSD pmax pmax
comp=Z,42nm,1.6s
RSSD Black Hills 98.88 47 eP Pdif 17 28 24.8 +0.9
comp=Z,42nm,1.6s
N26A Koester Ranch, 98.88 50 ⇓Pdiff P 17 28 22.1 -1.7
baz=99
F24A Ekalaka 98.90 45 ⇑Pdiff P 17 28 22.4 -1.4
baz=99
J25A Sunshine Ranch 98.91 48 ⇑Pdiff P 17 28 22.4 -1.6
baz=99
X29A Tulia 98.92 57 ⇓Pdiff P 17 28 22.8 -1.4
baz=99
230A Sterling City 98.94 59 ⇓Pdiff P 17 28 21.7 -2.6
baz=99
631A Perdido Creek 98.94 62 ⇓Pdiff P 17 28 21.3 -3.0
baz=99
KSCO Kaye Shedlock' 99.00 52 ⇑Pdiff Pdif 17 28 22.9 -1.6
baz=99
B23A Brockton 99.01 42 ⇑Pdiff Pdif 17 28 22.6 -1.6
baz=99
AMTX Amarillo 99.02 56 eP Pdif 17 28 25.0 +0.4
comp=Z,35nm,0.9s
AMTX Amarillo 99.02 56 ⇓Pdiff Pdif 17 28 22.1 -2.5
baz=99
AAA Alma-Ata 99.03 312 iP Pdif 17 28 23.0 -1.4
AAA pmax pmax
comp=Z,5µm,5.1s
AAA MLR MLR
comp=Z,24µm,10.0s
M26A McRoberts Ranc 99.05 50 ⇓Pdiff Pdif 17 28 22.4 -2.2
baz=99
T28A Walsh 99.07 54 ⇑Pdiff Pdif 17 28 23.1 -1.7
baz=99
I25A Rochford 99.07 47 ⇓Pdiff Pdif 17 28 23.2 -1.6
baz=99
W29A Amarillo 99.08 56 ⇑Pdiff Pdif 17 28 23.2 -1.7
baz=99
KSH Kashi 99.09 308 P Pdif 17 28 27.5 +2.6
KSH sP sP 17 28 42.0 +2.1
KSH PP PP 17 32 32.5 +4.8
KSH SKS SKSac 17 39 02.0 +1.1
KSH S S 17 39 52.8 -1.0
KSH SS SS 17 46 46.0 +3.4
KSH PMZ
comp=Z,350nm,2.3s
KSH PMZ
comp=Z,5µm,12.9s
KSH LN
comp=Z,15µm,18.3s
KSH LE
comp=Z,16µm,18.8s
KSH LZ
comp=Z,35µm,23.6s
531A Rocksprings 99.11 61 ⇓Pdiff Pdif 17 28 23.2 -1.8
baz=99
E24A Baker 99.12 44 ⇑Pdiff Pdif 17 28 23.4 -1.3
baz=99
P27A Ficken Ranch, 99.14 52 ⇑Pdiff Pdif 17 28 23.9 -1.2
baz=99
431A Sonora 99.15 61 ⇑Pdiff Pdif 17 28 23.2 -2.0
baz=99
A23A Redstone 99.17 42 ⇓Pdiff Pdif 17 28 23.8 -1.1
baz=99
Z30A Sanderson Ranc 99.18 58 ⇓Pdiff Pdif 17 28 23.3 -2.1
baz=99
130A Snyder 99.19 59 ⇓Pdiff Pdif 17 28 23.0 -2.4
baz=99
L26A Underwood Farm 99.20 49 ⇑Pdiff Pdif 17 28 24.1 -1.1
baz=99
D24A Glendive 99.21 44 ⇓Pdiff Pdif 17 28 24.0 -1.1
baz=99
C24A Savage 99.21 43 ⇓Pdiff Pdif 17 28 24.7 -0.4
baz=99
KURK Kurchatov 99.22 320 P Pdif 17 28 24.0 -1.0
KURK pmax pmax
comp=Z,157nm,2.1s
KURK Kurchatov 99.22 320 P Pdif 17 28 24.7 -0.3
SNR=74
KURK Kurchatov 99.22 320 eP Pdif 17 28 22.7 -2.3
comp=Z,859nm,3.8s
KURK PKKPbc PKKPbc 17 44 49.6 -1.8
KURK SKKPbc SKKPbc 17 48 32.5 +1.4
KURK P'P' 17 53 08.0
KURK LR LR
comp=Z,31µm,20.0s
K26A Motz Farm, Whi 99.24 48 ⇑Pdiff Pdif 17 28 23.8 -1.7
baz=99
KURBB Kurchatov Arra 99.27 320 PKKPbc PKKPbc 17 44 49.6 -1.7
comp=Z,5.4nm,0.7s,baz=276,slow=3.6,SNR=8.7
KURBB SKKPbc SKKPbc 17 48 32.5 +1.5
comp=Z,0.8nm,0.3s,baz=285,slow=2.9,SNR=4.2
KURBB PKPPKP P'P'df 17 53 08.0 +3.7
comp=Z,1.7nm,0.3s,baz=290,slow=2.7,SNR=15
H25A Fruitdale 99.27 46 ⇑Pdiff Pdif 17 28 23.8 -1.7
baz=99
V29A Stinnett 99.32 55 ⇑Pdiff Pdif 17 28 23.7 -2.2
baz=99
S28A Manter 99.32 54 ⇓Pdiff Pdif 17 28 24.0 -1.9
baz=99
O27A Beecher Island 99.32 51 ⇓Pdiff Pdif 17 28 24.6 -1.3
baz=100
732A Laxson Ranch, 99.34 63 ⇓Pdiff Pdif 17 28 24.2 -1.9
baz=99
N27A Anderson Farm, 99.39 50 ⇑Pdiff Pdif 17 28 24.0 -2.1
baz=100
331A San Angelo 99.41 60 ⇑Pdiff Pdif 17 28 23.9 -2.5
baz=100
J26A Sides Ranch, S 99.42 48 ⇓Pdiff Pdif 17 28 25.1 -1.1
baz=100
Y30A Stafford Cattl 99.47 57 ⇓Pdiff Pdif 17 28 24.2 -2.5
baz=100
G25A Newell 99.50 46 ⇓Pdiff Pdif 17 28 24.5 -2.0
baz=100
R28A Tribune 99.52 53 ⇑Pdiff Pdif 17 28 24.9 -1.9
baz=100
DGMT Dagmar 99.53 42 PFAKE 17 28 40.0 +14
DGMT LR LR
comp=Z,31µm,19.0s
DGMT Dagmar 99.53 42 ⇓Pdiff Pdif 17 28 25.2 -1.3
baz=100
X30A Coker Ranch, T 99.59 57 ⇓Pdiff Pdif 17 28 24.9 -2.2
baz=100
F25A Bowman 99.59 45 ⇑Pdiff Pdif 17 28 24.7 -2.2
baz=100
231A Bronte 99.62 59 ⇑Pdiff Pdif 17 28 24.8 -2.5
baz=100
U29A Oasis Ranch, S 99.62 55 ⇓Pdiff Pdif 17 28 25.4 -1.8
baz=100
Q28A Sharon Springs 99.62 52 ⇑Pdiff Pdif 17 28 25.8 -1.4
baz=100
632A Uvalde 99.64 62 ⇑Pdiff Pdif 17 28 26.1 -1.3
baz=100
532A Rocksprings 99.65 61 ⇓Pdiff Pdif 17 28 25.5 -2.0
baz=100
131A Roby 99.69 59 ⇓Pdiff Pdif 17 28 25.4 -2.2
baz=100
I26A New Underwood 99.70 47 ⇑Pdiff Pdif 17 28 25.8 -1.6
baz=100
T29A Hugoton 99.72 54 ⇓Pdiff Pdif 17 28 26.1 -1.6
baz=100
E25A Miller Ranch, 99.73 44 ⇑Pdiff Pdif 17 28 26.2 -1.3
baz=100
A24A Westby 99.73 42 ⇓Pdiff Pdif 17 28 25.7 -1.7
baz=100
933A Laredo 99.75 64 ⇑Pdiff Pdif 17 28 26.7 -1.2
baz=100
L27A T5 Ranch, Ells 99.77 49 ⇑Pdiff Pdif 17 28 26.4 -1.4
baz=100
833A Chaparral WMA, 99.77 63 ⇓Pdiff Pdif 17 28 26.0 -2.0
baz=100
P28A Saint Francis 99.77 52 ⇑Pdiff Pdif 17 28 25.9 -2.0
baz=100
OGNE Ogallala 99.79 50 PFAKE 17 28 40.0 +12
OGNE LR LR
comp=Z,175µm,21.0s
OGNE Ogallala 99.79 50 ⇓Pdiff Pdif 17 28 26.2 -1.7
baz=100
JCT Junction City 99.80 61 eP Pdif 17 28 27.7 -0.4
JCT pmax pmax
comp=Z,16nm,0.8s
JCT MLR MLR
comp=Z,76µm,20.0s
JCT Junction City 99.80 61 eP Pdif 17 28 27.7 -0.4
comp=Z,16nm,0.8s
JCT LR LR
comp=Z,76µm,20.0s
JCT Junction City 99.80 61 ⇓Pdiff Pdif 17 28 26.0 -2.1
baz=100
O28A Krutsinger Ran 99.85 51 ⇓Pdiff Pdif 17 28 26.7 -1.4
baz=100
H26A Fairpoint 99.85 46 ⇓Pdiff Pdif 17 28 26.8 -1.2
baz=100
432A Menard 99.87 61 ⇑Pdiff Pdif 17 28 26.6 -1.8
baz=100
D25A Fairfield 99.89 44 ⇑Pdiff Pdif 17 28 27.2 -1.0
baz=100
733A Divot King Ran 99.92 63 ⇑Pdiff Pdif 17 28 27.3 -1.3
baz=100
K27A Flueckinger Fa 99.93 48 ⇓Pdiff Pdif 17 28 26.7 -1.8
baz=100
S29A Ulysses 99.94 54 ⇓Pdiff Pdif 17 28 27.2 -1.4
baz=100
TKM2 Tokmak 2 99.95 312 P Pdif 17 28 29.9 +1.2
SNR=32
TKM2 Tokmak 2 99.95 312 iP Pdif 17 28 28.0 -0.7
TKM2 pmax pmax
comp=Z,57nm,1.0s
TKM2 Tokmak 2 99.95 312 eP Pdif 17 28 29.4 +0.7
comp=Z,73nm,1.2s
TKM2 LR LR
comp=Z,21µm,20.0s
W30A Crocket Farms 99.96 56 ⇓Pdiff Pdif 17 28 26.9 -1.8
baz=100
V30A Spur Ranch, Mi 99.97 56 ⇑Pdiff Pdif 17 28 27.5 -1.3
baz=100
Z31A Sharp Cattle R 100.00 58 ⇑Pdiff Pdif 17 28 27.5 -1.5
baz=100
332A Millersview 100.00 60 ⇓Pdiff Pdif 17 28 26.7 -2.3
baz=100
Y31A Rekieta Farm, 100.01 57 ⇑Pdiff Pdif 17 28 26.5 -2.5
baz=100
C25A Freed Ranch, W 100.02 43 ⇓Pdiff Pdif 17 28 26.8 -1.9
baz=100
R29A Marienthal 100.05 53 ⇑Pdiff Pdif 17 28 27.6 -1.5
baz=100
KZA Kyzart 100.07 311 P Pdif 17 28 32.2 +2.7
SNR=36
G26A Maurine 100.08 46 ⇑Pdiff Pdif 17 28 27.9 -1.2
baz=100
N28A Pribbeno Ranch 100.11 51 ⇓Pdiff Pdif 17 28 28.1 -1.2
baz=100
U30A WK&E Inc. Balk 100.12 55 ⇓Pdiff Pdif 17 28 27.6 -1.9
baz=100
F26A Lodgepole 100.12 45 ⇓Pdiff Pdif 17 28 28.2 -1.0
baz=100
633A Saathoff Ranch 100.15 62 ⇑Pdiff Pdif 17 28 28.1 -1.6
baz=100
034A Hebbronville 100.17 65 ⇓Pdiff Pdif 17 28 29.0 -0.8
baz=100
232A Coleman 100.17 60 ⇑Pdiff Pdif 17 28 27.9 -1.9
baz=100
B25A Knox Farm, Ray 100.18 43 ⇓Pdiff Pdif 17 28 28.9 -0.5
baz=100
J27A Elkhorn Farm, 100.18 48 ⇑Pdiff Pdif 17 28 28.3 -1.3
baz=100
Q29A Oakley 100.25 52 ⇑Pdiff Pdif 17 28 28.5 -1.5
baz=100
I27A Quinn 100.28 47 ⇑Pdiff Pdif 17 28 29.1 -0.8
baz=100
ABTX Abilene, Hawle 100.30 59 ⇓Pdiff Pdif 17 28 28.2 -2.1
baz=100
T30A Plains 100.31 54 ⇑Pdiff Pdif 17 28 28.4 -1.9
baz=100
A25A Svangstu Ranch 100.31 42 ⇑Pdiff Pdif 17 28 28.9 -1.1
baz=100
L28A Connealy Angus 100.34 49 ⇓Pdiff Pdif 17 28 28.7 -1.6
baz=100
H27A Howes 100.35 47 ⇓Pdiff Pdif 17 28 28.5 -1.7
baz=100
M28A Bar X Bar Ranc 100.35 50 ⇑Pdiff Pdif 17 28 28.3 -2.1
baz=100
X31A McDonald Ranch 100.35 57 ⇑Pdiff Pdif 17 28 28.2 -2.3
baz=100
E26A Carlson Angus 100.36 45 ⇑Pdiff Pdif 17 28 28.4 -1.9
baz=100
KBK Karagaybulak 100.38 311 P Pdif 17 28 32.6 +2.0
SNR=12
533A Kerrville 100.38 61 ⇓Pdiff Pdif 17 28 28.7 -2.0
baz=100
P29A Atwood 100.40 52 ⇓Pdiff Pdif 17 28 29.0 -1.7
baz=100
934A Benavides 100.40 64 ⇑Pdiff Pdif 17 28 29.8 -1.0
baz=100
433A Art 100.45 61 ⇓Pdiff Pdif 17 28 28.8 -2.2
baz=101
S30A Montezuma 100.45 54 ⇓Pdiff Pdif 17 28 29.8 -1.1
baz=101
834A Tilden 100.47 64 ⇓Pdiff Pdif 17 28 29.6 -1.4
baz=101
D26A Manning 100.47 44 ⇑Pdiff Pdif 17 28 29.6 -1.1
baz=101
W31A Holland Ranch, 100.47 56 ⇑Pdiff Pdif 17 28 28.7 -2.3
baz=101
Z32A Haskell 100.55 58 ⇑Pdiff Pdif 17 28 29.2 -2.1
baz=101
K28A Ten Mile Ranch 100.56 49 ⇓Pdiff Pdif 17 28 29.8 -1.5
baz=101
G27A Dupree 100.56 46 ⇑Pdiff Pdif 17 28 29.5 -1.7
baz=101
CHMS Chumysh 100.58 312 P Pdif 17 28 33.2 +2.0
SNR=34
F27A Lemmon 100.58 45 ⇓Pdiff Pdif 17 28 29.8 -1.5
baz=101
734A La Parita Cree 100.58 63 ⇑Pdiff Pdif 17 28 30.4 -1.2
baz=101
O29A 4D Ranch, Culb 100.58 51 ⇓Pdiff Pdif 17 28 29.9 -1.5
baz=101
035Z Hargill 100.60 65 ⇑Pdiff Pdif 17 28 30.5 -1.2
baz=101
UCH Uchtor 100.63 311 P Pdif 17 28 34.5 +2.4
SNR=36
333A Richland Sprin 100.63 60 ⇓Pdiff Pdif 17 28 29.7 -2.1
baz=101
FRU Bishkek 100.65 312 ⇑eP Pdif 17 28 31.0 -0.6
FRU i 17 32 33.5
FRU e 17 39 07.0
FRU e 17 40 10.5
FRU pmax pmax
comp=Z,220nm,2.0s
V31A Spring Creek L 100.65 56 ⇓Pdiff Pdif 17 28 30.1 -1.7
baz=101
035A Encino 100.65 65 ⇑Pdiff Pdif 17 28 31.7 -0.2
baz=101
Y32A R-V Farms, Ver 100.69 58 ⇓Pdiff Pdif 17 28 30.1 -1.9
baz=101
R30A Dighton 100.70 53 ⇑Pdiff Pdif 17 28 30.6 -1.4
baz=101
AAK Ala-Archa 100.71 311 P Pdif 17 28 33.5 +1.5
SNR=24
AAK Ala-Archa 100.71 311 PKKPbc PKKPbc 17 44 46.6 -0.5
comp=Z,11nm,0.7s,baz=227,slow=3.7,SNR=10
AAK SKKPbc SKKPbc 17 48 28.9 +2.0
comp=Z,3.4nm,1.0s,baz=263,slow=4.4,SNR=3.3
AAK PKPPKP P'P'df 17 53 03.2 +0.6
comp=Z,1.4nm,0.4s,baz=259,slow=10,SNR=5.8
AAK Ala-Archa 100.71 311 c iP Pdif 17 28 31.0 -1.0
AAK pmax pmax
comp=Z,133nm,1.7s
AAK MLR MLR
comp=Z,58µm,21.0s
AAK Ala-Archa 100.71 311 P Pdif 17 28 33.8 +1.7
SNR=32
AAK Ala-Archa 100.71 311 eP Pdif 17 28 32.9 +0.8
comp=Z,352nm,3.8s
AAK PKKPbc PKKPbc 17 44 46.6 -0.5
AAK SKKPbc SKKPbc 17 48 28.9 +2.0
AAK P'P' 17 53 03.2
AAK LR LR
comp=Z,25µm,22.0s
U31A Nine Bar Ranch 100.73 55 ⇓Pdiff Pdif 17 28 30.9 -1.2
baz=101
J28A Allard Ranch, 100.76 48 ⇑Pdiff Pdif 17 28 31.5 -0.7
baz=101
USP Ospenovka 100.80 312 P Pdif 17 28 34.3 +2.0
SNR=38
B26A Jensen Ranch, 100.80 43 ⇑Pdiff Pdif 17 28 30.8 -1.3
baz=101
C26A Wahner Farm, P 100.81 43 ⇑Pdiff Pdif 17 28 31.1 -1.1
baz=101
233A Rising Star 100.82 60 ⇓Pdiff Pdif 17 28 30.3 -2.3
baz=101
N29A Votaw Ranch, W 100.82 51 ⇓Pdiff Pdif 17 28 31.4 -1.0
baz=101
Q30A Quinter 100.85 52 ⇓Pdiff Pdif 17 28 30.4 -2.2
baz=101
634A China Grove, S 100.85 62 ⇓Pdiff Pdif 17 28 31.1 -1.7
baz=101
534A Blanco 100.85 62 ⇓Pdiff Pdif 17 28 30.7 -2.1
baz=101
M29A Burnside Ranch 100.87 50 ⇑Pdiff Pdif 17 28 30.8 -1.8
baz=101
X32A Elmer 100.88 57 ⇓Pdiff Pdif 17 28 30.7 -2.1
baz=101
I28A Midland 100.90 47 ⇓Pdiff Pdif 17 28 30.8 -1.9
baz=101
133A Hamilton Ranch 100.90 59 ⇑Pdiff Pdif 17 28 31.5 -1.5
baz=101
P30A Selden 100.92 52 ⇑Pdiff Pdif 17 28 32.3 -0.6
baz=101
KVTX Kingsville 100.94 64 PFAKE 17 28 40.0 +6.8
KVTX LR LR
comp=Z,29µm,19.0s
E27A Carson 100.97 45 ⇓Pdiff Pdif 17 28 32.3 -0.7
baz=101
A26A Wade Farm, Ken 101.01 42 ⇑Pdiff Pdif 17 28 31.9 -1.1
baz=101
W32A Sentinel 101.03 56 ⇓Pdiff Pdif 17 28 32.0 -1.4
baz=101
SFK Sufi-Kurgan 101.05 309 P Pdif 17 28 34.8 +1.1
SFK pmax pmax
comp=Z,99nm,1.5s
D27A Center 101.09 44 ⇑Pdiff Pdif 17 28 31.9 -1.5
baz=101

H28A **Mission Ridge** **101.10** **47** ⇑Pdiff **Pdif** 17 28 31.7 -1.9
baz=101
L29A **Maesberg Ranch** **101.11** **49** ⇓Pdiff **Pdif** 17 28 32.8 -0.9
baz=101
835A **Beeville** **101.12** **63** ⇑Pdiff **Pdif** 17 28 34.3 +0.3
baz=101
Z33A **Whitaker Ranch** **101.13** **58** ⇓Pdiff **Pdif** 17 28 31.8 -2.1
baz=101
O30A **MW Ranch, Wils** **101.15** **51** ⇑Pdiff **Pdif** 17 28 32.4 -1.5
baz=101
434A **Burnet** **101.16** **61** ⇑Pdiff **Pdif** 17 28 32.1 -2.0
baz=101
C27A **Sayler Ranch,** **101.19** **43** ⇑Pdiff **Pdif** 17 28 32.7 -1.2
baz=101
N30A **Hueftle Ranch,** **101.21** **51** ⇓Pdiff **Pdif** 17 28 32.6 -1.6
baz=101
S31A **Mullinville** **101.22** **54** ⇓Pdiff **Pdif** 17 28 33.1 -1.2
baz=101
AML **Almayashu** **101.22** **311** P **Pdif** 17 28 36.5 +1.9
SNR=28
G28A **Parade** **101.23** **46** ⇓Pdiff **Pdif** 17 28 33.1 -1.0
baz=101
735A **Kenedy** **101.23** **63** ⇑Pdiff **Pdif** 17 28 33.8 -0.6
baz=101
EKS2 **Erkin-Say** **101.23** **311** P **Pdif** 17 28 36.5 +2.2
SNR=30
EKS2 **Erkin-Say** **101.23** **311** *e*P **Pdif** 17 28 36.1 +1.7
EKS2 pmax pmax
comp=Z,21nm,0.5s
EKS2 MLR MLR
comp=Z,28µm,22.0s
EKS2 **Erkin-Say** **101.23** **311** *e*P **Pdif** 17 28 36.0 +1.7
comp=Z,21nm,0.5s
EKS2 LR LR
comp=Z,28µm,22.0s
334A **Lometa** **101.27** **60** ⇑Pdiff **Pdif** 17 28 33.3 -1.3
baz=101
V32A **Arapaho** **101.28** **56** ⇑Pdiff **Pdif** 17 28 33.8 -0.8
baz=101
R31A **Burdett** **101.28** **53** ⇓Pdiff **Pdif** 17 28 33.5 -1.1
baz=101
K29A **Lazy Trails An** **101.33** **49** ⇓Pdiff **Pdif** 17 28 33.0 -1.7
baz=102
WMOK **Wichita Mounta** **101.34** **57** *e*P **Pdif** 17 28 36.9 +2.0
WMOK pmax pmax
comp=Z,35nm,1.9s
WMOK MLR MLR
comp=Z,65µm,21.0s
WMOK **Wichita Mounta** **101.34** **57** *e*P **Pdif** 17 28 36.9 +2.0
comp=Z,35nm,1.9s
WMOK LR LR
comp=Z,65µm,21.0s
635A **Leesville** **101.35** **62** ⇓Pdiff **Pdif** 17 28 33.3 -1.7
baz=102
Y33A **Hilltop Ranch,** **101.36** **58** ⇓Pdiff **Pdif** 17 28 33.3 -1.6
baz=102
U32A **Winter Ranch,** **101.41** **55** ⇑Pdiff **Pdif** 17 28 33.9 -1.3
baz=102
F28A **McLaughlin** **101.42** **45** ⇓Pdiff **Pdif** 17 28 33.5 -1.5
baz=102
J29A **Okreek** **101.42** **48** ⇓Pdiff **Pdif** 17 28 33.8 -1.2
baz=102
936A **North Padre Is** **101.43** **64** ⇓Pdiff **Pdif** 17 28 34.6 -0.8
baz=102
B27A **Peters Farms,** **101.45** **43** ⇑Pdiff **Pdif** 17 28 33.7 -1.3
baz=102
234A **Clairette** **101.45** **60** ⇑Pdiff **Pdif** 17 28 34.2 -1.2
baz=102
M30A **Dale-Ortello V** **101.49** **50** ⇑Pdiff **Pdif** 17 28 34.0 -1.4
baz=102
Q31A **Ellis** **101.49** **52** ⇑Pdiff **Pdif** 17 28 34.1 -1.4
baz=102
I29A **Vivian Onida** **101.52** **47** ⇑Pdiff **Pdif** 17 28 34.1 -1.3
baz=102
A27A **Ledoux Ranch,** **101.53** **42** ⇓Pdiff **Pdif** 17 28 33.9 -1.5
baz=102
X33A **Lawton** **101.54** **57** ⇓Pdiff **Pdif** 17 28 34.3 -1.4
baz=102
P31A **Stockton** **101.58** **52** ⇓Pdiff **Pdif** 17 28 34.4 -1.4
baz=102
E28A **Huff** **101.59** **45** ⇓Pdiff **Pdif** 17 28 33.4 -2.2
baz=102
134A **White-Moore Ra** **101.59** **59** ⇓Pdiff **Pdif** 17 28 34.1 -1.9
baz=102
T32A **Huddler Ranch,** **101.59** **54** ⇓Pdiff **Pdif** 17 28 34.6 -1.3
baz=102
BHJ **Bhuj** **101.62** **291** *e*P **Pdif** 17 28 35.8 -0.5
BHJ AMB AMB 17 28 40.9
comp=Z,213nm,3.6s
535A **Dale** **101.62** **62** ⇑Pdiff **Pdif** 17 28 34.8 -1.4
baz=102
L30A **Spencer Herefo** **101.66** **49** ⇓Pdiff **Pdif** 17 28 34.9 -1.2
baz=102
S32A **Newby Ranch, P** **101.66** **54** ⇓Pdiff **Pdif** 17 28 35.6 -0.6
baz=102
W33A **Caddo, Fort Co** **101.66** **56** ⇑Pdiff **Pdif** 17 28 35.7 -0.5
baz=102
H29A **Onida** **101.66** **47** ⇓Pdiff **Pdif** 17 28 34.8 -1.3
baz=102
O31A **Woolen Ranch,** **101.70** **51** ⇓Pdiff **Pdif** 17 28 35.0 -1.3
baz=102
435B **Jarrell** **101.73** **61** ⇓Pdiff **Pdif** 17 28 35.5 -1.1
baz=102
D28A **Regan** **101.75** **44** ⇓Pdiff **Pdif** 17 28 35.3 -1.1
baz=102
FFC **Flin Flon** **101.81** **36** *e*P **Pdif** 17 28 36.8 +0.4
FFC pmax pmax
comp=Z,9.0nm,0.9s
FFC MLR MLR
comp=Z,121µm,20.0s
FFC **Flin Flon** **101.81** **36** *e*P **Pdif** 17 28 36.8 +0.4
comp=Z,8.7nm,0.9s
FFC LR LR
comp=Z,121µm,20.0s
K30A **Basset** **101.83** **49** ⇓Pdiff **Pdif** 17 28 36.1 -0.8
baz=102
Z34A **Collier Ranch,** **101.85** **58** ⇓Pdiff **Pdif** 17 28 35.9 -1.3
baz=102
736A **Circle Diamond** **101.89** **63** ⇑Pdiff **Pdif** 17 28 37.0 -0.3
baz=102
V33A **Lossen Ranch,** **101.91** **56** ⇑Pdiff **Pdif** 17 28 37.0 -0.3
baz=102
R32A **Long Quarter,** **101.94** **53** ⇓Pdiff **Pdif** 17 28 35.8 -1.7
baz=102
G29A **Hoven** **101.94** **46** ⇑Pdiff **Pdif** 17 28 34.9 -2.4
baz=102
335A **Moody** **101.94** **61** ⇑Pdiff **Pdif** 17 28 35.3 -2.3
baz=102
C28A **Hausauer Farms** **101.94** **44** ⇑Pdiff **Pdif** 17 28 35.4 -1.8
baz=102
636A **Smothers Creek** **101.98** **62** ⇑Pdiff **Pdif** 17 28 36.4 -1.4
baz=102
J30A **Dallas** **102.01** **48** ⇑Pdiff **Pdif** 17 28 35.8 -1.8
baz=102
WHTX **Lake Whitney,** **102.03** **60** ⇑Pdiff **Pdif** 17 28 36.2 -1.8
baz=102
B28A **Dugan Ranch, T** **102.05** **43** ⇑Pdiff **Pdif** 17 28 36.6 -1.1
baz=102
Y34A **Reagan Ranch,** **102.06** **58** ⇓Pdiff **Pdif** 17 28 36.1 -2.0
baz=102
536A **Bastrop** **102.07** **62** ⇑Pdiff **Pdif** 17 28 36.6 -1.5
baz=102
N31A **Bailey Ranch,** **102.08** **51** ⇑Pdiff **Pdif** 17 28 36.4 -1.6
baz=102
F29A **Eureka** **102.09** **46** ⇑Pdiff **Pdif** 17 28 36.6 -1.3
baz=102
X34A **Smith Ranch, M** **102.10** **57** ⇑Pdiff **Pdif** 17 28 37.2 -1.0
baz=102
T33A **Patterson Ranc** **102.12** **55** ⇑Pdiff **Pdif** 17 28 36.9 -1.4
baz=102
M31A **Lambtecht Ranc** **102.13** **50** ⇑Pdiff **Pdif** 17 28 37.3 -0.9
baz=102
U33A **Lingo Farm, Me** **102.13** **55** ⇓Pdiff **Pdif** 17 28 36.8 -1.5
baz=102
I30A **Oacoma** **102.13** **48** ⇑Pdiff **Pdif** 17 28 36.7 -1.4
baz=102
Q32A **Meitler Ranch,** **102.13** **53** ⇓Pdiff **Pdif** 17 28 36.9 -1.3
baz=102
MNAS **Manas** **102.14** **311** P **Pdif** 17 28 39.0 +0.6
MNAS pmax pmax
comp=Z,84nm,1.2s
135A **Vickery Place,** **102.15** **59** ⇑Pdiff **Pdif** 17 28 37.5 -1.0
baz=102
A28A **Rude Farm, Bot** **102.17** **42** ⇓Pdiff **Pdif** 17 28 36.9 -1.3
baz=102
P32A **Huiting Farm,** **102.19** **52** ⇑Pdiff **Pdif** 17 28 36.8 -1.7
baz=102
W34A **Bridge Creek,** **102.23** **56** ⇓Pdiff **Pdif** 17 28 37.1 -1.7
baz=102
E29A **Napoleon** **102.31** **45** ⇓Pdiff **Pdif** 17 28 37.3 -1.6
baz=102
L31A **Butterfield Fa** **102.34** **49** ⇓Pdiff **Pdif** 17 28 38.0 -1.1
baz=102
S33A **Kaszmaul Farm,** **102.38** **54** ⇓Pdiff **Pdif** 17 28 38.7 -0.7
baz=102
Z35A **Perchaven, San** **102.39** **58** ⇓Pdiff **Pdif** 17 28 38.2 -1.3
baz=102
D29A **Pettibone, Tap** **102.40** **44** ⇓Pdiff **Pdif** 17 28 38.1 -1.2
baz=102
436A **Wall Ranch, Ga** **102.40** **61** ⇓Pdiff **Pdif** 17 28 38.3 -1.3
baz=102
336A **Riesel** **102.45** **60** ⇑Pdiff **Pdif** 17 28 38.0 -1.9
baz=103
G30A **Faulkton** **102.48** **46** ⇓Pdiff **Pdif** 17 28 38.4 -1.3
baz=103
MDND **Maddock** **102.48** **44** ⇓Pdiff **Pdif** 17 28 38.0 -1.6
baz=103
R33A **Olander Ranch,** **102.49** **53** ⇑Pdiff **Pdif** 17 28 38.1 -1.8
baz=103
PAYG **Puerto Ayora** **102.51** **94** PFAKE 17 28 50.0 +9.5
PAYG LR LR
comp=Z,148µm,20.0s
O32A **Brockman Farm,** **102.52** **51** ⇓Pdiff **Pdif** 17 28 38.5 -1.4
baz=103
V34A **Guthrie** **102.53** **56** ⇓Pdiff **Pdif** 17 28 37.8 -2.3
baz=103
BRSD **Miller** **102.53** **47** ⇓Pdiff **Pdif** 17 28 37.5 -2.4
baz=103
N32A **Stulken Farm,** **102.56** **51** ⇑Pdiff **Pdif** 17 28 38.7 -1.5
baz=103
U34A **Anderson Ranch** **102.59** **55** ⇑Pdiff **Pdif** 17 28 38.3 -2.1
baz=103
F30A **Leola** **102.65** **46** ⇑Pdiff **Pdif** 17 28 38.6 -1.8
baz=103
Q33A **Connelly Farm,** **102.69** **53** ⇑Pdiff **Pdif** 17 28 39.4 -1.3
baz=103
537A **Green Hill Far** **102.71** **62** ⇓Pdiff **Pdif** 17 28 39.7 -1.3
baz=103
B29A **Wagenman Farm,** **102.72** **43** ⇑Pdiff **Pdif** 17 28 39.1 -1.5
baz=103
BGNE **Belgrade** **102.75** **50** ⇑Pdiff **Pdif** 17 28 39.7 -1.3
baz=103
X35A **Drake** **102.77** **57** ⇑Pdiff **Pdif** 17 28 39.3 -1.9
baz=103
E30A **Jud** **102.80** **45** ⇓Pdiff **Pdif** 17 28 39.0 -2.1
baz=103
236A **Katherine and** **102.80** **60** ⇓Pdiff **Pdif** 17 28 40.1 -1.3
baz=103
A29A **Manning Farm,** **102.85** **42** ⇓Pdiff **Pdif** 17 28 39.3 -1.9
baz=103
P33A **Williams Farm,** **102.86** **52** ⇑Pdiff **Pdif** 17 28 39.5 -2.0
baz=103
T34A **McClaskey Farm** **102.95** **55** ⇓Pdiff **Pdif** 17 28 40.1 -1.9
baz=103
W35A **Tecumseh** **102.95** **57** ⇓Pdiff **Pdif** 17 28 39.6 -2.4
baz=103
437A **Phantom Ranch,** **102.97** **61** ⇑Pdiff **Pdif** 17 28 40.6 -1.5
baz=103
D30A **Buchanan** **102.97** **44** ⇓Pdiff **Pdif** 17 28 40.2 -1.6
baz=103
O33A **Hebron** **103.02** **52** ⇑Pdiff **Pdif** 17 28 40.7 -1.5
baz=103
R34A **Isabella, Hill** **103.06** **53** ⇑Pdiff **Pdif** 17 28 40.1 -2.3
baz=103
V35A **Meyer Ranch, C** **103.06** **56** ⇑Pdiff **Pdif** 17 28 40.5 -2.0
baz=103
S34A **Willow Spring** **103.09** **54** ⇓Pdiff **Pdif** 17 28 41.1 -1.5
baz=103
738A **Farr-Stevens R** **103.10** **63** ⇑Pdiff **Pdif** 17 28 41.5 -1.2
baz=103
C30A **Mee, Pekin** **103.22** **44** ⇑Pdiff **Pdif** 17 28 41.1 -1.8
baz=103
337A **Centerville** **103.25** **61** ⇓Pdiff **Pdif** 17 28 41.8 -1.6
baz=103
X36A **Centrahoma** **103.30** **57** ⇓Pdiff **Pdif** 17 28 42.6 -0.9
baz=103
Q34A **Chapman** **103.38** **53** ⇑Pdiff **Pdif** 17 28 43.1 -0.7
baz=104
B30A **Myrvik Farm, E** **103.39** **43** ⇑Pdiff **Pdif** 17 28 42.4 -1.2
baz=104
237A **Washetta, Mont** **103.41** **60** ⇑Pdiff **Pdif** 17 28 43.0 -1.1
baz=104
538A **Harpers Horsep** **103.44** **62** ⇓Pdiff **Pdif** 17 28 43.4 -0.8
baz=104
A30A **Hoffart Farm,** **103.46** **42** ⇑Pdiff **Pdif** 17 28 41.7 -2.2
baz=104
T35A **Sooner Cattle** **103.47** **55** ⇓Pdiff **Pdif** 17 28 42.9 -1.4
baz=104
W36A **Waumka** **103.48** **57** ⇓Pdiff **Pdif** 17 28 42.9 -1.4
baz=104
438A **Sam Houston St** **103.52** **61** ⇓Pdiff **Pdif** 17 28 43.3 -1.3
baz=104
137A **Heron Place, G** **103.54** **59** ⇑Pdiff **Pdif** 17 28 43.3 -1.4
baz=104
KSU1 **Kansas State U** **103.65** **53** PFAKE 17 29 00.0 +15
KSU1 LR LR
comp=Z,93µm,19.0s
KSU1 **Kansas State U** **103.65** **53** ⇑Pdiff **Pdif** 17 28 43.9 -1.1
baz=104
KK31 **Karatay Array** **103.67** **311** *i* P **Pdif** 17 28 43.9 -1.1
KK31 pmax pmax
comp=Z,62nm,1.1s
KKAR **Karatay Array** **103.67** **311** *e*P **Pdif** 17 28 45.7 +0.7
KKAR pmax pmax
comp=Z,80nm,1.2s
KKAR **Karatay Array** **103.67** **311** *e*P **Pdif** 17 28 45.7 +0.7
comp=Z,80nm,1.2s
S35A **Otter Creek Ra** **103.71** **54** ⇓Pdiff **Pdif** 17 28 44.2 -1.1
baz=104
Z37A **Pogue Cattle C** **103.73** **59** ⇑Pdiff **Pdif** 17 28 44.0 -1.5
baz=104
338A **Crockett** **103.75** **61** ⇑Pdiff **Pdif** 17 28 44.9 -0.7
baz=104
RER **Riviere de l'E** **103.87** **244** PFAKE 17 29 00.0 +13
RER LR LR
comp=Z,51µm,21.0s
R35A **Emporia Munici** **103.88** **54** ⇓Pdiff **Pdif** 17 28 45.3 -0.8
baz=104
TUL1 **Leonard** **103.92** **56** ⇓Pdiff **Pdif** 17 28 45.4 -0.9
baz=104
N34A **Lincoln** **103.93** **51** ⇑Pdiff **Pdif** 17 28 44.9 -1.3
baz=104
T36A **Boggs Farm, Ca** **103.99** **55** ⇑Pdiff **Pdif** 17 28 45.0 -1.6
baz=104
238A **Jacksonville** **103.99** **60** ⇑Pdiff **Pdif** 17 28 45.8 -0.9
baz=104
Q35A **Mercer Eighty,** **104.07** **53** ⇓Pdiff **Pdif** 17 28 45.8 -1.1
baz=104
539A **Cross D Ranch,** **104.08** **62** ⇓Pdiff **Pdif** 17 28 46.6 -0.4
baz=104
138A **Matatall Enter** **104.10** **59** ⇓Pdiff **Pdif** 17 28 46.4 -0.8
baz=104
X37A **Clayton** **104.11** **57** ⇓Pdiff **Pdif** 17 28 46.2 -0.9
baz=104
W37A **Quinton** **104.13** **57** ⇓Pdiff **Pdif** 17 28 44.9 -2.3
baz=104
439A **Center Grove,** **104.13** **61** ⇑Pdiff **Pdif** 17 28 45.7 -1.6
baz=104
ECSD **EROS Data Cent** **104.13** **48** *e*P **Pdif** 17 28 47.7 +0.7
comp=Z,4.2nm,0.8s
ECSD LR LR
comp=Z,34µm,21.0s
ECSD **EROS Data Cent** **104.13** **48** ⇓Pdiff **Pdif** 17 28 45.6 -1.5
baz=104
P35A **Duane Minner,** **104.16** **52** ⇑Pdiff **Pdif** 17 28 46.0 -1.3
baz=104
EFI **East Falkland** **104.25** **153** PFAKE 17 29 00.0 +13
EFI LR LR
comp=Z,88µm,22.0s
Z38A **Mt. Pleasant** **104.26** **59** ⇑Pdiff **Pdif** 17 28 46.3 -1.6
baz=104
S36A **Lake Cedric, C** **104.29** **54** ⇓Pdiff **Pdif** 17 28 46.2 -1.7
baz=104
PLCA **Paso Flores** **104.31** **139** Pdiff **PKiKP** 17 28 50.4 +2.3
comp=Z,2.3nm,0.7s,baz=252,slow=5.6,SNR=8.0
PLCA PP **PKiKP** 17 33 04.1 -0.6
comp=Z,2.1nm,0.7s,baz=176,slow=5.9,SNR=3.3
PLCA PKKPbc **PKKPbc** 17 44 35.9 -0.3
comp=Z,8.1nm,1.0s,baz=34,slow=3.8,SNR=7.1
PLCA PKPPKP **P'P'df** 17 52 54.7 -3.9
comp=Z,4.7nm,1.0s,baz=86,slow=2.1,SNR=4.8
O35A **Humboldt** **104.31** **52** ⇓Pdiff **Pdif** 17 28 46.8 -1.1
baz=104
339A **Huntington** **104.38** **61** ⇓Pdiff **Pdif** 17 28 47.4 -1.0
baz=104
R36A **Gordon, Harris** **104.43** **54** ⇑Pdiff **Pdif** 17 28 47.7 -0.8
baz=104
Q36A **Arnold C. Orve** **104.53** **53** ⇓Pdiff **Pdif** 17 28 47.2 -1.6
baz=105
239A **Gary** **104.54** **60** ⇓Pdiff **Pdif** 17 28 47.6 -1.5
baz=105
BVA0 **Borovoye Array** **104.56** **322** *i* P **Pdif** 17 28 46.4 -2.3
BVA0 pmax pmax
comp=Z,326nm,2.0s
BVAR **Borovoye Array** **104.56** **322** PKKPbc PKKPbc 17 44 34.7 -1.2
comp=Z,1.7nm,0.5s,baz=323,slow=2.2,SNR=4.2
BVAR PKPPKP **P'P'df** 17 52 56.7 +2.5
comp=Z,0.6nm,0.6s,baz=349,slow=1.5,SNR=4.2
N35A **Tabor** **104.58** **51** ⇓Pdiff **Pdif** 17 28 47.9 -1.2
baz=105
BRVK **Borovoye** **104.63** **322** *e*P **Pdif** 17 28 49.7 +0.7
BRVK pmax pmax
comp=Z,55nm,1.1s
BRVK MLR MLR
comp=Z,35µm,21.0s
BRVK **Borovoye** **104.63** **322** P **Pdif** 17 28 48.9 -0.1
SNR=47
BRVK **Borovoye** **104.63** **322** *e*Pdif **Pdif** 17 28 49.7 +0.7
comp=Z,55nm,1.1s
BRVK LR LR
comp=Z,35µm,21.0s
139A **Bunkhouse Ranc** **104.69** **59** ⇑Pdiff **Pdif** 17 28 48.5 -1.3
baz=105
T37A **Cheneyville 18** **104.76** **55** ⇑Pdiff **Pdif** 17 28 48.5 -1.5
baz=105
W38A **Poteau** **104.86** **57** ⇑Pdiff **Pdif** 17 28 47.9 -2.6
baz=105
Z39A **Irene McRaven,** **104.93** **59** ⇓Pdiff **Pdif** 17 28 48.0 -2.8
baz=105
R37A **Teagarden Farm** **104.95** **54** ⇑Pdiff **Pdif** 17 28 48.6 -2.2
baz=105
340A **Bronson** **104.96** **61** ⇓Pdiff **Pdif** 17 28 48.6 -2.3
baz=105
AGMN **Agassiz Nation** **105.02** **43** PFAKE 17 33 20.0
AGMN LR LR
comp=Z,62µm,22.0s
AGMN **Agassiz Nation** **105.02** **43** ⇑Pdiff **Pdif** 17 28 48.1 -2.7
baz=105
O36A **Bolckow** **105.02** **52** ⇑Pdiff **Pdif** 17 28 48.7 -2.3
baz=105
ULM **Lac du Bonnet** **105.13** **41** Pdiff **Pdif** 17 28 54.5 +3.2
comp=Z,1.6nm,0.6s,baz=259,slow=2.4,SNR=3.8
ULM PKiKP **PKiKP** 17 33 05.1 -0.5
comp=Z,5.1nm,0.6s,baz=278,slow=2.6,SNR=5.6
ULM PKKPbc **PKKPbc** 17 44 33.3 -0.7
comp=Z,3.2nm,0.6s,baz=82,slow=3.6,SNR=3.7
ULM PKKPab **PKKPab** 17 44 48.6 -0.7
comp=Z,5.2nm,0.7s,baz=78,slow=2.9,SNR=4.8
ULM PKPPKP **P'P'df** 17 52 52.8 -0.5
comp=Z,2.5nm,0.9s,baz=93,slow=5.2,SNR=5.5
Q37A **Longview Farm,** **105.30** **53** ⇑Pdiff **Pdif** 17 28 49.8 -2.5
baz=105
RES **Resolute Bay** **105.33** **16** Pdiff **Pdif** 17 28 53.8 +2.1
comp=Z,1.4nm,0.6s,baz=230,slow=17,SNR=11
RES PKiKP **PKiKP** 17 33 05.4 +0.1
comp=Z,8.2nm,0.6s,baz=339,slow=0.9,SNR=8.6
RES PKKPbc **PKKPbc** 17 44 31.1 -2.9
comp=Z,6.1nm,0.9s,baz=82,slow=4.4,SNR=7.8
RES PKKPab **PKKPab** 17 44 48.4 +0.5
comp=Z,19nm,1.0s,baz=106,slow=6.3,SNR=10
RES **Resolute Bay** **105.33** **16** *e*P **Pdif** 17 28 53.9 +2.3
RES pmax pmax
comp=Z,15nm,1.3s
RES **Resolute Bay** **105.33** **16** *e*Pdif **Pdif** 17 28 53.9 +2.3
comp=Z,15nm,1.3s
RES PKiKP **PKiKP** 17 33 05.4 +0.1
RES PKKPbc **PKKPbc** 17 44 31.1 -2.9
RES PKKPab **PKKPab** 17 44 48.4 +0.5
MIAR **Mount Ida** **105.58** **58** PFAKE 17 33 20.0
MIAR LR LR
comp=Z,70µm,19.0s
FCC **Fort Churchill** **106.37** **32** *e*P **Pdif** 17 28 55.9 -0.7
FCC pmax pmax
comp=Z,13nm,0.9s
FCC **Fort Churchill** **106.37** **32** *e*Pdif **Pdif** 17 28 55.9 -0.7
comp=Z,13nm,0.9s
SCIA **State Center** **106.48** **50** PFAKE 17 33 20.0
SCIA LR LR
comp=Z,215µm,21.0s
SPMN **Marine on St.** **106.96** **47** ⇑Pdiff **Pdif** 17 28 56.8 -2.8
baz=107
EYMN **Ely** **107.93** **44** *e*PKiKP **PKiKP** 17 33 12.2 +1.3
EYMN LR LR
comp=Z,74µm,19.0s
TGUH **Tegucigalpa,Un** **108.52** **80** PFAKE 17 33 20.0
TGUH LR LR
comp=Z,54µm,21.0s
JFWS **Jewell Farm** **108.72** **49** PFAKE 17 33 20.0
JFWS LR LR
comp=Z,104µm,22.0s
MSEY **Mahe Island** **109.34** **260** PFAKE 17 33 30.0
MSEY LR LR
comp=Z,41µm,21.0s
HDIL **Hopedale** **109.37** **52** PFAKE 17 33 30.0
HDIL LR LR
comp=Z,121µm,19.0s
HOPE **Hope Point** **109.50** **166** PFAKE 17 33 30.0
HOPE LR LR
comp=Z,73µm,22.0s
COWI **Conover** **109.54** **46** *e*PKiKP **PKiKP** 17 33 12.7 -1.3
COWI LR LR
comp=Z,63µm,22.0s
JTS **JuntasAbangare** **110.08** **84** PFAKE 17 33 30.0
JTS LR LR
comp=Z,69µm,20.0s
LCO **Las Campanas** **110.22** **128** PFAKE 17 33 30.0
LCO LR LR
comp=Z,65µm,22.0s
BRAL **Brewton** **110.75** **62** PFAKE 17 33 30.0
BRAL LR LR
comp=Z,46µm,20.0s
CFAA **Coronel Fontan** **110.75** **132** PKiKP **PKiKP** 17 33 16.5 -0.4
comp=Z,1.0nm,0.7s,baz=270,slow=3.0,SNR=7.8
CFAA PKKPbc **PKKPbc** 17 44 15.4 -0.3
comp=Z,1.5nm,1.1s,baz=52,slow=3.8,SNR=5.9
CFAA PKKPab **PKKPab** 17 44 28.0 +1.0
comp=Z,6.1nm,1.1s,baz=67,slow=2.8,SNR=14
SFIN **Lafayette** **111.05** **52** ⇓Pdiff **Pdif** 17 29 16.2 -1.6
baz=111
ABKAR **Akbulak array** **111.15** **318** *e*Pdif **Pdif** 17 29 18.4 +0.3
TRQA **Tornquist** **111.27** **141** PFAKE 17 33 30.0
TRQA LR LR
comp=Z,34µm,19.0s
ARU **Arti** **111.30** **325** P **Pdif** 17 29 17.2 -1.3
ARU *i* 17 33 17.3
ARU 17 33 56.7
ARU 17 39 54.8
ARU SP SP 17 43 16.6 -7.6
ARU PS **PS** **17 43 25.1** **-4.2**
ARU SSS SSS 17 53 33.5
ARU MLR MLR
comp=Z,33µm,24.0s
ARU **Arti** **111.30** **325** *e*Pdif **Pdif** 17 29 18.9 +0.4
ARU *e*PKiKP **PKiKP** 17 33 17.5 +0.6
ARU LR LR
comp=Z,27µm,22.0s
SOKR **Solikamsk** **111.74** **329** *d i* PKiKP **PKiKP** 17 33 18.6 +1.0
SOKR 17 33 58.4
SOKR 17 40 31.1
SOKR PS **PS** **17 43 27.8** **-5.3**
SOKR SS SS 17 49 35.2 +1.6
SOKR SSS SSS 17 53 42.8
SOKR pmax pmax
comp=Z,80nm,1.5s
SOKR MLR MLR
comp=Z,29µm,20.0s
JMDO **Jabal Madar** **112.05** **289** P **PKiKP** 17 33 20.5 +1.0
SNR=5.8
ABPO **Ambohimpanom** **112.08** **243** *e*PKiKP **PKiKP** 17 33 21.1 +1.2
ABPO MLR MLR
comp=Z,132µm,22.0s
ABPO **Ambohimpanom** **112.08** **243** *e*PKiKP **PKiKP** 17 33 21.1 +1.2
ABPO LR LR
comp=Z,132µm,22.0s
SMDO **Samad** **112.17** **290** P **PKiKP** 17 33 21.2 +1.4
SNR=8.2
ATAH **Atahualpa** **112.19** **104** PKiKP **PKiKP** 17 33 20.7 +0.2
comp=Z,7.6nm,0.7s,baz=90,slow=14,SNR=5.3
ATAH SKP 17 36 58.4
comp=Z,17nm,0.9s,baz=348,slow=2.6,SNR=5.4
AKTO **Aktyubinsk** **112.30** **319** SKP **SKPdf** 17 36 54.9 +2.9
comp=Z,4.9nm,0.9s,baz=99,slow=13,SNR=2.3

AKTO PKKPbc **PKKPbc** **17 44 09.6 -1.6**
comp=Z,2.2nm,0.6s,baz=202,slow=3.2,SNR=3.2
AKTO PKKPab **PKKPab** **17 44 20.2 +2.7**
comp=Z,9.9nm,0.7s,baz=223,slow=4.3,SNR=8.8
AKTO **Aktyubinsk** **112.30 319** P **Pdif** **17 29 21.7 -1.5**
AKTO pmax pmax
comp=Z,38nm,2.5s
IAKL **Akhelmad** **112.34 304** *e*P **PKiKP** **17 33 20.9 +1.0**
GLMI **Grayling** **112.76 47** PFAKE 17 33 30.0
GLMI LR LR
comp=Z,54µm,22.0s
AAM **Ann Arbor** **113.59 50** PFAKE 17 33 30.0
AAM LR LR
comp=Z,139µm,20.0s
ARQ **Araqi** **113.60 290** P **PKiKP** **17 33 23.5 +1.1**
SNR=6.7
KBS **Kingsbay** **113.60 355** *e*PP PP 17 34 13.1 +0.1
KBS *e*SS SS 17 49 58.5 +1.1
KBS **Kingsbay** **113.60 355** *e*PKiKP **PKiKP** **17 33 21.2 +0.4**
KBS MLR MLR
comp=Z,36µm,22.0s
KBS **Kingsbay** **113.60 355** *e*PKiKP **PKiKP** **17 33 21.2 +0.4**
KBS LR LR
comp=Z,36µm,22.0s
TKL **Tuckaleechee C** **113.66 57** PKiKP **PKiKP** **17 33 22.4 +0.3**
baz=169,slow=4.1
TKL PKKPbc **PKKPbc** **17 44 06.8 +0.6**
comp=Z,3.4nm,0.8s,baz=117,slow=4.5,SNR=2.3
TKL PKKPab **PKKPab** **17 44 13.6 +1.6**
comp=Z,12nm,1.0s,baz=199,slow=2.9,SNR=7.6
TIGA **Tifton** **113.73 62** ⇓Pdiff **Pdif** **17 29 29.2 -0.8**
baz=114
SPA0 **Spitsbergen Ar** **113.83 354** *e*PP PP 17 34 14.3 -0.3
SPITS **Spitsbergen Ar** **113.83 354** Pdiff **Pdif** **17 29 29.9 +0.5**
comp=Z,4.4nm,1.0s,baz=298,slow=3.1,SNR=3.1
SPITS PKiKP **PKiKP** **17 33 21.3 0.0**
comp=Z,50nm,1.0s,baz=128,slow=9.6,SNR=20
SPITS SKP 17 36 54.9
comp=Z,3.9nm,0.7s,baz=129,slow=6.1,SNR=2.8
SPITS PKKPbc **PKKPbc** **17 44 05.8 -0.8**
comp=Z,26nm,1.1s,baz=165,slow=6.8,SNR=13
GOGA **Godfrey** **113.89 59** PFAKE 17 33 30.0
GOGA LR LR
comp=Z,70µm,20.0s
HOPEN **Hopen** **114.04 351** *e*PP **PP** **17 34 14.2 -1.9**
HATD **Hatta, Dubai** **114.08 291** P PKPdf 17 33 22.9 -0.4
SNR=12
HATD **Hatta, Dubai** **114.08 291** ⇓*e*P PKPdf 17 33 23.8 +0.5
SNR=25
ASHO **Ashiyiah** **114.13 291** P PKPdf 17 33 24.5 +1.1
SNR=12
ASHO **Ashiyiah** **114.13 291** P PKPdf 17 33 23.1 -0.3
SNR=24
ACSO **Alum Creek Sta** **114.19 52** *e*PKiKP PKPdf 17 33 22.6 -0.5
ACSO LR LR
comp=Z,129µm,20.0s
OTAV **Otavalo** **114.20 96** *e*PKiKP **PKiKP** **17 33 24.7 +0.3**
OTAV LR LR
comp=Z,80µm,22.0s
KULLO **Kullorsuaq** **114.44 12** *i* P **Pdif** **17 29 30.7 -1.5**
comp=Z,50µm,19.0s
NAZ **Nazwa, Dubai** **114.52 291** P PKPdf 17 33 25.2 +1.1
SNR=8.8
NAZ **Nazwa, Dubai** **114.52 291** ⇑P PKPdf 17 33 24.2 +0.2
SNR=15
FAQ **Al Faqa, Dubai** **114.56 291** ⇑P PKPdf 17 33 24.4 +0.2
LVC **Limon Verde** **114.70 123** PKP PKPdf 17 33 24.9 +0.1
comp=Z,40nm,0.9s,baz=249,slow=3.7,SNR=4.5
LVC SKP 17 37 00.1
comp=Z,39nm,1.1s,baz=249,slow=4.3,SNR=3.1
LVC PKKPbc **PKKPbc** **17 44 04.4 +1.8**
comp=Z,52nm,0.9s,baz=28,slow=3.4,SNR=9.9
LVC **Limon Verde** **114.70 123** PKP PKPdf 17 33 24.9 +0.1
LVC SKP 17 37 00.1
LVC PKKPbc **PKKPbc** **17 44 04.4 +1.8**
LVC LR LR
comp=Z,23µm,19.0s
ASUD **Al Ashush, Dub** **114.79 291** P PKPdf 17 33 26.2 +1.6
SNR=6.0
ASUD **Al Ashush, Dub** **114.79 291** *e*P PKPdf 17 33 24.9 +0.3
SNR=32
BCIP **Isla Barro Col** **114.82 86** PFAKE 17 33 40.0 +15
BCIP LR LR
comp=Z,55µm,22.0s
HSPB **Hornsund (broa** **114.93 353** *e*PP **PP** **17 34 22.4 0.0**
RBK **Rabkut** **115.13 283** P **PKPdf** **17 33 26.9 +1.4**
SNR=7.6
KMSC **Kings Mountain** **115.65 57** *e*PKiKP **PKPdf** **17 33 25.8 -0.2**
IMEH **Mehriz** **115.72 298** *e*P PKPdf 17 33 21.2 -5.4
ABTO **Aybut** **115.97 283** P **PKPdf** **17 33 29.0 +1.8**
SNR=6.9
IANJ **Anjilo** **116.27 303** *e*P **PKPdf** **17 33 28.5 +1.0**
IGLO **Ghaloghah** **116.31 304** *e*P **PKPdf** **17 33 27.5 +0.1**
BLA **Blacksburg** **116.33 55** *e*PKiKP **PKPdf** **17 33 27.2 -0.1**
BLA MLR MLR
comp=Z,92µm,21.0s
BLA **Blacksburg** **116.33 55** *e*PKPdf **PKPdf** **17 33 27.2 -0.1**
BLA LR LR
comp=Z,92µm,21.0s
PRGR **Permogore** **116.47 333** ⇑*i*PKiKP **PKPdf** **17 33 27.0 +0.3**
PRGR *i* *PP **PP** **17 34 33.2 -0.4**
PRGR 17 36 59.4
PRGR pmax pmax
comp=Z,195nm,1.5s
BJO **Bjornoya** **116.52 351** *e*PP PP 17 34 31.7 -1.9
NHSC **New Hope** **116.64 60** PFAKE 17 33 40.0 +12
NHSC LR LR
comp=Z,59µm,20.0s
SADO **Sadowa** **116.65 47** SKP **SKPdf** **17 37 04.8 +4.2**
comp=Z,21nm,1.1s,baz=316,slow=1.3,SNR=5.4
SADO PKKPbc **PKKPbc** **17 43 56.2 +0.2**
comp=Z,5.3nm,0.7s,baz=347,slow=3.3,SNR=4.9
ISHM **Shahmirzad** **116.77 303** *e*P **PKPdf** **17 33 25.7 -2.8**
IPAR **Pars** **117.05 297** *e*P **PKPdf** **17 33 30.2 +1.0**
ILAS **Lasjerd** **117.05 303** *e*P **PKPdf** **17 33 29.4 +0.4**
FRB **Frobisher Bay** **117.19 24** PKP **PKPdf** **17 33 27.6 -0.4**
comp=Z,22nm,0.9s,baz=324,slow=3.7,SNR=10
FRB PKKPbc **PKKPbc** **17 43 54.7 +0.1**
comp=Z,19nm,1.0s,baz=132,slow=5.4,SNR=4.2
IFIR **Firoozkooh** **117.21 303** *e*P **PKPdf** **17 33 29.1 -0.2**
IPRN **Peran** **117.52 304** *e*P **PKPdf** **17 33 29.1 -0.7**
LVZ **Lovozero** **117.62 342** *d* *i*PKiKP **PKPdf** **17 33 29.2 +0.4**
LVZ pmax pmax
comp=Z,160nm,1.7s
LVZ MLR MLR
comp=Z,63µm,23.0s
LVZ **Lovozero** **117.62 342** *e*PKPdf **PKPdf** **17 33 27.5 -1.4**
LVZ LR LR
comp=Z,61µm,22.0s
IDMV **Damavand** **117.80 303** *e*P **PKPdf** **17 33 31.0 +0.5**
SSPA **Standing Stone** **118.04 51** *e*PKPdf **PKPdf** **17 33 29.8 -0.6**
IVRN **Varamin** **118.08 302** *e*P **PKPdf** **17 33 28.6 -2.2**
IKAZ **Kazeroun** **118.10 297** *e*P **PKPdf** **17 33 31.7 +0.4**
APA **Apatity** **118.20 342** ⇑*i*PKiKP **PKPdf** **17 33 30.8 +0.9**
APA *i* 17 34 48.0
APA *i* PPP PPP 17 37 24.6
APA *i* 17 40 20.0
APA *i* PS **PS** **17 44 30.0 -1.9**
APA pmax pmax
comp=Z,115nm,1.2s
APA MLR MLR
comp=Z,54µm,21.0s
LPAZ **La Paz** **118.20 117** PKP **PKPdf** **17 33 32.3 +0.1**
comp=Z,13nm,0.5s,baz=36,slow=2.2,SNR=37
LPAZ SKP 17 37 09.3
comp=Z,30nm,1.1s,baz=334,slow=2.6,SNR=7.4
LPAZ PKKPbc **PKKPbc** **17 43 50.5 -0.1**
comp=Z,9.4nm,0.8s,baz=94,slow=2.4,SNR=7.7
JSRW **J. Sargeant Re** **118.32 54** *e*PKPdf **PKPdf** **17 33 30.9 -0.1**
MTDJ **Mount Denham** **118.36 77** *e*PKPdf **PKPdf** **17 33 30.5 -1.3**
MTDJ LR LR
comp=Z,35µm,22.0s
CNNC **Cliffs of the** **118.47 57** PFAKE 17 33 40.0 +8.6
CNNC LR LR
comp=Z,87µm,21.0s
TMCR **Tamitsa** **118.49 337** *e*PKiKP **PKPdf** **17 33 30.3 -0.2**
TMCR pmax pmax
comp=Z,124nm,1.3s
KEV **Kevo** **118.56 345** *e*PKiKP **PKPdf** **17 33 30.7 +0.2**
KEV **Kevo** **118.56 345** *e*PKPdf **PKPdf** **17 33 30.7 +0.2**
KEV LR LR
comp=Z,43µm,22.0s
IR3 **Iran Long-Peri** **118.63 303** *e*P **PKPdf** **17 33 30.8 -1.0**
CBN **Corbin Frederi** **118.67 54** PFAKE 17 33 40.0 +8.3
CBN LR LR
comp=Z,95µm,20.0s
IMHD **Mahdasht** **118.91 303** *e*P **PKPdf** **17 33 33.6 +1.2**
ARCES **ARCESS Array B** **119.09 345** PKP **PKPdf** **17 33 31.5 -0.1**
comp=Z,55nm,0.6s,baz=45,slow=1.4,SNR=79
ARCES PKKPbc **PKKPab** **17 43 47.0 0.0**
comp=Z,21nm,0.7s,baz=210,slow=1.9,SNR=16
ARCES SKKPbc SKKPbc 17 47 33.9 -0.7
comp=Z,7.3nm,1.0s,baz=216,slow=2.9,SNR=4.3
ARE0 **ARCESS Array S** **119.09 345** *e* **PKPdf** **17 33 30.6 -1.0**
ARE0 *e*PP **PP** **17 34 50.6 -0.9**
IGZV **Ghazvin** **119.22 304** *e*P **PKPdf** **17 33 34.4 +1.3**
BINY **Binghamton** **119.27 49** *e*PKPdf **PKPdf** **17 33 32.6 -0.2**
BINY LR LR
comp=Z,158µm,22.0s
SUMG **Summit** **119.28 8** *i* P **Pdif** **17 29 54.7 +0.4**
SUMG *i* 17 33 31.1
SUMG *i* 17 34 51.8
comp=Z,69µm,20.0s
SUMG **Summit** **119.28 8** *e*PKiKP **PKPdf** **17 33 32.8 +0.4**
SUMG **Summit** **119.28 8** *e*PKPdf **PKPdf** **17 33 32.8 +0.4**
ROSC **El Rosal** **119.29 92** PKP **PKPdf** **17 33 34.1 0.0**
comp=Z,18nm,0.5s,baz=115,slow=4.9,SNR=11
ROSC SKP 17 37 11.6
comp=Z,32nm,0.9s,baz=86,slow=18,SNR=6.0
KLMR **Klimovskoe** **119.49 333** *c* *i*P **Pdif** **17 29 53.6 -1.3**
KLMR *i* 17 33 31.2
KLMR *i* *PP **PP** **17 34 54.4 -0.1**
KLMR *e*SP SP 17 44 33.6 -4.8
KLMR *i* S **PS** **17 44 42.2 -1.5**
KLMR *e*SS **SS** **17 51 15.2 +0.3**
KLMR *e*SSS SSS 17 55 35.4
KLMR pmax pmax
comp=Z,24nm,1.5s
KLMR MLR MLR
comp=Z,52µm,25.0s
IRAZ **Razeghan** **119.53 303** *e*P **PKPdf** **17 33 32.9 -0.9**
ILULI **Ilulissat** **119.58 15** *i* P **Pdif** **17 29 57.4 +2.3**
ILULI *i* 17 33 32.7
comp=Z,42µm,19.0s
LONY **Lake Ozonia** **119.89 46** *e*PKPdf **PKPdf** **17 33 33.1 -0.8**
LONY LR LR
comp=Z,34µm,22.0s
NCB **Newcomb** **120.26 47** *e*PKPdf **PKPdf** **17 33 34.2 -0.4**
NCB LR LR
comp=Z,69µm,20.0s
MAK **Makhachkala** **120.48 312** *e*P **Pdif** **17 29 58.0 -1.7**
MAK *i* 17 33 33.6
MAK *i* 17 35 00.5
MAK *e*PPP PPP 17 37 42.3
MAK *e* 17 40 42.4
MAK *e*PS **PS** **17 44 47.5 -5.9**
MAK *e*SS SS 17 51 29.8 +0.8
MAK pmax pmax
comp=Z,653nm,1.7s
TRO **Tromso** **120.52 347** *e* **PKPdf** **17 33 33.6 -0.7**
TRO *e*PP **PP** **17 35 00.4 -0.8**
ACCN **Adirondack Com** **120.76 47** *e*PKPdf **PKPdf** **17 33 34.8 -0.7**
GTBY **Guantanamo Bay** **120.80 75** PFAKE 17 33 50.0 +14
GTBY LR LR
comp=Z,29µm,20.0s
TRY **Troy** **120.88 48** *e*PKPdf **PKPdf** **17 33 36.2 +0.4**
MDV **Middlebury** **120.99 47** *e*PKPdf **PKPdf** **17 33 36.1 +0.1**
IBZA **Bozab** **121.29 302** *e*P **PKPdf** **17 33 36.8 -0.4**
SFJD **Kangerlussuaq** **121.33 16** PKP **PKPdf** **17 33 35.8 -0.1**
comp=Z,38nm,0.9s,baz=293,slow=3.7,SNR=11
SFJD PKKPbc **PKKPab** **17 43 38.1 +0.8**
comp=Z,30nm,0.6s,baz=116,slow=3.7,SNR=10
SFJD SKKPbc SKKPbc 17 47 27.9 +0.6
comp=Z,60nm,1.2s,baz=199,slow=3.3,SNR=4.7
SFJD **Kangerlussuaq** **121.33 16** *e*PKiKP **PKPdf** **17 33 35.5 -0.4**
SFJD MLR MLR
comp=Z,59µm,20.0s
SFJD **Kangerlussuaq** **121.33 16** *e*PKPdf **PKPdf** **17 33 35.5 -0.4**
SFJD PKP **PKPdf** **17 33 35.8 -0.1**
SFJD PKKPbc **PKKPab** **17 43 38.1 +0.8**
SFJD SKKPbc SKKPbc 17 47 27.9 +0.6
SFJD LR LR
comp=Z,59µm,20.0s
IKOM **Komasi** **121.60 302** *e*P **PKPdf** **17 33 34.8 -2.9**
HNH **Hanover** **121.68 47** *e*PKPdf **PKPdf** **17 33 37.8 +0.5**
SCHQ **Schefferville** **121.74 33** PKP **PKPdf** **17 33 36.7 -0.4**
comp=Z,17nm,1.0s,baz=249,slow=4.1,SNR=8.5
SCHQ PKKPbc **PKKPab** **17 43 36.7 +0.7**
comp=Z,16nm,0.8s,baz=135,slow=3.6,SNR=11
QUA2 **Belchertown** **121.92 49** *e*PKPdf **PKPdf** **17 33 38.0 +0.3**
DGRG **David-gareji** **122.31 311** P **PKPdf** **17 33 39.5 +0.8**
DGRG S **PP** **17 35 19.6 +5.0**
IDHR **Dehrash** **122.48 302** *e*P **PKPdf** **17 33 39.2 -0.2**
BRYW **Bryant College** **122.58 49** *e*PKPdf **PKPdf** **17 33 38.9 -0.3**
JMIC **Jan Mayen** **122.64 358** *e* **PKPdf** **17 33 38.2 -0.1**
JMIC *e*PP **PP** **17 35 17.0 +1.5**
JMIC **Jan Mayen** **122.64 358** PKP **PKPdf** **17 33 39.3 +0.9**
comp=Z,111nm,1.0s,baz=140,slow=8.8,SNR=2.9
SEAG **Tbilisi Sea** **122.67 311** P **PKPdf** **17 33 40.7 +1.3**
DUS **Dusheti** **122.68 311** P **PKPdf** **17 33 42.1 +2.7**
MOS **Moscow** **122.69 329** *e*P **Pdif** **17 30 03.8 -5.4**
MOS *e* 17 33 38.7
MOS *e* 17 33 50.8
MOS *i* 17 35 14.7
MOS *e*PS PS 17 44 59.4 -13
MOS *i* PPS PPS 17 46 36.8
MOS *e*SS SS 17 51 55.1 -0.9
MOS pmax pmax
comp=Z,800nm,1.8s
MOS pmax pmax
comp=N,200nm,1.7s
MOS pmax pmax
comp=Z,363nm,1.7s
MOS pmax pmax
comp=N,109nm,1.2s
STEI **Steigen** **122.69 348** *e* **PKPdf** **17 33 38.4 0.0**
TBLG **Delisi** **122.72 311** *e*P **PKPdf** **17 33 41.8 +2.3**
TBLG **Delisi** **122.72 311** P **PKPdf** **17 33 39.8 +0.4**
TBLG S **PP** **17 35 21.0 +3.5**
LOF **Lofoten** **122.86 348** *e* **PKPdf** **17 33 38.2 -0.6**
LOF *e*PP **PP** **17 35 15.6 -1.5**
GNI **Garni** **123.02 309** PKP **PKPdf** **17 33 42.5 +2.3**
baz=316,slow=4.1
GNI **Garni** **123.02 309** *e*PKiKP **PKPdf** **17 33 41.8 +1.6**
GNI MLR MLR
comp=Z,22µm,20.0s
GNI **Garni** **123.02 309** P **PKPdf** **17 33 41.8 +1.6**
SNR=50
GNI **Garni** **123.02 309** ⇑P **PKPdf** **17 33 40.3 +0.1**
SNR=25
GNI **Garni** **123.02 309** *e*PKPdf **PKPdf** **17 33 41.8 +1.6**
GNI PKP **PKPdf** **17 33 42.5 +2.3**
GNI LR LR
comp=Z,22µm,20.0s
GOF **Gofitskoye** **123.18 315** *e*PKiKP **PKPdf** **17 33 40.0 -0.1**
GOF pmax pmax
comp=Z,110nm,0.9s
LPSR **Galich'ya Gora** **123.30 325** *e*PKiKP **PKPdf** **17 33 41.0 +0.9**
LPSR *e* 17 35 17.7
LPSR pmax pmax
comp=Z,320nm,1.0s
LPSR pmax pmax
comp=N,150nm,1.4s
LPSR pmax pmax
comp=E,130nm,1.3s
LPSR pmax pmax
comp=Z,790nm,3.1s
LPSR pmax pmax
comp=N,330nm,2.9s
LPSR pmax pmax
comp=E,620nm,2.0s
WVL **Waterville** **123.33 45** *e*PKPdf **PKPdf** **17 33 40.7 +0.3**
PKME **Peaks-Kenny Pk** **123.40 45** *e*PKPdf **PKPdf** **17 33 40.8 +0.2**
PKME LR LR
comp=Z,55µm,19.0s
ONI **Oni** **123.48 312** P **PKPdf** **17 33 41.3 +0.4**
ONI S **PP** **17 35 24.4 +1.8**
VOR **Voronezh** **123.48 324** *i* PKiKP **PKPdf** **17 33 40.0 -0.5**
VOR pmax pmax
comp=Z,750nm,1.5s
OBN **Obninsk** **123.50 328** *c* *i*PKiKP **PKPdf** **17 33 39.3 -1.1**
OBN *i* 17 35 23.8
OBN *i* SS SS 17 52 20.2 +14
OBN *i* SSS SSS 17 56 42.6
OBN pmax pmax
comp=Z,468nm,1.6s
OBN MLR MLR
comp=Z,39µm,23.0s
OBN **Obninsk** **123.50 328** *e*PKPdf **PKPdf** **17 33 41.0 +0.6**
OBN LR LR
comp=Z,30µm,21.0s
KBZ **Khabaz** **123.61 314** PKP **PKPdf** **17 33 42.2 +1.3**
comp=Z,40nm,0.8s,baz=55,slow=23,SNR=36
KBZ PP **PP** **17 35 25.8 +2.5**
comp=Z,38nm,0.9s,baz=279,slow=1.7,SNR=5.2
VSR **Storozhevoye** **123.70 323** *e*PKiKP **PKPdf** **17 33 41.6 +0.7**
VSR *e* 17 35 21.1
VSR pmax pmax
comp=Z,250nm,1.0s
VSR pmax pmax
comp=N,10.0nm,1.1s
VSR pmax pmax
comp=E,60nm,0.9s
KIV **Kislovodsk** **123.70 314** *e*P **PKPdf** **17 33 40.8 -0.6**
KIV **Kislovodsk** **123.70 314** *e*P **Pdif** **17 30 12.8 -1.4**
KIV *i* 17 33 40.5
KIV *e* 17 35 21.1
KIV *e*PPP PPP 17 38 00.7
KIV *e*PS **PS** **17 45 15.9 -6.3**
KIV *e*SS SS 17 52 08.5 -1.7
KIV pmax pmax
comp=Z,143nm,1.0s
KIV **Kislovodsk** **123.70 314** P **PKPdf** **17 33 43.2 +1.8**
SNR=33
KIV **Kislovodsk** **123.70 314** ⇑P **PKPdf** **17 33 41.5 +0.1**
SNR=30
KIV **Kislovodsk** **123.70 314** *e*PKPdf **PKPdf** **17 33 41.1 -0.2**
KIV LR LR
comp=Z,22µm,22.0s
SDV **Santo Domingo** **123.70 88** *e*PKPdf **PKPdf** **17 33 41.8 -0.5**
SDV LR LR
comp=Z,60µm,19.0s
AKH **Akhalkalaki** **123.70 311** *e*P **PKPdf** **17 33 43.8 +2.3**
AKH **Akhalkalaki** **123.70 311** P **PKPdf** **17 33 42.0 +0.5**
AKH S **PP** **17 35 23.0 -1.2**
RAYN **Ar Rayn** **123.71 289** *e*PKPdf **PKPdf** **17 33 39.2 -2.6**
VORD **Divnogorie** **123.72 323** *e*PKiKP **PKPdf** **17 33 41.6 +0.6**
VORD *e* 17 35 22.8
VORD *e*PS **PS** **17 45 16.3 -5.5**
VORD *e*SS SS 17 52 12.1 +2.6
VORD pmax pmax
comp=Z,170nm,1.0s
VORD pmax pmax
comp=N,7.0nm,0.6s
VORD pmax pmax
comp=E,60nm,0.9s
VORD pmax pmax
comp=Z,170nm,1.8s
VORD pmax pmax
comp=N,120nm,0.9s
VORD pmax pmax
comp=E,150nm,0.9s
VORD MLR MLR
comp=Z,41µm,22.0s
VORD MLR MLR
comp=N,29µm,23.0s
VORD MLR MLR
comp=E,19µm,24.0s
SUR **Sutherland** **123.75 215** PKP **PKPdf** **17 33 43.2 +1.2**
comp=E,71nm,1.0s,baz=126,slow=3.5,SNR=15
SUR PP **PP** **17 35 22.7 -1.1**
comp=E,56nm,1.2s,baz=145,slow=8.1,SNR=5.6
SUR **Sutherland** **123.75 215** *e*PKPdf **PKPdf** **17 33 42.8 +0.9**
SUR PKP **PKPdf** **17 33 43.2 +1.2**
SUR PP **PP** **17 35 22.7 -1.1**
SUR LR LR
comp=Z,94µm,22.0s
BOSA **Boshof** **123.79 221** PKP **PKPdf** **17 33 42.7 +0.7**
comp=Z,44nm,0.5s,baz=123,slow=2.0,SNR=34
BOSA SKP 17 37 20.1
comp=Z,42nm,1.1s,baz=155,slow=3.0,SNR=4.2
CLDR **Calderan** **123.82 308** *e*P **PKPdf** **17 33 44.3 +2.4**
PQI **Presque Isle** **123.86 43** *e*PKPdf **PKPdf** **17 33 40.0 -1.4**
PUL **Pulkovo** **123.95 335** *d* *i*PKiKP **PKPdf** **17 33 42.1 +1.0**
DAMY **Dhamar** **124.15 278** *e*PKPdf **PKPdf** **17 33 45.9 +2.6**
KARS **Kars** **124.17 310** *e*P **PKPdf** **17 33 45.4 +3.0**
HKR **Hakkari** **124.23 306** *e*P **PKPdf** **17 33 44.7 +2.0**
TRBA **At Turbah** **124.25 277** *e*P **PKPdf** **17 33 46.0 +2.7**
SDDR **Presa de Saban** **124.33 76** *e*PKPdf **PKPdf** **17 33 43.0 -0.1**
SDDR LR LR
comp=Z,34µm,19.0s
VANB **Van** **124.33 308** *e*P **PKPdf** **17 33 42.3 -0.4**
MOR8 **Moi Rana** **124.34 347** *e* **PKPdf** **17 33 41.1 -0.7**
MOR8 IAmb IAmb 17 33 48.4
comp=Z,46nm,0.6s
KONS **Konsvik** **124.34 348** *e* **PKPdf** **17 33 42.2 +0.5**
SIV **San Ignacio** **124.36 120** PKhKP PKPpre 17 33 38.5
comp=Z,5.7nm,0.9s,baz=238,slow=6.3,SNR=5.3
SIV PKP **PKiKP** **17 33 43.6 0.0**
comp=Z,20nm,0.5s,baz=251,slow=3.0,SNR=29
SIV SKP 17 37 20.0
comp=Z,22nm,1.0s,baz=269,slow=3.8,SNR=5.9
SIV PKKPbc **PKKPab** **17 43 28.3 +0.9**
comp=Z,13nm,0.9s,baz=100,slow=2.9,SNR=12
CUKT **Cukurca** **124.39 306** *e*P **PKPdf** **17 33 42.8 -0.1**
CHVG **Ch'k'valeri** **124.43 313** *e*P **PKPdf** **17 33 44.8 +2.2**
CHVG **Ch'k'valeri** **124.43 313** P **PKPdf** **17 33 44.3 +1.7**
FLOS **Flostrand** **124.43 347** *e* **PKPdf** **17 33 42.5 +0.6**
AGRB **Hanur-Agry** **124.45 309** *e*P **PKPdf** **17 33 45.6 +2.6**
STOK **Stokkvaagen** **124.51 347** *e* **PKPdf** **17 33 39.4 -2.6**
STOK *e*PP **PP** **17 35 28.8 +0.6**
FINES **FINESS Array B** **124.53 338** PKhKP PKPpre 17 33 33.5
comp=Z,1.1nm,0.4s,baz=76,slow=2.7,SNR=8.0
FINES PKP **PKiKP** **17 33 42.7 +0.2**
comp=Z,51nm,0.6s,baz=116,slow=4.4,SNR=65
FINES PP **PP** **17 35 29.5 +0.9**
comp=Z,17nm,0.8s,baz=359,slow=9.7,SNR=2.5
GRTK **Grand Turk** **124.60 73** *e*PKPdf **PKPdf** **17 33 43.5 0.0**
GRTK LR LR
comp=Z,40nm,20.0s
EMMW **East Machias** **124.81 45** *e*PKPdf **PKPdf** **17 33 43.3 +0.1**
BCA **Borcka** **125.07 311** *e*P **PKPdf** **17 33 45.9 +1.9**
SIRT **Sirnak** **125.26 306** *e*P **PKPdf** **17 33 46.4 +1.9**
EZM **Erzurum** **125.61 309** *e*P **PKPdf** **17 33 46.9 +1.5**
SAML **Samuel** **125.65 112** *e*PKPdf **PKPdf** **17 33 45.2 -0.6**
SAML LR LR
comp=Z,41µm,19.0s
VRTB **Varto-Mus** **125.70 309** *e*P **PKPdf** **17 33 48.6 +3.2**
SOC **Sochi** **125.88 314** *c* *i*P **Pdif** **17 30 23.2 -0.5**
SOC *i* 17 33 44.4
SOC *i* 17 35 33.1
SOC *e*PPP PPP 17 38 18.5
SOC *i* SS SS 17 52 40.5 +3.3
SOC pmax pmax
comp=Z,9.0nm,0.4s
SOC pmax pmax
comp=Z,191nm,1.2s
LBTB **Lobatse** **125.97 225** PKhKP PKPpre 17 33 41.2
comp=Z,3.0nm,0.3s,baz=245,slow=13,SNR=9.5
LBTB PKP **PKiKP** **17 33 47.1 +0.4**
comp=Z,44nm,0.6s,baz=157,slow=3.0,SNR=30
SVAN **Silvan-Diyarba** **126.10 307** *e*P **PKPdf** **17 33 46.2 +0.2**
VSU **Vasula** **126.22 335** *c* *i*PKiKP **PKPdf** **17 33 44.9 -0.6**
NSS **Namsos** **126.28 347** *e* **PKPdf** **17 33 45.3 -0.1**
NSS IAmb IAmb 17 33 49.6
comp=Z,145nm,1.0s
NSS *e*PP **PP** **17 35 38.1 -2.0**
NSS IAMs_20 IAMs_20 18 28 27.2
comp=Z,41µm,20.8s
NSS IVMs_BB IVMs_BB 18 28 41.0
comp=Z,14µm,20.9s
BNGB **Bing ¶ll** **126.33 308** *e*P **PKPdf** **17 33 47.0 +0.5**
BAYT **Ayd ¬ntepe-Bay** **126.41 310** *e*P **PKPdf** **17 33 49.5 +2.8**
KTUT **Trabzon** **126.54 311** *e*P **PKPdf** **17 33 46.2 -0.5**
MAZI **Mazidag** **126.82 307** *e*P **PKPdf** **17 33 49.6 +2.1**
GUMT **Gumushane** **126.88 311** *e*P **PKPdf** **17 33 50.1 +2.5**
ERZN **Erzincan** **126.91 309** *e*P **PKPdf** **17 33 48.1 +0.5**
DYBB **Diyarbakir** **126.96 307** *e*P **PKPdf** **17 33 50.1 +2.4**
ANN **Anapa** **127.06 316** *i* P **Pdif** **17 30 26.3 -2.6**
ANN *i* 17 33 46.7
ANN *e*PS **PS** **17 45 42.4 -9.0**
ANN pmax pmax
comp=Z,89nm,1.7s
ANN pmax pmax
comp=Z,156nm,0.9s
ANN pmax pmax
comp=N,36nm,0.9s
ANN pmax pmax
comp=E,24nm,0.9s
ANN pmax pmax
comp=Z,2µm,7.4s
ANN MLR MLR
comp=E,29µm,23.0s
ANN MLR MLR

comp=N,16µm,23.0s
ANN MLR MLR

comp=Z,32µm,23.0s
ESPY Espiye-Giresun 127.32 311 *e*P **PKPdf 17 33 47.5 -0.7**
DODT Dodoma, Tanzan 127.44 251 *i* P **PKPdf 17 33 49.1 -0.3**
SVRC Sivrice-ELAZID 127.51 308 *e*P **PKPdf 17 33 51.8 +2.9**
KMBO Kilima Mbogo 127.77 258 PKP **PKPdf 17 33 51.2 +1.0**
comp=Z,52nm,1.0s,baz=61,slow=2.3,SNR=66
KMBO PP **PP 17 35 54.4 +2.3**
comp=Z,26nm,1.2s,baz=99,slow=5.0,SNR=3.5
KMBO SKPbc SKiKP 17 37 05.6 -19
comp=Z,6.6nm,1.0s,baz=53,slow=5.1,SNR=2.4
KMBO SKKPbc **SKKPbc 17 47 05.9 +3.4**
comp=Z,0.8nm,0.3s,baz=270,slow=13,SNR=3.1
KMBO Kilima Mbogo 127.77 258 PKIKP **PKPdf 17 33 51.2 +1.0**
KMBO 17 35 54.4
KMBO MLR MLR

comp=Z,37µm,21.0s
KMBO Kilima Mbogo 127.77 258 P **PKPdf 17 33 51.5 +1.3**
SNR=65
KMBO Kilima Mbogo 127.77 258 PKP **PKPdf 17 33 51.2 +1.0**
KMBO *e*PKPdf **PKiKP 17 33 51.4 +0.6**
KMBO PP **PP 17 35 54.4 +2.3**
KMBO SKPbc SKiKP 17 37 05.6 -19
KMBO SKKPbc **SKKPbc 17 47 05.9 +3.4**
KMBO LR LR

comp=Z,37µm,21.0s
TBLU Trondheim 127.77 347 *e* **PKPdf 17 33 45.5 -2.9**
TBLU *e*PP **PP 17 35 51.2 +1.2**
MAUS Longido 127.78 256 *i* P **PKPdf 17 33 49.7 -0.4**
MICGM Minsk 128.12 331 *e*P **Pdif 17 30 34.0 +0.6**
MNK Minsk 128.14 331 *ce*P **Pdif 17 30 34.0 +0.5**
MNK *e* 17 33 48.0
MNK *e* 17 35 52.0
MNK *e* 17 40 44.0
MNK *e*SS SS 17 53 36.0 +32
MNK pmax pmax

comp=Z,440nm,1.5s
MNK pmax pmax

comp=N,240nm,1.5s
MNK pmax pmax

comp=E,370nm,1.5s
MNK pmax pmax

comp=Z,5µm,10.0s
MNK pmax pmax

comp=Z,19µm,20.0s
IDID Didziasalis 128.17 332 *e*P **PKPdf 17 33 50.3 +1.0**
IDID AMB AMB 17 33 52.4

comp=Z,99nm,1.3s
MALT Malatya 128.20 308 *e*P **PKPdf 17 33 50.0 -0.2**
MALT Malatya 128.20 308 ⇓PKIKP **PKPdf 17 33 49.5 -0.6**
MALT Malatya 128.20 308 ⇓*i*P **PKPdf 17 33 49.5 -0.6**
CRPR Cabo Rojo, PR 128.22 78 *e*PKPdf **PKPdf 17 33 50.2 -0.4**
ISAL Salakas 128.29 333 *e*P **PKPdf 17 33 50.5 +0.9**
ISAL AMB AMB 17 33 52.8

comp=Z,79nm,1.5s
IIGN Ignalina 128.38 332 *e*P **PKPdf 17 33 50.9 +1.1**
IIGN AMB AMB 17 33 52.9

comp=Z,116nm,1.2s
NACGM Naroch 128.40 332 *e*P **Pdif 17 30 32.0 -2.6**
RSDY Resadiye-TOKAT 128.48 311 *e*P **PKPdf 17 33 50.7 +0.2**
BORG Borgarnes 128.69 4 PKP **PKPdf 17 33 51.5 +1.5**
comp=Z,55nm,0.9s,baz=1.9,slow=4.7,SNR=6.9
BORG SKPbc SKiKP 17 37 10.4 -14
comp=Z,28nm,0.9s,baz=315,slow=3.2,SNR=3.9
BORG SKKPbc **SKKPbc 17 47 05.0 +2.8**
comp=Z,11nm,1.0s,baz=146,slow=3.6,SNR=3.3
BORG Borgarnes 128.69 4 *e*PKIKP **PKPdf 17 33 51.1 +1.1**
BORG MLR MLR

comp=Z,27µm,22.0s
BORG Borgarnes 128.69 4 *e*PKPdf **PKPdf 17 33 51.1 +1.1**
BORG PKP **PKPdf 17 33 51.5 +1.5**
BORG SKPbc SKiKP 17 37 10.4 -14
BORG SKKPbc **SKKPbc 17 47 05.0 +2.8**
BORG LR LR

comp=Z,27µm,22.0s
OBIP Obispado Ponce 128.70 78 *e*PKPdf **PKPdf 17 33 50.9 -0.6**
ICMP Isla Caja de M 128.77 78 *e*PKPdf **PKPdf 17 33 51.4 -0.1**
DARE Darende-Malaty 128.85 309 *e*P **PKPdf 17 33 52.1 +0.8**
FURI Furi 128.85 270 P **PKPdf 17 33 52.5 +0.2**
FURI S **SKiKP 17 37 20.0 -6.5**
SVSK Karacayir 128.86 311 *e*P **PKPdf 17 33 51.9 +0.7**
MOL Molde 128.96 348 *e* **PKPdf 17 33 49.0 -1.7**
MOL *e*PP **PP 17 36 02.8 +5.1**
SJG San Juan 129.14 78 *e*PKIKP **PKPdf 17 33 52.4 +0.1**
SJG MLR MLR

comp=Z,41µm,22.0s
SJG San Juan 129.14 78 *e*PKPdf **PKPdf 17 33 52.4 +0.1**
SJG LR LR

comp=Z,41µm,22.0s
SIM Simferopol' 129.21 318 *e*P **Pdif 17 30 39.2 +0.7**
SIM *i* 17 33 52.0
SIM *e* 17 35 58.0
SIM *e*PPS PPS 17 47 46.0
SIM *e*SS SS 17 53 23.0 +4.5
SIM SSS SSS 17 58 02.0
SIM pmax pmax

comp=Z,56nm,1.0s
SIM pmax pmax

comp=Z,2µm,13.6s
KVT Kavak 129.21 312 *e*P **PKPdf 17 33 51.4 -0.5**
AKN Aaknes 129.43 348 *e* **PKPdf 17 33 51.0 -0.6**
NB2 NORSAR Subarra 129.46 345 PKPdf **PKPdf 17 33 52.0 +0.3**
comp=Z,365nm,1.7s,baz=31,slow=1.9
NB2 NORSAR Subarra 129.46 345 PKPdf **PKPdf 17 33 52.0 +0.3**
baz=31,slow=1.9
NOA NORSAR Array B 129.46 345 PKP **PKPdf 17 33 52.7 +1.0**
comp=Z,62nm,0.9s,baz=35,slow=2.1,SNR=53
NOA PP **PP 17 36 03.5 +2.4**
comp=Z,5.7nm,0.9s,baz=32,slow=7.1,SNR=2.5
NOA SKPbc SKPbc 17 37 12.0 +1.0
comp=Z,26nm,0.8s,baz=32,slow=3.1,SNR=9.2
NOA PKKP **PKKPdf 17 43 56.5 -1.9**
comp=Z,0.5nm,0.6s,baz=212,slow=1.5,SNR=6.2
TRIS Tristan da Cun 129.52 181 PFAKE 17 34 00.0 +7.4
TRIS LR LR

comp=Z,62µm,22.0s
AKASG Malin Array Be 129.54 326 PKhKP PKPpre 17 33 37.3
comp=Z,1.8nm,0.5s,baz=54,slow=3.0,SNR=18
AKASG PKP **PKiKP 17 33 53.0 +0.1**
comp=Z,70nm,1.1s,baz=51,slow=1.8,SNR=20
AKASG PP **PP 17 35 58.0 -4.1**
comp=Z,28nm,1.1s,baz=52,slow=6.6,SNR=4.6
AKASG SKPbc SKPbc 17 37 13.1 +1.6
comp=Z,4.6nm,0.5s,baz=50,slow=4.3,SNR=4.1
AKASG SKKPbc **SKKPbc 17 47 01.2 +2.7**
comp=Z,4.6nm,0.9s,baz=234,slow=3.7,SNR=4.9
HFS Hagfors 129.55 343 PKhKP PKPpre 17 33 41.4
comp=Z,2.4nm,0.6s,baz=66,slow=3.7,SNR=8.9
HFS PKP **PKiKP 17 33 52.6 0.0**
comp=Z,60nm,0.8s,baz=117,slow=1.7,SNR=38
HFS PP **PP 17 36 01.9 +0.2**
comp=Z,12nm,0.9s,baz=54,slow=7.3,SNR=3.0
HFS SKPbc SKPbc 17 37 14.1 +2.8
comp=Z,38nm,0.8s,baz=318,slow=2.0,SNR=6.9
HFS PKKP **PKKPdf 17 43 57.0 -1.2**
comp=Z,3.3nm,0.6s,baz=160,slow=4.7,SNR=4.5
KIEV Kiev 129.55 326 *e*PKIKP **PKPdf 17 33 52.7 +0.6**
KIEV MLR MLR

comp=Z,49µm,20.0s
KIEV Kiev 129.55 326 *e*PKPdf **PKPdf 17 33 52.7 +0.6**
KIEV LR LR

comp=Z,49µm,20.0s
KMRS Kahramanmaras 129.56 308 *e*P **PKPdf 17 33 52.7 0.0**
DIKM Dikmen 129.60 313 *e*P PKPdf 17 33 59.3 +6.8
NC602 NORSAR Array S 129.63 344 *e* **PKPdf 17 33 51.2 -0.8**
NC602 *e*PP **PP 17 36 03.8 +1.6**
BBSR BB Station 129.69 59 PFAKE 17 34 00.0 +7.0
BBSR LR LR

comp=Z,40µm,21.0s
PCRV Puerto La Cruz 129.75 88 PKP **PKPdf 17 33 52.1 -1.5**
comp=Z,27nm,0.9s,baz=356,slow=4.1,SNR=8.4
PCRV PP **PP 17 36 05.5 +0.4**
comp=Z,14nm,0.9s,baz=357,slow=6.0,SNR=2.6
PCRV SKPbc SKPbc 17 37 15.0 +1.5
comp=Z,20nm,0.9s,baz=229,slow=19,SNR=8.5
PCRV SKKPbc **SKKPbc 17 46 55.7 0.0**
comp=Z,7.6nm,0.8s,baz=13,slow=6.5,SNR=4.3
LSZ Lusaka 129.86 236 SKPbc SKPbc 17 37 17.2 +3.3
comp=Z,18nm,0.9s,baz=41,slow=14,SNR=2.4
LSZ Lusaka 129.86 236 *e*PKIKP **PKPdf 17 33 55.1 +1.2**
LSZ MLR MLR

comp=Z,54µm,20.0s
LSZ Lusaka 129.86 236 P **PKPdf 17 33 55.9 +1.9**
SNR=50
LSZ Lusaka 129.86 236 *e*PKPdf **PKPdf 17 33 55.1 +1.2**
LSZ SKPbc SKPbc 17 37 17.2 +3.3
LSZ LR LR

comp=Z,54µm,20.0s
STVI Saint Thomas 130.29 77 *e*PKPdf **PKPdf 17 33 53.7 -0.7**
FOO Floro 130.34 349 *e* **PKPdf 17 33 50.8 -2.5**
FOO *e*PP **PP 17 36 06.9 +0.3**
BZK Bozkurt 130.38 314 *e*P **PKPdf 17 33 54.4 +0.5**
KOZT Kozan 130.40 308 *e*P **PKPdf 17 33 54.0 -0.2**
CDVI St. Croix 130.44 78 *e*PKPdf **PKPdf 17 33 55.0 +0.2**
HYA Hoyanger 130.51 348 *e* **PKPdf 17 33 52.8 -0.8**
HYA *e*PP **PP 17 36 08.8 +1.1**
CORM Corum 130.52 312 *e*P **PKPdf 17 33 56.8 +2.3**
OSL Oslo 130.53 344 *e* **PKPdf 17 33 50.0 -3.7**
OSL *e*PP **PP 17 36 07.9 -0.1**
CEYT Ceyhan 130.58 307 *e*P **PKPdf 17 33 54.6 +0.1**
SUW Suwalki 130.60 332 *e*Pdiff **Pdif 17 30 45.0 +0.6**
SUW *e*PKPc 17 33 53.4
SUW *e*PP **PP 17 36 08.5 -0.2**
SUW *e*PKS PKSdf 17 37 17.8 -12
SUW *e*SS SS 17 53 39.9 +5.4
SUW LMZ LR 18 30 02.6
SUW Suwalki 130.60 332 ⇑*e*PKIKP **PKPdf 17 33 53.5 -0.5**
SUW *e* 17 36 08.6
SUW *e*SS SS 17 53 39.9 +5.4
SUW MLR MLR

comp=Z,67µm,23.7s
SUW Suwalki 130.60 332 *e*PKPdf **PKPdf 17 33 54.6 +0.6**
ASF Jabal al Asfar 130.68 301 PKhKP PKPpre 17 33 41.3
comp=Z,1.7nm,0.5s,baz=108,slow=5.0,SNR=5.0
ASF PKP **PKiKP 17 33 56.2 +0.4**
comp=Z,38nm,0.9s,baz=75,slow=1.4,SNR=38
ASF PP **PP 17 36 08.8 -1.8**
comp=Z,5.0nm,0.8s,baz=26,slow=3.2,SNR=2.7
ASF SKPbc **SKPab 17 37 18.7 +2.3**
comp=Z,92nm,1.0s,baz=40,slow=0.4,SNR=15
ASF SKKPab **SKKPbc 17 46 54.5 +0.9**
comp=Z,8.0nm,1.0s,baz=142,slow=1.3,SNR=4.9
SUE Sulen 130.90 348 *e* **PKPdf 17 33 51.5 -2.8**
SUE *e*PP **PP 17 36 11.0 +0.8**
KRTS Karatas 130.98 307 *e*P **PKPdf 17 33 54.6 -0.7**
KARA Karaisali 131.05 308 *e*P **PKPdf 17 33 55.3 -0.2**
HWQ Hawqa 131.06 304 *e*P **PKPdf 17 33 55.1 -0.6**
KONO Kongsberg 131.07 345 *e* PKPpre 17 33 50.0
KONO *e*PP **PP 17 36 13.0 +1.6**
KONO Kongsberg 131.07 345 *e*PKIKP **PKPdf 17 33 55.9 +1.1**
KONO MLR MLR

comp=Z,23µm,22.0s
KONO Kongsberg 131.07 345 *e*PKPdf **PKPdf 17 33 55.9 +1.1**
KONO LR LR

comp=Z,23µm,22.0s
CANT Cankiri 131.11 312 *e*P **PKPdf 17 33 55.9 +0.4**
NIG Nigde 131.15 309 *e*P **PKPdf 17 33 57.8 +1.9**
ASK Askoy 131.34 348 *e* **PKPdf 17 33 55.7 +0.5**
ITZ Itezhi-Tezhi 131.34 234 *i* P **PKPdf 17 33 56.3 -0.4**
BHL Bhannes 131.38 303 *e*P **PKPdf 17 33 56.1 -0.2**
BRTR Keskin Array B 131.38 311 PKhKP PKPpre 17 33 42.4
comp=Z,3.1nm,0.8s,baz=116,slow=2.9,SNR=11
BRTR PKP **PKiKP 17 33 57.0 -0.1**
comp=Z,34nm,0.9s,baz=97,slow=1.8,SNR=32
BRTR PP **PP 17 36 19.1 +4.3**
comp=Z,20nm,1.0s,baz=100,slow=4.1,SNR=5.9
BRTR SKPbc **SKPab 17 37 21.0 +1.8**
comp=Z,36nm,0.9s,baz=56,slow=2.6,SNR=7.8
BRTR PKKP **PKKPdf 17 43 54.5 -0.1**
comp=Z,1.9nm,0.8s,baz=209,slow=2.6,SNR=2.9
BRTR SKKPbc **SKKPbc 17 46 52.5 +0.9**
comp=Z,5.8nm,0.8s,baz=230,slow=5.6,SNR=6.6
BER Bergen 131.40 348 *e* **PKPdf 17 33 54.9 -0.4**
BER *e*PP **PP 17 36 15.4 +1.9**
BER *e*SS SS 17 53 45.6 +2.0
KAMT Kaman 131.44 311 *e*P **PKPdf 17 33 57.3 +1.0**
ODD1 Odda 131.55 347 *e* **PKPdf 17 33 54.0 -1.8**
ODD1 *e*PP **PP 17 36 13.7 -0.8**
SAFT Safranbolu 131.56 314 *e*P **PKPdf 17 33 57.9 +1.6**
MERS Mersin 131.56 307 *e*P **PKPdf 17 33 56.5 0.0**
KIS Kishinev 131.65 322 *e*P **Pdif 17 30 52.0 +2.7**
KIS Kishinev 131.65 322 *i* PKP **PKPdf 17 33 57.0 +0.8**
KIS M M 17 33 58.0

comp=Z,800nm,2.0s
KIS Kishinev 131.65 322 *i* PsP 17 34 20.0
KIS Kishinev 131.65 322 *i* PP PP 17 36 16.0 +0.1
comp=Z,10µm,16.0s
KIS *i* SKP 17 37 18.0
KIS Kishinev 131.65 322 *i* PKS **PKSab 17 37 22.0 -1.6**
KIS Kishinev 131.65 322 *i* PPP PPP 17 39 00.0
KIS *i* SKS 17 39 30.0
KIS Kishinev 131.65 322 *e*P **Pdif 17 30 52.0 +2.7**
KIS *e* 17 33 57.0
KIS *i* 17 36 16.0
KIS *i* PS x 17 48 04.0
KIS *i* 17 53 50.0
KIS pmax pmax

comp=Z,800nm,2.0s
KIS pmax pmax

comp=Z,4µm,10.0s
KIS pmax pmax

comp=N,4µm,16.0s
KIS pmax pmax

comp=E,5µm,16.0s
KIS pmax pmax

comp=Z,10µm,16.0s
KIS MLR MLR

comp=N,26µm,21.0s
KIS MLR MLR

comp=Z,37µm,21.0s
KIS MLR MLR

comp=E,15µm,22.0s
KIS MLR MLR

comp=Z,44µm,20.0s
KIS Kishinev 131.65 322 ⇑*i*P **PKPdf 17 33 56.3 +0.1**
MMAI Mount Meron Ar 131.76 302 PKhKP PKPpre 17 33 44.6
comp=Z,3.5nm,0.8s,baz=352,slow=2.9,SNR=3.3
MMAI PKP **PKiKP 17 33 58.5 +0.5**
comp=Z,78nm,0.9s,baz=75,slow=3.5,SNR=20
MMAI PP **PP 17 36 21.3 +3.8**
comp=Z,22nm,1.0s,baz=111,slow=6.5,SNR=3.7
MMAI SKPbc **SKPab 17 37 22.1 +1.1**
comp=Z,36nm,0.8s,baz=64,slow=4.7,SNR=8.0
MMAI PKKP **PKKPdf 17 43 54.6 +1.0**
comp=Z,2.1nm,0.6s,baz=264,slow=1.4,SNR=3.8
MMAI SKKPbc **SKKPbc 17 46 52.4 +2.7**
comp=Z,2.5nm,0.6s,baz=279,slow=2.8,SNR=3.7
MMLI Mount Malkishu 131.86 301 *e*P **PKPdf 17 33 58.1 +1.0**
AFSR Af`ar-Bala (A 131.89 311 *e*P **PKPdf 17 33 56.5 -0.5**
SULT Sultanhani-AKS 131.95 309 *e*P **PKPdf 17 33 56.5 -0.7**
ANTO Ankara 131.95 312 *e*PKIKP **PKPdf 17 33 58.4 +1.2**
ANTO MLR MLR

comp=Z,21µm,22.0s
ANTO Ankara 131.95 312 ⇑*i*P **PKPdf 17 33 57.0 -0.2**
ANTO Ankara 131.95 312 P **PKPdf 17 33 58.1 +1.0**
SNR=55
ANTO Ankara 131.95 312 *e*PKPdf **PKPdf 17 33 58.4 +1.2**
ANTO LR LR

comp=Z,21µm,22.0s
LOD Lodumlu 131.97 312 *e*P **PKPdf 17 33 57.2 0.0**
BLS5 Blasjo 132.03 347 *e* **PKPdf 17 33 56.2 -0.4**
BLS5 *e*PP **PP 17 36 19.8 +2.1**
EREN Erenkoy 132.19 306 *e*P **PKPdf 17 33 57.2 -0.4**
LEOM Leova 132.25 322 ⇑PKIKP **PKPdf 17 33 57.4 0.0**
LEOM Leova 132.25 322 ⇑*i*P **PKPdf 17 33 57.4 0.0**
KMY Karmoy 132.49 347 *e* **PKPdf 17 33 55.3 -2.1**
KMY *e*PP **PP 17 36 21.2 +0.8**
TLCR 132.51 320 ⇓PKIKP **PKPdf 17 33 59.1 +1.2**
TLCR 132.51 320 ⇓*i*P **PKPdf 17 33 59.1 +1.2**
HOMB Homborsund 132.55 345 *e* **PKPdf 17 33 56.9 -0.7**
HOMB IAmb IAmb 17 34 01.1

comp=Z,260nm,1.2s
HOMB *e*PP **PP 17 36 22.6 +1.6**
HRFI Mount Harif 132.61 298 *e*P **PKPdf 17 33 57.9 -0.8**
EIL Elat 132.74 298 *e*P **PKPdf 17 33 59.1 +0.3**
EIL Elat 132.74 298 PKhKP PKPpre 17 33 49.9
comp=Z,8.2nm,0.9s,baz=75,slow=2.9,SNR=5.6
EIL PKP **PKiKP 17 34 00.8 +0.8**
comp=Z,86nm,0.8s,baz=11,slow=5.0,SNR=6.8
EIL PP **PP 17 36 25.5 +1.7**
comp=Z,29nm,1.1s,baz=48,slow=6.0,SNR=4.9
EIL SKPbc **SKPab 17 37 26.3 +1.1**
comp=Z,74nm,1.1s,baz=107,slow=3.1,SNR=5.1
EIL SKP 17 37 35.0
comp=Z,45nm,0.9s,baz=65,slow=8.0,SNR=3.8
GIUM Giurgiulesti 132.75 321 ⇓*i*P **PKPdf 17 33 58.8 +0.5**
LFK Lefkose 132.75 306 *e*P **PKPdf 17 33 59.8 +1.0**
LVV L'vov 132.80 328 *e*PKIKP **PKPdf 17 33 59.0 +0.7**
LVV *i* 17 36 26.0
LVV *e* 17 46 27.0
LVV MLR MLR

comp=Z,39µm,23.0s
LADK Ladik-KONYA 132.81 310 *e*P **PKPdf 17 33 56.5 -2.3**
SNART Snartemo 132.82 345 *e* **PKPdf 17 33 56.5 -1.6**
SNART *e*PP **PP 17 36 23.4 +0.8**
MBWH 132.84 80 *e*P **PKPdf 17 33 57.0 -2.3**
KONT Konya--Tatoy 132.90 309 *e*P **PKPdf 17 33 55.9 -3.0**
GRGR Grenville 132.93 86 PFAKE 17 34 10.0 +10
GRGR LR LR

comp=Z,24µm,21.0s
CFR Carcaliu 132.94 320 ⇑PKIKP **PKPdf 17 33 58.2 -0.5**
CFR Carcaliu 132.94 320 ⇑*i*P **PKPdf 17 33 58.2 -0.5**
KIZT Kizilcal 132.95 311 *e*P **PKPdf 17 34 00.5 +1.4**
PRAR RASCA 132.98 324 ⇓*i*P **PKPdf 17 33 59.9 +1.1**
CSS Prodhromos 133.00 305 *e*P **PKPdf 17 33 58.7 -0.5**
CSS Prodhromos 133.00 305 P **PKPdf 17 34 02.0 +2.8**
CSS Prodhromos 133.00 305 P PKPpre 17 33 53.7
CSS Prodhromos 133.00 305 P PKPpre 17 33 53.7
CSS *e*PKPdf **PKPdf 17 33 59.5 +0.3**
CSS LR LR

comp=Z,5µm,20.0s
KZIT Kziot 133.00 300 *e*P **PKPdf 17 33 59.5 +0.2**
SVRH Sivrihisar-ESK 133.02 312 *e*P **PKPdf 17 33 58.5 -0.7**
MAMC Mammari 133.03 306 P **PKPdf 17 34 01.8 +2.6**
TIRR Tirgusor 133.10 319 *e*P **PKPdf 17 33 58.9 -0.1**
TIRR Tirgusor 133.10 319 ⇑PKIKP **PKPdf 17 33 58.3 -0.7**
TIRR Tirgusor 133.10 319 ⇑*i*P **PKPdf 17 33 58.3 -0.7**
TIRR Tirgusor 133.10 319 *e*PKPdf **PKPdf 17 33 58.1 -1.0**
BEL Belsk 133.12 332 *e*PKPc **PKPdf 17 33 58.9 +0.1**
BEL *e*PP **PP 17 36 20.6 -4.4**
BEL *e*PKS PKSdf 17 37 29.1 -5.9
BEL LMZ LR 18 32 27.9
BEL Belsk 133.12 332 ⇑*e*PKIKP **PKPdf 17 33 59.0 +0.1**
BEL *e* 17 36 20.7
BEL MLR MLR

comp=Z,81µm,23.3s
BSD Bornholm Skovb 133.18 338 *i* P **Pdif 17 30 57.5 +1.6**
BSD *i* 17 33 57.8

comp=Z,46µm,21.0s
BSD Bornholm Skovb 133.18 338 *e*P **Pdif 17 30 57.5 +1.6**
BSD *i* 17 33 57.8
BSD MLR MLR

comp=Z,46µm,21.0s
TESR Tescani 133.18 323 ⇑*i*P **PKPdf 17 33 58.5 -0.7**
LZG Guadaloupe-1 133.20 81 *e*P **PKPdf 17 34 00.5 +0.5**
ANWB Willy Bob 133.27 79 *e*P **PKPdf 17 33 57.7 -2.4**
ANWB Willy Bob 133.27 79 *e*PKPdf **PKPdf 17 34 00.1 0.0**
ANWB LR LR

comp=Z,30µm,20.0s
TLB Topalu 133.28 320 ⇓PKIKP **PKPdf 17 33 58.9 -0.5**
TLB Topalu 133.28 320 ⇓*i*P **PKPdf 17 33 58.9 -0.5**
HARR Harsova 133.30 320 ⇑PKIKP **PKPdf 17 34 01.0 +1.5**
HARR Harsova 133.30 320 ⇑*i*P **PKPdf 17 34 00.9 +1.5**
LEF Lefka 133.30 306 *e*P **PKPdf 17 33 57.8 -1.9**
LKG Breislack 133.31 81 *e*P **PKPdf 17 33 59.0 -1.4**
GULT Gulveren 133.38 313 *e*P **PKPdf 17 34 00.4 +0.6**
SZAC Souni-Zanaja 133.40 305 P **PKPdf 17 34 01.8 +1.8**
BURAR Bucovina Array 133.42 325 ⇑PKIKP **PKPdf 17 33 59.8 +0.1**
BURAR Bucovina Array 133.42 325 ⇑*i*P **PKPdf 17 33 59.8 +0.1**
SPNC Sapanca-Adapaz 133.43 314 *e*P **PKPdf 17 34 01.7 +1.9**
VRI Vrincioaia 133.46 322 ⇑PKIKP **PKPdf 17 33 58.7 -1.0**
VRI Vrincioaia 133.46 322 ⇑*i*P **PKPdf 17 33 58.7 -1.0**
PLOR Plostina 133.52 322 ⇓PKIKP **PKPdf 17 33 58.5 -1.4**
PLOR Plostina 133.52 322 ⇓*i*P **PKPdf 17 33 58.5 -1.4**
ALFC Alevga 133.52 306 P **PKPdf 17 34 01.9 +1.7**
GRER 133.56 321 ⇑*i*P **PKPdf 17 34 01.9 +2.0**
COP Copenhagen 133.58 340 *i* P **Pdif 17 31 00.6 +2.9**
COP *i* 17 33 59.0

comp=Z,24µm,22.0s
COP Copenhagen 133.58 340 *e*P **Pdif 17 31 00.6 +2.9**
COP *i* 17 33 59.0
COP MLR MLR

comp=Z,24µm,22.0s
KWP Kalwaria Pacla 133.59 328 *e*Pdiff **Pdif 17 31 01.6 +3.7**
KWP *e*PKPc 17 33 59.5
KWP *e*PP **PP 17 36 31.1 +2.9**
KWP *e*PKS PKSdf 17 37 30.5 -5.6
KWP LMZ LR 18 31 55.7
KWP Kalwaria Pacla 133.59 328 ⇑*e*PKIKP **PKPdf 17 33 59.5 -0.4**
KWP *e* 17 36 31.2
KWP MLR MLR

comp=Z,35µm,24.0s
PSN Preselentsi 133.61 318 ⇑PKIKP **PKPdf 17 34 00.2 +0.2**
PSN Preselentsi 133.61 318 ⇑*i*P **PKPdf 17 34 00.2 +0.2**
MSAB Monastry St. A 133.65 319 ⇑*i*P **PKPdf 17 34 00.2 +0.1**
GKP Gorka Klasztor 133.67 335 *e*PKPc 17 33 59.7
GKP *e*PP **PP 17 36 25.9 -2.5**
GKP *e*PKS **PKSdf 17 37 30.8 -5.2**
GKP LMZ LR 18 33 24.7
GKP Gorka Klasztor 133.67 335 ⇑*e*PKIKP **PKPdf 17 33 59.8 0.0**
GKP *e* 17 36 25.9
GKP MLR MLR

comp=Z,52µm,22.7s
SVN Savane Anatole 133.69 82 *e*P **SKPdf 17 37 32.0 -1.7**
FDF Fort de France 133.69 83 *e*P **PKPdf 17 33 59.3 -1.8**
FDF Fort de France 133.69 83 *e*P **SKPdf 17 37 27.5 -6.2**
FDF Fort de France 133.69 83 *e*PKIKP **PKPdf 17 34 01.8 +0.7**
FDF MLR MLR

comp=Z,39µm,22.0s
FDF Fort de France 133.69 83 *e*PKPdf **PKPdf 17 34 01.8 +0.7**
FDF LR LR

comp=Z,39µm,22.0s
SILT Sile 133.71 315 *e*P **PKPdf 17 33 58.5 -1.8**
AKMC Akamas 133.77 306 P **PKPdf 17 34 01.7 +1.0**
TRMF Trois Ilets 133.77 83 *e*P **SKPdf 17 37 31.4 -2.4**
BVM Bellevue 133.78 83 *e*P **SKPdf 17 37 30.4 -3.6**
PPCY Paphos 133.80 305 P **PKPdf 17 34 03.0 +2.3**
ZAM Aeronautique 133.80 83 *e*P **SKPdf 17 37 27.6 -6.3**
MCLT Moule a Chique 133.80 84 *e*P **PKPdf 17 33 58.9 -2.3**
HRT Hereke 133.83 314 *e*P **PKPdf 17 33 58.5 -2.1**
LPMF Morne Lapointe 133.86 83 *e*P **SKPdf 17 37 28.3 -5.7**
MVM Montagne Vaucl 133.93 83 *e*P **SKPdf 17 37 33.0 -1.2**
ADVT Abdulvahap 133.93 314 *e*P **PKPdf 17 33 59.8 -1.0**
MUD Monsted U'grnd 133.94 343 *i* P **Pdif 17 31 01.9 +2.7**
MUD *i* 17 33 59.1

comp=Z,56µm,23.0s
CAVI Cavuskoy 133.95 313 *e*P **PKPdf 17 34 00.4 -0.4**
ISR Istrita 133.95 321 ⇓PKIKP **PKPdf 17 34 00.7 0.0**
ISR Istrita 133.95 321 ⇓*i*P **PKPdf 17 34 00.7 0.0**
SHUT Suhut-Afyon 134.04 311 *e*P **PKPdf 17 34 00.4 -0.8**
KLYT Kilyos 134.09 315 *e*P **PKPdf 17 34 00.4 -0.6**
MBAR Mbarara 134.10 256 PFAKE 17 34 10.0 +7.9
MBAR LR LR

comp=Z,594nm,20.0s
MLR Muntele Rosu 134.13 322 PKhKP PKPpre 17 33 48.5
baz=2.6,slon=2.3
MLR PKP **PKPdf 17 34 01.5 +0.4**
comp=Z,13nm,1.0s,baz=2.8,slow=2.8
MLR PP **PP 17 36 33.8 +1.9**
comp=Z,9.7nm,1.3s,baz=18,slow=7.2,SNR=4.4
MLR SKPbc **SKPab 17 37 31.0 +0.1**
comp=Z,13nm,1.1s,baz=8.1,slow=7.1,SNR=3.3
MLR SKP 17 37 39.0
comp=Z,27nm,1.2s,baz=177,slow=12,SNR=4.4
MLR Muntele Rosu 134.13 322 ⇑PKIKP **PKPdf 17 34 00.1 -1.1**
MLR Muntele Rosu 134.13 322 ⇑*i*P **PKPdf 17 34 00.1 -1.1**
ISK Istanbul-Kandi 134.15 315 *e*P **PKPdf 17 34 00.4 -0.7**
ISK Istanbul-Kandi 134.15 315 P PKPpre 17 33 50.7
ISK Istanbul-Kandi 134.15 315 PKHKP PKPpre 17 33 50.7
ISK Istanbul-Kandi 134.15 315 P PKPpre 17 33 50.7
IZI Iznik 134.16 314 *e*P **PKPdf 17 34 02.1 +0.8**
ALT Altintas 134.18 312 *e*P **PKPdf 17 34 01.1 -0.3**
RGN Rugen 134.19 339 *e*PKPdf **PKPdf 17 34 02.5 +1.7**
RGN *es*PKPdf **sPKPdf 17 34 21.5 +5.5**
RGN *e*PP **PP 17 36 35.2 +3.6**
DOPR Dopca 134.21 323 ⇓*i*P **PKPdf 17 34 01.2 0.0**
KOLS Kolonicke sedl 134.25 328 *e*PKP **PKPdf 17 34 01.6 +0.5**
KOLS *e*PP **PP 17 36 32.2 -0.1**
SECR 134.29 321 ⇓*i*P **PKPdf 17 34 02.7 +1.4**
BGKT Bogazkoy 134.30 315 *e*P **PKPdf 17 34 01.7 +0.3**
ISP Isparta 134.31 310 *e*P **PKPdf 17 34 01.8 +0.1**
ISP Isparta 134.31 310 ⇓PKIKP **PKPdf 17 34 00.1 -1.6**
ISP Isparta 134.31 310 ⇓*i*P **PKPdf 17 34 00.1 -1.6**
ISP Isparta 134.31 310 *e*PKPpre PKPpre 17 33 56.4
ISP LR LR

comp=Z,27µm,21.0s
GEMT Gemlik 134.32 314 *e*P **PKPdf 17 33 59.8 -1.7**
BMR Baia Mare 134.34 326 ⇑PKIKP **PKPdf 17 34 01.6 +0.3**
BMR Baia Mare 134.34 326 ⇑*i*P **PKPdf 17 34 01.6 +0.3**

SULR		**134.35**	**321**	⇓*i*P	**PKPdf**	**17 34 00.3**	**-1.1**
BCK	**Bucak**	**134.38**	**309**	*e*P	**PKPdf**	**17 34 03.0**	**+1.2**
UZH	**Uzhgorod**	**134.42**	**327**	*ee*PKHKP	PKPpre	17 33 46.2	
UZH				*i*		17 34 00.0	
UZH				*e*		17 34 12.6	
UZH				*e*PS	x	17 48 30.0	
UZH				*e*SS	SS	17 54 24.8	+3.5
UZH				MLR	MLR		
	comp=N,13µm,21.0s						
UZH				MLR	MLR		
	comp=E,17µm,21.0s						
UZH				MLR	MLR		
	comp=Z,7µm,21.0s						
CTKS	**Kestanelik-??a**	**134.46**	**315**	*e*P	**PKPdf**	**17 34 01.1**	**-0.6**
STHS	**Stebnicka Huta**	**134.47**	**329**	*e*PKHKP	PKPpre	17 33 48.8	
STHS				*e*		17 34 03.2	
STHS				*e*		17 36 32.9	
STHS	**Stebnicka Huta**	**134.47**	**329**	*e*	PKPpre	17 33 48.8	
STHS	**Stebnicka Huta**	**134.47**	**329**	*e*PKP	**PKPdf**	**17 34 03.2**	**+1.7**
STHS				*e*PP	**PP**	**17 36 32.9**	**-0.8**
ARMT	**Armutlu**	**134.49**	**314**	*e*P	**PKPdf**	**17 34 00.4**	**-1.4**
TVSB	**Tavsanli**	**134.50**	**312**	*e*P	**PKPdf**	**17 34 00.4**	**-1.6**
CTYL	**Yal??k??y-??at**	**134.51**	**316**	*e*P	**PKPdf**	**17 34 01.1**	**-0.7**
ANTB	**Antalya**	**134.52**	**309**	*e*P	**PKPdf**	**17 33 59.8**	**-2.2**
MDNY	**Mudanya-Bursa**	**134.56**	**314**	*e*P	**PKPdf**	**17 34 01.7**	**-0.2**
OJC	**Ojcow**	**134.66**	**330**	*e*	PKPpre	17 33 43.3	
OJC				*e*PKPc		17 34 01.5	
OJC				*e*PP	**PP**	**17 36 30.4**	**-4.5**
OJC				LMZ	LR	18 33 43.0	
OJC	**Ojcow**	**134.66**	**330**	⇑*e*PKIKP	**PKPdf**	**17 34 01.6**	**-0.2**
OJC				*e*		17 36 30.4	
OJC				MLR	MLR		
	comp=Z,57µm,22.0s						
SLVT	**Silivri**	**134.67**	**315**	*e*P	**PKPdf**	**17 34 01.7**	**-0.4**
VOIR		**134.69**	**322**	⇑PKIKP	**PKPdf**	**17 34 01.6**	**-0.6**
VOIR		**134.69**	**322**	⇑*i*P	**PKPdf**	**17 34 01.6**	**-0.6**
CJR	**Cluj-Napoca**	**134.84**	**324**	⇑PKIKP	**PKPdf**	**17 34 02.9**	**+0.6**
CJR	**Cluj-Napoca**	**134.84**	**324**	⇑*i*P	**PKPdf**	**17 34 02.9**	**+0.6**
NIE	**Niedzica**	**134.94**	**329**	*e*Pdiff	**Pdif**	**17 31 07.1**	**+3.2**
NIE				*e*		17 33 46.8	
NIE				*e*PKPc		17 34 02.9	
NIE				*e*PP	**PP**	**17 36 34.0**	**-2.7**
NIE				*e*SS	SS	17 54 33.9	+6.4
NIE				LMZ	LR	18 32 21.6	
NIE	**Niedzica**	**134.94**	**329**	⇑*e*PKIKP	**PKPdf**	**17 34 03.0**	**+0.6**
NIE				*e*		17 36 34.0	
NIE				*e*SS	SS	17 54 33.9	+6.4
NIE				MLR	MLR		
	comp=Z,36µm,23.5s						
PHSR	**Pinarhisar**	**134.96**	**316**	*e*P	**PKPdf**	**17 34 01.7**	**-0.9**
KCTX	**Karacabey (Bur**	**134.97**	**314**	*e*P	**PKPdf**	**17 34 01.1**	**-1.7**
ARR	**Arges**	**134.98**	**322**	⇑*i*P	**PKPdf**	**17 34 04.7**	**+2.0**
BDFB	**Brasilia**	**135.00**	**129**	PKhKP	PKPpre	17 33 53.4	
	comp=Z,10nm,0.8s,baz=238,slow=2.5,SNR=9.3						
BDFB				PKP	**PKPdf**	**17 34 03.6**	**0.0**
	comp=Z,58nm,0.8s,baz=219,slow=3.4,SNR=27						
BDFB				SKPbc	**SKPab**	**17 37 34.2**	**-1.3**
	comp=Z,79nm,1.1s,baz=289,slow=2.2,SNR=10						
GOLR		**135.06**	**321**	⇓*i*P	**PKPdf**	**17 34 03.2**	**+0.5**
BBGH	**Gun Hill**	**135.08**	**85**	PFAKE		17 34 20.0	+16
BBGH				LR	LR		
	comp=Z,83µm,20.0s						
JMB	**Yambol**	**135.21**	**318**	P	**PP**	**17 36 43.4**	**+4.6**
JMB	**Yambol**	**135.21**	**318**	⇑PKIKP	**PKPdf**	**17 34 02.8**	**-0.3**
JMB	**Yambol**	**135.21**	**318**	⇑*i*P	**PKPdf**	**17 34 02.8**	**-0.3**
HUMR	**Humele**	**135.21**	**321**	⇑*i*P	**PKPdf**	**17 34 02.3**	**-0.7**
TKR	**Tekirdag**	**135.23**	**315**	*e*P	**PKPdf**	**17 34 02.4**	**-0.8**
EDC	**Edincik**	**135.28**	**314**	*e*P	**PKPdf**	**17 34 02.6**	**-0.9**
DRGR		**135.29**	**325**	⇑PKIKP	**PKPdf**	**17 34 02.6**	**-0.7**
DRGR		**135.29**	**325**	⇑*i*P	**PKPdf**	**17 34 02.5**	**-0.7**
TSUM	**Tsumeb**	**135.34**	**224**	PKhKP	PKPpre	17 33 53.3	
	comp=Z,17nm,0.7s,baz=147,slow=4.7,SNR=19						
TSUM				PKP	**PKPdf**	**17 34 04.0**	**-0.3**
	comp=Z,35nm,0.8s,baz=128,slow=5.2,SNR=17						
TSUM				PP	**PP**	**17 36 36.4**	**-3.4**
	comp=Z,7.9nm,0.9s,baz=207,slow=2.3,SNR=2.7						
TSUM				SKPbc	**SKPab**	**17 37 37.4**	**+0.5**
	comp=Z,20nm,0.9s,baz=134,slow=6.2,SNR=4.1						
TSUM	**Tsumeb**	**135.34**	**224**	PKPpre	PKPpre	17 33 53.3	
TSUM				PKP	**PKPdf**	**17 34 04.0**	**-0.3**
TSUM				PP	**PP**	**17 36 36.4**	**-3.4**
TSUM				SKPbc	**SKPab**	**17 37 37.4**	**+0.5**
TSUM				LR	LR		
	comp=Z,63µm,22.0s						
MRMT	**Marmara Adasi**	**135.35**	**315**	*e*P	**PKPdf**	**17 34 01.7**	**-1.8**
EDRB	**Edirne**	**135.39**	**317**	*e*P	**PKPdf**	**17 34 03.0**	**-0.4**
EDRB	**Edirne**	**135.39**	**317**	P	PKPpre	17 33 47.4	
EDRB	**Edirne**	**135.39**	**317**	P	PKPpre	17 33 47.4	
KULA	**Kula-Manisa**	**135.43**	**312**	*e*P	**PKPdf**	**17 34 02.4**	**-1.4**
KULA	**Kula-Manisa**	**135.43**	**312**	P	PKPpre	17 33 48.2	
KULA	**Kula-Manisa**	**135.43**	**312**	P	PKPpre	17 33 48.2	
LOT	**Lotru**	**135.45**	**323**	*e*P	**PKPdf**	**17 34 02.7**	**-0.9**
LOT	**Lotru**	**135.45**	**323**	⇑*i*P	**PKPdf**	**17 34 02.3**	**-1.3**
RAC	**Raciborz**	**135.51**	**331**	*e*P	**Pdif**	**17 31 08.3**	**+1.9**
BALB	**Balikesir**	**135.56**	**313**	*e*P	**PKPdf**	**17 34 01.1**	**-2.7**
RUE	**Ruedersdorf**	**135.65**	**337**	*e*PKPdf	**PKPdf**	**17 34 05.2**	**+1.7**
RUE				*e*PP	**PP**	**17 36 41.2**	**+0.4**
RUE	**Ruedersdorf**	**135.65**	**337**	*e*PKPdf	**PKPdf**	**17 34 04.5**	**+1.0**
DEV	**Deva**	**135.71**	**324**	⇓PKIKP	**PKPdf**	**17 34 04.2**	**+0.3**
DEV	**Deva**	**135.71**	**324**	⇓*i*P	**PKPdf**	**17 34 04.2**	**+0.3**
OKC	**Ostrava-Krasne**	**135.71**	**331**	*e*PDIFF	**Pdif**	**17 31 04.4**	**-2.9**
OKC				*e*PKPpre	PKPpre	17 33 54.3	
OKC				*e*PKPdf	**PKiKP**	**17 34 05.4**	**0.0**
OKC				*es*PKP		17 34 19.4	
OKC				*e*PP	**PP**	**17 36 38.6**	**-2.8**
OKC				*e*SKP		17 37 37.6	
OKC				*e*XS		17 45 11.4	
OKC				*e*PKKS		17 46 43.1	
OKC				*ex*	x	17 48 52.2	
OKC				AMS	AMS	18 29 50.0	
	comp=Z,46µm,25.2s						
OKC	**Ostrava-Krasne**	**135.71**	**331**	*e*P	**Pdif**	**17 31 04.4**	**-2.9**
OKC				*e*		17 34 05.4	
OKC				*e*		17 34 19.4	
OKC				*e*		17 36 38.6	
OKC				*e*		17 48 52.2	
OKC				MLR	MLR		
	comp=Z,46µm,25.2s						
BSEG	**Bad Segeberg**	**135.72**	**340**	*e*PKPdf	**PKPdf**	**17 34 05.4**	**+1.8**
BSEG				*e*PP	**PP**	**17 36 45.7**	**+4.5**
FETY	**Fethiye**	**135.79**	**309**	*e*P	**PKPdf**	**17 34 01.7**	**-2.7**
KSP	**Ksiaz**	**135.84**	**333**	*e*Pdiff	**Pdif**	**17 31 07.9**	**+0.1**
KSP				*e*		17 33 47.4	
KSP				*e*PKPc		17 34 03.8	
KSP				*e*PP	PP	17 36 36.5	-5.7
KSP				LMZ	LR	18 33 19.1	
KSP	**Ksiaz**	**135.84**	**333**	*e*P	**Pdif**	**17 31 08.0**	**+0.1**
KSP				*e*		17 33 47.5	
AKS	**Akhisar**	**135.91**	**312**	*e*P	**PKPdf**	**17 34 05.0**	**+0.4**
LPK	**Lapseki**	**136.03**	**315**	*e*P	**PKPdf**	**17 34 01.1**	**-3.6**
DALY	**Dalyan (Mu¨la**	**136.05**	**309**	*e*P	**PKPdf**	**17 34 03.7**	**-1.1**
GZR	**Gura Zlata**	**136.06**	**323**	⇑PKIKP	**PKPdf**	**17 34 04.1**	**-0.6**
GZR	**Gura Zlata**	**136.06**	**323**	⇑*i*P	**PKPdf**	**17 34 04.1**	**-0.6**
ERIK	**Erikli-Kesan**	**136.07**	**315**	*e*P	**PKPdf**	**17 34 03.7**	**-1.1**
PSZ	**Piszkesteto**	**136.12**	**328**	*e*PKIKP	**PKPdf**	**17 34 05.8**	**+1.1**
PSZ				MLR	MLR		
	comp=Z,35µm,19.0s						
PSZ	**Piszkesteto**	**136.12**	**328**	⇑*i*P	**PKPdf**	**17 34 03.5**	**-1.2**
PSZ	**Piszkesteto**	**136.12**	**328**	*e*PKPdf	**PKPdf**	**17 34 05.8**	**+1.1**
PSZ				LR	LR		
	comp=Z,35µm,19.0s						
PSZ	**Piszkesteto**	**136.12**	**328**	*e*P	PKPpre	17 33 51.5	
PSZ				⇑*e*		17 34 04.5	
PSZ				*e*		17 36 44.9	
DPC	**Dobruska-Polom**	**136.18**	**333**	*e*PDIFF	**Pdif**	**17 31 08.1**	**-1.4**
DPC				*e*PKPpre	PKPpre	17 33 53.9	
DPC				*e*PKPdf	**PKiKP**	**17 34 06.2**	**-0.2**
DPC				*ex*	x	17 34 23.2	
DPC				*e*PP	**PP**	**17 36 41.5**	**-2.9**
DPC				*e*SKP		17 37 37.2	
DPC				*ex*	x	17 37 40.7	
DPC				*e*PKKS		17 46 40.2	
DPC				*ex*	x	17 49 01.2	
DPC				AMS	AMS	18 33 40.0	
	comp=Z,78µm,22.2s						
DPC	**Dobruska-Polom**	**136.18**	**333**	*e*P	**Pdif**	**17 31 08.1**	**-1.4**
DPC				*e*		17 34 06.2	
DPC				*e*		17 36 41.5	
DPC				MLR	MLR		
	comp=Z,78µm,22.2s						
SIRR	**Siria**	**136.19**	**325**	⇑*i*P	**PKPdf**	**17 34 05.1**	**+0.3**
UPC	**Upice**	**136.21**	**333**	*e*PKPpre	PKPpre	17 33 53.9	
UPC				*e*PKPdf	**PKiKP**	**17 34 06.2**	**-0.2**
UPC				*e*SKP		17 37 37.3	
UPC				*e*PKKS		17 46 41.1	
UPC	**Upice**	**136.21**	**333**	*e*PKHKP	PKPpre	17 33 53.9	
UPC				*e*		17 34 06.2	
AYDB	**Zeytinkoy-Aydi**	**136.21**	**311**	*e*P	**PKPdf**	**17 34 04.3**	**-1.0**
GELI	**Tayfur-Gelibol**	**136.22**	**315**	*e*P	**PKPdf**	**17 34 03.7**	**-1.4**
YER	**Yerkesik**	**136.22**	**310**	*e*P	**PKPdf**	**17 34 03.7**	**-1.6**
HLG	**Helgoland**	**136.27**	**342**	*e*PKPdf	**PKPdf**	**17 34 06.5**	**+1.8**
HLG				*es*PKPdf	**sPKPdf**	**17 34 25.7**	**+5.8**
ENEZ	**Enez**	**136.28**	**316**	*e*P	**PKPdf**	**17 34 04.3**	**-0.8**
ALN	**Alexandroupoli**	**136.29**	**316**	P	PKPpre	17 33 50.7	
ALN	**Alexandroupoli**	**136.29**	**316**	*e*P	**PKPdf**	**17 34 05.7**	**+0.6**
ALN	**Alexandroupoli**	**136.29**	**316**	PKHKP	PKPpre	17 33 50.7	
ALN	**Alexandroupoli**	**136.29**	**316**	P	PKPpre	17 33 50.7	
KDZ	**Kurdzhali**	**136.36**	**317**	⇓PKIKP	**PKPdf**	**17 34 04.6**	**-0.7**
KDZ	**Kurdzhali**	**136.36**	**317**	⇓*i*P	**PKPdf**	**17 34 04.6**	**-0.7**
KDZ	**Kurdzhali**	**136.36**	**317**	P	PKPpre	17 33 48.5	
IZM	**Izmir**	**136.49**	**312**	*e*P	**PKPdf**	**17 34 05.8**	**+0.2**
EZN	**Ezine**	**136.57**	**314**	*e*P	**PKPdf**	**17 34 03.7**	**-2.0**
MPEP	**Malo Peshtene**	**136.59**	**320**	P	**PKPdf**	**17 34 01.2**	**-4.4**
BZS	**Buzias**	**136.60**	**324**	⇑*i*P	**PKPdf**	**17 34 05.0**	**-0.6**
PLD	**Plovdiv**	**136.61**	**318**	P	PKPpre	17 33 55.3	
PLD	**Plovdiv**	**136.61**	**318**	PKHKP	PKPpre	17 33 55.3	
PLD	**Plovdiv**	**136.61**	**318**	P	PKPpre	17 33 49.8	
PLD	**Plovdiv**	**136.61**	**318**	P	PKPpre	17 33 55.3	
BLCB	**Balcova**	**136.66**	**312**	*e*P	**PKPdf**	**17 34 03.0**	**-2.9**
ARG	**Arkhangelos**	**136.66**	**309**	*e*P	**PKPdf**	**17 34 09.4**	**+3.4**
GADA	**Gvkgeada**	**136.70**	**315**	*e*P	**PKPdf**	**17 34 03.7**	**-2.3**
RZN	**Rozhen**	**136.80**	**318**	P	PKPpre	17 33 50.6	
VRAC	**Vranov**	**136.80**	**332**	PKhKP	PKPpre	17 33 56.5	
	comp=Z,11nm,0.9s,baz=49,slow=5.8,SNR=2.2						
VRAC				PKP	**PKiKP**	**17 34 07.1**	**-0.5**
	comp=Z,21nm,0.8s,baz=110,slow=1.2,SNR=7.8						
VRAC				PP	**PP**	**17 36 47.8**	**-0.5**
	comp=Z,15nm,1.0s,baz=64,slow=5.3,SNR=5.0						
VRAC				SKPbc	**SKPbc**	**17 37 38.5**	**+2.4**
	comp=Z,96nm,1.3s,baz=65,slow=1.6,SNR=4.3						
VRAC	**Vranov**	**136.80**	**332**	⇑*i*P	**PKPdf**	**17 34 05.3**	**-0.6**
PVCC	**Panska Ves**	**136.81**	**334**	*e*PDIFF	**Pdif**	**17 31 15.3**	**+3.1**
PVCC				*e*PKPpre	PKPpre	17 33 53.3	
PVCC				*e*PKPdf	**PKPdf**	**17 34 04.9**	**-0.9**
PVCC				*es*PKP		17 34 21.9	
PVCC				*e*PP	**PP**	**17 36 47.3**	**-0.9**
PVCC				*e*SKP		17 37 39.3	
PVCC				*ex*	x	17 45 18.0	
PVCC				*ex*	x	17 49 03.3	
PVCC				AMS	AMS	18 31 40.0	
	comp=Z,44µm,25.7s						
PVCC	**Panska Ves**	**136.81**	**334**	*e*P	**Pdif**	**17 31 15.3**	**+3.1**
PVCC				*e*		17 33 53.3	
PVCC				*e*		17 34 04.9	
PVCC				*e*		17 36 47.3	
PVCC				*e*		17 49 03.3	
PVCC				MLR	MLR		
	comp=Z,44µm,25.7s						
BRG	**Berggiesshubel**	**136.81**	**335**	PDIFF	**Pdif**	**17 31 13.0**	**+0.8**
BRG	**Berggiesshubel**	**136.81**	**335**	*e*PKP	PKPpre	17 33 54.7	
	comp=Z,4.7nm,1.3s						
BRG				*i*		17 34 07.2	
	comp=Z,342nm,1.5s						
BRG				*i* PP	PP	17 36 40.2	-8.0
	comp=Z,534nm,2.7s						
BRG				*e*		17 37 36.5	
	comp=Z,121nm,1.3s						
BRG	**Berggiesshubel**	**136.81**	**335**	*e*PKPdf	**PKPdf**	**17 34 07.6**	**+1.8**
BRG	**Berggiesshubel**	**136.81**	**335**	*e*PKHKP	PKPpre	17 33 54.7	
BRG				*i*		17 34 07.2	
BRG				pmax	pmax		
	comp=Z,342nm,1.5s						
SMTH	**Samothraki Isl**	**136.83**	**316**	P	PKPpre	17 33 50.5	
SMTH	**Samothraki Isl**	**136.83**	**316**	*e*P	PKPpre	17 33 59.2	
SMTH	**Samothraki Isl**	**136.83**	**316**	P	PKPpre	17 33 50.5	
BUD	**Budapest**	**136.85**	**328**	*e*PKPdf	PKPpre	17 33 58.2	
BUD				⇑*e*PKPdf	**PKPdf**	**17 34 05.6**	**-0.4**
BUD				*e*		17 36 50.6	
PRK	**Paraskevi**	**136.85**	**314**	P	PKPpre	17 33 53.4	
PRK	**Paraskevi**	**136.85**	**314**	*e*P	**PKPdf**	**17 34 08.8**	**+2.6**
PRK	**Paraskevi**	**136.85**	**314**	PKHKP	PKPpre	17 33 53.4	
PRK	**Paraskevi**	**136.85**	**314**	P	PKPpre	17 33 53.4	
CLL	**Collm**	**136.86**	**336**	*e*PKPdf	**PKPdf**	**17 34 07.4**	**+1.5**
CLL	**Collm**	**136.86**	**336**	*e*pPdif	**pPdif**	**17 31 21.0**	**-2.5**
CLL				*e*PKPpre	PKPpre	17 33 56.0	
CLL				*e*		17 34 00.0	
	comp=Z,29nm,1.1s						
CLL				*i* PKPdf	**PKPdf**	**17 34 05.7**	**-0.2**
	comp=Z,106nm,1.4s						
CLL				*i* PKiKP	**PKiKP**	**17 34 08.9**	**+1.2**
	comp=Z,229nm,1.4s						
CLL				*i* pPKPdf	pPKPdf	17 34 15.3	-1.9
CLL				*i* (sPKiKP)		17 34 23.8	
CLL				*i*		17 34 31.9	
CLL				*e*PP	**PP**	**17 36 44.0**	**-4.5**
CLL				*e*PPmax		17 36 59.0	
CLL				*e*PPlp		17 36 53.0	
	comp=Z,17µm,26.1s						
CLL				*es*PP		17 37 01.0	
CLL				*e*SKPdf	**SKPbc**	**17 37 37.0**	**+0.8**
CLL				*i* PKSdf	**PKSdf**	**17 37 40.6**	**-1.3**
	comp=Z,190nm,1.6s						
CLL				*i* pSKPbc		17 37 47.5	
CLL				*es*PKSdf		17 37 54.0	
CLL				*es*PKSdf		17 37 58.0	
CLL				*e*PPP	PPP	17 39 42.0	
CLL				*e*		17 42 48.0	
CLL				*e*Sdif	**Sdif**	**17 45 06.0**	**-2.1**
CLL				*e*PPS	PPS	17 48 59.0	
CLL				*e*SS	**SS**	**17 54 52.0**	**+2.0**
CLL				*e*PSPS		17 55 45.0	
CLL				*e*		17 56 19.0	
CLL				*e*		17 57 06.0	
CLL				*e*SSS	SSS	18 00 06.0	
CLL				*e*		18 03 06.0	
CLL				*e*		18 05 12.0	
CLL				LmV		18 36 00.0	
	comp=Z,35µm,21.6s						
CLL	**Collm**	**136.86**	**336**	*e*PKHKP	PKPpre	17 33 56.0	
CLL				*i*		17 34 05.7	
CLL				*e*		17 36 49.0	
CLL				pmax	pmax		
	comp=Z,106nm,1.4s						
CLL				MLR	MLR		
	comp=Z,35µm,21.6s						
DAT	**Datca**	**136.89**	**310**	*e*P	**PKPdf**	**17 34 05.6**	**-1.0**
SMOL	**Smolenice**	**136.96**	**330**	*e*PKP	**PKPdf**	**17 34 08.3**	**+2.1**
SMOL				*e*PP	**PP**	**17 36 49.8**	**+0.5**
BODT	**Bodrum**	**136.97**	**310**	*e*P	**PKPdf**	**17 34 05.0**	**-1.6**
NRDL	**Niedersach Rie**	**136.98**	**339**	*e*PKPdf	**PKPdf**	**17 34 07.5**	**+1.5**
NRDL				*e*PP	**PP**	**17 36 53.1**	**+4.0**
BANR	**Banloc**	**137.01**	**324**	⇑*i*P	**PKPdf**	**17 34 08.4**	**+2.1**
FBE	**Freiberg**	**137.02**	**335**	*e*PKPdf	**PKPdf**	**17 34 08.1**	**+1.9**
FBE				*es*PKPdf	**sPKPdf**	**17 34 25.8**	**+4.4**
FBE				*e*PP	**PP**	**17 36 53.3**	**+3.8**
SMG	**Samos**	**137.07**	**311**	P	PKPpre	17 33 53.7	
SMG	**Samos**	**137.07**	**311**	*e*P	**PKPdf**	**17 34 02.4**	**-4.3**
SMG	**Samos**	**137.07**	**311**	P	PKPpre	17 33 53.7	
SIGR	**SIGRI**	**137.16**	**314**	*e*P	**PKPdf**	**17 34 04.4**	**-2.4**
SIGR	**SIGRI**	**137.16**	**314**	P	PKPpre	17 33 51.1	
SIGR	**SIGRI**	**137.16**	**314**	*e*P	PKPpre	17 33 58.4	
SIGR	**SIGRI**	**137.16**	**314**	P	PKPpre	17 33 51.1	
GOPC	**GO Pecny, Ondr**	**137.18**	**333**	*e*PDIFF	**Pdif**	**17 31 15.8**	**+1.9**
GOPC				*e*PKPpre	PKPpre	17 33 56.3	
GOPC				*e*PKPdf	**PKiKP**	**17 34 08.2**	**-0.2**
GOPC				*ex*	x	17 34 24.8	
GOPC				*e*PP	**PP**	**17 36 51.9**	**+1.3**
GOPC				*e*SKP		17 37 39.3	
GOPC				*e*SDIF		17 45 13.3	
GOPC				*e*PKKS		17 46 35.6	
GOPC				*ex*	x	17 49 05.6	
GOPC				AMS	AMS	18 36 50.0	
	comp=Z,43µm,21.9s						
PRA	**Prague**	**137.21**	**334**	*e*PDIFF	**Pdif**	**17 31 15.9**	**+1.9**
PRA				*e*PKPdf	**PKPdf**	**17 34 06.8**	**+0.2**
PRA				*e*PP	**PP**	**17 36 52.3**	**+1.6**
PRA				*e*SKP		17 37 41.5	
PRA				*e*SDIF		17 45 12.6	
PRA				*e*PKKS		17 46 37.1	
PRA				*ex*	x	17 49 06.3	
PRA				AMS	AMS	18 32 10.0	
	comp=Z,40µm,24.2s						
PRA	**Prague**	**137.21**	**334**	*e*P	**Pdif**	**17 31 15.9**	**+1.9**
PRA				*e*		17 34 06.8	
PRA				*e*		17 36 52.3	
PRA				*e*		17 49 06.3	
PRA				MLR	MLR		
	comp=Z,40µm,24.2s						
PRU	**Pruhonice**	**137.23**	**334**	*e*PDIFF	**Pdif**	**17 31 15.7**	**+1.6**
PRU				*e*PKPpre	PKPpre	17 33 55.9	
PRU				*e*PKPdf	**PKiKP**	**17 34 08.0**	**-0.5**
PRU				*e*PP	**PP**	**17 36 48.9**	**-2.0**
PRU				*e*SKP		17 37 39.8	
PRU				*e*SDIF		17 45 12.9	
PRU				*e*PKKS		17 46 36.3	
PRU				*ex*	x	17 49 06.5	
PRU				AMS	AMS	18 36 50.0	
	comp=Z,40µm,23.2s						
PRU	**Pruhonice**	**137.23**	**334**	*e*P	**Pdif**	**17 31 15.7**	**+1.6**
PRU				*e*		17 33 55.9	
PRU				*e*		17 34 08.0	
PRU				*e*		17 36 48.9	
PRU				*e*		17 49 06.5	
PRU				MLR	MLR		
	comp=Z,40µm,23.2s						
PKSG		**137.23**	**328**	⇓*e*PKPdf	**PKPdf**	**17 34 07.9**	**+1.2**
PKSG				*e*		17 36 53.2	
KAVA	**Kavala**	**137.27**	**317**	P	PKPpre	17 33 54.1	
KAVA	**Kavala**	**137.27**	**317**	*e*P	PKPpre	17 34 00.2	
KAVA	**Kavala**	**137.27**	**317**	P	PKPpre	17 33 54.1	
TREC	**Trest**	**137.32**	**332**	*e*PDIFF	**Pdif**	**17 31 15.1**	**+0.6**
TREC				*e*PKPpre	PKPpre	17 33 56.5	
TREC				*e*PKPdf	**PKiKP**	**17 34 08.3**	**-0.4**
TREC				*es*PKP		17 34 23.7	
TREC				*e*PP	**PP**	**17 36 48.4**	**-3.1**
TREC				*e*SKP		17 37 40.3	
TREC				*ex*	x	17 37 43.5	
TREC				*e*PKKS		17 46 35.1	
TREC				*ex*	x	17 48 50.5	
TREC				AMS	AMS	18 34 40.0	
	comp=Z,71µm,23.1s						
TREC	**Trest**	**137.32**	**332**	*e*P	**Pdif**	**17 31 15.1**	**+0.6**
TREC				*e*		17 33 56.5	
TREC				*e*		17 34 08.3	
TREC				*e*		17 34 23.7	
TREC				*e*		17 36 48.4	
TREC				MLR	MLR		
	comp=Z,71µm,23.1s						
VTS	**Vitosha**	**137.32**	**320**	P		17 36 59.1	
VTS	**Vitosha**	**137.32**	**320**	⇑*i*P	**PKPdf**	**17 34 06.1**	**-1.1**
VTS	**Vitosha**	**137.32**	**320**	P	PKPpre	17 33 54.9	
LIA	**Limnos Island**	**137.32**	**315**	P	PKPpre	17 33 51.6	
LIA	**Limnos Island**	**137.32**	**315**	*e*P	**PKPdf**	**17 34 07.0**	**-0.1**
LIA	**Limnos Island**	**137.32**	**315**	P	PKPpre	17 33 51.6	
CHOS	**Chios island**	**137.36**	**313**	P	PKPpre	17 33 51.6	
CHOS	**Chios island**	**137.36**	**313**	P	PKPpre	17 33 51.6	
PKS2	**Kecel**	**137.39**	**327**	⇓*e*PKPdf	**PKPdf**	**17 34 08.6**	**+1.6**
NEUB	**Neuenburg**	**137.42**	**337**	*e*PKPdf	**PKPdf**	**17 34 08.5**	**+1.6**
NEUB				*es*PKPdf	**sPKPdf**	**17 34 26.8**	**+4.6**
NEUB				*e*PP	**PP**	**17 36 55.3**	**+3.4**
CLZ	**Clausthal**	**137.43**	**338**	*e*PKPdf	**PKPdf**	**17 34 08.7**	**+1.7**
CLZ				*e*PP	**PP**	**17 36 56.2**	**+4.2**
MMB	**Musomiste**	**137.50**	**318**	⇑PKHKP	PKPpre	17 33 57.1	
MMB	**Musomiste**	**137.50**	**318**	⇑*i*P	PKPpre	17 33 57.1	
MMB	**Musomiste**	**137.50**	**318**	P	PKPpre	17 33 54.0	
PKST	**T¨'s**	**137.50**	**328**	⇓*e*PKPdf	**PKPdf**	**17 34 08.2**	**+1.0**
PKST				*e*		17 36 52.2	
NVR	**Nevrokopi**	**137.53**	**318**	P	PKPpre	17 33 54.1	
NVR	**Nevrokopi**	**137.53**	**318**	P	PKPpre	17 33 54.1	
KARP	**Karpathos**	**137.63**	**308**	P	PKPpre	17 33 58.5	
KARP	**Karpathos**	**137.63**	**308**	P	PKPpre	17 33 58.5	
EKA	**Eskdalemuir Ar**	**137.69**	**351**	PKhKP	PKPpre	17 33 58.1	
	comp=Z,7.6nm,0.6s,baz=0.4,slow=2.3,SNR=18						
EKA				PKP	**PKPdf**	**17 34 08.1**	**+0.9**
	comp=Z,10nm,0.6s,baz=6.0,slow=2.2,SNR=15						
EKA				PP	**PP**	**17 36 51.7**	**-1.6**
	comp=Z,24nm,1.1

KHC *e* 17 36 55.4
KHC MLR MLR
comp=Z,57µm,23.5s
PAIG Paliouri 138.34 316 *e*P PKPpre 17 33 59.9
ROTZ Rotzenmuhle 138.38 335 *e*PKPdf **PKPdf 17 34 10.3 +1.5**
ROTZ *e*PP **PP 17 37 02.1 +4.1**
VAY Valandovo 138.38 318 *i* PKP PKPpre 17 33 59.7
UBBA Unterbreizbach 138.40 338 *e*PKPdf **PKPdf 17 34 09.9 +1.3**
UBBA *es*PKPdf **sPKPdf 17 34 30.3 +6.4**
UBBA *e*PP **PP 17 37 01.5 +3.6**
HORT Hortiatis 138.40 317 *e*P **PKPdf 17 34 07.5 -1.7**
HORT Hortiatis 138.40 317 P PKPpre 17 33 55.7
HORT Hortiatis 138.40 317 *e*P PKPpre 17 33 53.0
HORT Hortiatis 138.40 317 P PKPdf 17 33 55.7 -13
DIVS Divibare 138.43 323 P PKPpre 17 33 53.0
DIVS Divibare 138.43 323⇑ *i*P PKPpre 17 33 53.7
GERES GERESS Array B 138.44 333 PKhKP PKPpre 17 33 59.1
comp=Z,6.8nm,0.9s,baz=41,slow=2.5,SNR=26
GERES PKP **PKiKP 17 34 10.3 -0.8**
comp=Z,29nm,0.7s,baz=80,slow=1.1,SNR=30
GERES PP **PP 17 37 01.5 +2.9**
comp=Z,7.5nm,0.8s,baz=318,slow=1.3,SNR=2.8
GERES SKPbc **SKPbc 17 37 42.9 +1.8**
comp=Z,25nm,0.8s,baz=35,slow=3.6,SNR=8.0
THE Thessaloniki 138.47 317 P PKPpre 17 33 58.3
THE Thessaloniki 138.47 317 PKHKP PKPpre 17 33 58.3
THE Thessaloniki 138.47 317 P PKPpre 17 33 58.3
WTSB Winterswijk 138.52 341 *e*Pdiff **Pdif 17 31 25.1 +5.4**
WTSB *e*PKPbc PKPdf 17 34 01.6 -7.3
WTSB *e*PKPdf **PKiKP 17 34 08.5 -2.5**
WTSB *e*PP **PP 17 36 58.7 0.0**
AOS Alonnisos 138.55 315 P PKPpre 17 33 54.1
AOS Alonnisos 138.55 315 *e*P PKPpre 17 34 00.6
AOS Alonnisos 138.55 315 P PKPpre 17 33 54.1
WET Wettzell 138.58 334 *e*PKPdf **PKPdf 17 34 10.9 +1.7**
WET *e*PP **PP 17 37 03.1 +3.8**
SANT Santorini 138.61 310 P **PKPdf 17 34 10.0 +0.4**
SANT Santorini 138.61 310 *e*P **PKPdf 17 34 07.9 -1.7**
SANT Santorini 138.61 310 P **PKPdf 17 34 10.0 +0.4**
SANT LR LR
comp=Z,16µm,20.0s
THR6 Thira Island, 138.66 310 P PKPpre 17 34 03.1
THR6 Thira Island, 138.66 310 P PKPpre 17 34 03.1
BEHE Becsehely 138.67 328 *e*PKPdf PKPpre 17 33 59.2
BEHE ⇑*e*PKPdf **PKPdf 17 34 09.5 +0.1**
BEHE *ep*Pdiff **PP 17 37 00.0 0.0**
GRG Griva 138.68 318 P PKPpre 17 33 58.3
GRG Griva 138.68 318 *e*P PKPpre 17 34 00.1
GRG Griva 138.68 318 PKHKP PKPpre 17 33 58.3
GRG Griva 138.68 318 P PKPpre 17 33 58.3
SKO Skopje 138.76 320 P PKPpre 17 33 58.1
SKO Skopje 138.76 320 *i* PKP PKPpre 17 34 01.5
SKO Skopje 138.76 320 PKHKP PKPpre 17 33 58.1
SKO Skopje 138.76 320 P PKPpre 17 33 58.1
ARSA Arzberg 138.76 330⇓ *i*PKPdf PKPpre 17 34 02.1
comp=Z,156nm,1.4s,SNR=7.2
BUG Bochum--Univer 138.82 340 *e*PKPdf **PKPdf 17 34 10.8 +1.3**
BUG *e*PP **PP 17 37 04.1 +3.6**
GRF Grafenberg Arr 138.83 336 *e*PKPdf **PKPdf 17 34 11.1 +1.5**
GRF *e*PP PP 17 37 06.7 +5.9
GRF *e*L L 18 37 25.1
comp=Z,41µm,21.5s
GRFO Grafenberg 138.84 336 *e*PKHKP PKPpre 17 34 02.1
GRFO Grafenberg 138.84 336 *e*PKPpre PKPpre 17 34 02.1
MOA Molln 138.93 332⇓ *i*PKiKP **PKiKP 17 34 11.5 -0.6**
comp=Z,195nm,1.8s,SNR=11
XOR Xorichti 138.93 315 P PKPpre 17 33 54.1
XOR Xorichti 138.93 315 *e*P PKPpre 17 33 59.0
XOR Xorichti 138.93 315 P PKPpre 17 33 54.1
NEO Neokhori 138.94 315 P PKPpre 17 33 58.7
NEO Neokhori 138.94 315 *e*P **PKPdf 17 34 12.4 +2.3**
NEO Neokhori 138.94 315 P PKPpre 17 33 58.7
MRKA Markates 138.97 314 P PKPpre 17 33 58.0
MRKA Markates 138.97 314 *e*P **PKPdf 17 34 08.7 -1.5**
LIT Litokhoron 139.05 317 P PKPpre 17 33 54.7
LIT Litokhoron 139.05 317 *e*P PKPpre 17 34 00.5
LIT Litokhoron 139.05 317 PKHKP PKPpre 17 33 54.7
LIT Litokhoron 139.05 317 P PKPpre 17 33 54.7
LAST Lasithi 139.05 308 P PKPpre 17 33 55.3
LAST Lasithi 139.05 308 *e*P PKPpre 17 34 01.4
LAST Lasithi 139.05 308 P PKPpre 17 33 55.3
PTL Penteli 139.07 313 P PKPpre 17 33 58.7
PTL Penteli 139.07 313 *e*P **PKPdf 17 34 09.0 -1.4**
PTL Penteli 139.07 313 P PKPpre 17 33 58.7
SMIA Simia 139.15 315 *e*P **PKPdf 17 34 07.8 -2.7**
ATHU Athens Univers 139.16 313 P **PKPdf 17 34 13.5 +2.9**
ATHU Athens Univers 139.16 313 P **PKPdf 17 34 13.5 +2.9**
PERS Pernice 139.39 330 *e*Pdiff **Pdif 17 31 25.9 +2.0**
LKR Lokris 139.40 315 P PKPpre 17 33 59.9
LKR Lokris 139.40 315 P PKPpre 17 33 59.9
SOKA Soboth 139.40 330⇓ *i*PKiKP **PKPdf 17 34 11.7 +0.9**
comp=Z,360nm,1.9s,SNR=33
VILL Villia 139.41 314 P PKPpre 17 33 57.0
VIL2 Platees 139.42 314 *e*P PKPpre 17 34 04.0
KZN Kozani 139.42 317 P PKPpre 17 33 56.6
KZN Kozani 139.42 317 PKHKP PKPpre 17 33 56.6
KZN Kozani 139.42 317 P PKPpre 17 33 56.6
FNA Florina 139.43 318 *e*P **PKPdf 17 34 09.0 -2.0**
FNA Florina 139.43 318 P PKPpre 17 34 03.9
FNA Florina 139.43 318 *e*P PKPpre 17 34 04.1
FNA Florina 139.43 318 PKHKP PKPpre 17 34 03.9
FNA Florina 139.43 318 P PKPpre 17 34 03.9
IDI Anoyia 139.45 309 PKhKP PKPpre 17 34 06.7
comp=Z,29nm,0.6s,baz=26,slow=5.1,SNR=19
IDI PKP **PKiKP 17 34 13.3 -0.3**
comp=Z,233nm,0.9s,baz=76,slow=4.2,SNR=28
IDI SKPab **SKPab 17 37 54.5 -0.1**
comp=Z,58nm,1.0s,baz=56,slow=12,SNR=3.3
IDI SKKPbc **SKKPbc 17 46 24.3 +3.3**
comp=Z,27nm,1.1s,baz=248,slow=5.4,SNR=4.4
TNS Taunus Mts 139.45 338 *e*PKPdf **PKPdf 17 34 12.0 +1.2**
TNS *e*PP **PP 17 37 08.7 +4.1**
PHP Peshkopia 139.54 320 P PKPpre 17 33 59.1
PHP Peshkopia 139.54 320 PKHKP PKPpre 17 33 59.1
PHP Peshkopia 139.54 320 P PKPpre 17 33 59.1
AXAR Agios Charalam 139.58 315 P **PKPdf 17 34 10.0 -1.3**
AXAR Agios Charalam 139.58 315 P **PKPdf 17 34 10.0 -1.3**
SIVA Sivas 139.61 309 P PKPpre 17 34 01.4
SIVA Sivas 139.61 309 *e*P PKPpre 17 34 05.8
SIVA Sivas 139.61 309 P PKPpre 17 34 01.4
OHR Ohrid 139.63 319 *i* PKP PKPpre 17 34 02.0
THL Klokotos Trika 139.63 316 P PKPpre 17 33 58.3
THL Klokotos Trika 139.63 316 *e*P PKPpre 17 34 02.2
RJOB Jochberg 139.68 333 *e*PKPdf **PKPdf 17 34 12.0 +0.7**
RJOB *e*PP **PP 17 37 09.7 +3.5**
AGG Agios Georgios 139.69 315 P PKPpre 17 33 57.4
AGG Agios Georgios 139.69 315 *e*P PKPpre 17 34 03.4
AGG Agios Georgios 139.69 315 PKHKP PKPpre 17 33 57.4
AGG Agios Georgios 139.69 315 P PKPpre 17 33 57.4
LTK Loutraki 139.71 314 P PKPpre 17 33 59.9
LTK Loutraki 139.71 314 P PKPpre 17 33 59.9
DID Didima 139.75 313 P PKPpre 17 33 56.2
DID Didima 139.75 313 *e*P PKPpre 17 34 03.6
DID Didima 139.75 313 P PKPpre 17 33 56.2
OBKA Obir 139.76 330⇓ *i*PKPdf **PKPdf 17 34 11.4 -0.1**
comp=Z,101nm,1.3s,SNR=13
MAKR Makrakomi, Fth 139.82 316 P PKPpre 17 34 01.0
MAKR Makrakomi, Fth 139.82 316 *e*P PKPpre 17 34 02.8
MAKR Makrakomi, Fth 139.82 316 P PKPpre 17 34 01.0
HGN Heimansgroeve 139.84 341 *e*Pdiff **Pdif 17 31 30.2 +4.6**
HGN *e*PKPbc PKPdf 17 34 02.3 -9.0
HGN *e*PKPdf **PKiKP 17 34 10.3 -3.4**
HGN *e*PP PP 17 36 43.9 -23
HGN Heimansgroeve 139.84 341 *e*PSKS 17 47 21.5
HGN *e*SPP SPP 17 49 18.7
HGN *e*PPPS 17 50 46.2
HGN *e*SS SS 17 55 59.7 +35
DSF Desfina 139.84 314 P PKPpre 17 34 00.2
DSF Desfina 139.84 314 P PKPpre 17 34 00.2
PDG Podgorica 139.84 322 P PKPpre 17 33 59.9
TTG Podgorica 139.84 322 PKHKP PKPpre 17 33 59.9
TTG Podgorica 139.84 322 P PKPpre 17 33 59.9
BEBN Eben Emael 139.89 341 PKP **PKPdf 17 34 12.8 +1.3**
KBA Koelnbreinsper 139.92 332⇑ *i*PKiKP **PKiKP 17 34 13.6 -0.7**
comp=Z,117nm,0.7s,SNR=9.4
VAM Vamos 139.93 309 P PKPpre 17 34 00.5
VAM Vamos 139.93 309 *e*P PKPpre 17 34 02.5
VAM Vamos 139.93 309 PKHKP PKPpre 17 34 00.5
VAM Vamos 139.93 309 P PKPpre 17 34 00.5
MEM Membach 139.95 341 E PKPpre 17 34 04.3
MEM PKP **PKPdf 17 34 12.6 +1.0**

TIR Tirane 140.09 320 *e*PKHKP PKPpre 17 34 04.6
TIR MLR MLR
comp=Z,45µm,22.0s
TIR Tirane 140.09 320 *e*PKPpre PKPpre 17 34 04.6
TIR LR LR
comp=Z,45µm,22.0s
EVR Evrytania 140.09 316 P PKPpre 17 33 59.9
EVR Evrytania 140.09 316 *e*P **PKPdf 17 34 11.6 -0.7**
EVR Evrytania 140.09 316 P PKPpre 17 33 59.9
LJU Ljubljana 140.10 330 *e*Pdiff **Pdif 17 31 26.9 0.0**
LJU *e* 17 33 55.3
LJU *e* 17 35 54.4
LJU *e*PKPdf **PKPdf 17 34 12.2 +0.2**
LJU *e*PP **PP 17 37 06.7 -2.1**
LJU *e* 17 37 48.8
LJU *e* 17 49 15.9
LJU *e* 17 50 50.0
LJU *e*SS SS 17 55 35.0 +6.3
LJU *e* 17 59 30.6
MYKA Terra Mystica 140.10 331⇓ *i*PKiKP **PKPdf 17 34 13.1 +1.0**
comp=Z,112nm,1.4s,SNR=15
BOJS Bojanci 140.11 328 *e*Pdiff **Pdif 17 31 27.6 +0.6**
BOJS *e* 17 33 57.8
BOJS *e* 17 34 06.1
BOJS *e*PKPdf **PKPdf 17 34 11.7 -0.4**
BOJS *e*PP **PP 17 37 06.9 -2.0**
KALE Kalithea 140.12 315 P PKPpre 17 34 02.4
KALE Kalithea 140.12 315 *e*P PKPpre 17 34 05.0
KALE Kalithea 140.12 315 P PKPpre 17 34 02.4
DSB Dublin 140.14 353 *e*PKPdf **PKPdf 17 34 12.3 +0.5**
KARN Karanos 140.14 310 *e*P PKPpre 17 34 04.1
GUR Goura 140.19 314 P PKPpre 17 33 59.3
GUR Goura 140.19 314 *e*P PKPpre 17 34 04.7
GUR Goura 140.19 314 P PKPpre 17 33 59.3
GVD Gavdhos 140.23 309 *e*PKPpre PKPpre 17 34 07.9
EFP Efpalio 140.26 315 P PKPpre 17 33 59.9
EFP Efpalio 140.26 315 *e*P PKPpre 17 34 04.9
KLV Kalavryta, Ach 140.28 314 P PKPpre 17 33 58.3
KLV Kalavryta, Ach 140.28 314 *e*P PKPpre 17 34 03.0
KLV Kalavryta, Ach 140.28 314 P PKPpre 17 33 58.3
UCC Uccle 140.28 342 PKP **PKPdf 17 34 11.9 -0.2**
VLI Veliai 140.31 312 P PKPpre 17 33 59.7
VLI Veliai 140.31 312 *e*P PKPpre 17 34 03.5
VLI Veliai 140.31 312 P PKPpre 17 33 59.7
BCLA Clavier 140.33 341 E PKPpre 17 34 07.1
BCLA PKP **PKPdf 17 34 12.4 +0.2**
JAN Janina 140.36 317 P PKPpre 17 34 00.8
JAN Janina 140.36 317 *e*P **PKPdf 17 34 14.0 +1.3**
JAN Janina 140.36 317 PKHKP PKPpre 17 34 00.8
JAN Janina 140.36 317 P PKPpre 17 34 00.8
STU Stuttgart 140.37 337 *e*PKPdf **PKPdf 17 34 14.1 +1.7**
STU Stuttgart 140.37 337 *e*PKHKP PKPpre 17 34 06.1
STU Stuttgart 140.37 337 *e*PKPpre PKPpre 17 34 06.1
ANKY Antikythira Is 140.41 310 P PKPpre 17 34 02.2
ANKY Antikythira Is 140.41 310 *e*P PKPpre 17 34 07.1
ANKY Antikythira Is 140.41 310 P PKPpre 17 34 02.2
VLX Vlachokerasia 140.43 313 P PKPpre 17 34 01.2
VLX Vlachokerasia 140.43 313 *e*P PKPpre 17 34 07.5
VLX Vlachokerasia 140.43 313 P PKPpre 17 34 01.2
KYTH Kithira 140.43 311 P PKPpre 17 34 05.2
KYTH Kithira 140.43 311 *e*P PKPpre 17 34 05.6
KYTH Kithira 140.43 311 P PKPpre 17 34 05.2
DSL Palaion Diasel 140.47 316 P PKPpre 17 34 01.2
DSL Palaion Diasel 140.47 316 *e*P PKPpre 17 34 03.3
DSL Palaion Diasel 140.47 316 P PKPpre 17 34 01.2
STON Ston 140.50 323 P PKPpre 17 34 06.1
UDBI Udbina 140.51 327 P PKPpre 17 34 06.0
WATA Walderalm 140.52 333⇓ *i*PKPdf **PKPdf 17 34 11.5 -1.4**
comp=Z,89nm,0.9s,SNR=12
ABTA Abfaltersbach 140.54 332⇑ *i*PKPdf **PKPdf 17 34 12.3 -0.6**
comp=Z,233nm,1.0s,SNR=16
WTTA Wattenberg 140.55 333⇓ *i*PKiKP **PKiKP 17 34 14.9 -0.7**
comp=Z,462nm,1.5s,SNR=17
SNF Seneffe 140.56 342 E PKPpre 17 34 07.8
SNF PKP **PKPdf 17 34 13.1 +0.5**
DRO Drossia 140.62 314 P PKPpre 17 34 02.9
DRO Drossia 140.62 314 *e*P PKPpre 17 34 07.7
PDO Prodromos 140.67 316 P PKPpre 17 34 01.8
PDO Prodromos 140.67 316 *e*P PKPpre 17 34 06.2
TRI Trieste 140.71 330 *e*PKHKP PKPpre 17 34 05.3
TRI Trieste 140.71 330 *e*PKPpre PKPpre 17 34 05.3
WLF Walferdange 140.71 340 E PKPpre 17 34 07.7
WLF PKP **PKPdf 17 34 13.6 +0.6**
WLF Walferdange 140.71 340 *e*PKPdf **PKPdf 17 34 14.9 +1.9**
WLF *es*PKPdf **sPKPdf 17 34 32.0 +3.7**
WLF *e*PP **PP 17 37 16.3 +4.1**
WLF Walferdange 140.71 340 *e*PKHKP PKPpre 17 34 07.1
WLF MLR MLR
comp=Z,61µm,22.0s
WLF Walferdange 140.71 340 *e*PKPpre PKPpre 17 34 07.1
WLF LR LR
comp=Z,61µm,22.0s
LANF Langenberg 140.72 338 PKP PKPpre 17 34 07.9
MOTA Moosalm 140.72 334⇓ *i*PKPdf **PKPdf 17 34 12.4 -0.8**
comp=Z,203nm,1.3s,SNR=24
RLS Riolos of Patr 140.74 315 *e*P PKPpre 17 34 07.5
RETA Reutte 140.75 334⇑ *i*PKPdf **PKPdf 17 34 12.2 -1.1**
comp=Z,205nm,2.0s,SNR=25
IGT Igoumenitsa 140.77 317 P PKPpre 17 34 01.6
IGT Igoumenitsa 140.77 317 *e*P PKPpre 17 34 06.6
IGT Igoumenitsa 140.77 317 PKHKP PKPpre 17 34 01.6
IGT Igoumenitsa 140.77 317 P PKPpre 17 34 01.6
SGD Sagiada 140.79 318 P PKPpre 17 34 04.1
SGD Sagiada 140.79 318 *e*P PKPpre 17 34 07.1
SRN Sarande 140.80 318 P PKPpre 17 34 02.4
SRN Sarande 140.80 318 P PKPpre 17 34 02.4
AMT Artemida-Makis 140.82 314 P PKPpre 17 34 03.1
AMT Artemida-Makis 140.82 314 *e*P PKPpre 17 34 04.4
ITM Ithomi 140.83 313 P PKPpre 17 34 02.7
ITM Ithomi 140.83 313 *e*P PKPpre 17 34 07.7
ITM Ithomi 140.83 313 P PKPpre 17 34 02.7
DOU Dourbes 140.84 342 E PKPpre 17 34 07.2
DOU PKP **PKPdf 17 34 13.3 +0.1**
LKD2 Lefkada island 140.94 316 P PKPpre 17 34 02.7
LKD2 Lefkada island 140.94 316 *e*P PKPpre 17 34 06.9
LKD2 Lefkada island 140.94 316 P PKPpre 17 34 02.7
NVLJ Novalja 140.95 328 P PKPpre 17 34 06.9
KEK Kerkira 141.02 318 P PKPpre 17 34 02.0
KEK Kerkira 141.02 318 *e*P **PKPdf 17 34 11.3 -2.6**
KEK Kerkira 141.02 318 P PKPpre 17 34 02.0
BFO Black Forest 141.06 337 *e*PKPdf **PKPdf 17 34 15.0 +1.3**
BFO *es*PKPdf **sPKPdf 17 34 33.5 +4.5**
BFO *e*PP **PP 17 37 18.6 +4.2**
BFO Black Forest 141.06 337 *e*PKHKP PKPpre 17 34 07.4
BFO MLR MLR
comp=Z,24µm,22.0s
BFO Black Forest 141.06 337 *e*PKPpre PKPpre 17 34 07.3
BFO LR LR
comp=Z,24µm,22.0s
PYL PYLOS 141.09 313 *e*P PKPpre 17 34 07.2
MENF Mencas 141.11 344 PKP **PKPdf 17 34 13.0 -0.6**
FETA Feichten 141.13 334⇑ *i*PKPdf **PKPdf 17 34 10.2 -3.8**
comp=Z,236nm,1.0s,SNR=51
DAVA Damuels 141.28 335⇑ *i*PKPdf **PKPdf 17 34 10.8 -3.5**
comp=Z,160nm,1.1s,SNR=52
VLS Valsamata 141.29 315 P PKPpre 17 34 06.6
VLS Valsamata 141.29 315 *e*P PKPpre 17 34 07.9
VLS Valsamata 141.29 315 PKHKP PKPpre 17 34 06.6
VLS Valsamata 141.29 315 P PKPpre 17 34 06.6
ECH Echery 141.59 338 PKP **PKPdf 17 34 10.2 -4.5**
ECH Echery 141.59 338 *e*PKHKP PKPpre 17 34 09.3
ECH MLR MLR
comp=Z,52µm,21.0s
ECH Echery 141.59 338 *e*PKPpre PKPpre 17 34 09.3
ECH LR LR
comp=Z,52µm,21.0s
DAVOX Davos/Dischmat 141.68 334 PKhKP PKPpre 17 34 10.7
comp=Z,63nm,0.9s,baz=23,slow=2.8,SNR=50
DAVOX PKP **PKiKP 17 34 17.0 -1.0**
comp=Z,56nm,0.5s,baz=195,slow=6.2,SNR=40
DAVOX SKPbc **SKiKP 17 37 53.6 +1.9**
comp=Z,23nm,0.6s,baz=43,slow=1.9,SNR=3.7
DAVOX SKKPbc **SKKPbc 17 46 15.4 +2.4**
comp=Z,6.0nm,0.8s,baz=181,slow=13,SNR=3.2
VAL Valentia 141.75 357⇓ *i*P **PKPdf 17 34 09.6 -5.1**
VAL *e*PP **PP 17 37 18.0 -0.2**
MOF Molkenrain 141.91 338 PKP **PKPdf 17 34 11.3 -4.0**
THEF They Montfort 142.00 339 PKP **PKPdf 17 34 11.8 -3.6**
TUE Stuetta 142.15 334 PFAKE 17 34 30.0 +14
TUE LR LR
comp=Z,37µm,20.0s

LOMF Lomont 142.44 337 PKP **PKPdf 17 34 13.3 -3.0**
AQU L'Aquila 143.24 326 *e*PKIKP PKPbc 17 34 15.8 +1.0
AQU MLR MLR
comp=Z,40µm,21.0s
AQU L'Aquila 143.24 326 *e*PKPpre PKPpre 17 34 15.8
AQU LR LR
comp=Z,40µm,21.0s
TIP Timpagrande 143.28 319 P PKPab 17 34 08.3 -5.5
TIP Timpagrande 143.28 319 P PKPab 17 34 08.3 -5.5
TIP *e*PKPpre PKPpre 17 34 13.9
TIP LR LR
comp=Z,22µm,22.0s
CUC Castrocucco 143.38 321 *e*PKPpre PKPpre 17 34 11.8
CUC LR LR
comp=Z,28µm,22.0s
VLC Villacolemand 143.47 331 *e*PKPpre PKPpre 17 34 15.6
VLC LR LR
comp=Z,38µm,22.0s
RSL Roselend 143.90 336 PKP **PKPdf 17 34 18.6 -0.4**
CEL Celeste 144.36 319 *e*PKPpre PKPpre 17 34 15.7
CEL LR LR
comp=Z,25µm,20.0s
BNI Bardonecchia 144.40 335 *e*PKIKP **PKPab 17 34 17.2 -0.8**
BNI MLR MLR
comp=Z,57µm,21.0s
BNI Bardonecchia 144.40 335 *e*PKPpre PKPpre 17 34 17.2
BNI LR LR
comp=Z,57µm,21.0s
OG22 Abries 144.48 335 PKP **PKPdf 17 34 19.9 -0.2**
GDM Grand'Maison 144.50 336 PKP PKPbc 17 34 19.1 +0.4
GRN Grenoble 144.61 337 PKP **PKPdf 17 34 19.6 -0.6**
PLDF La Plantade 144.77 339 PKP PKPbc 17 34 19.7 +0.3
SURF Saint Ours 144.81 335 PKP **PKPdf 17 34 20.4 -0.3**
AGO Saint Agoulin 144.86 340 PKP **PKPdf 17 34 20.1 -0.4**
SAOF Saorge 144.90 333 PKP **PKPdf 17 34 20.8 +0.2**
AUTN L'Aution 144.94 334 PKP **PKPdf 17 34 21.3 +0.3**
TOUF Mont Tournerai 145.01 334 PKP **PKPdf 17 34 22.0 +1.0**
SSB Saint Sauveur 145.04 338 PKP **PKPbc 17 34 20.2 0.0**
SSB Saint Sauveur 145.04 338 *e*PKIKP **PKPbc 17 34 18.9 -1.3**
SSB MLR MLR
comp=Z,36µm,20.0s
SSB Saint Sauveur 145.04 338 *e*PKPpre **PKPbc 17 34 18.9 -1.3**
SSB LR LR
comp=Z,36µm,20.0s
COLF Collangettes 145.13 339 PKP **PKPdf 17 34 21.0 0.0**
MVIF Mont Vial 145.14 334 PKP **PKPdf 17 34 22.5 +1.3**
PYM Petit Puy Mans 145.17 340 PKP **PKPdf 17 34 21.2 +0.1**
REVF Revere 145.17 333 PKP **PKPdf 17 34 23.0 +1.9**
OG26 St.-Nazaire-De 145.34 336 PKP **PKPdf 17 34 21.8 +0.4**
CALN Calern 145.37 334 PKP **PKPbc 17 34 21.5 0.0**
LBL Lubilhac 145.54 339 PKP **PKPdf 17 34 21.7 -0.1**
WDD Wield Dalam 146.62 316 *e*PKPbc **PKPbc 17 34 25.5 +0.2**
WDD LR LR
comp=Z,35µm,21.0s
VSL Villasalto 147.42 326 *e*PKPdf **PKPdf 17 34 25.9 +0.8**
VSL LR LR
comp=Z,34µm,20.0s
LRDF Laroque-de-Fa 147.79 338 PKP **PKPab 17 34 29.6 -1.2**
SJAF Saint Jean de 148.05 337 PKP **PKPbc 17 34 30.0 +0.9**
FILF Fillols 148.10 337 PKP **PKPbc 17 34 30.5 +1.2**
CARF Carcanieres 148.14 338 PKP **PKPab 17 34 31.0 -1.3**
MLS Moulis 148.28 340 PKP **PKPbc 17 34 30.6 +0.9**
VALF Valcebollere 148.44 338 PKP **PKPbc 17 34 31.9 +1.5**
LABF Labassere 148.53 341 PKP **PKPab 17 34 32.3 +1.5**
REYF Montagne du Re 148.66 342 PKP **PKPab 17 34 34.1 -0.3**
RESF Ens 148.66 340 PKP **PKPab 17 34 33.4 -1.0**
VIEF Viey 148.69 341 PKP **PKPab 17 34 32.8 -1.7**
ATE Arette 148.73 342 PKP **PKPbc 17 34 32.6 +1.7**
OSSF Osses 148.74 343 PKP **PKPbc 17 34 30.5 -0.4**
LARF Larrau 148.86 342 PKP **PKPab 17 34 33.4 -1.7**
SHEL Horse Pasture 149.62 195 *e*PKPbc **PKPdf 17 34 31.6 +2.3**
SHEL LR LR
comp=Z,38µm,21.0s
H07N1 FLORES T-PHASE 149.72 28 *e*PKPdf **PKPdf 17 34 30.9 +2.1**
H07S1 FLORES T-PHASE 149.93 28 *e*PKPdf **PKPdf 17 34 29.0 -0.1**
H07S1 FLORES T-PHASE 149.93 28 *e*LQ LQ 18 16 32.7
H07S1 FLORES T-PHASE 149.93 28 *e*LR LR 18 27 17.2
KEST Kesra 150.03 321 PKPbc **PKPbc 17 34 34.1 -0.3**
comp=Z,218nm,0.9s,baz=240,slow=0.6,SNR=39
KEST Kesra 150.03 321 *e*PKPdf **PKPdf 17 34 30.8 +1.3**
KEST PKPbc **PKPbc 17 34 34.1 -0.3**
KEST *e*PKPbc **PKiKP 17 34 35.9 +0.5**
RCBR Riachuelo 150.38 129 PKP **PKPdf 17 34 30.7 +0.1**
comp=Z,56nm,1.0s,baz=135,slow=1.9
RCBR PKPbc **PKiKP 17 34 36.5 -0.1**
baz=214,slow=4.0
RCBR Riachuelo 150.38 129 PKP **PKPdf 17 34 30.7 +0.1**
RCBR *e*PKPdf **PKPbc 17 34 31.1 -4.7**
RCBR PKPbc **PKiKP 17 34 36.5 -0.1**
RCBR LR LR
comp=Z,64µm,21.0s
CMAH Djebel Manchou 150.55 325 P **PKPdf 17 34 31.2 +1.0**
CAEH `Ain El Ouahch 150.75 325 P **PKPdf 17 34 31.4 +0.9**
ABSA Djebel Ababsia 150.76 324 P **PKPdf 17 34 32.0 +1.4**
CKFL Kef-Lekhel 151.10 325 P **PKPdf 17 34 32.6 +1.4**
CASM Ain Smara 151.33 325 P **PKPdf 17 34 32.4 +1.0**
PBRG Braganca 151.39 350 PKPdf **PKPdf 17 34 30.2 -1.1**
PBRG Braganca 151.39 350 *e*PP PP 17 38 16.4 +1.1
PBRG Braganca 151.39 350 *e*LR LR 18 30 07.3
DFRA Djebel Bou Aff 151.46 326 P **PKPdf 17 34 33.8 +2.1**
PGAV Gavieira, Arco 151.47 352 PKPdf **PKPdf 17 34 30.7 -0.8**
PGAV Gavieira, Arco 151.47 352 *e*PP PP 17 38 12.8 -2.9
PGAV Gavieira, Arco 151.47 352 *e*LR LR 18 28 39.2
CTEI Djebel Teioual 151.52 325 P **PKPdf 17 34 33.0 +1.2**
PGRA Graciosa 151.62 24 *e*PKPdf **PKPdf 17 34 33.4 +1.7**
PGRA Graciosa 151.62 24 *e*LQ LQ 18 16 23.9
PGRA Graciosa 151.62 24 *e*LR LR 18 26 40.2
comp=Z,9µm,20.9s
PCED Cedros 151.66 26 *e*PKPdf **PKPdf 17 34 34.0 +2.2**
HOR Horta 151.77 26 *e*PKPdf **PKPdf 17 34 29.7 -2.2**
ROSA Rosais 151.77 25 *e*PKPdf **PKPdf 17 34 34.1 +2.1**
ROSA Rosais 151.77 25 *e*LQ LQ 18 16 04.5
ROSA Rosais 151.77 25 *e*LR LR 18 26 47.2
comp=Z,9µm,27.9s
PICO Pico 151.88 26 *e*PKPdf **PKPdf 17 34 33.9 +1.7**
PCAN Candelaria 151.89 26 *e*PKPdf **PKPdf 17 34 33.0 +0.8**
PMAN Manadas 151.91 25 *e*PKPdf **PKPbc 17 34 37.3 -1.3**
SET Setif 151.97 326 P **PKPdf 17 34 33.0 +0.5**
PPNO Prainha do Nor 151.97 26 *e*PKPdf **PKPdf 17 34 32.7 +0.4**
POLO Lamas de Olo 151.98 351 PKPdf **PKPdf 17 34 31.4 -0.9**
POLO Lamas de Olo 151.98 351 *e*PP PP 17 38 17.2 -1.5
POLO Lamas de Olo 151.98 351 *e*LR LR 18 28 03.9
CKHR Kef el Ahmar 152.05 326 P **PKPdf 17 34 34.2 +1.6**
MVO Moncorvo 152.06 350 PKPdf **PKPdf 17 34 31.6 -0.8**
MVO Moncorvo 152.06 350 *e*PP PP 17 38 22.1 +3.0
MVO Moncorvo 152.06 350 *e*LR LR 18 26 18.2
PVRL Vila Real 152.07 351 PKPdf **PKPdf 17 34 31.9 -0.5**
ADH Angra Heroismo 152.24 24 *e*PKPdf **PKPdf 17 34 34.4 +1.8**
PVIS Viseu 152.64 351 PKPdf **PKPdf 17 34 32.8 -0.5**
ESDC Sonseca Array 152.82 344 PKP **PKPdf 17 34 33.2 -0.3**
comp=Z,6.0nm,0.9s,baz=1.0,slow=2.9,SNR=39
ESDC PKPbc **PKiKP 17 34 42.6 +1.7**
comp=Z,62nm,0.8s,baz=7.3,slow=2.2,SNR=60
MTE Manteigas 152.90 350 PKPdf **PKPdf 17 34 32.5 -1.2**
MTE Manteigas 152.90 350 *e*PP PP 17 38 24.4 +0.6
MTE Manteigas 152.90 350 *e*LR LR 18 28 39.2
MTE Manteigas 152.90 350 *e*PKPdf **PKPdf 17 34 34.4 +0.7**
MTE LR LR
comp=Z,58µm,21.0s
PAB San Pablo 153.04 345 *e*PKIKP **PKPdf 17 34 35.1 +1.2**
PAB MLR MLR
comp=Z,45µm,21.0s
PAB San Pablo 153.04 345 *e*PKPdf **PKPdf 17 34 35.1 +1.2**
PAB LR LR
comp=Z,45µm,21.0s
EMHD Djebel Mahouad 153.23 330 P **PKPdf 17 34 34.9 +0.5**
PCAS Casmilo, Conde 153.38 352 PKPdf **PKPdf 17 34 33.3 -1.0**
PCAS Casmilo, Conde 153.38 352 *e*PP PP 17 38 25.7 -0.8
PCAS Casmilo, Conde 153.38 352 *e*LR LR 18 26 53.4
PCBR Castelo Branco 153.43 350 PKPdf **PKPdf 17 34 33.9 -0.4**
PCBR Castelo Branco 153.43 350 *e*PP PP 17 38 29.0 +2.2
PSET Sete Cidades 153.54 22 *e*PKPdf **PKPdf 17 34 34.6 0.0**
PSET Sete Cidades 153.54 22 *e*LR LR 18 25 57.9
comp=Z,12µm,23.9s
PDA Ponta Delgada 153.63 22 *e*PKPdf **PKPdf 17 34 35.4 +0.7**
BART Pico Bartolome 153.78 22 *e*PKPdf **PKPdf 17 34 35.2 +0.2**
PTOM Tomar 153.79 351 PKPdf **PKPdf 17 34 33.5 -1.4**
PMRV Marv??o 153.82 350 PKPdf **PKPdf 17 34 33.3 -1.7**
PMRV Marv??o 153.82 350 *e*PP PP 17 38 31.6 +2.6
PMRV Marv??o 153.82 350 *e*LR LR 18 28 48.0
EBNR Beni Rached 153.83 332 P **PKPdf 17 34 36.3 +1.2**
ECHA Ech Chlef 154.02 332 P **PKPdf 17 34 37.0 +1.7**

EANR	**'Ain N'Sour**	**154.31**	**332**	P		**PKPdf**	**17 34 37.3**	**+1.5**
PMTG	**Montargil**	**154.31**	**351**	PKPdf		**PKPdf**	**17 34 33.9**	**-1.7**
PMTG	**Montargil**	**154.31**	**351**	*e*PP		PP	17 38 16.4	-15
PMTG	**Montargil**	**154.31**	**351**	*e*LR		LR	18 28 12.7	
PESTR	**Estremoz**	**154.40**	**350**	PKPdf		**PKPdf**	**17 34 35.4**	**-0.4**
PESTR	**Estremoz**	**154.40**	**350**	*e*PP		PP	17 38 33.7	+1.5
PESTR	**Estremoz**	**154.40**	**350**	*e*LR		LR	18 29 23.2	
OKGL	**Djebel Kef Gue**	**154.44**	**333**	P		**PKPbc**	**17 34 41.0**	**-3.3**
PSMA	**Santa Maria**	**154.49**	**22**	*e*PKPdf		**PKPdf**	**17 34 36.2**	**+0.3**
PSMN	**Pico do Norte,**	**154.51**	**22**	*e*PKPdf		**PKPdf**	**17 34 36.7**	**+0.7**
PSMN	**Pico do Norte,**	**154.51**	**22**	*e*LQ		LQ	18 15 55.7	
PSMN	**Pico do Norte,**	**154.51**	**22**	*e*LR		LR	18 26 59.6	
	comp=Z,7μm,23.9s							
PMAFR	**Mafra**	**154.56**	**353**	PKPdf		**PKPdf**	**17 34 35.5**	**-0.5**
PMAFR	**Mafra**	**154.56**	**353**	*e*PP		PP	17 38 34.2	+1.1
PMAFR	**Mafra**	**154.56**	**353**	*e*LR		LR	18 26 53.4	
ETRT	**Tiaret**	**154.67**	**331**	P		**PKPdf**	**17 34 38.0**	**+1.6**
PMST	**Lisbon--Monsan**	**154.77**	**352**	PKPdf		**PKPdf**	**17 34 36.3**	**0.0**
PMST	**Lisbon--Monsan**	**154.77**	**352**	*e*PP		PP	17 38 22.8	-11
LIS	**Lisbon**	**154.78**	**352**	*e*P		**PKPdf**	**17 34 35.4**	**-0.9**
LIS				AMS		AMS	18 46 32.4	
	comp=Z,44μm,20.2s							
EVO	**Evora**	**154.80**	**350**	PKPdf		**PKPdf**	**17 34 35.5**	**-0.8**
EVO	**Evora**	**154.80**	**350**	*e*PP		PP	17 38 32.3	-2.1
OJGS	**Djebel Guires**	**154.83**	**332**	P		**PKPdf**	**17 34 38.0**	**+1.4**
OJBR	**Djebel Berber**	**154.95**	**333**	P		**PKPdf**	**17 34 40.0**	**+3.3**
PBAR	**Barrancos**	**154.97**	**348**	PKPdf		**PKPdf**	**17 34 35.1**	**-1.5**
USTO	**Oran**	**155.21**	**335**	P		**PKPdf**	**17 34 37.0**	**+0.1**
PNCL	**Nicolau / Gran**	**155.29**	**351**	PKPdf		**PKPdf**	**17 34 35.8**	**-1.2**
PNCL	**Nicolau / Gran**	**155.29**	**351**	*e*PP		PP	17 38 28.1	-9.1
PNCL	**Nicolau / Gran**	**155.29**	**351**	*e*LR		LR	18 27 55.1	
ODJA	**Bouhanifia**	**155.38**	**333**	P		**PKPdf**	**17 34 39.0**	**+1.7**
MESJ	**Messejana**	**155.51**	**350**	*e*P		**PKPdf**	**17 34 37.1**	**-0.2**
MESJ				*e*PP		**PP**	**17 38 39.9**	**+1.5**
MESJ				AMS		AMS	18 47 12.8	
	comp=Z,33μm,23.4s							
MESJ	**Messejana**	**155.51**	**350**	PKPdf		**PKPdf**	**17 34 36.1**	**-1.2**
MESJ	**Messejana**	**155.51**	**350**	*e*PP		PP	17 38 37.9	-0.5
PCVE	**Castro Verde**	**155.68**	**350**	PKPdf		**PKPdf**	**17 34 36.8**	**-0.7**
PCVE	**Castro Verde**	**155.68**	**350**	*e*PP		PP	17 38 38.8	-0.6
PCVE	**Castro Verde**	**155.68**	**350**	*e*LR		LR	18 28 03.9	
PVAQ	**Vaqueiros**	**155.84**	**349**	PKPdf		**PKPdf**	**17 34 36.1**	**-1.7**
PVAQ	**Vaqueiros**	**155.84**	**349**	*e*PP		PP	17 38 39.0	-1.3
PVAQ	**Vaqueiros**	**155.84**	**349**	*e*LR		LR	18 28 03.9	
PTEO	**Sao Teotonio**	**155.87**	**351**	PKPdf		**PKPdf**	**17 34 37.1**	**-0.7**
OLHC	**Oulhaca**	**155.98**	**335**	P		**PKPdf**	**17 34 38.0**	**-0.1**
PBDV	**Barranco-do-Ve**	**156.04**	**349**	PKPdf		**PKPdf**	**17 34 37.2**	**-0.9**
PBDV	**Barranco-do-Ve**	**156.04**	**349**	*e*PP		PP	17 38 43.2	+1.8
PBDV	**Barranco-do-Ve**	**156.04**	**349**	*e*LR		LR	18 28 56.8	
MORF	**Marmelete**	**156.10**	**351**	*e*P		**PKPdf**	**17 34 38.2**	**0.0**
MORF				AMS		AMS	18 47 19.5	
	comp=Z,39μm,20.2s							
MORF	**Marmelete**	**156.10**	**351**	PKPdf		**PKPdf**	**17 34 37.3**	**-0.9**
MORF	**Marmelete**	**156.10**	**351**	*e*PP		PP	17 38 42.9	+1.1
MORF	**Marmelete**	**156.10**	**351**	*e*LR		LR	18 32 10.7	
MORF	**Marmelete**	**156.10**	**351**	*e*PKIKP		**PKPdf**	**17 34 38.1**	**0.0**
PFVI	**Vila Bisbo**	**156.29**	**351**	PKPdf		**PKPdf**	**17 34 37.5**	**-0.9**
PFVI	**Vila Bisbo**	**156.29**	**351**	*e*PP		PP	17 38 45.7	+2.9
PFVI	**Vila Bisbo**	**156.29**	**351**	*e*LR		LR	18 28 21.5	
ASCN	**Ascension**	**158.51**	**177**	PFAKE			17 34 50.0	+8.2
ASCN				LR		LR		
	comp=Z,38μm,21.0s							
MDT	**Midelt**	**159.35**	**339**	PKP		**PKPdf**	**17 34 42.2**	**-0.2**
	comp=Z,19nm,1.0s,baz=68,slow=1.2,SNR=41							
MDT				PKPab		**PKPab**	**17 35 21.0**	**+1.2**
	comp=Z,57nm,0.9s,baz=43,slow=6.0,SNR=9.0							
MDT				PP		**PP**	**17 39 02.5**	**+2.6**
	comp=Z,16nm,1.0s,baz=27,slow=6.2,SNR=3.7							
TAM	**Tamanrasset**	**159.95**	**300**	*e*PKIKP		**PKPdf**	**17 34 44.1**	**+0.6**
TAM				MLR		MLR		
	comp=Z,45μm,20.0s							
TAM	**Tamanrasset**	**159.95**	**300**	*e*PKPdf		**PKPdf**	**17 34 44.1**	**+0.6**
TAM				LR		LR		
	comp=Z,45μm,20.0s							
PMPS	**Porto Santo**	**160.51**	**8**	PKPdf		**PKPdf**	**17 34 42.9**	**-0.7**
PMPS	**Porto Santo**	**160.51**	**8**	*e*PP		PP	17 39 05.6	-0.2
PMOZ	**Porto Moniz, M**	**160.61**	**10**	PKPdf		**PKPdf**	**17 34 43.9**	**+0.1**
PMOZ	**Porto Moniz, M**	**160.61**	**10**	*e*PP		PP	17 39 06.6	+0.1
PMOZ	**Porto Moniz, M**	**160.61**	**10**	*e*LR		LR	18 29 05.6	
PMAR	**Madeira**	**160.76**	**9**	PKPdf		**PKPdf**	**17 34 45.4**	**+1.3**
PMAR	**Madeira**	**160.76**	**9**	*e*PP		PP	17 39 07.3	-0.1
FUL	**Funchal**	**160.83**	**9**	PKPdf		**PKPdf**	**17 34 44.0**	**+0.1**
FUL	**Funchal**	**160.83**	**9**	*e*PP		PP	17 39 07.5	0.0
KUK	**Kukurantumi**	**165.23**	**241**	*i* P		**PKPdf**	**17 34 47.5**	**-1.3**
TOA0	**Torodi Ar. Sit**	**165.38**	**270**	*e*P		**PKPdf**	**17 34 46.9**	**-1.9**
TORD	**Torodi Ar. Bea**	**165.38**	**270**	PKP		**PKPdf**	**17 34 49.1**	**+0.3**
	comp=Z,165nm,1.0s,baz=15,slow=0.6,SNR=143							
TORD				PKPab		**PKPab**	**17 35 49.0**	**+2.2**
	comp=Z,163nm,1.1s,baz=94,slow=3.8,SNR=7.5							
TORD				PP		**PP**	**17 39 36.0**	**+2.0**
	comp=Z,34nm,1.2s,baz=111,slow=4.3,SNR=4.5							
KIC	**Kosan Boka**	**168.85**	**230**	*e*P		**PKPdf**	**17 34 48.2**	**-3.2**
	comp=Z,997nm,1.3s							
LIC	**Lamto**	**168.97**	**229**	*e*P		**PKPdf**	**17 34 50.0**	**-1.5**
	comp=Z,1μm,1.7s							
DBIC	**Dimbokro**	**169.14**	**231**	PKP		**PKPdf**	**17 34 49.9**	**-1.7**
	comp=Z,188nm,1.0s,baz=121,slow=1.3,SNR=63							
DBIC				PKPab		**PKPab**	**17 36 02.8**	**-0.5**
	comp=Z,95nm,1.2s,baz=133,slow=5.0,SNR=3.0							
DBIC				PP		**PP**	**17 39 49.8**	**-2.5**
	comp=Z,18nm,0.9s,baz=133,slow=8.2,SNR=3.1							
TIC	**Toumodi**	**169.25**	**230**	*e*P		**PKPdf**	**17 34 50.3**	**-1.4**
SACV	**Santiago Islan**	**169.95**	**81**	*e*PKPdf		**PKPdf**	**17 34 50.4**	**-1.6**
SACV				LR		LR		
	comp=Z,46μm,22.0s							

*IDC **27** 17:19:47.9±0.9, 14°.35S×167°.12E, h0km, mb4.8/12, mb1 4.9/12, mb1mx4.9/21, mbtmp4.7/12, Error ellipse: s-maj=30.7km s-min=27.1km az=170.0*
*NEIC **27** 17:19:52.9±0.6, 14°.46S×167°.01E, h35km, mb5.1/1, Error ellipse: s-maj=24.8km s-min=15.9km az=152.0*
*ISCJB **27** 17:19:55.1±1.0, 14°.3S±0°.2×166°.8E±0°.2, h67km, mb4.6/12, Error ellipse: s-maj=29.2km s-min=18.3km az=153.5*

ISC 27 17:19:56.4±0.9, 14°.5S±0°.2×167°.0E±0°.2, h67km, n21, σ1§28/21, mb4.8/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTAO	**Charters Tower**	**20.56**	**251**	*e*P	**P**	**17 24 27.0**	**-2.8**
	82nm,1.0s						
ASAR	**Alice Springs**	**32.50**	**249**	P	**P**	**17 26 21.7**	**+0.6**
	8.9nm,0.6s,baz=74,slow=9.2,SNR=5.0						
MJAR	**Matsushiro Arr**	**57.56**	**333**	P	**P**	**17 29 37.7**	**-1.6**
	13nm,0.9s,baz=171,slow=9.1,SNR=6.6						
MAT	**Matsushiro**	**57.56**	**333**	P	**P**	**17 29 37.4**	**-1.9**
ASAJ	**Asahikawa**	**62.42**	**340**	P	**P**	**17 30 12.5**	**+0.1**
	8.6nm,0.6s,baz=153,slow=2.3,SNR=5.4						
KSRS	**Korea Array**	**63.38**	**326**	P	**P**	**17 30 18.4**	**-0.4**
	9.8nm,0.9s,baz=139,slow=7.0,SNR=6.6						
KSAR	**Wonju Array Be**	**63.39**	**326**	P	**P**	**17 30 18.4**	**-0.5**
USRK	**Ussuriysk Ar.**	**66.54**	**333**	*i* P	**P**	**17 30 39.6**	**+0.3**
	24nm,1.0s,baz=143,slow=5.8,SNR=6.2						
PETK	**Petropavlovsk-**	**67.79**	**354**	P	**P**	**17 30 47.0**	**0.0**
	5.2nm,0.9s,baz=149,slow=6.0,SNR=6.7						
CMAR	**Chiang Mai Arr**	**74.60**	**294**	P	**P**	**17 31 30.4**	**+1.4**
	9.8nm,0.9s,baz=131,slow=5.0,SNR=5.6						
SONM	**Songino Array**	**82.14**	**324**	P	**P**	**17 32 10.9**	**+0.9**
	6.1nm,0.8s,baz=150,slow=7.3,SNR=3.9						
ILAR	**Eielson Array**	**86.38**	**18**	P	**P**	**17 32 30.6**	**-0.4**
	2.4nm,0.7s,baz=236,slow=4.8,SNR=6.8						
PFO	**Pinyon Flats O**	**87.08**	**54**	P	**P**	**17 32 36.3**	**+1.0**
	2.6nm,0.9s,baz=180,slow=10,SNR=1.7						
NVAR	**Mina Array Bea**	**87.32**	**49**	P	**P**	**17 32 36.4**	**-0.1**
	2.6nm,0.8s,baz=233,slow=8.9,SNR=6.5						
TXAR	**Lajitas Array**	**96.40**	**61**	P	**P**	**17 33 16.6**	**-2.1**
	3.1nm,0.8s,baz=249,slow=2.5,SNR=2.3						
ARCES	**ARCESS Array B**	**119.94**	**345**	PKP	**PKPdf**	**17 38 39.4**	**+0.7**
	2.6nm,0.5s,baz=64,slow=1.9,SNR=7.0						
FINES	**FINESS Array B**	**125.39**	**338**	PKP	**PKPdf**	**17 38 50.2**	**+0.9**
	4.9nm,0.8s,baz=82,slow=2.9,SNR=3.8						
EKA	**Eskdalemuir Ar**	**138.53**	**352**	PKP	**PKPdf**	**17 39 13.2**	**-1.1**
	3.3nm,0.6s,baz=360,slow=2.3,SNR=4.5						
MSKU	**Masuku**	**149.14**	**241**	PKPbc	**PKPbc**	**17 39 39.5**	**+1.2**
	25nm,0.6s,baz=135,slow=10.0,SNR=3.5						
RCBR	**Riachuelo**	**149.63**	**130**	PKPbc	**PKPbc**	**17 39 40.1**	**+0.5**
	7.4nm,0.7s,baz=223,slow=9.6,SNR=2.6						
KEST	**Kesra**	**150.85**	**321**	PKPbc	**PKPbc**	**17 39 43.4**	**+1.4**
	9.7nm,0.9s,baz=157,slow=2.5,SNR=5.4						

*IDC **27** 17:24:17.5±0.4, 13°.87S×166°.77E, h0km, mb5.2/32, mb1 5.2/33, mb1mx5.2/34, mbtmp5.1/33, ML4.5/1, Error ellipse: s-maj=14.5km s-min=10.9km az=91.0*
*ISCJB **27** 17:24:21.6±0.2, 13°.90S±0°.04×166°.63E±0°.05, h33km, mb5.3/64, MS6.1/1, Error ellipse: s-maj=7.5km s-min=5.1km az=171.5*
*BJI **27** 17:24:21.5, 13°.49S×166°.99E, h30km, mb5.6/55, mB6.2/17, Ms6.3/11, Ms7 6.2/14*
*MOS **27** 17:24:22.2±1.1, 13°.78S×166°.56E, h33km, mb5.8/21, Error ellipse: s-maj=10.9km s-min=9.1km az=129.2*
*NEIC **27** 17:24:23.1±0.2, 13°.88S×166°.73E, h35km, mb5.6/27, Error ellipse: s-maj=6.8km s-min=5.7km az=91.0*

ISC 27 17:24:23.0±0.4, 13°.86S±0°.05×166°.77E±0°.07, h34km±1km, h35km:pP-P, n350, σ1§26/375, mb5.3/63, 38C-18D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**8.00**	**303**	*e*P	**Pn**	**17 26 16.0**	**-0.9**
DZM	**Mont Dzumac**	**8.18**	**182**	Pn	**Pn**	**17 26 19.2**	**-0.2**
	6.5nm,0.3s,baz=90,slow=20,SNR=3.5						
DZM				Sn	**Sn**	**17 27 51.7**	**+1.1**
	3.9nm,0.3s,baz=90,slow=20,SNR=4.8						
BAYA	**Yate Dam**	**8.26**	**179**	*e*P	Pn	17 26 26.2	+5.9
BAYA				*e*S	Sn	17 28 00.0	+7.6
PMG	**Port Moresby**	**19.71**	**281**	*e*P	**P**	**17 28 47.9**	**-1.8**
PMG				pmax	pmax		
	comp=Z,576nm,1.7s						
PMG	**Port Moresby**	**19.71**	**281**	*e*P	**P**	**17 28 49.1**	**-0.6**
	comp=Z,160nm,1.4s						
CTA	**Charters Tower**	**20.57**	**250**	P	**P**	**17 28 59.8**	**+0.8**
	comp=Z,44nm,1.1s,baz=62,slow=8.2,SNR=3.8						
AFI	**Afiamalu**	**20.82**	**93**	*e*P	Pn	17 29 05.9	+1.4
AFI	**Afiamalu**	**20.82**	**93**	*e*P	Pn	17 29 05.9	+1.5
OUZ	**Omahuta**	**22.15**	**165**	*e*P	P	17 29 20.7	+4.9
	comp=Z,26nm,0.9s						
COEN	**Coen**	**22.91**	**267**	*e*P	**P**	**17 29 24.1**	**0.0**
	comp=Z,107nm,1.3s						
URZ	**Urewera**	**25.98**	**161**	P	**P**	**17 29 53.3**	**+0.8**
	comp=Z,16nm,0.8s,baz=328,slow=19,SNR=3.9						
STKA	**Stephens Creek**	**29.21**	**228**	P	**P**	**17 30 21.6**	**+0.1**
	comp=Z,40nm,0.6s,baz=44,slow=8.4,SNR=17						
STKA				PcP	**PcP**	**17 33 28.1**	**-0.2**
	comp=Z,8.9nm,0.6s,baz=55,slow=5.7,SNR=3.0						
RPZ	**Rata Peaks**	**29.98**	**174**	P	**P**	**17 30 28.1**	**-0.2**
	comp=Z,44nm,0.8s,baz=257,slow=1.3,SNR=5.8						
RPZ	**Rata Peaks**	**29.98**	**174**	*e*P	**P**	**17 30 27.9**	**-0.4**
	comp=Z,675nm,2.2s						
DCZ	**Deep Cove**	**31.52**	**179**	*e*P	**P**	**17 30 42.2**	**+0.5**
	comp=Z,111nm,1.0s						
WRA	**Warramunga Arr**	**31.58**	**254**	P	**P**	**17 30 41.1**	**-1.5**
	comp=Z,16nm,1.0s,baz=84,slow=9.1,SNR=4.4						
WRA				PcP	**PcP**	**17 33 34.1**	**-0.7**
	comp=Z,9.9nm,1.0s,baz=42,slow=1.5,SNR=3.6						
ASAR	**Alice Springs**	**32.55**	**248**	P	**P**	**17 30 50.0**	**-1.2**
	comp=Z,13nm,0.6s,baz=75,slow=9.5,SNR=16						
ASAR				PcP	**PcP**	**17 33 37.2**	**-0.2**
	comp=Z,5.6nm,0.8s,baz=77,slow=4.1,SNR=3.1						
BBOO	**Buckleboo**	**33.74**	**231**	*e*P	**P**	**17 31 01.6**	**+0.2**
SIJI	**Sorong**	**37.42**	**287**	P	**P**	**17 31 32.0**	**-1.3**
	comp=Z,12nm,0.7s,baz=86,slow=9.2,SNR=5.7						
KAPI	**Kappang**	**47.13**	**276**	P	**P**	**17 32 52.7**	**+0.4**
	comp=Z,9.7nm,0.8s,baz=146,slow=3.6,SNR=2.6						
CBIJ	**Chichi jima**	**47.19**	**330**	P	**P**	**17 32 51.9**	**-0.6**
JCJ	**Chichijima**	**47.19**	**330**	P	**P**	**17 32 51.9**	**-0.6**
	comp=Z,50nm,0.5s,baz=180,slow=13,SNR=4.3						
NWAO	**Narrogin (SRO)**	**48.79**	**238**	P	**P**	**17 33 04.3**	**-0.6**
	comp=Z,22nm,0.7s,baz=146,slow=2.6,SNR=7.3						
KKM	**Kota Kinabalu**	**53.93**	**288**	*e*P	**P**	**17 33 44.5**	**+0.7**
	comp=Z,220nm,1.2s						
JOW	**Kunigami**	**55.08**	**317**	P	**P**	**17 33 52.9**	**+1.1**
	comp=Z,3.1nm,0.8s,baz=148,slow=7.2						
JOW	**Kunigami**	**55.08**	**317**	*e*P	**P**	**17 33 50.2**	**-1.6**
	comp=Z,23nm,1.0s						
SBUM	**Sibu**	**56.45**	**282**	*e*P	**P**	**17 34 02.9**	**+1.0**
	comp=Z,64nm,1.5s						
MJAR	**Matsushiro Arr**	**56.91**	**333**	P	**P**	**17 34 04.2**	**-0.6**
	comp=Z,60nm,0.9s,baz=166,slow=7.4,SNR=60						
MAJO	**Matsushiro**	**56.91**	**333**	*c i* P	**P**	**17 34 04.2**	**-0.5**
MAJO	**Matsushiro**	**56.91**	**333**	*e*P	**P**	**17 34 04.7**	**-0.1**
	comp=Z,136nm,1.1s						
MAT	**Matsushiro**	**56.91**	**333**	P	**P**	**17 34 04.3**	**-0.4**
JNU	**Nakatsue**	**57.94**	**325**	*e*P	**P**	**17 34 11.8**	**-0.2**
	comp=Z,53nm,1.1s						
KSM	**Kuching**	**57.97**	**281**	*e*P	**P**	**17 34 12.4**	**-0.2**
NACB	**Ninganchiao**	**58.10**	**310**	*e*P	**P**	**17 34 13.5**	**+0.2**
TPUB	**Ta-pu**	**58.32**	**309**	*e*P	**P**	**17 34 13.8**	**-1.1**
LEM	**Lembang**	**58.49**	**270**	P	**P**	**17 34 17.1**	**+0.6**
	comp=Z,35nm,0.8s,baz=63,slow=7.0,SNR=5.2						
YHNB	**Yeheng**	**58.55**	**311**	*e*P	**P**	**17 34 16.8**	**+0.2**
	comp=Z,97nm,0.8s						
KSDAG	**Daegu**	**60.99**	**325**	P	**P**	**17 34 33.9**	**+0.9**
	SNR=8.3						
KSDAG	**Daegu**	**60.99**	**325**	P	**P**	**17 34 33.9**	**+0.9**
	SNR=8.3						
ASAJ	**Asahikawa**	**61.76**	**340**	P	**P**	**17 34 38.7**	**+0.7**
	comp=Z,34nm,1.0s,baz=242,slow=5.7,SNR=8.2						
KSCPR	**CHUPUNGNYEONG**	**61.83**	**325**	P	**P**	**17 34 39.3**	**+0.6**
	SNR=7.1						
KSCPR	**CHUPUNGNYEONG**	**61.83**	**325**	P	**P**	**17 34 39.3**	**+0.6**
	SNR=7.1						
KSJEU	**Jeongeup**	**61.90**	**324**	P	**P**	**17 34 39.7**	**+0.5**
	SNR=6.2						
KSJEU	**Jeongeup**	**61.90**	**324**	P	**P**	**17 34 39.7**	**+0.5**
	SNR=6.2						
KSTBA	**Taebaek**	**61.95**	**326**	P	**P**	**17 34 40.7**	**+1.1**
	SNR=14						
KSTBA	**Taebaek**	**61.95**	**326**	P	**P**	**17 34 40.7**	**+1.1**
	SNR=14						
KSJEO	**Jeonju**	**62.01**	**324**	P	**P**	**17 34 40.9**	**+1.0**
	SNR=10						
KSJEO	**Jeonju**	**62.01**	**324**	P	**P**	**17 34 40.9**	**+1.0**
	SNR=10						
KSBON	**Boeun**	**62.13**	**325**	P	**P**	**17 34 41.5**	**+0.8**
	SNR=9.3						
KSBON	**Boeun**	**62.13**	**325**	P	**P**	**17 34 41.5**	**+0.8**
	SNR=9.3						
KSHUK	**Heuksando**	**62.20**	**322**	P	**P**	**17 34 42.3**	**+1.1**
	SNR=6.7						
KSHUK	**Heuksando**	**62.20**	**322**	P	**P**	**17 34 42.3**	**+1.1**
	SNR=6.7						
TJN	**Taejon**	**62.28**	**325**	*i* P	**P**	**17 34 41.3**	**-0.4**
KSCHJ	**Chungju**	**62.30**	**325**	P	**P**	**17 34 42.6**	**+0.7**
	SNR=12						
KSCHJ	**Chungju**	**62.30**	**325**	P	**P**	**17 34 42.6**	**+0.7**
	SNR=12						
KSGUS	**GUNSAN**	**62.37**	**324**	P	**P**	**17 34 43.1**	**+0.8**
	SNR=9.5						
KSGUS	**GUNSAN**	**62.37**	**324**	P	**P**	**17 34 43.1**	**+0.8**
	SNR=9.5						
KSDGY	**Daegwallycong**	**62.52**	**327**	P	**P**	**17 34 44.5**	**+1.2**
	SNR=8.8						
KSDGY	**Daegwallycong**	**62.52**	**327**	P	**P**	**17 34 44.5**	**+1.2**
	SNR=8.8						
KSJMJ	**Jumunjin**	**62.61**	**327**	P	**P**	**17 34 45.1**	**+1.2**
	SNR=7.5						
KSJMJ	**Jumunjin**	**62.61**	**327**	P	**P**	**17 34 45.1**	**+1.2**
	SNR=7.5						
KSCEA	**Cheonan**	**62.66**	**325**	P	**P**	**17 34 44.8**	**+0.6**
	SNR=6.3						
KSCEA	**Cheonan**	**62.66**	**325**	P	**P**	**17 34 44.8**	**+0.6**
	SNR=6.3						
KSRS	**Korea Array**	**62.75**	**326**	P	**P**	**17 34 45.5**	**+0.7**
	comp=Z,17nm,0.9s,baz=141,slow=6.9,SNR=21						
KSRS				PcP	**PcP**	**17 35 23.2**	**0.0**
	comp=Z,7.9nm,1.0s,baz=143,slow=4.2,SNR=4.1						
KSAR	**Wonju Array Be**	**62.76**	**326**	P	**P**	**17 34 45.5**	**+0.6**
KSAR						17 35 23.2	
KSAR	**Wonju Array Be**	**62.76**	**326**	P	**P**	**17 34 45.5**	**+0.6**
KSAR				PcP	**PcP**	**17 35 23.2**	**0.0**
KSICN	**Icheon**	**62.91**	**325**	P	**P**	**17 34 46.7**	**+0.8**
	SNR=6.1						
KSIJA	**INJE**	**63.04**	**326**	P	**P**	**17 34 48.0**	**+1.2**
	SNR=10						
KSIJA	**INJE**	**63.04**	**326**	P	**P**	**17 34 48.0**	**+1.2**
	SNR=10						
KSSES	**Seosan**	**63.09**	**324**	P	**P**	**17 34 47.9**	**+0.8**
	SNR=13						
KSCWO	**Chonwon**	**63.43**	**326**	P	**P**	**17 34 50.7**	**+1.3**
	SNR=6.9						
INCN	**Inchon**	**63.48**	**325**	*e*P	**P**	**17 34 50.1**	**+0.4**
KSMUS	**Musan**	**63.70**	**325**	P	**P**	**17 34 52.0**	**+0.9**
	SNR=8.0						
YNCB	**YEONCHEON**	**63.72**	**326**	P	**P**	**17 34 52.5**	**+1.3**
	SNR=9.2						
VNDA	**Vanda**	**63.72**	**181**	P	**P**	**17 34 50.7**	**0.0**
	comp=Z,12nm,0.8s,baz=358,slow=5.8,SNR=12						
SBA	**Scott Base**	**64.00**	**180**	*e*P	**P**	**17 34 53.0**	**+0.4**
SBA				pmax	pmax		
	comp=Z,54nm,0.8s						
SBA	**Scott Base**	**64.00**	**180**	*e*P	**P**	**17 34 53.0**	**+0.4**
	comp=Z,54nm,0.8s						
MYKOM	**Kota Tinggi**	**64.25**	**279**	*e*P	**P**	**17 34 56.0**	**+0.7**
	comp=Z,158nm,2.2s						
YSS	**Yuzh-Sakhalins**	**64.25**	**342**	*e*P	**P**	**17 34 55.4**	**+0.9**
YSS	**Yuzh-Sakhalins**	**64.25**	**342**	*e*P	**P**	**17 34 55.4**	**+0.9**
NJ2	**Nanjing**	**64.72**	**316**	*e*P	**P**	**17 34 59.5**	**+1.6**
NJ2				pP	**pP**	**17 35 08.0**	**-0.5**
NJ2				sP	**sP**	**17 35 12.5**	**0.0**
NJ2				S	**S**	**17 43 38.0**	**+1.9**
NJ2				sS	**sS**	**17 43 53.5**	**-0.1**
NJ2				PMZ			
	comp=Z,40nm,0.6s						
QIZ	**Qiongzhong**	**64.90**	**299**	P	**P**	**17 35 00.5**	**+1.2**
QIZ				S	**S**	**17 43 40.3**	**+1.5**
VLA	**Vladivostok**	**65.08**	**332**	*i* P	**P**	**17 35 00.1**	**+0.1**
VLA				pmax	pmax		
	comp=Z,138nm,1.7s						
USRK	**Ussuriysk Ar.**	**65.89**	**333**	P	**P**	**17 35 06.2**	**+0.9**
	comp=Z,89nm,1.0s,baz=138,slow=5.6,SNR=51						
PET	**Petropavlovsk**	**66.97**	**355**	*e*P	**P**	**17 35 09.4**	**-2.5**
PET				pmax	pmax		
	comp=Z,26nm,1.4s						
WHN	**Wuhan**	**67.00**	**312**	P	**P**	**17 35 12.8**	**+0.1**
PETK	**Petropavlovsk-**	**67.14**	**354**	P	**P**	**17 35 13.4**	**+0.3**
	comp=Z,16nm,0.7s,baz=162,slow=7.3,SNR=23						
MDJ	**Mudanjiang**	**67.29**	**332**	P	**P**	**17 35 15.0**	**+0.8**
MDJ				pP	**pP**	**17 35 22.8**	**-2.0**
MDJ				sP	**sP**	**17 35 27.8**	**-1.0**
MDJ				PMZ			
	comp=Z,94nm,1.2s						
MDJ				LN			
	comp=Z,12μm,18.1s						
MDJ				LE			
	comp=Z,9μm,20.9s						
MDJ				LZ			
	comp=Z,20μm,16.7s						
MDJ	**Mudanjiang**	**67.29**	**332**	*e*P	**P**	**17 35 15.5**	**+1.3**
	comp=Z,111nm,1.1s						
HABR	**Khabarovsk**	**68.15**	**338**	*e*P	**P**	**17 35 17.8**	**-1.7**
HABR				*e**PP	**pP**	**17 35 28.2**	**-1.9**
HABR				*e*SP		17 35 32.3	
HABR				*e*		17 35 43.7	
HABR				*e*S	**S**	**17 44 15.0**	**-2.1**
HABR				*e*SS	**sS**	**17 44 33.1**	**-1.5**
HABR				*e*		17 45 13.8	
HABR				*e*SS	**SS**	**17 48 38.9**	**-1.7**
HABR				pmax	pmax		
	comp=Z,302nm,1.9s						
HABR				MLR	MLR		
	comp=Z,9μm,18.0s						
TIA	**Tai'an**	**68.

GTA	Gaotai	81.72	314	⇑P		P	17	36	38.5 +0.2
GTA				pP		pP	17	36	48.5 -0.7
GTA				sP		sP	17	36	52.5 -0.7
GTA				PMZ					
	comp=Z,110nm,1.2s								
RC01	Rabbit Creek A	82.27	20	*e*P		P	17	36	41.9 +1.4
	comp=Z,12nm,0.5s								
MAW	Mawson	82.51	202	P		P	17	36	42.0 +0.2
	comp=Z,35nm,1.1s,baz=98,slow=7.0,SNR=7.9								
MAW	Mawson	82.51	202	*e*P		P	17	36	42.0 +0.2
MAW				pmax	pmax				
	comp=Z,10.0nm,1.1s								
MAW	Mawson	82.51	202	*e*P		P	17	36	42.0 +0.2
	comp=Z,10nm,1.1s								
BOD	Bodaibo	83.48	335	*e*P		P	17	36	46.1 -0.8
BOD				pmax	pmax				
	comp=Z,26nm,1.4s								
DIV	Divide	83.64	21	*e*P		P	17	36	49.4 +1.7
	comp=Z,32nm,1.3s								
ZAK	Zakamensk	84.56	325	⇑*i*P		P	17	36	52.9 +0.2
ZAK				pmax	pmax				
	comp=Z,61nm,1.2s								
LSA	Lhasa	84.69	302	*e*P		P	17	36	54.9 +0.6
LSA				pmax	pmax				
	comp=Z,37nm,1.0s								
LSA	Lhasa	84.69	302	*e*P		P	17	36	54.9 +0.6
	comp=Z,37nm,1.0s								
TLY	Talaya	85.00	326	P		P	17	36	54.4 -0.4
	comp=Z,514nm,0.8s,SNR=7.0								
TLY	Talaya	85.00	326	*e*P		P	17	36	54.9 +0.1
TLY				pmax	pmax				
	comp=Z,124nm,1.4s								
TLY	Talaya	85.00	326	*e*P		P	17	36	53.4 -1.4
YBH	Yreka Blue Hor	85.14	45	P		P	17	36	56.0 +0.2
	comp=Z,3.1nm,0.7s,baz=248,slow=11,SNR=3.5								
HUMO	Hull Mountain	85.32	44	*e*P		P	17	36	58.2 +1.5
COLA	College	85.63	18	⇑*e*P		P	17	36	59.8 +2.2
COLA				pmax	pmax				
	comp=Z,80nm,1.0s								
ILAR	Eielson Array	85.85	18	P		P	17	36	57.5 -1.2
	comp=Z,11nm,0.5s,baz=239,slow=4.3,SNR=48								
DOT	Dot Lake	85.96	20	*e*P		P	17	37	00.4 +1.1
	comp=Z,8.9nm,0.7s								
COLD	Coldfoot	86.72	15	*e*P		P	17	37	04.7 +1.8
	comp=Z,6.6nm,0.9s								
TAPN	Taplejung	86.84	299	*e*P		P	17	37	04.8 0.0
PFO	Pinyon Flats O	86.88	54	P		P	17	37	06.3 +1.7
	comp=Z,5.0nm,0.9s,baz=252,slow=3.6,SNR=3.5								
ODAN	Odare	86.97	298	*e*P		P	17	37	05.4 0.0
	comp=Z,472nm,1.7s								
NVAR	Mina Array Bea	87.07	49	P		P	17	37	07.5 +1.9
	comp=Z,2.9nm,0.8s,baz=240,slow=7.1,SNR=4.9								
NVAR				PKPPKP		P'P'df	18	03	05.7 +1.5
	comp=Z,1.7nm,1.0s,baz=104,slow=6.3,SNR=4.5								
RAMN	Ramite	87.67	298	*e*P		P	17	37	08.4 -0.4
PALK	Pallekele	87.93	278	*e*P		P	17	37	11.4 +1.3
PALK				pmax	pmax				
	comp=Z,39nm,1.4s								
PALK	Pallekele	87.93	278	*e*P		P	17	37	11.3 +1.3
	comp=Z,39nm,1.4s								
JIRN	Jiri	88.22	299	*e*P		P	17	37	11.4 -0.1
	comp=Z,119nm,1.2s								
GUN	Gumba	88.55	299	*e*P		P	17	37	12.9 -0.2
	comp=Z,42nm,0.7s								
PKI	Pulchoki	88.86	299	*e*P		P	17	37	14.2 -0.3
PKIN	Phulchoki	88.87	299	*e*P		P	17	37	14.2 -0.3
	comp=Z,35nm,0.8s								
TIXI	Tiksi	89.02	349	⇓*e*P		P	17	37	12.7 -1.1
TIXI				pmax	pmax				
	comp=Z,12nm,1.0s								
KKN	Kakani	89.03	299	*e*P		P	17	37	14.9 -0.3
	comp=Z,80nm,0.9s								
DMN	Daman	89.13	299	*e*P		P	17	37	15.6 -0.1
	comp=Z,253nm,1.2s								
GKN	Gorkha	89.64	299	*e*P		P	17	37	17.0 -0.9
ELK	Elko	90.06	48	P		P	17	37	19.4 -0.4
	comp=Z,2.2nm,0.9s,baz=264,slow=3.2,SNR=3.2								
WMQ	Urumqi	91.78	315	P		P	17	37	27.5 +0.1
WMQ				pP		pP	17	37	38.0 -0.4
WMQ				sP		sP	17	37	42.0 -0.3
WMQ				SKS		SKSac	17	47	55.5 -2.3
WMQ				S		S	17	48	23.0 -3.0
WMQ				sS		sS	17	48	40.8 -3.5
WMQ				PMZ					
	comp=Z,43nm,1.4s								
WMQ				PMZ					
	comp=Z,600nm,4.8s								
WMQ				LN					
	comp=Z,8μm,17.0s								
WMQ				LE					
	comp=Z,4μm,18.2s								
WMQ				LZ					
	comp=Z,6μm,21.2s								
SNAA	Sanae	94.39	183	P		P	17	37	34.0 -5.0
SNAA	Sanae	94.39	183	P		P	17	37	37.9 -1.1
	comp=Z,13nm,1.0s,baz=167,slow=3.9,SNR=11								
PDAR	Pinedale Array	94.71	47	PKKP		PKKPdf	17	54	36.8 -3.2
	comp=Z,0.4nm,0.9s,baz=86,slow=3.0,SNR=2.6								
VNA2	Neumayer--Watz	95.33	182	P		P	17	37	42.5 -0.8
	baz=184,slow=3.4								
VNA1	Neumayer--Stat	95.64	182	P		P	17	37	43.6 -1.0
MKAR	Makanchi Array	96.24	317	P		P	17	37	47.7 -0.1
	comp=Z,28nm,0.8s,baz=98,slow=6.2,SNR=32								
TXAR	Lajitas Array	96.28	61	P		P	17	37	47.9 -0.6
	comp=Z,0.8nm,0.7s,baz=256,slow=3.6,SNR=2.5								
TXAR				PP		PP	17	41	44.0 +1.7
	comp=Z,2.9nm,1.1s,baz=234,slow=6.0,SNR=6.1								
ZALV	Zalesovo Beam	96.41	324	P		P	17	37	47.4 -0.9
	comp=Z,27nm,0.7s,baz=118,slow=4.4,SNR=26								
YKA	Yellowknife Ar	97.00	27	P		P	17	37	51.7 +1.0
	comp=Z,1.5nm,0.8s,baz=254,slow=4.6,SNR=4.4								
DGMT	Dagmar	99.59	42	*e*P		Pdif	17	37	57.3 -5.5
	comp=Z,142nm,1.4s								
BVAR	Borovoye Array	104.77	322	Pdiff		Pdif	17	38	24.7 -1.0
	comp=Z,3.0nm,0.8s,baz=46,slow=6.2,SNR=2.6								
AKTO	Aktyubinsk	112.50	319	PKiKP		PKiKP	17	42	55.2 -0.4
	comp=Z,4.8nm,0.9s,baz=113,slow=4.4,SNR=6.6								
AKTO				PKKPab		PKKPab	17	53	52.7 0.0
	comp=Z,1.0nm,0.7s,baz=243,slow=2.3,SNR=3.7								
SPITS	Spitsbergen Ar	114.02	354	PKP		PKiKP	17	42	57.9 +0.1
	comp=Z,3.5nm,0.8s,baz=115,slow=6.5,SNR=3.6								
APA	Apatity	118.40	342	⇑*i*PKIKP		PKPdf	17	43	10.0 +3.6
ARCES	ARCESS Array B	119.29	345	PKP		PKPdf	17	43	06.7 -1.3
	comp=Z,9.1nm,0.6s,baz=89,slow=2.2,SNR=48								
ARCES				PKKPbc		PKKPab	17	53	20.8 -1.4
	comp=Z,1.2nm,0.6s,baz=282,slow=4.5,SNR=5.4								
KLMR	Klimovskoe	119.69	333	*e*PKIKP		PKPdf	17	43	04.7 -4.3
KLMR				pmax	pmax				
	comp=Z,22nm,1.0s								
GNI	Garni	123.21	309	PKP		PKPdf	17	43	16.5 -0.1
	comp=Z,8.7nm,0.7s,baz=90,slow=4.0,SNR=6.6								
LPSR	Galich'ya Gora	123.51	325	*e*PKIKP		PKPdf	17	43	16.2 -0.4
LPSR				pmax	pmax				
	comp=Z,40nm,1.0s								
LPSR				pmax	pmax				
	comp=N,20nm,1.4s								
LPSR				pmax	pmax				
	comp=E,20nm,1.8s								
OBN	Obninsk	123.71	328	⇓*i*PKIKP		PKPdf	17	43	16.3 -0.6
OBN				pmax	pmax				
	comp=Z,33nm,1.2s								
BOSA	Boshof	123.72	221	PKP		PKPdf	17	43	17.5 -0.5
	comp=Z,6.1nm,0.6s,baz=131,slow=2.4,SNR=8.7								
KBZ	Khabaz	123.81	314	PKP		PKPdf	17	43	16.5 -0.9
	comp=Z,4.7nm,0.9s,baz=236,slow=24,SNR=4.8								
KIV	Kislovodsk	123.90	314	*e*PKIKP		PKPdf	17	43	17.8 0.0
KIV				pmax	pmax				
	comp=Z,15nm,1.1s								
VORD	Divnogorie	123.92	323	*e*PKIKP		PKPdf	17	43	16.7 -0.7
VORD				pmax	pmax				
	comp=N,20nm,0.4s								
VORD				pmax	pmax				
	comp=E,9.0nm,0.4s								
VORD				pmax	pmax				
	comp=Z,10.0nm,0.4s								
SIV	San Ignacio	124.18	120	PKP		PKPdf	17	43	20.9 +1.8
	comp=Z,2.6nm,0.7s,baz=260,slow=7.3,SNR=5.2								
FINES	FINESS Array B	124.74	338	PKP		PKPdf	17	43	17.8 -0.9
	comp=Z,11nm,0.8s,baz=81,slow=1.7,SNR=21								
LBTB	Lobatse	125.91	225	PKP		PKPdf	17	43	21.6 -0.7
	comp=Z,9.9nm,0.7s,baz=170,slow=4.1,SNR=9.8								
VSU	Vasula	126.42	335	⇓*i*PKIKP		PKPdf	17	43	21.3 -0.7
ANN	Anapa	127.26	316	*i* PKIKP		PKPdf	17	43	26.6 +2.6
ANN				pmax	pmax				
	comp=Z,57nm,1.5s								
KMBO	Kilima Mbogo	127.83	258	PKP		PKPdf	17	43	25.5 -0.9
	comp=Z,4.8nm,0.9s,baz=16,slow=7.3,SNR=4.2								
KMBO	Kilima Mbogo	127.83	258	*c i*PKIKP		PKPdf	17	43	27.7 +1.3
KMBO				pmax	pmax				
	comp=Z,5.0nm,0.9s								
KMBO	Kilima Mbogo	127.83	258	PKP		PKPdf	17	43	25.5 -0.9
KMBO				*e*PKPdf		PKiKP	17	43	26.7 -0.2
MALT	Malatya	128.38	308	⇑PKIKP		PKPdf	17	43	27.7 +1.1
MALT	Malatya	128.38	308	⇑*i*P		PKPdf	17	43	27.7 +1.1
PCRV	Puerto La Cruz	129.66	88	PKP		PKPdf	17	43	29.4 -0.2
	comp=Z,6.9nm,0.7s,baz=45,slow=2.9,SNR=2.0								
NB2	NORSAR Subarra	129.66	345	PKPdf		PKPdf	17	43	27.2 -1.0
	comp=Z,14nm,1.1s,baz=27,slow=1.8								
NB2	NORSAR Subarra	129.66	345	PKPdf		PKPdf	17	43	27.2 -1.0
	baz=27,slow=1.8								
NOA	NORSAR Array B	129.66	345	PKP		PKPdf	17	43	27.1 -1.1
	comp=Z,6.7nm,0.8s,baz=31,slow=2.0,SNR=14								
AKASG	Malin Array Be	129.75	326	PKP		PKPdf	17	43	27.4 -1.2
	comp=Z,3.7nm,0.6s,baz=48,slow=2.6,SNR=12								
HFS	Hagfors	129.75	343	PKP		PKPdf	17	43	27.7 -0.6
	comp=Z,4.9nm,0.7s,baz=104,slow=6.3,SNR=6.4								
HFS				SKPbc		SKPbc	17	46	49.7 +1.7
	comp=Z,6.1nm,0.8s,baz=66,slow=3.7,SNR=5.7								
KIEV	Kiev	129.76	326	⇓*i*PKIKP		PKPdf	17	43	28.1 -0.5
LSZ	Lusaka	129.84	236	PKP		PKPdf	17	43	28.5 -1.4
	comp=Z,4.9nm,0.7s,baz=9.9,slow=14,SNR=3.7								
ASF	Jabal al Asfar	130.86	301	PKP		PKPdf	17	43	30.6 -0.9
	comp=Z,7.7nm,1.1s,baz=107,slow=4.2,SNR=4.3								
BRTR	Keskin Array B	131.58	311	PKP		PKPdf	17	43	31.8 -0.8
	comp=Z,3.4nm,0.8s,baz=152,slow=1.8,SNR=5.5								
BRTR	Keskin Array B	131.58	311	*c i*PKIKP		PKPdf	17	43	32.5 -0.1
BRTR				pmax	pmax				
	comp=Z,3.0nm,0.8s								
MMAI	Mount Meron Ar	131.94	302	PKP		PKPdf	17	43	32.4 -1.0
	comp=Z,7.0nm,0.7s,baz=68,slow=4.8,SNR=7.4								
ANTO	Ankara	132.15	312	⇑PKIKP		PKPdf	17	43	33.8 +0.2
ANTO	Ankara	132.15	312	⇑*i*P		PKPdf	17	43	33.8 +0.2
EIL	Elat	132.91	298	PKP		PKPdf	17	43	33.2 -2.0
	comp=Z,8.6nm,0.8s,baz=293,slow=5.4,SNR=4.8								
TLB	Topalu	133.48	319	⇓PKIKP		PKPdf	17	43	36.2 +0.4
TLB	Topalu	133.48	319	⇓*i*P		PKPdf	17	43	36.2 +0.4
HARR	Harsova	133.50	320	⇑PKIKP		PKPdf	17	43	36.9 +1.0
HARR	Harsova	133.50	320	⇑*i*P		PKPdf	17	43	36.9 +1.0
BURAR	Bucovina Array	133.62	324	⇑PKIKP		PKPdf	17	43	37.5 +1.3
BURAR	Bucovina Array	133.62	324	⇑*i*P		PKPdf	17	43	37.5 +1.3
VRI	Vrincioaia	133.67	322	⇓PKIKP		PKPdf	17	43	36.4 +0.2
VRI	Vrincioaia	133.67	322	⇓*i*P		PKPdf	17	43	36.4 +0.2
MSAB	Monastry St. A	133.85	319	⇑*i*P		PKPdf	17	43	36.9 +0.4
MLR	Muntele Rosu	134.33	322	PKP		PKPdf	17	43	37.1 -0.5
	comp=Z,3.1nm,1.1s,baz=144,slow=4.9,SNR=4.1								
MLR	Muntele Rosu	134.33	322	⇑PKIKP		PKPdf	17	43	38.3 +0.7
MLR	Muntele Rosu	134.33	322	⇑*i*P		PKPdf	17	43	38.3 +0.7
KOLS	Kolonicke sedl	134.45	328	*e*PKIKP		PKPdf	17	43	37.7 +0.1
KOLS	Kolonicke sedl	134.45	328	*e*PKP		PKPdf	17	43	37.7 +0.1
STHS	Stebnicka Huta	134.68	329	*e*PKIKP		PKPdf	17	43	38.0 0.0
STHS	Stebnicka Huta	134.68	329	*e*PKP		PKPdf	17	43	38.0 0.0
BDFB	Brasilia	134.81	129	PKP		PKPdf	17	43	39.5 +0.1
	comp=Z,4.6nm,0.7s,baz=198,slow=6.6,SNR=2.7								
OJC	Ojcow	134.87	330	*e*PKIKP		PKPdf	17	43	37.5 -0.8
OJC	Ojcow	134.87	330	*e*PKPdf		PKPdf	17	43	37.5 -0.8
VOIR		134.90	322	⇓PKIKP		PKPdf	17	43	35.9 -2.7
VOIR		134.90	322	⇓*i*P		PKPdf	17	43	35.9 -2.7
MTUR	Matau	135.00	322	⇑PKIKP		PKPdf	17	43	34.7 -4.1
MTUR	Matau	135.00	322	⇑*i*P		PKPdf	17	43	34.7 -4.1
ARR	Arges	135.18	322	⇑*i*P		PKPdf	17	43	39.3 +0.2
TSUM	Tsumeb	135.28	223	PKP		PKPdf	17	43	39.7 -0.5
	comp=Z,6.0nm,0.8s,baz=131,slow=3.4,SNR=3.5								
DRGR		135.50	325	⇑PKIKP		PKPdf	17	43	40.7 +1.0
DRGR		135.50	325	⇑*i*P		PKPdf	17	43	40.7 +1.0
GZR	Gura Zlata	136.26	323	⇑PKIKP		PKPdf	17	43	40.9 -0.2
GZR	Gura Zlata	136.26	323	⇑*i*P		PKPdf	17	43	40.9 -0.2
PSZ	Piszkesteto	136.32	328	⇑PKIKP		PKPdf	17	43	41.4 +0.2
PSZ	Piszkesteto	136.32	328	⇑*i*P		PKPdf	17	43	41.4 +0.2
ALN	Alexandroupoli	136.48	316	*e*P		PKPdf	17	43	39.7 -1.9
KDZ	Kurdzhali	136.56	317	⇓PKIKP		PKPdf	17	43	41.4 -0.3
KDZ	Kurdzhali	136.56	317	⇓*i*P		PKPdf	17	43	41.4 -0.3
BZS	Buzias	136.80	324	⇑PKIKP		PKPdf	17	43	42.1 +0.1
BZS	Buzias	136.80	324	⇑*i*P		PKPdf	17	43	42.1 +0.1
BRG	Berggiesshubel	137.02	335	*e*PKP		PKPpre	17	43	29.8
	comp=Z,70nm,2.0s								
BRG	Berggiesshubel	137.02	335	*e*PKHKP		PKPpre	17	43	29.8
BRG				pmax	pmax				
	comp=Z,70nm,2.0s								
SMTH	Samothraki Isl	137.03	316	*e*P		PKPdf	17	43	38.2 -4.4
CLL	Collm	137.06	336	⇓*i*PKPdf		PKPdf	17	43	43.5 +1.2
	comp=Z,16nm,1.0s								
CLL				*e*pPP			17	46	38.0
	comp=Z,94nm,2.2s								
CLL				*e*SKPdf		SKPdf	17	47	16.0 +1.1
CLL				*ep*SKPdf			17	47	30.0
CLL				LmV			19	10	00.0
	comp=Z,15μm,21.9s								
CLL	Collm	137.06	336	⇓*i*PKIKP		PKPdf	17	43	43.5 +1.2
CLL				pmax	pmax				
	comp=Z,16nm,1.0s								
SMOL	Smolenice	137.16	330	*e*PKIKP		PKPdf	17	43	43.3 +0.7
SMOL	Smolenice	137.16	330	*e*PKP		PKPdf	17	43	43.3 +0.7
SIGR	SIGRI	137.35	314	*e*P		PKPdf	17	43	42.8 -0.4
GOPC	GO Pecny, Ondr	137.38	333	*e*PKPdf		PKPdf	17	43	42.8 -0.2
PRU	Pruhonice	137.43	334	*e*PKPdf		PKPdf	17	43	43.4 +0.3
PRU	Pruhonice	137.43	334	*e*PKIKP		PKPdf	17	43	43.4 +0.3
KAVA	Kavala	137.47	317	*e*P		PKPdf	17	43	41.9 -1.5
VTS	Vitosha	137.52	320	⇑PKIKP		PKPdf	17	43	42.8 -0.9
VTS	Vitosha	137.52	320	⇑*i*P		PKPdf	17	43	42.8 -0.9
LIA	Limnos Island	137.52	315	*e*P		PKPdf	17	43	42.5 -1.0
MMB	Musomiste	137.70	318	⇑PKIKP		PKPdf	17	43	43.5 -0.4
MMB	Musomiste	137.70	318	⇑*i*P		PKPdf	17	43	43.5 -0.4
NVR	Nevrokopi	137.73	318	*e*P		PKPdf	17	43	40.9 -3.0
EKA	Eskdalemuir Ar	137.88	351	PKhKP		PKPpre	17	43	35.9
	comp=Z,3.1nm,0.8s,baz=22,slow=2.6,SNR=3.8								
EKA				PKP		PKPdf	17	43	44.4 +0.7
	comp=Z,2.9nm,0.7s,baz=295,slow=3.4,SNR=4.7								
PKSM	Moragy	138.08	327	⇑PKIKP		PKPdf	17	43	44.4 +0.1
PKSM	Moragy	138.08	327	⇑*i*P		PKPdf	17	43	44.3 0.0
OUR	Ouranopolis	138.14	316	*e*P		PKPpre	17	43	33.5
CONA	Conrad Observa	138.32	331	⇑*i*PKPdf		PKPdf	17	43	45.1 +0.2
	comp=Z,32nm,1.3s								
KNT	Kendrikon	138.45	318	*e*P		PKPdf	17	43	44.2 -1.0
KHC	Kasperske Hory	138.49	333	*e*PKPdf		PKPdf	17	43	45.3 +0.2
KHC	Kasperske Hory	138.49	333	*e*PKIKP		PKPdf	17	43	45.3 +0.2
PAIG	Paliouri	138.53	316	*e*P		PKPdf	17	43	42.7 -2.7
HORT	Hortiatis	138.60	317	*e*P		PKPdf	17	43	41.3 -4.3
DIVS	Divibare	138.63	323	⇓*i*P		PKPdf	17	43	45.9 +0.3
GERES	GERESS Array B	138.65	333	PKhKP		PKPpre	17	43	32.6
	comp=Z,3.7nm,1.0s,baz=75,slow=1.5,SNR=4.2								
GERES				PKP		PKPdf	17	43	45.5 0.0
	comp=Z,3.6nm,0.7s,baz=75,slow=1.5,SNR=5.8								
GERES				SKPbc		SKPbc	17	47	18.5 +0.8
	comp=Z,6.3nm,0.9s,baz=74,slow=1.4,SNR=7.0								
THE	Thessaloniki	138.67	317	*e*P		PKPdf	17	43	37.2 -8.4
SANT	Santorini	138.80	310	*e*PKPdf		PKPdf	17	43	46.5 +0.5
GRG	Griva	138.88	318	*e*P		PKPdf	17	43	39.3 -6.8
NPS	Neapolis	139.10	308	*e*P		PKPdf	17	43	41.3 -5.3
MRKA	Markates	139.16	314	*e*P		PKPdf	17	43	40.3 -6.3
LAST	Lasithi	139.24	308	*e*P		PKPdf	17	43	46.2 -0.8
LIT	Litokhoron	139.25	317	*e*P		PKPdf	17	43	46.7 0.0
PTL	Penteli	139.26	313	*e*P		PKPdf	17	43	45.4 -1.4
FNA	Florina	139.63	318	*e*P		PKPdf	17	43	46.7 -0.8
IDI	Anoyia	139.64	309	PKhKP		PKPpre	17	43	39.2
	comp=Z,6.0nm,0.7s,baz=18,slow=6.7,SNR=3.5								
IDI				PKP		PKPdf	17	43	48.0 +0.4
	comp=Z,22nm,1.0s,baz=32,slow=11,SNR=4.8								
SIVA	Sivas	139.80	308	*e*P		PKPdf	17	43	41.1 -6.8
MAKR	Makrakomi, Fth	140.02	315	*e*P		PKPdf	17	43	42.1 -6.1
NEST	Nestorio	140.04	318	*e*P		PKPpre	17	43	32.7
VAM	Vamos	140.12	309	*e*P		PKPdf	17	43	38.6 -10
MEM	Membach	140.15	341	PKP		PKPdf	17	43	47.4 -0.7
MEM	Membach	140.15	341	*e*PKIKP		PKPdf	17	43	48.4 +0.4
MEM	Membach	140.15	341	*e*PKPdf		PKPdf	17	43	48.4 +0.4
EVR	Evrytania	140.29	315	*e*P		PKPdf	17	43	46.7 -2.1
GUR	Goura	140.39	314	*e*P		PKPdf	17	43	42.9 -6.1
KLV	Kalavryta, Ach	140.47	314	*e*P		PKPdf	17	43	40.5 -8.6
JAN	Janina	140.56	317	*e*P		PKPdf	17	43	41.7 -7.5
ANKY	Antikythira Is	140.60	310	*e*P		PKPdf	17	43	43.0 -6.3
PDO	Prodromos	140.87	315	*e*P		PKPpre	17	43	44.2
WLF	Walferdange	140.92	340	E		PKPdf	17	43	47.4 -2.1
IGT	Igoumenitsa	140.97	317	*e*P		PKPpre	17	43	43.6
ITM	Ithomi	141.03	313	*e*P		PKPpre	17	43	43.6
DOU	Dourbes	141.04	342	PKP		PKPdf	17	43	48.8 -0.8
LKD2	Lefkada island	141.13	316	*e*P		PKPdf	17	43	42.5 -7.7
VLS	Valsamata	141.49	315	*e*P		PKPdf	17	43	43.2 -7.6
FUORN	Ofenpass-Fuorn	141.85	334	*e*PKPdf		PKPpre	17	43	46.8
DAVOX	Davos/Dischmat	141.89	334	PKhKP		PKPpre	17	43	42.5
	comp=Z,9.9nm,0.9s,baz=211,slow=5.9,SNR=2.3								
TUE	Stuetta	142.36	334	*e*PKPdf		PKPpre	17	43	48.0
SENIN	Lac Senin/Sane	143.28	336	*e*PKPdf		PKPbc	17	43	51.3 +0.2
AQU	L'Aquila	143.45	326	*e*PKIKP		PKPbc	17	43	51.6 +0.1
AQU	L'Aquila	143.45	326	*e*PKPdf		PKPbc	17	43	51.5 +0.1
CEL	Celeste	144.56	319	*e*PKPpre		PKPpre	17	43	54.0
BNI	Bardonecchia	144.61	335	*e*PKIKP		PKPab	17	43	54.8 -0.1
BNI	Bardonecchia	144.61	335	*e*PKPdf		PKPab	17	43	54.8 -0.1
PLDF	La Plantade	144.97	339	PKP		PKPbc	17	43	56.4 +0.3
AGO	Saint Agoulin	145.06	340	PKP		PKPbc	17	43	56.3 0.0
SAOF	Saorge	145.10	333	PKP		PKPbc	17	43	56.2 -0.3
AUTN	L'Aution	145.15	334	PKP		PKPbc	17	43	56.4 -0.5
TOUF	Mont Tournerai	145.21	334	PKP		PKPbc	17	43	56.6 -0.5
SSB	Saint Sauveur	145.24	338	*e*PKIKP		PKPbc	17	43	56.8 -0.1
SSB	Saint Sauveur	145.24	338	*e*PKPdf		PKPbc	17	43	56.8 -0.1
MVIF	Mont Vial	145.35	334	PKP		PKPbc	17	43	56.8 -0.7
PYM	Petit Puy Mans	145.37	340	PKP		PKPbc	17	43	57.3 -0.1
REVF	Revere	145.38	333	PKP		PKPbc	17	43	56.4 -1.1
CALN	Calern	145.58	334	PKP		PKPdf	17	43	57.9 -0.1
LBL	Lubilhac	145.74	339	PKP		PKPab	17	43

	2.4nm,0.3s,baz=228,slow=22,SNR=16							
SIJI				S		Sn	17 37 34.5	+2.2
	0.4nm,0.3s,baz=240,slow=20,SNR=2.6							
PWJI	**Pagerwojo**	**14.66**	**237**	P		**P**	**17 37 56.0**	**-0.6**
	46nm,2.2s							
UGM	**Wanagama**	**15.70**	**240**	P		**P**	**17 38 07.9**	**-0.2**
	124nm,2.0s,19µm							
GENI	**Genyem**	**16.17**	**99**	P		**P**	**17 38 12.6**	**-0.7**
	49nm,3.7s							
JAY	**Jayapura**	**16.69**	**99**	P		**P**	**17 38 20.1**	**+1.0**
TPI	**Tanjungpandan**	**16.75**	**261**	P		**P**	**17 38 21.7**	**+2.0**
	18nm,3.5s							
CMJI	**Cimerak**	**17.47**	**244**	P		**Pn**	**17 38 30.1**	**+2.0**
	57nm,1.3s							
CISI	**Cisompet, Garu**	**17.95**	**245**	P		**Pn**	**17 38 36.5**	**+2.6**
	44nm,1.2s							
CNJI	**Cibinong**	**18.48**	**247**	P		**Pn**	**17 38 41.5**	**+1.3**
	61nm,1.4s							
TNG	**Tangerang**	**18.53**	**251**	P		**Pn**	**17 38 42.2**	**+1.4**
	335nm,0.5s							
SBJI	**Serang**	**19.00**	**251**	P		**Pn**	**17 38 47.4**	**+1.0**
	71nm,1.2s							
CGJI	**Cibinong**	**19.57**	**250**	P		**Pn**	**17 38 53.8**	**+0.8**
	30nm,2.5s							
PMBI	**Palembang**	**19.62**	**261**	P		**Pn**	**17 38 57.2**	**+3.6**
	142nm,0.5s							
KLI	**Kotabumi**	**19.89**	**256**	P		**Pn**	**17 38 59.2**	**+2.4**
	56nm,0.5s							
LWLI	**Liwa**	**20.70**	**256**	P		Pn	17 39 06.1	-0.3
WRA	**Warramunga Arr**	**22.12**	**154**	P		**P**	**17 39 14.0**	**-3.9**
	0.9nm,0.6s,baz=334,slow=11,SNR=7.0							
ASAR	**Alice Springs**	**25.29**	**159**	P		**P**	**17 39 46.3**	**-1.3**
	0.6nm,0.4s,baz=333,slow=9.8,SNR=9.1							
MJAR	**Matsushiro Arr**	**38.67**	**18**	P		P	17 41 36.2	-8.0
	1.8nm,0.8s,baz=198,slow=8.9,SNR=4.1							
USRK	**Uusuriysk Ar.**	**44.61**	**8**	P		P	17 42 24.8	-7.8
	1.6nm,0.4s,baz=204,slow=6.2,SNR=4.6							
MKAR	**Makanchi Array**	**59.29**	**328**	P		P	17 44 11.8	-10
	1.8nm,0.6s,baz=118,slow=7.8,SNR=11							

*ISCJB **27** 17:35:35.5±1.3,34°.93N±0°.07×26°.85E±0°.05,h4km±7km, Error ellipse: s-maj=12.9km s-min=4.4km az=155.4*
*ATH **27** 17:35:35.6,34°.89N×26°.86E,h10km±2km,MD3.5/11*
*CSEM **27** 17:35:35.7±0.8,34°.94N×26°.85E,h2km,ML3.4, Error ellipse: s-maj=19.2km s-min=6.2km az=158.0*
*THE **27** 17:35:36.0,34°.97N×26°.80E,h0km±1km,ML3.4/2, Error ellipse: s-maj=4.3km s-min=1.1km az=156.0*

ISC 27 17:35:36.6±1.6, 35°.00N±0°.08×26°.83E±0°.04, h7km±10km, n40, σ0s98/60, Crete

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
ZKR	**Zakros**	**0.51**	**283**	P		**Pg**	**17 35 46.1**	**-0.4**
ZKR				S		**Sg**	**17 35 54.0**	**+0.8**
ZKR	**Zakros**	**0.51**	**283**	P		**Pg**	**17 35 46.1**	**-0.4**
ZKR				S		**Sg**	**17 35 54.0**	**+0.8**
KARP	**Karpathos**	**0.61**	**27**	P		**Pg**	**17 35 48.2**	**-0.1**
KARP				S		**Sb**	**17 35 59.0**	**+0.6**
KARP	**Karpathos**	**0.61**	**27**	*e*PB		**Pg**	**17 35 48.3**	**-0.1**
KARP				*e*SB		**Sb**	**17 35 58.8**	**+0.4**
KARP	**Karpathos**	**0.61**	**27**	*e*Pb		**Pg**	**17 35 48.3**	**-0.1**
KARP				*e*Sb		**Sb**	**17 35 58.8**	**+0.4**
NPS	**Neapolis**	**1.03**	**285**	P		**Pg**	**17 35 55.5**	**-0.8**
NPS				S		**Sb**	**17 36 11.0**	**+0.6**
NPS	**Neapolis**	**1.03**	**285**	*e*PN		**Pg**	**17 35 56.3**	**0.0**
NPS				*e*SB		**Sb**	**17 36 10.5**	**+0.1**
NPS	**Neapolis**	**1.03**	**285**	P		**Pg**	**17 35 55.5**	**-0.8**
NPS	**Neapolis**	**1.03**	**285**	*e*Pn		**Pg**	**17 35 56.3**	**0.0**
NPS				*e*Sb		**Sb**	**17 36 10.5**	**+0.1**
NPS				S		**Sb**	**17 36 11.0**	**+0.6**
LAST	**Lasithi**	**1.11**	**278**	P		**Pg**	**17 35 57.4**	**-0.6**
LAST				S		**Sn**	**17 36 14.1**	**-0.3**
LAST	**Lasithi**	**1.11**	**278**	*e*PB		**Pg**	**17 35 57.4**	**-0.6**
LAST				*e*SB		**Sn**	**17 36 14.0**	**-0.3**
LAST	**Lasithi**	**1.11**	**278**	P		**Pg**	**17 35 57.4**	**-0.6**
LAST				*e*Sb		**Sn**	**17 36 14.0**	**-0.3**
ARG	**Arkhangelos**	**1.61**	**41**	P		**Pn**	**17 36 04.9**	**-0.5**
ARG				S		**Sb**	**17 36 27.7**	**+0.6**
ARG	**Arkhangelos**	**1.61**	**41**	*e*PB		**Pg**	**17 36 07.6**	**+0.1**
ARG	**Arkhangelos**	**1.61**	**41**	P		**Pn**	**17 36 04.9**	**-0.5**
ARG	**Arkhangelos**	**1.61**	**41**	*e*Pb		**Pg**	**17 36 07.6**	**+0.1**
ARG				S		**Sb**	**17 36 27.7**	**+0.6**
SIVA	**Sivas**	**1.65**	**271**	P		**Pn**	**17 36 04.7**	**-1.3**
SIVA				S		**Sn**	**17 36 26.8**	**-0.7**
SIVA	**Sivas**	**1.65**	**271**	*e*PB		**Pb**	**17 36 07.5**	**+0.1**
SIVA				*e*SB		**Sg**	**17 36 29.8**	**0.0**
SIVA	**Sivas**	**1.65**	**271**	P		**Pn**	**17 36 04.7**	**-1.3**
SIVA	**Sivas**	**1.65**	**271**	*e*Pb		**Pb**	**17 36 07.5**	**+0.1**
SIVA				S		**Sn**	**17 36 26.8**	**-0.7**
SIVA				*e*Sb		**Sg**	**17 36 29.8**	**0.0**
SANT	**Santorini**	**1.76**	**321**	P		**Pn**	**17 36 07.8**	**+0.3**
SANT				S		**Sn**	**17 36 30.9**	**+0.7**
SANT	**Santorini**	**1.76**	**321**	*e*PN		**Pb**	**17 36 08.8**	**-0.4**
SANT	**Santorini**	**1.76**	**321**	P		**Pn**	**17 36 07.8**	**+0.3**
SANT	**Santorini**	**1.76**	**321**	*e*Pn		**Pb**	**17 36 08.8**	**-0.4**
SANT				S		**Sn**	**17 36 30.9**	**+0.7**
THR6	**Thira Island,**	**1.78**	**320**	P		**Pn**	**17 36 07.2**	**-0.6**
THR6	**Thira Island,**	**1.78**	**320**	P		**Pn**	**17 36 07.2**	**-0.6**
THR2	**Thira island,**	**1.83**	**322**	P		**Pn**	**17 36 07.5**	**-1.0**
THR2	**Thira island,**	**1.83**	**322**	P		**Pn**	**17 36 07.5**	**-1.0**
VAM	**Vamos**	**2.19**	**281**	*e*PN		**Pn**	**17 36 14.9**	**+1.5**
VAM	**Vamos**	**2.19**	**281**	*e*Pn		**Pn**	**17 36 14.9**	**+1.5**
APE	**Apeiranthos**	**2.31**	**333**	*e*PN		**Pb**	**17 36 17.3**	**-1.4**
APE	**Apeiranthos**	**2.31**	**333**	*e*Pn		**Pb**	**17 36 17.3**	**-1.4**
KARN	**Karanos**	**2.41**	**280**	*e*PN		**Pn**	**17 36 18.4**	**+1.9**
KARN	**Karanos**	**2.41**	**280**	*e*Pn		**Pn**	**17 36 18.4**	**+1.9**
KYTH	**Kithira**	**3.34**	**294**	P		**Pn**	**17 36 27.3**	**-1.9**
KYTH	**Kithira**	**3.34**	**294**	*e*PN		**Pn**	**17 36 31.2**	**+2.0**
KYTH	**Kithira**	**3.34**	**294**	P		**Pn**	**17 36 27.3**	**-1.9**
KYTH	**Kithira**	**3.34**	**294**	*e*Pn		**Pn**	**17 36 31.2**	**+2.0**
VLI	**Veliai**	**3.59**	**300**	*e*PN		**Pn**	**17 36 34.6**	**+1.9**
VLI	**Veliai**	**3.59**	**300**	*e*Pn		**Pn**	**17 36 34.6**	**+1.9**

*ISCJB **27** 17:42:30.3±1.2,14°.9N±0°.1×93°.37W±0°.09,h67km,mb3.9/3, Error ellipse: s-maj=18.7km s-min=5.8km az=40.8*
*CASC **27** 17:42:31.8±1.5,15°.31N×93°.03W,h13km±30km,MD4.3*
*MEX **27** 17:42:33.0±0.4,14°.86N×93°.24W,h51km±101km,MD3.6*
*IDC **27** 17:42:48.8±1.2,18°.29N×95°.44W,h0km,mb3.8/3, mb1 4.2/3,mb1mx3.7/22,mbtmp3.9/3, Error ellipse: s-maj=56.3km s-min=21.5km az=75.0*

ISC 27 17:42:32.7±1.7, 15°.0N±0°.1×93°.3W±0°.1, h67km, n17, σ1s11/19, mb4.0/3, 2D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
PCIG		**0.68**	**2**	*e*P		**Pn**	**17 42 47.0**	**-0.1**
PCIG				*e*S		**Sn**	**17 42 58.1**	**+0.4**
JAT	**Jato**	**1.71**	**114**	P		**Pn**	**17 43 01.1**	**+0.8**
FUG	**Fuego 3**	**2.40**	**104**	*e*P		**Pn**	**17 43 09.9**	**+0.1**
CMIG	**Matias Romero**	**2.59**	**323**	Pg		**Pn**	**17 43 12.9**	**+0.6**
	14nm,0.3s,baz=125,slow=11,SNR=91							
CMIG				Lg		Lg	17 43 34.8	
	52nm,0.3s,baz=118,slow=13,SNR=9.3							
IXG	**Ixpaco**	**2.83**	**107**	*e*P		**Pn**	**17 43 15.1**	**-0.7**
NBG	**Las Nubes**	**2.84**	**98**	*e*P		**Pn**	**17 43 16.3**	**+0.3**
MRL	**Marmol**	**3.44**	**89**	*e*P		**Pn**	**17 43 22.4**	**-1.6**
RBDL	**Robledal**	**3.57**	**104**	*e*P		**Pn**	**17 43 24.2**	**-1.6**
RBDL				*e*S		**Sn**	**17 44 08.2**	**+1.4**
RTR	**El Retiro**	**3.67**	**107**	*e*P		**Pn**	**17 43 26.9**	**-0.3**
SBLS	**San Blas**	**3.71**	**108**	*e*P		**Pn**	**17 43 27.0**	**-0.7**
SBLS				*e*S		**Sn**	**17 44 11.5**	**+1.1**
SNJE	**San Jose**	**3.71**	**108**	*e*P		**Pn**	**17 43 27.6**	**-0.2**
SNJE				*e*S		**Sn**	**17 44 11.7**	**+1.3**
LFRS	**El Faro**	**4.29**	**108**	*e*P		**Pn**	**17 43 34.9**	**-0.7**
LFRS				*e*S		**Sn**	**17 44 25.0**	**+0.5**
TKL	**Tuckaleechee C**	**22.23**	**21**	P		**P**	**17 47 25.6**	**+1.8**
	10.0nm,0.5s,baz=65,slow=8.7,SNR=11							
YKA	**Yellowknife Ar**	**49.76**	**347**	P		P	17 51 13.5	-4.7
	0.3nm,0.6s,baz=149,slow=7.6,SNR=3.0							
ILAR	**Eielson Array**	**61.43**	**337**	P		**P**	**17 52 39.8**	**-1.9**
	0.8nm,0.6s,baz=128,slow=6.4,SNR=8.7							
WRA	**Warramunga Arr**	**134.46**	**257**	PKP		PKPdf	18 02 08.4	+24
	1.7nm,0.6s,baz=76,slow=1.7,SNR=25							
ASAR	**Alice Springs**	**134.85**	**251**	PKP		PKPdf	18 02 08.6	+24
	0.7nm,0.5s,baz=106,slow=1.5,SNR=18							

*IDC **27** 17:43:50.3±5.9, 18°.00S×176°.90W,h312km±57km, mb3.8/19,mb1 4.0/19,mb1mx3.8/44,mbtmp4.5/19, Error ellipse: s-maj=18.4km s-min=14.3km az=66.0*
*NEIC **27** 17:43:51.1±1.3, 17°.99S×176°.94W,h322km±13km,mb5.1/2, Error ellipse: s-maj=14.7km s-min=10.6km az=131.0*
*ISCJB **27** 17:43:54.0±0.5, 18°.03S±0°.10×177°.0W±0°.1,h361km, mb4.1/20, Error ellipse: s-maj=15.4km s-min=12.4km az=26.9*

ISC 27 17:43:55.1±0.6, 18°.0S±0°.1×177°.0W±0°.1, h361km, n51, σ0s84/50, mb4.2/20, 10C-7D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**6.46**	**52**	*e*P		Pn	17 45 25.9	-5.8
	75nm,0.6s							
URZ	**Urewera**	**20.83**	**193**	P		**P**	**17 48 07.4**	**-2.3**
	4.9nm,0.3s,baz=339,slow=4.9,SNR=11							
STKA	**Stephens Creek**	**39.77**	**242**	P		**P**	**17 50 55.5**	**+1.1**
	4.0nm,0.4s,baz=76,slow=7.2,SNR=9.9							
JAY	**Jayapura**	**44.23**	**285**	P		**P**	**17 51 30.0**	**-0.4**
	16nm,0.8s,baz=153,slow=4.5,SNR=6.0							
JAY	**Jayapura**	**44.23**	**285**	P		**P**	**17 51 30.0**	**-0.4**
WRAB	**Tennant Creek**	**45.93**	**259**	P		**P**	**17 51 44.0**	**+0.5**
	14.4nm,0.7s,SNR=6.7							
WRAB	**Tennant Creek**	**45.93**	**259**	*e*P		**P**	**17 51 43.3**	**-0.2**
WRAB	**Tennant Creek**	**45.93**	**259**	*e*P		**P**	**17 51 43.8**	**+0.2**
	16nm,0.7s							
WRA	**Warramunga Arr**	**45.94**	**259**	P		**P**	**17 51 43.2**	**-0.4**
	11nm,0.8s,baz=97,slow=8.2,SNR=31							
ASAR	**Alice Springs**	**46.06**	**254**	P		**P**	**17 51 44.9**	**+0.3**
	7.7nm,0.4s,baz=90,slow=8.5,SNR=50							
GUMO	**Guam**	**49.00**	**307**	P		**P**	**17 52 06.8**	**-0.1**
	50nm,0.7s,baz=171,slow=6.6,SNR=4.6							
VNDA	**Vanda**	**60.47**	**185**	P		**P**	**17 53 28.3**	**+0.9**
	1.3nm,0.8s,baz=4.3,slow=6.3,SNR=4.5							
MAJO	**Matsushiro**	**68.80**	**323**	*e*P		**P**	**17 54 19.0**	**-2.3**
	12nm,0.8s							
QSPA	**South Pole Qui**	**72.05**	**180**	P		**P**	**17 54 41.0**	**+0.5**
	11nm,0.8s,baz=22,slow=1.1,SNR=7.2							
PETK	**Petropavlovsk-**	**74.13**	**344**	P		**P**	**17 54 52.2**	**-0.2**
	3.9nm,0.7s,baz=122,slow=9.2,SNR=8.2							
KSRS	**Korea Array**	**75.68**	**318**	P		**P**	**17 55 03.1**	**+1.6**
	3.0nm,0.6s,baz=126,slow=6.6,SNR=10							
KSAR	**Wonju Array Be**	**75.69**	**318**	P		**P**	**17 55 03.1**	**+1.5**
NVAR	**Mina Array Bea**	**78.56**	**43**	P		**P**	**17 55 18.6**	**+0.8**
	1.5nm,0.7s,baz=225,slow=10,SNR=5.0							
SEY	**Seymchan**	**84.18**	**346**	P		**P**	**17 55 45.9**	**-0.2**
	3.3nm,0.6s,baz=148,slow=6.4,SNR=13							
TXAR	**Lajitas Array**	**84.91**	**57**	P		**P**	**17 55 51.7**	**+1.0**
	4.0nm,1.0s,baz=224,slow=5.2,SNR=13							
PSI	**Prapat**	**85.24**	**274**	P		**P**	**17 55 52.1**	**-0.5**
	2.6nm,0.4s,baz=135,slow=4.3,SNR=3.2							
ILAR	**Eielson Array**	**85.69**	**12**	P		**P**	**17 55 52.8**	**-0.7**
	0.9nm,0.4s,baz=228,slow=5.5,SNR=19							
PDAR	**Pinedale Array**	**86.50**	**43**	P		**P**	**17 55 57.9**	**-0.4**
	0.4nm,0.6s,baz=227,slow=4.8,SNR=2.0							
SNAA	**Sanae**	**90.46**	**178**	P		**P**	**17 56 15.4**	**-0.8**
	0.5nm,0.8s,baz=195,slow=12,SNR=5.4							
YKA	**Yellowknife Ar**	**93.86**	**24**	P		**P**	**17 56 31.3**	**-0.4**
	0.2nm,0.5s,baz=244,slow=4.2,SNR=3.1							
SONM	**Songino Array**	**94.51**	**319**	P		**P**	**17 56 37.1**	**+1.9**
	0.6nm,0.4s,baz=174,slow=4.6,SNR=3.0							
ARCES	**ARCESS Array B**	**126.64**	**350**	PKP		**PKPdf**	**18 02 14.7**	**-0.5**
	0.9nm,0.7s,baz=35,slow=3.3,SNR=4.8							
MALT	**Malatya**	**143.11**	**311**	||/P	**PKPdf**	**18 02 46.8**	**-0.1**
BURAR	**Bucovina Array**	**145.32**	**333**	||/P	**PKPab**	**18 02 52.7**	**+1.0**
CFR	**Carcaliu**	**145.75**	**328**	||/P	**PKPbc**	**18 02 52.7**	**+0.5**
BRTR	**Keskin Array B**	**145.80**	**316**	PKPbc		**PKPbc**	**18 02 52.7**	**-0.1**
	2.7nm,0.6s,baz=122,slow=3.3,SNR=16							
CLL	**Collm**	**145.84**	**349**	*e*PKPbc		**PKPab**	**18 02 53.0**	**-0.4**
	comp=Z,5.0nm,1.1s							
UPC	**Upice**	**145.95**	**345**	*e*PKP		**PKPbc**	**18 02 53.2**	**+0.5**
VRI	**Vrancioaia**	**145.95**	**330**	||/P	**PKPbc**	**18 02 53.4**	**+0.5**
PLOR	**Plostina**	**146.00**	**330**	||/P	**PKPbc**	**18 02 53.4**	**+0.4**
DPC	**Dobruska-Polom**	**146.01**	**345**	*e*PKP		**PKPbc**	**18 02 53.3**	**+0.4**
TIRR	**Tirgusor**	**146.10**	**327**	||/P	**PKPab**	**18 02 54.4**	**-0.3**
TLB	**Topalu**	**146.21**	**327**	||/P	**PKPbc**	**18 02 54.3**	**+0.7**
DOPR	**Dopca**	**146.50**	**331**	||/P	**PKPab**	**18 02 55.6**	**-0.7**
MLR	**Muntele Rosu**	**146.60**	**330**	||/P	**PKPab**	**18 02 55.9**	**-0.9**
PRU	**Pruhonice**	**146.77**	**346**	*e*PKP		**PKPbc**	**18 02 55.4**	**+0.4**
DRGR		**147.01**	**335**	||/P	**PKPbc**	**18 02 56.4**	**+0.5**
VOIR		**147.06**	**331**	||/P	**PKPbc**	**18 02 57.1**	**+1.0**
ARR	**Arges**	**147.30**	**331**	||/P	**PKPbc**	**18 02 57.6**	**+0.9**
KHC	**Kasperske Hory**	**147.79**	**347**	*e*PKP		**PKPbc**	**18 02 57.5**	**-0.3**
KHC				*ex*		x	18 03 01.6	
GERES	**GERESS Array B**	**148.04**	**347**	PKPbc		**PKPbc**	**18 02 58.7**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=80,slow=1.5,SNR=5.9							
BZS	**Buzias**	**148.41**	**335**	||/P	**PKPbc**	**18 02 59.6**	**+0.1**
KDZ	**Kurdzhali**	**149.63**	**326**	||/P	**PKPbc**	**18 03 01.1**	**+0.5**
VTS	**Vitosha**	**150.08**	**329**	||/P	**PKPbc**	**18 03 04.3**	**+0.5**
DIVS	**Divibare**	**150.32**	**335**	||/P	**PKPbc**	**18 03 04.7**	**+0.4**
MMB	**Musomiste**	**150.56**	**327**	||/P	**PKPbc**	**18 03 04.4**	**-0.5**

DJA 27 17:44:09.1±0.4, 2°.N±0°.5×12°.5E±°, h90km±11km, M4.2/9, mb4.3/9, mB6.1/1, MLv4.1/7, Mw(mB)5.8/1, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
SGSI	**Sangihe**	**1.53**	**3**	P		Sn	17 44 59.9	+4.9
KMSI	**Cibinong**	**2.15**	**223**	P		Pn	17 44 42.9	-0.4
KMSI				S		Sn	17 45 10.9	+1.4
TNTI	**Ternate**	**2.35**	**126**	P		Pn	17 44 45.5	-0.4
TNTI				S		Sn	17 45 16.3	+2.2
MRSI	**Marisa**	**3.89**	**245**	P		Pn	17 45 04.7	-2.0
LUWI	**Luwuk**	**4.16**	**220**	P		Pn	17 45 09.7	-0.6
RKPI	**Ransiki, Papua**	**9.44**	**113**	P		Pn	17 46 21.3	-1.1
	19nm,2.7s							
BSSI	**Bau Bau, Buton**	**9.62**	**211**	P		Pn	17 46 23.5	-1.2
	27nm,3.1s							
WSI	**Waingapu**	**12.82**	**204**	P		Pn	17 47 07.1	-0.9
	78nm,2.1s,8µm							
WBSI	**Waikabubak, Su**	**13.18**	**207**	P		Pn	17 47 11.9	-1.0
	52nm,1.5s							

*IDC **27** 17:44:32.7±0.8, 13°.85S×166°.81E,h0km,mb4.5/17, mb1 4.5/17,mb1mx4.5/24,mbtmp4.4/17, Error ellipse: s-maj=27.8km s-min=17.2km az=123.0*
*ISCJB **27** 17:44:36.7±0.7, 13°.8S±0°.1×166°.6E±0°.1,h33km,mb4.4/16, Error ellipse: s-maj=18.6km s-min=13.8km az=40.0*
*NEIC **27** 17:44:38.2±0.5, 13°.82S×166°.74E,h35km,mb4.2/1, Error ellipse: s-maj=14.6km s-min=10.1km az=139.0*

ISC 27 17:44:38.2±0.7, 13°.9S±0°.1×166°.7E±0°.1, h35km, n26, σ0s86/26, mb4.5/16, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**7.95**	**303**	*e*Pn		**Pn**	**17 46 31.0**	**-0.4**
	599nm,0.6s							
CTA	**Charters Tower**	**20.52**	**250**	P		Pn	17 49 15.4	-0.6
	5.1nm,0.8s,baz=69,slow=15,SNR=5.2							
CTAO	**Charters Tower**	**20.52**	**250**	*e*P		**P**	**17 49 13.5**	**-0.2**
	12nm,1.0s							
STKA	**Stephens Creek**	**29.17**	**228**	P		**P**	**17 50 37.1**	**+0.7**
	6.0nm,0.7s,baz=39,slow=8.4,SNR=9.8							
WRA	**Warramunga Arr**	**31.53**	**254**	P		**P**	**17 50 56.4**	**-1.0**
	1.6nm,0.7s,baz=84,slow=8.7,SNR=7.6							
ASAR	**Alice Springs**	**32.50**	**248**	P		**P**	**17 51 04.7**	**-1.2**
	1.5nm,0.6s,baz=73,slow=9.7,SNR=16							
MJAR	**Matsushiro Arr**	**56.88**	**333**	P		**P**	**17 54 19.4**	**-0.3**
	6.4nm,0.7s,baz=167,slow=7.9,SNR=13							
JNU	**Nakatsue**	**57.90**	**325**	P		**P**	**17 54 26.8**	**-0.1**
	15nm,0.9s,baz=39,slow=6.5,SNR=3.6							
USRK	**Uussuriysk Ar.**	**65.86**	**333**	P		**P**	**17 55 21.7**	**+1.5**
	13nm,1.0s,baz=114,slow=7.1,SNR=8.6							
PETK	**Petropavlovsk-**	**67.13**	**354**	P		**P**	**17 55 29.0**	**+0.8**
	1.6nm,0.3s,baz=157,slow=7.8,SNR=2.7							
CMAR	**Chiang Mai Arr**	**74.10**	**294**	P		**P**	**17 56 12.9**	**+1.5**
	2.6nm,0.9s,baz=126,slow=4.7,SNR=9.9							
CHTO	**Chiang Mai**	**74.23**	**294**	*e*P		**P**	**17 56 13.0**	**+0.9**
QSPA	**South Pole Qui**	**76.18**	**180**	P		**P**	**17 56 23.1**	**+0.4**
	2.4nm,0.6s,baz=224,slow=1.2,SNR=7.6							
SEY	**Seymchan**	**77.35**	**353**	P		**P**	**17 56 28.4**	**-0.6**
	4.7nm,0.6s,baz=170,slow=4.8,SNR=14							
SONM	**Songino Array**	**81.47**	**324**	P		**P**	**17 56 52.1**	**+0.1**
	2.4nm,0.9s,baz=152,slow=4.7,SNR=4.5							
YBH	**Yreka Blue Hor**	**85.17**	**45**	P		**P**	**17 57 11.9**	**+0.7**
	4.0nm,1.1s,baz=75,slow=6.2,SNR=3.8							
ILAR	**Eielson Array**	**85.86**	**18**	P		**P**	**17 57 13.7**	**-0.2**
	2.4nm,0.6s,baz=243,slow=5.1,SNR=25							
MKAR	**Makanchi Array**	**96.20**	**317**	P		**P**	**17 58 03.1**	**+0.3**
	2.2nm,0.7s,baz=95,slow=6.7,SNR=16							
ZALV	**Zalesovo Beam**	**96.37**	**324**	P		**P**	**17 58 02.5**	**-0.8**
	2.6nm,0.7s,baz=118,slow=5.1,SNR=7.7							
YKA	**Yellowknife Ar**	**97.01**	**27**	P		**P**	**17 58 04.2**	**-1.8**
	0.1nm,0.4s,baz=252,slow=4.5,SNR=2.9							
ARCES	**ARCESS Array B**	**119.27**	**345**	PKP		**PKPdf**	**18 03 22.1**	**-1.1**
	2.1nm,0.8s,baz=70,slow=1.4,SNR=6.4							
NOA	**NORSAR Array B**	**129.64**	**345**	PKP		**PKPdf**	**18 03 42.6**	**-0.8**
	0.4nm,0.6s,baz=29,slow=1.9,SNR=3.4							
AKASG	**Malin Array Be**	**129.71**	**326**	PKP		**PKPdf**	**18 03 43.8**	**+0.1**
	0.1nm,0.2s,baz=52,slow=1.9,SNR=3.5							
KEST	**Kesra**	**150.19**	**321**	PKPbc		**PKPbc**	**18 04 26.8**	**+0.7**
	3.7nm,0.9s,baz=208,slow=4.4,SNR=7.7							
ESDC	**Sonseca Array**	**153.00**	**344**	PKPbc		**PKPbc**	**18 04 32.9**	**+0.5**
	0.5nm,0.5s,baz=5.3,slow=3.7,SNR=4.7							
ESDC				PKPab		**PKPab**	**18 04 43.6**	**+0.1**
	0.6nm,0.5s,baz=13,slow=3.9,SNR=4.2							
TORD	**Torodi Ar. Bea**	**165.42**	**269**	PKP		**PKPdf**	**18 04 39.8**	**-0.2**
	0.5nm,0.6s,baz=95,slow=1.9,SNR=4.5							

*IDC **27** 17:45:23.3±0.5, 13°.77S×166°.99E,h0km,mb5.2/29, mb1 5.2/29,mb1mx5.2/31,mbtmp5.2/29, Error ellipse: s-maj=16.1km s-min=12.2km az=95.0*
*ISCJB **27** 17:45:24.5±3.0, 13°.76S±0°.04×166°.89E±0°.07, h15km±20km, mb5.3/74, MS5.8/1, Error ellipse: s-maj=12.1km s-min=6.5km az=177.0*
*MOS **27** 17:45:28.2±0.9, 13°.64S×166°.68E,h33km,mb5.4/14, Error ellipse: s-maj=10.5km s-min=8.8km az=43.1*
*BJI **27** 17:45:28.1, 13°.32S×167°.08E,h33km,mb5.4/50,mB5.5/9, Ms6.1/11,Ms7 5.8/11*
*NEIC **27** 17:45:28.7±0.3, 13°.76S×166°.93E,h35km,mb5.3/18, Error ellipse: s-maj=9.1km s-min=7.3km az=129.0*
NEIC Felt at Luganville.

ISC 27 17:45:28.8±0.4, 13°.72S±0°.05×166°.94E±0°.07, h34km±1km, h34km:pP-P, n240, σ1s35/286, mb5.4/73, 27C-11D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**8.07**	**301**	*e*P		**Pn**	**17 47 24.0**	**+0.3**
HNR				*e*S		Sn	17 48 44.0	-10
NOUC	**Port Laguerre**	**8.36**	**184**	*e*P		Pn	17 47 35.3	+7.7
NOUC				*e*S		**Sn**	**17 48 59.9**	**-0.9**
BAYA	**Yate Dam**	**8.39**	**180**	*e*P		Pn	17 47 37.4	+9.3
BAYA				*e*S		**Sn**	**17 49 02.7**	**+1.2**
MSVF	**Nonsavu**	**11.41**	**112**	*e*P		Pn	17 48 21.4	+12
MSVF	**Nonsavu**	**11.41**	**112**	*e*Pn		Pn	17 48 21.4	+12
EIDS	**Eidsvold**	**18.89**	**230**	*e*Pn		**Pn**	**17 49 48.8**	**+1.5**
	33nm,0.7s							
PMG	**Port Moresby**	**19.85**	**280**	||/*e*P	**P**	**17 49 56.7**	**-0.3**
PMG				pmax	

ASAJ Asahikawa 61.69 340 P **P** **17 55 44.2 +0.8**
comp=Z,7.0nm,0.4s,baz=207,slow=7.8,SNR=10
ASAJ Asahikawa 61.69 340 P **P** **17 55 44.2 +0.8**
ASAJ pmax pmax
comp=Z,7.0nm,0.4s
KSTBA Taebaek 61.93 326 P **P** **17 55 46.4 +1.1**
SNR=7.4
KSJEO Jeonju 62.00 324 P **P** **17 55 46.3 +0.7**
SNR=7.0
KSBON Boeun 62.11 325 P **P** **17 55 47.0 +0.5**
SNR=6.6
KSHUK Heuksando 62.20 322 P **P** **17 55 48.0 +1.0**
SNR=7.5
TJN Taejon 62.27 324 *i* P **P** **17 55 47.7 +0.2**
KSDGY Daegwallycong 62.50 326 P **P** **17 55 50.0 +0.9**
SNR=6.0
KSCEA Cheonan 62.65 325 P **P** **17 55 50.5 +0.4**
SNR=7.7
KSRS Korea Array 62.73 326 P **P** **17 55 51.1 +0.6**
comp=Z,15nm,0.9s,baz=136,slow=7.2,SNR=20
KSRS Korea Array 62.73 326 P **P** **17 55 51.1 +0.6**
KSRS pmax pmax
comp=Z,15nm,0.9s
KSAR Wonju Array Be 62.74 326 P **P** **17 55 51.1 +0.5**
KSAR Wonju Array Be 62.74 326 P **P** **17 55 51.1 +0.5**
KSMUS Musan 63.69 325 P **P** **17 55 57.6 +0.7**
SNR=12
YNCB YEONCHEON 63.70 326 P **P** **17 55 57.7 +0.7**
SNR=8.9
KSGAH Ganghwa 63.73 325 P **P** **17 55 57.6 +0.5**
SNR=10
VNDA Vanda 63.86 181 P **P** **17 55 57.7 +0.3**
comp=Z,7.7nm,0.8s,baz=352,slow=9.3,SNR=9.8
YSS Yuzh-Sakhalins 64.18 342 *e*P **P** **17 56 03.0 +3.1**
NJ2 Nanjing 64.74 316 *e*P **P** **17 56 04.5 +0.6**
NJ2 pP **pP** **17 56 13.0 -1.5**
NJ2 sP **sP** **17 56 17.5 -1.0**
NJ2 S **S** **18 04 42.5 +0.3**
NJ2 sS **sS** **18 04 58.0 -1.6**
NJ2 PMZ
comp=Z,30nm,0.7s
VLA Vladivostok 65.04 332⇓ *e*P **P** **17 56 07.1 +1.5**
VLA pmax pmax
comp=Z,71nm,2.5s
USRK Ussuriysk Ar. 65.85 333 P **P** **17 56 12.2 +1.3**
comp=Z,19nm,0.7s,baz=124,slow=5.4,SNR=23
PETK Petropavlovsk- 67.03 354 P **P** **17 56 18.7 +0.5**
comp=Z,7.7nm,0.7s,baz=150,slow=4.9,SNR=15
WHN Wuhan 67.04 312⇓ P **P** **17 56 19.0 +0.3**
MDJ Mudanjiang 67.25 332 P **P** **17 56 20.8 +1.0**
MDJ PMZ
comp=Z,32nm,0.9s
IPM Ipoh 67.85 281 *e*P **P** **17 56 24.4 +0.2**
comp=Z,46nm,1.0s
HABR Khabarovsk 68.09 338 *e*P **P** **17 56 24.0 -1.0**
HABR *e**PP **pP** **17 56 34.2 -1.4**
HABR *e*SP 17 56 38.2
HABR *e* 17 56 49.8
HABR *e* 17 58 53.9
HABR *e*S **S** **18 05 21.4 -0.8**
HABR *e*SS **sS** **18 05 39.9 +0.2**
HABR *e* 18 06 20.4
HABR *e*SS **SS** **18 09 44.7 -0.8**
HABR pmax pmax
comp=Z,54nm,1.3s
TIA Tai'an 68.38 318 ⇑P **P** **17 56 27.0 -0.1**
TIA PMZ
comp=Z,40nm,1.0s
KULM Kulim 68.44 281 *e*P **P** **17 56 28.2 +0.3**
CN2 Changchun 68.62 329 *e*P **P** **17 56 29.0 +0.5**
CN2 PMZ
comp=Z,70nm,0.8s
SKNT Sakolnakorn 69.24 294 P **P** **17 56 33.6 +0.7**
comp=Z,71nm,1.0s
PSI Prapat 69.40 278 P **P** **17 56 33.0 -1.1**
comp=Z,23nm,0.8s,baz=144,slow=4.0,SNR=14
PSI Prapat 69.40 278 P **P** **17 56 33.0 -1.1**
KHON Khomkaen 70.04 293 P **P** **17 56 39.0 +1.2**
comp=Z,10nm,1.0s,comp=Z,1μm
GYA Guiyang 70.88 305 P **P** **17 56 44.8 +1.9**
GYA pP **pP** **17 56 54.5 +0.9**
GYA sP **sP** **17 57 01.0 +3.4**
GYA PP **PP** **17 59 23.3 +2.8**
GYA S **S** **18 05 55.5 -0.9**
GYA sS **sS** **18 06 14.8 +0.9**
GYA SKS **SKSac** **18 06 40.0 -3.3**
GYA SS **SS** **18 10 30.3 +0.5**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,7.5s
BJI Beijing 71.29 321 P **P** **17 56 45.3 +0.4**
BJI PMZ
comp=Z,46nm,0.9s
PBKT Sadao Pong 71.78 293 P **P** **17 56 49.6 +1.3**
comp=Z,268nm,0.8s
UTTA Uttaradit 72.57 294 P **P** **17 56 54.0 +1.0**
comp=Z,7.8nm,0.9s,comp=Z,61nm
XAN Xi'an 72.78 312 P **P** **17 56 54.5 +0.4**
XAN PMZ
comp=Z,9.0nm,0.7s
KMI Kunming 73.51 302 ⇑P **P** **17 57 00.3 +1.5**
KMI PMZ
comp=Z,68nm,0.9s
CRAI Chiangrai 73.63 296 P **P** **17 56 57.1 -2.2**
comp=Z,33nm,1.4s
LAMP Lampang 73.66 294 P **P** **17 57 00.7 +1.2**
comp=Z,38nm,0.8s,comp=Z,274nm
CMAR Chiang Mai Arr 74.25 294 P **P** **17 57 04.0 +1.0**
comp=Z,35nm,0.8s,baz=123,slow=4.5,SNR=73
CMMT Chiang Mai 74.37 294 P **P** **17 57 04.4 +0.7**
comp=Z,230nm,1.2s
CHTO Chiang Mai 74.38 294 P **P** **17 57 04.5 +0.9**
comp=Z,1μm,1.0s
CHTO Chiang Mai 74.38 294 *e*P **P** **17 57 04.6 +0.9**
CHTO pmax pmax
comp=Z,30nm,0.9s
CHTO Chiang Mai 74.38 294 *e*P **P** **17 57 04.6 +0.9**
comp=Z,30nm,0.9s
HHC Hu-ho-hao-te 74.61 320 *e*P **P** **17 57 06.5 +1.7**
HHC PP **PP** **17 59 55.5 +3.4**
HHC S **S** **18 06 38.5 +0.2**
HHC sS **sS** **18 06 55.8 -0.2**
HHC SS **SS** **18 11 28.0 +1.7**
HHC PMZ
comp=Z,12nm,1.0s
HHC LN
comp=Z,1μm,14.8s
HHC LE
comp=Z,740nm,13.6s
HHC LZ
comp=Z,2μm,16.0s
CMAI Chiengmai2 74.68 295 P **P** **17 57 06.5 +0.8**
comp=Z,229nm,1.5s
MHMT Maesarieng 75.06 293 P **P** **17 57 09.0 +1.4**
comp=Z,31nm,0.7s
CD2 Chengdu 75.15 307 P **P** **17 57 09.0 +1.0**
CD2 pP **pP** **17 57 20.0 +1.3**
CD2 sP **sP** **17 57 24.3 +1.6**
CD2 PP **PP** **17 59 59.8 +3.1**
CD2 S **S** **18 06 43.8 -0.7**
CD2 sS **sS** **18 07 02.0 -0.2**
CD2 SKS **SKSac** **18 07 10.5 -4.5**
CD2 SS **SS** **18 11 35.5 +0.9**
CD2 PMZ
comp=Z,40nm,0.6s
CD2 PMZ
comp=Z,180nm,5.4s
QSPA South Pole Qui 76.30 180 P **P** **17 57 14.2 +0.1**
comp=Z,15nm,0.8s,baz=222,slow=1.0,SNR=16
QSPA South Pole Qui 76.30 180 *e*P **P** **17 57 14.4 +0.3**
SEY Seymchan 77.25 353 P **P** **17 57 19.0 -0.1**
comp=Z,15nm,0.6s,baz=165,slow=6.1,SNR=29
SEY Seymchan 77.25 353 P **P** **17 57 19.0 -0.1**
LZH Lanzhou 77.41 312 *e*P **P** **17 57 21.8 +0.9**
LZH pP **pP** **17 57 32.5 +0.8**
LZH sP **sP** **17 57 36.8 +1.2**
LZH PMZ
comp=Z,96nm,1.2s
LZH PMZ
comp=Z,470nm,5.0s
YAK Yakutsk 80.98 343 *e*P **P** **17 57 38.3 -1.2**
YAK *e* 17 57 44.9
YAK *e**PP **pP** **17 57 51.5 +1.2**
YAK *e* 18 00 41.5
YAK *e*PPP PPP 18 02 31.2
YAK *e*S **S** **18 07 45.7 -0.1**
YAK *e*SS SS 18 13 08.7 +7.7
YAK pmax pmax
comp=Z,28nm,1.4s
YAK pmax pmax
comp=N,12nm,1.6s
YAK pmax pmax
comp=E,4.0nm,1.5s
YAK pmax pmax
comp=Z,18nm,0.4s
YAK pmax pmax
comp=E,132nm,1.5s
YAK pmax pmax
comp=N,24nm,1.1s
YAK smax smax
comp=N,3μm,6.3s
YAK smax smax
comp=E,3μm,6.4s
YAK MLR MLR
comp=Z,5μm,21.0s
YAK MLR MLR
comp=N,3μm,17.0s
YAK MLR MLR
comp=E,2μm,17.0s
YAK Yakutsk 80.98 343 *e*P **P** **17 57 39.3 -0.3**
comp=E,16nm,0.4s
ULN Ulaanbaatar 81.14 324 *e*P P 17 57 46.6 +5.6
ULN Ulaanbaatar 81.14 324 *e*P P 17 57 46.6 +5.6
SONM Songino Array 81.50 324 P **P** **17 57 43.1 +0.3**
comp=E,7.7nm,0.8s,baz=150,slow=5.7,SNR=11
BILL Bilibino 81.54 360⇑ *e*P **P** **17 57 42.2 -0.2**
BILL pmax pmax
comp=Z,24nm,2.4s
BILL Bilibino 81.54 360 *e*P **P** **17 57 43.8 +1.4**
GTA Gaotai 81.74 314 ⇑P **P** **17 57 45.3 +1.0**
GTA pP **pP** **17 57 56.0 +0.8**
GTA sP **sP** **17 57 59.8 +0.7**
GTA PMZ
comp=Z,48nm,1.1s
MAW Mawson 82.70 202 P **P** **17 57 49.0 +0.3**
comp=Z,11nm,1.0s,baz=94,slow=7.0,SNR=6.8
MAW Mawson 82.70 202 P **P** **17 57 49.0 +0.3**
BOD Bodaibo 83.43 335 *e*P **P** **17 57 50.8 -1.7**
BOD pmax pmax
comp=Z,7.0nm,1.9s
ZAK Zakamensk 84.55 325 *e*P **P** **17 57 57.5 -1.0**
ZAK pmax pmax
comp=Z,20nm,1.1s
YBH Yreka Blue Hor 84.93 45 P **P** **17 58 03.0 +2.3**
comp=Z,1.7nm,0.8s,baz=326,slow=3.6,SNR=2.4
YBH Yreka Blue Hor 84.93 45 P **P** **17 58 03.0 +2.3**
TLY Talaya 84.98 326 P **P** **17 58 00.8 +0.2**
comp=Z,195nm,0.8s,SNR=5.8
TLY Talaya 84.98 326 *e*P **P** **17 58 00.7 +0.2**
TLY pmax pmax
comp=Z,24nm,0.7s
COLA College 85.46 18⇓ *e*P **P** **17 58 03.0 +0.4**
COLA pmax pmax
comp=Z,39nm,1.0s
ILAR Eielson Array 85.67 18 P **P** **17 58 04.3 +0.6**
comp=Z,4.8nm,0.5s,baz=242,slow=4.9,SNR=25
TAPN Taplejung 86.92 299 *e*P **P** **17 58 11.1 0.0**
comp=Z,83nm,1.2s
ODAN Odare 87.05 298 *e*P **P** **17 58 11.6 0.0**
comp=Z,124nm,0.9s
RAMN Ramite 87.75 298 *e*P **P** **17 58 14.7 -0.3**
comp=Z,75nm,1.1s
JIRN Jiri 88.30 299 *e*P **P** **17 58 17.7 -0.1**
comp=Z,93nm,1.0s
GUN Gumba 88.63 299 *e*P **P** **17 58 19.2 -0.1**
comp=Z,75nm,0.8s
TIXI Tiksi 88.92 349⇓ *e*P **P** **17 58 18.9 -0.3**
TIXI pmax pmax
comp=Z,3.0nm,1.0s
PKI Pulchoki 88.94 299 *e*P **P** **17 58 20.3 -0.5**
comp=Z,139nm,1.0s
PKIN Phulchoki 88.95 299 *e*P **P** **17 58 20.4 -0.3**
comp=Z,68nm,1.2s
KKN Kakani 89.11 299 *e*P **P** **17 58 21.2 -0.2**
comp=Z,79nm,0.8s
DMN Daman 89.21 299 *e*P **P** **17 58 21.9 0.0**
comp=Z,167nm,0.8s
GKN Gorkha 89.72 299 *e*P **P** **17 58 23.4 -0.8**
comp=Z,129nm,0.9s
WMQ Urumqi 91.80 315 P **P** **17 58 33.5 +0.1**
WMQ pP **pP** **17 58 44.0 -0.3**
WMQ sP **sP** **17 58 48.0 -0.2**
WMQ S **S** **18 09 28.5 -3.6**
WMQ sS **sS** **18 09 46.3 -4.0**
WMQ SS **SS** **18 15 38.3 -2.4**
WMQ PMZ
comp=Z,18nm,0.6s
WMQ PMZ
comp=Z,190nm,4.6s
WMQ LN
comp=Z,4μm,16.0s
WMQ LE
comp=Z,3μm,17.6s
WMQ LZ
comp=Z,4μm,22.0s
PDAR Pinedale Array 94.50 47 PKKPbc PKKPbc 18 15 43.9 -2.5
comp=Z,0.5nm,0.7s,baz=70,slow=9.6,SNR=4.3
SNAA Sanae 94.53 183 P P 17 58 41.0 -4.5
VNA2 Neumayer--Watz 95.47 182 P **P** **17 58 49.2 -0.6**
baz=166,slow=4.4
VNA1 Neumayer--Stat 95.77 182 P **P** **17 58 50.5 -0.6**
TXAR Lajitas Array 96.08 61 PKKPbc PKKPbc 18 15 40.9 -0.5
comp=Z,0.4nm,0.7s,baz=122,slow=4.9,SNR=4.6
MKAR Makanchi Array 96.26 317 P **P** **17 58 53.5 -0.2**
comp=Z,15nm,0.7s,baz=97,slow=6.4,SNR=67
MKAR PP **PP** **18 02 44.7 -2.8**
comp=Z,2.6nm,1.1s,baz=99,slow=9.5,SNR=5.0
MKAR PKKPbc **PKKPbc** **18 15 38.7 -2.8**
comp=Z,0.4nm,0.6s,baz=289,slow=2.8,SNR=3.1
ZALV Zalesovo Beam 96.39 324 P **P** **17 58 53.2 -0.9**
comp=Z,9.8nm,0.7s,baz=115,slow=4.5,SNR=25
ZALV PP **PP** **18 02 48.6 +0.3**
comp=Z,0.4nm,0.3s,baz=75,slow=6.7,SNR=3.2
YKA Yellowknife Ar 96.80 27 P **P** **17 58 56.6 +0.9**
comp=Z,0.5nm,0.5s,baz=258,slow=4.6,SNR=5.3
YKA Yellowknife Ar 96.80 27 P **P** **17 58 56.6 +0.9**
YKA pmax pmax
comp=Z,1.0nm,0.5s
NVS Novosibirsk 97.51 325 *e*P P 17 58 54.8 -4.3
KSH Kashi 99.33 308 *e*P **Pdif** **17 59 09.5 +1.6**
KSH sP **sP** **17 59 24.0 +1.2**
KSH S **ScS** **18 10 34.8 -3.0**
KURK Kurchatov 99.43 320 P **Pdif** **17 59 06.6 -1.2**
KURK 18 03 11.3
KURK pmax pmax
comp=Z,2.0nm,0.2s
KURK pmax pmax
comp=Z,1.0nm,0.3s
KURK Kurchatov 99.43 320 PP PP 18 03 11.3 -0.3
KURBB Kurchatov Arra 99.47 320 P **Pdif** **17 59 06.6 -1.4**
comp=Z,2.3nm,0.2s,baz=98,slow=4.0,SNR=6.1
KURBB PP **PP** **18 03 11.3 -0.7**
comp=Z,0.5nm,0.3s,baz=105,slow=8.1,SNR=4.2
AAK Ala-Archa 100.93 311 P **Pdif** **17 59 13.6 -1.4**
comp=Z,1.3nm,0.6s,baz=112,slow=3.9,SNR=5.0
AAK Ala-Archa 100.93 311⇑ *e*P **Pdif** **17 59 13.9 -1.1**
AAK pmax pmax
comp=Z,13nm,2.0s
LPAZ La Paz 117.95 117 PKP **PKPdf** **18 04 13.0 -0.6**
comp=Z,0.8nm,0.5s,baz=345,slow=2.7,SNR=3.5
LPAZ PP **PP** **18 05 26.1 -1.5**
comp=Z,0.5nm,0.6s,baz=248,slow=4.5,SNR=2.0
LPAZ PKKPbc **PKKPbc** **18 14 30.7 -2.8**
comp=Z,1.0nm,0.6s,baz=299,slow=1.5,SNR=4.5
APA Apatity 118.33 342⇑ *i*PKIKP **PKPdf** **18 04 13.0 +0.9**
ARCES ARCESS Array B 119.20 345 PKP **PKPdf** **18 04 12.9 -0.9**
comp=Z,3.0nm,0.5s,baz=81,slow=2.1,SNR=14
ARCES PKKPbc **PKKPab** **18 14 26.1 -2.5**
comp=Z,3.3nm,1.0s,baz=172,slow=1.8,SNR=7.4
GOF Gofitskoye 123.40 315 *e*P **Pdif** **18 00 56.9 +2.3**
KBZ Khabaz 123.83 314 PKP **PKPdf** **18 04 22.8 -0.5**
comp=Z,2.3nm,0.8s,baz=202,slow=3.0,SNR=5.7
VSR Storozhevoye 123.89 323 *e*PKIKP **PKPdf** **18 04 22.4 -0.9**
VSR pmax pmax
comp=N,4.0nm,0.6s
VSR pmax pmax
comp=E,4.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
VORD Divnogorie 123.91 323 *e*PKIKP **PKPdf** **18 04 22.7 -0.6**
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,8.0nm,0.9s
VORD pmax pmax
comp=Z,6.0nm,0.9s
KIV Kislovodsk 123.92 314 *e*PKIKP **PKPdf** **18 04 23.4 -0.3**
KIV pmax pmax
comp=Z,5.0nm,1.0s
BOSA Boshof 123.93 221 PKP **PKPdf** **18 04 24.0 -0.3**
comp=Z,6.6nm,0.6s,baz=155,slow=2.4,SNR=14
SIV San Ignacio 124.11 120 PKP **PKPdf** **18 04 23.8 -0.9**
comp=Z,1.2nm,0.5s,baz=251,slow=7.4,SNR=5.1
FINES FINESS Array B 124.67 338 PKP **PKPdf** **18 04 23.1 -1.3**
comp=Z,3.0nm,0.8s,baz=126,slow=2.6,SNR=8.3
FINES FINESS Array B 124.67 338 *c i*PKIKP **PKPdf** **18 04 23.7 -0.7**
FINES pmax pmax
comp=Z,3.0nm,0.8s
KMBO Kilima Mbogo 128.02 258 PKP **PKPdf** **18 04 33.0 +0.4**
comp=Z,3.1nm,0.6s,baz=72,slow=6.5,SNR=7.6
MALT Malatya 128.43 308⇑ *e*PKIKP **PKPdf** **18 04 33.5 +1.0**
MALT Malatya 128.43 308⇑ *i*P **PKPdf** **18 04 33.5 +1.0**
NB2 NORSAR Subarra 129.57 345 PKPdf **PKPdf** **18 04 33.1 -0.8**
comp=Z,0.9nm,0.6s,baz=31,slow=1.9
NOA NORSAR Array B 129.57 345 PKP **PKPdf** **18 04 33.8 -0.1**
comp=Z,1.4nm,0.7s,baz=33,slow=2.0,SNR=8.1
NOA SKPbc SKPbc 18 07 57.8 +4.5
comp=Z,1.7nm,0.8s,baz=31,slow=3.1,SNR=9.0
AKASG Malin Array Be 129.73 326 PKP **PKPdf** **18 04 33.9 -0.5**
comp=Z,0.9nm,0.5s,baz=61,slow=2.2,SNR=9.8
AKASG PP **PP** **18 06 45.4 +0.1**
comp=Z,0.2nm,0.3s,baz=55,slow=5.6,SNR=4.2
AKASG SKPbc SKPbc 18 07 56.9 +2.8
comp=Z,0.7nm,0.4s,baz=45,slow=4.2,SNR=8.4
AKASG Malin Array Be 129.73 326 *c i*PKIKP **PKPdf** **18 04 34.4 0.0**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
KIEV Kiev 129.74 326⇑ *i*PKIKP **PKPdf** **18 04 34.2 -0.2**
BRTR Keskin Array B 131.61 311 PKP **PKPdf** **18 04 37.5 -1.1**
comp=Z,1.1nm,0.6s,baz=126,slow=2.7,SNR=4.9
BRTR SKPbc **SKPab** **18 08 07.3 +5.2**
comp=Z,2.1nm,0.7s,baz=89,slow=3.4,SNR=8.4
BRTR Keskin Array B 131.61 311 *c i*PKIKP **PKPdf** **18 04 38.5 -0.1**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
CFR Carcaliu 133.15 320⇑ PKIKP **PKPdf** **18 04 41.0 0.0**
CFR Carcaliu 133.15 320⇑ *i*P **PKPdf** **18 04 41.0 0.0**
TIRR Tirgusor 133.31 319⇑ PKIKP **PKPdf** **18 04 42.0 +0.6**
TIRR Tirgusor 133.31 319⇑ *i*P **PKPdf** **18 04 42.0 +0.6**
TLB Topalu 133.49 320⇑ PKIKP **PKPdf** **18 04 41.9 +0.2**
TLB Topalu 133.49 320⇑ *i*P **PKPdf** **18 04 41.9 +0.2**
BURAR Bucovina Array 133.61 325⇓ *i*P **PKPdf** **18 04 42.9 +0.9**
BURAR Bucovina Array 133.61 325⇓ *i*P **PKPdf** **18 04 42.9 +0.9**
VRI Vrincioaia 133.66 322⇑ PKIKP **PKPdf** **18 04 42.8 +0.7**
VRI Vrincioaia 133.66 322⇑ *i*P **PKPdf** **18 04 42.8 +0.7**
PLOR Plostina 133.72 322⇓ PKIKP **PKPdf** **18 04 42.9 +0.7**
PLOR Plostina 133.72 322⇓ *i*P **PKPdf** **18 04 42.9 +0.7**
DOPR Dopca 134.41 323⇓ *i*P **PKPdf** **18 04 45.1 +1.6**
KOLS Kolonicke sedl 134.43 328 *e*PKIKP **PKPdf** **18 04 44.0 +0.6**
KOLS Kolonicke sedl 134.43 328 *e*PKP **PKPdf** **18 04 44.0 +0.6**
KOLS *e*SKPpB 18 08 15.9
STHS Stebnicka Huta 134.65 329 *e*PKIKP **PKPdf** **18 04 48.5 +4.7**
STHS Stebnicka Huta 134.65 329 *e* **PKPdf** **18 04 48.5 +4.7**
BDFB Brasilia 134.77 129 PKP **PKPdf** **18 04 43.9 -1.2**
comp=Z,1.9nm,0.6s,baz=259,slow=1.1,SNR=2.4
BDFB SKPbc **SKPab** **18 08 16.8 +0.3**
comp=Z,1.2nm,0.3s,baz=168,slow=4.5,SNR=3.0
DPC Dobruska-Polom 136.34 333 *e*P **SKPab** **18 08 20.8 -1.4**
DPC *ex* x 18 08 22.6
UPC Upice 136.37 333 *e*P **SKPab** **18 08 22.6 +0.3**
KDZ Kurdzhali 136.57 317⇑ PKIKP **PKPdf** **18 04 47.0 -0.6**
KDZ Kurdzhali 136.57 317⇑ *i*P **PKPdf** **18 04 47.0 -0.6**
BZS Buzias 136.79 324⇑ PKIKP **PKPdf** **18 04 47.9 0.0**
BZS Buzias 136.79 324⇑ *i*P **PKPdf** **18 04 47.9 0.0**
BRG Berggiesshubel 136.97 335 *e*PKP **PKPdf** **18 04 47.5 -0.5**
comp=Z,1.8nm,0.8s
BRG Berggiesshubel 136.97 335 *e*P **SKPab** **18 08 23.9 -0.9**
comp=Z,6.7nm,1.1s
BRG Berggiesshubel 136.97 335 *e*PKIKP **PKPdf** **18 04 47.5 -0.5**
BRG pmax pmax
comp=Z,2.0nm,0.8s
CLL Collm 137.01 336 *e*PKIKP **PKPdf** **18 04 47.0 -1.1**
TREC Trest 137.48 332 *e*P **SKPab** **18 08 25.0 -2.3**
NKC Novy Kostel 138.07 336 *e*P **SKPab** **18 08 27.7 -2.1**
NKC *ex* x 18 08 29.9
CONA Conrad Observa 138.29 331⇑ *i*PKPdf **PKPdf** **18 04 49.4 -1.3**
comp=Z,5.9nm,0.9s
KHC Kasperske Hory 138.44 334 *e*PKPdf **PKPdf** **18 04 50.9 0.0**
KHC *ex* x 18 04 54.4
KHC Kasperske Hory 138.44 334 *e*PKIKP **PKPdf** **18 04 50.9 0.0**
GERES GERESS Array B 138.60 333 PKIKP PKPpre 18 04 47.0
comp=Z,0.5nm,0.3s,baz=75,slow=5.6,SNR=1.9
GERES PKP **PKPdf** **18 04 51.2 -0.1**
comp=Z,1.7nm,0.8s,baz=38,slow=2.4,SNR=6.1
GERES SKPbc **SKiKP** **18 08 28.3 +1.2**
comp=Z,3.4nm,0.8s,baz=48,slow=2.0,SNR=12
GERES GERESS Array B 138.60 333 PKIKP **PKPdf** **18 04 47.0 -4.3**
DIVS Divibare 138.62 324⇑ *i*P **PKPdf** **18 04 51.6 +0.2**
IDI Anoyia 139.68 309 PKhKP PKPpre 18 04 51.2
baz=45,slow=7.1
KEST Kesra 150.23 321 PKPbc **PKPbc** **18 05 17.0 +0.1**
comp=Z,10nm,0.8s,baz=271,slow=2.5,SNR=15
PBRG Braganca 151.48 350 PKPbc **PKPbc** **18 05 19.8 +0.2**
PBRG Braganca 151.48 350 *e*LR LR 18 55 42.2
PGAV Gavieira, Arco 151.55 352 PKPbc **PKPbc** **18 05 19.7 -0.1**
PGAV Gavieira, Arco 151.55 352 *e*LR LR 18 54 49.4
POLO Lamas de Olo 152.07 352 *e*PKPbc **PKPbc** **18 05 21.1 +0.1**
PVRL Vila Real 152.15 351 *e*PKPbc **PKPbc** **18 05 21.3 +0.2**
MVO Moncorvo 152.16 350 *e*PKPbc **PKPbc** **18 05 21.7 +0.5**
ESDC Sonseca Array 152.93 344 PKPbc **PKPbc** **18 05 22.6 -0.3**
comp=Z,2.1nm,0.7s,baz=18,slow=2.7,SNR=10
ESDC PKPab **PKPab** **18 05 34.5 +0.5**
comp=Z,0.9nm,0.5s,baz=9.2,slow=3.4,SNR=4.7
MTE Manteigas 152.99 351 *e*PKPbc **PKPbc** **18 05 23.1 +0.1**
PTOM Tomar 153.88 352 PKPbc **PKPbc** **18 05 24.3 -0.6**
PMRV Marv??o 153.91 350 PKPbc **PKPbc** **18 05 25.3 +0.3**
PMTG Montargil 154.39 351 PKPbc **PKPbc** **18 05 24.7 -1.3**
PESTR Estremoz 154.49 350 *e*LR LR 18 52 37.5
PNCL Nicolau / Gran 155.38 351 PKPbc PKPbc 18 05 32.8
PNCL Nicolau / Gran 155.38 351 *e*LR LR 18 54 49.4
PBDV Barranco-do-Ve 156.13 350 *e*LR LR 18 53 03.9
TOA0 Torodi Ar. Sit 165.64 269 *e*PKIKP **PKPdf** **18 05 29.3 -1.6**
TORD Torodi Ar. Bea 165.64 269 PKP **PKPdf** **18 05 30.2 -0.7**
comp=Z,4.2nm,0.7s,baz=52,slow=0.7,SNR=23
TORD PKPab **PKPab** **18 06 29.7 -0.2**
comp=Z,6.7nm,1.0s,baz=91,slow=3.5,SNR=11
TORD PP **PP** **18 10 17.2 -0.2**
comp=Z,1.0nm,1.1s,baz=64,slow=3.4,SNR=2.6
KIC Kosan Boka 169.03 229 *e*PKIKP **PKPdf** **18 05 32.0 -1.5**
comp=Z,44nm,1.3s
LIC Lamto 169.14 227 *e*PKIKP **PKPdf** **18 05 32.0 -1.5**
comp=Z,63nm,1.9s
DBIC Dimbokro 169.32 230 PKP **PKPdf** **18 05 32.0 -1.6**
comp=Z,6.0nm,0.8s,baz=69,slow=4.7,SNR=5.8
TIC Toumodi 169.42 229 *e*PKIKP **PKPdf** **18 05 32.5 -1.2**

IDC ***27*** *17:49:30.4±1.3, 13°.84S×166°.62E, h0km, mb4.2/10, mb1 4.3/11, mb1mx4.1/21, mbtmp4.2/11, ML3.7/1, Error ellipse: s-maj=44.0km s-min=20.6km az=106.0*
ISCJB ***27*** *17:49:34.5±0.7, 13°.90S±0°.06×166°.7E±0°.2, h43km, mb4.2/11, Error ellipse: s-maj=23.8km s-min=8.5km az=178.7*
NEIC ***27*** *17:49:35.5±0.7, 13°.86S×166°.71E, h35km, mb4.2/2, Error ellipse: s-maj=22.7km s-min=11.9km az=99.0*
ISC 27 17:49:36.6±0.9, 13°.87S±0°.08×166°.6E±0°.2, h43km, n15, σ1§05/15, mb4.2/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.15**	**181**	Op Pn	**Pn**	**17 51 31.4**	**-1.2**
	1.0nm,0.3s,baz=90,slow=20,SNR=5.1						
DZM				Sn	**Sn**	**17 53 04.6**	**+1.0**
	0.7nm,0.3s,baz=270,slow=20,SNR=6.9						
CTAO	**Charters Tower**	**20.41**	**250**	P	Pn	17 54 12.2	-0.4
	5.3nm,0.7s						
STKA	**Stephens Creek**	**29.07**	**228**	P	**P**	**17 55 33.6**	**+0.5**
	6.0nm,0.7s,baz=45,slow=7.2,SNR=3.9						
ASAR	**Alice Springs**	**32.38**	**248**	P	**P**	**17 56 01.8**	**-0.6**
	1.2nm,0.7s,baz=71,slow=9.9,SNR=5.2						
MJAR	**Matsushiro Arr**	**56.85**	**333**	P	**P**	**17 59 16.2**	**-0.8**
	2.7nm,1.0s,baz=163,slow=8.4,SNR=4.8						
KSRS	**Korea Array**	**62.67**	**326**	P	**P**	**17 59 55.8**	**-1.1**
	0.6nm,0.8s,baz=150,slow=9.0,SNR=3.6						

KSAR	Wonju Array Be	62.68	326	P	P	17 59 55.8	-1.2
SBA	Scott Base	63.99	180	*e*P	P	18 00 05.7	+0.5
	3.1nm,0.9s						
PETK	Petropavlovsk-	67.15	354	P	P	18 00 27.4	+1.6
	1.6nm,0.8s,baz=152,slow=6.5,SNR=4.1						
CMAR	Chiang Mai Arr	74.01	294	P	P	18 01 09.3	+1.0
	1.1nm,0.9s,baz=106,slow=5.7,SNR=4.2						
SEY	Seymchan	77.36	353	P	P	18 01 27.2	+0.7
	1.9nm,0.6s,baz=171,slow=7.3,SNR=11						
ILAR	Eielson Array	85.92	18	P	P	18 02 10.8	-0.9
	0.5nm,0.4s,baz=244,slow=4.9,SNR=7.9						
MKAR	Makanchi Array	96.14	317	P	P	18 03 00.6	+0.6
	1.3nm,0.7s,baz=97,slow=7.2,SNR=5.6						
ZALV	Zalesovo Beam	96.32	324	P	P	18 02 59.9	-0.7
	1.1nm,0.5s,baz=118,slow=5.3,SNR=4.3						
KEST	Kesra	150.14	321	PKPbc	PKPbc	18 09 22.4	-0.9
	1.6nm,0.9s,baz=124,slow=3.6,SNR=2.6						

SJA ***27*** *18:01:35.3±0.9,34.˚31S×72.˚55W,h20km±36km,ML4.1*
IDC ***27*** *18:01:37.4±0.7,34.˚23S×72.˚31W,h0km,mb4.1/10, mb1 4.2/12,mb1mx4.1/32,mbtmp4.1/12,ML3.8/3,Error ellipse: s-maj=28.3km s-min=14.9km az=87.0*
GUC ***27*** *18:01:41.0±0.7,34.˚19S×72.˚25W,h12km±2km,ML4.0*
NEIC ***27*** *18:01:42.8±0.4,34.˚22S×72.˚29W,h35km,mb4.4/2,Error ellipse: s-maj=14.4km s-min=7.4km az=99.0*

ISC 27 18:01:39.4±3.3,34.˚22S±0.˚04×72.˚35W±0.˚07,h13km±20km, n50,σ1§25/62,mb4.3/10,4C-8D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	Longovilo	0.82	71	⇓*i*P	Pb	18 01 55.0	-0.5
NICH	Los Niches	1.21	131	⇓*i*P	Pn	18 02 01.8	-0.2
NICH				*i* S	Sb	18 02 17.3	-0.3
TACH	Talagante	1.30	64	⇑*i*P	Pn	18 02 02.2	-1.2
TALC	Talca	1.31	154	⇑*i*P	Pn	18 02 04.1	+0.7
TALC				*i* S	Sn	18 02 21.1	+0.3
IHA	Instituto Hidr	1.33	26	⇓*i*P	Pn	18 02 03.1	-0.6
IHA				*e*S	Sn	18 02 19.7	-1.6
CHCH	Chadas Angostu	1.44	79	⇑*i*P	Pn	18 02 04.5	-0.7
RCDM	Rinconada Maip	1.48	61	⇓*i*P	Pn	18 02 05.4	-0.3
RCDM				*i* S	Sn	18 02 23.5	-1.4
SAN	Santiago	1.60	62	⇓*i*P	Pn	18 02 07.2	-0.2
SAN				*i* S	Sn	18 02 26.9	-1.0
PCH	Pirque	1.64	69	*e*P	Pn	18 02 07.4	-0.6
PCH				*e*S	Sn	18 02 28.0	-1.0
ROCH	El Roble	1.67	42	*e*P	Pn	18 02 08.4	-0.2
ROCH				*e*S	Sn	18 02 30.4	+0.3
ROCH				AML	AML	18 02 40.8	
	comp=E,3μm,0.6s						
CLCH	Cerro Calan	1.72	62	⇓*i*P	Pn	18 02 09.1	0.0
CLCH				*i* S	Sn	18 02 30.7	-0.3
CLCH				AML	AML	18 02 45.4	
	comp=N,4μm,0.4s						
LNCH	Linares	1.73	160	⇑*i*P	Pn	18 02 10.2	+1.0
LNCH				*i* S	Sb	18 02 33.4	+0.6
PEL	Peldehue	1.75	53	⇓*i*P	Pn	18 02 09.9	+0.4
PEL				*i* S	Sn	18 02 31.8	0.0
PEL				AML	AML	18 02 39.0	
	comp=E,4μm,0.4s						
FCH	Farellones	1.93	63	⇓*i*P	Pn	18 02 13.0	+0.8
FCH				*i* S	Sn	18 02 37.0	+0.4
FCH				AML	AML	18 02 42.7	
	comp=E,2μm,0.5s						
YECH	El Yeso	1.96	74	*e*P	Pn	18 02 14.0	+1.4
YECH				AML	AML	18 02 44.5	
	comp=N,3μm,0.5s						
AAGR	Agrelo	3.15	70	*i* P	Pb	18 02 33.2	-2.0
AAGR				*i* S	Sb	18 03 16.2	+2.7
ARCO	CERRO ARCO	3.17	65	*e*P	Pb	18 02 34.0	-1.6
ARCO				*i* S	Sb	18 03 16.7	+2.5
ARCO				AML	AML	18 03 26.2	
	comp=Z,226nm,0.6s						
AUSP	Uspallata	3.18	52	*e*P	Pn	18 02 32.1	+2.7
AUSP				*i* S	Sb	18 03 17.7	+3.0
ASAL	Salagasta	3.36	62	*e*P	Pb	18 02 37.0	-1.9
ASAL				*i* S	Sb	18 03 19.8	+0.2
RTLS	Leoncito	3.52	47	*e*P	Pn	18 02 37.2	+3.2
RTLS				*i* S	Sb	18 03 24.5	0.0
RTCV	Cerro Valdivia	3.97	55	*e*P	Pn	18 02 41.9	+1.9
CFAA	Coronel Fontan	4.33	54	Pn	Pn	18 02 46.0	+1.0
	comp=Z,1.5nm,0.3s,baz=227,slow=10,SNR=21						
CFAA	Coronel Fontan	4.33	54	*i* P	Pn	18 02 46.7	+1.7
RTLL	Cerro Villicun	4.35	50	*i* P	Pn	18 02 46.6	+1.3
RTLL				*i* P	Pn	18 02 46.6	+1.3
AMOG	MOGNA	4.62	46	*i* P	Pn	18 02 50.2	+1.3
ACAN	Cantantal	4.74	67	*e*P	Pn	18 02 52.9	+2.3
PLCA	Paso Flores	6.65	168	Pn	Pn	18 03 17.8	+0.9
	comp=Z,1.1nm,0.3s,baz=338,slow=10,SNR=32						
PLCA				Lg	Lg	18 05 08.9	
	comp=Z,0.8nm,0.3s,baz=267,slow=21,SNR=3.5						
PLCA	Paso Flores	6.65	168	*e*P	Pn	18 03 18.2	+1.2
	comp=Z,41nm,1.3s						
PLCA				Lg	Lg	18 05 08.9	
LPAZ	La Paz	18.26	13	P	P	18 05 54.4	+1.0
	comp=Z,0.1nm,0.3s,baz=196,slow=8.0,SNR=6.5						
SIV	San Ignacio	20.80	32	P	P	18 06 20.3	-0.2
	comp=Z,2.4nm,0.8s,baz=220,slow=9.7,SNR=5.4						
SNAA	Sanae	51.48	158	P	P	18 10 44.5	+0.3
	comp=Z,2.3nm,1.1s,baz=266,slow=8.4,SNR=11						
QSPA	South Pole Qui	56.01	180	P	P	18 11 17.6	+0.1
	comp=Z,4.5nm,0.9s,baz=140,slow=2.7,SNR=10.0						
QSPA	South Pole Qui	56.01	180	*e*P	P	18 11 18.8	+1.2
	comp=Z,7.5nm,1.0s						
VNDA	Vanda	63.83	191	*e*P	P	18 12 09.8	-1.1
	comp=Z,2.2nm,1.2s						
TXAR	Lajitas Array	69.81	331	P	P	18 12 50.7	+1.1
	comp=Z,0.4nm,0.5s,baz=154,slow=8.6,SNR=7.8						
MAW	Mawson	73.04	164	P	P	18 13 08.7	+0.1
	comp=Z,2.1nm,0.7s,baz=238,slow=13,SNR=3.7						
DBIC	Dimbokro	75.49	71	P	P	18 13 23.2	-0.5
	comp=Z,1.9nm,0.7s,baz=207,slow=11,SNR=2.8						
BOSA	Boshof	80.19	118	P	P	18 13 49.7	-0.3
	comp=Z,3.0nm,0.8s,baz=207,slow=14,SNR=3.1						
PDAR	Pinedale Array	83.85	333	P	P	18 14 08.6	-0.1
	comp=Z,0.5nm,0.8s,baz=42,slow=1.5,SNR=3.4						
TORD	Torodi Ar. Bea	84.53	70	P	P	18 14 11.4	-1.1
	comp=Z,1.8nm,0.9s,baz=258,slow=3.9,SNR=7.2						
ULM	Lac du Bonnet	86.65	345	P	P	18 14 21.8	-0.4
	comp=Z,0.9nm,0.2s,baz=249,slow=8.6,SNR=1.9						
WRA	Warramunga Arr	120.44	209	PKP	PKPdf	18 20 30.7	-0.5
	comp=Z,0.2nm,0.5s,baz=154,slow=1.7,SNR=8.2						
H11S2	WAKE ISLAND Hyl	25.51	269	T	T	20 39 10.4	
	baz=123						
H11S1	WAKE ISLAND Hyl	25.53	269	T	T	20 39 11.7	
	baz=123						
H11S3	WAKE ISLAND Hyl	25.53	269	T	T	20 39 13.8	
	baz=123						
H11N3	WAKE ISLAND Hyl	25.93	271	T	T	20 39 43.1	
	baz=120						
H11N1	WAKE ISLAND Hyl	25.94	271	T	T	20 39 45.0	
	baz=120						
H11N2	WAKE ISLAND Hyl	25.95	271	T	T	20 39 45.3	
	baz=120						
ZALV	Zalesovo Beam	154.55	32	PKPbc	PKPbc	18 21 39.6	+0.3
	comp=Z,1.5nm,0.6s,baz=314,slow=1.9,SNR=7.5						
ZALV				PKPab	PKPab	18 21 54.3	+0.4
	comp=Z,1.1nm,0.9s,baz=262,slow=4.3,SNR=4.3						
MKAR	Makanchi Array	157.10	49	PKPab	PKPab	18 22 04.9	-0.3
	comp=Z,0.3nm,0.6s,baz=282,slow=2.8,SNR=3.6						

IDC 27 18:01:40.6±1.5,13.˚78S×166.˚54E,h0km,mb3.9/4, mb1 4.0/5,mb1mx3.7/21,mbtmp3.9/5,ML3.1/1,Error ellipse: s-maj=57.6km s-min=25.0km az=118.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	8.25	181	Pn	Pn	18 03 41.5	-0.2
	0.2nm,0.3s,baz=270,slow=20,SNR=3.0						
STKA	Stephens Creek	29.09	228	P	P	18 07 44.0	+1.0
	1.1nm,0.7s,baz=58,slow=16,SNR=1.4						
ASAR	Alice Springs	32.36	247	P	P	18 08 11.3	-0.8
	0.5nm,0.6s,baz=72,slow=9.4,SNR=15						
SEY	Seymchan	77.26	353	P	P	18 13 37.3	+0.9
	0.8nm,0.4s,baz=168,slow=3.7,SNR=7.9						
ILAR	Eielson Array	85.85	18	P	P	18 14 20.9	-0.9
	0.5nm,0.5s,baz=238,slow=4.8,SNR=9.5						

IDC ***27*** *18:04:34.1±0.7,13.˚52S×166.˚70E,h0km,mb4.2/18, mb1 4.3/18,mb1mx4.2/24,mbtmp4.1/18,Error ellipse: s-maj=23.1km s-min=16.1km az=110.0*
ISCJB ***27*** *18:04:38.1±0.5,13.˚59S±0.˚09×166.˚63E±0.˚09,h39km, mb4.1/20,Error ellipse: s-maj=14.0km s-min=11.8km az=36.7*
NEIC ***27*** *18:04:39.4±0.6,13.˚59S×166.˚69E,h35km,mb4.9/3,Error ellipse: s-maj=16.3km s-min=13.6km az=141.0*

ISC 27 18:04:40.0±0.6,13.˚6S±0.˚1×166.˚7E±0.˚1,h39km,n25, σ1§41/25,mb4.1/20,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	7.81	301	*e*P	Pn	18 06 33.4	+2.2
	51nm,0.6s						
CTA	Charters Tower	20.61	249	P	P	18 09 16.8	+0.7
	3.1nm,0.6s,baz=72,slow=12,SNR=5.6						
COEN	Coen	22.86	266	*e*P	P	18 09 39.9	-0.4
	12nm,1.2s						
URZ	Urewera	26.26	161	P	P	18 10 12.3	+0.8
	4.8nm,0.8s,baz=27,slow=4.5,SNR=1.7						
STKA	Stephens Creek	29.34	227	P	P	18 10 39.2	-0.1
	1.9nm,0.4s,baz=48,slow=8.9,SNR=18						
WRAB	Tennant Creek	31.59	254	*e*P	P	18 10 57.5	-1.8
	2.4nm,0.7s						
WRA	Warramunga Arr	31.60	254	P	P	18 10 57.6	-1.8
	2.0nm,0.6s,baz=86,slow=9.6,SNR=25						
AS31	Alice Springs	32.59	247	*e*P	P	18 11 06.0	-2.1
ASAR	Alice Springs	32.59	247	P	P	18 11 06.2	-2.0
	3.1nm,0.5s,baz=74,slow=9.3,SNR=50						
MJAR	Matsushiro Arr	56.65	333	P	P	18 14 19.0	-0.3
	1.3nm,0.6s,baz=167,slow=7.5,SNR=3.7						
VNDA	Vanda	63.99	181	P	P	18 15 10.2	+1.3
	0.4nm,0.6s,baz=347,slow=6.6,SNR=4.8						
USRK	Ussuriysk Ar.	65.62	333	P	P	18 15 20.8	+0.7
	1.5nm,0.8s,baz=123,slow=5.3,SNR=3.6						
PETK	Petropavlovsk-	66.87	354	P	P	18 15 27.1	-0.8
	1.3nm,0.8s,baz=198,slow=14,SNR=3.3						
CMAR	Chiang Mai Arr	73.99	294	P	P	18 16 13.3	+1.2
	1.7nm,0.7s,baz=124,slow=4.5,SNR=12						
QSPA	South Pole Qui	76.44	180	P	P	18 16 25.6	+0.1
	0.8nm,0.6s,baz=303,slow=1.6,SNR=6.8						
QSPA	South Pole Qui	76.44	180	*e*P	P	18 16 25.4	-0.1
SEY	Seymchan	77.09	353	P	P	18 16 29.2	+0.4
	1.2nm,0.5s,baz=145,slow=12,SNR=9.0						
ILAR	Eielson Array	85.61	18	P	P	18 17 13.6	-0.4
	0.7nm,0.5s,baz=244,slow=5.0,SNR=13						
INK	Inuvik	91.98	19	P	P	18 17 42.8	-1.3
	2.4nm,0.3s,baz=239,slow=10,SNR=1.7						
REDW	Red Top Meadow	93.80	46	*e*P	P	18 17 56.1	+2.7
	4.0nm,0.6s						
MKAR	Makanchi Array	96.00	317	P	P	18 18 02.9	-0.4
	0.8nm,0.6s,baz=99,slow=6.4,SNR=9.2						
ZALV	Zalesovo Beam	96.15	324	P	P	18 18 01.3	-2.3
	0.6nm,0.6s,baz=126,slow=7.3,SNR=3.1						
TXAR	Lajitas Array	96.21	61	P	P	18 18 04.8	+0.2
	0.2nm,0.8s,baz=232,slow=4.2,SNR=2.9						
YKA	Yellowknife Ar	96.78	27	P	P	18 18 04.3	-2.0
	0.1nm,0.5s,baz=309,slow=3.9,SNR=2.7						
ARCES	ARCESS Array B	119.01	345	PKP	PKPdf	18 23 23.6	-0.3
	2.2nm,0.8s,baz=98,slow=1.8,SNR=3.1						

IDC ***27*** *18:08:50.7±0.9,13.˚88S×166.˚27E,h0km,mb4.1/10, mb1 4.1/11,mb1mx3.8/39,mbtmp4.0/11,ML3.6/1,Error ellipse: s-maj=31.5km s-min=16.7km az=95.0*
ISCJB ***27*** *18:08:55.1±0.8,13.˚90S±0.˚07×166.˚2E±0.˚2,h43km, mb4.0/11,Error ellipse: s-maj=23.6km s-min=9.7km az=174.2*
NEIC ***27*** *18:08:55.9±0.7,13.˚96S×166.˚27E,h35km,mb4.1/1,Error ellipse: s-maj=21.5km s-min=12.4km az=89.0*

ISC 27 18:08:57.2±0.9,13.˚86S±0.˚09×166.˚2E±0.˚2,h43km,n14, σ0§78/14,mb4.0/11,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	8.17	178	Pn	Pn	18 10 48.8	-4.6
	0.8nm,0.3s,baz=90,slow=24,SNR=6.0						
DZM				Sn	Sn	18 12 24.9	+0.3
	baz=90,slow=24,SNR=14						
STKA	Stephens Creek	28.78	227	P	P	18 14 51.5	+0.3
	1.6nm,0.5s,baz=51,slow=8.9,SNR=11						
RPZ	Rata Peaks	30.05	173	P	P	18 15 02.9	+0.7
	23nm,1.1s,baz=223,slow=4.1,SNR=3.2						
WRAB	Tennant Creek	31.02	254	P	P	18 15 11.0	-0.2
	2.7nm,0.8s						
WRA	Warramunga Arr	31.03	254	P	P	18 15 10.9	-0.3
	0.4nm,0.6s,baz=86,slow=9.1,SNR=6.8						
ASAR	Alice Springs	32.02	247	P	P	18 15 19.3	-0.6
	0.8nm,0.6s,baz=74,slow=9.5,SNR=18						
ASAJ	Asahikawa	61.57	341	P	P	18 19 10.1	0.0
	10nm,1.0s,baz=301,slow=13,SNR=2.2						
VNDA	Vanda	63.71	181	P	P	18 19 22.8	-1.2
	0.5nm,0.6s,baz=349,slow=7.3,SNR=6.1						
PETK	Petropavlovsk-	67.09	354	P	P	18 19 45.8	-0.2
	0.8nm,0.7s,baz=148,slow=8.6,SNR=3.9						
CMAR	Chiang Mai Arr	73.64	294	P	P	18 20 27.5	+0.7
	0.3nm,0.7s,baz=41,slow=8.4,SNR=2.7						
SEY	Seymchan	77.30	354	P	P	18 20 47.4	+0.6
	1.5nm,0.7s,baz=139,slow=2.9,SNR=7.4						
MKAR	Makanchi Array	95.85	317	P	P	18 22 18.8	-0.5
	0.4nm,0.8s,baz=85,slow=3.6,SNR=4.5						
ARCES	ARCESS Array B	119.15	345	PKP	PKPdf	18 27 39.7	-1.3
	2.7nm,0.9s,baz=59,slow=1.3,SNR=5.8						
KEST	Kesra	149.87	320	PKPbc	PKPbc	18 28 44.5	+1.2
	1.9nm,1.0s,baz=242,slow=15,SNR=4.3						

IDC ***27*** *18:09:22.4±0.8,13.˚78S×166.˚26E,h0km,mb4.1/10, mb1 4.2/11,mb1mx4.0/22,mbtmp4.1/11,ML4.5/1,Error ellipse: s-maj=29.3km s-min=17.4km az=99.0*
ISCJB ***27*** *18:09:27.0±0.7,13.˚86S±0.˚06×166.˚2E±0.˚1,h43km, mb4.0/12,Error ellipse: s-maj=18.2km s-min=9.1km az=173.8*
NEIC ***27*** *18:09:27.4±0.7,13.˚81S×166.˚41E,h35km,mb4.2/3,Error ellipse: s-maj=18.4km s-min=13.8km az=101.0*

ISC 27 18:09:28.7±0.8,13.˚81S±0.˚08×166.˚2E±0.˚2,h43km,n18, σ1§27/17,mb4.1/12,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	8.22	179	Pn	Pn	18 11 24.4	-1.2
	5.5nm,0.3s,baz=273,slow=23,SNR=8.3						
DZM				Sn	Sn	18 12 59.4	+2.2
	2.4nm,0.3s,baz=278,slow=23,SNR=3.5						
CTA	Charters Tower	20.09	249	P	Pn	18 14 02.0	+1.1
	3.9nm,0.7s,baz=83,slow=13,SNR=4.5						
CTAO	Charters Tower	20.09	249	*e*P	Pn	18 14 01.7	+0.8
	7.5nm,0.9s						
URZ	Urewera	26.20	160	P	P	18 15 00.1	+0.8
	5.7nm,1.0s,baz=32,slow=19,SNR=2.5						
STKA	Stephens Creek	28.84	227	P	P	18 15 23.6	+0.5
	4.6nm,0.6s,baz=45,slow=8.2,SNR=14						
WRAB	Tennant Creek	31.07	254	*e*P	P	18 15 42.9	0.0
	3.2nm,0.8s						
WRA	Warramunga Arr	31.08	254	P	P	18 15 43.2	+0.2
	1.1nm,0.6s,baz=86,slow=9.4,SNR=8.9						
ASAR	Alice Springs	32.07	247	P	P	18 15 51.6	-0.1
	1.8nm,0.6s,baz=73,slow=9.4,SNR=16						
VNDA	Vanda	63.76	181	P	P	18 19 55.2	-0.4
	0.7nm,0.5s,baz=348,slow=7.7,SNR=6.0						
SBA	Scott Base	64.05	180	*e*P	P	18 19 56.0	-1.6
	1.7nm,0.7s						
PETK	Petropavlovsk-	67.05	354	P	P	18 20 18.9	+1.7
	0.8nm,0.5s,baz=157,slow=7.7,SNR=4.3						
SEY	Seymchan	77.25	354	P	P	18 21 19.3	+1.3
	1.1nm,0.6s,baz=153,slow=6.2,SNR=6.5						
SONM	Songino Array	81.16	324	P	P	18 21 39.5	-0.4
	0.5nm,0.4s,baz=110,slow=5.2,SNR=2.2						
ILAR	Eielson Array	85.97	18	P	P	18 22 03.8	-0.2
	0.4nm,0.6s,baz=234,slow=5.0,SNR=5.4						
MKAR	Makanchi Array	95.84	317	P	P	18 22 50.8	+0.2
	0.4nm,0.7s,baz=117,slow=3.8,SNR=4.2						
ARCES	ARCESS Array B	119.14	345	PKP	PKPdf	18 28 12.3	0.0
	1.3nm,0.6s,baz=73,slow=3.0,SNR=7.0						
FINES	FINESS Array B	124.50	338	PKP	PKPdf	18 28 20.7	-2.1
	0.8nm,0.6s,baz=90,slow=1.4,SNR=3.9						
KEST	Kesra	149.86	320	PKPbc	PKPbc	18 29 12.8	-1.9
	1.4nm,0.7s,baz=309,slow=6.2,SNR=3.6						

IDC ***27*** *18:19:11.8±6.2,19.˚42S×177.˚85W,h578km±68km,mb3.1/6, mb1 3.3/6,mb1mx3.0/29,mbtmp4.0/6,Error ellipse: s-maj=35.9km s-min=28.2km az=38.0*
ISCJB ***27*** *18:19:12.1±1.2,19.˚5S±0.˚3×177.˚9W±0.˚2,h600km,mb3.6/6, Error ellipse: s-maj=40.8km s-min=23.3km az=167.6*

ISC 27 18:19:13.5±1.1,19.˚4S±0.˚3×177.˚9W±0.˚2,h600km,n8, σ0§32/10,mb3.8/6,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	33.71	263	P	P	18 25 06.8	0.0
	3.1nm,0.5s,baz=96,slow=11,SNR=8.6						
STKA	Stephens Creek	38.35	243	P	P	18 25 45.1	+0.3
	1.3nm,0.6s,baz=43,slow=7.5,SNR=5.6						
WRA	Warramunga Arr	44.85	261	P	P	18 26 35.5	-0.6
	1.0nm,0.3s,baz=97,slow=7.6,SNR=49						
WRA				PcP	PcP	18 28 04.9	+0.3
	0.2nm,0.5s,baz=98,slow=3.2,SNR=3.3						
ASAR	Alice Springs	44.87	256	P	P	18 26 36.0	-0.2
	1.4nm,0.4s,baz=85,slow=7.8,SNR=57						
ASAR				PcP	PcP	18 28 04.9	+0.3
	0.6nm,0.7s,baz=111,slow=3.6,SNR=5.4						
VNDA	Vanda	58.98	185	P	P	18 28 16.0	-0.1
	0.4nm,0.6s,baz=342,slow=3.2,SNR=5.1						
TXAR	Lajitas Array	86.40	57	P	P	18 30 53.7	-0.1
	0.6nm,0.6s,baz=220,slow=6.7,SNR=8.6						
ARCES	ARCESS Array B	127.89	350	PKP	PKPdf	18 37 11.3	0.0
	2.7nm,1.0s,baz=26,slow=3.1,SNR=4.4						
GERES	GERESS Array B	149.19	345	PKPbc	PKPbc	18 37 55.6	+0.2
	0.6nm,0.6s,baz=11,slow=2.7,SNR=6.3						

IDC 27 18:25:16.9±2.3,13.˚22S×166.˚10E,h0km,mb4.0/4, mb1 4.2/4,mb1mx3.7/31,mbtmp4.0/4,Error ellipse: s-maj=111.5km s-min=28.5km az=135.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	29.16	226	P	P	18 31 19.9	-0.1
	2.6nm,0.6s,baz=51,slow=12,SNR=11						
WRA	Warramunga Arr	31.13	253	P	P	18 31 37.5	0.0
	0.7nm,0.7s,baz=85,slow=8.9,SNR=5.5						
ASAR	Alice Springs	32.19	246	P	P	18 31 46.8	0.0
	1.0nm,0.6s,baz=73,slow=9.6,SNR=23						
ILAR	Eielson Array	85.45	18	P	P	18 37 56.1	0.0
	0.5nm,0.5s,baz=240,slow=4.9,SNR=13						

IDC ***27*** *18:26:29.3±1.6,13.˚39S×166.˚55E,h0km,mb3.9/6, mb1 4.1/7,mb1mx3.8/32,mbtmp3.9/7,ML3.7/1,Error ellipse: s-maj=47.9km s-min=26.8km az=119.0*
ISCJB ***27*** *18:26:33.2±1.2,13.˚63S±0.˚08×166.˚6E±0.˚2,h39km, mb3.9/6,Error ellipse: s-maj=30.6km s-min=11.2km az=173.4*

ISC 27 18:26:34.8±1.3,13.˚5S±0.˚1×166.˚6E±0.˚2,h39km,n7, σ0§69/8,mb3.9/6,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	8.49	181	Pn	Pn	18 28 35.9	+0.5
	1.0nm,0.3s,baz=270,slow=20,SNR=2.0						
DZM				Sn	Sn	18 30 09.3	-0.7
	0.3nm,0.3s,baz=270,slow=20,SNR=1.7						
STKA	Stephens Creek	29.31	227	P	P	18 32 34.3	+0.5
	2.6nm,1.0s,baz=50,slow=12,SNR=6.2						
WRA	Warramunga Arr	31.52	254	P	P	18 32 53.5	0.0
	0.5nm,0.7s,baz=85,slow=9.8,SNR=6.4						
ASAR	Alice Springs	32.53	247	P	P	18 33 01.6	-0.8
	0.9nm,0.5s,baz=75,slow=9.4,SNR=13						
CMAR	Chiang Mai Arr	73.89	294	P	P	18 38 05.9	-0.4
	1.0nm,0.8s,baz=121,slow=4.6,SNR=6.3						
ILAR	Eielson Array	85.59	18	P	P	18 39 08.2	-0.4
	0.4nm,0.5s,baz=243,slow=5.2,SNR=7.1						
MKAR	Makanchi Array	95.91	317	P	P	18 39 58.2	+0.7
	0.7nm,0.7s,baz=92,slow=6.3,SNR=7.3						

NEIC ***27*** *18:45:11.7,32.˚02N×115.˚19W,h10km,ML3.0(PAS),After PAS.*
MEX ***27*** *18:45:14.0±0.5,32.˚24N×114.˚95W,h55km±8km,MD3.7*
ECX ***27*** *18:45:14.0±0.5,32.˚14N×115.˚19W,h9km,MD3.0,ML3.3*

ISC 27 18:45:11.7±1.1,32.˚14N±0.˚02×115.˚15W±0.˚03,h6km±10km, n29,σ1§02/39,1C-5D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	Mexicali	0.27	351	*e*P	Pn	18 45 21.4	-0.7
CPBX	Cerro Prieto	0.30	335	*e*P	Pb	18 45 19.5	0.0
CPBX				*e*S	Sb	18 45 28.6	+3.8
CPBX	Cerro Prieto	0.30	335	*e*P9	Pg	18 45 14.5	-3.1
CPBX				*e*S	Sg	18 45 18.8	-2.9
CPBX				IAML		18 45 21.7	
	comp=N,13μm,0.4s						
CPBX				⇓*e*		18 45 21.7	
EMSC	East Mesa	0.61	13	⇓*i*P	Pb	18 45 25.0	+0.3
YMD	Yuma Desert	0.66	51	⇑*i*P	Pb	18 45 25.8	+0.2
ECBX	El Chinero	0.67	173	*e*P9	Pg	18 45 24.7	+0.1
ECBX				*e*S	S

ASAR	**Alice Springs**	**32.05**	**248**	P		**P**	**18 59 33.6**	**-0.1**
	1.6nm,0.6s,baz=74,slow=9.6,SNR=46								
MJAR	**Matsushiro Arr**	**57.02**	**333**	P		**P**	**19 02 51.1**	**-1.2**
	1.9nm,1.0s,baz=175,slow=7.5,SNR=3.0								
VNDA	**Vanda**	**63.38**	**181**	P		**P**	**19 03 35.6**	**+0.3**
	0.9nm,0.7s,baz=329,slow=6.4,SNR=5.4								
SBA	**Scott Base**	**63.67**	**180**	*e*P		**P**	**19 03 39.4**	**+2.2**
PETK	**Petropavlovsk-**	**67.43**	**354**	P		**P**	**19 04 02.4**	**+0.7**
	1.3nm,0.7s,baz=197,slow=13,SNR=2.2								
CMAR	**Chiang Mai Arr**	**73.93**	**294**	P		**P**	**19 04 43.8**	**+1.8**
	0.4nm,0.5s,baz=133,slow=5.2,SNR=4.1								
SEY	**Seymchan**	**77.64**	**354**	P		**P**	**19 05 01.5**	**-0.8**
	1.5nm,0.8s,baz=142,slow=8.1,SNR=4.7								
ILAR	**Eielson Array**	**86.29**	**18**	P		**P**	**19 05 46.1**	**-1.5**
	0.5nm,0.5s,baz=238,slow=4.9,SNR=5.5								
ILAR				PP		**PP**	**19 09 10.1**	**+0.9**
	0.4nm,0.9s,baz=190,slow=4.6,SNR=4.1								

SJA ***27*** *19:01:30.8±0.7,34˚.17S×74˚.06W,h40km,ML3.7*
IDC ***27*** *19:01:44.5±1.1,33˚.87S×72˚.61W,h0km,mb3.8/3,*
mb1 3.9/5,mb1mx3.7/22,mbtmp3.7/5,ML3.7/2,Error
ellipse: s-maj=30.6km s-min=21.7km az=119.0

ISC 27 19:01:47.0±1.6,33˚.98S±0˚.08×72˚.52W±0˚.09,h10km,n22,
σ1§27/25,mb3.9/3,2D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.92**	**89**	⇓*i*P		**Pg**	**Pg**	**19 02 03.9**	**-0.8**
LNV				*i* S		**Sg**	**Sg**	**19 02 17.2**	**+0.5**
NICH	**Los Niches**	**1.48**	**134**	*e*P		**Pn**	**Pn**	**19 02 14.5**	**+0.8**
ROCH	**El Roble**	**1.61**	**52**	*e*P		Pn	Pn	19 02 13.2	-2.5
ROCH				*i* S		**Sn**	**Sn**	**19 02 36.4**	**-0.2**
PEL	**Peldehue**	**1.74**	**62**	⇓*i*P		Pn	Pn	19 02 15.8	-1.5
PEL				AML		AML	AML	19 02 49.1	
	comp=N,2μm,0.6s								
CLCH	**Cerro Calan**	**1.75**	**71**	*e*P		Pn	Pn	19 02 15.6	-1.9
CLCH				*i* S		**Sn**	**Sn**	**19 02 37.4**	**-2.5**
CLCH				AML		AML	AML	19 02 54.6	
	comp=N,1μm,0.6s								
AUSP	**Uspallata**	**3.15**	**57**	*i* P		**Pn**	**Pn**	**19 02 38.8**	**+1.7**
AUSP				*i* S		**Sg**	**Sg**	**19 03 28.9**	**+0.5**
ARCO	**CERRO ARCO**	**3.21**	**70**	*i* P		**Pn**	**Pn**	**19 02 39.6**	**+2.0**
ARCO				*i* S		**Sg**	**Sg**	**19 03 30.1**	**+0.1**
ARCO				AML		AML	AML	19 03 36.4	
	comp=Z,75nm,0.6s								
AAGR	**Agrelo**	**3.21**	**75**	*i* P		**Pn**	**Pn**	**19 02 39.9**	**+2.3**
AAGR				*i* S		**Sg**	**Sg**	**19 03 30.3**	**+0.3**
ASAL	**Salagasta**	**3.38**	**67**	*i* P		**Pn**	**Pn**	**19 02 42.0**	**+2.1**
ASAL				*i* S		**Sg**	**Sg**	**19 03 34.4**	**-1.2**
RTLS	**Leoncito**	**3.47**	**52**	*i* P		**Pn**	**Pn**	**19 02 42.3**	**+0.9**
RTLS				*i* P		**Pn**	**Pn**	**19 02 42.3**	**+0.9**
RTCV	**Cerro Valdivia**	**3.95**	**59**	*i* P		**Pn**	**Pn**	**19 02 48.7**	**+0.9**
RTCV				*i* S		**Sb**	**Sb**	**19 03 46.0**	**+1.2**
CFAA	**Coronel Fontan**	**4.31**	**58**	Pn		**Pn**	**Pn**	**19 02 52.9**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=22,slow=4.4,SNR=6.0								
CFAA				Lg		Lg	Lg	19 04 02.2	
	comp=Z,0.3nm,0.3s,baz=239,slow=4.0,SNR=6.4								
CFAA	**Coronel Fontan**	**4.31**	**58**	*i* P		**Pn**	**Pn**	**19 02 52.7**	**0.0**
RTLL	**Cerro Viilicun**	**4.31**	**53**	*i* P		**Pn**	**Pn**	**19 02 53.0**	**+0.2**
AMOG	**MOGNA**	**4.55**	**49**	*i* P		**Pn**	**Pn**	**19 02 55.9**	**-0.2**
ACAN	**Cantantal**	**4.78**	**71**	*i* P		**Pn**	**Pn**	**19 03 00.5**	**+1.3**
PLCA	**Paso Flores**	**6.92**	**168**	Pn		**Pn**	**Pn**	**19 03 29.5**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=345,slow=15,SNR=9.8								
LPAZ	**La Paz**	**18.05**	**14**	P		Pn	Pn	19 05 55.8	-2.9
	comp=Z,0.1nm,0.3s,baz=168,slow=7.3,SNR=4.5								
TXAR	**Lajitas Array**	**69.52**	**331**	P		P	P	19 12 54.8	-1.2
	comp=Z,0.3nm,0.6s,baz=150,slow=8.1,SNR=4.9								
MAW	**Mawson**	**73.32**	**164**	P		**P**	**P**	**19 13 18.4**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=248,slow=11,SNR=2.8								
TORD	**Torodi Ar. Bea**	**84.58**	**70**	P		P	P	19 14 19.4	-1.5
	comp=Z,0.7nm,0.8s,baz=248,slow=4.2,SNR=3.0								
MKAR	**Makanchi Array**	**157.05**	**49**	PKPab		**PKPab**	**PKPab**	**19 22 11.7**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=307,slow=3.1,SNR=2.3								

CRAAG ***27*** *19:05:36.3,35˚.42N×1˚.87E,Ml2.9*
MDD ***27*** *19:05:37.0±1.8,35˚.28N×2˚.04E,h0km,mb4.0/8,Error*
ellipse: s-maj=18.5km s-min=8.6km az=161.0,PRXIMO
CSEM ***27*** *19:05:37.0±0.8,35˚.34N×2˚.02E,h2km,mb4.0,Error*
ellipse: s-maj=16.0km s-min=8.2km az=161.0

ISC 27 19:05:35.3±2.0,35˚.26N±0˚.09×2˚.11E±0˚.06,h10km,n39,
σ1§44/49,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ETRT	**Tiaret**	**0.67**	**281**	P		**Pg**	**Pg**	**19 05 47.5**	**-0.8**
ETRT	**Tiaret**	**0.67**	**281**	P		**Pg**	**Pg**	**19 05 47.5**	**-0.8**
ETRT	**Tiaret**	**0.67**	**281**	P		**Pg**	**Pg**	**19 05 47.5**	**-0.8**
EANR	**'Ain N'Sour**	**1.07**	**310**	P		**Pg**	**Pg**	**19 05 54.6**	**-1.3**
EANR	**'Ain N'Sour**	**1.07**	**310**	P		**Pg**	**Pg**	**19 05 54.6**	**-1.3**
EANR	**'Ain N'Sour**	**1.07**	**310**	P		**Pg**	**Pg**	**19 05 54.6**	**-1.3**
ECHA	**Ech Chlef**	**1.07**	**326**	P		**Pg**	**Pg**	**19 05 55.8**	**-0.1**
ECHA	**Ech Chlef**	**1.07**	**326**	P		**Pg**	**Pg**	**19 05 55.8**	**-0.1**
ECHF	**Ech Chlef**	**1.09**	**325**	P		**Pg**	**Pg**	**19 05 55.8**	**-0.4**
ECHF	**Ech Chlef**	**1.09**	**325**	P		**Pg**	**Pg**	**19 05 55.8**	**-0.4**
EMHD	**Djebel Mahouad**	**1.16**	**36**	P		**Pn**	**Pn**	**19 05 58.6**	**+0.9**
EMHD	**Djebel Mahouad**	**1.16**	**36**	P		**Pn**	**Pn**	**19 05 58.6**	**+0.9**
EMHD	**Djebel Mahouad**	**1.16**	**36**	P		**Pn**	**Pn**	**19 05 58.6**	**+0.9**
OKGL	**Djebel Kef Gue**	**1.42**	**303**	P		**Pn**	**Pn**	**19 06 02.1**	**+0.9**
	19nm,0.1s,SNR=4.0								
OKGL				S		**Sg**	**Sg**	**19 06 21.5**	**+0.5**
	100nm,0.4s,SNR=4.0								
OKGL	**Djebel Kef Gue**	**1.42**	**303**	P		**Pn**	**Pn**	**19 06 02.1**	**+0.9**
	19nm,0.1s,SNR=4.0								
OKGL				S		**Sg**	**Sg**	**19 06 21.5**	**+0.5**
	100nm,0.4s,SNR=4.0								
EMUR	**La Murta**	**3.73**	**315**	P		**Pn**	**Pn**	**19 06 33.2**	**+0.3**
	1.7nm,0.3s,SNR=4.0								
EMUR	**La Murta**	**3.73**	**315**	P		**Pn**	**Pn**	**19 06 33.2**	**+0.3**
	1.7nm,0.3s,SNR=4.0								
EIBI	**Ibiza**	**3.81**	**351**	P		**Pn**	**Pn**	**19 06 35.0**	**+1.0**
	3.2nm,0.1s,SNR=22								
EIBI				S		**Sn**	**Sn**	**19 07 16.7**	**-2.1**
	0.9nm,0.2s,SNR=7.9								
EIBI	**Ibiza**	**3.81**	**351**	P		**Pn**	**Pn**	**19 06 35.0**	**+1.0**
	3.2nm,0.1s,SNR=22								
EBEN	**Beniarda**	**3.91**	**332**	P		**Pn**	**Pn**	**19 06 37.1**	**+1.6**
	0.5nm,0.3s,SNR=4.0								
EBEN				S		**Sn**	**Sn**	**19 07 20.0**	**-1.5**
	0.7nm,0.3s,SNR=7.9								
EBEN	**Beniarda**	**3.91**	**332**	P		**Pn**	**Pn**	**19 06 37.1**	**+1.6**
	0.5nm,0.3s,SNR=4.0								
EBEN				S		**Sn**	**Sn**	**19 07 20.0**	**-1.5**
	0.7nm,0.3s,SNR=7.9								
EBER	**Berja**	**4.36**	**293**	P		**Pn**	**Pn**	**19 06 41.8**	**0.0**
	0.8nm,0.2s,SNR=7.9								
EBER	**Berja**	**4.36**	**293**	P		**Pn**	**Pn**	**19 06 41.8**	**0.0**
	0.8nm,0.2s,SNR=7.9								
ETOB	**Tobarra**	**4.47**	**320**	P		**Pn**	**Pn**	**19 06 44.5**	**+1.4**
	1.3nm,0.2s,SNR=15								
ETOB				S		**Sn**	**Sn**	**19 07 33.3**	**-1.9**
	0.7nm,0.2s,SNR=7.9								
ETOB	**Tobarra**	**4.47**	**320**	P		**Pn**	**Pn**	**19 06 44.5**	**+1.4**
	1.3nm,0.2s,SNR=15								
EHUE	**Huescar**	**4.56**	**305**	P		**Pn**	**Pn**	**19 06 47.2**	**+2.8**
	0.8nm,0.3s,SNR=7.9								
EHUE	**Huescar**	**4.56**	**305**	P		**Pn**	**Pn**	**19 06 47.2**	**+2.8**
	0.8nm,0.3s,SNR=7.9								
SESP	**Santiago Espad**	**4.70**	**309**	P		**Pn**	**Pn**	**19 06 48.7**	**+2.3**
	1.6nm,0.1s,SNR=7.9								
SESP				S		**Sn**	**Sn**	**19 07 40.6**	**-0.5**
	2.4nm,0.3s,SNR=7.9								
SESP	**Santiago Espad**	**4.70**	**309**	P		**Pn**	**Pn**	**19 06 48.7**	**+2.3**
	1.6nm,0.1s,SNR=7.9								
SESP				S		**Sn**	**Sn**	**19 07 40.6**	**-0.5**
	2.4nm,0.3s,SNR=7.9								
EQES	**Quesada**	**4.88**	**303**	P		**Pn**	**Pn**	**19 06 50.9**	**+2.0**
	5.5nm,0.3s,SNR=17								
EQES				S		**Sn**	**Sn**	**19 07 45.0**	**-0.4**
	2.0nm,0.4s,SNR=7.9								
EQES	**Quesada**	**4.88**	**303**	P		**Pn**	**Pn**	**19 06 50.8**	**+2.0**
	5.5nm,0.3s,SNR=17								
EQES				S		**Sn**	**Sn**	**19 07 45.0**	**-0.4**
	2.0nm,0.4s,SNR=7.9								
EQUE	**Quentar**	**4.89**	**295**	P		**Pn**	**Pn**	**19 06 50.3**	**+1.4**
	3.5nm,0.4s,SNR=7.5								
EQUE	**Quentar**	**4.89**	**295**	P		**Pn**	**Pn**	**19 06 50.3**	**+1.4**
	3.5nm,0.4s,SNR=7.5								
EVIA	**Vianos**	**5.00**	**314**	P		**Pn**	**Pn**	**19 06 53.1**	**+2.6**
	3.5nm,0.4s,SNR=7.9								
EVIA	**Vianos**	**5.00**	**314**	P		**Pn**	**Pn**	**19 06 53.1**	**+2.6**
	3.5nm,0.4s,SNR=7.9								
EMOS	**Mosqueruela**	**5.49**	**339**	P		**Pn**	**Pn**	**19 06 58.9**	**+1.7**
	0.8nm,0.1s,SNR=11								
ELUQ	**Luque**	**5.63**	**296**	P		**Pn**	**Pn**	**19 07 00.3**	**+1.2**
	9.4nm,0.1s,SNR=4.0								
ELUQ	**Luque**	**5.63**	**296**	P		**Pn**	**Pn**	**19 07 00.3**	**+1.2**
	9.4nm,0.1s,SNR=4.0								

IDC ***27*** *19:08:06.0±0.9,13˚.90S×166˚.77E,h0km,mb4.2/12,*
mb1 4.3/13,mb1mx4.1/36,mbtmp4.2/13,ML4.1/1,Error
ellipse: s-maj=31.2km s-min=17.4km az=100.0
ISCJB ***27*** *19:08:10.7±0.7,13˚.97S±0˚.06×166˚.6E±0˚.2,h43km,*
mb4.2/14,Error ellipse: s-maj=22.4km s-min=8.5km
az=176.9
NEIC ***27*** *19:08:11.3±0.5,13˚.91S×166˚.70E,h35km,mb4.4/2,Error*
ellipse: s-maj=16.0km s-min=9.4km az=95.0

ISC 27 19:08:12.3±0.8,13˚.92S±0˚.08×166˚.7E±0˚.2,h43km,n20,
σ0§86/21,mb4.2/14,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.12**	**182**	Pn		**Pn**	**Pn**	**19 10 07.0**	**-0.7**
	2.5nm,0.3s,baz=270,slow=24,SNR=18								
DZM				Sn		**Sn**	**Sn**	**19 11 39.5**	**+1.3**
	baz=270,slow=20,SNR=2.4								
STKA	**Stephens Creek**	**29.13**	**228**	P		**P**	**P**	**19 14 09.9**	**+0.6**
	3.7nm,0.6s,baz=41,slow=9.0,SNR=10.0								
WRAB	**Tennant Creek**	**31.51**	**255**	*e*P		**P**	**P**	**19 14 29.6**	**-1.0**
	6.3nm,1.1s								
WRA	**Warramunga Arr**	**31.52**	**255**	P		**P**	**P**	**19 14 29.1**	**-1.5**
	1.5nm,0.9s,baz=86,slow=8.4,SNR=8.8								
ASAR	**Alice Springs**	**32.48**	**248**	P		**P**	**P**	**19 14 38.3**	**-0.8**
	1.2nm,0.8s,baz=74,slow=9.3,SNR=24								
MJAR	**Matsushiro Arr**	**56.95**	**333**	P		**P**	**P**	**19 17 52.9**	**-0.5**
	5.1nm,1.2s,baz=168,slow=4.4,SNR=6.2								
VNDA	**Vanda**	**63.66**	**181**	P		**P**	**P**	**19 18 38.9**	**+0.2**
	1.5nm,0.9s,baz=23,slow=8.1,SNR=4.0								
SBA	**Scott Base**	**63.94**	**180**	*e*P		**P**	**P**	**19 18 40.2**	**-0.3**
	3.6nm,0.9s								
USRK	**Ussuriysk Ar.**	**65.93**	**333**	P		**P**	**P**	**19 18 55.0**	**+1.2**
	4.2nm,1.0s,baz=149,slow=4.0,SNR=6.6								
CMAR	**Chiang Mai Arr**	**74.14**	**294**	P		**P**	**P**	**19 19 46.4**	**+1.6**
	2.6nm,1.0s,baz=131,slow=4.1,SNR=9.2								
SEY	**Seymchan**	**77.42**	**353**	P		**P**	**P**	**19 20 02.7**	**+0.2**
	1.1nm,0.9s,baz=0.0,slow=20,SNR=4.5								
SONM	**Songino Array**	**81.53**	**324**	P		**P**	**P**	**19 20 25.5**	**0.0**
	1.4nm,0.6s,baz=160,slow=4.7,SNR=4.0								
ILAR	**Eielson Array**	**85.92**	**18**	P		**P**	**P**	**19 20 47.5**	**+0.1**
	0.6nm,0.9s,baz=235,slow=5.0,SNR=4.7								
MK31	**Makanchi Array**	**96.26**	**317**	*e*P		**P**	**P**	**19 21 36.5**	**+0.4**
MKAR	**Makanchi Array**	**96.26**	**317**	P		**P**	**P**	**19 21 36.5**	**+0.3**
	1.6nm,0.8s,baz=99,slow=6.8,SNR=13								
ZALV	**Zalesovo Beam**	**96.43**	**324**	P		**P**	**P**	**19 21 36.0**	**-0.7**
	1.8nm,0.8s,baz=108,slow=4.8,SNR=7.7								
ARCES	**ARCESS Array B**	**119.34**	**345**	PKP		**PKPdf**	**PKPdf**	**19 26 55.4**	**-1.0**
	1.8nm,0.8s,baz=68,slow=0.6,SNR=14								
FINES	**FINESS Array B**	**124.78**	**338**	PKP		**PKPdf**	**PKPdf**	**19 27 06.9**	**-0.1**
	2.6nm,1.0s,baz=158,slow=11,SNR=4.4								
KEST	**Kesra**	**150.25**	**321**	PKPbc		**PKPbc**	**PKPbc**	**19 27 58.4**	**-0.9**
	2.6nm,0.9s,baz=338,slow=5.4,SNR=4.0								
TORD	**Torodi Ar. Bea**	**165.43**	**269**	PKP		**PKPdf**	**PKPdf**	**19 28 12.9**	**-0.2**
	1.0nm,1.0s,baz=44,slow=0.3,SNR=4.5								

ISCJB ***27*** *19:16:37.5±3.0,14˚.15S±0˚.04×166˚.79E±0˚.08,h23km±20km,*
mb4.8/40,MS5.0/2,Error ellipse: s-maj=13.1km
s-min=5.9km az=164.7
BJI ***27*** *19:16:37.0,13˚.99S×167˚.63E,h35km,mb4.9/36,mB5.6/12,*
Ms5.9/8,Ms7 5.7/8
IDC ***27*** *19:16:40.9±0.8,14˚.11S×166˚.74E,h33km±4km,mb4.5/16,*
mb1 4.6/17,mb1mx4.3/35,mbtmp4.7/17,ML4.4/1,MS4.7/1,
Ms1 4.7/1,ms1mx4.0/32,Error ellipse: s-maj=22.3km
s-min=14.2km az=104.0
MOS ***27*** *19:16:40.6±1.1,13˚.98S×166˚.48E,h33km,mb5.1/17,Error*
ellipse: s-maj=12.7km s-min=9.3km az=26.3
NEIC ***27*** *19:16:40.5±0.4,14˚.10S×166˚.84E,h35km,mb5.0/13,Error*
ellipse: s-maj=10.9km s-min=8.5km az=112.0

ISC 27 19:16:40.7±0.6,14˚.06S±0˚.05×166˚.85E±0˚.0,h34km±1km,
h34km:pP-P,n132,σ1§44/140,mb4.9/40,6C-7D,Vanuatu
Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.97**	**183**	Pn		**Pn**	**Pn**	**19 18 34.9**	**+0.5**
	5.0nm,0.3s,baz=90,slow=24,SNR=51								
DZM				Sn		**Sn**	**Sn**	**19 20 03.2**	**-0.2**
	baz=90,slow=20,SNR=1.6								
NOUC	**Port Laguerre**	**8.01**	**184**	*e*P		**Pn**	**Pn**	**19 18 34.0**	**-0.8**
NOUC				*e*S		**Sn**	**Sn**	**19 20 02.3**	**-1.9**
BAYA	**Yate Dam**	**8.05**	**180**	*e*P		Pn	Pn	19 18 40.6	+5.3
BAYA				*e*S		**Sn**	**Sn**	**19 20 05.7**	**+0.6**
HNR	**Honiara**	**8.18**	**304**	*e*P		**Pn**	**Pn**	**19 18 36.7**	**-0.3**
HNR				pmax		pmax			
	comp=Z,237nm,0.7s								
HNR	**Honiara**	**8.18**	**304**	P		Pn	Pn	19 18 27.0	-10
HNR				S		**Sn**	**Sn**	**19 20 10.0**	**+1.7**
HNR	**Honiara**	**8.18**	**304**	*e*Pn		**Pn**	**Pn**	**19 18 36.7**	**-0.3**
	comp=Z,237nm,0.7s								
MSVF	**Nonsavu**	**11.38**	**110**	*e*P		Pn	Pn	19 19 29.8	+8.8
MSVF				pmax		pmax			
	comp=Z,171nm,1.4s								
MSVF	**Nonsavu**	**11.38**	**110**	*e*P		Pn	Pn	19 19 29.8	+8.8
	comp=Z,171nm,1.4s								
PMG	**Port Moresby**	**19.82**	**281**	⇓*e*P		**P**	**P**	**19 21 08.0**	**-0.6**
PMG				pmax		pmax			
	comp=Z,146nm,1.0s								
PMG	**Port Moresby**	**19.82**	**281**	*e*P		**Pn**	**Pn**	**19 21 09.6**	**-0.8**
	comp=Z,44nm,1.0s								
CTA	**Charters Tower**	**20.57**	**250**	P		**P**	**P**	**19 21 16.3**	**-0.4**
	comp=Z,15nm,0.8s,baz=81,slow=14,SNR=18								
CTAO	**Charters Tower**	**20.57**	**250**	*e*P		**P**	**P**	**19 21 17.0**	**+0.2**
CTAO				pmax		pmax			
	comp=Z,16nm,0.8s								
CTAO	**Charters Tower**	**20.57**	**250**	*e*P		**P**	**P**	**19 21 17.0**	**+0.2**
	comp=Z,16nm,0.8s								
RAO	**Raoul Island**	**20.67**	**139**	LR		LR	LR	19 27 59.7	
	comp=Z,2μm,21.0s,baz=58,slow=33								
COEN	**Coen**	**22.97**	**267**	*e*P		**P**	**P**	**19 21 42.3**	**-0.2**
	comp=Z,35nm,1.0s								
URZ	**Urewera**	**25.76**	**161**	P		**P**	**P**	**19 22 12.1**	**+3.8**
	comp=Z,3.9nm,0.6s,baz=12,slow=19,SNR=2.3								
STKA	**Stephens Creek**	**29.12**	**228**	P		**P**	**P**	**19 22 39.1**	**+0.6**
	comp=Z,29nm,0.7s,baz=40,slow=7.6,SNR=91								
STKA	**Stephens Creek**	**29.12**	**228**	*e*P		**P**	**P**	**19 22 38.9**	**+0.4**
STKA	**Stephens Creek**	**29.12**	**228**	*e*P		**P**	**P**	**19 22 38.9**	**+0.4**
WRAB	**Tennant Creek**	**31.59**	**255**	*c*eP		**P**	**P**	**19 22 58.3**	**-2.2**
WRAB				pmax		pmax			
	comp=Z,36nm,1.7s								
WRAB	**Tennant Creek**	**31.59**	**255**	*e*P		**P**	**P**	**19 22 58.8**	**-1.6**
WRA	**Warramunga Arr**	**31.60**	**255**	P		**P**	**P**	**19 22 58.8**	**-1.8**
	comp=Z,8.8nm,0.9s,baz=85,slow=8.6,SNR=37								
AS31	**Alice Springs**	**32.53**	**248**	*e*P		**P**	**P**	**19 23 07.3**	**-1.5**
ASAR	**Alice Springs**	**32.53**	**248**	P		**P**	**P**	**19 23 07.1**	**-1.7**
	comp=Z,10nm,0.7s,baz=73,slow=9.5,SNR=213								
ASAR				pScP				19 29 48.5	
	comp=Z,1.6nm,1.1s,baz=71,slow=4.3,SNR=5.1								
BBOO	**Buckleboo**	**33.67**	**231**	*e*P		**P**	**P**	**19 23 18.8**	**+0.3**
	comp=Z,64nm,0.9s								
SIJI	**Sorong**	**37.55**	**287**	P		**P**	**P**	**19 23 52.2**	**0.0**
	comp=Z,5.8nm,0.8s,baz=40,slow=8.5,SNR=5.3								
BNDI	**Bandanaira**	**37.62**	**281**	P		**P**	**P**	**19 23 54.6**	**+2.0**
MMRI	**Maumere**	**44.02**	**272**	P		**P**	**P**	**19 24 46.7**	**+1.2**
MBWA	**Marble Bar**	**45.33**	**254**	*e*P		**P**	**P**	**19 24 55.3**	**-0.5**
MJAR	**Matsushiro Arr**	**57.13**	**333**	P		**P**	**P**	**19 26 23.7**	**-0.4**
	comp=Z,11nm,1.0s,baz=166,slow=7.4,SNR=18								
MJAR				pP		**pP**		**19 26 34.2**	**-0.2**
	comp=Z,5.4nm,0.7s,baz=167,slow=8.8,SNR=6.9								
MAJO	**Matsushiro**	**57.13**	**333**	⇓*i*P		**P**	**P**	**19 26 23.6**	**-0.5**
MAJO				pmax		pmax			
	comp=Z,163nm,1.2s								
MAJO	**Matsushiro**	**57.13**	**333**	*e*P		**P**	**P**	**19 26 23.8**	**-0.3**
	comp=Z,15nm,0.9s								
MAT	**Matsushiro**	**57.13**	**333**	P		**P**	**P**	**19 26 23.3**	**-0.8**
KSM	**Kuching**	**58.08**	**281**	*e*P		**P**	**P**	**19 26 30.9**	**-0.3**
	comp=Z,10nm,1.4s								
YHNB	**Yeheng**	**58.74**	**311**	*e*P		**P**	**P**	**19 26 35.6**	**-0.1**
	comp=Z,22nm,0.8s								
KSRS	**Korea Array**	**62.96**	**326**	P		**P**	**P**	**19 27 04.4**	**+0.4**
	comp=Z,3.9nm,0.9s,baz=139,slow=7.0,SNR=18								
KSAR	**Wonju Array Be**	**62.98**	**326**	P		**P**	**P**	**19 27 04.4**	**+0.3**
KSAR	**Wonju Array Be**	**62.98**	**326**	P		**P**	**P**	**19 27 04.4**	**+0.3**
VNDA	**Vanda**	**63.51**	**181**	P		**P**	**P**	**19 27 07.8**	**+0.7**
	comp=Z,2.9nm,0.8s,baz=11,slow=5.3,SNR=15								
NJ2	**Nanjing**	**64.92**	**316**	*e*P		**P**	**P**	**19 27 20.0**	**+3.0**
NJ2				S		**S**	**S**	**19 35 53.0**	**-3.4**
NJ2				PMZ					
	comp=Z,10.0nm,0.6s								
NJ2				PMZ					
	comp=Z,5μm,8.0s								
NJ2				LN					
	comp=Z,10μm,21.0s								
NJ2				LE					
	comp=Z,20μm,27.9s								
NJ2				LZ					
	comp=Z,18μm,24.0s								
VLA	**Vladivostok**	**65.30**	**332**	⇑*e*P		**P**	**P**	**19 27 19.7**	**+0.5**
VLA				pmax		pmax			
	comp=Z,39nm,1.7s								
USRK	**Ussuriysk Ar.**	**66.11**	**333**	P		**P**	**P**	**19 27 25.1**	**+0.7**
	comp=Z,12nm,0.9s,baz=146,slow=5.7,SNR=18								
PETK	**Petropavlovsk-**	**67.36**	**354**	P		**P**	**P**	**19 27 32.5**	**+0.3**
	comp=Z,2.6nm,0.7s,baz=99,slow=7.7,SNR=3.7								
MDJ	**Mudanjiang**	**67.50**	**332**	*e*P		**P**	**P**	**19 27 34.6**	**+1.2**
	comp=Z,11nm,0.9s								
MNSI	**Mandailing Nat**	**68.18**	**277**	P		**P**	**P**	**19 27 38.5**	**+0.2**
HABR	**Khabarovsk**	**68.37**	**338**	*e*P		**P**	**P**	**19 27 36.6**	**-2.1**
HABR				*e**PP		**pP**	**pP**	**19 27 46.9**	**-2.3**
HABR				*e*SP				19 27 51.1	
HABR				*e*S		**S**	**S**	**19 36 34.6**	**-2.9**
HABR				*e*				19 37 33.9	
HABR				*e*SS		**SS**	**SS**	**19 40 57.9**	**-3.9**
HABR				pmax		pmax			
	comp=Z,27nm,1.3s								
HABR				MLR		MLR			
	comp=Z,3μm,20.0s								
TIA	**Tai'an**	**68.57**	**318**	⇓P		**P**	**P**	**19 27 40.5**	**+0.3**
TIA				PMZ					
	comp=Z,10.0nm,1.0s								
CN2	**Changchun**	**68.87**	**329**	*e*P		P		19 27 46.5	+4.6
SKNT	**Sakolnakorn**	**69.30**	**294**	P		**P**	**P**	**19 27 45.8**	**+0.7**
	comp=Z,16nm,1.4s								
KLR	**Kul'dur**	**70.24**	**336**	*e*P		**P**	**P**	**19 27 47.7**	**-2.5**
ENH	**Enshi**	**70.63**	**309**	*e*P		**P**	**P**	**19 27 51.5**	**-1.7**
KMI	**Kunming**	**73.61**	**302**	P		**P**	**P**	**19 28 12.0**	**+0.7**
KMI				PMZ					
	comp=Z,16nm,1.2s								
LAMP	**Lampang**	**73.72**	**294**	P		**P**	**P**	**19 28 13.3**	**+1.5**
	comp=Z,8.7nm,0.9s,comp=Z,66nm								
CM31	**Chiang Mai Arr**	**74.31**	**294**	*e*P		**P**	**P**	**19 28 16.5**	**+1.3**
	comp=Z,9.5nm,0.9s								
CMAR	**Chiang Mai

comp=Z,2.9nm,0.6s,baz=48,slow=1.3,SNR=4.1
OBN Obninsk 123.92 328 ⇓*i* PKIKP **PKPdf 19 35 36.5 +1.4**
OBN pmax pmax
comp=Z,18nm,2.3s
KIV Kislovodsk 124.09 314 *e*PKIKP **PKPdf 19 35 37.0 +1.1**
KIV pmax pmax
comp=Z,3.0nm,1.1s
FINES FINESS Array B 124.96 338 PKP **PKPdf 19 35 36.4 -0.5**
comp=Z,2.3nm,0.8s,baz=101,slow=1.9,SNR=12
FINES pPKP **pPKPdf 19 35 47.8 -0.3**
comp=Z,4.6nm,1.0s,baz=16,slow=0.6,SNR=3.9
FINES FINESS Array B 124.96 338*c i* PKIKP **PKPdf 19 35 37.0 +0.1**
FINES pmax pmax
comp=Z,2.0nm,0.8s
VSU Vasula 126.64 335 ⇓*i* PKIKP **PKPdf 19 35 40.3 +0.1**
NB2 NORSAR Subarra 129.88 345 PKPdf **PKPdf 19 35 46.5 +0.1**
comp=Z,1.5nm,1.0s,baz=31,slow=1.9
NOA NORSAR Array B 129.88 345 PKP **PKPdf 19 35 45.7 -0.7**
comp=Z,0.8nm,0.8s,baz=31,slow=2.0,SNR=4.2
NOA pPKP **pPKPdf 19 35 57.3 -0.3**
comp=Z,1.0nm,0.6s,baz=33,slow=2.0,SNR=5.0
NOA SKP 19 39 14.6
comp=Z,0.7nm,0.7s,baz=28,slow=3.1,SNR=4.1
AKASG Malin Array Be 129.96 326 PKP **PKPdf 19 35 46.4 -0.4**
comp=Z,0.2nm,0.2s,baz=44,slow=0.9,SNR=5.9
AKASG Malin Array Be 129.96 326*c i* PKIKP **PKPdf 19 35 46.9 +0.1**
BRTR Keskin Array B 131.77 311 PKP **PKPdf 19 35 48.6 -2.2**
comp=Z,0.5nm,0.7s,baz=122,slow=4.5,SNR=4.3
BRTR SKP 19 39 22.6
comp=Z,0.5nm,0.6s,baz=120,slow=5.2,SNR=3.8
BRTR Keskin Array B 131.77 311*c i* PKIKP **PKPdf 19 35 52.5 +1.7**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
KOLS Kolonicke sedl 134.67 327 *e*PKIKP **PKPdf 19 35 56.1 +0.3**
KOLS Kolonicke sedl 134.67 327 *e*PKP **PKPdf 19 35 56.1 +0.3**
STHS Stebnicka Huta 134.89 329 *e*PKIKP **PKPdf 19 35 56.4 +0.2**
STHS Stebnicka Huta 134.89 329 *e*PKP **PKPdf 19 35 56.4 +0.2**
PVCC Panska Ves 137.24 334 *e*PKPdf **PKPdf 19 36 04.2 +3.7**
PVCC Panska Ves 137.24 334 *e*PKIKP **PKPdf 19 36 04.2 +3.7**
BRG Berggiesshubel 137.24 335 *e*PKP PKPpre 19 35 46.1
comp=Z,2.0nm,0.8s
BRG *e* 19 36 01.6
comp=Z,3.6nm,0.8s
BRG Berggiesshubel 137.24 335 *e*PKHKP PKPpre 19 35 46.1
BRG *e* 19 36 01.6
BRG pmax pmax
comp=Z,2.0nm,0.8s
BRG pmax pmax
comp=Z,4.0nm,0.9s
KHC Kasperske Hory 138.71 333 *e*PKPdf **PKPdf 19 36 05.0 +1.7**
KHC *e*pPKP **pPKPdf 19 36 15.6 +1.1**
KHC Kasperske Hory 138.71 333 *e*PKIKP **PKPdf 19 36 05.0 +1.7**
KHC *e* 19 36 15.6
GERES GERESS Array B 138.87 333 PKP **PKPdf 19 36 03.5 -0.1**
comp=Z,0.7nm,0.8s,baz=315,slow=0.8,SNR=6.6
CEL Celeste 144.76 319 *e*PKPdf **PKPab 19 36 12.3 -1.1**
BNI Bardonecchia 144.82 335 *e*PKIKP PKPbc 19 36 14.0 +0.5
BNI Bardonecchia 144.82 335 *e*PKPdf PKPbc 19 36 14.0 +0.5
SSB Saint Sauveur 145.46 338 *e*PKP2 **PKPbc 19 36 14.4 -1.0**
SSB Saint Sauveur 145.46 338 *e*PKPdf **PKPbc 19 36 14.4 -1.0**
KEST Kesra 150.44 321 PKPbc **PKPbc 19 36 29.3 0.0**
comp=Z,6.2nm,0.9s,baz=288,slow=1.4,SNR=10
KEST Kesra 150.44 321 *e*PKPbc **PKPbc 19 36 28.6 -0.7**
KEST PKPbc **PKPbc 19 36 29.3 0.0**
CMAH Djebel Manchou 150.96 324 P **PKPbc 19 36 29.9 -0.6**
ABSA Djebel Ababsia 151.18 324 P **PKPbc 19 36 30.7 -0.3**
CKFL Kef-Lekhel 151.52 325 P **PKPbc 19 36 31.7 -0.1**
DFRA Djebel Bou Aff 151.88 326 P **PKPbc 19 36 32.9 +0.2**
CTEI Djebel Teioual 151.94 325 P **PKPbc 19 36 32.9 +0.1**
ESDC Sonseca Array 153.24 344 PKPbc **PKPbc 19 36 34.4 -1.1**
comp=Z,0.5nm,0.5s,baz=5.6,slow=1.7,SNR=6.4
TORD Torodi Ar. Bea 165.54 268 PKP **PKPdf 19 36 41.8 -1.0**
comp=Z,1.7nm,1.1s,baz=42,slow=0.9,SNR=6.0
TORD PKPab **PKPab 19 37 40.5 -0.9**
comp=Z,3.9nm,1.0s,baz=113,slow=2.9,SNR=9.1

*ISCJB **27** 19:18:40.5±0.5, 12°.78N±0°.05×88°.91W±0°.05, h69km±4km, mb3.7/4, Error ellipse: s-maj=11.2km s-min=3.8km az=39.8*
*IDC **27** 19:18:41.6±1.9, 12°.92N×88°.76W, h60km±21km, mb3.3/3, mb1 3.9/5, mb1mx3.4/35, mbtmp3.8/5, ML3.9/2, Error ellipse: s-maj=71.7km s-min=12.7km az=38.0*
*NEIC **27** 19:18:41.9±0.8, 12°.85N×88°.87W, h62km±6km, mb4.0/3, MD4.0(SNET), Error ellipse: s-maj=15.7km s-min=6.3km az=207.0*
NEIC Felt [II] at San Salvador.
*CASC **27** 19:18:41.1±2.8, 12°.77N×88°.90W, h35km±999km, MD4.1, ML4.1*
ISC 27 19:18:41.0±1.2, 12°.80N±0°.08×88°.91W±0°.05, h56km±11km, n74, σ1°07/87, mb3.8/4, 25C-24D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**0.81**	**5**	*e*P		**Pn**		**19 18 56.6**	**0.0**
SNVI	**San Vicente**	**0.81**	**5**	*e*P		**Pn**		**19 18 56.6**	**0.0**
LFRS	**El Faro**	**0.84**	**350**	⇑*i*P		**Pn**		**19 18 56.7**	**-0.2**
VSM	**San Miguel**	**0.88**	**44**	*e*P		**Pn**		**19 18 57.9**	**+0.2**
VSM	**San Miguel**	**0.88**	**44**	*e*P		**Pn**		**19 18 57.9**	**+0.2**
SNET	**Serv Nac Est T**	**0.94**	**341**	⇑*i*P		**Pn**		**19 18 58.3**	**0.0**
SNET				*e*S		**Sn**		**19 19 09.7**	**-1.2**
SNET				AML		AML		19 19 13.3	
	comp=Z,5μm,0.3s								
SNET	**Serv Nac Est T**	**0.94**	**341**	⇑*i*P		**Pn**		**19 18 58.3**	**0.0**
SNET				*e*S		**Sn**		**19 19 09.7**	**-1.2**
LBRS	**Las Brisas**	**0.95**	**352**	*e*P		**Pn**		**19 18 58.2**	**-0.1**
BOQS	**Boqueron**	**1.00**	**339**	⇓*i*P		**Pn**		**19 18 59.4**	**+0.3**
BOQS				*e*S		**Sn**		**19 19 12.7**	**+0.2**
BOQS	**Boqueron**	**1.00**	**339**	⇓*i*P		**Pn**		**19 18 59.4**	**+0.3**
BOQS				*e*S		**Sn**		**19 19 12.7**	**+0.2**
CNCH	**Conchagua**	**1.15**	**65**	*e*P		**Pn**		**19 19 01.4**	**+0.4**
CNCH				*e*S		**Sn**		**19 19 17.3**	**+1.4**
CNCH	**Conchagua**	**1.15**	**65**	*e*P		**Pn**		**19 19 01.4**	**+0.4**
CNCH				*e*S		**Sn**		**19 19 17.3**	**+1.4**
CAHU	**Cacacuatique**	**1.18**	**35**	*e*P		**Pn**		**19 19 02.5**	**+1.0**
CAHU				*e*S		**Sn**		**19 19 18.1**	**+1.3**
CAHU	**Cacacuatique**	**1.18**	**35**	*e*P		**Pn**		**19 19 02.5**	**+1.0**
CAHU				*e*S		**Sn**		**19 19 18.1**	**+1.3**
SBLS	**San Blas**	**1.25**	**326**	⇑*i*P		**Pn**		**19 19 02.8**	**+0.3**
SBLS	**San Blas**	**1.25**	**326**	⇑*i*P		**Pn**		**19 19 02.8**	**+0.3**
SNJE	**San Jose**	**1.26**	**328**	⇑*i*P		**Pn**		**19 19 02.9**	**+0.3**
SNJE	**San Jose**	**1.26**	**328**	⇑*i*P		**Pn**		**19 19 02.9**	**+0.3**
RTR	**El Retiro**	**1.31**	**327**	⇑*i*P		**Pn**		**19 19 03.8**	**+0.6**
RTR				*e*S		**Sn**		**19 19 20.8**	**+1.0**
RTR	**El Retiro**	**1.31**	**327**	⇑*i*P		**Pn**		**19 19 03.8**	**+0.6**
RTR				*e*S		**Sn**		**19 19 20.8**	**+1.0**
RBDL	**Robledal**	**1.51**	**330**	⇑*i*P		**Pn**		**19 19 06.8**	**+0.8**
TGUH	**Tegucigalpa,Un**	**2.03**	**52**	*e*Pn		**Pn**		**19 19 13.6**	**+0.8**
NBG	**Las Nubes**	**2.26**	**322**	*e*P		**Pn**		**19 19 18.5**	**+2.2**
MRL	**Marmol**	**2.38**	**341**	⇓*e*P		**Pn**		**19 19 19.2**	**+1.4**
FUG	**Fuego 3**	**2.50**	**311**	*e*P		**Pn**		**19 19 20.9**	**+1.5**
VCR	**Vista de Mar**	**4.17**	**129**	⇑*e*P		**Pn**		**19 19 43.4**	**+1.2**
VCR				*e*S		**Sn**		**19 20 25.8**	**-3.9**
JTS	**JuntasAbangare**	**4.61**	**122**	P		**Pn**		**19 19 49.8**	**+1.6**
	comp=Z,5.3nm,0.3s,baz=310,slow=19,SNR=20								
JTS				S		**Sn**		**19 20 39.4**	**-1.1**
	comp=Z,5.5nm,0.3s,baz=358,slow=22,SNR=4.1								
JCR	**Jicaral**	**4.74**	**128**	⇓*e*P		**Pn**		**19 19 51.9**	**+1.9**
JCR				*e*S		**Sn**		**19 20 42.4**	**-1.3**
CGA2	**Cerro Gallo 2**	**5.16**	**122**	*e*P		**Pn**		19 19 59.3	+3.5
CGA2				*e*S		**Sn**		**19 20 52.4**	**-1.8**
URSC	**Urasca**	**5.83**	**120**	*e*P		**Pn**		**19 20 08.0**	**+2.9**
URSC				*e*S		**Sn**		**19 21 13.0**	**+2.3**
CMIG	**Matias Romero**	**7.18**	**307**	P		**Pn**		**19 20 24.9**	**+1.5**
	comp=Z,1.8nm,0.3s,baz=144,slow=12,SNR=12								
CMIG				S		**Sn**		**19 21 43.9**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=11,slow=18,SNR=2.3								
833A	**Chaparral WMA,**	**18.29**	**329**	⇓P		**Pn**		**19 22 52.0**	**+1.2**
	baz=18								
SDV	**Santo Domingo**	**18.36**	**100**	*e*P		**P**		**19 22 50.4**	**-1.2**
	comp=Z,5.1nm,0.8s								
733A	**Divot King Ran**	**18.56**	**330**	⇓P		**Pn**		**19 22 55.1**	**+0.9**
	baz=19,SNR=8.9								
633A	**Saathoff Ranch**	**19.13**	**332**	⇑P		**Pn**		**19 23 00.5**	**-0.5**
	baz=19								
534A	**Blanco**	**19.30**	**334**	⇑P		**P**		**19 23 01.5**	**0.0**
	baz=19								
533A	**Kerrville**	**19.59**	**333**	⇑P		**Pn**		**19 23 05.8**	**-0.6**
	baz=20,SNR=5.6								
434A	**Burnet**	**19.91**	**336**	⇑P		**P**		**19 23 08.2**	**+0.1**
	baz=20								
532A	**Rocksprings**	**20.03**	**331**	⇓P		**Pn**		19 23 10.5	-1.2
	baz=20,SNR=10								
433A	**Art**	**20.20**	**334**	⇓P		**P**		**19 23 11.5**	**+0.3**
	baz=20,SNR=7.1								
JCT	**Junction City**	**20.28**	**332**	*e*P		**P**		**19 23 12.6**	**+0.5**
	comp=Z,9.9nm,0.8s								
JCT	**Junction City**	**20.28**	**332**	⇓P		**P**		**19 23 12.5**	**+0.3**
	baz=20,SNR=6.6								
334A	**Lometa**	**20.35**	**336**	⇑P		**P**		**19 23 12.3**	**-0.6**
	baz=20								
531A	**Rocksprings**	**20.37**	**330**	⇑P		**Pn**		19 23 14.0	-1.7
	baz=20								
432A	**Menard**	**20.61**	**333**	⇑P		**P**		**19 23 16.4**	**+0.7**
	baz=21								
333A	**Richland Sprin**	**20.65**	**335**	⇓P		**P**		**19 23 16.5**	**+0.4**
	baz=21,SNR=12								
530A	**J-C Ranch, Com**	**20.75**	**328**	⇓P		**Pn**		19 23 19.7	-0.5
	baz=21,SNR=7.6								
431A	**Sonora**	**20.83**	**331**	⇑P		**P**		**19 23 18.8**	**+0.7**
	baz=21,SNR=11								
430A	**Baggett Ranch,**	**21.22**	**329**	⇑P		**P**		**19 23 23.4**	**+1.1**
	baz=21,SNR=5.5								
TXAR	**Lajitas Array**	**21.42**	**322**	P		**P**		**19 23 26.4**	**+1.9**
	comp=Z,2.8nm,0.5s,baz=144,slow=11,SNR=51								
429A	**Davenport Ranc**	**21.42**	**328**	⇓P		**P**		**19 23 25.0**	**+0.5**
	baz=22,SNR=7.8								
330A	**Mertzon**	**21.70**	**331**	⇑P		**P**		**19 23 27.9**	**+0.5**
	baz=22								
133A	**Hamilton Ranch**	**21.75**	**337**	⇑P		**P**		**19 23 27.0**	**-0.9**
	baz=22								
MIAR	**Mount Ida**	**22.06**	**350**	P		**P**		**19 23 31.8**	**+0.5**
	comp=Z,5.4nm,0.8s								
Z33A	**Whitaker Ranch**	**22.30**	**338**	⇓P		**P**		**19 23 32.8**	**-1.0**
	baz=22								
131A	**Roby**	**22.41**	**334**	⇓P		**P**		**19 23 34.4**	**-0.6**
	baz=22								
Z32A	**Haskell**	**22.58**	**336**	⇓P		**P**		**19 23 36.1**	**-0.8**
	baz=23,SNR=5.5								
Z31A	**Sharp Cattle R**	**22.86**	**335**	⇑P		**P**		**19 23 39.0**	**-0.8**
	baz=23								
228A	**UT Block 9, Go**	**22.97**	**329**	⇓P		**P**		**19 23 41.1**	**+0.1**
	baz=23								
129A	**Stewart Farms,**	**23.04**	**331**	⇑P		**P**		**19 23 41.0**	**-0.6**
	baz=23								
Z30A	**Sanderson Ranc**	**23.25**	**333**	⇓P		**P**		**19 23 43.5**	**-0.2**
	baz=23,SNR=5.2								
128A	**Castleberry Fa**	**23.33**	**330**	⇑P		**P**		**19 23 43.8**	**-0.7**
	baz=23								
Y31A	**Rekieta Farm,**	**23.47**	**336**	⇓P		**P**		**19 23 44.9**	**-0.8**
	baz=24								
Z29A	**Hungry Hill Ra**	**23.49**	**332**	⇓P		**P**		**19 23 45.3**	**-0.7**
	baz=24								
Y30A	**Stafford Cattl**	**23.66**	**334**	⇓P		**P**		**19 23 46.8**	**-0.7**
	baz=24								
X30A	**Coker Ranch, T**	**24.14**	**335**	⇓P		**P**		**19 23 52.6**	**+0.7**
	baz=24								
MNTX	**Cornudas Mount**	**24.16**	**324**	P		**P**		**19 23 51.9**	**-0.2**
X29A	**Tulia**	**24.48**	**334**	⇓P		**P**		**19 23 54.5**	**-0.6**
	baz=24								
MSTX	**Muleshoe**	**24.57**	**331**	⇓P		**P**		**19 23 55.8**	**-0.1**
	baz=25								
V28A	**Channing**	**25.82**	**335**	⇓P		**P**		**19 24 06.8**	**-0.4**
	baz=26								
PDAR	**Piedale Array**	**34.81**	**333**	P		**P**		**19 25 26.1**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=104,slow=6.6,SNR=2.8								
PDAR				PcP		**PcP**		**19 27 58.6**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=108,slow=5.9,SNR=2.5								
YKA	**Yellowknife Ar**	**52.91**	**345**	P		**P**		**19 27 50.5**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=141,slow=8.1,SNR=7.6								
WRA	**Warramunga Arr**	**137.99**	**254**	PKP		**PKPdf**		**19 38 01.8**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=94,slow=2.5,SNR=4.1								
CMAR	**Chiang Mai Arr**	**147.99**	**346**	PKPbc		**PKPbc**		**19 38 19.6**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=316,slow=2.6,SNR=4.0								

*IDC **27** 19:21:50.4±1.0, 14°.00S×166°.58E, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.8/35, mbtmp3.9/8, ML3.1/1, Error ellipse: s-maj=34.5km s-min=21.1km az=99.0*
*ISCJB **27** 19:21:55.0±1.2, 14°.06S±0°.08×166°.5E±0°.2, h43km, mb3.8/7, Error ellipse: s-maj=31.5km s-min=10.9km az=171.7*
ISC 27 19:21:56.6±1.1, 14°.03S±0°.09×166°.6E±0°.2, h43km, n11, σ1°25/12, mb3.8/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.00**	**181**	Pn		**Pn**		**19 23 48.5**	**-1.9**
	0.3nm,0.3s,baz=270,slow=20,SNR=3.3								
DZM				Sn		**Sn**		**19 25 21.8**	**+2.1**
	0.4nm,0.3s,baz=270,slow=20,SNR=6.3								
STKA	**Stephens Creek**	**28.95**	**228**	P		**P**		**19 27 52.8**	**+0.8**
	2.6nm,0.8s,baz=67,slow=8.1,SNR=5.4								
WRA	**Warramunga Arr**	**31.36**	**255**	P		**P**		**19 28 12.4**	**-1.0**
	1.0nm,0.9s,baz=85,slow=9.3,SNR=5.8								
ASAR	**Alice Springs**	**32.31**	**248**	P		**P**		**19 28 20.8**	**-1.1**
	1.2nm,0.5s,baz=74,slow=9.4,SNR=17								
VNDA	**Vanda**	**63.55**	**181**	P		**P**		**19 32 22.5**	**+0.3**
	0.6nm,0.8s,baz=22,slow=7.8,SNR=3.8								
CMAR	**Chiang Mai Arr**	**74.06**	**294**	P		**P**		**19 33 30.0**	**+1.4**
	1.0nm,0.9s,baz=141,slow=5.1,SNR=6.1								
SEY	**Seymchan**	**77.51**	**353**	P		**P**		**19 33 47.5**	**+0.2**
	0.5nm,0.5s,baz=195,slow=20,SNR=4.5								
MKAR	**Makanchi Array**	**96.24**	**317**	P		**P**		**19 35 20.3**	**-0.1**
	0.6nm,0.7s,baz=100,slow=6.7,SNR=4.8								
ARCES	**ARCESS Array B**	**119.41**	**345**	PKP		**PKPdf**		**19 40 41.5**	**+0.6**
	1.3nm,0.7s,baz=64,slow=2.1,SNR=12								
FINES	**FINESS Array B**	**124.83**	**338**	PKP		**PKPdf**		**19 40 51.1**	**-0.3**
	0.8nm,0.6s,baz=180,slow=3.8,SNR=3.9								
KEST	**Kesra**	**150.25**	**321**	PKPbc		**PKPbc**		**19 41 42.8**	**-0.8**
	1.6nm,1.0s,baz=120,slow=8.1,SNR=6.3								

*ISCJB **27** 19:23:12.4±0.7, 32°.08N±0°.03×115°.09W±0°.05, h8km±6km, Error ellipse: s-maj=6.8km s-min=4.5km az=173.2*
*MEX **27** 19:23:12.7±1.2, 32°.17N×114°.77W, h10km±7km, MD3.8*
*ECX **27** 19:23:13.9±0.5, 32°.08N×115°.10W, h9km, MD3.1, ML3.3*
ISC 27 19:23:12.2±1.1, 32°.08N±0°.03×115°.07W±0°.05, h13km±9km, n16, σ0°42/28, 2C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.35**	**342**	*e*P		**Pb**		**19 23 20.5**	**+0.2**
MBIG				*i* S		**Sb**		**19 23 27.2**	**+1.4**
CPBX	**Cerro Prieto**	**0.40**	**330**	*e*P9		**Pg**		**19 23 19.9**	**-0.1**
CPBX				*e*S		**Sg**		**19 23 25.5**	**+0.1**
CPBX				⇑*e*				19 23 29.9	
CPBX				IAML				19 23 29.9	
	comp=E,12μm,0.4s								
ECBX	**El Chinero**	**0.60**	**178**	*e*P9		**Pg**		**19 23 23.7**	**-0.2**
ECBX				*e*S		**Sg**		**19 23 32.0**	**+0.2**
YMD	**Yuma Desert**	**0.65**	**43**	⇓*i*P		**Pb**		**19 23 25.3**	**-0.2**
EMSC	**East Mesa**	**0.67**	**6**	⇓*i*P		**Pb**		**19 23 25.7**	**0.0**
RDX	**Rancho Dawling**	**0.75**	**259**	*e*P		**Pg**		**19 23 27.1**	**+0.3**
RDX				*e*S		**Sg**		**19 23 37.0**	**+0.3**
RDX				IAML				19 23 38.8	
	comp=N,629nm,0.6s								
RDX				⇑*e*				19 23 38.8	
COA	**Coachella**	**0.79**	**357**	⇓*i*P		**Pg**		**19 23 27.2**	**-0.2**
WESC	**Westside Schoo**	**0.88**	**321**	*e*P		**Pg**		**19 23 29.2**	**0.0**
RMX	**La Rumorosa**	**1.00**	**302**	*e*P		**Pb**		**19 23 31.1**	**-0.4**
RMX				*e*S		**Sb**		**19 23 44.0**	**-0.7**
SPIG	**San Pedro Mart**	**1.08**	**198**	*e*P		**Pb**		**19 23 32.9**	**-0.1**
SPIG				*i* S		**Sn**		**19 23 48.5**	**+0.1**
SPX	**San Pedro Mart**	**1.08**	**198**	*e*P		**Pb**		**19 23 32.9**	**0.0**
SPX				*e*S		**Sb**		**19 23 47.7**	**+0.6**
ZAX	**El Zacaton**	**1.17**	**242**	*e*P		**Pn**		**19 23 33.8**	**-0.5**
ZAX				*e*S		**Sb**		**19 23 49.5**	**+0.1**
ECNX	**Esteban Cantu**	**1.36**	**253**	*e*P		**Pn**		**19 23 37.2**	**+0.1**
ECNX				*e*S		**Sn**		**19 23 54.9**	**-0.2**
CBX	**Cerro Bola**	**1.37**	**280**	*e*P		**Pn**		**19 23 36.6**	**-0.6**
CBX				*e*S		**Sb**		**19 23 55.6**	**+0.3**
CBX	**Cerro Bola**	**1.37**	**280**	*e*P		**Pn**		**19 23 37.0**	**-0.2**
CBX				*e*S		**Sn**		**19 23 55.4**	**0.0**
CBX				⇓*e*				19 23 56.6	
PBX	**Punta Banda**	**1.45**	**257**	*e*P		**Pn**		**19 23 38.3**	**+0.1**
PBX				*e*S		**Sn**		**19 23 57.1**	**+0.1**

MAN 27 19:39:12, 13°.27N×120°.48E, h22km, mb4.2, ML3.0, MS2.8, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.51**	**63**	⇓*e*P		**Pb**		19 39 22.7	+0.3
PGP				*i* S		**Sn**		19 39 34.2	+2.0
LUBP	**Lubang**	**0.51**	**333**	*e*P		**Pn**		19 39 23.9	-0.1
LUBP				*e*S		**Sn**		19 39 33.2	+1.0
SJMP	**San Jose**	**1.02**	**142**	*e*P		**Pb**		19 39 30.1	-0.8
SJMP				*e*S		**Sb**		19 39 39.8	-4.0
BUSP	**Coron**	**1.29**	**192**	*e*P		**Pn**		19 39 35.1	+0.4
ENPP	**El Nido**	**2.30**	**207**	*e*P		**Pn**		19 39 49.2	+0.5
CUYO	**Cuyo Island**	**2.46**	**168**	*e*P		**Pn**		19 39 49.2	-1.7

*DDA **27** 19:39:47.8, 39°.41N×26°.17E, h6km, MD2.8*
*CSEM **27** 19:39:49.8±0.3, 39°.56N×26°.11E, h10km, MD2.8, Error ellipse: s-maj=14.1km s-min=5.5km az=105.0*
ISK 27 19:39:49.1, 39°.56N×26°.10E, h12km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.28**	**352**	*i* P		**Pb**		**19 39 56.5**	**+0.4**
BOZC				*i* S		Sb		19 40 00.9	0.0
SIGR	**SIGRI**	**0.40**	**209**	*e*PG		**Pb**		19 39 57.9	-0.2
SIGR				*e*SG		Sb		19 40 03.4	-0.8
SIGR	**SIGRI**	**0.40**	**209**	*e*Pg		**Pb**		19 39 57.9	-0.2
SIGR				*e*Sg		Sb		19 40 03.4	-0.8
GADA	**Gvkgeada**	**0.65**	**346**	*e*PG		**Pb**		19 40 02.1	-0.2
GADA				*e*SG		Sb		19 40 11.1	-0.3
GADA	**Gvkgeada**	**0.65**	**346**	*e*Pg		**Pb**		19 40 02.1	-0.2
GADA				*e*Sg		Sb		19 40 11.1	-0.2
GELI	**Tayfur-Gelibol**	**0.88**	**19**	*e*PG		Pn		19 40 07.0	-0.4
GELI	**Tayfur-Gelibol**	**0.88**	**19**	*e*Pg		Pn		19 40 07.0	-0.3
LPK	**Lapseki**	**0.95**	**32**	*e*PG		Pg		19 40 07.4	-0.1
LPK	**Lapseki**	**0.95**	**32**	*e*Pg		Pg		19 40 07.4	-0.1
ERIK	**Erikli-Kesan**	**1.15**	**16**	*e*PN		Pg		19 40 11.4	+0.2
ERIK	**Erikli-Kesan**	**1.15**	**16**	*e*Pn		Pg		19 40 11.4	+0.2
ENEZ	**Enez**	**1.17**	**2**	*e*PN		Pg		19 40 12.2	+0.6
ENEZ	**Enez**	**1.17**	**2**	*e*Pn		Pg		19 40 12.2	+0.5
CHOS	**Chios island**	**1.18**	**182**	*e*PN		Pg		19 40 12.4	+0.5
CHOS				*e*SN		Sn		19 40 28.1	+0.5
CHOS	**Chios island**	**1.18**	**182**	*e*Pn		Pg		19 40 12.4	+0.5
CHOS				*e*Sn		Sn		19 40 28.1	+0.6
ALN	**Alexandroupoli**	**1.33**	**358**	*e*PN		Pg		19 40 14.6	-0.1
ALN	**Alexandroupoli**	**1.33**	**358**	*e*Pn		Pg		19 40 14.6	-0.1
SART	**Tekirdag**	**1.40**	**36**	*i* P		Pg		19 40 17.6	+1.6
SART				*i* S		Sg		19 40 38.0	+3.7
SART	**Tekirdag**	**1.40**	**36**	*i* P		Pg		19 40 17.6	+1.6
SART				*i* S		Sg		19 40 38.0	+3.7
MRMT	**Marmara Adasi**	**1.55**	**47**	*e*PN		Pn		19 40 16.3	-0.3
MRMT	**Marmara Adasi**	**1.55**	**47**	*e*Pn		Pn		19 40 16.3	-0.3

*ISCJB **27** 19:43:10.4±0.2, 37°.06N±0°.02×104°.96W±0°.02, h10km, mb3.5/4, Error ellipse: s-maj=2.3km s-min=1.6km az=27.6*
*IDC **27** 19:43:10.2±0.9, 37°.00N×105°.14W, h0km, mb3.7/4, mb1 3.7/8, mb1mx3.5/41, mbtmp3.5/8, ML3.2/4, Error ellipse: s-maj=24.2km s-min=9.2km az=85.0*
*NEIC **27** 19:43:11.1±0.3, 37°.01N×104°.91W, h5km, ML3.6, Error ellipse: s-maj=4.5km s-min=4.1km az=196.0*
ISC 27 19:43:09.3±0.4, 36°.98N±0°.02×104°.96W±0°.02, h10km, n111, σ1°96/152, mb3.6/4, 37C-34D, New Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.47**	**70**	*i* P		**Pg**		**19 43 18.6**	**0.0**
T25A				*i* S		**Sg**		**19 43 24.6**	**-0.2**
T25A	**Trinidad**	**0.47**	**70**	P		**Pg**		**19 43 18.9**	**+0.4**
	baz=0.4,SNR=1000								
T25A				⇓S		**Sg**		**19 43 24.7**	**-0.1**
	baz=0.4								
SDCO	**Great Sand Dun**	**0.88**	**331**	⇑*i*Pg		**Pg**		**19 43 25.9**	**-0.5**
SDCO				*e*Sg		**Sg**		**19 43 36.9**	**-0.9**
SDCO	**Great Sand Dun**	**0.88**	**331**	⇓P		**Pg**		**19 43 25.9**	**-0.5**
	baz=0.8								

SMCO	Snowmass	2.71	325	*e*P		Pb	19 43 56.4	-1.8
KSCO	Kaye Shedlock'	2.74	42	Pn		Pn	19 43 55.0	+1.4
KSCO				*e*Sg		Sb	19 44 34.0	+1.7
KSCO	Kaye Shedlock'	2.74	42	⇑Pb		Pb	19 43 57.6	-0.9
	baz=2.7							
KSCO				⇑Sb		Sb	19 44 33.9	+1.7
	baz=2.7							
W28A	Vega	2.81	127	⇓Pb		Pb	19 43 60.0	+0.2
	baz=2.8							
W28A				⇓Sb		Sb	19 44 37.5	+3.1
	baz=2.8							
MVCO	Mesa Verde	2.84	276	*e*Pn		Pb	19 43 58.6	-1.6
MVCO	Mesa Verde	2.84	276	⇑Pb		Pb	19 44 00.6	+0.3
	baz=2.8							
MVCO				⇑Sb		Sb	19 44 37.6	+2.5
	baz=2.8							
R28A	Tribune	2.85	60	⇓Sb		Sb	19 44 36.8	+1.5
	baz=2.8							
ISCO	Idaho Springs	2.86	350	*e*Pn		Pb	19 43 58.7	-2.0
ISCO				*e*Sg		Sg	19 44 41.5	+0.1
ISCO	Idaho Springs	2.86	350	⇑Pb		Pb	19 43 59.2	-1.5
	baz=2.8,SNR=38							
P26A	Davis Ranch, A	2.87	26	⇑Pb		Pb	19 43 59.5	-1.3
	baz=2.8							
V29A	Stinnett	2.98	111	⇓Pb		Pb	19 44 03.0	+0.4
	baz=3.0							
V29A				⇓Sb		Sb	19 44 41.9	+2.7
	baz=3.0							
LPM	Los Pinos Moun	2.99	208	*e*Pn		Pn	19 43 59.6	+2.6
U29A	Oasis Ranch, S	3.01	99	⇓Pb		Pb	19 44 03.4	+0.3
	baz=3.0							
U29A				⇑Sb		Sb	19 44 42.7	+2.8
	baz=3.0							
PV01	Paradox Valley	3.09	293	*e*Pn		Pn	19 44 01.1	+2.7
PV01				*e*Pg		Pg	19 44 06.9	-1.7
LAZ	Ladron	3.12	215	*e*Pn		Pn	19 44 01.1	+2.3
P27A	Ficken Ranch,	3.18	35	⇓Pb		Pb	19 44 05.0	-1.1
	baz=3.1							
W29A	Amarillo	3.26	124	⇓Pb		Pb	19 44 08.2	+0.8
	baz=3.3							
W29A				⇓Sb		Sb	19 44 50.5	+3.3
	baz=3.3							
X28A	Dimmitt	3.33	137	⇑Sb		Sb	19 44 52.5	+3.4
	baz=3.4							
AMTX	Amarillo	3.38	127	*e*Pn		Pn	19 44 05.2	+2.9
AMTX				*e*Pg		Pg	19 44 12.8	-1.4
AMTX	Amarillo	3.38	127	⇑Sb		Sb	19 44 54.2	+3.4
	baz=3.4							
PV04	Paradox Valley	3.43	295	*e*Pn		Pn	19 44 06.3	+3.2
MSTX	Muleshoe	3.49	149	*e*Pn		Pn	19 44 06.9	+3.0
MSTX				*e*Pg		Pg	19 44 15.9	-0.4
MSTX				*e*Sg		Sb	19 44 57.8	+3.9
MSTX	Muleshoe	3.49	149	⇓Sb		Sb	19 44 58.4	+4.5
	baz=3.6							
T30A	Plains	3.55	87	⇑P		Pn	19 44 07.0	+2.4
	baz=3.5,SNR=14							
X29A	Tulia	3.66	133	⇑P		Pn	19 44 09.3	+3.2
	baz=3.7,SNR=10							
Q29A	Oakley	3.68	58	⇑P		Pn	19 44 08.9	+2.5
	baz=3.6,SNR=34							
R30A	Dighton	3.94	69	⇓P		Pn	19 44 12.0	+2.0
	baz=3.9,SNR=7.1							
O28A	Krutsinger Ran	4.01	38	⇓P		Pn	19 44 13.4	+2.5
	baz=4.0,SNR=9.0							
O20A	White River Ci	4.07	322	*e*Pn		Pn	19 44 15.8	+4.0
Q30A	Quinter	4.24	61	⇑P		Pn	19 44 16.1	+2.0
	baz=4.2,SNR=13							
W18A	Petrified Fore	4.29	246	Pn		Pn	19 44 19.3	+4.4
V31A	Spring Creek L	4.30	105	⇓P		Pn	19 44 18.3	+3.4
	baz=4.3,SNR=7.7							
PHWY	Pilot Hill	4.33	355	Pn		Pn	19 44 18.7	+3.1
R31A	Burdett	4.51	71	⇑P		Pn	19 44 20.1	+2.4
	baz=4.5,SNR=6.1							
P30A	Selden	4.51	54	⇑P		Pn	19 44 21.0	+3.3
	baz=4.5,SNR=11							
Y30A	Stafford Cattl	4.54	132	⇑P		Pn	19 44 20.9	+2.8
	baz=4.6,SNR=10.0							
Z29A	Hungry Hill Ra	4.57	143	⇓P		Pn	19 44 21.5	+2.9
	baz=4.6,SNR=6.1							
OGNE	Ogallala	4.57	29	*e*Pn		Pn	19 44 19.9	+1.3
OGNE				*e*Pg		Pg	19 44 34.4	-2.5
OGNE				*e*Sg		Sg	19 45 34.7	-1.4
SRU	San Rafael Swe	4.88	298	*e*Pn		Pn	19 44 26.8	+3.9
SRU				*e*Pg		Pb	19 44 38.7	+3.6
SRU				*e*Sg		Sg	19 45 42.1	-3.9
121A	Cookes Peak, D	5.01	208	*e*Pn		Pn	19 44 27.5	+2.8
N29A	Votaw Ranch, W	5.11	40	⇑P		Pn	19 44 26.2	+0.1
	baz=5.1,SNR=8.2							
MNTX	Cornudas Mount	5.28	184	Pn		Pn	19 44 28.8	+0.5
MNTX				*e*Sg		Sg	19 45 56.8	-2.0
WUAZ	Wupatki	5.38	256	*e*Pn		Pn	19 44 33.1	+3.2
WUAZ				*e*Pg		Pg	19 44 48.2	-4.3
WUAZ				*e*Sg		Sg	19 45 58.6	-3.7
Y32A	R-V Farms, Ver	5.39	122	⇑P		Pn	19 44 33.0	+3.2
	baz=5.4,SNR=5.2							
TMUT	Trail Mountain	5.44	297	*e*Pn		Pn	19 44 34.1	+3.3
WMOK	Wichita Mounta	5.49	112	*e*Pn		Pn	19 44 34.2	+3.0
WMOK				*e*Sg		Sg	19 46 01.8	-3.9
K22A	Casper	5.79	348	*e*Pg		Pg	19 44 57.6	-2.6
MSU	Marysvale	5.92	287	*e*Pg		Pg	19 45 00.2	-2.5
U34A	Anderson Ranch	5.99	93	*e*Pn		Pn	19 44 40.8	+2.7
U34A				*e*Pg		Pg	19 44 59.1	-5.0
U34A				*e*Sg		Sg	19 46 17.7	-3.9
W34A	Bridge Creek,	6.07	105	*e*Pn		Pn	19 44 39.3	+0.1
W34A				*e*Pg		Pg	19 45 01.4	-4.3
W34A				*e*Sg		Sg	19 46 21.9	-2.4
V34A	Guthrie	6.11	99	*e*Pn		Pn	19 44 43.6	+3.9
V34A				*e*Pg		Pb	19 45 01.1	+5.2
V34A				*e*Sb		Sb	19 46 11.4	+2.4
V34A				*e*Sg		Sg	19 46 22.1	-3.4
ABTX	Abilene, Hawle	6.16	133	*e*Pn		Pn	19 44 38.4	-2.1
ABTX				*e*Pg		Pg	19 45 03.1	-4.3
ABTX				*e*Sg		Sg	19 46 22.6	-4.7
JLU	Jordanelle	6.23	307	*e*Pn		Pn	19 44 45.6	+4.0
JLU				*e*Pg		Pg	19 45 06.3	-2.3
NLU	North Lily Min	6.32	300	Pn		Pn	19 44 43.5	+0.7
NLU				*e*Pg		Pg	19 45 08.8	-1.6
TCUT	Toone Canyon	6.50	311	*e*Pn		Pn	19 44 45.2	-0.1
TCUT				*e*Pg		Pg	19 45 13.1	-0.8
TUC	Tucson	6.69	228	*e*Pg		Pg	19 45 14.7	-2.8
PDAR	Pinedale Array	6.78	330	Pn		Pn	19 44 52.0	+3.0
	0.2nm,0.3s,baz=128,slow=12,SNR=4.6							
PDAR				Pg		Pg	19 45 16.3	-2.8
	0.8nm,0.3s,baz=134,slow=14,SNR=29							
PDAR				Lg		Lg	19 46 43.6	
	0.4nm,0.3s,baz=126,slow=19,SNR=4.2							
BGNE	Belgrade	6.89	48	*e*Pn		Pn	19 44 52.4	+1.9
BGNE				*e*Pg		Pg	19 45 18.8	-2.5
BGNE				*e*Sg		Sg	19 46 49.5	-1.0
HWUT	Hardware Ranch	6.90	314	*e*Pn		Pn	19 44 53.3	+2.6
KSU1	Kansas State U	6.92	70	*e*Pb		Pb	19 45 11.5	+1.8
KSU1				*e*Sg		Sg	19 46 46.1	-5.4
RSSD	Black Hills	7.17	5	*e*Pn		Pn	19 44 56.3	+1.9
RSSD				*e*Pg		Pg	19 45 23.8	-2.8
RSSD				*e*Sg		Sg	19 46 59.7	+0.3
TUL1	Leonard	7.46	95	*e*Pn		Pn	19 44 59.3	+1.0
TUL1				Pg		Pg	19 45 27.4	-4.9
TUL1				*e*Sg		Sg	19 47 03.3	-5.6
TXAR	Lajitas Array	7.70	172	Pn		Pn	19 45 05.5	+3.9
	0.2nm,0.3s,baz=354,slow=11,SNR=11							
TXAR				Pg		Pg	19 45 30.7	-6.1
	1.3nm,0.3s,baz=14,slow=11,SNR=12							
TXAR				Lg		Lg	19 47 11.5	
	2.7nm,0.3s,baz=2.6,slow=28,SNR=7.5							
JCT	Junction City	7.78	145	Pn		Pn	19 45 06.3	+3.7
JCT				*e*Pg		Pg	19 45 35.0	-3.2
JCT				*e*Sg		Sg	19 47 14.1	-4.8
WHTX	Lake Whitney,	7.94	127	Pn		Pn	19 45 02.3	-2.6
WHTX				*e*Pg		Pg	19 45 37.9	-3.5
WHTX				*e*Sg		Sg	19 47 18.6	-5.7
SHPR	Sheep Range	8.20	270	Pn		Pn	19 45 12.1	+3.5
SHPR				*e*Pg		Pg	19 45 43.6	-2.8
SHPR				*e*Sg		Sg	19 47 26.5	-6.1
IMW	Indian Meadow	8.28	328	*e*Pn		Pn	19 45 15.7	+6.0
ECSD	EROS Data Cent	9.28	41	*e*Pn		Pn	19 45 22.3	-0.8
ECSD				*e*PgPg		PbPb	19 45 59.6	+6.7
ECSD				*e*Sn		Sn	19 47 09.1	+1.6
ECSD				*e*Lg		Lg	19 47 59.8	
MIAR	Mount Ida	9.57	101	*e*Pn		Pn	19 45 26.4	-0.7
HKT	Hockley	10.35	130	Pn		Pn	19 45 40.0	+2.2
HKT				*e*PgPg		PgPg	19 46 28.4	+0.7
HKT				*e*Lg		Lg	19 48 27.1	
HDIL	Hopedale	12.74	69	Pn		Pn	19 46 10.4	0.0
HDIL				*e*Lg		Lg	19 49 46.8	
OXF	Oxford	12.87	96	Pn		Pn	19 46 12.4	+0.1
ULM	Lac du Bonnet	14.79	23	Pn		Pn	19 46 39.4	+0.9
	0.2nm,0.3s,baz=196,slow=13,SNR=3.7							
ULM				Lg		Lg	19 50 56.5	
	0.3nm,0.3s,baz=310,slow=18,SNR=6.0							
YKA	Yellowknife Ar	26.23	350	P		P	19 48 46.2	+2.0
	0.3nm,0.5s,baz=153,slow=7.9,SNR=4.3							
ILAR	Eielson Array	37.20	332	P		P	19 50 22.7	+2.3
	0.2nm,0.6s,baz=126,slow=6.8,SNR=3.3							
ZALV	Zalesovo Beam	89.05	354	P		P	19 56 06.4	+2.0
	0.4nm,0.5s,baz=19,slow=9.4,SNR=3.4							
MKAR	Makanchi Array	96.35	355	P		P	19 56 40.1	+1.8
	0.4nm,0.8s,baz=18,slow=6.1,SNR=4.2							

IDC 27 19:47:56.3±53.0, 16°03'S×177°70'E, h0km, mb4.2/3, mb1 4.3/3, mb1mx3.7/38, mbtmp4.2/3, Error ellipse: s-maj=950.1km s-min=145.7km az=74.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	36.37	238	P	P	19 55 02.9	+0.4
	3.2nm,0.9s,baz=98,slow=14,SNR=4.3						
WRA	Warramunga Arr	41.34	258	P	P	19 55 43.8	-0.6
	0.3nm,0.4s,baz=93,slow=7.7,SNR=15						
ASAR	Alice Springs	41.76	252	P	P	19 55 47.7	-0.1
	4.6nm,0.3s,baz=85,slow=8.7,SNR=118						

ISCJB 27 19:51:23.3±0.5, 14°10S±0°05×166°8E±0°1, h33km, mb4.4/19, Error ellipse: s-maj=14.9km s-min=7.3km az=174.5
IDC 27 19:51:26.0±1.0, 14°10S×166°79E, h39km±6km, mb4.1/16, mb1 4.2/17, mb1mx4.0/38, mbtmp4.3/17, ML4.3/1, Error ellipse: s-maj=25.6km s-min=14.3km az=110.0
NEIC 27 19:51:25.4±0.3, 14°06S×166°80E, h35km, mb4.7/6, Error ellipse: s-maj=10.2km s-min=8.0km az=96.0

ISC 27 19:51:25.6±0.6, 14°06S±0°07×166°8E±0°1, h35km, n43, σ1ᵍ00/46, mb4.4/19, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	7.97	182	Pn	Pn	19 53 19.2	+0.1
	3.8nm,0.3s,baz=270,slow=23,SNR=16						
DZM				Sn	Sn	19 54 48.9	+0.8
	0.8nm,0.3s,baz=90,slow=20,SNR=22						
HNR	Honiara	8.12	304	P	Pn	19 53 22.0	+1.0
HNR	Honiara	8.12	304	*e*P	Pn	19 53 20.6	-0.4
	135nm,0.6s						
MSVF	Nonsavu	11.44	110	*e*P	Pn	19 54 14.9	+8.3
	400nm,2.0s						
PMG	Port Moresby	19.75	281	*e*P	Pn	19 55 53.4	-1.0
	26nm,1.0s						
CTA	Charters Tower	20.51	250	P	Pn	19 56 01.9	-1.3
	8.3nm,0.9s,baz=73,slow=12,SNR=6.9						
CTAO	Charters Tower	20.51	250	*e*P	P	19 56 00.5	-0.3
	16nm,0.9s						
STKA	Stephens Creek	29.07	228	P	P	19 57 23.5	+0.7
	9.9nm,0.4s,baz=49,slow=8.9,SNR=107						
WRA	Warramunga Arr	31.53	255	P	P	19 57 43.1	-1.6
	2.3nm,0.5s,baz=85,slow=9.3,SNR=39						
ASAR	Alice Springs	32.47	248	P	P	19 57 51.5	-1.4
	3.5nm,0.6s,baz=75,slow=9.3,SNR=54						
MJAR	Matsushiro Arr	57.10	333	P	P	20 01 08.5	-0.1
	4.1nm,1.0s,baz=170,slow=8.3,SNR=6.2						
MJAR				pP	pP	20 01 19.5	+0.4
	2.9nm,0.8s,baz=164,slow=8.4,SNR=4.6						
ASAJ	Asahikawa	61.96	340	P	P	20 01 42.5	+0.6
	3.1nm,0.4s,baz=230,slow=7.9,SNR=6.9						
KSRS	Korea Array	62.92	326	P	P	20 01 49.5	+1.1
	1.0nm,0.7s,baz=142,slow=6.8,SNR=5.4						
KSRS				pP	pP	20 02 01.1	+1.9
	1.8nm,0.9s,baz=134,slow=7.3,SNR=3.9						
KSAR	Wonju Array Be	62.94	326	P	P	20 01 49.5	+1.0
KSAR				pP	pP	20 02 01.1	+1.8
VNDA	Vanda	63.51	181	P	P	20 01 52.0	+0.2
	1.4nm,0.6s,baz=7.4,slow=6.1,SNR=4.1						
SBA	Scott Base	63.80	180	*e*P	P	20 01 54.6	+0.9
	10.0nm,1.1s						
USRK	Ussuriysk Ar.	66.08	333	P	P	20 02 09.6	+0.7
	1.5nm,0.6s,baz=154,slow=5.3,SNR=7.0						
PETK	Petropavlovsk-	67.35	354	P	P	20 02 17.5	+0.6
	1.1nm,0.5s,baz=168,slow=7.1,SNR=6.4						
CMAR	Chiang Mai Arr	74.25	294	P	P	20 03 00.5	+0.9
	2.1nm,1.1s,baz=113,slow=4.5,SNR=8.2						
QSPA	South Pole Qui	75.96	180	*e*P	P	20 03 08.3	-0.5
	9.5nm,0.9s						
SEY	Seymchan	77.57	353	P	P	20 03 17.9	+0.4
	1.5nm,0.5s,baz=161,slow=6.7,SNR=10						
ULN	Ulaanbaatar	81.32	324	*e*P	P	20 03 43.7	+5.1
	7.1nm,0.9s						
LSA	Lhasa	84.81	302	P	P	20 03 57.5	+0.1
	6.5nm,1.1s						
ILAR	Eielson Array	86.04	18	P	P	20 04 01.4	-0.8
	0.7nm,0.6s,baz=243,slow=4.8,SNR=8.2						
SNAA	Sanae	94.18	183	P	P	20 04 36.3	-4.2
MKAR	Makanchi Array	96.40	317	P	P	20 04 50.9	-0.1
	1.6nm,1.0s,baz=103,slow=5.2,SNR=12						
MKAR				pP	pP	20 05 02.9	+0.7
	2.8nm,0.8s,baz=98,slow=5.1,SNR=14						
ZALV	Zalesovo Beam	96.58	324	P	P	20 04 50.1	-1.5
	1.2nm,0.7s,baz=103,slow=3.2,SNR=8.6						
YKA	Yellowknife Ar	97.17	27	P	P	20 04 52.4	-1.7
	0.1nm,0.5s,baz=235,slow=6.0,SNR=3.2						
ARCES	ARCESS Array B	119.49	345	PKP	PKPdf	20 10 10.4	-0.5
	1.5nm,0.5s,baz=80,slow=1.8,SNR=14						
FINES	FINESS Array B	124.93	338	PKP	PKPdf	20 10 21.3	-0.2
	0.7nm,0.4s,baz=99,slow=2.5,SNR=9.9						
NB2	NORSAR Subarra	129.86	345	PKPdf	PKPdf	20 10 30.7	-0.4
	comp=Z,0.4nm,0.5s,baz=29,slow=1.9						
NOA	NORSAR Array B	129.86	345	PKP	PKPdf	20 10 30.1	-1.0
	comp=Z,0.6nm,0.6s,baz=29,slow=2.0,SNR=4.4						
AKASG	Malin Array Be	129.92	326	PKP	PKPdf	20 10 30.9	-0.4
	comp=Z,0.5nm,0.5s,baz=65,slow=2.5,SNR=4.7						
DPC	Dobruska-Polom	136.57	333	*e*P	PKSbc	20 14 20.4	+2.7
DPC				*ex*	x	20 14 24.3	
BRG	Berggiesshubel	137.21	335	*e*P	PKPdf	20 10 46.0	+0.9
	comp=Z,3.4nm,1.3s						
KHC	Kasperske Hory	138.68	333	*e*P	PKSbc	20 14 22.9	-0.9
KHC				*ex*	x	20 14 29.4	
GERES	GERESS Array B	138.84	333	PKP	PKPdf	20 10 48.7	+0.4
	comp=Z,0.2nm,0.4s,baz=72,slow=3.2,SNR=3.8						
CEL	Celeste	144.72	318	PKPdf	PKPab	20 10 55.9	-2.0
SSB	Saint Sauveur	145.43	338	ePKPdf	PKPbc	20 10 59.4	-0.7
KEST	Kesra	150.40	321	PKPbc	PKPbc	20 11 14.6	+0.7
	comp=Z,3.9nm,0.9s,baz=22,slow=1.8,SNR=7.6						
KEST	Kesra	150.40	321	*e*PKPdf	PKPbc	20 11 14.4	+0.5
KEST				PKPbc	PKPbc	20 11 14.6	+0.7
ESDC	Sonseca Array	153.22	344	PKPbc	PKPbc	20 11 20.7	+0.5
	comp=Z,0.2nm,0.4s,baz=5.4,slow=3.5,SNR=4.4						
TORD	Torodi Ar. Bea	165.47	268	PKP	PKPdf	20 11 27.1	-0.3
	comp=Z,2.1nm,1.2s,baz=96,slow=1.4,SNR=4.3						
TORD				PKPab	PKPab	20 12 26.1	+0.2
	comp=Z,4.2nm,1.3s,baz=101,slow=2.4,SNR=4.7						

IDC 27 20:14:17.5±1.8, 13°74S×166°47E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/33, mbtmp3.7/5, ML2.9/1, Error ellipse: s-maj=51.6km s-min=30.1km az=126.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	8.29	180	Pn	Pn	20 16 18.2	-1.0
	0.1nm,0.3s,baz=270,slow=20,SNR=2.7						
STKA	Stephens Creek	29.07	227	P	P	20 20 20.6	+0.9
	1.6nm,0.5s,baz=99,slow=4.8,SNR=5.3						
WRA	Warramunga Arr	31.33	254	P	P	20 20 39.7	-0.3
	0.6nm,1.1s,baz=83,slow=8.6,SNR=3.3						
ASAR	Alice Springs	32.32	247	P	P	20 20 48.2	-0.4
	0.4nm,0.7s,baz=75,slow=9.5,SNR=8.6						
ILAR	Eielson Array	85.83	18	P	P	20 26 58.6	0.0
	0.3nm,0.5s,baz=240,slow=4.4,SNR=6.4						

IDC 27 20:28:26.9±1.6, 32°21N×115°35W, h0km, mb3.7/4, mb1 3.9/11, mb1mx3.7/38, mbtmp3.6/11, ML3.4/6, Error ellipse: s-maj=27.5km s-min=9.9km az=36.0
BJI 27 20:28:27.0, 32°20N×115°30W, h10km, Ms4.8/1
ISCJB 27 20:28:27.1±0.5, 32°26N±0°02×115°28W±0°02, h11km±3km, mb3.7/5, Error ellipse: s-maj=3.1km s-min=2.5km az=172.7
ECX 27 20:28:28.6±0.5, 32°24N×115°30W, h9km, MD4.4, ML4.6
NEIC 27 20:28:28.7, 32°24N×115°30W, h9km, mb3.9/5, ML4.5(PAS), ML4.6(ECX), After ECX.
NEIC Felt [II] at Mexicali. Also felt at Guadalupe Victoria and Maneadero. Felt [II] at San Diego, California. Also felt at El Centro and Vista. Felt at Yuma, Arizona.
MEX 27 20:28:32.0±0.9, 32°21N×115°35W, h10km, MD4.5

ISC 27 20:28:27.8±0.9, 32°23N±0°02×115°31W±0°02, h8km±6km, n111, σ1ᵍ73/129, mb3.8/5, 4C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	Cerro Prieto	0.19	2	*e*P	Pg	20 28 32.5	+0.9
CPBX	Cerro Prieto	0.19	2	*e*P	Pg	20 28 32.0	+0.3
CPBX				*e*S	Sg	20 28 35.3	+1.0
CPBX				IAML		20 28 44.9	
	comp=N,233μm,0.4s						
CPBX				⇑*e*		20 28 44.9	
CPBX				IAML		20 28 51.5	
	comp=E,507μm,0.9s						
CPBX				⇓*e*		20 28 51.5	
MBIG	Mexicali	0.20	29	*e*P	Pg	20 28 36.3	+4.4
SGL	Mount Signal	0.54	320	*e*P2	Pg	20 28 38.4	0.0
SLX	San Luis R˙›o	0.56	66	*e*P9	Pg	20 28 38.2	-0.5
SLX				*e*S	Sg	20 28 45.9	-0.2
ERPC	Ernies Place	0.59	330	⇑*i*P	Pg	20 28 39.6	+0.4
RDX	Rancho Dawling	0.61	241	*e*P	Pg	20 28 39.8	+0.1
RDX				*e*S	Sg	20 28 48.4	+0.6
WESC	Westside Schoo	0.64	326	*e*P	Pg	20 28 40.2	+0.1
COA	Coachella	0.65	14	*e*P2	Pg	20 28 39.8	-0.5
YUH	Yuha Desert	0.66	309	⇓*i*P	Pg	20 28 40.2	-0.4
COK	Cook Ranch	0.71	331	⇑*i*P	Pg	20 28 41.0	-0.4
YMD	Yuma Desert	0.73	63	⇑*i*P	Pg	20 28 40.7	-1.1
RMX	La Rumorosa	0.75	300	*e*P	Pg	20 28 41.6	-0.6
RMX				*e*S	Sg	20 28 52.1	+0.1
IBP	Imperial Bould	0.79	303	P	Pg	20 28 42.4	-0.6
	baz=0.8						
IBP				S	Sg	20 28 53.0	-0.2
	baz=0.8						
IBP				S	Sg	20 28 53.0	-0.2
	baz=0.8						
ECBX	El Chinero	0.79	163	*e*P9	Pg	20 28 41.3	-1.6
ECBX				*e*S	Sg	20 28 52.1	-1.1
SWSC	Sam W. Stewart	0.82	330	P	Pg	20 28 42.6	-0.9
	baz=0.8						
SWSC				S	Sg	20 28 53.6	-0.6
	baz=0.8						
SWSC				S	Sg	20 28 53.6	-0.6
	baz=0.8						
GLA	Glamis	0.92	26	*e*Pg	Pg	20 28 43.6	-1.8
GLA				*e*Sg	Sg	20 28 56.5	-0.9
GLA	Glamis	0.92	26	S	Sg	20 28 55.5	-1.9
	baz=0.9						
ZAX	El Zacaton	1.08	229	*e*P	Pg	20 28 47.8	-0.8
ZAX				*e*S	Sg	20 29 02.6	-0.1
MONP	Monument Peak,	1.14	305	P	Pb	20 28 48.6	-1.3
	baz=1.2						
MONP				S	Sg	20 29 04.0	-0.6
	baz=1.2						
MONP				S	Sg	20 29 04.0	-0.6
	baz=1.2						
CBX	Cerro Bola	1.15	275	*e*P	Pb	20 28 48.8	-1.1
CBX				*e*S	Sg	20 29 04.8	+0.1
CBX	Cerro Bola	1.15	275	*e*P	Pb	20 28 48.8	-1.1
CBX				*e*S	Sg	20 29 04.8	+0.1
CBX	Cerro Bola	1.15	275	*e*P	Pb	20 28 48.8	-1.1
CBX				*e*S	Sg	20 29 04.8	+0.1
CBX				⇓*e*		20 29 05.8	
CBX				IAML		20 29 05.8	
	comp=N,20μm,0.6s						
SPIG	San Pedro Mart	1.19	186	*e*P	Pb	20 28 50.0	-0.7
SPIG				*e*S	Sb	20 29 05.6	-0.8
SPIG	San Pedro Mart	1.19	186	*e*P	Pb	20 28 50.0	-0.7
SPIG				*e*S	Sb	20 29 05.6	-0.8
SPX	San Pedro Mart	1.19	186	*e*P	Pb	20 28 51.0	+0.3
SPX				*e*S	Sn	20 29 07.8	+0.3
SPX	San Pedro Mart	1.19	186	*e*P2	Pn	20 28 49.8	-1.2
SPX				IAML		20 29 07.4	
	comp=E,5μm,0.6s						
SPX				⇓*e*		20 29 07.4	
ECNX	Esteban Cantu	1.23	243	*e*P	Pn	20 28 50.4	-0.9
ECNX				*e*S	Sb	20 29 07.2	-0.3
BAR	Barrett	1.23	292	*e*Pg	Pn	20 28 49.9	-1.5
BAR				*e*Sg	Sb	20 29 06.1	-1.3
PBX	Punta Banda	1.29	248	*e*P	Pn	20 28 51.5	-0.6
PBX				*e*S	Sb	20 29 08.9	-0.2
113A	Mohawk Valley,	1.41	67	P	Pn	20 28 51.5	-2.3
	baz=1.4	

	comp=E,30nm,0.8s								
DUG	**Dugway, Tooele**	**8.20**	**14**	*e*Pn		**Pn**		**20 30 27.8**	**+0.6**
BMN	**Battle Mountai**	**8.33**	**350**	Pn		Pn		20 30 25.2	-3.7
MNTX	**Cornudas Mount**	**8.46**	**91**	*e*Pn		**Pn**		**20 30 29.8**	**-0.7**
MNTX	**Cornudas Mount**	**8.46**	**91**	P		**Pn**		**20 30 29.8**	**-0.7**
	baz=8.4								
ELK	**Elko**	**8.50**	**0**	Pn		**Pn**		**20 30 34.2**	**+2.9**
	comp=E,0.2nm,0.3s,baz=142,slow=11,SNR=4.8								
ELK	**Elko**	**8.50**	**0**	Pn		**Pn**		**20 30 29.0**	**-2.3**
	comp=E,2.4nm,0.8s								
SMCO	**Snowmass**	**9.69**	**42**	*e*Pn		**Pn**		**20 30 48.3**	**+0.4**
	comp=E,3.4nm,0.6s								
SLBS	**Sierra La Lagu**	**9.74**	**150**	*e*Pn		Pn		20 30 53.2	+4.9
TXAR	**Lajitas Array**	**10.42**	**103**	Pn		**Pn**		**20 30 58.9**	**+1.2**
	comp=E,2.0nm,0.3s,baz=285,slow=13,SNR=18								
TXAR				Lg		Lg		20 33 49.5	
	comp=E,0.1nm,0.3s,baz=281,slow=28,SNR=4.1								
WVOR	**Wild Horse Val**	**10.52**	**346**	*e*Pn		Pn		20 31 04.8	+5.9
MSTX	**Muleshoe**	**10.66**	**77**	*e*Pn		Pn		20 31 04.7	+3.8
ISCO	**Idaho Springs**	**10.89**	**43**	*e*Pn		**Pn**		**20 31 05.2**	**+1.0**
YBH	**Yreka Blue Hor**	**11.17**	**330**	Pn		Pn		20 31 11.3	+3.4
	comp=E,0.1nm,0.3s,baz=132,slow=5.2,SNR=7.2								
MFID	**Camas Ranch**	**11.17**	**358**	*e*Pn		**Pn**		**20 31 07.1**	**-0.8**
K05A	**Summer Lake**	**11.37**	**339**	*e*Pn		Pn		20 31 17.1	+6.4
PDAR	**Pinedale Array**	**11.46**	**22**	Pn		**Pn**		**20 31 14.9**	**+3.0**
	comp=E,0.1nm,0.3s,baz=205,slow=4.0,SNR=2.4								
FXWY	**Fox Creek**	**11.88**	**15**	*e*Pn		Pn		20 31 21.2	+3.6
HUMO	**Hull Mountain**	**12.00**	**332**	*e*Pn		Pn		20 31 25.8	+6.7
PINOR	**Pine Mountain**	**12.36**	**341**	*e*P		Pn		20 31 30.1	+6.1
MCMT	**McKenzie Canyo**	**12.72**	**8**	*e*Pn		**Pn**		**20 31 26.8**	**-2.4**
DLMT	**Dillon**	**13.28**	**8**	*e*Pn		**Pn**		**20 31 39.6**	**+2.9**
JCT	**Junction City**	**13.37**	**93**	*e*Pn		**Pn**		**20 31 38.2**	**+0.3**
BOZ	**Bozeman (W)**	**13.70**	**11**	*e*Pn		Pn		20 31 45.8	+3.4
CHMT	**Chamberlain Mo**	**14.75**	**6**	P		**Pn**		**20 31 59.2**	**+2.3**
	comp=E,1.6nm,1.0s								
NEW	**Newport**	**16.07**	**356**	Pn		**P**		**20 32 17.3**	**-0.2**
	comp=E,0.0nm,0.3s,baz=174,slow=13,SNR=6.9								
NEW	**Newport**	**16.07**	**356**	*e*Pn		**Pn**		**20 32 14.3**	**+0.3**
	comp=E,11nm,1.0s								
B08A	**Colville Reser**	**16.39**	**350**	*e*Pn		**Pn**		**20 32 18.8**	**+0.7**
	comp=E,9.9nm,1.3s								
HKT	**Hockley**	**16.84**	**93**	*e*P		**P**		**20 32 26.0**	**+0.1**
	comp=E,13nm,1.3s								
MIAR	**Mount Ida**	**18.30**	**77**	*e*Pn		**Pn**		**20 32 41.1**	**-0.8**
	comp=E,9.2nm,1.1s								
AGMN	**Agassiz Nation**	**21.76**	**37**	*e*P		**P**		**20 33 22.0**	**+2.3**
	comp=E,12nm,1.1s								
ULM	**Lac du Bonnet**	**23.07**	**33**	P		**P**		**20 33 36.0**	**+2.5**
	comp=E,2.3nm,0.7s,baz=188,slow=7.1,SNR=3.5								
ILAR	**Eielson Array**	**37.91**	**339**	P		**P**		**20 35 45.9**	**+0.8**
	comp=E,0.5nm,0.8s,baz=148,slow=6.7,SNR=4.4								
IM04	**Indian Mountai**	**40.90**	**337**	*e*P		**P**		**20 36 11.1**	**+1.0**
NB2	**NORSAR Subarra**	**77.40**	**24**	P		P		20 40 26.8	+3.7
	comp=Z,0.6nm,0.5s,baz=314,slow=5.6								
NOA	**NORSAR Array B**	**77.40**	**24**	P		**P**		**20 40 25.3**	**+2.3**
	comp=Z,0.7nm,0.8s,baz=318,slow=5.5,SNR=4.5								
FINES	**FINESS Array B**	**81.53**	**18**	P		**P**		**20 40 46.9**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=5.2,slow=17,SNR=3.8								
CN2	**Changchun**	**86.20**	**321**	*e*P		**P**		**20 41 08.0**	**-1.7**
HHC	**Hu-ho-hao-te**	**95.38**	**326**	*e*P		**P**		**20 41 50.8**	**-2.1**
HHC				PP		**PP**		**20 45 42.8**	**+0.4**
HHC				S		S		20 53 02.0	-7.3
HHC				SS		**SS**		**20 59 32.0**	**-3.0**
HHC				LN					
	comp=Z,130nm,18.5s								
HHC				LE					
	comp=Z,120nm,18.5s								
NJ2	**Nanjing**	**98.11**	**316**	*e*P		Pdif		20 42 05.5	+0.2
WMQ	**Urumqi**	**101.45**	**343**	*e*P		**Pdif**		**20 42 21.5**	**+1.5**
WMQ				pP		pP		20 42 26.3	+3.3
CD2	**Chengdu**	**107.11**	**325**	Pdif		**Pdif**		**20 42 43.0**	**-2.5**
KSH	**Kashi**	**107.85**	**351**	*e*Pdif		**Pdif**		**20 42 55.5**	**+6.8**
KSH				S		**Sdif**		**20 55 02.0**	**+7.6**
KMI	**Kunming**	**112.39**	**323**	PKP		**PKiKP**		**20 47 01.5**	**-3.6**

*IDC **27** 20:43:13.0±1.7, 13.°60S×166.°58E, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.8/39, mbtmp3.9/8, ML3.4/1, Error ellipse: s-maj=46.6km s-min=23.5km az=113.0*

*ISCJB **27** 20:43:16.3±1.1, 13.°83S±0.°07×166.°6E±0.°2, h39km, mb3.9/7, Error ellipse: s-maj=30.3km s-min=10.4km az=175.1*

ISC 27 20:43:18.1±1.2, 13.°74S±0.°09×166.°7E±0.°2, h39km, n8, σ1§17/9, mb4.0/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.29**	**182**	Pn		**Pn**	**20 45 16.6**	**+0.7**
	0.5nm,0.3s,baz=90,slow=20,SNR=4.2							
DZM				Sn		**Sn**	**20 46 46.9**	**-1.4**
	0.2nm,0.3s,baz=270,slow=20,SNR=2.4							
STKA	**Stephens Creek**	**29.22**	**228**	P		**P**	**20 49 17.7**	**+1.4**
	1.9nm,0.6s,baz=41,slow=10,SNR=8.9							
WRA	**Warramunga Arr**	**31.54**	**254**	P		**P**	**20 49 35.6**	**-1.3**
	0.6nm,0.6s,baz=85,slow=9.0,SNR=13							
ASAR	**Alice Springs**	**32.52**	**247**	P		**P**	**20 49 44.7**	**-0.8**
	1.0nm,0.6s,baz=75,slow=9.3,SNR=28							
MJAR	**Matsushiro Arr**	**56.78**	**333**	P		**P**	**20 52 57.6**	**-0.8**
	1.2nm,0.7s,baz=163,slow=11,SNR=3.5							
CMAR	**Chiang Mai Arr**	**74.04**	**294**	P		**P**	**20 54 51.5**	**+1.0**
	1.2nm,0.7s,baz=119,slow=3.8,SNR=9.8							
ILAR	**Eielson Array**	**85.77**	**18**	P		**P**	**20 55 52.6**	**-0.2**
	0.3nm,0.5s,baz=252,slow=4.5,SNR=5.2							
MKAR	**Makanchi Array**	**96.11**	**317**	P		**P**	**20 56 41.8**	**0.0**
	0.7nm,0.7s,baz=100,slow=6.2,SNR=9.0							

IDC 27 20:45:38.2±2.0, 2.°61N×127.°62E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/34, mbtmp3.5/3, Error ellipse: s-maj=140.9km s-min=24.5km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.36**	**164**	P		P	20 50 48.1	-0.5
	0.5nm,0.3s,baz=343,slow=10.0,SNR=15							
ASAR	**Alice Springs**	**26.83**	**167**	P		P	20 51 20.4	-0.1
	0.4nm,0.5s,baz=352,slow=7.2,SNR=8.3							
MKAR	**Makanchi Array**	**58.98**	**325**	P		P	20 55 40.0	+0.3
	0.2nm,0.4s,baz=114,slow=8.2,SNR=8.1							

*ISCJB **27** 20:47:13.9±0.9, 37.°25S±0.°07×72.°6W±0.°2, h69km, mb3.9/7, Error ellipse: s-maj=24.4km s-min=8.8km az=11.3*

*IDC **27** 20:47:14.4±3.2, 37.°14S×72.°41W, h60km±27km, mb3.8/7, mb1 3.9/8, mb1mx3.7/24, mbtmp4.0/8, ML3.1/2, Error ellipse: s-maj=45.0km s-min=16.6km az=92.0*

ISC 27 20:47:15.5±1.0, 37.°24S±0.°08×72.°5W±0.°2, h69km, n14, σ1§72/13, mb3.9/7, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PLCA	**Paso Flores**	**3.79**	**157**	P		**Pn**	**20 48 11.6**	**0.0**
	0.5nm,0.3s,baz=320,slow=14,SNR=12							
CFAA	**Coronel Fontan**	**6.62**	**33**	P		**Pn**	**20 48 48.0**	**-2.2**
	0.1nm,0.3s,baz=224,slow=8.9,SNR=6.3							
CFAA				S		**Sn**	**20 50 07.3**	**+3.0**
	0.1nm,0.3s,baz=205,slow=6.7,SNR=3.4							
LVC	**Limon Verde**	**14.90**	**13**	P		**Pn**	**20 50 43.4**	**+0.9**
	12nm,0.3s,baz=230,slow=7.9,SNR=4.4							
LPAZ	**La Paz**	**21.22**	**12**	P		**P**	**20 51 53.9**	**-2.4**
	5.0nm,0.8s,baz=187,slow=8.0,SNR=14							
SIV	**San Ignacio**	**23.45**	**29**	P		**P**	**20 52 17.3**	**-1.6**
	3.6nm,0.9s,baz=230,slow=12,SNR=8.4							
VNA1	**Neumayer--Stat**	**46.85**	**156**	P		P	20 55 51.8	+14
VNA2	**Neumayer--Watz**	**47.18**	**156**	P		**P**	**20 55 41.0**	**+0.3**
	baz=275,slow=9.6							
SNAA	**Sanae**	**48.74**	**157**	P		P	20 55 48.8	-4.0
SNAA	**Sanae**	**48.74**	**157**	P		**P**	**20 55 52.5**	**-0.2**
	1.8nm,0.9s,baz=290,slow=6.8,SNR=12							
QSPA	**South Pole Qui**	**53.00**	**180**	P		**P**	**20 56 25.9**	**+1.0**
	3.6nm,0.8s,baz=106,slow=3.6,SNR=9.0							
TXAR	**Lajitas Array**	**72.40**	**332**	P		**P**	**20 58 34.8**	**+0.6**
	0.6nm,0.8s,baz=134,slow=7.2,SNR=3.7							
DBIC	**Dimbokro**	**76.56**	**71**	P		**P**	**20 58 59.3**	**+0.6**
	4.8nm,1.1s,baz=149,slow=5.9,SNR=3.8							
TORD	**Torodi Ar. Bea**	**85.65**	**70**	P		**P**	**20 59 47.3**	**+0.5**
	1.0nm,0.8s,baz=250,slow=2.6,SNR=5.1							
BRTR	**Keskin Array B**	**123.67**	**63**	PKP		**PKPdf**	**21 06 03.0**	**-2.1**
	0.4nm,0.8s,baz=193,slow=4.4,SNR=3.4							

NEIC 27 20:47:21.9±0.9, 31.°11N×105.°58W, h5km, ML3.7, Error ellipse: s-maj=13.2km s-min=6.8km az=175.0,

Texas-Mexico border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MNTX	**Cornudas Mount**	**0.61**	**16**	*e*Pg		Pg	20 47 33.0	-0.7
MNTX				*e*Sg		Sg	20 47 41.9	+0.3
CLNB	**Carlsbad**	**1.85**	**51**	*e*Pn		Pn	20 47 54.5	+0.1
121A	**Cookes Peak, D**	**2.35**	**308**	*e*Pn		Pn	20 48 00.3	-1.1
CPRX	**Cap Rock**	**2.40**	**37**	*e*Pn		Pn	20 48 02.8	+0.8
CPRX				*e*Sn		Sn	20 48 33.9	+1.9
LAZ	**Ladron**	**3.53**	**339**	*e*Pn		Pn	20 48 17.7	0.0
MSTX	**Muleshoe**	**3.71**	**39**	*e*Pn		Pn	20 48 19.9	-0.1
ANMO	**Albuquerque**	**3.89**	**349**	*e*Pn		Pn	20 48 23.5	+0.9
ANMO				*e*Sg		Sb	20 49 22.5	+3.6
TUC	**Tucson**	**4.59**	**286**	*e*Pn		Pn	20 48 33.3	+1.2
AMTX	**Amarillo**	**4.99**	**40**	*e*Pn		Pn	20 48 37.1	-0.4
JCT	**Junction City**	**5.01**	**96**	*e*Pn		Pn	20 48 37.9	+0.1
	35nm,0.5s							
ABTX	**Abilene, Hawle**	**5.27**	**72**	*e*Pn		Pn	20 48 39.6	-1.7
	63nm,0.6s							
214A	**Organ Pipe Nat**	**6.23**	**280**	*e*Pn		Pn	20 48 53.6	-0.9
	6.7nm,0.4s							
214A				*e*Sn		Sg	20 50 38.6	-3.5
WMOK	**Wichita Mounta**	**6.76**	**56**	*e*Pn		Pn	20 49 01.2	-0.6
	28nm,0.6s							
WHTX	**Lake Whitney,**	**6.99**	**81**	*e*Pn		Pn	20 49 08.3	+3.4
	59nm,0.6s							
W34A	**Bridge Creek,**	**7.73**	**56**	*e*Pn		Pn	20 49 18.6	+3.5
	24nm,0.6s							
V34A	**Guthrie**	**8.22**	**53**	*e*Pn		Pn	20 49 24.7	+3.0
	62nm,0.7s							
U34A	**Anderson Ranch**	**8.54**	**49**	*e*Pn		Pn	20 49 28.9	+2.7
	25nm,0.6s							
MIAR	**Mount Ida**	**10.66**	**68**	*e*Pn		Pn	20 49 59.4	+4.1
	13nm,0.8s							

*ISCJB **27** 20:47:57.7±1.6, 13.°71S±0.°03×166.°77E±0.°04, h28km±11km, mb5.6/144, MS5.3/177, Error ellipse: s-maj=6.2km s-min=4.8km az=173.7*

*NOU **27** 20:47:57.0±2.1, 13.°30S×166.°01E, h30km, MD4.4, MS2.5*

*IDC **27** 20:47:58.6±1.6, 13.°71S×166.°82E, h24km±9km, mb5.3/27, mb1 5.4/28, mb1mx5.3/35, mbtmp5.4/28, ML4.9/1, MS5.1/24, Ms1 5.1/24, ms1mx4.9/31, Error ellipse: s-maj=14.5km s-min=10.2km az=79.0*

*BJI **27** 20:47:58.4, 13.°50S×167.°14E, h37km, mb5.8/74, mB5.8/48, Ms5.2/62, Ms7 5.1/61*

*MOS **27** 20:47:59.4±1.0, 13.°59S×166.°58E, h33km, mb6.0/40, MS5.3/40, Error ellipse: s-maj=8.7km s-min=6.7km az=40.6*

*NEIC **27** 20:48:00.4±0.2, 13.°66S×166.°75E, h35km, mb5.7/79, MS5.3/140, Error ellipse: s-maj=5.4km s-min=4.6km az=118.0*

*GCMT **27** 20:48:00.4±0.4, 13.°88S×166.°78E, h43km, MW6.1/64, Moment Tensor Solution. s44,c54; s64,c73; Duration: 2s7 Moment tensor: Scale 10^18Nm; Mrr2.13±.09; Mθθ-0.69±.05; Mϕϕ-1.44±.05; Mrθ0.34±.07; Mrϕ0.04±.03; Mθϕ-0.04±.04; Best double couple: Mo1.80700×10^18 NP1:ϕs4.00000°, δ45.00000°, λ100.00000°. NP2: ϕs4.00000°, δ45.00000°, λ100.00000°. Principal axes: T 2.1710, Plg83.0000°, Azm4.0000°; N -0.7300, Plg7.0000°, Azm177.0000°; P -1.4430, Plg1.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 27 20:47:60.0±0.3, 13.°68S±0.°04×166.°79E±0.°05, h33km±1km, h33km:pP-P, n909, σ1§33/915, mb5.7/149, MS5.3/180, 82C-30D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**7.92**	**301**	‖*e*P		**Pn**	**20 49 52.6**	**-0.3**
HNR				pmax		pmax		
	comp=Z,10μm,1.4s							
HNR	**Honiara**	**7.92**	**301**	*i* P		**Pn**	**20 49 53.0**	**+0.1**
HNR				*i* S		**Sn**	**20 51 19.0**	**-2.5**
HNR	**Honiara**	**7.92**	**301**	‖*e*Pn		**Pn**	**20 49 52.6**	**-0.3**
	comp=Z,11μm,1.4s							
DZM	**Mont Dzumac**	**8.36**	**182**	*e*Pn		**Pn**	**20 50 00.1**	**+1.2**
	comp=Z,169nm,0.3s							
DZM				*e*Sn		**Sn**	**20 51 30.2**	**-2.0**
	comp=Z,104nm,0.3s							
DZM				*e*LR		LR	20 51 56.0	
	comp=Z,36μm,24.0s							
DZM	**Mont Dzumac**	**8.36**	**182**	Pn		**Pn**	**20 49 59.6**	**+0.7**
	comp=Z,15nm,0.3s,baz=271,slow=24,SNR=44							
DZM				Sn		**Sn**	**20 51 32.4**	**+0.2**
	comp=Z,3.0nm,0.3s,baz=90,slow=19,SNR=1.9							
DZM				LR		LR	20 52 57.3	
	comp=Z,29μm,20.6s,baz=1.0,slow=36							
NOUC	**Port Laguerre**	**8.39**	**183**	*e*P		**Pn**	**20 49 58.2**	**-1.1**
NOUC				*e*S		**Sn**	**20 51 31.1**	**-1.8**
NOUC				AMP			20 51 55.6	
	comp=Z,76nm,17.7s							
BAYA	**Yate Dam**	**8.43**	**179**	*e*P		**Pn**	**20 50 01.4**	**+1.5**
BAYA				*e*S		**Sn**	**20 51 33.7**	**-0.2**
NORM	**Noumea**	**8.51**	**182**	*e*P		Pn	20 50 04.3	+3.4
LASL	**Noumea**	**8.51**	**182**	*e*S		**Sn**	**20 51 35.2**	**-0.7**
MVNO	**Noumea**	**8.55**	**182**	*e*P		**Pn**	**20 50 02.9**	**+1.4**
MSVF	**Nonsavu**	**11.56**	**112**	*e*P		Pn	20 50 49.4	+6.5
MSVF	**Nonsavu**	**11.56**	**112**	*e*Pn		Pn	20 50 49.4	+6.5
EIDS	**Eidsvold**	**18.81**	**229**	*e*Pn		**Pn**	**20 52 18.2**	**+0.7**
	comp=Z,236nm,1.3s							
PMG	**Port Moresby**	**19.70**	**280**	*ce*P		**P**	**20 52 26.7**	**0.0**
PMG				pmax		pmax		
	comp=Z,620nm,1.2s							
PMG	**Port Moresby**	**19.70**	**280**	*e*Pn		**Pn**	**20 52 28.1**	**-0.1**
	comp=Z,84nm,1.2s							
CTA	**Charters Tower**	**20.65**	**249**	P		**P**	**20 52 37.6**	**+0.6**
	comp=Z,109nm,1.1s,baz=71,slow=12,SNR=32							
CTA				LR		LR	20 59 35.9	
	comp=Z,7μm,21.0s,baz=73,slow=34							
CTA				ScP		**ScP**	**21 00 21.4**	**+0.3**
	comp=Z,7.3nm,1.1s,baz=24,slow=5.2,SNR=4.5							
CTAO	**Charters Tower**	**20.65**	**249**	*e*P		**P**	**20 52 37.7**	**+0.6**
CTAO				pmax		pmax		
	comp=Z,113nm,1.0s							
CTAO	**Charters Tower**	**20.65**	**249**	*e*P		**P**	**20 52 37.7**	**+0.6**
	comp=Z,113nm,1.0s							
AFI	**Afiamalu**	**20.82**	**93**	*e*P		Pn	20 52 43.1	+1.6
AFI				pmax		pmax		
	comp=Z,217nm,1.3s							
AFI	**Afiamalu**	**20.82**	**93**	*e*P		Pn	20 52 43.1	+1.6
	comp=Z,217nm,1.3s							
RAO	**Raoul Island**	**21.00**	**140**	PFAKE				
RAO				LR		LR		
	comp=Z,6μm,19.0s							
ARMA	**Armidale**	**21.75**	**218**	*e*P		**P**	**20 52 50.1**	**+1.2**
	comp=Z,418nm,1.4s							
OUZ	**Omahuta**	**22.31**	**165**	*e*P		**P**	**20 52 57.8**	**+3.1**
	comp=Z,157nm,2.3s							
COEN	**Coen**	**22.93**	**266**	*e*P		**P**	**20 53 01.5**	**-0.1**
	comp=Z,35nm,1.2s							
URZ	**Urewera**	**26.14**	**161**	P		**P**	**20 53 32.3**	**+1.1**
	comp=Z,4.9nm,0.4s,baz=202,slow=4.0,SNR=6.9							
URZ				LR		LR	21 02 23.6	
	comp=Z,7μm,20.3s,baz=352,slow=33							
CAN	**Canberra**	**26.86**	**214**	*e*P		**P**	**20 53 38.1**	**+0.3**
CAN				pmax		pmax		
	comp=Z,235nm,1.5s							
CAN				MLR		MLR		
	comp=Z,5μm,22.0s							
CAN	**Canberra**	**26.86**	**214**	*e*P		**P**	**20 53 38.1**	**+0.3**
	comp=Z,235nm,1.5s							
CAN				LR		LR		
	comp=Z,5μm,22.0s							
JAY	**Jayapura**	**28.07**	**291**	P		**P**	**20 53 49.4**	**+0.6**
	comp=Z,14nm,1.0s,baz=301,slow=5.9,SNR=3.5							
SNZO	**South Karori**	**28.38**	**167**	PFAKE			20 54 00.0	+8.8
SNZO				LR		LR		
	comp=Z,6μm,19.0s							
GENI	**Genyem**	**28.52**	**290**	P		**P**	**20 53 54.6**	**+1.8**
STKA	**Stephens Creek**	**29.34**	**228**	P		**P**	**20 54 00.7**	**+0.8**
	comp=Z,80nm,0.8s,baz=45,slow=8.0,SNR=163							
STKA				PcP		**PcP**	**20 57 05.6**	**-0.3**
	comp=Z,19nm,0.9s,baz=351,slow=6.1,SNR=4.8							
STKA				ScP		**ScP**	**21 00 46.6**	**+1.3**
	comp=Z,7.4nm,0.8s,baz=145,slow=2.2,SNR=6.2							
STKA				LR		LR	21 05 08.6	
	comp=Z,10μm,19.8s,baz=54,slow=35							
STKA	**Stephens Creek**	**29.34**	**228**	*e*P		**P**	**20 54 00.4**	**+0.5**
STKA							20 57 05.6	
STKA							21 00 46.6	

STKA				pmax		pmax			
	comp=Z,89nm,1.5s								
STKA	**Stephens Creek**	**29.34**	**228**	*e*P		**P**		**20 54 00.4**	**+0.5**
	comp=Z,89nm,1.5s								
STKA				PcP		**PcP**		**20 57 05.6**	**-0.3**
STKA				ScP		**ScP**		**21 00 46.6**	**+1.3**
SMPI	**Sarmi**	**30.10**	**290**	P		**P**		**20 54 07.2**	**+0.5**
RPZ	**Rata Peaks**	**30.16**	**174**	P		**P**		**20 54 08.0**	**+1.0**
	comp=Z,22nm,0.7s,baz=208,slow=2.4,SNR=4.7								
WRAB	**Tennant Creek**	**31.64**	**254**	*c* P		**P**		**20 54 18.6**	**-1.8**
WRAB				pmax		pmax			
	comp=Z,263nm,1.2s								
WRAB	**Tennant Creek**	**31.64**	**254**	*e*P		**P**		**20 54 18.5**	**-1.8**
	comp=Z,152nm,1.4s								
WRAB				LR		LR			
	comp=Z,12μm,19.0s								
WRA	**Warramunga Arr**	**31.65**	**254**	P		**P**		**20 54 18.9**	**-1.5**
	comp=Z,38nm,0.7s,baz=86,slow=9.2,SNR=200								
WRA				PcP		**PcP**		**20 57 12.6**	**+0.5**
	comp=Z,34nm,1.1s,baz=75,slow=2.7,SNR=14								
WRA				ScP		**ScP**		**21 00 53.8**	**+0.7**
	comp=Z,12nm,1.0s,baz=84,slow=3.5,SNR=17								
WRA				PKiKP		**PKiKP**		**21 04 40.0**	**-1.3**
	comp=Z,1.5nm,0.7s,baz=7.2,slow=0.7,SNR=14								
WRA				LR		LR		21 06 53.9	
	comp=Z,12μm,18.1s,baz=85,slow=36								
DCZ	**Deep Cove**	**31.70**	**180**	*e*P		**P**		**20 54 21.7**	**+1.2**
	comp=Z,125nm,1.2s								
H11S2	**WAKE ISLAND Hy**	**31.96**	**360**	T		T		21 28 48.4	
	baz=184,slow=76,SNR=5.3								
H11S3	**WAKE ISLAND Hy**	**31.97**	**360**	T		T		21 28 50.0	
	baz=184,slow=76,SNR=2.9								
H11S1	**WAKE ISLAND Hy**	**31.98**	**360**	T		T		21 28 52.4	
	baz=184,slow=76,SNR=6.2								
ASAR	**Alice Springs**	**32.63**	**247**	P		**P**		**20 54 27.7**	**-1.3**
	comp=Z,31nm,0.5s,baz=75,slow=9.3,SNR=384								
ASAR				PcP		**PcP**		**20 57 14.5**	**-0.3**
	comp=Z,18nm,1.0s,baz=90,slow=3.1,SNR=9.6								
ASAR				ScP		**ScP**		**21 00 56.8**	**+0.3**
	comp=Z,7.4nm,0.9s,baz=84,slow=3.1,SNR=18								
ASAR				PKiKP		**PKiKP**		**21 04 40.8**	**-1.2**
	comp=Z,0.8nm,0.7s,baz=101,slow=1.5,SNR=7.5								
ASAR				LR		LR		21 08 24.8	
	comp=Z,4μm,18.1s,baz=76,slow=38								
WAKE	**Wake Island**	**32.75**	**360**	PFAKE				20 54 40.0	+10
WAKE				LR		LR			
	comp=Z,3μm,20.0s								
TAU	**Tasmania Unive**	**33.62**	**206**	*e*P		**P**		**20 54 38.2**	**+0.8**
TAU				pmax		pmax			
	comp=Z,269nm,1.3s								
TAU				MLR		MLR			
	comp=Z,5μm,22.0s								
TAU	**Tasmania Unive**	**33.62**	**206**	*e*P		**P**		**20 54 38.2**	**+0.8**
	comp=Z,269nm,1.3s								
TAU				LR		LR			
	comp=Z,5μm,22.0s								
BBOO	**Buckleboo**	**33.87**	**231**	*e*P		**P**		**20 54 39.5**	**-0.2**
	comp=Z,15nm,1.1s								
RKPI	**Ransiki, Papua**	**34.45**	**288**	P		**P**		**20 54 46.3**	**+1.4**
GUMO	**Guam**	**34.72**	**320**	LR		LR		21 07 37.5	
	comp=Z,5μm,21.7s,baz=118,slow=34								
FAKI	**Fak Fak**	**35.76**	**284**	P		**P**		**20 54 57.2**	**+1.0**
FAKI	**Fak Fak**	**35.76**	**284**	*e*P		**P**		**20 54 55.2**	**-0.9**
	comp=Z,268nm,2.1s								
SIJI	**Sorong**	**37.39**	**287**	P		**P**		**20 55 09.3**	**-0.8**
	comp=Z,98nm,1.0s,baz=114,slow=7.7,SNR=41								
BNDI	**Bandanaira**	**37.49**	**281**	P		**P**		**20 55 11.1**	**+0.1**
XMAS	**Kiritimati**	**38.75**	**69**	PFAKE				20 55 30.0	+8.5
XMAS				LR		LR			
	comp=Z,3μm,19.0s								
FORT	**Forrest**	**39.45**	**238**	*e*P		**P**		**20 55 25.9**	**-1.4**
	comp=Z,228nm,0.9s								
NLAI	**Namlea**	**40.54**	**281**	P		**P**		**20 55 37.3**	**+0.8**
TNTI	**Ternate**	**41.62**	**287**	P		**P**		**20 55 46.4**	**+1.0**
TNTI	**

MTKI	Muara Teweh, K	52.88 279	P		P	20 57 14.1	+1.0
KDM	Kudat	53.65 289	⇑P		P	20 57 18.2	-0.6
KKM	Kota Kinabalu	53.89 288	⇓P		P	20 57 21.8	+1.1
KKM	Kota Kinabalu	53.89 288	*e*P		P	20 57 21.2	+0.5
	comp=Z,653nm,1.3s						
KKM			LR		LR		
	comp=Z,830nm,20.0s						
PWJI	Pagerwojo	54.21 270	P		P	20 57 23.6	+0.7
JOW	Kunigami	54.97 317	P		P	20 57 29.5	+1.4
	comp=Z,10nm,0.9s,baz=147,slow=7.9,SNR=31						
JOW	Kunigami	54.97 317	*e*P		P	20 57 28.8	+0.6
	comp=Z,69nm,1.0s						
UGM	Wanagama	55.47 270	P		P	20 57 33.4	+1.3
PBKI	Pangkalan Bun	55.51 276	P		P	20 57 34.3	+1.9
RKT	Rikitea	55.75 109	*e*LR		LR	21 13 54.4	
	comp=Z,4µm,27.2s						
BTM	Bintulu	55.85 283	⇑P		P	20 57 36.2	+1.4
SBUM	Sibu	56.43 282	⇑P		P	20 57 39.9	+1.0
SBUM	Sibu	56.43 282	*e*P		P	20 57 39.4	+0.4
	comp=Z,95nm,1.1s						
STKI	Sintang	56.44 279	P		P	20 57 40.2	+1.2
MJAR	Matsushiro Arr	56.76 333	P		P	20 57 40.5	-0.3
	comp=Z,68nm,0.9s,baz=165,slow=7.9,SNR=118						
MJAR			LR		LR	21 19 43.4	
	comp=Z,368nm,21.6s,baz=150,slow=34						
MAJO	Matsushiro	56.77 333	*c i*P		P	20 57 40.4	-0.5
MAJO	Matsushiro	56.77 333	*e*P		P	20 57 40.7	-0.2
	comp=Z,148nm,1.0s						
MAJO			LR		LR		
	comp=Z,903nm,22.0s						
MAT	Matsushiro	56.77 333	P		P	20 57 40.4	-0.5
MAT			S		S	21 05 32.6	+0.9
YULB	Yu-li	57.77 309	*e*P		P	20 57 48.1	-0.1
	comp=Z,122nm,1.4s						
JNU	Nakatsue	57.80 324	P		P	20 57 48.7	+0.4
	comp=Z,169nm,0.8s,baz=113,slow=3.3,SNR=54						
JNU	Nakatsue	57.80 324	*e*P		P	20 57 48.9	+0.7
KSM	Kuching	57.96 281	⇓P		P	20 57 50.3	+0.6
KSM	Kuching	57.96 281	*e*P		P	20 57 50.0	+0.2
	comp=Z,182nm,1.2s						
KSM			LR		LR		
	comp=Z,707nm,21.0s						
NACB	Ninganchiao	58.00 310	*e*P		P	20 57 49.1	-0.7
	comp=Z,285nm,1.4s						
CISI	Cisompet, Garu	58.17 270	P		P	20 57 51.1	-0.2
CISI	Cisompet, Garu	58.17 270	*e*P		P	20 57 50.4	-0.9
	comp=Z,659nm,1.6s						
TPUB	Ta-pu	58.23 309	*e*P		P	20 57 51.1	-0.3
	comp=Z,169nm,1.3s						
SSLB	Suanglung	58.26 309	*e*P		P	20 57 51.1	-0.5
	comp=Z,84nm,1.3s						
YHNB	Yeheng	58.45 311	*e*P		P	20 57 53.4	+0.4
	comp=Z,381nm,1.4s						
YHNB			LR		LR		
	comp=Z,1µm,22.0s						
LEM	Lembang	58.51 270	P		P	20 57 54.5	+0.7
	comp=Z,321nm,1.3s,comp=Z,3µm						
LEM	Lembang	58.51 270	P		P	20 57 54.2	+0.4
	comp=Z,141nm,0.8s,baz=54,slow=3.1,SNR=28						
TATO	Taipei	58.55 311	*e*P		P	20 57 53.5	0.0
	comp=Z,210nm,1.2s						
TATO			LR		LR		
	comp=Z,1µm,19.0s						
CNJI	Cibinong	58.89 270	P		P	20 57 56.4	+0.2
CBJI	Citeko	59.34 271	P		P	20 57 58.8	-0.6
TPI	Tanjungpandan	59.39 275	P		P	20 58 00.8	+1.1
	comp=Z,88nm,1.5s,comp=Z,2µm						
SKJI	Sukabumi	59.51 270	P		P	20 58 01.6	+1.1
ERM	Erimo	59.54 340	PFAKE			20 58 10.0	+10
ERM			LR		LR		
	comp=Z,3µm,21.0s						
SBJI	Serang	60.10 271	P		P	20 58 05.5	+0.9
KSBUS	Busan	60.35 325	P		P	20 58 06.7	+0.9
	SNR=7.3						
KSBUS	Busan	60.35 325	P		P	20 58 06.7	+0.9
	SNR=7.3						
KSJJU	Jeju	60.56 322	P		P	20 58 08.8	+1.5
	SNR=14						
KSJJU	Jeju	60.56 322	P		P	20 58 08.8	+1.5
	SNR=14						
KSNAH	Namhae	60.72 324	P		P	20 58 09.5	+1.1
	SNR=18						
KSNAH	Namhae	60.72 324	P		P	20 58 09.5	+1.1
	SNR=18						
KSDAG	Daegu	60.85 325	P		P	20 58 10.4	+1.1
	SNR=18						
KSDAG	Daegu	60.85 325	P		P	20 58 10.2	+0.9
	SNR=9.1						
KSJIN	Jinju	60.90 324	P		P	20 58 10.6	+1.0
	SNR=13						
KSJIN	Jinju	60.90 324	P		P	20 58 10.6	+1.0
	SNR=13						
KSPHA	Pohang	60.90 326	P		P	20 58 11.0	+1.4
	SNR=13						
KSPHA	Pohang	60.90 326	P		P	20 58 11.0	+1.4
	SNR=13						
KSYOC	YEONGCHEON	60.97 325	P		P	20 58 11.4	+1.3
	SNR=10.0						
KSYOC	YEONGCHEON	60.97 325	P		P	20 58 11.4	+1.3
	SNR=10.0						
PPBI	Pangkal Pinang	61.00 275	P		P	20 58 11.7	+0.9
BLSI	Bandar Lampung	61.12 271	P		P	20 58 12.0	+0.4
KSWAN	Wando	61.13 323	P		P	20 58 12.0	+0.9
	SNR=7.9						
KSWAN	Wando	61.13 323	P		P	20 58 12.0	+0.9
	SNR=7.9						
KSULJ	Uljin	61.26 326	P		P	20 58 13.3	+1.4
	SNR=9.6						
KSEUS	ULSEONG	61.39 325	P		P	20 58 14.0	+1.1
	SNR=7.5						
KSEUS	ULSEONG	61.39 325	P		P	20 58 14.0	+1.1
	SNR=7.5						
KSJDO	Jindo	61.41 322	P		P	20 58 13.8	+0.6
	SNR=6.6						
KSJDO	Jindo	61.41 322	P		P	20 58 13.8	+0.6
	SNR=6.6						
KSKWJ	Gwangju	61.50 323	P		P	20 58 14.5	+0.9
	SNR=10						
ASAJ	Asahikawa	61.60 340	P		P	20 58 15.9	+1.7
	baz=204,slow=9.5						
ASAJ			LR		LR	21 21 26.9	
	comp=Z,2µm,20.6s,baz=180,slow=33						
ASAJ	Asahikawa	61.60 340	*e*P		P	20 58 15.0	+0.8
	comp=Z,86nm,1.8s						
KLI	Kotabumi	61.61 272	P		P	20 58 15.2	+0.3
KSCPR	CHUPUNGNYEONG	61.70 325	P		P	20 58 15.9	+0.9
	SNR=14						
KSCPR	CHUPUNGNYEONG	61.70 325	P		P	20 58 15.9	+0.9
	SNR=14						
KSSAJ	Sangju	61.73 325	P		P	20 58 16.1	+0.9
	SNR=8.8						
KSSAJ	Sangju	61.73 325	P		P	20 58 16.1	+0.9
	SNR=8.8						
KSJEU	Jeongeup	61.77 324	P		P	20 58 16.2	+0.8
	SNR=13						
KSTBA	Taebaek	61.81 326	P		P	20 58 17.1	+1.3
	SNR=56						
KSTBA	Taebaek	61.81 326	P		P	20 58 16.9	+1.0
	SNR=17						
KASI	Kota Agung	61.82 271	P		P	20 58 15.5	-0.8
KSJEO	Jeonju	61.88 324	P		P	20 58 17.3	+1.1
	SNR=24						
KSBON	Boeun	61.99 325	P		P	20 58 17.9	+0.9
	SNR=27						
KSHUK	Heuksando	62.08 322	P		P	20 58 18.7	+1.2
	SNR=33						
KSYOW	Yeongwol	62.12 326	P		P	20 58 19.2	+1.4
	SNR=9.1						
PMBI	Palembang	62.14 274	P		P	20 58 21.2	+2.8
TJN	Taejon	62.15 325	*i* P		P	20 58 18.9	+0.9
KSCHJ	Chungju	62.16 325	P		P	20 58 19.1	+1.0
	SNR=8.9						
KSJES	JEONGSEON	62.19 326	P		P	20 58 19.7	+1.4
	SNR=15						
KSGUS	GUNSAN	62.24 324	P		P	20 58 20.1	+1.5
	SNR=7.6						
KSKOJ	Gongju	62.34 325	P		P	20 58 20.3	+1.1
	SNR=8.5						
LWLI	Liwa	62.35 271	P		P	20 58 19.4	-0.6
MDSI	Maura Dua	62.35 272	P		P	20 58 18.6	-1.3
KSDGY	Daegwallycong	62.38 326	P		P	20 58 20.7	+1.1
	SNR=37						
SSE	Sheshan	62.45 316	P		P	20 58 20.5	+0.4
SSE			PMZ				
	comp=Z,110nm,1.2s						
SSE			PMZ				
	comp=Z,950nm,12.0s						

KSJMJ	Jumunjin	62.48 327	P		P	20 58 21.6	+1.4
	SNR=14						
KSCEA	Cheonan	62.53 325	P		P	20 58 21.3	+0.7
	SNR=19						
KSRS	Korea Array	62.62 326	P		P	20 58 21.8	+0.7
	comp=Z,41nm,0.9s,baz=142,slow=6.9,SNR=128						
KSAR	Wonju Array Be	62.63 326	P		P	20 58 21.8	+0.6
KSAR	Wonju Array Be	62.63 326	P		P	20 58 21.8	+0.6
KSICN	Icheon	62.77 325	P		P	20 58 23.2	+1.0
	SNR=10						
KSIJA	INJE	62.90 326	P		P	20 58 24.3	+1.3
	SNR=9.7						
KSSKC	Sokcho	62.90 327	P		P	20 58 24.2	+1.2
	SNR=5.3						
KSCHC	Chuncheon	62.91 326	P		P	20 58 24.5	+1.4
	SNR=11						
KSSES	Seosan	62.96 324	P		P	20 58 24.3	+0.9
	SNR=25						
KSSWO	Suwon	63.01 325	P		P	20 58 25.1	+1.4
	SNR=5.9						
SEHB	SEOHWA	63.03 327	P		P	20 58 25.4	+1.5
	SNR=14						
LHSI	Lahat	63.14 273	P		P	20 58 24.9	-0.2
DLV	T Lat	63.16 291	*e*P		P	20 58 25.7	+0.3
KSCWO	Cheorwon	63.29 326	P		P	20 58 27.1	+1.5
	SNR=16						
INCN	Inchon	63.35 325	P		P	20 58 27.6	+1.6
	SNR=13						
INCN	Inchon	63.35 325	*e*P		P	20 58 26.9	+0.9
	comp=Z,373nm,1.6s						
INCN			LR		LR		
	comp=Z,1µm,20.0s						
TPRI	Tanjung Pinang	63.35 278	P		P	20 58 27.6	+1.1
KSDDC	Dongducheon	63.41 326	P		P	20 58 27.8	+1.4
	SNR=6.2						
JMBI	JAMBI	63.55 275	P		P	20 58 30.2	+2.4
KSMUS	Musan	63.57 325	P		P	20 58 28.6	+1.2
	SNR=18						
YNCB	YEONCHEON	63.58 326	P		P	20 58 28.5	+0.9
	SNR=30						
KSGAH	Ganghwa	63.61 325	P		P	20 58 28.9	+1.2
	SNR=20						
VNDA	Vanda	63.90 181	P		P	20 58 29.0	-0.1
	comp=Z,6.7nm,0.7s,baz=355,slow=8.1,SNR=26						
VNDA			LR		LR	21 22 06.7	
	comp=Z,1µm,20.1s,baz=354,slow=32						
VNDA	Vanda	63.90 181	*e*P		P	20 58 29.0	-0.1
VNDA			pmax		pmax		
	comp=Z,31nm,1.1s						
VNDA	Vanda	63.90 181	*e*P		P	20 58 29.0	-0.1
	comp=Z,31nm,1.1s						
YSS	Yuzh-Sakhalins	64.09 342	*e*P		P	20 58 31.6	+1.0
YSS			pmax		pmax		
	comp=Z,70nm,1.1s						
YSS	Yuzh-Sakhalins	64.09 342	*e*P		P	20 58 31.4	+0.8
	comp=Z,55nm,0.9s						
YSS			LR		LR		
	comp=Z,1µm,21.0s						
SBA	Scott Base	64.18 180	*e*P		P	20 58 31.5	+0.6
SBA			pmax		pmax		
	comp=Z,56nm,1.0s						
SBA			MLR		MLR		
	comp=Z,1µm,20.0s						
SBA	Scott Base	64.18 180	*e*P		P	20 58 31.5	+0.6
	comp=Z,56nm,1.0s						
SBA			LR		LR		
	comp=Z,1µm,20.0s						
MYKOM	Kota Tinggi	64.24 279	⇓P		P	20 58 33.6	+1.3
MYKOM	Kota Tinggi	64.24 279	*e*P		P	20 58 32.7	+0.4
	comp=Z,79nm,1.1s						
NJ2	Nanjing	64.60 316	*e*P		P	20 58 35.8	+1.5
NJ2			pP		pP	20 58 42.0	-2.6
NJ2			sP		sP	20 58 46.5	-2.0
NJ2			S		S	21 07 11.5	-0.5
NJ2			sS		sS	21 07 28.0	-0.9
NJ2			PMZ				
	comp=Z,680nm,0.7s						
NJ2			PMZ				
	comp=Z,870nm,6.8s						
NJ2			LN				
	comp=Z,1µm,25.6s						
NJ2			LE				
	comp=Z,2µm,22.4s						
NJ2			LZ				
	comp=Z,2µm,22.5s						
KSBAR	Backryungdo	64.78 324	P		P	20 58 36.4	+1.1
	SNR=7.8						
KGM	Kluang	64.81 279	⇓P		P	20 58 37.2	+1.1
QIZ	Qiongzhong	64.83 299	P		P	20 58 37.3	+1.2
QIZ			S		S	21 07 14.8	-0.4
QIZ			sS		sS	21 07 30.8	-1.3
QIZ			PMZ				
	comp=Z,92nm,1.4s						
QIZ			LN				
	comp=Z,560nm,21.4s						
QIZ			LE				
	comp=Z,320nm,23.1s						
QIZ			LZ				
	comp=Z,1µm,25.7s						
QIZ	Qiongzhong	64.83 299	*e*P		P	20 58 37.0	+0.9
	comp=Z,173nm,1.4s						
QIZ			LR		LR		
	comp=Z,867nm,20.0s						
VLA	Vladivostok	64.94 332	*c i*P		P	20 58 37.2	+0.9
VLA			pmax		pmax		
	comp=Z,270nm,1.7s						
USRK	Ussuriysk Ar.	65.74 333	P		P	20 58 42.3	+0.8
	comp=Z,136nm,1.1s,baz=134,slow=5.5,SNR=151						
USRK			LR		LR	21 24 00.3	
	comp=Z,580nm,21.7s,baz=137,slow=33						
SDSI	Sungai Dareh	65.86 275	P		P	20 58 44.0	+1.1
KTGM	Kuala Trenggan	65.93 282	⇑P		P	20 58 45.2	+1.9
BKNI	Bangkinang	66.56 276	P		P	20 58 48.2	+0.8
BKNI	Bangkinang	66.56 276	*e*P		P	20 58 48.2	+0.8
	comp=Z,397nm,1.0s						
PET	Petropavlovsk	66.80 355	*e*P		P	20 58 47.7	-0.3
PET			*e*S		S	21 07 38.6	+0.7
PET			pmax		pmax		
	comp=Z,33nm,1.3s						
ADK	Adak	66.84 11	PFAKE			20 59 00.0	+12
ADK			LR		LR		
	comp=Z,2µm,19.0s						
WHN	Wuhan	66.90 312	⇑P		P	20 58 49.5	+0.3
WHN			pP		pP	20 59 02.0	+2.5
WHN			S		S	21 07 40.5	+0.4
WHN			PMZ				
	comp=Z,320nm,1.5s						
WHN			LZ				
	comp=Z,2µm,19.7s						
PEA0B	Petropavlovsk-	66.97 354	*e*P		P	20 58 49.2	0.0
PETK	Petropavlovsk-	66.97 354	P		P	20 58 49.7	+0.6
	comp=Z,11nm,0.8s,baz=141,slow=7.3,SNR=16						
PETK			LR		LR	21 21 57.6	
	comp=Z,970nm,21.9s,baz=165,slow=30						
MDJ	Mudanjiang	67.14 332	P		P	20 58 51.5	+1.1
MDJ			pP		pP	20 59 00.5	-0.2
MDJ			sP		sP	20 59 03.3	-1.3
MDJ			PP		PP	21 01 19.8	+0.9
MDJ			S		S	21 07 45.5	+3.0
MDJ			sS		sS	21 08 01.3	+1.9
MDJ			PMZ				
	comp=Z,150nm,1.3s						
MDJ			PMZ				
	comp=Z,470nm,4.3s						
MDJ			LN				
	comp=Z,900nm,21.2s						
MDJ			LE				
	comp=Z,390nm,18.2s						
MDJ			LZ				
	comp=Z,910nm,21.2s						
MDJ	Mudanjiang	67.14 332	*e*P		P	20 58 51.4	+0.9
	comp=Z,256nm,1.4s						
MDJ			LR		LR		
	comp=Z,928nm,21.0s						
DL2	Dalian	67.19 323	P		P	20 58 51.8	+1.0
DL2			S		S	21 07 41.8	-1.4
DL2			PMZ				
	comp=Z,240nm,1.2s						
DL2			PMZ				
	comp=Z,810nm,4.8s						
DL2			LN				
	comp=Z,450nm,14.7s						
DL2			LE				
	comp=Z,360nm,23.4s						
DL2			LZ				
	comp=Z,630nm,25.6s						

IPM	Ipoh	67.70 281	⇓P		P	20 58 55.6	+1.0
IPM	Ipoh	67.70 281	*e*P		P	20 58 54.6	0.0
	comp=Z,213nm,1.1s						
COCO	West Island	67.98 262	PFAKE			20 59 10.0	+14
COCO			LR		LR		
	comp=Z,2µm,21.0s						
HABR	Khabarovsk	67.99 338	*ce*P		P	20 58 54.5	-1.2
HABR			*e*SP			20 59 07.9	
HABR			*e*			20 59 19.5	
HABR			*e*			21 03 01.9	
HABR			*e*S		S	21 07 51.9	-0.6
HABR			*e*SS		sS	21 08 08.2	-1.3
HABR			*e*			21 08 49.7	
HABR			*e*SS		SS	21 12 14.1	-1.4
HABR			pmax		pmax		
	comp=Z,512nm,1.7s						
HABR			pmax		pmax		
	comp=N,46nm,1.3s						
HABR			pmax		pmax		
	comp=E,30nm,1.3s						
HABR			pmax		pmax		
	comp=Z,215nm,1.3s						
HABR			MLR		MLR		
	comp=Z,362nm,18.0s						
MNSI	Mandailing Nat	68.09 276	P		P	20 58 55.8	-1.3
TIA	Tai'an	68.25 318	⇑P		P	20 59 00.0	+2.4
TIA			PMZ				
	comp=Z,140nm,1.1s						
TIA			LN				
	comp=Z,940nm,18.6s						
TIA			LE				
	comp=Z,810nm,16.7s						
TIA			LZ				
	comp=Z,1µm,17.0s						
KULM	Kulim	68.29 281	⇓P		P	20 58 59.2	+0.9
KULM	Kulim	68.29 281	*e*P		P	20 58 58.5	+0.2
	comp=Z,122nm,1.2s						
CN2	Changchun	68.51 329	⇑*i*P		P	20 59 00.0	+0.9
CN2			*es*P		sP	20 59 19.8	+6.5
CN2			*e*S		S	21 07 58.3	-0.6
CN2			PMZ				
	comp=Z,180nm,1.0s						
CN2			PMZ				
	comp=Z,940nm,3.0s						
CN2			LN				
	comp=Z,670nm,22.0s						
CN2			LE				
	comp=Z,920nm,22.0s						
CN2			LZ				
	comp=Z,980nm,22.0s						
SKLT	Songkhla	68.87 283	P		P	20 59 03.0	+1.1
	comp=Z,85nm,1.3s,comp=Z,2µm						
CHBT	CHBT	69.07 290	P		P	20 59 04.8	+1.7
	comp=Z,66nm,1.2s						
SKNT	Sakolnakorn	69.09 294	P		P	20 59 03.8	+0.5
	comp=Z,247nm,1.4s,comp=Z,3µm						
PSI	Prapat	69.25 278	P		P	20 59 03.7	-0.8
	comp=Z,95nm,1.0s,baz=152,slow=4.0,SNR=78						
TSI	Tuntungan	69.78 279	P		P	20 59 07.0	-0.6
KLR	Kul'dur	69.86 336	⇓*i*P		P	20 59 04.8	-2.5
KLR			pmax		pmax		
	comp=E,100nm,1.6s						
KLR			pmax		pmax		
	comp=Z,280nm,1.6s						
KHON	Khomkaen	69.89 293	P		P	20 59 09.0	+0.8
	comp=Z,33nm,1.1s,comp=Z,762nm						
TRTT	Trang	69.95 284	P		P	20 59 09.6	+1.0
	comp=Z,109nm,1.1s,comp=Z,2µm						
GSI	Gunungsitoli	70.15 276	P		P	20 59 09.6	-0.4
GSI	Gunungsitoli	70.15 276	*e*P		P	20 59 09.5	-0.4
	comp=Z,197nm,0.9s						
NONG	Nongkai	70.24 295	P		P	20 59 10.9	+0.6
	comp=Z,115nm,1.4s,comp=Z,4µm						
ENH	Enshi	70.34 309	*e*P		P	20 59 10.8	0.0
	comp=Z,60nm,1.0s						
ENH			LR		LR		
	comp=Z,346nm,21.0s						
PATY	Pattaya	70.47 289	P		P	20 59 13.6	+1.9
	comp=Z,28nm,1.1s,comp=Z,751nm						
GYA	Guiyang	70.74 305	⇑*i*P		P	20 59 13.5	+0.1
GYA			pP		pP	20 59 25.5	+1.8
GYA			sP		sP	20 59 28.8	+1.2
GYA			S		S	21 08 26.0	-0.1
GYA			sS		sS	21 08 42.0	-1.2
GYA			SKS		SKSac	21 09 10.5	-3.1
GYA			SS		SS	21 13 00.5	+1.6
GYA			PMZ				
	comp=Z,100nm,1.0s						
GYA			PMZ				
	comp=Z,310nm,6.3s						
GYA			LN				
	comp=Z,3µm,20.3s						
GYA			LE				
	comp=Z,2µm,23.0s						
GYA			LZ				
	comp=Z,3µm,24.5s						
MIR	Mirnyy	71.09 204	*e*P		P	20 59 24.0	+9.3
MIR			pmax		pmax		
	comp=Z,300nm,1.5s						
BJT	Baijiatuao	71.15 321	*e*P		P	20 59 16.0	+0.6
BJT			pmax		pmax		
	comp=Z,254nm,1.4s						
BJT			MLR		MLR		
	comp=Z,2µm,22.0s						
BJT	Baijiatuao	71.15 321	*e*P		P	20 59 16.0	+0.6
	comp=Z,254nm,1.4s						
BJT			LR		LR		
	comp=Z,2µm,22.0s						
BJI	Beijing	71.16 321	P		P	20 59 16.0	+0.6
BJI			S		S	21 08 31.5	+1.4
BJI			SS		SS	21 13 07.0	+2.4
BJI			PMZ				
	comp=Z,140nm,1.2s						
BJI			PMZ				
	comp=Z,610nm,3.6s						
BJI			LN				
	comp=Z,2µm,21.0s						
BJI			LE				
	comp=Z,830nm,25.0s						
BJI			LZ				
	comp=Z,2µm,28.8s						
PBKT	Sadao Pong	71.63 293	P		P	20 59 24.2	+5.5
	comp=Z,109nm,1.2s,comp=Z,2µm						
SNSI	Sinabang, Aceh	71.64 277	P		P	20 59 19.8	+0.8
LOEI	Loei	71.70 294	P		P	20 59 17.9	-1.3
	comp=Z,98nm,1.4s,comp=Z,3µm						
LHMI	Lhok Sumawe	71.80 280	P		P	20 59 21.5	+1.6
TIY	Taiyuan	72.18 317	*e*P		P	20 59 23.5	+1.8
TIY			S		S	21 08 43.5	+1.3
TIY			PMZ				
	comp=Z,320nm,1.2s						
TIY			LN				
	comp=Z,270nm,12.6s						
TIY			LE				
	comp=Z,680nm,18.9s						
TIY			LZ				
	comp=Z,1µm,24.4s						
UTTA	Uttaradit	72.42 294	P		P	20 59 24.5	+1.0
	comp=Z,28nm,1.1s,comp=Z,244nm						
SRDT	SRDT	72.54 290	P		P	20 59 25.9	+1.7
	comp=Z,304nm,0.9s						
XAN	Xi'an	72.64 313	P		P	20 59 25.0	+0.4
XAN			pP		pP	20 59 35.0	+0.1
XAN			S		S	21 08 49.3	+1.7
XAN			PMZ				
	comp=Z,32nm,1.5s						
XAN			PMZ				
	comp=Z,140nm,7.7s						
XAN			LN				
	comp=Z,290nm,16.0s						
XAN			LE				
	comp=Z,230nm,22.1s						
XAN			LZ				
	comp=Z,200nm,18.7s						
UTHA	Uthaitani	72.65 291	P		P	20 59 26.8	+1.9
	comp=Z,37nm,1.1s,comp=Z,334nm						
KHLT	Khaolaem Dam	73.17 290	P		P	20 59 30.5	+2.5
	comp=Z,39nm,1.4s,comp=Z,613nm						
KMI	Kunming	73.36 302	⇑P		P	20 59 31.0	+1.8
KMI			pP		pP	20 59 40.8	+1.2
KMI			PcP		PcP	20 59 47.3	+1.9
KMI			PP		PP	21 02 16.8	+3.6
KMI			S		SKiKP	21 08 58.5	+0.2
KMI			SS		SS	21 13 40.8	+1.4
KMI			PMZ				
	comp=Z,250nm,1.1s						

KMI PMZ
comp=Z,590nm,3.1s
KMI LN
comp=Z,520nm,13.4s
KMI LE
comp=Z,670nm,17.9s
KMI LZ
comp=Z,920nm,16.0s
BSI Banda Aceh 73.46 280 P **P** **20 59 29.2 -0.6**
CRAI Chiangrai 73.48 296 P **P** **20 59 27.6 -2.2**
comp=Z,106nm,1.4s
LAMP Lampang 73.51 294 P **P** **20 59 31.3 +1.3**
comp=Z,87nm,0.9s,comp=Z,640nm
CM31 Chiang Mai Arr 74.10 294 *e*P **P** **20 59 34.9 +1.5**
comp=Z,141nm,0.9s
CMAR Chiang Mai Arr 74.10 294 P **P** **20 59 34.6 +1.2**
comp=Z,124nm,1.0s,baz=119,slow=4.2,SNR=347
CMAR LR LR 21 30 45.2
comp=Z,320nm,21.2s,baz=115,slow=35
CMMT Chiang Mai 74.22 294 P **P** **20 59 35.0 +0.9**
comp=Z,201nm,1.2s,comp=Z,2µm
CHTO Chiang Mai 74.23 294 P **P** **20 59 35.1 +0.9**
comp=Z,700nm,1.3s,comp=Z,9µm
CHTO Chiang Mai 74.23 294 *e*P **P** **20 59 34.9 +0.7**
CHTO pmax pmax
comp=Z,173nm,1.1s
CHTO MLR MLR
comp=Z,648nm,21.0s
CHTO Chiang Mai 74.23 294 P **P** **20 59 35.4 +1.2**
SNR=38
CHTO Chiang Mai 74.23 294 *e*P **P** **20 59 34.9 +0.7**
comp=Z,173nm,1.1s
CHTO LR LR
comp=Z,648nm,21.0s
HHC Hu-ho-hao-te 74.49 320 *e*P **P** **20 59 36.3 +0.9**
HHC PP **PP** **21 02 25.3 +3.0**
HHC S **S** **21 09 11.5 +3.2**
HHC sS **sS** **21 09 25.5 0.0**
HHC SS **SS** **21 13 57.8 +2.0**
HHC PMZ
comp=Z,63nm,0.7s
HHC PMZ
comp=Z,370nm,7.4s
CMAI Chiengmai2 74.53 295 P **P** **20 59 37.0 +0.9**
comp=Z,181nm,1.1s,comp=Z,6µm
MHMT Maesarieng 74.91 293 P **P** **20 59 39.4 +1.3**
comp=Z,53nm,1.2s,comp=Z,665nm
CD2 Chengdu 75.00 308 ⇑P **P** **20 59 39.5 +1.0**
CD2 pP **pP** **20 59 49.5 +0.6**
CD2 sP **sP** **20 59 53.5 +0.7**
CD2 PP **PP** **21 02 29.8 +3.0**
CD2 S **S** **21 09 14.0 -0.4**
CD2 sS **sS** **21 09 30.8 -0.8**
CD2 SKS **SKSac** **21 09 41.0 -4.4**
CD2 SS **SS** **21 14 05.3 +1.4**
CD2 PMZ
comp=Z,170nm,0.9s
CD2 PMZ
comp=Z,830nm,5.2s
CD2 LN
comp=Z,860nm,18.1s
CD2 LE
comp=Z,720nm,18.1s
CD2 LZ
comp=Z,890nm,20.1s
HIA Hailar 75.15 330 *e*P **P** **20 59 39.4 +0.5**
HIA pmax pmax
comp=Z,261nm,1.4s
HIA MLR MLR
comp=Z,963nm,22.0s
HIA Hailar 75.15 330 *e*P **P** **20 59 39.4 +0.5**
comp=Z,261nm,1.4s
HIA LR LR
comp=Z,963nm,22.0s
CMBY CAMPBELL BAY 75.18 281 *e*P **P** **20 59 39.3 -0.5**
CMBY AMB AMB 21 00 02.2
comp=Z,148nm,2.6s
QSPA South Pole Qui 76.34 180 P **P** **20 59 45.4 -0.3**
comp=Z,105nm,1.0s,baz=358,slow=1.2,SNR=74
QSPA South Pole Qui 76.34 180 *e*P **P** **20 59 45.4 -0.3**
comp=Z,119nm,1.1s
QSPA LR LR
comp=Z,993nm,19.0s
LZH Lanzhou 77.27 312 ⇑P **P** **20 59 53.3 +1.9**
LZH pP **PcP** **21 00 05.3 +3.3**
LZH sP **sP** **21 00 09.8 +4.1**
LZH PP **PP** **21 02 48.5 +2.5**
LZH *e*S **S** **21 09 40.0 +0.6**
LZH sS **SKSac** **21 10 02.0 -0.2**
LZH SS **SS** **21 14 40.0 +1.7**
LZH PMZ
comp=Z,710nm,1.6s
LZH PMZ
comp=Z,940nm,4.0s
LZH LN
comp=Z,430nm,17.1s
LZH LE
comp=Z,810nm,18.4s
LZH LZ
comp=Z,880nm,19.2s
DGPR DIGLIPUR 77.88 287 *e*P **P** **20 59 55.6 +0.6**
DGPR AMB AMB 21 00 13.5
comp=Z,189nm,1.4s
OHAK Old Harbor 77.97 21 *e*P **P** **20 59 54.2 -0.4**
CLNS Chul'man 78.39 338 *c i*P **P** **20 59 58.2 +1.2**
CLNS *e* 21 00 09.8
CLNS *e* 21 02 59.0
CLNS *e*PPP PPP 21 04 50.7
CLNS S **S** **21 09 54.1 +3.9**
CLNS *e* 21 10 46.0
CLNS pmax pmax
comp=Z,100nm,1.4s
CLNS pmax pmax
comp=N,42nm,1.1s
CLNS pmax pmax
comp=E,22nm,1.0s
CLNS pmax pmax
comp=Z,16nm,1.4s
CLNS pmax pmax
comp=N,13nm,0.9s
CLNS pmax pmax
comp=E,12nm,1.4s
CLNS smax smax
comp=E,434nm,12.9s
CLNS smax smax
comp=N,588nm,17.2s
KDAK Kodiak Island 78.65 21 *e*P **P** **20 59 58.2 -0.1**
KDAK pmax pmax
comp=Z,18nm,0.9s
KDAK MLR MLR
comp=Z,3µm,21.0s
KDAK Kodiak Island 78.65 21 *e*P **P** **20 59 58.2 -0.1**
comp=Z,18nm,0.9s
KDAK LR LR
comp=Z,3µm,21.0s
GAMB Gambell 78.97 10 *e*P **P** **21 00 01.4 +1.5**
comp=Z,100nm,1.1s
CIT Chita 79.94 330 *e*P **P** **21 00 06.0 +0.4**
CIT *e* 21 00 14.2
CIT *e* 21 00 25.0
CIT pmax pmax
comp=Z,332nm,1.6s
SVW2 Sparrevohn 80.29 18 *e*P **P** **21 00 08.9 +1.6**
IMP Imphal 80.65 298 *e*P **P** **21 00 10.0 -0.1**
YAK Yakutsk 80.90 343 *e*P **P** **21 00 09.6 -0.8**
YAK *e*PP **pP** **21 00 21.6 +0.7**
YAK *e*S S 21 10 10.0 -6.4
YAK pmax pmax
comp=Z,118nm,1.3s
YAK pmax pmax
comp=E,25nm,1.3s
YAK pmax pmax
comp=N,46nm,1.3s
YAK smax smax
comp=E,213nm,6.3s
YAK smax smax
comp=N,121nm,5.5s
YAK MLR MLR
comp=Z,2µm,17.0s
YAK MLR MLR
comp=N,956nm,16.0s
YAK MLR MLR
comp=E,665nm,16.0s
YAK Yakutsk 80.90 343 *e*P **P** **21 00 09.9 -0.5**
comp=E,118nm,0.9s
ULN Ulaanbaatar 81.02 324 *e*P P 21 00 17.4 +5.8
ULN pmax pmax
comp=Z,129nm,1.2s
ULN MLR MLR
comp=Z,886nm,21.0s
ULN Ulaanbaatar 81.02 324 P P 21 00 17.4 +5.8
SNR=74
ULN Ulaanbaatar 81.02 324 *e*P P 21 00 17.4 +5.8
comp=Z,129nm,1.2s
ULN LR LR
comp=Z,886nm,21.0s
SONM Songino Array 81.38 324 P **P** **21 00 14.0 +0.5**
comp=Z,26nm,1.0s,baz=145,slow=5.2,SNR=48
SONM LR LR 21 34 49.3
comp=Z,522nm,21.7s,baz=116,slow=34
SEW Seward 81.47 21 *e*P **P** **21 00 14.9 +1.4**
comp=Z,29nm,1.2s
BILL Bilibino 81.50 360 *c i*P **P** **21 00 12.9 -0.6**
BILL *i* 21 00 22.4
BILL pmax pmax
comp=Z,59nm,1.2s
BILL Bilibino 81.50 360 *e*P **P** **21 00 13.3 -0.2**
comp=Z,116nm,1.1s
GTA Gaotai 81.61 314 ⇑P **P** **21 00 16.0 +1.1**
GTA pP **pP** **21 00 26.0 +0.6**
GTA sP **sP** **21 00 30.0 +0.7**
GTA S **S** **21 10 23.5 -1.6**
GTA SKS **SKSac** **21 10 27.0 -5.5**
GTA sS **ScS** **21 10 40.5 -1.7**
GTA SS **SS** **21 15 44.0 +0.9**
GTA PMZ
comp=Z,200nm,1.5s
GTA PMZ
comp=Z,800nm,7.4s
GTA LN
comp=Z,400nm,19.5s
GTA LE
comp=Z,540nm,18.5s
GTA LZ
comp=Z,740nm,18.5s
RC01 Rabbit Creek A 82.10 20 *e*P **P** **21 00 17.2 +0.4**
comp=Z,36nm,1.0s
SHL Shillong 82.66 298 *e*P **P** **21 00 20.6 -0.3**
SHL AMB AMB 21 00 23.2
comp=Z,202nm,1.4s
MAW Mawson 82.68 202 P **P** **21 00 19.6 -0.3**
comp=Z,36nm,1.0s,baz=98,slow=7.3,SNR=27
MAW LR LR 21 30 58.0
comp=Z,2µm,21.9s,baz=76,slow=31
MAW Mawson 82.68 202 *e*P **P** **21 00 19.3 -0.6**
MAW pmax pmax
comp=Z,16nm,1.3s
MAW Mawson 82.68 202 *e*P **P** **21 00 19.3 -0.6**
comp=Z,16nm,1.3s
EYAK Cordova Ski Ar 83.08 22 *e*P **P** **21 00 22.9 +1.0**
comp=Z,61nm,1.2s
BOD Bodaibo 83.33 335 ⇑*i*P **P** **21 00 23.0 -0.3**
BOD pmax pmax
comp=Z,46nm,1.7s
DIV Divide 83.47 21 *e*P **P** **21 00 23.4 -0.6**
comp=Z,72nm,1.2s
TRF Thorofare Moun 83.69 18 *e*P **P** **21 00 23.5 -1.7**
comp=Z,30nm,1.1s
BMRM Bremner River 83.78 22 *e*P **P** **21 00 24.2 -1.4**
comp=Z,62nm,1.1s
BPAW Bear Paw Mtn. 83.97 17 *e*P **P** **21 00 24.8 -1.7**
comp=Z,5.4nm,1.3s
MCK McKinley 84.30 18 *e*P **P** **21 00 26.9 -1.3**
MCK pmax pmax
comp=Z,135nm,1.3s
MCK McKinley 84.30 18 *e*P **P** **21 00 26.9 -1.3**
comp=Z,135nm,1.3s
ZAK Zakamensk 84.43 325 ⇑*i*P **P** **21 00 29.4 +0.2**
ZAK *e* 21 03 47.6
ZAK pmax pmax
comp=Z,93nm,1.4s
LSA Lhasa 84.61 302 *e*P **P** **21 00 31.8 +0.7**
LSA pmax pmax
comp=Z,134nm,1.1s
LSA MLR MLR
comp=Z,454nm,19.0s
LSA Lhasa 84.61 302 *e*P **P** **21 00 31.8 +0.7**
comp=Z,134nm,1.1s
LSA LR LR
comp=Z,454nm,19.0s
IM04 Indian Mountai 84.66 15 *e*P **P** **21 00 29.6 -0.4**
IRK Irkutsk 84.81 327 ⇑*i*P **P** **21 00 30.2 -0.8**
IRK pmax pmax
comp=Z,183nm,1.4s
TLY Talaya 84.87 326 P **P** **21 00 31.5 +0.2**
comp=Z,499nm,1.8s,SNR=17
TLY Talaya 84.87 326 *e*P **P** **21 00 31.6 +0.2**
TLY pmax pmax
comp=Z,164nm,1.5s
TLY Talaya 84.87 326 P **P** **21 00 31.3 0.0**
SNR=46
TLY Talaya 84.87 326 *e*P **P** **21 00 31.1 -0.2**
comp=Z,112nm,1.1s
TLY LR LR
comp=Z,809nm,22.0s
YBH Yreka Blue Hor 85.00 45 *e*P **P** **21 00 33.0 +0.6**
YBH pmax pmax
comp=Z,12nm,1.1s
YBH Yreka Blue Hor 85.00 45 *e*P **P** **21 00 33.0 +0.6**
comp=Z,12nm,1.1s
HUMO Hull Mountain 85.18 44 *e*P P 21 00 36.3 +3.2
comp=Z,9.2nm,1.0s
COLA College 85.46 18 *d i*P **P** **21 00 32.7 -1.2**
COLA pmax pmax
comp=Z,293nm,1.2s
COLA College 85.46 18 *e*P **P** **21 00 32.5 -1.4**
comp=Z,109nm,1.1s
COLA LR LR
comp=Z,2µm,22.0s
ILAR Eielson Array 85.67 18 P **P** **21 00 33.8 -1.2**
comp=Z,14nm,1.0s,baz=234,slow=3.4,SNR=59
ILAR PKKP **PKKPdf** **21 18 36.5 +2.8**
comp=Z,1.0nm,1.1s,baz=12,slow=1.4,SNR=5.7
ILAR LR LR 21 34 00.2
comp=Z,2µm,20.3s,baz=240,slow=32
DOT Dot Lake 85.78 20 *e*P **P** **21 00 38.0 +2.4**
comp=Z,88nm,1.6s
WRAK Wrangell Islan 86.12 29 PFAKE 21 00 50.0 +13
WRAK LR LR
comp=Z,2µm,19.0s
BBB Bella Bella 86.17 34 LR LR 21 31 56.4
comp=Z,2µm,20.7s,baz=258,slow=31
MOY Mondy 86.31 325 *e*P **P** **21 00 38.3 -0.3**
MOY pmax pmax
comp=Z,122nm,2.8s
HYT Haines Junctio 86.36 24 *e*P **P** **21 00 39.8 +1.2**
NLWA Neilton Lookou 86.52 40 PFAKE 21 00 50.0 +10
NLWA LR LR
comp=Z,2µm,21.0s
COLD Coldfoot 86.54 15 *e*P **P** **21 00 39.9 +0.6**
comp=Z,63nm,1.2s
K05A Summer Lake 86.63 45 *e*pP pP 21 00 55.1 +4.0
PFO Pinyon Flats O 86.76 54 PFAKE 21 00 50.0 +8.7
PFO LR LR
comp=Z,2µm,20.0s
TAPN Taplejung 86.77 299 *e*P **P** **21 00 41.8 +0.1**
comp=Z,475nm,1.3s
ODAN Odare 86.90 298 *e*P **P** **21 00 42.0 -0.2**
comp=Z,592nm,1.2s
NVAR Mina Array Bea 86.94 49 PKPPKP **P'P'df** **21 26 42.7 +1.0**
comp=Z,0.9nm,0.6s,baz=77,slow=1.2,SNR=4.8
BOK Bokaro 87.34 295 *e*P **P** **21 00 43.8 -0.3**
BOK AMB AMB 21 00 45.1
comp=Z,69nm,1.3s
EGAK Eagle 87.49 20 *e*P **P** **21 00 44.3 +0.4**
comp=Z,25nm,0.9s
EGAK LR LR
comp=Z,1µm,21.0s
CHLP Challavanipeta 87.56 290 *e*P **P** **21 00 45.3 0.0**
CHLP IAmb IAmb 21 00 46.9
comp=Z,151nm,1.5s
RAMN Ramite 87.60 298 *e*P **P** **21 00 45.6 0.0**
comp=Z,370nm,1.3s
DAWY Dawson 87.63 21 *e*P **P** **21 00 45.5 +0.8**
PALK Pallekele 87.93 278 *e*P **P** **21 00 48.9 +1.7**
PALK pmax pmax
comp=Z,85nm,1.3s
PALK Pallekele 87.93 278 P **P** **21 00 49.2 +2.0**
SNR=5.3
PALK Pallekele 87.93 278 ⇓P **P** **21 00 48.7 +1.5**
SNR=7.9
PALK Pallekele 87.93 278 *e*P **P** **21 00 48.9 +1.7**
comp=Z,85nm,1.3s
WVOR Wild Horse Val 88.08 46 PFAKE 21 01 00.0 +13
WVOR LR LR
comp=Z,916nm,20.0s
JIRN Jiri 88.15 299 *e*P **P** **21 00 48.5 +0.1**
DLBC Dease Lake 88.23 28 *e*P **P** **21 00 50.1 +2.4**
GUN Gumba 88.48 299 *e*P **P** **21 00 50.0 0.0**
comp=Z,253nm,1.0s
SHPR Sheep Range 88.68 52 *e*P **P** **21 00 53.4 +2.9**
comp=Z,9.3nm,1.2s
PKI Pulchoki 88.79 299 *e*P **P** **21 00 51.2 -0.2**
comp=Z,427nm,1.1s
PKIN Phulchoki 88.80 299 *e*P **P** **21 00 51.1 -0.3**
comp=Z,107nm,1.3s
TIXI Tiksi 88.85 349 *ce*P **P** **21 00 48.9 -1.3**
TIXI pmax pmax
comp=Z,20nm,1.2s
TIXI Tiksi 88.85 349 *e*P **P** **21 00 49.2 -1.0**
comp=Z,23nm,1.3s
KKN Kakani 88.96 299 *e*P **P** **21 00 52.1 +0.1**
comp=Z,640nm,1.5s
DMN Daman 89.06 299 *e*P **P** **21 00 52.7 +0.1**
comp=Z,657nm,1.1s
LPIG La Paz 89.17 65 LR LR 21 33 21.5
comp=Z,691nm,20.8s,baz=244,slow=30
GKN Gorkha 89.57 299 *e*P **P** **21 00 54.4 -0.4**
comp=Z,492nm,1.1s
SYO Syowa Base 89.58 197 ⇑*i*P **P** **21 00 52.3 -1.5**
SYO Syowa Base 89.58 197 ⇑*i*P pP 21 01 05.0 +0.6
B08A Colville Reser 89.71 40 *e*P **P** **21 00 57.5 +2.7**
MDRS Chennai 89.75 283 *e*P **P** **21 00 55.4 -0.4**
MDRS AMB AMB 21 00 55.5
comp=Z,73nm,3.0s
BMO Blue Mountains 89.81 44 PFAKE 21 01 10.0 +15
BMO LR LR
comp=Z,949nm,20.0s
KOLN Koldanda 90.39 298 *e*P **P** **21 00 58.0 -0.7**
comp=Z,149nm,1.2s
SKHT Srikalahasti 90.42 284 *e*P **P** **21 00 59.2 +0.3**
SKHT IAmb IAmb 21 01 00.3
comp=Z,86nm,1.3s
TUC Tucson 90.94 57 PFAKE 21 01 10.0 +9.0
TUC LR LR
comp=Z,2µm,19.0s
NEW Newport 91.07 40 PFAKE 21 01 10.0 +8.8
NEW LR LR
comp=Z,1µm,20.0s
WUAZ Wupatki 91.33 54 PFAKE 21 01 10.0 +7.1
WUAZ LR LR
comp=Z,1µm,19.0s
HLID Hailey 91.38 46 PFAKE 21 01 10.0 +7.1
HLID LR LR
comp=Z,1µm,22.0s
NJS Nagarjunasagar 91.47 287 *e*P **P** **21 01 03.1 -0.5**
NJS IAML 21 01 04.6
comp=Z,146nm,1.3s
DUG Dugway, Tooele 91.54 49 PFAKE 21 01 20.0 +16
DUG LR LR
comp=Z,2µm,22.0s
WMQ Urumqi 91.67 315 P **P** **21 01 04.3 +0.2**
WMQ pP **pP** **21 01 14.8 +0.1**
WMQ sP **sP** **21 01 18.8 +0.3**
WMQ PP **PP** **21 04 45.5 +2.4**
WMQ SKS **SKSac** **21 11 32.5 -2.0**
WMQ S **S** **21 11 59.5 -2.8**
WMQ sS **sS** **21 12 17.0 -3.0**
WMQ SS **SS** **21 18 09.8 -0.4**
WMQ PMZ
comp=Z,95nm,1.2s
WMQ PMZ
comp=Z,810nm,4.2s
WMQ LN
comp=Z,670nm,21.2s
WMQ LE
comp=Z,570nm,22.2s
WMQ LZ
comp=Z,930nm,23.2s
RPR Rampur 92.02 289 *e*P **P** **21 01 05.8 -0.4**
RPR IAmb IAmb 21 01 07.0
comp=Z,162nm,1.0s
HYB Hyderabad 92.37 287 *i* P **P** **21 01 07.0 -0.9**
HYB Hyderabad 92.37 287 *e*P **P** **21 01 07.6 -0.3**
HYB AMB AMB 21 01 09.3
comp=Z,75nm,1.3s
HYBB Hyderabad (bro 92.37 287 *e*P **P** **21 01 08.1 +0.2**
HYBB IAmb IAmb 21 01 08.5
comp=Z,92nm,1.2s
DGAR Diego Garcia 92.45 262 PFAKE 21 01 20.0 +12
DGAR LR LR
comp=Z,1µm,20.0s
NGP Nagpur 92.78 291 *e*P **P** **21 01 08.8 -0.9**
NGP AMB AMB 21 01 10.7
comp=Z,109nm,0.7s
HWUT Hardware Ranch 92.84 48 PFAKE 21 01 20.0 +10
HWUT LR LR
comp=Z,2µm,22.0s
URV Uravakonda 93.01 285 *e*P **P** **21 01 10.7 -0.2**
URV IAmb IAmb 21 01 11.8
comp=Z,69nm,1.2s
AHID Auburn Hatcher 93.48 47 PFAKE 21 01 20.0 +7.3
AHID LR LR
comp=Z,1µm,21.0s
BOZ Bozeman (W) 93.88 44 PFAKE 21 01 30.0 +16
BOZ LR LR
comp=Z,713nm,20.0s
MVCO Mesa Verde 94.01 53 PFAKE 21 01 30.0 +15
MVCO LR LR
comp=Z,2µm,21.0s
NVL N'lazarevskaya 94.02 188 ⇓*i*P P 21 01 05.2 -9.2
NVL pmax pmax
comp=Z,48nm,0.9s
LKWY Lake 94.43 45 PFAKE 21 01 30.0 +13
LKWY LR LR
comp=Z,2µm,19.0s
AKL Akola 94.53 290 *e*P **P** **21 01 17.4 -0.4**
AKL AMB AMB 21 01 19.3
comp=Z,104nm,1.0s
SNAA Sanae 94.57 183 P P 21 01 12.5 -4.5
SNAA Sanae 94.57 183 P **P** **21 01 15.8 -1.2**
comp=Z,25nm,1.1s,baz=177,slow=6.2,SNR=57
SNAA Sanae 94.57 183 *e*P P 21 01 12.2 -4.8
SNAA pmax pmax
comp=Z,109nm,1.3s
SNAA Sanae 94.57 183 *e*P P 21 01 12.2 -4.8
comp=Z,108nm,1.3s
BW06 Boulder Array 94.58 47 PFAKE 21 01 30.0 +12
BW06 LR LR
comp=Z,1µm,21.0s
PDAR Pinedale Array 94.58 47 LR LR 21 38 08.1
comp=Z,586nm,19.8s,baz=284,slow=32
BHPL Bhopal 94.72 293 *e*P **P** **21 01 17.2 -1.4**
BHPL AMB AMB 21 01 18.1
comp=Z,48nm,2.0s
ANMO Albuquerque 95.09 55 PFAKE 21 01 30.0 +10
ANMO LR LR
comp=Z,2µm,19.0s
MNTX Cornudas Mount 95.25 59 PFAKE 21 01 30.0 +9.2
MNTX LR LR
comp=Z,896nm,20.0s
RLMT Red Lodge 95.35 45 PFAKE 21 01 30.0 +8.8
RLMT LR LR
comp=Z,1µm,20.0s
VNA2 Neumayer--Watz 95.51 182 P **P** **21 01 20.3 -0.9**
baz=158,slow=4.5
DDI Dehra Dun 95.71 300 *e*P **P** **21 01 22.7 -0.3**
DDI AMB AMB 21 01 25.8
comp=Z,45nm,4.9s
VNA1 Neumayer--Stat 95.81 182 P **P** **21 01 23.2 +0.7**
MK31 Makanchi Array 96.13 317 *e*P **P** **21 01 24.3 -0.2**
MK31 Makanchi Array 96.13 317 *e*P **P** **21 01 24.3 -0.2**
MKAR Makanchi Array 96.13 317 P **P** **21 01 24.4 -0.1**
comp=Z,37nm,0.8s,baz=101,slow=6.8,SNR=222
MKAR PP **PP** **21 05 15.3 -2.5**
comp=Z,11nm,1.2s,baz=99,slow=8.0,SNR=6.8
MKAR PKKP **PKKPbc** **21 18 10.7 -2.5**
comp=Z,0.7nm,0.8s,baz=285,slow=2.4,SNR=4.8
MKAR LR LR 21 43 43.1
comp=Z,373nm,21.9s,baz=82,slow=35
MKAR Makanchi Array 96.13 317 *e*P **P** **21 01 24.5 0.0**
MKAR *e* 21 05 15.9
MKAR Makanchi Array 96.13 317 *e*P **P** **21 01 24.5 0.0**
MKAR PP **PP** **21 05 15.3 -2.5**
MKAR *e*PP **PP** **21 05 15.9 -1.9**
MKAR PKKP **PKKPbc** **21 18 10.7 -2.5**
TXAR Lajitas Array 96.18 61 P **P** **21 01 26.7 +1.5**
comp=Z,0.3nm,0.8s,baz=236,slow=4.2,SNR=2.9

TXAR PKKPbc **PKKPbc** **21 18 11.8 -0.7**
comp=Z,0.7nm,0.8s,baz=128,slow=3.5,SNR=5.8
TXAR LR LR 21 35 50.0
comp=Z,683nm,22.0s,baz=0.0,slow=30
ZAA0 Zalesovo Array 96.28 324 *eP* **P** **21 01 23.5 -1.4**
ZALV Zalesovo Beam 96.28 324 P **P** **21 01 23.8 -1.1**
comp=Z,24nm,0.8s,baz=117,slow=4.5,SNR=102
ZALV LR LR 21 43 51.5
comp=Z,739nm,21.0s,baz=70,slow=35
SDCO Great Sand Dun 96.45 53 PFAKE 21 01 40.0 +13
SDCO LR LR
comp=Z,1μm,20.0s
SMLA Simla 96.63 300 *eP* **P** **21 01 25.7 -1.3**
SMLA AMB AMB 21 01 27.9
comp=Z,42nm,1.1s
ISCO Idaho Springs 96.80 51 PFAKE 21 01 40.0 +12
ISCO LR LR
comp=Z,2μm,22.0s
YKA Yellowknife Ar 96.83 27 P **P** **21 01 27.2 0.0**
comp=Z,1.9nm,1.0s,baz=252,slow=4.5,SNR=18
YKA PKPPKP **P'P'df** **21 26 20.1 -1.0**
comp=Z,0.1nm,0.3s,baz=110,slow=2.7,SNR=4.6
POO Poona 96.98 287 *eP* **P** **21 01 27.9 -1.1**
POO AMB AMB 21 01 30.1
comp=Z,60nm,1.1s
NVS Novosibirsk 97.39 325⇑ *i*P **P** **21 01 26.8 -3.1**
NVS *e*S **SKSac** **21 11 58.6 -6.0**
NVS pmax pmax
comp=E,21nm,1.4s
NVS pmax pmax
comp=Z,39nm,1.4s
NVS pmax pmax
comp=N,8.0nm,1.2s
NVS pmax pmax
comp=E,21nm,1.4s
NVS smax smax
comp=E,39nm,2.0s
DHRM DHARAMSHALA 97.58 301 *eP* **P** **21 01 28.9 -2.8**
DHRM AMB AMB 21 01 51.4
comp=Z,23nm,1.5s
KSH Kashi 99.19 308 P **Pdif** **21 01 39.8 +1.2**
KSH sP **sP** **21 01 54.0 +1.0**
KSH PP **PP** **21 05 45.3 +3.7**
KSH SKS **SKSac** **21 12 14.5 -0.3**
KSH S **ScS** **21 13 05.0 -3.0**
KSH sS **sS** **21 13 22.5 -3.3**
KSH SS **SS** **21 19 58.3 +1.0**
KSH PMZ
comp=Z,190nm,7.0s
KSH LN
comp=Z,170nm,7.1s
KSH LE
comp=Z,170nm,8.8s
KSH LZ
comp=Z,980nm,24.1s
KURK Kurchatov 99.30 320 *eP* **Pdif** **21 01 37.3 -1.3**
KURK pmax pmax
comp=Z,31nm,1.4s
KURK MLR MLR
comp=Z,852nm,19.0s
KURK Kurchatov 99.30 320 P **Pdif** **21 01 38.5 -0.1**
SNR=8.2
KURK Kurchatov 99.30 320 *eP* **Pdif** **21 01 37.2 -1.3**
comp=Z,31nm,1.4s
KURK LR LR
comp=Z,852nm,19.0s
JCT Junction City 99.70 61 PFAKE 21 01 50.0 +9.1
JCT LR LR
comp=Z,1μm,20.0s
OGNE Ogallala 99.70 50 PFAKE 21 01 50.0 +9.2
OGNE LR LR
comp=Z,2μm,22.0s
TKM2 Tokmak 2 100.04 312 *eP* **Pdif** **21 01 42.0 -0.4**
TKM2 pmax pmax
comp=Z,5.0nm,1.0s
TKM2 MLR MLR
comp=Z,563nm,22.0s
TKM2 Tokmak 2 100.04 312 *eP* **Pdif** **21 01 42.0 -0.4**
comp=Z,5.1nm,1.0s
TKM2 LR LR
comp=Z,563nm,22.0s
FRU Bishkek 100.74 312 *eP* **Pdif** **21 01 44.0 -1.3**
FRU *e* 21 05 51.0
AAK Ala-Archa 100.80 311⇓ *eP* **Pdif** **21 01 44.9 -0.8**
AAK pmax pmax
comp=Z,21nm,1.7s
AAK Ala-Archa 100.80 311 *e*Pdif **Pdif** **21 01 45.8 0.0**
AAK LR LR
comp=Z,553nm,22.0s
EKS2 Erkin-Say 101.32 311 PFAKE 21 02 00.0 +12
EKS2 LR LR
comp=Z,555nm,22.0s
FFC Flin Flon 101.74 36 PFAKE 21 02 00.0 +11
FFC LR LR
comp=Z,2μm,22.0s
PAYG Puerto Ayora 102.39 94 PFAKE 21 02 10.0 +17
PAYG LR LR
comp=Z,2μm,20.0s
KSU1 Kansas State U 103.56 53 PFAKE 21 02 10.0 +12
KSU1 LR LR
comp=Z,1μm,20.0s
KKAR Karatay Array 103.76 311 *eP* **Pdif** **21 01 58.3 -0.4**
KKAR *e* 21 06 14.2
KKAR Karatay Array 103.76 311 *e*Pdif **Pdif** **21 01 58.3 -0.4**
KKAR *e*PP **PP** **21 06 14.2 -1.7**
RER Riviere de l'E 103.98 244 PFAKE 21 02 10.0 +10
RER LR LR
comp=Z,2μm,21.0s
ECSD EROS Data Cent 104.05 48 PFAKE 21 02 10.0 +10
ECSD LR LR
comp=Z,683nm,19.0s
BRVK Borovoye 104.70 322 *eP* **Pdif** **21 02 01.7 -0.9**
BRVK pmax pmax
comp=Z,10.0nm,1.3s
BRVK MLR MLR
comp=Z,682nm,20.0s
BRVK Borovoye 104.70 322 *e*Pdif **Pdif** **21 02 01.7 -0.9**
comp=Z,9.9nm,1.3s
BRVK LR LR
comp=Z,682nm,20.0s
AGMN Agassiz Nation 104.94 43 PFAKE 21 02 20.0 +16
AGMN LR LR
comp=Z,1μm,20.0s
MIAR Mount Ida 105.48 58 PFAKE 21 06 30.0
MIAR LR LR
comp=Z,894nm,19.0s
TGUH Tegucigalpa,Un 108.40 80 PFAKE 21 06 40.0
TGUH LR LR
comp=Z,637nm,22.0s
MSEY Mahe Island 109.46 260 PFAKE 21 06 40.0
MSEY LR LR
comp=Z,1μm,20.0s
HOPE Hope Point 109.46 166 PFAKE 21 06 40.0
HOPE LR LR
comp=Z,984nm,20.0s
TRQA Tornquist 111.19 140 PFAKE 21 06 40.0
TRQA LR LR
comp=Z,782nm,19.0s
ABKAR Akbulak array 111.23 318 *e*PKiKP **PKiKP** **21 06 32.3 +2.0**
ARU Arti 111.36 325 *i* PKIKP **PKiKP** **21 06 29.6 -0.8**
ARU 21 07 09.0
ARU 21 13 06.9
ARU SP SP 21 16 40.1 +1.8
ARU Arti 111.36 325 *e*PKiKP **PKiKP** **21 06 30.4 0.0**
ARU LR LR
comp=Z,815nm,22.0s
ABPO Ambohimpanom 112.19 243 PFAKE 21 06 40.0
ABPO LR LR
comp=Z,2μm,21.0s
GLMI Grayling 112.68 47 PFAKE 21 06 50.0
GLMI LR LR
comp=Z,961nm,20.0s
GOGA Godfrey 113.79 59 PFAKE 21 06 50.0
GOGA LR LR
comp=Z,675nm,19.0s
OTAV Otavalo 114.08 96 PFAKE 21 06 50.0 +13
OTAV LR LR
comp=Z,799nm,20.0s
HATD Hatta, Dubai 114.19 291 *eP* PKPdf 21 06 36.3 -0.4
SNR=7.1
ASHO Ashiyiah 114.24 291 *eP* PKPdf 21 06 36.1 -0.8
SNR=7.7
LVC Limon Verde 114.60 123 PFAKE 21 06 50.0 +12
LVC LR LR
comp=Z,1μm,20.0s

BLA Blacksburg 116.23 55 PFAKE 21 06 50.0 +10
BLA LR LR
comp=Z,1μm,20.0s
PRGR Permogore 116.53 333 PKIKP **PKPdf** **21 06 36.6 -3.5**
PRGR pmax pmax
comp=Z,23nm,1.5s
NHSC New Hope 116.54 60 PFAKE 21 06 50.0 +9.0
NHSC LR LR
comp=Z,794nm,20.0s
LVZ Lovozero 117.66 342 PFAKE 21 06 50.0 +7.8
LVZ LR LR
comp=Z,815nm,22.0s
LPAZ La Paz 118.10 117 PKP **PKPdf** **21 06 44.3 -0.9**
comp=Z,0.9nm,0.6s,baz=349,slow=5.2,SNR=3.0
LPAZ PKKPab **PKKPab** **21 17 06.3 -1.9**
comp=Z,2.3nm,0.3s,baz=98,slow=3.2,SNR=5.1
APA Apatity 118.24 342⇑ *i*PKIKP **PKPdf** **21 06 42.2 -1.0**
APA *i* 21 13 38.0
APA *i* PS **PKKPdf** **21 17 38.0 +4.7**
APA *i* SS SS 21 24 08.0 -3.8
APA MLR MLR
comp=Z,1μm,17.0s
MTDJ Mount Denham 118.25 77 PFAKE 21 07 00.0 +15
MTDJ LR LR
comp=Z,550nm,21.0s
CNNC Cliffs of the 118.37 57 PFAKE 21 07 00.0 +16
CNNC LR LR
comp=Z,1μm,21.0s
CBN Corbin Frederi 118.58 54 PFAKE 21 07 00.0 +15
CBN LR LR
comp=Z,1μm,19.0s
KEV Kevo 118.60 345 PFAKE 21 07 00.0 +16
KEV LR LR
comp=Z,880nm,20.0s
ARCES ARCESS Array B 119.12 345 PKP **PKPdf** **21 06 43.9 -1.1**
comp=Z,4.9nm,0.7s,baz=78,slow=1.9,SNR=55
ARCES PKKPab **PKKPab** **21 16 57.5 -2.7**
comp=Z,1.7nm,0.8s,baz=149,slow=2.8,SNR=5.7
BINY Binghamton 119.18 49 PFAKE 21 07 00.0 +14
BINY LR LR
comp=Z,2μm,22.0s
SUMG Summit 119.27 8 *i* P **PKKPab** **21 16 59.5 -0.5**
comp=Z,27nm,1.2s
KLMR Klimovskoe 119.54 333*c* *i*PKIKP **PKPdf** **21 06 42.4 -3.5**
KLMR MLR MLR
comp=Z,956nm,20.0s
LONY Lake Ozonia 119.80 46 PFAKE 21 07 00.0 +13
LONY LR LR
comp=Z,810nm,20.0s
NCB Newcomb 120.17 47 PFAKE 21 07 00.0 +12
NCB LR LR
comp=Z,1μm,20.0s
GTBY Guantanamo Bay 120.68 75 PFAKE 21 07 00.0 +11
GTBY LR LR
comp=Z,449nm,21.0s
SFJD Kangerlussuaq 121.30 16 PFAKE 21 07 00.0 +11
SFJD LR LR
comp=Z,1μm,20.0s
SCHQ Schefferville 121.68 33 PKKPbc PKKPbc 21 16 49.3 -1.9
comp=Z,2.3nm,0.8s,baz=270,slow=1.0,SNR=5.2
DGRG David-gareji 122.40 311 P **PKPdf** **21 06 52.3 +0.1**
MOS Moscow 122.75 329 *e*PKIKP **PKPdf** **21 06 49.8 -2.4**
MOS *e* 21 08 29.9
MOS pmax pmax
comp=Z,56nm,1.4s
MOS MLR MLR
comp=Z,900nm,20.0s
SEAG Tbilisi Sea 122.76 311 P **PKPdf** **21 06 52.6 -0.2**
DUS Dusheti 122.77 311 P **PKPdf** **21 06 54.0 +1.1**
TBLG Delisi 122.81 311 P **PKPdf** **21 06 53.0 +0.1**
GNI Garni 123.11 309 *e*PKIKP **PKPdf** **21 06 53.7 0.0**
GNI Garni 123.11 309 P **PKPdf** **21 06 54.7 +1.1**
SNR=11
GNI Garni 123.11 309 ⇓P **PKPdf** **21 06 53.7 0.0**
SNR=14
GNI Garni 123.11 309 *e*PKPdf **PKPdf** **21 06 53.7 0.0**
GOF Gofitskoye 123.26 315 *e*PKIKP **PKPdf** **21 06 53.8 +0.2**
GOF pmax pmax
comp=Z,30nm,1.3s
PKME Peaks-Kenny Pk 123.32 45 PFAKE 21 07 10.0 +16
PKME LR LR
comp=Z,904nm,19.0s
LPSR Galich'ya Gora 123.37 325 *e*PKIKP **PKPdf** **21 06 53.3 -0.2**
LPSR pmax pmax
comp=Z,60nm,1.3s
LPSR pmax pmax
comp=N,30nm,1.5s
LPSR pmax pmax
comp=E,20nm,1.5s
OBN Obninsk 123.57 328*c* *i*PKIKP **PKPdf** **21 06 52.7 -1.1**
OBN pmax pmax
comp=Z,56nm,1.2s
OBN Obninsk 123.57 328 *e*PKPdf **PKPdf** **21 06 53.1 -0.7**
OBN LR LR
comp=Z,1μm,22.0s
ONI Oni 123.57 312 P **PKPdf** **21 06 54.8 +0.4**
SDV Santo Domingo 123.58 88 *e*PKPdf **PKPdf** **21 06 54.4 -0.9**
SDV LR LR
comp=Z,737nm,20.0s
KBZ Khabaz 123.70 314 PKP **PKPdf** **21 06 54.7 +0.3**
comp=Z,6.5nm,1.0s,baz=56,slow=24,SNR=9.8
VSR Storozhevoye 123.77 323 *e*PKIKP **PKPdf** **21 06 52.7 -1.6**
VSR pmax pmax
comp=N,7.0nm,1.5s
VSR pmax pmax
comp=E,10.0nm,1.5s
VSR pmax pmax
comp=Z,60nm,1.5s
KIV Kislovodsk 123.79 314 *e*PKIKP **PKPdf** **21 06 53.9 -0.9**
KIV pmax pmax
comp=Z,28nm,1.1s
KIV Kislovodsk 123.79 314 P **PKPdf** **21 06 54.5 -0.3**
SNR=11
KIV Kislovodsk 123.79 314 P **PKPdf** **21 06 54.7 0.0**
SNR=13
KIV Kislovodsk 123.79 314 *e*PKPdf **PKPdf** **21 06 54.6 -0.2**
KIV *e*PP **PP** **21 08 39.5 +1.6**
KIV LR LR
comp=Z,547nm,21.0s
VORD Divnogorie 123.79 323 *e*PKIKP **PKPdf** **21 06 53.0 -1.4**
VORD pmax pmax
comp=N,10.0nm,1.0s
VORD pmax pmax
comp=E,30nm,1.0s
VORD pmax pmax
comp=Z,20nm,1.0s
AKH Akhalkalaki 123.80 311 P **PKPdf** **21 06 55.3 +0.3**
SUR Sutherland 123.81 215 PKP **PKPdf** **21 06 55.4 0.0**
comp=Z,16nm,0.9s,baz=169,slow=5.5,SNR=5.3
SUR Sutherland 123.81 215 PKP **PKPdf** **21 06 55.4 0.0**
SUR LR LR
comp=Z,1μm,22.0s
RAYN Ar Rayn 123.82 289 *e*PKPdf **PKPdf** **21 06 55.3 -0.1**
RAYN LR LR
comp=Z,653nm,20.0s
BOSA Boshof 123.86 221 PKP **PKPdf** **21 06 54.9 -0.6**
comp=Z,6.7nm,0.6s,baz=170,slow=2.0,SNR=11
PUL Pulkovo 124.01 335 ⇓ *i*PKIKP **PKPdf** **21 06 56.8 +2.3**
SDDR Presa de Saban 124.21 76 PFAKE 21 07 10.0 +14
SDDR LR LR
comp=Z,527nm,20.0s
SIV San Ignacio 124.25 120 PKP **PKPdf** **21 06 55.8 -0.6**
comp=Z,1.1nm,0.6s,baz=186,slow=3.9,SNR=3.1
SIV PKKPbc **PKKPbc** **21 16 40.3 0.0**
comp=Z,2.4nm,0.8s,baz=83,slow=5.9,SNR=5.6
DAMY Dhamar 124.27 278 *e*PKPdf **PKPdf** **21 06 58.7 +2.0**
CUKT Cukurca 124.48 306 *eP* **PKPdf** **21 06 55.6 -0.8**
GRTK Grand Turk 124.49 73 PFAKE 21 07 10.0 +13
GRTK LR LR
comp=Z,662nm,22.0s
CHVG Ch'k'valeri 124.52 313 P **PKPdf** **21 06 56.6 +0.5**
AGRB Hanur-Agry 124.54 309 *eP* **PKPdf** **21 06 55.9 -0.6**
FIA1 FINESS Array S 124.58 338 *e*PKPdf **PKPdf** **21 06 54.3 -1.3**
FINES FINESS Array B 124.58 338 PKP **PKPdf** **21 06 54.5 -1.1**
comp=Z,7.7nm,0.9s,baz=64,slow=4.4,SNR=20
BCA Borcka 125.16 311 *eP* **PKPdf** **21 06 57.5 +0.1**
SAML Samuel 125.54 112 PFAKE 21 07 10.0 +11
SAML LR LR
comp=Z,662nm,19.0s
SOC Sochi 125.96 314 *i* PKIKP **PKPdf** **21 06 56.3 -2.5**
SOC *e* 21 08 48.4
SOC *e*PPP PPP 21 11 33.1
SOC pmax pmax
comp=Z,29nm,0.8s
SOC MLR MLR
comp=Z,551nm,20.0s
LBTB Lobatse 126.05 225 *e*PKIKP **PKPdf** **21 06 59.0 -0.7**
LBTB Lobatse 126.05 225 *e*PKPdf **PKPdf** **21 06 59.0 -0.7**
VSU Vasula 126.27 335*d* *i*PKIKP **PKPdf** **21 06 58.2 -0.7**
BNGB Bing¶ll 126.42 309 *eP* **PKPdf** **21 07 00.7 +0.7**
BAYT Ayd¨–ntepe-Bay 126.50 310 *eP* **PKPdf** **21 07 00.7 +0.5**
ANN Anapa 127.15 316 *i* PKIKP **PKPdf** **21 07 05.0 +4.0**
ANN *e* 21 08 56.2
ANN *i* PS **PS** **21 19 08.2 +2.8**
ANN pmax pmax
comp=Z,33nm,1.2s
ANN MLR MLR
comp=Z,771nm,23.0s
ANN MLR MLR
comp=E,483nm,23.0s
ANN MLR MLR
comp=N,603nm,23.0s
KMBO Kilima Mbogo 127.89 258 PKP **PKPdf** **21 07 03.6 -0.1**
comp=N,17nm,1.1s,baz=67,slow=2.5,SNR=16
KMBO Kilima Mbogo 127.89 258 P **PKPdf** **21 07 04.7 +1.0**
SNR=6.9
KMBO Kilima Mbogo 127.89 258 PKP **PKPdf** **21 07 03.6 -0.1**
KMBO *e*PKPdf **PKiKP** **21 07 04.0 -0.2**
IDID Didziasalis 128.23 332 *eP* **PKPdf** **21 07 01.9 -0.8**
IDID AMB AMB 21 07 04.4
comp=Z,13nm,1.3s
MALT Malatya 128.29 308 *eP* **PKPdf** **21 07 03.0 -0.6**
MALT Malatya 128.29 308⇑ PKIKP **PKPdf** **21 07 04.5 +0.9**
MALT Malatya 128.29 308⇑ *i*P **PKPdf** **21 07 04.5 +0.9**
MALT Malatya 128.29 308⇑ *i*P **PP** **21 09 11.1 +3.1**
ISAL Salakas 128.34 333 *eP* **PKPdf** **21 07 02.5 -0.4**
ISAL AMB AMB 21 07 04.8
comp=Z,20nm,1.7s
IIGN Ignalina 128.44 332 *eP* **PKPdf** **21 07 02.6 -0.6**
IIGN AMB AMB 21 07 04.9
comp=Z,16nm,1.3s
SVSK Karacayir 128.95 311 *eP* **PKPdf** **21 07 04.6 0.0**
SJG San Juan 129.03 78 PFAKE 21 07 20.0 +15
SJG LR LR
comp=Z,657nm,22.0s
SIM Simferopol' 129.29 318 *i* PKIKP **PKPdf** **21 07 05.6 +0.5**
SIM pmax pmax
comp=Z,15nm,0.9s
NB2 NORSAR Subarra129.49 345 PKPdf **PKPdf** **21 07 03.9 -1.2**
comp=Z,24nm,1.4s,baz=31,slow=1.9
NB2 NORSAR Subarra129.49 345 PKPdf **PKPdf** **21 07 03.9 -1.2**
baz=31,slow=1.9
NOA NORSAR Array B 129.49 345 PKP **PKPdf** **21 07 04.4 -0.7**
comp=Z,5.8nm,1.0s,baz=32,slow=2.0,SNR=8.8
NOA SKPbc SKPbc 21 10 25.2 +0.7
comp=Z,7.4nm,0.9s,baz=30,slow=4.2,SNR=18
HFS Hagfors 129.59 343 SKPbc SKPbc 21 10 25.2 +0.4
comp=Z,9.0nm,0.9s,baz=42,slow=4.6,SNR=12
BBSR BB Station 129.59 59 PFAKE 21 07 20.0 +14
BBSR LR LR
comp=Z,612nm,21.0s
AKASG Malin Array Be 129.61 326 PKP **PKPdf** **21 07 04.8 -0.8**
comp=Z,14nm,1.0s,baz=51,slow=1.7,SNR=62
AKASG PP **PP** **21 09 14.2 -1.6**
comp=Z,1.2nm,0.6s,baz=54,slow=6.4,SNR=4.2
AKASG SKPbc SKPbc 21 10 25.3 +0.1
comp=Z,0.7nm,0.4s,baz=50,slow=4.1,SNR=4.7
AKBB Malin Array Si 129.61 326 *e*PKIKP **PKPdf** **21 07 05.4 -0.1**
AKBB Malin Array Si 129.61 326 *e*PKPdf **PKPdf** **21 07 05.4 -0.1**
AK01 Malin Array Si 129.62 326 *e*PKPdf **PKPdf** **21 07 05.3 -0.2**
KIEV Kiev 129.62 326*d* *i*PKIKP **PKPdf** **21 07 05.0 -0.5**
KIEV Kiev 129.62 326 PFAKE 21 07 20.0 +14
KIEV LR LR
comp=Z,783nm,21.0s
AK02 Malin Array Si 129.64 326 *e*PKPdf **PKPdf** **21 07 05.4 -0.2**
LSZ Lusaka 129.96 236 *e*PKIKP **PKPdf** **21 07 07.6 +0.2**
LSZ MLR MLR
comp=Z,1μm,20.0s
LSZ Lusaka 129.96 236 P **PKPdf** **21 07 08.2 +0.8**
SNR=6.7
LSZ Lusaka 129.96 236 *e*PKPdf **PKPdf** **21 07 07.6 +0.2**
LSZ LR LR
comp=Z,1μm,20.0s
SUW Suwalki 130.65 333 *e*PKP **PKPdf** **21 07 06.9 -0.5**
SUW *e* 21 10 28.7
SUW Suwalki 130.65 333 *e*PKIKP **PKPdf** **21 07 07.0 -0.5**
SUW Suwalki 130.65 333 *e*PKPdf **PKPdf** **21 07 06.9 -0.5**
KONO Kongsberg 131.10 345 *e*SKPbc **SKPab** **21 10 31.3 +0.7**
KONO LR LR
comp=Z,719nm,22.0s
KARA Karaisali 131.14 308 *eP* **PKPdf** **21 07 08.1 -0.8**
BR131 Keskin Array S 131.47 311 *e*PKPdf **PKPdf** **21 07 08.8 -0.9**
BRTR Keskin Array B 131.47 311 PKhKP PKPpre 21 06 56.0
comp=Z,0.5nm,0.7s,baz=90,slow=3.7,SNR=3.7
BRTR PKP **PKPdf** **21 07 08.2 -1.4**
comp=Z,3.8nm,0.9s,baz=134,slow=2.7,SNR=16
BRTR PP **PP** **21 09 24.8 -3.9**
comp=Z,1.2nm,0.9s,baz=114,slow=4.8,SNR=4.1
BRTR SKPbc **SKPab** **21 10 33.2 +0.2**
comp=Z,4.8nm,0.7s,baz=90,slow=4.2,SNR=12
KAMT Kaman 131.53 311 *eP* **PKPdf** **21 07 09.0 -0.7**
KIS Kishinev 131.72 322 *e*PKP **PKPdf** **21 07 08.0 -1.6**
KIS LRM MLR 22 07 10.0
comp=Z,600nm,23.0s
KIS Kishinev 131.72 322 *e*PKIKP **PKPdf** **21 07 08.0 -1.6**
KIS *e* 21 09 33.0
ANTO Ankara 132.04 312 *e*PKIKP **PKPdf** **21 07 10.2 -0.4**
ANTO MLR MLR
comp=Z,397nm,19.0s
ANTO Ankara 132.04 312 P **PKPdf** **21 07 10.5 -0.1**
SNR=11
ANTO Ankara 132.04 312 *e*PKPdf **PKPdf** **21 07 10.2 -0.4**
ANTO *e*SKPbc **SKPab** **21 10 36.0 +0.6**
ANTO LR LR
comp=Z,397nm,19.0s
GRGR Grenville 132.81 86 PFAKE 21 07 20.0 +7.4
GRGR LR LR
comp=Z,482nm,20.0s
LVV L'vov 132.86 328 *e*PKIKP **PKPdf** **21 07 11.0 -0.7**
CFR Carcaliu 133.02 320⇑ PKIKP **PKPdf** **21 07 12.4 +0.3**
CFR Carcaliu 133.02 320⇑ *i*P **PKPdf** **21 07 12.4 +0.3**
KIZT Kizilcal 133.04 311 *eP* **PKPdf** **21 07 11.3 -1.3**
CSS Prodhromos 133.09 305 PFAKE 21 07 20.0 +7.3
CSS LR LR
comp=Z,174nm,22.0s
ANWB Willy Bob 133.16 79 PFAKE 21 07 30.0 +17
ANWB LR LR
comp=Z,628nm,22.0s
TLB Topalu 133.36 320⇑ PKIKP **PKPdf** **21 07 13.2 +0.4**
TLB Topalu 133.36 320⇑ *i*P **PKPdf** **21 07 13.1 +0.3**
BUR08 Bucovina Ar. S 133.48 325 *e*PKPdf **PKPdf** **21 07 13.9 +0.8**
BURAR Bucovina Array 133.49 325⇑ PKIKP **PKPdf** **21 07 14.7 +1.6**
BURAR Bucovina Array 133.49 325⇑ *i*P **PKPdf** **21 07 14.7 +1.6**
BURAR Bucovina Array 133.49 325⇓ *i*P **PP** **21 09 41.2 +0.2**
VRI Vrincioaia 133.54 322⇑ PKIKP **PKPdf** **21 07 12.8 -0.4**
VRI Vrincioaia 133.54 322⇑ *i*P **PKPdf** **21 07 12.8 -0.4**
FDF Fort de France 133.58 83 PFAKE 21 07 30.0 +16
FDF LR LR
comp=Z,506nm,22.0s
KWP Kalwaria Pacla 133.66 328 *e*PKP **PKPdf** **21 07 14.1 +0.8**
KWP *e* 21 09 42.2
KWP Kalwaria Pacla 133.66 328 *e*PKIKP **PKPdf** **21 07 14.1 +0.8**
KWP *e* 21 09 42.2
LLD Lille Linde 133.98 340 *i* P **SKPbc** **21 10 41.9 +1.5**
ISR Istrita 134.03 321 ⇓PKIKP **PKPdf** **21 07 16.0 +1.8**
ISR Istrita 134.03 321 ⇓ *i*P **PKPdf** **21 07 16.0 +1.8**
ISR Istrita 134.03 321⇑ *i*P **PP** **21 09 47.0 +2.5**
MLR Muntele Rosu 134.20 322⇑ PKIKP **PKPdf** **21 07 14.6 0.0**
MLR Muntele Rosu 134.20 322⇑ *i*P **PKPdf** **21 07 14.6 0.0**
MBAR Mbarara 134.22 256 PFAKE 21 07 30.0 +14
MBAR LR LR
comp=Z,864nm,21.0s
DOPR Dopca 134.29 323⇑ *i*P **PKPdf** **21 07 14.4 -0.2**
DOPR Dopca 134.29 323⇑ *i*P **PP** **21 09 45.0 -1.0**
KOLS Kolonicke sedl 134.31 328 *e*PKIKP **PKPdf** **21 07 15.0 +0.5**
KOLS *e* 21 09 45.6
KOLS Kolonicke sedl 134.31 328 *e*PKP **PKPdf** **21 07 15.0 +0.5**
KOLS *e*PP **PP** **21 09 45.6 -0.4**
ISP Isparta 134.40 310 PFAKE 21 07 30.0 +15
ISP LR LR
comp=Z,493nm,22.0s
UZH Uzhgorod 134.49 327 *e*PKHKP PKPpre 21 07 00.8
UZH *i* 21 07 14.2
UZH *e* 21 07 23.0
UZH *e* 21 07 31.0
STHS Stebnicka Huta 134.54 329 *e*PP PP 21 09 48.2 +0.8
CTKS Kestanelik-??a 134.55 315 *eP* **PKPdf** **21 07 13.8 -1.3**
OJC Ojcow 134.72 330 *e*PKP **PKPdf** **21 07 15.1 -0.1**
OJC *e* 21 09 45.8

OJC	**Ojcow**	**134.72 330**	*e*PKIKP	**PKPdf**	**21 07 15.1**	**-0.1**
OJC			*e*		21 09 45.8	
OJC	**Ojcow**	**134.72 330**	*e*PKPdf	**PKPdf**	**21 07 15.1**	**-0.1**
OJC			*e*PP	**PP**	**21 09 50.7**	**+2.2**
VOIR		**134.77 322**	⇑PKIKP	**PKPdf**	**21 07 18.2**	**+2.6**
VOIR		**134.77 322**	⇑*i*P	**PKPdf**	**21 07 18.2**	**+2.6**
BDFB	**Brasilia**	**134.91 129**	PKP	**PKPdf**	**21 07 16.1**	**-0.6**
	comp=Z,1.4nm,0.4s,baz=203,slow=7.7,SNR=2.9					
BDFB			SKPbc	**SKPbc**	**21 10 44.1**	**-0.8**
	comp=Z,1.6nm,0.3s,baz=135,slow=2.9,SNR=3.1					
CJR	**Cluj-Napoca**	**134.91 324**	⇑PKIKP	**PKPdf**	**21 07 16.6**	**+0.8**
CJR	**Cluj-Napoca**	**134.91 324**	⇑*i*P	**PKPdf**	**21 07 16.6**	**+0.8**
NIE	**Niedzica**	**135.00 329**	*e*PKP	**PKPdf**	**21 07 15.8**	**0.0**
NIE			*e*		21 09 52.0	
NIE	**Niedzica**	**135.00 329**	*e*PKIKP	**PKPdf**	**21 07 15.9**	**+0.1**
NIE			*e*		21 09 52.1	
ARR	**Arges**	**135.05 322**	⇑*i*P	**PKPdf**	**21 07 16.9**	**+0.8**
ARR	**Arges**	**135.05 322**	⇑*i*P	**PP**	**21 09 52.5**	**+1.5**
HUMR	**Humele**	**135.29 321**	⇑*i*P	**PKPdf**	**21 07 16.5**	**+0.1**
JMB	**Yambol**	**135.29 318**	⇑PKIKP	**PKPdf**	**21 07 18.3**	**+1.8**
JMB	**Yambol**	**135.29 318**	⇑*i*P	**PKPdf**	**21 07 18.3**	**+1.8**
JMB	**Yambol**	**135.29 318**	⇑*i*P	**PP**	**21 09 49.6**	**-3.0**
DRGR		**135.36 325**	⇑PKIKP	**PKPdf**	**21 07 16.8**	**+0.2**
DRGR		**135.36 325**	⇑*i*P	**PKPdf**	**21 07 16.8**	**+0.2**
TSUM	**Tsumeb**	**135.42 224**	*e*PKPdf	**PKPdf**	**21 07 18.0**	**+0.3**
TSUM			LR	LR		
	comp=Z,1μm,22.0s					
RUE	**Ruedersdorf**	**135.70 337**	*e*PKPdf	**PKPdf**	**21 07 17.3**	**+0.4**
RUE			*e*SKPdf	**SKPdf**	**21 10 48.0**	**-1.6**
BSEG	**Bad Segeberg**	**135.76 340**	*e*PKPdf	**PKPdf**	**21 07 17.5**	**+0.5**
BSEG			*e*SKPdf	**SKPdf**	**21 10 48.1**	**-1.6**
OKC	**Ostrava-Krasne**	**135.77 331**	*e*PKPdf	**PKPdf**	**21 07 17.5**	**+0.3**
OKC			*ep*PKP	**pPKPdf**	**21 07 28.4**	**+0.3**
OKC			*e*PP	**PP**	**21 09 54.9**	**-0.1**
OKC			*e*SKP		21 10 47.1	
OKC			AMS	AMS	22 03 40.0	
	comp=Z,1μm,23.4s					
OKC	**Ostrava-Krasne**	**135.77 331**	*e*PKIKP	**PKPdf**	**21 07 17.5**	**+0.3**
OKC			*e*		21 07 28.4	
OKC			*e*		21 09 54.9	
OKC			MLR	MLR		
	comp=Z,1μm,23.4s					
KSP	**Ksiaz**	**135.89 333**	*e*PKP	**PKPdf**	**21 07 16.8**	**-0.6**
KSP			*e*		21 09 56.2	
KSP			*e*		21 10 47.6	
KSP	**Ksiaz**	**135.89 333**	*e*PKIKP	**PKPdf**	**21 07 16.8**	**-0.6**
KSP			*e*		21 09 56.2	
GZR	**Gura Zlata**	**136.13 323**	⇑PKIKP	**PKPdf**	**21 07 18.3**	**+0.2**
GZR	**Gura Zlata**	**136.13 323**	⇑*i*P	**PKPdf**	**21 07 18.3**	**+0.2**
ERIK	**Erikli-Kesan**	**136.15 315**	*e*P	**PKPdf**	**21 07 15.8**	**-2.3**
PSZ	**Piszkesteto**	**136.19 328**	*e*PKIKP	**PKPdf**	**21 07 17.7**	**-0.4**
PSZ			MLR	MLR		
	comp=Z,1μm,19.0s					
PSZ	**Piszkesteto**	**136.19 328**	⇑*i*P	**PKPdf**	**21 07 18.4**	**+0.3**
PSZ	**Piszkesteto**	**136.19 328**	⇓*i*P	**PP**	**21 10 00.0**	**+2.1**
PSZ	**Piszkesteto**	**136.19 328**	*e*PKPdf	**PKPdf**	**21 07 17.7**	**-0.4**
PSZ			*e*SKPbc	**SKPbc**	**21 10 49.8**	**+2.0**
PSZ			LR	LR		
	comp=Z,1μm,19.0s					
PSZ	**Piszkesteto**	**136.19 328**	⇑*e*	**PKPdf**	**21 07 17.5**	**-0.6**
DPC	**Dobruska-Polom**	**136.24 333**	*e*PKPdf	**PKPdf**	**21 07 17.7**	**-0.4**
DPC			*ep*PKP	**pPKPdf**	**21 07 31.4**	**+2.4**
DPC			*e*PP	**PP**	**21 09 56.6**	**-1.4**
DPC			*e*SKP		21 10 49.8	
DPC			AMS	AMS	22 06 30.0	
	comp=Z,2μm,23.3s					
DPC	**Dobruska-Polom**	**136.24 333**	*e*PKIKP	**PKPdf**	**21 07 17.7**	**-0.4**
DPC			*e*		21 07 31.4	
DPC			*e*		21 09 56.6	
DPC			MLR	MLR		
	comp=Z,2μm,23.3s					
DPC	**Dobruska-Polom**	**136.24 333**	*e*PKPdf	PKPdf	21 07 12.5	-5.6
DPC			*e*PP	**PP**	**21 09 58.1**	**+0.1**
DPC			*e*SKPbc	**SKPbc**	**21 10 49.7**	**+1.9**
SIRR	**Siria**	**136.26 325**	⇑*i*P	**PKPdf**	**21 07 18.5**	**+0.3**
UPC	**Upice**	**136.26 333**	*e*PKPdf	**PKPdf**	**21 07 17.1**	**-1.0**
UPC			*ep*PKP	**pPKPdf**	**21 07 28.3**	**-0.7**
UPC			*e*PP	**PP**	**21 09 56.3**	**-1.8**
UPC			*e*SKP		21 10 49.8	
UPC	**Upice**	**136.26 333**	*e*PKIKP	**PKPdf**	**21 07 17.1**	**-1.0**
UPC			*e*		21 07 28.3	
UPC			*e*		21 09 56.3	
GELI	**Tayfur-Gelibol**	**136.30 315**	*e*P	**PKPdf**	**21 07 17.0**	**-1.4**
HLG	**Helgoland**	**136.31 342**	*e*SKPdf	**SKPdf**	**21 10 49.8**	**-0.9**
ALN	**Alexandroupoli**	**136.37 316**	*e*P	**PKPdf**	**21 07 17.0**	**-1.6**
KDZ	**Kurdzhali**	**136.44 317**	⇑PKIKP	**PKPdf**	**21 07 18.7**	**0.0**
KDZ	**Kurdzhali**	**136.44 317**	⇑*i*P	**PKPdf**	**21 07 18.7**	**0.0**
KDZ	**Kurdzhali**	**136.44 317**	⇑*i*P	**PP**	**21 09 57.5**	**-2.3**
RDO	**Rodhopi**	**136.60 317**	*e*P	**PKPdf**	**21 07 16.6**	**-2.4**
BZS	**Buzias**	**136.67 324**	⇑PKIKP	**PKPdf**	**21 07 19.4**	**+0.4**
BZS	**Buzias**	**136.67 324**	⇑*i*P	**PKPdf**	**21 07 19.4**	**+0.4**
BRG	**Berggiesshubel**	**136.87 335**	*e*PKP	**PKPdf**	**21 07 19.1**	**-0.2**
	comp=Z,50nm,1.5s					
BRG			*e*PP	**PP**	**21 10 02.9**	**+1.1**
	comp=Z,14nm,1.6s					
BRG			*i* PKS	**PKSdf**	**21 10 50.5**	**-4.7**
	comp=Z,29nm,1.0s					
BRG	**Berggiesshubel**	**136.87 335**	*e*PKPdf	**PKPdf**	**21 07 19.5**	**+0.3**
BRG			*e*SKPdf	**SKPdf**	**21 10 51.5**	**-0.4**
BRG	**Berggiesshubel**	**136.87 335**	*e*PKIKP	**PKPdf**	**21 07 19.0**	**-0.2**
BRG			*e*		21 10 02.9	
BRG			pmax	pmax		
	comp=Z,50nm,1.5s					
BRG			pmax	pmax		
	comp=Z,14nm,1.6s					
PVCC	**Panska Ves**	**136.87 334**	*e*PKPdf	**PKPdf**	**21 07 19.5**	**+0.3**
PVCC			*ep*PKP	**pPKPdf**	**21 07 33.7**	**+3.6**
PVCC			*e*PP	**PP**	**21 10 02.9**	**+1.1**
PVCC			*e*SKP		21 10 51.1	
PVCC			*ex*	x	21 17 14.7	
PVCC			AMS	AMS	22 05 20.0	
	comp=Z,1μm,21.8s					
PVCC	**Panska Ves**	**136.87 334**	*e*PKIKP	**PKPdf**	**21 07 19.5**	**+0.3**
PVCC			*e*		21 07 33.7	
PVCC			*e*		21 10 02.9	
PVCC			MLR	MLR		
	comp=Z,1μm,21.8s					
CLL	**Collm**	**136.91 336**	*e*PKPdf	**PKPdf**	**21 07 19.4**	**+0.2**
CLL			*e*SKPdf	**SKPdf**	**21 10 51.4**	**-0.5**
CLL	**Collm**	**136.91 336**	*i* PKPdf	**PKPdf**	**21 07 18.6**	**-0.6**
	comp=Z,37nm,1.5s					
CLL			*e*SPKPdf	**sPKPdf**	**21 07 34.0**	**+0.1**
CLL			*e*PP	**PP**	**21 10 00.0**	**-2.1**
CLL			*e*		21 10 21.0	
CLL			⇓*i*SKPdf	**SKPdf**	**21 10 51.4**	**-0.5**
	comp=Z,23nm,1.0s					
CLL			*e*PKSdf	**PKSdf**	**21 10 55.0**	**-0.3**
CLL			*e*SKPab	**SKPab**	**21 10 57.0**	**+0.9**
CLL			Lm	MLR	22 15 00.0	
	comp=N,700nm,20.4s					
CLL			Lm	MLR	22 15 00.0	
	comp=E,200nm,21.8s					
CLL			Lm	MLR	22 15 00.0	
	comp=Z,800nm,21.8s					
CLL	**Collm**	**136.91 336**	*e*PKIKP	**PKPdf**	**21 07 18.7**	**-0.5**
CLL	**Collm**	**136.91 336**	*e*PKPdf	**PKPdf**	**21 07 18.7**	**-0.5**
CLL			*e*SKPbc	**SKPbc**	**21 10 51.2**	**+1.5**
SMTH	**Samothraki Isl**	**136.91 316**	P	PKPdf	21 07 13.0	-6.6
SMTH	**Samothraki Isl**	**136.91 316**	*e*P	**PKPdf**	**21 07 15.4**	**-4.2**
BUD	**Budapest**	**136.91 328**	⇑*e*PKPPKPdf	**PKPdf**	**21 07 18.9**	**-0.5**
SMOL	**Smolenice**	**137.02 330**	*e*PKIKP	**PKPdf**	**21 07 20.5**	**+0.9**
SMOL	**Smolenice**	**137.02 330**	*e*PKP	**PKPdf**	**21 07 20.5**	**+0.9**
NRDL	**Niedersach Rie**	**137.03 339**	*e*PKPdf	**PKPdf**	**21 07 19.7**	**+0.4**
NRDL			*e*SKPdf	**SKPdf**	**21 10 51.7**	**-0.3**
FBE	**Freiberg**	**137.07 335**	*e*PKPdf	**PKPdf**	**21 07 20.1**	**+0.6**
FBE			*e*SKPdf	**SKPdf**	**21 10 52.0**	**-0.2**
GOPC	**GO Pecny, Ondr**	**137.23 333**	*e*PKPdf	**PKPdf**	**21 07 20.2**	**+0.3**
GOPC			*e*PP	**PP**	**21 10 06.2**	**+2.0**
GOPC			*e*SKP		21 10 52.3	
GOPC			*ex*	x	21 17 03.4	
GOPC			AMS	AMS	22 07 10.0	
	comp=Z,1μm,22.7s					
SIGR	**SIGRI**	**137.25 314**	*e*P	PKPpre	21 07 06.9	
PRA	**Prague**	**137.27 334**	*e*PKPdf	**PKPdf**	**21 07 20.1**	**+0.2**
PRA			*e*PP	**PP**	**21 10 05.1**	**+0.7**
PRA			*e*SKP		21 10 52.3	
PRA			AMS	AMS	22 07 00.0	
PRA	**Prague**	**137.27 334**	*e*PKIKP	**PKPdf**	**21 07 20.1**	**+0.2**
PRA			*e*		21 10 05.1	
PRU	**Pruhonice**	**137.28 334**	*e*PKPdf	**PKPdf**	**21 07 20.1**	**+0.1**
PRU			*ep*PKP	**pPKPdf**	**21 07 33.0**	**+2.1**
PRU			*e*PP	**PP**	**21 10 04.0**	**-0.5**
PRU			*e*SKP		21 10 52.5	
PRU			*ex*	x	21 17 01.9	
PRU			AMS	AMS	22 07 10.0	
	comp=Z,1μm,22.7s					
PRU	**Pruhonice**	**137.28 334**	*e*PKIKP	**PKPdf**	**21 07 20.1**	**+0.1**
PRU			*e*		21 07 33.0	
PRU			*e*		21 10 04.0	
PRU			MLR	MLR		
	comp=Z,1μm,22.7s					
PKSG		**137.30 328**	⇓*e*	**PKPdf**	**21 07 20.2**	**+0.1**
TREC	**Trest**	**137.38 332**	*e*PKPdf	**PKPdf**	**21 07 20.4**	**+0.2**
TREC			*e*PP	**PP**	**21 10 05.9**	**+0.8**
TREC			*e*SKP		21 10 52.9	
TREC			*ex*	x	21 17 02.5	
TREC			AMS	AMS	22 08 10.0	
	comp=Z,2μm,22.7s					
TREC	**Trest**	**137.38 332**	*e*PKIKP	**PKPdf**	**21 07 20.4**	**+0.2**
TREC			*e*		21 10 05.9	
TREC			MLR	MLR		
	comp=Z,2μm,22.7s					
VTS	**Vitosha**	**137.40 320**	P	PKPpre	21 07 08.5	
VTS	**Vitosha**	**137.40 320**	⇑PKIKP	**PKPdf**	**21 07 21.1**	**+0.5**
VTS	**Vitosha**	**137.40 320**	⇑*i*P	**PKPdf**	**21 07 21.1**	**+0.5**
VTS	**Vitosha**	**137.40 320**	⇑*i*P	**PP**	**21 10 07.0**	**+1.1**
CHOS	**Chios Island**	**137.45 313**	*e*P	**PKPdf**	**21 07 21.5**	**+0.7**
PKS2	**Kecel**	**137.45 327**	⇓*e*	**PKPdf**	**21 07 20.8**	**+0.4**
NEUB	**Neuenburg**	**137.47 337**	*e*PKPdf	**PKPdf**	**21 07 20.6**	**+0.3**
NEUB			*e*SKPdf	**SKPdf**	**21 10 53.2**	**+0.3**
CLZ	**Clausthal**	**137.47 338**	*e*PKPdf	**PKPdf**	**21 07 20.8**	**+0.5**
CLZ			*e*SKPdf	**SKPdf**	**21 10 53.4**	**+0.4**
PKST	**T˜'s**	**137.57 328**	⇓*e*PKPPKPdf	**PKPdf**	**21 07 20.7**	**+0.1**
MMB	**Musomiste**	**137.58 318**	⇑PKHKP	PKPpre	21 07 09.3	
MMB	**Musomiste**	**137.58 318**	⇑*i*P	PKPpre	21 07 09.3	
NVR	**Nevrokopi**	**137.61 318**	P	PKPpre	21 07 07.7	
NVR	**Nevrokopi**	**137.61 318**	*e*P	PKPpre	21 07 09.3	
ESK	**Eskdalemuir**	**137.73 352**	PFAKE		21 07 30.0	+9.4
ESK			LR	LR		
	comp=Z,911nm,22.0s					
TANN	**Tannenbergstha**	**137.82 336**	*e*PKPdf	**PKPdf**	**21 07 21.4**	**+0.3**
TANN			*e*SKPdf	**SKPdf**	**21 10 54.2**	**+0.5**
WERD	**Werda**	**137.86 336**	*e*PKPdf	**PKPdf**	**21 07 21.4**	**+0.3**
WERD			*e*SKPdf	**SKPdf**	**21 10 54.4**	**+0.7**
PKS9	**Tamasi**	**137.89 328**	⇓*e*PKPPKPdf	**PKPdf**	**21 07 21.0**	**-0.2**
PLN	**Plauen**	**137.89 336**	*e*PKPdf	**PKPdf**	**21 07 21.4**	**+0.3**
PLN			*e*SKPdf	**SKPdf**	**21 10 54.5**	**+0.8**
SRS	**Serrai**	**137.90 318**	*e*P	PKPpre	21 07 09.0	
SRS	**Serrai**	**137.90 318**	*e*P	PKPpre	21 07 09.1	
GUNZ	**Gunzen**	**137.91 336**	*e*PKPdf	**PKPdf**	**21 07 21.6**	**+0.4**
GUNZ			*e*SKPdf	**SKPdf**	**21 10 54.6**	**+0.8**
PKSM	**Moragy**	**137.94 327**	⇑PKIKP	**PKPdf**	**21 07 21.5**	**+0.2**
PKSM	**Moragy**	**137.94 327**	⇑*i*P	**PKPdf**	**21 07 21.5**	**+0.2**
PKSM	**Moragy**	**137.94 327**	⇑*e*	**PKPdf**	**21 07 20.7**	**-0.6**
WERN	**Wernitzgruen**	**137.96 336**	*e*PKPdf	**PKPdf**	**21 07 21.6**	**+0.3**
WERN			*e*SKPdf	**SKPdf**	**21 10 54.8**	**+0.9**
IBBN	**Ibbenburen**	**137.97 341**	*e*PKPdf	**PKPdf**	**21 07 21.5**	**+0.4**
IBBN			*e*SKPdf	**SKPdf**	**21 10 54.6**	**+0.9**
NKC	**Novy Kostel**	**137.97 335**	*e*PKPdf	**PKPdf**	**21 07 20.5**	**-0.8**
NKC			*e*SKP		21 10 54.4	
NKC			*e*PKKP	**PKKPdf**	**21 16 54.4**	**-0.6**
NKC			AMS	AMS	22 12 40.0	
	comp=Z,700nm,18.5s					
NKC	**Novy Kostel**	**137.97 335**	*e*PKIKP	**PKPdf**	**21 07 20.5**	**-0.8**
NKC			MLR	MLR		
	comp=Z,700nm,18.5s					
MOX	**Moxa**	**137.97 336**	*e*PKPdf	**PKPdf**	**21 07 22.1**	**+0.8**
MOX			*e*SKPdf	**SKPdf**	**21 10 55.0**	**+1.1**
MOX			*e*L	L	22 15 36.0	
	comp=Z,840nm,20.8s					
SOP	**Sopron**	**138.02 330**	*e*PKPPKPdf	**PKPdf**	**21 07 21.3**	**-0.1**
OUR	**Ouranopolis**	**138.02 316**	P	**PKPdf**	**21 07 17.2**	**-4.4**
OUR	**Ouranopolis**	**138.02 316**	*e*P	PKPpre	21 07 09.1	
CONA	**Conrad Observa**	**138.18 331**	⇓*i*PKPdf	**PKPdf**	**21 07 21.1**	**-0.7**
	comp=Z,52nm,1.6s,SNR=19					
MANZ	**Manzenberg**	**138.30 335**	*e*PKPdf	**PKPdf**	**21 07 22.2**	**+0.3**
MANZ			*e*SKPdf	**SKPdf**	**21 10 55.6**	**+1.1**
KNT	**Kendrikon**	**138.33 318**	*e*P	PKPpre	21 07 09.1	
KHC	**Kasperske Hory**	**138.34 334**	*e*PKPdf	**PKPdf**	**21 07 22.0**	**0.0**
KHC			*ep*PKP	**pPKPdf**	**21 07 34.4**	**+1.5**
KHC			*e*PP	**PP**	**21 10 08.7**	**-2.4**
KHC			*e*SKP		21 10 55.8	
KHC			AMS	AMS	22 07 40.0	
	comp=Z,1μm,18.9s					
KHC	**Kasperske Hory**	**138.34 334**	*e*PKIKP	**PKPdf**	**21 07 22.0**	**0.0**
KHC			*e*		21 07 34.4	
KHC			*e*		21 10 08.7	
KHC			MLR	MLR		
	comp=Z,1μm,18.9s					
PAIG	**Paliouri**	**138.42 316**	P	**PKPdf**	**21 07 19.9**	**-2.5**
PAIG	**Paliouri**	**138.42 316**	*e*P	PKPpre	21 07 10.8	
ROTZ	**Rotzenmuhle**	**138.43 335**	*e*PKPdf	**PKPdf**	**21 07 22.4**	**+0.3**
ROTZ			*e*SKPdf	**SKPdf**	**21 10 56.2**	**+1.5**
UBBA	**Unterbreizbach**	**138.44 338**	*e*PKPdf	**PKPdf**	**21 07 22.1**	**+0.1**
UBBA			*e*SKPdf	**SKPdf**	**21 10 55.9**	**+1.4**
VAY	**Valandovo**	**138.46 318**	*e*PKP	**PKPdf**	**21 07 22.3**	**-0.1**
DIVS	**Divibare**	**138.50 323**	P	PKPdf	21 07 13.1	-9.4
DIVS	**Divibare**	**138.50 323**	⇑*i*P	**PKPdf**	**21 07 22.8**	**+0.3**
GEC2	**GERESS Array S**	**138.50 333**	*e*PKIKP	**PKPdf**	**21 07 22.2**	**-0.2**
GEC2	**GERESS Array S**	**138.50 333**	*e*PKPdf	**PKPdf**	**21 07 22.2**	**-0.2**
GERES	**GERESS Array B**	**138.50 333**	PKhKP	PKPpre	21 07 13.1	
	comp=Z,1.7nm,1.0s,baz=46,slow=3.9,SNR=7.9					
GERES			PKP	**PKPdf**	**21 07 21.4**	**-1.0**
	comp=Z,6.4nm,1.0s,baz=70,slow=1.6,SNR=12					
GERES			PP	**PP**	**21 10 10.2**	**-2.0**
	comp=Z,1.4nm,1.0s,baz=316,slow=4.1,SNR=4.8					
GERES			SKP		21 10 56.2	
	comp=Z,18nm,1.0s,baz=45,slow=2.3,SNR=38					
WET	**Wettzell**	**138.63 334**	*e*PKPdf	**PKPdf**	**21 07 22.8**	**+0.3**
WET			*e*SKPdf	**SKPdf**	**21 10 56.7**	**+1.6**
AOS	**Alonnisos**	**138.64 315**	P	**PKPdf**	**21 07 20.2**	**-2.6**
SANT	**Santorini**	**138.70 310**	PFAKE		21 07 30.0	+6.9
SANT			LR	LR		
	comp=Z,286nm,20.0s					
BEHE	**Becsehely**	**138.74 328**	⇑*e*	**PKPdf**	**21 07 21.2**	**-1.6**
GRG	**Griva**	**138.76 318**	*e*P	PKPpre	21 07 11.8	
SKO	**Skopje**	**138.84 320**	*e*PKP	**PKPdf**	**21 07 23.1**	**0.0**
BUG	**Bochum--Univer**	**138.87 341**	*e*PKPdf	**PKPdf**	**21 07 22.8**	**0.0**
GRF	**Grafenberg Arr**	**138.89 336**	*e*PKPdf	**PKPdf**	**21 07 23.1**	**+0.1**
GRF			*e*SKPdf	**SKiKP**	**21 10 57.3**	**-1.7**
GRF			*e*L	L	22 10 29.4	
	comp=Z,684nm,21.8s					
GRFO	**Grafenberg**	**138.89 336**	*e*PKIKP	**PKPdf**	**21 07 23.6**	**+0.6**
GRFO	**Grafenberg**	**138.89 336**	*e*PKPdf	**PKPdf**	**21 07 23.6**	**+0.6**
XOR	**Xorichti**	**139.02 315**	P	**PKPdf**	**21 07 21.7**	**-1.9**
XOR	**Xorichti**	**139.02 315**	*e*P	PKPpre	21 07 12.1	
LIT	**Litokhoron**	**139.13 317**	*e*P	PKPpre	21 07 13.1	
LAST	**Lasithi**	**139.15 308**	*e*P	PKPpre	21 07 15.0	
PTL	**Penteli**	**139.16 313**	P	PKPpre	21 07 16.0	
PTL	**Penteli**	**139.16 313**	*e*P	PKPpre	21 07 16.0	
SOKA	**Soboth**	**139.46 330**	⇑*i*PKPdf	**PKPdf**	**21 07 24.1**	**-0.1**
	comp=Z,36nm,1.4s,SNR=10					
SOKA	**Soboth**	**139.46 330**	P	PKPpre	21 07 16.7	
	comp=Z,5.8nm,1.2s					
LKR	**Lokris**	**139.49 315**	*e*P	PKPpre	21 07 16.3	
TNS	**Taunus Mts**	**139.50 339**	*e*PKPdf	**PKPdf**	**21 07 24.6**	**+0.5**
TNS			*e*SKPdf	**SKiKP**	**21 10 59.0**	**-1.3**
FNA	**Florina**	**139.51 318**	P	PKPpre	21 07 08.1	
FNA	**Florina**	**139.51 318**	*e*P	**PKPdf**	**21 07 23.2**	**-1.3**
PHP	**Peshkopia**	**139.62 320**	P	**PKPdf**	**21 07 22.9**	**-1.7**
AXAR	**Agios Charalam**	**139.67 315**	*e*P	**PKPdf**	**21 07 24.2**	**-0.5**
OHR	**Ohrid**	**139.71 319**	*e*PKP	**PKPdf**	**21 07 25.0**	**+0.2**
THL	**Klokotos Trika**	**139.72 316**	P	PKPpre	21 07 13.5	
THL	**Klokotos Trika**	**139.72 316**	*e*P	PKPdf	21 07 19.1	-5.7
THL	**Klokotos Trika**	**139.72 316**	*e*P	**PKPdf**	**21 07 21.0**	**-3.8**
RJOB	**Jochberg**	**139.73 333**	*e*PKPdf	**PKPdf**	**21 07 24.5**	**-0.1**
RJOB			*e*SKPdf	**SKPbc**	**21 10 59.0**	**+1.0**
AGG	**Agios Georgios**	**139.77 315**	P	**PKPdf**	**21 07 25.0**	**+0.1**
AGG	**Agios Georgios**	**139.77 315**	*e*P	**PKPdf**	**21 07 26.0**	**+1.1**
DID	**Didima**	**139.84 313**	P	PKPpre	21 07 16.4	
DID	**Didima**	**139.84 313**	*e*P	PKPpre	21 07 15.1	
MAKR	**Makrakomi, Fth**	**139.91 316**	P	PKPpre	21 07 18.6	
MAKR	**Makrakomi, Fth**	**139.91 316**	*e*P	**PKPdf**	**21 07 20.5**	**-4.7**
NEST	**Nestorio**	**139.92 318**	*e*P	PKPpre	21 07 14.4	
MEM	**Membach**	**139.99 341**	PKP	**PKPdf**	**21 07 24.9**	**0.0**
MEM			SKPbc	**SKiKP**	**21 10 59.9**	**-1.3**
MEM	**Membach**	**139.99 341**	*e*PKIKP	**PKPdf**	**21 07 20.7**	**-4.2**
MEM	**Membach**	**139.99 341**	*e*PKPdf	**PKPdf**	**21 07 20.7**	**-4.2**
MEM			*e*SKPbc	**SKiKP**	**21 11 00.2**	**-0.9**
FUR	**Furstenfeldbru**	**140.06 334**	*e*PKPdf	**PKPdf**	**21 07 25.2**	**0.0**
LJU	**Ljubljana**	**140.16 330**	*e*PKPdf	**PKPdf**	**21 07 24.3**	**-1.1**
TIR	**Tirane**	**140.16 320**	PFAKE		21 07 40.0	+14
TIR			LR	LR		
	comp=Z,2μm,22.0s					
BOJS	**Bojanci**	**140.18 328**	*e*PKPdf	**PKPdf**	**21 07 24.8**	**-0.6**
EVR	**Evrytania**	**140.18 316**	*e*P	PKPpre	21 07 17.0	
GUR	**Goura**	**140.28 314**	*e*P	PKPpre	21 07 17.6	
KLV	**Kalavryta, Ach**	**140.36 314**	*e*P	PKPpre	21 07 17.5	
BCLA	**Clavier**	**140.37 341**	PKP	**PKPdf**	**21 07 25.7**	**+0.1**
BCLA			SKPbc	**SKiKP**	**21 11 01.0**	**-1.0**
STU	**Stuttgart**	**140.42 337**	*e*PKPdf	**PKPdf**	**21 07 26.0**	**+0.2**
VLX	**Vlachokerasia**	**140.51 313**	*e*P	PKPpre	21 07 19.1	
DSL	**Palaion Diasel**	**140.55 316**	*e*P	PKPdf	21 07 18.1	-8.3
SNF	**Seneffe**	**140.60 342**	SKPbc	**SKPbc**	**21 11 00.8**	**+0.7**
WTTA	**Wattenberg**	**140.60 333**	⇑*i*PKPdf	PKPdf	21 07 21.1	-5.3
	comp=Z,6.0nm,1.0s					
WTTA			⇓*i*PKPdf	**PKiKP**	**21 07 26.4**	**-2.6**
	comp=Z,51nm,1.5s,SNR=10					
DRO	**Drossia**	**140.71 314**	*e*P	PKPpre	21 07 19.3	
WLF	**Walferdange**	**140.76 340**	PKP	**PKPdf**	**21 07 26.7**	**+0.4**
WLF			SKPbc	**SKiKP**	**21 11 02.5**	**-0.3**
WLF	**Walferdange**	**140.76 340**	*e*PKPdf	**PKPdf**	**21 07 27.0**	**+0.7**
WLF			*e*SKPdf	**SKiKP**	**21 11 02.5**	**-0.3**
WLF	**Walferdange**	**140.76 340**	*e*PKIKP	**PKPdf**	**21 07 21.5**	**-4.8**
WLF			MLR	MLR		
	comp=Z,1μm,20.0s					
WLF	**Walferdange**	**140.76 340**	*e*PKPdf	**PKPdf**	**21 07 21.5**	**-4.8**
WLF			*e*SKPbc	**SKiKP**	**21 11 02.6**	**-0.3**
WLF			LR	LR		
	comp=Z,1μm,20.0s					
PDO	**Prodromos**	**140.76 316**	*e*P	PKPpre	21 07 18.7	
LANF	**Langenberg**	**140.76 338**	PKP	**PKPdf**	**21 07 26.2**	**-0.2**
IGT	**Igoumenitsa**	**140.85 317**	*e*P	PKPdf	21 07 19.0	-7.9
DOU	**Dourbes**	**140.88 342**	PKP	**PKPdf**	**21 07 27.1**	**+0.6**
DOU			SKPbc	**SKiKP**	**21 11 02.1**	**-0.9**
AMT	**Artemida-Makis**	**140.91 314**	*e*P	PKPdf	21 07 20.1	-7.0
ITM	**Ithomi**	**140.92 313**	*e*P	PKPdf	21 07 19.6	-7.5
BFO	**Black Forest**	**141.11 337**	*e*PKPdf	**PKPdf**	**21 07 27.0**	**-0.1**
BFO			*e*SKPdf	**SKPbc**	**21 11 02.5**	**+0.9**
BFO	**Black Forest**	**141.11 337**	*e*PKHKP	PKPpre	21 07 21.2	
BFO			*e*		21 10 28.2	
BFO			MLR	MLR		
	comp=Z,721nm,20.0s					
BFO	**Black Forest**	**141.11 337**	*e*PKPdf	PKPpre	21 07 21.2	
BFO			*e*PP	**PP**	**21 10 28.2**	**+0.2**
BFO			LR	LR		
	comp=Z,721nm,20.0s					
MENF	**Mencas**	**141.15 344**	PKP	**PKPdf**	**21 07 29.6**	**+2.6**
FETA	**Feichten**	**141.19 334**	P	PKPdf	21 07 21.1	-6.3
	comp=Z,24nm,1.5s					
ECH	**Echery**	**141.64 338**	PKP	**PKPdf**	**21 07 23.5**	**-4.5**
ECH	**Echery

PVRL	**Vila Real**	**152.09**	**351**	*e*PKPdf	**PKPdf**	**21 07 46.9**	**+1.2**
PVRL	**Vila Real**	**152.09**	**351**	*e*PKPbc	**PKPbc**	**21 07 52.9**	**+0.6**
CKHR	**Kef el Ahmar**	**152.12**	**326**	P	**PKPbc**	**21 07 53.1**	**+0.5**
PVIS	**Viseu**	**152.66**	**351**	*e*PKPbc	**PKPbc**	**21 07 53.8**	**+0.2**
ESDC	**Sonseca Array**	**152.85**	**344**	PKP	**PKPdf**	**21 07 46.8**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=0.0,slow=1.5,SNR=6.2						
ESDC				PKPbc	**PKPbc**	**21 07 53.7**	**-0.4**
	comp=Z,4.6nm,0.7s,baz=12,slow=2.9,SNR=29						
ESDC				PKPab	**PKPab**	**21 08 05.1**	**+0.1**
	comp=Z,4.0nm,0.7s,baz=15,slow=3.6,SNR=11						
MTE	**Manteigas**	**152.92**	**350**	*e*PKPdf	**PKPdf**	**21 07 47.5**	**+0.5**
MTE	**Manteigas**	**152.92**	**350**	*e*PKPbc	**PKPbc**	**21 07 54.3**	**+0.1**
MTE	**Manteigas**	**152.92**	**350**	*e*PKPbc	**PKPbc**	**21 07 53.8**	**-0.4**
MTE				LR	LR		
	comp=Z,773nm,21.0s						
PAB	**San Pablo**	**153.07**	**345**	*e*PKIKP	**PKPdf**	**21 07 47.3**	**+0.1**
PAB				MLR	MLR		
	comp=Z,915nm,22.0s						
PAB	**San Pablo**	**153.07**	**345**	*e*PKPdf	**PKPdf**	**21 07 47.3**	**+0.1**
PAB				LR	LR		
	comp=Z,915nm,22.0s						
PCBR	**Castelo Branco**	**153.45**	**350**	*e*PKPdf	**PKPdf**	**21 07 48.1**	**+0.4**
PCBR	**Castelo Branco**	**153.45**	**350**	*e*PKPbc	**PKPbc**	**21 07 55.5**	**+0.2**
PTOM	**Tomar**	**153.82**	**352**	*e*PKPbc	**PKPbc**	**21 07 55.3**	**-0.8**
PMRV	**Marv??o**	**153.84**	**350**	*e*PKPdf	**PKPdf**	**21 07 48.2**	**-0.1**
PMRV	**Marv??o**	**153.84**	**350**	*e*PKPbc	**PKPbc**	**21 07 56.2**	**0.0**
PMTG	**Montargil**	**154.33**	**351**	*e*PKPbc	**PKPbc**	**21 07 57.2**	**0.0**
EVO	**Evora**	**154.82**	**350**	*e*PKPdf	**PKPdf**	**21 07 49.9**	**+0.3**
EVO	**Evora**	**154.82**	**350**	PKPbc	**PKPbc**	**21 07 59.4**	**+1.1**
MESJ	**Messejana**	**155.53**	**350**	PKPab	**PKPab**	**21 08 18.2**	**+1.9**
PCVE	**Castro Verde**	**155.70**	**350**	*e*PKPdf	**PKPdf**	**21 07 49.6**	**-1.3**
PCVE	**Castro Verde**	**155.70**	**350**	PKPab	**PKPab**	**21 08 19.0**	**+1.9**
ASCN	**Ascension**	**158.50**	**177**	PFAKE		21 08 10.0	+15
ASCN				LR	LR		
	comp=Z,2µm,21.0s						
TAM	**Tamanrasset**	**160.05**	**300**	*e*PKIKP	**PKPdf**	**21 07 56.3**	**-0.6**
TAM				MLR	MLR		
	comp=Z,786nm,22.0s						
TAM	**Tamanrasset**	**160.05**	**300**	*e*PKPdf	**PKPdf**	**21 07 56.3**	**-0.6**
TAM				LR	LR		
	comp=Z,786nm,22.0s						
TOA0	**Torodi Ar. Sit**	**165.49**	**270**	*e*PKIKP	**PKPdf**	**21 08 00.1**	**-2.0**
TOA0	**Torodi Ar. Sit**	**165.49**	**270**	*e*PKPdf	**PKPdf**	**21 08 01.3**	**-0.9**
TORD	**Torodi Ar. Bea**	**165.49**	**270**	PKP	**PKPdf**	**21 08 00.9**	**-1.2**
	comp=Z,19nm,1.1s,baz=66,slow=0.3,SNR=50						
TORD				PKPab	**PKPab**	**21 09 00.7**	**+0.1**
	comp=Z,24nm,1.1s,baz=88,slow=4.5,SNR=19						
TORD				PP	**PP**	**21 12 47.6**	**-0.3**
	comp=Z,1.2nm,0.9s,baz=72,slow=4.7,SNR=5.7						
KIC	**Kosan Boka**	**168.94**	**230**	*e*PKIKP	**PKPdf**	**21 08 03.4**	**-1.3**
	comp=Z,137nm,1.4s						
LIC	**Lamto**	**169.06**	**228**	*e*PKIKP	**PKPdf**	**21 08 03.2**	**-1.6**
	comp=Z,60nm,1.3s						
DBIC	**Dimbokro**	**169.23**	**231**	PKP	**PKPdf**	**21 08 03.8**	**-1.1**
	comp=Z,25nm,1.1s,baz=191,slow=2.8,SNR=7.5						
DBIC				PKPab	**PKPab**	**21 09 16.6**	**-0.3**
	comp=Z,8.0nm,0.9s,baz=133,slow=4.4,SNR=3.9						
TIC	**Toumodi**	**169.34**	**230**	*e*PKIKP	**PKPdf**	**21 08 03.3**	**-1.7**
SACV	**Santiago Islan**	**169.84**	**81**	PFAKE		21 08 20.0	+15
SACV				LR	LR		
	comp=Z,1µm,22.0s						

SJA ***27*** *20:53:07.5±1.0,34.54S×73.52W,h40km±21km, ML4.4*
IDC ***27*** *20:53:16.3±2.2,33.80S×72.59W,h0km, mb3.9/2, mb1 3.7/3,mb1mx3.6/25,mbtmp3.7/3, ML2.4/1, Error ellipse: s-maj=100.4km s-min=51.9km az=140.0*
GUC ***27*** *20:53:19.6±0.5,34.12S×72.30W,h12km±2km, ML4.0*
ISC 27 20:53:18.0±3.7,**34.13S**±0.04×**72.47W**±0.09,**h15**km±23km, **n27,**σ**1s94/43, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.90**	**79**		*e*P		**Pb**	**20 53 33.9**	**-1.4**
NICH	**Los Niches**	**1.35**	**131**		*e*P		**Pn**	**20 53 42.3**	**0.0**
NICH					*e*S		**Sn**	**20 53 59.6**	**-0.3**
NICH					AML		AML	20 54 02.6	
	comp=E,6µm,0.6s								
TALC	**Talca**	**1.45**	**152**		*e*P		**Pn**	**20 53 44.6**	**+0.9**
TALC					*e*S		**Sb**	**20 54 03.4**	**+0.6**
RCDM	**Rinconada Maip**	**1.52**	**66**		*e*P		**Pn**	**20 53 43.7**	**-1.1**
RCDM					*e*S		**Sn**	**20 54 02.5**	**-1.8**
RCDM					AML		AML	20 54 11.0	
	comp=E,2µm,2.2s								
SAN	**Santiago**	**1.65**	**67**		*e*P		**Pn**	**20 53 46.9**	**+0.4**
SAN					*e*S		**Sn**	**20 54 07.2**	**-0.3**
SAN					AML		AML	20 54 15.8	
	comp=E,3µm,0.4s								
STL	**Santa Lucia**	**1.67**	**66**		*e*P		**Pn**	**20 53 45.0**	**-1.9**
STL					*e*S		**Sn**	**20 54 05.6**	**-2.4**
PCH	**Pirque**	**1.71**	**73**		*e*P		**Pn**	**20 53 47.8**	**+0.5**
FSR	**Penalolen**	**1.74**	**69**		*e*P		**Pn**	**20 53 48.1**	**+0.3**
FSR					*e*S		**Sn**	**20 54 09.8**	**0.0**
SJCH	**San Jose de Ma**	**1.83**	**75**		*e*P		**Pn**	**20 53 47.4**	**-1.6**
SJCH					*e*S		**Sn**	**20 54 10.5**	**-1.5**
SJCH					AML		AML	20 54 15.6	
	comp=N,3µm,0.6s								
LNCH	**Linares**	**1.86**	**158**		*e*S		**Sb**	**20 54 15.6**	**+0.8**
LNCH					AML		AML	20 54 22.5	
	comp=E,5µm,0.5s								
YECH	**El Yeso**	**2.04**	**78**		*e*S		**Sn**	**20 54 18.8**	**+1.4**
AUSP	**Uspallata**	**3.21**	**55**		*i* P		**Pn**	**20 54 10.8**	**+2.6**
AUSP					*i* S		**Sb**	**20 54 57.7**	**+3.8**
AAGR	**Agrelo**	**3.21**	**72**		*i* P		**Pn**	**20 54 10.7**	**+2.6**
AAGR					*i* S		**Sb**	**20 54 56.9**	**+3.0**
ARCO	**CERRO ARCO**	**3.22**	**68**		*i* P		**Pn**	**20 54 10.6**	**+2.3**
ARCO					*i* S		**Sb**	**20 54 57.7**	**+3.5**
ARCO					AML		AML	20 55 04.7	
	comp=Z,396nm,0.6s								
ASAL	**Salagasta**	**3.41**	**64**		*i* P		Pb	20 54 15.0	-3.1
ASAL					*i* S		**Sb**	**20 55 01.9**	**+2.5**
RTLS	**Leoncito**	**3.54**	**50**		*i* P		**Pn**	**20 54 15.0**	**+2.4**
RTLS					*i* S		**Sb**	**20 55 05.8**	**+2.5**
RTCV	**Cerro Valdivia**	**4.00**	**57**		*i* P		**Pn**	**20 54 20.3**	**+1.5**
RTCV					*i* S		**Sb**	**20 55 15.3**	**-1.2**
CFAA	**Coronel Fontan**	**4.36**	**56**		Pn		**Pn**	**20 54 24.6**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=228,slow=12,SNR=6.5								
CFAA					Lg		Lg	20 55 27.6	
	comp=Z,1.7nm,0.3s,baz=157,slow=23,SNR=8.6								
CFAA	**Coronel Fontan**	**4.36**	**56**		*i* P		**Pn**	**20 54 25.7**	**+1.9**
CFAA					*i* S		**Sb**	**20 55 24.1**	**-2.8**
RTLL	**Cerro Villicun**	**4.37**	**51**		*i* P		**Pn**	**20 54 25.5**	**+1.6**
RTLL					*i* S		**Sb**	**20 55 23.7**	**-3.5**
AMOG	**MOGNA**	**4.62**	**48**		*i* P		**Pn**	**20 54 28.3**	**+0.9**
ACAN	**Cantantal**	**4.80**	**69**		*i* P		**Pn**	**20 54 31.3**	**+1.5**
ACAN					*i* P		**Pn**	**20 54 31.3**	**+1.5**
LPAZ	**La Paz**	**18.19**	**13**		P		**P**	**20 57 32.0**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=185,slow=11,SNR=4.4								
SIV	**San Ignacio**	**20.77**	**32**		P		**P**	**20 57 55.3**	**-3.2**
	comp=Z,2.7nm,0.6s,baz=219,slow=11,SNR=6.9								
TORD	**Torodi Ar. Bea**	**84.59**	**70**		P		**P**	**21 05 50.9**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=239,slow=4.6,SNR=6.0								
ZALV	**Zalesovo Beam**	**154.52**	**32**		PKPbc		**PKPbc**	**21 13 18.3**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=318,slow=4.1,SNR=4.5								
ZALV					PKPab		**PKPab**	**21 13 33.0**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=290,slow=3.7,SNR=3.8								
MKAR	**Makanchi Array**	**157.12**	**49**		PKPab		**PKPab**	**21 13 42.8**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=300,slow=2.7,SNR=4.0								

SJA ***27*** *20:56:58.7±1.3,34.54S×73.19W,h40km±15km, ML3.9*
IDC ***27*** *20:57:04.4±1.3,33.90S×72.79W,h0km, mb3.8/2, mb1 3.7/4,mb1mx3.6/33,mbtmp3.7/4, ML3.2/2, Error ellipse: s-maj=61.6km s-min=25.7km az=112.0*
GUC ***27*** *20:57:08.1±0.5,34.08S×72.30W,h7km±3km, ML3.8*
ISC 27 20:57:07.0±2.6,**34.09S**±0.05×**72.38W**±0.08,**h6**km±14km, **n27,**σ**1s82/43, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.32**	**134**		*e*P		**Pn**	**20 57 31.9**	**0.0**
NICH					*e*S		**Sn**	**20 57 49.9**	**+0.1**
RCDM	**Rinconada Maip**	**1.44**	**66**		*e*P		**Pn**	**20 57 33.2**	**-0.3**
RCDM					*e*S		**Sg**	**20 57 52.5**	**-0.7**
RCDM					AML		AML	20 57 59.4	
	comp=E,2µm,0.5s								
TALC	**Talca**	**1.45**	**155**		*e*P		**Pn**	**20 57 34.2**	**+0.6**
SAN	**Santiago**	**1.56**	**67**		*e*P		**Pn**	**20 57 35.5**	**+0.1**
SAN					*e*S		**Sg**	**20 57 56.3**	**-0.9**
SAN					AML		AML	20 58 03.9	
	comp=N,2µm,0.6s								
ROCH	**El Roble**	**1.59**	**46**		*e*P		**Pn**	**20 57 36.5**	**+0.7**
ROCH					*e*S		**Sg**	**20 57 58.1**	**0.0**
ROCH					AML		AML	20 58 08.4	
	comp=N,3µm,0.7s								
CLCH	**Cerro Calan**	**1.68**	**66**		*e*P		**Pn**	**20 57 37.2**	**+0.2**
CLCH					*e*S		**Sb**	**20 57 59.7**	**-0.1**
CLCH					AML		AML	20 58 11.3	
	comp=N,2µm,0.4s								
PEL	**Peldehue**	**1.69**	**57**		*e*P		**Pb**	**20 57 38.1**	**-0.5**
PEL					*e*S		**Sb**	**20 58 00.2**	**0.0**
PEL					AML		AML	20 58 07.8	
	comp=N,4µm,0.4s								
SJCH	**San Jose de Ma**	**1.74**	**76**		*e*P		**Pn**	**20 57 37.4**	**-0.5**
SJCH					*e*S		**Sb**	**20 58 00.4**	**-1.1**
SJCH					AML		AML	20 58 05.3	
	comp=N,2µm,0.5s								
LNCH	**Linares**	**1.87**	**160**		*e*P		**Pn**	**20 57 40.9**	**+1.4**
LNCH					*e*S		**Sb**	**20 58 06.4**	**+1.2**
YECH	**El Yeso**	**1.95**	**78**		*e*P		**Pb**	**20 57 42.4**	**-0.8**
YECH					*e*S		**Sg**	**20 58 08.6**	**-1.2**
YECH					AML		AML	20 58 17.4	
	comp=N,1µm,0.4s								
AUSP	**Uspallata**	**3.12**	**54**		*i* P		**Pn**	**20 57 59.3**	**+2.4**
AUSP					*i* S		**Sg**	**20 58 45.9**	**-1.4**
AAGR	**Agrelo**	**3.12**	**72**		*i* P		**Pn**	**20 57 58.7**	**+2.8**
AAGR					*i* S		**Sb**	**20 58 42.9**	**+1.5**
ARCO	**CERRO ARCO**	**3.13**	**68**		*i* P		**Pn**	**20 57 60.0**	**+2.9**
ARCO					*i* S		**Sb**	**20 58 44.1**	**+2.3**
ARCO					AML		AML	20 58 54.1	
	comp=Z,187nm,0.5s								
RTLS	**Leoncito**	**3.45**	**49**		*i* P		Pn	20 58 04.9	+3.4
RTLS					*i* P		Pn	20 58 04.9	+3.4
RTLS					*i* S		**Sb**	**20 58 54.3**	**+3.4**
RTCV	**Cerro Valdivia**	**3.91**	**57**		*i* P		**Pn**	**20 58 10.3**	**+2.6**
RTCV					*i* S		**Sb**	**20 59 03.1**	**-0.9**
CFAA	**Coronel Fontan**	**4.27**	**56**		Pn		**Pn**	**20 58 13.0**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=230,slow=11,SNR=9.0								
CFAA					Sn		**Sn**	**20 59 02.2**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=232,slow=18,SNR=3.0								
CFAA					Lg		Lg	20 59 16.4	
	comp=Z,0.5nm,0.3s,baz=48,slow=20,SNR=3.7								
CFAA	**Coronel Fontan**	**4.27**	**56**		*i* P		**Pn**	**20 58 14.8**	**+2.2**
CFAA					*i* S4			20 59 13.1	
RTLL	**Cerro Villicun**	**4.29**	**51**		*i* P		**Pn**	**20 58 15.2**	**+2.4**
RTLL					*i* S		**Sb**	**20 59 10.8**	**-3.9**
AMOG	**MOGNA**	**4.54**	**47**		*i* P		**Pn**	**20 58 18.2**	**+1.9**
AMOG					*i* S4			20 59 16.5	
ACAN	**Cantantal**	**4.71**	**69**		*i* P		**Pn**	**20 58 20.7**	**+2.1**
ACAN					*i* S		**Sb**	**20 59 22.4**	**-4.6**
PLCA	**Paso Flores**	**6.79**	**168**		Pn		**Pn**	**20 58 48.7**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=352,slow=10,SNR=3.7								
PLCA					Lg		Lg	21 00 36.9	
	comp=Z,0.0nm,0.3s,baz=252,slow=19,SNR=2.2								
SIV	**San Ignacio**	**20.69**	**32**		P		**P**	**21 01 47.0**	**-1.0**
	comp=Z,1.6nm,0.7s,baz=220,slow=10,SNR=5.2								
QSPA	**South Pole Qui**	**56.15**	**180**		P		**P**	**21 06 47.5**	**+0.3**
	comp=Z,3.3nm,0.9s,baz=140,slow=6.4,SNR=3.8								
WRA	**Warramunga Arr**	**120.55**	**209**		PKP		**PKPdf**	**21 15 57.7**	**-2.5**
	comp=Z,0.1nm,0.6s,baz=165,slow=1.5,SNR=2.7								
BVAR	**Borovoye Array**	**147.53**	**43**		PKPbc		**PKPdf**	**21 16 49.9**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=297,slow=4.7,SNR=4.1								
AAK	**Ala-Archa**	**152.79**	**62**		PKPbc		**PKPbc**	**21 17 03.4**	**-1.5**
	comp=Z,1.1nm,0.8s,baz=243,slow=2.3,SNR=4.0								
ZALV	**Zalesovo Beam**	**154.45**	**32**		PKPbc		**PKPbc**	**21 17 06.6**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=302,slow=2.7,SNR=3.7								

MEX ***27*** *20:59:09.7±0.5,13.95N×90.80W,h10km±999km, MD3.8*
CASC 27 20:59:07.9±1.6,**14.55N×90.61W,h8**km±9km**, MD3.4,3C, Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.25**	**246**		*i* P		Pg	20 59 12.9	-0.2
NBG	**Las Nubes**	**0.25**	**81**		*e*P		Pb	20 59 14.3	-0.9
RBDL	**Robledal**	**0.99**	**116**		*e*P		Pg	20 59 26.7	-0.5
RBDL					*e*S		Sg	20 59 40.5	+0.3
MRL	**Marmol**	**1.02**	**60**		*e*P		Pg	20 59 27.0	-0.8
MRL					*e*S		Sg	20 59 40.8	-0.5
JAT	**Jato**	**1.02**	**257**		*e*P		Pb	20 59 27.8	-0.1
RTR	**El Retiro**	**1.14**	**125**		*e*P		Pg	20 59 29.0	-1.0
RTR					*e*S		Sg	20 59 44.8	0.0
SNJE	**San Jose**	**1.18**	**125**		*e*P		Pb	20 59 30.4	-0.6
SNJE					*e*S		Sb	20 59 46.9	+0.3
SBLS	**San Blas**	**1.19**	**126**		*e*P		Pb	20 59 30.0	-1.0
SBLS					*e*S		Sg	20 59 46.0	-0.7
MTO2	**Montecristo 2**	**1.21**	**97**		*e*P		Pb	20 59 30.1	-1.3
BOQS	**Boqueron**	**1.52**	**122**		*e*P		Pn	20 59 35.4	-0.4
BOQS					*e*S		Sn	20 59 55.2	-0.7
LBRS	**Las Brisas**	**1.72**	**118**		*e*P		Pn	20 59 37.7	-0.6
LFRS	**El Faro**	**1.76**	**121**		*e*P		Pn	20 59 39.1	+0.2

ISK ***27*** *21:05:25.6,38.97N×27.95E,h5km, MD2.7*
CSEM ***27*** *21:05:26.5±0.3,38.93N×27.91E,h10km, MD2.7, Error ellipse: s-maj=9.7km s-min=4.7km az=131.0*
DDA 27 21:05:26.3,38.97N×27.95E,h7km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.14**	**230**		*i* P		Pg	21 05 29.0	-0.2
AKHS					*i* S		Sg	21 05 31.5	+0.3
AKHS	**Akhisar**	**0.14**	**230**		*i* P		Pg	21 05 29.0	-0.2
AKHS					*i* S		Sg	21 05 31.5	+0.3
AKS	**Akhisar**	**0.14**	**230**		PG		Pg	21 05 29.2	0.0
AKS					SG		Sg	21 05 31.5	+0.3
AKS	**Akhisar**	**0.14**	**230**		*i* Pg		Pg	21 05 29.2	0.0
AKS					*i* Sg		Sg	21 05 31.5	+0.3
DEMI	**Demirci**	**0.60**	**83**		*i* P		Pb	21 05 39.4	+0.1
DEMI					*i* S		Sg	21 05 46.8	+0.8
DEMI	**Demirci**	**0.60**	**83**		*i* P		Pb	21 05 39.4	+0.2
DEMI					*i* S		Sg	21 05 46.8	+0.8
DURS	**Dursunbey**	**0.75**	**33**		*i* P		Pn	21 05 43.0	-0.5
DURS					*i* S		Sb	21 05 52.0	-0.4
DURS	**Dursunbey**	**0.75**	**33**		*i* P		Pn	21 05 43.0	-0.5
DURS					*i* S		Sb	21 05 52.0	-0.4
AYDB	**Zeytinkoy-Aydi**	**1.02**	**183**		*e*PG		Pg	21 05 45.0	-1.1
AYDB					*e*SG		Sb	21 06 00.9	+0.7
AYDB	**Zeytinkoy-Aydi**	**1.02**	**183**		*e*Pg		Pg	21 05 45.0	-1.1
AYDB					*e*Sg		Sb	21 06 00.9	+0.7
TVSB	**Tavsanli**	**1.27**	**67**		*e*PN		Pg	21 05 50.9	0.0
TVSB					*e*SN		Sn	21 06 07.8	-0.2
TVSB	**Tavsanli**	**1.27**	**67**		*e*Pn		Pg	21 05 50.9	+0.1
TVSB					*e*Sn		Sn	21 06 07.8	-0.2

MAN 27 21:08:02,9.34N×125.40E,h1km, mb4.5, ML3.3, MS3.2, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.45**	**11**		*i* P		Pb	21 08 12.2	-0.6
SCPH					*i* S		Sb	21 08 18.7	-1.3
MSLP	**Maasin**	**0.96**	**326**		*e*P		Pb	21 08 21.4	0.0
MSLP					*e*S		Sn	21 08 37.0	+0.1
CGP	**Cagayan de Oro**	**1.12**	**219**		*e*P		Pn	21 08 25.1	+0.2
CGP					*i* S		Sn	21 08 42.5	+1.5
BUKP	**Musuan**	**1.49**	**193**		*e*P		Pg	21 08 30.7	0.0
TBP	**Tagbilaran**	**1.56**	**283**		*e*P		Pb	21 08 31.8	+0.1
TBP					*e*S		Sg	21 08 54.0	+1.8
DCPH	**Dipolog City**	**2.16**	**250**		*e*P		Pb	21 08 40.6	-1.3
PAGZ	**Pagadian**	**2.49**	**234**		*e*P		Pn	21 08 45.5	+1.8
MATI	**Mati**	**2.52**	**160**		*e*P		Pn	21 08 46.1	+1.9
GUIM	**Jordan**	**3.05**	**295**		*e*P		Pn	21 08 53.0	+1.5

SJA ***27*** *21:08:02.3±1.3,34.38S×73.50W,h40km, ML4.3*
IDC ***27*** *21:08:12.2±0.8,34.05S×72.16W,h0km, mb4.1/7, mb1 4.2/9,mb1mx4.0/40,mbtmp4.1/9, ML4.1/2, Error ellipse: s-maj=27.2km s-min=16.3km az=116.0*
GUC ***27*** *21:08:14.4±0.6,34.05S×72.27W,h13km±3km, ML4.3*
NEIC ***27*** *21:08:17.2±0.6,34.01S×72.20W,h35km, mb4.3/4, Error ellipse: s-maj=15.2km s-min=8.4km az=93.0*
ISC 27 21:08:12.7±2.3,**34.06S**±0.04×**72.33W**±0.06,**h5**km±13km, **n43,**σ**1s31/62, mb4.3/7, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**1.31**	**137**		*e*P		**Pn**	**21 08 37.6**	**0.0**
NICH					*e*S		**Sn**	**21 08 54.9**	**-0.5**
RCDM	**Rinconada Maip**	**1.39**	**66**		*e*P		**Pn**	**21 08 38.9**	**+0.2**
RCDM					*e*S		**Sn**	**21 08 56.8**	**-0.6**
TALC	**Talca**	**1.45**	**157**		*e*P		**Pn**	**21 08 40.0**	**+0.4**
SAN	**Santiago**	**1.51**	**67**		*e*P		**Pn**	**21 08 40.9**	**+0.4**
SAN					*e*S		**Sb**	**21 09 00.5**	**-0.2**
SAN					AML		AML	21 09 16.7	
	comp=E,6µm,0.5s								
ROCH	**El Roble**	**1.54**	**46**		*e*P		**Pn**	**21 08 41.4**	**+0.3**
ROCH					*e*S		**Sb**	**21 09 02.2**	**+0.5**
ROCH					AML		AML	21 09 11.0	
	comp=N,8µm,0.7s								
FSR	**Penalolen**	**1.60**	**69**		*e*P		**Pn**	**21 08 43.0**	**+0.2**
FSR					*e*S		**Sg**	**21 09 04.6**	**+0.3**
CLCH	**Cerro Calan**	**1.63**	**67**		*e*P		**Pn**	**21 08 42.5**	**+0.4**
CLCH					*e*S		**Sb**	**21 09 03.5**	**-0.6**
CLCH					AML		AML	21 09 09.3	
	comp=E,7µm,0.3s								
PEL	**Peldehue**	**1.64**	**57**		*e*P		**Pn**	**21 08 43.0**	**+0.7**
PEL					*e*S		**Sb**	**21 09 04.3**	**-0.2**
PEL					AML		AML	21 09 11.9	
	comp=N,12µm,0.5s								
SJCH	**San Jose de Ma**	**1.69**	**76**		*e*P		**Pn**	**21 08 42.7**	**-0.3**
SJCH					*e*S		**Sb**	**21 09 04.9**	**-1.0**
SJCH					AML		AML	21 09 10.7	
	comp=N,5µm,0.5s								
LNCH	**Linares**	**1.88**	**162**		*e*P		**Pn**	**21 08 46.9**	**+1.4**
LNCH					*e*S		**Sb**	**21 09 11.5**	**+0.2**
YECH	**El Yeso**	**1.91**	**79**		*e*P		**Pn**	**21 08 47.5**	**+1.4**
YECH					*e*S		**Sb**	**21 09 12.3**	**-0.1**
YECH					AML		AML	21 09 22.2	
	comp=N,3µm,0.8s								
AUSP	**Uspallata**	**3.07**	**54**		*i* P		**Pn**	**21 09 05.0**	**+2.9**
AUSP					*i* S		**Sg**	**21 09 52.2**	**+0.8**
AAGR	**Agrelo**	**3.08**	**73**		*i* P		**Pn**	**21 09 05.1**	**+3.1**
AAGR					*i* S		**Sg**	**21 09 51.9**	**+0.4**
ARCO	**CERRO ARCO**	**3.08**	**68**		*i* P		**Pb**	**21 09 06.7**	**-1.4**
ARCO					*i* S		**Sg**	**21 09 52.3**	**+0.4**
ARCO					AML		AML	21 09 53.7	
	comp=Z,379nm,0.6s								
ASAL	**Salagasta**	**3.27**	**64**		*i* P		**Pb**	**21 09 10.1**	**-1.2**
ASAL					*i* S		**Sg**	**21 09 56.6**	**-1.1**
RTLS	**Leoncito**	**3.40**	**49**		*i* P		**Pn**	**21 09 09.3**	**+2.7**
RTLS					*i* S		**Sg**	**21 10 00.4**	**-1.5**
RTCV	**Cerro Valdivia**	**3.86**	**56**		*i* P		**Pn**	**21 09 15.6**	**+2.8**
RTCV					*i* S		**Sb**	**21 10 10.4**	**+2.0**
CFAA	**Coronel Fontan**	**4.22**	**56**		Pn		**Pn**	**21 09 17.1**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=237,slow=12,SNR=16								
CFAA					Lg		Lg	21 10 22.3	
	comp=Z,2.2nm,0.3s,baz=63,slow=13,SNR=7.4								
CFAA	**Coronel Fontan**	**4.22**	**56**		*i* P		**Pn**	**21 09 20.6**	**+2.9**
CFAA					*i* S		**Sb**	**21 10 18.6**	**-0.1**
RTLL	**Cerro Villicun**	**4.24**	**51**		*i* P		**Pn**	**21 09 20.8**	**+2.9**
RTLL					*i* S		**Sb**	**21 10 19.2**	**+0.1**
AMOG	**MOGNA**	**4.49**	**47**		*i* P		**Pn**	**21 09 23.3**	**+1.9**
AMOG					*i* P		**Pn**	**21 09 23.3**	**+1.9**
ACAN	**Cantantal**	**4.66**	**69**		*i* P		**Pn**	**21 09 26.3**	**+2.6**
LCO	**Las Campanas**	**5.22**	**16**		*

TALC					*e*S		**Sn**	**21 45 05.5 -0.2**
SAN	**Santiago**	**1.48**	**64**		*e*P		**Pn**	**21 44 48.4 -0.3**
SAN					*e*S		**Sn**	**21 45 07.9 -0.5**
SAN					AML	AML		21 45 18.1
	comp=E,2μm,0.5s							
PCH	**Pirque**	**1.53**	**72**		*e*P		**Pn**	**21 44 49.1 -0.3**
ROCH	**El Roble**	**1.55**	**43**		*e*P		**Pn**	**21 44 49.0 -0.6**
ROCH					*e*S		**Sn**	**21 45 10.1 -0.1**
ROCH					AML	AML		21 45 15.8
	comp=N,2μm,0.1s							
CLCH	**Cerro Calan**	**1.60**	**64**		*e*P		**Pn**	**21 44 50.1 -0.2**
CLCH					*e*S		**Sn**	**21 45 11.3 -0.1**
CLCH					AML	AML		21 45 16.8
	comp=E,3μm,0.0s							
PEL	**Peldehue**	**1.63**	**54**		*e*P		**Pn**	**21 44 50.6 -0.1**
PEL					*e*S		**Sn**	**21 45 11.7 -0.4**
PEL					AML	AML		21 45 19.2
	comp=N,3μm,0.5s							
FCH	**Farellones**	**1.82**	**65**		*e*S		**Sb**	**21 45 18.4 0.0**
FCH					AML	AML		21 45 21.5
	comp=N,1μm,0.2s							
YECH	**El Yeso**	**1.86**	**77**		*e*P		**Pn**	**21 44 54.9 +0.8**
YECH					*e*S		**Sb**	**21 45 19.8 +0.1**
YECH					AML	AML		21 45 28.7
	comp=N,2μm,0.5s							
AAGR	**Agrelo**	**3.04**	**71**		*i* P		**Pn**	**21 45 11.5 +1.3**
AAGR					*i* S		**Sb**	**21 45 56.3 +2.9**
ARCO	**CERRO ARCO**	**3.06**	**66**		*i* P		**Pn**	**21 45 11.5 +1.1**
ARCO					*i* S		**Sg**	**21 45 57.9 -1.6**
ARCO					AML	AML		21 46 07.0
	comp=Z,151nm,0.5s							
AUSP	**Uspallata**	**3.06**	**53**		*e*P		**Pn**	**21 45 12.3 +1.7**
AUSP					*i* P		**Pb**	**21 45 13.8 -2.6**
AUSP					*i* S4			21 45 56.9
RTLS	**Leoncito**	**3.40**	**48**		*e*P		**Pn**	**21 45 17.6 +2.4**
RTLS					*i* P		Pb	21 45 18.7 -3.4
RTLS					*i* S4			21 46 07.2
RTCV	**Cerro Valdivia**	**3.85**	**55**		*i* P		**Pn**	**21 45 23.6 +2.4**
RTCV					*i* S		**Sb**	**21 46 15.8 -0.8**
CFAA	**Coronel Fontan**	**4.21**	**55**		*i* P		**Pn**	**21 45 28.1 +2.0**
CFAA					*i* S		**Sb**	**21 46 25.3 -1.7**
RTLL	**Cerro Villicun**	**4.23**	**50**		*i* P		**Pn**	**21 45 28.0 +1.6**
RTLL					*i* S		**Sb**	**21 46 26.5 -1.1**
AMOG	**MOGNA**	**4.49**	**46**		*i* P4		**P**	**21 45 30.8 +0.8**
AMOG					*i* P		**P**	**21 45 30.8 +0.8**
ACAN	**Cantantal**	**4.63**	**68**		*i* P		**Pn**	**21 45 34.0 +2.1**

MEX 27 22:08:29.6±0.6, 16°.39N×98°.51W, h15km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.37**	**89**	*e*P	Pg	22 08 36.4	-0.9
PNIG				*e*S	Sg	22 08 41.6	-0.8
TLIG	**Tlapa**	**1.17**	**358**	*e*P	Pn	22 08 47.4	-4.3
TLIG				*e*S	Sb	22 08 53.6	-13
ACX	**Acapulco**	**1.38**	**291**	*e*P	Pn	22 08 50.9	-3.5
ACX				*e*S	Sn	22 09 09.1	-3.2
VHO	**Vista Hermosa**	**1.84**	**68**	*e*P	Pn	22 08 59.3	-1.7
VHO				*e*S	Sn	22 09 24.0	-0.1
OXX	**Oaxaca**	**1.85**	**68**	*e*P	Pn	22 08 57.4	-3.7
OXX				*e*S	Sn	22 09 23.2	-1.2

IDC 27 22:10:14.6±14.0, 14°.19S×166°.21E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/31, mbtmp3.8/4, ML3.5/1, Error ellipse: s-maj=240.0km s-min=38.2km az=59.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.84**	**178**	Pn	Pn	22 12 09.5	-0.6
	0.6nm,0.3s,baz=73,slow=19,SNR=5.6						
DZM				Sn	Sn	22 13 38.9	-0.9
	0.4nm,0.3s,baz=270,slow=20,SNR=2.4						
STKA	**Stephens Creek**	**28.58**	**228**	P	P	22 16 13.4	+1.0
	2.3nm,0.6s,baz=47,slow=8.3,SNR=9.0						
WRA	**Warramunga Arr**	**30.97**	**255**	P	P	22 16 33.5	-0.4
	0.2nm,0.5s,baz=86,slow=9.4,SNR=5.4						
ASAR	**Alice Springs**	**31.92**	**248**	P	P	22 16 41.8	-0.4
	0.6nm,0.6s,baz=72,slow=9.4,SNR=13						

*ISCJB **27** 22:18:36.6±0.5, 32°.27N±0°.03×115°.25W±0°.03, h23km±4km, Error ellipse: s-maj=5.0km s-min=4.2km az=17.1*
*MEX **27** 22:18:36.9±0.6, 32°.46N×115°.03W, h36km±8km, MD3.7*
*NEIC **27** 22:18:38.0, 32°.25N×115°.32W, h9km, ML3.0(PAS), ML3.1(ECX), After ECX.*
*ECX **27** 22:18:38.0±0.5, 32°.25N×115°.32W, h9km, MD2.9, ML3.1*
ISC 27 22:18:36.6±1.0, 32°.24N±0°.02×115°.28W±0°.03, h18km±2km, n25, σ0°69/43, 3C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.18**	**352**	*e*P	**Pb**	**22 18 40.8**	**+0.2**
CPBX				*e*S	**Sg**	**22 18 46.2**	**+1.7**
CPBX	**Cerro Prieto**	**0.18**	**352**	*e*P9	**Pb**	**22 18 40.9**	**+0.2**
CPBX				*e*S	**Sb**	**22 18 43.5**	**+0.2**
EMSC	**East Mesa**	**0.55**	**26**⇑	*i*P	**Pb**	**22 18 48.1**	**+0.3**
SGL	**Mount Signal**	**0.56**	**317**⇓	*i*P	**Pg**	**22 18 47.4**	**-0.4**
COA	**Coachella**	**0.63**	**12**	*e*P2	**Pb**	**22 18 49.3**	**+0.2**
WESC	**Westside Schoo**	**0.64**	**323**	*e*P	**Pg**	**22 18 49.4**	**-0.1**
RDX	**Rancho Dawling**	**0.65**	**241**⇑	*e*P	**Pb**	**22 18 49.0**	**-0.5**
RDX				*e*S	**Sb**	**22 18 57.7**	**-0.5**
RDX				IAML		22 18 59.7	
	comp=N,839nm,0.4s						
RDX			⇓	*e*		22 18 59.7	
YUH	**Yuha Desert**	**0.68**	**307**⇓	*i*P	**Pb**	**22 18 49.3**	**-0.7**
RMX	**La Rumorosa**	**0.77**	**298**	*e*P	**Pb**	**22 18 50.9**	**-0.7**
RMX				*e*S	**Sb**	**22 19 00.7**	**-1.0**
ECBX	**El Chinero**	**0.79**	**166**	*e*P9	**Pb**	**22 18 50.7**	**-1.1**
ECBX				*e*S	**Sb**	**22 19 01.9**	**-0.3**
GLA	**Glamis**	**0.89**	**25**	*e*Pg	**Pb**	**22 18 52.7**	**-0.9**
GLA				*e*Sg	**Sb**	**22 19 04.4**	**-0.8**
ZAX	**El Zacaton**	**1.12**	**230**	*e*P	**Pn**	**22 18 57.2**	**-0.3**
ZAX				*e*S	**Sb**	**22 19 11.7**	**0.0**
CBX	**Cerro Bola**	**1.18**	**274**	*e*P	**Pn**	**22 18 58.3**	**0.0**
CBX				*e*S	**Sn**	**22 19 14.2**	**+0.2**
CBX	**Cerro Bola**	**1.18**	**274**	*e*P	**Pn**	**22 18 58.3**	**0.0**
CBX				*e*S	**Sn**	**22 19 14.2**	**+0.2**
CBX	**Cerro Bola**	**1.18**	**274**	*e*P	**Pn**	**22 18 57.9**	**-0.4**
CBX				*e*S	**Sb**	**22 19 13.3**	**-0.2**
CBX				IAML		22 19 15.0	
	comp=N,586nm,0.3s						
CBX			⇑	*e*		22 19 15.0	
SPIG	**San Pedro Mart**	**1.20**	**188**	*e*P	**Pn**	**22 18 58.4**	**-0.5**
SPIG				*e*S	**Sg**	**22 19 16.3**	**+0.5**
SPIG	**San Pedro Mart**	**1.20**	**188**	*e*P	**Pn**	**22 18 58.4**	**-0.5**
SPIG				*e*S	**Sg**	**22 19 16.3**	**+0.5**
SPX	**San Pedro Mart**	**1.20**	**188**	*e*P	**Pb**	**22 18 59.6**	**+0.5**
SPX				*e*S	**Sg**	**22 19 17.3**	**+1.4**
SPX	**San Pedro Mart**	**1.20**	**188**	*e*P	**Pn**	**22 18 58.4**	**-0.5**
SPX				*e*S	**Sn**	**22 19 15.9**	**+1.0**
BAR	**Barrett**	**1.26**	**291**	*e*Pn	**Pn**	**22 18 58.9**	**-0.4**
BAR				*e*Sb	**Sb**	**22 19 15.2**	**-0.5**
ECNX	**Esteban Cantu**	**1.27**	**243**	*e*P	**Pn**	**22 18 59.5**	**0.0**
ECNX				*e*S	**Sb**	**22 19 16.3**	**+0.2**
PBX	**Punta Banda**	**1.33**	**248**	*e*P	**Pn**	**22 19 00.4**	**+0.1**
PBX				*e*S	**Sb**	**22 19 18.1**	**+0.4**
PFO	**Pinyon Flats O**	**1.69**	**324**	*e*Pn	**Pn**	**22 19 03.8**	**-1.5**
PFO				*e*Sn	**Sb**	**22 19 28.6**	**+0.4**
214A	**Organ Pipe Nat**	**2.11**	**97**	*e*Pn	**Pn**	**22 19 09.8**	**-1.2**
121A	**Cookes Peak, D**	**6.34**	**85**	*e*Pn	**Pn**	**22 20 10.0**	**+0.6**

*NEIC **27** 22:20:13.0, 37°.34S×74°.26W, h28km, mb5.2/62, ML5.3(GUC), After GUC.*
NEIC Felt [IV] at Concepcion and [III] at Curanilahue and Lebu. Also felt at Los Angeles.
*IDC **27** 22:20:14.8±0.4, 37°.23S×73°.90W, h0km, mb4.7/19, mb1 4.7/22, mb1mx4.7/32, mbtmp4.7/22, ML3.4/3, MS5.1/14, Ms1 5.1/14, ms1mx4.9/27, Error ellipse: s-maj=17.6km s-min=10.8km az=85.0*
*GUC **27** 22:20:14.9±0.8, 37°.26S×74°.23W, h36km±6km, ML5.5*
*ISCJB **27** 22:20:17.1±1.4, 37°.21S±0°.04×73°.93W±0°.06, h28km±9km, mb5.0/77, MS5.2/24, Error ellipse: s-maj=8.8km s-min=5.6km az=161.1*
*MOS **27** 22:20:18.5±1.2, 37°.18S×73°.98W, h33km, mb5.4/23, MS5.4/5, Error ellipse: s-maj=22.9km s-min=10.0km az=101.6*
*BJI **27** 22:20:18.5, 37°.30S×74°.20W, h18km, mB5.2/18, Ms5.4/13, Ms7 5.3/14*
ISC 27 22:20:19.5±0.8, 37°.28S±0°.04×73°.99W±0°.05, h34km±2km, n345, σ1°38/377, mb5.1/80, MS5.2/25, 9C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.83**	**59**	*e*P	**Pn**	**22 20 32.7**	**-2.1**
CCSP				*e*S	**Sn**	**22 20 46.2**	**+0.4**
AGCH	**Angol**	**1.16**	**118**	*e*P	**Pn**	**22 20 38.2**	**-1.1**
AGCH				*e*S	**Sb**	**22 20 55.5**	**-0.2**
PSCH	**Puerto Saavedr**	**1.59**	**163**	*e*P	**Pn**	**22 20 42.8**	**-2.4**
PSCH				AML	AML	22 21 21.1	
	comp=N,134μm,0.6s						
LNCH	**Linares**	**2.40**	**54**	*e*P	**Pn**	**22 20 55.0**	**-1.4**
LNCH				AML	AML	22 21 45.9	
	comp=N,16μm,0.6s						
VLCH	**Valdivia**	**2.59**	**167**	*e*P	Pn	22 20 54.2	-4.8
VLCH				*e*S	**Sn**	**22 21 26.0**	**-3.2**
VLCH				AML	AML	22 21 55.4	
	comp=N,16μm,0.7s						
PLCA	**Paso Flores**	**4.37**	**143**	Pn	**Pn**	**22 21 23.5**	**0.0**
	comp=N,0.4nm,0.3s,baz=317,slow=22,SNR=22						
PLCA				Lg	Lg	22 22 30.9	
	comp=N,0.8nm,0.3s,baz=210,slow=23,SNR=3.1						
PLCA				LR	LR	22 23 09.0	
	comp=N,11μm,20.3s,baz=314,slow=40						
CFAA	**Coronel Fontan**	**7.39**	**42**	Pn	**Pn**	**22 22 02.5**	**-2.5**
	comp=N,0.3nm,0.3s,baz=203,slow=12,SNR=18						
CFAA				Sn	**Sn**	**22 23 26.1**	**-1.7**
	comp=N,0.7nm,0.3s,baz=37,slow=20,SNR=2.8						
CFAA				LR	LR	22 24 37.9	
	comp=N,617nm,19.9s,baz=228,slow=36						
LCO	**Las Campanas**	**8.70**	**19**	*e*Pn	**Pn**	**22 22 22.4**	**-0.7**
LCO				*e*Sn	Sn	22 23 52.5	-7.7
TRQA	**Tornquist**	**9.56**	**98**	*e*Pn	**Pn**	**22 22 34.2**	**-0.5**
TRQA				*e*Sn	Sn	22 24 37.7	+17
LVC	**Limon Verde**	**15.26**	**18**	Pn	**Pn**	**22 23 49.7**	**-3.1**
	comp=N,17nm,0.3s,baz=182,slow=8.9,SNR=6.7						
LVC	**Limon Verde**	**15.26**	**18**	*e*Pn	**Pn**	**22 23 51.6**	**-1.1**
	comp=N,40nm,0.9s						
USHA	**Ushuaia**	**17.96**	**170**	P	**P**	**22 24 26.8**	**+0.1**
	comp=N,0.3nm,0.3s,baz=318,slow=12,SNR=1.9						
USHA				LR	LR	22 31 20.2	
	comp=N,10μm,18.4s,baz=324,slow=37						
EFI	**East Falkland**	**18.28**	**147**	Pn	**Pn**	**22 24 30.5**	**+0.3**
	comp=N,1μm,1.0s,SNR=6.8						
EFI	**East Falkland**	**18.28**	**147**	*c* *i*P	**P**	**22 24 27.9**	**-2.2**
EFI				pmax	pmax		
	comp=Z,652nm,1.2s						
EFI	**East Falkland**	**18.28**	**147**	*e*Pn	**P**	**22 24 29.6**	**-0.5**
	comp=Z,245nm,1.1s						
EFI				*e*Sn	**S**	**22 27 56.0**	**-1.2**
LPAZ	**La Paz**	**21.55**	**15**	P	**P**	**22 25 06.2**	**-0.4**
	comp=Z,11nm,0.7s,baz=176,slow=8.5,SNR=19						
SIV	**San Ignacio**	**24.10**	**32**	P	**P**	**22 25 31.1**	**-1.0**
	comp=Z,8.1nm,0.8s,baz=224,slow=14,SNR=15						
SIV				LR	LR	22 36 49.6	
	comp=Z,11μm,19.2s,baz=220,slow=41						
PMSA	**Palmer Station**	**28.16**	**171**	LR	LR	22 36 17.7	
	comp=Z,3μm,18.3s,baz=346,slow=34						
SAML	**Samuel**	**29.86**	**22**	*e*P	**P**	**22 26 23.2**	**-0.6**
	comp=Z,29nm,1.3s						
ATAH	**Atahualpa**	**30.27**	**351**	P	**P**	**22 26 29.4**	**+1.5**
	comp=Z,2.1nm,0.4s,baz=160,slow=4.2,SNR=4.2						
ATAH				LR	LR	22 36 09.5	
	comp=Z,2μm,18.7s,baz=184,slow=32						
BDFB	**Brasilia**	**31.52**	**54**	P	**P**	**22 26 37.4**	**-1.3**
	comp=Z,11nm,0.9s,baz=204,slow=4.3,SNR=7.2						
BDFB				LR	LR	22 40 51.1	
	comp=Z,6μm,20.4s,baz=223,slow=39						
OTAV	**Otavalo**	**37.56**	**353**	*e*P	**P**	**22 27 31.0**	**-0.2**
	comp=Z,53nm,1.4s						
ROSC	**El Rosal**	**41.92**	**359**	P	**P**	**22 28 08.0**	**+0.6**
	comp=Z,8.5nm,0.5s,baz=213,slow=6.9,SNR=7.7						
ROSC	**El Rosal**	**41.92**	**359**	*e*P	**P**	**22 28 07.0**	**-0.4**
SDV	**Santo Domingo**	**46.03**	**5**	*e*P	**P**	**22 28 39.5**	**-0.6**
	comp=Z,16nm,0.9s						
RCBR	**Riachuelo**	**46.73**	**57**	P	**P**	**22 28 44.8**	**-0.8**
	comp=Z,6.2nm,0.9s,baz=216,slow=8.7,SNR=2.8						
VNA1	**Neumayer--Stat**	**47.32**	**156**	P	P	22 28 42.5	-6.9
VNA2	**Neumayer--Watz**	**47.64**	**156**	P	**P**	**22 28 53.1**	**+1.2**
	baz=276,slow=8.2						
PCRV	**Puerto La Cruz**	**48.02**	**12**	P	**P**	**22 28 56.1**	**+0.6**
	comp=Z,5.9nm,0.7s,baz=100,slow=6.8,SNR=3.1						
SNAA	**Sanae**	**49.18**	**157**	P	**P**	**22 29 01.0**	**-2.8**
SNAA	**Sanae**	**49.18**	**157**	P	**P**	**22 29 04.5**	**+0.6**
	comp=Z,13nm,1.1s,baz=278,slow=7.0,SNR=37						
SNAA	**Sanae**	**49.18**	**157**	*c* *i*P	**P**	**22 29 01.3**	**-2.5**
SNAA				pmax	pmax		
	comp=Z,53nm,1.2s						
SNAA	**Sanae**	**49.18**	**157**	*e*P	**P**	**22 29 01.0**	**-2.8**
	comp=Z,45nm,0.9s						
QSPA	**South Pole Qui**	**52.96**	**180**	P	**P**	**22 29 33.7**	**+1.3**
	comp=Z,16nm,1.0s,baz=142,slow=4.7,SNR=24						
RKT	**Rikitea**	**53.72**	**267**	*e*S	**S**	**22 37 10.1**	**-0.3**
	comp=Z,867nm,26.2s						
RKT				*e*LR	LR	22 45 10.9	
	comp=Z,3μm,27.2s,baz=121						
NVL	**N'lazarevskaya**	**53.96**	**156**⇓	*i*P	P	22 29 33.5	-6.0
NVL				*e**PP	pP	22 29 40.3	-9.4
NVL				*e*		22 30 42.5	
NVL				*e*PPP	PPP	22 32 56.8	
NVL				*e*S	**S**	**22 37 10.4**	**-2.0**
NVL				*e*		22 37 19.1	
NVL				*e*		22 39 20.0	
NVL				pmax	pmax		
	comp=Z,18nm,0.8s						
NVL				MLR	MLR		
	comp=Z,2μm,14.0s						
TEIG	**Tepich**	**58.76**	**344**	*e*P	**P**	**22 30 13.6**	**-0.6**
	comp=Z,23nm,0.8s						
SBA	**Scott Base**	**59.54**	**192**	*e*P	**P**	**22 30 20.9**	**+1.9**
SBA				pmax	pmax		
	comp=Z,184nm,2.8s						
SBA	**Scott Base**	**59.54**	**192**	*e*P	**P**	**22 30 20.9**	**+1.9**
	comp=Z,184nm,2.8s						
VNDA	**Vanda**	**60.57**	**192**	P	**P**	**22 30 27.0**	**+0.9**
	comp=Z,2.7nm,0.9s,baz=148,slow=5.4,SNR=8.9						
VNDA				LR	LR	22 54 39.3	
	comp=Z,1μm,18.4s,baz=131,slow=34						
VNDA	**Vanda**	**60.57**	**192**	*e*P	**P**	**22 30 27.0**	**+0.9**
SYO	**Syowa Base**	**63.41**	**158**⇓	*e*X	P	22 30 40.0	-5.1
TBI	**Tubuai**	**65.06**	**259**	*e*S	**S**	**22 39 35.4**	**-1.5**
	comp=Z,2μm,26.5s						
TBI	**Tubuai**	**65.06**	**259**	*e*LR	LR	22 50 22.8	
	comp=Z,2μm,26.0s,baz=121						
034A	**Hebbronville**	**68.08**	**336**	P	**P**	**22 31 16.7**	**+1.0**
	baz=68						
PPT2	**Papeete2**	**68.25**	**264**	*e*S	**S**	**22 40 14.7**	**-1.1**
	comp=Z,2μm,26.8s						
PPT2	**Papeete2**	**68.25**	**264**	*e*LR	LR	22 51 57.1	
	comp=Z,2μm,24.2s,baz=123						
PPT	**Papeete**	**68.26**	**264**	LR	LR	22 53 19.6	
	comp=Z,1μm,18.8s,baz=112,slow=29						
934A	**Benavides**	**68.53**	**337**	P	**P**	**22 31 19.8**	**+1.3**
	baz=69						
933A	**Laredo**	**68.78**	**336**	P	**P**	**22 31 21.0**	**+0.9**
	baz=69						
834A	**Tilden**	**69.03**	**337**	P	**P**	**22 31 22.6**	**+1.0**
	baz=69						
833A	**Chaparral WMA,**	**69.48**	**336**	P	**P**	**22 31 24.3**	**-0.1**
	baz=70						
832A	**Faith Ranch, C**	**69.63**	**336**	P	**P**	**22 31 25.4**	**0.0**
	baz=70						
636A	**Smothers Creek**	**69.85**	**339**	P	**P**	**22 31 27.6**	**+1.0**
	baz=70						
HKT	**Hockley**	**69.94**	**340**	*e*P	**P**	**22 31 27.7**	**+0.6**
HKT				pmax	pmax		
	comp=Z,58nm,2.1s						
HKT	**Hockley**	**69.94**	**340**	*e*P	**P**	**22 31 27.7**	**+0.6**
	comp=Z,58nm,2.1s						
LPIG	**La Paz**	**69.98**	**325**	LR	LR	22 55 15.2	
	comp=Z,1μm,19.5s,baz=160,slow=30						
732A	**Laxson Ranch,**	**70.04**	**336**	P	**P**	**22 31 28.1**	**+0.2**
	baz=70						
633A	**Saathoff Ranch**	**70.47**	**337**	P	**P**	**22 31 30.6**	**+0.2**
	baz=71						
MAW	**Mawson**	**70.48**	**164**	P	**P**	**22 31 30.3**	**+0.2**
	comp=Z,7.1nm,1.1s,baz=225,slow=11,SNR=6.0						
MAW				LR	LR	23 02 58.4	
	comp=Z,2μm,18.3s,baz=230,slow=36						
632A	**Uvalde**	**70.70**	**336**	P	**P**	**22 31 32.1**	**+0.1**
	baz=71						
631A	**Perdido Creek**	**70.87**	**336**	P	**P**	**22 31 32.9**	**0.0**
	baz=71						
GOGA	**Godfrey**	**70.88**	**352**	*e*P	**P**	**22 31 32.3**	**-0.6**
GOGA				pmax	pmax		
	comp=Z,20nm,1.2s						
GOGA	**Godfrey**	**70.88**	**352**	*e*P	**P**	**22 31 32.2**	**-0.6**
	comp=Z,20nm,1.2s						
339A	**Huntington**	**70.92**	**341**	P	**P**	**22 31 33.8**	**+0.7**
	baz=71						
533A	**Kerrville**	**70.99**	**337**	P	**P**	**22 31 33.9**	**+0.2**
	baz=71						
LRAL	**Lakeview Retre**	**71.00**	**348**	*e*P	**P**	**22 31 33.5**	**-0.1**
	comp=Z,23nm,1.2s						
337A	**Centerville**	**71.25**	**340**	P	**P**	**22 31 36.2**	**+1.1**
	baz=72						
532A	**Rocksprings**	**71.32**	**336**	P	**P**	**22 31 36.3**	**+0.6**
	baz=72						
434A	**Burnet**	**71.45**	**338**	P	**P**	**22 31 36.5**	**0.0**
	baz=72						
JSC	**Jenkinsville**	**71.52**	**354**	*e*P	**P**	**22 31 36.8**	**+0.1**
JSC				pmax	pmax		
	comp=Z,16nm,1.0s						
JSC	**Jenkinsville**	**71.52**	**354**	*e*P	**P**	**22 31 36.8**	**+0.1**
	comp=Z,16nm,1.0s						
531A	**Rocksprings**	**71.56**	**336**	P	**P**	**22 31 37.5**	**+0.4**
	baz=72						
JCT	**Junction City**	**71.61**	**337**	*e*P	**P**	**22 31 37.6**	**+0.2**
JCT				pmax	pmax		
	comp=Z,32nm,1.1s						
JCT	**Junction City**	**71.61**	**337**	*e*P	**P**	**22 31 37.6**	**+0.2**
	comp=Z,32nm,1.1s						
JCT	**Junction City**	**71.61**	**337**	P	**P**	**22 31 37.6**	**+0.2**
	baz=72						
433A	**Art**	**71.64**	**337**	P	**P**	**22 31 37.3**	**-0.3**
	baz=72						
530A	**J-C Ranch, Com**	**71.80**	**335**	P	**P**	**22 31 38.8**	**+0.2**
	baz=72						
LTX	**Lajitas**	**71.87**	**333**	*e*P	**P**	**22 31 39.4**	**+0.3**
LTX	**Lajitas**	**71.87**	**333**	*e*P	**P**	**22 31 39.4**	**+0.3**
TXAR	**Lajitas Array**	**71.87**	**333**	P	**P**	**22 31 39.4**	**+0.3**
	comp=Z,5.2nm,0.8s,baz=153,slow=8.6,SNR=32						
TXAR				LR	LR	22 57 35.7	
	comp=Z,713nm,19.2s,baz=0.0,slow=31						
432A	**Menard**	**71.97**	**337**	P	**P**	**22 31 39.3**	**-0.3**
	baz=72						
431A	**Sonora**	**72.06**	**336**	P	**P**	**22 31 40.5**	**+0.4**
	baz=72						
529A	**Stev Forest Ra**	**72.08**	**334**	P	**P**	**22 31 40.5**	**+0.2**
	baz=72						
333A	**Richland Sprin**	**72.14**	**338**	P	**P**	**22 31 40.5**	**-0.1**
	baz=72						
WHTX	**Lake Whitney,**	**72.32**	**339**	*e*P	**P**	**22 31 41.6**	**0.0**
	comp=Z,18nm,0.9s						
WHTX	**Lake Whitney,**	**72.32**	**339**	P	**P**	**22 31 41.1**	**-0.5**
	baz=73						
430A	**Baggett Ranch,**	**72.36**	**336**	P	**P**	**22 31 41.6**	**-0.3**
	baz=73						
KMSC	**Kings Mountain**	**72.38**	**354**	*e*P	**P**	**22 31 41.3**	**-0.6**
	comp=Z,19nm,1.0s						
429A	**Davenport Ranc**	**72.43**	**335**	P	**P**	**22 31 42.3**	**0.0**
	baz=73						
332A	**Millersview**	**72.43**	**337**	P	**P**	**22 31 42.0**	**-0.3**
	baz=73						
234A	**Clairette**	**72.53**	**339**	P	**P**	**22 31 42.6**	**-0.2**
	baz=73						
331A	**San Angelo**	**72.58**	**336**	P	**P**	**22 31 42.9**	**-0.3**
	baz=73						
232A	**Coleman**	**72.87**	**337**	P	**P**	**22 31 44.6**	**-0.3**
	baz=73						
330A	**Mertzon**	**72.91**	**336**	P	**P**	**22 31 44.8**	**-0.4**
	baz=73						
SWET	**Sewanee**	**72.98**	**350**	*e*P	**P**	**22 31 45.2**	**-0.2**
CPCT	**Cooper Cave**	**73.02**	**351**	*e*P	**P**	**22 31 45.1**	**-0.5**
231A	**Bronte**	**73.12**	**337**	P	**P**	**22 31 45.9**	**-0.5**
	baz=73						
329A	**Wagon Wheel Ra**	**73.25**	**335**	P	**P**	**22 31 46.9**	**-0.3**
	baz=74						
133A	**Hamilton Ranch**	**73.32**	**338**	P	**P**	**22 31 47.5**	**0.0**
	baz=74						
ABTX	**Abilene, Hawle**	**73.55**	**338**	*e*P	**P**	**22 31 48.9**	**0.0**
	comp=Z,39nm,1.3s						
ABTX	**Abilene, Hawle**	**73.55**	**338**	P	**P**	**22 31 49.1**	**+0.2**
	baz=74						
229A	**Bryant Ranch,**	**73.63**	**336**	P	**P**	**22 31 49.6**	**+0.2**
	baz=74						
131A	**Roby**	**73.83**	**337**	P	**P**	**22 31 50.5**	**0.0**
	baz=74						
Z33A	**Whitaker Ranch**	**73.91**	**339**	P	**P**	**22 31 50.5**	**-0.5**
	baz=74						
Y35A	**Marietta**	**74.01**	**340**	P	**P**	**22 31 51.6**	**+0.1**
	baz=74						
228A	**J T Block 9, Go**	**74.03**	**335**	P	**P**	**22 31 51.1**	**-0.7**
	baz=74						
Z32A	**Haskell**	**74.14**	**338**	P	**P**	**22 31 52.1**	**-0.2**
	baz=74						
WVT	**Waverly**	**74.16**	**348**	*e*P	**P**	**22 31 51.3**	**-1.1**
WVT				pmax	pmax		
	comp=Z,36nm,1.4s						
WVT	**Waverly**	**74.16**	**348**	*e*P	**P**	**22 31 51.2**	**-1.1**
	comp=Z,36nm,1.4s						
Y34A	**Reagan Ranch,**	**74.25**	**340**	P	**P**	**22 31 52.7**	**-0.3**
	baz=75						
X36A	**Centrahoma**	**74.45**	**341**	P	**P**	**22 31 52.4**	**-1.7**

ACSO Alum Creek Sta 77.58 353 *e*P **P 22 32 10.9 -0.8**
comp=Z,42nm,1.3s
TIC Toumodi 77.58 72 *e*P **P 22 32 12.1 -0.4**
KIC Kosan Boka 77.61 72 *e*P **P 22 32 12.5 -0.1**
comp=Z,101nm,1.1s
LAZ Ladron 77.70 332 *e*P **P 22 32 10.8 -2.1**
DBIC Dimbokro 77.73 72 P **P 22 32 13.1 -0.1**
comp=Z,37nm,1.1s,baz=193,slow=4.8,SNR=14
ANMO Albuquerque 77.94 333 *c i*P **P 22 32 13.8 -0.4**
ANMO pmax pmax
comp=Z,76nm,1.7s
ANMO Albuquerque 77.94 333 *e*P **P 22 32 14.2 0.0**
comp=Z,15nm,1.2s
R34A Isabella, Hill 78.21 341 P **P 22 32 15.6 +0.3**
baz=79
HDIL Hopedale 78.72 348 *e*P **P 22 32 19.8 +1.7**
comp=Z,1.4nm,0.8s
S28A Manter 78.84 338 P **P 22 32 19.5 +0.6**
baz=79
T26A Comanche Natio 78.99 336 P **P 22 32 20.2 +0.3**
baz=79
QUA2 Belchertown 79.20 1 *e*P **P 22 32 21.4 +0.8**
comp=Z,17nm,1.0s
T25A Trinidad 79.22 336 *e*P **P 22 32 21.6 +0.4**
comp=Z,28nm,1.0s
T25A Trinidad 79.22 336 P **P 22 32 21.9 +0.7**
baz=80
P34A Walnut Farm, R 79.29 342 P **P 22 32 20.8 -0.4**
baz=80
S26A Kim 79.36 337 P **P 22 32 22.0 +0.2**
baz=80
Y14A Wickenburg 79.63 328 P **P 22 32 24.3 +1.0**
baz=80
Q30A Quinter 79.64 340 P **P 22 32 23.8 +0.5**
baz=80
MMNY Mt. Morris Dam 79.72 357 *e*P **P 22 32 24.1 +0.6**
comp=Z,58nm,1.4s
R27A Eads 79.75 337 P **P 22 32 23.6 -0.3**
baz=80
TSUM Tsumeb 79.84 106 *e*P **P 22 32 25.6 +0.6**
comp=Z,21nm,1.3s
BOSA Boshof 79.94 118 P **P 22 32 26.1 +0.6**
comp=Z,18nm,1.0s,baz=217,slow=6.0,SNR=8.4
BOSA LR LR 23 04 48.3
comp=Z,742nm,19.0s,baz=234,slow=34
R26A Arlington 79.97 337 P **P 22 32 25.8 +0.7**
baz=80
RPZ Rata Peaks 80.13 222 LR LR 23 00 01.0
comp=Z,802nm,18.4s,baz=120,slow=30
S22A 4UR Ranch, Cre 80.58 334 *e*P **P 22 32 28.4 -0.3**
comp=Z,77nm,2.6s
S22A 4UR Ranch, Cre 80.58 334 P **P 22 32 29.0 +0.3**
baz=81
R23A Moffat 80.64 335 P **P 22 32 29.6 +0.6**
baz=81
MVCO Mesa Verde 80.70 333 *e*P **P 22 32 28.4 -0.8**
comp=Z,9.9nm,1.0s
PFO Pinyon Flats O 80.87 325 P **P 22 32 31.6 +1.5**
comp=Z,8.0nm,1.0s,baz=125,slow=4.0,SNR=3.8
PFO Pinyon Flats O 80.87 325 *e*P **P 22 32 30.3 +0.2**
PFO pmax pmax
comp=Z,21nm,1.3s
PFO Pinyon Flats O 80.87 325 *e*P **P 22 32 30.3 +0.2**
comp=Z,21nm,1.3s
MDV Middlebury 80.91 1 *e*P **P 22 32 29.7 -0.1**
Q24A Divide 81.12 336 *e*P **P 22 32 31.4 -0.1**
comp=Z,165nm,2.8s
PTN Potsdam (NY) 81.48 359 *e*P **P 22 32 33.2 +0.4**
PTN pmax pmax
comp=Z,17nm,0.9s
PTN Potsdam (NY) 81.48 359 *e*P **P 22 32 33.2 +0.4**
comp=Z,17nm,0.9s
LONY Lake Ozonia 81.53 360 *e*P **P 22 32 33.7 +0.6**
comp=Z,17nm,1.3s
SMCO Snowmass 81.92 335 *e*P **P 22 32 36.1 +0.3**
comp=Z,32nm,1.4s
ISCO Idaho Springs 82.03 336 *e*P **P 22 32 36.0 -0.3**
ISCO pmax pmax
comp=Z,60nm,2.5s
ISCO Idaho Springs 82.03 336 *e*P **P 22 32 36.0 -0.3**
comp=Z,60nm,2.5s
O23A Lake Granby, G 82.50 336 P **P 22 32 39.4 +0.7**
baz=83
O22A Kremmling 82.66 335 P **P 22 32 40.3 +0.7**
baz=83
SHPR Sheep Range 82.73 328 *e*P **P 22 32 39.6 -0.3**
N23A Red Feather La 83.12 336 *e*P **P 22 32 42.2 +0.3**
comp=Z,9.2nm,1.1s
N22A Wattenberg Ran 83.21 336 P **P 22 32 43.8 +1.5**
baz=84
ECSD EROS Data Cent 83.21 344 *e*P **P 22 32 41.8 -0.2**
comp=Z,25nm,1.0s
ECSD EROS Data Cent 83.21 344 P **P 22 32 41.9 -0.1**
baz=84
PHWY Pilot Hill 83.34 337 *e*P **P 22 32 43.0 0.0**
comp=Z,12nm,0.8s
PKM Mcpherson Peak 83.49 324 P **P 22 32 44.9 +1.1**
baz=84
COWI Conover 84.12 349 *e*P **P 22 32 46.8 +0.2**
comp=Z,33nm,0.2s
MPU Maple Canyon 84.33 332 *e*P **P 22 32 47.3 -0.8**
comp=Z,9.0nm,0.9s
R11A Troy Canyon, C 84.47 328 *e*P **P 22 32 48.1 -0.6**
comp=Z,101nm,2.7s
R11A Troy Canyon, C 84.47 328 P **P 22 32 49.9 +1.1**
baz=85
I28A Midland 84.58 341 P **P 22 32 50.1 +1.2**
baz=85
K22A Casper 84.90 337 *e*P **P 22 32 49.4 -1.4**
comp=Z,29nm,0.5s
DUG Dugway, Tooele 84.94 331 *e*P **P 22 32 50.6 -0.4**
DUG pmax pmax
comp=Z,15nm,1.2s
DUG Dugway, Tooele 84.94 331 *e*P **P 22 32 50.6 -0.4**
comp=Z,16nm,1.2s
DUG Dugway, Tooele 84.94 331 P **P 22 32 50.7 -0.4**
baz=85
TPH Tonopah 84.94 327 *e*P **P 22 32 51.0 -0.2**
TPH pmax pmax
comp=Z,19nm,1.4s
TPH Tonopah 84.94 327 *e*P **P 22 32 51.0 -0.2**
comp=Z,19nm,1.4s
J24A Dixon Ranch, L 84.94 338 P **P 22 32 51.7 +0.8**
baz=85
I25A Rochford 85.30 339 P **P 22 32 53.2 +0.4**
baz=86
RSSD Black Hills 85.48 339 *e*P **P 22 32 53.6 -0.1**
RSSD pmax pmax
comp=Z,286nm,2.3s
RSSD Black Hills 85.48 339 *e*P **P 22 32 53.6 -0.1**
comp=Z,286nm,2.3s
HWUT Hardware Ranch 85.69 333 *e*P **P 22 32 54.7 -0.1**
comp=Z,31nm,1.4s
BW06 Boulder Array 86.00 335 *e*P **P 22 32 55.2 -1.1**
PD31 Pinedale Array 86.00 335 *e*P **P 22 32 55.8 -0.6**
PDAR Pinedale Array 86.00 335 P **P 22 32 55.8 -0.6**
comp=Z,4.9nm,1.1s,baz=123,slow=5.5,SNR=14
G26A Maurine 86.16 340 P **P 22 32 57.5 +0.7**
baz=86
EYMN Ely 86.28 348 *e*P **P 22 32 57.1 -0.2**
comp=Z,129nm,3.0s
HVU Hansel Valley 86.29 332 *e*P **P 22 32 56.9 -0.8**
HVU pmax pmax
comp=Z,124nm,2.8s
HVU Hansel Valley 86.29 332 *e*P **P 22 32 56.9 -0.8**
comp=Z,124nm,2.8s
ELK Elko 86.36 330 P **P 22 32 58.5 +0.3**
comp=Z,2.0nm,0.8s,baz=146,slow=4.5,SNR=7.7
ELK Elko 86.36 330 *e*P **P 22 32 58.0 -0.2**
ELK pmax pmax
comp=Z,6.0nm,1.1s
ELK Elko 86.36 330 *e*P **P 22 32 58.0 -0.2**
comp=Z,6.3nm,1.1s
TOA0 Torodi Ar. Sit 86.80 71 *e*P **P 22 33 00.0 -0.7**
TOA0 Torodi Ar. Sit 86.80 71 *e*P **P 22 33 00.0 -0.7**
TOA0 *e*PP **PP 22 36 27.3 +3.5**
TORD Torodi Ar. Bea 86.80 71 P **P 22 33 00.0 -0.7**
comp=Z,5.1nm,0.7s,baz=225,slow=3.5,SNR=24
TORD PP **PP 22 36 27.3 +3.5**
comp=Z,3.1nm,1.1s,baz=229,slow=8.2,SNR=4.6
TOA1 Torodi Ar. Sit 86.80 71 *e*P **P 22 33 00.0 -0.7**
REDW Red Top Meadow 86.97 334 *e*P **P 22 33 00.3 -0.8**
comp=Z,21nm,1.5s
MSKU Masuku 87.10 90 *e*P **P 22 33 02.0 -0.2**
comp=Z,38nm,1.3s
TPAW Teton Pass 87.12 334 *e*P **P 22 33 01.8 -0.1**
comp=Z,7.5nm,1.0s

FXWY Fox Creek 87.28 334 *e*P **P 22 33 02.7 +0.1**
comp=Z,11nm,1.4s
AGMN Agassiz Nation 87.40 346 *e*P **P 22 33 02.1 -0.7**
comp=Z,19nm,1.2s
IMW Indian Meadow 87.47 334 *e*P **P 22 33 02.8 -0.9**
comp=Z,13nm,1.4s
H18A Shoshone NF, C 87.73 335 P **P 22 33 04.6 -0.1**
baz=88
RLMT Red Lodge 87.99 336 *e*P **P 22 33 05.8 -0.1**
comp=Z,8.7nm,0.8s
HLID Hailey 88.44 332 *e*P **P 22 33 08.4 +0.3**
comp=Z,15nm,1.5s
HLID Hailey 88.44 332 P **P 22 33 09.0 +1.0**
baz=89
MCMT McKenzie Canyo 88.96 333 *e*P **P 22 33 10.7 +0.2**
ULM Lac du Bonnet 89.27 346 P **P 22 33 10.8 -0.7**
comp=Z,8.1nm,1.0s,baz=240,slow=2.8,SNR=8.7
ULM Lac du Bonnet 89.27 346 *e*P **P 22 33 11.0 -0.5**
ULM pmax pmax
comp=Z,23nm,1.3s
ULM Lac du Bonnet 89.27 346 *e*P **P 22 33 11.0 -0.5**
comp=Z,23nm,1.3s
DLMT Dillon 89.33 334 *e*P **P 22 33 12.3 +0.2**
comp=Z,8.0nm,1.3s
LSZ Lusaka 90.26 109 *e*P **P 22 33 16.6 -0.7**
LSZ pmax pmax
comp=Z,12nm,1.3s
LSZ Lusaka 90.26 109 *e*P **P 22 33 16.6 -0.7**
comp=Z,12nm,1.3s
LTY Liberty 93.95 330 *e*P **P 22 33 32.0 -1.5**
comp=Z,10nm,0.7s
ESDC Sonseca Array 99.98 47 LR LR 23 18 05.5
comp=Z,681nm,19.8s,baz=255,slow=35
YKA Yellowknife Ar 104.66 342 PP PP 22 38 45.8 +4.4
comp=Z,0.2nm,0.5s,baz=137,slow=7.6,SNR=4.9
AS12 Alice Springs 113.93 208 *e*PKIKP **PKiKP 22 38 54.8 -0.5**
AS12 *e*PKKPbc **PKKPab 22 49 42.1 -4.5**
ASAR Alice Springs 113.93 208 PKP **PKiKP 22 38 54.8 -0.5**
comp=Z,0.7nm,0.8s,baz=175,slow=4.1,SNR=5.4
ASAR PKKPab **PKKPab 22 49 42.1 -4.5**
comp=Z,0.9nm,0.9s,baz=325,slow=2.7,SNR=4.2
NKC Novy Kostel 115.50 45 *e*PKKP PKKPdf 22 49 48.0 -8.4
GEC2 GERESS Array S 115.57 47 *e*PKIKP **PKPdf 22 38 58.5 +0.9**
GEC2 GERESS Array S 115.57 47 *e*PKPdf **PKPdf 22 38 58.5 +0.9**
GERES GERESS Array B 115.57 47 PKP **PKPdf 22 38 58.5 +0.9**
comp=Z,1.0nm,0.8s,baz=174,slow=2.7,SNR=5.8
KHC Kasperske Hory 115.63 47 AMS AMS 23 29 40.0
comp=Z,800nm,17.3s
CLL Collm 116.31 44 *e*PS PS 22 49 51.0 +3.5
CLL *e*PPS PPS 22 51 05.0
CLL *e*SS SS 22 56 12.0 +4.5
CLL *e* 23 03 54.0
CLL Lm MLR 23 27 00.0
comp=N,200nm,20.6s
CLL Lm MLR 23 27 00.0
comp=E,700nm,20.5s
CLL Lm MLR 23 27 00.0
comp=Z,800nm,20.8s
PRA Prague 116.56 46 *e*PS PS 22 49 55.8 +6.0
PRA *ex* x 22 51 08.2
PRA AMS AMS 23 42 00.0
comp=Z,600nm,18.5s
PRU Pruhonice 116.58 46 *e*SP SP 22 49 42.8 -2.8
PRU *ex* x 22 51 05.1
PRU AMS AMS 23 42 00.0
comp=Z,500nm,19.1s
BRG Berggiesshubel 116.64 45 P **PKKPdf 22 49 57.0 +2.8**
GOPC GO Pecny, Ondr 116.69 46 *e*PS PS 22 49 53.7 +2.6
GOPC *ex* x 22 51 06.0
GOPC AMS AMS 23 33 20.0
comp=Z,500nm,18.3s
TREC Trest 116.82 47 *e*PS PS 22 49 56.9 +4.6
TREC AMS AMS 23 31 10.0
comp=Z,600nm,15.4s
PVCC Panska Ves 116.84 46 *e*PS PS 22 49 56.9 +4.5
WRA Warramunga Arr 117.13 210 PKP **PKPdf 22 39 00.1 -1.4**
comp=Z,1.4nm,0.8s,baz=163,slow=1.6,SNR=10
WRAB Tennant Creek 117.13 210 *c i*PKIKP **PKPdf 22 39 01.0 -0.5**
DPC Dobruska-Polom 117.77 46 *e*SP SP 22 49 56.9 +0.5
DPC *ex* x 22 51 19.3
DPC AMS AMS 23 33 40.0
comp=Z,400nm,18.9s
OKC Ostrava-Krasne 118.61 47 *e*SP SP 22 50 00.9 -3.1
OKC AMS AMS 23 32 10.0
comp=Z,700nm,17.4s
KOLS Kolonicke sedl 120.72 50 *e*PKIKP **PKPdf 22 39 10.2 +2.8**
KOLS Kolonicke sedl 120.72 50 *e*PKP **PKPdf 22 39 10.2 +2.8**
BUR04 Bucovina Ar. S 122.04 52 *e*PKPdf **PKPdf 22 39 10.6 +0.5**
BRTR Keskin Array B 124.77 63 PKP **PKPdf 22 39 16.3 +0.7**
comp=Z,1.5nm,0.9s,baz=208,slow=2.4,SNR=8.2
BR101 Keskin Array S 124.77 63 *e*PKPdf **PKPdf 22 39 16.3 +0.7**
KIEV Kiev 125.54 50 *i*PKIKP **PKPdf 22 39 15.6 -0.9**
AKASG Malin Array Be 125.55 50 PKP **PKPdf 22 39 16.5 0.0**
comp=Z,0.2nm,0.3s,baz=270,slow=2.6,SNR=6.5
AKASG PP PP 22 41 02.5 -6.3
comp=Z,1.0nm,0.7s,baz=254,slow=6.9,SNR=7.8
AKBB Malin Array Si 125.55 50 *e*PKIKP **PKPdf 22 39 16.5 0.0**
AKBB Malin Array Si 125.55 50 *e*PKPdf **PKPdf 22 39 16.5 0.0**
AKBB *e*PP PP 22 41 02.5 -6.3
VSU Vasula 126.24 40⇑ *i*PKIKP **PKPdf 22 39 17.4 -0.2**
RAYN Ar Rayn 126.86 87 *e*PKPdf **PKPdf 22 39 20.3 +0.3**
OBN Obninsk 130.89 45⇑ *i*PKIKP **PKPdf 22 39 28.0 +1.4**
OBN *i* SS SS 22 59 18.5 +6.9
OBN pmax pmax
comp=Z,17nm,1.5s
OBN MLR MLR
comp=Z,832nm,19.0s
KIV Kislovodsk 132.52 61 *i*PKIKP **PKPdf 22 39 32.1 +1.9**
KIV *e* 22 41 56.7
KIV *e*PS **PS 22 52 12.4 +1.2**
KIV *e*SS SS 22 59 38.6 +6.1
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV Kislovodsk 132.52 61 *e*PKPdf **PKPdf 22 39 28.8 -1.4**
KLMR Klimovskoe 132.98 38 *e*PKIKP **PKPdf 22 39 29.3 -1.1**
KLMR pmax pmax
comp=Z,13nm,1.1s
KLMR MLR MLR
comp=Z,768nm,19.0s
BILL Bilibino 135.05 332 *i*PKIKP **PKPdf 22 39 34.2 +0.1**
BILL *i* 22 42 08.4
BILL pmax pmax
comp=Z,2.0nm,1.1s
PRGR Permogore 135.91 37 *e*PKIKP **PKPdf 22 39 35.1 -0.7**
PRGR pmax pmax
comp=Z,8.0nm,1.0s
PEA2 Petropavlovsk- 141.19 311 *e*PKPdf **PKPdf 22 39 50.6 +4.8**
PETK Petropavlovsk- 141.20 311 PKP **PKPdf 22 39 50.6 +4.7**
comp=Z,3.6nm,1.0s,baz=86,slow=5.9,SNR=3.5
ARU Arti 143.24 43 *i*PKIKP PKPbc 22 39 47.1 +0.6
ARU MLR MLR
comp=Z,854nm,20.0s
ARU Arti 143.24 43 *e*PKPpre PKPpre 22 39 45.4
GSI Gunungsitoli 143.36 166 *e*PKPpre PKPpre 22 39 45.9
TIXI Tiksi 143.60 348⇑ *i*PKIKP PKPab 22 39 46.2 +0.1
TIXI Tiksi 143.60 348 *e*PKPpre PKPpre 22 39 44.7
KSM Kuching 144.15 187 *e*PKPdf **PKPab 22 39 50.3 +0.4**
SVE Sverdlovsk 144.28 42 *i*PKIKP **PKPdf 22 39 51.0 -0.1**
SVE pmax pmax
comp=Z,11nm,1.2s
SVE MLR MLR
comp=Z,616nm,18.0s
MYKOM Kota Tinggi 144.63 176 *e*PKPdf **PKPab 22 39 51.9 +0.2**
SBUM Sibu 144.87 191 *e*PKPdf PKPbc 22 39 53.2 +0.6
ABKAR Akbulak array 144.91 55 *e*PKPdf **PKPab 22 39 51.3 -0.5**
PSI Prapat 145.07 168 PKPbc **PKPbc 22 39 53.1 -0.4**
comp=Z,64nm,1.0s,baz=201,slow=5.3,SNR=30
URV Uravakonda 146.15 123 *e*PKPdf **PKPdf 22 39 53.0 -2.7**
URV *e*PKiKP **PKPab 22 39 57.8 +0.5**
POO Poona 146.22 115 *e*P **PKPdf 22 39 55.0 -0.7**
SKHT Srikalahasti 146.85 128 *e*PKPab **PKPdf 22 39 57.9 +1.1**
IPM Ipoh 147.04 171 *e*PKPdf **PKPdf 22 39 57.5 +0.2**
LHMI Lhok Sumawe 147.04 163 *e*PKPdf **PKPdf 22 39 57.4 +0.2**
KULM Kulim 147.78 170 *e*PKPdf **PKPdf 22 39 59.1 +0.7**
NJS Nagarjunasagar 148.67 124 *e*PKiKP **PKPbc 22 40 03.6 +0.1**
HYB Hyderabad 148.78 122 *i*PKP **PKPbc 22 40 04.0 +0.1**
HYB *e*pPKP **PKPab 22 40 09.0 +1.3**
HYBB Hyderabad (bro 148.78 122 *e*PKiKP **PKPbc 22 40 03.7 -0.2**
KBL Kabul 150.06 84 *e*PKIKP **PKPdf 22 40 00.6 -1.2**
KBL Kabul 150.06 84 *e*PKPdf **PKPdf 22 40 00.6 -1.2**
RPR Rampur 150.28 121 *e*PKiKP **PKPbc 22 40 06.7 -0.8**
BRVK Borovoye 150.66 46⇑ *e*PKIKP **PKPdf 22 40 03.2 +1.4**
BRVK Borovoye 150.66 46 *e*PKPdf **PKPdf 22 40 03.4 +1.5**
YAK Yakutsk 151.20 337 *e*PKIKP **PKPbc 22 40 07.3 -1.0**

YAK *e* 22 40 17.9
YAK pmax pmax
comp=Z,51nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.1s
KKAR Karatay Array 152.41 67 *e*PKIKP **PKPdf 22 40 07.0 +2.1**
KKAR Karatay Array 152.41 67 *e*PKPdf **PKPdf 22 40 07.0 +2.1**
MJAR Matsushiro Arr 154.31 278 PKPab **PKPab 22 40 30.2 -0.1**
comp=E,1.6nm,0.7s,baz=141,slow=3.7,SNR=4.8
MAJO Matsushiro 154.31 278 *e*PKP2 **PKPab 22 40 30.2 -0.1**
MAJO Matsushiro 154.31 278 *e*PKPab **PKPab 22 40 30.2 -0.1**
EKS2 Erkin-Say 154.81 68 *e*PKIKP **PKPdf 22 40 09.6 +1.1**
EKS2 Erkin-Say 154.81 68 *e*PKPdf **PKPdf 22 40 09.6 +1.1**
AAK Ala-Archa 155.34 68 PKPbc PKPbc 22 40 19.4
comp=E,2.0nm,0.5s,baz=172,slow=3.7,SNR=8.3
AAK PKPab **PKPab 22 40 35.8 +1.1**
comp=E,13nm,0.9s,baz=204,slow=3.6,SNR=13
AAK PP **PP 22 44 11.3 -0.5**
comp=E,0.9nm,0.3s,baz=246,slow=8.0,SNR=4.5
AAK Ala-Archa 155.34 68 *e*PKIKP **PKPdf 22 40 10.1 +0.8**
AAK *e* 22 40 19.4
AAK *e* 22 40 33.6
AAK *e* 22 44 11.3
AAK Ala-Archa 155.34 68 *e*PKPdf **PKPdf 22 40 10.1 +0.8**
AAK *e*PKPbc PKPbc 22 40 19.4
AAK *e*PKPab **PKPab 22 40 33.6 -1.1**
AAK *e*PKPab PKPab 22 40 35.8 +1.1
AAK *e*PP **PP 22 44 11.3 -0.5**
FRU Bishkek 155.43 67 *e*PKIKP **PKPdf 22 40 11.0 +1.8**
FRU *e* 22 40 32.0
TKM2 Tokmak 2 156.14 67 *e*PKIKP **PKPdf 22 40 10.1 -0.3**
TKM2 Tokmak 2 156.14 67 *e*PKPdf **PKPdf 22 40 10.1 -0.3**
TKM2 *e*PKPab **PKPab 22 40 38.7 +0.4**
KURBB Kurchatov Arra 156.31 47 PKP **PKPdf 22 40 10.3 +0.3**
comp=E,1.5nm,1.0s,baz=301,slow=2.2,SNR=8.0
KURBB PKPab **PKPab 22 40 38.4 0.0**
comp=E,4.2nm,1.0s,baz=293,slow=4.4,SNR=11
KURBB PP **PP 22 44 19.2 +2.8**
comp=E,1.6nm,1.1s,baz=275,slow=5.8,SNR=5.8
KURK Kurchatov 156.32 47 *e*PKIKP **PKPdf 22 40 09.4 -0.6**
KURK *e* 22 44 19.2
KURK Kurchatov 156.32 47 *e*PKPdf **PKPdf 22 40 09.4 -0.6**
KURK *e*PKPab **PKPab 22 40 38.4 0.0**
KURK *e*PP **PP 22 44 19.2 +2.7**
KSH Kashi 156.40 75 PKP **PKPdf 22 40 08.5 -2.2**
KSH pPKP **pPKPdf 22 40 19.3 -2.5**
KSH PKS **PKSdf 22 43 41.0 -3.7**
KSH PP **PP 22 44 17.0 -0.8**
KSH SKS **SKSdf 22 47 09.5 -4.9**
KSH PPMZ
comp=E,150nm,3.9s
KSH LN
comp=E,99nm,6.5s
KSH LE
comp=E,150nm,5.4s
KSH LZ
comp=E,220nm,14.4s
NVS Novosibirsk 156.55 34 *e*PKIKP **PKPdf 22 40 08.5 -1.7**
ZAA1 Zalesovo Array 157.83 34 *e*PKPdf **PKPdf 22 40 11.3 -0.5**
ZAA1 *e*PKPab **PKPab 22 40 46.1 +1.4**
ZALV Zalesovo Beam 157.84 34 PKP **PKPdf 22 40 11.3 -0.5**
comp=E,6.2nm,1.0s,baz=259,slow=1.5,SNR=11
ZALV PKPab **PKPab 22 40 46.1 +1.4**
comp=E,5.5nm,0.8s,baz=305,slow=5.2,SNR=6.4
MK32 Makanchi Array 160.05 54 *e*PKPdf **PKPdf 22 40 14.5 -0.2**
MK32 *e*PKPab **PKPab 22 40 53.1 -1.6**
MK32 *e*PP **PP 22 44 35.8 -1.4**
MKAR Makanchi Array 160.05 54 PKP **PKPdf 22 40 14.5 -0.2**
comp=E,2.5nm,1.0s,baz=284,slow=0.6,SNR=8.9
MKAR PKPab **PKPab 22 40 53.1 -1.6**
comp=E,3.1nm,0.9s,baz=276,slow=2.1,SNR=7.2
MKAR PP **PP 22 44 35.8 -1.4**
comp=E,2.0nm,1.0s,baz=297,slow=6.3,SNR=5.7
MKAR Makanchi Array 160.05 54 *e*PKIKP **PKPdf 22 40 14.3 -0.4**
MKAR *e* 22 44 36.2
MKAR Makanchi Array 160.05 54 *e*PKPdf **PKPdf 22 40 14.3 -0.4**
MKAR *e*PP **PP 22 44 36.2 -0.9**
CM31 Chiang Mai Arr 160.25 160 *e*PKPdf **PKPdf 22 40 16.9 +1.1**
CM31 *e*PKPab **PKPab 22 40 57.7 +1.6**
CMAR Chiang Mai Arr 160.25 160 PKP **PKPdf 22 40 16.9 +1.1**
comp=E,0.7nm,0.3s,baz=197,slow=0.9,SNR=3.8
CMAR PKPab **PKPab 22 40 57.7 +1.6**
comp=E,3.0nm,1.0s,baz=211,slow=5.1,SNR=4.2
MDJ Mudanjiang 160.78 300 PKP **PKPdf 22 40 17.3 +1.7**
CN2 Changchun 163.87 300 *e*PKP **PKPdf 22 40 16.3 -2.4**
WMQ Urumqi 164.64 59 PKP **PKPdf 22 40 19.8 +0.3**
WMQ PKS **PKSdf 22 43 51.3 -1.0**
WMQ PP **PP 22 45 05.0 +3.3**
WMQ SKS **SKSdf 22 47 18.8 -2.4**
WMQ SKKS **SKKSac 22 51 47.5 +1.0**
WMQ SS **SS 23 05 33.8 +1.4**
WMQ PPMZ
comp=E,86nm,6.4s
WMQ LN
comp=E,340nm,20.2s
WMQ LE
comp=E,210nm,20.4s
WMQ LZ
comp=E,450nm,20.4s
LSA Lhasa 165.49 117 *e*PKIKP **PKPdf 22 40 21.8 +0.6**
LSA *e* 22 41 18.3
LSA Lhasa 165.49 117 *e*PKPdf **PKPdf 22 40 21.8 +0.6**
LSA *e*PKPab **PKPab 22 41 18.3 -1.3**
ZAK Zakamensk 166.76 8 *e*PKP2 **PKPab 22 41 24.6 +0.6**
ZAK *e* 22 45 14.3
ZAK *e* 22 49 17.6
ZAK pmax pmax
comp=Z,4.0nm,1.4s
KMI Kunming 167.56 166 PKP **PKPdf 22 40 22.8 +0.2**
KMI PP **PP 22 45 20.3 +4.4**
KMI SS SS 23 06 06.5 +6.2
KMI PPMZ
comp=Z,71nm,4.1s
KMI LZ
comp=Z,320nm,22.5s
GYA Guiyang 169.19 183 *e*PKP **PKPdf 22 40 23.0 -0.5**
GYA PKPab **PKPab 22 41 37.5 +2.1**
GYA PKS **PKSdf 22 43 55.5 -0.7**
GYA PP **PP 22 45 27.3 +3.3**
GYA PPMZ
comp=Z,130nm,8.0s
SONA0 Songino Array 169.45 359 *e*PKPab **PKPab 22 41 38.0 +1.9**
SONM Songino Array 169.45 359 PKPab **PKPab 22 41 38.0 +1.9**
comp=Z,3.9nm,1.0s,baz=1.4,slow=5.9,SNR=8.1
CD2 Chengdu 173.38 163 PKP **PKPdf 22 40 24.5 -0.9**
CD2 pPKP **pPKPdf 22 40 35.3 -1.3**
CD2 sPKP 22 40 39.0
CD2 PKS **PKSdf 22 43 55.3 -2.4**
CD2 PP **PP 22 45 47.5 +2.7**
CD2 SKS **SKSdf 22 47 24.0 -2.1**
CD2 SKKS **SKKSac 22 52 31.0 +1.6**
CD2 SS **SS 23 06 58.5 +1.1**
CD2 PPMZ
comp=Z,140nm,6.2s
HHC Hu-ho-hao-te 174.40 311 *e*PKP **PKPdf 22 40 23.0 -2.5**
HHC PP **PP 22 45 51.0 +0.3**
HHC SKS **SKSdf 22 47 20.8 -5.2**
HHC SS **SS 23 07 05.0 -4.0**
HHC PPMZ
comp=Z,140nm,8.6s
HHC LN
comp=Z,340nm,16.0s
HHC LE
comp=Z,280nm,18.5s
HHC LZ
comp=Z,390nm,19.7s
GTA Gaotai 174.69 65 *e*PKP **PKPdf 22 40 27.3 +1.6**
GTA pPKP **pPKPdf 22 40 37.0 +0.1**
GTA PKPab **PKPab 22 42 01.0 +1.2**
GTA PP **PP 22 45 57.3 +4.7**
GTA SKS **SKSdf 22 47 24.0 -2.2**
GTA SKKS **SKKSac 22 52 37.8 +1.7**
GTA SS **SS 23 07 10.5 -2.1**
GTA PPMZ
comp=Z,270nm,10.7s
GTA LN
comp=Z,230nm,19.5s
GTA LE
comp=Z,400nm,17.6s
GTA LZ
comp=Z,440nm,19.5s
XAN Xi'an 175.99 217 PKP **PKPdf 22 40 30.8 +4.7**
LZH Lanzhou 177.89 124 *e*PKP **PKPdf 22 40 26.0 -0.5**

LZH				pPKP	**pPKPdf**	22 40 31.8	-5.9
LZH				sPKP		22 40 34.5	

SJA ***27*** *22:28:27.2±1.3,34.51S×72.67W,h40km,ML3.3*
GUC ***27*** *22:28:32.6±0.5,34.41S×72.01W,h24km±2km,ML3.7*
ISC 27 22:28:29.2±3.6,**34.41S**±0.05×**72.13W**±0.09,**h6**km±26km,
n17,σ1§59/26,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.95**	**129**	*eP*	**Pb**	**22 28 48.4**	**+0.3**
NICH				*eS*	**Sb**	**22 29 00.2**	**-0.7**
NICH				AML	AML	22 29 01.9	
	comp=N,7μm,0.3s						
TALC	**Talca**	**1.07**	**158**	*eP*	**Pb**	**22 28 50.2**	**+0.1**
TALC				*eS*	**Sb**	**22 29 03.2**	**-1.2**
RCDM	**Rinconada Maip**	**1.43**	**50**	*eP*	**Pn**	**22 28 55.8**	**0.0**
RCDM				*eS*	**Sn**	**22 29 13.2**	**-1.7**
RCDM				AML	AML	22 29 18.4	
	comp=E,2μm,1.8s						
STL	**Santa Lucia**	**1.57**	**52**	*eP*	**Pn**	**22 28 57.6**	**0.0**
STL				*eS*	**Sn**	**22 29 17.0**	**-1.3**
CLCH	**Cerro Calan**	**1.66**	**53**	*eP*	**Pn**	**22 28 59.9**	**+0.9**
CLCH				*eS*	**Sn**	**22 29 20.9**	**+0.2**
CLCH				AML	AML	22 29 27.9	
	comp=E,2μm,0.6s						
ROCH	**El Roble**	**1.71**	**33**	*eP*	**Pn**	**22 29 00.3**	**+0.5**
ROCH				*eS*	**Sn**	**22 29 22.2**	**+0.2**
ROCH				AML	AML	22 29 28.4	
	comp=N,1μm,1.6s						
PEL	**Peldehue**	**1.74**	**44**	*eP*	**Pn**	**22 29 01.2**	**+1.2**
PEL				*eS*	**Sn**	**22 29 22.8**	**+0.2**
PEL				AML	AML	22 29 25.6	
	comp=N,3μm,0.6s						
COCH	**Cobquecura**	**1.80**	**197**	*eP*	**Pn**	**22 29 01.3**	**+0.4**
COCH				*eS*	**Sb**	**22 29 24.7**	**-0.9**
AAGR	**Agrelo**	**3.05**	**65**	*i* P	**Pb**	**22 29 22.4**	**-1.6**
AAGR				*i* S	**Sb**	**22 30 01.8**	**+0.4**
ARCO	**CERRO ARCO**	**3.09**	**61**	*i* P	**Pb**	**22 29 23.1**	**-1.6**
ARCO				AML	AML	22 30 12.4	
	comp=Z,64nm,0.5s						
AUSP	**Uspallata**	**3.16**	**47**	*eP*	Pn	22 29 23.6	+3.7
AUSP				*eS*	**Sb**	**22 30 05.4**	**+0.4**
RTLS	**Leoncito**	**3.52**	**43**	*i* P	Pn	22 29 29.1	+4.4
RTLS				*i* S	**Sb**	**22 30 13.1**	**-2.2**
RTCV	**Cerro Valdivia**	**3.94**	**51**	*i* P	**Pn**	**22 29 33.4**	**+3.1**
CFAA	**Coronel Fontan**	**4.30**	**51**	*i* P4	**Pn**	**22 29 37.9**	**+2.6**
RTLL	**Cerro Villicun**	**4.34**	**46**	*i* P	**Pn**	**22 29 38.5**	**+2.7**
AMOG	**MOGNA**	**4.62**	**43**	*i* P	**Pn**	**22 29 42.1**	**+2.4**
AMOG				*i* P	**Pn**	**22 29 42.1**	**+2.4**
ACAN	**Cantantal**	**4.65**	**64**	*eP*	Pn	22 29 43.4	+3.3

IDC 27 22:34:29.7±2.4,**5.49S**×**152.53E**,**h0**km,**mb3.5**/3,
mb1 3.8/3,**mb1mx3.4**/35,**mbtmp3.5**/3,**Error ellipse:**
s-maj=185.8km s-min=29.0km az=128.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.79**	**229**	P	P	22 39 34.2	+0.1
	0.6nm,0.7s,baz=54,slow=9.7,SNR=6.9						
ASAR	**Alice Springs**	**25.46**	**223**	P	P	22 39 59.4	-0.3
	0.6nm,0.7s,baz=59,slow=7.8,SNR=3.2						
ILAR	**Eielson Array**	**82.90**	**22**	P	P	22 46 56.2	+0.2
	0.7nm,0.7s,baz=248,slow=5.1,SNR=6.4						

IDC ***27*** *22:34:35.5±3.8,24.59N×95.35E,h0km,mb3.8/3,*
mb1 4.0/3,mb1mx3.3/52,mbtmp3.8/3,Error ellipse:
s-maj=368.6km s-min=26.0km az=250.0
ISCJB ***27*** *22:34:38.3±1.1,24.7N±0.2×95.54E±0.10,h33km,mb3.9/3,*
Error ellipse: s-maj=29.7km s-min=9.8km az=17.0
ISC 27 22:34:40.3±1.4,**24.7N**±0.2×**95.5E**±0.1,**h35km**,**n5,**σ1§65/7,
mb4.0/3,**Myanmar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**1.41**	**273**	*eP*	**Pn**	**22 35 02.0**	**-1.6**
IMP				*eS*	**Sn**	**22 35 23.0**	**+2.0**
SHL	**Shillong**	**3.37**	**285**	*ePN*	**Pn**	**22 35 29.0**	**-1.7**
SHL				*eSN*	**Sn**	**22 36 10.5**	**+0.9**
MKAR	**Makanchi Array**	**24.43**	**338**	P	**P**	**22 39 56.4**	**+0.8**
	1.8nm,0.5s,baz=148,slow=9.1,SNR=38						
WRA	**Warramunga Arr**	**58.31**	**136**	P	**P**	**22 44 32.5**	**+0.4**
	0.6nm,0.4s,baz=324,slow=7.4,SNR=18						
ASAR	**Alice Springs**	**60.83**	**139**	P	**P**	**22 44 49.6**	**+0.2**
	0.5nm,0.4s,baz=317,slow=6.3,SNR=5.8						

IDC ***27*** *22:45:50.0±1.3,38.42N×20.22E,h0km,mb3.3/4,*
mb1 3.4/6,mb1mx3.2/36,mbtmp3.3/6,ML3.4/2,Error
ellipse: s-maj=30.2km s-min=21.2km az=82.0
CSEM ***27*** *22:45:51.8±0.2,38.28N×20.26E,h2km,ML3.1,Ms3.5,*
Error ellipse: s-maj=4.9km s-min=2.8km az=46.0
THE ***27*** *22:45:52.7,38.30N×20.35E,h0km±1km,ML3.1/10,Error*
ellipse: s-maj=2.3km s-min=0.7km az=251.0
ATH ***27*** *22:45:52.0,38.29N×20.34E,h9km,MD3.5/20,ML3.1*
VIE ***27*** *22:45:52.3±2.6,38.41N×20.46E,h10km,mb3.1/4,Ms3.5/4,*
Error ellipse: s-maj=29.3km s-min=7.4km az=134.0
ISC 27 22:45:51.4±1.1,**38.29N**±0.02×**20.26E**±0.03,**h6**km±8km,
n178,σ1§39/245,**mb3.3**/4,**2C-1D,Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.29**	**113**	P	**Pg**	**22 45 57.3**	**+0.3**
VLS				S	**Sg**	**22 46 00.8**	**0.0**
VLS	**Valsamata**	**0.29**	**113**	*ePG*	**Pg**	**22 45 57.3**	**+0.3**
VLS				*eSG*	**Sg**	**22 46 01.0**	**+0.2**
VLS	**Valsamata**	**0.29**	**113**	P	**Pg**	**22 45 57.3**	**+0.3**
VLS				S	**Sg**	**22 46 00.8**	**0.0**
KFL	**Anninata**	**0.46**	**113**	P	**Pg**	**22 46 00.1**	**-0.1**
KFL				S	**Sg**	**22 46 00.6**	**-0.2**
KFL	**Anninata**	**0.46**	**113**	P	**Pg**	**22 46 00.2**	**0.0**
KFL				S	**Sg**	**22 46 06.0**	**-0.2**
LKD2	**Lefkada island**	**0.59**	**32**	P	**Pg**	**22 46 02.9**	**+0.1**
LKD2				S	**Sg**	**22 46 11.3**	**+0.8**
LKD2	**Lefkada island**	**0.59**	**32**	*ePB*	**Pg**	**22 46 02.9**	**+0.1**
LKD2				*eSB*	**Sg**	**22 46 10.6**	**+0.1**
LKD2	**Lefkada island**	**0.59**	**32**	P	**Pg**	**22 46 02.9**	**+0.1**
LKD2				*eSb*	**Sg**	**22 46 10.6**	**+0.1**
LKD2				S	**Sg**	**22 46 11.3**	**+0.8**
PDO	**Prodromos**	**0.79**	**67**	P	**Pg**	**22 46 06.0**	**-0.7**
PDO	**Prodromos**	**0.79**	**67**	*ePB*	**Pg**	**22 46 05.9**	**-0.7**
PDO	**Prodromos**	**0.79**	**67**	P	**Pg**	**22 46 06.0**	**-0.7**
PDO				S	**Sg**	**22 46 17.7**	**+0.8**
VTN	**Vitineika**	**0.82**	**117**	P	**Pg**	**22 46 06.7**	**-0.5**
RLS	**Riolos of Patr**	**0.98**	**103**	P	**Pg**	**22 46 08.9**	**-1.4**
RLS	**Riolos of Patr**	**0.98**	**103**	*ePG*	**Pg**	**22 46 09.2**	**-1.1**
RLS				*eSB*	**Sg**	**22 46 22.0**	**-1.0**
RLS	**Riolos of Patr**	**0.98**	**103**	*ePg*	**Pg**	**22 46 09.2**	**-1.1**
RLS				*eSb*	**Sg**	**22 46 22.0**	**-1.0**
RLS				S	**Sb**	**22 46 23.1**	**-0.9**
PVO	**Paravola**	**1.05**	**71**	P	**Pg**	**22 46 11.0**	**-0.6**
PVO				S	**Sb**	**22 46 26.2**	**+0.3**
PVO	**Paravola**	**1.05**	**71**	P	**Pg**	**22 46 11.0**	**-0.6**
PVO				S	**Sb**	**22 46 26.2**	**+0.3**
DSL	**Palaion Diasel**	**1.07**	**38**	P	**Pg**	**22 46 11.3**	**-0.6**
DSL				S	**Sb**	**22 46 27.1**	**+0.5**
DSL	**Palaion Diasel**	**1.07**	**38**	*ePB*	**Pg**	**22 46 11.4**	**-0.5**
DSL	**Palaion Diasel**	**1.07**	**38**	P	**Pg**	**22 46 11.3**	**-0.6**
DSL				S	**Sb**	**22 46 27.1**	**+0.5**
DRO	**Drossia**	**1.20**	**106**	P	**Pg**	**22 46 13.0**	**-1.4**
DRO	**Drossia**	**1.20**	**106**	*ePG*	**Pg**	**22 46 13.2**	**-1.2**
DRO	**Drossia**	**1.20**	**106**	P	**Pg**	**22 46 13.2**	**-1.2**
DRO				S	**Sb**	**22 46 31.3**	**+1.1**
SFD	**Strofades**	**1.20**	**150**	P	**Pg**	**22 46 14.3**	**-0.1**
SFD				S	**Sb**	**22 46 31.3**	**+1.1**
SFD	**Strofades**	**1.20**	**150**	*ePB*	**Pg**	**22 46 14.4**	**0.0**
SFD	**Strofades**	**1.20**	**150**	P	**Pg**	**22 46 14.3**	**-0.1**
SFD				S	**Sb**	**22 46 31.3**	**+1.1**
IGT	**Igoumenitsa**	**1.24**	**3**	*ePN*	**Pn**	**22 46 16.1**	**+0.8**
IGT				*eSN*	**Sn**	**22 46 35.5**	**+3.1**
IGT	**Igoumenitsa**	**1.24**	**3**	P	**Pb**	**22 46 15.6**	**+0.3**
IGT				S	**Sn**	**22 46 33.4**	**+1.1**
IGT	**Igoumenitsa**	**1.24**	**3**	*ePB*	**Pb**	**22 46 15.6**	**+0.3**
IGT	**Igoumenitsa**	**1.24**	**3**	P	**Pb**	**22 46 15.6**	**+0.3**
IGT	**Igoumenitsa**	**1.24**	**3**	*ePn*	**Pn**	**22 46 16.1**	**+0.8**
IGT				S	**Sn**	**22 46 33.4**	**+1.1**
IGT				*eSn*	**Sn**	**22 46 35.5**	**+3.1**
EFP	**Efpalio**	**1.30**	**83**	P	**Pg**	**22 46 14.4**	**-2.0**
EFP				S	**Sg**	**22 46 32.6**	**-0.8**
EFP	**Efpalio**	**1.30**	**83**	*ePN*	**Pg**	**22 46 14.6**	**-1.8**
EFP	**Efpalio**	**1.30**	**83**	P	**Pg**	**22 46 14.5**	**-2.0**
EFP				S	**Sg**	**22 46 32.6**	**-0.8**
SGD	**Sagiada**	**1.32**	**359**	P	**Pn**	**22 46 17.2**	**+0.8**
SGD				S	**Sn**	**22 46 36.4**	**+2.1**
SGD	**Sagiada**	**1.32**	**359**	P	**Pn**	**22 46 17.2**	**+0.8**
SGD				S	**Sn**	**22 46 36.4**	**+2.1**
EVR	**Evrytania**	**1.37**	**62**	P	**Pg**	**22 46 15.9**	**-1.8**
EVR	**Evrytania**	**1.37**	**62**	*ePG*	**Pg**	**22 46 16.5**	**-1.2**
EVR				*eSB*	**Sg**	**22 46 34.4**	**-1.0**
EVR	**Evrytania**	**1.37**	**62**	P	**Pg**	**22 46 15.9**	**-1.8**
EVR	**Evrytania**	**1.37**	**62**	*ePg*	**Pg**	**22 46 16.5**	**-1.2**
EVR				*eSb*	**Sg**	**22 46 34.4**	**-1.0**
AMT	**Artemida-Makis**	**1.38**	**123**	P	**Pn**	**22 46 17.8**	**+0.7**
AMT				S	**Sn**	**22 46 37.3**	**+1.6**
AMT	**Artemida-Makis**	**1.38**	**123**	*ePB*	**Pg**	**22 46 17.2**	**-0.6**
AMT	**Artemida-Makis**	**1.38**	**123**	*ePb*	**Pg**	**22 46 17.2**	**-0.6**
AMT	**Artemida-Makis**	**1.38**	**123**	P	**Pn**	**22 46 17.8**	**+0.7**
AMT				S	**Sn**	**22 46 37.3**	**+1.6**
JAN	**Janina**	**1.44**	**19**	P	**Pb**	**22 46 19.9**	**+1.2**
JAN				S	**Sn**	**22 46 38.8**	**+1.5**
JAN	**Janina**	**1.44**	**19**	*ePG*	**Pn**	**22 46 18.1**	**0.0**
JAN	**Janina**	**1.44**	**19**	*ePg*	**Pn**	**22 46 18.1**	**0.0**
JAN	**Janina**	**1.44**	**19**	P	**Pb**	**22 46 19.9**	**+1.2**
JAN				S	**Sn**	**22 46 38.8**	**+1.5**
KEK	**Kerkira**	**1.47**	**346**	P	**Pn**	**22 46 19.0**	**+0.7**
KEK	**Kerkira**	**1.47**	**346**	*ePG*	**Pn**	**22 46 19.2**	**+0.9**
KEK				*eSB*	**Sn**	**22 46 39.9**	**+2.1**
KEK	**Kerkira**	**1.47**	**346**	P	**Pn**	**22 46 19.0**	**+0.7**
KEK				*eSb*	**Sn**	**22 46 39.9**	**+2.1**
KALE	**Kalithea**	**1.49**	**86**	P	**Pn**	**22 46 17.3**	**-1.4**
KALE	**Kalithea**	**1.49**	**86**	*ePG*	**Pn**	**22 46 18.5**	**-0.2**
KALE	**Kalithea**	**1.49**	**86**	P	**Pn**	**22 46 17.3**	**-1.4**
KALE	**Kalithea**	**1.49**	**86**	*ePg*	**Pn**	**22 46 18.5**	**-0.2**
KLV	**Kalavryta, Ach**	**1.51**	**99**	P	**Pn**	**22 46 18.5**	**-0.6**
KLV				S	**Sn**	**22 46 40.2**	**+1.1**
KLV	**Kalavryta, Ach**	**1.51**	**99**	*ePG*	**Pn**	**22 46 18.7**	**-0.4**
KLV				*eSB*	**Sg**	**22 46 38.4**	**-1.7**
KLV	**Kalavryta, Ach**	**1.51**	**99**	P	**Pn**	**22 46 18.5**	**-0.6**
KLV				*eSb*	**Sg**	**22 46 38.4**	**-1.7**
KLV				S	**Sn**	**22 46 40.2**	**+1.1**
MAKR	**Makrakomi, Fth**	**1.64**	**63**	P	**Pn**	**22 46 21.7**	**+1.0**
MAKR	**Makrakomi, Fth**	**1.64**	**63**	*ePB*	**Pn**	**22 46 21.5**	**+0.8**
MAKR				*eSB*	**Sg**	**22 46 43.6**	**-0.4**
MAKR	**Makrakomi, Fth**	**1.64**	**63**	P	**Pn**	**22 46 21.7**	**+1.0**
MAKR				*eSb*	**Sg**	**22 46 43.6**	**-0.4**
GUR	**Goura**	**1.68**	**101**	P	**Pn**	**22 46 21.1**	**-0.3**
GUR				S	**Sn**	**22 46 44.6**	**+0.3**
GUR	**Goura**	**1.68**	**101**	*ePG*	**Pn**	**22 46 21.9**	**+0.5**
GUR				*eSB*	**Sn**	**22 46 44.3**	**+0.9**
GUR	**Goura**	**1.68**	**101**	P	**Pn**	**22 46 21.1**	**-0.3**
GUR	**Goura**	**1.68**	**101**	*ePg*	**Pn**	**22 46 21.9**	**+0.5**
GUR				*eSb*	**Sn**	**22 46 44.3**	**+0.9**
ITM	**Ithomi**	**1.73**	**129**	P	**Pn**	**22 46 22.6**	**+0.6**
ITM				S	**Sb**	**22 46 45.9**	**+0.4**
ITM	**Ithomi**	**1.73**	**129**	*ePB*	**Pb**	**22 46 23.4**	**-0.1**
ITM	**Ithomi**	**1.73**	**129**	P	**Pn**	**22 46 22.6**	**+0.6**
ITM	**Ithomi**	**1.73**	**129**	*ePb*	**Pb**	**22 46 23.4**	**-0.1**
ITM				S	**Sb**	**22 46 45.9**	**+0.4**
AGG	**Agios Georgios**	**1.78**	**65**	*ePN*	**Pb**	**22 46 24.2**	**-0.2**
AGG				*eSN*	**Sg**	**22 46 53.9**	**+5.2**
AGG	**Agios Georgios**	**1.78**	**65**	P	**Pn**	**22 46 23.7**	**+1.0**
AGG				S	**Sn**	**22 46 46.8**	**+1.1**
AGG	**Agios Georgios**	**1.78**	**65**	*ePN*	**Pg**	**22 46 25.2**	**-0.4**
AGG				*eSN*	**Sn**	**22 46 47.3**	**+1.3**
AGG	**Agios Georgios**	**1.78**	**65**	P	**Pn**	**22 46 23.7**	**+1.0**
AGG	**Agios Georgios**	**1.78**	**65**	*ePn*	**Pg**	**22 46 25.2**	**-0.4**
AGG				S	**Sn**	**22 46 46.8**	**+1.1**
DSF	**Desfina**	**1.79**	**85**	*ePN*	**Pn**	**22 46 24.1**	**+1.2**
DSF				*eSN*	**Sg**	**22 46 48.2**	**-0.8**
DSF	**Desfina**	**1.79**	**85**	*ePn*	**Pn**	**22 46 24.1**	**+1.2**
DSF				*eSn*	**Sg**	**22 46 48.2**	**-0.8**
PYL	**PYLOS**	**1.82**	**139**	*ePN*	**Pn**	**22 46 24.7**	**+1.4**
PYL	**PYLOS**	**1.82**	**139**	*ePn*	**Pn**	**22 46 24.7**	**+1.4**
THL	**Klokotos Trika**	**1.87**	**47**	P	**Pb**	**22 46 25.5**	**-0.5**
THL				S	**Sn**	**22 46 49.0**	**+1.2**
THL	**Klokotos Trika**	**1.87**	**47**	*ePG*	**Pb**	**22 46 25.9**	**-0.1**
THL	**Klokotos Trika**	**1.87**	**47**	P	**Pb**	**22 46 25.5**	**-0.5**
THL	**Klokotos Trika**	**1.87**	**47**	*ePg*	**Pb**	**22 46 25.9**	**-0.1**
THL				S	**Sn**	**22 46 49.0**	**+1.2**
VLX	**Vlachokerasia**	**1.92**	**118**	P	**Pn**	**22 46 25.7**	**+1.1**
VLX	**Vlachokerasia**	**1.92**	**118**	P	**Pn**	**22 46 25.7**	**+1.1**
AXAR	**Agios Charalam**	**1.94**	**75**	P	**Pn**	**22 46 25.3**	**+0.3**
AXAR				S	**Sb**	**22 46 51.8**	**+0.1**
AXAR	**Agios Charalam**	**1.94**	**75**	*ePN*	**Pn**	**22 46 26.3**	**+1.4**
AXAR	**Agios Charalam**	**1.94**	**75**	P	**Pn**	**22 46 25.3**	**+0.3**
AXAR	**Agios Charalam**	**1.94**	**75**	*ePn*	**Pn**	**22 46 26.3**	**+1.4**
AXAR				S	**Sb**	**22 46 51.8**	**+0.1**
LTK	**Loutraki**	**2.15**	**96**	*ePN*	**Pn**	**22 46 29.6**	**+1.8**
LTK	**Loutraki**	**2.15**	**96**	*ePn*	**Pn**	**22 46 29.6**	**+1.8**
LKR	**Lokris**	**2.18**	**80**	*ePN*	**Pn**	**22 46 29.9**	**+1.7**
LKR	**Lokris**	**2.18**	**80**	*ePn*	**Pn**	**22 46 29.9**	**+1.7**
NEST	**Nestorio**	**2.21**	**16**	P	**Pb**	**22 46 30.9**	**-0.9**
NEST	**Nestorio**	**2.21**	**16**	*ePN*	**Pb**	**22 46 31.0**	**-0.9**
NEST	**Nestorio**	**2.21**	**16**	P	**Pb**	**22 46 30.9**	**-0.9**
KZN	**Kozani**	**2.33**	**30**	*ePN*	**Pb**	**22 46 33.3**	**-0.6**
KZN	**Kozani**	**2.33**	**30**	*ePn*	**Pb**	**22 46 33.3**	**-0.6**
VIL2	**Platees**	**2.37**	**91**	*ePN*	**Pn**	**22 46 32.7**	**+1.9**
VILL	**Villia**	**2.41**	**92**	*ePn*	**Pn**	**22 46 32.7**	**+1.3**
DID	**Didima**	**2.48**	**107**	P	**Pn**	**22 46 33.7**	**+1.3**
DID				S	**Sn**	**22 47 04.4**	**+1.4**
DID	**Didima**	**2.48**	**107**	*ePN*	**Pn**	**22 46 33.5**	**+1.1**
DID				*eSN*	**Sn**	**22 47 04.9**	**+1.9**
DID	**Didima**	**2.48**	**107**	*ePn*	**Pn**	**22 46 33.5**	**+1.1**
DID				S	**Sn**	**22 47 04.4**	**+1.4**
LIT	**Litokhoron**	**2.51**	**43**	*ePN*	**Pb**	**22 46 35.9**	**-0.9**
LIT	**Litokhoron**	**2.51**	**43**	*ePn*	**Pb**	**22 46 35.9**	**-0.9**
NEO	**Neokhori**	**2.53**	**65**	P	**Pn**	**22 46 33.7**	**+0.7**
NEO	**Neokhori**	**2.53**	**65**	*ePN*	**Pn**	**22 46 35.3**	**+2.3**
NEO	**Neokhori**	**2.53**	**65**	P	**Pn**	**22 46 33.7**	**+0.7**
NEO	**Neokhori**	**2.53**	**65**	*ePn*	**Pn**	**22 46 35.3**	**+2.3**
XOR	**Xorichti**	**2.53**	**64**	P	**Pn**	**22 46 34.2**	**+1.1**
XOR	**Xorichti**	**2.53**	**64**	P	**Pn**	**22 46 34.2**	**+1.1**
FNA	**Florina**	**2.64**	**19**	P	**Pn**	**22 46 35.5**	**+1.0**
FNA	**Florina**	**2.64**	**19**	*ePB*	**Pn**	**22 46 36.3**	**+1.8**
FNA	**Florina**	**2.64**	**19**	P	**Pn**	**22 46 35.5**	**+1.0**
FNA	**Florina**	**2.64**	**19**	*ePb*	**Pn**	**22 46 36.3**	**+1.8**
MRKA	**Markates**	**2.65**	**80**	*ePN*	**Pn**	**22 46 36.2**	**+1.6**
MRKA				*eSN*	**Sn**	**22 47 09.3**	**+2.3**
MRKA	**Markates**	**2.65**	**80**	*ePn*	**Pn**	**22 46 36.2**	**+1.6**
MRKA				*eSn*	**Sn**	**22 47 09.3**	**+2.3**
ATH	**Athens Observa**	**2.75**	**96**	*ePN*	**Pn**	**22 46 37.6**	**+1.6**
ATH	**Athens Observa**	**2.75**	**96**	*ePn*	**Pn**	**22 46 37.6**	**+1.6**
PTL	**Penteli**	**2.85**	**94**	*ePB*	**Pn**	**22 46 39.0**	**+1.5**
PTL	**Penteli**	**2.85**	**94**	*ePb*	**Pn**	**22 46 39.0**	**+1.5**
AOS	**Alonnisos**	**2.97**	**72**	*ePB*	**Pn**	**22 46 40.0**	**+1.0**
AOS				*eSN*	**Sn**	**22 47 16.2**	**+1.3**
KYTH	**Kithira**	**2.99**	**131**	P	**Pn**	**22 46 41.5**	**+2.2**
KYTH	**Kithira**	**2.99**	**131**	*ePB*	**Pn**	**22 46 41.6**	**+2.2**
KYTH	**Kithira**	**2.99**	**131**	P	**Pn**	**22 46 41.5**	**+2.2**
PAIG	**Paliouri**	**3.13**	**57**	*ePN*	**Pn**	**22 46 43.1**	**+1.9**
PAIG	**Paliouri**	**3.13**	**57**	*ePn*	**Pn**	**22 46 43.1**	**+1.9**
GRG	**Griva**	**3.14**	**31**	*ePB*	**Pn**	**22 46 44.1**	**+2.7**
GRG	**Griva**	**3.14**	**31**	*ePb*	**Pn**	**22 46 44.1**	**+2.7**
HORT	**Hortiatis**	**3.19**	**43**	*ePN*	**Pn**	**22 46 43.6**	**+1.5**
HORT				*eSN*	**Sn**	**22 47 21.8**	**+1.4**
HORT	**Hortiatis**	**3.19**	**43**	*ePn*	**Pn**	**22 46 43.6**	**+1.5**
HORT				*eSn*	**Sn**	**22 47 21.8**	**+1.4**
TAR1	**Taranto**	**3.21**	**315**	*ePn*	**Pn**	**22 46 43.9**	**+1.6**
TAR1				Sn	**Sn**	**22 47 21.0**	**+0.3**
PLG	**Polygyros**	**3.23**	**49**	*ePN*	**Pn**	**22 46 44.3**	**+1.6**
PLG	**Polygyros**	**3.23**	**49**	*ePn*	**Pn**	**22 46 44.3**	**+1.6**
KNT	**Kendrikon**	**3.52**	**35**	*ePN*	**Pn**	**22 46 48.9**	**+2.3**
KNT	**Kendrikon**	**3.52**	**35**	*ePn*	**Pn**	**22 46 48.9**	**+2.3**
OUR	**Ouranopolis**	**3.54**	**54**	*ePN*	**Pn**	**22 46 49.1**	**+2.3**
OUR	**Ouranopolis**	**3.54**	**54**	*ePn*	**Pn**	**22 46 49.1**	**+2.3**
SG1	**Sgolgore (BA)**	**3.76**	**314**	*ePn*	**Pn**	**22 46 51.5**	**+1.6**
BAI	**Bari**	**3.83**	**318**	*ePn*	**Pn**	**22 46 52.5**	**+1.6**
KARN	**Karanos**	**4.12**	**133**	*ePN*	**Pn**	**22 46 56.8**	**+2.0**
KARN	**Karanos**	**4.12**	**133**	*ePn*	**Pn**	**22 46 56.8**	**+2.0**
NVR	**Nevrokopi**	**4.13**	**41**	*ePN*	**Pn**	**22 46 57.6**	**+2.6**
NVR	**Nevrokopi**	**4.13**	**41**	*ePn*	**Pn**	**22 46 57.6**	**+2.6**
CDT	**Castel del Mon**	**4.15**	**313**	*ePn*	**Pn**	**22 46 56.6**	**+1.4**
CDT				Sn	**Sn**	**22 47 43.2**	**-0.8**
LIA	**Limnos Island**	**4.16**	**66**	*ePN*	**Pn**	**22 46 57.2**	**+1.9**
LIA	**Limnos Island**	**4.16**	**66**	*ePn*	**Pn**	**22 46 57.2**	**+1.9**
SIGR	**SIGRI**	**4.47**	**76**	*ePN*	Pn	22 47 03.0	+3.4
SIGR	**SIGRI**	**4.47**	**76**	*ePn*	Pn	22 47 03.1	+3.4
CHOS	**Chios island**	**4.56**	**87**	*ePN*	Pn	22 47 05.9	+4.9
CHOS	**Chios island**	**4.56**	**87**	*ePn*	Pn	22 47 05.9	+4.9
BARS	**Barje**	**4.67**	**14**	*ePn*	**Pn**	**22 47 02.8**	**+0.3**
GADA	**Gvkgeada**	**4.78**	**65**	*ePN*	**Pn**	**22 47 06.4**	**+2.6**
GADA	**Gvkgeada**	**4.78**	**65**	*ePn*	**Pn**	**22 47 06.4**	**+2.6**
IDI	**Anoyia**	**4.78**	**127**	Pn	**Pn**	**22 47 06.0**	**+2.1**
	0.3nm,0.3s,baz=202,slow=5.4,SNR=9.9						
IDI				Sn	**Sn**	**22 47 58.2**	**-1.4**
	1.2nm,0.3s,baz=132,slow=23,SNR=7.9						
STON	**Ston**	**4.97**	**338**	*ePn*	**Pn**	**22 47 06.1**	**-0.4**
STON				Sn	**Sn**	**22 48 00.6**	**-3.7**
STON	**Ston**	**4.97**	**338**	*ePn*	**Pn**	**22 47 06.1**	**-0.4**
ALN	**Alexandroupoli**	**5.17**	**58**	*ePN*	**Pn**	**22 47 11.8**	**+2.5**
ALN	**Alexandroupoli**	**5.17**	**58**	*ePn*	**Pn**	**22 47 11.8**	**+2.5**
GELI	**Tayfur-Gelibol**	**5.26**	**64**	*eP*	**Pn**	**22 47 13.3**	**+2.8**
GELI	**Tayfur-Gelibol**	**5.26**	**64**	*eP*	**Pn**	**22 47 13.3**	**+2.8**
IVAS	**Ivanjica**	**5.28**	**359**	*ePn*	**Pn**	**22 47 11.1**	**+0.2**
DIVS	**Divibare**	**5.81**	**358**	*ePn*	**Pn**	**22 47 17.5**	**-0.6**
TEKS	**Tekeris**	**6.28**	**355**	*ePn*	**Pn**	**22 47 23.8**	**-0.7**
UDBI	**Udbina**	**7.09**	**333**	*ePn*	**Pn**	**22 47 37.3**	**+1.6**
UDBI				Sn	**Sn**	**22 48 54.0**	**-2.5**
UDBI	**Udbina**	**7.09**	**333**	*ePn*	**Pn**	**22 47 37.2**	**+1.6**
NVLJ	**Novalja**	**7.46**	**329**	*ePn*	**Pn**	**22 47 41.0**	**+0.4**
NVLJ				Sn	**Sn**	**22 49 01.5**	**-3.9**
NVLJ	**Novalja**	**7.46**	**329**	*ePn*	**Pn**	**22 47 41.0**	**+0.4**
SOKA	**Soboth**	**9.22**	**337**⇑	*iPn*	**Pn**	**22 48 04.3**	**-0.7**
SOKA	**Soboth**	**9.22**	**337**	Pn	**Pn**	**22 48 04.3**	**-0.7**
OBKA	**Obir**	**9.23**	**335**⇑	*iPn*	**Pn**	**22 48 05.4**	**+0.3**
OBKA	**Obir**	**9.23**	**335**	Pn	**Pn**	**22 48 05.4**	**+0.3**
MOA	**Molln**	**10.51**	**337**⇓	*iPn*	**Pn**	**22 48 22.8**	**+0.3**
MOA	**Molln**	**10.51**	**337**	Pn	**Pn**	**22 48 22.8**	**+0.3**
GERES	**GERESS Array B**	**11.57**	**338**	Pn	**Pn**	**22 48 35.4**	**-1.6**
	0.2nm,0.3s,baz=158,slow=14,S

SMPI	**Sarmi**	**2.18**	**355**	P	**Pn**	**23 37 29.5 +1.2**
SMPI				S	**Sb**	**23 37 58.5 -0.3**
JAY	**Jayapura**	**2.43**	**47**	P	**Pn**	**23 37 33.1 +1.3**
JAY	**Jayapura**	**2.43**	**47**	Pn	**Pn**	**23 37 31.4 -0.5**
	11nm,0.3s,baz=242,slow=9.9,SNR=41					
JAY				Sn	**Sn**	**23 38 01.0 +0.1**
	3.5nm,0.3s,baz=298,slow=15,SNR=2.9					
SRPI	**Serui, Papua**	**3.51**	**311**	P	**Pn**	**23 37 47.1 +0.4**
RKPI	**Ransiki, Papua**	**5.42**	**299**	P	**Pn**	**23 38 12.7 -0.1**
	51nm,0.5s,13µm2.6nm					
WRA	**Warramunga Arr**	**16.30**	**196**	Pn	**P**	**23 40 43.6 -0.2**
	0.4nm,0.3s,baz=17,slow=12,SNR=16					
ASAR	**Alice Springs**	**19.98**	**194**	P	**Pn**	**23 41 26.5 +0.4**
	2.2nm,0.8s,baz=20,slow=10,SNR=15					
MKAR	**Makanchi Array**	**71.06**	**323**	P	**P**	**23 48 10.3 +0.5**
	0.1nm,0.3s,baz=101,slow=7.5,SNR=3.3					

*ISCJB **27** 23:38:04.3±0.3, 14.˚12S±0.˚04×166.˚96E±0.˚08, h33km, mb4.7/26, MS4.2/2, Error ellipse: s-maj=11.4km s-min=6.3km az=176.2*

*BJI **27** 23:38:05.4, 13.˚88S×166.˚99E, h34km, mb4.9/43, mB5.1/26, Ms5.0/20, Ms7 4.7/20*

*NEIC **27** 23:38:06.0±0.4, 14.˚05S×166.˚99E, h35km, mb4.9/12, Error ellipse: s-maj=10.6km s-min=8.8km az=121.0*

*IDC **27** 23:38:07.3±0.8, 14.˚12S×166.˚94E, h44km±4km, mb4.4/18, mb1 4.5/19, mb1mx4.3/35, mbtmp4.6/19, ML4.0/1, MS4.1/2, Ms1 4.1/2, ms1mx3.4/27, Error ellipse: s-maj=21.9km s-min=11.9km az=98.0*

ISC 27 23:38:06.4±0.4, 14˚11S±0.˚06×166˚97E±0.˚08, h35km, h35km; pP-P, n106, σ1§48/155, mb4.7/27, 2C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.93**	**184**	P	**Pn**	**23 40 00.8**	**+1.4**
	2.3nm,0.3s,baz=270,slow=23,SNR=11						
DZM				S	**Sn**	**23 41 28.3**	**+0.3**
	baz=90,slow=20,SNR=1.8						
HNR	**Honiara**	**8.30**	**303**	P	**Pn**	**23 40 06.0**	**+1.6**
HNR				S	**Sn**	**23 41 33.0**	**-4.0**
HNR	**Honiara**	**8.30**	**303**	*e*Pn	**Pn**	**23 40 04.2**	**-0.2**
HNR				*e*Sn	**Sn**	**23 41 32.1**	**-5.0**
CTA	**Charters Tower**	**20.67**	**250**	P	**P**	**23 42 44.6**	**+1.2**
	9.2nm,0.8s,baz=79,slow=14,SNR=11						
CTAO	**Charters Tower**	**20.67**	**250**	*e*P	**P**	**23 42 43.6**	**+0.2**
	9.9nm,0.8s						
OUZ	**Omahuta**	**21.85**	**165**	*e*P	**P**	**23 42 56.8**	**+0.8**
	744nm,2.8s						
STKA	**Stephens Creek**	**29.18**	**228**	P	**P**	**23 44 05.2**	**+0.6**
	5.3nm,0.6s,baz=46,slow=9.1,SNR=22						
STKA				PcP	**PcP**	**23 47 10.8**	**-0.9**
	4.6nm,1.0s,baz=200,slow=2.2,SNR=3.1						
STKA				pPcP		23 47 21.6	
	1.4nm,0.5s,baz=334,slow=4.3,SNR=3.3						
STKA	**Stephens Creek**	**29.18**	**228**	*e*P	**P**	**23 44 05.4**	**+0.8**
	1.4nm,0.7s						
STKA				*e*PcP	**PcP**	**23 47 11.2**	**-0.4**
WRA	**Warramunga Arr**	**31.70**	**255**	P	**P**	**23 44 25.2**	**-1.9**
	1.8nm,0.5s,baz=86,slow=9.4,SNR=20						
WRA				PcP	**PcP**	**23 47 18.2**	**-0.2**
	1.7nm,0.8s,baz=76,slow=2.9,SNR=6.5						
WRA				pScP		23 51 02.1	
	2.6nm,1.3s,baz=80,slow=3.2,SNR=3.1						
AS12	**Alice Springs**	**32.63**	**248**	*e*P	**P**	**23 44 33.4**	**-1.8**
ASAR	**Alice Springs**	**32.63**	**248**	P	**P**	**23 44 33.4**	**-1.8**
	5.6nm,0.5s,baz=73,slow=9.4,SNR=74						
ASAR				pScP		23 51 06.8	
	2.2nm,1.1s,baz=61,slow=3.0,SNR=7.6						
BBOO	**Buckleboo**	**33.73**	**231**	*e*P	**P**	**23 44 44.7**	**0.0**
	16nm,2.4s						
BBOO				*e*PcP	**PcP**	**23 47 22.2**	**-1.6**
KKM	**Kota Kinabalu**	**54.20**	**288**	*e*P	**P**	**23 47 28.3**	**-0.8**
	21nm,1.2s						
JOW	**Kunigami**	**55.40**	**317**	*e*P	**P**	**23 47 37.1**	**-0.3**
	19nm,0.9s						
MJAR	**Matsushiro Arr**	**57.23**	**333**	P	**P**	**23 47 49.3**	**-1.0**
	8.8nm,0.7s,baz=168,slow=8.7,SNR=20						
MJAR				pP	**pP**	**23 48 01.9**	**+0.9**
	7.8nm,1.1s,baz=165,slow=6.5,SNR=5.5						
MJAR				LR	LR	00 07 32.8	
	comp=Z,140nm,21.6s,baz=85,slow=31						
MAJO	**Matsushiro**	**57.23**	**333**	*e*pP	pP	23 48 01.8	+0.9
MAT	**Matsushiro**	**57.23**	**333**	P	**P**	**23 47 49.3**	**-1.0**
JNU	**Nakatsue**	**58.26**	**324**	P	**P**	**23 47 57.2**	**-0.4**
	22nm,0.9s,baz=96,slow=6.5,SNR=7.4						
JNU				pP	**pP**	**23 48 10.2**	**+1.9**
	17nm,1.0s,baz=71,slow=7.2,SNR=3.9						
KSRS	**Korea Array**	**63.07**	**326**	P	**P**	**23 48 30.3**	**0.0**
	3.9nm,0.7s,baz=142,slow=7.5,SNR=18						
KSRS				pP	**pP**	**23 48 43.5**	**+2.4**
	3.7nm,0.8s,baz=145,slow=8.1,SNR=4.8						
KSRS				LR	LR	00 12 35.6	
	comp=Z,196nm,20.5s,baz=342,slow=33						
KS15	**Wonju Array Si**	**63.08**	**326**	*e*P	**P**	**23 48 30.3**	**-0.1**
KS15				*e*pP	**pP**	**23 48 43.5**	**+2.3**
VNDA	**Vanda**	**63.47**	**181**	P	**P**	**23 48 32.5**	**+0.1**
	2.6nm,0.7s,baz=359,slow=7.5,SNR=11						
SBA	**Scott Base**	**63.75**	**180**	*e*P	**P**	**23 48 35.0**	**+0.8**
	9.8nm,0.8s						
NJ2	**Nanjing**	**65.04**	**316**	*e*P	**P**	**23 48 44.3**	**+1.0**
NJ2				PMZ			
	10.0nm,0.7s						
USRK	**Ussuriysk Ar.**	**66.21**	**333**	P	**P**	**23 48 51.5**	**+0.8**
	5.5nm,0.7s,baz=108,slow=5.5,SNR=11						
USRK				pP	**pP**	**23 49 03.9**	**+2.4**
	10nm,1.1s,baz=140,slow=7.4,SNR=5.3						
WHN	**Wuhan**	**67.32**	**312**	*e*P	**P**	**23 49 00.0**	**+2.0**
PEA2	**Petropavlovsk-**	**67.42**	**354**	*e*P	**P**	**23 48 58.8**	**+0.6**
PETK	**Petropavlovsk-**	**67.42**	**354**	P	**P**	**23 48 58.8**	**+0.6**
	3.1nm,0.7s,baz=156,slow=11,SNR=6.2						
MDJ	**Mudanjiang**	**67.61**	**332**	P	**P**	**23 49 00.0**	**+0.5**
MDJ				PMZ			
	10.0nm,0.7s						
MDJ				PMZ			
	110nm,5.4s						
TIA	**Tai'an**	**68.69**	**318**	⇑P	**P**	**23 49 06.3**	**-0.3**
PSI	**Prapat**	**69.48**	**278**	P	**P**	**23 49 10.8**	**-1.3**
	3.3nm,0.3s,baz=174,slow=7.5,SNR=4.2						
GYA	**Guiyang**	**71.13**	**305**	P	**P**	**23 49 22.8**	**+0.9**
GYA				pP	**pP**	**23 49 33.3**	**+0.5**
GYA				sP	**sP**	**23 49 38.0**	**+1.2**
GYA				PP	**PP**	**23 52 03.5**	**+3.4**
GYA				S	**S**	**23 58 37.5**	**+0.9**
GYA				sS	**sS**	**23 58 55.0**	**+0.4**
GYA				SKS	**SKSac**	**23 59 19.8**	**-2.7**
GYA				SS	**SS**	**00 03 13.8**	**+2.8**
GYA				PMZ			
	20nm,1.0s						
GYA				PMZ			
	120nm,7.2s						
GYA				LN			
	510nm,20.2s						
GYA				LE			
	460nm,23.0s						
GYA				LZ			
	520nm,24.1s						
XAN	**Xi'an**	**73.06**	**313**	P	**P**	**23 49 33.3**	**+0.1**
XAN				PMZ			
	4.0nm,0.6s						
KMI	**Kunming**	**73.74**	**302**	P	**P**	**23 49 38.5**	**+0.9**
KMI				PMZ			
	14nm,0.9s						
CM31	**Chiang Mai Arr**	**74.44**	**294**	*e*P	**P**	**23 49 42.2**	**+0.6**
CM31				*e*pP	**PcP**	**23 49 55.2**	**-0.8**
CMAR	**Chiang Mai Arr**	**74.44**	**294**	P	**P**	**23 49 42.2**	**+0.6**
	5.9nm,0.8s,baz=123,slow=4.6,SNR=27						
CMAR				pP	**PcP**	**23 49 55.2**	**-0.8**
	2.4nm,0.6s,baz=135,slow=5.1,SNR=3.3						
CHTO	**Chiang Mai**	**74.56**	**294**	*e*P	**P**	**23 49 41.8**	**-0.5**
	7.5nm,0.9s						
HHC	**Hu-ho-hao-te**	**74.93**	**320**	*e*P	**P**	**23 49 46.0**	**+1.9**
HHC				PP	**PP**	**23 52 36.5**	**+4.2**
HHC				S	**S**	**23 59 21.0**	**+1.7**
HHC				sS	**sS**	**23 59 38.0**	**+0.7**
HHC				PMZ			
	16nm,0.7s						
HHC				PMZ			
	170nm,8.6s						
HHC				LN			
	190nm,14.8s						
HHC				LE			
	230nm,14.8s						
HHC				LZ			
	130nm,17.3s						
CD2	**Chengdu**	**75.41**	**308**	*e*P	**P**	**23 49 47.3**	**+0.3**
CD2				pP	**pP**	**23 49 58.0**	**+0.1**
CD2				sP	**sP**	**23 50 02.3**	**+0.3**
CD2				PP	**PP**	**23 52 38.8**	**+2.4**
CD2				S	**S**	**23 59 24.3**	**-0.5**
CD2				sS	**sS**	**23 59 42.3**	**-0.6**
CD2				SKS	**SKSac**	**23 59 49.3**	**-5.1**
CD2				SS	**SS**	**00 04 18.0**	**+2.0**
CD2				PMZ			
	20nm,0.5s						
CD2				PMZ			
	140nm,5.4s						
LZH	**Lanzhou**	**77.69**	**312**	*e*P	**P**	**23 50 01.5**	**+1.5**
LZH				pP	**pP**	**23 50 12.3**	**+1.4**
LZH				sP	**sP**	**23 50 16.8**	**+1.8**
LZH				PP	**PP**	**23 52 59.5**	**+3.8**
LZH				*e*S	**S**	**23 59 52.0**	**+2.1**
LZH				sS	**SKSac**	**00 00 11.0**	**-0.2**
LZH				*e*SS	**SS**	**00 04 51.3**	**+0.6**
LZH				PMZ			
	34nm,1.0s						
LZH				PMZ			
	170nm,8.0s						
LZH				LN			
	340nm,17.0s						
LZH				LE			
	190nm,16.1s						
LZH				LZ			
	310nm,18.4s						
SONA0	**Songino Array**	**81.83**	**324**	*e*P	**P**	**23 50 21.9**	**-0.2**
SONA0				*e*pP	**pP**	**23 50 34.9**	**+1.8**
SONM	**Songino Array**	**81.83**	**324**	P	**P**	**23 50 21.9**	**-0.2**
	5.8nm,0.8s,baz=148,slow=5.6,SNR=18						
SONM				pP	**pP**	**23 50 34.9**	**+1.8**
	4.5nm,0.9s,baz=144,slow=5.9,SNR=6.5						
GTA	**Gaotai**	**82.04**	**314**	*e*P	**P**	**23 50 24.0**	**+0.6**
GTA				pP	**pP**	**23 50 34.5**	**+0.1**
GTA				sP	**sP**	**23 50 38.0**	**-0.4**
GTA				PMZ			
	15nm,1.0s						
MAW	**Mawson**	**82.34**	**202**	P	**P**	**23 50 24.4**	**+0.1**
	1.7nm,0.3s,baz=91,slow=9.1,SNR=5.2						
MAW	**Mawson**	**82.34**	**202**	*e*P	**P**	**23 50 23.9**	**-0.4**
	2.6nm,1.4s						
SCM	**Sheep Creek Mo**	**83.78**	**20**	*e*P	**P**	**23 50 31.1**	**-0.7**
	118nm,3.0s						
LSA	**Lhasa**	**84.99**	**302**	*e*P	**P**	**23 50 38.1**	**-1.1**
	8.5nm,0.9s						
ILAR	**Eielson Array**	**86.03**	**18**	P	**P**	**23 50 41.9**	**-1.1**
	1.1nm,0.6s,baz=244,slow=5.2,SNR=14						
ILB	**Eielson Array**	**86.03**	**18**	*e*P	**P**	**23 50 41.9**	**-1.1**
WAKR	**Walker**	**86.28**	**49**	*e*P	**P**	**23 50 44.9**	**-0.1**
SCRK	**Sand Creek**	**86.38**	**19**	*e*P	**P**	**23 50 43.8**	**-1.1**
	3.2nm,1.0s						
TAPN	**Taplejung**	**87.13**	**299**	*e*P	**P**	**23 50 49.1**	**-0.5**
ODAN	**Odare**	**87.26**	**298**	*e*P	**P**	**23 50 49.6**	**-0.5**
	44nm,0.9s						
RAMN	**Ramite**	**87.96**	**298**	*e*P	**P**	**23 50 52.8**	**-0.7**
	9.9nm,0.6s						
JIRN	**Jiri**	**88.51**	**299**	*e*P	**P**	**23 50 55.7**	**-0.6**
	19nm,0.6s						
GUN	**Gumba**	**88.85**	**299**	*e*P	**P**	**23 50 57.2**	**-0.6**
	25nm,0.7s						
PKI	**Pulchoki**	**89.15**	**299**	*e*P	**P**	**23 50 58.3**	**-0.9**
	31nm,0.7s						
KKN	**Kakani**	**89.32**	**299**	*e*P	**P**	**23 50 59.1**	**-0.8**
	32nm,0.8s						
DMN	**Daman**	**89.42**	**299**	*e*P	**P**	**23 50 59.7**	**-0.7**
	59nm,0.8s						
GKN	**Gorkha**	**89.93**	**299**	*e*P	**P**	**23 51 01.5**	**-1.2**
	57nm,1.0s						
WMQ	**Urumqi**	**92.09**	**315**	*e*P	**P**	**23 51 12.3**	**+0.1**
WMQ				pP	**pP**	**23 51 22.8**	**-0.6**
WMQ				sP	**sP**	**23 51 26.8**	**-0.6**
WMQ				S	**S**	**00 02 09.3**	**-2.9**
WMQ				SS	**SS**	**00 08 22.5**	**+0.1**
WMQ				PMZ			
	12nm,0.6s						
WMQ				PMZ			
	160nm,4.2s						
WMQ				LN			
	47nm,21.8s						
WMQ				LE			
	48nm,18.2s						
WMQ				LZ			
	83nm,18.0s						
HWUT	**Hardware Ranch**	**93.00**	**48**	*e*P	**P**	**23 51 14.8**	**-1.9**
	2.6nm,0.5s						
SNAA	**Sanae**	**94.14**	**183**	P	P	23 51 16.6	-4.7
VNA2	**Neumayer--Watz**	**95.08**	**182**	P	**P**	**23 51 24.6**	**-0.9**
	baz=173,slow=4.1						
MK01	**Makanchi Array**	**96.55**	**316**	*e*P	**P**	**23 51 31.2**	**-1.3**
MK32	**Makanchi Array**	**96.56**	**316**	*e*P	**P**	**23 51 32.1**	**-0.5**
MKAR	**Makanchi Array**	**96.56**	**316**	P	**P**	**23 51 32.1**	**-0.5**
	6.2nm,0.8s,baz=97,slow=6.4,SNR=60						
MKAR	**Makanchi Array**	**96.56**	**316**	*e*P	**P**	**23 51 31.7**	**-0.9**
ZAA0	**Zalesovo Array**	**96.73**	**324**	*e*P	**P**	**23 51 31.0**	**-2.1**
ZALV	**Zalesovo Beam**	**96.73**	**324**	P	**P**	**23 51 31.6**	**-1.6**
	4.3nm,0.7s,baz=116,slow=4.5,SNR=18						
ZALV				pP	**pP**	**23 51 44.5**	**+0.2**
	3.5nm,0.9s,baz=123,slow=5.5,SNR=5.2						
ZAA1	**Zalesovo Array**	**96.73**	**324**	*e*P	**P**	**23 51 31.6**	**-1.6**
ZAA1				*e*pP	**pP**	**23 51 44.5**	**+0.2**
YKA	**Yellowknife Ar**	**97.13**	**27**	P	**P**	**23 51 33.5**	**-1.2**
	0.2nm,0.6s,baz=256,slow=4.6,SNR=3.6						
YKB5	**Yellowknife Ar**	**97.13**	**27**	*e*P	**P**	**23 51 33.5**	**-1.2**
KSH	**Kashi**	**99.59**	**308**	*e*P	**Pdif**	**23 51 50.3**	**+3.8**
KSH				S	**S**	**00 03 19.5**	**+2.1**
KSH				PMZ			
	83nm,5.1s						
KSH				LN			
	110nm,5.7s						
KSH				LE			
	89nm,5.3s						
KSH				LZ			
	190nm,7.0s						
ARCES	**ARCESS Array B**	**119.59**	**345**	PKP	**PKPdf**	**23 56 50.8**	**-1.2**
	2.6nm,0.7s,baz=46,slow=0.9,SNR=16						
FINES	**FINESS Array B**	**125.05**	**338**	PKP	**PKPdf**	**23 57 01.8**	**-0.8**
	1.5nm,0.5s,baz=0.0,slow=1.9,SNR=18						
NB2	**NORSAR Subarra**	**129.96**	**345**	PKPdf	**PKPdf**	**23 57 11.6**	**-0.5**
	comp=Z,3.8nm,1.4s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**129.96**	**345**	PKP	**PKPdf**	**23 57 11.7**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=32,slow=2.0,SNR=7.3						
NOA				SKP		00 00 37.4	
	comp=Z,1.1nm,0.8s,baz=32,slow=3.0,SNR=5.0						
AKASG	**Malin Array Be**	**130.07**	**326**	PKP	**PKPdf**	**23 57 11.4**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=47,slow=3.0,SNR=7.1						
BRTR	**Keskin Array B**	**131.89**	**311**	PKP	**PKPdf**	**23 57 15.7**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=143,slow=1.9,SNR=5.2						
BRTR				SKP		00 00 48.4	
	comp=Z,0.6nm,0.6s,baz=108,slow=4.0,SNR=5.7						
CLL	**Collm**	**137.38**	**336**	*e*PKPdf	**PKPdf**	**23 57 27.0**	**+0.7**
CSNA	**Conrad Observa**	**138.65**	**331**	⇓*i*PKiKP	**PKPdf**	**23 57 29.2**	**+0.3**
	comp=Z,2.0nm,0.7s						
GEC2	**GERESS Array S**	**138.97**	**333**	*e*SKPab	**SKiKP**	**00 01 07.3**	**+2.1**
GERES	**GERESS Array B**	**138.97**	**333**	PKP	**PKPdf**	**23 57 29.0**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=77,slow=2.9,SNR=7.4						
GERES				SKPab	**SKiKP**	**00 01 07.3**	**+2.1**
	comp=Z,0.7nm,0.8s,baz=25,slow=3.5,SNR=5.5						
ABTA	**Abfaltersbach**	**141.07**	**332**	⇑*i*PKPdf	**PKPdf**	**23 57 33.1**	**-0.2**
	comp=Z,4.3nm,0.7s						
PLDF	**La Plantade**	**145.28**	**339**	PKP	**PKPdf**	**23 57 41.4**	**+0.7**
AGO	**Saint Agoulin**	**145.37**	**340**	PKP	**PKPbc**	**23 57 40.4**	**-0.3**
SAOF	**Saorge**	**145.42**	**333**	PKP	**PKPbc**	**23 57 40.0**	**-0.9**
AUTN	**L'Aution**	**145.47**	**334**	PKP	**PKPdf**	**23 57 40.4**	**-0.9**
TOUF	**Mont Tournerai**	**145.53**	**334**	PKP	**PKPdf**	**23 57 40.7**	**-0.7**
MVIF	**Mont Vial**	**145.66**	**334**	PKP	**PKPdf**	**23 57 40.6**	**-0.9**
PYM	**Petit Puy Mans**	**145.68**	**340**	PKP	**PKPab**	**23 57 42.7**	**+0.6**
CALN	**Calern**	**145.89**	**334**	PKP	**PKPdf**	**23 57 38.2**	**-3.7**
LBL	**Lubilhac**	**146.05**	**339**	PKP	**PKPab**	**23 57 43.9**	**+0.4**
LRDF	**Laroque-de-Fa**	**148.30**	**338**	PKP	**PKPbc**	**23 57 48.9**	**-0.3**
FILF	**Fillols**	**148.62**	**338**	PKP	**PKPbc**	**23 57 49.4**	**-0.7**
KEST	**Kesra**	**150.55**	**321**	PKPbc	**PKPbc**	**23 57 55.4**	**+0.3**
	comp=Z,4.5nm,0.7s,baz=147,slow=2.2,SNR=19						
PBRG	**Braganca**	**151.87**	**350**	*e*PKPbc	**PKPbc**	**23 57 55.1**	**-2.8**
POLO	**Lamas de Olo**	**152.46**	**351**	*e*PKPbc	**PKPbc**	**23 57 59.0**	**-0.3**
PVRL	**Vila Real**	**152.54**	**351**	*e*PKPdf	**PKPdf**	**23 57 51.9**	**-0.6**
PVRL	**Vila Real**	**152.54**	**351**	*e*PKPbc	**PKPbc**	**23 57 58.3**	**-1.2**
MVO	**Moncorvo**	**152.54**	**350**	*e*PKPbc	**PKPbc**	**23 57 59.6**	**+0.1**
PVIS	**Viseu**	**153.12**	**351**	*e*PKPdf	**PKPdf**	**23 57 54.2**	**+0.8**
ESDC	**Sonseca Array**	**153.32**	**344**	PKPbc	**PKPbc**	**23 58 01.2**	**0.0**
	comp=Z,0.7nm,0.7s,baz=26,slow=3.0,SNR=7.6						
ESDC				PKPab	**PKPab**	**23 58 12.9**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=19,slow=4.0,SNR=11						
MTE	**Manteigas**	**153.38**	**351**	*e*PKPbc	**PKPbc**	**23 58 00.0**	**-1.4**
PCBR	**Castelo Branco**	**153.91**	**350**	*e*PKPbc	**PKPbc**	**23 58 04.1**	**+1.7**
TORD	**Torodi Ar. Bea**	**165.66**	**268**	PKP	**PKPdf**	**23 58 07.1**	**-1.4**
	comp=Z,1.2nm,1.0s,baz=251,slow=1.1,SNR=6.3						
TORD				PKPab	**PKPab**	**23 59 06.5**	**-1.0**
	comp=Z,3.7nm,1.0s,baz=99,slow=3.2,SNR=13						

*IDC **28** 00:17:08.1±1.5, 32.˚50S×176.˚48W, h0km, mb4.0/3, mb1 4.4/6, mb1mx4.0/26, mbtmp4.3/6, ML4.5/3, Error ellipse: s-maj=36.4km s-min=28.7km az=116.0*

ISC 28 00:17:12.2±1.5, 32.˚54S±0.˚08×176.˚7W±0.˚2, h35km, n26, σ1§69/33, mb4.0/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.44**	**342**	Pn	**Pn**	**00 18 01.9**	**-1.4**
	139nm,0.3s,baz=95,slow=10,SNR=6.9						
RAO				Sn	**Sn**	**00 18 40.8**	**-1.9**
	333nm,0.3s,baz=286,slow=23,SNR=7.3						
PUZ	**Puketiti**	**6.87**	**215**	*e*PN	**Pn**	**00 18 50.6**	**+0.1**
PUZ				SN	**Sn**	**00 20 06.9**	**-0.5**
HAZ	**Te Kaha**	**6.87**	**219**	PN	**Pn**	**00 18 51.9**	**+1.4**
HAZ				SN	**Sn**	**00 20 09.6**	**+2.2**
TWGZ	**Tauwhareparae**	**7.09**	**216**	SN	**Sn**	**00 20 13.2**	**+0.4**
CNGZ	**Carnagh Statio**	**7.22**	**213**	*e*PN	**Pn**	**00 18 53.9**	**-1.3**
MWZ	**Matawai**	**7.44**	**217**	*e*PN	**Pn**	**00 18 58.8**	**+0.5**
MWZ				SN	**Sn**	**00 20 22.5**	**+1.1**
URZ	**Urewera**	**7.61**	**220**	Pn	**Pn**	**00 19 01.5**	**+1.0**
	1.7nm,0.3s,baz=272,slow=4.9,SNR=11						
URZ				Sn	**Sn**	**00 20 25.5**	**+0.1**
	17nm,0.3s,baz=300,slow=22,SNR=23						
URZ	**Urewera**	**7.61**	**220**	PN	**Pn**	**00 19 02.0**	**+1.5**
RIGZ	**Rimuhau**	**7.61**	**215**	*e*PN	**Pn**	**00 18 59.2**	**-1.4**
RIGZ				SN	**Sn**	**00 20 23.9**	**-1.7**
RAGZ	**Rawiri**	**7.62**	**217**	PN	**Pn**	**00 19 00.8**	**+0.1**
RAGZ				SN	**Sn**	**00 20 26.0**	**+0.1**
SNGZ	**Shannon Statio**	**7.88**	**216**	*e*PN	**Pn**	**00 19 03.0**	**-1.2**
SNGZ				SN	**Sn**	**00 20 31.5**	**-0.6**
KNZ	**Kokohu**	**7.90**	**214**	*e*SN	**Sn**	**00 20 30.1**	**-2.6**
RAHZ	**Arahi**	**8.11**	**217**	*e*PN	**Pn**	**00 19 07.2**	**-0.1**
WHHZ	**Waihua**	**8.16**	**215**	*e*SN	**Sn**	**00 20 37.7**	**-1.2**
BKZ	**Black Stump Fm**	**8.60**	**218**	*e*PN	**Pn**	**00 19 13.6**	**-0.6**
MCHZ	**McNeill Hill**	**8.71**	**216**	SN	**Sn**	**00 20 50.2**	**-2.3**
PNHZ	**Pukenui**	**9.31**	**216**	SN	**Sn**	**00 21 04.5**	**-2.9**
WPHZ	**Waipukurau**	**9.31**	**214**	SN	**Sn**	**00 21 04.2**	**-3.1**
POWZ	**Post Office Ro**	**9.89**	**216**	SN	**Sn**	**00 21 18.0**	**-3.6**
RPZ	**Rata Peaks**	**14.71**	**217**	Pn	**Pn**	**00 20 37.6**	**0.0**
	2.0nm,0.3s,baz=350,slow=0.2,SNR=5.7						
RPZ				Sn	Sn	00 23 05.2	-14
	1.8nm,0.3s,baz=348,slow=6.3,SNR=4.3						
STKA	**Stephens Creek**	**35.11**	**260**	P	P	00 24 06.7	+4.4
	2.6nm,0.7s,baz=105,slow=13,SNR=4.9						
ASAR	**Alice Springs**	**44.11**	**269**	P	**P**	**00 25 19.8**	**+2.4**
	1.3nm,0.8s,baz=109,slow=7.5,SNR=9.8						
WRA	**Warramunga Arr**	**45.29**	**274**	P	**P**	**00 25 29.1**	**+2.3**
	1.4nm,0.6s,baz=114,slow=8.0,SNR=15						
FINES	**FINESS Array B**	**147.53**	**340**	PKPbc	**PKPab**	**00 36 53.1**	**-0.9**
	1.4nm,0.8s,baz=90,slow=0.4,SNR=11						
NOA	**NORSAR Array B**	**151.02**	**352**	PKPbc	**PKPbc**	**00 37 02.0**	**+1.3**
	0.5nm,0.6s,baz=14,slow=4.1,SNR=3.8						
TORD	**Torodi Ar. Bea**	**160.64**	**175**	PKPab	**PKPab**	**00 37 51.6**	**+1.1**
	0.2nm,0.6s,baz=222,slow=1.9,SNR=2.9						

IDC 28 00:50:42.2±6.4, 6.˚37S×157.˚38E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/31, mbtmp3.6/3, Error ellipse: s-maj=189.5km s-min=41.1km az=111.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.13**	**237**	P	P	00 56 17.8	-0.6
	0.3nm,0.7s,baz=64,slow=8.7,SNR=10.0						
ASAR	**Alice Springs**	**28.38**	**230**	P	P	00 56 39.0	+0.5
	0.4nm,0.3s,baz=54,slow=9.7,SNR=7.0						
MKAR	**Makanchi Array**	**84.51**	**318**	P	P	01 03 17.3	0.0
	0.4nm,0.5s,baz=108,slow=6.1,SNR=7.2						

MEX 28 00:52:01.6±0.5, 14.˚50N×91.˚98W, h34km±47km, MD3.6, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.70**	**315**	*e*P	Pn	00 52 21.7	-7.2
PCIG				*e*S	Sn	00 52 46.9	-2.5

*ISCJB **28** 00:55:59.9

IDC 28 01:23:55.8±9.0, 2°57′S×138°53′E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.5/25, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=385.2km s-min=29.7km az=85.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.74**	**193**	P	Pn	01 28 04.2	-0.2
	0.1nm,0.3s,baz=13,slow=13,SNR=6.5						
ASAR	**Alice Springs**	**21.44**	**192**	P	P	01 28 46.0	+0.1
	0.9nm,0.7s,baz=17,slow=10,SNR=9.8						
MKAR	**Makanchi Array**	**69.57**	**322**	P	P	01 35 06.8	0.0
	0.5nm,0.7s,baz=112,slow=7.5,SNR=7.5						

*IDC **28** 01:28:22.7±0.8, 49°12S×127°58E, h0km, mb4.2/7, mb1 4.4/7, mb1mx4.1/25, mbtmp4.2/7, MS3.3/1, Ms1 3.3/1, ms1mx2.8/23, Error ellipse: s-maj=49.0km s-min=16.4km az=96.0*

*NEIC **28** 01:28:22.9±0.6, 49°08S×126°87E, h10km, mb4.5/2, Error ellipse: s-maj=39.2km s-min=10.7km az=104.0*

ISC 28 01:28:23.0±0.9, 49°1S±0°1×126°9E±0°4, h10km, n26, σ1§19/16, mb4.2/7, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**17.00**	**322**	T	T	01 50 07.5	
	baz=154,slow=78,SNR=124						
H01W2	**Cape Leeuwin H**	**17.00**	**322**	T	T	01 50 14.8	
	baz=154,slow=78,SNR=106						
H01W3	**Cape Leeuwin H**	**17.01**	**322**	T	T	01 50 12.2	
	baz=154,slow=78,SNR=109						
STKA	**Stephens Creek**	**20.42**	**38**	P	**P**	**01 33 00.7**	**+0.4**
	1.5nm,0.4s,baz=189,slow=12,SNR=3.4						
ASAR	**Alice Springs**	**25.94**	**15**	P	**P**	**01 33 55.9**	**+0.4**
	7.5nm,0.5s,baz=188,slow=9.2,SNR=73						
ASAR				LR	LR	01 43 30.5	
	comp=Z,59nm,18.9s,baz=186,slow=35						
AS31	**Alice Springs**	**25.94**	**15**	*e*P	**P**	**01 33 55.8**	**+0.3**
WRA	**Warramunga Arr**	**29.66**	**14**	P	**P**	**01 34 28.7**	**0.0**
	2.8nm,0.8s,baz=191,slow=10,SNR=13						
WRAB	**Tennant Creek**	**29.67**	**14**	*e*P	**P**	**01 34 28.7**	**-0.2**
	4.0nm,0.8s						
VNDA	**Vanda**	**31.52**	**166**	P	**P**	**01 34 44.7**	**0.0**
	2.8nm,0.8s,baz=306,slow=8.9,SNR=16						
QSPA	**South Pole Qui**	**41.06**	**180**	P	**P**	**01 36 07.1**	**+0.6**
	3.5nm,0.7s,baz=349,slow=5.1,SNR=6.2						
PMG	**Port Moresby**	**43.01**	**30**	*e*P	**P**	**01 36 22.1**	**-0.5**
SNAA	**Sanae**	**54.45**	**197**	P	**P**	**01 37 47.9**	**-2.1**
SNAA	**Sanae**	**54.45**	**197**	P	**P**	**01 37 51.7**	**+1.8**
	2.3nm,0.9s,baz=143,slow=9.3,SNR=14						
SNAA	**Sanae**	**54.45**	**197**	*e*P	**P**	**01 37 47.6**	**-2.3**
	8.1nm,1.0s						
VNA2	**Neumayer--Watz**	**55.92**	**197**	P	**P**	**01 38 00.4**	**-0.2**
	baz=149,slow=8.9						
H08S2	**Diego Garcia H**	**61.37**	**293**	T	T	02 45 43.2	
	baz=147,slow=74,SNR=4.1						
H08S1	**Diego Carcia H**	**61.38**	**293**	T	T	02 45 35.9	
	baz=147						
H08S3	**Diego Garcia H**	**61.39**	**293**	T	T	02 45 41.7	
	baz=147,slow=74						
CMAR	**Chiang Mai Arr**	**71.67**	**332**	P	P	01 39 48.8	+4.0
	1.5nm,0.7s,baz=179,slow=5.8,SNR=8.2						
H10S2	**ASCENSION HYDR**	**113.10**	**222**	T	T	03 50 59.9	
	baz=156,slow=75						
H10S3	**ASCENSION HYDR**	**113.11**	**222**	T	T	03 51 04.7	
	baz=156,slow=75						
H10S1	**ASCENSION HYDR**	**113.12**	**222**	T	T	03 51 00.6	
	baz=156,slow=75						
TORD	**Torodi Ar. Bea**	**122.66**	**251**	PKP	**PKPdf**	**01 47 21.0**	**+1.9**
	0.2nm,0.8s,baz=92,slow=1.9,SNR=3.2						
ESDC	**Sonseca Array**	**144.20**	**274**	PKP	**PKPdf**	**01 47 58.1**	**-0.5**
	0.1nm,0.4s,baz=128,slow=2.1,SNR=2.8						
YKA	**Yellowknife Ar**	**144.37**	**44**	PKP	**PKPdf**	**01 47 57.3**	**-0.7**
	0.5nm,0.9s,baz=266,slow=4.0,SNR=4.5						
RSSD	**Black Hills**	**145.20**	**78**	*e*PKPdf	**PKPbc**	**01 48 00.1**	**0.0**

WEL 28 01:48:32.3±0.4, 38°49S×178°97E, h33km, ML3.7/13, 3C, Error ellipse: s-maj=4.2km s-min=1.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**0.60**	**270**	PN	Pn	01 48 44.1	-0.3
PUZ	**Puketiti**	**0.70**	**307** ⇑	PN	Pn	01 48 44.8	-1.1
PUZ				SN	Sn	01 48 55.3	-0.4
PUZ				AML	AML	01 48 56.6	
WMGZ	**Waiomatatini S**	**0.80**	**327** ⇑	PN	Pn	01 48 46.6	-0.7
WMGZ				SN	Sn	01 48 57.9	-0.1
TWGZ	**Tauwhareparae**	**0.84**	**292**	PN	Pn	01 48 47.3	-0.6
TKGZ	**Te Karaka**	**0.88**	**273**	PN	Pn	01 48 47.7	-0.7
PRGZ	**Paritu Road**	**0.95**	**243**	PN	Pn	01 48 48.8	-0.6
RIGZ	**Rimuhau**	**0.97**	**257**	PN	Pn	01 48 49.2	-0.5
MXZ	**Matakaoa Point**	**1.07**	**330** ⇑	PN	Pn	01 48 50.7	-0.2
MXZ				SN	Sn	01 49 04.5	-0.1
MXZ				AML	AML	01 49 05.9	
MXZ				AML	AML	01 49 06.1	
MXZ				AML	AML	01 49 06.1	
KNZ	**Kokohu**	**1.14**	**242**	PN	Pn	01 48 51.1	-0.8
MWZ	**Matawai**	**1.14**	**277**	PN	Pn	01 48 51.3	-0.8
MWZ				AML	AML	01 49 06.3	
MWZ				AML	AML	01 49 06.3	
MWZ				AML	AML	01 49 13.0	
MWZ				AML	AML	01 49 13.0	
HAZ	**Te Kaha**	**1.19**	**308**	PN	Pn	01 48 51.9	-0.7
RAGZ	**Rawiri**	**1.22**	**269**	*e*PN	Pn	01 48 52.9	-0.3
SNGZ	**Shannon Statio**	**1.31**	**257**	PN	Pn	01 48 53.7	-0.6
WHHZ	**Waihua**	**1.48**	**246**	PN	Pn	01 48 56.3	-0.2
URZ	**Urewera**	**1.48**	**278**	PN	Pn	01 48 56.8	+0.2
URZ				AML	AML	01 49 17.9	
URZ				AML	AML	01 49 19.6	
RAHZ	**Arahi**	**1.53**	**253**	PN	Pn	01 48 57.4	0.0
ARHZ	**Aropaoanui**	**1.72**	**243**	PN	Pn	01 48 59.8	-0.1
NMHZ	**Naumai**	**1.80**	**250**	PN	Pn	01 49 00.9	-0.2
OPRZ	**Ohinepanea**	**2.01**	**288**	PN	Pn	01 49 03.8	-0.1
MCHZ	**McNeill Hill**	**2.01**	**241**	PN	Pn	01 49 03.9	0.0
BKZ	**Black Stump Fm**	**2.05**	**250**	PN	Pn	01 49 04.2	-0.4
BKZ				AML	AML	01 49 34.5	
KAHZ	**Kahuranaki**	**2.08**	**231**	*e*PN	Pn	01 49 04.2	-0.7
PXZ	**Pawanui**	**2.25**	**226**	PN	Pn	01 49 05.2	-1.9
PXZ				AML	AML	01 49 33.8	
PXZ				AML	AML	01 49 42.3	
PXZ				AML	AML	01 50 43.9	
KRHZ	**Kereru**	**2.33**	**240**	PN	Pn	01 49 07.3	-1.0
BHHZ	**Black Hill Sta**	**2.47**	**245**	PN	Pn	01 49 09.8	-0.6
WPHZ	**Waipukurau**	**2.51**	**231**	PN	Pn	01 49 09.3	-1.6
PNHZ	**Pukenui**	**2.58**	**236**	PN	Pn	01 49 10.4	-1.4
OTVZ	**Oturere**	**2.67**	**254**	*e*PN	Pn	01 49 13.6	+0.5
MOVZ	**Moawhango**	**2.67**	**249**	PN	Pn	01 49 13.2	+0.1
TUVZ	**Tukino**	**2.70**	**252**	*e*PN	Pn	01 49 13.7	+0.1
ANWZ	**Angora Road**	**2.76**	**224**	*e*PN	Pn	01 49 11.9	-2.2
WNVZ	**Wahianoa**	**2.76**	**251**	PN	Pn	01 49 14.0	-0.4
FWVZ	**Far West T-bar**	**2.77**	**253**	AML	AML	01 49 56.0	
FWVZ				AML	AML	01 49 58.8	
TSZ	**Takapari Road**	**2.81**	**235**	PN	Pn	01 49 13.2	-1.8
TSZ				AML	AML	01 49 46.6	
DVHZ	**Dannevirke**	**2.82**	**229**	PN	Pn	01 49 13.0	-2.1
PRWZ	**Pori Road**	**3.10**	**227**	PN	Pn	01 49 17.0	-1.9
POWZ	**Post Office Ro**	**3.12**	**232**	*e*PN	Pn	01 49 18.4	-0.8
MRZ	**Mangatainoka R**	**3.40**	**229**	PN	Pn	01 49 20.7	-2.3
MRZ				AML	AML	01 50 00.0	
MRZ				AML	AML	01 50 00.1	
TMWZ	**Te Maipa**	**3.53**	**221**	*e*PN	Pn	01 49 21.8	-3.0
HOWZ	**Holdsworth Sta**	**3.59**	**227**	PN	Pn	01 49 22.5	-3.1
MTW	**Mount Morrison**	**3.77**	**224**	PN	Pn	01 49 24.2	-3.9
MTW				AML	AML	01 50 07.8	
PAWZ	**Paruwai Farm**	**3.97**	**222**	PN	Pn	01 49 26.9	-3.9
PAWZ				AML	AML	01 50 15.0	
MSWZ	**Moikau Station**	**4.09**	**223**	*e*PN	Pn	01 49 27.7	-4.7
MSWZ				AML	AML	01 50 16.5	
PLWZ	**Palliser**	**4.19**	**222**	*e*PN	Pn	01 49 29.3	-4.7
QRZ	**Quartz Range**	**5.49**	**243**	*e*PN	Pn	01 49 48.3	-3.4
CTZ	**Chatham Island**	**6.21**	**149**	*e*PN	Pn	01 49 59.9	-1.6
LTZ	**Lake Taylor**	**6.66**	**228**	AML	AML	01 51 16.1	

*ISCJB **28** 01:50:54.1±0.2, 28°45N±0°02×56°94E±0°02, h10km, mb4.5/122, MS3.7/11, Error ellipse: s-maj=3.0km s-min=2.8km az=17.0*

*CSEM **28** 01:50:55.5±0.1, 28°44N×56°99E, h10km, mb4.6/80, Ms3.7, Error ellipse: s-maj=4.7km s-min=3.2km az=89.0*

*BJI **28** 01:50:56.9, 28°50N×56°54E, h55km, mb4.6/27, mB4.9/16, Ms4.2/10, Ms7 4.1/10*

*TEH **28** 01:50:56.7, 28°48N×56°83E, h6km, ML4.5*

*NEIC **28** 01:50:56.0, 28°48N×56°83E, h6km, mb4.8/70, ML4.5(THR), MN4.5(TEH), After TEH.*

*THR **28** 01:50:57.5±0.8, 28°46N×56°92E, h14km±6km, ML4.5*

*ISN **28** 01:50:57.8±2.5, 28°54N×57°36E, h35km±235km, ML4.6*

*DSN **28** 01:50:58.4±0.3, 28°21N×57°15E, h15km, mb4.3/10, ML5.1/8, Ms3.9/2, Error ellipse: s-maj=12.6km s-min=3.7km az=113.0*

*IDC **28** 01:51:00.2±2.6, 28°35N×56°95E, h49km±24km, mb4.0/29, mb1 4.1/33, mb1mx4.0/47, mbtmp4.3/33, ML3.8/3, MS3.8/11, Ms1 3.8/11, ms1mx3.5/42, Error ellipse: s-maj=15.3km s-min=10.6km az=159.0*

*MOS **28** 01:51:00.3±0.9, 28°42N×56°95E, h65km, mb4.9/59, Error ellipse: s-maj=6.8km s-min=3.7km az=123.1*

ISC 28 01:50:56.4±0.8, 28°41N±0°03×56°96E±0°04, h17km±4km, n662, σ1§17/627, mb4.6/122, MS3.7/12, 46C-13D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**1.02**	**201**	*e*Pg	**Pn**	**01 51 17.7**	**+1.8**
IBND				*e*Sg	**Sn**	**01 51 32.9**	**+2.9**
IBND				*e*		01 51 47.4	
	comp=Z,21μm,0.4s						
IBND	**Bandar-abas**	**1.02**	**201**	*e*Pg	**Pn**	**01 51 17.7**	**+1.8**
IBND				Sg	**Sn**	**01 51 32.8**	**+2.9**
IBND	**Bandar-abas**	**1.02**	**201**	Pg	**Pn**	**01 51 17.7**	**+1.8**
IBND				Sg	**Sn**	**01 51 32.8**	**+2.9**
BNDS	**Bandar-Abbas**	**1.22**	**215**	*e*Pg	**Pg**	**01 51 20.2**	**+0.1**
BNDS				*e*Sg	**Sn**	**01 51 37.8**	**+2.7**
BNDS				AML	AML	01 51 39.5	
	comp=E,13μm,0.6s						
BNDS				AML	AML	01 51 43.2	
	comp=N,9μm,0.4s						
BNDS	**Bandar-Abbas**	**1.22**	**215**	*e*Pg	**Pg**	**01 51 20.2**	**+0.1**
BNDS				*e*Sg	**Sn**	**01 51 37.8**	**+2.7**
	comp=N,9μm,0.4s						
BNDS	**Bandar-Abbas**	**1.22**	**215**	Pn	**Pg**	**01 51 20.0**	**-0.1**
NGRK	**Negar Kerman**	**1.25**	**351**	*e*Pg	**Pg**	**01 51 19.8**	**-0.8**
CHMN	**Cheshme madani**	**1.54**	**19**	*e*Pn	**Pg**	**01 51 24.9**	**-1.1**
KRBR	**Kerman**	**1.58**	**354**	*e*Pg	**Pg**	**01 51 25.8**	**-1.1**
KRBR				AML	AML	01 51 54.9	
	comp=N,4μm,0.6s						
KRBR				AML	AML	01 51 55.9	
	comp=E,5μm,0.8s						
KRBR	**Kerman**	**1.58**	**354**	*e*Pg	**Pg**	**01 51 25.8**	**-1.1**
	comp=E,5μm,0.8s						
KHGB	**Koh Gabri**	**2.01**	**348**	*e*Pn	**Pb**	**01 51 32.5**	**0.0**
BANOM	**Banah**	**2.54**	**194**	P	**Pn**	**01 51 37.1**	**+0.2**
	SNR=134						
BANOM	**Banah**	**2.54**	**194**	Pn	**Pn**	**01 51 37.5**	**+0.6**
	SNR=58						
BANOM	**Banah**	**2.54**	**194**	Pn	**Pn**	**01 51 37.5**	**+0.6**
	SNR=58						
BANOM	**Banah**	**2.54**	**194** ⇓	*i*P	**Pn**	**01 51 37.1**	**+0.2**
	SNR=134						
GHIR	**Ghir-Karzin**	**3.50**	**269**	*e*Pn	**Pn**	**01 51 52.8**	**+2.6**
GHIR				Sn	**Sn**	**01 52 33.7**	**+2.4**
GHIR	**Ghir-Karzin**	**3.50**	**269**	Pn	**Pn**	**01 51 52.0**	**+1.8**
GHIR	**Ghir-Karzin**	**3.50**	**269**	Pn	**Pn**	**01 51 52.0**	**+1.8**
UOSS	**Wadi Hilu**	**3.51**	**191**	*e*Pn	**Pn**	**01 51 51.8**	**+1.6**
UOSS	**Wadi Hilu**	**3.51**	**191**	*e*Pn	**Pn**	**01 51 51.8**	**+1.6**
ZHSF	**Zahedan**	**3.55**	**69**	*e*Pn	Pb	01 51 54.6	-4.2
ZHSF	**Zahedan**	**3.55**	**69**	Pn	Pn	01 51 54.0	+3.1
ZHSF	**Zahedan**	**3.55**	**69**	Pn	Pn	01 51 54.0	+3.1
NAZ	**Nazwa, Dubai**	**3.60**	**199**	P	**Pn**	**01 51 52.7**	**+1.3**
	SNR=235						
NAZ	**Nazwa, Dubai**	**3.60**	**199**	Pn	**Pn**	**01 51 53.0**	**+1.6**
	SNR=32						
NAZ	**Nazwa, Dubai**	**3.60**	**199**	Pn	**Pn**	**01 51 53.0**	**+1.6**
	SNR=32						
NAZ	**Nazwa, Dubai**	**3.60**	**199** ⇓	*i*P	**Pn**	**01 51 52.7**	**+1.3**
	SNR=235						
IMEH	**Mehriz**	**3.60**	**326**	*e*Pn	Pn	01 51 55.4	+3.6
IMEH				*e*		01 53 01.8	
	comp=Z,5μm,0.4s						
IMEH	**Mehriz**	**3.60**	**326**	Pn	Pn	01 51 55.3	+3.6
IMEH	**Mehriz**	**3.60**	**326**	Pn	Pn	01 51 55.3	+3.6
HATD	**Hatta, Dubai**	**3.64**	**192**	P	**Pn**	**01 51 51.5**	**-0.5**
	SNR=8.4						
HATD	**Hatta, Dubai**	**3.64**	**192**	Pn	**Pb**	**01 52 01.8**	**+1.4**
	SNR=35						
HATD	**Hatta, Dubai**	**3.64**	**192** ⇑	*e*P	**Pn**	**01 51 51.5**	**-0.5**
	SNR=8.4						
ASHO	**Ashiyiah**	**3.79**	**192**	P	**Pn**	**01 51 54.4**	**+0.3**
	SNR=32						
ASHO	**Ashiyiah**	**3.79**	**192**	Pn	**Pn**	**01 51 54.8**	**+0.7**
	SNR=39						
ASHO	**Ashiyiah**	**3.79**	**192**	Pn	**Pn**	**01 51 54.8**	**+0.7**
	SNR=39						
ASHO	**Ashiyiah**	**3.79**	**192** ⇓	*e*P	**Pn**	**01 51 54.4**	**+0.3**
	SNR=32						
FAQ	**Al Faqa, Dubai**	**3.85**	**199**	P	**Pn**	**01 51 55.9**	**+1.1**
	SNR=322						
FAQ	**Al Faqa, Dubai**	**3.85**	**199** ⇓	*i*P	**Pn**	**01 51 55.9**	**+1.1**
	SNR=322						
ASUD	**Al Ashush, Dub**	**4.04**	**202**	P	**Pn**	**01 51 59.2**	**+1.8**
	SNR=630						
ASUD	**Al Ashush, Dub**	**4.04**	**202**	Pn	**Pn**	**01 51 59.6**	**+2.2**
	SNR=28						
ASUD	**Al Ashush, Dub**	**4.04**	**202**	Pn	**Pn**	**01 51 59.6**	**+2.2**
	SNR=28						
ASUD	**Al Ashush, Dub**	**4.04**	**202** ⇓	*e*P	**Pn**	**01 51 59.2**	**+1.8**
	SNR=630						
IKOO	**Kooshah**	**4.38**	**23**	*e*	Pg	01 52 23.7	+3.5
	comp=Z,10μm,0.2s						
IKOO				*e*Pn	Pn	01 52 06.4	+4.1
IKOO	**Kooshah**	**4.38**	**23**	*e*Pn	Pn	01 52 06.4	+4.1
IKOO	**Kooshah**	**4.38**	**23**	Pn	Pn	01 52 06.4	+4.1
ICHK	**Chekchek**	**4.42**	**331**	*e*		01 52 29.7	
	comp=Z,4μm,0.2s						
ICHK				*e*Pn	Pn	01 52 06.2	+3.3
ICHK	**Chekchek**	**4.42**	**331**	Pn	Pn	01 52 06.1	+3.3
ICHK	**Chekchek**	**4.42**	**331**	Pn	Pn	01 52 06.1	+3.3
ISAD	**Sadrabad**	**4.50**	**322**	*e*Pn	Pn	01 52 08.5	+4.4
ISAD				*e*		01 53 38.5	
	comp=Z,4μm,0.6s						
ISAD	**Sadrabad**	**4.50**	**322**	Pn	Pn	01 52 08.4	+4.4
ISAD	**Sadrabad**	**4.50**	**322**	Pn	Pn	01 52 08.4	+4.4
IKAZ	**Kazeroun**	**4.69**	**288**	*e*Pn	**Pn**	**01 52 09.0**	**+2.3**
IKAZ				*e*		01 53 16.7	
	comp=Z,5μm,0.2s						
IKAZ	**Kazeroun**	**4.69**	**288**	Pn	**Pn**	**01 52 08.9**	**+2.3**
IKAZ	**Kazeroun**	**4.69**	**288**	Pn	**Pn**	**01 52 08.9**	**+2.3**
ITEG	**Tejag**	**4.73**	**19**	*e*Pn	Pn	01 52 11.6	+4.4
ITEG				*e*		01 53 43.7	
	comp=Z,9μm,0.4s						
ITEG	**Tejag**	**4.73**	**19**	Pn	Pn	01 52 11.5	+4.4
ITEG	**Tejag**	**4.73**	**19**	Pn	Pn	01 52 11.5	+4.4
HOQ	**Hoqain**	**4.81**	**176**	Pn	**Pn**	**01 52 07.7**	**-0.5**
	SNR=28						
HOQ	**Hoqain**	**4.81**	**176**	Pn	**Pn**	**01 52 07.7**	**-0.5**
	SNR=28						
IDAH	**Dahanechah**	**4.99**	**29**	*e*Pn	Pn	01 52 15.5	+4.7
IDAH				*e*		01 54 00.3	
	comp=Z,4μm,0.6s						
IDAH	**Dahanechah**	**4.99**	**29**	*e*Pn	Pn	01 52 15.5	+4.7
IDAH	**Dahanechah**	**4.99**	**29**	Pn	Pn	01 52 15.5	+4.7
ARQ	**Araqi**	**5.07**	**185**	Pn	**Pn**	**01 52 13.4**	**+1.8**
	SNR=27						
ARQ	**Araqi**	**5.07**	**185**	Pn	**Pn**	**01 52 13.4**	**+1.8**
	SNR=27						
SMDO	**Samad**	**5.42**	**169**	Pn	**Pn**	**01 52 17.0**	**+0.5**
	SNR=21						
SMDO	**Samad**	**5.42**	**169**	Pn	**Pn**	**01 52 17.0**	**+0.5**
	SNR=21						
NASN	**Na'in**	**5.65**	**322**	*e*Pn	Pn	01 52 23.1	+3.2
NASN	**Na'in**	**5.65**	**322**	Pn	**Pn**	**01 52 23.0**	**+3.1**
NASN	**Na'in**	**5.65**	**322**	Pn	**Pn**	**01 52 23.0**	**+3.1**
IZEF	**Zefreh**	**5.99**	**319**	*e*Pn	**Pn**	**01 52 27.3**	**+2.7**
IZEF				*e*		01 53 04.2	
	comp=Z,487nm,0.3s						
IZEF	**Zefreh**	**5.99**	**319**	Pn	**Pn**	**01 52 27.2**	**+2.7**
IZEF	**Zefreh**	**5.99**	**319**	Pn	**Pn**	**01 52 27.2**	**+2.7**
JMDO	**Jabal Madar**	**6.10**	**170**	Pn	**Pn**	**01 52 26.6**	**+0.8**
	SNR=13						
JMDO	**Jabal Madar**	**6.10**	**170**	Pn	**Pn**	**01 52 26.6**	**+0.8**
	SNR=13						
IPIR	**Pirpir**	**6.75**	**311**	*e*Pn	**Pn**	**01 52 36.3**	**+1.3**
IPIR				*e*		01 54 10.8	
	comp=Z,778nm,0.3s						
IPIR	**Pirpir**	**6.75**	**311**	*e*Pn	**Pn**	**01 52 36.3**	**+1.3**
IPIR	**Pirpir**	**6.75**	**311**	Pn	**Pn**	**01 52 36.3**	**+1.3**
BTHS		**7.00**	**233**	P	**Pn**	**01 52 38.0**	**-0.1**
BTHS		**7.00**	**233**	S	**Sn**	**01 53 53.4**	**-3.9**
BTHS		**7.00**	**233**	P	**Pn**	**01 52 37.6**	**-0.6**
BOGSS		**7.21**	**251**	P	**Pn**	**01 52 41.0**	**-0.1**
BOGSS		**7.21**	**251**	S	**Sn**	**01 53 58.9**	**-3.7**
BOGSS		**7.21**	**251**	P	**Pn**	**01 52 41.4**	**+0.3**
NSR	**Nassriya**	**9.76**	**288**	*e*Pn	x	01 53 17.1	
NSR				*e*Sn	x	01 55 09.0	
NSR	**Nassriya**	**9.76**	**288**	*e*Pn	**Pn**	**01 53 17.1**	**+1.1**
	SNR=53						
IBDR	**Badra**	**10.58**	**299**	*e*PN	x	01 53 31.4	
IBDR				*e*Sn	x	01 55 31.8	
RAYN	**Ar Rayn**	**11.40**	**247**	*e*Pn	Pn	01 53 35.5	-3.0
RAYN				*e*Sn	Sn	01 55 34.4	-11
RAYN	**Ar Rayn**	**11.40**	**247**	*e*Pn	Pn	01 53 35.5	-3.0
RAYN				*e*Sn	Sn	01 55 34.4	-11
BHD	**Baghdad**	**11.85**	**297**	*e*Pn	x	01 53 48.2	
BHD				*e*Sn	x	01 56 02.1	
BHD	**Baghdad**	**11.85**	**297**	*e*Pn	Pn	01 53 48.2	+3.7
	SNR=53						
KBL	**Kabul**	**11.99**	**56**	*e*P	Pn	01 53 53.7	+7.1
KBL	**Kabul**	**11.99**	**56**	*e*Pn	Pn	01 53 53.7	+7.1
KBL	**Kabul**	**11.99**	**56**	*e*Pn	Pn	01 53 53.7	+7.1
IKRK	**Kirkuk**	**12.78**	**306**	*e*Pn	x	01 54 01.1	
IKRK				*e*Sn	x	01 56 23.1	
MSL	**Mosul**	**14.15**	**308**	*e*Pn	x	01 54 17.0	
MSL				*e*Sn	x	01 56 57.0	
CUKT	**Cukurca**	**14.26**	**312**	*e*P	**Pn**	**01 54 16.9**	**-0.8**
RTB	**Rutbah**	**15.04**	**292**	*e*Pn	x	01 54 31.5	
RTB				*e*Sn	x	01 57 22.3	
RTB	**Rutbah**	**15.04**	**292**	*e*Pn	**P**	**01 54 31.5**	**-2.0**
	SNR=50						
VANB	**Van**	**15.20**	**315**	*e*P	**P**	**01 54 34.0**	**-1.3**
VANB	**Van**	**15.20**	**315**	*e*P	**P**	**01 54 34.0**	**-1.3**
GNI	**Garni**	**15.45**	**322**	P	**P**	**01 54 37.5**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=351,slow=13,SNR=11						
GNI				LR	LR	02 01 15.5	
	comp=Z,244nm,21.2s,baz=120,slow=40						
GNI	**Garni**	**15.45**	**322**	P	**P**	**01 54 37.5**	**-0.6**
GNI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GNI				MLR	MLR		
	comp=Z,245nm,21.2s						
GNI	**Garni**	**15.45**	**322**	*e*Pn	**P**	**01 54 36.4**	**-1.7**
	comp=Z,34nm,1.0s						
GNI	**Garni**	**15.45**	**322**	P	**P**	**01 54 39.1**	**+1.0**
	SNR=11						
GNI	**Garni**	**15.45**	**322**	Pn	**P**	**01 54 41.4**	**+3.3**
	SNR=9.2						
GNI	**Garni**	**15.45**	**322** ⇓	*e*P	**P**	**01 54 39.1**	**+1.0**
	SNR=11						
GNI	**Garni**	**15.45**	**322**	*e*Pn	**P**	**01 54 36.4**	**-1.7**
	comp=Z,34nm,1.0s						
MUKL	**Al Mukalla**	**15.69**	**210**	*e*P	**Pn**	**01 54 33.1**	**-3.6**
AGRB	**Hanur-Agry**	**16.05**	**318**	*e*P	**P**	**01 54 44.5**	**-0.3**
AGRB	**Hanur-Agry**	**16.05**	**318**	*e*P	**P**	**01 54 44.5**	**-0.3**
DGRG	**David-gareji**	**16.09**	**327**	P	**P**	**01 54 47.7**	**+2.6**
DGRG	**David-gareji**	**16.09**	**327**	P	**P**	**01 54 47.7**	**+2.6**
TBLG	**Delisi**	**16.61**	**326**	P	**P**	**01 54 51.8**	**+1.0**
TBLG	**Delisi**	**16.61**	**326**	P	**P**	**01 54 51.8**	**+1.0**
AKH	**Akhalkalaki**	**17.01**	**323**	P	**P**	**01 54 58.6**	**+3.2**
AKH	**Akhalkalaki**	**17.01**	**323**	P	**P**	**01 54 58.6**	**+3.2**
DHRM	**DHARAMSHALA**	**17.13**	**72**	*e*P	**P**	**01 54 57.1**	**+0.3**
DHRM				AMB	AMB	01 55 01.3	
	comp=Z,26nm,1.3s						
BNGB	**Bing ¶‖**	**17.15**	**312**	*e*P	**Pn**	**01 54 53.9**	**-1.4**
HAJJ	**Hajjah**	**17.68**	**227**	*e*P	**Pn**	**01 54 58.5**	**-3.7**
ASF	**Jabal al Asfar**	**17.73**	**287**	P	**P**	**01 55 04.0**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=61,slow=8.1,SNR=6.6						
ASF	**Jabal al Asfar**	**17.73**	**287**	P	**P**	**01 55 04.0**	**+0.7**
SMLA	**Simla**	**17.75**	**76**	*e*P	**P**	**01 55 04.1**	**+0.7**
SMLA				AMB	AMB	01 55 23.6	
	comp=Z,27nm,0.0s						
SVRC	**Sivrice-ELAZID**	**17.75**	**309**	*e*P	**Pn**	**01 54 59.8**	**-3.1**
ONI	**Oni**	**17.89**	**326**	P	**P**	**01

SOC						MLR		MLR			
	comp=Z,158nm,12.0s										
SOC	**Sochi**	**20.53**	**322**		*e*P		**P**		**01 55 32.8**	**-1.0**
TKM2	**Tokmak 2**	**20.89**	**41**		*e*P		Pn		01 55 39.0	-1.5
TKM2						pmax	pmax				
	comp=Z,17nm,0.8s										
TKM2	**Tokmak 2**	**20.89**	**41**		*e*P		Pn		01 55 39.0	-1.5
	comp=Z,17nm,0.8s										
TKM2	**Tokmak 2**	**20.89**	**41**		*e*P		Pn		01 55 39.0	-1.5
	comp=Z,17nm,0.8s										
AB31	**Akbulak array**	**20.95**	**5**		P		Pn		01 55 39.3	-1.5
AB31						pmax	pmax				
	comp=Z,27nm,0.8s										
AB31	**Akbulak array**	**20.95**	**5**		P		Pn		01 55 39.3	-1.5
	comp=Z,27nm,0.8s										
ABKAR	**Akbulak array**	**20.95**	**5**		*e*P		Pn		01 55 39.8	-1.0
ABKAR	**Akbulak array**	**20.95**	**5**		*e*P		Pn		01 55 39.8	-1.0
NIG	**Nigde**	**21.00**	**303**		*e*P		**P**		**01 55 39.8**	**+0.5**
NIG	**Nigde**	**21.00**	**303**		*e*P		**P**		**01 55 39.8**	**+0.5**
CSS	**Prodhromos**	**21.12**	**294**		*e*P		**P**		**01 55 42.8**	**+2.5**
CSS	**Prodhromos**	**21.12**	**294**		*e*P		**P**		**01 55 40.5**	**+0.2**
	comp=Z,5.3nm,0.9s										
CSS	**Prodhromos**	**21.12**	**294**		*e*P		**P**		**01 55 40.5**	**+0.2**
	comp=Z,5.3nm,0.9s										
CORM	**Corum**	**21.80**	**308**		*e*P		**P**		**01 55 48.6**	**+0.9**
CORM	**Corum**	**21.80**	**308**		*e*P		**P**		**01 55 48.6**	**+0.9**
AKTK	**Aktyubinsk**	**22.01**	**2**		P		**P**		**01 55 50.2**	**+0.5**
	comp=Z,61nm,1.3s										
AKTO	**Aktyubinsk**	**22.01**	**2**		P		**P**		**01 55 51.0**	**+1.2**
	comp=Z,21nm,0.7s,baz=178,slow=11,SNR=120										
AKTO						LR	LR		02 06 05.3		
	comp=Z,433nm,18.3s,baz=174,slow=41										
AKTO	**Aktyubinsk**	**22.01**	**2**		P		**P**		**01 55 50.2**	**+0.5**
AKTO						pmax	pmax				
	comp=Z,61nm,1.3s										
AKTO	**Aktyubinsk**	**22.01**	**2**		P		**P**		**01 55 51.0**	**+1.2**
DIKM	**Dikmen**	**22.07**	**312**		*e*P		**P**		**01 55 49.2**	**-1.2**
DIKM	**Dikmen**	**22.07**	**312**		*e*P		**P**		**01 55 49.2**	**-1.2**
KAMT	**Kaman**	**22.12**	**306**		*e*P		**P**		**01 55 50.4**	**-0.7**
KAMT	**Kaman**	**22.12**	**306**		*e*P		**P**		**01 55 50.4**	**-0.7**
BYBT	**Boyabat**	**22.30**	**312**		*e*P		**P**		**01 55 55.1**	**+2.2**
BYBT	**Boyabat**	**22.30**	**312**		*e*P		**P**		**01 55 55.1**	**+2.2**
BR131	**Keskin Array S**	**22.31**	**306**		*e*P		**P**		**01 55 54.4**	**+1.2**
	comp=Z,18nm,0.8s										
BR131	**Keskin Array S**	**22.31**	**306**		*e*P		**P**		**01 55 54.4**	**+1.2**
	comp=Z,18nm,0.8s										
BRTR	**Keskin Array B**	**22.31**	**306**		P		**P**		**01 55 54.0**	**+0.8**
	comp=Z,20nm,0.8s,baz=120,slow=7.3,SNR=96										
BRTR	**Keskin Array B**	**22.31**	**306**	*ce*	P		**P**		**01 55 54.0**	**+0.8**
BRTR						pmax	pmax				
	comp=Z,20nm,0.8s										
BRTR	**Keskin Array B**	**22.31**	**306**		P		**P**		**01 55 54.0**	**+0.8**
ANN	**Anapa**	**22.57**	**322**		*e*P		P		01 56 01.5	+5.8
ANN						pmax	pmax				
	comp=Z,14nm,0.6s										
TOS	**Tosya**	**22.60**	**310**		*e*P		**P**		**01 55 53.3**	**-2.9**
KONT	**Konya--Tatoy**	**22.63**	**301**		*e*P		**P**		**01 55 55.6**	**-0.8**
KONT	**Konya--Tatoy**	**22.63**	**301**		*e*P		**P**		**01 55 55.7**	**-0.8**
LADK	**Ladik-KONYA**	**22.70**	**302**		*e*P		**P**		**01 55 53.3**	**-4.0**
ANTO	**Ankara**	**22.97**	**306**		*e*P		**P**		**01 56 00.9**	**+0.9**
ANTO						pmax	pmax				
	comp=Z,11nm,0.6s										
ANTO	**Ankara**	**22.97**	**306**		*e*P		**P**		**01 56 00.9**	**+0.9**
	comp=Z,11nm,0.6s										
ANTO	**Ankara**	**22.97**	**306**		*e*P		**P**		**01 56 00.9**	**+0.9**
	comp=Z,11nm,0.6s										
BZK	**Bozkurt**	**23.04**	**312**		*e*P		**P**		**01 55 56.8**	**-3.8**
KIZT	**Kizilcal**	**23.28**	**303**		*e*P		**P**		**01 56 05.2**	**+1.9**
KIZT	**Kizilcal**	**23.28**	**303**		*e*P		**P**		**01 56 05.2**	**+1.9**
KOLN	**Koldanda**	**23.50**	**85**		*e*P		**P**		**01 56 06.7**	**+1.0**
	comp=Z,28nm,0.8s										
SAFT	**Safranbolu**	**23.59**	**309**		*e*P		**P**		**01 56 04.5**	**-1.8**
SAFT	**Safranbolu**	**23.59**	**309**		*e*P		**P**		**01 56 04.5**	**-1.8**
SVRH	**Sivrihisar-ESK**	**23.73**	**304**		*e*P		**P**		**01 56 06.8**	**-0.9**
SVRH	**Sivrihisar-ESK**	**23.73**	**304**		*e*P		**P**		**01 56 06.8**	**-0.9**
ISP	**Isparta**	**23.99**	**300**	⇓	*e*P		**P**		**01 56 09.9**	**-0.3**
ISP						pmax	pmax				
	comp=Z,13nm,0.8s										
ELL	**Elmali**	**24.21**	**297**		*e*P		**P**		**01 56 13.3**	**+1.0**
ELL	**Elmali**	**24.21**	**297**		*e*P		**P**		**01 56 13.3**	**+1.0**
ESKT	**Eskisehir**	**24.24**	**304**		*e*P		**P**		**01 56 09.8**	**-2.8**
GKN	**Gorkha**	**24.38**	**84**		*e*P		**P**		**01 56 15.1**	**+1.2**
	comp=Z,19nm,0.5s										
SIM	**Simferopol'**	**24.54**	**318**		*e*P		**P**		**01 56 15.8**	**+0.8**
SIM						pmax	pmax				
	comp=Z,9.0nm,0.7s										
SIM						MLR	MLR				
	comp=E,50nm,17.0s										
ALT	**Altintas**	**24.64**	**302**		*e*P		**P**		**01 56 16.8**	**+0.6**
ALT	**Altintas**	**24.64**	**302**		*e*P		**P**		**01 56 16.8**	**+0.6**
GULT	**Gulveren**	**24.80**	**306**		*e*P		**P**		**01 56 18.0**	**+0.5**
GULT	**Gulveren**	**24.80**	**306**		*e*P		**P**		**01 56 18.0**	**+0.5**
DMN	**Daman**	**24.84**	**85**		*e*P		**P**		**01 56 18.9**	**+0.6**
KHL	**Karahalli**	**24.88**	**301**		*e*P		**P**		**01 56 17.4**	**-0.9**
KHL	**Karahalli**	**24.88**	**301**		*e*P		**P**		**01 56 17.4**	**-0.9**
KKN	**Kakani**	**24.97**	**85**		*e*P		**P**		**01 56 19.9**	**+0.5**
PKIN	**Phulchoki**	**25.10**	**85**		*e*P		**P**		**01 56 20.9**	**+0.3**
	comp=E,37nm,0.7s										
PKI	**Pulchoki**	**25.11**	**85**		*e*P		**P**		**01 56 20.8**	**0.0**
	comp=E,63nm,0.7s										
TVSB	**Tavsanli**	**25.24**	**303**		*e*P		**P**		**01 56 21.5**	**-0.1**
TVSB	**Tavsanli**	**25.24**	**303**		*e*P		**P**		**01 56 21.5**	**-0.1**
ADVT	**Abdulvahap**	**25.35**	**305**		*e*P		**P**		**01 56 22.1**	**-0.4**
ADVT	**Abdulvahap**	**25.35**	**305**		*e*P		**P**		**01 56 22.1**	**-0.4**
GUN	**Gumba**	**25.48**	**84**		*e*P		**P**		**01 56 24.2**	**+0.1**
	comp=E,44nm,0.6s										
HRT	**Hereke`**	**25.54**	**306**		*e*P		**P**		**01 56 25.3**	**+1.1**
HRT	**Hereke**	**25.54**	**306**		*e*P		**P**		**01 56 25.3**	**+1.1**
KULA	**Kula-Manisa**	**25.58**	**301**		*e*P		**P**		**01 56 24.4**	**-0.2**
KULA	**Kula-Manisa**	**25.58**	**301**		*e*P		**P**		**01 56 24.5**	**-0.2**
JIRN	**Jiri**	**25.79**	**85**		*e*P		**P**		**01 56 27.1**	**+0.1**
	comp=E,45nm,0.8s										
ARMT	**Armutlu**	**26.03**	**305**		*e*P		**P**		**01 56 29.1**	**+0.6**
ARMT	**Armutlu**	**26.03**	**305**		*e*P		**P**		**01 56 29.2**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**26.04**	**299**		*e*P		**P**		**01 56 32.1**	**+3.2**
RAMN	**Ramite**	**26.26**	**86**		*e*P		**P**		**01 56 29.6**	**-1.5**
	comp=E,32nm,0.6s										
BOK	**Bokaro**	**26.35**	**93**		*e*P		**P**		**01 56 32.9**	**+1.3**
BOK						AMB	AMB		01 56 39.9		
	comp=Z,17nm,1.6s										
VSR	**Storozhevoye**	**26.43**	**334**		*e*P		**P**		**01 56 31.9**	**-0.2**
VSR						pmax	pmax				
	comp=N,8.0nm,0.9s										
VSR						pmax	pmax				
	comp=Z,10.0nm,0.9s										
VSR						pmax	pmax				
	comp=E,5.0nm,0.6s										
CTKS	**Kestanelik-??a**	**26.50**	**306**		*e*P		**P**		**01 56 32.7**	**-0.2**
CTKS	**Kestanelik-??a**	**26.50**	**306**		*e*P		**P**		**01 56 32.7**	**-0.2**
MDRS	**Chennai**	**26.52**	**120**		*e*P		**P**		**01 56 35.0**	**+1.9**
MDRS						AMB	AMB		01 56 38.0		
	comp=Z,22nm,0.4s										
BRVK	**Borovoye**	**26.53**	**18**	*c*	*i*P		**P**		**01 56 33.4**	**+0.5**
BRVK						pmax	pmax				
	comp=Z,14nm,1.0s										
BRVK	**Borovoye**	**26.53**	**18**		*e*P		**P**		**01 56 33.7**	**+0.7**
	comp=Z,14nm,1.0s										
BRVK	**Borovoye**	**26.53**	**18**		P		**P**		**01 56 34.0**	**+1.1**
	SNR=7.7										
BRVK	**Borovoye**	**26.53**	**18**		*e*P		**P**		**01 56 33.6**	**+0.7**
	comp=Z,14nm,1.0s										
BVA0	**Borovoye Array**	**26.53**	**18**		*i*P		**P**		**01 56 33.6**	**+0.6**
BVA0						pmax	pmax				
	comp=Z,23nm,0.9s										
BVAR	**Borovoye Array**	**26.53**	**18**		P		**P**		**01 56 34.0**	**+1.1**
	comp=Z,13nm,0.8s,baz=201,slow=7.9,SNR=57										
MK31	**Makanchi Array**	**27.01**	**40**		*e*P		**P**		**01 56 38.1**	**+0.7**
MK31	**Makanchi Array**	**27.01**	**40**		*e*P		**P**		**01 56 38.1**	**+0.7**
MK31	**Makanchi Array**	**27.01**	**40**		*e*P		**P**		**01 56 38.1**	**+0.7**
MKAR	**Makanchi Array**	**27.01**	**40**		P		P		**01 56 37.9**	**+0.5**
	comp=Z,2.5nm,0.7s,baz=225,slow=8.8,SNR=26										
MKAR						LR	LR		02 08 49.7		
	comp=Z,191nm,18.1s,baz=238,slow=40										
MKAR	**Makanchi Array**	**27.01**	**40**		*e*P		**P**		**01 56 38.1**	**+0.7**
MKAR	**Makanchi Array**	**27.01**	**40**		*e*P		**P**		**01 56 38.1**	**+0.7**
CHOS	**Chios island**	**27.54**	**299**		*e*P		**P**		**01 56 43.9**	**+1.5**
CHOS	**Chios island**	**27.54**	**299**		*e*P		**P**		**01 56 43.9**	**+1.5**
KURBB	**Kurchatov Arra**	**27.54**	**30**		P		**P**		**01 56 43.4**	**+1.3**
	comp=Z,3.1nm,0.8s,baz=229,slow=8.7,SNR=32										
LPSR	**Galich'ya Gora**	**27.63**	**336**		*e*P		**P**		**01 56 42.8**	**-0.1**
LPSR						pmax	pmax				
	comp=N,9.0nm,1.4s										
LPSR						pmax	pmax				
	comp=E,9.0nm,1.4s										
LPSR						pmax	pmax				
	comp=Z,10.0nm,1.4s										
KURK	**Kurchatov**	**27.65**	**30**		P		**P**		**01 56 43.4**	**+0.3**
KURK						pmax	pmax				
	comp=Z,3.0nm,0.8s										
KURK	**Kurchatov**	**27.65**	**30**		*e*P		**P**		**01 56 43.7**	**+0.7**
	comp=Z,4.7nm,0.9s										
KURK	**Kurchatov**	**27.65**	**30**		*e*P		**P**		**01 56 43.7**	**+0.7**
	comp=Z,4.7nm,0.9s										
IDI	**Anoyia**	**28.01**	**292**		P		**P**		**01 56 47.1**	**+0.5**
	comp=Z,3.3nm,0.6s,baz=282,slow=2.7,SNR=6.8										
ARU	**Arti**	**28.03**		**2**	*c* *i*P		**P**		**01 56 45.5**	**-0.9**
ARU									01 57 32.7		
ARU						S	**S**		**02 01 32.1**	**+2.2**
ARU						pmax	pmax				
	comp=Z,4.0nm,1.2s										
ARU	**Arti**	**28.03**		**2**	*e*P		**P**		**01 56 47.4**	**+1.0**
ARU	**Arti**	**28.03**		**2**	*e*P		**P**		**01 56 47.4**	**+1.0**
KDZ	**Kurdzhali**	**28.84**	**306**	⇑	P		P		01 57 01.5	+7.7
KDZ	**Kurdzhali**	**28.84**	**306**	⇑	*i*P		P		01 57 01.5	+7.7
WMQ	**Urumqi**	**29.00**	**50**		*e*P		**P**		**01 56 57.0**	**+1.7**
WMQ						pP	pP		01 57 11.8	+11	
WMQ						PP	**PnPn**		**01 57 53.0**	**+5.8**
WMQ						S	**S**		**02 01 43.3**	**-2.4**
WMQ						sS	sS		02 02 08.5	+14	
WMQ						SS	**SnSn**		**02 03 16.5**	**+7.4**
WMQ						PcS	**PcS**		**02 03 45.5**	**-0.8**
WMQ						PMZ					
	comp=Z,8.0nm,0.6s										
WMQ						PMZ					
	comp=Z,110nm,4.2s										
WMQ						LN					
	comp=Z,92nm,21.4s										
WMQ						LE					
	comp=Z,260nm,22.0s										
WMQ						LZ					
	comp=Z,220nm,21.4s										
VRI	**Vrincioaia**	**29.50**	**314**	⇑	*i*P		P		01 57 07.7	+8.1	
VRI	**Vrincioaia**	**29.50**	**314**	⇑	*i*P		P		01 57 07.7	+8.1	
TESR	**Tescani**	**29.83**	**316**	⇑	*i*P		**P**		**01 57 03.2**	**+0.6**
TESR	**Tescani**	**29.83**	**316**	⇑	*i*P		**P**		**01 57 03.2**	**+0.6**
MLR	**Muntele Rosu**	**29.84**	**313**		P		**P**		**01 57 04.4**	**+1.6**
	comp=Z,0.5nm,0.8s,baz=59,slow=4.6										
MLR						LR	LR		02 10 56.8		
	comp=Z,32nm,20.6s,baz=142,slow=40										
MLR	**Muntele Rosu**	**29.84**	**313**	⇑	*i*P		P		01 57 06.1	+3.3	
MMB	**Musomiste**	**30.04**	**305**	⇑	P		**P**		**01 57 05.5**	**+1.0**
MMB	**Musomiste**	**30.04**	**305**	⇑	*i*P		**P**		**01 57 05.5**	**+1.0**
MMB	**Musomiste**	**30.04**	**305**	⇑	*i*P		**P**		**01 57 05.5**	**+1.0**
DOPR	**Dopca**	**30.39**	**314**	⇑	*i*P		**P**		**01 57 08.4**	**+0.9**
DOPR	**Dopca**	**30.39**	**314**	⇑	*i*P		**P**		**01 57 08.4**	**+0.9**
VOIR		**30.39**	**313**	⇑	P		**P**		**01 57 09.2**	**+1.6**
VOIR		**30.39**	**313**	⇑	*i*P		**P**		**01 57 09.1**	**+1.5**
VOIR		**30.39**	**313**	⇑	*i*P		**P**		**01 57 09.1**	**+1.5**
OBN	**Obninsk**	**30.49**	**337**	⇓	*e*P		**P**		**01 57 09.1**	**+0.9**
OBN						*e**PP	pP		01 57 21.5	+8.0	
OBN						*e**SP	sP		01 57 33.7	+18	
OBN						*e*			01 58 17.4		
OBN						S	**S**		**02 02 12.0**	**+3.5**
OBN						pmax	pmax				
	comp=Z,23nm,1.2s										
OBN						MLR	MLR				
	comp=Z,68nm,17.0s										
AKASG	**Malin Array Be**	**30.56**	**324**		P		**P**		**01 57 08.4**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=126,slow=7.7,SNR=10										
AKBB	**Malin Array Si**	**30.56**	**324**		*e*P		**P**		**01 57 08.8**	**-0.1**
AKBB	**Malin Array Si**	**30.56**	**324**		*e*P		**P**		**01 57 08.8**	**-0.1**
AKBB	**Malin Array Si**	**30.56**	**324**		*e*P		**P**		**01 57 08.8**	**-0.1**
KIEV	**Kiev**	**30.57**	**324**		*e*P		**P**		**01 57 08.7**	**-0.3**
KIEV						pmax	pmax				
	comp=Z,10.0nm,1.1s										
KIEV	**Kiev**	**30.57**	**324**		*e*P		**P**		**01 57 08.7**	**-0.3**
	comp=Z,9.6nm,1.1s										
KIEV	**Kiev**	**30.57**	**324**		*e*P		**P**		**01 57 08.7**	**-0.3**
	comp=Z,9.6nm,1.1s										
ARR	**Arges**	**30.64**	**312**	⇑	*i*P		**P**		**01 57 10.3**	**+0.5**
ARR	**Arges**	**30.64**	**312**	⇑	*i*P		**P**		**01 57 10.3**	**+0.5**
VTS	**Vitosha**	**30.68**	**306**	⇑	P		**P**		**01 57 11.0**	**+0.7**
VTS	**Vitosha**	**30.68**	**306**	⇑	*i*P		**P**		**01 57 11.0**	**+0.7**
VTS	**Vitosha**	**30.68**	**306**	⇑	*i*P		**P**		**01 57 11.0**	**+0.7**
BURAR	**Bucovina Array**	**31.20**	**317**	⇑	P		**P**		**01 57 15.3**	**+0.5**
BURAR	**Bucovina Array**	**31.20**	**317**	⇑	*i*P		**P**		**01 57 15.3**	**+0.5**
BURAR	**Bucovina Array**	**31.20**	**317**	⇑	*i*P		**P**		**01 57 15.3**	**+0.5**
BUR08	**Bucovina Ar. S**	**31.23**	**317**		*e*P		**P**		**01 57 14.9**	**-0.1**
BUR08	**Bucovina Ar. S**	**31.23**	**317**		*e*P		**P**		**01 57 14.9**	**-0.1**
BARS	**Barje**	**31.73**	**306**		*e*P		**P**		**01 57 19.3**	**-0.1**
BOLS	**Boljevac**	**31.92**	**308**		*e*P		**P**		**01 57 20.3**	**-0.7**
DRGR		**32.42**	**314**	⇑	P		**P**		**01 57 26.3**	**+0.9**
DRGR		**32.42**	**314**	⇑	*i*P		**P**		**01 57 26.3**	**+0.9**
DRGR		**32.42**	**314**	⇑	*i*P		**P**		**01 57 26.3**	**+0.9**
NVS	**Novosibirsk**	**32.55**	**28**		*e*P		P		01 57 20.5	-5.8	
ZAA0	**Zalesovo Array**	**32.64**	**31**		*e*P		**P**		**01 57 27.3**	**+0.1**
ZAA0	**Zalesovo Array**	**32.64**	**31**		*e*P		**P**		**01 57 27.3**	**+0.1**
ZALV	**Zalesovo Beam**	**32.64**	**31**		P		**P**		**01 57 27.4**	**+0.3**
	comp=Z,8.3nm,0.7s,baz=242,slow=9.5,SNR=35										
ZALV						LR	LR		02 12 27.6		
	comp=Z,315nm,18.1s,baz=250,slow=39										
ZALV	**Zalesovo Beam**	**32.64**	**31**		*i*P		**P**		**01 57 27.3**	**+0.2**
ZALV						pmax	pmax				
	comp=Z,8.0nm,0.6s										
BZS	**Buzias**	**32.71**	**311**	⇑	P		**P**		**01 57 28.9**	**+1.0**
BZS	**Buzias**	**32.71**	**311**	⇑	*i*P		**P**		**01 57 28.9**	**+1.0**
BZS	**Buzias**	**32.71**	**311**	⇑	*i*P		**P**		**01 57 28.9**	**+1.0**
TRUS	**Trudelj**	**33.10**	**308**	⇑	*i*P		**P**		**01 57 31.0**	**-0.4**
IVAS	**Ivanjica**	**33.10**	**307**	⇑	*i*P		**P**		**01 57 31.8**	**+0.3**
DIVS	**Divibare**	**33.35**	**308**	⇑	*i*P		**P**		**01 57 33.5**	**-0.2**
DIVS	**Divibare**	**33.35**	**308**		*e*P		**P**		**01 57 33.2**	**-0.5**
UZH	**Uzhgorod**	**33.41**	**317**	*c*	*i*P		**P**		**01 57 35.6**	**+1.7**
UZH					*e*				01 57 51.0		
UZH					*e*				01 57 59.4		
KOLS	**Kolonicke sedl**	**33.55**	**317**		*e*P		**P**		**01 57 36.1**	**+0.9**
KOLS						pmax	pmax				
	comp=Z,11nm,0.9s										
KOLS	**Kolonicke sedl**	**33.55**	**317**		*e*P		**P**		**01 57 36.1**	**+0.9**
KWP	**Kalwaria Pacla**	**33.59**	**319**		*e*P		**P**		**01 57 35.8**	**+0.2**
KWP	**Kalwaria Pacla**	**33.59**	**319**		*e*P		**P**		**01 57 35.8**	**+0.2**
KWP	**Kalwaria Pacla**	**33.59**	**319**		*e*P		**P**		**01 57 35.8**	**+0.2**
BBLS	**Lazići**	**33.70**	**307**		*e*P		**P**		**01 57 36.8**	**+0.1**
IDID	**Didziasalis**	**34.57**	**330**		*e*P		**P**		**01 57 43.7**	**-0.2**
IDID						AMB	AMB		01 57 45.8		
	comp=Z,5.1nm,0.9s										
IDID	**Didziasalis**	**34.57**	**330**		*e*P		**P**		**01 57 43.7**	**-0.2**
	comp=Z,5.1nm,0.9s										
PSZ	**Piszkesteto**	**34.61**	**314**		*e*P		**P**		**01 57 43.1**	**-1.4**
PSZ						pmax	pmax				
	comp=Z,4.0nm,0.9s										
PSZ	**Piszkesteto**	**34.61**	**314**		*e*P		**P**		**01 57 43.1**	**-1.4**
	comp=Z,4.3nm,0.9s										
PSZ	**Piszkesteto**	**34.61**	**314**		*e*P		**P**		**01 57 43.1**	**-1.4**
	comp=Z,4.3nm,0.9s										
IIGN	**Ignalina**	**34.82**	**329**		*e*P		**P**		**01 57 46.3**	**+0.2**
IIGN						AMB	AMB		01 57 48.1		
	comp=Z,5.0nm,0.9s										
IIGN	**Ignalina**	**34.82**	**329**		*e*P		**P**		**01 57 46.3**	**+0.2**
	comp=Z,5.0nm,0.9s										
TIP	**Timpagrande**	**34.84**	**299**		*e*P		**P**		**01 57 47.3**	**+0.7**
	comp=Z,1.9nm,0.8s										
TIP	**Timpagrande**	**34.84**	**299**		*e*P		**P**		**01 57 47.4**	**+0.7**
	comp=Z,1.9nm,0.8s										
PKSM	**Moragy**	**34.87**	**311**	⇑	P		**P**		**01 57 47.4**	**+0.8**
PKSM	**Moragy**	**34.87**	**311**	⇑	*i*P		**P**		**01 57 47.4**	**+0.8**
PKSM	**Moragy**	**34.87**	**311**	⇑	*i*P		**P**		**01 57 47.4**	**+0.8**
KMBO	**Kilima Mbogo**	**34.92**	**216**		P		**P**		**01 57 48.5**	**+0.7**
	comp=Z,2.7nm,0.6s,baz=24,slow=13,SNR=9.2										
KMBO	**Kilima Mbogo**	**34.92**	**216**		*e*P		**P**		**01 57 48.4**	**+0.7**
KMBO						pmax	pmax				
	comp=Z,4.0nm,0.8s										
KMBO	**Kilima Mbogo**	**34.92**	**216**		*e*P		**P**		**01 57 48.4**	**+0.7**
	comp=Z,3.7nm,0.8s										
KMBO	**Kilima Mbogo**	**34.92**	**216**		*e*P		**P**		**01 57 48.4**	**+0.7**
	comp=Z,3.7nm,0.8s										
ISAL	**Salakas**	**35.00**	**330**		*e*P		**P**		**01 57 47.7**	**0.0**
ISAL						AMB	AMB		01 57 48.8		
	comp=Z,8.0nm,1.4s										
ISAL	**Salakas**	**35.00**	**330**		*e*P		**P**		**01 57 47.7**	**0.0**
	comp=Z,8.0nm,1.4s										
SUW	**Suwalki**	**35.49**	**326**		*e*P		**P**		**01 57 52.6**	**+0.7**
SUW	**Suwalki**	**35.49**	**326**		*e*P		**P**		**01 57 52.6**	**+0.7**
SUW	**Suwalki**	**35.49**	**326**		*e*P		**P**		**01 57 52.6**	**+0.7**
OJC	**Ojcow**	**35.54**	**318**		*e*P		**P**		**01 57 52.9**	**+0.4**
OJC	**Ojcow**	**35.54**	**318**		*e*P		**P**		**01 57 52.9**	**+0.4**
OJC	**Ojcow**	**35.54**	**318**		*e*P		**P**		**01 57 52.9**	**+0.4**
OJC	**Ojcow**	**35.54**	**318**		*e*P		**P**		**01 57 52.9**	**+0.4**
	comp=Z,27nm,1.4s										
OKC	**Ostrava-Krasne**	**36.38**	**317**		*e*P		**P**		**01 57 59.5**	**-0.1**
OKC	**Ostrava-Krasne**	**36.38**	**317**		*e*P		**P**		**01 57 59.5**	**-0.1**
OKC	**Ostrava-Krasne**	**36.38**	**317**		P		**P**		**01 57 59.5**	**-0.1**
VSU	**Vasula**	**36.61**	**334**	*c*	*i*P		**P**		**01 58 01.2**	**-0.2**
GTA	**Gaotai**	**36.91**	**61**		*e*P		**P**		**01 58 04.5**	**+0.1**
GTA						pP	pP		01 58 19.8	+10	
GTA						sP	sP		01 58 26.8	+15	
GTA						PMZ					
	comp=Z,6.0nm,1.3s										
VRAC	**Vranov**	**37.15**	**315**	⇑	P		**P**		**01 58 06.1**	**-0.1**
VRAC	**Vranov**	**37.15**	**315**	⇑	*i*P		**P**		**01 58 06.1**	**-0.1**
VRAC	**Vranov**	**37.15**	**315**		*e*P		**P**		**01 58 05.9**	**-0.3**
KRLC	**Kraliky**	**37.29**	**317**		*e*P		**P**		**01 58 07.2**	**-0.2**
KRLC	**Kraliky**	**37.29**	**317**		*e*P		**P**		**01 58 07.2**	**-0.2**
KRLC	**Kraliky**	**37.29**	**317**		P		**P**		**01 58 07.2**	**-0.2**
DPC	**Dobruska-Polom**	**37.66**	**317**		*e*P		**P**		**01 58 09.7**	**-0.8**
DPC					*ex*		x		01 58 20.9		
DPC	**Dobruska-Polom**	**37.66**	**317**		*e*P		**P**		**01 58 09.7**	**-0.8**
DPC	**Dobruska-Polom**	**37.66**	**317**		*e*P		**P**		**01 58 10.0**	**-0.6**
DPC	**Dobruska-Polom**	**37.66**	**317**		*e*P		**P**		**01 58 10.0**	**-0.6**
AQU	**L'Aquila**	**37.73**	**303**		*e*P		**P**		**01 58 12.1**

PGF **Pioggiola** 40.99 303 *e*P P 01 58 39.6 +1.0
PGF pmax pmax
comp=Z,27nm,1.1s
PGF **Pioggiola** 40.99 303 *e*P P 01 58 39.6 +1.0
comp=Z,13nm,1.1s
PGF **Pioggiola** 40.99 303 *e*P P 01 58 39.6 +1.0
comp=Z,27nm,1.1s
TUE **Stuetta** 41.20 309 *e*P P 01 58 39.5 -0.8
comp=Z,3.4nm,0.6s
TUE **Stuetta** 41.20 309 *e*P P 01 58 39.5 -0.8
comp=Z,3.4nm,0.6s
BFO **Black Forest** 42.18 312 *i* P P 01 58 50.4 +2.3
SBF **Sospel** 42.23 305 *e*P P 01 58 48.4 -0.3
comp=Z,40nm,0.9s
SBF **Sospel** 42.23 305 *e*P P 01 58 48.4 -0.3
SBF pmax pmax
comp=Z,40nm,0.9s
SBF **Sospel** 42.23 305 *e*P P 01 58 48.4 -0.3
comp=Z,20nm,0.9s
SBF **Sospel** 42.23 305 *e*P P 01 58 48.4 -0.3
comp=Z,40nm,0.9s
SENIN **Lac Senin/Sane** 42.58 309 *e*P P 01 58 51.2 -0.5
SENIN **Lac Senin/Sane** 42.58 309 *e*P P 01 58 51.1 -0.5
SONM **Songino Array** 42.63 49 P P 01 58 52.2 +0.2
comp=Z,2.3nm,0.9s,baz=243,slow=9.8,SNR=5.8
SONM LR LR 02 18 41.9
comp=Z,190nm,19.8s,baz=270,slow=39
MBDF **Montbardon** 42.78 306 *e*P P 01 58 53.3 +0.1
comp=Z,15nm,0.6s
MBDF **Montbardon** 42.78 306 *e*P P 01 58 53.3 +0.1
MBDF pmax pmax
comp=Z,15nm,0.6s
MBDF **Montbardon** 42.78 306 *e*P P 01 58 53.3 +0.1
comp=Z,7.4nm,0.6s
MBDF **Montbardon** 42.78 306 *e*P P 01 58 53.3 +0.1
comp=Z,15nm,0.6s
LPG **La Plagne** 42.87 307 *e*P P 01 58 53.4 -0.6
comp=Z,22nm,0.8s
LPG **La Plagne** 42.87 307 *e*P P 01 58 53.4 -0.6
LPG pmax pmax
comp=Z,22nm,0.8s
LPG **La Plagne** 42.87 307 *e*P P 01 58 53.4 -0.6
comp=Z,11nm,0.8s
LPG **La Plagne** 42.87 307 *e*P P 01 58 53.4 -0.6
comp=Z,22nm,0.8s
BNI **Bardonecchia** 42.88 307 *e*P P 01 58 53.0 -0.9
BNI pmax pmax
comp=Z,57nm,1.8s
BNI **Bardonecchia** 42.88 307 *e*P P 01 58 53.0 -0.9
comp=Z,57nm,1.8s
BNI **Bardonecchia** 42.88 307 *e*P P 01 58 53.0 -0.9
comp=Z,57nm,1.8s
LPL **La Plagne** 42.88 307 *e*P P 01 58 53.5 -0.6
comp=Z,15nm,0.6s
LPL **La Plagne** 42.88 307 *e*P P 01 58 53.5 -0.6
LPL pmax pmax
comp=Z,15nm,0.6s
LPL **La Plagne** 42.88 307 *e*P P 01 58 53.5 -0.6
comp=Z,7.4nm,0.6s
LPL **La Plagne** 42.88 307 *e*P P 01 58 53.5 -0.6
comp=Z,15nm,0.6s
CDF **Champ du Feu** 42.89 312 *e*P P 01 58 52.7 -1.3
comp=Z,2.3nm,0.5s
CDF **Champ du Feu** 42.89 312 *e*P P 01 58 52.7 -1.3
CDF pmax pmax
comp=Z,2.0nm,0.5s
CDF **Champ du Feu** 42.89 312 *e*P P 01 58 52.7 -1.3
comp=Z,1.1nm,0.5s
CDF **Champ du Feu** 42.89 312 *e*P P 01 58 52.7 -1.3
comp=Z,2.3nm,0.5s
ECH **Echery** 42.94 311 *e*P P 01 58 53.3 -1.0
ECH pmax pmax
comp=Z,5.0nm,0.9s
ECH **Echery** 42.94 311 *e*P P 01 58 53.3 -1.0
comp=Z,4.8nm,0.9s
ECH **Echery** 42.94 311 *e*P P 01 58 53.3 -1.0
comp=Z,4.8nm,0.9s
HFS **Hagfors** 43.05 330 P P 01 58 54.7 -0.2
comp=Z,7.6nm,0.8s,baz=115,slow=10.0,SNR=18
CABF **La Chapelle** 43.44 309 *e*P P 01 58 58.3 -0.2
comp=Z,27nm,1.0s
CABF **La Chapelle** 43.44 309 *e*P P 01 58 58.3 -0.2
CABF pmax pmax
comp=Z,27nm,1.0s
CABF **La Chapelle** 43.44 309 *e*P P 01 58 58.3 -0.2
comp=Z,19nm,1.0s
CABF **La Chapelle** 43.44 309 *e*P P 01 58 58.3 -0.2
comp=Z,27nm,1.0s
HAU **Haudompre** 43.44 311 *e*P P 01 58 57.3 -1.1
HAU **Haudompre** 43.44 311 *e*P P 01 58 57.3 -1.1
HAU **Haudompre** 43.44 311 *e*P P 01 58 57.3 -1.1
HAU **Haudompre** 43.44 311 *e*P P 01 58 57.3 -1.1
WLF **Walferdange** 43.83 313 P P 01 59 01.7 +0.3
comp=Z,5.6nm,1.3s
WLF **Walferdange** 43.83 313 *e*P P 01 59 00.9 -0.4
WLF pmax pmax
comp=Z,10.0nm,1.0s
WLF **Walferdange** 43.83 313 P P 01 59 01.6 +0.3
comp=Z,5.6nm,1.3s
WLF **Walferdange** 43.83 313 *e*P P 01 59 00.9 -0.4
comp=Z,9.6nm,1.0s
PAGF **Fort de Pagny** 43.93 312 *e*P P 01 59 01.9 -0.3
PAGF **Fort de Pagny** 43.93 312 *e*P P 01 59 01.9 -0.3
PAGF **Fort de Pagny** 43.93 312 *e*P P 01 59 01.9 -0.3
MEM **Membach** 44.08 315 P P 01 59 04.3 +0.9
comp=Z,6.5nm,1.5s
MEM **Membach** 44.08 315 *e*P P 01 59 03.5 +0.1
MEM pmax pmax
comp=Z,8.0nm,0.9s
MEM **Membach** 44.08 315 P P 01 59 04.3 +0.9
comp=Z,6.5nm,1.5s
MEM **Membach** 44.08 315 *e*P P 01 59 03.5 +0.1
comp=Z,8.1nm,0.9s
VIVF **Saint-Julien-l** 44.28 306 *e*P P 01 59 04.5 -0.6
comp=Z,10.0nm,0.8s
VIVF **Saint-Julien-l** 44.28 306 *e*P P 01 59 04.5 -0.6
VIVF pmax pmax
comp=Z,10.0nm,0.8s
VIVF **Saint-Julien-l** 44.28 306 *e*P P 01 59 04.5 -0.6
comp=Z,5.0nm,0.8s
VIVF **Saint-Julien-l** 44.28 306 *e*P P 01 59 04.5 -0.6
comp=Z,10.0nm,0.8s
SFTF **Sexfontaines** 44.34 311 *e*P P 01 59 05.2 -0.3
comp=Z,25nm,1.0s
SFTF **Sexfontaines** 44.34 311 *e*P P 01 59 05.2 -0.3
comp=Z,12nm,1.0s
SFTF **Sexfontaines** 44.34 311 *e*P P 01 59 05.2 -0.3
comp=Z,25nm,1.0s
MEZF **Maizieres J'vi** 44.37 312 *e*P P 01 59 05.5 -0.2
MEZF **Maizieres J'vi** 44.37 312 *e*P P 01 59 05.5 -0.2
MEZF **Maizieres J'vi** 44.37 312 *e*P P 01 59 05.5 -0.2
SSB **Saint Sauveur** 44.40 307 *e*P P 01 59 05.0 -1.1
SSB pmax pmax
comp=Z,6.0nm,0.8s
SSB **Saint Sauveur** 44.40 307 *e*P P 01 59 05.0 -1.1
comp=Z,5.8nm,0.8s
SSB **Saint Sauveur** 44.40 307 *e*P P 01 59 05.0 -1.1
comp=Z,5.8nm,0.8s
XAN **Xi'an** 44.40 69 P P 01 59 10.5 +4.2
XAN PMZ
comp=Z,2.0nm,0.8s
BCLA **Clavier** 44.49 314 P P 01 59 07.6 +0.9
BCLA **Clavier** 44.49 314 P P 01 59 07.5 +0.9
NB2 **NORSAR Subarra** 44.55 330 P P 01 59 06.0 -1.1
comp=Z,4.8nm,0.8s,baz=115,slow=8.6
NB2 **NORSAR Subarra** 44.55 330 P P 01 59 06.0 -1.1
comp=Z,4.8nm,0.8s,SNR=7.6
NOA **NORSAR Array B** 44.55 330 P P 01 59 06.4 -0.7
comp=Z,4.9nm,0.8s,baz=116,slow=7.9,SNR=29
NOA LR LR 02 20 50.9
comp=Z,76nm,19.4s,baz=125,slow=40
NAO01 **NORSAR Array S** 44.61 330 *e*P P 01 59 07.2 -0.3
comp=Z,3.4nm,0.7s
NAO01 **NORSAR Array S** 44.61 330 *e*P P 01 59 07.2 -0.3
comp=Z,3.4nm,0.7s
GIVF **Givet** 44.74 314 *e*P P 01 59 09.4 +0.7
comp=Z,38nm,1.0s
GIVF **Givet** 44.74 314 *e*P P 01 59 09.4 +0.7
GIVF pmax pmax
comp=Z,38nm,1.0s
GIVF **Givet** 44.74 314 *e*P P 01 59 09.4 +0.7
comp=Z,19nm,1.0s
GIVF **Givet** 44.74 314 *e*P P 01 59 09.4 +0.7
comp=Z,38nm,1.0s
KEV **Kevo** 44.82 346 *e*P P 01 59 09.0 0.0
KEV pmax pmax
comp=Z,10.0nm,0.8s
KEV **Kevo** 44.82 346 *e*P P 01 59 09.0 0.0
comp=Z,10nm,0.8s
KEV **Kevo** 44.82 346 *e*P P 01 59 09.0 0.0
comp=Z,10nm,0.8s
LASF **Ste Croix** 44.83 305 *e*P P 01 59 09.2 -0.3
comp=Z,17nm,1.0s
LASF **Ste Croix** 44.83 305 *e*P P 01 59 09.2 -0.3
comp=Z,8.4nm,1.0s
LASF **Ste Croix** 44.83 305 *e*P P 01 59 09.2 -0.3
comp=Z,17nm,1.0s
DOU **Dourbes** 44.89 314 P P 01 59 10.6 +0.7
comp=Z,7.5nm,1.5s
DOU **Dourbes** 44.89 314 P P 01 59 10.5 +0.7
comp=Z,7.5nm,1.5s
ARCES **ARCESS Array B** 44.98 345 P P 01 59 10.7 +0.4
comp=Z,4.1nm,0.8s,baz=136,slow=8.5,SNR=16
SMF **Signal de Mont** 44.99 309 *e*P P 01 59 10.3 -0.4
comp=Z,38nm,0.8s
SMF **Signal de Mont** 44.99 309 *e*P P 01 59 10.3 -0.4
SMF pmax pmax
comp=Z,38nm,0.8s
SMF **Signal de Mont** 44.99 309 *e*P P 01 59 10.3 -0.4
comp=Z,19nm,0.8s
SMF **Signal de Mont** 44.99 309 *e*P P 01 59 10.3 -0.4
comp=Z,38nm,0.8s
LOR **Lormes** 45.03 310 *e*P P 01 59 10.4 -0.7
comp=Z,15nm,0.8s,baz=113
LOR **Lormes** 45.03 310 *e*P P 01 59 10.4 -0.7
LOR pmax pmax
comp=Z,15nm,0.8s
LOR **Lormes** 45.03 310 *e*P P 01 59 10.4 -0.7
comp=Z,7.6nm,0.8s
LOR **Lormes** 45.03 310 *e*P P 01 59 10.4 -0.7
comp=Z,15nm,0.8s
BAIF **Baives** 45.13 314 *e*P P 01 59 12.5 +0.7
comp=Z,48nm,1.2s
BAIF **Baives** 45.13 314 *e*P P 01 59 12.5 +0.7
BAIF pmax pmax
comp=Z,48nm,1.2s
BAIF **Baives** 45.13 314 *e*P P 01 59 12.5 +0.7
comp=Z,24nm,1.2s
BAIF **Baives** 45.13 314 *e*P P 01 59 12.5 +0.7
comp=Z,48nm,1.2s
SNF **Seneffe** 45.15 314 P P 01 59 13.2 +1.3
SNF **Seneffe** 45.15 314 P P 01 59 13.2 +1.3
SSF **Saint Saulge** 45.25 309 *e*P P 01 59 12.4 -0.4
comp=Z,40nm,1.0s
SSF **Saint Saulge** 45.25 309 *e*P P 01 59 12.4 -0.4
SSF pmax pmax
comp=Z,40nm,1.0s
SSF **Saint Saulge** 45.25 309 *e*P P 01 59 12.4 -0.4
comp=Z,20nm,1.0s
SSF **Saint Saulge** 45.25 309 *e*P P 01 59 12.4 -0.4
comp=Z,40nm,1.0s
AVF **Avril sur Loir** 45.33 309 *e*P P 01 59 12.9 -0.5
comp=Z,14nm,0.9s
AVF **Avril sur Loir** 45.33 309 *e*P P 01 59 12.9 -0.5
AVF pmax pmax
comp=Z,14nm,0.9s
AVF **Avril sur Loir** 45.33 309 *e*P P 01 59 12.9 -0.5
comp=Z,6.8nm,0.9s
AVF **Avril sur Loir** 45.33 309 *e*P P 01 59 12.9 -0.5
comp=Z,14nm,0.9s
BGF **Bois d'Agland** 45.66 309 *e*P P 01 59 15.7 -0.4
comp=Z,18nm,0.8s
BGF **Bois d'Agland** 45.66 309 *e*P P 01 59 15.7 -0.4
BGF pmax pmax
comp=Z,18nm,0.8s
BGF **Bois d'Agland** 45.66 309 *e*P P 01 59 15.7 -0.4
comp=Z,8.9nm,0.8s
BGF **Bois d'Agland** 45.66 309 *e*P P 01 59 15.7 -0.4
comp=Z,18nm,0.8s
HYF **Humbligny** 45.86 310 *e*P P 01 59 17.9 +0.3
HYF **Humbligny** 45.86 310 *e*P P 01 59 17.9 +0.3
HYF **Humbligny** 45.86 310 *e*P P 01 59 17.9 +0.3
HHC **Hu-ho-hao-te** 45.94 59 *e*P P 01 59 17.5 -1.0
HHC pP pP 01 59 30.8 +6.9
HHC sP sP 01 59 40.0 +14
HHC PP **PP** **02 01 06.0** -0.1
HHC PMZ
comp=Z,22nm,1.0s
HHC PMZ
comp=Z,46nm,5.7s
HHC LN
comp=Z,160nm,14.3s
HHC LE
comp=Z,91nm,14.3s
HHC LZ
comp=Z,91nm,14.8s
MTLF **Montolieu** 46.00 304 *e*P P 01 59 19.1 +0.3
comp=Z,16nm,0.9s
MTLF **Montolieu** 46.00 304 *e*P P 01 59 19.1 +0.3
MTLF pmax pmax
comp=Z,16nm,0.9s
MTLF **Montolieu** 46.00 304 *e*P P 01 59 19.1 +0.3
comp=Z,7.8nm,0.9s
MTLF **Montolieu** 46.00 304 *e*P P 01 59 19.1 +0.3
comp=Z,16nm,0.9s
TCF **Toulx Ste Croi** 46.09 308 *e*P P 01 59 19.4 -0.1
comp=Z,38nm,0.9s
TCF **Toulx Ste Croi** 46.09 308 *e*P P 01 59 19.4 -0.1
TCF pmax pmax
comp=Z,38nm,0.9s
TCF **Toulx Ste Croi** 46.09 308 *e*P P 01 59 19.4 -0.1
comp=Z,19nm,0.9s
TCF **Toulx Ste Croi** 46.09 308 *e*P P 01 59 19.4 -0.1
comp=Z,38nm,0.9s
CAF **Calviac** 46.13 306 *e*P P 01 59 19.9 0.0
comp=Z,25nm,0.9s
CAF **Calviac** 46.13 306 *e*P P 01 59 19.9 0.0
CAF pmax pmax
comp=Z,25nm,0.9s
CAF **Calviac** 46.13 306 *e*P P 01 59 19.9 0.0
comp=Z,12nm,0.9s
CAF **Calviac** 46.13 306 *e*P P 01 59 19.9 0.0
comp=Z,25nm,0.9s
TAM **Tamanrasset** 46.44 275 *e*P P 01 59 23.3 +0.6
TAM pmax pmax
comp=Z,2.0nm,0.9s
TAM **Tamanrasset** 46.44 275 *e*P P 01 59 23.3 +0.6
comp=Z,2.1nm,0.9s
TAM **Tamanrasset** 46.44 275 *e*P P 01 59 23.3 +0.6
comp=Z,2.1nm,0.9s
RJF **Les Rejaudoux** 46.53 307 *e*P P 01 59 23.3 +0.3
comp=Z,51nm,1.0s
RJF **Les Rejaudoux** 46.53 307 *e*P P 01 59 23.3 +0.3
RJF pmax pmax
comp=Z,51nm,1.0s
RJF **Les Rejaudoux** 46.53 307 *e*P P 01 59 23.3 +0.3
comp=Z,26nm,1.0s
RJF **Les Rejaudoux** 46.53 307 *e*P P 01 59 23.3 +0.3
comp=Z,51nm,1.0s
LFF **La Frestale** 47.08 306 *e*P P 01 59 27.5 +0.3
comp=Z,40nm,0.9s
LFF **La Frestale** 47.08 306 *e*P P 01 59 27.5 +0.3
LFF pmax pmax
comp=Z,40nm,0.9s
LFF **La Frestale** 47.08 306 *e*P P 01 59 27.5 +0.3
comp=Z,20nm,0.9s
LFF **La Frestale** 47.08 306 *e*P P 01 59 27.5 +0.3
comp=Z,40nm,0.9s
MFF **Saint Martin d** 47.73 309 *e*P P 01 59 31.6 -0.6
comp=Z,28nm,1.2s
MFF **Saint Martin d** 47.73 309 *e*P P 01 59 31.6 -0.6
MFF pmax pmax
comp=Z,28nm,1.2s
MFF **Saint Martin d** 47.73 309 *e*P P 01 59 31.6 -0.6
comp=Z,14nm,1.2s
MFF **Saint Martin d** 47.73 309 *e*P P 01 59 31.6 -0.6
comp=Z,28nm,1.2s
LDF **La Druitiere** 47.80 311 *e*P P 01 59 31.9 -0.9
comp=Z,9.1nm,0.6s
LDF **La Druitiere** 47.80 311 *e*P P 01 59 31.9 -0.9
LDF pmax pmax
comp=Z,9.0nm,0.6s
LDF **La Druitiere** 47.80 311 *e*P P 01 59 31.9 -0.9
comp=Z,4.6nm,0.6s
LDF **La Druitiere** 47.80 311 *e*P P 01 59 31.9 -0.9
comp=Z,9.1nm,0.6s
ETSF **Etsaut** 48.04 304 *e*P P 01 59 36.2 +1.4
comp=Z,21nm,1.0s
ETSF **Etsaut** 48.04 304 *e*P P 01 59 36.2 +1.4
ETSF pmax pmax
comp=Z,21nm,1.0s
ETSF **Etsaut** 48.04 304 *e*P P 01 59 36.2 +1.4
comp=Z,11nm,1.0s
ETSF **Etsaut** 48.04 304 *e*P P 01 59 36.2 +1.4
comp=Z,21nm,1.0s
FLN **La Foliniere** 48.05 311 *e*P P 01 59 33.9 -0.8
comp=Z,28nm,0.9s
FLN **La Foliniere** 48.05 311 *e*P P 01 59 33.9 -0.8
FLN pmax pmax
comp=Z,28nm,0.9s
FLN **La Foliniere** 48.05 311 *e*P P 01 59 33.9 -0.8
comp=Z,14nm,0.9s
FLN **La Foliniere** 48.05 311 *e*P P 01 59 33.9 -0.8
comp=Z,28nm,0.9s
SJPF **Ste Jean** 48.52 304 *e*P P 01 59 38.8 +0.4
comp=Z,17nm,1.0s
SJPF **Ste Jean** 48.52 304 *e*P P 01 59 38.8 +0.4
SJPF pmax pmax
comp=Z,17nm,1.0s
SJPF **Ste Jean** 48.52 304 *e*P P 01 59 38.8 +0.4
comp=Z,8.6nm,1.0s
SJPF **Ste Jean** 48.52 304 *e*P P 01 59 38.8 +0.4
comp=Z,17nm,1.0s
QIZ **Qiongzhong** 48.98 89 P P 01 59 42.5 +0.2
QIZ pP pP 01 59 55.5 +7.7
QIZ S **S** **02 06 43.8** -2.3
BOD **Bodaibo** 48.99 37 *e*P P 01 59 39.9 -1.9
BOD pmax pmax
comp=Z,10.0nm,1.4s
SGMF **Saint Gilles** 49.41 311 *e*P P 01 59 44.7 -0.4
comp=Z,15nm,0.8s
SGMF **Saint Gilles** 49.41 311 *e*P P 01 59 44.7 -0.4
SGMF pmax pmax
comp=Z,15nm,0.8s
SGMF **Saint Gilles** 49.41 311 *e*P P 01 59 44.7 -0.4
comp=Z,7.3nm,0.8s
SGMF **Saint Gilles** 49.41 311 *e*P P 01 59 44.7 -0.4
comp=Z,15nm,0.8s
QUIF **Quistinic** 49.81 310 *e*P P 01 59 48.3 +0.1
comp=Z,29nm,1.1s
QUIF **Quistinic** 49.81 310 *e*P P 01 59 48.3 +0.1
QUIF pmax pmax
comp=Z,29nm,1.1s
QUIF **Quistinic** 49.81 310 *e*P P 01 59 48.3 +0.1
comp=Z,14nm,1.1s
QUIF **Quistinic** 49.81 310 *e*P P 01 59 48.3 +0.1
comp=Z,29nm,1.1s
ROSF **Rostrenen** 49.89 311 *e*P P 01 59 48.2 -0.6
comp=Z,46nm,1.2s
ROSF **Rostrenen** 49.89 311 *e*P P 01 59 48.2 -0.6
ROSF pmax pmax
comp=Z,46nm,1.2s
ROSF **Rostrenen** 49.89 311 *e*P P 01 59 48.2 -0.6
comp=Z,23nm,1.2s
ROSF **Rostrenen** 49.89 311 *e*P P 01 59 48.2 -0.6
comp=Z,46nm,1.2s
ESK **Eskdalemuir** 50.30 320 *e*P P 01 59 51.7 -0.1
ESK pmax pmax
comp=Z,17nm,1.0s
ESK **Eskdalemuir** 50.30 320 *e*P P 01 59 51.7 -0.1
comp=Z,17nm,1.0s
ESK **Eskdalemuir** 50.30 320 *e*P P 01 59 51.6 -0.1
comp=Z,17nm,1.0s
ESDC **Sonseca Array** 50.85 300 P P 01 59 55.5 -0.8
comp=Z,0.8nm,0.5s,baz=69,slow=7.4,SNR=6.1
LSZ **Lusaka** 51.59 216 *e*P P 02 00 01.0 -1.1
LSZ pmax pmax
comp=Z,5.0nm,1.0s
LSZ **Lusaka** 51.59 216 *e*P P 02 00 01.0 -1.1
comp=Z,4.5nm,1.0s
LSZ **Lusaka** 51.59 216 *e*P P 02 00 01.0 -1.1
comp=Z,4.5nm,1.0s
NJ2 **Nanjing** 52.96 70 *e*P P 02 00 12.5 +0.4
NJ2 PMZ
comp=Z,30nm,0.6s
TOA0 **Torodi Ar. Sit** 53.42 265 *e*P P 02 00 14.4 -1.3
TOA0 **Torodi Ar. Sit** 53.42 265 *e*P P 02 00 14.4 -1.3
TORD **Torodi Ar. Bea** 53.42 265 P P 02 00 14.4 -1.2
comp=Z,4.0nm,0.5s,baz=63,slow=7.1,SNR=143
CN2 **Changchun** 55.92 54 *e*P P 02 00 35.0 +1.6
CN2 PMZ
comp=Z,10.0nm,0.5s
TIXI **Tiksi** 57.62 21 ⇓*i*P P 02 00 44.7 -0.3
TIXI *i* *PP pP 02 00 58.2 +7.7
TIXI pmax pmax
comp=Z,13nm,1.7s
KSAR **Wonju Array Be** 58.96 61 P P 02 00 53.8 -1.1
KSAR **Wonju Array Be** 58.96 61 P P 02 00 53.8 -1.1
KSAR **Wonju Array Be** 58.96 61 P P 02 00 53.8 -1.1
KSRS **Korea Array** 58.99 61 P P 02 00 53.8 -1.3
comp=Z,0.8nm,0.3s,baz=279,slow=5.7,SNR=5.1
KSRS **Korea Array** 58.99 61 P P 02 00 53.8 -1.3
KSRS pmax pmax
comp=Z,1.0nm,0.3s
USRK **Ussuriysk Ar.** 60.50 53 P P 02 01 04.1 -1.3
comp=Z,0.9nm,0.6s,baz=282,slow=9.1,SNR=3.7
DBIC **Dimbokro** 62.10 262 P P 02 01 14.8 -1.9
comp=Z,1.6nm,0.4s,baz=27,slow=6.7,SNR=5.2
BOSA **Boshof** 64.31 211 P P 02 01 30.0 -1.1
comp=Z,1.4nm,0.4s,baz=13,slow=6.5,SNR=5.6
BOSA LR LR 02 32 35.8
comp=Z,73nm,19.1s,baz=204,slow=39
SUMG **Summit** 64.77 341 *i* P P 02 01 33.9 -0.1
comp=Z,15nm,1.1s
SUMG **Summit** 64.77 341 *i* P P 02 01 33.9 -0.1
SUMG pmax pmax
comp=Z,15nm,1.1s
SUMG **Summit** 64.77 341 *i* P P 02 01 33.9 -0.1
comp=Z,15nm,1.1s
SUMG **Summit** 64.77 341 *e*P P 02 01 33.9 -0.1
comp=Z,16nm,1.1s
YSS **Yuzh-Sakhalins** 67.11 48⇑ *e*P P 02 01 47.3 -1.6
YSS pmax pmax
comp=Z,36nm,2.5s
SEY **Seymchan** 67.50 30 P P 02 01 51.2 +0.1
comp=Z,11nm,0.7s,baz=275,slow=6.7,SNR=39
SEY **Seymchan** 67.50 30*d* *i*P P 02 01 51.4 +0.3
BILL **Bilíbino** 70.80 22 *e*P P 02 02 11.6 +0.1
BILL pmax pmax
comp=Z,5.0nm,0.9s
BILL **Bilibino** 70.80 22 *e*P P 02 02 11.6 +0.1
comp=Z,5.1nm,0.9s
BILL **Bilibino** 70.80 22 *e*P P 02 02 11.6 +0.1
comp=Z,5.1nm,0.9s
COLD **Coldfoot** 82.48 10 *e*P P 02 03 17.3 -0.3
comp=Z,4.8nm,0.9s
COLD **Coldfoot** 82.48 10 *e*P P 02 03 17.3 -0.3
comp=Z,4.8nm,0.9s
BPAW **Bear Paw Mtn.** 85.22 12 *e*P P 02 03 31.4 -0.3
comp=Z,1.7nm,1.1s
BPAW **Bear Paw Mtn.** 85.22 12 *e*P P 02 03 31.4 -0.3
comp=Z,1.7nm,1.1s
ILAR **Eielson Array** 85.28 10 P P 02 03 30.7 -1.2
comp=Z,1.1nm,0.7s,baz=328,slow=4.7,SNR=17
MCK **McKinley** 85.92 11 *e*P P 02 03 33.9 -1.2
MCK pmax pmax
comp=Z,3.0nm,0.7s
MCK **McKinley** 85.92 11 *e*P P 02 03 33.9 -1.2
comp=Z,3.2nm,0.7s
MCK **McKinley** 85.92 11 *e*P P 02 03 33.9 -1.2
comp=Z,3.2nm,0.7s
TRF **Thorofare Moun** 85.94 12 *e*P P 02 03 34.6 -0.8
comp=Z,4.1nm,1.1s
TRF **Thorofare Moun** 85.94 12 *e*P P 02 03 34.6 -0.8
comp=Z,4.1nm,1.1s
EGAK **Eagle** 86.05 8 *e*P P 02 03 35.3 -0.4
comp=Z,4.2nm,0.8s
EGAK **Eagle** 86.05 8 *e*P P 02 03 35.3 -0.4
comp=Z,4.2nm,0.8s
WRA **Warramunga Arr** 88.82 113 P P 02 03 50.0 +0.2
comp=Z,1.9nm,0.8s,baz=312,slow=4.0,SNR=15
WRA **Warramunga Arr** 88.82 113 P P 02 03 50.0 +0.2
WRA **Warramunga Arr** 88.82 113 P P 02 03 50.0 +0.2
WRAB **Tennant Creek** 88.82 113 *e*P P 02 03 50.1 +0.3
WRAB pmax pmax
comp=Z,3.0nm,0.9s
WRAB **Tennant Creek** 88.82 113 *e*P P 02 03 50.1 +0.3
comp=Z,3.3nm,0.9s
WRAB **Tennant Creek** 88.82 113 *e*P P 02 03 50.1 +0.3
comp=Z,3.3nm,0.9s
YKA **Yellowknife Ar** 89.17 356 P P 02 03 50.6 -0.1
comp=Z,3.5nm,0.8s,baz=358,slow=4.8,SNR=49
YKA **Yellowknife Ar** 89.17 356 P P 02 03 50.6 -0.1
YKA pmax pmax
comp=Z,4.0nm,0.8s
FCC **Fort Churchill** 89.87 345 *e*P P 02 03 53.9 -0.2
FCC **Fort Churchill** 89.87 345 *e*P P 02 03 53.9 -0.2
FCC **Fort Churchill** 89.87 345 *e*P P 02 03 53.9 -0.2
ASAR **Alice Springs** 90.37 117 P P 02 03 57.1 +0.1
comp=Z,0.6nm,0.6s,baz=310,slow=4.6,SNR=8.9

TXAR Lajitas Array 119.67 341 PKP **PKPdf 02 09 45.6 -0.4**
comp=Z,0.2nm,0.5s,baz=158,slow=2.8,SNR=2.8

ROM 28 01:54:54.3±0.1, 42°58N×13°23E, h11km, Md1.4/3, Ml0.9/3, Error ellipse: s-maj=1.6km s-min=0.4km az=168.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.09**	**55**	Pg	Pg	01 54 57.3	+0.2
SMA1				Sg	Sg	01 54 59.4	+0.3
	67nm,0.2s						
LNSS	**Leonessa**	**0.14**	**281**	Pg	Pg	01 54 58.1	+0.3
LNSS				Sg	Sg	01 55 00.9	+0.7
	51nm,0.9s						
NRCA	**Norcia**	**0.27**	**342**	Pg	Pg	01 55 00.3	+0.3
NRCA				Sg	Sg	01 55 04.9	+1.1
	9.0nm,0.1s						

*NNC **28** 01:55:42.8±1.4, 42°.88N×72°.75E, h7km±10km, mb3.6, mpv3.1, Error ellipse: s-maj=15.9km s-min=4.2km az=179.0*
*KNET **28** 01:55:43.6±0.5, 42°.89N×72°.84E, h20km±6km, ml2.3, Error ellipse: s-maj=3.4km s-min=2.4km az=90.0*
ISC 28 01:55:42.5±1.9, 42°.94N±0°.10×72°.80E±0°.04, h7km±14km, n13, σ0°39/19, 12C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAS	**Manas**	**0.51**	**206**	⇑P	**Pg**	**01 55 52.0**	**-0.2**
MNAS	3.9nm,0.1s			⇑S	**Sg**	**01 55 58.7**	**-0.2**
	15nm,0.1s						
EKS2	**Erkin-Say**	**0.77**	**111**	⇓P	**Pg**	**01 55 57.8**	**+0.4**
EKS2	SNR=22			⇓S	**Sb**	**01 56 08.7**	**-0.4**
	40nm,0.1s						
AML	**Almayashu**	**1.05**	**140**	⇑P	**Pg**	**01 56 02.5**	**-0.1**
AML	3.9nm,0.1s,SNR=10.0			⇑S	**Sg**	**01 56 16.8**	**+0.6**
	32nm,0.2s						
AAK	**Ala-Archa**	**1.29**	**103**	⇓P	**Pn**	**01 56 07.1**	**0.0**
AAK	25nm,0.1s,SNR=40			⇓S	**Sn**	**01 56 24.5**	**-0.1**
	23nm,0.2s						
AAK	**Ala-Archa**	**1.29**	**103**	⇓P	**Pn**	**01 56 07.0**	**0.0**
AAK	5.3nm,0.2s			⇑S	**Sn**	**01 56 24.4**	**-0.1**
	6.7nm,0.2s						
USP	**Ospenovka**	**1.29**	**75**	⇓P	**Pn**	**01 56 06.4**	**-0.5**
	9.7nm,0.1s,SNR=42						
CHMS	**Chumysh**	**1.43**	**87**	⇑P	**Pn**	**01 56 08.9**	**-0.1**
	24nm,0.2s,SNR=20						
UCH	**Uchtor**	**1.45**	**119**	P	**Pn**	**01 56 10.0**	**+0.4**
	6.8nm,0.2s,SNR=15						
KBK	**Karagaybulak**	**1.61**	**100**	⇓P	**Pb**	**01 56 12.6**	**0.0**
	13nm,0.1s,SNR=36						
KK31	**Karatay Array**	**1.69**	**276**	⇑Pn	**Pn**	**01 56 12.8**	**+0.4**
	5.7nm,0.3s,baz=95,slow=17,SNR=208						
KK31				⇑Sn	**Sn**	**01 56 34.4**	**+0.2**
	24nm,0.5s,baz=91,slow=29,SNR=9.9						
TKM2	**Tokmak 2**	**2.06**	**90**	⇑P	**Pb**	**01 56 19.8**	**-0.4**
	12nm,0.2s,SNR=29						
TKM2	**Tokmak 2**	**2.06**	**90**	⇑Pn	**Pb**	**01 56 19.8**	**-0.4**
	5.4nm,0.3s						
TKM2				⇑Sn	**Sb**	**01 56 46.7**	**+0.7**
	34nm,0.5s						
SFK	**Sufi-Kurgan**	**2.98**	**170**	⇑Lg	Lg	01 57 12.6	
	3.3nm,0.3s						

*THE **28** 02:00:27.6, 36°.36N×21°.34E, h0km±1km, ML2.8/6, Error ellipse: s-maj=2.3km s-min=1.2km az=255.0*
*CSEM **28** 02:00:27.7±0.4, 36°.40N×21°.28E, h2km, MD3.6, Error ellipse: s-maj=5.5km s-min=5.2km az=57.0*
*ATH **28** 02:00:28.9, 36°.43N×21°.35E, h21km±1km, MD3.6/17*
ISC 28 02:00:28.1±1.7, 36°.39N±0°.05×21°.35E±0°.05, h2km±11km, n68, σ0°64/85, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.59**	**32**	P	**Pg**	**02 00 39.0**	**-0.4**
PYL				S	**Sg**	**02 00 48.9**	**+1.7**
PYL	**PYLOS**	**0.59**	**32**	*e*PN	**Pg**	**02 00 39.1**	**-0.4**
PYL				*e*SN	**Sg**	**02 00 48.3**	**+1.1**
PYL	**PYLOS**	**0.59**	**32**	*e*Pn	**Pg**	**02 00 39.1**	**-0.4**
PYL				*e*Sn	**Sg**	**02 00 48.3**	**+1.1**
SFD	**Strofades**	**0.90**	**343**	*e*PN	**Pb**	**02 00 46.1**	**-0.3**
SFD				*e*SN	**Sb**	**02 00 58.4**	**-0.5**
SFD	**Strofades**	**0.90**	**343**	*e*Pn	**Pb**	**02 00 46.1**	**-0.3**
ITM	**Ithomi**	**0.92**	**30**	P	**Pg**	**02 00 44.7**	**-0.9**
ITM				S	**Sb**	**02 00 59.5**	**+0.2**
ITM	**Ithomi**	**0.92**	**30**	*e*PB	**Pg**	**02 00 45.0**	**-0.6**
ITM				*e*SN	**Sg**	**02 00 58.2**	**+0.7**
ITM	**Ithomi**	**0.92**	**30**	P	**Pg**	**02 00 44.7**	**-0.9**
ITM	**Ithomi**	**0.92**	**30**	*e*Pb	**Pg**	**02 00 45.0**	**-0.6**
ITM				S	**Sb**	**02 00 59.5**	**+0.2**
AMT	**Artemida-Makis**	**1.18**	**14**	P	**Pg**	**02 00 50.1**	**-0.5**
AMT				S	**Sn**	**02 01 08.0**	**-0.2**
AMT	**Artemida-Makis**	**1.18**	**14**	*e*PN	**Pg**	**02 00 50.7**	**+0.1**
AMT	**Artemida-Makis**	**1.18**	**14**	P	**Pg**	**02 00 50.1**	**-0.5**
AMT	**Artemida-Makis**	**1.18**	**14**	*e*Pn	**Pg**	**02 00 50.7**	**+0.1**
AMT				S	**Sn**	**02 01 08.0**	**-0.2**
VLX	**Vlachokerasia**	**1.28**	**40**	P	**Pg**	**02 00 51.7**	**-0.9**
VLX				S	**Sn**	**02 01 11.2**	**+0.4**
VLX	**Vlachokerasia**	**1.28**	**40**	*e*PN	**Pg**	**02 00 52.3**	**-0.3**
VLX	**Vlachokerasia**	**1.28**	**40**	P	**Pg**	**02 00 51.7**	**-0.9**
VLX	**Vlachokerasia**	**1.28**	**40**	*e*Pn	**Pg**	**02 00 52.3**	**-0.3**
VLX				S	**Sn**	**02 01 11.2**	**+0.4**
VLI	**Veliai**	**1.32**	**75**	P	**Pn**	**02 00 53.3**	**-0.2**
VLI				S	**Sn**	**02 01 12.2**	**+0.6**
VLI	**Veliai**	**1.32**	**75**	*e*PN	**Pn**	**02 00 54.3**	**+0.8**
VLI	**Veliai**	**1.32**	**75**	P	**Pn**	**02 00 53.3**	**-0.2**
VLI	**Veliai**	**1.32**	**75**	*e*Pn	**Pn**	**02 00 54.3**	**+0.8**
VLI				S	**Sn**	**02 01 12.2**	**+0.6**
KYTH	**Kithira**	**1.36**	**94**	*e*PN	**Pb**	**02 00 54.6**	**+0.3**
KYTH	**Kithira**	**1.36**	**94**	*e*Pn	**Pb**	**02 00 54.6**	**+0.3**
DRO	**Drossia**	**1.59**	**10**	P	**Pn**	**02 00 56.6**	**-0.6**
DRO				S	**Sb**	**02 01 19.0**	**+0.4**
DRO	**Drossia**	**1.59**	**10**	*e*PN	**Pn**	**02 00 57.2**	**0.0**
DRO	**Drossia**	**1.59**	**10**	P	**Pn**	**02 00 56.6**	**-0.6**
DRO	**Drossia**	**1.59**	**10**	*e*Pn	**Pn**	**02 00 57.2**	**0.0**
DRO				S	**Sb**	**02 01 19.0**	**+0.4**
ANKY	**Antikythira Is**	**1.66**	**108**	*e*PN	**Pg**	**02 00 59.2**	**-0.7**
ANKY	**Antikythira Is**	**1.66**	**108**	*e*Pn	**Pg**	**02 00 59.2**	**-0.7**
RLS	**Riolos of Patr**	**1.67**	**3**	P	**Pn**	**02 00 58.2**	**-0.1**
RLS	**Riolos of Patr**	**1.67**	**3**	*e*PN	**Pn**	**02 00 58.6**	**+0.3**
RLS	**Riolos of Patr**	**1.67**	**3**	P	**Pn**	**02 00 58.2**	**-0.1**
RLS	**Riolos of Patr**	**1.67**	**3**	*e*Pn	**Pn**	**02 00 58.6**	**+0.3**
GUR	**Goura**	**1.74**	**27**	P	**Pn**	**02 00 58.9**	**-0.4**
GUR	**Goura**	**1.74**	**27**	*e*PN	**Pn**	**02 00 59.2**	**-0.1**
GUR	**Goura**	**1.74**	**27**	P	**Pn**	**02 00 58.9**	**-0.4**
GUR	**Goura**	**1.74**	**27**	*e*Pn	**Pn**	**02 00 59.2**	**-0.1**
KLV	**Kalavryta, Ach**	**1.77**	**21**	P	**Pn**	**02 00 59.2**	**-0.6**
KLV	**Kalavryta, Ach**	**1.77**	**21**	*e*PN	**Pb**	**02 01 00.5**	**-0.8**
KLV	**Kalavryta, Ach**	**1.77**	**21**	P	**Pn**	**02 00 59.2**	**-0.6**
KLV	**Kalavryta, Ach**	**1.77**	**21**	*e*Pn	**Pb**	**02 01 00.5**	**-0.8**
DID	**Didima**	**1.88**	**53**	P	**Pn**	**02 01 00.1**	**-1.1**
DID				S	**Sb**	**02 01 26.5**	**-0.5**
DID	**Didima**	**1.88**	**53**	*e*PN	**Pb**	**02 01 02.0**	**-1.1**
DID	**Didima**	**1.88**	**53**	P	**Pn**	**02 01 00.1**	**-1.1**
DID	**Didima**	**1.88**	**53**	*e*Pn	**Pb**	**02 01 02.0**	**-1.1**
DID				S	**Sb**	**02 01 26.5**	**-0.5**
VLS	**Valsamata**	**1.89**	**341**	*e*PB	**Pn**	**02 01 01.1**	**-0.2**
LTK	**Loutraki**	**2.08**	**38**	*e*PN	**Pn**	**02 01 04.5**	**+0.5**
LTK	**Loutraki**	**2.08**	**38**	*e*Pn	**Pn**	**02 01 04.5**	**+0.5**
EFP	**Efpalio**	**2.08**	**12**	*e*PN	**Pn**	**02 01 04.4**	**+0.4**
EFP	**Efpalio**	**2.08**	**12**	*e*Pn	**Pn**	**02 01 04.4**	**+0.4**
KALE	**Kalithea**	**2.10**	**17**	*e*PB	**Pn**	**02 01 04.3**	**+0.1**
DSF	**Desfina**	**2.23**	**24**	*e*PB	**Pn**	**02 01 06.3**	**+0.3**
DSF	**Desfina**	**2.23**	**24**	*e*Pn	**Pn**	**02 01 06.3**	**+0.3**
KARN	**Karanos**	**2.30**	**115**	*e*PN	**Pn**	**02 01 08.1**	**+1.1**
KARN	**Karanos**	**2.30**	**115**	*e*Pn	**Pn**	**02 01 08.1**	**+1.1**
VILL	**Villia**	**2.36**	**41**	*e*Pn	**Pn**	**02 01 08.3**	**+0.4**
VIL2	**Platees**	**2.38**	**39**	*e*PN	**Pn**	**02 01 08.3**	**+0.3**
VAM	**Vamos**	**2.51**	**112**	*e*PN	**Pn**	**02 01 07.9**	**-2.0**
EVR	**Evrytania**	**2.55**	**8**	*e*PN	**Pn**	**02 01 11.0**	**+0.5**
EVR	**Evrytania**	**2.55**	**8**	*e*Pn	**Pn**	**02 01 11.0**	**+0.5**
AXAR	**Agios Charalam**	**2.59**	**23**	*e*PN	**Pn**	**02 01 11.4**	**+0.4**
AXAR	**Agios Charalam**	**2.59**	**23**	*e*Pn	**Pn**	**02 01 11.4**	**+0.4**
MAKR	**Makrakomi, Fth**	**2.69**	**13**	*e*PN	**Pn**	**02 01 12.6**	**+0.2**
MAKR	**Makrakomi, Fth**	**2.69**	**13**	*e*Pn	**Pn**	**02 01 12.6**	**+0.2**
AGG	**Agios Georgios**	**2.74**	**16**	*e*PN	**Pn**	**02 01 12.9**	**-0.2**
AGG	**Agios Georgios**	**2.74**	**16**	*e*Pn	**Pn**	**02 01 12.9**	**-0.2**
DSL	**Palaion Diasel**	**2.75**	**356**	*e*PN	**Pn**	**02 01 13.9**	**+0.7**
DSL	**Palaion Diasel**	**2.75**	**356**	*e*Pn	**Pn**	**02 01 13.9**	**+0.7**

*ISCJB **28** 02:01:12.6±0.6, 13°.81S±0°.06×166°.5E±0°.1, h43km, mb4.3/17, MS3.6/1, Error ellipse: s-maj=19.6km s-min=8.4km az=179.3*
*IDC **28** 02:01:13.2±6.8, 13°.87S×166°.64E, h35km±54km, mb4.2/13, mb1 4.2/14, mb1mx4.0/33, mbtmp4.3/14, MS3.5/2, Ms1 3.5/2, ms1mx3.0/29, Error ellipse: s-maj=30.2km s-min=20.7km az=101.0*
*NEIC **28** 02:01:13.8±2.7, 13°.86S×166°.62E, h43km±25km, mb4.5/3, Error ellipse: s-maj=19.6km s-min=17.1km az=125.0*
ISC 28 02:01:14.2±0.7, 13°.78S±0°.08×166°.6E±0°.2, h43km, n23, σ1s22/24, mb4.4/17, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.25**	**181**	Pn	**Pn**	**02 03 09.8**	**-1.5**
DZM	baz=90,slow=20			Sn	**Sn**	**02 04 46.1**	**+2.8**
	baz=270,slow=20						
DZM				LR	LR	02 05 52.4	
	comp=Z,224nm,21.8s,slow=34						
STKA	**Stephens Creek**	**29.12**	**228**	P	**P**	**02 07 12.0**	**+0.9**
	7.8nm,0.7s,baz=28,slow=9.4,SNR=14						
STKA				LR	LR	02 17 56.3	
	comp=Z,151nm,18.9s,baz=36,slow=34						
WRA	**Warramunga Arr**	**31.43**	**254**	P	**P**	**02 07 30.8**	**-0.9**
	2.6nm,0.9s,baz=83,slow=8.6,SNR=13						
AS31	**Alice Springs**	**32.41**	**247**	*e*P	**P**	**02 07 39.1**	**-1.1**
ASAR	**Alice Springs**	**32.41**	**247**	P	**P**	**02 07 39.4**	**-0.9**
	2.7nm,0.6s,baz=74,slow=9.5,SNR=34						
KKM	**Kota Kinabalu**	**53.74**	**288**	*e*P	**P**	**02 10 32.8**	**+0.1**
	2.7nm,0.5s						
MJAR	**Matsushiro Arr**	**56.77**	**333**	P	**P**	**02 10 53.6**	**-0.4**
	0.9nm,0.4s,baz=163,slow=7.6,SNR=4.5						
JNU	**Nakatsue**	**57.77**	**325**	P	**P**	**02 10 59.4**	**-1.8**
	9.8nm,0.9s,baz=184,slow=8.6,SNR=3.7						
ASAJ	**Asahikawa**	**61.63**	**341**	P	**P**	**02 11 27.6**	**+0.1**
	3.5nm,0.2s,baz=64,slow=14,SNR=4.1						
VNDA	**Vanda**	**63.79**	**181**	P	**P**	**02 11 40.5**	**-0.9**
	0.7nm,0.7s,baz=21,slow=7.3,SNR=7.5						
USRK	**Ussuriysk Ar.**	**65.75**	**333**	P	**P**	**02 11 55.2**	**+0.6**
	4.3nm,1.1s,baz=123,slow=7.0,SNR=4.5						
CMAR	**Chiang Mai Arr**	**73.97**	**294**	P	**P**	**02 12 47.1**	**+1.5**
	1.8nm,0.7s,baz=109,slow=4.0,SNR=7.5						
SEY	**Seymchan**	**77.27**	**353**	P	**P**	**02 13 05.6**	**+2.0**
	2.2nm,0.5s,baz=168,slow=6.7,SNR=6.9						
SONM	**Songino Array**	**81.35**	**324**	P	**P**	**02 13 27.6**	**+1.3**
	1.0nm,0.7s,baz=101,slow=2.9,SNR=3.0						
ILAR	**Eielson Array**	**85.83**	**18**	P	**P**	**02 13 49.0**	**+0.1**
	1.4nm,0.5s,baz=242,slow=4.8,SNR=38						
NEW	**Newport**	**91.27**	**40**	*e*P	**P**	**02 14 14.9**	**-0.2**
	1.3nm,0.8s						
SNAA	**Sanae**	**94.45**	**183**	*e*P	P	02 14 24.1	-5.4
	2.1nm,0.9s						
MKAR	**Makanchi Array**	**96.07**	**317**	P	**P**	**02 14 37.6**	**+0.4**
	1.1nm,0.8s,baz=96,slow=6.5,SNR=12						
ZALV	**Zalesovo Beam**	**96.24**	**324**	P	**P**	**02 14 36.9**	**-0.9**
	0.7nm,0.6s,baz=94,slow=2.1,SNR=4.0						
ARCES	**ARCESS Array B**	**119.17**	**345**	PKP	**PKPdf**	**02 19 56.2**	**-1.8**
	1.4nm,0.7s,baz=59,slow=1.9,SNR=7.3						
BNI	**Bardonecchia**	**144.47**	**335**	*e*PKPdf	**PKPab**	**02 20 44.3**	**-0.2**
KEST	**Kesra**	**150.06**	**321**	PKPbc	**PKPbc**	**02 21 00.4**	**-0.3**
	1.0nm,0.7s,baz=37,slow=2.6,SNR=4.9						
TORD	**Torodi Ar. Bea**	**165.29**	**269**	PKP	**PKPdf**	**02 21 14.8**	**-0.1**
	0.5nm,0.9s,baz=315,slow=0.6,SNR=3.1						
TORD				PKPab	**PKPab**	**02 22 11.8**	**-0.9**
	0.7nm,1.0s,baz=81,slow=4.5,SNR=3.0						

IDC 28 02:30:31.7±1.8, 13°.46S×166°.47E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/38, mbtmp3.8/5, ML3.6/1, Error ellipse: s-maj=51.1km s-min=30.2km az=126.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.56**	**180**	Pn	Pn	02 32 36.9	-0.3
	0.7nm,0.3s,baz=270,slow=20,SNR=6.9						
DZM				Sn	Sn	02 34 09.7	-5.0
	baz=270,slow=24,SNR=11						
STKA	**Stephens Creek**	**29.25**	**227**	P	P	02 36 35.6	0.0
	0.8nm,0.4s,baz=50,slow=7.9,SNR=2.8						
WRA	**Warramunga Arr**	**31.41**	**254**	P	P	02 36 54.7	-0.2
	0.7nm,0.6s,baz=85,slow=9.4,SNR=13						
ASAR	**Alice Springs**	**32.43**	**247**	P	P	02 37 04.0	+0.2
	0.8nm,0.5s,baz=73,slow=9.5,SNR=14						
ILAR	**Eielson Array**	**85.57**	**18**	P	P	02 43 11.5	0.0
	0.2nm,0.5s,baz=234,slow=5.9,SNR=5.6						

*ISCJB **28** 02:35:52.9±1.7, 33°.94S±0°.04×73°.02W±0°.04, h26km±12km, mb4.1/14, Error ellipse: s-maj=6.1km s-min=5.5km az=8.9*
*GUC **28** 02:35:53.6±0.6, 33°.91S×72°.98W, h38km±2km, ML3.6*
*IDC **28** 02:35:55.5±5.6, 33°.99S×73°.07W, h33km±44km, mb3.7/5, mb1 3.8/9, mb1mx3.7/29, mbtmp3.9/9, ML4.2/3, Error ellipse: s-maj=36.6km s-min=18.4km az=93.0*
*NEIC **28** 02:35:55.9±1.2, 34°.04S×73°.03W, h39km±11km, mb4.2/12, Error ellipse: s-maj=14.9km s-min=7.6km az=83.0*
ISC 28 02:35:56.2±0.8, 33°.95S±0°.05×73°.0W±0°.1, h38km±3km, n41, σ0°98/49, mb4.2/14, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.28**	**91**	*e*P	**Pn**	**02 36 16.2**	**-1.4**
LNV				*e*S	**Sn**	**02 36 33.6**	**+0.1**
NICH	**Los Niches**	**1.77**	**127**	*e*S	**Sn**	**02 36 46.0**	**+0.4**
TALC	**Talca**	**1.81**	**143**	*e*P	**Pn**	**02 36 24.1**	**-0.8**
TALC				*e*S	**Sn**	**02 36 47.0**	**+0.4**
RCDM	**Rinconada Maip**	**1.85**	**76**	*e*P	**Pn**	**02 36 23.9**	**-1.5**
RCDM				*e*S	**Sn**	**02 36 47.2**	**-0.3**
RCDM				AML	AML	02 36 48.2	
	comp=N,1μm,0.1s						
ROCH	**El Roble**	**1.89**	**60**	*e*P	**Pn**	**02 36 24.2**	**-2.0**
ROCH				*e*S	**Sn**	**02 36 48.5**	**-0.4**
ROCH				AML	AML	02 36 52.7	
	comp=N,483nm,0.3s						
CHCH	**Chadas Angostu**	**1.91**	**90**	*e*P	**Pn**	**02 36 25.5**	**-0.8**
CHCH				*e*S	**Sn**	**02 36 49.3**	**+0.1**
SAN	**Santiago**	**1.97**	**76**	*e*P	**Pn**	**02 36 26.1**	**-1.0**
SAN				*e*S	**Sn**	**02 36 50.5**	**-0.1**
PEL	**Peldehue**	**2.06**	**68**	*e*P	**Pn**	**02 36 27.3**	**-0.9**
PEL				*e*S	**Sn**	**02 36 52.4**	**-0.3**
PEL				AML	AML	02 36 56.4	
	comp=E,1000nm,0.1s						
PCH	**Pirque**	**2.06**	**82**	*e*P	**Pn**	**02 36 27.0**	**-1.3**
CLCH	**Cerro Calan**	**2.09**	**75**	*e*P	**Pn**	**02 36 28.0**	**-0.7**
CLCH				*e*S	**Sn**	**02 36 53.3**	**-0.2**
CLCH				AML	AML	02 36 56.3	
	comp=E,559nm,2.3s						
SJCH	**San Jose de Ma**	**2.19**	**83**	*e*P	**Pn**	**02 36 28.8**	**-1.3**
SJCH				*e*S	**Sn**	**02 36 55.9**	**0.0**
SJCH				AML	AML	02 36 57.5	
	comp=N,321nm,1.3s						
LNCH	**Linares**	**2.20**	**150**	*e*P	**Pn**	**02 36 29.4**	**-0.8**
LNCH				*e*S	**Sn**	**02 36 56.8**	**+0.7**
CFAA	**Coronel Fontan**	**4.61**	**61**	Pn	**Pn**	**02 37 03.4**	**0.0**
	comp=N,0.5nm,0.3s,baz=229,slow=14,SNR=49						
CFAA				Sn	**Sn**	**02 37 57.6**	**+2.0**
	comp=N,1.0nm,0.3s,baz=150,slow=22,SNR=11						
PLCA	**Paso Flores**	**7.04**	**165**	Pn	**Pn**	**02 37 35.5**	**-1.3**
	comp=N,1.4nm,0.3s,baz=341,slow=10,SNR=16						
PLCA	**Paso Flores**	**7.04**	**165**	*e*Pn	**Pn**	**02 37 35.7**	**-1.1**
	comp=N,5.9nm,0.6s						
TRQA	**Tornquist**	**9.79**	**118**	*e*Pn	**Pn**	**02 38 15.0**	**+0.6**
LVC	**Limon Verde**	**11.84**	**19**	Pn	**Pn**	**02 38 44.1**	**+1.4**
	comp=N,6.8nm,0.3s,baz=260,slow=6.8,SNR=2.4						
LPAZ	**La Paz**	**18.11**	**15**	P	**P**	**02 40 05.4**	**-0.1**
	comp=N,0.1nm,0.3s,baz=172,slow=10.0,SNR=5.1						
LPAZ	**La Paz**	**18.11**	**15**	*e*P	**P**	**02 40 05.2**	**-0.4**
	comp=N,1.7nm,0.7s						
SIV	**San Ignacio**	**20.84**	**34**	P	**P**	**02 40 36.3**	**+1.6**
	comp=N,2.5nm,0.6s,baz=217,slow=11,SNR=8.1						
SAML	**Samuel**	**26.45**	**22**	*e*P	**P**	**02 41 31.1**	**+1.4**
	comp=N,2.7nm,1.0s						
OTAV	**Otavalo**	**34.39**	**350**	*e*P	**P**	**02 42 40.0**	**-0.3**
	comp=N,4.6nm,1.3s						
SDV	**Santo Domingo**	**42.65**	**3**	*e*P	**P**	**02 43 50.0**	**+0.6**
	comp=N,2.5nm,0.8s						
VNA1	**Neumayer--Stat**	**50.02**	**157**	P	P	02 44 59.3	+13
VNA2	**Neumayer--Watz**	**50.36**	**157**	P	P	02 44 58.9	+10
	baz=274,slow=6.7						
SNAA	**Sanae**	**51.92**	**158**	P	**P**	**02 44 57.7**	**-3.1**
SNAA	**Sanae**	**51.92**	**158**	P	**P**	**02 45 00.6**	**-0.2**
	comp=N,0.7nm,0.5s,baz=288,slow=8.7,SNR=12						
SNAA	**Sanae**	**51.92**	**158**	*e*P	P	02 44 57.4	-3.3
	comp=N,2.4nm,0.6s						
QSPA	**South Pole Qui**	**56.29**	**180**	P	**P**	**02 45 32.6**	**-0.2**
	comp=N,2.4nm,0.9s,baz=132,slow=6.4,SNR=4.1						
TXAR	**Lajitas Array**	**69.32**	**332**	P	**P**	**02 46 59.2**	**-0.6**
	comp=N,0.6nm,0.7s,baz=150,slow=7.9,SNR=7.2						
WHTX	**Lake Whitney,**	**69.53**	**338**	*e*P	**P**	**02 47 00.5**	**-0.4**
	comp=N,2.5nm,0.6s						
ABTX	**Abilene, Hawle**	**70.82**	**336**	*e*P	**P**	**02 47 09.5**	**+0.7**
	comp=N,2.3nm,0.6s						
WVT	**Waverly**	**71.08**	**347**	*e*P	**P**	**02 47 10.1**	**-0.2**
	comp=N,2.3nm,0.7s						
WMOK	**Wichita Mounta**	**72.48**	**338**	*e*P	**P**	**02 47 19.0**	**+0.2**
	comp=N,1.6nm,0.9s						
LAZ	**Ladron**	**75.17**	**331**	*e*P	**P**	**02 47 34.5**	**-0.2**
ANMO	**Albuquerque**	**75.37**	**332**	*e*P	**P**	**02 47 35.4**	**-0.6**
DBIC	**Dimbokro**	**75.88**	**72**	*e*P	**P**	**02 47 39.2**	**+0.1**
	comp=N,4.1nm,0.7s						
TSUM	**Tsumeb**	**79.96**	**106**	*e*P	**P**	**02 48 02.6**	**+0.6**
	comp=N,4.9nm,1.0s						
DUG	**Dugway, Tooele**	**82.44**	**330**	*e*P	**P**	**02 48 15.2**	**+0.7**
	comp=N,1.0nm,0.7s						
TOA0	**Torodi Ar. Sit**	**84.91**	**71**	*e*P	**P**	**02 48 27.2**	**-0.3**
TORD	**Torodi Ar. Bea**	**84.91**	**71**	P	**P**	**02 48 27.8**	**+0.2**
	comp=N,1.3nm,0.7s,baz=239,slow=5.5,SNR=10						

MEX 28 02:40:27.0±0.7, 15°.57N×93°.91W, h68km±17km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.68**	**78**	*e*P	Pn	02 40 39.8	-1.7
PCIG				*e*S	Sn	02 40 50.7	-1.5
TGIG		**1.42**	**32**	*e*P	Pn	02 40 47.2	-3.7
TGIG				*e*S	Sn	02 41 05.4	-3.6
CMIG	**Matias Romero**	**1.78**	**328**	*e*P	Pn	02 40 55.0	-0.7
CMIG				*e*S	Sn	02 41 18.5	+1.0
HUIG	**Huatulco**	**2.13**	**276**	*e*P	Pn	02 40 58.8	-1.6
HUIG				*e*S	Sn	02 41 23.4	-2.5

GUC 28 02:42:02.9±1.1, 38°.50S×73°.39W, h34km±5km, ML4.1, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSCH	**Puerto Saavedr**	**0.30**	**180**	*e*P	Pb	02 42 10.3	-0.5
PSCH				*e*S	Sb	02 42 16.3	+0.1
PSCH				AML	AML	02 42 22.6	
	comp=N,42μm,0.3s						
AGCH	**Angol**	**0.88**	**39**	*e*P	Pn	02 42 19.1	+0.3
AGCH				*e*S	Sn	02 42 30.7	+0.4
VLCH	**Valdivia**	**1.31**	**175**	*e*P	Pn	02 42 25.6	+0.8
VLCH				*e*S	Sb	02 42 42.8	-0.8
VLCH				AML	AML	02 42 59.3	
	comp=E,7μm,0.8s						
CCSP	**San Pedro de C**	**1.66**	**8**	*e*P	Pn	02 42 27.8	-1.8
CCSP				*e*S	Sn	02 42 48.1	-1.7
CCSP				AML	AML	02 42 56.8	
	comp=E,2μm,0.5s						
LNCH	**Linares**	**3.00**	**29**	*e*S	Sn	02 43 24.9	+2.0

*ISCJB **28** 02:43:43.4±0.4, 2°.90N±0°.05×128°.17E±0°.04, h150km, mb4.1/13, Error ellipse: s-maj=6.6km s-min=6.1km az=155.3*
*IDC **28** 02:43:43.2±2.2, 2°.94N×128°.19E, h131km±21km, mb3.9/9, mb1 4.0/11, mb1mx3.7/34, mbtmp4.3/11, Error ellipse: s-maj=26.5km s-min=12.5km az=76.0*
*NEIC **28** 02:43:44.4±1.3, 2°.92N×128°.20E, h145km±11km, mb4.5/7, Error ellipse: s-maj=15.0km s-min=7.9km az=62.0*
*DJA **28** 02:43:47.9±1.4, 3°N±17'×12°8E±', h127km±7km, M4.7/8, mb4.7/8, mB5.0/3, MLv4.7/8, Mw

TORD Torodi Ar. Bea 124.50 288 PKP **PKPdf 03 02 27.4 +0.1**
0.3nm,0.3s,baz=93,slow=1.5,SNR=15

*NEIC **28** 03:04:52.4±0.1,31°.81N×104°.22E,h10km,mb4.9/78,Error ellipse: s-maj=3.8km s-min=2.9km az=221.0*
NEIC Felt [II] at Chengdu. Also felt at Deyang.
*MOS **28** 03:04:52.6±0.7,31°.78N×104°.26E,h24km,mb5.0/71, MS4.1/10,Error ellipse: s-maj=6.9km s-min=3.9km az=121.6*
*BJI **28** 03:04:52.0,31°.81N×104°.12E,h10km,mb4.7/29,mB4.7/19, ML4.6/27,Ms4.4/39,Ms7 4.2/37*
*ISCJB **28** 03:04:52.3±0.9,31°.75N±0°.02×104°.21E±0°.02,h15km±5km, mb4.7/145,MS4.0/20,Error ellipse: s-maj=3.9km s-min=3.1km az=39.5*
*IDC **28** 03:04:55.7±4.1,31°.76N×104°.22E,h33km±31km,mb4.3/36, mb1 4.4/38,mb1mx4.3/55,mbtmp4.5/38,ML4.3/1,MS3.7/11, Ms1 3.7/11,ms1mx3.4/44,Error ellipse: s-maj=12.2km s-min=9.2km az=37.0*
*SZGRF **28** 03:05:12.8,33°.14N×101°.69E,h33km,mb5.1,Qinghai, China*
ISC 28 03:04:53.1±0.4,31°.81N±0°.03×104°.29E±0°.03,h15km±2km, h15km:pP-P,n435,σ1§07/478,mb4.8/146,MS4.0/20, 48C-20D,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.00**	**207**	Pg		**Pb**	**03 05 11.8**	**-0.4**
CD2				Sg		**Sb**	**03 05 23.3**	**-1.9**
CD2				SMN				
	46μm,0.5s							
CD2				SME				
	15μm,0.6s							
LZH	**Lanzhou**	**4.28**	**355**	⇑Pn		**Pn**	**03 06 01.0**	**+3.1**
LZH				Pg		Pb	03 06 12.3	+4.1
LZH				Sn		**Sn**	**03 06 51.3**	**+3.6**
LZH				Sg		**Sg**	**03 07 07.0**	**-3.7**
LZH				SMN				
	1μm,1.1s							
LZH				SME				
	770nm,0.8s							
LZH				LN				
	4μm,5.7s							
LZH				LE				
	2μm,6.6s							
LZH				LZ				
	3μm,8.1s							
XAN	**Xi'an**	**4.49**	**59**	Pg		Pb	03 06 15.5	+3.9
XAN				Sg		**Sg**	**03 07 14.5**	**-2.8**
XAN				SMN				
	1μm,0.8s							
XAN				SME				
	480nm,0.8s							
ENH	**Enshi**	**4.72**	**108**	*e*Pn		Pn	03 06 07.4	+3.6
ENH				*e*Pg		**Pg**	**03 06 21.1**	**-2.4**
ENH				*e*Sn		**Sn**	**03 07 00.4**	**+2.2**
ENH				*e*Sg		**Sg**	**03 07 23.9**	**-0.8**
GYA	**Guiyang**	**5.72**	**158**	Pn		**Pn**	**03 06 18.8**	**+1.2**
GYA				Pg		Pg	03 06 39.3	-3.4
GYA				Sn		**Sn**	**03 07 22.8**	**-0.3**
GYA				Sg		Sb	03 07 48.0	+6.9
GYA				SMN				
	620nm,0.8s							
GYA				SME				
	640nm,0.8s							
GYA				LN				
	1μm,5.4s							
GYA				LE				
	2μm,5.0s							
GYA				LZ				
	2μm,5.0s							
KMI	**Kunming**	**6.80**	**192**	Pn		**Pn**	**03 06 34.0**	**+1.5**
KMI				Sn		**Sn**	**03 07 50.0**	**+0.3**
KMI				SMN				
	130nm,1.4s							
KMI				SME				
	170nm,1.1s							
KMI				LN				
	2μm,8.1s							
KMI				LE				
	1μm,7.5s							
GTA	**Gaotai**	**8.41**	**336**	*e*P		**Pn**	**03 06 56.3**	**+1.8**
GTA				pP		pP	03 07 01.0	
GTA				sP		sP	03 07 04.0	
GTA				S		**Sn**	**03 08 32.0**	**+2.7**
GTA				sS		sS	03 08 36.5	
GTA				PMZ				
	4.0nm,1.0s							
GTA				PMZ				
	110nm,6.4s							
GTA				LN				
	1μm,10.7s							
GTA				LE				
	990nm,13.5s							
GTA				LZ				
	1μm,14.2s							
WHN	**Wuhan**	**8.71**	**96**	⇓P		Pn	03 07 02.5	+3.9
WHN				S		**Sn**	**03 08 35.0**	**-1.5**
WHN				LN				
	2μm,6.5s							
WHN				LE				
	4μm,11.0s							
WHN				LZ				
	4μm,10.4s							
LSA	**Lhasa**	**11.49**	**263**	*e*P		**Pn**	**03 07 39.5**	**+2.4**
LSA	**Lhasa**	**11.49**	**263**	*e*P		**Pn**	**03 07 37.7**	**+0.6**
LSA	**Lhasa**	**11.49**	**263**	*e*Pn		**Pn**	**03 07 37.7**	**+0.6**
TIA	**Tai'an**	**11.52**	**64**	*e*P		Pn	03 07 40.8	+3.8
TIA				LN				
	650nm,10.0s							
TIA				LE				
	800nm,9.5s							
CRAI	**Chiangrai**	**12.05**	**198**	P		Pn	03 07 50.1	+5.7
	7.7nm,1.3s							
NJ2	**Nanjing**	**12.38**	**85**	*e*P		Pn	03 07 52.8	+4.0
NJ2				S		**Sn**	**03 10 08.5**	**+2.1**
NJ2				PMZ				
	50nm,0.7s							
NJ2				LN				
	3μm,14.3s							
NJ2				LE				
	3μm,11.8s							
NJ2				LZ				
	2μm,12.4s							
CMAI	**Chiengmai2**	**12.73**	**203**	P		P	03 08 01.4	-3.5
	16nm,0.9s							
QIZ	**Qiongzhong**	**13.67**	**157**	P		**Pn**	**03 08 07.3**	**+0.8**
QIZ				S		**Sn**	**03 10 40.8**	**+2.6**
QIZ				LN				
	610nm,13.9s							
QIZ				LZ				
	800nm,13.8s							
QIZ	**Qiongzhong**	**13.67**	**157**	*e*Pn		**Pn**	**03 08 06.0**	**-0.5**
NONG	**Nongkai**	**13.72**	**185**	P		**P**	**03 08 13.6**	**-2.2**
	67nm,0.9s							
CHTO	**Chiang Mai**	**13.81**	**202**	P		**P**	**03 08 17.3**	**+0.6**
	138nm,0.9s							
CHTO	**Chiang Mai**	**13.81**	**202**	*e*P		**Pn**	**03 08 10.1**	**+1.8**
CHTO	**Chiang Mai**	**13.81**	**202**	*e*Pn		**Pn**	**03 08 10.1**	**+1.8**
CMMT	**Chiang Mai**	**13.81**	**202**	P		**P**	**03 08 17.2**	**+0.5**
	40nm,0.8s							
LAMP	**Lampang**	**13.88**	**199**	P		**P**	**03 08 18.1**	**+0.6**
	11nm,0.7s							
CMAR	**Chiang Mai Arr**	**14.14**	**201**	Pn		**Pn**	**03 08 14.9**	**+2.0**
	0.5nm,0.3s,baz=7.8,slow=11,SNR=14							
CMAR				LR		LR	03 14 35.5	
	comp=Z,123nm,19.0s,baz=2.0,slow=41							
CMAR	**Chiang Mai Arr**	**14.14**	**201**	*ce*P		**Pn**	**03 08 14.8**	**+1.9**
CMAR				pmax		pmax		
	comp=Z,2.0nm,0.4s							
MHMT	**Maesarieng**	**14.74**	**204**	P		P	03 08 34.4	+7.3
TAPN	**Taplejung**	**15.09**	**257**	*e*P		**Pn**	**03 08 24.4**	**-1.6**
KHON	**Khomkaen**	**15.46**	**185**	P		**P**	**03 08 36.6**	**+1.5**
	comp=Z,14nm,0.8s,comp=Z,640nm							
PBKT	**Sadao Pong**	**15.47**	**192**	P		**P**	**03 08 35.5**	**+0.4**
	comp=Z,52nm,0.8s,comp=Z,1μm							
ODAN	**Odare**	**15.53**	**256**	*e*P		**Pn**	**03 08 30.0**	**-1.8**
	comp=Z,90nm,0.9s							
CHAI	**Chaiyaphum**	**15.97**	**188**	P		**Pn**	**03 08 38.6**	**+1.3**
	comp=Z,18nm,0.8s							
SONM	**Songino Arbay**	**16.09**	**5**	Pn		**Pn**	**03 08 39.3**	**+0.5**
	baz=190,slow=14,SNR=7.2							
SONM				LR		LR	03 15 42.9	
	comp=Z,509nm,20.0s,baz=191,slow=40							
RAMN	**Ramite**	**16.15**	**257**	*e*P		**Pn**	**03 08 38.1**	**-1.7**
	comp=Z,53nm,0.9s							
ULN	**Ulaanbaatar**	**16.18**	**7**	*e*P		**Pn**	**03 08 40.5**	**+0.6**
ULN				pmax		pmax		
	comp=Z,11nm,0.9s							
ULN	**Ulaanbaatar**	**16.18**	**7**	*e*Pn		**Pn**	**03 08 40.5**	**+0.6**
	comp=Z,11nm,0.9s							
JIRN	**Jiri**	**16.25**	**260**	*e*P		**Pn**	**03 08 39.4**	**-1.8**
GUN	**Gumba**	**16.43**	**261**	*e*P		**Pn**	**03 08 41.2**	**-2.3**
YHNB	**Yeheng**	**16.64**	**111**	*e*Pn		**P**	**03 08 48.1**	**-0.1**
	comp=Z,15nm,0.6s							
SSLB	**Suanglung**	**16.76**	**114**	*e*Pn		**Pn**	**03 08 48.4**	**+1.0**
UTHA	**Uthaitani**	**16.77**	**196**	P		**P**	**03 08 51.0**	**+1.4**
	comp=Z,9.1nm,0.8s							
PKI	**Pulchoki**	**16.93**	**260**	*e*P		**Pn**	**03 08 47.6**	**-2.2**
	comp=Z,120nm,1.0s							
PKIN	**Phulchoki**	**16.94**	**260**	*e*P		**Pn**	**03 08 47.5**	**-2.4**
	comp=Z,76nm,0.9s							
KKN	**Kakani**	**16.97**	**261**	*e*P		**Pn**	**03 08 48.0**	**-2.2**
	comp=Z,40nm,0.7s							
NACB	**Ninganchiao**	**17.06**	**112**	*e*Pn		**Pn**	**03 08 51.5**	**+0.3**
DMN	**Daman**	**17.18**	**261**	*e*P		**Pn**	**03 08 50.6**	**-2.2**
GKN	**Gorkha**	**17.45**	**263**	*e*P		**Pn**	**03 08 53.1**	**-3.0**
	comp=Z,71nm,0.8s							
WMQ	**Urumqi**	**17.73**	**317**	P		**P**	**03 09 00.3**	**+0.1**
WMQ				pP		**pP**	**03 09 04.0**	**-0.5**
WMQ				sP		**sP**	**03 09 07.3**	**+0.8**
WMQ				PP		**PnPn**	**03 09 15.0**	**+5.0**
WMQ				S		**Sn**	**03 12 16.3**	**-0.3**
WMQ				sS		**S**	**03 12 22.3**	**-1.4**
WMQ				PcP		**PcP**	**03 13 37.8**	**+0.8**
WMQ				ScP		**ScP**	**03 17 11.5**	**-0.1**
WMQ				PcS		**PcS**	**03 17 14.3**	**+1.0**
WMQ				ScS		**ScS**	**03 20 51.0**	**-0.8**
WMQ				PMZ				
	comp=Z,16nm,0.4s							
WMQ				PMZ				
	comp=Z,160nm,5.2s							
WMQ				LN				
	comp=Z,530nm,9.0s							
WMQ				LE				
	comp=Z,520nm,8.6s							
WMQ				LZ				
	comp=Z,240nm,17.6s							
KOLN	**Koldanda**	**18.39**	**263**	*e*P		**Pn**	**03 09 05.1**	**-2.7**
	comp=Z,68nm,0.7s							
ZAK	**Zakamensk**	**18.57**	**358**	*e*P		**Pn**	**03 09 11.0**	**+1.3**
ZAK				pmax		pmax		
	comp=Z,9.0nm,1.2s							
TJN	**Taejon**	**19.64**	**70**	⇑*e*P		**Pn**	**03 09 23.3**	**+0.8**
TLY	**Talaya**	**19.86**	**359**	*e*P		**Pn**	**03 09 26.6**	**+1.5**
TLY				*e*S		S	03 12 57.3	-9.3
TLY				pmax		pmax		
	comp=Z,16nm,1.5s							
TLY				MLR		MLR		
	comp=Z,455nm,14.0s							
TLY	**Talaya**	**19.86**	**359**	*e*P		**P**	**03 09 23.9**	**+0.4**
	comp=Z,31nm,1.7s							
MOY	**Mondy**	**19.99**	**354**	*e*P		Pn	03 09 27.4	+0.6
MOY				pmax		pmax		
	comp=Z,29nm,1.8s							
KSAR	**Wonju Array Be**	**20.20**	**67**	P		Pn	03 09 29.5	+0.4
KSAR	**Wonju Array Be**	**20.20**	**67**	P		Pn	03 09 29.5	+0.4
KSRS	**Korea Array**	**20.23**	**67**	P		Pn	03 09 29.5	0.0
	comp=Z,6.4nm,0.6s,baz=255,slow=10,SNR=21							
KSRS				LR		LR	03 18 25.2	
	comp=Z,80nm,21.4s,baz=272,slow=40							
KSRS	**Korea Array**	**20.23**	**67**	P		Pn	03 09 29.5	0.0
KSRS				pmax		pmax		
	comp=Z,6.0nm,0.6s							
KSRS				MLR		MLR		
	comp=Z,80nm,21.4s							
CN2	**Changchun**	**20.50**	**48**	⇑P		Pn	03 09 33.8	+1.1
CN2				*e*sP		sP	03 09 40.0	+3.2
CN2				*e*S		**S**	**03 13 18.8**	**-0.5**
CN2				PMZ				
	comp=Z,80nm,1.0s							
CN2				PMZ				
	comp=Z,200nm,4.0s							
CN2				LN				
	comp=Z,300nm,18.0s							
CN2				LE				
	comp=Z,300nm,18.0s							
CN2				LZ				
	comp=Z,400nm,16.0s							
HIA	**Hailar**	**20.96**	**29**	*e*P		**P**	**03 09 36.1**	**+0.7**
HIA				pmax		pmax		
	comp=Z,15nm,0.9s							
HIA	**Hailar**	**20.96**	**29**	*e*P		**P**	**03 09 36.1**	**+0.7**
	comp=Z,15nm,0.9s							
JOW	**Kunigami**	**21.48**	**97**	P		**P**	**03 09 41.1**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=262,slow=9.6,SNR=3.1							
JOW				LR		LR	03 18 40.9	
	comp=Z,26nm,20.4s,baz=326,slow=38							
JNU	**Nakatsue**	**22.46**	**80**	LR		LR	03 19 33.8	
	comp=Z,325nm,19.7s,baz=270,slow=39							
MK31	**Makanchi Array**	**22.56**	**318**	*i* P		**P**	**03 09 52.8**	**+0.2**
MK31				pmax		pmax		
	comp=Z,17nm,0.8s							
MKAR	**Makanchi Array**	**22.56**	**318**	P		**P**	**03 09 53.0**	**+0.4**
	comp=Z,17nm,1.0s,baz=117,slow=12,SNR=94							
MKAR				PcP		**PcP**	**03 13 45.5**	**-0.2**
	comp=Z,3.2nm,0.8s,baz=182,slow=2.6,SNR=7.8							
MKAR				LR		LR	03 19 29.7	
	comp=Z,436nm,18.0s,baz=122,slow=39							
MKAR	**Makanchi Array**	**22.56**	**318**	P		**P**	**03 09 53.0**	**+0.4**
MKAR							03 13 45.5	
MKAR				pmax		pmax		
	comp=Z,17nm,1.0s							
MKAR				MLR		MLR		
	comp=Z,436nm,18.0s							
PDGK	**Podgornoye**	**22.69**	**307**	P		**P**	**03 09 54.0**	**+0.1**
PDGK				pmax		pmax		
	comp=Z,35nm,1.0s							
MDJ	**Mudanjiang**	**23.53**	**50**	P		**P**	**03 10 03.8**	**+1.2**
MDJ				pP		**pP**	**03 10 06.8**	**-0.3**
MDJ				sP		**sP**	**03 10 08.0**	**-1.1**
MDJ				S		**S**	**03 14 14.0**	**-1.9**
MDJ				ScP		**ScP**	**03 17 28.3**	**+2.9**
MDJ				ScS		**ScS**	**03 21 11.3**	**-0.5**
MDJ				PMZ				
	comp=Z,27nm,1.0s							
MDJ				LN				
	comp=Z,170nm,12.8s							
MDJ				LE				
	comp=Z,140nm,13.4s							
MDJ				LZ				
	comp=Z,330nm,14.1s							
MDJ	**Mudanjiang**	**23.53**	**50**	*e*P		**P**	**03 10 04.1**	**+1.5**
	comp=Z,18nm,0.9s							
NDI	**New Delhi**	**23.57**	**269**	*e*P		**P**	**03 10 02.0**	**-1.1**
KSH	**Kashi**	**24.19**	**296**	P		**P**	**03 10 12.5**	**+3.5**
KSH				sP		**sP**	**03 10 19.5**	**+3.9**
KSH				PP		PnPn	03 10 48.0	+10
KSH				S		**S**	**03 14 29.0**	**+2.3**
KSH				sS		**sS**	**03 14 36.0**	**+1.6**
KSH				SS		SnSn	03 15 23.0	+14
KSH				PMZ				
	comp=Z,11nm,0.7s							
KSH				LN				
	comp=Z,260nm,8.9s							
KSH				LE				
	comp=Z,280nm,13.6s							
KSH				LZ				
	comp=Z,330nm,10.5s							
TRTT	**Trang**	**24.23**	**191**	P		P	03 10 15.0	+5.6
	comp=Z,30nm,0.9s,comp=Z,1μm							
SKLT	**Songkhla**	**24.75**	**189**	P		P	03 10 19.9	+5.8
	comp=Z,38nm,1.0s							
USRK	**Ussuriysk Ar.**	**24.96**	**52**	P		**P**	**03 10 17.4**	**+1.6**
	comp=Z,15nm,0.8s,baz=250,slow=11,SNR=26							
TKM2	**Tokmak 2**	**25.24**	**304**	P		**P**	**03 10 22.6**	**+3.9**
	SNR=8.7							
TKM2	**Tokmak 2**	**25.24**	**304**	*e*P		**P**	**03 10 19.5**	**+0.8**
TKM2				*e*			03 13 51.0	
TKM2				pmax		pmax		
	comp=Z,11nm,0.8s							
TKM2	**Tokmak 2**	**25.24**	**304**	*e*P		**P**	**03 10 19.4**	**+0.8**
	comp=Z,11nm,0.8s							
TKM2				*e*PcP		**PcP**	**03 13 51.0**	**-0.9**
KZA	**Kyzart**	**25.26**	**302**	P		**P**	**03 10 21.3**	**+2.2**
	SNR=17							
KBK	**Karagaybulak**	**25.62**	**303**	P		**P**	**03 10 23.9**	**+1.8**
	SNR=9.1							
UCH	**Uchtor**	**25.83**	**302**	P		**P**	**03 10 26.0**	**+1.7**
	SNR=24							
FRU	**Bishkek**	**25.91**	**304**	*i* P		**P**	**03 10 25.8**	**+1.3**
FRU				pmax		pmax		
	comp=Z,50nm,2.0s							
AAK	**Ala-Archa**	**25.94**	**303**	P		**P**	**03 10 25.1**	**+0.1**
	comp=Z,3.1nm,0.7s,baz=98,slow=12,SNR=8.2							
AAK				PcP		**PcP**	**03 13 53.5**	**+0.2**
	comp=Z,2.3nm,0.6s,baz=129,slow=5.9,SNR=4.7							
AAK	**Ala-Archa**	**25.94**	**303**	⇓*e*P		**P**	**03 10 26.1**	**+1.1**
AAK				pmax		pmax		
	comp=Z,30nm,1.7s							
AAK	**Ala-Archa**	**25.94**	**303**	*e*P		**P**	**03 10 24.4**	**-0.6**
	comp=Z,43nm,1.9s							
AAK				*e*PcP		**PcP**	**03 13 53.7**	**+0.3**
USP	**Ospenovka**	**26.11**	**304**	P		**P**	**03 10 30.4**	**+4.0**
	SNR=6.5							
SFK	**Sufi-Kurgan**	**26.14**	**297**	P		**P**	**03 10 27.9**	**+1.0**
SFK				pmax		pmax		
	comp=Z,19nm,0.7s							
ZAA0	**Zalesovo Array**	**26.16**	**333**	*e*P		**P**	**03 10 27.0**	**+0.4**
ZALV	**Zalesovo Beam**	**26.16**	**333**	P		**P**	**03 10 27.0**	**+0.4**
	comp=Z,11nm,0.7s,baz=131,slow=9.7,SNR=35							
ZALV				LR		LR	03 21 26.8	
	comp=Z,131nm,20.9s,baz=72,slow=38							
ZALV	**Zalesovo Beam**	**26.16**	**333**	P		**P**	**03 10 27.0**	**+0.4**
AML	**Almayashu**	**26.40**	**302**	P		**P**	**03 10 30.8**	**+1.4**
	SNR=7.0							
EKS2	**Erkin-Say**	**26.46**	**303**	*e*P		**P**	**03 10 29.1**	**-0.5**
EKS2				*e*			03 13 54.9	
EKS2				pmax		pmax		
	comp=Z,7.0nm,0.8s							
EKS2	**Erkin-Say**	**26.46**	**303**	*e*P		**P**	**03 10 29.1**	**-0.5**
	comp=Z,7.4nm,0.8s							
EKS2				*e*PcP		**PcP**	**03 13 54.9**	**+0.4**
KULM	**Kulim**	**26.60**	**188**	*e*P		**P**	**03 10 29.7**	**-1.2**
KURBB	**Kurchatov Arra**	**26.77**	**322**	P		**P**	**03 10 32.8**	**+0.6**
	comp=Z,2.2nm,0.2s,baz=131,slow=8.7,SNR=45							
KURBB				PcP		**PcP**	**03 13 54.7**	**-0.2**
	comp=Z,4.4nm,0.6s,baz=118,slow=2.0,SNR=4.3							
KURK	**Kurchatov**	**26.78**	**322**	*e*P		**P**	**03 10 32.8**	**+0.6**
KURK				*e*			03 13 54.7	
KURK				pmax		pmax		
	comp=Z,15nm,0.8s							
KURK	**Kurchatov**	**26.78**	**322**	*e*P		**P**	**03 10 32.8**	**+0.6**
	comp=Z,15nm,0.8s							
KURK				PcP		**PcP**	**03 13 54.7**	**-0.2**
KLR	**Kul'dur**	**26.96**	**42**	*e*P		**P**	**03 10 30.2**	**-3.7**
KLR				MLR		MLR		
	comp=N,500nm,12.0s							
KLR				MLR		MLR		
	comp=Z,2μm,12.0s							
KKM	**Kota Kinabalu**	**27.96**	**154**	*e*P		**P**	**03 10 43.2**	**0.0**
MJAR	**Matsushiro Arr**	**28.37**	**71**	P		**P**	**03 10 46.9**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=275,slow=11,SNR=3.6							
MJAR				PcP		**PcP**	**03 13 59.2**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=259,slow=2.6,SNR=6.8							
KK31	**Karatay Array**	**28.90**	**303**	*i* P		**P**	**03 10 51.6**	**+0.3**
KK31				pmax		pmax		
	comp=Z,3.0nm,0.5s							
KKAR	**Karatay Array**	**28.90**	**303**	*e*P		**P**	**03 10 51.7**	**+0.3**
KKAR				*e*			03 14 00.0	
KKAR	**Karatay Array**	**28.90**	**303**	*e*P		**P**	**03 10 51.6**	**+0.3**
KKAR				*e*PcP		**PcP**	**03 13 60.0**	**-0.3**
PSI	**Prapat**	**29.29**	**191**	P		**P**	**03 10 54.1**	**-1.0**
	comp=Z,3.6nm,0.4s,baz=346,slow=8.7,SNR=5.3							
KBL	**Kabul**	**29.54**	**285**	*e*P		**P**	**03 10 58.6**	**+1.3**
KBL				pmax		pmax		
	comp=Z,3.0nm,0.4s							
KBL	**Kabul**	**29.54**	**285**	*e*P		**P**	**03 10 58.6**	**+1.3**
	comp=Z,2.8nm,0.4s							
SBUM	**Sibu**	**30.14**	**164**	*e*P		**P**	**03 11 03.6**	**+1.1**
	comp=Z,9.2nm,0.9s							
KSM	**Kuching**	**30.70**	**168**	*e*P		**P**	**03 11 07.6**	**+0.1**
ASAJ	**Asahikawa**	**32.33**	**57**	P		**P**	**03 11 23.2**	**+1.7**
	comp=Z,2.4nm,0.3s,baz=250,slow=11,SNR=3.1							
ASAJ	**Asahikawa**	**32.33**	**57**	P		**P**	**03 11 23.2**	**+1.7**
ASAJ				pmax		pmax		
	comp=Z,2.0nm,0.3s							
BVA0	**Borovoye Array**	**32.34**	**321**	*i* P		**P**	**03 11 21.8**	**+0.2**
BVA0				pmax		pmax		
	comp=Z,4.0nm,0.8s							
BVAR	**Borovoye Array**	**32.34**	**321**	P		**P**	**03 11 22.1**	**+0.5**
	comp=Z,3.1nm,0.7s,baz=119,slow=10.0,SNR=17							
BVAR				PcP		**PcP**	**03 14 09.0**	**-0.1**
	comp=Z,4.6nm,0.7s,baz=134,slow=4.3,SNR=16							
BRVK	**Borovoye**	**32.41**	**321**	*ce*P		**P**	**03 11 22.5**	**+0.3**
BRVK				pmax		pmax		
	comp=Z,14nm,1.7s							
BRVK	**Borovoye**	**32.41**	**321**	*e*P		**P**	**03 11 22.1**	**-0.1**
	comp=Z,5.4nm,0.8s							
BRVK				*e*PcP		**PcP**	**03 14 09.3**	**+0.1**
YSS	**Yuzh-Sakhalins**	**32.99**	**52**	⇓*e*P		**P**	**03 11 28.6**	**+1.3**
YSS				pmax		pmax		
	comp=Z,38nm,1.7s							
JCJ	**Chichijima**	**33.22**	**88**	LR		LR	03 26 32.0	
	comp=Z,60nm,19.2s,baz=315,slow=39							
YAK	**Yakutsk**	**34.40**	**21**	*e*P		**P**	**03 11 38.8**	**-0.5**
YAK				*e**PP		**pP**	**03 11 44.3**	**+0.3**
YAK				*e*			03 14 16.8	
YAK				*e*S		**S**	**03 17 02.2**	**-4.2**
YAK				*e*SSS		SSS	03 19 23.1	
YAK				*e*			03 22 00.7	
YAK				pmax		pmax		
	comp=Z,15nm,0.9s							
YAK				pmax		pmax		
	comp=E,6.0nm,1.1s							
YAK				pmax		pmax		
	comp=N,4.0nm,0.9s							
YAK				smax		smax		
	comp=N,33nm,3.0s							
YAK				smax		smax		
	comp=E,59nm,3.7s							
YAK				MLR		MLR		
	comp=Z,127nm,11.0s							
YAK				MLR		MLR		
	comp=E,73nm,9.0s							
YAK				MLR		MLR		
	comp=N,68nm,11.0s							
AB31	**Akbulak array**	**37.33**	**311**	P		**P**	**03 12 05.1**	**+0.5**
AB31				pmax		pmax		
	comp=Z,7.0nm,0.6s							
ABKAR	**Akbulak array**	**37.33**	**311**	*e*P		**P**	**03 12 05.0**	**+0.4**
	comp=Z,6.4nm,0.7s							
ABKAR				*e*PcP		**PcP**	**03 14 23.3**	**-0.3**
AKTO	**Aktyubinsk**	**38.77**	**312**	P		**P**	**03 12 17.3**	**+0.5**
	comp=Z,2.6nm,0.5s,baz=94,slow=9.3,SNR=16							
AKTO				PcP		**PcP**	**03 14 27.4**	**-0.7**
	comp=Z,3.0nm,0.7s,baz=132,slow=5.5,SNR=4.6							
SVE	**Sverdlovsk**	**39.03**	**323**	*e*P		**P**	**03 12 19.9**	**+1.0**
SVE				pmax		pmax		
	comp=Z,31nm,1.0s							
KAPI	**Kappang**	**39.47**	**155**	P		**P**	**03 12 22.6**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=321,slow=9.9,SNR=4.7							
KAPI	**Kappang**	**39.47**	**155**	*e*P		**P**	**03 12 22.4**	**-0.5**
	comp=Z,4.5nm,1.0s							
ARU	**Arti**	**39.98**	**322**	*c i*P		**P**	**03 12 27.1**	**+0.3**
ARU							03 13 57.5	
ARU				S		**S**	**03 18 35.1**	**+3.7**
ARU				SS		**SS**	**03 21 26.8**	**-1.4**
ARU				pmax		pmax		
	comp=Z,60nm,1.7s							
ARU	**Arti**	**39.98**	**322**	*e*P		**P**	**03 12 27.3**	**+0.5**
	comp=Z,27nm,0.7s							
SIJI	**Sorong**	**41.34**	**137**	P		**P**	**03 12 39.1**

PETK Petropavlovsk- 43.58 45 P **P** 03 12 57.1 +0.8
comp=Z,9.4nm,0.8s,baz=212,slow=5.3,SNR=14
PETK LR LR 03 33 24.0
comp=Z,97nm,18.4s,baz=233,slow=39
IKAZ Kazeroun 44.74 282 *e*P **P** 03 13 06.3 0.0
IPIR Pirpir 44.76 286 *e*P **P** 03 13 05.5 -0.9
PRGR Permogore 47.75 327 *e*P **P** 03 13 27.8 -1.3
PRGR pmax pmax
comp=Z,14nm,0.8s
GNI Garni 48.11 297 P **P** 03 13 33.1 +0.6
comp=Z,1.5nm,0.3s,baz=186,slow=3.4,SNR=4.5
GNI Garni 48.11 297 P **P** 03 13 33.1 +0.6
GNI pmax pmax
comp=Z,2.0nm,0.3s
GNI Garni 48.11 297 *e*P **P** 03 13 33.4 +0.9
comp=Z,5.9nm,0.7s
GOF Gofitskoye 48.67 304 *e*P **P** 03 13 36.7 +0.1
GOF pmax pmax
comp=Z,30nm,1.2s
KBZ Khabaz 48.94 302 P **P** 03 13 38.9 +0.4
comp=Z,3.5nm,1.0s,baz=53,slow=20,SNR=6.1
KIV Kislovodsk 49.06 303*d i*P **P** 03 13 40.7 +1.0
KIV *i* 03 13 46.6
KIV pmax pmax
comp=Z,31nm,1.7s
KIV MLR MLR
comp=Z,90nm,18.0s
KIV Kislovodsk 49.06 303 *e*P **P** 03 13 40.7 +1.0
comp=Z,16nm,0.8s
BILL Bilibino 50.48 26 *e*P **P** 03 13 50.2 +0.3
BILL pmax pmax
comp=Z,6.0nm,0.8s
BILL Bilibino 50.48 26 *e*P **P** 03 13 50.2 +0.3
comp=Z,5.6nm,0.8s
KLMR Klimovskoe 50.58 325 *e*P P 03 13 47.1 -3.7
KLMR *e**PP pP 03 13 50.2 -5.4
KLMR pmax pmax
comp=Z,39nm,1.2s
KLMR MLR MLR
comp=Z,165nm,13.0s
VSR Storozhevoye 50.72 313 *e*P **P** 03 13 51.4 -0.6
VSR pmax pmax
comp=N,7.0nm,0.9s
VSR pmax pmax
comp=E,20nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
LPSR Galich'ya Gora 50.79 314 *e*P **P** 03 13 52.4 -0.1
LPSR pmax pmax
comp=N,4.0nm,0.8s
LPSR pmax pmax
comp=E,10.0nm,0.8s
LPSR pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 52.06 318*ce*P **P** 03 14 01.7 -0.3
OBN *e**SP **sP** 03 14 06.9 -1.8
OBN *e*S S 03 21 32.8 +7.8
OBN pmax pmax
comp=Z,22nm,1.7s
OBN MLR MLR
comp=Z,113nm,20.0s
RAYN Ar Rayn 52.18 276 *e*P **P** 03 14 02.5 -0.9
comp=Z,1.8nm,0.7s
ANN Anapa 52.66 305 *e*P **P** 03 14 05.8 -0.8
ANN *e*S **S** 03 21 27.5 -5.9
ANN pmax pmax
comp=Z,25nm,1.3s
LVZ Lovozero 53.30 334 *e*P **P** 03 14 10.6 -0.4
LVZ pmax pmax
comp=Z,40nm,1.2s
LVZ Lovozero 53.30 334 *e*P **P** 03 14 10.6 -0.4
comp=Z,40nm,1.2s
APA Apatity 53.75 333⇑*i*P **P** 03 14 16.0 +1.8
APA MLR MLR
comp=Z,500nm,13.0s
SIM Simferopol' 54.94 305 *e*P P 03 14 28.3 +5.0
SIM pmax pmax
comp=Z,13nm,0.8s
BR131 Keskin Array S 56.53 299 *e*P **P** 03 14 34.6 -0.3
comp=Z,2.5nm,0.6s
BRTR Keskin Array B 56.53 299 P **P** 03 14 34.6 -0.3
comp=Z,3.1nm,0.9s,baz=96,slow=6.6,SNR=18
BRTR Keskin Array B 56.53 299*ce*P **P** 03 14 34.7 -0.3
BRTR pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 56.68 336 P **P** 03 14 35.4 -0.1
comp=Z,3.5nm,0.5s,baz=79,slow=8.4,SNR=42
ARCES PcP **PcP** 03 15 31.5 +0.1
comp=Z,2.2nm,0.7s,baz=87,slow=4.6,SNR=3.5
AKASG Malin Array Be 57.02 313 P **P** 03 14 37.5 -0.5
comp=Z,2.1nm,0.6s,baz=70,slow=6.3,SNR=14
AKASG PcP **PcP** 03 15 32.6 -0.5
comp=Z,2.4nm,0.7s,baz=65,slow=3.8,SNR=5.5
KIEV Kiev 57.03 313 *e*P **P** 03 14 37.5 -0.7
KIEV pmax pmax
comp=Z,10.0nm,0.7s
KIEV Kiev 57.03 313 *e*P **P** 03 14 37.5 -0.7
comp=Z,9.7nm,0.7s
FINES FINESS Array B 57.07 326 P **P** 03 14 38.3 0.0
comp=Z,9.2nm,0.7s,baz=95,slow=19,SNR=3.5
VSU Vasula 57.13 322*c i*P **P** 03 14 38.6 -0.1
VSU pmax pmax
comp=Z,30nm,0.6s
PMG Port Moresby 57.96 128 *e*P **P** 03 14 45.7 +0.6
PMG pmax pmax
comp=Z,11nm,0.6s
PMG Port Moresby 57.96 128 *e*P **P** 03 14 45.7 +0.6
comp=Z,11nm,0.6s
CSS Prodhromos 58.17 294 *e*P **P** 03 14 45.8 -0.7
comp=Z,2.6nm,0.7s
COEN Coen 58.82 135 *e*P **P** 03 14 51.6 +0.4
comp=Z,18nm,0.9s
WRAB Tennant Creek 58.97 147*ce*P **P** 03 14 52.2 +0.1
WRAB pmax pmax
comp=Z,60nm,1.2s
WRAB Tennant Creek 58.97 147 *e*P **P** 03 14 52.5 +0.5
comp=Z,32nm,1.0s
WRA Warramunga Arr 58.97 147 P **P** 03 14 52.0 -0.1
comp=Z,10.0nm,0.7s,baz=325,slow=9.6,SNR=183
TLB Topalu 59.23 306⇓*i*P P 03 14 59.7 +6.1
TLB Topalu 59.23 306⇓*i*P P 03 14 59.7 +6.1
PSN Preselentsi 59.38 305⇑P **P** 03 14 55.3 +0.6
PSN Preselentsi 59.38 305⇑*i*P **P** 03 14 55.3 +0.6
TESR Tescani 59.65 309⇑*i*P **P** 03 14 56.9 +0.3
VRI Vrincioaia 59.77 308⇑P **P** 03 14 58.0 +0.5
VRI Vrincioaia 59.77 308⇑*i*P **P** 03 14 58.0 +0.5
PLOR Plostina 59.83 308⇓P **P** 03 14 59.1 +1.2
PLOR Plostina 59.83 308⇓*i*P **P** 03 14 59.1 +1.2
ISR Istrita 60.11 307⇑P **P** 03 15 00.8 +1.0
ISR Istrita 60.11 307⇑*i*P **P** 03 15 00.8 +1.0
BURAR Bucovina Array 60.30 310⇑P **P** 03 15 01.7 +0.6
BURAR Bucovina Array 60.30 310⇑*i*P **P** 03 15 01.7 +0.6
BUR08 Bucovina Ar. S 60.30 310 *e*P **P** 03 15 00.8 -0.3
MLR Muntele Rosu 60.41 308⇑P **P** 03 15 03.2 +1.3
MLR Muntele Rosu 60.41 308⇑*i*P **P** 03 15 03.2 +1.3
LVV L'vov 60.47 313 *e*P **P** 03 15 01.3 -0.8
DOPR Dopca 60.64 308⇓*i*P **P** 03 15 04.2 +0.8
JMB Yambol 60.85 304⇓P **P** 03 15 04.9 0.0
JMB Yambol 60.85 304⇓*i*P **P** 03 15 04.9 0.0
KWP Kalwaria Pacla 61.34 313 *e*P **P** 03 15 08.6 +0.5
KWP Kalwaria Pacla 61.34 313 *e*P **P** 03 15 08.6 +0.5
KOLS Kolonicke sedl 61.81 312 *e*P **P** 03 15 11.0 -0.3
KOLS pmax pmax
comp=Z,3.0nm,0.8s
KOLS Kolonicke sedl 61.81 312 *e*P **P** 03 15 11.0 -0.3
LOT Lotru 61.88 308⇑*i*P **P** 03 15 11.9 0.0
UZH Uzhgorod 61.89 312 *e*P **P** 03 15 11.4 -0.4
UZH *i* 03 15 53.2
KDZ Kurdzhali 61.94 304⇑P **P** 03 15 12.7 +0.5
KDZ Kurdzhali 61.94 304⇑*i*P **P** 03 15 12.7 +0.5
AS31 Alice Springs 62.01 149 *e*P **P** 03 15 12.9 0.0
ASAR Alice Springs 62.01 149 P **P** 03 15 13.3 +0.5
comp=Z,4.3nm,0.5s,baz=334,slow=6.6,SNR=45
DRGR 62.17 310⇑P **P** 03 15 14.2 +0.4
DRGR 62.17 310⇑*i*P **P** 03 15 14.2 +0.4
STHS Stebnicka Huta 62.32 313 *e*P **P** 03 15 14.8 +0.1
STHS pmax pmax
comp=Z,3.0nm,0.8s
STHS Stebnicka Huta 62.32 313 *e*P **P** 03 15 14.8 +0.1
GZR Gura Zlata 62.56 308⇑P **P** 03 15 16.1 -0.3
GZR Gura Zlata 62.56 308⇑*i*P **P** 03 15 16.1 -0.3
NIE Niedzica 62.90 313 *e*P **P** 03 15 19.3 +0.8
NIE Niedzica 62.90 313 *e*P **P** 03 15 19.4 +0.9
OJC Ojcow 62.97 314 *e*P **P** 03 15 19.0 +0.1
OJC Ojcow 62.97 314 *e*P **P** 03 15 19.1 +0.1

SIRR Siria 63.03 309⇑*i*P **P** 03 15 19.9 +0.5
MMB Musomiste 63.15 304⇓P **P** 03 15 20.5 +0.1
MMB Musomiste 63.15 304⇓*i*P **P** 03 15 20.5 +0.1
VTS Vitosha 63.18 305⇓P **P** 03 15 21.5 +0.8
VTS Vitosha 63.18 305⇓*i*P **P** 03 15 21.5 +0.8
BZS Buzias 63.26 309⇓P **P** 03 15 21.3 +0.3
BZS Buzias 63.26 309⇓*i*P **P** 03 15 21.3 +0.3
PSZ Piszkesteto 63.63 312 *e*P **P** 03 15 24.3 +0.8
PSZ pmax pmax
comp=Z,8.0nm,1.1s
PSZ Piszkesteto 63.63 312 *e*P **P** 03 15 24.3 +0.8
comp=Z,8.1nm,1.1s
OKC Ostrava-Krasne 64.10 314 *e*P **P** 03 15 26.3 -0.1
OKC *ep*P **pP** 03 15 32.1 +0.7
OKC AMS AMS 03 44 20.0
comp=Z,300nm,16.6s
OKC Ostrava-Krasne 64.10 314 *e*P **P** 03 15 26.3 -0.1
OKC *e* 03 15 32.1
OKC MLR MLR
comp=Z,300nm,16.6s
NB2 NORSAR Subarra 64.15 327 P **P** 03 15 25.6 -1.0
comp=Z,6.1nm,0.7s,baz=73,slow=6.9
NOA NORSAR Array B 64.15 327 P **P** 03 15 25.7 -0.9
comp=Z,4.4nm,0.7s,baz=72,slow=6.8,SNR=25
NAO01 NORSAR Array S 64.37 327 *e*P **P** 03 15 27.1 -1.0
KRLC Kraliky 64.85 315 *e*P **P** 03 15 31.7 +0.3
KRLC *ep*P **pP** 03 15 37.0 +0.6
KRLC Kraliky 64.85 315 *e*P **P** 03 15 31.7 +0.3
KRLC *e* 03 15 37.0
KSP Ksiaz 64.88 316 *e*P **P** 03 15 32.3 +0.8
KSP Ksiaz 64.88 316 *e*P **P** 03 15 32.3 +0.8
PKSM Moragy 65.02 310⇑P **P** 03 15 32.6 +0.1
PKSM Moragy 65.02 310⇑*i*P **P** 03 15 32.6 +0.1
PKSM Moragy 65.02 310⇑*i*P **P** 03 15 32.4 -0.1
DPC Dobruska-Polom 65.03 315 *e*P **P** 03 15 33.1 +0.5
DPC *ep*P **pP** 03 15 38.4 +0.8
DPC AMS AMS 03 45 00.0
comp=Z,300nm,16.9s
DPC Dobruska-Polom 65.03 315 *e*P **P** 03 15 33.1 +0.5
DPC *e* 03 15 38.4
DPC *e* 03 15 38.4
DPC MLR MLR
comp=Z,300nm,16.9s
PKST T"'s 65.04 311⇑*e*P **P** 03 15 33.0 +0.3
UPC Upice 65.16 315 *e*P **P** 03 15 33.9 +0.5
UPC Upice 65.16 315 *e*P **P** 03 15 33.9 +0.5
CTA Charters Tower 65.42 136 LR LR 03 47 09.8
comp=Z,141nm,19.3s,baz=109,slow=39
TREC Trest 65.91 314 *e*P **P** 03 15 38.6 +0.3
TREC AMS AMS 03 45 40.0
comp=Z,200nm,18.9s
TREC Trest 65.91 314 *e*P **P** 03 15 38.6 +0.3
TREC MLR MLR
comp=Z,200nm,18.9s
CONA Conrad Observa 66.18 313⇑*i*pP **P** 03 15 40.5 +0.4
comp=Z,7.4nm,1.3s
PRU Pruhonice 66.23 315 *e*P **P** 03 15 39.8 -0.5
PRU *ep*P **pP** 03 15 46.3 +1.1
PRU AMS AMS 03 45 40.0
comp=Z,500nm,18.0s
PRU Pruhonice 66.23 315 *e*P **P** 03 15 39.8 -0.5
PRU *e* 03 15 46.3
PRU MLR MLR
comp=Z,500nm,18.0s
BRG Berggiesshubel 66.26 316 *e*P **P** 03 15 40.6 +0.1
comp=Z,4.8nm,0.9s
BRG *e* 03 15 46.3
comp=Z,6.4nm,0.9s
BRG *e* 03 34 08.3
comp=Z,2.9nm,0.8s
BRG Berggiesshubel 66.26 316 *e*P **P** 03 15 40.6 +0.1
BRG *e* 03 15 46.3
BRG pmax pmax
comp=Z,5.0nm,0.9s
CLL Collm 66.65 317 *e*P **P** 03 15 42.7 -0.2
comp=Z,8.0nm,1.3s
CLL Collm 66.65 317 *i* P **P** 03 15 42.5 -0.4
comp=Z,8.0nm,1.3s
CLL *es*P **sP** 03 15 48.0 -1.8
CLL *e*(PP) 03 18 05.0
CLL LmV 03 45 00.0
comp=Z,200nm,18.4s
CLL Collm 66.65 317 *i* P **P** 03 15 42.5 -0.4
CLL *e* 03 15 48.0
CLL pmax pmax
comp=Z,8.0nm,1.3s
COLD Coldfoot 66.77 24 *e*P **P** 03 15 44.0 +0.6
comp=Z,12nm,1.0s
KHC Kasperske Hory 67.13 315 *e*P **P** 03 15 46.4 +0.3
KHC AMS AMS 03 46 10.0
comp=Z,200nm,15.0s
KHC Kasperske Hory 67.13 315 *e*P **P** 03 15 46.4 +0.3
KHC MLR MLR
comp=Z,200nm,15.0s
BSEG Bad Segeberg 67.16 320 *e*P **P** 03 15 46.7 +0.6
comp=Z,12nm,1.0s
GERES GERESS Array B 67.17 314 P **P** 03 15 46.2 -0.2
comp=Z,1.8nm,0.7s,baz=76,slow=5.6,SNR=20
GERES LR LR 03 46 47.5
comp=Z,175nm,19.0s,baz=74,slow=37
MOA Molln 67.20 313⇑*i*pP **P** 03 15 47.0 +0.4
comp=Z,6.4nm,1.0s
TANN Tannbergstha 67.31 316 *e*P **P** 03 15 47.5 +0.3
comp=Z,14nm,1.5s
NKC Novy Kostel 67.39 316 *e*P **P** 03 15 47.7 0.0
NKC Novy Kostel 67.39 316 *e*P **P** 03 15 47.7 0.0
GUNZ Gunzen 67.40 316 *e*P **P** 03 15 48.0 +0.2
comp=Z,12nm,1.4s
WET Wettzell 67.55 315 *e*P **P** 03 15 48.9 +0.1
comp=Z,8.0nm,1.3s
ROTZ Rotzenmuhle 67.71 316 *e*P **P** 03 15 50.4 +0.7
comp=Z,16nm,1.3s
NRDL Niederasch Rie 67.84 319 *e*P **P** 03 15 51.5 +1.1
comp=Z,40nm,2.1s
BPAW Bear Paw Mtn. 67.91 27 *e*P **P** 03 15 50.7 0.0
comp=Z,2.9nm,1.2s
CLZ Clausthal 67.96 318 *e*P **P** 03 15 51.7 +0.4
comp=Z,8.0nm,0.9s
PPLA Purkeypile 67.97 29 *e*P **P** 03 15 51.9 +0.6
comp=Z,5.6nm,0.6s
GRF Grafenberg Arr 68.33 316 *e*P **P** 03 15 54.1 +0.5
comp=Z,11nm,1.1s
GRFO Grafenberg 68.33 316 *e*P **P** 03 15 54.0 +0.4
GRFO pmax pmax
comp=Z,8.0nm,0.8s
GRFO Grafenberg 68.33 316 *e*P **P** 03 15 54.0 +0.4
comp=Z,8.4nm,0.8s
TRF Thorofare Moun 68.48 28 *e*P **P** 03 15 54.6 +0.1
comp=Z,2.7nm,0.7s
COLA College 68.73 26 *e*P **P** 03 15 55.6 -0.2
COLA pmax pmax
comp=Z,19nm,1.0s
COLA College 68.73 26 *e*P **P** 03 15 55.6 -0.2
comp=Z,19nm,1.0s
RSO Redoubt South 68.84 31 *e*P **P** 03 15 57.4 +0.6
comp=Z,20nm,0.9s
MCK McKinley 68.88 27 *e*P **P** 03 15 56.1 -0.7
MCK pmax pmax
comp=Z,5.0nm,0.9s
MCK McKinley 68.88 27 *e*P **P** 03 15 56.1 -0.7
comp=Z,4.9nm,0.9s
FUR Furstenfeldbru 68.92 314 *e*P **P** 03 15 58.2 +0.9
comp=Z,36nm,1.3s
TIP Timpagrande 68.99 304 *e*P **P** 03 15 57.5 -0.5
comp=Z,14nm,1.3s
ILAR Eielson Array 69.14 26 P **P** 03 15 57.2 -1.1
comp=Z,3.3nm,1.0s,baz=279,slow=6.0,SNR=29
MOTA Moosalm 69.36 313⇑*i*P **P** 03 15 59.8 -0.5
comp=Z,6.7nm,0.9s
FETA Feichten 69.73 313⇓*i*P **P** 03 16 02.0 -0.5
comp=Z,9.4nm,0.9s
PMR Palmer 69.85 29 *e*P **P** 03 16 02.9 +0.1
PMR pmax pmax
comp=Z,12nm,1.0s
PMR Palmer 69.85 29 *e*P **P** 03 16 02.9 +0.1
comp=Z,12nm,1.0s
AQU L'Aquila 69.98 308 *e*P **P** 03 16 03.9 -0.2
AQU pmax pmax
comp=Z,33nm,1.2s
AQU L'Aquila 69.98 308 *e*P **P** 03 16 03.9 -0.2
comp=Z,33nm,1.2s
KDAK Kodiak Island 70.17 34*ce*P **P** 03 16 05.1 +0.3
BFO Black Forest 70.63 315 *e*P **P** 03 16 07.5 -0.4
BFO pmax pmax
comp=Z,8.0nm,1.2s

BFO Black Forest 70.63 315 *e*P **P** 03 16 07.5 -0.4
comp=Z,7.7nm,1.2s
DOT Dot Lake 70.78 26 *e*P **P** 03 16 08.9 +0.4
comp=Z,2.1nm,0.6s
EGAK Eagle 71.20 24 *e*P **P** 03 16 11.0 0.0
comp=Z,7.2nm,1.0s
CDF Champ du Feu 71.22 316 *e*P **P** 03 16 11.2 -0.3
comp=Z,9.5nm,0.7s
CDF Champ du Feu 71.22 316 *e*P **P** 03 16 11.2 -0.3
CDF pmax pmax
comp=Z,10.0nm,0.7s
CDF Champ du Feu 71.22 316 *e*P **P** 03 16 11.2 -0.3
comp=Z,9.5nm,0.7s
KMBO Kilima Mbogo 71.22 256 P **P** 03 16 12.3 +0.1
comp=Z,6.5nm,0.9s,baz=45,slow=10,SNR=12
KMBO Kilima Mbogo 71.22 256 *e*P **P** 03 16 12.3 +0.1
KMBO pmax pmax
comp=Z,9.0nm,1.0s
KMBO Kilima Mbogo 71.22 256 *e*P **P** 03 16 12.3 +0.1
comp=Z,8.7nm,1.0s
WLF Walferdange 71.31 317 *e*P **P** 03 16 13.1 +1.1
WLF Walferdange 71.31 317 *e*P **P** 03 16 13.0 +1.1
WLF pmax pmax
comp=Z,5.0nm,0.3s
WLF Walferdange 71.31 317 *e*P **P** 03 16 13.0 +1.0
comp=Z,5.1nm,0.3s
INK Inuvik 71.44 19 P **P** 03 16 12.5 +0.1
comp=Z,10nm,0.9s,baz=326,slow=7.3,SNR=29
HINF Hinteralfeld 71.74 315 *e*P **P** 03 16 14.2 -0.5
comp=Z,8.4nm,0.9s
HINF Hinteralfeld 71.74 315 *e*P **P** 03 16 14.2 -0.5
HINF pmax pmax
comp=Z,8.0nm,0.9s
HINF Hinteralfeld 71.74 315 *e*P **P** 03 16 14.2 -0.5
comp=Z,8.4nm,0.9s
GIVF Givet 71.87 318 *e*P **P** 03 16 15.3 0.0
GIVF Givet 71.87 318 *e*P **P** 03 16 15.3 0.0
GIVF Givet 71.87 318 *e*P **P** 03 16 15.3 0.0
HAU Haudompre 71.96 316 *e*P **P** 03 16 15.5 -0.4
HAU Haudompre 71.96 316 *e*P **P** 03 16 15.5 -0.4
HAU Haudompre 71.96 316 *e*P **P** 03 16 15.5 -0.4
BMRM Bremner River 72.04 29 *e*P **P** 03 16 16.7 +0.4
comp=Z,27nm,1.1s
PAGF Fort de Pagny 72.07 316 *e*P **P** 03 16 16.7 +0.1
comp=Z,3.5nm,0.9s
PAGF Fort de Pagny 72.07 316 *e*P **P** 03 16 16.7 +0.1
comp=Z,3.5nm,0.9s
BAIF Baives 72.24 318 *e*P **P** 03 16 17.7 +0.2
BAIF Baives 72.24 318 *e*P **P** 03 16 17.7 +0.2
BAIF Baives 72.24 318 *e*P **P** 03 16 17.7 +0.2
STKA Stephens Creek 72.51 147 P **P** 03 16 18.2 -1.0
comp=Z,5.0nm,0.7s,baz=339,slow=6.0,SNR=7.6
SFTF Sexfontaines 72.64 316 *e*P **P** 03 16 19.6 -0.4
comp=Z,9.3nm,0.7s
SFTF Sexfontaines 72.64 316 *e*P **P** 03 16 19.6 -0.4
comp=Z,9.3nm,0.6s
CABF La Chapelle 72.77 314 *e*P **P** 03 16 20.5 -0.3
CABF La Chapelle 72.77 314 *e*P **P** 03 16 20.5 -0.3
CABF La Chapelle 72.77 314 *e*P **P** 03 16 20.5 -0.3
SUMG Summit 72.78 349 *i* P **P** 03 16 20.9 0.0
SUMG Summit 72.78 349 *i* P **P** 03 16 20.9 0.0
PGF Pioggiola 72.82 310 *e*P **P** 03 16 21.4 +0.2
comp=Z,33nm,0.7s
PGF Pioggiola 72.82 310 *e*P **P** 03 16 21.4 +0.2
PGF pmax pmax
comp=Z,33nm,0.7s
PGF Pioggiola 72.82 310 *e*P **P** 03 16 21.4 +0.2
comp=Z,33nm,0.7s
LPG La Plagne 72.88 313 *e*P **P** 03 16 22.1 +0.3
comp=Z,34nm,0.7s
LPG La Plagne 72.88 313 *e*P **P** 03 16 22.1 +0.3
LPG pmax pmax
comp=Z,35nm,0.7s
LPG La Plagne 72.88 313 *e*P **P** 03 16 22.1 +0.3
comp=Z,34nm,0.7s
LPL La Plagne 72.89 313⇑*i*P **P** 03 16 22.0 +0.3
comp=Z,32nm,0.7s
LPL La Plagne 72.89 313⇑*i*P **P** 03 16 22.0 +0.3
LPL pmax pmax
comp=Z,32nm,0.7s
LPL La Plagne 72.89 313⇑*i*P **P** 03 16 22.0 +0.3
comp=Z,32nm,0.7s
BNI Bardonecchia 73.14 313 *e*P **P** 03 16 22.2 -0.9
BNI pmax pmax
comp=Z,4.0nm,0.6s
BNI Bardonecchia 73.14 313 *e*P **P** 03 16 22.2 -0.9
comp=Z,4.3nm,0.6s
KULLO Kullorsuaq 73.18 355 *i* P **P** 03 16 23.2 +0.5
comp=Z,18nm,1.0s
SBF Sospel 73.22 311 *e*P **P** 03 16 23.3 -0.2
comp=Z,35nm,0.8s
SBF Sospel 73.22 311 *e*P **P** 03 16 23.3 -0.2
SBF pmax pmax
comp=Z,35nm,0.8s
SBF Sospel 73.22 311 *e*P **P** 03 16 23.3 -0.2
comp=Z,35nm,0.8s
MBDF Montbardon 73.23 312 *e*P **P** 03 16 23.1 -0.6
comp=Z,7.4nm,0.5s
MBDF Montbardon 73.23 312 *e*P **P** 03 16 23.1 -0.6
MBDF pmax pmax
comp=Z,7.0nm,0.5s
MBDF Montbardon 73.23 312 *e*P **P** 03 16 23.1 -0.6
comp=Z,7.0nm,0.5s
ORIF Oris-en-Rattie 73.70 313 *e*P **P** 03 16 26.3 -0.1
comp=Z,21nm,1.0s
ORIF Oris-en-Rattie 73.70 313 *e*P **P** 03 16 26.3 -0.1
ORIF pmax pmax
comp=Z,21nm,1.0s
ORIF Oris-en-Rattie 73.70 313 *e*P **P** 03 16 26.3 -0.1
comp=Z,21nm,1.0s
FRF La Foret Royal 73.86 311 *e*P **P** 03 16 27.3 0.0
comp=Z,9.5nm,0.9s
FRF La Foret Royal 73.86 311 *e*P **P** 03 16 27.3 0.0
FRF pmax pmax
comp=Z,10.0nm,0.9s
FRF La Foret Royal 73.86 311 *e*P **P** 03 16 27.3 0.0
comp=Z,9.5nm,0.9s
LMR La Mourre 74.06 311 *e*P **P** 03 16 28.1 -0.3
comp=Z,9.4nm,0.6s
LMR La Mourre 74.06 311 *e*P **P** 03 16 28.1 -0.3
LMR pmax pmax
comp=Z,9.0nm,0.6s
LMR La Mourre 74.06 311 *e*P **P** 03 16 28.1 -0.3
comp=Z,9.4nm,0.6s
SSF Saint Saulge 74.10 316 *e*P **P** 03 16 28.1 -0.5
comp=Z,5.2nm,0.8s
SSF Saint Saulge 74.10 316 *e*P **P** 03 16 28.1 -0.5
SSF pmax pmax
comp=Z,5.0nm,0.8s
SSF Saint Saulge 74.10 316 *e*P **P** 03 16 28.1 -0.5
comp=Z,5.2nm,0.8s
SMF Signal de Mont 74.11 315 *e*P **P** 03 16 28.2 -0.4
comp=Z,18nm,0.8s
SMF Signal de Mont 74.11 315 *e*P **P** 03 16 28.2 -0.4
SMF pmax pmax
comp=Z,18nm,0.8s
SMF Signal de Mont 74.11 315 *e*P **P** 03 16 28.2 -0.4
comp=Z,18nm,0.8s
AVF Avril sur Loir 74.33 316⇑*i*P **P** 03 16 29.5 -0.4
comp=Z,12nm,0.8s
AVF Avril sur Loir 74.33 316⇑*i*P **P** 03 16 29.5 -0.4
AVF pmax pmax
comp=Z,13nm,0.8s
AVF Avril sur Loir 74.33 316⇑*i*P **P** 03 16 29.5 -0.4
comp=Z,12nm,0.8s
VIVF Saint-Julien-l 74.48 313 *e*P **P** 03 16 30.7 -0.2
comp=Z,14nm,1.0s
VIVF Saint-Julien-l 74.48 313 *e*P **P** 03 16 30.7 -0.2
VIVF pmax pmax
comp=Z,15nm,1.0s
VIVF Saint-Julien-l 74.48 313 *e*P **P** 03 16 30.7 -0.2
comp=Z,14nm,1.0s
BGF Bois d'Agland 74.75 315 *e*P **P** 03 16 31.9 -0.4
BGF Bois d'Agland 74.75 315 *e*P **P** 03 16 31.9 -0.4
BGF Bois d'Agland 74.75 315 *e*P **P** 03 16 31.9 -0.4
HYT Haines Junctio 74.93 27 *e*P **P** 03 16 33.9 +0.6
TCF Toulx Ste Croi 75.26 315 *e*P **P** 03 16 35.2 -0.2
comp=Z,21nm,1.2s
TCF Toulx Ste Croi 75.26 315 *e*P **P** 03 16 35.2 -0.2
TCF pmax pmax
comp=Z,21nm,1.2s
TCF Toulx Ste Croi 75.26 315 *e*P **P** 03 16 35.2 -0.2
comp=Z,21nm,1.2s
LASF Ste Croix 75.37 313 *e*P **P** 03 16 36.2 +0.2
comp=Z,15nm,0.9s
LASF Ste Croix 75.37 313 *e*P **P** 03 16 36.2 +0.2

	comp=Z,15nm,0.9s									
LDF	**La Druitiere**	**75.43**	**318**	*e*P		**P**	**03**	**16**	**35.8**	**-0.4**
	comp=Z,16nm,1.0s									
LDF	**La Druitiere**	**75.43**	**318**	*e*P		**P**	**03**	**16**	**35.8**	**-0.4**
LDF				pmax	pmax					
	comp=Z,16nm,1.0s									
LDF	**La Druitiere**	**75.43**	**318**	*e*P		**P**	**03**	**16**	**35.8**	**-0.4**
	comp=Z,16nm,1.0s									
KEST	**Kesra**	**75.80**	**303**	P		**P**	**03**	**16**	**38.5**	**-0.3**
	comp=Z,2.1nm,0.9s,baz=340,slow=6.2,SNR=6.0									
KEST	**Kesra**	**75.80**	**303**	*e*P		**P**	**03**	**16**	**38.7**	**0.0**
GRR	**Gorron**	**75.95**	**318**	*e*P		**P**	**03**	**16**	**39.0**	**-0.2**
	comp=Z,21nm,0.7s									
GRR	**Gorron**	**75.95**	**318**	*e*P		**P**	**03**	**16**	**39.0**	**-0.2**
GRR				pmax	pmax					
	comp=Z,21nm,0.7s									
GRR	**Gorron**	**75.95**	**318**	*e*P		**P**	**03**	**16**	**39.0**	**-0.2**
	comp=Z,21nm,0.7s									
CAF	**Calviac**	**76.05**	**314**	⇑*i*P		**P**	**03**	**16**	**40.2**	**+0.3**
	comp=Z,9.3nm,0.8s									
CAF	**Calviac**	**76.05**	**314**	⇑*i*P		**P**	**03**	**16**	**40.2**	**+0.3**
CAF				pmax	pmax					
	comp=Z,9.0nm,0.8s									
CAF	**Calviac**	**76.05**	**314**	⇑*i*P		**P**	**03**	**16**	**40.2**	**+0.3**
	comp=Z,9.3nm,0.8s									
RJF	**Les Rejaudoux**	**76.18**	**315**	*e*P		**P**	**03**	**16**	**41.0**	**+0.4**
	comp=Z,11nm,0.8s									
RJF	**Les Rejaudoux**	**76.18**	**315**	*e*P		**P**	**03**	**16**	**41.0**	**+0.4**
RJF				pmax	pmax					
	comp=Z,11nm,0.8s									
RJF	**Les Rejaudoux**	**76.18**	**315**	*e*P		**P**	**03**	**16**	**41.0**	**+0.4**
	comp=Z,11nm,0.8s									
MFF	**Saint Martin d**	**76.49**	**317**	*e*P		**P**	**03**	**16**	**42.4**	**+0.1**
	comp=Z,27nm,1.1s									
MFF	**Saint Martin d**	**76.49**	**317**	*e*P		**P**	**03**	**16**	**42.4**	**+0.1**
MFF				pmax	pmax					
	comp=Z,27nm,1.1s									
MFF	**Saint Martin d**	**76.49**	**317**	*e*P		**P**	**03**	**16**	**42.4**	**+0.1**
	comp=Z,27nm,1.1s									
MTLF	**Montolieu**	**76.77**	**313**	*e*P		**P**	**03**	**16**	**44.0**	**0.0**
	comp=Z,4.5nm,0.8s									
MTLF	**Montolieu**	**76.77**	**313**	*e*P		**P**	**03**	**16**	**44.0**	**0.0**
MTLF				pmax	pmax					
	comp=Z,5.0nm,0.8s									
MTLF	**Montolieu**	**76.77**	**313**	*e*P		**P**	**03**	**16**	**44.0**	**0.0**
	comp=Z,4.5nm,0.8s									
LFF	**La Frestale**	**76.84**	**315**	*e*P		**P**	**03**	**16**	**44.7**	**+0.4**
	comp=Z,14nm,0.8s									
LFF	**La Frestale**	**76.84**	**315**	*e*P		**P**	**03**	**16**	**44.7**	**+0.4**
LFF				pmax	pmax					
	comp=Z,14nm,0.8s									
LFF	**La Frestale**	**76.84**	**315**	*e*P		**P**	**03**	**16**	**44.7**	**+0.4**
	comp=Z,14nm,0.8s									
SGMF	**Saint Gilles**	**76.98**	**319**	*e*P		**P**	**03**	**16**	**45.3**	**+0.3**
	comp=Z,31nm,1.1s									
SGMF	**Saint Gilles**	**76.98**	**319**	*e*P		**P**	**03**	**16**	**45.3**	**+0.3**
SGMF				pmax	pmax					
	comp=Z,31nm,1.1s									
SGMF	**Saint Gilles**	**76.98**	**319**	*e*P		**P**	**03**	**16**	**45.3**	**+0.3**
	comp=Z,31nm,1.1s									
ROSF	**Rostrenen**	**77.33**	**319**	*e*P		**P**	**03**	**16**	**46.5**	**-0.5**
	comp=Z,34nm,1.1s									
ROSF	**Rostrenen**	**77.33**	**319**	*e*P		**P**	**03**	**16**	**46.5**	**-0.5**
ROSF				pmax	pmax					
	comp=Z,35nm,1.1s									
ROSF	**Rostrenen**	**77.33**	**319**	*e*P		**P**	**03**	**16**	**46.5**	**-0.5**
	comp=Z,34nm,1.1s									
EPF	**Esparros**	**78.10**	**313**	*e*P		**P**	**03**	**16**	**51.3**	**-0.2**
EPF	**Esparros**	**78.10**	**313**	*e*P		**P**	**03**	**16**	**51.3**	**-0.2**
EPF	**Esparros**	**78.10**	**313**	*e*P		**P**	**03**	**16**	**51.3**	**-0.2**
DLBC	**Dease Lake**	**79.35**	**26**	P		**P**	**03**	**16**	**59.3**	**+1.2**
	comp=Z,2.2nm,0.7s,baz=304,slow=8.8									
SFJD	**Kangerlussuaq**	**79.67**	**350**	*i* P		**P**	**03**	**16**	**59.5**	**-0.1**
SFJD	**Kangerlussuaq**	**79.67**	**350**	*i* P		**P**	**03**	**16**	**59.5**	**-0.1**
WRAK	**Wrangell Islan**	**79.87**	**28**	*e*P		**P**	**03**	**17**	**01.2**	**+0.4**
	comp=Z,6.9nm,0.8s									
YKA	**Yellowknife Ar**	**80.97**	**17**	P		**P**	**03**	**17**	**06.8**	**+0.2**
	comp=Z,6.3nm,0.7s,baz=330,slow=5.2,SNR=60									
YKA				PKKPbc		**PKKPbc**	**03**	**35**	**41.4**	**-3.0**
	comp=Z,0.3nm,0.7s,baz=130,slow=2.6,SNR=4.0									
ESDC	**Sonseca Array**	**82.66**	**312**	P		**P**	**03**	**17**	**16.1**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=36,slow=5.3,SNR=6.4									
TAM	**Tamanrasset**	**85.28**	**294**	*e*P		**P**	**03**	**17**	**29.6**	**-0.2**
TAM				pmax	pmax					
	comp=Z,1.0nm,0.8s									
TAM	**Tamanrasset**	**85.28**	**294**	*e*P		**P**	**03**	**17**	**29.6**	**-0.2**
	comp=Z,1.2nm,0.8s									
MSVF	**Nonsavu**	**86.10**	**113**	P		**P**	**03**	**17**	**33.1**	**-0.6**
	comp=Z,268nm,1.1s,SNR=7.1									
MSVF	**Nonsavu**	**86.10**	**113**	*e*P		**P**	**03**	**17**	**32.0**	**-1.7**
LSZ	**Lusaka**	**86.55**	**250**	*e*P		**P**	**03**	**17**	**35.5**	**-0.6**
LSZ				pmax	pmax					
	comp=Z,7.0nm,0.9s									
LSZ	**Lusaka**	**86.55**	**250**	*e*P		**P**	**03**	**17**	**35.5**	**-0.6**
	comp=Z,6.5nm,0.9s									
FCC	**Fort Churchill**	**88.48**	**9**	*e*P		**P**	**03**	**17**	**43.0**	**-1.5**
FCC	**Fort Churchill**	**88.48**	**9**	*e*P		**P**	**03**	**17**	**43.0**	**-1.5**
EDM	**Edmonton**	**89.22**	**22**	*e*P		**P**	**03**	**17**	**49.0**	**+0.8**
EDM	**Edmonton**	**89.22**	**22**	*e*P		**P**	**03**	**17**	**49.0**	**+0.8**
FFC	**Flin Flon**	**90.90**	**15**	*e*P		**P**	**03**	**17**	**55.9**	**-0.1**
FFC				pmax	pmax					
	comp=Z,6.0nm,1.2s									
FFC	**Flin Flon**	**90.90**	**15**	*e*P		**P**	**03**	**17**	**55.9**	**-0.1**
	comp=Z,5.5nm,1.2s									
NEW	**Newport**	**92.09**	**26**	P		**P**	**03**	**18**	**03.0**	**+1.3**
	comp=Z,2.9nm,0.8s,baz=6.4,slow=2.5,SNR=4.9									
NEW	**Newport**	**92.09**	**26**	*e*P		**P**	**03**	**18**	**03.0**	**+1.3**
NEW				pmax	pmax					
	comp=Z,2.0nm,0.9s									
NEW	**Newport**	**92.09**	**26**	*e*P		**P**	**03**	**18**	**03.0**	**+1.3**
	comp=Z,1.8nm,0.9s									
SCHQ	**Scheffer ville**	**93.38**	**355**	P		**P**	**03**	**18**	**06.6**	**-0.8**
	comp=Z,3.9nm,0.7s,baz=62,slow=4.5,SNR=5.2									
TOA0	**Torodi Ar. Sit**	**93.57**	**288**	*e*P		**P**	**03**	**18**	**08.0**	**-1.0**
TORD	**Torodi Ar. Bea**	**93.57**	**288**	P		**P**	**03**	**18**	**08.6**	**-0.4**
	comp=Z,3.0nm,1.0s,baz=46,slow=3.6,SNR=13									
TORD				PP		**PP**	**03**	**21**	**53.5**	**-0.1**
	comp=Z,0.8nm,1.1s,baz=323,slow=3.7,SNR=3.9									
SLMT	**Seeley Lake**	**94.28**	**25**	*e*P		**P**	**03**	**18**	**12.5**	**+0.5**
	comp=Z,4.6nm,1.1s									
TXAR	**Lajitas Array**	**113.64**	**27**	PKiKP		**PKiKP**	**03**	**23**	**31.3**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=13,slow=1.7,SNR=4.7									
SDV	**Santo Domingo**	**139.25**	**352**	*e*PKPdf		**PKPdf**	**03**	**24**	**20.1**	**-0.3**
OTAV	**Otavalo**	**148.02**	**5**	*e*PKPdf		**PKPdf**	**03**	**24**	**36.8**	**+0.6**
OTAV				*e*PKPbc		**PKPbc**	**03**	**24**	**39.6**	**+0.4**
BDFB	**Brasilia**	**150.09**	**296**	PKPbc		**PKPbc**	**03**	**24**	**42.7**	**-1.2**
	comp=Z,2.9nm,0.8s,baz=135,slow=2.9,SNR=3.4									
BDFB				PKPab		**PKPab**	**03**	**24**	**49.3**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=143,slow=5.1,SNR=3.3									
SAML	**Samuel**	**154.45**	**330**	*e*PKPdf		**PKPdf**	**03**	**24**	**45.0**	**-0.4**
SAML				*e*PKPbc		**PKPbc**	**03**	**24**	**53.2**	**-0.4**
SAML				*e*PKPab		**PKPab**	**03**	**25**	**07.5**	**-0.3**
LPAZ	**La Paz**	**163.08**	**334**	PKP		**PKPdf**	**03**	**24**	**55.9**	**-0.4**
	comp=Z,3.0nm,0.9s,baz=35,slow=2.8,SNR=8.5									
LPAZ				PKPab		**PKPab**	**03**	**25**	**44.3**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=32,slow=4.8,SNR=2.8									

IDC 28 03:08:20.7±2.2,17°87S×168°91E,h0km,mb3.9/3, mb1 4.1/4,mb1mx3.7/40,mbtmp3.9/4,ML3.6/1,MS3.7/3, Ms1 3.7/3,ms1mx3.4/21,Error ellipse: s-maj=81.4km s-min=27.1km az=125.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
DZM	**Mont Dzumac**	**4.78**	**209**	Pn		Pn	03	09	33.6	-0.6
	2.5nm,0.3s,baz=90,slow=20,SNR=27									
DZM				Sn		Sn	03	10	31.6	+1.2
	5.0nm,0.3s,baz=270,slow=20,SNR=2.9									
DZM				LR		LR	03	10	58.8	
	comp=Z,624nm,18.3s,baz=0.0,slow=33									
RAO	**Raoul Island**	**16.54**	**136**	LR		LR	03	16	37.5	
	comp=Z,303nm,21.9s,baz=332,slow=30									
URZ	**Urewera**	**21.55**	**162**	LR		LR	03	19	45.0	
	comp=Z,303nm,19.6s,baz=340,slow=32									
STKA	**Stephens Creek**	**28.34**	**235**	P		P	03	14	17.0	+0.5
	2.8nm,0.6s,baz=73,slow=9.0,SNR=7.3									
ASAR	**Alice Springs**	**33.18**	**254**	P		P	03	14	59.0	-0.4
	1.9nm,0.8s,baz=82,slow=8.9,SNR=16									
ILAR	**Eielson Array**	**89.02**	**17**	P		P	03	21	17.1	0.0
	0.2nm,0.7s,baz=229,slow=6.9,SNR=3.1									

*BJI **28** 03:14:38.1,14°.19S×167°.63E,h35km,mb4.8/34,mB5.0/26, Ms5.0/12,Ms7 4.7/12*
*ISCJB **28** 03:14:43.7±0.3,14°.01S±0°.04×166°.59E±0°.07,h43km,*
mb4.6/37,MS4.2/6,Error ellipse: s-maj=10.1km s-min=5.4km az=179.6
*MOS **28** 03:14:43.4±0.9,13°.84S×166°.48E,h33km,mb4.9/19,Error ellipse: s-maj=12.2km s-min=10.4km az=1.5*
*NEIC **28** 03:14:44.2±0.4,13°.87S×166°.63E,h35km,mb4.9/15,Error ellipse: s-maj=12.3km s-min=9.6km az=123.0*
*IDC **28** 03:14:44.4±2.0,13°.87S×166°.53E,h30km±13km,mb4.3/21, mb1 4.4/22,mb1mx4.3/38,mbtmp4.4/22,ML4.2/1,MS4.2/7, Ms1 4.2/7,ms1mx3.9/20,Error ellipse: s-maj=17.9km s-min=13.0km az=103.0*
ISC 28 03:14:45.1±0.3,13°.96S±0°.05×166°.58E±0°.08,h43km,n139, σ1°66/165,**mb4.7**/36,**MS4.2**/6,**8C-6D,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
DZM	**Mont Dzumac**	**8.06**	**181**	*e*Pn		**Pn**	**03**	**16**	**38.5**	**-1.3**
	25nm,0.3s									
DZM				*e*Sn		**Sn**	**03**	**18**	**07.0**	**-2.8**
	28nm,0.3s									
DZM				*e*LR		LR	03	18	30.6	
	1μm,24.6s									
DZM	**Mont Dzumac**	**8.06**	**181**	Pn		**Pn**	**03**	**16**	**39.7**	**-0.1**
	2.9nm,0.3s,baz=285,slow=20,SNR=16									
DZM				Sn		**Sn**	**03**	**18**	**10.5**	**+0.7**
	3.9nm,0.3s,baz=270,slow=20,SNR=2.1									
DZM				LR		LR	03	19	34.4	
	comp=Z,1μm,20.8s,baz=0.0,slow=36									
NOUC	**Port Laguerre**	**8.10**	**182**	*e*S		**Sn**	**03**	**18**	**07.2**	**-3.3**
BAYA	**Yate Dam**	**8.15**	**178**	*e*P		**Pn**	**03**	**16**	**43.0**	**+2.1**
BAYA				*e*S		**Sn**	**03**	**18**	**12.1**	**+0.4**
EIDS	**Eidsvold**	**18.47**	**230**	*e*Pn		**Pn**	**03**	**18**	**59.1**	**+1.3**
	48nm,1.4s									
PMG	**Port Moresby**	**19.55**	**281**	*de*P		**Pn**	**03**	**19**	**11.3**	**+0.4**
PMG				pmax	pmax					
	comp=Z,215nm,1.0s									
PMG	**Port Moresby**	**19.55**	**281**	*e*P		**Pn**	**03**	**19**	**11.9**	**+1.0**
	comp=Z,52nm,1.0s									
CTA	**Charters Tower**	**20.36**	**250**	P		Pn	03	19	20.0	-0.5
	comp=Z,13nm,0.9s,baz=74,slow=14,SNR=7.3									
CTAO	**Charters Tower**	**20.36**	**250**	*e*P		Pn	03	19	19.6	-0.9
CTAO				pmax	pmax					
	comp=Z,39nm,1.2s									
CTAO	**Charters Tower**	**20.36**	**250**	*e*P		Pn	03	19	19.6	-0.9
	comp=Z,39nm,1.2s									
COEN	**Coen**	**22.72**	**267**	*e*P		**P**	**03**	**19**	**44.5**	**+1.0**
	comp=Z,31nm,1.1s									
URZ	**Urewera**	**25.94**	**161**	P		**P**	**03**	**20**	**16.2**	**+2.8**
	comp=Z,10nm,1.0s,baz=333,slow=8.4,SNR=2.6									
STKA	**Stephens Creek**	**29.00**	**228**	P		**P**	**03**	**20**	**41.5**	**+0.6**
	comp=Z,16nm,0.7s,baz=39,slow=7.3,SNR=22									
STKA				LR		LR	03	32	27.7	
	comp=Z,1μm,18.1s,baz=52,slow=37									
STKA	**Stephens Creek**	**29.00**	**228**	*e*P		**P**	**03**	**20**	**41.9**	**+1.0**
STKA				pmax	pmax					
	comp=Z,4.0nm,0.8s									
STKA	**Stephens Creek**	**29.00**	**228**	*e*P		**P**	**03**	**20**	**41.9**	**+1.0**
	comp=Z,4.2nm,0.8s									
WRAB	**Tennant Creek**	**31.36**	**255**	*de*P		**P**	**03**	**21**	**01.5**	**-0.5**
WRAB				pmax	pmax					
	comp=Z,33nm,1.2s									
WRAB	**Tennant Creek**	**31.36**	**255**	*e*P		**P**	**03**	**21**	**00.9**	**-1.1**
	comp=Z,14nm,1.2s									
WRA	**Warramunga Arr**	**31.38**	**255**	P		**P**	**03**	**21**	**01.8**	**-0.4**
	comp=Z,8.1nm,1.0s,baz=86,slow=8.8,SNR=24									
WRA				ScP		**ScP**	**03**	**27**	**36.6**	**+1.6**
	comp=Z,1.2nm,1.0s,baz=81,slow=3.3,SNR=4.8									
WRA				LR		LR	03	32	49.4	
	comp=Z,527nm,21.3s,baz=90,slow=35									
H11S2	**WAKE ISLAND Hy**	**32.25**	**0**	T		T	03	53	44.0	
	baz=181,slow=76,SNR=8.9									
H11S3	**WAKE ISLAND Hy**	**32.25**	**0**	T		T	03	53	44.9	
	baz=181,slow=76,SNR=6.7									
H11S1	**WAKE ISLAND Hy**	**32.27**	**0**	T		T	03	53	45.8	
	baz=181,slow=76,SNR=6.4									
ASAR	**Alice Springs**	**32.33**	**248**	P		**P**	**03**	**21**	**10.1**	**-0.5**
	comp=Z,3.3nm,0.7s,baz=73,slow=9.2,SNR=23									
ASAR				ScP		**ScP**	**03**	**27**	**39.4**	**+1.1**
	comp=Z,2.4nm,1.1s,baz=72,slow=3.0,SNR=6.9									
ASAR				LR		LR	03	33	22.7	
	comp=Z,459nm,21.4s,baz=72,slow=35									
BBOO	**Buckleboo**	**33.53**	**231**	*e*P		**P**	**03**	**21**	**21.2**	**+0.3**
	comp=Z,2.9nm,1.1s									
PPT2	**Papeete2**	**42.28**	**101**	*e*LR		LR	03	34	18.5	
	comp=Z,421nm,25.2s									
PPT	**Papeete**	**42.28**	**101**	LR		LR	03	36	25.4	
	comp=Z,139nm,20.0s,baz=253,slow=31									
TBI	**Tubuai**	**42.54**	**109**	*e*S		**S**	**03**	**29**	**00.9**	**+4.3**
	comp=Z,163nm,27.0s									
TBI				*e*LR		LR	03	34	24.6	
	comp=Z,470nm,24.2s									
MBWA	**Marble Bar**	**45.11**	**254**	*e*P		**P**	**03**	**22**	**57.9**	**+0.3**
	comp=Z,34nm,1.2s									
KKM	**Kota Kinabalu**	**53.79**	**288**	*e*P		**P**	**03**	**24**	**02.4**	**-1.6**
	comp=Z,26nm,1.0s									
MJAR	**Matsshiro Ar.**	**56.92**	**333**	P		**P**	**03**	**24**	**26.1**	**+0.1**
	comp=Z,7.8nm,1.1s,baz=161,slow=6.9,SNR=12									
MAJO	**Matsushiro**	**56.92**	**333**	⇑*e*P		**P**	**03**	**24**	**23.2**	**-2.8**
MAJO	**Matsushiro**	**56.92**	**333**	*e*P		P	03	24	22.7	-3.3
	comp=Z,8.9nm,0.9s									
MAT	**Matsushiro**	**56.92**	**333**	P		**P**	**03**	**24**	**26.2**	**+0.2**
JNU	**Nakatsue**	**57.92**	**325**	P		**P**	**03**	**24**	**32.4**	**-0.7**
	comp=Z,6.7nm,0.9s,baz=45,slow=7.1,SNR=2.6									
VNDA	**Vanda**	**63.61**	**181**	P		**P**	**03**	**25**	**13.5**	**+2.4**
	comp=Z,4.0nm,0.7s,baz=0.7,slow=6.5,SNR=17									
SBA	**Scott Base**	**63.90**	**180**	*e*P		**P**	**03**	**25**	**12.2**	**-0.8**
SBA				pmax	pmax					
	comp=Z,12nm,0.8s									
SBA	**Scott Base**	**63.90**	**180**	*e*P		**P**	**03**	**25**	**12.2**	**-0.8**
	comp=Z,12nm,0.8s									
USRK	**Ussuriysk Ar.**	**65.91**	**333**	P		**P**	**03**	**25**	**28.2**	**+1.7**
	comp=Z,8.7nm,1.0s,baz=149,slow=6.1,SNR=13									
PETK	**Petropavlovsk-**	**67.23**	**354**	P		**P**	**03**	**25**	**35.8**	**+1.0**
	comp=Z,3.9nm,0.7s,baz=152,slow=9.6,SNR=7.8									
MDJ	**Mudanjiang**	**67.30**	**332**	P		**P**	**03**	**25**	**36.3**	**+0.9**
MDJ				PMZ						
	comp=Z,8.0nm,0.7s									
MDJ				PMZ						
	comp=Z,66nm,6.7s									
CN2	**Changchun**	**68.65**	**329**	*e*P		**P**	**03**	**25**	**46.5**	**+2.6**
CN2				PMZ						
	comp=Z,10.0nm,0.8s									
KLR	**Kul'dur**	**70.04**	**337**	*e*P		**P**	**03**	**25**	**49.7**	**-2.7**
KLR				pmax	pmax					
	comp=Z,34nm,1.6s									
GYA	**Guiyang**	**70.73**	**305**	P		**P**	**03**	**25**	**58.8**	**+1.5**
GYA				pP		**pP**	**03**	**26**	**10.3**	**+0.3**
GYA				sP		**sP**	**03**	**26**	**15.5**	**+0.7**
GYA				PP		**PP**	**03**	**28**	**38.5**	**+3.9**
GYA				S		**S**	**03**	**35**	**11.0**	**+1.9**
GYA				sS		**sS**	**03**	**35**	**29.3**	**-0.9**
GYA				SKS		**SKSac**	**03**	**35**	**54.5**	**-2.0**
GYA				SS		**SS**	**03**	**39**	**46.8**	**+4.6**
GYA				PMZ						
	comp=Z,20nm,1.0s									
GYA				PMZ						
	comp=Z,120nm,7.0s									
GYA				LN						
	comp=Z,520nm,20.5s									
GYA				LE						
	comp=Z,480nm,23.2s									
GYA				LZ						
	comp=Z,540nm,24.6s									
XAN	**Xi'an**	**72.69**	**313**	P		**P**	**03**	**26**	**10.0**	**+1.2**
XAN				PMZ						
	comp=Z,3.0nm,1.4s									
KMI	**Kunming**	**73.34**	**302**	P		**P**	**03**	**26**	**15.3**	**+2.2**
KMI				PMZ						
	comp=Z,13nm,1.2s									
CMAR	**Chiang Mai Arr**	**74.03**	**294**	P		**P**	**03**	**26**	**19.2**	**+2.2**
	comp=Z,1.0nm,0.3s,baz=121,slow=4.5,SNR=8.0									
HHC	**Hu-ho-hao-te**	**74.57**	**320**	*e*P		**P**	**03**	**26**	**20.3**	**+0.5**
HHC				pP		**pP**	**03**	**26**	**28.0**	**-4.5**
HHC				sP		**sP**	**03**	**26**	**36.5**	**-0.9**
HHC				PP		**PP**	**03**	**29**	**05.8**	**-1.3**
HHC				S		**S**	**03**	**35**	**56.8**	**+4.4**
HHC				sS		**sS**	**03**	**36**	**15.0**	**+1.4**
HHC				PMZ						
	comp=Z,27nm,1.3s									
HHC				PMZ						
	comp=Z,100nm,7.6s									
HHC				LN						
	comp=Z,250nm,16.8s									
HHC				LE						
	comp=Z,210nm,16.5s									
HHC				LZ						
	comp=Z,230nm,16.6s									

CD2	**Chengdu**	**75.02**	**308**	P		**P**	**03**	**26**	**22.5**	**0.0**
CD2				pP		**pP**	**03**	**26**	**33.3**	**-2.0**
CD2				sP		**sP**	**03**	**26**	**37.5**	**-2.6**
CD2				PP		**PP**	**03**	**29**	**13.5**	**+2.5**
CD2				S		**S**	**03**	**35**	**58.0**	**+0.4**
CD2				ScS		**SKKSac**	**03**	**36**	**29.3**	**+0.6**
CD2				PMZ						
	comp=Z,20nm,0.5s									
CD2				PMZ						
	comp=Z,140nm,5.6s									
QSPA	**South Pole Qui**	**76.06**	**180**	*e*P		**P**	**03**	**26**	**26.4**	**-1.5**
	comp=Z,16nm,0.9s									
LZH	**Lanzhou**	**77.32**	**312**	*e*P		**P**	**03**	**26**	**37.5**	**+1.9**
LZH				pP		**PcP**	**03**	**26**	**44.5**	**-1.6**
LZH				sP		**sP**	**03**	**26**	**49.5**	**-3.8**
LZH				PMZ						
	comp=Z,38nm,1.2s									
LZH				PMZ						
	comp=Z,120nm,4.2s									
SEY	**Seymchan**	**77.45**	**353**	⇓*e*P		**P**	**03**	**26**	**35.5**	**0.0**
CLNS	**Chul'man**	**78.57**	**338**	*e*P		**P**	**03**	**26**	**41.7**	**-0.3**
CLNS				pmax	pmax					
	comp=Z,10.0nm,1.2s									
YAK	**Yakutsk**	**81.11**	**343**	*e*P		**P**	**03**	**26**	**54.8**	**-0.7**
YAK				*e*			03	27	10.2	
YAK				pmax	pmax					
	comp=Z,13nm,1.1s									
YAK				pmax	pmax					
	comp=N,8.0nm,1.1s									
SONM	**Songino Array**	**81.49**	**324**	P		**P**	**03**	**26**	**59.1**	**+1.0**
	comp=N,2.0nm,0.8s,baz=160,slow=9.5,SNR=4.2									
GTA	**Gaotai**	**81.66**	**314**	*e*P		**P**	**03**	**27**	**01.0**	**+1.9**
GTA				pP		**pP**	**03**	**27**	**10.3**	**-1.7**
GTA				sP		**sP**	**03**	**27**	**15.0**	**-1.9**
GTA				PMZ						
	comp=N,9.0nm,1.1s									
BILL	**Bilibino**	**81.78**	**360**	⇓*e*P		**P**	**03**	**26**	**58.8**	**-0.1**
BILL				pmax	pmax					
	comp=Z,8.0nm,1.7s									
MAW	**Mawson**	**82.34**	**202**	P		**P**	**03**	**27**	**03.5**	**+1.5**
	comp=Z,3.5nm,0.8s,baz=135,slow=7.1,SNR=3.0									
ZAK	**Zakamensk**	**84.55**	**325**	⇑*i*P		**P**	**03**	**27**	**13.8**	**0.0**
ZAK				pmax	pmax					
	comp=Z,7.0nm,1.2s									
MCK	**McKinley**	**84.64**	**18**	*e*P		**P**	**03**	**27**	**13.2**	**-0.6**
MCK				pmax	pmax					
	comp=Z,6.0nm,1.0s									
MCK	**McKinley**	**84.64**	**18**	*e*P		**P**	**03**	**27**	**13.2**	**-0.6**
	comp=Z,6.0nm,1.0s									
TLY	**Talaya**	**84.99**	**326**	*e*P		**P**	**03**	**27**	**15.9**	**0.0**
TLY				pmax	pmax					
	comp=Z,11nm,0.9s									
COLA	**College**	**85.79**	**18**	⇓*i*P		**P**	**03**	**27**	**17.0**	**-2.5**
ILAR	**Eielson Array**	**86.01**	**18**	P		**P**	**03**	**27**	**20.4**	**-0.3**
	comp=Z,2.3nm,0.7s,baz=241,slow=5.6,SNR=39									
ILAR				LR		LR	04	00	44.2	
	comp=Z,184nm,20.2s,baz=233,slow=32									
NVAR	**Mina Array Bea**	**87.28**	**49**	P		**P**	**03**	**27**	**29.3**	**+1.6**

comp=Z,0.6nm,0.8s,baz=129,slow=2.0,SNR=5.0

KOLS	**Kolonicke sedl**	**134.44 327**	*e*PKIKP	**PKPdf**	**03 33 59.1**	**+0.5**
KOLS	**Kolonicke sedl**	**134.44 327**	*e*PKP	**PKPdf**	**03 33 59.1**	**+0.5**
KOLS			*e*SKP		03 37 36.8	
STHS	**Stebnicka Huta**	**134.68 329**	*e*PKIKP	**PKPdf**	**03 33 57.5**	**-1.5**
STHS	**Stebnicka Huta**	**134.68 329**	*e*PKP	**PKPdf**	**03 33 57.5**	**-1.5**
DPC	**Dobruska-Polom**	**136.40 333**	*e*PKPdf	**PKPdf**	**03 34 01.3**	**-1.0**
DPC			*ex*	x	03 34 07.0	
DPC			*e*SKP		03 37 35.7	
DPC			*ex*	x	03 37 41.5	
DPC	**Dobruska-Polom**	**136.40 333**	*e*PKIKP	**PKPdf**	**03 34 01.3**	**-1.0**
DPC			*e*		03 34 07.0	
PVCC	**Panska Ves**	**137.03 334**	*e*SKP	**SKPab**	**03 37 43.8**	**+4.3**
CLL	**Collm**	**137.09 336**	*i* PKPdf	**PKPdf**	**03 34 04.6**	**+1.2**

comp=Z,2.0nm,0.8s

CLL			*i* PKIKP	**PKiKP**	**03 34 07.7**	**+2.4**

comp=Z,4.0nm,0.7s

CLL			*e*		03 36 29.0	
CLL			*e*(PP)		03 36 42.0	
CLL			*e*SKPdf	**SKiKP**	**03 37 37.0**	**-1.1**
CLL			*e*SKPab	**SKPab**	**03 37 40.0**	**+0.3**
CLL			*i* PKSab	**PKSab**	**03 37 43.5**	**-0.9**

comp=Z,6.0nm,1.2s

CLL			*e*pSKPab		03 37 56.0	
CLL	**Collm**	**137.09 336**	*i* PKIKP	**PKPdf**	**03 34 04.6**	**+1.2**
CLL			pmax	pmax		

comp=Z,2.0nm,0.8s

PRU	**Pruhonice**	**137.45 333**	*e*SKP	**SKPab**	**03 37 44.8**	**+3.4**
NKC	**Novy Kostel**	**138.14 335**	*e*SKP	**SKPab**	**03 37 46.8**	**+2.3**
CONA	**Conrad Observa**	**138.33 330**	⇑*i* PKiKP	**PKiKP**	**03 34 10.9**	**+2.9**

comp=Z,2.9nm,0.8s

KHC	**Kasperske Hory**	**138.50 333**	*e*PKPdf	**PKPdf**	**03 34 05.6**	**-0.6**
KHC			*ex*	x	03 34 11.0	
KHC			*e*SKP		03 37 40.3	
KHC			*ex*	x	03 37 47.5	
KHC	**Kasperske Hory**	**138.50 333**	*e*PKIKP	**PKPdf**	**03 34 05.6**	**-0.6**
KHC			*e*		03 34 11.0	
GERES	**GERESS Array B**	**138.66 333**	PKP	**PKPdf**	**03 34 06.2**	**-0.3**

comp=Z,1.2nm,0.8s,baz=117,slow=0.3,SNR=9.2

GERES			SKPbc	**SKiKP**	**03 37 40.1**	**-1.4**

comp=Z,1.1nm,0.9s,baz=41,slow=2.6,SNR=7.9

DAVOX	**Davos/Dischmat**	**141.90 334**	PKP	**PKPdf**	**03 34 11.3**	**-1.3**

comp=Z,3.1nm,0.8s,baz=11,slow=5.2,SNR=4.4

TUE	**Stuetta**	**142.37 334**	*e*PKPdf	**PKPdf**	**03 34 12.7**	**-0.7**
BNI	**Bardonecchia**	**144.63 335**	*e*PKIKP	**PKPab**	**03 34 15.6**	**-0.4**
BNI	**Bardonecchia**	**144.63 335**	*e*PKPdf	**PKPab**	**03 34 15.6**	**-0.4**
PLDF	**La Plantade**	**145.01 339**	PKP	**PKPdf**	**03 34 17.8**	**-0.1**
AGO	**Saint Agoulin**	**145.10 340**	PKP	**PKPbc**	**03 34 17.3**	**-0.2**
AUTN	**L'Aution**	**145.16 333**	PKP	PKPbc	03 34 11.1	-7.0
TOUF	**Mont Tournerai**	**145.23 333**	PKP	PKPbc	03 34 08.3	-10
PYM	**Petit Puy Mans**	**145.41 340**	PKP	**PKPbc**	**03 34 18.5**	**-0.1**
LBL	**Lubilhac**	**145.78 339**	PKP	**PKPbc**	**03 34 19.9**	**+0.1**
KEST	**Kesra**	**150.20 321**	PKPbc	**PKPbc**	**03 34 31.7**	**-0.3**

comp=Z,6.6nm,0.7s,baz=298,slow=0.7,SNR=13

KEST			PKPab	**PKPab**	**03 34 36.2**	**-1.9**

comp=Z,6.6nm,0.7s,baz=119,slow=2.5,SNR=24

KEST	**Kesra**	**150.20 321**	*e*PKPbc	**PKPbc**	**03 34 30.1**	**-1.9**
KEST			*e*PKPab	**PKPab**	**03 34 35.8**	**-2.3**
PBRG	**Braganca**	**151.66 349**	PKPbc	**PKPbc**	**03 34 35.0**	**-0.2**
POLO	**Lamas de Olo**	**152.25 351**	PKPbc	**PKPbc**	**03 34 36.7**	**+0.1**
MVO	**Moncorvo**	**152.33 350**	PKPbc	**PKPbc**	**03 34 36.5**	**-0.2**
PVRL	**Vila Real**	**152.34 351**	PKPbc	**PKPbc**	**03 34 36.8**	**+0.1**
PVIS	**Viseu**	**152.91 351**	PKPbc	**PKPbc**	**03 34 36.6**	**-1.4**
ESDC	**Sonseca Array**	**153.07 344**	PKPbc	**PKPbc**	**03 34 37.2**	**-1.2**

comp=Z,2.0nm,0.8s,baz=16,slow=2.1,SNR=9.7

ESDC			PKPab	**PKPab**	**03 34 50.3**	**+0.5**

comp=Z,0.9nm,0.7s,baz=34,slow=2.0,SNR=6.0

MTE	**Manteigas**	**153.17 350**	PKPbc	**PKPbc**	**03 34 36.9**	**-1.7**
PCBR	**Castelo Branco**	**153.70 350**	PKPbc	**PKPbc**	**03 34 39.9**	**+0.2**
PACT	**Alcochete**	**154.96 352**	PKPbc	**PKPbc**	**03 34 42.1**	**-0.3**
TAM	**Tamanrasset**	**160.01 299**	*e*PKIKP	**PKPdf**	**03 34 40.6**	**-0.1**
TAM	**Tamanrasset**	**160.01 299**	*e*PKPdf	**PKPdf**	**03 34 40.6**	**-0.1**
TORD	**Torodi Ar. Bea**	**165.28 269**	PKP	**PKPdf**	**03 34 45.0**	**-0.9**

comp=Z,1.9nm,0.9s,baz=59,slow=0.9,SNR=6.7

TORD			PKPab	**PKPab**	**03 35 43.5**	**-0.1**

comp=Z,1.2nm,1.1s,baz=75,slow=2.7,SNR=3.2

*ISCJB **28** 03:23:29.6±0.4,35°.28N±0°.09×35°.72W±0°.07,h10km, mb4.1/45,MS3.8/11,Error ellipse: s-maj=12.5km s-min=7.7km az=0.5*

*IDC **28** 03:23:29.7±0.8,35°.22N×35°.70W,h0km,mb3.7/17, mb1 3.9/17,mb1mx3.8/49,mbtmp3.7/17,MS3.8/11, Ms1 3.9/11,ms1mx3.5/33,Error ellipse: s-maj=23.9km s-min=15.3km az=172.0*

*CSEM **28** 03:23:31.4±0.2,35°.32N×35°.68W,h10km,mb4.4/27,Error ellipse: s-maj=10.5km s-min=6.6km az=179.0*

*NEIC **28** 03:23:31.3±0.3,35°.28N×35°.68W,h10km,mb4.4/28,Error ellipse: s-maj=9.3km s-min=5.9km az=182.0*

ISC 28 03:23:31.4±0.5,35°.3N±0°.1×35°.68W±0°.08,h10km,n94, σ0s80/81,mb4.2/45,MS3.8/11,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**25.47**	**71**	P		**P**		**03 28 58.8**	**-0.9**

0.1nm,0.2s,baz=277,slow=8.5,SNR=2.6

ESDC				LR		LR		03 37 04.2

comp=Z,112nm,19.5s,baz=190,slow=32

BORG	**Borgarnes**	**30.75**	**12**	LR		LR		03 37 59.0

comp=Z,208nm,18.1s,baz=222,slow=28

SFJD	**Kangerlussuaq**	**32.92**	**349**	LR		LR		03 40 52.9

comp=Z,191nm,19.1s,baz=166,slow=32

FRB	**Frobisher Bay**	**34.85**	**335**	P		**P**		**03 30 20.1**	**-2.1**

4.1nm,0.8s,baz=96,slow=5.8,SNR=4.5

SUMG	**Summit**	**37.39**	**359**	*i* P		**P**		**03 30 45.4**	**+1.0**

7.0nm,0.9s

SUMG	**Summit**	**37.39**	**359**	*e*P		**P**		**03 30 44.6**	**+0.2**

12nm,1.2s

SUMG	**Summit**	**37.39**	**359**	*e*P		**P**		**03 30 44.6**	**+0.2**

12nm,1.2s

TAM	**Tamanrasset**	**37.86**	**98**	*e*P		**P**		**03 30 49.3**	**+0.6**

12nm,1.6s

TAM	**Tamanrasset**	**37.86**	**98**	*e*P		**P**		**03 30 49.3**	**+0.6**

12nm,1.6s

NB2	**NORSAR Subarra**	**39.24**	**34**	P		**P**		**03 31 00.6**	**+0.9**

comp=Z,7.5nm,1.7s,baz=253,slow=9.3

NB2	**NORSAR Subarra**	**39.24**	**34**	P		**P**		**03 31 00.6**	**+0.9**

comp=Z,7.5nm,1.7s,SNR=4.1

NOA	**NORSAR Array B**	**39.24**	**34**	P		**P**		**03 31 00.5**	**+0.7**

comp=Z,0.4nm,0.6s,baz=253,slow=8.6,SNR=4.6

TORD	**Torodi Ar. Bea**	**40.24**	**114**	P		**P**		**03 31 09.4**	**+1.0**

comp=Z,1.8nm,1.1s,baz=309,slow=6.2,SNR=5.1

SDV	**Santo Domingo**	**41.34**	**239**	*e*P		**P**		**03 31 18.9**	**+1.1**

comp=Z,9.0nm,1.1s

SDV	**Santo Domingo**	**41.34**	**239**	*e*P		**P**		**03 31 18.9**	**+1.1**

comp=Z,9.0nm,1.1s

FCC	**Fort Churchill**	**44.43**	**321**	*e*P		**P**		**03 31 39.9**	**-2.1**
FCC	**Fort Churchill**	**44.43**	**321**	*e*P		**P**		**03 31 39.9**	**-2.1**
ULM	**Lac du Bonnet**	**45.42**	**309**	*e*P		**P**		**03 31 50.7**	**+0.6**

comp=Z,3.5nm,0.9s

ULM	**Lac du Bonnet**	**45.42**	**309**	*e*P		**P**		**03 31 50.7**	**+0.6**

comp=Z,3.6nm,0.9s

AGMN	**Agassiz Nation**	**45.60**	**306**	*e*P		**P**		**03 31 51.2**	**-0.4**

comp=Z,3.0nm,0.8s

AGMN	**Agassiz Nation**	**45.60**	**306**	*e*P		**P**		**03 31 51.2**	**-0.4**

comp=Z,3.0nm,0.8s

FINES	**FINESS Array B**	**46.34**	**36**	P		**P**		**03 31 58.0**	**+0.8**

comp=Z,1.7nm,0.7s,baz=282,slow=3.7,SNR=7.7

FINES				LR		LR		03 48 48.0

comp=Z,93nm,21.4s,baz=260,slow=33

ECSD	**EROS Data Cent**	**46.83**	**300**	*e*P		**P**		**03 32 02.0**	**+0.7**

comp=Z,4.8nm,0.9s

ECSD	**EROS Data Cent**	**46.83**	**300**	*e*P		**P**		**03 32 02.0**	**+0.7**

comp=Z,4.9nm,0.9s

H10N2	**ASCENSION HYDR**	**47.31**	**151**	T		T		04 22 26.7	

baz=335

H10N3	**ASCENSION HYDR**	**47.32**	**151**	T		T		04 22 27.9	

baz=335

H10N1	**ASCENSION HYDR**	**47.33**	**151**	T		T		04 22 21.0	

baz=335

ARCES	**ARCESS Array B**	**47.39**	**25**	P		**P**		**03 32 05.9**	**+0.5**

comp=Z,2.4nm,0.8s,baz=292,slow=3.8,SNR=5.6

H10S1	**ASCENSION HYDR**	**48.27**	**152**	T		T		04 23 33.8	

baz=336,slow=75,SNR=32

H10S3	**ASCENSION HYDR**	**48.27**	**152**	T		T		04 23 33.9	

baz=336,slow=75,SNR=34

H10S2	**ASCENSION HYDR**	**48.28**	**152**	T		T		04 23 34.8	

baz=336,slow=75,SNR=32

AKASG	**Malin Array Be**	**48.36**	**50**	P		**P**		**03 32 13.6**	**+0.5**

comp=Z,0.7nm,0.5s,baz=318,slow=4.4,SNR=3.9

AKASG				LR		LR		03 50 41.8	

comp=Z,88nm,20.6s,baz=285,slow=34

FFC	**Flin Flon**	**48.76**	**315**	*e*P		**P**		**03 32 16.8**	**+0.6**

comp=Z,4.5nm,0.9s

FFC	**Flin Flon**	**48.76**	**315**	*e*P		**P**		**03 32 16.8**	**+0.6**

comp=Z,4.5nm,0.9s

HKT	**Hockley**	**50.28**	**282**	*e*P		**P**		**03 32 28.4**	**+0.4**

comp=Z,2.9nm,1.0s

HKT	**Hockley**	**50.28**	**282**	*e*P		**P**		**03 32 28.4**	**+0.4**

comp=Z,2.9nm,1.0s

WMOK	**Wichita Mounta**	**50.88**	**289**	*e*P		**P**		**03 32 31.8**	**-0.8**

comp=Z,2.8nm,0.9s

WMOK	**Wichita Mounta**	**50.88**	**289**	*e*P		**P**		**03 32 31.8**	**-0.8**

comp=Z,2.9nm,0.9s

SAML	**Samuel**	**51.09**	**216**	*e*P		**P**		**03 32 34.0**	**-0.2**

comp=Z,4.7nm,1.2s

SAML	**Samuel**	**51.09**	**216**	*e*P		**P**		**03 32 34.0**	**-0.2**

comp=Z,4.7nm,1.2s

BDFB	**Brasilia**	**51.98**	**195**	LR		LR		03 50 55.3	

comp=Z,147nm,21.4s,baz=28,slow=32

OTAV	**Otavalo**	**52.92**	**238**	*e*P		P		03 32 53.1	+4.7

comp=Z,5.1nm,1.3s

BRTR	**Keskin Array B**	**53.92**	**63**	P		**P**		**03 32 54.9**	**-0.3**

comp=Z,0.2nm,0.4s,baz=292,slow=7.2,SNR=3.7

BRTR				LR		LR		03 53 52.7	

comp=Z,40nm,20.9s,baz=279,slow=34

YKA	**Yellowknife Ar**	**54.39**	**326**	P		**P**		**03 32 58.5**	**+0.4**

comp=Z,0.5nm,0.6s,baz=81,slow=7.1,SNR=9.2

GCMT	**Greycliff**	**55.34**	**305**	*e*P		**P**		**03 33 06.4**	**+1.0**

comp=Z,5.0nm,1.1s

GCMT	**Greycliff**	**55.34**	**305**	*e*P		**P**		**03 33 06.4**	**+1.0**

comp=Z,5.0nm,1.1s

PDAR	**Pinedale Array**	**56.20**	**302**	P		**P**		**03 33 11.4**	**-0.4**

comp=Z,0.5nm,0.5s,baz=69,slow=8.9,SNR=5.3

BW06	**Boulder Array**	**56.20**	**302**	*e*P		**P**		**03 33 12.3**	**+0.5**

comp=Z,2.6nm,0.9s

BW06	**Boulder Array**	**56.20**	**302**	*e*P		**P**		**03 33 12.3**	**+0.5**

comp=Z,2.6nm,0.9s

LOHW	**Long Hollow**	**56.65**	**303**	*e*P		**P**		**03 33 15.3**	**+0.4**

comp=Z,1.7nm,1.0s

LOHW	**Long Hollow**	**56.65**	**303**	*e*P		**P**		**03 33 15.3**	**+0.4**

comp=Z,1.7nm,1.0s

BOZ	**Bozeman (W)**	**56.69**	**305**	*e*P		**P**		**03 33 14.4**	**-0.8**

comp=Z,2.7nm,1.0s

BOZ	**Bozeman (W)**	**56.69**	**305**	*e*P		**P**		**03 33 14.4**	**-0.8**

comp=Z,2.7nm,1.0s

MOOW	**Moose Ponds**	**56.70**	**303**	*e*P		**P**		**03 33 14.6**	**-0.7**

comp=Z,2.3nm,1.0s

MOOW	**Moose Ponds**	**56.70**	**303**	*e*P		**P**		**03 33 14.6**	**-0.7**

comp=Z,2.3nm,1.0s

TXAR	**Lajitas Array**	**56.77**	**285**	P		**P**		**03 33 15.8**	**0.0**

comp=Z,0.9nm,0.7s,baz=88,slow=7.9,SNR=10

SNOW	**Snow King Moun**	**56.80**	**303**	*e*P		**P**		**03 33 16.1**	**0.0**

comp=Z,2.9nm,0.6s

SNOW	**Snow King Moun**	**56.80**	**303**	*e*P		**P**		**03 33 16.1**	**0.0**

comp=Z,2.9nm,0.6s

TPAW	**Teton Pass**	**56.93**	**303**	*e*P		**P**		**03 33 16.6**	**-0.4**

comp=Z,3.4nm,1.3s

TPAW	**Teton Pass**	**56.93**	**303**	*e*P		**P**		**03 33 16.6**	**-0.4**

comp=Z,3.4nm,1.3s

MNTX	**Cornudas Mount**	**57.14**	**288**	*e*P		**P**		**03 33 18.7**	**+0.3**
MNTX	**Cornudas Mount**	**57.14**	**288**	*e*P		**P**		**03 33 18.7**	**+0.3**
DLMT	**Dillon**	**57.43**	**305**	*e*P		**P**		**03 33 20.0**	**-0.3**

comp=Z,5.1nm,1.0s

DLMT	**Dillon**	**57.43**	**305**	*e*P		**P**		**03 33 20.0**	**-0.3**

comp=Z,5.1nm,1.0s

HWUT	**Hardware Ranch**	**57.99**	**301**	*e*P		**P**		**03 33 25.1**	**+0.7**

comp=Z,3.2nm,0.9s

HWUT	**Hardware Ranch**	**57.99**	**301**	*e*P		**P**		**03 33 25.1**	**+0.7**

comp=Z,3.2nm,0.9s

HLID	**Hailey**	**59.27**	**304**	*e*P		**P**		**03 33 33.3**	**0.0**

comp=Z,1.9nm,0.9s

HLID	**Hailey**	**59.27**	**304**	*e*P		**P**		**03 33 33.3**	**0.0**

comp=Z,1.9nm,0.9s

DUG	**Dugway, Tooele**	**59.39**	**300**	*e*P		**P**		**03 33 34.9**	**+0.8**

comp=Z,4.1nm,1.0s

DUG	**Dugway, Tooele**	**59.39**	**300**	*e*P		**P**		**03 33 34.9**	**+0.8**

comp=Z,4.1nm,1.0s

NEW	**Newport**	**59.39**	**310**	*e*P		**P**		**03 33 33.3**	**-0.6**

comp=Z,5.9nm,0.9s

NEW	**Newport**	**59.39**	**310**	*e*P		**P**		**03 33 33.3**	**-0.6**

comp=Z,5.9nm,0.9s

LPAZ	**La Paz**	**59.82**	**217**	P		**P**		**03 33 36.8**	**-0.9**

comp=Z,2.5nm,0.8s,baz=9.8,slow=6.1,SNR=9.4

LPAZ				LR		LR		03 58 37.1	

comp=Z,123nm,18.1s,baz=124,slow=35

LPAZ	**La Paz**	**59.82**	**217**	*e*P		**P**		**03 33 36.9**	**-0.9**

comp=Z,11nm,1.1s

LPAZ	**La Paz**	**59.82**	**217**	*e*P		**P**		**03 33 36.9**	**-0.9**

comp=Z,11nm,1.1s

INK	**Inuvik**	**60.51**	**335**	P		**P**		**03 33 41.3**	**+0.2**

comp=Z,0.5nm,0.3s,baz=129,slow=6.4,SNR=5.6

NVAR	**Mina Array Bea**	**64.00**	**300**	P		**P**		**03 34 05.9**	**+0.6**

comp=Z,2.4nm,0.4s,baz=89,slow=7.3,SNR=3.0

CPUP	**Villa Florida**	**64.61**	**202**	*e*P		P		03 34 04.8	-4.1

comp=Z,0.4nm,1.4s

AKTO	**Aktyubinsk**	**65.90**	**44**	LR		LR		04 02 39.8	

comp=Z,91nm,18.3s,slow=36

ILAR	**Eielson Array**	**66.88**	**334**	P		**P**		**03 34 23.4**	**+0.2**

comp=Z,0.3nm,0.9s,baz=44,slow=4.1,SNR=3.9

BMRM	**Bremner River**	**68.13**	**330**	*e*P		**P**		**03 34 31.9**	**+0.7**

comp=Z,20nm,1.1s

BMRM	**Bremner River**	**68.13**	**330**	*e*P		**P**		**03 34 31.9**	**+0.7**

comp=Z,20nm,1.1s

BVAR	**Bovoye Array**	**71.25**	**38**	P		**P**		**03 34 50.1**	**-0.5**

comp=Z,1.3nm,0.7s,baz=291,slow=5.7,SNR=7.4

TSUM	**Tsumeb**	**74.07**	**128**	*e*P		**P**		**03 35 06.0**	**-1.9**

comp=Z,7.1nm,1.2s

TSUM	**Tsumeb**	**74.07**	**128**	*e*P		**P**		**03 35 06.0**	**-1.9**

comp=Z,7.1nm,1.2s

KURK	**Kurchatov**	**76.71**	**37**	P		**P**		**03 35 22.8**	**+0.2**
KURK	**Kurchatov**	**76.71**	**37**	P		**P**		**03 35 22.8**	**+0.2**
KURBB	**Kurchatov Arra**	**76.73**	**37**	P		**P**		**03 35 22.8**	**+0.1**

comp=Z,0.5nm,0.4s,baz=309,slow=6.1,SNR=8.2

ZALV	**Zalesovo Beam**	**77.38**	**31**	LR		LR		04 09 11.8	

comp=Z,68nm,19.4s,baz=72,slow=35

EKS2	**Erkin-Say**	**79.21**	**45**	*e*P		**P**		**03 35 35.7**	**-1.1**

comp=Z,2.2nm,0.9s

EKS2	**Erkin-Say**	**79.21**	**45**	*e*P		**P**		**03 35 35.7**	**-1.1**

comp=Z,2.3nm,0.9s

MK31	**Makanchi Array**	**81.13**	**38**	*e*P		**P**		**03 35 47.0**	**0.0**
MK31	**Makanchi Array**	**81.13**	**38**	*e*P		**P**		**03 35 47.0**	**0.0**
MKAR	**Makanchi Array**	**81.13**	**38**	P		**P**		**03 35 47.7**	**+0.7**

comp=Z,0.6nm,0.8s,baz=303,slow=5.2,SNR=6.5

MKAR				LR		LR		04 11 26.9	

comp=Z,122nm,19.3s,baz=353,slow=35

KMA 28 03:33:58.7,37°.28N×129°.13E,h35km,2D,South Korea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSEUS	**ULSEONG**	**0.99**	**201**	P		Pn		03 34 16.4	+0.4

SNR=9.7

KSCHJ	**Chungju**	**1.01**	**247**	P		Pn		03 34 15.8	-0.6

SNR=8.4

KSCHJ	**Chungju**	**1.01**	**247**	P		Pn		03 34 15.8	-0.6

SNR=8.4

KSBON	**Boeun**	**1.32**	**234**	P		Pn		03 34 14.6	-6.1

SNR=21

KSBON	**Boeun**	**1.32**	**234**	P		Pn		03 34 14.6	-6.1

SNR=21

KSCPR	**CHUPUNGNYEONG**	**1.41**	**222**	⇓P		Pn		03 34 21.1	-0.7
KSCEA	**Cheonan**	**1.56**	**254**	P		Pn		03 34 14.6	-9.4

SNR=8.0

KSCEA	**Cheonan**	**1.56**	**254**	P		Pn		03 34 14.6	-9.4

SNR=8.0

KSDDC	**Dongducheon**	**1.76**	**291**	P		Pn		03 34 27.2	+0.5

SNR=21

YNCB	**YEONCHEON**	**1.91**	**294**	P		Pn		03 34 28.4	-0.3

SNR=8.8

KSJEO	**Jeonju**	**1.99**	**228**	⇓P		Pn		03 34 25.3	-4.6

*IDC **28** 03:38:16.4±0.8,13°.88S×166°.70E,h0km,mb4.3/12, mb1 4.4/13,mb1mx4.2/28,mbtmp4.2/13,ML3.8/1,MS3.3/1, Ms1 3.3/1,ms1mx2.8/22,Error ellipse: s-maj=28.6km s-min=16.5km az=106.0*

*ISCJB **28** 03:38:20.8±0.8,13°.88S±0°.06×166°.6E±0°.1,h43km, mb4.2/13,Error ellipse: s-maj=19.3km s-min=8.6km az=178.7*

*NEIC **28** 03:38:21.4±0.7,13°.85S×166°.72E,h35km,mb4.0/2,Error ellipse: s-maj=17.8km s-min=12.2km az=116.0*

ISC 28 03:38:22.6±0.8,13°.85S±0°.08×166°.7E±0°.2,h43km,n22, σ1s28/23,mb4.2/13,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.18**	**182**	Pn		**Pn**		**03 40 17.9**	**-0.9**

1.3nm,0.3s,baz=107,slow=20,SNR=14

DZM				Sn		**Sn**		**03 41

NIE				*e*S		**Sg**	**03 58 35.1**	**-0.5**
CONA	**Conrad Observa**	**3.62**	**183**	⇑*i*Pn		**Pn**	**03 57 43.5**	**+0.3**
CONA				⇑*i*Sg		**Sg**	**03 58 41.1**	**-1.0**
	comp=Z,31nm,0.4s							
CONA	**Conrad Observa**	**3.62**	**183**	Pn		**Pn**	**03 57 43.5**	**+0.3**
CONA				Sg		**Sg**	**03 58 41.1**	**-1.0**
	comp=Z,31nm,0.4s							
BSD	**Bornholm Skovb**	**3.65**	**349**	*i* P		**Pn**	**03 57 44.1**	**+0.6**
BSD				*e*S		**Sn**	**03 58 27.0**	**-0.2**
BSD	**Bornholm Skovb**	**3.65**	**349**	*e*P		**Pn**	**03 57 44.1**	**+0.6**
BSD				*e*S		**Sn**	**03 58 27.0**	**-0.2**
MOA	**Molln**	**3.89**	**199**	⇑Pn		**Pn**	**03 57 46.8**	**0.0**
MOA				⇑*i*Sg		**Sg**	**03 58 50.4**	**-0.2**
	comp=Z,60nm,0.7s							
MOA	**Molln**	**3.89**	**199**	Pn		**Pn**	**03 57 46.8**	**0.0**
MOA				Sg		**Sg**	**03 58 50.4**	**-0.2**
	comp=Z,60nm,0.7s							
STHS	**Stebnicka Huta**	**3.90**	**121**	*e*Pn		**Pn**	**03 57 48.1**	**+1.1**
STHS				*e*Sg		**Sg**	**03 58 52.9**	**+1.8**
STHS	**Stebnicka Huta**	**3.90**	**121**	*e*PN		**Pn**	**03 57 48.1**	**+1.1**
STHS				*e*SG		**Sg**	**03 58 52.9**	**+1.8**
LUNU	**Lund**	**4.40**	**340**	S		**Sn**	**03 58 45.4**	**-0.2**
LUNU	**Lund**	**4.40**	**340**	S		**Sn**	**03 58 45.4**	**-0.2**
KOLS	**Kolonicke sedl**	**4.73**	**121**	*e*Pn		**Pn**	**03 57 59.4**	**+1.0**
KOLS				*e*Sg		**Sg**	**03 59 21.4**	**+3.6**
KOLS	**Kolonicke sedl**	**4.73**	**121**	*e*PN		**Pn**	**03 57 59.4**	**+1.0**
KOLS				*e*SG		**Sg**	**03 59 21.4**	**+3.6**
BLEU	**Blekinge**	**4.78**	**358**	P		**Pn**	**03 58 00.1**	**+1.2**
BLEU				S		**Sn**	**03 58 52.5**	**-2.4**
BLEU	**Blekinge**	**4.78**	**358**	P		**Pn**	**03 58 00.1**	**+1.2**
BLEU				S		**Sn**	**03 58 52.5**	**-2.4**
KBA	**Koelnbreinsper**	**4.82**	**203**	⇓*i*Pn		**Pn**	**03 57 59.7**	**-0.1**
KBA				⇑*i*Sg		**Sg**	**03 59 19.5**	**-1.2**
	comp=Z,14nm,0.5s							
KBA	**Koelnbreinsper**	**4.82**	**203**	Pn		**Pn**	**03 57 59.7**	**-0.1**
KBA				Sg		**Sg**	**03 59 19.5**	**-1.2**
	comp=Z,14nm,0.5s							
BJUU	**Bjuv**	**4.90**	**339**	P		**Pn**	**03 58 00.7**	**+0.1**
BJUU				S		**Sn**	**03 58 54.5**	**-3.4**
BJUU	**Bjuv**	**4.90**	**339**	P		**Pn**	**03 58 00.7**	**+0.1**
BJUU				S		**Sn**	**03 58 54.5**	**-3.4**
DEL	**Delary**	**5.11**	**346**	P		**Pn**	**03 58 04.1**	**+0.5**
DEL	**Delary**	**5.11**	**346**	P		**Pn**	**03 58 04.0**	**+0.5**
VXJU	**Vaexsjoe**	**5.43**	**353**	P		**Pn**	**03 58 09.1**	**+1.1**
VXJU	**Vaexsjoe**	**5.43**	**353**	P		**Pn**	**03 58 09.2**	**+1.1**
OSKU	**Oskarshamn**	**5.67**	**360**	P		**Pn**	**03 58 12.4**	**+1.3**
OSKU	**Oskarshamn**	**5.67**	**360**	P		**Pn**	**03 58 12.4**	**+1.3**
BYXU	**Byxelkrok**	**5.78**	**5**	P		**Pn**	**03 58 14.3**	**+1.5**
BYXU	**Byxelkrok**	**5.78**	**5**	P		**Pn**	**03 58 14.3**	**+1.5**
FABU	**Falkenberg**	**5.82**	**341**	P		**Pn**	**03 58 13.6**	**+0.3**
FABU	**Falkenberg**	**5.82**	**341**	P		**Pn**	**03 58 13.6**	**+0.3**
FABU				S		**Sn**	**03 59 18.7**	**-2.0**
ASPU	**Aespoe**	**5.90**	**3**	P		**Pn**	**03 58 15.9**	**+1.6**
ASPU	**Aespoe**	**5.90**	**3**	P		**Pn**	**03 58 15.8**	**+1.6**
GNOU	**Gnosjoe**	**5.92**	**347**	P		**Pn**	**03 58 15.7**	**+1.0**
GNOU	**Gnosjoe**	**5.92**	**347**	P		**Pn**	**03 58 15.7**	**+1.0**
EKSU	**Eksjoe**	**6.06**	**356**	P		**Pn**	**03 58 17.8**	**+1.2**
EKSU	**Eksjoe**	**6.06**	**356**	P		**Pn**	**03 58 17.8**	**+1.2**
VSTU	**Vaestervik**	**6.14**	**2**	P		**Pn**	**03 58 19.0**	**+1.4**
VSTU	**Vaestervik**	**6.14**	**2**	P		**Pn**	**03 58 19.1**	**+1.4**
DAVOX	**Davos/Dischmat**	**6.28**	**223**	Pn		**Pn**	**03 58 20.6**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=173,slow=22,SNR=1.9							
DAVOX				Lg		Lg	04 00 05.6	
	comp=Z,0.4nm,0.3s,baz=14,slow=19,SNR=3.2							
LNKU	**Linkoeping**	**6.71**	**357**	P		**Pn**	**03 58 26.2**	**+0.8**
LNKU	**Linkoeping**	**6.71**	**357**	P		**Pn**	**03 58 26.2**	**+0.8**
VIKU	**Vikbolandet**	**6.98**	**3**	P		**Pn**	**03 58 30.4**	**+1.2**
VIKU	**Vikbolandet**	**6.98**	**3**	P		**Pn**	**03 58 30.4**	**+1.2**
AKASG	**Malin Array Be**	**8.29**	**91**	Pn		**Pn**	**03 58 46.8**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=282,slow=12,SNR=3.1							
AKASG				Sn		**Sn**	**04 00 18.0**	**-3.4**
	comp=Z,1.6nm,0.3s,baz=266,slow=25,SNR=3.6							
HFS	**Hagfors**	**8.72**	**352**	Pn		**Pn**	**03 58 52.9**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=154,slow=15,SNR=6.0							
HFS				Sn		**Sn**	**04 00 27.2**	**-4.7**
	comp=Z,0.1nm,0.3s,baz=158,slow=24,SNR=2.5							
NOA	**NORSAR Array B**	**9.90**	**346**	Pn		**Pn**	**03 59 08.4**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=168,slow=12,SNR=2.9							
FINES	**FINESS Array B**	**11.33**	**25**	Pn		**Pn**	**03 59 26.8**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=196,slow=13,SNR=7.9							
FINES				Sn		**Sn**	**04 01 30.9**	**-5.0**
	comp=Z,0.3nm,0.3s,baz=200,slow=20,SNR=5.9							
EKA	**Eskdalemuir Ar**	**12.10**	**296**	Pn		**Pn**	**03 59 38.2**	**-1.0**
	baz=103,slow=14,SNR=3.2							
ARCES	**ARCESS Array B**	**18.59**	**10**	Pn		**P**	**04 01 01.6**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=198,slow=10,SNR=9.0							
AKTO	**Aktyubinsk**	**26.14**	**76**	LR		LR	04 14 20.9	
	comp=Z,49nm,18.3s,baz=92,slow=40							
YKA	**Yellowknife Ar**	**59.83**	**336**	P		**P**	**04 06 54.5**	**+2.1**
	comp=Z,0.3nm,0.6s,baz=28,slow=7.0,SNR=3.5							

*ISCJB **28** 04:04:48.7±0.6, 19.6S±0.1×177.7W±0.1, h450km, mb3.8/9, Error ellipse: s-maj=19.9km s-min=10.9km az=33.4*
*IDC **28** 04:04:50.0±3.1, 19.7S±0.2×177.6W±0.2, h455km±34km, mb3.5/9, mb1 3.7/11, mb1mx3.5/28, mbtmp4.3/11, Error ellipse: s-maj=22.3km s-min=12.6km az=120.0*

ISC 28 04:04:49.4±0.7, 19.7S±0.2×177.6W±0.2, h450km, n15, σ0.971/16, mb3.8/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.08**	**258**	P	**P**	**04 08 01.2**	**-0.3**
URZ	**Urewera**	**19.07**	**193**	P	**P**	**04 08 41.8**	**-0.3**
	1.0nm,0.3s,baz=299,slow=5.8,SNR=3.9						
URZ				S	**S**	**04 11 51.4**	**-0.7**
	0.2nm,0.3s,baz=356,slow=19,SNR=2.5						
STKA	**Stephens Creek**	**38.47**	**243**	P	**P**	**04 11 32.2**	**+0.9**
	3.2nm,0.8s,baz=84,slow=11,SNR=8.3						
ASAR	**Alice Springs**	**45.05**	**256**	P	**P**	**04 12 24.4**	**+0.4**
	21nm,0.6s,baz=90,slow=8.4,SNR=206						
WRA	**Warramunga Arr**	**45.07**	**261**	P	**P**	**04 12 23.7**	**-0.4**
	4.0nm,0.3s,baz=97,slow=7.0,SNR=278						
YBH	**Yreka Blue Hor**	**79.43**	**39**	P	**P**	**04 16 08.7**	**+0.8**
	1.4nm,0.5s,baz=204,slow=4.3,SNR=7.5						
NVAR	**Mina Array Bea**	**80.19**	**43**	P	**P**	**04 16 12.5**	**+0.3**
	2.4nm,0.8s,baz=223,slow=8.8,SNR=9.6						
TXAR	**Lajitas Array**	**86.32**	**57**	P	**P**	**04 16 44.1**	**+1.1**
	1.0nm,0.6s,baz=220,slow=6.5,SNR=16						
ILAR	**Eielson Array**	**87.44**	**13**	P	**P**	**04 16 46.0**	**-1.3**
	0.2nm,0.4s,baz=215,slow=5.2,SNR=11						
PDAR	**Pinedale Array**	**88.12**	**43**	P	**P**	**04 16 51.0**	**-0.5**
	0.3nm,0.5s,baz=112,slow=1.6,SNR=3.9						
YKA	**Yellowknife Ar**	**95.62**	**25**	P	**P**	**04 17 24.3**	**-0.8**
	0.4nm,0.8s,baz=250,slow=3.6,SNR=3.6						
MKAR	**Makanchi Array**	**110.89**	**314**	PKiKP	**PKiKP**	**04 22 30.7**	**+0.2**
	0.1nm,0.5s,baz=104,slow=2.0,SNR=2.7						
ARCES	**ARCESS Array B**	**128.18**	**350**	PKP	**PKPdf**	**04 23 03.3**	**+0.4**
	1.6nm,0.8s,baz=5.2,slow=3.0,SNR=3.8						
BRTR	**Keskin Array B**	**146.54**	**313**	PKPbc	**PKPbc**	**04 23 40.0**	**+0.2**
	1.0nm,0.7s,baz=99,slow=4.4,SNR=8.2						
GERES	**GERESS Array B**	**149.50**	**345**	PKPbc	**PKPbc**	**04 23 46.9**	**-0.1**
	0.3nm,0.6s,baz=22,slow=1.4,SNR=3.6						

*ISCJB **28** 04:11:10.4±0.5, 32.48N±0.06×115.57W±0.06, h14km±9km, Error ellipse: s-maj=12.2km s-min=5.1km az=43.4*
*MEX **28** 04:11:11.1±0.7, 32.37N×115.42W, h16km±17km, MD3.5*
*ECX **28** 04:11:11.5±0.6, 32.46N×115.58W, h5km, MD2.5, ML2.7*

ISC 28 04:11:10.1±0.9, 32.45N±0.03×115.58W±0.03, h16km±9km, n19, σ0.931/25, 5C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.23**	**97**	*e*P9	**Pg**	**04 11 15.2**	**-0.1**
CPBX				*e*S	**Sg**	**04 11 18.7**	**-0.1**
CPBX				IAML		04 11 21.3	
	comp=E,4μm,0.1s						
CPBX				⇑*e*		04 11 21.3	
CPBX				*e*		04 11 21.6	
CPBX				IAML		04 11 21.6	
	comp=N,4μm,0.2s						
SGL	**Mount Signal**	**0.24**	**328**	⇑*i*P	**Pg**	**04 11 15.4**	**0.0**
ERPC	**Ernies Place**	**0.30**	**346**	⇑*i*P	**Pb**	**04 11 17.0**	**-0.2**
WESC	**Westside Schoo**	**0.34**	**337**	*e*P	**Pg**	**04 11 17.2**	**+0.1**
YUH	**Yuha Desert**	**0.35**	**304**	⇓*i*P	**Pg**	**04 11 17.4**	**0.0**
DREC	**Desert Rsrch C**	**0.37**	**17**	*e*P	**Pg**	**04 11 18.1**	**+0.4**
COK	**Cook Ranch**	**0.42**	**342**	⇑*i*P	**Pb**	**04 11 19.1**	**-0.1**
RMX	**La Rumorosa**	**0.45**	**290**	*e*P	**Pg**	**04 11 19.4**	**+0.1**
RMX				⇓*e*		04 11 27.3	
RMX				IAML		04 11 27.3	
	comp=N,449nm,0.1s						
SWSC	**Sam W. Stewart**	**0.53**	**339**	*e*P2	**Pg**	**04 11 20.5**	**0.0**
CRR	**Carrizo Plain**	**0.55**	**323**	⇓*i*P	**Pg**	**04 11 21.1**	**+0.1**
RDX	**Rancho Dawling**	**0.60**	**211**	*e*P	**Pg**	**04 11 22.1**	**+0.1**
RDX				*e*		04 11 31.3	
RDX				IAML		04 11 31.3	
	comp=N,222nm,0.3s						
CBX	**Cerro Bola**	**0.93**	**262**	*e*P	**Pb**	**04 11 28.0**	**0.0**
CBX				*e*S	**Sb**	**04 11 39.4**	**-0.7**
CBX	**Cerro Bola**	**0.93**	**262**	*e*P	**Pg**	**04 11 28.2**	**0.0**
CBX				*e*S	**Sg**	**04 11 40.5**	**+0.1**
CBX				IAML		04 11 41.3	
	comp=E,272nm,0.2s						
BAR	**Barrett**	**0.95**	**284**	*e*P	**Pb**	**04 11 28.3**	**0.0**
ECBX	**El Chinero**	**1.07**	**155**	*e*P9	**Pb**	**04 11 29.8**	**-0.4**
ECBX				*e*S	**Sb**	**04 11 44.2**	**+0.3**
ZAX	**El Zacaton**	**1.10**	**213**	*e*P	**Pn**	**04 11 31.1**	**+0.2**
ZAX				*e*S	**Sg**	**04 11 45.9**	**0.0**
ZAX				IAML		04 11 48.2	
	comp=E,229nm,0.4s						
ZAX				⇑*e*		04 11 48.2	
SDRC	**San Diego Road**	**1.19**	**284**	*e*P	**Pn**	**04 11 32.2**	**+0.1**
SPIG	**San Pedro Mart**	**1.40**	**176**	*e*P	**Pn**	**04 11 35.0**	**-0.3**
SPIG				*e*S	**Sg**	**04 11 56.1**	**+0.7**
SPX	**San Pedro Mart**	**1.40**	**176**	*e*P	**Pn**	**04 11 35.8**	**+0.4**

*ISCJB **28** 04:20:59.5±0.9, 29.7S±0.2×178.6W±0.3, h171km±15km, mb3.9/5, Error ellipse: s-maj=40.1km s-min=24.7km az=174.2*
*IDC **28** 04:21:00.2±0.5, 29.5S×178.51W, h169km±7km, mb3.6/5, mb1 3.7/6, mb1mx3.4/35, mbtmp4.1/6, Error ellipse: s-maj=24.2km s-min=21.3km az=29.0*

ISC 28 04:21:00.4±0.9, 29.6S±0.1×178.5W±0.2, h173km±9km, n11, σ0.997/14, mb3.9/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.58**	**53**	P	**Pn**	**04 21 25.1**	**+0.3**
	360nm,0.3s,baz=77,slow=18,SNR=21						
RAO				S	**Sn**	**04 21 43.2**	**-0.2**
	498nm,0.3s,baz=52,slow=19,SNR=13						
URZ	**Urewera**	**9.38**	**202**	P	**Pn**	**04 23 11.1**	**-0.8**
	0.6nm,0.3s,baz=84,slow=19,SNR=2.5						
URZ				S	Sn	04 24 46.9	-9.4
	1.9nm,0.3s,baz=157,slow=22,SNR=9.0						
CTA	**Charters Tower**	**33.29**	**278**	P	**P**	**04 27 23.3**	**+1.6**
	3.2nm,0.5s,baz=92,slow=10,SNR=4.2						
STKA	**Stephens Creek**	**34.29**	**256**	P	**P**	**04 27 30.2**	**0.0**
	1.1nm,0.4s,baz=108,slow=9.3,SNR=3.9						
ASAR	**Alice Springs**	**42.77**	**266**	P	**P**	**04 28 40.5**	**-0.5**
	0.6nm,0.4s,baz=101,slow=7.3,SNR=7.7						
ASAR				PcP	**PcP**	**04 30 28.1**	**-1.1**
	0.4nm,0.5s,baz=111,slow=3.4,SNR=5.0						
WRA	**Warramunga Arr**	**43.68**	**272**	P	**P**	**04 28 47.5**	**-0.8**
	1.1nm,0.5s,baz=110,slow=8.1,SNR=31						
WRA				PcP	**PcP**	**04 30 31.8**	**-0.5**
	0.3nm,0.7s,baz=107,slow=3.1,SNR=5.2						
QSPA	**South Pole Qui**	**60.50**	**180**	P	**P**	**04 30 52.7**	**+0.9**
	1.0nm,0.5s,baz=298,slow=1.3,SNR=8.6						
FINES	**FINESS Array B**	**144.27**	**340**	PKP	**PKPdf**	**04 40 14.1**	**-0.8**
	0.9nm,0.3s,baz=66,slow=3.4,SNR=19						
NOA	**NORSAR Array B**	**147.91**	**351**	PKPbc	**PKPbc**	**04 40 23.7**	**-0.7**
	0.7nm,0.7s,baz=17,slow=4.2,SNR=3.4						
HFS	**Hagfors**	**148.39**	**348**	PKPbc	**PKPbc**	**04 40 25.1**	**-0.5**
	0.6nm,0.5s,baz=28,slow=6.7,SNR=4.2						
TORD	**Torodi Ar. Bea**	**163.62**	**180**	PKPab	**PKPab**	**04 41 36.8**	**+1.3**
	0.4nm,0.5s,baz=176,slow=4.0,SNR=13						

*IDC **28** 04:24:19.6±0.7, 13.87S×166.68E, h0km, mb4.3/14, mb1 4.4/15, mb1mx4.1/42, mbtmp4.2/15, ML3.7/1, Error ellipse: s-maj=28.5km s-min=17.7km az=106.0*
*ISCJB **28** 04:24:23.6±0.6, 13.99S±0.08×166.7E±0.1, h43km, mb4.3/17, Error ellipse: s-maj=17.8km s-min=11.1km az=11.7*
*NEIC **28** 04:24:23.1±4.7, 13.86S×166.66E, h22km±32km, mb4.6/4, Error ellipse: s-maj=14.1km s-min=12.6km az=218.0*

ISC 28 04:24:25.5±0.6, 13.95S±0.10×166.7E±0.2, h43km, n36, σ0.992/40, mb4.4/17, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.08**	**182**	Pn	**Pn**	**04 26 20.6**	**+0.2**
	1.0nm,0.3s,baz=270,slow=24,SNR=11						
CTAO	**Charters Tower**	**20.50**	**250**	*e*P	**P**	**04 28 59.9**	**-0.2**
	6.3nm,0.7s						
STKA	**Stephens Creek**	**29.11**	**228**	P	**P**	**04 30 23.8**	**+1.4**
	2.6nm,0.7s,baz=48,slow=8.0,SNR=4.9						
WRAB	**Tennant Creek**	**31.51**	**255**	*e*P	**P**	**04 30 44.3**	**+0.6**
	10nm,1.3s						
WRA	**Warramunga Arr**	**31.52**	**255**	P	**P**	**04 30 42.0**	**-1.8**
	2.3nm,1.0s,baz=85,slow=9.1,SNR=6.1						
AS31	**Alice Springs**	**32.47**	**248**	*e*P	**P**	**04 30 50.9**	**-1.2**
ASAR	**Alice Springs**	**32.47**	**248**	P	**P**	**04 30 50.9**	**-1.3**
	1.3nm,0.7s,baz=72,slow=10,SNR=11						
KKM	**Kota Kinabalu**	**53.92**	**288**	*e*P	**P**	**04 33 44.6**	**-0.7**
	12nm,0.9s						
MJAR	**Matsushiro Arr**	**56.98**	**333**	P	**P**	**04 34 05.9**	**-0.9**
	0.9nm,0.3s,baz=165,slow=8.9,SNR=6.1						
KSRS	**Korea Array**	**62.81**	**326**	P	**P**	**04 34 47.3**	**+0.6**
	0.7nm,0.3s,baz=119,slow=7.1,SNR=3.7						
KSAR	**Wonju Array Be**	**62.82**	**326**	P	**P**	**04 34 47.3**	**+0.5**
USRK	**Ussuriysk Ar.**	**65.96**	**333**	P	**P**	**04 35 07.0**	**-0.2**
	3.5nm,0.9s,baz=145,slow=4.7,SNR=7.1						
CMAR	**Chiang Mai Arr**	**74.16**	**294**	P	**P**	**04 35 59.1**	**+1.0**
	0.8nm,0.3s,baz=121,slow=4.2,SNR=7.5						
QSPA	**South Pole Qui**	**76.07**	**180**	P	**P**	**04 36 09.4**	**+0.9**
	4.7nm,0.9s,baz=16,slow=0.9,SNR=9.4						
SEY	**Senchan**	**77.46**	**353**	P	**P**	**04 36 16.0**	**0.0**
	4.1nm,0.8s,baz=159,slow=5.3,SNR=8.7						
SONM	**Songino Array**	**81.57**	**324**	P	**P**	**04 36 39.5**	**+0.6**
	1.9nm,0.8s,baz=159,slow=4.5,SNR=3.5						
ILAR	**Eielson Array**	**85.95**	**18**	P	**P**	**04 37 00.2**	**-0.5**
	1.4nm,0.6s,baz=248,slow=5.0,SNR=14						
SYO	**Syowa Base**	**89.30**	**197**	⇑*e*P	P	04 37 13.0	-3.8
SNAA	**Sanae**	**94.29**	**183**	*e*P	**P**	**04 37 37.1**	**-3.0**
	2.6nm,0.9s						
MK31	**Makanchi Array**	**96.29**	**317**	*e*P	**P**	**04 37 49.4**	**-0.1**
MKAR	**Makanchi Array**	**96.29**	**317**	P	**P**	**04 37 49.5**	**0.0**
	1.3nm,0.7s,baz=97,slow=5.7,SNR=15						
ZALV	**Zalesovo Beam**	**96.46**	**324**	P	**P**	**04 37 49.0**	**-1.0**
	1.1nm,0.6s,baz=112,slow=6.4,SNR=4.6						
YKA	**Yellowknife Ar**	**97.10**	**27**	P	**P**	**04 37 52.7**	**0.0**
	0.3nm,0.7s,baz=264,slow=4.2,SNR=4.8						
ARCES	**ARCESS Array B**	**119.38**	**345**	PKP	**PKPdf**	**04 43 09.6**	**-0.1**
	2.2nm,0.7s,baz=75,slow=2.4,SNR=8.2						
FINES	**FINESS Array B**	**124.81**	**338**	PKP	**PKPdf**	**04 43 20.2**	**0.0**
	1.0nm,0.8s,baz=41,slow=2.6,SNR=4.0						
NB2	**NORSAR Subarra**	**129.74**	**345**	PKPdf	**PKPdf**	**04 43 29.9**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**129.74**	**345**	PKP	**PKPdf**	**04 43 30.4**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=32,slow=2.0,SNR=4.1						
AKASG	**Malin Array Be**	**129.81**	**326**	PKP	**PKPdf**	**04 43 31.3**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=55,slow=2.8,SNR=3.6						
GERES	**GERESS Array B**	**138.72**	**333**	PKP	**PKPdf**	**04 43 48.5**	**+1.5**
	comp=Z,0.3nm,0.4s,baz=29,slow=2.2,SNR=3.9						
BNI	**Bardonecchia**	**144.68**	**335**	*e*PKPdf	**PKPdf**	**04 43 57.6**	**-0.3**
SSB	**Saint Sauveur**	**145.32**	**338**	*e*PKPbc	**PKPdf**	**04 43 58.9**	**+0.1**
KEST	**Kesra**	**150.28**	**321**	PKPbc	**PKPbc**	**04 44 12.2**	**-0.4**
	comp=Z,2.2nm,0.9s,baz=53,slow=4.3,SNR=6.5						
KEST				PKPab	**PKPab**	**04 44 19.4**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=126,slow=7.0,SNR=4.2						
KEST	**Kesra**	**150.28**	**321**	*e*PKPdf	**PKPdf**	**04 44 07.2**	**-0.1**
KEST				*e*PKPbc	**PKPbc**	**04 44 12.1**	**-0.4**
KEST				PKPbc	**PKPbc**	**04 44 12.2**	**-0.4**
KEST				PKPab	**PKPab**	**04 44 19.4**	**+0.6**
ESDC	**Sonseca Array**	**153.10**	**344**	PKPbc	**PKPbc**	**04 44 19.3**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=6.4,slow=2.4,SNR=5.4						
ESDC				PKPab	**PKPab**	**04 44 31.1**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=16,slow=4.5,SNR=4.8						
TOA0	**Torodi Ar. Sit**	**165.43**	**269**	*e*PKPdf	**PKPdf**	**04 44 27.4**	**+1.1**
TORD	**Torodi Ar. Bea**	**165.43**	**269**	PKP	**PKPdf**	**04 44 27.1**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=94,slow=2.1,SNR=4.6						

*IDC **28** 04:25:54.7±1.5, 14.08S×166.62E, h12km±8km, mb5.2/36, mb1 5.3/37, mb1mx5.3/40, mbtmp5.3/37, ML4.8/1, MS5.4/10, Ms1 5.4/10, ms1mx5.0/16, Error ellipse: s-maj=11.7km s-min=10.0km az=90.0*
*ISCJB **28** 04:25:54.8±1.1, 14.06S±0.03×166.52E±0.02, h15km±6km, mb5.3/159, MS5.5/190, Error ellipse: s-maj=5.2km s-min=3.8km az=10.8*
*MOS **28** 04:25:57.4±1.1, 14.01S×166.50E, h33km, mb5.6/48, MS5.4/48, Error ellipse: s-maj=7.6km s-min=6.8km az=37.6*
*BJI **28** 04:25:57.0, 13.66S×166.93E, h30km, mb5.5/70, mB5.8/58, Ms5.4/68, Ms7 5.1/67*
*GCMT **28** 04:25:58.6±0.1, 14.08S×166.57E, h30km, MW5.8/128, Moment Tensor Solution. s128,c261; s127,c267; Duration: 1§9 Moment tensor: Scale 10^{17}Nm; M_{rr}5.34±.06; $M_{\theta\theta}$0.40±.06; $M_{\phi\phi}$-5.74±.06; $M_{r\theta}$1.37±.11; $M_{\theta\phi}$1.80±.04; $M_{\phi r}$-1.22±.09; Best double couple: M_o6.08800×10^{17} NP1:ϕ_s154.00000°, δ54.00000°, λ76.00000°. NP2:ϕ_s357.00000°, δ39.00000°, λ108.00000°. Principal axes: T 5.7440, Plg76.0000°, Azm127.0000°; N 0.6880, Plg11.0000°, Azm162.0000°; P -6.4320, Plg8.0000°, Azm254.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **28** 04:25:58.6±0.1, 14.05S×166.61E, h34km, mb5.3/86, MS5.5/166, MW5.7 Error ellipse: s-maj=5.4km s-min=4.3km az=162.0, Moment Tensor Solution. s47 Moment tensor: Scale 10^{17}Nm; M_{rr}4.25; $M_{\theta\theta}$-0.27; $M_{\phi\phi}$-3.99; $M_{r\theta}$-0.79; $M_{\theta\phi}$-0.94; $M_{\phi r}$-1.09; Best double couple: M_o4.40000×10^{17} NP1:ϕ_s200.00000°, δ54.00000°, λ98.00000°. NP2:ϕ_s7.00000°, δ37.00000°, λ80.00000°. Principal axes: T 4.4900, Plg79.0000°, Azm141.0000°; N -0.1000, Plg6.0000°, Azm15.0000°; P -4.3900, Plg8.0000°, Azm284.0000°;*

ISC 28 04:25:58.3±0.3, 14.08S±0.04×166.65E±0.04, h34km, h34km:pP-P, n870, σ1§60/884, mb5.4/158, MS5.5/190, 65C-36D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**6.68**	**175**	*e*P	**Pn**	**04 27 34.5**	**+0.4**
LIFNC				*e*S	Sn	04 29 00.6	+12
DZM	**Mont Dzumac**	**7.95**	**181**	*e*Pn	**Pn**	**04 27 52.3**	**+0.8**
	161nm,0.3s						
DZM				*e*Sn	**Sn**	**04 29 16.8**	**-3.5**
	188nm,0.3s						
DZM				*e*LR	LR	04 29 42.1	
	29μm,23.9s						
DZM	**Mont Dzumac**	**7.95**	**181**	Pn	**Pn**	**04 27 52.3**	**+0.8**
	12nm,0.3s,baz=91,slow=24,SNR=19						
DZM				Sn	**Sn**	**04 29 24.1**	**+3.8**
	8.2nm,0.3s,baz=342,slow=20,SNR=1.6						
NOUC	**Port Laguerre**	**7.98**	**182**	*e*P	Pn	04 27 48.2	-3.7
NOUC				*e*S	**Sn**	**04 29 19.6**	**-1.5**
HNR	**Honiara**	**8.03**	**304**	*e*P	**Pn**	**04 27 52.0**	**-0.6**
HNR				*e*		04 29 20.7	
HNR	**Honiara**	**8.03**	**304**	*e*P	**Pn**	**04 27 52.0**	**-0.6**
HNR	**Honiara**	**8.03**	**304**	*e*Pn	**Pn**	**04 27 52.0**	**-0.6**
HNR				*e*Sn	**Sn**	**04 29 20.7**	**-1.4**
MSVF	**Nonsavu**	**11.55**	**110**	Pn	Pn	04 28 45.2	+4.2
	2μm,1.4s,SNR=15						
MSVF	**Nonsavu**	**11.55**	**110**	*e*P	Pn	04 28 44.9	+3.9
MSVF	**Nonsavu**	**11.55**	**110**	*e*Pn	Pn	04 28 44.9

RAR Rarotonga 32.73 107 eP P 04 32 26.5 -1.5
comp=Z,0.3nm,0.9s
WAKE Wake Island 33.16 0 PFAKE 04 32 40.0 +8.3
WAKE LR LR
comp=Z,5μm,21.0s
TAU Tasmania Unive 33.20 206 eP P 04 32 33.2 +1.3
TAU pmax pmax
comp=Z,25nm,0.9s
TAU MLR MLR
comp=Z,10μm,21.0s
TAU Tasmania Unive 33.20 206 eP P 04 32 33.2 +1.3
comp=Z,25nm,0.9s
TAU LR LR
comp=Z,10μm,21.0s
BBOO Buckleboo 33.51 231 eP P 04 32 36.0 +1.3
comp=Z,6.3nm,0.9s
GUMO Guam 34.95 321 P P 04 32 47.3 +0.1
comp=Z,34nm,0.6s,baz=185,slow=12,SNR=4.2
GUMO LR LR 04 45 50.9
comp=Z,4μm,21.4s,baz=136,slow=34
FAKI Fak Fak 35.72 285 eP P 04 32 54.8 +0.7
comp=Z,26nm,1.0s
SIJI Sorong 37.38 287 P P 04 33 07.8 -0.4
comp=Z,22nm,0.7s,baz=81,slow=9.7,SNR=17
XMAS Kiritimati 39.03 69 PFAKE 04 33 30.0 +7.9
XMAS LR LR
comp=Z,5μm,20.0s
FORT Forrest 39.11 238 eP P 04 33 23.4 +0.8
comp=Z,123nm,0.7s
TNTI Ternate 41.60 288 eP P 04 33 44.0 +0.6
comp=Z,34nm,0.8s
PAE Paea 42.19 101 eP P 04 33 50.0 +1.9
comp=Z,15nm,1.0s
PPT2 Papeete2 42.19 101 eP P 04 33 49.9 +1.6
comp=Z,72nm,1.2s
PPT2 eS S 04 40 08.9 +2.4
comp=Z,2μm,26.5s
PPT2 eLQ LQ 04 43 39.4
comp=Z,10μm,28.0s
PPT2 eLR LR 04 45 25.5
comp=Z,7μm,24.5s,baz=266
PPT Papeete 42.19 101 P P 04 33 49.5 +1.2
comp=Z,42nm,0.5s,baz=225,slow=1.6,SNR=8.1
TIAR Tiarei 42.41 101 eP P 04 33 51.8 +1.8
comp=Z,24nm,0.8s
TBI Tubuai 42.44 109 eP P 04 33 52.5 +2.3
comp=Z,216nm,0.8s
TBI eS S 04 40 12.3 +2.4
comp=Z,2μm,28.5s
TBI eLQ LQ 04 43 45.8
comp=Z,9μm,26.8s
TBI eLR LR 04 45 31.8
comp=Z,11μm,24.2s,baz=281
TVO Taravao 42.50 101 eP P 04 33 52.4 +1.6
comp=Z,24nm,0.7s
MMRI Maumere 43.82 272 eP P 04 34 03.1 +1.6
comp=Z,235nm,1.3s
PMOR Pomariorio Ree 43.95 97 eP P 04 34 04.6 +2.1
comp=Z,251nm,0.9s
VAH Vaihoa 44.19 97 eP P 04 34 06.2 +1.8
comp=Z,138nm,0.9s
MIDW Midway 44.81 20 PFAKE 04 34 20.0 +11
MIDW LR LR
comp=Z,5μm,20.0s
MBWA Marble Bar 45.14 254 eP P 04 34 12.0 +0.1
comp=Z,56nm,0.8s
MBWA LR LR
comp=Z,5μm,20.0s
LUWI Luwuk 45.27 283 eP P 04 34 14.0 +0.9
comp=Z,88nm,1.0s
DAV Davao City (W) 45.85 295 PFAKE 04 34 30.0 +12
DAV LR LR
comp=Z,2μm,19.0s
KAPI Kappang 47.04 276 P P 04 34 28.3 +1.4
comp=Z,220nm,0.9s,SNR=7.3
KAPI Kappang 47.04 276 P P 04 34 26.3 -0.6
comp=Z,10nm,0.7s,baz=111,slow=9.9,SNR=10.0
KAPI Kappang 47.04 276 P P 04 34 26.3 -0.6
KAPI eP pP 04 34 28.0 -9.2
KAPI LR LR
comp=Z,2μm,21.0s
JCJ Chichijima 47.33 330 P P 04 34 28.6 -0.3
comp=Z,44nm,0.4s,baz=135,slow=11,SNR=4.3
JCJ LR LR 04 53 58.1
comp=Z,1μm,20.3s,baz=158,slow=36
CBIJ Chichi jima 47.33 330 P P 04 34 28.6 -0.3
NWAO Narrogin (SRO) 48.57 238 P P 04 34 38.3 -0.3
comp=Z,36nm,0.7s,baz=158,slow=1.3,SNR=19
KIP Kipapa 49.48 45 PFAKE 04 35 00.0 +14
KIP LR LR
comp=Z,4μm,21.0s
POHA Pohakuloa 50.16 49 PFAKE 04 35 00.0 +8.9
POHA LR LR
comp=Z,6μm,21.0s
RCP Roxas 50.43 298⇓eP P 04 34 55.2 +2.2
SDKM Sandakan 52.83 288 ⇓P P 04 35 12.8 +1.7
KDM Kudat 53.65 290 ⇓P P 04 35 18.9 +1.9
KKM Kota Kinabalu 53.89 288 ⇑P P 04 35 20.1 +1.3
KKM Kota Kinabalu 53.89 288 eP P 04 35 19.9 +1.1
comp=Z,42nm,0.9s
KKM LR LR
comp=Z,2μm,22.0s
JOW Kunigami 55.17 317 P P 04 35 26.6 -1.2
comp=Z,5.7nm,0.7s,baz=158,slow=6.6,SNR=28
JOW Kunigami 55.17 317 P P 04 35 26.6 -1.2
JOW eP P 04 35 29.2 +1.4
DRV Dumont d'Urvil 55.44 193 P P 04 35 17.0 -12
DRV S S 04 42 57.0 -14
DRV SS SKiKP 04 46 39.0 +8.6
DRV L L 04 49 00.0
DRV R 04 52 00.0
RKT Rikitea 55.75 108 eS S 04 43 20.0 +3.1
comp=Z,2μm,28.8s
RKT eSS SS 04 47 06.4 +3.7
comp=Z,1μm,26.5s
RKT eLR LR 04 51 41.9
comp=Z,5μm,24.0s,baz=270
BTM Bintulu 55.80 284 ⇑P P 04 35 34.3 +1.6
SBUM Sibu 56.38 283 ⇑P P 04 35 38.4 +1.7
SBUM Sibu 56.38 283 eP P 04 35 38.1 +1.4
comp=Z,48nm,1.3s
MJAR Matsushiro Arr 57.06 333 P P 04 35 40.7 -0.4
comp=Z,36nm,0.8s,baz=167,slow=8.9,SNR=76
MAJO Matsushiro 57.06 333 eP P 04 35 40.9 -0.2
MAJO pmax pmax
comp=Z,79nm,1.0s
MAJO MLR MLR
comp=Z,1μm,20.0s
MAJO Matsushiro 57.06 333 eP P 04 35 40.9 -0.2
comp=Z,79nm,1.0s
MAJO LR LR
comp=Z,1μm,20.0s
MAT Matsushiro 57.06 333 P P 04 35 40.8 -0.3
MAT S S 04 43 35.6 +1.9
TWG Pinlang 57.76 309 eP P 04 35 47.1 +0.8
comp=Z,56nm,0.8s
KSM Kuching 57.90 281 ⇓P P 04 35 49.2 +1.7
KSM Kuching 57.90 281 eP P 04 35 47.7 +0.2
comp=Z,37nm,1.0s
KSM LR LR
comp=Z,1μm,20.0s
YULB Yu-li 57.92 310 eP P 04 35 48.8 +1.3
comp=Z,72nm,1.2s
CISI Cisompet, Garu 58.03 270 eP P 04 35 49.2 +0.7
comp=Z,246nm,1.4s
JNU Nakatsue 58.05 325 P P 04 35 48.1 -0.1
comp=Z,67nm,0.8s,baz=114,slow=2.5,SNR=35
JNU Nakatsue 58.05 325 P P 04 35 48.1 -0.1
JNU eP P 04 35 48.6 +0.4
NACB Ninganchiao 58.16 310 eP P 04 35 50.0 +0.9
comp=Z,59nm,0.8s
TPUB Ta-pu 58.37 309 eP P 04 35 51.0 +0.4
comp=Z,48nm,0.7s
LEM Lembang 58.37 271 P P 04 35 50.2 -0.8
comp=Z,65nm,0.7s,baz=42,slow=3.7,SNR=11
SSLB Suanglung 58.41 310 eP P 04 35 51.2 +0.3
comp=Z,33nm,0.9s
YHNB Yeheng 58.61 311 eP P 04 35 52.8 +0.5
comp=Z,150nm,0.8s
YHNB LR LR
comp=Z,2μm,19.0s
TATO Taipei 58.71 311 eP P 04 35 53.4 +0.5
comp=Z,1μm,2.5s
TATO LR LR
comp=Z,1μm,22.0s
ERM Erimo 59.87 340 PFAKE 04 36 10.0 +9.4
ERM LR LR
comp=Z,3μm,21.0s
QZH Quanzhou 60.83 309⇑iP P 04 36 08.3 +0.8
QZH S S 04 44 25.0 +2.0
QZH PMZ
comp=Z,2μm,10.6s
QZH LZ
comp=Z,3μm,26.4s
YUK Yuzh-Kuril'sk 60.87 343 iP P 04 36 06.8 -0.5
YUK e 04 36 50.6
YUK e 04 38 16.8
YUK eS S 04 44 45.0 +22
KSNAH Namhae 60.96 324 P P 04 36 09.3 +1.1
SNR=6.4
KSNAH Namhae 60.96 324 P P 04 36 09.3 +1.1
SNR=6.4
KSPHA Pohang 61.16 326 P P 04 36 10.9 +1.4
SNR=5.9
KSPHA Pohang 61.16 326 P P 04 36 10.9 +1.4
SNR=5.9
ASAJ Asahikawa 61.94 341 P P 04 36 14.9 +0.3
comp=Z,20nm,0.4s,baz=212,slow=10,SNR=13
ASAJ LR LR 04 58 54.5
comp=Z,3μm,21.5s,baz=180,slow=32
ASAJ Asahikawa 61.94 341 P P 04 36 14.9 +0.3
ASAJ eP P 04 36 15.1 +0.5
KSCPR CHUPUNGNYEONG 61.95 325 P P 04 36 15.7 +0.8
SNR=9.6
KSCPR CHUPUNGNYEONG 61.95 325 P P 04 36 15.7 +0.8
SNR=9.6
KSJEU Jeongeup 62.01 324 P P 04 36 16.2 +1.0
SNR=12
KSJEU Jeongeup 62.01 324 P P 04 36 16.2 +1.0
SNR=12
KSTBA Taebaek 62.07 326 P P 04 36 16.9 +1.1
SNR=16
KSTBA Taebaek 62.07 326 P P 04 36 16.9 +1.1
SNR=16
KSJEO Jeonju 62.12 324 P P 04 36 17.1 +1.1
SNR=12
KSJEO Jeonju 62.12 324 P P 04 36 17.1 +1.1
SNR=12
KSBON Boeun 62.24 325 P P 04 36 17.8 +0.9
SNR=19
KSBON Boeun 62.24 325 P P 04 36 17.8 +0.9
SNR=19
KSHUK Heuksando 62.31 322 P P 04 36 18.5 +1.3
SNR=19
KSHUK Heuksando 62.31 322 P P 04 36 18.5 +1.3
SNR=19
KSCHJ Chungju 62.42 326 P P 04 36 18.6 +0.7
SNR=19
KSCHJ Chungju 62.42 326 P P 04 36 18.6 +0.7
SNR=19
KSDGY Daegwallyong 62.64 327 P P 04 36 20.8 +1.3
SNR=6.8
KSDGY Daegwallyong 62.64 327 P P 04 36 20.8 +1.3
SNR=6.8
SSE Sheshan 62.64 316 P P 04 36 20.5 +0.9
SSE sP sP 04 36 34.0 -0.1
SSE S S 04 44 47.3 +1.6
SSE sS sS 04 45 01.0 -2.0
SSE SS SS 04 48 50.0 -0.9
SSE PMZ
comp=Z,67nm,0.9s
SSE PMZ
comp=Z,440nm,4.8s
SSE LN
comp=Z,550nm,19.3s
SSE LE
comp=Z,980nm,19.3s
SSE LZ
comp=Z,1μm,20.6s
KSJMJ Jumunjin 62.74 327 P P 04 36 21.3 +1.3
SNR=6.4
KSJMJ Jumunjin 62.74 327 P P 04 36 21.3 +1.3
SNR=6.4
KSCEA Cheonan 62.78 325 P P 04 36 21.1 +0.7
SNR=16
KSCEA Cheonan 62.78 325 P P 04 36 21.1 +0.7
SNR=16
KSRS Korea Array 62.87 326 P P 04 36 21.2 +0.2
comp=Z,17nm,0.8s,baz=140,slow=7.1,SNR=52
KSAR Wonju Array Be 62.88 326 P P 04 36 21.2 +0.1
KSAR Wonju Array Be 62.88 326 P P 04 36 21.2 +0.1
KSICN Icheon 63.03 326 P P 04 36 23.0 +1.0
SNR=6.0
KSIJA INJE 63.16 327 P P 04 36 24.2 +1.3
SNR=12
KSIJA INJE 63.16 327 P P 04 36 24.2 +1.3
SNR=12
KSCHC Chuncheon 63.16 326 P P 04 36 24.1 +1.2
SNR=6.3
VNDA Vanda 63.49 181 P P 04 36 24.7 +0.2
comp=Z,19nm,0.7s,baz=353,slow=7.0,SNR=26
VNDA Vanda 63.49 181 P P 04 36 24.7 +0.2
VNDA eP P 04 36 24.9 +0.4
KSCWO Cheorwon 63.55 326 P P 04 36 26.9 +1.4
SNR=13
INCN Inchon 63.60 325 P P 04 36 27.2 +1.4
SNR=5.5
INCN Inchon 63.60 325 PFAKE 04 36 40.0 +14
INCN LR LR
comp=Z,1μm,21.0s
SBA Scott Base 63.78 180 eP P 04 36 27.6 +1.2
SBA pmax pmax
comp=Z,117nm,0.9s
SBA MLR MLR
comp=Z,2μm,21.0s
SBA Scott Base 63.78 180 eP P 04 36 27.6 +1.2
comp=Z,117nm,0.9s
SBA LR LR
comp=Z,2μm,21.0s
KSMUS Musan 63.82 326 P P 04 36 28.5 +1.3
SNR=6.8
YNCB YEONCHEON 63.84 326 P P 04 36 28.6 +1.2
SNR=15
KSGAH Ganghwa 63.86 325 P P 04 36 28.6 +1.1
SNR=14
MYKOM Kota Tinggi 64.16 279 ⇑P P 04 36 32.0 +2.0
MYKOM Kota Tinggi 64.16 279 eP P 04 36 31.3 +1.3
comp=Z,18nm,1.0s
YSS Yuzh-Sakhalins 64.43 342⇓eP P 04 36 31.8 +0.8
YSS e*SP sP 04 36 48.0 +2.4
YSS e 04 37 12.5
YSS eS S 04 45 05.0 -2.3
YSS e*SS sS 04 45 22.0 -2.7
YSS ePPS PPS 04 45 36.0
YSS pmax pmax
comp=Z,20nm,0.6s
YSS pmax pmax
comp=Z,500nm,7.0s
YSS smax smax
comp=N,500nm,8.0s
YSS smax smax
comp=E,300nm,8.0s
YSS MLR MLR
comp=Z,1μm,19.0s
YSS MLR MLR
comp=N,1μm,17.0s
YSS MLR MLR
comp=E,600nm,17.0s
YSS Yuzh-Sakhalins 64.43 342 eP P 04 36 31.8 +0.8
comp=E,33nm,0.6s
YSS LR LR
comp=Z,992nm,21.0s
NJ2 Nanjing 64.80 316 eP P 04 36 34.0 +0.2
NJ2 pP pP 04 36 43.5 -0.8
NJ2 sP sP 04 36 48.3 0.0
NJ2 S S 04 45 12.0 -0.4
NJ2 sS sS 04 45 27.0 -2.8
NJ2 SS SS 04 49 25.0 +0.5
NJ2 PMZ
comp=Z,100nm,1.0s
NJ2 PMZ
comp=Z,2μm,6.9s
NJ2 LN
comp=Z,2μm,19.5s
NJ2 LE
comp=Z,2μm,18.8s
NJ2 LZ
comp=Z,10μm,16.9s
QIZ Qiongzhong 64.90 299 P P 04 36 36.0 +1.3
QIZ pP pP 04 36 44.3 -1.0
QIZ sP sP 04 36 48.5 -0.8
QIZ S S 04 45 15.3 +1.1
QIZ sS sS 04 45 31.8 +0.2
QIZ SS SS 04 49 27.8 +1.3
QIZ LN
comp=Z,800nm,35.8s
QIZ LE
comp=Z,220nm,23.4s
QIZ LZ
comp=Z,1μm,22.6s
QIZ Qiongzhong 64.90 299 PFAKE 04 36 50.0 +15
QIZ LR LR
comp=Z,1μm,22.0s
SKR Severo-Kuril's 65.15 353 eP P 04 36 23.0 -13
SKR MLR MLR
comp=Z,3μm,20.0s
VLA Vladivostok 65.23 333c iP P 04 36 37.0 +0.7
VLA pmax pmax
comp=Z,151nm,2.5s
USRK Ussuriysk Ar. 66.04 333 P P 04 36 41.9 +0.4
comp=Z,36nm,0.7s,baz=128,slow=5.9,SNR=64
WHN Wuhan 67.06 312 ⇓P P 04 36 49.5 +1.1
WHN S S 04 45 41.5 +1.4
WHN LZ
comp=Z,2μm,21.6s
PET Petropavlovsk 67.19 355c iP P 04 36 47.7 -1.0
PET eS S 04 45 36.1 -4.6
PET ePS PnS 04 45 59.5 -6.4
PET ePPS PPS 04 46 07.5
PET eSS SS 04 49 53.4 -7.5
PET pmax pmax
comp=Z,500nm,13.1s
PET pmax pmax
comp=Z,600nm,15.6s
PET pmax pmax
comp=Z,67nm,0.7s
PET Petropavlovsk 67.19 355 PFAKE 04 37 00.0 +11
PET LR LR
comp=Z,2μm,21.0s
ADK Adak 67.27 11 PFAKE 04 37 00.0 +11
ADK LR LR
comp=Z,3μm,20.0s
PETK Petropavlovsk- 67.36 354 P P 04 36 50.2 +0.4
comp=Z,34nm,0.7s,baz=157,slow=7.5,SNR=43
DL2 Dalian 67.42 323 ⇓P P 04 36 51.5 +1.0
DL2 S S 04 45 44.3 +0.2
DL2 PMZ
comp=Z,150nm,0.7s
DL2 PMZ
comp=Z,400nm,5.0s
DL2 LE
comp=Z,880nm,18.1s
DL2 LZ
comp=Z,790nm,19.6s
MDJ Mudanjiang 67.43 332 P P 04 36 51.8 +1.4
MDJ pP pP 04 37 01.0 0.0
MDJ sP sP 04 37 04.5 -0.5
MDJ PP PP 04 39 20.3 +0.7
MDJ S S 04 45 46.0 +2.0
MDJ sS sS 04 46 01.3 -0.2
MDJ SS SS 04 50 05.0 -0.1
MDJ PMZ
comp=Z,53nm,1.1s
MDJ PMZ
comp=Z,600nm,4.5s
MDJ LN
comp=Z,810nm,22.6s
MDJ LE
comp=Z,450nm,23.3s
MDJ LZ
comp=Z,1μm,19.9s
MDJ Mudanjiang 67.43 332 eP P 04 36 51.3 +0.9
comp=Z,54nm,1.0s
MDJ LR LR
comp=Z,1μm,21.0s
IPM Ipoh 67.63 281 ⇑P P 04 36 53.6 +1.2
IPM Ipoh 67.63 281 eP P 04 36 53.1 +0.7
COCO West Island 67.78 262 PFAKE 04 37 10.0 +17
COCO LR LR
comp=Z,3μm,21.0s
KULM Kulim 68.23 282 ⇑P P 04 36 57.9 +1.8
KULM Kulim 68.23 282 eP P 04 36 57.1 +1.0
comp=Z,25nm,0.9s
KULM LR LR
comp=Z,1μm,19.0s
HABR Khabarovsk 68.31 338ceP P 04 36 54.6 -1.3
HABR e*PP pP 04 37 04.2 -2.3
HABR eSP 04 37 08.2
HABR e 04 37 19.9
HABR e 04 39 24.2
HABR eS S 04 45 52.4 -2.0
HABR e 04 46 50.5
HABR pmax pmax
comp=Z,83nm,1.5s
HABR pmax pmax
comp=N,38nm,1.5s
HABR pmax pmax
comp=E,24nm,1.1s
HABR MLR MLR
comp=Z,283nm,19.0s
TIA Tai'an 68.46 319 ⇑P P 04 36 57.3 +0.2
TIA S S 04 45 56.3 -0.4
TIA PMZ
comp=Z,60nm,1.0s
TIA PMZ
comp=Z,750nm,4.3s
TIA LN
comp=Z,1μm,19.0s
TIA LE
comp=Z,570nm,17.0s
TIA LZ
comp=Z,1μm,18.0s
CN2 Changchun 68.79 329 ⇑P P 04 36 59.8 +0.8
CN2 eS S 04 45 57.0 -3.2
CN2 PMZ
comp=Z,40nm,0.6s
CN2 PMZ
comp=Z,700nm,6.0s
CN2 LN
comp=Z,800nm,19.0s
CN2 LE
comp=Z,500nm,19.0s
CN2 LZ
comp=Z,1μm,21.0s
SKNT Sakolnakorn 69.13 295 P P 04 37 02.6 +0.9
comp=Z,72nm,0.8s,comp=Z,2μm
PSI Prapat 69.17 279 P P 04 37 01.9 -0.2
comp=Z,20nm,0.8s,baz=144,slow=2.1,SNR=19
NIKH Nikolski High 70.04 15 eP P 04 37 06.9 +0.4
comp=Z,94nm,0.6s
GSI Gunungsitoli 70.06 277 eP P 04 37 08.5 +1.0
comp=Z,64nm,0.9s
KLR Kul'dur 70.18 337 eP P 04 37 03.8 -3.6
KLR eS S 04 46 15.0 -1.4
KLR pmax pmax
comp=E,94nm,2.2s
KLR pmax pmax
comp=Z,240nm,2.2s
KLR pmax pmax
comp=Z,1μm,11.0s
NONG Nongkai 70.28 295 P P 04 37 10.0 +1.3
comp=Z,42nm,1.3s
ENH Enshi 70.49 310 eP P 04 37 10.1 +0.2
comp=Z,40nm,0.8s
ENH LR LR
comp=Z,515nm,20.0s
MIR Mirnyy 70.67 204 eP P 04 37 20.0 +10
MIR pmax pmax
comp=Z,100nm,1.0s
GYA Guiyang 70.85 305⇓iP P 04 37 14.0 +1.8
GYA pP pP 04 37 24.3 +1.4
GYA sP sP 04 37 30.0 +3.1
GYA PP PP 04 39 52.5 +2.8
GYA S S 04 46 26.3 +0.8
GYA sS sS 04 46 43.3 +0.2
GYA SKS SKSac 04 47 09.8 -2.7
GYA SS SS 04 51 00.3 +1.5
GYA PMZ
comp=Z,40nm,1.0s
GYA PMZ
comp=Z,190nm,7.5s
GYA LN
comp=Z,2μm,20.6s
GYA LE
comp=Z,980nm,23.4s
GYA LZ
comp=Z,1μm,24.5s
BJT Baijiatuau 71.38 321 eP P 04 37 15.8 +0.8
BJT pmax pmax

BJT MLR MLR
comp=Z,53nm,0.8s
BJT P P
comp=Z,1μm,21.0s
BJT Baijiatuau 71.38 321 *e*P **P 04 37 15.8 +0.8**
comp=Z,53nm,0.8s
BJT LR LR
comp=Z,1μm,21.0s
BJI Beijing 71.39 321 P **P 04 37 15.8 +0.8**
BJI S **S 04 46 28.5 -2.3**
BJI PMZ
comp=Z,76nm,0.8s
BJI PMZ
comp=Z,830nm,4.0s
BJI LN
comp=Z,2μm,21.6s
BJI LE
comp=Z,1μm,22.3s
BJI LZ
comp=Z,1μm,26.1s
PBKT Sadao Pong 71.66 293 P **P 04 37 19.0 +1.9**
comp=Z,51nm,0.9s,comp=Z,2μm
LOEI Loei 71.74 294 P **P 04 37 16.7 -0.9**
comp=Z,32nm,0.8s
TIY Taiyuan 72.38 318 *e*P **P 04 37 23.5 +2.4**
TIY S **S 04 46 43.5 +0.9**
TIY PMZ
comp=Z,65nm,0.6s
TIY PMZ
comp=Z,790nm,4.2s
TIY LN
comp=Z,930nm,18.2s
TIY LE
comp=Z,730nm,16.4s
TIY LZ
comp=Z,1μm,25.5s
UTTA Uttaradit 72.45 294 P **P 04 37 23.5 +1.7**
comp=Z,7.5nm,0.9s,comp=Z,76nm
UTHA Uthaitani 72.67 291 P **P 04 37 25.2 +2.0**
comp=Z,9.9nm,0.8s,comp=Z,91nm
XAN Xi'an 72.81 313 P **P 04 37 23.8 +0.1**
XAN S **S 04 46 49.0 +1.4**
XAN PMZ
comp=Z,19nm,0.8s
XAN PMZ
comp=Z,150nm,5.5s
XAN LN
comp=Z,540nm,19.3s
XAN LE
comp=Z,380nm,22.0s
XAN LZ
comp=Z,380nm,20.2s
KMI Kunming 73.45 302 ⇑P **P 04 37 29.0 +1.0**
KMI pP **pP 04 37 39.3 +0.7**
KMI sP **sP 04 37 44.0 +1.4**
KMI PP PP 04 40 18.5 +6.4
KMI S **S 04 46 54.3 -1.3**
KMI sS **sS 04 47 10.3 -2.9**
KMI SS **SS 04 51 39.5 +0.6**
KMI PMZ
comp=Z,64nm,0.9s
KMI LN
comp=Z,700nm,15.6s
KMI LE
comp=Z,710nm,20.7s
KMI LZ
comp=Z,1μm,17.7s
CRAI Chiangrai 73.53 296 P **P 04 37 26.6 -1.6**
comp=Z,38nm,0.8s
LAMP Lampang 73.55 294 P **P 04 37 30.2 +1.8**
comp=Z,41nm,0.8s,comp=Z,279nm
CMAR Chiang Mai Arr 74.14 294 P **P 04 37 32.2 +0.4**
comp=Z,32nm,0.8s,baz=128,slow=4.6,SNR=63
CMMT Chiang Mai 74.26 294 P **P 04 37 33.9 +1.4**
comp=Z,54nm,1.1s,comp=Z,896nm
CHTO Chiang Mai 74.26 294 P **P 04 37 34.0 +1.5**
comp=Z,187nm,1.0s,comp=Z,3μm
CHTO Chiang Mai 74.26 294 *e*P **P 04 37 34.0 +1.5**
CHTO pmax pmax
comp=Z,34nm,1.0s
CHTO MLR MLR
comp=Z,628nm,21.0s
CHTO Chiang Mai 74.26 294 P **P 04 37 34.3 +1.8**
SNR=13
CHTO Chiang Mai 74.26 294 *e*P **P 04 37 34.0 +1.5**
comp=Z,34nm,1.0s
CHTO LR LR
comp=Z,628nm,21.0s
CMAI Chiengmai2 74.58 296 P **P 04 37 36.1 +1.5**
comp=Z,39nm,0.9s,comp=Z,860nm
HHC Hu-ho-hao-te 74.71 320 *e*P **P 04 37 35.3 +0.5**
HHC pP **pP 04 37 44.5 -1.0**
HHC sP **sP 04 37 52.5 +3.0**
HHC S S 04 47 15.0 +6.2
HHC SKS **SKSac 04 47 40.3 -0.6**
HHC PMZ
comp=Z,36nm,1.3s
HHC PMZ
comp=Z,710nm,8.2s
HHC LN
comp=Z,860nm,16.5s
HHC LE
comp=Z,520nm,16.8s
HHC LZ
comp=Z,920nm,17.0s
MHMT Maesarieng 74.94 293 P **P 04 37 38.6 +2.2**
comp=Z,18nm,0.9s,comp=Z,461nm
CD2 Chengdu 75.14 308 ⇑P **P 04 37 39.0 +1.6**
CD2 pP **PcP 04 37 49.8 -1.1**
CD2 sP **sP 04 37 54.0 +1.9**
CD2 PP **PP 04 40 29.5 +3.3**
CD2 S **S 04 47 14.0 +0.1**
CD2 sS **sS 04 47 32.0 +0.4**
CD2 SKS **SKSac 04 47 40.5 -3.9**
CD2 SS **SS 04 52 06.0 +2.0**
CD2 PMZ
comp=Z,50nm,0.7s
CD2 PMZ
comp=Z,820nm,4.7s
CD2 LN
comp=Z,780nm,20.1s
CD2 LE
comp=Z,1μm,18.6s
CD2 LZ
comp=Z,710nm,19.6s
HIA Hailar 75.43 330 *e*P **P 04 37 39.5 +0.8**
HIA pmax pmax
comp=Z,38nm,0.8s
HIA MLR MLR
comp=Z,1μm,21.0s
HIA Hailar 75.43 330 *e*P **P 04 37 39.5 +0.8**
comp=Z,38nm,0.8s
HIA LR LR
comp=Z,1μm,21.0s
QSPA South Pole Qui 75.94 180 P **P 04 37 41.0 -0.5**
comp=Z,121nm,1.0s,baz=338,slow=0.9,SNR=84
QSPA South Pole Qui 75.94 180 P **P 04 37 41.0 -0.5**
QSPA *e*P **P 04 37 41.4 -0.2**
QSPA LR LR
comp=Z,1μm,19.0s
LZH Lanzhou 77.44 312 ⇓P **P 04 37 53.0 +2.5**
LZH pP **pP 04 38 03.8 +2.5**
LZH sP **sP 04 38 08.3 +3.0**
LZH PP **PP 04 40 50.5 +4.9**
LZH S **S 04 47 39.5 +0.2**
LZH sS **sS 04 47 59.0 +2.0**
LZH SS **SS 04 52 42.0 +3.1**
LZH PMZ
comp=Z,140nm,1.3s
LZH PMZ
comp=Z,690nm,4.2s
LZH LN
comp=Z,1μm,18.8s
LZH LE
comp=Z,1μm,18.6s
LZH LZ
comp=Z,1μm,19.0s
SEY Seymchan 77.57 353 P **P 04 37 50.0 -0.5**
comp=Z,49nm,0.6s,baz=172,slow=4.8,SNR=47
SEY Seymchan 77.57 353*c e*P **P 04 37 49.7 -0.7**
DGPR DIGLIPUR 77.86 287 *e*P **P 04 37 52.2 -0.9**
DGPR AMB AMB 04 38 00.8
comp=Z,84nm,0.5s
CLNS Chul'man 78.71 338*c i*P **P 04 37 57.2 +0.3**
CLNS *e**PP **PcP 04 38 06.1 +0.4**
CLNS *e*S **S 04 47 56.2 +4.5**
CLNS pmax pmax
comp=Z,39nm,0.9s
CLNS pmax pmax
comp=N,14nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,0.8s
CLNS smax smax
comp=N,527nm,12.6s
CLNS smax smax
comp=E,542nm,13.6s
KDAK Kodiak Island 79.08 21 P **P 04 38 00.3 +1.5**
comp=E,173nm,0.4s,SNR=6.7
KDAK Kodiak Island 79.08 21*c e*P **P 04 38 00.5 +1.7**
GAMB Gambell 79.40 10 *e*P **P 04 38 01.2 +0.8**
comp=E,11nm,0.7s
CIT Chita 80.22 330 *e*P **P 04 38 05.8 +0.5**
CIT *e* 04 38 14.3
CIT *e* 04 38 22.7
CIT pmax pmax
comp=Z,160nm,2.4s
IMP Imphal 80.72 298 *ex* **P 04 38 08.0 -0.6**
SVW2 Sparrevohn 80.72 18 *e*P **P 04 38 05.2 -2.5**
comp=Z,13nm,0.6s
AIS Amsterdam Isla 80.80 233 SS SS 04 53 45.0 +17
AIS R 05 05 00.0
YAK Yakutsk 81.24 343 *e*P **P 04 38 09.3 -1.1**
YAK *e**PP **pP 04 38 20.3 -0.9**
YAK *e* 04 41 11.2
YAK *e*S **S 04 48 13.5 -4.6**
YAK *e**SS **SKSac 04 48 26.7 0.0**
YAK *e*SS **SS 04 53 36.6 +2.1**
YAK pmax pmax
comp=Z,34nm,0.8s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=N,7.0nm,0.9s
YAK pmax pmax
comp=Z,118nm,3.6s
YAK pmax pmax
comp=N,90nm,4.4s
YAK pmax pmax
comp=E,74nm,3.3s
YAK smax smax
comp=E,137nm,3.8s
YAK smax smax
comp=N,72nm,3.2s
YAK MLR MLR
comp=Z,2μm,18.0s
YAK MLR MLR
comp=N,1μm,19.0s
YAK MLR MLR
comp=E,833nm,17.0s
YAK Yakutsk 81.24 343 *e*P **P 04 38 10.3 -0.2**
comp=E,45nm,0.7s
YAK LR LR
comp=Z,2μm,22.0s
ULN Ulaanbaatar 81.26 324 *e*P P 04 38 16.3 +5.2
ULN pmax pmax
comp=Z,75nm,0.9s
ULN MLR MLR
comp=Z,1μm,22.0s
ULN Ulaanbaatar 81.26 324 P P 04 38 16.5 +5.4
SNR=32
ULN Ulaanbaatar 81.26 324 *e*P P 04 38 16.3 +5.2
comp=Z,75nm,0.9s
ULN LR LR
comp=Z,1μm,22.0s
SONM Songino Array 81.62 324 P **P 04 38 12.6 -0.4**
comp=Z,24nm,0.8s,baz=149,slow=6.7,SNR=43
GTA Gaotai 81.79 314 *e*P **P 04 38 14.5 +0.4**
GTA pP **pP 04 38 25.3 +0.4**
GTA sP **sP 04 38 29.3 +0.5**
GTA S **S 04 48 23.0 -2.0**
GTA SKS **SKSac 04 48 28.0 -3.8**
GTA sS **ScS 04 48 39.5 -2.2**
GTA SS **SS 04 53 43.8 -0.1**
GTA PMZ
comp=Z,33nm,0.9s
GTA PMZ
comp=Z,750nm,9.5s
GTA LN
comp=Z,480nm,19.7s
GTA LE
comp=Z,710nm,19.5s
GTA LZ
comp=Z,790nm,19.0s
BILL Bilibino 81.90 360 *e*P **P 04 38 13.4 -0.4**
BILL pmax pmax
comp=Z,24nm,0.9s
BILL MLR MLR
comp=Z,1μm,22.0s
BILL Bilibino 81.90 360 *e*P **P 04 38 13.4 -0.4**
comp=Z,24nm,0.9s
BILL LR LR
comp=Z,1μm,22.0s
MAW Mawson 82.25 202 P **P 04 38 15.8 0.0**
comp=Z,16nm,0.8s,baz=107,slow=4.2,SNR=23
MAW Mawson 82.25 202 P **P 04 38 15.8 0.0**
MAW *e*P **PcP 04 38 16.2 -4.9**
SHL Shillong 82.73 299 *e*P **P 04 38 18.9 -0.5**
SHL AMB AMB 04 38 22.6
comp=Z,78nm,3.3s
PPLA Purkeypile 83.13 18 *e*P **P 04 38 20.4 -0.1**
comp=Z,11nm,0.7s
PAF Port-aux-Franc 83.58 221 P P 04 38 05.0 -18
PAF Port-aux-Franc 83.58 221 S S 04 48 27.0 -16
PAF SS SS 04 53 50.0 -19
PAF L L 05 00 00.0
PAF R 05 06 00.0
PAF Port-aux-Franc 83.58 221 PFAKE 04 38 30.0 +6.9
PAF LR LR
comp=Z,3μm,20.0s
BOD Bodaibo 83.64 335 *e*P **P 04 38 22.2 -0.8**
BOD pmax pmax
comp=Z,27nm,1.8s
DIV Divide 83.90 21 *e*P **P 04 38 26.0 +1.6**
comp=Z,16nm,0.6s
KMRM Mail Ridge 84.09 46 *e*P **P 04 38 28.5 +2.6**
comp=Z,38nm,1.2s
KMRM *e*pP pP 04 38 47.6 +11
TRF Thorofare Moun 84.11 18 *e*P **P 04 38 24.5 -1.1**
BMRM Bremner River 84.20 22 *e*P **P 04 38 25.6 -0.4**
comp=Z,34nm,1.2s
KHMM Horse Mountain 84.34 46 *e*P **P 04 38 28.2 +1.0**
comp=Z,20nm,0.8s
BPAW Bear Paw Mtn. 84.40 17 *e*P **P 04 38 25.5 -1.4**
ZAK Zakamensk 84.68 325 ⇑*i*P **P 04 38 28.7 0.0**
ZAK pmax pmax
comp=Z,33nm,1.0s
LSA Lhasa 84.71 302 *e*P **P 04 38 31.0 +1.3**
LSA pmax pmax
comp=Z,24nm,0.8s
LSA MLR MLR
comp=Z,568nm,20.0s
LSA Lhasa 84.71 302 *e*P **P 04 38 31.0 +1.3**
comp=Z,24nm,0.8s
LSA LR LR
comp=Z,568nm,20.0s
MCK McKinley 84.73 18 *e*P **P 04 38 27.8 -0.8**
MCK pmax pmax
comp=Z,11nm,0.7s
MCK McKinley 84.73 18 *e*P **P 04 38 27.8 -0.8**
comp=Z,11nm,0.7s
PKM Mcpherson Peak 84.93 52 P **P 04 38 32.2 +1.8**
baz=85
L02D Cave Junction, 84.95 44 P **P 04 38 32.2 +2.1**
baz=85
WDC Whiskeytown Da 85.05 46 *e*P **P 04 38 30.8 +0.1**
WDC pmax pmax
comp=Z,2.0nm,0.4s
WDC Whiskeytown Da 85.05 46 *e*P **P 04 38 30.8 +0.1**
comp=Z,2.0nm,0.4s
IRK Irkutsk 85.07 327 ⇑*i*P **P 04 38 29.0 -1.5**
IRK pmax pmax
comp=Z,83nm,1.7s
IM04 Indian Mountai 85.09 15 *e*P **P 04 38 29.4 -0.8**
N02D Trinity Center 85.09 46 P **P 04 38 33.0 +2.0**
baz=85
TLY Talaya 85.12 326 P **P 04 38 30.7 -0.1**
comp=Z,548nm,0.7s,SNR=29
TLY Talaya 85.12 326 P **P 04 38 30.4 -0.3**
comp=Z,59nm,0.7s,baz=211,slow=2.6,SNR=63
TLY Talaya 85.12 326*c i*P **P 04 38 29.8 -1.0**
TLY *e* 04 41 45.8
TLY *e*S **S 04 48 57.1 -0.9**
TLY *e*SS **SS 04 54 36.2 +3.7**
TLY pmax pmax
comp=Z,61nm,0.6s
TLY MLR MLR
comp=Z,533nm,19.0s
TLY Talaya 85.12 326 P **P 04 38 30.4 -0.3**
SNR=29
TLY Talaya 85.12 326 *e*P **P 04 38 30.2 -0.6**
TLY P **P 04 38 30.4 -0.3**
TLY LR LR
comp=Z,935nm,22.0s
M02C Callahan 85.16 45 P **P 04 38 33.4 +2.1**
baz=85
PAX Paxson 85.28 20 *e*P **P 04 38 32.4 +1.0**
PAX pmax pmax
comp=Z,4.0nm,0.6s
PAX Paxson 85.28 20 *e*P **P 04 38 32.4 +1.0**
comp=Z,4.3nm,0.6s
YBH Yreka Blue Hor 85.39 45 P **P 04 38 32.9 +0.5**
comp=Z,5.7nm,0.5s,baz=306,slow=1.1,SNR=34
YBH Yreka Blue Hor 85.39 45 P **P 04 38 32.9 +0.5**
YBH *e*P **PcP 04 38 34.8 -0.6**
HUMO Hull Mountain 85.57 44 *e*P **P 04 38 35.2 +2.0**
CMB Columbia Colle 85.64 49 *e*P **P 04 38 34.5 +0.8**
CMB Columbia Colle 85.64 49 *e*P **P 04 38 34.5 +0.8**
I03D Drain, OR 85.75 43 P **P 04 38 36.1 +2.1**
baz=86
VES Vestal, Richgr 85.83 52 P **P 04 38 35.8 +1.2**
baz=86
COLA College 85.89 18*d i*P **P 04 38 33.7 -0.5**
COLA College 85.89 18 *e*P **P 04 38 32.5 -1.7**
COLA LR LR
comp=Z,2μm,21.0s
M04C Macdoel 86.01 45 P **P 04 38 37.3 +1.7**
baz=86
MWC Mount Wilson 86.06 53 *e*P **P 04 38 36.4 +0.3**
MWC pmax pmax
comp=Z,7.0nm,0.6s
MWC Mount Wilson 86.06 53 *e*P **P 04 38 36.4 +0.3**
comp=Z,7.5nm,0.6s
ILAR Eielson Array 86.10 18 P **P 04 38 34.0 -1.3**
comp=Z,21nm,0.6s,baz=243,slow=4.8,SNR=51
ILAR PKiKP **PKiKP 04 43 42.1 -1.4**
comp=Z,0.5nm,0.6s,baz=280,slow=2.9,SNR=5.4
ILAR PKKPbc **PKKPbc 04 56 37.4 -0.4**
comp=Z,0.7nm,0.8s,baz=3.5,slow=1.7,SNR=5.7
DOT Dot Lake 86.21 20 *e*P **P 04 38 35.6 -0.3**
ISA Isabella, Lake 86.23 52 *e*P **P 04 38 37.8 +1.1**
ISA *e**PP pP 04 38 53.0 +5.4
ISA pmax pmax
comp=Z,3.0nm,0.6s
ISA Isabella, Lake 86.23 52 *e*P **P 04 38 37.8 +1.1**
comp=Z,3.1nm,0.6s
ISA *e*pP pP 04 38 53.0 +5.4
ISA Isabella, Lake 86.23 52 P **P 04 38 38.2 +1.5**
baz=86
EDW2 Edwards Air Fo 86.33 53 P **P 04 38 38.6 +1.3**
baz=86
BFSC Mount Baldy Ra 86.38 54 P **P 04 38 38.7 +1.1**
baz=86
J04D Umpqua Nationa 86.39 44 P **P 04 38 39.2 +1.7**
baz=86
K04D Chiloquin, OR 86.39 45 P **P 04 38 39.2 +1.8**
baz=86
I04A Tendick Farm, 86.41 43 P **P 04 38 38.7 +1.3**
baz=86
G03D McMinnville, O 86.41 42 P **P 04 38 39.4 +2.1**
baz=87
WAKR Walker 86.50 49 *e*P **P 04 38 39.8 +1.7**
WRAK Wrangell Islan 86.54 29 PFAKE 04 38 50.0 +12
WRAK LR LR
comp=Z,2μm,20.0s
MOY Mondy 86.56 325 *e*P **P 04 38 37.9 -0.1**
MOY pmax pmax
comp=Z,91nm,2.9s
BAR Barrett 86.64 55 *e*P **P 04 38 40.5 +1.7**
LRMC Laurel Mtn Rad 86.77 52 P **P 04 38 40.9 +1.4**
baz=87
HYT Haines Junctio 86.78 24 *e*P **P 04 38 37.7 -1.2**
CWC Cottonwood Cre 86.80 51 P **P 04 38 41.1 +1.5**
baz=87
TIN Tinemaha, Big 86.89 51 P **P 04 38 41.6 +1.6**
baz=87
MONP Monument Peak, 86.91 55 P **P 04 38 42.1 +1.8**
baz=87
NLWA Neilton Lookou 86.93 40 PFAKE 04 38 50.0 +10
NLWA LR LR
comp=Z,2μm,21.0s
COLD Coldfoot 86.97 15 *e*P **P 04 38 39.5 0.0**
comp=Z,22nm,1.0s
J05D Fort Rock, OR 87.00 44 P **P 04 38 41.6 +1.2**
baz=87
K05A Sumner Lake 87.02 45 *e*P **P 04 38 42.1 +1.5**
DAC Darwin (Calif) 87.11 52 *e*P **P 04 38 42.7 +1.5**
DAC Darwin (Calif) 87.11 52 *e*P **P 04 38 42.7 +1.5**
PFO Pinyon Flats O 87.11 54 P **P 04 38 41.3 +0.1**
comp=Z,6.5nm,0.6s,baz=276,slow=4.4,SNR=16
PFO Pinyon Flats O 87.11 54 P **P 04 38 41.3 +0.1**
PFO MLR MLR
comp=Z,4μm,20.0s
PFO Pinyon Flats O 87.11 54 P **P 04 38 41.3 +0.1**
PFO *e*P **P 04 38 42.1 +1.0**
PFO LR LR
comp=Z,4μm,20.0s
PFO Pinyon Flats O 87.11 54 P **P 04 38 42.2 +1.0**
baz=87
MPMC Manual Prospec 87.12 52 P **P 04 38 42.3 +1.1**
baz=87
NVAR Mina Array Bea 87.31 49 P **P 04 38 42.9 +0.8**
comp=Z,4.8nm,0.8s,baz=238,slow=8.0,SNR=24
NVAR PKPPKP **P'P'df** **05 04 41.8 +2.6**
comp=Z,0.9nm,0.8s,baz=88,slow=4.0,SNR=4.5
I05D Terrebonne, OR 87.33 43 P **P 04 38 43.5 +1.6**
baz=88
BOK Bokaro 87.38 295 *e*P **P 04 38 43.2 +0.7**
BOK AMB AMB 04 38 46.7
comp=Z,34nm,2.3s
GSC Goldstone, Bar 87.39 53 *e*P **P 04 38 40.8 -1.6**
GSC pmax pmax
comp=Z,2.0nm,0.6s
GSC Goldstone, Bar 87.39 53 *e*P **P 04 38 40.8 -1.6**
comp=Z,1.9nm,0.6s
FL2 Flat Top 2 87.39 41 P **P 04 38 44.3 +2.1**
SWSC Sam W. Stewart 87.42 55 P **P 04 38 43.9 +1.5**
baz=88
VBEM Beaver Butte 87.44 42 P **P 04 38 44.0 +1.5**
BELC Belle Mtn. Jos 87.60 54 P **P 04 38 44.7 +1.2**
baz=88
HEC Hector,Ludlow 87.61 53 P **P 04 38 44.6 +1.2**
baz=88
G05D Wamic, OR 87.69 42 P **P 04 38 44.9 +1.4**
baz=88
FURC Furnace Creek, 87.73 52 P **P 04 38 45.5 +1.6**
baz=88
EGAK Eagle 87.92 20 *e*P **P 04 38 43.2 -0.9**
comp=Z,5.9nm,0.6s
EGAK LR LR
comp=Z,2μm,20.0s
BC3 Big Chuckawall 87.92 55 P **P 04 38 46.4 +1.4**
baz=88
TPH Tonopah 87.99 50 *e*P **P 04 38 46.9 +1.5**
TPH pmax pmax
comp=Z,4.0nm,0.6s
TPH Tonopah 87.99 50 *e*P **P 04 38 46.9 +1.5**
comp=Z,3.7nm,0.6s
VIS Vishakhapatnam 88.03 289 *e*P **P 04 38 45.8 +0.2**
VIS AMB AMB 04 38 46.8
comp=Z,36nm,4.0s
GMRC Granite Mounta 88.11 54 P **P 04 38 47.6 +1.6**
baz=88
FMW Mount Fremont 88.11 41 P **P 04 38 47.1 +1.4**
TUQ Turquoise Moun 88.12 53 P **P 04 38 47.3 +1.3**
baz=88
GLA Glamis 88.23 55 *e*P **P 04 38 48.1 +1.7**
GLA pmax pmax
comp=Z,12nm,0.7s
GLA Glamis 88.23 55 *e*P **P 04 38 48.1 +1.7**
comp=Z,12nm,0.7s
GLA Glamis 88.23 55 P **P 04 38 48.5 +2.1**
baz=88
IRM Iron Mountain 88.32 54 P **P 04 38 48.6 +1.8**
baz=88
TPNV Topopah Spring 88.35 51 P **P 04 38 49.0 +2.0**
baz=88
I07A Izee 88.46 44 *e*P **P 04 38 48.8 +1.5**
WVOR Wild Horse Val 88.47 46 *e*P **P 04 38 48.0 +0.6**
WVOR pmax pmax

WVOR MLR MLR
comp=Z,24nm,1.4s
WVOR Wild Horse Val 88.47 46 *e*P **P 04 38 48.0 +0.6**
comp=Z,2µm,20.0s
WVOR LR LR
comp=Z,24nm,1.4s
LDFC Landfair 88.64 53 *e*P **P 04 38 50.1 +1.7**
comp=Z,2µm,20.0s
113A Mohawk Valley, 89.00 56 P **P 04 38 51.7 +1.7**
comp=Z,30nm,0.8s
baz=89
SHPR Sheep Range 89.04 52 *e*P **P 04 38 52.2 +1.8**
PDMCI Parker Dam,Lak 89.16 54 P **P 04 38 51.9 +1.2**
baz=89
TIXI Tiksi 89.22 349⇑ *e*P **P 04 38 49.5 -0.6**
TIXI pmax pmax
comp=Z,9.0nm,1.0s
TIXI MLR MLR
comp=Z,1µm,19.0s
TIXI Tiksi 89.22 349 *e*P **P 04 38 49.0 -1.1**
comp=Z,8.4nm,0.8s
TIXI LR LR
comp=Z,1µm,21.0s
G08A Pilot Rock 89.26 43 *e*P **P 04 38 52.7 +1.6**
HAWA Hanford 89.28 42 *e*P **P 04 38 52.5 +1.6**
comp=Z,4.9nm,0.6s
HAWA LR LR
comp=Z,996nm,22.0s
R11A Troy Canyon, C 89.30 50 *e*P **P 04 38 52.2 +0.7**
comp=Z,9.6nm,1.3s
R11A Troy Canyon, C 89.30 50 P **P 04 38 52.8 +1.3**
baz=89
H2OWA Water 89.35 42 P **P 04 38 53.2 +1.9**
WTV Waterville 89.49 40 P **P 04 38 53.5 +1.5**
214A Organ Pipe Nat 89.53 57 *e*P **P 04 38 54.6 +2.0**
comp=Z,7.7nm,0.7s
214A Organ Pipe Nat 89.53 57 P **P 04 38 54.3 +1.7**
baz=90
W13A Hualapai Mount 89.60 54 P **P 04 38 54.6 +1.6**
baz=90
Z14A Wintersburg 89.83 56 P **P 04 38 55.9 +2.0**
baz=90
Y14A Wickenburg 89.95 55 P **P 04 38 55.9 +1.4**
baz=90
B08A Colville Reser 90.11 40 *e*P **P 04 38 56.2 +1.3**
BMO Blue Mountains 90.20 44 *e*P **P 04 38 55.5 0.0**
BMO MLR MLR
comp=Z,2µm,21.0s
BMO Blue Mountains 90.20 44 *e*P **P 04 38 55.5 0.0**
BMO LR LR
comp=Z,2µm,21.0s
ELK Elko 90.31 48 *e*P **P 04 38 57.4 +1.1**
ELK pmax pmax
comp=Z,15nm,1.4s
ELK Elko 90.31 48 *e*P **P 04 38 57.4 +1.1**
comp=Z,15nm,1.4s
SKHT Srikalahasti 90.38 284 *e*P **P 04 38 55.9 -0.9**
SKHT epP **pP 04 39 07.7 0.0**
SKHT eSKSac **SKSac 04 49 28.3 +2.2**
MFID Camas Ranch 90.74 45 *e*P **P 04 38 58.8 +0.7**
U15A North Rim 91.22 53 P **P 04 39 02.3 +1.7**
baz=91
TUC Tucson 91.28 57 *e*P **P 04 39 02.4 +1.7**
TUC pmax pmax
comp=Z,7.0nm,0.8s
TUC MLR MLR
comp=Z,2µm,20.0s
TUC Tucson 91.28 57 *e*P **P 04 39 02.4 +1.7**
comp=Z,7.1nm,0.8s
TUC LR LR
comp=Z,2µm,20.0s
X16A Lo Mia Camp, P 91.33 55 P **P 04 39 02.9 +1.8**
baz=91
NJS Nagarjunasagar 91.45 287 *e*P **P 04 39 00.0 -1.7**
NJS *es*P **sP 04 39 15.0 -1.6**
NJS *e*SKSac **SKSac 04 49 31.3 -0.9**
NEW Newport 91.47 40 *e*P **P 04 39 02.4 +1.2**
NEW pmax pmax
comp=Z,3.0nm,0.6s
NEW MLR MLR
comp=Z,1µm,19.0s
NEW Newport 91.47 40 *e*P **P 04 39 02.4 +1.2**
comp=Z,2.9nm,0.6s
NEW LR LR
comp=Z,1µm,19.0s
NEW Newport 91.47 40 P **P 04 39 02.6 +1.4**
baz=92
WUAZ Wupatki 91.69 54 PFAKE 04 39 10.0 +7.3
WUAZ LR LR
comp=Z,3µm,19.0s
WUAZ Wupatki 91.69 54 P **P 04 39 04.5 +1.8**
baz=92
HLID Hailey 91.76 46 *e*P **P 04 39 04.7 +1.9**
HLID LR LR
comp=Z,2µm,20.0s
HLID Hailey 91.76 46 P **P 04 39 04.7 +1.9**
baz=92
WMQ Urumqi 91.85 315 P **P 04 39 03.8 +0.7**
WMQ pP **pP 04 39 14.5 +0.5**
WMQ sP **sP 04 39 18.3 +0.4**
WMQ PP **PP 04 42 45.5 +2.8**
WMQ SKS **SKSac 04 49 32.5 -1.1**
WMQ S **S 04 49 59.8 -2.3**
WMQ SS **SS 04 56 12.3 +1.4**
WMQ PMZ
comp=Z,26nm,1.4s
WMQ PMZ
comp=Z,330nm,5.2s
WMQ LN
comp=Z,580nm,17.0s
WMQ LE
comp=Z,940nm,18.0s
WMQ LZ
comp=Z,940nm,22.4s
MSU Marysvale 91.90 51 *e*P **P 04 39 04.6 +0.9**
MSU pmax pmax
comp=Z,8.0nm,1.0s
MSU Marysvale 91.90 51 *e*P **P 04 39 04.6 +0.9**
comp=Z,7.8nm,1.0s
DUG Dugway, Tooele 91.91 49 PFAKE 04 39 20.0 +16
DUG LR LR
comp=Z,4µm,20.0s
RPR Rampur 92.02 289 *e*P **P 04 39 04.0 -0.4**
RPR *ep*P **pP 04 39 15.0 -0.3**
RPR *e*SKSac SKSac 04 49 26.9 -8.4
DGAR Diego Garcia 92.26 262 PFAKE 04 39 20.0 +14
DGAR LR LR
comp=Z,2µm,21.0s
319A Douglas 92.27 58 P **P 04 39 07.2 +1.8**
baz=92
HYB Hyderabad 92.36 287 *i* P **P 04 39 06.0 0.0**
HYB *ep*P **pP 04 39 17.0 +0.1**
HYB *e*SKS **SKSac 04 49 36.0 -1.4**
HYB Hyderabad 92.36 287 *e*P **P 04 39 04.0 -2.0**
HYBB Hyderabad (bro 92.36 287 *e*P **P 04 39 05.8 -0.2**
HYBB *es*P **sP 04 39 18.9 -1.9**
HYBB *e*SKSac **SKSac 04 49 36.4 -1.0**
INK Inuvik 92.48 19 P **P 04 39 06.2 +0.9**
comp=Z,0.7nm,0.6s,baz=252,slow=6.7,SNR=5.3
NGP Nagpur 92.80 291 *e*P **P 04 39 07.3 -0.6**
NGP AMB AMB 04 39 20.8
comp=Z,38nm,0.6s
BSMT Bassoo Peak 92.82 41 *e*P **P 04 39 08.8 +1.2**
comp=Z,2.2nm,0.7s
URV Uravakonda 92.98 285 *e*P **P 04 39 09.2 +0.3**
JLU Jordanelle 93.02 49 *e*P **P 04 39 10.0 +1.1**
comp=Z,3.0nm,0.8s
MCMT McKenzie Canyo 93.21 45 *e*P **P 04 39 11.4 +1.8**
comp=Z,1.3nm,0.6s
HWUT Hardware Ranch 93.21 48 *e*P **P 04 39 10.3 +0.7**
comp=Z,1.5nm,0.5s
HWUT LR LR
comp=Z,2µm,21.0s
DLMT Dillon 93.53 44 *e*P **P 04 39 11.4 +0.5**
comp=Z,3.8nm,0.8s
CHMT Chamberlain Mo 93.54 43 *e*P **P 04 39 11.8 +0.8**
comp=Z,1.6nm,1.0s
NVL N'lazarevskaya 93.60 188⇓ *i* P P 04 39 02.9 -7.7
NVL *e* 04 42 54.6
NVL pmax pmax
comp=Z,26nm,0.8s
NVL MLR MLR
comp=Z,2µm,18.0s
LRM Limekiln Ridge 93.76 44 *e*P **P 04 39 13.5 +1.4**
comp=Z,20nm,0.9s
121A Cookes Peak, D 93.79 58 P **P 04 39 14.4 +1.9**
baz=94
AHID Auburn Hatcher 93.86 47 PFAKE 04 39 20.0 +7.4
AHID LR LR
comp=Z,3µm,21.0s
SNAA Sanae 94.16 183 P P 04 39 08.9 -4.4
SNAA Sanae 94.16 183 *e*P P 04 39 09.1 -4.2
SNAA pmax pmax
comp=Z,24nm,0.9s
SNAA Sanae 94.16 183 *e*P P 04 39 09.1 -4.2
comp=Z,24nm,0.9s
BOZ Bozeman (W) 94.26 44 PFAKE 04 39 30.0 +16
BOZ LR LR
comp=Z,1µm,20.0s
IMW Indian Meadow 94.27 46 *e*P **P 04 39 15.4 +0.9**
comp=Z,1.9nm,0.7s
MVCO Mesa Verde 94.37 53 PFAKE 04 39 30.0 +15
MVCO LR LR
comp=Z,3µm,19.0s
PV01 Paradox Valley 94.54 52 *e*P **P 04 39 16.8 +0.9**
comp=Z,190nm,0.7s
AKL Akola 94.54 290 *e*P **P 04 39 16.5 +0.5**
AKL AMB AMB 04 39 18.2
comp=Z,28nm,0.7s
H17A Grant Village 94.65 46 *e*P **P 04 39 15.6 -0.6**
comp=Z,2.2nm,0.8s
BHPL Bhopal 94.75 293 *e*P **P 04 39 16.2 -0.6**
BHPL AMB AMB 04 39 32.3
comp=Z,18nm,4.6s
LKWY Lake 94.82 45 PFAKE 04 39 30.0 +13
LKWY LR LR
comp=Z,5µm,20.0s
BW06 Boulder Array 94.95 47 *e*P **P 04 39 18.5 +0.9**
comp=Z,0.6nm,0.5s
BW06 LR LR
comp=Z,2µm,20.0s
PDAR Pinedale Array 94.95 47 P **P 04 39 18.3 +0.6**
comp=Z,0.9nm,0.5s,baz=255,slow=2.3,SNR=10
PDAR PKKPbc PKKPbc 04 56 09.2 -5.4
comp=Z,0.7nm,0.7s,baz=86,slow=8.0,SNR=7.5
VNA2 Neumayer--Watz 95.10 182 P **P 04 39 16.4 -1.1**
baz=187,slow=3.4
O20A White River Ci 95.27 50 *e*P **P 04 39 20.2 +1.1**
comp=Z,3.8nm,0.8s
O20A White River Ci 95.27 50 P **P 04 39 20.2 +1.1**
baz=95
VNA1 Neumayer--Stat 95.40 182 P **P 04 39 18.2 -0.7**
N20A Spence Gulch, 95.42 49 P **P 04 39 20.8 +0.9**
baz=96
ANMO Albuquerque 95.44 55*c*e P **P 04 39 21.1 +1.1**
ANMO pmax pmax
comp=Z,11nm,1.1s
ANMO Albuquerque 95.44 55 *e*P **P 04 39 20.5 +0.5**
comp=Z,3.9nm,1.3s
ANMO LR LR
comp=Z,2µm,20.0s
J19A Crowheart 95.44 47 P **P 04 39 21.1 +1.3**
baz=96
MNTX Cornudas Mount 95.58 59 PFAKE 04 39 30.0 +10
MNTX LR LR
comp=Z,880nm,20.0s
RLMT Red Lodge 95.74 45 PFAKE 04 39 30.0 +8.8
RLMT LR LR
comp=Z,2µm,20.0s
SMCO Snowmass 96.00 51 *e*P **P 04 39 23.0 +0.3**
comp=Z,2.9nm,0.9s
EGMT Eagleton 96.12 42 PFAKE 04 39 30.0 +7.4
EGMT LR LR
comp=Z,1µm,19.0s
CRZF Crozet Islands 96.13 219 SKS **SKSac 04 49 51.0 -5.8**
CRZF SS SS 04 56 55.0 -16
CRZF R 05 12 00.0
MK31 Makanchi Array 96.32 317 *e*P **P 04 39 23.1 -0.4**
MK31 Makanchi Array 96.32 317 *e*P **P 04 39 23.1 -0.4**
MKAR Makanchi Array 96.32 317 P **P 04 39 23.2 -0.3**
comp=Z,28nm,0.7s,baz=98,slow=5.8,SNR=131
MKAR PKiKP **PKiKP 04 44 01.1 -0.2**
comp=Z,1.8nm,0.6s,baz=94,slow=1.2,SNR=15
MKAR PKKPbc **PKKPbc 04 56 07.2 -3.6**
comp=Z,1.7nm,0.6s,baz=295,slow=2.4,SNR=11
GOA Goa 96.33 284 *e*P **P 04 39 24.8 +0.7**
GOA AMB AMB 04 39 40.5
comp=Z,29nm,3.3s
TXAR Lajitas Array 96.50 62 P **P 04 39 24.8 0.0**
comp=Z,0.8nm,0.7s,baz=224,slow=5.6,SNR=14
TXAR PP **PP 04 43 21.5 +2.1**
comp=Z,2.0nm,1.1s,baz=215,slow=7.7,SNR=4.7
TXAR PKKPbc **PKKPbc 04 56 07.7 -2.0**
comp=Z,0.5nm,0.8s,baz=117,slow=5.0,SNR=6.7
ZALV Zalesovo Beam 96.52 324 P **P 04 39 22.5 -1.7**
comp=Z,25nm,0.7s,baz=117,slow=4.4,SNR=58
O22A Kremmling 96.54 50 P **P 04 39 25.8 +0.8**
baz=97
J21A Lysite 96.60 47 P **P 04 39 26.0 +0.9**
baz=97
SMLA Simla 96.71 300 *e*P **P 04 39 24.1 -1.5**
SMLA AMB AMB 04 39 27.7
comp=Z,14nm,3.9s
I21A Big Trails, Te 96.81 47 P **P 04 39 26.9 +0.9**
baz=97
SDCO Great Sand Dun 96.81 53 PFAKE 04 39 40.0 +14
SDCO LR LR
comp=Z,3µm,19.0s
ISCO Idaho Springs 97.16 51 PFAKE 04 39 40.0 +12
ISCO LR LR
comp=Z,3µm,20.0s
YKA Yellowknife Ar 97.25 27 P **P 04 39 25.6 -1.7**
comp=Z,2.3nm,0.6s,baz=257,slow=4.7,SNR=18
YKA PKiKP **PKiKP 04 44 01.2 -1.2**
comp=Z,0.3nm,0.4s,baz=244,slow=1.3,SNR=4.5
YKA PKKPbc **PKKPbc 04 56 05.3 -3.4**
comp=Z,0.6nm,0.7s,baz=78,slow=2.5,SNR=6.1
J22A Midwest 97.30 47 P Pdif 04 39 29.2 +0.9
baz=97
DHRM DHARAMSHALA 97.67 301 *e*P **P 04 39 28.2 -2.0**
DHRM AMB AMB 04 39 29.1
comp=Z,14nm,1.2s
LAO LASA Array 98.16 44 PFAKE 04 39 40.0 +8.1
LAO LR LR
comp=Z,2µm,20.0s
429A Davenport Ranc 98.27 61 P Pdif 04 39 33.2 +0.4
baz=98
KSH Kashi 99.33 308 *e*P **Pdif 04 39 39.5 +2.1**
KSH pP **pP 04 39 49.8 +1.5**
KSH PP **PP 04 43 45.5 +4.6**
KSH SKS **SKSac 04 50 14.0 +0.5**
KSH S **ScS 04 51 06.0 -1.2**
KSH sS **sS 04 51 23.5 -2.0**
KSH SS **SS 04 58 00.0 +2.6**
KSH PMZ
comp=Z,200nm,8.6s
KSH LN
comp=Z,480nm,14.2s
KSH LE
comp=Z,130nm,9.3s
KSH LZ
comp=Z,500nm,24.2s
KURK Kurchatov 99.52 320 *e*P **Pdif 04 39 36.9 -0.9**
KURK pmax pmax
comp=Z,7.0nm,1.0s
KURK MLR MLR
comp=Z,1µm,19.0s
KURK Kurchatov 99.52 320 *e*P **Pdif 04 39 36.9 -0.9**
comp=Z,6.7nm,1.0s
KURK PKKPbc **PKKPbc 04 55 59.3 -2.7**
KURK LR LR
comp=Z,1µm,19.0s
KURBB Kurchatov Arra 99.56 320 PKKPbc PKKPbc 04 55 59.3 -2.6
comp=Z,0.7nm,0.6s,baz=276,slow=3.3,SNR=7.3
DGMT Dagmar 99.84 42 PFAKE 04 39 50.0 +11
DGMT LR LR
comp=Z,840nm,20.0s
JCT Junction City 100.02 61 PFAKE 04 39 50.0 +9.5
JCT LR LR
comp=Z,2µm,21.0s
OGNE Ogallala 100.07 50 PFAKE 04 39 50.0 +9.4
OGNE LR LR
comp=Z,4µm,21.0s
TKM2 Tokmak 2 100.20 312 PFAKE 04 39 50.0 +8.7
TKM2 LR LR
comp=Z,627nm,21.0s
AAK Ala-Archa 100.96 311 PKKPbc PKKPbc 04 55 56.5 -1.3
comp=Z,0.7nm,0.4s,baz=170,slow=3.7,SNR=5.0
AAK Ala-Archa 100.96 311 PKKPbc PKKPbc 04 55 56.5 -1.3
AAK LR LR
comp=Z,664nm,21.0s
KVTX Kingsville 101.14 64 PFAKE 04 40 00.0 +15
KVTX LR LR
comp=Z,723nm,21.0s
EKS2 Erkin-Say 101.48 311 PFAKE 04 40 00.0 +13
EKS2 LR LR
comp=Z,724nm,19.0s
WMOK Wichita Mounta 101.59 57 PFAKE 04 40 00.0 +13
WMOK LR LR
comp=Z,2µm,21.0s
FFC Flin Flon 102.15 36 PFAKE 04 40 00.0 +11
FFC LR LR
comp=Z,3µm,20.0s
PAYG Puerto Ayora 102.51 94 PFAKE 04 40 00.0 +8.1
PAYG LR LR
comp=Z,3µm,20.0s
RER Riviere de l'E 103.67 244 PFAKE 04 40 10.0 +13
RER LR LR
comp=Z,2µm,22.0s
KSU1 Kansas State U 103.92 53 PFAKE 04 40 10.0 +12
KSU1 LR LR
comp=Z,3µm,19.0s
KKAR Karatay Array 103.92 311 *e*P **Pdif 04 39 57.0 -0.6**
KKAR pmax pmax
comp=Z,1.0nm,0.7s
KKAR Karatay Array 103.92 311 *e*Pdif **Pdif 04 39 57.0 -0.6**
comp=Z,1.1nm,0.7s
ECSD EROS Data Cent 104.42 48 PFAKE 04 40 10.0 +10
ECSD LR LR
comp=Z,812nm,20.0s
BRVK Borovoye 104.94 322 PFAKE 04 40 10.0 +8.2
BRVK LR LR
comp=Z,1µm,22.0s
AGMN Agassiz Nation 105.34 43 PFAKE 04 44 30.0
AGMN LR LR
comp=Z,2µm,22.0s
MIAR Mount Ida 105.82 58 PFAKE 04 44 30.0
MIAR LR LR
comp=Z,1µm,20.0s
SCIA State Center 106.76 50 PFAKE 04 44 30.0
SCIA LR LR
comp=Z,5µm,21.0s
EYMN Ely 108.24 44 PFAKE 04 44 30.0
EYMN LR LR
comp=Z,2µm,19.0s
TGUH Tegucigalpa,Un 108.61 80 PFAKE 04 44 40.0
TGUH LR LR
comp=Z,1µm,22.0s
TEIG Tepich 108.67 73 PFAKE 04 44 40.0
TEIG LR LR
comp=Z,1µm,21.0s
JFWS Jewell Farm 109.01 49 PFAKE 04 44 40.0
JFWS LR LR
comp=Z,2µm,20.0s
HOPE Hope Point 109.11 166 PFAKE 04 44 40.0
HOPE LR LR
comp=Z,1µm,19.0s
MSEY Mahe Island 109.25 260 PFAKE 04 44 40.0
MSEY LR LR
comp=Z,2µm,20.0s
HDIL Hopedale 109.65 52 PFAKE 04 44 40.0
HDIL LR LR
comp=Z,4µm,19.0s
COWI Conover 109.84 46 PFAKE 04 44 40.0
COWI LR LR
comp=Z,2µm,20.0s
LCO Las Campanas 109.99 128 PFAKE 04 44 40.0
LCO LR LR
comp=Z,2µm,20.0s
BRAL Brewton 110.96 62 PFAKE 04 44 40.0
BRAL LR LR
comp=Z,1µm,19.0s
AB31 Akbulak array 111.43 318 *i* PKIKP **PKiKP 04 44 28.2 -0.7**
AB31 pmax pmax
comp=Z,1.0nm,0.4s
ABKAR Akbulak array 111.43 318 *e*PKPdf **PKiKP 04 44 28.8 -0.1**
ARU Arti 111.62 325 *i* PKIKP **PKiKP 04 44 28.2 -0.8**
ARU 04 45 08.3
ARU 04 51 05.9
ARU SP SP 04 54 42.3 +3.6
ARU MLR MLR
comp=Z,756nm,23.0s
ARU Arti 111.62 325 *e*PKPdf **PKiKP 04 44 27.3 -1.7**
ARU LR LR
comp=Z,720nm,22.0s
ABPO Ambohimpanom 111.88 243 PFAKE 04 44 40.0
ABPO LR LR
comp=Z,3µm,21.0s
AKTO Aktyubinsk 112.59 319 PKKPab PKKPab 04 55 28.7 +1.0
comp=Z,2.7nm,0.7s,baz=249,slow=3.3,SNR=14
AKTO Aktyubinsk 112.59 319 PKiKP **PKiKP 04 44 30.0 -1.1**
AKTO pmax pmax
comp=Z,7.0nm,0.6s
GLMI Grayling 113.06 47 PFAKE 04 44 40.0
GLMI LR LR
comp=Z,2µm,21.0s
AAM Ann Arbor 113.88 50 PFAKE 04 44 50.0
AAM LR LR
comp=Z,3µm,21.0s
KBS Kingsbay 114.01 355 PFAKE 04 44 50.0 +17
KBS LR LR
comp=Z,926nm,20.0s
GOGA Godfrey 114.12 60 PFAKE 04 44 50.0 +16
GOGA LR LR
comp=Z,2µm,20.0s
OTAV Otavalo 114.18 96 PFAKE 04 44 50.0 +14
OTAV LR LR
comp=Z,1µm,20.0s
ACSO Alum Creek Sta 114.47 52 PFAKE 04 44 50.0 +15
ACSO LR LR
comp=Z,3µm,20.0s
LVC Limon Verde 114.50 123 PFAKE 04 44 50.0 +14
LVC LR LR
comp=Z,1µm,19.0s
BCIP Isla Barro Col 114.87 86 PFAKE 04 44 50.0 +14
BCIP LR LR
comp=Z,834nm,21.0s
IBAF Bafgh 115.08 298 *e*P **PKPdf 04 44 33.9 -2.7**
IMEH Mehriz 115.89 298 *e*P **PKPdf 04 44 36.5 -1.9**
ICHK Chekchek 116.08 299 *e*P **PKPdf 04 44 37.3 -1.3**
IANJ Anjilo 116.47 303 *e*P **PKPdf 04 44 38.5 -0.8**
BLA Blacksburg 116.58 55 PFAKE 04 44 50.0 +11
BLA LR LR
comp=Z,2µm,19.0s
PRGR Permogore 116.82 333 PKiKP **PKPdf 04 44 36.8 -2.0**
PRGR pmax pmax
comp=Z,19nm,0.5s
NHSC New Hope 116.87 60 PFAKE 04 44 50.0 +10
NHSC LR LR
comp=Z,1µm,20.0s
IFIR Firoozkooh 117.41 303 *e*P **PKPdf 04 44 40.0 -1.2**
IZEF Zefreh 117.83 300 *e*P **PKPdf 04 44 41.8 -0.2**
LVZ Lovozero 118.00 341 PFAKE 04 44 50.0 +9.0
LVZ LR LR
comp=Z,2µm,22.0s
LPAZ La Paz 118.04 117 PKP **PKPdf 04 44 43.3 0.0**
comp=Z,1.0nm,0.5s,baz=160,slow=1.4,SNR=6.2
LPAZ PKKPbc **PKKPbc 04 55 02.1 -0.5**
comp=Z,1.5nm,0.8s,baz=38,slow=3.9,SNR=6.0
IVRN Varamin 118.28 302 *e*P **PKPdf 04 44 42.6 0.0**
MTDJ Mount Denham 118.48 77 PFAKE 04 45 00.0 +17
MTDJ LR LR
comp=Z,714nm,22.0s
APA Apatity 118.58 341⇑ *i* PKIKP **PKPdf 04 44 41.0 -1.1**
APA *i* 04 46 06.2
APA *i* PS **PS 04 55 42.0 -4.8**
APA MLR MLR
comp=Z,2µm,20.0s
CNNC Cliffs of the 118.71 57 PFAKE 04 45 00.0 +17
CNNC LR LR
comp=Z,2µm,20.0s
CBN Corbin Frederi 118.93 54 PFAKE 04 45 00.0 +16
CBN LR LR
comp=Z,2µm,20.0s
KEV Kevo 118.95 345 *e*PKIKP **PKPdf 04 44 41.6 -1.1**
KEV MLR MLR
comp=Z,1µm,20.0s
KEV Kevo 118.95 345 *e*PKPdf **PKPdf 04 44 41.6 -1.1**
KEV LR LR
comp=Z,1µm,20.0s
IPIR Pirpir 119.05 300 *e*P **PKPdf 04 44 41.7 -2.8**
ARCES ARCESS Array B 119.48 345 PKP **PKPdf 04 44 42.3 -1.4**
comp=Z,30nm,0.6s,baz=86,slow=2.3,SNR=95
ARCES PKKPbc **PKKPab 04 54 54.5 -2.3**
comp=Z,0.9nm,0.6s,baz=202,slow=1.3,SNR=5.1
BINY Binghamton 119.56 49 PFAKE 04 45 00.0 +15
BINY LR LR

comp=Z,3µm,22.0s
SUMG Summit 119.69 8 *i* P **PKPdf 04 44 45.4 +0.8**
comp=Z,9.6nm,1.1s
SUMG Summit 119.69 8 *i* P **PKSdf 04 48 23.5 +2.3**
SUMG Summit 119.69 8 *i* P **PKKPbc 04 54 54.5 -3.2**
comp=Z,8.7nm,0.9s
SUMG Summit 119.69 8 *e*PKIKP **PKPdf 04 44 45.4 +0.8**
SUMG pmax pmax
comp=Z,10.0nm,1.1s
SUMG Summit 119.69 8 *e*PKPdf **PKPdf 04 44 44.7 +0.1**
IRAZ Razeghan 119.73 303 *e*P **PKPdf 04 44 45.3 -0.2**
KLMR Klimovskoe 119.84 333 *e*PKIKP **PKPdf 04 44 41.7 -2.9**
KLMR pmax pmax
comp=Z,18nm,0.6s
KLMR MLR MLR
comp=Z,1µm,24.0s
LONY Lake Ozonia 120.18 46 PFAKE 04 45 00.0 +14
LONY LR LR
comp=Z,971nm,20.0s
NCB Newcomb 120.55 47 PFAKE 04 45 00.0 +13
NCB LR LR
comp=Z,2µm,19.0s
GTBY Guantanamo Bay 120.93 75 PFAKE 04 45 00.0 +12
GTBY LR LR
comp=Z,607nm,19.0s
SFJD Kangerlussuaq 121.72 16 PFAKE 04 45 00.0 +12
SFJD LR LR
comp=Z,2µm,20.0s
IKOM Komasi 121.80 302 *e*P **PKPdf 04 44 47.4 -2.1**
SCHQ Schefferville 122.09 33 PKP **PKPdf 04 44 46.9 -2.4**
comp=Z,3.4nm,0.6s,baz=281,slow=5.2,SNR=6.8
DGRG David-gareji 122.56 310 P **PKPdf 04 44 50.5 -0.1**
DUS Dusheti 122.93 311 P **PKPdf 04 44 56.4 +5.1**
TBLG Delisi 122.97 311 P **PKPdf 04 44 51.5 +0.2**
MOS Moscow 123.02 328 *e*PKIKP **PKPdf 04 44 50.8 -0.1**
GNI Garni 123.26 309 *e*PKIKP **PKPdf 04 44 52.7 +0.6**
GNI MLR MLR
comp=Z,657nm,19.0s
GNI Garni 123.26 309 PKPdf **PKPdf 04 44 52.8 +0.7**
SNR=6.9
GNI Garni 123.26 309 *e*PKPdf **PKPdf 04 44 52.7 +0.6**
GNI LR LR
comp=Z,657nm,19.0s
SUR Sutherland 123.40 215 PFAKE 04 45 00.0 +7.2
SUR LR LR
comp=Z,2µm,20.0s
BOSA Boshof 123.47 221 PKP **PKPdf 04 44 51.9 -1.0**
comp=Z,5.9nm,0.7s,baz=120,slow=1.1,SNR=13
LPSR Galich'ya Gora 123.62 325 *e*PKIKP **PKPdf 04 44 51.9 -0.3**
LPSR pmax pmax
comp=N,10.0nm,0.8s
LPSR pmax pmax
comp=E,20nm,0.8s
LPSR pmax pmax
comp=Z,30nm,0.8s
PKME Peaks-Kenny Pk 123.71 45 PFAKE 04 45 00.0 +7.4
PKME LR LR
comp=Z,956nm,19.0s
ONI Oni 123.73 312 P **PKPdf 04 44 52.9 0.0**
SDV Santo Domingo 123.74 89 *e*PKPdf **PKPdf 04 44 52.3 -1.5**
SDV LR LR
comp=Z,1µm,20.0s
RAYN Ar Rayn 123.82 289 *e*PKPdf **PKPdf 04 44 53.1 -0.5**
OBN Obninsk 123.84 328 ⇓*i*PKIKP **PKPdf 04 44 52.4 -0.1**
OBN *e* 04 45 03.8
OBN *e* 04 46 36.8
OBN PPP PPP 04 49 14.0
OBN *i* PS **PS 04 56 37.0 +3.0**
OBN *i* 04 58 09.4
OBN *e*SSS SSS 05 07 57.4
OBN pmax pmax
comp=Z,29nm,0.6s
OBN Obninsk 123.84 328 *e*PKPdf **PKPdf 04 44 51.6 -0.9**
OBN LR LR
comp=Z,1µm,20.0s
KBZ Khabaz 123.87 313 PKP **PKPdf 04 44 52.1 -0.8**
comp=Z,6.3nm,0.7s,baz=236,slow=24,SNR=16
KIV Kislovodsk 123.97 314 ⇓*i*PKIKP **PKPdf 04 44 53.3 0.0**
KIV *e* 04 44 58.8
KIV *e* 04 46 40.8
KIV *e* 04 52 02.3
KIV *i* PS **PS 04 56 38.3 +2.3**
KIV pmax pmax
comp=Z,5.0nm,0.4s
KIV MLR MLR
comp=Z,390nm,19.0s
KIV Kislovodsk 123.97 314 *e*PKPdf **PKPdf 04 44 53.5 +0.2**
KIV LR LR
comp=Z,495nm,22.0s
VSR Storozhevoye 124.01 323 *e*PKIKP **PKPdf 04 44 51.8 -1.2**
VSR pmax pmax
comp=N,7.0nm,0.6s
VSR pmax pmax
comp=E,5.0nm,0.6s
VSR pmax pmax
comp=Z,50nm,0.6s
CLDR Caldiran 124.06 308 *e*P **PKPdf 04 44 51.3 -2.5**
DAMY Dhamar 124.19 278 *e*PKPdf **PKPdf 04 44 56.0 +1.3**
SDDR Presa de Saban 124.45 77 PFAKE 04 45 10.0 +15
SDDR LR LR
comp=Z,796nm,22.0s
CUKT Cukurca 124.60 306 *e*P **PKPdf 04 44 57.2 +2.5**
AGRB Hanur-Agry 124.69 309 *e*P **PKPdf 04 44 56.5 +1.5**
GRTK Grand Turk 124.74 73 PFAKE 04 45 10.0 +15
GRTK LR LR
comp=Z,866nm,20.0s
FINES FINESS Array B 124.90 338 PKP **PKPdf 04 44 53.1 -1.2**
comp=Z,15nm,0.7s,baz=90,slow=1.4,SNR=35
FINES FINESS Array B 124.90 338 *ce*PKIKP **PKPdf 04 44 53.2 -1.2**
FINES pmax pmax
comp=Z,15nm,0.6s
BCA Borcka 125.32 311 *e*P **PKPdf 04 44 54.0 -1.8**
SAML Samuel 125.52 112 PFAKE 04 45 10.0 +13
SAML LR LR
comp=Z,803nm,22.0s
SOC Sochi 126.14 314 *e*PKIKP **PKPdf 04 44 56.0 -1.3**
SOC *e* 04 46 46.9
SOC *e*PPP PPP 04 49 29.5
SOC *e*PS **PS 04 56 46.1 -8.8**
SOC *e*SS SS 05 03 49.2 -2.9
SOC *e*SSS SSS 05 08 28.5
SOC pmax pmax
comp=Z,7.0nm,0.6s
BAYT Ayd'-ntepe-Bay 126.65 310 *e*P **PKPdf 04 44 60.0 +1.3**
ESPY Espiye-Giresun 127.57 311 *e*P **PKPdf 04 45 03.2 +3.1**
KMBO Kilima Mbogo 127.66 257 PKP **PKPdf 04 45 00.5 -0.9**
comp=Z,4.0nm,0.8s,baz=114,slow=3.7,SNR=8.4
KMBO Kilima Mbogo 127.66 257 PKIKP **PKPdf 04 45 00.5 -0.9**
KMBO MLR MLR
comp=Z,1µm,21.0s
KMBO Kilima Mbogo 127.66 257 PKP **PKPdf 04 45 00.5 -0.9**
KMBO *e*PKPdf **PKiKP 04 45 01.6 -0.4**
KMBO LR LR
comp=Z,1µm,21.0s
MALT Malatya 128.43 308 ⇓PKIKP **PKPdf 04 45 03.2 +1.2**
MALT Malatya 128.43 308 ⇓*i*P **PKPdf 04 45 03.2 +1.2**
NACGM Naroch 128.74 331 *e* **PKPdf 04 45 01.0 -0.9**
BORG Borgarnes 129.10 4 PKP **PKPdf 04 45 02.5 +0.2**
comp=Z,8.3nm,0.7s,baz=304,slow=4.9
TRIS Tristan da Cun 129.11 181 PFAKE 04 45 20.0 +17
TRIS LR LR
comp=Z,2µm,22.0s
SJG San Juan 129.25 78 PFAKE 04 45 20.0 +16
SJG LR LR
comp=Z,671nm,21.0s
LSZ Lusaka 129.61 236 PFAKE 04 45 20.0 +15
LSZ LR LR
comp=Z,2µm,19.0s
NB2 NORSAR Subarra 129.85 345 PKPdf **PKPdf 04 45 03.7 -0.2**
comp=Z,5.5nm,0.6s,baz=31,slow=1.9
NB2 NORSAR Subarra 129.85 345 PKPdf **PKPdf 04 45 03.7 -0.2**
baz=31,slow=1.9
NOA NORSAR Array B 129.85 345 PKP **PKPdf 04 45 02.8 -1.1**
comp=Z,9.8nm,0.6s,baz=32,slow=2.0,SNR=46
NOA SKPbc SKPbc 04 48 24.2 +0.4
comp=Z,7.4nm,1.0s,baz=32,slow=3.1,SNR=8.1
AKASG Malin Array Be 129.87 326 PKP **PKPdf 04 45 03.2 -0.9**
comp=Z,7.5nm,0.6s,baz=48,slow=2.7,SNR=23
AKASG SKPbc SKPbc 04 48 24.9 +0.8
comp=Z,1.1nm,0.6s,baz=44,slow=4.2,SNR=5.5
KIEV Kiev 129.88 326 *e*PKIKP **PKPdf 04 45 04.1 -0.1**
KIEV MLR MLR
comp=Z,866nm,20.0s
KIEV Kiev 129.88 326 *e*PKPdf **PKPdf 04 45 04.1 -0.1**
KIEV LR LR
comp=Z,866nm,20.0s
BBSR BB Station 129.92 60 PFAKE 04 45 20.0 +15
BBSR LR LR
comp=Z,896nm,21.0s
HFS Hagfors 129.93 343 PKP **PKPdf 04 45 02.8 -1.2**
comp=Z,11nm,0.7s,baz=102,slow=3.4,SNR=19
HFS SKPbc SKPbc 04 48 24.9 +0.8
comp=Z,7.3nm,0.8s,baz=36,slow=2.8,SNR=5.9
KOZT Kozan 130.63 308 *e*P **PKPdf 04 45 10.8 +4.7**
CORM Corum 130.77 311 *e*P **PKPdf 04 45 03.7 -2.7**
KONO Kongsberg 131.46 345 PFAKE 04 45 20.0 +13
KONO LR LR
comp=Z,680nm,20.0s
BRTR Keskin Array B 131.63 311 PKP **PKPdf 04 45 07.7 -0.4**
comp=Z,4.1nm,0.6s,baz=76,slow=1.1,SNR=16
BRTR SKPbc **SKPab 04 48 32.5 +0.8**
comp=Z,3.5nm,0.6s,baz=97,slow=3.3,SNR=5.0
BRTR Keskin Array B 131.63 311 *c i*PKIKP **PKPdf 04 45 08.3 +0.2**
BRTR pmax pmax
comp=Z,4.0nm,0.6s
KIS Kishinev 131.95 322 *e*PKP **PKPdf 04 45 08.0 -0.2**
KIS Kishinev 131.95 322 *e*PP PP 04 47 34.0 +4.7
KIS *e*SKP 04 48 32.0
KIS *e*SKS SKSdf 04 52 30.0 +13
KIS Kishinev 131.95 322 *e*PKIKP **PKPdf 04 45 08.0 -0.2**
KIS *e* 04 47 34.0
KIS MLR MLR
comp=Z,700nm,22.0s
KIS MLR MLR
comp=N,600nm,23.0s
KIS MLR MLR
comp=Z,600nm,24.0s
ANTO Ankara 132.21 311 ⇑PKIKP **PKPdf 04 45 09.6 +0.5**
ANTO Ankara 132.21 311 ⇑*i*P **PKPdf 04 45 09.6 +0.5**
ANTO Ankara 132.21 311 PKPdf **PKPdf 04 45 09.5 +0.4**
SNR=7.7
ANTO Ankara 132.21 311 *e*PKPdf **PKPdf 04 45 09.2 +0.2**
ANTO LR LR
comp=Z,393nm,19.0s
TLCR 132.81 320 ⇑PKIKP **PKPdf 04 45 09.9 0.0**
TLCR 132.81 320 ⇑*i*P **PKPdf 04 45 09.9 0.0**
GRGR Grenville 132.98 86 PFAKE 04 45 20.0 +8.9
GRGR LR LR
comp=Z,471nm,19.0s
CSS Prodhromos 133.21 305 PFAKE 04 45 20.0 +9.0
CSS LR LR
comp=Z,170nm,20.0s
CFR Carcaliu 133.24 320 ⇑PKIKP **PKPdf 04 45 11.2 +0.5**
CFR Carcaliu 133.24 320 ⇑*i*P **PKPdf 04 45 11.2 +0.5**
ANWB Willy Bob 133.37 79 PFAKE 04 45 20.0 +8.3
ANWB LR LR
comp=Z,616nm,21.0s
TIRR Tirgusor 133.40 319 ⇑PKIKP **PKPdf 04 45 11.0 0.0**
TIRR Tirgusor 133.40 319 ⇑*i*P **PKPdf 04 45 11.0 0.0**
TESR Tescani 133.49 322 ⇑*i*P **PKPdf 04 45 12.1 +0.9**
BSD Bornholm Skovb 133.54 338 *i* P **PKPdf 04 45 10.5 -0.5**
comp=Z,18nm,0.7s
BSD Bornholm Skovb 133.54 338 ⇑*i*P **PKSdf 04 48 45.2 -1.9**
comp=Z,47nm,1.0s
BSD Bornholm Skovb 133.54 338 *e*PKIKP **PKPdf 04 45 10.5 -0.5**
BSD pmax pmax
comp=Z,18nm,0.7s
TLB Topalu 133.57 319 ⇑PKIKP **PKPdf 04 45 10.6 -0.8**
TLB Topalu 133.57 319 ⇑*i*P **PKPdf 04 45 10.6 -0.8**
HARR Harsova 133.60 319 ⇓PKIKP **PKPdf 04 45 13.0 +1.5**
HARR Harsova 133.60 319 ⇓*i*P **PKPdf 04 45 12.9 +1.5**
BURAR Bucovina Array 133.74 324 ⇓PKIKP **PKPdf 04 45 12.6 +0.8**
BURAR Bucovina Array 133.74 324 ⇓*i*P **PKPdf 04 45 12.6 +0.8**
VRI Vrincioaia 133.77 321 ⇑PKIKP **PKPdf 04 45 11.5 -0.3**
VRI Vrincioaia 133.77 321 ⇑*i*P **PKPdf 04 45 11.5 -0.3**
FDF Fort de France 133.77 83 PFAKE 04 45 20.0 +7.4
FDF LR LR
comp=Z,794nm,22.0s
PLOR Plostina 133.82 321 ⇑PKIKP **PKPdf 04 45 16.2 +4.3**
PLOR Plostina 133.82 321 ⇑*i*P **PKPdf 04 45 16.1 +4.2**
PSN Preselentsi 133.90 318 ⇓PKIKP **PKPdf 04 45 16.6 +4.6**
PSN Preselentsi 133.90 318 ⇓*i*P **PKPdf 04 45 16.6 +4.6**
PSN Preselentsi 133.90 318 *e*P **PKPdf 04 45 10.0 -2.0**
KWP Kalwaria Pacla 133.93 328 *e*PKIKP **PKPdf 04 45 12.9 +1.0**
KWP *e*PKS PKSdf 04 48 42.7 -5.4
KWP Kalwaria Pacla 133.93 328 *e*PKIKP **PKPdf 04 45 12.9 +1.0**
MSAB Monastry St. A 133.94 319 ⇑*i*P **PKPdf 04 45 12.4 +0.3**
MBAR Mbarara 133.98 255 PFAKE 04 45 30.0 +17
MBAR LR LR
comp=Z,751nm,22.0s
LLD Lille Linde 134.31 340 *i* P **PKPdf 04 45 12.7 +0.3**
LLD Lille Linde 134.31 340 *i* P **PKSdf 04 48 48.3 -0.2**
LLD Lille Linde 134.31 340 *e*PKIKP **PKPdf 04 45 12.7 +0.3**
MUD Monsted U'grnd 134.32 343 *i* P **PKSdf 04 48 47.5 -0.9**
comp=Z,23nm,0.9s
MLR Muntele Rosu 134.43 321 PKP **PKPdf 04 45 11.5 -1.7**
comp=Z,1.4nm,0.8s,baz=243,slow=2.3,SNR=6.5
MLR Muntele Rosu 134.43 321 ⇓PKIKP **PKPdf 04 45 13.2 0.0**
MLR Muntele Rosu 134.43 321 ⇓*i*P **PKPdf 04 45 13.2 0.0**
ISP Isparta 134.55 310 PFAKE 04 45 30.0 +16
ISP LR LR
comp=Z,764nm,21.0s
KOLS Kolonicke sedl 134.58 327 *e*PKIKP **PKPdf 04 45 14.0 +0.8**
KOLS Kolonicke sedl 134.58 327 *e*PKP **PKPdf 04 45 13.9 +0.8**
KOLS *e*SKP 04 48 48.1
PRD Provadia 134.62 318 *e*P **PKPdf 04 45 11.0 -2.4**
UZH Uzhgorod 134.75 327 *e*PKIKP **PKPdf 04 45 09.0 -4.5**
UZH *e* 04 45 15.8
ARMT Armutlu 134.76 314 *e*P **PKPdf 04 45 14.0 +0.2**
BDFB Brasilia 134.76 129 PKP **PKPdf 04 45 13.4 -1.2**
comp=Z,4.8nm,0.7s,baz=222,slow=2.6,SNR=7.8
TVSB Tavsanli 134.76 312 *e*P **PKPdf 04 45 11.3 -2.6**
STHS Stebnicka Huta 134.81 328 *e*PKIKP **PKPdf 04 45 15.9 +2.3**
STHS Stebnicka Huta 134.81 328 *e*PKP **PKPdf 04 45 15.9 +2.3**
STHS *e*SKP 04 48 49.3
VOIR 135.00 322 ⇓PKIKP **PKPdf 04 45 14.4 +0.2**
VOIR 135.00 322 ⇓*i*P **PKPdf 04 45 14.4 +0.2**
OJC Ojcow 135.01 330 *e*PKP **PKPdf 04 45 13.6 -0.3**
OJC Ojcow 135.01 330 *e*PKIKP **PKPdf 04 45 13.7 -0.2**
TSUM Tsumeb 135.03 223 *e*PKPdf **PKPdf 04 45 14.8 -0.3**
TSUM LR LR
comp=Z,2µm,20.0s
BBGH Gun Hill 135.14 85 PFAKE 04 45 30.0 +15
BBGH LR LR
comp=Z,1µm,19.0s
NIE Niedzica 135.28 329 *e*PKP **PKPdf 04 45 15.0 +0.6**
NIE Niedzica 135.28 329 *e*PKIKP **PKPdf 04 45 15.1 +0.6**
ARR Arges 135.29 322 ⇑*i*P **PKPdf 04 45 12.2 +0.5**
JMB Yambol 135.49 317 ⇑PKIKP **PKPdf 04 45 15.5 +0.5**
JMB Yambol 135.49 317 ⇑*i*P **PKPdf 04 45 15.5 +0.5**
KULA Kula-Manisa 135.69 311 *e*P **PKPdf 04 45 11.8 -3.8**
LOT Lotru 135.76 322 ⇓*i*P PKPpre 04 45 10.1
OKC Ostrava-Krasne 136.05 331 *e*PKPdf **PKPdf 04 45 15.8 -0.1**
OKC *e*PP **PP 04 47 53.9 -1.1**
OKC *e*PKS **PKSdf 04 48 54.9 +3.0**
OKC AMS AMS 05 50 00.0
comp=Z,1µm,21.0s
OKC Ostrava-Krasne 136.05 331 *e*PKIKP **PKPdf 04 45 15.8 -0.1**
OKC *e* 04 47 53.9
OKC MLR MLR
comp=Z,1µm,21.0s
KSP Ksiaz 136.19 333 *e*PKP **PKPdf 04 45 18.1 +2.0**
KSP *e*PKS **PKSdf 04 48 47.3 -4.9**
KSP Ksiaz 136.19 333 *e*PKIKP **PKPdf 04 45 18.2 +2.1**
ERIK Erikli-Kesan 136.34 315 *e*P **PKPdf 04 45 18.9 +2.2**
GZR Gura Zlata 136.37 323 ⇓PKIKP **PKPdf 04 45 15.4 -1.3**
GZR Gura Zlata 136.37 323 ⇓*i*P **PKPdf 04 45 15.4 -1.3**
PSZ Piszkesteto 136.45 328 *e*PKIKP **PKPdf 04 45 17.5 +0.7**
PSZ MLR MLR
comp=Z,975nm,21.0s
PSZ Piszkesteto 136.45 328 ⇑*i*P **PKPdf 04 45 17.8 +1.0**
PSZ Piszkesteto 136.45 328 *e*PKPdf **PKPdf 04 45 17.5 +0.7**
PSZ LR LR
comp=Z,975nm,21.0s
AYDB Zeytinkoy-Aydi 136.46 311 *e*P **PKPdf 04 45 17.2 +0.1**
SIRR Siria 136.51 325 ⇓*i*P **PKPdf 04 45 17.0 +0.1**
DPC Dobruska-Polom 136.53 333 *e*PKPdf **PKPdf 04 45 16.3 -0.5**
DPC *ex* x 04 45 21.9
DPC *e*PP PP 04 47 50.9 -7.2
DPC *e*SKP 04 48 50.1
DPC *e*PKS **PKSdf 04 48 57.9 +5.0**
DPC AMS AMS 05 44 50.0
comp=Z,2µm,23.6s
DPC Dobruska-Polom 136.53 333 *e*PKIKP **PKPdf 04 45 16.3 -0.5**
DPC *e* 04 45 21.9
DPC MLR MLR
comp=Z,2µm,23.6s
UPC Upice 136.56 333 *e*PKPdf **PKPdf 04 45 18.7 +1.9**
UPC *e*SKP 04 48 55.8
UPC Upice 136.56 333 *e*PKIKP **PKPdf 04 45 18.7 +1.9**
ALN Alexandroupoli 136.56 316 *e*P **PKPdf 04 45 17.8 +0.7**
KDZ Kurdzhali 136.64 317 ⇓PKIKP **PKPdf 04 45 17.4 +0.2**
KDZ Kurdzhali 136.64 317 ⇓*i*P **PKPdf 04 45 17.4 +0.2**
MPEP Malo Peshtene 136.88 320 *e*P **PKPdf 04 45 14.0 -3.6**
BZS Buzias 136.91 324 ⇑PKIKP **PKPdf 04 45 17.0 -0.6**
BZS Buzias 136.91 324 ⇑*i*P **PKPdf 04 45 17.0 -0.6**
PGB Panagyurishte 137.02 319 *e*P **PKPdf 04 45 16.0 -2.0**
DAT Datca 137.13 309 *e*P **PKPdf 04 45 15.1 -3.4**
VRAC Vranov 137.15 331 PKP **PKPdf 04 45 16.9 -1.0**
comp=Z,2.5nm,0.4s,baz=295,slow=1.6,SNR=4.7
VRAC SKPbc **SKPbc 04 48 51.0 +2.4**
comp=Z,2.5nm,0.4s,baz=34,slow=5.6,SNR=3.7
PVCC Panska Ves 137.17 334 *e*PKPdf **PKPdf 04 45 17.7 -0.2**
PVCC *ex* x 04 45 22.5
PVCC *e*PKS **PKSdf 04 48 50.7 -3.2**
PVCC *ex* x 04 48 57.3
PVCC AMS AMS 05 45 40.0
comp=Z,800nm,18.0s
PVCC Panska Ves 137.17 334 *e*PKIKP **PKPdf 04 45 17.7 -0.2**
PVCC *e* 04 45 22.5
PVCC MLR MLR
comp=Z,800nm,18.0s
BRG Berggiesshubel 137.17 335 *e*PKP **PKPdf 04 45 18.3 +0.4**
comp=Z,4.1nm,0.6s
BRG *i* 04 45 23.2
comp=Z,15nm,0.7s
BRG Berggiesshubel 137.17 335 *e*PKIKP **PKPdf 04 45 18.3 +0.4**
BRG *i* 04 45 23.2
BRG pmax pmax
comp=Z,4.0nm,0.6s
BUD Budapest 137.18 328 ⇑*e*SKPbc **SKPab 04 48 57.6 +2.1**
BODT Bodrum 137.21 310 *e*P **PKPdf 04 45 17.2 -1.2**
CLL Collm 137.22 336 *e*PKPdf **PKPdf 04 45 18.6 +0.6**
CLL Collm 137.22 336 *e*PKPdf **PKPdf 04 45 19.0 +1.0**
comp=Z,9.0nm,0.8s
CLL *i* PKPmax 04 45 22.9
comp=Z,19nm,0.6s
CLL *e* 04 47 53.0
CLL *e*PP **PP 04 48 01.0 -1.2**
CLL *e*SKPbc **SKPbc 04 48 48.0 -0.7**
CLL *i* SKPab **SKPab 04 48 57.1 +1.6**
comp=Z,39nm,1.5s
CLL *i* PKSab **PKSab 04 48 59.5 +0.3**
comp=Z,23nm,1.0s
CLL *e*Sdif **Sdif 04 56 26.0 +3.4**
CLL *e*PPS PPS 05 00 16.0
CLL *e*SS **SS 05 06 11.0 +5.2**
CLL *e* 05 07 19.0
CLL *e* 05 08 06.0
CLL *e* 05 12 12.0
CLL Lm MLR 05 47 00.0
comp=Z,1µm,21.4s
CLL Collm 137.22 336 *e*PKIKP **PKPdf 04 45 19.0 +1.0**
CLL pmax pmax
comp=Z,9.0nm,0.8s
CLL MLR MLR
comp=Z,1µm,21.4s
SIGR SIGRI 137.42 313 *e*P **PKPdf 04 45 18.0 -0.7**
KAVA Kavala 137.55 317 P **PKPdf 04 45 17.5 -1.4**
PKSG 137.57 328 *e*SKPbc **SKiKP 04 48 55.1 +0.7**
PRU Pruhonice 137.58 333 *e*PKPdf **PKPdf 04 45 19.2 +0.5**
PRU *ex* x 04 45 22.6
PRU *ex* x 04 47 52.7
PRU *e*PKS **PKSdf 04 48 51.5 -3.2**
PRU *ex* x 04 48 58.2
PRU AMS AMS 05 47 20.0
comp=Z,700nm,18.7s
PRU Pruhonice 137.58 333 *e*PKIKP **PKPdf 04 45 19.2 +0.5**
PRU MLR MLR
comp=Z,700nm,18.7s
LIA Limnos Island 137.59 315 P **PKPdf 04 45 16.6 -2.4**
VTS Vitosha 137.61 319 ⇑PKHKP PKPpre 04 45 07.8
VTS Vitosha 137.61 319 ⇑*i*P PKPpre 04 45 07.8
CHOS Chios island 137.62 312 *e*P **PKPdf 04 45 19.4 +0.2**
CHOS Chios island 137.62 312 P **PKPdf 04 45 18.7 -0.5**
TREC Trest 137.67 332 *e*PKPdf **PKPdf 04 45 19.3 +0.4**
TREC *e*PP **PP 04 48 05.1 0.0**
TREC *e*PKS **PKSdf 04 48 51.5 -3.5**
TREC *ex* x 04 48 59.1
TREC AMS AMS 05 46 30.0
comp=Z,1µm,22.7s
TREC Trest 137.67 332 *e*PKIKP **PKPdf 04 45 19.3 +0.4**
TREC *e* 04 48 05.1
TREC MLR MLR
comp=Z,1µm,22.7s
PKS2 Kecel 137.72 326 ⇑*e*PKPdf **PKPdf 04 45 20.6 +1.6**
PKS2 Kecel 137.72 326 ⇑*e*SKPbc **SKPbc 04 48 50.2 -0.1**
MMB Musomiste 137.78 318 ⇓PKIKP PKPpre 04 45 13.6
MMB Musomiste 137.78 318 ⇓*i*P PKPpre 04 45 13.6
NEUB Neuenburg 137.78 337 *e*PKPdf PKPdf 04 45 24.5 +5.5
NEUB *e*PP **SKPbc 04 48 50.8 +0.4**
CLZ Clausthal 137.80 338 *e*PKPdf **PKPdf 04 45 21.2 +2.1**
NVR Nevrokopi 137.81 317 P **PKPdf 04 45 18.5 -0.9**
PKST T"s 137.84 328 ⇓*e* **PKPdf 04 45 18.7 -0.6**
PKST T"s 137.84 328 *e*SKPbc **SKPbc 04 48 52.8 +2.1**
KKB Krupnik 138.06 318 *e*P **PKPdf 04 45 17.0 -2.9**
EKA Eskdalemuir Ar 138.09 351 PKhKP PKPpre 04 45 11.6
comp=Z,2.0nm,0.7s,baz=346,slow=2.2,SNR=5.5
EKA PKP **PKPdf 04 45 19.3 -0.2**
comp=Z,2.3nm,0.6s,baz=6.2,slow=1.9,SNR=8.0
EKA SKPbc **SKiKP 04 48 53.8 -1.4**
comp=Z,6.2nm,0.9s,baz=29,slow=2.2,SNR=4.8
ESK Eskdalemuir 138.11 351 PFAKE 04 45 30.0 +11
ESK LR LR
comp=Z,1µm,20.0s
TANN Tannenbergstha 138.13 335 *e*PP **SKPbc 04 48 52.1 +0.6**
PKSM Moragy 138.20 326 ⇑PKIKP **PKPdf 04 45 20.0 +0.1**
PKSM Moragy 138.20 326 ⇑*i*P **PKPdf 04 45 20.0 +0.1**
PKSM Moragy 138.20 326 ⇑*e*PKPdf **PKPdf 04 45 19.2 -0.7**
PKSM Moragy 138.20 326 ⇑*e*SKPbc **SKPbc 04 48 53.2 +1.5**
GUNZ Gunzen 138.22 335 *e*PKPdf **PKPdf 04 45 23.2 +3.3**
GUNZ *e*PP **SKPbc 04 48 52.7 +1.0**
NKC Novy Kostel 138.28 335 *e*PKPdf **PKPdf 04 45 18.9 -1.1**
NKC *ex* x 04 45 23.8
NKC *e*PP **PP 04 48 08.5 -0.3**
NKC *e*SKP 04 48 53.4
NKC *ex* x 04 49 00.7
NKC AMS AMS 05 45 10.0
comp=Z,600nm,20.3s
NKC Novy Kostel 138.28 335 *e*PKIKP **PKPdf 04 45 18.9 -1.1**
NKC *e* 04 45 23.8
NKC *e* 04 48 08.5
NKC MLR MLR
comp=Z,600nm,20.3s
ROHR Rohrbach 138.33 335 *e*PKPdf **PKPdf 04 45 21.9 +1.8**
ROHR *e*PP **SKPbc 04 48 53.1 +1.1**
CONA Conrad Observa 138.46 330 ⇓*i*PKPdf **PKPdf 04 45 18.0 -2.5**
comp=Z,16nm,0.6s,SNR=9.3
KHC Kasperske Hory 138.64 333 *e*PKPpre PKPpre 04 45 14.5
KHC *e*PKPdf **PKPdf 04 45 19.6 -1.1**
KHC *ex* x 04 45 23.1
KHC *ex* x 04 47 49.8
KHC *e*PKS **PKSdf 04 48 57.9 +1.2**
KHC AMS AMS 05 51 50.0
comp=Z,1µm,19.1s
KHC Kasperske Hory 138.64 333 *e*PKHKP PKPpre 04 45 14.5
KHC *e* 04 45 19.6
KHC MLR MLR
comp=Z,1µm,19.1s
ROTZ Rotzenmuhle 138.74 335 *e*PKPdf **PKPdf 04 45 22.6 +1.8**
DIVS Divibare 138.74 323 P PKPpre 04 45 12.0
DIVS Divibare 138.74 323 ⇑*i*P PKPpre 04 45 11.8
UBBA Unterbreizbach 138.76 338 *e*PKPdf **PKPdf 04 45 23.0 +2.3**
GEC2 GERESS Array S 138.80 333 *e*PKPdf **PKPdf 04 45 23.1 +2.0**
GERES GERESS Array B 138.80 333 PKhKP PKPpre 04 45 08.7
comp=Z,0.4nm,0.3s,baz=70,slow=1.6,SNR=4.9
GERES PKP **PKPdf 04 45 18.6 -2.5**
comp=Z,3.0nm,0.7s,baz=53,slow=0.7,SNR=14
GERES SKPbc **SKPbc 04 48 55.0 +1.5**
comp=Z,4.4nm,1.0s,baz=38,slow=2.4,SNR=7.8
SANT Santorini 138.85 310 PFAKE 04 45 30.0 +8.5
SANT LR LR
comp=Z,455nm,21.0s
WET Wettzell 138.93 334 *e*PKPdf **PKPdf 04 45 21.9 +0.6**
BEHE Becsehely 139.01 328 ⇑*e*SKPbc **SKPab 04 49 02.9 -0.7**
GRF Grafenberg Arr 139.20 336 *e*PKPdf **PKPdf 04 45 24.4 +2.7**
LAST Lasithi 139.28 308 P PKPpre 04 45 17.0
LIT Litokhoron 139.33 316 P **PKPdf 04 45 20.3 -2.0**
IDI Anoyia 139.69 308 PKhKP PKPpre 04 45 15.6
comp=Z,7.7nm,0.8s,baz=342,slow=16,SNR=1.6
FNA Florina 139.72 318 P PKPpre 04 45 16.8

PERS	**Pernice**	**139.73 329**	*i* PKPdf	**PKPdf**	**04 45 18.8**	**-4.0**		
AGG	**Agios Georgios**	**139.96 315**	*e*P	**PKPdf**	**04 45 25.1**	**+1.7**		
DID	**Didima**	**140.01 312**	P	PKPpre	04 45 14.9			
MAKR	**Makrakomi, Fth**	**140.10 315**	P	PKPpre	04 45 17.8			
KBA	**Koelnbreinsper**	**140.26 331**⇑	*i* PKPdf	**PKPdf**	**04 45 19.9**	**-4.1**		
	comp=Z,19nm,0.6s							
MEM	**Membach**	**140.32 341**	PKP	**PKPdf**	**04 45 23.8**	**+0.1**		
MEM			SKPab	**SKPab**	**04 49 06.0**	**-3.2**		
TIR	**Tirane**	**140.38 320**	PFAKE		04 45 40.0	+16		
TIR			LR	LR				
	comp=Z,1μm,22.0s							
BOJS	**Bojanci**	**140.44 328**	*i* PKPdf	PKPdf	04 45 17.1	-7.0		
BOJS			*i*		04 45 24.6			
VISS	**Visnje**	**140.45 329**	*i* PKPdf	PKPpre	04 45 17.2			
VISS			*i*		04 45 25.0			
GUR	**Goura**	**140.46 314**	P	PKPpre	04 45 18.7			
KLV	**Kalavryta, Ach**	**140.54 314**	P	PKPpre	04 45 15.2			
UCC	**Uccle**	**140.67 342**	PKP	**PKPdf**	**04 45 22.9**	**-1.3**		
BCLA	**Clavier**	**140.71 341**	E	**PKPdf**	**04 45 19.9**	**-4.5**		
BCLA			SKPab	**SKPab**	**04 49 06.7**	**-4.3**		
JAVS	**Javornik**	**140.77 329**	*i* PKPdf	PKPdf	04 45 17.5	-7.3		
JAVS			*i*		04 45 24.9			
PDO	**Prodromos**	**140.95 315**	P	PKPpre	04 45 17.7			
MOTA	**Moosalm**	**141.07 333**⇑	*i* PKPdf	**PKPdf**	**04 45 20.9**	**-4.4**		
	comp=Z,10nm,0.5s							
LANF	**Langenberg**	**141.09 338**	PKP	**PKPdf**	**04 45 24.4**	**-0.8**		
WLF	**Walferdange**	**141.09 340**	PKP	**PKPdf**	**04 45 21.6**	**-3.5**		
WLF			SKPab	**SKPab**	**04 49 09.5**	**-3.2**		
WLF	**Walferdange**	**141.09 340**	*e*PKPpre	PKPpre	04 45 20.7			
WLF			*e*PKPdf	**PKPdf**	**04 45 26.0**	**+0.9**		
WLF			LR	LR				
	comp=Z,2μm,22.0s							
LKD2	**Lefkada island**	**141.21 316**	P	PKPpre	04 45 14.0			
DOU	**Dourbes**	**141.22 342**	PKP	**PKPdf**	**04 45 23.8**	**-1.5**		
DOU			SKPab	**SKiKP**	**04 49 06.9**	**+5.1**		
BFO	**Black Forest**	**141.43 337**	PFAKE		04 45 40.0	+14		
BFO			LR	LR				
	comp=Z,592nm,22.0s							
FETA	**Feichten**	**141.49 333**⇑	*i* PKPdf	PKPpre	04 45 20.6			
	comp=Z,14nm,0.7s							
MENF	**Mencas**	**141.50 344**	PKP	**PKPdf**	**04 45 27.6**	**+1.8**		
DAVA	**Damuels**	**141.64 334**⇑	*i* PKPdf	PKPpre	04 45 22.4			
	comp=Z,17nm,0.7s							
ECH	**Echery**	**141.96 338**	*e*PKIKP	PKPpre	04 45 23.8			
ECH			MLR	MLR				
	comp=Z,1μm,20.0s							
ECH	**Echery**	**141.96 338**	*e*PKPpre	PKPpre	04 45 23.8			
ECH			PKPdf	**PKPdf**	**04 45 25.9**	**-0.8**		
ECH			LR	LR				
	comp=Z,1μm,20.0s							
DAVOX	**Davos/Dischmat**	**142.04 334**	PKhKP	PKPpre	04 45 18.6			
	comp=Z,1.3nm,0.3s,baz=78,slow=1.6,SNR=2.8							
DAVOX			PKP	**PKPdf**	**04 45 26.3**	**-0.9**		
	comp=Z,14nm,0.7s,baz=45,slow=3.3,SNR=16							
DAVOX			SKPbc	**SKiKP**	**04 49 04.8**	**+0.9**		
	comp=Z,20nm,0.9s,baz=278,slow=4.5,SNR=4.5							
MOF	**Molkenrain**	**142.27 337**	PKP	**PKPdf**	**04 45 24.2**	**-3.2**		
THEF	**They Montfort**	**142.37 339**	PKP	**PKPdf**	**04 45 23.5**	**-4.0**		
TUE	**Stuetta**	**142.51 334**	*e*PKPpre	PKPpre	04 45 22.7			
TUE			PKPdf	**PKPdf**	**04 45 29.2**	**+1.2**		
TUE			LR	LR				
	comp=Z,1μm,21.0s							
LOMF	**Lomont**	**142.81 337**	PKP	**PKPdf**	**04 45 26.7**	**-1.7**		
AQU	**L'Aquila**	**143.57 326**	PKIKP	PKPbc	04 45 27.4	+0.2		
AQU			MLR	MLR				
	comp=Z,826nm,20.0s							
AQU	**L'Aquila**	**143.57 326**	PKPpre	PKPbc	04 45 27.4	+0.2		
AQU			PKPdf	**PKPdf**	**04 45 29.9**	**0.0**		
AQU			LR	LR				
	comp=Z,826nm,20.0s							
TIP	**Timpagrande**	**143.57 319**	*e*PKPdf	PKPbc	04 45 27.5	+0.2		
TIP			*e*PKPdf	**PKPdf**	**04 45 30.6**	**+0.6**		
TIP			LR	LR				
	comp=Z,492nm,22.0s							
CUC	**Castrocucco**	**143.68 321**	*e*PKPpre	PKPdf	04 45 26.2			
CUC			*e*PKPdf	PKPbc	04 45 28.8	+1.2		
CUC			LR	LR				
	comp=Z,743nm,21.0s							
VLC	**Villacollemand**	**143.82 331**	PFAKE		04 45 40.0	+10		
VLC			LR	LR				
	comp=Z,743nm,21.0s							
RSL	**Roselend**	**144.26 336**	PKP	**PKPdf**	**04 45 33.6**	**+2.5**		
CEL	**Celeste**	**144.65 318**	*e*PKPdf	**PKPab**	**04 45 29.9**	**-0.6**		
CEL			LR	LR				
	comp=Z,517nm,20.0s							
BNI	**Bardonecchia**	**144.76 335**	*e*PKIKP	**PKPab**	**04 45 30.5**	**-0.3**		
BNI			MLR	MLR				
	comp=Z,1μm,20.0s							
BNI	**Bardonecchia**	**144.76 335**	*e*PKPdf	**PKPab**	**04 45 30.5**	**-0.3**		
BNI			LR	LR				
	comp=Z,1μm,20.0s							
OG22	**Abries**	**144.84 335**	PKP	**PKPdf**	**04 45 32.3**	**+0.2**		
GDM	**Grand'Maison**	**144.86 336**	PKP	**PKPab**	**04 45 31.0**	**-0.2**		
GRN	**Grenoble**	**144.98 336**	PKP	PKPbc	04 45 31.7	+0.2		
PLDF	**La Plantade**	**145.14 339**	PKP	**PKPdf**	**04 45 33.0**	**+0.5**		
SURF	**Saint Ours**	**145.17 334**	PKP	**PKPbc**	**04 45 32.0**	**-0.3**		
AGO	**Saint Agoulin**	**145.24 340**	PKP	**PKPdf**	**04 45 33.0**	**+0.4**		
SAOF	**Saorge**	**145.25 333**	PKP	**PKPbc**	**04 45 31.7**	**-0.7**		
AUTN	**L'Aution**	**145.30 333**	PKP	**PKPbc**	**04 45 32.8**	**0.0**		
TOUF	**Mont Tournerai**	**145.36 333**	PKP	**PKPbc**	**04 45 32.2**	**-0.7**		
SSB	**Saint Sauveur**	**145.41 338**	PKP	**PKPbc**	**04 45 32.7**	**-0.1**		
SSB	**Saint Sauveur**	**145.41 338**	*e*PKIKP	**PKPdf**	**04 45 32.9**	**0.0**		
SSB			MLR	MLR				
	comp=Z,619nm,19.0s							
SSB	**Saint Sauveur**	**145.41 338**	*e*PKPbc	**PKPdf**	**04 45 32.9**	**0.0**		
SSB			LR	LR				
	comp=Z,619nm,19.0s							
MVIF	**Mont Vial**	**145.50 333**	PKP	**PKPdf**	**04 45 31.7**	**-1.6**		
COLF	**Collangettes**	**145.51 339**	PKP	**PKPdf**	**04 45 32.5**	**-0.6**		
REVF	**Revere**	**145.53 333**	PKP	**PKPdf**	**04 45 31.9**	**-1.3**		
PYM	**Petit Puy Mans**	**145.54 340**	PKP	**PKPab**	**04 45 34.2**	**+0.6**		
OG26	**St.-Nazaire-De**	**145.71 336**	PKP	**PKPbc**	**04 45 33.8**	**0.0**		
CALN	**Calern**	**145.73 334**	PKP	**PKPdf**	**04 45 32.4**	**-1.2**		
LBL	**Lubilhac**	**145.91 339**	PKP	**PKPab**	**04 45 35.5**	**+0.5**		
WDD	**Wield Dalam**	**146.90 316**	PFAKE		04 45 50.0	+11		
WDD			LR	LR				
	comp=Z,686nm,20.0s							
VSL	**Villasalto**	**147.74 326**	*e*PKPdf	**PKPdf**	**04 45 37.0**	**0.0**		
VSL			*e*PKPbc	**PKPbc**	**04 45 39.2**	**-0.6**		
VSL			LR	LR				
	comp=Z,564nm,21.0s							
LRDF	**Laroque-de-Fa**	**148.15 338**	PKP	**PKPbc**	**04 45 40.7**	**-0.1**		
SJAF	**Saint Jean de**	**148.41 337**	PKP	**PKPbc**	**04 45 41.0**	**-0.5**		
CARF	**Carcanieres**	**148.51 338**	PKP	**PKPbc**	**04 45 41.4**	**-0.5**		
MLS	**Moulis**	**148.65 339**	PKP	**PKPbc**	**04 45 41.5**	**-0.6**		
VALF	**Valcebollere**	**148.81 338**	PKP	**PKPbc**	**04 45 43.6**	**+0.9**		
MELF	**Melles**	**148.84 340**	PKP	**PKPbc**	**04 45 43.1**	**+0.4**		
LABF	**Labassere**	**148.91 341**	PKP	**PKPbc**	**04 45 44.8**	**+2.0**		
REYF	**Montagne du Re**	**149.03 341**	PKP	**PKPbc**	**04 45 44.4**	**+1.2**		
RESF	**Ens**	**149.04 340**	PKP	**PKPbc**	**04 45 44.8**	**+1.6**		
VIEF	**Viey**	**149.07 341**	PKP	**PKPbc**	**04 45 44.6**	**+1.3**		
ATE	**Arette**	**149.12 342**	PKP	**PKPbc**	**04 45 42.9**	**-0.4**		
OSSF	**Osses**	**149.13 343**	PKP	**PKPbc**	**04 45 43.9**	**+0.6**		
SHEL	**Horse Pasture**	**149.22 194**	*e*PKP2	**PKPbc**	**04 45 44.8**	**+0.4**		
SHEL			MLR	MLR				
	comp=Z,938nm,19.0s							
SHEL	**Horse Pasture**	**149.22 194**	*e*PKPbc	**PKPbc**	**04 45 44.8**	**+0.4**		
SHEL			LR	LR				
	comp=Z,938nm,19.0s							
LARF	**Larrau**	**149.25 342**	PKP	**PKPbc**	**04 45 43.9**	**+0.2**		
RCBR	**Riachuelo**	**150.13 130**	*e*PKPbc	**PKPbc**	**04 45 47.5**	**+0.8**		
RCBR			LR	LR				
	comp=Z,755nm,20.0s							
KEST	**Kesra**	**150.33 321**	PKPbc	**PKPbc**	**04 45 45.8**	**-0.8**		
	comp=Z,32nm,0.8s,baz=359,slow=3.0,SNR=60							
KEST	**Kesra**	**150.33 321**	PKPbc	**PKPbc**	**04 45 45.8**	**-0.8**		
KEST			*e*PKPbc	**PKiKP**	**04 45 46.8**	**-0.6**		
PBRG	**Braganca**	**151.79 350**	*e*PKPdf	**PKPdf**	**04 45 42.2**	**-1.2**		
PBRG	**Braganca**	**151.79 350**	PKPbc	**PKPbc**	**04 45 49.4**	**-0.4**		
PBRG	**Braganca**	**151.79 350**	*e*LR	LR	05 43 53.9			
	comp=Z,648nm,18.0s							
PGAV	**Gavieira, Arco**	**151.87 352**	PKPbc	**PKPbc**	**04 45 49.5**	**-0.5**		
PGAV	**Gavieira, Arco**	**151.87 352**	*e*LR	LR	05 40 55.7			
	comp=Z,911nm,20.0s							
PCAB	**Cabril**	**152.09 351**	PKPdf	**PKPdf**	**04 45 42.9**	**-0.9**		
PCAB	**Cabril**	**152.09 351**	PKPbc	**PKPbc**	**04 45 50.7**	**+0.3**		
POLO	**Lamas de Olo**	**152.38 351**	PKPbc	**PKPbc**	**04 45 50.5**	**-0.7**		
POLO	**Lamas de Olo**	**152.38 351**	*e*LR	LR	05 41 18.3			
	comp=Z,360nm,22.0s							
MVO	**Moncorvo**	**152.46 350**	PKPdf	**PKPdf**	**04 45 44.2**	**-0.2**		
MVO	**Moncorvo**	**152.46 350**	PKPbc	**PKPbc**	**04 45 51.6**	**+0.3**		
MVO	**Moncorvo**	**152.46 350**	*e*LR	LR	05 42 09.3			
	comp=Z,868nm,20.0s							
PVRL	**Vila Real**	**152.47 351**	PKPbc	**PKPbc**	**04 45 51.0**	**-0.3**		
PTO	**Porto**	**152.73 352**	PKPdf	**PKPdf**	**04 45 44.6**	**-0.1**		
PTO	**Porto**	**152.73 352**	PKPbc	**PKPbc**	**04 45 51.7**	**-0.1**		
PVIS	**Viseu**	**153.04 351**	PKPbc	**PKPbc**	**04 45 52.0**	**-0.6**		
ESDC	**Sonseca Array**	**153.20 344**	PKPbc	**PKPbc**	**04 45 51.7**	**-1.3**		
	comp=Z,6.4nm,0.7s,baz=357,slow=2.6,SNR=7.0							
ESDC			PKPab	**PKPab**	**04 46 03.2**	**-1.4**		
	comp=Z,7.9nm,0.7s,baz=8.1,slow=2.3,SNR=8.4							
MTE	**Manteigas**	**153.29 350**	PKPdf	**PKPdf**	**04 45 45.3**	**-0.4**		
MTE	**Manteigas**	**153.29 350**	PKPbc	**PKPbc**	**04 45 52.2**	**-1.0**		
MTE	**Manteigas**	**153.29 350**	*e*LR	LR	05 41 44.6			
	comp=Z,1μm,20.0s							
MTE	**Manteigas**	**153.29 350**	*e*PKPdf	**PKPdf**	**04 45 44.7**	**-0.9**		
MTE			*e*PKPbc	**PKPbc**	**04 45 52.0**	**-1.2**		
MTE			LR	LR				
	comp=Z,1μm,21.0s							
PAB	**San Pablo**	**153.43 344**	*e*PKIKP	**PKPdf**	**04 45 46.5**	**+0.6**		
PAB			*e*		04 45 52.5			
PAB			MLR	MLR				
	comp=Z,961nm,21.0s							
PAB	**San Pablo**	**153.43 344**	*e*PKPdf	**PKPdf**	**04 45 46.5**	**+0.6**		
PAB			*e*PKPbc	**PKPbc**	**04 45 52.5**	**-1.1**		
PAB			LR	LR				
	comp=Z,961nm,21.0s							
PCAS	**Casmilo, Conde**	**153.78 352**	PKPbc	**PKPbc**	**04 45 53.6**	**-0.6**		
PCAS	**Casmilo, Conde**	**153.78 352**	PKPab	**PKPab**	**04 46 07.6**	**+0.6**		
PCAS	**Casmilo, Conde**	**153.78 352**	*e*LR	LR	05 41 03.2			
	comp=Z,1μm,20.0s							
PCBR	**Castelo Branco**	**153.83 350**	PKPdf	**PKPdf**	**04 45 46.1**	**-0.2**		
PCBR	**Castelo Branco**	**153.83 350**	PKPbc	**PKPbc**	**04 45 52.3**	**-2.0**		
PTOM	**Tomar**	**154.19 351**	PKPdf	**PKPdf**	**04 45 47.0**	**+0.1**		
PTOM	**Tomar**	**154.19 351**	PKPbc	**PKPbc**	**04 45 54.8**	**-0.3**		
PMRV	**Marv??o**	**154.21 349**	PKPdf	**PKPdf**	**04 45 45.9**	**-1.0**		
PMRV	**Marv??o**	**154.21 349**	PKPbc	**PKPbc**	**04 45 54.7**	**-0.4**		
PMRV	**Marv??o**	**154.21 349**	*e*LR	LR	05 42 33.4			
	comp=Z,852nm,22.0s							
PMTG	**Montargil**	**154.70 351**	PKPdf	**PKPdf**	**04 45 48.9**	**+1.3**		
PMTG	**Montargil**	**154.70 351**	PKPbc	**PKPbc**	**04 45 55.8**	**-0.4**		
PMTG	**Montargil**	**154.70 351**	*e*LR	LR	05 41 49.3			
	comp=Z,1μm,18.0s							
PMAFR	**Mafra**	**154.97 352**	*e*LR	LR	05 40 48.2			
	comp=Z,789nm,20.0s							
EVO	**Evora**	**155.19 350**	PKPdf	**PKPdf**	**04 45 47.9**	**-0.4**		
EVO	**Evora**	**155.19 350**	PKPbc	**PKPdf**	**04 45 51.6**	**+3.3**		
PBAR	**Barrancos**	**155.36 348**	PKPdf	**PKPdf**	**04 45 47.7**	**-0.8**		
PBAR	**Barrancos**	**155.36 348**	*e*LR	LR	05 44 10.1			
	comp=Z,3μm,20.0s							
PNCL	**Nicolau / Gran**	**155.69 351**	*e*LR	LR	05 42 52.2			
	comp=Z,746nm,20.0s							
MESJ	**Messejana**	**155.90 350**	*e*P	**PKPdf**	**04 45 50.0**	**+0.7**		
MESJ			*e*PP	**PP**	**04 49 54.7**	**+2.6**		
MESJ			AMS	AMS	06 06 10.8			
	comp=Z,748nm,22.5s							
MESJ	**Messejana**	**155.90 350**	PKPdf	**PKPdf**	**04 45 50.0**	**+0.7**		
MESJ	**Messejana**	**155.90 350**	*e*PKIKP	**PKPdf**	**04 45 50.0**	**+0.7**		
MESJ			*e*		04 49 54.6			
PCVE	**Castro Verde**	**156.07 350**	*e*LR	LR	05 42 53.2			
	comp=Z,3μm,20.0s							
PVAQ	**Vaqueiros**	**156.24 349**	*e*LR	LR	05 41 01.1			
	comp=Z,1μm,20.0s							
PBDV	**Barranco-do-Ve**	**156.43 349**	*e*LR	LR	05 40 20.4			
	comp=Z,1μm,20.0s							
MORF	**Marmelete**	**156.50 351**	*e*P	**PKPdf**	**04 45 50.3**	**+0.2**		
MORF			AMS	AMS	05 58 32.1			
	comp=Z,678nm,19.2s							
MORF	**Marmelete**	**156.50 351**	*e*LR	LR	05 45 38.7			
	comp=Z,672nm,20.0s							
MORF	**Marmelete**	**156.50 351**	*e*PKIKP	**PKPdf**	**04 45 50.3**	**+0.2**		
ASCN	**Ascension**	**158.10 177**	PFAKE		04 46 00.0	+7.2		
ASCN			LR	LR				
	comp=Z,1μm,19.0s							
MDT	**Midelt**	**159.72 338**	PKP	**PKPdf**	**04 45 53.5**	**-0.8**		
	comp=Z,4.6nm,1.0s,baz=124,slow=7.3,SNR=2.5							
MDT			PKPab	**PKPab**	**04 46 32.6**	**-0.3**		
	comp=Z,4.1nm,0.8s,baz=58,slow=3.3,SNR=4.3							
TAM	**Tamanrasset**	**160.12 299**	*e*PKIKP	**PKPdf**	**04 45 55.3**	**+0.2**		
TAM			MLR	MLR				
	comp=Z,1μm,22.0s							
TAM	**Tamanrasset**	**160.12 299**	*e*PKPdf	**PKPdf**	**04 45 55.3**	**+0.2**		
TAM			LR	LR				
	comp=Z,1μm,22.0s							
PMOZ	**Porto Moniz, M**	**161.02 10**	*e*LR	LR	05 43 32.9			
	comp=Z,874nm,18.0s							
TOA0	**Torodi Ar. Sit**	**165.34 268**	*e*PKIKP	**PKPdf**	**04 45 59.0**	**-1.2**		
TORD	**Torodi Ar. Bea**	**165.34 268**	PKP	**PKPdf**	**04 45 58.9**	**-1.3**		
	comp=Z,9.7nm,1.0s,baz=70,slow=0.8,SNR=31							
TORD			PKPab	**PKPab**	**04 46 56.8**	**-1.3**		
	comp=Z,11nm,0.9s,baz=94,slow=2.4,SNR=8.2							
TOA1	**Torodi Ar. Sit**	**165.35 268**	*e*PKIKP	**PKPdf**	**04 45 59.0**	**-1.2**		
KIC	**Kosan Boka**	**168.57 229**	*e*PKIKP	**PKPdf**	**04 46 01.0**	**-1.7**		
	comp=Z,26nm,0.8s							
LIC	**Lamto**	**168.68 227**	*e*PKIKP	**PKPdf**	**04 46 01.6**	**-1.1**		
	comp=Z,35nm,0.9s							
DBIC	**Dimbokro**	**168.86 229**	PKP	**PKPdf**	**04 46 00.8**	**-2.1**		
	comp=Z,6.1nm,0.9s,baz=74,slow=4.5,SNR=4.0							
DBIC			PKPab	**PKPab**	**04 47 14.5**	**+1.0**		
	comp=Z,2.9nm,0.9s,baz=236,slow=3.6,SNR=1.8							
TIC	**Toumodi**	**168.97 229**	*e*PKIKP	**PKPdf**	**04 46 00.8**	**-2.1**		
	comp=Z,14nm,0.8s							
SACV	**Santiago Islan**	**170.03 84**	PFAKE		04 46 10.0	+6.5		
SACV			LR	LR				
	comp=Z,871nm,20.0s							

NNC 28 04:33:54.3±3.9, 37°35'N×7°38'E, h0km, mb3.6, mpv3.0, 4C-2D, Error ellipse: s-maj=33.8km s-min=12.5km az=166.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
DZET	**Dzherino**	**2.48**	**307**	⇑Pn	Pn	04 34 35.7		-0.5
	4.7nm,0.2s							
DZET				⇑Sn	Sn	04 35 08.9		+1.6
	31nm,0.4s							
SFK	**Sufi-Kurgan**	**3.14**	**31**	⇑Pn	Pn	04 34 44.6		-0.8
	0.4nm,0.2s							
SFK				⇓Sn	Sn	04 35 26.2		+2.5
	3.5nm,0.2s							
MNAS	**Manas**	**5.20**	**9**	⇓Sn	Sn	04 36 13.5		-1.1
	3.4nm,0.6s							
KK31	**Karatay Array**	**5.79**	**354**	Pn	Pn	04 35 21.2		-0.3
	0.5nm,0.2s,baz=178,slow=12,SNR=16							
KK31				⇑Sn	Sn	04 36 28.2		-0.4
	0.9nm,0.5s,baz=174,slow=22,SNR=8.1							

*CSEM **28** 04:43:29.1, 45°.58N×7°.91E, h18km, ML0.5*
GEN 28 04:43:29.1, 45°.58N×7°.91E, h18km, ML0.5, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
TRAV	**Traversella**	**0.13**	**240**	P	Pg	04 43 33.1		-0.1
TRAV				S	Sg	04 43 35.7		-0.3
CIRO	**Camporcher**	**0.24**	**276**	P	Pg	04 43 34.8		-0.2
CIRO				S	Sg	04 43 38.7		-0.4
SATI	**Passo dei Sala**	**0.30**	**355**	P	Pg	04 43 35.8		-0.3
SATI				S	Sg	04 43 40.3		-0.6

IDC 28 04:52:29.3±73.0, 13°.18S×168°.42E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/28, mbtmp3.7/3, Error ellipse: s-maj=1240.0km s-min=124.0km az=64.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
STKA	**Stephens Creek**	**30.84**	**228**	P	P	04 58 47.7		+0.4
	2.2nm,0.6s,baz=62,slow=8.7,SNR=5.0							
WRA	**Warramunga Arr**	**33.30**	**254**	P	P	04 59 09.4		+0.3
	0.3nm,0.7s,baz=86,slow=8.7,SNR=2.8							
ASAR	**Alice Springs**	**34.28**	**247**	P	P	04 59 16.7		-0.9
	0.4nm,0.5s,baz=79,slow=8.6,SNR=6.0							

*YARS **28** 04:57:32.3±0.8, 67°.85N±0°.03×142°.7E±0°.1, h10km, MSV3.6*
*IDC **28** 04:57:36.5±0.9, 67°.97N×141°.75E, h0km, mb3.7/13, mb1 3.9/14, mb1mx3.6/49, mbtmp3.7/14, ML2.5/1, Error ellipse: s-maj=21.9km s-min=17.4km az=175.0*
*MOS **28** 04:57:37.8±0.9, 67°.95N×141°.84E, h24km, mb4.1/4, Error ellipse: s-maj=33.5km s-min=15.2km az=101.4*
ISC 28 04:57:37.7±0.6, 67°.86N±0°.04×141°.25E±0°.05, h10km, n33, σ1°74/38, mb3.7/14, 1C, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
DEPR	**Deputatskiy**	**1.62**	**343**	*e*P	**Pb**	**04 58 07.2**		**-0.5**
DEPR				Pm		04 58 07.2		
	comp=Z,125nm,0.3s							
DEPR				*e*S	**Sg**	**04 58 30.8**		**+1.1**
DEPR				Sm		04 58 30.8		
	comp=E,204nm,0.3s,comp=N,2μm,0.3s							
BTGS	**Batagay**	**2.52**	**268**	*e*P	**Pb**	**04 58 22.2**		**-0.8**
BTGS				*e*P	**Pg**	**04 58 27.8**		**+1.8**
BTGS				*e*S	Sg	04 59 05.9		+7.3
BTGS				Sm		04 59 05.9		
	comp=N,538nm,0.3s							
UNR	**Ust'-Nera**	**3.40**	**165**	*e*P	Pn	04 58 33.3		+2.6
UNR				*e*S	**Sn**	**04 59 14.2**		**+3.2**
ATKR	**Artyk**	**4.02**	**155**	*e*P	Pn	04 58 29.5		-10
ATKR				*e*P	Pb	04 58 38.4		-10
ATKR				Pm		04 58 38.4		
	comp=Z,13nm,0.3s							
ATKR				*e*S	**Sn**	**04 59 29.6**		**+3.2**
ATKR				Sm		04 59 29.6		
	comp=N,306nm,0.3s							
TIXI	**Tiksi**	**5.73**	**317**	*c i*P	Pn	04 59 06.0		+3.3
TIXI	**Tiksi**	**5.73**	**317**	*e*P	Pn	04 58 52.7		-10
TIXI				*e*S	**Sn**	**05 00 07.5**		**-1.0**
TIXI				*e*S	**Sg**	**05 00 40.1**		**-1.4**
TIXI				Sm		05 00 40.1		
	comp=N,84nm,0.5s							
SEY	**Seymchan**	**6.78**	**132**	Pn	**Pn**	**04 59 16.6**		**-0.5**
	comp=N,0.1nm,0.3s,baz=312,slow=16,SNR=2.0							
SEY				Lg	Lg	05 01 05.0		
	comp=N,2.0nm,0.3s,baz=225,slow=20,SNR=5.2							
SEY	**Seymchan**	**6.78**	**132**	*e*P	**Pn**	**04 59 17.1**		**0.0**
YAK	**Yakutsk**	**7.62**	**225**	*e*S	**Sn**	**05 00 55.2**		**+0.3**
YAK				*e*S	**Sg**	**05 01 40.6**		**-1.4**
YAK				Sm		05 01 40.6		
	comp=E,77nm,0.0s							
USMR	**Ust'-Maya**	**8.01**	**205**	*e*P	**Pn**	**04 59 33.4**		**-0.6**
USMR				*e*S	**Sn**	**05 01 04.1**		**-0.5**
USMR				*e*S	**Sg**	**05 01 49.3**		**-5.3**
BILL	**Bilibino**	**9.39**	**77**	*e*P	**Pn**	**04 59 51.1**		**-1.7**
USRK	**Ussuriysk Ar.**	**24.21**	**196**	P	**P**	**05 02 55.4**		**+1.2**
	comp=E,0.6nm,0.6s,baz=30,slow=12,SNR=5.1							
COLA	**College**	**27.16**	**62**	*i* P	**P**	**05 03 18.5**		**-2.1**
COLA				pmax	pmax			
	comp=Z,34nm,2.5s							
ILAR	**Eielson Array**	**27.55**	**62**	P	**P**	**05 03 22.1**		**-2.0**
	comp=Z,0.4nm,0.7s,baz=302,slow=8.8,SNR=7.3							
ILAR	**Eielson Array**	**27.55**	**62**	*e*P	**P**	**05 03 22.6**		**-1.6**
SPITS	**Spitsbergen Ar**	**30.60**	**341**	P	**P**	**05 03 51.7**		**+0.6**
	comp=Z,0.9nm,0.5s,baz=47,slow=13,SNR=11							
SPITS	**Spitsbergen Ar**	**30.60**	**341**	P	**P**	**05 03 51.7**		**+0.6**
SPITS				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**36.23**	**265**	P	**P**	**05 04 42.1**		**+1.7**
	comp=Z,1.0nm,0.5s,baz=44,slow=7.0,SNR=14							
MKAR	**Makanchi Array**	**36.23**	**265**	*e*P	**P**	**05 04 42.4**		**+2.0**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
YKA	**Yellowknife Ar**	**39.06**	**46**	P	**P**	**05 05 02.4**		**-1.7**
	comp=Z,0.4nm,0.6s,baz=322,slow=8.1,SNR=5.4							
AKTO	**Aktyubinsk**	**42.27**	**289**	P	**P**	**05 05 33.0**		**+2.2**
	comp=Z,0.5nm,0.4s,baz=59,slow=9.9,SNR=3.9							
AKTO	**Akt

DZM				Sn	Sn	05 06 34.0	+0.5	
	0.6nm,0.3s,baz=90,slow=20,SNR=1.9							
STKA	**Stephens Creek**	**28.95**	**227**	P	P	05 08 58.5	+1.0	
	5.1nm,0.6s,baz=56,slow=6.9,SNR=8.8							
WRA	**Warramunga Arr**	**31.16**	**254**	P	P	05 09 16.1	-1.0	
	1.8nm,0.9s,baz=82,slow=9.0,SNR=5.2							
ASAR	**Alice Springs**	**32.16**	**247**	P	P	05 09 26.2	+0.3	
	1.0nm,0.6s,baz=74,slow=9.2,SNR=7.8							
ILAR	**Eielson Array**	**85.85**	**18**	P	P	05 15 38.1	+0.7	
	0.6nm,0.6s,baz=240,slow=5.8,SNR=9.0							
ARCES	**ARCESS Array B**	**119.01**	**345**	PKP	PKPdf	05 21 44.7	-1.7	
	1.7nm,0.9s,baz=72,slow=2.9,SNR=4.0							

*IDC **28** 05:17:57.0±1.6, 13.°57S×166.°69E, h0km, mb4.1/6, mb1 4.2/7, mb1mx3.9/34, mbtmp4.0/7, ML3.2/1, Error ellipse: s-maj=47.3km s-min=25.8km az=122.0*
*ISCJB **28** 05:18:01.2±1.3, 13.°76S±0.°08×166.°6E±0.°2, h39km, mb4.0/6, Error ellipse: s-maj=30.9km s-min=11.2km az=173.8*

ISC 28 05:18:02.8±1.3, 13.°7S±0.°1×166.°7E±0.°2, h39km, n7, σ1=3.0/8, mb3.9/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.37**	**182**	Pn	**Pn**	**05 20 02.7**	**+1.0**
	0.3nm,0.3s,baz=91,slow=24,SNR=2.8						
DZM				Sn	**Sn**	**05 21 34.1**	**-0.8**
	0.1nm,0.3s,baz=270,slow=24,SNR=1.5						
STKA	**Stephens Creek**	**29.28**	**228**	P	**P**	**05 24 01.2**	**-0.3**
	1.2nm,0.5s,baz=60,slow=16,SNR=4.6						
WRA	**Warramunga Arr**	**31.56**	**254**	P	**P**	**05 24 21.3**	**-0.6**
	0.7nm,0.7s,baz=86,slow=9.1,SNR=10						
ASAR	**Alice Springs**	**32.55**	**247**	P	**P**	**05 24 29.7**	**-0.8**
	0.8nm,0.6s,baz=74,slow=9.3,SNR=15						
CMAR	**Chiang Mai Arr**	**74.01**	**294**	P	**P**	**05 29 36.4**	**+1.4**
	1.7nm,0.3s,baz=133,slow=4.9,SNR=6.1						
ILAR	**Eielson Array**	**85.69**	**18**	P	**P**	**05 30 36.3**	**-0.9**
	0.6nm,0.5s,baz=242,slow=4.9,SNR=18						
MKAR	**Makanchi Array**	**96.05**	**317**	P	**P**	**05 31 26.2**	**0.0**
	0.9nm,0.7s,baz=101,slow=6.3,SNR=6.5						

*DDA **28** 05:21:27.0, 34.°14N×26.°33E, h16km, MD3.6*
*IDC **28** 05:21:27.0±1.0, 34.°36N×26.°15E, h0km, mb4.0/13, mb1 4.0/20, mb1mx3.8/45, mbtmp3.9/20, ML3.7/7, Error ellipse: s-maj=21.7km s-min=15.2km az=4.0*
*CSEM **28** 05:21:30.3±0.3, 34.°30N×26.°29E, h10km, ML3.2, Error ellipse: s-maj=6.4km s-min=2.9km az=17.0*
*THE **28** 05:21:34.1, 34.°47N×26.°12E, h5km±2km, ML3.2/3, Error ellipse: s-maj=3.6km s-min=1.6km az=195.0*
*ATH **28** 05:21:34.5, 34.°50N×26.°14E, h41km±2km, MD3.6/7*

ISC 28 05:21:29.5±1.6, 34.°20N±0.°06×26.°20E±0.°03, h24km±11km, n106, σ1=9.18/125, mb3.8/14, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.91**	**1**	P	**Pb**	**05 21 46.4**	**-0.2**
ZKR	**Zakros**	**0.91**	**1**	P	**Pb**	05 21 46.4	-0.2
LAST	**Lasithi**	**1.12**	**328**	P	**Pb**	05 21 50.9	+0.6
LAST				S	**Sb**	05 22 03.2	-1.4
LAST	**Lasithi**	**1.12**	**328**	*e*P	**Pb**	05 21 51.2	+0.9
LAST				*e*S	**Sb**	05 22 03.6	-1.0
LAST	**Lasithi**	**1.12**	**328**	*e*P	**Pb**	05 21 51.2	+0.9
LAST				*e*S	**Sb**	05 22 03.6	-1.0
NPS	**Neapolis**	**1.16**	**336**	P	**Pb**	05 21 51.5	+0.6
NPS				S	**Sn**	05 22 05.4	0.0
NPS	**Neapolis**	**1.16**	**336**	*e*P	**Pb**	05 21 51.6	+0.6
NPS				*e*S	**Sn**	05 22 03.8	-1.6
NPS	**Neapolis**	**1.16**	**336**	P	**Pb**	05 21 51.5	+0.6
NPS				S	**Sn**	05 22 05.4	0.0
SIVA	**Sivas**	**1.40**	**306**	P	**Pb**	05 21 56.5	+1.5
SIVA	**Sivas**	**1.40**	**306**	*e*P	**Pb**	05 21 56.7	+1.7
SIVA	**Sivas**	**1.40**	**306**	P	**Pb**	05 21 56.5	+1.5
IDI	**Anoyia**	**1.53**	**316**	Pn	**Pb**	**05 21 58.4**	**+1.3**
	12nm,0.3s,baz=135,slow=11,SNR=70						
IDI				Sn	**Sn**	**05 22 13.7**	**-0.8**
	9.7nm,0.3s,baz=107,slow=19,SNR=10						
KARP	**Karpathos**	**1.56**	**30**	P	**Pb**	05 21 58.4	+0.8
KARP				S	**Sb**	05 22 17.2	+0.2
KARP	**Karpathos**	**1.56**	**30**	*e*P	**Pb**	05 21 58.5	+0.8
KARP				*e*S	**Sn**	05 22 15.6	+0.4
KARP	**Karpathos**	**1.56**	**30**	P	**Pb**	05 21 58.4	+0.8
KARP				*e*S	**Sn**	05 22 15.6	+0.4
KARN	**Karanos**	**2.23**	**303**	P	**Pb**	05 22 07.8	-1.2
KARN	**Karanos**	**2.23**	**303**	*e*P	**Pb**	05 22 07.9	-1.1
KARN	**Karanos**	**2.23**	**303**	*e*P	**Pb**	05 22 07.9	-1.1
THR5	**Thira Island,**	**2.32**	**343**	*e*PN	**Pn**	05 22 07.2	+1.1
THR5	**Thira Island,**	**2.32**	**343**	P	**Pn**	05 22 07.4	+1.3
THR5	**Thira Island,**	**2.32**	**343**	*e*Pn	**Pn**	05 22 07.2	+1.1
THR5	**Thira Island,**	**2.32**	**343**	P	**Pn**	05 22 07.4	+1.3
ARG	**Arkhangelos**	**2.56**	**38**	P	**Pb**	05 22 12.4	-2.2
ARG	**Arkhangelos**	**2.56**	**38**	*e*P	**Pb**	05 22 12.4	-2.2
ARG	**Arkhangelos**	**2.56**	**38**	*e*P	**Pb**	05 22 12.4	-2.2
DAT	**Datca**	**2.76**	**24**	*e*PN	**Pn**	05 22 13.7	+1.3
DAT	**Datca**	**2.76**	**24**	*e*Pn	**Pn**	05 22 13.7	+1.3
ANKY	**Antikythira Is**	**2.90**	**306**	*e*P	**Pb**	05 22 17.5	-3.0
ANKY	**Antikythira Is**	**2.90**	**306**	*e*P	**Pb**	05 22 17.5	-3.0
APE	**Apeiranthos**	**2.91**	**349**	*e*PN	**Pn**	05 22 15.6	+1.2
APE	**Apeiranthos**	**2.91**	**349**	P	**Pn**	05 22 15.2	+0.8
APE				S	**Sn**	05 22 48.8	+0.2
APE	**Apeiranthos**	**2.91**	**349**	*e*P	**Pn**	05 22 15.9	+1.5
APE	**Apeiranthos**	**2.91**	**349**	P	**Pn**	05 22 15.2	+0.8
APE	**Apeiranthos**	**2.91**	**349**	*e*Pn	**Pn**	05 22 15.6	+1.2
APE				S	**Sn**	05 22 48.8	+0.2
BODT	**Bodrum**	**2.99**	**17**	*e*PN	**Pn**	05 22 16.1	+0.6
BODT	**Bodrum**	**2.99**	**17**	*e*Pn	**Pn**	05 22 16.1	+0.6
BDRM	**Kayabasi**	**3.03**	**19**	*i* P	**Pn**	05 22 17.3	+1.3
BDRM				*i* S	**Sn**	05 22 51.4	-0.1
BDRM	**Kayabasi**	**3.03**	**19**	*i* P	**Pn**	05 22 17.3	+1.3
BDRM				*i* S	**Sn**	05 22 51.4	-0.1
DALY	**Dalyan (Mu¨la**	**3.29**	**37**	*e*PN	**Pn**	05 22 19.8	+0.3
DALY	**Dalyan (Mu¨la**	**3.29**	**37**	*e*Pn	**Pn**	05 22 19.8	+0.3
YER	**Yerkesik**	**3.38**	**30**	*e*PN	**Pn**	05 22 21.5	+0.6
YER	**Yerkesik**	**3.38**	**30**	*e*Pn	**Pn**	05 22 21.5	+0.6
FETY	**Fethiye**	**3.38**	**43**	*e*PN	**Pn**	05 22 21.5	+0.7
FETY	**Fethiye**	**3.38**	**43**	*e*Pn	**Pn**	05 22 21.5	+0.7
SMG	**Samos**	**3.54**	**8**	*e*P	**Pn**	05 22 24.5	+1.6
SMG	**Samos**	**3.54**	**8**	*e*P	**Pn**	05 22 24.5	+1.6
AYDN	**Tasoluk**	**3.71**	**21**	*i* P	**Pn**	05 22 26.9	+1.5
AYDN				*i* S	**Sn**	05 23 08.1	-0.3
AYDN	**Tasoluk**	**3.71**	**21**	*i* P	**Pn**	05 22 26.9	+1.5
AYDN				*i* S	**Sn**	05 23 08.1	-0.3
ELL	**Elmali**	**3.95**	**49**	*e*PN	**Pn**	05 22 29.3	+0.5
ELL	**Elmali**	**3.95**	**49**	*e*Pn	**Pn**	05 22 29.3	+0.5
AYDB	**Zeytinkoy-Aydi**	**3.98**	**20**	*e*PN	**Pn**	05 22 29.7	+0.6
AYDB	**Zeytinkoy-Aydi**	**3.98**	**20**	*e*Pn	**Pn**	05 22 29.7	+0.6
DID	**Didima**	**4.08**	**325**	P	**Pn**	05 22 31.5	+1.1
DID				S	**Sn**	05 23 17.1	-0.3
DID	**Didima**	**4.08**	**325**	P	**Pn**	05 22 31.5	+1.1
CHOS	**Chios island**	**4.18**	**358**	*e*PN	**Pn**	05 22 32.5	+0.8
CHOS	**Chios island**	**4.18**	**358**	P	**Pn**	05 22 32.8	+1.0
CHOS	**Chios island**	**4.18**	**358**	*e*Pn	**Pn**	05 22 32.6	+0.8
CHOS	**Chios island**	**4.18**	**358**	P	**Pn**	05 22 32.8	+1.0
DNZL	**Cakiroluk**	**4.18**	**33**	*i* P	**Pn**	05 22 33.2	+1.3
DNZL	**Cakiroluk**	**4.18**	**33**	*i* P	**Pn**	05 22 33.2	+1.3
DNZL				*i* S	Sn	05 23 13.2	-6.8
KULA	**Kula-Manisa**	**4.74**	**24**	*e*PN	**Pn**	05 22 39.8	+0.3
KULA	**Kula-Manisa**	**4.74**	**24**	*e*Pn	**Pn**	05 22 39.8	+0.3
BCK	**Bucak**	**4.83**	**46**	*e*PN	**Pn**	05 22 41.2	+0.5
BCK	**Bucak**	**4.83**	**46**	*e*Pn	**Pn**	05 22 41.2	+0.5
KHAL	**Karahalli**	**4.94**	**32**	*i* P	Pb	05 23 05.4	+10
KHAL				*i* S	**Sb**	05 23 57.8	+3.6
GAZI	**Gazipasa**	**5.40**	**66**	*i* P	**Pn**	05 22 49.0	+0.4
GAZI	**Gazipasa**	**5.40**	**66**	*i* P	**Pn**	05 22 49.0	+0.4
GAZI				*i* S	Sn	05 23 44.6	-5.4
LEF	**Lefka**	**5.59**	**79**	*e*P	**Pn**	05 22 51.5	+0.4
LEF	**Lefka**	**5.59**	**79**	*e*P	**Pn**	05 22 51.5	+0.4
AGG	**Agios Georgios**	**5.73**	**328**	*e*P	**Pn**	05 22 55.3	+2.3
AGG	**Agios Georgios**	**5.73**	**328**	*e*P	**Pn**	05 22 55.3	+2.3
TVSB	**Tavsanli**	**5.85**	**26**	*e*P	**Pn**	05 22 56.0	+1.2
TVSB	**Tavsanli**	**5.85**	**26**	*e*P	**Pn**	05 22 56.0	+1.2
CSS	**Prodhromos**	**5.93**	**81**	*e*P	**Pn**	05 22 57.0	+1.1
CSS	**Prodhromos**	**5.93**	**81**	*e*P	**Pn**	05 22 57.0	+1.1
LFK	**Lefkose**	**6.13**	**78**	*e*P	**Pn**	05 22 59.4	+0.7
LFK	**Lefkose**	**6.13**	**78**	*e*P	**Pn**	05 22 59.4	+0.7
KONT	**Konya--Tatoy**	**6.23**	**51**	*e*P	**Pn**	05 23 01.8	+1.8
KONT	**Konya--Tatoy**	**6.23**	**51**	*e*P	**Pn**	05 23 01.8	+1.8
EREN	**Erenkoy**	**6.69**	**76**	*e*P	**Pn**	05 23 07.1	+0.9
EREN	**Erenkoy**	**6.69**	**76**	*e*P	**Pn**	05 23 07.1	+0.9
KIZK	**Mersin**	**6.88**	**68**	*i* P	**Pn**	05 23 09.3	+0.5
KIZK	**Mersin**	**6.88**	**68**	*i* P	**Pn**	05 23 09.3	+0.5
KIZK				*i* S	Sn	05 24 18.3	-8.0
MERS	**Mersin**	**7.29**	**66**	*e*P	**Pn**	05 23 15.3	+0.8
MERS	**Mersin**	**7.29**	**66**	*e*P	**Pn**	05 23 15.3	+0.8
MMAI	**Mount Meron Ar**	**7.77**	**96**	Pn	**Pn**	05 23 21.2	0.0
	3.0nm,0.3s,baz=271,slow=11,SNR=5.6						
MMAI				Sn	**Sn**	05 24 47.8	-0.6
	5.0nm,0.3s,baz=266,slow=22,SNR=5.8						
BRTR	**Keskin Array B**	**8.11**	**45**	Pn	**Pn**	05 23 26.8	+0.9
	0.2nm,0.3s,baz=214,slow=10,SNR=7.7						
BRTR				Sn	**Sn**	05 24 54.2	-2.7
	0.1nm,0.3s,baz=227,slow=24,SNR=2.6						
EIL	**Elat**	**8.70**	**119**	Pn	**Pn**	05 23 34.5	+0.7
	0.6nm,0.3s,baz=323,slow=10,SNR=6.5						
EIL				Sn	Sn	05 25 03.9	-7.4
	1.2nm,0.3s,baz=143,slow=1.1,SNR=5.2						
ASF	**Jabal al Asfar**	**9.19**	**100**	Pn	**Pn**	05 23 40.7	0.0
	0.3nm,0.3s,baz=225,slow=5.3,SNR=2.7						
KBZ	**Khabaz**	**16.07**	**49**	Pn	**P**	05 25 17.4	+0.4
	0.1nm,0.3s,baz=233,slow=20,SNR=6.1						
AKASG	**Malin Array Be**	**16.64**	**7**	Pn	**Pn**	05 25 19.9	-1.0
	2.0nm,0.3s,baz=194,slow=10,SNR=12						
GERES	**GERESS Array B**	**17.33**	**331**	P	**Pn**	05 25 27.9	-1.8
	0.2nm,0.3s,baz=149,slow=12,SNR=2.5						
ESDC	**Sonseca Array**	**24.65**	**292**	P	**P**	05 26 49.1	+0.8
	1.0nm,0.6s,baz=80,slow=9.4,SNR=4.8						
HFS	**Hagfors**	**27.20**	**346**	P	**P**	05 27 10.0	-1.0
	0.8nm,0.5s,baz=126,slow=9.5,SNR=5.4						
FINES	**FINESS Array B**	**27.26**	**360**	P	**P**	05 27 10.6	-0.9
	0.4nm,0.3s,baz=161,slow=11,SNR=5.1						
NOA	**NORSAR Array B**	**28.54**	**345**	P	**P**	05 27 22.5	-0.6
	0.7nm,0.8s,baz=156,slow=8.8,SNR=2.4						
EKA	**Eskdalemuir Ar**	**29.31**	**325**	P	**P**	05 27 29.6	-0.3
	1.4nm,0.7s,baz=121,slow=11,SNR=5.5						
TORD	**Torodi Ar. Bea**	**30.56**	**233**	P	**P**	05 27 43.4	+2.0
	0.2nm,0.3s,baz=32,slow=8.9,SNR=6.6						
ARCES	**ARCESS Array B**	**35.39**	**360**	P	**P**	05 28 21.7	-1.2
	0.5nm,0.4s,baz=182,slow=8.8,SNR=9.5						
BVAR	**Borovoye Array**	**36.40**	**45**	P	**P**	05 28 33.0	+1.1
	0.7nm,0.5s,baz=248,slow=7.6,SNR=4.5						
KURBB	**Kurchatov Arra**	**41.07**	**50**	P	**P**	05 29 12.2	+1.2
	4.7nm,0.5s,baz=277,slow=8.8,SNR=44						
MKAR	**Makanchi Array**	**43.60**	**56**	P	**P**	05 29 33.0	+1.3
	3.2nm,0.6s,baz=277,slow=6.2,SNR=44						
ZALV	**Zalesovo Beam**	**45.06**	**45**	P	**P**	05 29 43.3	+0.1
	2.4nm,0.4s,baz=270,slow=8.5,SNR=5.8						
SCHQ	**Scheffervill**	**64.47**	**320**	P	**P**	05 32 04.3	+0.5
	1.6nm,0.4s,baz=68,slow=1.5,SNR=8.0						
USRK	**Ussuriysk Ar.**	**76.91**	**45**	P	**P**	05 33 18.4	-1.3
	2.2nm,0.8s,baz=293,slow=7.4,SNR=4.2						
YKA	**Yellowknife Ar**	**78.62**	**343**	P	**P**	05 33 29.1	+0.3
	0.3nm,0.6s,baz=28,slow=5.3,SNR=4.6						

*IDC **28** 05:26:11.0±0.6, 12.°73S×166.°20E, h0km, mb4.3/18, mb1 4.4/19, mb1mx4.3/25, mbtmp4.3/19, ML3.5/1, MS4.0/4, Ms1 4.0/4, ms1mx3.6/22, Error ellipse: s-maj=23.7km s-min=15.0km az=102.0*
*ISCJB **28** 05:26:15.3±0.5, 12.°72S±0.°05×166.°1E±0.°1, h40km, mb4.3/22, MS4.0/3, Error ellipse: s-maj=14.3km s-min=7.8km az=0.8*
*NEIC **28** 05:26:17.1±1.9, 12.°74S×166.°16E, h42km±17km, mb4.4/10, Error ellipse: s-maj=11.4km s-min=10.3km az=62.0*

ISC 28 05:26:17.2±0.5, 12.°67S±0.°07×166.°1E±0.°1, h40km, n42, σ1=3.0/44, mb4.3/22, MS4.0/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.35**	**178**	Pn	**Pn**	**05 28 28.1**	**-1.4**
	0.4nm,0.3s,baz=270,slow=24,SNR=5.2						
DZM				Sn	**Sn**	05 30 17.3	+3.8
	baz=270,slow=24,SNR=11						
DZM				LR	LR	05 31 24.9	
	comp=Z,410nm,19.6s,baz=0.0,slow=34						
MSVF	**Nonsavu**	**12.57**	**115**	*e*Pn	P	05 29 19.8	-4.6
	58nm,1.4s						
EIDS	**Eidsvold**	**18.99**	**226**	*e*P	**Pn**	05 30 36.3	-0.2
	13nm,1.0s						
CTA	**Charters Tower**	**20.42**	**246**	P	**P**	05 30 51.8	+0.7
	9.5nm,0.8s,baz=76,slow=15,SNR=8.1						
CTA				S	**S**	05 34 37.4	-0.4
	0.8nm,0.3s,baz=210,slow=20,SNR=2.1						
CTAO	**Charters Tower**	**20.42**	**246**	*e*P	**P**	05 30 51.6	+0.5
	18nm,1.1s						
COEN	**Coen**	**22.36**	**264**	*e*P	**P**	05 31 11.9	-0.2
	18nm,1.1s						
STKA	**Stephens Creek**	**29.54**	**226**	P	**P**	05 32 17.9	-0.2
	3.6nm,0.8s,baz=24,slow=8.7,SNR=5.7						
STKA				LR	LR	05 44 26.4	
	comp=Z,405nm,18.4s,baz=38,slow=37						
STKA	**Stephens Creek**	**29.54**	**226**	*e*P	**P**	05 32 17.7	-0.5
	3.1nm,1.1s						
RPZ	**Rata Peaks**	**31.22**	**173**	P	**P**	05 32 31.5	-1.3
	17nm,0.8s,baz=328,slow=4.6,SNR=5.4						
WRAB	**Tennant Creek**	**31.29**	**252**	*e*P	**P**	05 32 32.4	-1.3
	5.4nm,1.1s						
WRA	**Warramunga Arr**	**31.30**	**252**	P	**P**	05 32 32.5	-1.4
	1.4nm,0.7s,baz=83,slow=8.8,SNR=12						
WRA				ScP	**ScP**	05 39 13.2	+5.6
	0.3nm,1.0s,baz=88,slow=3.5,SNR=2.8						
WRA				LR	LR	05 44 14.5	
	comp=Z,246nm,21.2s,baz=80,slow=35						
ASAR	**Alice Springs**	**32.42**	**246**	P	**P**	05 32 42.0	-1.8
	2.4nm,0.8s,baz=75,slow=9.4,SNR=23						
ASAR				LR	LR	05 44 27.7	
	comp=Z,335nm,20.4s,baz=86,slow=34						
MJAR	**Matsushiro Arr**	**55.58**	**333**	P	**P**	05 35 48.6	-0.2
	2.2nm,0.6s,baz=163,slow=8.1,SNR=5.3						
ASAJ	**Asahikawa**	**60.44**	**341**	P	**P**	05 36 24.1	+1.3
	7.6nm,0.7s,baz=119,slow=10,SNR=4.4						
KSRS	**Korea Array**	**61.42**	**326**	P	**P**	05 36 29.9	+0.5
	0.9nm,0.6s,baz=132,slow=6.8,SNR=4.8						
KSAR	**Wonju Array Be**	**61.43**	**326**	P	**P**	05 36 29.9	+0.4
USRK	**Ussuriysk Ar.**	**64.56**	**333**	P	**P**	05 36 51.2	+1.0
	3.9nm,0.9s,baz=128,slow=5.8,SNR=9.3						
VNDA	**Vanda**	**64.88**	**181**	P	**P**	05 36 51.4	-0.5
	1.0nm,0.7s,baz=358,slow=5.4,SNR=7.9						
VNDA	**Vanda**	**64.88**	**181**	*e*P	**P**	05 36 51.5	-0.3
	1.8nm,0.8s						
SBA	**Scott Base**	**65.18**	**180**	*e*P	**P**	05 36 53.9	0.0
	3.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**73.10**	**294**	P	**P**	05 37 45.3	+1.4
	1.2nm,0.3s,baz=111,slow=3.2,SNR=4.8						
SEY	**Seymchan**	**76.12**	**354**	P	**P**	05 38 00.6	+0.1
	3.4nm,0.8s,baz=173,slow=5.9,SNR=9.6						
QSPA	**South Pole Qui**	**77.34**	**180**	*e*P	**P**	05 38 07.2	-0.5
	26nm,1.0s						
SONM	**Songino Array**	**80.19**	**324**	P	**P**	05 38 24.2	+0.7
	1.0nm,0.6s,baz=140,slow=4.9,SNR=3.2						
BILL	**Bilibino**	**80.50**	**0**	*e*P	**P**	05 38 24.5	-0.1
	8.2nm,1.1s						
TLY	**Talaya**	**83.67**	**326**	P	**P**	05 38 42.2	+0.5
	2.3nm,0.6s,baz=125,slow=4.1,SNR=6.1						
TLY	**Talaya**	**83.67**	**326**	*e*P	**P**	05 38 42.3	+0.7
	9.2nm,1.0s						
ILAR	**Eielson Array**	**84.93**	**18**	P	**P**	05 38 46.7	-1.0
	1.2nm,0.7s,baz=245,slow=4.9,SNR=17						
NVAR	**Mina Array Bea**	**86.79**	**50**	P	**P**	05 38 58.0	+0.2
	0.4nm,0.5s,baz=228,slow=7.1,SNR=3.9						
MKAR	**Makanchi Array**	**94.95**	**317**	P	**P**	05 39 35.0	-0.5
	0.9nm,0.7s,baz=93,slow=6.4,SNR=10						
ZALV	**Zalesovo Beam**	**95.08**	**324**	P	**P**	05 39 35.0	-0.9
	1.1nm,0.6s,baz=114,slow=3.7,SNR=6.1						
ARCES	**ARCESS Array B**	**117.99**	**345**	PKP	**PKPdf**	05 44 58.4	-0.8
	1.7nm,0.7s,baz=92,slow=2.1,SNR=13						
FINES	**FINESS Array B**	**123.41**	**338**	PKP	**PKPdf**	05 45 09.0	-0.7
	1.5nm,0.7s,baz=122,slow=7.2,SNR=4.4						
NOA	**NORSAR Array B**	**128.36**	**345**	PKP	**PKPdf**	05 45 19.0	-0.3
	0.8nm,0.9s,baz=28,slow=2.4,SNR=3.0						
AKASG	**Malin Array Be**	**128.41**	**326**	PKP	**PKPdf**	05 45 19.6	0.0
	0.2nm,0.3s,baz=46,slow=1.8,SNR=6.9						
BRTR	**Keskin Array B**	**130.32**	**312**	PKP	**PKPdf**	05 45 23.4	-0.4
	0.3nm,0.5s,baz=107,slow=2.8,SNR=3.6						
GERES	**GERESS Array B**	**137.31**	**333**	PKP	**PKPdf**	05 45 36.9	+0.3
	0.3nm,0.2s,baz=15,slow=4.1,SNR=4.5						
BNI	**Bardonecchia**	**143.27**	**335**	*e*PKPdf	PKPbc	05 45 45.0	+0.5
KEST	**Kesra**	**148.92**	**322**	PKPbc	**PKPbc**	05 46 01.6	+0.4
	6.2nm,0.8s,baz=323,slow=1.8,SNR=21						
KEST	**Kesra**	**148.92**	**322**	*e*PKPbc	**PKPbc**	05 46 01.9	+0.6
ESDC	**Sonseca Array**	**151.71**	**344**	PKPbc	**PKPbc**	05 46 08.3	+0.4
	1.8nm,0.7s,baz=14,slow=1.7,SNR=12						
ESDC				PKPab	**PKPab**	05 46 15.9	-0.7
	0.6nm,0.4s,baz=6.7,slow=2.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**164.81**	**274**	PKPab	**PKPab**	05 47 14.4	+0.5
	1.2nm,1.1s,baz=93,slow=5.0,SNR=3.4						

*IDC **28** 05:30:10.6±1.0, 13.°74S×166.°67E, h0km, mb4.2/14, mb1 4.3/14, mb1mx4.2/21, mbtmp4.1/14, Error ellipse: s-maj=34.9km s-min=18.0km az=123.0*
*ISCJB **28** 05:30:15.3±0.7, 13.°7S±0.°1×166.°5E±0.°1, h39km, mb4.1/16, Error ellipse: s-maj=23.6km s-min=12.2km az=33.6*
*NEIC **28** 05:30:16.1±0.7, 13.°71S×166.°64E, h35km, mb4.1/6, Error ellipse: s-maj=23.5km s-min=11.9km az=128.0*

ISC 28 05:30:16.8±0.8, 13.°7S±0.°1×166.°6E±0.°2, h39km, n23, σ1=3.6/36, mb4.2/16, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIDS	**Eidsvold**	**18.67**	**229**	*e*P	**Pn**	**05 34 33.7**	**+1.4**
	6.7nm,0.8s						
CTA	**Charters Tower**	**20.50**	**249**	P	**P**	05 34 52.0	+0.3
	3.7nm,0.5s,baz=93,slow=12,SNR=5.7						
CTAO	**Charters Tower**	**20.50**	**249**	*e*P	**P**	05 34 51.8	+0.1
	15nm,1.2s						
STKA	**Stephens Creek**	**29.21**	**228**	P	**P**	05 36 15.9	+1.0
	3.1nm,0.6s,baz=63,slow=7.8,SNR=7.4						
STKA	**Stephens Creek**	**29.21**	**228**	*e*P	**P**	05 36 13.3	-1.6
	1.3nm,0.7s						
WRAB	**Tennant Creek**	**31.48**	**254**	*e*P	**P**	05 36 34.8	-0.4
	3.6nm,0.9s						
WRA	**Warramunga Arr**	**31.50**	**254**	P	**P**	05 36 34.0	-1.2
	1.1nm,0.7s,baz=86,slow=9.5,SNR=10						
WRA				ScP	**ScP**	05 43 11.0	+3.0
	0.9nm,1.1s,baz=81,slow=4.5,SNR=4.1						
ASAR	**Alice Springs**	**32.48**	**247**	P	**P**	05 36 42.7	-1.2
	1.9nm,0.7s,baz=75,slow=9.7,SNR=16						
ASAR				ScP	**ScP**	05 43 13.5	+2.1
	0.6nm,0.9s,baz=75,slow=3.9,SNR=5.7						
MJAR	**Matsushiro Arr**	**56.72**	**333**	P	**P**	05 39 54.5	-2.2
	1.5nm,0.9s,baz=165,slow=8.8,SNR=4.5						
VNDA	**Vanda**	**63.87**	**181**	P	**P**	05 40 44.7	-0.2
	0.3nm,0.6s,baz=319,slow=6.1,SNR=2.9						
USRK	**Ussuriysk Ar.**	**65.70**	**333**	P	**P**	05 40 58.0	+0.6
	2.8nm,0.8s,baz=134,slow=5.5,SNR=7.0						
PETK	**Petropavlovsk-**	**66.98**	**354**	P	**P**	05 41 06.7	+1.4
	1.7nm,0.7s,baz=169,slow=1.5,SNR=3.3						
CMAR	**Chiang Mai Arr**	**73.98**	**294**	P	**P**	05 41 49.5	+0.7

AKASG	Malin Array Be	75.55	352	P	P	05 57 52.3	-0.5
	0.4nm,0.3s,baz=10,slow=5.6,SNR=4.2						
CMAR	Chiang Mai Arr	79.81	287	P	P	05 58 18.1	+1.0
	1.0nm,0.4s,baz=22,slow=5.0,SNR=3.6						
BRTR	Keskin Array B	85.91	347	P	P	05 58 49.0	+0.3
	0.7nm,0.9s,baz=40,slow=3.9,SNR=3.3						

IDC 28 06:10:38.2±3.5, 53°.43N×87°.54E, h0km, mb1 2.8/2, mb1mx2.7/43, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=33.7km s-min=16.0km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.70	289	*i*		06 21 08.2	
	baz=107,slow=322,SNR=0.7						
ZALV	Zalesovo Beam	1.70	289	Pg	Pn	06 11 08.6	-0.5
	0.9nm,0.3s,baz=111,slow=15,SNR=7.0						
ZALV				Lg	Lg	06 11 32.3	
	1.3nm,0.3s,baz=110,slow=33,SNR=5.9						
KURBB	Kurchatov Arra	6.23	247	Pn	Pn	06 12 12.0	+0.7
	0.1nm,0.3s,baz=62,slow=14,SNR=3.1						
MKAR	Makanchi Array	7.45	209	Pn	Pn	06 12 29.1	+0.9
	0.1nm,0.3s,baz=28,slow=14,SNR=4.7						
MKAR				Lg	Lg	06 14 36.3	
	0.1nm,0.3s,baz=20,slow=26,SNR=3.5						

DJA 28 06:15:41.6±1.3, 3°.N±6°.×12°.5E±°, h13km±13km, M3.9/3, MLv3.9/3
ISCJB 28 06:15:42.3±1.2, 2°.62N±0°.09×125°.15E±0°.10, h33km, mb3.1/2, Error ellipse: s-maj=14.5km s-min=12.3km az=154.6
IDC 28 06:16:36.9±2.1, 2°.70S×127°.22E, h0km, mb3.1/2, mb1 3.5/3, mb1mx3.4/22, mbtmp3.3/3, ML3.7/1, Error ellipse: s-maj=151.5km s-min=28.6km az=66.0

ISC 28 06:15:44.2±1.5, 2°.70N±0°.09×125°.1E±0°.1, h35km, n6, σ2§53/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	Sangihe	1.05	22	P	Pn	06 16 01.7	-0.8
MRSI	Marisa	3.88	235	P	Pn	06 16 40.4	-1.0
LBMI	Labuha	4.08	144	S	Sn	06 17 29.0	-1.6
APSI	Ampana	5.00	224	P	Pn	06 16 56.3	-0.5
WRA	Warramunga Arr	24.25	159	P	P	06 20 53.2	-5.0
	0.2nm,0.3s,baz=337,slow=10,SNR=13						
ASAR	Alice Springs	27.57	162	P	P	06 21 31.0	+2.9
	0.6nm,0.8s,baz=338,slow=8.0,SNR=5.0						

IDC 28 06:18:08.8±3.0, 53°.46N×87°.69E, h0km, mb1 2.9/2, mb1mx2.8/42, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=27.6km s-min=17.0km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.78	287	*i*		06 28 50.4	
	baz=104,slow=318,SNR=0.8						
ZALV	Zalesovo Beam	1.78	287	Pn	Pn	06 18 39.6	-1.1
	0.8nm,0.3s,baz=103,slow=13,SNR=6.3						
ZALV				Lg	Lg	06 19 05.7	
	1.4nm,0.3s,baz=102,slow=34,SNR=4.7						
KURBB	Kurchatov Arra	6.32	247	Pn	Pn	06 19 44.0	+0.8
	0.1nm,0.3s,baz=61,slow=14,SNR=5.2						
KURBB				Lg	Lg	06 21 27.1	
	0.0nm,0.3s,baz=59,slow=30,SNR=4.4						
MKAR	Makanchi Array	7.52	210	Pn	Pn	06 20 01.0	+1.4
	0.1nm,0.3s,baz=27,slow=13,SNR=5.1						
MKAR				Lg	Lg	06 22 05.2	
	baz=30,slow=32,SNR=4.4						

GUC 28 06:21:41.6±1.0, 34°.07S×72°.30W, h13km±5km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	Longovilo	0.74	82	*eP*	Pb	06 21 56.3	-0.1
LNV				*eS*	Sb	06 22 06.9	+0.4
NICH	Los Niches	1.28	137	*eP*	Pn	06 22 04.9	-0.4
NICH				*eS*	Sn	06 22 22.4	0.0
NICH				AML	AML	06 22 25.1	
	comp=E,4μm,0.2s						
CHCH	Chadas Ángostu	1.37	85	*eP*	Pn	06 22 06.2	-0.4
TALC	Talca	1.44	158	*eP*	Pn	06 22 06.5	-0.8
TALC				*eS*	Sn	06 22 25.2	-0.9
STL	Santa Lucia	1.52	66	*eP*	Pn	06 22 07.1	-1.5
STL				*eS*	Sn	06 22 27.1	-1.1
STL				AML	AML	06 22 34.7	
	comp=E,111nm,0.8s						
ROCH	El Roble	1.53	45	*eP*	Pn	06 22 08.8	-0.2
ROCH				*eS*	Sn	06 22 29.0	0.0
ROCH				AML	AML	06 22 37.9	
	comp=N,981nm,0.2s						
CLCH	Cerro Calan	1.61	66	*eP*	Pn	06 22 09.8	-0.1
CLCH				*eS*	Sb	06 22 31.9	+0.1
CLCH				AML	AML	06 22 36.4	
	comp=E,897nm,0.6s						
PEL	Peldehue	1.63	56	*eP*	Pn	06 22 10.5	+0.3
PEL				*eS*	Sb	06 22 32.2	+0.1
PEL				AML	AML	06 22 36.6	
	comp=E,2μm,0.3s						
LNCH	Linares	1.87	162	*eP*	Pn	06 22 13.5	+0.2
LNCH				*eS*	Sb	06 22 37.9	-0.9
LNCH				AML	AML	06 22 44.6	
	comp=N,1μm,0.6s						

NNC 28 06:40:56.5±5.3, 37°.24N×71°.27E, h0km, mb3.5, mpv3.2, 3C-7D, Error ellipse: s-maj=47.9km s-min=21.9km az=161.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZET	Dzherino	2.49	310	⇓*eP*	Pn	06 41 38.3	-0.1
	8.1nm,0.2s						
DZET				⇑Sn	Sb	06 42 13.3	-0.3
	28nm,0.4s						
SFK	Sufi-Kurgan	3.28	32	⇑Pn	Pn	06 41 50.2	+0.7
	2.8nm,0.3s						
SFK				⇓Sn	Sb	06 42 33.0	-3.5
	15nm,0.4s						
MNAS	Manas	5.33	10	⇓Pn	Pn	06 42 15.8	-1.8
	1.4nm,0.5s						
MNAS				⇓Sn	Sn	06 43 20.3	+0.5
	4.7nm,0.4s						
KK31	Karatay Array	5.89	355	⇓Pn	Pn	06 42 22.3	-2.8
	0.6nm,0.3s,baz=160,slow=12,SNR=39						
KK31				⇑Sn	Sn	06 43 31.4	-1.9
	3.2nm,0.4s,baz=181,slow=16,SNR=23						
AAK	Ala-Archa	5.93	24	⇓Pn	Pn	06 42 23.6	-2.3
	0.7nm,0.3s						
AAK				⇓Sn	Sn	06 43 33.8	-0.9
	5.9nm,1.1s						

KRSC 28 06:47:22.2±0.6, 53°.83N×160°.57E, h104km±8km, ML3.7
ISCJB 28 06:47:23.0±0.5, 53°.82N±0°.04×160°.58E±0°.08, h104km±5km, mb3.2/4, Error ellipse: s-maj=9.4km s-min=3.5km az=37.2
IDC 28 06:47:26.2±2.5, 53°.81N×160°.00E, h132km±19km, mb2.9/4, mb1 3.2/4, mb1mx2.9/28, mbtmp3.3/4, MS2.9/1, Ms1 2.9/1, ms1mx2.7/11, Error ellipse: s-maj=34.4km s-min=28.8km az=37.0

ISC 28 06:47:23.3±0.9, 53°.84N±0°.05×160°.52E±0°.05, h108km±7km, n35, σ0§89/53, mb3.2/4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	Mys Shipunski	0.80	202	*eP*	Pn	06 47 42.4	+0.1
SPN				*eS*	Sn	06 47 55.9	-0.7
NLC	Nalytchevo	0.97	227	*eP*	Pn	06 47 44.1	+0.2
NLC				*eS*	Sn	06 47 59.0	-0.5
MKZ	Mys Kozlova	1.01	44	*eP*	Pn	06 47 45.1	+0.7
MKZ				*eS*	Sn	06 47 59.7	-0.7
SDLR	Sedlovina	1.12	241	*eP*	Pn	06 47 46.3	+0.5
SDLR				*eS*	Sn	06 48 02.7	0.0
SMAR	Somma	1.17	241	*eP*	Pn	06 47 46.9	+0.5
SMAR				*eS*	Sn	06 48 03.8	-0.1
UGLR	Uglovaya	1.19	239	*eP*	Pn	06 47 47.2	+0.7
UGLR				*eS*	Sn	06 48 04.4	+0.4
AVH	Avacha	1.21	242	*eP*	Pn	06 47 47.5	+0.9
AVH				*eS*	Sn	06 48 05.1	+0.8
KRX	Arik	1.21	247	*eP*	Pn	06 47 47.3	+0.5
KRX				*eS*	Sn	06 48 04.4	-0.1
KOK	Koryaka	1.25	245	*eP*	Pn	06 47 47.7	+0.6
KOK				*eS*	Sn	06 48 05.3	+0.2
KZV	Kizimen	1.28	354	*eP*	Pn	06 47 48.2	+0.6
KZV				*eS*	Sn	06 48 05.9	-0.1
PET	Petropavlovsk	1.38	235	*eP*	Pn	06 47 49.0	+0.5
PET				*eS*	Sn	06 48 07.8	+0.1
TUMR	Tumrok	1.47	352	*eP*	Pn	06 47 50.3	+0.6
TUMR				*eS*	Sn	06 48 09.6	-0.1
GNL	Ganaly	1.53	266	*eP*	Pn	06 47 51.0	+0.5
GNL				*eS*	Sn	06 48 10.7	-0.4
PETK	Petropavlovsk-	1.83	248	P	Pn	06 47 54.6	+0.5
	9.1nm,0.3s,baz=78,slow=18,SNR=79						
PETK				S	Sn	06 48 16.8	-0.8
	5.2nm,0.3s,baz=80,slow=16,SNR=8.2						
RUS	Russkaya	1.85	221	*eP*	Pn	06 47 54.1	-0.2
RUS				*eS*	Sn	06 48 16.5	-1.4
KMNR	Kamenistaya	1.93	355	*eP*	Pn	06 47 56.8	+1.4
GRL	Gorelyy	1.95	230	*eP*	Pn	06 47 56.8	+1.1
MTVR	Mutnovka	1.95	227	*eP*	Pn	06 47 56.4	+0.7
MTVR				*eS*	Sn	06 48 20.5	+0.1
ASAK	Asacha	2.15	228	*eP*	Pn	06 47 58.9	+0.8
ASAK				*eS*	Sn	06 48 24.4	-0.3
APC	Apacha	2.21	247	*eP*	Pn	06 47 59.7	+0.9
APC				*eS*	Sn	06 48 25.9	-0.1
ESO	Esso	2.34	334	*eP*	Pn	06 48 00.6	+0.1
KLY	Klyuchi	2.48	2	*eP*	Pn	06 48 03.6	+1.3
SRDR	Sredinnyy	2.53	350	*eP*	Pn	06 48 03.2	+0.2
KBTR	Krutoberegovo	2.72	28	*eP*	Pn	06 48 06.3	+0.8
KBTR				*eS*	Sn	06 48 37.4	-0.5
MIPR	Malaya Ipel'ka	2.75	237	*eP*	Pn	06 48 07.0	+1.1
BDR	Baidarnaya	2.77	8	*eP*	Pn	06 48 06.5	+0.4
SMKR	Semkarok	2.81	11	*eP*	Pn	06 48 07.7	+1.1
SRKR	Sorokina	2.85	7	*eP*	Pn	06 48 07.4	+0.2
PAU	Pauzhetka	3.27	225	*eP*	Pn	06 48 14.0	+1.2
BKI	Bering	3.46	65	*eS*	Sn	06 48 54.3	-1.2
SEY	Seymchan	10.06	338	LR	LR	06 53 48.1	
	comp=Z,68nm,20.0s,baz=7.0,slow=38						
KURBB	Kurchatov Arra	47.66	301	P	P	06 55 46.2	-2.0
	0.3nm,0.3s,baz=63,slow=7.0,SNR=6.1						
MKAR	Makanchi Array	48.06	295	P	P	06 55 48.8	-2.6
	0.1nm,0.4s,baz=54,slow=7.4,SNR=2.6						
TXAR	Lajitas Array	70.12	67	P	P	06 58 26.1	+2.2
	0.1nm,0.6s,baz=336,slow=4.2,SNR=2.7						
WRA	Warramunga Arr	76.86	205	P	P	06 59 03.4	+0.3
	0.6nm,0.8s,baz=21,slow=6.1,SNR=6.0						

DSN 28 06:48:13.9±2.1, 29°.41N×62°.66E, h15km, mb4.1/6, Ms4.5/7, Error ellipse: s-maj=24.7km s-min=22.0km az=3.0
OMAN 28 06:49:24.9±99.0, 26°.15N×57°.74E, h8km, Error ellipse: s-maj=38.0km s-min=7.6km az=35.0

ISC 28 06:49:25.7±4.8, 26°.1N±0°.3×57°.7E±0°.2, h10km, n9, σ0§69/10, 4C-3D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BANOM	Banah	1.25	261	⇑P	Pn	06 49 49.3	0.0
HATD	Hatta, Dubai	1.90	228	⇓*i*P	Pb	06 50 00.7	+0.2
	SNR=19						
ASHO	Ashiyiah	2.04	226	⇑P	Pn	06 50 01.1	+0.9
NAZ	Nazwa, Dubai	2.14	239	⇓*e*P	Pb	06 50 04.8	+0.3
FAQ	Al Faqa, Dubai	2.33	234	⇑*i*P	Pb	06 50 07.3	-0.5
	SNR=76						
HOQ	Hoqain	2.55	187	P	Pn	06 50 06.7	-0.4
	SNR=55						
HOQ				⇓P	Pn	06 50 06.7	-0.4
ASUD	Al Ashush, Dub	2.59	235	⇑*i*P	Pb	06 50 11.2	-1.0
	SNR=38						
SMDO	Samad	3.07	174	P	Pn	06 50 14.3	-0.1
	SNR=22						
JMDO	Jabal Madar	3.75	174	P	Pn	06 50 24.6	+0.9
	SNR=13						

FUNV 28 07:07:50.0, 6°.36N×73°.56W, h118km, MW4.2
IDC 28 07:07:51.5±1.5, 6°.48N×73°.40W, h136km±16km, mb3.2/5, mb1 3.5/7, mb1mx3.2/23, mbtmp3.7/7, Error ellipse: s-maj=25.0km s-min=20.3km az=141.0
ISCJB 28 07:07:52.8±0.8, 6°.71N±0°.07×73°.21W±0°.05, h161km, mb3.2/5, Error ellipse: s-maj=9.9km s-min=6.5km az=156.3

ISC 28 07:07:53.7±1.1, 6°.70N±0°.10×73°.19W±0°.07, h161km, n24, σ1§10/35, mb3.2/5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	Capacho	1.45	37	*eP*	Pn	07 08 22.6	-1.3
CAPV				*eS*	Sn	07 08 46.2	-0.8
ROSC	El Rosal	2.15	212	P	Pn	07 08 24.9	-6.8
	48nm,0.3s,baz=79,slow=22,SNR=179						
ROSC				S	Sn	07 08 50.2	-11
	44nm,0.3s,baz=115,slow=22,SNR=11						
VIGV	El Vigia	2.79	40	*eP*	Pn	07 08 38.9	-0.1
VIGV				*eS*	Sn	07 09 14.7	+0.6
SOCV	Socops	2.80	56	*eP*	Pn	07 08 39.2	+0.2
SOCV				*eS*	Sn	07 09 14.4	+0.1
VIRV	Villa del Rosa	3.86	12	*eP*	Pn	07 08 51.0	-1.4
VIRV				*eS*	Sn	07 09 37.1	-1.0
QARV	Quebrada Arrib	4.37	37	*eP*	Pn	07 08 59.6	+0.5
QARV				*eS*	Sn	07 09 51.4	+1.2
SANV	Sanarito	4.57	52	*eP*	Pn	07 09 01.9	+0.2
SANV				*eS*	Sn	07 09 55.2	+0.4
CURV	Curarigua	4.59	44	*eP*	Pn	07 09 02.1	+0.1
CURV				*eS*	Sn	07 09 55.8	+0.5
DABV	Dabajuro	4.90	31	*eP*	Pn	07 09 05.8	-0.2
DABV				*eS*	Sn	07 10 02.8	+0.3
SIQV	Siquisique	5.16	40	*eP*	Pn	07 09 09.6	+0.2
SIQV				*eS*	Sn	07 10 08.6	-0.1
BAUV	El Baul	5.57	66	*eP*	Pn	07 09 14.2	-0.6
BAUV				*eS*	Sn	07 10 17.1	-1.3
MONV	Montecano	6.11	31	*eP*	Pn	07 09 21.7	-0.3
MONV				*eS*	Sn	07 10 30.7	-0.6
MERV	Las Mercedes	7.29	69	*eP*	Pn	07 09 37.6	0.0
BIRV	Birongo	7.81	61	*eP*	Pn	07 09 45.1	+0.6
BIRV				*eS*	Sn	07 11 09.0	-2.9
CUPV	Cœpira	8.05	65	*eP*	Pn	07 09 47.8	0.0
CUPV				*eS*	Sn	07 11 14.5	-3.3
PCRV	Puerto La Cruz	9.14	67	P	Pn	07 10 03.2	+0.9
	0.9nm,0.3s,baz=300,slow=2.5,SNR=6.7						
PCRV				S	Sn	07 11 42.8	-1.2
	1.5nm,0.3s,baz=249,slow=22,SNR=7.1						
TEIG	Tepich	19.87	314	P	P	07 12 12.4	-0.1
	0.6nm,0.3s,baz=93,slow=3.1,SNR=7.1						
TXAR	Lajitas Array	36.49	312	P	P	07 14 42.8	-0.8
	0.1nm,0.4s,baz=123,slow=6.6,SNR=3.2						
YKA	Yellowknife Ar	63.35	340	P	P	07 18 06.9	+1.5
	0.1nm,0.3s,baz=134,slow=6.2,SNR=4.2						
TORD	Torodi Ar. Bea	73.83	78	P	P	07 19 12.8	+1.5
	0.3nm,0.8s,baz=278,slow=5.1,SNR=2.6						
NOA	NORSAR Array B	81.47	29	P	P	07 19 56.5	+3.7
	0.5nm,0.5s,baz=267,slow=5.4,SNR=3.9						
ARCES	ARCESS Array B	86.81	20	P	P	07 20 22.5	+2.9
	1.7nm,0.8s,baz=285,slow=4.6,SNR=5.3						
ASAR	Alice Springs	148.98	234	PKPbc	PKPbc	07 27 22.3	-1.2
	0.1nm,0.3s,baz=128,slow=3.2,SNR=3.5						
WRA	Warramunga Arr	150.22	241	PKPbc	PKPbc	07 27 26.4	-0.3
	0.2nm,0.5s,baz=106,slow=2.8,SNR=7.7						

FUNV 28 07:19:27.7, 6°.69N×73°.15W, h164km, MW4.3
ISCJB 28 07:19:28.2±0.5, 6°.90N±0°.05×73°.00W±0°.05, h161km, mb3.5/5, Error ellipse: s-maj=8.9km s-min=4.8km az=139.9
IDC 28 07:19:28.6±1.1, 6°.76N×72°.90W, h166km±13km, mb3.3/6, mb1 3.6/8, mb1mx3.3/33, mbtmp3.9/8, Error ellipse: s-maj=22.6km s-min=14.3km az=140.0

ISC 28 07:19:28.8±0.8, 6°.86N±0°.07×72°.97W±0°.07, h161km, n26, σ0§85/36, mb3.5/5, 1C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	Capacho	1.19	33	⇑*i*P	Pn	07 19 57.7	+1.2
CAPV				*eS*	Sn	07 20 18.5	+0.7
ROSC	El Rosal	2.41	214	P	Pn	07 20 09.5	-0.3
	130nm,0.3s,baz=95,slow=13,SNR=233						
ROSC				S	Sn	07 20 41.4	0.0
	198nm,0.3s,baz=79,slow=22,SNR=19						
SOCV	Socops	2.53	56	*eP*	Pn	07 20 12.5	+1.6
SOCV				*eS*	Sn	07 20 44.2	+0.8
VIGV	El Vigia	2.53	39	*eP*	Pn	07 20 12.2	+1.4
VIGV				*eS*	Sn	07 20 44.7	+1.3
VIRV	Villa del Rosa	3.66	9	*eP*	Pn	07 20 24.5	-0.5
VIRV				*eS*	Sn	07 21 07.7	-1.1
QARV	Quebrada Arrib	4.11	36	⇓*i*P	Pn	07 20 32.1	+1.2
QARV				*eS*	Sn	07 21 19.0	-0.3
SANV	Sanarito	4.29	52	*eP*	Pn	07 20 34.1	+0.8
SANV				*eS*	Sn	07 21 22.6	-1.0
CURV	Curarigua	4.32	43	*eP*	Pn	07 20 34.4	+0.8
DABV	Dabajuro	4.65	30	*eP*	Pn	07 20 38.6	+0.8
DABV				*eS*	Sn	07 21 30.1	-1.6
SIQV	Siquisique	4.89	39	*eP*	Pn	07 20 41.5	+0.4
SIQV				*eS*	Sn	07 21 37.0	-0.6
BAUV	El Baul	5.30	67	*eP*	Pn	07 20 45.7	-0.8
MONV	Montecano	5.86	30	*eP*	Pn	07 20 53.4	-0.5
TURV	Turiamo	6.20	55	*eP*	Pn	07 20 58.1	-0.2
MERV	Las Mercedes	7.02	70	*eP*	Pn	07 21 08.6	-0.6
FUNV	FUNVISIS	7.07	59	*eP*	Pn	07 21 10.3	+0.4
BIRV	Birongo	7.53	61	*eP*	Pn	07 21 15.3	-0.7
CUPV	Cœpira	7.78	65	*eP*	Pn	07 21 18.9	-0.5
PCRV	Puerto La Cruz	8.88	68	P	Pn	07 21 33.7	-0.2
	1.6nm,0.3s,baz=227,slow=7.3,SNR=8.0						
PCRV				S	Sn	07 23 12.3	-0.4
	0.8nm,0.3s,baz=294,slow=20,SNR=2.8						
TEIG	Tepich	19.92	313	P	P	07 23 49.0	+0.8
	13nm,1.0s,baz=344,slow=5.9,SNR=4.8						
TXAR	Lajitas Array	36.55	312	P	P	07 26 19.1	-0.1
	0.6nm,0.6s,baz=129,slow=9.0,SNR=12						
ANMO	Albuquerque	41.58	317	P	P	07 27 01.6	+0.4
	0.3nm,0.5s,baz=108,slow=19,SNR=2.3						
SCHQ	Schefferville	48.09	5	P	P	07 27 52.6	+0.6
	3.1nm,0.5s,baz=198,slow=7.4,SNR=7.6						
PDAR	Pinedale Array	48.13	324	P	P	07 27 53.0	+0.2
	0.2nm,0.4s,baz=120,slow=5.3,SNR=2.4						
YKA	Yellowknife Ar	63.28	340	P	P	07 29 39.9	-0.1
	0.5nm,0.6s,baz=132,slow=6.4,SNR=7.6						
ASAR	Alice Springs	149.26	234	PKPbc	PKPbc	07 38 58.0	-1.3
	0.7nm,0.6s,baz=118,slow=3.5,SNR=9.0						
WRA	Warramunga Arr	150.49	241	PKPbc	PKPbc	07 39 01.2	-1.1
	0.5nm,0.4s,baz=107,slow=2.7,SNR=9.9						

DSN 28 07:22:53.3±0.8, 31°.38N×49°.59E, h30km±8km, mb4.1/8, Ms4.6/8, Error ellipse: s-maj=11.0km s-min=6.7km az=77.0
ISN 28 07:23:30.8±1.5, 27°.85N×53°.03E, h0km±388km, ML4.5
THR 28 07:23:40.0±0.6, 28°.40N×52°.42E, h14km±8km, ML4.0
IDC 28 07:23:40.5±2.1, 28°.52N×52°.68E, h0km, mb3.9/11, mb1 4.0/12, mb1mx3.8/30, mbtmp3.9/12, ML3.4/1, MS3.1/6, Ms1 3.1/6, ms1mx2.8/39, Error ellipse: s-maj=47.7km s-min=23.0km az=138.0
TEH 28 07:23:40.3, 28°.19N×52°.42E, h10km, ML3.8
CSEM 28 07:23:42.5±0.3, 28°.54N×52°.54E, h2km, ML4.0, Ms4.6, Error ellipse: s-maj=9.2km s-min=4.9km az=46.0
ISCJB 28 07:23:42.1±0.4, 28°.50N±0°.04×52°.48E±0°.04, h16km, mb3.9/11, MS2.8/2, Error ellipse: s-maj=6.8km s-min=3.5km az=37.0

ISC 28 07:23:43.3±0.6, 28°.48N±0°.04×52°.62E±0°.04, h16km, n69, σ1§51/69, mb4.0/11, 6C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GHIR	Ghir-Karzin	0.38	121	*e*Pg	Pg	07 23 50.1	-1.1
GHIR				*e*Sg	Sg	07 23 57.5	+1.0
GHIR				AML	AML	07 24 00.8	
	comp=E,17μm,0.5s						
GHIR	Ghir-Karzin	0.38	121	*e*Pg	Pg	07 23 50.1	-1.1
GHIR				*e*Sg	Sg	07 23 57.5	+1.0
	comp=E,17μm,0.5s						
SHI	Shiraz	1.16	356	*e*		07 24 30.2	
	comp=Z,13μm,0.2s						
SHI				*e*Pn	Pg	07 24 06.9	+1.1
SHI	Shiraz	1.16	356	*e*Pn	Pg	07 24 06.9	+1.1
IPAR	Pars	1.41	16	*e*		07 24 38.5	
	comp=Z,18μm,0.4s						
IPAR				*e*Pn	Pn	07 24 07.7	-0.9
IPAR	Pars	1.41	16	*e*Pn	Pn	07 24 07.7	-0.9
IKAZ	Kazeroun	1.46	333	*e*Sg	Sg	07 24 32.0	+1.5
IKAZ				*e*Pn	Pn	07 24 09.5	+0.1
IKAZ				*e*		07 24 38.0	
	comp=Z,19μm,0.3s						
IKAZ	Kazeroun	1.46	333	*e*Pn	Pn	07 24 09.5	+0.1
BNDS	Bandar-Abbas	3.33	108	*e*Pn	Pn	07 24 35.9	+1.0
BNDS				AML	AML	07 25 53.3	
	comp=N,242nm,0.6s						
BNDS				AML	AML	07 25 53.8	
	comp=E,275nm,0.6s						
BNDS	Bandar-Abbas	3.33	108	*e*Pn	Pn	07 24 35.9	+1.0
	comp=E,275nm,0.6s						
IMEH	Mehriz	3.38	30	*e*Pn	Pn	07 24 38.4	+2.7
IMEH				*e*		07 25 22.9	
	comp=Z,1μm,0.2s						
IMEH	Mehriz	3.38	30	*e*Pn	Pn	07 24 38.4	+2.7
ISAD	Sadrabad	3.54	15	*e*Pn	Pn	07 24 40.3	+2.3
ISAD				*e*		07 25 52.3	
	comp=Z,889nm,0.2s						
ISAD	Sadrabad	3.54	15	*e*Pn	Pn	07 24 40.3	+2.3
KRBR	Kerman	3.92	67	*e*Pn	Pn	07 24 45.0	+1.8
KRBR				*e*Sg	Sg	07 25 47.8	-1.5
KRBR				AML	AML	07 25 56.6	
	comp=E,156nm,0.8s						
KRBR				AML	AML	07 26 08.3	
	comp=N,143nm,0.6s						
KRBR	Kerman	3.92	67	*e*Pn	Pn	07 24 45.0	+1.8
KRBR				*e*Sg	Sg	07 25 47.8	-1.5
	comp=N,143nm,0.6s						
IBAF	Bafgh	4.02	39	*e*Pn	Pn	07 24 45.1	+0.7
IBAF				*e*		07 25 54.4	
	comp=Z,850nm,0.4s						
IBAF	Bafgh	4.02	39	*e*Pn	Pn	07 24 45.1	+0.7
ICHK	Chekchek	4.06	22	*e*Pn	Pn	07 24 46.3	+1.3
ICHK				*e*		07 26 01.2	
	comp=Z,828nm,0.4s						
ICHK	Chekchek	4.06	22	*e*Pn	Pn	07 24 46.3	+1.3
BANOM	Banah	4.15	127	P	Pn	07 24 48.0	+1.8
BANOM	Banah	4.15	127

IBDR eSn x 07 26 55.0
IDHR Dehrash 8.16 321 ePn **Pn** **07 25 39.4 -2.0**
IDHR e 07 27 26.1
comp=Z,260nm,0.3s
IDHR Dehrash 8.16 321 ePn **Pn** **07 25 39.4 -2.0**
BHD Baghdad 8.53 306 ePN x 07 25 46.6
BHD eSN x 07 27 22.9
BHD Baghdad 8.53 306 ePn **Pn** **07 25 46.6 +0.4**
SNR=39
BHD eSn **Sn** **07 27 22.9 +0.7**
SNR=39
IKRK Kirkuk 9.85 317 ePN x 07 26 06.9
IKRK eSN x 07 27 56.4
RTB Rutbah 11.51 296 ePn x 07 26 28.8
RTB eSN x 07 28 34.0
RTB Rutbah 11.51 296 ePn **Pn** **07 26 28.8 +1.7**
SNR=39
RTB eSn **Sn** **07 28 34.0 -1.4**
SNR=39
GNI Garni 13.33 333 LR LR 07 31 44.7
comp=Z,89nm,19.3s,baz=118,slow=36
MMAI Mount Meron Ar 15.47 291 LR LR 07 34 44.9
comp=Z,130nm,19.2s,baz=170,slow=43
EIL Elat 15.49 279 LR LR 07 34 22.6
comp=Z,153nm,19.9s,baz=74,slow=41
BRTR Keskin Array B 19.27 311 P **P** **07 28 07.0 -0.4**
comp=Z,0.1nm,0.3s,baz=134,slow=14,SNR=13
BRTR LR LR 07 36 54.0
comp=Z,38nm,19.1s,baz=125,slow=41
AKTO Aktyubinsk 22.31 9 P **P** **07 28 38.8 -1.2**
comp=Z,3.3nm,0.8s,baz=172,slow=6.3,SNR=9.4
AKTO LR LR 07 39 10.7
comp=Z,66nm,20.7s,baz=183,slow=42
IDI Anoyia 24.45 293 P **P** **07 29 01.5 -0.1**
comp=Z,2.2nm,0.5s,baz=156,slow=20,SNR=2.5
IDI LR LR 07 40 31.1
comp=Z,17nm,21.7s,baz=92,slow=41
BVAR Borovoye Array 27.82 23 P **P** **07 29 29.8 -1.9**
comp=Z,0.4nm,0.3s,baz=230,slow=6.9,SNR=5.6
GERES GERESS Array B 36.04 315 P **P** **07 30 44.3 +0.4**
comp=Z,0.2nm,0.3s,baz=96,slow=8.0,SNR=2.2
FINES FINESS Array B 37.40 339 P **P** **07 30 54.1 -1.1**
comp=Z,1.7nm,0.5s,baz=147,slow=11,SNR=12
NOA NORSAR Array B 42.63 332 P **P** **07 31 37.8 -0.9**
comp=Z,0.4nm,0.5s,baz=122,slow=8.2,SNR=3.1
ARCES ARCESS Array B 43.97 347 P **P** **07 31 49.5 +0.1**
comp=Z,2.5nm,1.0s,baz=138,slow=7.2,SNR=4.5
TORD Torodi Ar. Bea 49.62 263 P **P** **07 32 34.2 -0.1**
comp=Z,1.4nm,0.6s,baz=59,slow=7.9,SNR=13
DBIC Dimbokro 58.34 260 P **P** **07 33 37.6 -0.4**
comp=Z,3.4nm,0.9s,baz=55,slow=9.7,SNR=3.2
ILAR Eielson Array 85.81 8 P **P** **07 36 21.6 -0.1**
comp=Z,0.3nm,0.7s,baz=331,slow=4.7,SNR=4.9
YKA Yellowknife Ar 88.77 354 P **P** **07 36 36.7 +0.7**
comp=Z,0.6nm,0.7s,baz=7.4,slow=5.5,SNR=6.7

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*LDG **28** 07:24:58.8±0.1, 31.16N×77.79E, h10km, Mb4.7/17, Ms2.6/1, Error ellipse: s-maj=6.2km s-min=4.2km az=16.0*
*IDC **28** 07:24:59.6±0.5, 31.14N×77.85E, h0km, mb4.4/25, mb1 4.5/28, mb1mx4.4/36, mbtmp4.4/28, ML3.9/3, MS3.2/3, Ms1 3.2/3, ms1mx2.8/34, Error ellipse: s-maj=16.6km s-min=10.7km az=34.0*
*BJI **28** 07:25:00.1, 31.08N×77.57E, h28km, mb4.4/33, mB4.5/21, ML4.6/3, Ms4.1/12, Ms7 3.9/13*
*ISCJB **28** 07:25:02.4±0.6, 31.21N±0.02×77.89E±0.02, h29km±4km, mb4.6/81, MS3.3/1, Error ellipse: s-maj=3.5km s-min=2.5km az=44.7*
*NEIC **28** 07:25:02.6±1.8, 31.14N×77.84E, h19km±11km, mb5.0/44, Error ellipse: s-maj=4.9km s-min=3.9km az=211.0*
NEIC Felt at Shimla.
*MOS **28** 07:25:03.3±0.8, 31.22N×77.84E, h33km, mb5.1/28, Error ellipse: s-maj=8.7km s-min=4.4km az=113.8*
*NDI **28** 07:25:05.6±2.4, 31.09N×77.78E, h10km, ML4.5, mb5.0(NEIC)*

ISC 28 07:25:05.7±0.4, 31.20N±0.03×77.86E±0.03, h41km±3km, n312, σ1s50/357, mb4.7/81, 15C-14D, Northern India

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SMLA	**Simla**	**0.60**	**264**	*eP*	**Pn**	**Pn**	**07 25 15.2**	**-2.6**
SMLA				*i* S	**Sn**	**Sn**	**07 25 23.3**	**-3.1**
SMLA				AML	AML	AML	07 25 24.1	
	comp=E,19μm,0.0s							
SMLA				AML	AML	AML	07 25 26.3	
	comp=N,17μm,0.2s							
SDNR	**Sundarnagar**	**0.82**	**292**	*ex*		**Pn**	**07 25 19.0**	**-1.9**
SDNR				*eS*		**Sn**	**07 25 34.0**	**+2.2**
DDI	**Dehra Dun**	**0.89**	**169**	*eP*		**Pn**	**07 25 20.5**	**-1.3**
DDI				*eS*		**Sn**	**07 25 33.1**	**-0.4**
BHK	**Bhakra**	**1.25**	**280**	*eP*		Pn	07 25 29.6	+2.8
BHK				*eS*		**Sn**	**07 25 47.0**	**+4.5**
JOSI	**Joshimath**	**1.59**	**113**	*eP*		Pn	07 25 35.2	+3.5
JOSI				*eS*		Sn	07 25 57.5	+6.3
JOSI				AML	AML	AML	07 26 11.0	
	comp=N,6μm,0.9s							
JOSI				AML	AML	AML	07 26 16.3	
	comp=E,6μm,0.8s							
DHRM	**DHARAMSHALA**	**1.69**	**309**	*eP*		**Pn**	**07 25 34.6**	**+1.5**
DHRM				*eS*		**Sn**	**07 25 57.7**	**+4.1**
DHRM				AML	AML	AML	07 26 00.1	
	comp=E,14μm,0.2s							
DHRM				AML	AML	AML	07 26 00.2	
	comp=N,12μm,0.3s							
KALG	**Kalgarh**	**1.85**	**155**	*eP*		Pn	07 25 39.3	+4.3
KALG				*eS*		**Sn**	**07 26 02.5**	**+5.3**
DLH	**Dalhousie**	**2.10**	**310**	*eP*		**Pn**	**07 25 38.0**	**-0.5**
DLH				*eS*		**Sn**	**07 26 02.0**	**-1.5**
NDI	**New Delhi**	**2.57**	**193**	*eP*		**Pn**	**07 25 45.0**	**+0.2**
NDI				*eS*		**Sn**	**07 26 16.0**	**+1.2**
PTH	**Pithoragarh**	**2.62**	**128**	*eP*		Pn	07 25 48.7	+3.0
PTH				*eS*		**Sn**	**07 26 18.9**	**+2.6**
LGTI	**Lohaghat**	**2.70**	**130**	*eP*		**Pn**	**07 25 49.2**	**+2.6**
LGTI				*ex*		Sb	07 26 26.9	
JMU	**Jammu**	**2.94**	**302**	*ex*		Pb	07 25 55.5	
JMU				*eS*		**Sn**	**07 26 26.0**	**+2.1**
SONA	**Sohna**	**3.01**	**193**	*eP*		Pn	07 25 52.9	+1.9
SONA				*eS*		**Sn**	**07 26 26.8**	**+1.0**
KHET	**Khetri**	**3.59**	**210**	*eP*		**Pn**	**07 25 59.4**	**+0.5**
KHET				*eS*		**Sn**	**07 26 39.6**	**-0.4**
SARP	**Sargodha**	**4.49**	**281**	P		**Pn**	**07 26 11.3**	**+0.1**
CHCP	**Chirah Chowk**	**4.59**	**303**	P		**Pn**	**07 26 14.1**	**+1.4**
THW	**Thamme Wali**	**5.43**	**289**	⇑P		**Pn**	**07 26 24.2**	**-0.1**
THW				S		**Sn**	**07 27 26.0**	**+0.5**
AJM	**Ajmer**	**5.48**	**212**	*eP*		Pn	07 26 46.0	+21
AJM				*eS*		**Sn**	**07 27 29.0**	**+2.2**
KOLN	**Koldanda**	**6.06**	**123**	*ePn*		**Pn**	**07 26 33.7**	**+0.7**
KOLN				*eSn*		**Sn**	**07 27 41.2**	**0.0**
	comp=N,107nm,0.3s							
GKN	**Gorkha**	**6.71**	**117**	*ePn*		**Pn**	**07 26 41.9**	**+0.1**
GKN				*eSn*		**Sn**	**07 27 54.6**	**-2.5**
	comp=N,193nm,0.4s							
DMN	**Daman**	**7.26**	**118**	*ePn*		**Pn**	**07 26 49.4**	**-0.2**
DMN				*eSn*		**Sn**	**07 28 08.7**	**-2.2**
	comp=N,114nm,0.5s							
KKN	**Kakani**	**7.30**	**116**	*ePn*		**Pn**	**07 26 49.8**	**-0.3**
KKN				*eSn*		**Sn**	**07 28 09.3**	**-2.6**
	comp=N,129nm,0.6s							
PKIN	**Phulchoki**	**7.50**	**117**	*ePn*		**Pn**	**07 26 52.8**	**-0.1**
PKIN				*eSn*		**Sn**	**07 28 14.9**	**-1.9**
	comp=N,103nm,0.3s							
PKI	**Pulchoki**	**7.51**	**117**	*ePn*		**Pn**	**07 26 52.9**	**-0.2**
PKI				*eSn*		**Sn**	**07 28 15.1**	**-2.1**
	comp=N,126nm,0.4s							
GUN	**Gumba**	**7.71**	**113**	*ePn*		**Pn**	**07 26 55.1**	**-0.8**
BHPL	**Bhopal**	**7.93**	**183**	*eP*		**Pn**	**07 26 58.5**	**-0.1**
BHPL				*eS*		**Sn**	**07 28 22.7**	**-4.5**
JIRN	**Jiri**	**8.07**	**114**	*ePn*		**Pn**	**07 27 00.4**	**-0.4**
JIRN				*eSn*		**Sn**	**07 28 27.2**	**-3.8**
	comp=N,84nm,0.3s							
KBL	**Kabul**	**8.13**	**297**	*eP*		**Pn**	**07 27 01.0**	**-0.4**
KBL				*e*			07 28 30.2	
KBL	**Kabul**	**8.13**	**297**	*ePn*		**Pn**	**07 27 01.0**	**-0.4**
KBL				*eSn*		**Sn**	**07 28 30.1**	**-2.0**
KSH	**Kashi**	**8.44**	**350**	P		**Pn**	**07 27 04.0**	**-1.6**
KSH				S		Sn	07 28 29.5	-10
KSH				SMN				
	comp=N,230nm,0.5s							
KSH				SME				
	comp=N,320nm,0.8s							
RAMN	**Ramite**	**8.74**	**117**	*ePn*		**Pn**	**07 27 08.8**	**-1.0**
RAMN				*eSn*		**Sn**	**07 28 42.9**	**-4.3**
	comp=N,88nm,0.3s							
ODAN	**Odare**	**9.39**	**115**	*ePn*		**Pn**	**07 27 17.8**	**-1.0**
TAPN	**Taplejung**	**9.42**	**112**	*ePn*		**Pn**	**07 27 17.6**	**-1.6**
TAPN				*eSn*		Sn	07 28 57.9	-6.0
	comp=N,106nm,0.7s							
SFK	**Sufi-Kurgan**	**9.48**	**339**	P		**Pn**	**07 27 20.8**	**+0.9**
SFK				S		**Sn**	**07 29 03.7**	**-1.6**
SFK				pmax	pmax			
	comp=Z,12nm,0.4s							
NGP	**Nagpur**	**10.06**	**174**	*eP*		**Pn**	**07 27 27.5**	**-0.3**
NGP				*eS*		Sn	07 29 11.5	-7.9
BOK	**Bokaro**	**10.25**	**134**	*eP*		**Pn**	**07 27 27.2**	**-3.1**
BOK				*eS*		Sn	07 29 13.8	-10
DZET	**Dzherino**	**10.60**	**318**	P		**Pn**	**07 27 32.5**	**-2.6**
DZET				S		Sn	07 29 25.0	-7.6
DZET				pmax	pmax			
	comp=Z,15nm,0.4s							
KZA	**Kyzart**	**11.06**	**350**	P		**Pn**	**07 27 42.3**	**+0.6**
	SNR=16							
UCH	**Uchtor**	**11.33**	**347**	P		**Pn**	**07 27 45.4**	**0.0**
	SNR=15							
AML	**Almayashu**	**11.41**	**344**	P		**Pn**	**07 27 45.6**	**-0.8**
	SNR=12							
KBK	**Karagaybulak**	**11.67**	**349**	P		**Pn**	**07 27 50.3**	**+0.5**
	SNR=9.3							
AAK	**Ala-Archa**	**11.73**	**348**	Pn		**Pn**	**07 27 49.4**	**-1.1**
	comp=Z,1.4nm,0.3s,baz=139,slow=6.3,SNR=9.3							
AAK				Sn		Sn	07 29 49.5	-11
	comp=Z,0.9nm,0.3s,baz=169,slow=16,SNR=2.2							
AAK				LR	LR		07 33 00.6	
	comp=Z,73nm,20.3s,baz=107,slow=41							
AAK	**Ala-Archa**	**11.73**	**348**	⇓*eP*		**Pn**	**07 27 50.6**	**0.0**
AAK				pmax	pmax			
	comp=Z,35nm,1.7s							
AAK	**Ala-Archa**	**11.73**	**348**	*ePn*		**Pn**	**07 27 50.8**	**+0.3**
AAK				Sn		Sn	07 29 49.5	-11
AAK				*eSn*		Sn	07 29 58.9	-1.4
TKM2	**Tokmak 2**	**11.84**	**352**	P		**Pn**	**07 27 53.8**	**+1.6**
	SNR=6.5							
TKM2	**Tokmak 2**	**11.84**	**352**	*eP*		**Pn**	**07 27 53.8**	**+1.6**
TKM2	**Tokmak 2**	**11.84**	**352**	*ePn*		**Pn**	**07 27 53.8**	**+1.6**
EKS2	**Erkin-Say**	**11.90**	**345**	*eP*		**Pn**	**07 27 53.4**	**+0.5**
EKS2				*e*			07 30 00.9	
EKS2	**Erkin-Say**	**11.90**	**345**	*ePn*		**Pn**	**07 27 53.4**	**+0.5**
EKS2				*eSn*		**Sn**	**07 30 00.9**	**-3.3**
FRU	**Bishkek**	**11.90**	**348**	*eP*		**Pn**	**07 27 52.2**	**-0.6**
FRU				pmax	pmax			
	comp=Z,42nm,1.6s							
MNAS	**Manas**	**12.05**	**341**	P		**Pn**	**07 27 52.5**	**-2.5**
MNAS				S		Sn	07 30 00.8	-7.3
MNAS				pmax	pmax			
	comp=Z,14nm,0.8s							
PDGK	**Podgornoye**	**12.18**	**6**	P		**Pn**	**07 27 56.8**	**+0.3**
PDGK				S		Sn	07 30 03.5	-7.4
PDGK				pmax	pmax			
	comp=Z,11nm,0.7s							
RPR	**Rampur**	**12.35**	**174**	IVMs_BB	IVMs_BB		07 32 44.1	
	comp=Z,533nm,9.4s							
POO	**Poona**	**13.12**	**197**	*eP*		**Pn**	**07 28 08.2**	**-1.5**
POO				*ex*		x	07 30 26.5	
KK31	**Karatay Array**	**13.24**	**336**	P		Pn	07 28 07.8	-3.3
KK31				pmax	pmax			
	comp=Z,10.0nm,0.4s							
KKAR	**Karatay Array**	**13.24**	**336**	*eP*		**Pn**	**07 28 08.0**	**-3.1**
KKAR	**Karatay Array**	**13.24**	**336**	*ePn*		**Pn**	**07 28 08.0**	**-3.1**
KKAR				*eSn*		Sn	07 30 25.3	-12
HYBB	**Hyderabad (bro**	**13.73**	**177**	*ePn*		**Pn**	**07 28 14.9**	**-3.0**
HYBB				Sn		Sn	07 30 38.2	-11
HYBB				IVMs_BB	IVMs_BB		07 32 23.1	
	comp=Z,415nm,3.9s							
HYB	**Hyderabad**	**13.73**	**177**	*i* P		Pn	07 28 14.0	-4.0
HYB				*eS*		**Sn**	**07 30 50.0**	**+0.8**
HYB	**Hyderabad**	**13.73**	**177**	*eP*		Pn	07 28 14.0	-4.0
HYB				*eS*		**Sn**	**07 30 50.0**	**+0.8**
HYB	**Hyderabad**	**13.73**	**177**	*eP*		Pn	07 28 14.0	-4.0
HYB				*eS*		**Sn**	**07 30 50.0**	**+0.8**
CHLP	**Challavanipeta**	**13.83**	**155**	*ePn*		**Pn**	**07 28 18.1**	**-1.1**
CHLP				*eSn*		Sn	07 30 38.5	-13
CHLP				IVMs_BB	IVMs_BB		07 33 44.0	
	comp=Z,415nm,4.0s							
NJS	**Nagarjunasagar**	**14.64**	**174**	*ePn*		Pn	07 28 25.7	-4.4
NJS				Sn		Sn	07 30 59.3	-12
NJS				IVMs_BB	IVMs_BB		07 34 08.0	
	comp=Z,438nm,4.9s							
WMQ	**Urumqi**	**14.81**	**29**	P		**Pn**	**07 28 34.0**	**+1.6**
WMQ				pP		P	07 28 42.5	+4.9
WMQ				PP		**PnPn**	**07 28 46.8**	**+6.2**
WMQ				sP			07 28 49.3	
WMQ				S		**Sn**	**07 31 17.3**	**+2.1**
WMQ				sS		**S**	**07 31 31.0**	**-1.2**
WMQ				PcP		**PcP**	**07 33 43.8**	**+2.4**
WMQ				ScP		**ScP**	**07 37 12.8**	**+0.7**
WMQ				PcS		**PcS**	**07 37 18.0**	**+1.5**
WMQ				ScS		**ScS**	**07 40 51.0**	**+1.2**
WMQ				PMZ				
	comp=Z,17nm,1.0s							
WMQ				PMZ				
	comp=Z,95nm,5.6s							
WMQ				LN				
	comp=Z,400nm,11.0s							
WMQ				LE				
	comp=Z,270nm,7.6s							
WMQ				LZ				
	comp=Z,2μm,16.2s							
IMYA	**Miami**	**15.63**	**294**	*eP*		**Pn**	**07 28 42.2**	**-1.0**
MK01	**Makanchi Array**	**15.93**	**11**	*ePn*		**Pn**	**07 28 46.0**	**-0.8**
MK01				*eSn*		Sn	07 31 32.4	-10
MK31	**Makanchi Array**	**15.95**	**11**	P		**Pn**	**07 28 46.5**	**-0.6**
MK31				pmax	pmax			
	comp=Z,2.0nm,0.3s							
MKAR	**Makanchi Array**	**15.95**	**11**	Pn		**Pn**	**07 28 44.8**	**-2.3**
	comp=Z,0.7nm,0.3s,baz=200,slow=13,SNR=20							
MKAR				Sn		Sn	07 31 29.9	-13
	comp=Z,0.4nm,0.3s,baz=183,slow=17,SNR=4.8							
MKAR				LR	LR		07 35 49.0	
	comp=Z,86nm,20.5s,baz=220,slow=41							
MKAR	**Makanchi Array**	**15.95**	**11**	*ePn*		**Pn**	**07 28 44.9**	**-2.3**
MKAR				Sn		Sn	07 31 29.9	-13
MKAR				*eSn*		S	07 31 37.4	-18
IKOO	**Kooshah**	**16.08**	**279**	*eP*		**P**	**07 28 53.9**	**+1.9**
IMOG	**Moghan**	**16.18**	**293**	*eP*		**Pn**	**07 28 47.5**	**-2.9**
URV	**Uravakonda**	**16.18**	**182**	*ePn*		**Pn**	**07 28 47.7**	**-2.6**
URV				Sn		Sn	07 31 34.6	-14
URV				IVMs_BB	IVMs_BB		07 33 34.9	
	comp=Z,395nm,3.9s							
IAKL	**Akhelmad**	**16.74**	**294**	*eP*		**Pn**	**07 28 54.5**	**-3.1**
IKRD	**Kardeh**	**16.97**	**294**	*eP*		Pn	07 28 52.5	-7.8
SKHT	**Srikalahasti**	**17.46**	**174**	*eP*		**Pn**	**07 29 05.6**	**-0.7**
SKHT				*eSn*		Sn	07 32 07.2	-12
SKHT				IVMs_BB	IVMs_BB		07 34 12.2	
	comp=Z,341nm,3.8s							
IBAF	**Bafgh**	**19.03**	**277**	*eP*		**Pn**	**07 29 25.4**	**-0.2**
KURBB	**Kurchatov Arra**	**19.41**	**1**	P		**P**	**07 29 27.1**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=192,slow=11,SNR=29							
KURK	**Kurchatov**	**19.51**	**1**	*eP*		**P**	**07 29 29.3**	**-0.1**
KURK				*eS*		**S**	**07 33 01.6**	**-5.9**
KURK				pmax	pmax			
	comp=Z,17nm,1.0s							
KURK	**Kurchatov**	**19.51**	**1**	*eP*		**P**	**07 29 29.3**	**-0.1**
	comp=Z,17nm,1.0s							
KURK				*eS*		**S**	**07 33 01.6**	**-5.9**
GTA	**Gaotai**	**19.67**	**59**	*eP*		**P**	**07 29 31.8**	**+0.4**
GTA				pP		**pP**	**07 29 40.8**	**-0.7**
GTA				sP		**sP**	**07 29 45.3**	**-1.4**
GTA				S		**S**	**07 33 09.8**	**-1.4**
GTA				sS		**sS**	**07 33 25.8**	**-1.5**
GTA				SS		SnSn	07 33 39.3	+12
GTA				PMZ				
	comp=Z,3.0nm,0.9s							
GTA				PMZ				
	comp=Z,46nm,6.2s							
GTA				LN				
	comp=Z,320nm,13.8s							
GTA				LE				
	comp=Z,300nm,12.8s							
GTA				LZ				
	comp=Z,290nm,12.6s							
IANJ	**Anjilo**	**20.44**	**288**	*eP*		**P**	**07 29 40.6**	**+0.7**
IKIA	**Kiasar**	**20.70**	**290**	*eP*		**P**	**07 29 43.3**	**+0.5**
ISHM	**Shahmirzad**	**20.98**	**289**	*eP*		**P**	**07 29 45.5**	**-0.3**
IZEF	**Zefreh**	**21.69**	**281**	*eP*		**P**	**07 29 54.3**	**+0.9**
LZH	**Lanzhou**	**22.15**	**70**	*eP*		**P**	**07 29 57.3**	**-0.9**
LZH				pP		**pP**	**07 30 08.3**	**-0.1**
LZH				sP		**sP**	**07 30 14.5**	**+0.9**
LZH				PMZ				
	comp=Z,32nm,1.2s							
LZH				PMZ				
	comp=Z,170nm,4.0s							
CD2	**Chengdu**	**22.18**	**84**	*eP*		**P**	**07 29 59.0**	**+0.6**
CD2				pP		**pP**	**07 30 10.3**	**+1.7**
CD2				sP		sP	07 30 15.8	+2.0
CD2				PP		**PnPn**	**07 30 26.5**	**+4.9**
CD2				S		**S**	**07 33 55.3**	**-5.1**
CD2				sS		Sn	07 34 13.5	+0.2
CD2				SS		**SnSn**	**07 34 36.5**	**+7.5**
CD2				PMZ				
	comp=Z,20nm,0.5s							
CD2				PMZ				
	comp=Z,180nm,5.4s							
BVA0	**Borovoye Array**	**22.48**	**348**	P		**P**	**07 30 00.2**	**-1.2**
BVA0				pmax	pmax			
	comp=Z,20nm,1.4s							
BVAR	**Borovoye Array**	**22.48**	**348**	P		**P**	**07 30 00.7**	**-0.7**
	comp=Z,4.9nm,0.7s,baz=163,slow=11,SNR=14							
BRVK	**Borovoye**	**22.53**	**348**	⇓*eP*		**P**	**07 30 01.2**	**-0.7**
BRVK				pmax	pmax			
	comp=Z,20nm,0.8s							
BRVK	**Borovoye**	**22.53**	**348**	*eP*		**P**	**07 30 01.5**	**-0.4**
	comp=Z,17nm,0.8s							
BRVK				*eS*		**S**	**07 34 06.9**	**+0.6**
AB31	**Akbulak array**	**22.54**	**328**	*eP*		**P**	**07 30 01.3**	**-0.7**
AB31				pmax	pmax			
	comp=Z,8.0nm,0.5s							
ABKAR	**Akbulak array**	**22.54**	**328**	*eP*		**P**	**07 30 01.9**	**-0.1**
ABKAR				*eS*		**S**	**07 34 05.2**	**-1.2**
KMI	**Kunming**	**22.73**	**99**	P		**P**	**07 30 05.0**	**+0.4**
KMI				PMZ				
	comp=Z,7.0nm,1.1s							
CMAR	**Chiang Mai Arr**	**22.91**	**119**	P		**P**	**07 30 05.4**	**-0.8**
	comp=Z,1.7nm,0.4s,baz=296,slow=9.9,SNR=11							
CM01	**Chiang Mai Arr**	**22.94**	**119**	*eP*		**P**	**07 30 06.0**	**-0.6**
ZAA0	**Zalesovo Array**	**23.29**	**10**	*eP*		**P**	**07 30 09.7**	**0.0**
ZALV	**Zalesovo Beam**	**23.29**	**10**	P		**P**	**07 30 08.8**	**-0.8**
	comp=Z,9.7nm,0.7s,baz=207,slow=9.6,SNR=29							
ZALV	**Zalesovo Beam**	**23.29**	**10**	*i* P		**P**	**07 30 10.1**	**+0.5**
ZALV				pmax	pmax			
	comp=Z,10.0nm,0.7s							
NVS	**Novosibirsk**	**23.94**	**8**	*eP*		P	07 30 10.5	-5.3
AKTO	**Aktyubinsk**	**24.25**	**328**	P		**P**	**07 30 18.9**	**+0.2**
	comp=Z,16nm,0.6s,baz=119,slow=10.0,SNR=36							
AKTO	**Aktyubinsk**	**24.25**	**328**	P		**P**	**07 30 19.0**	**+0.2**
AKTO				pmax	pmax			
	comp=Z,19nm,0.7s							
GYA	**Guiyang**	**25.64**	**93**	*eP*		**P**	**07 30 31.3**	**-0.4**
GYA				pP		**pP**	**07 30 43.8**	**+1.0**
GYA				PP		**PnPn**	**07 31 12.3**	**+3.2**
GYA				S		**S**	**07 34 55.0**	**-2.4**
GYA				sS		**sS**	**07 35 14.5**	**-1.5**
GYA				SS		**SnSn**	**07 36 01.5**	**+7.6**
GYA				PMZ				
	comp=Z,10.0nm,0.8s							
GYA				PMZ				
	comp=Z,90nm,4.8s							
GYA				LN				
	comp=Z,480nm,14.8s							
GYA				LE				
	comp=Z,380nm,15.5s							
GYA				LZ				
	comp=Z,420nm,14.4s							
IHRS	**Heris**	**26.21**	**294**	*eP*		**P**	**07 30 40.5**	**+3.5**
XAN	**Xi'an**	**26.27**	**75**	P		**P**	**07 30 36.3**	**-1.0**
XAN				PMZ				
	comp=Z,3.0nm,1.1s							
ZAK	**Zakamensk**	**26.94**	**37**	*eP*		**P**	**07 30 42.7**	**-0.6**
SONM	**Songino Array**	**27.36**	**44**	P		**P**	**07 30 48.6**	**+1.5**
	comp=Z,24nm,1.4s,baz=243,slow=9.8,SNR=5.8							
ARU	**Arti**	**28.61**	**337**	*d iP*		**P**	**07 30 58.5**	**+0.5**
ARU							07 31 47.2	
ARU				S		**S**	**07 35 44.7**	**+1.2**
ARU				pmax	pmax			
	comp=Z,6.0nm,1.0s							
ARU	**Arti**	**28.61**	**337**	*eP*		**P**	**07 30 58.2**	**+0.3**
	comp=Z,6.3nm,1.0s							
HHC	**Hu-ho-hao-te**	**28.76**	**61**	*eP*		**P**	**07 31 00.0**	**+0.4**
HHC				pP		**pP**	**07 31 13.8**	**+3.0**
HHC				sP		**sP**	**07 31 17.5**	**+1.8**
HHC				PP		**PnPn**	**07 31 53.3**	**+1.8**
HHC				S		**S**	**07 35 49.0**	**+2.6**
HHC				sS		**sS**	**07 36 02.5**	**-2.5**
HHC				PMZ				
	comp=Z,23nm,0.7s							
HHC				PMZ				
	comp=Z,46nm,5.7s							
HHC				LN				
	comp=Z,290nm,11.3s							
HHC				LE				
	comp=Z,230nm,12.3s							
HHC				LZ				
	comp=Z,290nm,11.5s							
KBZ	**Khabaz**	**30.21**	**304**	P		**P**	**07 31 12.4**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=56,slow=24,SNR=5.9							
QIZ	**Qiongzhong**	**31.28**	**105**	P		**P**	**07 31 22.5**	**+0.5**
QIZ				S		**S**	**07 36 27.0**	**+1.0**
NJ2	**Nanjing**	**34.77**	**78**	*eP*		**P**	**07 31 53.5**	**+1.2**
LPSR	**Galich'ya Gora**	**35.41**	**319**	*eP*		**P**	**07 31 57.8**	**+0.3**
LPSR				pmax	pmax			
	comp=Z,20nm,0.9s							
LPSR				pmax	pmax			
	comp=N,2.0nm,0.6s							
LPSR				pmax	pmax			
	comp=E,8.0nm,0.8s							
BRTR	**Keskin Array B**	**36.70**	**296**	P		**P**	**07 32 09.3**	**+0.3**
	comp=E,2.2nm,0.6s,baz=122,slow=10,SNR=11							
BRTR	**Keskin Array B**	**36.70**	**296**	*i* P		**P**	**07 32 09.3**	**+0.3**
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
BR231	**Keskin MP Arra**	**37.37**	**296**	*eP*		P	07 32 10.0	-4.6
OBN	**Obninsk**	**37.65**	**322**	P		**P**	**07 32 16.7**	**+0.2**
	comp=Z,25nm,0.3s,baz=112,slow=23,SNR=7.8							
OBN	**Obninsk**	**37.65**	**322**	*de*		**P**	**07 32 17.3**	**+0.7**
OBN

TRPA	Tarpa	44.82	309	⇓	*i*	P	P	07 33 17.6	+2.0
UZH	Uzhgorod	45.00	309		*e*	P	P	07 33 17.0	0.0
UZH					*e*			07 33 34.2	
FINES	FINESS Array B	45.03	328		P		P	07 33 17.6	+0.5
	comp=Z,4.3nm,0.6s,baz=119,slow=10.0,SNR=21								
FINES	FINESS Array B	45.03	328		*i* P		P	07 33 17.6	+0.5
FINES					pmax	pmax			
	comp=Z,4.0nm,0.6s								
YAK	Yakutsk	45.23	31		*e*P		P	07 33 17.8	-0.8
YAK					pmax	pmax			
	comp=Z,11nm,0.9s								
YAK					pmax	pmax			
	comp=E,6.0nm,1.1s								
SIRR	Siria	45.42	306	⇑	*i* P		P	07 33 21.6	+1.2
OKC	Ostrava-Krasne	47.73	311		*e*P		P	07 33 39.2	+0.8
OKC	Ostrava-Krasne	47.73	311		*e*P		P	07 33 39.2	+0.8
KEV	Kevo	47.82	339		*e*P		P	07 33 39.6	+0.8
KEV					pmax	pmax			
	comp=Z,77nm,2.0s								
KEV	Kevo	47.82	339		*e*P		P	07 33 39.5	+0.8
	comp=Z,77nm,2.0s								
ARA0	ARCESS Array S	48.20	338		*e*P		P	07 33 42.6	+0.9
ARCES	ARCESS Array B	48.20	338		P		P	07 33 42.6	+0.8
	comp=Z,4.1nm,0.5s,baz=109,slow=7.7,SNR=41								
ARCES					LR		LR	07 55 54.1	
	comp=Z,34nm,20.2s,baz=96,slow=38								
TIXI	Tiksi	48.72	19	⇑	*i* P		P	07 33 45.0	-0.8
TIXI					pmax	pmax			
	comp=Z,7.0nm,1.7s								
DPC	Dobruska-Polom	48.90	312		*e*P		P	07 33 47.8	+0.3
DPC					*e*pP		pP	07 33 52.8	-6.3
DPC	Dobruska-Polom	48.90	312		*e*P		P	07 33 48.1	+0.6
DPC					pmax	pmax			
	comp=Z,32nm,0.8s								
DPC	Dobruska-Polom	48.90	312		*e*P		P	07 33 48.1	+0.6
	comp=Z,32nm,0.8s								
UPC	Upice	49.09	312		*e*P		P	07 33 49.7	+0.8
UPC	Upice	49.09	312		*e*P		P	07 33 49.7	+0.8
CONA	Conrad Observa	49.30	308	⇓	*i* P		P	07 33 51.1	+0.4
	comp=Z,9.9nm,0.9s								
SOKA	Soboth	49.97	307	⇑	*i* P		P	07 33 56.1	+0.3
	comp=Z,8.2nm,0.9s								
PRU	Pruhonice	50.05	311		*e*P		P	07 33 56.8	+0.6
PRU	Pruhonice	50.05	311		*e*P		P	07 33 56.8	+0.6
BRG	Berggiesshubel	50.39	312		*e*P		P	07 33 59.2	+0.4
	comp=Z,6.5nm,0.9s								
BRG	Berggiesshubel	50.39	312		*e*P		P	07 33 59.2	+0.4
BRG					pmax	pmax			
	comp=Z,7.0nm,1.0s								
GERES	GERESS Array B	50.67	310		P		P	07 34 01.2	+0.1
	comp=Z,1.5nm,0.7s,baz=101,slow=6.9,SNR=8.4								
KHC	Kasperske Hory	50.73	310		*e*P		P	07 34 01.7	+0.2
KHC	Kasperske Hory	50.73	310		*e*P		P	07 34 01.7	+0.2
CLL	Collm	50.97	313		*e*P		P	07 34 03.0	-0.1
CLL					*e*pP		pP	07 34 09.0	-5.8
CLL	Collm	50.97	313		*e*P		P	07 34 03.0	-0.1
CLL					*e*			07 34 09.0	
ABTA	Abfaltersbach	51.68	307	⇑	*i* P		P	07 34 08.3	-0.4
	comp=Z,6.2nm,1.2s								
NB2	NORSAR Subarra	52.00	325		P		P	07 34 10.3	-0.5
	comp=Z,7.4nm,0.8s,baz=96,slow=7.4								
NOA	NORSAR Array B	52.00	325		P		P	07 34 10.6	-0.2
	comp=Z,5.1nm,0.7s,baz=95,slow=7.2,SNR=22								
NBO02	NORSAR Array S	52.18	325		*e*P		P	07 34 12.0	-0.1
WTTA	Wattenberg	52.21	308	⇓	*i* P		P	07 34 12.3	-0.4
	comp=Z,4.6nm,0.5s								
MOTA	Moosalm	52.56	308	⇑	*i* P		P	07 34 14.7	-0.6
	comp=Z,3.9nm,0.6s								
FETA	Feichten	52.86	308	⇓	*i* P		P	07 34 16.8	-0.7
	comp=Z,5.6nm,1.0s								
DAVA	Damuels	53.40	308	⇑	*i* P		P	07 34 20.8	-0.6
	comp=Z,14nm,0.9s								
SENIN	Lac Senin/Sane	55.30	307		*e*P		P	07 34 35.1	-0.2
HINF	Hinteralfeld	55.34	309		*e*P		P	07 34 34.8	-0.6
HINF	Hinteralfeld	55.34	309		*e*P		P	07 34 34.8	-0.6
HINF	Hinteralfeld	55.34	309		*e*P		P	07 34 34.8	-0.6
HAU	Haudompre	55.64	310		*e*P		P	07 34 37.0	-0.5
	comp=Z,22nm,1.0s								
HAU	Haudompre	55.64	310		*e*P		P	07 34 37.0	-0.5
HAU					pmax	pmax			
	comp=Z,22nm,1.0s								
HAU	Haudompre	55.64	310		*e*P		P	07 34 37.0	-0.5
	comp=Z,22nm,1.0s								
SBF	Sospel	55.70	304		*e*P		P	07 34 37.7	-0.4
	comp=Z,28nm,0.9s								
SBF	Sospel	55.70	304		*e*P		P	07 34 37.7	-0.4
SBF					pmax	pmax			
	comp=Z,28nm,0.9s								
SBF	Sospel	55.70	304		*e*P		P	07 34 37.7	-0.4
	comp=Z,28nm,0.9s								
SEY	Seymchan	55.74	32	⇓	*i* P		P	07 34 37.7	-0.3
LPG	La Plagne	55.84	306		*e*P		P	07 34 39.2	-0.1
	comp=Z,18nm,0.9s								
LPG	La Plagne	55.84	306		*e*P		P	07 34 39.2	-0.1
LPG					pmax	pmax			
	comp=Z,19nm,0.9s								
LPG	La Plagne	55.84	306		*e*P		P	07 34 39.2	-0.1
	comp=Z,18nm,0.9s								
LPL	La Plagne	55.84	306		*e*P		P	07 34 39.3	0.0
	comp=Z,33nm,1.0s								
LPL	La Plagne	55.84	306		*e*P		P	07 34 39.3	0.0
LPL					pmax	pmax			
	comp=Z,33nm,1.0s								
LPL	La Plagne	55.84	306		*e*P		P	07 34 39.3	0.0
	comp=Z,33nm,1.0s								
MBDF	Montbardon	55.98	306		*e*P		P	07 34 39.5	-0.7
MBDF	Montbardon	55.98	306		*e*P		P	07 34 39.5	-0.7
MBDF	Montbardon	55.98	306		*e*P		P	07 34 39.5	-0.7
CABF	La Chapelle	56.07	308		*e*P		P	07 34 40.4	-0.3
CABF	La Chapelle	56.07	308		*e*P		P	07 34 40.4	-0.3
CABF	La Chapelle	56.07	308		*e*P		P	07 34 40.4	-0.3
KEST	Kesra	56.28	294		P		P	07 34 41.4	-1.0
	comp=Z,1.1nm,0.8s,baz=63,slow=4.5,SNR=3.0								
VIVF	Saint-Julien-l	57.41	306		*e*P		P	07 34 49.9	-0.3
	comp=Z,7.5nm,0.7s								
VIVF	Saint-Julien-l	57.41	306		*e*P		P	07 34 49.9	-0.3
VIVF					pmax	pmax			
	comp=Z,8.0nm,0.7s								
VIVF	Saint-Julien-l	57.41	306		*e*P		P	07 34 49.9	-0.3
	comp=Z,7.5nm,0.7s								
SMF	Signal de Mont	57.58	308		*e*P		P	07 34 50.7	-0.6
SMF	Signal de Mont	57.58	308		*e*P		P	07 34 50.7	-0.6
SMF	Signal de Mont	57.58	308		*e*P		P	07 34 50.7	-0.6
AVF	Avril sur Loir	57.87	309		*e*P		P	07 34 52.6	-0.8
	comp=Z,19nm,1.2s								
AVF	Avril sur Loir	57.87	309		*e*P		P	07 34 52.6	-0.8
AVF					pmax	pmax			
	comp=Z,19nm,1.2s								
AVF	Avril sur Loir	57.87	309		*e*P		P	07 34 52.6	-0.8
	comp=Z,19nm,1.2s								
LASF	Ste Croix	58.16	305		*e*P		P	07 34 55.4	-0.1
	comp=Z,15nm,1.0s								
LASF	Ste Croix	58.16	305		*e*P		P	07 34 55.4	-0.1
	comp=Z,15nm,1.0s								
TCF	Toulx Ste Croi	58.76	308		*e*P		P	07 34 59.4	-0.2
	comp=Z,16nm,1.1s								
TCF	Toulx Ste Croi	58.76	308		*e*P		P	07 34 59.4	-0.2
TCF					pmax	pmax			
	comp=Z,16nm,1.1s								
TCF	Toulx Ste Croi	58.76	308		*e*P		P	07 34 59.4	-0.2
	comp=Z,16nm,1.1s								
CAF	Calviac	59.19	307		*e*P		P	07 35 02.6	0.0
	comp=Z,11nm,0.8s								
CAF	Calviac	59.19	307		*e*P		P	07 35 02.6	0.0
CAF					pmax	pmax			
	comp=Z,11nm,0.8s								
CAF	Calviac	59.19	307		*e*P		P	07 35 02.6	0.0
	comp=Z,11nm,0.8s								
MTLF	Montolieu	59.50	305		*e*P		P	07 35 04.6	-0.1
	comp=Z,7.1nm,0.9s								
MTLF	Montolieu	59.50	305		*e*P		P	07 35 04.6	-0.1
MTLF					pmax	pmax			
	comp=Z,7.0nm,0.9s								
MTLF	Montolieu	59.50	305		*e*P		P	07 35 04.6	-0.1
	comp=Z,7.1nm,0.9s								
LDF	La Druitiere	59.74	311		*e*P		P	07 35 06.1	-0.2
LDF	La Druitiere	59.74	311		*e*P		P	07 35 06.1	-0.2
LDF	La Druitiere	59.74	311		*e*P		P	07 35 06.1	-0.2
FLN	La Foliniere	59.93	312		*e*P		P	07 35 07.8	+0.2
	comp=Z,45nm,1.4s								
FLN	La Foliniere	59.93	312		*e*P		P	07 35 07.8	+0.2
FLN					pmax	pmax			
	comp=Z,45nm,1.4s								
FLN	La Foliniere	59.93	312		*e*P		P	07 35 07.8	+0.2
	comp=Z,45nm,1.4s								
BILL	Bilibino	60.89	25		*e*P		P	07 35 14.9	+1.1
BILL						pmax	pmax		
	comp=Z,9.0nm,1.2s								
BILL	Bilibino	60.89	25		*e*P		P	07 35 14.9	+1.1
	comp=Z,9.3nm,1.2s								
EPF	Esparros	60.90	305		*e*P		P	07 35 13.2	-1.2
EPF	Esparros	60.90	305		*e*P		P	07 35 13.2	-1.2
EPF	Esparros	60.90	305		*e*P		P	07 35 13.2	-1.2
ETSF	Etsaut	61.57	305		*e*P		P	07 35 18.2	-0.8
ETSF	Etsaut	61.57	305		*e*P		P	07 35 18.2	-0.8
ETSF	Etsaut	61.57	305		*e*P		P	07 35 18.2	-0.8
ROSF	Rostrenen	61.83	312		*e*P		P	07 35 20.9	+0.4
	comp=Z,89nm,1.5s								
ROSF	Rostrenen	61.83	312		*e*P		P	07 35 20.9	+0.4
ROSF					pmax	pmax			
	comp=Z,89nm,1.5s								
ROSF	Rostrenen	61.83	312		*e*P		P	07 35 20.9	+0.4
	comp=Z,89nm,1.5s								
QUIF	Quistinic	61.88	311		*e*P		P	07 35 20.7	-0.1
QUIF	Quistinic	61.88	311		*e*P		P	07 35 20.7	-0.1
QUIF	Quistinic	61.88	311		*e*P		P	07 35 20.7	-0.1
SJPF	Ste Jean	61.98	305		*e*P		P	07 35 21.6	0.0
SJPF	Ste Jean	61.98	305		*e*P		P	07 35 21.6	0.0
SJPF	Ste Jean	61.98	305		*e*P		P	07 35 21.6	0.0
ES19	SONSECA Array	64.99	303		*e*P		P	07 35 41.9	+0.2
ESDC	Sonseca Array	65.05	303		P		P	07 35 41.9	-0.2
	comp=Z,4.4nm,0.8s,baz=63,slow=7.0,SNR=17								
EVO	Evora	68.40	303		*e*P		P	07 36 04.2	+0.9
	comp=Z,15nm,0.9s								
EVOP	Sao Brissos	68.48	303		*e*P		P	07 36 04.2	+0.4
EVOP					pmax	pmax			
	comp=Z,15nm,0.9s								
EVOP	Sao Brissos	68.48	303		*e*P		P	07 36 04.2	+0.4
	comp=Z,15nm,0.9s								
TOA0	Torodi Ar. Sit	71.57	274		*e*P		P	07 36 22.0	-1.2
TORD	Torodi Ar. Bea	71.57	274		P		P	07 36 22.2	-0.9
	comp=Z,2.0nm,0.4s,baz=61,slow=5.3,SNR=29								
WRA	Warramunga Arr	74.31	125		P		P	07 36 39.4	+0.2
	comp=Z,4.0nm,0.5s,baz=321,slow=5.7,SNR=68								
WRA	Warramunga Arr	74.31	125		*i* P		P	07 36 39.4	+0.2
WRA					pmax	pmax			
	comp=Z,8.0nm,0.8s								
WRAB	Tennant Creek	74.31	125		*e*P		P	07 36 39.8	+0.6
WRAB					pmax	pmax			
	comp=Z,104nm,2.8s								
WRAB	Tennant Creek	74.31	125		*e*P		P	07 36 39.8	+0.6
	comp=Z,104nm,2.8s								
LBTB	Lobatse	74.98	228		*e*P		P	07 36 44.0	+0.9
LBTB					pmax	pmax			
	comp=Z,193nm,2.6s								
LBTB	Lobatse	74.98	228		*e*P		P	07 36 44.0	+0.9
	comp=Z,193nm,2.6s								
IM04	Indian Mountai	75.37	19		*e*P		P	07 36 44.4	-0.2
COLD	Coldfoot	75.42	17		*e*P		P	07 36 45.6	+0.8
	comp=Z,5.4nm,0.9s								
ASAR	Alice Springs	76.52	129		P		P	07 36 52.1	+0.3
	comp=Z,2.7nm,0.6s,baz=310,slow=6.0,SNR=36								
AS01	Alice Springs	76.55	129		*e*P		P	07 36 51.9	-0.1
MLY	Manley	76.93	19		*e*P		P	07 36 54.5	+0.9
	comp=Z,11nm,1.2s								
BPAW	Bear Paw Mtn.	77.56	20		*e*P		P	07 36 57.5	+0.4
	comp=Z,1.2nm,1.0s								
MDM	Murphy Dome	77.67	18		*e*P		P	07 36 58.2	+0.5
	comp=Z,7.2nm,0.9s								
BOSA	Bosf	77.76	226		P		P	07 36 58.6	-0.1
	comp=Z,2.4nm,0.7s,baz=36,slow=7.3,SNR=5.9								
COLA	College	77.84	18	⇑	*i* P		P	07 36 58.2	-0.4
COLA					pmax	pmax			
	comp=Z,47nm,1.1s								
COLA	College	77.84	18		*e*P		P	07 36 59.2	+0.7
	comp=Z,9.9nm,0.8s								
CCB	Clear Creek Bu	78.03	18		*e*P		P	07 36 59.3	-0.3
	comp=Z,2.9nm,0.9s								
WRH	Wood River Hil	78.09	19		*e*P		P	07 36 59.5	-0.5
	comp=Z,3.4nm,0.8s								
IL1	Eielson Array	78.18	18		*e*P		P	07 37 00.2	-0.3
ILAR	Eielson Array	78.18	18		P		P	07 36 59.9	-0.6
	comp=Z,3.6nm,0.9s,baz=309,slow=4.8,SNR=8.2								
ILAR						PP	PP	07 39 55.5	-1.2
	comp=Z,0.5nm,0.9s,baz=309,slow=8.8,SNR=4.8								
RND	Reindeer	78.71	20		*e*P		P	07 37 03.3	-0.2
RND					pmax	pmax			
	comp=Z,50nm,2.5s								
RND	Reindeer	78.71	20		*e*P		P	07 37 03.3	-0.2
	comp=Z,50nm,2.5s								
DDM	Donnelly Dome	79.23	18		*e*P		P	07 37 05.9	-0.5
	comp=Z,18nm,0.8s								
SCRK	Sand Creek	79.57	17		*e*P		P	07 37 08.3	0.0
	comp=Z,9.7nm,1.3s								
EGAK	Eagle	79.61	16		*e*P		P	07 37 08.5	+0.2
	comp=Z,5.6nm,1.0s								
DOT	Dot Lake	79.82	18		*e*P		P	07 37 09.6	+0.1
	comp=Z,94nm,2.9s								
PAX	Paxson	80.00	19		*e*P		P	07 37 10.4	-0.2
PAX					pmax	pmax			
	comp=Z,15nm,1.5s								
PAX	Paxson	80.00	19		*e*P		P	07 37 10.4	-0.2
	comp=Z,15nm,1.5s								
PMR	Palmer	80.03	21		*e*P		P	07 37 10.2	-0.4
PMR	Palmer	80.03	21		*e*P		P	07 37 10.2	-0.4
RC01	Rabbit Creek A	80.23	21		*e*P		P	07 37 12.2	+0.4
	comp=Z,10nm,0.9s								
SCM	Sheep Creek Mo	80.38	20		*e*P		P	07 37 13.0	+0.4
SCM					pmax	pmax			
	comp=Z,9.0nm,0.9s								
SCM	Sheep Creek Mo	80.38	20		*e*P		P	07 37 13.0	+0.4
	comp=Z,8.6nm,0.9s								
DAWY	Dawson	80.62	16		*e*P		P	07 37 13.8	-0.1
SEW	Seward	81.08	22		*e*P		P	07 37 16.6	+0.4
	comp=Z,6.9nm,0.9s								
KDAK	Kodiak Island	81.78	25		*e*P		P	07 37 21.4	+1.3
KDAK					pmax	pmax			
	comp=Z,43nm,1.5s								
KDAK	Kodiak Island	81.78	25		*e*P		P	07 37 21.4	+1.3
	comp=Z,43nm,1.5s								
CTA	Charters Tower	83.08	118		P		P	07 37 26.9	-0.4
	comp=Z,2.9nm,0.8s,baz=319,slow=6.3,SNR=6.1								
CTAO	Charters Tower	83.08	118		*e*P		P	07 37 28.0	+0.6
CTAO					pmax	pmax			
	comp=Z,30nm,1.8s								
CTAO	Charters Tower	83.08	118		*e*P		P	07 37 28.0	+0.6
	comp=Z,30nm,1.8s								
HYT	Haines Junctio	83.86	17		*e*P		P	07 37 32.0	+1.0
YKA	Yellowknife Ar	86.10	6		P		P	07 37 41.3	-0.7
	comp=Z,1.6nm,0.6s,baz=345,slow=5.0,SNR=13								
YKB5	Yellowknife Ar	86.10	6		*e*P		P	07 37 41.3	-0.7
STKA	Stephens Creek	87.04	130		P		P	07 37 46.7	-0.2
	comp=Z,1.5nm,0.7s,baz=308,slow=5.6,SNR=4.1								
STKA	Stephens Creek	87.04	130		P		P	07 37 46.7	-0.2
STKA					pmax	pmax			
	comp=Z,2.0nm,0.7s								
STKA	Stephens Creek	87.04	130		*e*P		P	07 37 47.0	0.0
	comp=Z,12nm,2.1s								
COR	Corvallis	102.15	15		*e*PP		PP	07 43 06.1	-1.0
LAO	LASA Array	102.39	3		*e*PP		PP	07 43 03.6	-5.3
TXAR	Lajitas Array	119.79	2		PKP		PKPdf	07 43 52.4	+0.4
	comp=Z,0.3nm,0.6s,baz=124,slow=1.0,SNR=6.3								
LPAZ	La Paz	145.68	288		PKPbc		PKPdf	07 44 41.0	-0.1
	comp=Z,2.3nm,0.7s,baz=49,slow=4.3,SNR=13								
LPAZ	La Paz	145.68	288		PKP2		PKPdf	07 44 41.0	-0.1
LPAZ					pmax	pmax			
	comp=Z,2.0nm,0.7s								
LPAZ	La Paz	145.68	288		*e*PKPdf		PKPbc	07 44 41.4	-0.1
TRQA	Tornquist	146.45	247		*e*PKPbc		PKPab	07 44 43.5	0.0

IDC ***28*** *07:26:26.0±2.6, 12.03N×87.59W, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/21, mbtmp3.9/6, Error ellipse: s-maj=53.0km s-min=50.9km az=57.0*

ISCJB ***28*** *07:26:30.4±0.5, 11.93N±0.06×88.09W±0.05, h35km, mb4.1/15, Error ellipse: s-maj=10.7km s-min=4.5km az=34.2*

NEIC ***28*** *07:26:30.9±1.1, 11.89N×87.84W, h35km, mb4.3/9, Error ellipse: s-maj=20.8km s-min=17.0km az=111.0*

CASC ***28*** *07:26:32.4±2.5, 12.02N×88.00W, h35km±27km, MD4.2*

ISC 28 07:26:32.2±0.8, 12.02N±0.07×88.03W±0.07, h35km, n147, σ0.86/149, mb4.2/15, 55C-63D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	Conchagua	1.27	9	*e*P		Pn	07 26 53.8	+0.2
COPN	Copaltepe	1.42	83	⇓ *e*P		Pn	07 26 55.6	+0.1
COPN				*e*S		Sn	07 27 12.8	-0.2
VSM	San Miguel	1.42	350	⇓ *e*P		Pn	07 26 56.3	+0.4
CAHU	Cacacuatique	1.75	354	*e*P		Pn	07 27 00.9	+0.6
LFRS	El Faro	1.89	328	*e*P		Pn	07 27 01.8	-0.3
LFRS				*e*S		Sn	07 27 26.1	+1.4
LBRS	Las Brisas	1.98	330	*e*P		Pn	07 27 03.7	+0.4
TGUH	Tegucigalpa,Un	2.16	20	*e*Pn		Pn	07 27 06.5	+0.7
SBLS	San Blas	2.39	320	*e*P		Pn	07 27 09.7	+0.6
RBDL	Robledal	2.63	322	*e*P		Pn	07 27 13.1	+0.7
VCR	Vista de Mar	3.01	128	*e*P		Pn	07 27 15.8	-1.8
JCR	Jicaral	3.58	127	*e*P		Pn	07 27 25.9	+0.5
CGA2	Cerro Gallo 2	4.03	119	*e*P		Pn	07 27 33.1	+1.6
URSC	Urasca	4.71	117	*e*P		Pn	07 27 44.1	+3.2
BUS	Buena Vista	4.86	120	⇑ *e*P		Pn	07 27 45.3	+2.0
035A	Encino	17.60	329	⇓ P		P	07 30 38.1	+2.5
	baz=18							
034A	Hebbronville	18.01	328	⇓ P		P	07 30 42.0	+2.0
	baz=18							
934A	Benavides	18.36	329	⇓ P		Pn	07 30 46.0	+1.8
	baz=19							
835A	Beeville	18.60	332	⇑ P		Pn	07 30 48.2	+1.1
	baz=19							
933A	Laredo	18.76	327	⇑ P		Pn	07 30 49.6	+0.6
	baz=19							
834A	Tilden	18.81	330	⇓ P		Pn	07 30 50.5	+1.0
	baz=19							
736A	Circle Diamond	18.84	335	⇓ P		Pn	07 30 50.5	+0.6
	baz=19							
636A	Smothers Creek	19.30	336	⇑ P		Pn	07 30 55.9	+0.4
	baz=20							
833A	Chaparral WMA,	19.39	328	⇑ P		Pn	07 30 56.6	+0.1
	baz=20,SNR=7.2							
832A	Faith Ranch, C	19.66	327	⇑ P		Pn	07 30 59.5	-0.4
	baz=20,SNR=18							
733A	Divot King Ran	19.66	329	⇓ P		Pn	07 30 59.6	-0.2
	baz=20,SNR=17							
438A	Sam Houston St	19.88	341	⇓ P		Pn	07 31 01.9	-0.4
	baz=20							
732A	Laxson Ranch,	20.02	328	⇑ P		P	07 31 02.9	+0.8
	baz=20,SNR=5.9							
340A	Bronson	20.05	345	⇑ P		Pn	07 31 04.8	+0.4
	baz=20							
633A	Saathoff Ranch	20.22	331	⇓ P		P	07 31 04.7	+0.4
	baz=20,SNR=9.6							
534A	Blanco	20.38	333	⇓ P		P	07 31 06.4	+0.4
	baz=21,SNR=5.7							
632A	Uvalde	20.55	330	⇑ P		P	07 31 08.4	+0.5
	baz=21							
533A	Kerrville	20.67	332	⇓ P		P	07 31 09.9	+0.8
	baz=21,SNR=6.7							
631A	Perdido Creek	20.88	328	⇓ P		P	07 31 11.6	+0.1
	baz=21							
434A	Burnet	20.97	335	⇓ P		P	07 31 13.0	+0.6
	baz=21							
335A	Moody	21.05	337	⇓ P		P	07 31 13.9	+0.7
	baz=21							
532A	Rocksprings	21.12	330	⇓ P		P	07 31 15.1	+1.0
	baz=21,SNR=9.3							
433A	Art	21.27	333	⇓ P		P	07 31 15.7	0.0
	baz=22							
JCT	Junction City	21.37	331	*e*P		P	07 31 17.4	+0.6
	6.5nm,0.7s							
JCT	Junction City	21.37	331	⇓ P		P	07 31 17.2	+0.4
	baz=22							
334A	Lometa	21.41	335	⇑ P		P	07 31 18.6	+1.4
	baz=22,SNR=5.8							
WHTX	Lake Whitney,	21.69	338	⇑ P		P	07 31 20.8	+0.7
	baz=22							
432A	Menard	21.70	332	⇓ P		P	07 31 20.7	+0.5
	baz=22							
GOGA	Godfrey	21.70	10	*e*P		P	07 31 21.2	+1.0
	5.4nm,0.6s							
333A	Richland Sprin	21.71	334	⇑ P		P	07 31 21.3	+0.9
	baz=22,SNR=8.0							
530A	J-C Ranch, Com	21.86	328	⇑ P		P	07 31 23.1	+1.0
	baz=22							
431A	Sonora	21.92	330	⇓ P		P	07 31 23.4	+0.7
	baz=22							
234A	Clairette	21.96	337	⇓ P		P	07 31 24.8	+1.7
	baz=22							
332A	Millersview	22.10	333	⇓ P		P	07 31 25.9	+1.4
	baz=22,SNR=18							
233A	Rising Star	22.28	335	⇑ P		P	07 31 26.9	+0.4
	baz=23							
529A	Stev Forest Ra	22.32	326	⇑ P		P	07 31 27.2	+0.3
	baz=23							
430A	Baggett Ranch,	22.32	329	⇓ P		P	07 31 27.5	+0.5
	baz=23							
331A	San Angelo	22.35	331	⇑

	19nm,0.6s							
W34A	**Bridge Creek,** baz=25,SNR=7.6	**24.75**	**341**	⇓P	**P**		**07 31 50.5**	**0.0**
TUL1	**Leonard** baz=25	**24.80**	**345**	⇑P	**P**		**07 31 52.0**	**+1.0**
W33A	**Caddo, Fort Co** baz=25	**24.90**	**339**	⇓P	**P**		**07 31 52.0**	**0.0**
Z28A	**Tucker Farm, M** baz=25	**24.92**	**330**	⇓P	**P**		**07 31 51.8**	**-0.4**
X31A	**McDonald Ranch** baz=25	**25.00**	**336**	⇓P	**P**		**07 31 52.8**	**0.0**
Y29A	**Porterfield Fa** baz=25	**25.06**	**332**	⇑P	**P**		**07 31 53.2**	**-0.3**
W32A	**Sentinel** baz=25,SNR=9.1	**25.16**	**338**	⇓P	**P**		**07 31 54.4**	**+0.2**
X30A	**Coker Ranch, T** baz=26,SNR=18	**25.20**	**334**	⇓P	**P**		**07 31 55.7**	**+1.0**
V34A	**Guthrie** baz=26	**25.22**	**342**	⇓P	**P**		**07 31 54.2**	**-0.6**
MNTX	**Cornudas Mount** baz=26	**25.29**	**323**	⇑P	**P**		**07 31 55.9**	**+0.4**
Y28A	**McKinney Farm,** baz=26	**25.36**	**332**	⇑P	**P**		**07 31 56.5**	**+0.2**
V33A	**Lossen Ranch,** baz=26	**25.45**	**340**	⇓P	**P**		**07 31 57.0**	**+0.1**
X29A	**Tulia** baz=26	**25.56**	**333**	⇓P	**P**		**07 31 58.4**	**+0.4**
V32A	**Arapaho** baz=26	**25.62**	**339**	⇑P	**P**		**07 31 59.3**	**+0.9**
MSTX	**Muleshoe** 7.7nm,0.8s	**25.66**	**331**	*e*P	**P**		**07 31 59.6**	**+0.7**
MSTX	**Muleshoe** baz=26	**25.66**	**331**	⇑P	**P**		**07 31 59.9**	**+0.9**
T37A	**Cheneyville 18** baz=26	**25.75**	**347**	⇑P	**P**		**07 32 00.9**	**+1.2**
U34A	**Anderson Ranch** baz=26	**25.78**	**342**	⇑P	**P**		**07 31 59.6**	**-0.3**
X28A	**Dimmitt** baz=26	**25.84**	**332**	⇑P	**P**		**07 32 01.1**	**+0.5**
V31A	**Spring Creek L** baz=26	**25.95**	**338**	⇓P	**P**		**07 32 01.1**	**-0.4**
S36A	**Lake Cedric, C** baz=27	**26.48**	**346**	⇑P	**P**		**07 32 05.8**	**-0.4**
N27A	**Anderson Farm,** baz=32	**31.39**	**339**	⇑P	**P**		**07 32 51.1**	**+1.2**
P23A	**Jefferson** baz=32	**31.49**	**333**	⇓P	**P**		**07 32 51.9**	**+0.7**
ECSD	**EROS Data Cent** baz=33	**32.46**	**348**	⇑P	**P**		**07 32 58.6**	**-0.7**
K28A	**Ten Mile Ranch** baz=33	**32.71**	**342**	⇑P	**P**		**07 33 01.7**	**+0.2**
N23A	**Red Feather La** baz=33	**32.79**	**334**	⇑P	**P**		**07 33 02.9**	**+0.4**
N22A	**Wattenberg Ran** baz=33	**32.93**	**334**	⇑P	**P**		**07 33 03.8**	**+0.1**
PDAR	**Pinedale Array** 0.3nm,0.7s,baz=135,slow=9.0,SNR=2.8	**35.89**	**333**	P	**P**		**07 33 30.7**	**+1.5**
PDAR	0.3nm,0.7s,baz=114,slow=4.4,SNR=2.7			PcP	**PcP**		**07 35 56.7**	**+0.7**
D30A	**Buchanan** baz=36	**36.13**	**348**	⇑P	**P**		**07 33 30.7**	**-0.3**
I20A	**Worland** baz=36	**36.23**	**335**	⇑P	**P**		**07 33 30.3**	**-1.7**
REDW	**Red Top Meadow** 6.2nm,1.2s	**36.94**	**332**	*e*P	**P**		**07 33 38.6**	**+0.3**
SNOW	**Snow King Moun** 1.8nm,0.5s	**36.98**	**332**	*e*P	**P**		**07 33 39.0**	**+0.4**
F22A	**Rosebud** baz=37	**37.05**	**339**	⇑P	**P**		**07 33 38.5**	**-0.4**
E24A	**Baker** baz=37	**37.08**	**341**	⇓P	**P**		**07 33 38.4**	**-0.8**
G20A	**Bridger** baz=38	**37.31**	**336**	⇓P	**P**		**07 33 40.3**	**-0.9**
B30A	**Myrvik Farm, E** baz=38	**37.32**	**349**	⇓P	**P**		**07 33 40.6**	**-0.6**
D24A	**Glendive** baz=38	**37.58**	**342**	⇓P	**P**		**07 33 43.4**	**0.0**
NVAR	**Mina Array Bea** 0.2nm,0.4s,baz=124,slow=4.8,SNR=2.4	**37.66**	**320**	PcP	**PcP**		**07 36 01.5**	**+0.1**
F20A	**Billings** baz=38	**37.77**	**337**	⇓P	**P**		**07 33 45.1**	**0.0**
A29A	**Manning Farm,** baz=38	**37.95**	**348**	⇑P	**P**		**07 33 45.9**	**-0.6**
F19A	**Roth Farm, Mol** baz=38	**38.12**	**336**	⇑P	**P**		**07 33 47.0**	**-1.0**
E20A	**Meyer Farm, Mu** baz=39	**38.35**	**338**	⇓P	**P**		**07 33 49.8**	**-0.1**
ULM	**Lac du Bonnet** 3.9nm,0.6s,baz=167,slow=9.0,SNR=8.2	**38.66**	**352**	P	**P**		**07 33 50.5**	**-1.8**
DGMT	**Dagmar** baz=39	**38.76**	**343**	⇓P	**P**		**07 33 53.0**	**-0.3**
D20A	**Manuel Ranch,** baz=39	**38.85**	**338**	⇑P	**P**		**07 33 53.7**	**-0.4**
A25A	**Svangstu Ranch** baz=39	**38.88**	**344**	⇓P	**P**		**07 33 54.5**	**+0.2**
D19A	**Cripps Ranch,** baz=40	**39.19**	**337**	⇑P	**P**		**07 33 57.7**	**+0.8**
C19A	**Slack Wire Ran** baz=40	**39.73**	**338**	⇓P	**P**		**07 34 01.5**	**+0.1**
B19A	**Brinkman Farms** baz=41	**40.29**	**338**	⇑P	**P**		**07 34 06.9**	**+0.8**
A20A	**Cobblestone Ra** baz=41	**40.30**	**340**	⇑P	**P**		**07 34 06.6**	**+0.5**
N02D	**Trinity Center** baz=42	**41.90**	**320**	⇓P	**P**		**07 34 19.9**	**+0.5**
SCHQ	**Schefferville** 2.3nm,0.6s,baz=194,slow=4.6,SNR=5.6	**45.85**	**17**	P	**P**		**07 34 48.5**	**-2.4**
YKA	**Yellowknife Ar** 0.6nm,0.7s,baz=136,slow=7.9,SNR=9.7	**53.88**	**345**	P	**P**		**07 35 50.7**	**-1.0**
WRA	**Warramunga Arr** 0.2nm,0.6s,baz=90,slow=2.7,SNR=2.6	**138.60**	**253**	PKP	**PKPdf**		**07 45 55.1**	**-0.3**
CMAR	**Chiang Mai Arr** 1.5nm,0.4s,baz=326,slow=4.4,SNR=3.4	**148.95**	**347**	PKPbc	**PKPbc**		**07 46 16.2**	**-1.2**

*SJA **28** 07:30:02.7±0.5,20.00S×69.03W,h148km±73km,ML3.6*
*ISCJB **28** 07:30:06.4±0.4,20.27S±0.04×68.96W±0.06,h123km±6km, mb4.2/4,Error ellipse: s-maj=9.6km s-min=5.1km az=156.3*
*IDC **28** 07:30:07.5±0.7,20.28S×68.70W,h114km±6km,mb3.9/5, mb1 4.0/8,mb1mx3.6/21,mbtmp4.3/8,Error ellipse: s-maj=22.4km s-min=7.8km az=97.0*
*GUC **28** 07:30:07.3±1.3,20.31S×68.98W,h112km±13km,ML4.1*
*NEIC **28** 07:30:07.9±0.7,20.28S×68.70W,h117km±7km,mb4.5/2, Error ellipse: s-maj=11.7km s-min=8.5km az=71.0*

ISC 28 07:30:07.4±0.6,20.29S±0.03×68.99W±0.06,h117km±5km, n29,σ1§27/42,mb4.3/4,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.88**	**211**	*e*P	**Pn**	**07 30 27.8**	**-0.4**
PB01				*e*S	**Sn**	**07 30 43.5**	**-0.4**
PB01	comp=N,8μm,0.7s			AML	AML	07 30 44.3	
PATCX	**Punta Patache**	**1.21**	**244**	*e*P	**Pn**	**07 30 31.3**	**-0.1**
PATCX				*e*S	**Sn**	**07 30 49.8**	**+0.1**
PATCX	comp=E,3μm,0.5s			AML	AML	07 30 51.4	
PSGC	**Pisagua**	**1.27**	**303**	*e*P	**Pn**	**07 30 31.7**	**-0.4**
PSGC				*e*S	**Sn**	**07 30 50.5**	**-0.3**
PSGC	comp=N,3μm,0.4s			AML	AML	07 30 52.5	
MNMC	**Minimini**	**1.28**	**334**	*e*P	**Pn**	**07 30 32.6**	**+0.2**
MNMC				*e*S	**Sn**	**07 30 52.0**	**+0.6**
PB04	**IPOC Station P**	**2.02**	**193**	*e*P	Pn	07 30 45.0	+4.1
PB04	comp=N,904nm,0.9s			AML	AML	07 31 25.3	
LVC	**Limon Verde** comp=N,1μm,0.3s,baz=13,slow=11,SNR=126	**2.32**	**178**	P	**Pn**	**07 30 45.7**	**+0.7**
LVC				S	**Sn**	**07 31 14.0**	**+0.2**
	comp=N,3μm,0.3s,baz=354,slow=9.9,SNR=9.9						
LVC	**Limon Verde**	**2.32**	**178**	*e*Pn	**Pn**	**07 30 45.7**	**+0.7**
LVC				*e*Sn	**Sn**	**07 31 15.5**	**+1.8**
PB06	**IPOC Station P**	**2.47**	**193**	*e*P	**Pn**	**07 30 47.0**	**+0.2**
PB06	comp=E,954nm,0.1s			AML	AML	07 31 20.6	
PB10	**IPOC Station P**	**3.52**	**204**	*e*P	**Pn**	**07 30 59.2**	**-1.3**
PB10				*e*S	**Sn**	**07 31 38.1**	**-3.5**
LPAZ	**La Paz** comp=E,7.7nm,0.3s,baz=193,slow=6.2,SNR=277	**4.06**	**12**	P	**Pn**	**07 31 08.8**	**+0.5**
LPAZ				S	**Sn**	**07 31 53.0**	**-2.3**
	comp=E,0.8nm,0.3s,baz=141,slow=14,SNR=2.0						
LPAZ	**La Paz**	**4.06**	**12**	*e*Pn	**Pn**	**07 31 09.7**	**+1.5**
LPAZ				S	**Sn**	**07 31 53.0**	**-2.3**
HJA	**Humahuaca**	**4.42**	**132**	*i* P	**Pn**	**07 31 13.3**	**+0.5**
HJA				*i* S	**Sn**	**07 32 05.4**	**+1.7**
HJA				AML	AML	07 32 06.8	
	comp=Z,42nm,0.7s						
ARE	**Arequipa**	**4.48**	**328**	*e*P	**Pn**	**07 31 15.0**	**+1.4**
AZAP	**Zapla**	**5.35**	**138**	*i* P	**Pn**	**07 31 24.8**	**-0.4**
SLA	**San Lorenzo**	**5.47**	**144**	*i* P	**Pn**	**07 31 27.2**	**+0.5**
ASTB	**Santa Barbara**	**5.55**	**132**	*i* P	**Pn**	**07 31 27.5**	**-0.3**
ASTB				*i* S	**Sn**	**07 32 30.8**	**+0.3**
ALOL	**LOMAS DE OLMED**	**5.83**	**128**	*i* P	**Pn**	**07 31 31.0**	**-0.6**
ALOL				*i* P	**Pn**	**07 31 31.0**	**-0.6**
SIV	**San Ignacio** comp=Z,5.5nm,0.3s,baz=264,slow=11,SNR=36	**8.66**	**62**	P	Pn	07 32 06.0	-3.8
CPUP	**Villa Florida**	**12.29**	**122**	*e*Pn	**Pn**	**07 32 56.1**	**-2.2**
TRQA	**Tornquist** comp=Z,5.5nm,0.6s	**18.73**	**163**	*e*P	**P**	**07 34 17.0**	**+0.1**
BDFB	**Brasilia** comp=Z,3.6nm,0.5s,baz=253,slow=11,SNR=9.9	**20.48**	**80**	P	**P**	**07 34 34.4**	**-1.8**
TEIG	**Tepich** comp=Z,1.8nm,0.5s,baz=127,slow=20,SNR=3.2	**44.47**	**334**	P	**P**	**07 38 08.4**	**+1.4**
TEIG	**Tepich** comp=Z,34nm,1.7s	**44.47**	**334**	*e*P	**P**	**07 38 09.7**	**+2.7**
DBIC	**Dimbokro** comp=Z,3.7nm,0.6s,baz=216,slow=7.2,SNR=6.1	**68.47**	**74**	P	**P**	**07 40 56.1**	**-1.2**
TORD	**Torodi Ar. Bea** comp=Z,1.6nm,0.3s,baz=254,slow=5.4,SNR=43	**77.03**	**71**	P	**P**	**07 41 46.8**	**-1.1**
TORD				pP	**pP**	**07 42 17.1**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=252,slow=4.5,SNR=3.3						
YKA	**Yellowknife Ar** comp=Z,0.6nm,0.6s,baz=134,slow=4.5,SNR=8.6	**90.02**	**341**	P	**P**	**07 42 54.4**	**+1.2**
YKA				pP	**pP**	**07 43 24.1**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=132,slow=4.8,SNR=4.4						
YKA				sP	**sP**	**07 43 36.2**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=132,slow=4.5,SNR=3.0						
ASAR	**Alice Springs** comp=Z,0.8nm,1.1s,baz=116,slow=2.0,SNR=4.4	**130.94**	**208**	PKP	**PKPdf**	**07 49 06.7**	**+0.8**
WRA	**Warramunga Arr** comp=Z,0.3nm,0.5s,baz=160,slow=1.7,SNR=7.7	**133.95**	**211**	PKP	**PKPdf**	**07 49 12.4**	**+0.8**
MKAR	**Makanchi Array** comp=Z,0.2nm,0.4s,baz=270,slow=1.4,SNR=5.9	**144.69**	**35**	PKP	**PKPdf**	**07 49 30.0**	**-0.3**

IDC 28 07:34:59.8±1.8,13.87S×166.43E,h0km,mb3.8/3, mb1 4.0/4,mb1mx3.7/20,mbtmp3.8/4,ML3.3/1,Error ellipse: s-maj=50.7km s-min=28.8km az=111.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 0.4nm,0.3s,baz=270,slow=24,SNR=6.6	**8.15**	**180**	Pn	Pn	07 36 58.8	-0.9
DZM	0.1nm,0.3s,baz=90,slow=20,SNR=2.3			Sn	Sn	07 38 35.1	+2.4
STKA	**Stephens Creek** 2.9nm,0.6s,baz=35,slow=6.8,SNR=6.9	**28.95**	**228**	P	P	07 41 01.2	+0.2
ASAR	**Alice Springs** 0.6nm,0.8s,baz=74,slow=9.2,SNR=11	**32.23**	**248**	P	P	07 41 30.0	-0.2
ILAR	**Eielson Array** 0.1nm,0.5s,baz=226,slow=4.6,SNR=5.2	**85.97**	**18**	P	P	07 47 41.6	+0.1

MAN 28 07:41:18,6.15N×125.71E,h156km,mb4.6,ML3.5,MS3.5, Mindanao

*ISCJB **28** 07:55:46.4±0.7,31.81S±0.05×179.76E±0.1,h400km, mb3.9/7,Error ellipse: s-maj=15.4km s-min=6.5km az=176.5*
*IDC **28** 07:55:46.4±1.3,31.63S×179.80E,h392km±12km,mb3.7/7, mb1 3.9/11,mb1mx3.7/23,mbtmp4.6/11,Error ellipse: s-maj=17.3km s-min=14.4km az=72.0*

ISC 28 07:55:46.7±0.7,31.81S±0.07×179.7E±0.1,h400km,n100, σ1§19/106,mb4.3/7,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 150nm,0.3s,baz=288,slow=20,SNR=5.3	**3.27**	**39**	P	**Pn**	**07 56 49.1**	**-3.1**
RAO	128nm,0.3s,baz=204,slow=20,SNR=2.4			S	S	07 57 37.2	-8.0
MXZ	**Matakaoa Point**	**5.85**	**191**	PN	**Pn**	**07 57 18.1**	**+0.5**
MXZ				SN	**S**	**07 58 30.4**	**-1.3**
WMGZ	**Waiomatatini S**	**6.09**	**190**	PN	**Pn**	**07 57 21.0**	**+0.9**
HAZ	**Te Kaha**	**6.14**	**194**	PN	**Pn**	**07 57 21.3**	**+0.7**
HAZ				SN	**S**	**07 58 04.9**	**-0.5**
PUZ	**Puketiti**	**6.36**	**190**	*e*PN	**Pn**	**07 57 23.1**	**0.0**
PUZ				SN	**S**	**07 58 40.0**	**-1.8**
TWGZ	**Tauwhareparae**	**6.51**	**192**	*e*PN	**P**	**07 57 25.6**	**+0.3**
OPRZ	**Ohinepanea**	**6.55**	**202**	PN	P	**07 57 27.2**	**+1.3**
MARZ	**Manawahe**	**6.65**	**201**	PN	P	07 57 29.9	+3.0
MWZ	**Matawai**	**6.75**	**195**	PN	**P**	**07 57 28.3**	**+0.2**
CNGZ	**Carnagh Statio**	**6.77**	**190**	PN	**P**	**07 57 28.3**	**+0.1**
URZ	**Urewera** 3.7nm,0.3s,baz=6.1,slow=22,SNR=6.9	**6.78**	**198**	P	**Pn**	**07 57 27.4**	**-0.3**
URZ	40nm,0.3s,baz=33,slow=24,SNR=17			S	**S**	**07 58 47.7**	**-2.5**
URZ	**Urewera**	**6.78**	**198**	PN	**Pn**	**07 57 26.9**	**-0.8**
TKGZ	**Te Karaka**	**6.79**	**192**	*e*PN	**Pn**	**07 57 27.5**	**-0.3**
TARZ	**Mount Tarawera**	**6.93**	**201**	PN	**P**	**07 57 31.9**	**+1.6**
RAGZ	**Rawiri**	**6.93**	**195**	*e*PN	**Pn**	**07 57 29.6**	**+0.1**
RRRZ	**Republican Roa**	**7.02**	**201**	PN	**P**	**07 57 33.5**	**+2.4**
RIGZ	**Rimuhau**	**7.06**	**193**	PN	**P**	**07 57 32.5**	**+1.0**
HRRZ	**Handcock Road**	**7.14**	**202**	PN	**P**	**07 57 33.1**	**+0.7**
SNGZ	**Shannon Statio**	**7.22**	**195**	PN	**P**	**07 57 33.2**	**0.0**
PRGZ	**Paritu Road**	**7.25**	**191**	*e*PN	**P**	**07 57 33.8**	**+0.2**
TLZ	**Tolley Road**	**7.35**	**207**	PN	**P**	**07 57 36.5**	**+1.8**
KNZ	**Kokohu**	**7.38**	**192**	PN	**P**	**07 57 36.1**	**+1.1**
RAHZ	**Arahi**	**7.41**	**196**	*e*PN	**P**	**07 57 36.3**	**+0.9**
WHHZ	**Waihua**	**7.53**	**195**	*e*PN	**P**	**07 57 37.5**	**+0.9**
NMHZ	**Naumai**	**7.65**	**197**	PN	**P**	**07 57 38.5**	**+0.5**
ARHZ	**Aropaoanui**	**7.76**	**196**	PN	**P**	**07 57 40.1**	**+0.9**
HIZ	**Hauiti**	**7.78**	**209**	PN	**P**	**07 57 41.7**	**+2.3**
RITZ	**Rihia Road**	**7.81**	**203**	PN	**P**	**07 57 41.5**	**+1.6**
KRVZ	**Karewarewa**	**7.99**	**203**	PN	**P**	**07 57 43.9**	**+2.0**
MCHZ	**McNeill Hill**	**8.00**	**197**	PN	**P**	**07 57 42.8**	**+0.9**
WTVZ	**West Tongariro**	**8.03**	**204**	PN	**P**	**07 57 43.8**	**+1.5**
OTVZ	**Oturere**	**8.04**	**203**	*e*PN	**P**	**07 57 43.7**	**+1.1**
NGZ	**Ngauruhoe**	**8.08**	**203**	PN	**P**	**07 57 44.4**	**+1.5**
COVZ	**Chateau Observ**	**8.12**	**204**	*e*PN	**P**	**07 57 44.1**	**+0.7**
CKHZ	**Cape Kidnapper**	**8.12**	**195**	*e*PN	**P**	**07 57 45.0**	**+1.8**
WPVZ	**Whakapapa**	**8.12**	**204**	*e*PN	**P**	**07 57 44.2**	**+0.8**
TUVZ	**Tukino**	**8.14**	**203**	PN	**P**	**07 57 44.4**	**+0.7**
FWVZ	**Far West T-bar**	**8.16**	**203**	PN	**Pn**	**07 57 43.1**	**-0.6**
WHVZ	**Whangaehu Hut**	**8.18**	**203**	PN	**Pn**	**07 57 43.2**	**-0.5**
TRVZ	**Turoa**	**8.21**	**203**	PN	**P**	**07 57 45.2**	**+0.7**
WNVZ	**Wahianoa**	**8.21**	**203**	PN	**Pn**	**07 57 43.1**	**-1.0**
BHHZ	**Black Hill Sta**	**8.21**	**200**	*e*PN	**Pn**	**07 57 43.3**	**-0.7**
MOVZ	**Moawhango**	**8.23**	**202**	PN	**P**	**07 57 44.3**	**-0.3**
PKVZ	**Pokaka**	**8.27**	**204**	PN	**Pn**	**07 57 44.4**	**-0.3**
KRHZ	**Kereru**	**8.27**	**198**	PN	**Pn**	**07 57 43.6**	**-1.1**
KAHZ	**Kahuranaki**	**8.29**	**195**	PN	**P**	**07 57 46.1**	**+0.9**
VRZ	**Vera Road**	**8.34**	**208**	*e*PN	**P**	**07 57 46.2**	**+0.6**
PNHZ	**Pukenui**	**8.57**	**198**	PN	**Pn**	**07 57 46.4**	**-1.7**
WPHZ	**Waipukurau**	**8.65**	**197**	PN	**P**	**07 57 49.3**	**+0.1**
TSZ	**Takapari Road**	**8.77**	**199**	*e*PN	**Pn**	**07 57 48.7**	**-1.7**
PRHZ	**Porangahau**	**8.80**	**196**	PN	**P**	**07 57 51.2**	**+0.4**
WAZ	**Wanganui**	**8.81**	**205**	*e*PN	**P**	**07 57 51.5**	**+0.6**
DVHZ	**Dannevirke**	**8.94**	**198**	PN	**P**	**07 57 52.8**	**+0.4**
ANWZ	**Angora Road**	**9.02**	**196**	PN	**Pn**	**07 57 53.6**	**+0.4**
POWZ	**Post Office Ro**	**9.14**	**199**	PN	**Pn**	**07 57 54.9**	**+0.4**
PRWZ	**Pori Road**	**9.23**	**198**	PN	**Pn**	**07 57 56.7**	**+1.0**
BFZ	**Birch Farm**	**9.28**	**197**	PN	**Pn**	**07 57 56.9**	**+0.7**
MRZ	**Mangatainoka R**	**9.44**	**200**	PN	**P**	**07 57 55.1**	**-2.8**
TIWZ	**Tintock**	**9.46**	**198**	*e*PN	**Pn**	**07 57 58.2**	**-0.1**
HOWZ	**Holdsworth Sta**	**9.68**	**199**	PN	**P**	**07 57 58.3**	**-2.3**
TMWZ	**Te Maipa**	**9.77**	**197**	PN	**Pn**	**07 58 02.7**	**+0.7**
MTW	**Mount Morrison**	**9.92**	**199**	PN	**P**	**07 58 02.9**	**-0.4**
CAW	**Cannon Point**	**10.00**	**201**	*e*PN	**P**	**07 58 03.1**	**-1.1**
TRWZ	**Traveller**	**10.10**	**198**	*e*PN	**P**	**07 58 05.2**	**0.0**
DUWZ	**D'Urville Isla**	**10.11**	**206**	PN	**P**	**07 58 05.0**	**-0.4**
PAWZ	**Paruwai Farm**	**10.15**	**199**	PN	**Pn**	**07 58 06.2**	**-0.1**
MSWZ	**Moikau Station**	**10.23**	**199**	PN	**P**	**07 58 06.6**	**0.0**
TCW	**Tory Channel**	**10.35**	**203**	PN	**P**	**07 58 06.6**	**-1.4**
PLWZ	**Palliser**	**10.37**	**199**	PN	**Pn**	**07 58 08.7**	**-0.2**
TUWZ	**Tuamarina**	**10.66**	**204**	*e*PN	**P**	**07 58 10.2**	**-1.1**
QRZ	**Quartz Range**	**10.70**	**211**	PN	**P**	**07 58 11.7**	**-0.1**
BSWZ	**Blackbirch Sta**	**10.93**	**204**	PN	**Pn**	**07 58 14.8**	**-0.6**
THZ	**Tophouse**	**11.33**	**207**	PN	**P**	**07 58 18.6**	**-0.2**
KHZ	**Kahutara**	**11.67**	**203**	PN	**P**	**07 58 21.8**	**-0.8**
DSZ	**Denniston Nort**	**11.76**	**210**	PN	**P**	**07 58 23.8**	**+0.2**
LTZ	**Lake Taylor**	**12.44**	**206**	PN	**Pn**	**07 58 31.8**	**-1.0**
OXZ	**Oxford**	**13.00**	**206**	PN	**P**	**07 58 37.4**	**+0.2**
MQZ	**McQueen's Vall**	**13.12**	**203**	PN	**P**	**07 58 38.7**	**+0.3**
WVZ	**Waitaha Valley**	**13.30**	**210**	PN	**P**	**07 58 39.9**	**-0.6**
RPZ	**Rata Peaks** 6.0nm,0.3s,baz=25,slow=19,SNR=27	**13.71**	**207**	P	**P**	**07 58 45.1**	**+0.1**
RPZ	1.3nm,0.3s,baz=41,slow=19,SNR=6.2			S	**S**	**08 01 08.4**	**-4.0**
DZM	**Mont Dzumac** 0.7nm,0.3s,baz=90,slow=20,SNR=9.6	**15.29**	**306**	P	**P**	**07 59 03.0**	**+0.5**
CTA	**Charters Tower** 7.3nm,0.5s,baz=108,slow=11,SNR=12	**32.15**	**283**	P	**P**	**08 01 40.5**	**+1.4**
STKA	**Stephens Creek** 2.3nm,0.6s,baz=96,slow=8.2,SNR=6.8	**32.27**	**260**	P	P	08 01 42.2	+2.0
ASAR	**Alice Springs** 2.5nm,0.5s,baz=106,slow=7.2,SNR=51	**41.11**	**270**	P	**P**	**08 02 54.1**	**+0.3**
ASAR	0.4nm,0.7s,baz=115,slow=4.4,SNR=3.4			ScP	**ScP**	**08 07 55.0**	**-0.4**
WRA	**Warramunga Arr** 5.6nm,0.4s,baz=112,slow=8.0,SNR=216	**42.23**	**275**	P	**P**	**08 03 02.8**	**0.0**
WRA	0.8nm,1.3s,baz=107,slow=3.7,SNR=7.1			ScP	**ScP**	**08 08 00.1**	**+0.1**
VNDA	**Vanda** 0.4nm,0.6s,baz=3.8,slow=6.9,SNR=5.3	**46.50**	**185**	P	**P**	**08 03 37.5**	**+2.2**
QSPA	**South Pole Qui** 10nm,0.8s,baz=3.6,slow=1.6,SNR=26	**58.30**	**180**	P	**P**	**08 05 03.5**	**+2.5**
SNAA	**Sanae**	**76.79**	**179**	P	**P**	**08 06 52.6**	**-2.5**
VNA2	**Neumayer--Watz** baz=178,slow=4.2	**77.43**	**178**	P	**P**	**08 06 59.6**	**+1.1**
VNA1	**Neumayer--Stat**	**77.67**	**177**	P	**P**	**08 07 01.4**	**+1.6**
PETK	**Petropavlovsk-** 6.0nm,0.9s,baz=145,slow=6.5,SNR=5.9	**86.71**	**347**	P	**P**	**08 07 46.6**	**+0.5**
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=119,slow=1.8,SNR=3.0	**117.18**	**310**	PKP	**PKPdf**	**08 13 43.2**	**-1.6**
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=99,slow=1.9,SNR=2.3	**117.78**	**318**	PKP	**PKPdf**	**08 13 45.2**	**-0.4**
ARCES	**ARCESS Array B** 2.1nm,0.9s,baz=76,slow=3.7,SNR=7.7	**139.52**	**346**	PKhKP	PKPpre	08 14 17.9	
ARCES	0.8nm,0.7s,baz=66,slow=2.3,SNR=5.1			PKP	**PKPdf**	**08 14 26.0**	**-0.4**
FINES	**FINESS Array B** 9.6nm,0.4s,baz=66,slow=4.3,SNR=80	**145.75**	**338**	PKPbc	**PKPab**	**08 14 38.5**	**-1.5**
NB2	**NORSAR Subarra** comp=Z,1.1nm,0.5s,baz=17,slow=2.6	**149.80**	**349**	PKP	**PKPbc**	**08 14 49.4**	**-0.1**
NOA	**NORSAR Array B** comp=Z,1.1nm,0.5s,baz=15,slow=4.2,SNR=6.4	**149.80**	**349**	PKPbc	**PKPbc**	**08 14 49.0**	**-0.5**
NOA	comp=Z,2.5nm,0.6s,baz=23,slow=3.3,SNR=13			PKPab	**PKPab**	**08 14 56.2**	**-0.4**
AKASG	**Malin Array Be** comp=Z,1.1nm,0.5s,baz=63,slow=2.2,SNR=7.7	**151.16**	**319**	PKPbc	**PKPbc**	**08 14 52.8**	**-0.1**
BRTR	**Keskin Array B** comp=Z,0.3nm,0.5s,baz=134,slow=4.4,SNR=3.7	**151.49**	**296**	PKPbc	**PKPbc**	**08 14 54.0**	**-0.2**
TORD	**Torodi Ar. Bea** comp=Z,0.8nm,0.7s,baz=176,slow=4.3,SNR=11	**161.33**	**186**	PKPab	**PKPab**	**08 15 47.3**	**+0.2**

IDC 28 07:57:36.7±4.7,53.55N×90.69E,h0km,mb1 2.7/2, mb1mx2.7/36,mbtmp2.7/2,ML2.1/2,Error ellipse: s-maj=44.5km s-min=27.5km az=53.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=91,slow=318,SNR=2.6	**3.51**	**279**	*i*		08 19 20.0	
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=95,slow=16,SNR=3.3	**3.51**	**279**	Pn	Pn	07 58 33.9	+1.5
ZALV	0.6nm,0.3s,baz=96,slow=29,SNR=8.9			Lg	Lg	07 59 26.9	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=40,slow=14,SNR=7.0	**8.64**	**222**	Pn	Pn	07 59 43.4	+0.4
MKAR	0.0nm,0.3s,baz=41,slow=30,SNR=4.3			Lg	Lg	08 02 12.3	

*IDC **28** 07:57:52.4±1.2,14.11S×166.60E,h0km,mb4.1/7, mb1 4.2/8,mb1mx4.0/20,mbtmp4.0/8,ML3.3/1,MS3.6/1, Ms1 3.5/1,ms1mx2.8/22,Error ellipse: s-maj=44.9km s-min=24.1km az=128.0*
*ISCJB **28** 07:57:56.4±0.9,14.3S±0.1×166.6E±0.2,h43km,mb3.9/7, MS3.4/1,Error ellipse: s-maj=26.7km s-min=16.7km az=14.2*

ISC 28 07:57:58.2±1.0,14.3S±0.1×166.7E±0.2,h43km,n9, σ1§75/11,mb3.9/7,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 0.4nm,0.3s,baz=90,slow=20,SNR=5.0	**7.79**	**182**	Pn	**Pn**	**07 59 49.0**	**-0.1**
DZM	0.2nm,0.3s,baz=270,slow=20,SNR=1.6			Sn	Sn	08 01 25.7	+10
STKA	**Stephens Creek** 4.5nm,0.6s,baz=39,slow=7.9,SNR=12	**28.87**	**228**	P	**P**	**08 03 52.3**	**-0.7**
STKA	comp=Z,96nm,18.3s,baz=47,slow=36			LR	L

	2.4nm,0.8s						
KURBB			⇓Sn	Sn	08 44 27.3	-0.3	
	7.3nm,0.7s						
KURBB			⇑Lg	Lg	08 45 03.7		
	11nm,0.8s						
KURBB	**Kurchatov Arra**	**6.34**	**246** Pn	**Pn**	**08 43 15.3**	**+0.1**	
	0.1nm,0.3s,baz=62,slow=14,SNR=9.8						
KURBB			Sn	**Sn**	**08 44 28.0**	**+0.4**	
	0.1nm,0.3s,baz=64,slow=23,SNR=3.2						
KURBB			Lg	Lg	08 45 04.0		
	0.1nm,0.3s,baz=63,slow=32,SNR=15						
MK31	**Makanchi Array**	**7.62**	**209** ⇑Pn	Pn	08 43 30.5	-2.4	
	0.5nm,0.7s,baz=35,slow=14,SNR=11						
MK31			⇑Sn	**Sn**	**08 44 59.4**	**+0.1**	
	2.5nm,1.1s,baz=30,slow=22,SNR=3.7						
MK31			⇓Lg	Lg	08 45 42.0		
	2.4nm,0.7s,baz=32,slow=29,SNR=3.7						
MKAR	**Makanchi Array**	**7.62**	**209** Pn	**Pn**	**08 43 32.7**	**-0.2**	
	0.2nm,0.3s,baz=29,slow=13,SNR=12						
MKAR			Sn	**Sn**	**08 44 59.6**	**+0.3**	
	0.2nm,0.3s,baz=33,slow=19,SNR=5.7						
MKAR			Lg	Lg	08 45 42.7		
	0.2nm,0.3s,baz=33,slow=35,SNR=5.7						
BVAR	**Borovoye Array**	**10.33**	**274** Pn	Pn	08 44 07.5	-2.3	
	0.1nm,0.3s,baz=69,slow=16,SNR=2.1						
BVAR			Sn	**Sn**	**08 46 05.3**	**-0.2**	
	0.2nm,0.3s,baz=77,slow=26,SNR=7.8						

*IDC **28** 08:53:28.4±1.3,3˝.04S×130˝.00E, h0km, mb3.9/3, mb1 4.0/5, mb1mx3.5/40, mbtmp3.8/5, ML3.2/2, Error ellipse: s-maj=37.5km s-min=19.8km az=87.0*
*DJA **28** 08:53:30.2±1.8,3˝S×14˝×13˝0E±˚, h149km±22km, M3.2/4, MLv3.2/4*
*ISCJB **28** 08:53:34.1±0.9,2˝.94S±0˝.08×130˝.10E±0˝.07, h25km, mb3.6/2, Error ellipse: s-maj=12.6km s-min=8.3km az=139.2*

ISC 28 08:53:32.0±0.9,**2˝.88S**±0˝.05×**130˝.24E**±0˝.05,**h25km**,**n8,** σ2^{9}**60**/12,**Seram**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.39**	**251**	P		**Pb**	**08 53 56.5**	**-0.8**
MSAI				S		**Sb**	**08 54 19.0**	**+4.4**
BNDI	**Bandanaira**	**1.66**	**192**	P		**Pb**	**08 54 01.3**	**-0.7**
BNDI				S		**Sb**	**08 54 26.0**	**+3.4**
FAKI	**Fak Fak**	**2.01**	**91**	P		**Pb**	**08 54 07.9**	**0.0**
FAKI				S		**Sb**	**08 54 36.1**	**+3.6**
SIJI	**Sorong**	**2.25**	**27**	Pn		**Pb**	**08 54 11.2**	**-0.8**
	2.3nm,0.3s,baz=212,slow=22,SNR=16							
SIJI				Sn		**Sb**	**08 54 41.8**	**+2.4**
	4.0nm,0.3s,baz=252,slow=19,SNR=4.8							
WRA	**Warramunga Arr**	**17.42**	**167**	P		**Pn**	**08 57 30.8**	**-2.8**
	0.1nm,0.3s,baz=347,slow=11,SNR=7.3							
ASAR	**Alice Springs**	**20.96**	**171**	P		**P**	**08 58 12.4**	**-1.0**
	5.7nm,0.5s,baz=348,slow=10,SNR=110							
STKA	**Stephens Creek**	**30.76**	**161**	P		**P**	**08 59 44.9**	**-0.7**
	2.9nm,1.0s,baz=1.9,slow=7.9,SNR=3.6							
MKAR	**Makanchi Array**	**64.95**	**326**	P		**P**	**09 04 09.9**	**+0.2**
	0.1nm,0.4s,baz=124,slow=7.9,SNR=3.5							

GUC 28 08:55:15.9±0.5,**33˚70S×72˚09W, h13km**±3km**, ML3.5, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.62**	**114**	*e*P		Pg	08 55 28.1	+0.1
LNV				*e*S		Sg	08 55 36.6	+0.3
TACH	**Talagante**	**0.96**	**87**	*e*P		Pb	08 55 33.0	-1.5
ROCH	**El Roble**	**1.16**	**51**	*e*P		Pb	08 55 36.8	-1.4
ROCH				*e*S		Sb	08 55 52.6	-0.7
ROCH				AML		AML	08 55 57.2	
	comp=E,1μm,0.1s							
CHCH	**Chadas Angostu**	**1.22**	**101**	*e*P		Pn	08 55 37.3	-1.5
SAN	**Santiago**	**1.22**	**79**	*e*P		Pn	08 55 37.3	-1.4
STL	**Santa Lucia**	**1.24**	**78**	*e*P		Pn	08 55 36.4	-2.6
STL				*e*S		Sb	08 55 52.8	-2.4
PEL	**Peldehue**	**1.30**	**65**	*e*P		Pn	08 55 39.0	-0.9
PEL				*e*S		Sb	08 55 56.1	-0.9
PEL				AMP			08 56 03.3	
	comp=E,2μm,0.3s							
PCH	**Pirque**	**1.32**	**87**	*e*P		Pn	08 55 38.9	-1.3
FSR	**Penalolen**	**1.32**	**81**	*e*P		Pn	08 55 39.9	-0.3
FSR				*e*S		Sb	08 55 57.5	-0.2
LACH	**Col Las Americ**	**1.33**	**80**	*e*P		Pn	08 55 38.5	-1.7
LACH				*e*S		Sb	08 55 56.2	-1.5
CLCH	**Cerro Calan**	**1.33**	**77**	*e*P		Pn	08 55 39.1	-1.3
CLCH				*e*S		Sb	08 55 57.2	-0.7
CLCH				AML		AML	08 56 05.9	
	comp=N,986nm,0.3s							
SJCH	**San Jose de Ma**	**1.45**	**88**	*e*P		Pn	08 55 40.0	-2.0
SJCH				*e*S		Sn	08 55 59.2	-1.7
YECH	**El Yeso**	**1.68**	**89**	*e*P		Pn	08 55 45.3	0.0
YECH				*e*S		Sn	08 56 07.4	+0.5
YECH				AML		AML	08 56 12.5	
	comp=N,987nm,0.3s							

FUNV 28 08:55:39.1,6˚41N×73˚40W, h144km, MW3.7, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.80**	**37**	⇑*i*P		Pn	08 56 10.7	-1.2
CAPV				*e*S		Sn	08 56 34.6	-2.3
SOCV	**Socops**	**3.13**	**53**	*e*P		Pn	08 56 27.4	-0.6
SOCV				*e*S		Sn	08 57 02.3	-3.6
VIRV	**Villa del Rosa**	**4.18**	**14**	*e*P		Pn	08 56 39.6	-2.1
VIRV				*e*S		Sn	08 57 25.6	-4.7
QARV	**Quebrada Arrib**	**4.72**	**37**	*e*P		Pn	08 56 47.0	-1.8
QARV				*e*S		Sn	08 57 37.3	-5.9
SANV	**Sanarito**	**4.91**	**51**	*e*P		Pn	08 56 49.9	-1.5
CURV	**Curarigua**	**4.94**	**43**	*e*P		Pn	08 56 50.1	-1.6
CURV				*e*S		Sn	08 57 42.5	-5.8
BAUV	**El Baul**	**5.88**	**64**	*e*P		Pn	08 57 02.1	-2.0
BAUV				*e*S		Sn	08 58 03.0	-7.6

*MOS **28** 08:58:20.8±0.9,54˚.78N×158˚.17E, h290km, mb4.2/3, Error ellipse: s-maj=22.5km s-min=11.1km az=79.5*
*ISCJB **28** 08:58:21.1±0.4,54˚.69N±0˝.05×158˚.4E±0˚.1, h296km±4km, mb3.2/8, Error ellipse: s-maj=12.4km s-min=5.9km az=36.3*
*IDC **28** 08:58:22.0±0.7,54˚.81N×157˚.86E, h290km±8km, mb3.1/8, mb1 3.3/10, mb1mx3.0/28, mbtmp3.8/10, Error ellipse: s-maj=22.4km s-min=12.8km az=113.0*
*KRSC **28** 08:58:21.5±1.3,54˚.68N×158˚.51E, h288km±13km, ML4.4*

ISC 28 08:58:21.4±0.7,**54˚.72N**±0˝.07×**158˚.36E**±0˝.07,**h290km**±7km**, n52,** σ1^{9}**29**/71,**mb3.5/8, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GNL	**Ganaly**	**1.06**	**194**	*e*P		**Pn**	**08 59 02.1**	**+1.0**
GNL				*e*S		**S**	**08 59 32.7**	**+0.1**
TUMR	**Tumrok**	**1.17**	**61**	*e*P		**Pn**	**08 59 03.2**	**+1.6**
KZV	**Kizimen**	**1.18**	**70**	*e*P		**Pn**	**08 59 03.2**	**+1.5**
ESO	**Esso**	**1.22**	**9**	*e*P		**Pn**	**08 59 02.3**	**+0.6**
ESO	**Esso**	**1.22**	**9**	PN		**Pn**	**08 59 02.3**	**+0.6**
KRX	**Arik**	**1.38**	**173**	*e*P		**Pn**	**08 59 04.4**	**+1.4**
KOK	**Koryaka**	**1.44**	**173**	*e*P		**Pn**	**08 59 04.7**	**+1.4**
AVH	**Avacha**	**1.48**	**171**	*e*P		**Pn**	**08 59 04.8**	**+1.3**
SDLR	**Sedlovina**	**1.48**	**168**	*e*P		**Pn**	**08 59 04.7**	**+1.1**
SDLR				*e*S		**S**	**08 59 37.4**	**+0.3**
SMAR	**Somma**	**1.49**	**170**	*e*P		**Pn**	**08 59 05.2**	**+1.5**
KMNR	**Kamenistaya**	**1.49**	**45**	*e*P		**Pn**	**08 59 04.9**	**+1.4**
UGLR	**Uglovaya**	**1.54**	**170**	*e*P		**Pn**	**08 59 05.2**	**+1.2**
NLC	**Nalytchevo**	**1.66**	**159**	*e*P		**Pn**	**08 59 05.2**	**+0.6**
NLC				*e*S		**S**	**08 59 38.1**	**-0.9**
NLC	**Nalytchevo**	**1.66**	**159**	PN		**Pn**	**08 59 05.2**	**+0.6**
NLC				S		**S**	**08 59 38.1**	**-0.9**
PETK	**Petropavlovsk-**	**1.66**	**194**	P		**Pn**	**08 59 05.7**	**+1.0**
	3.5nm,0.3s,baz=79,slow=6.8,SNR=20							
PETK				S		**S**	**08 59 40.3**	**+1.2**
	1.1nm,0.3s,baz=329,slow=28,SNR=4.6							
PETK	**Petropavlovsk-**	**1.66**	**194**	PN		**Pn**	**08 59 05.7**	**+1.0**
PETK				S		**S**	**08 59 40.3**	**+1.2**
PETK				pmax		pmax		
	comp=Z,4.0nm,0.3s							
PETK				smax		smax		
	comp=N,1.0nm,0.3s							
PET	**Petropavlovsk**	**1.71**	**174**	*e*P		**Pn**	**08 59 06.0**	**+1.0**
PET				*e*S		**S**	**08 59 39.6**	**-0.1**
PET	**Petropavlovsk**	**1.71**	**174**	*e*PN		**Pn**	**08 59 05.7**	**+0.7**
PET				*e*S		**S**	**08 59 40.0**	**+0.3**
PET				pmax		pmax		
	comp=Z,59nm,1.0s							
PET				smax		smax		
	comp=E,95nm,0.8s							
PET				smax		smax		
	comp=N,95nm,0.7s							
SRDR	**Sredinnyy**	**1.77**	**25**	*e*P		**Pn**	**08 59 06.2**	**+0.8**
SPN	**Mys Shipunski**	**1.90**	**148**	*e*P		**Pn**	**08 59 06.5**	**0.0**
SPN				*e*S		**S**	**08 59 40.0**	**-2.3**
SPN	**Mys Shipunski**	**1.90**	**148**	PN		**Pn**	**08 59 06.5**	**0.0**
SPN				S		**S**	**08 59 40.0**	**-2.3**
APC	**Apacha**	**1.94**	**202**	*e*P		**Pn**	**08 59 07.3**	**+0.6**
MKZ	**Mys Kozlova**	**1.97**	**94**	*e*P		**Pn**	**08 59 06.9**	**0.0**
MKZ				*e*S		**S**	**08 59 41.0**	**-2.0**
MKZ	**Mys Kozlova**	**1.97**	**94**	PN		**Pn**	**08 59 06.9**	**0.0**
MKZ				S		**S**	**08 59 41.0**	**-2.0**
MTVR	**Mutnovka**	**2.25**	**183**	*e*P		**Pn**	**08 59 11.2**	**+1.7**
MTVR				*e*S		**S**	**08 59 48.5**	**+0.7**
RUS	**Russkaya**	**2.30**	**178**	*e*P		**Pn**	**08 59 09.6**	**-0.1**
RUS				*e*S		**S**	**08 59 45.7**	**-2.5**
RUS	**Russkaya**	**2.30**	**178**	PN		**Pn**	**08 59 09.6**	**-0.1**
RUS				S		**S**	**08 59 45.7**	**-2.5**
ASAK	**Asacha**	**2.36**	**187**	*e*P		**Pn**	**08 59 10.8**	**+0.4**
ASAK				*e*S		**S**	**08 59 47.8**	**-1.7**
BDR	**Baidarnaya**	**2.46**	**40**	*e*P		**Pn**	**08 59 12.7**	**+1.6**
SRKR	**Sorokina**	**2.50**	**38**	*e*P		**Pn**	**08 59 13.1**	**+1.5**
MIPR	**Malaya Ipel'ka**	**2.63**	**202**	*e*P		**Pn**	**08 59 13.1**	**+0.3**
KBTR	**Krutoberegovo**	**2.94**	**58**	*e*P		**Pn**	**08 59 16.3**	**+0.6**
KBTR				*e*S		**S**	**08 59 57.2**	**-1.9**
KBTR	**Krutoberegovo**	**2.94**	**58**	PN		**Pn**	**08 59 16.3**	**+0.6**
KBTR				S		**S**	**08 59 57.2**	**-1.9**
SKR	**Severo-Kuril's**	**4.27**	**200**	*e*PN		Pn	08 59 21.6	-8.5
SKR				pmax		pmax		
	comp=Z,40nm,0.5s							
BKI	**Bering**	**4.41**	**81**	*e*P		**Pn**	**08 59 33.5**	**+1.9**
BKI				*e*S		**S**	**09 00 26.8**	**-1.0**
BKI	**Bering**	**4.41**	**81**	PN		**Pn**	**08 59 33.5**	**+1.9**
BKI				S		**S**	**09 00 26.8**	**-1.0**
SEY	**Seymchan**	**8.79**	**342**	P		**Pn**	**09 00 24.6**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=141,slow=11,SNR=18							
YSS	**Yuzh-Sakhalins**	**12.54**	**238**	PN		**P**	**09 01 11.8**	**+0.1**
ASAJ	**Asahikawa**	**14.72**	**230**	P		**P**	**09 01 36.3**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=31,slow=12,SNR=4.9							
ASAJ	**Asahikawa**	**14.72**	**230**	P		**P**	**09 01 36.3**	**+0.5**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**22.86**	**226**	P		**P**	**09 02 59.5**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=25,slow=8.8,SNR=4.7							
MJAR	**Matsushiro Arr**	**22.86**	**226**	P		**P**	**09 02 59.5**	**-0.4**
MJAR				pmax		pmax		
	comp=Z,2.0nm,0.6s							
ILAR	**Eielson Array**	**28.43**	**47**	P		**P**	**09 03 51.2**	**+1.9**
	comp=Z,0.6nm,0.4s,baz=262,slow=7.4,SNR=22							
YKA	**Yellowknife Ar**	**42.66**	**43**	P		**P**	**09 05 51.3**	**+1.8**
	comp=Z,0.2nm,0.4s,baz=300,slow=7.2,SNR=4.4							
MKAR	**Makanchi Array**	**46.54**	**293**	P		**P**	**09 06 17.7**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=45,slow=6.8,SNR=3.2							
ARCES	**ARCESS Array B**	**51.41**	**341**	P		**P**	**09 06 54.9**	**-1.7**
	comp=Z,2.1nm,0.9s,baz=40,slow=7.1,SNR=2.6							
ARCES	**ARCESS Array B**	**51.41**	**341**	P		**P**	**09 06 54.9**	**-1.7**
ARCES				pmax		pmax		
	comp=Z,2.0nm,0.9s							
FINES	**FINESS Array B**	**58.21**	**335**	P		**P**	**09 07 44.0**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=53,slow=5.4,SNR=5.0							
WRA	**Warramunga Arr**	**77.16**	**203**	P		**P**	**09 09 43.4**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=18,slow=6.0,SNR=21							
WRA	**Warramunga Arr**	**77.16**	**203**	P		**P**	**09 09 43.4**	**+0.3**
WRA				pmax		pmax		
	comp=Z,1.0nm,0.4s							
ASAR	**Alice Springs**	**80.85**	**203**	P		**P**	**09 10 04.0**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=14,slow=4.7,SNR=6.1							
ASAR	**Alice Springs**	**80.85**	**203**	P		**P**	**09 10 04.0**	**+0.9**

*IDC **28** 09:00:16.7±3.3,64˚.67N×32˚.32E, h0km, mb1 3.1/4, mb1mx2.9/43, mbtmp3.0/4, ML2.7/4, Error ellipse: s-maj=43.8km s-min=10.8km az=102.0*
*ISCJB **28** 09:00:17.8±0.8,64˚.75N±0˝.03×30˚.7E±0˚.1, h0km, Error ellipse: s-maj=8.6km s-min=4.3km az=179.4*
*HEL **28** 09:00:18.7±0.2,64˚.70N×30˚.71E, h0km, ML2.1, Explosion*
*CSEM **28** 09:00:18.7, 64˚.70N×30˚.71E, h0km, ML2.1, Mining explosion.*

ISC 28 09:00:18.9±1.0,**64˚.75N**±0˝.03×**30˚.73E**±0˝.06,**h0km**,**n19,** σ1^{9}**52**/28,**Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.33**	**345**	*e*P		**Pg**	**09 00 43.2**	**-1.2**
KU6				*e*S		**Sb**	**09 01 01.8**	**-0.5**
KU6	**Riekki**	**1.33**	**345**	P		**Pg**	**09 00 43.1**	**-1.2**
KU6				S		**Sb**	**09 01 01.7**	**-0.5**
MSF	**Maaselka**	**1.37**	**330**	*e*P		**Pg**	**09 00 43.5**	**-1.5**
MSF				*e*S		**Sb**	**09 01 02.7**	**-0.5**
MSF	**Maaselka**	**1.37**	**330**	P		**Pg**	**09 00 43.5**	**-1.5**
MSF				S		**Sb**	**09 01 02.7**	**-0.5**
KJN	**Kajaani**	**1.47**	**244**	*e*P		**Pn**	**09 00 43.9**	**-2.6**
KJN				*e*S		**Sg**	**09 01 03.5**	**-2.4**
KJN	**Kajaani**	**1.47**	**244**	P		**Pn**	**09 00 43.9**	**-2.6**
KJN				S		**Sg**	**09 01 03.5**	**-2.4**
JOF	**Joensuu**	**1.86**	**172**	*e*P		**Pn**	**09 00 50.6**	**-1.3**
JOF				*e*S		**Sn**	**09 01 14.9**	**-1.0**
JOF				MSG			09 01 23.1	
	comp=Z,20nm,0.1s							
JOF	**Joensuu**	**1.86**	**172**	P		**Pn**	**09 00 50.5**	**-1.3**
JOF				S		**Sn**	**09 01 14.9**	**-1.0**
OUL	**Oulu**	**2.09**	**282**	*e*P		**Pn**	**09 00 54.9**	**-0.2**
OUL				*e*S		**Sn**	**09 01 21.0**	**-0.6**
OUL	**Oulu**	**2.09**	**282**	P		**Pn**	**09 00 54.8**	**-0.2**
OUL				S		**Sn**	**09 01 21.0**	**-0.6**
RNF	**Rovaniemi**	**2.70**	**316**	*e*P		**Pn**	**09 01 04.2**	**+0.7**
RNF	**Rovaniemi**	**2.70**	**316**	P		**Pn**	**09 01 04.1**	**+0.7**
SUF	**Sumiainen**	**2.88**	**227**	MSG			09 01 52.0	
	comp=Z,4.5nm,0.1s							
VRF	**Varrio**	**3.05**	**352**	*e*P		**Pn**	**09 01 08.4**	**+0.1**
VRF				MSG			09 02 01.2	
	comp=Z,6.3nm,0.2s							
VRF	**Varrio**	**3.05**	**352**	P		**Pn**	**09 01 08.3**	**+0.1**
FINES	**FINESS Array B**	**3.93**	**215**	Pn		Pn	09 01 23.0	+2.7
	comp=Z,0.2nm,0.3s,baz=37,slow=13,SNR=8.3							
FINES				Sn		**Sn**	**09 02 10.4**	**+3.3**
	comp=Z,0.3nm,0.3s,baz=43,slow=21,SNR=4.8							
FINES				Lg		Lg	09 02 19.8	
	comp=Z,1.1nm,0.3s,baz=39,slow=29,SNR=8.9							
ARCES	**ARCESS Array B**	**5.22**	**339**	Pn		**Pn**	**09 01 37.6**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=151,slow=13,SNR=28							
ARCES				Sn		**Sn**	**09 02 40.2**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=153,slow=24,SNR=3.5							
ARCES				Lg		Lg	09 03 03.1	
	comp=Z,1.1nm,0.3s,baz=156,slow=30,SNR=7.8							
HFS	**Hagfors**	**9.13**	**247**	Pn		**Pn**	**09 02 33.6**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=66,slow=14,SNR=3.4							
NOA	**NORSAR Array B**	**9.63**	**256**	Pn		Pn	09 02 41.4	+2.8
	comp=Z,0.1nm,0.3s,baz=55,slow=14,SNR=3.4							

*ISCJB **28** 09:17:18.8±0.7, 10˚.32S±0˚.07×121˚.80E±0˚.08, h33km, mb3.8/7, Error ellipse: s-maj=12.3km s-min=8.2km az=150.4*
*IDC **28** 09:17:25.4±3.3,9˚.46S×122˚.61E, h67km±30km, mb3.7/7, mb1 3.7/10, mb1mx3.5/32, mbtmp3.9/10, ML3.4/3, Error ellipse: s-maj=120.9km s-min=16.2km az=54.0*
*DJA **28** 09:17:25.5±1.5, 10˚S±20˚×12˚1E±1˚3, h19km±20km, M3.6/7, MLv3.6/7*

ISC 28 09:17:21.0±0.8,**10˚.28S**±0˚.07×**121˚.74E**±0˚.08,**h35km**,**n16,** σ1^{9}**65**/17,**mb3.9**/7,**Savu Sea**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**1.14**	**273**	P		**Pn**	**09 17 42.4**	**+1.8**
WSI	**Waingapu**	**1.54**	**293**	P		**Pn**	**09 17 46.3**	**+0.2**
MMRI	**Maumere**	**1.71**	**17**	P		**Pn**	**09 17 50.3**	**+1.9**
MMRI				S		**Sn**	**09 18 08.5**	**-0.5**
BSSI	**Bau Bau, Buton**	**4.29**	**343**	P		**Pn**	**09 18 24.6**	**+0.7**
BKSI	**Bulukumba**	**5.18**	**342**	P		**Pn**	**09 18 37.7**	**+1.6**
KAPI	**Kappang**	**5.59**	**339**	P		**Pn**	**09 18 42.7**	**+0.9**
	2.0nm,0.3s,baz=190,slow=8.7,SNR=13							
WRA	**Warramunga Arr**	**15.49**	**130**	P		**Pn**	**09 20 57.6**	**+0.6**
	0.1nm,0.3s,baz=306,slow=14,SNR=11							
WRA				S		**Sn**	**09 23 44.0**	**-3.5**
	0.2nm,0.3s,baz=300,slow=21,SNR=7.2							
ASAR	**Alice Springs**	**17.66**	**140**	P		**P**	**09 21 27.4**	**+2.3**
	0.2nm,0.3s,baz=314,slow=12,SNR=17							
STKA	**Stephens Creek**	**28.27**	**142**	P		P	09 23 15.4	+4.3
	1.3nm,0.5s,baz=326,slow=9.8,SNR=5.6							
CMAR	**Chiang Mai Arr**	**36.35**	**322**	P		**P**	**09 24 21.1**	**-0.9**
	0.6nm,0.3s,baz=146,slow=6.9,SNR=4.5							
MKAR	**Makanchi Array**	**66.84**	**332**	P		**P**	**09 28 08.6**	**-0.8**
	1.0nm,0.5s,baz=142,slow=7.7,SNR=13							
ZALV	**Zalesovo Beam**	**71.21**	**338**	P		**P**	**09 28 34.5**	**-1.8**
	0.6nm,0.3s,baz=131,slow=6.7,SNR=4.3							
KURBB	**Kurchatov Arra**	**71.33**	**333**	P		**P**	**09 28 36.3**	**-0.7**
	0.4nm,0.5s,baz=123,slow=5.1,SNR=4.8							
BVAR	**Borovoye Array**	**76.71**	**331**	P		**P**	**09 29 07.9**	**-0.6**
	0.4nm,0.5s,baz=126,slow=7.3,SNR=2.6							
AKTO	**Aktyubinsk**	**81.82**	**325**	P		**P**	**09 29 35.5**	**-0.9**
	0.5nm,0.5s,baz=83,slow=8.1,SNR=2.5							
TORD	**Torodi Ar. Bea**	**121.34**	**279**	PKP		**PKPdf**	**09 36 13.2**	**+1.6**
	0.6nm,1.1s,baz=50,slow=3.1,SNR=2.3							

*IDC **28** 09:29:48.4±1.3,13˚.80S×166˚.51E, h0km, mb4.0/6, mb1 4.2/7, mb1mx3.8/35, mbtmp4.0/7, ML3.2/1, Error ellipse: s-maj=43.8km s-min=24.8km az=125.0*
*ISCJB **28** 09:29:53.5±1.2, 14˚.0S±0˚.1×166˚.4E±0˚.2, h43km, mb3.9/6, Error ellipse: s-maj=30.7km s-min=18.6km az=1.3*

ISC 28 09:29:54.6±1.1,**13˚.9S**±0˚.1×**166˚.5E**±0˚.2,**h43km**,**n9,** σ1^{9}**24**/9,**mb4.0**/6,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.15**	**181**	Pn		**Pn**	**09 31 50.5**	**+0.1**
	0.3nm,0.3s,baz=270,slow=20,SNR=5.1							
STKA	**Stephens Creek**	**29.01**	**228**	P		**P**	**09 35 51.5**	**+1.0**
	2.9nm,0.6s,baz=51,slow=6.8,SNR=7.1							
WRA	**Warramunga Arr**	**31.34**	**254**	P		**P**	**09 36 09.9**	**-1.4**
	0.5nm,0.8s,baz=85,slow=9.3,SNR=5.2							
ASAR	**Alice Springs**	**32.31**	**248**	P		**P**	**09 36 18.9**	**-1.0**
	1.0nm,0.6s,baz=75,slow=9.2,SNR=30							
CMAR	**Chiang Mai Arr**	**73.95**	**294**	P		**P**	**09 41 27.4**	**+1.4**
	0.6nm,0.3s,baz=92,slow=4.5,SNR=2.2							
ILAR	**Eielson Array**	**85.95**	**18**	P		**P**	**09 42 30.1**	**+0.3**
	0.5nm,0.5s,baz=244,slow=4.8,SNR=18							
MKAR	**Makanchi Array**	**96.09**	**317**	P		**P**	**09 43 17.9**	**+0.2**
	0.6nm,0.7s,baz=102,slow=5.1,SNR=5.5							
ARCES	**ARCESS Array B**	**119.25**	**345**	PKP		**PKPdf**	**09 48 36.9**	**-1.6**
	1.5nm,0.9s,baz=92,slow=2.8,SNR=4.2							
TORD	**Torodi Ar. Bea**	**165.23**	**269**	PKP		**PKPdf**	**09 49 54.5**	**-0.7**
	0.6nm,1.0s,baz=153,slow=0.3,SNR=2.2							

*IDC **28** 09:30:03.0±1.4, 13˚.99S×166˚.60E, h0km, mb4.2/6, mb1 4.3/7, mb1mx3.9/36, mbtmp4.1/7, ML3.8/1, Error ellipse: s-maj=43.6km s-min=25.6km az=123.0*
*ISCJB **28** 09:30:07.7±1.2, 14˚.2S±0˚.1×166˚.5E±0˚.2, h43km, mb4.0/6, Error ellipse: s-maj=31.2km s-min=18.7km az=2.0*

ISC 28 09:30:09.1±1.1,**14˚.1S**±0˚.1×**166˚.6E**±0˚.2,**h43km**,**n9,** σ1^{9}**08**/9,**mb4.1**/6,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.94**	**181**	Pn		**Pn**	**09 32 02.3**	**+0.2**
	1.3nm,0.3s,baz=90,slow=24,SNR=14							
STKA	**Stephens Creek**	**28.96**	**228**	P		**P**	**09 36 05.3**	**+0.8**
	5.1nm,0.5s,baz=48,slow=10,SNR=14							
WRA	**Warramunga Arr**	**31.40**	**255**	P		**P**	**09 36 25.7**	**-0.6**
	1.8nm,1.0s,baz=86,slow=9.3,SNR=12							
ASAR	**Alice Springs**	**32.34**	**248**	P		**P**	**09 36 32.6**	**-2.0**
	2.0nm,0.6s,baz=73,slow=9.6,SNR=23							
CMAR	**Chiang Mai Arr**	**74.14**	**294**	P		**P**	**09 41 42.7**	**+1.2**
	0.5nm,0.3s,baz=123,slow=4.4,SNR=3.2							
ILAR	**Eielson Array**	**86.11**	**18**	P		**P**	**09 42 44.5**	**-0.5**
	0.4nm,0.8s,baz=229,slow=6.6,SNR=5.3							
MKAR	**Makanchi Array**	**96.32**	**317**

KSRS	**Korea Array**	**62.92**	**326**	P		**P**	**09 49 27.2**	**+0.7**
	0.8nm,0.5s,baz=143,slow=7.1,SNR=3.7							
KSAR	**Wonju Array Be**	**62.94**	**326**	P		**P**	**09 49 27.2**	**+0.6**
VNDA	**Vanda**	**63.49**	**181**	P		**P**	**09 49 30.7**	**+0.9**
	2.2nm,0.7s,baz=351,slow=6.9,SNR=17							
USRK	**Ussuriysk Ar.**	**66.08**	**333**	P		**P**	**09 49 46.0**	**-1.1**
	1.6nm,0.7s,baz=103,slow=5.5,SNR=4.8							
PETK	**Petropavlovsk-**	**67.37**	**354**	P		**P**	**09 49 56.2**	**+1.1**
	2.6nm,0.7s,baz=155,slow=12,SNR=4.9							
CMAR	**Chiang Mai Arr**	**74.22**	**294**	P		**P**	**09 50 38.0**	**+0.4**
	1.1nm,0.4s,baz=104,slow=3.8,SNR=7.4							
QSPA	**South Pole Qui**	**75.94**	**180**	*eP*		**P**	**09 50 46.5**	**-0.3**
	5.1nm,0.7s							
SEY	**Seymchan**	**77.59**	**353**	P		**P**	**09 50 55.7**	**0.0**
	1.8nm,0.6s,baz=169,slow=7.2,SNR=9.3							
MAW	**Mawson**	**82.29**	**202**	P		**P**	**09 51 21.3**	**+0.1**
	2.3nm,0.7s,baz=41,slow=8.8,SNR=3.6							
ILAR	**Eielson Array**	**86.07**	**18**	P		**P**	**09 51 39.0**	**-1.3**
	0.9nm,0.5s,baz=237,slow=4.8,SNR=21							
MKAR	**Makanchi Array**	**96.39**	**317**	P		**P**	**09 52 27.8**	**-1.2**
	0.5nm,0.6s,baz=101,slow=6.3,SNR=5.5							
ZALV	**Zalesovo Beam**	**96.58**	**324**	P		**P**	**09 52 27.8**	**-1.8**
	1.2nm,0.4s,baz=102,slow=4.7,SNR=4.3							
ARCES	**ARCESS Array B**	**119.50**	**345**	PKP		**PKPdf**	**09 57 47.7**	**-1.3**
	2.7nm,0.5s,baz=72,slow=1.8,SNR=24							
FINES	**FINESS Array B**	**124.94**	**338**	PKP		**PKPdf**	**09 57 59.0**	**-0.6**
	1.4nm,0.7s,baz=97,slow=1.2,SNR=12							
NB2	**NORSAR Subarra**	**129.87**	**345**	PKPdf		**PKPdf**	**09 58 08.6**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=27,slow=1.8							
NOA	**NORSAR Array B**	**129.87**	**345**	PKP		**PKPdf**	**09 58 08.9**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=31,slow=2.0,SNR=5.4							
HFS	**Hagfors**	**129.96**	**343**	PKP		**PKPdf**	**09 58 07.8**	**-1.4**
	comp=Z,0.9nm,0.5s,baz=122,slow=7.1,SNR=4.4							
GERES	**GERESS Array B**	**138.84**	**333**	PKP		**PKPdf**	**09 58 27.3**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=262,slow=0.9,SNR=4.1							
KEST	**Kesra**	**150.39**	**321**	PKPbc		**PKPbc**	**09 58 52.6**	**+0.7**
	comp=Z,2.9nm,0.6s,baz=75,slow=2.2,SNR=8.0							
ESDC	**Sonseca Array**	**153.23**	**344**	PKPab		**PKPab**	**09 59 11.5**	**+1.6**
	comp=Z,0.7nm,0.5s,baz=2.6,slow=5.2,SNR=5.1							
TORD	**Torodi Ar. Bea**	**165.44**	**268**	PKP		**PKPdf**	**09 59 04.5**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=17,slow=1.5,SNR=4.5							
TORD				PKPab		**PKPab**	**10 00 04.0**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=107,slow=4.3,SNR=3.8							

ISCJB ***28*** *09:42:51.0±1.1, 67.72N±0.05×33.8E±0.2, h0km, Error ellipse: s-maj=8.5km s-min=6.8km az=177.8*
HEL ***28*** *09:42:52.7±0.6, 67.83N×34.02E, h0km, ML2.4, Explosion*
IDC ***28*** *09:42:55.0±1.8, 67.74N×34.09E, h0km, mb1 3.2/5, mb1mx3.0/57, mbtmp3.2/5, ML2.6/5, Error ellipse: s-maj=20.2km s-min=9.3km az=83.0*

ISC 28 09:42:51.9±2.0, 67.72N±0.06×34.3E±0.1, h0km, n12, σ1§53/18, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
VRF	**Varrio**	**1.77**	**273**	PG		**Pn**	**09 43 23.0**	**-0.7**
	baz=87							
VRF				MSG			09 43 43.0	
	comp=Z,31nm,0.2s							
VRF				SG		**Sn**	**09 43 44.4**	**-2.5**
KU6	**Riekki**	**2.42**	**227**	PN		**Pn**	**09 43 32.9**	**+0.3**
	baz=44							
KU6				MSG			09 44 04.5	
	comp=Z,15nm,0.2s							
KU6				SG		**Sb**	**09 44 07.1**	**+0.5**
SGF	**Sodankyl**	**2.98**	**268**	PN		**Pn**	**09 43 40.5**	**+0.3**
SGF				SG		**Sb**	**09 44 23.6**	**+1.0**
KEV	**Kevo**	**3.34**	**311**	PB		**Pn**	**09 43 47.0**	**+1.7**
KEV				MSG			09 44 26.8	
	comp=Z,15nm,0.2s							
KEV				SG		**Sb**	**09 44 30.1**	**-2.9**
ARCES	**ARCESS Array B**	**3.69**	**304**	Pn		**Pn**	**09 43 50.7**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=119,slow=14,SNR=74							
ARCES				Sn		**Sn**	**09 44 36.5**	**+2.4**
	comp=Z,2.0nm,0.3s,baz=119,slow=26,SNR=8.4							
ARCES				Lg		Lg	09 44 47.6	
	comp=Z,3.1nm,0.3s,baz=119,slow=27,SNR=9.5							
HEF	**Hetta**	**4.04**	**285**	PN		**Pn**	**09 43 55.1**	**+0.3**
HEF				SB		**Sn**	**09 44 45.5**	**+2.8**
OUL	**Oulu**	**4.27**	**236**	PB		Pb	09 44 03.0	-4.8
LANU	**Lannavaara**	**4.65**	**280**	PN		**Pn**	**09 44 02.5**	**-0.8**
	baz=80							
FINES	**FINESS Array B**	**7.21**	**213**	Pn		**Pn**	**09 44 38.4**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=36,slow=13,SNR=2.5							
FINES				Sn		**Sn**	**09 46 00.2**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=32,slow=20,SNR=3.1							
FINES				Lg		Lg	09 46 37.0	
	comp=Z,0.4nm,0.3s,baz=28,slow=27,SNR=4.7							
SPITS	**Spitsbergen Ar**	**11.65**	**342**	Pn		**Pn**	**09 45 38.5**	**-0.6**
	baz=150,slow=30,SNR=2.8							
HFS	**Hagfors**	**11.76**	**240**	Pn		**Pn**	**09 45 40.2**	**-0.4**
	comp=Z,0.0nm,0.3s,baz=46,slow=13,SNR=2.3							
NOA	**NORSAR Array B**	**11.94**	**247**	Pn		**Pn**	**09 45 42.8**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=54,slow=9.9,SNR=2.4							

WEL 28 09:45:20.3±0.4, 38.07S×175.84E, h182km±3km, ML3.5/15, 6C-2D, Error ellipse: s-maj=3.5km s-min=3.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**1.02**	**101**	⇓P	N	Pn	09 45 48.3	0.0
URZ				S	N	Sn	09 46 09.0	-0.9
FWVZ	**Far West T-bar**	**1.20**	**191**	⇑P	N	Pn	09 45 50.1	0.0
FWVZ				S	N	Sn	09 46 13.4	+0.2
TUVZ	**Tukino**	**1.20**	**187**	P	N	Pn	09 45 50.1	+0.2
TUVZ				*e*S	N	Sn	09 46 12.7	-0.4
BKZ	**Black Stump Fm**	**1.21**	**155**	⇑P	N	Pn	09 45 49.7	-0.1
TRVZ	**Turoa**	**1.25**	**191**	P	N	Pn	09 45 50.5	+0.1
WNVZ	**Wahianoa**	**1.27**	**189**	P	N	Pn	09 45 50.5	0.0
WNVZ				S	N	Sn	09 46 13.2	-0.9
NMHZ	**Naumai**	**1.27**	**144**	P	N	Pn	09 45 51.3	+0.9
RAHZ	**Arahi**	**1.29**	**131**	P	N	Pn	09 45 50.9	+0.4
RAHZ				S	N	Sn	09 46 13.5	-0.5
RAGZ	**Rawiri**	**1.31**	**109**	P	N	Pn	09 45 51.1	+0.3
MOVZ	**Moawhango**	**1.33**	**183**	⇑P	N	Pn	09 45 50.5	-0.4
MTVZ	**Mangateitei**	**1.34**	**192**	P	N	Pn	09 45 51.0	-0.1
VRZ	**Vera Road**	**1.35**	**219**	P	N	Pn	09 45 51.7	+0.8
MWZ	**Matawai**	**1.35**	**102**	⇓P	N	Pn	09 45 51.2	+0.1
MWZ					AML	AML	09 46 14.0	
MWZ					AML	AML	09 46 15.0	
SNGZ	**Shannon Statio**	**1.37**	**121**	*e*P	N	Pn	09 45 51.6	+0.3
BHHZ	**Black Hill Sta**	**1.42**	**173**	P	N	Pn	09 45 51.2	-0.5
MCHZ	**McNeill Hill**	**1.52**	**154**	P	N	Pn	09 45 53.0	+0.4
HAZ	**Te Kaha**	**1.57**	**79**	⇑P	N	Pn	09 45 52.7	-0.3
TKGZ	**Te Karaka**	**1.62**	**104**	P	N	Pn	09 45 53.8	+0.2
KRHZ	**Kereru**	**1.62**	**165**	P	N	Pn	09 45 53.2	-0.4
RIGZ	**Rimuhau**	**1.64**	**113**	P	N	Pn	09 45 53.9	+0.2
TWGZ	**Tauwhareparae**	**1.69**	**94**	P	N	Pn	09 45 54.7	+0.5
KNZ	**Kokohu**	**1.72**	**124**	P	N	Pn	09 45 54.8	+0.3
PNHZ	**Pukenui**	**1.86**	**172**	P	N	Pn	09 45 55.1	-0.9
KAHZ	**Kahuranaki**	**1.90**	**155**	P	N	Pn	09 45 56.3	-0.1
CNGZ	**Carnagh Statio**	**1.91**	**103**	P	N	Pn	09 45 57.0	+0.6
PUZ	**Puketiti**	**1.91**	**91**	P	N	Pn	09 45 56.4	-0.1
TSZ	**Takapari Road**	**1.99**	**177**	⇑P	N	Pn	09 45 56.3	-1.0
WPHZ	**Waipukurau**	**2.04**	**167**	P	N	Pn	09 45 56.9	-1.0
WMGZ	**Waiomatatini S**	**2.05**	**84**	P	N	Pn	09 45 58.1	+0.1
PXZ	**Pawanui**	**2.11**	**158**	P	N	Pn	09 45 57.3	-1.3
PXZ					AML	AML	09 46 31.5	
PXZ					AML	AML	09 47 38.5	
PRHZ	**Porangahau**	**2.28**	**165**	P	N	Pn	09 45 59.2	-1.3
POWZ	**Post Office Ro**	**2.32**	**181**	P	N	Pn	09 45 59.4	-1.6
ANWZ	**Angora Road**	**2.44**	**169**	P	N	Pn	09 46 00.9	-1.4
PRWZ	**Pori Road**	**2.48**	**178**	P	N	Pn	09 46 01.3	-1.5
MRZ	**Mangatainoka R**	**2.59**	**184**	⇑P	N	Pn	09 46 02.0	-2.2
MRZ					AML	AML	09 46 50.5	
BFZ	**Birch Farm**	**2.62**	**173**	P	N	Pn	09 46 02.7	-1.7
TIWZ	**Tintock**	**2.70**	**179**	P	N	Pn	09 46 03.3	-2.1
HOWZ	**Holdsworth Sta**	**2.83**	**185**	P	N	Pn	09 46 04.4	-2.6
CAW	**Cannon Point**	**3.09**	**191**	P	N	Pn	09 46 07.4	-2.7
MTW	**Mount Morrison**	**3.09**	**185**	P	N	Pn	09 46 07.0	-3.1
DUWZ	**D'Urville Isla**	**3.11**	**208**	P	N	Pn	09 46 07.8	-2.5
TRWZ	**Traveller**	**3.32**	**182**	P	N	Pn	09 46 10.0	-2.9
TCW	**Tory Channel**	**3.36**	**201**	P	N	Pn	09 46 10.5	-2.9
PLWZ	**Palliser**	**3.52**	**187**	P	N	Pn	09 46 12.0	-3.4
TUWZ	**Tuamarina**	**3.66**	**203**	P	N	Pn	09 46 14.0	-3.0
BSWZ	**Blackbirch Sta**	**3.94**	**202**	P	N	Pn	09 46 17.4	-3.2
KHZ	**Kahutara**	**4.68**	**201**	AML		AML	09 46 25.7	

IDC 28 09:51:53.6±1.8, 13.28S×166.31E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/36, mbtmp3.7/5, ML3.5/1, MS3.1/1, Ms1 3.1/1, ms1mx2.8/28, Error ellipse: s-maj=50.4km s-min=30.0km az=125.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.75**	**179**	Pn		Pn	09 54 02.0	+0.5
	0.6nm,0.3s,baz=270,slow=24,SNR=22							
DZM				LR		LR	09 57 05.5	
	comp=Z,114nm,19.0s,baz=178,slow=36							
STKA	**Stephens Creek**	**29.26**	**227**	P		P	09 57 57.2	-0.4
	1.6nm,0.6s,baz=56,slow=3.6,SNR=2.6							
WRA	**Warramunga Arr**	**31.31**	**253**	P		P	09 58 16.2	+0.3
	0.4nm,0.7s,baz=85,slow=9.2,SNR=7.8							
ASAR	**Alice Springs**	**32.35**	**247**	P		P	09 58 24.9	-0.1
	0.7nm,0.6s,baz=74,slow=9.5,SNR=17							
ILAR	**Eielson Array**	**85.44**	**18**	P		P	10 04 32.7	-0.1
	0.3nm,0.8s,baz=240,slow=3.9,SNR=5.8							

MEX 28 09:52:04.9±0.6, 15.77N×93.69W, h99km±9km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PCIG		**0.46**	**99**	*e*P		Pn	09 52 18.5	-1.8
PCIG				*e*S		Sn	09 52 29.6	-2.1
CCIG	**Comitan**	**1.57**	**71**	*e*P		Pn	09 52 30.3	-2.0
CCIG				*e*S		Sn	09 52 51.5	-1.5
CMIG	**Matias Romero**	**1.74**	**319**	*e*P		Pn	09 52 32.5	-1.7
CMIG				*e*S		Sn	09 52 55.6	-0.8

IDC 28 09:59:07.2±5.8, 5.48S×128.16E, h248km±88km, mb3.5/1, mb1 3.3/4, mb1mx2.9/37, mbtmp3.9/4, Error ellipse: s-maj=140.7km s-min=60.1km az=104.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**5.53**	**34**	P		Pn	10 00 29.4	-0.1
	1.8nm,0.3s,baz=210,slow=20,SNR=15							
WRA	**Warramunga Arr**	**15.59**	**158**	P		P	10 02 33.4	-0.3
	0.4nm,0.3s,baz=336,slow=11,SNR=30							
ASAR	**Alice Springs**	**16.91**	**164**	P		P	10 03 09.7	-0.2
	0.3nm,0.3s,baz=345,slow=12,SNR=22							
STKA	**Stephens Creek**	**29.12**	**156**	P		P	10 04 45.6	+0.3
	2.1nm,0.8s,baz=308,slow=8.1,SNR=3.1							

MAN 28 10:02:11.12.17N×120.67E, h34km, mb4.4, ML3.2, MS3.0, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
BUSP	**Coron**	**0.49**	**250**	*e*P		Pn	10 02 23.2	+1.6
BUSP				*e*S		Sn	10 02 31.3	+2.4
SJMP	**San Jose**	**0.53**	**57**	*e*P		Pn	10 02 23.9	+1.8
SJMP				*e*S		Sn	10 02 31.9	+2.0
OTRP	**Odiongan**	**1.34**	**82**	*e*P		Pb	10 02 40.1	+4.5
PGP	**Puerto Galera**	**1.35**	**12**	⇓*e*P		Pb	10 02 35.0	-0.8
PGP				*i* S		Sn	10 02 50.8	+0.5
LUBP	**Lubang**	**1.60**	**345**	*e*P		Pn	10 02 37.9	+0.9

CSEM ***28*** *10:05:13.9, 47.32N×11.43E, h6km, ML1.4/4*
VIE 28 10:05:13.9±0.5, 47.32N×11.43E, h6km±5km, ML1.4/4, 5C-2D, Error ellipse: s-maj=4.7km s-min=1.3km az=13.0 7 km NNE of Innsbruck, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WATA	**Walderalm**	**0.10**	**83**	⇑*i*Pg		Pg	10 05 16.4	0.0
	7.0nm,0.1s							
WATA				⇑*i*Sg		Sg	10 05 18.3	+0.3
	29nm,0.1s							
WATA	**Walderalm**	**0.10**	**83**	Pg		Pg	10 05 16.4	+0.1
	7.0nm,0.1s							
WATA				Sg		Sg	10 05 18.3	+0.3
	29nm,0.1s							
WTTA	**Wattenberg**	**0.15**	**113**	⇑*i*Pg		Pg	10 05 17.2	0.0
	3.2nm,0.1s							
WTTA				⇑*i*Sg		Sg	10 05 19.5	0.0
	8.2nm,0.1s							
WTTA	**Wattenberg**	**0.15**	**113**	Pg		Pg	10 05 17.2	-0.1
	3.2nm,0.1s							
WTTA				Sg		Sg	10 05 19.5	0.0
	8.2nm,0.1s							
SQTA	**Sankt Quirin**	**0.18**	**236**	⇓*i*Pg		Pg	10 05 17.9	+0.1
SQTA	**Sankt Quirin**	**0.18**	**236**	Pg		Pg	10 05 17.9	+0.1
MOTA	**Moosalm**	**0.23**	**276**	⇑*i*Pg		Pg	10 05 18.5	-0.1
	1.0nm,0.1s							
MOTA				⇓*i*Sg		Sg	10 05 21.8	0.0
	12nm,0.1s							
MOTA	**Moosalm**	**0.23**	**276**	Pg		Pg	10 05 18.5	-0.1
	1.0nm,0.1s							
MOTA				Sg		Sg	10 05 21.8	0.0
	12nm,0.1s							

ISCJB ***28*** *10:07:43.8±0.6, 53.70N±0.02×163.35W±0.02, h20km±4km, mb5.2/304, MS4.9/186, Error ellipse: s-maj=3.3km s-min=1.7km az=10.9*
NEIC ***28*** *10:07:43.2, 53.42N×163.16W, h20km, mb5.2/119, MS4.9/145, ML4.8(AEIC), After AEIC.*
IDC ***28*** *10:07:44.7±1.9, 53.70N×163.46W, h19km±10km, mb4.8/33, mb1 4.9/35, mb1mx4.8/46, mbtmp4.8/35, ML4.2/2, MS4.8/19, Ms1 4.8/19, ms1mx4.5/31, Error ellipse: s-maj=14.6km s-min=8.5km az=178.0*
MOS ***28*** *10:07:44.9±1.0, 53.72N×163.45W, h30km, mb5.6/95, MS4.9/47, Error ellipse: s-maj=8.2km s-min=4.5km az=95.1*
GCMT ***28*** *10:07:45.8±0.1, 53.51N×163.24W, h17km, MW5.4/110, Moment Tensor Solution. s89,c152; s110,c203; Duration: 1§2 Moment tensor: Scale 10^17 Nm; Mrr 1.01±.02; Mθθ 0.89±.02; Mϕϕ 0.11±.02; Mrθ 1.12±.06; Mθϕ 0.55±.01; Mϕr 0.55±.05; Best double couple: Mo 1.65700×10^17 NP1 ϕs 64.00000°, δ 69.00000°, λ 91.00000°. NP2 ϕs 241.00000°, δ 21.00000°, λ 87.00000°. Principal axes: T 1.5760, Plg 66.0000°, Azm 335.0000°; N 0.1680, Plg 1.0000°, Azm 243.0000°; P -1.7390, Plg 24.0000°, Azm 153.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***28*** *10:07:47.8, 54.30N×164.27W, h25km, mb5.4/62, mB5.5/44, Ms5.4/61, Ms7 5.1/61*
SZGRF ***28*** *10:07:59.4, 55.48N×163.50W, h33km, mb5.6, MS4.9, Unimak Island, Alaska, United States, region*

ISC 28 10:07:46.2±0.3, 53.70N±0.04×163.42W±0.03, h27km±1km, h26km: pP-P, n1326, σ1§20/1343, mb5.3/309, MS4.9/192, 372C-181D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WESE	**West Dahl East**	**1.04**	**319**	P		**Pb**	**10 08 06.3**	**+0.8**
WESP	**Westdahl Peak**	**1.11**	**317**	P		**Pb**	**10 08 07.5**	**+0.8**
SSLW	**Shishaldin Wes**	**1.15**	**339**	P		**Pb**	**10 08 08.2**	**+0.7**
ISNN	**Isanotski Nort**	**1.16**	**350**	P		**Pb**	**10 08 08.6**	**+1.0**
FALS	**False Pass**	**1.16**	**0**	P		**Pb**	**10 08 07.8**	**+0.1**
FALS				S		**Sb**	**10 08 26.8**	**+4.5**
SSLN	**Shishaldin Nor**	**1.17**	**343**	P		**Pb**	**10 08 08.8**	**+1.1**
AKUT	**Akutan**	**1.46**	**289**	P		**Pb**	**10 08 11.8**	**-0.9**
AKUT				S		**Sb**	**10 08 33.9**	**+3.2**
ZRO	**Akutan Zero**	**1.56**	**286**	P		**Pn**	**10 08 13.2**	**+0.9**
DT1	**Dutton Round H**	**1.56**	**25**	P		**Pn**	**10 08 12.1**	**-0.2**
AKGG	**Akutan Green G**	**1.60**	**289**	P		**Pb**	**10 08 14.3**	**-0.8**
AKGG				S		**Sb**	**10 08 39.0**	**+4.1**
DTNA	**Dutton South F**	**1.61**	**25**	P		**Pn**	**10 08 12.9**	**0.0**
AKRB	**Akutan Reef Bi**	**1.62**	**287**	P		**Pn**	**10 08 14.2**	**+1.0**
AKRB				S		**Sb**	**10 08 39.2**	**+3.6**
UNV	**Unalaska Valle**	**1.83**	**276**	P		**Pn**	**10 08 15.9**	**-0.1**
MSW	**Makushin Switc**	**2.00**	**278**	P		**Pn**	**10 08 16.9**	**+0.5**
MCIR	**Makushin Cirqu**	**2.07**	**279**	P		**Pn**	**10 08 20.4**	**+1.1**
SDPT	**Sand Point**	**2.39**	**45**	P		**Pn**	**10 08 23.5**	**0.0**
OKFG	**Magazine Ridge**	**2.69**	**266**	P		**Pn**	**10 08 28.3**	**+0.5**
NIKH	**Nikolski High**	**3.33**	**260**	P		**Pn**	**10 08 36.2**	**-0.4**
CHGN	**Chignik**	**3.89**	**46**	P		**Pn**	**10 08 43.9**	**-0.3**
SPIA	**Saint Paul Isl**	**5.22**	**315**	P		**Pn**	**10 09 03.5**	**+1.1**
PLK1	**Peulik 1**	**5.63**	**40**	P		**Pn**	**10 09 08.0**	**-0.1**
KABR	**Katmai Barrier**	**6.50**	**44**	P		**Pn**	**10 09 19.6**	**-0.6**
KBM	**Katmai Bkd Mtn**	**6.50**	**42**	P		**Pn**	**10 09 19.7**	**-0.4**
KVTA	**Katmai Vly 10**	**6.54**	**41**	P		**Pn**	**10 09 20.7**	**+0.1**
KOFP	**Korovin Flat P**	**6.60**	**262**	P		**Pn**	**10 09 23.3**	**+1.8**
KOKL	**Mount Kliuchef**	**6.65**	**262**	P		**Pn**	**10 09 23.7**	**+1.6**
ATKA	**Atka Island**	**6.68**	**261**	P		**Pn**	**10 09 23.6**	**+1.1**
OHAK	**Old Harbor**	**6.76**	**54**	P		**Pn**	**10 09 21.2**	**-2.4**
KDAK	**Kodiak Island**	**7.36**	**52**	Pn		**Pn**	**10 09 29.3**	**-2.5**
	479nm,0.8s,SNR=12							
KDAK	**Kodiak Island**	**7.36**	**52**	P		**Pn**	**10 09 30.5**	**-1.3**
KDAK	**Kodiak Island**	**7.36**	**52**	P		**Pn**	**10 09 30.5**	**-1.3**
GSTR	**Great Sitkin T**	**7.81**	**263**	*e*Pn		**Pn**	**10 09 38.3**	**+0.2**
	650nm,1.4s							
GSMY	**Great Sitkin M**	**7.82**	**263**	P		**Pn**	**10 09 39.3**	**+1.1**
SVW2	**Sparrevohn**	**8.54**	**27**	*e*Pn		**Pn**	**10 09 48.9**	**+0.9**
RSO	**Redoubt South**	**8.92**	**36**	*e*Pn		**Pn**	**10 09 53.2**	**-0.2**
RSO				*e*Sn		**Sn**	**10 11 33.0**	**0.0**
SEW	**Seward**	**9.97**	**44**	*e*Pn		**Pn**	**10 10 06.1**	**-1.4**
	162nm,0.6s							
SEW				*e*Sn		**Sn**	**10 11 54.8**	**-3.5**
RC01	**Rabbit Creek A**	**10.44**	**39**	*e*Pn		**Pn**	**10 10 12.5**	**-1.5**
	154nm,0.8s							
RC01				*e*Sn		**Sn**	**10 12 08.9**	**-1.1**
AMKA	**Amchitka**	**10.78**	**265**	*e*Pn		**Pn**	**10 10 18.5**	**-0.1**
	240nm,0.6s							
AMKA				*e*Sn		**Sn**	**10 12 20.6**	**+2.4**
PPLA	**Purkeypile**	**10.94**	**28**	*e*Pn		Pn	10 10 17.3	-3.7
	116nm,0.8s							
PPLA				*e*Sn		**Sn**	**10 12 19.1**	**-3.2**
GAMB	**Gambell**	**10.97**	**340**	*e*Pn		**Pn**	**10 10 24.1**	**+2.8**
GAMB				*e*Sn		**Sn**	**10 12 23.6**	**+0.6**
MID	**Middleton Isla**	**11.02**	**52**	*e*P		Pn	10 10 18.7	-3.2
MID				*e*			10 12 22.6	
MID				pmax		pmax		
	comp=Z,100nm,0.6s							
MID	**Middleton Isla**	**11.02**	**52**	*e*Pn		Pn	10 10 18.7	-3.2
	comp=Z,100nm,0.6s							
MID				*e*Sn		**Sn**	**10 12 22.6**	**-1.5**
SML	**Sawmill**	**11.42**	**39**	*e*P		**Pn**	**10 10 27.0**	**-0.5**
SML	**Sawmill**	**11.42**	**39**	*e*Pn		**Pn**	**10 10 27.0**	**-0.5**
EYAK	**Cordova Ski Ar**	**11.78**	**47**	*e*Pn		**Pn**	**10 10 29.5**	**-2.8**
TRF	**Thorofare Moun**	**11.91**	**30**	*e*Pn		**Pn**	**10 10 34.1**	**-0.2**
TRF				*e*Sn		**Sn**	**10 12 45.5**	**-0.7**
TNA	**Tin City**	**12.11**	**351**	*e*Pn		**Pn**	**10 10 36.1**	**-0.8**
	comp=Z,122nm,1.2s							
TNA				*e*Sn		**Sn**	**10 12 52.1**	**+1.3**
BPAW	**Bear Paw Mtn.**	**12.22**	**27**	*e*Pn		**Pn**	**10 10 37.9**	**-0.5**
BPAW				*e*Sn		**Sn**	**10 12 55.3**	**+1.7**
BMRM	**Bremner River**	**12.47**	**47**	*e*Sn		**Sn**	**10 12 55.4**	**-4.4**
MCK	**McKinley**	**12.53**	**31**	*e*P		**Pn**	**10 10 42.6**	**0.0**
MCK				*e*			10 13 01.7	
MCK	**McKinley**	**12.53**	**31**	*e*Pn		**Pn**	**10 10 42.6**	**0.0**
MCK				*e*Sn		**Sn**	**10 13 01.7**	**+0.6**
PAX	**Paxson**	**13.19**	**38**	*e*P		Pn	10 10 47.2	-4.4
PAX	**Paxson**	**13.19**	**38**	*e*Pn		Pn	10 10 47.2	-4.4
PAX				*e*Sn		Sn	10 12 57.4	-2.0
IM04	**Indian Mountai**	**13.21**	**17**	*e*Pn		**Pn**	**10 10 51.3**	**-0.5**
IM04				*e*Sn		**Sn**	**10 13 13.7**	**-3.9**
COLA	**College**	**13.69**	**29**	*e*P		**Pn**	**10 10 57.9**	**-0.4**
COLA	**College**	**13.69**	**29**	*e*Pn		**Pn**	**10 10 57.1**	**-1.2**
COLA				*e*Sn		**Sn**	**10 13 32.9**	**+3.6**
ILAR	**Eielson Array**	**13.90**	**31**	Pn		Pn	10 10 57.9	-3.3
	comp=Z,0.7nm,0.3s,baz=222,slow=14,SNR=17							
ILAR				LR		LR	10 16 57.3	
	comp=Z,11μm,18.4s,baz=231,slow=40							
COLD	**Coldfoot**	**15.00**	**20**	*e*Pn		**Pn**	**10 11 16.3**	**+0.1**
EGAK	**Eagle**	**15.80**	**37**	*e*Pn		**Pn**	**10 11 23.6**	**-2.9**
	comp=Z,68nm,1.0s							

G05D	**Wamic, OR**	**28.27**	**90**	⇓P		**P**	**10 13 37.5**	**+0.4**
	baz=28							
I04A	**Tendick Farm,**	**28.43**	**94**	⇓P		**P**	**10 13 38.9**	**+0.3**
	baz=28							
BENWA	**Benson Ranch**	**28.55**	**87**	P		**P**	**10 13 41.6**	**+2.0**
L02D	**Cave Junction,**	**28.69**	**97**	⇑P		**P**	**10 13 41.0**	**+0.2**
	baz=28							
OD2	**Odessa Site #2**	**28.71**	**84**	P		**P**	**10 13 41.0**	**0.0**
HAWA	**Hanford**	**28.73**	**87**	*e*P		**P**	**10 13 41.1**	**0.0**
	comp=Z,39nm,0.9s							
HAWA				LR		LR		
	comp=Z,1μm,19.0s							
D08A	**Wollman Farm,**	**28.75**	**85**	*e*P		**P**	**10 13 41.4**	**0.0**
	comp=Z,20nm,0.8s							
I05D	**Terrebonne, OR**	**28.76**	**92**	⇑P		**P**	**10 13 42.0**	**+0.5**
	baz=29							
HUMO	**Hull Mountain**	**28.80**	**96**	*e*P		**P**	**10 13 38.7**	**-3.1**
	comp=Z,43nm,1.6s							
J04D	**Umpqua Nationa**	**28.93**	**94**	⇓P		**P**	**10 13 43.3**	**+0.1**
	baz=29							
NEW	**Newport**	**29.23**	**82**	P		**P**	**10 13 45.5**	**0.0**
	comp=Z,5.4nm,0.7s,baz=305,slow=4.6,SNR=15							
NEW				ScP		**ScP**	**10 20 31.3**	**-0.3**
	comp=Z,4.2nm,1.1s,baz=235,slow=5.1,SNR=5.4							
NEW	**Newport**	**29.23**	**82**	ScP		**ScP**	**10 20 31.3**	**-0.3**
NEW				LR		LR		
	comp=Z,1μm,22.0s							
NEW	**Newport**	**29.23**	**82**	⇑P		**P**	**10 13 45.6**	**0.0**
	baz=29							
J05D	**Fort Rock, OR**	**29.42**	**93**	⇓P		**P**	**10 13 47.3**	**-0.2**
	baz=29							
YBH	**Yreka Blue Hor**	**29.48**	**97**	P		**P**	**10 13 48.2**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=281,slow=9.4,SNR=10							
YBH				LR		LR	10 22 32.7	
	comp=Z,3μm,21.9s,baz=301,slow=30							
YBH	**Yreka Blue Hor**	**29.48**	**97**	*e*P		**P**	**10 13 48.0**	**+0.1**
YBH				pmax		pmax		
	comp=Z,9.0nm,0.8s							
YBH	**Yreka Blue Hor**	**29.48**	**97**	*e*P		**P**	**10 13 48.0**	**+0.1**
	comp=Z,8.7nm,0.8s							
K04D	**Chiloquin, OR**	**29.50**	**95**	⇓P		**P**	**10 13 48.0**	**-0.1**
	baz=29							
M02C	**Callahan**	**29.60**	**98**	⇓P		**P**	**10 13 48.8**	**-0.3**
	baz=29							
N02D	**Trinity Center**	**29.95**	**98**	⇑P		**P**	**10 13 51.7**	**-0.4**
	baz=30							
M04C	**Macdoel**	**29.96**	**96**	⇓P		**P**	**10 13 52.5**	**+0.3**
	baz=30							
I07A	**Izee**	**29.99**	**91**	*e*P		**P**	**10 13 53.2**	**+0.7**
	comp=Z,93nm,1.6s							
WDC	**Whiskeytown Da**	**30.30**	**99**	P		**P**	**10 13 53.4**	**-1.7**
WDC				pmax		pmax		
	comp=Z,12nm,1.0s							
WDC	**Whiskeytown Da**	**30.30**	**99**	P		**P**	**10 13 53.4**	**-1.7**
	comp=Z,12nm,1.0s							
BSMT	**Basson Peak**	**30.80**	**81**	*e*P		**P**	**10 13 57.5**	**-2.2**
	comp=Z,33nm,1.2s							
BMO	**Blue Mountains**	**30.87**	**88**	PFAKE			10 14 10.0	+10
BMO				LR		LR		
	comp=Z,2μm,20.0s							
SWMT	**Swartz Lake**	**31.43**	**81**	*e*P		P	10 14 01.2	-3.9
	comp=Z,22nm,1.8s							
WVOR	**Wild Horse Val**	**31.47**	**92**	PFAKE			10 14 10.0	+4.5
WVOR				LR		LR		
	comp=Z,2μm,20.0s							
MSO	**Missoula**	**31.81**	**82**	⇑P		**P**	**10 14 08.2**	**-0.3**
	baz=32							
SLMT	**Seeley Lake**	**31.86**	**81**	*e*P		**P**	**10 14 07.6**	**-1.4**
	comp=Z,23nm,1.3s							
CHMT	**Chamberlain Mo**	**32.17**	**81**	*e*P		**P**	**10 14 10.7**	**-1.1**
	comp=Z,11nm,1.0s							
KIP	**Kipapa**	**32.48**	**171**	⇑ *i*P		**P**	**10 14 17.3**	**+2.9**
KIP				pmax		pmax		
	comp=Z,102nm,1.7s							
HRY	**Holter Researc**	**33.11**	**81**	*e*P		**P**	**10 14 19.9**	**0.0**
	comp=Z,7.4nm,0.7s							
LRM	**Limekiln Ridge**	**33.22**	**83**	*e*P		**P**	**10 14 19.9**	**-1.1**
	comp=Z,63nm,1.0s							
LRM				*e*PcP		**PcP**	**10 17 03.4**	**+0.4**
HLID	**Hailey**	**33.32**	**87**	*e*P		**P**	**10 14 21.6**	**-0.2**
	comp=Z,116nm,1.8s							
HLID				LR		LR		
	comp=Z,1μm,21.0s							
HLID	**Hailey**	**33.32**	**87**	⇓P		**P**	**10 14 21.3**	**-0.4**
	baz=33							
WAKR	**Walker**	**33.47**	**99**	*e*P		**P**	**10 14 22.8**	**-0.3**
TIXI	**Tiksi**	**33.49**	**328**	*c i*P		**P**	**10 14 21.8**	**-0.9**
TIXI				pmax		pmax		
	comp=Z,32nm,1.2s							
TIXI	**Tiksi**	**33.49**	**328**	PFAKE			10 14 40.0	+17
TIXI				LR		LR		
	comp=Z,4μm,19.0s							
MCMT	**McKenzie Canyo**	**33.53**	**84**	*e*P		**P**	**10 14 22.4**	**-1.3**
BMN	**Battle Mountai**	**33.53**	**94**	*e*P		**P**	**10 14 21.7**	**-2.0**
BMN				pmax		pmax		
	comp=Z,42nm,1.5s							
BMN	**Battle Mountai**	**33.53**	**94**	*e*P		**P**	**10 14 21.7**	**-2.0**
	comp=Z,42nm,1.5s							
RES	**Resolute Bay**	**33.60**	**27**	P		**P**	**10 14 22.2**	**-1.4**
	comp=Z,4.2nm,0.6s,baz=276,slow=10,SNR=17							
EGMT	**Eagleton**	**33.65**	**77**	PFAKE			10 14 30.0	+5.4
EGMT				LR		LR		
	comp=Z,1μm,21.0s							
EGMT	**Eagleton**	**33.65**	**77**	⇑P		**P**	**10 14 23.8**	**-0.7**
	baz=34							
A19A	**Klindworth Far**	**33.79**	**75**	⇑P		**P**	**10 14 25.2**	**-0.5**
	baz=34							
BOZ	**Bozeman (W)**	**33.80**	**82**	PFAKE			10 14 30.0	+4.1
BOZ				LR		LR		
	comp=Z,484nm,22.0s							
B19A	**Brinkman Farms**	**33.91**	**76**	⇓P		**P**	**10 14 26.2**	**-0.5**
	baz=34							
YUK	**Yuzh-Kuril'sk**	**34.06**	**275**	*e*P		**P**	**10 14 26.2**	**-1.7**
YUK							10 17 08.4	
YUK				S		**S**	**10 19 54.2**	**+2.5**
YUK				pmax		pmax		
	comp=N,248nm,1.4s							
YUK				pmax		pmax		
	comp=E,102nm,1.4s							
YUK				pmax		pmax		
	comp=Z,376nm,1.4s							
YUK				pmax		pmax		
	comp=Z,713nm,2.1s							
YUK				MLR		MLR		
	comp=N,2μm,21.0s							
YUK				MLR		MLR		
	comp=E,2μm,21.0s							
YUK				MLR		MLR		
	comp=Z,1μm,21.0s							
NVAR	**Mina Array Bea**	**34.19**	**98**	P		**P**	**10 14 28.8**	**-0.6**
	comp=Z,3.5nm,0.7s,baz=297,slow=8.5,SNR=18							
NVAR				ScP		**ScP**	**10 20 49.0**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=321,slow=2.1,SNR=4.5							
C19A	**Slack Wire Ran**	**34.21**	**77**	⇓P		**P**	**10 14 29.3**	**0.0**
	baz=34							
A20A	**Cobblestone Ra**	**34.28**	**75**	⇑P		**P**	**10 14 29.3**	**-0.6**
	baz=34							
YSS	**Yuzh-Sakhalins**	**34.29**	**281**	⇑*e*P		**P**	**10 14 29.8**	**-0.1**
YSS				*e**SP		**sP**	**10 14 41.0**	**-0.1**
YSS				*e*			10 15 52.0	
YSS				*e*			10 17 05.0	
YSS				*e*S		**S**	**10 19 52.0**	**-3.3**
YSS				*e*SSS		SSS	10 22 34.0	
YSS				pmax		pmax		
	comp=Z,30nm,0.9s							
YSS				MLR		MLR		
	comp=E,900nm,18.0s							
YSS				MLR		MLR		
	comp=Z,1μm,18.0s							
YSS	**Yuzh-Sakhalins**	**34.29**	**281**	*e*P		**P**	**10 14 30.6**	**+0.6**
	comp=Z,55nm,1.0s							
YSS				LR		LR		
	comp=Z,698nm,19.0s							
QLMT	**Earthquake Lak**	**34.37**	**83**	*e*P		**P**	**10 14 32.0**	**+1.1**
	comp=Z,3.1nm,1.2s							
MLAC	**Mammoth, Mammo**	**34.41**	**99**	⇓P		**P**	**10 14 31.3**	**0.0**
	baz=34							
POHA	**Pohakuloa**	**34.42**	**167**	PFAKE			10 14 40.0	+8.4
POHA				LR		LR		
	comp=Z,2μm,19.0s							
B20A	**Solberg Farm,**	**34.45**	**76**	⇑P		**P**	**10 14 31.2**	**-0.1**
	baz=34							
ELK	**Elko**	**34.52**	**92**	*e*P		**P**	**10 14 32.3**	**0.0**
ELK				pmax		pmax		
	comp=Z,36nm,1.2s							
ELK	**Elko**	**34.52**	**92**	*e*P		**P**	**10 14 32.3**	**0.0**
	comp=Z,36nm,1.2s							
D19A	**Cripps Ranch,**	**34.60**	**78**	⇓P		**P**	**10 14 32.6**	**-0.1**
	baz=34							
A21A	**Bergtoll Ranch**	**34.80**	**74**	⇓P		**P**	**10 14 34.3**	**-0.2**
	baz=35							
C20A	**Veseth Ranch,**	**34.83**	**77**	⇑P		**P**	**10 14 34.5**	**-0.1**
	baz=35							
YNR	**Norris Junctio**	**34.87**	**83**	*e*P		**P**	**10 14 37.0**	**+1.7**
	comp=Z,62nm,1.1s							
GCMT	**Greycliff**	**34.88**	**81**	*e*P		**P**	**10 14 36.2**	**+1.0**
YFT	**Old Faithful**	**34.93**	**83**	*e*P		**P**	**10 14 35.3**	**-0.5**
	comp=Z,50nm,1.3s							
YFT				*e*pP		**pP**	**10 14 45.8**	**+2.1**
FFC	**Flin Flon**	**34.94**	**63**	*e*P		**P**	**10 14 35.0**	**-0.5**
FFC				pmax		pmax		
	comp=Z,112nm,2.1s							
FFC				MLR		MLR		
	comp=Z,3μm,21.0s							
FFC	**Flin Flon**	**34.94**	**63**	*e*P		**P**	**10 14 35.0**	**-0.5**
	comp=Z,112nm,2.1s							
FFC				LR		LR		
	comp=Z,3μm,21.0s							
YAK	**Yakutsk**	**35.01**	**311**	*e*P		**P**	**10 14 34.4**	**-1.6**
YAK				*e**PP		**pP**	**10 14 42.6**	**-1.3**
YAK				*e*			10 15 55.7	
YAK				*e*PPP		PPP	10 16 06.5	
YAK				*e*			10 17 06.0	
YAK				*e*S		**S**	**10 20 03.0**	**-3.0**
YAK				*e*			10 24 53.5	
YAK				pmax		pmax		
	comp=Z,26nm,1.3s							
YAK				pmax		pmax		
	comp=E,23nm,1.3s							
YAK				pmax		pmax		
	comp=N,4.0nm,1.1s							
YAK				pmax		pmax		
	comp=Z,192nm,4.1s							
YAK				pmax		pmax		
	comp=E,40nm,1.4s							
YAK				pmax		pmax		
	comp=N,85nm,3.9s							
YAK				smax		smax		
	comp=N,29nm,7.7s							
YAK				MLR		MLR		
	comp=Z,5μm,18.0s							
YAK				MLR		MLR		
	comp=N,2μm,18.0s							
YAK				MLR		MLR		
	comp=E,3μm,17.0s							
YAK	**Yakutsk**	**35.01**	**311**	PFAKE			10 14 50.0	+14
YAK				LR		LR		
	comp=Z,2μm,19.0s							
E19A	**Rath Farm, Rou**	**35.03**	**79**	⇑P		**P**	**10 14 36.7**	**+0.2**
	baz=35							
B21A	**Ellsworth Farm**	**35.03**	**75**	⇓P		**P**	**10 14 36.5**	**+0.1**
	baz=35							
TPH	**Tonopah**	**35.06**	**97**	*e*P		**P**	**10 14 37.0**	**+0.1**
TPH				pmax		pmax		
	comp=Z,72nm,1.7s							
TPH	**Tonopah**	**35.06**	**97**	*e*P		**P**	**10 14 37.0**	**+0.1**
	comp=Z,72nm,1.7s							
RCTC	**Rector, Farmer**	**35.07**	**102**	⇑P		**P**	**10 14 37.1**	**+0.3**
	baz=35							
D20A	**Manuel Ranch,**	**35.07**	**78**	⇑P		**P**	**10 14 36.8**	**0.0**
	baz=35							
H17A	**Grant Village**	**35.12**	**83**	*e*P		**P**	**10 14 37.9**	**+0.5**
H17A				*e*PcP		**PcP**	**10 17 04.7**	**-3.8**
H17A	**Grant Village**	**35.12**	**83**	⇓P		**P**	**10 14 37.0**	**-0.4**
	baz=35							
LKWY	**Lake**	**35.12**	**83**	*e*P		**P**	**10 14 38.2**	**+0.7**
LKWY				pmax		pmax		
	comp=Z,52nm,1.2s							
LKWY				MLR		MLR		
	comp=Z,1μm,21.0s							
LKWY	**Lake**	**35.12**	**83**	*e*P		**P**	**10 14 38.2**	**+0.7**
	comp=Z,52nm,1.2s							
LKWY				LR		LR		
	comp=Z,1μm,21.0s							
FLWY	**Flagg Ranch**	**35.22**	**84**	*e*P		**P**	**10 14 39.2**	**+0.9**
	comp=Z,21nm,0.9s							
F19A	**Roth Farm, Mol**	**35.27**	**80**	⇓P		**P**	**10 14 38.5**	**0.0**
	baz=35							
FXWY	**Fox Creek**	**35.28**	**85**	*e*P		**P**	**10 14 40.7**	**+1.8**
	comp=Z,15nm,1.0s							
FXWY				*e*ScP		**ScP**	**10 20 53.6**	**+1.0**
C21A	**Desert Coulee**	**35.29**	**76**	⇑P		**P**	**10 14 38.0**	**-0.7**
	baz=35							
HVU	**Hansel Valley**	**35.34**	**89**	*e*P		**P**	**10 14 39.6**	**+0.3**
HVU				pmax		pmax		
	comp=Z,17nm,0.7s							
HVU	**Hansel Valley**	**35.34**	**89**	*e*P		**P**	**10 14 39.6**	**+0.3**
	comp=Z,18nm,0.7s							
A22A	**Carney Farms,**	**35.38**	**74**	⇑P		**P**	**10 14 39.2**	**-0.2**
	baz=35							
MOOW	**Moose Ponds**	**35.38**	**84**	*e*P		**P**	**10 14 40.8**	**+1.1**
	comp=Z,12nm,1.1s							
I17A	**Pilgrim Ck.**	**35.39**	**84**	⇑P		**P**	**10 14 39.9**	**+0.1**
	baz=35							
E20A	**Meyer Farm, Mu**	**35.39**	**79**	⇓P		**P**	**10 14 39.4**	**-0.1**
	baz=35							
TPAW	**Teton Pass**	**35.41**	**85**	*e*P		**P**	**10 14 39.8**	**-0.2**
	comp=Z,41nm,1.3s							
RLMT	**Red Lodge**	**35.48**	**81**	*e*P		**P**	**10 14 40.0**	**-0.4**
	comp=Z,34nm,1.1s							
RLMT				LR		LR		
	comp=Z,510nm,19.0s							
VES	**Vestal, Richgr**	**35.49**	**102**	⇑P		**P**	**10 14 40.2**	**-0.2**
	baz=35							
H18A	**Shoshone NF, C**	**35.49**	**82**	⇑P		**P**	**10 14 40.0**	**-0.7**
	baz=35							
SNOW	**Snow King Moun**	**35.55**	**85**	*e*P		**P**	**10 14 41.8**	**+0.7**
	comp=Z,24nm,1.4s							
LOHW	**Long Hollow**	**35.55**	**84**	*e*P		**P**	**10 14 42.2**	**+1.1**
	comp=Z,13nm,1.1s							
B22A	**Reddig Ranch S**	**35.68**	**75**	⇑P		**P**	**10 14 41.5**	**-0.6**
	baz=36							
GRAC	**Grapevine Rang**	**35.69**	**99**	⇓P		**P**	**10 14 42.2**	**0.0**
	baz=36							
BGU	**Big Grassy Mou**	**35.72**	**90**	*e*P		**P**	**10 14 43.2**	**+0.7**
	comp=Z,77nm,1.3s							
PKM	**Mcpherson Peak**	**35.73**	**104**	⇑P		**P**	**10 14 42.3**	**-0.4**
	baz=36							
AHID	**Auburn Hatcher**	**35.75**	**86**	*e*P		**P**	**10 14 42.9**	**+0.1**
	comp=Z,33nm,1.0s							
AHID				LR		LR		
	comp=Z,2μm,19.0s							
F20A	**Billings**	**35.76**	**80**	⇓P		**P**	**10 14 41.8**	**-0.9**
	baz=36							
R11A	**Troy Canyon, C**	**35.84**	**96**	⇓P		**P**	**10 14 43.8**	**+0.2**
	baz=36							
H19A	**Powell**	**35.90**	**82**	⇑P		**P**	**10 14 44.2**	**+0.2**
	baz=36							
ASAJ	**Asahikawa**	**35.94**	**277**	P		**P**	**10 14 43.6**	**-0.6**
	comp=Z,85nm,1.0s,baz=15,slow=6.0,SNR=21							
ASAJ				LR		LR	10 28 17.6	
	comp=Z,505nm,21.2s,baz=91,slow=34							
ISA	**Isabella, Lake**	**35.97**	**102**	*e*P		**P**	**10 14 43.8**	**-0.8**
ISA				pmax		pmax		
	comp=Z,14nm,1.0s							
ISA	**Isabella, Lake**	**35.97**	**102**	*e*P		**P**	**10 14 43.8**	**-0.8**
	comp=Z,14nm,1.0s							
ISA	**Isabella, Lake**	**35.97**	**102**	⇑P		**P**	**10 14 45.4**	**+0.8**
	baz=36							
E21A	**Keefer Ranch,**	**35.98**	**78**	⇑P		**P**	**10 14 45.3**	**+0.7**
	baz=36							
A23A	**Redstone**	**35.98**	**73**	⇑P		**P**	**10 14 44.1**	**-0.4**
	baz=36							
G20A	**Bridger**	**36.04**	**81**	⇑P		**P**	**10 14 45.5**	**+0.3**
	baz=36							
HWUT	**Hardware Ranch**	**36.17**	**88**	*e*P		**P**	**10 14 46.2**	**-0.2**
	comp=Z,44nm,1.6s							
HWUT				LR		LR		
	comp=Z,1μm,22.0s							
B23A	**Brockton**	**36.17**	**74**	⇑P		**P**	**10 14 46.4**	**+0.2**
	baz=36							
D22A	**Cohagen**	**36.18**	**77**	⇑P		**P**	**10 14 46.2**	**0.0**
	baz=36							
I19A	**Meeteetse**	**36.25**	**83**	⇓P		**P**	**10 14 47.3**	**+0.1**
	baz=36							
MPMC	**Manual Prospec**	**36.27**	**100**	⇑P		**P**	**10 14 47.8**	**+0.5**
	baz=36							
DUG	**Dugway, Tooele**	**36.30**	**91**	PFAKE			10 15 00.0	+12
DUG				LR		LR		
	comp=Z,1μm,20.0s							
DUG	**Dugway, Tooele**	**36.30**	**91**	⇓P		**P**	**10 14 48.0**	**+0.5**
	baz=36							
FURC	**Furnace Creek,**	**36.35**	**99**	⇑P		**P**	**10 14 48.2**	**+0.4**
	baz=36							
TPNV	**Topopah Spring**	**36.39**	**98**	⇓P		**P**	**10 14 48.7**	**+0.4**
	baz=36							
LAO	**LASA Array**	**36.40**	**77**	PFAKE			10 15 00.0	+12
LAO				LR		LR		
	comp=Z,2μm,20.0s							
C23A	**Lambert**	**36.41**	**75**	⇓P		**P**	**10 14 48.3**	**+0.1**
	baz=36							
A24A	**Westby**	**36.50**	**73**	⇓P		**P**	**10 14 49.4**	**+0.4**
	baz=36							
LRMC	**Laurel Mtn Rad**	**36.55**	**101**	⇑P		**P**	**10 14 50.6**	**+0.9**
	baz=36							
TCUT	**Toone Canyon**	**36.56**	**88**	*e*P		**P**	**10 14 51.4**	**+1.6**
	comp=Z,52nm,1.1s							
H20A	**Greybull**	**36.58**	**81**	⇓P		**P**	**10 14 50.4**	**+0.6**
	baz=36							
DGMT	**Dagmar**	**36.62**	**73**	PFAKE			10 15 00.0	+10
DGMT				LR		LR		
	comp=Z,2μm,20.0s							
DGMT	**Dagmar**	**36.62**	**73**	⇑P		**P**	**10 14 50.1**	**0.0**
	baz=36							
G21A	**Lodge Grass**	**36.63**	**80**	⇓P		**P**	**10 14 50.8**	**+0.5**
	baz=36							
BW06	**Boulder Array**	**36.66**	**85**	*e*P		**P**	**10 14 50.7**	**0.0**
	comp=Z,29nm,1.1s							
BW06				LR		LR		
	comp=Z,867nm,19.0s							
PDAR	**Pinedale Array**	**36.66**	**85**	P		**P**	**10 14 50.5**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=329,slow=5.2,SNR=24							
PDAR				PcP		**PcP**	**10 17 13.7**	**+0.6**
	comp=Z,4.7nm,0.9s,baz=320,slow=6.2,SNR=3.9							
PDAR				ScP		**ScP**	**10 20 56.9**	**-0.7**
	comp=Z,2.0nm,1.1s,baz=324,slow=2.0,SNR=6.1							
PDAR				LR		LR	10 28 01.2	
	comp=Z,722nm,18.8s,baz=312,slow=33							
J19A	**Crowheart**	**36.67**	**84**	⇑P		**P**	**10 14 51.2**	**+0.5**
	baz=36							
E22A	**Miles City**	**36.69**	**77**	⇑P		**P**	**10 14 51.1**	**+0.5**
	baz=36							
D23A	**Lindsay**	**36.73**	**76**	⇑P		**P**	**10 14 51.0**	**0.0**
	baz=36							
EDW2	**Edwards Air Fo**	**36.80**	**102**	⇑P		**P**	**10 14 52.6**	**+1.0**
	baz=37							
I20A	**Worland**	**36.81**	**82**	⇑P		**P**	**10 14 52.4**	**+0.6**
	baz=37							
ERM	**Erimo**	**36.85**	**274**	P		**P**	**10 14 51.4**	**-0.5**
	comp=Z,638nm,1.0s,SNR=7.0							
ERM	**Erimo**	**36.85**	**274**	*i*P		**P**	**10 14 51.8**	**-0.1**
ERM				pmax		pmax		
	comp=Z,148nm,1.2s							
ERM	**Erimo**	**36.85**	**274**	*e*P		**P**	**10 14 51.2**	**-0.8**
	comp=Z,176nm,1.2s							
ERM				LR		LR		
	comp=Z,1μm,22.0s							
F22A	**Rosebud**	**36.88**	**78**	⇑P		**P**	**10 14 52.6**	**+0.3**
	baz=37							
C24A	**Savage**	**36.99**	**75**	⇑P		**P**	**10 14 53.4**	**+0.3**
	baz=37							
A25A	**Svangstu Ranch**	**37.00**	**72**	⇓P		**P**	**10 14 53.6**	**+0.4**
	baz=37							
E23A	**Ismay**	**37.03**	**77**	⇑P		**P**	**10 14 54.1**	**+0.6**
	baz=37							
SHOC	**Shoshone, Teco**	**37.08**	**99**	⇑P		**P**	**10 14 54.0**	**0.0**
	baz=37							
MPU	**Maple Canyon**	**37.12**	**90**	*e*P		**P**	**10 14 54.1**	**-0.4**
	comp=Z,16nm,0.9s							
G22A	**Birney**	**37.17**	**79**	⇑P		**P**	**10 14 54.1**	**-0.7**
	baz=37							
J20A	**Shoshoni**	**37.19**	**83**	⇓P		**P**	**10 14 55.6**	**+0.6**
	baz=37							
GSC	**Goldstone, Bar**	**37.19**	**100**	⇓P		**P**	**10 14 55.0**	**-0.1**
	baz=37							
D24A	**Glendive**	**37.26**	**75**	⇓P		**P**	**10 14 55.6**	**0.0**
	baz=37							
FCC	**Fort Churchill**	**37.30**	**54**	*e*P		**P**	**10 14 54.3**	**-1.2**
FCC				pmax		pmax		
	comp=Z,116nm,1.4s							
FCC	**Fort Churchill**	**37.30**	**54**	*e*P		**P**	**10 14 54.3**	**-1.2**
	comp=Z,116nm,1.4s							
I21A	**Big Trails, Te**	**37.39**	**82**	⇓P		**P**	**10 14 57.4**	**+0.7**
	baz=37							
F23A	**Volborg**	**37.40**	**78**	⇓P		**P**	**10 14 56.7**	**-0.1**
	baz=37							
BFSC	**Mount Baldy Ra**	**37.44**	**103**	⇓P		**P**	**10 14 56.3**	**-1.0**
	baz=37							
H22A	**Clearmont**	**37.49**	**80**	⇓P		**P**	**10 14 56.7**	**-0.8**
	baz=37							
C25A	**Freed Ranch, W**	**37.56**	**74**	⇑P		**P**	**10 14 57.5**	**-0.5**
	baz=37							
J21A	**Lysite**	**37.57**	**83**	⇑P		**P**	**10 14 57.9**	**-0.4**
	baz=37							
E24A	**Baker**	**37.58**	**76**	⇑P		**P**	**10 14 57.8**	**-0.3**
	baz=37							
A26A	**Wade Farm, Ken**	**37.63**	**72**	⇑P		**P**	**10 14 58.0**	**-0.5**
	baz=37							
MSU	**Marysvale**	**37.76**	**92**	*e*P		**P**	**10 15 00.4**	**+0.4**
MSU				pmax		pmax		
	comp=Z,28nm,1.2s							
MSU	**Marysvale**	**37.76**	**92**	*e*P		**P**	**10 15 00.4**	**+0.4**
	comp=Z,28nm,1.2s							
B26A	**Jensen Ranch,**	**37.79**	**72**	⇑P		**P**	**10 14 59.4**	**-0.5**
	baz=38							
HEC	**Hector,Ludlow**	**37.80**	**101**	⇓P		**P**	**10 14 60.0**	**-0.2**
	baz=38							
I22A	**9 Mile Ranch,**	**37.81**	**81**	⇓P		**P**	**10 15 01.3**	**+1.0**
	baz=38							
D25A	**Fairfield**	**37.82**	**75**	⇓P		**P**	**10 14 59.8**	**-0.5**
	baz=38							
TMUT	**Trail Mountain**	**37.83**	**91**	*e*P		**P**	**10 15 00.5**	**-0.1**
	comp=Z,33nm,0.8s							
F24A	**Ekalaka**	**37.89**	**77**	⇓P		**P**	**10 15 00.4**	**-0.5**
	baz=38							
HABR	**Khabarovsk**	**37.93**	**288**	*c e*P		**P**	**10 14 59.6**	**-1.4**
HABR				*e**PP		**pP**	**10 15 09.2**	**+0.3**
HABR				*e*SP			10 15 13.4	
HABR							10 16 26.6	
HABR							10 17 14.8	
HABR				*e*S		**S**	**10 20 49.5**	**-1.3**
HABR				*e*SS		**ScP**	**10 21 05.9**	**+4.0**
HABR				*e*SS		**SnSn**	**10 23 32.9**	**-0.2**
HABR				*e*			10 25 09.1	
HABR				pmax		pmax		
	comp=E,104nm,1.2s							
HABR				pmax		pmax		
	comp=Z,186nm,1.2s							
HABR				pmax	

A28A	Rude Farm, Bot	38.62	71	⇓P		P	10 15 06.8	0.0
	baz=38							
E26A	Carlson Angus	38.69	75	⇑P		P	10 15 07.0	-0.5
	baz=38							
B28A	Dugan Ranch, T	38.81	71	⇑P		P	10 15 08.3	-0.1
	baz=39							
G25A	Newell	38.86	77	⇓P		P	10 15 08.6	-0.3
	baz=39							
D27A	Center	38.87	74	⇓P		P	10 15 08.8	-0.2
	baz=39							
F26A	Lodgepole	38.92	76	⇓P		P	10 15 09.6	+0.1
	baz=39							
IRM	Iron Mountain	38.96	100	⇑P		P	10 15 10.5	+0.6
	baz=39							
K23A	Bowen Ranch, D	38.99	82	⇑P		P	10 15 10.0	-0.3
	baz=39							
W13A	Hualapai Mount	39.05	98	⇑P		P	10 15 10.8	-0.1
	baz=39							
O20A	White River Ci	39.06	87	⇑P		P	10 15 10.8	-0.1
	baz=39							
U15A	North Rim	39.08	95	⇑P		P	10 15 11.2	0.0
	baz=39							
H25A	Fruitdale	39.08	78	⇑P		P	10 15 10.8	-0.1
	baz=39							
RSSD	Black Hills	39.12	79	*e*P		P	10 15 11.4	+0.1
RSSD					pmax	pmax		
	comp=Z,38nm,1.7s							
RSSD	Black Hills	39.12	79	*e*P		P	10 15 11.4	+0.1
	comp=Z,38nm,1.7s							
MONP	Monument Peak,	39.13	103	⇑P		P	10 15 11.5	-0.1
	baz=39							
BAR	Barrett	39.13	103	*e*P		P	10 15 12.0	+0.6
	comp=Z,20nm,1.0s							
BAR					*e*pP	pP	10 15 21.1	+1.7
A29A	Manning Farm,	39.19	70	⇓P		P	10 15 11.4	-0.3
	baz=39							
C28A	Hausauer Farms	39.19	72	⇑P		P	10 15 11.3	-0.4
	baz=39							
J24A	Dixon Ranch, L	39.22	81	⇓P		P	10 15 11.3	-0.7
	baz=39							
E27A	Carson	39.23	75	⇓P		P	10 15 11.7	-0.4
	baz=39							
CLNS	Chul'man	39.25	304	*e*P		P	10 15 10.4	-1.7
CLNS				*e**PP		pP	10 15 17.3	-2.8
CLNS				*e*			10 16 39.8	
CLNS				*e*			10 17 19.6	
CLNS				*e*S		S	10 21 06.4	-4.3
CLNS				*e*SS		SnSn	10 24 33.5	+29
CLNS					pmax	pmax		
	comp=Z,51nm,1.2s							
CLNS					pmax	pmax		
	comp=N,16nm,1.1s							
CLNS					pmax	pmax		
	comp=E,41nm,1.2s							
CLNS					pmax	pmax		
	comp=Z,5.0nm,1.0s							
CLNS					pmax	pmax		
	comp=N,6.0nm,1.0s							
CLNS					pmax	pmax		
	comp=E,7.0nm,1.0s							
CLNS					smax	smax		
	comp=E,284nm,17.7s							
CLNS					smax	smax		
	comp=N,120nm,17.0s							
CLNS					MLR	MLR		
	comp=Z,2μm,16.0s							
CLNS					MLR	MLR		
	comp=E,2μm,16.0s							
CLNS					MLR	MLR		
	comp=N,3μm,15.0s							
G26A	Maurine	39.27	77	⇓P		P	10 15 12.2	-0.2
	baz=39							
F27A	Lemmon	39.28	76	⇑P		P	10 15 11.9	-0.6
	baz=39							
I25A	Rochford	39.35	79	⇓P		P	10 15 12.8	-0.5
	baz=39							
B29A	Wagenman Farm,	39.37	71	⇓P		P	10 15 12.5	-0.6
	baz=39							
D28A	Regan	39.37	73	⇑P		P	10 15 13.2	0.0
	baz=39							
KLR	Kul'dur	39.38	291	*e*P		P	10 15 08.7	-4.5
KLR				*e*			10 25 18.5	
KLR					pmax	pmax		
	comp=E,67nm,1.4s							
KLR					pmax	pmax		
	comp=Z,110nm,1.4s							
KLR					MLR	MLR		
	comp=E,2μm,16.0s							
KLR					MLR	MLR		
	comp=Z,2μm,13.0s							
PDMCI	Parker Dam,Lak	39.45	99	⇓P		P	10 15 13.7	-0.3
	baz=39							
MDND	Maddock	39.56	72	*e*P		P	10 15 14.8	0.0
	comp=Z,237nm,1.1s							
MDND	Maddock	39.56	72	⇓P		P	10 15 15.0	+0.2
	baz=39							
H26A	Fairpoint	39.56	78	⇓P		P	10 15 13.9	-1.0
	baz=39							
G27A	Dupree	39.61	76	⇑P		P	10 15 14.8	-0.5
	baz=39							
Y12C	Blythe	39.62	100	⇑P		P	10 15 15.5	+0.1
	baz=39							
E28A	Huff	39.65	74	⇑P		P	10 15 14.8	-0.7
	baz=39							
J25A	Sunshine Ranch	39.68	80	⇑P		P	10 15 15.3	-0.6
	baz=40							
A30A	Hoffart Farm,	39.70	69	⇓P		P	10 15 15.1	-0.8
	baz=40							
N22A	Wattenberg Ran	39.70	85	⇑P		P	10 15 16.5	+0.2
	baz=40							
PV04	Paradox Valley	39.78	90	*e*P		P	10 15 17.4	+0.4
I26A	New Underwood	39.86	79	⇑P		P	10 15 16.9	-0.5
	baz=40							
GLA	Glamis	39.94	101	*e*P		P	10 15 17.7	-0.4
GLA				*e**PP		pP	10 15 28.1	+2.0
GLA				*e**SP		sP	10 15 32.2	+2.9
GLA					pmax	pmax		
	comp=Z,20nm,1.3s							
GLA	Glamis	39.94	101	*e*P		P	10 15 17.7	-0.4
	comp=Z,20nm,1.3s							
GLA				*e*pP		pP	10 15 28.1	+2.0
GLA				*e*sP		sP	10 15 32.2	+2.9
GLA	Glamis	39.94	101	⇓P		P	10 15 18.2	+0.1
	baz=40							
N23A	Red Feather La	39.94	85	⇑P		P	10 15 18.1	-0.2
	baz=40							
B30A	Myrvik Farm, E	39.95	70	⇑P		P	10 15 17.7	-0.3
	baz=40							
H27A	Howes	39.96	77	⇑P		P	10 15 17.3	-0.8
	baz=40							
PHWY	Pilot Hill	39.98	84	*e*P		P	10 15 18.1	-0.6
	comp=Z,28nm,1.9s							
F28A	McLaughlin	39.99	75	⇓P		P	10 15 17.8	-0.6
	baz=40							
O22A	Kremmling	40.05	86	⇓P		P	10 15 18.8	-0.5
	baz=40							
PV01	Paradox Valley	40.15	90	*e*P		P	10 15 19.2	-0.8
	comp=Z,3μm,0.7s							
J26A	Sides Ranch, S	40.16	80	⇓P		P	10 15 19.5	-0.3
	baz=40							
WUAZ	Wupatki	40.24	95	*e*P		P	10 15 20.3	-0.4
	comp=Z,45nm,1.1s							
WUAZ					LR	LR		
	comp=Z,2μm,20.0s							
WUAZ	Wupatki	40.24	95	⇓P		P	10 15 20.9	+0.2
	baz=40							
E29A	Napoleon	40.25	73	⇑P		P	10 15 19.4	-1.1
	baz=40							
C30A	Mose, Pekin	40.27	71	⇓P		P	10 15 19.7	-1.0
	baz=40							
P22A	Eagle	40.28	87	⇑P		P	10 15 20.8	-0.3
	baz=40							
I27A	Quinn	40.30	78	⇑P		P	10 15 20.7	-0.4
	baz=40							
L25A	Engebretsen Ra	40.33	82	⇑P		P	10 15 21.1	-0.2
	baz=40							
ULM	Lac du Bonnet	40.34	66	P		P	10 15 20.1	-1.1
	comp=Z,16nm,1.0s,baz=298,slow=8.2,SNR=12							
ULM	Lac du Bonnet	40.34	66	*e*P		P	10 15 20.6	-0.6
ULM					pmax	pmax		
	comp=Z,32nm,0.8s							
ULM	Lac du Bonnet	40.34	66	*e*P		P	10 15 20.6	-0.6
	comp=Z,32nm,0.8s							
Y14A	Wickenburg	40.38	98	⇓P		P	10 15 21.4	-0.4
	baz=40							
O23A	Lake Granby, G	40.39	85	⇓P		P	10 15 21.8	-0.2
	baz=40							
D30A	Buchanan	40.45	72	⇑P		P	10 15 21.4	-0.8
	baz=40							
F29A	Eureka	40.56	74	⇓P		P	10 15 22.3	-0.7
	baz=40							
M25A	Palm-Egli Farm	40.72	83	⇑P		P	10 15 23.1	-1.5
	baz=40							
113A	Mohawk Valley,	40.76	100	⇑P		P	10 15 24.4	-0.5
	baz=41							
MVCO	Mesa Verde	40.80	91		PFAKE		10 15 30.0	+4.5
MVCO					LR	LR		
	comp=Z,711nm,19.0s							
MVCO	Mesa Verde	40.80	91	⇓P		P	10 15 25.5	+0.1
	baz=41							
J27A	Elkhorn Farm,	40.82	79	⇑P		P	10 15 23.7	-1.6
	baz=41							
ISCO	Idaho Springs	40.83	86		PFAKE		10 15 30.0	+4.2
ISCO					LR	LR		
	comp=Z,1μm,20.0s							
ISCO	Idaho Springs	40.83	86	⇑P		P	10 15 25.8	+0.1
	baz=41							
H11N2	WAKE ISLAND Hy	40.84	225	T		T	10 59 22.8	
	baz=26,slow=76,SNR=128							
H11N3	WAKE ISLAND Hy	40.85	225	T		T	10 59 22.4	
	baz=26,slow=76,SNR=102							
I28A	Midland	40.86	78	⇓P		P	10 15 24.4	-1.2
	baz=41							
H11N1	WAKE ISLAND Hy	40.86	225	T		T	10 59 10.2	
	baz=26,slow=76,SNR=102							
G29A	Hoven	40.88	75	⇑P		P	10 15 24.3	-1.4
	baz=41							
X16A	Lo Mia Camp, P	40.96	97	⇑P		P	10 15 27.0	+0.3
	baz=41							
P23A	Jefferson	40.97	86	⇑P		P	10 15 26.0	-0.9
	baz=41							
K27A	Flueckinger Fa	41.01	80	⇓P		P	10 15 26.2	-0.7
	baz=41							
F30A	Leola	41.02	74	⇑P		P	10 15 25.5	-1.4
	baz=41							
H29A	Onida	41.04	76	⇑P		P	10 15 25.8	-1.2
	baz=41							
J28A	Allard Ranch,	41.16	78	⇓P		P	10 15 27.5	-0.6
	baz=41							
WAKE	Wake Island	41.34	226		PFAKE		10 15 40.0	+10
WAKE					LR	LR		
	comp=Z,1μm,19.0s							
I29A	Vivian Onida	41.35	77	⇓P		P	10 15 29.1	-0.5
	baz=41							
G30A	Faulkton	41.36	75	⇑P		P	10 15 29.2	-0.5
	baz=41							
AGMN	Agassiz Nation	41.41	69		PFAKE		10 15 40.0	+10
AGMN					LR	LR		
	comp=Z,1μm,21.0s							
AGMN	Agassiz Nation	41.41	69	⇓P		P	10 15 29.3	-0.7
	baz=41							
S22A	4UR Ranch, Cre	41.44	89	⇑P		P	10 15 31.3	+0.6
	baz=41							
W18A	Petrified Fore	41.49	94	⇑P		P	10 15 30.8	-0.3
	baz=41							
K28A	Ten Mile Ranch	41.52	79	⇓P		P	10 15 31.2	+0.1
	baz=41							
Q24A	Divide	41.64	86	⇓P		P	10 15 31.2	-1.2
	baz=41							
J29A	Okreek	41.70	78	⇑P		P	10 15 31.8	-0.7
	baz=42							
R23A	Moffat	41.74	88	⇑P		P	10 15 33.5	+0.3
	baz=42							
X18A	Snowflake	41.77	95	⇑P		P	10 15 33.6	+0.3
	baz=42							
BRSD	Miller	41.87	76	⇑P		P	10 15 33.6	-0.2
	baz=42							
214A	Organ Pipe Nat	41.91	100	*e*P		P	10 15 32.0	-2.3
	comp=Z,25nm,1.1s							
214A	Organ Pipe Nat	41.91	100	⇓P		P	10 15 34.3	0.0
	baz=42							
I30A	Oacoma	41.92	76	⇓P		P	10 15 33.9	-0.3
	baz=42							
N27A	Anderson Farm,	42.01	82	⇑P		P	10 15 34.9	-0.2
	baz=42							
H11S1	WAKE ISLAND Hy	42.02	225	T		T	11 00 32.7	
	baz=26,slow=76,SNR=262							
H11S2	WAKE ISLAND Hy	42.03	225	T		T	11 00 36.0	
	baz=26,slow=76,SNR=97							
H11S3	WAKE ISLAND Hy	42.03	225	T		T	11 00 55.0	
	baz=26,slow=76,SNR=97							
USRK	Ussuriysk Ar.	42.09	284	P		P	10 15 33.5	-2.0
	comp=Z,4.3nm,0.9s,baz=61,slow=6.9,SNR=9.5							
USRK					PcP	PcP	10 17 30.3	+0.5
	comp=Z,3.3nm,0.8s,baz=31,slow=1.1,SNR=6.8							
USRK					LR	LR	10 33 33.7	
	comp=Z,1μm,19.5s,baz=48,slow=37							
K29A	Lazy Trails An	42.10	78	⇓P		P	10 15 35.9	+0.1
	baz=42							
OGNE	Ogallala	42.22	82		PFAKE		10 15 50.0	+13
OGNE					LR	LR		
	comp=Z,750nm,19.0s							
SDCO	Great Sand Dun	42.23	88	*e*P		P	10 15 37.4	+0.2
	comp=Z,18nm,1.0s							
SDCO					LR	LR		
	comp=Z,803nm,20.0s							
SDCO	Great Sand Dun	42.23	88	⇑P		P	10 15 37.1	-0.1
	baz=42							
J30A	Dallas	42.24	77	⇑P		P	10 15 36.9	0.0
	baz=42							
P26A	Davis Ranch, A	42.33	84	⇑P		P	10 15 38.2	+0.4
	baz=42							
M28A	Bar X Bar Ranc	42.33	81	⇑P		P	10 15 37.6	-0.1
	baz=42							
O27A	Beecher Island	42.44	83	⇓P		P	10 15 38.8	+0.2
	baz=42							
K30A	Basset	42.56	78	⇑P		P	10 15 39.4	-0.1
	baz=42							
Q26A	Hugo	42.63	85	⇓P		P	10 15 40.2	-0.1
	baz=42							
M29A	Burnside Ranch	42.70	80	⇑P		P	10 15 41.0	+0.3
	baz=42							
P27A	Ficken Ranch,	42.78	84	⇓P		P	10 15 41.3	-0.2
	baz=43							
VLA	Vladivostok	42.80	283	*e*P		P	10 15 41.3	-0.1
VLA					pmax	pmax		
	comp=Z,33nm,1.0s							
TUC	Tucson	42.84	98	*e*P		P	10 15 42.0	0.0
TUC					pmax	pmax		
	comp=Z,41nm,1.7s							
TUC					MLR	MLR		
	comp=Z,670nm,20.0s							
TUC	Tucson	42.84	98	*e*P		P	10 15 42.0	0.0
	comp=Z,41nm,1.7s							
TUC					LR	LR		
	comp=Z,670nm,20.0s							
O28A	Krutsinger Ran	42.89	82	⇑P		P	10 15 41.7	-0.6
	baz=43							
R26A	Arlington	43.09	86	⇑P		P	10 15 44.6	+0.7
	baz=43							
KULLO	Kullorsuaq	43.09	22	⇑*i*P		P	10 15 43.1	-0.2
	comp=Z,23nm,1.1s							
	comp=Z,2μm,16.0s							
KSCO	Kaye Shedlock'	43.11	84	*e*P		P	10 15 44.0	-0.1
	comp=Z,66nm,1.2s							
KSCO	Kaye Shedlock'	43.11	84	⇑P		P	10 15 43.0	-1.1
	baz=43							
MDJ	Mudanjiang	43.22	286	P		P	10 15 43.5	-1.2
MDJ					pP	pP	10 15 49.8	-2.9
MDJ					sP	sP	10 15 52.5	-3.5
MDJ					PP	PP	10 17 19.8	-5.3
MDJ					PcP	PcP	10 17 31.0	-2.6
MDJ					S	S	10 22 08.8	-0.9
MDJ					ScS	ScS	10 25 39.8	-2.9
MDJ					PMZ			
	comp=Z,15nm,1.1s							
MDJ					PMZ			
	comp=Z,240nm,8.4s							
MDJ					LN			
	comp=Z,1μm,20.2s							
MDJ					LE			
	comp=Z,1μm,21.1s							
MDJ					LZ			
	comp=Z,2μm,22.9s							
MDJ	Mudanjiang	43.22	286		PFAKE		10 16 00.0	+15
MDJ					LR	LR		
	comp=Z,2μm,22.0s							
P28A	Saint Francis	43.26	83	⇓P		P	10 15 45.8	+0.6
	baz=43							
T25A	Trinidad	43.28	88	⇓P		P	10 15 45.9	+0.3
	baz=43							
MAJO	Matsushiro	43.30	271	*c i*P		P	10 15 45.7	+0.2
MAJO	Matsushiro	43.30	271	*e*P		P	10 15 45.8	+0.2
	comp=Z,138nm,1.1s							
MAJO					LR	LR		
	comp=Z,2μm,22.0s							
MAT	Matsushiro	43.30	271	P		P	10 15 45.3	-0.2
MAT				S		S	10 22 12.4	+1.2
MJAR	Matsushiro Arr	43.30	271	P		P	10 15 45.0	-0.5
	comp=Z,32nm,1.1s,baz=38,slow=6.6,SNR=59							
MJAR					LR	LR	10 34 09.1	
	comp=Z,1μm,20.7s,baz=70,slow=37							
MJAR	Matsushiro Arr	43.30	271	P		P	10 15 45.0	-0.5
L31A	Butterfield Fa	43.32	78	⇓P		P	10 15 46.0	+0.3
	baz=43							
N30A	Hueftle Ranch,	43.45	81	⇑P		P	10 15 46.8	0.0
	baz=43							
O29A	4D Ranch, Culb	43.47	82	⇑P		P	10 15 47.0	+0.1
	baz=43							
R27A	Eads	43.48	85	⇑P		P	10 15 47.1	0.0
	baz=43							
S26A	Kim	43.52	87	⇓P		P	10 15 47.3	-0.2
	baz=43							
LAZ	Ladron	43.52	93	*e*P		P	10 15 47.9	+0.4
	comp=Z,49nm,1.7s							
Q28A	Sharon Springs	43.55	84	⇓P		P	10 15 47.3	-0.3
	baz=43							
ANMO	Albuquerque	43.55	92	P		P	10 15 49.1	+1.3
	comp=Z,6.3nm,1.1s,baz=313,slow=10.0,SNR=9.8							
ANMO					PcP	PcP	10 17 35.5	+0.3
	comp=Z,7.0nm,1.1s,baz=306,slow=1.9,SNR=4.8							
ANMO					ScP	ScP	10 21 24.4	-0.1
	comp=Z,2.1nm,1.1s,baz=318,slow=5.5,SNR=5.5							
ANMO					LR	LR	10 31 26.6	
	comp=Z,872nm,21.0s,baz=314,slow=33							
ANMO	Albuquerque	43.55	92	*e*P		P	10 15 48.3	+0.5
ANMO					pmax	pmax		
	comp=Z,17nm,1.0s							
ANMO	Albuquerque	43.55	92	P		P	10 15 49.1	+1.3
	comp=Z,39nm,1.3s							
ANMO					PcP	PcP	10 17 35.5	+0.3
ANMO					ScP	ScP	10 21 24.4	-0.1
ANMO					*e*ScP	ScP	10 21 24.8	+0.2
ECSD	EROS Data Cent	43.65	75		PFAKE		10 16 00.0	+12
ECSD					LR	LR		
	comp=Z,1μm,20.0s							
ECSD	EROS Data Cent	43.65	75	⇓P		P	10 15 46.9	-1.4
	baz=43							
P29A	Atwood	43.73	82	⇑P		P	10 15 49.1	+0.1
	baz=44							
T26A	Comanche Natio	43.74	87	⇑P		P	10 15 49.2	-0.1
	baz=44							
O30A	MW Ranch, Wils	43.87	81	⇑P		P	10 15 49.5	-0.7
	baz=44							
LPM	Los Pinos Moun	43.89	93	*e*P		P	10 15 52.0	+1.5
	comp=Z,27nm,1.3s							
EYMN	Ely	44.01	67		PFAKE		10 16 00.0	+8.9
EYMN					LR	LR		
	comp=Z,1μm,19.0s							
R28A	Tribune	44.03	84	⇓P		P	10 15 51.7	+0.2
	baz=44							
N31A	Bailey Ranch,	44.10	80	⇑P		P	10 15 51.1	-0.9
	baz=44							
Q29A	Oakley	44.16	83	⇓P		P	10 15 51.9	-0.6
	baz=44							
P30A	Selden	44.17	82	⇑P		P	10 15 52.0	-0.5
	baz=44							
BGNE	Belgrade	44.20	79	*e*P		P	10 15 50.9	-1.9
	comp=Z,40nm,0.6s							
BGNE	Belgrade	44.20	79	⇓P		P	10 15 52.2	-0.6
	baz=44							
O31A	Woolen Ranch,	44.32	81	⇓P		P	10 15 53.7	0.0
	baz=44							
T27A	Campo	44.34	87	⇑P		P	10 15 54.1	+0.1
	baz=44							
R29A	Marienthal	44.37	84	⇓P		P	10 15 53.9	-0.3
	baz=44							
121A	Cookes Peak, D	44.45	95	⇓P		P	10 15 54.7	-0.3
	baz=44							
S28A	Manter	44.47	85	⇑P		P	10 15 54.7	-0.4
	baz=44							
N32A	Stulken Farm,	44.53	79	⇓P		P	10 15 54.9	-0.4
	baz=44							
Q30A	Quinter	44.55	83	⇓P		P	10 15 55.0	-0.6
	baz=44							
T28A	Walsh	44.66	86	⇓P		P	10 15 56.0	-0.5
	baz=44							
P31A	Stockton	44.69	81	⇓P		P	10 15 56.6	-0.2
	baz=44							
U27A	Thompson Grove	44.71	87	⇓P		P	10 15 57.0	0.0
	baz=44							
O32A	Brockman Farm,	44.86	80	⇑P		P	10 15 58.1	+0.1
	baz=45							
SPMN	Marine on St.	44.91	71	⇓P		P	10 15 57.6	-0.7
	baz=45							
S29A	Ulysses	44.91	85	⇑P		P	10 15 58.4	-0.1
	baz=45							
R30A	Dighton	44.97	83	⇑P		P	10 15 58.8	-0.1
	baz=45							
Q31A	Ellis	45.02	82	⇑P		P	10 15 59.3	0.0
	baz=45							
P32A	Huiting Farm,	45.08	81	⇑P		P	10 15 59.7	-0.1
	baz=45							
T29A	Hugoton	45.12	85	⇓P		P	10 16 00.6	+0.4
	baz=45							
V27A	Dan Oppiter Fa	45.15	88	⇓P		P	10 16 00.8	+0.3
	baz=45							
S30A	Montezuma	45.29	84	⇓P		P	10 16 01.6	+0.1
	baz=45							
O33A	Hebron	45.39	80	⇑P		P	10 16 01.9	-0.3
	baz=45							
R31A	Burdett	45.41	83	⇑P		P	10 16 02.3	-0.1
	baz=45							
V28A	Channing	45.52	88	⇑P		P	10 16 03.7	+0.3
	baz=45							
Q32A	Meitler Ranch,	45.52	81	⇓P		P	10 16 02.9	-0.4
	baz=45							
N34A	Lincoln	45.53	78	⇓P		P	10 16 02.9	-0.4
	baz=45							
U29A	Oasis Ranch, S	45.61	86	⇓P		P	10 16 04.0	-0.1
	baz=45							
R32A	Long Quarter,	45.80	82	⇑P		P	10 16 04.9	-0.6
	baz=46							
V29A	Stinnett	45.85	87	⇓P		P	10 16 05.3	-0.7
	baz=46							
W28A	Vega	45.87	88	⇓P		P	10 16 06.3	+0.2
	baz=46							
HIA	Hailar	45.88	297	*e*P		P	10 16 04.9	-1.1
HIA					pmax	pmax		
	comp=Z,26nm,0.9s							
HIA					MLR	MLR		
	comp=Z,1μm,20.0s							
HIA	Hailar	45.88	297	*e*P		P	10 16 04.9	-1.1
	comp=Z,26nm,0.9s							
HIA					LR	LR		
	comp=Z,1μm,20.0s							
S31A	Mullinville	45.88	84	⇓P		P	10 16 05.6	-0.6
	baz=46							
U30A	WK&E Inc. Balk	45.92	86	⇓P		P	10 16 06.1	-0.5
	baz=46							
Q33A	Connelly Farm,	45.94	81	⇓P		P	10 16 06.0	-0.6
	baz=46							
N35A	Tabor	46.01	77	⇓P		P	10 16 06.7	-0.4
	baz=46							
T31A	Randall Ranch,	46.12	84	⇑P		P	10 16 07.4	-0.6
	baz=46							
S32A	Newby Ranch, P	46.15	83	⇑P		P	10 16 08.8	+0.5
	baz=46							
W29A	Amarillo	46.29	88	⇓P		P	10 16 09.5	+0.1
	baz=46							
R33A	Olander Ranch,	46.31	82	⇑P		P	10 16 09.4	-0.1
	baz=46							
X28A	Dimmitt	46.38	89	⇓P		P	10 16 10.4	+0.2
	baz=46							
COWI	Conover	46.41	68	*e*P		P	10 16 08.4	-1.8
	comp=Z,14nm,0.8s							
COWI					LR	LR		
	comp=Z,1μm,19.0s							
MSTX	Muleshoe	46.42	90	⇑P		P	10 16 11.0	+0.5
	baz=46							
AMTX	Amarillo	46.43	88	*e*P		P	10 16 09.8	-0.9
	comp=Z,24nm,1.0s							
AMTX	Amarillo	46.43	88	⇑P		P	10 16 10.6	0.0
	baz=46							
MNTX	Cornudas Mount	46.47	94		PFAKE		10 16 20.0	+9.1
MNTX					LR	LR		
	comp=Z,1μm,20.0s							
MNTX	Cornudas M

KSU1 **Kansas State U** 46.59 80 *e*P P 10 16 11.6 -0.1
comp=Z,10nm,0.6s
KSU1 LR LR
comp=Z,1μm,19.0s
KSU1 **Kansas State U** 46.59 80 ⇓P P 10 16 10.8 -0.9
baz=46
P35A **Duane Minner,** 46.66 79 ⇓P P 10 16 11.7 -0.5
baz=46
X29A **Tulia** 46.73 88 ⇓P P 10 16 13.0 +0.1
baz=46
SCIA **State Center** 46.74 75 PFAKE 10 16 20.0 +7.2
SCIA LR LR
comp=Z,1μm,22.0s
R34A **Isabella, Hill** 46.75 81 ⇑P P 10 16 12.2 -0.7
baz=46
Y28A **McKinney Farm,** 46.77 89 ⇑P P 10 16 12.9 -0.4
baz=47
S33A **Kaszmaul Farm,** 46.77 82 ⇓P P 10 16 12.7 -0.5
baz=47
O36A **Bolckow** 46.88 78 ⇑P P 10 16 13.7 -0.2
baz=47
V31A **Spring Creek L** 46.91 86 ⇑P P 10 16 14.3 -0.1
baz=47
U32A **Winter Ranch,** 47.00 84 ⇑P P 10 16 15.0 +0.1
baz=47
Z28A **Tucker Farm, M** 47.12 90 ⇑P P 10 16 16.0 0.0
baz=47
Y29A **Porterfield Fa** 47.15 89 ⇑P P 10 16 16.1 -0.1
baz=47
X30A **Coker Ranch, T** 47.22 88 ⇓P P 10 16 16.6 -0.1
baz=47
S34A **Willow Spring** 47.23 82 ⇓P P 10 16 16.4 -0.2
baz=47
W31A **Holland Ranch,** 47.26 86 ⇓P P 10 16 16.3 -0.6
baz=47
V32A **Arapaho** 47.42 85 ⇑P P 10 16 18.5 +0.2
baz=47
U33A **Lingo Farm, Me** 47.49 84 ⇑P P 10 16 18.7 -0.1
baz=47
128A **Castleberry Fa** 47.54 91 ⇑P P 10 16 19.4 +0.2
baz=47
Z29A **Hungry Hill Ra** 47.55 90 ⇑P P 10 16 19.0 -0.4
baz=47
Y30A **Stafford Cattl** 47.60 88 ⇑P P 10 16 19.4 -0.2
baz=47
KBS **Kingsbay** 47.61 1 ⇑*i*P P 10 16 19.5 +0.4
KBS **Kingsbay** 47.61 1 *e*P P 10 16 19.4 +0.3
KBS pmax pmax
comp=Z,21nm,1.3s
KBS MLR MLR
comp=Z,1μm,19.0s
KBS **Kingsbay** 47.61 1 *e*P P 10 16 19.4 +0.3
comp=Z,21nm,1.3s
KBS LR LR
comp=Z,1μm,19.0s
X31A **McDonald Ranch** 47.62 87 ⇓P P 10 16 19.1 -0.7
baz=47
T34A **McClaskey Farm** 47.64 82 ⇑P P 10 16 19.0 -0.8
baz=47
S35A **Otter Creek Ra** 47.70 81 ⇓P P 10 16 19.4 -1.0
baz=48
W32A **Sentinel** 47.72 86 ⇑P P 10 16 19.9 -0.6
baz=48
R36A **Gordon, Harris** 47.75 80 ⇓P P 10 16 20.1 -0.6
baz=48
JFWS **Jewell Farm** 47.78 72 PFAKE 10 16 30.0 +9.1
JFWS LR LR
comp=Z,2μm,22.0s
V33A **Lossen Ranch,** 47.80 84 ⇑P P 10 16 20.8 -0.4
baz=48
U34A **Anderson Ranch** 47.83 83 *e*P P 10 16 22.2 +0.8
comp=Z,29nm,1.0s
U34A **Anderson Ranch** 47.83 83 ⇓P P 10 16 20.7 -0.7
baz=48
228A **UT Block 9, Go** 47.83 91 ⇓P P 10 16 21.5 -0.1
baz=48
Z30A **Sanderson Ranc** 47.88 89 ⇑P P 10 16 21.6 -0.2
baz=48
129A **Stewart Farms,** 47.90 90 ⇓P P 10 16 21.9 -0.1
baz=48
Y31A **Rekieta Farm,** 47.92 88 ⇑P P 10 16 21.8 -0.3
baz=48
Q37A **Longview Farm,** 48.00 79 ⇑P P 10 16 21.9 -0.8
baz=48
SEHB **SEOHWA** 48.03 280 P P 10 16 24.2 +1.3
SNR=6.1
SEHB **SEOHWA** 48.03 280 P P 10 16 24.2 +1.3
SNR=6.1
S36A **Lake Cedric, C** 48.10 81 ⇑P P 10 16 22.6 -0.9
baz=48
T35A **Sooner Cattle** 48.11 82 ⇑P P 10 16 23.1 -0.5
baz=48
W33A **Caddo, Fort Co** 48.16 85 ⇑P P 10 16 23.8 -0.1
baz=48
X32A **Elmer** 48.18 87 ⇑P P 10 16 23.7 -0.3
baz=48
V34A **Guthrie** 48.25 84 *e*P P 10 16 25.3 +0.7
comp=Z,19nm,1.0s
V34A **Guthrie** 48.25 84 ⇓P P 10 16 24.2 -0.4
baz=48
WMOK **Wichita Mounta** 48.26 86 PFAKE 10 16 30.0 +5.3
WMOK LR LR
comp=Z,735nm,19.0s
KSIJA **INJE** 48.30 280 P P 10 16 26.0 +1.0
SNR=5.8
KSIJA **INJE** 48.30 280 P P 10 16 26.0 +1.0
SNR=5.8
Y32A **R-V Farms, Ver** 48.38 87 ⇑P P 10 16 25.2 -0.5
baz=48
T36A **Boggs Farm, Ca** 48.38 81 ⇑P P 10 16 24.8 -0.8
baz=48
KSTBA **Taebaek** 48.39 279 P P 10 16 26.9 +1.2
SNR=20
KSTBA **Taebaek** 48.39 279 P P 10 16 26.9 +1.2
SNR=20
SPA0 **Spitsbergen Ar** 48.39 0 *i* P P 10 16 24.0 -1.1
SPA0 IAmb IAmb 10 16 25.2
comp=Z,36nm,0.9s
SPA0 *e*ScP ScP 10 21 48.5 +4.7
SPITS **Spitsbergen Ar** 48.39 0 P P 10 16 24.2 -1.0
comp=Z,21nm,0.8s,baz=45,slow=3.7,SNR=36
SUMG **Summit** 48.40 19 ⇑*i*P P 10 16 26.3 +0.6
comp=Z,63nm,0.9s
SUMG *i* 10 16 34.5
SUMG *i* S S 10 23 26.5 +2.1
comp=Z,2μm,17.0s
SUMG **Summit** 48.40 19 ⇑*i*P P 10 16 26.3 +0.6
SUMG *i* 10 16 34.5
SUMG *i* S S 10 23 26.5 +2.1
SUMG pmax pmax
comp=Z,63nm,0.9s
SUMG MLR MLR
comp=Z,2μm,17.0s
Z31A **Sharp Cattle R** 48.44 88 ⇑P P 10 16 25.7 -0.4
baz=48
130A **Snyder** 48.46 90 ⇓P P 10 16 26.3 -0.1
baz=48
W34A **Bridge Creek,** 48.51 85 ⇓P P 10 16 26.5 -0.1
baz=48
X33A **Lawton** 48.56 86 ⇑P P 10 16 26.7 -0.4
baz=48
KSCWO **Cheorwon** 48.58 281 P P 10 16 28.0 +0.8
SNR=6.3
KSCWO **Cheorwon** 48.58 281 P P 10 16 28.0 +0.8
SNR=6.3
KSCHC **Chuncheon** 48.61 280 P P 10 16 28.2 +0.8
SNR=12
KSCHC **Chuncheon** 48.61 280 P P 10 16 28.2 +0.8
SNR=12
329A **Wagon Wheel Ra** 48.64 91 ⇑P P 10 16 27.6 -0.1
baz=48
V35A **Meyer Ranch, C** 48.70 83 ⇓P P 10 16 27.4 -0.7
baz=48
131A **Roby** 48.75 89 ⇑P P 10 16 28.2 -0.3
baz=48
KSRS **Korea Array** 48.77 280 P P 10 16 29.3 +0.8
comp=Z,32nm,1.0s,baz=56,slow=7.1,SNR=86
KSRS LR LR 10 38 55.6
comp=Z,617nm,18.8s,baz=51,slow=38
KSAR **Wonju Array Be** 48.80 280 P P 10 16 29.3 +0.5
KSAR **Wonju Array Be** 48.80 280 P P 10 16 29.3 +0.5
Z32A **Haskell** 48.84 88 ⇑P P 10 16 28.7 -0.6
baz=49
Y33A **Hilltop Ranch,** 48.86 86 ⇑P P 10 16 29.0 -0.3
baz=49
230A **Sterling City** 48.87 90 ⇓P P 10 16 28.7 -0.8
baz=49
T37A **Cheneyville 18** 48.91 81 ⇓P P 10 16 28.7 -1.0
baz=49
YNCB **YEONCHEON** 48.96 281 P P 10 16 30.9 +0.9
SNR=7.6
YNCB **YEONCHEON** 48.96 281 P P 10 16 30.9 +0.9
SNR=7.6
W35A **Tecumseh** 49.10 84 ⇑P P 10 16 30.6 -0.5
baz=49
KSCHJ **Chungju** 49.13 279 P P 10 16 32.2 +0.8
SNR=11
KSCHJ **Chungju** 49.13 279 P P 10 16 32.2 +0.8
SNR=11
KSMUS **Musan** 49.16 281 P P 10 16 32.5 +1.0
SNR=5.4
KSICN **Icheon** 49.18 280 P P 10 16 33.3 +1.6
SNR=8.0
KSICN **Icheon** 49.18 280 P P 10 16 32.4 +0.7
SNR=11
330A **Mertzon** 49.18 91 ⇑P P 10 16 31.6 -0.3
baz=49
TXAR **Lajitas Array** 49.20 95 P P 10 16 31.4 -0.8
comp=Z,7.5nm,0.6s,baz=299,slow=5.1,SNR=39
TXAR ScP ScP 10 21 47.9 -0.2
comp=Z,1.0nm,0.9s,baz=256,slow=3.7,SNR=3.5
TXAR LR LR 10 36 03.4
comp=Z,930nm,19.3s,baz=0.0,slow=34
TUL1 **Leonard** 49.22 82 ⇓P P 10 16 31.2 -0.8
baz=49
ABTX **Abilene, Hawle** 49.23 89 ⇓P P 10 16 31.7 -0.4
baz=49
LPIG **La Paz** 49.26 105 LR LR 10 34 46.6
comp=Z,452nm,18.1s,baz=314,slow=33
Z33A **Whitaker Ranch** 49.28 87 ⇑P P 10 16 32.0 -0.6
baz=49
231A **Bronte** 49.31 90 ⇑P P 10 16 32.5 -0.4
baz=49
429A **Davenport Ranc** 49.32 92 ⇑P P 10 16 32.2 -0.7
baz=49
KSSAJ **Sangju** 49.34 279 P P 10 16 33.9 +0.9
SNR=6.6
KSSAJ **Sangju** 49.34 279 P P 10 16 33.9 +0.9
SNR=6.6
Y34A **Reagan Ranch,** 49.41 86 ⇑P P 10 16 32.9 -0.6
baz=49
KSSWO **Suwon** 49.45 280 P P 10 16 34.7 +0.9
SNR=7.7
KSGAH **Ganghwa** 49.46 281 P P 10 16 34.3 +0.5
SNR=8.3
KSGAH **Ganghwa** 49.46 281 P P 10 16 34.3 +0.5
SNR=8.3
529A **Stev Forest Ra** 49.48 93 ⇑P P 10 16 33.9 -0.3
baz=49
KSBON **Boeun** 49.49 279 P P 10 16 34.9 +0.8
SNR=13
W36A **Wetumka** 49.49 84 ⇓P P 10 16 33.6 -0.5
baz=49
INCN **Inchon** 49.50 281 P P 10 16 35.0 +0.7
SNR=6.8
INCN **Inchon** 49.50 281 *e*P P 10 16 35.1 +0.9
comp=Z,112nm,1.3s
INCN LR LR
comp=Z,585nm,20.0s
SFJD **Kangerlussuaq** 49.56 28 ⇑*i*P P 10 16 34.6 +0.4
SFJD *i* S S 10 23 42.0 +2.1
comp=Z,2μm,18.0s
SFJD **Kangerlussuaq** 49.56 28 ⇑*i*P P 10 16 34.6 +0.4
SFJD *i* S S 10 23 42.0 +2.1
SFJD MLR MLR
comp=Z,2μm,18.0s
SFJD **Kangerlussuaq** 49.56 28 PFAKE 10 16 50.0 +16
SFJD LR LR
comp=Z,1μm,19.0s
X35A **Drake** 49.56 85 ⇓P P 10 16 34.1 -0.6
baz=49
HSPB **Honsund (broa** 49.57 0 ⇑*e*P P 10 16 33.1 -1.1
KSCPR **CHUPUNGNYEONG** 49.58 279 P P 10 16 35.8 +1.0
SNR=9.3
KSCPR **CHUPUNGNYEONG** 49.58 279 P P 10 16 35.8 +1.0
SNR=9.3
430A **Baggett Ranch,** 49.59 92 ⇑P P 10 16 34.4 -0.6
baz=49
133A **Hamilton Ranch** 49.67 88 ⇑P P 10 16 35.1 -0.4
baz=50
GLMI **Grayling** 49.69 66 PFAKE 10 16 50.0 +14
GLMI LR LR
comp=Z,1μm,20.0s
331A **San Angelo** 49.70 90 ⇓P P 10 16 35.2 -0.6
baz=50
Z34A **Collier Ranch,** 49.72 86 ⇑P P 10 16 35.7 -0.2
baz=50
232A **Coleman** 49.74 89 ⇓P P 10 16 36.0 -0.2
baz=50
X36A **Centrahoma** 49.81 84 ⇓P P 10 16 35.7 -0.9
baz=50
HDIL **Hopedale** 49.86 73 *e*P P 10 16 34.8 -2.1
comp=Z,98nm,0.7s
HDIL LR LR
comp=Z,1μm,19.0s
KSKOJ **Gongju** 49.89 279 P P 10 16 38.3 +1.1
SNR=5.5
W37A **Quinton** 49.97 83 ⇓P P 10 16 36.8 -0.9
baz=50
530A **J-D Ranch, Com** 49.99 92 ⇓P P 10 16 37.6 -0.4
baz=50
431A **Sonora** 50.04 91 ⇓P P 10 16 37.6 -0.9
baz=50
332A **Millersview** 50.05 90 ⇓P P 10 16 37.6 -0.9
baz=50
KSSES **Seosan** 50.08 280 P P 10 16 39.5 +0.9
SNR=8.0
KSSES **Seosan** 50.08 280 P P 10 16 39.5 +0.9
SNR=8.0
233A **Rising Star** 50.10 89 ⇓P P 10 16 38.5 -0.3
baz=50
134A **White-Moore Ra** 50.19 87 ⇑P P 10 16 39.0 -0.5
baz=50
X37A **Clayton** 50.38 83 ⇓P P 10 16 40.3 -0.6
baz=50
432A **Menard** 50.38 90 ⇑P P 10 16 40.5 -0.5
baz=50
KSGUS **GUNSAN** 50.40 279 P P 10 16 42.0 +1.0
SNR=8.0
531A **Rocksprings** 50.45 91 ⇑P P 10 16 40.8 -0.7
baz=50
333A **Richland Sprin** 50.54 89 ⇓P P 10 16 41.8 -0.4
baz=50
W38A **Poteau** 50.55 82 ⇑P P 10 16 41.6 -0.5
baz=50
234A **Clairette** 50.56 88 ⇑P P 10 16 42.1 -0.1
baz=50
SLM **Saint Louis** 50.61 76 *e*P P 10 16 43.2 +0.7
SLM pmax pmax
comp=Z,52nm,1.1s
SLM **Saint Louis** 50.61 76 *e*P P 10 16 43.2 +0.7
comp=Z,52nm,1.1s
JCT **Junction City** 50.66 91 PFAKE 10 16 50.0 +6.9
JCT LR LR
comp=Z,586nm,19.0s
JCT **Junction City** 50.66 91 ⇓P P 10 16 42.7 -0.5
baz=50
KSJEU **Jeongeup** 50.69 279 P P 10 16 43.7 +0.5
SNR=16
532A **Rocksprings** 50.86 91 ⇓P P 10 16 44.1 -0.5
baz=51
KSKWJ **Gwangju** 50.89 278 P P 10 16 45.3 +0.6
SNR=6.2
433A **Art** 50.89 90 ⇑P P 10 16 44.4 -0.4
baz=51
WHTX **Lake Whitney,** 50.97 87 *e*P P 10 16 44.6 -0.8
comp=Z,47nm,1.2s
WHTX **Lake Whitney,** 50.97 87 ⇓P P 10 16 45.0 -0.4
baz=51
631A **Perdido Creek** 50.98 92 ⇓P P 10 16 44.7 -0.8
baz=51
334A **Lometa** 50.98 89 ⇓P P 10 16 45.1 -0.4
baz=51
Z37A **Pogue Cattle C** 51.20 85 ⇑P P 10 16 46.7 -0.4
baz=51
SFIN **Lafayette** 51.23 72 *e*P P 10 16 45.2 -1.9
comp=Z,143nm,1.7s
SFIN **Lafayette** 51.23 72 ⇑P P 10 16 46.1 -1.1
baz=51
434A **Burnet** 51.33 89 ⇓P P 10 16 48.3 +0.1
baz=51
632A **Uvalde** 51.38 91 ⇑P P 10 16 48.5 0.0
baz=51
533A **Kerrville** 51.41 90 ⇑P P 10 16 48.7 -0.1
baz=51
DL2 **Dalian** 51.44 286 P P 10 16 48.5 -0.3
DL2 *e*S S 10 24 07.8 +1.0
DL2 PMZ
comp=Z,55nm,0.9s
DL2 PMZ
comp=Z,120nm,7.8s
DL2 LE
comp=Z,780nm,16.7s
DL2 LZ
comp=Z,720nm,17.5s
MIAR **Mount Ida** 51.47 82 PFAKE 10 17 00.0 +11
MIAR LR LR
comp=Z,966nm,20.0s
335A **Moody** 51.50 88 ⇓P P 10 16 49.8 +0.5
baz=51
236A **Katherine and** 51.52 87 ⇑P P 10 16 49.8 +0.4
baz=51
IRK **Irkutsk** 51.73 309 *e*P P 10 16 49.7 -1.1
IRK pmax pmax
comp=Z,104nm,1.5s
435B **Jarrell** 51.76 89 ⇑P P 10 16 51.0 -0.3
baz=52
336A **Riesel** 51.77 87 ⇑P P 10 16 51.1 -0.2
baz=52
534A **Blanco** 51.78 90 ⇑P P 10 16 51.8 +0.3
baz=52
732A **Laxson Ranch,** 51.84 92 ⇑P P 10 16 51.9 0.0
baz=52
AAM **Ann Arbor** 51.87 68 PFAKE 10 17 00.0 +8.1
AAM LR LR
comp=Z,850nm,20.0s
SCHQ **Schefferville** 51.95 47 P P 10 16 51.5 -1.0
comp=Z,22nm,1.0s,baz=319,slow=7.9,SNR=14
832A **Faith Ranch, C** 52.16 93 ⇑P P 10 16 53.9 -0.5
baz=52
733A **Divot King Ran** 52.25 92 ⇑P P 10 16 54.6 -0.3
baz=52
139A **Bunkhouse Ranc** 52.30 84 ⇑P P 10 16 54.9 -0.4
baz=52
535A **Dale** 52.32 89 ⇑P P 10 16 54.9 -0.6
baz=52
238A **Jacksonville** 52.35 86 ⇓P P 10 16 55.9 +0.2
baz=52
BLO **Bloomington** 52.37 73 *e*P P 10 16 53.8 -1.9
BLO pmax pmax
comp=Z,34nm,1.1s
BLO **Bloomington** 52.37 73 *e*P P 10 16 53.8 -1.9
comp=Z,34nm,1.1s
TLY **Talaya** 52.40 308 P P 10 16 56.2 +0.4
comp=Z,342nm,1.3s,SNR=18
TLY **Talaya** 52.40 308 *c i*P P 10 16 56.1 +0.3
TLY *e* 10 18 49.9
TLY *e*S S 10 24 25.4 +5.7
TLY pmax pmax
comp=Z,64nm,1.0s
TLY MLR MLR
comp=Z,2μm,17.0s
TLY **Talaya** 52.40 308 P P 10 16 56.2 +0.4
SNR=35
TLY **Talaya** 52.40 308 PFAKE 10 17 10.0 +14
TLY LR LR
comp=Z,1μm,19.0s
833A **Chaparral WMA,** 52.48 92 ⇑P P 10 16 56.7 0.0
baz=52
536A **Bastrop** 52.58 89 ⇓P P 10 16 57.9 +0.4
baz=52
734A **La Parita Cree** 52.59 91 ⇑P P 10 16 57.6 +0.1
baz=52
635A **Leesville** 52.66 90 ⇑P P 10 16 58.0 0.0
baz=52
636A **Smothers Creek** 53.02 89 ⇓P P 10 17 01.5 +0.8
baz=53
537A **Green Hill Far** 53.03 88 ⇑P P 10 17 00.6 -0.1
baz=53
735A **Kenedy** 53.03 90 ⇑P P 10 17 01.2 +0.5
baz=53
438A **Sam Houston St** 53.04 87 ⇑P P 10 17 01.2 +0.4
baz=53
933A **Laredo** 53.07 93 ⇑P P 10 17 01.4 +0.3
baz=53
834A **Tilden** 53.13 92 ⇓P P 10 17 01.2 -0.2
baz=53
ULN **Ulaanbaatar** 53.29 303 P P 10 17 00.6 -2.0
ULN pmax pmax
comp=Z,57nm,1.2s
ULN MLR MLR
comp=Z,1μm,19.0s
ULN **Ulaanbaatar** 53.29 303 P P 10 17 08.1 +5.4
SNR=24
ULN **Ulaanbaatar** 53.29 303 P P 10 17 00.6 -2.0
comp=Z,57nm,1.2s
ULN LR LR
comp=Z,1μm,19.0s
HKT **Hockley** 53.41 88 *e*P P 10 17 03.6 +0.2
HKT pmax pmax
comp=Z,40nm,1.4s
HKT **Hockley** 53.41 88 *e*P P 10 17 03.6 +0.2
comp=Z,40nm,1.4s
835A **Beeville** 53.44 91 ⇑P P 10 17 03.4 -0.3
baz=53
ZAK **Zakamensk** 53.44 307 *e*P P 10 17 02.8 -0.8
ZAK *e* 10 18 11.2
ZAK *e* 10 20 19.0
ZAK pmax pmax
comp=Z,15nm,1.5s
340A **Bronson** 53.50 85 ⇓P P 10 17 03.8 -0.4
baz=53
934A **Benavides** 53.53 92 ⇑P P 10 17 04.2 -0.2
baz=53
ACSO **Alum Creek Sta** 53.64 70 *e*P P 10 17 03.0 -2.1
comp=Z,20nm,0.9s
ACSO LR LR
comp=Z,1μm,22.0s
SONM **Songino Array** 53.64 303 P P 10 17 04.7 -0.5
comp=Z,34nm,1.1s,baz=50,slow=7.1,SNR=46
SONM PcP PcP 10 18 11.6 +0.3
comp=Z,10nm,0.9s,baz=24,slow=3.8,SNR=3.9
BJI **Beijing** 53.75 290 P P 10 17 06.0 +0.1
BJI S S 10 24 39.0 +0.7
BJI PMZ
comp=Z,38nm,1.1s
BJI PMZ
comp=Z,350nm,3.9s
BJI LN
comp=Z,2μm,21.3s
BJI LE
comp=Z,1μm,21.9s
BJI LZ
comp=Z,920nm,20.6s
BJT **Baijiatuau** 53.77 290 PFAKE 10 17 20.0 +14
BJT LR LR
comp=Z,1μm,20.0s
034A **Hebbronville** 53.83 93 ⇓P P 10 17 06.5 -0.2
baz=54
OXF **Oxford** 53.94 79 *e*P P 10 17 05.4 -1.9
OXF *e**PP pP 10 17 16.4 +0.9
OXF pmax pmax
comp=Z,74nm,0.9s
OXF **Oxford** 53.94 79 *e*P P 10 17 05.4 -1.9
comp=Z,74nm,0.9s
OXF *e*pP pP 10 17 16.4 +0.9
KVTX **Kingsville** 53.95 92 PFAKE 10 17 20.0 +13
KVTX LR LR
comp=Z,1μm,20.0s
ALLY **Alegheny Colle** 54.23 67 *e*P P 10 17 08.3 -1.1
comp=Z,87nm,1.1s
MMNY **Mt. Morris Dam** 54.70 64 *e*P P 10 17 11.3 -1.4
comp=Z,64nm,1.2s
LONY **Lake Ozonia** 55.15 60 PFAKE 10 17 30.0 +14
LONY LR LR
comp=Z,2μm,20.0s
SWET **Sewanee** 55.46 76 *e*P P 10 17 15.2 -3.2
comp=Z,7.5nm,0.7s
HHC **Hu-ho-hao-te** 55.73 294 *e*P P 10 17 21.0 +0.6
HHC pP pP 10 17 27.5 -1.1
HHC sP sP 10 17 30.5 -1.3
HHC PP PP 10 19 27.5 +3.0
HHC S S 10 25 02.0 -3.2
HHC PMZ
comp=Z,73nm,1.2s
HHC PMZ
comp=Z,46nm,5.7s
HHC LN
comp=Z,1μm,15.7s
HHC LE
comp=Z,2μm,15.8s
HHC LZ
comp=Z,1μm,15.3s

NCB	**Newcomb**	**55.79**	**61**	PFAKE		10 17 30.0	+9.4	GTA		S	**S**	**10 26 38.3**	**-0.8**
NCB				LR	LR			GTA		sS	**sS**	**10 26 49.0**	**-3.8**
	comp=Z,2µm,19.0s							GTA		PMZ			
TIA	**Tai'an**	**55.88**	**286**	⇑P	**P**	**10 17 21.5**	**+0.1**		comp=Z,47nm,1.6s				
TIA				PMZ				GTA		PMZ			
	comp=Z,50nm,1.3s								comp=Z,370nm,5.7s				
TIA				PMZ				GTA		LN			
	comp=Z,410nm,6.5s								comp=Z,2µm,15.9s				
TIA				LN				GTA		LE			
	comp=Z,1µm,20.0s								comp=Z,2µm,15.9s				
TIA				LE				GTA		LZ			
	comp=Z,1µm,20.0s								comp=Z,3µm,16.4s				
TIA				LZ				**QZH**	**Quanzhou**	**63.28**	**276**	P	**P**	**10 18 15.0**	**+2.5**
	comp=Z,2µm,21.0s							QZH				S	**S**	**10 26 43.0**	**+0.3**
BINY	**Binghamton**	**56.09**	**63**	*e*P	**P**	**10 17 21.3**	**-1.5**	QZH				LZ			
	comp=Z,18nm,0.9s								comp=Z,1µm,22.7s						
BINY				LR	LR			**LZH**	**Lanzhou**	**63.35**	**295**	⇑P	**P**	**10 18 14.0**	**+1.0**
	comp=Z,1µm,20.0s							LZH				pP	**pP**	**10 18 20.0**	**-1.4**
CPCT	**Cooper Cave**	**56.10**	**75**	*e*P	**P**	**10 17 20.1**	**-2.8**	LZH				sP	**sP**	**10 18 23.3**	**-1.2**
JOW	**Kunigami**	**56.12**	**270**	P	**P**	**10 17 22.2**	**-1.0**	LZH				PcP	**PcP**	**10 18 49.5**	**-0.4**
	comp=Z,3.8nm,1.1s,baz=43,slow=7.8,SNR=12							LZH				PP	**PP**	**10 20 33.3**	**+1.2**
SSPA	**Standing Stone**	**56.16**	**66**	*e*P	**P**	**10 17 21.7**	**-1.6**	LZH				*e*S	**S**	**10 26 43.0**	**-0.7**
	comp=Z,28nm,0.9s							LZH				sS	**sS**	**10 26 54.0**	**-3.4**
TKL	**Tuckaleechee C**	**56.38**	**74**	*e*P	**P**	**10 17 22.6**	**-2.4**	LZH				PMZ			
TKL	**Tuckaleechee C**	**56.38**	**74**	*e*P	**P**	**10 17 22.6**	**-2.4**		comp=Z,180nm,1.4s						
LRAL	**Lakeview Retre**	**56.40**	**79**	*e*P	**P**	**10 17 22.1**	**-2.9**	LZH				PMZ			
	comp=Z,11nm,1.0s								comp=Z,480nm,4.0s						
ACCN	**Adirondack Com**	**56.49**	**61**	*e*P	**P**	**10 17 24.4**	**-1.2**	LZH				LN			
	comp=Z,31nm,1.2s								comp=Z,1µm,15.4s						
KEV	**Kevo**	**56.62**	**356**	PFAKE		10 17 40.0	+14	LZH				LE			
KEV				LR	LR				comp=Z,2µm,17.2s						
	comp=Z,939nm,19.0s							LZH				LZ			
GUMO	**Guam**	**56.91**	**246**	PFAKE		10 17 40.0	+11		comp=Z,2µm,16.0s						
GUMO				LR	LR			**KURK**	**Kurchatov**	**63.68**	**321**	P	**P**	**10 18 14.2**	**-0.5**
	comp=Z,62nm,19.0s								comp=Z,218nm,1.2s,SNR=40						
ARCES	**ARCESS Array B**	**56.91**	**356**	P	**P**	**10 17 26.8**	**-1.4**	**KURK**	**Kurchatov**	**63.68**	**321**	P	**P**	**10 18 14.9**	**+0.2**
	comp=Z,8.4nm,0.7s,baz=40,slow=7.3,SNR=30								SNR=41						
ARCES				LR	LR	10 44 18.9		**KURK**	**Kurchatov**	**63.68**	**321**	PFAKE		10 18 30.0	+15
	comp=Z,2µm,18.4s,baz=355,slow=39							KURK				LR	LR		
ARE0	**ARCESS Array S**	**56.91**	**356**	*e*P	**P**	**10 17 26.1**	**-2.1**		comp=Z,2µm,19.0s						
ARE0				IAMs_20	IAMs_20	10 43 43.8		**KURBB**	**Kurchatov Arra**	**63.79**	**321**	P	**P**	**10 18 15.6**	**+0.1**
	comp=Z,2µm,18.0s								comp=Z,40nm,1.0s,baz=36,slow=6.6,SNR=156						
ARE0	**ARCESS Array S**	**56.91**	**356**	*e*P	**P**	**10 17 27.5**	**-0.7**	**MOL**	**Molde**	**63.86**	**5**	*e*P	**P**	**10 18 16.4**	**+0.7**
TRO	**Tromso**	**56.97**	**359**	*e*P	**P**	**10 17 26.7**	**-1.9**	MOL				IAmb	IAmb	10 18 16.8	
TRO				*e*S	**S**	**10 25 22.4**	**+1.9**		comp=Z,71nm,1.3s						
TRO				IAMs_20	IAMs_20	10 40 29.7		**SVE**	**Sverdlovsk**	**64.11**	**335**	*d*iP	**P**	**10 18 17.9**	**+0.4**
	comp=Z,1µm,21.7s							SVE				*e*S	**S**	**10 26 56.5**	**+4.3**
BLA	**Blacksburg**	**57.18**	**71**	PFAKE		10 17 40.0	+9.3	SVE				*e*SS	**SS**	**10 31 07.2**	**+6.9**
BLA				LR	LR			SVE				pmax	pmax		
	comp=Z,1µm,22.0s								comp=Z,94nm,1.1s						
SSE	**Sheshan**	**57.19**	**279**	P	**P**	**10 17 31.0**	**+0.3**	SVE				MLR	MLR		
SSE				sP	**sP**	**10 17 43.0**	**+0.9**		comp=Z,2µm,17.0s						
SSE				S	**S**	**10 25 24.5**	**0.0**	**AKN**	**Aaknes**	**64.22**	**5**	⇑iP	**P**	**10 18 18.1**	**-0.1**
SSE				sS	**sS**	**10 25 40.0**	**+2.0**	AKN				IAmb	IAmb	10 18 19.6	
SSE				PMZ					comp=Z,89nm,1.1s						
	comp=Z,110nm,0.8s							**KLMR**	**Klimovskoe**	**64.34**	**348**	*i* P	**P**	**10 18 18.0**	**-0.9**
SSE				LN				KLMR				*e**PP	**pP**	**10 18 28.0**	**+0.7**
	comp=Z,440nm,20.4s							KLMR				*e*		10 18 52.9	
SSE				LE				KLMR						10 20 38.0	
	comp=Z,260nm,19.9s							KLMR				*e*S	**S**	**10 26 52.9**	**-2.0**
SSE				LZ				KLMR				pmax	pmax		
	comp=Z,570nm,27.7s								comp=Z,81nm,1.5s						
PKME	**Peaks-Kenny Pk**	**57.39**	**57**	PFAKE		10 17 40.0	+8.1	**ENH**	**Enshi**	**64.57**	**287**	*e*P	**P**	**10 18 21.3**	**+0.3**
PKME				LR	LR				comp=Z,122nm,1.6s						
	comp=Z,1µm,20.0s							ENH				LR	LR		
KTK1	**Kautokeino**	**57.51**	**357**	*e*P	**P**	**10 17 33.0**	**+0.6**		comp=Z,530nm,19.0s						
SDMD	**Soldier's Deli**	**57.60**	**66**	*e*P	**P**	**10 17 31.5**	**-2.0**	**BVA0**	**Borovoye Array**	**64.62**	**327**	*i* P	**P**	**10 18 20.9**	**0.0**
	comp=Z,62nm,0.9s							BVA0				pmax	pmax		
ODNJ	**Ogdensburg**	**57.62**	**64**	*e*pP	pP	10 17 41.9	+0.1		comp=Z,99nm,1.3s						
BRAL	**Brewton**	**57.82**	**80**	PFAKE		10 17 40.0	+4.8	**BRVK**	**Borovoye**	**64.62**	**327**	P	**P**	**10 18 21.5**	**+0.6**
BRAL				LR	LR				comp=Z,408nm,1.0s,SNR=15						
	comp=Z,706nm,19.0s							**BRVK**	**Borovoye**	**64.62**	**327**	*c* iP	**P**	**10 18 20.9**	**0.0**
LVZ	**Lovozero**	**57.98**	**352**	P	**P**	**10 17 35.0**	**-0.8**	BRVK				pmax	pmax		
	comp=Z,266nm,1.0s,SNR=5.5								comp=Z,164nm,1.3s						
LVZ	**Lovozero**	**57.98**	**352**	*c* iP	**P**	**10 17 35.2**	**-0.6**	**BRVK**	**Borovoye**	**64.62**	**327**	P	**P**	**10 18 21.5**	**+0.6**
LVZ				pmax	pmax				SNR=28						
	comp=Z,49nm,1.2s							**BRVK**	**Borovoye**	**64.62**	**327**	PFAKE		10 18 30.0	+9.1
LVZ	**Lovozero**	**57.98**	**352**	PFAKE		10 17 50.0	+14	BRVK				LR	LR		
LVZ				LR	LR				comp=Z,2µm,19.0s						
	comp=Z,1µm,19.0s							**FIA1**	**FINESS Array S**	**64.96**	**355**	*e*P	**P**	**10 18 22.6**	**-0.3**
KMSC	**Kings Mountain**	**58.15**	**73**	⇑P	**P**	**10 17 35.5**	**-1.9**	**FINES**	**FINESS Array B**	**64.96**	**355**	P	**P**	**10 18 22.2**	**-0.7**
	baz=58								comp=Z,28nm,0.9s,baz=22,slow=6.2,SNR=56						
CBN	**Corbin Frederi**	**58.17**	**68**	PFAKE		10 17 50.0	+13	**FINES**	**FINESS Array B**	**64.96**	**355**	*i* P	**P**	**10 18 22.2**	**-0.7**
CBN				LR	LR			FINES				pmax	pmax		
	comp=Z,1µm,20.0s								comp=Z,28nm,0.9s						
GOGA	**Godfrey**	**58.17**	**76**	*e*P	**P**	**10 17 35.0**	**-2.6**	**ARU**	**Arti**	**64.98**	**336**	P	**P**	**10 18 22.5**	**-0.6**
GOGA				pmax	pmax				comp=Z,308nm,0.6s,SNR=13						
	comp=Z,35nm,1.7s							**ARU**	**Arti**	**64.98**	**336**	*c* iP	**P**	**10 18 22.6**	**-0.6**
GOGA				MLR	MLR			ARU						10 18 55.9	
	comp=Z,1µm,21.0s							ARU						10 20 42.8	
GOGA	**Godfrey**	**58.17**	**76**	*e*P	**P**	**10 17 35.0**	**-2.6**	ARU				S	**S**	**10 27 02.4**	**-0.5**
	comp=Z,35nm,1.7s							ARU				pmax	pmax		
GOGA				LR	LR				comp=Z,75nm,1.0s						
	comp=Z,1µm,21.0s							**ARU**	**Arti**	**64.98**	**336**	PFAKE		10 18 40.0	+17
JSRW	**J. Sargeant Re**	**58.25**	**68**	*e*P	**P**	**10 17 36.1**	**-1.9**	ARU				LR	LR		
BORG	**Borgarnes**	**58.33**	**18**	PFAKE		10 17 50.0	+12		comp=Z,1µm,20.0s						
BORG				LR	LR			**HYA**	**Hoyanger**	**65.19**	**6**	*e*P	**P**	**10 18 24.6**	**+0.2**
	comp=Z,2µm,19.0s							**TEIG**	**Tepich**	**65.20**	**89**	PFAKE		10 18 30.0	+4.9
APA	**Apatity**	**58.40**	**353**	⇓*i*P	**P**	**10 17 39.0**	**+0.3**	TEIG				LR	LR		
APA				*i* S	**S**	**10 25 36.0**	**-3.4**		comp=Z,593nm,19.0s						
APA				*i* PS	**PnS**	**10 25 54.0**	**+1.4**	**MK31**	**Makanchi Array**	**65.41**	**316**	*i* P	**P**	**10 18 25.1**	**-1.1**
APA				*i*		10 27 20.0		MK31				pmax	pmax		
APA				MLR	MLR				comp=Z,49nm,1.2s						
	comp=Z,2µm,17.0s							**MK31**	**Makanchi Array**	**65.41**	**316**	*e*P	**P**	**10 18 25.5**	**-0.7**
LOF	**Lofoten**	**58.47**	**1**	*e*P	**P**	**10 17 38.5**	**-0.6**	**MKAR**	**Makanchi Array**	**65.41**	**316**	P	**P**	**10 18 25.6**	**-0.6**
NVS	**Novosibirsk**	**58.70**	**322**	*e*P	**P**	**10 17 39.2**	**-1.7**		comp=Z,9.5nm,0.9s,baz=50,slow=6.6,SNR=82						
NVS				pmax	pmax			**MKAR**	**Makanchi Array**	**65.41**	**316**	*i* P	**P**	**10 18 25.6**	**-0.6**
	comp=N,22nm,1.7s							MKAR				pmax	pmax		
NVS				pmax	pmax				comp=Z,10.0nm,0.9s						
	comp=Z,52nm,1.7s							**WMQ**	**Urumqi**	**65.45**	**311**	P	**P**	**10 18 27.3**	**+0.7**
NVS				pmax	pmax			WMQ				pP	**pP**	**10 18 35.0**	**+0.1**
	comp=E,21nm,1.4s							WMQ				sP	**sP**	**10 18 38.3**	**+0.3**
ZAA0	**Zalesovo Array**	**58.79**	**320**	*e*P	**P**	**10 17 41.4**	**-0.2**	WMQ				PcP	**PcP**	**10 18 58.3**	**0.0**
ZALV	**Zalesovo Beam**	**58.79**	**320**	P	**P**	**10 17 40.9**	**-0.7**	WMQ				PP	**PP**	**10 20 54.3**	**+4.1**
	comp=E,8.0nm,0.7s,baz=46,slow=6.4,SNR=24							WMQ				ScP		10 22 59.5	
ZALV				PcP	**PcP**	**10 18 31.0**	**0.0**	WMQ				S	**S**	**10 27 08.8**	**-0.5**
	comp=E,6.9nm,0.9s,baz=56,slow=3.7,SNR=3.9							WMQ				sS	**sS**	**10 27 23.5**	**+0.5**
ZALV	**Zalesovo Beam**	**58.79**	**320**	*i* P	**P**	**10 17 41.4**	**-0.2**	WMQ				ScS	**SKSac**	**10 28 19.5**	**-0.4**
ZALV				pmax	pmax			WMQ				PMZ			
	comp=Z,8.0nm,0.7s								comp=Z,44nm,1.0s						
CNNC	**Cliffs of the**	**60.02**	**70**	PFAKE		10 18 00.0	+10	WMQ				PMZ			
CNNC				LR	LR				comp=Z,410nm,4.6s						
	comp=Z,1µm,20.0s							WMQ				LN			
STOK	**Stokkvaagen**	**60.27**	**2**	*e*P	**P**	**10 17 51.4**	**-0.2**		comp=Z,1µm,19.0s						
NHSC	**New Hope**	**60.28**	**74**	*e*P	**P**	**10 17 51.6**	**-0.5**	WMQ				LE			
	comp=Z,60nm,1.1s								comp=Z,2µm,17.0s						
NHSC				LR	LR			WMQ				LZ			
	comp=Z,1µm,20.0s								comp=Z,770nm,17.0s						
TMCR	**Tamitsa**	**61.30**	**349**	*e*P	**P**	**10 17 58.1**	**-0.5**	**NB2**	**NORSAR Subarra**	**65.53**	**3**	P	**P**	**10 18 26.3**	**-0.4**
TMCR				pmax	pmax				comp=Z,78nm,1.2s,baz=358,slow=6.5						
	comp=Z,78nm,1.3s							**NB2**	**NORSAR Subarra**	**65.53**	**3**	P	**P**	**10 18 26.3**	**-0.4**
TATO	**Taipei**	**61.55**	**274**	PFAKE		10 18 10.0	+9.1		baz=358,slow=6.5						
TATO				LR	LR			**NOA**	**NORSAR Array B**	**65.53**	**3**	P	**P**	**10 18 26.4**	**-0.4**
	comp=Z,750nm,20.0s								comp=Z,27nm,1.0s,baz=357,slow=6.5,SNR=41						
WHN	**Wuhan**	**61.58**	**284**	⇓P	**P**	**10 18 01.5**	**+0.5**	**NAO01**	**NORSAR Array S**	**65.72**	**3**	*e*P	**P**	**10 18 27.3**	**-0.6**
WHN				LZ					comp=Z,90nm,1.6s						
	comp=Z,2µm,16.6s							**ASK**	**Askoy**	**65.81**	**6**	*e*P	**P**	**10 18 29.0**	**+0.6**
YHNB	**Yeheng**	**61.84**	**274**	PFAKE		10 18 10.0	+7.0	**NC602**	**NORSAR Array S**	**65.85**	**3**	*e*P	**P**	**10 18 28.4**	**-0.3**
YHNB				LR	LR			NC602				*e*S	**S**	**10 27 13.3**	**-0.1**
	comp=Z,838nm,21.0s							NC602				IAMs_20	IAMs_20	10 48 05.2	
NSS	**Namsos**	**62.05**	**2**	*e*P	**P**	**10 18 01.7**	**-2.0**		comp=Z,1µm,22.1s						
XAN	**Xi'an**	**62.09**	**290**	P	**P**	**10 18 04.8**	**+0.3**	**PUL**	**Pulkovo**	**66.35**	**352**	*e*P	**P**	**10 18 32.6**	**+0.7**
XAN				pP	**pP**	**10 18 12.3**	**-0.5**	PUL				pmax	pmax		
XAN				PP	**PP**	**10 20 26.0**	**+5.1**		comp=Z,59nm,1.0s						
XAN				PMZ				**ODD1**	**Odda**	**66.46**	**5**	*e*P	**P**	**10 18 33.5**	**+0.8**
	comp=Z,14nm,1.4s							ODD1				IAmb	IAmb	10 18 33.9	
XAN				PMZ					comp=Z,67nm,1.2s						
	comp=Z,90nm,7.8s							**KONO**	**Kongsberg**	**66.87**	**4**	*e*P	**P**	**10 18 35.5**	**+0.2**
XAN				LN				KONO				*e*S	**S**	**10 27 26.4**	**+0.6**
	comp=Z,610nm,17.9s							**KONO**	**Kongsberg**	**66.87**	**4**	*e*P	**P**	**10 18 35.5**	**+0.2**
XAN				LE				KONO				pmax	pmax		
	comp=Z,330nm,18.3s								comp=Z,81nm,1.2s						
XAN				LZ				KONO				MLR	MLR		
	comp=Z,390nm,18.7s								comp=Z,540nm,21.0s						
SOKR	**Solikamsk**	**62.53**	**338**	*c* iP	**P**	**10 18 06.5**	**-0.4**	**KONO**	**Kongsberg**	**66.87**	**4**	*e*P	**P**	**10 18 35.5**	**+0.2**
SOKR				S	S	10 26 47.3	+15		comp=Z,81nm,1.2s						
SOKR				pmax	pmax			KONO				LR	LR		
	comp=Z,70nm,1.1s								comp=Z,540nm,21.0s						
SOKR				MLR	MLR			**BLS5**	**Blasjo**	**66.94**	**6**	*e*P	**P**	**10 18 35.7**	**-0.1**
	comp=Z,2µm,16.0s							**CD2**	**Chengdu**	**67.31**	**291**	P	**P**	**10 18 39.5**	**+0.9**
PRGR	**Permogore**	**62.73**	**345**	*e*P	**P**	**10 18 07.8**	**-0.5**	CD2				pP	**pP**	**10 18 47.5**	**+0.6**
PRGR				pmax	pmax			CD2				sP	**sP**	**10 18 51.0**	**+0.9**
	comp=Z,39nm,0.8s							CD2				PP	**PP**	**10 21 09.3**	**+2.6**
GTA	**Gaotai**	**62.99**	**300**	⇑P	**P**	**10 18 10.3**	**-0.3**	CD2				PcS		10 23 10.8	
GTA				pP	**pP**	**10 18 16.5**	**-2.4**	CD2				S	**S**	**10 27 30.8**	**-1.3**
GTA				sP	**sP**	**10 18 20.0**	**-2.0**								

CD2				sS	**sS**	**10 27 44.0**	**-1.8**
CD2				PMZ			
	comp=Z,80nm,0.6s						
CD2				PMZ			
	comp=Z,350nm,5.2s						
CD2				LN			
	comp=Z,1µm,21.5s						
CD2				LE			
	comp=Z,3µm,16.6s						
CD2				LZ			
	comp=Z,1µm,18.6s						
VSU	**Vasula**	**67.90**	**354**	*c* iP	**P**	**10 18 41.3**	**-0.4**
VSU				pmax	pmax		
	comp=Z,188nm,1.2s						
GYA	**Guiyang**	**69.08**	**286**	⇑*i*P	**P**	**10 18 50.3**	**+0.5**
GYA				pP	**pP**	**10 18 59.5**	**+1.3**
GYA				PP	**PP**	**10 21 26.0**	**+3.8**
GYA				ScP		10 23 15.8	
GYA				S	**S**	**10 27 56.5**	**+3.1**
GYA				SKS	**SKSac**	**10 28 45.3**	**-2.6**
GYA				PMZ			
	comp=Z,80nm,0.8s						
GYA				PMZ			
	comp=Z,260nm,4.8s						
GYA				LN			
	comp=Z,580nm,16.0s						
GYA				LE			
	comp=Z,600nm,17.9s						
GYA				LZ			
	comp=Z,630nm,18.6s						
PDGK	**Podgornoye**	**69.39**	**316**	P	**P**	**10 18 50.3**	**-1.0**
PDGK				pmax	pmax		
	comp=Z,105nm,1.4s						
BBSR	**BB Station**	**69.39**	**63**	PFAKE		10 19 00.0	+8.5
BBSR				LR	LR		
	comp=Z,630nm,20.0s						
MOS	**Moscow**	**69.56**	**347**	*e*P	**P**	**10 18 49.7**	**-2.5**
MOS				*e*		10 19 12.7	
MOS				pmax	pmax		
	comp=Z,43nm,0.9s						
MOS				MLR	MLR		
	comp=Z,2µm,18.0s						
PMOR	**Pomariorio Ree**	**69.70**	**164**	*e*T	T	11 34 23.3	
	comp=Z,33nm,0.2s						
MUD	**Monsted U'grnd**	**70.04**	**4**	*i* P	**P**	**10 18 55.7**	**+0.6**
	comp=Z,72nm,1.2s						
	comp=Z,710nm,13.0s						
MUD	**Monsted U'grnd**	**70.04**	**4**	*i* P	**P**	**10 18 55.7**	**+0.6**
MUD				pmax	pmax		
	comp=Z,72nm,1.2s						
MUD				MLR	MLR		
	comp=Z,720nm,13.0s						
HNR	**Honiara**	**70.13**	**219**	PFAKE		10 19 10.0	+14
HNR				LR	LR		
	comp=Z,325nm,21.0s						
ESK	**Eskdalemuir**	**70.13**	**12**	*e*P	**P**	**10 18 55.6**	**-0.1**
ESK				pmax	pmax		
	comp=Z,17nm,0.7s						
ESK				MLR	MLR		
	comp=Z,1µm,19.0s						
ESK	**Eskdalemuir**	**70.13**	**12**	*e*P	**P**	**10 18 55.6**	**-0.1**
	comp=Z,17nm,0.7s						
ESK				LR	LR		
	comp=Z,1µm,19.0s						
OBN	**Obninsk**	**70.31**	**348**	P	**P**	**10 18 56.7**	**0.0**
	comp=Z,415nm,0.8s,SNR=5.0						
OBN	**Obninsk**	**70.31**	**348**	*c* iP	**P**	**10 18 56.3**	**-0.4**
OBN				*e**PP	**pP**	**10 19 06.0**	**+0.9**
OBN				*SP	**sP**	**10 19 09.0**	**+0.7**
OBN						10 19 19.0	
OBN				*e*S	**S**	**10 28 07.6**	**+0.9**
OBN				*e*		10 28 58.9	
OBN				pmax	pmax		
	comp=Z,76nm,1.3s						
OBN	**Obninsk**	**70.31**	**348**	PFAKE		10 19 10.0	+13
OBN				LR	LR		
	comp=Z,978nm,19.0s						
AKTO	**Aktyubinsk**	**70.55**	**333**	P	**P**	**10 18 58.3**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,149nm,1.1s						
TGUH	**Tegucigalpa,Un**	**70.60**	**93**	PFAKE		10 19 10.0	+11
TGUH				LR	LR		
	comp=Z,485nm,21.0s						
ISAL	**Salakas**	**70.81**	**354**	*e*P	**P**	**10 18 59.9**	**0.0**
ISAL				AMB	AMB	10 19 02.0	
	comp=Z,35nm,1.1s						
IIGN	**Ignalina**	**71.03**	**354**	*e*P	**P**	**10 19 01.1**	**-0.1**
IIGN				AMB	AMB	10 19 03.2	
	comp=Z,34nm,1.2s						
IDID	**Didziasalis**	**71.03**	**354**	*e*P	**P**	**10 19 01.1**	**0.0**
IDID				AMB	AMB	10 19 03.2	
	comp=Z,34nm,1.1s						
AB31	**Akbulak array**	**71.09**	**332**	*e*P	**P**	**10 19 01.8**	**+0.2**
AB31				pmax	pmax		
	comp=Z,54nm,0.6s						
TKM2	**Tokmak 2**	**71.30**	**318**	P	**P**	**10 19 04.0**	**+0.7**
	SNR=32						
TKM2	**Tokmak 2**	**71.30**	**318**	*i* P	**P**	**10 19 03.5**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,85nm,1.5s						
TKM2	**Tokmak 2**	**71.30**	**318**	*e*P	**P**	**10 19 03.8**	**+0.5**
	comp=Z,110nm,1.5s						
TKM2				LR	LR		
	comp=Z,2µm,19.0s						
USP	**Ospenovka**	**71.43**	**319**	P	**P**	**10 19 04.8**	**+0.9**
	SNR=26						
NACGM	**Naroch**	**71.44**	**354**	*e*	**P**	**10 19 01.0**	**-2.6**
BSD	**Bornholm Skovb**	**71.55**	**1**	⇑*i*P	**P**	**10 19 04.1**	**-0.2**
	comp=Z,27nm,1.0s						
	comp=Z,760nm,16.0s						
BSD	**Bornholm Skovb**	**71.55**	**1**	⇑*e*P	**P**	**10 19 04.1**	**-0.2**
BSD				pmax	pmax		
	comp=Z,27nm,1.0s						
BSD				MLR	MLR		
	comp=Z,770nm,16.0s						
CHMS	**Chumysh**	**71.56**	**319**	P	**P**	**10 19 05.7**	**+1.0**
	SNR=19						
ULHL	**Ulahol**	**71.61**	**318**	P	**P**	**10 19 06.7**	**+1.5**
	SNR=6.5						
FRU	**Bishkek**	**71.76**	**319**	⇑*i*P	**P**	**10 19 06.0**	**+0.1**
FRU				pmax	pmax		
	comp=Z,340nm,2.0s						
KBK	**Karagaybulak**	**71.78**	**319**	P	**P**	**10 19 07.1**	**+0.9**
	SNR=30						
PPT	**Papeete**	**71.97**	**166**	LR	LR	10 47 36.7	
	comp=Z,598nm,18.0s,baz=317,slow=33						
AAK	**Ala-Archa**	**71.97**	**319**	P	**P**	**10 19 07.2**	**-0.1**
	comp=Z,249nm,0.6s,SNR=18						
AAK	**Ala-Archa**	**71.97**	**319**	P	**P**	**10 19 08.2**	**+0.9**
	SNR=32						
AAK	**Ala-Archa**	**71.97**	**319**	*i* P	**P**	**10 19 07.1**	**-0.2**
AAK				pmax	pmax		
	comp=Z,103nm,1.4s						
AAK	**Ala-Archa**	**71.97**	**319**	P	**P**	**10 19 08.4**	**+1.1**
	SNR=27						
AAK	**Ala-Archa**	**71.97**	**319**	*e*P	**P**	**10 19 07.7**	**+0.4**
AAK				LR	LR		
	comp=Z,2µm,19.0s						
PPT2	**Papeete2**	**71.99**	**166**	*e*S	**S**	**10 28 31.5**	**+4.5**
	comp=Z,2µm,27.5s						
PPT2	**Papeete2**	**71.99**	**166**	*e*LR	LR	10 40 52.9	
	comp=Z,897nm,23.0s,baz=345						
KZA	**Kyzart**	**72.14**	**318**	P	**P**	**10 19 09.6**	**+0.9**
	SNR=19						
EKS2	**Erkin-Say**	**72.23**	**319**	P	**P**	**10 19 09.8**	**+1.0**
	SNR=40						
EKS2	**Erkin-Say**	**72.23**	**319**	*e*P	**P**	**10 19 09.2**	**+0.4**
EKS2				pmax	pmax		
	comp=Z,73nm,1.2s						
EKS2				MLR	MLR		
	comp=Z,2µm,19.0s						
EKS2	**Erkin-Say**	**72.23**	**319**	*e*P	**P**	**10 19 09.2**	**+0.4**
	comp=Z,73nm,1.2s						
EKS2				LR	LR		
	comp=Z,2µm,19.0s						
UCH	**Uchtor**	**72.31**	**319**	P	**P**	**10 19 10.5**	**+0.8**
	SNR=18						
KMI	**Kunming**	**72.34**	**288**	⇑P	**P**	**10 19 09.5**	**-0.3**
KMI				pP	**pP**	**10 19 19.5**	**+1.2**
KMI				sP	**sP**	**10 19 23.0**	**+1.6**
KMI				PcP	**PcP**	**10 19 30.0**	**+2.3**
KMI				PP	**PP**	**10 21 50.0**	**-0.4**
KMI				S	**S**	**10 28 31.3**	**-0.3**
KMI				sS	**SKiKP**	**10 28 44.3**	**+1.0**
KMI				SKS	**SKSac**	**10 29 09.8**	**-3.0**
KMI				SS	**SS**	**10 33 07.8**	**-1.5**

KMI PMZ
comp=Z,25nm,1.3s
KMI PMZ
comp=Z,330nm,5.2s
KMI LN
comp=Z,950nm,17.9s
KMI LE
comp=Z,900nm,17.4s
KMI LZ
comp=Z,880nm,15.1s
VAL Valentia 72.37 17 *e*P **P 10 19 10.2 +0.9**
LPSR Galich'ya Gora 72.44 346 *e*P **P 10 19 08.8 -0.9**
LPSR pmax pmax
comp=N,20nm,1.1s
LPSR pmax pmax
comp=E,10.0nm,1.1s
LPSR pmax pmax
comp=Z,70nm,1.1s
LPSR MLR MLR
comp=N,2μm,21.0s
LPSR MLR MLR
comp=E,3μm,21.0s
LPSR MLR MLR
comp=Z,710nm,21.0s
SUW Suwalki 72.52 356 *e*P **P 10 19 09.6 -0.5**
SUW Suwalki 72.52 356 *e*P **P 10 19 09.9 -0.2**
SUW pmax pmax
comp=Z,152nm,1.1s
SUW Suwalki 72.52 356 *e*P **P 10 19 09.9 -0.2**
comp=Z,152nm,1.1s
BSEG Bad Segeberg 72.61 4 *e*P **P 10 19 11.2 +0.5**
comp=Z,79nm,1.3s
AML Almayashu 72.71 319 P **P 10 19 13.3 +1.2**
SNR=28
MNAS Manas 72.87 320 P **P 10 19 11.8 -0.8**
MNAS pmax pmax
comp=Z,45nm,1.3s
MSVF Nonsavu 72.90 198 PFAKE 10 19 20.0 +7.2
MSVF LR LR
comp=Z,783nm,20.0s
QIZ Qiongzhong 72.98 279 P **P 10 19 14.0 +0.5**
QIZ S **S 10 28 40.3 +1.6**
QIZ LN
comp=Z,580nm,14.6s
QIZ LE
comp=Z,290nm,16.8s
QIZ LZ
comp=Z,580nm,15.8s
QIZ Qiongzhong 72.98 279 PFAKE 10 19 20.0 +6.5
QIZ LR LR
comp=Z,400nm,22.0s
KK31 Karatay Array 73.08 322 P **P 10 19 13.4 -0.3**
KK31 pmax pmax
comp=Z,14nm,0.7s
DAV Davao City (W) 73.11 259 PFAKE 10 19 20.0 +5.8
DAV LR LR
comp=Z,1μm,21.0s
MTDJ Mount Denham 73.11 82 PFAKE 10 19 20.0 +5.7
MTDJ LR LR
comp=Z,908nm,20.0s
GTBY Guantanamo Bay 73.21 79 PFAKE 10 19 20.0 +5.3
GTBY LR LR
comp=Z,692nm,20.0s
VSR Storozhevoye 73.75 345 *e*P **P 10 19 15.6 -1.9**
VSR pmax pmax
comp=N,40nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,80nm,0.9s
VORD Divnogorie 73.98 345 *e*P **P 10 19 17.7 -1.1**
VORD pmax pmax
comp=N,50nm,1.0s
VORD pmax pmax
comp=E,10.0nm,1.0s
VORD pmax pmax
comp=Z,50nm,1.0s
KSH Kashi 74.02 316 P P 10 19 23.0 +3.6
KSH pP pP 10 19 30.8 +2.9
KSH PP PP 10 22 10.5 +6.4
KSH S **S 10 28 53.5 +3.4**
KSH ScS **ScS 10 29 28.0 +0.3**
KSH PMZ
comp=Z,62nm,1.3s
KSH LN
comp=Z,740nm,13.8s
KSH LE
comp=Z,2μm,16.5s
KSH LZ
comp=Z,1μm,23.4s
NRDL Niedersach Rie 74.04 4 *e*P **P 10 19 19.1 0.0**
comp=Z,63nm,1.2s
IBBN Ibbenburen 74.11 6 *e*P **P 10 19 19.9 +0.4**
comp=Z,83nm,1.0s
GRTK Grand Turk 74.28 75 PFAKE 10 19 30.0 +9.0
GRTK LR LR
comp=Z,889nm,20.0s
WTSB Winterswijk 74.39 6 *e*P **P 10 19 21.4 +0.2**
comp=Z,94nm,1.2s
SFK Sufi-Kurgan 74.59 318 P **P 10 19 22.4 -0.5**
SFK pmax pmax
comp=Z,55nm,1.2s
CLZ Clausthal 74.71 4 *e*P **P 10 19 23.7 +0.6**
comp=Z,111nm,1.4s
BUG Bochum--Univer 74.94 6 *e*P **P 10 19 24.3 -0.1**
comp=Z,73nm,1.1s
LSA Lhasa 75.01 300 *e*P **P 10 19 26.8 +1.0**
LSA pmax pmax
comp=Z,69nm,1.1s
LSA MLR MLR
comp=Z,423nm,19.0s
LSA Lhasa 75.01 300 *e*P **P 10 19 26.8 +1.0**
comp=Z,69nm,1.1s
LSA LR LR
comp=Z,423nm,19.0s
CLL Collm 75.33 2 *e*P **P 10 19 26.6 0.0**
comp=Z,50nm,1.2s
CLL Collm 75.33 2⇑*i*P **P 10 19 26.7 +0.1**
comp=Z,49nm,1.1s
CLL *es*P **sP 10 19 36.0 -2.2**
CLL *e*PP **PP 10 22 18.0 +3.4**
CLL *e*PPP PPP 10 24 00.0
CLL *e*S **S 10 29 06.0 +2.0**
CLL *e*PS **PnS 10 29 46.0 +4.9**
CLL *e*SS SS 10 34 06.0 +13
CLL *e* 10 38 06.0
CLL LmV 10 55 00.0
comp=Z,400nm,20.5s
CLL Lm MLR 11 01 00.0
comp=N,500nm,18.0s
CLL Lm MLR 11 01 00.0
comp=E,500nm,18.0s
CLL Collm 75.33 2⇑*i*P **P 10 19 26.7 +0.1**
CLL *e*S **S 10 29 02.0 -2.0**
CLL pmax pmax
comp=Z,49nm,1.1s
CLL MLR MLR
comp=Z,400nm,20.5s
UCC Uccle 75.37 8 P **P 10 19 27.1 +0.2**
comp=Z,72nm,1.9s
UCC AP **pP 10 19 36.7 +1.4**
AKASG Malin Array Be 75.43 352 P **P 10 19 26.6 -0.7**
comp=Z,22nm,0.7s,baz=9.0,slow=5.6,SNR=134
AKASG LR LR 10 54 30.6
comp=Z,973nm,19.5s,baz=355,slow=37
AKBB Malin Array Si 75.43 352 *e*P **P 10 19 26.5 -0.7**
AKBB Malin Array Si 75.43 352 *e*P **P 10 19 26.5 -0.7**
KIEV Kiev 75.44 352*c i*P **P 10 19 26.4 -0.9**
KIEV Kiev 75.44 352 PFAKE 10 19 40.0 +13
KIEV LR LR
comp=Z,1μm,20.0s
AK01 Malin Array Si 75.44 352 *e*P **P 10 19 26.5 -0.8**
PMG Port Moresby 75.45 231 *e*P **P 10 19 27.0 -0.7**
PMG pmax pmax
comp=Z,28nm,0.9s
PMG MLR MLR
comp=Z,430nm,20.0s
PMG Port Moresby 75.45 231 *e*P **P 10 19 27.0 -0.7**
comp=Z,28nm,0.9s
PMG LR LR
comp=Z,430nm,20.0s
BEBN Eben Emael 75.48 7 P **P 10 19 27.5 +0.1**
comp=Z,14nm,1.6s
AK02 Malin Array Si 75.48 352 *e*P **P 10 19 27.1 -0.4**
HGN Heimansgroeve 75.53 7 *e*P **P 10 19 27.7 -0.1**
comp=Z,98nm,1.2s

SNF Seneffe 75.65 8 P **P 10 19 28.8 +0.3**
MEM Membach 75.69 7 P **P 10 19 29.1 +0.4**
comp=Z,30nm,1.2s
MEM Membach 75.69 7 *e*P **P 10 19 29.1 +0.4**
MEM pmax pmax
comp=Z,57nm,1.1s
MEM Membach 75.69 7 *e*P **P 10 19 29.1 +0.4**
comp=Z,57nm,1.1s
UBBA Unterbreizbach 75.71 4 *e*P **P 10 19 28.9 +0.2**
comp=Z,59nm,1.7s
BRG Berggiesshubel 75.78 2 *e*P **P 10 19 29.3 +0.1**
comp=Z,39nm,1.0s
BCLA Clavier 75.82 7 P **P 10 19 30.0 +0.5**
KSP Ksiaz 75.83 0 *e*P **P 10 19 29.9 +0.4**
KSP Ksiaz 75.83 0 *e*P **P 10 19 29.9 +0.4**
MOX Moxa 75.95 3 *e*P **P 10 19 31.4 +1.2**
comp=Z,74nm,1.3s
MOX *e*L L 11 02 09.1
comp=N,481nm,18.0s
DOU Dourbes 76.09 8 P **P 10 19 31.3 +0.3**
comp=Z,17nm,1.4s
DOU AP **PcP 10 19 42.0 -1.2**
BAIF Baives 76.09 8⇑*i*P **P 10 19 31.3 +0.3**
comp=Z,111nm,1.3s
GIVF Givet 76.10 8⇑*i*P **P 10 19 31.2 +0.1**
comp=Z,152nm,1.3s
PVCC Panska Ves 76.14 1⇑*i*P **P 10 19 32.0 +0.7**
PVCC AMS AMS 11 02 30.0
comp=Z,800nm,16.0s
PVCC Panska Ves 76.14 1⇑*i*P **P 10 19 32.0 +0.7**
PVCC MLR MLR
comp=Z,800nm,16.0s
UPC Upice 76.17 0⇑*i*P **P 10 19 31.8 +0.3**
UPC Upice 76.17 0⇑*i*P **P 10 19 31.8 +0.3**
SDDR Presa de Saban 76.17 77 *e*P **P 10 19 31.9 -0.2**
comp=Z,20nm,1.0s
SDDR LR LR
comp=Z,681nm,21.0s
TANN Tannenbergstha 76.20 3 *e*P **P 10 19 32.2 +0.5**
comp=Z,123nm,2.1s
TNS Taunus Mts 76.23 5 *e*P **P 10 19 32.3 +0.4**
comp=Z,50nm,1.3s
DPC Dobruska-Polom 76.33 0⇑*i*P **P 10 19 33.2 +0.8**
DPC *e*S S 10 29 23.2 +8.0
DPC AMS AMS 11 06 00.0
comp=Z,400nm,18.3s
DPC Dobruska-Polom 76.33 0⇑*i*P **P 10 19 33.2 +0.8**
DPC MLR MLR
comp=Z,400nm,18.3s
DPC Dobruska-Polom 76.33 0 *e*P **P 10 19 32.8 +0.3**
NKC Novy Kostel 76.39 3⇑*i*P **P 10 19 33.3 +0.6**
NKC AMS AMS 10 58 40.0
comp=Z,400nm,21.1s
NKC Novy Kostel 76.39 3⇑*i*P **P 10 19 33.3 +0.6**
NKC MLR MLR
comp=Z,400nm,21.1s
OJC Ojcow 76.42 358 *e*P **P 10 19 33.2 +0.3**
OJC Ojcow 76.42 358⇑*e*P **P 10 19 33.2 +0.3**
KRLC Kraliky 76.60 360⇑*i*P **P 10 19 34.4 +0.4**
KRLC *ex* x 10 19 43.6
KRLC Kraliky 76.60 360⇑*i*P **P 10 19 34.4 +0.4**
KRLC *e* 10 19 43.6
WLF Walferdange 76.64 7 P **P 10 19 35.1 +1.0**
comp=Z,39nm,1.7s
WLF AP **PcP 10 19 46.0 +0.4**
WLF Walferdange 76.64 7 *e*P **P 10 19 34.9 +0.8**
comp=Z,72nm,1.4s
WLF Walferdange 76.64 7 PFAKE 10 19 50.0 +16
WLF LR LR
comp=Z,806nm,20.0s
LVV L'vov 76.67 355⇓*i*P **P 10 19 34.1 -0.2**
LVV MLR MLR
comp=N,400nm,18.0s
LVV MLR MLR
comp=Z,600nm,18.0s
LVV MLR MLR
comp=E,200nm,17.0s
PRU Pruhonice 76.67 1⇑*i*P **P 10 19 34.3 0.0**
PRU *ep*P **pP 10 19 43.7 +0.9**
PRU *e*S **S 10 29 23.6 +4.7**
PRU AMS AMS 11 02 50.0
comp=E,1μm,17.7s
PRU Pruhonice 76.67 1⇑*i*P **P 10 19 34.3 0.0**
PRU *e* 10 19 43.7
PRU *e*S **S 10 29 23.6 +4.7**
PRU MLR MLR
comp=Z,1μm,17.7s
OKC Ostrava-Krasne 76.83 359⇑*i*P **P 10 19 35.8 +0.6**
OKC *ex* x 10 19 46.3
OKC *e*S **S 10 29 19.9 -0.7**
OKC AMS AMS 11 02 00.0
comp=Z,600nm,20.6s
OKC Ostrava-Krasne 76.83 359⇑*i*P **P 10 19 35.8 +0.6**
OKC *e* 10 19 46.3
OKC *e*S **S 10 29 19.9 -0.7**
OKC MLR MLR
comp=Z,600nm,20.6s
ROTZ Rotzenmuhle 76.84 3 *e*P **P 10 19 36.0 +0.7**
comp=Z,44nm,1.2s
GRF Grafenberg Arr 76.89 4 *e*P **P 10 19 36.4 +0.8**
comp=Z,72nm,1.2s
GRF *e*L L 11 03 03.7
comp=N,691nm,18.8s
MORC Moravsky Berou 76.90 359⇑*i*P **P 10 19 36.0 +0.3**
FLN La Foliniere 76.90 11⇑*i*P **P 10 19 35.4 -0.2**
comp=N,52nm,1.1s
FLN *e*R
comp=N,813nm,21.2s
KWP Kalwaria Pacla 76.92 356 *e*P **P 10 19 36.4 +0.7**
KWP Kalwaria Pacla 76.92 356⇑*e*P **P 10 19 36.5 +0.7**
ROSF Rostrenen 76.96 13⇑*i*P **P 10 19 36.1 +0.1**
comp=N,77nm,1.4s
ROSF Rostrenen 76.96 13⇑*i*P **P 10 19 36.1 +0.1**
ROSF pmax pmax
comp=Z,77nm,1.4s
ROSF Rostrenen 76.96 13⇑*i*P **P 10 19 36.1 +0.1**
comp=Z,77nm,1.4s
LDF La Druitiere 77.11 11⇑*i*P **P 10 19 36.5 -0.3**
comp=Z,89nm,1.3s
SGMF Saint Gilles 77.14 13⇑*i*P **P 10 19 37.1 +0.1**
comp=Z,76nm,1.2s
SGMF Saint Gilles 77.14 13⇑*i*P **P 10 19 37.1 +0.1**
SGMF pmax pmax
comp=Z,76nm,1.2s
SGMF Saint Gilles 77.14 13⇑*i*P **P 10 19 37.1 +0.1**
comp=Z,76nm,1.2s
TNTI Ternate 77.19 253 P **P 10 19 36.7 -1.0**
comp=Z,55nm,1.5s
STHS Stebnicka Huta 77.19 357 *e*P **P 10 19 38.3 +1.0**
STHS pmax pmax
comp=Z,32nn,0.9s
STHS Stebnicka Huta 77.19 357 *e*P **P 10 19 38.3 +1.0**
NIE Niedzica 77.21 357 *e*P **P 10 19 38.2 +0.8**
NIE Niedzica 77.21 357⇑*e*P **P 10 19 38.2 +0.8**
GRR Gorron 77.22 12⇑*i*P **P 10 19 37.4 0.0**
comp=Z,73nm,1.3s
VRAC Vranov 77.37 360⇑*i*P **P 10 19 38.9 +0.6**
TREC Trest 77.38 1⇑*e*P **P 10 19 38.9 +0.6**
TREC AMS AMS 11 02 40.0
comp=Z,800nm,17.1s
TREC Trest 77.38 1 *e*P **P 10 19 38.9 +0.6**
TREC MLR MLR
comp=Z,800nm,17.1s
QUIF Quistinic 77.39 13⇑*i*P **P 10 19 38.5 +0.2**
comp=Z,78nm,1.5s
LANF Langenberg 77.43 6⇑*e*P **P 10 19 39.1 +0.5**
DZET Dzherino 77.45 321 P **P 10 19 38.7 -0.3**
DZET pmax pmax
comp=Z,54nm,1.5s
IMP Imphal 77.48 295 *e*P **P 10 19 38.5 -0.8**
WET Wettzell 77.49 2 *e*P **P 10 19 39.7 +0.7**
comp=Z,50nm,1.4s
FAKI Fak Fak 77.49 247 P **P 10 19 38.9 -0.5**
comp=Z,44nm,1.5s,comp=Z,698nm
KHC Kasperske Hory 77.52 2⇑*i*P **P 10 19 40.0 +0.9**
KHC *ep*P **pP 10 19 48.3 +0.7**
KHC *e*S **S 10 29 34.1 +5.9**
KHC AMS AMS 11 03 30.0
comp=Z,800nm,16.7s
KHC Kasperske Hory 77.52 2⇑*i*P **P 10 19 40.0 +0.9**
KHC *e* 10 19 48.3
KHC *e*S **S 10 29 34.1 +5.9**
KHC MLR MLR
comp=Z,800nm,16.7s
KOLS Kolonicke sedl 77.63 356 *e*P **P 10 19 40.3 +0.6**

KOLS pmax pmax
comp=Z,29nm,1.1s
KOLS Kolonicke sedl 77.63 356 *e*P **P 10 19 40.3 +0.6**
TBI Tubuai 77.67 167 *e*S **S 10 29 31.2 +1.2**
comp=Z,976nm,30.0s
TBI Tubuai 77.67 167 *e*LR LR 10 43 17.8
comp=Z,1μm,33.5s,baz=350
MEZF Maizieres J'vi 77.71 8⇑*i*P **P 10 19 40.5 +0.3**
comp=Z,116nm,1.4s
PAGF Fort de Pagny 77.71 7⇑*i*P **P 10 19 40.6 +0.4**
comp=Z,34nm,1.1s
PAGF Fort de Pagny 77.71 7⇑*i*P **P 10 19 40.6 +0.4**
comp=Z,34nm,1.1s
STU Stuttgart 77.72 5 *e*P **P 10 19 40.6 +0.4**
comp=Z,41nm,1.1s
GEC2 GERESS Array S 77.81 2 *e*P **P 10 19 41.3 +0.4**
comp=Z,28nm,1.1s
GERES GERESS Array B 77.81 2 P **P 10 19 41.2 +0.4**
comp=Z,8.8nm,0.7s,baz=356,slow=4.0,SNR=59
UZH Uzhgorod 77.93 356 *e*P **P 10 19 40.4 -1.0**
UZH *e* 10 19 58.2
UZH *e*S **S 10 29 27.4 -5.2**
UZH MLR MLR
comp=N,440nm,20.0s
UZH MLR MLR
comp=E,450nm,20.0s
UZH MLR MLR
comp=Z,200nm,20.0s
CDF Champ du Feu 77.96 6⇑*i*P **P 10 19 41.8 +0.1**
comp=Z,82nm,1.3s
CDF Champ du Feu 77.96 6⇑*i*P **P 10 19 41.8 +0.1**
CDF pmax pmax
comp=Z,82nm,1.3s
CDF Champ du Feu 77.96 6⇑*i*P **P 10 19 41.8 +0.1**
comp=Z,82nm,1.3s
SFTF Sexfontaines 78.00 8⇑*i*P **P 10 19 41.9 +0.1**
comp=Z,112nm,1.2s
SKNT Sakolnakorn 78.02 282 P **P 10 19 42.3 -0.1**
comp=Z,62nm,1.2s,comp=Z,2μm
THEF They Montfort 78.06 7⇑*e*P **P 10 19 42.5 +0.4**
BFO Black Forest 78.11 6 P **P 10 19 42.4 0.0**
comp=Z,112nm,1.4s,SNR=6.3
BFO Black Forest 78.11 6 *e*P **P 10 19 42.7 +0.3**
comp=Z,100nm,2.0s
BFO Black Forest 78.11 6 *e*P **P 10 19 42.1 -0.3**
BFO pmax pmax
comp=Z,167nm,2.4s
BFO MLR MLR
comp=Z,528nm,19.0s
BFO Black Forest 78.11 6 *e*P **P 10 19 42.1 -0.3**
comp=Z,167nm,2.4s
BFO LR LR
comp=Z,528nm,19.0s
ECH Echery 78.15 6⇑*e*P **P 10 19 43.0 +0.3**
ECH Echery 78.15 6 *e*P **P 10 19 43.0 +0.3**
ECH pmax pmax
comp=Z,23nm,0.9s
ECH MLR MLR
comp=Z,453nm,20.0s
ECH Echery 78.15 6 *e*P **P 10 19 43.0 +0.3**
comp=Z,23nm,0.9s
ECH LR LR
comp=Z,453nm,20.0s
LBMI Labuha 78.26 253 P **P 10 19 43.3 -0.4**
comp=Z,58nm,1.9s,comp=Z,901nm
HAU Haudompre 78.30 7⇑*i*P **P 10 19 43.6 +0.1**
comp=Z,66nm,1.1s
HAU *e*R
comp=Z,971nm,22.8s
HAU Haudompre 78.30 7⇑*i*P **P 10 19 43.6 +0.1**
HAU pmax pmax
comp=Z,66nm,1.1s
HAU Haudompre 78.30 7⇑*i*P **P 10 19 43.6 +0.1**
comp=Z,66nm,1.1s
FUR Furstenfeldbru 78.42 4 *e*P **P 10 19 44.8 +0.7**
comp=Z,80nm,1.3s
TRPA Tarpa 78.42 356⇑*i*P **P 10 19 44.9 +0.8**
TRPA Tarpa 78.42 356⇑*e*P **P 10 19 44.8 +0.7**
MOF Molkenrain 78.51 6⇑*e*P **P 10 19 44.9 +0.2**
CMAI Chiengmai2 78.51 288 P **P 10 19 45.4 +0.1**
comp=Z,45nm,1.2s,comp=Z,1μm
HINF Hinteralfeld 78.53 7⇑*i*P **P 10 19 44.7 -0.1**
comp=Z,50nm,1.0s
TAPN Taplejung 78.67 301 *e*P **P 10 19 46.4 +0.2**
comp=Z,179nm,1.2s
HYF Humbligny 78.72 10 *e*P **P 10 19 46.1 +0.3**
HYF Humbligny 78.72 10 *e*P **P 10 19 46.1 +0.3**
PSZ Piszkesteto 78.72 358 PFAKE 10 20 00.0 +14
PSZ LR LR
comp=Z,608nm,20.0s
CONA Conrad Observa 78.75 0⇑*ip*P **P 10 19 47.0 +1.0**
comp=Z,138nm,1.8s,SNR=24
BUR08 Bucovina Ar. S 78.77 354 *e*P **P 10 19 46.1 -0.1**
BURAR Bucovina Array 78.80 354⇑*i*P **P 10 19 46.6 +0.3**
MOA Molln 78.81 2 *i*P **P 10 19 46.8 +0.5**
comp=Z,174nm,3.1s,SNR=12
LOR Lormes 78.83 9⇑*i*P **P 10 19 46.5 +0.1**
comp=Z,97nm,1.3s
LOR *e*R
comp=Z,802nm,21.0s
BCIP Isla Barro Col 78.88 90 PFAKE 10 20 00.0 +13
BCIP LR LR
comp=Z,266nm,19.0s
RJOB Jochberg 78.89 3 *e*P **P 10 19 47.3 +0.5**
comp=Z,31nm,0.9s
LOMF Lomont 78.99 7⇑*e*P **P 10 19 47.7 +0.3**
SOP Sopron 79.00 0⇑*e*P **P 10 19 48.4 +1.1**
SSF Saint Saulge 79.00 9⇑*i*P **P 10 19 47.4 0.0**
comp=Z,80nm,1.2s
GOF Gofitskoye 79.06 341⇑*i*P **P 10 19 48.4 +0.7**
GOF pmax pmax
comp=Z,160nm,1.3s
MFF Saint Martin d 79.07 12⇑*i*P **P 10 19 47.8 +0.1**
comp=Z,102nm,1.3s
MFF Saint Martin d 79.07 12⇑*i*P **P 10 19 47.8 +0.1**
MFF pmax pmax
comp=Z,103nm,1.3s
MFF Saint Martin d 79.07 12⇑*i*P **P 10 19 47.8 +0.1**
comp=Z,102nm,1.3s
RETA Reutte 79.07 4⇑*i*P **P 10 19 48.2 +0.4**
comp=Z,158nm,2.6s,SNR=5.4
GUN Gumba 79.14 303 *e*P **P 10 19 49.3 +0.4**
comp=Z,407nm,1.1s
KIS Kishinev 79.14 352 *e*P **P 10 19 48.0 -0.1**
KIS *e*S **S 10 29 45.0 -0.6**
KIS Kishinev 79.14 352 *e*PS 10 30 22.0
KIS LRM MLR 10 55 32.0
comp=Z,600nm,22.0s
KIS Kishinev 79.14 352 *e*P **P 10 19 48.0 -0.1**
KIS *e* 10 19 57.0
KIS *e* 10 22 50.0
KIS *e*S **S 10 29 45.0 -0.6**
KIS *e*PS **PnS 10 30 22.0 -7.8**
KIS MLR MLR
comp=Z,700nm,20.0s
KIS MLR MLR
comp=N,600nm,22.0s
KIS MLR MLR
comp=Z,600nm,22.0s
LOEI Loei 79.17 285 P **P 10 19 46.9 -1.8**
comp=Z,33nm,1.2s
JIRN Jiri 79.19 302 *e*P **P 10 19 49.7 +0.5**
KHON Khomkaen 79.20 283 P **P 10 19 49.8 +1.0**
comp=Z,20nm,1.0s
MOTA Moosalm 79.23 4⇑*i*P **P 10 19 49.2 +0.5**
comp=Z,46nm,1.1s,SNR=19
DAVA Damuels 79.23 5⇑*i*P **P 10 19 49.0 +0.2**
comp=Z,88nm,2.4s
ODAN Odare 79.24 301 *e*P **P 10 19 49.3 0.0**
comp=Z,121nm,1.2s
WATA Walderalm 79.25 3⇑*i*P **P 10 19 49.5 +0.6**
comp=Z,47nm,1.1s,SNR=5.9
AVF Avril sur Loir 79.26 9⇑*i*P **P 10 19 48.7 0.0**
comp=Z,73nm,1.2s
PKSG 79.28 359⇑*e*P **P 10 19 50.0 +1.2**
LAMP Lampang 79.30 287 P **P 10 19 49.8 +0.4**
comp=Z,8.4nm,1.0s,comp=Z,96nm
WTTA Wattenberg 79.33 3⇑*i*P **P 10 19 50.0 +0.7**
comp=Z,267nm,2.5s,SNR=16
UTTA Uttaradit 79.39 285 P **P 10 19 49.7 -0.2**
comp=Z,19nm,0.9s,comp=Z,158nm
PKST T's 79.41 359⇑*e*P **P 10 19 50.5 +0.9**
ARSA Arzberg 79.43 1 *i*P **P 10 19 50.5 +0.9**
comp=Z,220nm,2.7s,SNR=17
BGF Bois d'Agland 79.44 10⇑*i*P **P 10 19 49.7 0.0**
comp=Z,73nm,1.4s

SMF Signal de Mont 79.45 9⇑*i*P P 10 19 49.7 -0.1
comp=Z,63nm,1.1s
KKM Kota Kinabalu 79.45 266 PFAKE 10 20 00.0 +10
KKM LR LR
comp=Z,395nm,22.0s
CMMT Chiang Mai 79.46 287 P **P 10 19 50.0 -0.3**
comp=Z,30nm,1.6s,comp=Z,642nm
CHTO Chiang Mai 79.46 287 P **P 10 19 50.1 -0.2**
comp=Z,104nm,2.1s,comp=Z,2µm
CHTO Chiang Mai 79.46 287 *e*P **P 10 19 50.1 -0.2**
CHTO pmax pmax
comp=Z,28nm,1.3s
CHTO MLR MLR
comp=Z,625nm,19.0s
CHTO Chiang Mai 79.46 287 P **P 10 19 50.4 +0.1**
SNR=7.3
CHTO Chiang Mai 79.46 287 *e*P **P 10 19 50.1 -0.2**
comp=Z,28nm,1.3s
CHTO LR LR
comp=Z,625nm,19.0s
FETA Feichten 79.54 4⇑*i*P P 10 19 51.2 +0.8
comp=Z,219nm,2.5s,SNR=23
KKN Kakani 79.54 303 *e*P **P 10 19 51.3 +0.4**
comp=Z,192nm,1.2s
KBA Koelnbreinsper 79.56 2⇑*i*pP P 10 19 51.8 +1.1
comp=Z,249nm,1.8s,SNR=31
RAMN Ramite 79.57 301 *e*P **P 10 19 51.3 +0.2**
comp=Z,270nm,1.2s
TCF Toulx Ste Croi 79.64 10⇑*i*P P 10 19 50.6 -0.3
comp=Z,80nm,1.5s
TCF Toulx Ste Croi 79.64 10⇑*i*P P 10 19 50.6 -0.3
TCF pmax pmax
comp=Z,80nm,1.5s
TCF Toulx Ste Croi 79.64 10⇑*i*P P 10 19 50.6 -0.3
comp=Z,80nm,1.5s
PKI Pulchoki 79.66 303 *e*P **P 10 19 51.7 +0.1**
comp=Z,234nm,1.2s
PKIN Phulchoki 79.66 303 *e*P **P 10 19 51.6 0.0**
comp=Z,175nm,1.2s
CABF La Chapelle 79.67 7⇑*i*P P 10 19 51.6 +0.5
comp=Z,132nm,1.3s
CABF La Chapelle 79.67 7⇑*i*P P 10 19 51.6 +0.5
CABF pmax pmax
comp=Z,132nm,1.3s
CABF La Chapelle 79.67 7⇑*i*P P 10 19 51.6 +0.5
comp=Z,132nm,1.3s
GKN Gorkha 79.69 304 *e*P **P 10 19 51.9 +0.3**
comp=Z,289nm,1.2s
CMAR Chiang Mai Arr 79.75 287 P **P 10 19 52.0 +0.2**
comp=Z,43nm,1.1s,baz=16,slow=5.4,SNR=91
CMAR Chiang Mai Arr 79.75 287 *i* P **P 10 19 52.0 +0.2**
CMAR pmax pmax
comp=Z,37nm,1.0s
DRGR 79.75 356⇓*i*P **P 10 19 51.9 +0.4**
DMN Daman 79.78 303 *e*P **P 10 19 52.6 +0.4**
comp=Z,112nm,0.9s
TESR Tescani 79.80 353⇑*i*P **P 10 19 51.5 -0.2**
SJG San Juan 79.81 73 PFAKE 10 20 00.0 +7.8
SJG LR LR
comp=Z,547nm,20.0s
DZM Mont Dzumac 79.82 208 *e*P P 10 19 59.3 +7.3
comp=Z,49nm,1.5s
DZM *e*S **S 10 29 54.5 +1.2**
comp=Z,179nm,25.8s
DZM Mont Dzumac 79.82 208 *e*LR LR 10 44 43.9
comp=Z,783nm,21.9s
ABTA Abfaltersbach 79.87 3⇑*i*P P 10 19 52.5 +0.3
comp=Z,92nm,1.5s,SNR=14
AGO Saint Agoulin 79.97 9⇑*e*P P 10 19 54.3 +1.7
SOKA Soboth 79.99 1⇓*i*P P 10 19 53.6 +0.7
comp=Z,174nm,1.5s,SNR=39
TUE Stuetta 80.02 5 PFAKE 10 20 00.0 +6.8
TUE LR LR
comp=Z,1µm,21.0s
MYKA Terra Mystica 80.02 2⇑*i*P P 10 19 53.2 +0.2
comp=Z,151nm,2.3s,SNR=10.0
PERS Pernice 80.04 1 *i*P P **10 19 53.9 +0.9**
PERS Pernice 80.04 1 *i*P P **10 19 53.9 +0.9**
PKS9 Tamasi 80.08 359⇑*e*P P **10 19 54.0 +0.8**
PBKT Sadao Pong 80.09 284 P **P 10 19 53.6 0.0**
comp=Z,34nm,1.1s
PLDF La Plantade 80.10 9⇑*e*P P 10 19 55.0 +1.6
MAK Makhachkala 80.13 337 *e*P **P 10 19 53.1 -0.4**
MAK *e* 10 19 59.5
MAK *e* 10 22 53.5
MAK *e*PPP PPP 10 24 42.5
MAK *e*S **S 10 29 56.7 +0.6**
MAK pmax pmax
comp=Z,110nm,0.9s
OBKA Obir 80.16 1⇑*i*P P 10 19 54.3 +0.6
comp=Z,274nm,2.5s,SNR=25
KIV Kislovodsk 80.19 341 P **P 10 19 54.7 +0.7**
comp=Z,279nm,0.8s,SNR=6.3
KIV Kislovodsk 80.19 341*c i*P **P 10 19 54.7 +0.7**
KIV *e**PP **pP 10 20 04.2 +1.7**
KIV *e**SP **sP 10 20 07.5 +1.9**
KIV 10 23 01.0
KIV *e*S **SKSac 10 30 04.3 -5.3**
KIV pmax pmax
comp=Z,42nm,1.0s
KIV MLR MLR
comp=Z,617nm,18.0s
KIV Kislovodsk 80.19 341 P **P 10 19 55.1 +1.2**
SNR=11
KIV Kislovodsk 80.19 341 ⇑P **P 10 19 54.7 +0.7**
SNR=11
KIV Kislovodsk 80.19 341 PFAKE 10 20 10.0 +16
KIV LR LR
comp=Z,723nm,19.0s
BEHE Becsehely 80.21 360⇑*e*P **P 10 19 55.1 +1.2**
PYM Petit Puy Mans 80.25 10 *e*P **P 10 19 55.6 +1.3**
ANN Anapa 80.27 345 *e*P **P 10 19 53.4 -0.8**
ANN *e*S **S 10 29 54.6 -3.0**
ANN pmax pmax
comp=Z,71nm,2.5s
SANI Sanana 80.27 253 P **P 10 19 53.6 -1.0**
comp=Z,49nm,1.2s,comp=Z,734nm
SIRR Siria 80.32 356⇓*i*P **P 10 19 55.1 +0.6**
RKT Rikitea 80.36 154 *e*LR LR 10 44 43.9
comp=Z,949nm,32.2s,baz=351
KBZ Khabaz 80.36 341 P **P 10 19 55.9 +1.1**
comp=Z,22nm,0.9s,baz=56,slow=24,SNR=45
KOLN Koldanda 80.39 304 *e*P **P 10 19 55.7 +0.2**
comp=Z,116nm,1.0s
DOPR Dopca 80.43 354⇑*i*P **P 10 19 56.0 +0.9**
VRI Vrincioaia 80.44 353⇑*i*P **P 10 19 55.2 0.0**
PKSM Moragy 80.45 359⇑*i*P **P 10 19 55.3 +0.1**
PKSM Moragy 80.45 359⇑*e*P **P 10 19 55.5 +0.3**
PLOR Plostina 80.46 353⇓*i*P **P 10 19 55.8 +0.5**
RJF Les Rejaudoux 80.54 11⇑*i*P P 10 19 55.4 -0.3
comp=Z,52nm,1.4s
RJF *e*R
comp=Z,1µm,17.8s
MHMT Maesarieng 80.54 288 P **P 10 19 56.6 +0.5**
comp=Z,26nm,1.1s,comp=Z,2µm
MRSI Marisa 80.55 258 P **P 10 19 55.3 -0.8**
comp=Z,43nm,1.3s,comp=Z,2µm
COLF Collangettes 80.55 9⇑*e*P P 10 19 56.2 +0.4
SIM Simferopol' 80.59 347 *e*P **P 10 19 56.7 +0.7**
SIM *e*PS **PnS 10 30 54.0 +6.0**
SIM pmax pmax
comp=Z,15nm,1.0s
SIM MLR MLR
comp=N,900nm,18.2s
JAVS Javornik 80.76 2 *i*P **P 10 19 56.5 -0.5**
JAVS Javornik 80.76 2 *i*P **P 10 19 56.5 -0.5**
LBL Lubilhac 80.79 10⇑*e*P P 10 19 58.7 +1.5
LPL La Plagne 80.81 7⇑*i*P P 10 19 58.5 +1.1
LFF La Frestale 80.81 11⇑*i*P P 10 19 57.3 +0.2
comp=N,77nm,1.3s
LFF La Frestale 80.81 11⇑*i*P P 10 19 57.3 +0.2
LFF pmax pmax
comp=Z,77nm,1.3s
LFF La Frestale 80.81 11⇑*i*P P 10 19 57.3 +0.2
comp=Z,77nm,1.3s
LPG La Plagne 80.83 7⇑*i*P P 10 19 58.8 +1.2
comp=Z,66nm,1.4s
LPG La Plagne 80.83 7⇑*i*P P 10 19 58.8 +1.2
LPG pmax pmax
comp=Z,66nm,1.4s
LPG La Plagne 80.83 7⇑*i*P P 10 19 58.8 +1.2
comp=Z,66nm,1.4s
MLR Muntele Rosu 80.87 353⇑*i*P **P 10 19 57.7 +0.1**
SSB Saint Sauveur 80.87 9 *e*P **P 10 19 58.0 +0.5**
SSB pmax pmax
comp=Z,12nm,1.0s
SSB MLR MLR
comp=Z,594nm,20.0s
SSB Saint Sauveur 80.87 9 *e*P **P 10 19 58.0 +0.5**
comp=Z,12nm,1.0s
SSB LR LR
comp=Z,594nm,20.0s
VISS Visnje 80.87 1 *e*P **P 10 19 57.0 -0.5**
VISS Visnje 80.87 1 *e*P **P 10 19 57.0 -0.5**
BZS Buzias 80.97 356⇑*i*P **P 10 19 58.1 +0.1**
CAF Calviac 80.97 10⇑*i*P P 10 19 58.0 -0.1
comp=Z,59nm,1.4s
VOIR 80.98 354⇓*i*P **P 10 19 58.5 +0.3**
GRN Grenoble 81.00 8⇑*e*P P 10 19 59.1 +0.8
CFR Carcaliu 81.01 352⇑*i*P **P 10 19 58.0 -0.2**
GDM Grand'Maison 81.07 7⇑*e*P P 10 19 59.8 +1.0
ARR Arges 81.07 354⇓*i*P **P 10 19 59.5 +0.9**
SOC Sochi 81.09 343*c i*P **P 10 19 59.2 +0.6**
SOC *e* 10 23 01.7
SOC *e*S **S 10 30 03.3 -2.9**
SOC *e*SS **SS 10 35 16.0 -3.6**
SOC pmax pmax
comp=Z,64nm,0.9s
KBL Kabul 81.10 319 *e*P **P 10 19 58.2 -1.0**
KBL pmax pmax
comp=Z,19nm,0.9s
KBL Kabul 81.10 319 *e*P **P 10 19 58.2 -1.0**
comp=Z,19nm,0.9s
SKDS Skadanscina 81.11 2 *e*P **P 10 19 58.5 -0.2**
SKDS Skadanscina 81.11 2 *e*P **P 10 19 58.5 -0.3**
GZR Gura Zlata 81.14 356⇑*i*P **P 10 19 59.4 +0.4**
BOJS Bojanci 81.17 1 *i*P **P 10 19 59.3 +0.3**
BOJS Bojanci 81.17 1 *i*P **P 10 19 59.3 +0.2**
BNI Bardonecchia 81.27 7 PFAKE 10 20 10.0 +10
BNI LR LR
comp=Z,802nm,21.0s
COEN Coen 81.29 232 *e*P **P 10 19 59.2 -0.8**
comp=Z,3.9nm,1.2s
LUWI Luwuk 81.30 256 P **P 10 19 58.7 -1.4**
VIVF Saint-Julien-I 81.30 9⇑*i*P P 10 20 00.1 +0.3
comp=Z,33nm,1.0s
VIVF Saint-Julien-I 81.30 9⇑*i*P P 10 20 00.1 +0.3
VIVF pmax pmax
comp=Z,33nm,1.0s
VIVF Saint-Julien-I 81.30 9⇑*i*P P 10 20 00.1 +0.3
comp=Z,33nm,1.0s
ORIF Oris-en-Rattie 81.34 8⇑*i*P P 10 20 00.6 +0.5
comp=Z,27nm,1.0s
ORIF *e*R
comp=Z,735nm,21.5s
ORIF Oris-en-Rattie 81.34 8⇑*i*P P 10 20 00.6 +0.5
ORIF pmax pmax
comp=Z,27nm,1.0s
ORIF Oris-en-Rattie 81.34 8⇑*i*P P 10 20 00.6 +0.5
comp=Z,27nm,1.0s
ONI Oni 81.35 340 P **P 10 20 01.0 +0.8**
CHVG Ch'k'valeri 81.50 341 P **P 10 20 01.3 +0.4**
MBDF Montbardon 81.59 7⇑*i*P P 10 20 02.7 +1.2
comp=Z,57nm,0.9s
TLB Topalu 81.60 352⇑*i*P **P 10 20 01.3 0.0**
TIRR Tirgusor 81.70 351⇓*i*P **P 10 20 01.9 +0.1**
APSI Ampana 81.84 257 P **P 10 20 01.7 -1.3**
comp=Z,57nm,1.2s
SURF Saint Ours 81.84 7⇑*e*P P 10 20 04.6 +1.7
SEAG Tbilisi Sea 81.86 339 P **P 10 20 03.4 +0.6**
TBLG Delisi 81.91 339 P **P 10 20 04.2 +1.2**
LASF Ste Croix 82.00 9⇑*i*P P 10 20 04.0 +0.5
DGRG David-gareji 82.04 339 P **P 10 20 05.2 +1.4**
SMRF Simiane la Rot 82.25 8⇑*i*P P 10 20 05.8 +1.0
comp=Z,60nm,1.2s
SMRF Simiane la Rot 82.25 8⇑*i*P P 10 20 05.8 +1.0
comp=Z,60nm,1.2s
CHBT CHBT 82.34 281 P **P 10 20 06.8 +1.2**
comp=Z,45nm,1.4s
TOUF Mont Tournerai 82.34 7⇑*e*P P 10 20 06.3 +0.8
PGAV Gavieira, Arco 82.35 18 *e*P **P 10 20 07.0 +1.5**
comp=Z,52nm,1.8s
PGAV Gavieira, Arco 82.35 18 *e*LR LR 10 46 39.9
comp=Z,770nm,20.0s
AUTN L'Aution 82.37 7⇑*e*P P 10 20 06.1 +0.4
VLC Villacollemand 82.38 4 PFAKE 10 20 20.0 +15
VLC LR LR
comp=Z,464nm,19.0s
SAOF Saorge 82.39 7⇑*e*P P 10 20 06.1 +0.5
MVIF Mont Vial 82.45 7⇑*e*P P 10 20 06.5 +0.5
AKH Akhalkalaki 82.48 340 P **P 10 20 06.7 +0.4**
PSN Preselentsi 82.49 352 P **P 10 20 06.3 +0.3**
SBF Sospel 82.50 7⇑*i*P P 10 20 06.4 +0.2
comp=Z,68nm,0.9s
DIVS Divibare 82.54 358 P **P 10 20 06.0 -0.4**
DIVS Divibare 82.54 358⇑*i*P **P 10 20 06.5 +0.1**
MTLF Montolieu 82.56 11⇑*i*P P 10 20 06.6 +0.2
comp=Z,34nm,1.3s
CALN Calern 82.57 7⇑*e*P P 10 20 09.1 +2.4
ANWB Willy Bob 82.64 70 PFAKE 10 20 20.0 +13
ANWB LR LR
comp=Z,740nm,19.0s
ETSF Etsaut 82.66 13⇑*i*P P 10 20 07.5 +0.4
comp=Z,90nm,1.5s
NDI New Delhi 82.66 309 *e*PN **P 10 20 05.0 -2.2**
FRF La Foret Royal 82.75 7⇑*i*P P 10 20 07.7 +0.3
comp=Z,87nm,1.4s
PBRG Braganca 82.78 17 *e*LR LR 10 46 08.8
comp=Z,789nm,18.0s
SRDT SRDT 82.92 284 P **P 10 20 09.7 +1.0**
comp=Z,113nm,1.4s
LMR La Mourre 82.96 7⇑*i*P P 10 20 09.0 +0.5
POLO Lamas de Olo 83.01 18 *e*P **P 10 20 09.8 +0.9**
comp=Z,17nm,1.9s
POLO Lamas de Olo 83.01 18 *e*LR LR 10 48 02.3
comp=Z,330nm,20.0s
PRD Provadia 83.03 352 P **P 10 20 08.7 -0.1**
MPEP Malo Peshtene 83.13 355 P **P 10 20 08.2 -1.2**
MVO Mocorvo 83.35 18 *e*P P 10 20 14.1 +3.5
comp=Z,44nm,1.3s
MVO Moncorvo 83.35 18 *e*LR LR 10 47 41.9
comp=Z,834nm,18.0s
GNI Garni 83.42 339 P **P 10 20 13.3 +2.1**
SNR=11
GNI Garni 83.42 339 ⇑P **P 10 20 12.9 +1.7**
SNR=7.2
GNI Garni 83.42 339 PFAKE 10 20 20.0 +8.8
GNI LR LR
comp=Z,970nm,19.0s
JMB Yambol 83.83 353⇑*i*P **P 10 20 12.9 -0.1**
PGF Pioggiola 83.91 6⇑*i*P P 10 20 14.0 +0.5
comp=Z,185nm,1.4s
VTS Vitosha 83.92 355⇓*i*P **P 10 20 13.6 0.0**
MTE Manteigas 84.00 18 *e*P **P 10 20 14.3 +0.3**
comp=Z,43nm,1.5s
MTE Manteigas 84.00 18 *e*LR LR 10 46 40.5
comp=Z,598nm,20.0s
MTE Manteigas 84.00 18 PFAKE 10 20 20.0 +6.0
MTE LR LR
comp=Z,743nm,21.0s
PCAS Casmilo, Conde 84.15 19 *e*P **P 10 20 15.1 +0.4**
comp=Z,91nm,1.8s
PCAS Casmilo, Conde 84.15 19 *e*LR LR 10 48 41.2
comp=Z,697nm,20.0s
AQU L'Aquila 84.29 2 PFAKE 10 20 30.0 +15
AQU LR LR
comp=Z,663nm,19.0s
PLD Plovdiv 84.32 354 P **P 10 20 15.3 -0.2**
PLD Plovdiv 84.32 354 P **P 10 20 15.3 -0.2**
PLD Plovdiv 84.32 354 P **P 10 20 15.3 -0.2**
EDRB Edirne 84.43 352 P **P 10 20 16.0 0.0**
SDV Santo Domingo 84.56 83 *e*P **P 10 20 18.1 +0.8**
SDV LR LR
comp=Z,415nm,19.0s
SKO Skopje 84.62 356 P **P 10 20 17.6 +0.6**
SKO Skopje 84.62 356 P **P 10 20 17.6 +0.6**
SKO Skopje 84.62 356 P **P 10 20 17.6 +0.6**
TTSI Tana Toraja 84.63 258 P **P 10 20 16.5 -0.9**
comp=Z,34nm,2.0s,comp=Z,640nm
KKB Krupnik 84.65 355 P **P 10 20 16.9 -0.3**
SBUM Sibu 84.69 267 *e*P **P 10 20 18.4 +0.7**
comp=Z,24nm,1.0s
KDZ Kurdzhali 84.72 353⇓*i*P **P 10 20 18.1 +0.5**
KDZ Kurdzhali 84.72 353 P **P 10 20 17.6 0.0**
RZN Rozhen 84.73 354 P **P 10 20 17.4 -0.4**
MMB Musomiste 84.89 355⇓*i*P **P 10 20 19.2 +0.8**
MMB Musomiste 84.89 355 P **P 10 20 18.4 0.0**
PMRV Marv??o 84.97 18 *e*LR LR 10 49 26.7
comp=Z,435nm,18.0s
PMAFR Mafra 85.06 20 *e*LR LR 10 51 41.8
comp=Z,780nm,18.0s
NVR Nevrokopi 85.12 355 P **P 10 20 20.0 +0.4**
NVR Nevrokopi 85.12 355 *e*P **P 10 20 20.0 +0.4**
PMTG Montargil 85.16 19 *e*P **P 10 20 20.0 +0.3**
comp=Z,26nm,1.3s
PMTG Montargil 85.16 19 *e*LR LR 10 47 57.0
comp=Z,805nm,22.0s
VAY Valandovo 85.22 355 P **P 10 20 20.4 +0.4**
RDO Rodhopi 85.22 353 *e*P **P 10 20 20.4 +0.4**
CTA Charters Tower 85.28 227 P **P 10 20 19.5 -0.9**
comp=Z,6.8nm,0.9s,baz=28,slow=9.0,SNR=6.6
CTAO Charters Tower 85.28 227 PFAKE 10 20 30.0 +10
CTAO LR LR
comp=Z,274nm,19.0s
TIR Tirane 85.29 358 PFAKE 10 20 30.0 +10
TIR LR LR
comp=Z,674nm,21.0s
LIS Lisbon 85.31 20 *e*P **P 10 20 20.8 +0.2**
LIS AMb AMB 10 20 28.3
comp=Z,83nm,2.3s
LIS Lisbon 85.31 20 *e*P **P 10 20 20.7 +0.2**
LIS pmax pmax
comp=Z,83nm,2.3s
ESDC Sonseca Array 85.33 16 P **P 10 20 19.4 -1.3**
comp=Z,1.3nm,0.5s,baz=337,slow=4.7,SNR=11
ESLA Sonseca Array 85.33 16 *e*P **P 10 20 21.3 +0.6**
comp=Z,4.0nm,1.2s
FDF Fort de France 85.36 72 PFAKE 10 20 30.0 +8.9
FDF LR LR
comp=Z,716nm,21.0s
KNT Kendrikon 85.36 355 P **P 10 20 21.2 +0.4**
KNT Kendrikon 85.36 355 *e*P **P 10 20 21.1 +0.3**
SRS Serrai 85.37 355 P **P 10 20 20.9 +0.1**
SRS Serrai 85.37 355 *e*P **P 10 20 21.3 +0.5**
PAB San Pablo 85.39 16 *e*P **P 10 20 22.0 +1.0**
PAB pmax pmax
comp=Z,54nm,1.9s
PAB MLR MLR
comp=Z,734nm,22.0s
PAB San Pablo 85.39 16 *e*P **P 10 20 22.0 +1.0**
comp=Z,54nm,1.9s
PAB LR LR
comp=Z,734nm,22.0s
ALN Alexandroupoli 85.43 353 P **P 10 20 20.4 -0.7**
ALN Alexandroupoli 85.43 353 *e*P **P 10 20 21.1 0.0**
KAVA Kavala 85.43 354 P **P 10 20 20.7 -0.4**
PESTR Estremoz 85.47 19 *e*LR LR 10 49 30.5
comp=Z,699nm,16.0s
GRG Griva 85.59 356 P **P 10 20 22.4 +0.5**
GRG Griva 85.59 356 *e*P **P 10 20 22.5 +0.5**
SOH Sokhos 85.68 355 *e*P **P 10 20 23.1 +0.7**
ANTO Ankara 85.76 348 P **P 10 20 24.1 +1.2**
SNR=12
ANTO Ankara 85.76 348 PFAKE 10 20 30.0 +7.1
ANTO LR LR
comp=Z,738nm,20.0s
BR131 Keskin Array S 85.79 347 *e*P **P 10 20 23.8 +0.7**
BRTR Keskin Array B 85.79 347 P **P 10 20 23.4 +0.4**
comp=Z,22nm,0.9s,baz=36,slow=2.3,SNR=91
BRTR Keskin Array B 85.79 347 *i* P **P 10 20 23.5 +0.4**
BRTR pmax pmax
comp=Z,22nm,0.9s
FNA Florina 85.80 356 P **P 10 20 22.8 -0.2**
FNA Florina 85.80 356 *e*P **P 10 20 22.5 -0.5**
SMTH Samothraki Isl 85.89 353 P **P 10 20 23.1 -0.3**
SMTH Samothraki Isl 85.89 353 *e*P **P 10 20 22.9 -0.5**
SMTH Samothraki Isl 85.89 353 P **P 10 20 23.1 -0.3**
PNCL Nicolau / Gran 86.02 20 *e*P **P 10 20 25.7 +1.7**
comp=Z,39nm,1.9s
PNCL Nicolau / Gran 86.02 20 *e*LR LR 10 51 31.8
comp=Z,1µm,20.0s
PLG Polygyros 86.12 355 *e*P **P 10 20 24.1 -0.5**
OUR Ouranopolis 86.13 354 P **P 10 20 24.2 -0.3**
OUR Ouranopolis 86.13 354 *e*P **P 10 20 24.3 -0.3**
NEST Nestorio 86.18 357 P **P 10 20 24.8 -0.2**
NEST Nestorio 86.18 357 *e*P **P 10 20 24.8 -0.2**
PBAR Barrancos 86.25 18 *e*P **P 10 20 25.6 +0.4**
comp=Z,59nm,1.6s
PBAR Barrancos 86.25 18 *e*LR LR 10 51 01.2
comp=Z,1µm,16.0s
KAPI Kappang 86.26 256 P **P 10 20 25.1 -0.4**
comp=Z,224nm,1.3s,SNR=6.8
KAPI Kappang 86.26 256 P **P 10 20 25.6 +0.1**
SNR=12
KAPI Kappang 86.26 256 *e*P **P 10 20 25.4 -0.1**
comp=Z,18nm,1.3s
KAPI LR LR
comp=Z,257nm,22.0s
KZN Kozani 86.26 356 P **P 10 20 24.2 -1.1**
BKSI Kulukumba 86.30 256 P **P 10 20 24.7 -0.9**
comp=Z,33nm,1.3s,comp=Z,482nm
MESJ Messejana 86.34 19 *e*P **P 10 20 26.7 +1.0**
MESJ AMb AMB 10 20 28.5
comp=Z,16nm,2.1s
MESJ Messejana 86.34 19 *e*P **P 10 20 26.7 +1.0**
MESJ pmax pmax
comp=Z,16nm,2.1s
MALT Malatya 86.44 343⇓*i*P **P 10 20 27.5 +1.2**
LIT Litokhoron 86.44 355 P **P 10 20 25.9 -0.2**
LIT Litokhoron 86.44 355 *e*P **P 10 20 26.2 +0.1**
LIA Limnos Island 86.48 353 P **P 10 20 26.1 -0.2**
LIA Limnos Island 86.48 353 *e*P **P 10 20 26.7 +0.4**
LIA Limnos Island 86.48 353 P **P 10 20 26.1 -0.2**
PAIG Paliouri 86.55 355 P **P 10 20 25.7 -0.9**
PAIG Paliouri 86.55 355 *e*P **P 10 20 26.0 -0.6**
PCVE Castro Verde 86.58 19 *e*P **P 10 20 27.3 +0.5**
comp=Z,7.1nm,2.1s
PCVE Castro Verde 86.58 19 *e*LR LR 10 52 56.1
comp=Z,3µm,18.0s
CUC Castrocucco 86.68 1 *e*P **P 10 20 27.0 -0.4**
comp=Z,15nm,1.1s
CUC LR LR
comp=Z,407nm,19.0s
MORF Marmelete 86.77 20 *e*P **P 10 20 28.3 +0.4**
MORF AMb AMB 10 20 29.2
comp=Z,41nm,2.7s
MORF Marmelete 86.77 20 *e*LR LR 10 51 44.7
comp=Z,673nm,20.0s
MORF Marmelete 86.77 20 *e*P **P 10 20 28.3 +0.4**
MORF pmax pmax
comp=Z,41nm,2.7s
OTAV Otavalo 86.82 94 *e*P **P 10 20 29.2 +0.4**
OTAV LR LR
comp=Z,238nm,19.0s
PVAQ Vaqueiros 86.87 19 *e*LR LR 10 49 40.5
comp=Z,875nm,18.0s
ALT Altintas 86.88 349 P **P 10 20 28.3 -0.1**
JAN Janina 86.95 357 *e*P **P 10 20 29.9 +1.3**
VSL Villasalto 86.97 6 PFAKE 10 20 40.0 +11
VSL LR LR
comp=Z,323nm,21.0s
PBDV Barranco-do-Ve 86.98 19 *e*LR LR 10 51 51.0
comp=Z,1µm,18.0s
THL Klokotos Trika 86.99 356 P **P 10 20 26.2 -2.6**
THL Klokotos Trika 86.99 356 *e*P **P 10 20 28.3 -0.5**
SIGR SIGRI 87.12 353 P **P 10 20 28.3 -1.1**
SIGR SIGRI 87.12 353 *e*P **P 10 20 29.7 +0.3**
XOR Xorichti 87.14 355 P **P 10 20 28.8 -0.7**
GRGR Grenville 87.17 73 PFAKE 10 20 40.0 +10
GRGR LR LR
comp=Z,611nm,21.0s
NEO Neokhori 87.19 355 P **P 10 20 29.1 -0.7**
NEO Neokhori 87.19 355 P **P 10 20 29.1 -0.7**
AOS Alonnisos 87.29 354 P **P 10 20 29.1 -1.2**
AOS Alonnisos 87.29 354 P **P 10 20 29.1 -1.2**
DSL Palaion Diasel 87.46 356 *e*P **P 10 20 31.7 +0.6**
TIP Timpagrande 87.50 360 PFAKE 10 20 40.0 +8.6
TIP LR LR
comp=Z,304nm,22.0s
MAKR Makrakomi, Fth 87.54 356 P **P 10 20 30.0 -1.5**
MAKR Makrakomi, Fth 87.54 356 *e*P **P 10 20 31.8 +0.3**
BBGH Gun Hill 87.54 71 PFAKE 10 20 40.0 +8.2
BBGH LR LR
comp=Z,1µm,22.0s
KULA Kula-Manisa 87.57 351 P **P 10 20 31.5 -0.2**
EVR Evrytania 87.65 356 P **P 10 20 29.1 -3.0**
EVR Evrytania 87.65 356 P **P 10 20 29.1 -3.0**
MRKA Markates 87.77 355 P **P 10 20 31.4 -1.2**
TRTT Trang 87.81 280 P **P 10 20 34.0 +0.9**
comp=Z,29nm,1.7s
CHOS Chios island 87.92 353 P **P 10 20 32.8 -0.6**
CHOS Chios island 87.92 353 *e*P **P 10 20 32.7 -0.6**
CHOS Chios island 87.92 353 P **P 10 20 32.8 -0.6**
ISP Isparta 88.06 349⇓*i*P **P 10 20 33.2 -0.9**
ISP Isparta 88.06 349 PFAKE 10 20 40.0 +5.9

ISP				LR	LR				
	comp=Z,505nm,21.0s								
DSF	**Desfina**	**88.12**	**355**	*eP*	**P**	**10 20 32.7**	**-1.6**
EFP	**Efpalio**	**88.13**	**356**	P	**P**	**10 20 34.8**	**+0.5**
EFP	**Efpalio**	**88.13**	**356**	*eP*	**P**	**10 20 35.8**	**+1.5**
CEL	**Celeste**	**88.41**	**1**	PFAKE		10 20 50.0	+14
CEL				LR	LR		
	comp=Z,547nm,20.0s						
KLV	**Kalavryta, Ach**	**88.50**	**356**	*eP*	**P**	**10 20 35.7**	**-0.5**
GUR	**Goura**	**88.60**	**355**	P	**P**	**10 20 35.4**	**-1.3**
GUR	**Goura**	**88.60**	**355**	*eP*	**P**	**10 20 36.2**	**-0.5**
DID	**Didima**	**88.98**	**355**	P	**P**	**10 20 36.5**	**-1.9**
DID	**Didima**	**88.98**	**355**	*eP*	**P**	**10 20 37.0**	**-1.4**
PMOZ	**Porto Moniz, M**	**89.00**	**28**	*e*LQ	LQ	10 51 07.7	
PMOZ				*e*LR	LR	10 51 56.8	
	comp=Z,649nm,20.0s						
SANT	**Santorini**	**89.97**	**353**	PFAKE		10 20 50.0	+7.0
SANT				LR	LR		
	comp=Z,449nm,20.0s						
RPR	**Rampur**	**89.99**	**303**	*eP*	**P**	**10 20 43.0**	**-0.3**
KYTH	**Kithira**	**90.22**	**355**	*eP*	**P**	**10 20 43.5**	**-0.7**
CSS	**Prodhromos**	**90.52**	**346**	PFAKE		10 21 00.0	+14
CSS				LR	LR		
	comp=Z,95nm,19.0s						
WRAB	**Tennant Creek**	**90.67**	**236**	PFAKE		10 21 00.0	+14
WRAB				LR	LR		
	comp=Z,608nm,21.0s						
WRA	**Warramunga Arr**	**90.69**	**236**	P	**P**	**10 20 44.3**	**-2.1**
	comp=Z,3.3nm,1.0s,baz=46,slow=4.6,SNR=15						
WRA				LR	LR	10 58 06.7	
	comp=Z,212nm,21.8s,baz=155,slow=33						
WRA	**Warramunga Arr**	**90.69**	**236**	*i* P	**P**	**10 20 45.2**	**-1.2**
WRA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WDD	**Wield Dalam**	**90.79**	**2**	PFAKE		10 21 00.0	+13
WDD				LR	LR		
	comp=Z,386nm,19.0s						
HYBB	**Hyderabad (bro**	**91.58**	**303**	*eP*	**P**	**10 20 50.6**	**-0.2**
HYB	**Hyderabad**	**91.58**	**303**	*i* P	**P**	**10 20 49.0**	**-1.8**
NJS	**Nagarjunasagar**	**91.93**	**301**	*eP*	**P**	**10 20 52.1**	**-0.2**
ASAR	**Alice Springs**	**94.05**	**235**	P	**P**	**10 21 00.7**	**-1.2**
	comp=Z,3.2nm,1.0s,baz=40,slow=4.4,SNR=17						
SKHT	**Srikalahasti**	**94.09**	**300**	*eP*	**P**	**10 21 02.0**	**-0.3**
HATD	**Hatta, Dubai**	**94.64**	**325**	⇑P	**P**	**10 21 03.6**	**-1.2**
	SNR=5.9						
ASHO	**Ashiyiah**	**94.80**	**325**	⇑P	**P**	**10 21 04.8**	**-0.7**
SAML	**Samuel**	**103.22**	**87**	PFAKE		10 21 50.0	+6.7
SAML				LR	LR		
	comp=Z,553nm,19.0s						
TAM	**Tamanrasset**	**103.23**	**10**	PFAKE		10 21 50.0	+6.5
TAM				LR	LR		
	comp=Z,500nm,21.0s						
SACV	**Santiago Islan**	**103.45**	**40**	PFAKE		10 21 50.0	+5.6
SACV				LR	LR		
	comp=Z,552nm,19.0s						
TORD	**Torodi Ar. Bea**	**112.22**	**16**	PKKPbc	PKKPbc	10 37 08.0	+0.1
	comp=Z,0.5nm,0.6s,baz=193,slow=3.2,SNR=3.5						
RCBR	**Riachuelo**	**116.19**	**62**	PFAKE		10 26 40.0	+13
RCBR				LR	LR		
	comp=Z,414nm,20.0s						
MSEY	**Mahe Island**	**121.76**	**313**	PFAKE		10 26 50.0	+12
MSEY				LR	LR		
	comp=Z,437nm,19.0s						
KMBO	**Kilima Mbogo**	**124.89**	**335**	PKP	**PKPdf**	**10 26 43.2**	**-0.9**
	comp=Z,4.3nm,0.7s,baz=360,slow=3.5,SNR=9.2						
KMBO	**Kilima Mbogo**	**124.89**	**335**	PKIKP	**PKPdf**	**10 26 43.2**	**-0.9**
KMBO				MLR	MLR		
	comp=Z,328nm,19.0s						
KMBO	**Kilima Mbogo**	**124.89**	**335**	PKP	**PKPdf**	**10 26 43.2**	**-0.9**
KMBO				*e*PKPdf	**PKiKP**	**10 26 45.0**	**+0.5**
KMBO				LR	LR		
	comp=Z,328nm,19.0s						
MBAR	**Mbarara**	**125.80**	**342**	PFAKE		10 27 00.0	+14
MBAR				LR	LR		
	comp=Z,711nm,19.0s						
TRQA	**Tornquist**	**125.92**	**107**	PFAKE		10 26 50.0	+5.0
TRQA				LR	LR		
	comp=Z,703nm,19.0s						
ASCN	**Ascension**	**127.99**	**40**	PFAKE		10 27 00.0	+10
ASCN				LR	LR		
	comp=Z,1μm,22.0s						
SBA	**Scott Base**	**132.57**	**188**	PFAKE		10 27 10.0	+14
SBA				LR	LR		
	comp=Z,582nm,19.0s						
CASY	**Casey**	**135.94**	**215**	PFAKE		10 27 10.0	+7.0
CASY				LR	LR		
	comp=Z,778nm,19.0s						
ABPO	**Ambohimpanom**	**138.11**	**314**	PFAKE		10 27 20.0	+11
ABPO				LR	LR		
	comp=Z,439nm,19.0s						
LSZ	**Lusaka**	**140.59**	**342**	PFAKE		10 27 20.0	+6.7
LSZ				LR	LR		
	comp=Z,740nm,19.0s						
QSPA	**South Pole Qui**	**143.47**	**180**	PKhKP	PKPpre	10 27 12.3	
	comp=Z,7.5nm,1.1s,baz=36,slow=2.6,SNR=9.5						
QSPA	**South Pole Qui**	**143.47**	**180**	*e*PKPdf	PKPpre	10 27 12.8	
TSUM	**Tsumeb**	**145.56**	**358**	*e*PKPdf	**PKPdf**	**10 27 21.4**	**-0.6**
TSUM				LR	LR		
	comp=Z,529nm,20.0s						
LBTB	**Lobatse**	**150.57**	**343**	*e*PKIKP	**PKPbc**	**10 27 35.5**	**0.0**
LBTB	**Lobatse**	**150.57**	**343**	*e*PKPbc	**PKPbc**	**10 27 35.5**	**0.0**
BOSA	**Boshof**	**154.14**	**342**	PKPbc	**PKPbc**	**10 27 41.9**	**-1.5**
	comp=Z,12nm,1.0s,baz=9.5,slow=1.8,SNR=5.2						
MAW	**Mawson**	**154.17**	**219**	PKPbc	**PKPbc**	**10 27 41.0**	**-1.0**
	comp=Z,5.9nm,0.9s,baz=281,slow=2.8,SNR=5.5						
MAW	**Mawson**	**154.17**	**219**	*e*PKIKP	**PKPdf**	**10 27 33.1**	**-0.7**
MAW						10 27 41.0	
MAW				*e*		10 27 41.2	
MAW				*e*		10 27 55.4	
MAW	**Mawson**	**154.17**	**219**	*e*PKPdf	**PKPdf**	**10 27 33.1**	**-0.7**
MAW				PKPbc	**PKPbc**	**10 27 41.0**	**-1.0**
MAW				*e*PKPbc	**PKiKP**	**10 27 41.1**	**-0.9**
MAW				*e*PKPab	**PKPab**	**10 27 55.4**	**-0.6**
SNAA	**Sanae**	**160.07**	**162**	PKP	**PKPdf**	**10 27 38.4**	**-2.9**
	comp=Z,1.9nm,1.1s,baz=161,slow=5.6,SNR=5.4						
SYO	**Syowa Base**	**161.30**	**206**	⇑*e*PKPab	**PKPab**	**10 28 31.2**	**+4.4**

*BJI **28** 10:09:47.3,53˚60N×163˚20W,h22km,mb5.1/37, mB5.1/24,Ms5.4/25,Ms7 4.9/25*
*IDC **28** 10:09:50.1±0.8,53˚79N×163˚53W,h0km,mb4.6/27, mb1 4.7/28,mb1mx4.6/47,mbtmp4.6/28,ML3.9/1,Error ellipse: s-maj=21.6km s-min=11.6km az=2.0*
*NEIC **28** 10:09:52.6,53˚52N×163˚17W,h38km,mb5.0/25,After AEIC.*
*ISCJB **28** 10:09:53.2±0.7,53˚52N±0˙05×163˚27W±0˙05,h36km±4km, mb4.8/80,MS4.9/1,Error ellipse: s-maj=9.1km s-min=4.6km az=165.7*
*MOS **28** 10:09:53.9±0.9,53˚74N×163˚57W,h33km,mb5.3/37, Error ellipse: s-maj=17.8km s-min=6.4km az=93.3*
ISC 28 10:09:53.3±0.5,53˚64N±0˙07×163˚30W±0˙04,h23km±2km, n262,σ1§01/294,mb5.0/88,50C-3D,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.13**	**318**	P	**Pb**	**10 10 14.6**	**+0.5**
WESP	**Westdahl Peak**	**1.20**	**316**	P	**Pb**	**10 10 15.6**	**+0.3**
WESP				S	**Sb**	**10 10 30.7**	**+0.3**
FALS	**False Pass**	**1.22**	**357**	P	**Pb**	**10 10 15.7**	**0.0**
FALS				S	**Sb**	**10 10 33.1**	**+2.1**
ISNN	**Isanotski Nort**	**1.23**	**347**	P	**Pb**	**10 10 16.5**	**+0.7**
WECS	**Westdahl Cape**	**1.25**	**316**	P	**Pb**	**10 10 16.4**	**+0.2**
DRIA	**Deer Island**	**1.46**	**24**	P	**Pn**	**10 10 17.9**	**-0.4**
AKSA	**Akutan Strait**	**1.50**	**290**	P	**Pn**	**10 10 18.9**	**+0.1**
AKSA				S	**Sb**	**10 10 40.5**	**+1.4**
AKUT	**Akutan**	**1.54**	**290**	P	**Pn**	**10 10 19.9**	**+0.6**
AKUT				S	**Sb**	**10 10 40.4**	**+0.1**
DT1	**Dutton Round H**	**1.58**	**22**	P	**Pn**	**10 10 19.9**	**0.0**
AKGG	**Akutan Green G**	**1.69**	**290**	P	**Pn**	**10 10 21.9**	**+0.6**
AKGG				S	**Sb**	**10 10 45.1**	**+0.7**
UNV	**Unalaska Valle**	**1.91**	**277**	P	**Pn**	**10 10 24.2**	**-0.3**
UNV				S	**Sn**	**10 10 49.0**	**+1.2**
MTBL	**Makushin Table**	**2.03**	**281**	P	**Pn**	**10 10 26.9**	**+0.7**
MGOD	**Makushin Gods**	**2.13**	**276**	P	**Pn**	**10 10 27.8**	**+0.3**
SDPT	**Sand Point**	**2.38**	**43**	P	**Pn**	**10 10 31.2**	**+0.4**
NIKH	**Nikolski High**	**3.40**	**261**	*e*Pn	**Pn**	**10 10 44.8**	**-0.1**
ATKA	**Atka Island**	**6.75**	**262**	*e*Pn	**Pn**	**10 11 31.8**	**+0.9**
GSTR	**Great Sitkin T**	**7.88**	**264**	*e*Pn	**Pn**	**10 11 46.6**	**+0.2**
GSTR				*e*Sn	**Sn**	**10 13 17.0**	**+2.2**
SEW	**Seward**	**9.96**	**44**	*e*Pn	**Pn**	**10 12 14.6**	**-0.2**
ILAR	**Eielson Array**	**13.91**	**30**	Pn	Pn	10 13 04.8	-3.9

	0.2nm,0.3s,baz=221,slow=9.5,SNR=3.1								
INK	**Inuvik**	**20.29**	**32**	P	**P**	**10 14 25.8**	**-1.2**
	13nm,0.6s,baz=240,slow=6.4,SNR=2.7								
PETK	**Petropavlovsk-**	**23.08**	**285**	P	**P**	**10 14 55.7**	**-1.3**
	17nm,0.8s,baz=89,slow=14,SNR=6.9								
YKA	**Yellowknife Ar**	**26.61**	**51**	P	**P**	**10 15 30.4**	**+0.8**
	12nm,0.9s,baz=268,slow=9.2,SNR=7.7								
NEW	**Newport**	**29.16**	**82**	P	**P**	**10 15 55.2**	**+2.7**
	2.5nm,0.8s,baz=294,slow=10,SNR=1.9								
YBH	**Yreka Blue Hor**	**29.40**	**97**	P	**P**	**10 15 57.2**	**+2.5**
	2.1nm,0.9s,baz=326,slow=4.9,SNR=2.6								
TIXI	**Tiksi**	**33.57**	**328**	*eP*	**P**	**10 16 30.1**	**-0.9**
TIXI				pmax	pmax				
	comp=Z,20nm,1.2s								
TIXI	**Tiksi**	**33.57**	**328**	*eP*	**P**	**10 16 30.1**	**-0.9**
	comp=Z,20nm,1.2s								
NVAR	**Mina Array Bea**	**34.11**	**98**	P	**P**	**10 16 37.1**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=308,slow=9.0,SNR=2.8								
YSS	**Yuzh-Sakhalins**	**34.37**	**281**	*eP*	P	10 16 34.1	-4.1
YNR	**Norris Junctio**	**34.81**	**83**	*eP*	**P**	**10 16 42.4**	**+0.1**
	comp=Z,16nm,1.0s								
ASAJ	**Asahikawa**	**36.02**	**277**	P	**P**	**10 16 50.5**	**-1.9**
	comp=Z,30nm,0.9s,baz=57,slow=2.9,SNR=4.6								
ASAJ	**Asahikawa**	**36.02**	**277**	*eP*	**P**	**10 16 51.9**	**-0.5**
	comp=Z,13nm,0.9s								
BW06	**Boulder Array**	**36.59**	**85**	*eP*	P	10 17 02.2	+4.6
	comp=Z,5.6nm,0.9s								
PDAR	**Pinedale Array**	**36.59**	**85**	P	**P**	**10 16 58.0**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=296,slow=4.9,SNR=2.3								
ERM	**Erimo**	**36.93**	**274**	P	P	10 16 54.7	-5.5
	comp=Z,306nm,0.9s,SNR=5.4								
MDND	**Maddock**	**39.51**	**72**	*eP*	**P**	**10 17 22.6**	**+0.7**
	comp=Z,38nm,0.7s								
MJAR	**Matsushiro Arr**	**43.37**	**271**	P	**P**	**10 17 52.3**	**-1.4**
	comp=Z,6.8nm,1.0s,baz=47,slow=5.9,SNR=7.8								
MAJO	**Matsushiro**	**43.37**	**271**	*eP*	**P**	**10 17 54.1**	**+0.4**
MAJO				pmax	pmax				
	comp=Z,31nm,0.7s								
MAJO	**Matsushiro**	**43.37**	**271**	*eP*	**P**	**10 17 54.1**	**+0.4**
	comp=Z,31nm,0.7s								
MAT	**Matsushiro**	**43.37**	**271**	P	**P**	**10 17 52.3**	**-1.4**
CN2	**Changchun**	**46.15**	**288**	*eP*	P	10 18 20.0	+4.2
CN2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
KBS	**Kingsbay**	**47.66**	**1**	*eP*	**P**	**10 18 27.4**	**+0.4**
KBS				pmax	pmax				
	comp=Z,4.0nm,1.0s								
KBS	**Kingsbay**	**47.66**	**1**	*eP*	**P**	**10 18 27.4**	**+0.4**
	comp=Z,4.1nm,1.0s								
SPITS	**Spitsbergen Ar**	**48.44**	**0**	P	**P**	**10 18 31.2**	**-1.9**
	comp=Z,6.3nm,0.6s,baz=30,slow=6.8,SNR=10								
KSRS	**Korea Array**	**48.85**	**280**	P	**P**	**10 18 36.0**	**-0.7**
	comp=Z,12nm,0.9s,baz=53,slow=7.3,SNR=7.6								
KSAR	**Wonju Array Be**	**48.88**	**280**	P	**P**	**10 18 36.0**	**-1.0**
KSAR	**Wonju Array Be**	**48.88**	**280**	P	**P**	**10 18 36.0**	**-1.0**
TXAR	**Lajitas Array**	**49.12**	**95**	P	**P**	**10 18 39.1**	**0.0**
	comp=Z,1.6nm,0.6s,baz=303,slow=5.6,SNR=4.7								
HDIL	**Hopedale**	**49.81**	**73**	*eP*	**P**	**10 18 42.5**	**-1.6**
	comp=Z,52nm,0.8s								
ULN	**Ulaanbaatar**	**53.38**	**303**	*eP*	P	10 19 15.7	+4.8
ULN				pmax	pmax				
	comp=Z,13nm,0.9s								
ULN	**Ulaanbaatar**	**53.38**	**303**	*eP*	P	10 19 15.7	+4.8
	comp=Z,13nm,0.9s								
SONM	**Songino Array**	**53.73**	**303**	P	**P**	**10 19 11.7**	**-1.7**
	comp=Z,9.3nm,0.9s,baz=43,slow=5.9,SNR=4.4								
BJI	**Beijing**	**53.84**	**290**	P	**P**	**10 19 13.3**	**-0.8**
BJI				PMZ					
	comp=Z,24nm,0.9s								
HHC	**Hu-ho-hao-te**	**55.82**	**294**	*eP*	**P**	**10 19 28.8**	**+0.2**
HHC				pP	**pP**	**10 19 35.5**	**-0.3**
HHC				sP	**sP**	**10 19 38.3**	**-0.3**
HHC				PP	**PP**	**10 21 34.0**	**+1.1**
HHC				S	**S**	**10 27 09.8**	**-4.5**
HHC				sS	**sS**	**10 27 21.8**	**-4.4**
HHC				SS	**SS**	**10 31 00.0**	**+0.6**
HHC				PMZ					
	comp=Z,30nm,1.1s								
HHC				PMZ					
	comp=Z,120nm,7.0s								
HHC				LN					
	comp=Z,1μm,16.2s								
HHC				LE					
	comp=Z,2μm,15.8s								
HHC				LZ					
	comp=Z,1μm,15.3s								
SSPA	**Standing Stone**	**56.12**	**66**	*eP*	**P**	**10 19 28.9**	**-1.7**
	comp=Z,9.1nm,0.9s								
ARCES	**ARCESS Array B**	**56.97**	**356**	P	**P**	**10 19 35.4**	**-0.8**
	comp=Z,5.1nm,0.7s,baz=9.6,slow=7.5,SNR=8.9								
BLA	**Blacksburg**	**57.13**	**71**	*eP*	P	10 19 32.8	-5.1
BLA				pmax	pmax				
	comp=Z,9.0nm,0.8s								
BLA	**Blacksburg**	**57.13**	**71**	*eP*	P	10 19 32.8	-5.1
	comp=Z,9.3nm,0.8s								
NJ2	**Nanjing**	**57.94**	**282**	*eP*	**P**	**10 19 45.0**	**+1.4**
NJ2				pP	**pP**	**10 19 53.0**	**+2.2**
NJ2				sP	**sP**	**10 19 54.8**	**+1.2**
NJ2				S	**S**	**10 27 41.5**	**-0.7**
NJ2				sS	**sS**	**10 27 56.5**	**+2.4**
NJ2				PMZ					
	comp=Z,30nm,0.6s								
NJ2				LN					
	comp=Z,1μm,14.5s								
NJ2				LE					
	comp=Z,1μm,16.3s								
NJ2				LZ					
	comp=Z,6μm,17.1s								
ZALV	**Zalesovo Beam**	**58.88**	**320**	P	**P**	**10 19 47.9**	**-1.9**
	comp=Z,2.8nm,0.6s,baz=34,slow=10,SNR=2.8								
XAN	**Xi'an**	**62.17**	**290**	P	**P**	**10 20 12.8**	**+0.1**
XAN				S	**S**	**10 28 36.3**	**-0.4**
XAN				PMZ					
	comp=Z,5.0nm,1.3s								
XAN				LN					
	comp=Z,720nm,16.1s								
XAN				LE					
	comp=Z,360nm,15.7s								
XAN				LZ					
	comp=Z,350nm,15.4s								
GTA	**Gaotai**	**63.08**	**300**	*eP*	**P**	**10 20 18.5**	**-0.3**
GTA				pP	**pP**	**10 20 25.0**	**-1.1**
GTA				sP	**sP**	**10 20 28.0**	**-0.8**
GTA				PMZ					
	comp=Z,12nm,1.3s								
LZH	**Lanzhou**	**63.44**	**295**	*eP*	**P**	**10 20 22.0**	**+0.8**
LZH				pP	**pP**	**10 20 30.8**	**+2.3**
LZH				sP	**sP**	**10 20 34.0**	**+2.7**
LZH				PMZ					
	comp=Z,28nm,1.0s								
LZH				PMZ					
	comp=Z,96nm,4.0s								
KURK	**Kurchatov**	**63.77**	**321**	P	**P**	**10 20 22.7**	**-0.2**
KURK	**Kurchatov**	**63.77**	**321**	P	**P**	**10 20 22.7**	**-0.2**
KURBB	**Kurchatov Arra**	**63.88**	**321**	P	**P**	**10 20 22.7**	**-0.9**
	comp=Z,13nm,0.9s,baz=33,slow=6.7,SNR=11								
BVAR	**Borovoye Array**	**64.70**	**327**	P	**P**	**10 20 29.2**	**+0.2**
	comp=Z,23nm,0.8s,baz=46,slow=6.6,SNR=9.0								
BRVK	**Borovoye**	**64.71**	**328**	*eP*	**P**	**10 20 29.2**	**+0.1**
BRVK				pmax	pmax				
	comp=Z,24nm,0.9s								
BRVK	**Borovoye**	**64.71**	**328**	*eP*	**P**	**10 20 29.2**	**+0.1**
	comp=Z,24nm,0.9s								
FIA1	**FINESS Array S**	**65.02**	**355**	*eP*	**P**	**10 20 30.8**	**-0.1**
FINES	**FINESS Array B**	**65.02**	**355**	P	**P**	**10 20 30.7**	**-0.3**
	comp=Z,15nm,0.8s,baz=15,slow=7.9,SNR=6.9								
ARU	**Arti**	**65.06**	**336**	P	**P**	**10 20 30.4**	**-0.9**
ARU	**Arti**	**65.06**	**336**	*eP*	**P**	**10 20 31.2**	**0.0**
	comp=Z,18nm,0.8s								
MKAR	**Makanchi Array**	**65.50**	**317**	P	**P**	**10 20 33.1**	**-1.2**
	comp=Z,4.3nm,0.7s,baz=46,slow=6.9,SNR=5.5								
WMQ	**Urumqi**	**65.54**	**311**	P	**P**	**10 20 35.0**	**+0.3**
WMQ				pP	**pP**	**10 20 40.8**	**-1.3**
WMQ				sP	**sP**	**10 20 44.0**	**-0.8**
WMQ				PcP	**PcP**	**10 21 07.0**	**+0.7**
WMQ				PP	**PP**	**10 23 01.5**	**+3.0**
WMQ				PcS		10 25 08.5	
WMQ				S	**S**	**10 29 18.5**	**+0.2**
WMQ				ScS	**SKSac**	**10 30 26.3**	**-2.2**
WMQ				SS	**SS**	**10 33 33.5**	**+2.2**
WMQ				PMZ					
	comp=Z,21nm,1.2s								
WMQ				PMZ					
	comp=Z,140nm,4.0s								
WMQ				LN					
	comp=Z,1μm,19.8s								
WMQ				LE					
	comp=Z,1μm,18.6s								
WMQ				LZ					
	comp=Z,600nm,23.4s								
NB2	**NORSAR Subarra**	**65.58**	**3**	P	**P**	**10 20 34.4**	**-0.3**
	comp=Z,17nm,1.0s,baz=359,slow=6.9								
NOA	**NORSAR Array B**	**65.58**	**3**	P	**P**	**10 20 34.8**	**+0.1**
	comp=Z,8.8nm,0.9s,baz=357,slow=6.5,SNR=5.6								
KONO	**Kongsberg**	**66.92**	**4**	*eP*	**P**	**10 20 43.8**	**+0.6**
KONO				pmax	pmax				
	comp=Z,5.0nm,0.7s								
KONO	**Kongsberg**	**66.92**	**4**	*eP*	**P**	**10 20 43.8**	**+0.6**
	comp=Z,4.9nm,0.7s								
CD2	**Chengdu**	**67.39**	**292**	P	**P**	**10 20 47.5**	**+0.8**
CD2				pP	**pP**	**10 20 54.3**	**+0.2**
CD2				sP	**sP**	**10 20 57.3**	**+0.5**
CD2				PP	**PP**	**10 23 17.5**	**+2.5**
CD2				PcS		10 25 18.8	
CD2				S	**S**	**10 29 39.8**	**-1.2**
CD2				sS	**sS**	**10 29 51.0**	**-2.1**
CD2				SS	**SS**	**10 34 01.0**	**+0.5**
CD2				PMZ					
	comp=Z,10.0nm,0.5s								
CD2				PMZ					
	comp=Z,120nm,5.4s								
CD2				LN					
	comp=Z,980nm,12.5s								
CD2				LE					
	comp=Z,850nm,13.7s								
CD2				LZ					
	comp=Z,830nm,11.4s								
GYA	**Guiyang**	**69.16**	**286**	P	**P**	**10 20 58.8**	**+0.8**
GYA				pP	**pP**	**10 21 05.5**	**+0.2**
GYA				PP	**PP**	**10 23 33.0**	**+2.5**
GYA				ScP		10 25 23.3	
GYA				S	**S**	**10 30 01.8**	**-0.6**
GYA				SKS	**SKSac**	**10 30 53.0**	**-3.6**
GYA				SS	**SS**	**10 34 29.0**	**+0.8**
GYA				PMZ					
	comp=Z,20nm,0.8s								
GYA				PMZ					
	comp=Z,120nm,4.9s								
GYA				LN					
	comp=Z,480nm,16.8s								
GYA				LE					
	comp=Z,370nm,17.7s								
GYA				LZ					
	comp=Z,450nm,18.0s								
OBN	**Obninsk**	**70.38**	**348**	*eP*	**P**	**10 21 04.5**	**-0.3**
OBN				pmax	pmax				
	comp=Z,30nm,0.9s								
AAK	**Ala-Archa**	**72.06**	**319**	P	**P**	**10 21 15.4**	**0.0**
	comp=Z,10nm,0.7s,baz=112,slow=4.9,SNR=5.0								
AAK	**Ala-Archa**	**72.06**	**319**	*eP*	**P**	**10 21 16.1**	**+0.6**
AAK				pmax	pmax				
	comp=Z,10.0nm,0.8s								
AAK	**Ala-Archa**	**72.06**	**319**	*eP*	**P**	**10 21 16.1**	**+0.6**
	comp=Z,10nm,0.8s								
KMI	**Kunming**	**72.42**	**288**	P	**P**	**10 21 17.8**	**-0.1**
KMI				PMZ					
	comp=Z,9.0nm,1.3s								
BSEG	**Bad Segeberg**	**72.66**	**4**	*e*PP	**P**	**10 21 19.2**	**+0.6**
QIZ	**Qiongzhong**	**73.06**	**279**	P	**P**	**10 21 21.5**	**0.0**
QIZ				S	**S**	**10 30 47.5**	**0.0**
QIZ				LN					
	comp=Z,620nm,16.2s								
QIZ				LE					
	comp=Z,340nm,16.2s								
QIZ				LZ					
	comp=Z,580nm,14.3s								
NRDL	**Niedersach Rie**	**74.09**	**4**	*e*PP	**P**	**10 21 27.3**	**+0.3**
KSH	**Kashi**	**74.11**	**316**	P	P	10 21 30.8	+3.2
KSH				pP	pP	10 21 37.0	+2.0
KSH				PP	PP	10 24 19.0	+6.6
KSH				S	**S**	**10 31 03.3**	**+4.2**
KSH				SKS	**SKSac**	**10 31 33.0**	**-0.5**
KSH				PMZ					
	comp=Z,94nm,3.8s								
KSH				LN					
	comp=Z,420nm,12.2s								
KSH				LE					
	comp=Z,1μm,19.6s								
KSH				LZ					
	comp=Z,950nm,19.2s								
CLZ	**Clausthal**	**74.75**	**4**	*e*PP	**P**	**10 21 31.7**	**+0.7**
BUG	**Bochum--Univer**	**74.99**	**6**	*e*PP	**P**	**10 21 32.6**	**+0.3**
LSA	**Lhasa**	**75.10**	**300**	*eP*	**P**	**10 21 35.0**	**+1.1**
LSA				pmax	pmax				
	comp=Z,22nm,0.8s								
LSA	**Lhasa**	**75.10**	**300**	*eP*	**P**	**10 21 35.0**	**+1.1**
	comp=Z,22nm,0.8s								
CLL	**Collm**	**75.38**	**2**	⇑*iP*	**P**	**10 21 34.6**	**0.0**
	comp=Z,17nm,1.0s								
CLL				*e*		10 21 39.0			
CLL	**Collm**	**75.38**	**2**	*eP*	**P**	**10 21 34.8**	**+0.3**
CLL				pmax	pmax				
	comp=Z,22nm,1.1s								
CLL	**Collm**	**75.38**	**2**	*eP*	**P**	**10 21 34.8**	**+0.3**
	comp=Z,22nm,1.1s								
CLL	**Collm**	**75.38**	**2**	*e*PP	**P**	**10 21 34.5**	**0.0**
AKASG	**Malin Array Be**	**75.50**	**352**	P	**P**	**10 21 34.5**	**-0.7**
	comp=Z,14nm,0.7s,baz=10.0,slow=5.6,SNR=8.1								
AKBB	**Malin Array Si**	**75.50**	**352**	*eP*	**P**	**10 21 34.8**	**-0.4**
AKBB	**Malin Array Si**	**75.50**	**352**	*eP*	**P**	**10 21 34.8**	**-0.4**
KIEV	**Kiev**	**75.50**	**352**	*eP

LDF					pmax	pmax			
	comp=Z,21nm,1.0s								
LDF	**La Druitiere**	**77.15**	**11**	⇑*iP*	**P**	**10 21 44.5**	**-0.1**		
	comp=Z,21nm,1.0s								
STHS	**Stebnicka Huta**	**77.24**	**357**	*eP*	**P**	**10 21 46.6**	**+1.4**		
STHS					pmax	pmax			
	comp=Z,19nm,1.2s								
STHS	**Stebnicka Huta**	**77.24**	**357**	*eP*	**P**	**10 21 46.6**	**+1.4**		
GRR	**Gorron**	**77.26**	**12**	*eP*	**P**	**10 21 45.3**	**0.0**		
GRR	**Gorron**	**77.26**	**12**	*eP*	**P**	**10 21 45.3**	**0.0**		
GRR	**Gorron**	**77.26**	**12**	*eP*	**P**	**10 21 45.3**	**0.0**		
WET	**Wettzell**	**77.54**	**3**	*e*PP	**P**	**10 21 47.7**	**+0.8**		
IMP	**Imphal**	**77.56**	**295**	*e*S	**P**	**10 21 47.0**	**-0.4**		
KHC	**Kasperske Hory**	**77.57**	**2**	*i* P	**P**	**10 21 47.8**	**+0.8**		
KHC	**Kasperske Hory**	**77.57**	**2**	*i* P	**P**	**10 21 47.8**	**+0.8**		
KOLS	**Kolonicke sedl**	**77.69**	**356**	*eP*	**P**	**10 21 48.0**	**+0.3**		
KOLS					pmax	pmax			
	comp=Z,13nm,1.2s								
KOLS	**Kolonicke sedl**	**77.69**	**356**	*eP*	**P**	**10 21 48.0**	**+0.3**		
PAGF	**Fort de Pagny**	**77.75**	**7**	⇑*iP*	**P**	**10 21 48.7**	**+0.7**		
	comp=Z,10.0nm,0.8s								
PAGF	**Fort de Pagny**	**77.75**	**7**	⇑*iP*	**P**	**10 21 48.7**	**+0.7**		
	comp=Z,10.0nm,0.8s								
GEC2	**GERESS Array S**	**77.86**	**2**	*e*PP	**P**	**10 21 49.1**	**+0.4**		
GERES	**GERESS Array B**	**77.86**	**2**	P	**P**	**10 21 49.3**	**+0.6**		
	comp=Z,4.8nm,0.7s,baz=20,slow=4.4,SNR=8.7								
CDF	**Champ du Feu**	**78.01**	**6**	⇑*iP*	**P**	**10 21 49.7**	**+0.1**		
	comp=Z,16nm,0.9s								
CDF	**Champ du Feu**	**78.01**	**6**	⇑*iP*	**P**	**10 21 49.7**	**+0.1**		
CDF					pmax	pmax			
	comp=Z,17nm,0.9s								
CDF	**Champ du Feu**	**78.01**	**6**	⇑*iP*	**P**	**10 21 49.7**	**+0.1**		
	comp=Z,16nm,0.9s								
SFTF	**Sexfontaines**	**78.05**	**8**	⇑*iP*	**P**	**10 21 49.9**	**+0.2**		
	comp=Z,40nm,1.0s								
SFTF	**Sexfontaines**	**78.05**	**8**	⇑*iP*	**P**	**10 21 49.9**	**+0.2**		
	comp=Z,40nm,1.0s								
HAU	**Haudompre**	**78.35**	**7**	*eP*	**P**	**10 21 51.6**	**+0.2**		
	comp=Z,26nm,1.0s								
HAU	**Haudompre**	**78.35**	**7**	*eP*	**P**	**10 21 51.6**	**+0.2**		
HAU					pmax	pmax			
	comp=Z,27nm,1.0s								
HAU	**Haudompre**	**78.35**	**7**	*eP*	**P**	**10 21 51.6**	**+0.2**		
	comp=Z,26nm,1.0s								
HINF	**Hinteralfeld**	**78.57**	**7**	⇑*iP*	**P**	**10 21 52.6**	**0.0**		
	comp=Z,12nm,0.8s								
HINF	**Hinteralfeld**	**78.57**	**7**	⇑*iP*	**P**	**10 21 52.6**	**0.0**		
HINF					pmax	pmax			
	comp=Z,12nm,0.8s								
HINF	**Hinteralfeld**	**78.57**	**7**	⇑*iP*	**P**	**10 21 52.6**	**0.0**		
	comp=Z,12nm,0.8s								
PSZ	**Piszkesteto**	**78.78**	**358**	*eP*	**P**	**10 21 54.8**	**+1.0**		
PSZ					pmax	pmax			
	comp=Z,17nm,1.0s								
PSZ	**Piszkesteto**	**78.78**	**358**	*eP*	**P**	**10 21 54.8**	**+1.0**		
	comp=Z,17nm,1.0s								
CONA	**Conrad Observa**	**78.80**	**1**	⇑*i*PcP	**P**	**10 21 54.9**	**+0.9**		
	comp=Z,11nm,0.8s								
BUR08	**Bucovina Ar. S**	**78.83**	**354**	*eP*	**P**	**10 21 54.3**	**+0.2**		
LOR	**Lormes**	**78.87**	**9**	⇑*iP*	**P**	**10 21 54.4**	**+0.1**		
	comp=Z,26nm,1.1s								
LOR	**Lormes**	**78.87**	**9**	⇑*iP*	**P**	**10 21 54.4**	**+0.1**		
LOR					pmax	pmax			
	comp=Z,27nm,1.1s								
LOR	**Lormes**	**78.87**	**9**	⇑*iP*	**P**	**10 21 54.4**	**+0.1**		
	comp=Z,26nm,1.1s								
RJOB	**Jochberg**	**78.94**	**3**	*e*PP	**P**	**10 21 55.1**	**+0.4**		
SSF	**Saint Saulge**	**79.05**	**9**	⇑*iP*	**P**	**10 21 55.4**	**+0.2**		
	comp=Z,29nm,1.1s								
SSF	**Saint Saulge**	**79.05**	**9**	⇑*iP*	**P**	**10 21 55.4**	**+0.2**		
SSF					pmax	pmax			
	comp=Z,29nm,1.1s								
SSF	**Saint Saulge**	**79.05**	**9**	⇑*iP*	**P**	**10 21 55.4**	**+0.2**		
	comp=Z,29nm,1.1s								
MFF	**Saint Martin d**	**79.11**	**12**	⇑*iP*	**P**	**10 21 55.9**	**+0.4**		
	comp=Z,29nm,1.1s								
MFF	**Saint Martin d**	**79.11**	**12**	⇑*iP*	**P**	**10 21 55.9**	**+0.4**		
MFF					pmax	pmax			
	comp=Z,29nm,1.1s								
MFF	**Saint Martin d**	**79.11**	**12**	⇑*iP*	**P**	**10 21 55.9**	**+0.4**		
	comp=Z,29nm,1.1s								
GOF	**Gofitskoye**	**79.13**	**341**	*eP*	**P**	**10 21 55.9**	**+0.2**		
MOTA	**Moosalm**	**79.28**	**4**	⇑*i*PcP	**P**	**10 21 57.1**	**+0.5**		
	comp=Z,13nm,0.9s								
AVF	**Avril sur Loir**	**79.30**	**9**	*eP*	**P**	**10 21 56.7**	**+0.1**		
	comp=Z,9.7nm,0.7s								
AVF	**Avril sur Loir**	**79.30**	**9**	*eP*	**P**	**10 21 56.7**	**+0.1**		
AVF					pmax	pmax			
	comp=Z,10.0nm,0.7s								
AVF	**Avril sur Loir**	**79.30**	**9**	*eP*	**P**	**10 21 56.7**	**+0.1**		
	comp=Z,9.7nm,0.7s								
WTTA	**Wattenberg**	**79.38**	**4**	⇓*i*PcP	**P**	**10 21 57.9**	**+0.7**		
	comp=Z,17nm,0.7s,SNR=5.2								
ARSA	**Arzberg**	**79.48**	**1**	⇑*i*PcP	**P**	**10 21 58.6**	**+1.1**		
	comp=Z,11nm,0.9s								
BGF	**Bois d'Agland**	**79.48**	**10**	*eP*	**P**	**10 21 57.5**	**-0.1**		
BGF	**Bois d'Agland**	**79.48**	**10**	*eP*	**P**	**10 21 57.5**	**-0.1**		
BGF	**Bois d'Agland**	**79.48**	**10**	*eP*	**P**	**10 21 57.5**	**-0.1**		
SMF	**Signal de Mont**	**79.49**	**9**	*eP*	**P**	**10 21 57.6**	**0.0**		
	comp=Z,24nm,1.0s								
SMF	**Signal de Mont**	**79.49**	**9**	*eP*	**P**	**10 21 57.6**	**0.0**		
SMF					pmax	pmax			
	comp=Z,24nm,1.0s								
SMF	**Signal de Mont**	**79.49**	**9**	*eP*	**P**	**10 21 57.6**	**0.0**		
	comp=Z,24nm,1.0s								
FETA	**Feichten**	**79.58**	**4**	⇑*i*PcP	**P**	**10 21 59.2**	**+0.8**		
	comp=Z,20nm,0.9s,SNR=7.1								
KBA	**Koelnbreinsper**	**79.61**	**2**	⇑*i*PcP	**P**	**10 21 59.7**	**+1.2**		
	comp=Z,17nm,0.7s,SNR=5.9								
TCF	**Toulx Ste Croi**	**79.68**	**10**	*eP*	**P**	**10 21 58.5**	**-0.2**		
TCF	**Toulx Ste Croi**	**79.68**	**10**	*eP*	**P**	**10 21 58.5**	**-0.2**		
TCF	**Toulx Ste Croi**	**79.68**	**10**	*eP*	**P**	**10 21 58.5**	**-0.2**		
CABF	**La Chapelle**	**79.71**	**7**	⇑*iP*	**P**	**10 21 59.6**	**+0.6**		
	comp=Z,30nm,1.0s								
CABF	**La Chapelle**	**79.71**	**7**	⇑*iP*	**P**	**10 21 59.6**	**+0.6**		
CABF					pmax	pmax			
	comp=Z,30nm,1.0s								
CABF	**La Chapelle**	**79.71**	**7**	⇑*iP*	**P**	**10 21 59.6**	**+0.6**		
	comp=Z,30nm,1.0s								
CMAR	**Chiang Mai Arr**	**79.83**	**287**	P	**P**	**10 22 00.2**	**+0.3**		
	comp=Z,11nm,1.0s,baz=16,slow=5.4,SNR=6.1								
FUORN	**Ofenpass-Fuorn**	**79.96**	**4**	*eP*	**P**	**10 22 02.0**	**+1.5**		
	comp=Z,24nm,1.3s								
SOKA	**Soboth**	**80.05**	**1**	⇑*i*PcP	**P**	**10 22 01.4**	**+0.7**		
	comp=Z,25nm,1.2s,SNR=7.1								
PERS	**Pernice**	**80.09**	**1**	*eP*	**P**	**10 22 01.2**	**+0.3**		
PERS	**Pernice**	**80.09**	**1**	*eP*	**P**	**10 22 01.2**	**+0.3**		
OBKA	**Obir**	**80.21**	**2**	*i* PcP	**P**	**10 22 02.4**	**+0.7**		
	comp=Z,26nm,0.7s,SNR=9.5								
KIV	**Kislovodsk**	**80.26**	**341**	⇓*eP*	**P**	**10 22 03.0**	**+1.0**		
KIV				*e*		10 22 13.9			
KIV					pmax	pmax			
	comp=Z,18nm,0.7s								
KBZ	**Khabaz**	**80.44**	**341**	P	**P**	**10 22 01.9**	**-0.9**		
	comp=Z,12nm,0.9s,baz=56,slow=23,SNR=4.1								
RJF	**Les Rejaudoux**	**80.58**	**11**	*eP*	**P**	**10 22 03.3**	**-0.2**		
RJF	**Les Rejaudoux**	**80.58**	**11**	*eP*	**P**	**10 22 03.3**	**-0.2**		
RJF	**Les Rejaudoux**	**80.58**	**11**	*eP*	**P**	**10 22 03.3**	**-0.2**		
JAVS	**Javornik**	**80.81**	**2**	*i* P	**P**	**10 22 04.6**	**-0.3**		
JAVS	**Javornik**	**80.81**	**2**	*i* P	**P**	**10 22 04.6**	**-0.3**		
LPL	**La Plagne**	**80.85**	**7**	⇑*iP*	**P**	**10 22 06.5**	**+1.2**		
LPL	**La Plagne**	**80.85**	**7**	⇑*iP*	**P**	**10 22 06.5**	**+1.2**		
LPL	**La Plagne**	**80.85**	**7**	⇑*iP*	**P**	**10 22 06.5**	**+1.2**		
LPG	**La Plagne**	**80.87**	**7**	⇑*iP*	**P**	**10 22 06.7**	**+1.2**		
	comp=Z,17nm,1.1s								
LPG	**La Plagne**	**80.87**	**7**	⇑*iP*	**P**	**10 22 06.7**	**+1.2**		
LPG					pmax	pmax			
	comp=Z,17nm,1.1s								
LPG	**La Plagne**	**80.87**	**7**	⇑*iP*	**P**	**10 22 06.7**	**+1.2**		
	comp=Z,17nm,1.1s								
VISS	**Visnje**	**80.92**	**1**	*i* P	**P**	**10 22 03.0**	**-2.3**		
VISS	**Visnje**	**80.92**	**1**	*i* P	**P**	**10 22 03.0**	**-2.3**		
CAF	**Calviac**	**81.01**	**10**	*eP*	**P**	**10 22 06.0**	**+0.1**		
CAF	**Calviac**	**81.01**	**10**	*eP*	**P**	**10 22 06.0**	**+0.1**		
CAF	**Calviac**	**81.01**	**10**	*eP*	**P**	**10 22 06.0**	**+0.1**		
KBL	**Kabul**	**81.19**	**319**	*eP*	**P**	**10 22 06.0**	**-1.2**		
KBL					pmax	pmax			
	comp=Z,9.0nm,0.9s								
KBL	**Kabul**	**81.19**	**319**	*eP*	**P**	**10 22 06.0**	**-1.2**		
	comp=Z,9.3nm,0.9s								
BOJS	**Bojanci**	**81.22**	**1**	*i* P	**P**	**10 22 07.5**	**+0.6**		
BOJS	**Bojanci**	**81.22**	**1**	*i* P	**P**	**10 22 07.5**	**+0.5**		
BNI	**Bardonecchia**	**81.31**	**7**	*eP*	**P**	**10 22 09.5**	**+1.9**		
BNI					pmax	pmax			
	comp=Z,8.0nm,1.0s								
BNI	**Bardonecchia**	**81.31**	**7**	*eP*	**P**	**10 22 09.5**	**+1.9**		
	comp=Z,8.0nm,1.0s								
VIVF	**Saint-Julien-l**	**81.34**	**9**	*eP*	**P**	**10 22 08.0**	**+0.4**		
	comp=Z,19nm,1.2s								
VIVF	**Saint-Julien-l**	**81.34**	**9**	*eP*	**P**	**10 22 08.0**	**+0.4**		
VIVF					pmax	pmax			
	comp=Z,19nm,1.2s								
VIVF	**Saint-Julien-l**	**81.34**	**9**	*eP*	**P**	**10 22 08.0**	**+0.4**		
	comp=Z,19nm,1.2s								
ORIF	**Oris-en-Rattie**	**81.38**	**8**	*eP*	**P**	**10 22 08.7**	**+0.8**		
	comp=Z,18nm,1.0s								
ORIF	**Oris-en-Rattie**	**81.38**	**8**	*eP*	**P**	**10 22 08.7**	**+0.8**		
ORIF					pmax	pmax			
	comp=Z,18nm,1.0s								
ORIF	**Oris-en-Rattie**	**81.38**	**8**	*eP*	**P**	**10 22 08.7**	**+0.8**		
	comp=Z,18nm,1.0s								
MBDF	**Montbardon**	**81.64**	**7**	⇑*iP*	**P**	**10 22 10.6**	**+1.2**		
	comp=Z,23nm,0.8s								
MBDF	**Montbardon**	**81.64**	**7**	⇑*iP*	**P**	**10 22 10.6**	**+1.2**		
MBDF					pmax	pmax			
	comp=Z,23nm,0.8s								
MBDF	**Montbardon**	**81.64**	**7**	⇑*iP*	**P**	**10 22 10.6**	**+1.2**		
	comp=Z,23nm,0.8s								
TIRR	**Tirgusor**	**81.76**	**352**	*eP*	**P**	**10 22 09.4**	**-0.4**		
TIRR					pmax	pmax			
	comp=Z,8.0nm,0.8s								
TIRR	**Tirgusor**	**81.76**	**352**	*eP*	**P**	**10 22 09.4**	**-0.4**		
	comp=Z,7.9nm,0.8s								
LASF	**Ste Croix**	**82.04**	**9**	*eP*	**P**	**10 22 11.9**	**+0.6**		
LASF	**Ste Croix**	**82.04**	**9**	*eP*	**P**	**10 22 11.9**	**+0.6**		
SMRF	**Simiane la Rot**	**82.29**	**8**	*eP*	**P**	**10 22 13.8**	**+1.1**		
	comp=Z,22nm,1.2s								
SMRF	**Simiane la Rot**	**82.29**	**8**	*eP*	**P**	**10 22 13.8**	**+1.1**		
	comp=Z,22nm,1.2s								
MTLF	**Montolieu**	**82.60**	**11**	*eP*	**P**	**10 22 14.5**	**+0.3**		
MTLF	**Montolieu**	**82.60**	**11**	*eP*	**P**	**10 22 14.5**	**+0.3**		
MTLF	**Montolieu**	**82.60**	**11**	*eP*	**P**	**10 22 14.5**	**+0.3**		
ETSF	**Etsaut**	**82.70**	**13**	*eP*	**P**	**10 22 15.4**	**+0.5**		
	comp=Z,19nm,1.1s								
ETSF	**Etsaut**	**82.70**	**13**	*eP*	**P**	**10 22 15.4**	**+0.5**		
ETSF					pmax	pmax			
	comp=Z,19nm,1.1s								
ETSF	**Etsaut**	**82.70**	**13**	*eP*	**P**	**10 22 15.4**	**+0.5**		
	comp=Z,19nm,1.1s								
PGF	**Pioggiola**	**83.96**	**6**	*eP*	**P**	**10 22 21.9**	**+0.5**		
	comp=Z,24nm,0.9s								
PGF	**Pioggiola**	**83.96**	**6**	*eP*	**P**	**10 22 21.9**	**+0.5**		
PGF					pmax	pmax			
	comp=Z,24nm,0.9s								
PGF	**Pioggiola**	**83.96**	**6**	*eP*	**P**	**10 22 21.9**	**+0.5**		
	comp=Z,24nm,0.9s								
ESDC	**Sonseca Array**	**85.36**	**16**	P	**P**	**10 22 28.5**	**0.0**		
	comp=Z,0.3nm,0.3s,baz=336,slow=4.6,SNR=4.1								
ANTO	**Ankara**	**85.83**	**348**	*eP*	**P**	**10 22 31.6**	**+0.8**		
ANTO					pmax	pmax			
	comp=Z,22nm,0.7s								
ANTO	**Ankara**	**85.83**	**348**	*eP*	**P**	**10 22 31.6**	**+0.8**		
	comp=Z,22nm,0.7s								
BR131	**Keskin Array S**	**85.86**	**347**	*eP*	**P**	**10 22 31.6**	**+0.5**		
BRTR	**Keskin Array B**	**85.86**	**347**	P	**P**	**10 22 30.6**	**-0.5**		
	comp=Z,8.1nm,0.9s,baz=35,slow=3.0,SNR=6.9								
KSM	**Kuching**	**86.68**	**268**	*eP*	**P**	**10 22 34.5**	**-0.6**		
	comp=Z,9.4nm,0.9s								
HYB	**Hyderabad**	**91.67**	**303**	*i* P	P	10 22 49.5	-9.3		
HYB				*e*		10 22 59.0			

*THE **28** 10:13:45.6,38.5°59N×30.5°55E,h3km±17km, Error ellipse: s-maj=26.7km s-min=0.7km az=72.0*
*ISK **28** 10:13:46.3,38.5°57N×30.4°43E,h5km, MD3.4*
*CSEM **28** 10:13:47.2±0.1,38.5°56N×30.5°39E,h2km, ML3.5, Error ellipse: s-maj=3.5km s-min=3.4km az=3.0*
*DDA **28** 10:13:47.1,38.5°58N×30.5°37E,h13km, ML3.5*

ISC 28 10:13:47.5±1.0, 38.5°58N±0.02×30.4°41E±0.02, h8km±10km, n70, σ1.105/97, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOLV	**Bolvadin**	**0.44**	**72**	*i* P	**Pg**	**10 13 56.4**	**+0.3**
BOLV				*i* S	**Sb**	**10 14 03.4**	**-1.1**
BOLV	**Bolvadin**	**0.44**	**72**	*i* P	**Pg**	**10 13 56.4**	**+0.3**
BOLV				*i* S	**Sb**	**10 14 03.4**	**-1.1**
ALT	**Altintas**	**0.53**	**333**	PG	**Pg**	**10 13 57.4**	**-0.3**
ALT				*e*SG	**Sg**	**10 14 05.0**	**+0.3**
ALT	**Altintas**	**0.53**	**333**	P	**Pg**	**10 13 57.5**	**-0.3**
ALT				S	**Sg**	**10 14 05.8**	**+1.0**
ALT	**Altintas**	**0.53**	**333**	P	**Pg**	**10 13 57.5**	**-0.3**
ALT				*e*Sg	**Sg**	**10 14 05.0**	**+0.3**
ISP	**Isparta**	**0.76**	**174**	P	**Pg**	**10 14 00.3**	**-1.9**
ISP				S	**Sg**	**10 14 11.6**	**-0.5**
ISP	**Isparta**	**0.76**	**174**	P	**Pg**	**10 14 00.3**	**-1.9**
ISP				S	**Sg**	**10 14 11.6**	**-0.5**
GDZ	**Gediz**	**0.89**	**305**	*i* P	**Pg**	**10 14 04.3**	**-0.3**
GDZ				*i* S	**Sg**	**10 14 16.4**	**+0.2**
GDZ	**Gediz**	**0.89**	**305**	*i* P	**Pg**	**10 14 04.3**	**-0.3**
GDZ				*i* S	**Sg**	**10 14 16.4**	**+0.2**
SEYT	**Eskypehyr**	**1.00**	**20**	*i* P	**Pb**	**10 14 07.3**	**+0.2**
SEYT				*i* S	**Sb**	**10 14 21.0**	**+0.6**
SEYT	**Eskypehyr**	**1.00**	**20**	*i* P	**Pb**	**10 14 07.3**	**+0.2**
SEYT				*i* S	**Sb**	**10 14 21.0**	**+0.6**
BCK	**Bucak**	**1.13**	**173**	*e*PN	**Pb**	**10 14 07.6**	**-1.7**
BCK	**Bucak**	**1.13**	**173**	*e*Pn	**Pb**	**10 14 07.6**	**-1.7**
TVSB	**Tavsanli**	**1.14**	**320**	*e*PN	**Pb**	**10 14 09.1**	**-0.4**
TVSB	**Tavsanli**	**1.14**	**320**	*e*Pn	**Pb**	**10 14 09.1**	**-0.4**
SVRH	**Sivrihisar-ESK**	**1.22**	**45**	*e*PN	**Pn**	**10 14 09.8**	**-1.2**
SVRH	**Sivrihisar-ESK**	**1.22**	**45**	*e*Pn	**Pn**	**10 14 09.8**	**-1.2**
BORA	**Eskisehir**	**1.30**	**1**	*i* P	**Pn**	**10 14 11.9**	**-0.1**
BORA				*i* S	**Sg**	**10 14 29.8**	**+0.5**
BORA	**Eskisehir**	**1.30**	**1**	*i* P	**Pn**	**10 14 11.9**	**-0.1**
BORA				*i* S	**Sg**	**10 14 29.8**	**+0.5**
KDHN	**Kadinhani**	**1.34**	**92**	*i* P	**Pb**	**10 14 12.6**	**-0.2**
KDHN				*i* S	**Sg**	**10 14 32.5**	**+2.0**
KDHN	**Kadinhani**	**1.34**	**92**	*i* P	**Pb**	**10 14 12.6**	**-0.2**
KDHN				*i* S	**Sg**	**10 14 32.5**	**+2.0**
KULA	**Kula-Manisa**	**1.38**	**268**	P	**Pn**	**10 14 11.9**	**-1.2**
KULA				S	**Sn**	**10 14 31.5**	**0.0**
KULA	**Kula-Manisa**	**1.38**	**268**	P	**Pn**	**10 14 11.9**	**-1.2**
KULA				S	**Sn**	**10 14 31.5**	**0.0**
DNZL	**Cakiroluk**	**1.40**	**231**	*i* P	**Pb**	**10 14 13.6**	**-0.4**
DNZL	**Cakiroluk**	**1.40**	**231**	*i* P	**Pb**	**10 14 13.6**	**-0.4**
DNZL				*i* S	**Sg**	**10 14 36.4**	**+3.9**
DEMI	**Demirci**	**1.41**	**290**	*i* P	**Pb**	**10 14 13.6**	**-0.4**
DEMI				*i* S	**Sb**	**10 14 32.1**	**0.0**
DEMI	**Demirci**	**1.41**	**290**	*i* P	**Pb**	**10 14 13.6**	**-0.4**
DEMI				*i* S	**Sb**	**10 14 32.1**	**0.0**
MANT	**Manisa**	**1.46**	**267**	*i* P	**Pn**	**10 14 14.2**	**-0.2**
MANT				*i* S	**Sb**	**10 14 33.9**	**+0.1**
MANT	**Manisa**	**1.46**	**267**	*i* P	**Pn**	**10 14 14.2**	**-0.2**
MANT				*i* S	**Sb**	**10 14 33.9**	**+0.1**
GOLH	**Golhisar**	**1.50**	**207**	*i* P	**Pb**	**10 14 15.3**	**-0.4**
GOLH	**Golhisar**	**1.50**	**207**	*i* P	**Pb**	**10 14 15.3**	**-0.4**
GOLH				*i* S	**Sg**	**10 14 38.1**	**+2.3**
KORT	**Korkueli**	**1.58**	**182**	*i* P	**Pb**	**10 14 17.1**	**+0.1**
KORT	**Korkueli**	**1.58**	**182**	*i* P	**Pb**	**10 14 17.1**	**+0.1**
CAVI	**Cavuskoy**	**1.68**	**345**	*e*PN	**Pb**	**10 14 18.1**	**-0.6**
CAVI	**Cavuskoy**	**1.68**	**345**	*e*Pn	**Pb**	**10 14 18.1**	**-0.6**
DURS	**Dursunbey**	**1.82**	**305**	*i* P	**Pb**	**10 14 20.1**	**-1.1**
DURS				*i* S	**Sb**	**10 14 43.9**	**-0.2**
DURS	**Dursunbey**	**1.82**	**305**	*i* P	**Pb**	**10 14 20.1**	**-1.1**
DURS				*i* S	**Sb**	**10 14 43.9**	**-0.2**
ULDT	**Uludag**	**1.85**	**328**	*i* P	**Pb**	**10 14 20.7**	**-0.9**
ULDT	**Uludag**	**1.85**	**328**	*i* P	**Pb**	**10 14 20.7**	**-0.9**
ULDT				*i* S	**Sg**	**10 14 47.5**	**+0.6**
GULT	**Gulveren**	**1.85**	**2**	*e*PN	**Pb**	**10 14 20.6**	**-1.1**
GULT	**Gulveren**	**1.85**	**2**	*e*Pn	**Pb**	**10 14 20.6**	**-1.1**
BTAS	**Taskesti**	**2.04**	**13**	*i* P	**Pg**	**10 14 25.9**	**-0.6**
BTAS				*i* S	**Sg**	**10 14 54.9**	**+1.9**
AKS	**Akhisar**	**2.06**	**279**	*e*PN	**Pn**	**10 14 21.9**	**-0.5**
AKS	**Akhisar**	**2.06**	**279**	*e*Pn	**Pn**	**10 14 21.9**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**2.08**	**253**	*e*PN	**Pn**	**10 14 23.9**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**2.08**	**253**	*e*Pn	**Pn**	**10 14 23.9**	**+1.0**
AYDN	**Tasoluk**	**2.20**	**246**	*i* P	**Pn**	**10 14 24.1**	**-0.3**
AYDN	**Tasoluk**	**2.20**	**246**	*i* P	**Pn**	**10 14 24.1**	**-0.3**
YER	**Yerkesik**	**2.22**	**230**	*e*PN	**Pn**	**10 14 25.1**	**+0.4**
YER	**Yerkesik**	**2.22**	**230**	*e*Pn	**Pn**	**10 14 25.1**	**+0.4**
BALB	**Balikesir**	**2.24**	**299**	*e*PN	**Pn**	**10 14 25.4**	**+0.6**
BALB	**Balikesir**	**2.24**	**299**	*e*Pn	**Pn**	**10 14 25.4**	**+0.6**
ANTO	**Ankara**	**2.25**	**54**	*e*PN	**Pn**	**10 14 25.1**	**0.0**
ANTO	**Ankara**	**2.25**	**54**	*e*Pn	**Pn**	**10 14 25.1**	**0.0**
ARMT	**Armutlu**	**2.32**	**329**	*e*PN	**Pn**	**10 14 25.9**	**-0.1**
ARMT	**Armutlu**	**2.32**	**329**	*e*Pn	**Pn**	**10 14 25.9**	**-0.1**
BALY	**Balya**	**2.46**	**299**	*i* P	**Pn**	**10 14 28.8**	**+0.8**
BALY	**Balya**	**2.46**	**299**	*i* P	**Pn**	**10 14 28.8**	**+0.8**
ERMK	**Ermenek**	**2.77**	**134**	*i* P	**Pn**	**10 14 34.3**	**+1.9**
ERMK	**Ermenek**	**2.77**	**134**	*i* P	**Pn**	**10 14 34.3**	**+1.9**
KLYT	**Kilyos**	**2.87**	**339**	*e*PN	**Pn**	**10 14 34.5**	**+1.0**
KLYT	**Kilyos**	**2.87**	**339**	*e*Pn	**Pn**	**10 14 34.5**	**+1.0**
ELDT	**Eldivan**	**3.01**	**50**	*i* P	**Pb**	**10 14 38.8**	**-2.6**
ELDT	**Eldivan**	**3.01**	**50**	*i* P	**Pb**	**10 14 38.8**	**-2.6**
CDAG	**Cicekdag**	**3.25**	**70**	*i* P	**Pn**	**10 14 40.4**	**+1.5**
CDAG	**Cicekdag**	**3.25**	**70**	*i* P	**Pn**	**10 14 40.4**	**+1.5**
RKY	**Sarkoy-Tekirda**	**3.27**	**311**	*e*PN	**Pn**	**10 14 39.7**	**+0.6**
RKY	**Sarkoy-Tekirda**	**3.27**	**311**	*e*Pn	**Pn**	**10 14 39.7**	**+0.6**
LPK	**Lapseki**	**3.35**	**303**	*e*PN	**Pn**	**10 14 41.3**	**+1.2**
LPK	**Lapseki**	**3.35**	**303**	*e*Pn	**Pn**	**10 14 41.3**	**+1.2**

*IDC **28** 10:16:03.7±3.2,52°29N×163°29W,h0km,mb3.9/11, mb1 4.0/12,mb1mx3.7/52,mbtmp3.9/12,ML4.8/1, Error ellipse: s-maj=81.3km s-min=22.2km az=158.0*
*ISCJB **28** 10:16:12.8±1.0,53°41N±0°07×163°12W±0°07,h34km±7km, mb3.8/11, Error ellipse: s-maj=12.1km s-min=5.6km az=154.0*
*NEIC **28** 10:16:13.8,53°48N×163°19W,h42km,mb3.7/1, ML3.3(AEIC), After AEIC.*

ISC 28 10:16:12.3±4.5, 53°48N±0°09×163°18W±0°05, h16km±29km, n44, σ0.978/43, mb3.8/11, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WESE	**West Dahl East**	**1.30**	**321**	P	**Pn**	**10 16 36.0**	**+0.1**
WESP	**Westdahl Peak**	**1.37**	**319**	P	**Pn**	**10 16 36.9**	**+0.1**
WESP				S	**Sn**	**10 16 55.0**	**+0.5**
WESN	**West Dahl Nort**	**1.37**	**324**	P	**Pn**	**10 16 37.1**	**+0.3**
WESN				S	**Sn**	**10 16 55.8**	**+1.2**
FALS	**False Pass**	**1.39**	**354**	P	**Pn**	**10 16 37.1**	**+0.1**
FALS				S	**Sn**	**10 16 55.9**	**+0.8**
ISNN	**Isanotski Nort**	**1.40**	**346**	P	**Pn**	**10 16 38.0**	**+0.7**
SSLW	**Shishaldin Wes**	**1.41**	**337**

*MEX **28** 10:44:21.8±0.6,32.°41N×115.°19W,h24km±9km,MD3.7*
ISC 28 10:44:18.9±0.9,32°28N±0.°02×115°32W±0.°02,h14km±6km, n61,σ0s99/85,17C-25D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.14**	**6**	*e*P	**Pg**	**10 44 22.9**	**+0.3**
CPBX				*e*S	**Sb**	**10 44 27.0**	**+0.8**
CPBX	**Cerro Prieto**	**0.14**	**6**	*e*P9	**Pg**	**10 44 22.6**	**0.0**
CPBX				*e*S	**Sg**	**10 44 24.7**	**-0.3**
CPBX				IAML		10 44 27.0	
	comp=N,91μm,0.3s						
CPBX				⇓*e*		10 44 27.0	
MBIG	**Mexicali**	**0.16**	**40**	*e*P	**Pb**	**10 44 25.0**	**+1.3**
SGL	**Mount Signal**	**0.50**	**317**	⇓*i*P	**Pg**	**10 44 28.8**	**0.0**
EMSC	**East Mesa**	**0.54**	**32**	*e*P2	**Pg**	**10 44 30.0**	**+0.5**
WESC	**Westside Schoo**	**0.59**	**324**	*e*P	**Pb**	**10 44 30.8**	**-0.2**
COA	**Coachella**	**0.60**	**16**	⇑*i*P	**Pb**	**10 44 31.1**	**-0.2**
YUH	**Yuha Desert**	**0.63**	**306**	⇓*i*P	**Pg**	**10 44 30.8**	**-0.4**
RDX	**Rancho Dawling**	**0.64**	**236**	*e*P	**Pg**	**10 44 31.2**	**-0.2**
RDX				*e*S	**Sg**	**10 44 39.7**	**-0.1**
RDX				⇑*e*		10 44 41.7	
RDX				IAML		10 44 41.7	
	comp=N,2μm,0.3s						
YMD	**Yuma Desert**	**0.71**	**67**	⇑*i*P	**Pg**	**10 44 32.6**	**-0.1**
RMX	**La Rumorosa**	**0.72**	**297**	*e*P	**Pg**	**10 44 32.5**	**-0.5**
RMX				*e*S	**Sg**	**10 44 41.9**	**-0.6**
IBP	**Imperial Bould**	**0.76**	**300**	⇑P	**Pg**	**10 44 33.1**	**-0.5**
	baz=0.7						
IBP				⇑S	**Sg**	**10 44 43.3**	**-0.3**
	baz=0.7						
SWSC	**Sam W. Stewart**	**0.77**	**329**	⇓P	**Pg**	**10 44 33.2**	**-0.7**
	baz=0.8						
SWSC				⇓S	**Sg**	**10 44 43.5**	**-0.5**
	baz=0.8						
ECBX	**El Chinero**	**0.84**	**164**	*e*P9	**Pg**	**10 44 34.4**	**-0.8**
ECBX				*e*S	**Sg**	**10 44 45.8**	**-0.4**
GLA	**Glamis**	**0.87**	**28**	*e*Pg	**Pb**	**10 44 35.0**	**-0.9**
GLA				*e*Sg	**Sg**	**10 44 46.6**	**-0.7**
GLA	**Glamis**	**0.87**	**28**	⇑P	**Pb**	**10 44 34.9**	**-1.0**
	baz=0.9						
GLA				⇓S	**Sg**	**10 44 46.1**	**-1.2**
	baz=0.9						
MONP	**Monument Peak,**	**1.11**	**303**	⇑P	**Pb**	**10 44 39.1**	**-0.9**
	baz=1.1						
MONP				⇓S	**Sb**	**10 44 54.0**	**-0.4**
	baz=1.1						
ZAX	**El Zacaton**	**1.12**	**227**	*e*P	**Pb**	**10 44 39.9**	**-0.1**
ZAX				*e*S	**Sb**	**10 44 54.9**	**+0.4**
CBX	**Cerro Bola**	**1.14**	**272**	*e*P	**Pb**	**10 44 40.4**	**-0.1**
CBX				*e*S	**Sn**	**10 44 56.5**	**+0.4**
CBX	**Cerro Bola**	**1.14**	**272**	*e*P	**Pb**	**10 44 40.4**	**-0.1**
CBX				*e*S	**Sn**	**10 44 56.5**	**+0.4**
CBX	**Cerro Bola**	**1.14**	**272**	*e*P	**Pb**	**10 44 40.0**	**-0.4**
CBX				*e*S	**Sb**	**10 44 55.0**	**-0.2**
CBX				⇓*e*		10 45 00.5	
CBX				IAML		10 45 00.5	
	comp=N,2μm,0.6s						
BAR	**Barrett**	**1.21**	**289**	*e*P	**Pn**	**10 44 41.4**	**0.0**
BAR				*e*S	**Sb**	**10 44 57.1**	**-0.1**
BAR	**Barrett**	**1.21**	**289**	*e*P	**Pn**	**10 44 41.0**	**-0.5**
SPIG	**San Pedro Mart**	**1.24**	**186**	*e*P	**Pn**	**10 44 41.7**	**-0.4**
SPIG				*e*S	**Sg**	**10 44 59.9**	**+0.9**
SPIG	**San Pedro Mart**	**1.24**	**186**	*e*P	**Pn**	**10 44 41.7**	**-0.4**
SPIG				*e*S	**Sg**	**10 44 59.9**	**+0.9**
SPX	**San Pedro Mart**	**1.24**	**186**	*e*P	**Pg**	**10 44 43.4**	**+0.5**
SPX				*e*S	**Sb**	**10 44 59.0**	**+0.7**
SPX	**San Pedro Mart**	**1.24**	**186**	*e*P	**Pn**	**10 44 41.5**	**-0.6**
SPX				*e*S	**Sb**	**10 44 58.6**	**+0.3**
SPX				⇑*e*		10 45 02.7	
	comp=N,1μm,0.6s						
ECNX	**Esteban Cantu**	**1.25**	**240**	*e*P	**Pn**	**10 44 42.2**	**+0.1**
ECNX				*e*S	**Sb**	**10 44 58.5**	**+0.1**
PBX	**Punta Banda**	**1.31**	**246**	*e*P	**Pn**	**10 44 42.9**	**0.0**
PBX				*e*S	**Sb**	**10 45 00.1**	**+0.1**
BC3	**Big Chuckawall**	**1.37**	**355**	⇓P	**Pn**	**10 44 42.3**	**-1.5**
	baz=1.4						
113A	**Mohawk Valley,**	**1.40**	**69**	⇑P	**Pn**	**10 44 43.2**	**-0.8**
	baz=1.4						
113A				⇓S	**Sn**	**10 45 00.1**	**-2.1**
	baz=1.4						
SDRC	**San Diego Road**	**1.44**	**289**	*e*P	**Pn**	**10 44 44.4**	**-0.3**
Y12C	**Blythe**	**1.61**	**24**	⇓P	**Pn**	**10 44 45.8**	**-1.1**
	baz=1.6						
109C	**Camp Elliot, M**	**1.62**	**292**	⇑Pb	**Pb**	**10 44 48.1**	**-0.6**
	baz=1.6						
109C				⇓Sb	**Sb**	**10 45 09.0**	**0.0**
	baz=1.6						
PFO	**Pinyon Flats O**	**1.63**	**324**	*e*Pn	**Pn**	**10 44 45.8**	**-1.6**
PFO	**Pinyon Flats O**	**1.63**	**324**	⇓P	**Pn**	**10 44 46.0**	**-1.3**
	baz=1.6						
MURC	**Murrieta**	**2.06**	**310**	⇑P	**Pn**	**10 44 52.0**	**-1.1**
	baz=2.0						
MURC				⇓Sb	**Sb**	**10 45 22.5**	**+1.0**
	baz=2.0						
214A	**Organ Pipe Nat**	**2.15**	**98**	*e*Pn	**Pn**	**10 44 53.3**	**-1.1**
214A	**Organ Pipe Nat**	**2.15**	**98**	⇓P	**Pn**	**10 44 53.2**	**-1.3**
	baz=2.2						
Z14A	**Wintersburg**	**2.27**	**61**	⇓P	**Pn**	**10 44 55.2**	**-0.8**
	baz=2.3						
Z14A				⇓Sb	**Sb**	**10 45 28.3**	**+0.6**
	baz=2.3						
Y14A	**Wickenburg**	**2.55**	**49**	⇑P	**Pn**	**10 44 59.3**	**-0.6**
	baz=2.6						
BFSC	**Mount Baldy Ra**	**2.77**	**316**	⇓Sb	**Sb**	**10 45 43.3**	**+1.3**
	baz=2.8						
SCI	**San Clemente I**	**2.81**	**285**	⇑Sb	**Sb**	**10 45 44.2**	**+1.1**
	baz=2.8						
CIS	**Catalina Islan**	**2.83**	**294**	⇑Sb	**Sb**	**10 45 44.9**	**+1.2**
	baz=2.8						
FMP	**Fort Macarthur**	**2.88**	**301**	⇑Sb	**Sb**	**10 45 46.4**	**+1.3**
	baz=2.9						
MWC	**Mount Wilson**	**3.00**	**311**	Pn	**Pn**	**10 45 08.8**	**+2.6**
DECC	**Green Verdugo**	**3.19**	**309**	⇑Sb	**Sb**	**10 45 56.3**	**+2.0**
	baz=3.2						
BLG	**Laguna Peak, P**	**3.63**	**301**	⇓Sb	**Sb**	**10 46 05.0**	**-1.7**
	baz=3.6						
TUC	**Tucson**	**3.84**	**88**	*e*Pn	**Pn**	**10 45 17.0**	**-0.7**
X16A	**Lo Mia Camp, P**	**3.88**	**56**	⇑P	**Pn**	**10 45 18.9**	**+0.5**
	baz=3.9						
SHPR	**Sheep Range**	**4.21**	**2**	*e*Pn	**Pn**	**10 45 24.6**	**+1.7**
WUAZ	**Wupatki**	**4.60**	**44**	*e*Pn	**Pn**	**10 45 30.0**	**+1.8**
WUAZ	**Wupatki**	**4.60**	**44**	⇓P	**Pn**	**10 45 29.9**	**+1.6**
	baz=4.6						
U15A	**North Rim**	**4.83**	**30**	⇓P	**Pn**	**10 45 32.8**	**+1.2**
	baz=4.8						
SMMC	**Simmler**	**4.93**	**309**	⇓P	**Pn**	**10 45 33.5**	**+0.9**
	baz=4.9						
X18A	**Snowflake**	**5.02**	**62**	⇓P	**Pn**	**10 45 34.8**	**+0.8**
	baz=5.0						
W18A	**Petrified Fore**	**5.45**	**57**	⇓P	**Pn**	**10 45 41.1**	**+1.3**
	baz=5.4						
121A	**Cookes Peak, D**	**6.38**	**86**	*e*Pn	**Pn**	**10 45 53.4**	**+0.7**
	comp=N,6.9nm,0.3s						
121A	**Cookes Peak, D**	**6.38**	**86**	⇓P	**Pn**	**10 45 53.2**	**+0.6**
	baz=6.4						
MVCO	**Mesa Verde**	**7.46**	**47**	*e*Pn	**Pn**	**10 46 10.7**	**+3.1**
	comp=N,22nm,1.0s						
PV04	**Paradox Valley**	**8.04**	**39**	*e*Pn	Pn	10 46 20.9	+5.5

*IDC **28** 10:46:29.2±1.9,53.°41N×163.°47W,h0km,mb3.4/3, mb1 3.6/4,mb1mx3.3/41,mbtmp3.3/4,ML3.2/1,MS3.6/2, Ms1 3.6/2,ms1mx3.1/24,Error ellipse: s-maj=41.0km s-min=26.5km az=169.0*
*ISCJB **28** 10:46:31.8±1.9,53.°46N±0.°06×163.°17W±0.°06, h28km±18km,mb3.3/3,MS3.6/2,Error ellipse: s-maj=9.9km s-min=5.6km az=159.7*
*NEIC **28** 10:46:32.7,53.°49N×163.°18W,h42km,ML3.3(AEIC),After AEIC.*
ISC 28 10:46:32.1±3.7,53°52N±0.°07×163°25W±0.°05, h17km±25km,n23,σ0s65/29,mb3.4/3,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WESP	**Westdahl Peak**	**1.31**	**319**	P	**Pn**	**10 46 55.7**	**+0.1**
WESP				S	**Sb**	**10 47 13.4**	**+0.7**
WESN	**West Dahl Nort**	**1.31**	**324**	P	**Pn**	**10 46 56.0**	**+0.3**
FALS	**False Pass**	**1.34**	**356**	P	**Pn**	**10 46 56.0**	**-0.1**
FALS				S	**Sn**	**10 47 14.2**	**+0.7**
ISNN	**Isanotski Nort**	**1.35**	**347**	P	**Pb**	**10 46 56.8**	**-0.1**
SSLW	**Shishaldin Wes**	**1.35**	**338**	P	**Pn**	**10 46 56.4**	**+0.1**
SSLW				S	**Sn**	**10 47 13.9**	**+0.1**
SSLN	**Shishaldin Nor**	**1.37**	**341**	P	**Pn**	**10 46 56.8**	**+0.4**
AKSA	**Akutan Strait**	**1.58**	**294**	P	**Pn**	**10 46 59.1**	**-0.1**
AKSA				S	**Sb**	**10 47 20.1**	**-0.4**
DT1	**Dutton Round H**	**1.69**	**19**	P	**Pn**	**10 47 00.2**	**-0.6**
DT1				S	**Sn**	**10 47 21.1**	**-0.9**
ZRO	**Akutan Zero**	**1.72**	**291**	P	**Pn**	**10 47 01.2**	**0.0**
ZRO				S	**Sb**	**10 47 23.5**	**-0.9**
DTNA	**Dutton South F**	**1.73**	**19**	P	**Pn**	**10 47 01.0**	**-0.4**
UNV	**Unalaska Valle**	**1.96**	**281**	P	**Pn**	**10 47 04.0**	**-0.6**
UNV				S	**Sn**	**10 47 28.3**	**-0.5**
MREP	**Makushin Rep't**	**2.10**	**279**	P	**Pn**	**10 47 07.3**	**+0.7**
MSW	**Makushin Switc**	**2.14**	**282**	P	**Pn**	**10 47 07.3**	**+0.4**
MCIR	**Makushin Cirqu**	**2.21**	**283**	P	**Pn**	**10 47 08.3**	**+0.4**
SDPT	**Sand Point**	**2.44**	**40**	P	**Pn**	**10 47 11.2**	**+0.1**
SDPT				S	**Sn**	**10 47 39.2**	**-1.4**
OKFG	**Magazine Ridge**	**2.79**	**270**	P	**Pn**	**10 47 15.9**	**0.0**
NIKH	**Nikolski High**	**3.41**	**263**	P	**Pn**	**10 47 24.4**	**-0.1**
ILAR	**Eielson Array**	**14.00**	**30**	Pn	**Pn**	**10 49 49.7**	**+0.3**
	0.1nm,0.3s,baz=222,slow=12,SNR=3.4						
PETK	**Petropavlovsk-**	**23.14**	**285**	P	**P**	**10 51 35.8**	**-1.4**
	1.2nm,0.6s,baz=75,slow=11,SNR=4.6						
YKA	**Yellowknife Ar**	**26.66**	**51**	P	**P**	**10 52 10.6**	**+1.0**
	0.2nm,0.4s,baz=272,slow=9.3,SNR=5.0						
JCJ	**Chichijima**	**47.78**	**259**	LR	LR	11 12 28.9	
	comp=Z,32nm,20.5s,slow=33						
TXAR	**Lajitas Array**	**49.08**	**95**	P	**P**	**10 55 19.2**	**+0.8**
	0.2nm,0.5s,baz=306,slow=6.1,SNR=6.3						
LPIG	**La Paz**	**49.11**	**105**	LR	LR	11 12 53.7	
	comp=Z,107nm,18.3s,baz=27,slow=32						

IDC 28 11:03:02.5±7.1,19°26S×176°44W,h0km,mb3.5/2, mb1 3.8/2,mb1mx3.4/40,mbtmp3.5/2,Error ellipse: s-maj=332.9km s-min=108.7km az=154.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.24**	**261**	P	P	11 11 30.2	+0.3
	0.6nm,0.7s,baz=96,slow=8.2,SNR=14						
ASAR	**Alice Springs**	**46.24**	**255**	P	P	11 11 29.1	-0.8
	0.5nm,0.9s,baz=91,slow=6.3,SNR=5.0						
AKASG	**Malin Array Be**	**142.61**	**333**	PKP	PKPdf	11 22 37.0	-0.4
	0.8nm,0.5s,baz=38,slow=4.3,SNR=9.7						

*SKHL **28** 11:07:13.6±1.0,48.°40N×155.°22E,h30km±5km,mb4.8/7*
*ISCJB **28** 11:07:15.7±0.6,48.°28N±0.°07×154.°87E±0.°10,h43km, mb3.7/10,Error ellipse: s-maj=12.7km s-min=4.9km az=137.2*
*IDC **28** 11:07:18.3±2.6,48.°29N×154.°75E,h46km±25km,mb3.5/10, mb1 3.8/15,mb1mx3.5/59,mbtmp3.8/15,ML3.5/5,MS3.1/2, Ms1 3.1/2,ms1mx2.7/39,Error ellipse: s-maj=26.6km s-min=13.9km az=134.0*
ISC 28 11:07:17.9±0.8,48°33N±0.°09×154°90E±0.°09,h43km,n29, σ1s75/26,mb3.9/10,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.49**	**18**	*e*P	Pn	11 07 48.8	-7.0
SKR				AMB	AMB	11 07 50.3	
	60nm,0.3s						
SKR				*e*S	Sn	11 08 16.0	-8.9
SKR				A	A	11 08 20.9	
	460nm,0.3s						
SKR				A	A	11 08 20.9	
	640nm,0.3s						
PETK	**Petropavlovsk-**	**5.11**	**19**	P	**Pn**	**11 08 33.4**	**+1.6**
	2.9nm,0.3s,baz=167,slow=14,SNR=48						
PETK				LR	LR	11 10 41.2	
	comp=Z,188nm,19.8s,baz=163,slow=39						
PET	**Petropavlovsk**	**5.27**	**26**	*e*P	**Pn**	**11 08 32.7**	**-1.3**
PET				*e*S	**Sn**	**11 09 33.2**	**-0.2**
PET				A	A	11 09 44.0	
	90nm,0.5s						
PET				A	A	11 09 44.0	
	120nm,0.5s						
KUR	**Kuril'sk**	**5.73**	**240**	*i* P	**Pn**	**11 08 43.4**	**+3.0**
KUR				AMB	AMB	11 08 43.7	
	130nm,0.6s						
KUR				*e*S	**Sn**	**11 09 50.0**	**+5.2**
KUR				A	A	11 09 59.3	
	190nm,0.8s						
KUR				A	A	11 09 59.3	
	150nm,0.8s						
SHO	**Shikotan**	**7.16**	**234**	*e*P	**Pn**	**11 08 58.9**	**-1.1**
SHO				AMB	AMB	11 09 01.7	
	170nm,1.2s						
SHO				*e*S	**Sn**	**11 10 18.9**	**-1.0**
SHO				A	A	11 10 21.4	
	120nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**7.60**	**239**	*i* P	**Pn**	**11 09 07.2**	**+1.3**
YUK				AMB	AMB	11 09 08.1	
	40nm,1.2s						
YUK				AMB	AMB	11 09 08.1	
	60nm,1.2s						
YUK				*e*S	**Sn**	**11 10 29.9**	**-0.8**
YSS	**Yuzh-Sakhalins**	**8.32**	**265**	*e*P	Pn	11 09 20.0	+4.2
YSS				AMB	AMB	11 09 22.0	
	30nm,1.0s						
YSS				*e*S	**Sn**	**11 10 50.5**	**+2.2**
TYV	**Tymovskoe**	**8.35**	**292**	*e*P	Pn	11 09 20.1	+3.9
TYV				AMB	AMB	11 09 22.7	
	20nm,0.8s						
ASAJ	**Asahikawa**	**9.51**	**248**	P	**Pn**	**11 09 32.6**	**+0.6**
	2.6nm,0.3s,baz=60,slow=10,SNR=28						
ASAJ				LR	LR	11 12 50.2	
	comp=Z,111nm,18.0s,baz=6.0,slow=35						
EKMR	**Ekimchan**	**14.67**	**297**	*e*P	**P**	**11 10 46.2**	**-1.7**
EKMR				AMB	AMB	11 10 53.5	
	30nm,0.4s						
SEY	**Seymchan**	**14.71**	**355**	P	**Pn**	**11 10 42.8**	**0.0**
	0.2nm,0.3s,baz=52,slow=19,SNR=2.9						
USRK	**Ussuriysk Ar.**	**16.35**	**264**	P	**Pn**	**11 11 02.8**	**-1.4**
	0.2nm,0.3s,baz=78,slow=13,SNR=2.8						
MJAR	**Matsushiro Arr**	**17.00**	**232**	P	**Pn**	**11 11 09.6**	**-2.8**
	0.1nm,0.3s,baz=30,slow=13,SNR=5.9						
YASR	**Yasnyy**	**17.67**	**296**	*e*P	**Pn**	**11 11 19.8**	**-0.7**
KSRS	**Korea Array**	**22.44**	**251**	P	**P**	**11 12 11.9**	**-1.0**
	3.3nm,0.6s,baz=49,slow=10.0,SNR=13						
H11N2	**WAKE ISLAND Hy**	**30.13**	**157**	T	T	11 45 09.4	
	baz=349,slow=74,SNR=7.8						
H11N1	**WAKE ISLAND Hy**	**30.15**	**157**	T	T	11 45 12.2	
	baz=45,slow=74,SNR=11						
H11S1	**WAKE ISLAND Hy**	**31.25**	**158**	T	T	11 46 39.4	
	baz=345,slow=76,SNR=302						
H11S3	**WAKE ISLAND Hy**	**31.27**	**158**	T	T	11 46 38.3	
	baz=345,slow=76,SNR=269						
H11S2	**WAKE ISLAND Hy**	**31.27**	**158**	T	T	11 46 40.8	
	baz=345,slow=76,SNR=284						
ILAR	**Eielson Array**	**34.56**	**40**	P	**P**	**11 14 03.0**	**+1.1**
	0.1nm,0.4s,baz=263,slow=7.2,SNR=3.4						
MKAR	**Makanchi Array**	**47.30**	**297**	P	**P**	**11 15 45.1**	**-1.7**
	0.8nm,0.6s,baz=67,slow=7.7,SNR=6.5						
YKA	**Yellowknife Ar**	**48.34**	**38**	P	**P**	**11 15 59.6**	**+0.4**
	0.2nm,0.6s,baz=296,slow=7.2,SNR=3.6						
CMAR	**Chiang Mai Arr**	**53.91**	**257**	P	**P**	**11 16 37.6**	**+0.6**
	0.7nm,0.3s,baz=45,slow=6.0,SNR=4.7						
WRA	**Warramunga Arr**	**70.41**	**201**	P	**P**	**11 18 27.6**	**+0.2**
	1.4nm,0.8s,baz=14,slow=6.4,SNR=15						
ASAR	**Alice Springs**	**74.10**	**200**	P	**P**	**11 18 48.4**	**-1.0**
	0.6nm,0.5s,baz=14,slow=5.2,SNR=12						
TXAR	**Lajitas Array**	**75.67**	**62**	P	**P**	**11 18 59.5**	**+0.8**
	0.6nm,0.6s,baz=295,slow=4.4,SNR=12						
GERES	**GERESS Array B**	**77.55**	**335**	P	**P**	**11 19 09.4**	**+0.4**
	0.6nm,0.5s,baz=32,slow=7.8,SNR=5.8						
BRTR	**Keskin Array B**	**78.05**	**318**	P	**P**	**11 19 12.6**	**+0.5**
	0.5nm,0.5s,baz=94,slow=3.7,SNR=4.7						

IDC 28 11:09:58.1±1.7,13°98S×166°37E,h0km,mb3.7/4, mb1 3.9/5,mb1mx3.5/43,mbtmp3.7/5,ML2.9/1,Error ellipse: s-maj=50.8km s-min=29.7km az=126.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.04**	**180**	Pn	Pn	11 11 56.0	-0.4
	0.1nm,0.3s,baz=270,slow=20,SNR=3.8						
STKA	**Stephens Creek**	**28.83**	**228**	P	P	11 15 58.5	+0.2
	3.1nm,0.5s,baz=43,slow=7.1,SNR=6.3						
WRA	**Warramunga Arr**	**31.17**	**255**	P	P	11 16 18.9	-0.2
	0.4nm,0.9s,baz=85,slow=9.1,SNR=3.8						
ASAR	**Alice Springs**	**32.13**	**248**	P	P	11 16 27.6	0.0
	0.3nm,0.6s,baz=76,slow=8.8,SNR=7.3						
ILAR	**Eielson Array**	**86.09**	**18**	P	P	11 22 40.5	0.0
	0.2nm,0.6s,baz=224,slow=5.0,SNR=7.4						

*IDC **28** 11:11:46.4±4.1,52.°45N×163.°52W,h0km,mb3.7/4, mb1 3.7/5,mb1mx3.3/61,mbtmp3.6/5,ML3.4/1,Error ellipse: s-maj=95.4km s-min=26.1km az=162.0*
*NEIC **28** 11:11:53.7,53.°42N×163.°12W,h28km,ML3.1(AEIC),After AEIC.*
ISC 28 11:11:51.3±3.4,53°43N±0.°09×163°21W±0.°06,h5km±21km, n21,σ1s06/28,mb3.7/4,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WESE	**West Dahl East**	**1.32**	**322**	P	**Pn**	**11 12 16.8**	**+0.3**
WESP	**Westdahl Peak**	**1.39**	**320**	P	**Pb**	**11 12 17.9**	**+0.1**
WESP				S	**Sn**	**11 12 35.9**	**-0.3**
WESN	**West Dahl Nort**	**1.40**	**325**	P	**Pb**	**11 12 18.0**	**+0.1**
FALS	**False Pass**	**1.43**	**355**	P	**Pn**	**11 12 17.9**	**0.0**
FALS				S	**Sn**	**11 12 36.9**	**-0.1**
ISNN	**Isanotski Nort**	**1.44**	**347**	P	**Pb**	**11 12 18.8**	**+0.2**
SSLW	**Shishaldin Wes**	**1.45**	**338**	P	**Pn**	**11 12 18.4**	**+0.2**
SSLW				S	**Sn**	**11 12 37.6**	**+0.1**
SSLN	**Shishaldin Nor**	**1.46**	**342**	P	**Pb**	**11 12 19.0**	**+0.1**
AKSA	**Akutan Strait**	**1.64**	**296**	P	**Pn**	**11 12 20.9**	**+0.2**
AKSA				S	**Sn**	**11 12 42.0**	**-0.1**
DT1	**Dutton Round H**	**1.76**	**18**	P	**Pn**	**11 12 22.2**	**-0.3**
ZRO	**Akutan Zero**	**1.77**	**293**	P	**Pn**	**11 12 23.6**	**+0.9**
DTNA	**Dutton South F**	**1.81**	**18**	P	**Pn**	**11 12 23.1**	**0.0**
AKRB	**Akutan Reef Bi**	**1.84**	**294**	P	**Pn**	**11 12 24.4**	**+1.0**
AKRB				S	**Sn**	**11 12 47.1**	**+0.1**
UNV	**Unalaska Valle**	**2.01**	**283**	P	**Pn**	**11 12 26.1**	**+0.4**
MREP	**Makushin Rep't**	**2.14**	**282**	P	**Pb**	**11 12 29.6**	**-1.0**
MSW	**Makushin Switc**	**2.18**	**284**	P	**Pn**	**11 12 29.2**	**+1.0**
MSW				S	**Sn**	**11 12 55.5**	**-0.1**
SDPT	**Sand Point**	**2.50**	**39**	P	**Pn**	**11 12 33.4**	**+0.9**
SDPT				S	**Sn**	**11 13 01.3**	**-2.0**
ILAR	**Eielson Array**	**14.06**	**30**	Pn	**P**	**11 15 18.9**	**0.0**
	0.1nm,0.3s,baz=232,slow=9.6,SNR=4.1						
PETK	**Petropavlovsk-**	**23.19**	**285**	P	**P**	**11 16 55.3**	**-3.3**
	3.2nm,1.0s,baz=88,slow=14,SNR=2.9						
YKA	**Yellowknife Ar**	**26.70**	**51**	P	**P**	**11 17 33.4**	**+2.5**
	0.4nm,0.5s,baz=274,slow=9.5,SNR=6.2						
BVAR	**Borovoye Array**	**64.91**	**328**	P	**P**	**11 22 32.1**	**+0.9**
	1.2nm,0.7s,baz=35,slow=11,SNR=6.5						
MKAR	**Makanchi Array**	**65.69**	**317**	P	**P**	**11 22 36.2**	**-0.2**
	0.2nm,0.6s,baz=46,slow=5.2,SNR=4.1						

*ISCJB **28** 11:16:54.9±0.3,26.°92N±0.°04×55.°52E±0.°05,h12km, mb4.2/38,MS3.7/1,Error ellipse: s-maj=6.1km s-min=5.5km az=140.7*
*IDC **28** 11:16:54.2±0.9,26.°99N×55.°55E,h0km,mb3.9/18, mb1 4.1/23,mb1mx3.9/50,mbtmp4.0/23,ML4.0/4,MS3.7/1, Ms1 3.7/1,ms1mx2.9/41,Error ellipse: s-maj=20.2km s-min=15.3km az=159.0*
*THR **28** 11:16:54.2±0.8,26.°86N×55.°67E,h2km,ML4.1*
*NEIC **28** 11:16:56.0±0.5,26.°96N×55.°58E,h10km,mb4.2/7, ML4.0(THR),MN3.9(TEH),Error ellipse: s-maj=10.4km s-min=5.6km az=160.0*
*CSEM **28** 11:16:56.3±0.2,26.°94N×55.°59E,h10km,mb4.4/22,Ms3.8, Error ellipse: s-maj=8.0km s-min=6.2km az=69.0*
*DSN **28** 11:16:57.6±1.0,26.°94N×55.°84E,h7km±8km,mb4.2/10, ML4.4/8,Ms4.0/1,Error ellipse: s-maj=21.7km s-min=6.1km az=81.0*
*TEH **28** 11:17:04.5,27.°58N×55.°35E,h17km,ML3.9*
ISC 28 11:16:56.1±0.5,26°91N±0.°04×55°54E±0.°05,h12km,n159, σ1s18/160,mb4.2/38,4C-5D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BANOM	**Banah**	**1.20**	**145**	P	**Pn**	**11 17 18.5**	**-0.3**
BANOM	**Banah**	**1.20**	**145**	⇑*e*P	**Pn**	**11 17 18.5**	**-0.3**
NAZ	**Nazwa, Dubai**	**1.92**	**177**	P	**Pb**	**11 17 31.4**	**+0.4**
	SNR=33						
NAZ	**Nazwa, Dubai**	**1.92**	**177**	⇓*e*P	**Pb**	**11 17 31.4**	**+0.4**
	SNR=33						
HATD	**Hatta, Dubai**	**2.15**	**165**	P	**Pb**	**11 17 33.6**	**-1.4**
	SNR=99						
HATD	**Hatta, Dubai**	**2.15**	**165**	⇓*e*P	**Pb**	**11 17 33.6**	**-1.4**
	SNR=99						
FAQ	**Al Faqa, Dubai**	**2.16**	**179**	P	**Pb**	**11 17 34.5**	**-0.6**
	SNR=26						
FAQ	**Al Faqa, Dubai**	**2.16**	**179**	⇓*e*P	**Pb**	**11 17 34.5**	**-0.6**
	SNR=26						
ASUD	**Al Ashush, Dub**	**2.28**	**185**	P	**Pb**	**11 17 37.0**	**-0.3**
	SNR=47						
ASUD	**Al Ashush, Dub**	**2.28**	**185**	⇓*e*P	**Pb**	**11 17 37.0**	**-0.3**
	SNR=47						
GHIR	**Ghir-Karzin**	**2.65**	**302**	*e*Pn	**Pb**	**11 17 41.8**	**-1.7**
GHIR	

MMAI	**Mount Meron Ar**	18.46	294	P		Pn	11 21 12.3	+0.4
	comp=N,0.9nm,0.3s,baz=93,slow=16,SNR=3.9							
KBZ	**Khabaz**	19.66	332	P		P	11 21 25.1	+0.4
	comp=N,0.3nm,0.3s,baz=56,slow=24,SNR=12							
KIV	**Kislovodsk**	19.93	332⇑	*eP*		Pn	11 21 31.4	+1.9
	SNR=6.5							
KIV	**Kislovodsk**	19.93	332	*eP*		Pn	11 21 31.1	+1.6
	comp=N,52nm,1.0s							
KKAR	**Karatay Array**	20.23	33	*eP*		P	11 21 32.1	+1.0
	comp=N,3.4nm,0.8s							
KKAR	**Karatay Array**	20.23	33	*eP*		P	11 21 32.1	+1.0
	comp=N,3.4nm,0.8s							
EKS2	**Erkin-Say**	21.64	39	*eP*		P	11 21 46.4	0.0
	comp=N,6.3nm,0.7s							
EKS2	**Erkin-Say**	21.64	39	*eP*		P	11 21 46.4	0.0
	comp=N,6.3nm,0.7s							
AAK	**Ala-Archa**	22.03	40	P		P	11 21 50.7	+0.1
	comp=N,1.9nm,0.5s,baz=236,slow=12,SNR=4.0							
AAK	**Ala-Archa**	22.03	40	*eP*		P	11 21 50.5	-0.1
	comp=N,7.3nm,1.0s							
AAK	**Ala-Archa**	22.03	40	*eP*		P	11 21 50.5	-0.1
	comp=N,7.3nm,1.0s							
BR131	**Keskin Array S**	22.25	311	*eP*		P	11 21 55.0	+2.0
	comp=N,6.1nm,0.7s							
BR131	**Keskin Array S**	22.25	311	*eP*		P	11 21 55.0	+2.0
	comp=N,6.1nm,0.7s							
BRTR	**Keskin Array B**	22.25	311	P		P	11 21 53.9	+0.9
	comp=N,3.6nm,0.7s,baz=128,slow=11,SNR=23							
ABKAR	**Akbulak array**	22.57	8	*eP*		P	11 21 55.6	-0.6
	comp=N,4.2nm,0.5s							
ABKAR	**Akbulak array**	22.57	8	*eP*		P	11 21 55.6	-0.6
	comp=N,4.2nm,0.5s							
AKTO	**Aktyubinsk**	23.57	4	P		P	11 22 07.0	+0.6
	comp=N,1.7nm,0.4s,baz=156,slow=9.9,SNR=6.2							
AKTO	**Aktyubinsk**	23.57	4	P		P	11 22 07.0	+0.6
BVAR	**Borovoye Array**	28.34	19	P		P	11 22 49.5	-0.3
	comp=N,2.1nm,0.7s,baz=201,slow=7.7,SNR=10							
MKAR	**Makanchi Array**	28.96	40	P		P	11 22 55.4	0.0
	comp=N,0.7nm,0.5s,baz=207,slow=5.0,SNR=8.6							
KURBB	**Kurchatov Arra**	29.47	30	P		P	11 22 59.0	-0.8
	comp=N,1.0nm,0.8s,baz=234,slow=8.9,SNR=4.6							
KURK	**Kurchatov**	29.57	30	P		P	11 22 59.0	-1.8
KURK	**Kurchatov**	29.57	30	P		P	11 22 59.0	-1.8
AKASG	**Malin Array Be**	31.08	327	P		P	11 23 13.7	-0.4
	comp=N,0.4nm,0.4s,baz=132,slow=8.1,SNR=6.9							
ZAA0	**Zalesovo Array**	34.56	31	*eP*		P	11 23 43.7	-0.8
ZAA0	**Zalesovo Array**	34.56	31	*eP*		P	11 23 43.7	-0.8
ZALV	**Zalesovo Beam**	34.56	31	P		P	11 23 42.6	-1.9
	comp=N,3.2nm,0.5s,baz=242,slow=9.7,SNR=17							
GERES	**GERESS Array B**	38.97	316	P		P	11 24 21.0	-1.2
	comp=N,0.6nm,0.5s,baz=94,slow=8.4,SNR=3.9							
KHC	**Kasperske Hory**	39.14	316	*eP*		P	11 24 24.0	+0.4
FINES	**FINESS Array B**	39.79	338	P		P	11 24 27.8	-0.9
	comp=N,1.9nm,0.5s,baz=144,slow=11,SNR=9.6							
MOTA	**Moosalm**	40.21	312⇑	*iP*		P	11 24 32.3	-0.3
	comp=N,3.0nm,0.4s							
MOTA	**Moosalm**	40.21	312	P		P	11 24 32.3	-0.3
	comp=N,3.0nm,0.4s							
FETA	**Feichten**	40.38	312⇑	*iP*		P	11 24 34.3	+0.2
	comp=N,3.5nm,0.4s							
FETA	**Feichten**	40.38	312	P		P	11 24 34.3	+0.2
	comp=N,3.5nm,0.4s							
DAVA	**Damuels**	41.01	312⇓	*iP*		P	11 24 39.2	0.0
	comp=N,15nm,0.4s							
DAVA	**Damuels**	41.01	312	P		P	11 24 39.2	0.0
	comp=N,15nm,0.4s							
MBDF	**Montbardon**	42.67	308	*eP*		P	11 24 52.8	-0.1
MBDF	**Montbardon**	42.67	308	*eP*		P	11 24 52.8	-0.1
MBDF	**Montbardon**	42.67	308	*eP*		P	11 24 52.8	-0.1
LPG	**La Plagne**	42.79	309	*eP*		P	11 24 54.5	+0.5
	comp=N,3.3nm,0.5s							
LPG	**La Plagne**	42.79	309	*eP*		P	11 24 54.5	+0.5
	comp=N,1.6nm,0.5s							
LPG	**La Plagne**	42.79	309	*eP*		P	11 24 54.5	+0.5
	comp=N,3.3nm,0.5s							
LPL	**La Plagne**	42.81	309	*eP*		P	11 24 54.5	+0.4
	comp=N,2.7nm,0.5s							
LPL	**La Plagne**	42.81	309	*eP*		P	11 24 54.5	+0.4
	comp=N,1.4nm,0.5s							
LPL	**La Plagne**	42.81	309	*eP*		P	11 24 54.5	+0.4
	comp=N,2.7nm,0.5s							
CABF	**La Chapelle**	43.42	310	*eP*		P	11 24 59.2	+0.3
	comp=N,4.7nm,0.5s							
CABF	**La Chapelle**	43.42	310	*eP*		P	11 24 59.2	+0.3
	comp=N,2.3nm,0.5s							
CABF	**La Chapelle**	43.42	310	*eP*		P	11 24 59.2	+0.3
	comp=N,4.7nm,0.5s							
HAU	**Haudompre**	43.49	312	*eP*		P	11 24 59.6	+0.3
	comp=N,5.4nm,0.5s							
HAU	**Haudompre**	43.49	312	*eP*		P	11 24 59.6	+0.3
	comp=N,2.7nm,0.5s							
HAU	**Haudompre**	43.49	312	*eP*		P	11 24 59.6	+0.3
	comp=N,5.4nm,0.5s							
PAGF	**Fort de Pagny**	44.00	313	*eP*		P	11 25 03.6	+0.2
PAGF	**Fort de Pagny**	44.00	313	*eP*		P	11 25 03.6	+0.2
PAGF	**Fort de Pagny**	44.00	313	*eP*		P	11 25 03.6	+0.2
SONM	**Songino Array**	44.57	48	LR		LR	11 45 12.8	
	comp=N,102nm,20.4s,baz=266,slow=38							
LASF	**Ste Croix**	44.67	306	*eP*		P	11 25 09.3	+0.4
LASF	**Ste Croix**	44.67	306	*eP*		P	11 25 09.3	+0.4
LASF	**Ste Croix**	44.67	306	*eP*		P	11 25 09.3	+0.4
SMF	**Signal de Mont**	44.96	310	*eP*		P	11 25 11.1	0.0
	comp=N,4.6nm,0.4s							
SMF	**Signal de Mont**	44.96	310	*eP*		P	11 25 11.1	0.0
	comp=N,2.3nm,0.4s							
SMF	**Signal de Mont**	44.96	310	*eP*		P	11 25 11.1	0.0
	comp=N,4.6nm,0.4s							
NB2	**NORSAR Subarra**	45.24	331	P		P	11 25 12.0	-1.1
	comp=Z,0.9nm,0.7s,baz=115,slow=7.9							
NOA	**NORSAR Array B**	45.24	331	P		P	11 25 11.9	-1.1
	comp=Z,1.4nm,0.6s,baz=117,slow=7.9,SNR=7.9							
SSF	**Saint Saulge**	45.24	311	*eP*		P	11 25 13.5	+0.2
	comp=Z,3.8nm,0.4s							
SSF	**Saint Saulge**	45.24	311	*eP*		P	11 25 13.5	+0.2
	comp=Z,1.9nm,0.4s							
SSF	**Saint Saulge**	45.24	311	*eP*		P	11 25 13.5	+0.2
	comp=Z,3.8nm,0.4s							
BAIF	**Baives**	45.27	315	*eP*		P	11 25 13.9	+0.5
BAIF	**Baives**	45.27	315	*eP*		P	11 25 13.9	+0.5
BAIF	**Baives**	45.27	315	*eP*		P	11 25 13.9	+0.5
AVF	**Avril sur Loir**	45.31	310	*eP*		P	11 25 13.9	+0.1
AVF	**Avril sur Loir**	45.31	310	*eP*		P	11 25 13.9	+0.1
AVF	**Avril sur Loir**	45.31	310	*eP*		P	11 25 13.9	+0.1
TAM	**Tamanrasset**	45.34	276	*eP*		P	11 25 16.4	+1.8
	comp=Z,3.8nm,0.8s							
TAM	**Tamanrasset**	45.34	276	*eP*		P	11 25 16.4	+1.8
	comp=Z,3.8nm,0.8s							
BGF	**Bois d'Agland**	45.63	310	*eP*		P	11 25 16.6	+0.2
	comp=Z,4.9nm,0.4s							
BGF	**Bois d'Agland**	45.63	310	*eP*		P	11 25 16.6	+0.2
	comp=Z,2.5nm,0.4s							
BGF	**Bois d'Agland**	45.63	310	*eP*		P	11 25 16.6	+0.2
	comp=Z,4.9nm,0.4s							
CAF	**Calviac**	46.02	308	*eP*		P	11 25 20.1	+0.6
	comp=Z,3.2nm,0.4s							
CAF	**Calviac**	46.02	308	*eP*		P	11 25 20.1	+0.6
	comp=Z,1.6nm,0.4s							
CAF	**Calviac**	46.02	308	*eP*		P	11 25 20.1	+0.6
	comp=Z,3.2nm,0.4s							
TCF	**Toulx Ste Croi**	46.04	309	*eP*		P	11 25 20.0	+0.3
	comp=Z,3.3nm,0.4s							
TCF	**Toulx Ste Croi**	46.04	309	*eP*		P	11 25 20.0	+0.3
	comp=Z,1.6nm,0.4s							
TCF	**Toulx Ste Croi**	46.04	309	*eP*		P	11 25 20.0	+0.3
	comp=Z,3.3nm,0.4s							
ARCES	**ARCESS Array B**	46.11	346	P		P	11 25 18.6	-1.3
	comp=Z,1.7nm,0.9s,baz=141,slow=8.8,SNR=4.9							
RJF	**Les Rejaudoux**	46.44	308	*eP*		P	11 25 23.1	+0.3
	comp=Z,4.8nm,0.5s							
RJF	**Les Rejaudoux**	46.44	308	*eP*		P	11 25 23.1	+0.3
	comp=Z,2.4nm,0.5s							
RJF	**Les Rejaudoux**	46.44	308	*eP*		P	11 25 23.1	+0.3
	comp=Z,4.8nm,0.5s							
LFF	**La Frestale**	46.96	307	*eP*		P	11 25 27.7	+0.8
LFF	**La Frestale**	46.96	307	*eP*		P	11 25 27.7	+0.8
LFF	**La Frestale**	46.96	307	*eP*		P	11 25 27.7	+0.8
ETSF	**Etsaut**	47.83	305	*eP*		P	11 25 34.8	+1.0
	comp=Z,4.8nm,0.6s							
ETSF	**Etsaut**	47.83	305	*eP*		P	11 25 34.8	+1.0
	comp=Z,2.4nm,0.6s							
ETSF	**Etsaut**	47.83	305	*eP*		P	11 25 34.8	+1.0
	comp=Z,4.8nm,0.6s							
LDF	**La Druitiere**	47.85	312	*eP*		P	11 25 33.4	-0.3
	comp=Z,2.2nm,0.2s							
LDF	**La Druitiere**	47.85	312	*eP*		P	11 25 33.4	-0.3
	comp=Z,1.1nm,0.2s							
LDF	**La Druitiere**	47.85	312	*eP*		P	11 25 33.4	-0.3
	comp=Z,2.2nm,0.2s							
FLN	**La Foliniere**	48.10	313	*eP*		P	11 25 35.3	-0.4
FLN	**La Foliniere**	48.10	313	*eP*		P	11 25 35.3	-0.4
FLN	**La Foliniere**	48.10	313	*eP*		P	11 25 35.3	-0.4
GRR	**Gorron**	48.32	312	*eP*		P	11 25 37.5	+0.2
	comp=Z,2.6nm,0.3s							
GRR	**Gorron**	48.32	312	*eP*		P	11 25 37.5	+0.2
	comp=Z,1.3nm,0.3s							
GRR	**Gorron**	48.32	312	*eP*		P	11 25 37.5	+0.2
	comp=Z,2.6nm,0.3s							
SJPF	**Ste Jean**	48.32	305	*eP*		P	11 25 38.7	+1.2
	comp=Z,5.1nm,0.4s							
SJPF	**Ste Jean**	48.32	305	*eP*		P	11 25 38.7	+1.2
	comp=Z,2.5nm,0.4s							
SJPF	**Ste Jean**	48.32	305	*eP*		P	11 25 38.7	+1.2
	comp=Z,5.1nm,0.4s							
ESDC	**Sonseca Array**	50.50	300	P		P	11 25 52.5	-1.7
	comp=Z,0.5nm,0.4s,baz=65,slow=7.5,SNR=6.0							
TORD	**Torodi Ar. Bea**	52.05	266	P		P	11 26 07.1	+1.0
	comp=Z,1.7nm,0.6s,baz=62,slow=7.4,SNR=17							
BOSA	**Boshof**	62.39	210	P		P	11 27 19.5	+0.5
	comp=Z,1.3nm,0.4s,baz=16,slow=6.4,SNR=5.2							
SEY	**Seymchan**	69.41	29	P		P	11 28 03.5	-0.3
	comp=Z,1.2nm,0.5s,baz=277,slow=4.4,SNR=6.6							
ILAR	**Eielson Array**	86.96	9	P		P	11 29 39.6	-1.2
	comp=Z,0.2nm,0.6s,baz=319,slow=3.0,SNR=2.8							
ASAR	**Alice Springs**	90.84	116	P		P	11 30 00.4	+0.5
	comp=Z,0.2nm,0.8s,baz=306,slow=4.9,SNR=3.4							

*ISCJB **28** 11:27:26.0±0.6, 32.29°N±0.03°×115.32°W±0.04, h10km, Error ellipse: s-maj=5.2km s-min=4.2km az=174.3*
*MEX **28** 11:27:26.0±0.6, 32.46°N×115.05°W, h39km±8km, MD3.7*
*NEIC **28** 11:27:27.5, 32.30°N×115.35°W, h9km, ML2.9(PAS), ML3.0(ECX), After ECX.*
*ECX **28** 11:27:27.4±0.6, 32.29°N×115.35°W, h9km, MD2.8, ML3.0*

ISC 28 11:27:25.6±0.9, 32.27°N±0.03°×115.31°W±0.03, h10km, n20, σ1°35/33, 7C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	0.15	3	*eP*		Pg		11 27 30.0	+1.0
CPBX				*eS*		Sg		11 27 35.6	+4.3
CPBX	**Cerro Prieto**	0.15	3	*eP*9		Pg		11 27 29.6	+0.6
CPBX				*eS*		Sg		11 27 31.8	+0.5
CPBX				IAML				11 27 34.0	
	comp=N,14μm,0.3s								
CPBX				⇓*e*				11 27 34.0	
CPBX				⇓*e*				11 27 35.1	
CPBX				IAML				11 27 35.1	
	comp=E,15μm,0.2s								
SGL	**Mount Signal**	0.52	317⇑	*iP*		Pb		11 27 36.0	-0.8
WESC	**Westside Schoo**	0.60	324	*eP*		Pb		11 27 37.9	-0.4
COA	**Coachella**	0.61	15	*e*P2		Pn		11 27 38.3	-2.1
RDX	**Rancho Dawling**	0.63	238⇓	*eP*		Pg		11 27 38.4	+0.4
RDX				IAML				11 27 47.2	
	comp=N,737nm,0.3s								
RDX				⇑*e*				11 27 47.2	
YUH	**Yuha Desert**	0.64	306⇑	*iP*		Pg		11 27 37.9	-0.1
YMD	**Yuma Desert**	0.71	66⇑	*iP*		Pb		11 27 39.8	-0.3
RMX	**La Rumorosa**	0.73	297	*eP*		Pg		11 27 39.5	-0.2
RMX				*eS*		Sg		11 27 48.9	-0.3
RMX				⇑*e*				11 27 51.0	
RMX				IAML				11 27 51.0	
	comp=N,525nm,0.2s								
RMX				⇓*e*				11 27 51.2	
	comp=E,477nm,0.5s								
ECBX	**El Chinero**	0.83	164	*e*P9		Pn		11 27 41.6	-1.7
ECBX				*eS*		Sg		11 27 53.5	+1.2
ZAX	**El Zacaton**	1.11	228	*eP*		Pb		11 27 47.1	+0.1
ZAX				*eS*		Sb		11 28 01.9	+0.4
ZAX				IAML				11 28 03.8	
	comp=E,573nm,0.5s								
ZAX				*e*				11 28 03.8	
CBX	**Cerro Bola**	1.15	273	*eP*		Pb		11 27 47.4	-0.3
CBX				*eS*		Sb		11 28 03.2	+0.6
CBX	**Cerro Bola**	1.15	273	*eP*		Pb		11 27 47.4	-0.3
CBX				*eS*		Sb		11 28 03.2	+0.6
CBX	**Cerro Bola**	1.15	273	*eP*		Pb		11 27 47.2	-0.3
CBX				*eS*		Sb		11 28 02.0	-0.6
CBX				⇑*e*				11 28 03.9	
CBX				IAML				11 28 03.9	
	comp=N,348nm,0.5s								
SPIG	**San Pedro Mart**	1.23	186	*eP*		Pn		11 27 48.3	-0.8
SPIG				*eS*		Sb		11 28 06.7	+1.6
SPIG	**San Pedro Mart**	1.23	186	*eP*		Pn		11 27 48.3	-0.8
SPIG				*eS*		Sb		11 28 06.7	+1.6
SPX	**San Pedro Mart**	1.23	186	*eP*		Pn		11 27 48.7	-0.5
SPX				*eS*		Sb		11 28 01.1	-4.1
SPX	**San Pedro Mart**	1.23	186	*eP*		Pn		11 27 48.6	-0.5
ECNX	**Esteban Cantu**	1.25	241	*e*P2		Pn		11 27 49.2	-0.1
ECNX				*eS*		Sb		11 28 05.5	-0.1
PBX	**Punta Banda**	1.31	247	*eP*		Pn		11 27 50.0	-0.1
PBX				*eS*		Sb		11 28 07.1	-0.1

*IDC **28** 11:29:25.3±1.1, 8.27°S×159.15°E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.8/32, mbtmp4.0/8, Error ellipse: s-maj=41.1km s-min=22.6km az=107.0*
*ISCJB **28** 11:29:27.5±0.8, 8.1°S±0.1°×158.6°E±0.1°, h10km, mb3.8/8, Error ellipse: s-maj=19.9km s-min=10.4km az=135.4*

ISC 28 11:29:28.7±0.8, 8.0°S±0.1°×158.6°E±0.1°, h10km, n15, σ1°58/11, mb4.0/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	1.91	137	*i*P		Pb		11 30 05.0	+1.2
HNR				*i*S		Sn		11 30 25.0	-0.6
WRA	**Warramunga Arr**	26.33	241	P		P		11 35 06.5	+1.4
	0.7nm,0.3s,baz=67,slow=9.2,SNR=21								
WRA				PcP		PcP		11 38 28.9	-2.4
	0.3nm,0.4s,baz=63,slow=3.1,SNR=8.4								
H11S3	**WAKE ISLAND Hy**	27.52	17	T		T		12 04 09.5	
	baz=195,slow=76,SNR=152								
H11S2	**WAKE ISLAND Hy**	27.52	17	T		T		12 04 06.8	
	baz=195,slow=76,SNR=165								
H11S1	**WAKE ISLAND Hy**	27.54	17	T		T		12 04 05.3	
	baz=195,slow=76,SNR=125								
ASAR	**Alice Springs**	28.34	234	P		P		11 35 23.4	+0.2
	0.7nm,0.6s,baz=64,slow=9.6,SNR=15								
ASAR				PcP		PcP		11 38 33.8	-2.3
	0.3nm,0.4s,baz=81,slow=2.6,SNR=6.5								
STKA	**Stephens Creek**	28.54	211	P		P		11 35 24.3	-0.5
	2.0nm,0.6s,baz=50,slow=15,SNR=2.9								
H11N1	**WAKE ISLAND Hy**	28.74	16	T		T		12 05 38.6	
	baz=196,slow=76,SNR=62								
H11N3	**WAKE ISLAND Hy**	28.75	16	T		T		12 05 35.1	
	baz=196,slow=76,SNR=70								
H11N2	**WAKE ISLAND Hy**	28.75	16	T		T		12 05 38.6	
	baz=196,slow=76,SNR=42								
VNDA	**Vanda**	69.49	179	P		P		11 40 33.9	-3.1
	0.7nm,0.7s,baz=358,slow=4.2,SNR=3.7								
SONM	**Songino Array**	72.17	326	P		P		11 40 55.8	+1.8
	0.8nm,0.6s,baz=128,slow=4.4,SNR=4.0								
ILAR	**Eielson Array**	83.03	21	P		P		11 41 53.1	-1.0
	0.2nm,0.5s,baz=260,slow=5.1,SNR=4.9								
MKAR	**Makanchi Array**	86.56	318	P		P		11 42 13.0	+0.7
	0.6nm,0.5s,baz=98,slow=7.1,SNR=6.8								
BVAR	**Borovoye Array**	95.28	323	P		P		11 42 52.6	-0.3
	0.8nm,0.4s,baz=80,slow=8.9,SNR=3.1								

*LJU **28** 11:39:42.6, 46.39°N×15.07E, h0km Rockburst*
CSEM 28 11:39:42.6±99.0, 46.39°N×15.07E, h0km, Suspected Mining induced., Northwestern Balkan Peninsula

*ISCJB **28** 11:42:20.1±0.8, 36.55°N±0.05°×71.45°E±0.09, h114km, Error ellipse: s-maj=11.0km s-min=5.4km az=157.1*
*NNC **28** 11:42:25.2±6.3, 36.99°N×71.21E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=52.8km s-min=21.7km az=170.0*

ISC 28 11:42:20.6±1.4, 36.50°N±0.09°×71.35°E±0.08, h114km, n17, σ1°57/21, 5C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	3.06	320	⇓P	n	Pn		11 43 08.9	+1.3
	24nm,0.4s								
DZET				⇓Sn		Sn		11 43 43.6	-0.1
	319nm,0.6s								
SFK	**Sufi-Kurgan**	3.90	25	⇑P	n	Pn		11 43 22.9	+4.0
	16nm,0.6s								
SFK				⇓Sn		Sn		11 44 08.8	+4.8
	42nm,0.4s								
AML	**Almayashu**	5.91	17	P		Pn		11 43 46.7	+0.6
	SNR=26								
MNAS	**Manas**	6.05	8	⇑Pn		Pn		11 43 47.7	-0.1
	3.9nm,0.4s								
MNAS				⇓Sn		Sn		11 44 53.6	-2.1
	8.7nm,0.4s								
UCH	**Uchtor**	6.23	22	P		Pn		11 43 51.3	+0.9
	SNR=20								
KZA	**Kyzart**	6.34	27	P		Pn		11 43 52.7	+0.8
	SNR=5.2								
EKS2	**Erkin-Say**	6.44	16	P		Pn		11 43 53.0	0.0
	SNR=6.4								
AAK	**Ala-Archa**	6.59	21	P		Pn		11 43 55.7	+0.6
	SNR=7.1								
AAK	**Ala-Archa**	6.59	21	⇑Pn		Pn		11 43 55.6	+0.4
	2.9nm,0.3s								
AAK				⇑Sn		Sn		11 45 08.8	-0.1
	6.3nm,0.6s								
KK31	**Karatay Array**	6.63	355	⇓Pn		Pn		11 43 54.5	-1.0
	0.5nm,0.2s,baz=182,slow=12,SNR=23								
KK31				⇓Sn		Sn		11 45 03.6	-6.1
	5.7nm,0.4s,baz=192,slow=18,SNR=16								
TKM2	**Tokmak 2**	7.20	26	⇑Pn		Pn		11 44 02.8	-0.6
	3.0nm,0.8s								
TKM2				⇓Sn		Sn		11 45 21.8	-1.9
	6.2nm,0.8s								
KOLN	**Koldanda**	13.53	127	*eP*		Pn		11 45 29.1	+1.0
	4.8nm,0.4s								
GKN	**Gorkha**	14.06	123	*eP*		Pn		11 45 35.2	+0.3
	12nm,0.3s								
PKIN	**Phulchoki**	14.85	123	*eP*		Pn		11 45 44.2	-0.9
	13nm,0.4s								
PKI	**Pulchoki**	14.86	123	*eP*		Pn		11 45 44.4	-0.9
GUN	**Gumba**	14.97	121	*eP*		Pn		11 45 45.3	-1.4
JIRN	**Jiri**	15.34	121	*eP*		Pn		11 45 49.6	-1.7
	20nm,0.5s								

*IDC **28** 11:47:49.0±1.6, 55.58°N×164.71E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.3/48, mbtmp3.4/4, ML2.3/1, Error ellipse: s-maj=117.4km s-min=24.8km az=148.0*
*KRSC **28** 11:47:51.2±1.7, 55.49°N×164.54E, h67km±29km, ML4.2*
*ISCJB **28** 11:47:52.1±0.5, 55.46°N±0.03°×164.50E±0.05, h22km, mb3.4/3, Error ellipse: s-maj=4.1km s-min=3.7km az=8.6*
*MOS **28** 11:47:52.3±0.8, 55.54°N×164.60E, h39km, mb4.0/1, Error ellipse: s-maj=17.7km s-min=12.3km az=46.4*

ISC 28 11:47:51.2±0.8, 55.53°N±0.04°×164.56E±0.03, h22km, n51, σ1°84/85, mb3.4/3, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	0.87	112	*eP*		Pn		11 48 08.9	+0.8
BKI				*eS*		Sn		11 48 20.8	+0.7
BKI	**Bering**	0.87	112	PN		Pn		11 48 08.9	+0.8
BKI				S		Sn		11 48 20.8	+0.7
KBTR	**Krutoberegovo**	1.19	305	*eP*		Pn		11 48 11.7	-0.9
KBTR				*eS*		Sb		11 48 26.4	-1.7
KBTR	**Krutoberegovo**	1.19	305	PN		Pn		11 48 11.7	-0.9
KBTR				S		Sb		11 48 26.4	-1.7
MKZ	**Mys Kozlova**	1.90	240	*eP*		Pn		11 48 22.9	+0.7
MKZ				*eS*		Sn		11 48 44.2	-1.2
MKZ	**Mys Kozlova**	1.90	240	PN		Pn		11 48 22.9	+0.7
MKZ				S		Sn		11 48 44.2	-1.2
SMKR	**Semkarok**	2.03	303	*eP*		Pn		11 48 25.3	+1.2
SMKR				*eS*		Sn		11 48 50.3	+1.5
BDR	**Baidarnaya**	2.15	300	*eP*		Pn		11 48 27.2	+1.4
BDR				*eS*		Sn		11 48 53.7	+1.9
ZLN	**Zelenaya**	2.18	284	*eP*		Pb		11 48 28.8	-1.1
SRKR	**Sorokina**	2.21	302	*eP*		Pn		11 48 28.2	+1.6
SRKR				*eS*		Sn		11 48 55.0	+1.8
BZGR	**Bezymyannyi-Gr**	2.22	282	*eP*		Pn		11 48 28.8	+2.0
KLY	**Klyuchi**	2.33	291	*eP*		Pn		11 48 28.4	+0.2
KLY				*eS*		Sn		11 48 55.3	-0.9
KLY	**Klyuchi**	2.33	291	PN		Pn		11 48 28.4	+0.2
KLY				S		Sn	

s-min=4.3km az=159.9
*MOS **28** 11:53:15.2±1.3,53.99N×163.26W,h28km,mb4.6/12,*
Error ellipse: s-maj=15.8km s-min=7.7km az=85.0
*BJI **28** 11:53:19.6,53.88N×164.75W,h23km,mb4.7/4,mB4.9/4,*
Ms4.4/2,Ms7.4.0/1

ISC 28 11:53:16.4±1.4,53.63N±0.07×163.29W±0.04,h33km±5km, n120,σ1§13/117,mb4.3/35,MS3.5/6,4C,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.14**	**319**	P	**Pn**	**11 53 36.5**	**+0.4**
WESP	**Westdahl Peak**	**1.21**	**316**	P	**Pn**	**11 53 37.6**	**+0.6**
WESP				S	**Sb**	**11 53 54.4**	**+0.2**
WESN	**West Dahl Nort**	**1.22**	**322**	P	**Pn**	**11 53 37.9**	**+0.8**
FALS	**False Pass**	**1.24**	**357**	P	**Pn**	**11 53 37.7**	**+0.4**
FALS				S	**Sn**	**11 53 54.4**	**+1.5**
ISNN	**Isanotski Nort**	**1.24**	**347**	P	**Pn**	**11 53 38.5**	**+1.1**
SSLW	**Shishaldin Wes**	**1.25**	**337**	P	**Pn**	**11 53 38.1**	**+0.6**
SSLN	**Shishaldin Nor**	**1.26**	**341**	P	**Pn**	**11 53 38.9**	**+1.2**
AKUT	**Akutan**	**1.56**	**290**	P	**Pn**	**11 53 42.3**	**+0.6**
AKUT				S	**Sn**	**11 54 02.6**	**+1.9**
DT1	**Dutton Round H**	**1.60**	**21**	P	**Pn**	**11 53 42.0**	**-0.3**
DTNA	**Dutton South F**	**1.64**	**21**	P	**Pn**	**11 53 42.8**	**-0.1**
ZRO	**Akutan Zero**	**1.66**	**287**	P	**Pn**	**11 53 43.5**	**+0.3**
AKGG	**Akutan Green G**	**1.70**	**291**	P	**Pn**	**11 53 44.2**	**+0.5**
AKGG				S	**Sn**	**11 54 05.9**	**+1.6**
AKRB	**Akutan Reef Bi**	**1.72**	**288**	P	**Pn**	**11 53 44.3**	**+0.4**
UNV	**Unalaska Valle**	**1.92**	**278**	P	**Pn**	**11 53 46.2**	**-0.5**
UNV				S	**Sn**	**11 54 09.7**	**0.0**
MSW	**Makushin Switc**	**2.09**	**279**	P	**Pn**	**11 53 49.0**	**-0.1**
MSW				S	**Sn**	**11 54 15.5**	**+1.5**
MCIR	**Makushin Cirqu**	**2.16**	**280**	P	**Pn**	**11 53 50.6**	**+0.5**
SDPT	**Sand Point**	**2.38**	**42**	P	**Pn**	**11 53 53.3**	**+0.2**
OKFG	**Magazine Ridge**	**2.77**	**267**	P	**Pn**	**11 53 58.5**	**+0.2**
OKFG				S	**Sn**	**11 54 29.9**	**-0.7**
OKSP	**Okmok Steeple**	**3.02**	**265**	P	**Pn**	**11 54 01.8**	**0.0**
NIKH	**Nikolski High**	**3.40**	**261**	P	**Pn**	**11 54 06.5**	**-0.5**
KOFP	**Korovin Flat P**	**6.67**	**263**	P	**Pn**	**11 54 54.2**	**+2.2**
KOKV	**Korovin Volcan**	**6.69**	**263**	P	**Pn**	**11 54 54.0**	**+1.8**
OHAK	**Old Harbor**	**6.74**	**54**	P	**Pn**	**11 54 51.0**	**-1.8**
ATKA	**Atka Island**	**6.75**	**262**	P	**Pn**	**11 54 53.3**	**+0.3**
KDAK	**Kodiak Island**	**7.34**	**51**	*i* P	**Pn**	**11 54 59.9**	**-1.2**
KDAK	**Kodiak Island**	**7.34**	**51**	P	**Pn**	**11 55 00.4**	**-0.6**
SVW2	**Sparrevohn**	**8.57**	**26**	*e*Pn	**Pn**	**11 55 19.6**	**+1.7**
RSO	**Redoubt South** 14nm,0.5s	**8.93**	**36**	*e*Pn	**Pn**	**11 55 24.6**	**+1.5**
TRF	**Thorofare Moun**	**11.94**	**29**	*e*Pn	**Pn**	**11 56 03.7**	**-0.4**
TRF				*e*Sn	**Sn**	**11 58 14.9**	**-1.1**
MCK	**McKinley**	**12.55**	**31**	*e*P	**Pn**	**11 56 10.9**	**-1.5**
MCK	**McKinley**	**12.55**	**31**	*e*Pn	**Pn**	**11 56 10.9**	**-1.5**
PAX	**Paxson**	**13.20**	**38**	*e*P	**Pn**	**11 56 19.6**	**-1.7**
PAX	**Paxson**	**13.20**	**38**	*e*Pn	**Pn**	**11 56 19.6**	**-1.7**
COLA	**College**	**13.71**	**29**	*e*P	Pn	11 56 23.0	-5.2
ILAR	**Eielson Array** 0.1nm,0.3s,baz=220,slow=13,SNR=8.5	**13.92**	**30**	Pn	Pn	11 56 25.6	-5.5
COLD	**Coldfoot**	**15.04**	**20**	*e*Pn	**Pn**	**11 56 47.0**	**+0.8**
HYT	**Haines Junctio**	**15.63**	**52**	*e*Pn	**P**	**11 57 01.2**	**+3.3**
EGAK	**Eagle** 4.0nm,0.8s	**15.80**	**36**	*e*Pn	**P**	**11 56 59.6**	**0.0**
DAWY	**Dawson**	**16.08**	**40**	*e*Pn	**P**	**11 57 04.2**	**+1.5**
SKAG	**Skagway** 4.8nm,0.7s	**16.41**	**58**	*e*Pn	**P**	**11 57 09.3**	**+3.1**
WRAK	**Wrangell Islan** 4.5nm,0.4s	**17.88**	**69**	*e*Pn	**P**	**11 57 24.2**	**+1.7**
DLBC	**Dease Lake** 0.1nm,0.3s,baz=175,slow=12,SNR=2.2	**19.07**	**62**	P	**Pn**	**11 57 36.9**	**+0.2**
INK	**Inuvik** 2.1nm,0.3s,baz=229,slow=15,SNR=5.2	**20.30**	**32**	P	**P**	**11 57 46.6**	**-2.4**
INK				LR	LR	12 06 45.7	
	comp=Z,253nm,18.4s,baz=280,slow=40						
BILL	**Bilibino**	**20.38**	**327**	*e*P	Pn	11 57 54.1	+2.1
BILL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BILL	**Bilibino** comp=Z,3.4nm,0.9s	**20.38**	**327**	*e*Pn	Pn	11 57 54.1	+2.1
PEA0B	**Petropavlovsk-**	**23.09**	**285**	*e*P	**P**	**11 58 17.5**	**-1.4**
PETK	**Petropavlovsk-** comp=Z,5.0nm,0.5s,baz=89,slow=13,SNR=10	**23.09**	**285**	P	**P**	**11 58 16.2**	**-2.7**
PETK				LR	LR	12 07 09.1	
	comp=Z,57nm,20.0s,baz=68,slow=36						
SEY	**Seymchan** comp=Z,0.8nm,0.4s,baz=52,slow=6.9,SNR=6.5	**24.61**	**310**	P	**P**	**11 58 31.9**	**-1.2**
YKA	**Yellowknife Ar** comp=Z,0.8nm,0.4s,baz=274,slow=9.6,SNR=15	**26.62**	**51**	P	**P**	**11 58 51.1**	**-0.2**
TIXI	**Tiksi**	**33.59**	**328**	*e*P	**P**	**11 59 51.5**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,4.0nm,2.5s						
YAK	**Yakutsk**	**35.12**	**311**	*e*P	**P**	**12 00 06.6**	**+0.4**
YAK				pmax	pmax		
	comp=Z,35nm,0.5s						
YAK	**Yakutsk** comp=Z,35nm,0.5s	**35.12**	**311**	*e*P	**P**	**12 00 06.6**	**+0.4**
ASAJ	**Asahikawa** comp=Z,4.7nm,0.6s,baz=70,slow=5.1,SNR=4.9	**36.03**	**277**	P	**P**	**12 00 13.7**	**-0.6**
PDAR	**Pinedale Array** comp=Z,0.1nm,0.4s,baz=307,slow=6.7,SNR=2.3	**36.59**	**85**	P	**P**	**12 00 21.8**	**+2.5**
O20A	**White River Ci** comp=Z,71nm,2.6s	**38.98**	**87**	*e*P	**P**	**12 00 39.8**	**+0.3**
ULM	**Lac du Bonnet** comp=Z,79nm,19.6s,baz=15,slow=35	**40.29**	**66**	LR	LR	12 16 46.7	
H11N2	**WAKE ISLAND Hy** baz=26,slow=76,SNR=43	**40.85**	**226**	T	T	12 44 38.2	
H11N3	**WAKE ISLAND Hy** baz=26,slow=76,SNR=42	**40.86**	**226**	T	T	12 44 40.4	
H11N1	**WAKE ISLAND Hy** baz=26,slow=76,SNR=46	**40.87**	**226**	T	T	12 44 33.9	
H11S1	**WAKE ISLAND Hy** baz=26,slow=76,SNR=78	**42.02**	**225**	T	T	12 46 03.2	
H11S2	**WAKE ISLAND Hy** baz=26,slow=76,SNR=62	**42.04**	**225**	T	T	12 46 04.3	
H11S3	**WAKE ISLAND Hy** baz=26,slow=76,SNR=76	**42.04**	**225**	T	T	12 46 08.2	
USRK	**Ussuriysk Ar.** comp=Z,45nm,18.2s,baz=94,slow=39	**42.18**	**284**	LR	LR	12 20 29.9	
MAJO	**Matsushiro**	**43.38**	**271**	*e*P	**P**	**12 01 17.1**	**+1.7**
MAJO				pmax	pmax		
	comp=Z,70nm,1.0s						
MAJO	**Matsushiro** comp=Z,12nm,0.9s	**43.38**	**271**	*e*P	**P**	**12 01 16.8**	**+1.3**
MAT	**Matsushiro**	**43.38**	**271**	P	**P**	**12 01 15.2**	**-0.2**
MJAR	**Matsushiro Arr** comp=Z,1.2nm,0.7s,baz=48,slow=17,SNR=5.0	**43.38**	**271**	P	**P**	**12 01 15.2**	**-0.2**
MJAR				LR	LR	12 19 39.4	
	comp=Z,25nm,20.7s,baz=100,slow=37						
SUMG	**Summit**	**48.44**	**19**	*e*P	**P**	**12 01 56.1**	**+0.8**
SUMG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SUMG	**Summit** comp=Z,2.9nm,0.6s	**48.44**	**19**	*e*P	**P**	**12 01 56.1**	**+0.8**
KSRS	**Korea Array** comp=Z,1.8nm,0.6s,baz=52,slow=6.9,SNR=10	**48.86**	**280**	P	**P**	**12 01 58.4**	**-0.1**
KSAR	**Wonju Array Be**	**48.89**	**280**	P	**P**	**12 01 58.4**	**-0.3**
KSAR	**Wonju Array Be**	**48.89**	**280**	P	**P**	**12 01 58.4**	**-0.3**
TXAR	**Lajitas Array** comp=Z,0.2nm,0.5s,baz=293,slow=5.0,SNR=8.5	**49.12**	**95**	P	**P**	**12 02 01.1**	**+0.5**
TLY	**Talaya**	**52.50**	**308**	*e*P	**P**	**12 02 25.7**	**-0.1**
TLY				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SONM	**Songino Array** comp=Z,1.5nm,0.8s,baz=49,slow=6.5,SNR=7.4	**53.75**	**303**	P	**P**	**12 02 35.1**	**-0.1**
HHC	**Hu-ho-hao-te**	**55.84**	**294**	*e*P	**P**	**12 02 51.0**	**+0.7**
HHC				S	S	12 10 25.5	-10
HHC				PMZ			
	comp=Z,84nm,6.1s						
HHC				LN			
	comp=Z,130nm,18.5s						
HHC				LE			
	comp=Z,120nm,18.5s						
HHC				LZ			
	comp=Z,120nm,18.5s						
ARCES	**ARCESS Array B** comp=Z,1.9nm,0.7s,baz=14,slow=7.6,SNR=16	**56.98**	**356**	P	**P**	**12 02 56.5**	**-1.4**
ZALV	**Zalesovo Beam** comp=Z,0.6nm,0.3s,baz=4.1,slow=2.1,SNR=4.3	**58.90**	**320**	P	**P**	**12 03 10.9**	**-0.6**
ZALV	**Zalesovo Beam**	**58.90**	**320**	*i* P	**P**	**12 03 10.8**	**-0.7**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KURK	**Kurchatov**	**63.79**	**321**	*e*P	**P**	**12 03 45.2**	**+0.6**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KURK	**Kurchatov** comp=Z,3.8nm,0.8s	**63.79**	**321**	*e*P	**P**	**12 03 45.2**	**+0.6**
BRVK	**Borovoye**	**64.73**	**328**	*i* P	**P**	**12 03 51.6**	**+0.8**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FINES	**FINESS Array B** comp=Z,1.4nm,0.5s,baz=38,slow=9.6,SNR=6.9	**65.04**	**355**	P	**P**	**12 03 51.6**	**-1.0**
FINES	**FINESS Array B**	**65.04**	**355**	*i* P	**P**	**12 03 52.7**	**+0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARU	**Arti**	**65.08**	**336**	*c i*P	**P**	**12 03 52.7**	**-0.3**
ARU						12 06 11.7	
ARU				S	**S**	**12 12 30.9**	**-1.8**
ARU				SS	**SS**	**12 16 44.5**	**+0.5**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MKAR	**Makanchi Array** comp=Z,0.8nm,0.5s,baz=30,slow=5.7,SNR=12	**65.52**	**317**	P	**P**	**12 03 55.4**	**-0.7**
MKAR				LR	LR	12 35 52.5	
	comp=Z,42nm,18.7s,baz=314,slow=39						
MKAR	**Makanchi Array**	**65.52**	**317**	*ce*P	P	12 04 00.2	+4.1
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WMQ	**Urumqi**	**65.56**	**311**	*e*P	P	12 04 01.0	+4.6
WMQ				pP	pP	12 04 11.3	+4.6
WMQ				sP	sP	12 04 15.0	+4.4
WMQ				S	**S**	**12 12 39.0**	**-0.2**
WMQ				ScS	**ScS**	**12 13 50.8**	**+1.5**
WMQ				PMZ			
	comp=Z,70nm,5.6s						
WMQ				LN			
	comp=Z,80nm,19.4s						
WMQ				LE			
	comp=Z,140nm,22.2s						
NOA	**NORSAR Array B** comp=Z,0.7nm,0.4s,baz=358,slow=6.8,SNR=4.2	**65.60**	**3**	P	**P**	**12 03 55.2**	**-1.2**
HFS	**Hagfors** comp=Z,4.0nm,0.5s,baz=31,slow=3.5,SNR=18	**66.57**	**2**	P	**P**	**12 04 01.2**	**-1.3**
CD2	**Chengdu**	**67.41**	**292**	*e*P	**P**	**12 04 11.0**	**+2.6**
VSU	**Vasula**	**67.97**	**354**	*e*P	**P**	**12 04 10.6**	**-0.8**
VSU				pmax	pmax		
	comp=Z,17nm,1.2s						
EKA	**Eskdalemuir Ar** comp=Z,1.6nm,0.5s,baz=350,slow=4.1,SNR=11	**70.18**	**12**	P	**P**	**12 04 23.9**	**-1.3**
AKTO	**Aktyubinsk** comp=Z,8.8nm,0.8s,baz=45,slow=4.2,SNR=23	**70.65**	**333**	P	**P**	**12 04 27.7**	**-0.4**
ABKAR	**Akbulak array** comp=Z,6.8nm,0.4s	**71.19**	**332**	*e*P	**P**	**12 04 32.0**	**+0.5**
AAK	**Ala-Archa**	**72.08**	**319**	*e*P	**P**	**12 04 36.1**	**-1.0**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CLL	**Collm** comp=Z,7.0nm,1.4s	**75.39**	**2**	*i* P	**P**	**12 04 56.8**	**+0.6**
CLL	**Collm**	**75.39**	**2**	*i* P	**P**	**12 04 56.8**	**+0.6**
CLL				pmax	pmax		
	comp=Z,7.0nm,1.4s						
AKASG	**Malin Array Be** comp=Z,1.8nm,0.5s,baz=10,slow=5.8,SNR=8.3	**75.52**	**352**	P	**P**	**12 04 55.8**	**-1.1**
AKASG	**Malin Array Be**	**75.52**	**352**	*ce*P	**P**	**12 04 56.9**	**0.0**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KIEV	**Kiev**	**75.52**	**352**	*e*P	**P**	**12 04 56.3**	**-0.6**
STHS	**Stebnicka Huta**	**77.26**	**357**	*e*P	**P**	**12 05 08.4**	**+1.6**
STHS	**Stebnicka Huta**	**77.26**	**357**	*e*P	**P**	**12 05 08.4**	**+1.6**
GERES	**GERESS Array B** comp=Z,0.9nm,0.5s,baz=350,slow=4.1,SNR=4.9	**77.87**	**2**	P	**P**	**12 05 10.3**	**0.0**
TAPN	**Taplejung** comp=Z,6.0nm,0.5s	**78.78**	**301**	*e*P	**P**	**12 05 16.4**	**+0.4**
GOF	**Gofitskoye**	**79.15**	**341**	*e*P	P	12 05 30.3	+13
GUN	**Gumba** comp=Z,42nm,1.1s	**79.25**	**303**	*e*P	**P**	**12 05 19.3**	**+0.7**
JIRN	**Jiri** comp=Z,23nm,0.4s	**79.30**	**302**	*e*P	**P**	**12 05 19.9**	**+1.0**
KKN	**Kakani**	**79.65**	**303**	*e*P	**P**	**12 05 21.1**	**+0.5**
RAMN	**Ramite** comp=Z,20nm,0.8s	**79.67**	**302**	*e*P	**P**	**12 05 21.4**	**+0.6**
PKI	**Pulchoki**	**79.76**	**303**	*e*P	**P**	**12 05 21.8**	**+0.4**
PKIN	**Phulchoki**	**79.76**	**303**	*e*P	**P**	**12 05 21.7**	**+0.4**
GKN	**Gorkha**	**79.79**	**304**	*e*P	**P**	**12 05 22.0**	**+0.7**
CMAR	**Chiang Mai Arr** comp=Z,0.8nm,0.3s,baz=7.7,slow=6.3,SNR=6.8	**79.84**	**287**	P	**P**	**12 05 22.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**79.84**	**287**	*i* P	**P**	**12 05 22.2**	**+0.7**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
DMN	**Daman**	**79.88**	**303**	*e*P	**P**	**12 05 22.6**	**+0.7**
KBZ	**Khabaz** comp=Z,2.2nm,0.8s,baz=236,slow=24,SNR=5.9	**80.46**	**341**	P	**P**	**12 05 24.4**	**+0.1**
KOLN	**Kolanda** comp=Z,9.1nm,0.8s	**80.50**	**304**	*e*P	**P**	**12 05 25.7**	**+0.5**
BRTR	**Keskin Array B** comp=Z,1.8nm,0.9s,baz=4.8,slow=3.0,SNR=7.2	**85.88**	**347**	P	**P**	**12 05 52.8**	**+0.1**
BRTR	**Keskin Array B**	**85.88**	**347**	*ce*P	**P**	**12 05 53.9**	**+1.2**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						

IDC 28 12:16:39.1±3.5,5.89S×130.75E,h180km±54km,mb3.0/1, mb1 3.1/4,mb1mx2.9/35,mbtmp3.6/4,Error ellipse: s-maj=127.9km s-min=19.0km az=80.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.01**	**6**	P	Pn	12 17 54.1	+0.8
	1.5nm,0.3s,baz=29,slow=5.0,SNR=16						
SIJI				S	Sn	12 18 51.5	-0.1
	1.4nm,0.3s,baz=210,slow=22,SNR=9.4						
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=346,slow=11,SNR=30	**14.40**	**166**	P	Pn	12 19 55.5	+0.6
ASAR	**Alice Springs** 0.2nm,0.3s,baz=348,slow=9.6,SNR=9.0	**17.93**	**171**	P	P	12 20 35.0	-0.7
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=120,slow=7.1,SNR=3.6	**67.72**	**326**	P	P	12 27 17.2	+0.1

*IDC **28** 12:18:04.6±1.7,3.30S×148.95E,h0km,mb3.9/10, mb1 4.1/10,mb1mx3.9/32,mbtmp4.0/10,MS3.6/12, Ms1 3.6/12,ms1mx3.4/26,Error ellipse: s-maj=57.0km s-min=21.8km az=106.0*
*ISCJB **28** 12:18:06.1±1.5,3.3S±0.1×148.9E±0.3,h19km,mb3.9/10, MS3.6/11,Error ellipse: s-maj=47.8km s-min=16.4km az=16.7*

ISC 28 12:18:07.5±1.8,3.4S±0.2×149.0E±0.4,h19km,n24, σ0§65/11,mb3.9/10,MS3.6/11,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**17.32**	**347**	LR	LR	12 27 54.8	
	comp=Z,110nm,19.6s,baz=162,slow=34						
WRA	**Warramunga Arr** 15nm,0.9s,baz=43,slow=10,SNR=27	**21.80**	**220**	P	**P**	**12 22 58.3**	**-0.3**
WRA				LR	LR	12 32 38.6	
	comp=Z,142nm,18.7s,baz=230,slow=40						
ASAR	**Alice Springs** 9.1nm,0.8s,baz=46,slow=8.1,SNR=40	**24.89**	**214**	P	**P**	**12 23 30.0**	**+0.7**
ASAR				LR	LR	12 33 23.5	
	comp=Z,191nm,21.4s,baz=173,slow=37						
DZM	**Mont Dzumac** comp=Z,388nm,19.9s,baz=358,slow=34	**25.19**	**139**	LR	LR	12 32 12.5	
H11S3	**WAKE ISLAND Hy** baz=220,slow=76,SNR=421	**27.87**	**38**	T	T	12 53 07.0	
H11S2	**WAKE ISLAND Hy** baz=220,slow=76,SNR=300	**27.88**	**38**	T	T	12 53 08.2	
H11S1	**WAKE ISLAND Hy** baz=220,slow=76,SNR=313	**27.89**	**38**	T	T	12 53 10.0	
H11N1	**WAKE ISLAND Hy** baz=218,slow=76,SNR=40	**28.92**	**37**	T	T	12 54 25.6	
H11N3	**WAKE ISLAND Hy** baz=218,slow=76,SNR=50	**28.93**	**37**	T	T	12 54 25.8	
H11N2	**WAKE ISLAND Hy** baz=218,slow=76,SNR=64	**28.94**	**37**	T	T	12 54 26.8	
KAPI	**Kappang** comp=Z,59nm,19.1s,baz=87,slow=39	**29.17**	**266**	LR	LR	12 36 53.7	
MJAR	**Matsushiro Arr** comp=Z,36nm,18.6s,baz=170,slow=34	**40.94**	**347**	LR	LR	12 40 52.5	
URZ	**Urewera** comp=Z,101nm,20.6s,baz=262,slow=32	**43.22**	**147**	LR	LR	12 41 28.7	
ASAJ	**Asahikawa** comp=Z,44nm,21.1s,baz=175,slow=34	**47.60**	**354**	LR	LR	12 44 43.1	
USRK	**Ussuriysk Ar.** 1.2nm,0.6s,baz=193,slow=5.1,SNR=4.2	**49.73**	**344**	P	**P**	**12 26 58.8**	**+0.3**
CMAR	**Chiang Mai Arr** 0.4nm,0.4s,baz=128,slow=7.0,SNR=3.1	**53.80**	**296**	P	**P**	**12 27 29.6**	**+0.2**
SONM	**Songino Array** 0.7nm,0.7s,baz=155,slow=5.0,SNR=3.7	**63.10**	**329**	P	**P**	**12 28 34.1**	**+0.2**
SONM				LR	LR	12 56 50.5	
	comp=Z,64nm,18.6s,baz=100,slow=37						
MKAR	**Makanchi Array** 0.6nm,0.6s,baz=83,slow=5.3,SNR=4.5	**76.73**	**320**	P	**P**	**12 29 57.8**	**+0.1**
MKAR				LR	LR	13 04 19.8	
	comp=Z,38nm,18.2s,baz=142,slow=36						
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=96,slow=6.0,SNR=4.0	**77.85**	**327**	P	**P**	**12 30 03.6**	**-0.1**
ZALV				LR	LR	13 04 39.6	
	comp=Z,27nm,18.8s,baz=70,slow=36						
KURBB	**Kurchatov Arra** 1.0nm,0.5s,baz=105,slow=4.8,SNR=9.9	**80.31**	**322**	P	**P**	**12 30 17.0**	**-0.3**
ILAR	**Eielson Array** 0.3nm,0.8s,baz=265,slow=5.1,SNR=4.5	**82.30**	**23**	P	**P**	**12 30 27.6**	**+0.1**
BVAR	**Borovoye Array** 0.3nm,0.5s,baz=100,slow=7.9,SNR=2.3	**85.80**	**324**	P	**P**	**12 30 44.1**	**-1.6**
AKTO	**Aktyubinsk** comp=Z,34nm,19.8s,baz=67,slow=35	**93.16**	**320**	LR	LR	13 12 49.5	
TORD	**Torodi Ar. Bea** 0.5nm,0.6s,baz=59,slow=2.3,SNR=3.5	**146.21**	**289**	PKPbc	**PKPab**	**12 37 48.1**	**-0.3**

IDC 28 12:20:42.1±5.9,23.46S×67.28W,h0km,mb3.8/1, mb1 3.9/2,mb1mx3.6/21,mbtmp3.8/2,ML3.8/1,Error ellipse: s-maj=181.3km s-min=53.3km az=61.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz** 0.8nm,0.3s,baz=173,slow=8.1,SNR=30	**7.18**	**353**	P	Pn	12 22 29.0	-0.2
TORD	**Torodi Ar. Bea** 0.3nm,0.4s,baz=240,slow=4.1,SNR=4.1	**76.62**	**69**	P	P	12 32 35.2	+0.1
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=310,slow=4.6,SNR=3.7	**146.27**	**39**	PKPbc	PKPdf	12 40 23.8	+0.2

IDC 28 12:29:34.5±4.7,30.16S×178.35W,h0km,mb3.3/2, mb1 3.6/2,mb1mx3.4/25,mbtmp3.3/2,Error ellipse: s-maj=242.4km s-min=73.3km az=166.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 0.3nm,0.7s,baz=105,slow=7.2,SNR=4.2	**42.82**	**267**	P	P	12 37 33.6	-0.8
WRA	**Warramunga Arr** 0.5nm,0.8s,baz=112,slow=8.0,SNR=7.6	**43.79**	**272**	P	P	12 37 42.7	+0.5
FINES	**FINESS Array B** 1.7nm,0.9s,baz=41,slow=4.4,SNR=4.0	**144.82**	**340**	PKP	PKPbc	12 49 11.9	+0.2

*IDC **28** 12:33:37.5±1.6,53.60N×163.38W,h0km,mb3.6/10, mb1 3.6/11,mb1mx3.5/45,mbtmp3.5/11,ML3.2/1,Error ellipse: s-maj=37.1km s-min=19.4km az=172.0*
*ISCJB **28** 12:33:39.1±0.7,53.43N±0.06×163.08W±0.06,h29km, mb3.6/9,Error ellipse: s-maj=9.3km s-min=5.3km az=168.4*
*NEIC **28** 12:33:41.1,53.49N×163.22W,h28km,ML3.0(AEIC),After AEIC.*

ISC 28 12:33:41.1±0.9,53.54N±0.08×163.32W±0.05,h29km,n27, σ1§10/32,mb3.7/9,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.20**	**322**	P	**Pb**	**12 34 03.0**	**-0.2**
WESP	**Westdahl Peak**	**1.27**	**320**	P	**Pb**	**12 34 04.1**	**-0.2**
WESP				S	**Sb**	**12 34 21.4**	**+1.2**
WESN	**West Dahl Nort**	**1.27**	**325**	P	**Pb**	**12 34 04.3**	**-0.1**
FALS	**False Pass**	**1.32**	**358**	P	**Pb**	**12 34 04.1**	**-1.1**
FALS				S	**Sb**	**12 34 21.6**	**-0.2**
ISNN	**Isanotski Nort**	**1.32**	**348**	P	**Pb**	**12 34 05.0**	**-0.3**
SSLN	**Shishaldin Nor**	**1.34**	**343**	P	**Pb**	**12 34 05.2**	**-0.3**
AKSA	**Akutan Strait**	**1.53**	**294**	P	**Pb**	**12 34 07.9**	**-0.9**
AKSA				S	**Sb**	**12 34 28.0**	**+0.3**
DRIA	**Deer Island**	**1.56**	**23**	P	**Pn**	**12 34 06.2**	**-0.7**
ZRO	**Akutan Zero**	**1.67**	**290**	P	**Pb**	**12 34 09.9**	**-1.3**
DT1	**Dutton Round H**	**1.69**	**21**	P	**Pn**	**12 34 08.4**	**-0.2**
DTNA	**Dutton South F**	**1.73**	**21**	P	**Pn**	**12 34 09.1**	**-0.1**
UNV	**Unalaska Valle**	**1.92**	**281**	P	**Pn**	**12 34 12.5**	**+0.8**
UNV				S	**Sb**	**12 34 37.2**	**-1.7**
MREP	**Makushin Rep't**	**2.06**	**279**	P	**Pb**	**12 34 15.7**	**-2.1**
MSW	**Makushin Switc**	**2.09**	**282**	P	**Pb**	**12 34 16.0**	**-2.3**
MSW				S	**Sb**	**12 34 42.5**	**-1.4**
SDPT	**Sand Point**	**2.46**	**41**	P	**Pn**	**12 34 19.0**	**-0.2**
NIKH	**Nikolski High**	**3.37**	**263**	P	**Pn**	**12 34 33.3**	**+1.6**
ILAR	**Eielson Array** 0.0nm,0.3s,baz=218,slow=12,SNR=2.9	**14.01**	**30**	Pn	**Pn**	**12 36 56.1**	**-1.1**
INK	**Inuvik** 0.3nm,0.4s,baz=246,slow=9.9,SNR=5.5	**20.38**	**32**	P	**P**	**12 38 13.8**	**-1.2**
PETK	**Petropavlovsk-** 0.9nm,0.5s,baz=88,slow=14,SNR=5.9	**23.10**	**285**	P	**P**	**12 38 43.9**	**-0.3**
YKA	**Yellowknife Ar** 0.5nm,0.6s,baz=270,slow=9.3,SNR=4.2	**26.69**	**51**	P	**P**	**12 39 16.5**	**-0.7**
TXAR	**Lajitas Array** 0.1nm,0.5s,baz=306,slow=7.7,SNR=2.3	**49.13**	**95**	P	**P**	**12 42 27.7**	**+1.6**
SONM	**Songino Array** 0.5nm,0.8s,baz=41,slow=7.7,SNR=3.0	**53.78**	**303**	P	**P**	**12 43 01.7**	**+1.0**
BVAR	**Borovoye Array** 0.2nm,0.5s,baz=67,slow=6.9,SNR=4.4	**64.78**	**327**	P	**P**	**12 44 17.0**	**+0.5**
FINES	**FINESS Array B** 0.9nm,0.8s,baz=13,slow=20,SNR=3.5	**65.12**	**355**	P	**P**	**12 44 17.6**	**-0.9**
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=46,slow=4.4,SNR=3.2	**65.57**	**317**	P	**P**	**12 44 22.0**	**+0.3**
HFS	**Hagfors** 0.6nm,0.4s,baz=48,slow=4.4,SNR=6.9	**66.65**	**2**	P	**P**	**12 44 29.2**	**+0.8**

CRAAG ***28*** *13:24:43.7, 35˙.94N×4˙.12E, Ml4.2*
CSEM ***28*** *13:24:45.2±0.3, 35˙.92N×4˙.13E, h2km, mb4.2, Error ellipse: s-maj=10.2km s-min=4.0km az=4.0*
ISCJB ***28*** *13:24:46.0±0.5, 36˙.09N±0˙.05×4˙.06E±0˙.03, h10km, Error ellipse: s-maj=7.1km s-min=3.7km az=4.6*
MDD ***28*** *13:24:46.1±0.5, 35˙.91N×4˙.11E, h0km, mb4.2/13, Error ellipse: s-maj=10.4km s-min=3.4km az=13.0, PRXIMO*

ISC 28 13:24:45.1±0.9, 35˙.94N±0˙.05×4˙.14E±0˙.02, h10km, n82, σ1°53/94, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAF	**Djebel Tarf**	**0.13**	**123**	P	**Pg**	**13 24 47.5**	**-0.7**
ATAF	**Djebel Tarf**	**0.13**	**123**	P	**Pg**	**13 24 47.5**	**-0.7**
ATAF	**Djebel Tarf**	**0.13**	**123**	P	**Pg**	**13 24 47.5**	**-0.7**
AKET	**Djebel Ketaf**	**0.24**	**296**	P	**Pg**	**13 24 49.3**	**-0.7**
AKET	**Djebel Ketaf**	**0.24**	**296**	P	**Pg**	**13 24 49.3**	**-0.7**
AKET	**Djebel Ketaf**	**0.24**	**296**	P	**Pg**	**13 24 49.3**	**-0.7**
EMHD	**Djebel Mahouad**	**1.00**	**285**	P	**Pn**	**13 25 05.0**	**-0.3**
EMHD	**Djebel Mahouad**	**1.00**	**285**	P	**Pn**	**13 25 05.0**	**-0.3**
EMHD	**Djebel Mahouad**	**1.00**	**285**	P	**Pn**	**13 25 05.0**	**-0.3**
SET	**Setif**	**1.05**	**76**	P	**Pn**	**13 25 06.0**	**+0.1**
SET	**Setif**	**1.05**	**76**	P	**Pn**	**13 25 06.0**	**+0.1**
SET	**Setif**	**1.05**	**76**	P	**Pn**	**13 25 06.0**	**+0.1**
CKHR	**Kef el Ahmar**	**1.11**	**86**	P	**Pn**	**13 25 07.1**	**+0.3**
CKHR	**Kef el Ahmar**	**1.11**	**86**	P	**Pn**	**13 25 07.1**	**+0.3**
CKHR	**Kef el Ahmar**	**1.11**	**86**	P	**Pn**	**13 25 07.1**	**+0.3**
DFRA	**Djebel Bou Aff**	**1.52**	**66**	P	**Pg**	**13 25 15.5**	**+1.2**
DFRA	**Djebel Bou Aff**	**1.52**	**66**	P	**Pg**	**13 25 15.5**	**+1.2**
DFRA	**Djebel Bou Aff**	**1.52**	**66**	P	**Pg**	**13 25 15.5**	**+1.2**
CTEI	**Djebel Teioual**	**1.84**	**86**	P	**Pb**	**13 25 19.3**	**+0.4**
CTEI	**Djebel Teioual**	**1.84**	**86**	P	**Pb**	**13 25 19.3**	**+0.4**
CTEI	**Djebel Teioual**	**1.84**	**86**	P	**Pb**	**13 25 19.3**	**+0.4**
CASM	**Ain Smara**	**1.93**	**80**	P	**Pb**	**13 25 21.0**	**+0.7**
CASM	**Ain Smara**	**1.93**	**80**	P	**Pb**	**13 25 21.0**	**+0.7**
CASM	**Ain Smara**	**1.93**	**80**	P	**Pb**	**13 25 21.0**	**+0.7**
CKFL	**Kef-Lekhel**	**2.13**	**77**	P	**Pn**	**13 25 22.5**	**+1.6**
CKFL	**Kef-Lekhel**	**2.13**	**77**	P	**Pn**	**13 25 22.5**	**+1.6**
CKFL	**Kef-Lekhel**	**2.13**	**77**	P	**Pn**	**13 25 22.5**	**+1.6**
EBNR	**Beni Rached**	**2.15**	**280**	P	**Pg**	**13 25 28.8**	**+2.6**
ECHA	**Ech Chlef**	**2.26**	**276**	P	**Pg**	**13 25 29.1**	**+0.7**
ECHF	**Ech Chlef**	**2.28**	**276**	P	**Pg**	**13 25 29.1**	**+0.3**
CAEH	**'Ain El Ouahch**	**2.34**	**68**	P	**Pn**	**13 25 25.0**	**+1.4**
CAEH	**'Ain El Ouahch**	**2.34**	**68**	P	**Pn**	**13 25 25.0**	**+1.4**
CAEH	**'Ain El Ouahch**	**2.34**	**68**	P	**Pn**	**13 25 25.0**	**+1.4**
ETRT	**Tiaret**	**2.38**	**257**	P	**Pn**	**13 25 24.6**	**+0.3**
ETRT	**Tiaret**	**2.38**	**257**	P	**Pn**	**13 25 24.6**	**+0.3**
ETRT	**Tiaret**	**2.38**	**257**	P	**Pn**	**13 25 24.6**	**+0.3**
EANR	**'Ain N'Sour**	**2.47**	**271**	P	**Pn**	**13 25 27.4**	**+1.9**
EANR	**'Ain N'Sour**	**2.47**	**271**	P	**Pn**	**13 25 27.4**	**+1.9**
EANR	**'Ain N'Sour**	**2.47**	**271**	P	**Pn**	**13 25 27.4**	**+1.9**
ABSA	**Djebel Ababsia**	**2.72**	**82**	P	**Pn**	**13 25 29.1**	**+0.2**
ABSA	**Djebel Ababsia**	**2.72**	**82**	P	**Pn**	**13 25 29.1**	**+0.2**
CABS	**Djebel Ababsia**	**2.72**	**82**	P	**Pn**	**13 25 29.1**	**+0.2**
CABS	**Djebel Ababsia**	**2.72**	**82**	P	**Pn**	**13 25 29.1**	**+0.2**
CMAH	**Djebel Manchou**	**2.73**	**75**	P	**Pn**	**13 25 28.0**	**-1.1**
CMAH	**Djebel Manchou**	**2.73**	**75**	P	**Pn**	**13 25 28.0**	**-1.1**
CMAH	**Djebel Manchou**	**2.73**	**75**	P	**Pn**	**13 25 28.0**	**-1.1**
OKGL	**Djebel Kef Gue**	**2.84**	**273**	P	**Pn**	**13 25 31.2**	**+0.7**
	18nm,0.2s,SNR=7.9						
OKGL				S	**Sn**	**13 26 05.5**	**+0.7**
	181nm,0.6s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**2.84**	**273**	P	**Pn**	**13 25 31.2**	**+0.7**
	18nm,0.2s,SNR=7.9						
OKGL				S	**Sn**	**13 26 05.6**	**+0.7**
	181nm,0.6s,SNR=7.9						
EIBI	**Ibiza**	**3.80**	**325**	P	**Pn**	**13 25 44.2**	**+0.5**
	4.6nm,0.3s,SNR=7.5						
EIBI				S	**Sn**	**13 26 23.6**	**-4.8**
	7.3nm,0.4s						
EIBI	**Ibiza**	**3.80**	**325**	P	**Pn**	**13 25 44.2**	**+0.5**
	4.6nm,0.3s,SNR=7.5						
ETOS	**Mallorca**	**3.96**	**345**	P	**Pn**	**13 25 46.5**	**+0.6**
	1.1nm,0.2s,SNR=7.2						
ETOS				S	**Sn**	**13 26 30.5**	**-1.9**
	4.8nm,0.4s						
ETOS	**Mallorca**	**3.96**	**345**	P	**Pn**	**13 25 46.5**	**+0.6**
	1.1nm,0.2s,SNR=7.2						
EMUR	**La Murta**	**4.71**	**295**	P	**Pn**	**13 25 56.2**	**-0.1**
	5.4nm,0.3s,SNR=36						
EMUR				S	**Sn**	**13 26 47.7**	**-3.3**
	8.9nm,0.5s						
EMUR	**La Murta**	**4.71**	**295**	P	**Pn**	**13 25 56.2**	**-0.1**
	5.4nm,0.3s,SNR=36						
ETOB	**Tobarra**	**5.28**	**302**	P	**Pn**	**13 26 05.6**	**+1.5**
	2.5nm,0.2s,SNR=7.8						
ETOB				S	**Sn**	**13 27 02.8**	**-2.1**
	2.6nm,0.4s						
ETOB	**Tobarra**	**5.28**	**302**	P	**Pn**	**13 26 05.6**	**+1.5**
	2.5nm,0.2s,SNR=7.8						
EHUE	**Huescar**	**5.71**	**291**	P	**Pn**	**13 26 12.6**	**+2.5**
	3.9nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**13 27 11.9**	**-3.8**
	5.5nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**5.71**	**291**	P	**Pn**	**13 26 12.6**	**+2.5**
	3.9nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**5.72**	**322**	P	**Pn**	**13 26 11.2**	**+1.0**
	1.1nm,0.2s,SNR=7.9						
EMOS				S	**Sn**	**13 27 11.2**	**-4.7**
	2.3nm,0.5s,SNR=7.9						
EMOS	**Mosqueruela**	**5.72**	**322**	P	**Pn**	**13 26 11.2**	**+1.0**
	1.1nm,0.2s,SNR=7.9						
EBER	**Berja**	**5.75**	**282**	P	**Pn**	**13 26 10.9**	**+0.2**
	3.6nm,0.3s,SNR=8.6						
EBER				S	**Sn**	**13 27 14.0**	**-2.8**
	9.3nm,0.6s						
EBER	**Berja**	**5.75**	**282**	P	**Pn**	**13 26 10.9**	**+0.2**
	3.6nm,0.3s,SNR=8.6						
SESP	**Santiago Espad**	**5.78**	**294**	P	**Pn**	**13 26 13.2**	**+2.2**
	6.0nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**13 27 17.3**	**-0.1**
	7.3nm,0.4s,SNR=7.9						
SESP	**Santiago Espad**	**5.78**	**294**	P	**Pn**	**13 26 13.2**	**+2.2**
	6.0nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**13 27 17.3**	**-0.1**
	7.3nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**5.91**	**337**	P	**Pn**	**13 26 14.1**	**+1.4**
	0.6nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**5.91**	**337**	P	**Pn**	**13 26 14.1**	**+1.4**
	0.6nm,0.3s,SNR=7.9						
EVIA	**Vianos**	**5.94**	**299**	P	**Pn**	**13 26 13.7**	**+0.5**
	4.0nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**5.94**	**299**	P	**Pn**	**13 26 13.7**	**+0.5**
	4.0nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**5.96**	**348**	P	**Pn**	**13 26 15.6**	**+2.1**
	2.1nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**5.96**	**348**	P	**Pn**	**13 26 15.6**	**+2.1**
	2.1nm,0.2s,SNR=7.9						
EQES	**Quesada**	**6.07**	**290**	P	**Pn**	**13 26 17.3**	**+2.2**
	3.5nm,0.3s,SNR=9.3						
EQES				S	**Sn**	**13 27 22.1**	**-2.6**
	3.4nm,0.4s						
EQES	**Quesada**	**6.07**	**290**	P	**Pn**	**13 26 17.3**	**+2.2**
	3.5nm,0.3s,SNR=9.3						
EQUE	**Quentar**	**6.23**	**284**	P	**Pn**	**13 26 18.0**	**+0.8**
	2.1nm,0.3s,SNR=6.0						
EQUE	**Quentar**	**6.23**	**284**	P	**Pn**	**13 26 18.0**	**+0.8**
	2.1nm,0.3s,SNR=6.0						
EJON	**La Jonquera**	**6.57**	**352**	P	**Pn**	**13 26 22.5**	**+0.8**
	2.0nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**6.57**	**352**	P	**Pn**	**13 26 22.5**	**+0.8**
	2.0nm,0.3s,SNR=7.9						
SJAF	**Saint Jean de**	**6.60**	**352**	P	**Pn**	**13 26 24.1**	**+1.9**
	0.9nm,0.3s,SNR=7.9						
SJAF	**Saint Jean de**	**6.60**	**352**	P	**Pn**	**13 26 24.1**	**+1.9**
	0.9nm,0.3s,SNR=7.9						
CLLI	**Llivia**	**6.74**	**346**	P	**Pn**	**13 26 25.1**	**+0.9**
	0.5nm,0.2s,SNR=7.9						
CLLI	**Llivia**	**6.74**	**346**	P	**Pn**	**13 26 25.1**	**+0.9**
	0.5nm,0.2s,SNR=7.9						
CSOR	**Sort**	**6.83**	**341**	P	**Pn**	**13 26 27.3**	**+1.9**
	0.4nm,0.2s,SNR=7.9						
CSOR	**Sort**	**6.83**	**341**	P	**Pn**	**13 26 27.3**	**+1.9**
	0.4nm,0.2s,SNR=7.9						

DJA 28 13:28:02.1±0.8, 8˚S±6˚×10˚7E±˚, h34km±6km, M3.5/8, MLv3.5/8, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNJI	**Cibinong**	**0.55**	**54**	P	Pb	13 28 14.5	+1.0
CNJI				S	Sn	13 28 22.9	+1.5
SKJI	**Sukabumi**	**0.63**	**349**	P	Pb	13 28 15.7	+0.8
SKJI				S	Sb	13 28 25.0	+1.3
CISI	**Cisompet, Garu**	**1.13**	**86**	P	Pn	13 28 22.2	+0.6
CISI				S	Sn	13 28 36.1	+0.1
LEM	**Lembang**	**1.23**	**49**	P	Pn	13 28 23.6	+0.5
LEM				S	Sb	13 28 39.7	-1.0
CGJI	**Cibinong**	**1.41**	**316**	P	Pn	13 28 25.8	+0.5
CGJI				S	Sn	13 28 42.7	0.0
CMJI	**Cimerak**	**1.76**	**95**	P	Pn	13 28 31.0	+0.8
CMJI				S	Sn	13 28 51.8	+0.4
KASI	**Kota Agung**	**3.01**	**314**	P	Pn	13 28 47.5	0.0

IDC 28 13:33:23.1±7.1, 5˚.77S×154˚.84E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/30, mbtmp3.3/3, Error ellipse: s-maj=205.7km s-min=38.3km az=107.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.40**	**233**	P	P	13 38 43.4	-0.1
	0.2nm,0.3s,baz=59,slow=9.3,SNR=8.0						
ASAR	**Alice Springs**	**26.88**	**226**	P	P	13 39 06.0	+0.1
	0.4nm,0.9s,baz=56,slow=8.7,SNR=5.6						
SONM	**Songino Array**	**68.23**	**327**	P	P	13 44 25.8	0.0
	0.2nm,0.4s,baz=120,slow=8.5,SNR=2.7						

ISCJB ***28*** *13:44:16.9±1.2, 13˙.60S±0˙.05×166˚.70E±0˙.05, h44km±11km, mb4.8/53, MS3.8/16, Error ellipse: s-maj=9.4km s-min=7.2km az=136.0*
MOS ***28*** *13:44:16.5±1.3, 13˙.52S×166˚.65E, h41km, mb5.1/18, Error ellipse: s-maj=10.3km s-min=8.8km az=32.2*
NEIC ***28*** *13:44:17.2±0.3, 13˙.54S×166˚.69E, h35km, mb4.8/26, Error ellipse: s-maj=10.9km s-min=9.7km az=124.0*
IDC ***28*** *13:44:19.0±2.0, 13˙.61S×166˚.66E, h44km±18km, mb4.4/23, mb1 4.5/24, mb1mx4.4/38, mbtmp4.6/24, ML4.8/1, MS3.8/16, Ms1 3.8/16, ms1mx3.7/26, Error ellipse: s-maj=17.8km s-min=12.2km az=95.0*
BJI ***28*** *13:44:23.8, 13˙.80S×166˚.70E, h111km, mb4.9/46, mB5.0/29*

ISC 28 13:44:20.9±0.8, 13˚.67S±0˙.06×166˚.66E±0˙.06, h70km±7km, n152, σ2°01/163, mb4.8/52, 4C-3D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.81**	**302**	*e*P	**Pn**	**13 46 09.9**	**-2.0**
HNR				*e*		13 47 39.3	
HNR				pmax	pmax		
	comp=Z,317nm,0.6s						
HNR	**Honiara**	**7.81**	**302**	*e*Pn	**Pn**	**13 46 09.9**	**-2.0**
	comp=Z,317nm,0.6s						
HNR				*e*Sn	**Sn**	**13 47 39.2**	**+0.4**
DZM	**Mont Dzumac**	**8.36**	**181**	*e*Pn	**Pn**	**13 46 19.6**	**+0.1**
	comp=Z,123nm,0.3s						
DZM				*e*Sn	**Sn**	**13 47 48.0**	**-4.4**
	comp=Z,29nm,0.3s						
DZM				*e*LR	LR	13 48 14.2	
	comp=Z,2μm,24.8s						
DZM	**Mont Dzumac**	**8.36**	**181**	P	**Pn**	**13 46 17.4**	**-2.0**
	comp=Z,10nm,0.3s,baz=269,slow=24,SNR=66						
DZM				S	**Sn**	**13 47 55.4**	**+3.0**
	comp=Z,4.1nm,0.3s,baz=259,slow=24,SNR=3.8						
DZM				LR	LR	13 49 16.4	
	comp=Z,1μm,19.9s,baz=0.0,slow=35						
NOUC	**Port Laguerre**	**8.39**	**182**	*e*P	Pn	13 46 11.6	-8.3
NOUC				*e*S	Sn	13 47 44.0	-9.0
BAYA	**Yate Dam**	**8.44**	**179**	*e*P	**Pn**	**13 46 21.7**	**+1.2**
MSVF	**Nonsavu**	**11.69**	**112**	*e*P	**Pn**	**13 47 03.6**	**-1.4**
MSVF	**Nonsavu**	**11.69**	**112**	*e*Pn	**Pn**	**13 47 03.6**	**-1.4**
EIDS	**Eidsvold**	**18.71**	**229**	*e*Pn	**P**	**13 48 33.0**	**-0.9**
	comp=Z,25nm,0.3s						
PMG	**Port Moresby**	**19.57**	**280**	*e*P	**Pn**	**13 48 44.9**	**-0.3**
PMG				pmax	pmax		
	comp=Z,94nm,1.4s						
CTA	**Charters Tower**	**20.53**	**249**	P	Pn	13 48 55.6	-1.0
	comp=Z,4.4nm,0.7s,baz=74,slow=13,SNR=9.0						
CTAO	**Charters Tower**	**20.53**	**249**	*e*P	Pn	13 48 55.9	-0.7
CTAO				pmax	pmax		
	comp=Z,58nm,1.2s						
CTAO	**Charters Tower**	**20.53**	**249**	*e*P	Pn	13 48 55.9	-0.6
	comp=Z,58nm,1.2s						
COEN	**Coen**	**22.80**	**266**	*e*P	**P**	**13 49 18.4**	**+0.2**
	comp=Z,20nm,1.1s						
URZ	**Urewera**	**26.19**	**161**	P	**P**	**13 49 51.9**	**+2.9**
	comp=Z,9.6nm,0.7s,baz=13,slow=3.5,SNR=5.3						
URZ				LR	LR	13 58 53.7	
	comp=Z,434nm,19.1s,baz=342,slow=33						
STKA	**Stephens Creek**	**29.25**	**228**	P	**P**	**13 50 17.8**	**+1.4**
	comp=Z,7.1nm,0.8s,baz=52,slow=9.6,SNR=12						
STKA				PcP	**PcP**	**13 53 22.1**	**+0.1**
	comp=Z,3.4nm,0.6s,baz=184,slow=3.5,SNR=3.1						
STKA				LR	LR	14 02 00.4	
	comp=Z,446nm,18.5s,baz=46,slow=36						
RPZ	**Rata Peaks**	**30.18**	**174**	LR	LR	14 01 49.2	
	comp=Z,159nm,20.9s,baz=355,slow=35						
WRAB	**Tennant Creek**	**31.51**	**254**	*i*P	**P**	**13 50 34.9**	**-1.7**
WRAB				pmax	pmax		
	comp=Z,17nm,1.4s						
WRAB	**Tennant Creek**	**31.51**	**254**	*e*P	**P**	**13 50 35.2**	**-1.4**
	comp=Z,20nm,1.4s						
WRA	**Warramunga Arr**	**31.52**	**254**	P	**P**	**13 50 36.1**	**-0.5**
	comp=Z,4.5nm,0.7s,baz=85,slow=9.1,SNR=64						
WRA				PcP	**PcP**	**13 53 28.0**	**-0.2**
	comp=Z,2.8nm,0.9s,baz=77,slow=2.8,SNR=10						
WRA				ScP	**ScP**	**13 57 09.9**	**+4.5**
	comp=Z,2.3nm,1.0s,baz=84,slow=3.2,SNR=5.9						
WRA				PKiKP	**PKiKP**	**14 00 55.8**	**-1.8**
	comp=Z,0.6nm,0.5s,baz=5.0,slow=0.5,SNR=22						
WRA	**Warramunga Arr**	**31.52**	**254**	*i*P	**P**	**13 50 36.0**	**-0.7**
WRA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AS31	**Alice Springs**	**32.51**	**247**	*e*P	P	13 50 40.6	-4.7
ASAR	**Alice Springs**	**32.51**	**247**	P	**P**	**13 50 44.7**	**-0.6**
	comp=Z,6.3nm,0.6s,baz=74,slow=9.4,SNR=189						
ASAR				PcP	**PcP**	**13 53 30.8**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=78,slow=2.4,SNR=6.0						
ASAR				ScP	**ScP**	**13 57 14.9**	**+6.2**
	comp=Z,3.9nm,0.9s,baz=90,slow=3.2,SNR=9.8						
ASAR				PKiKP	**PKiKP**	**14 00 56.5**	**-1.7**
	comp=Z,0.4nm,0.5s,baz=117,slow=1.3,SNR=12						
ASAR				LR	LR	14 02 19.0	
	comp=Z,206nm,21.6s,baz=88,slow=33						
GUMO	**Guam**	**34.63**	**321**	LR	LR	14 03 58.1	
	comp=Z,233nm,21.7s,baz=116,slow=34						
SIJI	**Sorong**	**37.26**	**287**	LR	LR	14 07 20.2	
	comp=Z,266nm,21.6s,baz=306,slow=37						
PPT2	**Papeete2**	**42.26**	**101**	*e*LR	LR	14 03 56.0	
	comp=Z,299nm,26.8s						
TBI	**Tubuai**	**42.57**	**110**	*e*LR	LR	14 04 08.6	
	comp=Z,393nm,26.8s						
JCJ	**Chichijima**	**46.98**	**330**	LR	LR	14 12 03.5	
	comp=Z,52nm,19.6s,baz=166,slow=36						
KIP	**Kipapa**	**49.19**	**45**	*e*P	**P**	**13 53 01.5**	**-0.7**
KIP				pmax	pmax		
	comp=Z,29nm,1.2s						
JOW	**Kunigami**	**54.87**	**317**	*e*P	**P**	**13 53 46.4**	**+2.0**
	comp=Z,8.2nm,0.8s						
SBUM	**Sibu**	**56.30**	**282**	*e*P	**P**	**13 53 56.7**	**+1.8**
	comp=Z,4.8nm,0.8s						
MJAR	**Matsushiro Arr**	**56.70**	**333**	P	**P**	**13 53 57.5**	**+0.1**
	comp=Z,6.6nm,0.7s,baz=168,slow=8.0,SNR=22						
MAJO	**Matsushiro**	**56.70**	**333**	*i*P	**P**	**13 53 57.3**	**0.0**
MAJO				pmax	pmax		
	comp=Z,113nm,1.3s						
MAJO	**Matsushiro**	**56.70**	**333**	*e*P	P	13 53 53.0	-4.4
	comp=Z,34nm,1.3s						
MAT	**Matsushiro**	**56.70**	**333**	P	**P**	**13 53 57.5**	**+0.2**
JNU	**Nakatsue**	**57.72**	**325**	P	**P**	**13 54 05.8**	**+1.1**
	comp=Z,29nm,0.9s,baz=105,slow=4.3,SNR=12						
JNU				LR	LR	14 16 36.9	
	comp=Z,53nm,20.2s,baz=184,slow=34						
JNU	**Nakatsue**	**57.72**	**325**	*e*P	**P**	**13 54 02.9**	**-1.8**
	comp=Z,16nm,1.0s						
KSM	**Kuching**	**57.83**	**281**	*e*P	**P**	**13 54 03.8**	**-1.9**
	comp=Z,7.1nm,0.8s						
ASAJ	**Asahikawa**	**61.55**	**340**	P	**P**	**13 54 32.6**	**+1.9**
	comp=Z,5.0nm,0.5s,baz=246,slow=9.8,SNR=12						
ASAJ				LR	LR	14 17 59.9	
	comp=Z,131nm,20.4s,baz=172,slow=33						
KSRS	**Korea Array**	**62.54**	**326**	P	**P**	**13 54 38.8**	**+1.4**
	comp=Z,6.7nm,1.0s,baz=138,slow=7.1,SNR=20						
KSRS				LR	LR	14 18 42.0	
	comp=Z,34nm,21.6s,baz=106,slow=33						
KSAR	**Wonju Array Be**	**62.55**	**326**	P	**P**	**13 54 38.8**	**+1.3**
KSAR	**Wonju Array Be**	**62.55**	**326**	P	**P**	**13 54 38.8**	**+1.3**
VNDA	**Vanda**	**63.90**	**181**	P	**P**	**13 54 48.8**	**+2.9**
	comp=Z,2.6nm,0.7s,baz=346,slow=4.6,SNR=8.1						
SBA	**Scott Base**	**64.19**	**180**	*e*P	**P**	**13 54 48.1**	**+0.3**
SBA				pmax	pmax		
	comp=Z,11nm,1.0s						
SBA	**Scott Base**	**64.19**	**180**	*e*P	**P**	**13 54 48.1**	**+0.3**
	comp=Z,10nm,1.0s						
NJ2	**Nanjing**	**64.51**	**316**	*e*P	**P**	**13 54 51.3**	**+0.7**
NJ2				PMZ			
	comp=Z,50nm,0.5s						
QIZ	**Qiongzhong**	**64.71**	**299**	P	**P**	**13 54 53.3**	**+1.2**
QIZ				sP	sP	13 55 32.5	+14
QIZ				S	**S**	**14 03 26.0**	**-1.5**
USRK	**Ussuriysk Ar.**	**65.68**	**333**	P	**P**	**13 54 59.9**	**+2.0**
	comp=Z,7.8nm,0.7s,baz=128,slow=5.8,SNR=24						
USRK				LR	LR	14 18 37.8	
	comp=Z,40nm,21.3s,baz=115,slow=31						
PETK	**Petropavlovsk-**	**66.95**	**354**	P	**P**	**13 55 07.5**	**+1.6**
	comp=Z,5.0nm,0.6s,baz=159,slow=7.1,SNR=25						
MDJ	**Mudanjiang**	**67.07**	**332**	P	**P**	**13 55 08.0**	**+1.2**
MDJ				PMZ			
	comp=Z,14nm,1.1s						
MDJ				PMZ			
	comp=Z,69nm,4.7s						
IPM	**Ipoh**	**67.56**	**281**	*e*P	**P**	**13 55 09.2**	**-1.4**
	comp=Z,12nm,0.9s						
HABR	**Khabarovsk**	**67.94**	**338**	*e*P	**P**	**13 55 10.6**	**-1.5**
HABR				*e**PP	**PcP**	**13 55 35.6**	**-2.4**
HABR				*e*		13 57 41.4	
HABR						13 59 20.8	
HABR				S	**S**	**14 04 02.5**	**-3.0**
HABR				*e*S	S	14 04 31.7	+26
HABR				*e*SS	**PnS**	**14 04 46.0**	**+7.8**
HABR				*e*		14 04 59.9	
HABR				*e*SS	**SS**	**14 08 27.0**	**-2.1**
HABR				pmax	pmax		
	comp=E,9.0nm,0.9s						
HABR				pmax	pmax		
	comp=Z,20nm,0.9s						
HABR				pmax	pmax		
	comp=N,6.0nm,0.6s						
HABR				MLR	MLR		
	comp=Z,74nm,19.0s						
TIA	**Tai'an**	**68.16**	**318**	⇓P	**P**	**13 55 15.0**	**+1.2**
TIA				PMZ			
	comp=Z,20nm,0.9s						
CN2	**Changchun**	**68.44**	**329**	*e*P	P	13 55 20.5	+5.1
CN2				PMZ			
	comp=Z,10.0nm,0.9s						
SKNT	**Sakolnakorn**	**68.97**	**294**	P	**P**	**13 55 20.8**	**+1.5**
	comp=Z,22nm,1.0s						
KLR	**Kul'dur**	**69.81**	**336**	*e*P	**P**	**13 55 21.0**	**-2.8**
GYA	**Guiyang**	**70.63**	**305**	*e*P	**P**	**13 55 32.0**	**+2.6**
GYA				pP	PcP	13 56 00.3	+10
GYA				sP	sP	13 56 12.8	+17
GYA				PP	**PP**	**13 58 11.5**	**+4.6**
GYA				S	**S**	**14 04 35.0**	**-3.4**
GYA				SKS	**SKSac**	**14 05 19.5**	**-6.2**
GYA				PMZ			
	comp=Z,10.0nm,1.0s						
BJI	**Beijing**	**71.07**	**321**	P	**P**	**13 55 33.3**	**+1.6**
BJI				PMZ			
	comp=Z,22nm,0.5s						
LOEI	**Loei**	**71.58**	**294**	P	**P**	**13 55 35.2**	**0.0**
	comp=Z,25nm,1.3s						
XAN	**Xi'an**	**72.54**	**313**	P	**P**	**13 55 42.3**	**+1.6**
XAN				PMZ			
	comp=Z,4.0nm,0.7s						
KMI	**Kunming**	**73.25**	**302**	⇑P	**P**	**13 55 48.0**	**+2.7**
KMI				pP	pP	13 56 16.5	+12
KMI				S	**S**	**14 05 08.0**	**-0.7**
KMI				PMZ			
	comp=Z,28nm,0.8s						
KMI				LN			
	comp=Z,160nm,10.4s						
KMI				LE			
	comp=Z,240nm,10.4s						
KMI				LZ			
	comp=Z,170nm,11.5s						
CRAI	**Chiangrai**	**73.36**	**296**	P	**P**	**13 55 44.8**	**-1.0**
	comp=Z,14nm,0.9s						
LAMP	**Lampang**	**73.39**	**294**	P	**P**	**13 55 48.4**	**+2.4**
	comp=Z,13nm,0.8s						
CMAR	**Chiang Mai Arr**	**73.98**	**294**	P	**P**	**13 55 51.8**	**+2.4**
	comp=Z,10nm,0.8s,baz=122,slow=4.6,SNR=46						
CHTO	**Chiang Mai**	**74.10**	**294**	P	**P**	**13 55 52.4**	**+2.2**
	comp=Z,64nm,0.9s						
CHTO	**Chiang Mai**	**74.10**

BPAW	**Bear Paw Mtn.**	**84.00**	**17**	*eP*		**P**		**13 56 43.6**	**+0.4**
	comp=Z,14nm,2.8s								
MCK	**McKinley**	**84.34**	**18**	*eP*		**P**		**13 56 45.5**	**+0.5**
MCK				pmax		pmax			
	comp=Z,13nm,1.3s								
MCK	**McKinley**	**84.34**	**18**	*eP*		**P**		**13 56 45.5**	**+0.5**
	comp=Z,12nm,1.3s								
ZAK	**Zakamensk**	**84.35**	**325**	*eP*		**P**		**13 56 44.9**	**-0.5**
ZAK				pmax		pmax			
	comp=Z,9.0nm,1.1s								
TLY	**Talaya**	**84.79**	**326**	*eP*		**P**		**13 56 48.2**	**+0.7**
TLY				pmax		pmax			
	comp=Z,11nm,0.7s								
TLY	**Talaya**	**84.79**	**326**	*eP*		**P**		**13 56 47.2**	**-0.3**
	comp=Z,12nm,0.8s								
PAX	**Paxson**	**84.90**	**20**	*eP*		**P**		**13 56 46.7**	**-1.2**
PAX	**Paxson**	**84.90**	**20**	*eP*		**P**		**13 56 46.7**	**-1.2**
YBH	**Yreka Blue Hor**	**85.09**	**45**	P		**P**		**13 56 51.5**	**+2.2**
	comp=Z,0.7nm,0.4s,baz=160,slow=3.7,SNR=3.3								
COLA	**College**	**85.50**	**18**	*i*P		**P**		**13 56 50.6**	**-0.1**
COLA				pmax		pmax			
	comp=Z,17nm,1.1s								
ILAR	**Eielson Array**	**85.71**	**18**	P		**P**		**13 56 52.0**	**+0.2**
	comp=Z,7.3nm,0.5s,baz=240,slow=4.6,SNR=201								
ILAR				LR		LR		14 28 24.7	
	comp=Z,98nm,20.6s,baz=240,slow=31								
ILAR	**Eielson Array**	**85.71**	**18**	P		**P**		**13 56 52.0**	**+0.2**
DOT	**Dot Lake**	**85.83**	**20**	*eP*		**P**		**13 56 50.7**	**-1.7**
	comp=Z,3.3nm,0.6s								
COLD	**Coldfoot**	**86.57**	**15**	P		**P**		**13 56 55.5**	**-0.4**
	comp=Z,6.9nm,1.1s								
TAPN	**Taplejung**	**86.65**	**299**	*eP*		**P**		**13 56 58.6**	**+0.9**
	comp=Z,27nm,1.0s								
ODAN	**Odare**	**86.78**	**298**	*eP*		**P**		**13 56 59.2**	**+1.0**
	comp=Z,50nm,0.9s								
NVAR	**Mina Array Bea**	**87.04**	**49**	P		**P**		**13 57 00.9**	**+1.7**
	comp=Z,0.6nm,0.7s,baz=233,slow=8.7,SNR=5.3								
RAMN	**Ramite**	**87.48**	**298**	*eP*		**P**		**13 57 02.5**	**+0.9**
EGAK	**Eagle**	**87.53**	**20**	*eP*		**P**		**13 57 00.6**	**-0.1**
	comp=Z,2.9nm,0.6s								
JIRN	**Jiri**	**88.03**	**299**	*eP*		**P**		**13 57 05.3**	**+0.9**
	comp=Z,33nm,1.0s								
GUN	**Gumba**	**88.37**	**299**	*eP*		**P**		**13 57 06.7**	**+0.7**
	comp=Z,29nm,0.8s								
PKI	**Pulchoki**	**88.67**	**299**	*eP*		**P**		**13 57 08.0**	**+0.6**
	comp=Z,26nm,0.6s								
PKIN	**Phulchoki**	**88.69**	**299**	*eP*		**P**		**13 57 08.0**	**+0.6**
	comp=Z,19nm,0.6s								
TIXI	**Tiksi**	**88.82**	**349**	*eP*		**P**		**13 57 06.3**	**-0.3**
TIXI				pmax		pmax			
	comp=Z,2.0nm,0.8s								
TIXI	**Tiksi**	**88.82**	**349**	*eP*		**P**		**13 57 06.3**	**-0.3**
	comp=Z,1.9nm,0.8s								
KKN	**Kakani**	**88.84**	**299**	*eP*		**P**		**13 57 08.8**	**+0.8**
	comp=Z,28nm,0.8s								
DMN	**Daman**	**88.94**	**299**	*eP*		**P**		**13 57 09.7**	**+1.1**
	comp=Z,92nm,1.0s								
GKN	**Gorkha**	**89.45**	**299**	*eP*		**P**		**13 57 11.0**	**+0.2**
	comp=Z,29nm,0.6s								
KOLN	**Koldanda**	**90.27**	**298**	*eP*		**P**		**13 57 14.9**	**+0.2**
	comp=Z,11nm,0.9s								
WMQ	**Urumqi**	**91.57**	**315**	*eP*		**P**		**13 57 21.0**	**+0.8**
WMQ				pP		pP		13 57 50.0	+10
WMQ				sP		sP		13 58 02.0	+15
WMQ				SKS		**SKSac**		**14 07 41.5**	**-5.2**
WMQ				S		**SKKSac**		**14 08 08.5**	**+5.6**
WMQ				sS		sS		14 09 01.0	+13
WMQ				SS		**SS**		**14 14 20.8**	**-2.1**
WMQ				PMZ					
	comp=Z,10.0nm,0.9s								
WMQ				PMZ					
	comp=Z,140nm,5.8s								
WMQ				LN					
	comp=Z,39nm,22.2s								
WMQ				LE					
	comp=Z,89nm,23.0s								
WMQ				LZ					
	comp=Z,43nm,18.6s								
PV04	**Paradox Valley**	**94.08**	**52**	*eP*		**P**		**13 57 32.0**	**-0.1**
SNAA	**Sanae**	**94.56**	**183**	P		P		13 57 28.6	-4.9
SNAA	**Sanae**	**94.56**	**183**	*eP*		P		13 57 28.8	-4.7
SNAA				pmax		pmax			
	comp=Z,3.0nm,1.0s								
VNA2	**Neumayer--Watz**	**95.51**	**182**	P		**P**		**13 57 36.9**	**-0.9**
	baz=166,slow=3.1								
MK31	**Makanchi Array**	**96.03**	**317**	*eP*		**P**		**13 57 38.5**	**-2.1**
MK31	**Makanchi Array**	**96.03**	**317**	*eP*		**P**		**13 57 38.5**	**-2.1**
MKAR	**Makanchi Array**	**96.03**	**317**	P		**P**		**13 57 41.2**	**+0.6**
	comp=Z,6.7nm,0.7s,baz=96,slow=6.5,SNR=91								
MKAR				PP		**PP**		**14 01 33.4**	**-0.8**
	comp=Z,0.8nm,1.0s,baz=106,slow=8.9,SNR=4.0								
ZAA0	**Zalesovo Array**	**96.19**	**324**	*eP*		**P**		**13 57 40.6**	**-0.5**
ZALV	**Zalesovo Beam**	**96.19**	**324**	P		**P**		**13 57 40.8**	**-0.3**
	comp=Z,4.6nm,0.7s,baz=115,slow=4.3,SNR=20								
ZALV				LR		LR		14 40 23.8	
	comp=Z,42nm,20.0s,baz=68,slow=35								
TXAR	**Lajitas Array**	**96.30**	**61**	P		**P**		**13 57 42.8**	**+0.5**
	comp=Z,0.1nm,0.5s,baz=224,slow=5.0,SNR=2.4								
YKA	**Yellowknife Ar**	**96.88**	**27**	P		**P**		**13 57 43.4**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=264,slow=4.7,SNR=7.3								
KSH	**Kashi**	**99.08**	**308**	*eP*		**Pdif**		**13 57 57.5**	**+2.9**
KSH				pP		pP		13 58 27.0	+13
KSH				PP		PP		14 02 04.3	+6.4
KSH				S		**S**		**14 09 16.3**	**-3.9**
KSH				PMZ					
	comp=Z,130nm,5.2s								
KSH				LN					
	comp=Z,64nm,3.5s								
KSH				LE					
	comp=Z,46nm,3.6s								
KSH				LZ					
	comp=Z,130nm,6.5s								
KURK	**Kurchatov**	**99.21**	**320**	P		**Pdif**		**13 57 54.0**	**-0.7**
KURK	**Kurchatov**	**99.21**	**320**	P		**Pdif**		**13 57 54.0**	**-0.7**
KURBB	**Kurchatov Arra**	**99.25**	**320**	P		**Pdif**		**13 57 54.0**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=99,slow=4.4,SNR=8.2								
ARCES	**ARCESS Array B**	**119.08**	**345**	PKP		**PKPdf**		**14 03 00.5**	**-0.7**
	comp=Z,1.5nm,0.5s,baz=78,slow=2.3,SNR=15								
MOS	**Moscow**	**122.68**	**329**	*e*PKIKP		PKPdf		14 03 23.7	+15
MOS				*e*				14 04 43.8	
OBN	**Obninsk**	**123.50**	**328**	*e*PKIKP		**PKPdf**		**14 03 08.3**	**-1.7**
OBN				pmax		pmax			
	comp=Z,5.0nm,0.6s								
BOSA	**Boshof**	**123.78**	**221**	PKP		**PKPdf**		**14 03 11.2**	**-0.4**
	comp=Z,4.6nm,0.9s,baz=143,slow=3.2,SNR=3.7								
FINES	**FINESS Array B**	**124.53**	**338**	PKP		**PKPdf**		**14 03 10.9**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=318,slow=2.6,SNR=9.3								
NB2	**NORSAR Subarra**	**129.45**	**345**	PKPdf		**PKPdf**		**14 03 20.8**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=27,slow=1.8								
NOA	**NORSAR Array B**	**129.45**	**345**	PKP		**PKPdf**		**14 03 21.4**	**0.0**
	comp=Z,0.7nm,0.6s,baz=31,slow=2.0,SNR=4.7								
AKASG	**Malin Array Be**	**129.53**	**326**	*i* PKIKP		**PKPdf**		**14 03 18.1**	**-3.6**
AKASG				pmax		pmax			
	comp=Z,4.0nm,0.4s								
CLL	**Collm**	**136.85**	**336**	*e*SKPab		**SKPab**		**14 07 12.0**	**+3.5**
CLL				LmV				15 17 00.0	
	comp=Z,100nm,20.4s								
GERES	**GERESS Array B**	**138.44**	**333**	PKP		**PKPdf**		**14 03 39.6**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=104,slow=2.8,SNR=4.1								
CEL	**Celeste**	**144.35**	**319**	*e*PKPdf		**PKPab**		**14 03 47.7**	**+0.1**
BNI	**Bardonecchia**	**144.39**	**335**	*e*PKIKP		**PKPdf**		**14 03 49.5**	**0.0**
BNI	**Bardonecchia**	**144.39**	**335**	*e*PKPdf		**PKPdf**		**14 03 49.5**	**0.0**
SSB	**Saint Sauveur**	**145.03**	**338**	*e*PKIKP		**PKPab**		**14 03 49.9**	**0.0**
SSB	**Saint Sauveur**	**145.03**	**338**	*e*PKPbc		**PKPab**		**14 03 49.9**	**0.0**
KEST	**Kesra**	**150.02**	**321**	PKPbc		**PKPbc**		**14 04 04.4**	**+0.4**
	comp=Z,4.5nm,0.8s,baz=344,slow=1.3,SNR=16								
KEST	**Kesra**	**150.02**	**321**	*e*PKPbc		**PKPbc**		**14 04 04.8**	**+0.8**
ESDC	**Sonseca Array**	**152.81**	**344**	PKPbc		**PKPbc**		**14 04 10.2**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=31,slow=2.8,SNR=8.8								
ESDC				PKPab		**PKPab**		**14 04 22.2**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=16,slow=3.7,SNR=4.7								
TORD	**Torodi Ar. Bea**	**165.36**	**270**	PKP		**PKPdf**		**14 04 16.9**	**-1.4**
	comp=Z,1.3nm,0.6s,baz=28,slow=1.3,SNR=13								
TORD				PKPab		**PKPab**		**14 05 16.9**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=91,slow=4.9,SNR=5.8								

*IDC **28** 13:53:47.6±1.1,53.°69N×163.°32W,h0km,mb3.9/15, mb1 4.1/15,mb1mx3.8/48,mbtmp3.9/15,MS3.4/3, Ms1 3.5/3,ms1mx2.9/45,Error ellipse: s-maj=33.7km s-min=16.5km az=3.0*

*ISCJB **28** 13:53:49.7±0.8,53.°44N±0.°06×163.°11W±0.°06,h35km±7km, mb3.9/14,MS3.2/2,Error ellipse: s-maj=10.3km s-min=5.1km az=161.2*

*NEIC **28** 13:53:50.4,53.°48N×163.°17W,h42km,mb3.8/1, ML3.7(AEIC),After AEIC.*

ISC 28 13:53:50.9±3.8,53.°54N±0.°08×163.°21W±0.°04, h25km±28km,n53,σ0.9≥92/52,mb3.9/14,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.24**	**320**	P		**Pn**	**13 54 12.6**	**-0.1**
WESP	**Westdahl Peak**	**1.31**	**318**	P		**Pn**	**13 54 13.6**	**-0.1**
WESP				S		**Sn**	**13 54 32.1**	**+1.7**
WESN	**West Dahl Nort**	**1.32**	**322**	P		**Pn**	**13 54 13.8**	**+0.1**
FALS	**False Pass**	**1.33**	**355**	P		**Pn**	**13 54 13.8**	**0.0**
FALS				S		**Sn**	**13 54 32.6**	**+2.0**
ISNN	**Isanotski Nort**	**1.34**	**346**	P		**Pn**	**13 54 14.6**	**+0.6**
SSLW	**Shishaldin Wes**	**1.35**	**337**	P		**Pn**	**13 54 14.2**	**+0.1**
SSLN	**Shishaldin Nor**	**1.36**	**340**	P		**Pn**	**13 54 14.9**	**+0.6**
AKSA	**Akutan Strait**	**1.59**	**293**	P		**Pn**	**13 54 17.0**	**-0.5**
AKSA				S		**Sn**	**13 54 37.9**	**+0.8**
AKUT	**Akutan**	**1.64**	**293**	P		**Pn**	**13 54 17.8**	**-0.2**
AKUT				S		**Sn**	**13 54 38.2**	**+0.1**
DT1	**Dutton Round H**	**1.67**	**19**	P		**Pn**	**13 54 18.0**	**-0.4**
DTNA	**Dutton South F**	**1.71**	**19**	P		**Pn**	**13 54 18.8**	**-0.2**
ZRO	**Akutan Zero**	**1.74**	**290**	P		**Pn**	**13 54 19.2**	**-0.2**
AKGG	**Akutan Green G**	**1.78**	**293**	P		**Pn**	**13 54 20.0**	**0.0**
AKGG				S		**Sn**	**13 54 43.0**	**+1.3**
AKRB	**Akutan Reef Bi**	**1.80**	**290**	P		**Pn**	**13 54 20.1**	**-0.1**
UNV	**Unalaska Valle**	**1.98**	**280**	P		**Pn**	**13 54 21.8**	**-0.9**
MREP	**Makushin Rep't**	**2.12**	**279**	P		**Pn**	**13 54 25.1**	**+0.4**
MSW	**Makushin Switc**	**2.16**	**282**	P		**Pn**	**13 54 25.2**	**0.0**
MCIR	**Makushin Cirqu**	**2.23**	**282**	P		**Pn**	**13 54 26.3**	**+0.1**
SDPT	**Sand Point**	**2.42**	**40**	P		**Pn**	**13 54 29.0**	**+0.3**
SDPT				S		**Sn**	**13 54 57.4**	**0.0**
OKFG	**Magazine Ridge**	**2.82**	**269**	P		**Pn**	**13 54 34.0**	**-0.2**
NIKH	**Nikolski High**	**3.44**	**263**	P		**Pn**	**13 54 42.2**	**-0.6**
KOFP	**Korovin Flat P**	**6.71**	**264**	P		**Pn**	**13 55 29.4**	**+1.7**
OHAK	**Old Harbor**	**6.75**	**53**	P		**Pn**	**13 55 26.7**	**-1.5**
ATKA	**Atka Island**	**6.79**	**263**	P		**Pn**	**13 55 29.1**	**+0.4**
KDAK	**Kodiak Island**	**7.36**	**50**	P		**Pn**	**13 55 36.0**	**-0.5**
TRF	**Thorofare Moun**	**11.99**	**29**	*e*Pn		**Pn**	**13 56 39.4**	**-0.7**
	35nm,1.8s							
ILAR	**Eielson Array**	**13.97**	**30**	LR		LR	14 03 04.6	
	comp=Z,269nm,18.5s,baz=249,slow=40							
COLD	**Coldfoot**	**15.11**	**20**	*e*Pn		**Pn**	**13 57 21.1**	**-1.2**
	6.9nm,1.1s							
H02N1	**VAN INLET T-PH**	**18.22**	**78**	T		T	14 17 27.2	
	SNR=19							
H02S1	**DAWSON INLET T**	**18.27**	**79**	T		T	14 17 47.7	
	SNR=13							
DLBC	**Dease Lake**	**19.07**	**62**	P		**Pn**	**13 58 14.5**	**+2.5**
	0.2nm,0.3s,baz=308,slow=12,SNR=4.3							
INK	**Inuvik**	**20.35**	**32**	P		**P**	**13 58 22.7**	**-2.2**
	2.5nm,0.3s,baz=173,slow=3.5,SNR=3.4							
INK				LR		LR	14 06 58.0	
	comp=Z,107nm,20.1s,baz=250,slow=39							
PETK	**Petropavlovsk-**	**23.16**	**285**	P		**P**	**13 58 54.7**	**-0.4**
	1.9nm,0.5s,baz=92,slow=13,SNR=17							
YKA	**Yellowknife Ar**	**26.64**	**51**	P		**P**	**13 59 29.1**	**+2.1**
	0.5nm,0.4s,baz=270,slow=9.3,SNR=9.2							
YBH	**Yreka Blue Hor**	**29.33**	**97**	LR		LR	14 08 31.3	
	comp=Z,59nm,21.2s,baz=261,slow=30							
MFID	**Camas Ranch**	**32.44**	**89**	*eP*		**P**	**14 00 18.4**	**-0.3**
NVAR	**Mina Array Bea**	**34.03**	**98**	P		**P**	**14 00 33.7**	**+0.8**
	0.4nm,0.7s,baz=302,slow=9.0,SNR=3.6							
H11N2	**WAKE ISLAND Hy**	**40.83**	**226**	T		T	14 45 20.1	
	baz=26,slow=76,SNR=23							
H11N3	**WAKE ISLAND Hy**	**40.83**	**226**	T		T	14 45 30.6	
	baz=26,slow=76,SNR=20							
H11N1	**WAKE ISLAND Hy**	**40.84**	**226**	T		T	14 45 21.5	
	baz=26,slow=76,SNR=17							
SPITS	**Spitsbergen Ar**	**48.55**	**0**	P		**P**	**14 02 29.6**	**-1.6**
	5.3nm,1.0s,baz=41,slow=7.8,SNR=6.2							
KSRS	**Korea Array**	**48.92**	**280**	P		**P**	**14 02 34.8**	**+0.3**
	1.6nm,0.7s,baz=47,slow=7.2,SNR=9.3							
KSAR	**Wonju Array Be**	**48.95**	**280**	P		**P**	**14 02 34.8**	**0.0**
TXAR	**Lajitas Array**	**49.06**	**95**	P		**P**	**14 02 36.6**	**+0.8**
	0.6nm,0.5s,baz=303,slow=5.5,SNR=12							
SONM	**Songino Array**	**53.84**	**303**	P		**P**	**14 03 10.5**	**-0.9**
	0.4nm,0.4s,baz=54,slow=8.1,SNR=4.6							
ZALV	**Zalesovo Beam**	**59.00**	**320**	P		**P**	**14 03 47.8**	**0.0**
	0.7nm,0.6s,baz=11,slow=9.6,SNR=3.1							
KURK	**Kurchatov**	**63.89**	**321**	P		**P**	**14 04 21.5**	**+0.6**
KURBB	**Kurchatov Arra**	**64.00**	**321**	P		**P**	**14 04 21.5**	**-0.1**
	0.5nm,0.5s,baz=39,slow=6.7,SNR=6.2							
FINES	**FINESS Array B**	**65.13**	**355**	P		**P**	**14 04 28.3**	**-0.5**
	1.2nm,0.6s,baz=46,slow=5.5,SNR=4.0							
MKAR	**Makanchi Array**	**65.62**	**317**	P		**P**	**14 04 31.9**	**-0.4**
	0.3nm,0.4s,baz=38,slow=7.4,SNR=6.2							
AKASG	**Malin Array Be**	**75.61**	**352**	P		**P**	**14 05 32.8**	**-0.2**
	1.0nm,0.5s,baz=15,slow=5.6,SNR=5.5							
GERES	**GERESS Array B**	**77.96**	**2**	P		**P**	**14 05 46.7**	**+0.2**
	0.2nm,0.3s,baz=30,slow=6.0,SNR=3.2							
CMAR	**Chiang Mai Arr**	**79.92**	**287**	P		**P**	**14 05 57.6**	**0.0**
	1.2nm,0.8s,baz=21,slow=6.1,SNR=5.1							

*NIED **28** 14:03:00,36.°00N×130.°90E,h20km,Mw4.0 Best double couple: M0 1.33000×10^15 NP1:φ=217.00000°,δ=35.00000°, λ=139.00000°. NP2:φ=342.00000°,δ=68.00000°,λ=62.00000°.*

*KMA **28** 14:03:10.4,35.°96N×131.°21E,h0km*

*JMA **28** 14:03:11.4±0.2,36.°02N×130.°94E,h3km±3km,M4.4*

*IDC **28** 14:03:12.7±0.6,35.°87N×130.°92E,h0km,mb3.8/14, mb1 4.0/17,mb1mx3.8/49,mbtmp3.8/17,ML3.5/3,MS2.6/2, Ms1 2.6/2,ms1mx2.4/41,Error ellipse: s-maj=19.6km s-min=13.5km az=65.0*

*ISCJB **28** 14:03:15.1±0.3,35.°97N±0.°03×130.°95E±0.°03,h29km, mb3.8/14,Error ellipse: s-maj=5.2km s-min=2.8km az=33.8*

ISC 28 14:03:17.0±0.6,35.°97N±0.°04×130.°95E±0.°04,h29km,n75, σ1≥14/80,mb3.9/14,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSPHA	**Pohang**	**1.30**	**281**	P		**Pn**	**14 03 37.4**	**-1.8**
	SNR=30							
KSPHA	**Pohang**	**1.30**	**281**	P		**Pn**	**14 03 37.4**	**-1.8**
	SNR=30							
KSPHA	**Pohang**	**1.30**	**281**	P		**Pn**	**14 03 37.9**	**-1.3**
	SNR=52							
KSYOD	**Yeongdeok**	**1.36**	**294**	P		**Pn**	**14 03 38.3**	**-1.8**
	SNR=37							
KSYOD	**Yeongdeok**	**1.36**	**294**	P		**Pn**	**14 03 38.3**	**-1.8**
	SNR=37							
KSYOD	**Yeongdeok**	**1.36**	**294**	P		**Pn**	**14 03 38.3**	**-1.8**
	SNR=37							
KSULJ	**Uljin**	**1.45**	**301**	P		**Pn**	**14 03 39.2**	**-2.0**
	SNR=88							
KSULJ	**Uljin**	**1.45**	**301**	P		**Pn**	**14 03 39.2**	**-2.0**
	SNR=88							
KSULJ	**Uljin**	**1.45**	**301**	P		**Pn**	**14 03 39.4**	**-1.9**
	SNR=24							
JGT	**Gotsu**	**1.46**	**129**	P		**Pn**	**14 03 39.3**	**-2.2**
JGT				*e*S		**Sn**	**14 03 59.1**	**-0.5**
KSYOC	**YEONGCHEON**	**1.62**	**271**	P		**Pn**	**14 03 42.6**	**-1.0**
	SNR=9.5							
KSYOC	**YEONGCHEON**	**1.62**	**271**	P		**Pn**	**14 03 42.6**	**-1.0**
	SNR=9.5							
KSYOC	**YEONGCHEON**	**1.62**	**271**	P		**Pn**	**14 03 42.6**	**-1.0**
	SNR=9.5							
JHIK	**Hikimi**	**1.64**	**151**	P		**Pn**	**14 03 42.0**	**-1.9**
JHIK				*e*S		**Sn**	**14 04 03.7**	**-0.3**
KSBUS	**Busan**	**1.66**	**245**	P		**Pn**	**14 03 42.6**	**-1.6**
	SNR=21							
KSBUS	**Busan**	**1.66**	**245**	P		**Pn**	**14 03 42.6**	**-1.6**
	SNR=21							
KSDAG	**Daegu**	**1.68**	**264**	P		**Pn**	**14 03 43.0**	**-1.4**
	SNR=55							
KSDAG	**Daegu**	**1.68**	**264**	P		**Pn**	**14 03 43.1**	**-1.4**
	SNR=22							
KSDAG	**Daegu**	**1.68**	**264**	P		**Pn**	**14 03 43.1**	**-1.4**
	SNR=32							
JHT	**Toyohira**	**1.77**	**137**	*e*S		**Sn**	**14 04 07.4**	**+0.1**
KSEUS	**ULSEONG**	**1.87**	**283**	P		**Pn**	**14 03 45.8**	**-1.3**
	SNR=16							
JTU	**Tsushima**	**1.92**	**222**	P		**Pn**	**14 03 46.1**	**-1.6**
SAI	**Saigo**	**1.94**	**82**	P		**Pn**	**14 03 46.1**	**-2.0**
KSTBA	**Taebaek**	**1.98**	**306**	P		**Pn**	**14 03 47.3**	**-1.4**
	SNR=56							
KSTBA	**Taebaek**	**1.98**	**306**	P		**Pn**	**14 03 47.3**	**-1.4**
	SNR=56							
JHS	**Saijyo**	**2.01**	**118**	P		**Pn**	**14 03 47.0**	**-2.0**
KSTOY	**TONGYEONG**	**2.34**	**242**	P		**Pn**	**14 03 53.1**	**-0.4**
	SNR=6.4							
KSTOY	**TONGYEONG**	**2.34**	**242**	P		**Pn**	**14 03 53.1**	**-0.4**
	SNR=6.4							
KSYOW	**Yeongwol**	**2.34**	**302**	P		**Pn**	**14 03 52.6**	**-0.9**
	SNR=8.4							
KSJES	**JEONGSEON**	**2.35**	**309**	P		**Pn**	**14 03 52.6**	**-1.1**
	SNR=6.7							
KSJES	**JEONGSEON**	**2.35**	**309**	P		**Pn**	**14 03 52.6**	**-1.1**
	SNR=6.7							
KSCPR	**CHUPUNGNYEONG**	**2.43**	**277**	P		**Pn**	**14 03 54.5**	**-0.2**
	SNR=5.3							
KSCPR	**CHUPUNGNYEONG**	**2.43**	**277**	P		**Pn**	**14 03 53.9**	**-0.8**
	SNR=28							
KSDGY	**Daegwallycong**	**2.51**	**314**	P		**Pn**	**14 03 54.6**	**-1.3**
	SNR=50							
KSDGY	**Daegwallycong**	**2.51**	**314**	P		**Pn**	**14 03 54.6**	**-1.3**
	SNR=50							
KSCHJ	**Chungju**	**2.57**	**292**	P		**Pn**	**14 03 55.9**	**-0.8**
	SNR=11							
KSJMJ	**Jumunjin**	**2.60**	**318**	P		**Pn**	**14 03 55.5**	**-1.6**
	SNR=13							
KSBON	**Boeun**	**2.60**	**283**	P		**Pn**	**14 03 56.3**	**-0.9**
	SNR=16							
JNA	**Nagahama**	**2.71**	**152**	P		**Pn**	**14 03 58.8**	**+0.2**
KSWJU	**Wonju**	**2.74**	**302**	P		**Pn**	**14 03 58.2**	**-0.8**
	SNR=12							
JNU	**Nakatsue**	**2.84**	**181**	Pn		**Pn**	**14 03 59.6**	**-0.8**
	21nm,0.3s,baz=6.5,slow=3.7,SNR=192							
JNU				Sn		**Sn**	**14 04 32.9**	**-0.8**
	13nm,0.3s,baz=146,slow=21,SNR=5.6							
KSRS	**Korea Array**	**2.85**	**302**	Pn		**Pn**	**14 03 59.9**	**-0.7**
	4.5nm,0.3s,baz=126,slow=15,SNR=47							
KSRS				Sn		**Sn**	**14 04 32.9**	**-1.0**
	69nm,0.3s,baz=121,slow=23,SNR=23							
KSIJA	**INJE**	**3.04**	**312**	P		**Pn**	**14 04 02.2**	**-0.9**
	SNR=16							
KSCHC	**Chuncheon**	**3.10**	**307**	P		**Pn**	**14 04 03.0**	**-0.9**
	SNR=21							
KSCEA	**Cheonan**	**3.10**	**287**	P		**Pn**	**14 04 03.2**	**-0.8**
	SNR=14							
KSICN	**Icheon**	**3.14**	**296**	P		**Pn**	**14 04 04.3**	**-0.2**
	SNR=6.2							
SEHB	**SEOHWA**	**3.15**	**318**	P		**Pn**	**14 04 03.6**	**-1.1**
	SNR=26							
JMN	**Monobe**	**3.28**	**132**	P		**Pn**	**14 04 06.1**	**-0.4**
KSKOH	**Goheung**	**3.30**	**247**	P		**Pn**	**14 04 06.2**	**-0.5**
	SNR=10							
KSJEU	**Jeongeup**	**3.31**	**263**	P		**Pn**	**14 04 06.4**	**-0.4**
	SNR=9.0							
KSKWJ	**Gwangju**	**3.33**	**257**	P		**Pn**	**14 04 06.6**	**-0.5**
	SNR=22							
JTO	**Tosashimizu**	**3.45**	**153**	P		**Pn**	**14 04 08.1**	**-0.8**
KSSES	**Seosan**	**3.72**	**284**	P		**Pn**	**14 04 11.9**	**-0.6**
	SNR=15							
YNCB	**YEONCHEON**	**3.83**	**304**	P		**Pn**	**14 04 13.2**	**-0.8**
	SNR=27							
KSMUS	**Musan**	**3.87**	**301**	P		**Pn**	**14 04 14.0**	**-0.6**
	SNR=16							
KSGAH	**Ganghwa**	**4.01**	**297**	P		**Pn**	**14 04 16.1**	**-0.3**
	SNR=16							
KSHUK	**Heuksando**	**4.67**	**256**	P		**Pn**	**14 04 24.9**	**-0.7**
	SNR=11							
MAT	**Matsushiro**	**5.89**	**82**	P		**Pn**	**14 04 42.7**	**+0.4**
MAT				S		**Sn**	**14 05 48.9**	**0.0**
MJAR	**Matsushiro Arr**	**5.89**	**82**	Pn		**Pn**	**14 04 43.6**	**+1.2**
	0.9nm,0.3s,baz=271,slow=14,SNR=13							
USRK	**Ussuriysk Ar.**	**8.26**	**5**	LR		LR

APA0					Lg	Lg	14 08 28.2	
	SNR=90							
VRF	**Varrio**	**1.77**	**276**	*e*P	**Pb**		**14 08 45.4**	**-0.5**
VRF				*e*S	**Sn**		**14 09 07.0**	**-0.7**
VRF				MSG			14 09 10.1	
	comp=Z,44nm,0.2s							
VRF	**Varrio**	**1.77**	**276**	P	**Pb**		**14 08 45.4**	**-0.5**
VRF				S	**Sn**		**14 09 07.0**	**-0.7**
KU6	**Riekki**	**2.35**	**229**	*e*P	**Pn**		**14 08 54.8**	**+2.3**
KU6				*e*S	**Sb**		**14 09 24.6**	**-0.6**
KU6				MSG			14 09 26.5	
	comp=Z,22nm,0.2s							
KU6	**Riekki**	**2.35**	**229**	P	**Pn**		**14 08 54.7**	**+2.3**
KU6				S	**Sb**		**14 09 24.6**	**-0.6**
MSF	**Maaselka**	**2.68**	**233**	*e*P	**Pn**		**14 08 59.9**	**+3.0**
MSF				*e*SB	**Sb**		**14 09 35.7**	**+0.9**
MSF	**Maaselka**	**2.68**	**233**	P	**Pn**		**14 08 59.9**	**+3.0**
MSF				Sb	**Sb**		**14 09 35.7**	**+0.9**
SGF	**Sodankyl**	**2.97**	**270**	*e*P	**Pn**		**14 09 02.0**	**+1.1**
SGF				*e*S	**Sn**		**14 09 37.4**	**+0.3**
SGF	**Sodankyl**	**2.97**	**270**	P	**Pn**		**14 09 02.0**	**+1.1**
SGF				S	**Sn**		**14 09 37.4**	**+0.3**
RNF	**Rovaniemi**	**3.37**	**256**	*e*P	**Pn**		**14 09 07.5**	**+1.1**
RNF				*e*S	**Sn**		**14 09 47.7**	**+0.7**
RNF	**Rovaniemi**	**3.37**	**256**	P	**Pn**		**14 09 07.5**	**+1.1**
RNF				S	**Sn**		**14 09 47.7**	**+0.7**
KEV	**Kevo**	**3.40**	**312**	*e*P	**Pn**		**14 09 08.6**	**+1.8**
KEV				*e*S	**Sn**		**14 09 48.2**	**+0.4**
KEV	**Kevo**	**3.40**	**312**	P	**Pn**		**14 09 08.6**	**+1.8**
KEV				S	**Sn**		**14 09 48.2**	**+0.4**
ARA0	**ARCESS Array S**	**3.73**	**305**	Pn	**Pn**		**14 09 12.9**	**+1.4**
	baz=120,slow=14							
ARA0				Pg	**Pb**		**14 09 20.5**	**+1.1**
	baz=116,slow=16							
ARA0				Sn	**Sn**		**14 09 55.1**	**-1.0**
	baz=123,slow=28							
ARA0				Lg	Lg		14 10 05.4	
	baz=108,slow=28							
ARA0	**ARCESS Array S**	**3.73**	**305**	Pn	**Pn**		**14 09 12.9**	**+1.4**
	baz=120,slow=14							
ARA0				Pg	**Pb**		**14 09 20.5**	**+1.1**
	baz=116,slow=16							
ARA0				Sn	**Sn**		**14 09 55.1**	**-1.0**
	baz=123,slow=28							
ARA0				Lg	Lg		14 10 05.4	
	baz=108,slow=28							
ARA0	**ARCESS Array S**	**3.73**	**305**	Pn	**Pn**		**14 09 12.9**	**+1.4**
	SNR=50							
ARA0	**ARCESS Array S**	**3.73**	**305**	Pg	**Pb**		**14 09 20.5**	**+1.1**
	SNR=7.1							
ARA0				Sn	**Sn**		**14 09 55.1**	**-1.0**
	SNR=50							
ARA0				Lg	Lg		14 10 05.4	
	SNR=20							
ARCES	**ARCESS Array B**	**3.73**	**305**	Pn	**Pn**		**14 09 13.1**	**+1.6**
	comp=Z,5.1nm,0.3s,baz=122,slow=15,SNR=300							
ARCES				Sn	**Sn**		**14 09 55.2**	**-0.8**
	comp=Z,4.2nm,0.3s,baz=121,slow=26,SNR=13							
ARCES				Lg	Lg		14 10 06.8	
	comp=Z,10nm,0.3s,baz=112,slow=29,SNR=16							
ARE0	**ARCESS Array S**	**3.73**	**305**	*e*P	**Pn**		**14 09 12.5**	**+1.0**
ARE0				*e*S	**Sn**		**14 09 55.0**	**-1.2**
ARE0	**ARCESS Array S**	**3.73**	**305**	P	**Pn**		**14 09 12.5**	**+1.0**
ARE0				S	**Sn**		**14 09 54.9**	**-1.2**
HEF	**Hetta**	**4.05**	**286**	*e*P	**Pn**		**14 09 16.7**	**+0.8**
HEF				*e*S	**Sn**		**14 10 02.9**	**-1.1**
HEF	**Hetta**	**4.05**	**286**	P	**Pn**		**14 09 16.6**	**+0.8**
HEF				S	**Sn**		**14 10 02.8**	**-1.1**
FIA0	**FINESS Array S**	**7.12**	**213**	Pn	**Pn**		**14 09 59.6**	**+1.8**
	baz=22,slow=14							
FIA0				Sn	**Sn**		**14 11 16.5**	**-2.9**
	baz=33,slow=22							
FIA0				Lg	Lg		14 11 51.8	
	baz=14,slow=37							
FIA0	**FINESS Array S**	**7.12**	**213**	Pn	**Pn**		**14 09 59.6**	**+1.8**
	baz=22,slow=14							
FIA0				Sn	**Sn**		**14 11 16.5**	**-2.9**
	baz=33,slow=22							
FIA0				Lg	Lg		14 11 51.8	
	baz=14,slow=37							
FIA0	**FINESS Array S**	**7.12**	**213**	Pn	**Pn**		**14 09 59.7**	**+1.8**
	SNR=50							
FINES	**FINESS Array B**	**7.12**	**213**	Pn	**Pn**		**14 09 59.5**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=27,slow=12,SNR=6.7							
FINES				Sn	**Sn**		**14 11 17.0**	**-2.4**
	comp=Z,0.5nm,0.3s,baz=46,slow=23,SNR=5.7							
FINES				Lg	Lg		14 11 51.7	
	comp=Z,2.0nm,0.3s,baz=34,slow=27,SNR=9.4							
HFS	**Hagfors**	**11.70**	**240**	Sn	Sn		14 13 03.4	-8.3
	baz=49,slow=22							
HFS				Lg	Lg		14 14 14.8	
	baz=45,slow=28							
HFS	**Hagfors**	**11.70**	**240**	Sn	Sn		14 13 03.4	-8.3
	baz=49,slow=22							
HFS				Lg	Lg		14 14 14.8	
	baz=45,slow=28							
HFS	**Hagfors**	**11.70**	**240**	Pn	**Pn**		**14 10 59.9**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=58,slow=14,SNR=4.0							
HFS				Lg	Lg		14 14 15.7	
	comp=Z,0.4nm,0.3s,baz=51,slow=27,SNR=5.9							
SPA0	**Spitsbergen Ar**	**11.74**	**342**	Pn	**Pn**		**14 10 59.7**	**-1.4**
	baz=146,slow=14							
SPA0	**Spitsbergen Ar**	**11.74**	**342**	Pn	**Pn**		**14 10 59.7**	**-1.4**
	baz=146,slow=14							
SPITS	**Spitsbergen Ar**	**11.74**	**342**	Pn	**Pn**		**14 10 59.7**	**-1.4**
	baz=147,slow=16,SNR=16							
NB2	**NORSAR Subarra**	**11.90**	**247**	Pn	**Pn**		**14 11 02.2**	**-1.1**
NB2	**NORSAR Subarra**	**11.90**	**247**	Pn	**Pn**		**14 11 02.2**	**-1.1**
NOA	**NORSAR Array B**	**11.90**	**247**	Pn	**Pn**		**14 11 02.1**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=49,slow=11,SNR=3.8							
NOA				Lg	Lg		14 14 20.1	
	comp=Z,0.3nm,0.3s,baz=56,slow=23,SNR=4.3							

IDC ***28*** *14:12:38.6±0.6, 34.°06S×72.°01W, h0km, mb4.3/11, mb1 4.4/14, mb1mx4.3/24, mbtmp4.3/14, ML4.2/3, MS4.4/9, Ms1 4.3/9, ms1mx4.1/16, Error ellipse: s-maj=27.0km s-min=15.7km az=89.0*

ISCJB ***28*** *14:12:40.9±1.1, 34.°08S±0.°03×72.°30W±0.°05, h26km±8km, mb4.4/14, MS4.3/8, Error ellipse: s-maj=6.7km s-min=5.2km az=6.2*

NEIC ***28*** *14:12:41.0, 34.°10S×72.°10W, h24km, mb4.8/6, ML4.8(GUC), After GUC.*

NEIC Felt [IV] at Navidad, Paredones, Pichilemu and San Antonio; [III] at Casablanca, Curico and Santiago; [II] at Colbun, Rancagua, San Fernando, San Javier, Santa Cruz, Talca, Vaparaiso and Vina del Mar.

GUC ***28*** *14:12:41.5±0.6, 34.°10S×72.°10W, h24km±3km, ML4.8*

BJI ***28*** *14:12:43.0, 34.°10S×72.°10W, h24km, mB4.6/3, Ms5.1/3, Ms7 4.8/3*

ISC 28 14:12:42.8±1.2, 34.°08S±0.°04×72.°19W±0.°06, h29km±7km, n64, σ1°07/73, mb4.6/14, MS4.4/8, 3C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LNV	**Longovilo**	**0.66**	**80**	ǁ *i*	P	**Pn**	**14 12 54.8**	**-1.3**
TACH	**Talagante**	**1.13**	**68**	ǁ *i*	P	**Pn**	**14 13 01.7**	**-0.9**
IHA	**Instituto Hidr**	**1.14**	**24**	*e*	P	**Pn**	**14 13 02.2**	**-0.6**
IHA				*e*	S	**Sn**	**14 13 18.4**	**+0.9**
NICH	**Los Niches**	**1.22**	**140**	*e*	P	**Pn**	**14 13 03.1**	**-0.7**
NICH				*e*	S	**Sn**	**14 13 19.3**	**-0.1**
CACH	**El Canelo**	**1.32**	**92**	ǁ *i*	P	**Pn**	**14 13 05.4**	**0.0**
TALC	**Talca**	**1.40**	**161**	*e*	P	**Pn**	**14 13 06.0**	**-0.3**
TALC				*e*	S	**Sn**	**14 13 24.5**	**+0.7**
SAN	**Santiago**	**1.42**	**64**	*e*	P	**Pn**	**14 13 06.5**	**-0.1**
SAN				*e*	S	**Sn**	**14 13 25.0**	**+0.7**
PCH	**Pirque**	**1.47**	**72**	*e*	P	**Pn**	**14 13 07.0**	**-0.3**
PCH				*i*	S	**Sn**	**14 13 26.5**	**+0.8**
ROCH	**El Roble**	**1.48**	**42**	ǁ *e*	P	**Pn**	**14 13 07.3**	**-0.3**
ROCH				*e*	S	**Sn**	**14 13 27.7**	**+1.6**
ROCH				AML		AML	14 13 36.4	
	comp=N,39μm,0.6s							
LACH	**Col Las Americ**	**1.52**	**66**	*e*	P	**Pn**	**14 13 07.8**	**-0.3**
CLCH	**Cerro Calan**	**1.54**	**64**	ǁ *e*	P	**Pn**	**14 13 08.6**	**+0.2**
CLCH				*e*	S	**Sn**	**14 13 28.6**	**+1.3**
CLCH				AML		AML	14 13 37.7	
	comp=E,18μm,0.6s							
PEL	**Peldehue**	**1.56**	**54**	ǁ *e*	P	**Pn**	**14 13 09.0**	**+0.3**
PEL				AML		AML	14 13 34.7	
	comp=E,29μm,0.3s							
SJCH	**San Jose de Ma**	**1.59**	**75**	*e*	P	**Pn**	**14 13 08.6**	**-0.5**
SJCH				*e*	S	**Sn**	**14 13 28.9**	**+0.2**
YECH	**El Yeso**	**1.80**	**77**	*e*	P	**Pn**	**14 13 12.7**	**+0.6**
YECH				*e*	S	**Sn**	**14 13 36.6**	**+2.4**
YECH				AML		AML	14 13 45.1	
	comp=E,15μm,0.4s							
LNCH	**Linares**	**1.83**	**165**	ǁ *e*	P	**Pn**	**14 13 12.7**	**+0.3**
CFAA	**Coronel Fontan**	**4.14**	**55**	Pn		**Pn**	**14 13 45.2**	**+1.1**
	comp=E,1.2nm,0.3s,baz=87,slow=1.1,SNR=46							
CFAA				Lg		Lg	14 14 43.3	
	comp=E,3.3nm,0.3s,baz=92,slow=20,SNR=3.2							
CFAA				LR		LR	14 15 15.7	
	comp=E,161nm,21.2s,baz=231,slow=39							
LCO	**Las Campanas**	**5.21**	**15**	*e*	Pn	**Pn**	**14 13 58.3**	**-0.7**
PLCA	**Paso Flores**	**6.77**	**169**	Pn		**Pn**	**14 14 20.7**	**+0.5**
	comp=E,0.4nm,0.3s,baz=338,slow=21,SNR=30							
PLCA				Lg		Lg	14 16 07.3	
	comp=E,0.1nm,0.3s,baz=82,slow=24,SNR=1.9							
LVC	**Limon Verde**	**11.78**	**15**	Pn		Pn	14 15 26.2	-2.9
	comp=E,13nm,0.3s,baz=154,slow=7.2,SNR=4.0							
LVC				LR		LR	14 20 14.6	
	comp=E,6μm,20.2s,baz=214,slow=39							
LPAZ	**La Paz**	**18.09**	**13**	P		**P**	**14 16 52.9**	**+0.1**
	comp=E,0.4nm,0.3s,baz=183,slow=8.8,SNR=40							
LPAZ	**La Paz**	**18.09**	**13**	*e*	Pn	**P**	**14 16 52.8**	**+0.1**
	comp=E,23nm,1.0s							
SIV	**San Ignacio**	**20.61**	**32**	P		**P**	**14 17 18.8**	**-0.9**
	comp=E,16nm,1.0s,baz=229,slow=13,SNR=21							
SAML	**Samuel**	**26.35**	**20**	*e*	P	**P**	**14 18 15.6**	**-0.7**
	comp=E,16nm,1.0s							
BDFB	**Brasilia**	**28.48**	**56**	P		**P**	**14 18 33.8**	**-1.9**
	comp=E,9.0nm,0.9s,baz=217,slow=5.3,SNR=4.7							
BDFB				LR		LR	14 31 07.2	
	comp=E,1μm,19.2s,baz=224,slow=39							
SDV	**Santo Domingo**	**42.75**	**2**	*e*	P	**P**	**14 20 37.3**	**-0.5**
	comp=E,6.7nm,1.1s							
VNA2	**Neumayer--Watz**	**49.99**	**157**	P		**P**	**14 21 34.3**	**+0.4**
	baz=285,slow=8.6							
SNAA	**Sanae**	**51.56**	**158**	P		P	14 21 42.0	-3.8
SNAA	**Sanae**	**51.56**	**158**	P		**P**	**14 21 45.4**	**-0.4**
	comp=E,1.3nm,0.6s,baz=345,slow=22,SNR=22							
SNAA	**Sanae**	**51.56**	**158**	*e*	P	P	14 21 41.5	-4.2
	comp=E,53nm,1.8s							
QSPA	**South Pole Qui**	**56.16**	**180**	P		**P**	**14 22 20.3**	**+0.8**
	comp=E,5.5nm,1.0s,baz=256,slow=2.0,SNR=8.0							
TBI	**Tubuai**	**67.17**	**257**	*e*	LR	LR	14 44 11.0	
	comp=E,404nm,25.2s							
JCT	**Junction City**	**69.30**	**335**	*e*	P	**P**	**14 23 45.9**	**-1.4**
	comp=E,26nm,1.6s							
TXAR	**Lajitas Array**	**69.74**	**331**	P		**P**	**14 23 51.0**	**+0.9**
	comp=E,0.8nm,0.9s,baz=163,slow=8.9,SNR=8.3							
TXAR				LR		LR	14 49 59.9	
	comp=E,278nm,18.3s,baz=0.0,slow=32							
PPT2	**Papeete2**	**70.10**	**262**	*e*	S	SKiKP	14 33 25.5	-11
	comp=E,125nm,23.5s							
PPT2	**Papeete2**	**70.10**	**262**	*e*	LR	LR	14 45 22.4	
	comp=E,300nm,25.8s							
SWET	**Senanee**	**70.12**	**348**	*e*	P	**P**	**14 23 51.7**	**-0.6**
WVT	**Waverly**	**71.36**	**347**	*e*	P	**P**	**14 23 59.8**	**+0.2**
	comp=E,18nm,1.1s							
MNTX	**Cornudas Mount**	**72.51**	**331**	*e*	P	**P**	**14 24 07.5**	**+0.7**
MAW	**Mawson**	**73.14**	**164**	P		**P**	**14 24 10.4**	**+0.4**
	comp=E,7.0nm,1.0s,baz=232,slow=2.4,SNR=4.5							
MAW				LR		LR	14 58 42.6	
	comp=E,297nm,18.7s,baz=238,slow=38							
DBIC	**Dimbokro**	**75.33**	**71**	P		**P**	**14 24 23.8**	**+0.1**
	comp=E,7.8nm,1.2s,baz=198,slow=9.6,SNR=2.3							
DBIC				LR		LR	14 56 00.2	
	comp=E,167nm,18.9s,baz=207,slow=35							
SCIA	**State Center**	**78.04**	**344**	*e*	P	**P**	**14 24 39.6**	**+1.3**
BOSA	**Boshof**	**80.15**	**118**	P		**P**	**14 24 51.1**	**+0.5**
	comp=E,2.8nm,0.6s,baz=265,slow=4.4,SNR=4.6							
BOSA				LR		LR	14 57 21.2	
	comp=E,120nm,18.0s,baz=182,slow=34							
ECSD	**EROS Data Cent**	**80.58**	**342**	*e*	P	**P**	**14 24 52.3**	**+0.1**
PDAR	**Pinedale Array**	**83.77**	**333**	P		**P**	**14 25 10.0**	**+0.8**
	comp=E,2.0nm,1.1s,baz=132,slow=4.4,SNR=6.1							
NVAR	**Mina Array Bea**	**83.87**	**325**	P		**P**	**14 25 11.7**	**+1.9**
	comp=E,0.4nm,0.6s,baz=134,slow=6.4,SNR=3.6							
TORD	**Torodi Ar. Bea**	**84.36**	**70**	P		**P**	**14 25 12.2**	**-0.4**
	comp=E,5.6nm,1.1s,baz=240,slow=4.5,SNR=14							
TORD				LR		LR	15 01 52.6	
	comp=E,183nm,18.7s,baz=205,slow=35							
RLMT	**Red Lodge**	**85.70**	**335**	*e*	P	**P**	**14 25 19.9**	**+1.1**
MCMT	**McKenzie Canyo**	**86.78**	**332**	*e*	P	**P**	**14 25 25.9**	**+1.8**
SCHQ	**Schefferville**	**88.67**	**3**	LR		LR	15 05 50.4	
	comp=E,51nm,21.0s,baz=66,slow=36							
ESDC	**Sonseca Array**	**96.72**	**46**	LR		LR	15 09 30.8	
	comp=E,68nm,18.1s,baz=160,slow=35							
WRA	**Warramunga Arr**	**120.63**	**209**	PKP		**PKPdf**	**14 31 31.5**	**-0.8**
	comp=E,0.5nm,0.8s,baz=152,slow=1.8,SNR=20							
FINES	**FINESS Array B**	**123.13**	**35**	PKP		**PKPdf**	**14 31 35.2**	**-0.4**
	comp=E,0.5nm,0.5s,baz=163,slow=5.4,SNR=2.8							
ARCES	**ARCESS Array B**	**124.14**	**25**	PKP		**PKPdf**	**14 31 37.1**	**-0.3**
	comp=E,1.8nm,0.9s,baz=241,slow=2.5,SNR=5.2							
BVAR	**Borovoye Array**	**147.42**	**43**	PKPbc		**PKPbc**	**14 32 22.8**	**-0.5**
	comp=E,1.9nm,0.5s,baz=300,slow=9,SNR=10							
HYB	**Hyderabad**	**149.01**	**115**	*i*	PKP	**PKPbc**	**14 32 30.0**	**+1.5**
KSH	**Kashi**	**154.02**	**69**	*e*	PKPbc	**PKPbc**	**14 32 39.8**	**+0.2**
KSH					pPKP	**PKPab**	**14 32 50.5**	**-2.7**
KSH					PP	PP	14 37 04.5	+36
KSH					AMB	AMB		
	comp=Z,37nm,3.6s							
KSH					LR	LR		
	comp=N,190nm,8.8s							
KSH					LR	LR		
	comp=E,140nm,7.4s							
KSH					LR	LR		
	comp=Z,140nm,8.8s							
ZALV	**Zalesovo Beam**	**154.36**	**32**	PKP		**PKPdf**	**14 32 31.5**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=232,slow=3.6,SNR=3.6							
ZALV				PKPbc		**PKiKP**	**14 32 39.8**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=292,slow=3.5,SNR=8.3							
MKAR	**Makanchi Array**	**156.91**	**49**	PKPab		**PKPab**	**14 33 04.1**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=318,slow=3.3,SNR=6.0							
WMQ	**Urumqi**	**161.62**	**52**	*e*	PKP	**PKPdf**	**14 32 40.0**	**-0.7**
WMQ					PKS	**PKSdf**	**14 36 11.8**	**-2.1**
WMQ					SKS	**SKSdf**	**14 39 41.8**	**-1.7**
WMQ					SKKS	**SKKSac**	**14 43 57.3**	**+1.6**
WMQ					PPMZ			
	comp=Z,23nm,9.6s							
WMQ					LN			
	comp=Z,110nm,24.0s							
WMQ					LE			
	comp=Z,92nm,24.0s							
WMQ					LZ			
	comp=Z,150nm,21.4s							
SONM	**Songino Array**	**166.21**	**4**	PKPab		**PKPab**	**14 33 46.5**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=108,slow=3.3,SNR=4.8							
KMI	**Kunming**	**170.05**	**152**	PKP		**PKPdf**	**14 32 50.0**	**+1.7**
HHC	**Hu-ho-hao-te**	**172.61**	**337**	*e*	PKP	**PKPdf**	**14 32 47.0**	**-1.9**
HHC					pPKP	**pPKPdf**	**14 32 57.5**	**-1.1**
HHC					sPKP		14 33 03.5	
HHC					PP	**PP**	**14 38 07.5**	**+2.3**
HHC					PPMZ			
	comp=Z,60nm,9.4s							
HHC					LN			
	comp=Z,160nm,21.7s							
HHC					LE			
	comp=Z,190nm,21.2s							
HHC					LZ			
	comp=Z,170nm,21.2s							
CD2	**Chengdu**	**175.34**	**132**	PKP		**PKPdf**	**14 32 49.0**	**-1.1**
LZH	**Lanzhou**	**176.18**	**57**	*e*	PKP	**PKPdf**	**14 32 49.8**	**-0.5**
LZH					pPKP	**pPKPdf**	**14 33 01.3**	**+1.3**
LZH					sPKP		14 33 04.5	

ISCJB ***28*** *14:36:05.3±0.7, 32.°65N±0.°07×115.°75W±0.°04, h14km±6km, Error ellipse: s-maj=11.3km s-min=5.0km az=3.6*

ECX ***28*** *14:36:06.3±0.6, 32.°66N×115.°74W, h4km, MD2.7, ML2.9*

MEX ***28*** *14:36:07.1±1.4, 32.°64N×115.°73W, h17km±936km, MD3.7*

ISC 28 14:36:04.7±1.2, 32.°63N±0.°04×115.°77W±0.°03, h18km±4km, n14, σ0°72/21, 3C, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YUH	**Yuha Desert**	**0.13**	**280**	ǁ *i*	P	**Pg**	**14 36 08.9**	**+0.2**
WESC	**Westside Schoo**	**0.14**	**12**	*e*	P	**Pb**	**14 36 08.2**	**+0.2**
ERPC	**Ernies Place**	**0.15**	**36**	ǁ *i*	P	**Pg**	**14 36 08.6**	**-0.3**
RMX	**La Rumorosa**	**0.26**	**265**	*e*	P9	**Pg**	**14 36 11.4**	**+0.6**
RMX				*e*	S	**Sb**	**14 36 15.7**	**+0.6**
RMX				IAML			14 36 16.1	
	comp=N,2μm,0.4s							
CPBX	**Cerro Prieto**	**0.44**	**118**	*e*	P	**Pb**	**14 36 13.9**	**-0.1**
CPBX				*e*	S	**Sb**	**14 36 20.9**	**+0.6**
CPBX				ǁ *e*			14 36 22.6	
CPBX				IAML			14 36 22.6	
	comp=N,4μm,0.1s							
MBIG	**Mexicali**	**0.53**	**114**	*e*	P	**Pb**	**14 36 16.2**	**+0.8**
MBIG				*i*	S	**Sb**	**14 36 23.3**	**+0.7**
RDX	**Rancho Dawling**	**0.71**	**192**	*e*	P9	**Pg**	**14 36 18.8**	**+0.1**
RDX				*e*	S	**Sb**	**14 36 28.9**	**+0.7**
BAR	**Barrett**	**0.77**	**274**	*e*	P	**Pn**	**14 36 20.4**	**-0.2**
CBX	**Cerro Bola**	**0.82**	**248**	*i*	P	**Pn**	**14 36 21.5**	**0.0**
CBX				*e*	S	**Sb**	**14 36 30.2**	**-1.0**
CBX	**Cerro Bola**	**0.82**	**248**	*e*	P	**Pn**	**14 36 21.6**	**0.0**
CBX				*e*	S	**Sn**	**14 36 33.1**	**-0.1**
CBX				*e*			14 36 36.8	
CBX				IAML			14 36 36.9	
	comp=N,510nm,0.3s							
ZAX	**El Zacaton**	**1.19**	**201**	*e*	P	**Pg**	**14 36 27.8**	**0.0**
ZAX				IAML			14 36 46.3	
	comp=N,182nm,0.2s							
ZAX				*e*			14 36 46.3	
ECNX	**Esteban Cantu**	**1.20**	**216**	*e*	P	**Pg**	**14 36 28.1**	**+0.2**
PBX	**Punta Banda**	**1.20**	**223**	*e*	P	**Pg**	**14 36 27.9**	**0.0**
SPIG	**San Pedro Mart**	**1.59**	**171**	*i*	P	**Pn**	**14 36 32.5**	**+0.1**
SPIG				*i*	S	**Sn**	**14 36 50.5**	**-2.2**

DJA 28 14:41:11.4±0.7, 1°N±12°×12°6E±°, h10km, M3.6/5, MLv3.6/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**1.25**	**104**	P		Pn	14 41 33.3	-1.6
KMSI	**Cibinong**	**2.24**	**257**	P		Pn	14 41 48.3	-0.2
KMSI				S		Sn	14 42 17.3	+1.1
LUWI	**Luwuk**	**3.99**	**238**	P		Pn	14 42 11.8	-0.9
APSI	**Ampana**	**4.92**	**246**	P		Pn	14 42 25.9	+0.4

MEX 28 14:41:49.7±0.6, 15°47N×93°31W, h92km±17km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCIG		**0.25**	**21**	*e*	P	Pn	14 42 01.7	-1.4
PCIG				*e*	S	Sn	14 42 11.3	-1.7
CCIG	**Comitan**	**1.39**	**54**	*e*	P	Pn	14 42 13.0	-1.4
CMIG	**Matias Romero**	**2.21**	**317**	*e*	P	Pn	14 42 23.9	-0.8

ISCJB ***28*** *14:53:34.7±0.6, 22.°58N±0.°04×100.°90E±0.°05, h10km, mb3.6/6, MS3.1/2, Error ellipse: s-maj=6.6km s-min=5.1km az=175.3*

BJI ***28*** *14:53:34.6, 22.°61N×100.°76E, h15km, mb3.9/2, ML4.0/10, Ms7 3.6/1*

IDC ***28*** *14:53:35.2±0.9, 22.°62N×100.°89E, h0km, mb3.7/6, mb1 3.7/8, mb1mx3.4/40, mbtmp3.7/8, ML3.9/1, MS3.1/3, Ms1 3.2/3, ms1mx2.8/33, Error ellipse: s-maj=30.0km s-min=14.0km az=87.0*

PLV ***28*** *14:53:43.0±2.3, 22.°62N×101.°15E, h17km±999km, ML3.7*

ISC 28 14:53:36.2±0.7, 22.°55N±0.°04×100.°82E±0.°06, h10km, n14, σ1°52/17, mb3.6/6, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KMI	**Kunming**	**3.11**	**34**	Pn		**Pn**	**14 54 25.8**	**+0.2**
KMI				Pg		**Pg**	**14 54 34.5**	**-1.3**
KMI				Sg		**Sg**	**14 55 17.0**	**+0.8**
KMI				SMN				
	220nm,0.9s							
KMI				SME				
	130nm,1.0s							
HGVB	**Ha Giang**	**3.86**	**85**	*e*	Sg	**Sg**	**14 55 39.3**	**-1.0**
HGVB				AML		AML	14 55 46.4	
	comp=N,156nm,0.7s							
CMAR	**Chiang Mai Arr**	**4.43**	**204**	Pn		**Pn**	**14 54 43.4**	**-0.2**
	comp=N,1.3nm,0.3s,baz=13,slow=13,SNR=14							
CMAR				Pg		**Pg**	**14 54 59.1**	**-2.1**
	comp=N,3.1nm,0.3s,baz=22,slow=16,SNR=56							
CMAR				Lg		Lg	14 55 59.4	
	comp=N,7.0nm,0.3s,baz=26,slow=27,SNR=16							
CMAR				LR		LR	14 56 49.2	
	comp=N,165nm,18.4s,baz=340,slow=43							
BCVB	**Bac Can**	**4.63**	**97**	*e*	Sg	**Sg**	**14 56 02.6**	**-2.5**
CCVB	**Con Cuong**	**5.15**	**132**	*e*	Pg	Pg	14 55 18.3	+3.5
CCVB				*e*	Sg	**Sg**	**14 56 25.0**	**+3.5**
CD2	**Chengdu**	**8.73**	**17**	P		**Pn**	**14 55 42.8**	**+0.1**
CD2				pP		pP	14 55 46.0	
CD2				sP		sP	14 55 48.8	
CD2				S		**Sn**	**14 57 22.0**	**+0.7**
CD2				sS		sS	14 57 27.0	
PSI	**Prapat**	**19.71**	**186**	P		**Pn**	**14

PMG Port Moresby 19.30 281 *i* P **Pn** **15 02 19.4 +1.7**
PMG pmax pmax
comp=Z,282nm,1.7s
PMG Port Moresby 19.30 281 *e*P **P** **15 02 16.3 -0.2**
comp=Z,12nm,1.1s
CTA Charters Tower 20.27 249 P Pn 15 02 28.8 -0.4
comp=Z,22nm,0.8s,baz=78,slow=13,SNR=28
CTA LR LR 15 09 07.8
comp=Z,2µm,20.6s,baz=72,slow=33
CTAO Charters Tower 20.27 249 *e*P **P** **15 02 26.7 -0.4**
CTAO pmax pmax
comp=Z,73nm,1.4s
CTAO Charters Tower 20.27 249 *e*P **P** **15 02 26.7 -0.4**
comp=Z,73nm,1.4s
RAO Raoul Island 21.25 139 LR LR 15 08 45.9
comp=Z,756nm,21.6s,baz=7.0,slow=31
ARMA Armidale 21.50 217 *e*P **P** **15 02 39.4 -0.9**
comp=Z,44nm,1.3s
COEN Coen 22.53 267 *e*P **P** **15 02 49.6 -1.9**
comp=Z,5.6nm,1.3s
STKA Stephens Creek 29.03 227 P **P** **15 03 52.2 +0.9**
comp=Z,9.9nm,0.7s,baz=33,slow=8.1,SNR=8.9
STKA LR LR 15 15 16.8
comp=Z,2µm,18.3s,baz=53,slow=36
SMPI Sarmi 29.72 291 P **P** **15 03 59.8 +2.2**
comp=Z,29nm,1.4s,comp=Z,2µm
RPZ Rata Peaks 30.19 173 P **P** **15 04 00.3 -1.2**
comp=Z,12nm,0.5s,baz=328,slow=4.7,SNR=11
RPZ LR LR 15 16 08.1
comp=Z,2µm,18.1s,baz=348,slow=36
WRAB Tennant Creek 31.24 254 *e*P **P** **15 04 11.5 +0.5**
WRAB pmax pmax
comp=Z,17nm,1.3s
WRA Warramunga Arr 31.25 254 P **P** **15 04 10.4 -0.7**
comp=Z,2.7nm,0.7s,baz=85,slow=9.5,SNR=30
WRA PcP **PcP** **15 07 05.6 +0.4**
comp=Z,1.9nm,1.0s,baz=88,slow=2.1,SNR=6.1
WRA LR LR 15 15 38.8
comp=Z,2µm,21.5s,baz=85,slow=34
ASAR Alice Springs 32.25 247 P **P** **15 04 19.0 -0.9**
comp=Z,5.4nm,0.7s,baz=71,slow=9.7,SNR=69
ASAR PcP **PcP** **15 07 08.2 +0.3**
comp=Z,1.0nm,0.6s,baz=66,slow=2.7,SNR=6.9
ASAR LR LR 15 16 14.6
comp=Z,1µm,20.9s,baz=76,slow=34
BBOO Buckleboo 33.55 230 *e*P **P** **15 04 32.0 +0.9**
comp=Z,34nm,0.8s
SIJI Sorong 37.01 287 LR LR 15 20 49.8
comp=Z,1µm,20.2s,baz=264,slow=37
PPT2 Papeete2 42.53 101 *e*S S 15 12 16.1 +8.7
comp=Z,406nm,25.0s
PPT2 *e*LQ LQ 15 15 54.3
comp=Z,1µm,28.0s
PPT2 *e*LR LR 15 17 45.5
comp=Z,2µm,28.2s,baz=267
PPT Papeete 42.53 101 LR LR 15 18 57.0
comp=Z,460nm,21.3s,baz=290,slow=30
TBI Tubuai 42.82 110 *e*S S 15 12 19.5 +8.1
comp=Z,356nm,25.8s
KAPI Kappang 46.73 276 LR LR 15 26 47.2
comp=Z,256nm,18.1s,baz=66,slow=37
KAPI Kappang 46.73 276 *e*P **P** **15 06 19.2 -1.3**
comp=Z,2.2nm,0.9s
PCI Palu 47.76 281 P P 15 06 36.6 +8.0
MPSI Mapaga 48.09 283 P **P** **15 06 32.8 +1.7**
comp=Z,11nm,1.0s
BBKI Banjar Baru 51.86 276 P P 15 07 17.5 +18
JOW Kunigami 54.70 318 LR LR 15 29 30.5
comp=Z,69nm,21.6s,baz=94,slow=35
SBUM Sibu 56.03 282 *e*P **P** **15 07 30.9 +0.7**
comp=Z,132nm,2.9s
RKT Rikitea 56.13 109 *e*S S 15 15 24.9 +7.1
comp=Z,278nm,27.2s
RKT *e*SS **SS** **15 19 11.3 +6.7**
comp=Z,258nm,27.2s
RKT *e*LR LR 15 24 00.3
comp=Z,429nm,31.5s
MJAR Matsushiro Arr 56.59 333 P **P** **15 07 33.8 0.0**
comp=Z,6.2nm,0.9s,baz=166,slow=9.1,SNR=14
MJAR LR LR 15 27 31.9
comp=Z,89nm,21.9s,baz=180,slow=32
MAJO Matsushiro 56.59 333 *e*P **P** **15 07 33.8 0.0**
MAJO pmax pmax
comp=Z,51nm,0.9s
MAJO Matsushiro 56.59 333 *e*P **P** **15 07 32.6 -1.2**
comp=Z,11nm,0.9s
MAT Matsushiro 56.59 333 P **P** **15 07 34.1 +0.3**
MAT S **S** **15 15 20.2 -3.2**
KSM Kuching 57.56 281 *e*P **P** **15 07 39.5 -1.6**
comp=Z,34nm,1.6s
JNU Nakatsue 57.58 325 P **P** **15 07 41.8 +0.9**
comp=Z,8.4nm,0.8s,baz=91,slow=6.4,SNR=5.2
YHNB Yeheng 58.15 311 *e*P **P** **15 07 44.3 -0.9**
ASAJ Asahikawa 61.48 341 P **P** **15 08 05.5 -2.0**
comp=Z,15nm,1.0s
KSRS Korea Array 62.40 326 P **P** **15 08 15.2 +1.4**
comp=Z,2.2nm,0.8s,baz=138,slow=6.7,SNR=10
KSAR Wonju Array Be 62.41 326 P **P** **15 08 15.2 +1.3**
KSAR Wonju Array Be 62.41 326 P **P** **15 08 15.2 +1.3**
VNDA Vanda 63.87 181 P **P** **15 08 23.6 +0.6**
comp=Z,6.6nm,0.7s,baz=357,slow=7.2,SNR=31
VNDA LR LR 15 31 53.9
comp=Z,278nm,20.1s,baz=4.0,slow=32
YSS Yuzh-Sakhalins 63.98 342⇑ *i*P **P** **15 08 26.0 +1.9**
YSS MLR MLR
comp=Z,500nm,16.0s
YSS Yuzh-Sakhalins 63.98 342 P **P** **15 08 22.4 -1.7**
comp=Z,53nm,1.0s
SBA Scott Base 64.17 180 *e*P **P** **15 08 23.3 -1.7**
SBA pmax pmax
comp=Z,111nm,1.8s
SBA Scott Base 64.17 180 *e*P **P** **15 08 23.3 -1.7**
comp=Z,111nm,1.8s
NJ2 Nanjing 64.33 316 *e*P **P** **15 08 27.8 +1.1**
NJ2 pP pP 15 08 44.3 +6.8
NJ2 sP sP 15 08 51.0 +9.4
NJ2 S **S** **15 17 02.0 -0.6**
NJ2 sS sS 15 17 26.5 +6.2
NJ2 PMZ
comp=Z,20nm,0.6s
NJ2 LN
comp=Z,280nm,11.6s
NJ2 LE
comp=Z,520nm,13.5s
QIZ Qiongzhong 64.48 299 P **P** **15 08 29.3 +1.3**
QIZ pP pP 15 08 45.5 +6.8
QIZ S **S** **15 17 04.3 -0.6**
QIZ PMZ
comp=Z,120nm,8.5s
USRK Ussuriysk Ar. 65.57 334 P **P** **15 08 36.1 +1.6**
comp=Z,9.6nm,1.0s,baz=130,slow=5.9,SNR=14
WHN Wuhan 66.61 312⇑ P P 15 08 45.5 +4.0
WHN LZ
comp=Z,750nm,21.1s
PET Petropavlovsk 66.77 355 *e*P **P** **15 08 42.6 +0.6**
PET *e*S **S** **15 17 33.8 +2.2**
PET pmax pmax
comp=Z,34nm,1.4s
PETK Petropavlovsk- 66.94 354 P **P** **15 08 44.4 +1.3**
comp=Z,5.1nm,0.6s,baz=157,slow=9.0,SNR=24
PETK LR LR 15 33 30.2
comp=Z,137nm,19.0s,baz=153,slow=32
MDJ Mudanjiang 66.96 332 P **P** **15 08 45.3 +1.8**
MDJ pP pP 15 09 01.5 +7.2
MDJ sP sP 15 09 08.5 +10
MDJ PP **PP** **15 11 11.8 +0.3**
MDJ S **S** **15 17 36.5 +2.2**
MDJ ScS **SKSac** **15 18 34.8 -3.1**
MDJ SS **SS** **15 21 53.0 -0.7**
MDJ PMZ
comp=Z,12nm,1.2s
MDJ PMZ
comp=Z,180nm,6.2s
MDJ LN
comp=Z,140nm,18.1s
MDJ LE
comp=Z,190nm,18.6s
MDJ LZ
comp=Z,190nm,21.2s
MDJ Mudanjiang 66.96 332 *e*P **P** **15 08 42.4 -1.1**
comp=Z,9.7nm,0.8s
IPM Ipoh 67.30 281 *e*P **P** **15 08 46.8 +0.6**
comp=Z,20nm,1.3s
MNSI Mandailing Nat 67.69 277 P **P** **15 08 49.2 +0.5**
comp=Z,15nm,0.8s
HABR Khabarovsk 67.85 338*c**e*P **P** **15 08 50.0 +1.0**
HABR *e**PP pP 15 09 07.0 +7.2
HABR *e*SP 15 09 14.9
HABR *e**PP **PP** **15 11 19.3 +0.2**
HABR *e*S **S** **15 17 44.5 -0.3**
HABR *e*SS x 15 18 15.3
HABR *e* 15 18 40.9
HABR *e*SS **SS** **15 22 07.9 +0.6**
HABR pmax pmax
comp=N,42nm,2.3s
HABR pmax pmax
comp=Z,175nm,2.3s
HABR pmax pmax
comp=E,29nm,1.3s
HABR MLR MLR
comp=Z,151nm,17.0s
CN2 Changchun 68.31 329 *e*P P 15 09 00.5 +8.5
CN2 pmax pmax
comp=Z,10.0nm,1.0s
SKNT Sakolnakorn 68.73 294 P **P** **15 08 57.0 +1.9**
comp=Z,30nm,1.2s,comp=Z,1µm
PSI Prapat 68.85 278 P **P** **15 08 56.8 +0.7**
comp=Z,2.6nm,0.4s,baz=164,slow=3.7,SNR=4.8
KLR Kul'dur 69.72 337 *e*P **P** **15 08 59.2 -1.4**
KLR pmax pmax
comp=Z,70nm,1.8s
GSI Gunungsitoli 69.75 277 P **P** **15 09 03.0 +1.4**
comp=Z,32nm,0.9s
GSI Gunungsitoli 69.75 277 *e*P **P** **15 09 02.0 +0.4**
comp=Z,16nm,0.8s
NONG Nongkai 69.88 295 P P 15 09 05.1 +2.9
comp=Z,73nm,2.0s,comp=Z,2µm
GYA Guiyang 70.41 305 P **P** **15 09 07.0 +1.5**
GYA pP **PcP** **15 09 26.0 -0.9**
GYA sP sP 15 09 33.3 +13
GYA PP **PP** **15 11 46.5 +4.6**
GYA S **S** **15 18 13.8 -2.5**
GYA sS **SKiKP** **15 18 45.0 -2.7**
GYA SKS **SKSac** **15 18 58.3 -6.8**
GYA SS **SS** **15 22 47.5 -0.4**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,7.0s
GYA LN
comp=Z,510nm,20.2s
GYA LE
comp=Z,490nm,23.0s
GYA LZ
comp=Z,520nm,24.0s
PBKT Sadao Pong 71.26 293 P P 15 09 15.4 +4.7
comp=Z,14nm,0.9s
LOEI Loei 71.33 294 P **P** **15 09 12.6 +1.4**
comp=Z,30nm,0.9s
XAN Xi'an 72.35 313 P **P** **15 09 18.8 +1.8**
XAN LN
comp=Z,130nm,15.7s
XAN LZ
comp=Z,56nm,18.4s
KMI Kunming 73.02 302 P **P** **15 09 23.5 +2.1**
KMI pP **PcP** **15 09 42.0 +3.9**
KMI PP **PP** **15 12 08.0 +3.5**
KMI S **S** **15 18 43.8 -2.8**
KMI SS **SS** **15 23 27.3 -0.9**
KMI PMZ
comp=Z,17nm,0.9s
KMI LN
comp=Z,160nm,12.7s
KMI LE
comp=Z,180nm,18.1s
KMI LZ
comp=Z,180nm,15.1s
LAMP Lampang 73.15 294 P **P** **15 09 24.8 +2.8**
comp=Z,7.8nm,0.9s,comp=Z,61nm
CMAR Chiang Mai Arr 73.74 294 P **P** **15 09 27.4 +2.0**
comp=Z,9.4nm,0.9s,baz=123,slow=4.4,SNR=30
CMMT Chiang Mai 73.86 294 P **P** **15 09 29.0 +2.8**
comp=Z,15nm,1.3s
CHTO Chiang Mai 73.86 294 P P 15 09 29.1 +2.9
comp=Z,51nm,1.3s
CHTO Chiang Mai 73.86 294 *e*P **P** **15 09 25.2 -1.0**
CHTO pmax pmax
comp=Z,14nm,1.2s
CHTO Chiang Mai 73.86 294 *e*P **P** **15 09 25.2 -1.0**
comp=Z,14nm,1.2s
CMAI Chiengmai2 74.17 296 P **P** **15 09 30.8 +2.6**
comp=Z,11nm,1.5s
HHC Hu-ho-hao-te 74.24 320 *e*P **P** **15 09 27.8 -0.2**
HHC pP **PcP** **15 09 47.5 +4.7**
HHC sP sP 15 09 54.5 +11
HHC PP **PP** **15 12 16.3 +1.9**
HHC S **SKiKP** **15 18 52.8 -0.2**
HHC PMZ
comp=Z,20nm,1.2s
HHC PMZ
comp=Z,180nm,8.1s
HHC LN
comp=Z,160nm,16.9s
HHC LE
comp=Z,180nm,17.5s
HHC LZ
comp=Z,170nm,17.0s
CD2 Chengdu 74.69 308 *e*P **P** **15 09 32.0 +1.2**
CD2 pP PcP 15 09 50.8 +5.9
CD2 sP sP 15 09 58.8 +13
CD2 PP **PP** **15 12 22.3 +4.0**
CD2 S **S** **15 19 01.8 -3.0**
CD2 SKS SKSac 15 19 29.5 -7.5
CD2 sS **SKKSac** **15 19 33.8 -3.5**
CD2 SS **SS** **15 23 52.5 -0.6**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.4s
QSPA South Pole Qui 76.33 180 *e*P **P** **15 09 40.0 +0.2**
comp=Z,37nm,0.9s
LZH Lanzhou 76.98 312 *e*P P 15 09 47.5 +3.5
LZH pP pP 15 09 58.5 +3.6
LZH PMZ
comp=Z,21nm,1.0s
LZH PMZ
comp=Z,160nm,4.5s
LZH LN
comp=Z,200nm,15.6s
LZH LE
comp=Z,270nm,16.8s
LZH LZ
comp=Z,240nm,17.6s
SEY Seymchan 77.16 353*c* *i*P **P** **15 09 44.7 +0.6**
CLNS Chul'man 78.25 338 *e*P **P** **15 09 51.9 +1.5**
CLNS pmax pmax
comp=Z,6.0nm,0.9s
CLNS pmax pmax
comp=N,8.0nm,0.8s
CLNS pmax pmax
comp=E,23nm,1.2s
ULN Ulaanbaatar 80.79 324 *e*P **P** **15 10 03.0 -1.6**
ULN pmax pmax
comp=Z,10.0nm,0.9s
ULN Ulaanbaatar 80.79 324 *e*P **P** **15 10 03.0 -1.6**
comp=Z,10nm,0.9s
YAK Yakutsk 80.79 343 *e*P **P** **15 10 01.5 -2.5**
YAK pmax pmax
comp=Z,40nm,0.9s
YAK Yakutsk 80.79 343 *e*P **P** **15 10 01.5 -2.5**
comp=Z,40nm,0.9s
SONM Songino Array 81.15 324 P **P** **15 10 07.7 +1.2**
comp=Z,5.6nm,1.0s,baz=125,slow=4.0,SNR=20
SONM LR LR 15 44 40.0
comp=Z,94nm,20.2s,baz=112,slow=35
GTA Gaotai 81.33 314 *e*P **P** **15 10 10.0 +2.4**
GTA pP pP 15 10 26.5 +7.9
GTA sP sP 15 10 33.0 +10
GTA S **S** **15 20 16.0 -0.2**
GTA sS sS 15 20 44.5 +10
GTA PMZ
comp=Z,10.0nm,1.1s
GTA PMZ
comp=Z,95nm,7.6s
GTA LN
comp=Z,150nm,14.0s
GTA LE
comp=Z,220nm,18.5s
GTA LZ
comp=Z,290nm,17.3s
BILL Bilibino 81.51 360 *e*P **P** **15 10 06.4 -1.3**
BILL pmax pmax
comp=Z,45nm,1.4s
BILL Bilibino 81.51 360 *e*P **P** **15 10 06.4 -1.3**
comp=Z,46nm,1.4s
SEW Seward 81.63 21 *e*P **P** **15 10 06.1 -2.4**
comp=Z,8.1nm,0.9s
MAW Mawson 82.51 202 P **P** **15 10 13.7 +0.5**
comp=Z,3.9nm,0.8s,baz=94,slow=6.8,SNR=4.7
BOD Bodaibo 83.17 335 *e*P P 15 10 13.2 -3.4
BOD pmax pmax
comp=Z,10.0nm,1.7s
EYAK Cordova Ski Ar 83.24 22 *e*P **P** **15 10 17.5 +0.6**
comp=Z,14nm,1.2s
DIV Divide 83.63 21 *e*P **P** **15 10 19.4 +0.3**
comp=Z,10nm,1.0s
TRF Thorofare Moun 83.83 18 *e*P **P** **15 10 19.8 -0.3**
comp=Z,9.1nm,0.8s
BMRM Bremner River 83.94 22 *e*P **P** **15 10 20.3 -0.3**
comp=Z,9.9nm,1.0s
BPAW Bear Paw Mtn. 84.11 17 *e*P **P** **15 10 20.5 -0.8**
comp=Z,7.8nm,2.4s
ZAK Zakamensk 84.21 325 *e*P **P** **15 10 22.8 +0.5**
ZAK pmax pmax
comp=Z,8.0nm,1.2s
LSA Lhasa 84.28 302 *e*P **P** **15 10 22.0 -1.6**
LSA pmax pmax
comp=Z,4.0nm,0.6s
LSA Lhasa 84.28 302 *e*P **P** **15 10 22.0 -1.6**
comp=Z,4.0nm,0.6s
MCK McKinley 84.44 18 *e*P **P** **15 10 22.8 -0.3**
MCK pmax pmax
comp=Z,22nm,1.2s
MCK McKinley 84.44 18 *e*P **P** **15 10 22.8 -0.3**
comp=Z,22nm,1.2s
IRK Irkutsk 84.60 327 *e*P **P** **15 10 24.4 +0.3**
IRK pmax pmax
comp=Z,40nm,2.1s
TLY Talaya 84.65 326 P **P** **15 10 25.1 +0.7**
comp=Z,62nm,1.1s,SNR=5.5
TLY Talaya 84.65 326 *e*P **P** **15 10 25.4 +1.0**
TLY *e*S **S** **15 20 46.6 -2.6**
TLY pmax pmax
comp=Z,20nm,1.6s
TLY MLR MLR
comp=Z,82nm,12.0s
TLY Talaya 84.65 326 *e*P **P** **15 10 24.9 +0.5**
comp=Z,9.9nm,0.9s
IM04 Indian Mountai 84.78 15 *e*P **P** **15 10 25.2 +0.5**
COLA College 85.60 18 *d* *i*P **P** **15 10 28.7 0.0**
COLA pmax pmax
comp=Z,53nm,0.8s
COLA College 85.60 18 *e*P **P** **15 10 28.9 +0.1**
comp=Z,18nm,0.9s
ILAR Eielson Array 85.82 18 P **P** **15 10 28.9 -0.9**
comp=Z,6.1nm,0.6s,baz=242,slow=5.1,SNR=52
ILAR Eielson Array 85.82 18 P **P** **15 10 29.0 -0.9**
TAPN Taplejung 86.42 299 *e*P **P** **15 10 35.3 +1.2**
ODAN Odare 86.55 299 *e*P **P** **15 10 36.0 +1.3**
comp=Z,46nm,1.0s
COLD Coldfoot 86.67 16 *e*P **P** **15 10 34.0 -0.1**
comp=Z,11nm,1.0s
RAMN Ramite 87.25 298 *e*P **P** **15 10 38.6 +0.5**
comp=Z,9.9nm,0.7s
NVAR Mina Array Bea 87.26 50 P **P** **15 10 37.1 -0.8**
comp=Z,0.1nm,0.4s,baz=238,slow=5.2,SNR=2.4
EGAK Eagle 87.64 20 *e*P **P** **15 10 37.4 -1.3**
comp=Z,9.2nm,0.9s
JIRN Jiri 87.80 299 *e*P **P** **15 10 41.8 +0.9**
comp=Z,38nm,1.0s
GUN Gumba 88.14 299 *e*P **P** **15 10 43.5 +1.0**
comp=Z,26nm,0.7s
PKI Pulchoki 88.44 299 *e*P **P** **15 10 44.7 +0.8**
comp=Z,20nm,0.6s
PKIN Phulchoki 88.45 299 *e*P **P** **15 10 44.7 +0.8**
comp=Z,14nm,0.6s
KKN Kakani 88.61 299 *e*P **P** **15 10 45.5 +1.0**
comp=Z,16nm,0.7s
DMN Daman 88.71 299 *e*P **P** **15 10 46.3 +1.2**
comp=Z,43nm,0.7s
TIXI Tiksi 88.79 349 *i*P **P** **15 10 43.5 -0.6**
TIXI pmax pmax
comp=Z,9.0nm,0.8s
TIXI Tiksi 88.79 349 *e*P **P** **15 10 44.0 -0.1**
comp=Z,10nm,0.9s
GKN Gorkha 89.22 299 *e*P **P** **15 10 47.8 +0.5**
comp=Z,29nm,0.8s
SYO Syowa Base 89.44 197⇑ *e*PcP **PcP** **15 10 49.0 +0.3**
KOLN Koldanda 90.04 298 *e*P **P** **15 10 51.4 +0.2**
WMQ Urumqi 91.39 315 *e*P **P** **15 10 57.3 +0.4**
WMQ pP pP 15 11 14.3 +6.2
WMQ sP sP 15 11 21.0 +8.9
WMQ PP **PP** **15 14 37.0 +2.0**
WMQ SKS **SKSac** **15 21 22.8 -4.0**
WMQ S **S** **15 21 48.0 -5.8**
WMQ sS sS 15 22 17.8 +5.5
WMQ SS **SS** **15 27 56.8 -3.4**
WMQ PMZ
comp=Z,10.0nm,0.6s
WMQ PMZ
comp=Z,100nm,5.2s
WMQ LN
comp=Z,92nm,19.2s
WMQ LE
comp=Z,92nm,22.8s
WMQ LZ
comp=Z,93nm,22.8s
SNAA Sanae 94.53 183 P P 15 11 07.3 -3.7
SNAA Sanae 94.53 183 *e*P P 15 11 06.6 -4.4
SNAA pmax pmax
comp=Z,16nm,1.1s
PDAR Pinedale Array 94.89 47 LR LR 15 50 20.2
comp=Z,146nm,18.4s,baz=249,slow=33
ANMO Albuquerque 95.43 56 *e*P **P** **15 11 13.7 -2.3**
ANMO pmax pmax
comp=Z,4.0nm,1.3s
VNA2 Neumayer--Watz 95.48 182 P **P** **15 11 15.4 +0.1**
baz=178,slow=4.4
VNA1 Neumayer--Stat 95.78 182 P **P** **15 11 16.8 +0.1**
MKAR Makanchi Array 95.86 317 P **P** **15 11 18.1 +0.7**
comp=Z,5.7nm,0.7s,baz=95,slow=5.7,SNR=40
MKAR Makanchi Array 95.86 317*ce*P **P** **15 11 18.5 +1.1**
MKAR pmax pmax
comp=Z,6.0nm,0.7s
ZALV Zalesovo Beam 96.05 324 P **P** **15 11 17.9 -0.2**
comp=Z,5.3nm,0.8s,baz=115,slow=5.2,SNR=20
ZALV Zalesovo Beam 96.05 324 *i*P **P** **15 11 18.2 +0.2**
ZALV pmax pmax
comp=Z,5.0nm,0.8s
TXAR Lajitas Array 96.55 62 LR LR 15 45 56.5
comp=Z,188nm,21.4s,baz=0.0,slow=30
YKA Yellowknife Ar 97.03 27 P **P** **15 11 21.0 -1.2**
comp=Z,1.1nm,1.0s,baz=251,slow=4.2,SNR=6.4
KSH Kashi 98.88 308 *e*P Pdif 15 11 32.0 +0.6
KSH pP pP 15 11 52.5 +10
KSH sP sP 15 12 01.0 +14
KSH PP **PP** **15 15 36.3 +2.9**
KSH SKS **SKSac** **15 22 02.0 -5.2**
KSH S S 15 22 51.8 -7.6
KSH PMZ
comp=Z,55nm,4.7s
KSH LN
comp=Z,99nm,5.0s
KSH LE
comp=Z,72nm,4.9s
KSH LZ
comp=Z,130nm,6.5s
ARCES ARCESS Array B 119.03 345 PKP **PKPdf** **15 16 38.8 -0.1**
comp=Z,5.1nm,0.7s,baz=78,slow=1.9,SNR=28
GOF Gofitskoye 122.99 315 *e*PKIKP **PKPdf** **15 16 48.8 +1.6**
OBN Obninsk 123.37 328 *i*PKIKP **PKPdf** **15 16 49.0 +1.4**
OBN pmax pmax
comp=Z,13nm,0.6s
OBN MLR MLR
comp=Z,90nm,23.0s
FINES FINESS Array B 124.44 338 PKP **PKPdf** **15 16 49.2 -0.2**
comp=Z,6.4nm,1.0s,baz=134,slow=8.2,SNR=14
FINES FINESS Array B 124.44 338*c* *i*PKIKP **PKPdf** **15 16 49.5 0.0**
FINES pmax pmax
comp=Z,6.0nm,1.0s
MICGM Minsk 127.99 331 *e*P PP 15 19 05.0 +5.8
AKASG Malin Array Be 129.39 326 PKP **PKPdf** **15 16 59.4 +0.1**
comp=Z,0.5nm,0.3s,baz=57,slow=1.7,SNR=8.4
NB2 NORSAR Subarra1 129.40 345 PKPdf **PKPdf** **15 16 58.6 -0.4**
comp=Z,5.3nm,0.8s,baz=31,slow=1.9
NB2 NORSAR Subarra1 129.40 345 PKPdf **PKPdf** **15 16 58.6 -0.4**
baz=31,slow=1.9
NOA NORSAR Array B 129.40 345 PKP **PKPdf** **15 16 59.4 +0.4**
comp=Z,4.2nm,0.9s,baz=32,slow=2.0,SNR=12

CLL	**Collm**	**136.76**	**336**	*e*PKiKP	**PKiKP**	**15**	**17**	**16.0 +1.1**
	comp=Z,9.0nm,1.2s							
CLL	**Collm**	**136.76**	**336**	*e*PKiKP	**PKiKP**	**15**	**17**	**16.0 +1.1**
CLL				pmax	pmax			
	comp=Z,9.0nm,1.2s							
GERES	**GERESS Array B**	**138.33**	**333**	PKP	**PKPdf**	**15**	**17**	**16.1 -0.1**
	comp=Z,2.2nm,0.9s,baz=108,slow=1.7,SNR=9.6							
CEL	**Celeste**	**144.18**	**318**	*e*PKPdf	PKPbc	15	17	25.5 +0.4
BNI	**Bardonecchia**	**144.30**	**335**	*e*PKiKP	**PKPdf**	**15**	**17**	**26.4 -0.7**
BNI	**Bardonecchia**	**144.30**	**335**	*e*PKPdf	**PKPdf**	**15**	**17**	**26.4 -0.7**
PLDF	**La Plantade**	**144.68**	**339**	PKP	**PKPdf**	**15**	**17**	**27.7 0.0**
AGO	**Saint Agoulin**	**144.78**	**340**	PKP	**PKPdf**	**15**	**17**	**27.7 -0.1**
SAOF	**Saorge**	**144.78**	**333**	PKP	**PKPdf**	**15**	**17**	**27.3 -0.6**
AUTN	**L'Aution**	**144.83**	**333**	PKP	**PKPdf**	**15**	**17**	**28.0 -0.2**
TOUF	**Mont Tournerai**	**144.89**	**333**	PKP	**PKPdf**	**15**	**17**	**28.0 -0.3**
SSB	**Saint Sauveur**	**144.94**	**337**	PKP	**PKPdf**	**15**	**17**	**28.6 +0.5**
SSB	**Saint Sauveur**	**144.94**	**337**	*e*PKiKP	**PKPdf**	**15**	**17**	**28.2 +0.1**
SSB	**Saint Sauveur**	**144.94**	**337**	*e*PKPdf	**PKPdf**	**15**	**17**	**28.2 +0.1**
MVIF	**Mont Vial**	**145.03**	**333**	PKP	**PKPdf**	**15**	**17**	**28.0 -0.4**
COLF	**Collangettes**	**145.05**	**339**	PKP	**PKPdf**	**15**	**17**	**29.0 +0.7**
REVF	**Revere**	**145.06**	**333**	PKP	**PKPdf**	**15**	**17**	**29.9 +1.5**
PYM	**Petit Puy Mans**	**145.08**	**340**	PKP	**PKPdf**	**15**	**17**	**29.0 +0.6**
OG26	**St.-Nazaire-De**	**145.24**	**336**	PKP	**PKPdf**	**15**	**17**	**29.8 +1.1**
CALN	**Calern**	**145.26**	**334**	PKP	**PKPbc**	**15**	**17**	**25.2 -3.3**
LBL	**Lubilhac**	**145.45**	**339**	PKP	**PKPab**	**15**	**17**	**30.5 +1.3**
VSL	**Villasalto**	**147.27**	**326**	*e*PKPdf	**PKPdf**	**15**	**17**	**31.6 -0.6**
VSL				*e*PKPbc	**PKPbc**	**15**	**17**	**34.4 -0.1**
LRDF	**Laroque-de-Fa**	**147.69**	**338**	PKP	**PKPab**	**15**	**17**	**36.7 -1.1**
MLS	**Moulis**	**148.19**	**339**	PKP	**PKPbc**	**15**	**17**	**37.5 +0.6**
VALF	**Valcebollere**	**148.35**	**338**	PKP	**PKPbc**	**15**	**17**	**38.5 +1.0**
RESF	**Ens**	**148.58**	**340**	PKP	**PKPab**	**15**	**17**	**39.8 -1.7**
VIEF	**Viey**	**148.62**	**341**	PKP	**PKPab**	**15**	**17**	**39.5 -2.1**
KEST	**Kesra**	**149.86**	**321**	PKPbc	**PKPbc**	**15**	**17**	**42.5 +1.0**
	comp=Z,7.7nm,1.0s,baz=285,slow=1.8,SNR=10.0							
KEST	**Kesra**	**149.86**	**321**	*e*PKPbc	**PKPbc**	**15**	**17**	**42.2 +0.8**
CMAH	**Djebel Manchou**	**150.40**	**324**	P	**PKPbc**	**15**	**17**	**43.2 +0.5**
ABSA	**Djebel Ababsia**	**150.61**	**324**	P	**PKPbc**	**15**	**17**	**44.2 +1.0**
CKFL	**Kef-Lekhel**	**150.95**	**325**	P	**PKPbc**	**15**	**17**	**44.9 +0.8**
CASM	**Ain Smara**	**151.18**	**325**	P	**PKPbc**	**15**	**17**	**45.1 +0.6**
DFRA	**Djebel Bou Aff**	**151.31**	**326**	P	**PKPbc**	**15**	**17**	**46.1 +1.2**
PBRG	**Braganca**	**151.36**	**349**	*e*PKiKP	**PKiKP**	**15**	**17**	**45.5 +0.3**
CTEI	**Djebel Teioual**	**151.37**	**325**	P	**PKPbc**	**15**	**17**	**45.9 +0.8**
PGAV	**Gavieira, Arco**	**151.45**	**352**	*e*PKiKP	**PKiKP**	**15**	**17**	**45.5 0.0**
PCAB	**Cabril**	**151.66**	**351**	*e*PKiKP	**PKiKP**	**15**	**17**	**46.3 +0.4**
SET	**Setif**	**151.82**	**326**	P	**PKPbc**	**15**	**17**	**49.0 +2.9**
POLO	**Lamas de Olo**	**151.96**	**351**	*e*PKiKP	**PKiKP**	**15**	**17**	**47.3 +0.7**
MVO	**Moncorvo**	**152.03**	**349**	*e*PKiKP	**PKiKP**	**15**	**17**	**47.2 +0.5**
PVRL	**Vila Real**	**152.04**	**350**	*e*PKiKP	**PKiKP**	**15**	**17**	**47.7 +1.0**
PVIS	**Viseu**	**152.61**	**350**	*e*PKiKP	**PKiKP**	**15**	**17**	**48.6 +0.7**
ESDC	**Sonseca Array**	**152.75**	**344**	PKPbc	**PKPbc**	**15**	**17**	**47.7 -0.3**
	comp=Z,5.0nm,0.8s,baz=14,slow=2.1,SNR=20							
MTE	**Manteigas**	**152.86**	**350**	*e*PKiKP	**PKiKP**	**15**	**17**	**48.9 +0.5**
MTE	**Manteigas**	**152.86**	**350**	*e*PKPbc	**PKPbc**	**15**	**17**	**48.0 -0.2**
PAB	**San Pablo**	**152.98**	**344**	*e*PKiKP	**PKPbc**	**15**	**17**	**49.2 +0.7**
PAB	**San Pablo**	**152.98**	**344**	*e*PKPbc	**PKPbc**	**15**	**17**	**49.2 +0.7**
PCAS	**Casmilo, Conde**	**153.36**	**351**	*e*PKiKP	**PKiKP**	**15**	**17**	**50.2 +0.8**
PCBR	**Castelo Branco**	**153.40**	**349**	*e*PKiKP	**PKiKP**	**15**	**17**	**51.2 +1.8**
PTOM	**Tomar**	**153.77**	**351**	*e*PKiKP	**PKiKP**	**15**	**17**	**51.8 +1.6**
PMRV	**Marv??o**	**153.78**	**349**	*e*PKiKP	**PKiKP**	**15**	**17**	**51.4 +1.1**
PMTG	**Montargil**	**154.28**	**350**	*e*PKiKP	**PKiKP**	**15**	**17**	**51.5 +0.2**
TORD	**Torodi Ar. Bea**	**165.09**	**270**	PKP	**PKPdf**	**15**	**17**	**55.3 -0.6**
	comp=Z,2.2nm,1.0s,baz=354,slow=0.8,SNR=8.6							

ROM 28 15:00:57.0±0.1,**41.58N**×**14.15E**,**h13**km±2km,**Md1.4**/3, **Ml0.9**/2,**Error ellipse: s-maj=1.1km s-min=0.5km az=30.0**,**Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CERA	**Filignano**	**0.10**	**278**	Pg	Pg	15 01 00.3	+0.2
CERA				Sg	Sg	15 01 02.7	+0.5
MIDA	**Miranda**	**0.10**	**55**	Pg	Pg	15 01 00.4	+0.3
MIDA				Sg	Sg	15 01 02.8	+0.4
	36nm,0.4s						
VAGA	**Valle Agricola**	**0.18**	**158**	Pg	Pg	15 01 01.6	+0.3
VAGA				Sg	Sg	15 01 05.0	+0.8
	20nm,0.3s						

IDC 28 15:10:27.6±4.4,**3.28S**×**148.37E**,**h0**km,**mb3.7**/3, **mb1 4.0**/3,**mb1mx3.4**/32,**mbtmp3.8**/3,**MS3.8**/2,**Ms1 3.8**/2, **ms1mx3.3**/20,**Error ellipse: s-maj=149.2km s-min=33.5km az=100.0**,**Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.49**	**219**	P	P	15 15 18.4	+0.2
	2.7nm,0.8s,baz=43,slow=11,SNR=20						
ASAR	**Alice Springs**	**24.63**	**213**	P	P	15 15 50.0	-0.1
	2.8nm,0.8s,baz=47,slow=8.0,SNR=23						
DZM	**Mont Dzumac**	**25.63**	**138**	LR	LR	15 23 43.5	
	comp=Z,259nm,22.0s,baz=0.0,slow=31						
H11S3	**WAKE ISLAND Hy 28.17**	**39**		T	T	15 45 29.2	
	baz=220,slow=76,SNR=288						
H11S2	**WAKE ISLAND Hy 28.18**	**39**		T	T	15 45 26.7	
	baz=220,slow=76,SNR=194						
H11S1	**WAKE ISLAND Hy 28.19**	**39**		T	T	15 45 27.5	
	baz=220,slow=76,SNR=216						
H11N1	**WAKE ISLAND Hy 29.21**	**38**		T	T	15 46 45.5	
	baz=218,slow=76,SNR=35						
H11N3	**WAKE ISLAND Hy 29.23**	**38**		T	T	15 46 46.6	
	baz=218,slow=76,SNR=47						
H11N2	**WAKE ISLAND Hy 29.23**	**38**		T	T	15 46 47.5	
	baz=218,slow=76,SNR=132						
KSRS	**Korea Array**	**44.76**	**337**	LR	LR	15 36 57.6	
	comp=Z,85nm,18.3s,baz=142,slow=36						
MKAR	**Makanchi Array**	**76.30**	**320**	P	P	15 22 18.6	0.0
	0.4nm,0.9s,baz=122,slow=5.4,SNR=3.4						
TORD	**Torodi Ar. Bea**	**145.64**	**289**	PKPbc	PKPdf	15 30 08.6	-0.6
	0.7nm,0.9s,baz=68,slow=3.5,SNR=4.1						

IDC ***28*** *15:13:13.9*±*1.5, 13.58S*×*166.43E, h0*km*, mb4.0/5, mb1 4.1/6, mb1mx3.7/37, mbtmp3.9/6, ML3.6/1, Error ellipse: s-maj=49.1km s-min=27.0km az=125.0*
ISCJB ***28*** *15:13:17.7*±*1.3, 13.8S*±*0.1*×*166.5E*±*0.2, h39*km*, mb3.8/5, Error ellipse: s-maj=32.1km s-min=20.1km az=4.3*
ISC 28 15:13:19.3±1.2,**13.7S**±0.1×**166.5E**±0.2,**h39**km,**n7, σ**0.9**1/7,mb3.8/5,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.30**	**180**	Pn	**Pn**	**15 15 16.8**	**-0.4**
	0.8nm,0.3s,baz=270,slow=24,SNR=12						
STKA	**Stephens Creek**	**29.10**	**227**	P	**P**	**15 19 17.6**	**+1.1**
	3.3nm,0.8s,baz=20,slow=9.3,SNR=2.8						
WRA	**Warramunga Arr**	**31.37**	**254**	P	**P**	**15 19 36.4**	**-0.3**
	0.9nm,0.6s,baz=86,slow=9.3,SNR=12						
ASAR	**Alice Springs**	**32.36**	**247**	P	**P**	**15 19 45.1**	**-0.2**
	1.2nm,0.6s,baz=75,slow=9.4,SNR=27						
ILAR	**Eielson Array**	**85.81**	**18**	P	**P**	**15 25 55.0**	**+0.7**
	0.2nm,0.5s,baz=236,slow=3.8,SNR=5.3						
MKAR	**Makanchi Array**	**95.97**	**317**	P	**P**	**15 26 41.2**	**-1.1**
	0.1nm,0.3s,baz=101,slow=5.5,SNR=4.3						
ARCES	**ARCESS Array B**	**119.10**	**345**	PKP	**PKPdf**	**15 32 03.5**	**+0.1**
	2.6nm,0.9s,baz=356,slow=1.8,SNR=4.5						

ISCJB ***28*** *15:16:56.2*±*0.8, 16.90N*±*0.09*×*145.9E*±*0.2, h200*km*, mb3.2/7, Error ellipse: s-maj=28.1km s-min=10.4km az=14.4*
IDC ***28*** *15:16:58.8*±*1.5, 16.71N*×*145.94E, h217*km±*14*km*, mb3.1/7, mb1 3.5/8, mb1mx3.1/39, mbtmp3.7/8, Error ellipse: s-maj=23.7km s-min=14.8km az=100.0*
ISC 28 15:16:57.4±0.8,**16.9N**±0.1×**145.9E**±0.2,**h200**km,**n11, σ**1.9**37/11,mb3.5/7,Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.40**	**198**	P	**Pn**	**15 17 53.6**	**+1.7**
	9.4nm,0.3s,baz=95,slow=3.5,SNR=13						
GUMO				S	**Sn**	**15 18 35.1**	**+0.4**
	39nm,0.3s,baz=67,slow=22,SNR=12						
H11N1	**WAKE ISLAND Hy 20.10**	**79**		T	T	15 42 40.6	
	baz=264,slow=74,SNR=9.0						
H11N2	**WAKE ISLAND Hy 20.11**	**79**		T	T	15 42 33.3	
	baz=264,slow=74,SNR=5.3						
H11N3	**WAKE ISLAND Hy 20.12**	**79**		T	T	15 42 40.2	
	baz=264,slow=74,SNR=9.9						
WRA	**Warramunga Arr**	**38.30**	**198**	P	**P**	**15 23 56.7**	**-2.2**
	1.7nm,0.8s,baz=7.8,slow=7.9,SNR=28						
WRA				PcP	**PcP**	**15 26 07.2**	**-1.4**
	0.3nm,0.4s,baz=18,slow=3.6,SNR=5.5						
ASAR	**Alice Springs**	**41.95**	**197**	P	**P**	**15 24 27.6**	**-1.3**
	0.2nm,0.4s,baz=16,slow=6.6,SNR=13						
ASAR				PcP	**PcP**	**15 26 19.8**	**-0.6**
	0.3nm,0.5s,baz=17,slow=3.1,SNR=6.4						
CMAR	**Chiang Mai Arr**	**44.71**	**279**	P	**P**	**15 24 51.1**	**+0.1**
	1.7nm,0.8s,baz=74,slow=6.6,SNR=12						
SONM	**Songino Array**	**44.73**	**322**	P	**P**	**15 24 51.4**	**+0.5**
	0.2nm,0.5s,baz=106,slow=4.7,SNR=2.4						
ILAR	**Eielson Array**	**65.20**	**26**	P	**P**	**15 27 16.3**	**-0.7**
	0.4nm,0.5s,baz=252,slow=5.8,SNR=7.7						
YKA	**Yellowknife Ar**	**79.51**	**28**	P	**P**	**15 28 41.5**	**-0.1**
	0.2nm,0.4s,baz=285,slow=5.0,SNR=2.8						
NVAR	**Mina Array Bea**	**84.10**	**52**	P	**P**	**15 29 08.0**	**+1.6**
	0.8nm,0.6s,baz=280,slow=5.5,SNR=6.4						

NIED ***28*** *15:47:00, 33.80N*×*135.00E, h20*km*, Mw3.6 Best double couple: M*o*2.76000*×*10*^{14} *NP1:*ϕ*s220.00000°,*δ*63.00000°, λ-177.00000°. NP2:*ϕ*s129.00000°,*δ*87.00000°, λ-27.00000°.*
ISCJB ***28*** *15:47:24.5*±*0.5, 33.80N*±*0.04*×*134.98E*±*0.03, h25*km±*5*km*, mb3.2/3, Error ellipse: s-maj=6.8km s-min=4.3km az=172.3*
JMA ***28*** *15:47:25.1, 33.84N*×*134.97E, h13*km±*1*km*, M3.8*
JMA Felt I J1.
IDC ***28*** *15:47:26.2*±*2.4, 34.04N*×*134.79E, h35*km±*25*km*, mb3.0/3, mb1 3.2/5, mb1mx3.0/44, mbtmp3.1/5, ML2.5/2, Error ellipse: s-maj=33.3km s-min=14.1km az=152.0*
ISC 28 15:47:24.6±1.0,**33.83N**±0.04×**134.97E**±0.02,**h15**km±8km, **n14,** σ**0.80**/24,**mb3.2**/3,**2C-3D,Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWM	**Minabe**	**0.32**	**87**	⇓P	**Pg**	**15 47 31.6**	**+0.4**
JWM				S	**Sg**	**15 47 35.9**	**+0.2**
JAI	**Aioi**	**0.43**	**265**	⇓P	**Pg**	**15 47 33.6**	**+0.3**
JAI				S	**Sg**	**15 47 39.4**	**+0.2**
JAJ2	**Tsuna**	**0.59**	**353**	⇑P	**Pb**	**15 47 36.6**	**-0.1**
JAJ2				S	**Sb**	**15 47 44.5**	**-0.3**
JWY	**Kouya**	**0.64**	**53**	⇑P	**Pb**	**15 47 37.4**	**-0.2**
JWY				S	**Sb**	**15 47 45.9**	**-0.6**
JWZ	**Kozaga**	**0.69**	**116**	⇓P	**Pb**	**15 47 37.8**	**-0.5**
JWZ				S	**Sb**	**15 47 47.3**	**-0.3**
JMN	**Monobe**	**0.92**	**264**	P	**Pb**	**15 47 42.3**	**+0.1**
JMN				S	**Sb**	**15 47 54.4**	**+0.2**
JHE	**Heguri**	**1.01**	**36**	P	**Pb**	**15 47 43.3**	**-0.5**
JHE				S	**Sb**	**15 47 57.1**	**+0.1**
JJS	**Sakaide**	**1.02**	**302**	P	**Pb**	**15 47 43.6**	**-0.4**
JJS				S	**Sb**	**15 47 57.2**	**0.0**
JNU	**Nakatsue**	**3.49**	**259**	Pn	**Pn**	**15 48 18.6**	**+0.2**
	0.6nm,0.3s,baz=160,slow=7.5,SNR=2.0						
JNU				Pg	**Pg**	**15 48 30.0**	**-1.5**
	17nm,0.3s,baz=0.5,slow=6.7,SNR=28						
JNU				Lg	Lg	15 49 13.7	
	0.7nm,0.3s,baz=47,slow=11,SNR=1.0						
MAT	**Matsushiro**	**3.79**	**43**	P	**Pn**	**15 48 23.2**	**+0.7**
MAT				*e*S	**Sn**	**15 49 08.8**	**+2.0**
MJAR	**Matsushiro Arr**	**3.79**	**44**	Pn	**Pn**	**15 48 22.9**	**+0.4**
	0.3nm,0.3s,baz=231,slow=16,SNR=2.5						
MJAR				Pg	**Pg**	**15 48 35.5**	**-1.6**
	2.1nm,0.3s,baz=228,slow=16,SNR=15						
MJAR				Lg	Lg	15 49 25.4	
	1.6nm,0.3s,baz=219,slow=26,SNR=3.4						
MKAR	**Makanchi Array**	**41.46**	**304**	P	P	15 55 06.4	-4.4
	0.2nm,0.7s,baz=91,slow=13,SNR=2.4						
WRA	**Warramunga Arr**	**53.48**	**181**	P	**P**	**15 56 43.5**	**-0.9**
	0.4nm,0.7s,baz=355,slow=8.0,SNR=2.7						
ASAR	**Alice Springs**	**57.19**	**181**	P	**P**	**15 57 11.8**	**+0.7**
	0.2nm,0.8s,baz=10,slow=12,SNR=2.2						

MAN 28 15:54:59, 12.38N×**120.59E**,**h27**km,**mb4.5, ML3.4, MS3.3, 1D,Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.52**	**81**	*e*P	Pn	15 55 11.3	+0.6
SJMP				*e*S	Sn	15 55 20.2	+1.5
PGP	**Puerto Galera**	**1.17**	**17**	⇓*e*P	Pb	15 55 20.3	-0.3
PGP				*e*S	Sb	15 55 35.8	+0.4
LUBP	**Lubang**	**1.39**	**346**	*e*P	Pn	15 55 22.0	-0.5
ENPP	**El Nido**	**1.64**	**224**	*e*P	Pn	15 55 26.8	+0.7

IDC ***28*** *15:55:00.6*±*0.8, 35.36N*×*2.23W, h0*km*, mb3.6/7, mb1 3.7/12, mb1mx3.5/40, mbtmp3.6/12, ML3.9/4, MS3.4/1, Ms1 3.4/1, ms1mx2.5/34, Error ellipse: s-maj=23.9km s-min=14.4km az=121.0*
CNRM ***28*** *15:55:03.5, 35.27N*×*2.06W, h12*km*, MD4.0*
SFS ***28*** *15:55:03.0, 35.20N*×*2.20W, h27*km*, ML3.3*
LDG ***28*** *15:55:03.2, 35.41N*×*2.25W, h30*km*
CRAAG* ***28*** *15:55:04.7, 35.30N*×*2.20W, Mb3.1*
INMG ***28*** *15:55:04.1*±*1.2, 35.36N*×*2.44W, h5*km*, ML3.1, Error ellipse: s-maj=5.3km s-min=3.8km az=143.0*
IGIL ***28*** *15:55:04.3, 35.23N*×*2.24W, h27*km*, ML3.1*
MDD ***28*** *15:55:04.4*±*0.6, 35.37N*×*2.23W, h17*km±*5*km*, mbLg3.1/43, Error ellipse: s-maj=5.1km s-min=3.5km az=150.0, PRXIMO*
MDD EMS: II INTENSIDAD MAXIMA-ESPAA.
CSEM ***28*** *15:55:05.7*±*0.1, 35.39N*×*2.41W, h30*km*, ML3.1, Error ellipse: s-maj=2.9km s-min=2.2km az=132.0*
ISC 28 15:55:04.2±1.0,**35.37N**±0.04×**2.27W**±0.02,**h28**km±8km, **n229,** σ**1.36**/320,**mb3.7**/7,**4C-2D,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MELI	**Melilla**	**0.55**	**262**	P	**Pb**	**15 55 14.5**	**-0.9**
	618nm,0.3s,SNR=7.9						
MELI				S	**Sb**	**15 55 23.3**	**+0.2**
	3μm,0.3s,SNR=7.9						
MELI	**Melilla**	**0.55**	**262**	P	**Pb**	**15 55 14.5**	**-0.9**
	618nm,0.3s,SNR=7.9						
MELI				S	**Sb**	**15 55 23.3**	**+0.2**
	3μm,0.3s,SNR=7.9						
ZAI	**Zaio**	**0.56**	**224**	P	**Pb**	**15 55 15.0**	**-0.7**
ZAI				S	**Sb**	**15 55 24.0**	**+0.5**
ZAI	**Zaio**	**0.56**	**224**	P	**Pb**	**15 55 15.0**	**-0.7**
ZAI				S	**Sb**	**15 55 24.0**	**+0.5**
TOU	**Touzarine**	**1.29**	**252**	P	**Pb**	**15 55 28.0**	**+0.1**
TOU				S	**Sb**	**15 55 46.0**	**+1.9**
TOU	**Touzarine**	**1.29**	**252**	P	**Pb**	**15 55 28.0**	**+0.1**
USTO	**Oran**	**1.44**	**75**	P	**Pb**	**15 55 31.0**	**+0.5**
USTO	**Oran**	**1.44**	**75**	P	**Pb**	**15 55 31.0**	**+0.5**
ENIJ	**Nijar**	**1.60**	**2**	P	**Pn**	**15 55 29.6**	**-1.0**
	99nm,0.3s,SNR=7.9						
ENIJ				S	**Sn**	**15 55 48.7**	**-1.6**
	392nm,0.3s,SNR=7.9						
EBER	**Berja**	**1.60**	**342**	P	**Pn**	**15 55 29.6**	**-1.3**
	54nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**15 55 49.4**	**-1.3**
	1μm,0.5s,SNR=7.9						
EBER	**Berja**	**1.60**	**342**	P	**Pn**	**15 55 29.6**	**-1.3**
	54nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**15 55 49.4**	**-1.3**
	1μm,0.5s,SNR=7.9						
ODJA	**Bouhanifia**	**1.73**	**91**	P	**Pb**	**15 55 36.0**	**+0.6**
ODJA	**Bouhanifia**	**1.73**	**91**	P	**Pb**	**15 55 36.0**	**+0.6**
ODJA	**Bouhanifia**	**1.73**	**91**	P	**Pb**	**15 55 36.0**	**+0.6**
EQUE	**Quentar**	**2.06**	**333**	⇓P	**Pn**	**15 55 37.5**	**+0.4**
	113nm,0.4s,SNR=18						
EQUE				S	**Sn**	**15 56 01.2**	**-0.6**
	53nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**2.06**	**333**	P	**Pn**	**15 55 37.5**	**+0.4**
	113nm,0.4s,SNR=18						
EQUE				S	**Sn**	**15 56 01.2**	**-0.6**
	53nm,0.3s,SNR=7.9						
OJBR	**Djebel Berber**	**2.14**	**84**	P	**Pb**	**15 55 42.0**	**-0.4**
OJBR	**Djebel Berber**	**2.14**	**84**	P	**Pb**	**15 55 42.0**	**-0.4**
OJBR	**Djebel Berber**	**2.14**	**84**	P	**Pb**	**15 55 42.0**	**-0.4**
GORA	**Gorafe**	**2.19**	**344**	P	**Pn**	**15 55 40.0**	**+1.1**
	33nm,0.2s,SNR=7.9						
GORA				S	**Sn**	**15 56 06.0**	**+0.9**
	84nm,0.3s,SNR=7.9						
GORA	**Gorafe**	**2.19**	**344**	P	**Pn**	**15 55 40.0**	**+1.1**
	33nm,0.2s,SNR=7.9						
GORA				S	**Sn**	**15 56 06.0**	**+0.9**
	84nm,0.3s,SNR=7.9						
SELV	**Sierra Elvira**	**2.20**	**328**	P	**Pn**	**15 55 39.9**	**+0.9**
	72nm,0.6s,SNR=7.9						
SELV				S	**Sn**	**15 56 04.4**	**-0.9**
	31nm,0.4s,SNR=7.9						
SELV	**Sierra Elvira**	**2.20**	**328**	P	**Pn**	**15 55 39.9**	**+0.9**
	72nm,0.6s,SNR=7.9						
SELV				S	**Sn**	**15 56 04.4**	**-0.9**
	31nm,0.4s,SNR=7.9						
EMAL	**Malaga-Limoner**	**2.23**	**309**	*e*P	**Pn**	**15 55 38.4**	**-0.9**
EMAL				*e*S	**Sn**	**15 56 05.7**	**-0.3**
EMIJ	**Mijas**	**2.35**	**301**	P	**Pn**	**15 55 40.5**	**-0.5**
	13nm,0.3s,SNR=7.9						
EMIJ				S	**Sn**	**15 56 08.3**	**-0.7**
	160nm,0.4s,SNR=7.9						
EMIJ	**Mijas**	**2.35**	**301**	P	**Pn**	**15 55 40.5**	**-0.5**
	13nm,0.3s,SNR=7.9						
EMIJ				S	**Sn**	**15 56 08.3**	**-0.7**
	160nm,0.4s,SNR=7.9						
CART	**Cartagena**	**2.43**	**24**	P	**Pn**	**15 55 40.5**	**-1.5**
CART				S	Sn	15 56 05.8	-5.1
CART	**Cartagena**	**2.43**	**24**	*e*P	**Pn**	**15 55 40.5**	**-1.5**
EHUE	**Huescar**	**2.45**	**354**	P	**Pn**	**15 55 44.0**	**+1.6**
	39nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**15 56 13.3**	**+1.8**
	SNR=7.9						
EHUE	**Huescar**	**2.45**	**354**	P	**Pn**	**15 55 44.0**	**+1.6**
	39nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**15 56 13.3**	**+1.8**
	SNR=7.9						
OKGL	**Djebel Kef Gue**	**2.46**	**74**	P	Pn	15 55 40.0	-2.5
OKGL	**Djebel Kef Gue**	**2.46**	**74**	P	**Pn**	**15 55 42.7**	**+0.2**
	11nm,0.1s,SNR=7.9						
OKGL				S	**Sn**	**15 56 08.2**	**-3.4**
	317nm,0.3s,SNR=7.9						
OJGS	**Djebel Guires**	**2.47**	**86**	P	Pn	15 55 40.0	-2.6
OJGS	**Djebel Guires**	**2.47**	**86**	P	Pn	15 55 40.0	-2.6
EQES	**Quesada**	**2.51**	**345**	P	**Pn**	**15 55 45.1**	**+1.8**
	57nm,0.3s,SNR=7.9						
EQES				S	**Sn**	**15 56 14.1**	**+1.1**
	153nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.51**	**345**	P	**Pn**	**15 55 45.1**	**+1.8**
	57nm,0.3s,SNR=7.9						
EQES				S	**Sn**	**15 56 14.1**	**+1.1**
	153nm,0.3s,SNR=7.9						
DKH	**Dar Kharkhour**	**2.53**	**273**	P	**Pn**	**15 55 45.0**	**+1.5**
DKH				S	**Sn**	**15 56 16.0**	**+2.5**
DKH	**Dar Kharkhour**	**2.53**	**273**	P	**Pn**	**15 55 45.0**	**+1.5**
DKH				*i* S	**Sn**	**15 56 16.0**	**+2.5**
ECEU	**Ceuta**	**2.59**	**283**	P	Pn	15 55 42.4	-1.8
	30nm,0.3s,SNR=7.9						
ECEU				S	**Sn**	**15 56 13.6**	**-1.1**
	18nm,0.3s,SNR=7.9						
ECEU	**Ceuta**	**2.59**	**283**	P	Pn	15 55 42.4	-1.8
	30nm,0.3s,SNR=7.9						
ECEU				S	**Sn**	**15 56 13.6**	**-1.1**
	18nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**2.60**	**18**	P	Pn	**15 55 43.6**	**-0.8**
	21nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**15 56 12.2**	**-2.9**
	42nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**2.71**	**324**	P	Pn	**15 55 47.8**	**+1.8**
	28nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**15 56 18.8**	**+0.9**
	27nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**2.71**	**324**	P	Pn	**15 55 47.8**	**+1.8**
	28nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**15 56 18.8**	**+0.9**
	27nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**2.75**	**355**	⇑P	Pn	**15 55 47.8**	**+1.2**
	83nm,0.2s,SNR=18						
SESP				S	**Sn**	**15 56 19.6**	**+0.6**
	111nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**2.75**	**355**	P	Pn	**15 55 47.8**	**+1.2**
	83nm,0.2s,SNR=18

EIBI S Sn 15 57 02.5 -3.0
18nm,0.2s,SNR=7.9
EGRO El Granado 4.73 299 P Pn 15 56 13.2 -0.4
20nm,0.3s,SNR=7.9
EGRO S Sn 15 57 05.1 -2.3
19nm,0.3s,SNR=7.9
EGRO El Granado 4.73 299 P Pn 15 56 13.2 -0.4
20nm,0.3s,SNR=7.9
EGRO S Sn 15 57 05.1 -2.3
19nm,0.3s,SNR=7.9
PBAR Barrancos 4.74 308 *e*Pn Pn 15 56 13.8 0.0
PBAR *e*Sn Sn 15 57 06.3 -1.6
PBAR A A 15 57 12.8
29nm,0.4s
PBAR Barrancos 4.74 308 P Pn 15 56 13.8 0.0
PBAR S Sn 15 57 06.3 -1.6
29nm,0.4s
PBAR Barrancos 4.74 308 P Pn 15 56 13.8 0.0
PBAR S Sn 15 57 06.3 -1.6
29nm,0.4s
TZC Tazercounte 4.77 229 P Pn 15 56 14.5 +0.1
TZC S Sn 15 57 07.0 -1.8
TZC Tazercounte 4.77 229 P Pn 15 56 14.5 +0.1
TZC S Sn 15 57 07.0 -1.8
PVAQ Vaqueiros 4.84 296 *e*Pn Pn 15 56 14.8 -0.4
PVAQ *e*Sn Sn 15 57 07.6 -2.7
PVAQ A A 15 57 12.8
21nm,0.4s
PVAQ Vaqueiros 4.84 296 P Pn 15 56 14.8 -0.4
PVAQ S Sn 15 57 07.6 -2.7
21nm,0.4s
PVAQ Vaqueiros 4.84 296 P Pn 15 56 14.8 -0.4
PVAQ S Sn 15 57 07.6 -2.7
21nm,0.4s
PBDV Barranco-do-Ve 4.94 294 *e*Pn Pn 15 56 16.3 -0.3
PBDV *e*Sn Sn 15 57 11.2 -1.6
PBDV A A 15 57 13.8
17nm,0.6s
PBDV Barranco-do-Ve 4.94 294 P Pn 15 56 16.3 -0.3
PBDV S Sn 15 57 11.2 -1.6
17nm,0.6s
PBDV Barranco-do-Ve 4.94 294 P Pn 15 56 16.3 -0.3
PBDV S Sn 15 57 11.2 -1.6
17nm,0.6s
EBAD Badajoz 5.08 313 P Pn 15 56 18.1 -0.4
7.5nm,0.3s,SNR=7.9
EBAD S Sn 15 57 12.8 -3.4
13nm,0.2s,SNR=7.9
EBAD Badajoz 5.08 313 P Pn 15 56 18.1 -0.4
7.5nm,0.3s,SNR=7.9
EBAD S Sn 15 57 12.8 -3.4
13nm,0.2s,SNR=7.9
PCVE Castro Verde 5.17 298 *e*Pn Pn 15 56 19.3 -0.4
PCVE *e*Sn Sn 15 57 15.8 -2.5
PCVE A A 15 57 19.4
2.2nm,0.8s
PCVE Castro Verde 5.17 298 P Pn 15 56 19.3 -0.4
PCVE S Sn 15 57 15.8 -2.5
2.2nm,0.8s
PCVE Castro Verde 5.17 298 P Pn 15 56 19.3 -0.4
PCVE S Sn 15 57 15.8 -2.5
2.2nm,0.8s
EMOS Mosqueruela 5.18 15 P Pn 15 56 21.0 +1.0
3.0nm,0.2s,SNR=7.9
EMOS S Sn 15 57 16.8 -2.1
2.7nm,0.3s,SNR=7.9
EMOS Mosqueruela 5.18 15 P Pn 15 56 21.0 +1.0
3.0nm,0.2s,SNR=7.9
MESJ Messejana 5.38 299 *e*P Pn 15 56 22.2 -0.4
MESJ *e*S Sn 15 57 19.4 -4.3
MESJ AML AML 15 57 24.8
comp=E,25nm,0.5s
MESJ Messejana 5.38 299 *e*Pn Pn 15 56 22.4 -0.2
MESJ *e*Sn Sn 15 57 20.5 -3.2
MESJ A A 15 57 32.0
comp=E,17nm,1.1s
MESJ Messejana 5.38 299 ⇑P Pn 15 56 22.4 -0.2
MESJ S Sn 15 57 20.5 -3.2
comp=E,17nm,1.1s
MESJ Messejana 5.38 299 P Pn 15 56 22.4 -0.2
MESJ S Sn 15 57 20.5 -3.2
comp=E,17nm,1.1s
ETOR Torete 5.44 2 P Pn 15 56 24.5 +1.0
comp=E,28nm,0.3s,SNR=7.9
ETOR S Sn 15 57 20.5 -4.7
comp=E,9.3nm,0.5s,SNR=7.9
ETOR Torete 5.44 2 P Pn 15 56 24.5 +1.0
comp=E,28nm,0.3s,SNR=7.9
GUD Guadarrama 5.47 345 P Pn 15 56 24.8 +0.9
comp=E,3.6nm,0.3s,SNR=7.9
GUD S Sn 15 57 24.4 -1.5
comp=E,6.0nm,0.5s,SNR=7.9
GUD Guadarrama 5.47 345 P Pn 15 56 24.8 +0.9
comp=E,3.6nm,0.3s,SNR=7.9
GUD S Sn 15 57 24.4 -1.5
comp=E,6.0nm,0.5s,SNR=7.9
PESTR Estremoz 5.50 311 *e*Pn Pn 15 56 24.4 +0.1
PESTR A A 15 57 28.2
comp=E,11nm,0.8s
PESTR Estremoz 5.50 311 *e*Pn Pn 15 56 24.4 +0.1
comp=E,11nm,0.8s
MORF Marmelete 5.50 292 *e*P Pn 15 56 23.6 -0.7
MORF Marmelete 5.50 292 *e*Pn Pn 15 56 24.7 +0.4
MORF *e*Sn Sn 15 57 25.0 -1.7
MORF A A 15 57 31.8
comp=E,7.8nm,0.5s
MORF Marmelete 5.50 292 P Pn 15 56 24.7 +0.4
MORF S Sn 15 57 25.0 -1.7
comp=E,7.8nm,0.5s
MORF Marmelete 5.50 292 P Pn 15 56 24.7 +0.4
MORF S Sn 15 57 25.0 -1.7
comp=E,7.8nm,0.5s
EPLA Plasencia 5.57 328 ⇓P Pn 15 56 25.9 +0.6
comp=E,13nm,0.3s,SNR=18
EPLA S Sn 15 57 26.4 -2.0
comp=E,4.5nm,0.4s,SNR=7.9
EPLA Plasencia 5.57 328 P Pn 15 56 25.9 +0.6
comp=E,13nm,0.3s,SNR=18
EPLA S Sn 15 57 26.4 -2.0
comp=E,4.5nm,0.4s,SNR=7.9
EVO Evora 5.58 306 *e*Pn Pn 15 56 26.1 +0.8
EVO *e*Sn Sn 15 57 23.1 -5.3
comp=E,30nm,0.5s
PFVI Vila Bisbo 5.58 290 *e*Pn Pn 15 56 24.9 -0.5
PFVI *e*Sn Sn 15 57 27.2 -1.4
PFVI A A 15 57 35.6
comp=E,12nm,0.3s
PFVI Vila Bisbo 5.58 290 P Pn 15 56 25.5 +0.1
comp=E,11nm,0.2s,SNR=7.9
PFVI S Sn 15 57 26.0 -2.6
comp=E,11nm,0.3s,SNR=7.9
PFVI Vila Bisbo 5.58 290 *e*Pn Pn 15 56 24.9 -0.5
PFVI Vila Bisbo 5.58 290 P Pn 15 56 25.5 +0.1
comp=E,11nm,0.2s,SNR=7.9
PFVI S Sn 15 57 26.0 -2.6
comp=E,11nm,0.3s,SNR=7.9
PFVI *e*Sn Sn 15 57 27.2 -1.4
comp=E,12nm,0.3s
PTEO Sao Teotonio 5.64 294 *e*Pn Pn 15 56 26.2 +0.1
PTEO *e*Sn Sn 15 57 28.4 -1.5
PTEO A A 15 57 35.2
comp=E,20nm,0.5s
PTEO Sao Teotonio 5.64 294 P Pn 15 56 26.2 +0.1
PTEO S Sn 15 57 28.4 -1.5
comp=E,9.8nm,0.5s
PTEO Sao Teotonio 5.64 294 P Pn 15 56 26.2 +0.1
PTEO S Sn 15 57 28.4 -1.5
comp=E,9.8nm,0.5s
EVOP Sao Brissos 5.65 306 *e*Pn Pn 15 56 26.1 -0.2
PNCL Nicolau / Gran 5.72 300 *e*Pn Pn 15 56 27.5 +0.2
PNCL *e*Sn Sn 15 57 29.5 -2.5
PNCL A A 15 57 32.4
comp=E,15nm,0.5s
PNCL Nicolau / Gran 5.72 300 *e*Pn Pn 15 56 27.5 +0.2
PNCL *e*Sn Sn 15 57 29.5 -2.5
comp=E,15nm,0.5s
PMRV Marv??o 5.75 316 *e*Pn Pn 15 56 27.8 +0.2
PMRV Marv??o 5.75 316 P Pn 15 56 27.8 +0.2
PMRV Marv??o 5.75 316 P Pn 15 56 27.8 +0.2
ERTA Horta de San J 5.94 19 P Pn 15 56 31.3 +1.0
comp=E,5.4nm,0.3s,SNR=7.9
ERTA S Sn 15 57 34.7 -2.6
comp=E,4.9nm,0.4s,SNR=7.9
ERTA Horta de San J 5.94 19 P Pn 15 56 31.3 +1.0
comp=E,5.4nm,0.3s,SNR=7.9
ETOS Mallorca 5.96 41 P Pn 15 56 29.8 -0.7
comp=E,5.1nm,0.4s,SNR=7.9
ETOS S Sn 15 57 35.2 -2.7
comp=E,6.1nm,0.3s,SNR=7.9
PMTG Montargil 6.02 310 *e*Sn Sn 15 57 37.0 -2.3
PMTG A A 15 57 56.5
comp=E,9.7nm,0.7s
PMTG Montargil 6.02 310 *e*Sn Sn 15 57 37.0 -2.3
comp=E,9.7nm,0.7s
PCBR Castelo Branco 6.08 319 *i* Pn Pn 15 56 32.8 +0.6
PCBR *e*Sn Sn 15 57 36.7 -4.1
PCBR Castelo Branco 6.08 319 ⇑P Pn 15 56 32.8 +0.6
PCBR S Sn 15 57 36.7 -4.1
PCBR Castelo Branco 6.08 319 P Pn 15 56 32.8 +0.6
PTOM Tomar 6.46 313 *e*Pn Pn 15 56 37.9 +0.4
PTOM *e*Sn Sn 15 57 45.9 -4.4
PTOM Tomar 6.46 313 P Pn 15 56 37.9 +0.4
PTOM S Sn 15 57 45.9 -4.4
PTOM Tomar 6.46 313 P Pn 15 56 37.9 +0.4
ESAC San Caprasio 6.49 12 P Pn 15 56 39.9 +2.0
comp=E,5.5nm,0.3s,SNR=7.9
ESAC San Caprasio 6.49 12 P Pn 15 56 39.9 +2.0
comp=E,5.5nm,0.3s,SNR=7.9
EPOB Poblet 6.52 23 P Pn 15 56 38.4 0.0
comp=E,4.0nm,0.2s,SNR=7.9
EPOB S Sn 15 57 48.4 -3.4
comp=E,1.1nm,0.2s,SNR=7.9
EPOB Poblet 6.52 23 P Pn 15 56 38.3 0.0
comp=E,4.0nm,0.2s,SNR=7.9
MTE Manteigas 6.53 322 *i* Pn Pn 15 56 39.5 +1.1
MTE *e*Sn Sn 15 57 50.1 -1.8
MTE A A 15 57 53.8
comp=E,19nm,0.3s
MTE Manteigas 6.53 322 ⇑P Pn 15 56 39.5 +1.1
MTE S Sn 15 57 50.1 -1.8
comp=E,9.3nm,0.3s
MTE Manteigas 6.53 322 P Pn 15 56 39.5 +1.1
MTE S Sn 15 57 50.1 -1.8
comp=E,9.3nm,0.3s
PMAFR Mafra 6.65 305 *e*Pn Pn 15 56 40.6 +0.6
PMAFR Mafra 6.65 305 P Pn 15 56 40.0 0.0
comp=E,9.0nm,0.2s,SNR=7.9
PMAFR S Sn 15 57 50.3 -4.4
comp=E,30nm,0.3s,SNR=7.9
PMAFR Mafra 6.65 305 P Pn 15 56 40.0 0.0
comp=E,9.0nm,0.2s,SNR=7.9
PMAFR Mafra 6.65 305 *e*Pn Pn 15 56 40.6 +0.6
PCAS Casmilo, Conde 6.80 315 *e*Pn Pn 15 56 42.4 +0.3
PCAS *e*Sn Sn 15 57 54.5 -4.0
PCAS A A 15 58 00.4
comp=E,8.9nm,0.5s
PCAS Casmilo, Conde 6.80 315 *e*Pn Pn 15 56 42.4 +0.3
MVO Moncorvo 6.89 328 *e*Pn Pn 15 56 44.3 +0.9
MVO *e*Sn Sn 15 57 57.5 -3.3
MVO A A 15 58 02.5
comp=E,6.2nm,0.5s
MVO Moncorvo 6.89 328 P Pn 15 56 43.9 +0.6
comp=E,24nm,0.4s,SNR=7.9
MVO S Sn 15 57 56.8 -4.0
comp=E,9.1nm,0.3s,SNR=7.9
MVO Moncorvo 6.89 328 P Pn 15 56 43.9 +0.6
comp=E,24nm,0.4s,SNR=7.9
MVO Moncorvo 6.89 328 *e*Pn Pn 15 56 44.3 +0.9
PVIS Viseu 6.94 322 *e*Pn Pn 15 56 43.8 -0.2
PVIS *e*Sn Sn 15 57 57.8 -4.2
PVIS A A 15 58 00.4
comp=E,9.0nm,0.5s
PVIS Viseu 6.94 322 P Pn 15 56 43.8 -0.2
PVIS S Sn 15 57 57.8 -4.2
comp=E,4.5nm,0.5s
PVIS Viseu 6.94 322 P Pn 15 56 43.8 -0.2
EMIR Miracle 7.17 23 P Pn 15 56 48.4 +1.1
comp=E,0.9nm,0.1s,SNR=7.9
EMIR S Sn 15 58 04.8 -3.0
comp=E,2.1nm,0.3s,SNR=7.9
EMIR Miracle 7.17 23 P Pn 15 56 48.4 +1.1
comp=E,0.9nm,0.1s,SNR=7.9
PBRG Braganca 7.31 333 *e*Pn Pn 15 56 50.2 +1.0
PBRG *e*Sn Sn 15 58 10.4 -0.9
PBRG A A 15 58 57.3
comp=E,6.0nm,0.6s
PBRG Braganca 7.31 333 P Pn 15 56 50.2 +1.0
PBRG S Sn 15 58 10.4 -0.9
comp=E,3.0nm,0.6s
PBRG Braganca 7.31 333 P Pn 15 56 50.2 +1.0
PBRG S Sn 15 58 10.4 -0.9
comp=E,3.0nm,0.6s
CFON Fontmartina 7.36 29 P Pn 15 56 49.3 -0.6
comp=E,1.9nm,0.2s,SNR=7.9
CFON S Sn 15 58 07.3 -5.3
comp=E,2.0nm,0.3s,SNR=7.9
POLO Lamas de Olo 7.40 326 *e*Pn Pn 15 56 50.8 +0.4
POLO A A 15 58 23.9
comp=E,2.1nm,0.5s
POLO Lamas de Olo 7.40 326 *e*Pn Pn 15 56 50.8 +0.4
comp=E,2.1nm,0.5s
ECAL Calabor 7.43 333 P Pn 15 56 51.9 +1.1
comp=E,11nm,0.3s,SNR=7.9
ECAL S Sn 15 58 10.3 -3.8
comp=E,2.6nm,0.3s,SNR=7.9
ECAL Calabor 7.43 333 P Pn 15 56 51.9 +1.1
comp=E,11nm,0.3s,SNR=7.9
CSOR Sort 7.48 20 P Pn 15 56 52.4 +0.9
comp=E,2.8nm,0.3s,SNR=7.9
CSOR Sort 7.48 20 P Pn 15 56 52.4 +0.9
comp=E,2.8nm,0.3s,SNR=7.9
ETSF Etsaut 7.63 9 *e*P Pn 15 56 55.3 +1.8
ETSF *e*Sn Sn 15 58 09.7 -9.4
comp=E,1.3nm,0.4s
ETSF Etsaut 7.63 9 P Pn 15 56 55.3 +1.8
ETSF S Sn 15 58 09.7 -9.4
comp=E,0.6nm,0.4s
ETSF Etsaut 7.63 9 P Pn 15 56 55.3 +1.8
RESF Ens 7.69 14 P Pn 15 56 56.7 +2.2
RESF Ens 7.69 14 P Pn 15 56 56.7 +2.2
VIEF Viey 7.71 13 P Pn 15 56 56.7 +2.1
VIEF Viey 7.71 13 P Pn 15 56 56.7 +2.1
PCAB Cabril 7.77 326 *e*Pn Pn 15 56 56.3 +0.9
PCAB Cabril 7.77 326 P Pn 15 56 56.3 +0.9
PCAB Cabril 7.77 326 P Pn 15 56 56.3 +0.9
SJPF Ste Jean 7.77 6 *e*P Pn 15 56 57.0 +1.6
SJPF *e*Sn Sn 15 58 12.8 -10
comp=E,3.6nm,0.4s
SJPF Ste Jean 7.77 6 P Pn 15 56 57.0 +1.6
SJPF S Sn 15 58 12.8 -10
comp=E,1.8nm,0.4s
SJPF Ste Jean 7.77 6 P Pn 15 56 57.0 +1.6
CLLI Llivia 7.83 24 P Pn 15 56 58.5 +2.2
comp=E,1.2nm,0.3s,SNR=7.9
CLLI Llivia 7.83 24 P Pn 15 56 58.5 +2.2
comp=E,1.2nm,0.3s,SNR=7.9
EALK Alkurruntz 7.86 4 P Pn 15 56 58.4 +1.8
comp=E,6.9nm,0.3s,SNR=7.9
EALK Alkurruntz 7.86 4 P Pn 15 56 58.4 +1.8
comp=E,6.9nm,0.3s,SNR=7.9
LABF Labassere 7.88 13 P Pn 15 56 58.6 +1.7
LABF Labassere 7.88 13 P Pn 15 56 58.6 +1.7
ELAN Lanestosa 7.90 354 P Pn 15 56 58.2 +1.1
comp=E,2.5nm,0.3s,SNR=7.9
ELAN Lanestosa 7.90 354 P Pn 15 56 58.2 +1.1
comp=E,2.5nm,0.3s,SNR=7.9
EPF Esparros 7.91 14 *e*P Pn 15 56 58.7 +1.4
EPF *e*Sn Sn 15 58 16.3 -10
comp=E,6.0nm,0.4s
EPF Esparros 7.91 14 P Pn 15 56 58.7 +1.4
EPF S Sn 15 58 16.3 -10
comp=E,3.0nm,0.4s
EPF Esparros 7.91 14 P Pn 15 56 58.7 +1.4
ELOB Lobios 7.91 327 P Pn 15 56 57.5 +0.1
comp=E,1.4nm,0.1s,SNR=7.9
ELOB S Sn 15 58 21.4 -4.6
comp=E,2.4nm,0.2s,SNR=7.9
ELOB Lobios 7.91 327 P Pn 15 56 57.5 +0.1
comp=E,1.4nm,0.1s,SNR=7.9
PGAV Gavieira, Arco 8.08 326 *e*Pn Pn 15 57 00.2 +0.4
PGAV Gavieira, Arco 8.08 326 *e*Pn Pn 15 57 00.2 +0.4
EARI Arriondas 8.24 345 P Pn 15 57 02.7 +0.8
comp=E,8.5nm,0.5s,SNR=7.9
EARI Arriondas 8.24 345 P Pn 15 57 02.7 +0.8
comp=E,8.5nm,0.5s,SNR=7.9
MTLF Montolieu 8.68 22 *e*P Pn 15 57 09.2 +1.3
MTLF Montolieu 8.68 22 P Pn 15 57 09.2 +1.3
MTLF Montolieu 8.68 22 P Pn 15 57 09.2 +1.3
EAGO Agolada(Pontev 8.69 330 P Pn 15 57 08.6 +0.6
comp=E,0.9nm,0.1s,SNR=7.9
EAGO Agolada(Pontev 8.69 330 P Pn 15 57 08.6 +0.6
comp=E,0.9nm,0.1s,SNR=7.9
EPON Pontenova 8.79 336 P Pn 15 57 10.0 +0.5
comp=E,1.2nm,0.3s,SNR=7.9
EPON Pontenova 8.79 336 P Pn 15 57 10.0 +0.5
comp=E,1.2nm,0.3s,SNR=7.9
EMAZ Mazaricos 9.18 327 P Pn 15 57 15.3 +0.6
comp=E,0.7nm,0.1s,SNR=7.9
EMAZ Mazaricos 9.18 327 P Pn 15 57 15.3 +0.6
comp=E,0.7nm,0.1s,SNR=7.9
KEST Kesra 9.47 84 Pn Pn 15 57 17.8 -1.0
comp=E,0.1nm,0.3s,baz=281,slow=6.3,SNR=2.9
CAF Calviac 10.10 18 *e*P Pn 15 57 28.5 +1.2
CAF Calviac 10.10 18 P Pn 15 57 28.5 +1.2
CAF Calviac 10.10 18 P Pn 15 57 28.5 +1.2
GERES GERESS Array B 17.88 36 P P 15 59 12.6 +1.3
comp=E,0.1nm,0.3s,baz=252,slow=9.2,SNR=2.7
EKA Eskdalemuir Ar 19.97 359 P Pn 15 59 35.8 -0.1
baz=170,slow=9.8,SNR=5.7
TORD Torodi Ar. Bea 22.42 170 P P 16 00 01.4 +0.6
comp=E,2.9nm,0.8s,baz=351,slow=11,SNR=16
HFS Hagfors 26.85 18 LR LR 16 11 46.3
comp=E,90nm,21.4s,baz=39,slow=38
AKASG Malin Array Be 27.39 46 P P 16 00 45.5 -1.5
comp=E,0.3nm,0.4s,baz=246,slow=11,SNR=2.5
FINES FINESS Array B 31.68 26 P P 16 01 25.3 +0.4
comp=E,1.2nm,0.9s,baz=186,slow=12,SNR=2.5
ZALV Zalesovo Beam 60.70 43 P P 16 05 14.1 +1.3
comp=E,0.5nm,0.6s,baz=308,slow=7.1,SNR=2.8
MKAR Makanchi Array 61.84 51 P P 16 05 21.5 +0.8
comp=E,0.4nm,0.6s,baz=298,slow=6.5,SNR=5.8
YKA Yellowknife Ar 68.52 333 P P 16 06 03.9 +0.3
comp=E,0.2nm,0.6s,baz=61,slow=6.0,SNR=2.8
PDAR Pinedale Array 77.82 314 P P 16 06 59.8 +0.6
comp=E,0.4nm,0.5s,baz=51,slow=8.6,SNR=3.2
ASAR Alice Springs 140.41 85 PKP PKPdf 16 14 30.2 -0.8
comp=E,0.5nm,1.1s,baz=352,slow=1.9,SNR=4.9

*LJU **28** 16:08:03.5, 46°.39N×15°.07E, h0km Rockburst*
CSEM 28 16:08:03.5±99.0, 46°.39N×15°.07E, h0km, Suspected Mining induced., Northwestern Balkan Peninsula

*ISCJB **28** 16:14:25.9±0.4, 32°.29N±0°.03×115°.27W±0°.03, h22km±4km, Error ellipse: s-maj=5.7km s-min=4.0km az=154.8*
*MEX **28** 16:14:26.7±0.5, 32°.42N×115°.09W, h25km±3km, MD4.0*
*NEIC **28** 16:14:27.3, 32°.16N×115°.19W, h7km, ML3.0(PAS), ML3.0(ECX), After ECX.*
*ECX **28** 16:14:27.3±0.6, 32°.27N×115°.31W, h7km, MD2.9, ML3.1*
ISC 28 16:14:25.8±0.9, 32°.28N±0°.03×115°.30W±0°.03, h17km±7km, n25, σ0°.42/41, 6C, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.14**	**357**	*e*P	**Pb**	**16 14 29.9**	**-0.2**
CPBX				*i* S	**Sb**	**16 14 33.0**	**+0.1**
CPBX	**Cerro Prieto**	**0.14**	**357**	*e*P	**Pb**	**16 14 29.8**	**-0.2**
CPBX				*e*S	**Sb**	**16 14 32.9**	**+0.1**
MBIG	**Mexicali**	**0.15**	**32**	*e*P	**Pb**	**16 14 30.4**	**+0.1**
MBIG				*e*S	**Sg**	**16 14 32.8**	**-0.2**
SGL	**Mount Signal**	**0.52**	**316**	⇑*i*P	**Pg**	**16 14 36.3**	**0.0**
EMSC	**East Mesa**	**0.53**	**29**	*e*P2	**Pg**	**16 14 37.5**	**+1.0**
COA	**Coachella**	**0.60**	**14**	*e*P2	**Pg**	**16 14 38.4**	**+0.5**
YUH	**Yuha Desert**	**0.65**	**305**	⇑*i*P	**Pg**	**16 14 38.3**	**-0.4**
RDX	**Rancho Dawling**	**0.65**	**236**	⇑*e*P	**Pg**	**16 14 38.4**	**-0.3**
RDX				*e*S	**Sg**	**16 14 47.1**	**-0.3**
RDX				IAML		16 14 49.0	
	comp=N,1μm,0.5s						
RDX				*e*		16 14 49.0	
YMD	**Yuma Desert**	**0.69**	**66**	⇑*i*P	**Pb**	**16 14 39.6**	**+0.2**
RMX	**La Rumorosa**	**0.74**	**296**	⇑*e*P	**Pg**	**16 14 39.9**	**-0.5**
RMX				*e*S	**Sg**	**16 14 50.6**	**+0.3**
GLA	**Glamis**	**0.87**	**27**	*e*Pg	**Pb**	**16 14 42.7**	**+0.2**
GLA				*e*Sg	**Sg**	**16 14 53.9**	**-0.4**
ZAX	**El Zacaton**	**1.13**	**228**	*e*P	**Pb**	**16 14 46.9**	**0.0**
ZAX				*e*S	**Sb**	**16 15 01.8**	**+0.5**
CBX	**Cerro Bola**	**1.16**	**272**	*e*P	**Pn**	**16 14 47.4**	**0.0**
CBX				*e*S	**Sb**	**16 15 02.7**	**+0.5**
CBX	**Cerro Bola**	**1.16**	**272**	*e*P	**Pn**	**16 14 47.4**	**0.0**
CBX				*e*S	**Sb**	**16 15 02.7**	**+0.5**
CBX	**Cerro Bola**	**1.16**	**272**	*e*P	**Pn**	**16 14 47.5**	**+0.1**
CBX				*e*S	**Sb**	**16 15 02.7**	**+0.5**
CBX				IAML		16 15 05.1	
	comp=E,445nm,0.2s						
BAR	**Barrett**	**1.23**	**290**	*e*Pn	**Pn**	**16 14 48.2**	**0.0**
BAR				*e*Sn	**Sb**	**16 15 04.0**	**-0.2**
SPIG	**San Pedro Mart**	**1.23**	**187**	*i* P	**Pn**	**16 14 48.4**	**-0.2**
SPIG	**San Pedro Mart**	**1.23**	**187**	*i* P	**Pn**	**16 14 48.4**	**-0.2**
SPX	**San Pedro Mart**	**1.23**	**187**	*e*P	**Pn**	**16 14 48.2**	**-0.3**
SPX	**San Pedro Mart**	**1.23**	**187**	*e*P	**Pn**	**16 14 48.4**	**-0.2**
SPX				*e*S	**Sn**	**16 15 05.4**	**+0.4**
SPX				⇑*e*		16 15 10.2	
SPX				IAML		16 15 10.2	
	comp=N,143nm,0.3s						
ECNX	**Esteban Cantu**	**1.27**	**241**	*e*P	**Pb**	**16 14 49.5**	**+0.1**
ECNX				*e*S	**Sb**	**16 15 05.8**	**+0.4**
PBX	**Punta Banda**	**1.33**	**247**	*e*P	**Pb**	**16 14 50.2**	**-0.1**
PBX				*e*S	**Sn**	**16 15 07.5**	**+0.7**
PFO	**Pinyon Flats O**	**1.65**	**324**	*e*Pn	**Pn**	**16 14 53.2**	**-0.9**
PFO				*e*Sn	**Sg**	**16 15 19.3**	**+0.2**
214A	**Organ Pipe Nat**	**2.13**	**98**	*e*Pn	**Pn**	**16 14 59.7**	**-0.9**
214A				*e*Sn	**Sn**	**16 15 26.2**	**-0.5**
TUC	**Tucson**	**3.82**	**88**	*e*Pn	**Pn**	**16 15 23.6**	**-0.4**

*ISCJB **28** 16:19:03.4±0.9, 32°.24N±0°.04×115°.25W±0°.07, h18km±9km, Error ellipse: s-maj=9.3km s-min=7.2km az=7.0*
*MEX **28** 16:19:03.5±0.6, 32°.39N×114°.94W, h20km, MD3.7*
*ECX **28** 16:19:05.0±0.5, 32°.23N×115°.30W, h6km, MD2.8, ML3.0*
ISC 28 16:19:03.5±1.3, 32°.23N±0°.04×115°.28W±0°.05, h18km±3km, n14, σ0°.24/20, 1C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.19**	**354**	*e*P	**Pg**	**16 19 08.1**	**-0.1**
CPBX				*e*S	**Sg**	**16 19 11.7**	**+0.3**
MBIG	**Mexicali**	**0.19**	**22**	*e*P	**Pb**	**16 19 08.2**	**+0.2**
MBIG				*e*S	**Sb**	**16 19 10.7**	**-0.3**
RDX	**Rancho Dawling**	**0.64**	**242**	*e*P	**Pb**	**16 19 16.1**	**-0.1**
RDX				*e*S	**Sg**	**16 19 24.6**	**-0.1**
WESC	**Westside Schoo**	**0.65**	**324**	*e*P	**Pg**	**16 19 16.4**	**+0.1**
RMX	**La Rumorosa**	**0.77**	**299**	*e*P	**Pb**	**16 19 18.2**	**-0.2**
RMX				*e*S	**Sb**	**16 19 28.5**	**-0.1**
RMX				IAML		16 19 31.1	
	comp=N,694nm,0.2s						
RMX				⇓*e*		16 19 31.1	
ZAX	**El Zacaton**	**1.11**	**230**	*e*P	**Pn**	**16 19 24.0**	**-0.1**
ZAX				*e*S	**Sb**	**16 19 38.7**	**+0.5**
ZAX				⇑*e*		16 19 41.8	
ZAX				IAML		16 19 41.8	
	comp=N,384nm,0.9s						
CBX	**Cerro Bola**	**1.17**	**274**	*e*P	**Pn**	**16 19 25.0**	**-0.1**
CBX	**Cerro Bola**	**1.17**	**274**	*e*P	**Pn**	**16 19 25.2**	**+0.1**
CBX				*e*S	**Sn**	**16 19 40.8**	**+0.1**
CBX				⇓*e*		16 19 42.9	
CBX				IAML		16 19 42.9	
	comp=E,478nm,0.5s						
SPIG	**San Pedro Mart**	**1.19**	**188**	*e*P	**Pn**	**16 19 25.2**	**-0.4**
SPIG	**San Pedro Mart**	**1.19**	**188**	*e*P	**Pb**	**16 19 26.1**	**+0.3**
SPX	**San Pedro Mart**	**1.19**	**187**	*e*P	**Pn**	**16 19 25.4**	**-0.2**
SPX				⇓*e*		16 19 42.8	
SPX				IAML		16 19 42.8	
	comp=E,148nm,0.6s						
ECNX	**Esteban Cantu**	**1.26**	**243**	*e*P	**Pb**	**16 19 26.6**	**-0.1**
BAR	**Barrett**	**1.26**	**291**	*e*P	**Pn**	**16 19 26.4**	**+0.2**
PBX	**Punta Banda**	**1.32**	**249**	*e*P	**Pb**	**16 19 27.7**	**0.0**

GUC 28 16:24:50.1±0.6, 34°.99S×72°.15W, h21km±3km, ML4.2, 7C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.59**	**134**	⇓*i*P	Pb	16 25 01.5	-0.3
TALC				*i* S	Sb	16 25 09.8	0.0
NICH	**Los Niches**	**0.75**	**91**	⇓*i*P	Pb	16 25 04.0	-0.5
NICH				*i* S	Sb	16 25 14.4	0.0
LNCH	**Linares**	**0.97**	**153**	⇓*i*P	Pb	16 25 07.3	-0.9
LNCH				*i* S	Sb	16 25 20.0	-0.6
LNV	**Longovilo**	**1.20**	**31**	⇑*i*P	Pn	16 25 10.6	-0.9

LNV				*e*S	Sb	16 25 26.4	-0.7
CACH	**El Canelo**	**1.54**	**56**	⇑*i*P	Pn	16 25 16.6	+0.1
CHCH	**Chadas Angostu**	**1.62**	**50**	⇑*i*P	Pn	16 25 18.2	+0.7
TACH	**Talagante**	**1.67**	**37**	⇑*i*P	Pn	16 25 18.4	+0.3
TACH				*e*S	Sn	16 25 39.6	+0.8
PCH	**Pirque**	**1.92**	**45**	⇑*i*P	Pn	16 25 22.5	+0.9
PCH				*i* S	Sb	16 25 47.3	-0.9
SAN	**Santiago**	**1.96**	**39**	*e*P	Pn	16 25 23.2	+1.0
SAN				*e*S	Sb	16 25 48.7	-0.6
CCSP	**San Pedro de C**	**2.01**	**203**	AML	AML	16 25 57.6	
	comp=N,2µm,0.8s						
LACH	**Col Las Americ**	**2.04**	**42**	*e*S	Sb	16 25 49.9	-1.5
CLCH	**Cerro Calan**	**2.07**	**41**	⇓*i*P	Pn	16 25 25.2	+1.4
CLCH				*i* S	Sn	16 25 50.5	+1.4
CLCH				AML	AML	16 25 58.3	
	comp=E,2µm,0.4s						
YECH	**El Yeso**	**2.16**	**53**	⇑*i*P	Pn	16 25 26.6	+1.4
YECH				*i* S	Sb	16 25 54.4	-1.1
PEL	**Peldehue**	**2.20**	**34**	⇑*i*P	Pn	16 25 26.3	+0.8
PEL				*i* S	Sb	16 25 54.6	-1.6
PEL				AML	AML	16 26 03.1	
	comp=E,4µm,0.5s						
ROCH	**El Roble**	**2.22**	**25**	*e*P	Pn	16 25 25.9	-0.1
ROCH				*i* S	Sn	16 25 54.5	+1.5
ROCH				AML	AML	16 26 02.4	
	comp=N,2µm,0.3s						

MEX 28 16:30:04.3±0.4, 18°24'N×101°.80'W, h23km±68km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.70**	**153**	*i* P	Pb	16 30 15.5	-2.4
ZIIG				*i* S	Sb	16 30 24.7	-2.4
ARIG	**Puente Sto Nin**	**1.38**	**88**	*e*P	Pn	16 30 25.5	-2.7
ARIG				*e*S	Sn	16 30 41.6	-4.2
MMIG	**Aquila**	**1.47**	**272**	*e*P	Pn	16 30 26.6	-2.8
MMIG				*e*S	Sn	16 30 44.6	-3.4
CAIG	**El Cayaco**	**1.88**	**129**	*e*P	Pn	16 30 32.1	-2.9
CAIG				*e*S	Sn	16 30 54.1	-3.9
PLIG	**Platanillo**	**2.19**	**86**	*e*P	Pn	16 30 37.4	-2.1
PLIG				*e*S	Sn	16 31 03.4	-2.6

*ISCJB **28** 17:01:12.6±0.5, 67°.05N±0°.03×20°.9E±0°.1, h0km, Error ellipse: s-maj=6.0km s-min=4.0km az=173.9*
*UPP **28** 17:01:12.6, 67°.06N×20°.95E, h0km, ML1.6, Mining explosion.*
*HEL **28** 17:01:13.9±0.3, 67°.05N×20°.89E, h0km, ML1.9, ML1.6(UPP), Explosion*
*CSEM **28** 17:01:13.4±0.4, 67°.07N×20°.87E, h2km, ML1.6, Error ellipse: s-maj=10.7km s-min=7.8km az=56.0, Mining explosion.*
*IDC **28** 17:01:14.5±1.0, 67°.11N×21°.10E, h0km, mb1 2.7/3, mb1mx2.7/29, mbtmp2.6/3, ML2.2/3, Error ellipse: s-maj=17.4km s-min=8.6km az=113.0*

ISC 28 17:01:13.1±0.8, 67°.06N±0°.03×20°.90E±0°.03, h0km, n45, σ1§00/56, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.58**	**46**	*i* P	**Pg**	**17 01 23.5**	**-0.8**
MASU	**Masugnsbyn**	**0.58**	**46**	P	**Pg**	**17 01 23.5**	**-0.8**
MASU	**Masugnsbyn**	**0.58**	**46**	P	**Pg**	**17 01 23.5**	**-0.8**
ERTU	**Ertsjaerv**	**0.72**	**134**	*i* P	**Pg**	**17 01 25.7**	**-1.2**
ERTU	**Ertsjaerv**	**0.72**	**134**	P	**Pg**	**17 01 25.7**	**-1.2**
ERTU	**Ertsjaerv**	**0.72**	**134**	P	**Pg**	**17 01 25.7**	**-1.2**
PAJU	**Pajala**	**0.87**	**91**	*i* P	**Pg**	**17 01 28.4**	**-1.4**
PAJU	**Pajala**	**0.87**	**91**	P	**Pg**	**17 01 28.4**	**-1.4**
PAJU	**Pajala**	**0.87**	**91**	P	**Pg**	**17 01 28.4**	**-1.4**
KUA	**Kurravaara**	**0.93**	**347**	*e*P	**Pg**	**17 01 29.7**	**-1.1**
KUA	**Kurravaara**	**0.93**	**347**	P	**Pg**	**17 01 29.7**	**-1.1**
KUA	**Kurravaara**	**0.93**	**347**	P	**Pg**	**17 01 29.7**	**-1.1**
SALU	**Saltoluokta**	**0.98**	**290**	*e*P	**Pg**	**17 01 31.3**	**-0.7**
SALU	**Saltoluokta**	**0.98**	**290**	P	**Pg**	**17 01 31.3**	**-0.7**
SALU	**Saltoluokta**	**0.98**	**290**	P	**Pg**	**17 01 31.3**	**-0.7**
LANU	**Lannavaara**	**1.08**	**22**	*e*P	**Pg**	**17 01 33.1**	**-0.7**
LANU	**Lannavaara**	**1.08**	**22**	P	**Pg**	**17 01 33.1**	**-0.7**
LANU	**Lannavaara**	**1.08**	**22**	P	**Pg**	**17 01 33.1**	**-0.7**
NIKU	**Nikkaluokta**	**1.08**	**319**	*e*P	**Pg**	**17 01 33.5**	**-0.4**
NIKU	**Nikkaluokta**	**1.08**	**319**	P	**Pg**	**17 01 33.5**	**-0.4**
NIKU	**Nikkaluokta**	**1.08**	**319**	P	**Pg**	**17 01 33.5**	**-0.4**
KALU	**Kalix**	**1.56**	**140**	*e*P	**Pn**	**17 01 42.0**	**0.0**
KALU	**Kalix**	**1.56**	**140**	P	**Pn**	**17 01 42.0**	**0.0**
KALU	**Kalix**	**1.56**	**140**	P	**Pn**	**17 01 42.0**	**0.0**
SJUU	**Sjulsmark**	**1.58**	**169**	*e*P	**Pn**	**17 01 42.0**	**-0.4**
SJUU	**Sjulsmark**	**1.58**	**169**	P	**Pn**	**17 01 42.0**	**-0.4**
SJUU	**Sjulsmark**	**1.58**	**169**	P	**Pn**	**17 01 42.0**	**-0.4**
HEF	**Hetta**	**1.72**	**37**	*e*P	**Pb**	**17 01 44.9**	**-0.6**
HEF				*e*S	**Sb**	**17 02 07.7**	**0.0**
HEF				MSG		17 02 13.8	
	comp=Z,7.3nm,0.1s						
HEF	**Hetta**	**1.72**	**37**	P	**Pb**	**17 01 44.9**	**-0.6**
HEF				S	**Sb**	**17 02 07.6**	**0.0**
LILU	**Lilltraesk**	**1.83**	**194**	*e*P	**Pn**	**17 01 46.1**	**+0.3**
LILU	**Lilltraesk**	**1.83**	**194**	P	**Pn**	**17 01 46.1**	**+0.3**
LILU	**Lilltraesk**	**1.83**	**194**	P	**Pn**	**17 01 46.1**	**+0.3**
KIF	**Kilpisjarvi**	**1.96**	**359**	*e*P	**Pg**	**17 01 50.0**	**-0.6**
KIF				*e*S	**Sg**	**17 02 15.5**	**-0.4**
KIF				MSG		17 02 24.0	
	comp=Z,8.2nm,0.2s						
KIF	**Kilpisjarvi**	**1.96**	**359**	P	**Pg**	**17 01 49.9**	**-0.6**
KIF				S	**Sg**	**17 02 15.5**	**-0.4**
RNF	**Rovaniemi**	**2.07**	**100**	*e*P	**Pb**	**17 01 51.0**	**-0.6**
RNF				*e*SG	**Sb**	**17 02 18.4**	**+0.6**
RNF	**Rovaniemi**	**2.07**	**100**	P	**Pb**	**17 01 51.0**	**-0.6**
RNF				Sg	**Sb**	**17 02 18.4**	**+0.6**
SGF	**Sodankyl**	**2.22**	**77**	*e*P	**Pb**	**17 01 53.2**	**-1.0**
SGF	**Sodankyl**	**2.22**	**77**	P	**Pb**	**17 01 53.1**	**-1.0**
OUL	**Oulu**	**2.84**	**132**	*e*P	**Pn**	**17 02 02.0**	**+2.2**
OUL				*e*S	**Sn**	**17 02 35.9**	**+1.4**
OUL	**Oulu**	**2.84**	**132**	P	**Pn**	**17 02 01.9**	**+2.2**
OUL				S	**Sn**	**17 02 35.9**	**+1.4**
ARCES	**ARCESS Array B**	**3.02**	**32**	Pn	**Pn**	**17 02 02.0**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=214,slow=14,SNR=38						
ARCES				Sn	**Sn**	**17 02 39.9**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=212,slow=27,SNR=4.0						
ARE0	**ARCESS Array S**	**3.02**	**32**	*e*P	**Pn**	**17 02 03.1**	**+1.0**
ARE0	**ARCESS Array S**	**3.02**	**32**	P	**Pn**	**17 02 03.1**	**+1.0**
FINES	**FINESS Array B**	**6.07**	**156**	Pn	**Pn**	**17 02 46.0**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=347,slow=13,SNR=14						
FINES				Sn	**Sn**	**17 03 56.0**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=344,slow=22,SNR=6.7						
NOA	**NORSAR Array B**	**7.38**	**220**	Pn	**Pn**	**17 03 03.7**	**+1.7**
	comp=Z,0.0nm,0.3s,baz=29,slow=12,SNR=2.5						
NOA				Sn	**Sn**	**17 04 25.0**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=357,slow=14,SNR=2.1						

IDC 28 17:16:39.4±3.8, 4°.15S×153°.72E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.3/25, mbtmp3.5/2, Error ellipse: s-maj=174.5km s-min=48.8km az=119.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.56**	**229**	P	P	17 22 01.7	+0.5
	1.8nm,0.5s,baz=54,slow=10.0,SNR=33						
ASAR	**Alice Springs**	**27.25**	**223**	P	P	17 22 25.2	-0.3
	0.3nm,0.8s,baz=56,slow=8.9,SNR=9.1						
TORD	**Torodi Ar. Bea**	**150.97**	**290**	PKPbc	PKPbc	17 36 34.9	-0.5
	0.5nm,0.8s,baz=93,slow=2.9,SNR=2.9						

*ISCJB **28** 17:58:05.2±0.4, 59°.83N±0°.02×24°.84E±0°.06, h0km, Error ellipse: s-maj=4.3km s-min=3.6km az=6.4*
*CSEM **28** 17:58:06.5±0.2, 59°.82N×24°.87E, h2km, ML2.2, Error ellipse: s-maj=5.1km s-min=4.4km az=110.0, Mining explosion.*
*NAO **28** 17:58:07.4±1.0, 59°.85N×24°.89E, ML2.1*
*BER **28** 17:58:07.7±4.1, 59°.86N×24°.89E, h0km, ♁23km, ML2.1(NAO)*
*HEL **28** 17:58:07.5±0.1, 59°.86N×24°.81E, h0km, ML2.2, Explosion*
*IDC **28** 17:58:09.3±1.1, 59°.96N×24°.82E, h0km, mb1 3.1/4, mb1mx2.9/44, mbtmp3.0/4, ML3.1/4, Error ellipse: s-maj=11.9km s-min=6.2km az=133.0*

ISC 28 17:58:05.8±0.7, 59°.84N±0°.02×24°.85E±0°.03, h0km, n38, σ0§76/63, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.44**	**329**	*e*P	**Pg**	**17 58 14.8**	**+0.5**
MEF				*e*S	**Sg**	**17 58 20.4**	**+0.4**
MEF	**Metsahovi**	**0.44**	**329**	P	**Pg**	**17 58 14.7**	**+0.5**
MEF				*S*	**Sg**	**17 58 20.3**	**+0.4**
PVF	**Pernaja**	**0.87**	**35**	*e*P	**Pg**	**17 58 22.2**	**-0.3**
PVF				*e*S	**Sg**	**17 58 34.2**	**+0.5**
PVF	**Pernaja**	**0.87**	**35**	P	**Pg**	**17 58 22.1**	**-0.3**
PVF				S	**Sg**	**17 58 34.2**	**+0.5**
MTSE	**Matsula**	**1.25**	**206**	*e*P	**Pg**	**17 58 30.0**	**+0.4**
MTSE				*e*S	**Sg**	**17 58 46.2**	**+0.4**
MTSE	**Matsula**	**1.25**	**206**	P	**Pg**	**17 58 30.0**	**+0.4**
MTSE				S	**Sg**	**17 58 46.2**	**+0.4**
VJF	**Virojoki**	**1.52**	**61**	*e*P	**Pb**	**17 58 34.7**	**-0.2**
VJF				*e*S	**Sg**	**17 58 54.2**	**-0.4**
VJF	**Virojoki**	**1.52**	**61**	P	**Pb**	**17 58 34.6**	**-0.2**
VJF				S	**Sg**	**17 58 54.2**	**-0.4**
VSU	**Vasula**	**1.69**	**144**	Pg	**Pg**	**17 58 38.3**	**+0.2**
VSU				Lg	Lg	17 58 59.8	
VSU	**Vasula**	**1.69**	**144**	Pg	**Pg**	**17 58 38.3**	**+0.2**
VSU				Lg	Lg	17 58 59.8	
VSU	**Vasula**	**1.69**	**144**	*e*P	**Pg**	**17 58 38.2**	**+0.1**
VSU				*e*S	**Sn**	**17 58 58.2**	**-0.6**
VSU	**Vasula** SNR=90	**1.69**	**144**	Pg	**Pg**	**17 58 38.3**	**+0.2**
VSU				S	**Sn**	**17 58 58.2**	**-0.6**
VSU				Lg	Lg	17 58 59.8	
	SNR=49						
FIA0	**FINESS Array S**	**1.72**	**20**	Pg	**Pb**	**17 58 38.1**	**-0.1**
	baz=196,slow=18						
FIA0				Lg	Lg	17 58 59.7	
	baz=199,slow=37						
FIA0	**FINESS Array S**	**1.72**	**20**	Pg	**Pb**	**17 58 38.1**	**-0.1**
	baz=196,slow=18						
FIA0				Lg	Lg	17 58 59.7	
	baz=199,slow=37						
FIA0	**FINESS Array S**	**1.72**	**20**	*e*P	**Pb**	**17 58 38.1**	**-0.1**
FIA0				*e*S	**Sn**	**17 58 59.4**	**-0.1**
FIA0	**FINESS Array S**	**1.72**	**20**	P	**Pb**	**17 58 38.0**	**-0.1**
FIA0				S	**Sn**	**17 58 59.4**	**-0.1**
FINES	**FINESS Array B**	**1.72**	**20**	Pg	**Pb**	**17 58 38.2**	**-0.1**
	5.9nm,0.3s,baz=198,slow=18,SNR=221						
FINES				Lg	Lg	17 58 59.8	
	5.8nm,0.3s,baz=205,slow=24,SNR=26						
RAF	**Rauma**	**1.94**	**309**	*e*P	**Pb**	**17 58 41.4**	**-0.4**
RAF				*e*S	**Sb**	**17 59 05.8**	**-0.7**
RAF				MSG		17 59 11.5	
	comp=Z,14nm,0.1s						
RAF	**Rauma**	**1.94**	**309**	P	**Pb**	**17 58 41.4**	**-0.4**
RAF				S	**Sb**	**17 59 05.8**	**-0.7**
KEF	**Keuruu**	**2.33**	**0**	*e*P	**Pb**	**17 58 48.2**	**-0.5**
KEF				*e*S	**Sn**	**17 59 15.7**	**+0.9**
KEF				MSG		17 59 20.7	
	comp=Z,13nm,0.2s						
KEF	**Keuruu**	**2.33**	**0**	P	**Pb**	**17 58 48.1**	**-0.5**
KEF				S	**Sn**	**17 59 15.6**	**+0.9**
KAF	**Kangasniemi**	**2.39**	**17**	*e*P	**Pb**	**17 58 48.5**	**-1.1**
KAF				*e*SG	**Sb**	**17 59 19.9**	**+0.3**
KAF				MSG		17 59 21.3	
	comp=Z,14nm,0.2s						
KAF	**Kangasniemi**	**2.39**	**17**	P	**Pb**	**17 58 48.5**	**-1.1**
AAL	**Aland**	**2.46**	**280**	*e*P	**Pn**	**17 58 48.3**	**+1.2**
AAL				*e*SG	**Sb**	**17 59 22.2**	**+0.6**
AAL	**Aland**	**2.46**	**280**	P	**Pn**	**17 58 48.2**	**+1.2**
HFS	**Hagfors**	**5.61**	**278**	Pn	**Pn**	**17 59 31.0**	**+0.7**
	baz=71,slow=14						
HFS				Sn	**Sn**	**18 00 35.3**	**-0.1**
	baz=88,slow=28						
HFS				Lg	Lg	18 00 57.7	
	baz=97,slow=37						
HFS	**Hagfors**	**5.61**	**278**	Pn	**Pn**	**17 59 31.0**	**+0.7**
	baz=71,slow=14						
HFS				Sn	**Sn**	**18 00 35.3**	**-0.1**
	baz=88,slow=28						
HFS				Lg	Lg	18 00 57.7	
	baz=97,slow=37						
HFS	**Hagfors**	**5.61**	**278**	Pn	**Pn**	**17 59 31.3**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=93,slow=16,SNR=20						
HFS				Sn	**Sn**	**18 00 34.6**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=90,slow=26,SNR=7.2						
HFS				Lg	Lg	18 00 55.7	
	comp=Z,0.7nm,0.3s,baz=95,slow=30,SNR=7.6						
HFS	**Hagfors**	**5.61**	**278**	Pn	**Pn**	**17 59 31.0**	**+0.7**
	SNR=1.7						
HFS				Sn	**Sn**	**18 00 35.3**	**-0.1**
	SNR=50						
NB2	**NORSAR Subarra**	**6.85**	**286**	Pn	**Pn**	**17 59 47.5**	**+0.1**
	baz=93,slow=14						
NB2				Sn	**Sn**	**18 01 03.3**	**-2.8**
	baz=92,slow=28						
NB2	**NORSAR Subarra**	**6.85**	**286**	Pn	**Pn**	**17 59 47.5**	**+0.1**
	baz=93,slow=14						
NB2				Sn	**Sn**	**18 01 03.3**	**-2.8**
	baz=92,slow=28						
NB2	**NORSAR Subarra**	**6.85**	**286**	Pn	**Pn**	**17 59 47.5**	**+0.1**
	SNR=50						
NOA	**NORSAR Array B**	**6.85**	**286**	Pn	**Pn**	**17 59 47.2**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=107,slow=14,SNR=12						
NOA				Sn	**Sn**	**18 01 04.3**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=120,slow=16,SNR=4.1						
NOA				Lg	Lg	18 01 34.7	
	comp=Z,0.4nm,0.3s,baz=133,slow=23,SNR=3.0						
AKASG	**Malin Array Be**	**9.49**	**163**	Pn	**Pn**	**18 00 23.3**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=342,slow=13,SNR=4.1						
ARA0	**ARCESS Array S**	**9.74**	**1**	Pn	**Pn**	**18 00 27.1**	**+0.2**
	baz=175,slow=16						
ARA0	**ARCESS Array S**	**9.74**	**1**	Pn	**Pn**	**18 00 27.1**	**+0.2**
	baz=175,slow=16						
ARA0	**ARCESS Array S**	**9.74**	**1**	Pn	**Pn**	**18 00 27.1**	**+0.2**
	SNR=50						
ARCES	**ARCESS Array B**	**9.74**	**1**	Pn	**Pn**	**18 00 27.1**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=180,slow=13,SNR=20						
ARCES				Sn	Sn	18 02 09.7	-7.2
	comp=Z,0.1nm,0.3s,baz=186,slow=24,SNR=2.9						

*IDC **28** 18:02:20.6±0.9, 13°.91S×166°.82E, h0km, mb3.9/13, mb1 4.0/13, mb1mx3.9/30, mbtmp3.9/13, MS3.5/1, Ms1 3.4/1, ms1mx2.8/27, Error ellipse: s-maj=28.6km s-min=19.7km az=103.0*
*ISCJB **28** 18:02:24.5±0.8, 13°.90S±0°.06×166°.7E±0°.2, h33km, mb3.8/12, MS3.4/1, Error ellipse: s-maj=22.4km s-min=8.9km az=175.9*

ISC 28 18:02:26.3±0.8, 13°.84S±0°.08×166°.8E±0°.2, h35km, n16, σ1§08/17, mb3.9/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.19**	**182**	Pn	**Pn**	**18 04 22.8**	**0.0**
	1.0nm,0.3s,baz=270,slow=20,SNR=11						
DZM				Sn	**Sn**	**18 05 55.4**	**+1.2**
	0.2nm,0.3s,baz=270,slow=20,SNR=3.6						
CTA	**Charters Tower**	**20.56**	**250**	P	**P**	**18 07 03.0**	**+0.8**
	2.0nm,0.6s,baz=94,slow=13,SNR=3.2						
STKA	**Stephens Creek**	**29.20**	**228**	P	**P**	**18 08 24.9**	**+0.2**
	2.8nm,0.6s,baz=33,slow=11,SNR=4.1						
STKA				LR	LR	18 19 32.8	
	comp=Z,88nm,18.7s,baz=28,slow=35						
WRA	**Warramunga Arr**	**31.57**	**254**	P	**P**	**18 08 44.1**	**-1.7**
	0.7nm,0.8s,baz=84,slow=8.9,SNR=5.9						
ASAR	**Alice Springs**	**32.54**	**248**	P	**P**	**18 08 52.5**	**-1.8**
	0.6nm,0.7s,baz=76,slow=9.4,SNR=17						
MJAR	**Matsushiro Arr**	**56.89**	**333**	P	**P**	**18 12 07.3**	**-0.6**
	1.8nm,0.8s,baz=159,slow=7.6,SNR=5.0						
VNDA	**Vanda**	**63.73**	**181**	P	**P**	**18 12 54.0**	**-0.1**
	0.5nm,0.8s,baz=354,slow=6.4,SNR=3.0						
USRK	**Usuriysk Ar.**	**65.88**	**333**	P	**P**	**18 13 09.9**	**+1.5**
	1.0nm,0.7s,baz=144,slow=7.1,SNR=4.0						
CMAR	**Chiang Mai Arr**	**74.14**	**294**	P	**P**	**18 14 01.1**	**+1.4**
	0.5nm,0.8s,baz=86,slow=5.5,SNR=4.0						
QSPA	**South Pole Qui**	**76.18**	**180**	P	**P**	**18 14 09.9**	**-0.8**
	0.6nm,0.6s,baz=286,slow=1.8,SNR=6.2						
SONM	**Songino Array**	**81.49**	**324**	P	**P**	**18 14 40.9**	**+0.7**
	0.7nm,0.8s,baz=144,slow=7.7,SNR=5.4						
ILAR	**Eielson Array**	**85.84**	**18**	P	**P**	**18 15 01.7**	**-0.2**
	0.6nm,0.6s,baz=247,slow=5.1,SNR=11						
MKAR	**Makanchi Array**	**96.22**	**317**	P	**P**	**18 15 51.2**	**+0.3**
	0.6nm,0.7s,baz=102,slow=7.2,SNR=6.8						
ZALV	**Zalesovo Beam**	**96.39**	**324**	P	**P**	**18 15 50.5**	**-0.9**
	0.3nm,0.4s,baz=134,slow=4.2,SNR=4.3						
ARCES	**ARCESS Array B**	**119.27**	**345**	PKP	**PKPdf**	**18 21 10.2**	**-1.1**
	1.2nm,0.6s,baz=101,slow=1.7,SNR=7.8						
TORD	**Torodi Ar. Bea**	**165.46**	**269**	PKP	**PKPdf**	**18 22 28.3**	**+0.2**
	0.4nm,0.9s,baz=34,slow=3.8,SNR=2.3						

BEO 28 18:13:17.9±0.6, 43°.49N×17°.98E, h10km±4km, ML1.8/6, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.65**	**198**	*i* Pg	Pg	18 13 28.9	-1.6
STON				Sg	Sb	18 13 40.9	+0.5
STON	**Ston**	**0.65**	**198**	*e*Pg	Pg	18 13 29.7	-0.8
TREB	**Trebinje**	**0.82**	**161**	*e*Pg	Pg	18 13 31.8	-1.9
TREB				*e*Sg	Sg	18 13 44.1	-0.3
HAPS	**Han Pijesak,Bl**	**0.92**	**49**	*e*Pg	Pg	18 13 33.9	-2.0
HAPS				*i* Sg	Sg	18 13 46.3	-1.7
BBLS	**Lazići**	**1.10**	**70**	*e*Pg	Pb	18 13 38.0	-1.1
BBLS				*e*Sg	Sb	18 13 53.8	+0.2
TEKS	**Tekeris**	**1.54**	**46**	*e*Pg	Pb	18 13 46.0	-0.5
TEKS				*e*Sg	Sg	18 14 06.9	-0.6
DIVS	**Divibare**	**1.58**	**67**	*e*Pg	Pb	18 13 46.9	-0.4
DIVS				*e*Sg	Sb	18 14 07.6	+0.2
IVAS	**Ivanjica**	**1.58**	**86**	*e*Pn	Pn	18 13 45.3	-0.8
IVAS				*e*Sn	Sb	18 14 07.1	-0.3
NVLJ	**Novalja**	**2.49**	**297**	*e*Pn	Pg	18 14 04.9	-0.7
NVLJ				Sn	Sg	18 14 37.6	-0.1

*BJI **28** 18:32:38.7, 4°.47S×100°.95E, h49km, mb5.4/77, mB5.5/53, Ms5.4/82, Ms7 5.1/76*
*IDC **28** 18:32:38.2±0.5, 3°.80S×100°.92E, h0km, mb4.9/24, mb1 5.0/27, mb1mx4.9/32, mbtmp4.9/27, ML5.0/3, MS4.7/20, Ms1 4.8/20, ms1mx4.5/36, Error ellipse: s-maj=15.8km s-min=11.2km az=61.0*
*NEIC **28** 18:32:41.8±1.7, 3°.86S×100°.97E, h24km±11km, mb5.3/54, MW5.3, Error ellipse: s-maj=8.4km s-min=4.5km az=46.0, Moment Tensor Solution. s52 Moment tensor: Scale 10^16 Nm; Mrr=8.96; Mθθ=-3.77; Mφφ=-5.19; Mrθ=2.75; Mrφ=2.21; Mθφ=-4.04; Best double couple: M=9.50000×10^16 NP1: φs=145.00000°, δ=61.00000°, λ=91.00000°. NP2: φs=324.00000°, δ=29.00000°, λ=89.00000°. Principal axes: T 10.4000, Plg=74.0000°, Azm=56.0000°; N -2.2000, Plg=0.0000°, Azm=324.0000°; P -8.2000, Plg=15.0000°, Azm=234.0000°;*
*GCMT **28** 18:32:41.8±0.2, 4°.24S×100°.53E, h32km, MW5.3/77, Moment Tensor Solution. s77,c126; s77,c111; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr=0.63±.02; Mθθ=0.34±.01; Mφφ=-0.29±.02; Mrθ=0.55±.03; Mθφ=0.38±.01; Mrφ=-0.41±.03; Best double couple: M=0.95600×10^17 NP1: φs=129.00000°, δ=68.00000°, λ=86.00000°. NP2: φs=319.00000°, δ=22.00000°, λ=100.00000°. Principal axes: T 0.9290, Plg=67.0000°, Azm=32.0000°; N 0.0540, Plg=4.0000°, Azm=130.0000°; P -0.9830, Plg=23.0000°, Azm=222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **28** 18:32:41.9±1.1, 3°.73S×101°.01E, h33km, mb5.5/55, MS4.8/25 Error ellipse: s-maj=8.6km s-min=4.4km az=112.9*
*DJA **28** 18:32:41.3±0.9, 4°.S±3°×10°1E±°, h15km±10km, M5.2/24, mb5.4/24, mB5.6/22, MLv5.6/8, Mw(mB)5.2/22, Mwp5.3/1*
*KLM **28** 18:32:42.0, 4°.07S×100°.54E, h51km, mb5.2, ML5.4, MS5.8*
*ISCJB **28** 18:32:42.8±0.4, 3°.85S±0°.03×100°.90E±0°.02, h44km±3km, mb5.2/128, MS4.8/47, Error ellipse: s-maj=5.0km s-min=3.1km az=42.7*

ISC 28 18:32:45.5±0.4, 3°.89S±0°.04×100°.94E±0°.04, h55km±2km, h55km:pP-P,n791, σ1§41/815, mb5.2/128, MS4.8/48, 180C-130D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**2.06**	**103**	P	**Pn**	**18 33 16.6**	**-1.1**
MNAI				S	**Sn**	**18 33 47.2**	**+4.9**
MNAI	**Manna**	**2.06**	**103**	*e*Pn	Pn	**18 33 14.7**	**-3.1**
LHSI	**Lahat**	**2.58**	**89**	P	**Pn**	**18 33 25.4**	**+0.6**
SDSI	**Sungai Dareh**	**2.98**	**9**	P	**Pn**	**18 33 29.3**	**-1.1**
MDSI	**Maura Dua**	**3.28**	**100**	P	**Pn**	**18 33 34.5**	**+0.1**
LWLI	**Liwa**	**3.30**	**110**	P	**Pn**	**18 33 33.8**	**-1.0**
LWLI				S	**Sn**	**18 34 15.1**	**+2.2**
JMBI	**JAMBI**	**3.51**	**50**	P	**Pn**	**18 33 37.3**	**-0.3**
KLSI		**3.86**	**102**	P	**Pn**	**18 33 42.5**	**+0.1**
KASI	**Kota Agung**	**3.89**	**115**	P	**Pn**	**18 33 41.5**	**-1.4**
PMBI	**Palembang**	**3.94**	**76**	P	**Pn**	**18 33 43.5**	**0.0**
KLI	**Kotabumi**	**4.02**	**104**	P	**Pn**	**18 33 44.5**	**-0.1**
BKNI	**Bangkinang**	**4.19**	**1**	P	**Pn**	**18 33 45.8**	**-1.2**
BKNI	**Bangkinang**	**4.19**	**1**	⇑*i*P	**Pn**	**18 33 44.9**	**-2.1**
BLSI	**Bandar Lampung**	**4.53**	**109**	P	**Pn**	**18 33 51.5**	**-0.1**
MNSI	**Mandailing Nat**	**4.85**	**344**	P	**Pn**	**18 33 54.2**	**-1.8**
CGJI	**Cibinong**	**5.45**	**120**	P	**Pn**	**18 34 01.6**	**-2.6**
PPBI	**Pangkal Pinang**	**5.46**	**72**	P	**Pn**	**

KKM **Kota Kinabalu** 18.17 57⇑ *i*Pn P 18 36 52.7 -1.1
106nm,1.3s
TSM **Tawau** 18.77 64 ⇑P Pn 18 37 02.6 +1.3
SPSI **Sidrap Palu** 18.78 91 P Pn 18 37 01.9 +0.5
KAPI **Kappang** 18.79 94 Pn P 18 37 00.5 0.0
617nm,1.0s,SNR=23
KAPI **Kappang** 18.79 94 P P 18 37 00.1 -0.3
3.8nm,0.3s,baz=278,slow=10,SNR=48
KAPI **Kappang** 18.79 94 P P 18 37 00.5 0.0
SNR=27
KAPI **Kappang** 18.79 94 *e*P P 18 36 59.5 -1.0
30nm,1.1s
SDKM **Sandakan** 18.79 60 ⇑P Pn 18 37 01.7 +0.1
TTSI **Tana Toraja** 18.86 88 P Pn 18 37 03.0 +0.6
PCI **Palu** 19.11 82 P Pn 18 37 05.9 +0.6
388nm,1.4s,6μm
KDM **Kudat** 19.16 56 ⇑P Pn 18 37 05.9 0.0
BKSI **Bulukumba** 19.17 95 P Pn 18 37 05.7 -0.4
WBSI **Waikabubak, Su** 19.18 108 P P 18 37 04.3 -0.6
208nm,0.8s,7μm
UTHA **Uthaitani** 19.39 356 P Pn 18 37 08.8 +0.2
11nm,1.1s,86nm
MPSI **Mapaga** 19.40 78 P Pn 18 37 08.6 -0.2
BSSI **Bau Bau, Buton** 19.60 97 P Pn 18 37 12.8 +1.6
65nm,1.3s,1μm
CHAI **Chaiyaphum** 19.70 3 P P 18 37 10.2 -0.2
16nm,1.1s,152nm
WSI **Waingapu** 20.05 108 P Pn 18 37 22.3 +5.8
KHON **Khomkaen** 20.19 5 P P 18 37 14.6 -1.1
46nm,1.1s,432nm
PBKT **Sadao Pong** 20.33 0 P P 18 37 17.6 +0.3
24nm,1.0s
TOLI **Toli-Toli** 20.46 76 *e*P P 18 37 17.8 -0.9
196nm,0.9s
APSI **Ampana** 20.90 82 P P 18 37 24.2 +0.7
298nm,1.1s,3μm
SKNT **Sakolnakorn** 20.95 8 P P 18 37 22.0 -2.0
118nm,1.1s,1μm
LOEI **Loei** 21.27 1 P P 18 37 25.3 -2.1
51nm,1.2s,1μm
MRSI **Marisa** 21.43 79 P P 18 37 29.5 +0.3
126nm,1.0s,2μm
UTTA **Uttaradit** 21.50 359 P P 18 37 31.2 +1.3
11nm,1.0s,102nm
MMRI **Maumere** 21.68 104⇓ *e*P P 18 37 29.3 -2.6
48nm,0.6s
NONG **Nongkai** 21.93 6 P P 18 37 31.4 -3.0
128nm,1.0s,6μm
LUWI **Luwuk** 21.99 83 P P 18 37 35.4 +0.2
LUWI **Luwuk** 21.99 83⇑ *e*P P 18 37 33.0 -2.2
622nm,1.5s
MHMT **Maesarieng** 22.13 352 P P 18 37 37.9 +1.3
46nm,1.0s,710nm
CMAR **Chiang Mai Arr** 22.30 355 P P 18 37 36.1 -2.4
51nm,0.9s,baz=186,slow=9.2,SNR=45
CMAR PcP **PcP** 18 41 34.7 +2.0
2.9nm,0.9s,baz=204,slow=3.3,SNR=6.3
CMAR ScP **ScP** 18 45 09.9 +4.2
0.8nm,0.9s,baz=197,slow=3.5,SNR=5.1
CMAR LR LR 18 47 30.9
comp=Z,2μm,18.5s,baz=186,slow=40
CMAR **Chiang Mai Arr** 22.30 355 *i*P P 18 37 36.0 -2.4
CMAR pmax pmax
comp=Z,55nm,1.0s
LAMP **Lampang** 22.31 357 P P 18 37 39.5 +0.9
comp=Z,29nm,1.0s,comp=Z,203nm
CMMT **Chiang Mai** 22.65 355 P P 18 37 41.1 -1.1
comp=Z,71nm,1.2s,comp=Z,1μm
CHTO **Chiang Mai** 22.65 355 P P 18 37 41.2 -1.0
comp=Z,243nm,1.2s,comp=Z,4μm
CHTO **Chiang Mai** 22.65 355 *e*P P 18 37 40.2 -2.0
CHTO pmax pmax
comp=Z,60nm,1.1s
CHTO **Chiang Mai** 22.65 355 P P 18 37 40.8 -1.4
SNR=16
CHTO **Chiang Mai** 22.65 355 *e*P P 18 37 40.2 -2.0
comp=Z,60nm,1.1s
CMAI **Chiengmai2** 23.75 356 P P 18 37 52.6 -0.5
comp=Z,138nm,0.8s,comp=Z,11μm
CRAI **Chiangrai** 23.98 359 P P 18 37 51.0 -4.0
comp=Z,30nm,2.0s
QIZ **Qiongzhong** 24.41 21 P P 18 37 59.0 +0.1
QIZ pP **pP** 18 38 11.5 -1.3
QIZ sP **sP** 18 38 18.0 -1.4
QIZ S **S** 18 42 15.5 +0.5
QIZ sS **sS** 18 42 37.5 -0.9
QIZ PMZ
comp=Z,68nm,1.5s
QIZ LN
comp=Z,2μm,13.6s
QIZ LE
comp=Z,2μm,14.3s
QIZ LZ
comp=Z,3μm,20.0s
QIZ **Qiongzhong** 24.41 21⇑ *i*P P 18 37 58.6 -0.3
comp=Z,297nm,1.5s
MBWA **Marble Bar** 25.06 135 *e*P P 18 38 02.3 -2.6
MBWA *e* 18 38 14.1
CTBH **Cotabato--PC H** 25.75 65 *i*P P 18 38 10.8 -0.3
TGY **Tagaytay City** 26.70 48 P P 18 38 19.8 -0.1
comp=Z,113nm,0.4s,baz=199,slow=5.5,SNR=6.1
TGY LR LR 18 50 14.9
comp=Z,5.5nm,20.5s,baz=256,slow=40
TNTI **Ternate** 26.81 81⇑ *e*P P 18 38 17.3 -3.5
comp=Z,89nm,1.1s
SKHT **Srikalahasti** 27.40 310 *e*P P 18 38 25.6 -0.4
SKHT *e*S **S** 18 43 05.2 +2.5
SKHT IVMs_BB IVMs_BB 18 47 49.1
comp=Z,912nm,20.2s
CHLP **Challavanipeta** 27.79 324 *e*P P 18 38 29.3 -0.2
CHLP *e*S **S** 18 43 11.7 +3.1
CHLP IVMs_BB IVMs_BB 18 51 21.5
comp=Z,899nm,19.6s
H08S2 **Diego Garcia H** 28.54 261 T T 19 08 19.8
baz=84,slow=75,SNR=8215
H08S3 **Diego Garcia H** 28.55 261 T T 19 08 18.8
baz=84,slow=75
H08S1 **Diego Carcia H** 28.56 261 T T 19 08 21.3
baz=84,slow=75,SNR=8380
KMI **Kunming** 28.90 3 ⇑P P 18 38 40.0 +0.5
KMI pP **pP** 18 38 53.8 +0.3
KMI sP **sP** 18 39 02.5 +2.5
KMI PP **PnPn** 18 39 34.3 +0.9
KMI S **S** 18 43 26.8 +0.4
KMI PMZ
comp=Z,23nm,1.4s
KMI PMZ
comp=Z,330nm,4.2s
KMI LN
comp=Z,4μm,12.9s
KMI LE
comp=Z,4μm,15.4s
KMI LZ
comp=Z,4μm,11.2s
IMP **Imphal** 29.31 347 *e*P P 18 38 42.0 -1.0
IMP *ex* x 18 42 02.0
NJS **Nagarjunasagar** 29.50 314 *e*P P 18 38 45.2 +0.5
NJS *e*S **S** 18 43 37.1 +1.5
NJS IVMs_BB IVMs_BB 18 53 58.2
comp=Z,686nm,16.2s
URV **Uravakonda** 30.02 309 *e*P P 18 38 47.7 -1.6
URV *e*S **S** 18 43 47.1 +3.2
URV IVMs_BB IVMs_BB 18 49 16.0
comp=Z,820nm,20.5s
SHL **Shillong** 30.58 344 *e*P P 18 38 54.5 +0.1
SHL *e*S S 18 44 09.0 +16
HYB **Hyderabad** 30.61 314 *i*P P 18 38 55.0 +0.4
HYB *e*S **S** 18 43 52.0 -1.1
HYBB **Hyderabad (bro** 30.61 314 *e*P P 18 38 55.4 +0.8
HYBB *e*S **S** 18 43 55.6 +2.5
HYBB IVMs_BB IVMs_BB 18 54 55.4
comp=Z,595nm,19.7s
GYA **Guiyang** 30.68 10⇑ *i*P P 18 38 57.8 +2.6
GYA pP **pP** 18 39 05.0 -4.2
GYA PP **PnPn** 18 40 00.3 +3.5
GYA S S 18 44 01.0 +6.9
GYA SS **SnSn** 18 45 42.0 +5.5
GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,160nm,4.9s
GYA LN
comp=Z,650nm,16.2s
GYA LE
comp=Z,520nm,17.0s
GYA LZ
comp=Z,580nm,16.8s
RPR **Rampur** 31.07 317 *e*P P 18 38 58.9 +0.2
RPR *e*S **S** 18 44 02.7 +2.5
RPR IVMs_BB IVMs_BB 18 50 41.4
comp=Z,539nm,23.0s
FAKI **Fak Fak** 31.27 89 *e*P P 18 38 58.1 -2.3
comp=Z,36nm,1.0s
NWAO **Narrogin (SRO)** 32.66 154 P P 18 39 13.8 +1.4
comp=Z,6.2nm,0.9s,baz=326,slow=3.6,SNR=2.9
NWAO LR LR 18 52 17.1
comp=Z,14nm,19.6s,baz=328,slow=36
H01W3 **Cape Leeuwin H** 33.17 160 T T 19 13 55.2
baz=337,slow=76,SNR=114
H01W2 **Cape Leeuwin H** 33.19 160 T T 19 13 56.2
baz=337,slow=76,SNR=215
H01W1 **Cape Leeuwin H** 33.19 160 T T 19 14 01.6
baz=337,slow=76,SNR=143
ODAN **Odare** 33.26 338 *e*P P 18 39 18.9 +0.9
comp=Z,360nm,1.1s
QZH **Quanzhou** 33.40 30⇑ *i*P P 18 39 18.5 -0.5
QZH PMZ
comp=Z,1μm,4.3s
QZH LN
comp=Z,2μm,10.1s
QZH LE
comp=Z,2μm,11.0s
QZH LZ
comp=Z,3μm,23.7s
TAPN **Taplejung** 33.59 338 *e*P P 18 39 22.2 +1.3
comp=Z,433nm,1.1s
RAMN **Ramite** 33.65 336 *e*P P 18 39 22.7 +1.3
NACB **Ninganchiao** 34.39 35 P P 18 39 27.8 +0.3
JIRN **Jiri** 34.45 336 *e*P P 18 39 29.5 +1.0
comp=Z,298nm,1.1s
YHNB **Yeheng** 34.65 34 *e*P P 18 39 28.2 -1.7
comp=Z,29nm,1.1s
PKI **Pulchoki** 34.69 335 *e*P P 18 39 30.8 +0.3
LSA **Lhasa** 34.70 345 *e*P P 18 39 30.7 0.0
LSA pmax pmax
comp=Z,79nm,1.3s
LSA **Lhasa** 34.70 345 *e*P P 18 39 30.7 0.0
comp=Z,80nm,1.3s
PKIN **Phulchoki** 34.70 335 *e*P P 18 39 30.8 +0.3
CD2 **Chengdu** 34.71 4 P P 18 39 30.3 0.0
CD2 PP **PnPn** 18 40 48.0 +0.1
CD2 S **S** 18 44 59.5 +2.9
CD2 PMZ
comp=Z,80nm,0.7s
CD2 PMZ
comp=Z,340nm,4.5s
CD2 LN
comp=Z,5μm,16.6s
CD2 LE
comp=Z,7μm,20.1s
CD2 LZ
comp=Z,6μm,15.3s
GUN **Gumba** 34.80 336 *e*P P 18 39 32.3 +0.9
DMN **Daman** 34.85 335 *e*P P 18 39 32.4 +0.6
KKN **Kakani** 34.93 335 *e*P P 18 39 33.1 +0.6
ENH **Enshi** 34.94 13 *e*P P 18 39 31.4 -0.9
comp=Z,42nm,0.9s
GKN **Gorkha** 35.39 335 *e*P P 18 39 37.1 +0.8
KOLN **Koldanda** 35.65 333 *e*P P 18 39 39.4 +0.8
comp=Z,58nm,0.7s
WRA **Warramunga Arr** 36.24 119 P P 18 39 43.1 -0.6
comp=Z,21nm,0.8s,baz=292,slow=9.8,SNR=90
WRA S **S** 18 45 21.9 +1.5
comp=Z,4.6nm,0.9s,baz=292,slow=16,SNR=7.6
WRA LR LR 18 56 20.8
comp=Z,2μm,21.6s,baz=300,slow=39
WRAB **Tennant Creek** 36.25 119 P P 18 39 43.3 -0.4
comp=Z,387nm,0.8s,SNR=33
WRAB **Tennant Creek** 36.25 119 *c i*P P 18 39 43.0 -0.7
WRAB pmax pmax
comp=Z,106nm,0.8s
WRAB **Tennant Creek** 36.25 119⇑ *e*P P 18 39 42.7 -1.0
comp=Z,46nm,0.8s
WRAB *e*S **S** 18 45 18.5 -2.0
WHN **Wuhan** 36.56 20 ⇑P P 18 39 46.3 +0.2
WHN pP pP 18 39 54.3 -6.0
WHN S S 18 45 36.0 +11
WHN LN
comp=Z,3μm,12.2s
WHN LE
comp=Z,4μm,13.5s
WHN LZ
comp=Z,6μm,14.5s
ASAR **Alice Springs** 37.39 125 P P 18 39 53.0 -0.4
comp=Z,12nm,0.7s,baz=300,slow=8.2,SNR=104
ASAR S **S** 18 45 38.5 +0.5
comp=Z,1.7nm,1.1s,baz=289,slow=12,SNR=4.1
ASAR LR LR 18 57 01.5
comp=Z,2μm,20.9s,baz=300,slow=39
XAN **Xi'an** 38.47 11 P P 18 40 01.3 -1.0
XAN pP **pP** 18 40 17.0 +0.5
XAN S **S** 18 45 52.3 -1.6
XAN SS **SnSn** 18 48 40.0 -5.0
XAN PMZ
comp=Z,47nm,1.2s
XAN PMZ
comp=Z,110nm,4.6s
XAN LN
comp=Z,3μm,12.9s
XAN LE
comp=Z,700nm,17.0s
XAN LZ
comp=Z,1μm,13.4s
NJ2 **Nanjing** 39.60 24 *e*P P 18 40 12.5 +0.9
NJ2 S **S** 18 46 14.0 +3.3
NJ2 PMZ
comp=Z,50nm,0.8s
NJ2 LN
comp=Z,3μm,16.0s
NJ2 LE
comp=Z,5μm,17.0s
NJ2 LZ
comp=Z,7μm,17.0s
SSE **Sheshan** 39.80 28 P P 18 40 13.8 +0.5
SSE sP **sP** 18 40 33.5 -0.6
SSE S **ScP** 18 46 08.0 +4.9
SSE PMZ
comp=Z,38nm,1.2s
SSE PMZ
comp=Z,240nm,5.5s
SSE LN
comp=Z,780nm,16.0s
SSE LE
comp=Z,2μm,15.8s
SSE LZ
comp=Z,1μm,15.4s
LZH **Lanzhou** 39.87 4 ⇑P P 18 40 14.5 +0.5
LZH pP **pP** 18 40 28.8 +0.5
LZH sP **sP** 18 40 35.0 +0.2
LZH PP **PnPn** 18 41 51.0 +0.7
LZH *e*S **S** 18 46 14.3 -0.7
LZH sS **sS** 18 46 39.0 -0.1
LZH PMZ
comp=Z,260nm,1.2s
LZH PMZ
comp=Z,730nm,4.0s
LZH LN
comp=Z,4μm,16.3s
LZH LE
comp=Z,5μm,15.0s
LZH LZ
comp=Z,4μm,15.8s
JOW **Kunigami** 40.39 39 P P 18 40 17.0 -1.3
baz=198,slow=2.2
TIA **Tai'an** 42.67 19 ⇑P P 18 40 36.0 -0.9
TIA PP **PcP** 18 42 25.0 -3.0
TIA PMZ
comp=Z,40nm,1.1s
TIA LN
comp=Z,2μm,19.0s
TIA LE
comp=Z,3μm,17.0s
TIA LZ
comp=Z,1μm,19.6s
TIY **Taiyuan** 42.75 13 *e*P P 18 40 38.3 +0.7
TIY pP 18 40 45.5 -6.5
TIY S **S** 18 46 59.5 +1.9
TIY PMZ
comp=Z,62nm,0.7s
TIY PMZ
comp=Z,460nm,4.0s
TIY LN
comp=Z,710nm,12.0s
TIY LE
comp=Z,1μm,13.2s
TIY LZ
comp=Z,1μm,12.6s
COEN **Coen** 42.83 106 *e*P P 18 40 36.4 -2.1
comp=Z,3.9nm,1.0s
COEN *e*PcP **PcP** 18 42 30.0 +1.0
GTA **Gaotai** 43.10 359 P P 18 40 40.5 0.0
GTA pP **pP** 18 40 55.5 +0.6
GTA sP **sP** 18 41 02.8 +1.5
GTA PP **PP** 18 42 23.5 +2.0
GTA S **S** 18 47 03.0 +0.2
GTA sS **sS** 18 47 28.8 +1.7
GTA PMZ
comp=Z,66nm,1.3s
GTA PMZ
comp=Z,640nm,7.1s
GTA LN
comp=Z,2μm,14.7s
GTA LE
comp=Z,2μm,14.7s
GTA LZ
comp=Z,3μm,15.4s
HHC **Hu-ho-hao-te** 45.58 11 *e*P P 18 41 01.3 +1.1
HHC pP **pP** 18 41 16.8 +2.1
HHC sP **sP** 18 41 23.5 +2.4
HHC PP **PP** 18 42 46.5 -1.4
HHC S **S** 18 47 38.5 -0.2
HHC sS **sS** 18 48 04.0 +0.8
HHC SS **ScS** 18 50 56.3 +4.6
HHC PMZ
comp=Z,87nm,1.0s
HHC PMZ
comp=Z,610nm,6.3s
HHC LN
comp=Z,3μm,15.3s
HHC LE
comp=Z,1μm,14.7s
HHC LZ
comp=Z,3μm,14.9s
BJT **Baijiatuao** 45.88 16 *e*P P 18 41 02.6 +0.1
BJT pmax pmax
comp=Z,115nm,1.1s
BJT **Baijiatuao** 45.88 16 *e*P P 18 41 02.6 +0.1
comp=Z,115nm,1.1s
BJI **Beijing** 45.91 16 P P 18 41 03.0 +0.4
BJI S **S** 18 47 45.0 +1.8
BJI PMZ
comp=Z,79nm,1.1s
BJI PMZ
comp=Z,460nm,3.5s
BJI LN
comp=Z,3μm,19.4s
BJI LE
comp=Z,2μm,19.4s
BJI LZ
comp=Z,2μm,20.1s
PMG **Port Moresby** 46.20 99 *c e*P P 18 41 06.5 +1.1
PMG pmax pmax
comp=Z,143nm,1.0s
PMG **Port Moresby** 46.20 99 *e*P P 18 41 01.4 -4.0
comp=Z,40nm,1.0s
JNU **Nakatsue** 46.46 35 P P 18 41 06.2 -1.0
comp=Z,50nm,1.0s,baz=186,slow=1.9,SNR=8.1
JNU LR LR 18 59 45.9
comp=Z,395nm,22.0s,baz=244,slow=35
DL2 **Dalian** 46.68 22 P P 18 41 08.5 -0.2
DL2 S **S** 18 47 52.8 -1.5
DL2 PMZ
comp=Z,77nm,1.2s
DL2 LN
comp=Z,900nm,17.2s
DL2 LZ
comp=Z,950nm,14.2s
CTAO **Charters Tower** 46.96 114 *e*P P 18 41 11.0 -0.3
CTAO pmax pmax
comp=Z,51nm,1.1s
CTAO **Charters Tower** 46.96 114 *e*P P 18 41 11.0 -0.3
comp=Z,51nm,1.1s
STKA **Stephens Creek** 47.20 131 P P 18 41 13.5 +0.5
comp=Z,23nm,0.7s,baz=305,slow=7.9,SNR=22
STKA LR LR 19 02 40.2
comp=Z,2μm,21.0s,baz=299,slow=38
STKA **Stephens Creek** 47.20 131 P P 18 41 13.5 +0.5
STKA pmax pmax
comp=Z,23nm,0.7s
STKA MLR MLR
comp=Z,2μm,21.0s
STKA **Stephens Creek** 47.20 131 *e*P P 18 41 13.2 +0.2
KSAR **Wonju Array Be** 48.16 29 P P 18 41 20.5 +0.3
KSAR 18 42 47.8
KSAR **Wonju Array Be** 48.16 29 P P 18 41 20.5 +0.3
KSAR PcP **PcP** 18 42 47.8 +0.8
KSRS **Korea Array** 48.19 29 P P 18 41 20.5 +0.1
comp=Z,31nm,1.0s,baz=217,slow=8.1,SNR=55
KSRS PcP **PcP** 18 42 47.8 +0.7
comp=Z,2.1nm,0.8s,baz=217,slow=4.2,SNR=4.2
KSRS **Korea Array** 48.19 29 P P 18 41 20.5 +0.1
KSRS 18 42 47.8
KSRS pmax pmax
comp=Z,31nm,1.0s
KSH **Kashi** 48.94 334 P P 18 41 25.3 -1.1
KSH PP **PP** 18 43 17.5 -2.8
KSH PcS **PcS** 18 46 46.5 +0.1
KSH S S 18 48 24.0 -2.6
KSH ScS **ScS** 18 51 14.3 +0.3
KSH PMZ
comp=Z,32nm,1.1s
KSH PMZ
comp=Z,180nm,3.7s
KSH LN
comp=Z,350nm,12.2s
KSH LE
comp=Z,1μm,21.1s
KSH LZ
comp=Z,1μm,21.7s
WMQ **Urumqi** 48.97 347 P P 18 41 27.0 +0.5
WMQ pP **pP** 18 41 42.8 +1.6
WMQ sP **sP** 18 41 49.8 +2.2
WMQ PcP **PcP** 18 42 50.5 +0.6
WMQ PP **PP** 18 43 21.5 +1.0
WMQ PcS **PcS** 18 46 45.0 -1.2
WMQ S S 18 48 26.0 -0.8
WMQ sS **sS** 18 48 51.8 +0.3
WMQ ScS **ScS** 18 51 09.5 -4.4
WMQ SS **SS** 18 51 53.0 -5.5
WMQ PMZ
comp=Z,76nm,1.2s
WMQ PMZ
comp=Z,540nm,4.2s
WMQ LN
comp=Z,900nm,16.8s
WMQ LE
comp=Z,1μm,19.6s
WMQ LZ
comp=Z,830nm,24.0s
JCJ **Chichijima** 50.34 50 LR LR 19 03 28.5
comp=Z,243nm,19.4s,baz=242,slow=37
SFK **Sufi-Kurgan** 50.44 333 P P 18 41 38.1 +0.1
SFK pmax pmax
comp=Z,58nm,1.3s
PDGK **Podgornoye** 50.84 340 P P 18 41 40.8 +0.2
PDGK pmax pmax
comp=Z,81nm,1.0s
ULHL **Ulahol** 51.11 337 P P 18 41 43.4 +0.5
SNR=26
KZA **Kyzart** 51.37 336 P P 18 41 45.7 +0.6
SNR=25
AAA **Alma-Ata** 51.71 338 *e*P P 18 41 47.5 +0.3
AAA *e*S **S** 18 49 07.1 +2.3
AAA pmax pmax
comp=Z,600nm,3.5s
AAA smax smax
comp=E,1μm,10.1s
AAA MLR MLR
comp=Z,800nm,26.0s
SONM **Songino Array** 51.73 5 P P 18 41 47.6 +0.2
comp=Z,35nm,0.9s,baz=186,slow=8.9,SNR=216
SONM PcP **PcP** 18 43 00.4 +0.3
comp=Z,13nm,1.0s,baz=193,slow=4.7,SNR=3.9
UCH **Uchtor** 51.80 335 P P 18 41 48.9 +0.6
SNR=23
ULN **Ulaanbaatar** 51.82 5 *e*P P 18 41 52.8 +4.7
ULN **Ulaanbaatar** 51.82 5 P P 18 41 53.7 +5.6
SNR=42

ULN	**Ulaanbaatar**	**51.82**	**5**	*e*P		P		18 41 52.8	+4.7	
TKM2	**Tokmak 2**	**51.93**	**336**	P		**P**		**18 41 49.6**	**+0.6**	
	SNR=43									
TKM2	**Tokmak 2**	**51.93**	**336**	*e*P		**P**		**18 41 48.7**	**-0.4**	
TKM2	**Tokmak 2**	**51.93**	**336**	*e*P		**P**		**18 41 48.7**	**-0.4**	
KBK	**Karagaybulak**	**51.98**	**336**	P		**P**		**18 41 50.4**	**+1.0**	
	SNR=25									
AML	**Almayashu**	**52.07**	**334**	P		**P**		**18 41 50.9**	**+0.6**	
	SNR=11									
AAK	**Ala-Archa**	**52.14**	**335**	P		**P**		**18 41 51.2**	**+0.6**	
	comp=Z,88nm,1.2s,SNR=9.0									
AAK	**Ala-Archa**	**52.14**	**335**	P		**P**		**18 41 51.3**	**+0.7**	
	SNR=11									
AAK	**Ala-Archa**	**52.14**	**335**	*i* P		**P**		**18 41 50.7**	**+0.2**	
AAK				pmax		pmax				
	comp=Z,34nm,1.5s									
AAK	**Ala-Archa**	**52.14**	**335**	P		**P**		**18 41 51.7**	**+1.1**	
	SNR=19									
AAK	**Ala-Archa**	**52.14**	**335**	*e*P		**P**		**18 41 50.8**	**+0.2**	
	comp=Z,29nm,1.3s									
FRU	**Bishkek**	**52.26**	**336**	⇑*i*P		**P**		**18 41 51.0**	**-0.3**	
FRU				*e*				18 49 15.0		
FRU				pmax		pmax				
	comp=Z,160nm,2.2s									
PAF	**Port-aux-Franc**	**52.27**	**205**	P		P		18 41 46.0	-5.2	
PAF				S		S		18 49 05.0	-7.3	
PAF				R				18 56 00.0		
CHMS	**Chumysh**	**52.34**	**336**	P		**P**		**18 41 52.5**	**+0.6**	
	SNR=14									
CN2	**Changchun**	**52.35**	**22**	⇑P		**P**		**18 41 51.5**	**-0.4**	
CN2				*e*pP		**pP**		**18 42 02.5**	**-4.2**	
CN2				*e*S		**S**		**18 49 12.0**	**-1.5**	
CN2				PMZ						
	comp=Z,50nm,1.0s									
CN2				PMZ						
	comp=Z,100nm,4.0s									
CN2				LN						
	comp=Z,2μm,15.0s									
CN2				LE						
	comp=Z,1μm,15.0s									
CN2				LZ						
	comp=Z,2μm,16.0s									
EKS2	**Erkin-Say**	**52.47**	**335**	P		**P**		**18 41 53.8**	**+0.9**	
	SNR=48									
EKS2	**Erkin-Say**	**52.47**	**335**	*e*P		**P**		**18 41 53.3**	**+0.3**	
EKS2	**Erkin-Say**	**52.47**	**335**	*e*P		**P**		**18 41 53.2**	**+0.3**	
EIDS	**Eidsvold**	**52.61**	**119**	*e*P		**P**		**18 41 54.4**	**+0.2**	
	comp=Z,24nm,1.0s									
USP	**Ospenovka**	**52.66**	**336**	P		**P**		**18 41 55.0**	**+0.8**	
	SNR=28									
MNAS	**Manas**	**52.88**	**334**	P		**P**		**18 41 55.7**	**-0.3**	
MNAS				pmax		pmax				
	comp=Z,74nm,1.5s									
MK31	**Makanchi Array**	**53.10**	**344**	*i* P		**P**		**18 41 56.9**	**-0.5**	
MK31				pmax		pmax				
	comp=Z,35nm,0.9s									
MKAR	**Makanchi Array**	**53.10**	**344**	P		**P**		**18 41 57.2**	**-0.2**	
	comp=Z,28nm,0.9s,baz=148,slow=7.5,SNR=190									
MKAR				LR		LR		19 09 06.6		
	comp=Z,634nm,18.3s,baz=142,slow=41									
MAJO	**Matsushiro**	**53.17**	**38**	⇓*i*P		**P**		**18 41 57.2**	**-0.9**	
MAJO				pmax		pmax				
	comp=Z,215nm,1.1s									
MAJO	**Matsushiro**	**53.17**	**38**	*e*P		**P**		**18 41 56.5**	**-1.6**	
	comp=Z,34nm,1.1s									
MAT	**Matsushiro**	**53.17**	**38**	P		**P**		**18 41 56.3**	**-1.8**	
MAT				S		**S**		**18 49 22.6**	**-2.4**	
MJAR	**Matsushiro Arr**	**53.17**	**38**	P		**P**		**18 41 56.9**	**-1.2**	
	comp=Z,23nm,0.9s,baz=218,slow=7.7,SNR=68									
ZAK	**Zakamensk**	**54.10**	**2**	*e*P		**P**		**18 42 04.2**	**-0.5**	
ZAK				pmax		pmax				
	comp=Z,9.0nm,1.3s									
KK31	**Karatay Array**	**54.26**	**333**	P		**P**		**18 42 04.9**	**-1.0**	
KK31				pmax		pmax				
	comp=Z,14nm,1.2s									
KKAR	**Karatay Array**	**54.26**	**333**	*e*P		**P**		**18 42 05.3**	**-0.7**	
KKAR				pmax		pmax				
	comp=Z,2.0nm,0.5s									
KKAR	**Karatay Array**	**54.26**	**333**	*e*P		**P**		**18 42 05.3**	**-0.7**	
	comp=Z,2.0nm,0.5s									
VLA	**Vladivostok**	**54.51**	**28**	⇓*i*P		**P**		**18 42 08.3**	**+0.6**	
VLA				pmax		pmax				
	comp=Z,105nm,1.7s									
ARMA	**Armidale**	**54.55**	**125**	*e*P		**P**		**18 42 09.8**	**+1.4**	
	comp=Z,38nm,1.0s									
MDJ	**Mudanjiang**	**54.68**	**25**	P		**P**		**18 42 09.5**	**+0.5**	
MDJ				S		S		18 49 53.3	+8.2	
MDJ				SS		**SS**		**18 53 33.8**	**+4.9**	
MDJ				PMZ						
	comp=Z,22nm,1.1s									
MDJ				PMZ						
	comp=Z,240nm,4.6s									
MDJ				LN						
	comp=Z,1μm,19.7s									
MDJ				LE						
	comp=Z,1μm,19.7s									
MDJ				LZ						
	comp=Z,1μm,18.9s									
MDJ	**Mudanjiang**	**54.68**	**25**	*e*P		**P**		**18 42 08.8**	**-0.1**	
	comp=Z,22nm,1.0s									
MOY	**Mondy**	**55.35**	**0**	*e*P		**P**		**18 42 14.2**	**+0.4**	
USRK	**Ussuriysk Ar.**	**55.39**	**27**	P		**P**		**18 42 14.2**	**+0.2**	
	comp=Z,82nm,0.9s,baz=221,slow=6.8,SNR=102									
USRK				LR		LR		19 07 49.5		
	comp=Z,1μm,19.0s,baz=216,slow=38									
HIA	**Hailar**	**55.41**	**15**	*e*P		**P**		**18 42 13.5**	**-0.7**	
HIA				pmax		pmax				
	comp=Z,20nm,1.0s									
HIA	**Hailar**	**55.41**	**15**	*e*P		**P**		**18 42 13.5**	**-0.7**	
	comp=Z,20nm,1.0s									
TLY	**Talaya**	**55.41**	**2**	P		**P**		**18 42 15.4**	**+1.3**	
	comp=Z,131nm,1.2s,SNR=9.6									
TLY	**Talaya**	**55.41**	**2**	*e*P		**P**		**18 42 15.3**	**+1.2**	
TLY				*e*				18 44 14.4		
TLY				*e*S		S		18 49 43.8	-11	
TLY				pmax		pmax				
	comp=Z,35nm,1.3s									
TLY				MLR		MLR				
	comp=Z,2μm,13.0s									
TLY	**Talaya**	**55.41**	**2**	P		**P**		**18 42 15.7**	**+1.6**	
	SNR=10									
TLY	**Talaya**	**55.41**	**2**	*e*P		**P**		**18 42 15.3**	**+1.2**	
IBAF	**Bafgh**	**55.74**	**313**	*e*P		**P**		**18 42 14.6**	**-2.5**	
IRK	**Irkutsk**	**56.00**	**2**	*e*P		**P**		**18 42 17.7**	**-0.6**	
IRK				pmax		pmax				
	comp=Z,84nm,2.1s									
IAKL	**Akhelmad**	**56.30**	**319**	*e*P		**P**		**18 42 20.0**	**-1.1**	
IMEH	**Mehriz**	**56.34**	**312**	*e*P		**P**		**18 42 20.8**	**-0.6**	
CIT	**Chita**	**56.73**	**9**	*e*P		**P**		**18 42 24.5**	**+1.0**	
CIT				*e*				18 42 32.2		
CIT				pmax		pmax				
	comp=Z,133nm,2.7s									
ISFR	**Sfrayin**	**57.06**	**320**	*e*P		**P**		**18 42 25.8**	**-0.6**	
OTUK	**Ortayu**	**57.63**	**338**	P		**P**		**18 42 29.3**	**-0.7**	
OTUK				pmax		pmax				
	comp=Z,50nm,1.2s									
KURK	**Kurchatov**	**57.68**	**343**	P		**P**		**18 42 30.1**	**-0.1**	
	comp=Z,195nm,1.1s,SNR=52									
KURK	**Kurchatov**	**57.68**	**343**	P		**P**		**18 42 29.6**	**-0.5**	
KURK				pmax		pmax				
	comp=Z,39nm,1.0s									
KURK	**Kurchatov**	**57.68**	**343**	P		**P**		**18 42 30.1**	**-0.1**	
	SNR=36									
KURK	**Kurchatov**	**57.68**	**343**	*e*P		**P**		**18 42 29.7**	**-0.5**	
	comp=Z,76nm,1.0s									
HNR	**Honiara**	**58.81**	**99**	*e*P		**P**		**18 42 37.5**	**-1.3**	
HNR	**Honiara**	**58.81**	**99**	*e*P		**P**		**18 42 37.5**	**-1.3**	
	comp=Z,1.6nm,1.3s									
DAMY	**Dhamar**	**58.96**	**289**	P		**P**		**18 42 42.1**	**+1.9**	
ZALV	**Zalesovo Beam**	**59.19**	**349**	P		**P**		**18 42 40.5**	**-0.2**	
	comp=Z,56nm,0.9s,baz=160,slow=4.7,SNR=203									
ZALV				S		**S**		**18 50 46.4**	**+2.2**	
	comp=Z,0.3nm,0.4s,baz=182,slow=8.2,SNR=3.0									
ZALV				LR		LR		19 10 54.4		
	comp=Z,962nm,21.0s,baz=68,slow=39									
ZALV	**Zalesovo Beam**	**59.19**	**349**	*i* P		**P**		**18 42 40.5**	**-0.2**	
ZALV				pmax		pmax				
	comp=Z,57nm,0.9s									
KLR	**Kul'dur**	**59.28**	**23**	*e*P		P		18 42 37.6	-3.8	
KLR				*e*				18 42 45.8		
KLR				pmax		pmax				
	comp=E,70nm,1.8s									
KLR				pmax		pmax				
	comp=Z,170nm,1.8s									
KLR				MLR		MLR				
	comp=E,900nm,12.0s									
KLR				MLR		MLR				
	comp=Z,4μm,12.0s									
IPIR	**Pirpir**	**59.73**	**312**	*e*P		**P**		**18 42 44.0**	**-1.3**	
IFIR	**Firoozkooh**	**59.83**	**315**	*e*P		**P**		**18 42 45.2**	**-0.5**	
CRZF	**Crozet Islands**	**59.95**	**217**	S		**S**		**18 50 52.0**	**-2.3**	
CRZF				SS		SS		18 54 30.0	-22	
CRZF				R				19 00 00.0		
HABR	**Khabarovsk**	**60.04**	**26**	*de*P		**P**		**18 42 44.6**	**-2.0**	
HABR				*e**PP		pP		18 42 54.4	-7.3	
HABR				*e*SP				18 42 58.3		
HABR				*e*				18 43 30.3		
HABR				*e*				18 44 56.5		
HABR				*e*S		**S**		**18 50 54.6**	**-0.7**	
HABR				*e*S		S		18 51 06.9	+12	
HABR				*e*SS		x		18 51 11.6		
HABR				*e*				18 52 31.9		
HABR				*e*SS		**SS**		**18 54 51.5**	**-1.5**	
HABR				pmax		pmax				
	comp=N,11nm,0.9s									
HABR				pmax		pmax				
	comp=E,93nm,2.2s									
HABR				pmax		pmax				
	comp=Z,123nm,2.2s									
HABR				MLR		MLR				
	comp=E,1μm,15.0s									
HABR				MLR		MLR				
	comp=N,1μm,18.0s									
HABR				MLR		MLR				
	comp=Z,1μm,20.0s									
KRAR	**Krasnoyarsk**	**60.07**	**355**	⇑*i*P		**P**		**18 42 44.7**	**-1.9**	
KRAR				pmax		pmax				
	comp=Z,86nm,1.3s									
IVRN	**Varamin**	**60.23**	**314**	*e*P		**P**		**18 42 48.5**	**+0.2**	
IDMV	**Damavand**	**60.30**	**315**	*e*P		**P**		**18 42 48.6**	**-0.5**	
RAYN	**Ar Rayn**	**60.48**	**300**	*e*P		**P**		**18 42 50.2**	**0.0**	
	comp=Z,6.5nm,1.1s									
ASAJ	**Asahikawa**	**60.65**	**33**	P		**P**		**18 42 50.7**	**-0.2**	
	comp=Z,16nm,1.1s,baz=228,slow=6.8,SNR=8.5									
ASAJ	**Asahikawa**	**60.65**	**33**	P		**P**		**18 42 50.7**	**-0.2**	
ASAJ				pmax		pmax				
	comp=Z,16nm,1.1s									
IR3	**Iran Long-Peri**	**60.97**	**314**	*e*P		**P**		**18 42 53.3**	**-0.1**	
IRAZ	**Razeghan**	**61.71**	**314**	*e*P		**P**		**18 42 58.5**	**0.0**	
BVA0	**Borovoye Array**	**62.27**	**340**	P		**P**		**18 43 00.2**	**-1.5**	
BVA0				pmax		pmax				
	comp=Z,33nm,1.3s									
BVAR	**Borovoye Array**	**62.27**	**340**	P		**P**		**18 43 00.3**	**-1.4**	
	comp=Z,14nm,0.9s,baz=146,slow=8.2,SNR=75									
BRVK	**Borovoye**	**62.34**	**340**	P		**P**		**18 43 01.3**	**-0.8**	
	comp=Z,139nm,1.1s,SNR=16									
BRVK	**Borovoye**	**62.34**	**340**	*c i*P		**P**		**18 43 01.3**	**-0.8**	
BRVK				pmax		pmax				
	comp=Z,35nm,1.2s									
BRVK	**Borovoye**	**62.34**	**340**	P		**P**		**18 43 01.8**	**-0.3**	
	SNR=17									
BRVK	**Borovoye**	**62.34**	**340**	*e*P		**P**		**18 43 01.0**	**-1.1**	
	comp=Z,21nm,0.9s									
BOD	**Bodaibo**	**62.41**	**8**	*e*P		**P**		**18 43 02.4**	**-0.1**	
BOD				*e*				18 45 16.3		
BOD				pmax		pmax				
	comp=Z,44nm,1.1s									
YSS	**Yuzh-Sakhalins**	**62.60**	**31**	⇑*e*P		**P**		**18 43 03.5**	**-0.4**	
YSS				*e*				18 43 12.0		
YSS				pmax		pmax				
	comp=Z,80nm,1.0s									
YSS				MLR		MLR				
	comp=E,600nm,18.0s									
YSS				MLR		MLR				
	comp=Z,700nm,18.0s									
YSS	**Yuzh-Sakhalins**	**62.60**	**31**	*e*P		**P**		**18 43 03.4**	**-0.6**	
	comp=Z,84nm,1.1s									
CASY	**Casey**	**62.63**	**176**	P		**P**		**18 43 04.0**	**+0.1**	
	comp=Z,15nm,1.3s									
CLNS	**Chul'man**	**63.59**	**14**	*e*P		**P**		**18 43 09.4**	**-1.0**	
CLNS				pmax		pmax				
	comp=Z,21nm,1.0s									
CLNS				pmax		pmax				
	comp=E,13nm,1.4s									
CLNS				pmax		pmax				
	comp=N,14nm,1.1s									
CLNS				MLR		MLR				
	comp=Z,677nm,14.0s									
CLNS				MLR		MLR				
	comp=E,2μm,14.0s									
CLNS				MLR		MLR				
	comp=N,2μm,14.0s									
KMBO	**Kilima Mbogo**	**63.68**	**271**	P		**P**		**18 43 13.9**	**+1.8**	
	comp=N,0.7nm,0.3s,baz=67,slow=7.8,SNR=3.6									
KMBO	**Kilima Mbogo**	**63.68**	**271**	*i* P		**P**		**18 43 14.8**	**+2.7**	
KMBO	**Kilima Mbogo**	**63.68**	**271**	*e*P		**P**		**18 43 13.5**	**+1.5**	
AB31	**Akbulak array**	**63.74**	**331**	*i* P		**P**		**18 43 10.2**	**-1.3**	
AB31				pmax		pmax				
	comp=Z,76nm,1.2s									
ABKAR	**Akbulak array**	**63.74**	**331**	*e*P		**P**		**18 43 10.3**	**-1.2**	
	comp=Z,16nm,0.8s									
DZM	**Mont Dzumac**	**65.86**	**112**	*e*P		P		18 43 29.2	+3.2	
	comp=Z,46nm,1.4s									
DZM				*e*S		**S**		**18 52 06.6**	**-2.7**	
	comp=Z,668nm,27.1s									
DZM	**Mont Dzumac**	**65.86**	**112**	*e*LR		LR		19 02 58.7		
	comp=Z,2μm,23.9s									
MAK	**Makhachkala**	**67.02**	**320**	*e*P		**P**		**18 43 31.1**	**-1.7**	
MAK				*e*				18 43 58.8		
MAK				*e*S		**S**		**18 52 22.2**	**-0.1**	
MAK				*e*				18 53 26.0		
MAK				*e*SSS		SSS		18 59 43.6		
MAK				pmax		pmax				
	comp=Z,84nm,1.8s									
GNI	**Garni**	**67.54**	**316**	*e*P		**P**		**18 43 36.1**	**-0.3**	
GNI				pmax		pmax				
	comp=Z,124nm,2.3s									
GNI	**Garni**	**67.54**	**316**	P		**P**		**18 43 37.1**	**+0.7**	
	SNR=7.0									
GNI	**Garni**	**67.54**	**316**	*e*P		**P**		**18 43 36.1**	**-0.3**	
	comp=Z,124nm,2.3s									
DGRG	**David-gareji**	**67.69**	**318**	P		**P**		**18 43 38.1**	**+1.0**	
TBLG	**Delisi**	**68.24**	**318**	P		**P**		**18 43 40.7**	**+0.1**	
DRV	**Dumont d'Urvil**	**68.26**	**164**	S		S		18 52 13.0	-23	
DRV				SS		**SS**		**18 56 58.0**	**-2.2**	
DRV				L		L		18 59 00.0		
DRV				R				19 03 00.0		
MAW	**Mawson**	**68.70**	**195**	P		**P**		**18 43 43.3**	**+0.4**	
	comp=Z,1.9nm,0.7s,baz=18,slow=12,SNR=3.0									
MAW				LR		LR		19 06 54.4		
	comp=Z,1μm,21.8s,baz=54,slow=30									
SVE	**Sverdlovsk**	**68.78**	**338**	*d i*P		**P**		**18 43 43.8**	**+0.2**	
SVE				*e*				18 46 19.2		
SVE				*e*PPP		PPP		18 47 54.2		
SVE				*e*S		**S**		**18 52 38.8**	**-4.1**	
SVE				pmax		pmax				
	comp=Z,82nm,1.5s									
SVE				MLR		MLR				
	comp=Z,1μm,21.0s									
ZEI	**Tsey**	**69.27**	**319**	*e*P		**P**		**18 43 47.1**	**-0.1**	
ZEI				pmax		pmax				
	comp=Z,11nm,0.8s									
ARU	**Arti**	**69.31**	**336**	P		**P**		**18 43 46.5**	**-0.4**	
	comp=Z,156nm,1.3s,SNR=16									
ARU	**Arti**	**69.31**	**336**	*c i*P		**P**		**18 43 46.2**	**-0.7**	
ARU								18 44 07.1		
ARU								18 46 22.5		
ARU				PPP		PPP		18 48 00.8		
ARU				S		**S**		**18 52 51.5**	**+2.3**	
ARU								18 53 40.2		
ARU				SSS		SSS		19 00 17.7		
ARU				pmax		pmax				
	comp=Z,66nm,1.7s									
ARU				MLR		MLR				
	comp=Z,703nm,18.0s									
ARU	**Arti**	**69.31**	**336**	*e*P		**P**		**18 43 46.3**	**-0.5**	
	comp=Z,55nm,1.3s									
YAK	**Yakutsk**	**69.33**	**14**	*c i*P		**P**		**18 43 45.8**	**-1.1**	
YAK				*e*				18 46 08.4		
YAK				*e*S		**S**		**18 52 47.4**	**-1.8**	
YAK				pmax		pmax				
	comp=Z,88nm,1.0s									
YAK				pmax		pmax				
	comp=N,31nm,1.2s									
YAK				pmax		pmax				
	comp=E,24nm,1.2s									
YAK				MLR		MLR				
	comp=Z,2μm,16.6s									
YAK				MLR		MLR				
	comp=E,989nm,15.9s									
YAK				MLR		MLR				
	comp=N,1μm,15.3s									
YAK	**Yakutsk**	**69.33**	**14**	*e*P		**P**		**18 43 45.5**	**-1.3**	
	comp=N,110nm,1.0s									
ONI	**Oni**	**69.48**	**318**	P		**P**		**18 43 46.9**	**-1.4**	
NCK	**Nalchik**	**69.79**	**319**	⇓*i*P		**P**		**18 43 51.2**	**+1.0**	
KBZ	**Khabaz**	**70.35**	**319**	P		**P**		**18 43 53.8**	**+0.3**	
	comp=N,13nm,1.0s,baz=56,slow=24,SNR=30									
KIV	**Kislovodsk**	**70.58**	**319**	*c i*P		**P**		**18 43 55.2**	**+0.1**	
KIV				*i* *PP		**pP**		**18 44 06.2**	**-4.3**	
KIV				*e*				18 44 15.8		
KIV				*e*PPP		PPP		18 48 21.3		
KIV				*i* S		**S**		**18 53 07.1**	**+2.3**	
KIV				SS		**SS**		**18 57 32.0**	**-5.4**	
KIV				pmax		pmax				
	comp=Z,46nm,1.7s									
KIV				MLR		MLR				
	comp=Z,323nm,22.0s									
KIV	**Kislovodsk**	**70.58**	**319**	P		**P**		**18 43 56.1**	**+1.0**	
	SNR=11									
KIV	**Kislovodsk**	**70.58**	**319**	*e*P		**P**		**18 43 55.4**	**+0.3**	
	comp=Z,47nm,1.4s									
GOF	**Gofitskoye**	**70.84**	**321**	*e*P		**P**		**18 43 55.6**	**-0.9**	
GOF				*e*S		**S**		**18 53 09.9**	**+2.3**	
GOF				pmax		pmax				
	comp=Z,30nm,1.3s									
SOKR	**Solikamsk**	**72.18**	**338**	*c i*P		**P**		**18 44 04.6**	**+0.4**	
SOKR				S		**S**		**18 53 22.8**	**+0.5**	
SOKR				pmax		pmax				
	comp=Z,60nm,1.3s									
SOKR				MLR		MLR				
	comp=Z,1μm,24.0s									
LSZ	**Lusaka**	**72.35**	**255**	*e*P		**P**		**18 44 04.2**	**-2.2**	
LSZ				pmax		pmax				
	comp=Z,23nm,1.5s									
LSZ	**Lusaka**	**72.35**	**255**	*e*P		**P**		**18 44 04.2**	**-2.2**	
	comp=Z,23nm,1.5s									
SOC	**Sochi**	**72.38**	**318**	*e*P		**P**		**18 44 05.0**	**-0.8**	
SOC				*e*PPP		PPP		18 48 28.6		
SOC				*e*S		**S**		**18 53 24.5**	**-0.9**	
SOC				pmax		pmax				
	comp=Z,32nm,1.1s									
RPZ	**Rata Peaks**	**72.99**	**135**	LR		LR		19 15 24.4		
	comp=Z,1μm,21.6s,baz=244,slow=35									
PETK	**Petropavlovsk-**	**73.98**	**32**	P		**P**		**18 44 14.3**	**-0.7**	
	comp=Z,7.1nm,0.9s,baz=214,slow=4.9,SNR=7.9									
CSS	**Prodhromos**	**74.12**	**308**	*e*P		**P**		**18 44 16.2**	**-0.1**	
	comp=Z,8.1nm,1.1s									
ANN	**Anapa**	**74.37**	**319**	*e*P		**P**		**18 44 16.1**	**-1.4**	
ANN				*e*S		**S**		**18 53 48.1**	**+0.4**	
ANN				pmax		pmax				
	comp=Z,11nm,1.2s									
PET	**Petropavlovsk**	**74.44**	**32**	*e*P		P		18 44 12.1	-5.6	
PET				*e*S		**S**		**18 53 48.6**	**+0.4**	
PET				pmax		pmax				
	comp=Z,300nm,8.8s									
PET				pmax		pmax				
	comp=Z,45nm,1.2s									
PET				pmax		pmax				
	comp=Z,200nm,20.0s									
PET				MLR		MLR				
	comp=Z,500nm,20.0s									
PET				MLR		MLR				
	comp=Z,600nm,23.0s									
BRTR	**Keskin Array B**	**75.29**	**313**	P		**P**		**18 44 22.4**	**-0.8**	
	comp=Z,11nm,1.0s,baz=124,slow=6.6,SNR=50									
BRTR				LR		LR		19 19 41.0		
	comp=Z,421nm,20.3s,baz=112,slow=38									
BOSA	**Boshof**	**75.58**	**242**	LR		LR		19 11 37.5		
	comp=Z,751nm,20.9s,baz=80,slow=31									
VORD	**Divnogorie**	**75.68**	**325**	*e*P		**P**		**18 44 24.2**	**-0.7**	
VORD				pmax		pmax				
	comp=Z,20nm,1.4s									
VORD				pmax		pmax				
	comp=N,7.0nm,1.0s									
VORD				pmax		pmax				
	comp=E,20nm,1.1s									
VORD				MLR		MLR				
	comp=N,500nm,23.0s									
VORD				MLR		MLR				
	comp=E,460nm,23.0s									
VORD				MLR		MLR				
	comp=Z,490nm,23.0s									
VSR	**Storozhevoye**	**75.86**	**325**	*e*P		**P**		**18 44 24.2**	**-1.7**	
VSR				*e*S		**S**		**18 54 01.6**	**-2.5**	
VSR				pmax		pmax				
	comp=N,8.0nm,0.8s									
VSR				pmax		pmax				
	comp=E,10.0nm,0.8s									
VSR				pmax		pmax				
	comp=Z,20nm,0.8s									
VSR				smax		smax				
	comp=N,100nm,2.3s									
VSR				smax		smax				
	comp=Z,10.0nm,2.2s									
VSR				smax		smax				
	comp=E,30nm,2.3s									
VSR				MLR		MLR				
	comp=N,450nm,24.0s									
VSR				MLR		MLR				
	comp=E,690nm,24.0s									
VSR				MLR		MLR				
	comp=Z,2μm,24.0s									
ANTO	**Ankara**	**75.95**	**313**	*e*P		**P**		**18 44 25.2**	**-1.6**	
ANTO				pmax		pmax				
	comp=Z,14nm,1.1s									
ANTO	**Ankara**	**75.95**	**313**	*e*P		**P**		**18 44 25.2**	**-1.6**	
	comp=Z,14nm,1.1s									
BKZ	**Black Stump Fm**	**76.35**	**129**	*e*P		**P**		**18 44 29.4**	**+0.3**	
	comp=Z,47nm,1.2s									
SYO	**Syowa Base**	**76.39**	**199**	⇓*e*PcP		**PcP**		**18 44 41.2**	**+1.0**	
MSVF	**Nonsavu**	**76.55**	**107**	*e*P		**P**		**18 44 31.1**	**+0.4**	
MSVF				pmax		pmax				
	comp=Z,24nm,1.3s									
MSVF	**Nonsavu**	**76.55**	**107**	*e*P		**P**		**18 44 31.1**	**+0.4**	
	comp=Z,24nm,1.3s									
LPSR	**Galich'ya Gora**	**76.58**	**326**	*e*P		**P**

comp=Z,60nm,1.2s
MOS pmax pmax
comp=Z,200nm,1.9s
OBN Obninsk 78.89 328 P **P** **18 44 43.0 +0.2**
comp=Z,139nm,0.6s,SNR=5.1
OBN Obninsk 78.89 328*c* *i*P **P** **18 44 42.8 +0.1**
OBN *i* 18 44 49.0
OBN *e**PP **pP** **18 44 56.7 -1.7**
OBN *i* 18 47 46.6
OBN *i* PPP PPP 18 49 32.7
OBN *i* S **S** **18 54 34.9 -1.8**
OBN *i* 18 55 23.9
OBN *i* SS **SS** **18 59 41.1 -1.7**
OBN pmax pmax
comp=Z,72nm,1.7s
OBN Obninsk 78.89 328 *e*P **P** **18 44 42.9 +0.2**
comp=Z,83nm,1.4s
KLMR Klimovskoe 79.93 334 *e*P **P** **18 44 45.3 -3.0**
KLMR *e* 18 44 53.6
KLMR *e**PP **PcP** **18 44 56.0 +0.3**
KLMR 18 47 44.6
KLMR *i* S **S** **18 54 44.7 -2.9**
KLMR *e*S **SKSac** **18 54 57.8 -2.8**
KLMR pmax pmax
comp=Z,94nm,1.6s
VNDA Vanda 80.13 169 P **P** **18 44 50.2 +1.0**
comp=Z,3.0nm,1.1s,baz=304,slow=6.7,SNR=7.4
VNDA LR LR 19 20 19.3
comp=Z,412nm,18.3s,baz=312,slow=36
SANT Santorini 80.68 308 *e*P **P** **18 44 52.1 -0.8**
comp=Z,60nm,1.1s
KIS Kishinev 80.77 319 *e*P **P** **18 44 52.0 -1.1**
KIS LRM MLR 19 27 10.0
comp=Z,600nm,20.0s
KIS Kishinev 80.77 319 *e*P **P** **18 44 52.0 -1.1**
KIS MLR MLR
comp=Z,600nm,21.0s
KIS MLR MLR
comp=Z,600nm,20.0s
JMB Yambol 81.16 314 ⇑P **P** **18 44 55.9 +0.6**
JMB Yambol 81.16 314 ⇑*i*P **P** **18 44 55.9 +0.6**
SBA Scott Base 81.23 169 *e*P **P** **18 44 55.7 +0.7**
SBA pmax pmax
comp=Z,58nm,1.9s
SBA Scott Base 81.23 169 *e*P **P** **18 44 55.6 +0.7**
comp=Z,58nm,1.9s
AKASG Malin Array Be 81.55 322 P **P** **18 44 56.4 -0.8**
comp=Z,1.8nm,0.8s,baz=89,slow=4.6,SNR=25
AKASG PP **PP** **18 48 01.1 -3.1**
comp=Z,0.3nm,0.3s,baz=90,slow=5.4,SNR=4.3
AKASG LR LR 19 25 12.1
comp=Z,333nm,21.7s,baz=40,slow=39
AKASG Malin Array Be 81.55 322 *i*P **P** **18 44 57.0 -0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
KIEV Kiev 81.56 322*c* *i*P **P** **18 44 56.9 -0.3**
SZH Strazhica 81.81 315 *e*P **P** **18 44 58.0 -0.8**
KDZ Kurdzhali 81.82 313 ⇑P **P** **18 44 59.3 +0.4**
KDZ Kurdzhali 81.82 313 ⇑*i*P **P** **18 44 59.3 +0.4**
KDZ Kurdzhali 81.82 313 *e*P **P** **18 44 58.0 -0.9**
VRI Vrincioaia 81.87 317 ⇓P **P** **18 45 00.3 +1.2**
VRI Vrincioaia 81.87 317 ⇓*i*P **P** **18 45 00.3 +1.2**
TMCR Tamitsa 82.04 337 *e*P **P** **18 45 00.1 +0.6**
TMCR pmax pmax
comp=Z,82nm,1.5s
TESR Tescani 82.08 318 ⇓*i*P **P** **18 45 00.7 +0.6**
MLR Muntele Rosu 82.32 317 ⇑P **P** **18 45 02.1 +0.6**
MLR Muntele Rosu 82.32 317 ⇑*i*P **P** **18 45 02.1 +0.6**
PGB Panagyurishte 82.92 314 *e*P **P** **18 45 04.0 -0.7**
MMB Musomiste 83.05 313 ⇓P **P** **18 45 04.6 -0.7**
MMB Musomiste 83.05 313 ⇓*i*P **P** **18 45 04.6 -0.7**
MMB Musomiste 83.05 313 *e*P **P** **18 45 04.3 -1.0**
ARR Arges 83.19 316 ⇑*i*P P 18 44 57.3 -8.7
BURAR Bucovina Array 83.30 319 ⇑P **P** **18 45 07.8 +1.3**
BURAR Bucovina Array 83.30 319 ⇑*i*P **P** **18 45 07.8 +1.3**
BUR04 Bucovina Ar. S 83.30 319 *e*P **P** **18 45 07.2 +0.6**
BUR08 Bucovina Ar. S 83.31 319 *e*P **P** **18 45 07.3 +0.6**
MPEP Malo Peshtene 83.39 314 *e*P **P** **18 45 06.4 -0.6**
VTS Vitosha 83.62 313 ⇑P **P** **18 45 08.2 -0.2**
VTS Vitosha 83.62 313 ⇑*i*P **P** **18 45 08.1 -0.3**
LOT Lotru 83.80 316 ⇑*i*P **P** **18 45 09.9 +0.7**
IDID Didziasalis 84.27 326 *e*P **P** **18 45 09.9 -1.2**
IDID AMB AMB 18 45 12.6
comp=Z,10nm,1.4s
LVV L'vov 84.55 321 *e*P P 18 45 09.5 -3.2
LVV MLR MLR
comp=Z,300nm,17.0s
LVV MLR MLR
comp=N,100nm,16.0s
LVV MLR MLR
comp=E,300nm,17.0s
IIGN Ignalina 84.56 326 *e*P **P** **18 45 11.4 -1.2**
IIGN AMB AMB 18 45 14.2
comp=Z,10nm,1.2s
BILL Bilibino 84.60 20 *e*P **P** **18 45 12.6 0.0**
BILL pmax pmax
comp=Z,32nm,1.2s
BILL Bilibino 84.60 20 *e*P **P** **18 45 12.6 0.0**
comp=Z,32nm,1.2s
ISAL Salakas 84.67 327 *e*P **P** **18 45 11.8 -1.3**
ISAL AMB AMB 18 45 16.2
comp=Z,10nm,1.8s
LVZ Lovozero 84.87 340 ⇓*e*P **P** **18 45 13.1 -0.9**
LVZ pmax pmax
comp=Z,28nm,1.7s
TRPA Tarpa 85.17 319 ⇑*e*P **P** **18 45 16.6 +0.8**
APA Apatity 85.18 339 ⇑*i*P **P** **18 45 16.4 +0.9**
APA MLR MLR
comp=Z,800nm,22.0s
BZS Buzias 85.32 316 ⇑P **P** **18 45 17.0 +0.3**
BZS Buzias 85.32 316 ⇑*i*P **P** **18 45 17.0 +0.3**
KWP Kalwaria Pacla 85.35 320 *e*P **P** **18 45 17.4 +0.7**
KWP Kalwaria Pacla 85.35 320 *e*P **P** **18 45 17.5 +0.7**
SIRR Siria 85.41 317 ⇓*i*P **P** **18 45 18.1 +1.0**
UZH Uzhgorod 85.42 319 *e*P **P** **18 45 17.8 +0.7**
UZH *i* S **S** **18 55 45.5 +1.5**
UZH *e*PS **PnS** **18 56 48.6 +2.1**
KOLS Kolonicke sedl 85.50 320 *e*P **P** **18 45 18.7 +1.2**
KOLS pmax pmax
comp=Z,28nm,1.2s
KOLS Kolonicke sedl 85.50 320 *e*P **P** **18 45 18.7 +1.2**
SUW Suwalki 85.97 325 *e*P **P** **18 45 19.8 +0.1**
SUW Suwalki 85.97 325 *e*P **P** **18 45 19.8 +0.1**
SUW Suwalki 85.97 325 *e*P **P** **18 45 19.2 -0.4**
QSPA South Pole Qui 86.08 180 *e*P **P** **18 45 21.3 +1.0**
comp=Z,72nm,2.2s
DIVS Divibare 86.20 315 ⇑*i*P **P** **18 45 21.7 +0.5**
FINES FINESS Array B 86.22 332 P **P** **18 45 21.0 +0.3**
comp=Z,7.2nm,0.9s,baz=126,slow=6.2,SNR=18
FINES LR LR 19 28 24.4
comp=Z,405nm,20.9s,baz=108,slow=39
FINES FINESS Array B 86.22 332 *i*P **P** **18 45 21.6 +0.9**
FINES pmax pmax
comp=Z,7.0nm,0.9s
STHS Stebnicka Huta 86.25 320 *e*P **P** **18 45 22.5 +1.2**
STHS pmax pmax
comp=Z,5.0nm,1.1s
STHS Stebnicka Huta 86.25 320 *e*P **P** **18 45 22.5 +1.2**
PSZ Piszkesteto 86.88 318 ⇑P **P** **18 45 24.9 +0.5**
PSZ Piszkesteto 86.88 318 ⇑*i*P **P** **18 45 24.9 +0.5**
PSZ Piszkesteto 86.88 318 *e*P **P** **18 45 24.4 0.0**
comp=Z,62nm,2.1s
PSZ Piszkesteto 86.88 318 ⇓*e*P **P** **18 45 25.0 +0.5**
PKS2 Kecel 87.11 317 ⇓*e*P **P** **18 45 27.1 +1.6**
OJC Ojcow 87.31 321 *e*P **P** **18 45 26.7 +0.3**
OJC Ojcow 87.31 321 *e*P **P** **18 45 26.7 +0.3**
OJC Ojcow 87.31 321 *e*P **P** **18 45 26.8 +0.3**
comp=Z,27nm,1.7s
PKSM Moragy 87.46 316 ⇑P **P** **18 45 27.4 +0.2**
PKSM Moragy 87.46 316 ⇑*i*P **P** **18 45 27.4 +0.2**
PKSM Moragy 87.46 316 ⇑*e*P **P** **18 45 27.9 +0.7**
PKS9 Tamasi 87.76 317 ⇓*e*P **P** **18 45 30.0 +1.4**
PKSG 87.80 318 ⇑*e*P **P** **18 45 29.4 +0.6**
TIP Timpagrande 87.93 309 *e*P P 18 45 25.6 -4.1
comp=Z,14nm,1.3s
PKST T``s 88.02 317 ⇓*e*P **P** **18 45 31.0 +1.1**
OKC Ostrava-Krasne 88.30 320 *i*P **P** **18 45 31.9 +0.8**
OKC *e*S **S** **18 56 14.3 +2.4**
OKC *ex* x 18 57 11.4
OKC AMS AMS 19 32 30.0
comp=Z,200nm,20.0s
OKC Ostrava-Krasne 88.30 320 *i*P **P** **18 45 31.9 +0.8**
OKC *e* 18 56 14.3
OKC *e* 18 57 11.4
OKC MLR MLR
comp=Z,200nm,20.0s
CEL Celeste 88.50 308 *e*P **P** **18 45 33.4 +1.0**
comp=Z,43nm,1.2s
ARA0 ARCESS Array S 88.56 340 *e*P **P** **18 45 31.9 0.0**
ARCES ARCESS Array B 88.56 340 P **P** **18 45 32.5 +0.5**
comp=Z,11nm,0.9s,baz=106,slow=6.9,SNR=25
ARCES LR LR 19 29 26.0
comp=Z,980nm,21.4s,baz=99,slow=38
MORC Moravsky Berou 88.68 320 *e*P **P** **18 45 32.7 -0.3**
MORC pmax pmax
comp=Z,13nm,1.2s
MORC Moravsky Berou 88.68 320 ⇓*i*P **P** **18 45 33.9 +0.9**
MORC Moravsky Berou 88.68 320 *e*P **P** **18 45 32.7 -0.3**
comp=Z,13nm,1.2s
CUC Castrocucco 88.74 310 *e*P **P** **18 45 33.0 -0.5**
comp=Z,10nm,1.3s
BEHE Becsehely 88.78 317 ⇑*e*P **P** **18 45 35.0 +1.6**
GOLS Golise 89.52 316 *e*P **P** **18 45 37.8 +0.8**
GOLS Golise 89.52 316 *e*P **P** **18 45 37.8 +0.8**
DPC Dobruska-Polom 89.53 320 *i*P **P** **18 45 38.5 +1.5**
DPC *ex* x 18 45 51.6
DPC *e*S **S** **18 56 25.1 +1.6**
DPC AMS AMS 19 29 40.0
comp=Z,300nm,21.5s
DPC Dobruska-Polom 89.53 320 *i*P **P** **18 45 38.5 +1.5**
DPC *e* 18 45 51.6
DPC *e* 18 56 25.1
DPC MLR MLR
comp=Z,300nm,21.5s
KSP Ksiaz 89.61 321 *e*P **P** **18 45 38.4 +1.2**
KSP Ksiaz 89.61 321 *e*P **P** **18 45 38.4 +1.2**
ARSA Arzberg 89.72 317 ⇑*i*PcP **PcP** **18 45 39.2 0.0**
comp=Z,14nm,1.3s,SNR=6.5
BOJS Bojanci 89.73 315 *i*P **P** **18 45 38.6 +0.8**
BOJS *e* 18 45 57.3
BOJS Bojanci 89.73 315 *i*P **P** **18 45 38.7 +0.8**
UPC Upice 89.75 321 *i*P **P** **18 45 39.4 +1.5**
UPC Upice 89.75 321 *i*P **P** **18 45 39.4 +1.5**
PERS Pernice 89.93 317 *i*P **P** **18 45 39.9 +0.9**
PERS *i* 18 46 00.3
PERS Pernice 89.93 317 *i*P **P** **18 45 39.9 +0.9**
TREC Trest 89.96 319 *e*P **P** **18 45 39.9 +1.0**
TREC AMS AMS 19 32 30.0
comp=Z,400nm,19.7s
TREC Trest 89.96 319 *e*P **P** **18 45 39.9 +1.0**
TREC MLR MLR
comp=Z,400nm,19.7s
SOKA Soboth 90.00 317 ⇑*i*PcP **PcP** **18 45 40.5 0.0**
comp=Z,18nm,1.2s,SNR=13
VISS Visnje 90.05 316 *i*P **P** **18 45 40.0 +0.6**
VISS *i* 18 45 57.4
VISS Visnje 90.05 316 *i*P **P** **18 45 40.0 +0.6**
LJU Ljubljana 90.28 316 *e*P **P** **18 45 42.2 +1.7**
JAVS Javornik 90.59 316 *i*P **P** **18 45 42.6 +0.5**
JAVS *i* 18 46 01.5
JAVS Javornik 90.59 316 *i*P **P** **18 45 42.6 +0.5**
PRU Pruhonice 90.64 320 *i*P **P** **18 45 42.9 +0.9**
PRU *ex* x 18 45 56.9
PRU *e*S **S** **18 56 34.9 +1.3**
PRU *ex* x 18 57 23.9
PRU AMS AMS 19 30 30.0
comp=Z,300nm,24.2s
PRU Pruhonice 90.64 320 *i*P **P** **18 45 42.9 +0.9**
PRU *e* 18 45 56.9
PRU *e* 18 56 34.9
PRU MLR MLR
comp=Z,300nm,24.2s
SNAA Sanae 90.64 198 *e*P **P** **18 45 40.6 -1.2**
SNAA pmax pmax
comp=Z,23nm,1.6s
SNAA Sanae 90.64 198 *e*P **P** **18 45 40.6 -1.2**
comp=Z,23nm,1.6s
PVCC Panska Ves 90.67 320 *e*P **P** **18 45 43.6 +1.4**
PVCC AMS AMS 19 29 40.0
comp=Z,400nm,21.9s
PVCC Panska Ves 90.67 320 *e*P **P** **18 45 43.6 +1.4**
PVCC MLR MLR
comp=Z,400nm,21.9s
MYKA Terra Mystica 90.95 316 ⇑*i*PcP **PcP** **18 45 44.6 -0.1**
comp=Z,14nm,1.6s
BRG Berggiesshubel 91.09 321 *e*P **P** **18 45 45.1 +1.0**
comp=Z,13nm,1.3s
comp=N,372nm,18.9s
comp=E,289nm,20.2s
comp=Z,256nm,17.4s
BRG Berggiesshubel 91.09 321 *e*P **P** **18 45 45.1 +1.0**
BRG pmax pmax
comp=Z,13nm,1.3s
BRG MLR MLR
comp=N,372nm,18.9s
BRG MLR MLR
comp=E,289nm,20.2s
BRG MLR MLR
comp=Z,256nm,17.4s
KHC Kasperske Hory 91.19 319 *e*P **P** **18 45 43.5 -1.2**
KHC *e*pP pP 18 45 54.8 -5.8
KHC *e*S **S** **18 56 40.7 +1.9**
KHC AMS AMS 19 33 10.0
comp=Z,600nm,22.7s
KHC Kasperske Hory 91.19 319 *e*P **P** **18 45 43.5 -1.2**
KHC *e* 18 45 54.8
KHC *e* 18 56 40.7
KHC MLR MLR
comp=Z,600nm,22.7s
RUE Ruedersdorf 91.33 322 P **P** **18 45 45.6 +0.4**
CLL Collm 91.72 321 ⇓*i*P **P** **18 45 47.9 +0.9**
comp=Z,16nm,1.5s
CLL *e* 18 49 09.0
CLL *e*PP **PP** **18 49 30.0 +3.7**
CLL *e*S **S** **18 56 42.0 -1.4**
CLL *e*PS **PnS** **18 58 07.0 +6.1**
CLL *e*(SS) 19 02 36.0
CLL *e*SSSS 19 09 54.0
CLL LmH 19 31 00.0
comp=N,300nm,20.6s
CLL LmH 19 31 00.0
comp=E,300nm,21.9s
CLL LmV 19 36 00.0
comp=Z,300nm,19.6s
CLL Collm 91.72 321 ⇓*i*P **P** **18 45 47.9 +0.9**
CLL *e*S **S** **18 56 42.0 -1.4**
CLL pmax pmax
comp=Z,16nm,1.5s
CLL MLR MLR
comp=Z,300nm,19.6s
NKC Novy Kostel 92.00 320 *e*S S 18 56 53.2 +7.2
FETA Feichten 92.97 317 ⇓*i*PcP **PcP** **18 45 54.3 +0.6**
comp=Z,4.3nm,1.1s
NB2 NORSAR Subarra 93.25 331 P **P** **18 45 53.7 -0.2**
comp=Z,7.9nm,1.2s,baz=89,slow=5.3
NOA NORSAR Array B 93.25 331 P **P** **18 45 53.7 -0.2**
comp=Z,2.5nm,1.0s,baz=94,slow=4.6,SNR=6.3
NOA LR LR 19 30 41.3
comp=Z,176nm,21.8s,baz=100,slow=37
IM04 Indian Mountai 99.74 24 *e*Pdif **Pdif** **18 46 22.9 -0.3**
TORD Torodi Ar. Bea 99.87 283 LR LR 19 27 41.1
comp=Z,369nm,21.6s,baz=90,slow=33
BPAW Bear Paw Mtn. 101.33 25 *e*Pdif **Pdif** **18 46 29.6 -0.7**
comp=Z,1.4nm,1.2s
MCK McKinley 102.31 25 *e*P **Pdif** **18 46 33.9 -0.8**
MCK McKinley 102.31 25 *e*Pdif **Pdif** **18 46 33.9 -0.8**
TBI Tubuai 106.32 116 *e*SP SP 19 00 29.4 -1.5
comp=Z,176nm,31.2s
TBI Tubuai 106.32 116 *e*LR LR 19 21 45.8
comp=Z,858nm,23.5s
PPT2 Papeete2 107.28 110 *e*SP SP 19 00 42.3 +1.1
comp=Z,112nm,26.8s
PPT2 Papeete2 107.28 110 *e*LR LR 19 22 08.0
comp=Z,430nm,22.8s
YKA Yellowknife Ar 115.89 17 PKP **PKPdf** **18 51 21.6 -0.1**
comp=Z,1.4nm,0.9s,baz=318,slow=2.1,SNR=10
YKA PP PP 18 52 19.1 -6.4
comp=Z,0.3nm,0.8s,baz=329,slow=7.7,SNR=4.8
RKT Rikitea 119.24 119 *e*LR LR 19 27 47.3
comp=Z,534nm,28.2s
EDM Edmonton 123.34 24 *e*PKIKP **PKPdf** **18 51 34.2 -2.2**
EDM Edmonton 123.34 24 *e*PKPdf **PKPdf** **18 51 34.2 -2.2**
G03D McMinnville, O 123.59 36 ⇑P **PKPdf** **18 51 38.6 +1.5**
baz=124
I03D Drain, OR 124.36 38 ⇑P **PKPdf** **18 51 39.9 +1.3**
baz=124
I04A Tendick Farm, 124.88 37 ⇓P **PKPdf** **18 51 40.9 +1.2**
baz=125
D08A Wollman Farm, 124.95 32 *e*PKPdf **PKPdf** **18 51 40.3 +0.7**
L02D Cave Junction, 125.02 40 ⇓P **PKPdf** **18 51 41.0 +1.1**
baz=125
HAWA Hanford 125.03 33 *e*PKPdf **PKPdf** **18 51 40.4 +0.6**
NEW Newport 125.10 30 PKP **PKPdf** **18 51 40.7 +0.8**
comp=Z,2.9nm,0.7s,baz=71,slow=2.4,SNR=5.0
NEW Newport 125.10 30 PKIKP **PKPdf** **18 51 40.7 +0.8**
NEW pmax pmax
comp=Z,3.0nm,0.7s
NEW Newport 125.10 30 *e*PKPdf **PKPdf** **18 51 40.4 +0.4**
NEW Newport 125.10 30 ⇑P **PKPdf** **18 51 41.5 +1.6**
baz=125
HUMO Hull Mountain 125.19 39 *e*PKPdf **PKPdf** **18 51 40.5 +0.2**
I05D Terrebonne, OR 125.22 36 ⇑P **PKPdf** **18 51 41.6 +1.3**
baz=125
J04D Umpqua Nationa 125.37 38 ⇓P **PKPdf** **18 51 41.9 +1.1**
baz=125
YBH Yreka Blue Hor 125.81 40 PKP **PKPdf** **18 51 42.4 +0.8**
comp=Z,0.9nm,0.3s,baz=298,slow=6.7,SNR=4.5
J05D Fort Rock, OR 125.88 37 ⇓P **PKPdf** **18 51 43.1 +1.4**
baz=126
M02C Callahan 125.89 40 ⇓P **PKPdf** **18 51 43.2 +1.5**
baz=126
KMRM Mail Ridge 125.93 42 *e*PKPpre PKPpre 18 51 36.5
FFC Flin Flon 126.02 16 *e*PKIKP **PKPdf** **18 51 42.0 +0.6**
FFC Flin Flon 126.02 16 *e*PKPdf **PKPdf** **18 51 42.0 +0.6**
N02D Trinity Center 126.21 40 ⇑P **PKPdf** **18 51 43.3 +1.0**
baz=126
M04C Macdoel 126.33 39 ⇓P **PKPdf** **18 51 43.6 +1.0**
baz=126
K05A Summer Lake 126.40 38 *e*PKPdf **PKPdf** **18 51 44.6 +1.8**
I07A Izee 126.44 36 *e*PKPdf **PKPdf** **18 51 44.2 +1.5**
BSMT Bassoo Peak 126.54 29 *e*PKPdf **PKPdf** **18 51 43.5 +0.5**
SWMT Swartz Lake 127.16 29 *e*PKPdf **PKPdf** **18 51 43.9 -0.1**
SLMT Seeley Lake 127.59 29 *e*PKPdf **PKPdf** **18 51 45.5 +0.6**
MSO Missoula 127.66 30 *e*PKPdf **PKPdf** **18 51 46.2 +1.2**
MSO Missoula 127.66 30 ⇑P **PKPdf** **18 51 46.0 +1.0**
baz=128
CHMT Chamberlain Mo 127.94 29 *e*PKPdf **PKPdf** **18 51 46.5 +0.8**
A19A Klindworth Far 128.49 25 ⇑P **PKPdf** **18 51 47.6 +1.2**
baz=128
EGMT Eagleton 128.75 26 *e*PKPdf **PKPdf** **18 51 48.5 +1.5**
EGMT Eagleton 128.75 26 ⇓P **PKPdf** **18 51 48.1 +1.2**
baz=129
B19A Brinkman Farms 128.77 25 ⇓P **PKPdf** **18 51 48.1 +1.1**
baz=129
A20A Cobblestone Ra 128.86 24 ⇓P **PKPdf** **18 51 48.0 +0.8**
baz=129
MFID Camas Ranch 128.95 34 *e*PKPdf **PKPdf** **18 51 49.4 +1.8**
LRM Limekiln Ridge 129.10 30 *e*PKPdf **PKPdf** **18 51 48.7 +0.7**
B20A Solberg Farm, 129.17 25 ⇑P **PKPdf** **18 51 49.1 +1.3**
baz=129
C19A Slack Wire Ran 129.28 26 ⇓P **PKPdf** **18 51 49.4 +1.4**
baz=129
DLMT Dillon 129.36 30 *e*PKPdf **PKPdf** **18 51 49.9 +1.6**
A22A Carney Farms, 129.57 23 ⇓P **PKPdf** **18 51 49.7 +1.2**
baz=129
MCMT McKenzie Canyo 129.60 31 *e*PKPdf **PKPdf** **18 51 49.9 +0.9**
HLID Hailey 129.63 33 *e*PKPdf **PKPdf** **18 51 50.9 +1.9**
HLID Hailey 129.63 33 ⇑P **PKPdf** **18 51 50.5 +1.5**
baz=130
BOZ Bozeman (W) 129.63 29 *e*PKIKP **PKPdf** **18 51 50.1 +1.3**
BOZ Bozeman (W) 129.63 29 *e*PKPdf **PKPdf** **18 51 50.1 +1.3**
WAKR Walker 129.65 41 *e*PKPdf **PKPdf** **18 51 50.5 +1.3**
C20A Veseth Ranch, 129.74 25 ⇓P **PKPdf** **18 51 50.6 +1.8**
baz=130
D19A Cripps Ranch, 129.79 26 ⇑P **PKPdf** **18 51 50.4 +1.4**
baz=130
C21A Desert Coulee 130.03 24 ⇑P **PKPdf** **18 51 50.1 +0.7**
baz=130
D20A Manuel Ranch, 130.17 26 ⇑P **PKPdf** **18 51 51.1 +1.4**
baz=130
QLMT Earthquake Lak 130.32 30 *e*PKPdf **PKPdf** **18 51 51.8 +1.6**
B23A Brockton 130.36 22 ⇑P **PKPdf** **18 51 50.8 +0.8**
baz=130
E19A Rath Farm, Rou 130.37 27 ⇑P **PKPdf** **18 51 51.1 +1.0**
baz=130
NVAR Mina Array Bea 130.44 41 PKP **PKPdf** **18 51 52.8 +2.1**
comp=Z,3.4nm,0.9s,baz=266,slow=3.2,SNR=14
GCMT Greycliff 130.47 28 *e*PKPdf **PKPdf** **18 51 51.5 +1.1**
E20A Meyer Farm, Mu 130.63 26 ⇓P **PKPdf** **18 51 51.8 +1.2**
baz=130
F19A Roth Farm, Mol 130.75 27 ⇑P **PKPdf** **18 51 52.3 +1.4**
baz=131
C23A Lambert 130.82 23 ⇑P **PKPdf** **18 51 52.3 +1.4**
baz=131
D22A Cohagen 130.95 24 ⇓P **PKPdf** **18 51 53.0 +1.9**
baz=131
ELK Elko 130.97 36 PKP **PKPdf** **18 51 54.2 +2.6**
comp=Z,1.5nm,0.5s,baz=311,slow=2.7,SNR=8.6
ELK SKPbc **SKPab** **18 55 15.7 +3.9**
comp=Z,1.6nm,0.9s,baz=286,slow=4.3,SNR=6.4
ELK Elko 130.97 36 PKIKP **PKPdf** **18 51 54.3 +2.6**
ELK pmax pmax
comp=Z,2.0nm,0.5s
ELK pmax pmax
comp=N,2.0nm,0.9s
H17A Grant Village 131.05 30 ⇑P **PKPdf** **18 51 53.0 +1.3**
baz=131
E21A Keefer Ranch, 131.06 25 ⇓P **PKPdf** **18 51 53.0 +1.6**
baz=131
A26A Wade Farm, Ken 131.06 20 ⇓P **PKPdf** **18 51 53.2 +1.9**
baz=131
RLMT Red Lodge 131.15 28 *e*PKPdf **PKPdf** **18 51 54.4 +2.6**
F20A Billings 131.16 27 ⇓P **PKPdf** **18 51 53.2 +1.5**
baz=131
H18A Shoshone NF, C 131.29 29 ⇑P **PKPdf** **18 51 53.3 +1.2**
baz=131
D23A Lindsay 131.33 24 ⇑P **PKPdf** **18 51 53.1 +1.2**
baz=131
MARC Maricopa 131.56 45 *e*PKPpre PKPpre 18 51 43.4
G20A Bridger 131.57 27 ⇑P **PKPdf** **18 51 54.5 +2.0**
baz=131
E22A Miles City 131.61 25 ⇓P **PKPdf** **18 51 54.5 +2.1**
baz=131
H19A Powell 131.62 28 ⇑P **PKPdf** **18 51 54.7 +2.1**
baz=132
ULM Lac du Bonnet 131.67 14 PKP **PKPdf** **18 51 52.8 +0.5**
comp=N,5.3nm,0.8s,baz=342,slow=4.3,SNR=6.9
HVU Hansel Valley 131.72 34 *e*PKIKP **PKPdf** **18 51 54.1 +1.2**
HVU Hansel Valley 131.72 34 *e*PKPdf **PKPdf** **18 51 54.1 +1.2**
E23A Ismay 131.83 24 ⇓P **PKPdf** **18 51 54.7 +1.8**
baz=132
A29A Manning Farm, 131.94 18 ⇑P **PKPdf** **18 51 54.1 +1.2**
baz=132
C26A Wahner Farm, P 131.96 21 ⇓P **PKPdf** **18 51 54.6 +1.6**
baz=132
DAC Darwin (Calif) 132.10 43 *e*PKIKP **PKPdf** **18 51 54.6 +0.8**
DAC Darwin (Calif) 132.10 43 *e*PKPdf **PKPdf** **18 51 54.6 +0.8**
DAC *e*SKPbc **SKPab** **18 55 19.7 +3.1**
H20A Greybull 132.23 28 ⇑P **PKPdf** **18 51 55.3 +1.6**
baz=132
R11A Troy Canyon, C 132.23 39 *e*PKPdf **PKPdf** **18 51 56.0 +2.0**
R11A Troy Canyon, C 132.23 39 ⇑P **PKPdf** **18 51 55.5 +1.5**
baz=132
C27A Sayler Ranch, 132.26 20 ⇓P **PKPdf** **18 51 55.3 +1.8**
baz=132
MPMC Manual Prospec 132.28 43 ⇑P **PKPdf** **18 51 55.4 +1.2**
baz=132
F23A Volborg 132.41 25 ⇓P **PKPdf** **18 51 55.1 +1.2**
baz=132
HWUT Hardware Ranch 132.50 33 *e*PKPdf **PKPdf** **18 51 53.7 -0.7**
EDW2 Edwards Air Fo 132.57 45 ⇓P **PKPdf** **18 51 55.9 +1.3**
baz=132
I20A Weiland 132.57 28 ⇑P **PKPdf** **18 51 56.0 +1.5**
baz=132
E25A Miller Ranch, 132.59 23 ⇓P **PKPdf** **18 51 56.0 +1.7**
baz=132
TPNV Topopah Spring 132.62 41 ⇑P **PKPdf** **18 51 56.1 +1.4**
baz=132
PDAR Pinedale Array 132.74 31 PKP **PKPdf** **18 51 55.5 +0.6**
comp=N,1.1nm,0.8s,baz=47,slow=2.8,SNR=7.6
DUG Dugway, Tooele 132.75 35 ⇑P **PKPdf** **18 51 56.1 +1.2**
baz=133
D27A Center 132.77 21 ⇓P **PKPdf** **18 51 55.9 +1.3**
baz=133
J20A Shoshoni 133.04 29 ⇑P **PKPdf** **18 51 56.3 +1.0**
baz=133
F25A Bowman 133.04 23 ⇓P **PKPdf** **18 51 56.6 +1.4**
baz=133
I21A Big Trails, Te 133.07 28 ⇑P **PKPdf** **18 51 56.9 +1.5**
baz=133
H23A Clabaugh Cattl 133.34 26 ⇑P **PKPdf** **18 51 56.5 +0.7**
baz=133
I22A 9 Mile Ranch, 133.38 27 ⇓P **PKPdf** **18 51 56.8 +0.9**
baz=133

H24A	Dirks Ranch, A	133.56	25	⇑P	PKPdf	18 51 57.2	+0.9	
	baz=133							
J22A	Midwest	133.75	28	⇓P	PKPdf	18 51 57.4	+0.7	
	baz=134							
MURC	Murrieta	133.79	46	⇓P	PKPdf	18 51 58.1	+1.2	
	baz=134							
E30A	Jud	134.19	19	⇓P	PKPdf	18 51 58.0	+0.8	
	baz=134							
GMRC	Granite Mounta	134.24	43	⇓P	PKPdf	18 51 58.4	+0.6	
	baz=134							
RSSD	Black Hills	134.28	25	ePKIKP	PKPdf	18 51 57.6	-0.2	
RSSD	Black Hills	134.28	25	ePKPdf	PKPdf	18 51 57.5	-0.2	
DPP	Dos Picos Cty	134.29	46	ePKPpre	PKPpre	18 51 45.0		
BELC	Belle Mtn. Jos	134.43	44	⇓P	PKPdf	18 51 58.8	+0.5	
	baz=134							
I25A	Rochford	134.49	25	⇓P	PKPdf	18 51 58.4	+0.3	
	baz=134							
HAY	Hayfield	134.81	45	ePKHKP	PKPpre	18 51 46.0		
HAY	Hayfield	134.81	45	ePKPpre	PKPpre	18 51 46.0		
EYMN	Ely	134.83	12	ePKPdf	PKPdf	18 52 00.6	+2.2	
EYMN				eSKPbc	SKPab	18 55 27.7	-0.1	
J25A	Sunshine Ranch	134.97	26	⇓P	PKPdf	18 51 59.0	+0.1	
	baz=135							
BC3	Big Chuckawall	135.00	44	⇑P	PKPdf	18 52 00.1	+0.8	
	baz=135							
I27A	Quinn	135.14	24	⇓P	PKPdf	18 51 59.7	+0.6	
	baz=135							
SWSC	Sam W. Stewart	135.14	45	ePKPpre	PKPpre	18 51 47.6		
PHWY	Pilot Hill	135.86	29	ePKPdf	PKPdf	18 52 01.4	+0.5	
N23A	Red Feather La	135.94	30	ePKPdf	PKPdf	18 52 03.6	+2.6	
N23A	Red Feather La	135.94	30	⇓P	PKPdf	18 52 01.1	+0.1	
	baz=136							
J28A	Allard Ranch,	136.00	23	⇓P	PKPdf	18 52 00.3	-0.5	
	baz=136							
PV10	Paradox Valley	136.13	35	ePKPpre	PKPpre	18 51 52.1		
O23A	Lake Granby, G	136.47	30	⇑P	PKPdf	18 52 02.1	0.0	
	baz=136							
WUAZ	Wupatki	136.62	39	⇓P	PKPdf	18 52 01.9	-0.4	
	baz=136							
ISCO	Idaho Springs	136.93	30	ePKIKP	PKPdf	18 52 04.7	+1.8	
ISCO	Idaho Springs	136.93	30	ePKPdf	PKPdf	18 52 04.7	+1.8	
ISCO	Idaho Springs	136.93	30	⇑P	PKPdf	18 52 02.8	-0.1	
	baz=137							
ECSD	EROS Data Cent	137.39	19	ePKPdf	PKPdf	18 52 04.1	+0.8	
ECSD	EROS Data Cent	137.39	19	⇓P	PKPdf	18 52 03.3	+0.1	
	baz=137							
Q24A	Divide	137.80	31	ePKPpre	PKPpre	18 51 57.0		
S22A	4UR Ranch, Cre	137.81	33	ePKPdf	PKPdf	18 52 07.0	+2.4	
W18A	Petrified Fore	137.91	39	ePKPdf	PKPdf	18 52 06.6	+1.8	
SDCO	Great Sand Dun	138.53	32	ePKPdf	PKPdf	18 52 07.4	+1.4	
TUC	Tucson	138.98	43	eSKPab	SKiKP	18 55 42.9	+2.3	
SADO	Sadowa	139.29	0	PKP	PKPdf	18 52 05.2	-1.5	
	comp=N,1.3nm,0.4s,baz=49,slow=9.3,SNR=2.8							
SADO				PP	PP	18 54 57.1	-2.3	
	comp=N,0.9nm,0.3s,baz=322,slow=9.1,SNR=5.0							
Q29A	Oakley	139.86	27	⇓P	PKPpre	18 52 02.6		
	baz=140							
R28A	Tribune	139.92	28	⇓P	PKPpre	18 52 01.8		
	baz=140							
LAZ	Ladron	139.98	37	ePKPdf	PKPdf	18 52 10.4	+1.9	
ANMO	Albuquerque	140.01	36	ePKIKP	PKPdf	18 52 10.5	+1.9	
ANMO	Albuquerque	140.01	36	ePKPdf	PKPdf	18 52 10.5	+1.9	
P31A	Stockton	140.04	25	⇓P	PKPpre	18 52 03.2		
	baz=140							
Q30A	Quinter	140.13	26	⇑P	PKPpre	18 52 03.5		
	baz=140							
Q32A	Meitler Ranch,	140.82	24	⇓P	PKPpre	18 52 04.7		
	baz=141							
R31A	Burdett	141.00	26	⇑P	PKPpre	18 52 05.3		
	baz=141							
Q33A	Connelly Farm,	141.11	24	⇑P	PKPpre	18 52 05.5		
	baz=141							
R33A	Olander Ranch,	141.64	24	⇓P	PKPpre	18 52 07.2		
	baz=142							
T31A	Randall Ranch,	141.92	27	⇓P	PKPpre	18 52 07.7		
	baz=142							
R34A	Isabella, Hill	141.94	23	⇓P	PKPpre	18 52 09.1		
	baz=142							
T32A	Huddler Ranch,	142.19	26	⇑P	PKPpre	18 52 08.9		
	baz=142							
T33A	Patterson Ranc	142.57	26	⇑P	PKPpre	18 52 09.8		
	baz=142							
R36A	Gordon, Harris	142.59	22	⇑P	PKPpre	18 52 10.2		
	baz=142							
AMTX	Amarillo	142.71	31	⇑P	PKPpre	18 52 10.5		
	baz=143							
MSTX	Muleshoe	142.81	34	ePKPdf	PKPpre	18 52 11.1		
MSTX	Muleshoe	142.81	34	⇓P	PKPpre	18 52 11.3		
	baz=143							
U32A	Winter Ranch,	142.82	27	⇑P	PKPpre	18 52 10.7		
	baz=143							
R37A	Teagarden Farm	142.84	21	⇓P	PKPpre	18 52 10.3		
	baz=143							
MNTX	Cornudas Mount	142.90	39	ePKPdf	PKPpre	18 52 11.1		
MNTX				eSKP		18 55 49.9		
MNTX	Cornudas Mount	142.90	39	⇓P	PKPpre	18 52 12.1		
	baz=143							
V31A	Spring Creek L	142.92	29	⇑P	PKPpre	18 52 11.4		
	baz=143							
X29A	Tulia	143.03	32	⇓P	PKPbc	18 52 10.9	+0.2	
	baz=143							
T34A	McClaskey Farm	143.06	24	⇓P	PKPbc	18 52 09.9	-0.7	
	baz=143							
Y28A	McKinney Farm,	143.15	33	⇑P	PKPbc	18 52 10.9	-0.2	
	baz=143							
U33A	Lingo Farm, Me	143.17	26	⇑P	PKPbc	18 52 10.7	-0.2	
	baz=143							
V32A	Arapaho	143.34	28	⇓P	PKPbc	18 52 11.2	-0.3	
	baz=143							
W31A	Holland Ranch,	143.34	29	⇓P	PKPbc	18 52 11.2	-0.3	
	baz=143							
U34A	Anderson Ranch	143.42	25	⇑P	PKPbc	18 52 11.3	-0.3	
	baz=143							
T35A	Sooner Cattle	143.43	24	⇑P	PKPbc	18 52 11.2	-0.5	
	baz=143,SNR=5.1							
X30A	Coker Ranch, T	143.46	31	⇑P	PKPbc	18 52 12.1	+0.3	
	baz=143							
Y29A	Porterfield Fa	143.50	33	⇓P	PKPbc	18 52 12.1	0.0	
	baz=143							
Z28A	Tucker Farm, M	143.54	34	⇓P	PKPab	18 52 11.3	+0.1	
	baz=143							
T36A	Boggs Farm, Ca	143.56	23	⇓P	PKPab	18 52 11.0	0.0	
	baz=143							
V33A	Lossen Ranch,	143.60	27	⇑P	PKPbc	18 52 11.6	-0.6	
	baz=143							
W32A	Sentinel	143.73	29	⇑P	PKPbc	18 52 12.7	+0.1	
	baz=144							
X31A	McDonald Ranch	143.77	30	⇑P	PKPbc	18 52 12.7	-0.1	
	baz=144,SNR=19							
T37A	Cheneyville 18	143.87	22	⇑P	PKPab	18 52 12.1	-0.2	
	baz=144							
Y30A	Stafford Cattl	143.89	32	⇓P	PKPbc	18 52 13.1	0.0	
	baz=144,SNR=8.4							
V34A	Guthrie	143.93	26	ePKPdf	PKPbc	18 52 13.6	+0.4	
V34A	Guthrie	143.93	26	⇓P	PKPbc	18 52 12.9	-0.2	
	baz=144							
Z29A	Hungry Hill Ra	143.93	33	⇑P	PKPbc	18 52 13.6	+0.3	
	baz=144,SNR=11							
128A	Castleberry Fa	143.97	35	⇓P	PKPbc	18 52 13.4	-0.1	
	baz=144							
W33A	Caddo, Fort Co	144.07	28	⇑P	PKPbc	18 52 13.6	-0.1	
	baz=144,SNR=12							
Y31A	Rekieta Farm,	144.16	31	⇑P	PKPab	18 52 13.5	0.0	
	baz=144							
Z30A	Sanderson Ranc	144.23	33	⇑P	PKPab	18 52 13.8	+0.1	
	baz=144,SNR=21							
WMOK	Wichita Mounta	144.27	28	ePKIKP	PKPab	18 52 13.7	-0.2	
WMOK	Wichita Mounta	144.27	28	ePKPdf	PKPab	18 52 13.7	-0.2	
X32A	Elmer	144.28	29	⇓P	PKPab	18 52 13.8	-0.1	
	baz=144,SNR=13							
228A	UT Block 9, Go	144.28	35	⇓P	PKPbc	18 52 14.7	+0.3	
	baz=144,SNR=6.8							
V35A	Meyer Ranch, C	144.29	25	⇓P	PKPbc	18 52 13.9	-0.3	
	baz=144,SNR=13							
129A	Stewart Farms,	144.32	34	⇑P	PKPbc	18 52 14.9	+0.3	
	baz=144,SNR=13							
W34A	Bridge Creek,	144.32	27	ePKPdf	PKPbc	18 52 14.6	+0.2	
W34A	Bridge Creek,	144.32	27	⇑P	PKPbc	18 52 14.7	+0.3	
	baz=144,SNR=7.4							
OLIL	Olney	144.36	12	ePKPdf	PKPbc	18 52 14.1	-0.2	
Y32A	R-V Farms, Ver	144.54	30	⇓P	PKPbc	18 52 14.9	-0.2	
	baz=144,SNR=14							
X33A	Lawton	144.56	28	⇑P	PKPab	18 52 14.4	-0.5	
	baz=144							
TUL1	Leonard	144.59	24	ePKPdf	PKPbc	18 52 15.4	+0.3	
TUL1	Leonard	144.59	24	⇓P	PKPbc	18 52 15.1	-0.1	
	baz=144,SNR=15							
Z31A	Sharp Cattle R	144.72	31	⇓P	PKPab	18 52 15.4	-0.2	
	baz=145,SNR=28							
W35A	Tecumseh	144.79	26	⇑P	PKPbc	18 52 15.7	-0.2	
	baz=145,SNR=23							
X34A	Smith Ranch, M	144.82	27	⇑P	PKPbc	18 52 16.2	+0.2	
	baz=145,SNR=15							
130A	Snyder	144.84	33	⇑P	PKPbc	18 52 16.0	-0.1	
	baz=145,SNR=10							
229A	Bryant Ranch,	144.84	35	⇑P	PKPbc	18 52 16.3	+0.1	
	baz=145,SNR=5.9							
Y33A	Hilltop Ranch,	144.93	29	⇓P	PKPab	18 52 15.9	-0.4	
	baz=145,SNR=6.4							
Z32A	Haskell	145.07	31	⇓P	PKPab	18 52 16.8	-0.1	
	baz=145,SNR=26							
W36A	Wetumka	145.08	25	⇑P	PKPbc	18 52 16.5	-0.3	
	baz=145,SNR=16							
131A	Roby	145.09	32	⇓P	PKPdf	18 52 17.1	-0.3	
	baz=145,SNR=26							
329A	Wagon Wheel Ra	145.10	36	⇓P	PKPdf	18 52 17.5	0.0	
	baz=145,SNR=20							
WCI	Wyandotte Cave	145.19	10	ePKIKP	PKPab	18 52 17.0	-0.2	
WCI	Wyandotte Cave	145.19	10	ePKPdf	PKPab	18 52 17.0	-0.2	
230A	Sterling City	145.29	34	⇑P	PKPdf	18 52 18.2	+0.3	
	baz=145,SNR=29							
X35A	Drake	145.38	27	⇓P	PKPbc	18 52 17.3	-0.5	
	baz=145,SNR=25							
Y34A	Reagan Ranch,	145.39	28	⇓P	PKPab	18 52 18.0	+0.1	
	baz=145,SNR=34							
W37A	Quinton	145.41	24	⇑P	PKPab	18 52 17.8	-0.2	
	baz=145,SNR=30							
Z33A	Whitaker Ranch	145.45	30	⇓P	PKPab	18 52 18.1	-0.1	
	baz=145,SNR=8.4							
X36A	Centrahoma	145.51	26	⇑P	PKPab	18 52 18.4	0.0	
	baz=145,SNR=28							
ABTX	Abilene, Hawle	145.53	32	ePKPdf	PKPab	18 52 18.9	+0.3	
ABTX	Abilene, Hawle	145.53	32	⇑P	PKPab	18 52 18.4	-0.2	
	baz=145,SNR=22							
TXAR	Lajitas Array	145.58	40	PKPbc	PKPab	18 52 20.0	+1.0	
	comp=N,55nm,0.9s,baz=280,slow=1.7,SNR=301							
330A	Mertzon	145.62	35	⇑P	PKPab	18 52 19.1	+0.1	
	baz=146,SNR=22							
231A	Bronte	145.70	33	⇑P	PKPab	18 52 19.1	-0.2	
	baz=146,SNR=14							
429A	Davenport Ranc	145.78	36	⇑P	PKPab	18 52 19.4	-0.3	
	baz=146,SNR=37							
Z34A	Collier Ranch,	145.79	29	⇑P	PKPbc	18 52 18.7	-0.4	
	baz=146							
W38A	Poteau	145.83	23	⇑P	PKPbc	18 52 19.1	0.0	
	baz=146,SNR=19							
X37A	Clayton	145.91	24	⇓P	PKPbc	18 52 19.4	0.0	
	baz=146,SNR=18							
133A	Hamilton Ranch	145.91	31	⇑P	PKPab	18 52 20.2	+0.2	
	baz=146,SNR=33							
PARMO	Parma	145.94	15	ePKPdf	PKPbc	18 52 19.1	-0.2	
529A	Stev Forest Ra	145.94	37	⇓P	PKPab	18 52 20.4	+0.2	
	baz=146,SNR=39							
430A	Baggett Ranch,	146.04	36	⇓P	PKPab	18 52 20.3	-0.3	
	baz=146,SNR=20							
232A	Coleman	146.10	32	⇑P	PKPbc	18 52 20.3	+0.1	
	baz=146,SNR=30							
331A	San Angelo	146.11	34	⇓P	PKPab	18 52 20.9	+0.1	
	baz=146,SNR=17							
Z35A	Perchaven, San	146.14	28	⇓P	PKPbc	18 52 19.9	-0.2	
	baz=146,SNR=8.9							
JSRW	J. Sargeant Re	146.34	358	ePKPdf	PKPdf	18 52 18.9	-0.4	
JSRW				ePKPbc	PKPab	18 52 21.0	-0.4	
134A	White-Moore Ra	146.36	30	⇑P	PKPab	18 52 21.3	-0.4	
	baz=146,SNR=6.3							
233A	Rising Star	146.39	31	⇓P	PKPab	18 52 21.6	-0.2	
	baz=146,SNR=23							
332A	Millersview	146.44	33	⇑P	PKPab	18 52 22.0	-0.1	
	baz=146							
530A	J-C Ranch, Com	146.45	36	⇓P	PKPab	18 52 22.2	+0.1	
	baz=146,SNR=48							
431A	Sonora	146.48	35	⇑P	PKPab	18 52 21.9	-0.4	
	baz=146,SNR=11							
135A	Vickery Place,	146.70	29	⇑P	PKPbc	18 52 22.1	+0.3	
	baz=146							
234A	Clairette	146.79	30	⇑P	PKPbc	18 52 22.5	+0.4	
	baz=147,SNR=13							
432A	Menard	146.79	34	⇑P	PKPbc	18 52 22.6	+0.3	
	baz=147,SNR=16							
BLA	Blacksburg	146.82	2	ePKIKP	PKPdf	18 52 20.1	-0.1	
BLA	Blacksburg	146.82	2	ePKPdf	PKPdf	18 52 20.1	-0.1	
333A	Richland Sprin	146.89	32	⇓P	PKPbc	18 52 22.8	+0.4	
	baz=147,SNR=47							
WHTX	Lake Whitney,	147.14	30	ePKPdf	PKPbc	18 52 22.2	-0.8	
WHTX	Lake Whitney,	147.14	30	⇓P	PKPbc	18 52 23.5	+0.4	
	baz=147,SNR=5.1							
Z38A	Mt. Pleasant	147.22	25	⇑P	PKPbc	18 52 23.4	+0.1	
	baz=147							
TZTN	Tazewell	147.25	7	ePKPdf	PKPbc	18 52 23.7	+0.4	
433A	Art	147.27	33	⇑P	PKPbc	18 52 23.6	+0.1	
	baz=147,SNR=12							
334A	Lometa	147.28	31	⇓P	PKPbc	18 52 23.6	+0.1	
	baz=147,SNR=19							
532A	Rocksprings	147.30	35	⇓P	PKPbc	18 52 24.1	+0.5	
	baz=147,SNR=22							
631A	Perdido Creek	147.44	36	⇓P	PKPbc	18 52 24.4	+0.4	
	baz=147							
137A	Heron Place, G	147.44	27	⇑P	PKPbc	18 52 24.5	+0.6	
	baz=147							
Z39A	Irene McRaven,	147.56	24	⇑P	PKPbc	18 52 24.9	+0.7	
	baz=147							
236A	Katherine and	147.58	28	⇓P	PKPbc	18 52 25.1	+0.8	
	baz=147							
434A	Burnet	147.67	32	⇓P	PKPbc	18 52 24.4	-0.2	
	baz=148							
138A	Matatall Enter	147.68	26	⇑P	PKPbc	18 52 25.5	+0.9	
	baz=148							
335A	Moody	147.73	30	⇓P	PKPbc	18 52 25.0	+0.2	
	baz=148							
533A	Kerrville	147.83	34	⇑P	PKPbc	18 52 25.3	+0.2	
	baz=148,SNR=9.6							
632A	Uvalde	147.83	35	⇓P	PKPbc	18 52 25.8	+0.7	
	baz=148,SNR=22							
237A	Washetta, Mont	147.92	27	⇓P	PKPbc	18 52 25.7	+0.6	
	baz=148							
336A	Riesel	147.94	29	⇑P	PKPbc	18 52 25.8	+0.5	
	baz=148							
139A	Bunkhouse Ranc	147.97	25	⇑P	PKPbc	18 52 25.7	+0.4	
	baz=148							
435B	Jarrell	148.05	31	⇓P	PKPbc	18 52 26.4	+0.8	
	baz=148							
OXF	Oxford	148.05	16	ePKPdf	PKPbc	18 52 24.3	-1.1	
OXF	Oxford	148.05	16	ePKPbc	PKPbc	18 52 24.3	-1.1	
TKL	Tuckaleechee C	148.09	7	PKPbc	PKPbc	18 52 25.4	-0.2	
	comp=N,24nm,1.0s,baz=139,slow=1.2,SNR=16							
534A	Blanco	148.17	33	⇑P	PKPbc	18 52 26.6	+0.6	
	baz=148							
SWET	Sewanee	148.19	11	ePKPdf	PKPdf	18 52 19.1	-3.5	
CPCT	Cooper Cave	148.20	8	ePKPdf	PKPdf	18 52 23.6	+1.1	
CPCT				ePKPbc	PKPbc	18 52 25.8	0.0	
CPCT				ePKPab	PKPab	18 52 28.4	-0.4	
633A	Saathoff Ranch	148.22	35	⇑P	PKPbc	18 52 26.9	+0.8	
	baz=148							
238A	Jacksonville	148.23	27	⇓P	PKPbc	18 52 27.0	+1.0	
	baz=148							
732A	Laxson Ranch,	148.30	37	⇑P	PKPbc	18 52 27.0	+0.7	
	baz=148,SNR=11							
337A	Centerville	148.46	28	⇓P	PKPbc	18 52 28.0	+1.4	
	baz=148							
436A	Wall Ranch, Ga	148.46	30	⇑P	PKPbc	18 52 27.8	+1.1	
	baz=148							
239A	Gary	148.50	26	⇑P	PKPbc	18 52 27.7	+1.0	
	baz=148							
832A	Faith Ranch, C	148.62	37	⇑P	PKPbc	18 52 28.4	+1.3	
	baz=148,SNR=6.9							
535A	Dale	148.66	32	⇓P	PKPbc	18 52 28.0	+0.8	
	baz=148							
338A	Crockett	148.69	27	⇑P	PKPbc	18 52 28.1	+0.9	
	baz=148							
733A	Divot King Ran	148.70	36	⇓P	PKPbc	18 52 28.3	+1.0	
	baz=149							
437A	Phantom Ranch,	148.74	29	⇑P	PKPbc	18 52 28.4	+1.1	
	baz=149							
634A	China Grove, S	148.74	34	⇓P	PKPbc	18 52 28.2	+0.8	
	baz=149							
CNNC	Cliffs of the	148.79	358	ePKPdf	PKPdf	18 52 25.1	+1.6	
CNNC				ePKPbc	PKiKP	18 52 28.3	-0.5	
KMSC	Kings Mountain	148.84	4	ePKPbc	PKPbc	18 52 27.2	-0.3	
KMSC	Kings Mountain	148.84	4	⇓P	PKPbc	18 52 27.7	+0.2	
	baz=149							
536A	Bastrop	148.88	31	⇑P	PKPbc	18 52 28.9	+1.2	
	baz=149							
833A	Chaparral WMA,	148.94	36	⇑P	PKPbc	18 52 29.3	+1.3	
	baz=149,SNR=6.1							
734A	La Parita Cree	149.03	35	⇓P	PKPbc	18 52 29.7	+1.5	
	baz=149							
339A	Huntington	149.05	26	⇓P	PKPbc	18 52 28.9	+0.8	
	baz=149							
635A	Leesville	149.05	33	⇓P	PKPbc	18 52 29.6	+1.4	
	baz=149							
438A	Sam Houston St	149.12	28	⇑P	PKPbc	18 52 29.7	+1.3	
	baz=149							
537A	Green Hill Far	149.26	30	⇑P	PKPbc	18 52 30.4	+1.7	
	baz=149							
340A	Bronson	149.27	25	⇓P	PKPbc	18 52 29.5	+0.9	
	baz=149							
636A	Smothers Creek	149.36	32	⇑P	PKPbc	18 52 30.8	+1.9	
	baz=149							
439A	Center Grove,	149.41	27	⇑P	PKPbc	18 52 30.4	+1.3	
	baz=149							
735A	Kenedy	149.45	34	⇓P	PKPbc	18 52 30.8	+1.6	
	baz=149							
933A	Laredo	149.53	37	⇑P	PKPbc	18 52 31.0	+1.5	
	baz=149,SNR=6.6							
538A	Harpers Horsep	149.55	29	⇓P	PKPbc	18 52 31.2	+1.8	
	baz=149							
834A	Tilden	149.58	36	⇑P	PKPbc	18 52 31.3	+1.8	
	baz=149,SNR=6.5							
HKT	Hockley	149.61	30	ePKHKP	PKPdf	18 52 25.9	+1.0	
HKT				e		18 52 30.9		
HKT	Hockley	149.61	30	ePKPdf	PKPdf	18 52 25.9	+1.0	
HKT				ePKPbc	PKiKP	18 52 30.9	+0.3	
JSC	Jenkinsville	149.70	4	ePKP2	PKPbc	18 52 30.0	+0.3	
JSC	Jenkinsville	149.70	4	ePKPbc	PKPbc	18 52 30.0	+0.3	
736A	Circle Diamond	149.77	33	⇑P	PKPbc	18 52 32.1	+2.1	
	baz=150							
835A	Beeville	149.87	34	⇑P	PKPbc	18 52 32.4	+2.1	
	baz=150							
934A	Benavides	149.99	36	⇑P	PKPbc	18 52 32.7	+2.1	
	baz=150,SNR=5.7							
539A	Cross D Ranch,	150.01	28	⇓P	PKPbc	18 52 32.5	+1.9	
	baz=150							
034A	Hebbronville	150.29	37	⇑P	PKPbc	18 52 32.9	+1.6	
	baz=150							
GOGA	Godfrey	150.35	7	ePKIKP	PKPbc	18 52 30.9	-0.4	
GOGA	Godfrey	150.35	7	ePKPbc	PKPbc	18 52 30.9	-0.4	
035A	Encino	150.73	37	⇑P	PKPbc	18 52 34.7	+2.4	
	baz=151,SNR=8.5							
936A	North Padre Is	150.83	35	⇓P	PKPbc	18 52 34.3	+1.7	
	baz=151							
I035Z	Hargill	151.10	37	⇑P	PKPbc	18 52 35.3	+2.1	
	baz=151,SNR=5.9							
TIGA	Tifton	152.27	8	ePKPbc	PKPbc	18 52 37.0	+1.2	

GUC 28 18:54:02.1±0.6, 34.03S×72.19W, h18km±2km, ML3.8,
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TACH	Talagante	1.11	71	eP		Pn	18 54 21.9	-1.0
NICH	Los Niches	1.26	141	eP		Pn	18 54 24.6	-0.3
NICH				eS		Sn	18 54 41.4	0.0
NICH					AML	AML	18 54 47.4	
	comp=N,5μm,0.7s							
RCDM	Rinconada Maip	1.27	66	eP		Pn	18 54 24.4	-0.8
RCDM				eS		Sb	18 54 41.3	-0.4
CHCH	Chadas Angostu	1.28	86	eP		Pn	18 54 24.9	-0.4
CHCH				eS		Sn	18 54 42.2	+0.1
CACH	El Canelo	1.33	94	eP		Pn	18 54 26.1	+0.1
SAN	Santiago	1.40	66	eP		Pn	18 54 26.9	+0.1
SAN				eS		Sb	18 54 45.2	-0.1
ROCH	El Roble	1.44	44	eP		Pn	18 54 27.2	-0.4
ROCH				eS		Sb	18 54 46.8	-0.3
ROCH					AML	AML	18 54 52.2	
	comp=N,2μm,0.5s							
TALC	Talca	1.45	162	eP		Pn	18 54 27.7	+0.3
TALC				eS		Sb	18 54 46.4	-0.2
PCH	Pirque	1.46	74	eP		Pn	18 54 27.6	-0.1
CLCH	Cerro Calan	1.52	66	eP		Pn	18 54 28.7	+0.2
CLCH				eS		Sb	18 54 49.0	+0.1
CLCH					AML	AML	18 54 59.3	
	comp=E,2μm,0.4s							
PEL	Peldehue	1.54	56	eP		Pn	18 54 29.3	+0.6
PEL				eS		Sb	18 54 49.6	+0.2
PEL					AML	AML	18 54 59.4	
	comp=E,4μm,0.3s							
SJCH	San Jose de Ma	1.58	76	eP		Pn	18 54 28.6	-0.8
SJCH				eS		Sn	18 54 49.7	+0.2
SJCH					AML	AML	18 54 54.1	
	comp=N,1μm,0.8s							
YECH	El Yeso	1.79	79	eP		Pn	18 54 32.5	-0.1
YECH				eS		Sb	18 54 57.2	-0.1
YECH					AML	AML	18 55 03.3	
	comp=N,1μm,0.3s							
LNCH	Linares	1.88	165

TALC				*e*S		Sb	19 10 33.0	+0.2
CLCH	**Cerro Calan**	**1.49**	**66**	*e*P		Pn	19 10 14.6	0.0
CLCH				*e*S		Sb	19 10 35.0	+0.4
CLCH				AML		AML	19 10 45.6	
	comp=E,720nm,0.5s							
PEL	**Peldehue**	**1.51**	**55**	*e*P		Pn	19 10 15.1	+0.2
PEL				*e*S		Sb	19 10 35.7	+0.5
PEL				AML		AML	19 10 42.1	
	comp=E,2µm,0.5s							

ISCJB ***28*** *19:21:08.6±0.4, 33˚.49N±0˚.02×35˚.51E±0˚.06, h3km±4km, Error ellipse: s-maj=8.4km s-min=3.0km az=13.2*
HLW ***28*** *19:21:09.0, 33˚.78N×35˚.49E, h10km±12km, Md2.8, MI2.2*
GRAL ***28*** *19:21:09.5±0.5, 33˚.46N×35˚.53E, h0km±58km, MD3.6*
GII ***28*** *19:21:09.3±0.0, 33˚.38N×35˚.51E, h1km, MD3.0/7*
CSEM ***28*** *19:21:09.0±0.1, 33˚.50N×35˚.52E, h2km, ML3.6, Error ellipse: s-maj=6.7km s-min=2.3km az=106.0*

ISC 28 19:21:09.2±1.1, 33˚.49N±0˚.02×35˚.54E±0˚.04, h4km±10km, n58, σ0.975/79, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DQRL	**Deir Qamar**	**0.22**	**6**	*e*P	**Pg**	**19 21 13.8**	**+0.3**
DQRL				*e*S	**Sg**	**19 21 17.1**	**+0.6**
DQRL	**Deir Qamar**	**0.22**	**6**	*e*P	**Pg**	**19 21 13.8**	**+0.3**
DQRL				*e*S	**Sg**	**19 21 17.1**	**+0.6**
RCY	**Rachaya**	**0.25**	**87**	*e*P	**Pg**	**19 21 14.0**	**0.0**
KSDI	**Kefar Szold**	**0.31**	**161**	Pg	**Pg**	**19 21 15.2**	**+0.1**
KSDI				Sg	**Sg**	**19 21 19.8**	**+0.6**
BEYL	**Beirut**	**0.39**	**354**	*e*P	**Pg**	**19 21 16.7**	**0.0**
BEYL	**Beirut**	**0.39**	**354**	*e*P	**Pg**	**19 21 16.7**	**0.0**
BHL	**Bhannes**	**0.43**	**13**	*e*P	**Pg**	**19 21 17.4**	**-0.1**
BHL				*e*S	**Sg**	**19 21 23.5**	**+0.4**
BHL	**Bhannes**	**0.43**	**13**	*e*P	**Pg**	**19 21 17.4**	**-0.1**
BHL				*e*S	**Sg**	**19 21 23.5**	**+0.4**
MMA0B	**Mount Meron ar**	**0.48**	**194**	Pg	**Pg**	**19 21 17.9**	**-0.6**
MMA0B				Sg	**Sg**	**19 21 25.7**	**+1.0**
MMA0B	**Mount Meron ar**	**0.48**	**194**	Pg	**Pg**	**19 21 17.9**	**-0.6**
MMA0B				Sg	**Sg**	**19 21 25.7**	**+1.0**
HNTI	**Hanita**	**0.51**	**218**	Pg	**Pg**	**19 21 18.8**	**-0.1**
HNTI				Sg	**Sg**	**19 21 26.6**	**+1.1**
HNTI	**Hanita**	**0.51**	**218**	Pg	**Pg**	**19 21 18.8**	**-0.1**
HNTI				Sg	**Sg**	**19 21 26.6**	**+1.1**
BLGI	**Bet Lehem HaGe**	**0.81**	**202**	Pg	**Pg**	**19 21 24.3**	**-0.3**
BLGI				Sg	**Sb**	**19 21 36.1**	**-0.9**
BLGI	**Bet Lehem HaGe**	**0.81**	**202**	Pg	**Pg**	**19 21 24.3**	**-0.3**
BLGI				Sg	**Sb**	**19 21 36.1**	**-0.9**
HWQ	**Hawqa**	**0.86**	**23**	*e*P	**Pg**	**19 21 25.2**	**-0.5**
HWQ	**Hawqa**	**0.86**	**23**	*e*P	**Pg**	**19 21 25.2**	**-0.5**
OFRI	**'Ofer**	**0.98**	**209**	Pg	**Pg**	**19 21 27.4**	**-0.6**
OFRI	**'Ofer**	**0.98**	**209**	Pg	**Pg**	**19 21 27.4**	**-0.6**
FKH	**Fakeheh**	**1.05**	**43**	*e*P	**Pg**	**19 21 28.9**	**-0.4**
MMLI	**Mount Malkishu**	**1.05**	**186**	Pg	**Pg**	**19 21 28.4**	**-0.9**
MMLI				Sg	**Sg**	**19 21 43.0**	**+0.1**
MMLI	**Mount Malkishu**	**1.05**	**186**	Pg	**Pg**	**19 21 28.4**	**-0.9**
MMLI				Sg	**Sg**	**19 21 43.0**	**+0.1**
HMDT	**Nahal Hemdat**	**1.23**	**181**	Pg	**Pn**	**19 21 31.5**	**-1.7**
HMDT				Sg	**Sg**	**19 21 49.0**	**+0.3**
HMDT	**Nahal Hemdat**	**1.23**	**181**	Pg	**Pn**	**19 21 31.5**	**-1.7**
HMDT				Sg	**Sg**	**19 21 49.0**	**+0.3**
SLTI	**Sal'it**	**1.31**	**199**	Pg	**Pn**	**19 21 33.1**	**-1.2**
SLTI				Sg	**Sg**	**19 21 51.5**	**+0.2**
SLTI	**Sal'it**	**1.31**	**199**	Pg	**Pn**	**19 21 33.1**	**-1.2**
SLTI				Sg	**Sg**	**19 21 51.5**	**+0.2**
MKRJ	**Makawir**	**1.93**	**177**	Pn	**Pb**	**19 21 44.3**	**-0.7**
YTIR	**Yattir**	**2.15**	**190**	Pn	**Pn**	**19 21 46.5**	**+0.6**
YTIR	**Yattir**	**2.15**	**190**	Pn	**Pn**	**19 21 46.5**	**+0.6**
MZDA	**Masada**	**2.17**	**184**	Pn	**Pn**	**19 21 45.9**	**-0.2**
MZDA				Sn	**Sb**	**19 22 15.7**	**-0.7**
MZDA	**Masada**	**2.17**	**184**	Pn	**Pn**	**19 21 45.9**	**-0.2**
MZDA				Sn	**Sb**	**19 22 15.7**	**-0.7**
CSS	**Prodhromos**	**2.35**	**309**	Pn	**Pn**	**19 21 47.4**	**-1.3**
CSS	**Prodhromos**	**2.35**	**309**	Pn	**Pn**	**19 21 47.4**	**-1.3**
RTMI	**Retamim**	**2.53**	**197**	Pn	**Pn**	**19 21 51.6**	**+0.5**
RTMI	**Retamim**	**2.53**	**197**	Pn	**Pn**	**19 21 51.6**	**+0.5**
KZIT	**Kziot**	**2.75**	**201**	Pn	**Pn**	**19 21 54.5**	**+0.4**
KZIT	**Kziot**	**2.75**	**201**	Pn	**Pn**	**19 21 54.5**	**+0.4**
ZFRI	**Zfri**	**2.94**	**186**	Pn	**Pn**	**19 21 56.7**	**0.0**
ZFRI	**Zfri**	**2.94**	**186**	Pn	**Pn**	**19 21 56.7**	**0.0**
RSH		**2.95**	**212**	P	**Pn**	**19 21 56.6**	**-0.3**
	baz=209						
RSH		**2.95**	**212**	P	**Pn**	**19 21 56.6**	**-0.3**
PRNI	**Paran**	**3.16**	**188**	Pn	**Pn**	**19 21 59.8**	**+0.1**
PRNI	**Paran**	**3.16**	**188**	Pn	**Pn**	**19 21 59.8**	**+0.1**
KRMI	**Paran Flat**	**3.43**	**192**	Pn	**Pn**	**19 22 02.9**	**-0.6**
KRMI	**Paran Flat**	**3.43**	**192**	Pn	**Pn**	**19 22 02.9**	**-0.6**
AMAG	**Maghara**	**3.46**	**216**	P	**Pn**	**19 22 03.8**	**-0.1**
	baz=213						
AMAG	**Maghara**	**3.46**	**216**	P	**Pn**	**19 22 03.8**	**-0.1**
HNKL	**Nakhl**	**3.79**	**201**	P	**Pn**	**19 22 09.0**	**+0.6**
	baz=199						
HNKL				S	**Sn**	**19 22 55.5**	**+2.1**
	baz=199						
HNKL	**Nakhl**	**3.79**	**201**	P	**Pn**	**19 22 09.0**	**+0.6**
HNKL				S	**Sn**	**19 22 55.5**	**+2.1**
EIL	**Elat**	**3.84**	**188**	Pn	**Pn**	**19 22 09.9**	**+0.8**
EIL	**Elat**	**3.84**	**188**	Pn	**Pn**	**19 22 09.9**	**+0.8**
SUZ		**4.30**	**213**	P	**Pn**	**19 22 15.7**	**+0.2**
	baz=211						
SUZ		**4.30**	**213**	P	**Pn**	**19 22 15.7**	**+0.2**
HDHB	**Dhahab**	**4.81**	**190**	P	**Pn**	**19 22 23.4**	**+0.9**
	baz=189						
HDHB	**Dhahab**	**4.81**	**190**	P	**Pn**	**19 22 23.4**	**+0.9**
HKAT	**Jabal Katrina**	**5.12**	**195**	P	**Pn**	**19 22 27.5**	**+0.6**
	baz=195						
HKAT	**Jabal Katrina**	**5.12**	**195**	P	**Pn**	**19 22 27.5**	**+0.6**
TR2		**5.32**	**198**	P	**Pn**	**19 22 30.2**	**+0.8**
	baz=197						
TR2		**5.32**	**198**	P	**Pn**	**19 22 30.2**	**+0.8**

IDC ***28*** *19:22:03.8±8.9, 12˚.59N×93˚.51E, h102km±79km, mb3.3/5, mb1 3.4/6, mb1mx3.1/39, mbtmp3.7/6, ML4.0/1, Error ellipse: s-maj=82.1km s-min=22.1km az=53.0*

ISC 28 19:21:51.1±3.2, 11˚.5N±0˚.3×93˚.5E±0˚.2, h35km, n16, σ1.992/14, mb3.8/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.64**	**37**	P	**Pn**	**19 23 55.0**	**+1.2**
	0.6nm,0.3s,baz=236,slow=15,SNR=28						
ODAN	**Odare**	**16.31**	**340**	*e*P	**Pn**	**19 25 36.1**	**-1.7**
TAPN	**Taplejung**	**16.66**	**342**	*e*P	**Pn**	**19 25 41.2**	**-1.1**
RAMN	**Ramite**	**16.67**	**338**	*e*P	**Pn**	**19 25 41.3**	**-1.1**
JIRN	**Jiri**	**17.46**	**338**	*e*P	**Pn**	**19 25 52.2**	**-0.2**
PKI	**Pulchoki**	**17.69**	**336**	*e*P	**P**	**19 25 55.3**	**-0.5**
PKIN	**Phulchoki**	**17.70**	**336**	*e*P	**P**	**19 25 55.7**	**-0.2**
DMN	**Daman**	**17.85**	**335**	*e*P	**P**	**19 25 58.9**	**+1.4**
KKN	**Kakani**	**17.93**	**336**	*e*P	**P**	**19 25 59.0**	**+0.6**
GKN	**Gorkha**	**18.39**	**334**	*e*P	**P**	**19 26 06.0**	**+2.7**
	4.0nm,0.2s						
KOLN	**Koldanda**	**18.65**	**331**	*e*P	**Pn**	**19 26 10.9**	**+4.1**
MKAR	**Makanchi Array**	**36.41**	**347**	P	**P**	**19 28 50.2**	**-2.2**
	0.1nm,0.4s,baz=168,slow=7.5,SNR=2.9						
ZALV	**Zalesovo Beam**	**42.88**	**352**	P	P	19 29 43.3	-2.6
	0.4nm,0.5s,baz=184,slow=11,SNR=3.9						
ASAR	**Alice Springs**	**52.74**	**132**	P	P	19 31 13.9	+11
	1.1nm,0.4s,baz=310,slow=7.0,SNR=4.0						
BRTR	**Keskin Array B**	**59.63**	**309**	P	**P**	**19 31 53.0**	**+0.9**
	0.7nm,0.7s,baz=123,slow=7.1,SNR=6.2						
FINES	**FINESS Array B**	**69.22**	**332**	P	**P**	**19 32 53.0**	**-1.2**
	0.3nm,0.3s,baz=119,slow=5.4,SNR=6.3						

BJI ***28*** *19:22:26.2, 1˚.27N×127˚.51E, h115km, mb4.6/35, mB4.9/19*
ISCJB ***28*** *19:22:30.1±0.4, 1˚.64N±0˚.02×127˚.29E±0˚.03, h124km±3km, mb4.5/51, Error ellipse: s-maj=4.8km s-min=3.9km az=154.6*
NEIC ***28*** *19:22:30.2±0.2, 1˚.66N×127˚.32E, mb4.5/34, Error ellipse: s-maj=5.6km s-min=4.0km az=60.0*
IDC ***28*** *19:22:31.0±0.8, 1˚.63N×127˚.29E, h121km±6km, mb4.1/22, mb1 4.2/24, mb1mx4.1/33, mbtmp4.5/24, MS3.0/1, Ms1 3.2/1, ms1mx2.7/22, Error ellipse: s-maj=14.4km s-min=8.3km az=70.0*
KLM ***28*** *19:22:31.9, 1˚.73N×127˚.32E, h113km, mb4.7, ML4.6, MS5.0*
DJA ***28*** *19:22:34.4±0.2, 2˚N±3˚×12˚7E±˚, h54km±6km, M4.9/21, mb5.0/21, mB5.4/17, MLv5.1/18, Mw(mB)4.8/17*

ISC 28 19:22:31.5±0.3, 1˚.61N±0˚.03×127˚.28E±0˚.05, h124km±2km, h124km:pP-P, n167, σ1.949/228, mb4.4/51, 6C-7D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.84**	**174**	P	**Pn**	**19 22 52.5**	**0.0**
TNTI				S	**Sn**	**19 23 09.1**	**+0.8**
TNTI	**Ternate**	**0.84**	**174**	*e*Pn	**Pn**	**19 22 52.5**	**0.0**
TNTI				*e*Sn	**Sn**	**19 23 08.2**	**-0.1**
SGSI	**Sangihe**	**2.70**	**320**	P	**Pn**	**19 23 13.5**	**-0.6**
SGSI				S	**Sn**	**19 23 43.5**	**-3.3**
KMSI	**Cibinong**	**3.45**	**253**	P	**Pn**	**19 23 24.1**	**+0.2**
KMSI				S	**Sn**	**19 24 02.4**	**-2.0**
SANI	**Sanana**	**3.86**	**200**	P	**Pn**	**19 23 28.6**	**-0.7**
SANI				S	**Sn**	**19 24 09.8**	**-4.3**
SIJI	**Sorong**	**4.69**	**122**	P	**Pn**	**19 23 41.0**	**+0.6**
	16nm,0.3s,baz=312,slow=11,SNR=17						
NLAI	**Namlea**	**4.82**	**182**	P	**Pn**	**19 23 42.4**	**+0.3**
GSPH	**General Santos**	**5.02**	**332**	↑*i*P	**Pn**	**19 23 42.5**	**-2.4**
GSPH				*i* S	**Sn**	**19 24 36.8**	**-5.2**
MSAI	**Masohi**	**5.19**	**161**	P	**Pn**	**19 23 50.1**	**+2.9**
	18nm,0.6s,292nm0.1nm						
LUWI	**Luwuk**	**5.22**	**240**	P	**Pn**	**19 23 48.5**	**+1.0**
	267nm,0.6s,4µm6.9nm						
LUWI				S	**Sn**	**19 24 45.9**	**-0.8**
	267nm,0.6s,4µm6.9nm						
LUWI	**Luwuk**	**5.22**	**240**	*e*Pn	**Pn**	**19 23 46.8**	**-0.7**
LUWI				*e*Sn	**Sn**	**19 24 39.5**	**-7.2**
MATI	**Mati**	**5.40**	**349**	*e*P	**Pn**	**19 23 49.5**	**-0.4**
MATI				*e*S	Px	19 24 17.0	
MRSI	**Marisa**	**5.45**	**258**	P	**Pn**	**19 23 51.0**	**+0.4**
	453nm,1.0s,7µm1.9nm						
MRSI				S	**Sn**	**19 24 50.6**	**-1.7**
	453nm,1.0s,7µm1.9nm						
DAV	**Davao City (W)**	**5.68**	**343**	*e*Pn	Pn	19 23 49.9	-3.8
DAV				*e*Sn	Sn	19 24 50.8	-7.0
APSI	**Ampana**	**6.16**	**246**	P	**Pn**	**19 24 01.3**	**+1.1**
	297nm,0.6s,5µm2.1nm						
APSI				S	**Sn**	**19 25 09.0**	**-0.4**
	297nm,0.6s,5µm2.1nm						
CTBH	**Cotabato--PC H**	**6.34**	**332**	↓*i*P	**Pn**	**19 24 00.5**	**-2.1**
TOLI	**Toli-Toli**	**6.50**	**266**	*e*Pn	**Pn**	**19 24 04.5**	**-0.3**
TOLI				*e*Sn	**Sn**	**19 25 15.1**	**-2.5**
BUKP	**Musuan**	**6.61**	**341**	*e*P	**Pn**	**19 24 05.6**	**-0.7**
BUKP				*e*S	Px	19 24 27.6	
FAKI	**Fak Fak**	**6.71**	**132**	P	**Pn**	**19 24 09.6**	**+2.1**
	146nm,0.7s,2µm0.5nm						
FAKI	**Fak Fak**	**6.71**	**132**	*e*Pn	**Pn**	**19 24 08.8**	**+1.2**
CGP	**Cagayan de Oro**	**7.27**	**339**	*e*P	**Pn**	**19 24 12.7**	**-2.4**
PAGZ	**Pagadian**	**7.31**	**328**	*e*P	**Pn**	**19 24 13.8**	**-1.8**
MPSI	**Mapaga**	**7.49**	**260**	P	**Pn**	**19 24 18.6**	**+0.5**
	57nm,0.6s,1µm0.2nm						
BUTP	**Butuan**	**7.49**	**347**	*e*P	**Pn**	**19 24 15.9**	**-2.2**
RKPI	**Ransiki, Papua**	**7.56**	**114**	P	Pn	19 24 23.0	+3.9
	93nm,0.8s,6µm0.3nm						
PCI	**Palu**	**7.85**	**251**	P	**Pn**	**19 24 23.2**	**+0.2**
	131nm,0.9s,1µm0.4nm						
TTSI	**Tana Toraja**	**8.77**	**238**	P	**Pn**	**19 24 35.4**	**-0.1**
	200nm,0.7s,2µm						
TTSI				S	Sn	19 26 06.2	-6.5
	200nm,0.7s,2µm						
SPSI	**Sidrap Palu**	**9.33**	**234**	P	**Pn**	**19 24 43.6**	**+0.7**
	291nm,0.6s,4µm						
SRPI	**Serui, Papua**	**9.61**	**111**	P	Pn	19 24 54.1	+7.4
	42nm,0.8s,1µm						
TSM	**Tawau**	**9.76**	**286**	↓P	**Pn**	**19 24 48.7**	**-0.1**
BKSI	**Bulukumba**	**9.93**	**226**	P	**Pn**	**19 24 53.4**	**+2.4**
	33nm,0.5s,524nm						
KAPI	**Kappang**	**9.99**	**229**	P	**Pn**	**19 24 53.5**	**+1.6**
	11nm,0.3s,baz=15,slow=4.6,SNR=43						
KAPI				S	**Sn**	**19 26 39.7**	**-2.5**
	9.6nm,0.3s,baz=260,slow=19,SNR=15						
KAPI	**Kappang**	**9.99**	**229**	*e*Pn	**Pn**	**19 24 53.8**	**+2.0**
KAPI				*e*Sn	x	19 26 21.8	
KAPI				S	**Sn**	**19 26 39.7**	**-2.5**
SDKM	**Sandakan**	**10.83**	**292**	↑P	**Pn**	**19 25 04.4**	**+1.2**
KDM	**Kudat**	**11.67**	**297**	↓P	**Pn**	**19 25 16.8**	**+2.5**
KKM	**Kota Kinabalu**	**11.88**	**292**	*e*Pn	**Pn**	**19 25 17.1**	**-0.1**
SMPI	**Sarmi**	**11.98**	**107**	P	**P**	**19 25 25.8**	**-0.1**
	22nm,1.2s						
KBKI	**Kotabaru**	**12.13**	**246**	P	**P**	**19 25 29.0**	**+1.3**
BBKI	**Banjar Baru**	**13.41**	**248**	P	**P**	**19 25 39.6**	**-2.4**
	40nm,1.1s						
GENI	**Genyem**	**13.55**	**108**	P	**P**	**19 25 45.1**	**+1.6**
	89nm,1.1s						
JAY	**Jayapura**	**14.04**	**107**	P	**P**	**19 25 52.0**	**+3.0**
	31nm,1.4s,3µm						
BTM	**Bintulu**	**14.27**	**277**	↑P	**Pn**	**19 25 49.4**	**+1.4**
SBUM	**Sibu**	**15.07**	**273**	↓P	**Pn**	**19 25 58.9**	**+0.8**
SBUM	**Sibu**	**15.07**	**273**	*e*Pn	**Pn**	**19 25 57.2**	**-0.9**
	28nm,0.8s						
STKI	**Sintang**	**15.87**	**265**	P	**P**	**19 26 09.1**	**-0.2**
BLJI	**Banyuglugur**	**16.51**	**236**	P	P	19 26 25.2	+8.8
KSM	**Kuching**	**16.96**	**270**	↓P	**Pn**	**19 26 22.5**	**+1.0**
KSM	**Kuching**	**16.96**	**270**	*e*P	**P**	**19 26 20.5**	**-0.9**
	17nm,0.8s						
LEM	**Lembang**	**21.34**	**247**	P	**P**	**19 27 10.0**	**+1.0**
	18nm,0.7s,baz=105,slow=20,SNR=5.4						
COEN	**Coen**	**22.08**	**135**	*e*P	**P**	**19 27 15.7**	**-1.0**
	4.0nm,1.5s						
WRAB	**Tennant Creek**	**22.51**	**162**	*e*P	**P**	**19 27 20.2**	**-0.7**
	90nm,0.4s						
WRAB				*e*S	**S**	**19 31 18.4**	**-0.5**
WRA	**Warramunga Arr**	**22.51**	**162**	P	**P**	**19 27 20.2**	**-0.8**
	59nm,0.4s,baz=342,slow=11,SNR=1269						
WRA				S	**S**	**19 31 13.6**	**-5.5**
	1.1nm,0.8s,baz=341,slow=12,SNR=3.0						
PMG	**Port Moresby**	**22.63**	**119**	P	**P**	**19 27 21.5**	**-0.7**
	12nm,0.9s						
SSLB	**Suanglung**	**22.88**	**345**	*e*P	**P**	**19 27 24.2**	**-0.3**
	362nm,2.4s						
MYKOM	**Kota Tinggi**	**23.42**	**271**	*e*P	**P**	**19 27 29.2**	**-0.5**
	10nm,0.8s						
YHNB	**Yeheng**	**23.62**	**346**	*e*P	**P**	**19 27 31.0**	**-0.5**
MBWA	**Marble Bar**	**23.80**	**198**	*e*P	**P**	**19 27 32.5**	**-0.6**
	16nm,0.7s						
QIZ	**Qiongzhong**	**24.32**	**317**	P	**P**	**19 27 37.3**	**-0.4**
QIZ				sP	**sP**	**19 28 17.3**	**-1.6**
QIZ				S	**S**	**19 31 48.5**	**+0.4**
QIZ				PMZ			
	15nm,1.9s						
KTGM	**Kuala Trenggan**	**24.38**	**279**	↑P	**P**	**19 27 39.8**	**+1.4**
QZH	**Quanzhou**	**24.66**	**341**	↓*i*P	**P**	**19 27 42.5**	**+1.7**
AS31	**Alice Springs**	**25.94**	**166**	*e*P	**P**	**19 27 51.8**	**-0.7**
ASAR	**Alice Springs**	**25.94**	**166**	P	**P**	**19 27 52.0**	**-0.4**
	22nm,0.5s,baz=349,slow=7.5,SNR=470						
ASAR				S	**S**	**19 32 10.8**	**-2.9**
	1.3nm,0.9s,baz=344,slow=20,SNR=4.5						
AS01	**Alice Springs**	**25.95**	**166**	*e*P	**P**	**19 27 51.9**	**-0.6**
IPM	**Ipoh**	**26.37**	**277**	↑P	**P**	**19 27 57.7**	**+1.3**
IPM	**Ipoh**	**26.37**	**277**	*e*P	**P**	**19 27 56.5**	**+0.1**
	14nm,1.2s						
KULM	**Kulim**	**26.82**	**278**	P	**P**	**19 28 00.2**	**-0.3**
PSI	**Prapat**	**28.36**	**273**	P	**P**	**19 28 14.1**	**-0.2**
	7.3nm,0.7s,baz=69,slow=6.7,SNR=12						
PSI	**Prapat**	**28.36**	**273**	*e*P	**P**	**19 28 14.3**	**0.0**
	8.2nm,0.8s						
CTA	**Charters Tower**	**28.49**	**140**	P	**P**	**19 28 15.4**	**+0.2**
	7.6nm,0.8s,baz=321,slow=10,SNR=8.8						
CTAO	**Charters Tower**	**28.49**	**140**	*e*P	**P**	**19 28 15.2**	**-0.1**
	15nm,1.2s						
GSI	**Gunungsitoli**	**29.69**	**270**	*e*P	**P**	**19 28 24.4**	**-1.6**
	14nm,0.5s						
NJ2	**Nanjing**	**31.30**	**346**	*e*P	**P**	**19 28 41.0**	**+1.1**
NJ2				PMZ			
	30nm,0.8s						
GYA	**Guiyang**	**31.67**	**323**	*e*P	**P**	**19 28 43.8**	**+0.4**
GYA				pP	**pP**	**19 29 11.0**	**+0.5**
GYA				sP	**sP**	**19 29 23.5**	**-1.3**
GYA				PP	**PnPn**	**19 29 53.3**	**+0.8**
GYA				S	**S**	**19 33 44.3**	**+0.5**
GYA				sS	**sS**	**19 34 30.0**	**-1.2**
GYA				PMZ			
	10.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**32.44**	**303**	P	**P**	**19 28 50.1**	**0.0**
	1.4nm,0.9s,baz=131,slow=8.3,SNR=8.3						
CMAR				PcP	**PcP**	**19 31 35.8**	**+1.1**
	0.9nm,0.8s,baz=136,slow=2.7,SNR=4.4						
CMAR				ScP	**ScP**	**19 35 07.5**	**+0.3**
	1.0nm,0.9s,baz=121,slow=3.4,SNR=4.6						
CMAR				LR	LR	19 41 11.9	
	comp=Z,27nm,21.4s,baz=245,slow=34						
CHTO	**Chiang Mai**	**32.61**	**303**	*e*P	**P**	**19 28 52.0**	**+0.4**
	6.5nm,1.0s						
KMI	**Kunming**	**33.27**	**317**	P	**P**	**19 28 59.3**	**+1.8**
KMI				PMZ			
	10.0nm,1.0s						
EIDS	**Eidsvold**	**35.37**	**141**	*e*P	**P**	**19 29 14.5**	**-0.8**
	32nm,1.4s						
KSAR	**Wonju Array Be**	**35.66**	**1**	P	**P**	**19 29 18.3**	**+0.7**
KSAR				PcP	**PcP**	**19 31 42.6**	**-0.8**
KSRS	**Korea Array**	**35.67**	**1**	P	**P**	**19 29 18.3**	**+0.6**
	1.4nm,0.5s,baz=175,slow=9.8,SNR=10						
KSRS				PcP	**PcP**	**19 31 42.6**	**-0.8**
	1.8nm,0.7s,baz=178,slow=2.7,SNR=6.6						
STKA	**Stephens Creek**	**35.97**	**159**	P	**P**	**19 29 20.2**	**-0.1**
	39nm,0.5s,baz=333,slow=8.1,SNR=62						
STKA	**Stephens Creek**	**35.97**	**159**	*e*P	**P**	**19 29 20.0**	**-0.4**
	12nm,0.8s						
MAJO	**Matsushiro**	**36.20**	**15**	*e*P	**P**	**19 29 20.4**	**-1.9**
MAT	**Matsushiro**	**36.20**	**15**	P	**P**	**19 29 20.8**	**-1.5**
MJAR	**Matsushiro Arr**	**36.20**	**15**	P	**P**	**19 29 20.7**	**-1.5**
	2.1nm,0.5s,baz=191,slow=9.1,SNR=9.3						
MJAR				PcP	**PcP**	**19 31 45.4**	**+0.2**
	1.5nm,0.6s,baz=193,slow=2.7,SNR=3.8						
XAN	**Xi'an**	**36.54**	**334**	P	**P**	**19 29 25.8**	**+0.5**
XAN				PMZ			
	5.0nm,0.7s						
CD2	**Chengdu**	**36.67**	**325**	P	**P**	**19 29 28.0**	**+1.6**
CD2				pP	**pP**	**19 29 54.0**	**0.0**
CD2				sP	**sP**	**19 30 07.8**	**-0.4**
CD2				PP	**PnPn**	**19 30 57.0**	**+3.0**
CD2				S	**S**	**19 35 02.8**	**+2.1**
CD2				sS	**sS**	**19 35 48.0**	**-0.7**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.2s						
ARMA	**Armidale**	**39.41**	**146**	*e*P	**P**	**19 29 50.0**	**+0.5**
	25nm,0.6s						
LZH	**Lanzhou**	**40.60**	**330**	↓P	**P**	**19 30 01.0**	**+1.7**
LZH				pP	**pP**	**19 30 29.5**	**+2.2**
LZH				sP	**sP**	**19 30 44.0**	**+2.6**
LZH				PMZ			
	17nm,1.0s						
HHC	**Hu-ho-hao-te**	**41.57**	**342**	*e*P	**P**	**19 30 09.3**	**+2.2**
HHC				pP	**pP**	**19 30 39.3**	**+4.1**
HHC				sP	**sP**	**19 30 52.3**	**+3.0**
HHC				PP	**PnPn**	**19 31 51.3**	**-0.4**
HHC				S	**S**	**19 36 14.8**	**+0.9**
HHC				sS	**sS**	**19 37 03.5**	**+0.9**
HHC				SS	**SS**	**19 39 20.3**	**-3.5**
HHC				PMZ			
	7.0nm,0.9s						
HHC				PMZ			
	110nm,5.8s						
HHC				LN			
	230nm,18.5s						
HHC				LE			
	220nm,18.5s						
HHC				LZ			
	220nm,18.5s						
CN2	**Changchun**	**42.04**	**358**	*e*P	**P**	**19 30 13.0**	**+2.3**
CN2				PMZ			
	20nm,0.7s						
USRK	**Ussuriysk Ar.**	**42.61**	**5**	P	**P**	**19 30 15.3**	**-0.1**
	3.4nm,0.8s,baz=186,slow=6.5,SNR=5.7						
MDJ	**Mudanjiang**	**42.87**	**2**	P	**P**	**19 30 16.9**	**-0.5**
LSA	**Lhasa**	**44.25**	**313**	*e*P	**P**	**19 30 30.8**	**+1.4**
	5.0nm,0.8s						
ASAJ	**Asahikawa**	**44.46**	**16**	P	**P**	**19 30 30.4**	**+0.3**
	3.8nm,0.4s,baz=230,slow=8.1,SNR=19						
GTA	**Gaotai**	**45.19**	**330**	*e*P	**P**	**19 30 37.8**	**+1.6**
GTA				pP	**pP**	**19 31 03.5**	**-1.2**
GTA				sP	**sP**	**19 31 16.5**	**-2.2**
GTA				PMZ			
	3.0nm,0.6s						
TAPN	**Taplejung**	**45.72**	**308**	*e*P	**P**	**19 30 41.7**	**+0.9**
ODAN	**Odare**	**45.75**	**307**	*e*P	**P**	**19 30 41.7**	**+0.7**
	18nm,0.7s						
RAMN	**Ramite**	**46.43**	**307**	*e*P	**P**	**19 30 47.4**	**+1.1**
	22nm

SNR=7.2
AAK Ala-Archa 62.29 318 *e*P **P** 19 32 38.2 -2.6
USP Ospenovka 62.56 319 P **P** 19 32 43.2 +0.8
SNR=7.0
ZAA0 Zalesovo Array 62.71 333 *e*P **P** 19 32 42.5 -0.6
ZALV Zalesovo Beam 62.71 333 P **P** 19 32 42.3 -0.8
1.8nm,0.4s,baz=123,slow=5.9,SNR=9.7
ZALV pP **pP** 19 33 11.9 -1.3
1.3nm,0.6s,baz=138,slow=6.7,SNR=2.3
EKS2 Erkin-Say 62.78 318 P **P** 19 32 45.6 +1.7
SNR=7.2
EKS2 Erkin-Say 62.78 318 *e*P **P** 19 32 44.8 +0.9
3.8nm,0.8s
EKS2 *e*pP **pP** 19 33 12.4 -1.7
KBL Kabul 63.24 308 *e*P **P** 19 32 47.7 +0.4
4.5nm,0.8s
KURK Kurchatov 63.81 328 *e*P **P** 19 32 50.3 -0.1
16nm,0.6s
KURK *e*pP **pP** 19 33 19.8 -0.8
KKAR Karatay Array 65.15 318 *e*P **P** 19 32 59.4 +0.1
2.1nm,0.7s
CASY Casey 68.80 187 *e*P **P** 19 33 21.6 -0.2
10nm,1.0s
BRVK Borovoye 69.46 327 *e*P **P** 19 33 26.0 -0.2
5.6nm,1.0s
TIXI Tiksi 69.94 1 *e*P **P** 19 33 27.8 -1.1
2.3nm,0.5s
BILL Bilibino 71.45 14 P **P** 19 33 36.6 -1.4
ABKAR Akbulak array 74.13 321 *e*P **P** 19 33 53.8 -0.5
3.4nm,0.8s
ABKAR pP **pP** 19 34 22.4 -2.9
ARU Arti 77.01 328 *e*P **P** 19 34 09.1 -1.4
4.5nm,0.6s
VNDA Vanda 81.27 173 P **P** 19 34 33.2 -0.1
5.1nm,0.5s,baz=320,slow=6.6,SNR=41
VNDA Vanda 81.27 173 *e*P **P** 19 34 32.8 -0.6
33nm,0.8s
SBA Scott Base 82.18 172 *e*P **P** 19 34 38.4 +0.4
3.6nm,0.8s
BRLK Bradley Lake 84.50 30 *e*P **P** 19 34 49.8 -0.6
18nm,1.3s
KBZ Khabaz 84.82 314 P **P** 19 34 50.5 -1.8
1.1nm,0.6s,baz=53,slow=20,SNR=5.1
PMR Palmer 85.53 28 P **P** 19 34 55.0 -0.4
COLD Coldfoot 85.62 23 *e*P **P** 19 34 55.8 +0.1
3.4nm,0.8s
MCK McKinley 85.81 26 *e*P **P** 19 34 56.2 -0.6
RND Reindeer 85.81 27 *e*P **P** 19 34 55.9 -1.0
4.4nm,0.5s
ILAR Eielson Array 86.77 25 P **P** 19 34 59.6 -1.9
0.7nm,0.8s,baz=238,slow=5.2,SNR=5.2
SYO Syowa Base 90.66 201↑ *e*P **P** 19 35 18.8 -0.8
QSPA South Pole Qui 91.53 180 P **P** 19 35 23.6 -0.3
1.7nm,0.4s,baz=289,slow=1.0,SNR=9.6
QSPA South Pole Qui 91.53 180 *e*P **P** 19 35 23.4 -0.5
2.4nm,0.7s
BRTR Keskin Array B 91.78 310 P **P** 19 35 24.9 -0.9
0.6nm,0.8s,baz=134,slow=6.2,SNR=3.5
ARCES ARCESS Array B 92.61 340 P **P** 19 35 27.4 -1.3
1.6nm,0.6s,baz=75,slow=5.5,SNR=8.0
FINES FINESS Array B 93.94 332 P **P** 19 35 34.1 -0.9
0.9nm,0.6s,baz=64,slow=4.4,SNR=8.0
SANT Santorini 98.55 307 P **P** 19 35 55.9 -0.7
PDAR Pinedale Array 112.57 42 PKKPbc PKKPbc 19 51 42.4 -2.1
0.5nm,0.6s,baz=100,slow=5.0,SNR=3.6
TXAR Lajitas Array 122.44 53 PKP **PKPdf** 19 41 12.9 -0.1
0.4nm,0.7s,baz=238,slow=1.7,SNR=3.6
TXAR PKKPbc **PKKPbc** 19 51 08.6 -0.1
0.4nm,0.8s,baz=139,slow=3.5,SNR=5.9
SCHQ Schefferville 122.55 10 PKP **PKPdf** 19 41 11.9 -0.5
0.9nm,0.4s,baz=72,slow=3.2,SNR=4.3
TOA0 Torodi Ar. Sit 124.08 287 *e*PKPdf **PKPdf** 19 41 15.4 -0.9
TORD Torodi Ar. Bea 124.08 287 PKP **PKPdf** 19 41 16.0 -0.4
2.6nm,0.7s,baz=84,slow=1.8,SNR=21
TORD PKKPbc **PKKPab** 19 51 02.5 +0.5
0.8nm,0.6s,baz=254,slow=3.6,SNR=6.5
DBIC Dimbokro 131.52 280 PKP **PKPdf** 19 41 29.9 -0.7
5.5nm,1.1s,baz=101,slow=4.8,SNR=3.6
LPAZ La Paz 158.95 135 PKPab **PKPab** 19 42 53.3 +0.1
1.8nm,0.8s,baz=162,slow=3.2,SNR=8.3

*ISCJB **28** 19:23:13.6±0.7,34˚.76S±0˚.04×71˚.8W±0˚.1,h58km±6km, mb4.0/9,Error ellipse: s-maj=15.9km s-min=5.6km az=7.3*
*IDC **28** 19:23:13.3±0.7,34˚.67S×71˚.66W,h39km±6km,mb3.8/8, mb1 4.0/11,mb1mx3.9/27,mbtmp4.0/11,ML3.9/2,MS2.0/1, Ms1 2.0/1,ms1mx2.0/15,Error ellipse: s-maj=27.1km s-min=15.7km az=80.0*
*NEIC **28** 19:23:13.0,34˚.74S×71˚.82W,h41km,mb4.2/3,After GUC.*
NEIC Felt [IV] at Paredones, Pichilemu and Talca; [III] at Chimbarongo, Curico, Pelarco, Pencahue and San Fernando; [II] at Linares, Navidad, Rancagua and Santa Cruz.
*GUC **28** 19:23:13.2±0.5,34˚.74S×71˚.83W,h41km±1km,ML4.6*

ISC 28 19:23:13.3±0.7,34˚.73S±0˚.03×71˚.84W±0˚.08,h44km±6km, n38,σ1≗65/53,mb4.0/9,8C-5D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.57**	**118**	⇓*i*P		**Pn**	**19 23 25.0**	**-0.2**
NICH				*i* S		**Sn**	**19 23 33.6**	**0.0**
TALC	**Talca**	**0.69**	**166**	⇑*i*P		**Pn**	**19 23 26.8**	**+0.1**
TALC				*i* S		**Sn**	**19 23 36.5**	**+0.2**
LNV	**Longovilo**	**0.85**	**25**	⇓*i*P		**Pn**	**19 23 29.1**	**+0.2**
LNV				*e*S		**Sn**	**19 23 41.1**	**+0.9**
LNCH	**Linares**	**1.13**	**170**	⇑*i*P		**Pn**	**19 23 35.2**	**+2.5**
LNCH				*i* S		**Sn**	**19 23 50.9**	**+3.8**
CHCH	**Chadas Angostu**	**1.27**	**51**	⇑*i*P		**Pn**	**19 23 35.4**	**+0.8**
TACH	**Talagante**	**1.31**	**35**	⇑*i*P		**Pn**	**19 23 36.1**	**+0.9**
RCDM	**Rinconada Maip**	**1.51**	**35**	⇓*i*P		**Pn**	**19 23 38.6**	**+0.7**
RCDM				*e*S		**Sn**	**19 23 58.1**	**+1.7**
PCH	**Pirque**	**1.56**	**45**	⇓*i*P		**Pn**	**19 23 39.6**	**+0.9**
PCH				*i* S		**Sn**	**19 24 00.6**	**+2.8**
SAN	**Santiago**	**1.61**	**38**	⇓*i*P		**Pn**	**19 23 40.2**	**+0.9**
SAN				*i* S		**Sn**	**19 24 00.4**	**+1.6**
LACH	**Col Las Americ**	**1.68**	**41**	*e*P		**Pn**	**19 23 40.8**	**+0.6**
LACH				*i* S		**Sn**	**19 24 02.6**	**+2.0**
IHA	**Instituto Hidr**	**1.71**	**6**	*e*P		**Pn**	**19 23 41.4**	**+0.7**
CLCH	**Cerro Calan**	**1.72**	**39**	⇑*i*P		**Pn**	**19 23 41.8**	**+1.0**
CLCH				*i* S		**Sn**	**19 24 04.1**	**+2.5**
CLCH				AML		AML	19 24 11.1	
	comp=N,15μm,0.6s							
YECH	**El Yeso**	**1.80**	**54**	⇑*i*P		**Pn**	**19 23 43.8**	**+1.6**
YECH				*e*S		**Sn**	**19 24 06.8**	**+2.7**
PEL	**Peldehue**	**1.85**	**32**	⇑*i*P		**Pn**	**19 23 43.6**	**+1.0**
PEL				*i* S		**Sn**	**19 24 08.1**	**+3.2**
PEL				AML		AML	19 24 14.7	
	comp=E,9μm,0.5s							
ROCH	**El Roble**	**1.89**	**22**	⇑*i*P		**Pn**	**19 23 44.3**	**+1.0**
ROCH				AML		AML	19 24 15.3	
	comp=N,6μm,0.6s							
CFAA	**Coronel Fontan**	**4.34**	**45**	Pn		**Pn**	**19 24 17.6**	**+0.8**
	comp=N,0.8nm,0.3s,baz=222,slow=12,SNR=29							
CFAA				Lg		Lg	19 25 15.3	
	comp=N,1.0nm,0.3s,baz=83,slow=15,SNR=5.6							
CFAA				LR		LR	19 25 34.1	
	comp=N,21nm,22.0s,baz=229,slow=34							
LCO	**Las Campanas**	**5.79**	**10**	*e*Pn		**Pn**	**19 24 36.7**	**-0.2**
LCO				*e*Sn		**Sn**	**19 25 47.0**	**+4.9**
PLCA	**Paso Flores**	**6.08**	**171**	Pn		**Pn**	**19 24 43.0**	**+2.4**
	comp=N,0.4nm,0.3s,baz=339,slow=21,SNR=22							
PLCA				Lg		Lg	19 26 21.6	
	comp=N,0.1nm,0.3s,baz=11,slow=23,SNR=2.9							
TRQA	**Tornquist**	**8.62**	**116**	*e*Pn		**Pn**	**19 25 16.7**	**+1.2**
	comp=N,7.5nm,0.6s							
LVC	**Limon Verde**	**12.34**	**13**	Pn		**Pn**	**19 26 07.2**	**+0.5**
	comp=N,14nm,0.3s,baz=163,slow=17,SNR=2.7							
LVC	**Limon Verde**	**12.34**	**13**	P		**Pn**	**19 26 06.0**	**-0.8**
LPAZ	**La Paz**	**18.67**	**11**	P		**Pn**	**19 27 29.7**	**+0.7**
	comp=N,0.5nm,0.3s,baz=177,slow=8.9,SNR=18							
LPAZ	**La Paz**	**18.67**	**11**	*e*P		**P**	**19 27 28.7**	**+0.4**
	comp=N,7.7nm,0.9s							
SAML	**Samuel**	**26.86**	**19**	*e*P		**P**	**19 28 48.4**	**-1.5**
SDV	**Santo Domingo**	**43.39**	**2**	P		**P**	**19 31 09.0**	**-2.9**
	comp=N,3.8nm,0.8s							
SNAA	**Sanae**	**50.85**	**158**	P		**P**	**19 32 09.7**	**+0.4**
	comp=N,0.4nm,0.7s,baz=269,slow=7.8,SNR=3.8							
SNAA	**Sanae**	**50.85**	**158**	*e*P		P	19 32 06.0	-3.2
	comp=N,4.1nm,0.9s							
SJG	**San Juan**	**52.83**	**7**	P		**P**	**19 32 22.0**	**-2.4**
QSPA	**South Pole Qui**	**55.51**	**180**	P		**P**	**19 32 45.1**	**+1.4**
	comp=N,1.3nm,0.8s,baz=129,slow=5.7,SNR=2.9							
QSPA				pP		**pP**	**19 32 56.4**	**+0.3**
	comp=N,3.5nm,0.8s,baz=217,slow=1.0,SNR=5.6							
TXAR	**Lajitas Array**	**70.45**	**331**	P		**P**	**19 34 24.2**	**+1.0**
	comp=N,0.4nm,0.5s,baz=155,slow=8.2,SNR=8.8							
TXAR				pP		**pP**	**19 34 34.9**	**-1.1**
	comp=N,0.5nm,0.4s,baz=153,slow=8.4,SNR=7.8							
DBIC	**Dimbokro**	**75.26**	**71**	P		**P**	**19 34 51.6**	**-0.4**
	comp=N,3.5nm,0.7s,baz=270,slow=7.1,SNR=3.2							
BOSA	**Boshof**	**79.59**	**117**	P		**P**	**19 35 15.9**	**-0.3**
	comp=N,7.4nm,0.9s,baz=255,slow=3.0,SNR=4.7							
TORD	**Torodi Ar. Bea**	**84.31**	**70**	P		**P**	**19 35 40.3**	**-0.7**
	comp=N,2.1nm,0.9s,baz=255,slow=3.6,SNR=9.9							
TORD				pP		**pP**	**19 35 52.8**	**-1.2**
	comp=N,1.9nm,0.7s,baz=283,slow=5.1,SNR=4.5							
PDAR	**Pinedale Array**	**84.49**	**333**	P		**P**	**19 35 42.0**	**+0.5**
	comp=N,0.3nm,0.6s,baz=73,slow=5.1,SNR=3.8							
NVAR	**Mina Array Bea**	**84.58**	**325**	P		**P**	**19 35 43.2**	**+1.2**
	comp=N,0.4nm,0.6s,baz=120,slow=6.8,SNR=2.9							
WRA	**Warramunga Arr**	**120.20**	**209**	PKP		**PKPdf**	**19 41 59.2**	**-0.8**
	comp=N,0.5nm,1.1s,baz=158,slow=1.7,SNR=4.4							
WRA				pPKP		**pPKPdf**	**19 42 12.7**	**-0.9**
	comp=N,0.3nm,0.7s,baz=159,slow=1.7,SNR=1.3							
ZALV	**Zalesovo Beam**	**154.75**	**33**	PKPab		**PKPab**	**19 43 23.4**	**-0.8**
	comp=N,0.7nm,0.6s,baz=316,slow=4.0,SNR=3.2							
MKAR	**Makanchi Array**	**157.11**	**50**	PKPab		**PKPab**	**19 43 34.1**	**-0.6**
	comp=N,1.0nm,0.9s,baz=268,slow=1.2,SNR=3.8							

*ISCJB **28** 19:26:50.3±1.0,10˚.20S±0˚.04×161˚.00E±0˚.03,h74km±8km, mb5.0/128,Error ellipse: s-maj=6.2km s-min=4.7km az=5.8*
*MOS **28** 19:26:50.7±0.8,10˚.12S×161˚.03E,h78km,mb5.5/47,Error ellipse: s-maj=8.3km s-min=7.7km az=73.2*
*BJI **28** 19:26:50.1,9˚.91S×161˚.43E,h78km,mb5.0/55,mB5.0/35, Ms4.8/29,Ms7 4.5/32*
*GCMT **28** 19:26:51.7±0.2,10˚.25S×161˚.19E,h61km±2km, MW5.2/105,Moment Tensor Solution. s61,c93; s105,c177; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.78±.18; Mθθ-2.35±.14; Mϕϕ-0.43±.15; Mrθ-5.32±.13; Mθϕ2.36±.11; Mϕr2.46±.10; Best double couple: Mo6.76800×10¹⁶ NP1,φ295.00000°,δ75.00000°, λ84.00000°. NP2,φ139.00000°,δ16.00000°,λ113.00000°. Principal axes: T 6.2400, Plg59.0000°, Azm196.0000°; N 1.0520, Plg6.0000°, Azm297.0000°; P -7.2970, Plg30.0000°, Azm30.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **28** 19:26:51.7±0.1,10˚.18S×161˚.07E,mb5.2/89 Error ellipse: s-maj=5.3km s-min=4.2km az=140.0*
*IDC **28** 19:26:52.4±0.7,10˚.20S×161˚.10E,h85km±5km,mb4.8/24, mb1 4.9/25,mb1mx4.9/29,mbtmp5.1/25,MS4.1/25, Ms1 4.1/25,ms1mx4.0/30,Error ellipse: s-maj=13.4km s-min=10.3km az=91.0*

ISC 28 19:26:51.9±0.3,10˚.18S±0˚.04×161˚.19E±0˚.05,h81km±1km, h81km:pP-P,n486,σ1≗31/545,mb5.1/126,43C-50D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.43**	**301**	*e*P		Pn	19 27 13.1	-3.3
HNR	**Honiara**	**1.43**	**301**	*i* P		**Pn**	**19 27 15.0**	**-1.5**
HNR				*i* S		x	19 27 19.0	
HNR	**Honiara**	**1.43**	**301**	*e*Pn		Pn	19 27 13.1	-3.3
DZM	**Mont Dzumac**	**12.85**	**158**	*e*Pn		**Pn**	**19 29 52.2**	**+0.6**
	23nm,0.2s							
DZM				*e*Sn		Sn	19 31 53.8	-19
	30nm,0.3s							
DZM				*e*LR		LR	19 32 34.6	
	4μm,26.9s							
DZM	**Mont Dzumac**	**12.85**	**158**	P		**Pn**	**19 29 52.0**	**+0.4**
	5.2nm,0.3s,baz=270,slow=23,SNR=42							
DZM				S		Sn	19 32 04.8	-8.1
	1.5nm,0.3s,baz=90,slow=20,SNR=2.6							
DZM				LR		LR	19 34 23.1	
	comp=Z,1μm,20.2s,baz=0.0,slow=35							
DZM	**Mont Dzumac**	**12.85**	**158**	*e*P		**Pn**	**19 29 51.0**	**-0.6**
DZM				*e*S		Sn	19 32 02.3	-11
PMG	**Port Moresby**	**13.85**	**272**	*e*P		**Pn**	**19 30 05.2**	**+0.5**
PMG	**Port Moresby**	**13.85**	**272**	*e*Pn		**Pn**	**19 30 05.3**	**+0.6**
CTA	**Charters Tower**	**17.45**	**234**	P		**P**	**19 30 52.7**	**+2.4**
	11nm,0.3s,baz=55,slow=12,SNR=69							
CTA				LR		LR	19 36 45.3	
	comp=Z,1μm,21.1s,baz=54,slow=34							
CTAO	**Charters Tower**	**17.45**	**234**	*e*P		**P**	**19 30 51.7**	**+1.5**
CTAO				pmax		pmax		
	comp=Z,179nm,1.2s							
CTAO	**Charters Tower**	**17.45**	**234**	*e*Pn		**P**	**19 30 51.7**	**+1.5**
	comp=Z,179nm,1.2s							
EIDS	**Eidsvold**	**17.90**	**211**	*e*Pn		**Pn**	**19 30 56.7**	**+1.1**
	comp=Z,108nm,1.1s							
MSVF	**Nonsavu**	**17.99**	**117**	*e*P		**Pn**	**19 30 58.3**	**+1.4**
MSVF				pmax		pmax		
	comp=Z,90nm,1.2s							
MSVF	**Nonsavu**	**17.99**	**117**	*e*P		**Pn**	**19 30 58.3**	**+1.4**
	comp=Z,90nm,1.2s							
COEN	**Coen**	**18.01**	**256**	*e*Pn		**P**	**19 30 56.6**	**+0.1**
	comp=Z,12nm,0.9s							
COEN				*e*Sn		Sn	19 34 07.9	-10
KWAJ	**Kwajalein Atol**	**19.91**	**19**	*e*P		**P**	**19 31 18.3**	**+1.1**
KWAJ				pmax		pmax		
	comp=Z,561nm,0.6s							
KWAJ	**Kwajalein Atol**	**19.91**	**19**	*e*P		**P**	**19 31 18.3**	**+1.1**
	comp=Z,561nm,0.6s							
JAY	**Jayapura**	**21.72**	**289**	P		**P**	**19 31 40.0**	**+3.2**
ARMA	**Armidale**	**22.02**	**202**	*e*P		**P**	**19 31 39.9**	**0.0**
	comp=Z,63nm,1.0s							
GENI	**Genyem**	**22.20**	**288**	P		**P**	**19 31 45.3**	**+3.5**
SMPI	**Sarmi**	**23.77**	**289**	P		**P**	**19 31 57.5**	**+0.2**
RAO	**Raoul Island**	**27.24**	**137**	LR		LR	19 41 34.5	
	comp=Z,241nm,18.1s,baz=354,slow=32							
WRAB	**Tennant Creek**	**27.63**	**246**	P		**P**	**19 32 32.9**	**+0.7**
	comp=Z,618nm,0.7s,SNR=16							
WRAB	**Tennant Creek**	**27.63**	**246**	*c i*P		**P**	**19 32 31.7**	**-0.5**
WRAB				pmax		pmax		
	comp=Z,206nm,1.3s							
WRAB	**Tennant Creek**	**27.63**	**246**	*e*P		**P**	**19 32 31.1**	**-1.0**
	comp=Z,474nm,1.9s							
WRA	**Warramunga Arr**	**27.65**	**246**	P		**P**	**19 32 31.6**	**-0.7**
	comp=Z,68nm,0.6s,baz=75,slow=9.2,SNR=83							
WRA				pP		**pP**	**19 32 51.8**	**+0.7**
	comp=Z,40nm,0.7s,baz=73,slow=9.6,SNR=8.3							
WRA				PcP		**PcP**	**19 35 47.3**	**-0.6**
	comp=Z,8.2nm,0.8s,baz=68,slow=2.0,SNR=7.1							
WRA				LR		LR	19 42 49.2	
	comp=Z,459nm,20.6s,baz=80,slow=35							
RKPI	**Ransiki, Papua**	**28.19**	**286**	P		**P**	**19 32 38.8**	**+1.6**
STKA	**Stephens Creek**	**28.20**	**217**	P		**P**	**19 32 37.5**	**+0.5**
	comp=Z,34nm,0.8s,baz=27,slow=10.0,SNR=14							
STKA				LR		LR	19 43 23.2	
	comp=Z,1μm,21.3s,baz=38,slow=35							
STKA	**Stephens Creek**	**28.20**	**217**	*e*P		**P**	**19 32 36.5**	**-0.5**
STKA				pmax		pmax		
	comp=Z,7.0nm,0.8s							
STKA	**Stephens Creek**	**28.20**	**217**	*e*P		**P**	**19 32 36.5**	**-0.5**
	comp=Z,6.7nm,0.8s							
H11S2	**WAKE ISLAND Hy**	**29.00**	**11**	T		T	20 01 39.7	
	baz=201							
H11S3	**WAKE ISLAND Hy**	**29.00**	**11**	T		T	20 01 39.2	
	baz=201,slow=74							
H11S1	**WAKE ISLAND Hy**	**29.02**	**11**	T		T	20 01 40.5	
	baz=201,slow=74							
AS31	**Alice Springs**	**29.27**	**239**	*e*P		**P**	**19 32 44.9**	**-1.8**
ASAR	**Alice Springs**	**29.27**	**239**	P		**P**	**19 32 45.0**	**-1.7**
	comp=Z,27nm,0.9s,baz=70,slow=9.5,SNR=64							
ASAR				LR		LR	19 43 43.1	
	comp=Z,1μm,21.2s,baz=60,slow=35							
H11N1	**WAKE ISLAND Hy**	**30.23**	**11**	T		T	20 03 45.4	
	baz=193,slow=76,SNR=14							
H11N3	**WAKE ISLAND Hy**	**30.24**	**11**	T		T	20 03 27.2	
	baz=193,slow=76,SNR=14							
H11N2	**WAKE ISLAND Hy**	**30.25**	**11**	T		T	20 03 15.3	
	baz=193,slow=76,SNR=17							
SIJI	**Sorong**	**31.16**	**285**	P		**P**	**19 33 01.2**	**-2.2**
	comp=Z,3.2nm,0.7s,baz=80,slow=11,SNR=3.6							
SIJI				LR		LR	19 46 53.2	
	comp=Z,245nm,20.4s,baz=78,slow=39							
URZ	**Urewera**	**31.40**	**156**	P		**P**	**19 33 05.4**	**+0.2**
	comp=Z,4.8nm,0.6s,baz=297,slow=2.3,SNR=3.5							
URZ				LR		LR	19 44 53.2	
	comp=Z,298nm,20.5s,baz=330,slow=34							
BKZ	**Black Stump Fm**	**31.94**	**157**	*e*P		**P**	**19 33 09.7**	**-0.4**
	comp=Z,30nm,0.8s							
BBOO	**Buckleboo**	**32.30**	**222**	*e*P		**P**	**19 33 12.9**	**-0.3**
	comp=Z,10nm,0.7s							
RPZ	**Rata Peaks**	**34.49**	**167**	P		**P**	**19 33 31.6**	**-0.6**
	comp=Z,63nm,0.7s,baz=336,slow=20,SNR=15							
RPZ				LR		LR	19 45 46.0	
	comp=Z,258nm,20.0s,baz=342,slow=33							
TAU	**Tasmania Unive**	**34.78**	**198**	*e*P		**P**	**19 33 35.4**	**+0.8**
TAU				pmax		pmax		
	comp=Z,31nm,0.9s							
TAU	**Tasmania Unive**	**34.78**	**198**	*e*P		**P**	**19 33 35.4**	**+0.8**
	comp=Z,31nm,0.9s							
DCZ	**Deep Cove**	**35.54**	**173**	*e*P		**P**	**19 33 41.2**	**+0.1**
	comp=Z,63nm,1.1s							
MMRI	**Maumere**	**38.44**	**269**	*e*P		**P**	**19 34 04.5**	**-1.7**
	comp=Z,166nm,1.3s							
LUWI	**Luwuk**	**39.25**	**281**	*e*P		**P**	**19 34 12.5**	**-0.5**
	comp=Z,87nm,1.2s							
MBWA	**Marble Bar**	**41.27**	**250**	*e*P		**P**	**19 34 29.2**	**-0.3**
	comp=Z,147nm,1.2s							
KAPI	**Kappang**	**41.37**	**274**	P		**P**	**19 34 30.4**	**0.0**
	comp=Z,22nm,0.8s,baz=120,slow=6.8,SNR=21							
CBIJ	**Chichi jima**	**41.39**	**334**	P		**P**	**19 34 28.6**	**-1.7**
JCJ	**Chichijima**	**41.39**	**334**	P		**P**	**19 34 28.6**	**-1.7**
	comp=Z,80nm,0.6s,baz=145,slow=2.8,SNR=8.8							
KKM	**Kota Kinabalu**	**47.60**	**288**	*e*P		**P**	**19 35 19.3**	**-1.0**
	comp=Z,34nm,1.1s							
PPT	**Papeete**	**48.25**	**104**	LR		LR	19 51 12.5	
	comp=Z,137nm,21.2s,baz=224,slow=30							
PPT2	**Papeete2**	**48.25**	**104**	*e*LR		LR	19 49 02.1	
	comp=Z,277nm,23.8s							
TBI	**Tubuai**	**48.80**	**112**	*e*LQ		LQ	19 47 08.5	
	comp=Z,763nm,31.5s							
TBI				*e*LR		LR	19 49 10.1	
	comp=Z,363nm,31.5s							
KIP	**Kipapa**	**50.90**	**52**	*e*P		**P**	**19 35 43.9**	**-1.2**
KIP				pmax		pmax		
	comp=Z,45nm,1.3s							
MJAR	**Matsushiro Arr**	**51.26**	**336**	P		**P**	**19 35 46.8**	**-0.8**
	comp=Z,4.6nm,0.6s,baz=164,slow=8.7,SNR=18							
MJAR				LR		LR	19 56 56.3	
	comp=Z,80nm,20.8s,baz=150,slow=35							
MAJO	**Matsushiro**	**51.26**	**336**	*d i*P		**P**	**19 35 46.9**	**-0.7**
MAJO				pmax		pmax		
	comp=Z,67nm,1.4s							
MAJO	**Matsushiro**	**51.26**	**336**	*e*P		**P**	**19 35 47.4**	**-0.2**
	comp=Z,18nm,1.1s							
NACB	**Ninganchiao**	**51.59**	**312**	*e*P		**P**	**19 35 50.8**	**+0.6**
SSLB	**Suanglung**	**51.83**	**311**	*e*P		**P**	**19 35 51.8**	**-0.3**
	comp=Z,29nm,0.9s							
KSM	**Kuching**	**51.94**	**280**	P		**P**	**19 35 51.0**	**-2.1**
	comp=Z,16nm,0.9s							
YHNB	**Yeheng**	**52.04**	**312**	*e*P		**P**	**19 35 54.2**	**+0.5**
	comp=Z,18nm,0.6s							
LEM	**Lembang**	**53.04**	**269**	P		**P**	**19 36 01.0**	**-0.4**
	comp=Z,61nm,0.8s,baz=50,slow=7.9,SNR=11							
KSPHA	**Pohang**	**55.01**	**329**	P		**P**	**19 36 15.8**	**+0.8**
	SNR=11							
KSPHA	**Pohang**	**55.01**	**329**	P		**P**	**19 36 15.8**	**+0.8**
	SNR=11							
KSULJ	**Uljin**	**55.38**	**329**	P		**P**	**19 36 18.3**	**+0.6**
	SNR=12							
KSULJ	**Uljin**	**55.38**	**329**	P		**P**	**19 36 18.3**	**+0.6**
	SNR=12							
KSCPR	**CHUPUNGNYEONG**	**55.76**	**328**	P		**P**	**19 36 21.3**	**+0.8**
	SNR=7.7							
KSCPR	**CHUPUNGNYEONG**	**55.76**	**328**	P		**P**	**19 36 21.3**	**+0.8**
	SNR=7.7							
KSJEO	**Jeonju**	**55.91**	**327**	P		**P**	**19 36 22.6**	**+1.1**
	SNR=7.8							
KSJEO	**Jeonju**	**55.91**	**327**	P		**P**	**19 36 22.6**	**+1.1**
	SNR=7.8							
KSTBA	**Taebaek**	**55.94**	**329**	P		**P**	**19 36 23.3**	**+1.5**
	SNR=9.2							
KSTBA	**Taebaek**	**55.94**	**329**	P		**P**	**19 36 23.3**	**+1.5**
	SNR=9.2							
KSHUK	**Heuksando**	**56.01**	**325**	P		**P**	**19 36 23.2**	**+0.9**
	SNR=6.6							
KSHUK	**Heuksando**	**56.01**	**325**	P		**P**	**19 36 23.2**	**+0.9**
	SNR=6.6							
KSBON	**Boeun**	**56.06**	**328**	P		**P**	**19 36 23.3**	**+0.6**
	SNR=9.6							
KSBON	**Boeun**	**56.06**	**328**	P		**P**	**19 36 23.3**	**+0.6**
	SNR=9.6							
KSCHJ	**Chungju**	**56.25**	**328**	P		**P**	**19 36 24.6**	**+0.6**
	SNR=13							
KSCHJ	**Chungju**	**56.25**	**328**	P		**P**	**19 36 24.6**	**+0.6**
	SNR=13							
KSKOJ	**Gongju**	**56.38**	**327**	P		**P**	**19 36 26.0**	**+1.0**
	SNR=7.4							
KSKOJ	**Gongju**	**56.38**	**327**	P		**P**	**19 36 26.0**	**+1.0**
	SNR=7.4							
KSCEA	**Cheonan**	**56.59**	**328**	P		**P**	**19 36 26.8**	**+0.5**
	SNR=13							
KSCEA	**Cheonan**	**56.59**	**328**	P		**P**	**19 36 26.8**	**+0.5**
	SNR=13							
KSRS	**Korea Array**	**56.72**	**329**	P		**P**	**19 36 27.9**	**+0.6**
	comp=Z,13nm,0.8s,baz=143,slow=7.3,SNR=52							
KSRS				pP		**pP**	**19 36 48.3**	**+0.5**
	comp=Z,10nm,1.0s,baz=146,slow=7.3,SNR=4.3							
KSRS				LR		LR	19 59 06.4	
	comp=Z,136nm,20.7s,baz=128,slow=34							
**KSAR

TIA Tai'an 62.04 320 *e*P P **19 37 03.5 -0.5**
TIA PMZ
comp=Z,10.0nm,1.0s
KULM Kulim 62.22 281 *e*P P **19 37 04.4 -1.3**
comp=Z,8.9nm,0.8s
SKNT Sakolnakorn 62.66 295 P P **19 37 09.4 +0.9**
comp=Z,15nm,1.4s
CN2 Changchun 62.78 332 ⇓P P **19 37 09.3 +0.5**
CN2 *e*pP **pP** **19 37 34.3 +4.7**
CN2 *e*S **S** **19 45 29.0 -2.6**
CN2 PMZ
comp=Z,60nm,0.6s
HABR Khabarovsk 62.80 341 *ce*P P **19 37 06.7 -2.1**
HABR *e**PP **pP** **19 37 27.1 -2.5**
HABR *e*SP 19 37 36.2
HABR *e* 19 37 44.3
HABR *e* 19 40 54.0
HABR *e*S **S** **19 45 29.3 -2.3**
HABR *e*S **pS** **19 45 53.6 -2.2**
HABR *e*SS **sS** **19 46 05.3 -1.8**
HABR *e* 19 46 51.1
HABR *e*SS **SS** **19 49 36.7 -1.6**
HABR pmax pmax
comp=Z,53nm,1.8s
HABR pmax pmax
comp=E,10.0nm,1.0s
HABR pmax pmax
comp=N,14nm,1.3s
HABR MLR MLR
comp=Z,80nm,17.0s
PETK Petropavlovsk- 63.11 358 P P **19 37 11.3 +0.6**
comp=Z,10nm,0.8s,baz=166,slow=8.7,SNR=10
PETK pP **pP** **19 37 32.2 +0.6**
comp=Z,17nm,0.8s,baz=184,slow=11,SNR=8.7
PETK LR LR 20 00 50.6
comp=Z,197nm,21.7s,baz=164,slow=32
ENH Enshi 63.91 311 P P **19 37 15.2 -1.4**
comp=Z,7.6nm,0.8s
GYA Guiyang 64.26 306 P P **19 37 21.0 +2.0**
GYA pP **pP** **19 37 43.8 +3.9**
GYA sP **sP** **19 37 51.0 +2.1**
GYA PP **PP** **19 39 45.3 +3.9**
GYA S **S** **19 45 51.5 +0.6**
GYA sS **sS** **19 46 28.5 +2.0**
GYA SKS **SKSac** **19 47 03.0 -3.2**
GYA SS **SS** **19 50 02.5 +0.4**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,130nm,7.2s
GYA LN
comp=Z,560nm,21.0s
GYA LE
comp=Z,520nm,23.2s
GYA LZ
comp=Z,580nm,23.8s
GSI Gunungsitoli 64.31 276 *e*P P **19 37 18.0 -1.5**
comp=Z,37nm,0.8s
KLR Kul'dur 64.57 339 *e*P P **19 37 17.4 -3.0**
KLR *e* 19 37 37.0
KLR pmax pmax
comp=E,50nm,1.6s
KLR pmax pmax
comp=Z,80nm,1.6s
BJI Beijing 65.05 323 P P **19 37 25.5 +1.7**
BJI S **S** **19 46 02.8 +2.9**
BJI PMZ
comp=Z,7.0nm,0.5s
BJI LN
comp=Z,140nm,16.6s
BJI LE
comp=Z,120nm,18.0s
BJI LZ
comp=Z,200nm,21.5s
LOEI Loei 65.28 295 P P **19 37 27.1 +1.4**
comp=Z,14nm,1.4s,comp=Z,3um
CASY Casey 65.60 200 *e*P P **19 37 25.8 -1.1**
comp=Z,70nm,1.7s
UTTA Uttaradit 65.99 295 P P 19 37 34.5 +4.3
comp=Z,2.7nm,1.0s
XAN Xi'an 66.27 314 P P **19 37 31.8 0.0**
XAN pP **pP** **19 37 52.5 -0.3**
XAN PMZ
comp=Z,7.0nm,0.9s
KMI Kunming 66.87 303 P P **19 37 37.5 +1.5**
KMI pP **pP** **19 37 53.5 -3.6**
KMI S **S** **19 46 21.0 -2.0**
KMI PMZ
comp=Z,8.0nm,1.1s
KMI PMZ
comp=Z,160nm,4.6s
KMI LZ
comp=Z,63nm,25.4s
CRAI Chiangrai 67.02 297 P P **19 37 36.0 -0.8**
comp=Z,121nm,1.2s
LAMP Lampang 67.08 295 P P 19 37 42.0 +4.8
comp=Z,4.6nm,0.8s,comp=Z,76nm
VNDA Vanda 67.32 180 P P **19 37 38.2 +0.5**
comp=Z,28nm,0.7s,baz=342,slow=6.4,SNR=105
VNDA LR LR 20 02 14.0
comp=Z,113nm,21.2s,baz=359,slow=32
VNDA Vanda 67.32 180 *e*P P **19 37 37.9 +0.1**
VNDA pmax pmax
comp=Z,32nm,0.8s
VNDA Vanda 67.32 180 *e*P P **19 37 37.9 +0.1**
comp=Z,32nm,0.8s
CMAR Chiang Mai Arr 67.67 295 P P **19 37 41.8 +0.8**
comp=Z,4.1nm,0.8s,baz=135,slow=5.0,SNR=12
CMAR LR LR 20 08 36.2
comp=Z,44nm,18.6s,baz=123,slow=37
CMAR Chiang Mai Arr 67.67 295 *i* P P **19 37 42.2 +1.2**
CMAR pmax pmax
comp=Z,4.0nm,0.9s
SBA Scott Base 67.72 179 *e*P P **19 37 41.5 +1.3**
SBA pmax pmax
comp=Z,29nm,1.0s
SBA Scott Base 67.72 179 *e*P P **19 37 41.5 +1.3**
comp=Z,29nm,1.0s
CHTO Chiang Mai 67.79 295 *e*P P **19 37 40.7 -1.0**
CHTO pmax pmax
comp=Z,13nm,1.1s
CHTO Chiang Mai 67.79 295 *e*P P **19 37 40.7 -1.0**
comp=Z,13nm,1.1s
HHC Hu-ho-hao-te 68.32 322 *e*P P **19 37 46.3 +1.6**
HHC pP **pP** **19 38 03.0 -2.8**
HHC sP **sP** **19 38 13.0 -1.8**
HHC PP **PP** **19 40 18.3 +1.7**
HHC S **S** **19 46 41.3 +1.7**
HHC sS **sS** **19 47 12.3 -3.3**
HHC SS **SS** **19 51 06.5 +1.8**
HHC PMZ
comp=Z,17nm,1.2s
HHC PMZ
comp=Z,95nm,8.2s
HHC LN
comp=Z,250nm,16.3s
HHC LE
comp=Z,230nm,16.7s
HHC LZ
comp=Z,330nm,16.8s
CD2 Chengdu 68.55 309 *e*P P **19 37 47.5 +1.2**
CD2 pP **PcP** **19 38 09.5 -1.4**
CD2 sP **sP** **19 38 19.0 +2.7**
CD2 PP **PP** **19 40 22.5 +3.8**
CD2 PcS 19 42 16.0
CD2 S **S** **19 46 42.0 -0.5**
CD2 sS **sS** **19 47 19.8 +1.3**
CD2 SS **SS** **19 51 09.5 +1.1**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.0s
HIA Hailar 69.47 332 *e*P P **19 37 52.1 +0.5**
HIA pmax pmax
comp=Z,55nm,0.8s
HIA Hailar 69.47 332 *e*P P **19 37 52.1 +0.5**
comp=Z,55nm,0.8s
LZH Lanzhou 70.90 314 ⇑P P **19 38 02.5 +1.8**
LZH pP **pP** **19 38 23.3 +1.3**
LZH sP **sP** **19 38 32.5 +1.6**
LZH PP **PP** **19 40 41.0 +2.0**
LZH *e*S **S** **19 47 12.0 +1.9**
LZH sS **sS** **19 47 47.5 +1.2**
LZH SS **SS** **19 51 45.3 +0.7**
LZH PMZ
comp=Z,20nm,1.0s
LZH PMZ
comp=Z,180nm,6.2s
MIR Mirnyy 72.10 203 *e*P P 19 38 17.0 +10
MIR pmax pmax
comp=Z,100nm,1.0s
CLNS Chul'man 73.18 340 *e*P P **19 38 14.5 +0.7**
CLNS pmax pmax
comp=Z,32nm,0.8s
CLNS pmax pmax
comp=N,10.0nm,0.8s
CLNS pmax pmax
comp=E,7.0nm,0.8s
SEY Seymchan 73.21 356 LR LR 20 07 47.6
comp=E,173nm,20.8s,baz=163,slow=34
SEY Seymchan 73.21 356 ⇑*i*P P **19 38 14.4 +0.7**
IMP Imphal 74.17 299 *e*P P **19 38 19.5 -0.8**
CIT Chita 74.23 332 *e*P P **19 38 21.0 +1.0**
CIT *e* 19 38 38.1
CIT *e* 19 38 54.2
CIT pmax pmax
comp=Z,53nm,1.3s
ULN Ulaanbaatar 75.02 326 *e*P P 19 38 30.3 +5.5
ULN pmax pmax
comp=Z,41nm,0.9s
ULN Ulaanbaatar 75.02 326 *e*P P 19 38 30.3 +5.5
comp=Z,42nm,0.9s
GTA Gaotai 75.27 315 *e*P P **19 38 27.8 +1.4**
GTA pP **pP** **19 38 48.5 +0.7**
GTA sP **sP** **19 38 56.5 -0.2**
GTA S **S** **19 48 04.5 +5.0**
GTA sS **sS** **19 48 39.5 +3.5**
GTA PMZ
comp=Z,13nm,1.0s
GTA PMZ
comp=Z,47nm,5.9s
GTA LN
comp=Z,95nm,9.3s
GTA LE
comp=Z,79nm,6.9s
GTA LZ
comp=Z,170nm,9.3s
SONM Songino Array 75.37 325 P P **19 38 27.6 +0.8**
comp=Z,35nm,0.8s,baz=139,slow=5.5,SNR=232
SONM LR LR 20 10 17.8
comp=Z,80nm,22.0s,baz=106,slow=35
YAK Yakutsk 76.06 345 *e*P P **19 38 30.8 +0.5**
YAK pmax pmax
comp=Z,101nm,0.7s
YAK Yakutsk 76.06 345 *e*P P **19 38 30.8 +0.5**
comp=Z,101nm,0.7s
KDAK Kodiak Island 77.49 23 P P **19 38 39.5 +1.1**
comp=Z,272nm,0.7s,SNR=7.4
KDAK Kodiak Island 77.49 23 *e*P P **19 38 39.2 +0.8**
KDAK *e**PP **pP** **19 39 00.0 +0.1**
KDAK pmax pmax
comp=Z,35nm,0.8s
KDAK Kodiak Island 77.49 23 *e*P P **19 38 39.2 +0.8**
comp=Z,35nm,0.8s
KDAK *e*pP **pP** **19 39 00.0 +0.1**
BOD Bodaibo 77.89 336 ⇓*i*P P **19 38 40.1 -0.5**
BOD pmax pmax
comp=Z,14nm,1.0s
BILL Bilibino 78.10 2 *e*P P **19 38 42.2 +0.6**
BILL *e**PP **pP** **19 39 03.8 +0.7**
BILL pmax pmax
comp=Z,51nm,0.9s
BILL Bilibino 78.10 2 *e*P P **19 38 42.2 +0.6**
comp=Z,51nm,0.9s
BILL *e*pP **pP** **19 39 03.8 +0.7**
LSA Lhasa 78.12 303 *e*P P **19 38 45.3 +2.1**
LSA pmax pmax
comp=Z,17nm,1.1s
LSA Lhasa 78.12 303 *e*P P **19 38 45.2 +2.1**
comp=Z,17nm,1.1s
ZAK Zakamensk 78.47 326 *e*P P **19 38 43.8 -0.3**
ZAK pmax pmax
comp=Z,16nm,1.0s
IRK Irkutsk 78.93 328 *e*P **pP** **19 39 03.3 -4.8**
IRK pmax pmax
comp=Z,34nm,2.1s
TLY Talaya 78.96 328 P P **19 38 46.4 -0.3**
comp=Z,151nm,0.8s,SNR=6.6
TLY *e* 19 39 04.7
TLY pmax pmax
comp=Z,25nm,0.9s
TLY MLR MLR
comp=Z,82nm,17.0s
TLY Talaya 78.96 328 *e*P P **19 38 46.8 +0.1**
comp=Z,23nm,0.9s
RSO Redoubt South 79.28 21 *e*P P **19 38 48.2 -0.3**
comp=Z,36nm,0.7s
QSPA South Pole Qui 79.82 180 *e*P P **19 38 51.1 -0.2**
comp=Z,75nm,0.8s
SEW Seward 80.26 23 *e*P P **19 38 54.0 +0.6**
SEW comp=Z,41nm,1.2s *e*pP **pP** **19 39 14.6 -0.5**
TAPN Taplejung 80.28 300 *e*P P **19 38 55.7 +0.9**
comp=Z,62nm,1.4s
MOY Mondy 80.37 327 *e*P P **19 38 54.7 +0.3**
MOY pmax pmax
comp=Z,17nm,2.4s
ODAN Odare 80.42 300 *e*P P **19 38 55.1 -0.3**
RC01 Rabbit Creek A 80.80 22 *e*P P **19 38 56.8 +0.4**
comp=Z,12nm,0.7s
RAMN Ramite 81.12 299 *e*P P **19 38 59.1 -0.1**
PPLA Purkeypile 81.17 20 *e*P P **19 38 58.1 -0.4**
comp=Z,26nm,1.3s
PMR Palmer 81.35 22 *e*P P **19 38 59.3 +0.1**
PMR pmax pmax
comp=Z,15nm,0.8s
PMR Palmer 81.35 22 *e*P P **19 38 59.3 +0.1**
comp=Z,15nm,0.8s
JIRN Jiri 81.67 300 *e*P P **19 39 02.5 +0.3**
PALK Pallekele 81.99 279 *e*P P **19 39 03.6 -0.2**
PALK pmax pmax
comp=Z,51nm,1.2s
PALK Pallekele 81.99 279 *e*P P **19 39 03.6 -0.2**
comp=Z,51nm,1.2s
GUN Gumba 82.00 300 *e*P P **19 39 03.8 -0.1**
TRF Thorofare Moun 82.18 20 *e*P P **19 39 03.4 -0.5**
comp=Z,21nm,1.0s
PKI Pulchoki 82.31 300 *e*P P **19 39 05.5 0.0**
comp=Z,7.8nm,0.6s
DIV Divide 82.31 23 *e*P P **19 39 04.3 -0.2**
comp=Z,111nm,0.8s
DIV *e*pP **pP** **19 39 26.7 +0.6**
PKIN Phulchoki 82.32 300 *e*P P **19 39 05.3 -0.2**
BPAW Bear Paw Mtn. 82.38 19 *e*P P **19 39 04.0 -0.7**
comp=Z,2.8nm,1.1s
KKN Kakani 82.48 300 *e*P P **19 39 06.5 +0.2**
DMN Daman 82.58 300 *e*P P **19 39 06.6 -0.3**
comp=Z,27nm,0.8s
BMRM Bremner River 82.67 24 *e*P P **19 39 07.0 +0.7**
comp=Z,29nm,1.3s
BMRM *e*pP **pP** **19 39 26.3 -1.7**
MCK McKinley 82.82 20 *e*P P **19 39 06.9 -0.1**
MCK *e**PP **pP** **19 39 28.5 -0.2**
MCK pmax pmax
comp=Z,68nm,1.0s
MCK McKinley 82.82 20 *e*P P **19 39 06.9 -0.1**
comp=Z,68nm,1.0s
MCK *e*pP **pP** **19 39 28.4 -0.2**
IM04 Indian Mountai 82.84 17 *e*P P **19 39 07.7 +0.6**
GKN Gorkha 83.08 300 *e*P P **19 39 08.5 -0.8**
comp=Z,30nm,0.7s
MAW Mawson 83.82 202 P P **19 39 12.3 +0.2**
comp=Z,53nm,1.1s,baz=90,slow=6.6,SNR=28
MAW LR LR 20 11 31.7
comp=Z,157nm,21.6s,baz=64,slow=32
KOLN Koldanda 83.91 300 *e*P P **19 39 12.5 -1.1**
comp=Z,29nm,0.8s
COLA College 83.92 19 ⇑*i*P P **19 39 12.5 0.0**
COLA pmax pmax
comp=Z,116nm,0.9s
COLA College 83.92 19 *e*P P **19 39 12.5 0.0**
comp=Z,30nm,0.8s
COLA *e*pP **pP** **19 39 33.8 -0.5**
ILAR Eielson Array 84.17 20 P P **19 39 13.8 0.0**
comp=Z,6.2nm,0.5s,baz=243,slow=5.0,SNR=58
ILAR PKKP **PKKPdf** **19 57 25.1 +3.1**
comp=Z,0.2nm,0.7s,baz=350,slow=2.2,SNR=4.6
ILAR LR LR 20 14 36.5
comp=Z,156nm,18.9s,baz=246,slow=34
TIXI Tiksi 84.44 350 *e*P P **19 39 15.0 0.0**
TIXI pmax pmax
comp=Z,14nm,1.0s
TIXI Tiksi 84.44 350 *e*P P **19 39 14.6 -0.4**
TIXI *e*pP **pP** **19 39 34.1 -2.8**
COLD Coldfoot 84.74 17 *e*P P **19 39 17.7 +1.0**
comp=Z,7.4nm,1.0s
WMQ Urumqi 85.34 316 *e*P P **19 39 20.8 +0.5**
WMQ pP **pP** **19 39 42.0 -0.1**
WMQ sP **sP** **19 39 51.0 +0.1**
WMQ PP **PP** **19 42 41.0 +1.6**
WMQ SKS **SKSac** **19 49 35.5 -2.7**
WMQ S **S** **19 49 43.0 -1.6**
WMQ sS **sS** **19 50 20.5 -1.4**
WMQ SS **SS** **19 55 19.8 -1.5**
WMQ PMZ
comp=Z,10.0nm,1.0s
WMQ PMZ
comp=Z,170nm,5.4s
WMQ LN
comp=Z,130nm,25.2s
WMQ LE
comp=Z,950nm,21.4s
WMQ LZ
comp=Z,140nm,26.2s
HOPS Hopland Field 85.47 49 *e*P P **19 39 21.4 +0.4**
comp=Z,9.4nm,1.1s
HYT Haines Junctio 85.50 26 *e*P P **19 39 21.9 +1.2**
HYT *e*pP **pP** **19 39 41.2 -1.5**
SKAG Skagway 85.78 27 *e*P P **19 39 23.5 +1.5**
comp=Z,12nm,1.0s
WRAK Wrangell Islan 85.84 31 *e*P P **19 39 21.8 -0.6**
comp=Z,15nm,0.4s
L02D Cave Junction, 86.02 46 ⇓P P **19 39 25.5 +1.9**
baz=86
EGAK Eagle 86.16 21 *e*P P **19 39 24.7 +0.9**
comp=Z,26nm,0.9s
N02D Trinity Center 86.31 47 ⇑P P **19 39 27.0 +1.9**
baz=86,SNR=6.8
WDC Whiskeytown Da 86.32 48 *e*P P **19 39 25.3 +0.2**
WDC pmax pmax
comp=Z,17nm,1.3s
WDC Whiskeytown Da 86.32 48 *e*P P **19 39 25.3 +0.2**
comp=Z,17nm,1.3s
M02C Callahan 86.33 47 ⇓P P **19 39 27.2 +2.0**
baz=86,SNR=8.4
DAWY Dawson 86.42 22 *e*P P **19 39 26.9 +1.7**
BBB Bella Bella 86.45 36 LR LR 20 10 54.7
comp=Z,107nm,20.8s,baz=280,slow=30
YBH Yreka Blue Hor 86.53 47 *e*P P **19 39 28.3 +2.1**
YBH *e**PP **pP** **19 39 49.4 +1.3**
YBH pmax pmax
comp=Z,16nm,1.1s
YBH Yreka Blue Hor 86.53 47 *e*P P **19 39 28.3 +2.1**
comp=Z,16nm,1.1s
YBH *e*pP **pP** **19 39 49.4 +1.3**
HUMO Hull Mountain 86.61 46 *e*P P **19 39 28.0 +1.5**
comp=Z,20nm,1.0s
HUMO *e*pP **pP** **19 39 46.6 -1.8**
KRAR Krasnoyarsk 86.62 328 *e*P P **19 39 25.2 -1.0**
KRAR pmax pmax
comp=Z,6.0nm,0.9s
I03D Drain, OR 86.65 45 ⇑P P **19 39 28.5 +1.8**
baz=87
BSC Santa Cruz Isl 86.80 55 ⇑P P **19 39 29.0 +1.3**
baz=87
PKM Mcpherson Peak 86.87 54 ⇓P P **19 39 30.1 +1.9**
baz=87
G03D McMinnville, O 87.16 43 ⇑P P **19 39 30.8 +1.7**
baz=87
M04C Macdoel 87.17 47 ⇑P P **19 39 30.8 +1.4**
baz=87,SNR=9.8
CMB Columbia Colle 87.23 51 *e*P P **19 39 29.6 -0.1**
CMB pmax pmax
comp=Z,8.0nm,1.0s
CMB Columbia Colle 87.23 51 *e*P P **19 39 29.6 -0.1**
comp=Z,8.2nm,1.0s
BLG Laguna Peak, P 87.28 55 ⇑P P **19 39 31.6 +1.5**
baz=88
I04A Tendick Farm, 87.33 45 ⇑P P **19 39 31.5 +1.4**
baz=88
J04D Umpqua Nationa 87.39 45 ⇓P P **19 39 32.3 +1.8**
baz=88
DLBC Dease Lake 87.82 29 *e*P P **19 39 32.8 +0.7**
DLBC *e*pP **pP** **19 39 54.9 +0.9**
J05D Fort Rock, OR 88.01 46 ⇓P P **19 39 35.4 +2.0**
baz=88
WAKR Walker 88.08 50 *e*P P **19 39 34.8 +0.9**
K05A Summer Lake 88.10 46 *e*P P **19 39 34.7 +0.7**
comp=Z,22nm,0.9s
ISA Isabella, Lake 88.13 53 *e*P P **19 39 35.0 +0.9**
ISA pmax pmax
comp=Z,15nm,1.4s
ISA Isabella, Lake 88.13 53 *e*P P **19 39 35.0 +0.9**
comp=Z,15nm,1.4s
ISA Isabella, Lake 88.13 53 ⇓P P **19 39 35.9 +1.9**
baz=88
I05D Terrebonne, OR 88.23 44 ⇑P P **19 39 36.0 +1.7**
baz=88
EDW2 Edwards Air Fo 88.33 54 ⇑P P **19 39 36.5 +1.5**
baz=88
BFSC Mount Baldy Ra 88.45 55 ⇑P P **19 39 36.9 +1.2**
baz=89
MURC Murrieta 88.67 56 ⇓P P **19 39 38.2 +1.6**
baz=89
BAR Barrett 88.90 57 *e*P P **19 39 37.6 -0.1**
comp=Z,5.2nm,1.1s
NVAR Mina Array Bea 88.92 51 P P **19 39 39.5 +1.6**
comp=Z,9.4nm,0.9s,baz=240,slow=5.8,SNR=34
NVAR pP **pP** **19 40 01.1 +1.2**
comp=Z,4.4nm,0.7s,baz=239,slow=7.9,SNR=5.2
DAC Darwin (Calif) 88.97 53 *e*P P **19 39 39.7 +1.5**
DAC pmax pmax
comp=Z,20nm,1.0s
DAC Darwin (Calif) 88.97 53 *e*P P **19 39 39.7 +1.5**
comp=Z,20nm,1.0s
MPMC Manual Prospec 89.00 53 ⇓P P **19 39 39.5 +1.2**
baz=89,SNR=23
MONP Monument Peak, 89.15 57 ⇑P P **19 39 40.7 +1.6**
baz=89,SNR=12
PFO Pinyon Flats O 89.28 56 LR LR 20 10 47.8
comp=Z,268nm,21.1s,baz=311,slow=30
PFO Pinyon Flats O 89.28 56 ⇓P P **19 39 40.9 +1.3**
baz=90
GRAC Grapevine Rang 89.31 52 ⇑P P **19 39 40.7 +1.2**
baz=90,SNR=7.4
GSC Goldstone, Bar 89.37 54 *e*P P **19 39 41.3 +1.3**
GSC pmax pmax
comp=Z,18nm,1.2s
GSC Goldstone, Bar 89.37 54 *e*P P **19 39 41.2 +1.3**
comp=Z,18nm,1.2s
GSC Goldstone, Bar 89.37 54 ⇑P P **19 39 41.2 +1.3**
baz=90,SNR=7.8
I07A Izee 89.43 45 *e*P P **19 39 41.8 +1.7**
I07A *e*pP **pP** **19 40 03.9 +1.8**
FURC Furnace Creek, 89.59 53 ⇓P P **19 39 41.7 +1.0**
baz=90,SNR=12
WVOR Wild Horse Val 89.64 47 *e*P P **19 39 42.2 +1.1**
WVOR pmax pmax
comp=Z,36nm,1.2s
WVOR Wild Horse Val 89.64 47 *e*P P **19 39 42.2 +1.1**
comp=Z,36nm,1.2s
HEC Hector,Ludlow 89.65 55 ⇓P P **19 39 42.0 +0.8**
baz=90
TPH Tonopah 89.67 51 *e*P P **19 39 42.3 +0.9**
TPH pmax pmax
comp=Z,16nm,1.1s
TPH Tonopah 89.67 51 *e*P P **19 39 42.3 +0.9**
comp=Z,16nm,1.1s
SWSC Sam W. Stewart 89.68 57 ⇑P P **19 39 42.5 +1.2**
baz=90,SNR=5.7
BELC Belle Mtn. Jos 89.74 56 ⇑P P **19 39 43.3 +1.6**
baz=90,SNR=20
ETW Entiat 89.78 42 P P **19 39 42.8 +1.2**
MK31 Makanchi Array 89.85 318 *e*P P **19 39 41.0 -0.8**
MK31 *e**PP **pP** **19 40 03.2 -0.6**
MK31 Makanchi Array 89.85 318 *e*P P **19 39 41.0 -0.8**
MK31 *e*pP **pP** **19 40 03.2 -0.6**
MKAR Makanchi Array 89.85 318 P P **19 39 41.4 -0.5**
comp=Z,5.8nm,0.9s,baz=101,slow=5.7,SNR=43
MKAR LR LR 20 18 11.7
comp=Z,33nm,21.9s,baz=54,slow=34
SHOC Shoshone, Teco 89.92 54 ⇓P P **19 39 44.2 +1.8**
baz=90
HAWA Hanford 90.00 43 *e*P P **19 39 43.1 +0.6**
comp=Z,16nm,1.4s
HAWA *e*pP **pP** **19 40 05.8 +1.2**

TUQ	**Turquoise Moun**	**90.10**	**54**	⇓P		**P**		19 39 44.8 +1.3
	baz=90,SNR=11							
BC3	**Big Chuckawall**	**90.11**	**56**	⇓P		**P**		19 39 44.8 +1.3
	baz=90,SNR=11							
TPNV	**Topopah Spring**	**90.17**	**53**	⇑P		**P**		19 39 45.1 +1.3
	baz=90,SNR=22							
GMRC	**Granite Mounta**	**90.17**	**55**	⇓P		**P**		19 39 45.0 +1.2
	baz=90,SNR=11							
BMN	**Battle Mountai**	**90.20**	**49**	*e*P		**P**		19 39 45.1 +1.3
BMN					pmax	pmax		
	comp=Z,14nm,0.9s							
BMN	**Battle Mountai**	**90.20**	**49**	*e*P		**P**		19 39 45.1 +1.3
	comp=Z,14nm,0.9s							
ZALV	**Zalesovo Beam**	**90.26**	**325**	P		**P**		19 39 41.8 -1.7
	comp=Z,2.0nm,0.7s,baz=107,slow=5.0,SNR=9.0							
ZALV					LR	LR		20 20 43.9
	comp=Z,56nm,20.9s,baz=70,slow=36							
ZALV	**Zalesovo Beam**	**90.26**	**325**	*i* P		**P**		19 39 42.2 -1.3
ZALV					pmax	pmax		
	comp=Z,2.0nm,0.7s							
IRM	**Iron Mountain**	**90.46**	**56**	⇓P		**P**		19 39 46.4 +1.4
	baz=91,SNR=14							
GLA	**Glamis**	**90.50**	**57**	*e*P		**P**		19 39 45.6 +0.4
GLA					pmax	pmax		
	comp=Z,19nm,1.1s							
GLA	**Glamis**	**90.50**	**57**	*e*P		**P**		19 39 45.6 +0.4
	comp=Z,19nm,1.1s							
GLA	**Glamis**	**90.50**	**57**	⇓P		**P**		19 39 46.9 +1.8
	baz=91,SNR=6.4							
D08A	**Wollman Farm,**	**90.57**	**42**	*e*P		**P**		19 39 46.3 +1.1
	comp=Z,13nm,1.0s							
B08A	**Colville Reser**	**90.63**	**41**	*e*P		**P**		19 39 44.4 -1.0
	comp=Z,12nm,0.9s							
OD2	**Odessa Site #2**	**90.79**	**42**	P		**P**		19 39 47.7 +1.5
Y12C	**Blythe**	**90.89**	**56**	⇓P		**P**		19 39 48.5 +1.6
	baz=91,SNR=7.0							
SHPR	**Sheep Range**	**90.93**	**53**	*e*P		**P**		19 39 47.8 +0.5
R11A	**Troy Canyon, C**	**90.98**	**51**	*e*P		**P**		19 39 48.8 +1.2
	comp=Z,17nm,1.1s							
R11A	**Troy Canyon, C**	**90.98**	**51**	⇑P		**P**		19 39 49.2 +1.7
	baz=91							
BMO	**Blue Mountains**	**91.14**	**45**	*e*P		**P**		19 39 48.4 +0.4
BMO				*e**PP		**pP**		19 40 10.9 +0.9
BMO					pmax	pmax		
	comp=Z,17nm,1.2s							
BMO	**Blue Mountains**	**91.14**	**45**	*e*P		**P**		19 39 48.4 +0.4
	comp=Z,17nm,1.1s							
BMO					*e*pP	**pP**		19 40 10.9 +0.9
PDMCI	**Parker Dam,Lak**	**91.31**	**56**	⇓P		**P**		19 39 50.1 +1.2
	baz=92							
ELK	**Elko**	**91.74**	**49**	*e*P		**P**		19 39 52.3 +1.3
ELK					pmax	pmax		
	comp=Z,13nm,1.0s							
ELK	**Elko**	**91.74**	**49**	*e*P		**P**		19 39 52.3 +1.3
	comp=Z,13nm,1.0s							
MFID	**Camas Ranch**	**91.87**	**46**	*e*P		**P**		19 39 52.5 +1.1
	comp=Z,18nm,1.2s							
MFID					pP	**pP**		19 40 14.7 +1.2
214A	**Organ Pipe Nat**	**91.95**	**58**	*e*P		**P**		19 39 49.6 -2.4
	comp=Z,7.8nm,1.0s							
214A	**Organ Pipe Nat**	**91.95**	**58**	⇑P		**P**		19 39 52.9 +1.0
	baz=92							
NEW	**Newport**	**92.04**	**41**	*e*P		**P**		19 39 52.1 +0.1
NEW				*e**PP		**pP**		19 40 12.2 -1.8
NEW					pmax	pmax		
	comp=Z,13nm,0.8s							
NEW	**Newport**	**92.04**	**41**	*e*P		**P**		19 39 52.1 +0.1
	comp=Z,13nm,0.8s							
NEW					*e*pP	**pP**		19 40 12.2 -1.8
NEW	**Newport**	**92.04**	**41**	⇓P		**P**		19 39 53.2 +1.2
	baz=92							
KSH	**Kashi**	**92.74**	**309**	P		**P**		19 39 56.3 +0.8
KSH				pP		**pP**		19 40 17.0 -0.6
KSH				PP		**PP**		19 43 40.3 +1.6
KSH				SKS		**SKSac**		19 50 21.0 -1.3
KSH				S		**S**		19 50 50.8 -3.4
KSH				PMZ				
	comp=Z,38nm,4.7s							
KSH				LN				
	comp=Z,98nm,8.0s							
KSH				LE				
	comp=Z,110nm,6.6s							
KSH				LZ				
	comp=Z,210nm,6.7s							
HLID	**Hailey**	**92.91**	**46**	*e*P		**P**		19 39 57.8 +1.5
	comp=Z,23nm,1.1s							
HLID	**Hailey**	**92.91**	**46**	⇑P		**P**		19 39 58.3 +2.0
	baz=93							
KURK	**Kurchatov**	**93.13**	**321**	P		**P**		19 39 55.0 -1.9
	comp=Z,19nm,1.0s,SNR=6.0							
KURK	**Kurchatov**	**93.13**	**321**	*e*P		**P**		19 39 55.4 -1.5
KURK				*e**PP		**pP**		19 40 17.2 -1.7
KURK					pmax	pmax		
	comp=Z,15nm,1.1s							
KURK	**Kurchatov**	**93.13**	**321**	*e*P		**P**		19 39 55.4 -1.5
	comp=Z,15nm,1.1s							
KURK				*e*pP		**pP**		19 40 17.2 -1.7
DUG	**Dugway, Tooele**	**93.45**	**50**	⇓P		**P**		19 40 00.2 +1.3
	baz=94							
BSMT	**Bassoo Peak**	**93.48**	**42**	*e*P		**P**		19 39 59.2 +0.3
	comp=Z,4.5nm,1.0s							
TUC	**Tucson**	**93.71**	**58**	*e*P		**P**		19 40 01.2 +1.1
TUC					pmax	pmax		
	comp=Z,6.0nm,0.9s							
TUC	**Tucson**	**93.71**	**58**	*e*P		**P**		19 40 01.2 +1.1
	comp=Z,5.8nm,0.9s							
HVU	**Hansel Valley**	**93.76**	**48**	*e*P		**P**		19 40 01.7 +1.4
HVU				*e**PP		**pP**		19 40 23.9 +1.6
HVU	**Hansel Valley**	**93.76**	**48**	*e*P		**P**		19 40 01.7 +1.4
HVU				*e*pP		**pP**		19 40 23.9 +1.6
MCMT	**McKenzie Canyo**	**94.25**	**45**	*e*P		**P**		19 40 03.5 +1.0
MCMT				*e*pP		**pP**		19 40 25.6 +1.0
WALA	**Waterton Lakes**	**94.28**	**41**	*e*P		**P**		19 40 04.3 +1.9
AAK	**Ala-Archa**	**94.39**	**312**	⇑P		**P**		19 40 02.1 -1.0
AAK					pmax	pmax		
	comp=Z,3.0nm,1.3s							
DLMT	**Dillon**	**94.51**	**45**	*e*P		**P**		19 40 03.8 +0.2
	comp=Z,53nm,2.2s							
W18A	**Petrified Fore**	**95.02**	**55**	⇓P		**P**		19 40 07.7 +1.5
	baz=95							
BOZ	**Bozeman (W)**	**95.23**	**45**	*e*P		**P**		19 40 06.8 -0.1
BOZ				*e**PP		**pP**		19 40 29.9 +1.0
BOZ					pmax	pmax		
	comp=Z,6.0nm,1.0s							
BOZ	**Bozeman (W)**	**95.23**	**45**	*e*P		**P**		19 40 06.8 -0.1
	comp=Z,5.8nm,1.0s							
BOZ				*e*pP		**pP**		19 40 29.9 +1.0
QLMT	**Earthquake Lak**	**95.24**	**46**	*e*P		**P**		19 40 07.4 +0.4
	comp=Z,0.3nm,0.4s							
FXWY	**Fox Creek**	**95.34**	**47**	*e*P		**P**		19 40 08.9 +1.3
	comp=Z,5.0nm,0.9s							
EDM	**Edmonton**	**95.36**	**37**	*e*P		**P**		19 40 07.5 +0.4
EDM	**Edmonton**	**95.36**	**37**	*e*P		**P**		19 40 07.5 +0.4
IMW	**Indian Meadow**	**95.44**	**47**	*e*P		**P**		19 40 10.0 +1.9
	comp=Z,5.4nm,0.9s							
MOOW	**Moose Ponds**	**95.56**	**47**	*e*P		**P**		19 40 10.5 +1.9
	comp=Z,5.7nm,1.0s							
H17A	**Grant Village**	**95.78**	**46**	*e*P		**P**		19 40 11.4 +1.9
	comp=Z,7.1nm,0.8s							
H17A	**Grant Village**	**95.78**	**46**	⇓P		**P**		19 40 11.2 +1.7
	baz=96							
121A	**Cookes Peak, D**	**96.25**	**58**	⇑P		**P**		19 40 12.6 +0.7
	baz=96							
PDAR	**Pinedale Array**	**96.28**	**48**	P		**P**		19 40 12.2 +0.4
	comp=Z,2.7nm,1.0s,baz=279,slow=2.9,SNR=10							
YKA	**Yellowknife Ar**	**96.28**	**28**	P		**P**		19 40 10.8 -0.2
	comp=Z,5.3nm,0.8s,baz=258,slow=4.6,SNR=45							
H18A	**Shoshone NF, C**	**96.46**	**46**	⇑P		**P**		19 40 14.3 +1.7
	baz=97							
GCMT	**Greycliff**	**96.61**	**45**	*e*P		**P**		19 40 14.1 +0.9
J19A	**Crowheart**	**96.71**	**47**	⇑P		**P**		19 40 14.7 +1.0
	baz=97							
EGMT	**Eagleton**	**96.85**	**43**	*e*P		**P**		19 40 14.7 +0.6
	comp=Z,16nm,1.0s							
EGMT	**Eagleton**	**96.85**	**43**	⇑P		**P**		19 40 15.4 +1.3
	baz=97							
H19A	**Powell**	**96.94**	**46**	⇓P		**P**		19 40 16.2 +1.5
	baz=97							
F19A	**Roth Farm, Mol**	**97.12**	**45**	⇓P		Pdif		19 40 17.0 +1.5
	baz=97							
C19A	**Slack Wire Ran**	**97.28**	**43**	⇓P		Pdif		19 40 17.5 +1.3
	baz=97							
E19A	**Rath Farm, Rou**	**97.31**	**44**	⇓P		Pdif		19 40 17.3 +1.1
	baz=98							
D19A	**Cripps Ranch,**	**97.33**	**43**	⇓P		Pdif		19 40 17.8 +1.4
	baz=98							
A19A	**Klindworth Far**	**97.63**	**42**	⇓P		Pdif		19 40 18.7 +1.1
	baz=98							
SNAA	**Sanae**	**97.64**	**185**	*e*P		**P**		**19 40 16.8 -0.4**
SNAA					pmax	pmax		
	comp=Z,3.0nm,1.1s							
SNAA	**Sanae**	**97.64**	**185**	*e*P		P		19 40 12.1 -5.1
ANMO	**Albuquerque**	**97.66**	**56**	*e*P		**P**		**19 40 17.9 -0.3**
ANMO					pmax	pmax		
	comp=Z,17nm,1.0s							
ANMO	**Albuquerque**	**97.66**	**56**	*e*P		Pdif		19 40 18.9 +0.7
	comp=Z,3.6nm,0.9s							
SMCO	**Snowmass**	**97.76**	**52**	P		**P**		**19 40 18.6 -0.2**
E20A	**Meyer Farm, Mu**	**97.76**	**44**	⇑P		Pdif		19 40 19.7 +1.4
	baz=98							
D20A	**Manuel Ranch,**	**97.82**	**44**	⇓P		Pdif		19 40 20.0 +1.5
	baz=98							
J21A	**Lysite**	**97.89**	**47**	⇑P		Pdif		19 40 20.5 +1.4
	baz=98							
C20A	**Veseth Ranch,**	**97.98**	**43**	⇑P		Pdif		19 40 20.4 +1.2
	baz=98							
A20A	**Cobblestone Ra**	**98.16**	**42**	⇓Pdif		Pdif		19 40 21.3 +1.4
	baz=98							
G21A	**Lodge Grass**	**98.26**	**46**	⇑Pdif		Pdif		19 40 21.7 +1.1
	baz=98							
BRVK	**Borovoye**	**98.59**	**322**	*e*P		**P**		**19 40 20.6 -1.1**
BRVK					pmax	pmax		
	comp=Z,5.0nm,1.4s							
VNA2	**Neumayer--Watz**	**98.71**	**184**	P		Pdif		19 40 22.6 +0.6
	baz=182,slow=4.2							
B21A	**Ellsworth Farm**	**98.71**	**42**	⇓Pdif		Pdif		19 40 24.0 +1.6
	baz=99							
A21A	**Bergtoll Ranch**	**98.83**	**42**	⇓Pdif		Pdif		19 40 24.4 +1.5
	baz=99							
F22A	**Rosebud**	**98.98**	**45**	⇑Pdif		Pdif		19 40 25.6 +1.9
	baz=99							
D22A	**Cohagen**	**99.16**	**44**	⇓Pdif		**Pdif**		**19 40 25.9 +1.5**
	baz=99							
E22A	**Miles City**	**99.25**	**44**	⇓Pdif		**Pdif**		**19 40 26.6 +1.7**
	baz=99							
TXAR	**Lajitas Array**	**99.36**	**62**	P		**Pdif**		**19 40 27.1 +1.3**
	comp=Z,0.7nm,0.8s,baz=251,slow=3.8,SNR=7.0							
TXAR					PP	**PP**		19 44 30.0 -0.1
	comp=Z,0.5nm,0.9s,baz=258,slow=6.0,SNR=4.1							
TXAR					LR	LR		20 16 09.3
	comp=Z,227nm,22.0s,baz=0.0,slow=30							
A22A	**Carney Farms,**	**99.49**	**42**	⇑Pdif		**Pdif**		**19 40 27.0 +1.1**
	baz=100							
T25A	**Trinidad**	**99.55**	**54**	⇓Pdif		**Pdif**		**19 40 27.8 +1.1**
	baz=100							
F23A	**Volborg**	**99.57**	**45**	⇓Pdif		**Pdif**		**19 40 28.0 +1.6**
	baz=100							
E23A	**Ismay**	**99.70**	**44**	⇓Pdif		**Pdif**		**19 40 28.4 +1.6**
	baz=100							
C23A	**Lambert**	**99.88**	**43**	⇑Pdif		**Pdif**		**19 40 29.2 +1.6**
	baz=100							
B23A	**Brockton**	**100.06**	**42**	⇑Pdif		**Pdif**		**19 40 30.0 +1.6**
	baz=100							
S26A	**Kim**	**100.34**	**53**	⇓Pdif		**Pdif**		**19 40 31.3 +1.2**
	baz=100							
J25A	**Sunshine Ranch**	**100.53**	**48**	⇓Pdif		**Pdif**		**19 40 32.4 +1.6**
	baz=101							
128A	**Castleberry Fa**	**100.70**	**59**	⇓Pdif		**Pdif**		**19 40 33.4 +1.7**
	baz=101							
U27A	**Thompson Grove**	**100.75**	**55**	⇓Pdif		**Pdif**		**19 40 32.7 +0.8**
	baz=101							
D25A	**Fairfield**	**101.11**	**44**	⇑Pdif		**Pdif**		**19 40 34.3 +1.1**
	baz=101							
A25A	**Svangstu Ranch**	**101.33**	**42**	⇓Pdif		**Pdif**		**19 40 35.1 +1.1**
	baz=102							
G26A	**Maurine**	**101.51**	**46**	⇓Pdif		**Pdif**		**19 40 36.4 +1.5**
	baz=102							
AMTX	**Amarillo**	**101.56**	**56**	⇑Pdif		**Pdif**		**19 40 36.6 +1.1**
	baz=102							
531A	**Rocksprings**	**102.14**	**61**	⇓Pdif		**Pdif**		**19 40 38.9 +0.8**
	baz=102							
Q29A	**Oakley**	**102.39**	**52**	⇓Pdif		**Pdif**		**19 40 39.7 +0.7**
	baz=102							
232A	**Coleman**	**103.04**	**60**	⇓Pdif		**Pdif**		**19 40 42.2 +0.2**
	baz=103							
J29A	**Okreek**	**103.07**	**48**	⇑Pdif		**Pdif**		**19 40 41.8 -0.1**
	baz=103							
ARCES	**ARCESS Array B**	**114.34**	**344**	PKiKP		PKPdf		19 45 21.2 -0.6
	comp=Z,1.9nm,1.0s,baz=67,slow=2.3,SNR=4.1							
OBN	**Obninsk**	**117.72**	**328**	PKiKP		**PKPdf**		**19 45 28.0 -0.6**
OBN				*e*				19 45 53.7
FINES	**FINESS Array B**	**119.28**	**337**	PKP		**PKPdf**		**19 45 30.1 -1.4**
	comp=Z,2.1nm,0.9s,baz=52,slow=3.4,SNR=6.2							
SCHQ	**Schefferville**	**121.61**	**30**	PKP		**PKPdf**		**19 45 35.4 -0.8**
	comp=Z,3.6nm,0.8s,baz=278,slow=6.8,SNR=3.5							
BOSA	**Boshof**	**122.57**	**227**	PKP		**PKPdf**		**19 45 38.3 -0.7**
	comp=Z,5.2nm,0.7s,baz=117,slow=1.7,SNR=8.8							
KMBO	**Kilima Mbogo**	**123.10**	**262**	*e*PKiKP		**PKPdf**		**19 45 40.0 -0.5**
KMBO	**Kilima Mbogo**	**123.10**	**262**	*e*PKPdf		**PKPdf**		**19 45 40.0 -0.5**
AKASG	**Malin Array Be**	**123.65**	**325**	PKP		**PKPdf**		**19 45 39.1 -1.1**
	comp=Z,3.9nm,0.8s,baz=61,slow=2.2,SNR=22							
LBTB	**Lobatse**	**124.35**	**230**	*e*PKiKP		**PKPdf**		**19 45 41.5 -1.0**
LBTB	**Lobatse**	**124.35**	**230**	*e*PKPdf		**PKPdf**		**19 45 41.5 -1.0**
LPAZ	**La Paz**	**124.56**	**118**	PKP		**PKPdf**		**19 45 43.3 -0.4**
	comp=Z,1.8nm,0.9s,baz=354,slow=3.7,SNR=5.2							
NB2	**NORSAR Subarra**	**124.63**	**343**	PKPdf		**PKPdf**		**19 45 41.0 -0.8**
	comp=Z,5.4nm,1.1s,baz=39,slow=1.9							
NOA	**NORSAR Array B**	**124.63**	**343**	PKP		**PKPdf**		**19 45 41.1 -0.7**
	comp=Z,2.9nm,0.9s,baz=37,slow=2.0,SNR=12							
BRTR	**Keskin Array B**	**125.06**	**312**	PKP		**PKPdf**		**19 45 42.0 -1.4**
	comp=Z,2.0nm,1.1s,baz=119,slow=1.5,SNR=8.5							
BRTR					PP	PP		19 47 42.6 +9.4
	comp=Z,0.2nm,0.4s,baz=80,slow=4.6,SNR=2.5							
LVV	**L'vov**	**126.97**	**327**	*e*PKiKP		PKPdf		19 45 54.7 +8.1
LSZ	**Lusaka**	**127.02**	**242**	*e*PKiKP		**PKPdf**		**19 45 46.9 -0.9**
LSZ	**Lusaka**	**127.02**	**242**	*e*PKPdf		**PKPdf**		**19 45 46.9 -0.9**
BUR08	**Bucovina Ar. S**	**127.45**	**324**	*e*PKPdf		**PKPdf**		**19 45 48.4 +0.7**
KOLS	**Kolonicke sedl**	**128.41**	**326**	*e*PKiKP		**PKPdf**		**19 45 49.7 +0.3**
KOLS	**Kolonicke sedl**	**128.41**	**326**	*e*PKP		**PKPdf**		**19 45 49.7 +0.3**
SDV	**Santo Domingo**	**128.92**	**87**	*e*PKPdf		**PKPdf**		**19 45 50.8 -0.7**
BRG	**Berggiesshubel**	**131.33**	**333**	*e*PKP		**PKPdf**		**19 45 54.7 -0.1**
	comp=Z,3.2nm,1.0s							
BRG	**Berggiesshubel**	**131.33**	**333**	*e*PKiKP		**PKPdf**		**19 45 54.7 -0.1**
BRG					pmax	pmax		
	comp=Z,3.0nm,1.0s							
CLL	**Collm**	**131.44**	**334**	*i* PKPdf		**PKPdf**		**19 45 54.9 -0.1**
	comp=Z,4.0nm,1.1s							
CLL				*ep*PKPdf		**pPKPdf**		**19 46 16.0 -1.9**
CLL				Lm		MLR		20 44 00.0
	comp=Z,100nm,21.7s							
CLL	**Collm**	**131.44**	**334**	*i* PKiKP		**PKPdf**		**19 45 54.9 -0.1**
CLL				*e*				19 46 16.0
CLL					pmax	pmax		
	comp=Z,4.0nm,1.1s							
CONA	**Conrad Observa**	**132.41**	**329**	⇑*i* PKPdf		**PKPdf**		**19 45 55.9 -1.2**
	comp=Z,3.3nm,0.8s							
MEM	**Membach**	**134.80**	**338**	PKP		**PKPdf**		**19 46 02.3 +1.0**
ABTA	**Abfaltersbach**	**134.89**	**330**	⇑*i* PKPdf		**PKPdf**		**19 46 01.5 -0.3**
	comp=Z,5.8nm,1.1s							
MOTA	**Moosalm**	**135.16**	**331**	⇑*i* PKPdf		**PKPdf**		**19 46 02.0 -0.3**
	comp=Z,5.2nm,0.9s							
GIVF	**Givet**	**135.65**	**338**	*e*PKiKP		**PKPdf**		**19 46 02.7 -0.3**
	comp=Z,16nm,0.9s							
GIVF	**Givet**	**135.65**	**338**	*e*PKiKP		**PKPdf**		**19 46 02.7 -0.3**
GIVF	**Givet**	**135.65**	**338**	*e*PKPdf		**PKPdf**		**19 46 02.7 -0.3**
HINF	**Hinteralfeld**	**136.70**	**335**	*e*PKiKP		**PKPdf**		**19 46 03.9 -1.2**
	comp=Z,6.2nm,0.8s							
HINF	**Hinteralfeld**	**136.70**	**335**	*e*PKiKP		**PKPdf**		**19 46 03.9 -1.2**
HINF	**Hinteralfeld**	**136.70**	**335**	*e*PKPdf		**PKPdf**		**19 46 03.9 -1.2**
MEZF	**Maizieres J'vi**	**136.88**	**337**	*e*PKiKP		**PKPdf**		**19 46 04.8 -0.5**
	comp=Z,14nm,0.8s							
MEZF	**Maizieres J'vi**	**136.88**	**337**	*e*PKPdf		**PKPdf**		**19 46 04.8 -0.5**
CABF	**La Chapelle**	**137.97**	**334**	*e*PKiKP		**PKPdf**		**19 46 07.1 -0.4**
	comp=Z,16nm,1.0s							
CABF	**La Chapelle**	**137.97**	**334**	*e*PKiKP		**PKPdf**		**19 46 07.1 -0.4**
CABF	**La Chapelle**	**137.97**	**334**	*e*PKPdf		**PKPdf**		**19 46 07.1 -0.4**
LOR	**Lormes**	**138.35**	**337**	*e*PKiKP		**PKPdf**		**19 46 07.3 -0.8**
LOR	**Lormes**	**138.35**	**337**	*e*PKiKP		**PKPdf**		**19 46 07.3 -0.8**
LOR	**Lormes**	**138.35**	**337**	*e*PKPdf		**PKPdf**		**19 46 07.3 -0.8**
LPL	**La Plagne**	**138.54**	**333**	*e*PKiKP		**PKPdf**		**19 46 08.1 -0.7**
LPL	**La Plagne**	**138.54**	**333**	*e*PKiKP		**PKPdf**		**19 46 08.1 -0.7**
LPL	**La Plagne**	**138.54**	**333**	*e*PKPdf		**PKPdf**		**19 46 08.1 -0.7**
LPG	**La Plagne**	**138.54**	**333**	*e*PKiKP		**PKPdf**		**19 46 07.6 -1.3**
LPG	**La Plagne**	**138.54**	**333**	*e*PKiKP		**PKPdf**		**19 46 07.6 -1.3**
LPG	**La Plagne**	**138.54**	**333**	*e*PKPdf		**PKPdf**		**19 46 07.6 -1.3**
LDF	**La Druitiere**	**138.63**	**341**	*e*PKiKP		**PKPdf**		**19 46 07.6 -0.9**
LDF	**La Druitiere**	**138.63**	**341**	*e*PKiKP		**PKPdf**		**19 46 07.6 -0.9**
LDF	**La Druitiere**	**138.63**	**341**	*e*PKPdf		**PKPdf**		**19 46 07.6 -0.9**
SSF	**Saint Saulge**	**138.66**	**337**	*e*PKiKP		**PKPdf**		**19 46 08.0 -0.6**
	comp=Z,11nm,0.9s							
SSF	**Saint Saulge**	**138.66**	**337**	*e*PKiKP		**PKPdf**		**19 46 08.0 -0.6**
SSF	**Saint Saulge**	**138.66**	**337**	*e*PKPdf		**PKPdf**		**19 46 08.0 -0.6**
BNI	**Bardonecchia**	**138.92**	**332**	*e*PKiKP		**PKPdf**		**19 46 07.4 -2.0**
BNI	**Bardonecchia**	**138.92**	**332**	*e*PKPdf		**PKPdf**		**19 46 07.4 -2.0**
BGF	**Bois d'Agland**	**139.33**	**337**	*e*PKiKP		**PKPdf**		**19 46 09.1 -0.8**
	comp=Z,19nm,1.1s							
BGF	**Bois d'Agland**	**139.33**	**337**	*e*PKiKP		**PKPdf**		**19 46 09.1 -0.8**
BGF	**Bois d'Agland**	**139.33**	**337**	*e*PKPdf		**PKPdf**		**19 46 09.1 -0.8**
PGF	**Pioggiola**	**139.62**	**328**	*e*PKiKP		**PKPdf**		**19 46 08.8 -1.9**
	comp=Z,17nm,1.0s							
PGF	**Pioggiola**	**139.62**	**328**	*e*PKiKP		**PKPdf**		**19 46 08.8 -1.9**
PGF	**Pioggiola**	**139.62**	**328**	*e*PKPdf		**PKPdf**		**19 46 08.8 -1.9**
SGMF	**Saint Gilles**	**139.66**	**343**	*e*PKiKP		**PKPdf**		**19 46 09.7 -0.7**
	comp=Z,10nm,0.9s							
SGMF	**Saint Gilles**	**139.66**	**343**	*e*PKiKP		**PKPdf**		**19 46 09.7 -0.7**
SGMF	**Saint Gilles**	**139.66**	**343**	*e*PKPdf		**PKPdf**		**19 46 09.7 -0.7**
SMRF	**Simiane la Rot**	**140.25**	**332**	*e*PKiKP		**PKPdf**		**19 46 10.3 -1.4**
	comp=Z,8.9nm,1.0s							
SMRF	**Simiane la Rot**	**140.25**	**332**	*e*PKPdf		**PKPdf**		**19 46 10.3 -1.4**
LASF	**Ste Croix**	**140.94**	**334**	*e*PKiKP		**PKPdf**		**19 46 10.4 -2.5**
	comp=Z,14nm,1.0s							
LASF	**Ste Croix**	**140.94**	**334**	*e*PKPdf		**PKPdf**		**19 46 10.4 -2.5**
MTLF	**Montolieu**	**142.23**	**335**	*e*PKiKP		**PKPdf**		**19 46 11.6 -3.6**
	comp=Z,13nm,1.1s							
MTLF	**Montolieu**	**142.23**	**335**	*e*PKiKP		**PKPdf**		**19 46 11.6 -3.6**
MTLF	**Montolieu**	**142.23**	**335**	*e*PKPdf		**PKPdf**		**19 46 11.6 -3.6**
ETSF	**Etsaut**	**143.72**	**337**	*e*PKiKP		PKPbc		19 46 15.9 +0.2
	comp=Z,25nm,0.9s							
ETSF	**Etsaut**	**143.72**	**337**	*e*PKiKP		PKPbc		19 46 15.9 +0.2
ETSF	**Etsaut**	**143.72**	**337**	*e*PKPdf		PKPbc		19 46 15.9 +0.2
KEST	**Kesra**	**143.93**	**319**	PKP		PKPbc		19 46 17.4 +0.9
	comp=Z,2.0nm,0.8s,baz=63,slow=3.7,SNR=6.3							
KEST	**Kesra**	**143.93**	**319**	*e*PKPpre		PKPpre		19 46 15.5
KEST					PKP	PKPbc		19 46 17.4 +0.9
CMAH	**Djebel Manchou**	**144.56**	**322**	P		**PKPab**		**19 46 17.8 -0.4**
ABSA	**Djebel Ababsia**	**144.75**	**322**	P		PKPbc		19 46 19.2 +0.1
CKFL	**Kef-Lekhel**	**145.13**	**323**	P		**PKPbc**		**19 46 19.8 -0.5**
CASM	**Ain Smara**	**145.36**	**323**	P		**PKPbc**		**19 46 20.5 -0.5**
DFRA	**Djebel Bou Aff**	**145.53**	**324**	P		**PKPab**		**19 46 21.9 0.0**
SET	**Setif**	**146.05**	**324**	P		**PKPab**		**19 46 24.0 +0.2**
PBRG	**Braganca**	**146.76**	**343**	PKPbc		**PKPbc**		**19 46 24.9 -0.1**
PGAV	**Gavieira, Arco**	**147.01**	**345**	PKPbc		**PKPbc**		**19 46 26.2 +0.4**
PCAB	**Cabril**	**147.19**	**345**	PKPbc		**PKPbc**		**19 46 25.7 -0.5**
MVO	**Moncorvo**	**147.43**	**343**	PKPbc		**PKPbc**		**19 46 27.1 +0.2**
POLO	**Lamas de Olo**	**147.45**	**344**	PKPbc		**PKPbc**		**19 46 27.1 +0.1**

baz=91,slow=76,SNR=79
H08S3 Diego Garcia H 33.91 268 T T 20 27 47.2
baz=91,slow=76,SNR=55
H08S1 Diego Garcia H 33.91 268 T T 20 27 47.8
baz=91,slow=76,SNR=67
STKA Stephens Creek 40.47 131 P **P** 19 53 12.0 **+1.0**
3.3nm,0.5s,baz=309,slow=6.1,SNR=11
STKA Stephens Creek 40.47 131 *eP* **P** 19 53 11.6 **+0.6**
0.8nm,0.6s
KSRS Korea Array 49.02 22 LR LR 20 16 10.6
comp=Z,46nm,18.5s,baz=60,slow=38
MK31 Makanchi Array 58.35 341 P P 19 55 21.8 -5.2
MKAR Makanchi Array 58.35 341 P P 19 55 21.8 -5.2
0.4nm,0.6s,baz=152,slow=7.8,SNR=7.4
KURK Kurchatov 62.96 340 P P 19 55 52.6 -5.7
1.7nm,0.8s
ABKAR Akbulak array 69.78 329 *eP* P 19 56 37.8 -4.1
1.0nm,0.5s
VNDA Vanda 75.43 169 P **P** 19 57 16.2 **+1.1**
0.8nm,0.8s,baz=350,slow=6.1,SNR=5.5
VNDA Vanda 75.43 169 *eP* **P** 19 57 16.1 **+1.0**
1.4nm,0.8s
SBA Scott Base 76.51 169 *eP* **P** 19 57 23.1 **+1.9**
2.5nm,1.0s
KBZ Khabaz 76.89 318 P **P** 19 57 21.6 **-2.3**
1.1nm,0.7s,baz=53,slow=20,SNR=3.9
BRTR Keskin Array B 82.00 312 P **P** 19 57 49.6 **-2.4**
0.8nm,0.9s,baz=120,slow=6.1,SNR=4.8
AKASG Malin Array Be 87.98 322 LR LR 20 43 32.2
comp=Z,62nm,19.7s,baz=40,slow=40
TXAR Lajitas Array 144.19 49 PKP PKPbc 20 05 05.5 -0.7
0.2nm,0.5s,baz=330,slow=1.5,SNR=3.0

*IDC **28** 19:59:35.1±0.5, 10.72N×126.21E, h0km, mb4.1/21, mb1 4.3/21, mb1mx4.2/32, mbtmp4.1/21, MS3.1/3, Ms1 3.1/3, ms1mx2.7/28, Error ellipse: s-maj=26.9km s-min=11.8km az=74.0*
*MAN **28** 19:59:35, 10.87N×126.55E, h9km, mb5.5, ML4.5, MS4.8*
*ISCJB **28** 19:59:39.5±1.0, 10.83N±0.04×126.42E±0.07, h46km±8km, mb4.2/32, MS2.9/1, Error ellipse: s-maj=12.2km s-min=6.0km az=161.1*
*NEIC **28** 19:59:42.0±1.4, 10.68N×126.22E, h52km±13km, mb4.2/13, Error ellipse: s-maj=13.8km s-min=6.5km az=70.0*

ISC 28 19:59:41.1±1.7, 10.85N±0.05×126.39E±0.09, h41km±15km, **n74,σ1§33/71, mb4.3/32, 3C-1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**1.38**	**220**	*iP*	**Pn**	**20 00 03.1**	**-0.8**
SCPH				*i* S	**Sn**	**20 00 21.8**	**+0.8**
PLP	**Palo**	**1.42**	**283**	*eP*	**Pn**	**20 00 02.6**	**-1.9**
PLP				*i* S	**Sn**	**20 00 21.9**	**-0.2**
MSLP	**Maasin**	**1.67**	**245**	*eP*	**Pn**	**20 00 06.5**	**-1.3**
MSLP				*eS*	**Sn**	**20 00 30.9**	**+2.9**
OCLP	**Ormoc**	**1.76**	**277**	*eP*	**Pn**	**20 00 09.5**	**+0.3**
OCLP				*eS*	**Sn**	**20 00 31.5**	**+1.1**
BUTP	**Butuan**	**2.01**	**202**	*eP*	**Pn**	**20 00 11.3**	**-1.4**
BUTP				*eS*	**Sn**	**20 00 40.4**	**+3.8**
CNP	**Catarman**	**2.37**	**315**	*eP*	**Pn**	**20 00 16.2**	**-1.3**
TBP	**Tagbilaran**	**2.74**	**246**	*eP*	**Pn**	**20 00 23.5**	**+0.8**
CGP	**Cagayan de Oro**	**2.91**	**215**	*eP*	**Pn**	**20 00 23.2**	**-1.7**
BUKP	**Musuan**	**3.23**	**204**	*eP*	**Pn**	**20 00 28.6**	**-0.7**
PVCP	**Virac**	**3.50**	**322**	*eP*	**Pn**	**20 00 31.9**	**-1.2**
GUIM	**Jordan**	**3.74**	**267**	*eP*	**Pn**	**20 00 36.3**	**-0.1**
DCPH	**Dipolog City**	**3.75**	**293**	*iP*	**Pn**	**20 00 35.9**	**-0.6**
DAV	**Davao City (W)**	**3.84**	**192**	Pn	**Pn**	**20 00 36.7**	**-1.1**
MATI	**Mati**	**3.88**	**182**	*eP*	Pn	20 00 43.4	+5.2
CTBH	**Cotabato--PC H**	**4.18**	**211**	*ip*	**Pn**	**20 00 45.4**	**+3.0**
PAGZ	**Pagadian**	**4.21**	**225**	*eP*	**Pn**	**20 00 42.6**	**-0.2**
TGY	**Tagaytay City**	**6.23**	**302**	Pn	**Pn**	**20 01 11.5**	**+0.8**
	23nm,0.3s,baz=146,slow=3.6,SNR=2.6						
ENPP	**El Nido**	**6.85**	**274**	*eP*	**Pn**	**20 01 21.3**	**+2.2**
KAPI	**Kappang**	**17.09**	**203**	Pn	**P**	**20 03 38.9**	**+0.5**
	0.2nm,0.3s,baz=45,slow=16,SNR=2.8						
KAPI				LR	LR	20 11 37.9	
	comp=Z,83nm,18.6s,baz=328,slow=43						
GUMO Guam		**18.26**	**80**	LR	LR	20 10 18.6	
	comp=Z,54nm,20.6s,baz=251,slow=35						
KSM	**Kuching**	**18.49**	**241**	Pn	**P**	**20 03 49.8**	**-4.1**
	16nm,0.9s						
JCJ	**Chichijima**	**21.97**	**40**	LR	LR	20 11 58.2	
	comp=Z,53nm,20.9s,baz=161,slow=34						
ENH	**Enshi**	**24.92**	**323**	P	**P**	**20 04 59.6**	**-0.9**
LEM	**Lembang**	**25.64**	**228**	P	**P**	**20 05 08.6**	**+1.3**
	13nm,0.5s,baz=325,slow=19,SNR=4.2						
KSAR	**Wonju Array Be**	**26.52**	**3**	P	**P**	**20 05 15.7**	**+0.9**
KSRS	**Korea Array**	**26.53**	**3**	P	**P**	**20 05 15.7**	**+0.8**
	1.2nm,0.8s,baz=179,slow=11,SNR=4.0						
CMAR	**Chiang Mai Arr**	**27.59**	**289**	P	**P**	**20 05 24.2**	**-0.5**
	1.7nm,0.8s,baz=109,slow=7.2,SNR=13						
MAJO	**Matsushiro**	**27.73**	**21**	P	**P**	**20 05 27.5**	**+1.7**
WRAB	**Tennant Creek**	**31.57**	**166**	P	P	20 05 56.7	-3.2
	2.6nm,0.8s						
WRA	**Warramunga Arr**	**31.58**	**166**	P	**P**	**20 05 57.8**	**-2.3**
	1.1nm,0.7s,baz=344,slow=9.6,SNR=8.7						
WRA				PcP	**PcP**	**20 08 52.1**	**+0.1**
	1.0nm,0.8s,baz=343,slow=3.0,SNR=6.2						
MBWA	**Marble Bar**	**32.47**	**192**	*eP*	P	20 06 04.0	-3.8
	23nm,1.1s						
USRK	**Ussuriysk Ar.**	**33.58**	**7**	P	**P**	**20 06 18.6**	**+1.3**
	3.0nm,0.7s,baz=201,slow=12,SNR=9.1						
AS31	**Alice Springs**	**35.08**	**168**	*eP*	**P**	**20 06 29.6**	**-0.9**
ASAR	**Alice Springs**	**35.08**	**168**	P	**P**	**20 06 28.9**	**-1.6**
	1.3nm,0.7s,baz=353,slow=7.2,SNR=26						
ASAR				PcP	**PcP**	**20 09 01.6**	**-0.1**
	0.9nm,0.7s,baz=351,slow=3.0,SNR=7.5						
CTA	**Charters Tower**	**36.43**	**147**	P	**P**	**20 06 41.4**	**-0.7**
	0.8nm,0.3s,baz=328,slow=9.5,SNR=3.6						
CTAO	**Charters Tower**	**36.43**	**147**	P	**P**	**20 06 41.9**	**-0.3**
	2.7nm,0.7s						
LSA	**Lhasa**	**37.79**	**305**	P	**P**	**20 06 54.0**	**-0.2**
TAPN	**Taplejung**	**39.87**	**300**	*eP*	**P**	**20 07 10.0**	**-1.4**
H11N1	**WAKE ISLAND Hy**	**39.96**	**72**	T	T	20 49 51.4	
	baz=264,slow=74,SNR=12						
H11N2	**WAKE ISLAND Hy**	**39.97**	**72**	T	T	20 49 51.0	
	baz=264,slow=74,SNR=9.7						
H11N3	**WAKE ISLAND Hy**	**39.98**	**72**	T	T	20 49 51.3	
	baz=264,slow=74,SNR=12						
ODAN	**Odare**	**40.00**	**299**	*eP*	**P**	**20 07 10.7**	**-1.8**
	15nm,0.7s						
ULN	**Ulaanbaatar**	**40.33**	**340**	*eP*	P	20 07 21.2	+6.4
	1.8nm,0.6s						
SONM	**Songino Array**	**40.53**	**339**	P	**P**	**20 07 17.4**	**+1.0**
	1.4nm,0.7s,baz=157,slow=8.9,SNR=9.8						
SONM				PcP	**PcP**	**20 09 18.9**	**+0.6**
	0.7nm,0.9s,baz=183,slow=3.1,SNR=3.6						
RAMN	**Ramite**	**40.71**	**299**	*eP*	P	20 07 14.4	-3.9
	8.6nm,0.7s						
JIRN	**Jiri**	**41.25**	**300**	*eP*	P	20 07 18.5	-4.4
	9.0nm,0.5s						
GUN	**Gumba**	**41.58**	**300**	*eP*	P	20 07 19.5	-6.1
TLY	**Talaya**	**44.74**	**340**	*eP*	**P**	**20 07 50.4**	**+0.1**
STKA	**Stephens Creek**	**44.91**	**162**	P	**P**	**20 07 51.4**	**-0.5**
	6.5nm,0.8s,baz=345,slow=7.2,SNR=10						
STKA	**Stephens Creek**	**44.91**	**162**	*eP*	**P**	**20 07 50.9**	**-1.0**
	1.7nm,0.8s						
MKAR	**Makanchi Array**	**51.65**	**322**	P	**P**	**20 08 44.0**	**+0.2**
	4.9nm,0.7s,baz=121,slow=8.3,SNR=63						
ZALV	**Zalesovo Beam**	**54.18**	**331**	P	**P**	**20 09 02.5**	**+0.2**
	4.3nm,0.7s,baz=118,slow=7.1,SNR=25						
ZALV				PcP	**PcP**	**20 10 06.3**	**-0.1**
	1.1nm,0.7s,baz=107,slow=1.5,SNR=2.4						
TKM2	**Tokmak 2**	**54.34**	**316**	*eP*	**P**	**20 09 03.3**	**-0.6**
	2.3nm,0.7s						
SEY	**Seymchan**	**55.24**	**14**	P	**P**	**20 09 12.1**	**+2.3**
	0.9nm,0.6s,baz=198,slow=16,SNR=3.1						
EKS2	**Erkin-Say**	**55.52**	**315**	*eP*	**P**	**20 09 12.5**	**+0.1**
	1.8nm,0.9s						
KURK	**Kurchatov**	**55.66**	**325**	*eP*	**P**	**20 09 13.1**	**0.0**
	6.0nm,0.8s						
KBL	**Kabul**	**57.11**	**304**	*eP*	**P**	**20 09 22.1**	**-1.9**
	1.6nm,0.5s						
BRVK	**Borovoye**	**61.34**	**325**	*eP*	**P**	**20 09 52.6**	**0.0**
	4.5nm,0.8s						
ABKAR	**Akbulak array**	**66.52**	**319**	*eP*	**P**	**20 10 26.0**	**-0.8**
	1.7nm,0.7s						
ARU	**Arti**	**68.81**	**327**	*eP*	**P**	**20 10 40.4**	**-0.7**
	3.9nm,0.7s						
ILAR	**Eielson Array**	**78.87**	**26**	P	**P**	**20 11 40.2**	**+0.4**
	0.3nm,0.6s,baz=233,slow=5.8,SNR=4.1						
SPITS	**Spitsbergen Ar**	**83.48**	**349**	P	**P**	**20 12 04.4**	**+0.4**
	2.5nm,0.8s,baz=18,slow=14,SNR=3.3						
ARCES	**ARCESS Array B**	**83.70**	**340**	P	**P**	**20 12 05.8**	**+0.5**
	3.1nm,0.7s,baz=85,slow=6.8,SNR=14						
BRTR	**Keskin Array B**	**85.26**	**309**	P	**P**	**20 12 12.8**	**-1.2**
	0.7nm,0.5s,baz=69,slow=6.4,SNR=14						
FINES	**FINESS Array B**	**85.44**	**332**	P	**P**	**20 12 14.1**	**-0.1**
	3.0nm,0.8s,baz=85,slow=3.8,SNR=11						
AKASG	**Malin Array Be**	**86.20**	**321**	P	**P**	**20 12 17.0**	**-1.2**
	0.1nm,0.3s,baz=62,slow=5.1,SNR=3.1						
MAW	**Mawson**	**90.28**	**200**	P	**P**	**20 12 37.8**	**+0.7**
	2.1nm,0.8s,baz=45,slow=5.7,SNR=3.8						
VNDA	**Vanda**	**90.48**	**173**	P	**P**	**20 12 38.2**	**+0.3**
	1.5nm,0.9s,baz=334,slow=3.3,SNR=7.7						
NB2	**NORSAR Subarra**	**92.30**	**334**	P	**P**	**20 12 45.8**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=66,slow=4.6						
NOA	**NORSAR Array B**	**92.30**	**334**	P	**P**	**20 12 45.8**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=64,slow=4.6,SNR=9.1						
YKA	**Yellowknife Ar**	**93.19**	**24**	P	**P**	**20 12 52.1**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=299,slow=4.6,SNR=6.8						
TXAR	**Lajitas Array**	**117.36**	**49**	PKP	**PKPdf**	**20 18 24.6**	**+1.6**
	comp=Z,0.2nm,0.7s,baz=5.7,slow=3.6,SNR=3.0						
TORD	**Torodi Ar. Bea**	**120.17**	**292**	PKP	**PKPdf**	**20 18 28.3**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=101,slow=1.5,SNR=2.8						
PLCA	**Paso Flores**	**146.68**	**156**	PKPbc	**PKPab**	**20 19 20.3**	**+0.3**
	comp=Z,7.5nm,0.7s,baz=251,slow=3.6,SNR=5.6						

*IDC **28** 20:02:23.2±0.8, 52.11N×170.29W, h0km, mb3.8/12, mb1 4.0/14, mb1mx3.8/39, mbtmp3.7/14, ML3.6/2, Error ellipse: s-maj=25.8km s-min=15.6km az=173.0*
*NEIC **28** 20:02:29.5, 52.46N×170.18W, h26km, mb3.9/3, ML3.7(AEIC), After AEIC.*

ISC 28 20:02:26.4±3.6, 52.3N±0.1×170.13W±0.06, h13km±22km, **n42,σ1§56/40, mb3.9/14, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKH	**Nikolski High**	**1.03**	**49**	P	**Pb**	**20 02 45.9**	**-0.2**
NIKH				S	**Sb**	**20 02 58.5**	**-1.0**
OKSP	**Okmok Steeple**	**1.47**	**49**	P	**Pn**	**20 02 53.0**	**+0.5**
OKSP				S	**Sn**	**20 03 11.3**	**-0.3**
OKFG	**Magazine Ridge**	**1.75**	**50**	P	**Pn**	**20 02 57.0**	**+0.7**
OKFG				S	**Sn**	**20 03 18.8**	**+0.4**
KOFP	**Korovin Flat P**	**2.43**	**271**	P	**Pn**	**20 03 07.7**	**+1.9**
KOKV	**Korovin Volcan**	**2.47**	**273**	P	**Pn**	**20 03 07.7**	**+1.3**
ATKA	**Atka Island**	**2.50**	**269**	P	**Pn**	**20 03 07.3**	**+0.7**
ATKA				S	**Sn**	**20 03 39.0**	**+2.0**
MREP	**Makushin Rep't**	**2.54**	**52**	P	**Pn**	**20 03 09.1**	**+1.8**
MCIR	**Makushin Cirqu**	**2.56**	**48**	P	**Pn**	**20 03 09.3**	**+1.8**
MSW	**Makushin Switc**	**2.59**	**50**	P	**Pn**	**20 03 09.2**	**+1.3**
UNV	**Unalaska Valle**	**2.68**	**53**	P	**Pn**	**20 03 09.9**	**+0.8**
UNV				S	**Sn**	**20 03 42.3**	**+0.9**
ZRO	**Akutan Zero**	**3.08**	**53**	P	**Pn**	**20 03 16.8**	**+2.2**
AKGG	**Akutan Green G**	**3.13**	**51**	P	**Pn**	**20 03 17.4**	**+2.1**
AKUT	**Akutan**	**3.20**	**53**	*ePn*	Pb	20 03 20.1	-2.9
GSTR	**Great Sitkin T**	**3.65**	**269**	*ePn*	**Pn**	**20 03 22.4**	**-0.2**
SDPT	**Sand Point**	**6.48**	**58**	Pn	**Pn**	**20 04 03.7**	**+2.4**
KDAK	**Kodiak Island**	**11.45**	**54**	*ePn*	Pn	20 05 05.5	-3.9
RSO	**Redoubt South**	**12.60**	**43**	*ePn*	P	20 05 32.1	-4.6
SEW	**Seward**	**13.86**	**48**	Pn	**Pn**	**20 05 40.4**	**-1.9**
BPAW	**Bear Paw Mtn.**	**15.46**	**33**	*ePn*	**P**	**20 06 06.9**	**-1.4**
	1.8nm,0.7s						
DIV	**Divide**	**15.94**	**47**	*ePn*	**Pn**	**20 06 07.9**	**-2.2**
ILAR	**Eielson Array**	**17.27**	**35**	P	**P**	**20 06 29.6**	**+1.3**
	0.1nm,0.3s,baz=228,slow=9.8,SNR=8.1						
PETK	**Petropavlovsk-**	**19.43**	**285**	P	**P**	**20 06 52.1**	**0.0**
	0.5nm,0.3s,baz=90,slow=15,SNR=5.8						
SKAG	**Skagway**	**20.60**	**56**	*eP*	**P**	**20 07 06.0**	**+1.2**
	12nm,0.8s						
SEY	**Seymchan**	**22.37**	**313**	P	**P**	**20 07 25.1**	**+1.2**
	0.4nm,0.5s,baz=139,slow=19,SNR=3.2						
DLBC	**Dease Lake**	**23.32**	**59**	P	**P**	**20 07 37.1**	**+3.3**
	1.0nm,0.4s,baz=266,slow=14,SNR=5.1						
DLBC	**Dease Lake**	**23.32**	**59**	P	**P**	**20 07 37.0**	**+3.1**
INK	**Inuvik**	**23.66**	**34**	P	**P**	**20 07 37.8**	**+0.7**
	1.9nm,0.3s,baz=228,slow=9.7,SNR=3.3						
YKA	**Yellowknife Ar**	**30.64**	**49**	P	**P**	**20 08 39.5**	**-0.4**
	0.2nm,0.4s,baz=271,slow=8.2,SNR=3.5						
NVAR	**Mina Array Bea**	**38.13**	**90**	P	**P**	**20 09 44.9**	**-0.3**
	0.5nm,0.6s,baz=293,slow=7.9,SNR=3.8						
H11S1	**WAKE ISLAND Hy**	**38.30**	**217**	T	T	20 50 49.1	
	baz=23,slow=76,SNR=111						
H11S2	**WAKE ISLAND Hy**	**38.32**	**217**	T	T	20 50 50.2	
	baz=23,slow=76,SNR=57						
H11S3	**WAKE ISLAND Hy**	**38.32**	**217**	T	T	20 50 53.6	
	baz=23,slow=76,SNR=33						
PDAR	**Pinedale Array**	**40.88**	**79**	P	**P**	**20 10 08.2**	**+0.1**
	0.6nm,0.5s,baz=348,slow=3.8,SNR=5.4						
TXAR	**Lajitas Array**	**53.22**	**88**	P	**P**	**20 11 44.0**	**-0.4**
	1.7nm,0.8s,baz=298,slow=5.2,SNR=21						
SCHQ	**Schefferville**	**55.80**	**43**	P	**P**	**20 12 04.3**	**+1.6**
	3.0nm,1.0s,baz=333,slow=2.3,SNR=2.8						
MKAR	**Makanchi Array**	**63.51**	**313**	P	**P**	**20 12 53.3**	**-2.7**
	0.2nm,0.6s,baz=29,slow=3.3,SNR=2.9						
FINES	**FINESS Array B**	**65.87**	**352**	P	**P**	**20 13 10.2**	**-0.8**
	1.2nm,0.9s,baz=344,slow=8.7,SNR=2.6						
AAK	**Ala-Archa**	**70.22**	**315**	P	**P**	**20 13 40.3**	**+1.4**
	0.7nm,0.6s						
EKS2	**Erkin-Say**	**70.51**	**315**	P	**P**	**20 13 40.3**	**-0.3**
CMAR	**Chiang Mai Arr**	**76.17**	**282**	P	**P**	**20 14 13.4**	**-0.8**
	1.1nm,0.7s,baz=24,slow=6.4,SNR=8.4						
WRA	**Warramunga Arr**	**86.60**	**231**	P	P	20 15 06.6	-2.7
	0.3nm,0.8s,baz=35,slow=5.5,SNR=3.8						
ASAR	**Alice Springs**	**89.99**	**229**	P	**P**	**20 15 23.9**	**-1.5**
	1.3nm,0.9s,baz=33,slow=4.8,SNR=13						

IDC 28 20:29:30.5±9.0, 16.53S×173.61W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/28, mbtmp3.6/2, Error ellipse: s-maj=418.0km s-min=66.6km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**49.40**	**258**	P	P	20 38 22.5	0.0
	0.2nm,0.5s,baz=93,slow=7.4,SNR=6.6						
ASAR	**Alice Springs**	**49.58**	**253**	P	P	20 38 23.6	-0.3
	1.1nm,0.5s,baz=90,slow=8.1,SNR=11						
BRTR	**Keskin Array B**	**146.89**	**320**	PKPbc	PKPbc	20 49 14.6	-0.8
	0.3nm,0.6s,baz=77,slow=3.1,SNR=3.5						

*ISCJB **28** 20:40:06.7±0.7, 8.75S±0.2×74.37W±0.10, h145km, mb3.5/5, Error ellipse: s-maj=26.7km s-min=8.3km az=26.1*
*IDC **28** 20:40:07.8±1.0, 8.86S×74.46W, h148km±8km, mb3.5/5, mb1 3.6/8, mb1mx3.4/30, mbtmp3.9/8, Error ellipse: s-maj=38.4km s-min=12.5km az=26.0*

ISC 28 20:40:07.9±0.7, 8.8S±0.2×74.4W±0.1, h145km, **n11,σ0§86/16, mb3.4/5, Peru-Brazil border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**4.26**	**293**	P	**Pn**	**20 41 11.7**	**-0.2**
	20nm,0.3s,baz=89,slow=4.6,SNR=75						
ATAH				S	**Sn**	**20 42 00.4**	**-1.1**
	13nm,0.3s,baz=338,slow=11,SNR=15						
LPAZ	**La Paz**	**9.63**	**141**	P	**Pn**	**20 42 24.1**	**+0.4**
	0.1nm,0.3s,baz=324,slow=14,SNR=3.5						
SIV	**San Ignacio**	**14.86**	**120**	P	**Pn**	**20 43 31.2**	**+0.2**
	0.6nm,0.3s,baz=304,slow=15,SNR=12						
TXAR	**Lajitas Array**	**47.25**	**325**	P	**P**	**20 48 27.6**	**+0.9**
	0.2nm,0.4s,baz=151,slow=8.3,SNR=3.8						
TXAR				pP	**pP**	**20 49 01.1**	**+1.5**
	0.3nm,0.5s,baz=156,slow=8.1,SNR=3.5						
DBIC	**Dimbokro**	**71.04**	**80**	P	**P**	**20 51 09.9**	**-0.8**
	3.5nm,0.5s,baz=248,slow=6.2,SNR=7.9						
YKA	**Yellowknife Ar**	**77.55**	**342**	P	**P**	**20 51 47.1**	**-0.2**
	0.3nm,0.4s,baz=142,slow=5.9,SNR=4.9						
YKA				pP	**pP**	**20 52 23.7**	**+0.5**
	0.5nm,0.4s,baz=143,slow=6.0,SNR=4.8						
TORD	**Torodi Ar. Bea**	**78.68**	**75**	P	**P**	**20 51 53.3**	**-1.3**
	0.9nm,0.4s,baz=247,slow=3.8,SNR=23						
ESDC	**Sonseca Array**	**80.91**	**47**	P	**P**	**20 52 06.3**	**+0.1**
	0.3nm,0.5s,baz=246,slow=5.0,SNR=3.4						
ZALV	**Zalesovo Beam**	**132.01**	**16**	PKP	**PKPdf**	**20 59 04.4**	**+0.3**
	0.3nm,0.4s,baz=29,slow=3.3,SNR=3.0						
ZALV				pPKP	**pPKPdf**	**20 59 43.6**	**+0.9**
	0.6nm,0.5s,baz=318,slow=2.0,SNR=2.3						
ASAR	**Alice Springs**	**137.45**	**220**	PKP	**PKPdf**	**20 59 16.2**	**+0.9**
	0.2nm,0.9s,baz=142,slow=2.1,SNR=2.5						
WRA	**Warramunga Arr**	**139.75**	**225**	PKP	**PKPdf**	**20 59 19.3**	**-0.3**
	0.2nm,0.4s,baz=124,slow=1.9,SNR=12						
WRA				pPKP	**pPKPdf**	**20 59 57.4**	**-0.8**
	0.2nm,0.5s,baz=132,slow=2.1,SNR=2.2						

*ISCJB **28** 21:08:32.6±0.6, 21.10S±0.05×68.38W±0.09, h130km±7km, mb3.7/4, Error ellipse: s-maj=14.8km s-min=7.9km az=168.5*
*IDC **28** 21:08:34.7±0.7, 21.25S×68.21W, h128km±8km, mb3.7/4, mb1 3.8/8, mb1mx3.5/27, mbtmp4.1/8, Error ellipse: s-maj=24.5km s-min=9.8km az=104.0*
*GUC **28** 21:08:34.1±0.5, 21.11S×68.55W, h134km±6km, ML4.3*

ISC 28 21:08:33.6±0.9, 21.08S±0.06×68.36W±0.10, h122km±9km, **n21,σ0§56/25, mb4.0/4, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**1.05**	**272**	*eP*	**Pn**	**21 08 56.5**	**+0.1**
PB01				*eS*	**Sn**	**21 09 13.3**	**-0.3**
PB01				AML	AML	21 09 15.3	
	comp=E,3μm,0.2s						
PB09	**IPOC Station P**	**1.09**	**229**	*eP*	**Pn**	**21 08 57.4**	**+0.5**
PB09				*eS*	**Sn**	**21 09 15.1**	**+0.7**
PB09				AML	AML	21 09 15.7	
	comp=N,15μm,0.3s						
PB07	**IPOC Station P**	**1.56**	**245**	*eP*	**Pn**	**21 09 01.6**	**-0.4**
PB07				*eS*	**Sn**	**21 09 22.9**	**-0.8**
PB07				AMP		21 09 23.9	
	comp=E,3μm,0.5s						
PB04	**IPOC Station P**	**1.58**	**221**	*eP*	Pn	21 09 07.2	+5.2
PB04				*eS*	Sn	21 09 33.1	+9.4
PB04				AML	AML	21 09 41.0	
	comp=N,1μm,0.4s						
LVC	**Limon Verde**	**1.61**	**198**	P	**Pn**	**21 09 02.9**	**+0.2**
	comp=N,7μm,0.3s,baz=24,slow=10.0,SNR=1485						
LVC				S	**Sn**	**21 09 24.4**	**-0.5**
	comp=N,6μm,0.3s,baz=107,slow=23,SNR=50						
PATCX	**Punta Patache**	**1.69**	**278**	*eP*	**Pn**	**21 09 03.6**	**+0.1**
PATCX				*eS*	**Sn**	**21 09 25.8**	**-0.5**
PATCX				AML	AML	21 09 28.7	
	comp=E,5μm,1.7s						
PB11	**IPOC Station P**	**1.78**	**317**	*eP*	**Pn**	**21 09 05.6**	**+0.9**
PB11				*eS*	**Sn**	**21 09 29.1**	**+0.8**
PB11				AML	AML	21 09 31.4	
	comp=N,11μm,0.8s						
PSGC	**Pisagua**	**2.21**	**311**	*eP*	**Pn**	**21 09 09.8**	**-0.1**
PSGC				*eS*	**Sn**	**21 09 37.0**	**-0.7**
PSGC				AML	AML	21 09 39.8	
	comp=E,1μm,2.4s						
PB10	**IPOC Station P**	**3.16**	**220**	AML	AML	21 10 08.3	
	comp=E,1μm,0.0s						
LPAZ	**La Paz**	**4.77**	**3**	P	Pn	21 09 47.6	+3.5
LPAZ	comp=E,1.6nm,0.3s,baz=163,slow=4.8,SNR=22			S	Sn	21 10 46.5	+7.8
	comp=E,0.7nm,0.3s,baz=254,slow=5.1,SNR=4.8						
SIV	**San Ignacio**	**8.57**	**55**	P	**Pn**	**21 10 33.8**	**-1.0**
	comp=E,11nm,0.3s,baz=255,slow=12,SNR=101						
PLCA	**Paso Flores**	**19.68**	**185**	P	**P**	**21 12 53.3**	**+0.1**
	comp=E,0.2nm,0.3s,baz=359,slow=9.2,SNR=3.4						
BDFB	**Brasilia**	**20.05**	**78**	P	**P**	**21 12 57.6**	**+0.2**
	comp=E,1.9nm,0.3s,baz=245,slow=10.0,SNR=7.3						
SNAA	**Sanae**	**62.51**	**161**	P	**P**	**21 18 43.7**	**-0.2**
	comp=E,0.5nm,0.8s,baz=281,slow=5.2,SNR=4.2						
ULM	**Lac du Bonnet**	**75.07**	**342**	P	**P**	**21 20 01.7**	**-0.1**
	comp=E,1.6nm,0.5s,baz=161,slow=5.8,SNR=3.1						
TORD	**Torodi Ar. Bea**	**76.73**	**70**	P	**P**	**21 20 11.3**	**-0.7**
	comp=E,1.4nm,0.5s,baz=254,slow=5.6,SNR=28						
YKA	**Yellowknife Ar**	**90.96**	**340**	P	**P**	**21 21 23.8**	**+0.6**
	comp=E,0.6nm,0.6s,baz=134,slow=4.6,SNR=7.7						
ASAR	**Alice Springs**	**130.52**	**207**	PKP	**PKPdf**	**21 27 30.9**	**+0.2**
	comp=E,0.3nm,0.7s,baz=127,slow=2.0,SNR=4.8						
WRA	**Warramunga Arr**	**133.57**	**210**	PKP	**PKPdf**	**21 27 36.9**	**+0.3**
	comp=E,0.3nm,0.5s,baz=154,slow=1.7,SNR=6.7						
ZALV	**Zalesovo Beam**	**141.36**	**25**	PKP	**PKPdf**	**21 27 49.8**	**+0.1**
	comp=E,0.5nm,0.5s,baz=308,sl

ASAJ	**Asahikawa**	**26.60**	**31**	P		P		22 49 16.7	+5.0
	2.3nm,0.4s,baz=221,slow=9.4,SNR=5.8								
SONM	**Songino Array**	**29.05**	**335**	P		**P**		**22 49 35.0**	**+1.2**
	0.2nm,0.3s,baz=140,slow=7.5,SNR=3.8								
MKAR	**Makanchi Array**	**41.40**	**316**	P		**P**		**22 51 20.4**	**+0.6**
	0.5nm,0.6s,baz=104,slow=9.6,SNR=7.2								
ZALV	**Zalesovo Beam**	**43.15**	**327**	P		**P**		**22 51 35.3**	**+1.5**
	0.3nm,0.3s,baz=101,slow=7.5,SNR=2.9								
ZALV				LR		LR		23 12 34.5	
	comp=Z,18nm,19.6s,baz=70,slow=40								
WRA	**Warramunga Arr**	**43.26**	**166**	P		**P**		**22 51 33.9**	**-1.2**
	0.6nm,0.9s,baz=345,slow=9.1,SNR=5.1								
KURBB	**Kurchatov Arra**	**45.13**	**320**	P		**P**		**22 51 50.1**	**+0.4**
	0.2nm,0.3s,baz=112,slow=8.4,SNR=3.8								
ASAR	**Alice Springs**	**46.77**	**167**	P		**P**		**22 52 03.9**	**+1.0**
	0.5nm,0.7s,baz=350,slow=9.4,SNR=3.2								

*IDC **28** 22:53:33.7±0.6, 13°.88S×166°.70E, h0km, mb4.4/18, mb1 4.5/19, mb1mx4.3/42, mbtmp4.4/19, ML3.9/1, MS3.8/14, Ms1 3.8/14, ms1mx3.6/27, Error ellipse: s-maj=23.9km s-min=14.3km az=99.0*

*ISCJB **28** 22:53:38.0±0.4, 13°.95S±0°.06×166°.55E±0°.08, h43km, mb4.4/20, MS3.9/13, Error ellipse: s-maj=11.8km s-min=8.4km az=176.2*

*NEIC **28** 22:53:39.6±1.5, 13°.90S×166°.57E, h40km±14km, mb4.5/6, Error ellipse: s-maj=12.7km s-min=9.3km az=157.0*

ISC 28 22:53:39.9±0.4, 13°.94S±0°.06×166°.6E±0°.1, h43km, n66, σ1§04/63, mb4.4/20, MS3.9/13, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.09**	**181**	*e*Pn	**Pn**	**22 55 35.9**	**+0.9**
	18nm,0.3s						
DZM				*e*Sn	**Sn**	**22 57 01.3**	**-4.0**
	9.1nm,0.2s						
DZM				*e*LR	LR	22 57 25.7	
	925nm,25.2s						
DZM	**Mont Dzumac**	**8.09**	**181**	Pn	**Pn**	**22 55 35.4**	**+0.4**
	1.7nm,0.3s,baz=270,slow=24,SNR=17						
DZM				Sn	**Sn**	**22 57 06.9**	**+1.7**
	baz=271,slow=24,SNR=9.8						
DZM				LR	LR	22 58 04.6	
	comp=Z,277nm,21.9s,baz=1.0,slow=33						
DZM	**Mont Dzumac**	**8.09**	**181**	*e*P	**Pn**	**22 55 35.9**	**+0.9**
DZM				*e*S	**Sn**	**22 57 03.6**	**-1.7**
MSVF	**Nonsavu**	**11.65**	**110**	*e*Pn	**Pn**	**22 56 23.8**	**+0.1**
CTA	**Charters Tower**	**20.38**	**250**	P	Pn	22 58 14.5	-1.0
	9.8nm,0.7s,baz=77,slow=12,SNR=17						
CTAO	**Charters Tower**	**20.38**	**250**	*e*P	**P**	**22 58 12.0**	**-1.2**
	11nm,0.7s						
STKA	**Stephens Creek**	**29.02**	**228**	P	**P**	**22 59 37.1**	**+1.1**
	6.2nm,0.7s,baz=20,slow=6.7,SNR=7.1						
STKA				LR	LR	23 10 53.6	
	comp=Z,430nm,19.0s,baz=47,slow=36						
STKA	**Stephens Creek**	**29.02**	**228**	*e*P	**P**	**22 59 36.9**	**+0.9**
	1.0nm,0.7s						
RPZ	**Rata Peaks**	**29.92**	**174**	LR	LR	23 11 40.0	
	comp=Z,256nm,19.0s,baz=354,slow=36						
WRAB	**Tennant Creek**	**31.38**	**255**	*e*P	**P**	**22 59 55.6**	**-1.3**
	9.0nm,1.2s						
WRA	**Warramunga Arr**	**31.39**	**255**	P	**P**	**22 59 56.0**	**-1.1**
	3.4nm,0.9s,baz=85,slow=9.5,SNR=28						
WRA				LR	LR	23 12 21.3	
	comp=Z,235nm,21.5s,baz=70,slow=36						
AS31	**Alice Springs**	**32.35**	**248**	*e*P	**P**	**23 00 04.3**	**-1.2**
ASAR	**Alice Springs**	**32.35**	**248**	P	**P**	**23 00 04.5**	**-1.0**
	2.9nm,0.6s,baz=74,slow=9.7,SNR=37						
ASAR				LR	LR	23 12 02.4	
	comp=Z,282nm,21.0s,baz=72,slow=34						
PPT2	**Papeete2**	**42.27**	**101**	*e*S	S	23 08 02.3	+15
	86nm,24.5s						
PPT2				*e*LR	LR	23 13 29.2	
	237nm,27.5s						
PPT	**Papeete**	**42.27**	**101**	LR	LR	23 15 42.0	
	comp=Z,156nm,19.7s,baz=238,slow=32						
TBI	**Tubuai**	**42.54**	**109**	*e*LR	LR	23 13 46.1	
	175nm,23.2s						
KKM	**Kota Kinabalu**	**53.79**	**288**	*e*P	**P**	**23 02 58.4**	**-0.4**
	15nm,0.9s						
MJAR	**Matsushiro Arr**	**56.90**	**333**	P	**P**	**23 03 20.2**	**-0.5**
	6.5nm,1.1s,baz=170,slow=9.1,SNR=7.9						
MJAR				LR	LR	23 30 52.1	
	comp=Z,17nm,18.0s,baz=15,slow=39						
JNU	**Nakatsue**	**57.90**	**325**	LR	LR	23 26 08.3	
	comp=Z,31nm,19.1s,baz=176,slow=34						
ASAJ	**Asahikawa**	**61.78**	**341**	P	**P**	**23 03 55.0**	**+0.8**
	10nm,0.7s,baz=217,slow=10.0,SNR=8.6						
ASAJ				LR	LR	23 27 21.2	
	comp=Z,68nm,20.8s,baz=161,slow=33						
KSRS	**Korea Array**	**62.72**	**326**	P	**P**	**23 04 01.1**	**+0.5**
	1.5nm,0.7s,baz=144,slow=7.3,SNR=5.7						
KSAR	**Wonju Array Be**	**62.73**	**326**	P	**P**	**23 04 01.1**	**+0.4**
VNDA	**Vanda**	**63.64**	**181**	P	**P**	**23 04 07.5**	**+1.4**
	2.8nm,0.9s,baz=358,slow=6.6,SNR=6.1						
USRK	**Ussuriysk Ar.**	**65.89**	**333**	P	**P**	**23 04 21.8**	**+0.6**
	2.9nm,0.7s,baz=134,slow=5.5,SNR=11						
PETK	**Petropavlovsk-**	**67.21**	**354**	P	**P**	**23 04 28.6**	**-0.9**
	3.6nm,0.9s,baz=158,slow=12,SNR=3.6						
PETK				LR	LR	23 28 48.7	
	comp=Z,46nm,19.2s,baz=135,slow=32						
CMAR	**Chiang Mai Arr**	**74.03**	**294**	P	**P**	**23 05 13.6**	**+1.8**
	1.9nm,0.8s,baz=118,slow=4.4,SNR=7.3						
QSPA	**South Pole Qui**	**76.09**	**180**	P	**P**	**23 05 24.0**	**+1.0**
	6.0nm,0.9s,baz=285,slow=1.3,SNR=7.0						
QSPA	**South Pole Qui**	**76.09**	**180**	*e*P	**P**	**23 05 24.0**	**+1.0**
	6.2nm,0.9s						
SONM	**Songino Array**	**81.47**	**324**	P	**P**	**23 05 53.6**	**+0.8**
	0.9nm,0.7s,baz=152,slow=6.7,SNR=6.7						
BILL	**Bilibino**	**81.75**	**360**	*e*P	**P**	**23 05 53.4**	**-0.2**
	6.0nm,0.9s						
MAW	**Mawson**	**82.37**	**202**	LR	LR	23 36 11.5	
	comp=Z,102nm,21.6s,baz=237,slow=31						
ILAR	**Eielson Array**	**85.98**	**18**	P	**P**	**23 06 15.4**	**+0.2**
	1.9nm,0.5s,baz=234,slow=5.8,SNR=7.6						
ILAR				LR	LR	23 40 38.0	
	comp=Z,95nm,19.3s,baz=228,slow=33						
SNAA	**Sanae**	**94.30**	**183**	P	**P**	**23 06 53.7**	**-0.8**
	1.5nm,1.0s,baz=165,slow=6.4,SNR=5.3						
PDAR	**Pinedale Array**	**94.89**	**47**	LR	LR	23 49 27.4	
	comp=Z,52nm,18.0s,baz=246,slow=35						
MKAR	**Makanchi Array**	**96.18**	**317**	P	**P**	**23 07 03.9**	**+0.5**
	1.2nm,0.7s,baz=99,slow=6.1,SNR=15						
ZALV	**Zalesovo Beam**	**96.37**	**324**	P	**P**	**23 07 03.5**	**-0.6**
	1.0nm,0.6s,baz=117,slow=5.2,SNR=6.1						
TXAR	**Lajitas Array**	**96.48**	**61**	LR	LR	23 41 50.8	
	comp=Z,56nm,21.6s,baz=0.0,slow=30						
YKA	**Yellowknife Ar**	**97.15**	**27**	P	**P**	**23 07 05.4**	**-1.9**
	0.2nm,0.6s,baz=262,slow=4.3,SNR=2.8						
ARCES	**ARCESS Array B**	**119.32**	**345**	PKP	**PKPdf**	**23 12 23.6**	**-0.4**
	1.2nm,0.6s,baz=62,slow=2.2,SNR=9.7						
FINES	**FINESS Array B**	**124.75**	**338**	PKP	**PKPdf**	**23 12 34.6**	**0.0**
	1.2nm,0.8s,baz=66,slow=1.7,SNR=4.1						
NB2	**NORSAR Subarra**	**129.69**	**345**	PKPdf	**PKPdf**	**23 12 44.4**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=36,slow=1.9						
NOA	**NORSAR Array B**	**129.69**	**345**	PKP	**PKPdf**	**23 12 43.8**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=333,slow=1.9,SNR=4.3						
BRTR	**Keskin Array B**	**131.50**	**311**	PKP	**PKPdf**	**23 12 49.2**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=351,slow=1.9,SNR=2.8						
CLL	**Collm**	**137.07**	**336**	*e*PKPdf	**PKPdf**	**23 13 00.0**	**+1.8**
BNI	**Bardonecchia**	**144.61**	**335**	*e*PKPdf	**PKPdf**	**23 13 12.2**	**0.0**
PLDF	**La Plantade**	**144.98**	**339**	PKP	**PKPdf**	**23 13 12.6**	**-0.1**
AGO	**Saint Agoulin**	**145.08**	**340**	PKP	**PKPdf**	**23 13 12.4**	**-0.4**
SAOF	**Saorge**	**145.09**	**333**	PKP	**PKPdf**	**23 13 12.4**	**-0.5**
TOUF	**Mont Tournerai**	**145.21**	**334**	PKP	**PKPab**	**23 13 12.8**	**-0.3**
MVIF	**Mont Vial**	**145.34**	**333**	PKP	**PKPbc**	**23 13 13.0**	**-0.3**
REVF	**Revere**	**145.37**	**333**	PKP	**PKPbc**	**23 13 11.8**	**-1.5**
PYM	**Petit Puy Mans**	**145.38**	**340**	PKP	**PKPab**	**23 13 13.8**	**+0.3**
LBL	**Lubilhac**	**145.75**	**339**	PKP	**PKPab**	**23 13 15.4**	**+0.5**
VSL	**Villasalto**	**147.59**	**326**	*e*PKPdf	**PKPdf**	**23 13 16.7**	**-0.6**
KEST	**Kesra**	**150.19**	**321**	PKPbc	**PKPbc**	**23 13 27.1**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=295,slow=5.1,SNR=6.6						
KEST	**Kesra**	**150.19**	**321**	*e*PKPdf	**PKPdf**	**23 13 22.7**	**+1.1**
KEST				PKPbc	**PKPbc**	**23 13 27.1**	**+0.4**
PBRG	**Braganca**	**151.63**	**349**	*e*PKPdf	**PKPdf**	**23 13 23.0**	**-0.7**
PBRG	**Braganca**	**151.63**	**349**	*e*PKPbc	**PKPbc**	**23 13 28.1**	**-1.8**
POLO	**Lamas de Olo**	**152.23**	**351**	*e*PKPbc	**PKPbc**	**23 13 31.6**	**+0.3**
MVO	**Moncorvo**	**152.31**	**350**	*e*PKPbc	**PKPbc**	**23 13 31.0**	**-0.5**
PVRL	**Vila Real**	**152.37**	**351**	*e*PKPbc	**PKPbc**	**23 13 31.7**	**+0.2**
ESDC	**Sonseca Array**	**153.05**	**344**	PKPbc	**PKPbc**	**23 13 32.0**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=42,slow=1.9,SNR=5.5						
ESDC				PKPab	**PKPab**	**23 13 44.1**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=10,slow=4.4,SNR=5.3						
MTE	**Manteigas**	**153.14**	**350**	*e*PKPbc	**PKPbc**	**23 13 33.2**	**-0.2**
PMRV	**Marv??o**	**154.06**	**349**	*e*PKPdf	**PKPdf**	**23 13 26.1**	**-1.1**
PMRV	**Marv??o**	**154.06**	**349**	*e*PKPbc	**PKPbc**	**23 13 35.8**	**+0.5**
TORD	**Torodi Ar. Bea**	**165.29**	**269**	PKP	**PKPdf**	**23 13 40.5**	**-0.2**
	comp=Z,1.1nm,1.1s,baz=2.8,slow=0.2,SNR=4.3						
TORD				PKPab	**PKPab**	**23 14 38.8**	**+0.3**
	comp=Z,1.0nm,1.0s,baz=122,slow=5.2,SNR=3.2						

*IDC **28** 22:55:18.5±1.1, 35°.05S×72°.53W, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.9/28, mbtmp3.9/7, ML3.2/2, MS4.0/1, Ms1 4.0/1, ms1mx2.9/14, Error ellipse: s-maj=34.2km s-min=20.0km az=98.0*

*ISCJB **28** 22:55:19.2±0.8, 35°.01S±0°.07×72°.7W±0°.1, h18km, mb4.0/7, Error ellipse: s-maj=15.3km s-min=7.0km az=27.7*

*NEIC **28** 22:55:23.7±0.8, 34°.92S×72°.54W, h35km, mb4.3/3, Error ellipse: s-maj=19.7km s-min=9.6km az=91.0*

ISC 28 22:55:20.8±0.8, 34°.89S±0°.06×72°.6W±0°.1, h18km, n17, σ1§67/20, mb4.0/7, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLCH	**Cerro Calan**	**2.29**	**50**	*e*P	**Pn**	**22 55 59.6**	**+1.7**
CLCH				*e*S	**Sb**	**22 56 29.4**	**-0.4**
CLCH				AML	AML	22 56 43.9	
	comp=E,3μm,0.8s						
PEL	**Peldehue**	**2.38**	**43**	*e*P	**Pn**	**22 56 00.2**	**+1.2**
PEL				*e*S	**Sb**	**22 56 31.3**	**-1.0**
PEL				AML	AML	22 56 42.2	
	comp=N,2μm,1.9s						
CFAA	**Coronel Fontan**	**4.93**	**50**	Pn	**Pn**	**22 56 35.6**	**+1.6**
	comp=N,0.1nm,0.3s,baz=222,slow=14,SNR=17						
CFAA				Sn	**Sn**	**22 57 32.0**	**+1.3**
	comp=N,0.2nm,0.3s,baz=222,slow=13,SNR=3.5						
CFAA				Lg	Lg	22 57 48.9	
	comp=N,0.5nm,0.3s,baz=84,slow=17,SNR=4.6						
PLCA	**Paso Flores**	**6.06**	**165**	Pn	**Pn**	**22 56 51.1**	**+1.5**
	comp=N,5.7nm,0.3s,baz=0.1,slow=0.6,SNR=23						
PLCA				Lg	Lg	22 58 27.1	
	comp=N,1.0nm,0.3s,baz=282,slow=13,SNR=3.1						
LCO	**Las Campanas**	**6.09**	**16**	*e*Pn	**Pn**	**22 56 49.9**	**-0.3**
LCO				*e*Sg	**Sg**	**22 58 31.8**	**-4.6**
TRQA	**Tornquist**	**9.14**	**113**	*e*Pn	**Pn**	**22 57 31.6**	**-0.3**
LVC	**Limon Verde**	**12.66**	**16**	LR	LR	23 03 08.3	
	comp=N,657nm,18.6s,baz=206,slow=37						
LPAZ	**La Paz**	**18.96**	**13**	P	**Pn**	**22 59 44.8**	**+2.3**
	comp=N,0.1nm,0.3s,baz=159,slow=4.7,SNR=7.7						
LPAZ	**La Paz**	**18.96**	**13**	*e*P	**Pn**	**22 59 44.1**	**+1.6**
	comp=N,3.0nm,0.8s						
SIV	**San Ignacio**	**21.49**	**32**	P	**P**	**23 00 08.5**	**-0.2**
	comp=N,2.1nm,0.8s,baz=206,slow=12,SNR=6.7						
SNAA	**Sanae**	**50.95**	**158**	P	**P**	**23 04 20.5**	**-0.3**
	comp=N,0.5nm,0.8s,baz=5.7,slow=10,SNR=4.1						
QSPA	**South Pole Qui**	**55.34**	**180**	P	**P**	**23 04 52.3**	**-1.1**
	comp=N,0.9nm,0.6s,baz=158,slow=1.3,SNR=6.1						
QSPA	**South Pole Qui**	**55.34**	**180**	*e*P	**P**	**23 04 52.0**	**-1.3**
	comp=N,3.1nm,0.9s						
TXAR	**Lajitas Array**	**70.28**	**331**	P	**P**	**23 06 34.7**	**+1.6**
	comp=N,0.6nm,0.6s,baz=150,slow=8.8,SNR=9.2						
DBIC	**Dimbokro**	**75.93**	**71**	*e*P	**P**	**23 07 06.7**	**-0.1**
	comp=N,8.7nm,1.0s						
BOSA	**Boshof**	**80.09**	**118**	P	**P**	**23 07 30.0**	**0.0**
	comp=N,4.4nm,0.9s,baz=213,slow=10,SNR=2.9						
TORD	**Torodi Ar. Bea**	**84.98**	**70**	P	**P**	**23 07 56.0**	**+0.6**
	comp=N,0.6nm,0.7s,baz=251,slow=4.4,SNR=9.4						

*ISCJB **28** 23:00:10.6±0.6, 27°.58S±0°.04×67°.42W±0°.08, h137km, mb3.4/1, Error ellipse: s-maj=10.7km s-min=5.1km az=4.8*

*IDC **28** 23:00:10.5±2.2, 27°.57S×67°.23W, h124km±33km, mb3.4/1, mb1 3.2/3, mb1mx3.0/28, mbtmp3.7/3, MS3.9/1, Ms1 3.8/1, ms1mx3.1/8, Error ellipse: s-maj=73.7km s-min=11.3km az=87.0*

*SJA **28** 23:00:10.4±0.8, 27°.55S×67°.37W, h141km±10km, ML2.6*

ISC 28 23:00:11.3±1.0, 27°.56S±0°.04×67°.39W±0°.08, h137km, n12, σ0§41/17, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CYA	**Choya**	**1.65**	**122**	*i* P	**Pn**	**23 00 42.0**	**+0.3**
CYA				*i* S	**Sn**	**23 01 04.6**	**-0.3**
CYA				AML	AML	23 01 06.3	
	comp=Z,40nm,0.5s						
FSA	**Cafayete**	**1.91**	**40**	*i* P	**Pn**	**23 00 45.0**	**+0.1**
FSA				*i* S	**Sn**	**23 01 10.6**	**+0.1**
AHML	**Horco Molle**	**1.99**	**68**	*i* P	**Pn**	**23 00 45.7**	**+0.1**
APLL	**PUNTA DE LOS L**	**2.92**	**165**	*i* P	**Pn**	**23 00 57.8**	**+0.6**
APLL				*i* P	**Pn**	**23 00 57.8**	**+0.6**
AVFE	**Valle Fertil**	**3.09**	**181**	*i* P	**Pn**	**23 00 59.3**	**-0.1**
AVFE				*i* S	**Sn**	**23 01 36.2**	**-0.3**
AZAP	**Zapla**	**3.93**	**33**	*i* P	**Pn**	**23 01 10.2**	**-0.3**
CFAA	**Coronel Fontan**	**4.10**	**190**	P	**Pn**	**23 01 12.9**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=14,slow=14,SNR=32						
CFAA				S	**Sn**	**23 01 59.1**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=262,slow=21,SNR=20						
LVC	**Limon Verde**	**5.12**	**344**	P	**Pn**	**23 01 26.4**	**+0.1**
	comp=Z,57nm,0.3s,baz=177,slow=8.6,SNR=12						
LVC				S	**Sn**	**23 02 25.1**	**+0.3**
	comp=Z,20nm,0.3s,baz=326,slow=18,SNR=2.9						
PLCA	**Paso Flores**	**13.39**	**190**	LR	LR	23 08 30.3	
	comp=Z,519nm,21.6s,baz=342,slow=37						
TORD	**Torodi Ar. Bea**	**78.19**	**68**	P	**P**	**23 11 55.9**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=243,slow=5.0,SNR=13						
ZALV	**Zalesovo Beam**	**146.67**	**30**	PKPbc	**PKPbc**	**23 19 36.8**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=318,slow=2.7,SNR=3.1						
MKAR	**Makanchi Array**	**149.43**	**43**	PKPbc	**PKPbc**	**23 19 43.9**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=279,slow=3.3,SNR=5.5						

*ISCJB **28** 23:13:35.6±0.3, 50°.56N±0°.06×153°.50E±0°.06, h250km, mb3.6/22, Error ellipse: s-maj=9.4km s-min=3.3km az=152.0*

*MOS **28** 23:13:35.8±1.1, 50°.51N×153°.67E, h263km, mb4.1/14, Error ellipse: s-maj=13.6km s-min=7.6km az=65.0*

*KRSC **28** 23:13:36.8±1.7, 50°.14N×154°.90E, h292km±12km, ML4.5*

*IDC **28** 23:13:37.7±1.6, 50°.51N×153°.57E, h267km±15km, mb3.4/18, mb1 3.5/23, mb1mx3.4/42, mbtmp4.0/23, Error ellipse: s-maj=15.3km s-min=10.0km az=131.0*

ISC 28 23:13:35.8±0.6, 50°.48N±0°.07×153°.72E±0°.06, h250km, n87, σ1§47/102, mb3.7/22, 1C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.54**	**81**	*e*P	**Pn**	**23 14 16.0**	**+1.7**
SKR				*e*S	**S**	**23 14 45.9**	**+1.2**
SKR	**Severo-Kuril's**	**1.54**	**81**	*i* PN	Pn	23 14 08.1	-6.2
SKR				pmax	pmax		
	comp=N,50nm,0.5s						
SKR				pmax	pmax		
	comp=Z,230nm,0.5s						
SKR				pmax	pmax		
	comp=E,110nm,0.9s						
PAU	**Pauzhetka**	**2.19**	**62**	*e*P	**Pn**	**23 14 22.0**	**+2.1**
PAU	**Pauzhetka**	**2.19**	**62**	PN	**Pn**	**23 14 22.0**	**+2.1**
MIPR	**Malaya Ipel'ka**	**2.62**	**45**	*e*P	**Pn**	**23 14 26.8**	**+2.6**
ASAK	**Asacha**	**3.24**	**52**	*e*P	**Pn**	**23 14 32.8**	**+1.9**
ASAK				*e*S	**S**	**23 15 14.3**	**-0.2**
APC	**Apacha**	**3.25**	**40**	*e*P	**Pn**	**23 14 33.2**	**+2.3**
MTVR	**Mutnovka**	**3.44**	**52**	*e*P	**Pn**	**23 14 35.4**	**+2.2**
MTVR				*e*S	**S**	**23 15 19.1**	**+0.4**
RUS	**Russkaya**	**3.58**	**55**	*e*P	**Pn**	**23 14 36.3**	**+1.7**
RUS				*e*S	**S**	**23 15 20.3**	**-1.0**
RUS	**Russkaya**	**3.58**	**55**	PN	**Pn**	**23 14 36.3**	**+1.7**
RUS				S	**S**	**23 15 20.3**	**-1.0**
PETK	**Petropavlovsk-**	**3.61**	**42**	P	**Pn**	**23 14 37.4**	**+2.4**
	comp=E,1.2nm,0.3s,baz=213,slow=13,SNR=11						
PETK	**Petropavlovsk-**	**3.61**	**42**	PN	**Pn**	**23 14 37.4**	**+2.4**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PET	**Petropavlovsk**	**3.99**	**48**	*e*S	**S**	**23 15 30.4**	**+0.6**
PET	**Petropavlovsk**	**3.99**	**48**	*e*PN	Pn	23 14 47.6	+8.3
PET				*e*S	**S**	**23 15 31.6**	**+1.8**
PET				pmax	pmax		
	comp=Z,12nm,0.6s						
PET				smax	smax		
	comp=N,57nm,0.7s						
GNL	**Ganaly**	**4.14**	**37**	*e*P	**Pn**	**23 14 43.6**	**+2.3**
KOK	**Koryaka**	**4.15**	**45**	*e*P	**Pn**	**23 14 43.2**	**+1.9**
AVH	**Avacha**	**4.18**	**46**	*e*P	**Pn**	**23 14 44.2**	**+2.5**
AVH				*e*S	**S**	**23 15 34.7**	**+0.7**
UGLR	**Uglovaya**	**4.18**	**47**	*e*P	**Pn**	**23 14 44.2**	**+2.5**
UGLR				*e*S	**S**	**23 15 34.3**	**+0.1**
KRX	**Arik**	**4.20**	**45**	*e*P	**Pn**	**23 14 44.9**	**+2.9**
SMAR	**Somma**	**4.21**	**46**	*e*P	**Pn**	**23 14 44.5**	**+2.4**
SMAR				*e*S	**S**	**23 15 35.1**	**+0.2**
SDLR	**Sedlovina**	**4.26**	**47**	*e*P	**Pn**	**23 14 44.9**	**+2.3**
SDLR				*e*S	**S**	**23 15 35.6**	**-0.1**
NLC	**Nalytchevo**	**4.41**	**50**	*e*P	**Pn**	**23 14 45.1**	**+0.8**
NLC				*e*S	**S**	**23 15 35.9**	**-2.9**
NLC	**Nalytchevo**	**4.41**	**50**	PN	**Pn**	**23 14 45.1**	**+0.8**
NLC				S	**S**	**23 15 35.9**	**-2.9**
SPN	**Mys Shipunski**	**4.71**	**54**	*e*P	**Pn**	**23 14 48.6**	**+0.7**
SPN				*e*S	**S**	**23 15 41.4**	**-4.0**
SPN	**Mys Shipunski**	**4.71**	**54**	PN	**Pn**	**23 14 48.6**	**+0.7**
SPN				S	**S**	**23 15 41.4**	**-4.0**
TUMR	**Tumrok**	**6.19**	**36**	*e*P	**Pn**	**23 15 08.8**	**+2.6**
MKZ	**Mys Kozlova**	**6.37**	**47**	*e*P	**Pn**	**23 15 08.5**	**+0.1**
MKZ				*e*S	S	23 16 16.8	-5.7
MKZ	**Mys Kozlova**	**6.37**	**47**	PN	**Pn**	**23 15 08.5**	**+0.1**
MKZ				S	S	23 16 16.8	-5.7
UGL	**Uglegorsk**	**7.67**	**264**	*e*PN	**Pn**	**23 15 25.0**	**+0.1**
UGL				*e*S	**S**	**23 16 51.7**	**-0.9**
KBTR	**Krutoberegovo**	**7.91**	**40**	*e*P	**Pn**	**23 15 28.8**	**+1.1**
KBTR				*e*S	S	23 16 51.0	-6.9
KBTR	**Krutoberegovo**	**7.91**	**40**	PN	**Pn**	**23 15 28.8**	**+1.1**
YSS	**Yuzh-Sakhalins**	**8.06**	**248**	*e*PN	**Pn**	**23 15 31.2**	**+1.4**
BKI	**Bering**	**8.79**	**53**	*e*P	**Pn**	**23 15 38.3**	**-0.6**
BKI				*e*S	S	23 17 08.3	-10
BKI	**Bering**	**8.79**	**53**	PN	**Pn**	**23 15 38.3**	**-0.6**
ASAJ	**Asahikawa**	**9.87**	**234**	P	**Pn**	**23 15 54.6**	**+1.9**
	comp=N,0.8nm,0.3s,baz=75,slow=10.0,SNR=8.7						
ASAJ	**Asahikawa**	**9.87**	**234**	PN	**Pn**	**23 15 54.6**	**+1.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**11.17**	**225**	*e*PN	**Pn**	**23 16 07.9**	**-1.1**
SEY	**Seymchan**	**12.51**	**357**	P	**Pn**	**23 16 27.2**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=165,slow=15,SNR=2.3						
USRK	**Ussuriysk Ar.**	**15.98**	**255**	P	**P**	**23 17 04.9**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=61,slow=12,SNR=3.0						
YAK	**Yakutsk**	**17.54**	**320**	*i* P	**P**	**23 17 23.0**	**0.0**
YAK				pmax	pmax		
	comp=Z,16nm,0.6s						
MJA0	**Matsu Arr-Jizo**	**17.83**	**225**	*e*P	**Pn**	**23 17 29.6**	**+0.2**
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**17.85**	**225**	P	**P**	**23 17 26.3**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=21,slow=13,SNR=10						
MJAR	**Matsushiro Arr**	**17.85**	**225**	P	**P**	**23 17 26.3**	**-0.4**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**22.54**	**245**	P	**P**	**23 18 15.2**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=33,slow=12,SNR=4.9						
TIXI	**Tiksi**	**24.04**	**341**	*e*P	**P**	**23 18 27.3**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.2s						
SONM	**Songino Array**	**30.66**	**284**	P	**P**	**23 19 26.6**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=90,slow=5.8,SNR=3.4						
ZALV	**Zalesovo Beam**	**40.85**	**303**	P	**P**	**23 20 52.9**	**-0.1**
	comp=Z,1.9nm,0.4s,baz=60,slow=6.6,SNR=9.1						
ZALV				PcP	**PcP**	**23 22 48.1**	**-0.3**
	comp=Z,1.4nm,0.8

RMX	**La Rumorosa**	**0.48**	**291**	*e*P	**Pg**	**23 25 21.9**	**-0.3**
RMX				*e*S	**Sg**	**23 25 29.2**	**+0.6**
EMSC	**East Mesa**	**0.57**	**57**	*e*P2	**Pg**	**23 25 24.1**	**+0.3**
RDX	**Rancho Dawling**	**0.60**	**214**	*e*P	**Pg**	**23 25 24.4**	**-0.1**
RDX				*e*S	**Sb**	**23 25 33.5**	**-0.2**
RDX				⇑*e*		23 25 34.7	
RDX				IAML		23 25 34.7	
	comp=N,3μm,0.4s						
GLA	**Glamis**	**0.87**	**44**	*e*Pg	**Pg**	**23 25 28.3**	**-1.2**
GLA				*e*Sg	**Sg**	**23 25 40.1**	**-0.8**
CBX	**Cerro Bola**	**0.95**	**263**	*e*P	**Pg**	**23 25 30.6**	**-0.4**
CBX				*i* S	**Sg**	**23 25 42.6**	**-0.9**
CBX	**Cerro Bola**	**0.95**	**263**	*i* P	**Pg**	**23 25 30.6**	**-0.4**
CBX				*i* S	**Sg**	**23 25 42.6**	**-0.9**
CBX	**Cerro Bola**	**0.95**	**263**	*e*P	**Pg**	**23 25 30.6**	**-0.4**
CBX				*e*S	**Sg**	**23 25 43.4**	**-0.1**
CBX				IAML		23 25 47.9	
	comp=E,8μm,0.6s						
BAR	**Barrett**	**0.98**	**285**	*e*Pg	**Pg**	**23 25 30.6**	**-1.0**
BAR				*e*Sg	**Sg**	**23 25 44.3**	**-0.1**
ECBX	**El Chinero**	**1.04**	**156**	*e*P9	**Pg**	**23 25 32.6**	**-0.3**
ECBX				*e*S	**Sg**	**23 25 47.1**	**+0.6**
ZAX	**El Zacaton**	**1.10**	**214**	*e*P	**Pb**	**23 25 33.5**	**-0.2**
ZAX				*e*S	**Sg**	**23 25 48.6**	**+0.3**
ZAX				IAML		23 25 52.3	
	comp=E,3μm,0.5s						
ZAX				⇓*e*		23 25 52.3	
ECNX	**Esteban Cantu**	**1.18**	**229**	*e*P	**Pb**	**23 25 34.9**	**-0.1**
ECNX				*e*S	**Sb**	**23 25 50.5**	**+0.3**
PBX	**Punta Banda**	**1.21**	**236**	*e*P	**Pn**	**23 25 35.2**	**-0.2**
PBX				*e*S	**Sg**	**23 25 51.7**	**-0.1**
SPX	**San Pedro Mart**	**1.38**	**177**	*e*P	**Pn**	**23 25 37.3**	**-0.7**
SPX	**San Pedro Mart**	**1.38**	**177**	*e*P	**Pn**	**23 25 38.4**	**+0.3**
SPX				*e*S	**Sb**	**23 25 57.5**	**+1.1**
SPX				IAML		23 26 00.8	
	comp=N,2μm,0.2s						
SPX				⇓*e*		23 26 00.8	
PFO	**Pinyon Flats O**	**1.40**	**327**	*e*Pn	**Pn**	**23 25 36.2**	**-1.9**
PFO				*e*Sn	**Sb**	**23 25 57.2**	**+0.5**
214A	**Organ Pipe Nat**	**2.37**	**101**	*e*Pn	**Pn**	**23 25 50.4**	**-1.0**
214A				*e*Sg	**Sg**	**23 26 28.9**	**0.0**
MWC	**Mount Wilson**	**2.76**	**311**	*e*Pb	**Pb**	**23 26 01.8**	**-0.2**
MWC				*e*Sb	**Sb**	**23 26 38.3**	**+2.5**
PASC	**Pasadena Art C**	**2.81**	**309**	*e*Pb	**Pb**	**23 26 02.5**	**-0.3**
OSI	**Osito Audit: C**	**3.43**	**310**	*e*Pb	**Pb**	**23 26 13.3**	**-0.1**
OSI				*e*Sg	**Sg**	**23 27 04.3**	**+1.4**
TUC	**Tucson**	**4.03**	**90**	*e*P	**Pn**	**23 26 16.5**	**+2.2**
TUC				*e*Pb	**Pb**	**23 26 22.7**	**-1.0**
TUC				*e*Sg	**Sg**	**23 27 20.0**	**-2.3**
DAC	**Darwin (Calif)**	**4.19**	**337**	*e*Pn	**Pn**	**23 26 17.1**	**+0.5**
WUAZ	**Wupatki**	**4.64**	**47**	*e*Pn	**Pn**	**23 26 24.4**	**+1.7**

GUC 28 23:48:30.6±0.5, 35°80S×73°81W, h10km±5km, ML3.8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**1.18**	**152**	*e*P	Pb	23 48 50.8	-2.3
CCSP				*e*S	Sb	23 49 06.4	-2.1
CCSP				AML	AML	23 49 13.1	
	comp=E,3μm,0.6s						
LNCH	**Linares**	**1.79**	**92**	*e*P	Pn	23 49 00.4	-1.2
LNCH				*e*S	Sn	23 49 23.4	-1.1
LNCH				IAML		23 49 35.8	
	comp=N,1μm,0.6s						
TALC	**Talca**	**1.82**	**78**	*e*P	Pn	23 49 01.3	-0.7
TALC				*i* S	Sn	23 49 24.2	-0.9
TALC				IAML		23 49 28.4	
	comp=E,2μm,0.6s						
CACH	**El Canelo**	**3.12**	**58**	*e*P	Pn	23 49 20.7	+0.5
CHCH	**Chadas Angostu**	**3.19**	**55**	*e*P	Pn	23 49 21.3	+0.3
CLCH	**Cerro Calan**	**3.61**	**49**	*e*P	Pn	23 49 27.3	+0.5
CLCH				*e*S	Sn	23 50 09.8	+0.3

*IDC **28** 23:50:39.9±12.0, 35°45N×69°45E, h0km, mb3.7/2, mb1 3.6/3, mb1mx3.3/27, mbtmp3.6/3, ML2.9/1, Error ellipse: s-maj=428.3km s-min=28.5km az=141.0*
*NNC **28** 23:50:45.0±3.1, 35°94N×68°88E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=24.2km s-min=21.5km az=170.0*

ISC 28 23:50:44.1±1.2, 35°88N±0°07×68°8E±0°1, h10km, n22, σ1℘63/25, 14C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.92**	**1**	⇑Pn	**Pn**	**23 51 32.2**	**+1.5**
	14nm,0.4s						
DZET				⇑Sn	**Sb**	**23 52 10.1**	**-2.1**
CEP	**Cherat**	**3.29**	**128**	⇑P	**Pb**	**23 51 43.4**	**+0.8**
THW	**Thamme Wali**	**3.93**	**141**	P	**Pb**	**23 51 51.6**	**-1.9**
CHCP	**Chirah Chowk**	**4.30**	**120**	P	Pb	23 51 56.4	-3.4
SFK	**Sufi-Kurgan**	**5.56**	**41**	⇑Pn	Pn	23 52 09.9	+2.7
	3.5nm,0.3s						
SFK				⇑Sn	**Sn**	**23 53 14.4**	**+3.1**
	10nm,0.3s						
MNAS	**Manas**	**7.20**	**22**	⇑Pn	**Pn**	**23 52 30.6**	**+1.0**
	1.9nm,0.3s						
MNAS				⇑Sn	**Sn**	**23 53 51.2**	**-0.3**
	6.4nm,0.5s						
AML	**Almayashu**	**7.32**	**30**	P	**Pn**	**23 52 32.6**	**+1.2**
	SNR=24						
KK31	**Karatay Array**	**7.34**	**10**	⇑Pn	**Pn**	**23 52 31.8**	**+0.4**
	1.1nm,0.4s,baz=200,slow=15,SNR=61						
KK31				⇑Sn	**Sn**	**23 53 54.2**	**-0.5**
	1.3nm,0.4s,baz=191,slow=24,SNR=4.2						
KK31				⇓Lg	Lg	23 54 35.1	
	1.6nm,0.4s						
UCH	**Uchtor**	**7.75**	**33**	P	**Pn**	**23 52 38.6**	**+1.2**
	SNR=29						
KZA	**Kyzart**	**7.98**	**37**	P	**Pn**	**23 52 42.6**	**+2.1**
	SNR=8.3						
AAK	**Ala-Archa**	**8.07**	**32**	P	**Pn**	**23 52 43.0**	**+1.5**
	SNR=7.7						
AAK	**Ala-Archa**	**8.07**	**32**	⇑Pn	**Pn**	**23 52 42.9**	**+1.4**
	3.0nm,0.5s						
AAK				⇑Sn	**Sn**	**23 54 12.4**	**-0.4**
	5.3nm,0.8s						
CHMS	**Chumysh**	**8.47**	**31**	P	**Pn**	**23 52 48.4**	**+1.5**
	SNR=7.3						
ULHL	**Ulahol**	**8.60**	**40**	P	**Pn**	**23 52 50.5**	**+1.7**
	SNR=11						
TKM2	**Tokmak 2**	**8.79**	**35**	P	**Pn**	**23 52 52.2**	**+0.8**
	SNR=11						
TKM2	**Tokmak 2**	**8.79**	**35**	⇑Pn	**Pn**	**23 52 52.1**	**+0.7**
	3.3nm,0.5s						
TKM2				⇑Sn	**Sn**	**23 54 30.3**	**-0.3**
	2.9nm,0.8s						
AB31	**Akbulak array**	**14.86**	**337**	P	Pn	23 54 11.1	-3.1
	0.5nm,0.3s,baz=148,slow=13,SNR=14						
MK31	**Makanchi Array**	**14.87**	**39**	⇑P	**Pn**	**23 54 12.0**	**-2.4**
	0.6nm,0.6s,baz=226,slow=11,SNR=5.7						
MKAR	**Makanchi Array**	**14.87**	**39**	Pn	**Pn**	**23 54 11.2**	**-3.1**
	0.1nm,0.3s,baz=223,slow=15,SNR=6.2						
AKTO	**Aktyubinsk**	**16.51**	**335**	⇓P	**Pn**	**23 54 35.9**	**+0.2**
	0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**21.25**	**27**	P	**P**	**23 55 28.9**	**-1.3**
	1.9nm,0.4s,baz=218,slow=12,SNR=14						
TORD	**Torodi Ar. Bea**	**63.91**	**268**	P	**P**	**00 01 18.4**	**+0.9**
	0.5nm,0.6s,baz=47,slow=5.8,SNR=6.0						

GUC 29 00:20:33.8±0.3, 35°74S×73°57W, h24km±2km, ML4.3, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**1.17**	**162**	*e*P	Pn	00 20 54.2	-0.4
CCSP				*e*S	Sn	00 21 09.2	-0.5
CCSP				AML	AML	00 21 13.7	
	comp=E,7μm,0.6s						
LNCH	**Linares**	**1.60**	**95**	*e*P	Pn	00 21 01.0	+0.3
LNCH				*e*S	Sb	00 21 21.8	-0.7
TALC	**Talca**	**1.61**	**78**	*e*P	Pn	00 21 01.2	+0.4
TALC				*e*S	Sb	00 21 21.8	-0.9
NICH	**Los Niches**	**2.04**	**70**	*e*P	Pn	00 21 07.8	+1.1
NICH				*e*S	Sb	00 21 33.9	-1.3
CACH	**El Canelo**	**2.92**	**57**	*e*P	Pn	00 21 20.4	+1.4
CLCH	**Cerro Calan**	**3.42**	**48**	*e*P	Pn	00 21 27.0	+1.2
CLCH				AML	AML	00 22 30.0	
	comp=N,750nm,0.8s						
ROCH	**El Roble**	**3.48**	**38**	AML	AML	00 22 39.5	
	comp=N,369nm,0.4s						
PEL	**Peldehue**	**3.52**	**43**	*e*P	Pn	00 21 28.3	+1.3
PEL				AML	AML	00 22 40.8	
	comp=E,616nm,0.5s						

*IDC **29** 00:25:28.7±1.2, 34°41N×82°36E, h0km, mb3.5/7, mb1 3.6/11, mb1mx3.5/32, mbtmp3.4/11, ML2.6/4, Error ellipse: s-maj=26.5km s-min=23.0km az=42.0*
*ISCJB **29** 00:25:32.2±0.9, 34°5N±0°1×82°4E±0°2, h33km, mb3.4/6, Error ellipse: s-maj=19.9km s-min=14.1km az=147.9*

ISC 29 00:25:34.0±1.1, 34°5N±0°1×82°4E±0°1, h35km, n11, σ0℘68/11, mb3.4/6, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**10.22**	**325**	Pn	**Pn**	**00 27 58.6**	**+0.2**
	0.1nm,0.3s,baz=164,slow=15,SNR=1.8						
MKAR	**Makanchi Array**	**12.30**	**360**	Pn	**Pn**	**00 28 27.1**	**+0.4**
	0.1nm,0.3s,baz=182,slow=13,SNR=5.2						
KURBB	**Kurchatov Arra**	**16.38**	**351**	Pn	**Pn**	**00 29 20.1**	**-1.0**
	0.0nm,0.3s,baz=174,slow=11,SNR=2.4						
ZALV	**Zalesovo Beam**	**19.54**	**4**	P	**Pn**	**00 29 59.8**	**0.0**
	0.1nm,0.3s,baz=186,slow=12,SNR=3.2						
BVAR	**Borovoye Array**	**20.42**	**339**	P	**P**	**00 30 08.8**	**+0.8**
	0.6nm,0.4s,baz=142,slow=10,SNR=3.3						
CMAR	**Chiang Mai Arr**	**21.72**	**133**	P	**P**	**00 30 22.7**	**+0.5**
	1.8nm,0.3s,baz=309,slow=10,SNR=6.7						
SONM	**Songino Array**	**22.35**	**46**	P	**P**	**00 30 29.5**	**+0.6**
	0.3nm,0.5s,baz=242,slow=9.2,SNR=3.5						
BRTR	**Keskin Array B**	**38.86**	**292**	P	**P**	**00 32 56.3**	**+0.2**
	0.5nm,0.8s,baz=113,slow=9.6,SNR=4.7						
ILAR	**Eielson Array**	**73.85**	**20**	P	**P**	**00 37 04.0**	**-0.7**
	0.3nm,0.8s,baz=280,slow=6.9,SNR=4.3						
TORD	**Torodi Ar. Bea**	**75.09**	**276**	P	**P**	**00 37 12.6**	**-0.1**
	0.6nm,0.7s,baz=52,slow=4.4,SNR=4.4						
YKA	**Yellowknife Ar**	**82.40**	**8**	P	**P**	**00 37 51.2**	**-0.8**
	0.4nm,0.8s,baz=345,slow=4.5,SNR=3.0						

*IDC **29** 00:37:44.1±1.2, 8°13S×118°63E, h0km, mb3.9/5, mb1 3.9/7, mb1mx3.7/27, mbtmp3.8/7, ML3.6/2, Error ellipse: s-maj=46.1km s-min=18.4km az=63.0*
*ISCJB **29** 00:37:47.9±0.8, 7°95S±0°05×118°8E±0°1, h34km, mb3.9/5, Error ellipse: s-maj=17.8km s-min=6.6km az=168.3*
*DJA **29** 00:37:47.6±0.7, 8°S±2°×11°9E±°, h11km±7km, M3.8/12, MLv3.8/12*

ISC 29 00:37:49.9±1.0, 7°95S±0°05×118°9E±0°1, h34km, n15, σ0℘86/17, mb4.1/5, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.75**	**164**	P	**Pn**	**00 38 18.1**	**+0.1**
WBSI				S	**Sn**	**00 38 41.2**	**+2.0**
WSI	**Waingapu**	**2.20**	**141**	P	**Pn**	**00 38 24.8**	**+0.7**
BSSI	**Bau Bau, Buton**	**2.39**	**42**	P	**Pn**	**00 38 27.2**	**+0.5**
BASI	**Baing, Sumba**	**2.81**	**144**	P	**Pn**	**00 38 32.4**	**0.0**
BKSI	**Bulukumba**	**2.88**	**25**	P	**Pn**	**00 38 34.5**	**+1.1**
KAPI	**Kappang**	**3.04**	**16**	Pn	**Pn**	**00 38 36.3**	**+0.8**
	1.4nm,0.3s,baz=229,slow=17,SNR=14						
KAPI				Sn	**Sb**	**00 39 19.6**	**-0.3**
	9.0nm,0.3s,baz=100,slow=22,SNR=8.9						
MMRI	**Maumere**	**3.38**	**102**	P	**Pn**	**00 38 40.4**	**+0.1**
SPSI	**Sidrap Palu**	**4.05**	**12**	P	**Pn**	**00 38 49.9**	**+0.4**
TTSI	**Tana Toraja**	**4.96**	**11**	P	**Pn**	**00 39 01.8**	**-0.2**
WRA	**Waramunga Arr**	**19.13**	**130**	P	**P**	**00 42 09.5**	**-0.8**
	0.4nm,0.3s,baz=308,slow=12,SNR=5.4						
ASAR	**Alice Springs**	**21.25**	**139**	P	**P**	**00 42 33.0**	**-0.3**
	2.3nm,0.6s,baz=314,slow=8.7,SNR=28						
STKA	**Stephens Creek**	**31.83**	**141**	P	**P**	**00 44 10.7**	**-1.0**
	2.9nm,0.7s,baz=292,slow=3.5,SNR=2.9						
SONM	**Songino Array**	**56.63**	**350**	P	**P**	**00 47 30.1**	**+0.4**
	0.5nm,0.9s,baz=167,slow=7.0,SNR=3.7						
MKAR	**Makanchi Array**	**63.48**	**333**	P	**P**	**00 48 17.1**	**+0.5**
	1.4nm,0.7s,baz=142,slow=7.1,SNR=20						
ZALV	**Zalesovo Beam**	**68.03**	**339**	P	**P**	**00 48 44.5**	**-1.1**
	0.6nm,0.3s,baz=128,slow=4.0,SNR=3.4						

*IDC **29** 00:37:51.8±0.8, 38°33S×74°02W, h0km, mb4.1/6, mb1 4.4/7, mb1mx4.1/16, mbtmp4.2/7, ML4.3/2, MS3.3/6, Ms1 3.3/6, ms1mx3.2/21, Error ellipse: s-maj=23.5km s-min=16.7km az=68.0*
*ISCJB **29** 00:37:53.6±0.5, 38°12S±0°06×73°94W±0°09, h18km, mb4.5/18, MS3.6/4, Error ellipse: s-maj=10.1km s-min=8.6km az=22.9*
*NEIC **29** 00:37:56.1±1.4, 38°18S×73°96W, h25km±5km, mb4.7/14, Error ellipse: s-maj=25.8km s-min=14.7km az=78.0*
*BJI **29** 00:37:57.9, 38°78S×73°16W, h37km, mB5.0/3, Ms4.8/3, Ms7 4.8/2*

ISC 29 00:37:55.3±0.5, 38°18S±0°08×74°0W±0°1, h18km, n48, σ1℘70/58, mb4.6/18, MS3.6/4, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.67**	**135**	Pn	**Pn**	**00 38 50.8**	**-0.5**
	3.5nm,0.3s,baz=307,slow=15,SNR=26						
PLCA				Lg	Lg	00 39 46.1	
	4.3nm,0.3s,baz=9.4,slow=18,SNR=3.1						
PLCA				LR	LR	00 40 15.0	
	comp=Z,398nm,19.9s,baz=324,slow=40						
PLCA	**Paso Flores**	**3.67**	**135**	*e*Pn	**Pn**	**00 38 52.2**	**+0.9**
CFAA	**Coronel Fontan**	**8.07**	**37**	Pn	**Pn**	**00 39 50.3**	**-1.3**
	0.1nm,0.3s,baz=55,slow=4.9,SNR=13						
CFAA				Sn	**Sn**	**00 41 22.2**	**-0.3**
	0.2nm,0.3s,baz=37,slow=20,SNR=3.4						
CFAA				LR	LR	00 43 30.3	
	comp=Z,399nm,20.1s,baz=228,slow=41						
TRQA	**Tornquist**	**9.45**	**93**	*e*Pn	**Pn**	**00 40 12.6**	**+2.1**
LCO	**Las Campanas**	**9.54**	**18**	*e*Pn	**Pn**	**00 40 10.6**	**-1.3**
LVC	**Limon Verde**	**16.11**	**17**	Pn	**Pn**	**00 41 41.9**	**+0.8**
	5.0nm,0.3s,baz=180,slow=9.1,SNR=1.9						
LPAZ	**La Paz**	**22.40**	**15**	P	**P**	**00 42 54.4**	**+0.9**
	6.7nm,1.0s,baz=183,slow=8.0,SNR=12						
LPAZ	**La Paz**	**22.40**	**15**	*e*P	**P**	**00 42 54.5**	**+1.0**
	8.4nm,1.0s						
SIV	**San Ignacio**	**24.85**	**31**	P	**P**	**00 43 17.1**	**+0.3**
	1.6nm,0.8s,baz=221,slow=12,SNR=3.6						
SIV				LR	LR	00 55 20.2	
	comp=Z,183nm,19.0s,baz=202,slow=42						
SNAA	**Sanae**	**48.35**	**156**	LR	LR	01 05 59.4	
	comp=Z,13nm,18.7s,baz=14,slow=35						
SNAA	**Sanae**	**48.35**	**156**	*e*P	**P**	**00 46 36.8**	**+1.3**
	5.9nm,1.0s						
QSPA	**South Pole Qui**	**52.07**	**180**	P	**P**	**00 47 01.8**	**-2.0**
	5.7nm,1.0s,baz=140,slow=4.3,SNR=11						
PPT	**Papeete**	**69.19**	**264**	P	**P**	**00 48 53.1**	**-1.8**
	15nm,0.4s,baz=143,slow=5.1,SNR=3.3						
MAW	**Mawson**	**69.62**	**164**	LR	LR	01 21 33.3	
	comp=Z,88nm,18.1s,baz=240,slow=38						
JCT	**Junction City**	**72.44**	**337**	*e*P	**P**	**00 49 20.2**	**-0.2**
	9.1nm,1.0s						
LTX	**Lajitas**	**72.68**	**333**	*e*P	**P**	**00 49 22.6**	**+0.6**
TXAR	**Lajitas Array**	**72.68**	**333**	P	**P**	**00 49 22.6**	**+0.6**
	2.4nm,0.8s,baz=157,slow=8.6,SNR=24						
TXAR				LR	LR	01 15 35.9	
	comp=Z,33nm,18.6s,baz=0.0,slow=31						
TX31	**Lajitas Ar. Si**	**72.68**	**333**	*e*P	**P**	**00 49 22.0**	**0.0**
SWET	**Sewanee**	**73.86**	**350**	*e*P	**P**	**00 49 28.9**	**+0.2**
WMOK	**Wichita Mounta**	**76.11**	**339**	*e*P	**P**	**00 49 41.5**	**-0.3**
	4.3nm,1.3s						
TUL1	**Leonard**	**76.44**	**342**	*e*P	**P**	**00 49 42.9**	**-0.6**
	14nm,0.8s						
AMTX	**Amarillo**	**77.11**	**337**	*e*P	**P**	**00 49 47.2**	**-0.2**
	10nm,1.1s						
ANMO	**Albuquerque**	**78.75**	**333**	*e*P	**P**	**00 49 57.3**	**+0.5**
	4.1nm,1.0s						
T25A	**Trinidad**	**80.04**	**336**	*e*P	**P**	**00 50 03.7**	**-0.1**
	5.8nm,0.9s						
GLA	**Glamis**	**80.42**	**326**	*e*P	**P**	**00 50 05.6**	**0.0**
	9.0nm,0.6s						
ECSD	**EROS Data Cent**	**84.08**	**344**	*e*P	**P**	**00 50 24.1**	**-0.4**
	5.7nm,0.9s						
PHWY	**Pilot Hill**	**84.17**	**337**	*e*P	**P**	**00 50 24.0**	**-1.4**
	23nm,0.8s						
HWUT	**Hardware Ranch**	**86.50**	**333**	*e*P	**P**	**00 50 36.2**	**-0.7**
	7.1nm,1.1s						
BW06	**Boulder Array**	**86.82**	**335**	*e*P	**P**	**00 50 38.0**	**-0.5**
PD31	**Pinedale Array**	**86.82**	**335**	*e*P	**P**	**00 50 38.8**	**+0.3**
PDAR	**Pinedale Array**	**86.82**	**335**	P	**P**	**00 50 38.8**	**+0.3**
	0.9nm,0.9s,baz=116,slow=3.4,SNR=6.7						
TOA0	**Torodi Ar. Sit**	**87.08**	**71**	*e*P	**P**	**00 50 39.6**	**-0.5**
TORD	**Torodi Ar. Bea**	**87.08**	**71**	P	**P**	**00 50 39.5**	**-0.7**
	1.6nm,0.9s,baz=227,slow=5.7,SNR=9.8						
ARU	**Arti**	**143.88**	**44**	*e*PKPpre	PKPab	00 57 26.3	+0.5
TIXI	**Tiksi**	**144.48**	**348**	*e*PKPdf	**PKPab**	**00 57 26.7**	**-0.9**
ABKAR	**Akbulak array**	**145.40**	**56**	*e*PKPbc	**PKPab**	**00 57 31.6**	**-0.1**
KSH	**Kashi**	**156.60**	**77**	*e*PKP	**PKPdf**	**00 57 49.5**	**+0.3**
KSH				sPKP		00 58 03.8	
KSH				PP	**PP**	**01 01 58.0**	**+1.0**
KSH				SKS	**SKSdf**	**01 04 50.5**	**-4.0**
KSH				SKKS	**SKKSac**	**01 08 41.0**	**-4.1**
KSH				PPMZ			
	86nm,4.5s						
KSH				LN			
	93nm,9.5s						
KSH				LE			
	100nm,5.9s						
KSH				LZ			
	140nm,5.5s						
ZAA1	**Zalesovo Array**	**158.55**	**36**	*e*PKPdf	**PKPdf**	**00 57 49.5**	**-1.4**
ZAA1				*e*PKPab	**PKPab**	**00 58 26.0**	**0.0**
ZALV	**Zalesovo Beam**	**158.56**	**36**	PKP	**PKPdf**	**00 57 49.5**	**-1.4**
	0.5nm,0.6s,baz=276,slow=2.8,SNR=3.6						
ZALV				PKPab	**PKPab**	**00 58 26.0**	**0.0**
	0.7nm,0.6s,baz=305,slow=5.2,SNR=4.3						
MK32	**Makanchi Array**	**160.54**	**56**	*e*PKPdf	**PKPdf**	**00 57 52.1**	**-1.4**
MK32				*e*PKPab	**PKPab**	**00 58 35.2**	**+0.2**
MKAR	**Makanchi Array**	**160.54**	**56**	PKP	**PKPdf**	**00 57 52.1**	**-1.4**
	0.8nm,1.1s,baz=262,slow=2.5,SNR=4.6						
MKAR				PKPab	**PKPab**	**00 58 35.2**	**+0.2**
	1.2nm,0.9s,baz=288,slow=3.4,SNR=8.6						
WMQ	**Urumqi**	**165.06**	**62**	*e*PKP	**PKPdf**	**00 57 59.3**	**+1.2**
WMQ				PKS	**PKSdf**	**01 01 31.5**	**+0.6**
WMQ				SKS	**SKSdf**	**01 04 56.5**	**-4.9**
WMQ				SKKS	**SKKSac**	**01 09 28.8**	**+0.3**
WMQ				LN			
	36nm,19.0s						
WMQ				LE			
	51nm,20.6s						
NJ2	**Nanjing**	**167.86**	**244**	*e*PKP	**PKPdf**	**00 58 02.5**	**+2.0**
SONA0	**Songino Array**	**170.34**	**359**	*e*PKPab	**PKPab**	**00 59 19.1**	**+1.0**
SONM	**Songino Array**	**170.34**	**359**	PKPab	**PKPab**	**00 59 19.1**	**+1.0**
	0.4nm,0.9s,baz=356,slow=4.6,SNR=3.6						
CD2	**Chengdu**	**172.51**	**165**	PKP	**PKPdf**	**00 58 03.0**	**-0.3**
HHC	**Hu-ho-hao-te**	**174.96**	**304**	*e*PKP	**PKPdf**	**00 58 05.5**	**+1.6**
HHC				sPKP		00 58 22.3	
HHC				PP	**PP**	**01 03 36.5**	**+4.7**
HHC				PPMZ			
	52nm,7.2s						
HHC				LN			
	69nm,18.5s						
HHC				LE			
	100nm,17.3s						
HHC				LZ			
	48nm,21.0s						
LZH	**Lanzhou**	**177.28**	**139**	*e*PKP	**PKPdf**	**00 58 06.0**	**+1.3**
LZH				pPKP	**pPKPdf**	**00 58 16.5**	**+5.6**
LZH				sPKP		00 58 20.5	

*ISCJB **29** 00:54:45.3±7.8, 34°9S±0°1×72°4W±0°3, h10km±52km, mb3.8/3, MS2.8/1, Error ellipse: s-maj=44.8km s-min=16.4km az=9.6*
*IDC **29** 00:54:45.7±1.6, 34°84S×72°42W, h0km, mb3.9/3, mb1 4.1/5, mb1mx3.8/23, mbtmp3.8/5, ML3.2/3, MS3.0/3, Ms1 3.0/3, ms1mx2.8/19, Error ellipse: s-maj=40.1km s-min=30.1km az=92.0*
*GUC **29** 00:54:48.0±0.6, 34°87S×72°73W, h15km±6km, ML3.9*

ISC 29 00:54:45.4±1.7, 34°90S±0°04×72°60W±0°07, h2km±11km, n14, σ1℘14/17, mb3.9/3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.94**	**122**	*e*P	**Pg**	**00 55 01.8**	**-1.6**
TALC				*i* S	**Sg**	**00 55 15.3**	**-0.3**
NICH	**Los Niches**	**1.13**	**96**	*i* S	**Sn**	**00 55 25.6**	**+1.2**
COCH	**Cobquecura**	**1.24**	**187**	*e*P	**Pg**	**00 55 09.7**	**+0.4**
COCH				*i* S	**Sn**	**00 55 26.0**	**-1.1**
COCH				AML	AML	00 55 32.4	
	comp=E,2μm,0.5s						
LNCH	**Linares**	**1.25**	**139**	*e*P	**Pg**	**00 55 10.4**	**+0.9**
LNCH				*i* S	**Sn**	**00 55 29.0**	**+1.6**
LNV	**Longovilo**	**1.36**	**47**	*e*P	**Pg**	**00 55 11.9**	**+0.4**
LNV				*i* S	**Sg**	**00 55 30.8**	**+1.6**
CLCH	**Cerro Calan**	**2.27**	**49**	AML	AML	00 56 10.3	
	comp=N,1μm,0.6s						
PEL	**Peldehue**	**2.37**	**43**	*e*P	**Pb**	**00 55 27.9**	**-0.9**
PEL				*i* S	**Sb**	**00 55 58.8**	**+0.3**
PEL				AML	AML	00 56 09.7	
	comp=E,1μm,0.8s						
CFAA	**Coronel Fontan**	**4.92**	**49**	Pn	**Pn**	**00 55 59.5**	**-0.9**
	comp=E,0.1nm,0.3s,baz=227,slow=12,SNR=15						
CFAA				Lg	Lg	00 57 10.5	
	comp=E,0.3nm,0.3s,baz=298,slow=13,SNR=3.4						
CFAA				LR	LR	00 58 22.7	
	comp=E,26nm,18.1s,baz=182,slow=46						
PLCA	**Paso Flores**	**6.05**	**165**	Pn	**Pn**	**00 56 17.1**	**+1.1**
	comp=E,0.2nm,0.3s,baz=52,slow

FINES	**FINESS Array B**	**126.69**	**28**	PKP	**PKPdf**	**02 04 43.6**	**0.0**
	0.5nm,0.5s,baz=130,slow=6.0,SNR=5.7						
YKA	**Yellowknife Ar**	**139.36**	**315**	PKP	**PKPdf**	**02 05 07.8**	**+0.4**
	0.7nm,0.6s,baz=128,slow=2.3,SNR=8.5						
ILAR	**Eielson Array**	**153.11**	**306**	PKPbc	**PKPbc**	**02 05 37.5**	**-0.3**
	0.4nm,0.7s,baz=142,slow=1.7,SNR=7.9						

*ISCJB **29** 01:54:16.9±0.3,35°.47N±0°.03×32°.19E±0°.03,h78km±6km, Error ellipse: s-maj=5.5km s-min=3.3km az=140.5*
*DDA **29** 01:54:16.6,35°.49N×32°.35E,h11km, MD3.3*
*CSEM **29** 01:54:18.2±0.1,35°.52N×32°.18E,h60km,ML3.5,Error ellipse: s-maj=5.5km s-min=3.2km az=49.0*
*NIC **29** 01:54:18.9,35°.58N×32°.24E,h49km, ML3.5*
*GII **29** 01:54:20.4±0.0,35°.17N×32°.29E,h15km,MD2.3/3*

ISC 29 01:54:17.8±1.1,35°.51N±0°.03×32°.17E±0°.03,h61km±8km, n82,σ1°21/127,4C,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALFC	**Alevga**	**0.50**	**135**	P	**Pn**	**01 54 30.3**	**+0.4**
	baz=324						
ALFC				S	**Sn**	**01 54 39.2**	**+0.6**
ALFC	**Alevga**	**0.50**	**135**	P	**Pn**	**01 54 30.3**	**+0.4**
ALFC				S	**Sn**	**01 54 39.2**	**+0.6**
AKMC	**Akamas**	**0.50**	**165**⇑	*i* P	**Pn**	**01 54 31.0**	**+1.1**
	baz=352						
AKMC	**Akamas**	**0.50**	**165**⇑	*i* P	**Pn**	**01 54 31.0**	**+1.1**
PPCY	**Paphos**	**0.64**	**167**	*i* P	**Pn**	**01 54 32.4**	**+1.0**
	baz=352						
PPCY	**Paphos**	**0.64**	**167**	*i* P	**Pn**	**01 54 32.4**	**+1.0**
GAZI	**Gazipasa**	**0.73**	**9**	*i* P	**Pn**	**01 54 31.6**	**-0.9**
GAZI				*i* S	**Sn**	**01 54 41.1**	**-2.2**
GAZI	**Gazipasa**	**0.73**	**9**	*i* P	**Pn**	**01 54 31.6**	**-0.9**
GAZI				*i* S	**Sn**	**01 54 41.1**	**-2.2**
MAMC	**Mammari**	**0.92**	**111**	P	**Pn**	**01 54 35.6**	**+0.7**
	baz=297						
MAMC	**Mammari**	**0.92**	**111**	P	**Pn**	**01 54 35.6**	**+0.7**
SZAC	**Souni-Zanaja**	**0.95**	**142**⇑	*i* P	**Pn**	**01 54 36.7**	**+1.4**
	baz=327						
SZAC	**Souni-Zanaja**	**0.95**	**142**⇑	*i* P	**Pn**	**01 54 36.7**	**+1.4**
CSS	**Prodhromos**	**1.10**	**120**	P	**Pn**	**01 54 37.5**	**+0.3**
	baz=304						
CSS	**Prodhromos**	**1.10**	**120**	Pg	**Pn**	**01 54 37.3**	**+0.1**
CSS				Sg	**Sn**	**01 54 50.4**	**-1.1**
CSS	**Prodhromos**	**1.10**	**120**	Pg	**Pn**	**01 54 37.3**	**+0.1**
CSS	**Prodhromos**	**1.10**	**120**	P	**Pn**	**01 54 37.5**	**+0.3**
CSS				Sg	**Sn**	**01 54 50.4**	**-1.1**
ERMK	**Ermenek**	**1.28**	**28**	*i* P	**Pn**	**01 54 40.4**	**+0.7**
ERMK				*i* S	**Sn**	**01 54 58.0**	**+1.9**
ERMK	**Ermenek**	**1.28**	**28**	*i* P	**Pn**	**01 54 40.4**	**+0.7**
ERMK				*i* S	**Sn**	**01 54 58.0**	**+1.9**
KIZK	**Mersin**	**1.87**	**58**	*i* P	**Pn**	**01 54 48.5**	**+1.0**
KIZK				*i* S	**Sn**	**01 55 11.1**	**+1.1**
KIZK	**Mersin**	**1.87**	**58**	*i* P	**Pn**	**01 54 48.5**	**+1.0**
KIZK				*i* S	**Sn**	**01 55 11.1**	**+1.1**
AKAS	**Kas**	**2.21**	**290**	*i* P	**Pn**	**01 54 50.8**	**-1.4**
AKAS	**Kas**	**2.21**	**290**	*i* P	**Pn**	**01 54 50.8**	**-1.4**
AKAS				*i* S	**Sn**	**01 55 14.4**	**-4.0**
GOLH	**Golhisar**	**2.72**	**310**	*i* P	**Pn**	**01 55 00.2**	**+1.0**
GOLH				*i* S	**Sn**	**01 55 31.1**	**+0.1**
GOLH	**Golhisar**	**2.72**	**310**	*i* P	**Pn**	**01 55 00.2**	**+1.0**
GOLH				*i* S	**Sn**	**01 55 31.1**	**+0.1**
GULE	**Gulek**	**2.75**	**49**	*i* P	Pn	01 55 03.6	+4.0
GULE	**Gulek**	**2.75**	**49**	*i* P	Pn	01 55 03.6	+4.0
TURN	**Turunc**	**3.19**	**296**	*i* P	**Pn**	**01 55 07.8**	**+2.3**
TURN				*i* S	**Sn**	**01 55 44.7**	**+2.4**
TURN	**Turunc**	**3.19**	**296**	*i* P	**Pn**	**01 55 07.8**	**+2.3**
TURN				*i* S	**Sn**	**01 55 44.7**	**+2.4**
YAYL	**Yayladag**	**3.24**	**80**	*i* P	**Pn**	**01 55 04.8**	**-1.5**
YAYL				*i* S	**Sn**	**01 55 42.0**	**-1.8**
YAYL	**Yayladag**	**3.24**	**80**	*i* P	**Pn**	**01 55 04.8**	**-1.5**
YAYL				*i* S	**Sn**	**01 55 42.0**	**-1.8**
BHL	**Bhannes**	**3.29**	**118**	*e*P	**Pn**	**01 55 06.3**	**-0.6**
BHL	**Bhannes**	**3.29**	**118**	*e*P	**Pn**	**01 55 06.3**	**-0.6**
DNZL	**Cakiroluk**	**3.32**	**312**	*i* P	**Pn**	**01 55 07.7**	**+0.2**
DNZL	**Cakiroluk**	**3.32**	**312**	*i* P	**Pn**	**01 55 07.7**	**+0.2**
DNZL				*i* S	**Sn**	**01 55 41.5**	**-4.3**
DQRL	**Deir Qamar**	**3.33**	**122**	*e*P	**Pn**	**01 55 07.3**	**-0.3**
DQRL	**Deir Qamar**	**3.33**	**122**	*e*P	**Pn**	**01 55 07.3**	**-0.3**
HWQ	**Hawqa**	**3.34**	**111**	*e*P	**Pn**	**01 55 08.7**	**+1.1**
HWQ	**Hawqa**	**3.34**	**111**	*e*P	**Pn**	**01 55 08.7**	**+1.1**
HNTI	**Hanita**	**3.47**	**133**	Pn	**Pn**	**01 55 10.5**	**+1.1**
HNTI				Sn	**Sn**	**01 55 48.8**	**-0.5**
HNTI	**Hanita**	**3.47**	**133**	Pn	**Pn**	**01 55 10.5**	**+1.1**
HNTI				Sn	**Sn**	**01 55 48.8**	**-0.5**
RCY	**Rachaya**	**3.63**	**123**	*e*P	**Pn**	**01 55 12.0**	**+0.3**
RCY	**Rachaya**	**3.63**	**123**	*e*P	**Pn**	**01 55 12.0**	**+0.3**
MMA0B	**Mount Meron ar**	**3.66**	**132**	Pn	**Pn**	**01 55 12.6**	**+0.6**
MMA0B				Sn	**Sn**	**01 55 53.4**	**-0.5**
MMA0B	**Mount Meron ar**	**3.66**	**132**	Pn	**Pn**	**01 55 12.6**	**+0.6**
MMA0B				Sn	**Sn**	**01 55 53.4**	**-0.5**
KSDI	**Kefar Szold**	**3.70**	**128**	Pn	**Pn**	**01 55 13.1**	**+0.6**
KSDI				Sn	**Sn**	**01 55 54.4**	**-0.4**
KSDI	**Kefar Szold**	**3.70**	**128**	Pn	**Pn**	**01 55 13.1**	**+0.6**
KSDI				Sn	**Sn**	**01 55 54.4**	**-0.4**
OFRI	**'Ofer**	**3.71**	**140**	Pn	**Pn**	**01 55 13.1**	**+0.4**
OFRI				Sn	**Sn**	**01 55 53.6**	**-1.6**
OFRI	**'Ofer**	**3.71**	**140**	Pn	**Pn**	**01 55 13.1**	**+0.4**
OFRI				Sn	**Sn**	**01 55 53.6**	**-1.6**
BLGI	**Bet Lehem HaGe**	**3.74**	**137**	Pn	**Pn**	**01 55 14.0**	**+1.0**
BLGI				Sn	**Sn**	**01 55 54.8**	**-0.9**
BLGI	**Bet Lehem HaGe**	**3.74**	**137**	Pn	**Pn**	**01 55 14.0**	**+1.0**
BLGI				Sn	**Sn**	**01 55 54.8**	**-0.9**
SLTI	**Sal'it**	**4.04**	**143**	Pn	**Pn**	**01 55 17.2**	**0.0**
SLTI				Sn	**Sn**	**01 56 01.5**	**-1.8**
SLTI	**Sal'it**	**4.04**	**143**	Pn	**Pn**	**01 55 17.2**	**0.0**
SLTI				Sn	**Sn**	**01 56 01.5**	**-1.8**
AYDN	**Tasoluk**	**4.07**	**303**	*i* P	**Pn**	**01 55 16.8**	**-0.7**
AYDN	**Tasoluk**	**4.07**	**303**	*i* P	**Pn**	**01 55 16.8**	**-0.7**
MMLI	**Mount Malkishu**	**4.09**	**138**	Pn	**Pn**	**01 55 18.4**	**+0.6**
MMLI				Sn	**Sn**	**01 56 03.3**	**-1.1**
MMLI	**Mount Malkishu**	**4.09**	**138**	Pn	**Pn**	**01 55 18.4**	**+0.6**
MMLI				Sn	**Sn**	**01 56 03.3**	**-1.1**
BDRM	**Kayabasi**	**4.12**	**293**	*i* P	**Pn**	**01 55 17.4**	**-0.9**
BDRM	**Kayabasi**	**4.12**	**293**	*i* P	**Pn**	**01 55 17.4**	**-0.9**
BDRM				*i* S	Sn	01 55 58.8	-6.4
KUZU	**Kuzuini**	**4.16**	**71**	*i* P	**Pn**	**01 55 20.4**	**+1.5**
KUZU				*i* S	**Sn**	**01 56 06.3**	**+0.1**
KUZU	**Kuzuini**	**4.16**	**71**	*i* P	**Pn**	**01 55 20.4**	**+1.5**
KUZU				*i* S	**Sn**	**01 56 06.3**	**+0.1**
HCB	**Kahramanmara~**	**4.23**	**63**	*i* P	**Pn**	**01 55 21.0**	**+1.2**
HCB				*i* S	**Sn**	**01 56 05.8**	**-2.2**
HMDT	**Nahal Hemdat**	**4.28**	**138**	Pn	**Pn**	**01 55 21.6**	**+1.1**
HMDT				Sn	**Sn**	**01 56 09.0**	**-0.2**
HMDT	**Nahal Hemdat**	**4.28**	**138**	Pn	**Pn**	**01 55 21.6**	**+1.1**
HMDT				Sn	**Sn**	**01 56 09.0**	**-0.2**
MKRJ	**Makawir**	**4.90**	**143**	Pn	**Pn**	**01 55 31.3**	**+2.3**
RTMI	**Retamim**	**4.92**	**154**	Pn	**Pn**	**01 55 29.7**	**+0.5**
RTMI				Sn	**Sn**	**01 56 24.4**	**-0.5**
RTMI	**Retamim**	**4.92**	**154**	Pn	**Pn**	**01 55 29.7**	**+0.5**
RTMI				Sn	**Sn**	**01 56 24.4**	**-0.5**
KZIT	**Kziot**	**4.96**	**157**	Pn	**Pn**	**01 55 30.2**	**+0.5**
KZIT				Sn	**Sn**	**01 56 24.6**	**-1.2**
KZIT	**Kziot**	**4.96**	**157**	Pn	**Pn**	**01 55 30.2**	**+0.5**
KZIT				Sn	**Sn**	**01 56 24.6**	**-1.2**
MZDA	**Masada**	**4.97**	**147**	Pn	**Pn**	**01 55 31.2**	**+1.4**
MZDA				Sn	**Sn**	**01 56 25.5**	**-0.4**
MZDA	**Masada**	**4.97**	**147**	Pn	**Pn**	**01 55 31.2**	**+1.4**
MZDA				Sn	**Sn**	**01 56 25.5**	**-0.4**
ZFRI	**Zfri**	**5.55**	**152**	Pn	**Pn**	**01 55 38.1**	**+0.3**
ZFRI	**Zfri**	**5.55**	**152**	Pn	**Pn**	**01 55 38.1**	**+0.3**
PRNI	**Paran**	**5.67**	**154**	Pn	**Pn**	**01 55 39.9**	**+0.4**
PRNI				Sn	**Sn**	**01 56 41.8**	**-1.5**
PRNI	**Paran**	**5.67**	**154**	Pn	**Pn**	**01 55 39.9**	**+0.4**
PRNI				Sn	**Sn**	**01 56 41.8**	**-1.5**
KRMI	**Paran Flat**	**5.79**	**158**	Pn	**Pn**	**01 55 41.5**	**+0.3**
KRMI	**Paran Flat**	**5.79**	**158**	Pn	**Pn**	**01 55 41.5**	**+0.3**
HRFI	**Mount Harif**	**5.97**	**155**	Pn	**Pn**	**01 55 43.9**	**+0.3**
HRFI				Sn	**Sn**	**01 56 49.3**	**-1.3**
HRFI	**Mount Harif**	**5.97**	**155**	Pn	**Pn**	**01 55 43.9**	**+0.3**
HRFI				Sn	**Sn**	**01 56 49.3**	**-1.3**
MBH	**Mount Berech**	**6.16**	**157**	Pn	**Pn**	**01 55 47.2**	**+1.0**
MBH	**Mount Berech**	**6.16**	**157**	Pn	**Pn**	**01 55 47.2**	**+1.0**
EIL	**Elat**	**6.28**	**157**	Pn	**Pn**	**01 55 48.4**	**+0.6**
EIL	**Elat**	**6.28**	**157**	Pn	**Pn**	**01 55 48.4**	**+0.6**

*DDA **29** 02:05:57.3,40°.59N×27°.42E,h25km, MD3.2*

*ISK **29** 02:05:57.4,40°.59N×27°.42E,h17km,MD3.2*
*CSEM **29** 02:05:58.0±0.1,40°.61N×27°.42E,h15km,MD3.2,Error ellipse: s-maj=2.2km s-min=1.6km az=174.0*
*ISCJB **29** 02:05:58.2±0.3,40°.61N±0°.02×27°.41E±0°.02,h19km±3km, Error ellipse: s-maj=3.5km s-min=2.5km az=1.7*
*ATH **29** 02:05:58.8,40°.59N×27°.27E,h29km±8km, MD3.5/10*
*THE **29** 02:05:59.4,40°.61N×27°.41E,h19km±2km, ML3.0/8, Error ellipse: s-maj=2.8km s-min=0.6km az=73.0*

ISC 29 02:05:58.0±0.8,40°.59N±0°.02×27°.42E±0°.01,h16km±5km, n118,σ0°42/160,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRMT	**Marmara Adasi**	**0.13**	**86**	PG	**Pg**	**02 06 01.8**	**-0.1**
MRMT				*e*SG	**Sg**	**02 06 04.3**	**-0.2**
MRMT	**Marmara Adasi**	**0.13**	**86**	*i* Pg	**Pg**	**02 06 01.8**	**-0.1**
MRMT				*e*Sg	**Sg**	**02 06 04.3**	**-0.2**
SART	**Tekirdag**	**0.21**	**297**	*i* P	**Pb**	**02 06 03.3**	**-0.1**
SART				*i* S	**Sg**	**02 06 06.6**	**+0.4**
SART	**Tekirdag**	**0.21**	**297**	*i* P	**Pb**	**02 06 03.3**	**-0.1**
SART				*i* S	**Sg**	**02 06 06.6**	**+0.4**
RKY	**Sarkoy-Tekirda**	**0.21**	**297**	*e*Pg	**Pb**	**02 06 03.3**	**-0.1**
RKY				*e*SG	**Sg**	**02 06 06.3**	**+0.1**
RKY	**Sarkoy-Tekirda**	**0.21**	**297**	*e*Pg	**Pb**	**02 06 03.3**	**-0.1**
RKY				*e*Sg	**Sg**	**02 06 06.3**	**+0.1**
TKR	**Tekirdag**	**0.41**	**12**	*e*PG	**Pb**	**02 06 06.9**	**+0.1**
TKR	**Tekirdag**	**0.41**	**12**	*e*Pg	**Pb**	**02 06 06.9**	**+0.1**
EDC	**Edincik**	**0.42**	**126**	*e*PG	**Pg**	**02 06 06.5**	**0.0**
EDC				*e*SG	**Sg**	**02 06 12.2**	**0.0**
EDC	**Edincik**	**0.42**	**126**	*e*Pg	**Pg**	**02 06 06.5**	**0.0**
EDC				*e*Sg	**Sg**	**02 06 12.2**	**0.0**
BNT	**Bandirma**	**0.45**	**122**	*e*PG	**Pg**	**02 06 07.0**	**0.0**
BNT	**Bandirma**	**0.45**	**122**	*e*Pg	**Pg**	**02 06 07.0**	**0.0**
LPK	**Lapseki**	**0.55**	**246**	*e*PG	**Pg**	**02 06 09.0**	**+0.1**
LPK	**Lapseki**	**0.55**	**246**	*e*Pg	**Pg**	**02 06 09.0**	**+0.1**
CRLT	**Corlu**	**0.58**	**24**	*e*PG	**Pb**	**02 06 10.1**	**+0.3**
CRLT	**Corlu**	**0.58**	**24**	*e*Pg	**Pb**	**02 06 10.1**	**+0.3**
ERIK	**Erikli-Kesan**	**0.69**	**277**	*e*PG	**Pg**	**02 06 11.6**	**0.0**
ERIK	**Erikli-Kesan**	**0.69**	**277**	*e*Pg	**Pg**	**02 06 11.6**	**0.0**
GELI	**Tayfur-Gelibol**	**0.75**	**255**	*e*PG	**Pg**	**02 06 12.1**	**-0.5**
GELI	**Tayfur-Gelibol**	**0.75**	**255**	*e*Pg	**Pg**	**02 06 12.1**	**-0.5**
KCTX	**Karacabey (Bur**	**0.79**	**114**	*e*PG	**Pb**	**02 06 12.3**	**-1.0**
KCTX	**Karacabey (Bur**	**0.79**	**114**	*e*Pg	**Pb**	**02 06 12.3**	**-1.0**
BALY	**Balya**	**0.87**	**170**	*i* P	**Pb**	**02 06 14.4**	**-0.2**
BALY				*i* S	**Sg**	**02 06 26.3**	**+0.1**
BALY	**Balya**	**0.87**	**170**	*i* P	**Pb**	**02 06 14.4**	**-0.2**
BALY				*i* S	**Sg**	**02 06 26.3**	**+0.1**
SLVT	**Silivri**	**0.87**	**43**	*e*PG	**Pb**	**02 06 14.7**	**0.0**
SLVT	**Silivri**	**0.87**	**43**	*e*Pg	**Pb**	**02 06 14.7**	**0.0**
ELBA	**Catalca**	**0.94**	**54**	*i* P	**Pn**	**02 06 17.5**	**+0.9**
ELBA				*i* S	**Sn**	**02 06 30.4**	**+0.7**
ELBA	**Catalca**	**0.94**	**54**	*i* P	**Pn**	**02 06 17.5**	**+0.9**
ELBA				*i* S	**Sn**	**02 06 30.4**	**+0.7**
ENEZ	**Enez**	**0.97**	**279**	*e*PG	**Pb**	**02 06 16.6**	**+0.1**
ENEZ	**Enez**	**0.97**	**279**	*e*Pg	**Pb**	**02 06 16.6**	**+0.1**
PHSR	**Pinarhisar**	**1.04**	**4**	*e*PG	**Pb**	**02 06 17.6**	**0.0**
PHSR	**Pinarhisar**	**1.04**	**4**	*e*Pg	**Pb**	**02 06 17.6**	**0.0**
CTKS	**Kestanelik-??a**	**1.04**	**52**	*e*PG	**Pb**	**02 06 17.1**	**-0.5**
CTKS	**Kestanelik-??a**	**1.04**	**52**	*e*Pg	**Pb**	**02 06 17.1**	**-0.5**
ALN	**Alexandroupoli**	**1.09**	**287**	*e*PN	**Pb**	**02 06 18.4**	**0.0**
ALN	**Alexandroupoli**	**1.09**	**287**	P	**Pb**	**02 06 18.4**	**0.0**
ALN				S	**Sg**	**02 06 33.1**	**-0.2**
ALN	**Alexandroupoli**	**1.09**	**287**	*e*PN	**Pn**	**02 06 18.5**	**0.0**
ALN				*e*SN	**Sb**	**02 06 31.5**	**-0.8**
ALN	**Alexandroupoli**	**1.09**	**287**	P	**Pb**	**02 06 18.4**	**0.0**
ALN				*e*Sn	**Sb**	**02 06 31.5**	**-0.8**
ALN				S	**Sg**	**02 06 33.1**	**-0.2**
ARMT	**Armutlu**	**1.10**	**91**	*e*PN	**Pb**	**02 06 18.5**	**-0.1**
ARMT	**Armutlu**	**1.10**	**91**	*e*Pn	**Pb**	**02 06 18.5**	**-0.1**
CTYL	**Yal??k??y-??at**	**1.10**	**36**	*e*PN	**Pb**	**02 06 18.4**	**-0.2**
CTYL	**Yal??k??y-??at**	**1.10**	**36**	*e*Pn	**Pb**	**02 06 18.4**	**-0.2**
EZN	**Ezine**	**1.14**	**228**	*e*PN	**Pb**	**02 06 19.3**	**+0.1**
EZN	**Ezine**	**1.14**	**228**	*e*Pn	**Pb**	**02 06 19.3**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.14**	**101**	*e*PN	**Pn**	**02 06 19.1**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.14**	**101**	*e*Pn	**Pn**	**02 06 19.1**	**-0.1**
BGKT	**Bogazkoy**	**1.18**	**60**	*e*PN	**Pn**	**02 06 19.5**	**-0.3**
BGKT	**Bogazkoy**	**1.18**	**60**	*e*Pn	**Pn**	**02 06 19.5**	**-0.3**
GADA	**Gvkgeada**	**1.23**	**251**	*e*PN	**Pn**	**02 06 20.3**	**-0.2**
GADA	**Gvkgeada**	**1.23**	**251**	*e*Pn	**Pn**	**02 06 20.3**	**-0.2**
DURS	**Dursunbey**	**1.28**	**141**	*i* P	**Pb**	**02 06 22.0**	**+0.3**
DURS				*i* S	**Sg**	**02 06 39.8**	**+0.4**
DURS	**Dursunbey**	**1.28**	**141**	*i* P	**Pb**	**02 06 22.0**	**+0.3**
DURS				*i* S	**Sg**	**02 06 39.8**	**+0.4**
BOZC	**Bozcaada**	**1.29**	**235**	*i* P	**Pb**	**02 06 21.6**	**-0.2**
BOZC				*i* S	**Sn**	**02 06 38.7**	**+0.5**
BUY	**Buyukada**	**1.31**	**78**	*i* P	**Pn**	**02 06 21.1**	**-0.6**
BUY				*i* S	**Sn**	**02 06 38.3**	**-0.5**
BUY	**Buyukada**	**1.31**	**78**	*i* P	**Pn**	**02 06 21.1**	**-0.6**
BUY				*i* S	**Sn**	**02 06 38.3**	**-0.5**
ISK	**Istanbul-Kandi**	**1.33**	**69**	*e*PN	**Pn**	**02 06 21.7**	**-0.1**
ISK	**Istanbul-Kandi**	**1.33**	**69**	P	**Pn**	**02 06 21.7**	**-0.1**
ISK	**Istanbul-Kandi**	**1.33**	**69**	P	**Pn**	**02 06 21.7**	**-0.1**
DST	**Dursunbey**	**1.35**	**137**	*e*PN	**Pn**	**02 06 22.4**	**+0.2**
DST	**Dursunbey**	**1.35**	**137**	*e*Pn	**Pn**	**02 06 22.4**	**+0.2**
EDRB	**Edirne**	**1.35**	**338**	*e*PN	**Pn**	**02 06 22.3**	**+0.1**
EDRB	**Edirne**	**1.35**	**338**	P	**Pn**	**02 06 22.1**	**-0.1**
EDRB	**Edirne**	**1.35**	**338**	*e*Pn	**Pn**	**02 06 22.3**	**+0.1**
GEMT	**Gemlik**	**1.36**	**96**	*e*PN	**Pn**	**02 06 22.2**	**0.0**
GEMT	**Gemlik**	**1.36**	**96**	*e*Pn	**Pn**	**02 06 22.2**	**0.0**
KLYT	**Kilyos**	**1.39**	**61**	*e*PN	**Pn**	**02 06 22.7**	**0.0**
KLYT	**Kilyos**	**1.39**	**61**	*e*Pn	**Pn**	**02 06 22.7**	**0.0**
AYVA	**Ayvalik**	**1.40**	**204**	*i* P	**Pg**	**02 06 24.5**	**-0.5**
AYVA				*i* S	**Sg**	**02 06 42.8**	**-0.5**
AYVA	**Ayvalik**	**1.40**	**204**	*i* P	**Pg**	**02 06 24.5**	**-0.5**
AYVA				*i* S	**Sg**	**02 06 42.8**	**-0.5**
SMTH	**Samothraki Isl**	**1.45**	**266**	P	**Pn**	**02 06 23.2**	**-0.3**
SMTH				S	**Sn**	**02 06 42.2**	**+0.1**
SMTH	**Samothraki Isl**	**1.45**	**266**	*e*PN	**Pn**	**02 06 23.1**	**-0.4**
SMTH				*e*SN	**Sn**	**02 06 41.7**	**-0.4**
SMTH	**Samothraki Isl**	**1.45**	**266**	P	**Pn**	**02 06 23.2**	**-0.3**
SMTH				*e*Sn	**Sn**	**02 06 41.7**	**-0.4**
SMTH				S	**Sn**	**02 06 42.2**	**+0.1**
RDO	**Rodhopi**	**1.53**	**292**	P	**Pn**	**02 06 25.1**	**+0.5**
RDO	**Rodhopi**	**1.53**	**292**	*e*PN	**Pn**	**02 06 25.1**	**+0.5**
RDO	**Rodhopi**	**1.53**	**292**	P	**Pn**	**02 06 25.1**	**+0.5**
IZI	**Iznik**	**1.59**	**99**	*e*PN	**Pn**	**02 06 25.6**	**+0.1**
IZI	**Iznik**	**1.59**	**99**	*e*Pn	**Pn**	**02 06 25.6**	**+0.1**
PRK	**Paraskevi**	**1.61**	**214**	P	**Pn**	**02 06 26.0**	**+0.3**
PRK				S	**Sb**	**02 06 46.8**	**-0.6**
PRK	**Paraskevi**	**1.61**	**214**	*e*PN	**Pn**	**02 06 26.1**	**+0.3**
PRK				*e*SB	**Sn**	**02 06 46.6**	**+0.5**
PRK	**Paraskevi**	**1.61**	**214**	P	**Pn**	**02 06 26.0**	**+0.3**
PRK				*e*Sb	**Sn**	**02 06 46.6**	**+0.5**
HRT	**Hereke**	**1.72**	**82**	*e*PN	**Pn**	**02 06 27.3**	**0.0**
HRT	**Hereke**	**1.72**	**82**	*e*Pn	**Pn**	**02 06 27.3**	**0.0**
AKHS	**Akhisar**	**1.74**	**170**	*i* P	**Pb**	**02 06 29.2**	**-0.3**
AKHS				*i* S	**Sb**	**02 06 51.6**	**+0.5**
AKHS	**Akhisar**	**1.74**	**170**	*i* P	**Pb**	**02 06 29.2**	**-0.3**
AKHS				*i* S	**Sb**	**02 06 51.6**	**+0.5**
ADVT	**Abdulvahap**	**1.77**	**94**	*e*PN	**Pn**	**02 06 28.4**	**+0.5**
ADVT	**Abdulvahap**	**1.77**	**94**	*e*Pn	**Pn**	**02 06 28.4**	**+0.5**
SILT	**Sile**	**1.77**	**71**	*e*PN	**Pn**	**02 06 28.3**	**+0.3**
SILT	**Sile**	**1.77**	**71**	*e*Pn	**Pn**	**02 06 28.3**	**+0.3**
SIGR	**SIGRI**	**1.83**	**222**	P	**Pn**	**02 06 29.1**	**+0.3**
SIGR				S	**Sn**	**02 06 52.0**	**+0.4**
SIGR	**SIGRI**	**1.83**	**222**	*e*PN	**Pn**	**02 06 29.8**	**+1.0**
SIGR	**SIGRI**	**1.83**	**222**	P	**Pn**	**02 06 29.1**	**+0.3**
SIGR	**SIGRI**	**1.83**	**222**	*e*Pn	**Pn**	**02 06 29.8**	**+1.0**
SIGR				S	**Sn**	**02 06 52.0**	**+0.4**
LIA	**Limnos Island**	**1.85**	**249**	P	**Pn**	**02 06 29.1**	**+0.3**
LIA				S	**Sn**	**02 06 52.3**	**+0.3**
LIA	**Limnos Island**	**1.85**	**249**	*e*PB	**Pn**	**02 06 28.8**	**-0.2**
LIA	**Limnos Island**	**1.85**	**249**	*e*Pb	**Pn**	**02 06 28.8**	**-0.2**
LIA	**Limnos Island**	**1.85**	**249**	P	**Pn**	**02 06 29.1**	**+0.1**
LIA				S	**Sn**	**02 06 52.3**	**+0.3**
KAVA	**Kavala**	**2.24**	**281**	P	**Pn**	**02 06 34.7**	**+0.3**
KAVA				S	**Sn**	**02 07 02.1**	**+0.4**
KAVA	**Kavala**	**2.24**	**281**	*e*PN	**Pn**	**02 06 34.7**	**+0.3**
KAVA	**Kavala**	**2.24**	**281**	P	**Pn**	**02 06 34.7**	**+0.3**
KAVA				S	**Sn**	**02 07 02.1**	**+0.4**
KULA	**Kula-Manisa**	**2.29**	**155**	P	**Pn**	**02 06 35.6**	**+0.5**
KULA	**Kula-Manisa**	**2.29**	**155**	P	**Pn**	**02 06 35.6**	**+0.5**
CHOS	**Chios island**	**2.44**	**206**	P	**Pn**	**02 06 37.8**	**+0.5**
CHOS	**Chios island**	**2.44**	**206**	*e*PN	**Pn**	**02 06 38.5**	**+1.2**
CHOS	**Chios island**	**2.44**	**206**	P	**Pn**	**02 06 37.8**	**+0.5**
CHOS	**Chios island**	**2.44**	**206**	*e*Pn	**Pn**	**02 06 38.5**	**+1.2**
OUR	**Ouranopolis**	**2.64**	**265**	P	**Pn**	**02 06 39.4**	**-0.4**
OUR	**Ouranopolis**	**2.64**	**265**	*e*PN	**Pn**	**02 06 39.4**	**-0.4**
OUR	**Ouranopolis**	**2.64**	**265**	P	**Pn**	**02 06 39.4**	**-0.4**
NVR	**Nevrokopi**	**2.80**	**287**	P	**Pn**	**02 06 42.5**	**+0.3**
NVR				S	**Sn**	**02 07 15.8**	**+0.3**
NVR	**Nevrokopi**	**2.80**	**287**	*e*PN	**Pn**	**02 06 42.4**	**+0.3**
NVR	**Nevrokopi**	**2.80**	**287**	*e*Pn	**Pn**	**02 06 42.4**	**+0.3**
NVR				S	**Sn**	**02 07 15.8**	**+0.3**
PAIG	**Paliouri**	**2.94**	**258**	*e*PN	**Pn**	**02 06 43.1**	**-0.9**
PAIG	**Paliouri**	**2.94**	**258**	*e*Pn	**Pn**	**02 06 43.1**	**-0.9**
SRS	**Serrai**	**2.95**	**281**	P	**Pn**	**02 06 44.2**	**0.0**
SRS				S	**Sn**	**02 07 19.6**	**+0.4**
SRS	**Serrai**	**2.95**	**281**	*e*PN	**Pn**	**02 06 44.2**	**0.0**
SRS	**Serrai**	**2.95**	**281**	P	**Pn**	**02 06 44.2**	**0.0**
SRS				S	**Sn**	**02 07 19.6**	**+0.4**
KNT	**Kendrikon**	**3.48**	**281**	*e*PN	**Pn**	**02 06 52.2**	**+0.8**
KNT	**Kendrikon**	**3.48**	**281**	*e*Pn	**Pn**	**02 06 52.2**	**+0.8**

*BEO **29** 02:08:41.8±0.3,42°.92N×19°.17E,h0km, ML1.7/5*

CSEM 29 02:08:40.5±0.3,42°.93N×19°.15E,h2km,ML1.7,Error ellipse: s-maj=8.4km s-min=5.4km az=125.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDG	**Podgorica**	**0.50**	**171**	*e*Pg	Pg	02 08 50.4	+0.3
PDG				*i* Sg	Sb	02

comp=Z,321nm,21.9s,baz=250,slow=32
X37A Clayton 47.13 302 ⇓P P 02 26 48.6 +0.7
baz=47
T37A Cheneyville 18 47.26 306 ⇓P P 02 26 50.0 +1.0
baz=47
W37A Quinton 47.27 303 ⇑P P 02 26 49.9 +0.8
baz=47,SNR=5.9
Q37A Longview Farm, 47.31 308 ⇓P P 02 26 50.1 +0.8
baz=47
537A Green Hill Far 47.33 296 ⇑P P 02 26 49.2 -0.4
baz=47
R37A Teagarden Farm 47.46 307 ⇓P P 02 26 50.9 +0.4
baz=47
TUL1 Leonard 47.71 304 ⇑P P 02 26 52.4 0.0
baz=48
S36A Lake Cedric, C 47.92 306 ⇑P P 02 26 54.3 +0.3
baz=48
536A Bastrop 47.98 296 ⇓P P 02 26 55.1 +0.5
baz=48
T36A Boggs Farm, Ca 48.00 305 ⇑P P 02 26 54.8 +0.1
baz=48
SPMN Marine on St. 48.10 317 *e*P P 02 26 55.7 +0.3
18nm,1.0s
SPMN Marine on St. 48.10 317 ⇑P P 02 26 56.0 +0.7
baz=48
335A Moody 48.40 297 ⇓P P 02 26 58.7 +0.8
baz=48
X35A Drake 48.41 302 ⇑P P 02 26 58.1 +0.3
baz=48
W35A Tecumseh 48.44 303 ⇓P P 02 26 58.8 +0.7
baz=48
S35A Otter Creek Ra 48.47 306 ⇑P P 02 26 58.8 +0.5
baz=48
WHTX Lake Whitney, 48.49 298 ⇓P P 02 26 59.3 +0.7
baz=48
V35A Meyer Ranch, C 48.52 303 ⇓P P 02 26 59.5 +0.8
baz=48
835A Beeville 48.53 293 ⇑P P 02 27 00.0 +1.2
baz=48
P35A Duane Minner, 48.65 309 ⇓P P 02 27 01.1 +1.4
baz=49
035A Encino 48.72 292 ⇑P P 02 27 01.3 +0.9
baz=49
Y34A Reagan Ranch, 48.99 301 ⇑P P 02 27 03.3 +1.0
baz=49
KSU1 Kansas State U 49.00 308 ⇑P P 02 27 03.4 +1.0
baz=49
T34A McClaskey Farm 49.02 305 ⇑P P 02 27 03.5 +1.0
baz=49
Z34A Collier Ranch, 49.04 300 ⇑P P 02 27 03.5 +0.7
baz=49
V34A Guthrie 49.07 303 ⇓P P 02 27 03.2 +0.2
baz=49
434A Burnet 49.08 297 ⇓P P 02 27 03.0 -0.1
baz=49
134A White-Moore Ra 49.08 299 ⇓P P 02 27 03.6 +0.5
baz=49
S34A Willow Spring 49.09 306 ⇓P P 02 27 03.8 +0.7
baz=49
334A Lometa 49.09 297 ⇓P P 02 27 03.2 -0.1
baz=49
934A Benavides 49.11 292 ⇓P P 02 27 04.6 +1.3
baz=49
X34A Smith Ranch, M 49.14 302 ⇓P P 02 27 03.6 +0.1
baz=49
834A Tilden 49.16 293 ⇑P P 02 27 03.9 +0.2
baz=49
W34A Bridge Creek, 49.18 303 ⇑P P 02 27 04.5 +0.6
baz=49
U34A Anderson Ranch 49.19 304 ⇑P P 02 27 04.4 +0.6
baz=49
534A Blanco 49.19 296 ⇑P P 02 27 04.7 +0.6
baz=49
734A La Parita Cree 49.20 294 ⇑P P 02 27 04.7 +0.7
baz=49
Q34A Chapman 49.21 308 ⇑P P 02 27 04.9 +0.9
baz=49
034A Hebbronville 49.24 292 ⇑P P 02 27 05.3 +0.9
baz=49,SNR=8.7
R34A Isabella, Hill 49.32 307 ⇓P P 02 27 05.4 +0.6
baz=49
TAM Tamanrasset 49.33 74 *e*P P 02 27 06.7 +1.5
13nm,1.4s
N34A Lincoln 49.33 310 ⇓P P 02 27 05.6 +0.7
baz=49
U33A Lingo Farm, Me 49.65 304 ⇑P P 02 27 07.8 +0.4
baz=50
X33A Lawton 49.67 302 ⇓P P 02 27 08.4 +0.8
baz=50
533A Kerrville 49.68 296 ⇓P P 02 27 08.6 +0.9
baz=50
V33A Lossen Ranch, 49.69 303 ⇑P P 02 27 08.5 +0.8
baz=50
Y33A Hilltop Ranch, 49.71 301 ⇓P P 02 27 07.9 0.0
baz=50
233A Rising Star 49.72 298 ⇓P P 02 27 08.5 +0.5
baz=50
333A Richland Sprin 49.73 297 ⇑P P 02 27 07.6 -0.5
baz=50,SNR=6.2
Z33A Whitaker Ranch 49.74 300 ⇓P P 02 27 07.8 -0.3
baz=50
633A Saathoff Ranch 49.77 295 ⇑P P 02 27 08.7 +0.3
baz=50
433A Art 49.77 297 ⇑P P 02 27 08.1 -0.3
baz=50
933A Laredo 49.78 292 ⇓P P 02 27 08.5 0.0
baz=50
133A Hamilton Ranch 49.79 299 ⇑P P 02 27 08.5 0.0
baz=50
R33A Olander Ranch, 49.89 307 ⇓P P 02 27 08.8 -0.4
baz=50
833A Chaparral WMA, 49.91 293 ⇑P P 02 27 09.7 +0.3
baz=50,SNR=7.2
Q33A Connelly Farm, 49.91 307 ⇓P P 02 27 09.6 +0.3
baz=50
WMOK Wichita Mounta 49.93 302 *e*P P 02 27 08.7 -0.9
6.5nm,1.2s
ECSD EROS Data Cent 50.19 314 *e*P P 02 27 10.8 -0.6
0.7nm,0.4s
ECSD EROS Data Cent 50.19 314 ⇓P P 02 27 11.1 -0.3
baz=50
V32A Arapaho 50.28 303 ⇑P P 02 27 12.4 +0.1
baz=50
632A Uvalde 50.30 295 ⇓P P 02 27 12.8 +0.4
baz=50,SNR=5.6
X32A Elmer 50.30 301 ⇓P P 02 27 12.1 -0.3
baz=50
Z32A Haskell 50.33 300 ⇑P P 02 27 12.4 -0.3
baz=50
232A Coleman 50.34 298 ⇑P P 02 27 12.4 -0.3
baz=50,SNR=5.3
W32A Sentinel 50.36 302 ⇑P P 02 27 12.9 +0.1
baz=50,SNR=7.3
JCT Junction City 50.37 296 ⇑P P 02 27 13.2 +0.2
baz=50
332A Millersview 50.38 297 ⇓P P 02 27 13.4 +0.4
baz=50
Y32A R-V Farms, Ver 50.38 301 ⇓P P 02 27 13.2 +0.2
baz=50
432A Menard 50.39 297 ⇑P P 02 27 13.2 +0.1
baz=50
ABTX Abilene, Hawle 50.40 299 ⇓P P 02 27 13.4 +0.2
baz=50
832A Faith Ranch, C 50.42 293 ⇓P P 02 27 13.7 +0.4
baz=50
732A Laxson Ranch, 50.43 294 ⇑P P 02 27 13.3 -0.1
baz=50,SNR=11
532A Rocksprings 50.44 296 ⇑P P 02 27 13.9 +0.3
baz=50
Q32A Meitler Ranch, 50.46 307 ⇓P P 02 27 13.9 +0.4
baz=50
Z31A Sharp Cattle R 50.89 300 ⇓P P 02 27 16.9 +0.1
baz=51
X31A McDonald Ranch 50.90 301 ⇑P P 02 27 17.0 +0.1
baz=51
331A San Angelo 50.96 297 ⇓P P 02 27 18.1 +0.6
baz=51
631A Perdido Creek 50.98 295 ⇓P P 02 27 17.9 +0.3
baz=51
531A Rocksprings 50.99 296 ⇑P P 02 27 18.2 +0.5
baz=51
131A Roby 51.03 299 ⇓P P 02 27 18.0 0.0
baz=51
Y31A Rekieta Farm, 51.05 301 ⇑P P 02 27 17.9 -0.2
baz=51
431A Sonora 51.07 296 ⇓P P 02 27 18.3 0.0
baz=51,SNR=6.2
R31A Burdett 51.08 306 ⇓P P 02 27 19.0 +0.8
baz=51
AGMN Agassiz Nation 51.18 320 ⇓P P 02 27 18.9 +0.2
baz=51
P31A Stockton 51.19 308 ⇓P P 02 27 19.2 +0.2
baz=51
130A Snyder 51.51 299 ⇑P P 02 27 22.1 +0.5
baz=52
330A Mertzon 51.60 297 ⇓P P 02 27 22.4 +0.1
baz=52
430A Baggett Ranch, 51.62 296 ⇑P P 02 27 22.4 0.0
baz=52
R30A Dighton 51.66 306 ⇓P P 02 27 23.0 +0.4
baz=52
530A J-C Ranch, Com 51.68 296 ⇓P P 02 27 23.2 +0.3
baz=52
U30A WK&E Inc. Balk 51.68 304 ⇑P P 02 27 23.4 +0.6
baz=52
Z30A Sanderson Ranc 51.71 300 ⇑P P 02 27 23.3 +0.3
baz=52
Q30A Quinter 51.73 307 ⇑P P 02 27 23.5 +0.4
baz=52
O30A MW Ranch, Wils 51.83 308 ⇓P P 02 27 24.3 +0.5
baz=52
P30A Selden 51.85 308 ⇓P P 02 27 24.4 +0.4
baz=52
ULM Lac du Bonnet 51.91 322 P P 02 27 22.4 -1.8
6.0nm,1.0s,baz=107,slow=4.9,SNR=6.1
J30A Dallas 52.10 312 ⇓P P 02 27 26.7 +0.9
baz=52
429A Davenport Ranc 52.18 296 ⇓P P 02 27 26.8 +0.2
baz=52
Z29A Hungry Hill Ra 52.19 300 ⇑P P 02 27 26.1 -0.5
baz=52,SNR=5.8
Y29A Porterfield Fa 52.21 300 ⇓P P 02 27 26.8 0.0
baz=52
129A Stewart Farms, 52.27 299 ⇓P P 02 27 27.5 +0.2
baz=52
329A Wagon Wheel Ra 52.30 297 ⇓P P 02 27 27.4 0.0
baz=52
Q29A Oakley 52.30 307 ⇓P P 02 27 27.6 +0.3
baz=52
W29A Amarillo 52.31 302 ⇑P P 02 27 27.8 +0.3
baz=52
AMTX Amarillo 52.32 302 ⇑P P 02 27 27.8 +0.3
baz=52
G30A Faulkton 52.33 315 ⇓P P 02 27 28.0 +0.6
baz=52
F30A Leola 52.44 316 ⇓P P 02 27 28.8 +0.5
baz=52
529A Stev Forest Ra 52.44 296 ⇑P P 02 27 28.6 +0.1
baz=52
D30A Buchanan 52.63 317 ⇑P P 02 27 30.1 +0.5
baz=53
C30A Mose, Pekin 52.63 318 ⇓P P 02 27 29.9 +0.2
baz=53
Z28A Tucker Farm, M 52.76 300 ⇓P P 02 27 30.7 -0.2
baz=53,SNR=5.9
B30A Myrvik Farm, E 52.78 319 ⇑P P 02 27 30.9 +0.3
baz=53
128A Castleberry Fa 52.79 299 ⇓P P 02 27 31.5 +0.3
baz=53
R28A Tribune 52.86 306 ⇑P P 02 27 31.7 +0.2
baz=53
T28A Walsh 52.92 304 ⇓P P 02 27 32.5 +0.4
baz=53
Q28A Sharon Springs 52.98 307 ⇑P P 02 27 32.7 +0.2
baz=53
KEST Kesra 53.12 57 P P 02 27 35.1 +1.6
3.1nm,1.1s,baz=332,slow=15,SNR=3.8
MSTX Muleshoe 53.13 300 *e*P P 02 27 33.5 -0.2
17nm,1.3s
MSTX Muleshoe 53.13 300 ⇓P P 02 27 33.5 -0.2
baz=53
K28A Ten Mile Ranch 53.30 311 ⇑P P 02 27 35.1 +0.3
baz=53
J28A Allard Ranch, 53.36 312 ⇓P P 02 27 35.9 +0.8
baz=53
U27A Thompson Grove 53.41 303 ⇑P P 02 27 36.3 +0.6
baz=53
B29A Wagenman Farm, 53.43 319 ⇑P P 02 27 35.8 +0.4
baz=53
I28A Midland 53.45 313 ⇑P P 02 27 35.9 +0.2
baz=53
A29A Manning Farm, 53.49 319 ⇓P P 02 27 36.1 +0.1
baz=54
R27A Eads 53.62 306 ⇓P P 02 27 38.0 +0.8
baz=54
F28A McLaughlin 53.64 315 ⇑P P 02 27 37.7 +0.6
baz=54
TXAR Lajitas Array 53.68 295 P P 02 27 35.9 -1.8
2.1nm,1.1s,baz=98,slow=7.7,SNR=9.0
TXAR PcP PcP 02 28 44.0 0.0
1.1nm,1.0s,baz=120,slow=7.4,SNR=4.7
TXAR LR LR 02 50 50.9
comp=Z,76nm,19.8s,baz=0.0,slow=36
E28A Huff 53.76 316 ⇓P P 02 27 38.8 +0.9
baz=54
J27A Elkhorn Farm, 53.88 312 ⇑P P 02 27 40.2 +1.2
baz=54
S26A Kim 54.06 305 ⇓P P 02 27 41.3 +0.9
baz=54
I27A Quinn 54.08 313 ⇑P P 02 27 40.9 +0.5
baz=54
T26A Comanche Natio 54.10 304 ⇑P P 02 27 41.0 +0.2
baz=54
R26A Arlington 54.12 306 ⇓P P 02 27 40.8 -0.1
baz=54,SNR=6.5
P26A Davis Ranch, A 54.22 307 ⇓P P 02 27 41.9 +0.3
baz=54
G27A Dupree 54.29 314 ⇑P P 02 27 42.2 +0.3
baz=54
O26A Horse Wrangler 54.30 308 ⇓P P 02 27 42.4 +0.3
baz=54
F27A Lemmon 54.47 315 ⇑P P 02 27 42.9 -0.3
baz=54,SNR=6.9
C27A Sayler Ranch, 54.59 317 ⇑P P 02 27 44.2 +0.2
baz=54
J26A Sides Ranch, S 54.65 312 ⇑P P 02 27 45.3 +0.7
baz=55
H26A Fairpoint 54.70 313 ⇓P P 02 27 45.7 +0.8
baz=55
G26A Maurine 54.73 314 ⇑P P 02 27 45.3 +0.2
baz=55
FCC Fort Churchill 54.75 332 *e*P P 02 27 44.0 -0.8
12nm,1.2s
T25A Trinidad 54.75 304 ⇓P P 02 27 45.8 +0.2
baz=55
D26A Manning 55.03 316 ⇓P P 02 27 47.3 +0.1
baz=55
J25A Sunshine Ranch 55.19 312 ⇑P P 02 27 48.8 +0.3
baz=55
MNTX Cornudas Mount 55.20 297 *e*P P 02 27 48.5 -0.2
9.8nm,1.3s
MNTX Cornudas Mount 55.20 297 ⇑P P 02 27 48.3 -0.4
baz=55,SNR=9.4
I25A Rochford 55.26 312 ⇓P P 02 27 49.1 0.0
baz=55,SNR=10.0
G25A Newell 55.27 314 ⇓P P 02 27 49.7 +0.6
baz=55
H25A Fruitdale 55.28 313 ⇓P P 02 27 49.6 +0.5
baz=55
D25A Fairfield 55.65 316 ⇓P P 02 27 52.4 +0.7
baz=56
SDCO Great Sand Dun 55.67 305 *e*P P 02 27 52.7 +0.4
5.6nm,1.3s
SDCO Great Sand Dun 55.67 305 ⇑P P 02 27 52.5 +0.2
baz=56
C25A Freed Ranch, W 55.74 317 ⇓P P 02 27 52.9 +0.6
baz=56
J24A Dixon Ranch, L 55.79 312 ⇓P P 02 27 53.1 +0.3
baz=56
H24A Dirks Ranch, A 55.97 313 ⇑P P 02 27 54.5 +0.3
baz=56
ISCO Idaho Springs 55.98 307 *e*P P 02 27 55.6 +1.1
7.6nm,1.2s
ISCO Idaho Springs 55.98 307 ⇓P P 02 27 54.9 +0.3
baz=56,SNR=7.1
P23A Jefferson 56.11 307 ⇓P P 02 27 55.9 +0.4
baz=56,SNR=6.5
F24A Ekalaka 56.12 315 ⇓P P 02 27 55.5 +0.4
baz=56
D24A Glendive 56.31 316 ⇑P P 02 27 57.0 +0.6
baz=56
MOTA Moosalm 56.35 44 ⇑*i*P P 02 27 56.8 0.0
2.9nm,0.7s
N23A Red Feather La 56.37 308 ⇑P P 02 27 57.5 +0.3
baz=56
K23A Bowen Ranch, D 56.40 311 ⇑P P 02 27 57.5 +0.2
baz=56
SUMG Summit 56.40 3 *i*P P 02 27 57.6 +0.6
11nm,0.9s
SUMG Summit 56.40 3 *e*P P 02 27 57.1 +0.1
12nm,1.0s
C24A Savage 56.46 317 ⇑P P 02 27 58.3 +0.8
baz=56
S22A 4UR Ranch, Cre 56.72 305 ⇑P P 02 28 00.4 +0.5
baz=57
O22A Kremmling 56.74 308 ⇑P P 02 28 00.6 +0.7
baz=57
N22A Wattenberg Ran 56.74 308 ⇓P P 02 28 00.8 +0.9
baz=57
F23A Volborg 56.75 314 ⇑P P 02 28 00.1 +0.5
baz=57
LAZ Ladron 56.77 301 *e*P P 02 28 01.4 +1.2
2.8nm,1.4s
E23A Ismay 56.83 315 ⇑P P 02 28 00.6 +0.4
baz=57
P22A Eagle 56.84 307 ⇓P P 02 28 00.6 0.0
baz=57
D23A Lindsay 56.91 316 ⇑P P 02 28 00.9 +0.2
baz=57,SNR=8.5
FFC Flin Flon 57.00 325 *e*P P 02 28 00.0 -1.1
15nm,1.4s
C23A Lambert 57.02 317 ⇑P P 02 28 02.4 +1.0
baz=57
K22A Casper 57.04 310 ⇑P P 02 28 01.7 -0.1
baz=57
B23A Brockton 57.04 318 ⇓P P 02 28 02.0 +0.4
baz=57,SNR=7.4
AQU L'Aquila 57.06 50 *e*P P 02 28 02.8 +1.0
10nm,1.1s
J22A Midwest 57.12 311 ⇑P P 02 28 01.9 -0.4
baz=57
ABTA Abfaltersbach 57.16 45 ⇑*i*P P 02 28 02.1 -0.4
4.4nm,1.0s
I22A 9 Mile Ranch, 57.19 312 ⇑P P 02 28 03.1 +0.2
baz=57
E22A Miles City 57.26 315 ⇓P P 02 28 04.1 +0.9
baz=57
G22A Birney 57.27 314 ⇓P P 02 28 03.8 +0.4
baz=57
F22A Rosebud 57.35 314 ⇓P P 02 28 04.6 +0.8
baz=57
D22A Cohagen 57.55 316 ⇑P P 02 28 05.5 +0.3
baz=58
B22A Reddig Ranch S 57.66 317 ⇑P P 02 28 06.6 +0.6
baz=58
H21A Big Horn, Sher 57.70 313 ⇑P P 02 28 06.6 +0.1
baz=58
A22A Carney Farms, 57.76 318 ⇓P P 02 28 07.1 +0.5
baz=58
I21A Big Trails, Te 57.76 312 ⇑P P 02 28 06.2 -0.7
baz=58,SNR=8.2
J21A Lysite 57.80 311 ⇑P P 02 28 07.5 +0.3
baz=58
MVCO Mesa Verde 58.01 304 ⇓P P 02 28 09.6 +0.7
baz=58
O20A White River Ci 58.03 307 ⇑P P 02 28 09.6 +0.7
baz=58
N20A Spence Gulch, 58.11 308 ⇑P P 02 28 09.8 +0.3
baz=58
J20A Shoshoni 58.27 311 ⇑P P 02 28 11.0 +0.6
baz=58
B21A Ellsworth Farm 58.35 317 ⇑P P 02 28 11.4 +0.6
baz=58
H20A Greybull 58.36 312 ⇓P P 02 28 11.4 +0.4
baz=58
I20A Worland 58.38 312 ⇓P P 02 28 12.0 +0.9
baz=58
CLL Collm 58.47 39 *i*P P 02 28 11.6 +0.1
comp=Z,7.0nm,1.1s
CLL *e*S S 02 36 25.0 +10
CLL *e*SSS SSS 02 42 42.0
G20A Bridger 58.62 313 ⇑P P 02 28 12.7 -0.1
baz=58
F20A Billings 58.66 314 ⇓P P 02 28 13.2 +0.2
baz=59
E20A Meyer Farm, Mu 58.75 315 ⇓P P 02 28 14.1 +0.4
baz=59
D20A Manuel Ranch, 58.85 315 ⇑P P 02 28 14.6 +0.3
baz=59
C20A Veseth Ranch, 58.87 316 ⇓P P 02 28 14.8 +0.3
baz=59
BRG Berggiesshubel 58.95 40 *e*P P 02 28 13.4 -1.4
comp=Z,1.0nm,0.7s
J19A Crowheart 58.96 311 ⇑P P 02 28 15.1 -0.2
baz=59
I19A Meeteetse 59.01 312 ⇑P P 02 28 15.4 -0.2
baz=59,SNR=5.2
A20A Cobblestone Ra 59.03 318 ⇑P P 02 28 15.8 +0.2
baz=59
H19A Powell 59.08 313 ⇓P P 02 28 15.9 -0.1
baz=59
E19A Rath Farm, Rou 59.20 315 ⇓P P 02 28 16.7 0.0
baz=59
F19A Roth Farm, Mol 59.21 314 ⇓P P 02 28 16.7 -0.2
baz=59
BW06 Boulder Array 59.27 310 *e*P P 02 28 17.1 -0.4
comp=Z,7.0nm,1.2s
PDAR Pinedale Array 59.27 310 P P 02 28 16.4 -1.1
comp=Z,3.7nm,1.1s,baz=90,slow=7.4,SNR=15
PDAR LR LR 02 51 11.4
comp=Z,138nm,21.9s,baz=106,slow=33
H18A Shoshone NF, C 59.56 312 ⇓P P 02 28 19.5 0.0
baz=60
C19A Slack Wire Ran 59.57 316 ⇑P P 02 28 19.0 -0.4
baz=60
A19A Klindworth Far 59.57 317 ⇑P P 02 28 19.4 0.0
baz=60,SNR=6.8
B19A Brinkman Farms 59.62 317 ⇑P P 02 28 19.6 -0.1
baz=60,SNR=6.1
GCMT Greycliff 59.71 314 *e*P P 02 28 20.6 +0.2
comp=Z,5.2nm,1.1s
EGMT Eagleton 60.09 316 *e*P P 02 28 22.6 -0.2
comp=Z,8.9nm,1.1s
EGMT Eagleton 60.09 316 ⇓P P 02 28 23.5 +0.6
baz=60
LOHW Long Hollow 60.12 311 *e*P P 02 28 23.3 -0.1
comp=Z,6.7nm,1.2s
H17A Grant Village 60.18 312 ⇓P P 02 28 24.1 +0.3
baz=60
TPAW Teton Pass 60.36 311 *e*P P 02 28 25.0 0.0
comp=Z,7.5nm,1.1s
IMW Indian Meadow 60.39 311 *e*P P 02 28 25.3 0.0
comp=Z,7.1nm,1.1s
NOA NORSAR Array B 60.42 28 P P 02 28 24.5 -0.4
comp=Z,1.2nm,1.0s,baz=247,slow=6.7,SNR=3.3
HWUT Hardware Ranch 60.66 309 *e*P P 02 28 26.9 -0.1
comp=Z,6.9nm,1.0s
MORC Moravsky Berou 61.01 42 *e*P P 02 28 29.4 +0.4
comp=Z,3.3nm,1.1s
PLCA Paso Flores 61.01 201 *e*P P 02 28 29.4 +0.2
comp=Z,8.5nm,1.2s
214A Organ Pipe Nat 61.53 298 ⇓P P 02 28 33.0 +0.1
baz=61
DUG Dugway, Tooele 61.53 307 ⇑P P 02 28 33.4 +0.5
baz=61
DLMT Dillon 61.70 313 *e*P P 02 28 34.2 +0.2
comp=Z,9.2nm,1.3s
MCMT McKenzie Canyo 61.84 312 *e*P P 02 28 35.5 +0.5
comp=Z,2.6nm,1.4s
CHMT Chamberlain Mo 62.30 315 *e*P P 02 28 37.8 -0.3
comp=Z,2.4nm,1.1s
SLMT Seeley Lake 62.50 315 *e*P P 02 28 39.1 -0.2
comp=Z,6.0nm,1.0s
MSO Missoula 62.76 315 ⇑P P 02 28 41.2 +0.2
baz=63
HLID Hailey 62.87 311 *e*P P 02 28 42.0 0.0
comp=Z,13nm,1.7s
HLID Hailey 62.87 311 ⇑P P 02 28 41.4 -0.5
baz=63,SNR=6.0
EDM Edmonton 63.14 322 *e*P P 02 28 42.9 -0.5
comp=Z,17nm,1.3s
ELK Elko 63.39 308 *e*P P 02 28 45.8 +0.3
comp=Z,7.6nm,1.4s
IRM Iron Mountain 63.40 300 ⇓P P 02 28 46.0 +0.6
baz=63
R11A Troy Canyon, C 63.65 305 ⇓P P 02 28 46.6 -0.6
baz=64,SNR=5.9
GMRC Granite Mounta 63.80 301 ⇑P P 02 28 48.7 +0.5
baz=64
MFID Camas Ranch 63.90 311 *e*P P 02 28 48.7 +0.1
comp=Z,10nm,1.3s
RES Resolute Bay 63.91 347 *e*P P 02 28 48.2 +0.2
comp=Z,3.7nm,1.1s
TUQ Turquoise Moun 63.99 302 ⇑P P 02 28 49.8 +0.4
baz=64

PFO	**Pinyon Flats O**	**64.51**	**300**	*e*P		**P**	**02 28 54.8**	**+1.9**
	comp=Z,10nm,1.4s							
GSC	**Goldstone, Bar**	**64.71**	**302**	⇓P		**P**	**02 28 54.4**	**+0.3**
	baz=65							
NEW	**Newport**	**65.02**	**316**	*e*P		**P**	**02 28 55.1**	**-0.7**
	comp=Z,9.3nm,1.1s							
NEW	**Newport**	**65.02**	**316**	⇑P		**P**	**02 28 55.1**	**-0.7**
	baz=65,SNR=7.6							
MPMC	**Manual Prospec**	**65.23**	**303**	⇑P		**P**	**02 28 57.8**	**+0.2**
	baz=65							
YKA	**Yellowknife Ar**	**65.47**	**332**	P		**P**	**02 28 57.2**	**-1.2**
	comp=Z,2.9nm,1.1s,baz=101,slow=7.6,SNR=16							
ISA	**Isabella, Lake**	**66.06**	**302**	⇑P		**P**	**02 29 03.6**	**+0.8**
	baz=66							
WAKR	**Walker**	**66.67**	**305**	*e*P		**P**	**02 29 07.8**	**+0.9**
	comp=Z,7.1nm,1.3s							
FINES	**FINESS Array B**	**67.48**	**30**	P		**P**	**02 29 11.1**	**-0.2**
	comp=Z,1.9nm,0.9s,baz=253,slow=5.8,SNR=5.4							
AKASG	**Malin Array Be**	**68.55**	**41**	P		**P**	**02 29 18.1**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=260,slow=5.5,SNR=6.7							
BR131	**Keskin Array S**	**72.31**	**53**	*e*P		**P**	**02 29 41.7**	**+0.1**
	comp=Z,1.6nm,0.8s							
BRTR	**Keskin Array B**	**72.31**	**53**	P		**P**	**02 29 41.3**	**-0.3**
	comp=Z,2.2nm,0.9s,baz=263,slow=5.9,SNR=14							
CSS	**Prodhromos**	**72.69**	**58**	*e*P		**P**	**02 29 43.8**	**0.0**
	comp=Z,1.9nm,1.2s							
INK	**Inuvik**	**73.78**	**337**	P		**P**	**02 29 49.2**	**-0.3**
	comp=Z,2.1nm,0.3s,baz=91,slow=2.6,SNR=4.5							
DAWY	**Dawson**	**76.64**	**333**	*e*P		**P**	**02 30 05.3**	**-0.8**
	comp=Z,7.5nm,1.4s							
KIV	**Kislovodsk**	**78.33**	**48**	*e*P		**P**	**02 30 16.2**	**+0.2**
	comp=Z,12nm,1.1s							
KBZ	**Khabaz**	**78.52**	**48**	P		**P**	**02 30 18.6**	**+1.6**
	comp=Z,4.6nm,1.0s,baz=236,slow=24,SNR=8.2							
ILAR	**Eielson Array**	**79.65**	**335**	P		**P**	**02 30 22.7**	**-0.1**
	comp=Z,5.6nm,1.0s,baz=72,slow=4.8,SNR=29							
COLA	**College**	**80.01**	**335**	*e*P		**P**	**02 30 24.5**	**-0.2**
	comp=Z,4.7nm,0.8s							
LSZ	**Lusaka**	**80.23**	**109**	*e*P		**P**	**02 30 27.6**	**+0.7**
	comp=Z,7.0nm,1.1s							
GNI	**Garni**	**80.64**	**51**	*e*P		**P**	**02 30 29.9**	**+1.0**
	comp=Z,15nm,1.2s							
SUR	**Sutherland**	**80.64**	**128**	LR		LR	02 58 51.2	
	comp=Z,143nm,19.9s,baz=316,slow=30							
MCK	**McKinley**	**80.81**	**334**	*e*P		**P**	**02 30 28.8**	**-0.3**
	comp=Z,5.3nm,0.9s							
TRF	**Thorofare Moun**	**81.47**	**334**	*e*P		**P**	**02 30 32.5**	**-0.3**
	comp=Z,6.8nm,1.1s							
IM04	**Indian Mountai**	**81.98**	**337**	*e*P		**P**	**02 30 34.9**	**-0.4**
BOSA	**Boshof**	**82.57**	**123**	P		**P**	**02 30 38.5**	**-0.6**
	comp=Z,2.9nm,0.7s,baz=115,slow=19,SNR=3.8							
KMBO	**Kilima Mbogo**	**84.42**	**93**	P		**P**	**02 30 50.8**	**+1.7**
	comp=Z,0.7nm,0.2s,baz=274,slow=7.2,SNR=4.1							
KMBO	**Kilima Mbogo**	**84.42**	**93**	*e*P		**P**	**02 30 51.1**	**+2.0**
	comp=Z,5.1nm,1.1s							
ABKAR	**Akbulak array**	**88.14**	**39**	*e*P		**P**	**02 31 06.9**	**+0.5**
	comp=Z,6.6nm,1.2s							
BVAR	**Borovoye Array**	**92.29**	**33**	P		**P**	**02 31 25.4**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=289,slow=4.4,SNR=3.1							
SNAA	**Sanae**	**92.66**	**167**	*e*P		**P**	**02 31 26.4**	**-0.6**
	comp=Z,12nm,1.6s							
HHC	**Hu-ho-hao-te**	**119.57**	**19**	*e*PKP		**PKPdf**	**02 37 02.0**	**-3.9**
HHC				PP		**PP**	**02 38 27.8**	**+1.0**
HHC				SKS		SKSdf	02 44 09.3	-8.7
IPM	**Ipoh**	**141.87**	**60**	*e*PKPdf		**PKPdf**	**02 37 47.9**	**-0.6**
KKM	**Kota Kinabalu**	**151.98**	**39**	*e*PKPdf		**PKPdf**	**02 38 03.5**	**-1.9**

DJA 29 02:20:47.5±0.5, 8˚S±4˚×10˚7E±˚, h22km±6km, M3.7/9, MLv3.7/9, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNJI	**Cibinong**	**0.53**	**49**	P	Pn	02 20 59.3	-0.4
CNJI				S	Sn	02 21 07.4	-0.6
SKJI	**Sukabumi**	**0.67**	**345**	P	Pb	02 21 00.6	0.0
SKJI				S	Sb	02 21 09.1	-0.4
CISI	**Cisompet, Garu**	**1.08**	**85**	P	Pn	02 21 07.1	-0.3
CISI				S	Sb	02 21 20.6	-0.8
LEM	**Lembang**	**1.21**	**47**	P	Pn	02 21 08.7	-0.6
LEM				S	Sb	02 21 25.7	+0.4
CGJI	**Cibinong**	**1.46**	**315**	P	Pn	02 21 10.4	-2.2
SBJI	**Serang**	**1.64**	**339**	P	Sn	02 21 34.7	-0.8
CMJI	**Cimerak**	**1.71**	**94**	P	Pn	02 21 16.0	0.0
CMJI				S	Sn	02 21 35.9	-1.2
MDSI	**Maura Dua**	**4.05**	**321**	P	Pn	02 21 49.6	+1.4

*IDC **29** 02:29:47.1±0.4, 33˚.15N×96˚.11E, h0km, mb5.0/30, mb1 5.1/35, mb1mx5.1/35, mbtmp5.0/35, ML4.6/3, MS5.4/36, Ms1 5.4/36, ms1mx5.3/41, Error ellipse: s-maj=13.8km s-min=9.5km az=34.0*

*ISCJB **29** 02:29:48.8±0.1, 33˚.19N±0˚.02×96˚.06E±0˚.01, h16km, mb5.5/330, MS5.5/429, Error ellipse: s-maj=2.3km s-min=1.7km az=21.0*

*NEIC **29** 02:29:48.6±0.1, 33˚.17N×96˚.07E, h7km, mb5.5/135, ME6.1, MS5.6/294, MW5.8, MW5.6, Error ellipse: s-maj=4.0km s-min=2.8km az=211.0, Moment Tensor Solution. s33 Moment tensor: Scale 10¹⁷Nm; Mrr0.22; Mθθ-1.49; Mϕϕ1.27; Mrθ-0.38; Mrϕ3.32; Mθϕ0.63; Best double couple: M₀3.70000×10¹⁷ NP1:ϕs169.00000°, δ87.00000°, λ-169.00000°. NP2:ϕs78.00000°, δ79.00000°, λ-3.00000°. Principal axes: T 3.5200, Plg5.0000°, Azm303.0000°; N 0.3000, Plg79.0000°, Azm183.0000°; P -3.8200, Plg9.0000°, Azm34.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

*GCMT **29** 02:29:48.6±0.1, 33˚.20N×96˚.28E, h21km, MW5.8/133, Moment Tensor Solution. s106,c204; s133,c378; Duration: 1s9 Moment tensor: Scale 10¹⁷Nm; Mrr0.32±.05; Mθθ-2.96±.05; Mϕϕ2.65±.05; Mrθ0.01±.09; Mθϕ4.84±.05; Mϕr0.18±.10; Best double couple: M₀5.59700×10¹⁷ NP1:ϕs345.00000°, δ89.00000°, λ178.00000°. NP2:ϕs75.00000°, δ88.00000°, λ1.00000°. Principal axes: T 5.4440, Plg2.0000°, Azm300.0000°; N 0.3130, Plg88.0000°, Azm142.0000°; P -5.7500, Plg1.0000°, Azm30.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*BJI **29** 02:29:49.5, 33˚.26N×96˚.21E, h10km, mb5.4/52, mB5.8/44, ML5.6/8, Ms5.9/69, Ms7 5.7/76*

*MOS **29** 02:29:51.0±1.1, 33˚.20N×96˚.07E, h33km, mb5.9/113, MS5.6/88, Error ellipse: s-maj=6.0km s-min=3.7km az=125.7*

*SZGRF **29** 02:29:52.2, 32˚.94N×95˚.47E, h10km, mb5.7, MS6.2, Xizang*

*NEIC **29** 02:29:54.0±0.0, 33˚.14N×96˚.15E, h20km, Moment Tensor Solution. s58 Moment tensor: Scale 10¹⁷Nm; Mrr-0.52; Mθθ-1.45; Mϕϕ 1.97; Mrθ3.81; Mθϕ4.02; Mϕr-0.13; Best double couple: M₀5.80000×10¹⁷ NP1:ϕs257.00000°, δ84.00000°, λ-38.00000°. NP2:ϕs352.00000°, δ50.00000°, λ-171.00000°. Principal axes: T 5.4500, Plg22.0000°, Azm311.0000°; N 0.6800, Plg49.0000°, Azm70.0000°; P -6.1200, Plg31.0000°, Azm206.0000°;*

ISC 29 02:29:50.3±0.4, 33˚.18N±0˚.03×96˚.12E±0˚.02, h16km±2km, h16km:pP-P,n1577,σ1964/1352, mb5.6/338, MS5.6/437, 111C-42D, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**5.48**	**232**	Pn	Pn	02 31 16.8	+5.2
LSA				Sg	**Sg**	**02 32 48.0**	**+1.8**
LSA				LN			
	93μm,11.0s						
LSA				LE			
	90μm,11.0s						
LSA				LZ			
	72μm,10.0s						
LSA	**Lhasa**	**5.48**	**232**	*e*P	Pn	02 31 16.6	+5.0
LSA	**Lhasa**	**5.48**	**232**	*e*Pn	Pn	02 31 16.6	+5.0
CD2	**Chengdu**	**6.87**	**107**	Pn	Pn	02 31 33.8	+3.5
CD2				Sn	**Sn**	**02 32 46.0**	**-2.2**
CD2				Sg	**Sg**	**02 33 26.0**	**-4.7**
CD2				SMN			
	4μm,1.3s						
CD2				SME			
	3μm,1.5s						
CD2				LZ			
	77μm,5.0s						
GTA	**Gaotai**	**6.90**	**25**	Pn	**Pn**	**02 31 30.5**	**-0.3**
GTA				Sn	**Sn**	**02 32 45.5**	**-3.6**
GTA				LN			
	29μm,9.7s						
GTA				LE			
	60μm,10.4s						
GTA				LZ			
	44μm,12.8s						
LZH	**Lanzhou**	**7.00**	**63**	Pn	**Pn**	**02 31 32.3**	**+0.1**
LZH				Sg	**Sg**	**02 33 30.5**	**-4.4**
LZH				SMN			
	15μm,1.2s						
LZH				SME			
	22μm,1.4s						
LZH				LE			
	81μm,6.7s						
LZH				LZ			
	59μm,7.0s						
SHL	**Shillong**	**8.43**	**207**	*e*P	**Pn**	**02 31 50.8**	**-1.1**
SHL				AMB	AMB	02 31 59.4	
	comp=Z,318nm,2.5s						
SHL				*ex*	x	02 32 48.0	
TAPN	**Taplejung**	**9.30**	**234**	*e*P	**Pn**	**02 32 05.2**	**+1.3**
	comp=Z,946nm,0.9s						
ODAN	**Odare**	**9.84**	**232**	*e*P	**Pn**	**02 32 12.8**	**+1.6**
	comp=Z,919nm,0.5s						
KMI	**Kunming**	**9.89**	**143**	P	**Pn**	**02 32 12.8**	**+0.8**
KMI				S	**Sn**	**02 34 01.5**	**-1.3**
KMI				PMZ			
	comp=Z,200nm,0.8s						
KMI				PMZ			
	comp=Z,960nm,4.9s						
KMI				LN			
	comp=Z,24μm,14.1s						
KMI				LE			
	comp=Z,81μm,11.3s						
KMI				LZ			
	comp=Z,44μm,16.9s						
JIRN	**Jiri**	**10.18**	**240**	*e*P	**Pn**	**02 32 17.9**	**+1.9**
	comp=Z,622nm,0.7s						
GUN	**Gumba**	**10.27**	**242**	*e*P	**Pn**	**02 32 18.1**	**+0.9**
RAMN	**Ramite**	**10.31**	**236**	*e*P	**Pn**	**02 32 19.2**	**+1.4**
XAN	**Xi'an**	**10.71**	**82**	P	**Pn**	**02 32 22.3**	**-0.8**
XAN				S	**Sn**	**02 34 18.8**	**-3.9**
XAN				LN			
	comp=Z,68μm,19.7s						
XAN				LE			
	comp=Z,8μm,18.8s						
XAN				LZ			
	comp=Z,15μm,11.3s						
KKN	**Kakani**	**10.78**	**243**	*e*P	**Pn**	**02 32 24.4**	**+0.3**
	comp=Z,523nm,0.6s						
PKI	**Pulchoki**	**10.80**	**242**	*e*P	**Pn**	**02 32 25.2**	**+0.7**
PKIN	**Phulchoki**	**10.80**	**242**	*e*P	**Pn**	**02 32 25.2**	**+0.7**
	comp=Z,456nm,0.5s						
DMN	**Daman**	**11.00**	**243**	*e*P	**Pn**	**02 32 27.6**	**+0.4**
	comp=Z,464nm,0.7s						
GKN	**Gorkha**	**11.15**	**245**	*e*P	**Pn**	**02 32 29.0**	**-0.2**
	comp=Z,534nm,0.8s						
GYA	**Guiyang**	**11.34**	**123**	⇑P	**Pn**	**02 32 30.5**	**-1.2**
GYA				PP	**PnPn**	**02 32 44.0**	**+4.6**
GYA				S	**Sn**	**02 34 36.0**	**-2.2**
GYA				SS	**SnSn**	**02 34 55.0**	**+4.9**
GYA				PMZ			
	comp=Z,110nm,0.9s						
GYA				PMZ			
	comp=Z,2μm,5.0s						
GYA				LN			
	comp=Z,23μm,9.6s						
GYA				LE			
	comp=Z,22μm,13.4s						
GYA				LZ			
	comp=Z,31μm,9.5s						
ENH	**Enshi**	**11.75**	**101**	*e*Pn	**Pn**	**02 32 36.5**	**-0.7**
KOLN	**Koldanda**	**12.06**	**247**	*e*P	**Pn**	**02 32 41.0**	**-0.7**
	comp=Z,432nm,0.7s						
WMQ	**Urumqi**	**12.50**	**331**	P	**Pn**	**02 32 46.0**	**-1.5**
WMQ				pP	P	02 32 54.3	-4.9
WMQ				PP	**PnPn**	**02 32 57.0**	**+1.7**
WMQ				sP		02 33 01.0	
WMQ				S	**Sn**	**02 35 03.8**	**-2.5**
WMQ				PcP	**PcP**	**02 38 24.5**	**-2.1**
WMQ				PcS	**PcS**	**02 41 57.5**	**-3.3**
WMQ				PMZ			
	comp=Z,230nm,1.2s						
WMQ				PMZ			
	comp=Z,3μm,4.4s						
WMQ				LE			
	comp=Z,66μm,11.6s						
WMQ				LZ			
	comp=Z,14μm,13.0s						
BOK	**Bokaro**	**12.96**	**226**	*e*P	**Pn**	**02 32 52.8**	**-1.0**
BOK				AMB	AMB	02 32 54.0	
	comp=Z,244nm,0.9s						
BTO	**Baotou**	**13.36**	**52**	*e*P	Pn	02 32 55.8	-3.5
CRAI	**Chiangrai**	**13.44**	**163**	P	**Pn**	**02 32 58.8**	**-1.6**
	comp=Z,89nm,1.1s,comp=Z,1μm						
CMAI	**Chiengmai2**	**13.45**	**168**	P	**Pn**	**02 33 03.4**	**+2.8**
	comp=Z,91nm,1.1s						
TIY	**Taiyuan**	**14.05**	**67**	*e*P	**Pn**	**02 33 06.5**	**-2.2**
TIY				PP	**PnPn**	**02 33 18.8**	**+2.3**
TIY				S	**Sn**	**02 35 48.5**	**+4.2**
TIY				PMZ			
	comp=Z,740nm,4.0s						
TIY				LN			
	comp=Z,14μm,4.2s						
TIY				LE			
	comp=Z,21μm,5.8s						
TIY				LZ			
	comp=Z,28μm,23.2s						
LGTI	**Lohaghat**	**14.06**	**259**	*ex*	Pn	02 33 13.1	+4.3
HHC	**Hu-ho-hao-te**	**14.51**	**54**	*e*P	Pn	02 33 11.3	-3.7
HHC				sP		02 33 23.3	
HHC				S	**Sn**	**02 35 51.3**	**-4.3**
HHC				sS	S	02 36 05.5	-10
HHC				SS	**SnSn**	**02 36 13.3**	**+5.2**
HHC				PMZ			
	comp=Z,33nm,1.0s						
HHC				LN			
	comp=Z,18μm,8.0s						
HHC				LE			
	comp=Z,9μm,6.1s						
HHC				LZ			
	comp=Z,11μm,6.5s						
CHTO	**Chiang Mai**	**14.53**	**169**	P	**Pn**	**02 33 16.8**	**+1.6**
	comp=Z,595nm,1.0s,comp=Z,10μm						
CHTO	**Chiang Mai**	**14.53**	**169**	*e*P	**Pn**	**02 33 16.6**	**+1.4**
CHTO	**Chiang Mai**	**14.53**	**169**	P	**Pn**	**02 33 17.1**	**+1.9**
	SNR=36						
CHTO	**Chiang Mai**	**14.53**	**169**	*e*Pn	**Pn**	**02 33 16.6**	**+1.4**
CM31	**Chiang Mai Arr**	**14.88**	**169**	*e*Pn	**Pn**	**02 33 21.2**	**+1.2**
	comp=Z,111nm,0.8s						
CMAR	**Chiang Mai Arr**	**14.88**	**169**	Pn	**Pn**	**02 33 20.2**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=345,slow=10,SNR=31						
CMAR				LR	LR	02 39 36.5	
	comp=Z,41μm,18.0s,baz=348,slow=40						
CM01	**Chiang Mai Arr**	**14.91**	**169**	*e*Pn	**Pn**	**02 33 20.7**	**+0.2**
LAMP	**Lampang**	**14.93**	**167**	P	**Pn**	**02 33 22.4**	**+1.7**
	comp=Z,53nm,0.9s,comp=Z,386nm						
MHMT	**Maesarieng**	**15.03**	**173**	P	**P**	**02 33 25.5**	**-1.8**
	comp=Z,75nm,0.9s,comp=Z,642nm						
DDI	**Dehra Dun**	**15.63**	**264**	*e*P	**Pn**	**02 33 29.1**	**-0.7**
DDI				AMB	AMB	02 33 42.7	
	comp=Z,239nm,1.8s						
WHN	**Wuhan**	**15.72**	**95**	⇓P	**Pn**	**02 33 28.3**	**-2.6**
WHN				LZ			
	comp=Z,70μm,9.3s						
UTTA	**Uttaradit**	**15.88**	**164**	P	**Pn**	**02 33 34.0**	**+0.9**
	comp=Z,36nm,1.1s,comp=Z,335nm						
SMLA	**Simla**	**16.18**	**268**	*e*P	**Pn**	**02 33 35.8**	**-1.1**
SMLA				AMB	AMB	02 33 45.8	
	comp=Z,287nm,1.7s						
SMLA				*ex*	**S**	**02 36 44.9**	**-4.2**
SDNR	**Sundarnagar**	**16.27**	**269**	*ex*	**P**	**02 33 42.6**	**+1.5**
PDGK	**Podgornoye**	**16.51**	**313**	P	**Pn**	**02 33 38.9**	**-2.1**
PDGK				pmax	pmax		
	comp=Z,190nm,1.0s						
SONM	**Songino Array**	**16.57**	**25**	Pn	**Pn**	**02 33 41.7**	**-0.3**
	comp=Z,12nm,0.3s,baz=207,slow=15,SNR=123						
SONM				LR	LR	02 41 19.7	
	comp=Z,6μm,20.7s,baz=208,slow=42						
SONA1	**Songino Array**	**16.59**	**25**	*e*Pn	**Pn**	**02 33 41.7**	**-0.4**
DHRM	**DHARAMSHALA**	**16.71**	**272**	*e*P	**Pn**	**02 33 42.8**	**-1.0**
DHRM				AMB	AMB	02 33 55.0	
	comp=Z,522nm,3.0s						
BHK	**Bhakra**	**16.75**	**269**	*ex*	**P**	**02 33 49.0**	**+2.6**
NDI	**New Delhi**	**16.82**	**260**	*ex*	**Pn**	**02 33 41.0**	**-4.1**
NDI				*ex*	Sn	02 36 44.0	-7.6
ULN	**Ulaanbaatar**	**16.84**	**26**	*e*P	**P**	**02 33 47.8**	**+0.4**
ULN				pmax	pmax		
	comp=Z,485nm,1.6s						
ULN	**Ulaanbaatar**	**16.84**	**26**	P	**P**	**02 33 48.1**	**+0.7**
	SNR=117						
ULN	**Ulaanbaatar**	**16.84**	**26**	*e*Pn	**P**	**02 33 47.8**	**+0.4**
	comp=Z,485nm,1.6s						
DLH	**Dalhousie**	**16.95**	**273**	*e*P	**Pn**	**02 33 47.0**	**+0.1**
MK01	**Makanchi Array**	**17.18**	**326**	*e*Pn	**Pn**	**02 33 45.4**	**-4.1**
MK31	**Makanchi Array**	**17.20**	**326**	*i* P	**Pn**	**02 33 47.7**	**-2.1**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MK31	**Makanchi Array**	**17.20**	**326**	*e*Pn	**Pn**	**02 33 46.2**	**-3.6**
MKAR	**Makanchi Array**	**17.20**	**326**	P	**Pn**	**02 33 48.4**	**-1.4**
	comp=Z,2.3nm,0.3s,baz=136,slow=14,SNR=92						
MKAR				LR	LR	02 40 37.5	
	comp=Z,19μm,19.6s,baz=142,slow=38						
MKAR				ScP	**ScP**	**02 42 06.3**	**-0.9**
	comp=Z,0.0nm,0.3s,baz=96,slow=2.9,SNR=3.7						
MKAR	**Makanchi Array**	**17.20**	**326**	*e*Pn	**Pn**	**02 33 46.7**	**-3.1**
MKAR				ScP	**ScP**	**02 42 06.3**	**-0.9**
KSH	**Kashi**	**17.40**	**297**	P	**P**	**02 33 54.5**	**+0.8**
KSH				pP	pP	02 34 04.0	+5.7
KSH				PP	PnPn	02 34 10.0	+7.4
KSH				S	**Sn**	**02 37 05.0**	**-0.8**
KSH				sS	**sS**	**02 37 19.5**	**-2.0**
KSH				PMZ			
	comp=Z,360nm,1.7s						
KSH				PMZ			
	comp=Z,2μm,4.5s						
KSH				LN			
	comp=Z,22μm,13.3s						
KSH				LE			
	comp=Z,26μm,9.8s						
KSH				LZ			
	comp=Z,28μm,15.5s						
BJT	**Baijiatuau**	**17.47**	**61**	*e*P	**P**	**02 33 54.0**	**-0.3**
BJT				pmax	pmax		
	comp=Z,122nm,1.0s						
BJT	**Baijiatuau**	**17.47**	**61**	*e*Pn	**P**	**02 33 54.0**	**-0.3**
	comp=Z,122nm,1.0s						
BJI	**Beijing**	**17.48**	**61**	P	**Pn**	**02 33 53.5**	**+0.2**
BJI				S	**Sn**	**02 37 08.0**	**+0.4**
BJI				PMZ			
	comp=Z,110nm,1.9s						
BJI				PMZ			
	comp=Z,2μm,6.8s						
BJI				LE			
	comp=Z,33μm,16.1s						
TIA	**Tai'an**	**17.54**	**74**	⇑P	**Pn**	**02 33 53.5**	**-0.5**
TIA				PMZ			
	comp=Z,2μm,4.3s						
TIA				LN			
	comp=Z,31μm,13.0s						
TIA				LE			
	comp=Z,29μm,13.0s						
TIA				LZ			
	comp=Z,30μm,15.0s						
ZAK	**Zakamensk**	**17.99**	**15**	*e*P	**Pn**	**02 33 58.5**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,11nm,1.0s						
ULHL	**Ulahol**	**18.11**	**306**	P	**P**	**02 34 01.7**	**+0.1**
	SNR=58						
CHLP	**Challavanipeta**	**18.18**	**219**	*e*P	**Pn**	**02 34 01.5**	**-0.5**
CHLP				IAmb	IAmb	02 34 10.0	
	comp=Z,1μm,2.3s						
CHLP				*e*S	**S**	**02 37 30.8**	**+1.0**
CHLP				IVMs_BB	IVMs_BB	02 41 04.0	
	comp=Z,7μm,13.0s						
GZH	**Guangzhou**	**18.20**	**119**	P	**P**	**02 34 02.5**	**+0.2**
GZH				pP	pP	02 34 11.8	+4.8
GZH				S	**S**	**02 37 27.8**	**-2.4**
GZH				LE			
	comp=Z,11μm,7.3s						
QIZ	**Qiongzhong**	**18.69**	**136**	P	**P**	**02 34 07.3**	**-0.6**
QIZ				pP	pP	02 34 18.0	+5.5
QIZ				S	**Sn**	**02 37 35.8**	**-1.2**
QIZ				PMZ			
	comp=Z,130nm,1.4s						
QIZ				PMZ			
	comp=Z,2μm,9.6s						
QIZ				LN			
	comp=Z,20μm,12.3s						
QIZ				LE			
	comp=Z,10μm,13.4s						
QIZ				LZ			
	comp=Z,41μm,18.5s						
QIZ	**Qiongzhong**	**18.69**	**136**	*e*P	**P**	**02 34 07.2**	**-0.6**
	comp=Z,347nm,1.3s						
KZA	**Kyzart**	**18.73**	**304**	P	**Pn**	**02 34 11.4**	**+2.4**
	SNR=66						
MOY	**Mondy**	**18.82**	**9**	*e*P	**P**	**02 34 09.1**	**-0.1**
MOY				pmax	pmax		
	comp=Z,466nm,2.5s						
TKM2	**Tokmak 2**	**18.82**	**307**	P	**Pn**	**02 34 10.8**	**+0.8**
	SNR=43						
TKM2	**Tokmak 2**	**18.82**	**307**	*i* P	**Pn**	**02 34 10.7**	**+0.8**
TKM2	**Tokmak 2**	**18.82**	**307**	*e*P	**Pn**	**02 34 10.7**	**+0.8**
	comp=Z,469nm,1.4s						
KBK	**Karagaybulak**	**19.15**	**306**	P	**Pn**	**02 34 15.1**	**+1.2**
	SNR=53						
NJ2	**Nanjing**	**19.19**	**87**	*e*P	**Pn**	**02 34 13.5**	**-0.7**
NJ2				pP	**pP**	**02 34 19.5**	**+1.6**
NJ2				sP	**sP**	**02 34 24.3**	**+4.3**
NJ2				S	Sn	02 37 41.5	-7.3
NJ2				sS	**S**	**02 37 50.5**	**+0.4**
NJ2				PMZ			
	comp=Z,40nm,0.7s						
NJ2				PMZ			
	comp=Z,3μm,3.6s						
NJ2				LE			
	comp=Z,42μm,16.4s						
NJ2				LZ			
	comp=Z,68μm,16.4s						
BHPL	**Bhopal**	**19.19**	**244**	*e*P	**P**	**02 34 11.4**	**-1.9**
BHPL				AMB	AMB	02 34 19.2	
	comp=Z,581nm,1.4s						
VIS	**Vishakhapatnam**	**19.21**	**220**	*e*P	**P**	**02 34 11.2**	**-2.3**
VIS				AMB	AMB	02 34 22.6	
	comp=Z,183nm,0.3s						
HKC	**Hong Kong Obse**	**19.28**	**120**	⇑*i*P	**P**	**02 34 14.0**	**-0.3**
TLY	**Talaya**	**19.29**	**14**	Pn	**Pn**	**02 34 17.5**	**+2.2**
	comp=Z,216nm,2.5s,SNR=26						
TLY	**Talaya**	**19.29**	**14**	P	**P**	**02 34 14.5**	**+0.2**
	comp=Z,0.0nm,0.3s,baz=191,slow=11,SNR=9.9						
TLY	**Talaya**	**19.29**	**14**	*d* iP	**Pn**	**02 34 17.1**	**+1.8**
TLY				*e*S	**S**	**02 37 52.9**	**+0.9**
TLY				pmax	pmax		
	comp=Z,139nm,2.3s						
TLY				MLR	MLR		
	comp=Z,13μm,13.0s						
TLY	**Talaya**	**19.29**	**14**	P	**Pn**	**02 34 18.4**	**+3.1**
	SNR=34						
TLY	**Talaya**	**19.29**	**14**	*e*P	**Pn**	**02 34 16.9**	**+1.6**
	comp=Z,625nm,2.6s						
UCH	**Uchtor**	**19.29**	**304**	P	**Pn**	**02 34 16.8**	**+0.9**
	SNR=50						
NGP	**Nagpur**	**19.31**	**236**	*e*P	**P**	**02 34 13.8**	**-0.8**
NGP				AMB	AMB	02 34 20.9	
	comp=Z,382nm,1.8s						
NGP				*ex*	x	02 38 01.4	
SFK	**Sufi-Kurgan**	**19.37**	**297**	P	**Pn**	**02 34 16.5**	**-0.1**
SFK				pmax	pmax		
	comp=Z,234nm,1.1s		

AAK Ala-Arcba 19.45 305 P Pn 02 34 18.7 +1.2
SNR=153
AAK Ala-Arcba 19.45 305 eP Pn 02 34 18.3 +0.8
comp=Z,214nm,1.0s
USP Ospenovka 19.70 307 P Pn 02 34 19.6 -0.6
SNR=50
AJM Ajmer 19.77 256 ex P 02 34 20.0 +0.3
AML Almayashu 19.83 303 P Pn 02 34 22.4 +0.2
SNR=43
IRK Irkutsk 19.95 15 eP Pn 02 34 23.2 0.0
IRK eS S **02 38 05.9 +0.7**
IRK pmax pmax
comp=Z,553nm,1.6s
EKS2 Erkin-Say 19.96 305 P Pn 02 34 23.5 +0.1
SNR=63
EKS2 Erkin-Say 19.96 305 eP Pn 02 34 23.6 +0.1
EKS2 pmax pmax
comp=Z,222nm,1.1s
EKS2 Erkin-Say 19.96 305 eP Pn 02 34 23.6 +0.1
comp=Z,222nm,1.1s
DGPR DIGLIPUR 20.12 189 eP P 02 34 22.1 -1.3
DGPR AMB AMB 02 34 31.5
comp=Z,322nm,1.2s
PATY Pattaya 20.62 167 P Pn 02 34 33.2 +2.0
comp=Z,65nm,1.0s,comp=Z,1µm
RPR Rampur 20.74 231 eP P 02 34 30.2 0.0
RPR IAmb IAmb 02 34 37.3
comp=Z,618nm,1.6s
RPR eS S **02 38 22.8 +1.5**
RPR IVMs_BB IVMs_BB 02 42 38.2
comp=Z,15µm,11.1s
MNAS Manas 20.78 303 P Pn 02 34 32.1 -1.1
MNAS pmax pmax
comp=Z,593nm,1.5s
AKL Akola 21.04 239 eP P 02 34 34.0 +0.6
AKL AMB AMB 02 34 41.6
comp=Z,503nm,1.5s
QZH Quanzhou 21.26 107⇑ iP P 02 34 34.5 -1.3
QZH S S **02 38 26.0 -5.6**
QZH PMZ
comp=Z,650nm,1.1s
QZH PMZ
comp=Z,3µm,2.9s
QZH LZ
comp=Z,60µm,13.5s
SSE Sheshan 21.32 89 P P **02 34 38.8 +2.4**
SSE sP **sP 02 34 46.3 +3.1**
SSE S S **02 38 33.3 +0.6**
SSE sS Sn 02 38 44.3 +4.0
SSE PMZ
comp=Z,120nm,0.8s
SSE PMZ
comp=Z,260nm,3.3s
SSE LN
comp=Z,32µm,14.6s
SSE LE
comp=Z,11µm,14.7s
SSE LZ
comp=Z,20µm,11.6s
DL2 Dalian 21.38 67⇓ iP P 02 34 39.8 +2.9
DL2 S S **02 38 34.8 +1.2**
DL2 PMZ
comp=Z,180nm,0.8s
DL2 PMZ
comp=Z,590nm,3.6s
DL2 LN
comp=Z,29µm,17.2s
DL2 LZ
comp=Z,22µm,12.3s
PBA Port Blair 21.64 189 eP P 02 34 37.0 -3.0
PBA AMB AMB 02 34 50.1
comp=Z,297nm,3.9s
KURBB Kurchatov Arra 21.71 329 P P 02 34 39.4 -1.0
comp=Z,63nm,0.8s,baz=138,slow=11,SNR=222
KURBB ScP **ScP 02 42 16.4 -0.9**
comp=Z,3.6nm,1.0s,baz=124,slow=2.1,SNR=3.2
KURK Kurchatov 21.73 329 P P 02 34 39.3 -1.4
comp=Z,884nm,1.1s,SNR=44
KURK Kurchatov 21.73 329 eP P 02 34 39.3 -1.4
KURK pmax pmax
comp=Z,484nm,1.2s
KURK MLR MLR
comp=Z,17µm,21.1s
KURK Kurchatov 21.73 329 P P 02 34 39.3 -1.4
SNR=210
KURK mb 02 34 47.3
SNR=31
KURK Kurchatov 21.73 329 eP P 02 34 39.3 -1.4
comp=Z,484nm,1.2s
KURK ScP **ScP 02 42 16.4 -0.9**
KURK LR LR
comp=Z,17µm,21.1s
ZAA0 Zalesovo Array 22.27 342 eP P 02 34 44.4 -2.0
ZALV Zalesovo Beam 22.27 342 P P 02 34 45.0 -1.3
comp=Z,29nm,0.8s,baz=157,slow=9.9,SNR=61
ZALV LR LR 02 44 07.6
comp=Z,5µm,20.7s,baz=184,slow=39
HYB Hyderabad 22.27 229⇓ iP P 02 34 45.5 -1.2
comp=Z,200nm,1.0s
HYB eS S **02 38 48.0 -3.3**
HYB LR LR
comp=Z,39nm,20.0s
HYB Hyderabad 22.27 229 eP P 02 34 46.1 -0.6
HYB AMB AMB 02 34 58.5
comp=Z,408nm,2.3s
HYBB Hyderabad (bro 22.27 229 eP P 02 34 46.0 -0.7
HYBB IAmb IAmb 02 34 58.0
comp=Z,1µm,1.7s
HYBB eS S **02 38 52.0 +0.8**
HYBB IVMs_BB IVMs_BB 02 43 31.0
comp=Z,10µm,13.3s
KK31 Karatay Array 22.37 304 P P **02 34 47.9 +0.3**
KK31 pmax pmax
comp=Z,226nm,1.2s
KKAR Karatay Array 22.37 304 eP P 02 34 48.2 +0.6
KKAR Karatay Array 22.37 304 eP P 02 34 48.2 +0.6
NJS Nagarjunasagar 22.45 227 eP P 02 34 47.8 -0.9
NJS IAmb IAmb 02 35 00.1
comp=Z,1µm,1.9s
NJS eS S **02 38 57.0 +2.4**
NJS IVMs_BB IVMs_BB 02 43 33.2
comp=Z,11µm,24.2s
KBL Kabul 22.50 281 eP P 02 34 50.2 +0.9
KBL pmax pmax
comp=Z,4µm,1.6s
KBL MLR MLR
comp=Z,14µm,19.9s
KBL Kabul 22.50 281 eP P 02 34 50.2 +0.9
comp=Z,4µm,1.6s
KBL LR LR
comp=Z,14µm,19.9s
CIT Chita 22.68 29 eP P 02 34 49.9 -1.0
CIT e 02 35 28.5
DZET Dzherino 22.74 292 P P **02 34 51.5 -0.2**
DZET pmax pmax
comp=Z,236nm,1.2s
KRAR Krasnoyarsk 22.95 355 eP P 02 34 51.4 -2.1
KRAR pmax pmax
comp=Z,313nm,1.4s
KRAR MLR MLR
comp=Z,5µm,20.0s
TATO Taipei 23.59 104 PFAKE 02 35 10.0 +10
TATO LR LR
comp=Z,1µm,19.7s
YHNB Yeheng 23.64 104 eP P 02 34 59.6 -1.2
comp=Z,195nm,1.1s
YHNB LR LR
comp=Z,19µm,18.5s
TPUB Ta-pu 23.68 108 eP P 02 35 00.2 -1.1
comp=Z,112nm,1.0s
TPUB LR LR
comp=Z,11µm,18.8s
KSBAR Backryungdo 23.70 70 P P 02 35 02.8 +1.5
SNR=17
KSBAR Backryungdo 23.70 70 P P 02 35 02.7 +1.4
SNR=19
SSLB Suanglung 23.70 107 eP P 02 35 00.8 -0.7
comp=Z,111nm,1.1s
SSLB LR LR
comp=Z,8µm,20.9s
HIA Hailar 23.82 41 eP P 02 35 02.8 +0.5
HIA pmax pmax
comp=Z,159nm,1.1s
HIA MLR MLR
comp=Z,7µm,20.6s
HIA Hailar 23.82 41 eP P 02 35 02.8 +0.5
comp=Z,159nm,1.1s
HIA LR LR
comp=Z,7µm,20.6s
NACB Ninganchiao 24.04 105 eP P 02 35 03.6 -1.0
comp=Z,906nm,1.6s
NACB LR LR
comp=Z,2µm,18.9s
YULB Yu-li 24.17 107 eP P 02 35 07.5 +1.7
comp=Z,75nm,1.0s
YULB LR LR
comp=Z,7µm,18.1s
TWG Pinlang 24.27 109 eP P 02 35 06.9 +0.1
comp=Z,708nm,1.1s
TWG LR LR
comp=Z,33µm,21.7s
KSHUK Heuksando 24.35 78 P P **02 35 06.3 -1.1**
SNR=46
KSHUK Heuksando 24.35 78 P P **02 35 07.2 -0.2**
SNR=15
SKHT Srikalahasti 24.45 222 eP P 02 35 09.2 +0.8
SKHT IAmb IAmb 02 35 15.6
comp=Z,140nm,1.1s
SKHT eS S **02 39 29.0 +1.2**
SKHT IVMs_BB IVMs_BB 02 44 50.6
comp=Z,6µm,16.9s
MDRS Chennai 24.71 220 ex P 02 35 07.2 -3.5
MDRS eP P **02 35 09.2 -1.5**
MDRS AMB AMB 02 35 19.5
comp=Z,182nm,2.6s
POO Poona 24.71 239⇑ iP P 02 35 09.0 -1.8
comp=Z,32nm,1.0s
POO eP pP **02 35 10.8 -5.0**
POO AMB AMB 02 35 18.5
comp=Z,294nm,1.7s
POO i PP PnPn **02 35 41.0 -1.8**
URV Uravakonda 24.94 228 eP P 02 35 12.9 0.0
URV IAmb IAmb 02 35 21.2
comp=Z,228nm,0.9s
URV eS S **02 39 38.4 +2.6**
URV IVMs_BB IVMs_BB 02 45 00.2
comp=Z,9µm,21.3s
YOJ Yonaguni jima 25.06 103 eP P 02 35 16.2 +2.3
YOJ pmax pmax
comp=Z,2µm,2.7s
YOJ Yonaguni jima 25.06 103 eP P 02 35 16.2 +2.3
comp=Z,2µm,2.7s
KSGAH Ganghwa 25.06 71 P P **02 35 15.5 +1.7**
SNR=20
KSGAH Ganghwa 25.06 71 P P **02 35 15.5 +1.7**
SNR=20
KSSES Seosan 25.07 73 P P **02 35 16.4 +2.5**
SNR=14
KSSES Seosan 25.07 73 P P **02 35 16.4 +2.5**
SNR=14
KSJDO Jindo 25.08 79 P P **02 35 14.4 +0.3**
SNR=22
KSJDO Jindo 25.08 79 P P **02 35 14.4 +0.3**
SNR=22
CN2 Changchun 25.17 57 eP P 02 35 13.8 -0.9
CN2 eS S **02 39 39.0 -0.1**
CN2 PMZ
comp=Z,40nm,1.1s
CN2 PMZ
comp=Z,2µm,4.0s
CN2 LE
comp=Z,14µm,16.0s
CN2 LZ
comp=Z,16µm,15.0s
INCN Inchon 25.21 72 P P **02 35 16.3 +1.1**
SNR=9.0
INCN Inchon 25.21 72 eP P 02 35 16.6 +1.4
comp=Z,95nm,0.9s
INCN LR LR
comp=Z,12µm,18.1s
BOM Bombay 25.23 241 ex P 02 35 11.8 -3.7
BOM AMB AMB 02 35 20.0
comp=Z,230nm,1.8s
BHJ Bhuj 25.27 254 eP P 02 35 14.8 -1.0
BHJ AMB AMB 02 35 25.1
comp=Z,463nm,1.5s
KSMUS Musan 25.32 71 P P **02 35 17.8 +1.7**
SNR=8.7
TRTT Trang 25.43 172 P P **02 35 19.3 +2.0**
comp=Z,136nm,1.5s,comp=Z,2µm
KSSEO Seoul 25.43 72 P P **02 35 20.0 +2.8**
SNR=11
KSSEO Seoul 25.43 72 P P **02 35 20.0 +2.8**
SNR=11
YNCB YEONCHEON 25.45 70 P P **02 35 18.3 +1.0**
SNR=17
KSSWO Suwon 25.47 72 P P **02 35 19.4 +1.9**
SNR=12
KSSWO Suwon 25.47 72 P P **02 35 19.4 +1.9**
SNR=12
KSJEU Jeongeup 25.50 76 P P **02 35 18.2 +0.4**
SNR=9.0
KSJEU Jeongeup 25.50 76 P P **02 35 18.2 +0.4**
SNR=9.0
KSCEA Cheonan 25.71 73 P P **02 35 22.3 +2.6**
SNR=7.3
TJN Taejon 25.81 74 eP P 02 35 20.3 -0.3
KSICN Icheon 25.83 72 P P **02 35 21.8 +1.0**
SNR=9.6
KSBON Boeun 26.16 74 P P **02 35 24.2 +0.5**
SNR=15
KSBON Boeun 26.16 74 P P **02 35 24.2 +0.5**
SNR=15
KSAR Wonju Array Be 26.20 72 P P **02 35 23.8 -0.4**
KSAR 02 38 49.0
KSAR Wonju Array Be 26.20 72 P P **02 35 23.8 -0.4**
KSAR PcP **PcP 02 38 49.0 -1.8**
KS01 Wonju Array Si 26.21 72 eP P 02 35 24.1 -0.2
KSRS Korea Array 26.23 72 P P **02 35 23.8 -0.6**
comp=Z,18nm,0.6s,baz=265,slow=9.7,SNR=27
KSRS PcP **PcP 02 38 49.0 -1.8**
comp=Z,1.0nm,0.4s,baz=256,slow=2.5,SNR=2.3
KSRS LR LR 02 45 48.2
comp=Z,10µm,18.3s,baz=268,slow=37
KSRS Korea Array 26.23 72 P P **02 35 23.8 -0.6**
KSRS 02 38 49.0
KSRS pmax pmax
comp=Z,18nm,0.6s
KSRS MLR MLR
comp=Z,10µm,18.3s
KSCPR CHUPUNGNYEONG 26.30 74 P P **02 35 26.6 +1.5**
SNR=8.1
KSIJA INJE 26.39 70 P P **02 35 28.9 +3.1**
SNR=14
KSIJA INJE 26.39 70 P P **02 35 27.2 +1.4**
SNR=7.6
GOA Goa 26.78 234 eP P 02 35 26.5 -3.0
GOA AMB AMB 02 35 37.2
comp=Z,67nm,1.4s
BVA0 Borovoye Array 27.07 325 i P P 02 35 31.1 -0.8
BVA0 pmax pmax
comp=Z,37nm,1.0s
BVAR Borovoye Array 27.07 325 P P **02 35 31.8 0.0**
comp=Z,14nm,0.9s,baz=123,slow=11,SNR=24
BVAR ScP **ScP 02 42 30.8 -1.4**
comp=Z,3.4nm,0.8s,baz=215,slow=1.8,SNR=4.1
BVAR LR LR 02 46 26.6
comp=Z,20µm,20.2s,baz=120,slow=37
BRVK Borovoye 27.14 325 P P **02 35 32.5 0.0**
comp=Z,312nm,1.0s,SNR=11
BRVK Borovoye 27.14 325 *c iP* P **02 35 32.1 -0.4**
BRVK pmax pmax
comp=Z,23nm,0.8s
BRVK MLR MLR
comp=Z,16µm,17.0s
BRVK Borovoye 27.14 325 P P **02 35 32.4 -0.1**
SNR=40
BRVK Borovoye 27.14 325 *eP* P **02 35 32.4 -0.1**
comp=Z,48nm,0.9s
BRVK LR LR
comp=Z,21µm,18.1s
BOD Bodaibo 27.48 21 eP P 02 35 34.7 -0.7
BOD pmax pmax
comp=Z,49nm,1.2s
BSI Banda Aceh 27.55 182 P P **02 35 40.8 +4.4**
comp=Z,42nm,1.2s
KULM Kulim 28.07 170⇓ P P 02 35 41.2 +0.2
KULM Kulim 28.07 170 eP P 02 35 40.8 -0.2
comp=Z,33nm,0.9s
KULM LR LR
comp=Z,20µm,18.9s
MDJ Mudanjiang 28.26 56 P P **02 35 45.0 +2.4**
MDJ S S **02 40 32.0 +4.1**
MDJ PMZ
comp=Z,15nm,0.7s
MDJ PMZ
comp=Z,390nm,6.8s
MDJ LE
comp=Z,10µm,12.6s
MDJ LZ
comp=Z,10µm,16.7s
MDJ Mudanjiang 28.26 56 eP P 02 35 44.7 +2.1
MDJ LR LR
comp=Z,12µm,20.3s
KTGM Kuala Trenggan 28.47 165⇓ P P 02 35 46.0 +1.4
JOW Kunigami 28.48 94 LR LR 02 47 18.3
comp=Z,871nm,19.2s,baz=296,slow=37
IPM Ipoh 28.91 170⇑ P P 02 35 48.1 -0.5
IPM Ipoh 28.91 170 eP P 02 35 49.0 +0.4
comp=Z,25nm,0.8s
IPM LR LR
comp=Z,18µm,19.4s
JNU Nakatsue 29.03 80 P P **02 35 48.2 -1.3**
comp=Z,31nm,0.8s,baz=315,slow=3.7,SNR=5.0
JNU PcP **PcP 02 38 57.7 -0.1**
comp=Z,21nm,1.0s,baz=87,slow=5.9,SNR=4.7
JNU Nakatsue 29.03 80 eP P 02 35 49.1 -0.5
comp=Z,64nm,1.0s
JNU PcP **PcP 02 38 57.7 -0.1**
JNU LR LR
comp=Z,3µm,19.8s
PALK Pallekele 29.47 212 eP P 02 35 53.9 +0.3
PALK pmax pmax
comp=Z,74nm,1.3s
PALK MLR MLR
comp=Z,9µm,22.0s
PALK Pallekele 29.47 212 eP P 02 35 53.9 +0.3
comp=Z,74nm,1.3s
PALK LR LR
comp=Z,9µm,22.0s
TGY Tagaytay City 29.49 124 LR LR 02 47 49.8
comp=Z,18nm,18.7s,baz=308,slow=37
VLA Vladivostok 29.64 60⇑ eP P 02 35 55.1 +0.3
VLA *e* 02 36 50.6
VLA *e* 02 38 58.9
VLA S S **02 40 48.3 -1.2**
VLA pmax pmax
comp=Z,16nm,0.7s
USRK Ussuriysk Ar. 29.87 58 P P **02 35 57.7 +0.8**
comp=Z,9.2nm,0.9s,baz=257,slow=9.2,SNR=12
USRK PcP **PcP 02 38 58.0 -1.6**
comp=Z,1.4nm,0.6s,baz=251,slow=4.4,SNR=2.5
USRK LR LR 02 49 25.9
comp=Z,10µm,18.1s,baz=251,slow=39
PSI Prapat 30.33 174 LR LR 02 47 52.6
comp=Z,4µm,18.1s,slow=36
PSI Prapat 30.33 174 eP P 02 36 02.0 +0.7
PSI pmax pmax
comp=Z,19nm,1.0s
PSI Prapat 30.33 174 eP P 02 36 01.9 +0.7
comp=Z,19nm,1.0s
CLNS Chul'man 30.80 31 eP P 02 36 06.3 +1.4
CLNS *e**PP **pP 02 36 14.3 +4.3**
CLNS *e* 02 37 08.4
CLNS *e*PPP PPP 02 37 18.0
CLNS *e* 02 39 00.9
CLNS eS S **02 41 09.2 +1.7**
CLNS pmax pmax
comp=Z,76nm,0.9s
CLNS pmax pmax
comp=N,46nm,1.1s
CLNS pmax pmax
comp=E,49nm,1.0s
CLNS pmax pmax
comp=Z,22nm,1.3s
CLNS pmax pmax
comp=N,18nm,1.3s
CLNS pmax pmax
comp=E,13nm,1.1s
CLNS smax smax
comp=E,985nm,13.1s
CLNS smax smax
comp=N,553nm,12.7s
CLNS MLR MLR
comp=E,3µm,9.0s
CLNS MLR MLR
comp=Z,5µm,12.0s
CLNS MLR MLR
comp=N,3µm,11.0s
KLR Kul'dur 30.89 48 eP P 02 36 01.7 -4.2
KLR eS S **02 41 12.0 +2.9**
KLR MLR MLR
comp=N,11µm,12.0s
KLR MLR MLR
comp=E,38µm,12.0s
KLR MLR MLR
comp=Z,6µm,12.0s
ABKAR Akbulak array 31.24 312 eP P 02 36 09.2 +0.3
KGM Kluang 31.73 166⇓ P P 02 36 13.1 -0.3
GSI Gunungsitoli 31.73 177 P P **02 36 13.7 +0.2**
comp=Z,111nm,0.9s
GSI Gunungsitoli 31.73 177 eP P 02 36 12.8 -0.7
comp=Z,61nm,0.8s
GSI LR LR
comp=Z,13µm,18.1s
MYKOM Kota Tinggi 32.05 165⇑ P P 02 36 17.2 +0.9
MYKOM Kota Tinggi 32.05 165 eP P 02 36 20.5 +4.1
comp=Z,60nm,1.1s
MYKOM LR LR
comp=Z,12µm,21.6s
MNSI Mandailing Nat 32.37 174 P P 02 36 28.0 +8.9
AKTO Aktyubinsk 32.78 313 LR LR 02 51 42.4
comp=Z,5µm,19.4s,slow=40
AKTO Aktyubinsk 32.78 313 P P **02 36 22.1 -0.3**
AKTO pmax pmax
comp=Z,47nm,0.8s
KKM Kota Kinabalu 32.83 141⇓ P P 02 36 23.7 +0.4
KKM Kota Kinabalu 32.83 141 eP P 02 36 23.6 +0.4
KKM LR LR
comp=Z,6µm,20.0s
BKNI Bangkinang 33.00 171 P P **02 36 25.1 +0.5**
comp=Z,113nm,0.8s,comp=Z,3µm
BKNI Bangkinang 33.00 171 PFAKE 02 36 40.0 +15
BKNI LR LR
comp=Z,14µm,18.8s
TPRI Tanjung Pinang 33.05 164 P P 02 36 29.1 +4.1
comp=Z,70nm,0.3s
SDKM Sandakan 33.70 140⇑ P P 02 36 30.9 +0.1
RGRI Rengat 33.86 169 P P **02 36 33.0 +0.9**
comp=Z,145nm,0.9s,comp=Z,65µm
SVE Sverdlovsk 33.86 325 *de*P P **02 36 32.0 +0.2**
SVE *e* 02 37 38.7
SVE eS S **02 41 53.2 -2.0**
SVE *e* 02 44 02.0
SVE pmax pmax
comp=Z,108nm,1.0s
SVE MLR MLR
comp=Z,8µm,17.0s
SBUM Sibu 34.09 150⇑ P P 02 36 35.5 +1.4
SBUM Sibu 34.09 150 eP P 02 36 35.1 +0.9
comp=Z,98nm,1.2s
SBUM LR LR
comp=Z,15µm,19.7s
PDSI Padang 34.15 172 P P **02 36 33.6 -1.1**
comp=Z,30nm,0.8s
KSM Kuching 34.24 154⇑ P P 02 36 36.5 +1.1
KSM Kuching 34.24 154 eP P 02 36 36.6 +1.3
comp=Z,91nm,1.2s
KSM LR LR
comp=Z,6µm,20.4s
WBK Wadi Bani Khal 34.32 262 P P **02 36 37.7 +1.5**
SNR=8.2
MAJO Matsushiro 34.51 72 eP P 02 36 38.6 +1.0
MAJO pmax pmax
comp=Z,117nm,1.2s
MAJO MLR MLR
comp=Z,31µm,16.0s
MAJO Matsushiro 34.51 72 eP P 02 36 39.3 +1.7
MAJO LR LR
comp=Z,6µm,18.0s
MAT Matsushiro 34.51 72 P P **02 36 37.0 -0.6**
MAT S S 02 41 59.2 -6.4
MJAR Matsushiro Arr 34.51 72 P P **02 36 36.8 -0.8**
comp=Z,12nm,0.9s,baz=280,slow=8.9,SNR=16
MJAR PcP **PcP 02 39 12.1 -0.4**
comp=Z,9.5nm,0.8s,baz=268,slow=2.6,SNR=12
MJAR LR LR 02 50 30.6
comp=Z,7µm,18.2s,baz=260,slow=36
ARU Arti 34.69 323 P P **02 36 38.9 -0.1**

comp=Z,540nm,0.8s,SNR=14
ARU Arti 34.69 323*c i*P P 02 36 38.6 -0.4
ARU 02 37 55.3
ARU PPP PPP 02 38 08.4
ARU 02 39 14.1
ARU S **S** **02 42 08.1 +0.1**
ARU SS **SnSn** **02 44 13.4 -7.4**
ARU SSS SSS 02 44 38.9
ARU pmax pmax
comp=Z,33nm,1.0s
ARU MLR MLR
comp=Z,13µm,19.0s
ARU Arti 34.69 323 *e*P P **02 36 38.6 -0.4**
comp=Z,77nm,0.9s
ARU LR LR
comp=Z,13µm,18.9s
SMDO Samad 34.89 263 P P **02 36 42.3 +1.1**
SNR=24
JMDO Jabal Madar 35.14 262 P P **02 36 44.1 +0.8**
SNR=12
TSM Tawau 35.19 140 ⇓P P **02 36 44.9 +1.2**
BANOM Banah 35.22 269 P P **02 36 45.6 +1.6**
SNR=19
BANOM Banah 35.22 269⇓ *e*P P **02 36 45.2 +1.2**
SNR=21
HOQ Hoqain 35.28 264 P P **02 36 45.3 +0.8**
SNR=25
JMBI JAMBI 35.34 167 P P **02 36 46.6 +1.7**
comp=Z,446nm,0.4s,comp=Z,38µm
UOSS Wadi Hilu 35.67 267 P P **02 36 47.3 -0.5**
comp=Z,322nm,1.1s,SNR=6.1
UOSS Wadi Hilu 35.67 267 PFAKE 02 37 00.0 +12
UOSS LR LR
comp=Z,7µm,21.0s
HATD Hatta, Dubai 35.77 267 P P 02 36 52.1 +3.4
SNR=24
HATD Hatta, Dubai 35.77 267 ⇑P P **02 36 51.4 +2.7**
SNR=33
ASHO Ashiyiah 35.89 267 P P **02 36 51.3 +1.6**
SNR=108
ASHO Ashiyiah 35.89 267 P P **02 36 51.2 +1.5**
SNR=102
YAK Yakutsk 35.93 26 LR LR 02 52 38.0
comp=Z,10µm,20.4s,baz=241,slow=38
YAK Yakutsk 35.93 26 *e*P P **02 36 49.9 +0.4**
YAK *e**PP pP 02 36 59.2 +4.6
YAK *e* 02 38 08.7
YAK *e*PPP PPP 02 38 26.5
YAK *e* 02 39 14.7
YAK *e*S **S** **02 42 26.6 -0.2**
YAK *e*SSS SSS 02 45 10.6
YAK *e* 02 46 57.1
YAK pmax pmax
comp=Z,164nm,0.9s
YAK pmax pmax
comp=N,47nm,1.0s
YAK pmax pmax
comp=E,59nm,1.1s
YAK pmax pmax
comp=Z,462nm,7.6s
YAK pmax pmax
comp=E,368nm,7.8s
YAK smax smax
comp=N,279nm,3.0s
YAK smax smax
comp=E,377nm,3.2s
YAK MLR MLR
comp=Z,7µm,16.0s
YAK MLR MLR
comp=N,3µm,15.0s
YAK MLR MLR
comp=E,6µm,20.0s
YAK Yakutsk 35.93 26 *e*P P **02 36 51.1 +1.6**
comp=E,253nm,0.8s
STKI Sintang 35.97 153 P P 02 36 54.3 +4.0
comp=E,50nm,1.6s,comp=E,22µm
ARQ Araqi 36.05 265 P P **02 36 52.5 +1.5**
SNR=48
NAZ Nazwa, Dubai 36.11 268 P P **02 36 52.6 +1.1**
SNR=29
NAZ Nazwa, Dubai 36.11 268 *i* P P **02 36 53.0 +1.5**
SNR=15
FAQ Al Faqa, Dubai 36.26 267 P P **02 36 53.8 +1.0**
SNR=7.2
JHJ2 Mitsune 36.39 78 PFAKE 02 37 10.0 +16
JHJ2 LR LR
comp=Z,3µm,18.7s
ASUD Al Ashush, Dub 36.52 267 P P **02 36 56.7 +1.6**
SNR=33
ASUD Al Ashush, Dub 36.52 267 ⇓P P **02 36 56.4 +1.3**
SNR=25
TPI Tanjungpandan 37.37 161 P P 02 37 06.4 +4.2
comp=Z,45nm,1.1s,comp=Z,728nm
ASAJ Asahikawa 37.46 59 LR LR 02 52 41.7
comp=Z,6µm,18.1s,baz=291,slow=37
ASAJ Asahikawa 37.46 59 *e*P P **02 37 03.8 +1.0**
comp=Z,108nm,1.0s
DAV Davao City (W) 37.69 127 P P **02 37 06.7 +1.6**
SNR=12
DAV Davao City (W) 37.69 127 PFAKE 02 37 20.0 +15
DAV LR LR
comp=Z,7µm,18.8s
YSS Yuzh-Sakhalins 37.70 55*oe*P P **02 37 04.6 -0.2**
YSS *e* 02 38 34.0
YSS *e* 02 39 24.7
YSS *e*S **S** **02 42 54.0 -0.2**
YSS *e*SS **SnSn** **02 45 32.0 -1.8**
YSS pmax pmax
comp=N,30nm,0.9s
YSS pmax pmax
comp=E,40nm,0.9s
YSS pmax pmax
comp=Z,80nm,0.9s
YSS pmax pmax
comp=Z,500nm,7.0s
YSS pmax pmax
comp=Z,1µm,10.0s
YSS pmax pmax
comp=E,600nm,8.0s
YSS smax smax
comp=N,1µm,9.0s
YSS smax smax
comp=E,900nm,9.0s
YSS MLR MLR
comp=Z,8µm,16.0s
YSS MLR MLR
comp=N,10µm,14.0s
YSS Yuzh-Sakhalins 37.70 55 *e*P P **02 37 04.8 0.0**
comp=N,74nm,0.9s
YSS LR LR
comp=Z,3µm,18.0s
MNAI Manna 37.89 169 PFAKE 02 37 20.0 +13
MNAI LR LR
comp=Z,10µm,18.2s
ERM Erimo 37.90 63 P P **02 37 09.5 +3.0**
comp=Z,303nm,0.9s,SNR=5.4
ERM Erimo 37.90 63 *e*P P **02 37 06.2 -0.3**
ERM pmax pmax
comp=Z,60nm,1.1s
ERM MLR MLR
comp=Z,6µm,15.0s
ERM Erimo 37.90 63 *e*P P **02 37 07.9 +1.4**
comp=Z,51nm,1.0s
ERM LR LR
comp=Z,8µm,18.0s
MDSI Maura Dua 38.23 167 P P **02 37 08.4 -1.1**
comp=Z,37nm,0.9s
MTKI Muara Teweh, K 38.28 149 P P 02 37 13.8 +3.8
comp=Z,161nm,0.9s,comp=Z,11µm
LWLI Liwa 38.72 167 P P **02 37 16.6 +2.8**
comp=Z,86nm,0.9s
KLI Kotabumi 38.73 166 P P 02 37 19.1 +5.4
comp=Z,154nm,0.4s,comp=Z,5µm
MAK Makhachkala 39.02 299 *e*P P **02 37 18.9 +2.9**
MAK *e* 02 38 52.7
MAK *e* 02 39 31.2
MAK *e*S **S** **02 43 19.8 +5.5**
MAK *e*SS SS 02 46 23.1 +17
MAK pmax pmax
comp=Z,92nm,1.2s
MAK MLR MLR
comp=Z,14µm,18.0s
KASI Kota Agung 39.30 167 P P 02 37 21.8 +3.3
comp=Z,63nm,0.9s
TOLI Toli-Toli 39.42 139 PFAKE 02 37 30.0 +10
TOLI LR LR
comp=Z,3µm,20.0s
BKB Balikpapan 39.46 146 P P 02 37 24.6 +4.7
comp=Z,337nm,0.9s,comp=Z,3µm
MPSI Mapaga 39.59 141 P P **02 37 22.8 +1.9**
comp=Z,27nm,1.4s,comp=Z,567nm
YUK Yuzh-Kuril'sk 39.81 59*d i*P P **02 37 24.5 +1.9**
YUK *i* 02 38 51.9
YUK *i* 02 39 22.9
YUK *i* S S 02 43 18.9 -7.2
YUK MLR MLR
comp=N,3µm,14.0s
YUK MLR MLR
comp=E,2µm,14.0s
YUK MLR MLR
comp=Z,3µm,14.0s
JCJ Chichijima 40.05 86 LR LR 02 54 44.2
comp=Z,3µm,18.8s,baz=291,slow=37
BBKI Banjar Baru 40.52 150 P P 02 37 32.8 +4.1
comp=Z,141nm,0.9s
MRSI Marisa 40.59 138 P P 02 37 32.4 +3.1
comp=Z,49nm,0.9s,comp=Z,2µm
PCI Palu 40.61 142 P P 02 37 32.8 +3.4
comp=Z,184nm,1.3s,comp=Z,2µm
RBK Rabkut 40.68 258 P P **02 37 30.3 +0.2**
SNR=9.6
KBKI Kotabaru 40.94 149 P P 02 37 37.0 +4.9
comp=Z,55nm,0.9s,comp=Z,4µm
TBLG Delisi 41.15 297 P P **02 37 36.0 +2.3**
KUR Kuril'sk 41.21 57 P P **02 37 32.9 -1.2**
KUR *e*S S **02 43 44.8 -2.2**
LEM Lembang 41.26 163 LR LR 02 56 59.1
comp=Z,5µm,19.9s,baz=314,slow=40
GNI Garni 41.32 295 LR LR 02 57 51.2
comp=Z,3µm,18.4s,baz=86,slow=41
GNI Garni 41.32 295 *e*P P **02 37 36.0 +0.7**
GNI pmax pmax
comp=Z,99nm,0.9s
GNI Garni 41.32 295 P P **02 37 37.8 +2.6**
SNR=42
GNI Garni 41.32 295 *i* P P **02 37 37.2 +1.9**
SNR=12
GNI Garni 41.32 295 *e*P P **02 37 36.0 +0.7**
comp=Z,99nm,0.9s
ABTO Aybut 41.50 258 P P 02 37 43.5 +6.7
SNR=6.6
APSI Ampana 41.58 140 P P 02 37 41.2 +3.8
comp=Z,119nm,1.1s,comp=Z,1µm
ZEI Tsey 41.68 299 *e*P P **02 37 38.2 -0.1**
ZEI pmax pmax
comp=Z,40nm,1.0s
KMSI Cibinong 41.68 135 P P **02 37 40.8 +2.5**
comp=Z,709nm,0.9s,comp=Z,5µm
NCK Nalchik 41.85 300 *e*P P **02 37 39.7 +0.3**
CISI Cisompet, Garu 42.01 163 PFAKE 02 37 50.0 +9.1
CISI LR LR
comp=Z,8µm,18.6s
ONI Oni 42.02 299 P P **02 37 42.7 +1.8**
EAK Akyaka 42.11 296 *i* P P **02 37 44.6 +2.8**
AKH Akhalkalaki 42.11 297 P P 02 37 47.6 +5.8
GOF Gofitskoye 42.16 302 *e*P P **02 37 42.6 +0.7**
GOF *e*S S **02 44 03.8 +2.8**
GOF pmax pmax
comp=Z,190nm,1.0s
DYDN Diyadin 42.20 294 *i* P P **02 37 44.6 +2.0**
TIXI Tiksi 42.27 15*c i*P P **02 37 42.5 +0.1**
TIXI pmax pmax
comp=Z,87nm,2.5s
TIXI MLR MLR
comp=Z,3µm,18.0s
TIXI Tiksi 42.27 15 *e*P P **02 37 41.9 -0.5**
comp=Z,40nm,1.0s
TIXI LR LR
comp=Z,4µm,19.8s
LUWI Luwuk 42.30 138 P P **02 37 44.1 +0.8**
comp=Z,168nm,1.0s,comp=Z,7µm
LUWI Luwuk 42.30 138 *e*P P **02 37 43.0 -0.3**
LUWI LR LR
comp=Z,2µm,20.7s
KBZ Khabaz 42.34 300 P P **02 37 43.5 +0.2**
comp=Z,19nm,0.8s,baz=56,slow=24,SNR=26
KBZ LR LR 02 58 34.6
comp=Z,8µm,19.0s,baz=131,slow=41
TTSI Tanja Toraja 42.43 143 P P **02 37 45.2 +0.9**
comp=Z,229nm,0.9s,comp=Z,2µm
KIV Kislovodsk 42.47 301 P P **02 37 45.4 +0.8**
comp=Z,763nm,0.9s,SNR=17
KIV Kislovodsk 42.47 301*c i*P P **02 37 44.8 +0.2**
KIV *e* 02 39 21.6
KIV *e*PPP PPP 02 39 54.0
KIV *i* S S **02 44 04.0 -1.9**
KIV *i* SS **SnSn** **02 47 34.6 +5.5**
KIV pmax pmax
comp=Z,94nm,1.2s
KIV MLR MLR
comp=Z,7µm,17.0s
KIV Kislovodsk 42.47 301 P P **02 37 45.9 +1.3**
SNR=57
KIV Kislovodsk 42.47 301 P P **02 37 45.4 +0.8**
SNR=24
KIV Kislovodsk 42.47 301 *e*P P **02 37 45.2 +0.7**
comp=Z,118nm,0.9s
KIV LR LR
comp=Z,5µm,19.9s
NEY Neytrino 42.50 300 *e*P P **02 37 45.1 +0.2**
NEY pmax pmax
comp=Z,8.0nm,0.9s
HAKT HAKKARI 42.51 291 *i* P P **02 37 47.0 +1.8**
PRGR Permogore 42.83 327 *e*P P **02 37 45.7 -1.4**
PRGR *e* 02 39 36.4
PRGR pmax pmax
comp=Z,69nm,1.2s
GEVA Gevas 42.88 292 *i* P P **02 37 51.0 +2.9**
CHVG Ch'k'valeri 43.02 299 P P **02 37 49.3 +0.4**
EATA Eleskirt 43.07 295 *i* P P **02 37 51.9 +2.1**
UGM Wanagama 43.10 159 PFAKE 02 38 00.0 +10
UGM LR LR
comp=Z,6µm,21.1s
SPSI Sidrap Palu 43.20 144 P P 02 37 53.8 +3.2
comp=Z,168nm,1.2s,comp=Z,2µm
ARTV Artvin 43.31 297 *i* P P **02 37 52.7 +1.1**
DAGI Agillar 43.33 297 *i* P P **02 37 52.7 +1.0**
KMMI Kalianget 43.45 154 P P 02 38 00.0 +7.4
DDEM Demirkent 43.48 296 *i* P P 02 37 56.1 +3.3
DBOC Borcka 43.48 297 *i* P P **02 37 54.3 +1.5**
HOMI Horasan 43.49 295 *i* P P 02 37 57.0 +3.9
DBAD Bademkaya 43.51 297 *i* P P **02 37 53.2 +0.2**
SIRN S˙˙rnak 43.53 291 *i* P P **02 37 55.7 +2.5**
TNTI Ternate 43.60 131 P P **02 37 53.7 -0.1**
comp=Z,227nm,1.1s,comp=Z,3µm
TNTI Ternate 43.60 131 *e*P P **02 37 53.1 -0.7**
comp=Z,242nm,1.1s
TNTI LR LR
comp=Z,1µm,20.9s
PWJI Pagerwojo 43.60 157 P P 02 37 59.1 +5.3
comp=Z,103nm,1.1s
ERZM Erzurum 43.92 295 *i* P P **02 37 59.6 +3.1**
KAPI Kappang 44.10 145 P P 02 38 01.9 +4.1
comp=Z,222nm,0.9s,SNR=5.8
KAPI Kappang 44.10 145 LR LR 02 58 51.3
comp=Z,2µm,18.3s,baz=326,slow=40
KAPI Kappang 44.10 145 P P 02 38 01.6 +3.8
SNR=8.3
KAPI Kappang 44.10 145 *e*P P **02 37 57.6 -0.2**
ABJI Asem Bagus 44.24 154 P P 02 38 05.5 +6.6
comp=Z,84nm,0.8s
BNGL BINGOL 44.24 294 *i* P P 02 38 02.5 +3.4
XMIS Christmas Isla 44.35 167 PFAKE 02 38 10.0 +10
XMIS LR LR
comp=Z,4µm,21.3s
BKSI Bulukumba 44.55 145 P P **02 38 04.4 +3.0**
comp=Z,50nm,1.0s,comp=Z,783nm
KOPT Kop Dagi 44.56 295 *i* P P 02 38 05.0 +3.3
VORD Divnogorie 44.59 311 *e*P P **02 37 58.8 -2.6**
VORD *e*SSS SSS 02 48 01.5
VORD pmax pmax
comp=Z,30nm,0.3s
VORD pmax pmax
comp=N,320nm,0.6s
VORD pmax pmax
comp=E,140nm,0.4s
VORD MLR MLR
comp=Z,6µm,16.0s
VORD MLR MLR
comp=N,2µm,15.0s
VORD MLR MLR
comp=E,4µm,14.0s
SOC Sochi 44.65 301 *e*P P **02 38 03.0 +1.0**
SOC *e* 02 39 52.6
SOC *e*S **S** **02 44 38.8 +1.3**
SOC *e*SS SS 02 47 47.3 -10
SOC *e*SSS SSS 02 48 38.6
SOC pmax pmax
comp=Z,71nm,0.8s
SOC MLR MLR
comp=Z,5µm,15.0s
VOR Voronezh 44.67 312 P P **02 38 01.0 -1.0**
VOR pmax pmax
comp=Z,300nm,1.6s
VSR Storozhevoye 44.68 311 *e*P P **02 38 01.3 -0.8**
VSR pmax pmax
comp=Z,30nm,1.1s
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,40nm,0.9s
VSR MLR MLR
comp=Z,7µm,15.0s
VSR MLR MLR
comp=N,3µm,13.0s
VSR MLR MLR
comp=E,4µm,17.0s
LBMI Labuha 44.77 132 P P 02 38 07.0 +3.7
comp=E,297nm,0.9s,comp=E,4µm
JAGI Jajag, Banyuwa 44.83 154 *e*P P **02 38 02.9 -0.8**
comp=E,47nm,0.8s
JAGI LR LR
comp=Z,6µm,18.6s
LPSR Galich'ya Gora 44.86 313 *e*P P **02 38 03.3 -0.3**
LPSR *e*S S **02 44 40.2 -0.2**
LPSR pmax pmax
comp=N,10.0nm,0.8s
LPSR pmax pmax
comp=Z,110nm,0.8s
LPSR pmax pmax
comp=E,80nm,1.5s
LPSR smax smax
comp=N,170nm,2.7s
LPSR smax smax
comp=E,150nm,1.8s
LPSR smax smax
comp=Z,30nm,1.8s
LPSR MLR MLR
comp=Z,4µm,15.0s
LPSR MLR MLR
comp=N,3µm,12.0s
LPSR MLR MLR
comp=E,5µm,16.0s
MACK Trabzon 44.96 297 *i* P P **02 38 06.6 +2.0**
SANI Sanana 44.97 135 P P **02 38 06.2 +1.4**
comp=E,69nm,1.0s,comp=E,1µm
COCO West Island 45.12 179 PFAKE 02 38 20.0 +14
COCO LR LR
comp=Z,2µm,20.6s
RAYN Ar Rayn 45.20 271 P P **02 38 06.8 +0.1**
comp=Z,172nm,0.9s,SNR=8.8
RAYN Ar Rayn 45.20 271 *e*P P **02 38 05.9 -0.8**
comp=Z,24nm,1.1s
RAYN LR LR
comp=Z,4µm,19.9s
EUZM Uzumlu 45.22 295 *i* P P 02 38 10.0 +3.3
DIYA Diyarbakir 45.23 293 *i* P P **02 38 09.9 +3.1**
BSSI Bau Bau, Buton 45.44 145 P P **02 38 11.3 +2.8**
comp=Z,237nm,0.9s,comp=Z,2µm
KLMR Klimovskoe 45.50 325 *e*P P **02 38 06.6 -1.9**
KLMR 02 39 44.4
KLMR *e**PP **PP** **02 39 53.8 -1.0**
KLMR *e*S **S** **02 44 47.7 -1.6**
KLMR *e*SS x 02 45 02.6
KLMR *e*SS **ScS** **02 47 59.1 -4.8**
KLMR pmax pmax
comp=Z,137nm,1.0s
KLMR MLR MLR
comp=Z,6µm,16.0s
SEY Seymchan 45.78 32 LR LR 02 59 02.5
comp=Z,9µm,18.2s,baz=252,slow=38
SEY Seymchan 45.78 32*c i*P P **02 38 11.5 +0.8**
MOS Moscow 45.81 318 *e*P P **02 38 08.6 -2.4**
MOS *e* 02 39 50.2
MOS *e*S **S** **02 44 50.2 -3.7**
MOS *e*SS **SS** **02 48 14.0 -4.1**
MOS pmax pmax
comp=Z,100nm,1.2s
MOS pmax pmax
comp=Z,85nm,0.8s
MOS smax smax
comp=N,500nm,3.1s
MOS smax smax
comp=E,300nm,3.0s
MOS MLR MLR
comp=N,4µm,18.0s
MOS MLR MLR
comp=E,7µm,18.0s
MOS MLR MLR
comp=Z,9µm,18.0s
BBSI Bau Bau 45.91 142 P P 02 38 15.9 +3.6
comp=Z,112nm,1.1s,comp=Z,1µm
ELZG Elazig 45.99 294 *i* P P **02 38 15.1 +2.2**
ANN Anapa 46.15 302*d i*P P **02 38 12.9 -0.9**
ANN *i**PP **pP** **02 38 22.4 +3.4**
ANN *i* 02 40 00.9
ANN *i* PPP PPP 02 40 43.1
ANN *e*S **S** **02 44 58.4 -0.7**
ANN pmax pmax
comp=Z,131nm,0.9s
ANN pmax pmax
comp=N,29nm,0.9s
ANN pmax pmax
comp=E,45nm,0.9s
ANN smax smax
comp=E,186nm,3.5s
ANN smax smax
comp=N,40nm,1.8s
ANN MLR MLR
comp=E,10µm,20.0s
ANN MLR MLR
comp=Z,8µm,20.0s
ANN MLR MLR
comp=N,4µm,20.0s
DGAR Diego Garcia 46.21 213 PFAKE 02 38 30.0 +15
DGAR LR LR
comp=Z,4µm,22.0s
OBN Obninsk 46.37 317 P P **02 38 15.7 +0.3**
comp=Z,443nm,1.4s,SNR=11
OBN Obninsk 46.37 317*c i*P P **02 38 14.7 -0.7**
OBN *e* 02 40 05.8
OBN *i* S S **02 45 01.4 -0.6**
OBN *i* SS **SS** **02 48 20.6 -6.8**
OBN pmax pmax
comp=Z,91nm,1.2s
OBN MLR MLR
comp=Z,10µm,19.0s
OBN Obninsk 46.37 317 *e*P P **02 38 15.3 -0.1**
OBN LR LR
comp=Z,10µm,18.6s
MALT Malatya 46.46 293⇓ *i*P P **02 38 18.2 +1.7**
NLAI Namlea 46.58 135 P P **02 38 19.3 +1.8**
comp=Z,112nm,1.0s,comp=Z,1µm
ATAB Bozova 46.74 292 *i* P P **02 38 20.5 +1.8**
AKCD Akcadag 46.85 294 *i* P P **02 38 21.0 +1.4**
TMCR Tamitsa 46.85 329 *e*P P **02 38 18.9 -0.2**
TMCR pmax pmax
comp=Z,61nm,1.3s
GZT Gaziantep 47.33 292 *i* P P **02 38 24.7 +1.2**
SWI Sorong 47.35 129 P P **02 38 25.5 +2.0**
comp=Z,106nm,1.4s,comp=Z,2µm
SIJI Sorong 47.35 128 P P **02 38 23.7 0.0**
comp=Z,26nm,0.7s,baz=320,slow=9.8,SNR=3.6
PETK Petropavlovsk- 47.53 46 P P **02 38 25.6 +1.0**
comp=Z,25nm,0.8s,baz=212,slow=5.3,SNR=22
PETK LR LR 03 01 19.4
comp=Z,3µm,20.4s,baz=270,slow=40
PINB Pinarbasi 47.93 294 *i* P P **02 38 29.4 +1.2**
HAVZ Havza 47.96 298 *i* P P **02 38 29.5 +1.4**
WBSI Waikabubak, Su 48.01 148 P P **02 38 29.4 +0.8**
comp=Z,220nm,0.8s,comp=Z,8µm
PET Petropavlovsk 48.11 46 *e*P P **02 38 31.5 +2.5**
PET *e* 02 40 22.4
PET *e*S **S** **02 45 25.4 -1.5**
PET pmax pmax
comp=Z,400nm,6.6s
PET pmax pmax
comp=Z,200nm,10.0s
PET pmax pmax

comp=Z,600nm,8.8s
PET pmax pmax
comp=Z,400nm,11.0s
PET MLR MLR
comp=Z,6μm,15.0s
PET MLR MLR
comp=Z,7μm,14.0s
PET Petropavlovsk 48.11 46 PFAKE 02 38 40.0 +11
PET LR LR
comp=Z,4μm,19.4s
ANDN Andirin 48.23 293 *i* P **P 02 38 30.6 +0.3**
GUMO Guam 48.33 102 PFAKE 02 38 40.0 +8.8
GUMO LR LR
comp=Z,3μm,19.0s
MMRI Maumere 48.44 144 P **P 02 38 34.6 +2.6**
comp=Z,171nm,1.2s,comp=Z,4μm
MMRI Maumere 48.44 144 *e*P **P 02 38 32.8 +0.8**
MMRI LR LR
comp=Z,3μm,19.2s
SIM Simferopol' 48.47 303 *c e*P **P 02 38 32.4 +0.5**
SIM *e* 02 40 02.0
SIM *e* 02 40 28.0
SIM *e*S **S 02 45 33.0 +0.8**
SIM pmax pmax
comp=Z,59nm,0.8s
BOYT Boyabat 48.49 298 *i* P **P 02 38 33.2 +0.9**
CTKT Corum 48.74 297 *i* P **P 02 38 34.6 +0.3**
FKH Fakeheh 49.04 289 *e*P **P 02 38 37.2 +0.6**
AVNT Avonos 49.09 295 *i* P **P 02 38 37.4 +0.4**
CDAG Cicekdag 49.26 296 *i* P **P 02 38 38.7 +0.5**
HWQ Hawqa 49.40 289 *e*P **P 02 38 40.0 +0.6**
APA Apatity 49.42 333 ⇑*i*P **P 02 38 41.0 +2.1**
APA *i* 02 40 05.0
APA *i* S **S 02 45 44.0 -1.0**
APA MLR MLR
comp=Z,12μm,15.0s
ILGA Ilgaz 49.45 298 *i* P **P 02 38 42.0 +2.2**
FAKI Fak Fak 49.54 129 P **P 02 38 39.0 -1.5**
comp=Z,115nm,1.4s,comp=Z,2μm
FAKI Fak Fak 49.54 129 *e*P **P 02 38 39.2 -1.3**
comp=Z,93nm,1.0s
FAKI LR LR
comp=Z,2μm,21.6s
BHL Bhannes 49.74 289 *e*P **P 02 38 42.6 +0.7**
RKPI Ransiki, Papua 49.77 126 P **P 02 38 44.1 +1.9**
comp=Z,170nm,1.2s
ELDT Eldivan 49.78 297 *i* P **P 02 38 42.7 +0.5**
BR131 Keskin Array S 49.79 296 *e*P **P 02 38 41.8 -0.6**
comp=Z,37nm,0.8s
BRTR Keskin Array B 49.79 296 P **P 02 38 42.0 -0.3**
comp=Z,37nm,0.8s,baz=99,slow=7.6,SNR=50
BRTR LR LR 03 04 45.1
comp=Z,2μm,18.1s,baz=74,slow=42
DQRL Deir Qamar 49.86 288 *e*P **P 02 38 43.3 +0.4**
PUL Pulkovo 49.93 323 *e*P **P 02 38 43.6 +0.7**
PUL pmax pmax
comp=Z,123nm,1.0s
PUL MLR MLR
comp=Z,9μm,19.0s
KIZK Mersin 50.21 292 *i* P **P 02 38 46.6 +1.2**
BBAL Bala 50.22 296 *i* P **P 02 38 45.6 0.0**
DAMY Dhamar 50.27 261 *e*P **P 02 38 47.2 +0.8**
DAMY LR LR
comp=Z,4μm,20.7s
ANTO Ankara 50.39 297 *e*P **P 02 38 46.9 +0.1**
ANTO pmax pmax
comp=Z,130nm,0.9s
ANTO Ankara 50.39 297 *e*P **P 02 38 46.9 +0.1**
comp=Z,130nm,0.9s
BR231 Keskin MP Arra 50.41 297 *e*P P 02 38 42.7 -4.3
BCAM Yenicaga 50.72 298 *i* P **P 02 38 48.8 -0.5**
AKASG Malin Array Be 50.98 311 P **P 02 38 50.4 -0.6**
comp=Z,27nm,0.8s,baz=73,slow=6.8,SNR=53
AKASG LR LR 03 01 44.8
comp=Z,5μm,19.0s,baz=80,slow=38
AKASG Malin Array Be 50.98 311 *c e*P **P 02 38 50.4 -0.6**
AKASG pmax pmax
comp=Z,42nm,0.7s
KIEV Kiev 50.99 311 *e*P **P 02 38 50.3 -0.7**
KIEV MLR MLR
comp=Z,6μm,19.8s
KIEV Kiev 50.99 311 *e*P **P 02 38 50.3 -0.7**
KIEV LR LR
comp=Z,6μm,19.8s
ERMK Ermenek 51.12 293 *i* P **P 02 38 52.5 0.0**
CSS Prodhromos 51.27 291 P **P 02 38 55.7 +2.3**
CSS Prodhromos 51.27 291 P **P 02 38 54.0 +0.6**
CSS Prodhromos 51.27 291 *e*P **P 02 38 55.2 +1.8**
CSS LR LR
comp=Z,700nm,20.2s
MICGM Minsk 51.41 316 *e*P **P 02 38 56.0 +1.9**
MNK Minsk 51.44 316 *e*P **P 02 38 56.0 +1.7**
BTAS Taskesti 51.56 298 *i* P **P 02 38 55.4 -0.1**
SZAC Souni-Zanaja 51.68 290 P **P 02 38 56.9 +0.4**
GAZI Gazipasa 51.69 292 *i* P **P 02 38 57.2 +0.6**
ALFC Alevga 51.78 291 P **P 02 38 56.5 -0.8**
KIS Kishinev 51.79 307 *e*P **P 02 38 56.0 -1.1**
KIS Kishinev 51.79 307 *e*PP PP 02 41 02.0 +7.4
KIS *e*S **S 02 46 20.0 +1.6**
KIS *e*SS SKiKP 02 50 10.0 -13
KIS *e*LQ LQ 02 57 02.0
KIS LRM MLR 03 05 28.0
comp=Z,3μm,19.0s
KIS Kishinev 51.79 307 *e*P **P 02 38 56.0 -1.1**
KIS *e* 02 40 08.0
KIS *e* 02 41 02.0
KIS *e* 02 42 05.0
KIS *e*S **S 02 46 20.0 +1.6**
KIS MLR MLR
comp=Z,4μm,16.0s
KIS MLR MLR
comp=N,2μm,20.0s
KIS MLR MLR
comp=E,3μm,19.0s
KIS MLR MLR
comp=Z,5μm,20.0s
VSU Vasula 51.79 321 *c i*P **P 02 38 56.3 -0.6**
VSU pmax pmax
comp=Z,420nm,1.0s
VSU MLR MLR
comp=Z,16μm,16.0s
IDID Didziasalis 51.99 317 *e*P **P 02 38 58.7 +0.2**
IDID AMB AMB 02 39 06.1
comp=Z,45nm,1.0s
NACGM Naroch 52.01 317 *e*P **P 02 38 56.0 -2.6**
AKMC Akamas 52.03 291 P **P 02 38 59.0 -0.1**
FINES FINESS Array B 52.03 325 P **P 02 38 58.3 -0.4**
comp=Z,12nm,0.7s,baz=86,slow=7.5,SNR=60
FINES LR LR 03 01 52.8
comp=Z,6μm,18.8s,baz=92,slow=37
BOLV Bolvadin 52.06 296 *i* P **P 02 38 58.6 -0.9**
PPCY Paphos 52.06 291 P P 02 38 54.6 -4.7
KEV Kevo 52.07 336 *e*P **P 02 39 01.4 +2.6**
KEV MLR MLR
comp=Z,7μm,18.1s
KEV Kevo 52.07 336 *e*P **P 02 39 01.4 +2.6**
KEV LR LR
comp=Z,7μm,18.1s
TLCR 52.12 304 ⇓*i*P **P 02 39 01.5 +1.9**
BORA Eskisehir 52.14 297 *i* P **P 02 39 00.0 +0.1**
LEOM Leova 52.27 306 ⇑*i*P **P 02 39 02.2 +1.6**
IIGN Ignalina 52.28 317 *e*P **P 02 39 00.9 +0.3**
IIGN AMB AMB 02 39 08.4
comp=Z,75nm,1.0s
BILL Bilibino 52.29 27 *c i*P **P 02 39 01.8 +1.3**
BILL *e* 02 40 12.1
BILL *e* 02 40 59.3
BILL *e*PPP PPP 02 42 00.6
BILL *i* S **S 02 46 27.0 +2.3**
BILL pmax pmax
comp=Z,59nm,1.0s
BILL MLR MLR
comp=Z,10μm,24.0s
BILL Bilibino 52.29 27 *e*P **P 02 38 59.8 -0.7**
comp=Z,60nm,0.8s
BILL LR LR
comp=Z,9μm,19.4s
ISAL Salakas 52.32 318 *e*P **P 02 39 01.2 +0.3**
ISAL AMB AMB 02 39 08.6
comp=Z,59nm,1.0s
EFOR EFORIE 52.48 303 ⇓*i*P **P 02 39 02.9 +0.6**
TIRR Tirgusor 52.55 303 *e*P P 02 39 06.5 +3.7
TIRR MLR MLR
comp=Z,2μm,22.0s
TIRR Tirgusor 52.55 303 ⇑*i*P **P 02 39 04.9 +2.1**
TIRR Tirgusor 52.55 303 *e*P P 02 39 06.5 +3.7
TIRR LR LR
comp=Z,2μm,22.0s
ARA0 ARCESS Array S 52.57 335 *e*P **P 02 39 02.0 -0.6**
ARCES ARCESS Array B 52.57 335 P **P 02 39 02.0 -0.5**
comp=Z,7.7nm,0.4s,baz=85,slow=7.6,SNR=38
ARCES PcP **PcP 02 40 10.8 -1.9**
comp=Z,3.9nm,0.7s,baz=81,slow=5.6,SNR=2.2
ARCES LR LR 03 03 15.5
comp=Z,8μm,18.8s,baz=100,slow=38
ARE0 ARCESS Array S 52.57 335 *e*P **P 02 39 02.3 -0.3**
ARE0 IAMs_20 IAMs_20 03 03 08.2
comp=Z,8μm,18.5s
ARE0 IVMs_BB IVMs_BB 03 03 35.2
comp=Z,3μm,11.9s
ALT Altintas 52.60 296 P **P 02 39 04.7 +1.3**
ALT Altintas 52.60 296 P **P 02 39 04.7 +1.3**
ISP Isparta 52.63 295 P **P 02 39 05.3 +1.7**
ISP Isparta 52.63 295 *e*P **P 02 39 04.4 +0.8**
ISP pmax pmax
comp=Z,83nm,0.9s
ISP MLR MLR
comp=Z,3μm,19.9s
ISP Isparta 52.63 295 ⇑*i*P **P 02 39 04.5 +0.8**
ISP Isparta 52.63 295 *e*P **P 02 39 04.3 +0.8**
comp=Z,84nm,0.9s
ISP LR LR
comp=Z,3μm,19.9s
TLB Topalu 52.79 304 ⇓*i*P **P 02 39 05.6 +1.1**
HARR Harsova 52.84 304 ⇓*i*P **P 02 39 05.9 +1.0**
SAUI Saumlaki 52.86 134 PFAKE 02 39 20.0 +15
SAUI LR LR
comp=Z,2μm,19.4s
ISK Istanbul-Kandi 52.87 299 P **P 02 39 07.1 +1.9**
ISK Istanbul-Kandi 52.87 299 P **P 02 39 07.1 +1.9**
ISK Istanbul-Kandi 52.87 299 P **P 02 39 07.1 +1.9**
BUY Buyukada 52.88 299 *i* P P 02 39 08.8 +3.5
PSN Preselentsi 52.88 303 ⇑*i*P **P 02 39 06.7 +1.4**
PSN Preselentsi 52.88 303 *e*P **P 02 39 07.4 +2.1**
KORT Korkueli 52.99 294 *i* P **P 02 39 06.4 +0.1**
MSAB Monastry St. A 53.05 303 ⇑*i*P **P 02 39 06.8 +0.4**
GDZ Gediz 53.07 297 *i* P **P 02 39 07.2 +0.3**
PETR Petresti 53.11 305 ⇑*i*P **P 02 39 07.6 +0.7**
SMPI Sarmi 53.26 122 P P 02 39 11.9 +3.6
comp=Z,159nm,1.5s
ELBA Catalca 53.31 299 *i* P **P 02 39 09.4 +0.9**
TESR Tescani 53.34 306 ⇓*i*P **P 02 39 08.5 -0.1**
VRI Vrincioaia 53.42 305 ⇑*i*P **P 02 39 10.1 +0.9**
PRAR RASCA 53.45 307 ⇓*i*P **P 02 39 10.9 +1.5**
PLOR Plostina 53.48 305 ⇑*i*P **P 02 39 10.5 +0.8**
PRD Provadia 53.55 302 *e*P **P 02 39 10.2 0.0**
HOPEN Hopen 53.62 344 *e*P **P 02 39 12.6 +2.5**
HOPEN IAMs_20 IAMs_20 03 05 33.8
comp=Z,6μm,18.2s
HOPEN IVMs_BB IVMs_BB 03 05 47.2
comp=Z,2μm,16.9s
DEMI Demirci 53.65 297 *i* P **P 02 39 09.2 -1.9**
DURS Dursunbey 53.68 298 *i* P **P 02 39 10.8 -0.5**
ISR Istrita 53.71 305 ⇑*i*P **P 02 39 13.1 +1.7**
DNZL Cakiroluk 53.79 295 *i* P **P 02 39 12.5 +0.2**
MSEY Mahe Island 53.82 234 PFAKE 02 39 20.0 +7.4
MSEY LR LR
comp=Z,4μm,19.6s
KULA Kula-Manisa 53.84 296 P **P 02 39 14.7 +2.2**
KULA Kula-Manisa 53.84 296 P **P 02 39 14.7 +2.2**
MLR Muntele Rosu 54.04 305 ⇑*i*P **P 02 39 14.9 +1.0**
BURAR Bucovina Array 54.08 308 ⇓*i*P **P 02 39 14.2 +0.1**
BUR04 Bucovina Ar. S 54.08 308 *e*P **P 02 39 13.7 -0.4**
BUR08 Bucovina Ar. S 54.08 308 *e*P **P 02 39 13.0 -1.2**
SUW Suwalki 54.20 316 *e*P **P 02 39 14.1 -0.6**
SUW *e*S **S 02 46 52.6 +1.5**
SUW LMZ LR 03 03 02.7
SUW Suwalki 54.20 316 *e*P **P 02 39 14.2 -0.6**
SUW *e*S **S 02 46 52.6 +1.5**
SUW MLR MLR
comp=Z,9μm,20.4s
SUW Suwalki 54.20 316 *e*P **P 02 39 14.2 -0.6**
comp=Z,363nm,0.9s
SUW LR LR
comp=Z,9μm,19.6s
BALY Balya 54.28 298 *i* P **P 02 39 16.3 +0.6**
JMB Yambol 54.31 301 P **P 02 39 16.2 +0.4**
JMB Yambol 54.31 301 P **P 02 39 16.2 +0.4**
JMB Yambol 54.31 301 ⇓*i*P **P 02 39 15.9 +0.1**
JMB Yambol 54.31 301 P **P 02 39 16.2 +0.4**
EDRB Edirne 54.36 301 P **P 02 39 17.9 +1.8**
EDRB Edirne 54.36 301 P **P 02 39 17.9 +1.8**
AKHS Akhisar 54.38 297 *i* P **P 02 39 13.9 -2.4**
LVV L'vov 54.41 311 *e*P **P 02 39 16.5 +0.2**
LVV *e*S **S 02 46 51.0 -3.0**
LVV MLR MLR
comp=Z,2μm,16.0s
SZH Strazhica 54.57 303 *e*P **P 02 39 17.9 +0.2**
VOIR 54.66 305 ⇓*i*P **P 02 39 18.0 -0.4**
AYDN Tasoluk 54.68 295 *i* P **P 02 39 20.0 +1.4**
MTUR Matau 54.70 305 ⇑*i*P **P 02 39 19.0 +0.3**
GOLR 54.87 305 ⇓*i*P P 02 39 23.2 +3.4
TRO Tromso 54.88 335 *e*P **P 02 39 17.0 -2.5**
TRO *e*S **S 02 46 57.9 -1.8**
AYVA Ayvalik 55.09 298 *i* P **P 02 39 21.1 -0.3**
ALN Alexandroupoli 55.12 300 P **P 02 39 20.1 -1.5**
ALN Alexandroupoli 55.12 300 *e*P **P 02 39 21.0 -0.6**
ALN Alexandroupoli 55.12 300 P **P 02 39 20.1 -1.5**
ALN Alexandroupoli 55.12 300 P **P 02 39 20.1 -1.5**
GCAM G?zelcaml? 55.16 296 *i* P **P 02 39 23.0 +1.0**
BDRM Kayabasi 55.19 295 *i* P P 02 39 19.1 -3.2
BMR Baia Mare 55.20 308 ⇑*i*P P 02 39 26.3 +4.2
KWP Kalwaria Pacla 55.28 311 *e*P **P 02 39 23.1 +0.4**
KWP *e*S **S 02 47 10.9 +5.1**
KWP LMZ LR 03 02 20.6
KWP Kalwaria Pacla 55.28 311 *e*P **P 02 39 23.1 +0.4**
KWP *e*S **S 02 47 11.0 +5.1**
CJR Cluj-Napoca 55.35 307 ⇓*i*P P 02 39 19.5 -3.8
KDZ Kurdzhali 55.37 301 ⇓*i*P **P 02 39 23.9 +0.5**
KDZ Kurdzhali 55.37 301 *e*P **P 02 39 22.8 -0.6**
BOZC Bozcaada 55.41 298 *i* P **P 02 39 23.9 +0.1**
RDO Rodhopi 55.42 300 P **P 02 39 24.8 +1.0**
RDO Rodhopi 55.42 300 *e*P **P 02 39 23.2 -0.5**
RDO Rodhopi 55.42 300 *e*P **P 02 39 23.3 -0.5**
PRK Paraskevi 55.42 298 P **P 02 39 24.4 +0.6**
PRK Paraskevi 55.42 298 *e*P **P 02 39 23.2 -0.6**
PRK Paraskevi 55.42 298 P **P 02 39 24.4 +0.6**
PRK Paraskevi 55.42 298 P **P 02 39 24.4 +0.6**
SMG Samos 55.45 296 P **P 02 39 25.6 +1.5**
SMG Samos 55.45 296 *e*P **P 02 39 23.8 -0.3**
SMG Samos 55.45 296 P **P 02 39 25.6 +1.5**
LOT Lotru 55.54 306 ⇓*i*P **P 02 39 25.0 +0.3**
SMTH Samothraki Isl 55.61 299 P **P 02 39 24.4 -0.8**
SMTH Samothraki Isl 55.61 299 *e*P **P 02 39 24.1 -1.1**
SMTH Samothraki Isl 55.61 299 P **P 02 39 24.4 -0.8**
SPA0 Spitsbergen Ar 55.69 346 *e*P **P 02 39 25.1 -0.2**
SPA0 IVMs_BB IVMs_BB 03 07 55.4
comp=Z,2μm,14.9s
KOLS Kolonicke sedl 55.71 310 *e*P **P 02 39 25.7 -0.1**
KOLS Kolonicke sedl 55.71 310 *e*P **P 02 39 25.7 -0.1**
TRPA Tarpa 55.72 309 ⇓*i*P **P 02 39 26.3 +0.5**
TRPA Tarpa 55.72 309 *e*P **P 02 39 26.3 +0.5**
SIGR SIGRI 55.74 298 P **P 02 39 27.1 +1.0**
SIGR SIGRI 55.74 298 *e*P **P 02 39 25.3 -0.8**
SIGR SIGRI 55.74 298 P **P 02 39 27.1 +1.0**
PLD Plovdiv 55.75 301 P **P 02 39 29.1 +2.9**
PLD Plovdiv 55.75 301 P **P 02 39 29.1 +2.9**
PLD Plovdiv 55.75 301 P **P 02 39 29.1 +2.9**
UZH Uzhgorod 55.77 310 *e*P **P 02 39 26.0 -0.2**
UZH *i* 02 39 32.1
UZH *i* 02 39 39.1
UZH *e*PPP PPP 02 42 46.7
UZH *e*S **S 02 47 08.4 -3.8**
UZH *i* SS **SS 02 51 01.3 +3.9**
CHOS Chios island 55.84 297 P **P 02 39 26.5 -0.5**
CHOS Chios island 55.84 297 *e*P **P 02 39 26.4 -0.5**
CHOS Chios island 55.84 297 P **P 02 39 26.5 -0.5**
HSPB Hornsund (broa 55.84 344 *e*P **P 02 39 28.3 +2.1**
RZN Rozhen 55.86 301 *e*P **P 02 39 27.0 -0.2**
KARP Karpathos 55.89 293 P **P 02 39 26.4 -0.9**
KARP Karpathos 55.89 293 *e*P **P 02 39 27.0 -0.3**
KARP Karpathos 55.89 293 P **P 02 39 26.4 -0.9**
DRGR 55.92 307 ⇓*i*P **P 02 39 28.1 +0.7**
BEL Belsk 56.02 314 *e*P **P 02 39 27.8 -0.1**
BEL *e*S S 02 47 23.3 +7.9
BEL LMZ LR 03 04 17.0
BEL Belsk 56.02 314 *e*P **P 02 39 27.9 0.0**
BEL *e*S S 02 47 23.4 +8.0
BEL MLR MLR
comp=Z,9μm,21.4s
DEV Deva 56.02 306 ⇑*i*P **P 02 39 29.0 +1.0**
LIA Limnos Island 56.03 299 P **P 02 39 29.2 +1.0**
LIA Limnos Island 56.03 299 *e*P **P 02 39 27.3 -0.9**
LIA Limnos Island 56.03 299 P **P 02 39 29.2 +1.0**
MPEP Malo Peshtene 56.10 303 *e*P **P 02 39 28.9 +0.2**
KAVA Kavala 56.20 300 P **P 02 39 30.0 +0.6**
KAVA Kavala 56.20 300 *e*P **P 02 39 29.0 -0.4**
KAVA Kavala 56.20 300 P **P 02 39 30.0 +0.6**
GZR Gura Zlata 56.23 306 ⇑*i*P **P 02 39 31.8 +2.2**
STHS Stebnicka Huta 56.26 311 *e*P **P 02 39 29.7 -0.1**
STHS Stebnicka Huta 56.26 311 *e*P **P 02 39 29.7 -0.1**
STEI Steigen 56.32 333 *e*P **P 02 39 30.7 +0.9**
NVR Nevrokopi 56.57 301 P **P 02 39 33.3 +1.2**
NVR Nevrokopi 56.57 301 *e*P **P 02 39 31.4 -0.7**
NVR Nevrokopi 56.57 301 P **P 02 39 33.3 +1.2**
KBS Kingsbay 56.58 347 *e*P P 02 39 34.7 +3.2
KBS *e*S **S 02 47 23.4 +1.1**
KBS Kingsbay 56.58 347 *e*P **P 02 39 32.4 +0.9**
KBS MLR MLR
comp=Z,7μm,19.0s
KBS Kingsbay 56.58 347 *e*P **P 02 39 32.4 +0.9**
comp=Z,5.0nm,0.9s
KBS LR LR
comp=Z,7μm,19.0s
MMB Musomiste 56.60 301 ⇑*i*P **P 02 39 32.4 +0.1**
MMB Musomiste 56.60 301 *e*P **P 02 39 32.0 -0.3**
APE Apeiranthos 56.64 295 P **P 02 39 31.6 -1.1**
APE Apeiranthos 56.64 295 *e*P **P 02 39 33.4 +0.7**
APE Apeiranthos 56.64 295 *e*P **P 02 39 31.1 -1.6**
APE pmax pmax
comp=Z,33nm,1.0s
APE MLR MLR
comp=Z,2μm,24.0s
APE Apeiranthos 56.64 295 ⇑*i*P **P 02 39 33.3 +0.6**
APE Apeiranthos 56.64 295 P **P 02 39 31.6 -1.1**
VTS Vitosha 56.68 302 P **P 02 39 32.8 -0.2**
VTS Vitosha 56.68 302 P **P 02 39 32.8 -0.2**
VTS Vitosha 56.68 302 ⇓*i*P **P 02 39 33.9 +0.9**
VTS Vitosha 56.68 302 P **P 02 39 32.8 -0.2**
SIRR Siria 56.76 307 ⇓*i*P **P 02 39 33.9 +0.6**
ZKR Zakros 56.76 293 P **P 02 39 35.6 +2.1**
ZKR Zakros 56.76 293 P **P 02 39 35.6 +2.1**
OUR Ouranopolis 56.78 300 P **P 02 39 31.9 -1.6**
OUR Ouranopolis 56.78 300 *e*P **P 02 39 32.9 -0.6**
OUR Ouranopolis 56.78 300 P **P 02 39 31.9 -1.6**
OUR Ouranopolis 56.78 300 P **P 02 39 31.9 -1.6**
SRS Serrai 56.83 301 P **P 02 39 33.1 -0.8**
SRS Serrai 56.83 301 *e*P **P 02 39 32.7 -1.2**
SRS Serrai 56.83 301 P **P 02 39 33.1 -0.8**
SRS Serrai 56.83 301 P **P 02 39 33.1 -0.8**
MOR8 Moi Rana 56.84 331 *e*P **P 02 39 31.6 -2.0**
MOR8 IAmb IAmb 02 39 39.2
comp=Z,51nm,0.8s
NIE Niedzica 56.85 311 *e*P **P 02 39 34.6 +0.6**
NIE *e*S **S 02 47 31.9 +5.2**
NIE LMZ LR 03 05 20.9
NIE Niedzica 56.85 311 *e*P **P 02 39 34.7 +0.7**
NIE *e*S **S 02 47 31.9 +5.2**
NIE MLR MLR
comp=Z,5μm,20.5s
SANT Santorini 56.92 295 P **P 02 39 35.6 +0.9**
SANT Santorini 56.92 295 *e*P **P 02 39 32.7 -2.0**
SANT Santorini 56.92 295 *e*P **P 02 39 36.4 +1.7**
SANT LR LR
comp=Z,2μm,19.9s
LOF Lofoten 56.94 334 *e*P **P 02 39 31.8 -2.4**
BZS Buzias 56.96 306 ⇑*i*P **P 02 39 34.6 -0.1**
KKB Krupnik 56.98 302 *e*P **P 02 39 32.3 -2.7**
OJC Ojcow 56.99 312 *e*P **P 02 39 34.6 -0.3**
OJC *e*S **S 02 47 33.1 +4.7**
OJC LMZ LR 03 05 05.2
OJC Ojcow 56.99 312 *e*P **P 02 39 34.8 -0.1**
OJC pmax pmax
comp=Z,92nm,0.9s
OJC MLR MLR
comp=Z,10μm,19.3s
OJC Ojcow 56.99 312 *e*P **P 02 39 34.8 -0.1**
comp=Z,92nm,0.9s
OJC LR LR
comp=Z,10μm,19.3s
SOH Sokhos 57.09 300 *e*P **P 02 39 37.3 +1.5**
PAIG Paliouri 57.13 299 P **P 02 39 35.8 -0.2**
PAIG Paliouri 57.13 299 P **P 02 39 35.8 -0.2**
PAIG Paliouri 57.13 299 P **P 02 39 35.8 -0.2**
PLG Polygyros 57.16 300 P **P 02 39 36.4 +0.1**
PLG Polygyros 57.16 300 *e*P **P 02 39 35.6 -0.7**
PLG Polygyros 57.16 300 P **P 02 39 36.4 +0.1**
PLG Polygyros 57.16 300 P **P 02 39 36.4 +0.1**
NPS Neapolis 57.17 293 P **P 02 39 35.6 -0.9**
NPS Neapolis 57.17 293 *e*P **P 02 39 35.2 -1.3**
NPS Neapolis 57.17 293 P **P 02 39 35.6 -0.9**
NPS Neapolis 57.17 293 P **P 02 39 35.6 -0.9**
AOS Alonnisos 57.21 298 P **P 02 39 36.9 +0.3**
AOS Alonnisos 57.21 298 P **P 02 39 36.9 +0.3**
LAST Lasithi 57.31 293 P **P 02 39 36.9 -0.6**
LAST Lasithi 57.31 293 *e*P **P 02 39 36.9 -0.6**
LAST Lasithi 57.31 293 P **P 02 39 36.9 -0.6**
KNT Kendrikon 57.32 301 P **P 02 39 38.4 +1.0**
KNT Kendrikon 57.32 301 *e*P **P 02 39 36.1 -1.3**
KNT Kendrikon 57.32 301 P **P 02 39 38.4 +1.0**
KNT Kendrikon 57.32 301 P **P 02 39 38.4 +1.0**
KONS Konsvik 57.32 332 *e*P **P 02 39 36.8 -0.2**
HORT Hortiatis 57.34 300 *e*P **P 02 39 36.6 -1.1**
STOK Stokkvaagen 57.39 332 *e*P **P 02 39 36.6 -0.8**
CHZP Chorzow 57.47 312 *e*Pg **P 02 39 37.1 -1.2**
PSZ Piszkesteto 57.50 309 *e*P **P 02 39 38.1 -0.5**
PSZ pmax pmax
comp=Z,75nm,1.4s
PSZ MLR MLR
comp=Z,4μm,18.1s
PSZ Piszkesteto 57.50 309 ⇑*i*P **P 02 39 40.1 +1.5**
PSZ Piszkesteto 57.50 309 *e*P **P 02 39 38.1 -0.5**
comp=Z,74nm,1.4s
PSZ LR LR
comp=Z,4μm,18.1s
PSZ Piszkesteto 57.50 309 *e*P **P 02 39 39.4 +0.8**
VAY Valandovo 57.51 301 P **P 02 39 40.1 +1.4**
VAY Valandovo 57.51 301 P **P 02 39 40.1 +1.4**
VAY Valandovo 57.51 301 P **P 02 39 40.1 +1.4**
MRKA Markates 57.58 298 P **P 02 39 39.3 +0.1**
MRKA Markates 57.58 298 *e*P **P 02 39 38.8 -0.4**
PTL Penteli 57.58 297 P **P 02 39 41.3 +2.0**
PTL Penteli 57.58 297 *e*P **P 02 39 40.1 +0.8**
PTL Penteli 57.58 297 P **P 02 39 41.3 +2.0**
NEO Neokhori 57.65 299 P **P 02 39 40.5 +0.7**
NEO Neokhori 57.65 299 *e*P **P 02 39 39.0 -0.8**
NEO Neokhori 57.65 299 P **P 02 39 40.5 +0.7**
XOR Xorichti 57.66 299 P **P 02 39 38.9 -0.9**
XOR Xorichti 57.66 299 *e*P **P 02 39 38.7 -1.1**
XOR Xorichti 57.66 299 P **P 02 39 38.9 -0.9**
ATHU Athens Univers 57.67 297 P **P 02 39 41.1 +1.2**
ATHU Athens Univers 57.67 297 P **P 02 39 41.1 +1.2**
ATH Athens Observa 57.72 297 P **P 02 39 42.0 +1.8**
ATH Athens Observa 57.72 297 P **P 02 39 42.0 +1.8**
ATH Athens Observa 57.72 297 P **P 02 39 42.0 +1.8**
GRG Griva 57.74 301 P **P 02 39 39.4 -1.0**
GRG Griva 57.74 301 *e*P **P 02 39 39.2 -1.2**
GRG Griva 57.74 301 P **P 02 39 39.4 -1.0**
GRG Griva 57.74 301 P **P 02 39 39.4 -1.0**
SMIA Simia 57.80 298 P **P 02 39 41.8 +1.0**
SMIA Simia 57.80 298 *e*P **P 02 39 40.1 -0.7**
GKP Gorka Klasztor 57.82 316 *e*P **P 02 39 40.3 -0.3**
GKP *e*S **S 02 47 42.0 +2.8**
GKP LMZ LR 03 05 28.2
GKP Gorka Klasztor 57.82 316 *e*P **P 02 39 40.3 -0.3**
GKP *e*S **S 02 47 42.0 +2.8**
GKP MLR MLR
comp=Z,10μm,19.7s
SIVA Sivas 57.88 293 P **P 02 39 41.0 -0.4**
SIVA Sivas 57.88 293 *e*P **P 02 39 41.3 -0.1**
SIVA Sivas 57.88 293 P **P 02 39 41.0 -0.4**
LIT Litokhoron 57.94 300 P **P 02 39 40.3 -1.5**
LIT Litokhoron 57.94 300 *e*P **P 02 39 40.5 -1.3**
LIT Litokhoron 57.94 300 P **P 02 39 40.3 -1.5**
LIT Litokhoron 57.94 300 P **P 02 39 40.3 -1.5**
VIL2 Platees 57.97 297 *e*P **P 02 39 43.6 +1.6**

FURI	**Furi**	**58.01 259**	*e*P		**P**		**02 39 45.2**	**+2.2**
FURI			LR		LR				
	comp=Z,3µm,20.7s								
RAC	**Raciborz**	**58.02 312**	*e*P		**P**		**02 39 41.9**	**-0.2**
RAC			*e*S		**S**		**02 47 39.2**	**-2.7**
RAC			MLR		MLR				
	comp=Z,10µm,19.6s								
LKR	**Lokris**	**58.03 298**	P		**P**		**02 39 42.6**	**+0.2**
LKR	**Lokris**	**58.03 298**	*e*P		**P**		**02 39 41.2**	**-1.2**
LKR	**Lokris**	**58.03 298**	P		**P**		**02 39 42.6**	**+0.2**
OKC	**Ostrava-Krasne**	**58.11 312**	⇑*i*P		**P**		**02 39 42.9**	**+0.1**
OKC			*ep*P		**pP**		**02 39 46.7**	**-1.4**
OKC			*ex*		x		02 39 49.1		
OKC			*e*S		**S**		**02 47 43.8**	**+0.6**
OKC			AMS		AMS		03 05 40.0		
	comp=Z,8µm,17.3s								
OKC	**Ostrava-Krasne**	**58.11 312**	⇑*i*P		**P**		**02 39 42.9**	**+0.1**
OKC			*e*				02 39 49.1		
OKC			*e*S		**S**		**02 47 43.8**	**+0.6**
OKC			MLR		MLR				
	comp=Z,8µm,17.3s								
SKO	**Skopje**	**58.12 302**	P		**P**		**02 39 44.2**	**+1.2**
SKO	**Skopje**	**58.12 302**	P		**P**		**02 39 44.2**	**+1.2**
SKO	**Skopje**	**58.12 302**	P		**P**		**02 39 44.2**	**+1.2**
BUD	**Budapest**	**58.18 309**⇓	*e*P		P		02 39 47.3	+4.0
DID	**Didima**	**58.23 297**	P		**P**		**02 39 42.5**	**-1.4**
DID	**Didima**	**58.23 297**	*e*P		**P**		**02 39 41.2**	**-2.7**
DID	**Didima**	**58.23 297**	P		**P**		**02 39 42.5**	**-1.4**
AXAR	**Agios Charalam**	**58.24 298**	P		**P**		**02 39 42.3**	**-1.6**
AXAR	**Agios Charalam**	**58.24 298**	*e*P		**P**		**02 39 42.5**	**-1.4**
AXAR	**Agios Charalam**	**58.24 298**	P		**P**		**02 39 42.3**	**-1.6**
LTK	**Loutraki**	**58.26 297**	*e*P		**P**		**02 39 45.8**	**+1.8**
PKS2	**Kecel**	**58.33 308**	*e*P		P		02 39 48.2	+3.9
KZN	**Kozani**	**58.40 300**	P		**P**		**02 39 45.2**	**+0.1**
KZN	**Kozani**	**58.40 300**	*e*P		**P**		**02 39 47.9**	**+2.8**
KZN	**Kozani**	**58.40 300**	P		**P**		**02 39 45.2**	**+0.1**
KZN	**Kozani**	**58.40 300**	P		**P**		**02 39 45.2**	**+0.1**
AGG	**Agios Georgios**	**58.40 299**	P		**P**		**02 39 42.9**	**-2.2**
AGG	**Agios Georgios**	**58.40 299**	*e*P		**P**		**02 39 43.2**	**-1.8**
AGG	**Agios Georgios**	**58.40 299**	*e*P		**P**		**02 39 43.3**	**-1.8**
AGG			MLR		MLR				
	comp=Z,2µm,19.8s								
AGG	**Agios Georgios**	**58.40 299**	*e*P		**P**		**02 39 43.3**	**-1.8**
AGG			LR		LR				
	comp=Z,2µm,19.8s								
KARN	**Karanos**	**58.43 294**	P		**P**		**02 39 44.2**	**-1.1**
KARN	**Karanos**	**58.43 294**	*e*P		**P**		**02 39 44.6**	**-0.7**
KARN	**Karanos**	**58.43 294**	P		**P**		**02 39 44.2**	**-1.1**
DSF	**Desfina**	**58.46 298**	P		**P**		**02 39 44.3**	**-1.2**
DSF	**Desfina**	**58.46 298**	*e*P		**P**		**02 39 44.1**	**-1.4**
DSF	**Desfina**	**58.46 298**	P		**P**		**02 39 44.3**	**-1.2**
THL	**Klokotos Trika**	**58.46 299**	P		**P**		**02 39 43.2**	**-2.2**
THL	**Klokotos Trika**	**58.46 299**	*e*P		**P**		**02 39 43.2**	**-2.2**
DIVS	**Divibare**	**58.49 305**	P		**P**		**02 39 44.9**	**-0.8**
DIVS	**Divibare**	**58.49 305**⇑	*i*P		**P**		**02 39 45.9**	**+0.2**
GVD	**Gavdhos**	**58.49 293**	*e*P		**P**		**02 39 46.5**	**+0.8**
	comp=Z,157nm,0.8s								
GVD			LR		LR				
	comp=Z,2µm,18.4s								
MORC	**Moravsky Berou**	**58.51 312**	*e*P		**P**		**02 39 45.6**	**0.0**
MORC			pmax		pmax				
	comp=Z,110nm,1.1s								
MORC			MLR		MLR				
	comp=Z,8µm,18.8s								
MORC	**Moravsky Berou**	**58.51 312**⇑	*i*P		**P**		**02 39 45.8**	**+0.2**
MORC	**Moravsky Berou**	**58.51 312**	*e*P		**P**		**02 39 45.6**	**0.0**
	comp=Z,110nm,1.1s								
MORC			LR		LR				
	comp=Z,8µm,18.8s								
FNA	**Florina**	**58.53 301**	P		**P**		**02 39 46.9**	**+0.9**
FNA	**Florina**	**58.53 301**	*e*P		**P**		**02 39 44.2**	**-1.8**
FNA	**Florina**	**58.53 301**	P		**P**		**02 39 46.9**	**+0.9**
FNA	**Florina**	**58.53 301**	P		**P**		**02 39 46.9**	**+0.9**
MBWA	**Marble Bar**	**58.55 154**	*e*P		**P**		**02 39 45.6**	**-0.5**
	comp=Z,45nm,0.9s								
MBWA			*e*				02 39 51.0		
MBWA			LR		LR				
	comp=Z,2µm,20.0s								
PKSG		**58.62 309**⇓	*e*P		P		02 39 50.1	+3.8	
BSD	**Bornholm Skovb**	**58.70 318**	*i* P		**P**		**02 39 49.1**	**+2.3**
	comp=Z,93nm,1.1s								
	comp=Z,7µm,13.0s								
BSD	**Bornholm Skovb**	**58.70 318**	*i* P		**P**		**02 39 49.1**	**+2.3**
BSD			pmax		pmax				
	comp=Z,93nm,1.1s								
BSD			MLR		MLR				
	comp=Z,7µm,13.0s								
KALE	**Kalithea**	**58.75 298**	*e*P		**P**		**02 39 45.3**	**-2.2**
GUR	**Goura**	**58.75 297**	P		**P**		**02 39 45.5**	**-2.1**
GUR	**Goura**	**58.75 297**	*e*P		**P**		**02 39 45.4**	**-2.1**
GUR	**Goura**	**58.75 297**	P		**P**		**02 39 45.5**	**-2.1**
PKSM	**Moragy**	**58.79 308**⇑	*i*P		**P**		**02 39 47.2**	**-0.3**
PKSM	**Moragy**	**58.79 308**	*e*P		**P**		**02 39 47.2**	**-0.3**
KYTH	**Kithira**	**58.80 295**	*e*P		**P**		**02 39 45.3**	**-2.5**
EVR	**Evrytania**	**58.82 299**	P		**P**		**02 39 46.5**	**-1.6**
EVR	**Evrytania**	**58.82 299**	*e*P		**P**		**02 39 46.3**	**-1.8**
EVR	**Evrytania**	**58.82 299**	P		**P**		**02 39 46.5**	**-1.6**
KLV	**Kalavryta, Ach**	**58.86 298**	P		**P**		**02 39 47.4**	**-0.9**
KLV	**Kalavryta, Ach**	**58.86 298**	P		**P**		**02 39 47.4**	**-0.9**
NEST	**Nestorio**	**58.89 300**	P		**P**		**02 39 47.9**	**-0.6**
NEST	**Nestorio**	**58.89 300**	*e*P		**P**		**02 39 46.8**	**-1.7**
PKST	**T"s**	**58.89 309**	*e*P		P		02 39 51.6	+3.3
EFP	**Efpalio**	**58.91 298**	P		**P**		**02 39 49.8**	**+1.3**
EFP	**Efpalio**	**58.91 298**	*e*P		**P**		**02 39 47.9**	**-0.6**
VLX	**Vlachokerasia**	**58.92 297**	P		**P**		**02 39 46.6**	**-2.1**
VLX	**Vlachokerasia**	**58.92 297**	*e*P		**P**		**02 39 46.0**	**-2.7**
VLX	**Vlachokerasia**	**58.92 297**	P		**P**		**02 39 46.6**	**-2.1**
PHP	**Peshkopia**	**58.92 302**	P		**P**		**02 39 50.3**	**+1.7**
PHP	**Peshkopia**	**58.92 302**	P		**P**		**02 39 50.3**	**+1.7**
PHP	**Peshkopia**	**58.92 302**	P		**P**		**02 39 50.3**	**+1.7**
PKS9	**Tamasi**	**58.92 308**⇓	*e*P		P		02 39 54.3	+5.8
SMOL	**Smolenice**	**58.92 310**	*e*P		**P**		**02 39 51.0**	**+2.5**
SMOL	**Smolenice**	**58.92 310**	*e*P		**P**		**02 39 51.0**	**+2.5**
IVA	**Berane**	**58.93 304**⇑	*i*P		**P**		**02 39 49.6**	**+0.8**
PVY	**Plav**	**58.97 303**	*e*P		**P**		**02 39 49.3**	**+0.2**
KSP	**Ksiaz**	**58.99 313**	*e*P		**P**		**02 39 49.7**	**+0.8**
KSP			*e*S		**S**		**02 47 58.0**	**+3.4**
KSP			LMZ		LR		03 06 22.0		
KSP	**Ksiaz**	**58.99 313**	*e*P		**P**		**02 39 49.7**	**+0.8**
KSP			*e*S		**S**		**02 47 58.0**	**+3.4**
KSP			MLR		MLR				
	comp=Z,8µm,21.4s								
KBN	**Korca**	**59.01 301**	P		**P**		**02 39 48.1**	**-1.2**
KBN	**Korca**	**59.01 301**	P		**P**		**02 39 48.1**	**-1.2**
KBN	**Korca**	**59.01 301**	P		**P**		**02 39 48.1**	**-1.2**
DPC	**Dobruska-Polom**	**59.11 313**⇑	*i*P		**P**		**02 39 50.2**	**+0.4**
DPC			*ep*P		**pP**		**02 39 54.0**	**-1.1**
DPC			*ex*		x		02 39 56.5		
DPC			*ex*		x		02 43 31.2		
DPC			*e*S		**S**		**02 47 57.5**	**+1.3**
DPC			AMS		AMS		03 06 20.0		
	comp=Z,9µm,18.9s								
DPC	**Dobruska-Polom**	**59.11 313**⇑	*i*P		**P**		**02 39 50.2**	**+0.4**
DPC			*e*				02 39 56.5		
DPC			*e*				02 43 31.2		
DPC			*e*S		**S**		**02 47 57.5**	**+1.3**
DPC			MLR		MLR				
	comp=Z,9µm,18.9s								
DPC	**Dobruska-Polom**	**59.11 313**	*e*P		**P**		**02 39 49.8**	**0.0**
DPC			LR		LR				
	comp=Z,58µm,19.8s								
NC602	**NORSAR Array S**	**59.12 325**	*e*P		**P**		**02 39 48.5**	**-1.1**
NC602			IVMs_BB		IVMs_BB		03 07 24.2		
	comp=Z,3µm,13.0s								
PLE	**Pljevlja**	**59.14 304**	*e*P		**P**		**02 39 51.1**	**+0.9**
NB2	**NORSAR Subarra**	**59.20 326**	P		**P**		**02 39 49.0**	**-1.2**
	comp=Z,111nm,1.2s,baz=77,slow=7.4								
NB2	**NORSAR Subarra**	**59.20 326**	P		**P**		**02 39 49.0**	**-1.2**
	baz=77,slow=7.4								
NOA	**NORSAR Array B**	**59.20 326**	P		**P**		**02 39 49.2**	**-1.0**
	comp=Z,14nm,0.8s,baz=78,slow=7.8,SNR=34								
NOA			LR		LR		03 06 48.1		
	comp=Z,4µm,19.6s,baz=80,slow=38								
DRO	**Drossia**	**59.22 298**	P		**P**		**02 39 52.1**	**+1.4**
DRO	**Drossia**	**59.22 298**	*e*P		**P**		**02 39 50.4**	**-0.3**
VRAC	**Vranov**	**59.23 311**⇑	*i*P		P		02 39 54.8	+4.2
UPC	**Upice**	**59.26 313**⇑	*i*P		**P**		**02 39 51.0**	**+0.2**
UPC			*ep*P		**pP**		**02 39 55.1**	**-0.9**
UPC	**Upice**	**59.26 313**⇑	*i*P		**P**		**02 39 51.0**	**+0.2**
DSL	**Palaion Diasel**	**59.27 299**	P		**P**		**02 39 49.1**	**-2.0**
DSL	**Palaion Diasel**	**59.27 299**	*e*P		**P**		**02 39 49.5**	**-1.6**
DSL	**Palaion Diasel**	**59.27 299**	P		**P**		**02 39 49.1**	**-2.0**
JAN	**Janina**	**59.28 300**	*e*P		**P**		**02 39 50.6**	**-0.5**
ITM	**Ithomi**	**59.32 297**	P		**P**		**02 39 49.8**	**-1.6**
ITM	**Ithomi**	**59.32 297**	*e*P		**P**		**02 39 48.8**	**-2.6**
ITM	**Ithomi**	**59.32 297**	P		**P**		**02 39 49.8**	**-1.6**
AMT	**Artemida-Makis**	**59.36 297**	P		**P**		**02 39 51.0**	**-0.7**
AMT	**Artemida-Makis**	**59.36 297**	*e*P		**P**		**02 39 53.1**	**+1.4**
RLS	**Riolos of Patr**	**59.36 298**	P		**P**		**02 39 49.8**	**-1.9**
RLS	**Riolos of Patr**	**59.36 298**	P		**P**		**02 39 49.8**	**-1.9**
PDO	**Prodromos**	**59.39 298**	P		**P**		**02 39 49.5**	**-2.4**
PDO	**Prodromos**	**59.39 298**	*e*P		**P**		**02 39 49.9**	**-2.0**
TIR	**Tirane**	**59.44 302**	*e*P		**P**		**02 39 53.5**	**+1.3**
TIR			MLR		MLR				
	comp=Z,3µm,19.9s								
TIR	**Tirane**	**59.44 302**	*e*P		**P**		**02 39 53.5**	**+1.3**
TIR			LR		LR				
	comp=Z,3µm,19.9s								
UPM	**Unac-Piva**	**59.52 304**⇑	*i*P		**P**		**02 39 52.8**	**-0.1**
PDG	**Podgorica**	**59.52 303**	P		**P**		**02 39 51.7**	**-1.0**
TTG	**Podgorica**	**59.52 303**⇑	*i*P		**P**		**02 39 52.5**	**-0.2**
TTG	**Podgorica**	**59.52 303**	P		**P**		**02 39 51.7**	**-1.0**
TTG	**Podgorica**	**59.52 303**	P		**P**		**02 39 51.7**	**-1.0**
PYL	**PYLOS**	**59.56 296**	P		**P**		**02 39 50.0**	**-3.1**
PYL	**PYLOS**	**59.56 296**	*e*P		**P**		**02 39 50.2**	**-2.9**
PYL	**PYLOS**	**59.56 296**	P		**P**		**02 39 50.0**	**-3.1**
NKY	**Niksic**	**59.58 304**	*e*P		**P**		**02 39 54.3**	**+1.0**
NKME	**Niksic**	**59.62 304**⇑	*i*P		**P**		**02 39 54.2**	**+0.7**
DRME	**Dracevica, Mon**	**59.65 303**⇑	*i*P		**P**		**02 39 53.6**	**0.0**
ULC	**Ulcinj**	**59.68 303**⇑	*i*P		**P**		**02 39 52.8**	**-1.0**
IGT	**Igoumenitsa**	**59.70 300**	P		**P**		**02 39 51.4**	**-2.6**
IGT	**Igoumenitsa**	**59.70 300**	*e*P		**P**		**02 39 51.8**	**-2.2**
IGT	**Igoumenitsa**	**59.70 300**	P		**P**		**02 39 51.4**	**-2.6**
IGT	**Igoumenitsa**	**59.70 300**	P		**P**		**02 39 51.4**	**-2.6**
OSL	**Oslo**	**59.70 324**	*e*P		**P**		**02 39 53.3**	**-0.3**
LKD2	**Lefkada island**	**59.71 299**	P		**P**		**02 39 51.6**	**-2.5**
LKD2	**Lefkada island**	**59.71 299**	*e*P		**P**		**02 39 51.9**	**-2.2**
LKD2	**Lefkada island**	**59.71 299**	P		**P**		**02 39 51.6**	**-2.5**
SOP	**Sopron**	**59.72 310**⇑	*e*P		P		02 39 58.0	+4.0
RGN	**Rugen**	**59.74 318**	*e*P		**P**		**02 39 54.3**	**+0.3**
	comp=Z,125nm,0.8s								
RGN			LR		LR				
	comp=Z,4µm,18.5s								
SGD	**Sagiada**	**59.74 300**	P		**P**		**02 39 52.2**	**-2.1**
SGD	**Sagiada**	**59.74 300**	*e*P		**P**		**02 39 52.1**	**-2.2**
BUM	**Brajici-Budva**	**59.81 303**⇑	*i*P		**P**		**02 39 55.5**	**+0.7**
SRN	**Sarande**	**59.82 300**	P		**P**		**02 39 52.1**	**-2.7**
SRN	**Sarande**	**59.82 300**	P		**P**		**02 39 52.1**	**-2.7**
KFL	**Anninata**	**59.85 298**	P		**P**		**02 39 52.4**	**-2.6**
BRY	**Bratogost**	**59.87 304**	*e*P		**P**		**02 39 54.3**	**-1.0**
COP	**Copenhagen**	**59.92 319**	*i* P		**P**		**02 39 57.7**	**+2.5**
	comp=Z,73nm,1.0s								
COP			*i* S		**S**		**02 48 11.1**	**+4.7**
	comp=Z,3µm,17.0s								
COP	**Copenhagen**	**59.92 319**	*e*P		**P**		**02 39 57.7**	**+2.5**
COP			*i* S		**S**		**02 48 11.1**	**+4.7**
COP			pmax		pmax				
	comp=Z,73nm,1.0s								
COP			MLR		MLR				
	comp=Z,3µm,17.0s								
TREC	**Trest**	**59.93 312**⇑	*e*P		**P**		**02 39 55.4**	**0.0**
TREC			*ep*P		**pP**		**02 39 59.5**	**-1.2**
TREC			*e*S		**S**		**02 48 11.3**	**+4.5**
TREC			AMS		AMS		03 06 40.0		
	comp=Z,6µm,15.4s								
TREC	**Trest**	**59.93 312**	*e*P		**P**		**02 39 55.4**	**0.0**
TREC			*e*S		**S**		**02 48 11.3**	**+4.5**
TREC			MLR		MLR				
	comp=Z,6µm,15.4s								
BEHE	**Becsehely**	**59.95 308**⇑	*e*P		P		02 39 59.5	+3.9	
VLS	**Valsamata**	**59.97 298**	P		**P**		**02 39 52.9**	**-3.0**
VLS	**Valsamata**	**59.97 298**	*e*P		**P**		**02 39 53.2**	**-2.7**
VLS	**Valsamata**	**59.97 298**	P		**P**		**02 39 52.9**	**-3.0**
VLS	**Valsamata**	**59.97 298**	P		**P**		**02 39 52.9**	**-3.0**
KEK	**Kerkira**	**60.02 300**	P		**P**		**02 39 53.2**	**-3.0**
KEK	**Kerkira**	**60.02 300**	*e*P		**P**		**02 39 53.7**	**-2.5**
KEK	**Kerkira**	**60.02 300**	P		**P**		**02 39 53.2**	**-3.0**
RUE	**Ruedersdorf**	**60.05 316**	PFAKE				02 40 10.0	+14	
RUE			LR		LR				
	comp=Z,10µm,18.3s								
HCY	**Herceg Novi**	**60.05 303**⇑	*i*P		**P**		**02 39 57.3**	**+1.0**
CONA	**Conrad Observa**	**60.10 310**⇑	*i*pP		**P**		**02 39 56.7**	**0.0**
	comp=Z,105nm,1.3s,SNR=28								
PVCC	**Panska Ves**	**60.13 313**⇑	*e*P		**P**		**02 39 57.0**	**+0.2**
PVCC			*ep*P		**pP**		**02 40 00.9**	**-1.2**
PVCC			*ex*		x		02 43 42.8		
PVCC			*e*S		**S**		**02 48 14.5**	**+5.2**
PVCC			AMS		AMS		03 06 40.0		
	comp=Z,6µm,16.0s								
PVCC	**Panska Ves**	**60.13 313**	*e*P		**P**		**02 39 57.0**	**+0.2**
PVCC			*e*				02 43 42.8		
PVCC			*e*S		**S**		**02 48 14.5**	**+5.2**
PVCC			MLR		MLR				
	comp=Z,6µm,16.0s								
GOPC	**GO Pecny, Ondr**	**60.18 313**⇑	*e*P		**P**		**02 39 57.6**	**+0.4**
GOPC			*ep*P		**pP**		**02 40 01.0**	**-1.4**
GOPC			*ex*		x		02 40 03.6		
GOPC			*e*S		**S**		**02 48 13.2**	**+3.2**
GOPC			AMS		AMS		03 07 10.0		
	comp=Z,10µm,19.3s								
KOGS	**Kog**	**60.30 308**	*e*P		**P**		**02 39 59.1**	**+1.1**
KOGS			*e*S		**S**		**02 48 16.0**	**+4.4**
PRU	**Pruhonice**	**60.31 313**⇑	*e*P		**P**		**02 39 58.1**	**+0.1**
PRU			*ep*P		**pP**		**02 40 01.9**	**-1.4**
PRU			*ex*		x		02 40 04.4		
PRU			*e*S		**S**		**02 48 13.6**	**+2.0**
PRU			AMS		AMS		03 07 10.0		
	comp=Z,10µm,18.9s								
PRU	**Pruhonice**	**60.31 313**	*e*P		**P**		**02 39 58.1**	**+0.1**
PRU			*e*				02 40 04.4		
PRU			*e*S		**S**		**02 48 13.6**	**+2.0**
PRU			MLR		MLR				
	comp=Z,10µm,18.9s								
KONO	**Kongsberg**	**60.33 324**	*e*P		**P**		**02 39 59.8**	**+1.9**
KONO			*e*S		**S**		**02 48 10.5**	**-1.0**
KONO	**Kongsberg**	**60.33 324**	*e*P		**P**		**02 39 57.5**	**-0.5**
KONO			MLR		MLR				
	comp=Z,4µm,18.0s								
KONO	**Kongsberg**	**60.33 324**	*e*P		**P**		**02 39 57.5**	**-0.5**
KONO			LR		LR				
	comp=Z,4µm,18.0s								
PRA	**Prague**	**60.35 313**⇑	*e*P		**P**		**02 39 58.4**	**+0.1**
PRA			*ep*P		**pP**		**02 40 02.4**	**-1.2**
PRA			*e*S		**S**		**02 48 15.3**	**+3.2**
PRA			AMS		AMS		03 07 20.0		
	comp=Z,10µm,18.7s								
PRA	**Prague**	**60.35 313**	*e*P		**P**		**02 39 58.4**	**+0.1**
PRA			*e*S		**S**		**02 48 15.3**	**+3.2**
PRA			MLR		MLR				
	comp=Z,10µm,18.7s								
BRG	**Berggiesshubel**	**60.41 314**	*e*P		**P**		**02 39 58.8**	**+0.1**
	comp=Z,12nm,0.7s								
BRG			*i*				02 40 02.4		
	comp=Z,44nm,0.8s								
BRG			*i*				02 40 05.1		
	comp=Z,68nm,0.9s								
BRG			S		**S**		**02 48 17.0**	**+4.1**
BRG			SS		**SS**		**02 52 17.0**	**+6.8**
	comp=N,6µm,17.2s								
	comp=E,5µm,21.9s								
	comp=Z,7µm,18.0s								
BRG	**Berggiesshubel**	**60.41 314**	*e*P		**P**		**02 39 58.7**	**0.0**
	comp=Z,68nm,0.9s								
BRG	**Berggiesshubel**	**60.41 314**	*e*P		**P**		**02 39 58.8**	**+0.1**
BRG			*i*				02 40 05.1		
BRG			S		**S**		**02 48 17.0**	**+4.1**
BRG			pmax		pmax				
	comp=Z,12nm,0.7s								
BRG			MLR		MLR				
	comp=N,6µm,17.2s								
BRG			MLR		MLR				
	comp=E,5µm,21.9s								
BRG			MLR		MLR				
	comp=Z,7µm,18.0s								
STON	**Ston**	**60.46 304**	P		**P**		**02 39 57.9**	**-1.2**
ARSA	**Arzberg**	**60.52 309**⇑	*i*pP		**P**		**02 39 59.2**	**-0.3**
	comp=Z,44nm,1.3s,SNR=11								
CLL	**Collm**	**60.85 314**	*e*P		**P**		**02 40 01.2**	**-0.5**
	comp=Z,78nm,1.0s								
CLL	**Collm**	**60.85 314**⇑	*i*P		**P**		**02 40 01.2**	**-0.5**
	comp=Z,25nm,1.4s								
CLL			*i* pP		**pP**		**02 40 05.1**	**-1.8**
	comp=Z,49nm,1.0s								
CLL			*i* sP		**sP**		**02 40 07.6**	**-1.3**
	comp=Z,78nm,1.0s								
CLL			*e*PPP		PPP		02 43 36.0		
CLL			*e*S		**S**		**02 48 16.0**	**-2.5**
	comp=N,400nm,16.5s								
CLL			*e*S		**S**		**02 48 16.0**	**-2.5**
	comp=E,500nm,23.8s								
CLL			*e*SS		**SS**		**02 52 17.0**	**0.0**
CLL			*e*SSS		SSS		02 55 00.0		
CLL			LmH				03 05 00.0		
	comp=N,15µm,20.0s								
CLL			LmH				03 05 00.0		
	comp=E,7µm,20.6s								
CLL			LmV				03 07 00.0		
	comp=Z,5µm,18.6s								
CLL	**Collm**	**60.85 314**⇑	*i*P		**P**		**02 40 01.2**	**-0.5**
CLL			*i* *SP		**sP**		**02 40 07.6**	**-1.3**
CLL			*e*S		**S**		**02 48 16.0**	**-2.5**
CLL			pmax		pmax				
	comp=Z,25nm,1.4s								
CLL			MLR		MLR				
	comp=Z,5µm,18.6s								
CLL	**Collm**	**60.85 314**	PFAKE				02 40 10.0	+8.3	
CLL			LR		LR				
	comp=Z,6µm,18.3s								
AKN	**Aaknes**	**60.85 328**	*e*P		**P**		**02 40 01.4**	**-0.1**
AKN			IAMs_20		IAMs_20		03 07 40.6		
	comp=Z,8µm,18.7s								
PERS	**Pernice**	**60.98 309**	*i* P		**P**		**02 40 02.4**	**-0.4**
SOKA	**Soboth**	**61.02 309**	*i* pP		**P**		**02 40 02.9**	**-0.1**
	comp=Z,55nm,1.0s,SNR=27								
MOA	**Molln**	**61.14 310**⇓	*i*pP		**P**		**02 40 03.6**	**-0.2**
	comp=Z,50nm,1.1s,SNR=17								
KHC	**Kasperske Hory**	**61.17 312**⇑	*e*P		**P**		**02 40 04.0**	**+0.1**
KHC			*ep*P		**pP**		**02 40 07.6**	**-1.6**
KHC			*e*S		**S**		**02 48 26.8**	**+4.1**
KHC			AMS		AMS		03 07 30.0		
	comp=Z,10µm,17.1s								
KHC	**Kasperske Hory**	**61.17 312**	*e*P		**P**		**02 40 04.0**	**+0.1**
KHC			*e*S		**S**		**02 48 26.8**	**+4.1**
KHC			MLR		MLR				
	comp=Z,10µm,17.1s								
GEC2	**GERESS Array S**	**61.18 312**	*e*P		**P**		**02 40 04.2**	**+0.1**
	comp=Z,35nm,1.0s								
UDBI	**Udbina**	**61.24 306**	P		**P**		**02 40 03.8**	**-0.7**
PDKS	**Podkum**	**61.24 308**	*i* P		**P**		**02 40 04.4**	**-0.1**
BOJS	**Bojanci**	**61.26 308**	*e*P		**P**		**02 40 04.8**	**+0.3**
HOMB	**Homborsund**	**61.26 323**	*e*P		P		02 40 08.7	+4.4	
HOMB			IAMs_20		IAMs_20		03 07 13.6		
	comp=Z,7µm,18.5s								
HOMB			IVMs_BB		IVMs_BB		03 07 24.7		
	comp=Z,3µm,13.6s								
OBKA	**Obir**	**61.39 309**⇑	*i*pP		**P**		**02 40 05.2**	**-0.3**
	comp=Z,33nm,1.2s,SNR=11								
TANN	**Tannenbergstha**	**61.45 314**	*e*P		**P**		**02 40 05.7**	**-0.1**
	comp=Z,52nm,1.0s								
MUD	**Monsted U'grnd**	**61.46 321**	*i* P		**P**		**02 40 07.7**	**+2.1**
	comp=Z,102nm,1.1s								
MUD			*i* S		**S**		**02 48 31.2**	**+5.2**
	comp=Z,8µm,16.0s								
MUD	**Monsted U'grnd**	**61.46 321**	*i* P		**P**		**02 40 07.7**	**+2.1**
MUD			*i* S		**S**		**02 48 31.2**	**+5.2**
MUD			pmax		pmax				
	comp=Z,100nm,1.1s								
MUD			MLR		MLR				
	comp=Z,8µm,16.0s								
NKC	**Novy Kostel**	**61.52 313**⇑	*e*P		**P**		**02 40 06.3**	**0.0**
NKC			*ep*P		**pP**		**02 40 10.2**	**-1.4**
NKC			*e*S		**S**		**02 48 29.9**	**+2.8**
NKC			AMS		AMS		03 07 30.0		
	comp=Z,4µm,17.2s								
NKC	**Novy Kostel**	**61.52 313**	*e*P		**P**		**02 40 06.3**	**0.0**
NKC			*e*S		**S**		**02 48 29.9**	**+2.8**
NKC			MLR		MLR				
	comp=Z,4µm,17.2s								
WERD	**Werda**	**61.54 314**	*e*P		**P**		**02 40 06.4**	**0.0**
	comp=Z,50nm,1.0s								
WERN	**Wernitzgruen**	**61.55 314**	*e*P		**P

comp=Z,222nm,1.0s
CEL LR LR
comp=Z,2µm,21.0s
RETA Reutte 63.49 311⇑ *i*P **P 02 40 19.1 -0.5**
comp=Z,52nm,0.8s,SNR=35
JMIC Jan Mayen 63.57 339 *e*P P 02 40 23.2 +3.7
JMIC IAMs_20 IAMs_20 03 08 37.4
comp=Z,3µm,21.6s
IBBN Ibbenburen 63.60 317 *e*P **P 02 40 20.3 +0.2**
comp=Z,81nm,1.1s
AQU L'Aquila 63.61 305 *e*P **P 02 40 19.2 -1.2**
AQU pmax pmax
comp=Z,143nm,1.1s
AQU MLR MLR
comp=Z,6µm,19.4s
AQU L'Aquila 63.61 305 *e*P **P 02 40 19.2 -1.2**
comp=Z,142nm,1.1s
AQU LR LR
comp=Z,6µm,19.4s
FETA Feichten 63.68 310⇓ *i*P **P 02 40 20.2 -0.8**
comp=Z,51nm,0.8s,SNR=32
WAKE Wake Island 63.72 83 PFAKE 02 40 30.0 +8.6
WAKE LR LR
comp=Z,2µm,22.0s
TNS Taunus Mts 63.94 314 *e*P **P 02 40 22.3 -0.1**
comp=Z,54nm,1.0s
STU Stuttgart 64.01 313 *e*P **P 02 40 22.8 -0.1**
STU pmax pmax
comp=Z,60nm,0.8s
STU MLR MLR
comp=Z,7µm,19.4s
STU Stuttgart 64.01 313 *e*P **P 02 40 22.8 -0.1**
comp=Z,60nm,0.8s
STU LR LR
comp=Z,7µm,19.4s
ALE Alert 64.06 357 P **P 02 40 22.2 -0.5**
comp=Z,144nm,1.2s,SNR=8.4
DAVA Damuels 64.12 311⇑ *i*P **P 02 40 23.2 -0.7**
comp=Z,29nm,0.8s,SNR=11
FUORN Ofenpass-Fuorn 64.13 310 *e*P **P 02 40 23.7 -0.3**
comp=Z,40nm,0.7s
FUORN LR LR
comp=Z,7µm,19.0s
BUG Bochum--Univer 64.19 316 *e*P **P 02 40 24.3 +0.3**
comp=Z,52nm,1.1s
WRAB Tennant Creek 64.20 140 P **P 02 40 24.6 +0.2**
comp=Z,700nm,1.0s,SNR=9.1
WRAB Tennant Creek 64.20 140 *i*P **P 02 40 24.6 +0.2**
WRAB pmax pmax
comp=Z,161nm,1.7s
WRAB MLR MLR
comp=Z,5µm,24.0s
WRAB Tennant Creek 64.20 140 *e*P **P 02 40 23.9 -0.5**
comp=Z,128nm,0.9s
WRAB LR LR
comp=Z,2µm,20.7s
WRA Warramunga Arr 64.20 140 P **P 02 40 23.6 -0.7**
comp=Z,9.0nm,0.7s,baz=332,slow=6.9,SNR=50
WRA PKPPKP **P'P'df 03 09 11.9 +1.7**
comp=Z,1.7nm,1.1s,baz=120,slow=2.2,SNR=4.6
WTSB Winterswijk 64.27 317 *e*P P 02 40 28.3 +3.8
comp=Z,74nm,1.1s
ATKA Atka Island 64.40 43 PFAKE 02 40 40.0 +15
ATKA LR LR
comp=Z,1µm,20.7s
PMG Port Moresby 64.41 122 *i*P **P 02 40 26.0 +0.1**
PMG pmax pmax
comp=Z,520nm,0.8s
PMG MLR MLR
comp=Z,3µm,23.0s
PMG Port Moresby 64.41 122 *e*P **P 02 40 26.1 +0.1**
comp=Z,49nm,1.1s
PMG LR LR
comp=Z,700nm,20.7s
SPIA Saint Paul Isl 64.67 37 PFAKE 02 40 40.0 +13
SPIA LR LR
comp=Z,2µm,18.6s
BFO Black Forest 64.71 312 P **P 02 40 27.5 0.0**
comp=Z,337nm,1.0s,SNR=16
BFO Black Forest 64.71 312 *e*P **P 02 40 27.1 -0.4**
comp=Z,67nm,1.0s
BFO Black Forest 64.71 312 *e*P **P 02 40 27.1 -0.4**
BFO pmax pmax
comp=Z,53nm,0.9s
BFO MLR MLR
comp=Z,7µm,18.9s
BFO Black Forest 64.71 312 *e*P **P 02 40 27.1 -0.4**
comp=Z,53nm,0.9s
BFO LR LR
comp=Z,7µm,18.9s
TUE Stuetta 64.77 310 *e*P **P 02 40 27.4 -0.7**
comp=Z,430nm,0.5s
TUE LR LR
comp=Z,5µm,18.2s
LANF Langenberg 64.78 313⇑ *e*P P 02 40 31.5 +3.6
COEN Coen 64.90 128 *e*P **P 02 40 28.3 -0.8**
comp=Z,120nm,1.1s
COEN LR LR
comp=Z,800nm,21.9s
VLC Villacollemand 64.97 308 *e*P **P 02 40 29.6 +0.4**
comp=Z,69nm,0.9s
VLC LR LR
comp=Z,3µm,19.3s
KMBO Kilima Mbogo 64.98 251⇓ *i*P **P 02 40 30.1 +0.2**
KMBO Kilima Mbogo 64.98 251 P **P 02 40 30.2 +0.2**
comp=Z,50nm,0.8s,baz=45,slow=10,SNR=77
KMBO Kilima Mbogo 64.98 251 *e*P **P 02 40 30.2 +0.3**
KMBO pmax pmax
comp=Z,74nm,1.7s
KMBO MLR MLR
comp=Z,2µm,18.6s
KMBO Kilima Mbogo 64.98 251 P **P 02 40 30.5 +0.5**
SNR=27
KMBO Kilima Mbogo 64.98 251 *e*P **P 02 40 30.2 +0.3**
comp=Z,74nm,1.7s
KMBO LR LR
comp=Z,2µm,18.6s
HGN Heimansgroeve 65.23 316 *e*P P 02 40 34.4 +3.6
comp=Z,30nm,1.0s
HGN *e*S **S 02 49 18.6 +5.3**
HGN *e*SS SS 02 53 12.8 -13
HGN *e*SSS SSS 02 56 46.0
MEM Membach 65.24 315 P P 02 40 34.5 +3.6
comp=Z,35nm,1.2s
MEM Membach 65.24 315 *e*P P 02 40 35.0 +4.1
MEM pmax pmax
comp=Z,58nm,1.0s
MEM MLR MLR
comp=Z,7µm,20.0s
MEM Membach 65.24 315 *e*P P 02 40 35.0 +4.1
comp=Z,58nm,1.0s
MEM LR LR
comp=Z,7µm,20.0s
CDF Champ du Feu 65.33 313 *e*P **P 02 40 31.1 -0.5**
comp=Z,123nm,1.1s
CDF Champ du Feu 65.33 313 *e*P **P 02 40 31.1 -0.5**
CDF pmax pmax
comp=Z,123nm,1.0s
CDF Champ du Feu 65.33 313 *e*P **P 02 40 31.1 -0.5**
comp=Z,123nm,1.0s
WDD Wield Dalam 65.34 298 PFAKE 02 40 40.0 +8.3
WDD LR LR
comp=Z,800nm,21.3s
ECH Echery 65.47 313⇑ *e*P P 02 40 35.7 +3.3
ECH Echery 65.47 313 *e*P **P 02 40 30.9 -1.6**
ECH pmax pmax
comp=Z,38nm,1.0s
ECH Echery 65.47 313 *e*P **P 02 40 30.9 -1.6**
comp=Z,38nm,1.0s
WLF Walferdange 65.52 314 P **P 02 40 33.6 +1.0**
comp=Z,118nm,1.1s
WLF Walferdange 65.52 314 *e*P **P 02 40 33.4 +0.7**
comp=Z,209nm,1.0s
WLF Walferdange 65.52 314 *e*P **P 02 40 32.2 -0.5**
WLF pmax pmax
comp=Z,183nm,1.0s
WLF MLR MLR
comp=Z,5µm,20.0s
WLF Walferdange 65.52 314 *e*P **P 02 40 32.2 -0.5**
comp=Z,183nm,1.0s
WLF LR LR
comp=Z,5µm,20.0s
MOF Molkenrain 65.63 312⇑ *e*P P 02 40 36.9 +3.3
BCLA Clavier 65.73 315 P P 02 40 37.5 +3.5
comp=Z,26nm,1.2s
HINF Hinteralfeld 65.82 312 *e*P **P 02 40 33.9 -0.8**
comp=Z,67nm,0.9s
HINF Hinteralfeld 65.82 312 *e*P **P 02 40 33.9 -0.8**
HINF pmax pmax
comp=Z,67nm,0.9s
HINF Hinteralfeld 65.82 312 *e*P **P 02 40 33.9 -0.8**
comp=Z,67nm,0.9s
LOMF Lomont 66.02 312⇑ *e*P P 02 40 39.3 +3.3
HAU Haudompre 66.06 313 *e*P **P 02 40 35.5 -0.7**
comp=Z,58nm,0.9s
HAU *e*R
comp=Z,7µm,19.5s
HAU Haudompre 66.06 313 *e*P **P 02 40 35.5 -0.7**
HAU pmax pmax
comp=Z,58nm,0.9s
HAU Haudompre 66.06 313 *e*P **P 02 40 35.5 -0.7**
comp=Z,58nm,0.9s
SENIN Lac Senin/Sane 66.11 311 *e*P **P 02 40 36.3 -0.5**
UCC Uccle 66.13 316 P **P 02 40 39.6 +3.1**
UCC Uccle 66.13 316 PFAKE 02 40 50.0 +13
UCC LR LR
comp=Z,7µm,20.1s
GIVF Givet 66.14 315 *e*P **P 02 40 36.4 -0.3**
comp=Z,126nm,1.0s
GIVF Givet 66.14 315 *e*P **P 02 40 36.4 -0.3**
GIVF pmax pmax
comp=Z,126nm,1.0s
GIVF Givet 66.14 315 *e*P **P 02 40 36.4 -0.3**
comp=Z,126nm,1.0s
THEF They Montfort 66.19 313⇑ *e*P P 02 40 40.5 +3.5
PAGF Fort de Pagny 66.22 313 *e*P **P 02 40 37.2 0.0**
comp=Z,46nm,1.1s
PAGF Fort de Pagny 66.22 313 *e*P **P 02 40 37.2 0.0**
comp=Z,46nm,1.1s
DOU Dourbes 66.28 315 P **P 02 40 37.4 -0.2**
comp=Z,24nm,1.1s
SNF Seneffe 66.30 316 P P 02 40 41.1 +3.5
BAIF Baives 66.52 315 *e*P **P 02 40 38.9 -0.2**
comp=Z,91nm,1.1s
BAIF Baives 66.52 315 *e*P **P 02 40 38.9 -0.2**
BAIF pmax pmax
comp=Z,91nm,1.1s
BAIF Baives 66.52 315 *e*P **P 02 40 38.9 -0.2**
comp=Z,91nm,1.1s
PGF Pioggiola 66.54 306 *e*P **P 02 40 39.1 -0.4**
comp=Z,205nm,1.1s
PGF Pioggiola 66.54 306 *e*P **P 02 40 39.1 -0.4**
PGF pmax pmax
comp=Z,205nm,1.1s
PGF Pioggiola 66.54 306 *e*P **P 02 40 39.1 -0.4**
comp=Z,205nm,1.1s
MEZF Maizieres J'vi 66.65 314 *e*P **P 02 40 39.8 -0.1**
comp=Z,124nm,1.0s
MEZF Maizieres J'vi 66.65 314 *e*P **P 02 40 39.8 -0.1**
comp=Z,124nm,1.0s
SFTF Sexfontaines 66.78 313 *e*P **P 02 40 40.3 -0.5**
comp=Z,184nm,1.1s
SFTF Sexfontaines 66.78 313 *e*P **P 02 40 40.3 -0.5**
comp=Z,184nm,1.1s
CABF La Chapelle 66.78 311 *e*P **P 02 40 40.2 -0.8**
comp=Z,52nm,1.0s
CABF La Chapelle 66.78 311 *e*P **P 02 40 40.2 -0.8**
CABF pmax pmax
comp=Z,52nm,1.0s
CABF La Chapelle 66.78 311 *e*P **P 02 40 40.2 -0.8**
comp=Z,52nm,1.0s
LPG La Plagne 66.81 310 *e*P **P 02 40 41.3 -0.1**
comp=Z,269nm,0.8s
LPG La Plagne 66.81 310 *e*P **P 02 40 41.3 -0.1**
LPG pmax pmax
comp=Z,269nm,0.8s
LPG La Plagne 66.81 310 *e*P **P 02 40 41.3 -0.1**
comp=Z,269nm,0.8s
RSL Roselend 66.82 310⇑ *e*P P 02 40 45.7 +4.4
LPL La Plagne 66.82 310 *e*P **P 02 40 41.4 0.0**
comp=Z,206nm,0.9s
LPL La Plagne 66.82 310 *e*P **P 02 40 41.4 0.0**
LPL pmax pmax
comp=Z,206nm,0.9s
LPL La Plagne 66.82 310 *e*P **P 02 40 41.4 0.0**
comp=Z,206nm,0.9s
SAOF Sarge 66.91 308⇑ *e*P **P 02 40 44.6 +2.8**
AUTN L'Aution 66.99 308⇑ *e*P P 02 40 46.7 +4.2
AS31 Alice Springs 67.03 142 *e*P **P 02 40 41.9 -0.7**
ASAR Alice Springs 67.03 142 P **P 02 40 42.4 -0.2**
comp=Z,11nm,0.5s,baz=325,slow=6.5,SNR=108
ASAR PKPPKP **P'P'df 03 09 07.4 +2.1**
comp=Z,1.1nm,0.9s,baz=156,slow=3.7,SNR=4.8
ASAR LR LR 03 12 20.1
comp=Z,1µm,19.7s,baz=307,slow=38
SBF Sospel 67.04 308 *e*P **P 02 40 42.1 -0.5**
comp=Z,188nm,0.8s
SBF Sospel 67.04 308 *e*P **P 02 40 42.1 -0.5**
SBF pmax pmax
comp=Z,189nm,0.8s
SBF Sospel 67.04 308 *e*P **P 02 40 42.1 -0.5**
comp=Z,188nm,0.8s
BNI Bardonecchia 67.05 310 *e*P **P 02 40 42.3 -0.4**
BNI pmax pmax
comp=Z,82nm,1.2s
BNI MLR MLR
comp=Z,7µm,19.9s
BNI Bardonecchia 67.05 310 *e*P **P 02 40 42.3 -0.4**
comp=Z,82nm,1.2s
BNI LR LR
comp=Z,7µm,19.9s
NIKH Nikolski High 67.09 41 PFAKE 02 40 50.0 +7.3
NIKH LR LR
comp=Z,4µm,20.7s
TOUF Mont Tournerai 67.10 308⇑ *e*P P 02 40 47.7 +4.5
MBDF Montbardon 67.12 309 *e*P **P 02 40 43.4 +0.2**
comp=Z,58nm,0.8s
MBDF Montbardon 67.12 309 *e*P **P 02 40 43.4 +0.2**
MBDF pmax pmax
comp=Z,58nm,0.8s
MBDF Montbardon 67.12 309 *e*P **P 02 40 43.4 +0.2**
comp=Z,58nm,0.8s
REVF Revere 67.14 308⇑ *e*P **P 02 40 46.4 +3.2**
SURF Saint Ours 67.19 309⇑ *e*P P 02 40 48.9 +5.2
MVIF Mont Vial 67.22 308⇑ *e*P P 02 40 47.3 +3.5
GDM Grand'Maison 67.34 310⇑ *e*P P 02 40 49.3 +4.7
CALN Calern 67.45 308⇑ *e*P P 02 40 48.7 +3.4
VSL Villasalto 67.55 303 *e*P **P 02 40 44.2 -1.6**
comp=Z,60nm,1.0s
VSL LR LR
comp=Z,1µm,19.1s
GRN Grenoble 67.57 310⇑ *e*P P 02 40 49.7 +3.7
ORIF Oris-en-Rattie 67.62 310 *e*P **P 02 40 45.6 -0.7**
comp=Z,107nm,0.7s
ORIF *e*R
comp=Z,8µm,18.0s
ORIF Oris-en-Rattie 67.62 310 *e*P **P 02 40 45.6 -0.7**
ORIF pmax pmax
comp=Z,107nm,0.7s
ORIF Oris-en-Rattie 67.62 310 *e*P **P 02 40 45.6 -0.7**
comp=Z,107nm,0.7s
FRF La Foret Royal 67.69 308 *e*P **P 02 40 46.1 -0.5**
comp=Z,141nm,1.4s
FRF La Foret Royal 67.69 308 *e*P **P 02 40 46.1 -0.5**
FRF pmax pmax
comp=Z,141nm,1.4s
FRF La Foret Royal 67.69 308 *e*P **P 02 40 46.1 -0.5**
comp=Z,141nm,1.4s
IM04 Indian Mountai 67.74 25 *e*P **P 02 40 46.2 -0.4**
LMR La Mourre 67.88 308 *e*P **P 02 40 47.3 -0.5**
comp=Z,138nm,1.1s
LMR La Mourre 67.88 308 *e*P **P 02 40 47.3 -0.5**
LMR pmax pmax
comp=Z,138nm,1.1s
LMR La Mourre 67.88 308 *e*P **P 02 40 47.3 -0.5**
comp=Z,138nm,1.1s
LOR Lormes 67.89 313 *e*P **P 02 40 46.9 -1.0**
comp=Z,67nm,1.0s
LOR *e*R
comp=Z,5µm,20.8s
LOR Lormes 67.89 313 *e*P **P 02 40 46.9 -1.0**
LOR pmax pmax
comp=Z,67nm,1.0s
LOR Lormes 67.89 313 *e*P **P 02 40 46.9 -1.0**
comp=Z,67nm,1.0s
UNV Unalaska Valle 67.98 39 PFAKE 02 41 00.0 +12
UNV LR LR
comp=Z,2µm,20.3s
EDI Edinburgh 68.05 323 PFAKE 02 41 00.0 +11
EDI LR LR
comp=Z,2µm,20.1s
OG26 St.-Nazaire-De 68.13 310⇑ *e*P P 02 40 53.6 +4.1
SMF Signal de Mont 68.17 312 *e*P **P 02 40 49.0 -0.7**
comp=Z,184nm,1.0s
SMF Signal de Mont 68.17 312 *e*P **P 02 40 49.0 -0.7**
SMF pmax pmax
comp=Z,184nm,1.0s
SMF Signal de Mont 68.17 312 *e*P **P 02 40 49.0 -0.7**
comp=Z,184nm,1.0s
SSF Saint Saulge 68.20 313 *e*P **P 02 40 49.0 -0.8**
comp=Z,113nm,1.0s
SSF Saint Saulge 68.20 313 *e*P **P 02 40 49.0 -0.8**
SSF pmax pmax
comp=Z,113nm,1.0s
SSF Saint Saulge 68.20 313 *e*P **P 02 40 49.0 -0.8**
comp=Z,113nm,1.0s
SMRF Simiane la Rot 68.21 309 *e*P **P 02 40 49.6 -0.4**
comp=Z,114nm,1.3s
SMRF Simiane la Rot 68.21 309 *e*P **P 02 40 49.6 -0.4**
comp=Z,114nm,1.3s
COLD Coldfoot 68.25 23 *e*P **P 02 40 50.6 +0.9**
comp=Z,21nm,1.0s
COLD LR LR
comp=Z,3µm,18.3s
SSB Saint Sauveur 68.32 311⇑ *e*P P 02 40 53.9 +3.3
SSB Saint Sauveur 68.32 311 *e*P **P 02 40 49.7 -1.0**
SSB pmax pmax
comp=Z,35nm,1.0s
SSB Saint Sauveur 68.32 311 *e*P **P 02 40 49.7 -1.0**
comp=Z,34nm,1.0s
ESK Eskdalemuir 68.33 323 *e*P **P 02 40 49.0 -1.5**
ESK pmax pmax
comp=Z,65nm,1.0s
ESK MLR MLR
comp=Z,4µm,18.0s
ESK Eskdalemuir 68.33 323 *e*P **P 02 40 49.0 -1.5**
comp=Z,66nm,1.0s
ESK LR LR
comp=Z,4µm,18.0s
AVF Avril sur Loir 68.41 312 *e*P **P 02 40 50.5 -0.6**
comp=Z,206nm,1.1s
AVF Avril sur Loir 68.41 312 *e*P **P 02 40 50.5 -0.6**
AVF pmax pmax
comp=Z,207nm,1.1s
AVF Avril sur Loir 68.41 312 *e*P **P 02 40 50.5 -0.6**
comp=Z,206nm,1.1s
VIVF Saint-Julien-l 68.42 310 *e*P **P 02 40 50.8 -0.5**
comp=Z,134nm,1.1s
VIVF Saint-Julien-l 68.42 310 *e*P **P 02 40 50.8 -0.5**
VIVF pmax pmax
comp=Z,134nm,1.1s
VIVF Saint-Julien-l 68.42 310 *e*P **P 02 40 50.8 -0.5**
comp=Z,134nm,1.1s
PLDF La Plantade 68.60 312⇑ *e*P P 02 40 55.8 +3.4
HYF Humbligny 68.64 313 *e*P **P 02 40 52.3 -0.3**
HYF Humbligny 68.64 313 *e*P **P 02 40 52.3 -0.3**
COLF Collangettes 68.75 311⇑ *e*P P 02 40 56.8 +3.4
BGF Bois d'Agland 68.83 312 *e*P **P 02 40 53.0 -0.7**
comp=Z,115nm,1.1s
BGF Bois d'Agland 68.83 312 *e*P **P 02 40 53.0 -0.7**
BGF pmax pmax
comp=Z,115nm,1.1s
BGF Bois d'Agland 68.83 312 *e*P **P 02 40 53.0 -0.7**
comp=Z,115nm,1.1s
AGO Saint Agoulin 68.87 312⇑ *e*P P 02 40 57.8 +3.7
PYM Petit Puy Mans 69.08 312⇑ *e*P P 02 40 59.2 +3.8
LBL Lubilhac 69.16 311⇑ *e*P P 02 40 59.7 +3.8
KEST Kesra 69.20 300 P **P 02 40 55.6 -0.8**
comp=Z,19nm,0.9s,baz=322,slow=1.7,SNR=17
KEST LR LR 03 17 18.4
comp=Z,762nm,18.3s,baz=1.0,slow=41
LASF Ste Croix 69.28 310 *e*P **P 02 40 56.5 -0.2**
comp=Z,146nm,1.0s
LASF Ste Croix 69.28 310 *e*P **P 02 40 56.5 -0.2**
comp=Z,146nm,1.0s
MLY Manley 69.32 25 PFAKE 02 41 10.0 +13
MLY LR LR
comp=Z,3µm,19.0s
TCF Toulx Ste Croi 69.34 312 *e*P **P 02 40 56.6 -0.4**
comp=Z,259nm,1.1s
TCF Toulx Ste Croi 69.34 312 *e*P **P 02 40 56.6 -0.4**
TCF pmax pmax
comp=Z,259nm,1.1s
TCF Toulx Ste Croi 69.34 312 *e*P **P 02 40 56.6 -0.4**
comp=Z,259nm,1.1s
SVW2 Sparrevohn 69.63 29 *e*P **P 02 40 58.1 -0.3**
comp=Z,44nm,0.8s
LDF La Druitiere 69.71 315 *e*P **P 02 40 58.4 -0.7**
comp=Z,144nm,1.0s
LDF La Druitiere 69.71 315 *e*P **P 02 40 58.4 -0.7**
LDF pmax pmax
comp=Z,144nm,1.0s
LDF La Druitiere 69.71 315 *e*P **P 02 40 58.4 -0.7**
comp=Z,144nm,1.0s
CAST Castle Rocks 69.74 26 PFAKE 02 41 10.0 +11
CAST LR LR
comp=Z,600nm,18.3s
BPAW Bear Paw Mtn. 69.76 26 *e*P **P 02 40 59.1 -0.1**
comp=Z,9.9nm,1.0s
BPAW LR LR
comp=Z,700nm,18.5s
KWAJ Kwajalein Atol 69.77 93 PFAKE 02 41 10.0 +10
KWAJ LR LR
comp=Z,900nm,20.0s
ABPO Ambohimpanom 69.80 229 *e*P **P 02 40 59.4 -0.8**
ABPO pmax pmax
comp=Z,103nm,1.5s
ABPO MLR MLR
comp=Z,4µm,20.9s
ABPO Ambohimpanom 69.80 229 *e*P **P 02 40 59.4 -0.8**
comp=Z,103nm,1.5s
ABPO LR LR
comp=Z,4µm,20.9s
FLN La Foliniere 69.84 316 *e*P **P 02 40 59.3 -0.7**
comp=Z,105nm,1.1s
FLN *e*R
comp=Z,6µm,22.5s
FLN La Foliniere 69.84 316 *e*P **P 02 40 59.3 -0.7**
FLN pmax pmax
comp=Z,105nm,1.1s
FLN La Foliniere 69.84 316 *e*P **P 02 40 59.3 -0.7**
comp=Z,105nm,1.1s
MBAR Mbarara 69.90 255 *e*P **P 02 40 59.7 -1.3**
MBAR Mbarara 69.90 255 P **P 02 41 00.4 -0.6**
comp=Z,142nm,1.0s,SNR=6.5
MBAR Mbarara 69.90 255 PFAKE 02 41 10.0 +9.0
MBAR LR LR
comp=Z,400nm,19.5s
PPLA Purkeypile 69.99 27 *e*P **P 02 41 00.9 +0.1**
comp=Z,155nm,1.1s
PPLA LR LR
comp=Z,5µm,21.0s
SUMG Summit 70.00 347 *i*P **P 02 40 59.8 -1.2**
comp=Z,95nm,1.5s
comp=Z,3µm,21.0s
SUMG Summit 70.00 347 *i*P **P 02 40 59.8 -1.2**
SUMG pmax pmax
comp=Z,95nm,1.5s
SUMG MLR MLR
comp=Z,4µm,21.0s
SUMG Summit 70.00 347 *e*P **P 02 40 59.8 -1.2**
comp=Z,78nm,1.4s
SUMG LR LR
comp=Z,3µm,20.0s
CAF Calviac 70.05 311 *e*P **P 02 41 01.3 -0.1**
comp=Z,117nm,1.1s
CAF Calviac 70.05 311 *e*P **P 02 41 01.3 -0.1**
CAF pmax pmax
comp=Z,117nm,1.1s
CAF Calviac 70.05 311 *e*P **P 02 41 01.3 -0.1**
comp=Z,117nm,1.1s
KTH Kantishna Hill 70.09 26 *e*P **P 02 41 01.6 +0.2**
comp=Z,27nm,0.9s
KTH LR LR
comp=Z,1µm,20.6s
CMAH Djebel Manchou 70.19 301 P P 02 41 06.8 +4.4
RJF Les Rejaudoux 70.22 312 *e*P **P 02 41 02.5 +0.1**
comp=Z,224nm,1.2s
RJF *e*R
comp=Z,6µm,21.0s
RJF Les Rejaudoux 70.22 312 *e*P **P 02 41 02.5 +0.1**
RJF pmax pmax
comp=Z,224nm,1.2s
RJF Les Rejaudoux 70.22 312 *e*P **P 02 41 02.5 +0.1**
comp=Z,224nm,1.2s
FYU Fort Yukon 70.22 22 PFAKE 02 41 10.0 +8.0
FYU LR LR
comp=Z,3µm,18.4s
MDM Murphy Dome 70.23 24 PFAKE 02 41 10.0 +7.9
MDM LR LR

comp=Z,3µm,20.0s
GRR Gorron 70.24 315 *e*P **P 02 41 01.8 -0.6**
comp=Z,210nm,0.9s
GRR Gorron 70.24 315 *e*P **P 02 41 01.8 -0.6**
GRR pmax pmax
comp=Z,210nm,0.9s
GRR Gorron 70.24 315 *e*P **P 02 41 01.8 -0.6**
comp=Z,210nm,0.9s
BWN Browne 70.26 25 PFAKE 02 41 10.0 +7.7
BWN LR LR
comp=Z,2µm,20.6s
ABSA Djebel Ababsia 70.31 301 P **P 02 41 06.0 +2.8**
TRF Thorofare Moun 70.39 26 *e*P **P 02 41 03.9 +0.6**
comp=Z,24nm,0.8s
TRF LR LR
comp=Z,3µm,20.4s
COLA College 70.41 24 *c i*P **P 02 41 03.6 +0.5**
COLA pmax pmax
comp=Z,136nm,1.1s
COLA MLR MLR
comp=Z,16µm,23.0s
COLA College 70.41 24 *e*P **P 02 41 03.2 +0.1**
comp=Z,38nm,0.9s
COLA LR LR
comp=Z,4µm,18.9s
FORT Forrest 70.42 151 *e*P **P 02 41 02.4 -1.2**
comp=Z,116nm,0.9s
CAEH 'Ain El Ouahch 70.53 302 P P 02 41 09.1 +4.7
CCB Clear Creek Bu 70.56 24 PFAKE 02 41 20.0 +16
CCB LR LR
comp=Z,3µm,19.4s
WRH Wood River Hil 70.57 24 PFAKE 02 41 20.0 +16
WRH LR LR
comp=Z,4µm,20.7s
SJAF Saint Jean de 70.64 308 *e*P **P 02 41 07.7 +2.7**
MFF Saint Martin d 70.65 313 *e*P **P 02 41 04.4 -0.5**
comp=Z,105nm,1.1s
MFF Saint Martin d 70.65 313 *e*P **P 02 41 04.4 -0.5**
MFF pmax pmax
comp=Z,105nm,1.1s
MFF Saint Martin d 70.65 313 *e*P **P 02 41 04.4 -0.5**
comp=Z,105nm,1.1s
LRDF Laroque-de-Fa 70.66 309‖ *e*P P 02 41 08.7 +3.6
MTLF Montolieu 70.68 310 *e*P **P 02 41 04.9 -0.3**
comp=Z,49nm,1.1s
MTLF Montolieu 70.68 310 *e*P **P 02 41 04.9 -0.3**
MTLF pmax pmax
comp=Z,49nm,1.1s
MTLF Montolieu 70.68 310 *e*P **P 02 41 04.9 -0.3**
comp=Z,49nm,1.1s
MCK McKinley 70.71 25 *e*P **P 02 41 06.7 +1.6**
MCK pmax pmax
comp=Z,22nm,1.0s
MCK MLR MLR
comp=Z,3µm,20.3s
MCK McKinley 70.71 25 *e*P **P 02 41 06.7 +1.6**
comp=Z,22nm,1.0s
MCK LR LR
comp=Z,3µm,20.3s
CKFL Kef-Lekhel 70.80 301 P **P 02 41 08.7 +2.5**
ILAR Eielson Array 70.80 24 P **P 02 41 04.7 -0.8**
comp=Z,5.7nm,0.8s,baz=290,slow=5.0,SNR=38
ILAR PP PP 02 43 36.0 -5.9
comp=Z,6.5nm,1.0s,baz=300,slow=7.0,SNR=4.5
ILAR LR LR 03 15 01.5
comp=Z,4µm,18.3s,baz=342,slow=38
FILF Fillols 70.82 309‖ *e*P **P 02 41 09.3 +3.2**
LFF La Frestale 70.88 312 *e*P **P 02 41 06.3 0.0**
comp=Z,138nm,1.1s
LFF La Frestale 70.88 312 *e*P **P 02 41 06.3 0.0**
LFF pmax pmax
comp=Z,138nm,1.1s
LFF La Frestale 70.88 312 *e*P **P 02 41 06.3 0.0**
comp=Z,138nm,1.1s
RND Reindeer 70.94 26 PFAKE 02 41 20.0 +14
RND LR LR
comp=Z,5µm,19.7s
DSB Dublin 70.96 322 PFAKE 02 41 20.0 +13
DSB LR LR
comp=Z,3µm,18.0s
BORG Borgarnes 70.96 336 PFAKE 02 41 20.0 +14
BORG LR LR
comp=Z,2µm,20.4s
HDA Harding Lake 71.00 24 PFAKE 02 41 20.0 +13
HDA LR LR
comp=Z,4µm,19.6s
DYA Yadsworthy 71.03 318 PFAKE 02 41 20.0 +13
DYA LR LR
comp=Z,5µm,19.6s
CASM Ain Smara 71.03 301 P **P 02 41 08.9 +1.4**
CARF Carcanieres 71.04 309‖ *e*P **P 02 41 10.2 +2.6**
KULLO Kullorsuaq 71.08 353 *i*P **P 02 41 08.2 +1.1**
comp=Z,50nm,1.0s
KULLO *i*S **S 02 50 26.2 +3.8**
comp=Z,3µm,18.0s
RSO Redoubt South 71.14 29 *e*P **P 02 41 09.0 +1.1**
comp=Z,125nm,0.7s
VALF Valcebollere 71.25 309‖ *e*P P 02 41 13.0 +4.1
SGMF Saint Gilles 71.30 316 *e*P **P 02 41 08.7 -0.1**
comp=Z,169nm,1.0s
SGMF Saint Gilles 71.30 316 *e*P **P 02 41 08.7 -0.1**
SGMF pmax pmax
comp=Z,169nm,1.0s
SGMF Saint Gilles 71.30 316 *e*P **P 02 41 08.7 -0.1**
comp=Z,169nm,1.0s
DFRA Djebel Bou Aff 71.33 302 P **P 02 41 11.9 +2.5**
CTA Charters Tower 71.38 130 P **P 02 41 08.4 -1.2**
comp=Z,12nm,0.8s,baz=79,slow=13,SNR=8.2
CTAO Charters Tower 71.38 130 *e*P **P 02 41 07.8 -1.9**
CTAO pmax pmax
comp=Z,95nm,1.0s
CTAO MLR MLR
comp=Z,1µm,20.9s
CTAO Charters Tower 71.38 130 *e*P **P 02 41 07.8 -1.9**
comp=Z,95nm,1.0s
CTAO LR LR
comp=Z,1µm,20.9s
MLS Moulis 71.58 310‖ *e*P **P 02 41 13.8 +3.1**
DHY Denali Highway 71.67 25 PFAKE 02 41 20.0 +9.0
DHY LR LR
comp=Z,2µm,20.2s
ROSF Rostrenen 71.68 316 *e*P **P 02 41 11.1 0.0**
comp=Z,226nm,1.0s
ROSF Rostrenen 71.68 316 *e*P **P 02 41 11.1 0.0**
ROSF pmax pmax
comp=Z,226nm,1.0s
ROSF Rostrenen 71.68 316 *e*P **P 02 41 11.1 0.0**
comp=Z,226nm,1.0s
QUIF Quistinic 71.82 316 *e*P **P 02 41 11.6 -0.4**
comp=Z,128nm,1.0s
QUIF Quistinic 71.82 316 *e*P **P 02 41 11.6 -0.4**
QUIF pmax pmax
comp=Z,128nm,1.0s
QUIF Quistinic 71.82 316 *e*P **P 02 41 11.6 -0.4**
comp=Z,128nm,1.0s
SET Setif 71.83 302 P P 02 41 17.0 +4.6
MELF Melles 71.84 310 *e*P P 02 41 16.1 +3.8
PMR Palmer 71.92 27 *e*P **P 02 41 10.6 -1.7**
PMR pmax pmax
comp=Z,88nm,0.9s
PMR Palmer 71.92 27 *e*P **P 02 41 10.6 -1.7**
comp=Z,88nm,0.9s
RC01 Rabbit Creek A 71.98 28 *e*P **P 02 41 12.1 -0.6**
comp=Z,45nm,0.8s
RC01 LR LR
comp=Z,4µm,21.4s
HOM Homer 72.06 30 PFAKE 02 41 30.0 +17
HOM LR LR
comp=Z,2µm,18.5s
RESF Ens 72.14 310‖ *e*P P 02 41 18.3 +4.1
RES Resolute Bay 72.17 3 *e*P **P 02 41 14.8 +1.2**
RES pmax pmax
comp=Z,41nm,1.1s
RES MLR MLR
comp=Z,4µm,20.4s
RES Resolute Bay 72.17 3 *e*P **P 02 41 14.8 +1.2**
comp=Z,41nm,1.1s
RES LR LR
comp=Z,4µm,20.4s
LABF Labassere 72.20 310‖ *e*P P 02 41 19.3 +4.9
SCRK Sand Creek 72.28 24 PFAKE 02 41 30.0 +15
SCRK LR LR
comp=Z,3µm,19.4s
BRLK Bradley Lake 72.31 29 PFAKE 02 41 30.0 +15
BRLK LR LR
comp=Z,2µm,19.2s
VIEF Viey 72.31 310‖ *e*P P 02 41 19.1 +3.9
PAX Paxson 72.41 25 PFAKE 02 41 30.0 +15
PAX LR LR
comp=Z,4µm,20.3s
SCM Sheep Creek Mo 72.45 26 PFAKE 02 41 30.0 +14
SCM LR LR
comp=Z,3µm,21.5s
DOT Dot Lake 72.47 24 *e*P **P 02 41 16.5 +0.8**
comp=Z,13nm,1.0s
DOT LR LR
comp=Z,2µm,21.5s
EGAK Eagle 72.67 22 *e*P **P 02 41 16.7 -0.1**
comp=Z,36nm,0.9s
EGAK LR LR
comp=Z,4µm,18.0s
ETSF Etsaut 72.68 310 *e*P **P 02 41 17.4 +0.1**
comp=Z,90nm,1.0s
ETSF Etsaut 72.68 310 *e*P **P 02 41 17.4 +0.1**
ETSF pmax pmax
comp=Z,90nm,1.0s
ETSF Etsaut 72.68 310 *e*P **P 02 41 17.4 +0.1**
comp=Z,90nm,1.0s
SEW Seward 72.69 29 *e*P **P 02 41 15.7 -1.3**
comp=Z,50nm,0.8s
SEW LR LR
comp=Z,6µm,19.5s
KDAK Kodiak Island 72.74 32 P **P 02 41 16.4 -0.9**
comp=Z,444nm,0.7s,SNR=11
KDAK Kodiak Island 72.74 32 *e*P **P 02 41 17.3 0.0**
KDAK pmax pmax
comp=Z,333nm,1.8s
KDAK Kodiak Island 72.74 32 *e*P **P 02 41 17.3 0.0**
comp=Z,333nm,1.8s
HARP HAARP 72.89 25 PFAKE 02 41 30.0 +12
HARP LR LR
comp=Z,2µm,20.4s
SJPF Ste Jean 73.00 311 *e*P **P 02 41 18.8 -0.3**
comp=Z,79nm,1.1s
SJPF Ste Jean 73.00 311 *e*P **P 02 41 18.8 -0.3**
SJPF pmax pmax
comp=Z,79nm,1.1s
SJPF Ste Jean 73.00 311 *e*P **P 02 41 18.8 -0.3**
comp=Z,79nm,1.1s
DIV Divide 73.48 27 *e*P **P 02 41 22.3 +0.6**
comp=Z,38nm,0.8s
DIV LR LR
comp=Z,3µm,20.4s
DAWY Dawson 73.72 22 *e*P **P 02 41 22.6 -0.5**
EYAK Cordova Ski Ar 73.86 27 *e*P **P 02 41 25.1 +1.3**
comp=Z,41nm,1.0s
EYAK LR LR
comp=Z,6µm,18.4s
HNR Honiara 73.96 113 PFAKE 02 41 40.0 +15
HNR LR LR
comp=Z,16µm,22.0s
BMRM Bremner River 74.02 26 *e*P **P 02 41 24.9 0.0**
comp=Z,56nm,1.0s
BMRM LR LR
comp=Z,2µm,21.7s
RAGM Ragged Mountai 74.37 27 PFAKE 02 41 40.0 +13
RAGM LR LR
comp=Z,6µm,18.6s
ILULI Ilulissat 75.11 348 *i*P **P 02 41 33.9 +3.0**
comp=Z,48nm,1.1s
comp=Z,4µm,23.0s
BBOO Buckleboo 75.65 146 PFAKE 02 41 50.0 +15
BBOO LR LR
comp=Z,4µm,21.8s
ESDC Sonseca Array 76.52 309 P **P 02 41 38.8 -0.9**
comp=Z,16nm,0.9s,baz=47,slow=6.1,SNR=27
ESDC PP PP 02 44 18.8 -12
comp=Z,1.7nm,0.8s,baz=53,slow=10.0,SNR=4.3
ESDC LR LR 03 18 14.6
comp=Z,2µm,18.2s,baz=40,slow=38
HYT Haines Junctio 76.64 24 *e*P **P 02 41 41.0 +0.9**
PAB San Pablo 76.84 309 *e*P **P 02 41 41.0 -0.5**
PAB pmax pmax
comp=Z,22nm,1.2s
PAB MLR MLR
comp=Z,4µm,20.4s
PAB San Pablo 76.84 309 *e*P **P 02 41 41.0 -0.5**
comp=Z,22nm,1.2s
PAB LR LR
comp=Z,4µm,20.4s
SFJD Kangerlussuaq 76.99 347 *e*P **P 02 41 41.0 -0.7**
SFJD pmax pmax
comp=Z,46nm,0.9s
SFJD MLR MLR
comp=Z,4µm,22.0s
SFJD Kangerlussuaq 76.99 347 *e*P **P 02 41 41.0 -0.7**
comp=Z,46nm,0.9s
SFJD LR LR
comp=Z,4µm,22.0s
PBRG Braganca 77.16 312 *e*P **P 02 41 45.1 +1.8**
comp=Z,43nm,1.4s
PBRG Braganca 77.16 312 *e*LR LR 03 10 11.5
comp=Z,2µm,20.0s
STKA Stephens Creek 77.64 142 P **P 02 41 44.0 -1.7**
comp=Z,28nm,0.9s,baz=327,slow=6.4,SNR=12
STKA LR LR 03 21 34.4
comp=Z,1µm,18.8s,baz=303,slow=40
STKA Stephens Creek 77.64 142 *e*P **P 02 41 46.5 +0.7**
comp=Z,9.7nm,1.0s
STKA LR LR
comp=Z,400nm,18.9s
MVO Moncorvo 77.69 311 *e*P **P 02 41 47.1 +0.8**
comp=Z,57nm,1.1s
MVO *e*S S 02 51 44.2 +6.4
MVO *e*SS **SS 02 56 31.4 -5.5**
MVO *e*LR LR 03 05 11.8
comp=Z,3µm,18.0s
PCAB Cabril 78.02 312 *e*P **P 02 41 48.0 0.0**
comp=Z,59nm,1.2s
PGAV Gavieira, Arco 78.03 312 *e*P **P 02 41 48.5 +0.4**
comp=Z,64nm,1.3s
PGAV Gavieira, Arco 78.03 312 *e*PP PP 02 44 44.0 +0.1
PGAV *e*S S 02 51 48.5 +7.1
PGAV *e*SS **SS 02 56 43.4 +1.5**
PGAV Gavieira, Arco 78.03 312 *e*LR LR 03 07 33.9
comp=Z,3µm,18.0s
POLO Lamas de Olo 78.06 312 *e*P **P 02 41 49.2 +0.9**
comp=Z,15nm,1.5s
POLO *e*S **S 02 51 46.1 +4.3**
POLO Lamas de Olo 78.06 312 *e*LR LR 03 07 53.2
comp=Z,1µm,20.0s
PVRL Vila Real 78.07 312 *e*P **P 02 41 49.0 +0.7**
comp=Z,25nm,1.1s
EIDS Eidsvold 78.26 131 *e*P **P 02 41 48.6 -0.7**
comp=Z,92nm,1.1s
EIDS LR LR
comp=Z,1µm,20.2s
TAM Tamanrasset 78.36 290 *e*P **P 02 41 49.7 -0.7**
TAM pmax pmax
comp=Z,9.0nm,1.0s
TAM Tamanrasset 78.36 290 *e*P **P 02 41 49.7 -0.7**
comp=Z,8.7nm,1.0s
MTE Manteigas 78.44 311 *e*P **P 02 41 50.7 +0.3**
comp=Z,74nm,1.5s
MTE Manteigas 78.44 311 *e*S S 02 51 52.9 +7.1
MTE *e*SS **SS 02 56 50.2 +2.1**
MTE Manteigas 78.44 311 *e*LR LR 03 08 26.7
comp=Z,2µm,20.0s
MTE Manteigas 78.44 311 *e*P **P 02 41 50.8 +0.4**
comp=Z,43nm,1.1s
MTE LR LR
comp=Z,3µm,21.4s
PVIS Viseu 78.49 311 *e*P **P 02 41 51.5 +0.8**
comp=Z,53nm,1.4s
PTO Porto 78.70 312 *e*P **P 02 41 52.7 +1.0**
comp=Z,39nm,1.1s
PCBR Castelo Branco 78.71 310 *e*P **P 02 41 53.4 +1.6**
comp=Z,29nm,1.3s
PMRV Marv??o 78.88 310 *e*P **P 02 41 53.2 +0.4**
comp=Z,56nm,1.9s
PMRV Marv??o 78.88 310 *e*S S 02 51 56.9 +6.4
PMRV *e*SS SS 02 56 43.5 -11
PMRV Marv??o 78.88 310 *e*LR LR 03 09 04.2
comp=Z,3µm,22.0s
BESE Bessie Mountai 79.21 24 PFAKE 02 42 10.0 +16
BESE LR LR
comp=Z,1µm,19.1s
PCAS Casmilo, Conde 79.24 311 *e*P **P 02 41 55.5 +0.8**
PCAS *e*S **S 02 51 54.2 0.0**
PCAS Casmilo, Conde 79.24 311 *e*LR LR 03 07 43.8
comp=Z,2µm,18.0s
PESTR Estremoz 79.33 309 *e*P **P 02 41 55.6 +0.4**
comp=Z,32nm,1.2s
PESTR Estremoz 79.33 309 *e*S **S 02 52 00.0 +4.8**
PESTR Estremoz 79.33 309 *e*LR LR 03 08 50.5
comp=Z,3µm,20.0s
PBAR Barrancos 79.35 309 *e*P **P 02 41 55.2 -0.2**
comp=Z,120nm,1.4s
PBAR Barrancos 79.35 309 *e*S **S 02 51 58.1 +2.7**
PBAR Barrancos 79.35 309 *e*LR LR 03 07 09.0
comp=Z,6µm,22.0s
PTOM Tomar 79.43 310 *e*P **P 02 41 56.9 +1.1**
comp=Z,77nm,1.1s
PMTG Montargil 79.62 310 *e*P **P 02 41 58.5 +1.7**
comp=Z,36nm,1.6s
PMTG *e*S **S 02 51 56.6 -1.7**
PMTG Montargil 79.62 310 *e*LR LR 03 09 09.7
comp=Z,2µm,20.0s
EVO Evora 79.79 309 *e*P **P 02 41 57.1 -0.6**
comp=Z,68nm,1.1s
EVO *e*R
comp=Z,4µm,20.5s
EVO Evora 79.79 309 *e*P **P 02 41 58.0 +0.3**
comp=Z,66nm,1.3s
EVOP Sao Brissos 79.86 309 *e*P **P 02 41 57.1 -1.0**
EVOP pmax pmax
comp=Z,68nm,1.1s
EVOP Sao Brissos 79.86 309 *e*P **P 02 41 57.1 -1.0**
comp=Z,68nm,1.1s
SIT Sitka 80.18 26 *e*P P 02 42 02.7 +3.2
SIT Sitka 80.18 26 *e*P P 02 42 02.7 +3.2
PVAQ Vaqueiros 80.23 308 *e*P **P 02 42 00.9 +0.8**
comp=Z,44nm,1.5s
PVAQ Vaqueiros 80.23 308 *e*PP PP 02 45 01.6 -0.6
PVAQ *e*S S 02 52 13.2 +8.5
PVAQ *e*SS **SS 02 57 21.1 +6.2**
PVAQ Vaqueiros 80.23 308 *e*LR LR 03 09 42.7
comp=Z,2µm,20.0s
PCVE Castro Verde 80.31 309 *e*P **P 02 42 02.1 +1.5**
comp=Z,12nm,1.7s
PCVE Castro Verde 80.31 309 *e*LR LR 03 09 52.5
comp=Z,11µm,20.0s
MESJ Messejana 80.31 309 *e*P **P 02 42 00.0 -0.5**
MESJ *e*S **S 02 52 02.2 -3.4**
MESJ AMS AMS 03 15 59.5
comp=N,4µm,20.0s
MESJ Messejana 80.31 309 *e*P **P 02 42 00.9 +0.3**
comp=N,58nm,1.3s
MESJ Messejana 80.31 309 *e*P **P 02 42 00.0 -0.5**
PNCL Nicolau / Gran 80.36 309 *e*P **P 02 42 01.1 +0.3**
comp=N,36nm,1.3s
PNCL Nicolau / Gran 80.36 309 *e*S **S 02 52 11.9 +5.8**
PNCL Nicolau / Gran 80.36 309 *e*LR LR 03 09 23.3
comp=N,3µm,20.0s
PMAFR Mafra 80.36 310 *e*P **P 02 42 02.7 +1.8**
PMAFR Mafra 80.36 310 *e*S **S 02 52 06.8 +0.7**
PMAFR Mafra 80.36 310 *e*LR LR 03 09 00.2
comp=N,3µm,20.0s
PMST Lisbon--Monsan 80.42 310 *e*P **P 02 42 03.0 +1.8**
comp=N,98nm,1.8s
PBDV Barranco-do-Ve 80.46 308 *e*P **P 02 42 03.3 +1.9**
comp=N,106nm,1.4s
PBDV Barranco-do-Ve 80.46 308 *e*S **S 02 52 09.9 +2.7**
PBDV Barranco-do-Ve 80.46 308 *e*LR LR 03 09 52.0
comp=N,2µm,22.0s
LSZ Lusaka 80.70 245‖ *e*P **P 02 42 03.0 -0.1**
LSZ Lusaka 80.70 245 *e*P **P 02 42 02.6 -0.4**
LSZ pmax pmax
comp=Z,37nm,0.8s
LSZ MLR MLR
comp=Z,2µm,20.5s
LSZ Lusaka 80.70 245 *e*P **P 02 42 02.6 -0.4**
comp=Z,37nm,0.8s
LSZ LR LR
comp=Z,2µm,20.5s
MORF Marmelete 80.89 309 *e*P **P 02 42 03.3 -0.6**
MORF *e*S **S 02 52 08.9 -3.0**
MORF AMS AMS 03 17 57.0
comp=N,4µm,15.7s
MORF Marmelete 80.89 309 *e*P **P 02 42 04.7 +0.9**
comp=N,58nm,1.3s
MORF Marmelete 80.89 309 *e*LR LR 03 07 48.6
comp=N,3µm,18.0s
MORF Marmelete 80.89 309 *e*P **P 02 42 03.2 -0.6**
MORF *e*S **S 02 52 08.8 -3.0**
DLBC Dease Lake 80.94 23 *e*P **P 02 42 03.5 -0.1**
PFVI Vila Bisbo 81.11 309 *e*P **P 02 42 04.9 0.0**
comp=N,111nm,1.7s
PFVI Vila Bisbo 81.11 309 *e*S S 02 52 20.7 +6.7
PFVI Vila Bisbo 81.11 309 *e*LR LR 03 09 52.1
comp=N,3µm,18.0s
YKA Yellowknife Ar 81.51 14 P **P 02 42 05.2 -1.3**
comp=N,7.2nm,0.8s,baz=325,slow=4.8,SNR=30
WRAK Wrangell Islan 81.73 25 *e*P **P 02 42 09.1 +1.3**
comp=N,23nm,0.8s
WRAK LR LR
comp=Z,3µm,20.6s
CRAG Craig 82.19 26 *e*P **P 02 42 10.0 -0.1**
comp=Z,25nm,0.9s
ARMA Armidale 82.19 134 *e*P **P 02 42 10.8 +0.2**
comp=Z,58nm,1.3s
ARMA LR LR
comp=Z,2µm,19.6s
MSNA Messina 83.75 238 *e*P **P 02 42 18.8 0.0**
MSNA AMB AMB 02 42 25.8
comp=Z,73nm,1.7s
MSKU Masuku 84.62 265 PFAKE 02 42 30.0 +6.6
MSKU LR LR
comp=Z,2µm,18.9s
PAF Port-aux-Franc 85.34 197 S S 02 52 41.0 -15
PAF SS SS 02 58 18.0 -13
PAF R 03 12 00.0
TORD Torodi Ar. Bea 86.55 283 P **P 02 42 32.4 -0.7**
comp=Z,6.5nm,0.7s,baz=57,slow=4.9,SNR=59
TORD PP **PP 02 45 54.6 -0.1**
comp=Z,8.0nm,0.9s,baz=51,slow=7.9,SNR=7.7
TORD LR LR 03 26 38.7
comp=Z,3µm,18.1s,baz=65,slow=39
DZM Mont Dzumac 86.65 119 *e*P P 02 42 37.9 +4.5
comp=Z,154nm,1.2s
DZM Mont Dzumac 86.65 119 *e*LR LR 03 10 10.9
comp=Z,2µm,24.8s
DZM Mont Dzumac 86.65 119 P **P 02 42 34.3 +0.9**
comp=Z,36nm,1.2s,baz=90,slow=24,SNR=12
SLR Silverton 87.12 237 *e*P **P 02 42 35.5 -0.2**
SLR AMB AMB 02 42 42.6
comp=Z,79nm,1.6s
ERPM east rand prop 87.53 236 *e*P **P 02 42 36.7 -1.0**
ERPM AMB AMB 02 42 42.2
comp=Z,88nm,5.1s
FCC Fort Churchill 88.01 5 *e*P **P 02 42 39.5 +0.2**
FCC Fort Churchill 88.01 5 *e*P **P 02 42 39.5 +0.2**
LBTB Lobatse 88.58 239‖ *i*P **P 02 42 41.6 -0.9**
LBTB AMB AMB 02 42 46.4
comp=Z,66nm,3.9s
LBTB Lobatse 88.58 239 *e*P **P 02 42 41.7 -0.9**
LBTB pmax pmax
comp=Z,19nm,0.7s
LBTB MLR MLR
comp=Z,3µm,20.9s
LBTB Lobatse 88.58 239 *e*P **P 02 42 41.7 -0.9**
comp=Z,20nm,0.7s
LBTB LR LR
comp=Z,3µm,20.9s
CRZF Crozet Islands 88.73 209 S SKSac 02 52 55.0 -16
CRZF R 03 11 00.0
TAU Tasmania Unive 89.05 145 *e*P P 02 42 51.4 +7.2
TAU pmax pmax
comp=Z,76nm,1.2s
TAU MLR MLR
comp=Z,2µm,19.1s
TAU Tasmania Unive 89.05 145 *e*P P 02 42 51.4 +7.2
comp=Z,76nm,1.2s
TAU LR LR
comp=Z,2µm,19.1s
PMAR Madeira 89.06 309 *e*P P 02 42 49.8 +4.8
comp=Z,66nm,1.7s
PMOZ Porto Moniz, M 89.18 309 *e*SS SS 02 59 38.8 +12
PMOZ Porto Moniz, M 89.18 309 *e*LR LR 03 14 22.8
comp=Z,1µm,22.0s
EDM Edmonton 90.22 17 *e*P **P 02 42 49.7 -0.2**
EDM Edmonton 90.22 17 *e*P **P 02 42 49.7 -0.2**
BOSA Boshof 91.01 236 *e*P **P 02 42 52.6 -1.3**
BOSA AMB AMB 02 43 01.5
comp=Z,35nm,5.7s
BOSA Boshof 91.01 236 P **P 02 42 52.8 -1.1**
comp=Z,6.2nm,0.7s,baz=76,slow=4.8,SNR=8.6
BOSA LR LR 03 21 17.1
comp=Z,3µm,20.2s,baz=41,slow=34

BOSA Boshof 91.01 236 *e*P P 02 42 52.7 -1.3
comp=Z,28nm,1.3s
FFC Flin Flon 91.08 10 P P 02 42 53.2 -0.6
comp=Z,169nm,0.9s,SNR=7.7
FFC Flin Flon 91.08 10 *e*P P 02 42 52.7 -1.1
FFC pmax pmax
comp=Z,25nm,0.9s
FFC Flin Flon 91.08 10 *e*P P 02 42 52.7 -1.1
comp=Z,25nm,0.9s
SCHQ Schefferville 91.13 350 P P 02 42 53.5 -0.5
comp=Z,3.6nm,0.8s,baz=51,slow=14,SNR=3.0
SCHQ LR LR 03 26 04.4
comp=Z,3µm,20.6s,baz=16,slow=37
SCHQ Schefferville 91.13 350 *e*P P 02 42 59.0 +5.0
comp=Z,95nm,2.5s
TSUM Tsumeb 91.17 248 *e*P P 02 42 54.3 -0.6
comp=Z,24nm,1.4s
B06A Marblemount 92.00 24 *e*P P 02 43 01.9 +3.8
comp=Z,82nm,1.7s
NLWA Neilton Lookou 92.12 26 PFAKE 02 43 10.0 +11
NLWA LR LR
comp=Z,2µm,19.5s
B08A Colville Reser 92.86 23 *e*P P 02 43 06.0 +3.8
comp=Z,26nm,1.4s
MSVF Nonsavu 93.02 109 PFAKE 02 43 10.0 +6.6
MSVF LR LR
comp=Z,2µm,21.1s
KNTN Kanton 93.32 91 PFAKE 02 43 20.0 +15
KNTN LR LR
comp=Z,2µm,19.9s
NEW Newport 93.64 22 *e*P P 02 43 06.1 +0.3
NEW pmax pmax
comp=Z,25nm,1.5s
NEW MLR MLR
comp=Z,2µm,20.0s
NEW Newport 93.64 22 *e*P P 02 43 06.0 +0.3
comp=Z,25nm,1.5s
NEW LR LR
comp=Z,2µm,20.0s
NEW Newport 93.64 22 P P 02 43 08.9 +3.1
baz=93
C09A Chrisman Ranch 93.69 22 PFAKE 02 43 20.0 +14
C09A LR LR
comp=Z,3µm,21.3s
UPI Upington 93.69 238 *e*P P 02 43 05.0 -1.2
UPI AMB AMB 02 43 07.6
comp=Z,54nm,3.8s
POHA Pohakuloa 93.77 64 PFAKE 02 43 20.0 +13
POHA LR LR
comp=Z,1µm,21.4s
WALA Waterton Lakes 93.87 19 *e*P P 02 43 12.0 +5.0
HAWA Hanford 94.51 24 PFAKE 02 43 20.0 +10
HAWA LR LR
comp=Z,1µm,20.3s
DRLN Deer Lake 94.64 343 PFAKE 02 43 20.0 +10
DRLN LR LR
comp=Z,3µm,19.9s
BLMT Blacktail Moun 94.69 20 *e*P P 02 43 11.8 +1.0
COR Corvallis 94.70 27 PFAKE 02 43 20.0 +9.3
COR LR LR
comp=Z,1µm,21.5s
BSMT Bassoo Peak 94.71 20 *e*P P 02 43 12.0 +1.1
comp=Z,8.7nm,1.2s
YBMT Yellow Bay 94.92 20 *e*P P 02 43 12.1 +0.3
comp=Z,17nm,1.2s
JTMT Jette 94.95 20 *e*P P 02 43 11.3 -0.6
H04A Detroit Lake 95.04 26 PFAKE 02 43 20.0 +7.7
H04A LR LR
comp=Z,1µm,20.3s
SWMT Swartz Lake 95.25 20 *e*P P 02 43 13.0 -0.3
comp=Z,6.3nm,1.0s
DBIC Dimbokro 95.49 282 P P 02 43 13.4 -1.4
comp=Z,7.7nm,1.1s,baz=12,slow=9.3,SNR=4.2
DBIC PP PP 02 47 04.3 -1.3
comp=Z,5.7nm,0.8s,baz=359,slow=6.1,SNR=4.2
DBIC LR LR 03 30 57.9
comp=Z,2µm,18.2s,baz=36,slow=38
DBIC Dimbokro 95.49 282 P P 02 43 13.4 -1.4
DBIC 02 47 04.3
DBIC MLR MLR
comp=Z,2µm,20.0s
DBIC Dimbokro 95.49 282 P P 02 43 13.4 -1.4
DBIC PP PP 02 47 04.3 -1.3
DBIC LR LR
comp=Z,2µm,20.0s
SLMT Seeley Lake 95.63 20 *e*P P 02 43 15.8 +0.7
comp=Z,12nm,1.2s
I05D Terrebonne, OR 95.65 26 P P 02 43 18.1 +3.0
baz=95
G08A Pilot Rock 95.67 24 *e*P P 02 43 21.7 +6.4
comp=Z,4.3nm,0.9s
B19A Brinkman Farms 95.70 16 P P 02 43 16.5 +1.3
baz=95
KEBM Edson Butte 95.74 29 PFAKE 02 43 30.0 +14
KEBM LR LR
comp=Z,1µm,20.3s
MSO Missoula 95.88 20 PFAKE 02 43 30.0 +14
MSO LR LR
comp=Z,3µm,20.4s
LIC Lamto 95.88 281 *e*P P 02 43 15.6 -1.0
comp=Z,113nm,1.6s
LIC *e*R
comp=Z,3µm,19.8s
LIC Lamto 95.88 281 *e*P P 02 43 15.6 -1.0
comp=Z,113nm,1.6s
EGMT Eagleton 95.91 17 *e*P P 02 43 17.6 +1.4
comp=Z,14nm,1.3s
EGMT LR LR
comp=Z,2µm,19.0s
EGMT Eagleton 95.91 17 P P 02 43 18.1 +1.8
baz=96
CHMT Chamberlain Mo 96.00 20 *e*P P 02 43 17.5 +0.7
comp=Z,2.0nm,1.0s
ULM Lac du Bonnet 96.26 8 P P 02 43 17.9 +0.3
comp=Z,7.4nm,0.9s,baz=344,slow=5.6,SNR=7.6
ULM LR LR 03 28 43.8
comp=Z,2µm,21.3s,baz=6.5,slow=37
ULM Lac du Bonnet 96.26 8 P P 02 43 18.0 +0.3
ULM pmax pmax
comp=Z,7.0nm,0.9s
ULM MLR MLR
comp=Z,2µm,21.3s
ULM Lac du Bonnet 96.26 8 *e*P P 02 43 21.3 +3.7
comp=Z,11nm,1.1s
SUR Sutherland 96.33 235 PFAKE 02 43 30.0 +12
SUR LR LR
comp=Z,2µm,19.5s
KBO Bosley Butte 96.33 29 PFAKE 02 43 30.0 +12
KBO LR LR
comp=Z,1µm,21.8s
C19A Slack Wire Ran 96.35 17 P P 02 43 19.8 +1.5
baz=96
HUMO Hull Mountain 96.51 28 PFAKE 02 43 30.0 +11
HUMO LR LR
comp=Z,1µm,21.4s
I07A Izee 96.53 25 *e*P P 02 43 24.1 +4.9
comp=Z,11nm,1.4s
I07A *e*PKKPbc PKKPbc 03 00 12.0 +8.9
BMO Blue Mountains 96.61 23 PFAKE 02 43 30.0 +10
BMO LR LR
comp=Z,1µm,18.6s
DGMT Dagmar 96.72 13 PFAKE 02 43 30.0 +10
DGMT LR LR
comp=Z,2µm,18.0s
B25A Knox Farm, Ray 97.10 13 P Pdif 02 43 23.3 +1.7
baz=97
A29A Manning Farm, 97.13 10 P Pdif 02 43 22.8 +1.1
baz=97
C23A Lambert 97.15 14 P Pdif 02 43 23.5 +1.6
baz=97
YBH Yreka Blue Hor 97.35 28 PFAKE 02 43 30.0 +7.0
YBH LR LR
comp=Z,700nm,21.0s
DLMT Dillon 97.60 20 PFAKE 02 43 40.0 +16
DLMT LR LR
comp=Z,2µm,20.2s
BOZ Bozeman (W) 97.61 19 *e*P Pdif 02 43 25.3 +1.1
BOZ *e* 02 47 17.4
BOZ pmax pmax
comp=Z,22nm,2.3s
BOZ MLR MLR
comp=Z,2µm,21.3s
BOZ Bozeman (W) 97.61 19 *e*P Pdif 02 43 25.2 +1.1
comp=Z,22nm,2.3s
BOZ *e*PP PP 02 47 17.4 -3.3
BOZ LR LR
comp=Z,2µm,21.3s

KHMM Horse Mountain 97.66 29 PFAKE 02 43 40.0 +16
KHMM LR LR
comp=Z,1µm,18.8s
LAO LASA Array 97.99 15 PFAKE 02 43 40.0 +14
LAO LR LR
comp=Z,2µm,19.5s
GCMT Greycliff 98.01 18 *e*P P 02 43 25.8 0.0
MCMT McKenzie Canyo 98.02 20 *e*P P 02 43 25.6 -0.5
MDND Maddock 98.12 11 PFAKE 02 43 40.0 +14
MDND LR LR
comp=Z,3µm,18.7s
AGMN Agassiz Nation 98.19 8 PFAKE 02 43 40.0 +14
AGMN LR LR
comp=Z,2µm,20.9s
KMRM Mail Ridge 98.21 30 PFAKE 02 43 40.0 +13
KMRM LR LR
comp=Z,2µm,20.2s
WVOR Wild Horse Val 98.28 25 *e*P Pdif 02 43 27.4 +0.2
WVOR pmax pmax
comp=Z,18nm,1.9s
WVOR MLR MLR
comp=Z,2µm,20.8s
WVOR Wild Horse Val 98.28 25 *e*P Pdif 02 43 27.4 +0.3
comp=Z,18nm,1.9s
WVOR LR LR
comp=Z,2µm,20.8s
MFID Camas Ranch 98.37 23 PFAKE 02 43 40.0 +12
MFID LR LR
comp=Z,2µm,21.9s
WDC Whiskeytown Da 98.39 29 PFAKE 02 43 40.0 +12
WDC LR LR
comp=Z,1µm,19.4s
HLID Hailey 98.69 22 *e*P Pdif 02 43 33.1 +4.1
comp=Z,69nm,3.0s
HLID LR LR
comp=Z,2µm,19.6s
KCPM Cahto Peak 98.72 30 PFAKE 02 43 40.0 +11
KCPM LR LR
comp=Z,700nm,18.1s
RLMT Red Lodge 98.73 18 PFAKE 02 43 40.0 +11
RLMT LR LR
comp=Z,2µm,21.0s
YNR Norris Junctio 98.73 19 PFAKE 02 43 40.0 +11
YNR LR LR
comp=Z,4µm,20.4s
YFT Old Faithful 98.94 19 PFAKE 02 43 40.0 +10
YFT LR LR
comp=Z,5µm,21.1s
EYMN Ely 98.96 5 *e*P Pdif 02 43 30.2 +0.3
comp=Z,5.5nm,0.8s
EYMN LR LR
comp=Z,4µm,20.5s
H17A Grant Village 99.06 19 *e*P **Pdif 02 43 31.2 +0.5**
comp=Z,3.8nm,1.0s
H17A *e*PP **PP 02 47 36.8 +5.0**
H17A LR LR
comp=Z,2µm,18.9s
PQI Presque Isle 99.24 349 PFAKE 02 43 40.0 +8.8
PQI LR LR
comp=Z,2µm,19.7s
FLWY Flagg Ranch 99.31 19 PFAKE 02 43 40.0 +8.1
FLWY LR LR
comp=Z,2µm,19.4s
IMW Indian Meadow 99.42 19 *e*P **Pdif 02 43 31.5 -0.9**
comp=Z,4.0nm,1.1s
IMW LR LR
comp=Z,2µm,19.5s
OUZ Omahuta 99.43 126 PFAKE 02 43 40.0 +8.0
OUZ LR LR
comp=Z,1µm,18.2s
HOPS Hopland Field 99.51 30 PFAKE 02 43 40.0 +7.5
HOPS LR LR
comp=Z,1µm,20.8s
MOOW Moose Ponds 99.61 19 PFAKE 02 43 40.0 +6.8
MOOW LR LR
comp=Z,2µm,19.3s
FXWY Fox Creek 99.63 20 *e*Pdif **Pdif 02 43 40.4 +7.1**
comp=Z,9.8nm,1.9s
FXWY LR LR
comp=Z,2µm,20.7s
CASY Casey 99.76 174 PFAKE 02 43 40.0 +7.3
CASY LR LR
comp=Z,1µm,21.3s
LOHW Long Hollow 99.77 19 PFAKE 02 43 50.0 +16
LOHW LR LR
comp=Z,3µm,19.0s
TPAW Teton Pass 99.79 20 PFAKE 02 43 50.0 +16
TPAW LR LR
comp=Z,2µm,20.5s
SNOW Snow King Moun 99.87 20 PFAKE 02 43 50.0 +16
SNOW LR LR
comp=Z,2µm,19.0s
REDW Red Top Meadow 99.94 20 PFAKE 02 43 50.0 +15
REDW LR LR
comp=Z,2µm,20.6s
MCCM Marconi Confer 100.31 30 PFAKE 02 43 50.0 +14
MCCM LR LR
comp=Z,800nm,20.0s
AHID Auburn Hatcher 100.42 20 PFAKE 02 43 50.0 +13
AHID LR LR
comp=Z,1µm,21.2s
BMN Battle Mountai 100.55 25 PFAKE 02 43 50.0 +13
BMN LR LR
comp=Z,2µm,21.8s
PKME Peaks-Kenny Pk 100.81 350 PFAKE 02 43 50.0 +12
PKME LR LR
comp=Z,2µm,21.9s
HVU Hansel Valley 100.82 22 PFAKE 02 43 50.0 +11
HVU LR LR
comp=Z,24776µm,19.7s
BW06 Boulder Array 100.84 19 PFAKE 02 43 50.0 +11
BW06 LR LR
comp=Z,2µm,18.6s
PDAR Pinedale Array 100.84 19 P **Pdif 02 43 37.5 -1.2**
comp=Z,0.2nm,0.6s,baz=304,slow=2.1,SNR=2.2
PDAR PP PP 02 47 39.5 -5.9
comp=Z,1.1nm,1.1s,baz=335,slow=6.6,SNR=4.6
RSSD Black Hills 100.91 15 *e*P **Pdif 02 43 41.6 +2.7**
RSSD MLR MLR
comp=Z,2µm,19.5s
RSSD Black Hills 100.91 15 *e*Pdif **Pdif 02 43 41.6 +2.7**
RSSD LR LR
comp=Z,2µm,19.5s
COWI Conover 100.95 4 PFAKE 02 43 50.0 +11
COWI LR LR
comp=Z,2µm,19.8s
ELK Elko 100.96 24 PFAKE 02 43 50.0 +11
ELK LR LR
comp=Z,2µm,21.1s
EMMW East Machias 101.06 348 PFAKE 02 43 50.0 +11
EMMW LR LR
comp=Z,2µm,20.6s
DCZ Deep Cove 101.26 137 PFAKE 02 43 50.0 +10
DCZ LR LR
comp=Z,2µm,22.0s
HWUT Hardware Ranch 101.34 21 PFAKE 02 43 50.0 +9.1
HWUT LR LR
comp=Z,2µm,22.0s
CMB Columbia Colle 101.43 29 PFAKE 02 43 50.0 +8.8
CMB LR LR
comp=Z,2µm,21.0s
BGU Big Grassy Mou 101.52 22 PFAKE 02 43 50.0 +8.4
BGU LR LR
comp=Z,26462µm,18.8s
BRSD Miller 101.54 11 PFAKE 02 43 50.0 +8.5
BRSD LR LR
comp=Z,3µm,18.9s
SPMN Marine on St. 101.55 6 PFAKE 02 43 50.0 +8.5
SPMN LR LR
comp=Z,3µm,21.9s
WVL Waterville 101.55 350 PFAKE 02 43 50.0 +8.5
WVL LR LR
comp=Z,2µm,18.3s
K22A Casper 101.74 17 PFAKE 02 43 50.0 +7.4
K22A LR LR
comp=Z,2µm,20.1s
TCUT Toone Canyon 101.84 21 PFAKE 02 43 50.0 +6.8
TCUT LR LR
comp=Z,3µm,21.4s
NVAR Mina Array Bea 101.90 27 P **Pdif 02 43 44.0 +0.5**
comp=Z,0.3nm,0.6s,baz=307,slow=3.3,SNR=2.1
NVAR PP PP 02 47 42.7 -11
comp=Z,0.7nm,0.7s,baz=318,slow=6.2,SNR=3.6
WHZ Wether Hill Ro 101.96 137 PFAKE 02 43 50.0 +7.0
WHZ LR LR
comp=Z,2µm,20.8s

LONY Lake Ozonia 102.11 353 PFAKE 02 44 00.0 +16
LONY LR LR
comp=Z,1µm,22.0s
PTN Potsdam (NY) 102.20 354 PFAKE 02 44 00.0 +16
PTN LR LR
comp=Z,3µm,21.3s
DUG Dugway, Tooele 102.25 22 PFAKE 02 44 00.0 +15
DUG LR LR
comp=Z,2µm,19.7s
JLU Jordanelle 102.30 21 PFAKE 02 44 00.0 +15
JLU LR LR
comp=Z,2µm,21.7s
GLMI Grayling 102.37 1 PFAKE 02 44 00.0 +15
GLMI LR LR
comp=Z,3µm,19.9s
RPZ Rata Peaks 102.53 134 PFAKE 02 44 00.0 +14
RPZ LR LR
comp=Z,2µm,21.5s
ECSD EROS Data Cent 102.58 9 *e*Pdif **Pdif 02 43 47.2 +1.1**
ECSD LR LR
comp=Z,2µm,20.1s
XMAS Kiritimati 102.58 79 PFAKE 02 44 00.0 +13
XMAS LR LR
comp=Z,2µm,21.0s
TPH Tonopah 102.62 26 PFAKE 02 44 00.0 +13
TPH LR LR
comp=Z,2µm,21.8s
NLU North Lily Min 102.70 22 PFAKE 02 44 00.0 +13
NLU LR LR
comp=Z,2µm,21.2s
NCB Newcomb 102.72 353 PFAKE 02 44 00.0 +13
NCB LR LR
comp=Z,2µm,22.0s
HNH Hanover 102.76 351 PFAKE 02 44 00.0 +13
HNH LR LR
comp=Z,2µm,21.5s
MPU Maple Canyon 102.78 22 PFAKE 02 44 00.0 +13
MPU LR LR
comp=Z,2µm,21.0s
FFD Franklin Falls 102.91 351 PFAKE 02 44 00.0 +12
FFD LR LR
comp=Z,2µm,18.7s
R11A Troy Canyon, C 102.97 25 PFAKE 02 44 00.0 +12
R11A LR LR
comp=Z,1µm,21.9s
ACCN Adirondack Com 103.24 352 PFAKE 02 44 00.0 +11
ACCN LR LR
comp=Z,2µm,21.8s
PHWY Pilot Hill 103.27 17 PFAKE 02 44 00.0 +10
PHWY LR LR
comp=Z,2µm,21.8s
KHZ Kahutara 103.34 132 PFAKE 02 44 00.0 +11
KHZ LR LR
comp=Z,2µm,20.5s
URZ Urewera 103.44 127 PFAKE 02 44 00.0 +10
URZ LR LR
comp=Z,1µm,20.0s
SNZO South Karori 103.48 131 PFAKE 02 44 00.0 +10
SNZO LR LR
comp=Z,2µm,21.8s
BKZ Black Stump Fm 103.51 128 PFAKE 02 44 00.0 +10
BKZ LR LR
comp=Z,2µm,18.9s
N23A Red Feather La 103.54 17 PFAKE 02 44 00.0 +9.2
N23A LR LR
comp=Z,2µm,21.0s
MAW Mawson 103.55 192 PFAKE 02 44 00.0 +11
MAW LR LR
comp=Z,500nm,19.7s
O20A White River Ci 103.65 19 PFAKE 02 44 00.0 +8.8
O20A LR LR
comp=Z,2µm,20.1s
HRV Adam Dziewonsk 103.84 351 PFAKE 02 44 00.0 +8.3
HRV LR LR
comp=Z,2µm,20.3s
TRY Troy 103.88 352 PFAKE 02 44 00.0 +8.1
TRY LR LR
comp=Z,2µm,18.9s
TPNV Topopah Spring 103.98 26 PFAKE 02 44 00.0 +7.3
TPNV LR LR
comp=Z,1µm,19.5s
MVU Marysvale 103.98 23 PFAKE 02 44 00.0 +7.2
MVU LR LR
comp=Z,900nm,19.1s
JFWS Jewell Farm 104.05 5 PFAKE 02 44 00.0 +7.3
JFWS LR LR
comp=Z,3µm,20.4s
DAC Darwin (Calif) 104.06 28 PFAKE 02 44 00.0 +6.9
DAC LR LR
comp=Z,1µm,21.0s
BFZ Birch Farm 104.14 129 PFAKE 02 44 00.0 +7.2
BFZ LR LR
comp=Z,2µm,20.3s
QUA2 Belchertown 104.17 351 PFAKE 02 44 00.0 +6.8
QUA2 LR LR
comp=Z,2µm,22.0s
ISA Isabella, Lake 104.25 28 PFAKE 02 44 10.0 +16
ISA LR LR
comp=Z,800nm,20.5s
MMNY Mt. Morris Dam 104.26 355 PFAKE 02 44 00.0 +6.4
MMNY LR LR
comp=Z,5µm,19.1s
BRYW Bryant College 104.42 351 PFAKE 02 44 10.0 +16
BRYW LR LR
comp=Z,2µm,19.0s
BGNE Belgrade 104.63 11 PFAKE 02 44 10.0 +15
BGNE LR LR
comp=Z,3µm,18.7s
BINY Binghamton 104.64 354 PFAKE 02 44 10.0 +15
BINY LR LR
comp=Z,2µm,20.0s
ISCO Idaho Springs 104.65 17 PFAKE 02 44 10.0 +14
ISCO LR LR
comp=Z,2µm,20.0s
SCIA State Center 104.79 7 PFAKE 02 44 10.0 +14
SCIA LR LR
comp=Z,3µm,21.6s
AAM Ann Arbor 104.89 360 PFAKE 02 44 10.0 +14
AAM LR LR
comp=Z,3µm,21.6s
SMCO Snowmass 104.89 18 PFAKE 02 44 10.0 +13
SMCO LR LR
comp=Z,2µm,18.1s
DRV Dumont d'Urvil 105.00 163 SS SS 03 03 08.0 -2.3
DRV L L 03 15 00.0
DRV R 03 20 00.0
OSI Osito Audit: C 105.06 29 PFAKE 02 48 20.0
OSI LR LR
comp=Z,1µm,20.2s
PV04 Paradox Valley 105.09 20 *e*PKP 02 48 07.7
YLE Yale 105.19 351 PFAKE 02 48 20.0
YLE LR LR
comp=Z,2µm,18.7s
SACV Santiago Islan 105.19 300 PFAKE 02 48 20.0
SACV LR LR
comp=Z,1µm,19.0s
KSPA Keystone Colle 105.26 354 PFAKE 02 48 20.0
KSPA LR LR
comp=Z,2µm,19.9s
Q24A Divide 105.56 17 PFAKE 02 48 20.0
Q24A LR LR
comp=Z,2µm,21.8s
ODNJ Ogdensburg 105.61 353 PFAKE 02 48 20.0
ODNJ LR LR
comp=Z,2µm,18.7s
PAL Palisades 105.61 352 PFAKE 02 48 20.0
PAL LR LR
comp=Z,3µm,22.0s
PASC Pasadena Art C 105.66 29 PFAKE 02 48 20.0
PASC LR LR
comp=Z,900nm,21.9s
KSCO Kaye Shedlock' 106.10 15 PFAKE 02 48 30.0
KSCO LR LR
comp=Z,2µm,18.1s
LUPA Lehigh Univers 106.17 353 PFAKE 02 48 30.0
LUPA LR LR
comp=Z,300nm,19.8s
S22A 4UR Ranch, Cre 106.27 19 PFAKE 02 48 30.0
S22A LR LR
comp=Z,2µm,20.0s
MVCO Mesa Verde 106.31 20 PFAKE 02 48 30.0
MVCO LR LR
comp=Z,1µm,22.0s
SSPA Standing Stone 106.35 355 PFAKE 02 48 30.0
SSPA LR LR

comp=Z,2µm,20.1s
HDIL Hopedale 106.47 4 PFAKE 02 48 30.0
HDIL LR LR
comp=Z,100nm,20.6s
SDCO Great Sand Dun 106.62 18 PFAKE 02 48 30.0
SDCO LR LR
comp=Z,2µm,20.3s
SFIN Lafayette 106.75 3 PFAKE 02 48 30.0
SFIN LR LR
comp=Z,3µm,19.6s
PFO Pinyon Flats O 106.84 28 PFAKE 02 48 30.0
PFO LR LR
comp=Z,2µm,22.0s
MVL Millersville 106.86 354 PFAKE 02 48 30.0
MVL LR LR
comp=Z,2µm,18.9s
ACSO Alum Creek Sta 106.95 359 PFAKE 02 48 30.0
ACSO LR LR
comp=Z,2µm,21.0s
WUAZ Wupatki 106.97 23 PFAKE 02 48 30.0
WUAZ LR LR
comp=Z,1µm,21.5s
KSU1 Kansas State U 107.12 10 PFAKE 02 48 30.0
KSU1 LR LR
comp=Z,2µm,19.6s
T25A Trinidad 107.47 17 PFAKE 02 48 30.0
T25A LR LR
comp=Z,2µm,20.9s
SDMD Soldier's Deli 107.48 354 PFAKE 02 48 30.0
SDMD LR LR
comp=Z,6µm,21.6s
W18A Petrified Fore 107.87 22 PFAKE 02 48 30.0
W18A LR LR
comp=Z,1µm,18.9s
SHEL Horse Pasture 108.34 263 PFAKE 02 48 30.0
SHEL LR LR
comp=Z,2µm,21.0s
CBN Corbin Frederi 108.72 355 PFAKE 02 48 30.0
CBN LR LR
comp=Z,2µm,19.4s
WCI Wyandotte Cave 108.92 2 PFAKE 02 48 30.0
WCI LR LR
comp=Z,2µm,19.4s
ANMO Albuquerque 109.00 19 *e*PP PP 02 48 55.6 +10
ANMO LR LR
comp=Z,2µm,21.9s
U34A Anderson Ranch 109.58 12 PFAKE 02 48 30.0
U34A LR LR
comp=Z,2µm,18.3s
BLA Blacksburg 109.90 357 PFAKE 02 48 30.0
BLA LR LR
comp=Z,4µm,20.9s
TUC Tucson 110.10 24 PFAKE 02 48 30.0
TUC LR LR
comp=Z,1µm,22.0s
V34A Guthrie 110.17 12 PFAKE 02 48 30.0
V34A LR LR
comp=Z,2µm,19.0s
AMTX Amarillo 110.27 16 PFAKE 02 48 30.0
AMTX LR LR
comp=Z,2µm,21.4s
TUL1 Leonard 110.37 10 PFAKE 02 48 30.0
TUL1 LR LR
comp=Z,2µm,19.0s
PVMO Portageville 110.56 5 PFAKE 02 48 30.0
PVMO LR LR
comp=Z,2µm,19.8s
TZTN Tazewell 110.64 360 PFAKE 02 48 30.0
TZTN LR LR
comp=Z,3µm,21.5s
W34A Bridge Creek, 110.71 12 PFAKE 02 48 30.0
W34A LR LR
comp=Z,2µm,20.0s
MSTX Muleshoe 110.89 17 PFAKE 02 48 30.0
MSTX LR LR
comp=Z,2µm,21.8s
WMOK Wichita Mounta 111.01 13 PFAKE 02 48 30.0
WMOK LR LR
comp=Z,2µm,18.7s
ASCN Ascension 111.42 275 PFAKE 02 48 40.0
ASCN LR LR
comp=Z,800nm,19.5s
CNNC Cliffs of the 111.71 355 PFAKE 02 48 40.0
CNNC LR LR
comp=Z,2µm,19.8s
KMSC Kings Mountain 112.00 358 PFAKE 02 48 40.0
KMSC LR LR
comp=Z,3µm,19.9s
MIAR Mount Ida 112.02 9 PFAKE 02 48 40.0
MIAR LR LR
comp=Z,2µm,18.8s
BBSR BB Station 112.34 343 PFAKE 02 48 40.0
BBSR LR LR
comp=Z,2µm,21.8s
MNTX Cornudas Mount 112.36 20 PFAKE 02 48 40.0
MNTX LR LR
comp=Z,2µm,21.0s
OXF Oxford 112.47 5 PFAKE 02 48 40.0
OXF LR LR
comp=Z,2µm,21.4s
ABTX Abilene, Hawle 112.89 14 PFAKE 02 48 40.0
ABTX LR LR
comp=Z,2µm,20.6s
GOGA Godfrey 113.77 360 PFAKE 02 48 40.0
GOGA LR LR
comp=Z,3µm,22.0s
WHTX Lake Whitney, 113.93 13 PFAKE 02 48 40.0
WHTX LR LR
comp=Z,3µm,20.3s
NHSC New Hope 113.98 357 PFAKE 02 48 40.0
NHSC LR LR
comp=Z,3µm,21.0s
LRAL Lakeview Retre 114.08 3 PFAKE 02 48 40.0 +11
LRAL LR LR
comp=Z,3µm,21.0s
NATX Nacogdoches 114.62 10 PFAKE 02 48 40.0 +10
NATX LR LR
comp=Z,2µm,18.0s
VBMS Vicksburg 114.66 6 PFAKE 02 48 40.0 +10
VBMS LR LR
comp=Z,2µm,19.4s
JCT Junction City 114.92 15 *e*PKIKP PKPdf 02 48 29.6 -1.1
JCT MLR MLR
comp=Z,4µm,20.7s
JCT Junction City 114.92 15 *e*PKP PKPdf 02 48 29.6 -1.1
JCT LR LR
comp=Z,4µm,20.7s
TXAR Lajitas Array 115.06 19 PKP **PKPdf 02 48 30.4 -0.7**
comp=Z,1.4nm,0.9s,baz=267,slow=2.1,SNR=8.9
TXAR PKKPab **PKKPbc 02 59 10.4 +4.1**
comp=Z,0.5nm,0.9s,baz=165,slow=5.2,SNR=3.7
TIGA Tifton 115.73 360 PFAKE 02 48 40.0 +7.9
TIGA LR LR
comp=Z,3µm,18.6s
BRAL Brewton 116.09 3 PFAKE 02 48 40.0 +7.2
BRAL LR LR
comp=Z,4µm,22.0s
HKT Hockley 116.20 12 PFAKE 02 48 40.0 +7.0
HKT LR LR
comp=Z,2µm,19.2s
VNDA Vanda 117.17 167 PKP **PKPdf 02 48 31.9 -1.4**
comp=Z,1.5nm,0.9s,baz=284,slow=3.4,SNR=3.2
VNDA Vanda 117.17 167 *e*PKPdf **PKPdf 02 48 32.0 -1.3**
VNDA *e*PKKPbc **PKKPbc 02 59 00.9 +1.3**
VNDA LR LR
comp=Z,1µm,18.3s
KVTX Kingsville 118.16 14 PFAKE 02 48 50.0 +13
KVTX LR LR
comp=Z,2µm,20.5s
SLBS Sierra La Lagu 118.24 27 PFAKE 02 48 50.0 +13
SLBS LR LR
comp=Z,1µm,21.7s
SBA Scott Base 118.25 167 PFAKE 02 48 50.0 +15
SBA LR LR
comp=Z,1µm,22.0s
PPT2 Papeete2 119.53 93 *e*SS SS 03 06 22.7 -2.7
comp=Z,463nm,31.0s
PPT2 Papeete2 119.53 93 *e*LQ LQ 03 20 11.5
comp=Z,3µm,34.8s
PPT2 *e*LR LR 03 25 20.9
comp=Z,3µm,27.5s
TBI Tubuai 122.23 98 *e*SS SS 03 06 51.1 -8.7
comp=Z,512nm,35.8s
TBI Tubuai 122.23 98 *e*LR LR 03 26 42.4
comp=Z,1µm,23.0s
QSPA South Pole Qui 122.95 180 PFAKE 02 49 00.0 +15
QSPA LR LR
comp=Z,2µm,18.0s
SNAA Sanae 123.91 202 *e*PKIKP **PKPdf 02 48 45.5 -1.1**
SNAA MLR MLR
comp=Z,2µm,20.0s
SNAA Sanae 123.91 202 *e*PKPdf **PKPdf 02 48 45.5 -1.1**
SNAA LR LR
comp=Z,2µm,20.0s
GRTK Grand Turk 124.27 346 PFAKE 02 49 00.0 +11
GRTK LR LR
comp=Z,2µm,22.0s
ANWB Willy Bob 125.21 334 PFAKE 02 49 00.0 +9.4
ANWB LR LR
comp=Z,800nm,22.0s
SMRT St. Maarten 125.32 336 PFAKE 02 49 00.0 +9.1
SMRT LR LR
comp=Z,1µm,19.6s
STVI Saint Thomas 125.66 338 PFAKE 02 49 00.0 +8.5
STVI LR LR
comp=Z,800nm,19.8s
SEUS St. Eustatius 125.80 335 PFAKE 02 49 00.0 +8.2
SEUS LR LR
comp=Z,1µm,22.0s
HUMP Col San Antoni 126.14 339 PFAKE 02 49 00.0 +7.6
HUMP LR LR
comp=Z,1µm,22.0s
CDVI St. Croix 126.17 337 PFAKE 02 49 00.0 +7.6
CDVI LR LR
comp=Z,700nm,19.0s
AOPR Arecibo Observ 126.22 340 PFAKE 02 49 00.0 +7.4
AOPR LR LR
comp=Z,900nm,18.4s
SJG San Juan 126.26 339 PFAKE 02 49 00.0 +7.4
SJG LR LR
comp=Z,800nm,22.0s
AGP Aguadilla 126.27 340 PFAKE 02 49 00.0 +7.3
AGP LR LR
comp=Z,2µm,21.8s
MPR Mayaguez 126.46 340 PFAKE 02 49 00.0 +7.0
MPR LR LR
comp=Z,400nm,20.0s
OBIP Obispado Ponce 126.46 339 PFAKE 02 49 00.0 +7.0
OBIP LR LR
comp=Z,798nm,19.3s
GTBY Guantanamo Bay 126.54 350 PFAKE 02 49 00.0 +6.9
GTBY LR LR
comp=Z,1µm,22.0s
CRPR Cabo Rojo, PR 126.64 340 PFAKE 02 49 00.0 +6.7
CRPR LR LR
comp=Z,700nm,21.3s
TEIG Tepich 126.73 5 *e*PKPdf **PKPdf 02 48 57.8 +4.3**
TEIG LR LR
comp=Z,1µm,18.7s
SDDR Presa de Saban 126.76 345 PFAKE 02 49 10.0 +16
SDDR LR LR
comp=Z,2µm,19.4s
LGNH LØogne 127.49 346 PFAKE 02 49 10.0 +15
LGNH LR LR
comp=Z,1µm,21.9s
JAKH Jacmel 127.74 346 PFAKE 02 49 10.0 +15
JAKH LR LR
comp=Z,1µm,21.9s
RCBR Riachuelo 127.84 291 *e*PKPdf **PKPdf 02 48 55.2 -0.5**
RCBR LR LR
comp=Z,1µm,19.8s
BBGH Gun Hill 128.42 329 PFAKE 02 49 10.0 +13
BBGH LR LR
comp=Z,2µm,22.0s
MTDJ Mount Denham 128.53 352 PFAKE 02 49 10.0 +13
MTDJ LR LR
comp=Z,1µm,19.8s
GRGR Grenville 130.20 331 PFAKE 02 49 10.0 +10
GRGR LR LR
comp=Z,600nm,20.5s
TGUH Tegucigalpa,Un 132.92 4 PFAKE 02 49 20.0 +15
TGUH LR LR
comp=Z,700nm,19.5s
SNET Serv Nac Est T 133.12 7 PFAKE 02 49 20.0 +14
SNET LR LR
comp=Z,1µm,21.8s
SSN San Juan del S 135.73 3 PFAKE 02 49 20.0 +9.3
SSN LR LR
comp=Z,4µm,19.8s
SDV Santo Domingo 136.31 341 *e*PKPpre PKPpre 02 49 06.2
SDV *e*SKPdf **SKPbc 02 52 42.6 -0.9**
SDV LR LR
comp=Z,900nm,21.0s
BCIP Isla Barro Col 137.72 354 PFAKE 02 49 30.0 +16
BCIP LR LR
comp=Z,900nm,20.1s
ROSC El Rosal 141.11 345 PKhKP PKPpre 02 49 16.9
comp=Z,16nm,0.8s,baz=70,slow=7.5,SNR=11
ROSC El Rosal 141.11 345 *e*PKPdf PKPpre 02 49 17.4
BDFB Brasilia 143.20 290 PKP PKPbc 02 49 21.4 +0.1
comp=Z,8.2nm,1.1s,baz=134,slow=7.8,SNR=5.7
BDFB Brasilia 143.20 290 *e*PKPdf **PKPdf 02 49 23.6 -0.6**
OTAV Otavalo 146.37 350 *e*PKPbc **PKPbc 02 49 31.3 -0.2**
OTAV LR LR
comp=Z,500nm,22.0s
PAYG Puerto Ayora 147.11 12 *e*PKPbc **PKPbc 02 49 33.4 +0.3**
PAYG LR LR
comp=Z,1µm,19.3s
SAML Samuel 149.24 317 *e*PKPdf **PKPdf 02 49 34.1 -0.4**
SAML *e*PKPbc **PKPbc 02 49 38.5 -0.2**
SAML LR LR
comp=Z,700nm,19.4s
SIV San Ignacio 153.21 304 PKP **PKPdf 02 49 39.8 -0.6**
comp=Z,2.0nm,0.8s,baz=6.2,slow=3.9,SNR=6.5
SIV PKPbc **PKiKP 02 49 49.1 +1.0**
comp=Z,15nm,1.0s,baz=97,slow=5.0,SNR=18
SIV PKPab **PKPab 02 50 00.9 +1.3**
comp=Z,13nm,0.9s,baz=69,slow=4.6,SNR=9.9
CPUP Villa Florida 156.00 280 *e*PKIKP **PKPdf 02 49 43.3 -0.7**
CPUP Villa Florida 156.00 280 *e*PKPdf **PKPdf 02 49 43.3 -0.7**
LPAZ La Paz 157.97 316 PKP **PKPdf 02 49 47.1 -0.4**
comp=Z,4.1nm,1.0s,baz=40,slow=7.2,SNR=9.0
LPAZ La Paz 157.97 316 *e*PKIKP **PKPdf 02 49 45.1 -2.5**
LPAZ *e* 02 49 50.8
LPAZ MLR MLR
comp=Z,1µm,19.0s
LPAZ La Paz 157.97 316 *e*PKPdf **PKPdf 02 49 45.1 -2.5**
LPAZ *e*PKPdf **PKPdf 02 49 50.8 +3.2**
LPAZ LR LR
comp=Z,1µm,19.0s
TRQA Tornquist 161.55 249 *e*PKPdf **PKPdf 02 49 50.6 +0.3**
TRQA *e*PKPab **PKPab 02 50 35.1 0.0**
LVC Limon Verde 163.11 305 PKP **PKPdf 02 49 52.5 -0.1**
comp=Z,7.6nm,0.7s,baz=47,slow=2.4,SNR=2.2
LVC PKPab **PKPab 02 50 40.8 -1.7**
comp=Z,12nm,0.5s,baz=73,slow=3.3,SNR=9.7
LVC Limon Verde 163.11 305 *e*PKPdf **PKPdf 02 49 53.5 +0.9**
LVC PKPab **PKPab 02 50 40.8 -1.7**
CFAA Coronel Fontan 166.68 273 PKP **PKPdf 02 49 55.0 -0.2**
comp=Z,1.0nm,0.9s,baz=135,slow=2.9,SNR=2.8
CFAA PKPab **PKPab 02 50 57.8 -0.1**
comp=Z,1.4nm,1.0s,baz=53,slow=4.3,SNR=6.5

*IDC **29** 02:39:30.0±0.7, 33˚.13N×96˚.09E, h0km, mb4.0/15, mb1 4.1/18, mb1mx4.0/40, mbtmp4.0/18, ML4.1/2, Error ellipse: s-maj=20.4km s-min=14.7km az=45.0*
*ISCJB **29** 02:39:30.0±0.3, 33˚.14N±0˚.04×96˚.20E±0˚.05, h10km, mb4.0/19, Error ellipse: s-maj=6.1km s-min=5.1km az=32.3*
*NEIC **29** 02:39:32.1±0.5, 33˚.20N×96˚.26E, h10km, mb4.1/6, Error ellipse: s-maj=10.3km s-min=8.9km az=44.0*
*BJI **29** 02:39:36.7, 32˚.81N×96˚.39E, h10km, ML4.1/6*
ISC 29 02:39:31.6±0.5, 33˚.17N±0˚.06×96˚.30E±0˚.05, h10km, n51, σ1§17/51, mb4.2/19, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.60**	**233**	*e*Pn		Pn		02 40 59.2	+3.8
CD2	**Chengdu**	**6.72**	**108**	Pn		**Pn**		**02 41 13.0**	**+2.6**
CD2				Pg		Pg		02 41 36.5	-3.8
CD2				Sn		**Sn**		**02 42 24.8**	**-2.3**
CD2				Sg		**Sg**		**02 43 04.0**	**-3.4**
CD2	100nm,1.2s			SMN					
CD2	120nm,1.2s			SME					
IMP	**Imphal**	**8.61**	**195**	*e*P		**Pn**		**02 41 37.0**	**+0.6**
IMP				*e*S		**Sn**		**02 43 13.0**	**-0.7**
TAPN	**Taplejung**	**9.42**	**234**	*e*P		**Pn**		**02 41 50.0**	**+2.3**
	37nm,0.4s								
KMI	**Kunming**	**9.80**	**143**	P		Pn		02 41 56.5	+3.7
ODAN	**Odare**	**9.96**	**233**	*e*P		**Pn**		**02 41 57.8**	**+2.8**
	181nm,0.5s								
JIRN	**Jiri**	**10.31**	**240**	*e*P		**Pn**		**02 42 01.3**	**+1.4**
	47nm,0.6s								
GUN	**Gumba**	**10.40**	**242**	*e*P		**Pn**		**02 42 01.3**	**+0.1**
	40nm,0.4s								
RAMN	**Ramite**	**10.44**	**236**	*e*P		**Pn**		**02 42 02.3**	**+0.7**
	76nm,0.6s								
KKN	**Kakani**	**10.91**	**243**	*e*P		**Pn**		**02 42 07.7**	**-0.4**
	33nm,0.6s								
PKI	**Pulchoki**	**10.94**	**242**	*e*P		**Pn**		**02 42 08.5**	**0.0**
	34nm,0.5s								
PKIN	**Phulchoki**	**10.94**	**242**	*e*P		**Pn**		**02 42 08.3**	**-0.2**
	29nm,0.4s								
GKN	**Gorkha**	**11.29**	**246**	*e*P		**Pn**		**02 42 12.3**	**-0.9**
	25nm,0.4s								
ENH	**Enshi**	**11.60**	**101**	*e*Pn		**Pn**		**02 42 18.3**	**+1.1**
KOLN	**Koldanda**	**12.20**	**247**	*e*P		**Pn**		**02 42 25.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**14.85**	**170**	Pn		**Pn**		**02 43 01.8**	**+0.1**
	baz=339,slow=11,SNR=2.8								
SONM	**Songino Array**	**16.51**	**25**	Pn		**P**		**02 43 25.5**	**-0.5**
	0.7nm,0.3s,baz=207,slow=15,SNR=11								
ULN	**Ulaanbaatar**	**16.77**	**26**	*e*Pn		**Pn**		**02 43 26.7**	**0.0**
MKAR	**Makanchi Array**	**17.29**	**326**	P		**Pn**		**02 43 32.5**	**-0.6**
	0.6nm,0.3s,baz=133,slow=12,SNR=14								
TKM2	**Tokmak 2**	**18.95**	**307**	*e*P		**P**		**02 43 52.1**	**-0.9**
	8.2nm,1.0s								
AAK	**Ala-Archa**	**19.58**	**305**	P		**Pn**		**02 44 01.1**	**-0.1**
	0.2nm,0.3s,baz=111,slow=18,SNR=2.6								
AAK	**Ala-Archa**	**19.58**	**305**	*e*P		**Pn**		**02 44 02.7**	**+1.5**
	9.9nm,1.0s								
EKS2	**Erkin-Say**	**20.09**	**305**	*e*P		Pn		02 44 08.7	+1.5
	12nm,0.9s								
KURBB	**Kurchatov Arra**	**21.79**	**328**	P		**P**		**02 44 22.6**	**-0.8**
	6.4nm,0.9s,baz=137,slow=11,SNR=13								
KURK	**Kurchatov**	**21.82**	**329**	*e*P		**P**		**02 44 25.8**	**+2.0**
	8.6nm,0.8s								
ZAA0	**Zalesovo Array**	**22.32**	**342**	*e*P		**P**		**02 44 29.7**	**+0.6**
ZALV	**Zalesovo Beam**	**22.32**	**342**	P		**P**		**02 44 28.6**	**-0.6**
	3.3nm,0.7s,baz=158,slow=8.5,SNR=7.2								
KSAR	**Wonju Array Be**	**26.06**	**72**	P		**P**		**02 45 05.8**	**+0.7**
KSRS	**Korea Array**	**26.09**	**72**	P		**P**		**02 45 05.8**	**+0.4**
	0.6nm,0.3s,baz=289,slow=6.6,SNR=3.2								
AKTO	**Aktyubinsk**	**32.89**	**313**	P		**P**		**02 46 05.2**	**-0.6**
	1.5nm,0.8s,baz=135,slow=4.3,SNR=3.2								
ASAJ	**Asahikawa**	**37.33**	**59**	P		**P**		**02 46 46.4**	**+2.3**
	4.6nm,0.8s,baz=233,slow=12,SNR=3.5								
BRTR	**Keskin Array B**	**49.93**	**296**	P		**P**		**02 48 24.4**	**-1.3**
	1.2nm,0.7s,baz=99,slow=7.6,SNR=8.8								
FINES	**FINESS Array B**	**52.12**	**325**	P		**P**		**02 48 41.0**	**-0.7**
	6.1nm,1.1s,baz=89,slow=6.3,SNR=7.0								
ARCES	**ARCESS Array B**	**52.64**	**335**	P		**P**		**02 48 45.2**	**-0.2**
	2.4nm,0.9s,baz=37,slow=4.9,SNR=9.3								
MORC	**Moravsky Berou**	**58.62**	**312**	*e*P		**P**		**02 49 28.4**	**-0.3**
	1.2nm,0.6s								
NB2	**NORSAR Subarra**	**59.29**	**326**	P		**P**		**02 49 32.4**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=77,slow=7.4								
NOA	**NORSAR Array B**	**59.29**	**326**	P		**P**		**02 49 32.0**	**-1.2**
	comp=Z,1.4nm,0.8s,baz=77,slow=6.9,SNR=6.6								
WRA	**Warramunga Arr**	**64.10**	**140**	P		**P**		**02 50 06.2**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=334,slow=7.0,SNR=8.7								
KMBO	**Kilima Mbogo**	**65.13**	**251**	P		**P**		**02 50 12.2**	**-1.0**
	comp=Z,3.2nm,0.6s,baz=49,slow=13,SNR=9.2								
ASAR	**Alice Springs**	**66.93**	**143**	P		**P**		**02 50 25.1**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=328,slow=6.9,SNR=11								
LPG	**La Plagne**	**66.93**	**310**	*e*P		**P**		**02 50 24.8**	**+0.3**
LPG	**La Plagne**	**66.93**	**310**	*e*P		**P**		**02 50 24.8**	**+0.3**
LPL	**La Plagne**	**66.94**	**310**	*e*P		**P**		**02 50 24.7**	**+0.2**
	comp=Z,1.4nm,0.3s								
LPL	**La Plagne**	**66.94**	**310**	*e*P		**P**		**02 50 24.7**	**+0.2**
	comp=Z,1.4nm,0.3s								
ORIF	**Oris-en-Rattie**	**67.73**	**310**	*e*P		**P**		**02 50 29.1**	**-0.3**
ORIF	**Oris-en-Rattie**	**67.73**	**310**	*e*P		**P**		**02 50 29.1**	**-0.3**
TCF	**Toulx Ste Croi**	**69.46**	**312**	*e*P		**P**		**02 50 40.1**	**+0.1**
	comp=Z,19nm,1.3s								
TCF	**Toulx Ste Croi**	**69.46**	**312**	*e*P		**P**		**02 50 40.1**	**+0.1**
	comp=Z,19nm,1.3s								
ILAR	**Eielson Array**	**70.74**	**24**	P		**P**		**02 50 48.6**	**+1.1**
	comp=Z,0.2nm,0.7s,baz=293,slow=6.1,SNR=5.4								
YKA	**Yellowknife Ar**	**81.47**	**14**	P		**P**		**02 51 48.9**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=339,slow=5.2,SNR=3.4								
TORD	**Torodi Ar. Bea**	**86.70**	**283**	P		**P**		**02 52 15.6**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=58,slow=4.7,SNR=10								

*ISCJB **29** 02:43:52.8±0.3, 33˚.25N±0˚.04×96˚.20E±0˚.04, h10km, mb4.1/35, Error ellipse: s-maj=6.5km s-min=4.6km az=158.3*
*IDC **29** 02:43:52.8±0.6, 33˚.25N×96˚.22E, h0km, mb3.9/20, mb1 4.1/24, mb1mx4.0/43, mbtmp3.9/24, ML4.2/3, Error ellipse: s-maj=18.5km s-min=13.4km az=37.0*
*NEIC **29** 02:43:54.7±0.3, 33˚.27N×96˚.23E, h10km, mb4.1/9, Error ellipse: s-maj=8.1km s-min=5.5km az=33.0*
*BJI **29** 02:43:58.2, 33˚.31N×96˚.21E, h9km, mb4.3/3, ML4.2/11*
ISC 29 02:43:54.9±0.5, 33˚.29N±0˚.07×96˚.20E±0˚.05, h10km, n92, σ0§88/93, mb4.1/35, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.60**	**232**	*e*Pn		Pn		02 45 23.3	+4.5
GTA	**Gaotai**	**6.77**	**24**	*e*Pn		**Pn**		**02 45 37.0**	**+2.5**
CD2	**Chengdu**	**6.84**	**108**	Pn		**Pn**		**02 45 36.0**	**+0.7**
CD2				Pg		Pg		02 45 59.5	-6.4
CD2				Sg		Sg		02 47 26.8	-7.6
CD2	170nm,1.0s			SMN					
CD2	130nm,1.1s			SME					
LZH	**Lanzhou**	**6.89**	**64**	Pn		**Pn**		**02 45 37.0**	**+0.8**
LZH				Sn		**Sn**		**02 46 56.0**	**+1.3**
LZH				Sg		**Sg**		**02 47 34.5**	**-1.6**
LZH	250nm,1.2s			SMN					
LZH	140nm,1.0s			SME					
ODAN	**Odare**	**9.96**	**232**	*e*P		**Pn**		**02 46 21.1**	**+2.7**
	64nm,0.5s								
JIRN	**Jiri**	**10.29**	**240**	*e*P		**Pn**		**02 46 23.6**	**+0.5**
	15nm,0.3s								
GUN	**Gumba**	**10.38**	**242**	*e*P		**Pn**		**02 46 24.5**	**+0.3**
	20nm,0.4s								
RAMN	**Ramite**	**10.43**	**235**	*e*P		**Pn**		**02 46 26.6**	**+1.7**
	28nm,0.5s								
PKI	**Pulchoki**	**10.91**	**241**	*e*P		**Pn**		**02 46 31.5**	**0.0**
	17nm,0.4s								
PKIN	**Phulchoki**	**10.92**	**241**	*e*P		**Pn**		**02 46 31.4**	**-0.1**
	16nm,0.5s								
DMN	**Daman**	**11.12**	**242**	*e*P		**Pn**		**02 46 34.5**	**+0.3**
GKN	**Gorkha**	**11.26**	**245**	*e*P		**Pn**		**02 46 35.6**	**-0.5**
	14nm,0.4s								
ENH	**Enshi**	**11.70**	**101**	*e*Pn		**Pn**		**02 46 42.9**	**+0.9**
	21nm,1.1s								
KOLN	**Koldanda**	**12.17**	**246**	*e*P		**Pn**		**02 46 48.3**	**-0.3**
CMAR	**Chiang Mai Arr**	**14.97**	**170**	Pn		**Pn**		**02 47 27.2**	**+0.5**
	baz=352,slow=12,SNR=4.5								
SONM	**Songino Array**	**16.45**	**25**	Pn		**P**		**02 47 47.3**	**-1.3**
	3.2nm,0.3s,baz=208,slow=15,SNR=56								
ULN	**Ulaanbaatar**	**16.71**	**26**	*e*Pn		**P**		**02 47 56.0**	**+4.5**
MKAR	**Makanchi Array**	**17.15**	**326**	P		**Pn**		**02 47 53.9**	**-0.8**
	0.5nm,0.3s,baz=135,slow=14,SNR=20								
TKM2	**Tokmak 2**	**18.81**	**307**	*e*P		**Pn**		**02 48 16.7**	**+1.4**
	12nm,1.1s								
AAK	**Ala-Archa**	**19.45**	**305**	P		**Pn**		**02 48 23.4**	**+0.4**
	0.4nm,0.3s,baz=100,slow=6.1,SNR=8.3								
AAK	**Ala-Archa**	**19.45**	**305**	*e*P		**Pn**		**02 48 24.1**	**+1.2**
EKS2	**Erkin-Say**	**19.95**	**304**	*e*P		**Pn**		**02 48 29.6**	**+0.7**
	4.6nm,0.7s								
KURBB	**Kurchatov Arra**	**21.65**	**328**	P		**P**		**02 48 45.5**	**+0.1**
	6.6nm,0.7s,baz=134,slow=11,SNR=15								
KURK	**Kurchatov**	**21.68**	**329**	*e*P		**P**		**02 48 45.2**	**-0.4**
	6.5nm,0.8s								
ZAA0	**Zalesovo Array**	**22.18**	**342**	*e*P		**P**		**02 48 51.5**	**+0.4**
ZALV	**Zalesovo Beam**	**22.18**	**342**	P		**P**		**02 48 50.4**	**-0.7**
	4.1nm,0.7s,baz=155,slow=10,SNR=11								
KKAR	**Karatay Array**	**22.36**	**303**	*e*P		**P**		**02 48 54.2**	**+1.0**
	3.1nm,0.7s								
KSAR	**Wonju Array Be**	**26.10**	**72**	P		**P**		**02 49 29.0**	**+0.1**
KSRS	**Korea Array**	**26.13**	**72**	P		**P**		**02 49 29.0**	**-0.1**
	0.7nm,0.4s,baz=279,slow=9.9,SNR=3.7								
BVAR	**Borovoye Array**	**27.02**	**325**	P		**P**		**02 49 36.3**	**-0.7**
	0.5nm,0.6s,baz=124,slow=13,SNR=2.7								
ABKAR	**Akbulak array**	**31.22**	**312**	*e*P		**P**		**02 50 14.3**	**-0.1**
AKTO	**Aktyubinsk**	**32.75**	**313**	P		**P**		**02 50 28.6**	**+0.7**
	1.1nm,0.5s,baz=95,slow=14,SNR=5.6								

ARU Arti 34.64 323 *eP* **P 02 50 44.6 +0.4**
2.5nm,0.6s
KBZ Khabaz 42.34 300 P **P 02 51 49.6 +0.5**
1.2nm,0.7s,baz=56,slow=24,SNR=5.0
SEY Seymchan 45.65 32 P **P 02 52 15.2 -0.2**
0.7nm,0.2s,baz=302,slow=9.6,SNR=3.5
PETK Petropavlovsk- 47.41 46 P **P 02 52 28.5 -0.8**
1.5nm,0.9s,baz=341,slow=17,SNR=2.9
BRTR Keskin Array B 49.80 296 P **P 02 52 47.2 -0.9**
1.6nm,0.8s,baz=96,slow=7.2,SNR=14
AKASG Malin Array Be 50.96 311 P **P 02 52 55.8 -0.7**
1.6nm,0.7s,baz=73,slow=6.8,SNR=8.4
AKBB Malin Array Si 50.96 311 *eP* **P 02 52 56.0 -0.5**
KIEV Kiev 50.97 311 *eP* **P 02 52 56.1 -0.4**
2.0nm,0.4s
FINES FINESS Array B 51.98 325 P **P 02 53 03.9 -0.1**
1.3nm,0.8s,baz=180,slow=28,SNR=9.4
ARCES ARCESS Array B 52.50 335 P **P 02 53 08.2 +0.4**
1.5nm,0.6s,baz=91,slow=7.8,SNR=10.0
MORC Moravsky Berou 58.48 312 *eP* **P 02 53 51.3 +0.1**
1.9nm,0.8s
NB2 NORSAR Subarra 59.15 326 P **P 02 53 54.7 -0.9**
comp=Z,1.7nm,0.7s,baz=77,slow=7.4
NOA NORSAR Array B 59.15 326 P **P 02 53 55.3 -0.3**
comp=Z,1.3nm,0.6s,baz=76,slow=6.9,SNR=11
WRA Warramunga Arr 64.24 140 P **P 02 54 29.4 -1.0**
comp=Z,1.1nm,0.7s,baz=316,slow=9.8,SNR=7.6
KMBO Kilima Mbogo 65.08 251 P **P 02 54 35.6 -0.8**
comp=Z,1.7nm,0.6s,baz=47,slow=12,SNR=6.2
CDF Champ du Feu 65.30 313 *eP* **P 02 54 36.9 -0.2**
CDF Champ du Feu 65.30 313 *eP* **P 02 54 36.9 -0.2**
PAGF Fort de Pagny 66.19 313 *eP* **P 02 54 43.2 +0.4**
comp=Z,1.8nm,0.7s
PAGF Fort de Pagny 66.19 313 *eP* **P 02 54 43.2 +0.4**
comp=Z,1.8nm,0.6s
PGF Pioggiola 66.53 306 *eP* **P 02 54 45.0 -0.2**
comp=Z,6.4nm,0.8s
PGF Pioggiola 66.53 306 *eP* **P 02 54 45.0 -0.2**
comp=Z,6.4nm,0.8s
SFTF Sexfontaines 66.75 313 *eP* **P 02 54 46.2 -0.2**
SFTF Sexfontaines 66.75 313 *eP* **P 02 54 46.2 -0.2**
LPG La Plagne 66.80 310 *eP* **P 02 54 47.4 +0.4**
comp=Z,7.4nm,0.7s
LPG La Plagne 66.80 310 *eP* **P 02 54 47.4 +0.4**
comp=Z,7.4nm,0.7s
LPL La Plagne 66.80 310 *eP* **P 02 54 47.3 +0.3**
comp=Z,5.5nm,0.7s
LPL La Plagne 66.80 310 *eP* **P 02 54 47.3 +0.3**
comp=Z,5.5nm,0.6s
BNI Bardonecchia 67.03 310 *eP* **P 02 54 48.0 -0.3**
comp=Z,1.6nm,0.5s
SBF Sospel 67.03 308 *eP* **P 02 54 48.1 -0.2**
SBF Sospel 67.03 308 *eP* **P 02 54 48.1 -0.2**
ASAR Alice Springs 67.07 142 P **P 02 54 48.1 -0.5**
comp=Z,0.7nm,0.5s,baz=326,slow=6.4,SNR=15
ORIF Oris-en-Rattie 67.60 310 *eP* **P 02 54 51.5 -0.4**
comp=Z,3.5nm,0.6s
ORIF Oris-en-Rattie 67.60 310 *eP* **P 02 54 51.5 -0.4**
comp=Z,3.5nm,0.6s
LOR Lormes 67.87 313 *eP* **P 02 54 52.8 -0.7**
LOR Lormes 67.87 313 *eP* **P 02 54 52.8 -0.7**
SMF Signal de Mont 68.15 312 *eP* **P 02 54 54.8 -0.4**
comp=Z,11nm,1.0s
SMF Signal de Mont 68.15 312 *eP* **P 02 54 54.8 -0.4**
comp=Z,11nm,1.0s
AVF Avril sur Loir 68.39 312 *eP* **P 02 54 56.5 -0.2**
AVF Avril sur Loir 68.39 312 *eP* **P 02 54 56.5 -0.2**
VIVF Saint-Julien-l 68.40 310 *eP* **P 02 54 56.7 -0.2**
VIVF Saint-Julien-l 68.40 310 *eP* **P 02 54 56.7 -0.2**
BGF Bois d'Agland 68.80 312 *eP* **P 02 54 59.0 -0.3**
BGF Bois d'Agland 68.80 312 *eP* **P 02 54 59.0 -0.3**
TCF Toulx Ste Croi 69.32 312 *eP* **P 02 55 02.6 0.0**
comp=Z,8.9nm,1.0s
TCF Toulx Ste Croi 69.32 312 *eP* **P 02 55 02.6 0.0**
comp=Z,8.9nm,1.0s
BPAW Bear Paw Mtn. 69.63 26 *eP* **P 02 55 03.5 -0.6**
comp=Z,0.3nm,0.7s
LDF La Druitiere 69.68 315 *eP* **P 02 55 04.1 -0.6**
LDF La Druitiere 69.68 315 *eP* **P 02 55 04.1 -0.6**
FLN La Foliniere 69.81 316 *eP* **P 02 55 04.9 -0.6**
FLN La Foliniere 69.81 316 *eP* **P 02 55 04.9 -0.6**
CAF Calviac 70.03 311 *eP* **P 02 55 07.4 +0.4**
CAF Calviac 70.03 311 *eP* **P 02 55 07.4 +0.4**
GRR Gorron 70.21 315 *eP* **P 02 55 07.6 -0.3**
comp=Z,14nm,0.9s
GRR Gorron 70.21 315 *eP* **P 02 55 07.6 -0.3**
comp=Z,14nm,0.9s
ILAR Eielson Array 70.67 24 P **P 02 55 08.7 -1.8**
comp=Z,0.3nm,0.8s,baz=299,slow=5.6,SNR=4.0
ETSF Etsaut 72.66 310 *eP* **P 02 55 23.0 0.0**
ETSF Etsaut 72.66 310 *eP* **P 02 55 23.0 0.0**
ESDC Sonseca Array 76.51 309 P **P 02 55 44.6 -0.8**
comp=Z,0.1nm,0.2s,baz=71,slow=8.4,SNR=2.9
YKA Yellowknife Ar 81.39 14 P **P 02 56 10.9 -0.6**
comp=Z,0.8nm,0.8s,baz=326,slow=5.0,SNR=6.6
TORD Torodi Ar. Bea 86.60 283 P **P 02 56 38.0 -1.0**
comp=Z,0.8nm,0.9s,baz=56,slow=4.6,SNR=6.2

*ISCJB **29** 02:45:26.1±0.4, 33.17N±0.05×96.15E±0.07, h10km, mb4.0/21, Error ellipse: s-maj=9.5km s-min=7.0km az=150.3*
*IDC **29** 02:45:26.4±0.8, 33.21N×96.20E, h0km, mb3.7/14, mb1 3.9/18, mb1mx3.8/43, mbtmp3.8/18, ML4.1/4, Error ellipse: s-maj=29.9km s-min=15.7km az=52.0*
*NEIC **29** 02:45:28.0±0.3, 33.17N×96.16E, h10km, mb4.1/9, Error ellipse: s-maj=7.2km s-min=5.1km az=75.0*
*BJI **29** 02:45:29.7, 33.31N×96.21E, h9km, ML4.0/3*
ISC 29 02:45:27.8±0.5, **33.17N**±0.08×**96.23E**±0.07, **h10**km, **n42, σ1°01/42, mb4.0/21, Qinghai**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LSA	**Lhasa**	**5.55**	**233**	*e*Pn		**Pn**	**02 46 50.8**	**-0.1**
CD2	**Chengdu**	**6.78**	**107**	Pn		**Pn**	**02 47 09.5**	**+2.0**
CD2				Pg		Pb	02 47 33.0	+7.1
CD2				Sn		**Sn**	**02 48 21.0**	**-3.8**
CD2				Sg		Sg	02 49 00.3	-5.2
CHTO	**Chiang Mai**	**14.51**	**170**	*e*Pn		**Pn**	**02 48 52.3**	**-1.0**
	3.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**14.86**	**170**	Pn		**Pn**	**02 48 59.0**	**+1.0**
	0.8nm,0.3s,baz=345,slow=14,SNR=2.5							
SONM	**Songino Array**	**16.54**	**25**	Pn		**Pn**	**02 49 21.2**	**+1.3**
	0.7nm,0.3s,baz=210,slow=15,SNR=6.3							
ULN	**Ulaanbaatar**	**16.80**	**26**	*e*Pn		**Pn**	**02 49 23.1**	**-0.2**
MK31	**Makanchi Array**	**17.26**	**326**	*e*Pn		**Pn**	**02 49 28.7**	**-0.2**
MKAR	**Makanchi Array**	**17.26**	**326**	P		**Pn**	**02 49 29.3**	**+0.4**
	0.2nm,0.3s,baz=136,slow=14,SNR=3.6							
TKM2	**Tokmak 2**	**18.90**	**307**	*e*P		**P**	**02 49 48.4**	**-0.3**
	12nm,1.0s							
TLY	**Talaya**	**19.27**	**14**	*e*P		**P**	**02 49 52.5**	**0.0**
	4.6nm,0.7s							
AAK	**Ala-Archa**	**19.53**	**305**	P		**P**	**02 49 57.1**	**+1.5**
	0.4nm,0.3s,baz=90,slow=8.1,SNR=2.3							
AAK	**Ala-Archa**	**19.53**	**305**	*e*P		**P**	**02 49 56.5**	**+0.8**
	11nm,0.9s							
EKS2	**Erkin-Say**	**20.04**	**305**	*e*P		**P**	**02 50 01.2**	**+0.1**
	10nm,1.0s							
KURBB	**Kurchatov Arra**	**21.76**	**329**	P		**P**	**02 50 19.1**	**-0.3**
	5.7nm,0.9s,baz=135,slow=11,SNR=4.6							
KURK	**Kurchatov**	**21.79**	**329**	*e*P		**P**	**02 50 19.1**	**-0.6**
	9.1nm,0.8s							
ZAA0	**Zalesovo Array**	**22.30**	**342**	*e*P		**P**	**02 50 25.2**	**0.0**
ZALV	**Zalesovo Beam**	**22.30**	**342**	P		**P**	**02 50 24.3**	**-0.9**
	0.9nm,0.4s,baz=154,slow=12,SNR=3.1							
KKAR	**Karatay Array**	**22.45**	**304**	*e*P		**P**	**02 50 26.1**	**-0.8**
	8.2nm,1.0s							
BVAR	**Borovoye Array**	**27.13**	**325**	P		**P**	**02 51 11.5**	**+0.6**
	0.7nm,0.6s,baz=132,slow=8.0,SNR=2.3							
ABKAR	**Akbulak array**	**31.31**	**312**	*e*P		**P**	**02 51 48.2**	**+0.1**
AKTO	**Aktyubinsk**	**32.85**	**313**	P		**P**	**02 52 01.6**	**+0.1**
	0.7nm,0.5s,baz=95,slow=14,SNR=3.3							
ARU	**Arti**	**34.75**	**323**	*e*P		**P**	**02 52 18.0**	**-0.1**
	4.4nm,0.9s							
BRTR	**Keskin Array B**	**49.87**	**296**	P		**P**	**02 54 21.4**	**-0.2**
	0.8nm,0.9s,baz=116,slow=7.6,SNR=2.4							
AKASG	**Malin Array Be**	**51.05**	**311**	P		**P**	**02 54 29.3**	**-0.8**
	0.9nm,0.5s,baz=69,slow=7.2,SNR=4.0							
FINES	**FINESS Array B**	**52.09**	**325**	P		**P**	**02 54 37.4**	**-0.2**
	0.7nm,0.5s,baz=86,slow=9.8,SNR=3.3							
ARCES	**ARCESS Array B**	**52.61**	**335**	P		**P**	**02 54 41.3**	**-0.2**
	1.3nm,0.7s,baz=328,slow=17,SNR=3.7							
BUR08	**Bucovina Ar. S**	**54.15**	**308**	*e*P		**P**	**02 54 53.0**	**-0.3**
MORC	**Moravsky Berou**	**58.58**	**312**	*e*P		**P**	**02 55 23.9**	**-0.8**
	6.0nm,1.1s							
NB2	**NORSAR Subarra**	**59.25**	**326**	P		**P**	**02 55 28.2**	**-1.0**
	comp=Z,2.9nm,1.1s,baz=77,slow=7.4							
NOA	**NORSAR Array B**	**59.25**	**326**	P		P	02 55 27.6	-1.7
	comp=Z,1.0nm,0.7s,baz=78,slow=7.9,SNR=4.6							
WRA	**Warramunga Arr**	**64.14**	**140**	P		**P**	**02 56 03.2**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=319,slow=8.9,SNR=5.2							
LPG	**La Plagne**	**66.89**	**310**	*e*P		**P**	**02 56 19.6**	**-0.9**
	comp=Z,7.6nm,0.8s							
LPG	**La Plagne**	**66.89**	**310**	*e*P		**P**	**02 56 19.6**	**-0.9**
	comp=Z,7.6nm,0.8s							
LPL	**La Plagne**	**66.89**	**310**	*e*P		**P**	**02 56 19.4**	**-1.1**
LPL	**La Plagne**	**66.89**	**310**	*e*P		**P**	**02 56 19.4**	**-1.1**
ASAR	**Alice Springs**	**66.97**	**142**	P		**P**	**02 56 21.4**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=324,slow=6.2,SNR=6.6							
TCF	**Toulx Ste Croi**	**69.41**	**312**	*e*P		**P**	**02 56 36.0**	**0.0**
	comp=Z,18nm,1.3s							
TCF	**Toulx Ste Croi**	**69.41**	**312**	*e*P		**P**	**02 56 36.0**	**0.0**
	comp=Z,18nm,1.3s							
BPAW	**Bear Paw Mtn.**	**69.72**	**26**	*e*P		**P**	**02 56 39.8**	**+2.2**
	comp=Z,0.7nm,1.1s							
ILAR	**Eielson Array**	**70.76**	**24**	P		**P**	**02 56 44.1**	**+0.2**
	comp=Z,0.5nm,1.0s,baz=304,slow=5.3,SNR=3.9							
YKA	**Yellowknife Ar**	**81.49**	**14**	P		**P**	**02 57 45.1**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=326,slow=5.4,SNR=2.9							
TORD	**Torodi Ar. Bea**	**86.64**	**283**	P		**P**	**02 58 12.2**	**0.0**
	comp=Z,0.7nm,0.9s,baz=59,slow=4.2,SNR=2.2							

*ISCJB **29** 02:46:52.7±0.4, 33.21N±0.06×96.08E±0.09, h10km, mb4.2/21, MS4.2/1, Error ellipse: s-maj=11.5km s-min=7.8km az=142.7*
*IDC **29** 02:46:53.1±0.9, 33.17N×96.00E, h0km, mb3.9/12, mb1 4.1/14, mb1mx3.9/35, mbtmp4.0/14, ML4.0/2, MS4.2/1, Ms1 4.2/1, ms1mx3.4/38, Error ellipse: s-maj=43.7km s-min=17.3km az=54.0*
*NEIC **29** 02:46:54.6±0.3, 33.22N×96.08E, h10km, mb4.1/6, Error ellipse: s-maj=7.6km s-min=5.0km az=71.0*
ISC 29 02:46:54.7±0.6, **33.22N**±0.09×**96.07E**±0.10, **h10**km, **n56, σ0°42/54, mb4.2/21, Qinghai**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LSA	**Lhasa**	**5.48**	**231**	*e*Pn		**Pn**	**02 48 16.2**	**-0.5**
CD2	**Chengdu**	**6.92**	**107**	Pn		**Pn**	**02 48 36.5**	**+0.3**
CD2				Pg		Pb	02 48 59.5	+4.5
CD2				Sn		Sn	02 49 48.5	-6.6
CD2				Sg		Sg	02 50 27.3	-10
CD2				smax		smax		
	comp=N,80nm,1.2s							
CD2				smax		smax		
	comp=E,50nm,1.2s							
CHTO	**Chiang Mai**	**14.58**	**169**	*e*Pn		**Pn**	**02 50 21.3**	**+0.2**
SONM	**Songino Array**	**16.55**	**25**	Pn		**Pn**	**02 50 46.4**	**-0.5**
	comp=E,0.9nm,0.3s,baz=208,slow=15,SNR=7.3							
MK31	**Makanchi Array**	**17.14**	**326**	*e*Pn		**Pn**	**02 50 55.2**	**+0.9**
MKAR	**Makanchi Array**	**17.14**	**326**	P		**Pn**	**02 50 54.2**	**-0.1**
	comp=E,0.3nm,0.3s,baz=142,slow=13,SNR=4.1							
TKM2	**Tokmak 2**	**18.76**	**307**	*e*P		**P**	**02 51 15.1**	**+1.0**
	comp=E,15nm,1.3s							
AAK	**Ala-Archa**	**19.40**	**305**	*e*P		**P**	**02 51 20.8**	**-0.1**
	comp=E,10nm,1.1s							
EKS2	**Erkin-Say**	**19.90**	**305**	*e*P		**P**	**02 51 26.1**	**-0.3**
	comp=E,5.0nm,0.8s							
KURBB	**Kurchatov Arra**	**21.65**	**329**	P		**P**	**02 51 45.7**	**+0.6**
	comp=E,3.3nm,0.7s,baz=136,slow=12,SNR=5.5							
KURK	**Kurchatov**	**21.68**	**329**	*e*P		**P**	**02 51 45.7**	**+0.3**
	comp=E,5.3nm,0.6s							
ZAA0	**Zalesovo Array**	**22.21**	**342**	*e*P		**P**	**02 51 51.0**	**-0.1**
ZALV	**Zalesovo Beam**	**22.21**	**342**	P		**P**	**02 51 50.9**	**-0.1**
	comp=E,3.5nm,0.7s,baz=162,slow=10.0,SNR=4.1							
ABKAR	**Akbulak array**	**31.18**	**312**	*e*P		**P**	**02 53 14.5**	**+0.8**
AKTO	**Aktyubinsk**	**32.72**	**313**	P		**P**	**02 53 27.9**	**+0.6**
	comp=E,1.9nm,0.6s,baz=93,slow=9.5,SNR=4.4							
GUMO	**Guam**	**48.38**	**102**	LR		LR	03 15 01.3	
	comp=E,248nm,20.5s,baz=204,slow=35							
BRTR	**Keskin Array B**	**49.73**	**296**	P		P	02 55 45.8	-1.6
	comp=E,0.7nm,0.6s,baz=90,slow=8.8,SNR=4.2							
AKASG	**Malin Array Be**	**50.92**	**311**	P		**P**	**02 55 55.8**	**-0.1**
	comp=E,1.0nm,0.5s,baz=74,slow=6.5,SNR=6.1							
FINES	**FINESS Array B**	**51.97**	**325**	P		**P**	**02 56 04.2**	**+0.5**
	comp=E,1.7nm,0.7s,baz=93,slow=6.5,SNR=6.5							
ARCES	**ARCESS Array B**	**52.51**	**335**	P		**P**	**02 56 07.8**	**+0.2**
	comp=E,1.6nm,0.6s,baz=86,slow=7.7,SNR=6.0							
BUR08	**Bucovina Ar. S**	**54.02**	**308**	*e*P		**P**	**02 56 18.8**	**-0.4**
SUW	**Suwalki**	**54.14**	**316**	*e*P		**P**	**02 56 20.3**	**+0.5**
	comp=E,7.3nm,0.4s							
MORC	**Moravsky Berou**	**58.45**	**312**	*e*P		**P**	**02 56 50.9**	**+0.3**
	comp=E,3.2nm,0.9s							
NB2	**NORSAR Subarra**	**59.14**	**326**	P		**P**	**02 56 55.1**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=77,slow=7.4							
NOA	**NORSAR Array B**	**59.14**	**326**	P		**P**	**02 56 55.0**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=78,slow=7.8,SNR=6.6							
WRA	**Warramunga Arr**	**64.26**	**140**	P		**P**	**02 57 30.5**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=336,slow=7.1,SNR=4.9							
CDF	**Champ du Feu**	**65.27**	**313**	*e*P		**P**	**02 57 36.5**	**-0.1**
CDF	**Champ du Feu**	**65.27**	**313**	*e*P		**P**	**02 57 36.5**	**-0.1**
HINF	**Hinteralfeld**	**65.76**	**312**	*e*P		**P**	**02 57 39.3**	**-0.5**
HINF	**Hinteralfeld**	**65.76**	**312**	*e*P		**P**	**02 57 39.3**	**-0.5**
SFTF	**Sexfontaines**	**66.72**	**313**	*e*P		**P**	**02 57 45.7**	**-0.2**
	comp=Z,4.5nm,0.7s							
SFTF	**Sexfontaines**	**66.72**	**313**	*e*P		**P**	**02 57 45.7**	**-0.2**
	comp=Z,4.5nm,0.7s							
LPG	**La Plagne**	**66.76**	**310**	*e*P		**P**	**02 57 46.9**	**+0.4**
	comp=Z,7.3nm,0.8s							
LPG	**La Plagne**	**66.76**	**310**	*e*P		**P**	**02 57 46.9**	**+0.4**
	comp=Z,7.3nm,0.8s							
LPL	**La Plagne**	**66.76**	**310**	*e*P		**P**	**02 57 46.9**	**+0.4**
	comp=Z,5.6nm,0.7s							
LPL	**La Plagne**	**66.76**	**310**	*e*P		**P**	**02 57 46.9**	**+0.4**
	comp=Z,5.6nm,0.7s							
ASAR	**Alice Springs**	**67.09**	**142**	P		**P**	**02 57 48.5**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=325,slow=6.5,SNR=7.0							
ORIF	**Oris-en-Rattie**	**67.56**	**310**	*e*P		**P**	**02 57 51.1**	**-0.3**
ORIF	**Oris-en-Rattie**	**67.56**	**310**	*e*P		**P**	**02 57 51.1**	**-0.3**
SMF	**Signal de Mont**	**68.11**	**312**	*e*P		**P**	**02 57 54.4**	**-0.3**
SMF	**Signal de Mont**	**68.11**	**312**	*e*P		**P**	**02 57 54.4**	**-0.3**
AVF	**Avril sur Loir**	**68.35**	**312**	*e*P		**P**	**02 57 56.0**	**-0.2**
	comp=Z,4.7nm,0.8s							
AVF	**Avril sur Loir**	**68.35**	**312**	*e*P		**P**	**02 57 56.0**	**-0.2**
	comp=Z,4.7nm,0.8s							
LASF	**Ste Croix**	**69.23**	**310**	*e*P		**P**	**02 58 02.0**	**+0.3**
LASF	**Ste Croix**	**69.23**	**310**	*e*P		**P**	**02 58 02.0**	**+0.3**
TCF	**Toulx Ste Croi**	**69.28**	**312**	*e*P		**P**	**02 58 02.3**	**+0.2**
	comp=Z,7.4nm,1.0s							
TCF	**Toulx Ste Croi**	**69.28**	**312**	*e*P		**P**	**02 58 02.3**	**+0.2**
	comp=Z,7.4nm,1.0s							
LDF	**La Druitiere**	**69.65**	**315**	*e*P		**P**	**02 58 03.8**	**-0.4**
	comp=Z,11nm,1.0s							
LDF	**La Druitiere**	**69.65**	**315**	*e*P		**P**	**02 58 03.8**	**-0.4**
	comp=Z,11nm,1.0s							
BPAW	**Bear Paw Mtn.**	**69.73**	**26**	*e*P		**P**	**02 58 03.8**	**-0.7**
MTLF	**Montolieu**	**70.62**	**309**	*e*P		**P**	**02 58 10.2**	**-0.1**
MTLF	**Montolieu**	**70.62**	**309**	*e*P		**P**	**02 58 10.2**	**-0.1**
ETSF	**Etsaut**	**72.62**	**310**	*e*P		**P**	**02 58 22.9**	**+0.5**
ETSF	**Etsaut**	**72.62**	**310**	*e*P		**P**	**02 58 22.9**	**+0.5**
ESDC	**Sonseca Array**	**76.47**	**309**	P		**P**	**02 58 45.5**	**+0.7**
	comp=Z,0.1nm,0.4s,baz=45,slow=5.6,SNR=2.8							
TORD	**Torodi Ar. Bea**	**86.50**	**283**	P		**P**	**02 59 37.8**	**-0.5**
	comp=Z,0.5nm,0.9s,baz=62,slow=4.7,SNR=4.6							

MEX 29 02:53:56.8±0.6, **16.07N**×**97.60W**, **h16**km±17km, **MD3.5, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.60**	**302**	*e*P		Pg	02 54 06.4	-2.3
PNIG				*e*S		Sg	02 54 14.6	-2.2
VHO	**Vista Hermosa**	**1.29**	**40**	*e*P		Pn	02 54 16.6	-3.9
VHO				*e*S		Sb	02 54 31.6	-6.0
HUIG	**Huatulco**	**1.46**	**102**	*e*P		Pn	02 54 19.0	-3.6
HUIG				*e*S		Sn	02 54 36.7	-4.7
TLIG	**Tlapa**	**1.75**	**328**	*e*P		Pn	02 54 24.6	-2.0
TLIG				*e*S		Sn	02 54 43.5	-5.2
ACX	**Acapulco**	**2.31**	**290**	*e*P		Sn	02 54 57.7	-4.7
CAIG	**El Cayaco**	**2.74**	**291**	*e*P		Pg	02 54 49.2	-0.2
CMIG	**Matias Romero**	**2.79**	**68**	*e*P		Pn	02 54 42.2	+1.4
CMIG				*e*S		Sb	02 55 22.8	+2.5

*NOU **29** 03:08:08.4±2.1, 18.03S×168.98E, h30km, MD3.8, ML3.0*
IDC 29 03:08:15.5±8.8, **21.83S**×**171.18E**, **h97**km±52km, **mb3.7/4, mb1 3.9/5, mb1mx3.5/31, mbtmp4.1/5, Error ellipse: s-maj=94.9km s-min=63.9km az=5.0, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**4.00**	**265**	*e*P		Pn	03 09 14.6	0.0
BAYA				*e*S		Sn	03 10 01.5	+1.1
PLUM	**Mont Dore**	**4.23**	**263**	*e*S		Sn	03 10 08.2	+2.1
DZM	**Mont Dzumac**	**4.40**	**266**	P		Pn	03 09 20.4	+0.2
	10.0nm,0.3s,baz=270,slow=24,SNR=302							
DZM				S		Sn	03 10 10.8	+0.3
	23nm,0.3s,baz=327,slow=22,SNR=13							
MVNO	**Noumea**	**4.41**	**263**	*e*P		Pn	03 09 19.4	-0.8
MVNO				*e*S		Sn	03 10 10.5	0.0
NOUC	**Port Laguerre**	**4.53**	**266**	*e*P		Pn	03 09 15.9	-6.0
NOUC				*e*S		Sn	03 10 08.8	-4.7
NOUC				AMP			03 10 12.1	
	comp=Z,57nm,4.1s							
CTA	**Charters Tower**	**23.33**	**270**	P		P	03 13 16.6	+1.3
	comp=Z,0.8nm,0.3s,baz=92,slow=6.5,SNR=4.3							
STKA	**Stephens Creek**	**28.15**	**243**	P		P	03 13 58.2	-0.4
	comp=Z,2.5nm,0.7s,baz=80,slow=11,SNR=2.7							
ASAR	**Alice Springs**	**34.36**	**260**	P		P	03 14 53.1	-0.2
	comp=Z,2.4nm,0.8s,baz=84,slow=9.5,SNR=22							
WRA	**Warramunga Arr**	**34.42**	**266**	P		P	03 14 53.4	-0.4
	comp=Z,0.8nm,0.4s,baz=96,slow=8.4,SNR=26							

*ISCJB **29** 03:11:16.6±0.3, 33.16N±0.04×96.17E±0.04, h10km, mb4.0/21, Error ellipse: s-maj=6.2km s-min=4.8km az=156.7*
*IDC **29** 03:11:17.0±0.7, 33.13N×96.12E, h0km, mb3.8/14, mb1 3.9/18, mb1mx3.8/44, mbtmp3.8/18, ML4.1/4, Error ellipse: s-maj=29.6km s-min=14.9km az=52.0*
*NEIC **29** 03:11:18.9±0.5, 33.24N×96.26E, h10km, mb4.1/8, Error ellipse: s-maj=10.5km s-min=8.6km az=78.0*
*BJI **29** 03:11:19.4, 33.30N×96.18E, h10km, mb4.0/5, ML3.9/9, Ms7 3.8/2*
ISC 29 03:11:18.9±0.6, **33.18N**±0.07×**96.17E**±0.05, **h10**km, **n58, σ1°02/56, mb4.0/21, Qinghai**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LSA	**Lhasa**	**5.51**	**232**	*e*Pn		Pn	03 12 45.8	+4.3
	59nm,0.6s							
CD2	**Chengdu**	**6.83**	**107**	Pn		Pn	03 13 05.3	+6.1
CD2				Sn		**Sn**	**03 14 16.8**	**-0.2**
CD2				Sg		**Sg**	**03 14 56.0**	**-2.1**
CD2				SMN				
	130nm,1.2s							
CD2				SME				
	120nm,1.1s							
GTA	**Gaotai**	**6.88**	**24**	*e*Pn		**Pn**	**03 13 01.3**	**+1.4**
LZH	**Lanzhou**	**6.96**	**63**	Pn		Pn	03 12 59.0	-2.1
LZH				Pg		**Pb**	**03 13 22.0**	**+2.0**
LZH				Sn		**Sn**	**03 14 21.3**	**+0.9**
LZH				Sg		Sb	03 14 54.0	+11
LZH				SMN				
	180nm,1.2s							
LZH				SME				
	89nm,1.3s							
KMI	**Kunming**	**9.87**	**143**	P		**Pn**	**03 13 42.5**	**+1.5**
KMI				PMZ				
	14nm,0.7s							
ODAN	**Odare**	**9.87**	**233**	*e*P		**Pn**	**03 13 43.1**	**+2.0**
	29nm,0.4s							
JIRN	**Jiri**	**10.22**	**240**	*e*P		**Pn**	**03 13 47.3**	**+1.4**
GUN	**Gumba**	**10.30**	**242**	*e*P		**Pn**	**03 13 48.4**	**+1.3**
	19nm,0.4s							
RAMN	**Ramite**	**10.35**	**236**	*e*P		**Pn**	**03 13 48.5**	**+0.8**
	16nm,0.4s							
KKN	**Kakani**	**10.82**	**243**	*e*P		**Pn**	**03 13 53.5**	**-0.5**
PKI	**Pulchoki**	**10.84**	**242**	*e*P		**Pn**	**03 13 54.8**	**+0.4**
	20nm,0.5s							
PKIN	**Phulchoki**	**10.85**	**242**	*e*P		**Pn**	**03 13 54.3**	**-0.2**
	15nm,0.4s							
DMN	**Daman**	**11.04**	**243**	*e*P		**Pn**	**03 13 56.3**	**-0.9**
	39nm,1.0s							
GKN	**Gorkha**	**11.19**	**246**	*e*P		**Pn**	**03 13 58.7**	**-0.4**
	14nm,0.5s							
KOLN	**Koldanda**	**12.10**	**247**	*e*P		Pn	03 14 07.5	-4.1
	13nm,0.7s							
CMAR	**Chiang Mai Arr**	**14.87**	**170**	Pn		**Pn**	**03 14 49.8**	**+0.6**
	0.4nm,0.3s,baz=344,slow=11,SNR=9.2							
SONM	**Songino Array**	**16.55**	**25**	Pn		**Pn**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.45**	**70**	Pn	Pn	03 14 17.9	+0.6
	4.4nm,0.3s,baz=41,slow=23,SNR=11						
SIJI				Sn	Sn	03 14 47.2	-12
	4.1nm,0.3s,baz=220,slow=22,SNR=7.9						
WRA	**Warramunga Arr**	**18.82**	**161**	P	P	03 17 41.6	-2.0
	0.2nm,0.3s,baz=348,slow=11,SNR=8.8						
ASAR	**Alice Springs**	**22.22**	**166**	P	P	03 18 21.4	+0.8
	1.2nm,0.6s,baz=350,slow=9.6,SNR=15						
MKAR	**Makanchi Array**	**63.04**	**326**	P	P	03 23 51.2	0.0
	0.1nm,0.5s,baz=115,slow=5.4,SNR=2.5						

*IDC **29** 04:02:00.9±0.9, 16°.52N×146°.07E, h0km, mb3.8/10, mb1 4.1/11, mb1mx3.9/28, mbtmp3.8/11, ML3.3/1, Error ellipse: s-maj=26.3km s-min=20.2km az=110.0*
*ISCJB **29** 04:02:04.9±0.5, 16°.52N±0°.08×145°.8E±0°.1, h33km, mb4.0/17, Error ellipse: s-maj=14.3km s-min=12.1km az=9.3*
*NEIC **29** 04:02:06.4±1.8, 16°.48N×145°.95E, h36km±17km, mb4.3/8, Error ellipse: s-maj=13.1km s-min=10.6km az=223.0*

ISC 29 04:02:06.1±0.8, 16°.5N±0°.1×146°.0E±0°.2, h35km, n30, σ0$80/24, mb3.9/17, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.08**	**201**	Pn	Pn	04 02 52.4	+0.1
	3.6nm,0.3s,baz=214,slow=6.8,SNR=4.2						
H11S3	**WAKE ISLAND Hy**	**19.84**	**81**	T	T	04 27 09.5	
	baz=267,slow=76,SNR=21						
H11S1	**WAKE ISLAND Hy**	**19.86**	**81**	T	T	04 27 10.7	
	baz=267,slow=76,SNR=24						
H11S2	**WAKE ISLAND Hy**	**19.86**	**81**	T	T	04 27 11.0	
	baz=267,slow=76,SNR=49						
H11N1	**WAKE ISLAND Hy**	**20.12**	**78**	T	T	04 27 28.7	
	baz=264,slow=74,SNR=620						
H11N2	**WAKE ISLAND Hy**	**20.13**	**78**	T	T	04 27 28.7	
	baz=264,slow=74,SNR=398						
H11N3	**WAKE ISLAND Hy**	**20.14**	**78**	T	T	04 27 28.8	
	baz=264,slow=74,SNR=453						
MJAR	**Matsushiro Arr**	**21.14**	**342**	P	**P**	**04 06 48.6**	**+0.6**
	1.0nm,0.7s,baz=150,slow=12,SNR=4.0						
KSRS	**Korea Array**	**26.28**	**326**	P	**P**	**04 07 38.3**	**+0.1**
	1.4nm,0.9s,baz=160,slow=12,SNR=5.2						
KSAR	**Wonju Array Be**	**26.29**	**326**	P	**P**	**04 07 38.4**	**0.0**
WRA	**Warramunga Arr**	**37.97**	**198**	P	**P**	**04 09 20.2**	**-0.6**
	1.7nm,1.1s,baz=27,slow=8.1,SNR=3.8						
CMAR	**Chiang Mai Arr**	**44.82**	**280**	P	**P**	**04 10 17.9**	**+0.7**
	3.2nm,0.9s,baz=73,slow=7.2,SNR=13						
SONM	**Songino Array**	**45.05**	**323**	P	**P**	**04 10 17.9**	**-0.7**
	0.5nm,0.5s,baz=111,slow=3.2,SNR=3.0						
MK31	**Makanchi Array**	**60.20**	**315**	*eP*	**P**	**04 12 10.5**	**-0.1**
MKAR	**Makanchi Array**	**60.20**	**315**	P	**P**	**04 12 11.0**	**+0.3**
	0.7nm,0.9s,baz=92,slow=9.0,SNR=4.8						
TKM2	**Tokmak 2**	**64.67**	**310**	*eP*	**P**	**04 12 41.2**	**+0.4**
	1.5nm,0.7s						
ILAR	**Eielson Array**	**65.50**	**26**	P	**P**	**04 12 43.8**	**-1.8**
	1.0nm,1.1s,baz=261,slow=6.0,SNR=7.8						
KKAR	**Karatay Array**	**68.39**	**310**	*eP*	**P**	**04 13 04.3**	**-0.1**
	0.3nm,0.3s						
HYT	**Haines Junctio**	**69.17**	**31**	*eP*	**P**	**04 13 09.8**	**+0.8**
ABKAR	**Akbulak array**	**75.14**	**317**	*eP*	**P**	**04 13 44.7**	**-0.1**
YKA	**Yellowknife Ar**	**79.80**	**28**	P	**P**	**04 14 09.9**	**-0.7**
	1.3nm,0.9s,baz=287,slow=5.8,SNR=8.2						
BSMT	**Bassoo Peak**	**83.98**	**42**	*eP*	**P**	**04 14 33.8**	**+0.7**
NVAR	**Mina Array Bea**	**84.28**	**199**	P	**P**	**04 14 35.9**	**+1.0**
	0.7nm,0.8s,baz=252,slow=3.0,SNR=4.4						
HLID	**Hailey**	**85.56**	**46**	*eP*	**P**	**04 14 42.3**	**+1.1**
	2.5nm,1.1s						
ELK	**Elko**	**85.86**	**49**	P	**P**	**04 14 44.6**	**+1.8**
	1.3nm,0.9s,baz=156,slow=2.1,SNR=4.5						
ELK	**Elko**	**85.86**	**49**	*eP*	**P**	**04 14 43.2**	**+0.4**
	2.1nm,1.1s						
BOZ	**Bozeman (W)**	**86.75**	**43**	*eP*	**P**	**04 14 47.8**	**+0.8**
	1.7nm,1.1s						
DUG	**Dugway, Tooele**	**87.79**	**49**	*eP*	**P**	**04 14 52.1**	**0.0**
	4.5nm,1.3s						
TPAW	**Teton Pass**	**87.96**	**45**	*eP*	**P**	**04 14 53.4**	**+0.4**
	2.5nm,1.1s						
HWUT	**Hardware Ranch**	**88.19**	**47**	*eP*	**P**	**04 14 54.7**	**+0.7**
	4.7nm,1.2s						

*ISCJB **29** 04:05:30.9±0.8, 17°.8N±0°.2×145°.8E±0°.1, h10km, mb4.0/12, MS3.5/1, Error ellipse: s-maj=24.9km s-min=19.9km az=167.3*
*IDC **29** 04:05:31.0±1.3, 17°.85N×145°.83E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.6/45, mbtmp3.9/5, MS3.5/1, Ms1 3.7/1, ms1mx2.7/43, Error ellipse: s-maj=38.2km s-min=31.3km az=131.0*
*NEIC **29** 04:05:32.5±0.8, 17°.86N×145°.86E, h10km, mb4.3/7, Error ellipse: s-maj=25.4km s-min=20.1km az=170.0*

ISC 29 04:05:32.4±1.0, 17°.9N±0°.2×145°.8E±0°.2, h10km, n12, σ1$32/12, mb4.3/12, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**44.43**	**278**	P	**P**	**04 13 42.9**	**-1.0**
	1.0nm,0.4s,baz=74,slow=6.8,SNR=7.7						
CMAR				LR	LR	04 31 16.1	
	comp=Z,56nm,21.2s,baz=10.0,slow=35						
STKA	**Stephens Creek**	**49.64**	**185**	P	**P**	**04 14 24.6**	**+0.3**
	3.5nm,0.8s,baz=6.3,slow=9.2,SNR=3.1						
MKAR	**Makanchi Array**	**59.09**	**314**	P	**P**	**04 15 35.0**	**+1.9**
	0.5nm,0.9s,baz=94,slow=4.6,SNR=3.3						
TKM2	**Tokmak 2**	**63.64**	**310**	*eP*	**P**	**04 16 06.2**	**+2.0**
	1.3nm,0.6s						
ILAR	**Eielson Array**	**64.33**	**26**	P	**P**	**04 16 08.6**	**+0.5**
	0.6nm,1.1s,baz=254,slow=6.5,SNR=4.4						
BRVK	**Borovoye**	**67.22**	**321**	*eP*	**P**	**04 16 24.8**	**-2.1**
	1.2nm,0.5s						
KKAR	**Karatay Array**	**67.36**	**310**	*eP*	**P**	**04 16 29.3**	**+1.3**
	1.5nm,0.8s						
YKA	**Yellowknife Ar**	**78.66**	**28**	P	**P**	**04 17 34.1**	**-0.4**
	0.6nm,0.8s,baz=288,slow=6.0,SNR=5.6						
BSMT	**Bassoo Peak**	**83.06**	**42**	*eP*	**P**	**04 17 58.6**	**0.0**
	1.7nm,0.8s						
HLID	**Hailey**	**84.72**	**46**	*eP*	**P**	**04 18 07.0**	**-0.2**
	2.3nm,1.1s						
ELK	**Elko**	**85.08**	**49**	*eP*	**P**	**04 18 08.8**	**-0.3**
	1.7nm,1.0s						
HWUT	**Hardware Ranch**	**87.38**	**47**	*eP*	**P**	**04 18 19.9**	**-0.5**
	1.6nm,0.7s						

*BJI **29** 04:21:53.8, 39°.72N×73°.69E, h4km, mb4.1/2, ML3.6/6*
*KRNET **29** 04:21:54.8±0.1, 39°.29N×74°.25E, h2km, mb3.8*
*IDC **29** 04:21:55.2±0.8, 39°.47N×73°.96E, h0km, mb3.7/14, mb1 3.8/20, mb1mx3.7/59, mbtmp3.7/20, ML3.1/6, MS3.0/1, Ms1 3.0/1, ms1mx2.6/35, Error ellipse: s-maj=14.2km s-min=12.9km az=107.0*
*NNC **29** 04:21:58.1±1.8, 39°.58N×73°.73E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=15.5km s-min=10.6km az=63.0*

ISC 29 04:21:56.1±1.7, 39°.51N±0°.05×73°.86E±0°.05, h4km±10km, n60, σ1$80/71, mb3.7/14, 27C-17D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.57**	**331**	⇓P	**Pg**	**04 22 06.3**	**-0.8**
	127nm,0.3s						
SFK				⇓S	**Sg**	**04 22 14.3**	**-0.3**
	511nm,0.3s						
KSH	**Kashi**	**1.63**	**89**	Pg	Pn	04 22 20.5	-5.3
KSH				Sg	Sn	04 22 35.8	-12
KSH				SMN			
	740nm,1.0s						
KSH				SME			
	710nm,0.8s						
BTK	**Batken**	**2.41**	**284**	*eP*	**Pg**	**04 22 43.1**	**+0.9**
	baz=287						
BTK				*eS*	Sg	04 23 18.6	+5.2
	baz=287						
NRN	**Naryn**	**2.52**	**40**	*eP*	**Pn**	**04 22 39.8**	**+1.6**
	baz=31						
NRN				*eS*	**Sn**	**04 23 12.6**	**+3.1**
	baz=31						
AML	**Almayashu**	**2.62**	**357**	P	**Pn**	**04 22 41.6**	**+1.9**
	SNR=30						
UCH	**Uchtor**	**2.76**	**10**	P	**Pn**	**04 22 43.4**	**+1.8**
	SNR=193						
UCH	**Uchtor**	**2.76**	**10**	⇑*iP*	**Pn**	**04 22 44.1**	**+2.5**
	baz=4.0						
UCH				⇑*iS*	**Sb**	**04 23 20.2**	**-0.5**
	baz=4.0						
KZA	**Kyzart**	**2.77**	**22**	P	**Pn**	**04 22 43.3**	**+1.6**
	SNR=161						
KZA	**Kyzart**	**2.77**	**22**	⇑*iP*	**Pn**	**04 22 44.2**	**+2.5**
	baz=15						
KZA				⇑*iS*	**Sb**	**04 23 21.4**	**+0.4**
	baz=15						
MNAS	**Manas**	**3.15**	**341**	⇓Pn	**Pn**	**04 22 48.5**	**+1.9**
	29nm,0.5s						
MNAS				⇓Sn	**Sb**	**04 23 28.9**	**-2.6**
	258nm,0.8s						
EKS2	**Erkin-Say**	**3.15**	**359**	P	**Pb**	**04 22 51.2**	**-1.5**
	SNR=39						
EKS2	**Erkin-Say**	**3.15**	**359**	⇑*iP*	**Pb**	**04 22 51.8**	**-0.9**
	baz=354						
EKS2				⇑*iS*	**Sb**	**04 23 32.3**	**+0.8**
	baz=354						
EKS	**Erkin-Say**	**3.16**	**359**	⇓*iP*	**Pb**	**04 22 51.7**	**-1.1**
	baz=354						
EKS				⇓*eS*	**Sb**	**04 23 32.3**	**+0.6**
	baz=354						
AAK	**Ala-Archa**	**3.16**	**9**	P	**Pn**	**04 22 49.4**	**+2.7**
	SNR=81						
AAK	**Ala-Archa**	**3.16**	**9**	⇑Pn	**Pn**	**04 22 49.3**	**+2.6**
	49nm,0.6s						
AAK				⇑Sn	**Sb**	**04 23 30.8**	**-1.0**
	282nm,0.9s						
AAK	**Ala-Archa**	**3.16**	**9**	Pn	**Pn**	**04 22 49.4**	**+2.7**
	7.6nm,0.3s,baz=172,slow=9.0,SNR=68						
AAK				Sn	**Sb**	**04 23 29.8**	**-2.0**
	4.3nm,0.3s,baz=244,slow=23,SNR=12						
AAK				LR	LR	04 24 11.3	
	comp=Z,251nm,19.9s,baz=199,slow=43						
AAK	**Ala-Archa**	**3.16**	**9**	⇑*iP*	Pn	04 22 50.0	+3.2
	baz=3.0						
AAK				⇑*iS*	**Sb**	**04 23 31.8**	**0.0**
	baz=3.0						
KBK	**Karagaybulak**	**3.25**	**14**	P	**Pn**	**04 22 50.9**	**+2.8**
	SNR=69						
KBK	**Karagaybulak**	**3.25**	**14**	⇑*iP*	**Pn**	**04 22 50.8**	**+2.8**
	baz=9.0						
KBK				⇑*iS*	**Sb**	**04 23 33.1**	**-1.4**
	baz=9.0						
ULHL	**Ulahol**	**3.28**	**33**	P	**Pn**	**04 22 50.8**	**+2.4**
	SNR=19						
ULHL	**Ulahol**	**3.28**	**33**	⇑*iP*	**Pn**	**04 22 50.6**	**+2.2**
	baz=26						
ULHL				⇑*iS*	**Sn**	**04 23 32.2**	**+4.2**
	baz=26						
CHMS	**Chumysh**	**3.55**	**11**	P	**Pn**	**04 22 54.6**	**+2.6**
	SNR=14						
CHMS	**Chumysh**	**3.55**	**11**	⇑*iP*	**Pn**	**04 22 54.6**	**+2.6**
	baz=6.0						
TKM2	**Tokmak 2**	**3.65**	**20**	P	**Pn**	**04 22 55.9**	**+2.3**
	SNR=34						
TKM2	**Tokmak 2**	**3.65**	**20**	⇑Pn	**Pn**	**04 22 56.0**	**+2.3**
	17nm,0.5s						
TKM2				⇑Sn	**Sb**	**04 23 44.2**	**-1.8**
	72nm,0.7s						
TKM2	**Tokmak 2**	**3.65**	**20**	⇑*iP*	**Pn**	**04 22 56.5**	**+2.9**
	baz=15						
TKM2				⇑*iS*	**Sb**	**04 23 44.5**	**-1.5**
	baz=15						
USP	**Ospenovka**	**3.79**	**7**	P	**Pn**	**04 22 58.3**	**+3.0**
	SNR=18						
DZET	**Dzherino**	**3.98**	**261**	⇓Pn	Pb	04 23 03.5	-3.3
	14nm,0.6s						
DZET				⇓Pg	**Pg**	**04 23 11.9**	**-0.4**
	59nm,0.4s						
DZET				⇓Lg	Lg	04 24 05.0	
	336nm,0.9s						
KNDC	**Almaty**	**4.38**	**31**	⇓Pn	**Pn**	**04 23 05.7**	**+2.3**
KNDC				⇑Lg	Lg	04 24 13.0	
KK31	**Karatay Array**	**4.39**	**326**	⇓Pn	**Pn**	**04 23 04.5**	**+0.9**
	3.1nm,0.4s,baz=132,slow=10,SNR=125						
KK31				⇑Pg	**Pb**	**04 23 15.8**	**+2.1**
	9.1nm,0.5s,baz=148,slow=15,SNR=14						
KK31				⇑Sn	Sb	04 23 59.7	-7.4
	19nm,0.5s,baz=146,slow=26,SNR=5.0						
KK31				⇓Lg	Lg	04 24 13.8	
	34nm,0.6s						
PDGK	**Podgornoye**	**5.69**	**46**	⇓Pn	**Pn**	**04 23 22.8**	**+1.4**
	12nm,0.7s						
PDGK				⇑Pg	**Pb**	**04 23 36.3**	**+0.4**
	27nm,0.8s						
PDGK				⇓Lg	Lg	04 25 06.8	
	44nm,0.9s						
CHCP	**Chirak Chowk**	**5.86**	**185**	P	Pn	04 23 31.7	+7.9
CEP	**Cherat**	**5.89**	**196**	P	Pn	04 23 31.8	+7.6
CEP				S	Sn	04 24 43.0	+11
THW	**Thamme Wali**	**6.92**	**195**	P	Pn	04 23 45.7	+7.4
MK31	**Makanchi Array**	**9.53**	**37**	⇓Pn	Pn	04 24 17.5	+3.4
	1.3nm,0.7s,baz=221,slow=13,SNR=9.3						
MK31				⇑Lg	Lg	04 26 58.8	
	4.3nm,0.8s,baz=220,slow=33,SNR=4.9						
MKAR	**Makanchi Array**	**9.53**	**37**	Pn	**Pn**	**04 24 16.1**	**+2.0**
	0.1nm,0.3s,baz=220,slow=13,SNR=9.7						
MKAR				Lg	Lg	04 26 49.3	
	0.1nm,0.3s,baz=228,slow=23,SNR=2.9						
KURBB	**Kurchatov Arra**	**11.59**	**15**	Pn	**Pn**	**04 24 41.6**	**-0.6**
	0.0nm,0.3s,baz=229,slow=15,SNR=4.5						
KURBB				Lg	Lg	04 27 56.4	
	0.0nm,0.3s,baz=178,slow=30,SNR=5.0						
BVA0	**Borovoye Array**	**13.73**	**351**	⇑P	**Pn**	**04 25 11.9**	**+0.5**
	4.7nm,0.8s,baz=162,slow=13,SNR=4.7						
BVAR	**Borovoye Array**	**13.73**	**351**	Pn	**Pn**	**04 25 10.1**	**-1.3**
	0.2nm,0.3s,baz=167,slow=14,SNR=5.2						
BVAR				Lg	Lg	04 29 07.5	
	0.2nm,0.3s,baz=172,slow=24,SNR=5.1						
BRVK	**Borovoye**	**13.77**	**351**	⇓P	**Pn**	**04 25 10.6**	**-1.4**
	7.7nm,0.8s						
AB31	**Akbulak array**	**13.91**	**319**	⇑P	**Pn**	**04 25 14.1**	**+0.2**
	1.1nm,0.5s						
AB31				⇓S	**Sn**	**04 27 45.2**	**-3.5**
	1.5nm,0.7s,baz=119,slow=28,SNR=4.3						
AKTO	**Aktyubinsk**	**15.62**	**320**	⇑P	**P**	**04 25 41.9**	**+0.6**
	1.4nm,0.6s						
AKTO	**Aktyubinsk**	**15.62**	**320**	Pn	**Pn**	**04 25 35.9**	**-1.1**
	0.1nm,0.3s,baz=133,slow=14,SNR=3.7						
ZALV	**Zalesovo Beam**	**16.25**	**24**	Pn	**Pn**	**04 25 43.3**	**-1.7**
	0.4nm,0.3s,baz=207,slow=13,SNR=3.1						
SONM	**Songino Array**	**24.81**	**60**	P	**P**	**04 27 18.6**	**-0.7**
	1.3nm,0.8s,baz=241,slow=8.3,SNR=3.8						
CD2	**Chengdu**	**25.80**	**100**	*eP*	**P**	**04 27 27.5**	**-0.8**
BRTR	**Keskin Array B**	**30.80**	**283**	P	**P**	**04 28 13.7**	**+0.7**
	0.4nm,0.6s,baz=82,slow=9.1,SNR=3.8						
MLR	**Muntele Rosu**	**35.40**	**296**	P	**P**	**04 28 54.1**	**+1.0**
	0.5nm,0.7s,baz=139,slow=10.0,SNR=2.7						
FINES	**FINESS Array B**	**36.34**	**323**	P	**P**	**04 29 01.5**	**+0.7**
	1.0nm,0.6s,baz=116,slow=9.4,SNR=17						
ARCES	**ARCESS Array B**	**39.29**	**335**	P	**P**	**04 29 26.4**	**+0.7**
	1.0nm,0.6s,baz=111,slow=9.2,SNR=13						
KSRS	**Korea Array**	**41.84**	**75**	P	**P**	**04 29 46.4**	**-0.7**
	0.5nm,0.3s,baz=268,slow=7.1,SNR=3.2						
HFS	**Hagfors**	**42.17**	**320**	P	**P**	**04 29 49.8**	**+0.4**
	1.1nm,0.6s,baz=101,slow=7.7,SNR=5.3						
NB2	**NORSAR Subarra**	**43.40**	**321**	P	**P**	**04 29 59.5**	**0.0**
	comp=Z,0.7nm,0.6s,baz=91,slow=8.6						
NOA	**NORSAR Array B**	**43.40**	**321**	P	**P**	**04 29 59.6**	**0.0**
	comp=Z,1.3nm,0.7s,baz=91,slow=8.0,SNR=7.2						
EKA	**Eskdalemuir Ar**	**51.73**	**315**	P	**P**	**04 31 04.5**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=81,slow=8.7,SNR=3.5						
TORD	**Torodi Ar. Bea**	**68.04**	**269**	P	**P**	**04 32 57.1**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=53,slow=5.2,SNR=4.0						
ILAR	**Eielson Array**	**71.26**	**17**	P	**P**	**04 33 14.4**	**-1.7**
	comp=Z,0.8nm,0.9s,baz=323,slow=4.7,SNR=12						
YKA	**Yellowknife Ar**	**78.12**	**4**	P	**P**	**04 33 55.5**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=348,slow=5.7,SNR=5.7						
WRA	**Warramunga Arr**	**81.73**	**124**	P	**P**	**04 34 15.4**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=327,slow=5.1,SNR=14						
ASAR	**Alice Springs**	**84.19**	**127**	P	**P**	**04 34 28.1**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=320,slow=4.8,SNR=7.3						

MAN 29 04:32:17, 10°.39N×124°.98E, h17km, mb4.5, ML3.3, MS3.2, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.28**	**206**	*eP*	Pn	04 32 25.3	-1.1
MSLP				*eS*	Sn	04 32 34.8	+2.6
OCLP	**Ormoc**	**0.76**	**331**	*eP*	Pn	04 32 33.6	+0.7
OCLP				*eS*	Sn	04 32 44.3	+0.3
PLP	**Palo**	**0.77**	**360**	⇑*iP*	Pb	04 32 31.7	-0.3
PLP				*i* S	Sn	04 32 44.0	-0.4
SCPH	**Surigao**	**0.78**	**140**	*eP*	Pb	04 32 32.0	-0.1
TBP	**Tagbilaran**	**1.30**	**238**	*eP*	Pg	04 32 44.6	+2.4
TBP				*eS*	Sg	04 33 04.9	+5.7
CNP	**Catarman**	**2.13**	**352**	*eP*	Pb	04 32 53.7	-1.5
PVCP	**Virac**	**3.29**	**346**	*eP*	Pb	04 33 12.4	-2.6

*SKO **29** 05:09:53.9, 40°.77N×27°.80E, h0km, M4.0, ML4.8*
*IDC **29** 05:10:06.0±0.7, 40°.92N×26°.76E, h0km, mb3.6/12, mb1 3.8/18, mb1mx3.7/45, mbtmp3.7/18, ML3.7/5, MS3.2/10, Ms1 3.2/10, ms1mx3.0/44, Error ellipse: s-maj=12.9km s-min=9.2km az=52.0*
*MOS **29** 05:10:05.9±1.2, 41°.02N×26°.81E, h10km, mb4.3/10, Error ellipse: s-maj=10.1km s-min=5.8km az=74.8*
*ATH **29** 05:10:05.6, 40°.98N×26°.69E, h26km±1km, MD3.5/22*
*THE **29** 05:10:06.7, 40°.98N×26°.66E, h9km, ML4.3/18, Error ellipse: s-maj=0.6km s-min=0.3km az=33.0*
*ISCJB **29** 05:10:06.7±0.4, 40°.97N±0°.01×26°.65E±0°.01, h18km±3km, mb3.8/16, MS3.2/7, Error ellipse: s-maj=2.0km s-min=1.8km az=11.0*
*CSEM **29** 05:10:06.9±0.1, 40°.95N×26°.65E, h10km, mb4.0/7, Error ellipse: s-maj=2.0km s-min=1.8km az=158.0*
*PDG **29** 05:10:06.9±0.6, 40°.94N×26°.62E, h19km, ML4.1/9, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
*DDA **29** 05:10:07.1, 40°.94N×26°.73E, h26km, ML4.4*

ISC 29 05:10:06.7±1.0, 40°.98N±0°.02×26°.67E±0°.02, h7km±7km, n376, σ1$24/478, mb3.8/16, MS3.2/7, 52C-26D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SART	**Tekirdag**	**0.48**	**126**	*i* P	**Pg**	**05 10 16.5**	**+0.5**
SART				*i* S	**Sg**	**05 10 23.1**	**+0.8**
SART	**Tekirdag**	**0.48**	**126**	*i* P	**Pg**	**05 10 16.5**	**+0.5**
SART				*i* S	**Sg**	**05 10 23.1**	**+0.8**
ALN	**Alexandroupoli**	**0.48**	**261**	P	**Pg**	**05 10 15.8**	**-0.2**
ALN				S	**Sg**	**05 10 23.1**	**+0.9**
ALN	**Alexandroupoli**	**0.48**	**261**	*e*PB	**Pg**	**05 10 16.0**	**0.0**
ALN				*e*SB	**Sg**	**05 10 23.4**	**+1.2**
ALN	**Alexandroupoli**	**0.48**	**261**	*e*Pn	**Pg**	**05 10 16.0**	**0.0**
ALN				S	**Sg**	**05 10 23.1**	**+0.9**
EDRB	**Edirne**	**0.87**	**4**	P	**Pg**	**05 10 22.8**	**-0.7**
EDRB				S	**Sb**	**05 10 35.9**	**-0.2**
EDRB	**Edirne**	**0.87**	**4**	P	**Pg**	**05 10 22.8**	**-0.7**
EDRB				S	**Sb**	**05 10 35.9**	**-0.2**
RDO	**Rodhopi**	**0.88**	**282**	P	**Pg**	**05 10 22.9**	**-0.6**
RDO	**Rodhopi**	**0.88**	**282**	*e*PN	**Pg**	**05 10 22.9**	**-0.6**
RDO	**Rodhopi**	**0.88**	**282**	P	**Pg**	**05 10 22.9**	**-0.6**
SMTH	**Samothraki Isl**	**1.00**	**240**	P	**Pg**	**05 10 25.1**	**-0.8**
SMTH				S	**Sb**	**05 10 40.0**	**+0.1**
SMTH	**Samothraki Isl**	**1.00**	**240**	*e*PN	**Pg**	**05 10 25.1**	**-0.8**
SMTH				*e*SN	**Sb**	**05 10 39.9**	**+0.1**
SMTH	**Samothraki Isl**	**1.00**	**240**	P	**Pg**	**05 10 25.1**	**-0.8**
SMTH				*e*Sn	**Sb**	**05 10 39.9**	**+0.1**
KDZ	**Kurdzhali**	**1.16**	**306**	⇓*iP*	**Pg**	**05 10 28.8**	**-0.2**
KDZ	**Kurdzhali**	**1.16**	**306**	S	**Sg**	**05 10 43.9**	**-0.1**
KDZ	**Kurdzhali**	**1.16**	**306**	⇓*iP*	**Pg**	**05 10 28.8**	**-0.2**
SLVT	**Silivri**	**1.19**	**77**	*i* P	**Pb**	**05 10 27.8**	**-1.8**
SLVT				*i* S	**Sg**	**05 10 43.3**	**-1.9**
BOZC	**Bozcaada**	**1.23**	**203**	*i* P	**Pn**	**05 10 28.9**	**-1.3**
BOZC				*i* S	**Sn**	**05 10 46.7**	**-0.4**
ELBA	**Catalca**	**1.34**	**82**	*i* P	**Pb**	**05 10 32.4**	**+0.2**
ELBA				*i* S	**Sg**	**05 10 50.6**	**+0.8**
ELBA	**Catalca**	**1.34**	**82**	*i* P	**Pb**	**05 10 32.4**	**+0.2**
ELBA				*i* S	**Sg**	**05 10 50.6**	**+0.8**
BALY	**Balya**	**1.43**	**149**	*i* P	**Pn**	**05 10 33.4**	**+0.3**
BALY				*i* S	**Sg**	**05 10 52.9**	**+0.3**
BALY	**Balya**	**1.43**	**149**	*i* P	**Pn**	**05 10 33.4**	**+0.3**
BALY				*i* S	**Sn**	**05 10 52.1**	**-0.1**
BALY				*i* S	**Sg**	**05 10 52.9**	**+0.3**
JMB	**Yambol**	**1.49**	**357**	P	**Pn**	**05 10 32.9**	**-1.0**
JMB				S	**Sn**	**05 10 53.0**	**-0.7**
JMB	**Yambol**	**1.49**	**357**	⇑*iP*	**Pn**	**05 10 33.9**	**0.0**
JMB	**Yambol**	**1.49**	**357**	S	**Sg**	**05 10 56.4**	**+1.8**
JMB	**Yambol**	**1.49**	**357**	P	**Pn**	**05 10 32.9**	**-1.0**
JMB				S	**Sn**	**05 10 53.0**	**-0.7**
LIA	**Limnos Island**	**1.56**	**227**	P	**Pn**	**05 10 33.7**	**-1.2**
LIA				S	**Sn**	**05 10 54.6**	**-0.8**
LIA	**Limnos Island**	**1.56**	**227**	*e*PN	**Pn**	**05 10 33.8**	**-1.2**
LIA				*e*SN	**Sn**	**05 10 54.9**	**-0.5**
LIA	**Limnos Island**	**1.56**	**227**	S	**Sn**	**05 10 54.6**	**-0.8**
KAVA	**Kavala**	**1.63**	**271**	P	**Pn**	**05 10 34.8**	**-1.1**
KAVA				S	**Sn**	**05 10 56.1**	**-1.1**
KAVA	**Kavala**	**1.63**	**271**	*e*PN	**Pn**	**05 10 34.9**	**-1.0**
KAVA	**Kavala**	**1.63**	**271**	*e*Pn	**Pn**	**05 10 34.9**	**-1.0**
KAVA				S	**Sn**	**05 10 56.1**	**-1.1**
AYVA	**Ayvalik**	**1.67**	**180**	*i*

CHOS	Chios island	2.63	191	*e*PN	Pn	05	10	49.4	-0.2
CHOS	Chios island	2.63	191	P	Pn	05	10	49.0	-0.6
CHOS	Chios island	2.63	191	*e*Pb	Pn	05	10	49.4	-0.2
CHOS				S	Sn	05	11	21.1	-0.7
ZEY	˙zmir	2.74	183	*i* P	Pn	05	10	50.8	-0.2
ZEY				*i* S	Sg	05	11	32.6	-1.9
HORT	Hortiatis	2.74	263	P	Pn	05	10	50.0	-1.2
HORT				S	Sn	05	11	24.5	-0.1
HORT	Hortiatis	2.74	263	*e*PB	Pn	05	10	51.5	+0.3
HORT	Hortiatis	2.74	263	P	Pn	05	10	50.0	-1.2
HORT	Hortiatis	2.74	263	*e*Pb	Pn	05	10	51.5	+0.3
HORT				S	Sn	05	11	24.5	-0.1
AOS	Alonnisos	2.80	231	P	Pn	05	10	51.1	-0.8
AOS				S	Sn	05	11	26.1	+0.2
AOS	Alonnisos	2.80	231	*e*PN	Pn	05	10	50.7	-1.2
AOS	Alonnisos	2.80	231	*e*Pn	Pn	05	10	50.7	-1.2
AOS	Alonnisos	2.80	231	P	Pn	05	10	51.1	-0.8
AOS				S	Sn	05	11	26.1	+0.2
THE	Thessaloniki	2.83	264	P	Pn	05	10	51.7	-0.7
THE				S	Sn	05	11	26.6	-0.2
THE	Thessaloniki	2.83	264	*e*PN	Pn	05	10	52.5	+0.1
THE	Thessaloniki	2.83	264	P	Pn	05	10	51.7	-0.7
THE	Thessaloniki	2.83	264	*e*Pn	Pn	05	10	52.5	+0.1
THE				S	Sn	05	11	26.6	-0.2
ZIMR		2.85	341	⇓*i*P	Pn	05	10	53.1	+0.5
ZIMR		2.85	341	S	Sn	05	11	28.5	+1.3
KNT	Kendrikon	2.86	275	P	Pn	05	10	51.9	-0.8
KNT				S	Sn	05	11	26.8	-0.6
KNT	Kendrikon	2.86	275	*e*PN	Pn	05	10	52.4	-0.3
KNT	Kendrikon	2.86	275	P	Pn	05	10	51.9	-0.8
KNT	Kendrikon	2.86	275	*e*Pn	Pn	05	10	52.4	-0.3
KNT				S	Sn	05	11	26.8	-0.6
GDZ	Gediz	2.86	130	*i* P	Pn	05	10	53.4	+0.5
GDZ				*i* S	Sn	05	11	27.1	-0.6
GDZ	Gediz	2.86	130	*i* P	Pn	05	10	53.4	+0.5
GDZ				*i* S	Sn	05	11	27.1	-0.6
MANT	Manisa	2.88	149	*i* P	Pn	05	10	54.3	+1.1
MANT	Manisa	2.88	149	*i* P	Pn	05	10	54.3	+1.1
MANT				*i* S	Sn	05	11	29.6	+1.4
KULA	Kula-Manisa	2.90	147	P	Pn	05	10	52.7	-0.6
KULA	Kula-Manisa	2.90	147	P	Pn	05	10	52.7	-0.6
PSN	Preselentsi	2.93	22	⇑*i*P	Pn	05	10	54.0	+0.3
PSN	Preselentsi	2.93	22	⇑*i*P	Pn	05	10	54.0	+0.3
VTS	Vitosha	3.05	303	P	Pn	05	10	54.7	-0.8
VTS	Vitosha	3.05	303	⇑*i*P	Pn	05	10	55.3	-0.2
VTS	Vitosha	3.05	303	S	Sn	05	11	32.7	+0.3
VTS	Vitosha	3.05	303	P	Pn	05	10	54.7	-0.8
BORA	Eskisehir	3.09	110	*i* P	Pn	05	10	55.4	-0.5
BORA				*i* S	Sn	05	11	31.2	-2.0
BORA	Eskisehir	3.09	110	*i* P	Pn	05	10	55.4	-0.5
BORA				*i* S	Sn	05	11	31.2	-2.0
XOR	Xorichti	3.11	240	*e*PN	Pn	05	10	54.5	-1.8
XOR	Xorichti	3.11	240	*e*Pn	Pn	05	10	54.5	-1.8
VAY	Valandovo	3.12	278	P	Pn	05	10	55.4	-0.9
VAY	Valandovo	3.12	278	*e*Pn	Pn	05	10	56.8	+0.6
VAY				*e*Lg	Lg	05	11	43.4	
	comp=N,733nm,0.7s								
VAY				*e*Sn	Sb	05	11	43.5	+2.8
VAY				*e*Lg	Lg	05	11	43.8	
	comp=E,1µm,0.9s								
VAY	Valandovo	3.12	278	P	Pn	05	10	55.4	-0.9
VAY	Valandovo	3.12	278	*e*Pn	Pn	05	10	56.8	+0.6
VAY				*e*Lg	Lg	05	11	43.7	
	comp=E,1µm,0.9s								
MANR	Mangalia	3.17	26	⇑*i*P	Pn	05	10	58.1	+1.1
MANR	Mangalia	3.17	26	⇑*i*P	Pn	05	10	58.1	+1.1
MSAB	Monastry St. A	3.23	15	⇑*i*P	Pn	05	10	59.2	+1.4
MSAB	Monastry St. A	3.23	15	⇑*i*P	Pn	05	10	59.2	+1.4
MSAB				S	Sn	05	11	39.9	+3.4
GRG	Griva	3.23	271	P	Pn	05	10	56.8	-1.1
GRG				S	Sn	05	11	36.2	-0.5
GRG	Griva	3.23	271	*e*PN	Pn	05	10	58.6	+0.7
GRG	Griva	3.23	271	P	Pn	05	10	56.8	-1.1
GRG	Griva	3.23	271	*e*Pn	Pn	05	10	58.6	+0.7
GRG				S	Sn	05	11	36.2	-0.5
ALT	Altintas	3.26	125	P	Pn	05	10	58.1	-0.3
ALT	Altintas	3.26	125	P	Pn	05	10	58.1	-0.3
SMG	Samos	3.26	178	P	Pn	05	10	58.0	-0.3
SMG	Samos	3.26	178	*e*PN	Pn	05	10	58.1	-0.3
SMG	Samos	3.26	178	P	Pn	05	10	58.0	-0.3
MRKA	Markates	3.28	227	*e*PN	Pn	05	10	57.0	-1.6
MRKA	Markates	3.28	227	*e*Pn	Pn	05	10	57.0	-1.6
GCAM	G?zelcaml?	3.30	172	*i* P	Pn	05	10	58.4	-0.4
GCAM	G?zelcaml?	3.30	172	*i* P	Pn	05	10	58.4	-0.4
GCAM				*i* S	Sb	05	11	42.3	-3.6
LIT	Litokhoron	3.30	256	P	Pn	05	10	57.9	-1.0
LIT	Litokhoron	3.30	256	*e*PN	Pn	05	10	59.2	+0.3
LIT	Litokhoron	3.30	256	P	Pn	05	10	57.9	-1.0
LIT	Litokhoron	3.30	256	*e*Pn	Pn	05	10	59.2	+0.3
BUC1	Bucharest	3.40	352	⇑*i*P	Pn	05	11	00.9	+0.7
BUC1	Bucharest	3.40	352	⇑*i*P	Pn	05	11	00.9	+0.7
EFOR	EFORIE	3.42	24	⇑*i*P	Pn	05	11	02.0	+1.5
EFOR	EFORIE	3.42	24	⇑*i*P	Pn	05	11	02.0	+1.5
EFOR				S	Sn	05	11	44.7	+3.4
AYDN	Tasoluk	3.44	164	*i* P	Pn	05	11	00.7	0.0
AYDN	Tasoluk	3.44	164	*i* P	Pn	05	11	00.7	0.0
AYDN				*i* S	Sb	05	11	52.4	+2.4
AMRR	Amara	3.67	7	⇑*i*P	Pn	05	11	04.2	+0.4
AMRR	Amara	3.67	7	⇑*i*P	Pn	05	11	04.2	+0.4
TIRR	Tirgusor	3.71	20	⇑*i*P	Pn	05	11	05.6	+1.2
TIRR	Tirgusor	3.71	20	⇑*i*P	Pn	05	11	05.6	+1.2
SULR		3.71	355	⇑*i*P	Pn	05	11	04.8	+0.3
SULR		3.71	355	⇑*i*P	Pn	05	11	04.8	+0.3
TLB	Topalu	3.75	15	⇑*i*P	Pn	05	11	06.3	+1.4
TLB	Topalu	3.75	15	⇑*i*P	Pn	05	11	06.3	+1.4
VIL2	Platees	3.81	225	*e*PN	Pn	05	11	04.6	-1.2
VILL	Villia	3.82	224	*e*Pn	Pn	05	11	04.6	-1.4
THL	Klokotos Trika	3.83	250	P	Pn	05	11	05.3	-0.8
THL	Klokotos Trika	3.83	250	*e*PN	Pn	05	11	05.7	-0.4
THL	Klokotos Trika	3.83	250	P	Pn	05	11	05.3	-0.8
THL	Klokotos Trika	3.83	250	*e*Pn	Pn	05	11	05.7	-0.4
AGG	Agios Georgios	3.86	241	P	Pn	05	11	05.7	-0.8
AGG	Agios Georgios	3.86	241	*e*PN	Pn	05	11	05.8	-0.8
AGG	Agios Georgios	3.86	241	P	Pn	05	11	05.7	-0.8
BDRM	Kayabasi	3.95	171	*i* P	Pn	05	11	07.3	-0.4
BDRM	Kayabasi	3.95	171	*i* P	Pn	05	11	07.3	-0.4
BDRM				*i* S	Sb	05	12	07.8	+3.2
CRAR	CRAIOVA	3.96	329	⇑*i*P	Pn	05	11	09.1	+1.2
CRAR	CRAIOVA	3.96	329	⇑*i*P	Pn	05	11	09.1	+1.2
APE	Apeiranthos	4.00	193	*e*PN	Pn	05	11	08.0	-0.5
APE	Apeiranthos	4.00	193	*e*P	Pn	05	11	07.5	-1.0
APE	Apeiranthos	4.00	193	⇓*i*P	Pn	05	11	07.3	-1.2
APE	Apeiranthos	4.00	193	*e*P	Pn	05	11	07.5	-1.0
APE	Apeiranthos	4.00	193	*e*Pn	Pn	05	11	08.0	-0.5
FNA	Florina	4.02	269	*e*PN	Pn	05	11	09.0	+0.3
FNA	Florina	4.02	269	*e*Pn	Pn	05	11	09.0	+0.3
NAIG	Nisos Aigina	4.05	219	*e*PN	Pn	05	11	07.9	-1.2
NAIG	Nisos Aigina	4.05	219	*e*Pn	Pn	05	11	07.9	-1.2
SKO	Skopje	4.05	286	*e*Pn	Pn	05	11	09.8	+0.6
SKO	Skopje	4.05	286	*e*Pn	Pn	05	11	09.7	+0.6
GOLR		4.06	343	⇑*i*P	Pn	05	11	10.2	+0.9
GOLR		4.06	343	⇑*i*P	Pn	05	11	10.2	+0.9
BARS	Barje	4.07	299	*e*Pn	Pn	05	11	09.5	+0.2
BCAM	Yenicaga	4.09	90	*i* P	Pn	05	11	09.6	-0.2
BCAM	Yenicaga	4.09	90	*i* P	Pn	05	11	09.6	-0.2
BCAM				*i* S	Sb	05	12	09.6	+0.8
DSF	Desfina	4.10	233	*e*PN	Pn	05	11	08.3	-1.5
DSF	Desfina	4.10	233	*e*Pn	Pn	05	11	08.3	-1.5
LTK	Loutraki	4.11	225	*e*PN	Pn	05	11	08.8	-1.2
LTK	Loutraki	4.11	225	*e*Pn	Pn	05	11	08.8	-1.2
ISR	Istrita	4.14	359	⇓*i*P	Pn	05	11	11.9	+1.5
ISR	Istrita	4.14	359	⇓*i*P	Pn	05	11	11.9	+1.5
EVR	Evrytania	4.27	243	*e*PN	Pn	05	11	12.8	+0.6
EVR	Evrytania	4.27	243	*e*Pn	Pn	05	11	12.8	+0.6
NEST	Nestorio	4.31	264	P	Pn	05	11	11.9	-0.9
NEST				S	Sn	05	12	03.3	-0.1
NEST	Nestorio	4.31	264	*e*PN	Pn	05	11	13.0	+0.2
NEST	Nestorio	4.31	264	P	Pn	05	11	11.9	-0.9
NEST	Nestorio	4.31	264	*e*Pn	Pn	05	11	13.0	+0.2
NEST				S	Sn	05	12	03.3	-0.1
CFR	Carcaliu	4.34	14	⇓*i*P	Pn	05	11	13.4	+0.4
CFR	Carcaliu	4.34	14	⇓*i*P	Pn	05	11	13.4	+0.4
ISP	Isparta	4.34	135	*i* P	Pn	05	11	13.7	+0.6
ISP	Isparta	4.34	135	*i* P	Pn	05	11	13.7	+0.6
KALE	Kalithea	4.34	235	*e*PN	Pn	05	11	12.2	-1.0
KALE	Kalithea	4.34	235	*e*Pn	Pn	05	11	12.2	-1.0
DID	Didima	4.37	219	*e*PN	Pn	05	11	12.2	-1.4
DID	Didima	4.37	219	*e*Pn	Pn	05	11	12.2	-1.4
GRER		4.41	3	⇓*i*P	Pn	05	11	15.4	+1.4
GRER		4.41	3	⇓*i*P	Pn	05	11	15.4	+1.4
OHR	Ohrid	4.44	274	*e*Pn	Pn	05	11	13.8	-0.8
OHR	Ohrid	4.44	274	*e*Pn	Pn	05	11	13.7	-0.8
SRE	Strehaia	4.48	326	⇑*i*P	Pn	05	11	15.8	+0.8
SRE	Strehaia	4.48	326	⇑*i*P	Pn	05	11	15.8	+0.8
TLCR		4.49	20	⇑*i*P	Pn	05	11	16.1	+1.0
TLCR		4.49	20	⇑*i*P	Pn	05	11	16.1	+1.0
BOLS	Boljevac	4.51	311	*e*Pn	Pn	05	11	15.5	+0.1
GUR	Goura	4.52	229	*e*PN	Pn	05	11	14.4	-1.3
GUR	Goura	4.52	229	*e*Pn	Pn	05	11	14.4	-1.3
MLR	Muntele Rosu	4.54	354	Pn	Pn	05	11	17.4	+1.3
	baz=223,slow=5.7								
MLR				Sn	Sn	05	12	12.5	+3.4
	comp=E,1.7nm,0.3s,baz=300,slow=20,SNR=2.9								
MLR				Lg	Lg	05	12	36.1	
	comp=E,2.6nm,0.3s,baz=91,slow=21,SNR=6.3								
MLR				LR	LR	05	13	27.8	
	comp=E,144nm,18.8s,baz=179,slow=44								
MLR	Muntele Rosu	4.54	354	⇑*i*P	Pn	05	11	16.6	+0.6
KLV	Kalavryta, Ach	4.56	232	*e*PN	Pn	05	11	15.0	-1.2
KLV	Kalavryta, Ach	4.56	232	*e*Pn	Pn	05	11	15.0	-1.2
VOIR		4.62	346	⇓*i*P	Pn	05	11	17.7	+0.8
VOIR		4.62	346	⇓*i*P	Pn	05	11	17.7	+0.8
DSL	Palaion Diasel	4.66	249	*e*PN	Pn	05	11	19.2	+1.7
DSL	Palaion Diasel	4.66	249	*e*Pn	Pn	05	11	19.2	+1.7
SANT	Santorini	4.69	192	*e*PN	Pn	05	11	17.2	-0.8
SANT	Santorini	4.69	192	*e*Pn	Pn	05	11	17.2	-0.8
SELS	Selova	4.70	300	*e*Pn	Pn	05	11	17.6	-0.5
PETR	Petresti	4.76	5	⇑*i*P	Pn	05	11	19.0	+0.1
PETR	Petresti	4.76	5	⇑*i*P	Pn	05	11	19.0	+0.1
PLOR	Plostina	4.87	360	⇓*i*P	Pn	05	11	21.8	+1.3
PLOR	Plostina	4.87	360	⇓*i*P	Pn	05	11	21.8	+1.3
DRO	Drossia	4.88	233	*e*PN	Pn	05	11	20.7	+0.1
DRO	Drossia	4.88	233	*e*Pn	Pn	05	11	20.7	+0.1
VRI	Vrincioaia	4.89	0	⇑*i*P	Pn	05	11	21.5	+0.8
VRI	Vrincioaia	4.89	0	⇑*i*P	Pn	05	11	21.5	+0.8
VLX	Vlachokerasia	4.91	224	*e*PN	Pn	05	11	20.5	-0.5
VLX	Vlachokerasia	4.91	224	*e*Pn	Pn	05	11	20.5	-0.5
LOT	Lotru	4.95	336	⇑*i*P	Pn	05	11	20.8	-0.8
LOT	Lotru	4.95	336	⇑*i*P	Pn	05	11	20.8	-0.8
DOPR	Dopca	5.08	350	⇓*i*P	Pn	05	11	24.0	+0.8
DOPR	Dopca	5.08	350	⇓*i*P	Pn	05	11	24.0	+0.8
LKD2	Lefkada island	5.12	247	*e*PN	Pn	05	11	25.9	+2.1
LKD2	Lefkada island	5.12	247	*e*Pn	Pn	05	11	25.9	+2.1
AMT	Artemida-Makis	5.16	230	*e*PN	Pn	05	11	25.4	+1.0
AMT	Artemida-Makis	5.16	230	*e*Pn	Pn	05	11	25.4	+1.0
GZR	Gura Zlata	5.25	328	⇑*i*P	Pn	05	11	25.3	-0.4
GZR	Gura Zlata	5.25	328	⇑*i*P	Pn	05	11	25.3	-0.4
PVY	Plav	5.27	290	⇓*i*Pn	Pn	05	11	25.9	-0.1
PVY				*e*Sn	Sn	05	12	25.7	-1.4
BEY	Berane	5.40	293	⇓*i*Pn	Pn	05	11	27.8	+0.1
BEY				*e*Sn	Sn	05	12	27.9	-2.3
IVA	Berane	5.40	293	⇓*i*Pn	Pn	05	11	27.8	+0.1
IVA				*e*Sn	Sn	05	12	27.9	-2.3
KEK	Kerkira	5.40	259	*e*PN	Pn	05	11	31.1	+3.4
KEK	Kerkira	5.40	259	*e*Pn	Pn	05	11	31.1	+3.4
MDB	Medias	5.43	343	⇑*i*P	Pn	05	11	29.0	+1.0
BRTR	Keskin Array B	5.47	101	Pn	Pn	05	11	28.2	-0.5
	comp=E,1.0nm,0.3s,baz=279,slow=12,SNR=38								
BRTR				Sn	Sn	05	12	29.8	-2.2
	comp=E,1.0nm,0.3s,baz=301,slow=12,SNR=2.9								
BRTR	Keskin Array B	5.47	101	*i* P	Pn	05	11	28.2	-0.5
BRTR				pmax	pmax				
	comp=Z,5.0nm,0.6s								
BRTR	Keskin Array B	5.47	101	*i* P	Pn	05	11	28.2	-0.5
	comp=Z,5.0nm,0.6s								
KYTH	Kithira	5.48	212	*e*PN	Pn	05	11	28.2	-0.6
KYTH	Kithira	5.48	212	*e*Pn	Pn	05	11	28.2	-0.6
TESR	Tescani	5.54	360	⇑*i*P	Pn	05	11	30.1	+0.6
PYL	PYLOS	5.60	225	*e*PN	Pn	05	11	31.0	+0.6
PYL	PYLOS	5.60	225	*e*Pn	Pn	05	11	31.0	+0.6
DEV	Deva	5.62	332	⇓*i*P	Pn	05	11	30.0	-0.7
ULC	Ulcinj	5.67	282	*e*Pn	Pn	05	11	32.1	+0.8
ULC				*e*Sn	Sn	05	12	35.1	-1.6
ULC	Ulcinj	5.67	282	*e*Pn	Pn	05	11	32.1	+0.8
ULC				*e*Sn	Sn	05	12	35.1	-1.6
PDG	Podgorica	5.74	287	⇑*i*Pn	Pn	05	11	33.2	+0.9
PDG				*e*Sn	Sn	05	12	37.0	-1.4
TTG	Podgorica	5.74	287	⇑*i*Pn	Pn	05	11	33.2	+0.9
TTG				*e*Sn	Sn	05	12	37.0	-1.4
DRME	Dracevica, Mon	5.74	285	*e*Pn	Pn	05	11	32.2	-0.2
DRME				*e*Sn	Sn	05	12	36.6	-2.0
DRME	Dracevica, Mon	5.74	285	*e*Pn	Pn	05	11	32.2	-0.2
DRME				*e*Sn	Sn	05	12	36.6	-2.0
ANKY	Antikythira Is	5.75	208	*e*PN	Pn	05	11	31.4	-1.0
ANKY	Antikythira Is	5.75	208	*e*Pn	Pn	05	11	31.4	-1.0
DIVS	Divibare	5.84	305	⇓*i*P	Pn	05	11	32.2	-1.6
IDI	Anoyia	5.85	194	Pn	Pn	05	11	33.1	-0.8
	comp=Z,1.7nm,0.3s,baz=349,slow=8.2,SNR=16								
IDI				Sn	Sn	05	12	39.7	-1.6
	comp=Z,1.5nm,0.3s,baz=289,slow=18,SNR=2.1								
BZS	Buzias	5.93	323	⇑*i*P	Pn	05	11	34.1	-0.8
KARN	Karanos	5.97	202	*e*PN	Pn	05	11	36.7	+1.2
KARN	Karanos	5.97	202	*e*Pn	Pn	05	11	36.7	+1.2
BUM	Brajici-Budva	5.98	285	*e*Pn	Pn	05	11	36.4	+0.8
BUM				*e*Sn	Sn	05	12	41.2	-3.2
BUM	Brajici-Budva	5.98	285	*e*Pn	Pn	05	11	36.4	+0.8
BUM				*e*Sn	Sn	05	12	41.2	-3.2
NKME	Niksic	6.03	290	*e*Pn	Pn	05	11	37.1	+0.7
NKME				*e*Sn	Sn	05	12	42.9	-2.9
NKME	Niksic	6.03	290	*e*Pn	Pn	05	11	37.1	+0.7
NKME				*e*Sn	Sn	05	12	42.9	-2.9
CJR	Cluj-Napoca	6.15	340	⇑*i*P	Pn	05	11	38.4	+0.4
UPM	Unac-Piva	6.19	294	*e*Pn	Pn	05	11	39.4	+0.7
UPM				*e*Sn	Sn	05	12	47.6	-2.2
UPM	Unac-Piva	6.19	294	*e*Pn	Pn	05	11	39.4	+0.7
UPM				*e*Sn	Sn	05	12	47.6	-2.2
KIS	Kishinev	6.22	14	*e*P	Pn	05	11	40.0	+1.2
KIS				*e*S	Sn	05	12	50.0	-0.1
KIS				LRM	MLR	05	14	14.0	
	comp=Z,1µm,12.0s								
KIS	Kishinev	6.22	14	*e*P	Pn	05	11	40.0	+1.2
KIS				*e*S	Sn	05	12	50.0	-0.1
KIS				MLR	MLR				
	comp=Z,900nm,10.0s								
KIS				MLR	MLR				
	comp=Z,1µm,12.0s								
KIS	Kishinev	6.22	14	*e*P	Pn	05	11	40.0	+1.2
KIS				*e*S	Sn	05	12	50.0	-0.1
	comp=Z,1µm,12.0s								
SEV	Sevastopol'	6.26	53	*e*P	Pn	05	11	39.4	-0.1
SEV				*e*S	Sn	05	12	47.7	-3.6
SEV	Sevastopol'	6.26	53	*e*P	Pn	05	11	39.4	-0.1
HCY	Herceg Novi	6.29	286	⇓*i*Pn	Pn	05	11	40.1	+0.2
HCY				*e*Sn	Sn	05	12	49.9	-2.2
HCY	Herceg Novi	6.29	286	⇓*i*Pn	Pn	05	11	40.1	+0.2
HCY				*e*Sn	Sn	05	12	49.9	-2.2
BRY	Bratogost	6.36	290	*e*Pn	Pn	05	11	41.0	0.0
BRY				*e*Sn	Sn	05	12	51.8	-2.2
BRY	Bratogost	6.36	290	*e*Pn	Pn	05	11	41.0	0.0
BRY				*e*Sn	Sn	05	12	51.8	-2.2
PRAR	RASCA	6.39	357	⇑*i*P	Pn	05	11	43.5	+2.2
SIRR	Siria	6.42	327	⇓*i*P	Pn	05	11	41.4	-0.3
DRGR		6.48	335	⇑*i*P	Pn	05	11	43.4	+0.9
YAL	Yalta	6.53	55	*e*P	Pn	05	11	40.3	-2.9
YAL				*e*S	Sn	05	12	50.4	-7.5
BURAR	Bucovina Array	6.72	352	⇓*i*P	Pn	05	11	47.1	+1.2
SIM	Simferopol'	6.75	52	*ce*P	Pn	05	11	47.7	+1.5
SIM				*e*S	Sn	05	12	57.0	-6.3
SIM				pmax	pmax				
	comp=Z,11nm,0.7s								
SIM				smax	smax				
	comp=N,99µm,0.9s								
SIM				MLR	MLR				
	comp=N,100nm,10.0s								
SIM	Simferopol'	6.75	52	*e*P	Pn	05	11	47.7	+1.5
	comp=N,11nm,0.7s								
ALU	Alushta	6.78	54	*e*P	Pn	05	11	45.7	-0.9
ALU				*e*S	Sn	05	12	58.8	-5.3
ALU	Alushta	6.78	54	*e*P	Pn	05	11	45.7	-0.9
STON	Ston	6.96	289	*e*Pn	Pn	05	11	51.5	+2.6
SUDU	Sudak	7.25	55	*e*P	Pn	05	11	52.5	-0.6
SUDU				*e*S	Sn	05	13	11.0	-4.7
SUDU	Sudak	7.25	55	*e*P	Pn	05	11	52.5	-0.6
FEO	Feodosiya	7.56	55	*e*P	Pn	05	11	56.5	-0.8
FEO				*e*S	Sn	05	13	17.8	-5.4
FEO	Feodosiya	7.56	55	*e*P	Pn	05	11	56.5	-0.8
PKSM	Moragy	7.83	315	⇑*i*P	Pn	05	12	00.2	-0.8
PKSM	Moragy	7.83	315	⇑*i*P	Pn	05	12	00.2	-0.8
KOLS	Kolonicke sedl	8.54	340	*e*PN	Pn	05	12	11.1	+0.3
KOLS	Kolonicke sedl	8.54	340	*e*P	Pn	05	12	11.1	+0.3
KOLS	Kolonicke sedl	8.54	340	*e*PN	Pn	05	12	11.1	+0.3
ANN	Anapa	8.78	61	*e*P	Pn	05	12	11.5	-2.4
ANN				*e*S	Sn	05	13	49.8	-3.3
ANN				pmax	pmax				
	comp=Z,10.0nm,0.6s								
UDBI	Udbina	8.78	297	*e*Pn	Pn	05	12	15.1	+1.0
UDBI	Udbina	8.78	297	*e*Pn	Pn	05	12	15.0	+1.0
STHS	Stebnicka Huta	9.27	337	*e*P	Pn	05	12	20.2	-0.5
STHS	Stebnicka Huta	9.27	337	*e*P	Pn	05	12	20.2	-0.5
STHS	Stebnicka Huta	9.27	337	*e*PN	Pn	05	12	20.1	-0.6
NVLJ	Novalja	9.39	296	*e*Pn	Pn	05	12	24.1	+1.7
KIEV	Kiev	9.88	9	*i* P	Pn	05	12	30.7	+1.6
KIEV	Kiev	9.88	9	*i* P	Pn

comp=Z,2.3nm,0.8s,baz=303,slow=6.9,SNR=3.3
ULM Lac du Bonnet 76.15 326 P **P** 05 21 55.1 -0.1
ULM pmax pmax
comp=Z,2.0nm,0.8s

*ISCJB **29** 05:13:08.0±0.4, 41°.01N±0°.02×26°.65E±0°.02, h6^{km}±3^{km}, Error ellipse: s-maj=3.8km s-min=2.6km az=169.9*
*CSEM **29** 05:13:08.5±0.1, 41°.01N×26°.65E, h8^{km}, ML3.4, Error ellipse: s-maj=3.8km s-min=2.7km az=173.0*
*ISK **29** 05:13:08.2, 40°.98N×26°.69E, h10^{km}, ML3.4*
*ATH **29** 05:13:09.4, 40°.95N×26°.59E, h26^{km}±2^{km}, MD3.4/12*
*DDA **29** 05:13:09.2, 40°.95N×26°.73E, h7^{km}, MD3.5*
*SOF **29** 05:13:10.8, 41°.00N×26°.54E, h15^{km}, MD3.3*

ISC 29 05:13:08.9±0.9, 40°.98N±0°.02×26°.67E±0°.01, h11^{km}±8^{km}, n139, σ0.67/165, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERIK	**Erikli-Kesan**	**0.33**	**201**	PG	**Pg**	**05 13 15.2**	**-0.4**
ERIK				*e*SG	**Sg**	**05 13 20.3**	**+0.3**
ERIK	**Erikli-Kesan**	**0.33**	**201**	*i* Pg	**Pg**	**05 13 15.2**	**-0.4**
ERIK				*e*Sg	**Sg**	**05 13 20.3**	**+0.3**
ENEZ	**Enez**	**0.46**	**238**	*e*PG	**Pg**	**05 13 17.9**	**-0.1**
ENEZ	**Enez**	**0.46**	**238**	*e*Pg	**Pg**	**05 13 17.9**	**-0.1**
RKY	**Sarkoy-Tekirda**	**0.48**	**127**	*e*PG	**Pg**	**05 13 18.5**	**+0.1**
RKY	**Sarkoy-Tekirda**	**0.48**	**127**	*e*Pg	**Pg**	**05 13 18.5**	**+0.1**
ALN	**Alexandroupoli**	**0.48**	**260**	*e*PG	**Pg**	**05 13 18.0**	**-0.4**
ALN				*e*SG	**Sb**	**05 13 26.4**	**-0.1**
ALN	**Alexandroupoli**	**0.48**	**260**	*e*PB	**Pg**	**05 13 17.9**	**-0.4**
ALN				*e*SB	**Sg**	**05 13 24.6**	**-0.2**
ALN	**Alexandroupoli**	**0.48**	**260**	*e*Pg	**Pg**	**05 13 18.0**	**-0.4**
ALN				*e*Sb	**Sg**	**05 13 24.6**	**-0.2**
ALN				*e*Sg	**Sb**	**05 13 26.4**	**-0.1**
SART	**Tekirdag**	**0.48**	**127**	*i* P	**Pg**	**05 13 18.3**	**-0.1**
SART				*i* S	**Sg**	**05 13 25.0**	**+0.2**
SART	**Tekirdag**	**0.48**	**127**	*i* P	**Pg**	**05 13 18.3**	**-0.1**
SART				*i* S	**Sg**	**05 13 25.0**	**+0.2**
GELI	**Tayfur-Gelibol**	**0.60**	**195**	*e*PG	**Pg**	**05 13 19.9**	**-0.7**
GELI	**Tayfur-Gelibol**	**0.60**	**195**	*e*Pg	**Pg**	**05 13 19.9**	**-0.7**
LPK	**Lapseki**	**0.61**	**174**	*e*PG	**Pg**	**05 13 20.9**	**+0.1**
LPK	**Lapseki**	**0.61**	**174**	*e*Pg	**Pg**	**05 13 20.9**	**+0.1**
TKR	**Tekirdag**	**0.65**	**89**	*e*PG	**Pg**	**05 13 21.6**	**0.0**
TKR	**Tekirdag**	**0.65**	**89**	*e*Pg	**Pg**	**05 13 21.6**	**0.0**
MRMT	**Marmara Adasi**	**0.80**	**118**	*e*PG	**Pg**	**05 13 23.4**	**-0.9**
MRMT	**Marmara Adasi**	**0.80**	**118**	*e*Pg	**Pg**	**05 13 23.4**	**-0.9**
CRLT	**Corlu**	**0.82**	**79**	*e*PG	**Pg**	**05 13 24.9**	**+0.2**
CRLT	**Corlu**	**0.82**	**79**	*e*Pg	**Pg**	**05 13 24.9**	**+0.2**
EDRB	**Edirne**	**0.87**	**4**	*e*PG	**Pg**	**05 13 25.2**	**-0.5**
EDRB	**Edirne**	**0.87**	**4**	*e*Pg	**Pg**	**05 13 25.2**	**-0.5**
RDO	**Rodhopi**	**0.87**	**281**	*e*PN	**Pg**	**05 13 25.1**	**-0.7**
RDO	**Rodhopi**	**0.87**	**281**	*e*Pn	**Pg**	**05 13 25.1**	**-0.7**
PHSR	**Pinarhisar**	**0.91**	**44**	*e*PG	**Pg**	**05 13 26.2**	**-0.3**
PHSR	**Pinarhisar**	**0.91**	**44**	*e*Pg	**Pg**	**05 13 26.2**	**-0.3**
GADA	**Gvkgeada**	**0.98**	**217**	*e*PG	**Pg**	**05 13 27.5**	**-0.4**
GADA	**Gvkgeada**	**0.98**	**217**	*e*Pg	**Pg**	**05 13 27.5**	**-0.4**
SMTH	**Samothraki Isl**	**1.01**	**240**	*e*PN	**Pb**	**05 13 28.4**	**+0.1**
SMTH				*e*SN	**Sg**	**05 13 41.2**	**-0.2**
SMTH	**Samothraki Isl**	**1.01**	**240**	*e*Pn	**Pb**	**05 13 28.4**	**+0.1**
SMTH				*e*Sn	**Sg**	**05 13 41.2**	**-0.2**
EDC	**Edincik**	**1.10**	**125**	*e*PN	**Pb**	**05 13 29.4**	**-0.6**
EDC	**Edincik**	**1.10**	**125**	*e*Pn	**Pb**	**05 13 29.4**	**-0.6**
BNT	**Bandirma**	**1.14**	**123**	*e*PN	**Pb**	**05 13 29.8**	**-0.8**
BNT	**Bandirma**	**1.14**	**123**	*e*Pn	**Pb**	**05 13 29.8**	**-0.8**
KDZ	**Kurdzhali**	**1.16**	**306**	*i* P	**Pb**	**05 13 30.9**	**-0.1**
KDZ	**Kurdzhali**	**1.16**	**306**	*i* P	**Pb**	**05 13 30.9**	**-0.1**
EZN	**Ezine**	**1.18**	**193**	*e*PN	**Pb**	**05 13 30.7**	**-0.7**
EZN	**Ezine**	**1.18**	**193**	*e*Pn	**Pb**	**05 13 30.7**	**-0.7**
SLVT	**Silivri**	**1.19**	**77**	*e*PN	**Pb**	**05 13 30.9**	**-0.5**
SLVT	**Silivri**	**1.19**	**77**	*i* P	**Pb**	**05 13 29.8**	**-1.6**
SLVT	**Silivri**	**1.19**	**77**	*e*Pn	**Pb**	**05 13 30.9**	**-0.5**
SLVT				*i* S	**Sb**	**05 13 45.1**	**-1.7**
BOZC	**Bozcaada**	**1.23**	**203**	*i* P	**Pn**	**05 13 31.8**	**-0.2**
BOZC				*i* S	**Sn**	**05 13 49.2**	**+0.5**
CTYL	**Yal??k??y-??at**	**1.31**	**67**	*e*PN	**Pn**	**05 13 32.7**	**-0.5**
CTYL	**Yal??k??y-??at**	**1.31**	**67**	*e*Pn	**Pn**	**05 13 32.7**	**-0.5**
ELBA	**Catalca**	**1.34**	**82**	*i* P	**Pg**	**05 13 34.6**	**0.0**
ELBA				*i* S	**Sg**	**05 13 53.2**	**+1.2**
ELBA	**Catalca**	**1.34**	**82**	*i* P	**Pg**	**05 13 34.6**	**0.0**
ELBA				*i* S	**Sg**	**05 13 53.2**	**+1.2**
DIM	**Dimitrovgrad**	**1.37**	**322**	*i* P	**Pn**	**05 13 33.9**	**0.0**
DIM	**Dimitrovgrad**	**1.37**	**322**	*i* P	**Pn**	**05 13 33.9**	**0.0**
CTKS	**Kestanelik-??a**	**1.41**	**79**	*e*PN	**Pn**	**05 13 33.9**	**-0.6**
CTKS	**Kestanelik-??a**	**1.41**	**79**	*e*Pn	**Pn**	**05 13 33.9**	**-0.6**
BALY	**Balya**	**1.44**	**149**	*i* P	**Pb**	**05 13 35.9**	**+0.2**
BALY				*i* S	**Sb**	**05 13 54.2**	**+0.3**
BALY	**Balya**	**1.44**	**149**	*i* P	**Pb**	**05 13 35.9**	**+0.2**
BALY				*i* S	**Sb**	**05 13 54.2**	**+0.3**
KCTX	**Karacabey (Bur**	**1.47**	**119**	*e*PN	**Pn**	**05 13 35.4**	**+0.1**
KCTX	**Karacabey (Bur**	**1.47**	**119**	*e*Pn	**Pn**	**05 13 35.4**	**+0.1**
JMB	**Yambol**	**1.49**	**357**	*i* P	**Pg**	**05 13 37.6**	**+0.1**
JMB	**Yambol**	**1.49**	**357**	*i* P	**Pg**	**05 13 37.6**	**+0.1**
LIA	**Limnos Island**	**1.57**	**227**	*e*PB	**Pn**	**05 13 35.9**	**-0.8**
LIA				*e*SN	**Sn**	**05 13 56.0**	**-0.9**
LIA	**Limnos Island**	**1.57**	**227**	*e*Pb	**Pn**	**05 13 35.9**	**-0.8**
LIA				*e*Sn	**Sn**	**05 13 56.0**	**-0.9**
BGKT	**Bogazkoy**	**1.60**	**82**	*e*PN	**Pn**	**05 13 36.8**	**-0.3**
BGKT	**Bogazkoy**	**1.60**	**82**	*e*Pn	**Pn**	**05 13 36.8**	**-0.3**
RZN	**Rozhen**	**1.63**	**296**	*i* P	**Pn**	**05 13 37.8**	**0.0**
RZN	**Rozhen**	**1.63**	**296**	*i* P	**Pn**	**05 13 37.8**	**0.0**
KAVA	**Kavala**	**1.64**	**271**	*e*PN	**Pn**	**05 13 37.3**	**-0.3**
KAVA	**Kavala**	**1.64**	**271**	*e*Pn	**Pn**	**05 13 37.3**	**-0.3**
AYVA	**Ayvalik**	**1.67**	**180**	*i* P	**Pb**	**05 13 39.4**	**-0.3**
AYVA				*i* S	**Sg**	**05 14 02.4**	**-0.2**
AYVA	**Ayvalik**	**1.67**	**180**	*i* P	**Pb**	**05 13 39.4**	**-0.3**
AYVA				*i* S	**Sg**	**05 14 02.4**	**-0.2**
ARMT	**Armutlu**	**1.71**	**103**	*e*PN	**Pn**	**05 13 38.6**	**-0.1**
ARMT	**Armutlu**	**1.71**	**103**	*e*Pn	**Pn**	**05 13 38.6**	**-0.1**
PRK	**Paraskevi**	**1.76**	**190**	*e*PN	**Pb**	**05 13 40.4**	**-0.8**
PRK	**Paraskevi**	**1.76**	**190**	*e*Pn	**Pb**	**05 13 40.4**	**-0.8**
MDNY	**Mudanya-Bursa**	**1.79**	**109**	*e*PN	**Pn**	**05 13 40.1**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.79**	**109**	*e*Pn	**Pn**	**05 13 40.2**	**+0.5**
ISK	**Istanbul-Kandi**	**1.81**	**87**	*e*PN	**Pn**	**05 13 39.3**	**-0.6**
ISK	**Istanbul-Kandi**	**1.81**	**87**	*e*Pn	**Pn**	**05 13 39.3**	**-0.6**
KLYT	**Kilyos**	**1.81**	**81**	*e*PN	**Pn**	**05 13 39.5**	**-0.5**
KLYT	**Kilyos**	**1.81**	**81**	*e*Pn	**Pn**	**05 13 39.5**	**-0.5**
BUY	**Buyukada**	**1.86**	**93**	*i* P	**Pn**	**05 13 40.1**	**-0.5**
BUY				*i* S	**Sb**	**05 14 05.8**	**-0.3**
BUY	**Buyukada**	**1.86**	**93**	*i* P	**Pn**	**05 13 40.1**	**-0.5**
BUY				*i* S	**Sb**	**05 14 05.8**	**-0.3**
SIGR	**SIGRI**	**1.88**	**200**	*e*PN	**Pn**	**05 13 41.0**	**+0.1**
SIGR	**SIGRI**	**1.88**	**200**	*e*PB	**Pn**	**05 13 40.9**	**+0.1**
SIGR	**SIGRI**	**1.88**	**200**	*e*Pn	**Pn**	**05 13 41.0**	**+0.1**
ORLT	**Orhaneli**	**1.94**	**118**	*e*PN	**Pn**	**05 13 42.6**	**+0.8**
ORLT	**Orhaneli**	**1.94**	**118**	*e*Pn	**Pn**	**05 13 42.6**	**+0.8**
DURS	**Dursunbey**	**1.95**	**134**	*i* P	**Pb**	**05 13 44.8**	**+0.3**
DURS				*i* S	**Sb**	**05 14 09.3**	**+0.5**
DURS	**Dursunbey**	**1.95**	**134**	*i* P	**Pb**	**05 13 44.8**	**+0.3**
DURS				*i* S	**Sb**	**05 14 09.3**	**+0.5**
GEMT	**Gemlik**	**1.99**	**105**	*e*PN	**Pn**	**05 13 42.0**	**-0.4**
GEMT	**Gemlik**	**1.99**	**105**	*e*Pn	**Pn**	**05 13 42.0**	**-0.4**
DST	**Dursunbey**	**2.03**	**132**	*e*PN	**Pn**	**05 13 43.4**	**+0.4**
DST	**Dursunbey**	**2.03**	**132**	*e*Pn	**Pn**	**05 13 43.4**	**+0.4**
OUR	**Ouranopolis**	**2.15**	**253**	*e*PN	**Pn**	**05 13 45.6**	**+1.0**
OUR	**Ouranopolis**	**2.15**	**253**	*e*Pn	**Pn**	**05 13 45.6**	**+1.0**
NVR	**Nevrokopi**	**2.15**	**281**	*e*PB	**Pn**	**05 13 45.5**	**+0.7**
NVR	**Nevrokopi**	**2.15**	**281**	*e*Pb	**Pn**	**05 13 45.5**	**+0.7**
IZI	**Iznik**	**2.23**	**106**	*e*PN	**Pn**	**05 13 45.5**	**-0.3**
IZI	**Iznik**	**2.23**	**106**	*e*Pn	**Pn**	**05 13 45.5**	**-0.3**
SILT	**Sile**	**2.25**	**85**	*e*PN	**Pn**	**05 13 46.3**	**+0.3**
SILT	**Sile**	**2.25**	**85**	*e*Pn	**Pn**	**05 13 46.3**	**+0.3**
AKHS	**Akhisar**	**2.27**	**157**	*i* P	**Pn**	**05 13 47.4**	**+1.0**
AKHS				*i* S	**Sb**	**05 14 17.5**	**-0.6**
AKHS	**Akhisar**	**2.27**	**157**	*i* P	**Pn**	**05 13 47.4**	**+1.0**
AKHS				*i* S	**Sb**	**05 14 17.5**	**-0.6**
AKS	**Akhisar**	**2.27**	**157**	*e*PN	**Pn**	**05 13 47.7**	**+1.3**
AKS	**Akhisar**	**2.27**	**157**	*e*Pn	**Pn**	**05 13 47.7**	**+1.3**
HRT	**Hereke**	**2.28**	**93**	*e*PN	**Pn**	**05 13 46.2**	**-0.3**
HRT	**Hereke**	**2.28**	**93**	*e*Pn	**Pn**	**05 13 46.2**	**-0.3**
MMB	**Musomiste**	**2.30**	**286**	*i* P	**Pb**	**05 13 50.7**	**+0.3**
MMB	**Musomiste**	**2.30**	**286**	*i* P	**Pb**	**05 13 50.7**	**+0.3**
SRS	**Serrai**	**2.33**	**274**	*e*PN	**Pn**	**05 13 47.5**	**+0.3**
SRS	**Serrai**	**2.33**	**274**	*e*Pn	**Pn**	**05 13 47.5**	**+0.3**
ADVT	**Abdulvahap**	**2.39**	**102**	*e*PN	**Pn**	**05 13 49.4**	**+1.4**
ADVT	**Abdulvahap**	**2.39**	**102**	*e*Pn	**Pn**	**05 13 49.4**	**+1.4**
PGB	**Panagyurishte**	**2.44**	**311**	*i* P	**Pb**	**05 13 53.4**	**+0.5**
PGB	**Panagyurishte**	**2.44**	**311**	*i* P	**Pb**	**05 13 53.4**	**+0.5**
SOH	**Sokhos**	**2.52**	**267**	*e*PB	**Pn**	**05 13 51.1**	**+1.3**
SOH	**Sokhos**	**2.52**	**267**	*e*Pb	**Pn**	**05 13 51.1**	**+1.3**
CAVI	**Cavuskoy**	**2.54**	**107**	*e*PN	**Pn**	**05 13 51.1**	**+1.1**
CAVI	**Cavuskoy**	**2.54**	**107**	*e*Pn	**Pn**	**05 13 51.1**	**+1.1**
BLCB	**Balcova**	**2.61**	**174**	*e*PN	**Pn**	**05 13 52.3**	**+1.3**
BLCB	**Balcova**	**2.61**	**174**	*e*Pn	**Pn**	**05 13 52.3**	**+1.3**
IZM	**Izmir**	**2.62**	**170**	*e*PN	**Pn**	**05 13 52.2**	**+1.0**
IZM	**Izmir**	**2.62**	**170**	*e*Pn	**Pn**	**05 13 52.2**	**+1.0**
TVSB	**Tavsanli**	**2.63**	**125**	*e*PN	**Pn**	**05 13 52.3**	**+1.0**
TVSB	**Tavsanli**	**2.63**	**125**	*e*Pn	**Pn**	**05 13 52.3**	**+1.0**
CHOS	**Chios island**	**2.63**	**191**	*e*PN	**Pn**	**05 13 52.0**	**+0.6**
CHOS	**Chios island**	**2.63**	**191**	*e*Pn	**Pn**	**05 13 52.0**	**+0.6**
CHOS	**Chios island**	**2.63**	**191**	*e*Pn	**Pn**	**05 13 52.0**	**+0.6**
SPNC	**Sapanca-Adapaz**	**2.77**	**95**	*e*PN	**Pn**	**05 13 54.6**	**+1.4**
SPNC	**Sapanca-Adapaz**	**2.77**	**95**	*e*Pn	**Pn**	**05 13 54.6**	**+1.4**
KKB	**Krupnik**	**2.84**	**289**	*i* P	**Pb**	**05 14 00.4**	**+0.8**
KNT	**Kendrikon**	**2.86**	**275**	*e*PN	**Pb**	**05 13 55.5**	**+1.1**
KNT	**Kendrikon**	**2.86**	**275**	*e*Pn	**Pn**	**05 13 55.5**	**+1.1**
KULA	**Kula-Manisa**	**2.90**	**147**	*e*PN	**Pn**	**05 13 56.6**	**+1.5**
KULA	**Kula-Manisa**	**2.90**	**147**	*e*Pn	**Pn**	**05 13 56.6**	**+1.5**
VTS	**Vitosha**	**3.05**	**303**	*i* P	**Pb**	**05 14 04.4**	**+1.1**
ALT	**Altintas**	**3.27**	**125**	*e*PN	**Pn**	**05 14 01.0**	**+0.9**
ALT	**Altintas**	**3.27**	**125**	*e*Pn	**Pn**	**05 14 01.0**	**+0.9**
SMG	**Samos**	**3.27**	**178**	*e*PN	**Pn**	**05 14 00.3**	**+0.2**
SMG	**Samos**	**3.27**	**178**	*e*Pn	**Pn**	**05 14 00.3**	**+0.2**
APE	**Apeiranthos**	**4.01**	**193**	*e*PN	**Pn**	**05 14 10.3**	**+0.1**
APE	**Apeiranthos**	**4.01**	**193**	*e*Pn	**Pn**	**05 14 10.3**	**+0.1**

*IDC **29** 05:14:00.3±2.6, 35°.60N×22°.20E, h0^{km}, mb3.6/6, mb1 3.7/6, mb1mx3.4/38, mbtmpb3.7/6, ML1.7/1, Error ellipse: s-maj=56.5km s-min=22.2km az=18.0*
*ATH **29** 05:14:03.3, 35°.62N×21°.96E, h20^{km}±1^{km}, MD3.5/21*
*CSEM **29** 05:14:03.6±0.8, 35°.67N×22°.05E, h2^{km}, MD3.5, Error ellipse: s-maj=19.1km s-min=8.2km az=42.0*
*THE **29** 05:14:04.6, 35°.55N×21°.99E, h12^{km}±10^{km}, ML3.4/3.6, Error ellipse: s-maj=15.1km s-min=2.0km az=215.0*

ISC 29 05:14:02.8±2.1, 35°.56N±0°.06×21°.87E±0°.05, h14^{km}±12^{km}, n79, σ1.46/95, mb3.9/5, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.19**	**53**	P	**Pb**	**05 14 24.1**	**-1.0**
KYTH	**Kithira**	**1.19**	**53**	*e*PN	**Pb**	**05 14 24.0**	**-1.0**
KYTH	**Kithira**	**1.19**	**53**	P	**Pb**	**05 14 24.1**	**-1.0**
ANKY	**Antikythira Is**	**1.20**	**75**	P	**Pn**	**05 14 24.9**	**-0.3**
ANKY				S	**Sb**	**05 14 40.3**	**-0.5**
ANKY	**Antikythira Is**	**1.20**	**75**	*e*PN	**Pn**	**05 14 24.8**	**-0.4**
ANKY				*e*SN	**Sb**	**05 14 40.5**	**-0.3**
ANKY	**Antikythira Is**	**1.20**	**75**	*e*Pn	**Pn**	**05 14 24.8**	**-0.4**
ANKY				*e*Sn	**Sb**	**05 14 40.5**	**-0.3**
PYL	**PYLOS**	**1.33**	**356**	P	**Pn**	**05 14 27.0**	**0.0**
PYL				S	**Sg**	**05 14 47.6**	**+1.7**
PYL	**PYLOS**	**1.33**	**356**	*e*PN	**Pn**	**05 14 27.2**	**+0.2**
PYL				*e*SN	**Sn**	**05 14 45.1**	**+0.6**
PYL	**PYLOS**	**1.33**	**356**	P	**Pn**	**05 14 27.0**	**0.0**
PYL				*e*Sn	**Sn**	**05 14 45.1**	**+0.6**
PYL				S	**Sg**	**05 14 47.6**	**+1.7**
ITM	**Ithomi**	**1.61**	**2**	P	**Pn**	**05 14 31.6**	**+0.7**
ITM				S	**Sg**	**05 14 54.6**	**-0.2**
ITM	**Ithomi**	**1.61**	**2**	*e*PN	**Pb**	**05 14 31.8**	**-0.6**
ITM				*e*SN	**Sb**	**05 14 52.8**	**+0.2**
ITM	**Ithomi**	**1.61**	**2**	*e*Pn	**Pb**	**05 14 31.8**	**-0.6**
ITM				*e*Sn	**Sb**	**05 14 52.8**	**+0.2**
ITM				S	**Sg**	**05 14 54.6**	**-0.2**
KARN	**Karanos**	**1.68**	**95**	P	**Pb**	**05 14 32.8**	**-0.7**
KARN	**Karanos**	**1.68**	**95**	*e*PN	**Pb**	**05 14 32.9**	**-0.6**
KARN				*e*SN	**Sb**	**05 14 54.2**	**-0.3**
KARN	**Karanos**	**1.68**	**95**	*e*Pn	**Pb**	**05 14 32.9**	**-0.6**
KARN				*e*Sn	**Sb**	**05 14 54.2**	**-0.3**
VLX	**Vlachokerasia**	**1.85**	**13**	P	**Pb**	**05 14 35.4**	**-1.0**
VLX				S	**Sb**	**05 14 59.6**	**+0.1**
VLX	**Vlachokerasia**	**1.85**	**13**	*e*PN	**Pb**	**05 14 36.1**	**-0.3**
VLX	**Vlachokerasia**	**1.85**	**13**	P	**Pb**	**05 14 35.4**	**-1.0**
VLX	**Vlachokerasia**	**1.85**	**13**	*e*Pn	**Pb**	**05 14 36.1**	**-0.3**
VLX				S	**Sb**	**05 14 59.6**	**+0.1**
GVD	**Gavdhos**	**1.96**	**111**	*e*PB	**Pn**	**05 14 36.5**	**+1.0**
GVD	**Gavdhos**	**1.96**	**111**	*e*Pb	**Pn**	**05 14 36.5**	**+1.0**
AMT	**Artemida-Makis**	**1.97**	**356**	P	**Pb**	**05 14 37.5**	**-0.9**
AMT				S	**Sb**	**05 15 02.0**	**-0.8**
AMT	**Artemida-Makis**	**1.97**	**356**	*e*PN	**Pb**	**05 14 37.8**	**-0.6**
AMT	**Artemida-Makis**	**1.97**	**356**	P	**Pb**	**05 14 37.5**	**-0.9**
AMT	**Artemida-Makis**	**1.97**	**356**	*e*Pn	**Pb**	**05 14 37.8**	**-0.6**
AMT				S	**Sb**	**05 15 02.0**	**-0.8**
DID	**Didima**	**2.23**	**29**	*e*PB	**Pn**	**05 14 39.8**	**+0.5**
DID	**Didima**	**2.23**	**29**	*e*Pb	**Pn**	**05 14 39.8**	**+0.5**
DRO	**Drossia**	**2.39**	**357**	*e*PB	**Pb**	**05 14 43.9**	**-1.7**
DRO	**Drossia**	**2.39**	**357**	*e*Pb	**Pb**	**05 14 43.9**	**-1.7**
GUR	**Goura**	**2.40**	**9**	P	**Pn**	**05 14 43.6**	**+1.9**
GUR	**Goura**	**2.40**	**9**	*e*PB	**Pb**	**05 14 44.0**	**-1.8**
GUR	**Goura**	**2.40**	**9**	P	**Pn**	**05 14 43.6**	**+1.9**
GUR	**Goura**	**2.40**	**9**	*e*Pb	**Pb**	**05 14 44.0**	**-1.8**
IDI	**Anoyia**	**2.48**	**95**	Pn	Pn	05 14 37.8	-5.0
	0.2nm,0.3s,baz=339,slow=14,SNR=4.5						
KLV	**Kalavryta, Ach**	**2.49**	**5**	P	**Pb**	**05 14 45.2**	**-2.1**
KLV	**Kalavryta, Ach**	**2.49**	**5**	*e*PB	**Pb**	**05 14 45.2**	**-2.1**
KLV	**Kalavryta, Ach**	**2.49**	**5**	P	**Pb**	**05 14 45.2**	**-2.1**
LTK	**Loutraki**	**2.61**	**19**	*e*PB	**Pn**	**05 14 46.7**	**+2.2**
LTK	**Loutraki**	**2.61**	**19**	*e*Pb	**Pn**	**05 14 46.7**	**+2.2**
KFL	**Anninata**	**2.69**	**341**	P	**Pn**	**05 14 46.8**	**+1.2**
KFL	**Anninata**	**2.69**	**341**	P	**Pn**	**05 14 46.8**	**+1.2**
VLS	**Valsamata**	**2.80**	**339**	*e*PN	**Pn**	**05 14 48.2**	**+1.0**
VLS	**Valsamata**	**2.80**	**339**	*e*Pn	**Pn**	**05 14 48.2**	**+1.0**
KALE	**Kalithea**	**2.83**	**4**	P	**Pn**	**05 14 49.6**	**+2.0**
KALE				S	**Sn**	**05 15 24.2**	**+2.7**
KALE	**Kalithea**	**2.83**	**4**	*e*PB	**Pn**	**05 14 50.2**	**+2.6**
KALE	**Kalithea**	**2.83**	**4**	P	**Pn**	**05 14 49.6**	**+2.0**
KALE	**Kalithea**	**2.83**	**4**	*e*Pb	**Pn**	**05 14 50.2**	**+2.6**
KALE				S	**Sn**	**05 15 24.2**	**+2.7**
VILL	**Villia**	**2.84**	**24**	P	**Pn**	**05 14 49.5**	**+1.7**
VILL	**Villia**	**2.84**	**24**	*e*Pn	**Pn**	**05 14 48.5**	**+0.7**
VILL	**Villia**	**2.84**	**24**	P	**Pn**	**05 14 49.5**	**+1.7**
EFP	**Efpalio**	**2.86**	**1**	*e*PB	**Pb**	**05 14 50.9**	**-2.7**
EFP	**Efpalio**	**2.86**	**1**	*e*Pb	**Pb**	**05 14 50.9**	**-2.7**
VIL2	**Platees**	**2.87**	**23**	*e*PN	**Pn**	**05 14 48.5**	**+0.4**
DSF	**Desfina**	**2.89**	**10**	*e*PN	**Pn**	**05 14 48.8**	**+0.4**
DSF	**Desfina**	**2.89**	**10**	*e*Pn	**Pn**	**05 14 48.8**	**+0.4**
LAST	**Lasithi**	**2.98**	**97**	*e*PB	**Pn**	**05 14 52.0**	**+2.3**
LAST	**Lasithi**	**2.98**	**97**	*e*Pb	**Pn**	**05 14 52.0**	**+2.3**
PDO	**Prodromos**	**3.08**	**350**	P	**Pn**	**05 14 53.7**	**+2.7**
PDO	**Prodromos**	**3.08**	**350**	*e*PN	**Pn**	**05 14 53.7**	**+2.7**
PDO	**Prodromos**	**3.08**	**350**	P	**Pn**	**05 14 53.7**	**+2.7**
LKR	**Lokris**	**3.21**	**16**	*e*PN	**Pn**	**05 14 53.0**	**+0.2**
LKR	**Lokris**	**3.21**	**16**	*e*Pn	**Pn**	**05 14 53.0**	**+0.2**
EVR	**Evrytania**	**3.35**	**359**	*e*PB	**Pn**	**05 14 58.1**	**+3.3**
EVR	**Evrytania**	**3.35**	**359**	*e*Pb	**Pn**	**05 14 58.1**	**+3.3**
LKD2	**Lefkada island**	**3.36**	**344**	*e*PN	**Pn**	**05 14 56.5**	**+1.6**
LKD2	**Lefkada island**	**3.36**	**344**	*e*Pn	**Pn**	**05 14 56.5**	**+1.6**
DSL	**Palaion Diasel**	**3.62**	**350**	*e*PN	**Pn**	**05 15 00.1**	**+1.7**
DSL	**Palaion Diasel**	**3.62**	**350**	*e*Pn	**Pn**	**05 15 00.1**	**+1.7**
NEO	**Neokhori**	**3.89**	**16**	*e*PN	**Pn**	**05 15 03.3**	**+1.2**
NEO	**Neokhori**	**3.89**	**16**	*e*Pn	**Pn**	**05 15 03.3**	**+1.2**
STON	**Ston**	**7.98**	**337**	*e*Pn	**Pn**	**05 15 56.0**	**-2.3**
STON				Sn	Sn	05 17 18.5	-10
UDBI	**Udbina**	**10.10**	**334**	*e*Pn	**Pn**	**05 16 25.6**	**-1.8**
NVLJ	**Novalja**	**10.46**	**331**	*e*Pn	**Pn**	**05 16 31.1**	**-1.1**
ESDC	**Sonseca Array**	**20.84**	**289**	P	**P**	**05 18 45.5**	**+1.4**
	0.5nm,0.6s,baz=81,slow=11,SNR=4.4						
HFS	**Hagfors**	**25.15**	**350**	P	**P**	**05 19 26.3**	**-0.9**
	0.8nm,0.4s,baz=154,slow=12,SNR=7.5						
EKA	**Eskdalemuir Ar**	**26.19**	**327**	P	**P**	**05 19 38.4**	**+1.7**
	2.5nm,0.6s,baz=130,slow=8.6,SNR=14						
NOA	**NORSAR Array B**	**26.39**	**348**	P	**P**	**05 19 39.0**	**+0.5**
	0.3nm,0.7s,baz=158,slow=9.8,SNR=3.2						
ARCES	**ARCESS Array B**	**34.09**	**2**	P	**P**	**05 20 44.6**	**-1.8**
	0.8nm,0.5s,baz=190,slow=10,SNR=13						
MKAR	**Makanchi Array**	**45.80**	**56**	P	**P**	**05 22 22.1**	**-1.8**
	0.9nm,0.4s,baz=267,slow=7.8,SNR=20						

IDC 29 05:27:01.5±5.1, 17°.21N×145°.52E, h0^{km}, mb3.8/4, mb1 4.0/4, mb1mx3.5/37, mbtmpb3.8/4, Error ellipse: s-maj=145.6km s-min=44.7km az=165.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**44.26**	**279**	P	P	05 35 13.0	-0.2
	0.7nm,0.3s,baz=64,slow=6.1,SNR=4.9						
MKAR	**Makanchi Array**	**59.37**	**315**	P	P	05 37 06.5	+0.8
	1.4nm,1.2s,baz=103,slow=6.4,SNR=4.5						
KURBB	**Kurchatov Arra**	**62.31**	**319**	P	P	05 37 24.6	-0.9
	0.2nm,0.3s,baz=98,slow=5.7,SNR=4.2						
YKA	**Yellowknife Ar**	**79.38**	**28**	P	P	05 39 09.3	+0.1
	0.2nm,0.8s,baz=283,slow=5.6,SNR=3.7						

*IDC **29** 05:30:36.1±1.3, 0°.59N×122°.44E, h0^{km}, mb3.4/4, mb1 3.5/4, mb1mx3.3/35, mbtmpb3.4/4, Error ellipse: s-maj=151.0km s-min=21.4km az=65.0*
*ISCJB **29** 05:30:55.9±0.8, 0°.3N±0°.1×121°.94E±0°.10, h202^{km}±6^{km}, mb

LBMI	**Labuha**	**3.53**	**311**	P	**Pn**	**05 43 50.4**	**-1.1**
LBMI				S	**Sn**	**05 44 32.6**	**+0.1**
SANI	**Sanana**	**4.26**	**283**	P	**Pn**	**05 43 59.6**	**-1.9**
SANI				S	**Sn**	**05 44 46.9**	**-3.5**
RKPI	**Ransiki, Papua**	**4.29**	**70**	P	**Pn**	**05 44 02.1**	**+0.2**
RKPI				S	**Sn**	**05 44 52.6**	**+1.4**
TNTI	**Ternate**	**4.66**	**323**	*e*Pn	Pn	05 44 11.0	+4.0
LUWI	**Luwuk**	**7.62**	**285**	P	**Pn**	**05 44 46.2**	**-1.5**
	43nm,0.6s,0.3nm						
APSI	**Ampana**	**8.74**	**284**	P	**Pn**	**05 45 02.1**	**-1.0**
KAPI	**Kappang**	**10.56**	**259**	Pn	**Pn**	**05 45 27.9**	**-0.1**
	baz=36,slow=18,SNR=2.2						
KAPI				LR	LR	05 50 50.5	
	comp=Z,131nm,18.5s,baz=90,slow=45						
KAPI	**Kappang**	**10.56**	**259**	*e*Pn	Pn	05 45 33.4	+5.3
COEN	**Coen**	**16.86**	**131**	*e*Pn	**Pn**	**05 46 51.7**	**-1.0**
	12nm,1.6s						
WRAB	**Tennant Creek**	**17.33**	**167**	*e*Pn	**Pn**	**05 46 57.5**	**-1.0**
	91nm,2.0s						
WRA	**Warramunga Arr**	**17.34**	**167**	P	**Pn**	**05 46 54.4**	**-4.2**
	1.6nm,0.3s,baz=349,slow=11,SNR=60						
WRA				S	Sn	05 50 00.9	-10
	0.4nm,0.3s,baz=355,slow=23,SNR=3.3						
SBUM	**Sibu**	**18.72**	**287**	*e*P	**Pn**	**05 47 16.3**	**+0.7**
	16nm,1.4s						
KSM	**Kuching**	**20.32**	**282**	*e*P	Pn	05 47 33.8	-1.0
	8.7nm,0.8s						
ASAR	**Alice Springs**	**20.87**	**170**	P	**P**	**05 47 38.5**	**-0.1**
	28nm,0.7s,baz=348,slow=9.4,SNR=254						
ASAR				S	**S**	**05 51 27.8**	**-2.4**
	3.9nm,0.8s,baz=350,slow=22,SNR=10.0						
AS01	**Alice Springs**	**20.88**	**170**	*e*P	**P**	**05 47 38.2**	**-0.4**
LEM	**Lembang**	**22.76**	**260**	LR	LR	05 59 22.8	
	comp=Z,85nm,18.9s,baz=202,slow=43						
CTA	**Charters Tower**	**23.15**	**138**	P	**P**	**05 48 03.8**	**+0.9**
	5.1nm,0.6s,baz=311,slow=11,SNR=13						
CTAO	**Charters Tower**	**23.15**	**138**	*e*P	**P**	**05 48 03.2**	**+0.4**
	16nm,0.8s						
FORT	**Forrest**	**27.71**	**184**	*e*P	**P**	**05 48 44.1**	**-0.5**
	44nm,1.2s						
QIZ	**Qiongzhong**	**29.63**	**318**	P	**P**	**05 49 02.8**	**+1.0**
QIZ				S	**S**	**05 53 59.3**	**+3.3**
QIZ				PMZ			
	15nm,2.3s						
STKA	**Stephens Creek**	**30.69**	**161**	P	**P**	**05 49 11.1**	**+0.1**
	2.4nm,0.4s,baz=347,slow=7.6,SNR=9.8						
STKA	**Stephens Creek**	**30.69**	**161**	*e*P	**P**	**05 49 11.0**	**0.0**
	49nm,2.8s						
JNU	**Nakatsue**	**35.93**	**1**	LR	LR	06 04 14.9	
	comp=Z,29nm,18.8s,baz=136,slow=36						
NJ2	**Nanjing**	**36.47**	**344**	*e*P	**P**	**05 50 02.5**	**+1.2**
NJ2				PMZ			
	40nm,0.8s						
WHN	**Wuhan**	**36.60**	**337**	P	**P**	**05 50 04.0**	**+1.6**
GYA	**Guiyang**	**37.05**	**324**	*e*P	**P**	**05 50 09.0**	**+2.5**
GYA				PMZ			
	10.0nm,0.8s						
CM01	**Chiang Mai Arr**	**37.36**	**306**	*e*P	**P**	**05 50 09.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**37.40**	**306**	P	**P**	**05 50 08.9**	**-0.5**
	2.9nm,0.4s,baz=136,slow=6.8,SNR=14						
CHTO	**Chiang Mai**	**37.58**	**306**	*e*P	**P**	**05 50 10.4**	**-0.6**
	9.1nm,0.7s						
KMI	**Kunming**	**38.58**	**318**	P	**P**	**05 50 20.5**	**+0.9**
KMI				PMZ			
	9.0nm,0.8s						
MJAR	**Matsushiro Arr**	**40.05**	**10**	P	**P**	**05 50 29.0**	**-2.4**
	0.6nm,0.3s,baz=218,slow=14,SNR=3.7						
KSAR	**Wonju Array Be**	**40.28**	**357**	P	**P**	**05 50 32.5**	**-0.8**
KSRS	**Korea Array**	**40.30**	**357**	P	**P**	**05 50 32.5**	**-0.8**
	1.7nm,0.7s,baz=180,slow=9.9,SNR=7.3						
KSRS				LR	LR	06 05 04.1	
	comp=Z,20nm,21.9s,baz=180,slow=33						
XAN	**Xi'an**	**41.92**	**333**	P	P	05 50 51.8	+4.9
XAN				PMZ			
	2.0nm,1.0s						
CD2	**Chengdu**	**42.06**	**325**	P	**P**	**05 50 49.5**	**+1.3**
CD2				pP	**pP**	**05 50 58.3**	**+2.5**
CD2				sP	**sP**	**05 51 02.0**	**+3.2**
CD2				PP	**PP**	**05 52 30.8**	**+4.9**
CD2				PcS	**PcS**	**05 56 35.0**	**+0.3**
CD2				S	**S**	**05 57 07.5**	**+1.3**
CD2				sS	**sS**	**05 57 22.0**	**+3.3**
CD2				SS	**SS**	**06 00 10.3**	**-3.9**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.2s						
LZH	**Lanzhou**	**45.99**	**330**	*e*P	**P**	**05 51 21.0**	**+1.2**
LZH				pP	**pP**	**05 51 30.0**	**+2.6**
LZH				sP	**sP**	**05 51 34.3**	**+3.9**
LZH				PMZ			
	14nm,1.0s						
HHC	**Hu-ho-hao-te**	**46.82**	**341**	*e*P	P	05 51 29.5	+3.4
HHC				S	**S**	**05 58 09.5**	**-5.7**
HHC				PMZ			
	23nm,0.9s						
HHC				PMZ			
	71nm,4.3s						
HHC				LN			
	230nm,18.5s						
HHC				LE			
	220nm,18.5s						
HHC				LZ			
	220nm,18.5s						
USRK	**Ussuriysk Ar.**	**47.01**	**2**	P	**P**	**05 51 26.7**	**-0.7**
	1.5nm,0.7s,baz=234,slow=6.6,SNR=4.1						
SONM	**Songino Array**	**54.72**	**341**	P	**P**	**05 52 25.4**	**-0.2**
	1.4nm,0.6s,baz=149,slow=6.6,SNR=7.8						
SONA1	**Songino Array**	**54.73**	**341**	*e*P	**P**	**05 52 25.2**	**-0.5**
WMQ	**Urumqi**	**60.16**	**326**	P	**P**	**05 53 04.5**	**+0.5**
WMQ				pP	**pP**	**05 53 12.0**	**+0.2**
WMQ				sP	**sP**	**05 53 15.3**	**+0.5**
WMQ				PcP	**PcP**	**05 53 49.3**	**-0.1**
WMQ				S	**S**	**06 01 13.8**	**-2.3**
WMQ				sS	**sS**	**06 01 27.3**	**-1.8**
WMQ				ScS	SKKSac	06 02 48.5	-4.5
WMQ				PMZ			
	9.0nm,0.5s						
WMQ				PMZ			
	92nm,4.6s						
WMQ				LN			
	29nm,21.6s						
WMQ				LE			
	76nm,21.6s						
MK01	**Makanchi Array**	**64.97**	**326**	*e*P	**P**	**05 53 35.1**	**-0.9**
MKAR	**Makanchi Array**	**64.99**	**326**	P	**P**	**05 53 35.4**	**-0.7**
	1.3nm,0.6s,baz=122,slow=7.9,SNR=15						
MKAR	**Makanchi Array**	**64.99**	**326**	*e*P	**P**	**05 53 35.8**	**-0.4**
KSH	**Kashi**	**65.21**	**316**	*e*P	P	05 53 43.5	+5.7
KSH				pP	pP	05 53 51.5	+5.8
KSH				sP	sP	05 53 54.5	+5.8
KSH				PP	PP	05 56 10.3	+8.8
KSH				PcS		05 58 18.0	
KSH				S	S	06 02 26.0	+6.2
KSH				PMZ			
	79nm,4.8s						
KSH				LN			
	160nm,7.6s						
KSH				LE			
	140nm,7.6s						
KSH				LZ			
	170nm,5.6s						
TKM2	**Tokmak 2**	**67.03**	**319**	*e*P	**P**	**05 53 49.2**	**-0.3**
	3.0nm,0.8s						
ZAA0	**Zalesovo Array**	**68.09**	**333**	*e*P	**P**	**05 53 54.7**	**-1.0**
ZALV	**Zalesovo Beam**	**68.09**	**333**	P	**P**	**05 53 54.8**	**-0.9**
	0.9nm,0.5s,baz=120,slow=5.3,SNR=3.7						
EKS2	**Erkin-Say**	**68.10**	**319**	*e*P	**P**	**05 53 56.4**	**+0.2**
	2.5nm,0.6s						
KURK	**Kurchatov**	**69.21**	**328**	*e*P	**P**	**05 54 02.2**	**-0.5**
	8.5nm,0.7s						
TIXI	**Tiksi**	**74.51**	**360**	*e*P	**P**	**05 54 33.3**	**-0.9**
	3.0nm,0.7s						
VNDA	**Vanda**	**76.38**	**173**	P	**P**	**05 54 45.5**	**+0.6**
	0.8nm,0.8s,baz=321,slow=6.2,SNR=6.4						
VNDA	**Vanda**	**76.38**	**173**	*e*P	**P**	**05 54 45.5**	**+0.6**
	51nm,2.8s						
MAW	**Mawson**	**78.71**	**201**	P	**P**	**05 54 57.5**	**-0.5**
	2.5nm,0.7s,baz=69,slow=14,SNR=3.1						
ABKAR	**Akbulak array**	**79.49**	**321**	*e*P	**P**	**05 55 02.0**	**-0.7**
RAYN	**Ar Rayn**	**86.27**	**294**	*e*P	**P**	**05 55 38.6**	**+0.1**
	3.0nm,0.9s						
SEW	**Seward**	**87.79**	**30**	*e*P	**P**	**05 55 45.4**	**+0.4**
	20nm,1.4s						
RND	**Reindeer**	**88.63**	**26**	*e*P	**P**	**05 55 48.6**	**-0.4**
	70nm,3.0s						
ILAR	**Eielson Array**	**89.68**	**25**	P	**P**	**05 55 51.9**	**-1.9**
	0.3nm,0.6s,baz=244,slow=5.0,SNR=6.5						
ARCES	**ARCESS Array B**	**97.89**	**340**	P	**P**	**05 56 30.1**	**-1.4**
	1.6nm,0.9s,baz=64,slow=7.2,SNR=2.8						
BBB	**Bella Bella**	**99.56**	**38**	LR	LR	06 40 27.3	
	comp=Z,19nm,18.1s,baz=282,slow=35						
LVC	**Limon Verde**	**148.47**	**145**	*e*PKPbc	**PKPbc**	**06 02 45.2**	**+1.3**
CPUP	**Villa Florida**	**149.97**	**167**	*e*PKPbc	**PKPbc**	**06 02 47.8**	**+0.6**

IDC 29 05:43:19.3±5.2, 17°.54N×145°.79E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/37, mbtmp3.7/4, Error ellipse: s-maj=159.3km s-min=33.9km az=163.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy**	**19.89**	**84**	H	H	06 08 20.3	
	baz=268,slow=75,SNR=97						
H11S1	**WAKE ISLAND Hy**	**19.91**	**84**	H	H	06 08 21.0	
	baz=268,slow=75,SNR=106						
H11S2	**WAKE ISLAND Hy**	**19.91**	**84**	H	H	06 08 21.6	
	baz=268,slow=75,SNR=86						
H11N1	**WAKE ISLAND Hy**	**20.11**	**81**	H	H	06 08 40.9	
	baz=264,slow=75,SNR=188						
H11N2	**WAKE ISLAND Hy**	**20.12**	**80**	H	H	06 08 41.2	
	baz=264,slow=75,SNR=142						
H11N3	**WAKE ISLAND Hy**	**20.13**	**81**	H	H	06 08 42.3	
	baz=264,slow=75,SNR=189						
CMAR	**Chiang Mai Arr**	**44.47**	**279**	P	P	05 51 32.5	-0.3
	1.1nm,0.4s,baz=65,slow=6.3,SNR=6.0						
MKAR	**Makanchi Array**	**59.33**	**314**	P	P	05 53 23.3	+0.1
	0.3nm,0.7s,baz=84,slow=7.4,SNR=3.5						
ILAR	**Eielson Array**	**64.64**	**26**	P	P	05 53 58.5	-0.1
	0.9nm,1.1s,baz=246,slow=5.4,SNR=5.7						
YKA	**Yellowknife Ar**	**78.97**	**28**	P	P	05 55 24.9	+0.2
	0.8nm,0.9s,baz=290,slow=5.8,SNR=4.7						

*IDC **29** 05:49:47.1±1.2, 31°.77N×97°.37E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.4/40, mbtmp3.5/5, ML3.9/1, MS3.3/2, Ms1 3.3/2, ms1mx2.7/30, Error ellipse: s-maj=62.3km s-min=23.6km az=57.0*
*ISCJB **29** 05:49:49.9±1.0, 31°.9N±0°.1×97°.5E±0°.2, h33km, mb3.6/4, MS3.3/2, Error ellipse: s-maj=30.4km s-min=16.0km az=173.3*

ISC 29 05:49:52.4±1.3, 31°.9N±0°.1×97°.6E±0°.3, h35km, n8, σ0s53/6, mb3.5/4, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**7.71**	**13**	*e*P	**Pn**	**05 51 42.3**	**+0.1**
GTA				pP		05 51 47.0	
GTA				sP		05 51 49.8	
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONM	**Songino Array**	**17.27**	**20**	P	**P**	**05 53 51.6**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=203,slow=13,SNR=7.0						
USRK	**Ussuriysk Ar.**	**29.54**	**56**	LR	LR	06 08 28.4	
	comp=Z,77nm,21.2s,baz=212,slow=38						
AKASG	**Malin Array Be**	**52.73**	**312**	P	**P**	**05 59 03.0**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=70,slow=6.8,SNR=2.8						
ARCES	**ARCESS Array B**	**54.23**	**336**	P	**P**	**05 59 14.8**	**+0.6**
	comp=Z,1.8nm,0.9s,baz=102,slow=6.6,SNR=4.0						
WRA	**Warramunga Arr**	**62.45**	**141**	P	**P**	**06 00 12.5**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=328,slow=7.9,SNR=5.0						
ASAR	**Alice Springs**	**65.28**	**143**	P	**P**	**06 00 30.6**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=327,slow=6.7,SNR=5.1						
KEST	**Kesra**	**70.89**	**301**	LR	LR	06 40 09.1	
	comp=Z,15nm,18.4s,baz=291,slow=43						

IDC 29 05:50:31.2±4.9, 19°.51S×179°.93E, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.4/31, mbtmp3.5/2, Error ellipse: s-maj=290.8km s-min=75.5km az=157.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.81**	**261**	P	P	05 58 31.2	0.0
	0.2nm,0.3s,baz=97,slow=7.7,SNR=7.1						
ASAR	**Alice Springs**	**42.85**	**256**	P	P	05 58 31.2	-0.3
	0.2nm,0.4s,baz=87,slow=8.1,SNR=5.6						
BRTR	**Keskin Array B**	**144.73**	**312**	PKP	PKPbc	06 10 09.8	+0.5
	0.2nm,0.3s,baz=89,slow=4.7,SNR=3.2						

IDC 29 05:54:41.4±3.1, 16°.90N×146°.25E, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.6/39, mbtmp3.8/5, MS2.9/1, Ms1 2.9/1, ms1mx2.4/37, Error ellipse: s-maj=80.8km s-min=32.9km az=168.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy**	**19.54**	**82**	H	H	06 19 46.5	
	baz=277						
H11S1	**WAKE ISLAND Hy**	**19.55**	**82**	H	H	06 19 46.5	
	baz=277						
H11S2	**WAKE ISLAND Hy**	**19.55**	**82**	H	H	06 19 46.7	
	baz=277						
H11N1	**WAKE ISLAND Hy**	**19.79**	**79**	H	H	06 20 06.3	
	baz=264						
H11N2	**WAKE ISLAND Hy**	**19.80**	**79**	H	H	06 20 07.1	
	baz=264						
H11N3	**WAKE ISLAND Hy**	**19.81**	**79**	H	H	06 20 07.6	
	baz=264						
KSRS	**Korea Array**	**26.08**	**325**	P	P	06 00 18.3	+1.6
	0.5nm,0.3s,baz=160,slow=11,SNR=4.5						
ASAJ	**Asahikawa**	**27.31**	**354**	LR	LR	06 12 20.4	
	comp=Z,26nm,19.3s,baz=120,slow=39						
SONM	**Songino Array**	**44.87**	**322**	P	P	06 02 56.0	-1.8
	0.6nm,0.9s,baz=127,slow=9.3,SNR=3.8						
CMAR	**Chiang Mai Arr**	**45.00**	**279**	P	P	06 02 59.0	-0.1
	2.3nm,0.3s,baz=76,slow=6.6,SNR=9.1						
ILAR	**Eielson Array**	**65.02**	**26**	P	P	06 05 22.5	-0.6
	0.6nm,1.0s,baz=280,slow=5.0,SNR=5.3						
YKA	**Yellowknife Ar**	**79.32**	**28**	P	P	06 06 49.4	+0.7
	1.1nm,1.0s,baz=291,slow=5.6,SNR=7.0						

IDC 29 06:01:00.1±5.6, 16°.65N×146°.27E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.5/40, mbtmp3.7/4, Error ellipse: s-maj=175.8km s-min=34.1km az=163.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**45.06**	**280**	P	P	06 09 18.2	0.0
	0.9nm,0.4s,baz=68,slow=6.8,SNR=7.3						
MKAR	**Makanchi Array**	**60.28**	**315**	P	P	06 11 10.3	-0.2
	0.8nm,1.0s,baz=99,slow=7.5,SNR=4.1						
ILAR	**Eielson Array**	**65.24**	**26**	P	P	06 11 44.2	+1.0
	0.8nm,1.1s,baz=253,slow=6.4,SNR=5.9						
YKA	**Yellowknife Ar**	**79.54**	**28**	P	P	06 13 07.5	-1.0
	0.6nm,0.9s,baz=291,slow=5.4,SNR=5.3						

IDC 29 06:01:35.5±1.1, 16°.98N×146°.12E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.7/40, mbtmp3.9/7, Error ellipse: s-maj=35.5km s-min=27.4km az=91.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy**	**19.65**	**83**	H	H	06 26 06.7	
	baz=273						
H11S1	**WAKE ISLAND Hy**	**19.67**	**82**	H	H	06 26 07.4	
	baz=273						
H11S2	**WAKE ISLAND Hy**	**19.67**	**83**	H	H	06 26 08.0	
	baz=273						
H11N1	**WAKE ISLAND Hy**	**19.91**	**79**	H	H	06 26 27.5	
	baz=263						
H11N2	**WAKE ISLAND Hy**	**19.91**	**79**	H	H	06 26 28.0	
	baz=263						
H11N3	**WAKE ISLAND Hy**	**19.92**	**79**	H	H	06 26 28.7	
	baz=263						
KSRS	**Korea Array**	**25.94**	**325**	P	P	06 07 09.7	+0.2
	0.7nm,0.5s,baz=142,slow=12,SNR=6.7						
STKA	**Stephens Creek**	**48.77**	**185**	P	P	06 10 22.1	-0.1
	6.9nm,1.0s,baz=29,slow=10,SNR=2.3						
MKAR	**Makanchi Array**	**59.94**	**315**	P	P	06 11 43.5	0.0
	0.9nm,0.9s,baz=97,slow=9.9,SNR=5.2						
ILAR	**Eielson Array**	**65.01**	**26**	P	P	06 12 16.1	-1.0
	0.7nm,1.0s,baz=270,slow=5.9,SNR=6.0						
DLBC	**Dease Lake**	**72.50**	**33**	P	P	06 13 06.0	+1.9
	1.1nm,0.6s,baz=291,slow=6.7,SNR=3.3						
YKA	**Yellowknife Ar**	**79.31**	**28**	P	P	06 13 42.2	-0.6
	1.0nm,0.8s,baz=288,slow=5.7,SNR=7.1						
NVAR	**Mina Array Bea**	**83.88**	**52**	P	P	06 14 06.9	-0.9
	0.5nm,0.9s,baz=289,slow=4.5,SNR=3.6						

IDC 29 06:12:46.4±3.0, 17°.20N×145°.96E, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.6/42, mbtmp3.8/6, Error ellipse: s-maj=97.9km s-min=28.6km az=171.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy**	**19.77**	**83**	H	H	06 37 48.0	
	baz=267						
H11S1	**WAKE ISLAND Hy**	**19.79**	**83**	H	H	06 37 49.2	
	baz=267						
H11S2	**WAKE ISLAND Hy**	**19.79**	**83**	H	H	06 37 49.7	
	baz=267						
H11N1	**WAKE ISLAND Hy**	**20.01**	**80**	H	H	06 38 09.8	
	baz=265						
H11N2	**WAKE ISLAND Hy**	**20.02**	**80**	H	H	06 38 10.1	
	baz=265						
H11N3	**WAKE ISLAND Hy**	**20.03**	**80**	H	H	06 38 10.6	
	baz=265						
CMAR	**Chiang Mai Arr**	**44.68**	**279**	P	P	06 21 00.8	-0.7
	1.2nm,0.4s,baz=74,slow=6.3,SNR=8.3						
GTA	**Gaotai**	**45.66**	**309**	*e*P	P	06 21 10.8	+1.6
GTA				pP		06 21 15.0	
GTA				sP		06 21 18.0	
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MKAR	**Makanchi Array**	**59.68**	**314**	P	P	06 22 53.1	+0.4
	comp=Z,0.6nm,0.8s,baz=98,slow=8.7,SNR=3.8						
KURBB	**Kurchatov Arra**	**62.60**	**319**	P	P	06 23 12.9	+0.6
	comp=Z,0.3nm,0.3s,baz=94,slow=7.1,SNR=5.1						
ILAR	**Eielson Array**	**64.88**	**26**	P	P	06 23 26.6	-0.6
	comp=Z,1.0nm,1.1s,baz=259,slow=6.1,SNR=5.7						
YKA	**Yellowknife Ar**	**79.19**	**28**	P	P	06 24 52.8	-0.2
	comp=Z,0.8nm,0.8s,baz=287,slow=5.7,SNR=7.4						
NVAR	**Mina Array Bea**	**83.87**	**52**	P	P	06 25 19.1	+0.5
	comp=Z,0.4nm,0.7s,baz=271,slow=8.7,SNR=3.8						

*IDC **29** 06:13:09.4±0.8, 16°.58N×146°.08E, h0km, mb4.2/14, mb1 4.4/15, mb1mx4.1/43, mbtmp4.2/15, ML3.5/1, Error ellipse: s-maj=22.1km s-min=17.2km az=109.0*
*NEIC **29** 06:13:11.7±0.3, 16°.53N×145°.85E, h10km, mb4.7/33, Error ellipse: s-maj=9.4km s-min=7.1km az=162.0*
*ISCJB **29** 06:13:13.9±0.3, 16°.50N±0°.06×145°.83E±0°.04, h33km, mb4.5/49, Error ellipse: s-maj=8.8km s-min=6.1km az=175.3*
*BJI **29** 06:13:15.0, 16°.04N×146°.04E, h70km, mb4.7/23, mB4.9/14, Ms4.6/10, Ms7 4.4/5*

ISC 29 06:13:15.2±0.6, 16°.45N±0°.06×145°.84E±0°.08, h35km, n84, σ1s75/92, mb4.7/50, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.99**	**198**	P*n*	**Pn**	**06 13 59.7**	**-0.5**
	4.8nm,0.3s,baz=349,slow=11,SNR=6.1						
GUMO	**Guam**	**2.99**	**198**	*e*P*n*	**Pn**	**06 14 01.3**	**+1.1**
GUMO				*e*S*n*	**Sn**	**06 14 30.7**	**-4.0**
H11S3	**WAKE ISLAND Hy**	**19.99**	**81**	H	H	06 38 14.3	
	baz=277						
H11S1	**WAKE ISLAND Hy**	**20.01**	**81**	H	H	06 38 15.1	
	baz=277						
H11S2	**WAKE ISLAND Hy**	**20.01**	**81**	H	H	06 38 15.6	
	baz=277						
H11N1	**WAKE ISLAND Hy**	**20.27**	**78**	H	H	06 38 35.1	
	baz=266						
H11N2	**WAKE ISLAND Hy**	**20.28**	**78**	H	H	06 38 35.5	
	baz=266						
H11N3	**WAKE ISLAND Hy**	**20.29**	**78**	H	H	06 38 36.5	
	baz=266						
MJAR	**Matsushiro Arr**	**21.13**	**343**	P	**P**	**06 17 56.2**	**-0.9**
	1.5nm,0.7s,baz=158,slow=7.6,SNR=3.9						
MAJO	**Matsushiro**	**21.13**	**343**	P	**P**	**06 17 55.1**	**-2.0**
JNU	**Nakatsue**	**21.41**	**324**	*e*P	**P**	**06 17 56.1**	**-3.9**
	12nm,1.5s						
SIJI	**Sorong**	**22.42**	**221**	P	**P**	**06 18 13.3**	**+2.3**
	1.9nm,0.3s,baz=15,slow=15,SNR=3.9						
NACB	**Ninganchiao**	**23.98**	**293**	P	P	06 18 20.5	-6.0
TWG	**Pinlang**	**24.15**	**289**	*e*P	**P**	**06 18 28.1**	**-0.1**
	131nm,1.0s						
SZP	**Santa**	**24.29**	**276**	*e*P	**P**	**06 18 29.9**	**+0.4**
	134nm,1.5s						
SSLB	**Suanglung**	**24.45**	**291**	*e*P	**P**	**06 18 29.2**	**-1.8**
	7.9nm,0.6s						
KSRS	**Korea Array**	**26.23**	**326**	P	**P**	**06 18 47.1**	**+0.2**
	5.6nm,1.1s,baz=150,slow=9.6,SNR=12						
KSAR	**Wonju Array Be**	**26.24**	**326**	P	**P**	**06 18 47.1**	**+0.1**
NJ2	**Nanjing**	**28.98**	**307**	*e*P	**P**	**06 19 13.8**	**+2.2**
NJ2				PMZ			
	50nm,0.8s						
KKM	**Kota Kinabalu**	**30.79**	**254**	*e*P	**P**	**06 19 29.4**	**+1.5**
QIZ	**Qiongzhong**	**34.34**	**280**	P	**P**	**06 19 59.0**	**+0.1**
QIZ				S	**S**	**06 25 25.0**	**+0.6**
QIZ				PMZ			
	8.0nm,2.9s						
QIZ	**Qiongzhong**	**34.34**	**280**	P	**P**	**06 19 58.4**	**-0.5**
BJT	**Baijiatuau**	**34.86**	**318**	*e*P	**P**	**06 20 03.5**	**+0.3**
	26nm,1.4s						
XAN	**Xi'an**	**37.45**	**305**	P	**P**	**06 20 26.0**	**+0.6**
XAN				PMZ			
	2.0nm,1.1s						
GYA	**Guiyang**	**37.67**	**292**	*e*P	**P**	**06 20 30.0**	**+2.6**
GYA				pP	pP	06 20 46.8	+9.2
GYA				PP	**PnPn**	**06 22 00.3**	**+5.4**
GYA				S	**S**	**06 26 14.3**	**-1.1**
GYA				SS	**SnSn**	**06 28 52.3**	**-4.0**
GYA				PMZ			
	10.0nm,0.8s						
GYA				PMZ			
	90nm,5.0s						
GYA				LN			
	460nm,17.4s						
GYA				LE			
	340nm,18.0s						
GYA				LZ			
	480nm,17.8s						
WRAB	**Tennant Creek**	**37.87**	**198**	*e*P	**P**	**06 20 28.0**	**-1.0**
	25nm,1.7s						
WRA	**Warramunga Arr**	**37.88**	**198**	P	**P**	**06 20 29.4**	**+0.3**
	4.0nm,1.2s,baz=18,slow=6.8,SNR=6.0						
HHC	**Hu-ho-hao-te**	**38.29**	**316**	*e*P	**P**	**

WMQ				pP	pP	06 23 10.5	+10	
WMQ				sP	sP	06 23 19.3	+15	
WMQ				PcP	**PcP**	**06 23 48.8**	**+0.7**	
WMQ				PP	**PP**	**06 24 58.8**	**+4.3**	
WMQ				S	**S**	**06 30 33.3**	**-1.7**	
WMQ				ScS	**ScS**	**06 32 30.8**	**-5.6**	
WMQ				PMZ				
	16nm,1.0s							
WMQ				PMZ				
	120nm,4.8s							
WMQ				LN				
	40nm,22.4s							
WMQ				LE				
	93nm,24.0s							
ZALV	**Zalesovo Beam**	**59.88**	**323**	P	**P**	**06 23 18.5**	**+1.1**	
	1.4nm,0.3s,baz=300,slow=2.9,SNR=5.2							
MKAR	**Makanchi Array**	**60.12**	**315**	P	**P**	**06 23 19.6**	**+0.3**	
	3.2nm,1.1s,baz=93,slow=8.5,SNR=9.0							
MKAR	**Makanchi Array**	**60.12**	**315**	*eP*	**P**	**06 23 20.6**	**+1.4**	
KURK	**Kurchatov**	**63.04**	**319**	*eP*	**P**	**06 23 38.3**	**-0.4**	
	5.3nm,1.1s							
KURBB	**Kurchatov Arra**	**63.08**	**319**	P	**P**	**06 23 38.2**	**-0.9**	
	4.5nm,1.1s,baz=98,slow=6.2,SNR=10							
BPAW	**Bear Paw Mtn.**	**63.71**	**26**	*eP*	**P**	**06 23 42.4**	**-0.6**	
	1.9nm,1.3s							
KSH	**Kashi**	**64.29**	**306**	P	P	06 23 51.3	+3.9	
KSH				pP	PcP	06 24 10.8	-11	
KSH				sP	sP	06 24 19.5	+17	
KSH				PP	PP	06 26 16.8	+7.9	
KSH				S	**S**	**06 32 24.8**	**+1.7**	
KSH				PMZ				
	5.0nm,1.0s							
KSH				PMZ				
	47nm,4.1s							
KSH				LN				
	190nm,6.7s							
KSH				LE				
	130nm,6.3s							
KSH				LZ				
	160nm,6.3s							
ILAR	**Eielson Array**	**65.60**	**26**	P	**P**	**06 23 52.5**	**-2.8**	
	2.6nm,1.1s,baz=256,slow=5.2,SNR=12							
BMRM	**Bremner River**	**65.85**	**30**	*eP*	**P**	**06 23 56.9**	**-0.2**	
	12nm,1.3s							
BVAR	**Borovoye Array**	**68.29**	**321**	P	**P**	**06 24 11.3**	**-1.3**	
	1.2nm,0.8s,baz=98,slow=7.6,SNR=5.2							
KKAR	**Karatay Array**	**68.31**	**310**	*eP*	**P**	**06 24 14.1**	**+1.2**	
DAWY	**Dawson**	**68.68**	**27**	*eP*	**P**	**06 24 13.8**	**-1.1**	
HYT	**Haines Junctio**	**69.28**	**31**	*eP*	**P**	**06 24 18.7**	**-0.1**	
HYT				*e*		06 24 50.0		
INK	**Inuvik**	**71.39**	**23**	P	**P**	**06 24 28.4**	**-2.9**	
	4.9nm,1.1s,baz=198,slow=3.2,SNR=5.8							
INK	**Inuvik**	**71.39**	**23**	*eP*	**P**	**06 24 29.7**	**-1.6**	
	4.6nm,1.1s							
DLBC	**Dease Lake**	**73.09**	**33**	*eP*	**P**	**06 24 42.0**	**+0.1**	
YKA	**Yellowknife Ar**	**79.91**	**28**	P	**P**	**06 25 18.6**	**-1.6**	
	2.1nm,1.0s,baz=288,slow=5.6,SNR=12							
B08A	**Colville Reser**	**81.04**	**42**	*eP*	**P**	**06 25 27.1**	**+0.4**	
	8.2nm,1.0s							
K05A	**Summer Lake**	**81.38**	**48**	*eP*	**P**	**06 25 29.9**	**+1.1**	
	183nm,3.0s							
NEW	**Newport**	**82.49**	**42**	*eP*	**P**	**06 25 34.0**	**-0.3**	
	9.1nm,1.2s							
NEW				*e*		06 26 05.0		
BLMT	**Blacktail Moun**	**84.33**	**42**	*eP*	**P**	**06 25 42.9**	**-1.1**	
	18nm,1.3s							
NVAR	**Mina Array Bea**	**84.42**	**52**	P	**P**	**06 25 45.1**	**+0.4**	
	2.4nm,1.1s,baz=274,slow=6.0,SNR=6.7							
MFID	**Camas Ranch**	**84.76**	**46**	*eP*	**P**	**06 25 46.8**	**+0.6**	
	11nm,1.2s							
MFID				*e*		06 26 16.4		
SLMT	**Seeley Lake**	**85.13**	**42**	*eP*	**P**	**06 25 47.0**	**-1.0**	
	9.1nm,1.2s							
HLID	**Hailey**	**85.69**	**46**	*eP*	**P**	**06 25 51.1**	**+0.2**	
	7.0nm,1.1s							
HLID				*e*		06 26 21.8		
ELK	**Elko**	**86.00**	**49**	*eP*	**P**	**06 25 53.2**	**+0.6**	
	5.1nm,1.3s							
MCMT	**McKenzie Canyo**	**86.35**	**44**	*eP*	**P**	**06 25 53.0**	**-1.3**	
	1.4nm,1.1s							
MCMT				*e*		06 26 29.3		
R11A	**Troy Canyon, C**	**86.48**	**51**	*eP*	**P**	**06 25 55.1**	**+0.2**	
	2.8nm,1.3s							
BOZ	**Bozeman (W)**	**86.88**	**43**	*eP*	**P**	**06 25 56.9**	**+0.2**	
	3.9nm,1.1s							
BOZ				*e*		06 26 31.6		
EGMT	**Eagleton**	**87.23**	**41**	*eP*	**P**	**06 25 57.9**	**-0.3**	
	6.9nm,1.3s							
HVU	**Hansel Valley**	**87.42**	**47**	*eP*	**P**	**06 26 00.3**	**+1.0**	
YNR	**Norris Junctio**	**87.84**	**44**	*eP*	**P**	**06 26 02.7**	**+1.2**	
	24nm,1.4s							
DUG	**Dugway, Tooele**	**87.92**	**49**	*eP*	**P**	**06 26 01.8**	**-0.1**	
	7.0nm,1.1s							
DUG				*e*		06 26 32.6		
IMW	**Indian Meadow**	**87.95**	**45**	*eP*	**P**	**06 26 02.9**	**+0.8**	
	7.4nm,1.3s							
IMW				*e*		06 26 36.9		
FXWY	**Fox Creek**	**87.99**	**45**	*eP*	**P**	**06 26 02.9**	**+0.8**	
	5.2nm,1.3s							
H17A	**Grant Village**	**88.02**	**44**	*eP*	**P**	**06 26 04.7**	**+2.4**	
	6.4nm,1.1s							
H17A				*e*		06 26 35.4		
FLWY	**Flagg Ranch**	**88.05**	**45**	*eP*	**P**	**06 26 03.3**	**+0.9**	
	7.3nm,1.2s							
MOOW	**Moose Ponds**	**88.14**	**45**	*eP*	**P**	**06 26 03.1**	**+0.3**	
	4.4nm,1.2s							
MOOW				*e*		06 26 33.7		
HWUT	**Hardware Ranch**	**88.33**	**47**	*eP*	**P**	**06 26 03.7**	**0.0**	
	7.0nm,1.2s							
HWUT				*e*		06 26 37.1		
JLU	**Jordanelle**	**88.76**	**48**	*eP*	**P**	**06 26 05.5**	**-0.4**	
	5.8nm,1.2s							
JLU				*e*		06 26 40.0		
O20A	**White River Ci**	**91.21**	**48**	*eP*	**P**	**06 26 17.0**	**-0.3**	
	13nm,1.4s							
SMCO	**Snowmass**	**92.49**	**48**	*eP*	**P**	**06 26 22.8**	**-0.7**	
	5.2nm,1.1s							
ISCO	**Idaho Springs**	**93.20**	**47**	*eP*	**P**	**06 26 26.8**	**+0.2**	
	5.9nm,1.3s							
ISCO				*e*		06 27 01.4		
LPAZ	**La Paz**	**147.43**	**95**	PKPbc	**PKPbc**	**06 32 56.9**	**-0.2**	
	4.8nm,1.1s,baz=300,slow=3.5,SNR=6.7							
LPAZ	**La Paz**	**147.43**	**95**	*e*PKPbc	**PKPbc**	**06 32 56.3**	**-0.8**	

*IDC **29** 06:13:39.7±0.9, 16.°55N×146.°29E, h0km, mb4.1/11, mb1 4.3/12, mb1mx4.0/42, mbtmp4.1/12, ML3.2/1, MS3.5/4, Ms1 3.5/4, ms1mx2.9/37, Error ellipse: s-maj=25.7km s-min=18.5km az=117.0*

*ISCJB **29** 06:13:43.2±0.7, 16.°54N±0.°09×146.°2E±0.°2, h33km, mb4.0/11, MS3.4/3, Error ellipse: s-maj=21.4km s-min=12.3km az=17.6*

ISC 29 06:13:44.9±0.8, 16.°5N±0.°1×146.°2E±0.°2, h35km, n17, σ0°69/13, mb4.1/11, MS3.1/3, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.18**	**205**	Pn	**Pn**	**06 14 32.0**	**-0.5**
	2.8nm,0.3s,baz=326,slow=18,SNR=4.8						
JCJ	**Chichijima**	**11.19**	**341**	LR	LR	06 19 27.7	
	comp=Z,260nm,21.9s,baz=152,slow=31						
MJAR	**Matsushiro Arr**	**21.19**	**342**	LR	LR	06 25 00.9	
	comp=Z,66nm,20.8s,baz=135,slow=32						
SIJI	**Sorong**	**22.71**	**222**	P	**P**	**06 18 44.9**	**+0.9**
	5.1nm,0.6s,baz=35,slow=13,SNR=2.2						
KSRS	**Korea Array**	**26.40**	**326**	P	**P**	**06 19 18.4**	**+0.3**
	2.4nm,0.9s,baz=142,slow=10.0,SNR=3.4						
USRK	**Ussuriysk Ar.**	**30.13**	**339**	LR	LR	06 30 01.4	
	comp=Z,46nm,18.9s,baz=162,slow=33						
WRA	**Warramunga Arr**	**38.05**	**198**	P	**P**	**06 21 00.3**	**+0.1**
	3.3nm,1.1s,baz=19,slow=9.6,SNR=4.6						
CMAR	**Chiang Mai Arr**	**45.05**	**280**	P	**P**	**06 21 57.5**	**-0.3**
	1.4nm,0.3s,baz=77,slow=6.4,SNR=5.1						
SONM	**Songino Array**	**45.18**	**323**	P	**P**	**06 21 57.5**	**-1.0**
	1.2nm,0.7s,baz=97,slow=4.8,SNR=3.4						
PSI	**Prapat**	**48.44**	**259**	LR	LR	06 43 22.9	
	comp=Z,199nm,21.1s,baz=85,slow=37						
MKAR	**Makanchi Array**	**60.35**	**315**	P	**P**	**06 23 50.7**	**+0.2**
	2.2nm,1.1s,baz=98,slow=5.3,SNR=3.9						
KURBB	**Kurchatov Arra**	**63.29**	**319**	P	**P**	**06 24 10.9**	**+0.7**
	4.6nm,1.0s,baz=99,slow=6.1,SNR=4.1						
ILAR	**Eielson Array**	**65.39**	**26**	P	**P**	**06 24 23.6**	**0.0**
	3.3nm,1.1s,baz=260,slow=4.7,SNR=6.4						
YKA	**Yellowknife Ar**	**79.69**	**28**	P	**P**	**06 25 49.2**	**+0.4**
	1.6nm,0.8s,baz=290,slow=5.6,SNR=7.0						
NVAR	**Mina Array Bea**	**84.09**	**52**	P	**P**	**06 26 11.7**	**-1.1**
	0.7nm,0.9s,baz=280,slow=6.2,SNR=2.4						
PDAR	**Pinedale Array**	**89.00**	**46**	P	**P**	**06 26 37.2**	**+0.5**
	0.2nm,0.3s,baz=238,slow=2.8,SNR=3.3						
PDAR	**Pinedale Array**	**89.00**	**46**	P	**P**	**06 26 37.2**	**+0.5**

*IDC **29** 06:15:52.6±1.7, 25.°41S×176.°77W, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.9/39, mbtmp4.1/5, Error ellipse: s-maj=47.0km s-min=31.2km az=47.0*

*ISCJB **29** 06:15:56.8±0.8, 25.°40S±0.°07×176.°9W±0.°2, h35km, mb4.2/7, Error ellipse: s-maj=21.3km s-min=9.3km az=7.8*

*NEIC **29** 06:15:59.8±1.3, 25.°41S×176.°86W, h51km±14km, mb4.6/2, Error ellipse: s-maj=24.0km s-min=12.5km az=107.0*

ISC 29 06:15:58.7±0.9, 25.°42S±0.°09×176.°9W±0.°2, h35km, n14, σ0°94/14, mb4.2/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.92**	**193**	Sn	**Sn**	**06 17 42.1**	**+1.0**
	168nm,0.3s,baz=61,slow=23,SNR=8.8						
RAO	**Raoul Island**	**3.92**	**193**	Pn	**Pn**	**06 16 55.7**	**-0.6**
RAO				Sn	**Sn**	**06 17 42.1**	**+1.0**
AFI	**Afiamalu**	**12.44**	**24**	*e*Pn	**Pn**	**06 18 54.3**	**+0.9**
URZ	**Urewera**	**13.76**	**200**	Pn	Pn	06 19 14.0	+2.7
	0.4nm,0.3s,baz=131,slow=20,SNR=2.3						
URZ				Sn	Sn	06 21 27.4	-15
	1.2nm,0.3s,baz=71,slow=17,SNR=6.8						
CTA	**Charters Tower**	**34.29**	**271**	P	**P**	**06 22 42.8**	**+0.9**
	1.0nm,0.3s,baz=98,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**44.56**	**261**	P	**P**	**06 24 07.1**	**-0.4**
	1.6nm,0.4s,baz=91,slow=7.4,SNR=25						
WRAB	**Tennant Creek**	**45.09**	**267**	*e*P	**P**	**06 24 11.5**	**-0.2**
	11nm,1.4s						
WRA	**Warramunga Arr**	**45.10**	**267**	P	**P**	**06 24 11.7**	**-0.2**
	2.2nm,0.6s,baz=103,slow=7.7,SNR=23						
SBA	**Scott Base**	**53.05**	**184**	*e*P	**P**	**06 25 12.8**	**+0.9**
	12nm,1.7s						
VNDA	**Vanda**	**53.12**	**186**	P	**P**	**06 25 12.2**	**-0.2**
	0.6nm,0.5s,baz=12,slow=7.6,SNR=8.9						
MAW	**Mawson**	**77.29**	**200**	P	**P**	**06 27 48.5**	**-0.6**
	1.3nm,0.4s,baz=101,slow=5.2,SNR=3.8						
NB2	**NORSAR Subarra**	**143.96**	**353**	PKP	**PKPdf**	**06 35 27.9**	**-2.0**
	comp=Z,0.6nm,0.6s,baz=7.3,slow=3.8						
NOA	**NORSAR Array B**	**143.96**	**353**	PKP	PKPbc	06 35 27.0	-0.8
	comp=Z,0.9nm,0.7s,baz=9.9,slow=2.3,SNR=5.3						
BRTR	**Keskin Array B**	**150.72**	**307**	PKPbc	**PKPbc**	**06 35 47.2**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=134,slow=4.2,SNR=3.5						
BRTR				PKPab	**PKPab**	**06 35 54.9**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=108,slow=3.4,SNR=6.8						

TAP 29 06:17:40.3, 24.°44N×121.°78E, h10km, ML1.8, 1D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.04**	**253**	*i* P	Pg	06 17 42.3	+0.1
	baz=245						
ENA				*i* S	Sg	06 17 43.6	+0.1
	baz=245						
TWC	**Suao**	**0.18**	**20**	*i* P	Pg	06 17 44.6	+0.4
	baz=16						
TWC				*e*S	Sg	06 17 47.3	+0.5
	baz=16						
ENTT	**Nioudou**	**0.28**	**316**	⇓*i* P	Pg	06 17 46.5	+0.5
	baz=317						
NNS	**Nan Shan**	**0.37**	**270**	*e*P	Pg	06 17 48.0	+0.2
	baz=270						
NNS				*e*S	Sg	06 17 53.2	+0.3
	baz=270						
TWD	**Chiawan**	**0.40**	**205**	*e*P	Pb	06 17 48.9	-0.5
	baz=204						
NSK	**Sanguang**	**0.45**	**302**	*e*P	Pg	06 17 49.8	+0.6
	baz=302						
WHF	**Hehuan Shan**	**0.55**	**238**	*e*P	Pg	06 17 51.7	+0.1
	baz=237						

IDC 29 06:18:30.2±5.4, 16.°77N×145.°71E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.5/48, mbtmp3.8/3, Error ellipse: s-maj=163.3km s-min=43.4km az=164.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**44.52**	**279**	P	P	06 26 43.8	-0.2
	1.5nm,0.3s,baz=74,slow=6.7,SNR=3.7						
MKAR	**Makanchi Array**	**59.81**	**315**	P	P	06 28 37.4	0.0
	0.5nm,0.9s,baz=100,slow=7.9,SNR=3.7						
YKA	**Yellowknife Ar**	**79.68**	**28**	P	P	06 30 39.5	0.0
	0.5nm,0.9s,baz=289,slow=5.7,SNR=3.9						

*ISCJB **29** 06:19:55.8±0.5, 16.°87N±0.°08×145.°9E±0.°1, h10km, mb4.1/14, Error ellipse: s-maj=17.6km s-min=11.4km az=15.4*

*IDC **29** 06:19:55.4±1.0, 16.°92N×146.°05E, h0km, mb4.0/10, mb1 4.3/10, mb1mx3.8/48, mbtmp4.0/10, Error ellipse: s-maj=28.3km s-min=22.8km az=145.0*

*NEIC **29** 06:19:57.3±0.5, 16.°85N×146.°01E, h10km, mb4.4/4, Error ellipse: s-maj=18.2km s-min=10.8km az=112.0*

ISC 29 06:19:57.1±0.8, 16.°9N±0.°1×146.°0E±0.°2, h10km, n24, σ1°14/18, mb4.2/14, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.43**	**199**	Pn	**Pn**	**06 20 50.0**	**-0.6**
H11S3	**WAKE ISLAND Hy**	**19.76**	**82**	H	H	06 44 58.6	
	baz=268,slow=75,SNR=3912						
H11S1	**WAKE ISLAND Hy**	**19.77**	**82**	H	H	06 44 59.3	
	baz=268,slow=75,SNR=5664						
H11S2	**WAKE ISLAND Hy**	**19.78**	**82**	H	H	06 44 59.4	
	baz=268,slow=75,SNR=5658						
H11N1	**WAKE ISLAND Hy**	**20.02**	**79**	H	H	06 45 18.3	
	baz=264,slow=75,SNR=7670						
H11N2	**WAKE ISLAND Hy**	**20.03**	**79**	H	H	06 45 18.9	
	baz=264,slow=75,SNR=7413						
H11N3	**WAKE ISLAND Hy**	**20.04**	**79**	H	H	06 45 19.6	
	baz=264,slow=75,SNR=8521						
KSRS	**Korea Array**	**26.00**	**326**	P	**P**	**06 25 31.7**	**+1.5**
	0.8nm,0.4s,baz=149,slow=10,SNR=5.5						
KSAR	**Wonju Array Be**	**26.01**	**326**	P	**P**	**06 25 31.7**	**+1.4**
WRAB	**Tennant Creek**	**38.31**	**198**	P	**P**	**06 27 19.4**	**+1.2**
	8.2nm,1.3s						
WRA	**Warramunga Arr**	**38.32**	**198**	P	**P**	**06 27 18.8**	**+0.6**
	1.6nm,1.1s,baz=15,slow=8.7,SNR=4.0						
CMAR	**Chiang Mai Arr**	**44.79**	**279**	P	**P**	**06 28 11.2**	**-0.3**
	1.8nm,0.5s,baz=72,slow=6.6,SNR=11						
MKAR	**Makanchi Array**	**59.97**	**315**	P	**P**	**06 30 03.6**	**-0.1**
	0.7nm,0.8s,baz=98,slow=9.1,SNR=6.3						
KURK	**Kurchatov**	**62.85**	**319**	*eP*	**P**	**06 30 23.0**	**-0.1**
	5.6nm,1.3s						
KURBB	**Kurchatov Arra**	**62.90**	**319**	P	**P**	**06 30 21.7**	**-1.8**
	1.2nm,0.8s,baz=99,slow=7.4,SNR=5.0						
ILAR	**Eielson Array**	**65.16**	**26**	P	**P**	**06 30 37.0**	**-1.1**
	1.3nm,1.1s,baz=252,slow=5.2,SNR=8.3						
HYT	**Haines Junctio**	**68.85**	**31**	*eP*	**P**	**06 31 02.7**	**+0.9**
DLBC	**Dease Lake**	**72.66**	**33**	P	**P**	**06 31 25.6**	**+0.7**
	1.4nm,0.6s,baz=248,slow=5.4,SNR=4.8						
DLBC	**Dease Lake**	**72.66**	**33**	*eP*	**P**	**06 31 26.2**	**+1.2**
YKA	**Yellowknife Ar**	**79.47**	**28**	P	**P**	**06 32 01.6**	**-2.0**
	1.3nm,0.8s,baz=289,slow=5.5,SNR=9.3						
NEW	**Newport**	**82.07**	**42**	P	**P**	**06 32 18.4**	**+0.5**
	2.3nm,0.9s,baz=146,slow=3.6,SNR=5.0						
NVAR	**Mina Array Bea**	**84.03**	**52**	P	**P**	**06 32 28.9**	**+0.4**
	0.5nm,0.7s,baz=254,slow=6.6,SNR=3.7						
MFID	**Camas Ranch**	**84.36**	**46**	*eP*	**P**	**06 32 31.0**	**+1.1**
	6.1nm,1.2s						
HLID	**Hailey**	**85.29**	**46**	*eP*	**P**	**06 32 34.8**	**+0.1**
	2.8nm,1.0s						

CASC 29 06:20:36.8±2.3, 9.°77N×82.°85W, h15km±18km, MD3.5, 3C-4D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTCR	**Cotoan**	**0.87**	**174**	⇓*eP*	Pb	06 20 53.7	-0.2
CTCR				*e*S	Sb	06 21 05.7	+0.1
URSC	**Urasca**	**0.92**	**274**	⇑*eP*	Pb	06 20 53.2	-1.4
URSC				*e*S	Sb	06 21 04.8	-2.0
BUS	**Buena Vista**	**0.92**	**257**	⇑*eP*	Pb	06 20 53.6	-1.4
BUS				*e*S	Sb	06 21 05.3	-2.1
BRU2	**Volcan**	**0.98**	**171**	⇓*iP*	Pb	06 20 55.6	-0.1
BRU2				*e*S	Sg	06 21 09.1	-0.1
TBS2		**0.99**	**169**	*e*P	Pb	06 20 54.9	-1.0
TBS2				⇓*e*P	Pg	06 20 55.0	-1.3
TBS2				*e*S	Sb	06 21 07.0	-1.9
TBS2				*e*S	Sg	06 21 08.0	-1.4
ACR	**Cerro Adams**	**1.15**	**196**	⇓*e*P	Pn	06 20 58.0	-0.5
ACR				*e*S	Sn	06 21 13.9	-0.1
CGA2	**Cerro Gallo 2**	**1.61**	**279**	⇑*e*P	Pn	06 21 05.0	+0.2
CGA2				*e*S	Sn	06 21 25.7	+0.3

IDC 29 06:22:15.6±5.8, 16.°70N×146.°29E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.5/48, mbtmp3.8/3, Error ellipse: s-maj=183.6km s-min=43.6km az=164.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**19.53**	**82**	H	H	06 47 21.6	
	baz=268,slow=75,SNR=7.3						
H11S1	**WAKE ISLAND Hy**	**19.54**	**82**	H	H	06 47 22.5	
	baz=268,slow=75,SNR=8.7						
H11S2	**WAKE ISLAND Hy**	**19.54**	**82**	H	H	06 47 22.9	
	baz=268,slow=75,SNR=7.4						
H11N1	**WAKE ISLAND Hy**	**19.80**	**78**	H	H	06 47 42.7	
	baz=264,slow=74,SNR=253						
H11N2	**WAKE ISLAND Hy**	**19.81**	**78**	H	H	06 47 43.2	
	baz=264,slow=74,SNR=336						
H11N3	**WAKE ISLAND Hy**	**19.82**	**78**	H	H	06 47 44.1	
	baz=264,slow=74,SNR=365						
CMAR	**Chiang Mai Arr**	**45.07**	**280**	P	P	06 30 33.7	0.0
	0.9nm,0.3s,baz=69,slow=6.8,SNR=5.4						
MKAR	**Makanchi Array**	**60.25**	**315**	P	P	06 32 25.6	-0.2
	0.6nm,0.9s,baz=101,slow=6.4,SNR=3.8						
YKA	**Yellowknife Ar**	**79.48**	**28**	P	P	06 34 23.9	+0.1
	0.7nm,0.9s,baz=284,slow=5.2,SNR=4.6						

IDC 29 06:24:33.4±1.9, 16.°95N×146.°20E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/47, mbtmp3.8/6, Error ellipse: s-maj=56.5km s-min=30.3km az=179.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**19.57**	**82**	H	H	06 49 36.9	
	baz=285						
H11S1	**WAKE ISLAND Hy**	**19.59**	**82**	H	H	06 49 38.1	
	baz=285						
H11S2	**WAKE ISLAND Hy**	**19.59**	**82**	H	H	06 49 38.7	
	baz=285						
H11N1	**WAKE ISLAND Hy**	**19.83**	**79**	H	H	06 49 58.3	
	baz=261						
H11N2	**WAKE ISLAND Hy**	**19.84**	**79**	H	H	06 49 58.6	
	baz=261						
H11N3	**WAKE ISLAND Hy**	**19.85**	**79**	H	H	06 49 59.0	
	baz=261						
KSRS	**Korea Array**	**26.01**	**325**	P	P	06 30 09.4	+1.3
	1.1nm,0.7s,baz=150,slow=11,SNR=5.5						
CMAR	**Chiang Mai Arr**	**44.95**	**279**	P	P	06 32 50.0	-0.6
	0.9nm,0.3s,baz=74,slow=6.3,SNR=7.4						
MKAR	**Makanchi Array**	**60.02**	**315**	P	P	06 34 42.9	+0.8
	0.5nm,0.8s,baz=96,slow=9.9,SNR=4.3						
KURBB	**Kurchatov Arra**	**62.94**	**319**	P	P	06 35 00.4	-1.2
	1.6nm,0.9s,baz=100,slow=7.0,SNR=5.1						
ILAR	**Eielson Array**	**65.00**	**26**	P	P	06 35 13.3	-1.6
	0.9nm,1.1s,baz=266,slow=5.6,SNR=5.4						
DLBC	**Dease Lake**	**72.48**	**33**	P	P	06 36 04.8	+3.0
	2.2nm,1.1s,baz=290,slow=6.8,SNR=2.6						
YKA	**Yellowknife Ar**	**79.30**	**28**	P	P	06 36 41.8	+1.2
	1.0nm,0.9s,baz=288,slow=5.7,SNR=6.3						
LPAZ	**La Paz**	**147.12**	**94**	PKPbc	PKPbc	06 44 19.9	-0.2
	0.5nm,0.7s,baz=240,slow=1.3,SNR=3.7						

*IDC **29** 06:25:36.1±0.9, 13.°61S×166.°74E, h0km, mb4.4/14, mb1 4.4/15, mb1mx4.2/43, mbtmp4.3/15, ML4.0/1, MS3.9/12, Ms1 3.9/12, ms1mx3.6/29, Error ellipse: s-maj=30.0km s-min=17.1km az=112.0*

*ISCJB **29** 06:25:40.7±0.5, 13.°63S±0.°07×166.°53E±0.°09, h39km, mb4.3/17, MS3.9/12, Error ellipse: s-maj=13.0km s-min=10.2km az=170.0*

*NEIC **29** 06:25:42.2±1.7, 13.°59S×166.°66E, h41km±14km, mb4.5/7, Error ellipse: s-maj=15.4km s-min=10.5km az=81.0*

ISC 29 06:25:42.3±0.6, 13.°65S±0.°07×166.°6E±0.°1, h39km, n38, σ1°26/32, mb4.4/17, MS3.9/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.76**	**302**	*e*Pn	**Pn**	**06 27 33.1**	**+0.4**
DZM	**Mont Dzumac**	**8.38**	**181**	*e*Pn	**Pn**	**06 27 42.8**	**+1.5**
	14nm,0.3s						
DZM				*e*Sn	**Sn**	**06 29 12.7**	**-2.0**
	15nm,0.3s						
DZM				*e*LR	LR	06 29 38.9	
	1μm,23.9s						
DZM	**Mont Dzumac**	**8.38**	**181**	Pn	**Pn**	**06 27 41.5**	**+0.2**
	2.0nm,0.3s,baz=272,slow=23,SNR=13						
DZM				Sn	**Sn**	**06 29 13.0**	**-1.7**
	baz=90,slow=20,SNR=2.1						
CTA	**Charters Tower**	**20.50**	**249**	P	Pn	06 30 18.5	-1.0
	9.4nm,0.9s,baz=77,slow=13,SNR=14						
CTAO	**Charters Tower**	**20.50**	**249**	*eP*	Pn	06 30 18.0	-1.5
	7.9nm,0.9s						
RAO	**Raoul Island**	**21.14**	**140**	LR	LR	06 37 12.6	
	comp=Z,178nm,18.1s,baz=321,slow=33						
URZ	**Urewera**	**26.23**	**161**	LR	LR	06 40 23.4	
	comp=Z,340nm,18.6s,baz=336,slow=34						
STKA	**Stephens Creek**	**29.23**	**227**	P	**P**	**06 31 41.6**	**+1.1**
	4.2nm,

MKAR	Makanchi Array	95.98	317	P	P	06 39 05.6	+0.2
	2.6nm,1.0s,baz=89,slow=6.6,SNR=7.9						
ZALV	Zalesovo Beam	96.15	324	P	P	06 39 04.8	-1.1
	1.7nm,0.7s,baz=132,slow=4.2,SNR=5.1						
ZALV				LR	LR	07 24 20.3	
	comp=Z,26nm,18.0s,baz=72,slow=37						
TXAR	Lajitas Array	96.33	61	LR	LR	07 17 16.8	
	comp=Z,43nm,18.9s,baz=0.0,slow=32						
ARCES	ARCESS Array B	119.05	345	PKP	PKPdf	06 44 25.2	-1.1
	1.5nm,0.7s,baz=70,slow=2.4,SNR=15						
AKASG	Malin Array Be	129.49	326	PKP	PKPdf	06 44 46.1	-0.7
	0.3nm,0.3s,baz=45,slow=1.5,SNR=5.8						
BRTR	Keskin Array B	131.32	311	PKP	PKPdf	06 44 50.5	-0.4
	0.5nm,0.7s,baz=29,slow=3.5,SNR=2.7						
KEST	Kesra	149.97	321	PKPbc	PKPbc	06 45 29.3	+0.2
	3.3nm,0.6s,baz=203,slow=3.3,SNR=7.4						
ESDC	Sonseca Array	152.78	344	PKPbc	PKPbc	06 45 34.1	-1.3
	0.3nm,0.5s,baz=5.9,slow=2.6,SNR=5.9						
TORD	Torodi Ar. Bea	165.31	270	PKP	PKPdf	06 45 43.2	-0.3
	0.8nm,0.8s,baz=150,slow=1.8,SNR=4.5						

*IDC **29** 06:25:45.2±3.2, 16°.56N×146°.18E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/48, mbtmp3.8/5, Error ellipse: s-maj=79.0km s-min=39.3km az=170.0*
*NEIC **29** 06:25:46.8±1.0, 16°.58N×146°.14E, h10km, mb4.2/2, Error ellipse: s-maj=24.7km s-min=12.4km az=96.0*
*ISCJB **29** 06:25:48.3±1.4, 16°.6N±0°.1×146°.1E±0.2, h33km, mb3.9/7, Error ellipse: s-maj=32.0km s-min=15.6km az=5.1*

ISC 29 06:25:50.3±1.6, 16°.5N±0°.1×146°.1E±0°.3, h35km, n15, σ0s31/9, mb3.8/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam	3.16	203	ePn	Pn	06 26 37.5	0.0
H11S3	WAKE ISLAND Hy	19.71	81	H	H	06 50 50.8	
	baz=267,slow=75,SNR=28						
H11S1	WAKE ISLAND Hy	19.72	81	H	H	06 50 51.2	
	baz=267,slow=75,SNR=33						
H11S2	WAKE ISLAND Hy	19.73	81	H	H	06 50 51.6	
	baz=267,slow=75,SNR=35						
H11N1	WAKE ISLAND Hy	19.99	78	H	H	06 51 11.0	
	baz=264,slow=74,SNR=47						
H11N2	WAKE ISLAND Hy	20.00	78	H	H	06 51 11.7	
	baz=264,slow=74,SNR=49						
H11N3	WAKE ISLAND Hy	20.01	78	H	H	06 51 12.6	
	baz=264,slow=74,SNR=49						
YHNB	Yeheng	24.51	293	eP	P	06 31 06.4	-0.3
	7.6nm,0.7s						
KSRS	Korea Array	26.32	326	P	P	06 31 22.9	+0.1
	0.8nm,0.6s,baz=147,slow=9.5,SNR=5.2						
KSAR	Wonju Array Be	26.33	326	P	P	06 31 22.9	0.0
CMAR	Chiang Mai Arr	44.94	280	P	P	06 34 02.5	+0.3
	1.5nm,0.4s,baz=71,slow=5.8,SNR=4.2						
SONM	Songino Array	45.10	323	P	P	06 34 03.2	0.0
	0.5nm,0.7s,baz=139,slow=7.7,SNR=2.6						
MKAR	Makanchi Array	60.27	315	P	P	06 35 55.6	+0.4
	0.7nm,1.0s,baz=89,slow=10,SNR=2.8						
KURK	Kurchatov	63.16	319	eP	P	06 36 14.1	-0.6
	1.1nm,0.5s						
YKA	Yellowknife Ar	79.72	28	P	P	06 37 54.3	+0.1
	0.8nm,0.8s,baz=290,slow=5.4,SNR=4.1						

*IDC **29** 06:27:02.6±0.8, 16°.67N×146°.00E, h0km, mb4.0/14, mb1 4.3/14, mb1mx3.9/46, mbtmp4.0/14, Error ellipse: s-maj=22.0km s-min=19.0km az=130.0*
*NEIC **29** 06:27:03.4±0.5, 16°.55N×145°.81E, h10km, mb4.2/2, Error ellipse: s-maj=21.2km s-min=10.5km az=94.0*
*ISCJB **29** 06:27:06.1±0.7, 16°.71N±0°.1×145°.9E±0°.1, h33km, mb4.0/13, Error ellipse: s-maj=17.3km s-min=14.0km az=14.3*

ISC 29 06:27:07.8±0.8, 16°.7N±0°.1×146°.0E±0°.2, h35km, n25, σ0s79/18, mb4.0/13, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam	3.23	199	Pn	Pn	06 27 51.1	-5.0
H11S3	WAKE ISLAND Hy	19.83	82	H	H	06 52 06.5	
	baz=267,slow=75,SNR=958						
H11S1	WAKE ISLAND Hy	19.84	82	H	H	06 52 07.5	
	baz=267,slow=75,SNR=1022						
H11S2	WAKE ISLAND Hy	19.85	82	H	H	06 52 07.7	
	baz=267,slow=75,SNR=1018						
H11N1	WAKE ISLAND Hy	20.10	78	H	H	06 52 27.3	
	baz=264,slow=75,SNR=5117						
H11N2	WAKE ISLAND Hy	20.11	78	H	H	06 52 27.9	
	baz=264,slow=75,SNR=1517						
H11N3	WAKE ISLAND Hy	20.12	78	H	H	06 52 28.9	
	baz=264,slow=75,SNR=5872						
MJAR	Matsushiro Arr	20.97	342	P	P	06 31 47.1	-0.8
	1.0nm,0.6s,baz=162,slow=8.6,SNR=3.3						
MAJO	Matsushiro	20.97	342	eP	P	06 31 46.9	-1.0
	4.4nm,0.7s						
SIJI	Sorong	22.67	221	P	P	06 32 06.5	+0.2
	2.6nm,0.4s,baz=43,slow=9.3,SNR=4.3						
KSRS	Korea Array	26.13	326	P	P	06 32 38.8	+0.2
	3.3nm,1.0s,baz=150,slow=9.2,SNR=6.8						
KSAR	Wonju Array Be	26.14	326	P	P	06 32 38.8	+0.1
WRA	Warramunga Arr	38.13	198	P	P	06 34 22.7	-1.1
	4.7nm,1.3s,baz=19,slow=7.6,SNR=4.2						
CMAR	Chiang Mai Arr	44.78	280	P	P	06 35 19.4	+0.9
	1.9nm,0.4s,baz=68,slow=6.2,SNR=5.8						
SONM	Songino Array	44.91	323	P	P	06 35 19.3	+0.1
	0.8nm,0.8s,baz=151,slow=6.8,SNR=4.7						
MKAR	Makanchi Array	60.07	315	P	P	06 37 12.0	+0.5
	2.6nm,1.1s,baz=99,slow=7.5,SNR=8.5						
KURBB	Kurchatov Arra	63.01	319	P	P	06 37 30.2	-1.0
	1.9nm,0.9s,baz=102,slow=7.8,SNR=6.9						
ILAR	Eielson Array	65.35	26	P	P	06 37 45.2	-1.1
	1.4nm,1.1s,baz=262,slow=5.5,SNR=7.2						
DLBC	Dease Lake	72.84	33	P	P	06 38 34.0	+1.0
	7.3nm,1.2s,baz=217,slow=14,SNR=4.9						
YKA	Yellowknife Ar	79.66	28	P	P	06 39 10.9	-0.6
	1.5nm,0.9s,baz=291,slow=5.8,SNR=8.9						
YBH	Yreka Blue Hor	80.07	49	P	P	06 39 14.8	+0.5
	1.3nm,0.8s,baz=270,slow=6.1,SNR=2.5						
NEW	Newport	82.24	42	P	P	06 39 26.4	+0.7
	1.4nm,0.9s,baz=296,slow=5.8,SNR=4.3						
NEW	Newport	82.24	42	eP	P	06 39 26.2	+0.5
	5.7nm,1.0s						
NVAR	Mina Array Bea	84.19	52	P	P	06 39 36.9	+0.7
	0.9nm,0.9s,baz=284,slow=5.8,SNR=4.9						
LPAZ	La Paz	147.31	94	PKPbc	PKPbc	06 46 50.0	+0.6
	2.7nm,1.1s,baz=339,slow=4.3,SNR=4.9						

*IDC **29** 06:27:34.2±1.7, 53°.57N×163°.50W, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.5/52, mbtmp3.6/8, ML3.2/1, Error ellipse: s-maj=39.4km s-min=24.7km az=2.0*
*ISCJB **29** 06:27:37.5±1.1, 53°.48N±0°.08×163°.15W±0°.07, h41km±9km, mb3.7/7, Error ellipse: s-maj=13.9km s-min=5.6km az=160.3*
*NEIC **29** 06:27:37.4, 53°.47N×163°.19W, h26km, ML3.3(AEIC), After AEIC.*

ISC 29 06:27:38.1±3.2, 53°.54N±0°.09×163°.18W±0°.05, h26km±22km, n28, σ0s68/35, mb3.9/7, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WESE	West Dahl East	1.25	319	P	Pn	06 27 59.8	-0.2
WESP	Westdahl Peak	1.32	317	P	Pn	06 28 00.8	-0.1
WESP				S	Sn	06 28 18.1	+0.4
WESN	West Dahl Nort	1.32	322	P	Pn	06 28 01.0	+0.1
FALS	False Pass	1.33	354	P	Pn	06 28 00.9	0.0
FALS				S	Sb	06 28 19.5	+0.6
ISNN	Isanotski Nort	1.34	345	P	Pn	06 28 02.1	+1.0
SSLW	Shishaldin Wes	1.35	336	P	Pn	06 28 01.3	0.0
SSLN	Shishaldin Nor	1.36	340	P	Pn	06 28 01.9	+0.5
DRIA	Deer Island	1.53	20	P	Pn	06 28 02.8	-0.9
AKSA	Akutan Strait	1.61	293	P	Pn	06 28 04.2	-0.5
AKSA				S	Sn	06 28 24.6	+0.1
AKUT	Akutan	1.65	292	P	Pn	06 28 05.2	-0.1
DT1	Dutton Round H	1.66	18	P	Pn	06 28 04.9	-0.5
DTNA	Dutton South F	1.70	18	P	Pn	06 28 06.0	-0.1
ZRO	Akutan Zero	1.75	290	P	Pn	06 28 06.5	-0.2
AKGG	Akutan Green G	1.79	293	P	Pn	06 28 07.3	0.0
AKGG				S	Sn	06 28 30.3	+1.2
UNV	Unalaska Valle	2.00	280	P	Pn	06 28 09.1	-1.0
UNV				S	Sn	06 28 33.6	-0.6
MREP	Makushin Rep't	2.14	279	P	Pn	06 28 12.3	+0.2
MSW	Makushin Switc	2.17	281	P	Pn	06 28 12.5	0.0
MSW				S	Sn	06 28 38.6	0.0
MCIR	Makushin Cirqu	2.24	282	P	Pn	06 28 13.5	0.0
SDPT	Sand Point	2.41	40	P	Pn	06 28 15.8	+0.1
SDPT				S	Sn	06 28 44.2	0.0
OKSP	Okmok Steeple	3.07	267	P	Pn	06 28 25.1	+0.2
ILAR	Eielson Array	13.96	30	Pn	Pn	06 30 52.7	-1.3
	0.0nm,0.3s,baz=222,slow=12,SNR=4.0						
YKA	Yellowknife Ar	26.62	51	P	P	06 33 15.9	+1.9
	0.5nm,0.5s,baz=268,slow=9.0,SNR=8.5						
TXAR	Lajitas Array	49.05	95	P	P	06 36 24.1	+1.3
	0.3nm,0.5s,baz=299,slow=5.5,SNR=7.0						
ARCES	ARCESS Array B	57.07	356	P	P	06 37 20.5	-0.8
	1.8nm,0.9s,baz=1.2,slow=8.5,SNR=4.2						
KURBB	Kurchatov Arra	64.00	321	P	P	06 38 08.6	-0.2
	0.3nm,0.3s,baz=41,slow=6.9,SNR=3.9						
FINES	FINESS Array B	65.13	355	P	P	06 38 15.2	-0.7
	1.0nm,0.8s,baz=358,slow=4.3,SNR=3.8						
MKAR	Makanchi Array	65.62	317	P	P	06 38 19.4	-0.1
	0.2nm,0.5s,baz=57,slow=5.3,SNR=3.9						
AKASG	Malin Array Be	75.61	352	P	P	06 39 19.6	-0.5
	0.4nm,0.3s,baz=8.5,slow=5.4,SNR=4.4						

*IDC **29** 06:30:30.9±0.9, 16°.92N×145°.65E, h0km, mb4.0/10, mb1 4.3/10, mb1mx3.9/45, mbtmp4.0/10, Error ellipse: s-maj=26.1km s-min=22.9km az=150.0*
*NEIC **29** 06:30:32.4±0.6, 16°.76N×145°.66E, h10km, mb4.3/2, Error ellipse: s-maj=21.7km s-min=13.3km az=105.0*
*ISCJB **29** 06:30:34.0±0.6, 16°.80N±0°.08×145°.3E±0°.2, h33km, mb4.0/12, Error ellipse: s-maj=21.3km s-min=11.8km az=4.4*

ISC 29 06:30:35.3±0.7, 16°.8N±0°.1×145°.4E±0°.2, h35km, n22, σ1s04/14, mb4.1/12, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam	3.25	188	ePn	Pn	06 31 23.2	-0.5
H11S3	WAKE ISLAND Hy	20.40	82	H	H	06 55 36.1	
	baz=267,slow=75						
H11S1	WAKE ISLAND Hy	20.41	82	H	H	06 55 37.3	
	baz=267,slow=75						
H11S2	WAKE ISLAND Hy	20.41	82	H	H	06 55 37.5	
	baz=267,slow=75						
H11N1	WAKE ISLAND Hy	20.65	79	H	H	06 55 57.1	
	baz=264,slow=74,SNR=6483						
H11N2	WAKE ISLAND Hy	20.66	79	H	H	06 55 57.6	
	baz=264,slow=74,SNR=5838						
H11N3	WAKE ISLAND Hy	20.67	79	H	H	06 55 58.4	
	baz=264,slow=74,SNR=7513						
KSRS	Korea Array	25.66	327	P	P	06 36 02.5	+0.6
	1.0nm,0.7s,baz=120,slow=7.2,SNR=3.2						
KSAR	Wonju Array Be	25.68	327	P	P	06 36 02.5	+0.5
WRAB	Tennant Creek	38.09	197	eP	P	06 37 50.9	0.0
	8.0nm,1.3s						
WRA	Warramunga Arr	38.10	197	P	P	06 37 52.0	+1.0
	2.5nm,1.2s,baz=18,slow=7.6,SNR=3.6						
CMAR	Chiang Mai Arr	44.17	279	P	P	06 38 45.7	+4.7
	6.8nm,1.1s,baz=69,slow=6.3,SNR=7.9						
MKAR	Makanchi Array	59.53	315	P	P	06 40 38.9	+3.6
	2.2nm,1.1s,baz=95,slow=8.6,SNR=4.9						
KURBB	Kurchatov Arra	62.50	319	P	P	06 40 55.0	-0.2
	1.4nm,0.9s,baz=99,slow=6.3,SNR=2.4						
ILAR	Eielson Array	65.47	26	P	P	06 41 12.4	-2.0
	1.6nm,1.1s,baz=260,slow=5.6,SNR=6.0						
DLBC	Dease Lake	73.03	33	P	P	06 42 02.6	+1.1
	1.2nm,0.4s,baz=262,slow=9.3,SNR=3.2						
YKA	Yellowknife Ar	79.79	28	P	P	06 42 38.7	-1.0
	1.4nm,0.9s,baz=290,slow=5.3,SNR=6.8						
NEW	Newport	82.52	42	P	P	06 42 54.9	+0.4
	1.8nm,0.8s,baz=281,slow=8.0,SNR=3.7						
NVAR	Mina Array Bea	84.55	52	P	P	06 43 06.9	+1.5
	0.2nm,0.3s,baz=249,slow=7.6,SNR=3.8						
HWUT	Hardware Ranch	88.41	47	eP	P	06 43 25.4	+1.2
	1.5nm,0.9s						
PV01	Paradox Valley	91.85	49	eP	P	06 43 40.5	0.0
LPAZ	La Paz	147.92	94	PKPbc	PKPbc	06 50 18.5	0.0
	2.4nm,1.0s,baz=0.0,slow=0.0,SNR=4.3						

IDC 29 06:31:38.2±5.7, 16°.89N×146°.06E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.6/45, mbtmp3.8/4, Error ellipse: s-maj=177.5km s-min=34.8km az=163.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H11S3	WAKE ISLAND Hy	19.72	82	H	H	06 56 42.4	
	baz=285						
H11S1	WAKE ISLAND Hy	19.73	82	H	H	06 56 43.3	
	baz=285						
H11S2	WAKE ISLAND Hy	19.74	82	H	H	06 56 43.7	
	baz=285						
H11N1	WAKE ISLAND Hy	19.98	79	H	H	06 57 02.2	
	baz=266						
H11N2	WAKE ISLAND Hy	19.99	79	H	H	06 57 02.8	
	baz=266						
H11N3	WAKE ISLAND Hy	20.00	79	H	H	06 57 03.7	
	baz=266						
CMAR	Chiang Mai Arr	44.82	279	P	P	06 39 53.8	-0.5
	2.3nm,0.8s,baz=69,slow=5.8,SNR=4.9						
MKAR	Makanchi Array	59.96	315	P	P	06 41 47.0	+0.5
	1.0nm,0.9s,baz=98,slow=7.5,SNR=3.6						
ILAR	Eielson Array	65.11	26	P	P	06 42 20.2	-0.3
	0.7nm,1.0s,baz=258,slow=4.5,SNR=3.6						
YKA	Yellowknife Ar	79.42	28	P	P	06 43 46.2	+0.2
	0.9nm,0.8s,baz=291,slow=5.5,SNR=4.6						

*IDC **29** 06:36:30.8±1.1, 16°.56N×146°.06E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.7/39, mbtmp3.9/6, Error ellipse: s-maj=31.2km s-min=25.8km az=111.0*
*ISCJB **29** 06:36:33.4±1.1, 16°.5N±0°.2×146°.1E±0°.2, h33km, mb3.8/6, Error ellipse: s-maj=30.3km s-min=22.7km az=14.3*

ISC 29 06:36:35.6±1.0, 16°.5N±0°.2×146°.1E±0°.2, h35km, n13, σ0s91/7, mb3.8/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H11S3	WAKE ISLAND Hy	19.74	81	H	H	07 01 35.7	
	baz=267,slow=75,SNR=254						
H11S1	WAKE ISLAND Hy	19.75	81	H	H	07 01 36.8	
	baz=267,slow=75,SNR=260						
H11S2	WAKE ISLAND Hy	19.75	81	H	H	07 01 37.2	
	baz=267,slow=75,SNR=236						
H11N1	WAKE ISLAND Hy	20.02	78	H	H	07 01 56.5	
	baz=264,slow=75,SNR=764						
H11N2	WAKE ISLAND Hy	20.02	78	H	H	07 01 57.1	
	baz=264,slow=75,SNR=665						
H11N3	WAKE ISLAND Hy	20.04	78	H	H	07 01 57.9	
	baz=264,slow=75,SNR=807						
KSRS	Korea Array	26.32	326	P	P	06 42 06.8	-1.4
	0.5nm,0.2s,baz=144,slow=11,SNR=6.2						
WRA	Warramunga Arr	38.02	198	P	P	06 43 50.1	-0.5
	1.5nm,1.1s,baz=16,slow=9.1,SNR=3.5						
CMAR	Chiang Mai Arr	44.92	280	P	P	06 44 48.1	+0.7
	1.1nm,0.3s,baz=72,slow=6.2,SNR=10						
MKAR	Makanchi Array	60.26	315	P	P	06 46 41.0	+0.4
	1.2nm,1.0s,baz=98,slow=6.2,SNR=4.8						
ILAR	Eielson Array	65.44	26	P	P	06 47 14.5	-0.2
	0.3nm,1.1s,baz=273,slow=4.4,SNR=6.9						
YKA	Yellowknife Ar	79.74	28	P	P	06 48 40.0	+0.3
	0.8nm,0.8s,baz=290,slow=5.7,SNR=6.9						
LPAZ	La Paz	147.19	95	PKPbc	PKPab	06 56 19.1	+0.5
	1.4nm,0.9s,baz=3.7,slow=5.6,SNR=3.7						

*IDC **29** 06:38:30.1±0.9, 16°.53N×146°.04E, h0km, mb3.8/8, mb1 4.1/8, mb1mx3.8/39, mbtmp3.8/8, Error ellipse: s-maj=26.3km s-min=25.1km az=120.0*
*ISCJB **29** 06:38:32.7±1.1, 16°.5N±0°.2×146°.1E±0°.2, h33km, mb3.8/8, Error ellipse: s-maj=27.9km s-min=21.9km az=7.5*

ISC 29 06:38:34.5±1.0, 16°.5N±0°.2×146°.2E±0°.2, h35km, n15, σ0s68/8, mb3.9/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H11S3	WAKE ISLAND Hy	19.67	81	H	H	07 03 35.6	
	baz=278						
H11S1	WAKE ISLAND Hy	19.68	81	H	H	07 03 36.7	
	baz=278						
H11S2	WAKE ISLAND Hy	19.68	81	H	H	07 03 37.5	
	baz=278						
H11N1	WAKE ISLAND Hy	19.95	78	H	H	07 03 56.1	
	baz=264,slow=73,SNR=203						
H11N2	WAKE ISLAND Hy	19.96	78	H	H	07 03 56.6	
	baz=264,slow=73,SNR=258						
H11N3	WAKE ISLAND Hy	19.97	78	H	H	07 03 57.4	
	baz=264,slow=73,SNR=180						
KSRS	Korea Array	26.38	326	P	P	06 44 08.1	+0.6
	0.5nm,0.3s,baz=148,slow=10,SNR=5.6						
WRA	Warramunga Arr	38.02	198	P	P	06 45 49.6	+0.1
	3.9nm,1.3s,baz=11,slow=8.3,SNR=3.9						
CMAR	Chiang Mai Arr	45.00	280	P	P	06 46 47.1	+0.2
	1.3nm,0.2s,baz=70,slow=6.4,SNR=11						
SONM	Songino Array	45.16	323	P	P	06 46 47.0	-0.9
	0.7nm,0.9s,baz=116,slow=6.7,SNR=2.9						
MKAR	Makanchi Array	60.33	315	P	P	06 48 39.9	0.0
	0.9nm,0.9s,baz=92,slow=8.7,SNR=5.3						
ILAR	Eielson Array	65.43	26	P	P	06 49 13.2	-0.3
	1.1nm,1.1s,baz=247,slow=5.2,SNR=5.9						
YKA	Yellowknife Ar	79.73	28	P	P	06 50 39.3	+0.8
	1.1nm,0.9s,baz=292,slow=5.4,SNR=7.6						
NVAR	Mina Array Bea	84.14	52	P	P	06 51 06.1	+3.5
	0.3nm,0.8s,baz=308,slow=7.9,SNR=2.5						
LPAZ	La Paz	147.11	95	PKPbc	PKPab	06 58 16.5	-0.6
	0.4nm,0.3s,baz=133,slow=2.6,SNR=4.2						

*IDC **29** 06:39:55.0±1.5, 13°.79S×166°.49E, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.8/34, mbtmp3.9/5, ML3.7/1, MS3.7/2, Ms1 3.6/2, ms1mx3.0/30, Error ellipse: s-maj=49.2km s-min=27.3km az=136.0*
*ISCJB **29** 06:39:59.3±1.4, 14°.0S±0°.1×166°.5E±0°.2, h43km, mb3.9/3, MS3.6/2, Error ellipse: s-maj=27.1km s-min=14.6km az=169.6*

ISC 29 06:40:01.0±1.4, 14°.00S±0°.1×166°.5E±0°.3, h43km, n8, σ1s53/8, mb3.9/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	8.02	180	Pn	Pn	06 41 55.8	+0.7
	1.0nm,0.3s,baz=89,slow=24,SNR=16						
DZM				Sn	Sn	06 43 25.8	+1.2
	baz=90,slow=20,SNR=1.5						
DZM	Mont Dzumac	8.02	180	eP	Pn	06 41 56.3	+1.1
DZM				eS	Sn	06 43 21.7	-2.9
CTA	Charters Tower	20.26	250	P	Pn	06 44 34.5	-0.7
	2.5nm,0.6s,baz=67,slow=15,SNR=6.0						
STKA	Stephens Creek	28.90	228	LR	LR	06 57 30.0	
	comp=Z,139nm,18.0s,baz=27,slow=36						
WRA	Warramunga Arr	31.28	255	P	P	06 46 17.1	-0.1
	0.7nm,0.6s,baz=85,slow=10.0,SNR=8.8						
ASAR	Alice Springs	32.23	248	P	P	06 46 25.6	0.0
	1.1nm,0.6s,baz=73,slow=9.5,SNR=16						
ASAR				LR	LR	06 58 21.6	
	comp=Z,109nm,19.9s,baz=63,slow=34						
ILAR	Eielson Array	86.08	18	P	P	06 52 36.5	-0.3
	1.4nm,1.1s,baz=237,slow=5.4,SNR=4.1						
ARCES	ARCESS Array B	119.36	345	PKP	PKPdf	06 58 45.0	-0.1
	1.7nm,0.8s,baz=66,slow=1.9,SNR=7.3						

IDC 29 06:40:04.7±13.0, 17°.02N×145°.88E, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.5/38, mbtmp3.7/3, MS3.4/2, Ms1 3.4/2, ms1mx2.8/36, Error ellipse: s-maj=464.2km s-min=38.0km az=158.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	Petropavlovsk-	37.19	12	LR	LR	07 01 44.6	
	comp=Z,67nm,19.0s,baz=174,slow=35						
CMAR	Chiang Mai Arr	44.64	279	P	P	06 48 19.3	-0.1
	0.9nm,0.4s,baz=73,slow=6.8,SNR=4.5						
ILAR	Eielson Array	65.07	26	P	P	06 50 47.0	+0.2
	0.4nm,0.9s,baz=275,slow=5.2,SNR=2.6						
YKA	Yellowknife Ar	79.38	28	P	P	06 52 12.1	-0.3
	0.6nm,0.8s,baz=290,slow=5.7,SNR=3.8						
TXAR	Lajitas Array	98.63	56	LR	LR	07 38 43.0	
	comp=Z,12nm,18.0s,baz=0.0,slow=36						

*IDC **29** 06:41:21.9±0.9, 16°.58N×146°.07E, h0km, mb3.8/8, mb1 4.1/9, mb1mx3.8/38, mbtmp3.9/9, ML3.8/1, MS3.3/2, Ms1 3.3/2, ms1mx2.7/41, Error ellipse: s-maj=25.6km s-min=21.1km az=105.0*
*NEIC **29** 06:41:23.8±0.5, 16°.55N×145°.98E, h10km, mb4.3/1, Error ellipse: s-maj=18.1km s-min=11.6km az=106.0*
*ISCJB **29** 06:41:25.6±0.7, 16°.54N±0°.09×145°.9E±0°.1, h33km, mb3.8/9, MS3.3/2, Error ellipse: s-maj=19.9km s-min=13.0km az=10.7*

ISC 29 06:41:27.2±0.8, 16°.5N±0°.1×146°.0E±0°.2, h35km, n21, σ0s87/13, mb3.8/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam	3.11	201	Pn	Pn	06 42 13.8	0.0
	11nm,0.3s,baz=301,slow=23,SNR=3.5						
H11S3	WAKE ISLAND Hy	19.83	81	H	H	07 06 27.6	
	baz=268,slow=75,SNR=7283						
H11S1	WAKE ISLAND Hy	19.85	81	H	H	07 06 28.5	
	baz=268,slow=75,SNR=9094						
H11S2	WAKE ISLAND Hy	19.85	81	H	H	07 06 28.6	
	baz=268,slow=75						
H11N1	WAKE ISLAND Hy	20.11	78	H	H	07 06 48.0	
	baz=264,slow=75						
H11N2	WAKE ISLAND Hy	20.12	78	H	H	07 06 48.4	
	baz=264,slow=75						
H11N3	WAKE ISLAND Hy	20.13	78	H	H	07 06 49.0	
	baz=264,slow=75						
MJAR	Matsushiro Arr	21.10	342	LR	LR	06 53 21.8	
	comp=Z,81nm,19.7s,baz=175,slow=34						
KSRS	Korea Array	26.25	326	P	P	06 46 59.6	+0.6
	1.8nm,0.9s,baz=153,slow=11,SNR=5.6						
KSAR	Wonju Array Be	26.26	326	P	P	06 46 59.6	+0.4
WRA	Warramunga

baz=264,slow=75,SNR=1099
CMAR Chiang Mai Arr 44.97 280 P P 06 57 38.2 -0.2
1.0nm,0.2s,baz=70,slow=6.2,SNR=6.0
MKAR Makanchi Array 60.21 315 P P 06 59 30.9 0.0
0.4nm,0.8s,baz=95,slow=4.8,SNR=2.5
ILAR Eielson Array 65.27 26 P P 07 00 04.3 0.0
0.5nm,1.0s,baz=247,slow=3.6,SNR=5.0
YKA Yellowknife Ar 79.57 28 P P 07 01 29.7 0.0
0.4nm,0.7s,baz=289,slow=5.7,SNR=4.8

IDC 29 06:50:00.5±3.5, 16°26N×146°30E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/31, mbtmp3.8/4, Error ellipse: s-maj=95.3km s-min=35.4km az=166.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy 19.59**	**80**		H	H	07 14 55.2	
	baz=284						
H11S1	**WAKE ISLAND Hy 19.60**	**80**		H	H	07 14 56.5	
	baz=284						
H11S2	**WAKE ISLAND Hy 19.60**	**81**		H	H	07 14 56.4	
	baz=284						
H11N1	**WAKE ISLAND Hy 19.88**	**77**		H	H	07 15 16.7	
	baz=260						
H11N2	**WAKE ISLAND Hy 19.89**	**77**		H	H	07 15 17.5	
	baz=260						
H11N3	**WAKE ISLAND Hy 19.90**	**77**		H	H	07 15 18.1	
	baz=260						
KSRS	**Korea Array 26.64 326**			P	P	06 55 40.9	0.0
	0.7nm,0.4s,baz=154,slow=9.7,SNR=4.1						
CMAR	**Chiang Mai Arr 45.16 280**			P	P	06 58 19.4	0.0
	1.2nm,0.7s,baz=69,slow=5.9,SNR=5.6						
ILAR	**Eielson Array 65.58 26**			P	P	07 00 46.6	+0.7
	0.7nm,1.1s,baz=245,slow=5.5,SNR=3.5						
YKA	**Yellowknife Ar 79.87 28**			P	P	07 02 10.0	-0.8
	0.7nm,0.9s,baz=287,slow=5.5,SNR=5.2						

IDC 29 06:54:58.5±5.0, 16°84N×145°98E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.6/35, mbtmp3.7/5, Error ellipse: s-maj=143.9km s-min=33.3km az=166.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy 19.80**	**82**		H	H	07 20 01.8	
	baz=268,slow=75,SNR=55						
H11S1	**WAKE ISLAND Hy 19.82**	**82**		H	H	07 20 02.6	
	baz=268,slow=75,SNR=33						
H11S2	**WAKE ISLAND Hy 19.82**	**82**		H	H	07 20 02.6	
	baz=268,slow=75,SNR=31						
H11N1	**WAKE ISLAND Hy 20.06**	**79**		H	H	07 20 22.6	
	baz=264,slow=74,SNR=372						
H11N2	**WAKE ISLAND Hy 20.07**	**79**		H	H	07 20 23.5	
	baz=264,slow=74,SNR=468						
H11N3	**WAKE ISLAND Hy 20.08**	**79**		H	H	07 20 24.4	
	baz=264,slow=74,SNR=403						
CMAR	**Chiang Mai Arr 44.75 279**			P	P	07 03 13.8	-0.3
	1.5nm,0.4s,baz=68,slow=5.9,SNR=4.5						
MKAR	**Makanchi Array 59.94 315**			P	P	07 05 06.7	+0.1
	0.3nm,0.8s,baz=92,slow=4.6,SNR=2.4						
KURBB	**Kurchatov Arra 62.88 319**			P	P	07 05 26.4	0.0
	0.4nm,0.6s,baz=99,slow=6.1,SNR=4.3						
ILAR	**Eielson Array 65.19 26**			P	P	07 05 41.4	0.0
	0.7nm,1.1s,baz=253,slow=6.3,SNR=4.1						
YKA	**Yellowknife Ar 79.50 28**			P	P	07 07 06.6	-0.1
	0.5nm,0.9s,baz=294,slow=5.3,SNR=4.9						

GUC 29 06:58:18.4±0.3, 37°03S×73°48W, h31km±2km, ML4.1, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCSP	**San Pedro de C**	**0.35**	**59**	⇓*iP*	Pb	06 58 26.4	-0.2
CCSP				*i* S	Sb	06 58 32.2	+0.1
CCSP				AML	AML	06 58 33.7	
	comp=E,19μm,0.4s						
AGCH	**Angol**	**1.00**	**142**	*e*P	Pn	06 58 36.1	-0.2
AGCH				*i* S	Sb	06 58 49.7	-0.3
COCH	**Cobquecura**	**1.05**	**32**	⇓*iP*	Pn	06 58 37.1	+0.1
COCH				*e*S	Sb	06 58 51.1	-0.3
COCH				AML	AML	06 58 53.5	
	comp=E,4μm,0.7s						
LNCH	**Linares**	**1.92**	**53**	⇑*iP*	Pn	06 58 50.4	+1.5
LNCH				*i* S	Sb	06 59 16.1	-0.1
LNCH				AML	AML	06 59 22.5	
	comp=N,3μm,0.7s						
TALC	**Talca**	**2.21**	**43**	*e*P	Pn	06 58 54.3	+1.4
TALC				*i* S	Sn	06 59 21.3	+2.2
TALC				AML	AML	06 59 31.7	
	comp=N,5μm,0.5s						
CACH	**El Canelo**	**3.73**	**40**	*e*P	Pn	06 59 15.5	+1.4
CHCH	**Chadas Angostu**	**3.85**	**38**	*e*P	Pn	06 59 16.6	+1.0

IDC 29 07:01:30.0±4.7, 16°43N×146°37E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/39, mbtmp3.7/5, Error ellipse: s-maj=138.1km s-min=33.3km az=165.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy 19.49**	**81**		H	H	07 26 34.6	
	baz=268,slow=75,SNR=940						
H11S1	**WAKE ISLAND Hy 19.50**	**81**		H	H	07 26 35.1	
	baz=268,slow=75,SNR=1209						
H11S2	**WAKE ISLAND Hy 19.50**	**81**		H	H	07 26 35.6	
	baz=268,slow=75,SNR=967						
H11N1	**WAKE ISLAND Hy 19.77**	**77**		H	H	07 26 54.7	
	baz=264,slow=75,SNR=2168						
H11N2	**WAKE ISLAND Hy 19.78**	**77**		H	H	07 26 55.5	
	baz=264,slow=75,SNR=48						
H11N3	**WAKE ISLAND Hy 19.79**	**77**		H	H	07 26 56.3	
	baz=264,slow=75,SNR=49						
CMAR	**Chiang Mai Arr 45.20 280**			P	P	07 09 49.0	-0.2
	0.7nm,0.2s,baz=75,slow=7.7,SNR=4.1						
MKAR	**Makanchi Array 60.50 315**			P	P	07 11 41.9	0.0
	0.3nm,0.7s,baz=107,slow=7.7,SNR=3.3						
KURBB	**Kurchatov Arra 63.43 319**			P	P	07 12 01.4	-0.1
	0.2nm,0.4s,baz=99,slow=7.1,SNR=4.9						
ILAR	**Eielson Array 65.39 26**			P	P	07 12 13.7	-0.5
	0.3nm,0.9s,baz=253,slow=5.6,SNR=4.0						
YKA	**Yellowknife Ar 79.68 28**			P	P	07 13 39.7	+0.4
	0.7nm,0.8s,baz=286,slow=5.5,SNR=6.2						

IDC 29 07:03:06.9±5.0, 16°61N×146°02E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/40, mbtmp3.8/4, Error ellipse: s-maj=140.6km s-min=44.4km az=166.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy 19.80**	**81**		H	H	07 28 12.5	
	baz=280,slow=74,SNR=30						
H11S1	**WAKE ISLAND Hy 19.81**	**81**		H	H	07 28 14.0	
	baz=280						
H11S2	**WAKE ISLAND Hy 19.81**	**82**		H	H	07 28 13.7	
	baz=280,slow=74,SNR=32						
H11N1	**WAKE ISLAND Hy 20.07**	**78**		H	H	07 28 33.7	
	baz=263						
H11N2	**WAKE ISLAND Hy 20.08**	**78**		H	H	07 28 34.2	
	baz=263						
H11N3	**WAKE ISLAND Hy 20.09**	**78**		H	H	07 28 35.1	
	baz=263						
CMAR	**Chiang Mai Arr 44.83 280**			P	P	07 11 22.8	-0.3
	0.8nm,0.3s,baz=67,slow=7.4,SNR=4.9						
MKAR	**Makanchi Array 60.13 315**			P	P	07 13 16.8	+0.4
	0.6nm,0.9s,baz=79,slow=7.6,SNR=3.5						
KURBB	**Kurchatov Arra 63.08 319**			P	P	07 13 35.7	-0.4
	0.6nm,0.9s,baz=99,slow=6.6,SNR=3.1						
YKA	**Yellowknife Ar 79.69 28**			P	P	07 15 16.2	0.0
	0.7nm,0.9s,baz=288,slow=5.7,SNR=4.1						

*IDC **29** 07:04:31.2±1.1, 16°58N×146°24E, h0km, mb4.0/7, mb1 4.2/8, mb1mx3.8/42, mbtmp4.0/8, ML3.3/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/36, Error ellipse: s-maj=36.3km s-min=19.6km az=110.0*
*ISCJB **29** 07:04:34.3±1.0, 16.6N±0.1×146.2E±0.2, h33km, mb3.9/7, Error ellipse: s-maj=29.7km s-min=13.5km az=14.6*
ISC 29 07:04:36.3±1.1, 16°5N±0.1×146°2E±0.2, h35km, n15, σ0°74/8, mb4.0/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam 3.18 204**			Pn	Pn	07 05 23.2	-0.7
	3.4nm,0.3s,baz=198,slow=23,SNR=4.2						
GUMO				LR	LR	07 05 58.1	
	comp=Z,231nm,21.1s,baz=24,slow=27						
JCJ	**Chichijima 11.17 341**			LR	LR	07 10 53.3	
	comp=Z,310nm,21.6s,baz=168,slow=34						
H11S3	**WAKE ISLAND Hy 19.63**	**81**		H	H	07 29 36.1	
	baz=268,slow=75,SNR=6869						
H11S1	**WAKE ISLAND Hy 19.64**	**81**		H	H	07 29 37.1	
	baz=268,slow=75						
H11S2	**WAKE ISLAND Hy 19.65**	**81**		H	H	07 29 37.2	
	baz=268,slow=75						
H11N1	**WAKE ISLAND Hy 19.91**	**78**		H	H	07 29 57.0	
	baz=264,slow=75,SNR=7450						
H11N2	**WAKE ISLAND Hy 19.92**	**78**		H	H	07 29 57.4	
	baz=264,slow=75						
H11N3	**WAKE ISLAND Hy 19.93**	**78**		H	H	07 29 58.3	
	baz=264,slow=75						
SIJI	**Sorong 22.71 222**			P	P	07 09 36.3	+1.1
	5.3nm,0.3s,baz=44,slow=10,SNR=5.4						
KSRS	**Korea Array 26.38 326**			P	P	07 10 09.4	+0.2
	0.6nm,0.3s,baz=144,slow=10,SNR=4.7						
WRA	**Warramunga Arr 38.06 198**			P	P	07 11 51.8	+0.2
	2.7nm,1.2s,baz=18,slow=9.2,SNR=3.3						
CMAR	**Chiang Mai Arr 45.03 280**			P	P	07 12 48.9	-0.1
	1.1nm,0.4s,baz=66,slow=6.7,SNR=5.5						
KURBB	**Kurchatov Arra 63.27 319**			P	P	07 15 00.9	-0.4
	1.0nm,0.9s,baz=98,slow=6.2,SNR=4.4						
ILAR	**Eielson Array 65.39 26**			P	P	07 15 14.4	-0.6
	0.7nm,1.0s,baz=253,slow=5.7,SNR=5.2						
YKA	**Yellowknife Ar 79.68 28**			P	P	07 16 40.8	+0.8
	0.8nm,0.8s,baz=285,slow=5.8,SNR=5.7						

IDC 29 07:11:16.7±2.7, 16°19N×146°34E, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.6/48, mbtmp3.8/6, Error ellipse: s-maj=64.5km s-min=34.4km az=168.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy 19.56**	**80**		H	H	07 36 24.4	
	baz=268,slow=75,SNR=50						
H11S1	**WAKE ISLAND Hy 19.57**	**80**		H	H	07 36 25.7	
	baz=268,slow=75,SNR=58						
H11S2	**WAKE ISLAND Hy 19.58**	**80**		H	H	07 36 26.0	
	baz=268,slow=75,SNR=52						
H11N1	**WAKE ISLAND Hy 19.86**	**77**		H	H	07 36 45.4	
	baz=264,slow=75,SNR=1496						
H11N2	**WAKE ISLAND Hy 19.87**	**77**		H	H	07 36 45.8	
	baz=264,slow=75,SNR=1260						
H11N3	**WAKE ISLAND Hy 19.88**	**77**		H	H	07 36 45.7	
	baz=264,slow=75,SNR=1432						
MJAR	**Matsushiro Arr 21.52 342**			P	P	07 16 08.6	+1.1
	1.1nm,0.2s,baz=165,slow=11,SNR=4.1						
KSRS	**Korea Array 26.71 326**			P	P	07 16 56.8	-1.0
	0.3nm,0.3s,baz=146,slow=8.8,SNR=4.3						
CMAR	**Chiang Mai Arr 45.20 280**			P	P	07 19 36.5	+0.5
	1.3nm,0.3s,baz=79,slow=6.8,SNR=6.5						
KURBB	**Kurchatov Arra 63.59 319**			P	P	07 21 48.8	-0.5
	0.7nm,0.8s,baz=99,slow=8.1,SNR=5.3						
ILAR	**Eielson Array 65.63 26**			P	P	07 22 02.5	+0.2
	0.7nm,1.1s,baz=242,slow=5.5,SNR=4.6						
YKA	**Yellowknife Ar 79.91 28**			P	P	07 23 27.2	0.0
	0.8nm,0.9s,baz=286,slow=5.3,SNR=6.0						

*IDC **29** 07:12:44.4±1.8, 16°72N×146°16E, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.6/48, mbtmp3.8/6, MS2.9/1, Ms1 2.9/1, ms1mx2.5/32, Error ellipse: s-maj=54.5km s-min=30.5km az=6.0*
ISC 29 07:12:48.5±1.9, 16°5N±0.4×146°2E±0.2, h35km, n14, σ1°31/7, mb3.8/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy 19.66**	**81**		H	H	07 37 55.9	
	baz=268,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy 19.67**	**81**		H	H	07 37 56.9	
	baz=268,slow=75,SNR=17						
H11S2	**WAKE ISLAND Hy 19.68**	**81**		H	H	07 37 57.3	
	baz=268,slow=75,SNR=17						
H11N1	**WAKE ISLAND Hy 19.94**	**78**		H	H	07 38 16.6	
	baz=264,slow=75,SNR=543						
H11N2	**WAKE ISLAND Hy 19.95**	**78**		H	H	07 38 17.3	
	baz=264,slow=75,SNR=407						
H11N3	**WAKE ISLAND Hy 19.96**	**78**		H	H	07 38 18.1	
	baz=264,slow=75,SNR=454						
SIJI	**Sorong 22.68 222**			LR	LR	07 25 39.8	
	comp=Z,32nm,20.9s,baz=12,slow=34						
KSRS	**Korea Array 26.36 326**			P	P	07 18 19.4	-1.9
	0.5nm,0.4s,baz=141,slow=12,SNR=4.1						
CMAR	**Chiang Mai Arr 45.00 280**			P	P	07 21 00.8	0.0
	1.3nm,0.3s,baz=76,slow=7.2,SNR=4.2						
MKAR	**Makanchi Array 60.31 315**			P	P	07 22 54.7	+0.9
	0.6nm,0.9s,baz=97,slow=9.9,SNR=4.3						
KURBB	**Kurchatov Arra 63.25 319**			P	P	07 23 14.7	+1.2
	0.6nm,0.6s,baz=99,slow=6.3,SNR=5.7						
ILAR	**Eielson Array 65.41 26**			P	P	07 23 27.6	+0.3
	0.9nm,1.1s,baz=247,slow=4.9,SNR=4.8						
YKA	**Yellowknife Ar 79.70 28**			P	P	07 24 52.7	+0.3
	0.8nm,0.9s,baz=288,slow=5.7,SNR=5.9						
LPAZ	**La Paz 147.11 95**			PKPbc	PKPab	07 32 30.2	-0.9
	0.5nm,0.8s,baz=14,slow=4.2,SNR=2.0						

*CNRM **29** 07:15:52.6, 36°52N×10°14W, h34km, MD3.5*
*MDD **29** 07:15:56.7±1.0, 36°50N×9°95W, h30km, mbLg3.2/36, Error ellipse: s-maj=9.5km s-min=6.5km az=68.0, PRXIMO*
*CSEM **29** 07:15:56.2±0.4, 36°54N×9°78W, h20km, ML3.6/5, Error ellipse: s-maj=7.4km s-min=5.1km az=58.0*
*IGIL **29** 07:15:58.4, 36°51N×9°88W, h31km, ML2.8*
*INMG **29** 07:15:58.4±1.2, 36°60N×9°82W, h16km±4km, MD2.8, ML2.7, Error ellipse: s-maj=4.5km s-min=3.0km az=44.0*
ISC 29 07:15:54.0±2.0, 36°55N±0.07×9°85W±0.08, h10km, n127, σ1°98/216, 5C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.01**	**54**	*i* P	Pn	07 16 15.6	+1.4
PFVI				*e*S	Sb	07 16 28.4	+1.5
PFVI				A	A	07 16 29.1	
	154nm,0.2s						
PFVI	**Vila Bisbo**	**1.01**	**54**	⇑P	Pn	07 16 15.6	+1.4
	28nm,0.3s,SNR=18						
PFVI				S	Sb	07 16 28.5	+1.6
	234nm,0.2s,SNR=12						
PFVI	**Vila Bisbo**	**1.01**	**54**	P	Pn	07 16 15.6	+1.4
	28nm,0.3s,SNR=18						
PFVI				S	Sb	07 16 28.5	+1.6
	234nm,0.2s,SNR=12						
MORF	**Marmelete**	**1.22**	**52**	*e*P	Pb	07 16 18.6	+1.4
MORF				*e*S	Sb	07 16 33.6	+0.4
MORF				AML	AML	07 16 34.3	
	comp=N,216nm,0.1s						
MORF	**Marmelete**	**1.22**	**52**	*e*P	Pb	07 16 18.7	+1.4
MORF				*e*S	Sb	07 16 33.6	+0.4
MORF				A	A	07 16 34.4	
	comp=N,172nm,0.1s						
MORF	**Marmelete**	**1.22**	**52**	P	Pb	07 16 18.6	+1.4
MORF				S	Sb	07 16 33.6	+0.4
	comp=N,216nm,0.1s						
MORF	**Marmelete**	**1.22**	**52**	P	Pb	07 16 18.6	+1.4
MORF				S	Sb	07 16 33.6	+0.4
	comp=N,216nm,0.1s						
PBDV	**Barranco-do-Ve**	**1.69**	**65**	*i* Pn	Pn	07 16 25.1	+1.5
PBDV				*e*Sn	Sn	07 16 44.6	-0.7
PBDV				A	A	07 16 56.2	
	comp=N,28nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.69**	**65**	⇑P	Pn	07 16 25.1	+1.5
PBDV				S	Sn	07 16 44.6	-0.7
	comp=N,28nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.69**	**65**	P	Pn	07 16 25.1	+1.5
PBDV				S	Sn	07 16 44.6	-0.7
	comp=N,28nm,0.2s						
MESJ	**Messejana**	**1.83**	**45**	*e*P	Pn	07 16 27.0	+1.4
MESJ				*e*S	Sn	07 16 48.0	-0.8
MESJ				AML	AML	07 16 48.6	
	comp=N,39nm,0.3s						
MESJ	**Messejana**	**1.83**	**45**	P	Pn	07 16 27.0	+1.4
MESJ				S	Sn	07 16 48.0	-0.8
	comp=N,39nm,0.3s						
MESJ	**Messejana**	**1.83**	**45**	P	Pn	07 16 27.0	+1.4
MESJ				S	Sn	07 16 48.0	-0.8
	comp=N,39nm,0.3s						

PNCL	**Nicolau / Gran**	**1.88**	**34**	*e*Pn	Pn	07 16 27.6	+1.4
PNCL				*e*Sn	Sn	07 16 49.5	-0.6
PNCL				A	A	07 16 52.2	
	comp=N,41nm,0.2s						
PNCL	**Nicolau / Gran**	**1.88**	**34**	*e*Pn	Pn	07 16 27.6	+1.4
PNCL				*e*Sn	Sn	07 16 49.5	-0.6
	comp=N,41nm,0.2s						
PVAQ	**Vaqueiros**	**1.91**	**63**	*i* Pn	Pn	07 16 28.1	+1.5
PVAQ				*e*Sn	Sn	07 16 50.0	-0.8
PVAQ				A	A	07 16 51.9	
	comp=N,61nm,0.1s						
PVAQ	**Vaqueiros**	**1.91**	**63**	⇑P	Pn	07 16 28.1	+1.5
PVAQ				S	Sn	07 16 50.0	-0.8
	comp=N,61nm,0.1s						
PVAQ	**Vaqueiros**	**1.91**	**63**	P	Pn	07 16 28.1	+1.5
PVAQ				S	Sn	07 16 50.0	-0.8
	comp=N,61nm,0.1s						
EGRO	**El Granado**	**2.14**	**62**	⇑P	Pn	07 16 31.0	+1.3
	comp=N,2.5nm,0.3s,SNR=18						
EGRO				S	Sn	07 16 55.8	-0.5
	comp=N,33nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.14**	**62**	P	Pn	07 16 31.0	+1.3
	comp=N,2.5nm,0.3s,SNR=18						
EGRO				S	Sn	07 16 55.8	-0.5
	comp=N,33nm,0.1s,SNR=7.9						
PMST	**Lisbon--Monsan**	**2.25**	**13**	*e*Pn	Pn	07 16 32.5	+1.2
PMST				*e*Sn	Sn	07 16 58.4	-0.6
PMST				A	A	07 17 01.9	
	comp=N,37nm,0.4s						
PMST	**Lisbon--Monsan**	**2.25**	**13**	*e*Pn	Pn	07 16 32.5	+1.2
PMST				*e*Sn	Sn	07 16 58.4	-0.6
	comp=N,37nm,0.4s						
PACT	**Alcochete**	**2.36**	**20**	*e*Pn	Pn	07 16 34.5	+1.7
PACT				*e*Sn	Sn	07 17 01.2	-0.5
PACT				A	A	07 17 02.6	
	comp=N,47nm,0.2s						
PACT	**Alcochete**	**2.36**	**20**	*e*Pn	Pn	07 16 34.5	+1.7
PACT				*e*Sn	Sn	07 17 01.2	-0.5
	comp=N,47nm,0.2s						
PMAFR	**Mafra**	**2.44**	**10**	*e*Pn	Pn	07 16 34.8	+0.8
PMAFR				*e*Sn	Sn	07 17 02.3	-1.6
PMAFR				A	A	07 17 05.4	
	comp=N,61nm,0.1s						
PMAFR	**Mafra**	**2.44**	**10**	P	Pn	07 16 34.8	+0.8
	comp=N,15nm,0.4s,SNR=13						
PMAFR				S	Sn	07 17 02.4	-1.6
	comp=N,55nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**2.44**	**10**	P	Pn	07 16 34.8	+0.8
	comp=N,15nm,0.4s,SNR=13						
PMAFR				S	Sn	07 17 02.4	-1.5
	comp=N,55nm,0.1s,SNR=7.9						
EVO	**Evora**	**2.46**	**36**	*e*Pn	Pn	07 16 35.2	+1.0
EVO				*e*Sn	Sn	07 17 03.0	-1.3
EVO				A	A	07 17 04.3	
	comp=N,45nm,0.1s						
EVO	**Evora**	**2.46**	**36**	P	Pn	07 16 35.2	+1.0
EVO				S	Sn	07 17 03.0	-1.3
	comp=N,45nm,0.1s						
EVO	**Evora**	**2.46**	**36**	P	Pn	07 16 35.2	+1.0
EVO				S	Sn	07 17 03.0	-1.3
	comp=N,45nm,0.1s						
PBAR	**Barrancos**	**2.77**	**53**	*e*Pn	Pn	07 16 39.5	+1.1
PBAR				*e*Sn	Sn	07 17 10.0	-1.9
PBAR				A	A	07 17 12.1	
	comp=N,39nm,0.5s						
PBAR	**Barrancos**	**2.77**	**53**	P	Pn	07 16 39.5	+1.1
PBAR				S	Sn	07 17 10.0	-1.9
	comp=N,39nm,0.5s						
PBAR	**Barrancos**	**2.77**	**53**	P	Pn	07 16 39.5	+1.1
PBAR				S	Sn	07 17 10.0	-1.9
	comp=N,39nm,0.5s						
EMIN	**Mina Concepcio**	**2.82**	**63**	P	Pn	07 16 40.0	+0.9
	comp=N,2.6nm,0.2s,SNR=40						
EMIN				S	Sn	07 17 12.1	-1.0
	comp=N,6.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.82**	**63**	P	Pn	07 16 40.0	+0.9
	comp=N,2.6nm,0.2s,SNR=40						
EMIN				S	Sn	07 17 12.1	-1.0
	comp=N,6.1nm,0.1s,SNR=7.9						
PMTG	**Montargil**	**2.83**	**27**	*e*Pn	Pn	07 16 40.5	+1.3
PMTG				*e*Sn	Sn	07 17 11.5	-1.8
PMTG				A	A	07 17 13.6	
	comp=N,37nm,0.3s						
PMTG	**Montargil**	**2.83**	**27**	*e*Pn	Pn	07 16 40.5	+1.3
PMTG				*e*Sn	Sn	07 17 11.5	-1.8
	comp=N,37nm,0.3s						
PESTR	**Estremoz**	**2.93**	**37**	*e*Pn	Pn	07 16 41.3	+0.7
PESTR				*e*Sn	Sn	07 17 14.3	-1.6
PESTR				A	A	07 17 15.8	
	comp=N,8.4nm,0.3s						
PESTR	**Estremoz**	**2.93**	**37**	*e*Pn	Pn	07 16 41.3	+0.7
PESTR				*e*Sn	Sn	07 17 14.3	-1.6
	comp=N,8.4nm,0.3s						
EBAD	**Badajoz**	**3.15**	**45**	P	Pn	07 16 44.5	+0.8
	comp=N,0.9nm,0.3s,SNR=19						
EBAD				S	Sn	07 17 19.8	-1.6
	comp=N,24nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**3.15**	**45**	P	Pn	07 16 44.5	+0.8
	comp=N,0.9nm,0.3s,SNR=19						
EBAD				S	Sn	07 17 19.8	-1.6
	comp=N,24nm,0.1s,SNR=7.9						
ESPR	**Espera**	**3.23**	**83**	P	Pn	07 16 46.0	+1.2
	comp=N,7.5nm,0.3s,SNR=28						
ESPR				S	Sn	07 17 21.4	-1.8
	comp=N,224nm,0.2s,SNR=7.9						
ESPR	**Espera**	**3.23**	**83**	P	Pn	07 16 46.0	+1.2
	comp=N,7.5nm,0.3s,SNR=28						
ESPR				S	Sn	07 17 21.4	-1.8
	comp=N,224nm,0.2s,SNR=7.9						
PTOM	**Tomar**	**3.27**	**20**	*e*Pn	Pn	07 16 46.5	+1.2
PTOM				*e*Sn	Sn	07 17 22.1	-2.1
PTOM				A	A	07 17 24.7	
	comp=N,26nm,0.1s						
PTOM	**Tomar**	**3.27**	**20**	P	Pn	07 16 46.5	+1.2
PTOM				S	Sn	07 17 22.1	-2.1
	comp=N,13nm,0.1s						
PTOM	**Tomar**	**3.27**	**20**	P	Pn	07 16 46.5	+1.2
PTOM				S	Sn	07 17 22.1	-2.1
	comp=N,13nm,0.1s						
PMRV	**Marv??o**	**3.47**	**33**	*e*Pn	Pn	07 16 49.3	+1.2
PMRV				*e*Sn	Sn	07 17 26.9	-2.4
PMRV				A	A	07 17 29.9	
	comp=N,22nm,0.2s						
PMRV	**Marv??o**	**3.47**	**33**	P	Pn	07 16 49.3	+1.2
PMRV				S

PVIS	**Viseu**	**4.43**	**20**	*e*Sn	**Sn**	**07 17 50.0**	**-3.1**
PVIS				A	A	07 17 52.6	
	comp=N,9.8nm,0.2s						
PVIS	**Viseu**	**4.43**	**20**	S	**Sn**	**07 17 50.0**	**-3.1**
	comp=N,4.9nm,0.2s						
PVIS	**Viseu**	**4.43**	**20**	S	**Sn**	**07 17 50.0**	**-3.1**
	comp=N,4.9nm,0.2s						
EADA	**Adamuz**	**4.50**	**67**	P	**Pn**	**07 17 03.1**	**+0.8**
	comp=N,3.0nm,0.2s,SNR=27						
EADA				S	**Sn**	**07 17 51.2**	**-3.6**
	comp=N,8.7nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.50**	**67**	P	**Pn**	**07 17 03.1**	**+0.8**
	comp=N,3.0nm,0.2s,SNR=27						
EADA				S	**Sn**	**07 17 51.2**	**-3.6**
	comp=N,8.7nm,0.1s,SNR=7.9						
ELUQ	**Luque**	**4.58**	**76**	P	**Pn**	**07 17 05.6**	**+2.2**
	comp=N,4.1nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**07 17 54.5**	**-2.2**
	comp=N,5.6nm,0.1s,SNR=7.9						
ELUQ	**Luque**	**4.58**	**76**	P	**Pn**	**07 17 05.6**	**+2.2**
	comp=N,4.1nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**07 17 54.5**	**-2.2**
	comp=N,5.6nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**4.59**	**39**	P	**Pn**	**07 17 02.3**	**-1.3**
	comp=N,0.4nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**07 17 54.4**	**-2.6**
	comp=N,15nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**4.59**	**39**	P	**Pn**	**07 17 02.3**	**-1.3**
	comp=N,0.4nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**07 17 54.4**	**-2.6**
	comp=N,15nm,0.1s,SNR=7.9						
SELV	**Sierra Elvira**	**4.96**	**80**	S	**Sn**	**07 18 05.5**	**-0.5**
	comp=N,0.5nm,0.1s,SNR=7.9						
SELV	**Sierra Elvira**	**4.96**	**80**	S	**Sn**	**07 18 05.5**	**-0.5**
	comp=N,0.5nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**5.00**	**19**	*e*Pn	**Pn**	**07 17 09.9**	**+0.7**
PVRL				*e*Sn	**Sn**	**07 18 03.2**	**-3.9**
PVRL				A	A	07 18 06.6	
	comp=N,17nm,0.2s						
PVRL	**Vila Real**	**5.00**	**19**	P	**Pn**	**07 17 09.9**	**+0.7**
PVRL				S	**Sn**	**07 18 03.2**	**-3.9**
	comp=N,8.6nm,0.2s						
PVRL	**Vila Real**	**5.00**	**19**	P	**Pn**	**07 17 09.9**	**+0.7**
PVRL				S	**Sn**	**07 18 03.2**	**-3.9**
	comp=N,8.6nm,0.2s						
KIB	**El Ksiba**	**5.06**	**140**	P	Pn	07 17 08.0	-2.0
KIB				S	Sn	07 18 03.0	-5.6
KIB	**El Ksiba**	**5.06**	**140**	P	Pn	07 17 08.0	-2.0
KIB				S	Sn	07 18 03.0	-5.6
POLO	**Lamas de Olo**	**5.08**	**18**	*e*Pn	**Pn**	**07 17 10.5**	**+0.2**
POLO				*e*Sn	**Sn**	**07 18 05.2**	**-3.8**
POLO				A	A	07 18 08.3	
	comp=N,3.0nm,0.2s						
POLO	**Lamas de Olo**	**5.08**	**18**	*e*Pn	**Pn**	**07 17 10.5**	**+0.2**
EBAN	**Banos Encina**	**5.09**	**70**	P	**Pn**	**07 17 11.5**	**+1.0**
	comp=N,2.4nm,0.1s,SNR=7.9						
EBAN				S	**Sn**	**07 18 04.6**	**-4.8**
	comp=N,5.6nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**5.09**	**70**	P	**Pn**	**07 17 11.5**	**+1.0**
	comp=N,2.4nm,0.1s,SNR=7.9						
EBAN				S	**Sn**	**07 18 04.6**	**-4.8**
	comp=N,5.6nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**5.11**	**25**	*e*Pn	**Pn**	**07 17 11.3**	**+0.6**
MVO				*e*Sn	**Sn**	**07 18 05.7**	**-4.0**
MVO				A	A	07 18 08.6	
	comp=N,6.2nm,0.3s						
MVO	**Moncorvo**	**5.11**	**25**	P	**Pn**	**07 17 11.3**	**+0.6**
	comp=N,4.0nm,0.2s,SNR=10						
MVO				S	**Sn**	**07 18 05.7**	**-4.0**
	comp=N,6.8nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**5.11**	**25**	P	**Pn**	**07 17 11.3**	**+0.6**
	comp=N,4.0nm,0.2s,SNR=10						
MVO				S	**Sn**	**07 18 05.7**	**-4.0**
	comp=N,6.8nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**5.18**	**81**	S	**Sn**	**07 18 09.4**	**-2.2**
	comp=N,1.8nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**5.18**	**81**	S	**Sn**	**07 18 09.4**	**-2.2**
	comp=N,1.8nm,0.2s,SNR=7.9						
TZC	**Tazercounte**	**5.20**	**147**	P	Pn	07 17 09.0	-3.0
TZC				S	Sn	07 18 06.0	-6.1
TZC	**Tazercounte**	**5.20**	**147**	P	Pn	07 17 09.0	-3.0
TZC				S	Sn	07 18 06.0	-6.1
CZD	**Col de Zad**	**5.29**	**130**	P	Pn	07 17 11.0	-2.3
CZD				S	Sn	07 18 09.0	-5.5
CZD	**Col de Zad**	**5.29**	**130**	P	Pn	07 17 11.0	-2.3
CZD				S	Sn	07 18 09.0	-5.5
PCAB	**Cabril**	**5.34**	**15**	*e*Pn	**Pn**	**07 17 14.1**	**+0.2**
PCAB				*e*Sn	Sn	07 18 11.0	-4.5
PCAB				A	A	07 18 15.6	
	comp=N,8.0nm,0.1s						
PCAB	**Cabril**	**5.34**	**15**	P	**Pn**	**07 17 14.1**	**+0.2**
PCAB				S	Sn	07 18 11.0	-4.5
	comp=N,4.0nm,0.1s						
PCAB	**Cabril**	**5.34**	**15**	P	**Pn**	**07 17 14.1**	**+0.2**
PCAB				S	Sn	07 18 11.0	-4.5
	comp=N,4.0nm,0.1s						
ELOB	**Lobios**	**5.49**	**14**	P	**Pn**	**07 17 16.2**	**+0.3**
	comp=N,1.3nm,0.1s,SNR=7.9						
ELOB				S	Sn	07 18 14.5	-4.6
	comp=N,2.4nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.49**	**14**	P	**Pn**	**07 17 16.2**	**+0.3**
	comp=N,1.3nm,0.1s,SNR=7.9						
PGAV	**Gavieira, Arco**	**5.55**	**12**	*e*Pn	**Pn**	**07 17 17.1**	**+0.4**
PGAV				*e*Sn	Sn	07 18 16.2	-4.3
PGAV				A	A	07 18 19.2	
	comp=N,5.7nm,0.8s						
PGAV	**Gavieira, Arco**	**5.55**	**12**	*e*Pn	**Pn**	**07 17 17.1**	**+0.4**
EQES	**Quesada**	**5.56**	**75**	P	**Pn**	**07 17 18.1**	**+1.2**
	comp=N,0.9nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**07 18 17.9**	**-3.0**
	comp=N,2.9nm,0.1s,SNR=7.9						
EQES	**Quesada**	**5.56**	**75**	P	**Pn**	**07 17 18.1**	**+1.2**
	comp=N,0.9nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**07 18 17.9**	**-3.0**
	comp=N,2.9nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**5.59**	**54**	P	**Pn**	**07 17 18.4**	**+1.1**
	comp=N,1.4nm,0.2s,baz=239,slow=13,SNR=26						
ESDC				S	**Sn**	**07 18 18.5**	**-3.2**
	baz=241,slow=23,SNR=7.9						
ESDC	**Sonseca Array**	**5.59**	**54**	P	**Pn**	**07 17 18.4**	**+1.1**
	comp=N,1.4nm,0.2s,SNR=26						
ESDC				S	**Sn**	**07 18 18.5**	**-3.2**
	SNR=7.9						
PBRG	**Braganca**	**5.78**	**24**	*e*Pn	**Pn**	**07 17 20.9**	**+1.1**
PBRG				*e*Sn	**Sn**	**07 18 22.2**	**-4.0**
PBRG				A	A	07 18 26.1	
	comp=N,4.0nm,0.1s						
PBRG	**Braganca**	**5.78**	**24**	P	**Pn**	**07 17 20.9**	**+1.1**
PBRG				S	**Sn**	**07 18 22.2**	**-4.0**
	comp=N,2.0nm,0.1s						
PBRG	**Braganca**	**5.78**	**24**	P	**Pn**	**07 17 20.9**	**+1.1**
ECAL	**Calabor**	**5.90**	**23**	P	**Pn**	**07 17 22.0**	**+0.4**
	comp=N,0.4nm,0.1s,SNR=7.9						
ECAL				S	**Sn**	**07 18 26.0**	**-3.3**
	comp=N,4.7nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**5.90**	**23**	P	**Pn**	**07 17 22.0**	**+0.4**
	comp=N,0.4nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**5.93**	**76**	P	**Pn**	**07 17 23.1**	**+1.1**
	comp=N,0.8nm,0.1s,SNR=7.9						
EHUE				S	**Sn**	**07 18 27.7**	**-2.4**
	comp=N,2.7nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**5.93**	**76**	P	**Pn**	**07 17 23.1**	**+1.1**
	comp=N,0.8nm,0.1s,SNR=7.9						
EHUE				S	**Sn**	**07 18 27.7**	**-2.4**
	comp=N,2.7nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**6.03**	**73**	P	**Pn**	**07 17 24.4**	**+1.0**
	comp=N,1.0nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**07 18 28.9**	**-3.7**
	comp=N,4.1nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**6.03**	**73**	P	**Pn**	**07 17 24.4**	**+1.0**
	comp=N,1.0nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**07 18 28.9**	**-3.7**
	comp=N,4.1nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**6.05**	**46**	P	**Pn**	**07 17 24.9**	**+1.2**
	comp=N,1.1nm,0.5s,SNR=6.1						
GUD				S	**Sn**	**07 18 29.2**	**-3.9**
	comp=N,1.8nm,0.1s,SNR=7.9						
GUD	**Guadarrama**	**6.05**	**46**	P	**Pn**	**07 17 24.9**	**+1.2**
	comp=N,1.1nm,0.5s,SNR=6.1						
GUD				S	**Sn**	**07 18 29.2**	**-3.9**
	comp=N,1.8nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**6.20**	**68**	P	**Pn**	**07 17 26.2**	**+0.5**
	comp=N,1.7nm,0.1s,SNR=7.9						
EVIA				S	**Sn**	**07 18 32.7**	**-3.9**
	comp=N,7.3nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**6.20**	**68**	P	**Pn**	**07 17 26.2**	**+0.5**
	comp=N,1.7nm,0.1s,SNR=7.9						
EVIA				S	**Sn**	**07 18 32.7**	**-3.9**
	comp=N,7.3nm,0.2s,SNR=7.9						
EAGO	**Agolada(Pontev**	**6.39**	**12**	⇑P	**Pn**	**07 17 28.5**	**+0.2**
	comp=N,4.1nm,0.1s,SNR=18						
EAGO				S	Sn	07 18 36.3	-5.0
	comp=N,2.2nm,0.1s,SNR=7.9						
EAGO	**Agolada(Pontev**	**6.39**	**12**	P	**Pn**	**07 17 28.5**	**+0.2**
	comp=N,4.1nm,0.1s,SNR=18						
ZFT	**Errachidia**	**6.40**	**133**	P	**Pn**	**07 17 27.0**	**-1.6**
ZFT				S	**Sn**	**07 18 37.0**	**-4.9**
ZFT	**Errachidia**	**6.40**	**133**	P	**Pn**	**07 17 27.0**	**-1.6**
ZFT				S	**Sn**	**07 18 37.0**	**-4.9**
EMAZ	**Mazaricos**	**6.43**	**6**	P	**Pn**	**07 17 28.2**	**-0.5**
	comp=N,4.0nm,0.1s,SNR=7.9						
EMAZ				S	Sn	07 18 34.5	-7.6
	comp=N,5.7nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**6.43**	**6**	P	**Pn**	**07 17 28.2**	**-0.5**
	comp=N,4.0nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**6.92**	**70**	P	**Pn**	**07 17 35.9**	**+0.4**
	comp=N,0.8nm,0.1s,SNR=7.9						
ETOB				S	**Sn**	**07 18 51.2**	**-3.1**
	comp=N,1.1nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**6.92**	**70**	P	**Pn**	**07 17 35.9**	**+0.4**
	comp=N,0.8nm,0.1s,SNR=7.9						
ETOB				S	**Sn**	**07 18 51.2**	**-3.1**
	comp=N,1.1nm,0.1s,SNR=7.9						
ETOR	**Torete**	**7.44**	**53**	P	**Pn**	**07 17 44.0**	**+1.3**
	comp=N,3.7nm,0.3s,SNR=8.5						
ETOR				S	Sn	07 19 02.2	-5.0
	comp=N,7.8nm,0.2s,SNR=7.9						
ETOR	**Torete**	**7.44**	**53**	P	**Pn**	**07 17 44.0**	**+1.3**
	comp=N,3.7nm,0.3s,SNR=8.5						
EARI	**Arriondas**	**7.63**	**26**	P	**Pn**	**07 17 46.7**	**+1.5**
	comp=N,0.5nm,0.2s,SNR=7.9						
EARI				S	**Sn**	**07 19 07.7**	**-4.0**
	comp=N,0.3nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**7.63**	**26**	P	**Pn**	**07 17 46.7**	**+1.5**
	comp=N,0.5nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**8.29**	**60**	P	**Pn**	**07 17 57.1**	**+2.7**
	comp=N,0.4nm,0.2s,SNR=7.9						
EMOS				S	Sn	07 19 22.8	-5.3
	comp=N,7.2nm,0.5s,SNR=7.9						

IDC 29 07:16:13.3±4.6, 17.49N×145.89E, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.6/50, mbtmp3.8/5, Error ellipse: s-maj=135.5km s-min=32.4km az=165.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy 19.80**	**84**		H	H	07 41 14.4	
	baz=279						
H11S1	**WAKE ISLAND Hy 19.82**	**84**		H	H	07 41 15.3	
	baz=279						
H11S2	**WAKE ISLAND Hy 19.82**	**84**		H	H	07 41 15.7	
	baz=279,SNR=50						
H11N1	**WAKE ISLAND Hy 20.02**	**80**		H	H	07 41 35.2	
	baz=264,slow=75,SNR=209						
H11N2	**WAKE ISLAND Hy 20.03**	**80**		H	H	07 41 35.1	
	baz=264,slow=75,SNR=135						
H11N3	**WAKE ISLAND Hy 20.04**	**80**		H	H	07 41 36.1	
	baz=264,slow=75,SNR=221						
CMAR	**Chiang Mai Arr**	**44.57**	**279**	P	P	07 24 27.2	-0.3
	1.1nm,0.3s,baz=62,slow=6.4,SNR=7.4						
MKAR	**Makanchi Array**	**59.43**	**314**	P	P	07 26 18.2	+0.3
	0.7nm,0.9s,baz=91,slow=8.2,SNR=4.7						
KURBB	**Kurchatov Arra**	**62.34**	**318**	P	P	07 26 37.3	-0.2
	0.9nm,0.9s,baz=99,slow=7.6,SNR=5.1						
ILAR	**Eielson Array**	**64.64**	**26**	P	P	07 26 52.3	-0.2
	0.6nm,1.0s,baz=240,slow=5.1,SNR=5.2						
YKA	**Yellowknife Ar**	**78.96**	**28**	P	P	07 28 18.9	+0.2
	0.9nm,0.8s,baz=288,slow=5.7,SNR=6.9						

*IDC **29** 07:18:10.5±3.7, 33.03N×96.45E, h0km, mb3.6/5, mb1 3.6/7, mb1mx3.4/53, mbtmp3.6/7, ML3.5/2, Error ellipse: s-maj=74.9km s-min=48.2km az=119.0*

ISC 29 07:18:15.7±3.1, 33.2N±0.4×96.6E±0.3, h35km, n8, σ0.53/8, mb3.5/5, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**16.42**	**24**	Pn	**P**	**07 22 06.2**	**+0.2**
	0.2nm,0.3s,baz=213,slow=14,SNR=5.8						
MKAR	**Makanchi Array**	**17.44**	**326**	P	**P**	**07 22 16.6**	**-0.5**
	0.1nm,0.3s,baz=133,slow=14,SNR=5.7						
KURBB	**Kurchatov Arra**	**21.93**	**328**	P	**P**	**07 23 05.9**	**0.0**
	0.9nm,0.6s,baz=135,slow=11,SNR=8.2						
BRTR	**Keskin Array B**	**50.15**	**297**	P	**P**	**07 27 08.6**	**+0.7**
	0.2nm,0.4s,baz=102,slow=6.6,SNR=2.5						
HFS	**Hagfors**	**58.45**	**324**	P	**P**	**07 28 07.6**	**-0.1**
	1.0nm,0.6s,baz=60,slow=5.7,SNR=3.3						
NB2	**NORSAR Subarra**	**59.44**	**326**	P	**P**	**07 28 15.0**	**+0.4**
	comp=Z,0.1nm,0.6s,baz=75,slow=7.4						
NOA	**NORSAR Array B**	**59.44**	**326**	P	**P**	**07 28 14.1**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=77,slow=7.8,SNR=5.2						
TORD	**Torodi Ar. Bea**	**86.94**	**284**	P	**P**	**07 30 57.2**	**-0.4**
	comp=Z,0.1nm,0.5s,baz=44,slow=4.8,SNR=4.2						

IDC 29 07:18:26.0±5.0, 18.49N×145.35E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.4/47, mbtmp3.6/4, Error ellipse: s-maj=155.6km s-min=32.4km az=162.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**43.92**	**278**	P	P	07 26 34.5	-0.5
	0.6nm,0.4s,baz=74,slow=6.7,SNR=3.2						
KURBB	**Kurchatov Arra**	**61.25**	**318**	P	P	07 28 43.5	+0.5
	0.2nm,0.2s,baz=87,slow=7.0,SNR=4.9						
ILAR	**Eielson Array**	**63.97**	**26**	P	P	07 28 59.4	-1.6
	0.3nm,1.0s,baz=258,slow=8.9,SNR=3.5						
YKA	**Yellowknife Ar**	**78.32**	**28**	P	P	07 30 29.3	+1.5
	0.4nm,0.8s,baz=288,slow=4.6,SNR=4.4						

*IDC **29** 07:22:07.3±0.9, 16.61N×146.03E, h0km, mb3.9/10, mb1 4.2/11, mb1mx3.9/48, mbtmp4.0/11, ML3.8/1, Error ellipse: s-maj=24.2km s-min=20.4km az=102.0*

*BJI **29** 07:22:08.1, 15.95N×146.30E, h35km, mb4.8/20, mB5.0/10, Ms4.7/4, Ms7 4.4/3*

*NEIC **29** 07:22:09.6±0.4, 16.46N×146.02E, h10km, mb4.5/19, Error ellipse: s-maj=9.7km s-min=8.0km az=150.0*

*ISCJB **29** 07:22:11.7±0.4, 16.38N±0.07×146.04E±0.06, h33km, mb4.3/31, Error ellipse: s-maj=10.0km s-min=7.9km az=173.7*

ISC 29 07:22:13.3±0.6, 16.44N±0.08×146.07E±0.08, h35km, n56, σ1.52/68, mb4.4/31, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.06**	**202**	Pn	**Pn**	**07 22 58.6**	**-0.7**
	12nm,0.3s,baz=359,slow=20,SNR=6.4						
GUMO	**Guam**	**3.06**	**202**	*e*Pn	**Pn**	**07 22 58.3**	**-1.0**
CBIJ	**Chichi jima**	**11.20**	**342**	Pn	**Pn**	**07 24 49.0**	**-2.0**
H11S3	**WAKE ISLAND Hy 19.78**	**81**		H	H	07 47 12.5	
	baz=267,slow=75,SNR=8160						
H11S1	**WAKE ISLAND Hy 19.79**	**81**		H	H	07 47 13.1	
	baz=267,slow=75,SNR=1842						
H11S2	**WAKE ISLAND Hy 19.79**	**81**		H	H	07 47 13.7	
	baz=267,slow=75,SNR=2240						
H11N1	**WAKE ISLAND Hy 20.06**	**78**		H	H	07 47 33.4	
	baz=264,slow=74						
H11N2	**WAKE ISLAND Hy 20.07**	**77**		H	H	07 47 34.0	
	baz=264,slow=74						
H11N3	**WAKE ISLAND Hy 20.08**	**78**		H	H	07 47 34.6	
	baz=264,slow=74						
MAJO	**Matsushiro**	**21.20**	**342**	*e*P	**P**	**07 26 55.8**	**-0.2**
	4.1nm,0.8s						
JNU	**Nakatsue**	**21.54**	**323**	P	**P**	**07 27 00.1**	**+0.5**
	10nm,1.3s						
DAV	**Davao City (W)**	**22.09**	**247**	*e*P	**P**	**07 27 04.0**	**-1.7**
SSLB	**Suanglung**	**24.66**	**291**	*e*P	**P**	**07 27 32.5**	**+1.4**
	32nm,1.3s						
TPUB	**Ta-pu**	**24.86**	**290**	*e*P	**P**	**07 27 32.9**	**+0.1**
	13nm,0.9s						
KSRS	**Korea Array**	**26.36**	**326**	P	**P**	**07 27 45.0**	**-1.1**
	2.9nm,0.9s,baz=147,slow=10,SNR=8.2						
KSAR	**Wonju Array Be**	**26.37**	**326**	P	**P**	**07 27 45.0**	**-1.3**
NJ2	**Nanjing**	**29.16**	**307**	*e*P	**P**	**07 28 13.3**	**+1.9**
NJ2				PMZ			
	50nm,0.8s						
TOLI	**Toli-Toli**	**29.18**	**241**	*e*P	**P**	**07 28 11.4**	**-0.4**
	63nm,0.5s						
QIZ	**Qiongzhong**	**34.56**	**280**	P	**P**	**07 29 00.5**	**+1.5**
QIZ				S	**S**	**07 34 27.0**	**+1.1**
QIZ				PMZ			
	19nm,1.6s						
QIZ	**Qiongzhong**	**34.56**	**280**	*e*P	**P**	**07 28 58.9**	**0.0**
	21nm,1.2s						
BJT	**Baijiatuan**	**35.01**	**318**	*e*P	**P**	**07 29 01.4**	**-1.2**
	10nm,1.0s						
XAN	**Xi'an**	**37.64**	**305**	P	**P**	**07 29 28.0**	**+2.8**
WRA	**Warramunga Arr**	**37.95**	**198**	P	**P**	**07 29 27.3**	**-0.5**
	1.0nm,0.8s,baz=22,slow=9.2,SNR=2.9						
HHC	**Hu-ho-hao-te**	**38.45**	**316**	*e*P	**P**	**07 29 33.0**	**+1.0**
HHC				PP	**PnPn**	**07 31 05.0**	**+2.7**
HHC				S	**S**	**07 35 27.8**	**+2.8**
HHC				SS	**SnSn**	**07 38 08.0**	**-4.9**
HHC				PMZ			
	25nm,0.8s						
HHC				PMZ			
	82nm,3.8s						
HHC				LN			
	230nm,18.5s						
HHC				LE			
	220nm,18.5s						
HHC				LZ			
	220nm,18.5s						
CD2	**Chengdu**	**41.09**	**298**	*e*P	**P**	**07 29 55.0**	**+1.0**
CD2				pP	**pP**	**07 30 05.3**	**+1.0**
CD2				sP	**sP**	**07 30 09.5**	**+1.0**
CD2				PP	**PnPn**	**07 31 33.5**	**-0.2**
CD2				S	**S**	**07 36 05.3**	**+0.6**
CD2				sS	**sS**	**07 36 22.0**	**+0.4**
CD2				SS	**SS**	**07 39 04.0**	**-3.9**
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.0s						
LZH	**Lanzhou**	**42.22**	**306**	*e*P	**P**	**07 30 04.3**	**+0.9**
LZH				pP	**pP**	**07 30 14.0**	**+0.3**
LZH				sP	**sP**	**07 30 18.5**	**+0.7**
LZH				PMZ			
	14nm,1.0s						
ULN	**Ulaanbaatar**	**44.76**	**323**	*e*P	**P**	**07 30 26.4**	**+2.8**
	1.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**44.91**	**280**	P	**P**	**07 30 24.6**	**-0.4**
	5.1nm,1.0s,baz=76,slow=7.1,SNR=16						
SONM	**Songino Array**	**45.13**	**323**	P	**P**	**07 30 25.4**	**-1.1**
	0.6nm,0.9s,baz=139,slow=12,SNR=4.1						
GSI	**Gunungsitoli**	**50.05**	**258**	*e*P	**P**	**07 31 03.9**	**-1.2**
	11nm,0.8s						
KKH	**Kailua Kona**	**54.94**	**77**	*e*P	**P**	**07 31 41.0**	**-0.2**
WMQ	**Urumqi**	**56.06**	**312**	P	**P**	**07 31 50.3**	**+1.3**
WMQ				pP	**pP**	**07 32 00.5**	**+0.9**
WMQ				sP	**sP**	**07 32 04.3**	**+0.5**
WMQ				PcP	**PcP**	**07 32 47.3**	**+0.3**
WMQ				sS	**sS**	**07 39 51.8**	**-1.1**
WMQ				ScS	**ScS**	**07 41 35.3**	**-0.5**
WMQ				PMZ			
	13nm,0.6s						
WMQ				PMZ			
	160nm,4.8s						
MKAR	**Makanchi Array**	**60.28**	**315**	P	**P**	**07 32 17.2**	**-1.3**
	1.4nm,0.9s,baz=98,slow=8.9,SNR=11						
MKAR	**Makanchi Array**	**60.28**	**315**	*e*P	**P**	**07 32 18.0**	**-0.5**
KURK	**Kurchatov**	**63.19**	**319**	P	**P**	**07 32 34.9**	**-2.9**
KURBB	**Kurchatov Arra**	**63.23**	**319**	P	P	07 32 34.9	-3.3
	1.6nm,0.9s,baz=99,slow=7.9,SNR=11						
KSH	**Kashi**	**64.47**	**306**	P	**P**	**07 32 49.0**	**+2.3**
KSH				pP	**pP**	**07 32 59.3**	**+1.8**
KSH				sP	**sP**	**07 33 03.3**	**+1.7**
KSH				S	**S**	**07 41 23.5**	**0.0**
KSH				PMZ			
	100nm,4.7s						
KSH				LN			
	240nm,10.1s						
KSH				LE			
	140nm,7.3s						
KSH				LZ			
	110nm,7.7s						
ILAR	**Eielson Array**	**65.51**	**26**	P	**P**	**07 32 50.3**	**-2.6**
	1.4nm,1.1s,baz=255,slow=5.1,SNR=10						
BVAR	**Borovoye Array**	**68.44**	**321**	P	P	07 33 08.3	-3.4
	0.6nm,0.6s,baz=96,slow=5.8,SNR=3.7						
KKAR	**Karatay Array**	**68.48**	**310**	*e*P	**P**	**07 33 11.6**	**-0.6**
	1.1nm,0.4s						
HYT	**Haines Junctio**	**69.17**	**31**	*e*P	**P**	**07 33 16.7**	**+0.4**
DLBC	**Dease Lake**	**72.97**	**33**	*e*P	**P**	**07 33 39.6**	**+0.3**
YKA	**Yellowknife Ar**	**79.81**	**28**	P	**P**	**07 34 16.8**	**-1.0**
	1.7nm,0.8s,baz=289,slow=5.7,SNR=15						
B08A	**Colville Reser**	**80.89**	**42**	*e*P	**P**	**07 34 24.4**	**+0.4**
	4.6nm,0.8s						
NEW	**Newport**	**82.34**	**42**	*e*P	**P**	**07 34 32.0**	**+0.3**
	4.1nm,0.9s						
BMO	**Blue Mountains**	**83.17**	**45**	*e*P	**P**	**07 34 36.8**	**+0.6**
	1.3nm,0.8s						
NVAR	**Mina Array Bea**	**84.25**	**52**	P	**P**	**07 34 42.1**	**+0.1**
	0.6nm,0.7s,baz=254,slow=6.6,SNR=4.6						
MFID	**Camas Ranch**	**84.60**	**46**	*e*P	**P**	**07 34 44.1**	**+0.6**
	7.1nm,1.3s						
HLID	**Hailey**	**85.54**	**46**	*e*P	**P**	**07 34 48.9**	**+0.6**
	3.7nm,1.0s						
ELK	**Elko**	**

	baz=268,slow=75,SNR=20							
H11S1	**WAKE ISLAND Hy 19.73**	**82**	H	H	07 53 59.3			
	baz=268,slow=75,SNR=23							
H11S2	**WAKE ISLAND Hy 19.73**	**82**	H	H	07 53 59.6			
	baz=268,slow=75,SNR=32							
H11N1	**WAKE ISLAND Hy 19.98**	**78**	H	H	07 54 19.0			
	baz=264,slow=75,SNR=126							
H11N2	**WAKE ISLAND Hy 19.99**	**78**	H	H	07 54 19.7			
	baz=264,slow=75,SNR=129							
H11N3	**WAKE ISLAND Hy 20.00**	**78**	H	H	07 54 20.4			
	baz=264,slow=75,SNR=136							
KSRS	**Korea Array**	**26.15**	**326**	P	P	07 34 30.2	+1.1	
	0.5nm,0.3s,baz=145,slow=8.9,SNR=6.1							
CMAR	**Chiang Mai Arr**	**44.88**	**280**	P	P	07 37 10.2	+0.4	
	0.7nm,0.3s,baz=76,slow=6.6,SNR=8.7							
KURBB	**Kurchatov Arra**	**63.05**	**319**	P	P	07 39 20.5	-1.6	
	1.2nm,1.0s,baz=97,slow=5.9,SNR=5.4							
ILAR	**Eielson Array**	**65.26**	**26**	P	P	07 39 36.5	+0.1	
	0.6nm,1.0s,baz=263,slow=5.4,SNR=5.0							
YKA	**Yellowknife Ar**	**79.57**	**28**	P	P	07 41 02.1	+0.3	
	1.1nm,1.0s,baz=287,slow=5.6,SNR=6.8							

IDC 29 07:30:16.8±13.0, 16°35N×146°19E, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.4/41, mbtmp3.6/3, MS3.3/1, Ms1 3.3/1, ms1mx2.6/27, Error ellipse: s-maj=474.0km s-min=38.7km az=159.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy 19.67**	**81**		H	H	07 55 21.4	
	baz=267,slow=75,SNR=37						
H11S1	**WAKE ISLAND Hy 19.68**	**81**		H	H	07 55 22.7	
	baz=267,slow=75,SNR=26						
H11S2	**WAKE ISLAND Hy 19.69**	**81**		H	H	07 55 22.7	
	baz=267,slow=75,SNR=32						
H11N1	**WAKE ISLAND Hy 19.96**	**77**		H	H	07 55 42.0	
	baz=264,slow=74,SNR=362						
H11N2	**WAKE ISLAND Hy 19.97**	**77**		H	H	07 55 42.7	
	baz=264,slow=74,SNR=259						
H11N3	**WAKE ISLAND Hy 19.98**	**77**		H	H	07 55 42.8	
	baz=264,slow=74,SNR=274						
MJAR	**Matsushiro Arr**	**21.32**	**342**	LR	LR	07 42 24.2	
	comp=Z,82nm,18.1s,baz=135,slow=34						
CMAR	**Chiang Mai Arr**	**45.04**	**280**	P	P	07 38 34.5	-0.2
	0.8nm,0.4s,baz=61,slow=7.3,SNR=4.4						
ILAR	**Eielson Array**	**65.54**	**26**	P	P	07 41 01.6	-0.3
	0.5nm,1.0s,baz=264,slow=4.4,SNR=4.2						
YKA	**Yellowknife Ar**	**79.83**	**28**	P	P	07 42 27.2	+0.3
	0.3nm,0.7s,baz=278,slow=5.5,SNR=3.4						

*IDC **29** 07:34:59.5±1.0, 16°.57N×146°.08E, h0km, mb3.8/7, mb1 4.1/7, mb1mx3.8/33, mbtmp3.8/7, Error ellipse: s-maj=28.8km s-min=25.1km az=124.0*
*ISCJB **29** 07:35:02.6±1.0, 16°.5N±0°.2×146°.0E±0°.2, h33km, mb3.8/7, Error ellipse: s-maj=27.0km s-min=22.3km az=21.2*

ISC 29 07:35:04.5±0.9, 16°.5N±0°.2×146°.1E±0°.2, h35km, n14, σ1§04/8, mb3.9/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy 19.75**	**81**		H	H	08 00 04.8	
	baz=268,slow=75,SNR=2857						
H11S1	**WAKE ISLAND Hy 19.77**	**81**		H	H	08 00 05.6	
	baz=268,slow=75,SNR=2648						
H11S2	**WAKE ISLAND Hy 19.77**	**81**		H	H	08 00 05.9	
	baz=268,slow=75,SNR=3397						
H11N1	**WAKE ISLAND Hy 20.04**	**78**		H	H	08 00 25.0	
	baz=264,slow=75,SNR=5243						
H11N2	**WAKE ISLAND Hy 20.04**	**78**		H	H	08 00 25.4	
	baz=264,slow=75,SNR=4865						
H11N3	**WAKE ISLAND Hy 20.05**	**78**		H	H	08 00 26.8	
	baz=264,slow=75,SNR=6205						
KSRS	**Korea Array**	**26.31**	**326**	P	**P**	**07 40 36.6**	**-0.3**
	1.3nm,0.8s,baz=134,slow=11,SNR=6.2						
WRA	**Warramunga Arr**	**38.01**	**198**	P	**P**	**07 42 19.4**	**-0.1**
	1.7nm,1.1s,baz=6.9,slow=8.8,SNR=3.7						
CMAR	**Chiang Mai Arr**	**44.90**	**280**	P	**P**	**07 43 16.2**	**0.0**
	1.9nm,0.4s,baz=68,slow=6.2,SNR=9.9						
MKAR	**Makanchi Array**	**60.25**	**315**	P	**P**	**07 45 09.8**	**+0.5**
	0.8nm,0.8s,baz=98,slow=8.9,SNR=5.9						
ILAR	**Eielson Array**	**65.45**	**26**	P	**P**	**07 45 42.9**	**-0.8**
	1.0nm,1.0s,baz=255,slow=5.3,SNR=7.4						
YKA	**Yellowknife Ar**	**79.75**	**28**	P	**P**	**07 47 08.0**	**-0.7**
	1.4nm,1.0s,baz=289,slow=5.5,SNR=8.2						
NVAR	**Mina Array Bea**	**84.20**	**52**	P	**P**	**07 47 34.7**	**+1.8**
	0.2nm,0.3s,baz=265,slow=7.4,SNR=3.6						
LPAZ	**La Paz**	**147.20**	**95**	PKPbc	**PKPab**	**07 54 46.6**	**-0.9**
	2.4nm,1.1s,baz=296,slow=3.1,SNR=5.1						

*NIED **29** 07:37:00, 33°.00N×142°.40E, h5km, Mw4.1 Best double couple: M₀1.65000×10¹⁵ NP1:φ₀359.00000°, δ29.00000°, λ-104.00000°. NP2:φ₀195.00000°, δ62.00000°, λ-82.00000°.*
*ISCJB **29** 07:37:15.6±0.4, 32°.90N±0°.04×142°.50E±0°.05, h10km, mb4.0/19, MS3.0/2, Error ellipse: s-maj=7.2km s-min=4.3km az=138.3*
*IDC **29** 07:37:15.5±0.7, 32°.85N×142°.64E, h0km, mb3.8/13, mb1 4.0/17, mb1mx3.9/36, mbtmp3.9/17, ML4.0/4, MS3.0/4, Ms1 3.1/4, ms1mx2.6/35, Error ellipse: s-maj=23.7km s-min=16.4km az=87.0*
*JMA **29** 07:37:16.3±0.4, 32°.98N×142°.36E, h0km, M4.0*
*NEIC **29** 07:37:17.0±3.5, 32°.85N×142°.58E, h9km±21km, mb4.4/6, Error ellipse: s-maj=12.0km s-min=6.9km az=74.0*

ISC 29 07:37:17.1±0.6, 32°.87N±0°.05×142°.53E±0°.07, h10km, n46, σ1§52/56, mb4.0/19, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.20**	**324**	P	**Pn**	**07 37 52.4**	**-0.8**
BSO1				S	**Sn**	**07 38 19.0**	**-1.1**
JHJ2	**Mitsune**	**2.29**	**277**	P	**Pn**	**07 37 54.2**	**-0.7**
JHJ2				S	**Sn**	**07 38 22.7**	**-0.5**
JHJ2	**Mitsune**	**2.29**	**277**	*e*Pn	**Pn**	**07 37 54.4**	**-0.6**
JHCJ	**Hachijojimakas**	**2.30**	**276**	P	**Pn**	**07 37 54.3**	**-0.8**
JHCJ				*e*S	**Sn**	**07 38 21.3**	**-2.2**
BSO3	**Boso 3**	**2.56**	**319**	P	**Pn**	**07 37 58.1**	**-0.2**
BSO4	**Boso 4**	**2.79**	**320**	P	**Pn**	**07 38 01.9**	**+0.2**
BSO4				S	**Sn**	**07 38 34.6**	**-0.8**
JOD2	**Odawara 2**	**3.72**	**311**	P	**Pn**	**07 38 13.4**	**-1.2**
JOD2				S	**Sn**	**07 38 56.3**	**-2.2**
TK02	**Tokai 2**	**4.13**	**286**	P	**Pn**	**07 38 20.7**	**+0.6**
JYN	**Shimob**	**4.21**	**310**	P	**Pn**	**07 38 21.9**	**+0.4**
JYN				S	**Sn**	**07 39 10.2**	**-0.6**
JRY	**Ryogami san**	**4.34**	**317**	P	**Pn**	**07 38 22.4**	**-0.7**
JRY				S	**Sn**	**07 39 11.9**	**-1.9**
JAG	**Ashikaga**	**4.36**	**325**	P	**Pn**	**07 38 22.9**	**-0.5**
JFT	**Otama**	**4.97**	**339**	P	**Pn**	**07 38 31.3**	**-0.5**
JFT				S	**Sn**	**07 39 24.3**	**-5.1**
JIE	**Ise**	**5.09**	**289**	P	**Pn**	**07 38 33.6**	**+0.2**
MJAR	**Matsushiro Arr**	**5.11**	**317**	Pn	**Pn**	**07 38 33.9**	**+0.3**
	6.2nm,0.3s,baz=154,slow=12,SNR=36						
MJAR				Sn	**Sn**	**07 39 30.5**	**-2.2**
	2.5nm,0.3s,baz=66,slow=42,SNR=4.6						
MAJO	**Matsushiro**	**5.11**	**317**	*e*Pn	**Pn**	**07 38 34.0**	**+0.4**
	21nm,0.4s						
MAJO				*e*Sn	**Sn**	**07 39 31.4**	**-1.4**
MAT	**Matsushiro**	**5.11**	**317**	P	**Pn**	**07 38 34.0**	**+0.3**
MAT				S	**Sn**	**07 39 30.2**	**-2.5**
MAT	**Matsushiro**	**5.11**	**317**	P	**Pn**	**07 38 34.3**	**+0.6**
CBIJ	**Chichi jima**	**5.76**	**183**	*e*Pn	**Pn**	**07 38 42.7**	**0.0**
CBIJ				*e*Sn	**Sn**	**07 39 46.5**	**-2.4**
JCJ	**Chichijima**	**5.76**	**183**	Pn	**Pn**	**07 38 42.4**	**-0.4**
	16nm,0.3s,baz=242,slow=23,SNR=9.9						
JCJ				Sn	**Sn**	**07 39 43.4**	**-5.5**
	6.0nm,0.3s,baz=294,slow=20,SNR=3.0						
ERM	**Erimo**	**9.14**	**3**	*e*Pn	Pn	07 39 24.2	-4.8
ERM				*e*Sn	Sn	07 41 02.3	-10
JNU	**Nakatsue**	**9.79**	**275**	LR	LR	07 43 22.3	
	comp=Z,79nm,21.3s,baz=114,slow=37						
ASAJ	**Asahikawa**	**11.23**	**0**	Pn	**Pn**	**07 39 55.8**	**-1.8**
	1.1nm,0.3s,baz=235,slow=14,SNR=4.5						
ASAJ	**Asahikawa**	**11.23**	**0**	*e*Pn	**Pn**	**07 39 56.5**	**-1.1**
KSRS	**Korea Array**	**12.79**	**295**	Pn	**Pn**	**07 40 21.6**	**+2.5**
	0.3nm,0.3s,baz=106,slow=13,SNR=4.5						
KSRS				LR	LR	07 44 42.2	
	comp=Z,79nm,21.6s,baz=124,slow=35						
KSAR	**Wonju Array Be**	**12.82**	**295**	Pn	**Pn**	**07 40 21.6**	**+2.2**
SEY	**Seymchan**	**30.73**	**9**	P	**P**	**07 43 32.9**	**+0.9**
	1.3nm,0.7s,baz=12,slow=22,SNR=4.9						
SONM	**Songino Array**	**31.01**	**310**	P	**P**	**07 43 36.2**	**+1.3**
	1.1nm,0.6s,baz=105,slow=8.9,SNR=6.6						
TIXI	**Tiksi**	**39.52**	**353**	*e*P	**P**	**07 44 48.2**	**+0.6**
	4.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**41.53**	**261**	LR	LR	08 03 12.4	
	comp=Z,14nm,19.1s,baz=175,slow=37						
MKAR	**Makanchi Array**	**47.19**	**306**	P	**P**	**07 45 50.5**	**+0.5**
	1.3nm,0.5s,baz=89,slow=9.7,SNR=16						
MKAR				LR	LR	08 06 02.9	
	comp=Z,23nm,19.6s,baz=98,slow=36						
KURK	**Kurchatov**	**49.29**	**311**	*e*P	**P**	**07 46 05.5**	**-0.5**
	4.8nm,0.7s						
ILAR	**Eielson Array**	**52.56**	**31**	P	**P**	**07 46 30.5**	**+0.1**
	0.2nm,0.6s,baz=263,slow=6.0,SNR=3.5						
WRAB	**Tennant Creek**	**53.08**	**190**	*e*P	**P**	**07 46 34.9**	**+0.2**
	8.3nm,1.3s						
WRA	**Warramunga Arr**	**53.09**	**190**	P	**P**	**07 46 34.5**	**-0.3**
	1.1nm,0.5s,baz=7.7,slow=7.7,SNR=29						
KKAR	**Karatay Array**	**56.08**	**303**	*e*P	**P**	**07 46 57.6**	**+1.2**
	2.6nm,0.7s						
ASAR	**Alice Springs**	**56.82**	**189**	P	**P**	**07 47 01.6**	**-0.2**
	0.3nm,0.5s,baz=4.6,slow=6.4,SNR=5.1						
ARU	**Arti**	**60.11**	**320**	*e*P	**P**	**07 47 24.3**	**-0.1**
	2.6nm,0.5s						
ABKAR	**Akbulak array**	**61.36**	**312**	*e*P	**P**	**07 47 32.8**	**-0.2**
	1.5nm,0.5s						
YKA	**Yellowknife Ar**	**66.96**	**29**	P	**P**	**07 48 08.5**	**-1.0**
	0.1nm,0.4s,baz=290,slow=9.2,SNR=11						
FINES	**FINESS Array B**	**72.93**	**333**	P	**P**	**07 48 46.5**	**+0.3**
	1.3nm,0.8s,baz=38,slow=7.2,SNR=4.6						
KBZ	**Khabaz**	**74.33**	**312**	P	**P**	**07 48 55.7**	**+0.9**
	1.5nm,0.6s,baz=53,slow=20,SNR=4.5						
AKASG	**Malin Array Be**	**78.16**	**323**	P	**P**	**07 49 16.4**	**0.0**
	0.7nm,0.5s,baz=50,slow=5.8,SNR=6.1						
NOA	**NORSAR Array B**	**78.38**	**338**	P	**P**	**07 49 18.2**	**+0.6**
	1.2nm,0.9s,baz=41,slow=5.4,SNR=3.1						
BRTR	**Keskin Array B**	**82.31**	**313**	P	**P**	**07 49 39.5**	**+0.3**
	0.7nm,0.5s,baz=139,slow=3.9,SNR=4.1						
PV01	**Paradox Valley**	**83.27**	**49**	*e*P	**P**	**07 49 43.4**	**-1.0**
TXAR	**Lajitas Array**	**91.91**	**53**	P	**P**	**07 50 27.1**	**+1.0**
	0.2nm,0.7s,baz=340,slow=4.9,SNR=3.3						

IDC 29 07:39:16.8±5.5, 17°.07N×146°.04E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/36, mbtmp3.6/4, MS3.0/1, Ms1 3.0/1, ms1mx2.5/34, Error ellipse: s-maj=166.4km s-min=34.5km az=164.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy 19.71**	**83**		H	H	08 04 22.8	
	baz=278						
H11S1	**WAKE ISLAND Hy 19.72**	**83**		H	H	08 04 23.6	
	baz=278						
H11S2	**WAKE ISLAND Hy 19.73**	**83**		H	H	08 04 23.5	
	baz=278						
H11N1	**WAKE ISLAND Hy 19.96**	**79**		H	H	08 04 43.4	
	baz=264,slow=74,SNR=362						
H11N2	**WAKE ISLAND Hy 19.96**	**79**		H	H	08 04 44.6	
	baz=264,slow=74,SNR=376						
H11N3	**WAKE ISLAND Hy 19.98**	**79**		H	H	08 04 44.9	
	baz=264,slow=74,SNR=448						
MJAR	**Matsushiro Arr**	**20.60**	**342**	LR	LR	07 50 54.8	
	comp=Z,42nm,19.7s,baz=195,slow=34						
CMAR	**Chiang Mai Arr**	**44.78**	**279**	P	P	07 47 32.1	-0.4
	0.8nm,0.3s,baz=75,slow=6.8,SNR=4.6						
MKAR	**Makanchi Array**	**59.83**	**315**	P	P	07 49 24.4	+0.2
	0.2nm,0.3s,baz=104,slow=6.1,SNR=2.8						
ILAR	**Eielson Array**	**64.96**	**26**	P	P	07 49 57.2	-0.9
	0.6nm,1.0s,baz=247,slow=5.8,SNR=3.4						
YKA	**Yellowknife Ar**	**79.27**	**28**	P	P	07 51 24.9	+1.1
	0.6nm,1.0s,baz=293,slow=5.0,SNR=3.8						

IDC 29 07:41:42.3±1.4, 16°.31N×146°.22E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.6/36, mbtmp3.9/5, MS3.2/1, Ms1 3.2/1, ms1mx2.5/37, Error ellipse: s-maj=41.0km s-min=28.4km az=94.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy 19.66**	**81**		H	H	08 06 48.0	
	baz=268,slow=75,SNR=88						
H11S1	**WAKE ISLAND Hy 19.67**	**81**		H	H	08 06 48.6	
	baz=268,slow=75,SNR=181						
H11S2	**WAKE ISLAND Hy 19.67**	**81**		H	H	08 06 49.5	
	baz=268,slow=75,SNR=103						
H11N1	**WAKE ISLAND Hy 19.95**	**77**		H	H	08 07 08.7	
	baz=264,slow=74,SNR=305						
H11N2	**WAKE ISLAND Hy 19.96**	**77**		H	H	08 07 09.3	
	baz=264,slow=74,SNR=396						
H11N3	**WAKE ISLAND Hy 19.97**	**77**		H	H	08 07 10.2	
	baz=264,slow=74,SNR=265						
KSRS	**Korea Array**	**26.55**	**326**	P	P	07 47 22.8	+0.9
	0.7nm,0.4s,baz=140,slow=9.9,SNR=4.7						
USRK	**Ussuriysk Ar.**	**30.30**	**339**	LR	LR	07 59 24.4	
	comp=Z,42nm,19.2s,baz=157,slow=35						
WRA	**Warramunga Arr**	**37.87**	**198**	P	P	07 49 01.1	-0.1
	1.1nm,1.1s,baz=16,slow=7.8,SNR=3.0						
CMAR	**Chiang Mai Arr**	**45.07**	**280**	P	P	07 50 00.3	-0.2
	1.6nm,0.4s,baz=69,slow=7.1,SNR=8.0						
MKAR	**Makanchi Array**	**60.48**	**315**	P	P	07 51 53.6	-0.5
	0.8nm,0.8s,baz=91,slow=7.2,SNR=4.3						
YKA	**Yellowknife Ar**	**79.86**	**28**	P	P	07 53 52.5	-0.1
	0.8nm,0.9s,baz=286,slow=5.8,SNR=7.1						

DJA 29 07:59:32.7±0.5, 8°S±5°×107°E±°, h34km±6km, M3.7/10, MLv3.7/10, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNJI	**Cibinong**	**0.48**	**56**	P	Pn	07 59 44.1	+0.9
CNJI				S	Sn	07 59 52.3	+1.9
SKJI	**Sukabumi**	**0.60**	**343**	P	Pb	07 59 45.3	+0.4
SKJI				S	Sb	07 59 54.2	+0.9
CISI	**Cisompet, Garu**	**1.08**	**89**	P	Pn	07 59 51.8	+0.3
CISI				S	Sn	08 00 05.8	+0.5
LEM	**Lembang**	**1.16**	**50**	P	Pn	07 59 53.5	+0.8
CGJI	**Cibinong**	**1.41**	**313**	P	Pn	07 59 56.1	+0.2
SBJI	**Serang**	**1.57**	**338**	P	Pn	07 59 58.4	+0.2
CMJI	**Cimerak**	**1.71**	**97**	P	Pn	08 00 00.6	+0.4
CMJI				S	Sn	08 00 20.9	0.0
KASI	**Kota Agung**	**3.02**	**313**	P	Pn	08 00 18.1	0.0

*ISCJB **29** 08:02:22.9±0.7, 32°.11N±0°.03×115°.04W±0°.03, h10km±5km, Error ellipse: s-maj=4.7km s-min=4.1km az=153.9*
*NEIC **29** 08:02:25.0, 32°.08N×115°.10W, h0km, ML3.1(PAS), ML3.2(ECX), After ECX.*
*ECX **29** 08:02:25.0±0.5, 32°.08N×115°.10W, h10km, MD3.0, ML3.2*
*MEX **29** 08:02:26.2±1.0, 32°.19N×115°.08W, h10km±999km, MD4.1*

ISC 29 08:02:23.5±1.1, 32°.10N±0°.02×115°.09W±0°.03, h10km±10km, n37, σ0§71/56, 2C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.32**	**343**	*e*P	**Pb**	**08 02 31.1**	**-0.2**
MBIG				*e*S	**Sg**	**08 02 33.5**	**-0.8**
CPBX	**Cerro Prieto**	**0.37**	**330**	*e*P	**Pb**	**08 02 31.8**	**-0.3**
CPBX				*e*S	**Sb**	**08 02 37.5**	**-0.4**
CPBX	**Cerro Prieto**	**0.37**	**330**	*e*P	**Pb**	**08 02 31.8**	**-0.3**
CPBX				*e*S	**Sb**	**08 02 37.5**	**-0.4**
ECBX	**El Chinero**	**0.62**	**177**	‖*e*P	**Pg**	**08 02 36.0**	**+0.4**
ECBX				*e*S	**Sb**	**08 02 44.6**	**-0.6**
EMSC	**East Mesa**	**0.65**	**8**	*e*P	**Pb**	**08 02 36.6**	**-0.2**
EMSC	**East Mesa**	**0.65**	**8**	‖*e*P	**Pb**	**08 02 36.6**	**-0.2**
YMD	**Yuma Desert**	**0.65**	**45**	*e*P	**Pg**	**08 02 36.5**	**+0.5**
YMD	**Yuma Desert**	**0.65**	**45**	‖*e*P	**Pg**	**08 02 36.5**	**+0.5**
RDX	**Rancho Dawling**	**0.75**	**257**	*e*P	**Pg**	**08 02 38.1**	**+0.2**
RDX				*e*S	**Sg**	**08 02 48.2**	**+0.6**
RDX	**Rancho Dawling**	**0.75**	**257**	*e*P	**Pg**	**08 02 38.1**	**+0.2**
RDX				*e*S	**Sg**	**08 02 48.2**	**+0.6**
RDX				IAML		08 02 50.9	
	comp=N,636nm,0.5s						
RDX				‖*e*		08 02 50.9	
SGL	**Mount Signal**	**0.77**	**316**	*e*P	**Pg**	**08 02 38.1**	**-0.2**
SGL	**Mount Signal**	**0.77**	**316**	‖*e*P	**Pg**	**08 02 38.1**	**-0.2**
WESC	**Westside Schoo**	**0.86**	**321**	*e*P	**Pb**	**08 02 40.0**	**-0.4**
WESC	**Westside Schoo**	**0.86**	**321**	*e*P	**Pb**	**08 02 40.0**	**-0.4**
GLA	**Glamis**	**0.98**	**13**	*e*Pg	**Pb**	**08 02 41.0**	**-1.5**
GLA				*e*Sg	**Sb**	**08 02 54.4**	**-1.1**
RMX	**La Rumorosa**	**0.98**	**301**	*e*P	**Pb**	**08 02 41.8**	**-0.8**
RMX				*e*S	**Sg**	**08 02 55.5**	**+0.4**
RMX	**La Rumorosa**	**0.98**	**301**	*e*P	**Pb**	**08 02 41.8**	**-0.8**
RMX				*e*S	**Sg**	**08 02 55.5**	**+0.4**
RMX				IAML		08 02 56.3	
	comp=N,632nm,0.1s						
RMX				‖*e*		08 02 56.3	
SPIG	**San Pedro Mart**	**1.10**	**197**	*e*P	**Pn**	**08 02 44.7**	**-0.4**
SPIG	**San Pedro Mart**	**1.10**	**197**	*e*P	**Pn**	**08 02 44.7**	**-0.4**
SPX	**San Pedro Mart**	**1.10**	**197**	*e*P	**Pb**	**08 02 44.2**	**-0.4**
SPX				*e*S	**Sb**	**08 02 58.6**	**-0.5**
SPX	**San Pedro Mart**	**1.10**	**197**	*e*P	**Pb**	**08 02 44.2**	**-0.4**
SPX				*e*S	**Sb**	**08 02 58.6**	**-0.5**
SPX				‖*e*		08 03 01.1	
SPX				IAML		08 03 01.1	
	comp=E,337nm,0.3s						
ZAX	**El Zacaton**	**1.17**	**240**	*e*P	**Pn**	**08 02 45.0**	**-0.9**
ZAX				*e*S	**Sb**	**08 03 00.6**	**-0.3**
CBX	**Cerro Bola**	**1.35**	**280**	*e*P	**Pn**	**08 02 47.8**	**-0.7**
CBX	**Cerro Bola**	**1.35**	**280**	*e*P	**Pn**	**08 02 47.8**	**-0.7**
CBX				*e*S	**Sb**	**08 03 06.8**	**+0.4**
CBX	**Cerro Bola**	**1.35**	**280**	*e*P	**Pn**	**08 02 47.8**	**-0.7**
CBX				*e*S	**Sb**	**08 03 06.8**	**+0.4**
CBX				‖*e*		08 03 09.2	
CBX				IAML		08 03 09.2	
	comp=N,707nm,0.3s						
ECNX	**Esteban Cantu**	**1.36**	**252**	*e*P	**Pn**	**08 02 48.2**	**-0.3**
ECNX				*e*S	**Sb**	**08 03 06.7**	**+0.3**
ECNX	**Esteban Cantu**	**1.36**	**252**	*e*P	**Pn**	**08 02 48.2**	**-0.3**
ECNX				*e*S	**Sb**	**08 03 06.7**	**+0.3**
PBX	**Punta Banda**	**1.44**	**256**	*e*P	**Pn**	**08 02 49.3**	**-0.3**
PBX				*e*S	**Sb**	**08 03 08.3**	**-0.3**
PBX	**Punta Banda**	**1.44**	**256**	*e*P	**Pn**	**08 02 49.3**	**-0.3**
PBX				*e*S	**Sb**	**08 03 08.3**	**-0.3**
PFO	**Pinyon Flats O**	**1.90**	**323**	*e*Pn	**Pn**	**08 02 54.3**	**-1.7**
214A	**Organ Pipe Nat**	**1.94**	**94**	*e*Pn	**Pn**	**08 02 54.8**	**-1.6**
MWC	**Mount Wilson**	**3.27**	**311**	*e*Pg	**Pb**	**08 03 21.9**	**+0.2**
GSC	**Goldstone, Bar**	**3.50**	**336**	*e*Pg	**Pg**	**08 03 32.3**	**+1.7**
TUC	**Tucson**	**3.65**	**86**	*e*Pg	**Pg**	**08 03 34.2**	**+0.7**
WUAZ	**Wupatki**	**4.60**	**41**	*e*Pn	**Pn**	**08 03 34.5**	**+1.2**
WUAZ				*e*Sn	**Sn**	**08 04 28.4**	**+1.6**
121A	**Cookes Peak, D**	**6.20**	**84**	*e*Pn	**Pn**	**08 03 54.8**	**-0.3**
	comp=N,2.9nm,0.5s						
R11A	**Troy Canyon, C**	**6.25**	**356**	*e*Pg	**Pg**	**08 04 23.4**	**+0.2**
	comp=N,0.8nm,0.5s						

IDC 29 08:09:01.9±7.0, 20°.36S×177°.64W, h487km±83km, mb2.8/6, mb1 3.2/7, mb1mx3.1/28, mbtmp3.7/7, Error ellipse: s-maj=51.7km s-min=23.5km az=169.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**18.41**	**193**	P	P	08 12 45.9	-0.7
	1.0nm,0.3s,baz=290,slow=3.8,SNR=6.4						
ASAR	**Alice Springs**	**44.88**	**257**	P	P	08 16 32.5	+0.1
	0.4nm,0.5s,baz=93,slow=7.7,SNR=11						
ASAR				PcP	pP	08 18 03.4	-0.3
	0.2nm,0.5s,baz=90,slow=4.0,SNR=4.4						
WRA	**Warramunga Arr**	**44.96**	**262**	P	P	08 16 33.0	0.0
	0.2nm,0.3s,baz=97,slow=8.2,SNR=3.2						
NVAR	**Mina Array Bea**	**80.69**	**43**	P	P	08 20 24.4	+0.5
	0.6nm,0.8s,baz=240,slow=7.1,SNR=3.6						
TXAR	**Lajitas Array**	**86.69**	**57**	P	P	08 20 55.1	+1.3
	0.4nm,0.7s,baz=215,slow=6.7,SNR=6.3						
ILAR	**Eielson Array**	**88.10**	**13**	P	P	08 20 58.3	-1.2
	0.3nm,0.6s,baz=224,slow=6.1,SNR=8.6						
PDAR	**Pinedale Array**	**88.63**	**43**	P	P	08 21 02.1	-0.7
	0.2nm,0.6s,baz=242,slow=3.9,SNR=2.9						
BRTR	**Keskin Array B**	**147.00**	**313**	PKPbc	PKPbc	08 27 49.0	-0.7
	0.5nm,0.7s,baz=125,slow=2.9,SNR=3.3						

*ISCJB **29** 08:11:26.5±0.8, 32°.10N±0°.04×115°.08W±0°.05, h13km±7km, Error ellipse: s-maj=7.3km s-min=6.2km az=158.1*
*ECX **29** 08:11:28.0±0.6, 32°.09N×115°.11W, h8km, MD2.8, ML3.0*
*MEX **29** 08:11:29.5±1.3, 32°.20N×115°.11W, h16km±703km, MD3.7*

ISC 29 08:11:26.0±1.2, 32°.11N±0°.04×115°.05W±0°.05, h24km±14km, n15, σ0§60/22, 3C-4D, California-Baja California border region

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

0.3nm,0.3s,baz=125,slow=7.8,SNR=5.4
ARCES ARCESS Array B 79.25 339 P **P** **08 35 36.6 -0.4**
2.5nm,1.0s,baz=69,slow=6.8,SNR=4.1

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*ISCJB **29** 08:28:48.1±1.1,21°.3S±0°.2×179°.3W±0°.2, h600km, mb3.8/6, Error ellipse: s-maj=25.0km s-min=19.7km az=14.9*
*IDC **29** 08:28:51.4±2.8,21°.25S×179°.34W, h627km±35km, mb3.2/6, mb1 3.4/7,mb1mx3.0/34,mbtmp4.2/7, Error ellipse: s-maj=25.5km s-min=16.9km az=18.0*
ISC 29 08:28:48.9±1.1,21°.2S±0°.2×179°.3W±0°.1, h600km, n9, σ1§12/11, mb3.9/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.27**	**190**	P		**P**	**08 32 16.8**	**-0.9**
	1.1nm,0.3s,baz=240,slow=1.9,SNR=7.2							
CTA	**Charters Tower**	**32.24**	**266**	P		**P**	**08 34 31.1**	**+1.2**
	3.4nm,0.4s,baz=90,slow=10,SNR=11							
ASAR	**Alice Springs**	**43.20**	**258**	P		**P**	**08 35 59.1**	**+0.4**
	1.5nm,0.5s,baz=96,slow=7.6,SNR=29							
ASAR				PcP		**PcP**	**08 37 33.9**	**-0.4**
	0.5nm,0.7s,baz=99,slow=5.0,SNR=4.2							
ASAR				S		**S**	**08 41 41.6**	**-1.7**
	0.3nm,0.9s,baz=97,slow=16,SNR=4.5							
WRA	**Warramunga Arr**	**43.32**	**263**	P		**P**	**08 35 59.6**	**-0.1**
	1.3nm,0.3s,baz=96,slow=7.7,SNR=152							
SIJI	**Sorong**	**52.28**	**286**	P		**P**	**08 37 06.8**	**+0.5**
	6.6nm,0.4s,baz=72,slow=5.3,SNR=3.6							
VNDA	**Vanda**	**57.10**	**185**	P		**P**	**08 37 40.0**	**+1.1**
	0.6nm,0.5s,baz=5.3,slow=6.1,SNR=10							
TXAR	**Lajitas Array**	**88.45**	**58**	P		**P**	**08 40 38.9**	**+0.1**
	0.5nm,0.8s,baz=213,slow=6.5,SNR=3.6							
ARCES	**ARCESS Array B**	**129.40**	**349**	PKP		**PKPdf**	**08 46 47.9**	**-1.7**
	2.1nm,1.0s,baz=64,slow=2.1,SNR=4.1							
TORD	**Torodi Ar. Bea**	**171.92**	**187**	PKPab		**PKPab**	**08 49 16.9**	**-0.5**
	0.9nm,1.2s,baz=164,slow=2.7,SNR=2.6							

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*ISCJB **29** 08:33:27.5±0.6,32°.19N±0°.03×115°.18W±0°.03, h9km±5km, Error ellipse: s-maj=4.9km s-min=3.8km az=153.5*
*MEX **29** 08:33:30.9±0.7,32°.24N×115°.16W, h13km±602km, MD3.7*
*NEIC **29** 08:33:30.0,32°.17N×115°.24W, h9km, MD3.7(MEX), ML3.8(PAS), ML3.9(ECX), After ECX.*
*ECX **29** 08:33:30.0±0.4,32°.17N×115°.24W, h9km, MD3.7, ML3.9*
ISC 29 08:33:28.3±0.9,32°.18N±0°.02×115°.21W±0°.02, h14km±7km, n44, σ1§04/70, 5C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MBIG	**Mexicali**	**0.23**	**2**	*e*P		**Pb**	**08 33 34.6**	**+0.4**
MBIG				*i* S		**Sg**	**08 33 36.6**	**-0.3**
CPBX	**Cerro Prieto**	**0.26**	**341**	*e*P		**Pg**	**08 33 33.5**	**-0.3**
CPBX				*e*S		**Sg**	**08 33 37.4**	**-0.2**
CPBX	**Cerro Prieto**	**0.26**	**341**	*e*P9		**Pg**	**08 33 33.5**	**-0.3**
CPBX				*e*S		**Sg**	**08 33 37.4**	**-0.2**
CPBX				⇑*e*			08 33 41.2	
CPBX				IAML			08 33 41.2	
	comp=N,59μm,0.2s							
EMSC	**East Mesa**	**0.59**	**18**	*e*P		**Pb**	**08 33 40.7**	**+0.3**
EMSC	**East Mesa**	**0.59**	**18**	⇓*i*P		**Pb**	**08 33 40.7**	**+0.3**
SGL	**Mount Signal**	**0.64**	**317**	*e*P		**Pg**	**08 33 41.2**	**+0.2**
SGL	**Mount Signal**	**0.64**	**317**	⇑P		**Pg**	**08 33 41.1**	**+0.2**
RDX	**Rancho Dawling**	**0.67**	**249**	*e*P		**Pg**	**08 33 41.9**	**+0.4**
RDX				*e*S		**Sg**	**08 33 50.3**	**-0.1**
RDX	**Rancho Dawling**	**0.67**	**249**	⇑*e*P		**Pg**	**08 33 41.9**	**+0.4**
RDX				*e*S		**Sg**	**08 33 50.3**	**-0.1**
RDX				IAML			08 33 52.2	
	comp=N,5μm,0.4s							
RDX				⇑*e*			08 33 52.2	
YMD	**Yuma Desert**	**0.68**	**56**	*i* P		**Pg**	**08 33 41.9**	**+0.3**
YMD	**Yuma Desert**	**0.68**	**56**	⇑*i*P		**Pg**	**08 33 41.9**	**+0.3**
COA	**Coachella**	**0.69**	**6**	*i* P		**Pg**	**08 33 41.9**	**+0.1**
COA	**Coachella**	**0.69**	**6**	⇓*i*P		**Pg**	**08 33 41.9**	**+0.1**
ECBX	**El Chinero**	**0.71**	**169**	*e*P9		**Pg**	**08 33 41.9**	**-0.3**
ECBX				*e*S		**Sg**	**08 33 51.9**	**+0.2**
WESC	**Westside Schoo**	**0.73**	**323**	*e*P		**Pg**	**08 33 42.9**	**+0.1**
WESC	**Westside Schoo**	**0.73**	**323**	*e*P		**Pg**	**08 33 42.6**	**+0.1**
RMX	**La Rumorosa**	**0.85**	**300**	*e*P		**Pb**	**08 33 44.5**	**-0.4**
RMX				*e*S		**Sb**	**08 33 55.7**	**-0.6**
RMX	**La Rumorosa**	**0.85**	**300**	*e*P		**Pb**	**08 33 44.5**	**-0.4**
RMX				*e*S		**Sb**	**08 33 55.7**	**-0.6**
RMX				IAML			08 33 57.5	
	comp=N,3μm,0.3s							
RMX				*e*			08 33 57.5	
IBP	**Imperial Bould**	**0.89**	**303**	*e*P		**Pb**	**08 33 45.4**	**-0.2**
GLA	**Glamis**	**0.93**	**20**	*e*Pg		**Pb**	**08 33 45.4**	**-0.9**
GLA				*e*Sg		**Sb**	**08 33 57.0**	**-1.5**
ZAX	**El Zacaton**	**1.12**	**234**	*e*P		**Pb**	**08 33 49.4**	**-0.1**
ZAX				*e*S		**Sb**	**08 34 03.9**	**-0.1**
SPX	**San Pedro Mart**	**1.15**	**191**	*e*P		**Pn**	**08 33 49.8**	**-0.4**
SPX				*e*S		**Sb**	**08 34 05.4**	**+0.4**
SPX	**San Pedro Mart**	**1.15**	**191**	*e*P		**Pn**	**08 33 49.8**	**-0.4**
SPX				*e*S		**Sb**	**08 34 05.4**	**+0.4**
CBX	**Cerro Bola**	**1.24**	**277**	*e*P		**Pn**	**08 33 50.8**	**-0.5**
CBX	**Cerro Bola**	**1.24**	**277**	*e*P		**Pn**	**08 33 50.8**	**-0.5**
CBX				*e*S		**Sb**	**08 34 07.5**	**+0.1**
CBX	**Cerro Bola**	**1.24**	**277**	*e*P		**Pn**	**08 33 50.8**	**-0.5**
CBX				*e*S		**Sb**	**08 34 07.5**	**+0.1**
CBX				IAML			08 34 08.9	
	comp=N,2μm,0.4s							
CBX				⇓*e*			08 34 08.9	
ECNX	**Esteban Cantu**	**1.29**	**247**	*e*P		**Pn**	**08 33 51.9**	**-0.1**
ECNX				*e*S		**Sb**	**08 34 08.9**	**+0.1**
ECNX	**Esteban Cantu**	**1.29**	**247**	*e*P		**Pn**	**08 33 51.9**	**-0.1**
ECNX				*e*S		**Sb**	**08 34 08.9**	**+0.1**
BAR	**Barrett**	**1.34**	**293**	*e*Pg		**Pn**	**08 33 52.1**	**-0.5**
BAR				*e*Sg		**Sn**	**08 34 10.0**	**-0.1**
PBX	**Punta Banda**	**1.36**	**252**	*e*P		**Pn**	**08 33 52.9**	**0.0**
PBX				*e*S		**Sb**	**08 34 10.9**	**+0.1**
PBX	**Punta Banda**	**1.36**	**252**	*e*P		**Pn**	**08 33 52.9**	**0.0**
PBX				*e*S		**Sb**	**08 34 10.9**	**+0.1**
PFO	**Pinyon Flats O**	**1.77**	**324**	*e*Pn		**Pn**	**08 33 57.3**	**-1.3**
214A	**Organ Pipe Nat**	**2.05**	**95**	*e*Pn		**Pn**	**08 34 01.3**	**-1.0**
MWC	**Mount Wilson**	**3.14**	**311**	Pn		**Pn**	**08 34 19.8**	**+2.2**
MWC				*e*Pg		**Pb**	**08 34 25.2**	**+1.2**
MWC				*e*Sg		**Sb**	**08 35 05.6**	**+3.3**
PASC	**Pasadena Art C**	**3.19**	**309**	*e*Pn		**Pn**	**08 34 19.5**	**+1.4**
PASC				*e*Sg		**Sb**	**08 35 06.3**	**+2.8**
GSC	**Goldstone, Bar**	**3.39**	**337**	*e*Pg		**Pg**	**08 34 32.4**	**-0.9**
TUC	**Tucson**	**3.75**	**87**	*e*Pn		**Pn**	**08 34 26.1**	**+0.3**
OSI	**Osito Audit: C**	**3.82**	**311**	*e*Pg		**Pb**	**08 34 37.5**	**+2.0**
OSI				*e*Sg		**Sg**	**08 35 29.0**	**-1.9**
SHPR	**Sheep Range**	**4.32**	**1**	*e*Pn		**Pn**	**08 34 34.8**	**+1.1**
SHPR				*e*Pg		**Pg**	**08 34 51.7**	**+0.6**
SHPR				*e*Sg		**Sg**	**08 35 54.5**	**+7.5**
ISA	**Isabella, Lake**	**4.41**	**323**	*e*Pg		**Pg**	**08 34 50.5**	**-2.3**
ISA				*e*Sg		**Sg**	**08 35 47.0**	**-3.0**
DAC	**Darwin (Calif)**	**4.54**	**335**	*e*Pg		**Pg**	**08 34 55.5**	**+0.1**
WUAZ	**Wupatki**	**4.61**	**43**	*e*Pn		**Pn**	**08 34 39.4**	**+1.7**
WUAZ				*e*Sg		**Sg**	**08 35 57.2**	**+0.8**
121A	**Cookes Peak, D**	**6.29**	**85**	*e*Pn		**Pn**	**08 35 01.2**	**+0.4**
	comp=N,13nm,0.3s							
MSU	**Marysvale**	**6.79**	**21**	*e*Pg		**Pg**	**08 35 35.7**	**-2.6**
	comp=N,4.5nm,0.8s							

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*TRN **29** 08:37:07.8, 11°.67N×60°.54W, h32km, MD3.9*
*ISCJB **29** 08:37:08.2±0.5, 11°.66N±0°.02×60°.61W±0°.05, h68km±4km, mb3.4/6, Error ellipse: s-maj=8.4km s-min=3.3km az=16.3*
*IDC **29** 08:37:09.7±2.5, 11°.82N×60°.63W, h57km±19km, mb3.2/6, mb1 3.5/7,mb1mx3.3/36,mbtmp3.5/7, ML3.9/1, Error ellipse: s-maj=24.6km s-min=10.8km az=124.0*
*FUNV **29** 08:37:11.6, 11°.38N×60°.55W, h81km, MW3.5*
ISC 29 08:37:08.7±0.9, 11°.65N±0°.03×60°.55W±0°.07, h55km±8km, n54, σ1§21/69, mb3.7/6, 8C-3D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BOT	**Bacolet**	**0.51**	**199**	*e*P		**Pn**	**08 37 20.1**	**-0.3**
BOT				*e*S		**Sn**	**08 37 28.9**	**+0.1**
TPR	**Prospect**	**0.51**	**206**	⇓*e*P		**Pn**	**08 37 20.5**	**0.0**
TPR				*e*S		**Sn**	**08 37 29.3**	**+0.3**
GRGR	**Grenville**	**1.18**	**294**	⇑*i*P		**Pn**	**08 37 29.2**	**+0.2**
GRW	**Mount Saint Ca**	**1.20**	**295**	⇑*e*P		**Pn**	**08 37 29.7**	**+0.4**
TBH	**Brigand Hill**	**1.27**	**204**	*e*P		**Pn**	**08 37 30.8**	**+0.6**
TBH	**Brigand Hill**	**1.27**	**204**	*e*		**Sn**	**08 37 40.7**	**-5.5**
TBH				*e*S		**Sn**	**08 37 48.0**	**+1.8**
TRN	**Trinidad (W)**	**1.30**	**220**	⇓*i*P		**Pn**	**08 37 31.8**	**+1.2**
TRN	**Trinidad (W)**	**1.30**	**220**	*e*		Pn	08 37 38.8	+8.2
TRN				*e*S		**Sn**	**08 37 48.1**	**+1.1**
TCE	**Chacachacare**	**1.52**	**231**	*e*P		**Pn**	**08 37 33.6**	**+0.1**
TPP	**Pointe-a-Pierr**	**1.59**	**214**	*e*		Pn	08 37 29.3	-5.3
TPP	**Pointe-a-Pierr**	**1.59**	**214**	*e*P		**Pn**	**08 37 35.5**	**+0.9**
TPP	**Pointe-a-Pierr**	**1.59**	**214**	*e*		**Pn**	**08 37 36.5**	**+2.0**
FCV	**Fort Charlotte**	**1.64**	**336**	⇑*e*P		**Pn**	**08 37 36.2**	**+1.0**
FCV				*e*S		**Sn**	**08 37 55.4**	**+0.1**
SVB	**Belmont**	**1.75**	**337**	⇑*i*P		**Pn**	**08 37 36.6**	**-0.1**
SVB				*e*S		**Sn**	**08 37 58.4**	**+0.5**
SVV	**Soufriere Volc**	**1.78**	**339**	⇑*e*P		**Pn**	**08 37 37.8**	**+0.7**
SVV				*e*S		**Sn**	**08 37 58.9**	**+0.3**
GUIV	**Guiria**	**1.92**	**239**	*e*P		**Pn**	**08 37 40.7**	**+1.7**
GUIV				*e*S		**Sn**	**08 38 02.1**	**0.0**
MCLT	**Moule a Chique**	**2.08**	**349**	⇑*i*P		**Pn**	**08 37 40.8**	**-0.4**
MCLT				*e*S		**Sn**	**08 38 05.6**	**-0.4**
H05S1	**Guadeloupe/Mar**	**2.77**	**354**	P		**Pn**	**08 37 50.1**	**-0.5**
H05S1				S		**Sn**	**08 38 20.4**	**-2.5**
GUNV	**Guanoco**	**2.78**	**238**	*e*P		**Pn**	**08 37 51.7**	**+1.0**
GUNV				*e*S		**Sn**	**08 38 20.8**	**-2.3**
CRUV	**Carupano**	**2.81**	**250**	*e*P		**Pn**	**08 37 52.4**	**+1.2**
CRUV				*e*S		**Sn**	**08 38 21.6**	**-2.3**
BIM	**Bigot**	**2.89**	**350**	*e*P		**Pn**	**08 37 53.3**	**+0.9**
BIM				*e*S		**Sn**	**08 38 26.5**	**+0.5**
MVM	**Montagne Vaucl**	**2.90**	**353**	⇑*i*P		**Pn**	**08 37 52.7**	**+0.2**
TRMF	**Trois Ilets**	**2.91**	**350**	*e*P		**Pn**	**08 37 53.3**	**+0.7**
LPMF	**Morne Lapointe**	**2.93**	**352**	*e*P		**Pn**	**08 37 53.3**	**+0.4**
ZAM	**Aeronautique**	**2.94**	**351**	*e*P		**Pn**	**08 37 53.5**	**+0.5**
FDF	**Fort de France**	**3.12**	**349**	⇑*i*P		**Pn**	**08 37 55.9**	**+0.4**
FDF	**Fort de France**	**3.12**	**349**	⇓*e*P		**Pn**	**08 37 56.4**	**+0.9**
FDF				*e*S		**Sn**	**08 38 32.0**	**+0.5**
DSHT	**Scott's Head**	**3.63**	**347**	*e*P		**Pn**	**08 38 03.1**	**+0.7**
DSHT				*e*S		**Sn**	**08 38 44.6**	**+0.6**
ORIV	**Oritupano**	**3.81**	**228**	*e*P		**Pn**	**08 38 05.2**	**+0.3**
PCRV	**Puerto La Cruz**	**4.27**	**250**	P		**Pn**	**08 38 12.4**	**+1.1**
	6.1nm,0.3s,baz=52,slow=4.2,SNR=24							
PCRV				S		**Sn**	**08 38 59.9**	**0.0**
	5.3nm,0.3s,baz=307,slow=17,SNR=4.4							
PCRV	**Puerto La Cruz**	**4.27**	**250**	*e*P		**Pn**	**08 38 11.5**	**+0.2**
MGG	**Marie-Galante**	**4.30**	**350**	*e*P		**Pn**	**08 38 12.5**	**+0.8**
HMG	**Houelmont**	**4.45**	**346**	*e*P		**Pn**	**08 38 14.7**	**+1.0**
PHG	**Guadaloupe-2**	**4.46**	**346**	*e*P		**Pn**	**08 38 15.0**	**+1.0**
SCG	**Saint Claude**	**4.49**	**346**	*e*P		**Pn**	**08 38 15.3**	**+1.0**
TAG	**Tarade**	**4.50**	**346**	*e*P		**Pn**	**08 38 15.6**	**+1.2**
MLG	**Mont-d'or**	**4.53**	**346**	*e*P		**Pn**	**08 38 15.6**	**+0.8**
LZG	**Guadaloupe-1**	**4.62**	**345**	*e*P		**Pn**	**08 38 17.0**	**+1.0**
H05N1	**Guadeloupe/Mar**	**4.66**	**354**	P		**Pn**	**08 38 16.6**	**-0.2**
H05N1				S		**Sn**	**08 39 06.5**	**-3.0**
SEG	**Port Louis**	**4.81**	**349**	*e*P		**Pn**	**08 38 19.4**	**+0.7**
CUPV	**Cœpira**	**5.38**	**253**	*e*P		**Pn**	**08 38 26.8**	**+0.2**
ORCV	**Isla La Orchil**	**5.53**	**272**	*e*P		**Pn**	**08 38 29.6**	**+1.1**
BIRV	**Birongo**	**5.73**	**259**	*e*P		**Pn**	**08 38 31.1**	**-0.2**
LUEV	**Luepa**	**5.84**	**189**	*e*P		Pn	08 38 30.1	-2.9
TURV	**Turiamo**	**7.25**	**261**	*e*P		**Pn**	**08 38 52.9**	**+0.7**
BAUV	**El Baul**	**7.85**	**251**	*e*P		**Pn**	**08 38 59.0**	**-1.3**
MONV	**Montecano**	**9.23**	**273**	*e*P		**Pn**	**08 39 19.4**	**+0.2**
ROSC	**El Rosal**	**15.21**	**245**	P		**P**	**08 40 45.3**	**+0.8**
	0.5nm,0.3s,baz=150,slow=6.9,SNR=5.1							
TXAR	**Lajitas Array**	**43.76**	**300**	P		**P**	**08 45 08.0**	**-1.2**
	0.1nm,0.5s,baz=113,slow=9.1,SNR=3.3							
TXAR				PcP		**PcP**	**08 46 56.2**	**+0.9**
	0.1nm,0.6s,baz=120,slow=5.3,SNR=2.7							
PDAR	**Pinedale Array**	**52.48**	**316**	P		**P**	**08 46 15.9**	**-0.6**
	0.5nm,0.6s,baz=99,slow=9.6,SNR=4.8							
TORD	**Torodi Ar. Bea**	**60.67**	**81**	P		**P**	**08 47 15.0**	**+0.1**
	0.2nm,0.4s,baz=291,slow=6.6,SNR=6.7							
YKA	**Yellowknife Ar**	**63.59**	**335**	P		**P**	**08 47 32.8**	**-0.7**
	0.5nm,0.5s,baz=108,slow=7.5,SNR=9.2							
ILAR	**Eielson Array**	**77.99**	**334**	P		**P**	**08 49 01.2**	**+0.3**
	0.1nm,0.5s,baz=90,slow=5.3,SNR=3.4							
FINES	**FINESS Array B**	**78.25**	**29**	P		**P**	**08 49 03.3**	**+0.9**
	1.1nm,0.7s,baz=238,slow=9.7,SNR=5.4							

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*IDC **29** 08:39:22.7±1.4, 13°.70S×166°.70E, h0km, mb4.0/7, mb1 4.2/8,mb1mx3.8/37,mbtmp4.0/8,ML3.3/1,MS3.1/2, Ms1 3.0/2,ms1mx2.6/26, Error ellipse: s-maj=41.1km s-min=22.3km az=117.0*
*ISCJB **29** 08:39:27.1±1.1, 13°.81S±0°.08×166°.6E±0°.2, h39km, mb4.0/6,MS3.2/1, Error ellipse: s-maj=25.5km s-min=10.6km az=174.7*
ISC 29 08:39:28.7±1.2, 13°.72S±0°.09×166°.7E±0°.2, h39km, n9, σ1§16/11, mb3.9/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.31**	**181**	Pn		**Pn**	**08 41 26.0**	**-0.9**
	0.4nm,0.3s,baz=270,slow=20,SNR=4.7							
DZM				Sn		**Sn**	**08 42 59.3**	**-0.2**
	0.7nm,0.3s,baz=270,slow=20,SNR=2.2							
DZM				LR		LR	08 43 51.2	
	comp=Z,68nm,18.5s,baz=1.0,slow=32							
DZM	**Mont Dzumac**	**8.31**	**181**	*e*P		**Pn**	**08 41 28.9**	**+2.1**
DZM				*e*S		**Sn**	**08 42 58.7**	**-0.9**
CTA	**Charters Tower**	**20.51**	**249**	P		**P**	**08 44 04.1**	**+0.4**
	1.6nm,0.5s,baz=86,slow=13,SNR=3.9							
STKA	**Stephens Creek**	**29.21**	**228**	P		**P**	**08 45 27.5**	**+0.7**
	20nm,1.4s,baz=26,slow=10.0,SNR=3.7							
STKA				LR		LR	08 57 03.6	
	comp=Z,50nm,18.8s,baz=215,slow=36							
WRA	**Warramunga Arr**	**31.51**	**254**	P		**P**	**08 45 46.2**	**-1.1**
	1.1nm,0.7s,baz=85,slow=9.4,SNR=12							
ASAR	**Alice Springs**	**32.49**	**247**	P		**P**	**08 45 55.0**	**-1.0**
	1.8nm,0.6s,baz=73,slow=9.3,SNR=46							
SONM	**Songino Array**	**81.33**	**324**	P		**P**	**08 51 42.5**	**+1.2**
	0.3nm,0.5s,baz=125,slow=7.2,SNR=2.5							
ILAR	**Eielson Array**	**85.75**	**18**	P		**P**	**08 52 02.6**	**-0.8**
	0.4nm,0.5s,baz=245,slow=4.9,SNR=19							
MKAR	**Makanchi Array**	**96.06**	**317**	P		**P**	**08 52 52.0**	**-0.2**
	0.3nm,0.6s,baz=90,slow=1.2,SNR=3.7							

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*SJA **29** 08:44:21.2±0.9, 33°.72S×72°.76W, h40km±11km, ML3.9*
*GUC **29** 08:44:27.7±0.7, 33°.57S×72°.00W, h14km±6km, ML3.7*
ISC 29 08:44:27.2±1.8, 33°.60S±0°.04×72°.08W±0°.10, h21km±4km, n25, σ1§91/40, 4C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.66**	**123**	⇓*i*P		**Pb**	**08 44 39.5**	**-0.6**
IHA	**Instituto Hidr**	**0.68**	**33**	⇓*i*P		**Pb**	**08 44 39.6**	**-0.8**
IHA				*i* S		**Sb**	**08 44 47.9**	**-1.4**
TACH	**Talagante**	**0.95**	**94**	⇑*i*P		**Pn**	**08 44 43.4**	**-2.0**
ROCH	**El Roble**	**1.09**	**55**	*e*P		**Pn**	**08 44 46.2**	**-1.2**
ROCH				*i* S		**Sn**	**08 44 59.7**	**-2.3**
SAN	**Santiago**	**1.19**	**84**	*e*P		**Pn**	**08 44 47.6**	**-1.0**
SAN				*i* S		**Sn**	**08 45 02.7**	**-1.5**
STL	**Santa Lucia**	**1.21**	**83**	*e*P		**Pn**	**08 44 46.7**	**-2.2**
STL				*i* S		**Sn**	**08 45 01.9**	**-2.8**
CHCH	**Chadas Angostu**	**1.23**	**106**	⇑*i*P		**Pn**	**08 44 48.0**	**-1.3**
CHCH				*i* S		**Sn**	**08 45 03.2**	**-2.1**
PEL	**Peldehue**	**1.25**	**69**	⇑*i*P		**Pn**	**08 44 49.0**	**-0.5**
PEL				*i* S		**Sn**	**08 45 04.5**	**-1.1**
PEL				AML		AML	08 45 12.0	
	comp=E,5μm,0.3s							
FSR	**Penalolen**	**1.30**	**85**	*e*P		**Pn**	**08 44 50.5**	**+0.4**
FSR				*i* S		**Sn**	**08 45 06.9**	**-0.1**
LACH	**Col Las Americ**	**1.30**	**84**	*e*P		**Pn**	**08 44 49.1**	**-1.0**
LACH				*i* S		**Sn**	**08 45 05.4**	**-1.6**
CLCH	**Cerro Calan**	**1.30**	**82**	*e*P		**Pn**	**08 44 49.4**	**-0.8**
CLCH				*i* S		**Sn**	**08 45 06.0**	**-1.1**
CLCH				AML		AML	08 45 11.1	
	comp=N,2μm,0.6s							
PCH	**Pirque**	**1.30**	**92**	⇓*i*P		**Pn**	**08 44 49.6**	**-0.7**
CACH	**El Canelo**	**1.33**	**113**	⇓*i*P		**Pn**	**08 44 50.6**	**-0.1**
CACH				*i* S		**Sn**	**08 45 07.5**	**-0.5**
NICH	**Los Niches**	**1.57**	**154**	*e*P		**Pn**	**08 44 55.3**	**-0.2**
NICH				*e*S		**Sb**	**08 45 15.0**	**+0.1**
YECH	**El Yeso**	**1.67**	**93**	⇑*i*P		**Pn**	**08 44 55.6**	**+0.2**
YECH				*i* S		**Sn**	**08 45 17.2**	**+0.9**
AUSP	**Uspallata**	**2.64**	**60**	*i* P		**Pn**	**08 45 11.9**	**+3.0**
AUSP				*i* S		**Sb**	**08 45 49.9**	**+3.7**
ARCO	**CERRO ARCO**	**2.74**	**75**	*i* P		**Pn**	**08 45 12.8**	**+2.7**
ARCO				*i* S		**Sb**	**08 45 52.4**	**+3.6**
ARCO				AML		AML	08 45 57.4	
	comp=Z,263nm,0.7s							
AAGR	**Agrelo**	**2.77**	**80**	*i* P		**Pb**	**08 45 13.7**	**-2.3**
AAGR				*i* S		**Sb**	**08 45 52.7**	**+3.1**
ASAL	**Salagasta**	**2.90**	**71**	*i* P		**Pb**	**08 45 16.3**	**-2.0**
ASAL				*i* S		**Sb**	**08 45 55.0**	**+1.7**
RTLS	**Leoncito**	**2.95**	**53**	*i* P		Pn	08 45 16.2	+3.2
RTLS				*i* P		Pn	08 45 16.2	+3.2
RTLS				*i* S		**Sb**	**08 45 57.1**	**+2.2**
RTCV	**Cerro Valdivia**	**3.45**	**61**	*i* P		Pn	08 45 22.9	+3.2
RTCV				*i* S		**Sb**	**08 46 08.2**	**-0.9**
RTLL	**Cerro Villicun**	**3.79**	**54**	*i* P		Pn	08 45 26.8	+2.3
CFAA	**Coronel Fontan**	**3.80**	**60**	*i* P		Pn	08 45 27.7	+3.1
AMOG	**MOGNA**	**4.03**	**50**	*i* P		**Pn**	**08 45 29.7**	**+2.0**
AVFE	**Valle Fertil**	**4.89**	**55**	*i* P		**Pn**	**08 45 42.5**	**+2.8**
AVFE				AML		AML	08 46 51.0	
	comp=Z,59nm,0.6s							

IDC 29 08:48:49.6±8.9, 22°.04N×146°.02E, h0km, mb3.5/3, mb1 3.7/4,mb1mx3.4/34,mbtmp3.6/4,ML3.9/1, Error ellipse: s-maj=317.4km s-min=25.5km az=75.0, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**6.13**	**326**		Pn	Pn	08 50 21.6	0.0
	3.2nm,0.3s,baz=230,slow=12,SNR=2.7							
WRA	**Warramunga Arr**	**43.26**	**196**	P		P	08 56 52.6	-0.5
	1.0nm,0.5s,baz=17,slow=8.5,SNR=9.1							
ASAR	**Alice Springs**	**46.93**	**195**	P		P	08 57 22.5	+0.2
	0.1nm,0.3s,baz=24,slow=9.2,SNR=5.4							
MKAR	**Makanchi Array**	**56.42**	**312**	P		P	08 58 33.0	-0.1
	0.1nm,0.4s,baz=77,slow=7.6,SNR=2.5							

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*IDC **29** 09:06:23.7±1.0, 32°.99S×178°.64W, h0km, mb4.4/4, mb1 4.6/5,mb1mx4.0/34,mbtmp4.4/5,ML4.2/1,MS4.9/1, Ms1 4.9/1,ms1mx3.3/15, Error ellipse: s-maj=32.2km s-min=26.6km az=54.0*
*ISCJB **29** 09:06:25.6±1.3, 33°.12S±0°.07×178°.5W±0°.2, h32km, mb4.4/4, Error ellipse: s-maj=22.0km s-min=8.9km az=11.6*
ISC 29 09:06:28.2±1.0, 33°.11S±0°.09×178°.5W±0°.1, h32km, n28, σ0§91/31, mb4.4/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.16**	**210**	PN		**Pn**	**09 07 42.8**	**-0.4**
MXZ				SN		**Sn**	**09 08 42.6**	**+1.0**
WMGZ	**Waiomatatini S**	**5.34**	**207**	*e*PN		**Pn**	**09 07 45.2**	**-0.4**
WMGZ				SN		**Sn**	**09 08 46.8**	**+0.9**
HAZ	**Te Kaha**	**5.55**	**212**	PN		**Pn**	**09 07 48.0**	**-0.5**
HAZ				SN		**Sn**	**09 08 52.1**	**+1.0**
PUZ	**Puketiti**	**5.62**	**207**	PN		**Pn**	**09 07 48.9**	**-0.6**
TWGZ	**Tauwhareparae**	**5.82**	**209**	PN		**Pn**	**09 07 51.1**	**-1.2**
CNGZ	**Carnagh Statio**	**6.00**	**206**	*e*PN		**Pn**	**09 07 54.0**	**-0.7**
TKGZ	**Te Karaka**	**6.09**	**208**	PN		**Pn**	**09 07 55.2**	**-0.8**
MWZ	**Matawai**	**6.14**

comp=Z,2.5nm,0.8s,baz=84,slow=8.7,SNR=5.1
WRA PcP **PcP** **09 19 41.1 -0.3**
comp=Z,1.0nm,0.8s,baz=82,slow=3.6,SNR=4.4
WRA ScP **ScP** **09 23 24.4 +2.7**
comp=Z,2.1nm,1.1s,baz=92,slow=5.6,SNR=5.7
WRA LR LR 09 29 15.1
comp=Z,1μm,18.1s,baz=85,slow=36
AS31 Alice Springs 32.52 247 *e*P **P** **09 16 58.5 +0.7**
ASAR Alice Springs 32.52 247 P **P** **09 16 56.1 -1.7**
comp=Z,2.3nm,0.8s,baz=74,slow=9.6,SNR=14
ASAR PcP **PcP** **09 19 43.8 -0.3**
comp=Z,0.3nm,0.7s,baz=77,slow=3.0,SNR=3.0
ASAR ScP **ScP** **09 23 28.2 +3.2**
comp=Z,1.7nm,1.1s,baz=69,slow=2.9,SNR=5.5
ASAR LR LR 09 30 28.5
comp=Z,584nm,18.2s,baz=73,slow=37
GUMO Guam 34.60 321 LR LR 09 29 50.2
comp=Z,328nm,21.2s,baz=142,slow=34
PPT Papeete 42.27 101 LR LR 09 33 03.2
comp=Z,243nm,20.6s,baz=282,slow=32
PPT2 Papeete2 42.27 101 *e*S S 09 24 48.7 +10
comp=Z,156nm,25.8s
PPT2 *e*LQ LQ 09 28 20.8
comp=Z,1μm,28.2s
PPT2 *e*LR LR 09 30 09.5
comp=Z,287nm,24.2s
TBI Tubuai 42.59 110 *e*LQ LQ 09 28 31.7
comp=Z,564nm,28.2s
TBI *e*LR LR 09 30 19.5
comp=Z,432nm,23.8s
KAPI Kappang 46.99 276 *e*P **P** **09 18 58.6 +0.5**
comp=Z,6.3nm,0.8s
KKM Kota Kinabalu 53.75 288 *e*P **P** **09 19 49.4 +0.1**
comp=Z,37nm,1.2s
SBUM Sibu 56.29 282 *e*P **P** **09 20 08.1 +0.5**
comp=Z,5.8nm,0.9s
MJAR Matsushiro Arr 56.66 333 P **P** **09 20 08.9 -0.9**
comp=Z,5.7nm,0.9s,baz=163,slow=7.5,SNR=16
MJAR LR LR 09 47 28.2
comp=Z,58nm,18.0s,baz=130,slow=39
MAJO Matsushiro 56.66 333⇓ *e*P **P** **09 20 09.6 -0.2**
MAJO pmax pmax
comp=Z,93nm,1.1s
MAJO Matsushiro 56.66 333 *e*P **P** **09 20 09.7 -0.2**
comp=Z,28nm,1.4s
MAT Matsushiro 56.66 333 P **P** **09 20 09.0 -0.8**
KSM Kuching 57.81 281 *e*P **P** **09 20 18.6 +0.3**
YUK Yuzh-Kuril'sk 60.44 343 *d* iP P 09 20 43.3 +7.4
YUK *i* 09 22 49.0
YUK *i* S **S** **09 28 53.9 +5.6**
YUK *i* 09 30 22.6
YUK *i* SSS SSS 09 35 22.7
ASAJ Asahikawa 61.51 340 P **P** **09 20 43.1 -0.1**
comp=Z,10.0nm,0.6s,baz=208,slow=5.4,SNR=21
ASAJ Asahikawa 61.51 340 *e*P **P** **09 20 44.1 +0.9**
comp=Z,16nm,0.8s
KSRS Korea Array 62.50 326 P **P** **09 20 50.0 +0.1**
comp=Z,2.0nm,0.9s,baz=142,slow=6.1,SNR=8.4
KSRS LR LR 09 45 17.8
comp=Z,66nm,20.3s,baz=136,slow=33
KSAR Wonju Array Be 62.51 326 P **P** **09 20 50.0 -0.1**
KSAR Wonju Array Be 62.51 326 P **P** **09 20 50.0 -0.1**
KS01 Wonju Array Si 62.53 326 *e*P **P** **09 20 49.9 -0.3**
VNDA Vanda 63.94 181 LR LR 09 45 24.1
comp=Z,197nm,20.5s,baz=22,slow=33
VNDA Vanda 63.94 181 *e*P **P** **09 20 59.7 +0.7**
VNDA pmax pmax
comp=Z,63nm,0.6s
VNDA Vanda 63.94 181 *e*P **P** **09 20 59.7 +0.7**
comp=Z,63nm,0.6s
YSS Yuzh-Sakhalins 64.01 342 *e*P **P** **09 21 01.0 +1.3**
YSS MLR MLR
comp=Z,300nm,18.0s
SBA Scott Base 64.23 180 *e*P **P** **09 21 03.2 +2.4**
SBA pmax pmax
comp=Z,73nm,1.9s
SBA Scott Base 64.23 180 *e*P **P** **09 21 03.2 +2.4**
comp=Z,73nm,1.9s
QIZ Qiongzhong 64.69 299 P **P** **09 21 05.5 +0.7**
QIZ S **S** **09 29 44.0 +1.4**
QIZ PMZ
comp=Z,19nm,1.5s
USRK Ussuriysk Ar. 65.64 333 P **P** **09 21 11.3 +0.8**
comp=Z,17nm,1.0s,baz=134,slow=5.5,SNR=46
USRK LR LR 09 47 57.0
comp=Z,68nm,20.1s,baz=145,slow=34
PET Petropavlovsk 66.74 355 *e*P P 09 21 23.4 +6.1
PET *e*S S 09 30 29.4 +23
PET pmax pmax
comp=Z,100nm,13.6s
PET MLR MLR
comp=Z,100nm,21.0s
PETK Petropavlovsk- 66.91 354 P **P** **09 21 18.0 -0.5**
comp=Z,2.8nm,0.9s,baz=117,slow=8.4,SNR=2.7
PETK LR LR 09 45 01.4
comp=Z,129nm,21.7s,baz=148,slow=31
PETK Petropavlovsk- 66.91 354 P **P** **09 21 18.0 -0.5**
MDJ Mudanjiang 67.04 332 P **P** **09 21 20.3 +0.9**
MDJ PMZ
comp=Z,21nm,1.0s
MDJ PMZ
comp=Z,98nm,5.9s
MDJ Mudanjiang 67.04 332 *e*P **P** **09 21 20.4 +0.9**
comp=Z,7.8nm,0.7s
CN2 Changchun 68.40 329 *e*P **P** **09 21 28.5 +0.5**
CN2 PMZ
comp=Z,20nm,1.0s
CN2 PMZ
comp=Z,100nm,4.0s
SKNT Sakolnakorn 68.95 294 P **P** **09 21 32.1 +0.1**
comp=Z,16nm,1.0s
PSI Prapat 69.10 278 P **P** **09 21 33.6 +0.4**
comp=Z,2.2nm,0.5s,baz=158,slow=15,SNR=3.0
PSI Prapat 69.10 278 *e*P P 09 21 37.7 +4.5
PSI pmax pmax
comp=Z,9.0nm,0.9s
PSI Prapat 69.10 278 *e*P P 09 21 37.7 +4.5
comp=Z,9.3nm,0.9s
KLR Kul'dur 69.77 336 *e*P **P** **09 21 34.2 -2.2**
KLR pmax pmax
comp=Z,44nm,1.0s
GYA Guiyang 70.60 305 P **P** **09 21 42.8 +0.6**
GYA pP **pP** **09 21 53.3 -0.6**
GYA sP **sP** **09 21 58.0 -0.4**
GYA PP **PP** **09 24 22.5 +3.4**
GYA S **S** **09 30 53.8 +0.2**
GYA sS **sS** **09 31 11.0 -2.1**
GYA SKS **SKSac** **09 31 38.5 -3.1**
GYA SS **SS** **09 35 27.3 +1.2**
GYA PMZ
comp=Z,20nm,1.0s
GYA PMZ
comp=Z,120nm,5.2s
GYA LN
comp=Z,540nm,20.2s
GYA LE
comp=Z,490nm,23.0s
GYA LZ
comp=Z,520nm,24.3s
BJI Beijing 71.04 321 P **P** **09 21 45.5 +1.2**
BJI S **S** **09 31 00.8 +2.9**
BJI PMZ
comp=Z,11nm,1.0s
BJI PMZ
comp=Z,140nm,5.0s
BJI LN
comp=Z,220nm,15.2s
BJI LE
comp=Z,150nm,15.0s
BJI LZ
comp=Z,120nm,24.2s
XAN Xi'an 72.51 313 P **P** **09 21 54.0 +0.6**
XAN PMZ
comp=Z,3.0nm,2.6s
KMI Kunming 73.22 302 P **P** **09 21 59.0 +0.9**
KMI sP **sP** **09 22 12.8 -1.5**
KMI S **SKiKP** **09 31 27.5 +0.4**
KMI PMZ
comp=Z,10.0nm,1.4s
KMI PMZ
comp=Z,120nm,3.2s
KMI LN
comp=Z,120nm,17.9s
KMI LE
comp=Z,77nm,16.0s
KMI LZ

comp=Z,120nm,11.5s
CRAI Chiangrai 73.33 296 P **P** **09 21 56.8 -1.7**
comp=Z,17nm,0.8s
CM01 Chiang Mai Arr 73.93 294 *e*P **P** **09 22 02.7 +0.7**
CMAR Chiang Mai Arr 73.96 294 P **P** **09 22 02.9 +0.7**
comp=Z,4.1nm,0.8s,baz=120,slow=4.3,SNR=17
CMAR LR LR 09 56 44.0
comp=Z,30nm,18.5s,baz=130,slow=38
CMAR Chiang Mai Arr 73.96 294 *i* P **P** **09 22 03.2 +1.0**
CMAR pmax pmax
comp=Z,4.0nm,0.6s
CMMT Chiang Mai 74.08 294 P **P** **09 22 04.3 +1.4**
comp=Z,12nm,1.4s
CHTO Chiang Mai 74.08 294 P **P** **09 22 04.3 +1.3**
comp=Z,43nm,1.5s
CHTO Chiang Mai 74.08 294 *e*P **P** **09 22 04.0 +1.0**
CHTO pmax pmax
comp=Z,26nm,1.5s
CHTO Chiang Mai 74.08 294 *e*P **P** **09 22 04.0 +1.0**
comp=Z,26nm,1.5s
HHC Hu-ho-hao-te 74.37 320 *e*P **P** **09 22 06.0 +1.7**
HHC PP **PP** **09 24 53.0 +2.0**
HHC S **S** **09 31 36.5 +0.4**
HHC sS **sS** **09 31 53.5 -2.2**
HHC PMZ
comp=Z,28nm,0.7s
HHC PMZ
comp=Z,100nm,4.9s
HHC LN
comp=Z,180nm,14.8s
HHC LE
comp=Z,110nm,16.0s
HHC LZ
comp=Z,160nm,13.6s
CMAI Chiengmai2 74.39 295 P **P** **09 22 07.0 +2.1**
comp=Z,7.2nm,1.7s,comp=Z,572nm
CD2 Chengdu 74.87 308 *e*P **P** **09 22 09.0 +1.7**
CD2 pP **pP** **09 22 20.0 +0.8**
CD2 sP **sP** **09 22 24.0 +0.3**
CD2 PP **PP** **09 24 59.0 +3.6**
CD2 S **S** **09 31 42.5 +0.5**
CD2 sS **sS** **09 32 00.8 -0.8**
CD2 SS **SS** **09 36 33.5 +2.4**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.0s
HIA Hailar 75.04 330 *e*P **P** **09 22 08.4 +0.5**
HIA pmax pmax
comp=Z,6.0nm,0.6s
HIA Hailar 75.04 330 *e*P **P** **09 22 08.4 +0.5**
comp=Z,6.0nm,0.6s
QSPA South Pole Qui 76.39 180 *e*P **P** **09 22 16.2 +0.6**
comp=Z,31nm,1.4s
SEY Seymchan 77.13 353 P **P** **09 22 18.9 -0.5**
comp=Z,5.1nm,1.0s,baz=137,slow=6.7,SNR=11
SEY Seymchan 77.13 353⇓ *i* P **P** **09 22 19.6 +0.2**
YAK Yakutsk 80.81 343 *e*P **P** **09 22 37.9 -1.7**
YAK *e* 09 22 45.8
YAK *e* 09 25 41.8
YAK *e*PPP PPP 09 27 34.1
YAK *e*S S 09 32 37.8 -6.8
YAK *e* 09 32 55.9
YAK *e*SS **SS** **09 37 54.0 -5.2**
YAK *e*SSS SSS 09 41 22.4
YAK pmax pmax
comp=Z,17nm,1.1s
YAK pmax pmax
comp=N,7.0nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK pmax pmax
comp=Z,51nm,3.1s
YAK pmax pmax
comp=N,74nm,4.9s
YAK pmax pmax
comp=E,19nm,3.0s
YAK smax smax
comp=N,68nm,5.6s
YAK smax smax
comp=E,50nm,4.0s
ULN Ulaanbaatar 80.90 324 *e*P P 09 22 46.4 +5.7
ULN pmax pmax
comp=Z,51nm,1.8s
ULN Ulaanbaatar 80.90 324 *e*P P 09 22 46.4 +5.7
comp=Z,51nm,1.8s
SONM Songino Array 81.26 324 P **P** **09 22 42.7 +0.1**
comp=Z,4.6nm,1.1s,baz=138,slow=6.3,SNR=26
SONM LR LR 09 56 17.2
comp=Z,91nm,21.9s,baz=92,slow=34
SONA1 Songino Array 81.27 324 *e*P **P** **09 22 42.5 -0.1**
BILL Bilibino 81.45 360⇑ *e*P **P** **09 22 41.9 -1.0**
BILL *e* 09 25 51.5
BILL pmax pmax
comp=Z,24nm,1.7s
BILL Bilibino 81.45 360 *e*P **P** **09 22 42.3 -0.6**
GTA Gaotai 81.48 314 *e*P **P** **09 22 44.8 +0.9**
GTA pP **pP** **09 22 53.3 -2.6**
GTA sP **sP** **09 22 58.0 -2.3**
GTA PMZ
comp=Z,15nm,1.4s
RC01 Rabbit Creek A 82.11 20 *e*P **P** **09 22 46.6 +0.1**
MAW Mawson 82.67 202 P **P** **09 22 48.9 -0.6**
comp=Z,2.6nm,0.7s,baz=270,slow=1.0,SNR=3.3
MAW LR LR 09 56 03.8
comp=Z,112nm,18.6s,baz=66,slow=33
PMR Palmer 82.67 20 *e*P **P** **09 22 51.2 +1.8**
PMR Palmer 82.67 20 *e*P **P** **09 22 51.2 +1.8**
SCM Sheep Creek Mo 83.44 20 *e*P **P** **09 22 56.2 +2.7**
SCM Sheep Creek Mo 83.44 20 *e*P **P** **09 22 56.2 +2.7**
TRF Thorofare Moun 83.69 18 *e*P **P** **09 22 56.4 +1.5**
BMRM Bremner River 83.79 22 *e*P **P** **09 22 57.6 +2.3**
RND Reindeer 84.09 18 *e*P **P** **09 22 56.4 -0.4**
RND Reindeer 84.09 18 *e*P **P** **09 22 56.4 -0.4**
MCK McKinley 84.30 18 *e*P **P** **09 22 57.4 -0.4**
MCK McKinley 84.30 18 *e*P **P** **09 22 57.4 -0.4**
ZAK Zakamensk 84.31 325 *e*P **P** **09 22 56.9 -1.4**
ZAK pmax pmax
comp=Z,15nm,1.7s
IRK Irkutsk 84.70 327 *e*P **P** **09 22 59.8 -0.2**
IRK pmax pmax
comp=Z,42nm,2.0s
TLY Talaya 84.75 326 P **P** **09 23 00.5 +0.1**
comp=Z,74nm,1.6s,SNR=6.1
TLY Talaya 84.75 326 *e*P **P** **09 23 00.4 +0.1**
TLY *e* 09 23 10.7
TLY pmax pmax
comp=Z,33nm,1.7s
TLY MLR MLR
comp=Z,57nm,15.0s
TLY Talaya 84.75 326 *e*P **P** **09 23 00.3 0.0**
WRH Wood River Hil 85.10 18 *e*P **P** **09 23 01.0 -0.7**
CCB Clear Creek Bu 85.31 18 *e*P **P** **09 23 01.9 -0.9**
MDM Murphy Dome 85.41 18 *e*P **P** **09 23 02.5 -0.9**
COLA College 85.46 18 *c*e*c*P **P** **09 23 02.8 -0.7**
COLA pmax pmax
comp=Z,30nm,0.9s
COLA College 85.46 18 *e*P **P** **09 23 02.8 -0.7**
IL1 Eielson Array 85.68 18 *e*P **P** **09 23 02.6 -2.0**
ILAR Eielson Array 85.68 18 P **P** **09 23 03.0 -1.6**
comp=Z,2.7nm,0.5s,baz=238,slow=5.6,SNR=20
ILAR LR LR 09 56 42.6
comp=Z,248nm,20.0s,baz=248,slow=32
SCRK Sand Creek 86.04 20 *e*P **P** **09 23 07.8 +1.1**
HYT Haines Junctio 86.37 24 *e*P **P** **09 23 07.6 -0.8**
COLD Coldfoot 86.54 15 *e*P P 09 23 12.5 +3.7
EGAK Eagle 87.49 20 P **P** **09 23 11.7 -1.8**
comp=Z,7.4nm,1.1s
LTC Little Chuckwa 87.91 55 *e*P **P** **09 23 17.3 +0.9**
TIXI Tiksi 88.78 349⇓ *i* P **P** **09 23 19.0 -0.5**
TIXI pmax pmax
comp=Z,5.0nm,1.7s
WMQ Urumqi 91.54 315 P **P** **09 23 33.5 +0.4**
WMQ pP **pP** **09 23 44.3 -0.9**
WMQ sP **sP** **09 23 48.0 -1.6**
WMQ PP **PP** **09 27 13.3 +1.6**
WMQ S **S** **09 34 27.8 -2.4**
WMQ sS **sS** **09 34 47.8 -2.6**
WMQ SS **SS** **09 40 37.0 -0.5**
WMQ PMZ
comp=Z,10.0nm,0.6s
WMQ PMZ
comp=Z,11nm,4.4s
WMQ LN
comp=Z,48nm,22.8s
WMQ LE
comp=Z,120nm,23.6s
WMQ LZ
comp=Z,67nm,22.6s
SNAA Sanae 94.60 183 *e*P P 09 23 42.5 -4.3
SNAA Sanae 94.60 183 *e*P P 09 23 42.5 -4.3
PDAR Pinedale Array 94.65 47 LR LR 10 01 37.8
comp=Z,120nm,18.2s,baz=276,slow=32
MK01 Makanchi Array 95.99 317 *e*P **P** **09 23 53.2 -0.3**
MK31 Makanchi Array 96.00 317 *e*P **P** **09 23 53.5 0.0**
MK31 Makanchi Array 96.00 317 *e*P **P** **09 23 53.5 0.0**
MKAR Makanchi Array 96.00 317 P **P** **09 23 53.3 -0.2**
comp=Z,1.5nm,0.6s,baz=92,slow=5.7,SNR=20
MKAR LR LR 10 08 13.0
comp=Z,40nm,20.0s,baz=98,slow=36
MKAR Makanchi Array 96.00 317 *i* P **P** **09 23 53.7 +0.2**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 96.00 317 *e*P **P** **09 23 53.8 +0.2**
ZAA0 Zalesovo Array 96.16 324 *e*P **P** **09 23 53.2 -0.8**
ZALV Zalesovo Beam 96.16 324 P **P** **09 23 52.9 -1.1**
comp=Z,1.0nm,0.4s,baz=108,slow=4.7,SNR=9.8
ZALV LR LR 10 07 31.8
comp=Z,48nm,19.9s,baz=70,slow=36
TXAR Lajitas Array 96.28 61 LR LR 10 02 24.8
comp=Z,78nm,19.2s,baz=0.0,slow=32
YKA Yellowknife Ar 96.85 27 P **P** **09 23 54.9 -2.1**
comp=Z,0.3nm,0.5s,baz=259,slow=4.3,SNR=4.6
KSH Kashi 99.05 308 *e*P **Pdif** **09 24 09.5 +1.9**
KSH pP **pP** **09 24 20.0 +0.3**
KSH PP **PP** **09 28 14.8 +4.5**
KSH SKS **SKSac** **09 34 44.0 +0.9**
KSH S **S** **09 35 35.0 -0.9**
KSH sS **sS** **09 35 52.5 -3.8**
KSH PMZ
comp=Z,150nm,5.3s
KSH LN
comp=Z,150nm,7.7s
KSH LE
comp=Z,170nm,11.1s
KSH LZ
comp=Z,170nm,6.1s
KURK Kurchatov 99.18 320 P **Pdif** **09 24 07.3 -0.4**
KURK Kurchatov 99.18 320 P **Pdif** **09 24 07.3 -0.4**
KURBB Kurchatov Arra 99.22 320 P **Pdif** **09 24 07.3 -0.6**
comp=Z,0.3nm,0.6s,baz=104,slow=3.6,SNR=5.6
DGMT Dagmar 99.51 42 *e*P **Pdif** **09 24 13.2 +3.9**
AAK Ala-Archa 100.66 311 P **Pdif** **09 24 16.0 +1.3**
ARCES ARCESS Array B 119.05 345 PKP **PKPdf** **09 29 13.4 -1.0**
comp=Z,1.2nm,0.5s,baz=46,slow=3.9,SNR=14
KLMR Klimovskoe 119.44 333 PKIKP **PKPdf** **09 29 12.7 -2.6**
KLMR pmax pmax
comp=Z,15nm,1.7s
NCK Nalchik 123.13 313 *i* PKIKP **PKPdf** **09 29 22.0 -1.0**
OBN Obninsk 123.46 328⇑ *i* PKIKP **PKPdf** **09 29 22.9 -0.3**
OBN *e*PPP PPP 09 33 47.0
OBN *e* 09 36 17.8
OBN pmax pmax
comp=Z,5.0nm,0.4s
KIV Kislovodsk 123.66 314⇓ *i* PKIKP **PKPdf** **09 29 24.4 +0.3**
KIV *e* 09 31 05.9
KIV *e*PPP PPP 09 33 43.8
KIV pmax pmax
comp=Z,7.0nm,0.8s
FINES FINESS Array B 124.49 338 PKP **PKPdf** **09 29 23.8 -1.2**
comp=Z,2.7nm,0.8s,baz=66,slow=3.5,SNR=5.9
NB2 NORSAR Subarra129.41 345 PKP **Pdif** **09 26 18.6 -3.4**
comp=Z,1.1nm,0.9s,baz=21,slow=2.6
NB2 NORSAR Subarra129.41 345 PKPdf **PKPdf** **09 29 33.9 -0.6**
comp=Z,6.3nm,1.4s,baz=31,slow=1.9
NOA NORSAR Array B 129.41 345 PKP **PKPdf** **09 29 32.8 -1.7**
comp=Z,1.4nm,1.0s,baz=32,slow=2.2,SNR=3.3
AKASG Malin Array Be 129.50 326 PKP **PKPdf** **09 29 34.8 -0.1**
comp=Z,0.8nm,0.5s,baz=56,slow=1.7,SNR=13
KIEV Kiev 129.51 326⇑ *i* PKIKP **PKPdf** **09 29 34.1 -0.8**
BRTR Keskin Array B 131.34 311 PKP **PKPdf** **09 29 38.8 -0.1**
comp=Z,0.6nm,0.7s,baz=86,slow=5.1,SNR=4.2
BRTR Keskin Array B 131.34 311 *i* PKIKP **PKPdf** **09 29 41.0 +2.0**
CFR Carcaliu 132.90 320⇑ PKIKP PKPdf 09 29 35.0 -6.5
CFR Carcaliu 132.90 320⇑ *i* P PKPdf 09 29 35.0 -6.5
TIRR Tirgusor 133.06 319⇑ PKIKP PKPdf 09 29 36.2 -5.6
TIRR Tirgusor 133.06 319⇑ *i* P PKPdf 09 29 36.2 -5.6
TLB Topalu 133.24 320⇑ PKIKP **PKPdf** **09 29 43.1 +1.0**
TLB Topalu 133.24 320⇑ *i* P **PKPdf** **09 29 43.1 +1.0**
BUR08 Bucovina Ar. S 133.37 325 *e*PKPdf **PKPdf** **09 29 43.8 +1.3**
BURAR Bucovina Array 133.37 325⇑ PKIKP **PKPdf** **09 29 44.7 +2.2**
BURAR Bucovina Array 133.37 325⇑ *i* P **PKPdf** **09 29 44.7 +2.2**
MLR Muntele Rosu 134.08 322⇓ PKIKP **PKPdf** **09 29 43.6 -0.3**
MLR Muntele Rosu 134.08 322⇓ *i* P **PKPdf** **09 29 43.6 -0.3**
KOLS Kolonicke sedl 134.20 328 *e*PKIKP **PKPdf** **09 29 44.2 +0.3**
KOLS Kolonicke sedl 134.20 328 *e*PKP **PKPdf** **09 29 44.2 +0.3**
DRGR 135.25 325⇑ PKIKP **PKPdf** **09 29 46.4 +0.4**
DRGR 135.25 325⇑ *i* P **PKPdf** **09 29 46.4 +0.4**
PSZ Piszkesteto 136.07 328⇓ PKIKP **PKPdf** **09 29 47.8 +0.3**
PSZ Piszkesteto 136.07 328⇓ *i* P **PKPdf** **09 29 47.8 +0.3**
BZS Buzias 136.55 324⇑ PKIKP **PKPdf** **09 29 47.8 -0.5**
BZS Buzias 136.55 324⇑ *i* P **PKPdf** **09 29 47.8 -0.5**
BRG Berggiesshubel 136.77 335 *e*P **PKPdf** **09 29 47.5 -1.1**
comp=Z,3.5nm,0.8s
BRG Berggiesshubel 136.77 335 *e*PKIKP **PKPdf** **09 29 47.5 -1.1**
BRG pmax pmax
comp=Z,4.0nm,0.9s
CLL Collm 136.81 336 *e*PKPdf **PKPdf** **09 29 49.0 +0.4**
comp=Z,4.0nm,1.0s
CLL *e*PP **PP** **09 32 31.0 -0.1**
CLL *i* PKSab **PKSab** **09 33 30.9 +2.0**
CLL LmH 10 31 00.0
comp=Z,5.0nm,1.1s
CLL LmV 10 37 00.0
comp=Z,100nm,20.4s
CLL Collm 136.81 336 *e*PKIKP **PKPdf** **09 29 49.0 +0.4**
CLL pmax pmax
comp=Z,4.0nm,1.0s
PKSM Moragy 137.83 327⇑ PKIKP **PKPdf** **09 29 49.8 -0.9**
PKSM Moragy 137.83 327⇑ *i* P **PKPdf** **09 29 49.8 -0.9**
DIVS Divibare 138.38 323⇑ *i* P **PKPdf** **09 29 51.2 -0.7**
CEL Celeste 144.31 319 *e*PKPdf **PKPab** **09 30 00.6 -0.1**
BNI Bardonecchia 144.36 335 *e*PKIKP **PKPdf** **09 30 01.9 -0.8**
BNI Bardonecchia 144.36 335 *e*PKPdf **PKPdf** **09 30 01.9 -0.8**
PLDF La Plantade 144.72 339 PKP **PKPdf** **09 30 03.1 -0.1**
AGO Saint Agoulin 144.82 340 PKP **PKPdf** **09 30 02.9 -0.4**
SAOF Saorge 144.85 333 PKP **PKPab** **09 30 02.0 -0.5**
AUTN L'Aution 144.90 334 PKP **PKPab** **09 30 02.2 -0.7**
TOUF Mont Tournerai 144.96 334 PKP **PKPab** **09 30 02.5 -0.6**
MVIF Mont Vial 145.10 334 PKP **PKPbc** **09 30 03.1 -0.4**
PYM Petit Puy Mans 145.12 340 PKP **PKPdf** **09 30 04.2 +0.3**
REVF Revere 145.13 333 PKP **PKPbc** **09 30 02.9 -0.5**
CALN Calern 145.33 334 PKP **PKPbc** **09 30 03.7 -0.5**
LBL Lubilhac 145.49 339 PKP **PKPdf** **09 30 03.1 -1.4**
VSL Villasalto 147.37 326 *e*PKPbc **PKPbc** **09 30 09.0 -0.4**
KEST Kesra 149.99 321 PKPbc **PKPbc** **09 30 17.4 +0.2**
comp=Z,5.9nm,0.7s,baz=82,slow=3.7,SNR=17
KEST Kesra 149.99 321 *e*PKPdf **PKPdf** **09 30 12.3 +0.1**
KEST *e*PKPbc **PKPbc** **09 30 17.6 +0.4**
POLO Lamas de Olo 151.94 351 *e*PKPbc **PKPbc** **09 30 21.6 0.0**
MVO Moncorvo 152.02 350 *e*PKPbc **PKPbc** **09 30 21.9 +0.1**
ESDC Sonseca Array 152.77 344 PKP **PKPdf** **09 30 14.1 -2.3**
comp=Z,0.1nm,0.3s,baz=4.7,slow=3.8,SNR=3.3
ESDC PKPbc **PKPbc** **09 30 22.9 -0.6**
comp=Z,0.8nm,0.5s,baz=19,slow=2.3,SNR=10
MTE Manteigas 152.85 350 *e*PKPbc **PKPbc** **09 30 23.7 +0.1**
PTOM Tomar 153.75 351 *e*PKPbc **PKPbc** **09 30 25.9 +0.4**
PMRV Marv??o 153.77 350 *e*PKPbc **PKPbc** **09 30 25.8 +0.2**
PMTG Montargil 154.26 351 *e*PKPbc **PKPbc** **09 30 26.3 -0.3**
TORD Torodi Ar. Bea 165.35 270 PKP **PKPdf** **09 30 30.5 -1.1**
comp=Z,1.6nm,0.9s,baz=38,slow=1.4,SNR=7.2

IDC 29 09:17:47.3±1.7, 6°24'S×128°85'E, h0^km, mb3.3/1, mb1 3.5/4, mb1mx3.3/32, mbtmp3.4/4, ML3.6/3, Error ellipse: s-maj=58.3km s-min=28.2km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.86**	**24**	Pn		Pn	09 19 14.8	-0.7
	1.2nm,0.3s,baz=209,slow=22,SNR=11							
SIJI				Sn		Sb	09 20 35.9	-5.3
	2.6nm,0.3s,baz=255,slow=23,SNR=6.9							
WRA	**Warramunga Arr**	**14.62**	**159**	Pn		Pn	09 21 15.8	+0.2
	0.4nm,0.3s,baz=337,slow=12,SNR=24							
WRA				Sn		Sn	09 23 44.1	-14
	0.4nm,0.3s,baz=333,slow=21,SNR=7.4							

ASAR	**Alice Springs**	**17.99 165**	P		Pn	09 21 58.7	-0.3
	0.1nm,0.3s,baz=338,slow=9.5,SNR=16						
ASAR			S		Sn	09 25 05.7	-15
	0.1nm,0.3s,baz=350,slow=27,SNR=4.3						
MKAR	**Makanchi Array**	**66.97 327**	P		P	09 28 42.1	+0.2
	0.1nm,0.4s,baz=120,slow=6.7,SNR=3.8						

MEX 29 09:53:29.6±0.7, 17°.19N×101°.25W, h5km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.46**	**334**	*i* P		Pg	09 53 38.2	-0.2
ZIIG				*e*S		Sg	09 53 44.4	-0.1
CAIG	**El Cayaco**	**0.95**	**98**	*e*P		Pg	09 53 45.5	-2.5
CAIG				*e*S		Sg	09 53 57.5	-2.8
ACP2	**Acapulco**	**1.35**	**103**	*e*P		Pn	09 53 52.0	-3.0
ACX	**Acapulco**	**1.37**	**103**	*e*P		Pg	09 53 56.0	0.0
ACX				*e*S		Sb	09 54 11.9	-1.8
ARIG	**Puente Sto Nin**	**1.39**	**38**	*e*P		Pn	09 53 53.1	-2.6
ARIG				*e*S		Sb	09 54 10.9	-3.2

IDC ***29*** *10:06:47.9±0.9, 13°.59S×166°.66E, h0km, mb4.0/12, mb1 4.1/13, mb1mx4.0/35, mbtmp4.0/13, ML3.4/1, MS3.6/5, Ms1 3.6/5, ms1mx3.1/26, Error ellipse: s-maj=29.5km s-min=17.0km az=102.0*

ISCJB ***29*** *10:06:51.6±0.8, 13°.65S±0°.06×166°.6E±0°.2, h39km, mb4.0/11, MS3.6/4, Error ellipse: s-maj=22.6km s-min=8.7km az=177.1*

ISC 29 10:06:53.6±0.8, 13°.60S±0°.08×166°.6E±0°.2, h39km, n18, σ0s74/18, mb4.0/11, MS3.7/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.42**	**181**	Pn		**Pn**	**10 08 52.3**	**-0.9**
	0.4nm,0.3s,baz=90,slow=20,SNR=7.3							
DZM				Sn		**Sn**	**10 10 28.0**	**+0.9**
	baz=90,slow=20,SNR=1.6							
DZM				LR		LR	10 11 43.5	
	comp=Z,264nm,21.3s,baz=0.0,slow=35							
CTA	**Charters Tower**	**20.54**	**249**	P		**P**	**10 11 28.9**	**0.0**
	1.3nm,0.7s,baz=78,slow=14,SNR=3.4							
STKA	**Stephens Creek**	**29.28**	**227**	P		**P**	**10 12 53.0**	**+0.7**
	1.9nm,0.6s,baz=70,slow=5.1,SNR=3.7							
STKA				LR		LR	10 24 31.3	
	comp=Z,174nm,18.2s,baz=163,slow=36							
WRA	**Warramunga Arr**	**31.52**	**254**	P		**P**	**10 13 11.1**	**-1.2**
	1.0nm,0.8s,baz=85,slow=8.9,SNR=6.5							
ASAR	**Alice Springs**	**32.52**	**247**	P		**P**	**10 13 20.1**	**-1.0**
	0.4nm,0.7s,baz=72,slow=9.3,SNR=9.7							
ASAR				LR		LR	10 26 52.4	
	comp=Z,128nm,18.2s,baz=152,slow=37							
GUMO	**Guam**	**34.57**	**321**	LR		LR	10 26 12.1	
	comp=Z,48nm,21.0s,baz=124,slow=34							
MJAR	**Matsushiro Arr**	**56.63**	**333**	P		**P**	**10 16 32.5**	**-0.3**
	3.3nm,1.1s,baz=160,slow=8.5,SNR=5.1							
ASAJ	**Asahikawa**	**61.48**	**340**	P		**P**	**10 17 06.6**	**+0.3**
	2.9nm,0.5s,baz=190,slow=6.7,SNR=9.9							
VNDA	**Vanda**	**63.97**	**181**	P		**P**	**10 17 23.0**	**+0.6**
	1.3nm,1.1s,baz=1.7,slow=4.5,SNR=2.8							
USRK	**Ussuriysk Ar.**	**65.61**	**333**	P		**P**	**10 17 34.3**	**+0.7**
	5.9nm,1.0s,baz=144,slow=7.4,SNR=12							
CMAR	**Chiang Mai Arr**	**73.94**	**294**	P		**P**	**10 18 25.9**	**+0.6**
	1.6nm,0.6s,baz=138,slow=3.8,SNR=6.4							
SONM	**Songino Array**	**81.23**	**324**	P		**P**	**10 19 06.3**	**+0.7**
	0.4nm,0.4s,baz=142,slow=7.3,SNR=6.0							
ILAR	**Eielson Array**	**85.65**	**18**	P		**P**	**10 19 26.7**	**-1.1**
	0.6nm,0.6s,baz=239,slow=5.1,SNR=9.0							
ILAR				LR		LR	10 54 07.0	
	comp=Z,45nm,19.2s,baz=176,slow=33							
MKAR	**Makanchi Array**	**95.97**	**317**	P		**P**	**10 20 16.6**	**0.0**
	0.6nm,0.7s,baz=118,slow=5.2,SNR=7.3							
ARCES	**ARCESS Array B**	**119.02**	**345**	PKP		**PKPdf**	**10 25 37.2**	**-0.4**
	2.4nm,0.9s,baz=62,slow=2.0,SNR=4.9							
KEST	**Kesra**	**149.96**	**321**	PKPbc		**PKPbc**	**10 26 40.7**	**+0.3**
	1.7nm,0.6s,baz=45,slow=2.9,SNR=5.6							
ESDC	**Sonseca Array**	**152.74**	**344**	PKPbc		**PKPbc**	**10 26 47.2**	**+0.5**
	0.5nm,0.6s,baz=122,slow=2.7,SNR=4.1							
TORD	**Torodi Ar. Bea**	**165.34**	**270**	PKP		**PKPdf**	**10 26 54.7**	**-0.2**
	0.6nm,0.8s,baz=235,slow=0.7,SNR=3.2							

ISCJB ***29*** *10:16:28.0±0.9, 33°.1N±0°.1×96°.3E±0°.1, h10km, mb3.7/4, MS3.8/1, Error ellipse: s-maj=17.8km s-min=8.8km az=35.5*

IDC ***29*** *10:16:29.0±1.1, 33°.16N×96°.16E, h0km, mb3.6/4, mb1 3.8/7, mb1mx3.4/46, mbtmp3.7/7, ML3.5/3, MS3.3/3, Ms1 3.3/3, ms1mx2.8/32, Error ellipse: s-maj=58.0km s-min=18.7km az=57.0*

BJI ***29*** *10:16:34.1, 33°.45N×96°.42E, h10km, ML3.2/10*

ISC 29 10:16:30.5±1.2, 33°.2N±0°.1×96°.3E±0°.1, h10km, n10, σ2s03/11, mb3.7/4, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**6.73**	**107**	Pn		**Pn**	**10 18 12.3**	**+3.0**
CD2				Pg		Pg	10 18 35.5	-3.8
CD2				Sn		**Sn**	**10 19 24.5**	**-1.6**
CD2				Sg		**Sg**	**10 20 03.3**	**-3.1**
CD2				SMN				
	30nm,1.2s							
CD2				SME				
	20nm,1.2s							
GTA	**Gaotai**	**6.86**	**24**	*e*Pn		**Pn**	**10 18 12.3**	**+1.1**
CMAR	**Chiang Mai Arr**	**14.83**	**170**	LR		LR	10 26 18.0	
	comp=Z,57nm,21.8s,baz=306,slow=40							
SONM	**Songino Array**	**16.53**	**25**	Pn		**Pn**	**10 20 22.3**	**-0.1**
	0.2nm,0.3s,baz=212,slow=14,SNR=11							
MKAR	**Makanchi Array**	**17.30**	**326**	P		**Pn**	**10 20 30.2**	**-1.9**
	0.1nm,0.3s,baz=130,slow=13,SNR=6.5							
AAK	**Ala-Archa**	**19.58**	**305**	P		**Pn**	**10 20 57.6**	**-2.5**
	0.1nm,0.3s,baz=121,slow=5.9,SNR=2.4							
AAK				LR		LR	10 30 16.4	
	comp=Z,58nm,19.1s,baz=132,slow=42							
KURBB	**Kurchatov Arra**	**21.80**	**328**	P		**P**	**10 21 21.8**	**-0.6**
	2.5nm,0.8s,baz=136,slow=11,SNR=26							
ZALV	**Zalesovo Beam**	**22.32**	**342**	P		**P**	**10 21 28.5**	**+0.4**
	2.1nm,0.7s,baz=171,slow=10,SNR=4.8							
WRA	**Warramunga Arr**	**64.10**	**140**	P		**P**	**10 27 05.6**	**+0.7**
	0.6nm,0.9s,baz=336,slow=6.8,SNR=5.3							
ASAR	**Alice Springs**	**66.92**	**143**	P		**P**	**10 27 23.7**	**+0.5**
	0.3nm,0.4s,baz=325,slow=6.4,SNR=10							
ASAR				LR		LR	11 00 07.8	
	comp=Z,49nm,18.1s,baz=264,slow=39							

IDC 29 10:45:02.0±1.3, 41°.14N×84°.00E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.4/44, mbtmp3.8/3, ML2.6/2, 1C-1D, Error ellipse: s-maj=76.2km s-min=19.3km az=59.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**5.79**	**348**	⇑Pn		Pb	10 46 37.6	-6.2
	0.6nm,0.4s,baz=141,slow=17,SNR=12							
MK31				⇓Sn		Sn	10 47 22.1	-14
	1.8nm,0.5s,baz=150,slow=29,SNR=6.9							
MKAR	**Makanchi Array**	**5.79**	**348**	Pn		Pn	10 46 31.2	+2.0
	0.1nm,0.3s,baz=155,slow=16,SNR=5.7							
MKAR				Pg		Pb	10 46 37.2	-6.7
	0.7nm,0.3s,baz=142,slow=17,SNR=28							
MKAR				Sn		Sn	10 47 20.2	-16
	1.2nm,0.3s,baz=136,slow=30,SNR=9.8							
KURBB	**Kurchatov Arra**	**10.22**	**340**	Pn		Pn	10 47 32.0	+2.2
	0.0nm,0.3s,baz=139,slow=14,SNR=2.7							
AKTO	**Aktyubinsk**	**20.27**	**306**	P		P	10 49 38.9	-0.1
	0.7nm,0.4s,baz=93,slow=12,SNR=4.5							
WRA	**Warramunga Arr**	**76.63**	**132**	P		P	10 56 54.7	+0.1
	0.9nm,0.9s,baz=329,slow=6.2,SNR=6.7							
ASAR	**Alice Springs**	**79.37**	**134**	P		P	10 57 09.9	0.0
	1.0nm,0.7s,baz=320,slow=6.0,SNR=14							

IDC ***29*** *11:15:46.1±0.6, 13°.96S×166°.86E, h0km, mb4.6/21, mb1 4.6/22, mb1mx4.5/37, mbtmp4.6/22, ML3.1/1, MS4.3/19, Ms1 4.3/19, ms1mx4.1/34, Error ellipse: s-maj=21.4km s-min=13.0km az=99.0*

BJI ***29*** *11:15:51.4, 13°.67S×166°.70E, h27km, mb4.9/49, mB5.1/34, Ms4.9/25, Ms7 4.4/26*

ISCJB ***29*** *11:15:51.8±0.3, 14°.06S±0°.04×166°.63E±0°.05, h43km, mb4.7/39, MS4.3/21, Error ellipse: s-maj=7.7km s-min=5.5km az=164.2*

MOS ***29*** *11:15:51.1±1.0, 13°.95S×166°.60E, h33km, mb5.1/20, Error ellipse: s-maj=10.7km s-min=9.0km az=30.8*

GCMT ***29*** *11:15:52.5±0.2, 13°.92S×166°.48E, h29km, MW5.2/81, Moment Tensor Solution. s78,c101; s81,c119; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 5.59±.18; Mθθ 0.52±.15; Mφφ -6.11±.13; Mrθ 0.02±.27; Mrφ 1.39±.10; Mθφ -2.65±.20; Best double couple: M◎6.55400×10^16 NP1: ϕs343.00000°, δ34.00000°, λ81.00000°. Principal axes: T 6.1760, Plg77.0000°, Azm103.0000°; N 0.7550, Plg5.0000°, Azm350.0000°; P -6.9320, Plg12.0000°, Azm259.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***29*** *11:15:52.5±0.3, 13°.94S×166°.64E, h35km, mb4.9/14 Error ellipse: s-maj=8.1km s-min=7.3km az=104.0*

ISC 29 11:15:53.4±0.3, 14°.02S±0°.05×166°.63E±0°.06, h43km, n174, σ1s66/201, mb4.8/36, MS4.3/21, 6C-6D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.98**	**304**	*e*P		**Pn**	**11 17 45.7**	**-1.2**
HNR				*e*		**Sn**	**11 19 17.0**	**+1.2**
HNR	**Honiara**	**7.98**	**304**	*e*P		**Pn**	**11 17 47.0**	**+0.2**
HNR				*e*S		**Sn**	**11 19 20.0**	**+4.2**
HNR	**Honiara**	**7.98**	**304**	*e*Pn		**Pn**	**11 17 45.7**	**-1.2**
HNR				*e*Sn		**Sn**	**11 19 17.0**	**+1.2**
DZM	**Mont Dzumac**	**8.01**	**181**	*e*Pn		**Pn**	**11 17 49.1**	**+1.8**
	58nm,0.3s							
DZM				*e*Sn		**Sn**	**11 19 15.2**	**-1.5**
	60nm,0.3s							
DZM				*e*LR		LR	11 19 39.8	
	2μm,22.4s							
DZM	**Mont Dzumac**	**8.01**	**181**	Pn		**Pn**	**11 17 45.0**	**-2.3**
	0.2nm,0.3s,baz=270,slow=24,SNR=6.4							
DZM				Sn		**Sn**	**11 19 17.5**	**+0.8**
	6.0nm,0.3s,baz=287,slow=24,SNR=3.7							
DZM				LR		LR	11 20 38.7	
	comp=Z,2μm,19.2s,baz=0.0,slow=36							
DZM	**Mont Dzumac**	**8.01**	**181**	*e*P		**Pn**	**11 17 47.3**	**-0.1**
DZM				*e*S		**Sn**	**11 19 17.8**	**+1.2**
NOUC	**Port Laguerre**	**8.04**	**182**	*e*P		Pn	11 17 40.2	-7.5
NOUC				*e*S		**Sn**	**11 19 13.2**	**-4.1**
MSVF	**Nonsavu**	**11.59**	**110**	*e*P		**Pn**	**11 18 37.3**	**+0.9**
MSVF	**Nonsavu**	**11.59**	**110**	*e*Pn		**Pn**	**11 18 37.3**	**+0.9**
PMG	**Port Moresby**	**19.61**	**281**	*d* iP		**Pn**	**11 20 20.6**	**+0.7**
PMG					pmax	pmax		
	comp=Z,619nm,1.7s							
PMG	**Port Moresby**	**19.61**	**281**	*e*P		**P**	**11 20 16.8**	**-1.4**
	comp=Z,113nm,1.1s							
CTA	**Charters Tower**	**20.39**	**250**	P		**P**	**11 20 27.8**	**+1.0**
	comp=Z,20nm,1.0s,baz=75,slow=14,SNR=27							
CTA				LR		LR	11 28 19.3	
	comp=Z,1μm,18.9s,baz=78,slow=36							
CTAO	**Charters Tower**	**20.39**	**250**	*e*P		Pn	11 20 28.2	-0.9
CTAO					pmax	pmax		
	comp=Z,65nm,1.3s							
CTAO	**Charters Tower**	**20.39**	**250**	*e*P		Pn	11 20 28.2	-0.9
	comp=Z,65nm,1.3s							
OUZ	**Omahuta**	**22.02**	**165**	*e*P		**P**	**11 20 48.8**	**+4.6**
	comp=Z,50nm,1.1s							
STKA	**Stephens Creek**	**28.99**	**228**	P		**P**	**11 21 50.5**	**+1.3**
	comp=Z,14nm,0.5s,baz=50,slow=8.9,SNR=27							
STKA				LR		LR	11 33 19.2	
	comp=Z,2μm,19.0s,baz=53,slow=36							
STKA	**Stephens Creek**	**28.99**	**228**	*e*P		**P**	**11 21 51.1**	**+1.9**
STKA					pmax	pmax		
	comp=Z,44nm,2.5s							
STKA	**Stephens Creek**	**28.99**	**228**	*e*P		**P**	**11 21 51.1**	**+1.9**
	comp=Z,44nm,2.5s							
RPZ	**Rata Peaks**	**29.84**	**174**	P		**P**	**11 21 55.9**	**-0.6**
	comp=Z,9.0nm,0.7s,baz=12,slow=9.3,SNR=3.6							
RPZ				LR		LR	11 32 37.8	
	comp=Z,445nm,19.5s,baz=22,slow=34							
DCZ	**Deep Cove**	**31.36**	**179**	*e*P		P	11 22 13.3	+3.5
	comp=Z,47nm,1.2s							
WRAB	**Tennant Creek**	**31.39**	**255**	*e*P		**P**	**11 22 10.8**	**+0.2**
WRAB				*e*			11 25 04.4	
WRAB					pmax	pmax		
	comp=Z,13nm,1.1s							
WRAB	**Tennant Creek**	**31.39**	**255**	*e*P		**P**	**11 22 10.8**	**+0.2**
	comp=Z,13nm,1.1s							
WRAB				*e*PcP		**PcP**	**11 25 04.4**	**+0.8**
WRA	**Warramunga Arr**	**31.41**	**255**	P		**P**	**11 22 10.4**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=86,slow=9.1,SNR=15							
WRA				PcP		**PcP**	**11 25 03.9**	**+0.2**
	comp=Z,1.9nm,1.0s,baz=80,slow=3.6,SNR=5.1							
WRA				ScP		**ScP**	**11 28 46.2**	**+2.7**
	comp=Z,1.7nm,1.2s,baz=81,slow=3.7,SNR=4.2							
WRA				PKiKP		**PKiKP**	**11 32 30.9**	**-2.4**
	comp=Z,0.3nm,0.6s,baz=5.0,slow=0.5,SNR=7.5							
WRA				LR		LR	11 33 59.0	
	comp=Z,1μm,21.0s,baz=85,slow=35							
AS01	**Alice Springs**	**32.31**	**248**	*e*P		**P**	**11 22 18.7**	**+0.1**
AS31	**Alice Springs**	**32.35**	**248**	*e*P		**P**	**11 22 19.6**	**+0.5**
ASAR	**Alice Springs**	**32.35**	**248**	P		**P**	**11 22 18.6**	**-0.4**
	comp=Z,3.0nm,0.6s,baz=74,slow=9.3,SNR=38							
ASAR				ScP		**ScP**	**11 28 49.5**	**+2.8**
	comp=Z,1.4nm,1.0s,baz=120,slow=3.0,SNR=6.4							
ASAR				PKiKP		**PKiKP**	**11 32 31.6**	**-2.3**
	comp=Z,0.2nm,0.6s,baz=83,slow=1.2,SNR=4.9							
ASAR				LR		LR	11 35 10.9	
	comp=Z,735nm,18.4s,baz=74,slow=36							
GUMO	**Guam**	**34.89**	**321**	LR		LR	11 35 41.2	
	comp=Z,551nm,21.3s,baz=133,slow=34							
PPT2	**Papeete2**	**42.22**	**101**	*e*LQ		LQ	11 33 58.9	
	comp=Z,874nm,28.8s							
PPT2				*e*LR		LR	11 35 49.6	
	comp=Z,928nm,25.0s,baz=271							
PPT	**Papeete**	**42.22**	**101**	LR		LR	11 40 06.2	
	comp=Z,309nm,18.0s,baz=280,slow=35							
TBI	**Tubuai**	**42.48**	**109**	*e*S		S	11 30 22.5	+19
	comp=Z,180nm,24.8s							
TBI				*e*LQ		LQ	11 34 04.9	
	comp=Z,641nm,26.0s							
TBI				*e*LR		LR	11 36 34.4	
	comp=Z,1μm,23.5s,baz=283							
KAPI	**Kappang**	**47.01**	**276**	P		**P**	**11 24 21.4**	**+0.5**
	comp=Z,2.4nm,0.2s,baz=56,slow=12,SNR=3.9							
NWAO	**Narrogin (SRO)**	**48.59**	**238**	P		**P**	**11 24 32.8**	**-0.1**
	comp=Z,10nm,1.0s,baz=147,slow=9.6,SNR=2.9							
KKM	**Kota Kinabalu**	**53.85**	**288**	*e*P		P	11 25 08.9	-3.8
	comp=Z,26nm,1.0s							
RKT	**Rikitea**	**55.79**	**109**	*e*S		S	11 33 27.8	+17
	comp=Z,153nm,24.8s							
RKT				*e*LR		LR	11 42 03.0	
	comp=Z,522nm,28.0s							
MJAR	**Matsushiro Arr**	**57.00**	**333**	P		**P**	**11 25 33.8**	**-1.0**
	comp=Z,6.1nm,1.0s,baz=162,slow=7.0,SNR=15							
MAJO	**Matsushiro**	**57.00**	**333**	⇓*e*P		**P**	**11 25 35.2**	**+0.4**
MAJO					pmax	pmax		
	comp=Z,119nm,2.0s							
MAJO	**Matsushiro**	**57.00**	**333**	*e*P		**P**	**11 25 33.8**	**-1.0**
	comp=Z,22nm,1.4s							
MAT	**Matsushiro**	**57.00**	**333**	P		**P**	**11 25 32.5**	**-2.3**
MAT				S		**S**	**11 33 28.4**	**+2.1**
KSM	**Kuching**	**57.87**	**281**	P		**P**	**11 25 41.5**	**0.0**
	comp=Z,15nm,1.4s							
JNU	**Nakatsue**	**57.99**	**325**	LR		LR	11 47 22.8	
	comp=Z,116nm,21.4s,baz=146,slow=33							
ASAJ	**Asahikawa**	**61.87**	**341**	P		**P**	**11 26 07.5**	**-0.7**
	comp=Z,5.0nm,0.8s,baz=158,slow=11,SNR=4.8							
KSRS	**Korea Array**	**62.81**	**326**	P		**P**	**11 26 14.9**	**+0.2**
	comp=Z,1.9nm,0.9s,baz=142,slow=7.1,SNR=8.8							
KSAR	**Wonju Array Be**	**62.82**	**326**	P		**P**	**11 26 14.9**	**+0.1**
KSAR	**Wonju Array Be**	**62.82**	**326**	P		**P**	**11 26 14.9**	**+0.1**
VNDA	**Vanda**	**63.55**	**181**	P		**P**	**11 26 18.8**	**-0.3**
	comp=Z,2.9nm,0.8s,baz=1.0,slow=7.3,SNR=20							
VNDA				LR		LR	11 50 30.0	
	comp=Z,190nm,19.8s,baz=12,slow=33							
VNDA	**Vanda**	**63.55**	**181**	*e*P		**P**	**11 26 19.4**	**+0.3**
VNDA					pmax	pmax		
	comp=Z,8.0nm,1.0s							
VNDA	**Vanda**	**63.55**	**181**	*e*P		**P**	**11 26 19.4**	**+0.3**
	comp=Z,7.7nm,1.0s							
SBA	**Scott Base**	**63.84**	**180**	*e*P		**P**	**11 26 22.5**	**+1.6**
SBA					pmax	pmax		
	comp=Z,21nm,0.8s							
SBA	**Scott Base**	**63.84**	**180**	*e*P		**P**	**11 26 22.5**	**+1.6**
	comp=Z,20nm,0.8s							
YSS	**Yuzh-Sakhalins**	**64.37**	**342**	*e*P		**P**	**11 26 26.0**	**+1.3**
YSS				*e*			11 26 39.8	
YSS					MLR	MLR		
	comp=Z,200nm,18.0s							
NJ2	**Nanjing**	**64.74**	**316**	*e*P		**P**	**11 26 27.3**	**-0.2**
NJ2					PMZ			
	comp=Z,50nm,0.8s							
QIZ	**Qiongzhong**	**64.86**	**299**	P		**P**	**11 26 28.3**	**-0.2**
QIZ				S		**S**	**11 35 08.0**	**+1.0**
QIZ					PMZ			
	comp=Z,17nm,1.9s							
QIZ				LZ				
	comp=Z,180nm,30.5s							
USRK	**Ussuriysk Ar.**	**65.98**	**333**	P		**P**	**11 26 34.7**	**-0.6**
	comp=Z,9.7nm,1.0s,baz=150,slow=6.1,SNR=21							
PET	**Petropavlovsk**	**67.12**	**355**	*e*P		**P**	**11 26 43.8**	**+1.4**
PET				*e*S		**S**	**11 35 36.4**	**+3.1**
PETK	**Petropavlovsk-**	**67.30**	**354**	P		**P**	**11 26 42.9**	**-0.7**
	comp=Z,1.6nm,0.4s,baz=145,slow=5.3,SNR=4.2							
PETK				LR		LR	11 50 54.6	
	comp=Z,114nm,21.6s,baz=177,slow=31							
MDJ	**Mudanjiang**	**67.37**	**332**	P		**P**	**11 26 46.3**	**+2.2**
MDJ				S		**S**	**11 35 40.0**	**+3.4**
MDJ					PMZ			
	comp=Z,9.0nm,0.9s							
MDJ					PMZ			
	comp=Z,74nm,5.6s							
MDJ				LN				
	comp=Z,90nm,20.4s							
MDJ				LE				
	comp=Z,100nm,16.6s							
MDJ				LZ				
	comp=Z,150nm,16.6s							
CN2	**Changchun**	**68.72**	**329**	*e*P		**P**	**11 26 54.3**	**+1.6**
CN2					PMZ			
	comp=Z,20nm,0.8s							
CN2					PMZ			
	comp=Z,100nm,4.0s							
SKNT	**Sakolnakorn**	**69.09**	**295**	P		P	11 27 05.3	+10
	comp=Z,17nm,1.4s,comp=Z,2μm							
KLR	**Kul'dur**	**70.11**	**337**	*e*P		P	11 26 57.8	-3.3
GYA	**Guiyang**	**70.81**	**305**	P		**P**	**11 27 07.3**	**+1.3**
GYA				pP		**pP**	**11 27 18.3**	**-0.4**
GYA				sP		**sP**	**11 27 22.0**	**-1.6**
GYA				PP		**PP**	**11 29 45.5**	**+2.0**
GYA				S		**S**	**11 36 18.5**	**+0.2**
GYA				sS		**sS**	**11 36 36.0**	**-3.3**
GYA				SKS		**SKSac**	**11 37 01.8**	**-3.5**
GYA				SS		**SS**	**11 40 53.0**	**+1.4**
GYA					PMZ			
	comp=Z,20nm,1.0s							
GYA					PMZ			
	comp=Z,120nm,5.4s							
GYA				LN				
	comp=Z,480nm,20.5s							
GYA				LE				
	comp=Z,440nm,23.2s							
GYA				LZ				
	comp=Z,490nm,24.6s							
BJI	**Beijing**	**71.33**	**321**	P		**P**	**11 27 10.0**	**+1.3**
BJI				S		**S**	**11 36 26.0**	**+2.5**
BJI				SS		**SS**	**11 41 02.0**	**+3.2**
BJI					PMZ			
	comp=Z,8.0nm,0.7s							
BJI					PMZ			
	comp=Z,130nm,3.9s							
BJI				LN				
	comp=Z,230nm,19.7s							
BJI				LE				
	comp=Z,110nm,16.0s							
BJI				LZ				
	comp=Z,140nm,27.8s							
XAN	**Xi'an**	**72.76**	**313**	P		**P**	**11 27 18.0**	**+0.5**
XAN					PMZ			
	comp=Z,2.0nm,1.0s							
KMI	**Kunming**	**73.41**	**302**	P		**P**	**11 27 24.5**	**+2.7**
KMI				pP		**pP**	**11 27 32.3**	**-2.2**
KMI				sP		**sP**	**11 27 37.0**	**-2.4**
KMI				S		**S**	**11 36 46.8**	**-1.6**
KMI				sS		**sS**	**11 37 07.3**	**-2.3**
KMI					PMZ			
	comp=Z,9.0nm,1.0s							
KMI					PMZ			
	comp=Z,58nm,3.4s							
KMI				LN				
	comp=Z,66nm,15.1s							
KMI				LE				
	comp=Z,130nm,18.4s							
KMI				LZ				
	comp=Z,140nm,24.2s							
LAMP	**Lampang**	**73.51**	**294**	P		Px	11 27 42.6	
	comp=Z,4.2nm,1.0s							
CMAR	**Chiang Mai Arr**	**74.10**	**294**	P		**P**	**11 27 26.2**	**+0.5**
	comp=Z,1.2nm,0.4s,baz=121,slow=4.6,SNR=12							
CMAR				LR		LR	12 01 48.4	
	comp=Z,52nm,18.4s,baz=140,slow=37							
CMMT	**Chiang Mai**	**74.22**	**294**	P		Px	11 27 44.0	
	comp=Z,10nm,1.6s							
CHTO	**Chiang Mai**	**74.22**	**294**	P		Px	11 27 44.0	
	comp=Z,40nm,1.4s							
CHTO	**Chiang Mai**	**74.22**	**294**	*e*P		**P**	**11 27 25.4**	**-1.0**
CHTO	**Chiang Mai**	**74.22**	**294**	*e*P		**P**	**11 27 25.4**	**-1.0**
CMAI	**Chiengmai2**	**74.54**	**296**	P		Px	11 27 47.4	
HHC	**Hu-ho-hao-te**	**74.65**	**320**	*e*P		**P**	**11 27 30.0**	**+1.5**
HHC				S		**S**	**11 37 02.3**	**+0.8**
HHC				sS		**sS**	**11 37 20.8**	**-1.9**
HHC				SS		**SS**	**11 41 52.0**	**+2.2**
HHC					PMZ			
	comp=Z,23nm,0.8s							
HHC					PMZ			
	comp=Z,91nm,4.4s							
HHC				LN				
	comp=Z,190nm,13.6s							
HHC				LE				
	comp=Z,190nm,16.0s							
HHC				LZ				
	comp=Z,180nm

SONM				LR	LR	12 02 09.3	
	comp=Z,104nm,21.9s,baz=104,slow=34						
SONA1	**Songino Array**	**81.56**	**324**	*e*P	**P**	**11 28 06.9**	**+0.1**
GTA	**Gaotai**	**81.73**	**314**	P	**P**	**11 28 10.0**	**+2.2**
GTA				pP	**pP**	**11 28 19.0**	**-1.7**
GTA				sP	**sP**	**11 28 23.0**	**-2.6**
GTA				PMZ			
	comp=Z,15nm,1.0s						
BILL	**Bilibino**	**81.84**	**360**	*e*P	**P**	**11 28 07.5**	**-0.1**
BILL				pmax	pmax		
	comp=Z,19nm,1.3s						
BILL	**Bilibino**	**81.84**	**360**	*e*P	**P**	**11 28 07.5**	**-0.1**
	comp=Z,19nm,1.3s						
MAW	**Mawson**	**82.30**	**202**	P	**P**	**11 28 11.0**	**+0.8**
	comp=Z,5.7nm,0.8s,baz=137,slow=5.1,SNR=5.0						
MAW				LR	LR	11 58 49.0	
	comp=Z,275nm,21.5s,baz=64,slow=31						
MAW	**Mawson**	**82.30**	**202**	P	**P**	**11 28 11.0**	**+0.8**
TRF	**Thorofare Moun**	**84.06**	**18**	*e*P	**P**	**11 28 19.4**	**0.0**
RND	**Reindeer**	**84.46**	**18**	*e*P	**P**	**11 28 22.0**	**+0.7**
RND	**Reindeer**	**84.46**	**18**	*e*P	**P**	**11 28 22.0**	**+0.7**
ZAK	**Zakamensk**	**84.62**	**325**	*e*P	**P**	**11 28 21.0**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
TLY	**Talaya**	**85.06**	**326**	*e*P	**P**	**11 28 25.0**	**+0.5**
TLY				*e*S	**S**	**11 38 45.0**	**-5.7**
TLY				pmax	pmax		
	comp=Z,11nm,1.0s						
TLY				MLR	MLR		
	comp=Z,109nm,19.0s						
TLY	**Talaya**	**85.06**	**326**	*e*P	**P**	**11 28 24.6**	**+0.1**
WRH	**Wood River Hil**	**85.47**	**18**	*e*P	**P**	**11 28 25.8**	**-0.5**
CCB	**Clear Creek Bu**	**85.68**	**18**	*e*P	**P**	**11 28 27.5**	**+0.2**
MDM	**Murphy Dome**	**85.78**	**18**	*e*P	**P**	**11 28 28.2**	**+0.4**
COLA	**College**	**85.83**	**18**	⇓*i*P	**P**	**11 28 28.3**	**+0.3**
COLA				pmax	pmax		
	comp=Z,12nm,0.9s						
ILAR	**Eielson Array**	**86.05**	**18**	P	**P**	**11 28 27.5**	**-1.6**
	comp=Z,2.2nm,0.5s,baz=239,slow=4.9,SNR=23						
ILAR				LR	LR	12 02 11.1	
	comp=Z,321nm,20.0s,baz=244,slow=32						
BELC	**Belle Mtn. Jos**	**87.58**	**54**	*e*P	**P**	**11 28 37.5**	**0.0**
TIXI	**Tiksi**	**89.16**	**349**	⇓*e*P	**P**	**11 28 43.3**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,8.0nm,2.5s						
TIXI	**Tiksi**	**89.16**	**349**	*e*P	**P**	**11 28 43.7**	**-0.1**
SYO	**Syowa Base**	**89.20**	**197**	⇑*e*P	**P**	**11 28 43.6**	**-0.7**
WMQ	**Urumqi**	**91.79**	**315**	*e*P	**P**	**11 28 58.0**	**+1.1**
WMQ				pP	**pP**	**11 29 08.5**	**-1.4**
WMQ				sP	**sP**	**11 29 12.5**	**-2.2**
WMQ				PP	**PP**	**11 32 37.5**	**+1.1**
WMQ				S	**S**	**11 39 53.0**	**-1.8**
WMQ				sS	**sS**	**11 40 12.0**	**-4.7**
WMQ				SS	**SS**	**11 46 01.3**	**-2.3**
WMQ				PMZ			
	comp=Z,11nm,0.9s						
WMQ				PMZ			
	comp=Z,13nm,4.6s						
WMQ				LN			
	comp=Z,51nm,20.0s						
WMQ				LE			
	comp=Z,120nm,21.2s						
WMQ				LZ			
	comp=Z,93nm,19.6s						
NVL	**N'lazarevskaya**	**93.66**	**188**	*e*P	**P**	**11 29 03.5**	**-1.5**
NVL				pmax	pmax		
	comp=Z,16nm,1.3s						
SNAA	**Sanae**	**94.22**	**183**	P	P	11 29 03.7	-3.9
SNAA	**Sanae**	**94.22**	**183**	*de*P	P	11 29 03.8	-3.9
SNAA				pmax	pmax		
	comp=Z,15nm,1.1s						
SNAA	**Sanae**	**94.22**	**183**	*e*P	P	11 29 03.7	-3.9
PDAR	**Pinedale Array**	**94.92**	**47**	LR	LR	12 06 18.3	
	comp=Z,128nm,19.2s,baz=285,slow=32						
MK31	**Makanchi Array**	**96.27**	**317**	*e*P	**P**	**11 29 17.1**	**-0.2**
MK31	**Makanchi Array**	**96.27**	**317**	*e*P	**P**	**11 29 17.1**	**-0.2**
MKAR	**Makanchi Array**	**96.27**	**317**	P	**P**	**11 29 16.9**	**-0.4**
	comp=Z,3.0nm,0.8s,baz=102,slow=5.6,SNR=26						
MKAR	**Makanchi Array**	**96.27**	**317**	*e*P	**P**	**11 29 17.6**	**+0.3**
MKAR	**Makanchi Array**	**96.27**	**317**	*e*P	**P**	**11 29 17.6**	**+0.3**
ZALV	**Zalesovo Beam**	**96.46**	**324**	P	**P**	**11 29 16.6**	**-1.3**
	comp=Z,2.9nm,0.7s,baz=104,slow=6.3,SNR=9.7						
ZALV				LR	LR	12 14 21.3	
	comp=Z,56nm,18.9s,baz=70,slow=36						
ZALV	**Zalesovo Beam**	**96.46**	**324**	*i* P	**P**	**11 29 18.0**	**+0.1**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.8s						
YKA	**Yellowknife Ar**	**97.20**	**27**	P	**P**	**11 29 20.1**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=260,slow=5.0,SNR=4.7						
KSH	**Kashi**	**99.28**	**308**	*e*P	**Pdif**	**11 29 32.5**	**+1.3**
KSH				pP	**pP**	**11 29 43.0**	**-1.2**
KSH				PP	**PP**	**11 33 37.5**	**+2.8**
KSH				S	**S**	**11 40 58.0**	**-2.0**
KSH				PMZ			
	comp=Z,96nm,5.3s						
KSH				LN			
	comp=Z,200nm,8.3s						
KSH				LE			
	comp=Z,170nm,8.8s						
KSH				LZ			
	comp=Z,120nm,5.4s						
KURK	**Kurchatov**	**99.46**	**320**	P	**Pdif**	**11 29 30.7**	**-0.8**
KURK	**Kurchatov**	**99.46**	**320**	P	**Pdif**	**11 29 30.7**	**-0.8**
KURBB	**Kurchatov Arra**	**99.50**	**320**	P	**Pdif**	**11 29 30.7**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=104,slow=4.1,SNR=3.1						
ARCES	**ARCESS Array B**	**119.42**	**345**	PKP	**PKPdf**	**11 34 36.3**	**-1.3**
	comp=Z,1.5nm,0.3s,baz=83,slow=2.0,SNR=64						
KLMR	**Klimovskoe**	**119.78**	**333**	PKIKP	**PKPdf**	**11 34 34.8**	**-3.7**
KLMR				pmax	pmax		
	comp=Z,12nm,1.8s						
OBN	**Obninsk**	**123.78**	**328**	⇑*i*PKIKP	**PKPdf**	**11 34 46.7**	**+0.4**
OBN				*e*		11 36 30.7	
OBN				*e*		11 41 48.4	
OBN				pmax	pmax		
	comp=Z,9.0nm,0.6s						
OBN				MLR	MLR		
	comp=Z,89nm,24.0s						
KIV	**Kislovodsk**	**123.91**	**314**	⇑*i*PKIKP	**PKPdf**	**11 34 47.8**	**+0.6**
KIV				*e*		11 36 30.6	
KIV				*e*PPP	PPP	11 39 07.2	
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
FINES	**FINESS Array B**	**124.84**	**338**	PKP	**PKPdf**	**11 34 47.0**	**-1.2**
	comp=Z,1.7nm,0.5s,baz=93,slow=1.2,SNR=19						
FINES	**FINESS Array B**	**124.84**	**338**	*c i*PKIKP	**PKPdf**	**11 34 47.0**	**-1.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KMBO	**Kilima Mbogo**	**127.66**	**257**	*c i*PKIKP	**PKPdf**	**11 34 56.2**	**+0.8**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NB2	**NORSAR Subarra**	**129.78**	**345**	PKPdf	**PKPdf**	**11 34 57.7**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**129.78**	**345**	PKP	**PKPdf**	**11 34 57.3**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=33,slow=2.0,SNR=4.7						
NOA				SKPbc	SKPbc	11 38 19.6	+2.9
	comp=Z,2.4nm,1.0s,baz=32,slow=3.1,SNR=3.7						
AKASG	**Malin Array Be**	**129.81**	**326**	PKP	**PKPdf**	**11 34 56.9**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=58,slow=2.5,SNR=7.4						
AKASG				SKPbc	SKPbc	11 38 19.6	+2.5
	comp=Z,0.3nm,0.4s,baz=51,slow=3.8,SNR=6.6						
KIEV	**Kiev**	**129.82**	**326**	⇓*i*PKIKP	**PKPdf**	**11 34 59.0**	**+0.9**
BRTR	**Keskin Array B**	**131.58**	**311**	PKP	**PKPdf**	**11 35 01.5**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=90,slow=4.3,SNR=3.7						
BRTR				SKPbc	**SKPab**	**11 38 27.4**	**+2.7**
	comp=Z,0.9nm,0.7s,baz=56,slow=3.1,SNR=7.9						
MLR	**Muntele Rosu**	**134.37**	**321**	SKPbc	**SKPab**	**11 38 37.1**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=90,slow=2.0,SNR=3.3						
KOLS	**Kolonicke sedl**	**134.52**	**327**	*e*PKIKP	**PKPdf**	**11 35 08.5**	**+1.5**
KOLS	**Kolonicke sedl**	**134.52**	**327**	*e*PKP	**PKPdf**	**11 35 08.5**	**+1.5**
KSL	**Kastellorizon**	**135.75**	**308**	*e*P	PKPdf	11 35 19.3	+10
ARG	**Arkhangelos**	**136.85**	**308**	*e*P	**PKPdf**	**11 35 12.7**	**+0.9**
BRG	**Berggiesshubel**	**137.11**	**335**	*e*P	**SKPbc**	**11 38 44.8**	**+3.3**
	comp=Z,9.3nm,1.3s						
CLL	**Collm**	**137.16**	**336**	*e*PKPdf	**PKPdf**	**11 35 12.0**	**+0.2**
	comp=Z,5.0nm,1.2s						
CLL				*e*SKPdf	**SKPdf**	**11 38 45.0**	**+1.5**
	comp=Z,10.0nm,1.5s						
CLL				*e*PPS	PPS	11 50 24.0	
CLL				LmV		12 37 00.0	
	comp=Z,100nm,19.9s						
CLL	**Collm**	**137.16**	**336**	*e*PKIKP	**PKPdf**	**11 35 12.0**	**+0.2**
CLL				pmax	pmax		
	comp=Z,5.0nm,1.2s						
KARP	**Karpathos**	**137.81**	**308**	*e*P	**PKPdf**	**11 35 16.0**	**+2.4**
BFO	**Black Forest**	**141.36**	**337**	*i* PKIKP	**PKPdf**	**11 35 23.3**	**+3.6**
CEL	**Celeste**	**144.59**	**318**	*e*PKPdf	**PKPab**	**11 35 23.9**	**-0.4**
BNI	**Bardonecchia**	**144.70**	**335**	*e*PKIKP	**PKPdf**	**11 35 25.9**	**+0.1**
BNI	**Bardonecchia**	**144.70**	**335**	*e*PKPdf	**PKPdf**	**11 35 25.9**	**+0.1**
PLDF	**La Plantade**	**145.08**	**339**	PKP	**PKPdf**	**11 35 27.1**	**+0.7**
AGO	**Saint Agoulin**	**145.17**	**340**	PKP	**PKPdf**	**11 35 28.3**	**+1.8**
SAOF	**Saorge**	**145.19**	**333**	PKP	**PKPbc**	**11 35 25.8**	**-0.4**
AUTN	**L'Aution**	**145.24**	**333**	PKP	**PKPbc**	**11 35 25.6**	**-1.0**
TOUF	**Mont Tournerai**	**145.30**	**333**	PKP	**PKPbc**	**11 35 26.0**	**-0.7**
SSB	**Saint Sauveur**	**145.34**	**338**	*e*PKIKP	**PKPdf**	**11 35 27.7**	**+0.9**
SSB	**Saint Sauveur**	**145.34**	**338**	*e*PKPbc	**PKPdf**	**11 35 27.7**	**+0.9**
MVIF	**Mont Vial**	**145.43**	**333**	PKP	**PKPbc**	**11 35 26.9**	**-0.2**
REVF	**Revere**	**145.47**	**333**	PKP	**PKPbc**	**11 35 26.0**	**-1.1**
PYM	**Petit Puy Mans**	**145.48**	**340**	PKP	**PKPab**	**11 35 28.1**	**+0.8**
CALN	**Calern**	**145.66**	**334**	PKP	**PKPdf**	**11 35 25.7**	**-1.8**
LBL	**Lubilhac**	**145.85**	**339**	PKP	**PKPbc**	**11 35 28.4**	**+0.1**
SHEL	**Horse Pasture**	**149.27**	**194**	*i* PKP2	**PKPab**	**11 35 40.9**	**-2.0**
KEST	**Kesra**	**150.27**	**321**	PKPbc	**PKPbc**	**11 35 38.8**	**-1.6**
	comp=Z,8.0nm,0.8s,baz=290,slow=3.1,SNR=12						
KEST	**Kesra**	**150.27**	**321**	*e*PKPbc	**PKPbc**	**11 35 41.7**	**+1.3**
CMAH	**Djebel Manchou**	**150.81**	**324**	P	PKPab	11 35 57.9	+9.1
ABSA	**Djebel Ababsia**	**151.02**	**324**	P	PKPab	11 35 58.8	+9.0
CKFL	**Kef-Lekhel**	**151.36**	**325**	P	PKPab	11 35 59.2	+8.0
CASM	**Ain Smara**	**151.59**	**325**	P	PKPab	11 35 59.8	+7.7
DFRA	**Djebel Bou Aff**	**151.72**	**326**	P	PKPab	11 36 00.0	+7.3
PBRG	**Braganca**	**151.72**	**350**	*e*PKPbc	**PKPbc**	**11 35 44.0**	**+0.4**
PGAV	**Gavieira, Arco**	**151.81**	**352**	*e*PKPbc	**PKPbc**	**11 35 44.4**	**+0.5**
POLO	**Lamas de Olo**	**152.32**	**351**	*e*PKPbc	**PKPbc**	**11 35 45.7**	**+0.7**
MVO	**Moncorvo**	**152.40**	**350**	*e*PKPbc	**PKPbc**	**11 35 45.6**	**+0.4**
PVRL	**Vila Real**	**152.40**	**351**	*e*PKPbc	**PKPbc**	**11 35 45.3**	**+0.1**
ESDC	**Sonseca Array**	**153.14**	**344**	PKPbc	**PKPbc**	**11 35 45.9**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=28,slow=1.7,SNR=9.7						
MTE	**Manteigas**	**153.23**	**350**	*e*PKPbc	**PKPbc**	**11 35 47.1**	**+0.1**
PBAR	**Barrancos**	**155.30**	**348**	*e*PKPdf	**PKPdf**	**11 35 43.2**	**+0.8**
TORD	**Torodi Ar. Bea**	**165.33**	**268**	PKP	**PKPdf**	**11 35 52.6**	**-1.6**
	comp=Z,3.6nm,1.0s,baz=85,slow=2.0,SNR=12						
TORD				PKPab	**PKPab**	**11 36 52.1**	**0.0**
	comp=Z,2.1nm,0.9s,baz=85,slow=2.0,SNR=5.6						

*IDC **29** 11:26:33.5±1.8,9°.10N×126°.95E,h0km,mb3.9/7,*
mb1 3.9/7,mb1mx3.6/25,mbtmpb3.9/7,MS3.9/1,Ms1 3.9/1,
ms1mx2.7/36,Error ellipse: s-maj=184.7km s-min=24.2km
az=69.0

ISC 29 11:26:38.5±1.1,8°.86N±0°.08×127°.0E±0°.1,h38km,n11,
σ1§46/12,mb4.1/7,1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
BIPH	**Bislig**	**0.92**	**223**	⇑*i*P		**Pn**	**11 26 53.5**	**-1.4**
BIPH				*i* S		**Sn**	**11 27 07.1**	**+0.3**
SCPH	**Surigao**	**1.74**	**302**	*e*P		**Pn**	**11 27 07.2**	**+1.0**
TBP	**Tagbilaran**	**3.20**	**285**	*e*P		**Pn**	**11 27 27.4**	**+1.1**
TBP				*e*S		Sn	11 28 08.3	+5.1
ASAR	**Alice Springs**	**33.02**	**168**	P		**P**	**11 33 12.9**	**+2.5**
	0.4nm,0.8s,baz=346,slow=7.7,SNR=4.0							
ASAR				PcP		**PcP**	**11 35 55.2**	**+1.5**
	0.2nm,0.9s,baz=347,slow=2.9,SNR=2.9							
SONM	**Songino Array**	**42.58**	**339**	P		**P**	**11 34 29.9**	**-1.0**
	0.5nm,0.5s,baz=148,slow=8.5,SNR=5.1							
YAK	**Yakutsk**	**53.11**	**2**	LR		LR	11 59 45.2	
	comp=Z,117nm,21.5s,baz=148,slow=38							
MKAR	**Makanchi Array**	**53.58**	**323**	P		**P**	**11 35 54.6**	**-1.1**
	1.5nm,0.7s,baz=113,slow=7.1,SNR=14							
ZALV	**Zalesovo Beam**	**56.20**	**331**	P		**P**	**11 36 13.6**	**-1.0**
	1.0nm,0.4s,baz=138,slow=5.9,SNR=3.0							
KURBB	**Kurchatov Arra**	**57.63**	**326**	P		**P**	**11 36 23.9**	**-0.8**
	1.0nm,0.4s,baz=123,slow=7.0,SNR=12							
BVAR	**Borovoye Array**	**63.23**	**326**	P		**P**	**11 37 02.4**	**-0.6**
	0.5nm,0.5s,baz=108,slow=9.3,SNR=3.9							
FINES	**FINESS Array B**	**87.46**	**332**	P		**P**	**11 39 20.5**	**-1.4**
	0.9nm,0.6s,baz=90,slow=5.7,SNR=4.6							

*ISCJB **29** 11:35:31.0±0.9,32°.12N±0°.04×115°.16W±0°.06,h12km±9km,*
Error ellipse: s-maj=9.8km s-min=6.1km az=155.5
*ECX **29** 11:35:32.5±0.6,32°.12N×115°.20W,h9km,MD2.6,ML2.8*
*MEX **29** 11:35:33.1±0.8,32°.20N×115°.11W,h16km±999km,MD3.5*

ISC 29 11:35:31.0±1.0,32°.10N±0°.04×115°.20W±0°.06,
h15km±11km,n17,σ0§53/24,6C-1D,California-Baja
California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
MBIG	**Mexicali**	**0.30**	**1**	*e*P		**Pg**	**11 35 38.1**	**+0.7**
MBIG				*e*S		**Sg**	**11 35 40.5**	**-1.3**
CPBX	**Cerro Prieto**	**0.33**	**345**	*e*P9		**Pg**	**11 35 38.2**	**+0.4**
CPBX				*e*S		**Sg**	**11 35 42.9**	**+0.4**
CPBX				⇓*e*			11 35 45.8	
CPBX				IAML			11 35 45.8	
	comp=N,3μm,0.1s							
CPBX				IAML			11 35 46.8	
	comp=E,3μm,0.3s							
CPBX				⇑*e*			11 35 46.8	
ECBX	**El Chinero**	**0.64**	**168**	*e*P9		**Pg**	**11 35 43.3**	**-0.3**
ECBX				*e*S		**Sg**	**11 35 52.5**	**+0.4**
RDX	**Rancho Dawling**	**0.65**	**255**	*e*P		**Pb**	**11 35 44.7**	**+0.4**
RDX				*e*S		**Sb**	**11 35 53.7**	**+0.5**
EMSC	**East Mesa**	**0.66**	**16**	⇑*i*P		**Pg**	**11 35 44.0**	**0.0**
SGL	**Mount Signal**	**0.70**	**321**	⇑*i*P		**Pg**	**11 35 44.7**	**-0.1**
ERPC	**Ernies Place**	**0.75**	**329**	*e*P2		**Pg**	**11 35 45.6**	**0.0**
WESC	**Westside Schoo**	**0.79**	**326**	*e*P		**Pg**	**11 35 46.4**	**-0.1**
YUH	**Yuha Desert**	**0.82**	**312**	*e*P2		**Pg**	**11 35 46.2**	**-0.7**
RMX	**La Rumorosa**	**0.89**	**304**	*e*P		**Pg**	**11 35 47.8**	**-0.6**
RMX				*e*S		**Sg**	**11 35 59.9**	**-0.2**
RMX				⇑*e*			11 36 00.9	
RMX				IAML			11 36 00.9	
	comp=N,290nm,0.1s							
SPIG	**San Pedro Mart**	**1.08**	**192**	⇑*e*P		**Pb**	**11 35 51.2**	**-0.4**
SPIG	**San Pedro Mart**	**1.08**	**192**	*e*P		**Pb**	**11 35 51.7**	**+0.1**
SPX	**San Pedro Mart**	**1.08**	**192**	*e*P		**Pb**	**11 35 51.4**	**-0.1**
ZAX	**El Zacaton**	**1.08**	**238**	*e*P		**Pb**	**11 35 51.3**	**-0.2**
ZAX				*e*S		**Sg**	**11 36 06.7**	**+0.5**
CBX	**Cerro Bola**	**1.26**	**280**	*e*P		**Pn**	**11 35 53.6**	**-0.5**
CBX	**Cerro Bola**	**1.26**	**280**	*e*P		**Pn**	**11 35 53.6**	**-0.5**
CBX				*e*S		**Sn**	**11 36 11.5**	**+0.6**
CBX				IAML			11 36 12.2	
	comp=E,218nm,0.4s							
CBX				⇑*e*			11 36 12.2	
CBX				IAML			11 36 13.7	
	comp=N,259nm,0.3s							
ECNX	**Esteban Cantu**	**1.27**	**250**	*e*P		**Pn**	**11 35 54.4**	**+0.1**

*IDC **29** 11:46:48.4±1.3,16°.46N×146°.19E,h0km,mb3.8/9,*
mb1 4.1/10,mb1mx3.8/27,mbtmpb3.8/10,ML3.1/1,Error
ellipse: s-maj=31.1km s-min=25.7km az=148.0
*NEIC **29** 11:46:50.1±0.6,16°.49N×145°.73E,h10km,mb4.4/12,Error*
ellipse: s-maj=16.3km s-min=15.3km az=161.0

ISC 29 11:46:53.8±0.8,16°.4N±0°.1×146°.0E±0°.2,h35km,n40,
σ1§18/35,mb4.2/21,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
GUMO	**Guam**	**3.00**	**201**	Pn		**Pn**	**11 47 39.1**	**+0.3**
	2.1nm,0.3s,baz=162,slow=20,SNR=5.1							
GUMO				Sn		Sn	11 48 27.2	+14
	1.8nm,0.3s,baz=198,slow=20,SNR=3.5							
GUMO	**Guam**	**3.00**	**201**	*e*Pn		**Pn**	**11 47 37.9**	**-1.0**
H11N1	**WAKE ISLAND Hy**	**20.17**	**77**	H		H	12 12 16.4	
	baz=268							
H11N2	**WAKE ISLAND Hy**	**20.18**	**77**	H		H	12 12 16.7	
	baz=268,SNR=214							
H11N3	**WAKE ISLAND Hy**	**20.18**	**77**	H		H	12 12 17.6	
	baz=268							
MJAR	**Matsushiro Arr**	**21.20**	**343**	P		**P**	**11 51 37.5**	**+1.2**
	2.6nm,1.1s,baz=144,slow=8.5,SNR=3.9							
KSRS	**Korea Array**	**26.32**	**326**	P		**P**	**11 52 27.0**	**+0.6**
	1.2nm,0.9s,baz=154,slow=9.7,SNR=7.0							
KS01	**Wonju Array Si**	**26.36**	**326**	*e*P		**P**	**11 52 26.4**	**-0.2**
BJT	**Baijiatuan**	**34.96**	**318**	*e*P		**P**	**11 53 42.1**	**-0.6**
CM01	**Chiang Mai Arr**	**44.80**	**280**	*e*P		**P**	**11 55 05.4**	**+0.8**
CMAR	**Chiang Mai Arr**	**44.81**	**280**	P		**P**	**11 55 06.6**	**+1.9**
	4.3nm,1.1s,baz=74,slow=6.6,SNR=12							
SONM	**Songino Array**	**45.09**	**323**	P		**P**	**11 55 06.8**	**+0.2**
	0.9nm,1.0s,baz=142,slow=5.4,SNR=3.5							
SONA1	**Songino Array**	**45.09**	**323**	*e*P		**P**	**11 55 05.6**	**-1.1**
MK01	**Makanchi Array**	**60.22**	**315**	*e*P		**P**	**11 56 59.4**	**+0.9**
MK31	**Makanchi Array**	**60.23**	**315**	*e*P		**P**	**11 56 55.5**	**-3.1**
MKAR	**Makanchi Array**	**60.23**	**315**	P		**P**	**11 56 59.0**	**+0.5**
	0.7nm,0.7s,baz=99,slow=7.9,SNR=6.9							
KURK	**Kurchatov**	**63.14**	**319**	*e*P		P	11 57 14.7	-3.4
	5.1nm,1.2s							
KURBB	**Kurchatov Arra**	**63.18**	**319**	P		**P**	**11 57 17.9**	**-0.5**
	1.7nm,1.0s,baz=102,slow=7.0,SNR=7.8							
TKM2	**Tokmak 2**	**64.69**	**310**	*e*P		P	11 57 25.0	-3.7
	2.2nm,0.8s							
IL1	**Eielson Array**	**65.58**	**26**	*e*P		**P**	**11 57 31.9**	**-1.9**
ILAR	**Eielson Array**	**65.58**	**26**	P		**P**	**11 57 32.5**	**-1.2**
	1.1nm,1.0s,baz=245,slow=4.8,SNR=7.7							
DAWY	**Dawson**	**68.66**	**27**	*e*P		**P**	**11 57 52.5**	**-0.9**
HYT	**Haines Junctio**	**69.25**	**31**	*e*P		**P**	**11 57 57.9**	**+0.6**
DLBC	**Dease Lake**	**73.05**	**33**	*e*P		**P**	**11 58 21.5**	**+1.3**
YKA	**Yellowknife Ar**	**79.88**	**28**	P		**P**	**11 58 57.9**	**-0.8**
	1.2nm,0.9s,baz=287,slow=5.7,SNR=6.4							
YKB5	**Yellowknife Ar**	**79.88**	**28**	*e*P		**P**	**11 58 57.9**	**-0.8**
B08A	**Colville Reser**	**80.98**	**42**	*e*P		**P**	**11 59 06.9**	**+1.9**
NEW	**Newport**	**82.43**	**42**	*e*P		**P**	**11 59 13.8**	**+1.2**
	3.5nm,1.2s							
BMO	**Blue Mountains**	**83.26**	**45**	*e*P		**P**	**11 59 18.2**	**+1.1**
	4.5nm,1.3s							
BSMT	**Bassoo Peak**	**84.05**	**42**	*e*P		**P**	**11 59 22.8**	**+1.6**
NVAR	**Mina Array Bea**	**84.35**	**52**	P		**P**	**11 59 22.9**	**-0.1**
	0.2nm,0.3s,baz=262,slow=5.4,SNR=3.6							
JTMT	**Jette**	**84.41**	**42**	*e*P		**P**	**11 59 23.8**	**+0.9**
	3.5nm,1.2s							
SWMT	**Swartz Lake**	**84.67**	**42**	*e*P		**P**	**11 59 24.8**	**+0.5**
	2.4nm,1.1s							
SLMT	**Seeley Lake**	**85.08**	**42**	*e*P		**P**	**11 59 26.6**	**+0.2**
	4.9nm,1.1s							
CHMT	**Chamberlain Mo**	**85.34**	**43**	*e*P		**P**	**11 59 28.1**	**+0.3**
	1.4nm,1.1s							
HLID	**Hailey**	**85.63**	**46**	*e*P		**P**	**11 59 30.4**	**+1.2**
	3.6nm,1.2s							
LRM	**Limekiln Ridge**	**86.22**	**43**	*e*P		**P**	**11 59 32.1**	**-0.1**
MCMT	**McKenzie Canyo**	**86.29**	**44**	*e*P		**P**	**11 59 33.9**	**+1.4**
	1.7nm,1.3s							
DUG	**Dugway, Tooele**	**87.86**	**49**	*e*P		**P**	**11 59 41.7**	**+1.5**
	5.5nm,1.3s							
SMCO	**Snowmass**	**92.42**	**48**	*e*P		**P**	**12 00 02.3**	**+0.5**
	3.9nm,1.2s							

*MOS **29** 11:47:40.8±0.9,13°.91S×166°.65E,h33km,mb5.1/25,Error*
ellipse: s-maj=10.9km s-min=9.4km az=22.0
*ISCJB **29** 11:47:41.1±1.6,13°.97S±0°.05×166°.56E±0°.06,h34km±14km,*
mb4.7/39,MS4.1/16,Error ellipse: s-maj=10.8km
s-min=7.8km az=150.7
*GCMT **29** 11:47:42.4±0.3,14°.10S×166°.53E,h31km,MW5.0/50,*
Moment Tensor Solution. s48,c52; s50,c66; Duration:
0 Moment tensor: Scale 10^16^Nm; Mrr4.29±.20;
Mθθ-0.68±.15; Mϕϕ-3.61±.16; Mrθ1.31±.23; Mrϕ0.75±.11;
*Mθϕ-0.93±.18; Best double couple: M◎4.32600×10^16^*
NP1:ϕs357.00000°,δ55.00000°,λ77.00000°. NP2:
ϕs357.00000°,δ38.00000°,λ108.00000°. Principal axes:
T 4.6790, Plg76.0000°, Azm22.0000°; N -0.7010,
Plg11.0000°, Azm162.0000°; P -3.9740, Plg9.0000°,
Azm254.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s.
*NEIC **29** 11:47:42.4±0.2,13°.97S×166°.69E,h35km,mb4.9/20 Error*
ellipse: s-maj=7.8km s-min=6.1km az=135.0
*IDC **29** 11:47:43.0±1.8,14°.00S×166°.73E,h42km±15km,mb4.3/19,*
mb1 4.4/20,mb1mx4.2/42,mbtmpb4.5/20,ML4.1/1,MS4.1/15,
*Ms1 4.1/15,ms1mx3

MAT	Matsushiro	57.02	333	P		P	11 57 23.9	-0.9
JNU	Nakatsue	58.02	325	LR		LR	12 18 54.6	
	comp=Z,95nm,22.0s,baz=156,slow=32							
ASAJ	Asahikawa	61.88	340	P		P	11 57 58.2	+0.1
ASAJ	comp=Z,3.0nm,0.5s,baz=167,slow=6.3,SNR=5.0			LR		LR	12 20 26.2	
	comp=Z,159nm,21.5s,baz=174,slow=32							
KSRS	Korea Array	62.84	326	P		P	11 58 04.9	+0.2
	comp=Z,1.1nm,0.7s,baz=141,slow=6.1,SNR=4.3							
KSAR	Wonju Array Be	62.85	326	P		P	11 58 04.9	+0.1
KSAR	Wonju Array Be	62.85	326	P		P	11 58 04.9	+0.1
KS01	Wonju Array Si	62.88	326	eP		P	11 58 04.8	-0.2
VNDA	Vanda	63.58	181	P		P	11 58 09.0	-0.1
	comp=Z,1.2nm,0.7s,baz=359,slow=6.1,SNR=7.8							
VNDA	Vanda	63.58	181	eP		P	11 58 09.8	+0.7
VNDA	comp=Z,32nm,2.0s			pmax		pmax		
VNDA	Vanda	63.58	181	eP		P	11 58 09.8	+0.7
	comp=Z,32nm,2.0s							
SBA	Scott Base	63.87	180	eP		P	11 58 12.3	+1.3
SBA	comp=Z,16nm,1.2s			pmax		pmax		
SBA	Scott Base	63.87	180	eP		P	11 58 12.3	+1.3
	comp=Z,16nm,1.2s							
YSS	Yuzh-Sakhalins	64.37	342	eP		P	11 58 14.8	+0.2
NJ2	Nanjing	64.79	316	eP		P	11 58 18.5	+0.8
NJ2	comp=Z,50nm,0.8s			PMZ				
QIZ	Qiongzhong	64.93	299	P		P	11 58 20.5	+1.6
QIZ				S		S	12 07 00.0	+1.9
QIZ	comp=Z,21nm,2.0s			PMZ				
USRK	Ussuriysk Ar.	66.00	333	P		P	11 58 25.8	+0.5
	comp=Z,10nm,0.9s,baz=142,slow=5.8,SNR=28							
PETK	Petropavlovsk-	67.28	354	P		P	11 58 32.8	-0.5
	comp=Z,4.9nm,0.9s,baz=162,slow=8.0,SNR=10							
PETK				LR		LR	12 21 39.0	
	comp=Z,108nm,21.9s,baz=179,slow=30							
CN2	Changchun	68.75	329	eP		P	11 58 43.5	+0.8
CN2	comp=Z,20nm,1.3s			PMZ				
CN2				PMZ				
	comp=Z,130nm,4.0s							
PSI	Prapat	69.24	278	LR		LR	12 30 47.5	
	comp=Z,109nm,19.0s,slow=37							
KLR	Kul'dur	70.13	336	eP		P	11 58 48.2	-2.9
KLR	comp=Z,56nm,1.8s			pmax		pmax		
GYA	Guiyang	70.87	305	P		P	11 58 58.3	+2.0
GYA				pP		pP	11 59 09.5	+1.5
GYA				sP		sP	11 59 13.0	+0.5
GYA				PP		PP	12 01 38.3	+4.4
GYA				S		S	12 08 11.0	+1.7
GYA				sS		sS	12 08 28.5	-0.2
GYA				SKS		SKSac	12 08 52.3	-3.8
GYA				SS		SS	12 12 45.0	+2.3
GYA	comp=Z,20nm,1.0s			PMZ				
GYA				PMZ				
	comp=Z,120nm,5.2s							
GYA				LN				
	comp=Z,490nm,20.6s							
GYA				LE				
	comp=Z,460nm,23.4s							
GYA				LZ				
	comp=Z,450nm,24.2s							
XAN	Xi'an	72.81	313	P		P	11 59 08.3	+0.6
KMI	Kunming	73.48	302	P		P	11 59 13.5	+1.4
KMI				pP		pP	11 59 23.0	-0.8
KMI				sP		sP	11 59 28.0	-0.3
KMI	comp=Z,13nm,1.2s			PMZ				
KMI				PMZ				
	comp=Z,88nm,4.4s							
CMAR	Chiang Mai Arr	74.18	294	P		P	11 59 17.0	+1.0
	comp=Z,1.5nm,0.5s,baz=118,slow=5.2,SNR=7.2							
CMAR	Chiang Mai Arr	74.18	294	ceP		P	11 59 16.6	+0.6
CMAR	comp=Z,1.0nm,0.4s			pmax		pmax		
HHC	Hu-ho-hao-te	74.69	320	eP		P	11 59 20.8	+2.2
HHC				PP		PP	12 02 08.0	+1.8
HHC				S		S	12 08 55.0	+2.8
HHC	comp=Z,29nm,0.9s			PMZ				
HHC				PMZ				
	comp=Z,120nm,5.1s							
HHC				LN				
	comp=Z,190nm,14.8s							
HHC				LE				
	comp=Z,100nm,13.6s							
HHC				LZ				
	comp=Z,190nm,14.8s							
CD2	Chengdu	75.15	308	eP		P	11 59 22.3	+0.8
CD2				pP		pP	11 59 33.0	-0.3
CD2				sP		sP	11 59 37.3	-0.4
CD2				PP		PP	12 02 13.0	+2.7
CD2				S		S	12 08 57.3	-0.3
CD2				sS		sS	12 09 15.3	-1.9
CD2				SKS		SKSac	12 09 23.8	-4.2
CD2				SS		SS	12 13 49.5	+1.6
CD2	comp=Z,10.0nm,0.5s			PMZ				
CD2				PMZ				
	comp=Z,120nm,5.2s							
QSPA	South Pole Qui	76.03	180	P		P	11 59 25.7	-0.3
	comp=Z,7.5nm,0.8s,baz=2.9,slow=3.6,SNR=28							
QSPA	South Pole Qui	76.03	180	eP		P	11 59 26.3	+0.3
	comp=Z,7.2nm,0.8s							
LZH	Lanzhou	77.44	312	eP		P	11 59 36.5	+2.0
LZH				pP		pP	11 59 46.3	-0.1
LZH				sP		sP	11 59 50.0	-0.8
LZH	comp=Z,15nm,1.0s			PMZ				
LZH				PMZ				
	comp=Z,78nm,4.3s							
LZH				LN				
	comp=Z,260nm,17.0s							
LZH				LE				
	comp=Z,170nm,13.5s							
LZH				LZ				
	comp=Z,150nm,11.3s							
SEY	Seymchan	77.49	353	P		P	11 59 33.8	-0.2
	comp=Z,4.5nm,0.6s,baz=162,slow=5.3,SNR=37							
SEY	Seymchan	77.49	353	⇓iP		P	11 59 34.0	+0.1
CLNS	Chul'man	78.66	338	eP		P	11 59 40.9	+0.3
CLNS	comp=Z,13nm,0.9s			pmax		pmax		
CLNS				pmax		pmax		
	comp=N,9.0nm,1.1s							
CLNS				pmax		pmax		
	comp=E,5.0nm,0.8s							
YAK	Yakutsk	81.18	343	eP		P	11 59 52.4	-1.6
YAK	comp=Z,19nm,0.9s			pmax		pmax		
YAK				pmax		pmax		
	comp=N,8.0nm,1.1s							
ULN	Ulaanbaatar	81.24	324	eP		P	12 00 00.3	+5.4
ULN	comp=Z,14nm,1.1s			pmax		pmax		
ULN	Ulaanbaatar	81.24	324	eP		P	12 00 00.3	+5.4
	comp=Z,14nm,1.1s							
SONM	Songino Array	81.60	324	P		P	11 59 56.7	-0.1
	comp=Z,4.3nm,0.9s,baz=138,slow=6.1,SNR=14							
SONA1	Songino Array	81.60	324	eP		P	11 59 56.8	0.0
BILL	Bilibino	81.81	360	⇓eP		P	11 59 56.8	-0.5
BILL	comp=Z,10.0nm,1.7s			pmax		pmax		
MAW	Mawson	82.37	202	LR		LR	12 32 33.7	
	comp=Z,128nm,19.0s,baz=66,slow=33							
RND	Reindeer	84.40	18	eP		P	12 00 11.3	+0.4
RND	comp=Z,6.0nm,0.5s			pmax		pmax		
RND	Reindeer	84.40	18	eP		P	12 00 11.3	+0.4
	comp=Z,5.8nm,0.5s							
ZAK	Zakamensk	84.66	325	eP		P	12 00 11.3	-1.2
ZAK	comp=Z,12nm,1.3s			pmax		pmax		
TLY	Talaya	85.09	326	eP		P	12 00 14.2	-0.4
TLY	comp=Z,22nm,1.4s			pmax		pmax		
TLY	Talaya	85.09	326	eP		P	12 00 14.7	+0.1
	comp=Z,12nm,0.8s							
WRH	Wood River Hil	85.41	18	eP		P	12 00 16.3	+0.5
	comp=Z,10nm,1.4s							
CMB	Columbia Colle	85.51	49	eP		P	12 00 17.1	+0.1
CMB				pmax		pmax		
	comp=Z,8.0nm,1.2s							
CMB	Columbia Colle	85.51	49	eP		P	12 00 16.8	-0.2
	comp=Z,8.0nm,1.2s							
CMB	Columbia Colle	85.51	49	eP		P	12 00 17.1	+0.1
	comp=Z,8.0nm,1.2s							
CCB	Clear Creek Bu	85.62	18	eP		P	12 00 17.3	+0.5
	comp=Z,35nm,2.4s							
HDA	Harding Lake	85.71	18	eP		P	12 00 18.3	+1.0
	comp=Z,8.2nm,0.9s							
COLA	College	85.78	18	P		P	12 00 18.0	+0.4
IL1	Eielson Array	85.99	18	eP		P	12 00 17.7	-1.0
ILAR	Eielson Array	85.99	18	P		P	12 00 17.8	-0.8
	comp=Z,2.2nm,0.6s,baz=243,slow=4.9,SNR=36							
ILAR				LR		LR	12 33 51.7	
	comp=Z,196nm,20.1s,baz=253,slow=32							
WRAK	Wrangell Islan	86.42	29	eP		P	12 00 24.3	+3.4
	comp=Z,24nm,0.6s							
PALK	Pallekele	87.91	278	iP		P	12 00 24.8	-4.5
TIXI	Tiksi	89.15	349	⇓eP		P	12 00 32.6	-1.1
TIXI	comp=Z,2.0nm,1.2s			pmax		pmax		
R11A	Troy Canyon, C	89.17	50	eP		P	12 00 36.2	+1.3
	comp=Z,4.7nm,1.4s							
MSU	Marysvale	91.78	51	eP		P	12 00 47.5	+0.5
MSU	comp=Z,3.0nm,1.1s			pmax		pmax		
MSU	Marysvale	91.78	51	eP		P	12 00 47.5	+0.5
	comp=Z,3.4nm,1.1s							
WMQ	Urumqi	91.84	315	eP		P	12 00 47.8	+0.8
WMQ				pP		pP	12 00 58.5	-0.6
WMQ				sP		sP	12 01 02.3	-1.2
WMQ	comp=Z,12nm,0.8s			PMZ				
WMQ				PMZ				
	comp=Z,120nm,4.6s							
WMQ				LN				
	comp=Z,69nm,21.0s							
WMQ				LE				
	comp=Z,55nm,21.4s							
WMQ				LZ				
	comp=Z,59nm,22.6s							
SNAA	Sanae	94.25	183	P		P	12 00 53.7	-3.9
SNAA	Sanae	94.25	183	eP		P	12 00 52.7	-5.0
SNAA	comp=Z,17nm,1.5s			pmax		pmax		
SNAA	Sanae	94.25	183	eP		P	12 00 52.7	-5.0
	comp=Z,17nm,1.5s							
PV01	Paradox Valley	94.42	52	eP		P	12 01 00.2	+1.0
PDAR	Pinedale Array	94.83	47	P		P	12 01 01.2	+0.2
	comp=Z,0.4nm,0.6s,baz=241,slow=3.0,SNR=3.1							
MK01	Makanchi Array	96.30	317	eP		P	12 01 07.0	-0.3
MK31	Makanchi Array	96.32	317	eP		P	12 01 07.4	0.0
MK31	Makanchi Array	96.32	317	eP		P	12 01 07.3	0.0
MKAR	Makanchi Array	96.32	317	P		P	12 01 06.7	-0.7
	comp=Z,3.8nm,0.9s,baz=96,slow=6.4,SNR=9.3							
MKAR	Makanchi Array	96.32	317	ceP		P	12 01 07.4	0.0
MKAR	comp=Z,4.0nm,0.9s			pmax		pmax		
MKAR	Makanchi Array	96.32	317	eP		P	12 01 07.5	0.0
TXAR	Lajitas Array	96.38	61	P		P	12 01 08.0	-0.2
	comp=Z,0.1nm,0.7s,baz=210,slow=7.1,SNR=2.9							
TXAR	Lajitas Array	96.38	61	P		P	12 01 08.0	-0.2
ZAA0	Zalesovo Array	96.50	324	eP		P	12 01 06.3	-1.7
ZALV	Zalesovo Beam	96.50	324	P		P	12 01 07.2	-0.8
	comp=Z,4.5nm,0.8s,baz=104,slow=4.7,SNR=8.1							
KSH	Kashi	99.34	308	eP		Pdif	12 01 25.3	+4.0
KSH				pP		pP	12 01 35.8	+2.4
KSH				sP		sP	12 01 39.8	+2.0
KSH				PP		PP	12 05 32.5	+7.5
KSH				S		S	12 12 52.8	+2.0
KSH				sS		sS	12 13 10.5	-0.6
KSH	comp=Z,130nm,4.1s			PMZ				
KSH				LZ				
	comp=Z,140nm,8.4s							
JCT	Junction City	99.90	61	eP		Pdif	12 01 22.9	-1.0
JCT	comp=Z,61nm,3.0s			pmax		pmax		
JCT	Junction City	99.90	61	ePdif		Pdif	12 01 22.9	-1.0
	comp=Z,61nm,3.0s							
PRGR	Permogore	116.78	333	PKIKP		PKPdf	12 06 19.9	-2.7
PRGR	comp=Z,4.0nm,0.4s			pmax		pmax		
ARCES	ARCESS Array B	119.41	345	PKP		PKPdf	12 06 26.5	-1.1
	comp=Z,1.3nm,0.3s,baz=29,slow=2.1,SNR=32							
OBN	Obninsk	123.81	328	⇑iPKIKP		PKPdf	12 06 35.9	-0.4
OBN				e			12 08 17.8	
OBN	comp=Z,8.0nm,0.8s			pmax		pmax		
OBN				MLR		MLR		
	comp=Z,64nm,22.0s							
KIV	Kislovodsk	123.97	314	⇑iPKIKP		PKPdf	12 06 36.7	-0.5
KIV				e			12 08 20.7	
KIV	comp=Z,6.0nm,1.0s			pmax		pmax		
KIV				MLR		MLR		
	comp=Z,51nm,19.0s							
FINES	FINESS Array B	124.85	338	PKP		PKPdf	12 06 37.0	-1.2
	comp=Z,2.8nm,0.9s,baz=80,slow=1.6,SNR=5.9							
FINES	FINESS Array B	124.85	338	ciPKIKP		PKPdf	12 06 37.7	-0.5
FINES	comp=Z,3.0nm,0.9s			pmax		pmax		
NB2	NORSAR Subarra	129.78	345	SKPa		SKPab	12 10 08.9	+2.4
	comp=Z,2.4nm,0.9s,baz=38,slow=4.8							
NOA	NORSAR Array B	129.78	345	PKP		PKPdf	12 06 47.0	-0.7
	comp=Z,1.3nm,0.8s,baz=32,slow=2.0,SNR=3.8							
NOA				SKPbc		SKPbc	12 10 08.2	+1.1
	comp=Z,1.7nm,0.8s,baz=29,slow=4.1,SNR=5.8							
NOA	NORSAR Array B	129.78	345	PKIKP		PKPdf	12 06 47.0	-0.7
AKASG	Malin Array Be	129.84	326	PKP		PKPdf	12 06 47.8	-0.2
	comp=Z,0.4nm,0.4s,baz=61,slow=1.4,SNR=8.8							
AKASG	Malin Array Be	129.84	326	ciPKIKP		PKPdf	12 06 47.7	-0.3
KIEV	Kiev	129.85	326	iPKIKP		PKPdf	12 06 47.0	-1.0
AK11	Malin Array Si	129.88	326	ePKPdf		PKPdf	12 06 48.1	0.0
BRTR	Keskin Array B	131.64	311	PKP		PKPdf	12 06 51.7	-0.4
	comp=Z,0.7nm,0.7s,baz=130,slow=2.3,SNR=2.9							
BRTR				SKPbc		SKPbc	12 10 13.2	-1.4
	comp=Z,0.2nm,0.4s,baz=56,slow=4.1,SNR=2.4							
BUR04	Bucovina Ar. S	133.71	324	ePKPdf		PKPdf	12 06 56.2	+0.6
KOLS	Kolonicke sedl	134.55	327	ePKIKP		PKPdf	12 06 57.3	+0.3
KOLS	Kolonicke sedl	134.55	327	ePKP		PKPdf	12 06 57.3	+0.3
BRG	Berggiesshubel	137.13	335	e(P)		PKPdf	12 07 02.8	+1.1
	comp=Z,2.1nm,0.9s							
BRG	Berggiesshubel	137.13	335	eP		SKPbc	12 10 34.6	+2.7
	comp=Z,6.6nm,1.2s							
	comp=N,115nm,14.3s							
	comp=E,71nm,15.5s							
	comp=Z,138nm,18.2s							
BRG	Berggiesshubel	137.13	335	ePKIKP		PKPdf	12 07 02.8	+1.1
BRG	comp=Z,2.0nm,0.9s			pmax		pmax		
CLL	Collm	137.18	336	ePKPdf		PKPdf	12 07 03.0	+1.2
CLL	comp=Z,4.0nm,1.1s			LmV			13 08 00.0	
	comp=Z,100nm,20.4s							
CLL	Collm	137.18	336	ePKIKP		PKPdf	12 07 03.0	+1.2
CLL	comp=Z,4.0nm,1.1s			pmax		pmax		
FUORN	Ofenpass-Fuorn	141.96	333	ePKPpre		PKPpre	12 07 06.5	
CEL	Celeste	144.64	318	ePKPdf		PKPab	12 07 14.4	0.0
BNI	Bardonecchia	144.72	335	ePKIKP		PKPbc	12 07 15.0	+0.3
BNI	Bardonecchia	144.72	335	ePKPdf		PKPbc	12 07 15.0	+0.3
PLDF	La Plantade	145.09	339	PKP		PKPdf	12 07 16.8	+0.5
AGO	Saint Agoulin	145.18	340	PKP		PKPdf	12 07 16.8	+0.4
SAOF	Saorge	145.21	333	PKP		PKPbc	12 07 15.3	-0.8
AUTN	L'Aution	145.25	333	PKP		PKPbc	12 07 15.9	-0.6
TOUF	Mont Tournerai	145.32	334	PKP		PKPbc	12 07 15.9	-0.8
SSB	Saint Sauveur	145.35	338	PKP		PKPbc	12 07 16.5	-0.2
SSB	Saint Sauveur	145.35	338	ePKIKP		PKPbc	12 07 16.4	-0.2
SSB	Saint Sauveur	145.35	338	ePKPbc		PKPbc	12 07 16.4	-0.2
MVIF	Mont Vial	145.45	334	PKP		PKPdf	12 07 16.4	-0.7
PYM	Petit Puy Mans	145.49	340	PKP		PKPab	12 07 18.9	+1.6
CALN	Calern	145.68	334	PKP		PKPdf	12 07 15.9	-1.6
LBL	Lubilhac	145.86	339	PKP		PKPab	12 07 19.6	+0.9
MSKU	Masuku	149.16	242	ePKPbc		PKPbc	12 07 28.1	-0.1
KEST	Kesra	150.32	321	PKPbc		PKPbc	12 07 30.6	+0.1
	comp=Z,7.2nm,1.0s,baz=93,slow=3.5,SNR=9.9							
KEST	Kesra	150.32	321	ePKPbc		PKPbc	12 07 30.9	+0.4
CMAH	Djebel Manchou	150.84	324	P		PKPab	12 07 48.4	+10
ABSA	Djebel Ababsia	151.06	324	P		PKPab	12 07 49.0	+9.2
CKFL	Kef-Lekhel	151.40	325	P		PKPab	12 07 50.0	+8.8
CASM	Ain Smara	151.63	325	P		PKPab	12 07 50.4	+8.3
DFRA	Djebel Bou Aff	151.75	326	P		PKPab	12 07 51.4	+8.7
POLO	Lamas de Olo	152.31	351	ePKPbc		PKPbc	12 07 35.1	+0.2
MVO	Moncorvo	152.39	350	ePKPbc		PKPbc	12 07 35.1	0.0
PVRL	Vila Real	152.39	351	ePKPbc		PKPbc	12 07 35.1	+0.1
ESDC	Sonseca Array	153.14	344	PKPbc		PKPbc	12 07 36.3	-0.5
	comp=Z,0.2nm,0.3s,baz=35,slow=1.2,SNR=7.5							
PMRV	Marv??o	154.14	350	ePKPbc		PKPbc	12 07 39.0	+0.1
TOA0	Torodi Ar. Sit	165.43	268	ePKPdf		PKPdf	12 07 43.2	-0.9
TOA0				ePKPab		PKPab	12 08 43.1	+0.7
TORD	Torodi Ar. Bea	165.43	268	PKP		PKPdf	12 07 42.9	-1.3
	comp=Z,2.0nm,0.9s,baz=103,slow=0.7,SNR=8.9							
TORD				PKPab		PKPab	12 08 42.5	+0.1
	comp=Z,1.7nm,1.0s,baz=103,slow=4.3,SNR=5.6							

IDC ***29*** *11:47:46.0±0.8, 16°.54N×146°.09E, h0km, mb4.2/17, mb1 4.3/18, mb1mx4.1/45, mbtmp4.2/18, ML3.5/1, MS3.6/7, Ms1 3.6/7, ms1mx3.4/33, Error ellipse: s-maj=20.1km s-min=18.5km az=87.0*

NEIC ***29*** *11:47:50.3±0.3, 16°.59N×145°.68E, h10km, mb4.8/63, Error ellipse: s-maj=9.3km s-min=6.8km az=157.0*

NEIC Associated with an undersea volcanic eruption south of Sarigan.

BJI ***29*** *11:47:50.8, 16°.06N×146°.06E, h42km, mb4.8/22, mB5.0/13, Ms4.5/13, Ms7 4.3/11*

ISCJB ***29*** *11:47:52.3±0.3, 16°.49N±0°.06×145°.78E±0°.04, h33km, mb4.6/76, MS3.6/6, Error ellipse: s-maj=8.6km s-min=5.9km az=167.1*

ISC 29 11:47:53.5±0.6, 16°.35N±0°.07×145°.98E±0°.08, h35km, n144, σ1°68/135, mb4.7/77, MS3.6/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GUMO	Guam	2.95	202	Pn		Pn	11 48 36.4	-1.5
	5.2nm,0.3s,baz=234,slow=2.4,SNR=5.0							
GUMO	Guam	2.95	202	ePn		Pn	11 48 37.3	-0.6
I39PW	PALAU INFRASON	14.20	233	*i*			13 10 25.0	
	baz=48,slow=307,SNR=45							
JOW	Kunigami	19.47	305	LR		LR	11 58 48.3	
	comp=Z,53nm,20.8s,baz=118,slow=34							
JOW	Kunigami	19.47	305	eP		P	11 52 12.0	-5.4
H11S3	WAKE ISLAND Hy	19.87	81	H		H	12 12 51.1	
	baz=268,slow=75							
H11S1	WAKE ISLAND Hy	19.88	81	H		H	12 12 52.0	
	baz=268,slow=75							
H11S2	WAKE ISLAND Hy	19.89	81	H		H	12 12 52.3	
	baz=268,slow=75,SNR=6944							
H11N1	WAKE ISLAND Hy	20.16	77	H		H	12 13 11.3	
	baz=265,slow=74,SNR=9068							
H11N2	WAKE ISLAND Hy	20.17	77	H		H	12 13 12.1	
	baz=265,slow=74							
H11N3	WAKE ISLAND Hy	20.18	77	H		H	12 13 12.5	
	baz=265							
MJAR	Matsushiro Arr	21.26	343	P		P	11 52 32.7	-4.1
	2.2nm,1.0s,baz=160,slow=9.6,SNR=3.9							
MJAR				LR		LR	12 00 40.0	
	comp=Z,262nm,18.4s,baz=175,slow=37							
MAJO	Matsushiro	21.26	343	eP		P	11 52 33.7	-3.2
	16nm,1.2s							
MAT	Matsushiro	21.26	343	P		P	11 52 33.9	-2.9
MAT				S		S	11 56 30.2	-1.1
JNU	Nakatsue	21.57	323	P		P	11 52 37.1	-3.0
	13nm,1.0s,baz=112,slow=5.8,SNR=3.1							
JNU				LR		LR	12 00 38.2	
	comp=Z,102nm,18.1s,baz=162,slow=36							
JNU	Nakatsue	21.57	323	eP		P	11 52 37.2	-2.9
	5.7nm,1.0s							
FAKI	Fak Fak	23.47	217	eP		P	11 53 01.9	+1.8
	13nm,0.6s							
SSLB	Suanglung	24.62	292	eP		P	11 53 09.1	-1.7
	36nm,1.1s							
KSRS	Korea Array	26.39	326	P		P	11 53 23.8	-2.9
	8.5nm,1.1s,baz=147,slow=7.7,SNR=4.2							
KSAR	Wonju Array Be	26.40	326	P		P	11 53 23.8	-3.0
KS01	Wonju Array Si	26.42	326	eP		P	11 53 27.1	+0.2
ASAJ	Asahikawa	27.82	355	LR		LR	12 03 18.3	
	comp=Z,109nm,19.4s,baz=194,slow=34							
LUWI	Luwuk	28.70	235	eP		P	11 53 48.6	+1.0
	50nm,1.1s							
NJ2	Nanjing	29.15	307	eP		P	11 53 53.0	+1.5
NJ2				pP		pP	11 54 02.3	+0.8
NJ2				sP		sP	11 54 06.0	+0.2
NJ2				S		S	11 58 44.0	+2.6
NJ2				sS		sS	11 58 59.8	+1.8
NJ2	50nm,0.8s			PMZ				
NJ2				LZ				
	5μm,14.2s							
KKM	Kota Kinabalu	30.90	254	eP		P	11 54 06.5	-0.7
	13nm,1.1s							
KAPI	Kappang	33.52	233	eP		P	11 54 29.4	-0.7
	2.0nm,1.0s							
QIZ	Qiongzhong	34.50	280	eP		P	11 54 36.9	-1.6
	59nm,1.7s							
BJT	Baijiatuan	35.02	318	eP		P	11 54 43.2	+0.3
	32nm,1.2s							
XAN	Xi'an	37.62	305	P		P	11 55 06.0	+0.8
XAN	2.0nm,1.1s			PMZ				
PETK	Petropavlovsk-	37.82	12	P		P	11 55 02.8	-3.8
	1.8nm,1.0s,baz=224,slow=8.1,SNR=2.8							
PETK				LR		LR	12 09 14.3	
	comp=Z,137nm,21.7s,baz=183,slow=34							
GYA	Guiyang	37.83	292	eP		P	11 55 08.0	+0.8
GYA	10.0nm,1.0s			PMZ				
WRA	Warramunga Arr	37.84	198	P		P	11 55 06.6	-0.5
	5.3nm,1.1s,baz=19,slow=8.2,SNR=4.0							
HHC	Hu-ho-hao-te	38.46	316	eP		P	11 55 13.5	+1.3
HHC				PP		PnPn	11 56 45.3	+2.7
HHC				S		S	12 01 05.5	+0.2
HHC	21nm,0.7s			PMZ				
HHC				PMZ				
	63nm,4.2s							
HHC				LN				
	280nm,14.8s							
HHC				LE				
	240nm,18.5s							
HHC				LZ				
	280nm,14.8s							
CD2	Chengdu	41.06	298	eP		P	11 55 35.0	+1.1
CD2				pP		pP	11 55 45.3	+1.1
CD2				sP		sP	11 55 49.5	+1.1
CD2				PP		PnPn	11 57 13.3	-0.2
CD2				S		S	12 01 44.5	+0.1
CD2				sS		sS	12 02 01.5	+0.1
CD2				SS		SS	12 04 43.0	-4.5
CD2	20nm,0.5s			PMZ				
CD2				PMZ				
	140nm,5.2s							
KMI	Kunming	41.23	290	P		P	11 55 36.8	+1.2
KMI				pP		pP	11 55 47.8	+1.9
KMI				sP		sP	11 55 52.3	+2.2
KMI	6.0nm,1.1s			PMZ				
KMI				PMZ				
	77nm,5.0s							
KMI				LN				
	170nm,15.9s							
KMI				LE				
	210nm,17.1s							
KMI				LZ				
	240nm,16.3s							
LZ

comp=Z,139nm,21.0s,baz=155,slow=34

GSI	**Gunungsitoli**	**49.95**	**258**	*e*P		**P**	**11 56 43.0**	**-1.5**
	51nm,1.0s								
WMQ	**Urumqi**	**56.06**	**312**	P		**P**	**11 57 31.0**	**+1.8**
WMQ				pP		**pP**	**11 57 41.0**	**+1.2**
WMQ				sP		**sP**	**11 57 45.0**	**+1.1**
WMQ				PcP		**PcP**	**11 58 29.0**	**+1.9**
WMQ				ScP		**ScP**	**12 02 24.0**	**+0.2**
WMQ				S		**S**	**12 05 15.3**	**-0.3**
WMQ				SS		**SS**	**12 09 01.3**	**-0.7**
WMQ				PMZ					
	24nm,1.2s								
WMQ				PMZ					
	140nm,5.6s								
WMQ				LN					
	75nm,18.8s								
WMQ				LE					
	96nm,19.2s								
ZAA0	**Zalesovo Array**	**60.04**	**323**	*e*P		**P**	**11 57 55.1**	**-1.7**
ZALV	**Zalesovo Beam**	**60.04**	**323**	P		P	11 57 53.2	-3.5
	0.8nm,0.4s,baz=40,slow=9.9,SNR=3.8								
MK01	**Makanchi Array**	**60.28**	**315**	*e*P		P	11 57 55.4	-3.3
MK31	**Makanchi Array**	**60.29**	**315**	*e*P		P	11 57 55.2	-3.5
MKAR	**Makanchi Array**	**60.29**	**315**	P		P	11 57 55.4	-3.3
	4.4nm,1.1s,baz=98,slow=7.5,SNR=10								
KURK	**Kurchatov**	**63.20**	**319**	*e*P		**P**	**11 58 15.1**	**-3.0**
	11nm,1.1s								
KURBB	**Kurchatov Arra**	**63.24**	**319**	P		**P**	**11 58 16.1**	**-2.4**
	8.2nm,1.1s,baz=99,slow=5.7,SNR=11								
BPAW	**Bear Paw Mtn.**	**63.73**	**26**	*e*P		**P**	**11 58 21.9**	**+0.4**
	1.2nm,1.1s								
MLY	**Manley**	**64.11**	**25**	*e*P		**P**	**11 58 23.8**	**-0.2**
	7.7nm,1.2s								
RND	**Reindeer**	**64.45**	**27**	*e*P		**P**	**11 58 27.3**	**+1.1**
	5.8nm,0.5s								
KSH	**Kashi**	**64.46**	**306**	P		P	11 58 30.5	+3.7
KSH				pP		pP	11 58 41.0	+3.4
KSH				PP		PP	12 00 54.0	+5.3
KSH				S		**S**	**12 07 05.0**	**+1.4**
KSH				PMZ					
	120nm,5.7s								
KSH				LN					
	260nm,10.4s								
KSH				LE					
	200nm,10.0s								
KSH				LZ					
	160nm,7.0s								
TKM2	**Tokmak 2**	**64.75**	**310**	*e*P		**P**	**11 58 25.7**	**-3.1**
	5.6nm,0.9s								
SCM	**Sheep Creek Mo**	**64.75**	**29**	*e*P		**P**	**11 58 28.2**	**-0.1**
	14nm,1.1s								
COLD	**Coldfoot**	**65.00**	**23**	*e*P		**P**	**11 58 30.7**	**+1.0**
	5.3nm,1.2s								
WRH	**Wood River Hil**	**65.05**	**26**	*e*P		**P**	**11 58 29.2**	**-0.8**
	43nm,2.4s								
MDM	**Murphy Dome**	**65.12**	**25**	*e*P		**P**	**11 58 30.3**	**-0.3**
	4.3nm,0.9s								
CCB	**Clear Creek Bu**	**65.21**	**26**	*e*P		**P**	**11 58 30.1**	**-0.9**
	35nm,2.4s								
AAK	**Ala-Archa**	**65.56**	**310**	*e*P		**P**	**11 58 32.4**	**-1.6**
	6.8nm,1.4s								
ILAR	**Eielson Array**	**65.62**	**26**	P		P	11 58 30.2	-3.5
	3.8nm,1.1s,baz=269,slow=5.3,SNR=11								
IL1	**Eielson Array**	**65.63**	**26**	*e*P		P	11 58 30.3	-3.5
PAX	**Paxson**	**65.84**	**28**	*e*P		**P**	**11 58 36.1**	**+0.8**
	10nm,1.4s								
BMRM	**Bremner River**	**65.86**	**30**	*e*P		P	11 58 32.2	-3.3
	9.8nm,1.0s								
SCRK	**Sand Creek**	**66.69**	**27**	*e*P		**P**	**11 58 39.7**	**-1.1**
	6.8nm,1.2s								
FYU	**Fort Yukon**	**66.71**	**24**	*e*P		**P**	**11 58 42.5**	**+1.8**
	16nm,1.2s								
EGAK	**Eagle**	**68.03**	**26**	*e*P		**P**	**11 58 49.0**	**-0.1**
POO	**Poona**	**68.42**	**284**	*ex*		P	11 58 45.0	-7.4
BVAR	**Borovoye Array**	**68.45**	**321**	P		**P**	**11 58 49.4**	**-2.6**
	3.0nm,1.1s,baz=95,slow=6.3,SNR=6.7								
DAWY	**Dawson**	**68.70**	**27**	*e*P		**P**	**11 58 52.9**	**-0.5**
HYT	**Haines Junctio**	**69.29**	**31**	*e*P		**P**	**11 58 55.0**	**-2.2**
KBL	**Kabul**	**70.31**	**301**	*e*P		**P**	**11 59 03.1**	**-0.9**
	12nm,1.1s								
PPT2	**Papeete2**	**71.88**	**115**	*e*LR		LR	12 21 15.0		
	172nm,22.5s								
PMOR	**Pomariorio Ree**	**72.33**	**112**	*e*T		T	13 18 18.7		
	6.8nm,0.2s								
DLBC	**Dease Lake**	**73.09**	**33**	*e*P		**P**	**11 59 19.7**	**-0.5**
TBI	**Tubuai**	**74.41**	**120**	*e*T		T	13 20 57.2		
	32nm,0.3s								
ABKAR	**Akbulak array**	**75.24**	**317**	*e*P		**P**	**11 59 32.1**	**-0.7**
TAOE	**Nuku Hiva Isla**	**77.24**	**103**	*e*T		T	13 24 23.2		
	87nm,0.2s								
HUMO	**Hull Mountain**	**79.89**	**49**	*e*P		**P**	**11 59 59.2**	**+0.2**
	116nm,3.0s								
YKA	**Yellowknife Ar**	**79.93**	**28**	P		P	11 59 54.4	-4.2
	4.2nm,1.1s,baz=290,slow=5.5,SNR=4.4								
H04A	**Detroit Lake**	**79.97**	**46**	*e*P		**P**	**12 00 02.1**	**+2.7**
	19nm,1.4s								
YBH	**Yreka Blue Hor**	**80.26**	**49**	P		P	11 59 57.8	-3.3
	1.2nm,0.9s,baz=122,slow=6.8,SNR=2.0								
YBH	**Yreka Blue Hor**	**80.26**	**49**	*e*P		**P**	**12 00 00.9**	**-0.1**
	11nm,1.4s								
LTY	**Liberty**	**80.41**	**44**	*e*P		**P**	**12 00 03.7**	**+2.0**
	9.6nm,1.1s								
B08A	**Colville Reser**	**81.01**	**42**	*e*P		**P**	**12 00 02.4**	**-2.5**
PINOR	**Pine Mountain**	**81.09**	**47**	*e*P		**P**	**12 00 06.1**	**+0.8**
	11nm,1.1s								
K05A	**Summer Lake**	**81.34**	**48**	*e*P		**P**	**12 00 09.4**	**+2.5**
	22nm,1.2s								
D08A	**Wollman Farm,**	**81.61**	**44**	*e*P		**P**	**12 00 10.4**	**+2.4**
	6.9nm,0.9s								
C09A	**Chrisman Ranch**	**81.84**	**43**	*e*P		**P**	**12 00 11.2**	**+2.0**
G08A	**Pilot Rock**	**82.04**	**45**	*e*P		**P**	**12 00 12.2**	**+1.7**
NEW	**Newport**	**82.46**	**42**	*e*P		**P**	**12 00 11.4**	**-1.2**
	9.7nm,1.2s								
WVOR	**Wild Horse Val**	**83.02**	**48**	*e*P		**P**	**12 00 17.1**	**+1.4**
	6.7nm,1.1s								
BMO	**Blue Mountains**	**83.29**	**45**	*e*P		**P**	**12 00 16.0**	**-1.0**
	8.3nm,1.3s								
BSMT	**Bassoo Peak**	**84.08**	**42**	*e*P		**P**	**12 00 20.0**	**-1.1**
NV01	**Mina Array Sit**	**84.37**	**52**	*e*P		**P**	**12 00 24.9**	**+2.1**
NVAR	**Mina Array Bea**	**84.37**	**52**	P		**P**	**12 00 20.3**	**-2.5**
	0.6nm,0.8s,baz=269,slow=5.0,SNR=3.7								
YBMT	**Yellow Bay**	**84.58**	**42**	*e*P		**P**	**12 00 24.9**	**+1.4**
MSO	**Missoula**	**84.95**	**43**	*e*P		**P**	**12 00 23.9**	**-1.5**
	6.8nm,1.3s								
SLMT	**Seeley Lake**	**85.11**	**42**	*e*P		**P**	**12 00 26.6**	**+0.3**
CHMT	**Chamberlain Mo**	**85.37**	**43**	*e*P		**P**	**12 00 26.8**	**-0.8**
HLID	**Hailey**	**85.66**	**46**	*e*P		**P**	**12 00 29.2**	**+0.1**
	9.2nm,1.1s								
ELK	**Elko**	**85.95**	**49**	*e*P		**P**	**12 00 33.3**	**+2.6**
ELK				pmax		pmax			
	comp=Z,5.0nm,1.1s								
ELK	**Elko**	**85.95**	**49**	*e*P		**P**	**12 00 33.2**	**+2.6**
	comp=Z,5.3nm,1.1s								
MCMT	**McKenzie Canyo**	**86.32**	**44**	*e*P		**P**	**12 00 32.4**	**0.0**
HRY	**Holter Researc**	**86.36**	**42**	*e*P		**P**	**12 00 30.8**	**-1.6**
RKT	**Rikitea**	**86.63**	**115**	*e*T		T	13 36 11.5		
	comp=Z,3.4nm,0.3s								
QLMT	**Earthquake Lak**	**87.27**	**44**	*e*P		**P**	**12 00 39.1**	**+2.1**
HVU	**Hansel Valley**	**87.38**	**47**	*e*P		**P**	**12 00 39.4**	**+1.9**
	comp=Z,7.7nm,1.1s								
CTW	**Cottonwood Mou**	**87.65**	**56**	*e*P		**P**	**12 00 39.3**	**+0.4**
YNR	**Norris Junctio**	**87.81**	**44**	*e*P		P	12 00 43.2	+3.6
	comp=Z,10nm,1.0s								
DUG	**Dugway, Tooele**	**87.88**	**49**	*e*P		**P**	**12 00 39.6**	**-0.3**
DUG				pmax		pmax			
	comp=Z,10.0nm,1.1s								
DUG	**Dugway, Tooele**	**87.88**	**49**	*e*P		**P**	**12 00 39.6**	**-0.3**
	comp=Z,10nm,1.1s								
IMW	**Indian Meadow**	**87.92**	**45**	*e*P		**P**	**12 00 41.3**	**+1.1**
	comp=Z,7.6nm,1.1s								
FXWY	**Fox Creek**	**87.95**	**45**	*e*P		**P**	**12 00 42.3**	**+1.9**
	comp=Z,3.9nm,1.1s								
FLWY	**Flagg Ranch**	**88.02**	**45**	*e*P		**P**	**12 00 42.4**	**+1.8**
	comp=Z,15nm,1.2s								
LKWY	**Lake**	**88.05**	**44**	P		P	12 00 32.1	-8.7
	comp=Z,6.1nm,1.3s								
TPAW	**Teton Pass**	**88.06**	**45**	*e*P		**P**	**12 00 42.8**	**+1.9**
	comp=Z,12nm,1.8s								
MOOW	**Moose Ponds**	**88.11**	**45**	*e*P		**P**	**12 00 42.7**	**+1.7**
	comp=Z,3.9nm,1.0s								
LOHW	**Long Hollow**	**88.25**	**45**	*e*P		**P**	**12 00 43.9**	**+2.2**
	comp=Z,6.8nm,1.4s								
HWUT	**Hardware Ranch**	**88.29**	**47**	*e*P		**P**	**12 00 40.0**	**-2.0**
	comp=Z,7.7nm,1.1s								
NLU	**North Lily Min**	**88.50**	**49**	*e*P		**P**	**12 00 45.8**	**+2.8**
	comp=Z,5.8nm,1.0s								
JLU	**Jordanelle**	**88.72**	**48**	*e*P		**P**	**12 00 44.8**	**+0.8**
	comp=Z,12nm,1.2s								
FFC	**Flin Flon**	**88.92**	**33**	*e*P		**P**	**12 00 45.0**	**+0.7**
	comp=Z,6.1nm,0.9s								
PDAR	**Pinedale Array**	**89.27**	**45**	P		P	12 00 43.5	-3.1
	comp=Z,0.2nm,0.6s,baz=226,slow=3.6,SNR=2.4								
SRU	**San Rafael Swe**	**89.91**	**49**	*e*P		**P**	**12 00 52.2**	**+2.6**
SRU				pmax		pmax			
	comp=Z,7.0nm,1.2s								
SRU	**San Rafael Swe**	**89.91**	**49**	*e*P		**P**	**12 00 52.2**	**+2.6**
	comp=Z,7.4nm,1.2s								
O20A	**White River Ci**	**91.17**	**48**	*e*P		**P**	**12 00 57.9**	**+2.4**
	comp=Z,14nm,1.4s								
PV10	**Paradox Valley**	**91.26**	**49**	*e*P		**P**	**12 00 57.0**	**+1.1**
PV04	**Paradox Valley**	**91.35**	**49**	*e*P		**P**	**12 00 58.1**	**+1.8**
PV01	**Paradox Valley**	**91.69**	**50**	*e*P		P	12 00 54.7	-3.2
SMCO	**Snowmass**	**92.45**	**48**	*e*P		**P**	**12 01 02.3**	**+0.7**
	comp=Z,12nm,1.2s								
SMCO	**Snowmass**	**92.45**	**48**	*e*P		**P**	**12 01 02.3**	**+0.7**
	comp=Z,12nm,1.2s								
N23A	**Red Feather La**	**92.48**	**46**	*e*P		**P**	**12 01 01.6**	**0.0**
	comp=Z,21nm,1.1s								
S22A	**4UR Ranch, Cre**	**93.11**	**49**	*e*P		**P**	**12 01 04.9**	**+0.3**
	comp=Z,3.9nm,1.1s								
ISCO	**Idaho Springs**	**93.16**	**47**	*e*P		**P**	**12 01 05.1**	**+0.3**
ISCO				pmax		pmax			
	comp=Z,5.0nm,1.1s								
ISCO	**Idaho Springs**	**93.16**	**47**	*e*P		**P**	**12 01 05.1**	**+0.3**
	comp=Z,5.2nm,1.1s								
ISCO	**Idaho Springs**	**93.16**	**47**	*e*P		**P**	**12 01 05.1**	**+0.3**
	comp=Z,5.2nm,1.1s								
BRTR	**Keskin Array B**	**95.93**	**314**	P		**P**	**12 01 14.7**	**-2.6**
	comp=Z,0.3nm,0.4s,baz=74,slow=2.1,SNR=2.7								
LPAZ	**La Paz**	**147.28**	**95**	PKPbc		**PKPdf**	**12 07 33.2**	**+0.5**
	comp=Z,6.4nm,1.2s,baz=276,slow=3.7,SNR=6.3								
LPAZ	**La Paz**	**147.28**	**95**	*e*PKPdf		**PKPdf**	**12 07 33.5**	**+0.8**

IDC ***29*** *11:50:45.2±1.2, 16°.39N×145°.92E, h0km, mb4.1/7, mb1 4.3/7, mb1mx3.9/26, mbtmp4.1/7, MS3.9/2, Ms1 3.9/2, ms1mx3.3/31, Error ellipse: s-maj=37.0km s-min=29.3km az=74.0*

ISCJB ***29*** *11:50:47.5±1.3, 16°.3N±0°.2×146°.0E±0°.3, h33km, mb4.1/7, MS3.9/2, Error ellipse: s-maj=36.5km s-min=23.1km az=178.2*

ISC 29 11:50:49.8±1.1, 16°.3N±0°.2×146°.0E±0°.2, h35km, n16, σ0s52/8, mb4.1/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**19.86**	**81**	H	H	12 15 36.2	
	baz=278						
H11S1	**WAKE ISLAND Hy**	**19.87**	**81**	H	H	12 15 37.0	
	baz=278						
H11S2	**WAKE ISLAND Hy**	**19.88**	**81**	H	H	12 15 37.5	
	baz=278						
H11N1	**WAKE ISLAND Hy**	**20.15**	**77**	H	H	12 15 58.3	
	baz=266						
H11N2	**WAKE ISLAND Hy**	**20.16**	**77**	H	H	12 15 59.3	
	baz=266						
H11N3	**WAKE ISLAND Hy**	**20.17**	**77**	H	H	12 15 58.3	
	baz=266						
CTA	**Charters Tower**	**36.20**	**180**	LR	LR	12 13 35.2	
	comp=Z,154nm,18.6s,baz=115,slow=38						
WRA	**Warramunga Arr**	**37.83**	**198**	P	**P**	**11 58 02.9**	**-0.4**
	3.3nm,1.1s,baz=17,slow=9.6,SNR=3.9						
CMAR	**Chiang Mai Arr**	**44.86**	**280**	P	**P**	**11 59 01.6**	**+0.5**
	5.4nm,1.0s,baz=73,slow=6.7,SNR=4.8						
SONM	**Songino Array**	**45.17**	**323**	P	**P**	**11 59 02.8**	**-0.6**
	1.4nm,1.1s,baz=132,slow=8.0,SNR=3.5						
ZALV	**Zalesovo Beam**	**60.06**	**323**	P	**P**	**12 00 53.2**	**0.0**
	0.7nm,0.5s,baz=113,slow=3.3,SNR=2.6						
MKAR	**Makanchi Array**	**60.31**	**315**	P	**P**	**12 00 55.3**	**+0.2**
	2.4nm,1.1s,baz=96,slow=6.8,SNR=3.9						
KURBB	**Kurchatov Arra**	**63.27**	**319**	P	**P**	**12 01 15.1**	**+0.2**
	3.3nm,1.0s,baz=101,slow=6.6,SNR=4.1						
YKA	**Yellowknife Ar**	**79.93**	**28**	P	**P**	**12 02 54.8**	**-0.2**
	1.9nm,1.0s,baz=289,slow=5.5,SNR=4.8						
ARCES	**ARCESS Array B**	**84.82**	**342**	LR	LR	12 45 41.6	
	comp=Z,69nm,18.2s,baz=22,slow=39						
LPAZ	**La Paz**	**147.27**	**95**	PKPbc	**PKPab**	**12 10 33.8**	**+0.7**
	3.2nm,1.1s,baz=260,slow=3.8,SNR=4.3						

IDC 29 11:59:02.3±1.1, 16°.82N×145°.98E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.7/26, mbtmp3.7/9, Error ellipse: s-maj=31.6km s-min=20.7km az=112.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**19.80**	**82**	H	H	12 24 06.5	
	baz=268,slow=75						
H11S1	**WAKE ISLAND Hy**	**19.81**	**82**	H	H	12 24 07.5	
	baz=268,slow=75						
H11S2	**WAKE ISLAND Hy**	**19.82**	**82**	H	H	12 24 07.5	
	baz=268,slow=75						
H11N1	**WAKE ISLAND Hy**	**20.06**	**79**	H	H	12 24 27.3	
	baz=264,slow=75						
H11N2	**WAKE ISLAND Hy**	**20.07**	**78**	H	H	12 24 27.9	
	baz=264,slow=75						
H11N3	**WAKE ISLAND Hy**	**20.08**	**79**	H	H	12 24 28.5	
	baz=264,slow=75						
MJAR	**Matsushiro Arr**	**20.82**	**342**	P	P	12 03 44.8	-0.7
	1.7nm,1.1s,baz=172,slow=13,SNR=3.5						
SIJI	**Sorong**	**22.79**	**221**	P	P	12 04 05.5	-1.3
	3.2nm,0.6s,baz=12,slow=9.2,SNR=4.8						
KSRS	**Korea Array**	**26.00**	**326**	P	P	12 04 37.7	+0.7
	0.5nm,0.4s,baz=155,slow=9.0,SNR=5.2						
WRA	**Warramunga Arr**	**38.28**	**198**	P	P	12 06 25.5	+0.8
	2.6nm,1.1s,baz=13,slow=9.2,SNR=4.8						
CMAR	**Chiang Mai Arr**	**44.76**	**279**	P	P	12 07 17.9	-0.1
	0.9nm,0.4s,baz=75,slow=6.8,SNR=9.6						
SONM	**Songino Array**	**44.78**	**322**	P	P	12 07 17.7	-0.2
	0.5nm,0.9s,baz=111,slow=6.5,SNR=3.6						
MKAR	**Makanchi Array**	**59.96**	**315**	P	P	12 09 10.7	+0.1
	0.7nm,1.0s,baz=94,slow=11,SNR=3.9						
ILAR	**Eielson Array**	**65.21**	**26**	P	P	12 09 45.6	+0.3
	1.0nm,0.6s,baz=268,slow=5.4,SNR=18						
YKA	**Yellowknife Ar**	**79.52**	**28**	P	P	12 11 10.1	-0.6
	1.1nm,1.0s,baz=287,slow=5.3,SNR=7.7						

IDC 29 12:00:55.1±28.0, 21°.85S×174°.61W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.7/37, mbtmp4.1/4, Error ellipse: s-maj=512.1km s-min=157.2km az=76.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.52**	**265**	P	P	12 08 03.1	+0.5
	3.3nm,0.5s,baz=101,slow=11,SNR=11						
STKA	**Stephens Creek**	**40.09**	**246**	P	P	12 08 32.6	-0.1
	0.7nm,0.3s,baz=82,slow=11,SNR=2.8						
ASAR	**Alice Springs**	**47.30**	**257**	P	P	12 09 30.7	-0.2
	1.5nm,0.7s,baz=96,slow=7.6,SNR=22						
WRA	**Warramunga Arr**	**47.55**	**263**	P	P	12 09 32.2	-0.6
	1.3nm,0.7s,baz=101,slow=8.5,SNR=34						

TIF ***29*** *12:22:14.9, 42°.46N×45°.26E, h13km±1km*

AZER ***29*** *12:22:15.2±0.1, 42°.29N×45°.05E, h5km±1km, Error ellipse: s-maj=5.8km s-min=2.6km az=244.0*

MOS ***29*** *12:22:15.3±0.7, 42°.41N×45°.29E, h11km, mb4.1/1, Error ellipse: s-maj=10.2km s-min=6.0km az=130.3*

CSEM ***29*** *12:22:15.1±0.2, 42°.43N×45°.34E, h2km, mb4.1, Error ellipse: s-maj=3.6km s-min=2.9km az=42.0*

DDA ***29*** *12:22:40.2, 40°.50N×44°.41E, h5km, MD3.1*

ISC 29 12:22:14.8±1.1, 42°.42N±0°.01×45°.27E±0°.01, h6km±9km, n75, σ1s00/130, 15C-8D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUS	**Dusheti**	**0.54**	**232**	P	**Pb**	**12 22 26.8**	**+0.1**
DUS				S	**Sb**	**12 22 35.5**	**+0.7**
DUS	**Dusheti**	**0.54**	**232**	P	**Pb**	**12 22 26.8**	**+0.1**
DUS				S	**Sb**	**12 22 35.5**	**+0.7**
SNJR	**Sundja**	**0.73**	**332**	*i* P	**Pb**	**12 22 29.8**	**-0.2**
SNJR				*e*S	**Sb**	**12 22 41.1**	**+0.7**
SNJR	**Sundja**	**0.73**	**332**	*i* Pg	**Pb**	**12 22 29.8**	**-0.2**
SNJR				*e*Sg	**Sb**	**12 22 41.1**	**+0.7**
BTLR	**Botlikh**	**0.74**	**71**	*e*PG	**Pg**	**12 22 29.0**	**-0.1**
BTLR				*e*S	**Sg**	**12 22 38.8**	**+0.1**
BTLR				pmax	pmax		
	comp=Z,79nm,0.2s						
BTLR	**Botlikh**	**0.74**	**71**	*e*Pg	**Pg**	**12 22 29.0**	**-0.1**
	comp=Z,79nm,0.2s						

BTLR				*e*Sg		**Sg**	**12 22 38.8**	**+0.1**
SEAG	**Tbilisi Sea**	**0.74**	**208**	P		**Pg**	**12 22 29.5**	**+0.4**
SEAG				S		**Sb**	**12 22 41.2**	**+0.6**
SEAG	**Tbilisi Sea**	**0.74**	**208**	P		**Pg**	**12 22 29.5**	**+0.4**
SEAG				S		**Sb**	**12 22 41.2**	**+0.6**
VLKR	**Vladikavkaz**	**0.76**	**325**	⇑*i*PG		**Pb**	**12 22 30.4**	**-0.2**
VLKR				*e*S		**Sb**	**12 22 41.8**	**+0.5**
VLKR	**Vladikavkaz**	**0.76**	**325**	*i* Pg		**Pb**	**12 22 30.4**	**-0.2**
VLKR				*e*Sg		**Sb**	**12 22 41.8**	**+0.5**
TBLG	**Delisi**	**0.80**	**210**	P		**Pb**	**12 22 31.1**	**0.0**
TBLG				S		**Sn**	**12 22 43.3**	**-1.6**
TBLG	**Delisi**	**0.80**	**210**	P		**Pb**	**12 22 31.1**	**0.0**
TBLG				S		**Sn**	**12 22 43.3**	**-1.6**
LACR	**Lac**	**0.83**	**300**	*i* PG		**Pg**	**12 22 29.8**	**-0.9**
LACR				*i* S		**Sg**	**12 22 40.5**	**-1.0**
LACR				pmax	pmax			
	comp=Z,237nm,0.1s							
LACR	**Lac**	**0.83**	**300**	*i* Pg		**Pg**	**12 22 29.8**	**-0.9**
	comp=Z,237nm,0.1s							
GRO	**Groznyy**	**0.96**	**21**	⇑*i*PG		**Pg**	**12 22 32.5**	**-0.9**
GRO				*i* S		**Sg**	**12 22 45.4**	**-0.5**
GRO	**Groznyy**	**0.96**	**21**	*i* Pg		**Pg**	**12 22 32.5**	**-0.9**
GRO				*i* Sg		**Sg**	**12 22 45.4**	**-0.5**
DGRG	**David-gareji**	**0.97**	**176**	P		**Pn**	**12 22 35.5**	**+0.4**
DGRG				S		**Sn**	**12 22 51.6**	**+2.4**
DGRG	**David-gareji**	**0.97**	**176**	P		**Pn**	**12 22 35.5**	**+0.4**
ARNR	**Ardon**	**1.05**	**317**	⇑*i*PG		**Pn**	**12 22 35.9**	**-0.3**
ARNR				*e*S		**Sn**	**12 22 51.0**	**-0.2**
ARNR	**Ardon**	**1.05**	**317**	*i* Pg		**Pn**	**12 22 35.9**	**-0.3**
ARNR				*e*Sg		**Sn**	**12 22 51.0**	**-0.2**
ZEI	**Tsey**	**1.08**	**290**	⇑*i*PG		**Pg**	**12 22 34.8**	**-0.7**
ZEI				*e*S		**Sg**	**12 22 49.6**	**+0.1**
ZEI	**Tsey**	**1.08**	**290**	*i* Pg		**Pg**	**12 22 34.8**	**-0.7**
ZEI				*e*Sg		**Sg**	**12 22 49.6**	**+0.1**
BTKR	**Batakoyurt**	**1.09**	**331**	⇓*i*PG		**Pn**	**12 22 37.3**	**+0.5**
BTKR				*e*S		**Sn**	**12 22 53.3**	**+1.1**
BTKR	**Batakoyurt**	**1.09**	**331**	*i* Pg		**Pn**	**12 22 37.3**	**+0.5**
BTKR				*e*Sg		**Sn**	**12 22 53.3**	**+1.1**
KORR	**Kora**	**1.11**	**307**	⇑*i*PG		**Pn**	**12 22 36.5**	**-0.5**
KORR				*e*S		**Sn**	**12 22 52.2**	**-0.5**
KORR	**Kora**	**1.11**	**307**	*i* Pg		**Pn**	**12 22 36.5**	**-0.5**
KORR				*e*Sg		**Sn**	**12 22 52.2**	**-0.5**
UNCR	**Uncukul**	**1.16**	**75**	*e*PG		**Pb**	**12 22 36.6**	**-0.8**
UNCR				*e*S		**Sg**	**12 22 52.5**	**+0.3**
UNCR				pmax	pmax			
	comp=Z,54nm,0.2s							
UNCR	**Uncukul**	**1.16**	**75**	*e*Pg		**Pb**	**12 22 36.6**	**-0.8**
	comp=Z,54nm,0.2s							
UNCR				*e*Sg		**Sg**	**12 22 52.5**	**+0.3**
KZR	**Kazreti**	**1.22**	**212**	P		**Pb**	**12 22 38.2**	**-0.1**
KZR				S		**Sn**	**12 22 55.2**	**-0.2**
KZR	**Kazreti**	**1.22**	**212**	P		**Pb**	**12 22 38.2**	**-0.1**
KZR				S		**Sn**	**12 22 55.2**	**-0.2**
GNBR	**Gunib**	**1.25**	**91**	*i* PG		**Pn**	**12 22 38.2**	**-0.8**
GNBR				*i* S		**Sn**	**12 22 55.5**	**-0.7**
GNBR	**Gunib**	**1.25**	**91**	*i* Pg		**Pn**	**12 22 38.2**	**-0.8**
GNBR				*i* Sg		**Sn**	**12 22 55.5**	**-0.7**
ZKTA	**Zakatala**	**1.27**	**127**	⇑Pg		**Pb**	**12 22 39.1**	**-0.2**
	SNR=14							
ZKTA				⇑Sg		**Sg**	**12 22 58.6**	**+2.9**
DBC	**Dubki**	**1.29**	**62**	⇑*i*PG		**Pg**	**12 22 39.7**	**0.0**
DBC				*i* S		**Sg**	**12 22 57.2**	**+0.8**
DBC	**Dubki**	**1.29**	**62**	*i* Pg		**Pg**	**12 22 39.7**	**0.0**
DBC				*i* Sg		**Sg**	**12 22 57.2**	**+0.8**
DIGR	**Digorskoe uzhe**	**1.34**	**292**	*e*PG		**Pn**	**12 22 39.3**	**-1.0**
DIGR				*e*S		**Sb**	**12 22 56.9**	**-1.0**
DIGR				pmax	pmax			
	comp=Z,15nm,0.1s							
ONI	**Oni**	**1.36**	**278**	P		**Pb**	**12 22 40.4**	**-0.3**
ONI	**Oni**	**1.36**

WRA	**Warramunga Arr**	**18.18 170**	P	Pn	12 27 03.5	-0.5
	0.1nm,0.3s,baz=352,slow=13,SNR=9.0					
ASAR	**Alice Springs**	**21.78 173**	P	P	12 27 43.9	+0.3
	0.1nm,0.8s,baz=349,slow=7.5,SNR=3.4					
MKAR	**Makanchi Array**	**64.70 325**	P	P	12 33 29.8	-0.1
	0.6nm,0.7s,baz=121,slow=5.6,SNR=3.9					

IDC ***29*** *12:22:56.4±2.5,9°.14N×124°.67E,h0km,mb3.8/5, mb1 4.0/5,mb1mx3.6/23,mbtmp3.8/5,MS4.5/1,Ms1 4.5/1, ms1mx2.7/31,Error ellipse: s-maj=304.4km s-min=24.6km az=64.0*

MAN ***29*** *12:23:00,9°.47N×124°.99E,h21km,mb4.7,ML3.6,MS3.6*

MAN INTENSITY I - CAMIGUIN ISLAND.

ISC 29 12:22:57.5±1.5,9°.37N±0°.03×124°.95E±0°.04,h8km±10km, n22,σ1°56/30,mb3.8/5,3C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.67**	**53**	*i*P		**Pb**		**12 23 11.8**	**+0.3**
MSLP	**Maasin**	**0.76**	**353**	*e*P		**Pb**		**12 23 13.9**	**+0.9**
MSLP				*e*S		**Sn**		**12 23 27.8**	**+1.5**
BUTP	**Butuan**	**0.78**	**121**	*e*P		**Pb**		**12 23 13.8**	**+0.5**
BUTP				*e*S		**Sn**		**12 23 30.3**	**+3.7**
CGP	**Cagayan de Oro**	**0.94**	**195**	*i*P		**Pn**		**12 23 18.1**	**+1.0**
CGP				*i*S		**Sn**		**12 23 32.6**	**+1.8**
TBP	**Tagbilaran**	**1.12**	**287**	*e*P		**Pn**		**12 23 21.3**	**+1.9**
TBP				*e*S		**Sn**		**12 23 39.5**	**+4.5**
BUKP	**Musuan**	**1.49**	**176**	*e*P		**Pg**		**12 23 27.1**	**+1.0**
OCLP	**Ormoc**	**1.70**	**349**	*e*P		**Pn**		**12 23 28.4**	**+0.9**
DCPH	**Dipolog City**	**1.76**	**244**	*i*P		**Pg**		**12 23 31.4**	**+0.1**
DCPH				*e*S		**Sg**		**12 23 54.0**	**-0.1**
PLP	**Palo**	**1.78**	**1**	*i*P		**Pn**		**12 23 28.4**	**-0.2**
PLP				*i*S		**Sn**		**12 23 49.7**	**-1.8**
BIPH	**Bislig**	**1.83**	**130**	*i*P		**Pb**		**12 23 30.8**	**-0.4**
BIPH				*i*S		**Sn**		**12 23 52.3**	**-0.3**
PAGZ	**Pagadian**	**2.17**	**226**	*e*P		**Pb**		**12 23 37.1**	**+0.1**
CTBH	**Cotabato--PC H**	**2.25**	**198**	*i*P		**Pg**		**12 23 40.3**	**-0.3**
GUIM	**Jordan**	**2.64**	**298**	*e*P		**Pb**		**12 23 43.1**	**-1.9**
MATI	**Mati**	**2.74**	**152**	*e*P		**Pb**		**12 23 45.4**	**-1.4**
IPIL	**Ipil**	**2.83**	**236**	*e*P		**Pb**		**12 23 47.0**	**-1.3**
WRA	**Warramunga Arr**	**30.56**	**162**	P		**P**		**12 29 10.8**	**-1.0**
	0.9nm,0.8s,baz=342,slow=9.3,SNR=5.9								
WRA				PcP		**PcP**		**12 32 10.1**	**-0.6**
	0.3nm,0.7s,baz=337,slow=2.4,SNR=3.4								
ASAR	**Alice Springs**	**33.98**	**165**	P		**P**		**12 29 40.5**	**-1.3**
	0.7nm,0.6s,baz=340,slow=7.0,SNR=16								
ASAR				PcP		**PcP**		**12 32 19.3**	**-0.8**
	0.4nm,0.6s,baz=341,slow=2.6,SNR=5.8								
STKA	**Stephens Creek**	**44.00**	**159**	P		**P**		**12 31 05.2**	**-0.3**
	2.2nm,0.6s,baz=344,slow=8.4,SNR=4.4								
DZM	**Mont Dzumac**	**51.30**	**128**	LR		LR		12 55 15.2	
	comp=Z,430nm,18.6s,baz=180,slow=38								
MKAR	**Makanchi Array**	**51.96**	**324**	P		**P**		**12 32 07.7**	**+0.6**
	0.5nm,0.7s,baz=133,slow=8.1,SNR=4.4								
VNDA	**Vanda**	**89.21**	**172**	P		**P**		**12 35 52.7**	**-0.6**
	0.6nm,0.6s,baz=327,slow=5.4,SNR=3.7								
TORD	**Torodi Ar. Bea**	**119.38**	**291**	PKP		**PKPdf**		**12 41 48.0**	**-0.6**
	0.4nm,0.8s,baz=101,slow=1.5,SNR=2.9								

JMA 29 12:22:57.4±0.1,25°.82N×130°.16E,h40km,M3.7, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JMZ	**Minamidaito 2**	**0.96**	**90**	P		Pn		12 23 14.7	+0.4
JMZ				*e*S		Sn		12 23 26.5	-0.3
JOW	**Kunigami**	**1.97**	**301**	P		Pn		12 23 29.5	+1.2
JOW				*e*S		Sn		12 23 51.6	-0.2
JNTH	**Nagotoyohara**	**2.04**	**290**	P		Pn		12 23 30.1	+0.8
JNTH				*e*S		Sn		12 23 53.6	0.0
JOKE	**Okinoerabujima**	**2.09**	**318**	P		Pn		12 23 31.5	+1.5
JOKE				*e*S		Sn		12 23 55.7	+0.8
JJT2	**Tamagusuku 2**	**2.19**	**279**	P		Pn		12 23 32.8	+1.5
JJT2				*e*S		Sn		12 23 58.3	+1.0
JTK	**Tokunoshima**	**2.24**	**331**	P		Pn		12 23 33.7	+1.7
JTK				*e*S		Sn		12 23 58.8	+0.4
JIH	**Iheya**	**2.31**	**302**	P		Pn		12 23 34.5	+1.6
JIH				*e*S		Sn		12 24 00.1	0.0
JAMN	**Amaminishikomi**	**2.57**	**340**	P		Pn		12 23 38.2	+1.7
JAMN				*e*S		Sn		12 24 08.0	+1.5
JAM	**Amami Oshima**	**2.63**	**349**	P		Pn		12 23 39.1	+1.8
JAM				*e*S		Sn		12 24 08.9	+0.9
JAGN	**Aguni-jima**	**2.73**	**287**	P		Pn		12 23 40.2	+1.5
JAGN				*e*S		Sn		12 24 10.3	-0.2
JKE	**Kume jima 2**	**3.08**	**280**	P		Pn		12 23 43.7	+0.2
JKE				S		Sn		12 24 17.5	-1.6
JTAJ	**Takarajima**	**3.43**	**346**	P		Pn		12 23 50.0	+1.7
JTAJ				*e*S		Sn		12 24 27.5	-0.2

DDA 29 12:24:17.8,37°.65N×34°.70E,h7km,MD2.7,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AVNT	**Avonos**	**1.14**	**6**	*i*P		Pg		12 24 39.0	-0.9
AVNT				*i*S		Sn		12 24 56.2	-0.2

IDC ***29*** *12:33:03.8±1.3,14°.88S×174°.54W,h0km,mb4.0/7, mb1 4.3/7,mb1mx3.9/25,mbtmp4.0/7,Error ellipse: s-maj=103.0km s-min=18.9km az=147.0*

ISCJB ***29*** *12:33:07.7±1.3,14°.8S±0°.6×174°.6W±0°.4,h33km,mb3.9/7, Error ellipse: s-maj=95.4km s-min=17.9km az=147.4*

ISC 29 12:33:09.2±1.4,14°.9S±0°.6×174°.6W±0°.4,h35km,n7, σ0°70/9,mb4.0/7,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.33**	**239**	P		**P**		**12 41 08.6**	**+0.5**
	3.2nm,0.9s,baz=72,slow=9.6,SNR=2.5								
WRA	**Warramunga Arr**	**48.87**	**256**	P		**P**		**12 41 52.1**	**+0.2**
	1.1nm,0.7s,baz=94,slow=8.0,SNR=13								
WRA				PcP		**PcP**		**12 43 15.2**	**-1.0**
	0.5nm,0.7s,baz=93,slow=3.6,SNR=4.6								
ASAR	**Alice Springs**	**49.20**	**251**	P		**P**		**12 41 54.6**	**+0.1**
	6.2nm,0.7s,baz=87,slow=7.8,SNR=97								
ASAR				PcP		**PcP**		**12 43 16.2**	**-1.1**
	0.6nm,0.5s,baz=99,slow=4.0,SNR=4.5								
NVAR	**Mina Array Bea**	**74.70**	**43**	P		**P**		**12 44 46.4**	**+0.6**
	1.3nm,0.8s,baz=220,slow=8.3,SNR=9.2								
TXAR	**Lajitas Array**	**81.26**	**57**	P		**P**		**12 45 22.4**	**+0.1**
	0.8nm,1.0s,baz=234,slow=5.7,SNR=5.2								
ILAR	**Eielson Array**	**82.16**	**12**	P		**P**		**12 45 26.1**	**0.0**
	0.2nm,0.5s,baz=232,slow=5.9,SNR=6.0								
PDAR	**Pinedale Array**	**82.64**	**42**	P		**P**		**12 45 29.1**	**-0.2**
	0.9nm,0.8s,baz=242,slow=1.9,SNR=7.3								

ISCJB ***29*** *13:03:48.3±0.4,34°.14N±0°.06×136°.79E±0°.05, h381km±2km,mb3.4/12,Error ellipse: s-maj=9.8km s-min=6.0km az=157.7*

IDC ***29*** *13:03:48.6±0.8,34°.11N×136°.76E,h369km±8km,mb3.2/12, mb1 3.3/17,mb1mx3.2/33,mbtmp3.9/17,Error ellipse: s-maj=15.6km s-min=11.4km az=73.0*

JMA ***29*** *13:03:49.5±0.2,34°.19N×136°.65E,h377km±2km,M2.7*

ISC 29 13:03:49.5±0.7,34°.18N±0°.07×136°.73E±0°.05,h375km±5km, n38,σ1°29/57,mb3.5/12,Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.21**	**355**	P		**Pn**		**13 04 36.7**	**+0.7**
JIE				*e*S		**S**		**13 05 13.5**	**0.0**
JKN2	**Miekihoku**	**0.38**	**278**	P		**Pn**		**13 04 36.6**	**+0.4**
JKN2				S		**S**		**13 05 13.2**	**-0.6**
TTO1	**TONANKAI O.B.S**	**0.56**	**175**	P		**Pn**		**13 04 37.5**	**+1.2**
TK02	**Tokai 2**	**0.89**	**105**	P		**Pn**		**13 04 38.5**	**+1.3**
TK02				*e*S		**S**		**13 05 18.5**	**+2.9**
JWY	**Kouya**	**0.94**	**272**	P		**Pn**		**13 04 38.1**	**+0.4**
JWY				S		**S**		**13 05 15.4**	**-1.2**
JWZ	**Kozaga**	**1.07**	**233**	P		**Pn**		**13 04 37.8**	**-0.4**
JWZ				*e*S		**S**		**13 05 16.0**	**-1.3**
JWT	**Wachi**	**1.55**	**315**	P		**Pn**		**13 04 40.7**	**+0.4**
JWT				*e*S		**S**		**13 05 20.1**	**-1.1**
JAI	**Aioi**	**1.93**	**259**	P		**Pn**		**13 04 42.5**	**-0.1**
JAI				*e*S		**S**		**13 05 23.9**	**-1.5**
JYN	**Shimob**	**1.99**	**48**	P		**Pn**		**13 04 43.6**	**+0.6**
JYN				*e*S		**S**		**13 05 27.7**	**+1.6**
JKG	**Kaga**	**2.11**	**351**	P		**Pn**		**13 04 44.2**	**+0.5**
JOD2	**Odawara 2**	**2.22**	**60**	P		**Pn**		**13 04 45.5**	**+1.0**
JOD2				*e*S		**S**		**13 05 29.3**	**+0.3**
JMN	**Monobe**	**2.41**	**260**	P		**Pn**		**13 04 46.1**	**+0.1**
JMN				*e*S		**S**		**13 05 30.4**	**-1.2**
JRY	**Ryogami san**	**2.55**	**44**	P		**Pn**		**13 04 47.9**	**+0.9**
JRY				*e*S		**S**		**13 05 33.0**	**-0.4**
MAT	**Matsushiro**	**2.65**	**27**	P		**Pn**		**13 04 48.2**	**+0.6**
MAT				S		**S**		**13 05 34.2**	**-0.5**
MAT	**Matsushiro**	**2.65**	**27**	P		**Pn**		**13 04 48.3**	**+0.6**
MAT				*e*S		**S**		**13 05 34.3**	**-0.5**
MJAR	**Matsushiro Arr**	**2.65**	**27**	P		**Pn**		**13 04 48.3**	**+0.6**
	6.8nm,0.3s,baz=203,slow=9.1,SNR=201								
MJAR				S		**S**		**13 05 33.4**	**-1.4**
	baz=193,slow=14,SNR=5.3								
JHS	**Saijyo**	**3.09**	**286**	P		**Pn**		**13 04 51.7**	**+0.2**
JHS				*e*S		**S**		**13 05 41.8**	**+0.3**
JAG	**Ashikaga**	**3.16**	**44**	P		**Pn**		**13 04 51.5**	**-0.5**
JAG				*e*S		**S**		**13 05 39.1**	**-3.4**
BSO1	**Boso 1**	**3.54**	**81**	P		**Pn**		**13 04 53.7**	**-1.2**
BSO1				*e*S		**S**		**13 05 45.2**	**-2.7**
JNU	**Nakatsue**	**4.99**	**259**	P		**Pn**		**13 05 10.3**	**+0.1**
	0.6nm,0.3s,baz=33,slow=6.1,SNR=7.4								
KSRS	**Korea Array**	**7.86**	**297**	P		**P**		**13 05 43.4**	**+0.2**
	0.7nm,0.3s,baz=113,slow=12,SNR=32								
KSRS				S		**S**		**13 07 14.9**	**+0.4**
	baz=112,slow=22,SNR=5.0								
JCJ	**Chichijima**	**8.48**	**145**	S		S		13 07 16.9	-11
	19nm,0.3s,baz=306,slow=24,SNR=16								
USRK	**Ussuriysk Ar.**	**10.65**	**341**	P		**P**		**13 06 15.8**	**+0.8**
	0.5nm,0.3s,baz=180,slow=13,SNR=12								
ASAJ	**Asahikawa**	**10.91**	**23**	P		**P**		**13 06 17.4**	**-0.4**
	1.1nm,0.3s,baz=230,slow=13,SNR=13								
ASAJ				S		**S**		**13 08 14.7**	**-4.9**
	0.2nm,0.3s,baz=288,slow=20,SNR=5.7								
SONM	**Songino Array**	**26.45**	**310**	P		**P**		**13 08 53.4**	**-0.3**
	2.2nm,0.8s,baz=113,slow=8.8,SNR=12								
ZALV	**Zalesovo Beam**	**41.11**	**315**	P		**P**		**13 10 58.3**	**+0.1**
	0.9nm,0.3s,baz=75,slow=9.3,SNR=1.9								
ZALV				PcP		**PcP**		**13 12 48.3**	**-1.1**
	0.5nm,0.4s,baz=88,slow=3.5,SNR=2.8								
MKAR	**Makanchi Array**	**42.47**	**304**	P		**P**		**13 11 09.5**	**+0.2**
	2.4nm,0.6s,baz=91,slow=9.7,SNR=33								
WRA	**Warramunga Arr**	**53.87**	**183**	P		**P**		**13 12 34.4**	**-1.2**
	1.3nm,0.4s,baz=359,slow=7.7,SNR=30								
ILAR	**Eielson Array**	**53.92**	**31**	P		**P**		**13 12 36.3**	**+1.0**
	0.2nm,0.8s,baz=263,slow=5.4,SNR=4.9								
ASAR	**Alice Springs**	**57.59**	**183**	P		**P**		**13 13 00.8**	**-0.8**
	0.4nm,0.5s,baz=13,slow=13,SNR=14								
ARCES	**ARCESS Array B**	**65.29**	**339**	P		**P**		**13 13 52.6**	**+0.6**
	0.8nm,0.7s,baz=60,slow=9.9,SNR=4.0								
FINES	**FINESS Array B**	**69.51**	**331**	P		**P**		**13 14 18.2**	**0.0**
	1.6nm,0.7s,baz=83,slow=4.4,SNR=11								
KBZ	**Khabaz**	**69.81**	**310**	P		**P**		**13 14 21.1**	**+0.7**
	2.3nm,0.8s,baz=236,slow=24,SNR=7.3								
AKASG	**Malin Array Be**	**74.15**	**321**	P		**P**		**13 14 45.9**	**+0.2**
	0.5nm,0.4s,baz=9.5,slow=3.9,SNR=2.6								
NB2	**NORSAR Subarra**	**75.27**	**336**	P		**P**		**13 14 51.8**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=44,slow=5.9								
NOA	**NORSAR Array B**	**75.27**	**336**	P		**P**		**13 14 51.9**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=57,slow=6.4,SNR=3.6								
BRTR	**Keskin Array B**	**77.81**	**310**	P		**P**		**13 15 06.0**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=56,slow=3.0,SNR=3.3								
LPAZ	**La Paz**	**151.48**		PKPbc		**PKPdf**		**13 22 57.0**	**+2.6**
	comp=Z,1.1nm,0.3s,baz=254,slow=16,SNR=7.1								

MOS ***29*** *13:04:56.2±1.0,55°.70N×163°.31E,h9km,mb4.2/1,Error ellipse: s-maj=10.1km s-min=7.6km az=66.9*

KRSC 29 13:04:55.4±1.4,55°.63N×163°.33E,h6km±36km,ML4.0,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.65**	**334**	*e*P		Pg		13 05 07.9	0.0
KBTR				S		Sg		13 05 16.9	+0.5
KBTR	**Krutoberegovo**	**0.65**	**334**	PN		Pg		13 05 07.9	0.0
KBTR				S		Sg		13 05 16.9	+0.5
MKZ	**Mys Kozlova**	**1.41**	**221**	*e*P		Pb		13 05 22.1	+0.1
MKZ	**Mys Kozlova**	**1.41**	**221**	PN		Pb		13 05 22.1	+0.1
SMKR	**Semkarok**	**1.42**	**313**	*e*P		Pn		13 05 20.8	-0.9
SMKR				*e*S		Sb		13 05 39.4	-1.2
SMKR	**Semkarok**	**1.42**	**313**	PN		Pn		13 05 20.8	-0.9
SMKR				S		Sb		13 05 39.4	-1.2
BDR	**Baidarnaya**	**1.52**	**309**	*e*P		Pn		13 05 23.3	+0.2
BDR				*e*S		Sb		13 05 43.6	0.0
BKI	**Bering**	**1.56**	**105**	*e*P		Pg		13 05 25.6	+0.3
BKI				S		Sg		13 05 46.1	+0.5
BKI	**Bering**	**1.56**	**105**	PN		Pg		13 05 25.6	+0.3
BKI				S		Sg		13 05 46.1	+0.5
SRKR	**Sorokina**	**1.59**	**311**	*e*P		Pn		13 05 24.2	+0.1
SRKR				*e*S		Sn		13 05 44.8	-0.2
SRKR	**Sorokina**	**1.59**	**311**	PN		Pn		13 05 24.2	+0.1
SRKR				S		Sn		13 05 44.8	-0.2
KLY	**Klyuchi**	**1.66**	**296**	*e*P		Pn		13 05 23.4	-1.4
KLY				*e*S		Sn		13 05 43.9	-2.5
KLY	**Klyuchi**	**1.66**	**296**	PN		Pn		13 05 23.4	-1.4
KLY				S		Sn		13 05 43.9	-2.5
KIRR	**Kirishev**	**1.72**	**282**	*e*P		Pn		13 05 26.6	+0.7
KIRR				*e*S		Sb		13 05 49.2	-0.3
KMNR	**Kamenistaya**	**1.75**	**276**	*e*P		Pb		13 05 27.5	-0.6
KMNR				S		Sg		13 05 51.5	-0.5
KMNR	**Kamenistaya**	**1.75**	**276**	PN		Pb		13 05 27.5	-0.6
KMNR				S		Sg		13 05 51.5	-0.5
KPT	**Kopyto**	**1.79**	**282**	*e*P		Pb		13 05 28.8	+0.2
KPT	**Kopyto**	**1.79**	**282**	PN		Pb		13 05 28.8	+0.2
KZV	**Kizimen**	**1.81**	**255**	*e*P		Pn		13 05 27.9	+0.7
KZV				*e*S		Sb		13 05 52.4	+0.4
TUMR	**Tumrok**	**1.84**	**261**	*e*P		Pb		13 05 28.8	-0.8
TUMR				S		Sb		13 05 53.9	+0.9
TUMR	**Tumrok**	**1.84**	**261**	PN		Pb		13 05 28.8	-0.8
TUMR				S		Sb		13 05 53.9	+0.9
KOZR	**Kozyr**	**1.99**	**284**	PN		Pb		13 05 31.2	-0.7
KOZR				S		Sb		13 05 57.4	+0.6
KOZ	**Kozyrevsk**	**2.00**	**284**	*e*P		Pb		13 05 31.2	-0.9
KOZ				*e*S		Sb		13 05 57.4	+0.2
SRDR	**Sredinnyy**	**2.15**	**290**	*e*P		Pn		13 05 32.8	+1.1
SRDR				*e*S		Sb		13 06 00.9	-0.6
SRDR	**Sredinnyy**	**2.15**	**290**	PN		Pn		13 05 32.8	+1.1
SRDR				S		Sb		13 06 00.9	-0.6
ESO	**Esso**	**2.63**	**278**	*e*P		Pn		13 05 40.6	+2.3
ESO	**Esso**	**2.63**	**278**	PN		Pn		13 05 40.6	+2.3
KII	**Karymskiy**	**2.75**	**236**	*e*P		Pb		13 05 43.2	-1.8
KII	**Karymskiy**	**2.75**	**236**	PN		Pb		13 05 43.2	-1.8
SPN	**Mys Shipunski**	**3.19**	**219**	P		Pn		13 05 46.9	+1.0
SPN	**Mys Shipunski**	**3.19**	**219**	PN		Pn		13 05 46.9	+1.0
NLC	**Nalytchevo**	**3.39**	**225**	*e*P		Pn		13 05 51.5	+2.9
NLC				S		Sn		13 06 31.5	+2.5
NLC	**Nalytchevo**	**3.39**	**225**	PN		Pn		13 05 51.5	+2.9
NLC				S		Sn		13 06 31.5	+2.5
SDLR	**Sedlovina**	**3.50**	**230**	*e*P		Pn		13 05 52.7	+2.3
SDLR	**Sedlovina**	**3.50**	**230**	PN		Pn		13 05 52.7	+2.3
SMAR	**Somma**	**3.55**	**230**	*e*P		Pn		13 05 53.2	+2.0
SMAR	**Somma**	**3.55**	**230**	PN		Pn		13 05 53.2	+2.0
KRX	**Arik**	**3.55**	**232**	*e*P		Pn		13 05 54.6	+3.5
KRX				*e*S		Sn		13 06 37.3	+3.8
AVH	**Avacha**	**3.57**	**230**	*e*P		Pn		13 05 55.0	+3.7
AVH	**Avacha**	**3.57**	**230**	PN		Pn		13 05 55.0	+3.7
UGLR	**Uglovaya**	**3.58**	**229**	*e*P		Pn		13 05 54.1	+2.7
KOK	**Koryaka**	**3.60**	**231**	*e*P		Pn		13 05 55.3	+3.6
KOK	**Koryaka**	**3.60**	**231**	PN		Pn		13 05 55.3	+3.6
GNL	**Ganaly**	**3.68**	**240**	*e*P		Pn		13 05 54.9	+2.1
GNL	**Ganaly**	**3.68**	**240**	PN		Pn		13 05 54.9	+2.1
PET	**Petropavlovsk**	**3.78**	**228**	P		Pn		13 05 56.2	+2.5
PET				S		Sn		13 06 41.2	+2.5
PET	**Petropavlovsk**	**3.78**	**228**	*e*PN		Pn		13 05 55.9	+1.9
PET				pmax		pmax			
	comp=Z,60nm,0.7s								
RUS	**Russkaya**	**4.28**	**224**	*e*P		Pn		13 06 03.6	+2.8
RUS	**Russkaya**	**4.28**	**224**	PN		Pn		13 06 03.6	+2.8
MTVR	**Mutnovka**	**4.37**	**226**	*e*P		Pn		13 06 07.5	+5.1
APC	**Apacha**	**4.52**	**236**	P		Pb		13 06 09.9	-5.0
APC	**Apacha**	**4.52**	**236**	PN		Pb		13 06 09.9	-5.0
ASAK	**Asacha**	**4.56**	**227**	*e*P		Pn		13 06 08.4	+3.5

IDC 29 13:20:22.6±3.0,20°.93S×176°.23W,h0km,mb3.5/2, mb1 3.9/3,mb1mx3.6/21,mbtmp3.8/3,ML4.1/1,Error ellipse: s-maj=70.3km s-min=50.7km az=104.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.20**	**197**	P		Pn		13 24 36.8	0.0
	0.6nm,0.3s,baz=7.4,slow=16,SNR=3.7								
ASAR	**Alice Springs**	**46.03**	**257**	P		P		13 28 46.9	-1.4
	0.2nm,0.4s,baz=93,slow=7.2,SNR=6.5								
WRA	**Warramunga Arr**	**46.18**	**262**	P		P		13 28 50.3	+0.8
	0.3nm,0.3s,baz=99,slow=6.9,SNR=27								
BRTR	**Keskin Array B**	**148.35**	**313**	PKPbc		PKPbc		13 40 10.8	-0.6
	0.2nm,0.3s,baz=76,slow=6.1,SNR=2.2								

ISCJB ***29*** *13:48:18.3±0.5,52°.05N±0°.08×170°.56W±0°.06,h31km, mb3.9/26,MS3.1/2,Error ellipse: s-maj=12.4km s-min=3.6km az=160.4*

NEIC ***29*** *13:48:18.7,52°.00N×170°.44W,h28km,mb3.7/2, ML3.7(AEIC),After AEIC.*

IDC ***29*** *13:48:23.5±4.8,52°.16N×170°.67W,h61km±43km,mb3.6/25, mb1 3.8/27,mb1mx3.8/34,mbtmp3.9/27,ML3.9/2,MS3.1/2, Ms1 3.1/2,ms1mx2.6/40,Error ellipse: s-maj=21.1km s-min=11.9km az=176.0*

ISC 29 13:48:19.8±0.7,52°.1N±0°.1×170°.55W±0°.05,h31km,n53, σ1°15/55,mb4.0/26,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.37**	**49**	P		**Pn**		**13 48 41.6**	**-1.1**
NIKH				S		**Sn**		**13 48 58.6**	**-1.1**
OKFG	**Magazine Ridge**	**2.08**	**49**	P		**Pn**		**13 48 52.6**	**+0.1**
OKFG				S		**Sn**		**13 49 19.4**	**+2.0**
KOFP	**Korovin Flat P**	**2.19**	**276**	P		**Pn**		**13 48 55.5**	**+1.5**
ATKA	**Atka Island**	**2.25**	**274**	P		**Pn**		**13 48 55.0**	**+0.2**
ATKA				S		**Sb**		**13 49 24.2**	**-2.8**
KOKL	**Mount Kliuchef**	**2.26**	**277**	P		**Pn**		**13 48 57.2**	**+2.2**
MREP	**Makushin Rep't**	**2.88**	**52**	P		**Pn**		**13 49 04.9**	**+1.4**
MCIR	**Makushin Cirqu**	**2.90**	**48**	P		**Pn**		**13 49 05.4**	**+1.6**
MSW	**Makushin Switc**	**2.92**	**50**	P		**Pn**		**13 49 04.8**	**+0.7**
UNV	**Unalaska Valle**	**3.02**	**53**	P		**Pn**		**13 49 05.7**	**+0.3**
UNV				S		**Sn**		**13 49 42.1**	**+1.6**
ZRO	**Akutan Zero**	**3.41**	**52**	P		**Pn**		**13 49 12.1**	**+1.3**
GSTD	**Great Sitkin T**	**3.45**	**272**	P		**Pn**		**13 49 11.9**	**+0.5**
GSTD				S		**Sn**		**13 49 53.0**	**+1.7**
GSCK	**Great Sitkin C**	**3.46**	**271**	P		**Pn**		**13 49 12.2**	**+0.7**
ADAG	**Mount Adagdak**	**3.74**	**271**	P		**Pn**		**13 49 16.8**	**+1.5**
TASE	**Tanaga Southea**	**4.63**	**270**	P		**Pn**		**13 49 29.0**	**+1.3**
FALS	**False Pass**	**5.09**	**54**	*e*Pn		**Pn**		**13 49 31.9**	**-1.9**
SPIA	**Saint Paul Isl**	**5.11**	**2**	P		**Pn**		**13 49 36.0**	**+1.9**
ILAR	**Eielson Array**	**17.60**	**35**	P		**P**		**13 52 24.2**	**+1.1**
	0.1nm,0.3s,baz=237,slow=11,SNR=4.7								
PEA0B	**Petropavlovsk-**	**19.23**	**286**	*e*P		**P**		**13 52 40.8**	**-0.4**
PETK	**Petropavlovsk-**	**19.23**	**286**	P		**Pn**		**13 52 42.2**	**-0.1**
	6.0nm,0.3s,baz=92,slow=13,SNR=75								
BILL	**Bilibino**	**19.52**	**334**	*e*P		**P**		**13 52 44.6**	**+0.4**
	1.4nm,0.4s								
EGAK	**Eagle**	**19.71**	**39**	*e*P		**P**		**13 52 46.9**	**+0.6**
	3.3nm,0.6s								
SEY	**Seymchan**	**22.33**	**313**	P		**P**		**13 53 13.5**	**-1.0**
	1.3nm,0.7s,baz=130,slow=10,SNR=7.3								
DLBC	**Dease Lake**	**23.66**	**

JKE				*e*S		**Sn**	**14 15 06.4**	**+0.9**
JAGN	**Aguni-jima**	**3.19**	**61**	P		**Pn**	**14 14 40.1**	**+0.5**
JAGN				*e*S		**Sn**	**14 15 16.8**	**-0.2**
JJT2	**Tamagusuku 2**	**3.45**	**71**	P		**Pn**	**14 14 44.0**	**+1.0**
JNTH	**Nagotoyohara**	**3.80**	**67**	P		**Pn**	**14 14 48.0**	**+0.2**
JNTH				*e*S		**Sn**	**14 15 31.0**	**-0.6**
JIH	**Iheya**	**3.97**	**60**	P		**Pn**	**14 14 50.0**	**-0.1**
JIH				*e*S		**Sn**	**14 15 33.5**	**-2.2**
JOW	**Kunigami**	**4.13**	**64**	P		**Pn**	**14 14 51.9**	**-0.4**
JOW	**Kunigami**	**4.13**	**64**	P		**Pn**	**14 14 52.0**	**-0.2**
	0.6nm,0.3s,baz=225,slow=5.7,SNR=30							
JOW				S		**Sn**	**14 15 38.5**	**-1.0**
	0.6nm,0.3s,baz=282,slow=20,SNR=3.2							
JOKE	**Okinoerabujima**	**4.60**	**59**	P		**Pn**	**14 14 57.5**	**-1.1**
KSRS	**Korea Array**	**12.75**	**14**	P		**Pn**	**14 16 49.7**	**+1.0**
	0.3nm,0.3s,baz=198,slow=11,SNR=13							
MJAR	**Matsushiro Arr**	**16.62**	**43**	P		**P**	**14 17 39.2**	**+0.4**
	0.2nm,0.3s,baz=226,slow=9.4,SNR=7.7							
USRK	**Ussuriysk Ar.**	**20.12**	**17**	P		**P**	**14 18 16.8**	**-0.2**
	1.0nm,0.6s,baz=210,slow=8.3,SNR=2.5							
ASAJ	**Asahikawa**	**24.23**	**34**	P		**P**	**14 18 57.6**	**-0.9**
	1.0nm,0.3s,baz=251,slow=12,SNR=8.1							
CMAR	**Chiang Mai Arr**	**24.26**	**259**	P		**P**	**14 19 01.1**	**+2.0**
	1.3nm,0.8s,baz=61,slow=7.6,SNR=7.3							
SONM	**Songino Array**	**26.68**	**333**	P		**P**	**14 19 21.5**	**+0.6**
	0.4nm,0.4s,baz=149,slow=8.9,SNR=4.3							
PETK	**Petropavlovsk-**	**37.65**	**33**	P		**P**	**14 20 55.6**	**-0.6**
	1.2nm,0.8s,baz=193,slow=6.1,SNR=4.2							
MKAR	**Makanchi Array**	**39.59**	**314**	P		**P**	**14 21 12.5**	**-0.2**
	1.6nm,0.4s,baz=98,slow=9.3,SNR=44							
ZALV	**Zalesovo Beam**	**40.99**	**325**	P		**P**	**14 21 22.6**	**-1.4**
	2.7nm,0.4s,baz=120,slow=8.3,SNR=16							
KURBB	**Kurchatov Arra**	**43.18**	**318**	P		**P**	**14 21 41.6**	**-0.2**
	4.3nm,0.2s,baz=114,slow=8.1,SNR=6.4							
WRA	**Warramunga Arr**	**45.85**	**167**	P		**P**	**14 22 03.6**	**+0.2**
	3.6nm,0.7s,baz=348,slow=8.9,SNR=17							
ASAR	**Alice Springs**	**49.38**	**168**	P		**P**	**14 22 31.7**	**+1.0**
	1.9nm,0.5s,baz=352,slow=7.3,SNR=25							
KBZ	**Khabaz**	**67.00**	**309**	P		**P**	**14 24 32.5**	**-0.7**
	2.2nm,0.7s,baz=53,slow=20							
ILAR	**Eielson Array**	**67.19**	**28**	P		**P**	**14 24 34.0**	**-0.1**
	0.2nm,0.6s,baz=216,slow=5.6,SNR=4.4							
ARCES	**ARCESS Array B**	**69.70**	**338**	P		**P**	**14 24 49.0**	**-0.7**
	2.0nm,0.9s,baz=74,slow=7.6,SNR=4.2							
FINES	**FINESS Array B**	**72.01**	**330**	P		**P**	**14 25 03.4**	**-0.4**
	0.6nm,0.4s,baz=74,slow=6.0,SNR=13							
BRTR	**Keskin Array B**	**74.78**	**307**	P		**P**	**14 25 20.5**	**-0.1**
	0.7nm,0.4s,baz=77,slow=5.3,SNR=5.8							
NOA	**NORSAR Array B**	**78.66**	**333**	P		**P**	**14 25 41.6**	**-0.4**
	0.6nm,0.8s,baz=58,slow=6.7,SNR=2.8							
YKA	**Yellowknife Ar**	**81.10**	**24**	P		**P**	**14 25 55.1**	**+0.1**
	0.8nm,0.8s,baz=310,slow=5.2,SNR=8.6							

ISCJB ***29*** *14:16:17.9±0.9,2.7°55S±0.07°×140.6°53E±0.06,h10km, mb3.5/4, Error ellipse: s-maj=9.4km s-min=7.9km az=5.4*
IDC ***29*** *14:16:18.1±1.2,2.7°55S×139.6°8E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.6/17, mbtmp3.6/5, ML3.7/1, Error ellipse: s-maj=66.6km s-min=26.7km az=100.0*
DJA ***29*** *14:16:18.9±0.7,3.°S±5.°×14.°1E±.°, h10km, M3.7/4, MLv3.7/4*
ISC 29 14:16:18.3±0.9,2.°72S±0.°07×140.°53E±0.°06,h10km,n10,
σ2§00/13,mb3.5/3,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**0.27**	**40**	P		**Pg**	**14 16 22.0**	**-1.7**
GENI	**Genyem**	**0.39**	**289**	P		**Pb**	**14 16 27.3**	**0.0**
GENI				S		**Sb**	**14 16 35.9**	**+2.6**
SMPI	**Sarmi**	**1.96**	**292**	P		**Pb**	**14 16 53.4**	**-0.7**
SMPI				S		**Sg**	**14 17 20.9**	**-0.5**
WAMI	**Wamena**	**2.16**	**237**	P		**Pb**	**14 16 57.3**	**-0.2**
WAMI				S		**Sg**	**14 17 25.5**	**-2.2**
WRA	**Warramunga Arr**	**18.16**	**199**	P		**P**	**14 20 31.0**	**0.0**
	0.3nm,0.3s,baz=22,slow=12,SNR=18							
ASAR	**Alice Springs**	**21.79**	**197**	P		**P**	**14 21 10.7**	**+0.1**
	1.1nm,0.5s,baz=30,slow=11,SNR=14							
MKAR	**Makanchi Array**	**70.92**	**322**	P		**P**	**14 27 33.4**	**-2.4**
	0.2nm,0.7s,baz=117,slow=5.0,SNR=2.4							
ILAR	**Eielson Array**	**85.09**	**24**	P		**P**	**14 28 56.2**	**+1.9**
	0.3nm,0.6s,baz=263,slow=4.6,SNR=4.0							
YKA	**Yellowknife Ar**	**99.25**	**27**	P		**Pdif**	**14 30 02.6**	**+2.4**
	0.1nm,0.3s,baz=278,slow=4.3,SNR=5.5							
LPAZ	**La Paz**	**145.96**	**125**	PKPbc		**PKPab**	**14 36 03.5**	**+3.0**
	0.5nm,0.6s,baz=204,slow=6.4,SNR=3.6							

ISCJB ***29*** *14:34:43.5±0.6,33.°28N±0.°06×96.°13E±0.°09,h10km, mb3.5/8,MS3.4/2, Error ellipse: s-maj=11.3km s-min=8.1km az=35.4*
IDC ***29*** *14:34:43.4±0.9,33.°12N×95.°88E, h0km, mb3.5/8, mb1 3.7/11, mb1mx3.5/28, mbtmp3.5/11, ML3.3/2, MS3.4/2, Ms1 3.4/2, ms1mx2.5/35, Error ellipse: s-maj=35.5km s-min=17.2km az=53.0*
ISC 29 14:34:45.6±0.8,33.°28N±0.°09×96.°1E±0.°1,h10km,n21,
σ1§42/18,mb3.6/8,Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAPN	**Taplejung**	**9.36**	**233**	*e*P		**Pn**	**14 37 03.2**	**+2.4**
	11nm,0.6s							
ODAN	**Odare**	**9.90**	**232**	*e*P		**Pn**	**14 37 09.6**	**+1.5**
JIRN	**Jiri**	**10.23**	**239**	*e*P		**Pn**	**14 37 14.4**	**+1.6**
GUN	**Gumba**	**10.31**	**241**	*e*P		**Pn**	**14 37 15.0**	**+1.1**
	8.1nm,0.4s							
RAMN	**Ramite**	**10.37**	**235**	*e*P		**Pn**	**14 37 16.5**	**+1.9**
	11nm,0.5s							
KKN	**Kakani**	**10.82**	**243**	*e*P		**Pn**	**14 37 21.4**	**+0.6**
PKI	**Pulchoki**	**10.85**	**241**	*e*P		**Pn**	**14 37 22.1**	**+0.9**
	10nm,0.4s							
PKIN	**Phulchoki**	**10.85**	**241**	*e*P		**Pn**	**14 37 22.2**	**+0.9**
	8.8nm,0.4s							
CMAR	**Chiang Mai Arr**	**14.97**	**170**	Pn		**Pn**	**14 38 16.1**	**-1.2**
	baz=213,slow=25,SNR=2.6							
SONM	**Songino Array**	**16.48**	**25**	Pn		**Pn**	**14 38 38.8**	**+1.9**
	0.3nm,0.3s,baz=208,slow=15,SNR=13							
MKAR	**Makanchi Array**	**17.12**	**326**	P		**Pn**	**14 38 43.0**	**-1.9**
	0.0nm,0.3s,baz=140,slow=13,SNR=4.1							
KURBB	**Kurchatov Arra**	**21.62**	**329**	P		**P**	**14 39 35.2**	**-0.5**
	0.6nm,0.3s,baz=128,slow=12,SNR=4.3							
ZALV	**Zalesovo Beam**	**22.17**	**342**	P		**P**	**14 39 42.5**	**+0.9**
	0.3nm,0.4s,baz=157,slow=9.9,SNR=2.6							
KSRS	**Korea Array**	**26.20**	**72**	P		**P**	**14 40 21.6**	**+1.2**
	0.2nm,0.3s,baz=271,slow=9.8,SNR=3.1							
USRK	**Ussuriysk Ar.**	**29.81**	**58**	LR		LR	14 53 16.9	
	comp=Z,62nm,21.4s,baz=90,slow=37							
BRTR	**Keskin Array B**	**49.75**	**296**	P		P	14 43 36.6	-1.7
	0.4nm,0.6s,baz=71,slow=4.9,SNR=2.8							
AKASG	**Malin Array Be**	**50.91**	**311**	P		**P**	**14 43 45.6**	**-1.2**
	0.2nm,0.3s,baz=70,slow=6.8,SNR=2.8							
NOA	**NORSAR Array B**	**59.12**	**326**	P		**P**	**14 44 45.9**	**-0.1**
	1.5nm,1.1s,baz=76,slow=6.7,SNR=3.4							
WRA	**Warramunga Arr**	**64.28**	**140**	P		**P**	**14 45 20.4**	**-0.8**
	0.5nm,0.7s,baz=333,slow=6.9,SNR=4.6							
KMBO	**Kilima Mbogo**	**84.22**		LR		LR	15 14 28.4	
	comp=Z,37nm,19.0s,baz=94,slow=37							
ASAR	**Alice Springs**	**67.11**	**142**	P		**P**	**14 45 38.9**	**-0.6**
	0.3nm,0.5s,baz=326,slow=6.6,SNR=16							

IDC ***29*** *14:49:56.5±3.2,32.°59N×116.°07W, h0km, mb1 3.5/4, mb1mx3.3/36, mbtmp3.1/4, ML3.4/4, Error ellipse: s-maj=47.3km s-min=10.5km az=47.0*
ISCJB ***29*** *14:49:59.4±0.3,32.°74N±0.°02×115.°84W±0.°02,h13km±2km, Error ellipse: s-maj=3.4km s-min=3.0km az=162.2*
NEIC ***29*** *14:50:00.6,32.°73N×115.°88W,h3km, ML3.8(PAS), ML3.9(ECX), After PAS.*
ECX ***29*** *14:50:00.8±0.6,32.°73N×115.°88W, h3km, MD3.6, ML3.8*
MEX ***29*** *14:50:03.6±1.4,32.°36N×115.°80W, h16km±261km, MD3.8*
ISC 29 14:49:59.9±0.8,32.°70N±0.°02×115.°86W±0.°02,h13km±5km,
n47,σ0§94/65,8C-4D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUH	**Yuha Desert**	**0.07**	**224**	⇑*i*P		**Pg**	**14 50 02.6**	**-0.1**
WESC	**Westside Schoo**	**0.12**	**62**	⇑*i*P		**Pg**	**14 50 03.3**	**+0.1**
WESC				*e*S		**Sg**	**14 50 05.6**	**0.0**
SGL	**Mount Signal**	**0.13**	**114**	⇓*i*P		**Pg**	**14 50 03.5**	**+0.2**
COK	**Cook Ranch**	**0.19**	**38**	⇑*i*P		**Pg**	**14 50 04.2**	**0.0**
RMX	**La Rumorosa**	**0.21**	**242**	⇑*e*P		**Pg**	**14 50 04.8**	**+0.2**
RMX				*e*S		**Sg**	**14 50 08.0**	**+0.2**
RMX				*e*			14 50 08.4	
RMX				IAML			14 50 08.4	
	comp=N,13μm,0.2s							
CRR	**Carrizo Plain**	**0.21**	**334**	⇓*i*P		**Pg**	**14 50 04.1**	**-0.4**
SWSC	**Sam W. Stewart**	**0.25**	**13**	⇓*i*P		**Pg**	**14 50 04.9**	**-0.3**
DREC	**Desert Rsrch C**	**0.37**	**73**	*e*P		**Pb**	**14 50 08.2**	**-0.1**
CPBX	**Cerro Prieto**	**0.55**	**121**	*e*P		**Pg**	**14 50 10.8**	**+0.1**
CPBX				*i* S		**Sg**	**14 50 17.9**	**-0.1**
CPBX	**Cerro Prieto**	**0.55**	**121**	*e*P9			14 50 11.5	
CPBX				*e*S		**Sb**	**14 50 19.6**	**+0.4**
MBIG	**Mexicali**	**0.63**	**117**	*e*P		**Pb**	**14 50 13.0**	**+0.2**
MBIG				*e*S		**Sg**	**14 50 18.7**	**-2.0**
BAR	**Barrett**	**0.68**	**269**	*e*Pn		**Pg**	**14 50 13.0**	**-0.2**
BAR				*e*Sn		**Sg**	**14 50 21.7**	**-0.5**
BAR	**Barrett**	**0.68**	**269**	⇑*i*P		**Pg**	**14 50 13.0**	**-0.2**
BAR				*e*S		**Sg**	**14 50 21.8**	**-0.5**
RDX	**Rancho Dawling**	**0.77**	**185**	*e*P		**Pg**	**14 50 14.8**	**-0.2**
RDX				⇓*e*			14 50 26.4	
RDX				IAML			14 50 26.4	
	comp=N,3μm,0.3s							
CBX	**Cerro Bola**	**0.78**	**241**	*e*P		**Pg**	**14 50 14.7**	**-0.3**
CBX				*i* S		**Sg**	**14 50 24.6**	**-0.7**
CBX	**Cerro Bola**	**0.78**	**241**	*e*P		**Pg**	**14 50 14.7**	**-0.3**
CBX				*i* S		**Sg**	**14 50 24.6**	**-0.7**
CBX	**Cerro Bola**	**0.78**	**241**	⇑*i*P		**Pb**	**14 50 15.2**	**-0.3**
CBX				*e*S		**Sb**	**14 50 25.4**	**-0.5**
CBX				⇑*e*			14 50 26.7	
CBX				IAML			14 50 26.7	
	comp=N,5μm,0.3s							
SDRC	**San Diego Road**	**0.91**	**273**	*e*P		**Pg**	**14 50 16.7**	**-0.8**
GLA	**Glamis**	**0.94**	**68**	*e*Pg		**Pg**	**14 50 17.0**	**-1.1**
GLA				*e*Sg		**Sg**	**14 50 29.5**	**-1.0**
PFO	**Pinyon Flats O**	**1.03**	**331**	Pg		**Pb**	**14 50 18.3**	**-1.5**
	comp=N,119nm,0.3s,baz=148,slow=14,SNR=822							
PFO				Lg	Lg		14 50 32.0	
	comp=N,126nm,0.3s,baz=241,slow=21,SNR=21							
PBX	**Punta Banda**	**1.20**	**218**	*e*P		**Pb**	**14 50 22.6**	**0.0**
PBX				*e*S		**Sn**	**14 50 38.7**	**0.0**
ECNX	**Esteban Cantu**	**1.21**	**211**	*e*P		**Pn**	**14 50 22.7**	**0.0**
ECNX				*e*S		**Sg**	**14 50 38.8**	**-0.3**
ZAX	**El Zacaton**	**1.23**	**197**	*e*P		**Pb**	**14 50 23.2**	**+0.1**
ZAX				*e*S		**Sg**	**14 50 39.7**	**-0.1**
ECBX	**El Chinero**	**1.41**	**150**	*e*P9			14 50 24.4	
ECBX				*e*S		**Sn**	**14 50 43.9**	**+0.3**
SPIG	**San Pedro Mart**	**1.68**	**168**	*e*P		Pn	14 50 24.4	-5.0
SPIG				*i* S		Sn	14 50 40.5	-11
SPX	**San Pedro Mart**	**1.69**	**168**	*e*P		**Pn**	**14 50 29.6**	**+0.2**
SPX	**San Pedro Mart**	**1.69**	**168**	*e*P		**Pb**	**14 50 30.5**	**-0.5**
SPX				*e*S		**Sg**	**14 50 53.9**	**-0.3**
SPX				⇑*e*			14 51 01.0	
	comp=E,866nm,0.6s							
MWC	**Mount Wilson**	**2.38**	**310**	*e*Pn		**Pn**	**14 50 40.5**	**+1.6**
MWC				*e*Sn		**Sb**	**14 51 12.4**	**+0.2**
PASC	**Pasadena Art C**	**2.43**	**308**	*e*Pn		**Pn**	**14 50 38.9**	**-0.5**
PASC				*e*Sn		**Sn**	**14 51 10.1**	**+1.0**
214A	**Organ Pipe Nat**	**2.69**	**105**	*e*Pn		**Pn**	**14 50 41.3**	**-1.6**
214A				*e*Pg		**Pg**	**14 50 51.1**	**-0.4**
GSC	**Goldstone, Bar**	**2.71**	**343**	*e*Pn		**Pn**	**14 50 42.5**	**-0.8**
OSI	**Osito Audit: C**	**3.06**	**309**	*e*Pn		**Pn**	**14 50 50.1**	**+2.1**
OSI				*e*Sn		**Sn**	**14 51 27.8**	**+3.3**
ISA	**Isabella, Lake**	**3.66**	**325**	*e*Pn		**Pn**	**14 50 55.9**	**-0.5**
SHPR	**Sheep Range**	**3.84**	**8**	*e*Pn		**Pn**	**14 50 59.4**	**+0.5**
DAC	**Darwin (Calif)**	**3.84**	**339**	*e*Pn		**Pn**	**14 50 58.3**	**-0.7**
DAC				*e*Sn		**Sn**	**14 51 44.8**	**+0.7**
TUC	**Tucson**	**4.31**	**94**	*e*Pn		**Pn**	**14 51 04.1**	**-1.2**
WUAZ	**Wupatki**	**4.67**	**52**	*e*Pn		**Pn**	**14 51 10.3**	**+0.1**
NVAR	**Mina Array Bea**	**6.05**	**342**	Pn		**Pn**	**14 51 28.3**	**-1.0**
	comp=E,0.3nm,0.3s,baz=166,slow=16,SNR=5.9							
NVAR				Pg		**Pb**	**14 51 44.4**	**-1.0**
	comp=E,0.2nm,0.3s,baz=168,slow=15,SNR=3.6							
MSU	**Marysvale**	**6.53**	**26**	*e*Pn		**Pn**	**14 51 37.8**	**+1.9**
	comp=E,7.9nm,0.6s							
121A	**Cookes Peak, D**	**6.82**	**89**	*e*Pn		**Pn**	**14 51 38.7**	**-1.1**
	comp=E,20nm,0.4s							
MVCO	**Mesa Verde**	**7.54**	**51**	*e*Pn		**Pn**	**14 51 50.6**	**+0.9**
	comp=E,9.7nm,0.6s							
SRU	**San Rafael Swe**	**7.72**	**33**	*e*Pn		**Pn**	**14 51 53.2**	**+1.0**
	comp=E,7.3nm,0.6s							
PV04	**Paradox Valley**	**8.02**	**43**	*e*Pn		**Pn**	**14 51 58.0**	**+1.6**
ELK	**Elko**	**8.04**	**3**	Pg		**Pb**	**14 52 20.1**	**+0.8**
	comp=E,0.1nm,0.3s,baz=176,slow=19,SNR=3.1							
ANMO	**Albuquerque**	**8.14**	**71**	Pn		**Pn**	**14 51 59.0**	**+1.0**
	comp=E,0.3nm,0.3s,baz=261,slow=14,SNR=5.5							
TXAR	**Lajitas Array**	**10.99**	**105**	Pn		**Pn**	**14 52 38.6**	**+1.6**
	comp=E,0.1nm,0.3s,baz=289,slow=13,SNR=8.0							
TXAR				Lg	Lg		14 55 49.2	
	comp=E,0.1nm,0.3s,baz=286,slow=27,SNR=2.6							
PDAR	**Pinedale Array**	**11.22**	**25**	Pn		Pn	14 52 44.0	+3.8
	comp=E,0.1nm,0.3s,baz=202,slow=15,SNR=2.3							

ISCJB ***29*** *15:04:04.0±0.2, 41.°54N±0.°02×14.°01E±0.°02, h7km±2km, Error ellipse: s-maj=3.3km s-min=2.0km az=27.8*
ROM ***29*** *15:04:05.1±0.1,41.°57N×14.°12E, h10km, MI3.3/51, Error ellipse: s-maj=1.3km s-min=0.9km az=40.0*
PDG ***29*** *15:04:06.3±1.1,41.°57N×14.°16E, h4km±1km, ML3.7/10, Error ellipse: s-maj=1.1km s-min=1.3km az=0.0*
LDG ***29*** *15:04:06.3±0.1,41.°54N×14.°17E, h10km, MI3.0/7, Error ellipse: s-maj=3.5km s-min=1.8km az=32.0*
CSEM ***29*** *15:04:06.4±0.1,41.°51N×13.°99E, h20km, ML3.7/5, Error ellipse: s-maj=3.7km s-min=2.4km az=28.0*
PRU ***29*** *15:04:07.2,41.°69N×14.°82E, h0km*
ISC 29 15:04:05.6±0.8,41.°57N±0.°02×14.°08E±0.°02,h15km±4km,
n186,σ1§76/228,25C-11D,Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CERA	**Filignano**	**0.05**	**299**	Pg		**Pg**	**15 04 08.2**	**-0.4**
CERA				Sg		**Sg**	**15 04 10.8**	**+0.3**
	14μm,0.3s							
RNI2	**Rionero Sannit**	**0.14**	**22**	⇑*i*Pg		**Pg**	**15 04 09.1**	**-0.4**
RNI2				Sg		**Sg**	**15 04 12.6**	**+0.5**
	17μm,0.8s							
MIDA	**Miranda**	**0.15**	**61**	⇑*i*Pg		**Pg**	**15 04 08.3**	**-1.3**
MIDA				Sg		**Sg**	**15 04 10.7**	**-1.5**
	26μm,0.6s							
VAGA	**Valle Agricola**	**0.19**	**144**	⇑*i*Pg		**Pg**	**15 04 09.1**	**-1.1**
VAGA				Sg		**Sg**	**15 04 12.7**	**-0.6**
	44μm,0.5s							
SDI	**San Donato**	**0.24**	**304**	⇑*i*Pg		**Pg**	**15 04 11.3**	**+0.3**
SDI	**San Donato**	**0.24**	**304**	⇑*i*Pg		**Pg**	**15 04 11.3**	**+0.3**
SGG	**Gregorio Mates**	**0.29**	**129**	⇑*e*Pg		**Pg**	**15 04 10.6**	**-1.2**
	14μm,0.5s							
POFI	**Posta Fibreno**	**0.31**	**298**	⇓*e*Pg		**Pb**	**15 04 12.4**	**-0.5**
	2μm,0.7s							
POFI	**Posta Fibreno**	**0.31**	**298**	⇓*e*Pg		**Pb**	**15 04 12.4**	**-0.5**
	2μm,0.7s							
BSSO	**Busso**	**0.39**	**94**	⇑*e*Pg		**Pg**	**15 04 12.5**	**-0.9**
BSSO				Sg		**Sg**	**15 04 19.0**	**+0.2**
	3μm,0.5s							
MSC	**Monte Massico**	**0.39**	**192**	Pg		**Pb**	**15 04 13.9**	**-0.2**
MSC	**Monte Massico**	**0.39**	**192**	Pg		**Pb**	**15 04 13.9**	**-0.2**
PTRJ	**Pietraroja**	**0.40**	**121**	⇑*i*Pg		**Pg**	**15 04 12.6**	**-1.0**
PTRJ				Sg		**Sg**	**15 04 18.6**	**-0.5**
	14μm,0.7s							
TRIV	**Trivento**	**0.40**	**61**	⇑*i*Pg		**Pg**	**15 04 13.0**	**-0.7**
TRIV				Sg		**Sg**	**15 04 19.9**	**+0.6**
	3μm,0.9s							
MODR	**Mondragone**	**0.45**	**200**	Pg		**Pg**	**15 04 14.4**	**-0.2**
	2μm,0.7s							
MODR	**Mondragone**	**0.45**	**200**	Pg		**Pg**	**15 04 14.4**	**-0.2**
	2μm,0.7s							
VVLD	**Villa Vallelon**	**0.46**	**311**	Pg		**Pg**	**15 04 14.7**	**0.0**
VVLD				Sg		**Sb**	**15 04 22.3**	**+0.4**
	1μm,0.5s							
VVLD	**Villa Vallelon**	**0.46**	**311**	Pg		**Pg**	**15 04 14.7**	**0.0**
VVLD				Sg		**Sb**	**15 04 22.3**	**+0.4**
	1μm,0.5s							
INTR	**Introdacqua**	**0.46**	**343**	⇑*i*Pg		**Pg**	**15 04 14.5**	**-0.3**
INTR				Sg		**Sb**	**15 04 22.2**	**+0.2**
	3μm,0.5s							
LPEL	**Lama dei Pelig**	**0.48**	**9**	Pg		**Pg**	**15 04 14.6**	**-0.6**
	2μm,0.3s							
SACR	**S. Croce Del S**	**0.50**	**110**	Pg		**Pg**	**15 04 14.2**	**-1.3**
FRES	**Fresagrandinar**	**0.60**	**47**	Pg		**Pg**	**15 04 16.1**	**-1.2**
	2μm,0.9s							
GIUL	**Giuliano Di Ro**	**0.62**	**269**	Pg		**Pb**	**15 04 18.0**	**-0.1**
	695nm,0.5s							
GIUL	**Giuliano Di Ro**	**0.62**	**269**	Pg		**Pb**	**15 04 18.0**	**-0.1**
	695nm,0.5s							
CIGN	**Sant'Elia a Pi**	**0.62**	**82**	Pg		**Pg**	**15 04 16.8**	**-1.0**
	914nm,0.8s							
GATE	**Gambatesa**	**0.62**	**95**	Pg		**Pg**	**15 04 17.3**	**-0.5**
	694nm,0.7s							
PSB1	**Pescosannita**	**0.65**	**122**	Pg		**Pg**	**15 04 17.1**	**-1.2**
PSB1				Sg		**Sb**	**15 04 27.8**	**+0.3**
	3μm,0.7s							
PAOL	**Paolisi**	**0.65**	**146**	Pg		**Pg**	**15 04 17.1**	**-1.3**
	2μm,0.7s							
PAOL	**Paolisi**	**0.65**	**146**	Pg		**Pg**	**15 04 17.1**	**-1.3**
	2μm,0.7s							
IPES	**Pescosannita**	**0.66**	**121**	Pg		**Pg**	**15 04 17.1**	**-1.4**
PTQR	**Pietraquaria**	**0.68**	**312**	Pg		**Pg**	**15 04 18.5**	**-0.4**
	165nm,0.4s							
PTQR	**Pietraquaria**	**0.68**	**312**	Pg		**Pg**	**15 04 18.5**	**-0.4**
	165nm,0.4s							
IPOZ	**Pozzuoli**	**0.75**	**178**	Pg		**Pb**	**15 04 20.6**	**+0.3**
FAGN	**Fagnano**	**0.79**	**332**	Pg		**Pg**	**15 04 19.9**	**-1.0**
	3μm,0.5s							
MELA	**Melanico ??? S**	**0.80**	**80**	Pg		**Pg**	**15 04 18.5**	**-2.5**
	1μm,0.4s							
MRB1	**Monte Rocchett**	**0.81**	**123**	Pg		**Pg**	**15 04 19.9**	**-1.3**
	4μm,1.0s							
MOCO	**Biccari - m.te**	**0.83**	**104**	Pg		**Pg**	**15 04 20.5**	**-1.3**
	392nm,0.6s							
OC9	**Casamicciola**	**0.84**	**189**	Pg		**Pb**	**15 04 22.0**	**+0.3**
OC9	**Casamicciola**	**0.84**	**189**	Pg		**Pb**	**15 04 22.0**	**+0.3**
T0106	**Roio Piano**	**0.90**	**325**	Pg		**Pg**	**15 04 21.7**	**-1.4**
	684nm,0.5s							
CERT	**Cerreto**	**0.91**	**295**	Pg		**Pg**	**15 04 22.1**	**-1.0**
	412nm,0.5s							
CERT	**Cerreto**	**0.91**	**295**	Pg		**Pg**	**15 04 22.1**	**-1.0**
	412nm,0.5s							
VENT	**Ventotene**	**0.92**	**213**	Pg		**Pg**	**15 04 22.8**	**-0.6**
	652nm,0.8s							
VENT	**Ventotene**	**0.92**	**213**	Pg		**Pg**	**15 04 22.8**	**-0.6**
	652nm,0.8s							
AQU	**L'Aquila**	**0.93**	**327**	Pg		**Pg**	**15 04 22.8**	**-0.8**
AQU	**L'Aquila**	**0.93**	**327**	Pg		**Pg**	**15 04 22.8**	**-0.8**
T0104	**Madonna delle**	**0.96**	**325**	Pg		**Pg**	**15 04 22.9**	**-1.3**
CSSN	**Cassano Irpino**	**1.00**	**135**	Pg		**Pg**	**15 04 23.1**	**-1.9**
	307nm,0.6s							
CSSN	**Cassano Irpino**	**1.00**	**135**	Pg		**Pg**	**15 04 23.1**	**-1.9**
	307nm,0.6s							
CAFE	**Carife**	**1.03**	**122**	Pg		**Pg**	**15 04 23.3**	**-2.1**
	615nm,0.7s							
RMP	**Rome, Mte Porz**	**1.06**	**284**	Pg		**Pn**	**15 04 26.5**	**+0.7**
	626nm,0.7s							
RMP	**Rome, Mte Porz**	**1.06**	**284**	Pg		**Pn**	**15 04 26.5**	**+0.7**
	626nm,0.7s							
SGTA	**Sant Agata di**	**1.06**	**114**	Pg		**Pg**	**15 04 23.8**	**-2.3**
	442nm,0.6s							
SNAL	**S. Angelo Dei**	**1.07**	**127**	Pg		**Pg**	**15 04 25.5**	**-0.7**
	811nm,0.8s							
SNAL	**S. Angelo Dei**	**1.07**	**127**	Pg		**Pg**	**15 04 25.5**	**-0.7**
	811nm,0.8

PGF	**Pioggiola**	**3.91**	**286**	*e*Pn	**Pn**	**15 05 06.6**	**+1.5**
PGF				*e*Sn	**Sn**	**15 05 49.9**	**-0.8**
	5.0nm,0.4s						
PGF	**Pioggiola**	**3.91**	**286**	*e*Pn	**Pn**	**15 05 06.6**	**+1.5**
PGF				*e*Sn	**Sn**	**15 05 49.9**	**-0.8**
	2.5nm,0.4s						
UPM	**Unac-Piva**	**3.93**	**64**⇑	*i*Pn	**Pn**	**15 05 07.8**	**+2.4**
UPM				*e*Sn	**Sn**	**15 05 55.0**	**+3.7**
PDG	**Podgorica**	**3.95**	**76**⇓	*i*Pn	**Pn**	**15 05 07.5**	**+2.0**
PDG				*e*Sn	**Sn**	**15 05 55.2**	**+3.6**
TTG	**Podgorica**	**3.95**	**76**⇓	*i*Pn	**Pn**	**15 05 07.5**	**+2.0**
TTG				*e*Sn	**Sn**	**15 05 55.2**	**+3.6**
SKDS	**Skadanscina**	**3.97**	**359**	*i* Pn	**Pn**	**15 05 06.4**	**+0.5**
SKDS	**Skadanscina**	**3.97**	**359**	*i* Pn	**Pn**	**15 05 06.4**	**+0.5**
BOJS	**Bojanci**	**4.02**	**12**	*i* Pn	**Pn**	**15 05 08.3**	**+1.7**
BOJS	**Bojanci**	**4.02**	**12**	*i* Pn	**Pn**	**15 05 08.3**	**+1.7**
VSL	**Villasalto**	**4.14**	**241**	Pg	**Pn**	**15 05 08.5**	**+0.3**
	19nm,1.2s						
VSL	**Villasalto**	**4.14**	**241**	Pg	**Pn**	**15 05 08.5**	**+0.3**
	19nm,1.2s						
PLE	**Pljevlja**	**4.30**	**64**⇓	*i*Pn	**Pn**	**15 05 13.6**	**+3.1**
PLE				*e*Sn	**Sn**	**15 06 04.5**	**+4.0**
PLE	**Pljevlja**	**4.30**	**64**⇓	*i*Pn	**Pn**	**15 05 13.6**	**+3.1**
PLE				*e*Sn	**Sn**	**15 06 04.5**	**+4.0**
PVY	**Plav**	**4.49**	**75**⇑	*i*Pn	**Pn**	**15 05 16.1**	**+3.0**
PVY				*e*Sn	**Sn**	**15 06 08.3**	**+3.1**
BEY	**Berane**	**4.51**	**71**	*e*Sn	**Sn**	**15 06 09.4**	**+3.9**
IVA	**Berane**	**4.51**	**71**⇑	*i*Pn	Pn	15 05 16.6	+3.3
IVA				*e*Sn	**Sn**	**15 06 09.4**	**+3.9**
PDKS	**Podkum**	**4.54**	**8**	*e*Pn	**Pn**	**15 05 14.5**	**+0.8**
PDKS	**Podkum**	**4.54**	**8**	*e*Pn	**Pn**	**15 05 14.5**	**+0.8**
BBLS	**Lazići**	**4.54**	**58**⇑	*i*Pn	**Pn**	**15 05 16.3**	**+2.5**
CADS	**Cadrg**	**4.66**	**357**	*i* Pn	**Pn**	**15 05 15.5**	**+0.1**
CADS	**Cadrg**	**4.66**	**357**	*i* Pn	**Pn**	**15 05 15.5**	**+0.1**
KEK	**Kerkira**	**4.73**	**111**	*e*P	**Pn**	**15 05 18.3**	**+2.0**
KEK				*e*S	**Sn**	**15 06 10.8**	**0.0**
MAGA	**Magasa**	**4.89**	**330**	Pg	**Pn**	**15 05 20.2**	**+1.6**
	61nm,0.4s						
MAGA	**Magasa**	**4.89**	**330**	Pg	**Pn**	**15 05 20.2**	**+1.6**
	61nm,0.4s						
IVAS	**Ivanjica**	**4.91**	**64**	*e*Pn	**Pn**	**15 05 20.5**	**+1.7**
OBKA	**Obir**	**4.95**	**4**⇓	*i*Pn	**Pn**	**15 05 22.0**	**+2.6**
OBKA	**Obir**	**4.95**	**4**	Pn	**Pn**	**15 05 22.0**	**+2.6**
TEKS	**Tekeris**	**4.98**	**51**	*e*Pn	**Pn**	**15 05 21.7**	**+2.0**
DIVS	**Divibare**	**5.03**	**58**⇑	*i*Pn	**Pn**	**15 05 22.2**	**+1.8**
MYKA	**Terra Mystica**	**5.07**	**357**⇑	*i*Pn	**Pn**	**15 05 22.9**	**+1.9**
MYKA	**Terra Mystica**	**5.07**	**357**	Pn	**Pn**	**15 05 22.9**	**+1.9**
SOKA	**Soboth**	**5.15**	**7**⇑	*i*Pn	**Pn**	**15 05 23.6**	**+1.5**
SOKA	**Soboth**	**5.15**	**7**	Pn	**Pn**	**15 05 23.6**	**+1.5**
IGT	**Igoumenitsa**	**5.18**	**111**	*e*P	Pn	15 05 24.8	+2.3
NEST	**Nestorio**	**5.40**	**100**	*e*P	Pn	15 05 28.8	+3.2
SBF	**Sospel**	**5.41**	**297**	*e*Pn	**Pn**	**15 05 26.2**	**+0.6**
SBF				*e*Sn	**Sn**	**15 06 25.2**	**-2.3**
	1.9nm,0.2s						
SBF	**Sospel**	**5.41**	**297**	*e*Pn	**Pn**	**15 05 26.2**	**+0.6**
SBF				*e*Sn	**Sn**	**15 06 25.2**	**-2.3**
	0.9nm,0.2s						
GRUS	**Gruza**	**5.41**	**62**	*e*Pn	**Pn**	**15 05 27.2**	**+1.6**
FNA	**Florina**	**5.56**	**96**	*e*P	**Pn**	**15 05 29.8**	**+2.0**
FNA				*e*S	**Sn**	**15 06 32.1**	**+0.7**
FRF	**La Foret Royal**	**5.84**	**292**	*e*Pn	**Pn**	**15 05 32.3**	**+0.8**
FRF				*e*Sn	**Sn**	**15 06 35.1**	**-3.0**
	2.3nm,0.5s						
FRF	**La Foret Royal**	**5.84**	**292**	*e*Pn	**Pn**	**15 05 32.3**	**+0.8**
LMR	**La Mourre**	**5.87**	**290**	*e*Pn	**Pn**	**15 05 32.4**	**+0.5**
LMR	**La Mourre**	**5.87**	**290**	*e*Pn	**Pn**	**15 05 32.4**	**+0.5**
DSL	**Palaion Diasel**	**5.89**	**112**	*e*P	Pn	15 05 35.1	+2.9
KZN	**Kozani**	**5.96**	**100**	*e*P	Pn	15 05 36.7	+3.5
VLS	**Valsamata**	**6.05**	**122**	*e*P	**Pn**	**15 05 36.1**	**+1.7**
PDO	**Prodromos**	**6.20**	**116**	*e*P	**Pn**	**15 05 39.3**	**+2.8**
MBDF	**Montbardon**	**6.21**	**303**	*e*Pn	**Pn**	**15 05 37.2**	**+0.5**
MBDF				*e*Sn	**Sn**	**15 06 44.1**	**-3.3**
	1.6nm,0.3s						
MBDF	**Montbardon**	**6.21**	**303**	*e*Pn	**Pn**	**15 05 37.2**	**+0.5**
MOA	**Molln**	**6.28**	**1**⇑	*i*Pn	**Pn**	**15 05 39.0**	**+1.5**
MOA	**Molln**	**6.28**	**1**	Pn	**Pn**	**15 05 39.0**	**+1.5**
THL	**Klokotos Trika**	**6.37**	**106**	*e*P	**Pn**	**15 05 41.5**	**+2.8**
LIT	**Litokhoron**	**6.54**	**100**	*e*P	**Pn**	**15 05 43.5**	**+2.3**
LPG	**La Plagne**	**6.62**	**309**	*e*Pn	**Pn**	**15 05 43.0**	**+0.6**
LPG	**La Plagne**	**6.62**	**309**	*e*Pn	**Pn**	**15 05 43.0**	**+0.6**
LPL	**La Plagne**	**6.64**	**309**	*e*Pn	**Pn**	**15 05 43.7**	**+1.0**
LPL	**La Plagne**	**6.64**	**309**	*e*Pn	**Pn**	**15 05 43.7**	**+1.0**
SMRF	**Simiane la Rot**	**6.70**	**294**	*e*Pn	**Pn**	**15 05 44.4**	**+1.0**
SMRF	**Simiane la Rot**	**6.70**	**294**	*e*Pn	**Pn**	**15 05 44.4**	**+1.0**
EFP	**Efpalio**	**6.78**	**115**	*e*P	Pn	15 05 48.3	+3.9
AGG	**Agios Georgios**	**6.80**	**109**	*e*P	Pn	15 05 48.0	+3.2
ORIF	**Oris-en-Rattie**	**6.86**	**302**	*e*Pn	**Pn**	**15 05 45.9**	**+0.3**
ORIF	**Oris-en-Rattie**	**6.86**	**302**	*e*Pn	**Pn**	**15 05 45.9**	**+0.3**
NVR	**Nevrokopi**	**7.35**	**88**	*e*P	**Pn**	**15 05 54.7**	**+2.4**
KHC	**Kasperske Hory**	**7.57**	**357**	*e*PN	**Pn**	**15 05 55.6**	**+0.3**
KHC				*e*SN	**Sn**	**15 07 18.7**	**-2.0**
KHC	**Kasperske Hory**	**7.57**	**357**	Pn	**Pn**	**15 05 55.6**	**+0.3**
VIVF	**Saint-Julien-l**	**7.62**	**299**	*e*Pn	**Pn**	**15 05 56.1**	**+0.2**
VIVF	**Saint-Julien-l**	**7.62**	**299**	*e*Pn	**Pn**	**15 05 56.1**	**+0.2**
HINF	**Hinteralfeld**	**8.09**	**323**	*e*Sn	**Sn**	**15 07 28.8**	**-4.8**
	3.7nm,0.5s						
CDF	**Champ du Feu**	**8.37**	**327**	*e*Pn	**Pn**	**15 06 06.5**	**+0.2**
CDF	**Champ du Feu**	**8.37**	**327**	*e*Pn	**Pn**	**15 06 06.5**	**+0.2**
HAU	**Haudompre**	**8.46**	**322**	*e*Pn	**Pn**	**15 06 07.7**	**+0.2**
HAU				*e*Sn	**Sn**	**15 07 38.4**	**-4.2**
	3.7nm,0.5s						
HAU	**Haudompre**	**8.46**	**322**	*e*Pn	**Pn**	**15 06 07.7**	**+0.2**

*ISCJB **29** 15:06:45.8±0.6,47.°71N±0.°06×154.°9E±0.°1, h35km, mb3.7/13, MS2.7/1, Error ellipse: s-maj=12.8km s-min=4.0km az=40.6*

*MOS **29** 15:06:46.3±1.4,47.°83N×154.°83E, h41km, mb4.3/4, Error ellipse: s-maj=15.7km s-min=8.2km az=67.2*

*SKHL **29** 15:06:47.7±0.3,47.°69N×155.°05E, h58km±5km, mb4.4/4*

*IDC **29** 15:06:50.7±2.7,47.°78N×154.°69E, h66km±24km, mb3.3/12, mb1 3.5/17, mb1mx3.4/41, mbtmp3.6/17, MS2.9/1, Ms1 2.9/1, ms1mx2.4/18, Error ellipse: s-maj=21.6km s-min=14.2km az=130.0*

ISC 29 15:06:47.6±0.7, 47.°73N±0.°08×154.°96E±0.°09, h35km, n58, σ1§24/60, mb3.6/13, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.06**	**14**	*e*Pn	Pn	15 07 27.7	-5.7
SKR				*e*S	**Sn**	**15 08 10.4**	**+1.7**
SKR				pmax	pmax		
	comp=N,40nm,0.5s						
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
SKR				smax	smax		
	comp=N,70nm,0.5s						
SKR				smax	smax		
	comp=E,110nm,0.5s						
SKR	**Severo-Kuril's**	**3.06**	**14**	*e*P	**Pn**	**15 07 34.0**	**+0.6**
SKR				AMB	AMB	15 07 35.7	
	comp=E,110nm,0.6s						
SKR				*e*S	**Sn**	**15 08 09.0**	**+0.3**
SKR				A	A	15 08 23.6	
	comp=E,280nm,0.9s						
PAU	**Pauzhetka**	**3.93**	**17**	*e*P	**Pn**	**15 07 47.3**	**+1.9**
PAU				*e*S	**Sn**	**15 08 31.8**	**+1.5**
KUR	**Kuril'sk**	**5.50**	**246**	*e*PN	**Pn**	**15 08 08.4**	**+1.5**
KUR				*e*S	**Sn**	**15 09 10.9**	**+2.1**
KUR	**Kuril'sk**	**5.50**	**246**	*i* P	**Pn**	**15 08 08.4**	**+1.5**
KUR				AMB	AMB	15 08 11.5	
	comp=E,10.0nm,0.5s						
KUR				*e*S	**Sn**	**15 09 10.9**	**+2.1**
KUR				A	A	15 09 32.5	
	comp=E,170nm,0.7s						
PETK	**Petropavlovsk-**	**5.67**	**17**	P	**Pn**	**15 08 11.2**	**+2.0**
	comp=E,1.5nm,0.3s,baz=174,slow=15,SNR=35						
PETK	**Petropavlovsk-**	**5.67**	**17**	PN	**Pn**	**15 08 11.3**	**+2.0**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PET	**Petropavlovsk**	**5.81**	**23**	*e*PN	**Pn**	**15 08 11.7**	**+0.6**
PET				*e*S	**Sn**	**15 09 17.5**	**+1.1**
PET				pmax	pmax		
	comp=Z,7.0nm,0.5s						
PET				smax	smax		
	comp=N,23nm,0.6s						
PET	**Petropavlovsk**	**5.81**	**23**	*e*P	**Pn**	**15 08 11.2**	**+0.1**
PET				AMB	AMB	15 08 15.3	
	comp=N,10.0nm,0.5s						
PET				*e*S	**Sn**	**15 09 16.0**	**-0.4**
PET				A	A	15 09 18.5	
	comp=N,240nm,0.6s						
SHO	**Shikotan**	**6.87**	**239**	*e*PN	**Pn**	**15 08 26.9**	**+1.2**
SHO	**Shikotan**	**6.87**	**239**	*e*P	**Pn**	**15 08 26.9**	**+1.2**
SHO				AMB	AMB	15 08 29.7	
	comp=N,130nm,1.0s						
SHO				*e*S	**Sn**	**15 09 41.8**	**-0.7**
SHO				A	A	15 09 48.2	
	comp=N,130nm,1.0s						
YSS	**Yuzh-Sakhalins**	**8.33**	**269**	*e*PN	**Pn**	**15 08 46.5**	**+0.8**
YSS	**Yuzh-Sakhalins**	**8.33**	**269**	*e*P	**Pn**	**15 08 47.4**	**+1.7**
TYV	**Tymovskoe**	**8.63**	**296**	*e*P	**Pn**	**15 08 50.6**	**+0.7**
JKA	**Kamikawa-asahi**	**9.34**	**252**	*e*P	**Pn**	**15 09 01.3**	**+1.7**
ASAJ	**Asahikawa**	**9.34**	**252**	P	**Pn**	**15 09 01.3**	**+1.6**
	comp=N,0.1nm,0.3s,baz=92,slow=12,SNR=3.8						
ERM	**Erimo**	**10.13**	**240**⇑	*e*PN	**Pn**	**15 09 10.8**	**+0.3**
ERM	**Erimo**	**10.13**	**240**	*e*P	**Pn**	**15 09 10.8**	**+0.3**
EKMR	**Ekimchan**	**14.99**	**299**	*e*P	**P**	**15 10 21.4**	**-0.4**
SEY	**Seymchan**	**15.31**	**356**	P	**Pn**	**15 10 21.4**	**+0.6**
	comp=N,0.1nm,0.3s,baz=115,slow=17,SNR=2.8						
SEY	**Seymchan**	**15.31**	**356**	*e*P	**P**	**15 10 23.5**	**-1.7**
KLR	**Kul'dur**	**15.46**	**284**	*e*P	**P**	**15 10 27.0**	**+0.1**
KLR	**Kul'dur**	**15.46**	**284**	*e*P	**P**	**15 10 27.0**	**+0.1**
USRK	**Ussuriysk Ar.**	**16.34**	**266**	P	**Pn**	**15 10 35.1**	**+1.0**
	comp=N,0.1nm,0.3s,baz=65,slow=12,SNR=5.3						
MJAR	**Matsushiro Arr**	**16.67**	**234**	P	**Pn**	**15 10 39.2**	**+0.7**
	comp=N,0.1nm,0.3s,baz=30,slow=9.3,SNR=3.7						
MJAR				LR	LR	15 17 43.2	
	comp=N,36nm,18.4s,baz=55,slow=39						
BILL	**Bilibino**	**21.17**	**12**⇑	*e*P	**P**	**15 11 29.2**	**-0.2**
BILL				*i*		15 11 51.4	
BILL				*e*S	**S**	**15 15 23.1**	**+0.5**
BILL				MLR	MLR		
	comp=Z,28nm,17.0s						
BILL	**Bilibino**	**21.17**	**12**	*e*P	**P**	**15 11 29.2**	**-0.2**
KSRS	**Korea Array**	**22.29**	**253**	P	**P**	**15 11 41.6**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=57,slow=9.1,SNR=7.0						
H11N2	**WAKE ISLAND Hy**	**29.56**	**157**	T	T	15 44 10.6	
	baz=344,slow=76,SNR=23						
H11N1	**WAKE ISLAND Hy**	**29.58**	**157**	T	T	15 44 10.0	
	baz=344,slow=76,SNR=34						
H11N3	**WAKE ISLAND Hy**	**29.58**	**157**	T	T	15 44 10.0	
	baz=344,slow=76,SNR=19						
H11S1	**WAKE ISLAND Hy**	**30.68**	**158**	T	T	15 45 29.9	
	baz=344,slow=76,SNR=283						
H11S3	**WAKE ISLAND Hy**	**30.69**	**158**	T	T	15 45 29.4	
	baz=344,slow=76,SNR=348						
H11S2	**WAKE ISLAND Hy**	**30.70**	**158**	T	T	15 45 29.6	
	baz=344,slow=76,SNR=271						
ILAR	**Eielson Array**	**35.00**	**39**	P	**P**	**15 13 36.0**	**-0.2**
	comp=Z,0.1nm,0.6s,baz=276,slow=8.1,SNR=3.4						
ILAR	**Eielson Array**	**35.00**	**39**	P	**P**	**15 13 36.0**	**-0.2**
ILAR	**Eielson Array**	**35.00**	**39**	*e*P	**P**	**15 13 36.0**	**-0.2**
ZALV	**Zalesovo Beam**	**43.07**	**305**	P	**P**	**15 14 41.1**	**-2.6**
	comp=Z,0.4nm,0.3s,baz=83,slow=4.5,SNR=2.8						
MKAR	**Makanchi Array**	**47.61**	**297**	P	**P**	**15 15 17.8**	**-2.1**
	comp=Z,0.3nm,0.5s,baz=64,slow=6.9,SNR=6.0						
KURK	**Kurchatov**	**47.87**	**304**	*e*P	**P**	**15 15 20.8**	**-1.0**
YKA	**Yellowknife Ar**	**49.39**	**38**	P	**P**	**15 15 34.1**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=295,slow=7.4,SNR=3.0						
FINES	**FINESS Array B**	**63.69**	**335**	P	**P**	**15 17 13.8**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=33,slow=6.6,SNR=16						
FINES	**FINESS Array B**	**63.69**	**335**	*i* P	**P**	**15 17 14.8**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES	**FINESS Array B**	**63.69**	**335**	*i* P	**P**	**15 17 14.8**	**-0.1**
NB2	**NORSAR Subarra**	**67.70**	**342**	P	**P**	**15 17 40.9**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=26,slow=6.9						
NOA	**NORSAR Array B**	**67.70**	**342**	P	**P**	**15 17 41.0**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=26,slow=6.4,SNR=7.6						
NOA	**NORSAR Array B**	**67.70**	**342**	*e*P	**P**	**15 17 41.3**	**+0.4**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA	**NORSAR Array B**	**67.70**	**342**	*e*P	**P**	**15 17 41.3**	**+0.4**
WRA	**Warramunga Arr**	**69.86**	**201**	P	**P**	**15 17 52.6**	**-2.0**
	comp=Z,0.4nm,1.0s,baz=20,slow=6.9,SNR=2.8						
AKASG	**Malin Array Be**	**71.42**	**327**	P	**P**	**15 18 01.1**	**-2.8**
	comp=Z,0.5nm,0.3s,baz=34,slow=5.9,SNR=4.2						
AKASG	**Malin Array Be**	**71.42**	**327**	P	**P**	**15 18 01.1**	**-2.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAR	**Alice Springs**	**73.55**	**200**	P	**P**	**15 18 16.9**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=10,slow=6.0,SNR=4.2						
TXAR	**Lajitas Array**	**75.92**	**62**	P	**P**	**15 18 32.1**	**+1.3**
	comp=Z,0.4nm,0.8s,baz=332,slow=7.2,SNR=3.1						
CLL	**Collm**	**76.08**	**337**	*i* P	**P**	**15 18 31.6**	**+0.4**
	comp=Z,4.0nm,0.9s						
CLL	**Collm**	**76.08**	**337**	*i* P	**P**	**15 18 31.6**	**+0.4**
CLL	**Collm**	**76.08**	**337**	*i* P	**P**	**15 18 31.6**	**+0.4**
BRTR	**Keskin Array B**	**78.53**	**318**	P	**P**	**15 18 45.6**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=60,slow=4.9,SNR=4.9						
BRTR	**Keskin Array B**	**78.53**	**318**	*e*P	**P**	**15 18 45.6**	**+0.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*IDC **29** 15:11:34.5±1.5,25.°80N×110.°12W, h0km, mb3.6/3, mb1 3.9/9, mb1mx3.7/44, mbtmp3.5/9, ML3.3/6, MS3.3/9, Ms1 3.3/9, ms1mx3.1/30, Error ellipse: s-maj=21.5km s-min=19.2km az=107.0*

*MEX **29** 15:11:40.2±0.7,25.°64N×110.°99W, h17km±163km, MD4.2*

ISC 29 15:11:36.0±0.9, 25.°77N±0.°06×110.°5W±0.°1, h10km, n20, σ1§79/16, mb3.7/3, MS3.3/3, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**1.66**	**175**	*e*P	**Pn**	**15 12 04.5**	**-0.7**
LPIG	**La Paz**	**1.66**	**175**	Pn	**Pn**	**15 12 05.8**	**+0.6**
	36nm,0.3s,baz=336,slow=20,SNR=9.6						
LPIG				Lg	Lg	15 12 24.5	
	28nm,0.3s,baz=148,slow=2.9,SNR=8.0						
LPIG				LR	LR	15 12 48.2	
	comp=Z,687nm,18.2s,baz=9.0,slow=43						
SLBS	**Sierra La Lagu**	**2.12**	**167**	*e*P	**Pn**	**15 12 13.4**	**+1.7**
SLBS				*e*S	**Sn**	**15 12 37.6**	**-0.5**
SRIG	**Santa Rosalia**	**2.22**	**315**	*e*P	**Pn**	**15 12 09.9**	**-3.0**
HSIG		**3.27**	**353**	*e*P	**Pn**	**15 12 30.2**	**+2.8**
HSIG				*e*S	**Sn**	**15 13 07.6**	**+1.2**
HPIG		**4.46**	**74**	*e*P	Pn	15 12 51.3	+7.3
CGIG		**5.08**	**25**	*e*P	**Pn**	**15 12 54.0**	**+1.5**
CGIG				*e*S	**Sn**	**15 13 48.3**	**-3.0**
TXAR	**Lajitas Array**	**7.00**	**58**	Pn	Pn	15 13 14.6	-4.2
	0.2nm,0.3s,baz=235,slow=14,SNR=9.2						
TXAR				Lg	Lg	15 15 06.3	
	0.5nm,0.3s,baz=246,slow=29,SNR=4.7						
PFO	**Pinyon Flats O**	**9.39**	**328**	Pn	**Pn**	**15 13 53.6**	**+2.1**
	0.1nm,0.3s,baz=194,slow=16,SNR=2.0						
PFO				LR	LR	15 16 58.8	
	comp=Z,111nm,19.8s,baz=160,slow=34						
ANMO	**Albuquerque**	**9.78**	**20**	Pn	**Pn**	**15 13 56.2**	**-0.8**
	0.1nm,0.3s,baz=201,slow=14,SNR=6.4						
ANMO				Lg	Lg	15 16 33.7	
	0.1nm,0.3s,baz=233,slow=17,SNR=2.3						
ANMO				LR	LR	15 17 52.6	
	comp=Z,196nm,19.8s,baz=196,slow=39						
NVAR	**Mina Array Bea**	**14.26**	**334**	Pn	P	15 15 02.5	-3.1
	0.0nm,0.3s,baz=158,slow=14,SNR=3.8						
ELK	**Elko**	**15.46**	**346**	Pn	**P**	**15 15 18.0**	**-0.9**
	0.1nm,0.3s,baz=168,slow=20,SNR=13						
ELK				LR	LR	15 20 51.4	
	comp=Z,134nm,20.2s,baz=172,slow=36						
CMIG	**Matias Romero**	**16.87**	**118**	LR	LR	15 21 24.5	
	comp=Z,122nm,19.0s,baz=167,slow=36						
PDAR	**Pinedale Array**	**16.98**	**2**	Pn	**Pn**	**15 15 34.4**	**+0.5**
	0.0nm,0.3s,baz=164,slow=11,SNR=8.4						
PDAR				LR	LR	15 22 09.3	
	comp=Z,196nm,20.8s,baz=194,slow=38						
YBH	**Yreka Blue Hor**	**18.87**	**331**	LR	LR	15 23 24.4	
	comp=Z,56nm,18.5s,baz=168,slow=37						
NEW	**Newport**	**23.06**	**349**	P	**P**	**15 16 42.0**	**+0.4**
	2.5nm,0.8s,baz=172,slow=10.0,SNR=4.0						
NEW				LR	LR	15 25 14.7	
	comp=Z,34nm,20.8s,baz=174,slow=36						
TKL	**Tuckaleechee C**	**24.91**	**60**	LR	LR	15 27 06.9	
	comp=Z,90nm,18.1s,baz=309,slow=38						
YKA	**Yellowknife Ar**	**36.83**	**357**	P	**P**	**15 18 44.9**	**+1.0**
	0.8nm,0.9s,baz=172,slow=8.3,SNR=7.3						
ROSC	**El Rosal**	**40.36**	**115**	LR	LR	15 38 07.1	
	comp=Z,48nm,19.1s,baz=123,slow=40						
ILAR	**Eielson Array**	**45.45**	**339**	P	**P**	**15 19 54.0**	**-0.8**
	0.7nm,0.8s,baz=150,slow=7.0,SNR=9.1						

*KRSC **29** 15:15:33.3±1.6,52.°32N×160.°62E, h40km±18km, ML4.6*

*MOS **29** 15:15:37.6±1.2,52.°55N×160.°13E, h50km, mb4.6/15, Error ellipse: s-maj=10.0km s-min=6.0km az=90.9*

*ISCJB **29** 15:15:37.5±0.5,52.°41N±0.°03×160.°34E±0.°05, h56km±3km, mb4.2/43, MS3.5/10, Error ellipse: s-maj=6.3km s-min=3.2km az=43.7*

*BJI **29** 15:15:38.1,53.°34N×159.°85E, h45km, mb4.6/13, mB4.5/9, Ms4.1/4, Ms7 4.0/5*

*IDC **29** 15:15:40.2±2.1,52.°55N×160.°02E, h54km±18km, mb3.9/34, mb1 4.0/36, mb1mx3.9/49, mbtmp4.1/36, ML3.3/2, MS3.4/7, Ms1 3.4/7, ms1mx3.1/30, Error ellipse: s-maj=14.2km s-min=9.7km az=149.0*

*NEIC **29** 15:15:40.6±1.1,52.°54N×159.°94E, h60km±8km, mb4.3/5, Error ellipse: s-maj=11.2km s-min=7.1km az=138.0*

ISC 29 15:15:38.1±0.7, 52.°40N±0.°04×160.°37E±0.°03, h46km±6km, n135, σ1§59/163, mb4.2/43, MS3.4/10, 2C-7D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.73**	**343**	*i* P	**Pn**	**15 15 49.6**	**-2.5**
SPN				*e*S	**Sn**	**15 15 59.2**	**-3.0**
SPN	**Mys Shipunski**	**0.73**	**343**	PN	**Pn**	**15 15 49.6**	**-2.5**
SPN				S	**Sn**	**15 15 59.2**	**-3.0**
NLC	**Nalytchevo**	**0.99**	**321**	*e*P	**Pn**	**15 15 53.8**	**-1.8**
NLC				*e*S	**Sn**	**15 16 07.0**	**-1.4**
NLC	**Nalytchevo**	**0.99**	**321**	PN	**Pn**	**15 15 53.8**	**-1.8**
NLC				S	**Sn**	**15 16 07.0**	**-1.4**
RUS	**Russkaya**	**1.14**	**272**	*i* P	**Pn**	**15 15 56.5**	**-1.1**
RUS				*e*S	**Sn**	**15 16 11.9**	**-0.2**
RUS	**Russkaya**	**1.14**	**272**	PN	**Pn**	**15 15 56.5**	**-1.1**
RUS				S	**Sn**	**15 16 11.9**	**-0.2**
PET	**Petropavlovsk**	**1.22**	**301**	*i* P	**Pn**	**15 15 57.3**	**-1.4**
PET				*e*S	**Sn**	**15 16 13.9**	**-0.1**
PET	**Petropavlovsk**	**1.22**	**301**	κ *i*PN	**Pn**	**15 15 57.2**	**-1.4**
PET				pmax	pmax		
	comp=Z,900nm,0.7s						
PET				pmax	pmax		
	comp=Z,894nm,0.3s						
PET	**Petropavlovsk**	**1.22**	**301**	*e*Pn	**Pn**	**15 15 57.1**	**-1.6**
UGLR	**Uglovaya**	**1.24**	**311**	*i* P	**Pn**	**15 15 58.2**	**-0.9**
UGLR				*e*S	**Sn**	**15 16 15.8**	**+1.1**
SDLR	**Sedlovina**	**1.26**	**315**	*i* P	**Pn**	**15 15 58.5**	**-0.9**
SDLR				*e*S	**Sn**	**15 16 16.7**	**+1.5**
SMAR	**Somma**	**1.28**	**313**	*e*P	**Pn**	**15 15 58.6**	**-1.2**
AVH	**Avacha**	**1.31**	**312**	*i* P	**Pn**	**15 15 59.5**	**-0.6**
MTVR	**Mutnovka**	**1.34**	**274**	*e*P	**Pn**	**15 15 59.9**	**-0.6**
MTVR				*e*S	**Sn**	**15 16 18.4**	**+1.1**
KOK	**Koryaka**	**1.38**	**311**	*e*P	**Pn**	**15 16 00.2**	**-0.8**
GRL	**Gorelyy**	**1.41**	**277**	*e*P	**Pn**	**15 16 01.5**	**0.0**
GRL				*e*S	**Sn**	**15 16 20.4**	**+1.4**
KRX	**Arik**	**1.42**	**313**	*e*P	**Pn**	**15 16 00.8**	**-0.8**
KRX				*e*S	**Sn**	**15 16 20.0**	**+0.9**
ASAK	**Asacha**	**1.52**	**270**	*i* P	**Pn**	**15 16 02.8**	**0.0**
ASAK				*e*S	**Sn**	**15 16 23.2**	**+1.8**
KII	**Karymskiy**	**1.73**	**342**	*e*P	**Pn**	**15 16 05.1**	**-0.6**
KII				*e*S	**Sn**	**15 16 27.1**	**+0.5**
PEA0B

TIXI MLR MLR
comp=Z,105nm,21.0s
TIXI Tiksi 23.78 336 *e*P **P 15 20 44.0 -2.0**
comp=Z,6.8nm,0.6s
KSRS Korea Array 27.12 249 P **P 15 21 16.6 0.0**
comp=Z,1.4nm,0.7s,baz=44,slow=9.1,SNR=8.5
KSRS LR LR 15 32 42.4
comp=Z,48nm,18.2s,baz=36,slow=38
KSRS Korea Array 27.12 249 P **P 15 21 16.6 0.0**
KSRS pmax pmax
comp=Z,1.0nm,0.7s
KSRS MLR MLR
comp=Z,48nm,18.3s
KSAR Wonju Array Be 27.15 250 P **P 15 21 16.6 -0.3**
KSAR Wonju Array Be 27.15 250 P **P 15 21 16.6 -0.3**
JNU Nakatsue 28.68 239 P **P 15 21 30.6 +0.1**
comp=Z,5.7nm,0.8s,baz=354,slow=10,SNR=2.7
ILAR Eielson Array 29.18 44 P **P 15 21 35.5 +0.8**
comp=Z,0.5nm,0.7s,baz=259,slow=7.8,SNR=8.4
H11N2 WAKE ISLAND Hy 33.00 169 T T 15 58 03.5
baz=352,slow=76,SNR=132
H11N3 WAKE ISLAND Hy 33.02 169 T T 15 57 55.8
baz=352,slow=76,SNR=110
H11N1 WAKE ISLAND Hy 33.02 169 T T 15 57 57.4
baz=352,slow=76,SNR=124
ULN Ulaanbaatar 33.82 284 *e*P **P 15 22 12.9 -2.9**
ULN pmax pmax
comp=Z,4.0nm,1.1s
ULN Ulaanbaatar 33.82 284 *e*P **P 15 22 12.9 -2.9**
comp=Z,3.8nm,1.1s
H11S1 WAKE ISLAND Hy 34.19 169 T T 15 59 18.4
baz=350,slow=74,SNR=21
H11S3 WAKE ISLAND Hy 34.20 169 T T 15 59 19.0
baz=350,slow=74,SNR=44
H11S2 WAKE ISLAND Hy 34.21 169 T T 15 59 22.1
baz=350,SNR=6.3
SONM Songino Array 34.23 284 P **P 15 22 18.6 -0.7**
comp=Z,1.6nm,0.5s,baz=63,slow=6.8,SNR=16
SONM PcP **PcP 15 24 55.2 +0.2**
comp=Z,0.9nm,0.8s,baz=64,slow=3.4,SNR=4.3
SONM LR LR 15 37 43.1
comp=Z,199nm,18.1s,baz=86,slow=39
HHC Hu-ho-hao-te 34.81 270 *e*P **P 15 22 26.0 +1.6**
HHC PP **PP 15 23 43.8 +0.1**
HHC S **S 15 27 50.0 -1.8**
HHC SS **SnSn 15 30 05.0 -3.4**
HHC PMZ
comp=Z,10.0nm,1.1s
HHC PMZ
comp=Z,60nm,8.6s
HHC LN
comp=Z,240nm,14.8s
HHC LE
comp=Z,240nm,14.8s
HHC LZ
comp=Z,250nm,19.7s
DLBC Dease Lake 38.33 53 P **P 15 22 55.5 +1.4**
comp=Z,1.0nm,0.7s,baz=287,slow=11,SNR=3.5
WHN Wuhan 39.94 255 P P 15 23 10.5 +2.8
WHN S S 15 29 00.3 -9.3
WHN LZ
comp=Z,300nm,22.9s
ZAA0 Zalesovo Array 43.30 303 P P 15 23 31.4 -3.5
ZALV Zalesovo Beam 43.30 303 P **P 15 23 32.5 -2.4**
comp=Z,1.9nm,0.7s,baz=61,slow=7.3,SNR=8.4
ZALV PcP **PcP 15 25 22.3 -0.7**
comp=Z,1.0nm,0.6s,baz=41,slow=4.6,SNR=3.6
ZALV LR LR 15 42 52.1
comp=Z,65nm,19.9s,baz=70,slow=38
YKA Yellowknife Ar 43.56 42 P **P 15 23 37.9 +1.0**
comp=Z,0.5nm,0.6s,baz=297,slow=7.6,SNR=3.7
NVS Novosibirsk 43.65 305 *e*P P 15 23 33.7 -4.0
NVS pmax pmax
comp=N,4.0nm,0.8s
NVS pmax pmax
comp=E,8.0nm,0.8s
NVS pmax pmax
comp=Z,14nm,0.8s
RES Resolute Bay 43.90 22 P **P 15 23 40.4 +0.8**
comp=Z,1.2nm,0.5s,baz=340,slow=5.8,SNR=5.4
SPITS Spitsbergen Ar 47.84 351 P **P 15 24 10.5 -0.1**
comp=Z,11nm,0.5s,baz=59,slow=9.8,SNR=87
KURK Kurchatov 48.24 303 P **P 15 24 12.8 -1.1**
KURK 15 25 41.0
KURK Kurchatov 48.24 303 P **P 15 24 12.8 -1.1**
KURK PcP **PcP 15 25 41.0 +0.7**
KURBB Kurchatov Arra 48.34 302 P **P 15 24 12.8 -1.9**
comp=Z,4.3nm,0.5s,baz=58,slow=7.8,SNR=36
KURBB PcP **PcP 15 25 41.0 +0.3**
comp=Z,1.1nm,0.7s,baz=59,slow=3.6,SNR=6.9
MKAR Makanchi Array 48.61 296 P **P 15 24 15.0 -1.9**
comp=Z,0.9nm,0.5s,baz=55,slow=6.4,SNR=15
MKAR PcP **PcP 15 25 42.2 +0.4**
comp=Z,0.5nm,0.8s,baz=54,slow=7.3,SNR=2.1
BVAR Borovoye Array 50.95 309 P **P 15 24 33.1 -1.5**
comp=Z,4.6nm,0.4s,baz=60,slow=7.5,SNR=24
BVAR PcP **PcP 15 25 49.8 -0.5**
comp=Z,1.1nm,0.6s,baz=56,slow=4.5,SNR=3.1
BRVK Borovoye 50.98 309*d i*P **P 15 24 33.4 -1.4**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
BRVK MLR MLR
comp=Z,85nm,17.0s
ARCES ARCESS Array B 54.00 342 P **P 15 24 56.5 -0.3**
comp=Z,4.9nm,0.7s,baz=42,slow=7.3,SNR=15
ARCES PcP **PcP 15 26 02.2 +0.8**
comp=Z,0.7nm,0.5s,baz=61,slow=6.4,SNR=2.3
ARU Arti 54.02 318*d i*P **P 15 24 55.9 -1.3**
ARU *PP **pP 15 25 06.1 -3.9**
ARU 15 26 54.7
ARU S **S 15 32 28.1 -1.4**
ARU pmax pmax
comp=Z,3.0nm,0.6s
AAK Ala-Archa 55.54 297⇓*i*P **P 15 25 07.7 -0.9**
AAK pmax pmax
comp=Z,5.0nm,0.7s
AAK MLR MLR
comp=Z,193nm,19.0s
NVAR Mina Array Bea 55.82 70 P P 15 25 14.0 +3.2
comp=Z,0.1nm,0.3s,baz=304,slow=7.0,SNR=3.2
ELK Elko 55.99 66 P **P 15 25 13.1 +1.2**
comp=Z,0.3nm,0.4s,baz=256,slow=13,SNR=3.2
KLMR Klimovskoe 57.63 330 P **P 15 25 20.1 -2.8**
KLMR pmax pmax
comp=Z,12nm,1.3s
PDAR Pinedale Array 57.71 61 P **P 15 25 26.3 +2.2**
comp=Z,0.9nm,0.8s,baz=352,slow=3.1,SNR=9.2
CMAR Chiang Mai Arr 58.21 259 P **P 15 25 28.6 +1.0**
comp=Z,4.9nm,0.7s,baz=27,slow=6.6,SNR=33
CMAR Chiang Mai Arr 58.21 259 *i* P **P 15 25 29.1 +1.5**
CMAR pmax pmax
comp=Z,5.0nm,0.7s
AKTO Aktyubinsk 58.41 313 P **P 15 25 27.6 -1.1**
comp=Z,0.9nm,0.3s,baz=82,slow=8.2,SNR=6.1
TAPN Taplejung 58.43 275 *e*P **P 15 25 29.4 0.0**
comp=Z,14nm,0.8s
ULM Lac du Bonnet 59.17 47 P **P 15 25 35.4 +1.5**
comp=Z,1.9nm,0.5s,baz=320,slow=7.9,SNR=3.0
RAMN Ramite 59.40 275 *e*P **P 15 25 35.2 -0.8**
comp=Z,13nm,0.6s
KKN Kakani 59.59 277 *e*P **P 15 25 37.2 -0.1**
comp=Z,9.6nm,0.5s
PKI Pulchoki 59.67 277 *e*P **P 15 25 37.5 -0.5**
GKN Gorkha 59.83 278 *e*P **P 15 25 38.5 -0.4**
DMN Daman 59.83 277 *e*P **P 15 25 38.6 -0.4**
comp=Z,11nm,0.6s
KOLN Koldanda 60.62 278 *e*P **P 15 25 43.4 -1.0**
comp=Z,12nm,0.7s
FINES FINESS Array B 60.82 337 P **P 15 25 45.2 +0.2**
comp=Z,5.8nm,0.4s,baz=43,slow=6.5,SNR=66
FINES LR LR 15 56 39.6
comp=Z,22nm,18.4s,baz=24,slow=41
NB2 NORSAR Subarra 64.25 344 P **P 15 26 08.2 +0.3**
comp=Z,1.2nm,0.5s,baz=24,slow=6.9
NOA NORSAR Array B 64.25 344 P **P 15 26 07.8 -0.1**
comp=Z,1.2nm,0.4s,baz=23,slow=6.0,SNR=12
HFS Hagfors 64.66 342 P **P 15 26 10.7 +0.2**
comp=Z,1.6nm,0.4s,baz=47,slow=5.0,SNR=16
AKASG Malin Array Be 69.29 329 P **P 15 26 39.6 -0.5**
comp=Z,4.7nm,0.4s,baz=29,slow=6.2,SNR=28
AKASG Malin Array Be 69.29 329 *i* P **P 15 26 39.5 -0.6**
AKASG pmax pmax
comp=Z,5.0nm,0.4s
KIEV Kiev 69.30 329*c i*P **P 15 26 39.6 -0.5**
TXAR Lajitas Array 70.75 67 P **P 15 26 51.5 +2.0**
comp=Z,0.5nm,0.5s,baz=296,slow=5.5,SNR=11
EKA Eskdalemuir Ar 71.77 350 P **P 15 26 55.6 +0.5**
comp=Z,0.7nm,0.5s,baz=16,slow=5.4,SNR=5.2
CLL Collm 73.06 339 *i* P **P 15 27 03.7 +0.8**
comp=Z,5.0nm,1.0s
CLL Collm 73.06 339 *i* P **P 15 27 03.7 +0.8**
CLL *i* 15 27 13.6
CLL pmax pmax
comp=Z,5.0nm,1.0s
BRG Berggiesshubel 73.26 339 *e*P **P 15 27 05.5 +1.4**
comp=Z,2.4nm,0.9s
BRG Berggiesshubel 73.26 339 *e*P **P 15 27 05.5 +1.4**
BRG pmax pmax
comp=Z,2.0nm,0.9s
VRAC Vranov 74.09 336 P **P 15 27 10.1 +1.1**
comp=Z,2.3nm,0.7s,baz=338,slow=2.2,SNR=3.9
MLR Muntele Rosu 74.92 329 P **P 15 27 14.6 +0.6**
comp=Z,0.4nm,0.6s,baz=104,slow=4.2,SNR=4.7
WRA Warramunga Arr 75.53 205 P **P 15 27 18.6 +1.1**
comp=Z,1.9nm,0.9s,baz=20,slow=6.1,SNR=9.3
WRA Warramunga Arr 75.53 205 *i* P **P 15 27 18.2 +0.7**
WRA pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 77.26 321 P **P 15 27 27.8 +0.3**
comp=Z,0.8nm,0.5s,baz=42,slow=3.8,SNR=5.8
BRTR LR LR 16 08 59.7
comp=Z,14nm,18.7s,baz=12,slow=42
DAVOX Davos/Dischmat 78.01 340 P **P 15 27 32.3 +0.8**
comp=Z,1.1nm,0.5s,baz=329,slow=18,SNR=3.7
ASAR Alice Springs 79.20 205 P **P 15 27 39.8 +1.8**
comp=Z,1.2nm,0.7s,baz=16,slow=5.6,SNR=19
ESDC Sonseca Array 87.29 348 P **P 15 28 19.9 +0.2**
comp=Z,0.4nm,0.5s,baz=11,slow=5.1,SNR=4.1

*ISCJB **29** 15:34:51.6±0.5, 51.°45N±0.°03×16.°10E±0.°03, h0km, mb3.5/1, MS2.9/2, Error ellipse: s-maj=3.9km s-min=2.8km az=12.7*
*IPEC **29** 15:34:52.3±0.3, 51.°54N×16.°23E, h0km, ML2.8/3, Error ellipse: s-maj=2.0km s-min=1.5km az=34.0*
*CSEM **29** 15:34:52.7±0.2, 51.°49N×16.°10E, h2km, ML3.5/14, Error ellipse: s-maj=3.5km s-min=3.0km az=18.0*
*IDC **29** 15:34:52.9±0.9, 51.°46N×15.°82E, h0km, mb3.4/1, mb1 3.4/8, mb1mx3.2/29, mbtmp3.3/8, ML3.1/7, MS3.0/2, Ms1 3.0/2, ms1mx2.1/31, Error ellipse: s-maj=14.0km s-min=10.0km az=87.0*
*VIE **29** 15:34:55.6±0.7, 51.°28N×16.°07E, h0km, mb2.6/5, ML3.1/5, Error ellipse: s-maj=4.5km s-min=4.0km az=174.0 68 km WNW of Wroclaw Suspected Mining induced.*
*PRU **29** 15:34:55.0, 51.°41N×16.°05E, h0km*
ISC 29 15:34:51.5±0.7, 51.°53N±0.°04×16.°13E±0.°02, h0km, n53, σ0§93/91, 4C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**172**	*i*	Pg	**Pb**		**15 35 06.2**	**-0.2**
KSP				*e*	Sg	**Sg**		**15 35 14.9**	**+1.3**
KSP				*e*				15 35 18.0	
KSP	**Ksiaz**	**0.69**	**172**	⇓*i*	Pg	**Pb**		**15 35 06.2**	**-0.2**
KSP				*e*	Sg	**Sg**		**15 35 14.9**	**+1.3**
UPC	**Upice**	**1.02**	**184**	*e*	PG	**Pb**		**15 35 12.1**	**+0.1**
UPC				*e*	SG	**Sg**		**15 35 24.8**	**+0.5**
comp=Z,72nm,0.4s									
UPC	**Upice**	**1.02**	**184**		Pg	**Pb**		**15 35 12.1**	**+0.1**
UPC					Sg	**Sg**		**15 35 24.8**	**+0.5**
72nm,0.4s									
DPC	**Dobruska-Polom**	**1.18**	**174**	*e*	PG	**Pb**		**15 35 15.0**	**+0.2**
DPC				*e*	SG	**Sg**		**15 35 29.5**	**+0.1**
comp=Z,87nm,0.5s									
DPC	**Dobruska-Polom**	**1.18**	**174**		Pg	**Pb**		**15 35 15.0**	**+0.2**
DPC					Sg	**Sg**		**15 35 29.5**	**+0.1**
87nm,0.5s									
PVCC	**Panska Ves**	**1.41**	**225**	*e*	PG	**Pb**		**15 35 19.0**	**+0.4**
PVCC				*e*	SG	**Sb**		**15 35 37.0**	**0.0**
comp=Z,182nm,0.4s									
PVCC	**Panska Ves**	**1.41**	**225**		Pg	**Pb**		**15 35 19.0**	**+0.4**
PVCC					Sg	**Sb**		**15 35 37.0**	**0.0**
182nm,0.4s									
KRLC	**Kraliky**	**1.51**	**164**	*e*	PG	**Pb**		**15 35 20.5**	**+0.1**
KRLC				*e*	SG	**Sg**		**15 35 39.9**	**0.0**
KRLC	**Kraliky**	**1.51**	**164**		Pg	**Pb**		**15 35 20.5**	**+0.1**
KRLC					Sg	**Sg**		**15 35 39.9**	**0.0**
BRG	**Berggiesshubel**	**1.52**	**246**		PN	**Pn**		**15 35 20.0**	**0.0**
BRG					Pg	**Pg**		**15 35 21.4**	**+0.7**
BRG					SG	**Sn**		**15 35 41.3**	**+0.8**
100nm,0.5s									
PRA	**Prague**	**1.81**	**217**	*e*	PN	**Pn**		**15 35 24.5**	**+0.6**
PRA				*e*	PG	**Pb**		**15 35 26.1**	**+0.6**
PRA				*e*	SG	**Sg**		**15 35 49.9**	**+0.2**
comp=Z,49nm,0.5s									
PRA	**Prague**	**1.81**	**217**		Pn	**Pn**		**15 35 24.5**	**+0.6**
PRA	**Prague**	**1.81**	**217**		Pg	**Pb**		**15 35 26.1**	**+0.6**
PRA					Sg	**Sg**		**15 35 49.9**	**+0.2**
49nm,0.5s									
GOPC	**GO Pecny, Ondr**	**1.83**	**208**	*e*	PN	**Pn**		**15 35 24.4**	**+0.2**
GOPC				*e*	PG	**Pb**		**15 35 26.4**	**+0.6**
GOPC				*e*	SG	**Sb**		**15 35 49.6**	**+0.4**
comp=Z,71nm,0.9s									
GOPC	**GO Pecny, Ondr**	**1.83**	**208**		Pn	**Pn**		**15 35 24.4**	**+0.2**
GOPC	**GO Pecny, Ondr**	**1.83**	**208**		Pg	**Pb**		**15 35 26.4**	**+0.6**
GOPC					Sg	**Sb**		**15 35 49.6**	**+0.4**
71nm,0.9s									
PRU	**Pruhonice**	**1.84**	**214**	*e*	PN	**Pn**		**15 35 24.7**	**+0.4**
PRU				*e*	PG	**Pb**		**15 35 26.0**	**0.0**
PRU				*e*	SG	**Sn**		**15 35 47.7**	**-0.6**
comp=Z,34nm,0.4s									
PRU	**Pruhonice**	**1.84**	**214**		Pn	**Pn**		**15 35 24.7**	**+0.4**
MORC	**Moravsky Berou**	**1.97**	**152**	*e*	Pn	**Pn**		**15 35 26.7**	**+0.6**
MORC				*e*	Sg	**Sb**		**15 35 53.6**	**+0.4**
60nm,0.5s,baz=335									
CLL	**Collm**	**1.97**	**265**	*e*	Pn	**Pn**		**15 35 26.0**	**-0.1**
CLL				*e*	Pg	**Pb**		**15 35 29.0**	**+0.8**
CLL				*i*				15 35 33.2	
CLL				*i*	Sg	**Sg**		**15 35 55.3**	**+0.5**
comp=Z,33nm,0.6s									
OKC	**Ostrava-Krasne**	**2.12**	**142**	*e*	SG	**Sg**		**15 35 59.3**	**-0.2**
comp=Z,63nm,0.7s									
OKC	**Ostrava-Krasne**	**2.12**	**142**		Sg	**Sg**		**15 35 59.3**	**-0.2**
comp=Z,63nm,0.7s									
VRAC	**Vranov**	**2.24**	**172**		Pn	**Pn**		**15 35 30.8**	**+1.1**
comp=Z,2.4nm,0.3s,baz=350,slow=16,SNR=13									
VRAC					Lg	Lg		15 36 03.1	
comp=Z,3.3nm,0.3s,baz=72,slow=20,SNR=4.7									
VRAC	**Vranov**	**2.24**	**172**	*e*	Pn	**Pn**		**15 35 30.9**	**+1.1**
baz=354									
VRAC				*e*	Sg	**Sg**		**15 36 02.8**	**-0.6**
comp=Z,73nm,1.1s,baz=354									
TREC	**Trest**	**2.27**	**191**	*e*	SG	**Sg**		**15 36 03.8**	**-0.6**
TREC	**Trest**	**2.27**	**191**		Sg	**Sg**		**15 36 03.8**	**-0.6**
KRUC	**Moravsky**	**2.47**	**176**	*e*	Pn	**Pn**		**15 35 34.0**	**+1.0**
baz=358									
KRUC				*e*	Sg	**Sg**		**15 36 10.3**	**-0.5**
comp=Z,35nm,0.6s,baz=358									
OJC	**Ojcow**	**2.66**	**118**	*e*	Pg	**Pg**		**15 35 43.7**	**+1.2**
OJC				*e*	Sg	**Sg**		**15 36 19.0**	**+2.0**
OJC	**Ojcow**	**2.66**	**118**	*e*	Pg	**Pg**		**15 35 43.7**	**+1.2**
OJC				*e*	Sg	**Sg**		**15 36 19.0**	**+2.0**
NKC	**Novy Kostel**	**2.67**	**242**	*e*	PN	**Pn**		**15 35 36.8**	**+1.1**
NKC				*e*	PG	**Pg**		**15 35 43.2**	**+0.6**
NKC				*e*	SG	**Sg**		**15 36 18.6**	**+1.4**
comp=Z,38nm,0.4s									
NKC	**Novy Kostel**	**2.67**	**242**		Pn	**Pn**		**15 35 36.8**	**+1.1**
NKC	**Novy Kostel**	**2.67**	**242**		Pg	**Pg**		**15 35 43.2**	**+0.6**
NKC					Sg	**Sg**		**15 36 18.6**	**+1.4**
comp=Z,38nm,0.4s									
KHC	**Kasperske Hory**	**2.90**	**215**	*e*	PN	**Pn**		**15 35 39.3**	**+0.3**
KHC				*e*	PG	**Pb**		**15 35 45.9**	**+1.8**
KHC				*e*	SN	**Sn**		**15 36 14.0**	**-0.6**
KHC				*e*	SG	**Sg**		**15 36 24.9**	**+0.2**
comp=Z,31nm,0.6s									
KHC	**Kasperske Hory**	**2.90**	**215**		Pn	**Pn**		**15 35 39.3**	**+0.3**
CONA	**Conrad Observa**	**3.60**	**183**	⇑*i*	Pn	**Pn**		**15 35 49.6**	**+0.9**
CONA				⇑*i*	Sg	**Sg**		**15 36 45.7**	**-1.5**
comp=Z,15nm,0.4s									
CONA	**Conrad Observa**	**3.60**	**183**		Pn	**Pn**		**15 35 49.6**	**+0.9**
CONA					Sg	**Sg**		**15 36 45.7**	**-1.5**
comp=Z,15nm,0.4s									
MOA	**Molln**	**3.87**	**199**	⇑*i*	Pn	**Pn**		**15 35 53.6**	**+1.3**
MOA				⇓*i*	Sg	**Sg**		**15 36 56.0**	**+0.1**
comp=Z,16nm,0.5s									
MOA	**Molln**	**3.87**	**199**		Pn	**Pn**		**15 35 53.6**	**+1.3**
MOA					Sg	**Sg**		**15 36 56.0**	**+0.1**
comp=Z,16nm,0.5s									
STHS	**Stebnicka Huta**	**3.89**	**121**	*e*	PN	**Pn**		**15 35 54.3**	**+1.8**
KECS	**Kecovo**	**4.14**	**136**	*e*	PN	**Pg**		**15 36 10.6**	**-0.2**
KOLS	**Kolonicke sedl**	**4.72**	**121**	*e*	PN	**Pn**		**15 36 04.9**	**+1.0**
KOLS				*e*	PG	Pg		15 36 25.3	+3.5
KBA	**Koelnbreinsper**	**4.81**	**203**	⇓*i*	Pn	**Pn**		**15 36 06.6**	**+1.3**
KBA				⇑*i*	Sg	**Sg**		**15 37 26.6**	**+0.6**
comp=Z,13nm,0.6s									
KBA	**Koelnbreinsper**	**4.81**	**203**		Pn	**Pn**		**15 36 06.6**	**+1.3**
KBA					Sg	**Sg**		**15 37 26.6**	**+0.6**
comp=Z,13nm,0.6s									
DAVOX	**Davos/Dischmat**	**6.27**	**223**		Pn	**Pn**		**15 36 23.4**	**-2.0**
comp=Z,0.1nm,0.3s,baz=23,slow=18,SNR=2.2									
DAVOX					Lg	Lg		15 38 07.1	
comp=Z,0.3nm,0.3s,baz=18,slow=20,SNR=2.5									
AKASG	**Malin Array Be**	**8.28**	**91**		Pn	**Pn**		**15 36 52.7**	**-0.1**
comp=Z,1.1nm,0.3s,baz=279,slow=12,SNR=6.0									
AKASG					Sn	**Sn**		**15 38 25.6**	**-1.2**
comp=Z,0.3nm,0.3s,baz=276,slow=22,SNR=2.7									
AKASG					Lg	Lg		15 39 18.0	
baz=280,slow=27,SNR=2.7									
HFS	**Hagfors**	**8.74**	**352**		Pn	**Pn**		**15 36 58.4**	**-0.6**
comp=Z,0.1nm,0.3s,baz=170,slow=15,SNR=3.3									
FINES	**FINESS Array B**	**11.34**	**25**		Pn	**Pn**		**15 37 33.4**	**-1.2**
comp=Z,0.1nm,0.3s,baz=209,slow=14,SNR=4.5									
EKA	**Eskdalemuir Ar**	**12.11**	**296**		Pn	**Pn**		**15 37 43.0**	**-2.2**
baz=99,slow=14,SNR=5.8									
ARCES	**ARCESS Array B**	**18.61**	**10**		Pn	**P**		**15 39 07.7**	**-2.3**
comp=Z,0.2nm,0.3s,baz=197,slow=12,SNR=7.8									
JMIC	**Jan Mayen**	**22.51**	**339**		LR	LR		15 47 33.7	
comp=Z,24nm,19.7s,baz=258,slow=34									
SONM	**Songino Array**	**54.89**	**55**		LR	LR		16 07 40.4	
comp=Z,21nm,19.1s,baz=144,slow=36									
YKA	**Yellowknife Ar**	**59.85**	**336**		P	**P**		**15 45 00.0**	**+1.8**
comp=Z,0.3nm,0.6s,baz=29,slow=6.7,SNR=4.1									

*IDC **29** 16:11:40.4±0.5, 12.°33N×88.°37W, h0km, mb4.6/23, mb1 4.7/24, mb1mx4.6/36, mbtmp4.6/24, ML3.9/1, MS3.6/15, Ms1 3.6/15, ms1mx3.4/34, Error ellipse: s-maj=22.6km s-min=11.1km az=56.0*
*BJI **29** 16:11:43.3, 12.°30N×88.°50W, h10km, mB5.4/3, Ms4.9/3, Ms7 4.6/6*
*ISCJB **29** 16:11:43.6±0.2, 12.°26N±0.°03×88.°54W±0.°03, h35km, mb4.8/121, MS3.6/15, Error ellipse: s-maj=5.5km s-min=2.6km az=41.7*
*CASC **29** 16:11:43.1±1.6, 12.°11N×88.°69W, h18km±9km, MD4.4, ML4.2, mb4.9(NEIC)*
*NEIC **29** 16:11:44.4±1.7, 12.°24N×88.°48W, h28km±12km, mb5.0/104, MD4.4(SNET), Error ellipse: s-maj=7.2km s-min=4.3km az=50.0*
NEIC Felt [II] in Usulutan.
*MOS **29** 16:11:45.0±1.0, 12.°53N×88.°38W, h33km, mb5.1/24, Error ellipse: s-maj=18.4km s-min=5.9km az=108.1*
ISC 29 16:11:45.5±0.3, 12.°23N±0.°05×88.°53W±0.°05, h35km, n624, σ1§03/642, mb4.9/121, MS3.6/15, 180C-200D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**1.21**	**12**	*e*	P	**Pn**		**16 12 07.5**	**+1.2**
BLLM	**Bellamira**	**1.23**	**13**	*e*	P	**Pn**		**16 12 07.5**	**+1.1**
CNCH	**Conchagua**	**1.24**	**33**	*e*	P	**Pn**		**16 12 07.5**	**+1.0**
SNVI	**San Vicente**	**1.40**	**348**	*e*	P	**Pn**		**16 12 09.8**	**+1.0**
SNVI				*e*	S	**Sn**		**16 12 29.8**	**+3.7**
LFRS	**El Faro**	**1.47**	**340**	*e*	P	**Pn**		**16 12 09.3**	**-0.4**
CAHU	**Cacacuatique**	**1.56**	**12**	*e*	P	**Pn**		**16 12 13.0**	**+2.1**
CAHU				*e*	S	Sn		**16 12 35.9**	**+5.8**
LBRS	**Las Brisas**	**1.58**	**342**	*e*	P	**Pn**		**16 12 10.3**	**-0.8**
SNET	**Serv Nac Est T**	**1.60**	**335**	*e*	P	**Pn**		**16 12 11.0**	**-0.4**
SNET					AML	AML		16 12 50.9	
comp=Z,4μm,0.7s									
CNGN	**Cerro Negro**	**1.81**	**81**	*e*	P	**Pn**		**16 12 15.8**	**+1.5**
COPN	**Copaltepe**	**1.90**	**91**	*e*	P	**Pn**		**16 12 16.1**	**+0.6**
COPN				*e*	S	**Sn**		**16 12 41.5**	**+3.4**
SBLS	**San Blas**	**1.92**	**326**	*e*	P	**Pn**		**16 12 15.5**	**-0.5**
SBLS				*e*	S	**Sn**		**16 12 40.6**	**+1.6**
SNJE	**San Jose**	**1.93**	**327**	*e*	P	**Pn**		**16 12 15.8**	**-0.3**
RTR	**El Retiro**	**1.98**	**327**	*e*	P	**Pn**		**16 12 16.2**	**-0.5**
RBDL	**Robledal**	**2.18**	**329**⇓	*e*	P	**Pn**		**16 12 19.0**	**-0.5**
TGUH	**Tegucigalpa,Un**	**2.19**	**34**	*e*	Pn	**Pn**		**16 12 21.7**	**+2.2**
TGUH				*e*	Sn	**Sn**		**16 12 41.7**	**-3.6**
HUEN		**2.31**	**87**⇑	*e*	P	**Pn**		**16 12 21.9**	**+0.9**
VCR	**Vista de Mar**	**3.53**	**126**⇑	*e*	P	**Pn**		**16 12 37.0**	**-1.1**
JCR	**Jicaral**	**4.11**	**125**	*e*	P	**Pn**		**16 12 45.6**	**-0.4**
CAO	**Cobano**	**4.20**	**126**	*e*	P	**Pn**		**16 12 47.2**	**0.0**
CGA2	**Cerro Gallo 2**	**4.56**	**119**	*e*	P	**Pn**		**16 12 53.4**	**+1.2**
URSC	**Urasca**	**5.24**	**117**	*e*	P	**Pn**		**16 13 03.4**	**+1.8**
ACR	**Cerro Adams**	**6.36**	**123**	*e*	P	**Pn**		**16 13 18.5**	**+1.5**
CTCR	**Cotoan**	**6.57**	**120**	*e*	P	**Pn**		**16 13 21.3**	**+1.4**
TBS2		**6.71**	**120**	*e*	P	Pn		16 13 25.6	+3.7
BRU	**Baru**	**6.79**	**120**	*e*	P	**Pn**		**16 13 24.7**	**+1.5**
CMIG	**Matias Romero**	**7.81**	**309**		Pn	**Pn**		**16 13 36.8**	**-0.1**
comp=Z,1.7nm,0.3s,baz=92,slow=9.9,SNR=28									
CMIG					Sn	**Sn**		**16 15 02.3**	**-1.8**
comp=Z,1.8nm,0.3s,baz=79,slow=16,SNR=2.5									
TEIG	**Tepich**	**7.95**	**2**		Pn	**Pn**		**16 13 39.9**	**+1.3**
comp=Z,1.8nm,0.3s,baz=155,slow=3.3,SNR=20									
TEIG	**Tepich**	**7.95**	**2**	*e*	Pn	**Pn**		**16 13 39.2**	**+0.5**
TEIG				*e*	Sn	**Sn**		**16 15 05.7**	**-1.8**
BCIP	**Isla Barro Col**	**9.07**	**109**	*e*	Pn	**Pn**		**16 13 54.5**	**+0.5**
comp=Z,67nm,1.1s									
BCIP				*e*	Sn	**Sn**		**16 15 34.9**	**-0.1**
MTDJ	**Mount Denham**	**12.17**	**59**		Pn	**Pn**		**16 14 35.8**	**-0.8**
comp=Z,61nm,1.1s									
PAYG	**Puerto Ayora**	**12.94**	**188**		Pn	**Pn**		**16 14 45.7**	**-1.4**
OTAV	**Otavalo**	**15.56**	**139**	*e*	Pn	**Pn**		**16 15 22.6**	**-0.2**
comp=Z,12nm,0.7s									
ROSC	**El Rosal**	**15.84**	**116**		Pn	**Pn**		**16 15 27.8**	**+1.4**
comp=Z,1.4nm,0.3s,baz=270,slow=20,SNR=5.6									
ROSC	**El Rosal**	**15.84**	**116**	*e*	Pn	**Pn**		**16 15 25.0**	**-1.4**
035Z	**Hargill**	**16.76**	**329**	⇑	P	**P**		**16 15 38.6**	**-1.0**
baz=17,SNR=5.9									
035A	**Encino**	**17.17**	**330**	⇓	P	**P**		**16 15 43.5**	**-0.6**
baz=17,SNR=22									
936A	**North Padre Is**	**17.20**	**333**	⇑	P	**P**		**16 15 43.7**	**-0.8**
baz=17									
034A	**Hebbronville**	**17.56**	**329**	⇑	P	**P**		**16 15 47.9**	**-0.5**
baz=18,SNR=43									
KVTX	**Kingsville**	**17.58**	**331**	*e*	Pn	**Pn**		**16 15 46.5**	**-1.4**
comp=Z,107nm,0.9s

438A **Sam Houston St** 19.51 342 ⇓P P 16 16 10.0 +0.1
baz=20,SNR=7.3
732A **Laxson Ranch,** 19.58 329 ⇓P P 16 16 09.7 -0.9
baz=20,SNR=35
535A **Dale** 19.59 336 ⇑P P 16 16 11.0 +0.2
baz=20,SNR=16
TIGA **Tifton** 19.65 13 *e*P Pn 16 16 12.6 -0.3
comp=Z,130nm,0.8s
TIGA **Tifton** 19.65 13 ⇓P P 16 16 11.5 +0.2
baz=20
340A **Bronson** 19.72 346 ⇓P Pn 16 16 13.8 0.0
baz=20,SNR=20
SMN1 **Samana, DR** 19.78 67 *e*P P 16 16 10.3 -2.6
633A **Saathoff Ranch** 19.79 332 ⇓P P 16 16 12.6 -0.4
baz=20,SNR=56
437A **Phantom Ranch,** 19.80 340 ⇓P P 16 16 12.6 -0.4
baz=20
339A **Huntington** 19.80 345 ⇑P Pn 16 16 14.3 -0.5
baz=20,SNR=11
534A **Blanco** 19.97 334 ⇓P P 16 16 14.5 -0.4
baz=20,SNR=44
436A **Wall Ranch, Ga** 19.97 339 ⇓P P 16 16 15.2 +0.4
baz=20
VBMS **Vicksburg** 19.97 355 *e*Pn Pn 16 16 18.0 +1.2
comp=Z,134nm,0.8s
338A **Crockett** 20.03 343 ⇑P P 16 16 16.1 +0.5
baz=20,SNR=20
632A **Uvalde** 20.12 330 ⇓P P 16 16 15.8 -0.8
baz=20,SNR=36
337A **Centerville** 20.17 341 ⇑P P 16 16 17.1 +0.2
baz=20
NATX **Nacogdoches** 20.24 345 *e*Pn Pn 16 16 19.8 0.0
comp=Z,65nm,0.8s
533A **Kerrville** 20.25 333 ⇓P P 16 16 17.5 -0.4
baz=20,SNR=105
435B **Jarrell** 20.27 337 ⇑P P 16 16 18.3 +0.1
baz=20,SNR=16
239A **Gary** 20.43 345 ⇓P P 16 16 20.1 +0.2
baz=20
631A **Perdido Creek** 20.44 329 ⇑P P 16 16 19.2 -0.8
baz=20,SNR=39
336A **Riesel** 20.55 339 ⇓P P 16 16 21.0 -0.1
baz=21,SNR=6.8
434A **Burnet** 20.57 336 ⇑P P 16 16 21.1 -0.3
baz=21,SNR=47
238A **Jacksonville** 20.59 344 ⇑P P 16 16 21.5 -0.1
baz=21
335A **Moody** 20.66 338 ⇑P P 16 16 22.0 -0.3
baz=21,SNR=19
532A **Rocksprings** 20.70 331 ⇓P P 16 16 22.8 -0.1
baz=21,SNR=129
LRAL **Lakeview Retre** 20.75 4 *e*P Pn 16 16 25.2 -0.6
comp=Z,34nm,1.0s
237A **Washetta, Mont** 20.78 342 ⇑P P 16 16 24.1 +0.4
baz=21
433A **Art** 20.86 334 ⇑P P 16 16 23.9 -0.6
baz=21,SNR=78
JCT **Junction City** 20.94 332 *e*P P 16 16 25.0 -0.5
JCT pmax pmax
comp=Z,108nm,0.9s
JCT **Junction City** 20.94 332 *e*P P 16 16 25.0 -0.5
comp=Z,108nm,0.9s
JCT **Junction City** 20.94 332 ⇓P P 16 16 24.9 -0.5
baz=21,SNR=46
236A **Katherine and** 21.00 341 ⇑P P 16 16 25.6 -0.4
baz=21
334A **Lometa** 21.01 336 ⇓P P 16 16 25.6 -0.6
baz=21,SNR=45
531A **Rocksprings** 21.04 330 ⇓P P 16 16 25.6 -0.9
baz=21,SNR=36
139A **Bunkhouse Ranc** 21.05 346 ⇑P P 16 16 26.3 -0.2
baz=21
138A **Matatall Enter** 21.20 345 ⇑P P 16 16 29.4 +1.2
baz=21,SNR=21
432A **Menard** 21.27 332 ⇑P P 16 16 28.9 -0.1
baz=21,SNR=92
333A **Richland Sprin** 21.31 335 ⇑P P 16 16 28.9 -0.5
baz=21,SNR=69
WHTX **Lake Whitney,** 21.31 339 *e*Pn P 16 16 26.4 -3.0
comp=Z,69nm,0.9s
WHTX **Lake Whitney,** 21.31 339 ⇓P P 16 16 28.9 -0.4
baz=21,SNR=12
137A **Heron Place, G** 21.32 343 ⇑P P 16 16 29.6 +0.1
baz=21
530A **J-C Ranch, Com** 21.42 328 ⇓P P 16 16 30.2 -0.4
baz=22,SNR=39
431A **Sonora** 21.49 331 ⇓P P 16 16 31.4 0.0
baz=22,SNR=85
Z39A **Irene McRaven,** 21.54 347 ⇓P P 16 16 33.1 +1.4
baz=22,SNR=5.3
234A **Clairette** 21.57 337 ⇑P P 16 16 31.7 -0.4
baz=22,SNR=17
GOGA **Godfrey** 21.58 12 *e*P P 16 16 30.9 -1.4
GOGA **Godfrey** 21.58 12 *e*P P 16 16 30.9 -1.4
332A **Millersview** 21.68 333 ⇓P P 16 16 32.7 -0.7
baz=22,SNR=41
Z38A **Mt. Pleasant** 21.74 345 ⇑P P 16 16 33.3 -0.6
baz=22
135A **Vickery Place,** 21.81 339 ⇓P P 16 16 34.3 -0.4
baz=22,SNR=9.9
Z37A **Pogue Cattle C** 21.85 344 ⇓P P 16 16 36.5 +1.4
baz=22,SNR=10
529A **Stev Forest Ra** 21.87 327 ⇑P P 16 16 34.5 -0.9
baz=22,SNR=12
233A **Rising Star** 21.88 336 ⇑P P 16 16 34.9 -0.6
baz=22,SNR=44
430A **Baggett Ranch,** 21.89 329 ⇑P P 16 16 35.3 -0.3
baz=22,SNR=35
331A **San Angelo** 21.93 332 ⇑P P 16 16 35.3 -0.7
baz=22,SNR=44
134A **White-Moore Ra** 22.06 338 ⇓P P 16 16 36.5 -0.9
baz=22,SNR=14
232A **Coleman** 22.08 334 ⇑P P 16 16 36.9 -0.7
baz=22,SNR=61
TXAR **Lajitas Array** 22.09 323 P P 16 16 38.4 +0.5
comp=Z,15nm,0.8s,baz=147,slow=11,SNR=128
TXAR PcP PcP 16 20 35.4 +0.6
comp=Z,1.1nm,0.8s,baz=170,slow=2.7,SNR=4.6
TXAR ScP ScP 16 24 16.9 +7.2
comp=Z,0.9nm,0.9s,baz=142,slow=4.7,SNR=4.2
429A **Davenport Ranc** 22.09 328 ⇓P P 16 16 37.4 -0.4
baz=22,SNR=32
NHSC **New Hope** 22.14 19 P P 16 16 36.8 -1.4
comp=Z,124nm,1.0s
OXF **Oxford** 22.19 358 *e*P P 16 16 37.3 -1.5
OXF pmax pmax
comp=Z,77nm,1.0s
OXF **Oxford** 22.19 358 *e*P P 16 16 37.2 -1.5
comp=Z,77nm,1.0s
330A **Mertzon** 22.36 331 ⇓P P 16 16 39.3 -1.4
baz=22,SNR=36
133A **Hamilton Ranch** 22.41 336 ⇓P P 16 16 39.9 -1.2
baz=22,SNR=27
231A **Bronte** 22.41 333 ⇓P P 16 16 39.8 -1.4
baz=22,SNR=33
Z35A **Perchaven, San** 22.46 341 ⇓P P 16 16 40.4 -1.3
baz=23,SNR=8.3
MIAR **Mount Ida** 22.68 349 *e*P P 16 16 44.2 +0.2
MIAR pmax pmax
comp=Z,101nm,1.1s
MIAR **Mount Ida** 22.68 349 *e*P P 16 16 44.2 +0.2
comp=Z,101nm,1.1s
UALR **University of** 22.71 352 *e*P P 16 16 44.0 -0.3
comp=Z,42nm,0.8s
ABTX **Abilene, Hawle** 22.71 335 *e*P P 16 16 43.5 -0.9
comp=Z,136nm,1.2s
ABTX **Abilene, Hawle** 22.71 335 ⇑P P 16 16 42.8 -1.6
baz=23,SNR=31
Z34A **Collier Ranch,** 22.72 339 ⇓P P 16 16 42.3 -2.2
baz=23,SNR=7.6
230A **Sterling City** 22.73 331 ⇓P P 16 16 43.3 -1.4
baz=23,SNR=7.7
329A **Wagon Wheel Ra** 22.82 329 ⇑P P 16 16 43.7 -1.9
baz=23
Z33A **Whitaker Ranch** 22.95 338 ⇓P P 16 16 45.9 -1.0
baz=23,SNR=16
131A **Roby** 23.07 334 ⇑P P 16 16 47.1 -1.0
baz=23,SNR=8.5
X37A **Clayton** 23.11 346 ⇑P P 16 16 47.8 -0.7
baz=23,SNR=43
229A **Bryant Ranch,** 23.13 330 ⇓P P 16 16 47.6 -1.2
baz=23,SNR=9.2
Y34A **Reagan Ranch,** 23.20 340 ⇓P P 16 16 48.2 -1.3
baz=23
Z32A **Haskell** 23.24 336 ⇓P P 16 16 48.4 -1.4
baz=23,SNR=24
130A **Snyder** 23.26 333 ⇓P P 16 16 48.1 -1.9
baz=23,SNR=6.7

SLBS **Sierra La Lagu** 23.30 302 *e*P P 16 16 52.3 +1.8
comp=Z,164nm,2.1s
X36A **Centrahoma** 23.35 344 ⇑P P 16 16 49.9 -0.9
baz=23,SNR=24
X35A **Drake** 23.36 342 ⇓P P 16 16 49.9 -1.1
baz=24
W38A **Poteau** 23.38 348 ⇑P P 16 16 50.5 -0.6
baz=24,SNR=72
Z31A **Sharp Cattle R** 23.52 335 ⇓P P 16 16 51.2 -1.3
baz=24,SNR=28
PCRV **Puerto La Cruz** 23.53 93 P P 16 16 51.9 -0.9
comp=Z,8.2nm,0.6s,baz=292,slow=5.4,SNR=3.0
Y33A **Hilltop Ranch,** 23.55 339 ⇓P P 16 16 51.9 -0.9
baz=24
228A **UT Block 9, Go** 23.64 329 ⇓P P 16 16 52.2 -1.6
baz=24,SNR=9.4
W37A **Quinton** 23.64 346 ⇓P P 16 16 52.3 -1.4
baz=24,SNR=26
129A **Stewart Farms,** 23.70 331 ⇑P P 16 16 52.1 -2.2
baz=24,SNR=13
TKL **Tuckaleechee C** 23.72 10 P P 16 16 54.8 +0.4
comp=Z,48nm,0.9s,baz=185,slow=11,SNR=52
TKL LR LR 16 26 04.3
comp=Z,43nm,20.9s,baz=176,slow=37
KMSC **Kings Mountain** 23.72 15 *e*P P 16 16 54.6 +0.2
comp=Z,106nm,1.5s
KMSC **Kings Mountain** 23.72 15 ⇑P P 16 16 53.9 -0.5
baz=24,SNR=15
LPIG **La Paz** 23.78 303 LR LR 16 27 12.6
comp=Z,195nm,18.3s,baz=190,slow=39
X34A **Smith Ranch, M** 23.82 341 ⇑P P 16 16 55.1 -0.3
baz=24,SNR=20
Y32A **R-V Farms, Ver** 23.84 337 ⇓P P 16 16 54.7 -0.9
baz=24,SNR=6.4
W36A **Wetumka** 23.85 344 ⇓P P 16 16 54.9 -0.7
baz=24,SNR=6.2
Z30A **Sanderson Ranc** 23.91 333 ⇓P P 16 16 55.0 -1.4
baz=24,SNR=30
X33A **Lawton** 23.99 339 ⇓P P 16 16 56.5 -0.4
baz=24,SNR=11
128A **Castleberry Fa** 23.99 330 ⇑P P 16 16 55.9 -1.2
baz=24,SNR=15
W35A **Tecumseh** 24.04 343 ⇑P P 16 16 56.1 -1.3
baz=24,SNR=15
Y31A **Rekieta Farm,** 24.13 336 ⇑P P 16 16 57.1 -1.2
baz=24,SNR=14
Z29A **Hungry Hill Ra** 24.15 332 ⇓P P 16 16 57.0 -1.6
baz=24,SNR=14
X32A **Elmer** 24.16 338 ⇓P P 16 16 57.9 -0.6
baz=24,SNR=9.9
WMOK **Wichita Mounta** 24.26 339 *e*P P 16 16 58.5 -1.0
WMOK pmax pmax
comp=Z,66nm,1.5s
WMOK **Wichita Mounta** 24.26 339 *e*P P 16 16 58.5 -1.0
comp=Z,66nm,1.5s
Y30A **Stafford Cattl** 24.32 334 ⇑P P 16 16 58.5 -1.5
baz=24,SNR=34
W34A **Bridge Creek,** 24.38 341 *e*P P 16 17 00.1 -0.5
comp=Z,101nm,0.7s
W34A **Bridge Creek,** 24.38 341 ⇑P P 16 17 00.1 -0.5
baz=24,SNR=13
TUL1 **Leonard** 24.47 346 *e*P P 16 17 00.5 -0.9
comp=Z,61nm,0.9s
TUL1 **Leard** 24.47 346 ⇑P P 16 17 00.4 -0.9
baz=25,SNR=9.9
Z28A **Tucker Farm, M** 24.49 331 ⇑P P 16 17 00.6 -1.1
baz=25
PBMO **Poplar Bluff** 24.50 356 *e*P P 16 17 01.4 -0.2
comp=Z,34nm,0.8s
W33A **Caddo, Fort Co** 24.53 340 ⇑P P 16 17 01.2 -0.7
baz=25
V35A **Meyer Ranch, C** 24.60 344 ⇑P P 16 17 01.4 -1.1
baz=25,SNR=8.2
X31A **McDonald Ranch** 24.61 337 ⇑P P 16 17 02.0 -0.6
baz=25,SNR=15
Y29A **Porterfield Fa** 24.64 333 ⇓P P 16 17 02.2 -0.8
baz=25,SNR=9.7
W32A **Sentinel** 24.77 339 ⇓P P 16 17 03.2 -0.9
baz=25,SNR=29
X30A **Coker Ranch, T** 24.80 335 ⇓P P 16 17 04.3 -0.1
baz=25,SNR=36
MNTX **Cornudas Mount** 24.82 324 *e*P P 16 17 03.0 -1.6
comp=Z,49nm,1.3s
MNTX **Cornudas Mount** 24.82 324 ⇑P P 16 17 03.8 -0.8
baz=25,SNR=19
V34A **Guthrie** 24.86 342 *e*P P 16 17 04.3 -0.5
comp=Z,80nm,0.7s
V34A **Guthrie** 24.86 342 ⇓P P 16 17 04.1 -0.8
baz=25
Y28A **McKinney Farm,** 24.94 332 ⇓P P 16 17 04.9 -0.8
baz=25,SNR=12
V33A **Lossen Ranch,** 25.08 341 ⇓P P 16 17 06.0 -0.9
baz=25,SNR=6.3
W31A **Holland Ranch,** 25.08 338 ⇑P P 16 17 06.3 -0.7
baz=25
X29A **Tulia** 25.15 334 ⇓P P 16 17 07.0 -0.6
baz=25,SNR=19
MSTX **Muleshoe** 25.23 331 *e*P P 16 17 07.8 -0.6
comp=Z,61nm,0.8s
MSTX **Muleshoe** 25.23 331 ⇓P P 16 17 07.5 -0.9
baz=25,SNR=15
V32A **Arapaho** 25.24 340 ⇓P P 16 17 07.5 -0.9
baz=25,SNR=11
U34A **Anderson Ranch** 25.43 343 *e*P P 16 17 08.3 -1.7
comp=Z,47nm,0.6s
U34A **Anderson Ranch** 25.43 343 ⇓P P 16 17 08.6 -1.4
baz=26,SNR=11
X28A **Dimmitt** 25.43 333 ⇑P P 16 17 09.8 -0.4
baz=26
T37A **Cheyyville 18** 25.44 348 ⇓P P 16 17 09.7 -0.3
baz=26
AMTX **Amarillo** 25.51 334 P P 16 17 10.0 -0.9
comp=Z,134nm,1.1s
AMTX **Amarillo** 25.51 334 ⇑P P 16 17 10.3 -0.6
baz=26
V31A **Spring Creek L** 25.57 338 ⇑P P 16 17 10.7 -0.7
baz=26,SNR=8.1
T36A **Boggs Farm, Ca** 25.59 346 ⇑P P 16 17 10.8 -0.6
baz=26,SNR=9.7
U33A **Lingo Farm, Me** 25.59 342 ⇑P P 16 17 10.3 -1.2
baz=26,SNR=5.8
T35A **Sooner Cattle** 25.60 345 ⇓P P 16 17 10.7 -0.9
baz=26,SNR=11
W29A **Amarillo** 25.70 335 ⇓P P 16 17 11.4 -1.3
baz=26,SNR=8.6
U32A **Winter Ranch,** 25.83 340 ⇓P P 16 17 13.4 -0.3
baz=26
T34A **McCloskey Farm** 25.88 344 ⇓P P 16 17 13.0 -1.1
baz=26,SNR=9.4
BLA **Blacksburg** 25.91 15 *e*P P 16 17 12.7 -1.8
BLA pmax pmax
comp=Z,26nm,0.9s
BLA **Blacksburg** 25.91 15 *e*P P 16 17 12.7 -1.8
comp=Z,26nm,0.9s
WCI **Wyandotte Cave** 25.96 4 *e*P P 16 17 13.5 -1.4
WCI pmax pmax
comp=Z,26nm,0.7s
WCI **Wyandotte Cave** 25.96 4 *e*P P 16 17 13.5 -1.4
comp=Z,26nm,0.7s
W28A **Vega** 26.06 334 ⇓P P 16 17 15.8 0.0
baz=26
U31A **Nine Bar Ranch** 26.11 339 ⇓P P 16 17 15.8 -0.4
baz=26
S36A **Lake Cedric, C** 26.16 347 ⇓P P 16 17 15.9 -0.7
baz=26,SNR=14
T33A **Patterson Ranc** 26.23 342 ⇓P P 16 17 16.3 -1.0
baz=26,SNR=12
S35A **Otter Creek Ra** 26.28 346 ⇑P P 16 17 17.2 -0.6
baz=26,SNR=19
V29A **Stinnett** 26.30 336 ⇓P P 16 16 16.7 -1.4
baz=26
OLIL **Olney** 26.39 1 *e*P P 16 17 17.0 -1.7
comp=Z,38nm,0.8s
V28A **Channing** 26.48 334 ⇓P P 16 17 19.2 -0.5
baz=27,SNR=8.2
S34A **Willow Spring** 26.50 345 ⇑P P 16 17 19.1 -0.6
baz=27
T32A **Huddler Ranch,** 26.53 341 ⇑P P 16 17 19.2 -0.9
baz=27,SNR=7.1
U30A **WK&E Inc. Balk** 26.54 338 ⇓P P 16 17 19.6 -0.6
baz=27,SNR=6.8
R37A **Teagarden Farm** 26.57 349 ⇑P P 16 17 20.1 -0.2
baz=27
S33A **Kaszmaul Farm,** 26.64 343 ⇑P P 16 17 21.0 0.0
baz=27
T31A **Randall Ranch,** 26.70 340 ⇓P P 16 17 20.5 -1.1
baz=27,SNR=7.7
U29A **Oasis Ranch, S** 26.70 337 ⇑P P 16 17 21.4 -0.2
baz=27

R36A **Gordon, Harris** 26.72 348 ⇑P P 16 17 20.6 -1.1
baz=27
V27A **Dan Oppiter Fa** 26.75 333 ⇓P P 16 17 21.9 -0.3
baz=27
121A **Cookes Peak, D** 26.84 322 *e*P P 16 17 21.9 -1.1
comp=Z,13nm,0.9s
121A **Cookes Peak, D** 26.84 322 ⇑P P 16 17 22.6 -0.5
baz=27
R35A **Emporia Munici** 26.87 347 ⇑P P 16 17 22.9 -0.1
baz=27
T30A **Plains** 26.96 338 ⇑P P 16 17 23.6 -0.3
baz=27
S32A **Newby Ranch, P** 27.02 342 ⇑P P 16 17 23.4 -1.0
baz=27,SNR=7.3
U28A **Mallet** 27.02 335 ⇓P P 16 17 23.6 -1.0
baz=27
Q37A **Longview Farm,** 27.05 350 ⇑P P 16 17 24.0 -0.7
baz=27
R34A **Isabella, Hill** 27.10 345 ⇑P P 16 17 24.5 -0.6
baz=27
S31A **Mullinville** 27.11 341 ⇑P P 16 17 24.8 -0.5
baz=27
R33A **Olander Ranch,** 27.30 344 ⇓P P 16 17 26.5 -0.5
baz=27
U27A **Thompson Grove** 27.31 334 ⇓P P 16 17 26.6 -0.5
baz=27,SNR=14
Q36A **Arnold C. Orve** 27.32 348 ⇓P P 16 17 26.2 -0.9
baz=27
T29A **Hugoton** 27.33 337 ⇑P P 16 17 26.2 -1.1
baz=27
Q35A **Mercer Eighty,** 27.34 347 ⇑P P 16 17 26.4 -0.9
baz=28
Y22D **IRIS PASSCAL I** 27.45 325 ⇓P P 16 17 27.7 -0.7
baz=28
S30A **Montezuma** 27.46 339 ⇓P P 16 17 26.9 -1.5
baz=28
Q34A **Chapman** 27.61 346 ⇑P P 16 17 28.5 -1.2
baz=28
R32A **Long Quarter,** 27.61 343 ⇓P P 16 17 28.4 -1.3
baz=28
T28A **Walsh** 27.62 336 ⇑P P 16 17 30.4 +0.5
baz=28,SNR=7.4
S29A **Ulysses** 27.68 338 ⇓P P 16 17 29.7 -0.7
baz=28
KSU1 **Kansas State U** 27.70 346 *e*P P 16 17 28.3 -2.2
comp=Z,34nm,0.9s
KSU1 **Kansas State U** 27.70 346 ⇓P P 16 17 29.3 -1.2
baz=28
R31A **Burdett** 27.74 341 ⇑P P 16 17 30.0 -0.9
baz=28
T27A **Campo** 27.81 335 ⇑P P 16 17 30.5 -1.1
baz=28
ANMO **Albuquerque** 27.85 327 P P 16 17 32.6 +0.5
comp=Z,1.6nm,0.7s,baz=148,slow=9.5,SNR=6.6
ANMO **Albuquerque** 27.85 327⇑ *e*P P 16 17 33.9 +1.8
ANMO pmax pmax
comp=Z,32nm,1.7s
Q33A **Connelly Farm,** 27.91 344 ⇓P P 16 17 31.3 -1.1
baz=28
S28A **Manter** 27.94 337 ⇑P P 16 17 31.4 -1.3
baz=28
R30A **Dighton** 27.98 340 ⇑P P 16 17 32.4 -0.6
baz=28,SNR=11
P35A **Duane Minner,** 27.98 348 ⇑P P 16 17 32.0 -1.1
baz=28,SNR=8.2
SFIN **Lafayette** 28.06 2 P P 16 17 31.0 -2.7
comp=Z,12nm,0.8s
SFIN **Lafayette** 28.06 2 ⇓P P 16 17 32.5 -1.2
baz=28
Q32A **Meitler Ranch,** 28.10 343 ⇑P P 16 17 33.2 -0.8
baz=28
T26A **Comanche Natio** 28.27 334 ⇓P P 16 17 35.0 -0.8
baz=28
P33A **Williams Farm,** 28.28 345 ⇑P P 16 17 34.8 -0.9
baz=28
ACSO **Alum Creek Sta** 28.32 9 *e*P P 16 17 35.6 -0.3
comp=Z,26nm,0.8s
Q31A **Ellis** 28.36 342 ⇓P P 16 17 35.6 -0.7
baz=28
R29A **Marienthal** 28.40 339 ⇑P P 16 17 35.7 -1.2
baz=28
S27A **Las Animas** 28.42 336 ⇓P P 16 17 35.9 -1.1
baz=28
R28A **Tribune** 28.57 338 ⇓P P 16 17 37.5 -0.8
baz=29,SNR=6.7
TUC **Tucson** 28.58 318 *e*P P 16 17 38.0 -0.5
TUC pmax pmax
comp=Z,12nm,1.1s
TUC **Tucson** 28.58 318 *e*P P 16 17 38.0 -0.5
comp=Z,12nm,1.1s
Q30A **Quinter** 28.59 341 ⇑P P 16 17 37.7 -0.7
baz=29,SNR=5.8
S26A **Kim** 28.60 335 ⇓P P 16 17 38.8 +0.1
baz=29,SNR=9.4
T25A **Trinidad** 28.60 333 ⇑P P 16 17 39.3 +0.5
baz=29,SNR=6.9
P32A **Huiting Farm,** 28.70 344 ⇓P P 16 17 38.7 -0.7
baz=29
Q29A **Oakley** 28.76 340 ⇓P P 16 17 40.1 +0.1
baz=29
P31A **Stockton** 28.83 342 ⇓P P 16 17 40.5 -0.1
baz=29
O33A **Hebron** 28.86 346 ⇓P P 16 17 40.4 -0.4
baz=29
R27A **Eads** 28.90 336 ⇑P P 16 17 40.3 -1.0
baz=29
R26A **Arlington** 29.17 335 ⇑P P 16 17 43.7 0.0
baz=29
O32A **Brockman Farm,** 29.21 345 ⇑P P 16 17 43.4 -0.6
baz=29
Q28A **Sharon Springs** 29.21 338 ⇓P P 16 17 43.1 -0.9
baz=29
N34A **Lincoln** 29.34 348 ⇑P P 16 17 44.3 -0.8
baz=30
P29A **Atwood** 29.39 340 ⇑P P 16 17 44.9 -0.6
baz=30
O31A **Woolen Ranch,** 29.39 343 ⇑P P 16 17 45.0 -0.6
baz=30
KSCO **Kaye Shedlock'** 29.46 337 *e*P P 16 17 45.8 -0.6
comp=Z,41nm,0.8s
KSCO **Kaye Shedlock'** 29.46 337 ⇓P P 16 17 45.6 -0.7
baz=30
SDCO **Great Sand Dun** 29.59 332 *e*P P 16 17 47.2 -0.5
comp=Z,13nm,0.9s
SDCO **Great Sand Dun** 29.59 332 ⇓P P 16 17 47.0 -0.7
baz=30
O30A **MW Ranch, Wils** 29.64 342 ⇑P P 16 17 47.0 -0.7
baz=30
P28A **Saint Francis** 29.64 339 ⇓P P 16 17 47.2 -0.7
baz=30
214A **Organ Pipe Nat** 29.73 315 *e*P P 16 17 49.1 +0.5
comp=Z,4.3nm,0.8s
214A **Organ Pipe Nat** 29.73 315 ⇓P P 16 17 47.5 -1.2
baz=30
Q26A **Hugo** 29.73 336 ⇑P P 16 17 49.1 +0.4
baz=30,SNR=5.6
SSPA **Standing Stone** 29.80 16 *e*P P 16 17 48.4 -0.7
comp=Z,127nm,2.6s
W18A **Petrified Fore** 29.80 323 ⇓P P 16 17 48.3 -1.2
baz=30
O29A **4D Ranch, Culb** 29.82 341 ⇑P P 16 17 48.9 -0.5
baz=30
SCIA **State Center** 29.84 353 *e*P P 16 17 47.6 -1.9
comp=Z,27nm,0.6s
P27A **Ficken Ranch,** 29.92 338 ⇑P P 16 17 50.4 0.0
baz=30
R23A **Moffat** 30.10 332 ⇑P P 16 17 52.2 +0.1
baz=30,SNR=9.8
O28A **Krutsinger Ran** 30.14 340 ⇓P P 16 17 52.9 +0.6
baz=30
P26A **Davis Ranch, A** 30.21 337 ⇓P P 16 17 53.1 +0.1
baz=30
S22A **4UR Ranch, Cre** 30.22 330 ⇑P P 16 17 53.4 +0.1
baz=30
O27A **Beecher Island** 30.44 339 ⇑P P 16 17 54.5 -0.4
baz=31
LUPA **Lehigh Univers** 30.54 20 *e*P P 16 17 57.0 +1.4
comp=Z,2.3nm,0.7s
JFWS **Jewell Farm** 30.60 358 *e*P P 16 17 56.0 -0.2
JFWS pmax pmax
comp=Z,26nm,0.9s
JFWS **Jewell Farm** 30.60 358 *e*P P 16 17 56.0 -0.2
comp=Z,26nm,0.9s
MVCO **Mesa Verde** 30.64 328 *e*P P 16 17 55.9 -1.0
comp=Z,12nm,0.9s
MVCO **Mesa Verde** 30.64 328 ⇓P P 16 17 56.6 -0.3
baz=31

Q23A **Hartsel** 30.69 333 ⇓P P 16 17 57.3 -0.1
baz=31
O26A **Horse Wrangler** 30.79 338 ⇓P P 16 17 58.5 +0.4
baz=31
BRNJ **Basking Ridge** 30.89 21 *eP* P 16 18 00.7 +2.0
OGNE **Ogallala** 30.96 340 ⇓P P 16 17 59.6 +0.1
baz=31
N27A **Anderson Farm,** 31.01 339 ⇓P P 16 18 00.5 +0.6
baz=31
WUAZ **Wupatki** 31.05 322 *eP* P 16 18 02.0 +1.6
comp=Z,6.7nm,0.8s
WUAZ **Wupatki** 31.05 322 ⇑P P 16 18 00.4 0.0
baz=31
P23A **Jefferson** 31.08 333 ⇑P P 16 18 01.1 +0.2
baz=31
M28A **Bar X Bar Ranc** 31.15 341 ⇓P P 16 18 01.5 +0.4
baz=31
L31A **Butterfield Fa** 31.15 345 ⇓P P 16 18 01.1 -0.1
baz=31
L30A **Spencer Herefo** 31.17 344 ⇑P P 16 18 01.6 +0.3
baz=31
N26A **Koester Ranch,** 31.27 338 ⇑P P 16 18 02.2 -0.1
baz=31
KSPA **Keystone Colle** 31.27 19 *eP* P 16 18 03.7 +1.5
comp=Z,32nm,1.6s
ISCO **Idaho Springs** 31.34 334 *eP* P 16 18 03.7 +0.6
ISCO *e* 16 20 58.6
ISCO pmax pmax
comp=Z,11nm,0.8s
ISCO **Idaho Springs** 31.34 334 *eP* P 16 18 03.7 +0.6
comp=Z,10nm,0.8s
ISCO *ePcP* PcP 16 20 58.6 +2.0
ISCO **Idaho Springs** 31.34 334 ⇑P P 16 18 03.6 +0.6
baz=31
SMCO **Snowmass** 31.43 332 *eP* P 16 18 05.9 +1.9
comp=Z,21nm,1.1s
P22A **Eagle** 31.67 333 ⇑P P 16 18 06.8 +0.9
baz=32
GLA **Glamis** 31.75 315 ⇑P P 16 18 07.1 +0.6
baz=32
PV04 **Paradox Valley** 31.75 329 *eP* P 16 18 07.9 +1.3
MMNY **Mt. Morris Dam** 31.76 15 *eP* P 16 18 07.3 +1.0
comp=Z,40nm,1.1s
BINY **Binghamton** 31.79 18 *eP* P 16 18 06.4 -0.4
comp=Z,28nm,1.2s
O23A **Lake Granby, G** 31.81 334 ⇑P P 16 18 07.5 +0.3
baz=32
K30A **Basset** 31.82 344 ⇓P P 16 18 07.5 +0.6
baz=32
Y12C **Blythe** 31.95 316 ⇓P P 16 18 08.5 +0.3
baz=32
O22A **Kremmling** 32.04 333 ⇑P P 16 18 09.0 -0.2
baz=32
K29A **Lazy Trails An** 32.09 344 ⇑P P 16 18 10.0 +0.7
baz=32
ECSD **EROS Data Cent** 32.15 349 *eP* P 16 18 08.8 -1.0
comp=Z,52nm,1.8s
ECSD *ePcP* PcP 16 21 01.6 +3.2
ECSD **EROS Data Cent** 32.15 349 ⇓P P 16 18 08.7 -1.1
baz=32,SNR=10
K28A **Ten Mile Ranch** 32.35 342 ⇑P P 16 18 12.4 +0.7
baz=32
SWSC **Sam W. Stewart** 32.36 314 ⇑P P 16 18 12.4 +0.6
baz=32
J30A **Dallas** 32.40 345 ⇑P P 16 18 12.6 +0.6
baz=32
IBP **Imperial Bould** 32.42 313 ⇑P P 16 18 12.9 +0.4
baz=32
BC3 **Big Chuckawall** 32.52 315 ⇑P P 16 18 13.3 -0.1
baz=33,SNR=5.7
N22A **Wattenberg Ran** 32.52 334 ⇓P P 16 18 14.2 +0.7
baz=33
PHWY **Pilot Hill** 32.53 336 *eP* P 16 18 14.4 +0.9
comp=Z,18nm,1.1s
IRM **Iron Mountain** 32.61 316 ⇓P P 16 18 14.6 +0.6
baz=33
K27A **Flueckinger Fa** 32.61 341 ⇑P P 16 18 14.3 +0.3
baz=33
J29A **Okreek** 32.69 344 ⇑P P 16 18 14.5 -0.1
baz=33,SNR=11
L25A **Engebretsen Ra** 32.70 339 ⇓P P 16 18 14.6 -0.2
baz=33
MONP **Monument Peak,** 32.78 313 ⇑P P 16 18 15.9 +0.2
baz=33
O20A **White River Ci** 32.78 331 *eP* P 16 18 16.4 +0.8
comp=Z,43nm,0.9s
O20A **White River Ci** 32.78 331 ⇓P P 16 18 15.8 +0.1
baz=33,SNR=10
SAML **Samuel** 32.83 129 *eP* P 16 18 15.5 -0.6
comp=Z,13nm,0.8s
K26A **Motz Farm, Whi** 32.91 340 ⇑P P 16 18 16.7 +0.1
baz=33
I30A **Oacoma** 32.94 345 ⇓P P 16 18 16.9 +0.2
baz=33
J28A **Allard Ranch,** 32.96 343 ⇑P P 16 18 16.9 -0.1
baz=33,SNR=8.3
TRY **Troy** 33.01 20 *eP* P 16 18 17.9 +0.5
comp=Z,53nm,1.2s
J27A **Elkhorn Farm,** 33.03 342 ⇓P P 16 18 17.8 +0.1
baz=33
K25A **Mack Ranch, Ha** 33.07 339 ⇓P P 16 18 18.0 -0.1
baz=33
SPMN **Marine on St.** 33.08 354 *eP* P 16 18 16.1 -1.9
comp=Z,89nm,0.8s
SPMN **Marine on St.** 33.08 354 ⇓P P 16 18 17.9 0.0
baz=33,SNR=20
QUA2 **Belchertown** 33.08 22 *eP* P 16 18 17.5 -0.5
comp=Z,29nm,1.3s
SRU **San Rafael Swe** 33.12 328 *eP* P 16 18 19.3 +0.7
SRU pmax pmax
comp=Z,7.0nm,0.7s
SRU **San Rafael Swe** 33.12 328 *eP* P 16 18 19.3 +0.7
comp=Z,7.3nm,0.7s
PFO **Pinyon Flats O** 33.19 314 ⇓P P 16 18 19.3 0.0
baz=33
I29A **Vivian Onida** 33.26 344 ⇓P P 16 18 19.5 -0.1
baz=33
GMRC **Granite Mounta** 33.31 317 ⇑P P 16 18 19.7 -0.6
baz=33
BRSD **Miller** 33.32 346 ⇓P P 16 18 20.2 +0.1
baz=33
N20A **Spence Gulch,** 33.35 332 ⇓P P 16 18 21.2 +0.6
baz=33,SNR=18
J26A **Sides Ranch, S** 33.42 341 ⇑P P 16 18 21.7 +0.6
baz=34
I28A **Midland** 33.47 343 ⇓P P 16 18 21.6 +0.2
baz=34
MSU **Marysvale** 33.58 325 *eP* P 16 18 22.6 -0.1
MSU pmax pmax
comp=Z,9.0nm,1.7s
MSU **Marysvale** 33.58 325 *eP* P 16 18 22.6 -0.1
comp=Z,8.6nm,1.7s
ACCN **Adirondack Com** 33.59 20 *eP* P 16 18 22.1 -0.3
comp=Z,15nm,1.1s
J25A **Sunshine Ranch** 33.73 340 ⇑P P 16 18 23.9 +0.1
baz=34
HEC **Hector,Ludlow** 33.79 316 ⇑P P 16 18 24.6 +0.2
baz=34
I27A **Quinn** 33.79 342 ⇓P P 16 18 25.0 +0.8
baz=34
H29A **Onida** 33.80 345 ⇓P P 16 18 24.6 +0.3
baz=34
K23A **Bowen Ranch, D** 33.84 337 ⇓P P 16 18 25.1 +0.3
baz=34
J24A **Dixon Ranch, L** 33.98 339 ⇑P P 16 18 25.7 -0.2
baz=34
I26A **New Underwood** 34.00 341 ⇑P P 16 18 26.6 +0.5
baz=34
G30A **Faulkton** 34.01 347 ⇑P P 16 18 26.4 +0.3
baz=34
H28A **Mission Ridge** 34.05 344 ⇓P P 16 18 27.4 +0.9
baz=34
K22A **Casper** 34.10 336 *eP* P 16 18 29.2 +2.1
comp=Z,19nm,0.9s
K22A **Casper** 34.10 336 ⇑P P 16 18 27.4 +0.3
baz=34
PTN **Potsdam (NY)** 34.26 17 *eP* P 16 18 27.9 -0.2
PTN pmax pmax
comp=Z,32nm,0.8s
PTN **Potsdam (NY)** 34.26 17 *eP* P 16 18 27.9 -0.2
comp=Z,32nm,0.8s
G29A **Hoven** 34.26 346 ⇓P P 16 18 28.3 +0.1
baz=34
I25A **Rochford** 34.27 340 ⇓P P 16 18 29.1 +0.6
baz=34,SNR=6.4
H27A **Howes** 34.31 343 ⇑P P 16 18 29.2 +0.5
baz=34
J23A **Dilts Ranch, B** 34.37 338 ⇓P P 16 18 29.4 +0.1
baz=34
MPU **Maple Canyon** 34.37 328 *eP* P 16 18 29.4 -0.1
comp=Z,20nm,1.0s
BFSC **Mount Baldy Ra** 34.37 314 ⇑P P 16 18 29.6 +0.1
baz=34
GSC **Goldstone, Bar** 34.38 317 ⇓P P 16 18 30.0 +0.6
baz=34
G28A **Parade** 34.40 344 ⇓P P 16 18 29.3 -0.2
baz=34
LONY **Lake Ozonia** 34.42 18 *eP* P 16 18 28.6 -1.0
comp=Z,30nm,1.1s
I24A **Kuemmerle Ranc** 34.43 339 ⇓P P 16 18 30.0 +0.2
baz=34
RSSD **Black Hills** 34.46 340 *eP* P 16 18 31.1 +0.9
RSSD pmax pmax
comp=Z,10.0nm,0.7s
RSSD **Black Hills** 34.46 340 *eP* P 16 18 31.1 +0.9
comp=Z,9.7nm,0.7s
H26A **Fairpoint** 34.50 342 ⇓P P 16 18 30.8 +0.4
baz=35
J22A **Midwest** 34.72 337 ⇓P P 16 18 32.7 +0.2
baz=35
H25A **Fruitdale** 34.76 341 ⇑P P 16 18 32.7 0.0
baz=35
LPAZ **La Paz** 34.79 144 LR LR 16 33 18.5
comp=Z,99nm,18.7s,baz=336,slow=37
EDW2 **Edwards Air Fo** 34.95 315 ⇓P P 16 18 34.4 0.0
baz=35
G27A **Dupree** 34.95 343 ⇓P P 16 18 34.8 +0.5
baz=35
TPNV **Topopah Spring** 34.98 319 ⇑P P 16 18 34.7 -0.1
baz=35
J21A **Lysite** 35.05 336 ⇓P P 16 18 35.8 +0.5
baz=35,SNR=7.9
G26A **Maurine** 35.07 343 ⇓P P 16 18 35.8 +0.5
baz=35
F28A **McLaughlin** 35.09 345 ⇓P P 16 18 35.7 +0.3
baz=35
FURC **Furnace Creek,** 35.09 318 ⇑P P 16 18 35.7 +0.2
baz=35
DUG **Dugway, Tooele** 35.12 327 *eP* P 16 18 37.5 +1.6
DUG pmax pmax
comp=Z,6.0nm,1.0s
DUG **Dugway, Tooele** 35.12 327 *eP* P 16 18 37.5 +1.6
comp=Z,6.3nm,1.0s
DUG **Dugway, Tooele** 35.12 327 ⇓P P 16 18 35.9 0.0
baz=35
I22A **9 Mile Ranch,** 35.13 337 ⇓P P 16 18 35.9 0.0
baz=35
H24A **Dirks Ranch, A** 35.19 340 ⇓P P 16 18 35.9 -0.4
baz=35,SNR=10
G25A **Newell** 35.22 342 ⇓P P 16 18 36.3 -0.3
baz=35
E30A **Jud** 35.27 348 ⇓P P 16 18 36.7 -0.2
baz=35
MPMC **Manual Prospec** 35.27 317 ⇑P P 16 18 36.6 -0.7
baz=35
H23A **Clabaugh Cattl** 35.31 339 ⇑P P 16 18 37.5 0.0
baz=35
J20A **Shoshoni** 35.31 335 ⇑P P 16 18 37.5 0.0
baz=35
I21A **Big Trails, Te** 35.38 336 ⇑P P 16 18 38.0 0.0
baz=36
F27A **Lemmon** 35.43 344 ⇓P P 16 18 38.2 -0.2
baz=36
R11A **Troy Canyon, C** 35.45 322 *eP* P 16 18 40.3 +1.5
comp=Z,6.9nm,1.4s
R11A **Troy Canyon, C** 35.45 322 ⇑P P 16 18 38.4 -0.4
baz=36,SNR=5.2
PDAR **Pinedale Array** 35.47 333 P P 16 18 38.7 -0.3
comp=Z,1.3nm,0.8s,baz=120,slow=8.9,SNR=11
PDAR PcP PcP 16 21 08.6 +0.5
comp=Z,1.8nm,0.8s,baz=120,slow=5.3,SNR=5.3
PDAR LR LR 16 37 03.1
comp=Z,65nm,19.2s,baz=138,slow=43
F26A **Lodgepole** 35.59 343 ⇓P P 16 18 40.2 +0.4
baz=36
BSC **Santa Cruz Isl** 35.65 313 ⇓P P 16 18 40.3 0.0
baz=36
J19A **Crowheart** 35.65 334 ⇓P P 16 18 40.2 -0.2
baz=36
G24A **Bazada** 35.66 341 ⇑P P 16 18 40.3 -0.1
baz=36
H22A **Clearmont** 35.68 338 ⇓P P 16 18 39.8 -0.8
baz=36
EYMN **Ely** 35.69 357 *eP* P 16 18 38.6 -1.9
comp=Z,23nm,0.8s
E28A **Huff** 35.74 346 ⇓P P 16 18 41.2 +0.2
baz=36
D30A **Buchanan** 35.81 348 ⇑P P 16 18 41.2 -0.4
baz=36
E27A **Carson** 35.82 345 ⇓P P 16 18 41.8 0.0
baz=36
I20A **Worland** 35.83 336 ⇑P P 16 18 41.6 -0.3
baz=36,SNR=9.4
F25A **Bowman** 35.89 342 ⇓P P 16 18 42.4 0.0
baz=36
H21A **Big Horn, Sher** 35.97 337 ⇑P P 16 18 43.0 -0.1
baz=36
WVL **Waterville** 36.05 23 *eP* P 16 18 44.4 +0.7
comp=Z,24nm,1.0s
E26A **Carlson Angus** 36.10 344 ⇓P P 16 18 44.0 -0.1
baz=36
F24A **Ekalaka** 36.13 341 ⇑P P 16 18 44.1 -0.3
baz=36
G22A **Birney** 36.20 339 ⇓P P 16 18 44.5 -0.6
baz=36
H20A **Greybull** 36.22 336 ⇑P P 16 18 44.7 -0.5
baz=36
VES **Vesta, Richgr** 36.22 316 ⇓P P 16 18 44.4 -0.8
baz=36
PKM **Mcpherson Peak** 36.23 314 ⇑P P 16 18 44.4 -1.2
baz=36
HVU **Hansel Valley** 36.25 329 *eP* P 16 18 46.6 +1.0
HVU **Hansel Valley** 36.25 329 *eP* P 16 18 46.6 +1.0
comp=Z,90µm,0.8s
I19A **Meeteetse** 36.25 335 ⇓P P 16 18 44.9 -0.7
baz=36,SNR=6.0
D28A **Regan** 36.29 346 ⇓P P 16 18 45.3 -0.4
baz=36
C30A **Mose, Pekin** 36.33 349 ⇑P P 16 18 45.2 -0.8
baz=36
F23A **Volborg** 36.33 340 ⇑P P 16 18 45.5 -0.7
baz=36,SNR=5.8
E25A **Miller Ranch,** 36.40 343 ⇑P P 16 18 45.7 -1.0
baz=36
D27A **Center** 36.44 345 ⇑P P 16 18 45.9 -1.1
baz=37
AGMN **Agassiz Nation** 36.47 352 *eP* P 16 18 45.5 -1.7
comp=Z,58nm,0.8s
AGMN **Agassiz Nation** 36.47 352 ⇓P P 16 18 45.7 -1.5
baz=37,SNR=22
REDW **Red Top Meadow** 36.52 332 *eP* P 16 18 48.5 +0.6
comp=Z,63nm,1.4s
G21A **Lodge Grass** 36.54 338 ⇓P P 16 18 46.8 -1.1
baz=37
SNOW **Snow King Moun** 36.56 332 *eP* P 16 18 47.9 -0.4
comp=Z,38nm,1.0s
SMMC **Simmler** 36.57 314 ⇓P P 16 18 47.7 -0.6
baz=37
LOHW **Long Hollow** 36.61 333 *eP* P 16 18 48.5 -0.2
comp=Z,21nm,1.2s
D26A **Manning** 36.61 344 ⇑P P 16 18 48.0 -0.5
baz=37
TPAW **Teton Pass** 36.67 332 *eP* P 16 18 49.4 +0.1
comp=Z,27nm,1.1s
F22A **Rosebud** 36.67 339 ⇑P P 16 18 48.2 -0.8
baz=37
MDND **Maddock** 36.69 347 ⇓P P 16 18 48.7 -0.4
baz=37
E24A **Baker** 36.72 342 ⇑P P 16 18 49.5 +0.1
baz=37,SNR=8.7
H19A **Powell** 36.77 335 ⇓P P 16 18 49.5 -0.4
baz=37
MOOW **Moose Ponds** 36.78 333 *eP* P 16 18 50.4 +0.2
comp=Z,37nm,1.8s
PKME **Peaks-Kenny Pk** 36.78 23 *eP* P 16 18 50.8 +0.9
comp=Z,12nm,1.1s
FXWY **Fox Creek** 36.82 332 *eP* P 16 18 51.1 +0.6
comp=Z,6.7nm,0.9s
ELK **Elko** 36.83 325 PcP PcP 16 21 12.9 +0.8
baz=105,slow=5.5
ELK ScP ScP 16 25 03.8 +7.3
comp=Z,2.2nm,0.8s,baz=121,slow=4,1,SNR=6.9
ELK **Elko** 36.83 325 *eP* P 16 18 48.8 -1.9
ELK 16 21 13.0
ELK pmax pmax
comp=Z,4.0nm,1.0s
ELK **Elko** 36.83 325 *eP* P 16 18 48.8 -1.9
comp=Z,4.3nm,1.0s
ELK PcP PcP 16 21 12.9 +0.8
ELK ScP ScP 16 25 03.8 +7.3
I17A **Pilgrim Ck.** 36.84 333 ⇑P P 16 18 50.4 -0.3
baz=37
G20A **Bridger** 36.92 337 ⇓P P 16 18 50.8 -0.4
baz=37
D25A **Fairfield** 36.97 343 ⇑P P 16 18 51.7 +0.3
baz=37
E23A **Ismay** 36.98 341 ⇑P P 16 18 51.0 -0.6
baz=37,SNR=6.1
IMW **Indian Meadow** 36.98 333 *eP* P 16 18 52.6 +0.7
comp=Z,5.1nm,0.8s
B30A **Myrvik Farm, E** 37.02 349 ⇑P P 16 18 51.6 -0.3
baz=37
FLWY **Flagg Ranch** 37.02 333 *eP* P 16 18 51.1 -1.1
comp=Z,15nm,0.9s
H18A **Shoshone NF, C** 37.05 335 ⇓P P 16 18 51.7 -0.8
baz=37,SNR=16
E22A **Miles City** 37.14 340 ⇑P P 16 18 52.8 -0.1
baz=37
NVAR **Mina Array Bea** 37.18 320 P P 16 18 54.9 +1.3
comp=Z,4.4nm,0.7s,baz=136,slow=7.1,SNR=30
NVAR PcP PcP 16 21 14.6 +1.3
comp=Z,3.8nm,0.7s,baz=133,slow=4.1,SNR=10
NVAR ScP ScP 16 25 04.7 +6.8
comp=Z,1.6nm,0.8s,baz=137,slow=4.2,SNR=7.5
H17A **Grant Village** 37.22 334 ⇑P P 16 18 53.4 -0.4
baz=37
D24A **Glendive** 37.23 342 ⇑P P 16 18 53.4 -0.2
baz=37
B29A **Wagenman Farm,** 37.23 348 ⇓P P 16 18 52.7 -0.9
baz=37
RLMT **Red Lodge** 37.25 336 *eP* P 16 18 52.8 -1.3
comp=Z,14nm,1.0s
C26A **Wahner Farm, P** 37.26 345 ⇑P P 16 18 53.7 -0.2
baz=37
B28A **Dugan Ranch, T** 37.43 347 ⇓P P 16 18 54.8 -0.5
baz=38
A30A **Hoffart Farm,** 37.48 349 ⇑P P 16 18 55.3 -0.5
baz=38
D23A **Lindsay** 37.55 341 ⇓P P 16 18 56.2 -0.3
baz=38,SNR=5.8
B27A **Peters Farms,** 37.59 346 ⇓P P 16 18 55.8 -0.9
baz=38
E21A **Keefer Ranch,** 37.62 339 ⇑P P 16 18 56.4 -0.6
baz=38
C24A **Savage** 37.63 342 ⇓P P 16 18 56.7 -0.3
baz=38
A29A **Manning Farm,** 37.64 348 ⇓P P 16 18 55.7 -1.4
baz=38,SNR=8.3
F19A **Roth Farm, Mol** 37.73 337 ⇓P P 16 18 56.3 -1.7
baz=38,SNR=7.0
B26A **Jensen Ranch,** 37.80 345 ⇑P P 16 18 56.9 -1.6
baz=38
D22A **Cohagen** 37.84 340 ⇑P P 16 18 57.6 -1.2
baz=38,SNR=8.2
A28A **Rude Farm, Bot** 37.84 347 ⇓P P 16 18 57.2 -1.7
baz=38
WAKR **Walker** 37.94 319 *eP* P 16 19 01.6 +1.5
B25A **Knox Farm, Ray** 37.95 344 ⇑P P 16 18 59.3 -0.5
baz=38
E20A **Meyer Farm, Mu** 37.97 338 ⇑P P 16 18 58.8 -1.2
baz=38,SNR=15
C23A **Lambert** 38.10 342 ⇑P P 16 19 00.8 -0.2
baz=38
E19A **Rath Farm, Rou** 38.17 337 ⇓P P 16 19 01.3 -0.4
baz=38
A26A **Wade Farm, Ken** 38.23 346 ⇑P P 16 19 01.8 -0.3
baz=38
CMB **Columbia Colle** 38.29 318 *eP* P 16 19 01.8 -1.0
CMB pmax pmax
comp=Z,5.0nm,1.1s
CMB **Columbia Colle** 38.29 318 *eP* P 16 19 01.8 -1.0
comp=Z,5.1nm,1.1s
HLID **Hailey** 38.38 329 *eP* P 16 19 04.0 +0.4
comp=Z,4.1nm,0.9s
HLID **Hailey** 38.38 329 ⇓P P 16 19 03.3 -0.3
baz=38
ULM **Lac du Bonnet** 38.38 352 P P 16 19 01.7 -1.6
comp=Z,25nm,1.0s,baz=177,slow=9.4,SNR=16
ULM LR LR 16 37 05.1
comp=Z,46nm,18.4s,baz=43,slow=40
ULM **Lac du Bonnet** 38.38 352 *eP* P 16 19 02.0 -1.3
ULM **Lac du Bonnet** 38.38 352 *eP* P 16 19 02.0 -1.3
DGMT **Dagmar** 38.41 343 *eP* P 16 19 04.5 +0.9
comp=Z,57nm,0.6s
DGMT **Dagmar** 38.41 343 ⇓P P 16 19 03.4 -0.2
baz=38
D20A **Manuel Ranch,** 38.47 338 ⇑P P 16 19 02.6 -1.5
baz=39,SNR=9.2
A25A **Svangstu Ranch** 38.55 345 ⇑P P 16 19 04.6 -0.2
baz=39
MCMT **McKenzie Canyo** 38.57 332 *eP* P 16 19 06.4 +1.1
B23A **Brockton** 38.63 342 ⇓P P 16 19 04.5 -1.1
baz=39,SNR=8.6
BOZ **Bozeman (W)** 38.66 334 *eP* P 16 19 06.3 +0.3
BOZ pmax pmax
comp=Z,7.0nm,0.9s
BOZ **Bozeman (W)** 38.66 334 *eP* P 16 19 06.3 +0.3
comp=Z,7.0nm,0.9s
C21A **Desert Coulee** 38.74 340 ⇓P P 16 19 06.3 -0.1
baz=39
A24A **Westby** 38.77 344 ⇑P P 16 19 06.3 -0.3
baz=39,SNR=8.4
B22A **Reddig Ranch S** 38.80 341 ⇓P P 16 19 06.9 0.0
baz=39
D19A **Cripps Ranch,** 38.80 338 ⇑P P 16 19 06.9 -0.1
baz=39
DLMT **Dillon** 38.87 333 *eP* P 16 19 08.6 +0.9
comp=Z,14nm,1.3s
C20A **Veseth Ranch,** 38.95 339 ⇓P P 16 19 08.2 0.0
baz=39
SIV **San Ignacio** 39.05 135 P P 16 19 09.2 -0.1
comp=Z,35nm,0.8s,baz=322,slow=9.6,SNR=38
LRM **Limekiln Ridge** 39.16 333 *eP* P 16 19 10.1 -0.1
comp=Z,91nm,1.0s
C19A **Slack Wire Ran** 39.34 338 ⇓P P 16 19 09.8 -1.7
baz=39,SNR=7.8
B20A **Solberg Farm,** 39.58 340 ⇓P P 16 19 13.2 -0.3
baz=40
LVC **Limon Verde** 39.61 151 P P 16 19 14.1 -0.1
comp=Z,22nm,0.8s,baz=304,slow=6.4,SNR=3.9
EGMT **Eagleton** 39.84 338 *eP* P 16 19 16.1 +0.4
comp=Z,28nm,0.6s
EGMT **Eagleton** 39.84 338 ⇓P P 16 19 15.0 -0.7
baz=40
WVOR **Wild Horse Val** 39.86 325 *eP* P 16 19 16.3 +0.4
WVOR *e* 16 21 23.7
WVOR pmax pmax
comp=Z,7.0nm,0.8s
WVOR **Wild Horse Val** 39.86 325 *eP* P 16 19 16.3 +0.4
comp=Z,7.1nm,0.8s
WVOR *ePcP* PcP 16 21 23.7 +2.3
A20A **Cobblestone Ra** 39.92 340 ⇓P P 16 19 16.4 +0.1
baz=40,SNR=8.7
A19A **Klindworth Far** 40.24 339 ⇓P P 16 19 18.8 -0.2
baz=40
MSO **Missoula** 40.59 333 *eP* P 16 19 21.6 -0.3
comp=Z,22nm,1.4s
MSO **Missoula** 40.59 333 ⇓P P 16 19 21.3 -0.7
baz=41,SNR=6.2
BMO **Blue Mountains** 40.76 328 *eP* P 16 19 22.5 -0.9
comp=Z,7.2nm,1.4s
K05A **Summer Lake** 41.34 323 *ePcP* PcP 16 21 28.5 +2.2
M04C **Macdoel** 41.34 322 ⇓P P 16 19 27.4 -0.9
baz=41
JTMT **Jette** 41.44 334 P P 16 19 28.1 -0.9
JTMT *ePcP* PcP 16 21 28.1 +1.7
G08A **Pilot Rock** 41.91 328 *ePcP* PcP 16 21 30.0 +2.0
WALA **Waterton Lakes** 42.30 335 *eP* P 16 19 36.9 +0.9
D08A **Wollman Farm,** 43.10 330 *eP* P 16 19 44.5 +2.3
comp=Z,82nm,2.5s
NEW **Newport** 43.10 332 PcP PcP 16 21 32.0 +0.2
comp=Z,2.1nm,0.7s,baz=102,slow=17,SNR=4.2
FFC **Flin Flon** 43.69 349 *eP* P 16 19 46.3 -0.7
FFC pmax pmax
comp=Z,40nm,1.5s
FFC **Flin Flon** 43.69 349 *eP* P 16 19 46.3 -0.7
comp=Z,40nm,1.5s
EDM **Edmonton** 45.43 339 *eP* P 16 20 00.3 -0.6
EDM **Edmonton** 45.43 339 *eP* P 16 20 00.2 -0.6
SCHQ **Schefferville** 45.79 17 P P 16 20 02.4 -1.4
comp=Z,32nm,1.0s,baz=217,slow=6.0,SNR=21
SCHQ LR LR 16 40 58.1
comp=Z,57nm,18.1s,baz=315,slow=38

SCHQ	**Schefferville**	**45.79**	**17**	*e*P		**P**	**16 20 02.5**	**-1.3**
FCC	**Fort Churchill**	**46.62**	**356**	*e*P		**P**	**16 20 08.4**	**-1.7**
FCC				pmax		pmax		
	comp=Z,27nm,0.8s							
FCC	**Fort Churchill**	**46.62**	**356**	*e*P		**P**	**16 20 08.4**	**-1.7**
	comp=Z,26nm,0.8s							
CFAA	**Coronel Fontan**	**47.74**	**156**	P		**P**	**16 20 18.7**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=335,slow=4.5,SNR=9.8							
BDFB	**Brasilia**	**46.73**	**124**	P		**P**	**16 20 26.9**	**-0.4**
	comp=Z,4.1nm,0.7s,baz=242,slow=9.3,SNR=4.8							
BDFB				PcP		**PcP**	**16 21 52.8**	**+0.7**
	comp=Z,2.2nm,0.5s,baz=249,slow=17,SNR=2.1							
BDFB				LR		LR	16 42 26.4	
	comp=Z,76nm,18.4s,baz=346,slow=38							
YKA	**Yellowknife Ar**	**53.55**	**345**	P		**P**	**16 21 01.6**	**-0.9**
	comp=Z,20nm,1.1s,baz=142,slow=7.4,SNR=87							
YKA				PcP		**PcP**	**16 22 09.9**	**+0.9**
	comp=Z,1.8nm,0.6s,baz=146,slow=3.9,SNR=7.7							
YKA				ScP		**ScP**	**16 26 08.0**	**+3.7**
	comp=Z,1.3nm,0.9s,baz=138,slow=3.5,SNR=4.2							
DLBC	**Dease Lake**	**55.65**	**335**	P		**P**	**16 21 18.5**	**+0.4**
	comp=Z,7.9nm,0.9s,baz=133,slow=6.0,SNR=17							
DLBC				LR		LR	16 47 27.0	
	comp=Z,87nm,18.5s,baz=149,slow=39							
TRQA	**Tornquist**	**55.87**	**155**	*e*P		**P**	**16 21 18.4**	**-1.4**
	comp=Z,14nm,1.1s							
RKT	**Rikitea**	**57.45**	**232**	*e*T		T	17 23 02.5	
	comp=Z,4.0nm,0.2s							
RES	**Resolute Bay**	**62.54**	**358**	P		**P**	**16 22 04.3**	**-1.0**
	comp=Z,3.8nm,0.9s,baz=177,slow=11,SNR=5.0							
INK	**Inuvik**	**63.09**	**343**	P		**P**	**16 22 07.6**	**-1.5**
	comp=Z,6.0nm,0.6s,baz=130,slow=9.5,SNR=8.8							
BMRM	**Bremner River**	**63.26**	**333**	*e*P		**P**	**16 22 13.2**	**+2.7**
	comp=Z,6.3nm,0.9s							
EGAK	**Eagle**	**63.61**	**338**	*e*P		**P**	**16 22 12.4**	**-0.2**
	comp=Z,6.3nm,1.0s							
DOT	**Dot Lake**	**64.19**	**336**	*e*P		**P**	**16 22 17.2**	**+0.6**
	comp=Z,17nm,1.3s							
PAX	**Paxson**	**64.47**	**335**	*e*P		**P**	**16 22 18.2**	**-0.3**
PAX				pmax		pmax		
	comp=Z,4.0nm,0.9s							
PAX	**Paxson**	**64.47**	**335**	*e*P		**P**	**16 22 18.2**	**-0.3**
	comp=Z,4.2nm,0.9s							
ILAR	**Eielson Array**	**65.79**	**336**	P		**P**	**16 22 26.4**	**-0.5**
	comp=Z,4.4nm,1.0s,baz=126,slow=4.6,SNR=31							
ILAR				LR		LR	16 56 01.8	
	comp=Z,40nm,18.2s,baz=112,slow=40							
MCK	**McKinley**	**66.21**	**335**	*e*P		**P**	**16 22 29.6**	**0.0**
MCK				pmax		pmax		
	comp=Z,15nm,1.1s							
MCK	**McKinley**	**66.21**	**335**	*e*P		**P**	**16 22 29.6**	**0.0**
	comp=Z,15nm,1.1s							
COLA	**College**	**66.21**	**336**	*e*P		**P**	**16 22 29.3**	**-0.2**
COLA				pmax		pmax		
	comp=Z,32nm,1.7s							
TRF	**Thorofare Moun**	**66.67**	**334**	*e*P		**P**	**16 22 32.4**	**-0.4**
	comp=Z,9.9nm,0.9s							
SUMG	**Summit**	**67.06**	**15**	*e*P		**P**	**16 22 34.5**	**-0.9**
SUMG				pmax		pmax		
	comp=Z,10.0nm,0.9s							
SUMG	**Summit**	**67.06**	**15**	*e*P		**P**	**16 22 34.5**	**-0.9**
	comp=Z,10nm,0.9s							
PPT	**Papeete**	**67.15**	**245**	LR		LR	16 44 54.3	
	comp=Z,95nm,18.4s,baz=76,slow=30							
PPT2	**Papeete2**	**67.16**	**245**	*e*LR		LR	16 42 25.4	
	comp=Z,222nm,27.8s							
BPAW	**Bear Paw Mtn.**	**67.19**	**335**	*e*P		**P**	**16 22 35.4**	**-0.5**
	comp=Z,2.0nm,0.9s							
COLD	**Coldfoot**	**68.00**	**338**	*e*P		**P**	**16 22 41.9**	**+1.0**
	comp=Z,16nm,1.0s							
TBI	**Tubuai**	**69.29**	**239**	*e*LR		LR	16 43 39.9	
	comp=Z,148nm,26.0s							
ESDC	**Sonseca Array**	**78.15**	**52**	P		**P**	**16 23 40.2**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=285,slow=5.7,SNR=7.2							
MDT	**Midelt**	**78.42**	**59**	LR		LR	16 56 23.0	
	comp=Z,50nm,18.2s,slow=34							
DBIC	**Dimbokro**	**82.46**	**85**	LR		LR	16 58 13.0	
	comp=Z,45nm,18.8s,baz=256,slow=34							
NOA	**NORSAR Array B**	**84.07**	**29**	P		**P**	**16 24 12.2**	**-0.4**
	comp=Z,1.7nm,1.0s,baz=282,slow=5.3,SNR=3.4							
NOA				LR		LR	17 01 10.9	
	comp=Z,11nm,19.4s,baz=270,slow=35							
BILL	**Bilibino**	**84.34**	**339**	*e*P		**P**	**16 24 14.0**	**+0.3**
BILL				*i*			16 27 36.7	
BILL				pmax		pmax		
	comp=Z,9.0nm,1.0s							
BILL	**Bilibino**	**84.34**	**339**	*e*P		**P**	**16 24 13.7**	**0.0**
	comp=Z,19nm,1.3s							
ARCES	**ARCESS Array B**	**86.73**	**19**	P		**P**	**16 24 25.1**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=290,slow=5.0,SNR=7.6							
ARCES				LR		LR	17 03 10.2	
	comp=Z,18nm,18.5s,baz=347,slow=36							
TORD	**Torodi Ar. Bea**	**87.49**	**77**	P		**P**	**16 24 31.1**	**+0.7**
	comp=Z,6.0nm,1.0s,baz=297,slow=5.1,SNR=17							
FINES	**FINESS Array B**	**90.63**	**26**	P		**P**	**16 24 43.4**	**-0.7**
	comp=Z,2.6nm,1.0s,baz=314,slow=6.8,SNR=3.5							
FINES				LR		LR	17 06 37.2	
	comp=Z,28nm,18.3s,baz=357,slow=36							
SEY	**Seymchan**	**91.73**	**336**	P		**P**	**16 24 49.5**	**+0.2**
	comp=Z,2.5nm,0.7s,baz=99,slow=4.4,SNR=18							
SEY	**Seymchan**	**91.73**	**336**	*e*P		**P**	**16 24 50.1**	**+0.8**
TIXI	**Tiksi**	**92.65**	**349**	*e*P		**P**	**16 24 52.7**	**-0.7**
TIXI				pmax		pmax		
	comp=Z,3.0nm,0.9s							
TIXI	**Tiksi**	**92.65**	**349**	*e*P		**P**	**16 24 52.8**	**-0.5**
	comp=Z,3.4nm,0.8s							
PETK	**Petropavlovsk-**	**93.99**	**326**	P		**P**	**16 25 00.3**	**+0.4**
	comp=Z,3.8nm,0.8s,baz=109,slow=8.2,SNR=5.2							
ZALV	**Zalesovo Beam**	**113.84**	**4**	PKiKP		**PKiKP**	**16 30 20.4**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=342,slow=2.2,SNR=4.0							
SONM	**Songino Array**	**118.74**	**349**	PKP		**PKPdf**	**16 30 30.7**	**+0.3**
	comp=Z,1.4nm,0.9s,baz=30,slow=1.3,SNR=7.8							
KSRS	**Korea Array**	**119.88**	**327**	PKP		**PKPdf**	**16 30 33.3**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=17,slow=2.0,SNR=5.3							
KSAR	**Wonju Array Be**	**119.91**	**327**	PKIKP		**PKPdf**	**16 30 33.3**	**+0.5**
KSAR	**Wonju Array Be**	**119.91**	**327**	PKP		**PKPdf**	**16 30 33.3**	**+0.5**
MKAR	**Makanchi Array**	**120.67**	**7**	PKP		**PKPdf**	**16 30 33.8**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=321,slow=2.9,SNR=4.7							
HHC	**Hu-ho-hao-te**	**124.00**	**342**	*e*PKP		**PKPdf**	**16 30 37.3**	**-3.4**
HHC				PPMZ				
	comp=Z,52nm,4.8s							
HHC				LN				
	comp=Z,69nm,14.8s							
HHC				LE				
	comp=Z,72nm,16.0s							
HHC				LZ				
	comp=Z,51nm,16.0s							
WMQ	**Urumqi**	**124.11**	**3**	*e*PKP		**PKPdf**	**16 30 41.8**	**+1.0**
WMQ				PKS		**PKSdf**	**16 34 16.5**	**-0.9**
WMQ				SKS		**SKSdf**	**16 37 51.5**	**+1.2**
WMQ				SKKS		**SKKSac**	**16 39 22.0**	**+0.6**
WMQ				LN				
	comp=Z,39nm,22.4s							
WMQ				LE				
	comp=Z,33nm,22.0s							
WMQ				LZ				
	comp=Z,43nm,24.8s							
KSH	**Kashi**	**126.53**	**15**	*e*PKP		**PKPdf**	**16 30 46.0**	**+0.4**
KSH				PKS		**PKSdf**	**16 34 21.3**	**-1.0**
KSH				SKS		**SKSdf**	**16 37 56.5**	**+1.4**
KSH				LZ				
	comp=Z,120nm,8.6s							
GTA	**Gaotai**	**128.04**	**352**	*e*PKP		**PKPdf**	**16 30 49.5**	**+1.0**
GTA				sPKP			16 30 57.5	
NJ2	**Nanjing**	**128.75**	**330**	*e*PKP		**PKPdf**	**16 30 50.3**	**+0.5**
STKA	**Stephens Creek**	**130.08**	**239**	PKP		**PKPdf**	**16 30 52.1**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=166,slow=4.2,SNR=2.3							
LZH	**Lanzhou**	**130.54**	**347**	*e*PKP		**PKPdf**	**16 30 50.5**	**-2.9**
LZH				sPKP			16 30 57.0	
XAN	**Xi'an**	**131.08**	**341**	PKP		**PKPdf**	**16 30 56.0**	**+1.7**
CD2	**Chengdu**	**135.51**	**345**	PKP		**PKPdf**	**16 31 03.0**	**+0.3**
CD2				PP		**PP**	**16 33 42.8**	**+4.5**
CD2				PKS		**PKSdf**	**16 34 38.0**	**-1.2**
CD2				SKS		**SKSdf**	**16 38 11.5**	**0.0**
CD2				SS		**SS**	**16 51 34.8**	**+3.0**
WRAB	**Tennant Creek**	**138.18**	**254**	*i* PKIKP		**PKPdf**	**16 31 08.0**	**+0.1**
WRAB				pmax		pmax		
	comp=Z,36nm,2.5s							
WRA	**Warramunga Arr**	**138.19**	**254**	PKP		**PKPdf**	**16 31 08.0**	**+0.1**
	comp=Z,3.1nm,0.8s,baz=90,slow=2.2,SNR=17							
WRA	**Warramunga Arr**	**138.19**	**254**	PKIKP		**PKPdf**	**16 31 08.0**	**+0.1**
ASAR	**Alice Springs**	**138.21**	**248**	PKhKP		PKPpre	16 30 56.8	
	comp=Z,0.6nm,0.8s,baz=112,slow=2.9,SNR=5.4							
SIJI	**Sorong**	**138.95**	**283**	PKP		**PKPdf**	**16 31 10.4**	**+1.0**
	comp=Z,1.6nm,0.5s,baz=53,slow=20,SNR=3.5							
KMI	**Kunming**	**141.28**	**344**	PKP		**PKPdf**	**16 31 17.0**	**+3.3**
KMI				LZ				
	comp=Z,42nm,19.8s							
POO	**Poona**	**144.84**	**30**	*e*P		**PKPab**	**16 31 18.0**	**-0.8**
RPR	**Rampur**	**146.85**	**21**	*e*PKPab		**PKPbc**	**16 31 24.6**	**-0.4**
RPR				*e*PKiKP		**PKPab**	**16 31 25.9**	**-0.4**
HYBB	**Hyderabad (bro**	**147.89**	**24**	*e*PKiKP		**PKPbc**	**16 31 27.6**	**-0.4**
HYB	**Hyderabad**	**147.90**	**24**	*i* PKP		**PKPbc**	**16 31 27.0**	**-1.0**
HYB				*e*pPKP		**pPKPdf**	**16 31 37.0**	**+0.5**
CHTO	**Chiang Mai**	**148.28**	**346**	*e*PKIKP		**PKPdf**	**16 31 26.9**	**+1.3**
CHTO	**Chiang Mai**	**148.28**	**346**	*e*PKPdf		**PKPdf**	**16 31 26.9**	**+1.3**
CHLP	**Challavanipeta**	**148.59**	**14**	*e*PKiKP		**PKPbc**	**16 31 29.4**	**-0.3**
CM31	**Chiang Mai Arr**	**148.62**	**346**	*e*PKPbc		**PKPbc**	**16 31 30.8**	**+0.9**
CMAR	**Chiang Mai Arr**	**148.62**	**346**	PKPbc		**PKPdf**	**16 31 27.5**	**+1.3**
	comp=Z,12nm,1.0s,baz=336,slow=3.3,SNR=31							
NWAO	**Narrogin (SRO)**	**148.69**	**225**	PKPbc		**PKPbc**	**16 31 29.4**	**-0.2**
	comp=Z,23nm,0.9s,baz=154,slow=2.6,SNR=6.5							
NJS	**Nagarjunasagar**	**148.97**	**23**	*e*PKiKP		**PKPbc**	**16 31 30.6**	**-0.2**
URV	**Uravakonda**	**149.55**	**28**	*e*PKiKP		**PKPbc**	**16 31 32.3**	**0.0**
SKHT	**Srikalahasti**	**151.68**	**25**	*e*PKiKP		**PKPbc**	**16 31 37.2**	**-0.1**

*ISCJB **29** 16:12:20.5±0.5, 14.°75S±0.°08×75.°3W±0.°1, h35km, mb4.2/10, Error ellipse: s-maj=17.2km s-min=5.8km az=142.7*
*IDC **29** 16:12:27.6±2.6, 14.°94S×75.°23W, h82km±23km, mb3.8/7, mb1 4.1/12, mb1mx3.8/38, mbtmp4.2/12, MS3.1/3, Ms1 3.2/3, ms1mx2.9/23, Error ellipse: s-maj=43.2km s-min=19.3km az=50.0*
*NEIC **29** 16:12:27.1±1.4, 14.°83S×75.°17W, h84km±12km, mb4.3/3, Error ellipse: s-maj=19.8km s-min=10.2km az=51.0*
NEIC Felt [III] at Nazca and Palpa.
*GUC **29** 16:12:52.0, 16.°30S×73.°59W, h10km*
ISC 29 16:12:22.1±0.6, 14.°77S±0.°10×75.°3W±0.°1, h35km, n41, σ1§42/36, mb4.4/10, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**6.91**	**135**	*e*P	**Pn**	**16 14 02.7**	**+1.6**
MNMC	**Minimini**	**6.99**	**129**	*e*P	**Pn**	**16 14 03.6**	**+1.3**
LPAZ	**La Paz**	**7.10**	**103**	P	Pn	16 14 09.0	+5.0
	1.3nm,0.3s,baz=282,slow=8.5,SNR=17						
LPAZ				LR	LR	16 17 35.3	
	comp=Z,102nm,19.2s,baz=257,slow=44						
LPAZ	**La Paz**	**7.10**	**103**	*e*P	Pn	16 14 10.5	+6.4
LPAZ	**La Paz**	**7.10**	**103**	*e*Pn	Pn	16 14 09.1	+5.0
	10nm,0.6s						
PB11	**IPOC Station P**	**7.35**	**133**	*e*P	**Pn**	**16 14 07.7**	**+0.6**
PATCX	**Punta Patache**	**7.78**	**141**	*e*P	**Pn**	**16 14 13.4**	**+0.4**
ATAH	**Atahualpa**	**8.16**	**338**	P	Pn	16 14 27.1	+8.5
	6.7nm,0.3s,baz=137,slow=5.9,SNR=11						
ATAH				S	Sn	16 16 03.6	+13
	1.3nm,0.3s,baz=135,slow=20,SNR=2.2						
PB01	**IPOC Station P**	**8.36**	**139**	*e*P	**Pn**	**16 14 22.0**	**+1.1**
PB07	**IPOC Station P**	**8.64**	**144**	*e*P	**Pn**	**16 14 25.8**	**+1.0**
PB09	**IPOC Station P**	**9.07**	**141**	*e*P	**Pn**	**16 14 33.0**	**+2.2**
LVC	**Limon Verde**	**9.89**	**143**	P	**Pn**	**16 14 43.4**	**+1.3**
	121nm,0.3s,baz=318,slow=11,SNR=22						
LVC				S	**Sn**	**16 16 27.4**	**-4.6**
	80nm,0.3s,baz=30,slow=20,SNR=3.8						
LVC				LR	LR	16 17 26.4	
	comp=Z,295nm,19.5s,baz=299,slow=31						
LVC	**Limon Verde**	**9.89**	**143**	*e*Pn	**Pn**	**16 14 43.5**	**+1.4**
SAML	**Samuel**	**13.21**	**65**	*e*Pn	**Pn**	**16 15 27.9**	**+0.6**
	5.8nm,0.3s						
SIV	**San Ignacio**	**13.80**	**97**	P	**Pn**	**16 15 36.6**	**+1.2**
	0.3nm,0.3s,baz=290,slow=8.0,SNR=3.1						
SIV				LR	LR	16 21 38.0	
	comp=Z,56nm,21.5s,baz=22,slow=40						
LCO	**Las Campanas**	**14.81**	**164**	*e*P	**P**	**16 15 56.7**	**+1.9**
TLL	**Tololo Astrono**	**15.88**	**166**	*e*P	**P**	**16 16 09.1**	**+2.4**
CFAA	**Coronel Fontan**	**17.97**	**160**	P	**Pn**	**16 16 29.4**	**+0.1**
	0.1nm,0.3s,baz=331,slow=11,SNR=26						
TXAR	**Lajitas Array**	**51.68**	**328**	P	P	16 21 28.1	+2.1
	2.6nm,0.7s,baz=143,slow=9.6,SNR=9.0						
ABTX	**Abilene, Hawle**	**52.55**	**334**	P	**P**	**16 21 31.7**	**-0.6**
TUL1	**Leonard**	**53.99**	**339**	P	**P**	**16 21 42.8**	**+0.1**
SDCO	**Great Sand Dun**	**59.43**	**332**	*e*P	**P**	**16 22 21.7**	**-0.1**
DUG	**Dugway, Tooele**	**64.84**	**329**	*e*P	**P**	**16 22 57.9**	**+0.1**
	4.5nm,1.2s						
PDAR	**Pinedale Array**	**65.32**	**333**	P	**P**	**16 23 01.9**	**+1.0**
	0.9nm,1.0s,baz=134,slow=8.9,SNR=3.3						
HVU	**Hanksville**	**66.03**	**330**	*e*P	**P**	**16 23 05.3**	**-0.1**
	5.4nm,1.1s						
NVAR	**Mina Array Bea**	**66.48**	**324**	P	**P**	**16 23 10.5**	**+1.9**
	0.7nm,0.8s,baz=147,slow=7.5,SNR=3.9						
FLWY	**Flagg Ranch**	**66.87**	**333**	P	**P**	**16 23 10.5**	**-0.4**
ULM	**Lac du Bonnet**	**67.21**	**346**	P	**P**	**16 23 12.8**	**+0.2**
	4.5nm,0.6s,baz=176,slow=5.4,SNR=4.5						
MFID	**Camas Ranch**	**68.74**	**329**	*e*P	**P**	**16 23 22.9**	**+0.4**
	2.3nm,0.7s						
EDM	**Edmonton**	**75.18**	**337**	*e*P	**P**	**16 23 58.9**	**-1.9**
TOA0	**Toradi Ar. Sit**	**81.11**	**74**	*e*P	**P**	**16 24 33.8**	**-0.7**
YKA	**Yellowknife Ar**	**82.91**	**343**	P	**P**	**16 24 43.6**	**+0.8**
	3.8nm,0.8s,baz=138,slow=5.2,SNR=17						
DLBC	**Dease Lake**	**85.49**	**334**	P	**P**	**16 24 57.0**	**+0.7**
	5.4nm,0.8s,baz=139,slow=5.7,SNR=8.1						
DLBC	**Dease Lake**	**85.49**	**334**	*e*P	**P**	**16 24 54.6**	**-1.6**
ESDC	**Sonseca Array**	**85.55**	**47**	P	**P**	**16 24 57.3**	**+0.4**
	0.2nm,0.4s,baz=263,slow=6.1,SNR=2.5						
ZALV	**Zalesovo Beam**	**137.91**	**17**	PKP	**PKPdf**	**16 31 42.0**	**-0.9**
	3.5nm,0.9s,baz=336,slow=3.2,SNR=6.8						
MKAR	**Makanchi Array**	**143.00**	**26**	PKP	**PKPdf**	**16 31 50.4**	**-2.0**
	0.7nm,0.8s,baz=354,slow=2.9,SNR=5.0						
MJAR	**Matsushiro Arr**	**143.09**	**312**	PKhKP	PKPpre	16 31 45.5	
	0.9nm,0.7s,baz=88,slow=4.8,SNR=5.6						
SONM	**Songino Array**	**147.00**	**358**	PKPbc	**PKPab**	**16 32 02.1**	**-0.7**
	3.3nm,0.6s,baz=329,slow=1.8,SNR=17						
KSRS	**Korea Array**	**149.40**	**322**	PKPbc	**PKPbc**	**16 32 08.0**	**+0.1**
	2.9nm,0.9s,baz=13,slow=1.9,SNR=8.5						
KSAR	**Wonju Array Be**	**149.43**	**322**	PKPbc	**PKPbc**	**16 32 08.0**	**0.0**

*CSEM **29** 16:29:18.3, 41.°57N×14.°14E, h10km, MD1.8/4*
ROM 29 16:29:18.3±0.2, 41.°57N×14.°14E, h10km±1km, Md1.8/4, MI0.9/4, Error ellipse: s-maj=1.3km s-min=1.2km az=61.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CERA	**Filignano**	**0.10**	**289**	Pg	Pg	16 29 21.5	+0.5
CERA				Sg	Sg	16 29 23.3	+0.4
	31nm,0.6s						
CERA	**Filignano**	**0.10**	**289**	Pg	Pg	16 29 21.5	+0.5
CERA				Sg	Sg	16 29 23.3	+0.4
	31nm,0.6s						
MIDA	**Miranda**	**0.11**	**47**	Pg	Pg	16 29 21.6	+0.4
MIDA				Sg	Sg	16 29 23.9	+0.6
	29nm,0.2s						
MIDA	**Miranda**	**0.11**	**47**	Pg	Pg	16 29 21.6	+0.4
MIDA				Sg	Sg	16 29 23.9	+0.6
	29nm,0.2s						
VAGA	**Valle Agricola**	**0.16**	**155**	Pg	Pg	16 29 22.8	+0.8
VAGA				Sg	Sg	16 29 25.5	+1.0
	44nm,0.5s						
VAGA	**Valle Agricola**	**0.16**	**155**	Pg	Pg	16 29 22.8	+0.8
VAGA				Sg	Sg	16 29 25.5	+1.0
	44nm,0.5s						
SGG	**Gregorio Mates**	**0.25**	**135**	Pg	Pg	16 29 24.1	+0.6
	14nm,0.5s						
SGG	**Gregorio Mates**	**0.25**	**135**	Pg	Pg	16 29 24.1	+0.6
	14nm,0.5s						

*CSEM **29** 16:42:46.3±0.7, 39.°42N×31.°11E, h8km, MD2.9, Error ellipse: s-maj=14.9km s-min=7.2km az=78.0*
*DDA **29** 16:42:50.9, 39.°49N×31.°79E, h7km, MD2.9*
ISC 29 16:42:50.3±1.1, 39.°48N±0.°04×31.°73E±0.°05, h7km±9km, n10, σ1§20/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRH	**Sivrihisar-ESK**	**0.16**	**258**	*e*PG	**Pg**	**16 42 53.0**	**-0.6**
SVRH				*e*SG	**Sg**	**16 42 57.1**	**+1.1**
SVRH	**Sivrihisar-ESK**	**0.16**	**258**	*e*Pg	**Pg**	**16 42 53.0**	**-0.6**
SVRH				*e*Sg	**Sg**	**16 42 57.1**	**+1.1**
KIZT	**Kizilcal**	**0.61**	**169**	*e*PG	**Pg**	**16 43 01.2**	**-0.9**
KIZT				*e*SG	**Sb**	**16 43 12.3**	**+0.1**
KIZT	**Kizilcal**	**0.61**	**169**	*e*Pg	**Pg**	**16 43 01.2**	**-0.9**
KIZT				*e*Sg	**Sb**	**16 43 12.3**	**+0.1**
BOLV	**Bolvadin**	**0.97**	**219**	*i* P	**Pg**	**16 43 08.4**	**-0.6**
BOLV				*i* S	**Sn**	**16 43 24.9**	**+0.3**
KDHN	**Kadinhani**	**1.01**	**162**	*i* P	**Pb**	**16 43 10.0**	**-0.1**
KDHN	**Kadinhani**	**1.01**	**162**	*i* P	**Pb**	**16 43 10.0**	**-0.1**
KDHN				*i* S	**Sn**	**16 43 27.8**	**+2.4**
BORA	**Eskisehir**	**1.06**	**292**	*i* P	**Pg**	**16 43 09.8**	**-0.8**
BORA				*i* S	**Sn**	**16 43 27.7**	**+1.0**
BCAM	**Yenicaga**	**1.36**	**11**	*i* P	**Pn**	**16 43 14.5**	**-1.3**
BCAM				*i* S	**Sg**	**16 43 35.6**	**+1.6**
BCAM	**Yenicaga**	**1.36**	**11**	*i* P	**Pn**	**16 43 14.5**	**-1.3**
BCAM				*i* S	**Sg**	**16 43 35.6**	**+1.6**

*CSEM **29** 16:43:30.3, 41.°66N×13.°91E, h11km, MD1.7/6*
ROM 29 16:43:30.3±0.1, 41.°66N×13.°91E, h11km±1km, Md1.7/6, MI0.9/5, Error ellipse: s-maj=3.8km s-min=1.2km az=25.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDI	**San Donato**	**0.09**	**303**	Pg	Pg	16 43 33.2	+0.2
SDI				Sg	Sg	16 43 34.9	0.0
SDI	**San Donato**	**0.09**	**303**	Pg	Pg	16 43 33.2	+0.2
SDI				Sg	Sg	16 43 34.9	0.0
CERA	**Filignano**	**0.10**	**128**	Pg	Pg	16 43 33.5	+0.3
CERA				Sg	Sg	16 43 35.7	+0.5
	56nm,0.4s						
CERA	**Filignano**	**0.10**	**128**	Pg	Pg	16 43 33.5	+0.3
CERA				Sg	Sg	16 43 35.7	+0.5
	56nm,0.4s						
POFI	**Posta Fibreno**	**0.16**	**291**	Pg	Pb	16 43 34.8	-0.6
POFI				Sg	Sg	16 43 37.8	+1.2
	13nm,0.4s						
POFI	**Posta Fibreno**	**0.16**	**291**	Pg	Pb	16 43 34.8	-0.6
POFI				Sg	Sg	16 43 37.8	+1.2
	13nm,0.4s						
RNI2	**Rionero Sannit**	**0.19**	**77**	Pg	Pg	16 43 35.2	+0.7
	38nm,0.7s						
RNI2	**Rionero Sannit**	**0.19**	**77**	Pg	Pg	16 43 35.2	+0.7
	38nm,0.7s						
VVLD	**Villa Vallelon**	**0.30**	**314**	Pg	Pg	16 43 36.5	0.0
VVLD				Sg	Sg	16 43 41.7	+1.0
	12nm,0.5s						
VVLD	**Villa Vallelon**	**0.30**	**314**	Pg	Pg	16 43 36.5	0.0
VVLD				Sg	Sg	16 43 41.7	+1.0
	12nm,0.5s						
INTR	**Introdacqua**	**0.35**	**359**	Pg	Pg	16 43 37.6	+0.2
INTR				Sg	Sb	16 43 43.3	-1.1
	19nm,0.8s						
INTR	**Introdacqua**	**0.35**	**359**	Pg	Pg	16 43 37.6	+0.2
INTR				Sg	Sb	16 43 43.3	-1.1
	19nm,0.8s						

*ISCJB **29** 16:44:25.4±0.2, 51.°56N±0.°02×16.°11E±0.°03, h0km, mb3.5/6, MS2.6/1, Error ellipse: s-maj=2.6km s-min=2.2km az=9.1*
*IPEC **29** 16:44:27.2±0.4, 51.°57N×16.°21E, h0km±2km, ML3.1/3, Error ellipse: s-maj=3.8km s-min=1.8km az=59.0*
*IDC **29** 16:44:27.8±0.7, 51.°51N×15.°96E, h0km, mb3.5/6, mb1 3.6/13, mb1mx3.4/44, mbtmp3.5/13, ML3.2/7, MS2.8/1, Ms1 2.8/1, ms1mx2.0/27, Error ellipse: s-maj=11.4km s-min=8.0km az=88.0*
*CSEM **29** 16:44:27.5±0.1, 51.°54N×16.°09E, h2km, ML3.9/17, Ms3.7, Error ellipse: s-maj=2.8km s-min=1.9km az=95.0*
*PRU **29** 16:44:29.0, 51.°48N×16.°11E, h0km, Felt In Harrachov*
*VIE **29** 16:44:30.4±0.5, 51.°32N×16.°09E, h0km, mb3.1/8, ML3.1/9, Ms3.7/1, Error ellipse: s-maj=2.8km s-min=1.9km az=11.0*
69 km WNW of Wroclaw Suspected Mining induced.
*UPP **29** 16:44:33.4, 51.°92N×15.°66E, h0km, ML1.7, Suspected Mining explosion.*
ISC 29 16:44:26.8±0.5, 51.°62N±0.°02×16.°17E±0.°02, h0km, n107, σ1§20/160, mb3.6/6, 10C-18D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.78**	**174**	*i* Pg	**Pg**	**16 44 41.8**	**+0.2**

OJC				*i* Pg	**Pg**	**16 45 19.3**	**+1.1**
OJC				*i* Sg	**Sg**	**16 45 54.1**	**+1.1**
OJC	**Ojcow**	**2.69**	**120**	*e*Pn	**Pn**	**16 45 11.9**	**+0.7**
NKC	**Novy Kostel**	**2.73**	**241**	*e*PN	**Pn**	**16 45 12.1**	**+0.2**
NKC				*e*PG	**Pb**	**16 45 17.5**	**+1.0**
NKC				*e*SG	**Sg**	**16 45 53.9**	**-0.6**
	comp=Z,224nm,0.3s						
NKC	**Novy Kostel**	**2.73**	**241**	Pn	**Pn**	**16 45 12.1**	**+0.2**
KHC	**Kasperske Hory**	**2.99**	**215**	*e*PN	**Pn**	**16 45 14.8**	**-0.7**
KHC				*e*PG	**Pb**	**16 45 21.5**	**+0.6**
KHC				*e*SG	**Sb**	**16 45 59.2**	**+1.2**
	comp=Z,46nm,0.4s						
KHC	**Kasperske Hory**	**2.99**	**215**	Pn	**Pn**	**16 45 14.8**	**-0.7**
KHC	**Kasperske Hory**	**2.99**	**215**	Pg	**Pb**	**16 45 21.5**	**+0.6**
KHC				Sg	**Sb**	**16 45 59.2**	**+1.2**
	comp=Z,46nm,0.4s						
NIE	**Niedzica**	**3.44**	**128**	*e*P	**Pg**	**16 45 32.6**	**0.0**
NIE				*e*S	**Sg**	**16 46 16.2**	**-1.0**
BSD	**Bornholm Skovb**	**3.58**	**348**	*i* P	**Pn**	**16 45 24.6**	**+1.1**
BSD				*i* S	**Sn**	**16 46 04.0**	**-2.6**
BSD	**Bornholm Skovb**	**3.58**	**348**	*i* P	**Pn**	**16 45 24.6**	**+1.1**
BSD				*i* S	**Sn**	**16 46 04.0**	**-2.6**
CONA	**Conrad Observa**	**3.70**	**183**	⇑*i* Pn	**Pn**	**16 45 25.0**	**-0.2**
	SNR=12						
CONA				⇓*i* Sg	**Sb**	**16 46 21.8**	**+3.5**
	comp=Z,45nm,0.5s						
CONA	**Conrad Observa**	**3.70**	**183**	Pn	**Pn**	**16 45 25.0**	**-0.2**
	SNR=12						
CONA				Sg	**Sb**	**16 46 21.8**	**+3.5**
	comp=Z,45nm,0.5s						
STHS	**Stebnicka Huta**	**3.91**	**122**	*e*PN	**Pn**	**16 45 31.0**	**+2.9**
STHS				*e*SN	**Sg**	**16 46 32.4**	**0.0**
SOP	**Sopron**	**3.94**	**176**	⇑*e*	**Sg**	**16 46 30.4**	**-3.0**
MOA	**Molln**	**3.97**	**199**	⇓*i* Pn	**Pn**	**16 45 28.8**	**-0.1**
	SNR=20						
MOA				⇑*i* Sg	**Sg**	**16 46 32.4**	**-1.8**
	comp=Z,30nm,0.4s						
MOA	**Molln**	**3.97**	**199**	Pn	**Pn**	**16 45 28.8**	**-0.1**
	SNR=20						
MOA				Sg	**Sg**	**16 46 32.3**	**-1.8**
	comp=Z,30nm,0.4s						
KECS	**Kecovo**	**4.19**	**137**	*e*PN	**Pn**	**16 45 30.8**	**-1.1**
ARSA	**Arzberg**	**4.39**	**186**	⇑*i* Pn	**Pn**	**16 45 34.1**	**-0.6**
ARSA				⇓*i* Sg	**Sg**	**16 46 45.4**	**-2.3**
	comp=Z,42nm,0.6s						
ARSA	**Arzberg**	**4.39**	**186**	Pn	**Pn**	**16 45 34.1**	**-0.6**
ARSA				Sg	**Sg**	**16 46 45.4**	**-2.3**
	comp=Z,42nm,0.6s						
PSZ	**Piszkesteto**	**4.42**	**145**	⇓*i* P	**Pn**	**16 45 36.3**	**+1.2**
KWP	**Kalwaria Pacla**	**4.61**	**113**	*e*Pn	**Pg**	**16 45 52.9**	**-2.2**
BLEU	**Blekinge**	**4.70**	**358**	P	**Pn**	**16 45 39.8**	**+0.9**
BLEU				S	**Sn**	**16 46 31.2**	**-2.9**
BLEU	**Blekinge**	**4.70**	**358**	P	**Pn**	**16 45 39.8**	**+0.9**
BLEU				S	**Sn**	**16 46 31.2**	**-2.9**
KOLS	**Kolonicke sedl**	**4.75**	**122**	*e*PN	**Pn**	**16 45 40.0**	**+0.5**
KBA	**Koelnbreinsper**	**4.90**	**203**	⇑*i* Pn	**Pn**	**16 45 42.2**	**+0.4**
	SNR=12						
KBA				⇑*i* Sg	**Sg**	**16 47 02.5**	**-1.7**
	comp=Z,18nm,0.6s						
KBA	**Koelnbreinsper**	**4.90**	**203**	Pn	**Pn**	**16 45 42.2**	**+0.4**
	SNR=12						
KBA				Sg	**Sg**	**16 47 02.5**	**-1.7**
	comp=Z,18nm,0.6s						
DEL	**Delary**	**5.05**	**345**	P	**Pn**	**16 45 44.0**	**+0.3**
DEL	**Delary**	**5.05**	**345**	P	**Pn**	**16 45 44.0**	**+0.3**
GROS	**Grobnik**	**5.18**	**185**	*i* Pn	**Pn**	**16 45 46.0**	**+0.5**
GROS	**Grobnik**	**5.18**	**185**	*i* Pn	**Pn**	**16 45 46.0**	**+0.5**
WATA	**Walderalm**	**5.23**	**217**	⇑*i* Pn	**Pn**	**16 45 46.9**	**+0.6**
	SNR=7.5						
WATA				⇑*i* Sg	**Sg**	**16 47 14.6**	**0.0**
	comp=Z,23nm,0.7s						
WATA	**Walderalm**	**5.23**	**217**	Pn	**Pn**	**16 45 46.9**	**+0.6**
	SNR=7.5						
WATA				Sg	**Sg**	**16 47 14.6**	**0.0**
	comp=Z,23nm,0.7s						
TRPA	**Tarpa**	**5.39**	**128**	⇓*i* P	**Pn**	**16 45 50.0**	**+1.6**
TRPA	**Tarpa**	**5.39**	**128**	⇓*i* P	**Pn**	**16 45 50.0**	**+1.6**
MOTA	**Moosalm**	**5.40**	**220**	⇓*i* Pn	**Pn**	**16 45 48.6**	**-0.1**
	SNR=8.2						
MOTA				⇓*i* Sg	**Sg**	**16 47 20.0**	**-0.2**
	comp=Z,43nm,1.1s						
MOTA	**Moosalm**	**5.40**	**220**	Pn	**Pn**	**16 45 48.6**	**-0.1**
	SNR=8.2						
MOTA				Sg	**Sg**	**16 47 20.0**	**-0.2**
	comp=Z,43nm,1.1s						
ABTA	**Abfaltersbach**	**5.43**	**208**	⇑*i* Pn	**Pn**	**16 45 49.5**	**+0.5**
	SNR=5.7						
ABTA	**Abfaltersbach**	**5.43**	**208**	Pn	**Pn**	**16 45 49.5**	**+0.5**
	SNR=5.7						
GORS	**Gorjuse**	**5.49**	**196**	*i* Pn	**Pn**	**16 45 48.2**	**-1.7**
GORS	**Gorjuse**	**5.49**	**196**	*i* Pn	**Pn**	**16 45 48.2**	**-1.7**
OSKU	**Oskarshamn**	**5.59**	**360**	P	**Pn**	**16 45 52.5**	**+1.4**
OSKU	**Oskarshamn**	**5.59**	**360**	P	**Pn**	**16 45 52.5**	**+1.4**
PKSM	**Moragy**	**5.65**	**162**	⇓*i* P	**Pn**	**16 45 53.2**	**+1.3**
PKSM	**Moragy**	**5.65**	**162**	⇓*i* P	**Pn**	**16 45 53.2**	**+1.3**
BYXU	**Byxelkrok**	**5.71**	**5**	P	**Pn**	**16 45 54.4**	**+1.7**
BYXU	**Byxelkrok**	**5.71**	**5**	P	**Pn**	**16 45 54.4**	**+1.7**
FABU	**Falkenberg**	**5.76**	**341**	P	**Pn**	**16 45 54.1**	**+0.7**
FABU	**Falkenberg**	**5.76**	**341**	P	**Pn**	**16 45 54.1**	**+0.7**
ASPU	**Aespoe**	**5.82**	**2**	P	**Pn**	**16 45 55.9**	**+1.7**
ASPU	**Aespoe**	**5.82**	**2**	P	**Pn**	**16 45 55.9**	**+1.7**
EKSU	**Eksjoe**	**5.99**	**356**	P	**Pn**	**16 45 57.7**	**+1.1**
EKSU	**Eksjoe**	**5.99**	**356**	P	**Pn**	**16 45 57.7**	**+1.1**
VSTU	**Vaestervik**	**6.06**	**2**	P	**Pn**	**16 45 59.2**	**+1.6**
VSTU	**Vaestervik**	**6.06**	**2**	P	**Pn**	**16 45 59.2**	**+1.6**
VSTU				S	**Sn**	**16 47 06.6**	**-0.9**
DAVOX	**Davos/Dischmat**	**6.36**	**223**	Pn	**Pn**	**16 46 02.2**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=14,slow=18,SNR=7.8						
DAVOX				Lg	Lg	16 47 42.2	
	comp=Z,0.7nm,0.3s,baz=319,slow=19,SNR=2.6						
DRGR		**6.45**	**136**	⇓*i* P	**Pn**	**16 46 03.3**	**+0.3**
LNKU	**Linkoeping**	**6.63**	**357**	P	**Pn**	**16 46 06.9**	**+1.5**
LNKU	**Linkoeping**	**6.63**	**357**	P	**Pn**	**16 46 06.9**	**+1.5**
VIKU	**Vikbolandet**	**6.91**	**2**	P	**Pn**	**16 46 10.5**	**+1.4**
VIKU	**Vikbolandet**	**6.91**	**2**	P	**Pn**	**16 46 10.5**	**+1.4**
BZS	**Buzias**	**7.00**	**147**	⇓*i* P	**Pn**	**16 46 10.9**	**+0.4**
BZS	**Buzias**	**7.00**	**147**	⇓*i* P	**Pn**	**16 46 10.9**	**+0.4**
BURAR	**Bucovina Array**	**7.11**	**121**	⇓*i* P	**Pn**	**16 46 13.7**	**+1.6**
BURAR	**Bucovina Array**	**7.11**	**121**	⇓*i* P	**Pn**	**16 46 13.7**	**+1.6**
AKASG	**Malin Array Be**	**8.26**	**91**	Pn	**Pn**	**16 46 27.1**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=278,slow=12,SNR=4.4						
AKASG				Sn	**Sn**	**16 47 58.5**	**-3.1**
	comp=Z,0.6nm,0.3s,baz=274,slow=23,SNR=3.1						
AKASG				Lg	Lg	16 48 56.4	
	comp=Z,0.2nm,0.3s,baz=277,slow=29,SNR=3.9						
HFS	**Hagfors**	**8.65**	**352**	Pn	**Pn**	**16 46 33.1**	**0.0**
	comp=Z,0.2nm,0.3s,baz=173,slow=14,SNR=3.5						
NOA	**NORSAR Array B**	**9.84**	**346**	Pn	**Pn**	**16 46 49.9**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=164,slow=12,SNR=2.5						
FINES	**FINESS Array B**	**11.25**	**25**	Pn	**Pn**	**16 47 08.3**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=213,slow=12,SNR=9.1						
FINES				Sn	Sn	16 49 08.3	-6.6
	comp=Z,0.2nm,0.3s,baz=199,slow=25,SNR=3.7						
EKA	**Eskdalemuir Ar**	**12.10**	**295**	Pn	Pn	16 47 16.7	-3.5
	baz=104,slow=13,SNR=5.8						
ARCES	**ARCESS Array B**	**18.51**	**10**	Pn	**P**	**16 48 42.2**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=192,slow=11,SNR=11						
AKTO	**Aktyubinsk**	**26.09**	**76**	P	**P**	**16 50 02.5**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=266,slow=14,SNR=3.5						
AKTO				LR	LR	17 01 43.5	
	comp=Z,18nm,18.1s,baz=275,slow=40						
TORD	**Torodi Ar. Bea**	**40.11**	**202**	P	**P**	**16 52 03.9**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=4.8,slow=3.5,SNR=3.0						
MKAR	**Makanchi Array**	**42.14**	**69**	P	**P**	**16 52 21.7**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=320,slow=6.3,SNR=3.2						
SONM	**Songino Array**	**54.82**	**56**	P	**P**	**16 54 00.2**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=305,slow=5.1,SNR=2.7						
YKA	**Yellowknife Ar**	**59.78**	**336**	P	**P**	**16 54 33.3**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=36,slow=6.4,SNR=6.5						
PDAR	**Pinedale Array**	**74.88**	**322**	P	**P**	**16 56 09.2**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=58,slow=5.8,SNR=3.7						

*CSEM **29** 17:00:20.8, 39°.25N×29°.27E, h7km, MD2.5*

DDA 29 17:00:20.8, 39°.25N×29°.27E, h7km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.23**	**134**	*i* P	Pg	17 00 25.9	+0.3
GDZ				*i* S	Sg	17 00 29.2	+0.4
GDZ	**Gediz**	**0.23**	**134**	*i* P	Pg	17 00 25.9	+0.3
GDZ				*i* S	Sg	17 00 29.2	+0.4
DEMI	**Demirci**	**0.48**	**244**	*i* P	Pg	17 00 30.7	+0.6
DEMI				*i* S	Sg	17 00 37.2	+0.7
DEMI	**Demirci**	**0.48**	**244**	*i* P	Pg	17 00 30.7	+0.6
DEMI				*i* S	Sg	17 00 37.2	+0.8
DURS	**Dursunbey**	**0.71**	**300**	*i* P	Pg	17 00 34.1	-0.4
DURS	**Dursunbey**	**0.71**	**300**	*i* P	Pg	17 00 34.1	-0.4
BORA	**Eskisehir**	**1.11**	**55**	*i* P	Pg	17 00 41.9	-0.3
BORA				*i* S	Sg	17 00 56.2	-0.6
BORA	**Eskisehir**	**1.11**	**55**	*i* P	Pg	17 00 41.9	-0.4
BORA				*i* S	Sg	17 00 56.2	-0.6

*IDC **29** 17:02:26.9±1.4, 6°.85S×154°.49E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.5/19, mbtmp3.6/5, ML4.1/1, Error ellipse: s-maj=39.9km s-min=28.1km az=89.0*

*ISCJB **29** 17:02:30.6±1.2, 7°.05S±0°.2×154°.5E±0°.2, h39km, mb3.3/4, Error ellipse: s-maj=29.2km s-min=21.4km az=145.5*

ISC 29 17:02:32.5±1.2, 7°.05S±0°.2×154°.5E±0°.2, h39km, n6, σ1s00/7, mb3.5/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**18.91**	**144**	P	**Pn**	**17 06 51.0**	**0.0**
	0.6nm,0.3s,baz=90,slow=24,SNR=6.9						
WRA	**Warramunga Arr**	**23.44**	**235**	P	**P**	**17 07 38.4**	**-0.2**
	0.9nm,0.7s,baz=57,slow=9.3,SNR=7.4						
ASAR	**Alice Springs**	**25.84**	**228**	P	**P**	**17 08 00.1**	**-0.4**
	0.3nm,0.7s,baz=62,slow=9.3,SNR=5.2						
SONM	**Songino Array**	**59.06**	**328**	P	**P**	**17 13 33.9**	**-0.6**
	0.3nm,0.5s,baz=85,slow=8.8,SNR=2.3						
MKAR	**Makanchi Array**	**83.08**	**319**	P	**P**	**17 14 54.2**	**0.0**
	0.4nm,0.7s,baz=94,slow=6.3,SNR=5.5						
TORD	**Torodi Ar. Bea**	**152.56**	**285**	PKPbc	**PKPbc**	**17 22 25.4**	**-0.5**
	0.2nm,0.5s,baz=73,slow=2.5,SNR=3.0						
TORD				PKPab	**PKPab**	**17 22 38.2**	**+1.8**
	0.5nm,0.7s,baz=73,slow=4.9,SNR=3.6						

IDC 29 17:06:20.3±1.6, 13°.95S×167°.61E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.7/21, mbtmp3.9/6, ML3.6/1, Error ellipse: s-maj=56.1km s-min=27.6km az=107.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.16**	**188**	Pn	Pn	17 08 18.9	-1.3
	0.7nm,0.3s,baz=270,slow=20,SNR=8.8						
DZM				Sn	Sn	17 09 44.2	-9.0
	0.5nm,0.3s,baz=270,slow=20,SNR=2.4						
ASAR	**Alice Springs**	**33.27**	**248**	P	P	17 13 00.7	+1.0
	0.4nm,0.6s,baz=73,slow=9.3,SNR=5.7						
MJAR	**Matsushiro Arr**	**57.37**	**332**	P	P	17 16 09.2	-1.3
	0.4nm,0.6s,baz=172,slow=8.4,SNR=5.3						
ASAJ	**Asahikawa**	**62.12**	**340**	P	P	17 16 42.1	-0.9
	1.2nm,0.6s,baz=170,slow=6.1,SNR=3.8						
PETK	**Petropavlovsk-**	**67.32**	**354**	P	P	17 17 18.0	+1.2
	3.6nm,1.1s,baz=158,slow=8.9,SNR=3.7						
ILAR	**Eielson Array**	**85.68**	**18**	P	P	17 19 01.7	+1.1
	0.4nm,0.6s,baz=228,slow=6.2,SNR=4.1						
ARCES	**ARCESS Array B**	**119.58**	**346**	PKP	PKPdf	17 25 10.6	-1.0
	0.3nm,0.3s,baz=65,slow=1.3,SNR=12						

*ISCJB **29** 17:10:00.2±0.7, 8°.05S±0°.1×107°.90E±0°.05, h78km±6km, mb3.7/11, Error ellipse: s-maj=21.1km s-min=5.3km az=20.1*

*DJA **29** 17:10:00.7±1.0, 8°.5±8°×10°.8E±°, h30km±6km, M4.3/14, mb4.2/1, MLv4.3/14*

*IDC **29** 17:10:02.5±1.8, 7°.94S×108°.06E, h84km±15km, mb3.6/11, mb1 3.7/11, mb1mx3.5/24, mbtmp3.9/11, MS2.9/1, Ms1 3.1/1, ms1mx2.4/28, Error ellipse: s-maj=41.6km s-min=14.7km az=58.0*

ISC 29 17:10:00.4±1.2, 8°.1S±0°.1×107°.87E±0°.06, h63km±10km, n29, σ1s23/30, mb3.8/11, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.53**	**354**	P	**Pn**	**17 10 12.7**	**-0.4**
CISI				S	**Sn**	**17 10 22.1**	**-0.1**
CMJI	**Cimerak**	**0.65**	**62**	P	**Pn**	**17 10 14.1**	**-0.1**
CMJI				S	**Sn**	**17 10 24.5**	**+0.1**
CNJI	**Cibinong**	**1.07**	**316**	P	**Pn**	**17 10 19.3**	**-0.2**
CNJI				S	**Sn**	**17 10 34.7**	**+1.1**
LEM	**Lembang**	**1.28**	**349**	P	**Pn**	**17 10 24.2**	**+1.8**
LEM	**Lembang**	**1.28**	**349**	P	**Pn**	**17 10 24.1**	**+1.7**
	113nm,0.3s,baz=338,slow=6.1,SNR=135						
SKJI	**Sukabumi**	**1.69**	**309**	P	**Pn**	**17 10 28.6**	**+0.8**
SKJI				S	**Sn**	**17 10 50.7**	**+2.3**
SBJI	**Serang**	**2.61**	**318**	P	Pn	17 10 49.5	+9.3
CGJI	**Cibinong**	**2.61**	**304**	P	**Pn**	**17 10 40.4**	**+0.2**
UGM	**Wanagama**	**2.63**	**86**	P	**Pn**	**17 10 41.5**	**+0.9**
UGM				S	**Sn**	**17 11 13.3**	**+1.9**
PCJI	**Pacitan**	**3.27**	**92**	P	**Pn**	**17 10 50.4**	**+1.1**
PCJI				S	**Sn**	**17 11 27.5**	**+0.4**
BLJI	**Bandar Lampung**	**3.75**	**316**	P	Pn	17 10 52.9	-3.0
PWJI	**Pagerwojo**	**3.90**	**89**	P	**Pn**	**17 11 00.4**	**+2.6**
KASI	**Kota Agung**	**4.21**	**307**	P	**Pn**	**17 11 03.9**	**+1.8**
MDSI	**Maura Dua**	**5.13**	**314**	P	**Pn**	**17 11 16.3**	**+1.6**
CMAR	**Chiang Mai Arr**	**27.81**	**342**	LR	LR	17 26 32.2	
	comp=Z,25nm,19.6s,baz=200,slow=36						
WRA	**Warramunga Arr**	**28.20**	**117**	P	**P**	**17 15 46.4**	**-1.0**
	0.6nm,0.7s,baz=284,slow=12,SNR=4.1						
ASAR	**Alice Springs**	**29.36**	**125**	P	**P**	**17 15 57.2**	**-0.5**
	0.5nm,1.0s,baz=303,slow=8.7,SNR=3.0						
H08S2	**Diego Garcia H**	**35.04**	**268**	T	T	17 53 52.3	
	baz=92,slow=76,SNR=49						
H08S3	**Diego Garcia H**	**35.05**	**268**	T	T	17 53 52.1	
	baz=92,slow=76,SNR=43						
H08S1	**Diego Carcia H**	**35.06**	**268**	T	T	17 53 58.3	
	baz=92,slow=76,SNR=42						
STKA	**Stephens Creek**	**39.28**	**132**	P	**P**	**17 17 22.8**	**-0.4**
	1.8nm,0.5s,baz=293,slow=7.4,SNR=4.2						
SONM	**Songino Array**	**55.69**	**359**	P	**P**	**17 19 30.0**	**-0.4**
	0.2nm,0.4s,baz=168,slow=7.8,SNR=3.2						
SONM				PcP	**PcP**	**17 20 28.9**	**-0.2**
	1.0nm,0.8s,baz=167,slow=3.5,SNR=6.2						
MKAR	**Makanchi Array**	**59.20**	**340**	P	**P**	**17 19 53.6**	**-1.4**
	1.1nm,0.7s,baz=146,slow=8.0,SNR=15						
KURBB	**Kurchatov Arra**	**63.76**	**340**	P	**P**	**17 20 24.9**	**-0.7**
	0.7nm,0.7s,baz=152,slow=5.7,SNR=7.1						
BVAR	**Borovoye Array**	**68.70**	**337**	P	**P**	**17 20 56.5**	**-0.7**
	1.0nm,0.5s,baz=138,slow=7.8,SNR=7.0						
VNDA	**Vanda**	**74.75**	**169**	P	**P**	**17 21 33.1**	**0.0**
	0.8nm,0.6s,baz=303,slow=4.1,SNR=6.5						
BRTR	**Keskin Array B**	**83.19**	**312**	P	**P**	**17 22 19.8**	**-0.4**
	0.5nm,0.6s,baz=126,slow=6.3,SNR=3.6						
SNAA	**Sanae**	**88.75**	**197**	P	**P**	**17 22 48.4**	**+1.5**
	0.6nm,0.8s,baz=157,slow=4.7,SNR=7.1						
ARCES	**ARCESS Array B**	**94.85**	**340**	P	**P**	**17 23 14.2**	**-0.9**
	1.0nm,0.8s,baz=98,slow=6.5,SNR=2.5						

*CSEM **29** 17:11:09.0±0.1, 41°.59N×14°.14E, h20km, ML2.8/11, Error ellipse: s-maj=2.6km s-min=1.8km az=34.0*

ROM 29 17:11:09.3±0.1, 41°.58N×14°.14E, h12km±1km, MI2.3/27, 2D, Error ellipse: s-maj=1.3km s-min=0.8km az=37.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CERA	**Filignano**	**0.09**	**284**	Pg	Pg	17 11 12.3	+0.1
CERA				Sg	Sg	17 11 15.2	+0.9
	776nm,0.3s						
CERA	**Filignano**	**0.09**	**284**	Pg	Pg	17 11 12.3	+0.1
CERA				Sg	Sg	17 11 15.2	+0.9
	776nm,0.3s						
MIDA	**Miranda**	**0.11**	**52**	Pg	Pg	17 11 12.5	+0.1
MIDA				Sg	Sg	17 11 14.8	+0.2
	2μm,0.3s						
MIDA	**Miranda**	**0.11**	**52**	Pg	Pg	17 11 12.5	+0.1
MIDA				Sg	Sg	17 11 14.8	+0.2
	2μm,0.3s						
RNI2	**Rionero Sannit**	**0.13**	**5**	Pg	Pb	17 11 13.3	-0.6
RNI2				Sg	Sg	17 11 16.4	+1.3
	1μm,0.2s						
RNI2	**Rionero Sannit**	**0.13**	**5**	Pg	Pb	17 11 13.3	-0.6
RNI2				Sg	Sg	17 11 16.4	+1.3
	1μm,0.2s						
VAGA	**Valle Agricola**	**0.17**	**156**	Pg	Pg	17 11 13.2	-0.1
VAGA				Sg	Sg	17 11 16.8	+0.7
	6μm,0.5s						
VAGA	**Valle Agricola**	**0.17**	**156**	Pg	Pg	17 11 13.2	-0.1
VAGA				Sg	Sg	17 11 16.8	+0.7
	6μm,0.5s						
SGG	**Gregorio Mates**	**0.26**	**136**	Pg	Pg	17 11 14.7	-0.1
SGG				Sg	Sg	17 11 19.4	+0.8
	888nm,0.5s						
SDI	**San Donato**	**0.28**	**299**	⇓Pg	Pg	17 11 15.5	+0.3
SDI				Sg	Sg	17 11 20.0	+0.9
	403nm,0.5s						
SDI	**San Donato**	**0.28**	**299**	⇓Pg	Pg	17 11 15.5	+0.3
SDI				Sg	Sg	17 11 20.0	+0.9
	403nm,0.5s						
BSSO	**Busso**	**0.34**	**95**	Pg	Pg	17 11 16.8	+0.4
	278nm,0.8s						
BSSO	**Busso**	**0.34**	**95**	Pg	Pg	17 11 16.8	+0.4
	278nm,0.8s						
POFI	**Posta Fibreno**	**0.35**	**294**	Pg	Pg	17 11 16.6	+0.1
POFI				Sg	Sb	17 11 22.8	-0.4
	155nm,0.5s						
POFI	**Posta Fibreno**	**0.35**	**294**	Pg	Pg	17 11 16.6	+0.1
POFI				Sg	Sb	17 11 22.8	-0.4
	155nm,0.5s						
PTRJ	**Pietraroja**	**0.36**	**126**	Pg	Pg	17 11 16.8	+0.1
PTRJ				Sg	Sb	17 11 23.3	-0.2
	857nm,0.6s						
PTRJ	**Pietraroja**	**0.36**	**126**	Pg	Pg	17 11 16.8	+0.1
PTRJ				Sg	Sb	17 11 23.3	-0.2
	857nm,0.6s						
TRIV	**Trivento**	**0.36**	**58**	Pg	Pg	17 11 17.1	+0.4
TRIV				Sg	Sb	17 11 22.9	-0.6
	262nm,0.8s						
TRIV	**Trivento**	**0.36**	**58**	Pg	Pg	17 11 17.1	+0.4
TRIV				Sg	Sb	17 11 22.9	-0.6
	262nm,0.8s						
INTR	**Introdacqua**	**0.47**	**338**	Pg	Pg	17 11 18.7	0.0
INTR				Sg	Sb	17 11 25.9	-0.8
	268nm,0.4s						
INTR	**Introdacqua**	**0.47**	**338**	Pg	Pg	17 11 18.7	0.0
INTR				Sg	Sb	17 11 25.9	-0.8
	268nm,0.4s						
MODR	**Mondragone**	**0.47**	**205**	Pg	Pb	17 11 19.5	-0.1
	209nm,0.8s						
MODR	**Mondragone**	**0.47**	**205**	Pg	Pb	17 11 19.5	-0.1
	209nm,0.8s						
LPEL	**Lama dei Pelig**	**0.47**	**4**	Pg	Pg	17 11 18.8	+0.1
	180nm,0.2s						
LPEL	**Lama dei Pelig**	**0.47**	**4**	Pg	Pg	17 11 18.8	+0.1
	180nm,0.2s						
VVLD	**Villa Vallelon**	**0.49**	**308**	Pg	Pg	17 11 18.9	-0.1
VVLD				Sg	Sg	17 11 26.4	+0.8
	178nm,0.5s						
VVLD	**Villa Vallelon**	**0.49**	**308**	Pg	Pg	17 11 18.9	-0.1
VVLD				Sg	Sg	17 11 26.4	+0.8
	178nm,0.5s						
FRES	**Fresagrandinar**	**0.56**	**45**	Pg	Pg	17 11 20.4	+0.1
	155nm,0.8s						
FRES	**Fresagrandinar**	**0.56**	**45**	Pg	Pg	17 11 20.4	+0.1
	155nm,0.8s						
CIGN	**Sant'Elia a Pi**	**0.58**	**82**	Pg	Pg	17 11 21.0	+0.3
	57nm,0.7s						
CIGN	**Sant'Elia a Pi**	**0.58**	**82**	Pg	Pg	17 11 21.0	+0.3
	57nm,0.7s						
PSB1	**Pescosannita**	**0.61**	**125**	Pg	Pg	17 11 21.5	+0.1
	210nm,0.7s						
PSB1	**Pescosannita**	**0.61**	**125**	Pg	Pg	17 11 21.5	+0.1
	210nm,0.7s						
PAOL	**Paolisi**	**0.63**	**149**	Pg	Pg	17 11 21.4	-0.3
	164nm,0.6s						
PAOL	**Paolisi**	**0.63**	**149**	Pg	Pg	17 11 21.4	-0.3
	164nm,0.6s						
GIUL	**Giuliano Di Ro**	**0.66**	**269**	Pg	Pg	17 11 22.3	0.0
	57nm,0.5s						
GIUL	**Giuliano Di Ro**	**0.66**	**269**	Pg	Pg	17 11 22.3	0.0
	57nm,0.5s						
PTQR	**Pietraquaria**	**0.71**	**309**	Pg	Pg	17 11 22.7	-0.5
	13nm,0.3s						
PTQR	**Pietraquaria**	**0.71**	**309**	Pg	Pg	17 11 22.7	-0.5
	13nm,0.3s						
MELA	**Melanico ??? S**	**0.75**	**80**	Pg	Pg	17 11 22

SDI	**San Donato**	**0.28**	**299**	Pg	Pg	17 11 43.8	+0.3
SDI				Sg	Sb	17 11 48.7	-1.1
	403nm,0.5s						
BSSO	**Busso**	**0.34**	**94**	Pg	Pg	17 11 45.3	+0.6
	278nm,0.8s						
BSSO	**Busso**	**0.34**	**94**	Pg	Pg	17 11 45.3	+0.6
	278nm,0.8s						
POFI	**Posta Fibreno**	**0.35**	**295**	Pg	Pg	17 11 45.2	+0.4
POFI				Sg	Sb	17 11 51.3	-0.6
	155nm,0.5s						
POFI	**Posta Fibreno**	**0.35**	**295**	Pg	Pg	17 11 45.2	+0.4
POFI				Sg	Sb	17 11 51.3	-0.6
	155nm,0.5s						
PTRJ	**Pietraroja**	**0.36**	**125**	Pg	Pb	17 11 45.9	-0.4
PTRJ				Sg	Sb	17 11 52.1	0.0
	857nm,0.6s						
PTRJ	**Pietraroja**	**0.36**	**125**	Pg	Pb	17 11 45.9	-0.4
PTRJ				Sg	Sb	17 11 52.1	0.0
	857nm,0.6s						
TRIV	**Trivento**	**0.36**	**58**	Pg	Pg	17 11 45.6	+0.6
	262nm,0.8s						
TRIV	**Trivento**	**0.36**	**58**	Pg	Pg	17 11 45.6	+0.6
	262nm,0.8s						
MODR	**Mondragone**	**0.47**	**205**	Pg	Pb	17 11 48.1	0.0
	209nm,0.8s						
MODR	**Mondragone**	**0.47**	**205**	Pg	Pb	17 11 48.1	0.0
	209nm,0.8s						
INTR	**Introdacqua**	**0.47**	**338**	Pg	Pg	17 11 47.1	0.0
INTR				Sg	Sb	17 11 54.7	-0.7
	268nm,0.4s						
INTR	**Introdacqua**	**0.47**	**338**	Pg	Pg	17 11 47.1	0.0
INTR				Sg	Sb	17 11 54.7	-0.7
	268nm,0.4s						
LPEL	**Lama dei Pelig**	**0.48**	**4**	Pg	Pg	17 11 47.2	+0.1
	180nm,0.2s						
LPEL	**Lama dei Pelig**	**0.48**	**4**	Pg	Pg	17 11 47.2	+0.1
	180nm,0.2s						
VVLD	**Villa Vallelon**	**0.49**	**308**	Pg	Pg	17 11 47.0	-0.4
VVLD				Sg	Sg	17 11 54.9	+0.9
	178nm,0.5s						
VVLD	**Villa Vallelon**	**0.49**	**308**	Pg	Pg	17 11 47.0	-0.4
VVLD				Sg	Sg	17 11 54.9	+0.9
	178nm,0.5s						
PSB1	**Pescosannita**	**0.61**	**124**	Pg	Pg	17 11 49.8	+0.1
	210nm,0.7s						
PSB1	**Pescosannita**	**0.61**	**124**	Pg	Pg	17 11 49.8	+0.1
	210nm,0.7s						
PAOL	**Paolisi**	**0.63**	**149**	Pg	Pg	17 11 50.1	+0.1
	164nm,0.6s						
PAOL	**Paolisi**	**0.63**	**149**	Pg	Pg	17 11 50.1	+0.1
	164nm,0.6s						
GIUL	**Giuliano Di Ro**	**0.66**	**269**	Pg	Pg	17 11 50.9	+0.3
	57nm,0.5s						
GIUL	**Giuliano Di Ro**	**0.66**	**269**	Pg	Pg	17 11 50.9	+0.3
	57nm,0.5s						
PTQR	**Pietraquaria**	**0.71**	**309**	Pg	Pg	17 11 51.0	-0.6
PTQR				Sg	Sg	17 12 01.4	+0.3
	13nm,0.3s						
PTQR	**Pietraquaria**	**0.71**	**309**	Pg	Pg	17 11 51.0	-0.6
PTQR				Sg	Sg	17 12 01.4	+0.3
	13nm,0.3s						
FAGN	**Fagnano**	**0.81**	**329**	Pg	Pb	17 11 54.0	+0.1
	228nm,0.5s						
FAGN	**Fagnano**	**0.81**	**329**	Pg	Pb	17 11 54.0	+0.1
	228nm,0.5s						
T0106	**Roio Piano**	**0.93**	**323**	Pg	Pg	17 11 54.5	-1.2
	75nm,0.5s						
VENT	**Ventotene**	**0.95**	**215**	Pg	Pb	17 11 56.4	+0.2
VENT	**Ventotene**	**0.95**	**215**	Pg	Pb	17 11 56.4	+0.2

SJA ***29*** *17:15:06.9±1.3,36°.19S×68°.11W,h182km±40km,ML4.1*
IDC ***29*** *17:15:10.4±0.8,35°.40S×70°.39W,h0km,mb3.9/9, mb1 4.1/12,mb1mx4.1/24,mbtmp4.0/12,ML3.9/3,MS2.4/1, Ms1 2.4/1,ms1mx2.3/23,Error ellipse: s-maj=28.2km s-min=15.7km az=96.0*
GUC ***29*** *17:15:10.4±0.4,35°.37S×70°.45W,h20km±2km,ML4.5*
ISCJB ***29*** *17:15:11.1±1.0,35°.48S±0°.03×70°.43W±0°.06,h16km±9km, mb3.9/9,Error ellipse: s-maj=8.7km s-min=5.4km az=3.4*
NEIC ***29*** *17:15:11.9±0.7,35°.45S×70°.26W,h10km,mb4.1/2,Error ellipse: s-maj=17.0km s-min=10.8km az=81.0*

ISC 29 17:15:10.2±1.7,35°.40S±0°.03×70°.47W±0°.04,h1km±11km, n45,σ1s33/58,mb4.0/9,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.74**	**302**	*e*P	**Pb**	**17 15 25.1**	**-0.8**
NICH				*e*S	**Sb**	**17 15 35.8**	**-0.6**
TALC	**Talca**	**0.95**	**270**	*e*P	**Pb**	**17 15 28.7**	**-0.7**
TALC				*e*S	**Sb**	**17 15 42.5**	**0.0**
LNCH	**Linares**	**1.02**	**244**	*e*P	**Pb**	**17 15 30.4**	**-0.3**
LNCH				*e*S	**Sb**	**17 15 45.1**	**+0.5**
CHCH	**Chadas Angostu**	**1.47**	**354**	*e*P	**Pn**	**17 15 36.8**	**-1.1**
LNV	**Longovilo**	**1.64**	**331**	*e*P	**Pn**	**17 15 39.5**	**-0.6**
YECH	**El Yeso**	**1.76**	**11**	*e*P	**Pn**	**17 15 41.9**	**-0.2**
YECH				*e*S	**Sb**	**17 16 05.8**	**-0.4**
FSR	**Penalolen**	**1.92**	**359**	*e*P	**Pn**	**17 15 43.8**	**-0.3**
FSR				*e*S	**Sn**	**17 16 09.2**	**+0.3**
SAN	**Santiago**	**1.95**	**355**	*e*P	**Pn**	**17 15 44.2**	**-0.2**
SAN				*e*S	**Sn**	**17 16 10.1**	**+0.4**
STL	**Santa Lucia**	**1.97**	**356**	*e*P	**Pn**	**17 15 44.8**	**+0.1**
STL				*e*S	**Sb**	**17 16 11.0**	**-0.9**
CLCH	**Cerro Calan**	**2.00**	**358**	*e*P	**Pn**	**17 15 45.2**	**0.0**
CLCH				*e*S	**Sb**	**17 16 11.8**	**-1.0**
CLCH				AML	AML	17 16 24.8	
	comp=N,2μm,0.3s						
PEL	**Peldehue**	**2.26**	**355**	*e*P	**Pn**	**17 15 49.1**	**+0.4**
PEL				*e*S	**Sn**	**17 16 18.4**	**+1.1**
PEL				AML	AML	17 16 26.3	
	comp=E,9μm,0.6s						
ROCH	**El Roble**	**2.47**	**349**	*e*P	**Pn**	**17 15 52.5**	**+0.7**
ROCH				*e*S	**Sb**	**17 16 24.5**	**-1.9**
ROCH				AML	AML	17 16 29.8	
	comp=N,4μm,0.6s						
CANA	**Caviahue**	**2.52**	**191**	*e*P	**Pb**	**17 15 56.2**	**-0.2**
CANA				*i* S	**Sg**	**17 16 31.9**	**+0.5**
AAGR	**Agrelo**	**2.68**	**31**	*i* P	**Pb**	**17 15 58.4**	**-0.6**
AAGR				*i* S	**Sg**	**17 16 36.2**	**-0.1**
ARCO	**CERRO ARCO**	**2.85**	**27**	*e*P	**Pb**	**17 16 01.8**	**-0.2**
ARCO				*i* S	**Sg**	**17 16 42.8**	**+0.8**
ARCO				AML	AML	17 16 44.7	
	comp=Z,353nm,0.3s						
ASAL	**Salagasta**	**3.12**	**26**	*e*P	**Pb**	**17 16 05.1**	**-1.3**
ASAL				*i* S	**Sb**	**17 16 46.9**	**+1.9**
AUSP	**Uspallata**	**3.30**	**16**	*e*P4	Pn	17 16 07.4	+4.2
AUSP				*i* S	**Sg**	**17 16 57.8**	**+1.7**
RTLS	**Leoncito**	**3.73**	**16**	*i* P4	Pn	17 16 14.3	+5.2
RTLS				*i* S	**Sg**	**17 17 07.0**	**-2.9**
RTCV	**Cerro Valdivia**	**3.88**	**25**	*e*P	Pb	17 16 15.3	-4.2
ACAN	**Cantantal**	**4.15**	**42**	*e*P4	**Pn**	**17 16 16.2**	**+1.6**
CFAA	**Coronel Fontan**	**4.22**	**27**	Pn	**Pn**	**17 16 17.8**	**+2.1**
	comp=Z,1.0nm,0.3s,baz=209,slow=12,SNR=129						
CFAA				Lg	Lg	17 17 21.5	
	comp=Z,2.1nm,0.3s,baz=258,slow=5.4,SNR=6.7						
CFAA				LR	LR	17 18 09.1	
	comp=Z,42nm,19.5s,baz=203,slow=43						
CFAA	**Coronel Fontan**	**4.22**	**27**	*i* P	**Pn**	**17 16 17.5**	**+1.8**
RTLL	**Cerro Villicun**	**4.39**	**23**	*e*P	Pn	17 16 21.9	+3.8
AMOG	**MOGNA**	**4.75**	**21**	*i* P	**Pn**	**17 16 26.1**	**+3.0**
AMOG				*i* P	**Pn**	**17 16 26.1**	**+3.0**
AVFE	**Valle Fertil**	**5.36**	**29**	*i* P	**Pn**	**17 16 34.1**	**+2.6**
AVFE				AML	AML	17 18 19.4	
	comp=Z,67nm,0.6s						
LCO	**Las Campanas**	**6.38**	**358**	*e*Pn	**Pn**	**17 16 47.7**	**+2.2**
	comp=Z,26nm,0.8s						
ACLC	**CERRO LA CRUZ**	**6.66**	**27**	*e*P	**Pn**	**17 16 50.6**	**+1.2**
TRQA	**Tornquist**	**7.31**	**114**	*e*Pn	**Pn**	**17 16 57.1**	**-1.0**
	comp=Z,11nm,0.5s						
TRQA				*e*Sn	**Sn**	**17 18 18.6**	**-3.2**
TRQA				*e*Sg	Sg	17 18 55.8	-9.2
LVC	**Limon Verde**	**12.82**	**7**	Pn	**Pn**	**17 18 14.0**	**+0.2**
	comp=Z,6.7nm,0.3s,baz=105,slow=19,SNR=2.6						
LVC				Lg	Lg	17 21 45.9	
	comp=Z,4.6nm,0.3s,baz=223,slow=9.8,SNR=4.1						
CPUP	**Villa Florida**	**14.45**	**55**	*e*Pn	Pn	17 18 32.1	-3.7
LPAZ	**La Paz**	**19.15**	**7**	P	**Pn**	**17 19 36.7**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=196,slow=4.9,SNR=15						
LPAZ	**La Paz**	**19.15**	**7**	*e*P	**Pn**	**17 19 36.6**	**+0.2**
	comp=Z,3.9nm,0.8s						
SIV	**San Ignacio**	**21.08**	**26**	P	**P**	**17 19 57.3**	**+1.3**
	comp=Z,2.8nm,0.8s,baz=218,slow=12,SNR=8.8						
BDFB	**Brasilia**	**28.13**	**51**	P	**P**	**17 21 02.6**	**-1.4**
	comp=Z,5.2nm,0.8s,baz=218,slow=6.4,SNR=4.8						
SNAA	**Sanae**	**49.80**	**157**	P	**P**	**17 24 04.1**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=290,slow=7.2,SNR=11						
SNAA	**Sanae**	**49.80**	**157**	*e*P	**P**	**17 24 02.3**	**-1.9**
	comp=Z,4.8nm,1.0s						
QSPA	**South Pole Qui**	**54.84**	**180**	P	**P**	**17 24 42.7**	**+0.9**
	comp=Z,2.5nm,0.9s,baz=237,slow=2.1,SNR=6.0						
TXAR	**Lajitas Array**	**71.59**	**330**	P	**P**	**17 26 34.2**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=147,slow=7.8,SNR=5.9						
BOSA	**Boshof**	**78.28**	**117**	P	**P**	**17 27 11.7**	**-0.6**
	comp=Z,5.8nm,0.9s,baz=298,slow=5.8,SNR=4.2						
TORD	**Torodi Ar. Bea**	**83.49**	**69**	P	**P**	**17 27 40.3**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=275,slow=5.4,SNR=4.5						
PDAR	**Pinedale Array**	**85.60**	**332**	P	**P**	**17 27 50.5**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=158,slow=2.9,SNR=3.1						
NVAR	**Mina Array Bea**	**85.77**	**324**	P	**P**	**17 27 50.3**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=152,slow=6.0,SNR=2.3						
BVAR	**Borovoye Array**	**147.39**	**45**	PKPbc	**PKPbc**	**17 34 54.6**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=242,slow=2.8,SNR=4.5						
ZALV	**Zalesovo Beam**	**154.67**	**35**	PKPbc	**PKPbc**	**17 35 13.4**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=295,slow=4.6,SNR=3.3						
MKAR	**Makanchi Array**	**156.65**	**53**	PKPab	**PKPab**	**17 35 36.6**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=278,slow=3.7,SNR=6.6						

IDC 29 17:20:00.6±1.7,6°.39S×129°.55E,h0km,mb3.9/1, mb1 4.1/4,mb1mx3.5/33,mbtmp4.0/4,ML3.9/3,Error ellipse: s-maj=65.9km s-min=27.7km az=79.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.75**	**17**	Pn	Pn	17 21 27.3	0.0
	4.5nm,0.3s,baz=287,slow=23,SNR=29						
SIJI				Sn	Sn	17 22 22.8	-11
	9.7nm,0.3s,baz=86,slow=24,SNR=18						
WRA	**Warramunga Arr**	**14.25**	**161**	Pn	Pn	17 23 22.8	-1.1
	0.6nm,0.3s,baz=344,slow=13,SNR=18						
WRA				Sn	Sn	17 25 52.5	-10
	0.4nm,0.3s,baz=337,slow=21,SNR=4.6						
ASAR	**Alice Springs**	**17.68**	**167**	P	P	17 24 09.4	-0.2
	0.4nm,0.3s,baz=347,slow=14,SNR=32						
ASAR				S	S	17 27 37.1	+3.0
	0.1nm,0.3s,baz=353,slow=20,SNR=8.3						
MKAR	**Makanchi Array**	**67.47**	**327**	P	P	17 30 58.4	0.0
	0.5nm,0.4s,baz=119,slow=8.0,SNR=15						

ISCJB ***29*** *17:21:27.6±0.8,36°.72N±0°.06×77°.0E±0°.1,h77km,mb3.4/4, Error ellipse: s-maj=14.6km s-min=8.6km az=165.5*
IDC ***29*** *17:21:28.9±6.2,36°.65N×76°.77E,h86km±49km,mb3.3/4, mb1 3.3/7,mb1mx3.0/28,mbtmp3.5/7,ML3.5/3,MS3.1/2, Ms1 3.1/2,ms1mx2.3/30,Error ellipse: s-maj=48.1km s-min=27.5km az=8.0*
NNC ***29*** *17:21:31.8±5.0,36°.92N×76°.58E,h247km±63km,mb2.1, mpv3.2,Error ellipse: s-maj=48.9km s-min=30.7km az=142.0*

ISC 29 17:21:27.9±1.0,36°.71N±0°.07×77°.07E±0°.09,h77km,n17, σ2s56/22,mb3.6/4,9C-2D,Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**4.26**	**193**	*e*P	**Pn**	**17 22 32.0**	**+1.5**
SFK	**Sufi-Kurgan**	**4.32**	**321**	⇓P	**Pn**	**17 22 33.7**	**+2.4**
SFK				⇑S	**Sn**	**17 23 25.2**	**+4.6**
AAK	**Ala-Archa**	**6.24**	**342**	⇑P	**Pn**	**17 22 58.1**	**+0.8**
	0.5nm,0.3s						
AAK				⇑S	**Sn**	**17 24 10.0**	**+2.8**
	3.5nm,0.6s						
AAK	**Ala-Archa**	**6.24**	**342**	P	**Pn**	**17 22 59.7**	**+2.4**
	0.6nm,0.3s,baz=157,slow=13,SNR=5.3						
AAK				S	**Sn**	**17 24 08.8**	**+1.5**
	0.7nm,0.3s,baz=302,slow=18,SNR=8.8						
MNAS	**Manas**	**6.75**	**330**	⇑P	**Pn**	**17 23 06.9**	**+2.5**
	1.1nm,0.4s						
MNAS				⇓S	**Sn**	**17 24 19.9**	**0.0**
	2.2nm,0.4s						
DZET	**Dzherino**	**6.85**	**290**	⇑S	**Sn**	**17 24 17.9**	**-4.4**
	8.3nm,0.4s						
KK31	**Karatay Array**	**8.13**	**324**	⇑P	**Pn**	**17 23 24.4**	**+1.3**
	0.7nm,0.3s,baz=143,slow=14,SNR=31						
KK31				⇑S	**Sn**	**17 24 50.3**	**-3.0**
	1.3nm,0.5s,baz=145,slow=22,SNR=12						
MK31	**Makanchi Array**	**10.80**	**20**	⇑P	**Pn**	**17 24 00.5**	**+1.0**
	0.2nm,0.3s,baz=199,slow=12,SNR=25						
MK31				⇑S	**Sn**	**17 25 54.2**	**-4.3**
	0.3nm,0.5s,baz=197,slow=24,SNR=5.0						
MKAR	**Makanchi Array**	**10.80**	**20**	P	**Pn**	**17 24 00.7**	**+1.3**
	0.4nm,0.3s,baz=203,slow=13,SNR=25						
MKAR				S	**Sn**	**17 25 55.1**	**-3.4**
	0.1nm,0.3s,baz=197,slow=22,SNR=4.9						
KURBB	**Kurchatov Arra**	**13.94**	**4**	P	**P**	**17 24 46.7**	**-0.6**
	0.1nm,0.3s,baz=197,slow=9.8,SNR=5.4						
BVAR	**Borovoye Array**	**16.97**	**346**	P	**P**	**17 25 21.4**	**+0.5**
	0.2nm,0.3s,baz=161,slow=9.2,SNR=2.9						
SONM	**Songino Array**	**24.24**	**54**	P	**P**	**17 26 40.2**	**+2.6**
	0.3nm,0.6s,baz=251,slow=8.7,SNR=2.7						
MMAI	**Mont Meron Ar**	**34.19**	**276**	LR	LR	17 45 44.2	
	comp=Z,31nm,18.1s,baz=190,slow=43						
FINES	**FINESS Array B**	**40.09**	**325**	P	**P**	**17 28 54.9**	**-0.5**
	1.4nm,0.9s,baz=120,slow=9.8,SNR=5.5						
ARCES	**ARCESS Array B**	**42.87**	**336**	P	**P**	**17 29 17.5**	**-0.6**
	1.5nm,0.9s,baz=103,slow=7.8,SNR=4.2						
SPITS	**Spitsbergen Ar**	**48.43**	**346**	LR	LR	17 55 52.3	
	comp=Z,14nm,18.2s,baz=340,slow=43						
TORD	**Torodi Ar. Bea**	**70.60**	**272**	P	**P**	**17 32 33.7**	**-1.5**
	0.2nm,0.4s,baz=46,slow=5.4,SNR=4.6						

SKHL 29 17:29:02.7±0.7,45°.00N×149°.42E,h33km±1km,mb4.5/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.12**	**283**	*i* P	Pn	17 29 21.5	-0.6
KUR				AMB	AMB	17 29 22.3	
	10.0nm,0.1s						
KUR				AMB	AMB	17 29 22.3	
	30nm,0.1s						
KUR				AMB	AMB	17 29 22.3	
	70nm,0.1s						
KUR				*i* S	Sn	17 29 36.1	-0.3
KUR				A	A	17 29 37.5	
	80nm,0.2s						
SHO	**Shikotan**	**2.17**	**240**	*e*P	Pn	17 29 36.5	0.0
SHO				AMB	AMB	17 29 38.8	
	70nm,0.3s						
SHO				*e*S	Sn	17 30 01.3	-0.9
SHO				A	A	17 30 04.5	
	200nm,0.1s						
YSS	**Yuzh-Sakhalins**	**5.04**	**295**	*e*P	Pn	17 30 18.0	+2.1
YSS				AMB	AMB	17 30 20.0	
	20nm,0.3s						
YSS				*e*S	Sn	17 31 13.8	+0.9
YSS				A	A	17 31 16.0	
	70nm,0.3s						
SKR	**Severo-Kuril's**	**7.25**	**36**	*e*P	Pn	17 30 48.0	+1.8
SKR				AMB	AMB	17 31 04.0	
	20nm,1.0s						

ISCJB ***29*** *17:33:58.0±0.9,14°.54S±0°.07×167°.3E±0°.2,h170km, mb3.6/9,Error ellipse: s-maj=24.3km s-min=9.8km az=1.2*
IDC ***29*** *17:34:01.1±3.4,14°.67S×167°.34E,h187km±31km, mb3.3/10,mb1 3.5/11,mb1mx3.4/21,mbtmp3.9/11,Error ellipse: s-maj=23.8km s-min=20.7km az=114.0*

ISC 29 17:33:59.1±0.9,14°.57S±0°.09×167°.4E±0°.2,h170km,n14, σ0s97/15,mb3.5/8,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.51**	**187**	P	**Pn**	**17 35 46.3**	**+0.2**
	1.9nm,0.3s,baz=90,slow=24,SNR=22						
DZM				S	**Sn**	**17 37 11.4**	**+0.8**
	0.8nm,0.3s,baz=90,slow=20,SNR=2.1						
CTA	**Charters Tower**	**20.90**	**252**	P	**P**	**17 38 29.5**	**+1.2**
	1.1nm,0.5s,baz=74,slow=17,SNR=3.5						
STKA	**Stephens Creek**	**29.18**	**229**	P	**P**	**17 39 44.9**	**+0.2**
	2.3nm,0.5s,baz=32,slow=7.3,SNR=7.0						
WRA	**Warramunga Arr**	**31.97**	**256**	P	**P**	**17 40 07.7**	**-1.7**
	0.2nm,0.3s,baz=80,slow=6.0,SNR=6.1						
ASAR	**Alice Springs**	**32.83**	**249**	P	**P**	**17 40 15.7**	**-1.2**
	0.6nm,0.4s,baz=80,slow=8.9,SNR=38						
ASAR				PcP	**PcP**	**17 42 57.4**	**-0.5**
	0.4nm,0.7s,baz=62,slow=2.1,SNR=5.4						
VNDA	**Vanda**	**63.02**	**181**	P	**P**	**17 44 07.1**	**-0.5**
	0.8nm,0.4s,baz=346,slow=7.4,SNR=8.4						
PETK	**Petropavlovsk-**	**67.91**	**354**	P	**P**	**17 44 40.4**	**+1.3**
	2.3nm,0.8s,baz=170,slow=8.8,SNR=3.1						
CMAR	**Chiang Mai Arr**	**74.98**	**294**	P	**P**	**17 45 22.7**	**+0.4**
	0.6nm,0.9s,baz=112,slow=4.1,SNR=3.2						
SONM	**Songino Array**	**82.43**	**324**	P	**P**	**17 46 03.5**	**+1.0**
	0.2nm,0.4s,baz=160,slow=4.6,SNR=2.6						
ILAR	**Eielson Array**	**86.34**	**18**	P	**P**	**17 46 20.8**	**-0.8**
	0.5nm,0.7s,baz=238,slow=5.6,SNR=6.6						
MKAR	**Makanchi Array**	**97.16**	**316**	P	Pdif	17 47 12.8	+0.5
	0.3nm,0.7s,baz=92,slow=6.1,SNR=5.3						
ARCES	**ARCESS Array B**	**120.12**	**345**	PKP	**PKPdf**	**17 52 28.9**	**-0.3**
	1.1nm,0.8s,baz=57,slow=3.3,SNR=4.0						
FINES	**FINESS Array B**	**125.61**	**338**	PKP	**PKPdf**	**17 52 38.9**	**-0.9**
	0.8nm,0.8s,baz=30,slow=3.9,SNR=2.9						
TORD	**Torodi Ar. Bea**	**166.03**	**266**	PKPab	**PKPab**	**17 54 45.7**	**-0.3**
	0.3nm,0.6s,baz=104,slow=5.0,SNR=5.1						

ROM 29 17:35:21.6±0.6,41°.57N×14°.14E,h9km±6km,Md1.5/3, Ml0.6/3,Error ellipse: s-maj=2.1km s-min=2.1km az=135.0,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CERA	**Filignano**	**0.10**	**288**	Pg	Pg	17 35 24.8	+0.7
CERA				Sg	Sg	17 35 26.3	+0.4
	16nm,0.3s						
MIDA	**Miranda**	**0.11**	**48**	Pg	Pg	17 35 24.7	+0.3
MIDA				Sg	Sg	17 35 26.9	+0.6
	15nm,0.6s						
VAGA	**Valle Agricola**	**0.17**	**156**	Pg	Pg	17 35 25.5	+0.3
VAGA				Sg	Sg	17 35 29.0	+1.3
	18nm,0.4s						

ISCJB ***29*** *17:37:57.6±0.3,51°.59N±0°.02×16°.14E±0°.03,h0km,Error ellipse: s-maj=2.7km s-min=2.2km az=175.7*
CSEM ***29*** *17:37:59.7±0.1,51°.56N×16°.11E,h2km,ML2.8,Error ellipse: s-maj=3.1km s-min=2.0km az=87.0*
IPEC ***29*** *17:37:59.6±0.3,51°.59N×16°.25E,h0km,ML2.8/3,Error ellipse: s-maj=3.2km s-min=1.7km az=66.0*
PRU ***29*** *17:38:01.3,51°.50N×16°.11E,h0km,Felt In Harrachov*
IDC ***29*** *17:38:01.4±0.8,51°.50N×16°.11E,h0km,mb1 3.3/7, mb1mx3.1/50,mbtmp3.3/7,ML3.0/7,Error ellipse: s-maj=15.8km s-min=8.3km az=90.0*
UPP ***29*** *17:38:03.3,51°.73N×15°.59E,h0km,ML2.2,Suspected Mining explosion.*
VIE ***29*** *17:38:04.1±0.7,51°.24N×16°.12E,h0km,mb2.7/6,ML3.1/6, Error ellipse: s-maj=4.9km s-min=4.3km az=103.0 64 km WNW of Wroclaw Suspected Mining induced.*

ISC 29 17:37:59.0±0.7,51°.63N±0°.03×16°.16E±0°.02,h0km,n85, σ1s32/133,10C-8D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.79**	**174**	*i* Pg	**Pg**	**17 38 14.4**	**+0.3**
KSP				*e*Sg	**Sg**	**17 38 23.8**	**-0.6**
KSP				*e*		17 38 27.0	
KSP	**Ksiaz**	**0.79**	**174**	⇓*i* Pg	**Pg**	**17 38 14.4**	**+0.3**
KSP				*e*Sg	**Sg**	**17 38 23.8**	**-0.6**
UPC	**Upice**	**1.13**	**185**	*e*PG	**Pg**	**17 38 20.4**	**-0.2**
UPC				*e*SG	**Sg**	**17 38 33.8**	**-1.4**
	comp=Z,99nm,0.4s						
UPC	**Upice**	**1.13**	**185**	Pg	**Pg**	**17 38 20.4**	**-0.2**
UPC				Sg	**Sg**	**17 38 33.8**	**-1.4**
	99nm,0.4s						
DPC	**Dobruska-Polom**	**1.29**	**175**	*e*PG	**Pg**	**17 38 23.1**	**-0.5**
DPC				*e*SG	**Sg**	**17 38 38.4**	**-1.8**
	comp=Z,81nm,0.4s						
DPC	**Dobruska-Polom**	**1.29**	**175**	Pg	**Pg**	**17 38 23.1**	**-0.5**
DPC				Sg	**Sg**	**17 38 38.4**	**-1.8**
	81nm,0.4s						
PVCC	**Panska Ves**	**1.49**	**223**	*e*PG	**Pn**	**17 38 27.0**	**0.0**
PVCC				*e*SG	**Sg**	**17 38 46.0**	**-0.9**
	comp=Z,446nm,0.4s						
PVCC	**Panska Ves**	**1.49**	**223**	Pg	**Pn**	**17 38 27.0**	**0.0**
PVCC				Sg	**Sg**	**17 38 46.0**	**-0.9**
	446nm,0.4s						
BRG	**Berggiesshubel**	**1.59**	**242**	PN	**Pn**	**17 38 27.7**	**-0.6**
BRG				PG	**Pb**	**17 38 29.2**	**0.0**
BRG				SG	**Sn**	**17 38 49.7**	**+0.2**
	296nm,0.4s						
PRA	**Prague**	**1.91**	**216**	*e*PN	**Pn**	**17 38 32.5**	**-0.2**
PRA				*e*SG	**Sn**	**17 38 57.8**	**+0.4**
	comp=Z,82nm,0.5s						
PRA	**Prague**	**1.91**	**216**	Pn	**Pn**	**17 38 32.5**	**-0.2**
PRA				Sg	**Sn**	**17 38 57.8**	**+0.4**
	82nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.93**	**207**	*e*PN	**Pn**	**17 38 32.6**	**-0.4**
GOPC				*e*PG	**Pb**	**17 38 34.5**	**-0.5**
GOPC				*e*SG	**Sn**	**17 38 58.6**	**+0.6**
	comp=Z,85nm,0.6s						
GOPC	**GO Pecny, Ondr**	**1.93**	**207**	Pn	**Pn**	**17 38 32.6**	**-0.4**
GOPC	**GO Pecny, Ondr**	**1.93

CONA				Sg		**Sb**	**17 39 53.8**	**+2.9**
	comp=Z,36nm,0.5s								
STHS	**Stebnicka Huta**	**3.93**	**122**	*e*PN		**Pn**	**17 39 01.4**	**+0.9**
MOA	**Molln**	**3.98**	**199**	⇓*i*Pn		**Pn**	**17 39 01.4**	**+0.2**
MOA				⇑*i*Sg		**Sg**	**17 40 04.0**	**-2.8**
	comp=Z,39nm,0.5s								
MOA	**Molln**	**3.98**	**199**	Pn		**Pn**	**17 39 01.4**	**+0.2**
MOA				Sg		**Sg**	**17 40 04.0**	**-2.8**
	comp=Z,39nm,0.5s								
KECS	**Kecovo**	**4.21**	**137**	*e*PN		**Pn**	**17 39 04.4**	**+0.1**
LUNU	**Lund**	**4.32**	**339**	P		**Pn**	**17 39 06.9**	**+1.1**
LUNU				S		**Sn**	**17 39 56.4**	**-0.5**
LUNU	**Lund**	**4.32**	**339**	P		**Pn**	**17 39 06.9**	**+1.1**
LUNU				S		**Sn**	**17 39 56.4**	**-0.5**
ARSA	**Arzberg**	**4.41**	**186**	⇑*i*Pn		**Pn**	**17 39 06.7**	**-0.4**
ARSA				⇑*i*Sg		**Sg**	**17 40 17.1**	**-3.3**
	comp=Z,18nm,0.5s								
ARSA	**Arzberg**	**4.41**	**186**	Pn		**Pn**	**17 39 06.7**	**-0.4**
ARSA				Sg		**Sg**	**17 40 17.1**	**-3.3**
	comp=Z,18nm,0.5s								
PSZ	**Piszkesteto**	**4.43**	**146**	⇓*i*P		**Pn**	**17 39 08.4**	**+0.9**
PSZ	**Piszkesteto**	**4.43**	**146**	⇓*i*P		**Pn**	**17 39 08.4**	**+0.9**
KWP	**Kalwaria Pacla**	**4.62**	**113**	*e*Pn		**Pg**	**17 39 25.4**	**-2.1**
BLEU	**Blekinge**	**4.69**	**358**	P		**Pn**	**17 39 12.4**	**+1.5**
BLEU				S		**Sn**	**17 40 04.8**	**-1.1**
BLEU	**Blekinge**	**4.69**	**358**	P		**Pn**	**17 39 12.4**	**+1.5**
BLEU				S		**Sn**	**17 40 04.8**	**-1.1**
KOLS	**Kolonicke sedl**	**4.76**	**122**	*e*PN		**Pn**	**17 39 12.4**	**+0.5**
BJUU	**Bjuv**	**4.82**	**339**	P		**Pn**	**17 39 13.3**	**+0.6**
BJUU	**Bjuv**	**4.82**	**339**	P		**Pn**	**17 39 13.3**	**+0.6**
KBA	**Koelnbreinsper**	**4.92**	**203**	⇑*i*Pn		**Pn**	**17 39 14.8**	**+0.6**
KBA				⇑*i*Sg		**Sg**	**17 40 33.2**	**-3.6**
	comp=Z,10nm,0.4s								
KBA	**Koelnbreinsper**	**4.92**	**203**	Pn		**Pn**	**17 39 14.8**	**+0.6**
KBA				Sg		**Sg**	**17 40 33.2**	**-3.6**
	comp=Z,10nm,0.4s								
DEL	**Delary**	**5.03**	**345**	P		**Pn**	**17 39 16.4**	**+0.8**
DEL	**Delary**	**5.03**	**345**	P		**Pn**	**17 39 16.4**	**+0.8**
OSKU	**Oskarshamn**	**5.58**	**360**	P		**Pn**	**17 39 24.9**	**+1.9**
OSKU	**Oskarshamn**	**5.58**	**360**	P		**Pn**	**17 39 24.9**	**+1.9**
PKSM	**Moragy**	**5.66**	**162**	⇓*i*P		**Pn**	**17 39 24.8**	**+0.5**
PKSM	**Moragy**	**5.66**	**162**	⇓*i*P		**Pn**	**17 39 24.8**	**+0.5**
BYXU	**Byxelkrok**	**5.69**	**5**	P		**Pn**	**17 39 26.7**	**+2.1**
BYXU	**Byxelkrok**	**5.69**	**5**	P		**Pn**	**17 39 26.7**	**+2.1**
FABU	**Falkenberg**	**5.75**	**341**	P		**Pn**	**17 39 25.9**	**+0.5**
FABU	**Falkenberg**	**5.75**	**341**	P		**Pn**	**17 39 25.9**	**+0.5**
ASPU	**Aespoe**	**5.80**	**2**	P		**Pn**	**17 39 28.5**	**+2.3**
ASPU	**Aespoe**	**5.80**	**2**	P		**Pn**	**17 39 28.5**	**+2.3**
EKSU	**Eksjoe**	**5.97**	**356**	P		**Pn**	**17 39 30.1**	**+1.6**
EKSU	**Eksjoe**	**5.97**	**356**	P		**Pn**	**17 39 30.1**	**+1.6**
VSTU	**Vaestervik**	**6.05**	**2**	P		**Pn**	**17 39 32.0**	**+2.5**
VSTU	**Vaestervik**	**6.05**	**2**	P		**Pn**	**17 39 32.0**	**+2.5**
DAVOX	**Davos/Dischmat**	**6.36**	**223**	Pn		**Pn**	**17 39 36.9**	**+2.8**
	comp=Z,0.4nm,0.3s,baz=37,slow=10,SNR=3.6								
DAVOX				Lg		Lg	17 41 20.9		
	comp=Z,0.7nm,0.3s,baz=30,slow=20,SNR=3.8								
BURAR	**Bucovina Array**	**7.12**	**121**	⇑*i*P		**Pn**	**17 39 45.5**	**+1.1**
BURAR	**Bucovina Array**	**7.12**	**121**	⇑*i*P		**Pn**	**17 39 45.5**	**+1.1**
AKASG	**Malin Array Be**	**8.27**	**91**	Pn		**Pn**	**17 39 59.4**	**-0.5**
	comp=Z,1.3nm,0.3s,baz=280,slow=12,SNR=14								
HFS	**Hagfors**	**8.63**	**352**	Pn		**Pn**	**17 40 06.4**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=173,slow=13,SNR=6.1								
NOA	**NORSAR Array B**	**9.82**	**346**	Pn		**Pn**	**17 40 23.1**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=169,slow=12,SNR=2.6								
FINES	**FINESS Array B**	**11.24**	**25**	Pn		**Pn**	**17 40 40.8**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=214,slow=12,SNR=7.6								
FINES				Sn		**Sn**	**17 42 42.1**	**-4.7**
	comp=Z,0.2nm,0.3s,baz=210,slow=24,SNR=3.9								
EKA	**Eskdalemuir Ar**	**12.08**	**295**	Pn		Pn	17 40 48.8	-3.5
	baz=102,slow=14,SNR=4.3								
ARCES	**ARCESS Array B**	**18.50**	**10**	Pn		**P**	**17 42 14.6**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=195,slow=13,SNR=6.2								

ISCJB ***29*** *17:46:03.7±0.5, 16°.33N±0°.05×94°.99W±0°.03, h108km±4km, mb3.9/12, Error ellipse: s-maj=7.9km s-min=4.7km az=11.9*

IDC ***29*** *17:46:05.0±1.8, 16°.66N×94°.83W, h84km±7km, mb3.5/9, mb1 3.7/10, mb1mx3.6/30, mbtmp3.8/10, Error ellipse: s-maj=33.4km s-min=19.8km az=8.0*

MEX ***29*** *17:46:07.6±0.7, 16°.45N×95°.02W, h67km±16km, MD4.1*

NEIC ***29*** *17:46:07.6, 16°.45N×95°.02W, h67km, mb4.4/12, MD4.1(MEX), After MEX.*

ISC 29 17:46:04.2±0.7, 16°.47N±0°.05×94°.97W±0°.03, h85km±6km, n156, σ1s54/172, mb3.8/12, 60C-42D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMIG	**Matias Romero**	**0.62**	**7**	*i*P		**Pn**	**17 46 20.1**	**+0.5**
CMIG				*e*S		**Sn**	**17 46 30.8**	**-0.2**
CMIG	**Matias Romero**	**0.62**	**7**	P		**Pn**	**17 46 19.8**	**+0.2**
	972nm,0.3s,baz=198,slow=8.6,SNR=9027							
CMIG				S		**Sn**	**17 46 30.6**	**-0.4**
	545nm,0.3s,baz=288,slow=19,SNR=135							
CMIG	**Matias Romero**	**0.62**	**7**	*i*P		**Pn**	**17 46 20.1**	**+0.5**
CMIG				*e*S		**Sn**	**17 46 30.8**	**-0.2**
HUIG	**Huatulco**	**1.30**	**238**	*e*P		**Pn**	**17 46 27.2**	**-0.1**
HUIG				*e*S		**Sn**	**17 46 43.0**	**-1.6**
HUIG	**Huatulco**	**1.30**	**238**	*e*P		**Pn**	**17 46 27.2**	**-0.1**
HUIG				*e*S		**Sn**	**17 46 43.0**	**-1.6**
OXX	**Oaxaca**	**1.79**	**290**	*e*P		Pn	17 46 38.1	+4.4
OXX				*e*S		**Sn**	**17 46 59.7**	**+3.6**
OXX	**Oaxaca**	**1.79**	**290**	*e*P		Pn	17 46 38.1	+4.4
OXX				*e*S		**Sn**	**17 46 59.7**	**+3.6**
TGIG		**1.79**	**80**	*e*P		**Pn**	**17 46 35.5**	**+1.9**
TGIG				*e*S		**Sn**	**17 46 57.5**	**+1.6**
TGIG		**1.79**	**80**	*e*P		**Pn**	**17 46 35.5**	**+1.9**
TGIG				*e*S		**Sn**	**17 46 57.5**	**+1.6**
VHO	**Vista Hermosa**	**1.80**	**290**	*e*P		**Pn**	**17 46 35.3**	**+1.6**
VHO				*e*S		**Sn**	**17 46 57.0**	**+0.8**
VHO	**Vista Hermosa**	**1.80**	**290**	*e*P		**Pn**	**17 46 35.3**	**+1.6**
VHO				*e*S		**Sn**	**17 46 57.0**	**+0.8**
PCIG		**1.84**	**114**	*e*P		**Pn**	**17 46 37.0**	**+2.8**
PCIG				*e*S		**Sn**	**17 46 58.5**	**+1.5**
PCIG		**1.84**	**114**	*e*P		**Pn**	**17 46 37.0**	**+2.8**
PCIG				*e*S		**Sn**	**17 46 58.5**	**+1.5**
TPIG	**Tehuac#an**	**3.00**	**311**	*e*P		**Pn**	**17 46 50.8**	**+1.0**
TPIG				*e*S		**Sn**	**17 47 25.7**	**+0.8**
TPIG	**Tehuac#an**	**3.00**	**311**	*e*P		**Pn**	**17 46 50.8**	**+1.0**
TPIG				*e*S		**Sn**	**17 47 25.7**	**+0.8**
PNIG	**Pinotepa**	**3.04**	**269**	*e*P		**Pn**	**17 46 49.7**	**-0.5**
PNIG				*e*S		**Sn**	**17 47 23.8**	**-1.8**
PNIG	**Pinotepa**	**3.04**	**269**	*e*P		**Pn**	**17 46 49.7**	**-0.5**
PNIG				*e*S		**Sn**	**17 47 23.8**	**-1.8**
TLIG	**Tlapa**	**3.61**	**288**	*e*P		**Pn**	**17 46 59.5**	**+1.4**
TLIG				*e*S		**Sn**	**17 47 40.1**	**+0.4**
ACX	**Acapulco**	**4.71**	**276**	*e*P		**Pn**	**17 47 15.9**	**+3.1**
ACX				*e*S		**Sn**	**17 48 09.0**	**+2.7**
ACX	**Acapulco**	**4.71**	**276**	*e*P		**Pn**	**17 47 15.9**	**+3.1**
ACX				*e*S		**Sn**	**17 48 09.0**	**+2.7**
TEIG	**Tepich**	**7.37**	**59**	P		**Pn**	**17 47 48.2**	**-1.0**
	73nm,0.3s,baz=257,slow=0.8,SNR=139								
TEIG				S		**Sn**	**17 49 07.7**	**-3.6**
	43nm,0.3s,baz=74,slow=23,SNR=12								
TEIG	**Tepich**	**7.37**	**59**	*e*Pn		**Pn**	**17 47 47.8**	**-1.4**
TEIG				*e*Sn		**Sn**	**17 49 05.8**	**-5.5**
035A	**Encino**	**10.82**	**345**	⇑P		**Pn**	**17 48 37.5**	**+1.3**
	baz=11								
034A	**Hebbronville**	**11.09**	**343**	⇑P		**Pn**	**17 48 41.1**	**+1.2**
	baz=11								
934A	**Benavides**	**11.56**	**344**	⇓P		**Pn**	**17 48 48.3**	**+2.1**
	baz=12								
933A	**Laredo**	**11.79**	**341**	⇓P		**Pn**	**17 48 50.5**	**+1.2**
	baz=12								
835A	**Beeville**	**12.06**	**348**	⇓P		**Pn**	**17 48 55.0**	**+2.1**
	baz=12,SNR=6.2								
834A	**Tilden**	**12.06**	**345**	⇑P		**Pn**	**17 48 54.7**	**+1.6**
	baz=12								
833A	**Chaparral WMA,**	**12.49**	**342**	⇑P		**Pn**	**17 49 00.0**	**+1.3**
	baz=12,SNR=21								
735A	**Kenedy**	**12.60**	**349**	⇑P		**Pn**	**17 49 02.4**	**+2.1**
	baz=13								
832A	**Faith Ranch, C**	**12.64**	**339**	⇓P		**Pn**	**17 49 01.8**	**+1.0**
	baz=13								
734A	**La Parita Cree**	**12.76**	**346**	⇓P		**Pn**	**17 49 04.3**	**+1.9**
	baz=13								
733A	**Divot King Ran**	**12.83**	**343**	⇓P		**Pn**	**17 49 04.8**	**+1.4**
	baz=13								
732A	**Laxson Ranch,**	**13.04**	**340**	⇓P		**Pn**	**17 49 07.1**	**+0.8**
	baz=13								
635A	**Leesville**	**13.12**	**349**	⇓P		**Pn**	**17 49 08.6**	**+1.5**
	baz=13								
634A	**China Grove, S**	**13.22**	**347**	⇑P		**Pn**	**17 49 10.1**	**+1.5**
	baz=13								
633A	**Saathoff Ranch**	**13.50**	**344**	⇑P		**Pn**	**17 49 12.8**	**+0.6**
	baz=14,SNR=18								
535A	**Dale**	**13.71**	**350**	⇓P		**Pn**	**17 49 16.2**	**+1.3**
	baz=14								
632A	**Uvalde**	**13.71**	**342**	⇑P		**Pn**	**17 49 15.8**	**+0.7**
	baz=14,SNR=10								
534A	**Blanco**	**13.88**	**347**	⇑P		**Pn**	**17 49 18.1**	**+0.9**
	baz=14,SNR=126								
631A	**Perdido Creek**	**13.88**	**339**	⇑P		**Pn**	**17 49 17.3**	**+0.2**
	baz=14								
533A	**Kerrville**	**14.04**	**345**	⇓P		**Pn**	**17 49 20.8**	**+1.5**
	baz=14,SNR=16								
532A	**Rocksprings**	**14.33**	**342**	⇑P		**Pn**	**17 49 25.1**	**+2.0**
	baz=14,SNR=40								
435B	**Jarrell**	**14.45**	**351**	⇑P		**P**	**17 49 27.3**	**-1.6**
	baz=14,SNR=16								
531A	**Rocksprings**	**14.56**	**340**	⇑P		**P**	**17 49 28.4**	**-1.8**
	baz=15,SNR=9.4								
434A	**Burnet**	**14.60**	**349**	⇑P		**Pn**	**17 49 28.7**	**+2.2**
	baz=15,SNR=17								
JCT	**Junction City**	**14.63**	**343**	*e*Pn		Pn	17 49 22.3	-4.7
	12nm,0.6s								
JCT				*e*Sn		Sn	17 51 57.7	-10
JCT	**Junction City**	**14.63**	**343**	⇑P		**P**	**17 49 29.3**	**-1.7**
	baz=15								
433A	**Art**	**14.71**	**346**	⇓P		**Pn**	**17 49 30.0**	**+2.0**
	baz=15,SNR=38								
530A	**J-C Ranch, Com**	**14.82**	**338**	⇑P		**Pn**	**17 49 30.9**	**+1.6**
	baz=15								
335A	**Moody**	**14.92**	**352**	⇓P		**P**	**17 49 33.0**	**-1.1**
	baz=15,SNR=22								
336A	**Riesel**	**14.95**	**354**	⇑P		**P**	**17 49 33.6**	**-0.9**
	baz=15								
432A	**Menard**	**15.00**	**344**	⇓P		**Pn**	**17 49 33.4**	**+1.7**
	baz=15,SNR=8.7								
431A	**Sonora**	**15.06**	**341**	⇓P		**Pn**	**17 49 34.1**	**+1.7**
	baz=15								
334A	**Lometa**	**15.10**	**349**	⇓P		**P**	**17 49 35.6**	**-0.5**
	baz=15,SNR=15								
TXAR	**Lajitas Array**	**15.10**	**330**	P		**Pn**	**17 49 34.4**	**+1.5**
	0.1nm,0.3s,baz=150,slow=13,SNR=8.0								
TX31	**Lajitas Ar. Si**	**15.10**	**330**	*e*Pn		**Pn**	**17 49 31.6**	**-1.4**
333A	**Richland Sprin**	**15.24**	**347**	⇑P		**P**	**17 49 36.8**	**-0.9**
	baz=15,SNR=20								
430A	**Baggett Ranch,**	**15.36**	**339**	⇑P		**P**	**17 49 38.1**	**-1.0**
	baz=15								
429A	**Davenport Ranc**	**15.45**	**337**	⇓P		**Pn**	**17 49 37.8**	**+0.4**
	baz=16								
332A	**Millersview**	**15.47**	**345**	⇑P		**P**	**17 49 40.4**	**+0.1**
	baz=16,SNR=5.8								
331A	**San Angelo**	**15.59**	**342**	⇓P		**P**	**17 49 41.8**	**+0.2**
	baz=16								
WHTX	**Lake Whitney,**	**15.62**	**352**	*e*Pn		**Pn**	**17 49 40.7**	**+1.2**
	49nm,0.6s								
WHTX				*e*Sn		Sn	17 52 15.3	-17
WHTX	**Lake Whitney,**	**15.62**	**352**	⇑P		**P**	**17 49 42.7**	**+0.8**
	baz=16,SNR=12								
234A	**Clairette**	**15.73**	**350**	⇑P		**P**	**17 49 43.7**	**+0.5**
	baz=16,SNR=32								
233A	**Rising Star**	**15.89**	**348**	⇑P		**P**	**17 49 44.7**	**-0.2**
	baz=16								
330A	**Mertzon**	**15.91**	**340**	⇓P		**Pn**	**17 49 44.1**	**+0.9**
	baz=16								
232A	**Coleman**	**15.93**	**345**	⇓P		**P**	**17 49 45.9**	**+0.5**
	baz=16								
137A	**Heron Place, G**	**16.07**	**358**	⇓P		**P**	**17 49 48.0**	**+1.1**
	baz=16								
138A	**Matatall Enter**	**16.12**	**360**	⇑P		**P**	**17 49 49.3**	**+1.9**
	baz=16								
231A	**Bronte**	**16.15**	**343**	⇓P		**P**	**17 49 49.2**	**+1.4**
	baz=16								
135A	**Vickery Place,**	**16.17**	**353**	⇑P		**P**	**17 49 49.9**	**+1.9**
	baz=16								
134A	**White-Moore Ra**	**16.28**	**351**	⇓P		**P**	**17 49 50.5**	**+1.2**
	baz=16								
230A	**Sterling City**	**16.34**	**341**	⇑P		**P**	**17 49 51.4**	**+1.5**
	baz=16								
133A	**Hamilton Ranch**	**16.46**	**348**	⇑P		**P**	**17 49 52.7**	**+1.4**
	baz=16								
ABTX	**Abilene, Hawle**	**16.63**	**346**	*e*Pn		**P**	**17 49 53.8**	**+0.6**
	29nm,0.6s								
ABTX	**Abilene, Hawle**	**16.63**	**346**	⇓P		**P**	**17 49 55.0**	**+1.9**
	baz=17,SNR=6.9								
131A	**Roby**	**16.86**	**344**	⇑P		**P**	**17 49 58.7**	**+2.9**
	baz=17								
Z35A	**Perchaven, San**	**16.92**	**353**	⇑P		**P**	**17 49 58.8**	**+2.5**
	baz=17								
130A	**Snyder**	**16.95**	**342**	⇓P		**P**	**17 49 59.6**	**+2.8**
	baz=17								
Z34A	**Collier Ranch,**	**17.04**	**352**	⇑P		**P**	**17 49 59.1**	**+1.5**
	baz=17								
Z33A	**Whitaker Ranch**	**17.09**	**349**	⇓P		**P**	**17 50 00.6**	**+2.4**
	baz=17								
Z32A	**Haskell**	**17.25**	**347**	⇓P		**P**	**17 50 01.2**	**+1.2**
	baz=17								
Z31A	**Sharp Cattle R**	**17.42**	**345**	⇑P		**P**	**17 50 03.1**	**+1.3**
	baz=18,SNR=5.3								
128A	**Castleberry Fa**	**17.46**	**338**	⇑P		**P**	**17 50 03.6**	**+1.2**
	baz=18								
Y34A	**Regan Ranch,**	**17.59**	**352**	⇑P		**Pn**	**17 50 04.9**	**+1.0**
	baz=18								
Z30A	**Sanderson Ranc**	**17.65**	**343**	⇑P		**Pn**	**17 50 05.6**	**+1.0**
	baz=18,SNR=8.6								
Y33A	**Hilltop Ranch,**	**17.77**	**350**	⇑P		**Pn**	**17 50 06.4**	**+0.3**
	baz=18								
Z29A	**Hungry Hill Ra**	**17.79**	**341**	⇓P		Pn	17 50 13.3	+6.9
	baz=18								
MNTX	**Cornudas Mount**	**17.88**	**330**	⇑P		**P**	**17 50 07.0**	**+0.1**
	baz=18								
Y32A	**R-V Farms, Ver**	**17.92**	**348**	⇑P		**P**	**17 50 07.7**	**+0.3**
	baz=18								
X35A	**Drake**	**17.95**	**355**	⇓P		**Pn**	**17 50 08.7**	**+0.5**
	baz=18								
LRAL	**Lakeview Retre**	**18.00**	**22**	*e*P		**P**	**17 50 07.8**	**-0.4**
	4.7nm,0.8s								
LRAL				*e*S		Sn	17 53 09.6	-20
MIAR	**Mount Ida**	**18.05**	**4**	*e*P		**P**	**17 50 07.9**	**-0.8**
	3.9nm,0.5s								
MIAR				*e*S		Sn	17 53 14.0	-16
X37A	**Clayton**	**18.05**	**359**	⇑P		**Pn**	**17 50 09.7**	**+0.3**
	baz=18								
Y31A	**Rekieta Farm,**	**18.06**	**346**	⇑P		**Pn**	**17 50 10.6**	**+1.0**
	baz=18								
X36A	**Centrahoma**	**18.07**	**356**	⇓P		**Pn**	**17 50 09.9**	**+0.3**
	baz=18								
Y30A	**Stafford Cattl**	**18.14**	**344**	⇑P		**Pn**	**17 50 10.8**	**+0.3**
	baz=18								
X34A	**Smith Ranch, M**	**18.24**	**352**	⇑P		**Pn**	**17 50 12.7**	**+1.0**
	baz=18								
X33A	**Lawton**	**18.27**	**351**	⇓P		**Pn**	**17 50 12.5**	**+0.4**
	baz=18								
X32A	**Elmer**	**18.29**	**349**	⇑P		**Pn**	**17 50 12.8**	**+0.4**
	baz=18								
Y29A	**Porterfield Fa**	**18.34**	**342**	⇓P		**Pn**	**17 50 14.7**	**+1.7**
	baz=18,SNR=5.7								
WMOK	**Wichita Mounta**	**18.51**	**350**	*e*P		**P**	**17 50 13.7**	**-0.1**
	7.9nm,0.9s								
WMOK				*e*S		S	17 53 29.5	-11
W38A	**Poteau**	**18.53**	**1**	⇑P		**Pn**	**17 50 15.3**	**+0.2**
	baz=19								
Y28A	**McKinney Farm,**	**18.56**	**341**	⇑P		**Pn**	**17 50 16.8**	**+1.2**
	baz=19								
W37A	**Quinton**	**18.60**	**359**	⇑P		**Pn**	**17 50 15.9**	**0.0**
	baz=19								
W36A	**Wetumka**	**18.63**	**357**	⇑P		**P**	**17 50 15.6**	**+0.5**
	baz=19								
W35A	**Tecumseh**	**18.69**	**355**	⇑P		**P**	**17 50 16.5**	**+0.8**
	baz=19								
MSTX	**Muleshoe**	**18.79**	**339**	*e*P		**P**	**17 50 13.9**	**-3.1**
	5.1nm,0.6s								
W34A	**Bridge Creek,**	**18.86**	**353**	*e*P		**P**	**17 50 14.2**	**-3.4**
	27nm,0.8s								
W34A	**Bridge Creek,**	**18.86**	**353**	⇓P		**Pn**	**17 50 18.6**	**-0.5**
	baz=19								
W33A	**Caddo, Fort Co**	**18.87**	**351**	⇑P		**P**	**17 50 18.3**	**+0.5**
	baz=19								
X29A	**Tulia**	**18.89**	**343**	⇑P		**Pn**	**17 50 19.4**	**-0.2**
	baz=19								
W32A	**Sentinel**	**18.97**	**349**	⇓P		**P**	**17 50 19.4**	**+0.6**
	baz=19								
V35A	**Meyer Ranch, C**	**19.29**	**355**	⇓P		**P**	**17 50 22.3**	**0.0**
	baz=19								
AMTX	**Amarillo**	**19.30**	**343**	*e*P		**P**	**17 50 19.9**	**-2.6**
	12nm,0.7s								
AMTX	**Amarillo**	**19.30**	**343**	⇑P		**P**	**17 50 23.3**	**+0.7**
	baz=19								
TUL1	**Leonard**	**19.38**	**358**	⇑P		**P**	**17 50 23.3**	**0.0**
	baz=20								
V34A	**Guthrie**	**19.42**	**354**	*e*P		**P**	**17 50 23.6**	**-0.1**
	20nm,0.8s								
V34A	**Guthrie**	**19.42**	**354**	⇑P		**P**	**17 50 24.6**	**+0.8**
	baz=20								
V33A	**Lossen Ranch,**	**19.50**	**352**	⇑P		**P**	**17 50 25.7**	**+1.1**
	baz=20								
W29A	**Amarillo**	**19.51**	**343**	⇑P		**Pn**	**17 50 26.3**	**-0.6**
	baz=20								
V31A	**Spring Creek L**	**19.71**	**348**	⇓P		**Pn**	**17 50 29.0**	**-0.1**
	baz=20								
T35A	**Sooner Cattle**	**20.41**	**356**	⇓P		**P**	**17 50 34.0**	**-0.5**
	baz=20								
T36A	**Boggs Farm, Ca**	**20.53**	**358**	⇑P		**P**	**17 50 33.5**	**-2.2**
	baz=21								
T34A	**McClaskey Farm**	**20.57**	**355**	⇓P		**P**	**17 50 34.5**	**-1.6**
	baz=21								
T37A	**Cheneyville 18**	**20.57**	**0**	⇑P		**P**	**17 50 35.0**	**-1.2**
	baz=21								
PBMO	**Poplar Bluff**	**20.63**	**10**	*e*P		**P**	**17 50 35.9**	**-0.9**
T33A	**Patterson Ranc**	**20.74**	**353**	⇓P		**P**	**17 50 38.4**	**+0.4**
	baz=21								
T32A	**Huddler Ranch,**	**20.93**	**351**	⇓P		**P**	**17 50 41.1**	**+1.1**
	baz=21								
T31A	**Randall Ranch,**	**20.97**	**349**	⇓P		**P**	**17 50 40.4**	**-0.1**
	baz=21								
U27A	**Thompson Grove**	**21.06**	**342**	⇓P		**P**	**17 50 41.4**	**-0.2**
	baz=21								
ANMO	**Albuquerque**	**21.08**	**333**	P		**P**	**17 50 41.9**	**0.0**
	0.9nm,0.8s,baz=283,slow=14,SNR=2.8								
ANMO	**Albuquerque**	**21.08**	**333**	P		**P**	**17 50 40.2**	**-1.7**
S35A	**Otter Creek Ra**	**21.17**	**357**	⇑P		**P**	**17 50 42.2**	**-0.4**
	baz=21								
S36A	**Lake Cedric, C**	**21.18**	**359**	⇑P		**P**	**17 50 43.9**	**+1.2**
	baz=21								
TKL	**Tuckaleechee C**	**21.56**	**25**	P		**P**	**17 50 44.4**	**-2.4**
	1.6nm,0.4s,baz=187,slow=9.3,SNR=5.1								
R34A	**Isabella, Hill**	**21.84**	**355**	⇑P		**P**	**17 50 50.6**	**+0.8**
	baz=22								
WCI	**Wyandotte Cave**	**22.98**	**18**	*e*P		**P**	**17 50 58.9**	**-2.8**
	15nm,0.6s								
OLIL	**Olney**	**22.98**	**14**	*e*P		**P**	**17 50 58.2**	**-3.5**
P32A	**Huiting Farm,**	**23.29**	**353**	⇓P		**P**	**17 51 04.5**	**-0.1**
	baz=23								
R23A	**Moffat**	**23.66**	**338**	⇑P		**P**	**17 51 07.6**	**-0.7**
	baz=24								
JFWS	**Jewell Farm**	**26.66**	**8**	*e*P		**P**	**17 51 32.8**	**-2.3**
	11nm,0.6s								
ECSD	**EROS Data Cent**	**27.21**	**357**	*e*P		**P**	**17 51 37.5**	**-2.6**
PDAR	**Pinedale Array**	**29.03**	**338**	pP		pP	17 52 16.5	+0.5
	0.5nm,0.6s,baz=148,slow=8.6,SNR=3.8								
ELK	**Elko**	**29.89**	**328**	pP		pP	17 52 24.9	+1.3
	0.6nm,0.8s,baz=184,slow=6.9,SNR=2.2								
NVAR	**Mina Array Bea**	**29.97**	**321**	pP		pP	17 52 28.0	+3.6
	0.8nm,0.7s,baz=135,slow=8.6,SNR=6.0								
AGMN	**Agassiz Nation**	**31.75**	**359**	*e*P		**P**	**17 52 19.3**	**-0.9**
	8.0nm,0.8s								
YKA	**Yellowknife Ar**	**48.00**	**348**	P		**P**	**17 54 33.4**	**-1.0**
	0.7nm,0.6s,baz=155,slow=7.3,SNR=7.1								
YKA				p

comp=Z,92nm,0.7s
THZ Tophouse 22.49 173 PN **P** **18 07 20.5 +0.7**
LTZ Lake Taylor 23.43 174 PN **P** **18 07 28.7 +0.2**
PMG Port Moresby 23.54 292*d* iP **P** **18 07 30.4 +0.7**
PMG pmax pmax
comp=Z,363nm,0.8s
PMG Port Moresby 23.54 292 *e*P **P** **18 07 29.7 0.0**
comp=Z,90nm,0.8s
CAN Canberra 23.86 224 *e*P **P** **18 07 34.0 +1.5**
CAN pmax pmax
comp=Z,74nm,0.8s
CAN Canberra 23.86 224 *e*P **P** **18 07 34.0 +1.5**
comp=Z,74nm,0.8s
OXZ Oxford 23.95 175 PN **P** **18 07 33.5 +0.4**
RPZ Rata Peaks 24.27 177 P **P** **18 07 37.5 +1.5**
comp=Z,12nm,0.7s,baz=306,slow=1.1,SNR=12
RPZ Rata Peaks 24.27 177 *e*P **P** **18 07 37.2 +1.1**
comp=Z,23nm,0.8s
STKA Stephens Creek 27.72 238 P **P** **18 08 08.3 +1.1**
comp=Z,54nm,0.6s,baz=71,slow=9.2,SNR=118
STKA ScP **ScP** **18 14 49.8 +2.6**
comp=Z,5.9nm,1.0s,baz=111,slow=5.8,SNR=3.9
STKA LR LR 18 18 24.4
comp=Z,102nm,19.4s,baz=46,slow=34
STKA Stephens Creek 27.72 238 *e*P **P** **18 08 08.4 +1.1**
STKA pmax pmax
comp=Z,12nm,0.7s
STKA Stephens Creek 27.72 238 *e*P **P** **18 08 08.4 +1.1**
comp=Z,12nm,0.7s
JAY Jayapura 32.54 298 P **P** **18 08 50.6 +0.6**
comp=Z,20nm,0.8s
WRAB Tennant Creek 32.79 263 P **P** **18 08 51.5 -0.6**
comp=Z,227nm,1.2s,SNR=34
WRAB Tennant Creek 32.79 263*d* iP **P** **18 08 51.3 -0.8**
WRAB pmax pmax
comp=Z,109nm,1.1s
WRAB Tennant Creek 32.79 263 *e*P **P** **18 08 50.8 -1.3**
comp=Z,32nm,0.9s
WRA Warramunga Arr 32.80 263 P **P** **18 08 51.5 -0.7**
comp=Z,28nm,0.8s,baz=86,slow=8.5,SNR=90
WRA ScP **ScP** **18 15 05.7 +1.6**
comp=Z,4.7nm,0.9s,baz=86,slow=3.8,SNR=15
GENI Genyem 32.95 297 P **P** **18 08 54.0 +0.5**
comp=Z,154nm,1.2s,comp=Z,2µm
AS01 Alice Springs 33.01 256 *e*P **P** **18 08 53.2 -0.8**
AS31 Alice Springs 33.05 256 *e*P **P** **18 08 54.0 -0.4**
ASAR Alice Springs 33.05 256 P **P** **18 08 54.5 0.0**
comp=Z,127nm,0.6s,baz=85,slow=9.0,SNR=2294
ASAR S **S** **18 14 00.4 -1.9**
comp=Z,1.8nm,0.8s,baz=87,slow=17,SNR=5.4
ASAR ScP **ScP** **18 15 06.0 +1.1**
comp=Z,3.9nm,0.8s,baz=100,slow=3.8,SNR=16
ASAR LR LR 18 22 12.5
comp=Z,160nm,18.6s,baz=85,slow=36
ASAR P3KPbc 18 40 09.8
comp=Z,0.8nm,0.9s,baz=286,slow=3.8,SNR=5.7
SRPI Serui, Papua 36.67 294 P **P** **18 09 26.5 +1.1**
comp=Z,64nm,0.8s,comp=Z,3µm
RKPI Ransiki, Papua 38.63 293 P **P** **18 09 44.2 +2.3**
comp=Z,34nm,1.1s
PPT Papeete 39.07 94 P **P** **18 09 44.9 -0.6**
comp=Z,35nm,0.7s,baz=346,slow=1.5,SNR=3.3
FAKI Fak Fak 39.66 290 P **P** **18 09 49.9 -0.6**
comp=Z,83nm,0.9s,comp=Z,736nm
FAKI Fak Fak 39.66 290 *e*P **P** **18 09 49.5 -1.0**
comp=Z,56nm,0.8s
NLAI Namlea 44.14 286 P **P** **18 10 28.3 +1.4**
comp=Z,29nm,1.0s
SOEI Soe 44.43 276 P **P** **18 10 29.4 +0.1**
comp=Z,74nm,1.1s
SOEI Soe 44.43 276 *e*P **P** **18 10 30.2 +0.9**
comp=Z,55nm,0.9s
SANI Sanana 45.65 287 P **P** **18 10 41.3 +2.5**
comp=Z,30nm,1.2s
MBWA Marble Bar 46.29 259 *e*P **P** **18 10 43.9 +0.2**
comp=Z,96nm,1.0s
MMRI Maumere 46.68 276 P **P** **18 10 47.3 +0.4**
comp=Z,80nm,0.9s,comp=Z,927nm
MMRI Maumere 46.68 276 *e*P **P** **18 10 46.1 -0.8**
comp=Z,53nm,0.8s
BKSI Bulukumba 49.77 280 P **P** **18 11 11.1 +0.6**
comp=Z,27nm,0.9s,comp=Z,273nm
KAPI Kappang 50.22 280 P **P** **18 11 14.3 +0.3**
comp=Z,247nm,0.8s,SNR=9.0
KAPI Kappang 50.22 280 *e*P **P** **18 11 14.6 +0.6**
comp=Z,79nm,0.8s
SPSI Sidrap Palu 50.58 281 P **P** **18 11 16.5 -0.2**
comp=Z,23nm,0.9s
MPSI Mapaga 52.17 286 P **P** **18 11 28.9 +0.4**
comp=Z,19nm,0.9s
VNDA Vanda 58.24 182 P **P** **18 12 11.4 +0.4**
comp=Z,1.7nm,0.5s,baz=357,slow=8.4,SNR=22
VNDA Vanda 58.24 182 *e*P **P** **18 12 10.7 -0.3**
VNDA pmax pmax
comp=Z,8.0nm,1.3s
VNDA Vanda 58.24 182 *e*P **P** **18 12 10.7 -0.3**
comp=Z,8.0nm,1.3s
SBA Scott Base 58.48 181 *e*P **P** **18 12 13.8 +1.2**
SBA pmax pmax
comp=Z,22nm,0.9s
SBA Scott Base 58.48 181 *e*P **P** **18 12 13.8 +1.2**
comp=Z,22nm,0.9s
KSM Kuching 61.39 283 *e*P **P** **18 12 33.9 +0.3**
comp=Z,12nm,0.7s
CGJI Cibinong 62.87 272 P **P** **18 12 43.6 +0.1**
comp=Z,79nm,0.7s
MJAR Matsushiro Arr 62.91 332 P **P** **18 12 42.9 -0.3**
comp=Z,2.1nm,0.6s,baz=172,slow=8.7,SNR=13
MJAR pP **pP** **18 13 16.5 -2.4**
comp=Z,1.7nm,0.9s,baz=161,slow=1.9,SNR=3.9
MAT Matsushiro 62.91 332 P **P** **18 12 42.9 -0.3**
KASI Kota Agung 64.35 273 P **P** **18 12 53.1 0.0**
ASAJ Asahikawa 67.77 340 *e*P **P** **18 13 14.0 -0.3**
comp=Z,20nm,1.3s
KSRS Korea Array 68.64 326 P **P** **18 13 21.2 +1.3**
comp=Z,0.7nm,0.6s,baz=131,slow=4.5,SNR=4.2
KSAR Wonju Array Be 68.66 326 P **P** **18 13 21.2 +1.2**
KSAR Wonju Array Be 68.66 326 P **P** **18 13 21.2 +1.2**
QIZ Qiongzhong 69.65 300 P **P** **18 13 28.0 +1.5**
QIZ S **S** **18 22 24.5 +1.3**
QIZ PMZ
comp=Z,12nm,1.2s
YSS Yuzh-Sakhalins 70.25 341 *e*P **P** **18 13 31.0 +1.5**
YSS Yuzh-Sakhalins 70.25 341 *e*P **P** **18 13 30.6 +1.1**
comp=Z,10nm,1.2s
NJ2 Nanjing 70.32 316 *e*P **P** **18 13 31.5 +1.2**
NJ2 PMZ
comp=Z,50nm,0.8s
QSPA South Pole Qui 70.63 180 *e*P **P** **18 13 31.7 -0.1**
comp=Z,28nm,0.8s
USRK Ussuriysk Ar. 71.89 333 P **P** **18 13 40.7 +1.3**
comp=Z,1.7nm,0.7s,baz=114,slow=6.8,SNR=4.8
PSI Prapat 72.42 279 *e*P **P** **18 13 41.3 -2.2**
PSI Prapat 72.42 279 *e*P **P** **18 13 41.3 -2.2**
PEA0 Petropavlovsk- 72.92 353 *e*P **P** **18 13 46.5 +1.1**
PETK Petropavlovsk- 72.92 353 P **P** **18 13 46.5 +1.1**
comp=Z,9.0nm,0.8s,baz=161,slow=10,SNR=14
SKNT Sakolnakorn 73.59 295 P **P** **18 13 50.8 +0.7**
comp=Z,26nm,0.8s
CN2 Changchun 74.60 329 *e*P **P** **18 13 54.8 -0.6**
CN2 *ep*P **pP** **18 14 31.0 -1.2**
CN2 PMZ
comp=Z,10.0nm,0.6s
NONG Nongkai 74.79 296 P **P** **18 13 58.2 +1.2**
comp=Z,204nm,1.3s
GYA Guiyang 75.90 305 P **P** **18 14 05.0 +1.6**
GYA pP pP 18 14 46.8 +6.5
GYA sP sP 18 15 05.5 +9.3
GYA PP **PP** **18 17 00.3 +4.3**
GYA S **S** **18 23 33.3 -0.8**
GYA SKS **SKSac** **18 23 55.0 -5.3**
GYA PMZ
comp=Z,10.0nm,1.0s
GYA PMZ
comp=Z,120nm,5.0s
BJI Beijing 77.07 321 P **P** **18 14 11.8 +2.3**
BJI S **S** **18 23 49.0 +3.1**
BJI PMZ
comp=Z,9.0nm,0.8s
BJI PMZ
comp=Z,120nm,4.8s
BJI LN
comp=Z,120nm,17.3s
BJI LE
comp=Z,70nm,10.1s
BJI LZ
comp=Z,20nm,26.3s

CRAI Chiangrai 78.09 296 P **P** **18 14 14.2 -1.4**
comp=Z,8.0nm,1.1s
XAN Xi'an 78.22 313 P **P** **18 14 16.8 +0.7**
XAN PMZ
comp=Z,3.0nm,0.9s
MAW Mawson 78.25 202 P **P** **18 14 17.2 +1.6**
comp=Z,3.2nm,0.7s,baz=107,slow=4.2,SNR=3.6
KMI Kunming 78.35 302 P **P** **18 14 19.3 +2.1**
KMI pP **pP** **18 14 56.3 +2.0**
KMI sP **sP** **18 15 13.3 +3.1**
KMI PMZ
comp=Z,12nm,1.0s
CM01 Chiang Mai Arr 78.53 294 *e*P **P** **18 14 19.5 +1.5**
CM01 *e* 18 14 53.8
CM31 Chiang Mai Arr 78.56 294 *e*P **P** **18 14 18.7 +0.5**
comp=Z,8.0nm,1.0s
CMAR Chiang Mai Arr 78.56 294 P **P** **18 14 19.8 +1.6**
comp=Z,4.0nm,0.8s,baz=138,slow=5.0,SNR=27
CMAR pP **pP** **18 14 55.3 0.0**
comp=Z,2.8nm,1.0s,baz=124,slow=4.0,SNR=4.4
CMMT Chiang Mai 78.70 295 P **P** **18 14 20.5 +1.5**
comp=Z,15nm,1.2s
CHTO Chiang Mai 78.70 295 P **P** **18 14 20.6 +1.6**
comp=Z,53nm,1.5s
CHTO Chiang Mai 78.70 295 *e*P **P** **18 14 20.4 +1.4**
CHTO pmax pmax
comp=Z,8.0nm,0.8s
CHTO Chiang Mai 78.70 295 *e*P **P** **18 14 20.4 +1.4**
comp=Z,7.8nm,0.8s
CD2 Chengdu 80.33 308 *e*P **P** **18 14 29.5 +1.9**
CD2 pP pP 18 15 11.0 +6.2
CD2 sP sP 18 15 29.0 +8.3
CD2 PP **PP** **18 17 36.8 +4.0**
CD2 S **S** **18 24 20.5 -0.6**
CD2 SKS **SKSac** **18 24 27.0 -4.6**
CD2 sS sS 18 25 32.8 +7.3
CD2 SS **SS** **18 29 39.3 +2.9**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,140nm,5.2s
HHC Hu-ho-hao-te 80.34 319 *e*P P 18 14 31.0 +3.5
HHC PP PP 18 17 38.3 +5.5
HHC S **S** **18 24 21.3 +0.3**
HHC sS sS 18 25 36.5 +11
HHC SS **SS** **18 29 40.3 +3.9**
HHC PMZ
comp=Z,9.0nm,0.9s
HHC PMZ
comp=Z,54nm,9.9s
HHC LN
comp=Z,230nm,18.5s
HHC LE
comp=Z,320nm,18.5s
HHC LZ
comp=Z,220nm,18.5s
LZH Lanzhou 82.83 312 *e*P **P** **18 14 43.0 +2.2**
LZH pP pP 18 15 24.5 +6.3
LZH sP sP 18 15 40.0 +5.9
LZH PMZ
comp=Z,15nm,1.0s
SEY Seymchan 83.15 352 P **P** **18 14 42.0 +0.4**
SVW2 Sparrevohn 85.09 16 *e*P **P** **18 14 51.3 -0.1**
BRLK Bradley Lake 85.34 19 *e*P **P** **18 14 53.4 +0.7**
comp=Z,133nm,2.4s
KCPM Cahto Peak 85.88 46 *e*P **P** **18 14 56.1 +0.1**
comp=Z,18nm,0.8s
KMRM Mail Ridge 86.06 45 *e*P **P** **18 14 57.8 +1.0**
comp=Z,34nm,0.9s
PKM Mcpherson Peak 86.30 51 ⇓P **P** **18 14 59.2 +0.9**
baz=86
SMMC Simmler 86.35 51 ⇓P **P** **18 14 58.8 +0.5**
baz=86
KHMM Horse Mountain 86.37 44 *e*P **P** **18 14 59.3 +0.9**
comp=Z,27nm,0.8s
CIS Catalina Islan 86.69 53 ⇓P **P** **18 15 00.9 +0.8**
baz=87
PMSA Palmer Station 86.74 160 P **P** **18 14 59.5 -0.2**
comp=Z,28nm,0.8s,baz=113,slow=7.7
KEBM Edson Butte 86.96 42 P **P** **18 15 01.4 +0.2**
ULN Ulaanbaatar 87.00 323 *e*P P 18 15 06.7 +5.4
ULN pmax pmax
comp=Z,11nm,1.2s
ULN Ulaanbaatar 87.00 323 *e*P P 18 15 06.7 +5.4
comp=Z,11nm,1.2s
ULN *ep*P pP 18 15 41.4 +2.3
WDC Whiskeytown Da 87.01 45 *e*P **P** **18 15 01.8 +0.5**
WDC pmax pmax
comp=Z,17nm,1.0s
WDC Whiskeytown Da 87.01 45 *e*P **P** **18 15 01.8 +0.5**
comp=Z,16nm,1.0s
YAK Yakutsk 87.04 343 *e*P **P** **18 14 59.6 -1.3**
YAK *e**PP **pP** **18 15 36.9 -1.8**
YAK *e* 18 18 25.5
YAK *e*PPP PPP 18 20 21.9
YAK *e*S **SKSac** **18 25 06.6 -7.0**
YAK *e* 18 25 26.9
YAK *e*SS **SS** **18 31 11.5 -2.6**
YAK *e*SSS SSS 18 34 44.1
YAK pmax pmax
comp=Z,5.0nm,1.1s
YAK pmax pmax
comp=Z,64nm,4.4s
YAK pmax pmax
comp=N,45nm,3.1s
YAK pmax pmax
comp=E,31nm,2.7s
YAK smax smax
comp=N,20nm,2.0s
YAK smax smax
comp=E,22nm,2.5s
L02D Cave Junction, 87.08 43 ⇓P **P** **18 15 02.6 +0.9**
baz=87
N02D Trinity Center 87.09 45 ⇑P **P** **18 15 02.5 +0.6**
baz=87,SNR=15
DECC Green Verdugo 87.11 52 ⇑P **P** **18 15 02.3 +0.3**
baz=87
ARVC Arvin 87.12 51 ⇑P **P** **18 15 02.9 +0.8**
baz=87
M02C Callahan 87.20 44 ⇑P **P** **18 15 03.5 +1.1**
baz=87,SNR=12
GTA Gaotai 87.23 313 *e*P **P** **18 15 03.0 +0.4**
GTA PMZ
comp=E,4.0nm,0.7s
BILL Bilibino 87.24 359*d* iP **P** **18 15 01.8 0.0**
BILL *e* 18 18 30.7
BILL pmax pmax
comp=Z,9.0nm,1.2s
BILL Bilibino 87.24 359 *e*P **P** **18 15 01.0 -0.8**
BILL *ep*P **pP** **18 15 37.5 -2.1**
VES Vestal, Richgr 87.25 51 ⇓P **P** **18 15 02.5 -0.1**
baz=87
CMB Columbia Colle 87.30 48 *e*P **P** **18 15 03.0 +0.1**
CMB pmax pmax
comp=Z,18nm,0.8s
CMB Columbia Colle 87.30 48 *e*P **P** **18 15 03.0 +0.1**
comp=Z,18nm,0.8s
SONM Songino Array 87.35 323 P **P** **18 15 03.5 +0.5**
comp=Z,3.0nm,0.7s,baz=152,slow=5.4,SNR=27
SONM pP **pP** **18 15 39.1 -1.7**
comp=Z,3.2nm,0.8s,baz=149,slow=3.6,SNR=6.9
SONM PKKPbc **PKKPbc** **18 32 52.3 -2.2**
comp=Z,0.8nm,0.7s,baz=291,slow=3.3,SNR=5.9
SONA1 Songino Array 87.36 323 *e*P **P** **18 15 02.9 -0.1**
SONA1 *e* 18 15 39.0
YBH Yreka Blue Hor 87.45 44 P **P** **18 15 04.7 +1.1**
comp=Z,14nm,0.9s,baz=168,slow=1.5,SNR=25
YBH Yreka Blue Hor 87.45 44 *e*P **P** **18 15 04.6 +1.1**
YBH pmax pmax
comp=Z,15nm,0.9s
YBH Yreka Blue Hor 87.45 44 *e*P **P** **18 15 04.6 +1.0**
comp=Z,15nm,0.9s
109C Camp Elliot, M 87.46 54 ⇑P **P** **18 15 03.9 +0.2**
baz=88
BFSC Mount Baldy Ra 87.61 53 ⇑P **P** **18 15 04.4 -0.1**
baz=88,SNR=5.2
ISA Isabella, Lake 87.62 51 *e*P **P** **18 15 04.6 +0.1**
ISA pmax pmax
comp=Z,21nm,0.8s
ISA Isabella, Lake 87.62 51 *e*P **P** **18 15 04.6 +0.1**
comp=Z,20nm,0.8s
ISA Isabella, Lake 87.62 51 ⇑P **P** **18 15 04.9 +0.4**
baz=88,SNR=17
EDW2 Edwards Air Fo 87.64 52 ⇓P **P** **18 15 04.8 +0.2**
baz=88,SNR=8.9
MURC Murrieta 87.69 53 ⇑P **P** **18 15 04.6 -0.2**
baz=88,SNR=5.4
HUMO Hull Mountain 87.72 43 *e*P **P** **18 15 05.2 +0.5**
comp=Z,19nm,0.9s
MONP Monument Peak, 87.98 54 ⇓P **P** **18 15 06.5 +0.1**
baz=88,SNR=8.5
I03D Drain, OR 88.00 42 ⇓P **P** **18 15 06.8 +0.8**
baz=88
M04C Macdoel 88.05 44 ⇑P **P** **18 15 06.9 +0.4**
baz=88,SNR=6.0
LRMC Laurel Mtn Rad 88.12 51 ⇓P **P** **18 15 06.5 -0.4**
baz=88
IBP Imperial Bould 88.14 54 ⇓P **P** **18 15 07.1 +0.1**
baz=88
WAKR Walker 88.18 48 *e*P **P** **18 15 07.8 +0.5**
TIN Tinemaha, Big 88.40 50 ⇑P **P** **18 15 08.7 +0.5**
baz=88
TRF Thorofare Moun 88.45 17 *e*P **P** **18 15 05.0 -2.8**
comp=Z,4.7nm,0.8s
SWSC Sam W. Stewart 88.48 54 ⇓P **P** **18 15 09.2 +0.7**
baz=89
K04D Chiloquin, OR 88.50 44 ⇑P **P** **18 15 09.5 +0.9**
baz=89
MPMC Manual Prospec 88.51 51 ⇓P **P** **18 15 09.0 +0.2**
baz=89,SNR=14
DAC Darwin (Calif) 88.53 51 *e*P **P** **18 15 09.1 +0.2**
DAC pmax pmax
comp=Z,11nm,1.1s
DAC Darwin (Calif) 88.53 51 *e*P **P** **18 15 09.1 +0.2**
comp=Z,11nm,1.1s
J04D Umpqua Nationa 88.57 43 ⇑P **P** **18 15 09.2 +0.2**
baz=89,SNR=6.3
NVL N'lazarevskaya 88.67 187 *e*P **P** **18 15 06.6 -2.1**
NVL pmax pmax
comp=Z,5.0nm,0.5s
GSC Goldstone, Bar 88.70 52 ⇓P **P** **18 15 09.9 +0.3**
baz=89
BELC Belle Mtn. Jos 88.76 53 ⇓P **P** **18 15 10.0 0.0**
baz=89,SNR=7.3
G03D McMinnville, O 88.79 41 ⇑P **P** **18 15 10.3 +0.6**
baz=89
RND Reindeer 88.81 18 *e*P **P** **18 15 07.4 -2.0**
RND Reindeer 88.81 18 *e*P **P** **18 15 07.4 -2.0**
HEC Hector,Ludlow 88.86 52 ⇓P **P** **18 15 10.7 +0.4**
baz=89,SNR=8.1
NV01 Mina Array Sit 88.95 49 *e*P **P** **18 15 11.2 +0.3**
NVAR Mina Array Bea 88.95 49 P **P** **18 15 11.4 +0.5**
comp=Z,8.3nm,0.9s,baz=228,slow=7.7,SNR=40
SNAA Sanae 88.97 183 P P 18 15 05.9 -4.4
SNAA Sanae 88.97 183 *e*P P 18 15 05.9 -4.4
SNAA pmax pmax
comp=Z,28nm,1.5s
SNAA Sanae 88.97 183 *e*P P 18 15 05.9 -4.4
comp=Z,28nm,1.5s
GRAC Grapevine Rang 89.00 50 ⇑P **P** **18 15 12.1 +1.2**
baz=89
BC3 Big Chuckawall 89.03 54 ⇑P **P** **18 15 12.1 +0.8**
baz=89
K05A Summer Lake 89.11 44 *e*P **P** **18 15 12.3 +0.8**
comp=Z,27nm,0.9s
FURC Furnace Creek, 89.15 51 ⇑P **P** **18 15 11.7 +0.2**
baz=89,SNR=12
J05D Fort Rock, OR 89.15 43 ⇑P **P** **18 15 12.6 +1.0**
baz=89
H04A Detroit Lake 89.20 42 *e*P **P** **18 15 11.8 +0.1**
comp=Z,25nm,1.0s
BWN Browne 89.24 17 *e*P **P** **18 15 09.8 -1.5**
comp=Z,11nm,0.8s
GLA Glamis 89.27 55 *e*P **P** **18 15 12.9 +0.6**
GLA pmax pmax
comp=Z,22nm,1.1s
GLA Glamis 89.27 55 *e*P **P** **18 15 12.8 +0.6**
comp=Z,22nm,1.1s
GLA Glamis 89.27 55 ⇓P **P** **18 15 12.9 +0.6**
baz=89
GMRC Granite Mounta 89.34 53 ⇑P **P** **18 15 12.7 +0.1**
baz=90,SNR=6.8
F04D Rainier, OR 89.37 40 ⇑P **P** **18 15 13.5 +1.1**
baz=90
TUQ Turquoise Moun 89.41 52 ⇓P **P** **18 15 13.3 +0.3**
baz=90
IRM Iron Mountain 89.47 53 ⇑P **P** **18 15 13.4 +0.2**
baz=90,SNR=9.2
TPH Tonopah 89.56 49 *e*P **P** **18 15 14.0 +0.3**
TPH pmax pmax
comp=Z,16nm,1.1s
TPH Tonopah 89.56 49 *e*P **P** **18 15 14.0 +0.3**
comp=Z,16nm,1.1s
I05D Terrebonne, OR 89.58 42 ⇑P **P** **18 15 14.3 +0.8**
baz=90
MLY Manley 89.58 16 *e*P **P** **18 15 12.2 -0.8**
IM04 Indian Mountai 89.61 14 *e*P **P** **18 15 12.1 -0.9**
PINOR Pine Mountain 89.63 43 *e*P **P** **18 15 14.8 +1.2**
BBB Bella Bella 89.65 33 P **P** **18 15 14.0 +0.6**
comp=Z,10nm,0.8s,baz=199,slow=9.1,SNR=3.2
F04A Amboy 89.66 40 *e*P **P** **18 15 14.6 +0.9**
comp=Z,27nm,0.8s
Y12C Blythe 89.78 54 ⇓P **P** **18 15 15.0 +0.4**
baz=90,SNR=6.2
TPNV Topopah Spring 89.79 51 *e*P **P** **18 15 15.5 +0.7**
TPNV pmax pmax
comp=Z,22nm,0.8s
TPNV Topopah Spring 89.79 51 *e*P **P** **18 15 15.5 +0.7**
comp=Z,22nm,0.8s
TPNV Topopah Spring 89.79 51 ⇑P **P** **18 15 15.5 +0.7**
baz=90,SNR=35
FL2 Flat Top 2 89.83 40 P **P** **18 15 15.7 +1.0**
WRH Wood River Hil 89.85 17 *e*P **P** **18 15 12.8 -1.4**
comp=Z,3.2nm,0.9s
VNA2 Neumayer--Watz 89.86 181 P **P** **18 15 14.0 -0.4**
baz=182,slow=3.9
ERK Elk Rock 89.89 40 P **P** **18 15 16.0 +1.1**
TDL Tradedollar La 89.98 40 P **P** **18 15 16.2 +0.8**
G05D Wamic, OR 90.01 41 ⇓P **P** **18 15 15.8 +0.4**
baz=90
WRAK Wrangell Islan 90.03 28 *e*P **P** **18 15 15.2 +0.1**
comp=Z,14nm,0.8s
HDA Harding Lake 90.12 18 *e*P **P** **18 15 14.8 -0.6**
comp=Z,6.9nm,0.9s
VNA1 Neumayer--Stat 90.14 181 P **P** **18 15 15.2 -0.4**
MDM Murphy Dome 90.19 17 *e*P **P** **18 15 14.3 -1.5**
COLA College 90.23 17⇓ *e*P **P** **18 15 14.4 -1.5**
COLA pmax pmax
comp=Z,33nm,0.9s
COLA College 90.23 17 *e*P **P** **18 15 14.3 -1.6**
comp=Z,8.9nm,0.9s
BESE Bessie Mountai 90.27 26 *e*P **P** **18 15 16.4 +0.1**
comp=Z,13nm,0.4s
PDMCI Parker Dam,Lak 90.29 54 ⇑P **P** **18 15 18.0 +1.1**
baz=90
214A Organ Pipe Nat 90.41 56 *e*P **P** **18 15 18.0 +0.5**
comp=Z,20nm,1.2s
214A Organ Pipe Nat 90.41 56 ⇓P **P** **18 15 18.1 +0.5**
baz=90,SNR=9.5
SHPR Sheep Range 90.41 51 *e*P **P** **18 15 18.1 +0.5**
ILAR Eielson Array 90.42 17 P **P** **18 15 15.2 -1.6**
comp=Z,3.5nm,0.8s,baz=236,slow=5.7,SNR=42
ILAR LR LR 18 49 07.4
comp=Z,23nm,20.1s,baz=178,slow=31
IL1 Eielson Array 90.42 17 *e*P **P** **18 15 14.7 -2.1**
ZAK Zakamensk 90.43 324 *e*P **P** **18 15 16.1 -1.2**
ZAK pmax pmax
comp=Z,2.0nm,1.9s
VTHM Trough 90.46 42 P **P** **18 15 18.2 +0.6**
WVOR Wild Horse Val 90.47 45 *e*P **P** **18 15 18.3 +0.6**
WVOR pmax pmax
comp=Z,20nm,1.0s
WVOR Wild Horse Val 90.47 45 *e*P **P** **18 15 18.3 +0.6**
comp=Z,20nm,1.0s
D05A Emunclaw 90.52 39 *e*P **P** **18 15 19.1 +1.4**
comp=Z,42nm,1.1s
WPW White Pass 90.55 40 P **P** **18 15 18.5 +0.5**
BMN Battle Mountai 90.56 47 *e*P **P** **18 15 18.6 +0.3**
BMN pmax pmax
comp=Z,15nm,1.0s
BMN Battle Mountai 90.56 47 *e*P **P** **18 15 18.6 +0.3**
comp=Z,15nm,1.0s
I07A Izee 90.63 43 *e*P **P** **18 15 19.1 +0.7**
SKAG Skagway 90.63 25 *e*P **P** **18 15 17.6 -0.3**
SCRK Sand Creek 90.67 19 *e*P **P** **18 15 17.4 -0.8**
comp=Z,4.9nm,0.8s
HYT Haines Junctio 90.68 23 *e*P **P** **18 15 17.1 -1.1**
R11A Troy Canyon, C 90.85 49 *e*P **P** **18 15 19.7 0.0**
R11A Troy Canyon, C 90.85 49 ⇓P **P** **18 15 20.0 +0.4**
baz=91
TRW Toppenish Ridg 90.98 41 P **P** **18 15 20.9 +1.0**
USHA Ushuaia 91.29 151 P **P** **18 15 22.3 +1.1**
comp=Z,11nm,0.8s,baz=349,slow=5.2,SNR=2.5

LTY	**Liberty**	**91.35**	**40**	*e*P		**P**	**18 15 22.1**	**+0.5**
	comp=Z,9.5nm,1.0s							
COLD	**Coldfoot**	**91.47**	**15**	*e*P		**P**	**18 15 21.6**	**0.0**
	comp=Z,5.9nm,1.0s							
G08A	**Pilot Rock**	**91.52**	**42**	*e*P		**P**	**18 15 23.2**	**+0.7**
HAWA	**Hanford**	**91.65**	**41**	*e*P		**P**	**18 15 23.9**	**+0.9**
	comp=Z,16nm,0.9s							
ELK	**Elko**	**92.07**	**47**	P		**P**	**18 15 25.6**	**+0.2**
	comp=Z,2.8nm,0.9s,baz=251,slow=2.5,SNR=11							
ELK	**Elko**	**92.07**	**47**	*e*P		**P**	**18 15 25.7**	**+0.3**
ELK	**Elko**	**92.07**	**47**	*e*P		**P**	**18 15 25.7**	**+0.3**
EGAK	**Eagle**	**92.11**	**19**	*e*P		**P**	**18 15 23.5**	**-1.1**
	comp=Z,5.3nm,0.8s							
TUC	**Tucson**	**92.13**	**57**	*e*P		**P**	**18 15 26.5**	**+0.9**
TUC	**Tucson**	**92.13**	**57**	*e*P		**P**	**18 15 26.5**	**+0.9**
DLBC	**Dease Lake**	**92.22**	**27**	P		**P**	**18 15 25.9**	**+0.4**
	comp=Z,9.8nm,0.9s,baz=239,slow=4.4,SNR=16							
DLBC	**Dease Lake**	**92.22**	**27**	*e*P		**P**	**18 15 25.3**	**-0.1**
KNB	**Kanab**	**92.34**	**52**	*e*P		**P**	**18 15 27.8**	**+1.2**
KNB					pmax	pmax		
	comp=Z,10.0nm,0.9s							
KNB	**Kanab**	**92.34**	**52**	*e*P		**P**	**18 15 27.8**	**+1.2**
	comp=Z,9.5nm,0.9s							
B08A	**Colville Reser**	**92.65**	**39**	*e*P		**P**	**18 15 27.7**	**+0.1**
MFID	**Camas Ranch**	**92.75**	**45**	*e*P		**P**	**18 15 28.7**	**+0.4**
	comp=Z,6.2nm,0.9s							
WUAZ	**Wupatki**	**92.86**	**53**	*e*P		**P**	**18 15 29.8**	**+0.8**
	comp=Z,12nm,1.1s							
WUAZ	**Wupatki**	**92.86**	**53**	⇓P		**P**	**18 15 29.8**	**+0.8**
	baz=93							
MVU	**Marysvale**	**93.35**	**50**	*e*P		**P**	**18 15 32.6**	**+1.3**
	comp=Z,2.2nm,0.8s							
MSU	**Marysvale**	**93.38**	**50**	*e*P		**P**	**18 15 31.9**	**+0.5**
MSU	**Marysvale**	**93.38**	**50**	*e*P		**P**	**18 15 31.9**	**+0.5**
DUG	**Dugway, Tooele**	**93.55**	**49**	*e*P		**P**	**18 15 31.7**	**-0.4**
DUG					pmax	pmax		
	comp=Z,5.0nm,0.3s							
DUG	**Dugway, Tooele**	**93.55**	**49**	*e*P		**P**	**18 15 31.7**	**-0.4**
	comp=Z,5.2nm,0.3s							
DUG	**Dugway, Tooele**	**93.55**	**49**	⇓P		**P**	**18 15 32.3**	**+0.2**
	baz=94							
HLID	**Hailey**	**93.75**	**45**	*e*P		**P**	**18 15 32.8**	**-0.2**
	comp=Z,4.1nm,0.9s							
HLID	**Hailey**	**93.75**	**45**	⇓P		**P**	**18 15 33.6**	**+0.6**
	baz=94							
NEW	**Newport**	**93.94**	**40**	P		**P**	**18 15 33.0**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=310,slow=7.9,SNR=2.7							
W18A	**Petrified Fore**	**93.96**	**54**	⇓P		**P**	**18 15 34.4**	**+0.2**
	baz=94							
HVU	**Hansel Valley**	**94.18**	**47**	*e*P		**P**	**18 15 34.5**	**-0.4**
HVU					pmax	pmax		
	comp=Z,9.0nm,1.1s							
HVU	**Hansel Valley**	**94.18**	**47**	*e*P		**P**	**18 15 34.5**	**-0.4**
	comp=Z,8.9nm,1.1s							
121A	**Cookes Peak, D**	**94.58**	**57**	⇑P		**P**	**18 15 37.8**	**+0.7**
	baz=95							
HWUT	**Hardware Ranch**	**94.96**	**48**	*e*P		**P**	**18 15 38.0**	**-0.6**
HWUT				*e*			18 16 15.7	
BSMT	**Bassoo Peak**	**95.20**	**41**	*e*P		**P**	**18 15 39.6**	**0.0**
DLMT	**Dillon**	**95.65**	**44**	*e*P		**P**	**18 15 40.5**	**-1.0**
MNTX	**Cornudas Mount**	**96.23**	**59**	*e*P		**P**	**18 15 45.3**	**+0.9**
	comp=Z,16nm,2.3s							
MNTX	**Cornudas Mount**	**96.23**	**59**	⇓P		**P**	**18 15 44.7**	**+0.3**
	baz=96							
BOZ	**Bozeman (W)**	**96.38**	**44**	*e*P		**P**	**18 15 44.3**	**-0.6**
BOZ					pmax	pmax		
	comp=Z,16nm,1.4s							
BOZ	**Bozeman (W)**	**96.38**	**44**	*e*P		**P**	**18 15 44.3**	**-0.6**
	comp=Z,16nm,1.4s							
ANMO	**Albuquerque**	**96.43**	**55**	P		**P**	**18 15 45.4**	**0.0**
	comp=Z,1.2nm,0.7s,baz=238,slow=4.5,SNR=4.8							
ANMO	**Albuquerque**	**96.43**	**55**	*e*P		**P**	**18 15 45.3**	**-0.1**
ANMO					pmax	pmax		
	comp=Z,11nm,1.1s							
ANMO	**Albuquerque**	**96.43**	**55**	*e*P		**P**	**18 15 45.7**	**+0.3**
	comp=Z,2.2nm,0.9s							
H17A	**Grant Village**	**96.64**	**45**	*e*P		P	18 15 41.8	-4.4
	comp=Z,7.5nm,0.9s							
PDAR	**Pinedale Array**	**96.76**	**47**	LR		LR	18 54 43.7	
	comp=Z,16nm,19.0s,baz=236,slow=32							
TX31	**Lajitas Ar. Si**	**96.88**	**61**	*e*P		**P**	**18 15 47.8**	**+0.3**
TXAR	**Lajitas Array**	**96.88**	**61**	P		**P**	**18 15 48.1**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=231,slow=4.9,SNR=9.9							
TXAR				LR		LR	18 49 46.4	
	comp=Z,20nm,21.8s,baz=0.0,slow=29							
WMQ	**Urumqi**	**97.31**	**314**	*e*P		Pdif	18 15 50.0	+0.9
WMQ				pP		pP	18 16 30.8	+3.7
WMQ				sP		sP	18 16 47.8	+5.0
WMQ				S		**S**	**18 26 55.3**	**-4.8**
WMQ				sS		sS	18 28 06.3	-0.3
WMQ				SS		**SS**	**18 33 40.5**	**-1.8**
WMQ				PMZ				
	comp=Z,12nm,0.5s							
WMQ				PMZ				
	comp=Z,94nm,6.4s							
WMQ				LN				
	comp=Z,20nm,20.2s							
WMQ				LE				
	comp=Z,24nm,21.8s							
WMQ				LZ				
	comp=Z,25nm,22.2s							
YKA	**Yellowknife Ar**	**100.85**	**27**	P		**Pdif**	**18 16 05.2**	**+1.0**
	comp=Z,1.8nm,0.8s,baz=254,slow=4.7,SNR=15							
YKB5	**Yellowknife Ar**	**100.85**	**27**	*e*P		**Pdif**	**18 16 05.1**	**+0.9**
MKAR	**Makanchi Array**	**101.85**	**315**	P		**Pdif**	**18 16 10.9**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=110,slow=5.0,SNR=6.2							
MKAR				PP		**PP**	**18 20 23.3**	**+1.0**
	comp=Z,0.6nm,0.9s,baz=116,slow=9.8,SNR=4.6							
MKAR				PKKPbc		**PKKPbc**	**18 32 12.2**	**-3.3**
	comp=Z,0.4nm,0.6s,baz=282,slow=3.9,SNR=5.5							
MKAR	**Makanchi Array**	**101.85**	**315**	*i* P		**Pdif**	**18 16 11.1**	**+1.9**
DGMT	**Dagmar**	**102.09**	**43**	*e*P		**Pdif**	**18 16 05.0**	**-5.1**
BVAR	**Borovoye Array**	**110.54**	**320**	PKiKP		**PKiKP**	**18 20 46.8**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=132,slow=2.1,SNR=3.8							
BVAR				SKP			18 24 08.5	
	comp=Z,0.4nm,0.6s,baz=156,slow=4.0,SNR=3.9							
BRVK	**Borovoye**	**110.61**	**320**	*c* PKiKP		**PKiKP**	**18 20 47.5**	**+0.1**
BRVK				pmax		pmax		
	comp=Z,1.0nm,0.7s							
ARU	**Arti**	**117.37**	**324**	*i* PKiKP		**PKPdf**	**18 20 59.5**	**-0.8**
ARU							18 22 11.2	
ARU							18 27 36.8	
ARU				PS		PKKPdf	18 31 43.9	-9.2
ARU				SS		SS	18 38 04.9	-7.5
ARCES	**ARCESS Array B**	**125.24**	**345**	PKP		**PKPdf**	**18 21 14.6**	**-0.4**
	comp=Z,2.3nm,0.6s,baz=40,slow=1.9,SNR=26							
ARCES				pPKP		**pPKPdf**	**18 21 52.7**	**-2.1**
	comp=Z,1.2nm,0.6s,baz=70,slow=2.1,SNR=2.8							
KLMR	**Klimovskoe**	**125.69**	**332**	*e*PKiKP		**PKPdf**	**18 21 11.9**	**-4.2**
KLMR							18 21 53.1	
KLMR				pmax		pmax		
	comp=Z,9.0nm,1.4s							
PQI	**Presque Isle**	**126.27**	**46**	*e*PKPdf		**PKPdf**	**18 21 15.4**	**-2.3**
KIV	**Kislovodsk**	**129.37**	**311**	⇑*i* PKiKP		**PKPdf**	**18 21 25.7**	**+1.9**
KIV				*i*			18 22 06.2	
KIV				*e*			18 23 39.7	
KIV				pmax		pmax		
	comp=Z,3.0nm,1.0s							
BDFB	**Brasilia**	**129.45**	**131**	PKP		**PKPdf**	**18 21 24.0**	**-0.8**
	comp=Z,6.2nm,0.8s,baz=159,slow=4.0,SNR=7.3							
BDFB	**Brasilia**	**129.45**	**131**	PKiKP		**PKPdf**	**18 21 24.0**	**-0.8**
FINES	**FINESS Array B**	**130.75**	**338**	SKPbc		**SKPbc**	**18 24 35.0**	**-0.9**
	comp=Z,8.2nm,0.9s,baz=86,slow=3.2,SNR=23							
AKASG	**Malin Array Be**	**135.63**	**324**	PKP		**PKPdf**	**18 21 34.9**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=55,slow=1.8,SNR=6.2							
AKASG				pPKP		**pPKPdf**	**18 22 13.0**	**-2.0**
	comp=Z,0.2nm,0.4s,baz=66,slow=2.6,SNR=1.8							
AKASG				SKPbc		**SKPbc**	**18 24 53.0**	**+0.2**
	comp=Z,3.1nm,0.7s,baz=45,slow=4.0,SNR=26							
KIEV	**Kiev**	**135.64**	**324**	⇓*i* PKiKP		**PKPdf**	**18 21 34.6**	**-0.6**
BRTR	**Keskin Array B**	**136.91**	**308**	PKP		**PKPdf**	**18 21 39.2**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=126,slow=1.7,SNR=3.9							
BRTR				SKPbc		**SKPbc**	**18 24 57.9**	**+0.7**
	comp=Z,1.3nm,1.0s,baz=98,slow=3.7,SNR=5.0							
KOLS	**Kolonicke sedl**	**140.37**	**326**	*e*PKiKP		**PKPdf**	**18 21 44.9**	**+0.9**
KOLS	**Kolonicke sedl**	**140.37**	**326**	*e*PKP		**PKPdf**	**18 21 44.9**	**+0.9**
DPC	**Dobruska-Polom**	**142.38**	**331**	*e*PKP		**PKPdf**	**18 21 45.5**	**-2.1**
DPC	**Dobruska-Polom**	**142.38**	**331**	*e*PKiKP		**PKPdf**	**18 21 45.5**	**-2.1**
BRG	**Berggiesshubel**	**143.03**	**334**	*e*(P)		**PKPdf**	**18 21 48.0**	**-0.7**
	comp=Z,12nm,1.8s							
BRG	**Berggiesshubel**	**143.03**	**334**	*e*PKiKP		**PKPdf**	**18 21 48.0**	**-0.7**
BRG				pmax		pmax		
	comp=Z,13nm,1.8s							
CLL	**Collm**	**143.07**	**335**	*e*PKPdf		PKPbc	18 21 46.0	-0.1
CLL				*e*			18 25 03.0	
CLL				*e*(SKPdf)			18 25 14.0	
	comp=Z,8.0nm,1.4s							
CLL	**Collm**	**143.07**	**335**	*e*PKiKP		PKPbc	18 21 46.0	-0.1
GOPC	**GO Pecny, Ondr**	**143.38**	**332**	*e*PKP		**PKPdf**	**18 21 48.2**	**-1.2**
PRU	**Pruhonice**	**143.43**	**332**	*e*PKP		**PKPdf**	**18 21 48.3**	**-1.1**
PRU	**Pruhonice**	**143.43**	**332**	*e*PKiKP		**PKPdf**	**18 21 48.3**	**-1.1**
TANN	**Tannenbergstha**	**143.98**	**335**	*e*PKPdf		PKPbc	18 21 48.8	0.0
IBBN	**Ibbenburen**	**144.13**	**341**	*e*PKPdf		PKPbc	18 21 49.2	+0.2
NKC	**Novy Kostel**	**144.13**	**334**	*e*PKP		PKPbc	18 21 49.3	+0.1
NKC	**Novy Kostel**	**144.13**	**334**	*e*PKiKP		PKPbc	18 21 49.3	+0.1
CONA	**Conrad Observa**	**144.29**	**329**	⇑*i* PKPdf		PKPbc	18 21 50.3	+0.5
	comp=Z,12nm,1.3s,SNR=5.6							
KHC	**Kasperske Hory**	**144.49**	**332**	*e*PKP		PKPbc	18 21 50.3	0.0
KHC				*ep*PKP		pPKPdf	18 22 28.7	-2.5
KHC	**Kasperske Hory**	**144.49**	**332**	*e*PKiKP		PKPbc	18 21 50.3	0.0
ROTZ	**Rotzenmuhle**	**144.59**	**334**	*e*PKPdf		PKPbc	18 21 50.9	+0.3
ROTZ				*ep*PKPdf		pPKPdf	18 22 28.9	-2.4
UBBA	**Unterbreizbach**	**144.61**	**337**	*ep*PKPdf		pPKPdf	18 22 28.9	-2.2
GEC2	**GERESS Array S**	**144.64**	**332**	*e*PKPdf		**PKPab**	**18 21 50.8**	**0.0**
GEC2				*ep*PKPdf		**pPKPdf**	**18 22 29.1**	**-2.4**
RCBR	**Riachuelo**	**144.77**	**133**	PKP		**PKPab**	**18 21 50.6**	**-1.5**
	comp=Z,42nm,0.8s,baz=222,slow=5.2,SNR=18							
ARSA	**Arzberg**	**144.92**	**328**	⇑*i* PKPdf		**PKPab**	**18 21 51.9**	**+0.2**
	comp=Z,11nm,1.3s,SNR=7.2							
GRF	**Grafenberg Arr**	**145.05**	**335**	*ep*PKPdf		pPKPdf	18 22 29.4	-2.7
MOA	**Molln**	**145.11**	**330**	*i* PKPdf		**PKPdf**	**18 21 52.7**	**+0.2**
	comp=Z,17nm,0.7s,SNR=14							
PERS	**Pernice**	**145.54**	**328**	*e*PKPbc		**PKPdf**	**18 21 53.5**	**+0.2**
SOKA	**Soboth**	**145.56**	**328**	⇑*i* PKPab		**PKPbc**	**18 21 53.8**	**0.0**
	comp=Z,7.4nm,0.7s,SNR=7.3							
TNS	**Taunus Mts**	**145.67**	**338**	*ep*PKPdf		pPKPdf	18 22 31.5	-1.7
RJOB	**Jochberg**	**145.87**	**331**	*e*PKPdf		**PKPbc**	**18 21 55.0**	**+0.3**
RJOB				*ep*PKPdf		**pPKPdf**	**18 22 33.4**	**-0.2**
KBA	**Koelnbreinsper**	**146.10**	**330**	⇑*i* PKPbc		**PKPdf**	**18 21 54.1**	**-0.3**
	comp=Z,5.5nm,0.9s							
MEM	**Membach**	**146.15**	**341**	PKP		**PKPab**	**18 21 58.5**	**+2.2**
FUR	**Furstenfeldbru**	**146.22**	**333**	*e*PKPdf		**PKPab**	**18 21 56.4**	**-0.2**
BOJS	**Bojanci**	**146.24**	**326**	*e*PKPbc		**PKPbc**	**18 21 56.2**	**+0.4**
BOJS				*ep*PKPbc		pPKPbc	18 22 33.4	-1.6
LJU	**Ljubljana**	**146.25**	**328**	*e*PKPbc		**PKPbc**	**18 21 56.0**	**+0.2**
BCLA	**Clavier**	**146.53**	**341**	PKPbc		**PKPbc**	**18 21 56.5**	**0.0**
STU	**Stuttgart**	**146.58**	**336**	*e*PKPdf		**PKPbc**	**18 21 56.6**	**-0.1**
ABTA	**Abfaltersbach**	**146.73**	**330**	⇑PKPdf		**PKPdf**	**18 21 54.8**	**-0.5**
	comp=Z,6.3nm,0.6s							
MOTA	**Moosalm**	**146.92**	**332**	*i* PKPbc		**PKPbc**	**18 21 57.7**	**-0.2**
	comp=Z,11nm,0.9s,SNR=8.7							
WLF	**Walferdange**	**146.92**	**340**	PKPab		**PKPab**	**18 21 58.5**	**-0.8**
WLF	**Walferdange**	**146.92**	**340**	*e*PKPdf		**PKPab**	**18 21 58.6**	**-0.7**
WLF	**Walferdange**	**146.92**	**340**	*e*PKP2		**PKPbc**	**18 21 57.8**	**+0.2**
WLF	**Walferdange**	**146.92**	**340**	*e*PKPbc		**PKPbc**	**18 21 57.8**	**+0.2**
WLF				*ep*PKPdf		**pPKPdf**	**18 22 36.4**	**+1.1**
BFO	**Black Forest**	**147.28**	**336**	*e*PKPdf		**PKPbc**	**18 21 58.5**	**-0.2**
BFO	**Black Forest**	**147.28**	**336**	*e*PKPdf		**PKPdf**	**18 21 53.8**	**-2.4**
BFO				*e*PKPbc		**PKPbc**	**18 21 58.1**	**-0.6**
BFO				*ep*PKPdf		**pPKPdf**	**18 22 36.9**	**+0.9**
FETA	**Feichten**	**147.33**	**332**	*i* PKPbc		**PKPbc**	**18 21 58.8**	**-0.2**
	comp=Z,11nm,0.9s,SNR=6.9							
TUE	**Stuetta**	**148.36**	**333**	*e*PKPbc		**PKPbc**	**18 22 01.4**	**-0.4**
TUE				*ep*PKPdf		**pPKPdf**	**18 22 40.1**	**+2.0**
TIP	**Timpagrande**	**149.14**	**316**	*e*PKPbc		**PKPbc**	**18 22 04.1**	**+0.3**
TIP				*ep*PKPdf		**pPKPdf**	**18 22 40.9**	**+1.6**
AQU	**L'Aquila**	**149.32**	**323**	*e*PKP2		**PKPbc**	**18 22 03.1**	**-1.1**
AQU	**L'Aquila**	**149.32**	**323**	*e*PKPbc		**PKPbc**	**18 22 03.1**	**-1.1**
BNI	**Bardonecchia**	**150.61**	**334**	*e*PKiKP		**PKPdf**	**18 22 02.0**	**+0.2**
BNI				*e*			18 22 44.2	
BNI	**Bardonecchia**	**150.61**	**334**	*e*PKPdf		**PKPdf**	**18 22 02.0**	**+0.2**
BNI				*e*PKPbc		**PKPbc**	**18 22 06.8**	**+0.5**
BNI				*ep*PKPdf		**pPKPdf**	**18 22 44.2**	**+2.6**
TORD	**Torodi Ar. Bea**	**166.49**	**244**	PKP		**PKPdf**	**18 22 20.5**	**-0.7**
	comp=Z,1.4nm,0.9s,baz=96,slow=0.4,SNR=6.3							
TORD				PKPab		**PKPab**	**18 23 24.0**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=115,slow=4.1,SNR=4.2							

*GUC **29** 18:16:02.9±0.6, 35°.33S×70°.51W, h12km±4km, ML4.0*
*ISCJB **29** 18:16:04.9±0.7, 35°.37S±0°.04×70°.57W±0°.07, h10km, Error ellipse: s-maj=9.7km s-min=4.8km az=31.1*
*SJA **29** 18:16:06.3±0.7, 35°.69S×69°.64W, h121km±19km, ML3.5*

ISC 29 18:16:04.9±1.2, **35°.28S**±0°.05×**70°.68W**±0°.08, **h10km**, **n21**, σ1§**52**/25, **Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.79**	**261**	*e*P	**Pb**	**18 16 21.0**	**+0.3**
LNCH	**Linares**	**0.94**	**233**	*e*P	**Pb**	**18 16 22.9**	**-0.4**
CACH	**El Canelo**	**1.17**	**3**	*e*P	**Pb**	**18 16 25.6**	**-1.6**
CHCH	**Chadas Angostu**	**1.35**	**1**	*e*P	**Pn**	**18 16 28.8**	**-1.0**
LNV	**Longovilo**	**1.46**	**335**	*e*P	**Pb**	**18 16 31.5**	**-0.6**
RCDM	**Rinconada Maip**	**1.79**	**357**	*e*P	**Pn**	**18 16 36.3**	**+0.4**
RCDM				*e*S	**Sg**	**18 17 01.5**	**-1.0**
CLCH	**Cerro Calan**	**1.89**	**4**	*e*P	**Pn**	**18 16 37.9**	**+0.7**
CLCH				*e*S	**Sb**	**18 17 04.0**	**+0.9**
CLCH				AML	AML	18 17 17.5	
	comp=N,757nm,0.7s						
COCH	**Cobquecura**	**1.92**	**243**	*e*P	**Pb**	**18 16 38.6**	**-1.3**
COCH				*e*S	**Sg**	**18 17 05.7**	**-0.7**
PEL	**Peldehue**	**2.13**	**360**	*e*P	**Pn**	**18 16 41.6**	**+1.0**
PEL				*e*S	**Sb**	**18 17 10.8**	**+0.6**
PEL				AML	AML	18 17 18.4	
	comp=E,3μm,0.6s						
ROCH	**El Roble**	**2.32**	**353**	*e*P	**Pb**	**18 16 45.3**	**-1.7**
ROCH				*e*S	**Sb**	**18 17 17.4**	**+1.6**
ROCH				AML	AML	18 17 21.4	
	comp=N,1μm,0.4s						
CANA	**Caviahue**	**2.62**	**187**	*i* P	**Pn**	**18 16 47.1**	**-0.3**
CANA				AML	AML	18 17 28.6	
AAGR	**Agrelo**	**2.67**	**35**	*i* P	**Pn**	**18 16 49.7**	**+1.6**
ARCO	**CERRO ARCO**	**2.83**	**31**	*i* P	**Pn**	**18 16 53.0**	**+2.6**
ARCO				AML	AML	18 17 36.8	
	comp=Z,150nm,0.3s						
ASAL	**Salagasta**	**3.09**	**30**	*i* P	**Pn**	**18 16 55.7**	**+1.9**
AUSP	**Uspallata**	**3.23**	**20**	*i* P	**Pb**	**18 17 00.2**	**-2.3**
RTLS	**Leoncito**	**3.66**	**19**	*i* P	Pb	18 17 06.3	-3.5
RTCV	**Cerro Valdivia**	**3.85**	**28**	*i* P	**Pn**	**18 17 06.2**	**+1.9**
CFAA	**Coronel Fontan**	**4.20**	**30**	*i* P	**Pn**	**18 17 10.1**	**+1.1**
RTLL	**Cerro Villicun**	**4.35**	**26**	*i* P	**Pn**	**18 17 13.8**	**+2.6**
AMOG	**MOGNA**	**4.70**	**24**	*i* P	**Pn**	**18 17 18.2**	**+2.2**
AVFE	**Valle Fertil**	**5.35**	**31**	*i* P	**Pn**	**18 17 24.8**	**-0.1**
AVFE				AML	AML	18 18 57.7	
	comp=Z,20nm,0.7s						

*IDC **29** 18:20:55.0±3.8, 60°.09S×22°.96W, h0km, mb4.0/3, mb1 4.0/3, mb1mx3.8/26, mbtmp3.9/3, Error ellipse: s-maj=285.6km s-min=31.8km az=100.0*

ISC 29 18:20:55.9±1.8, **60°.0S**±0°.2×**23°.6W**±0°.6, **h10km**, **n9**, σ0§**51**/5, **mb3.9**/3, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**12.38**	**156**	P	Pn	18 24 03.1	+11
SNAA	**Sanae**	**14.32**	**153**	P	**P**	**18 24 25.8**	**+0.1**
VNDA	**Vanda**	**42.66**	**182**	P	**P**	**18 28 52.1**	**+0.2**
	0.6nm,0.6s,baz=196,slow=5.1,SNR=4.1						
H10S2	**ASCENSION HYDR**	**51.41**	**11**	T	T	19 25 43.7	
	baz=188						
H10S3	**ASCENSION HYDR**	**51.41**	**11**	T	T	19 25 44.5	
	baz=188						
H10S1	**ASCENSION HYDR**	**51.42**	**11**	T	T	19 25 44.8	
	baz=188						
TORD	**Torodi Ar. Bea**	**75.72**	**25**	P	**P**	**18 32 41.6**	**+0.3**
	1.0nm,0.3s,baz=196,slow=6.3,SNR=28						
ASAR	**Alice Springs**	**94.60**	**159**	P	**P**	**18 34 16.5**	**-0.3**
	0.5nm,1.0s,baz=191,slow=3.9,SNR=4.2						
SONM	**Songino Array**	**148.93**	**90**	PKPbc	**PKPbc**	**18 40 42.4**	**-0.5**
	0.5nm,0.5s,baz=225,slow=2.8,SNR=5.6						

*IDC **29** 18:22:15.0±5.2, 14°.20N×90°.12W, h176km±35km, mb3.7/8, mb1 3.8/10, mb1mx3.4/39, mbtmp4.1/10, Error ellipse: s-maj=49.9km s-min=25.6km az=157.0*
*ISCJB **29** 18:22:17.8±0.5, 14°.36N±0°.08×90°.43W±0°.07, h200km, mb3.8/8, Error ellipse: s-maj=13.1km s-min=5.4km az=40.7*
*CASC **29** 18:22:18.4±2.0, 14°.19N×90°.44W, h189km±13km, MD3.6*

ISC 29 18:22:18.2±0.7, **14°.29N**±0°.09×**90°.41W**±0°.07, **h200km**, **n28**, σ1§**59**/34, **mb4.0/8**, **1C**, **Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NBG	**Las Nubes**	**0.30**	**12**	*e*P	**Pn**	**18 22 45.5**	**+0.5**
RBDL	**Robledal**	**0.72**	**104**	*e*P	**Pn**	**18 22 45.9**	**-0.6**
RBDL				*e*S	**Sn**	**18 23 07.8**	**-0.5**

RTR	**El Retiro**	**0.84**	**118**	*e*P		**Pn**	**18 22 46.8**	**-0.3**
SBLS	**San Blas**	**0.89**	**120**	*e*P		**Pn**	**18 22 47.2**	**-0.3**
SNJE	**San Jose**	**0.89**	**118**	*e*P		**Pn**	**18 22 47.2**	**-0.2**
MRL	**Marmol**	**1.04**	**42**	⇑*e*P		**Pn**	**18 22 48.9**	**+0.5**
MRL				*e*S		**Sn**	**18 23 11.3**	**-0.6**
JAT	**Jato**	**1.19**	**272**	*e*P		**Pn**	**18 22 49.8**	**+0.6**
JAT				*e*S		**Sn**	**18 23 10.0**	**-3.3**
LBRS	**Las Brisas**	**1.44**	**112**	*e*P		**Pn**	**18 22 51.5**	**+0.1**
LFRS	**El Faro**	**1.47**	**117**	*e*P		**Pn**	**18 22 51.6**	**-0.1**
TGUH	**Tegucigalpa,Un**	**3.05**	**94**	*e*P		**Pn**	**18 23 08.1**	**-0.3**
COPN	**Copaltepe**	**4.27**	**119**	*e*P		**Pn**	**18 23 24.2**	**+0.8**
COPN				*e*S		**Sn**	**18 24 15.2**	**+0.7**
CMIG	**Matias Romero**	**5.13**	**303**	P		**Pn**	**18 23 33.3**	**-0.9**
	3.7nm,0.3s,baz=133,slow=8.8,SNR=40							
CMIG				S		Sn	18 24 26.9	-7.4
	4.3nm,0.3s,baz=280,slow=21,SNR=14							
VCR	**Vista de Mar**	**6.24**	**131**	*e*P		**Pn**	**18 23 50.7**	**+2.0**
VCR				*e*S		**Sn**	**18 24 56.0**	**-4.3**
JCR	**Jicaral**	**6.80**	**130**	*e*P		**Pn**	**18 23 58.0**	**+2.1**
JCR				*e*S		**Sn**	**18 25 11.8**	**-1.8**
CGA2	**Cerro Gallo 2**	**7.20**	**125**	*e*P		**Pn**	**18 24 03.3**	**+2.1**
URSC	**Urasca**	**7.85**	**124**	*e*P		**Pn**	**18 24 12.1**	**+2.3**
TXAR	**Lajitas Array**	**19.35**	**323**	P		**P**	**18 26 31.2**	**+2.4**
	0.3nm,0.3s,baz=142,slow=10.0,SNR=9.1							
TKL	**Tuckaleechee C**	**22.10**	**14**	P		**P**	**18 26 57.9**	**+0.6**
	7.0nm,0.5s,baz=179,slow=10.0,SNR=24							
ANMO	**Albuquerque**	**25.15**	**328**	P		**P**	**18 27 27.0**	**+1.8**
	0.5nm,0.2s,baz=305,slow=17,SNR=8.9							
SADO	**Sadowa**	**31.86**	**15**	P		**P**	**18 28 22.6**	**-1.7**
	3.1nm,0.4s,baz=219,slow=9.2,SNR=7.2							
NVAR	**Mina Array Bea**	**34.44**	**319**	P		**P**	**18 28 49.0**	**+2.0**
	0.7nm,0.5s,baz=134,slow=8.8,SNR=9.1							
ULM	**Lac du Bonnet**	**36.14**	**354**	P		**P**	**18 28 59.7**	**-1.3**
	4.3nm,0.5s,baz=171,slow=8.8,SNR=6.8							
SCHQ	**Schefferville**	**44.43**	**19**	P		**P**	**18 30 08.5**	**-0.5**
	4

HAPS				*e*Sn	**Sb**	19 03 48.0	+0.9	**PDO**	**Prodromos**	0.93	350
HAPS	**Han Pijesak,BI**	1.79	340	*e*Pn	**Pn**	19 03 22.8	+0.2	PDO			
HAPS				*e*Sn	**Sb**	19 03 48.0	+0.9	**PDO**	**Prodromos**	0.93	350
FNA	**Florina**	2.00	144	*e*PN	**Pb**	19 03 27.7	0.0	**PDO**	**Prodromos**	0.93	350
FNA	**Florina**	2.00	144	*e*Pn	**Pb**	19 03 27.7	0.0	**PDO**	**Prodromos**	0.93	350
TEKS	**Tekeris**	2.15	355	*e*Pg	**Pb**	19 03 30.4	+0.1	PDO			
TEKS	**Tekeris**	2.15	355	*e*Pg	**Pb**	19 03 30.4	+0.1	**PVO**	**Paravola**	0.94	7
NEST	**Nestorio**	2.20	155	*e*PN	**Pg**	19 03 34.9	+2.1	PVO			
NEST	**Nestorio**	2.20	155	*e*Pn	**Pg**	19 03 34.9	+2.1	**PVO**	**Paravola**	0.94	7
ZAPS	**Zavoj**	2.25	66	*e*Pn	**Pb**	19 03 29.9	-2.0	PVO			
ZAPS	**Zavoj**	2.25	66	*e*Pn	**Pb**	19 03 29.9	-2.0	**DSF**	**Desfina**	1.16	51
GRG	**Griva**	2.42	126	*e*PN	**Pn**	19 03 32.1	+0.9	DSF			
GRG	**Griva**	2.42	126	*e*Pn	**Pn**	19 03 32.1	+0.9	**DSF**	**Desfina**	1.16	51
KNT	**Kendrikon**	2.62	117	*e*PN	**Pn**	19 03 34.8	+0.9	**DSF**	**Desfina**	1.16	51
KNT	**Kendrikon**	2.62	117	*e*Pn	**Pn**	19 03 34.8	+0.9	DSF			
SRS	**Serrai**	3.11	113	*e*PB	**Pn**	19 03 40.6	0.0	**DSF**	**Desfina**	1.16	51
SRS	**Serrai**	3.11	113	*e*Pb	**Pn**	19 03 40.6	0.0	DSF			
BZS	**Buzias**	3.46	21	*e*Pn	**Pn**	19 03 46.2	+0.8	**LKD2**	**Lefkada island**	1.24	333
BZS	**Buzias**	3.46	21	*e*Pn	**Pn**	19 03 46.2	+0.8	LKD2			
UDBI	**Udbina**	3.63	307	*e*Pn	Pn	19 03 51.3	+3.4	**LKD2**	**Lefkada island**	1.24	333
UDBI				Sn	**Sb**	19 04 35.7	-4.3	**LKD2**	**Lefkada island**	1.24	333
UDBI	**Udbina**	3.63	307	*e*Pn	Pn	19 03 51.2	+3.4	LKD2			
UDBI				Sn	**Sb**	19 04 35.6	-4.3	**LKD2**	**Lefkada island**	1.24	333
NVLJ	**Novalja**	4.19	303	*e*Pn	**Pn**	19 03 57.4	+1.9	LKD2			
NVLJ				Sn	**Sn**	19 04 48.5	+3.5	**EVR**	**Evrytania**	1.28	15
NVLJ	**Novalja**	4.19	303	*e*Pn	**Pn**	19 03 57.3	+1.9	**EVR**	**Evrytania**	1.28	15
NVLJ				Sn	**Sn**	19 04 48.4	+3.5	**LTK**	**Loutraki**	1.30	74
								LTK			
								LTK	**Loutraki**	1.30	74
								LTK			
								LTK	**Loutraki**	1.30	74
								LTK			
								LTK	**Loutraki**	1.30	74
								LTK			
								DSL	**Palaion Diasel**	1.47	351
								DSL	**Palaion Diasel**	1.47	351
								DSL	**Palaion Diasel**	1.47	351
								DSL	**Palaion Diasel**	1.47	351
								AXAR	**Agios Charalam**	1.48	43
								AXAR	**Agios Charalam**	1.48	43
								AXAR	**Agios Charalam**	1.48	43
								AXAR	**Agios Charalam**	1.48	43
								AXAR	**Agios Charalam**	1.48	43
								DID	**Didima**	1.49	96
								DID			
								DID	**Didima**	1.49	96
								DID	**Didima**	1.49	96
								DID	**Didima**	1.49	96
								DID			
								AGG	**Agios Georgios**	1.53	29
								AGG			
								AGG	**Agios Georgios**	1.53	29
								AGG	**Agios Georgios**	1.53	29
								AGG			
								AGG	**Agios Georgios**	1.53	29
								AGG			
								VIL2	**Platees**	1.58	70
								LKR	**Lokris**	1.60	52
								LKR			
								LKR	**Lokris**	1.60	52
								LKR			
								LKR	**Lokris**	1.60	52
								LKR			
								VILL			
								VILL	**Villia**	1.60	72
								NAIG	**Nisos Aigina**	1.68	87
								NAIG	**Nisos Aigina**	1.68	87
								SMIA	**Simia**	1.87	50
								SMIA			
								SMIA	**Simia**	1.87	50
								SMIA	**Simia**	1.87	50
								ATH	**Athens Observa**	1.87	80
								ATH	**Athens Observa**	1.87	80
								ATH	**Athens Observa**	1.87	80
								ATH	**Athens Observa**	1.87	80
								ATH	**Athens Observa**	1.87	80
								KYTH	**Kithira**	1.93	136
								THL	**Plokotos Trika**	1.94	15
								THL	**Klokotos Trika**	1.94	15
								PTL	**Penteli**	2.00	79
								PTL	**Penteli**	2.00	79
								PTL	**Penteli**	2.00	79
								PTL	**Penteli**	2.00	79
								JAN	**Janina**	2.01	348
								JAN	**Janina**	2.01	348
								MRKA	**Markates**	2.02	59
								MRKA			
								MRKA	**Markates**	2.02	59
								MRKA	**Markates**	2.02	59
								IGT	**Igoumenitsa**	2.02	336
								IGT	**Igoumenitsa**	2.02	336
								IGT	**Igoumenitsa**	2.02	336
								IGT	**Igoumenitsa**	2.02	336
								IGT	**Igoumenitsa**	2.02	336
								SGD	**Sagiada**	2.12	335
								SGD	**Sagiada**	2.12	335
								SGD	**Sagiada**	2.12	335
								NEO	**Neokhori**	2.17	41
								NEO	**Neokhori**	2.17	41
								NEO	**Neokhori**	2.17	41
								NEO	**Neokhori**	2.17	41
								NEO	**Neokhori**	2.17	41
								XOR	**Xorichti**	2.20	40
								XOR			
								XOR	**Xorichti**	2.20	40
								XOR	**Xorichti**	2.20	40
								XOR	**Xorichti**	2.20	40
								XOR			
								KEK	**Kerkira**	2.38	329
								KEK	**Kerkira**	2.38	329
								ANKY	**Antikythira Is**	2.38	139
								ANKY	**Antikythira Is**	2.38	139
								SRN	**Sarande**	2.44	334
								SRN			
								SRN	**Sarande**	2.44	334
								AOS	**Alonnisos**	2.46	52
								AOS	**Alonnisos**	2.46	52
								LIT	**Litokhoron**	2.57	19
								LIT			
								LIT	**Litokhoron**	2.57	19
								LIT	**Litokhoron**	2.57	19
								LIT			
								LIT	**Litokhoron**	2.57	19
								LIT	**Litokhoron**	2.57	19
								LIT			
								KZN	**Kozani**	2.64	7
								KZN	**Kozani**	2.64	7
								NEST	**Nestorio**	2.74	355
								NEST	**Nestorio**	2.74	355
								PAIG	**Paliouri**	2.87	38
								PAIG	**Paliouri**	2.87	38
								FNA	**Florina**	3.10	360
								FNA	**Florina**	3.10	360
								FNA	**Florina**	3.10	360
								FNA	**Florina**	3.10	360
								PLG	**Polygyros**	3.13	30
								PLG	**Polygyros**	3.13	30
								PLG	**Polygyros**	3.13	30
								PLG	**Polygyros**	3.13	30
								PLG	**Polygyros**	3.13	30
								VLO	**Vlora**	3.15	333
								VLO			
								THE	**Thessaloniki**	3.19	22
								THE	**Thessaloniki**	3.19	22
								HORT	**Hortiatis**	3.20	24
								HORT	**Hortiatis**	3.20	24
								HORT	**Hortiatis**	3.20	24
								HORT	**Hortiatis**	3.20	24
								OUR	**Ouranopolis**	3.33	37
								OUR	**Ouranopolis**	3.33	37
								OUR	**Ouranopolis**	3.33	37
								OUR	**Ouranopolis**	3.33	37
								APE	**Apeiranthos**	3.36	99
								APE	**Apeiranthos**	3.36	99
								APE	**Apeiranthos**	3.36	99
								APE	**Apeiranthos**	3.36	99
								APE	**Apeiranthos**	3.36	99
								APE	**Apeiranthos**	3.36	99
								GRG	**Griva**	3.37	13
								GRG	**Griva**	3.37	13
								OHR	**Ohrid**	3.45	353
								OHR	**Ohrid**	3.45	353
								SOH	**Sokhos**	3.49	25
								SOH	**Sokhos**	3.49	25
								SANT	**Santorini**	3.52	111
								SANT			
								SANT	**Santorini**	3.52	111
								SANT			
								GVD	**Gavdhos**	3.58	142
								GVD	**Gavdhos**	3.58	142
								KNT	**Kendrikon**	3.67	18
								KNT	**Kendrikon**	3.67	18
								KNT	**Kendrikon**	3.67	18
								KNT	**Kendrikon**	3.67	18
								KNT	**Kendrikon**	3.67	18
								IDI	**Anoyia**	3.70	129
								IDI	2.6nm,0.3s,baz=306,slow=15,SNR=24		Sn
								IDI	11nm,0.3s,baz=273,slow=1.6,SNR=5.1		LR
								IDI	comp=Z,912nm,18.6s,baz=318,slow=43		LR
								LIA	**Limnos Island**	3.71	52
								LIA	**Limnos Island**	3.71	52
								LIA	**Limnos Island**	3.71	52
								VAY	**Valandovo**	3.75	14
								VAY			
								VAY	comp=E,443nm,1.0s		
								VAY	comp=N,658nm,1.2s		
								VAY	**Valandovo**	3.75	14
								VAY			
								VAY	comp=N,658nm,1.2s		
								CHOS	**Chios island**	3.76	78
								CHOS	**Chios island**	3.76	78
								CHOS	**Chios island**	3.76	78
								CHOS	**Chios island**	3.76	78
								SIGR	**SIGRI**	3.83	65
								SIGR	**SIGRI**	3.83	65
								SIGR	**SIGRI**	3.83	65
								SIGR	**SIGRI**	3.83	65
								SRS	**Serrai**	3.83	26
								SRS	**Serrai**	3.83	26
								TIR	**Tirane**	3.84	343
								TIR			
								TIR	**Tirane**	3.84	343
								TIR	**Tirane**	3.84	343
								TIR	**Tirane**	3.84	343
								TIP	**Timpagrande**	3.92	294
								TIP	**Timpagrande**	3.92	294
								ZEY	**˜zmir**	4.09	81
								KAVA	**Kavala**	4.11	35
								KAVA	**Kavala**	4.11	35
								NVR	**Nevrokopi**	4.13	27
								NVR	**Nevrokopi**	4.13	27
								NVR	**Nevrokopi**	4.13	27
								NVR	**Nevrokopi**	4.13	27
								PRK	**Paraskevi**	4.14	66
								PRK	**Paraskevi**	4.14	66
								NPS	**Neapolis**	4.18	124
								NPS	**Neapolis**	4.18	124
								NPS	**Neapolis**	4.18	124
								NPS	**Neapolis**	4.18	124
								NPS	**Neapolis**	4.18	124
								NPS	**Neapolis**	4.18	124
								SMTH	**Samothraki Isl**	4.26	48
								SMTH	**Samothraki Isl**	4.26	48
								TAR1	**Taranto**	4.27	313
								SKO	**Skopje**	4.29	1
								SKO			
								SKO	comp=E,22nm,0.8s		
								SKO	comp=N,24nm,0.8s		
								SKO	**Skopje**	4.29	1
								SKO			
								SKO	comp=N,24nm,0.8s		
								MMB	**Musomiste**	4.30	24
								MMB	**Musomiste**	4.30	24
								SMG	**Samos**	4.33	88
								SMG	**Samos**	4.33	88
								SMG	**Samos**	4.33	88
								SMG	**Samos**	4.33	88
								CEL	**Celeste**	4.37	279
								CEL			
								CEL	**Celeste**	4.37	279
								CEL			
								PE1	**Pezze di Greco**	4.38	317
								EZN	**Ezine**	4.42	60
								BLCB	**Balcova**	4.53	79
								ULC	**Ulcinj**	4.58	340
								ULC			
								ULC	**Ulcinj**	4.58	340
								ULC			
								IZM	**Izmir**	4.70	79
								RDO	**Rodhopi**	4.73	42
								RDO	**Rodhopi**	4.73	42
								RDO	**Rodhopi**	4.73	42
								BODT	**Bodrum**	4.76	96
								ENEZ	**Enez**	4.80	49
								DRME	**Dracevica, Mon**	4.80	340
								DRME			
								DRME	**Dracevica, Mon**	4.80	340
								DRME			
								GEL	**Tayfur-Gelibol**	4.80	54
								SG1	**Sgolgore (BA)**	4.82	312
								ALN	**Alexandroupoli**	4.84	47
								ALN	**Alexandroupoli**	4.84	47
								BDRM	**Kayabasi**	4.87	95
								BAI	**Bari**	4.88	316
								CUC	**Castrocucco**	4.92	300
								CUC	**Castrocucco**	4.92	300
								LPK	**Lapseki**	4.98	56
								ERIK	**Erikli-Kesan**	4.98	52
								BUM	**Brajici-Budva**	4.99	338
								BUM			
								BUM	**Brajici-Budva**	4.99	338
								BUM			
								PDG	**Podgorica**	5.01	342
								PDG			
								TTG	**Podgorica**	5.01	342
								TTG			
								PVY	**Plav**	5.03	348
								PVY			
								PVY	**Plav**	5.03	348
								PVY			
								DAT	**Datca**	5.04	99
								KDZ	**Kurdzhali**	5.04	37
								KDZ	**Kurdzhali**	5.04	37
								VTS	**Vitosha**	5.10	15
								VTS	**Vitosha**	5.10	15
								KARP	**Karpathos**	5.12	113
								BARS	**Barje**	5.14	4
								AYDB	**Zeytinkoy-Aydi**	5.16	85
								AKS	**Akhisar**	5.20	75
								AKHS	**Akhisar**	5.20	75
								CDT	**Castel del Mon**	5.21	312
								HCY	**Herceg Novi**	5.25	336
								HCY			
								HCY	**Herceg Novi**	5.25	336
								HCY			
								BEY	**Berane**	5.31	348
								BEY			
								IVA	**Berane**	5.31	348

IDC **29** *19:05:07.6±0.6,37.81N×21.59E,h0km,mb4.2/21, mb1 4.2/31,mb1mx4.2/41,mbtmp4.1/31,ML3.7/8,MS3.5/22, Ms1 3.5/22,ms1mx3.4/47,Error ellipse: s-maj=13.6km s-min=12.3km az=23.0*

BJI **29** *19:05:08.6,37.53N×20.92E,h42km,mb4.6/11,mB5.0/8, Ms4.3/4,Ms7 4.4/4*

MOS **29** *19:05:08.6±1.6,37.75N×21.40E,h14km,mb4.7/25,Error ellipse: s-maj=4.7km s-min=2.9km az=102.6*

CSEM **29** *19:05:10.9±0.1,37.68N×21.36E,h20km,mb4.5/25,Ms3.3, Error ellipse: s-maj=3.4km s-min=2.5km az=30.0*

PDG **29** *19:05:10.4±0.6,37.71N×21.30E,h15km,ML4.2/11,Error ellipse: s-maj=0.8km s-min=0.8km az=0.0*

THE **29** *19:05:10.5,37.69N×21.35E,h0km,ML4.4/19,Error ellipse: s-maj=0.9km s-min=0.3km az=233.0*

ATH **29** *19:05:11.1,37.77N×21.39E,h20km,MD3.8/59,ML4.3*

NEIC **29** *19:05:12.9±0.4,37.71N×21.41E,h40km±4km,mb4.4/26, Error ellipse: s-maj=5.0km s-min=3.1km az=197.0*

TIR **29** *19:05:20.3,37.25N×20.07E,h7km*

ISC 29 19:05:12.0±0.4,37.68N±0.01×21.38E±0.01,h31km±3km, h31km:pP-P,n901,σ1§59/975,mb4.4/56,MS3.6/15, 40C-54D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTN	**Vitineika**	0.28	327	P	**Pb**	19 05 17.7	-1.6
VTN				S	**Sb**	19 05 22.9	-1.3
AMT	**Artemida-Makis**	0.30	120	P	**Pb**	19 05 17.6	-2.0
AMT				S	**Sb**	19 05 21.6	-3.2
AMT	**Artemida-Makis**	0.30	120	*e*PB	**Pb**	19 05 17.7	-1.8
AMT				*e*SB	**Sb**	19 05 23.5	-1.3
AMT	**Artemida-Makis**	0.30	120	P	**Pb**	19 05 17.6	-2.0
AMT				S	**Sb**	19 05 22.6	-2.2
AMT				*e*Sb	**Sb**	19 05 23.5	-1.3
DRO	**Drossia**	0.38	44	P	**Pb**	19 05 18.5	-2.2
DRO				S	**Sb**	19 05 24.6	-1.9
DRO	**Drossia**	0.38	44	*e*PB	**Pb**	19 05 18.9	-1.7
DRO	**Drossia**	0.38	44	P	**Pb**	19 05 18.4	-2.2
DRO	**Drossia**	0.38	44	*e*Pb	**Pb**	19 05 18.9	-1.7
DRO				S	**Sb**	19 05 24.6	-1.9
RLS	**Riolos of Patr**	0.38	10	P	**Pb**	19 05 18.4	-2.2
RLS				S	**Sb**	19 05 23.6	-3.0
RLS	**Riolos of Patr**	0.38	10	*e*PB	**Pb**	19 05 18.5	-2.2
RLS				*e*SB	**Sb**	19 05 23.4	-3.2
RLS	**Riolos of Patr**	0.38	10	*e*Pb	**Pb**	19 05 18.5	-2.2
RLS				*e*Sb	**Sb**	19 05 23.4	-3.2
RLS				S	**Sb**	19 05 24.3	-2.3
RLS	**Riolos of Patr**	0.38	10	P	**Pb**	19 05 18.4	-2.2
RLS				S	**Sb**	19 05 23.6	-3.0
SFD	**Strofades**	0.52	214	*e*PN	**Pn**	19 05 23.0	-0.2
SFD	**Strofades**	0.52	214	P	**Pb**	19 05 22.5	-0.2
SFD	**Strofades**	0.52	214	*e*Pn	**Pn**	19 05 23.0	-0.2
SFD				S	**Sn**	19 05 31.6	+0.7
KFL	**Anninata**	0.63	313	P	**Pb**	19 05 22.4	-2.2
KFL				S	**Sb**	19 05 31.7	-1.6
KFL	**Anninata**	0.63	313	P	**Pb**	19 05 22.4	-2.2
KFL				S	**Sb**	19 05 31.7	-1.6
ITM	**Ithomi**	0.67	139	P	**Pb**	19 05 23.7	-1.5
ITM				S	**Sb**	19 05 33.7	-0.5
ITM	**Ithomi**	0.67	139	*e*PB	**Pb**	19 05 24.1	-1.1
ITM				*e*SN	**Sn**	19 05 36.4	+1.8
ITM	**Ithomi**	0.67	139	P	**Pb**	19 05 23.7	-1.5
ITM	**Ithomi**	0.67	139	*e*Pb	**Pb**	19 05 24.1	-1.1
ITM				S	**Sb**	19 05 33.7	-0.5
ITM				*e*Sn	**Sn**	19 05 36.2	+1.8
ITM	**Ithomi**	0.67	139	P	**Pb**	19 05 23.7	-1.5
ITM				S	**Sb**	19 05 33.7	-0.5
UPR	**University Cam**	0.68	28	P	**Pb**	19 05 23.7	-1.7
UPR				S	**Sb**	19 05 34.1	-0.5
UPR	**University Cam**	0.68	28	P	**Pb**	19 05 23.7	-1.7
UPR				S	**Sb**	19 05 34.1	-0.5
KLV	**Kalavryta, Ach**	0.71	59	P	**Pb**	19 05 23.9	-2.0
KLV				S	**Sb**	19 05 35.2	-0.3
KLV	**Kalavryta, Ach**	0.71	59	*e*PN	**Pb**	19 05 24.2	-1.7
KLV	**Kalavryta, Ach**	0.71	59	P	**Pb**	19 05 23.6	-2.3
KLV	**Kalavryta, Ach**	0.71	59	*e*Pn	**Pb**	19 05 24.2	-1.7
KLV				S	**Sb**	19 05 34.0	-1.5
KLV	**Kalavryta, Ach**	0.71	59	P	**Pb**	19 05 23.9	-2.0
KLV				S	**Sb**	19 05 35.2	-0.3
VLS	**Valsamata**	0.80	309	P	**Pn**	19 05 25.3	-1.7
VLS				S	**Sb**	19 05 36.7	-1.1
VLS	**Valsamata**	0.80	309	*e*PN	**Pn**	19 05 25.5	-1.5
VLS	**Valsamata**	0.80	309	P	**Pn**	19 05 25.3	-1.7
VLS				S	**Sb**	19 05 36.7	-1.1
VLS	**Valsamata**	0.80	309	P	**Pn**	19 05 25.3	-1.7
VLS				S	**Sb**	19 05 36.7	-1.1
VLS	**Valsamata**	0.80	309	P	**Pn**	19 05 25.3	-1.7
VLS				S	**Sb**	19 05 36.7	-1.1
GUR	**Goura**	0.80	71	P	**Pn**	19 05 25.7	-1.5
GUR				S	**Sb**	19 05 38.3	+0.1
GUR	**Goura**	0.80	71	*e*PN	**Pn**	19 05 25.7	-1.5
GUR	**Goura**	0.80	71	P	**Pn**	19 05 25.2	-2.0
GUR	**Goura**	0.80	71	*e*Pn	**Pn**	19 05 25.7	-1.5
GUR				S	**Sb**	19 05 38.3	+0.1
GUR	**Goura**	0.80	71	P	**Pn**	19 05 25.7	-1.5
GUR				S	**Sb**	19 05 38.3	+0.1
PYL	**PYLOS**	0.84	160	P	**Pn**	19 05 26.6	-1.0
PYL				S	**Sb**	19 05 38.8	-0.2
PYL	**PYLOS**	0.84	160	*e*PN	**Pn**	19 05 26.9	-0.7
PYL				*e*SN	**Sn**	19 05 41.8	+3.0
PYL	**PYLOS**	0.84	160	P	**Pn**	19 05 26.6	-1.0
PYL	**PYLOS**	0.84	160	*e*Pn	**Pn**	19 05 26.9	-0.7
PYL				S	**Sb**	19 05 38.8	-0.2
PYL				*e*Sn	**Sn**	19 05 41.8	+3.0
PYL	**PYLOS**	0.84	160	P	**Pn**	19 05 26.6	-1.0
PYL				S	**Sb**	19 05 38.8	-0.2
EFP	**Efpalio**	0.85	29	P	**Pn**	19 05 26.3	-1.5
EFP				S	**Sb**	19 05 39.5	+0.1
EFP	**Efpalio**	0.85	29	*e*PN	**Pn**	19 05 26.9	-0.9
EFP				*e*SN	**Sn**	19 05 37.6	-1.6
EFP	**Efpalio**	0.85	29	P	**Pn**	19 05 26.3	-1.5
EFP	**Efpalio**	0.85	29	*e*Pn	**Pn**	19 05 26.9	-0.9
EFP				*e*Sn	**Sn**	19 05 37.6	-1.6
EFP				S	**Sb**	19 05 38.6	-0.8
VLX	**Vlachokerasia**	0.85	111	P	**Pn**	19 05 27.1	-0.8
VLX				S	**Sb**	19 05 40.2	+0.6
VLX	**Vlachokerasia**	0.85	111	*e*PB	**Pn**	19 05 27.4	-0.5
VLX	**Vlachokerasia**	0.85	111	P	**Pn**	19 05 26.8	-1.3
VLX	**Vlachokerasia**	0.85	111	*e*Pb	**Pn**	19 05 27.4	-0.5
VLX				S	**Sn**	19 05 38.3	-1.1
VLX	**Vlachokerasia**	0.85	111	P	**Pn**	19 05 27.1	-0.8
VLX				S	**Sb**	19 05 40.2	+0.6
KALE	**Kalithea**	0.93	40	P	**Pn**	19 05 27.9	-1.0
KALE				S	**Sb**	19 05 42.2	+0.6
KALE	**Kalithea**	0.93	40	*e*PN	**Pn**	19 05 28.4	-0.5
KALE	**Kalithea**	0.93	40	P	**Pn**	19 05 27.7	-1.2
KALE	**Kalithea**	0.93	40	*e*Pn	**Pn**	19 05 28.4	-0.5
KALE				S	**Sn**	19 05 41.0	-0.2
KALE	**Kalithea**	0.93	40	P	**Pn**	19 05 27.9	-1.0
KALE				S	**Sb**	19

IVA eSn Sn 19 07 30.0 +0.8
NKME Niksic 5.41 341 ↓↓iPn Pn 19 06 30.5 +0.1
NKME eSn Sn 19 07 32.5 +0.9
NKME Niksic 5.41 341 ↓↓iPn Pn 19 06 30.5 +0.1
NKME eSn Sn 19 07 32.5 +0.9
RKY Sarkoy-Tekirda 5.41 55 ePN Pn 19 06 33.2 +2.7
YER Yerkesik 5.52 94 ePN Pn 19 06 35.5 +3.5
ARG Arkhangelos 5.60 103 ePN Pn 19 06 36.8 +3.8
MRMT Marmara Adasi 5.64 57 ePN Pn 19 06 34.4 +0.7
BRY Bratogost 5.65 338 ePn Pn 19 06 33.3 -0.5
BRY eSn Sn 19 07 38.8 +1.2
BRY Bratogost 5.65 338 ePn Pn 19 06 33.3 -0.5
BRY eSn Sn 19 07 38.8 +1.2
EDC Edincik 5.71 60 ePN Pn 19 06 36.7 +2.2
MANT Manisa 5.72 80 iP Pn 19 06 38.5 +3.6
WDD Wield Dalam 5.79 254 ePn Pn 19 06 36.2 +0.5
WDD eSn Sn 19 07 35.6 -5.5
WDD Wield Dalam 5.79 254 ePn Pn 19 06 36.2 +0.5
WDD eSn Sn 19 07 35.6 -5.5
KULA Kula-Manisa 5.80 80 ePN Pn 19 06 39.1 +3.2
MS1 Monte Sant'Ang 5.81 315 eP Pn 19 06 35.9 0.0
UPM Unac-Piva 5.83 342 ↓↓iPn Pn 19 06 36.8 +0.5
UPM eSn Sn 19 07 42.7 +0.5
UPM Unac-Piva 5.83 342 ↓↓iPn Pn 19 06 36.8 +0.5
UPM eSn Sn 19 07 42.7 +0.5
PLE Pljevlja 5.84 346 ePn Pn 19 06 36.7 +0.2
PLE eSn Sn 19 07 42.7 +0.3
PLE Pljevlja 5.84 346 ePn Pn 19 06 36.7 +0.2
PLE eSn Sn 19 07 42.7 +0.3
STON Ston 5.90 333 ePn Pn 19 06 36.6 -0.4
STON Sn Sn 19 07 41.0 -2.5
STON Ston 5.90 333 ePn Pn 19 06 36.6 -0.4
DEMI Demirci 5.92 74 iP Pn 19 06 42.1 +4.5
IVAS Ivanjica 5.96 351 ePn Pn 19 06 37.2 -0.9
DST Dursunbey 5.98 69 ePN Pn 19 06 42.1 +3.7
KCTX Karacabey (Bur 6.02 62 ePN Pn 19 06 41.8 +3.0
DNZL Cakiroluk 6.08 88 iP Pn 19 06 44.8 +5.0
BOLS Boljevac 6.16 4 ePn Pn 19 06 39.0 -1.7
GRUS Gruza 6.22 356 ↓↓iPn Pn 19 06 41.8 +0.3
BBLS Lazići 6.36 347 ↓↓iPn Pn 19 06 43.4 -0.1
KHAL Karahalli 6.44 81 iP Pb 19 07 11.2 +7.9
KHL Karahalli 6.46 82 ePN Pn 19 06 49.2 +4.2
ARMT Armutlu 6.49 61 ePN Pn 19 06 48.0 +2.7
DIVS Divibare 6.50 351 ↑iP Pn 19 06 45.1 -0.3
DIVS Divibare 6.50 351 S Sn 19 07 56.5 -1.9
DIVS Divibare 6.50 351 ↑↓iPn Pn 19 06 44.8 -0.6
DIVS Divibare 6.50 351 ↑↑iP Pn 19 06 45.1 -0.3
GDZ Gediz 6.52 75 iP Pn 19 06 49.5 +3.7
TVSB Tavsanli 6.58 72 ePN Pn 19 06 49.8 +3.3
GEMT Gemlik 6.67 63 ePN Pn 19 06 50.4 +2.7
IZI Iznik 6.84 65 ePN Pn 19 06 52.8 +2.7
ELL Elmali 6.87 95 ePN Pn 19 06 54.7 +4.1
ALT Altintas 7.00 76 eP Pn 19 06 55.3 +3.0
TEKS Tekeris 7.00 349 ↑↑iPn Pn 19 06 51.7 -0.6
ISP Isparta 7.25 86 eP Pn 19 06 59.6 +3.8
ISP Isparta 7.25 86 ↑↑iP Pn 19 06 57.6 +1.9
ISP Isparta 7.25 86 ePn Pn 19 06 59.6 +3.8
ISP Isparta 7.25 86 ePn Pn 19 06 59.6 +3.8
HUMR Humele 7.36 21 ↓↓iP Pn 19 06 59.1 +1.9
HUMR Humele 7.36 21 ↓↓iP Pn 19 06 59.1 +1.9
FGSL Fruska Gora 7.56 352 ↑↑iPn Pn 19 06 58.8 -1.2
AQU L'Aquila 7.70 310 eP Pn 19 07 03.8 +2.0
AQU L'Aquila 7.70 310 eP Pn 19 07 03.8 +2.0
AQU L'Aquila 7.70 310 ePn Pn 19 07 03.8 +2.0
GZR Gura Zlata 7.78 7 ↑↑iP Pn 19 07 03.5 +0.6
GZR Gura Zlata 7.78 7 ↑↑iP Pn 19 07 03.5 +0.6
PSN Preselentsi 7.91 39 ↑↑iP Pn 19 07 06.4 +1.6
PSN Preselentsi 7.91 39 ↑↑iP Pn 19 07 06.4 +1.6
BZS Buzias 7.93 1 ↓↓iP Pn 19 07 05.3 +0.3
BZS Buzias 7.93 1 ↓↓iP Pn 19 07 05.3 +0.3
LOT Lotru 7.96 12 ↑↑iP Pn 19 07 06.3 +0.7
LOT Lotru 7.96 12 ↑↑iP Pn 19 07 06.3 +0.7
UDBI Udbina 8.04 330 ePn Pn 19 07 07.7 +1.0
UDBI Sn Sn 19 08 34.4 -2.1
UDBI Udbina 8.04 330 ePn Pn 19 07 07.6 +1.0
MSAB Monastry St. A 8.05 35 ↓↓iP Pn 19 07 09.8 +3.2
SECR 8.15 24 ↓↓iP Pn 19 07 11.0 +3.0
VOIR 8.22 18 ↓↓iP Pn 19 07 11.2 +2.1
VOIR 8.22 18 ↓↓iP Pn 19 07 11.2 +2.1
DEV Deva 8.27 7 ↓↓iP Pn 19 07 11.3 +1.6
DEV Deva 8.27 7 ↓↓iP Pn 19 07 11.3 +1.6
ISR Istrita 8.38 26 ↑↑iP Pn 19 07 13.7 +2.5
MLR Muntele Rosu 8.52 22 Pn Pn 19 07 15.5 +2.3
comp=N,0.2nm,0.3s,baz=195,slow=5.3,SNR=16
MLR Lg Lg 19 09 33.1
comp=N,0.0nm,0.3s,baz=270,slow=20,SNR=2.3
MLR LR LR 19 11 01.8
comp=N,87nm,18.6s,baz=205,slow=42
MLR Muntele Rosu 8.52 22 ↓↓iP Pn 19 07 16.1 +2.9
TLB Topalu 8.53 34 ↓↓iP Pn 19 07 15.5 +2.3
HARR Harsova 8.56 33 ↑↑iP Pn 19 07 16.5 +2.8
SIRR Siria 8.58 1 ↓↓iP Pn 19 07 13.9 0.0
SIRR Siria 8.58 1 ↓↓iP Pn 19 07 13.9 0.0
TIRR Tirgusor 8.60 36 eP Pn 19 07 12.9 -1.3
TIRR Tirgusor 8.60 36 ↓↓iP Pn 19 07 16.5 +2.3
TIRR Tirgusor 8.60 36 eP Pn 19 07 12.9 -1.3
TIRR Tirgusor 8.60 36 ePn Pn 19 07 12.9 -1.3
PKSM Moragy 8.76 347 ↓↓iP Pn 19 07 15.0 -1.4
PKSM Moragy 8.76 347 ↓↓eP Pn 19 07 14.7 -1.7
PKSM Moragy 8.76 347 ↓↓ePn Pn 19 07 14.7 -1.7
PKS2 Kecel 8.95 350 ↑↑eP Pn 19 07 17.2 -1.7
PKS2 Kecel 8.95 350 ↑↑ePn Pn 19 07 17.2 -1.7
CFR Carcaliu 9.04 32 ↓↓iP Pn 19 07 21.9 +1.7
BOJS Bojanci 9.06 332 ePn Pn 19 07 19.6 -0.9
PLOR Plostina 9.06 24 ↓↓iP Pn 19 07 23.4 +2.9
VRI Vrincioaia 9.10 24 ↓↓iP Pn 19 07 23.8 +2.8
DRGR 9.16 6 ↓↓iP Pn 19 07 22.7 +0.8
CJR Cluj-Napoca 9.17 10 ↑↑iP Pn 19 07 23.1 +1.0
ANTO Ankara 9.18 73 eP Pn 19 07 19.6 -2.6
ANTO Ankara 9.18 73 ↑↑iP Pn 19 07 23.5 +1.3
ANTO Ankara 9.18 73 eP Pn 19 07 19.6 -2.6
ANTO Ankara 9.18 73 ePn Pn 19 07 19.6 -2.6
PKS9 Tamasi 9.19 346 ↓↓eP Pn 19 07 21.0 -1.3
PKS9 Tamasi 9.19 346 ↓↓ePn Pn 19 07 21.0 -1.3
BEHE Becsehely 9.42 340 ↓↓epPn Pn 19 07 34.9 +9.4
VSL Villasalto 9.57 285 Pn Pn 19 07 26.7 -0.8
VSL Villasalto 9.57 285 Pn Pn 19 07 26.7 -0.8
SKDS Skadanscina 9.60 327 iPn Pn 19 07 27.5 -0.4
TESR Tescani 9.65 22 ↑↑iP Pn 19 07 31.0 +2.4
BR131 Keskin Array S 9.80 74 ePn Pn 19 07 34.7 +3.9
comp=N,2.6nm,0.6s
BR131 Keskin Array S 9.80 74 ePn Pn 19 07 34.7 +3.9
comp=N,2.6nm,0.6s
BRTR Keskin Array B 9.80 74 Pn Pn 19 07 33.1 +2.4
comp=N,0.6nm,0.3s,baz=258,slow=13,SNR=17
BRTR Keskin Array B 9.80 74 iP Pn 19 07 34.5 +3.7
BRTR pmax pmax
comp=Z,3.0nm,0.5s
KEST Kesra 9.86 262 Pn Pn 19 07 35.0 +3.5
comp=Z,0.1nm,0.3s,baz=46,slow=4.1,SNR=4.5
KEST LR LR 19 11 24.5
comp=Z,76nm,20.9s,baz=13,slow=38
KEST Kesra 9.86 262 Pn Pn 19 07 35.0 +3.5
PKST T"s 9.88 347 ↓↓eP Pn 19 07 32.5 +0.7
PKST T"s 9.88 347 ↓↓ePn Pn 19 07 32.5 +0.7
CSS Prodhromos 10.02 102 ePn Pn 19 07 32.2 -1.5
CSS Prodhromos 10.02 102 ePn Pn 19 07 32.2 -1.5
PERS Pernice 10.08 335 iPn Pn 19 07 32.9 -1.6
SOKA Soboth 10.14 334 iPn Pn 19 07 33.9 -1.5
SNR=14
SOKA Soboth 10.14 334 Pn Pn 19 07 33.9 -1.5
SNR=14
OBKA Obir 10.17 332 ↑↑iPn Pn 19 07 35.1 -0.7
OBKA Obir 10.17 332 Pn Pn 19 07 35.1 -0.7
CADS Cadrg 10.26 329 iPn Pn 19 07 35.5 -1.5
PSZ Piszkesteto 10.29 354 eP Pn 19 07 36.2 -1.2
PSZ Piszkesteto 10.29 354 ↓↓iP Pn 19 07 36.7 -0.7
PSZ Piszkesteto 10.29 354 eP Pn 19 07 36.2 -1.2
PSZ Piszkesteto 10.29 354 ePn Pn 19 07 36.1 -1.2
PSZ Piszkesteto 10.29 354 ↓↓ePn Pn 19 07 37.6 +0.2
BURAR Bucovina Array 10.32 15 ↓↓iP Pn 19 07 40.3 +2.5
BUR04 Bucovina Ar. S 10.32 15 ePn Pn 19 07 39.5 +1.6
BUR04 Bucovina Ar. S 10.32 15 ePn Pn 19 07 39.5 +1.6
BUR08 Bucovina Ar. S 10.34 15 ePn Pn 19 07 37.7 -0.5
BUR08 Bucovina Ar. S 10.34 15 ePn Pn 19 07 37.7 -0.5
TRPA Tarpa 10.48 4 ↑↑iP Pn 19 07 40.5 +0.6
ARSA Arzberg 10.49 338 ↑↑iPn Pn 19 07 37.9 -2.2
SNR=5.7
ARSA Arzberg 10.49 338 Pn Pn 19 07 37.9 -2.2
SNR=5.7
PGF Pioggiola 10.65 301 eP Pn 19 07 47.4 +5.0
comp=Z,35nm,1.1s
PGF Pioggiola 10.65 301 eP Pn 19 07 47.4 +5.0
PGF pmax pmax
comp=Z,35nm,1.1s
PGF Pioggiola 10.65 301 eP Pn 19 07 47.4 +5.0
comp=Z,35nm,1.1s
KIS Kishinev 10.81 28 eP Pn 19 07 44.0 -0.4
KIS LRM MLR 19 13 20.0
comp=Z,900nm,12.0s
KIS Kishinev 10.81 28 eP Pn 19 07 44.0 -0.4
KIS MLR MLR
comp=E,500nm,10.0s
KIS MLR MLR
comp=Z,900nm,10.0s
KIS MLR MLR
comp=N,400nm,7.0s
KIS MLR MLR
comp=Z,900nm,12.0s
KIS Kishinev 10.81 28 eP Pn 19 07 44.0 -0.4
comp=Z,900nm,12.0s
KECS Kecovo 10.81 357 eP Pn 19 07 44.0 -0.5
KECS Kecovo 10.81 357 eP Pn 19 07 44.0 -0.5
KECS Kecovo 10.81 357 ePN Pn 19 07 44.0 -0.5
UZH Uzhgorod 10.96 3 eP Pn 19 07 46.3 -0.2
UZH eS Sn 19 09 49.7 +1.7
UZH MLR MLR
comp=N,380nm,12.0s
UZH MLR MLR
comp=Z,270nm,12.0s
UZH MLR MLR
comp=N,370nm,12.0s
UZH MLR MLR
comp=Z,300nm,12.0s
UZH Uzhgorod 10.96 3 eP Pn 19 07 46.3 -0.2
UZH eS Sn 19 09 49.7 +1.7
KBA Koelnbreinsper 11.10 330 ↑iPn Pn 19 07 48.5 -0.2
KBA Koelnbreinsper 11.10 330 Pn Pn 19 07 48.5 -0.2
KOLS Kolonicke sedl 11.27 3 eP Pn 19 07 50.8 +0.1
KOLS Kolonicke sedl 11.27 3 eP Pn 19 07 50.8 +0.1
KOLS Kolonicke sedl 11.27 3 ePN Pn 19 07 50.8 +0.1
MOA Molln 11.42 335 ↓↓iPn Pn 19 07 52.0 -0.8
SNR=6.3
MOA Molln 11.42 335 Pn Pn 19 07 52.0 -0.8
SNR=6.3
STHS Stebnicka Huta 11.73 360 eP Pn 19 07 58.6 +1.6
STHS Stebnicka Huta 11.73 360 eP Pn 19 07 58.6 +1.6
STHS Stebnicka Huta 11.73 360 ePN Pn 19 07 58.6 +1.6
WTTA Wattenberg 11.96 326 ↑↑iPn Pn 19 08 00.8 +0.4
SNR=8.6
WTTA Wattenberg 11.96 326 Pn Pn 19 08 00.8 +0.4
SNR=8.6
SIM Simferopol' 12.01 49 eP Pn 19 08 07.2 +6.4
SIM eS Sn 19 10 21.6 +8.0
SIM pmax pmax
comp=Z,11nm,0.8s
SIM MLR MLR
comp=Z,80nm,16.0s
WATA Walderalm 12.05 326 ↓↓iPn Pn 19 08 00.7 -0.8
SNR=9.3
WATA Walderalm 12.05 326 Pn Pn 19 08 00.7 -0.8
SNR=9.3
VRAC Vranov 12.13 345 Pn Pn 19 08 01.3 -1.1
comp=Z,0.1nm,0.3s,baz=180,slow=11,SNR=7.1
VRAC LR LR 19 14 06.7
comp=Z,1µm,18.6s,baz=168,slow=45
VRAC Vranov 12.13 345 ↓↓iP Pn 19 08 01.4 -1.1
FUORN Ofenpass-Fuorn 12.15 321 ePn Pn 19 07 59.0 -4.0
FUORN Ofenpass-Fuorn 12.15 321 ePn Pn 19 07 59.0 -4.0
FUORN eSPn sPn 19 08 17.2 +3.0
MMAI Mount Meron Ar 12.36 108 Pn Pn 19 08 03.7 -2.0
comp=Z,0.7nm,0.3s,baz=298,slow=11,SNR=6.6
MMAI Sn Sn 19 10 17.0 -5.4
comp=Z,1.3nm,0.3s,baz=309,slow=25,SNR=4.3
MMAI LR LR 19 14 15.8
comp=Z,127nm,19.2s,baz=290,slow=45
TREC Trest 12.37 342 AMS AMS 19 13 30.0
comp=Z,1µm,14.0s
OKC Ostrava-Krasne 12.37 350 eP Pn 19 08 05.1 -0.7
OKC ex x 19 08 19.9
OKC AMS AMS 19 13 30.0
comp=Z,500nm,15.9s
OKC Ostrava-Krasne 12.37 350 eP Pn 19 08 05.1 -0.7
OKC MLR MLR
comp=Z,500nm,15.9s
OKC Ostrava-Krasne 12.37 350 eP Pn 19 08 05.1 -0.7
comp=Z,500nm,15.9s
MORC Moravsky Berou 12.40 348 eP Pn 19 08 03.4 -2.8
MORC Moravsky Berou 12.40 348 ↓↓iP Pn 19 08 04.3 -1.9
MORC Moravsky Berou 12.40 348 ePn Pn 19 08 03.4 -2.8
MORC Moravsky Berou 12.40 348 ↓↓iP Pn 19 08 04.3 -1.9
MORC Moravsky Berou 12.40 348 ePn Pn 19 08 03.4 -2.8
DAVOX Davos/Dischmat 12.45 321 Pn Pn 19 08 07.5 +0.4
comp=Z,0.2nm,0.3s,baz=150,slow=20,SNR=1.9
DAVOX Sn Sn 19 10 21.4 -3.3
comp=Z,0.3nm,0.3s,baz=150,slow=20,SNR=2.8
DAVOX LR LR 19 14 33.6
comp=Z,258nm,18.1s,baz=120,slow=45
GEC2 GERESS Array S 12.47 336 ePn Pn 19 08 10.1 +2.8
comp=Z,12nm,0.9s
GEC2 GERESS Array S 12.47 336 ePn Pn 19 08 10.1 +2.8
comp=Z,12nm,0.9s
TUE Stuetta 12.52 318 ePn Pn 19 08 06.9 -1.1
comp=Z,369nm,0.4s
TUE eSn Sn 19 10 13.8 -13
TUE Stuetta 12.52 318 ePn Pn 19 08 06.9 -1.1
comp=Z,369nm,0.4s
TUE eSn Sn 19 10 13.8 -13
FRF La Foret Royal 12.63 302 eP Pn 19 08 07.7 -1.7
FRF La Foret Royal 12.63 302 eP Pn 19 08 07.7 -1.7
FRF La Foret Royal 12.63 302 eP Pn 19 08 07.7 -1.7
FRF La Foret Royal 12.63 302 eP Pn 19 08 07.7 -1.7
KHC Kasperske Hory 12.76 336 eP Pn 19 08 13.1 +1.9
KHC ex x 19 08 22.2
KHC AMS AMS 19 13 50.0
comp=Z,900nm,11.8s
KHC Kasperske Hory 12.76 336 eP Pn 19 08 13.1 +1.9
KHC MLR MLR
comp=Z,900nm,11.8s
KHC Kasperske Hory 12.76 336 eP Pn 19 08 13.1 +1.9
comp=Z,900nm,11.8s
MBDF Montbardon 13.05 307 eP Pn 19 08 16.9 +1.7
comp=Z,31nm,1.1s
MBDF Montbardon 13.05 307 eP Pn 19 08 16.9 +1.7
MBDF pmax pmax
comp=Z,31nm,1.1s
MBDF Montbardon 13.05 307 eP Pn 19 08 16.9 +1.7
comp=Z,15nm,1.1s
MBDF Montbardon 13.05 307 eP Pn 19 08 16.9 +1.7
comp=Z,31nm,1.1s
GOPC GO Pecny, Ondr 13.11 341 AMS AMS 19 14 00.0
comp=Z,800nm,14.3s
DPC Dobruska-Polom 13.17 346 eP Pn 19 08 14.4 -2.3
DPC ex x 19 08 27.3
DPC AMS AMS 19 14 10.0
comp=Z,1µm,17.4s
DPC Dobruska-Polom 13.17 346 eP Pn 19 08 14.4 -2.3
DPC MLR MLR
comp=Z,1µm,17.4s
DPC Dobruska-Polom 13.17 346 eP Pn 19 08 14.4 -2.3
comp=Z,1µm,17.4s
DPC Dobruska-Polom 13.17 346 ePn Pn 19 08 15.4 -1.4
DPC Dobruska-Polom 13.17 346 ePn Pn 19 08 15.4 -1.4
PRU Pruhonice 13.25 340 eP Pn 19 08 16.1 -1.6
PRU ex x 19 08 28.3
PRU AMS AMS 19 14 00.0
comp=Z,900nm,14.9s
PRU Pruhonice 13.25 340 eP Pn 19 08 16.1 -1.6
PRU MLR MLR
comp=Z,900nm,14.9s
PRU Pruhonice 13.25 340 eP Pn 19 08 16.1 -1.6
comp=Z,900nm,14.9s
PRA Prague 13.35 340 AMS AMS 19 14 10.0
comp=Z,1µm,16.0s
UPC Upice 13.38 345 eP P 19 08 28.7 0.0
LPG La Plagne 13.43 310 eP Pn 19 08 19.1 -1.5
comp=Z,12nm,0.8s
LPG La Plagne 13.43 310 eP Pn 19 08 19.1 -1.5
LPG pmax pmax
comp=Z,12nm,0.8s
LPG La Plagne 13.43 310 eP Pn 19 08 19.1 -1.5
comp=Z,6.1nm,0.8s
LPG La Plagne 13.43 310 eP Pn 19 08 19.1 -1.5
comp=Z,12nm,0.8s
LPL La Plagne 13.45 310 eP Pn 19 08 19.9 -0.9
LPL La Plagne 13.45 310 eP Pn 19 08 19.9 -0.9
MALT Malatya 13.46 82 ↑↑iP Pn 19 08 22.5 +1.6
SENIN Lac Senin/Sane 13.58 314 ePn Pn 19 08 24.9 +2.5
SENIN eSn Sn 19 10 46.9 -5.3
SENIN Lac Senin/Sane 13.58 314 ePn Pn 19 08 24.9 +2.5
SENIN eSn Sn 19 10 46.9 -5.3
ORIF Oris-en-Rattie 13.70 307 eP Pn 19 08 22.9 -1.1
comp=Z,33nm,1.3s
ORIF eR
comp=Z,584nm,20.2s
ORIF Oris-en-Rattie 13.70 307 eP Pn 19 08 22.9 -1.1
ORIF pmax pmax
comp=Z,33nm,1.3s
ORIF Oris-en-Rattie 13.70 307 eP Pn 19 08 22.9 -1.1
comp=Z,33nm,1.3s
PVCC Panska Ves 13.73 341 AMS AMS 19 14 30.0
comp=Z,900nm,14.0s
EIL Elat 13.83 121 Pn Pn 19 08 22.6 -3.2
comp=Z,0.3nm,0.3s,baz=352,slow=16,SNR=5.3
EIL Sn Sn 19 10 48.5 -10
comp=Z,0.5nm,0.3s,baz=288,slow=20,SNR=4.4
EIL LR LR 19 15 28.3
comp=Z,107nm,21.8s,baz=262,slow=45
ASF Jabal al Asfar 13.86 109 Pn Pn 19 08 20.8 -5.5
comp=Z,0.2nm,0.3s,baz=151,slow=1.8,SNR=3.1
ANN Anapa 14.00 54 eP Pn 19 08 19.1 -9.0
ANN eS Sn 19 10 55.6 -6.7
ANN pmax pmax
comp=Z,4.0nm,0.8s
GRFO Grafenberg 14.06 332 eP Pn 19 08 29.7 +0.9
GRFO Grafenberg 14.06 332 ePn Pn 19 08 29.7 +0.9
GRFO Grafenberg 14.06 332 ePn Pn 19 08 29.7 +0.9
GRA1 Grafenberg Arr 14.06 332 ePn P 19 08 38.0 +1.8
comp=Z,114nm,1.7s
GRF Grafenberg Arr 14.06 332 ePn P 19 08 38.0 +1.8
comp=Z,114nm,1.7s
NKC Novy Kostel 14.08 336 eP Pn 19 08 30.4 +1.2
NKC AMS AMS 19 14 30.0
comp=Z,500nm,13.8s
NKC Novy Kostel 14.08 336 eP Pn 19 08 30.4 +1.2
NKC MLR MLR
comp=Z,500nm,13.8s
AK02 Malin Array Si 14.12 21 ePn Pn 19 08 27.7 -2.0
AK02 Malin Array Si 14.12 21 ePn Pn 19 08 27.7 -2.0
AK11 Malin Array Si 14.13 21 ePn Pn 19 08 29.6 -0.1
AK11 Malin Array Si 14.13 21 ePn Pn 19 08 29.6 -0.1
AK01 Malin Array Si 14.15 21 ePn Pn 19 08 28.7 -1.4
AK01 eS S 19 11 25.0 -1.2
AK01 Malin Array Si 14.15 21 ePn Pn 19 08 28.7 -1.4
AK01 eS S 19 11 25.0 -1.2
KIEV Kiev 14.16 21 d iP Pn 19 08 29.3 -0.8
KIEV Kiev 14.16 21 ePn Pn 19 08 28.6 -1.5
KIEV eS S 19 11 18.0 -8.2
KIEV Kiev 14.16 21 ePn Pn 19 08 28.6 -1.5
KIEV eS S 19 11 18.0 -8.2
AKASG Malin Array Be 14.17 21 Pn Pn 19 08 28.3 -1.9
comp=Z,0.5nm,0.3s,baz=211,slow=13,SNR=9.6
AKASG Malin Array Be 14.17 21 iP Pn 19 08 27.8 -2.5
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKBB Malin Array Si 14.17 21 eP Pn 19 08 28.6 -1.7
AKBB Malin Array Si 14.17 21 eP Pn 19 08 28.6 -1.7
AKBB Malin Array Si 14.17 21 ePn Pn 19 08 28.6 -1.7
STU Stuttgart 14.18 325 ePn P 19 08 41.2 +3.6
comp=Z,30nm,1.0s
STU Stuttgart 14.18 325 eP Pn 19 08 28.7 -1.8
STU Stuttgart 14.18 325 ePn Pn 19 08 28.6 -1.8
BRG Berggiesshubel 14.21 340 eP Pn 19 08 30.8 -0.1
comp=Z,4.4nm,0.8s
comp=N,640nm,16.0s
comp=E,340nm,12.6s
comp=Z,935nm,14.2s
BRG Berggiesshubel 14.21 340 eP Pn 19 08 30.8 -0.1
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG MLR MLR
comp=N,640nm,16.0s
BRG MLR MLR
comp=E,340nm,12.6s
BRG MLR MLR
comp=Z,935nm,14.2s
BFO Black Forest 14.27 322 eP Pn 19 08 31.4 -0.4
BFO Black Forest 14.27 322 ePn Pn 19 08 31.4 -0.4
BFO Black Forest 14.27 322 ePn Pn 19 08 31.4 -0.4
CABF La Chapelle 14.41 313 eP Pn 19 08 33.9 +0.2
CABF La Chapelle 14.41 313 eP Pn 19 08 33.9 +0.2
CABF La Chapelle 14.41 313 ePn Pn 19 08 33.9 +0.2
LOMF Lomont 14.42 317 eP P 19 08 42.8 +2.5
LOMF Lomont 14.42 317 eP P 19 08 42.8 +2.5
MOF Molkenrain 14.56 319 eP P 19 08 43.9 +2.0
MOF Molkenrain 14.56 319 eP P 19 08 43.9 +2.0
HINF Hinteralfeld 14.69 318 eP Pn 19 08 39.8 +2.4
comp=Z,11nm,0.6s
HINF Hinteralfeld 14.69 318 eP Pn 19 08 39.8 +2.4
HINF pmax pmax
comp=Z,11nm,0.6s
HINF Hinteralfeld 14.69 318 eP Pn 19 08 39.8 +2.4
comp=Z,11nm,0.6s
ECH Echery 14.78 320 eP P 19 08 44.3 0.0
ECH Echery 14.78 320 eP Pn 19 08 39.9 +1.2
ECH pmax pmax
comp=Z,15nm,1.1s
ECH Echery 14.78 320 ePn Pn 19 08 39.9 +1.2
comp=Z,15nm,1.1s
ECH Echery 14.78 320 eP P 19 08 44.3 0.0
ECH eSn Sn 19 11 11.5 -10
ECH Echery 14.78 320 ePn Pn 19 08 39.9 +1.2
comp=Z,15nm,1.1s
ECH eSn Sn 19 11 11.5 -10
CDF Champ du Feu 14.85 321 eP Pn 19 08 41.4 +1.8
comp=Z,22nm,0.9s
CDF Champ du Feu 14.85 321 eP Pn 19 08 41.4 +1.8
CDF pmax pmax
comp=Z,22nm,0.9s
CDF Champ du Feu 14.85 321 eP Pn 19 08 41.4 +1.8
comp=Z,22nm,0.9s
CLL Collm 14.86 339 ePn P 19 08 46.6 +1.5
comp=Z,26nm,1.1s
CLL Collm 14.86 339 eP Pn 19 08 41.0 +1.3
CLL *i* (pP) P 19 08 46.4 +1.3
comp=Z,26nm,1.1s
CLL e(S) Sn 19 11 12.0 -11
Lmax 19 15 00.0
CLL Collm 14.86 339 eP Pn 19 08 41.0 +1.3
CLL Collm 14.86 339 ePn P 19 08 46.6 +1.5
comp=Z,26nm,1.1s
CLL Collm 14.86 339 ePn Pn 19 08 40.3 +0.7
TOD Tromm 14.97 327 eP P 19 08 48.6 +2.2
LANF Langenberg 14.97 323 eP P 19 08 49.0 +2.6
LANF Langenberg 14.97 323 eP P 19 08 49.0 +2.6
HAU Haudompre 15.07 318 eP Pn 19 08 41.9 -0.6
comp=Z,52nm,0.9s
HAU eR
comp=Z,497nm,17.5s
HAU Haudompre 15.07 318 eP Pn 19 08 41.9 -0.6
HAU pmax pmax
comp=Z,52nm,0.9s
HAU Haudompre 15.07 318 eP Pn 19 08 41.9 -0.6
comp=Z,52nm,0.9s
KTD Kalmit 15.08 325 eP P 19 08 50.1 +2.5
THEF They Montfort 15.40 318 eP P 19 08 53.4 +2.3
THEF They Montfort 15.40 318 eP P 19 08 53.4 +2.3
UBBA Unterbreizbach 15.43 332 ePn P 19 08 53.1 +1.8
comp=Z,24nm,1.8s
TNS Taunus Mts 15.59 328 ePn P 19 08 55.2 +2.0
comp=Z,49nm,1.0s
TNS Taunus Mts 15.59 328 ePn P 19 08 55.2 +2.0
comp=Z,49nm,1.0s
RUE Ruedersdorf 15.72 343 ePn Pn 19 08 51.0 +0.1
comp=Z,40nm,1.0s
RUE Ruedersdorf 15.72 343 ePn Pn 19 08 51.0 +0.1
comp=Z,40nm,1.0s
PAGF Fort de Pagny 15.74 319 eP Pn 19 08 51.4 +0.2
comp=Z,21nm,1.3s
PAGF Fort de Pagny 15.74 319 eP Pn 19 08 51.4 +0.2
comp=Z,21nm,1.3s
SMF Signal de Mont 15.76 310 eP Pn 19 08 51.2 -0.3
comp=Z,9.9nm,0.8s
SMF Signal de Mont 15.76 310 eP Pn 19 08 51.2 -0.3
SMF pmax pmax
comp=Z,10.0nm,0.8s
SMF Signal de Mont 15.76 310 eP Pn 19 08 51.2 -0.3
comp=Z,9.9nm,0.8s
RUP Ruppelstein 15.83 324 eP P 19 08 58.1 +2.2

SFTF	**Sexfontaines**	15.90	317	*e*P		Pn	19 08 54.4	+1.2		
	comp=Z,62nm,1.0s									
SFTF	**Sexfontaines**	15.90	317	*e*P		Pn	19 08 54.4	+1.2		
	comp=Z,62nm,1.0s									
LOR	**Lormes**	16.06	312	*e*P		P	19 08 57.0	-1.4		
	comp=Z,15nm,0.9s									
LOR				*e*R						
	comp=Z,182nm,21.7s									
LOR	**Lormes**	16.06	312	*e*P		P	19 08 57.0	-1.4		
LOR				pmax		pmax				
	comp=Z,15nm,0.9s									
LOR	**Lormes**	16.06	312	*e*P		P	19 08 57.0	-1.4		
	comp=Z,7.6nm,0.9s									
LOR	**Lormes**	16.06	312	*e*P		P	19 08 57.0	-1.4		
	comp=Z,15nm,0.9s									
MEZF	**Maizieres J'vi**	16.06	317	*e*P		P	19 08 56.7	-1.7		
	comp=Z,46nm,0.9s									
MEZF	**Maizieres J'vi**	16.06	317	*e*P		P	19 08 56.7	-1.7		
	comp=Z,23nm,0.9s									
MEZF	**Maizieres J'vi**	16.06	317	*e*P		P	19 08 56.7	-1.7		
	comp=Z,46nm,0.9s									
AVF	**Avril sur Loir**	16.13	310	*e*P		Pn	19 08 55.7	-0.5		
	comp=Z,23nm,1.2s									
AVF	**Avril sur Loir**	16.13	310	*e*P		Pn	19 08 55.7	-0.5		
AVF				pmax		pmax				
	comp=Z,23nm,1.2s									
AVF	**Avril sur Loir**	16.13	310	*e*P		Pn	19 08 55.7	-0.5		
	comp=Z,23nm,1.2s									
CLZ	**Clausthal**	16.14	335	*e*Pn		P	19 09 01.4	+2.0		
	comp=Z,30nm,1.2s									
CLZ	**Clausthal**	16.14	335	*e*Pn		P	19 09 01.4	+2.0		
	comp=Z,30nm,1.2s									
SSF	**Saint Saulge**	16.16	311	*e*P		P	19 09 00.6	+1.0		
	comp=Z,27nm,1.1s									
SSF	**Saint Saulge**	16.16	311	*e*P		P	19 09 00.6	+1.0		
SSF				pmax		pmax				
	comp=Z,27nm,1.1s									
SSF	**Saint Saulge**	16.16	311	*e*P		P	19 09 00.6	+1.0		
	comp=Z,13nm,1.1s									
SSF	**Saint Saulge**	16.16	311	*e*P		P	19 09 00.6	+1.0		
	comp=Z,27nm,1.1s									
CAF	**Calviac**	16.20	303	*e*P		Pn	19 08 55.3	-1.8		
	comp=Z,36nm,1.4s									
CAF	**Calviac**	16.20	303	*e*P		Pn	19 08 55.3	-1.8		
CAF				pmax		pmax				
	comp=Z,36nm,1.4s									
CAF	**Calviac**	16.20	303	*e*P		Pn	19 08 55.3	-1.8		
	comp=Z,36nm,1.4s									
WLF	**Walferdange**	16.23	322	P		P	19 09 03.6	+3.2		
	comp=Z,39nm,1.3s									
WLF	**Walferdange**	16.23	322	*e*Pn		P	19 09 03.9	+3.6		
	comp=Z,57nm,1.0s									
WLF	**Walferdange**	16.23	322	*e*P		P	19 09 02.1	+1.8		
WLF				pmax		pmax				
	comp=Z,54nm,1.0s									
WLF	**Walferdange**	16.23	322	*e*P		P	19 09 02.1	+1.8		
	comp=Z,54nm,1.0s									
WLF	**Walferdange**	16.23	322	*e*Pn		P	19 09 02.1	+1.8		
	comp=Z,54nm,1.0s									
SUW	**Suwalki**	16.38	4	*e*P		Pn	19 08 56.9	-2.4		
SUW				pmax		pmax				
	comp=Z,273nm,0.9s									
SUW	**Suwalki**	16.38	4	*e*Pn		Pn	19 08 56.9	-2.4		
	comp=Z,272nm,0.9s									
SUW	**Suwalki**	16.38	4	*e*Pn		Pn	19 08 56.9	-2.4		
	comp=Z,272nm,0.9s									
RJF	**Les Rejaudoux**	16.69	303	*e*P		Pn	19 09 01.9	-1.5		
RJF				*e*R						
	comp=Z,293nm,17.8s									
RJF	**Les Rejaudoux**	16.69	303	*e*P		Pn	19 09 01.9	-1.5		
RJF	**Les Rejaudoux**	16.69	303	*e*P		Pn	19 09 01.9	-1.5		
EPF	**Esparros**	16.89	295	*e*P		Pn	19 09 05.1	-0.8		
EPF	**Esparros**	16.89	295	*e*P		Pn	19 09 05.1	-0.8		
EPF	**Esparros**	16.89	295	*e*P		Pn	19 09 05.1	-0.8		
MEM	**Membach**	16.95	325	P		P	19 09 11.3	+3.1		
	comp=Z,18nm,1.4s									
MEM	**Membach**	16.95	325	*e*P		P	19 09 09.0	+0.8		
MEM				pmax		pmax				
	comp=Z,23nm,0.9s									
MEM	**Membach**	16.95	325	*e*P		P	19 09 09.0	+0.8		
	comp=Z,23nm,0.9s									
MEM	**Membach**	16.95	325	*e*P		P	19 09 09.0	+0.8		
	comp=Z,23nm,0.9s									
HGN	**Heimansgroeve**	17.09	325	*e*P		P	19 09 13.1	+3.3		
	comp=Z,21nm,0.7s									
HGN				*e*L		L	19 16 54.8			
	comp=Z,243nm,19.8s									
BCLA	**Clavier**	17.15	323	P		P	19 09 13.4	+3.0		
NEY	**Neytrino**	17.15	64⇓	*e*P		P	19 09 12.7	+2.0		
NEY				pmax		pmax				
	comp=Z,1.0nm,1.1s									
NEY	**Neytrino**	17.15	64	*e*P		P	19 09 12.7	+2.0		
	comp=Z,1.0nm,1.1s									
GIVF	**Givet**	17.17	322	*e*P		Pn	19 09 09.6	+0.3		
	comp=Z,32nm,0.9s									
GIVF	**Givet**	17.17	322	*e*P		Pn	19 09 09.6	+0.3		
GIVF				pmax		pmax				
	comp=Z,32nm,0.9s									
GIVF	**Givet**	17.17	322	*e*P		Pn	19 09 09.6	+0.3		
	comp=Z,16nm,0.9s									
GIVF	**Givet**	17.17	322	*e*P		Pn	19 09 09.6	+0.3		
	comp=Z,32nm,0.9s									
DOU	**Dourbes**	17.28	321	P		P	19 09 12.9	+1.0		
KIV	**Kislovodsk**	17.28	62⇓	*e*P		P	19 09 16.9	+4.8		
KIV				*i* S		S	19 12 28.4	-1.9		
KIV				pmax		pmax				
	comp=Z,8.0nm,1.7s									
KIV				MLR		MLR				
	comp=Z,69nm,23.0s									
KIV	**Kislovodsk**	17.28	62	Pn		Pn	19 09 09.9	-1.0		
KIV				*i* S		S	19 12 28.4	-1.9		
	comp=Z,69nm,23.0s									
KIV	**Kislovodsk**	17.28	62	Pn		Pn	19 09 09.9	-1.0		
KBZ	**Khabaz**	17.38	63	Pn		P	19 09 13.4	+0.4		
	baz=233,slow=20									
KBZ				LR		LR	19 17 20.8			
	comp=Z,80nm,20.0s,baz=105,slow=43									
BAIF	**Baives**	17.45	321	*e*P		P	19 09 15.1	+1.3		
	comp=Z,37nm,1.2s									
BAIF	**Baives**	17.45	321	*e*P		P	19 09 15.1	+1.3		
BAIF				pmax		pmax				
	comp=Z,37nm,1.2s									
BAIF	**Baives**	17.45	321	*e*P		P	19 09 15.1	+1.3		
	comp=Z,18nm,1.2s									
BAIF	**Baives**	17.45	321	*e*P		P	19 09 15.1	+1.3		
	comp=Z,37nm,1.2s									
ETSF	**Etsaut**	17.51	294	*e*P		P	19 09 15.7	+1.1		
	comp=Z,27nm,1.2s									
ETSF	**Etsaut**	17.51	294	*e*P		P	19 09 15.7	+1.1		
ETSF				pmax		pmax				
	comp=Z,27nm,1.2s									
ETSF	**Etsaut**	17.51	294	*e*P		P	19 09 15.7	+1.1		
	comp=Z,14nm,1.2s									
ETSF	**Etsaut**	17.51	294	*e*P		P	19 09 15.7	+1.1		
	comp=Z,27nm,1.2s									
WTSB	**Winterswijk**	17.58	329	*e*P		P	19 09 17.5	+2.3		
	comp=Z,12nm,0.7s									
WTSB	**Winterswijk**	17.58	329	*e*P		P	19 09 17.5	+2.3		
	comp=Z,12nm,0.7s									
SNF	**Seneffe**	17.70	322	P		P	19 09 17.0	+0.5		
GOF	**Gofitskoye**	17.82	59	*e*P		Pn	19 09 17.3	-0.1		
GOF				pmax		pmax				
	comp=Z,13nm,1.2s									
GOF	**Gofitskoye**	17.82	59	*e*P		Pn	19 09 17.3	-0.1		
	comp=Z,13nm,1.2s									
NCK	**Nalchik**	17.82	64	P		P	19 09 20.0	+2.0		
NCK	**Nalchik**	17.82	64	P		P	19 09 20.0	+2.0		
UCC	**Uccle**	17.85	323	*e*P		P	19 09 19.2	+1.0		
UCC				pmax		pmax				
	comp=Z,18nm,0.7s									
UCC	**Uccle**	17.85	323	*e*P		P	19 09 19.2	+1.0		
	comp=Z,18nm,0.7s									
UCC	**Uccle**	17.85	323	*e*Pn		P	19 09 19.2	+1.0		
	comp=Z,18nm,0.7s									
ZEI	**Tsey**	17.92	66	*e*P		P	19 09 22.9	+3.6		
ZEI				pmax		pmax				
	comp=Z,13nm,1.0s									
SJPF	**Ste Jean**	18.03	295	*e*P		P	19 09 21.1	+0.8		
	comp=Z,16nm,1.0s									
SJPF	**Ste Jean**	18.03	295	*e*P		P	19 09 21.1	+0.8		
SJPF				pmax		pmax				
	comp=Z,16nm,1.0s									
SJPF	**Ste Jean**	18.03	295	*e*P		P	19 09 21.1	+0.8		
	comp=Z,8.1nm,1.0s									
SJPF	**Ste Jean**	18.03	295	*e*P		P	19 09 21.1	+0.8		
	comp=Z,16nm,1.0s									
MFF	**Saint Martin d**	18.24	306	*e*P		P	19 09 24.2	+1.7		
	comp=Z,35nm,1.3s									
MFF	**Saint Martin d**	18.24	306	*e*P		P	19 09 24.2	+1.7		
MFF				pmax		pmax				
	comp=Z,35nm,1.3s									
MFF	**Saint Martin d**	18.24	306	*e*P		P	19 09 24.2	+1.7		
	comp=Z,17nm,1.3s									
MFF	**Saint Martin d**	18.24	306	*e*P		P	19 09 24.2	+1.7		
	comp=Z,35nm,1.3s									
GNI	**Garni**	18.34	75	P		P	19 09 21.9	-1.9		
	comp=Z,0.2nm,0.3s,baz=150,slow=14,SNR=1.6									
GNI				LR		LR	19 17 21.5			
	comp=Z,266nm,18.4s,baz=278,slow=40									
VSR	**Storozhevoye**	18.49	37	*e*P		P	19 09 24.5	-0.7		
VSR				pmax		pmax				
	comp=Z,9.0nm,0.6s									
VSR				pmax		pmax				
	comp=N,10.0nm,1.0s									
VSR				pmax		pmax				
	comp=E,10.0nm,1.0s									
VSR	**Storozhevoye**	18.49	37	*e*P		P	19 09 24.5	-0.7		
	comp=E,9.0nm,0.6s									
DGRG	**David-gareji**	18.86	71	P		Pn	19 09 32.9	+2.8		
LDF	**La Druitiere**	19.04	312	*e*P		Pn	19 09 32.4	+0.2		
LDF	**La Druitiere**	19.04	312	*e*P		Pn	19 09 32.4	+0.2		
LDF	**La Druitiere**	19.04	312	*e*P		Pn	19 09 32.4	+0.2		
LDF	**La Druitiere**	19.04	312	*e*P		Pn	19 09 32.4	+0.2		
LPSR	**Galich'ya Gora**	19.31	34	*e*P		P	19 09 31.3	-2.8		
LPSR				pmax		pmax				
	comp=Z,10.0nm,0.9s									
LPSR				pmax		pmax				
	comp=N,2.0nm,0.6s									
LPSR				pmax		pmax				
	comp=E,3.0nm,0.5s									
FLN	**La Foliniere**	19.33	312	*e*P		Pn	19 09 36.7	+1.0		
	comp=E,34nm,0.8s									
FLN				*e*R						
	comp=E,164nm,18.2s									
FLN	**La Foliniere**	19.33	312	*e*P		Pn	19 09 36.7	+1.0		
FLN				pmax		pmax				
	comp=Z,34nm,0.8s									
FLN	**La Foliniere**	19.33	312	*e*P		Pn	19 09 36.7	+1.0		
	comp=Z,17nm,0.8s									
FLN	**La Foliniere**	19.33	312	*e*P		Pn	19 09 36.7	+1.0		
	comp=Z,34nm,0.8s									
GRR	**Gorron**	19.39	311	*e*P		Pn	19 09 36.0	-0.4		
	comp=Z,86nm,1.3s									
GRR	**Gorron**	19.39	311	*e*P		Pn	19 09 36.0	-0.4		
GRR				pmax		pmax				
	comp=Z,86nm,1.3s									
GRR	**Gorron**	19.39	311	*e*P		Pn	19 09 36.0	-0.4		
	comp=Z,43nm,1.3s									
GRR	**Gorron**	19.39	311	*e*P		Pn	19 09 36.0	-0.4		
	comp=Z,86nm,1.3s									
IAZR	**Azarshahr**	19.46	82	*e*P		P	19 09 36.1	-0.2		
IAZR	**Azarshahr**	19.46	82	*e*P		P	19 09 36.1	-0.2		
ES19	**SONSECA Array**	19.82	284	*e*P		Pn	19 09 44.0	+2.4		
ES19	**SONSECA Array**	19.82	284	*e*P		Pn	19 09 44.0	+2.4		
ESDC	**Sonseca Array**	19.87	284	P		Pn	19 09 41.2	-1.0		
	comp=Z,0.2nm,0.3s,baz=80,slow=11,SNR=23									
ESDC				LR		LR	19 17 57.0			
	comp=Z,125nm,19.0s,baz=90,slow=38									
ESLA	**Sonseca Array**	19.87	284	*e*P		Pn	19 09 41.5	-0.8		
ESLA	**Sonseca Array**	19.87	284	*e*P		Pn	19 09 41.5	-0.8		
PAB	**San Pablo**	20.17	283	*e*P		Pn	19 09 44.8	-1.1		
PAB				pmax		pmax				
	comp=Z,37nm,1.8s									
PAB	**San Pablo**	20.17	283	*e*P		Pn	19 09 44.8	-1.1		
	comp=Z,37nm,1.8s									
PAB	**San Pablo**	20.17	283	*e*P		Pn	19 09 44.8	-1.1		
	comp=Z,37nm,1.8s									
OBN	**Obninsk**	20.26	26	*c*eP		P	19 09 43.9	-0.6		
OBN				*e*			19 09 59.6			
OBN				*e*S		S	19 13 17.6	-12		
OBN				pmax		pmax				
	comp=Z,22nm,1.0s									
OBN				MLR		MLR				
	comp=Z,159nm,19.0s									
OBN	**Obninsk**	20.26	26	*e*P		P	19 09 44.1	-0.4		
	comp=Z,28nm,1.1s									
OBN	**Obninsk**	20.26	26	*e*P		P	19 09 44.1	-0.4		
	comp=Z,28nm,1.1s									
IDHR	**Dehrash**	20.39	91	*e*P		P	19 09 46.1	-0.2		
IDHR	**Dehrash**	20.39	91	*e*P		P	19 09 46.1	-0.2		
QUIF	**Quistinic**	20.63	308	*e*P		Pn	19 09 50.1	-0.9		
QUIF	**Quistinic**	20.63	308	*e*P		Pn	19 09 50.1	-0.9		
QUIF	**Quistinic**	20.63	308	*e*P		Pn	19 09 50.1	-0.9		
QUIF	**Quistinic**	20.63	308	*e*P		Pn	19 09 50.1	-0.9		
ROSF	**Rostrenen**	20.85	309	*e*P		Pn	19 09 52.2	-1.4		
	comp=Z,95nm,1.2s									
ROSF	**Rostrenen**	20.85	309	*e*P		Pn	19 09 52.2	-1.4		
ROSF				pmax		pmax				
	comp=Z,95nm,1.2s									
ROSF	**Rostrenen**	20.85	309	*e*P		Pn	19 09 52.2	-1.4		
	comp=Z,48nm,1.2s									
ROSF	**Rostrenen**	20.85	309	*e*P		Pn	19 09 52.2	-1.4		
	comp=Z,95nm,1.2s									
VSU	**Vasula**	21.09	8	*c i*P		P	19 09 53.1	-0.3		
VSU	**Vasula**	21.09	8	*i* P		P	19 09 53.1	-0.3		
MOS	**Moscow**	21.12	26	*e*P		P	19 09 51.2	-2.7		
MOS				*e*S		S	19 13 43.5	-3.5		
MOS				pmax		pmax				
	comp=Z,55nm,1.0s									
IKOM	**Komasi**	21.42	91	*e*P		P	19 09 57.1	-0.4		
IKOM	**Komasi**	21.42	91	*e*P		P	19 09 57.1	-0.4		
MDT	**Midelt**	21.75	265	LR		LR	19 19 49.8			
	comp=Z,53nm,19.4s,baz=148,slow=40									
PBRG	**Braganca**	21.97	290	*e*P		P	19 10 03.8	+0.7		
	comp=Z,19nm,1.9s									
PBRG				*e*pP		pP	19 10 14.4	+2.8		
MVO	**Moncorvo**	22.18	288	*e*P		P	19 10 05.9	+0.5		
	comp=Z,25nm,1.2s									
PBAR	**Barrancos**	22.39	280	*e*P		P	19 10 11.9	+4.3		
	comp=Z,34nm,1.7s									
PBAR				*e*pP		pP	19 10 19.3	+3.2		
PMRV	**Marv??o**	22.53	283	*e*P		P	19 10 08.7	-0.4		
	comp=Z,15nm,1.2s									
PMRV				*e*pP		pP	19 10 18.7	+1.1		
MTE	**Manteigas**	22.59	286	*e*P		P	19 10 10.0	+0.2		
	comp=Z,21nm,1.4s									
MTE				*e*pP		pP	19 10 20.2	+2.0		
PESTR	**Estremoz**	22.74	282	*e*P		P	19 10 10.8	-0.5		
	comp=Z,16nm,1.4s									
PESTR				*e*pP		pP	19 10 21.2	+1.4		
PVIS	**Viseu**	22.84	287	*e*P		P	19 10 12.4	-0.1		
	comp=Z,16nm,1.6s									
PVIS				*e*pP		pP	19 10 22.0	+1.1		
PVIS	**Viseu**	22.84	287	*e*P		P	19 10 12.4	-0.1		
	comp=Z,16nm,1.6s									
HFS	**Hagfors**	23.00	350	P		P	19 10 12.7	-1.1		
	comp=Z,9.5nm,0.6s,baz=176,slow=9.8,SNR=27									
HFS				LR		LR	19 20 36.6			
	comp=Z,278nm,19.6s,baz=165,slow=41									
IRAZ	**Razeghan**	23.02	87	*e*P		P	19 10 15.0	+0.5		
IRAZ	**Razeghan**	23.02	87	*e*P		P	19 10 15.0	+0.5		
PMTG	**Montargil**	23.21	283	*e*P		P	19 10 15.6	-0.5		
	comp=Z,18nm,1.4s									
PMTG	**Montargil**	23.21	283	*e*P		P	19 10 15.6	-0.5		
	comp=Z,18nm,1.4s									
KONO	**Kongsberg**	23.25	345	*e*P		P	19 10 15.0	-1.3		
KONO				pmax		pmax				
	comp=Z,11nm,0.8s									
KONO	**Kongsberg**	23.25	345	*e*P		P	19 10 15.0	-1.3		
	comp=Z,11nm,0.8s									
KONO	**Kongsberg**	23.25	345	*e*P		P	19 10 15.0	-1.3		
	comp=Z,11nm,0.8s									
FINES	**FINESS Array B**	23.97	6	P		P	19 10 22.3	-0.9		
	comp=Z,12nm,0.7s,baz=177,slow=10.0,SNR=66									
FINES				LR		LR	19 22 15.3			
	comp=Z,192nm,20.5s,baz=187,slow=43									
FIA1	**FINESS Array S**	23.97	6	*e*P		P	19 10 21.8	-1.4		
FIA1	**FINESS Array S**	23.97	6	*e*P		P	19 10 21.8	-1.4		
NAO01	**NORSAR Array S**	24.11	347	*e*P		P	19 10 23.8	-0.8		
	comp=Z,26nm,0.8s									
NAO01	**NORSAR Array S**	24.11	347	*e*P		P	19 10 23.8	-0.8		
	comp=Z,26nm,0.8s									
EKA	**Eskdalemuir Ar**	24.22	325	P		P	19 10 26.1	+0.4		
	comp=Z,24nm,0.7s,baz=125,slow=9.6,SNR=68									
ESK	**Eskdalemuir**	24.23	325	*e*P		P	19 10 25.8	+0.1		
ESK				pmax		pmax				
	comp=Z,9.0nm,0.8s									
ESK	**Eskdalemuir**	24.23	325	*e*P		P	19 10 25.8	+0.1		
	comp=Z,9.1nm,0.8s									
ESK	**Eskdalemuir**	24.23	325	*e*P		P	19 10 25.8	+0.1		
	comp=Z,9.1nm,0.8s									
NB2	**NORSAR Subarra**	24.24	348	P		P	19 10 25.1	-0.7		
	comp=Z,18nm,0.8s,baz=153,slow=10									
NB2	**NORSAR Subarra**	24.24	348	P		P	19 10 25.1	-0.7		
	comp=Z,18nm,0.8s,SNR=1.6									
NOA	**NORSAR Array B**	24.24	348	P		P	19 10 25.3	-0.5		
	comp=Z,7.5nm,0.9s,baz=153,slow=9.3,SNR=52									
NOA				LR		LR	19 21 41.4			
	comp=Z,294nm,18.4s,baz=185,slow=41									
NBO02	**NORSAR Array S**	24.31	348	*e*P		P	19 10 25.8	-0.6		
NBO02	**NORSAR Array S**	24.31	348	*e*P		P	19 10 25.8	-0.6		
IVRN	**Varamin**	24.54	87	*e*P		P	19 10 27.9	-1.0		
IVRN	**Varamin**	24.54	87	*e*P		P	19 10 27.9	-1.0		
IPIR	**Pirpir**	24.58	93	*e*P		P	19 10 28.2	-1.3		
IPIR	**Pirpir**	24.58	93	*e*P		P	19 10 28.2	-1.3		
IDMV	**Damavand**	24.64	86	*e*P		P	19 10 29.6	-0.4		
IDMV	**Damavand**	24.64	86	*e*P		P	19 10 29.6	-0.4		
IKLH	**Kolahrood**	24.91	91	*e*P		P	19 10 33.4	+0.9		
IKLH	**Kolahrood**	24.91	91	*e*P		P	19 10 33.3	+0.9		
RAYN	**Ar Rayn**	25.01	117	*e*P		P	19 10 33.9	+0.7		
	comp=Z,4.8nm,0.8s									
RAYN	**Ar Rayn**	25.01	117	*e*P		P	19 10 33.9	+0.7		
	comp=Z,4.8nm,0.8s									
IZEF	**Zefreh**	25.65	91	*e*P		P	19 10 38.6	-0.5		
IZEF	**Zefreh**	25.65	91	*e*P		P	19 10 38.6	-0.5		
KLMR	**Klimovskoe**	25.86	20	*e*P		P	19 10 40.2	-0.2		
KLMR				pmax		pmax				
	comp=Z,26nm,0.9s									
KLMR				MLR		MLR				
	comp=Z,156nm,13.0s									
KLMR	**Klimovskoe**	25.86	20	*e*P		P	19 10 40.2	-0.2		
	comp=Z,156nm,13.0s									
IKAZ	**Kazeroun**	26.45	98	*e*P		P	19 10 46.7	+0.2		
IKAZ	**Kazeroun**	26.45	98	*e*P		P	19 10 46.7	+0.2		
IMEH	**Mehriz**	27.99	93	*e*P		P	19 10 58.9	-1.3		
IMEH	**Mehriz**	27.99	93	*e*P		P	19 10 58.9	-1.3		
PRGR	**Permogore**	28.32	24	*e*P		P	19 11 04.4	+1.9		
PRGR				pmax		pmax				
	comp=Z,8.0nm,0.7s									
PRGR	**Permogore**	28.32	24	*e*P		P	19 11 04.4	+1.9		
	comp=Z,8.0nm,0.7s									
AKTK	**Aktyubinsk**	28.94	52	P		P	19 11 07.2	-1.0		
AKTO	**Aktyubinsk**	28.94	52	P		P	19 11 07.2	-1.0		
	comp=Z,1.9nm,0.7s,baz=202,slow=3.2,SNR=6.8									
ABKAR	**Akbulak array**	29.97	55	*e*P		P	19 11 16.5	-0.7		
ABKAR	**Akbulak array**	29.97	55	*e*P		P	19 11 16.5	-0.7		
TOA0	**Torodi Ar. Sit**	30.09	221	*e*P		P	19 11 19.1	+0.5		
TOA0	**Torodi Ar. Sit**	30.09	221	*e*P		P	19 11 19.1	+0.5		
TORD	**Torodi Ar. Bea**	30.09	221	P		P	19 11 19.8	+1.2		
	comp=Z,1.5nm,0.7s,baz=31,slow=9.2,SNR=11									
ARU	**Arti**	30.98	41	*d i*P		P	19 11 25.2	-1.0		
ARU							19 12 24.1			
ARU				S		S	19 16 31.2	+2.6		
ARU				SS		SnSn	19 18 12.4	+2.2		
ARU				pmax		pmax				
	comp=Z,3.0nm,0.4s									
ARU	**Arti**	30.98	41	*i* P		P	19 11 25.2	-1.0		
	comp=Z,3.0nm,0.4s									
ARU				S		S	19 16 31.2	+2.6		
ARU	**Arti**	30.98	41	*e*P		P	19 11 23.4	-2.8		
	comp=Z,4.4nm,0.6s									
ARA0	**ARCESS Array S**	31.99	3	*e*P		P	19 11 34.0	-0.9		
ARA0	**ARCESS Array S**	31.99	3	*e*P		P	19 11 34.0	-0.9		
ARCES	**ARCESS Array B**	31.99	3	P		P	19 11 33.5	-1.4		
	comp=Z,7.6nm,0.8s,baz=186,slow=8.5,SNR=28									
ARCES				LR		LR	19 26 30.5			
	comp=Z,53nm,18.9s,baz=180,slow=40									
ARE0	**ARCESS Array S**	31.99	3	*e*P		P	19 11 33.9	-1.0		
ARE0	**ARCESS Array S**	31.99	3	*e*P		P	19 11 33.9	-1.0		
SVE	**Sverdlovsk**	32.20	41⇓	*e*P		P	19 11 37.1	+0.3		
SVE				pmax		pmax				
	comp=Z,22nm,0.9s									
SVE	**Sverdlovsk**	32.20	41	*e*P		P	19 11 37.1	+0.3		
	comp=Z,22nm,0.9s									
BRV

	comp=Z,6.0nm,0.6s								
SACV	**Santiago Islan**	**45.69**	**253**	P		**P**	19 13 30.2	**+0.1**	
SACV	**Santiago Islan**	**45.69**	**253**	P		**P**	19 13 30.2	**+0.1**	
WMQ	**Urumqi**	**49.41**	**61**	*e*P		**P**	19 14 00.5	**+1.7**	
WMQ				pP		pP	19 14 13.0	+4.8	
WMQ				PcP		**PcP**	19 15 22.0	**+1.2**	
WMQ				PP		**PP**	19 15 55.0	**+2.2**	
WMQ				S		**S**	19 21 03.0	**-0.7**	
WMQ				ScS		**ScS**	19 23 45.5	**-2.7**	
WMQ				SS		**SS**	19 24 30.5	**-4.8**	
WMQ				PMZ					
	comp=Z,9.0nm,0.6s								
WMQ				PMZ					
	comp=Z,100nm,5.4s								
WMQ				LN					
	comp=Z,66nm,22.6s								
WMQ				LE					
	comp=Z,38nm,24.0s								
WMQ				LZ					
	comp=Z,46nm,24.6s								
KOLN	**Koldanda**	**52.43**	**82**	*e*P		**P**	19 14 21.0	**-0.8**	
GKN	**Gorkha**	**53.13**	**81**	*e*P		**P**	19 14 26.0	**-1.0**	
	comp=Z,19nm,0.7s								
DMN	**Daman**	**53.68**	**81**	*e*P		**P**	19 14 30.5	**-0.7**	
	comp=Z,17nm,0.7s								
KKN	**Kakani**	**53.73**	**81**	*e*P		**P**	19 14 30.7	**-0.8**	
PKIN	**Phulchoki**	**53.92**	**81**	*e*P		**P**	19 14 31.9	**-1.1**	
GUN	**Gumba**	**54.15**	**80**	*e*P		**P**	19 14 33.8	**-0.9**	
JIRN	**Jiri**	**54.51**	**80**	*e*P		**P**	19 14 36.5	**-0.8**	
RAMN	**Ramite**	**55.16**	**81**	*e*P		**P**	19 14 40.7	**-1.2**	
	comp=Z,18nm,0.7s								
TAPN	**Taplejung**	**55.84**	**80**	*e*P		**P**	19 14 44.9	**-2.0**	
TLY	**Talaya**	**57.12**	**47**	P		P	19 14 51.6	-3.7	
TLY	**Talaya**	**57.12**	**47**	P		P	19 14 51.6	-3.7	
ZAK	**Zakamensk**	**57.37**	**49**	*e*P		**P**	19 14 57.7	**+0.5**	
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.4s								
ZAK	**Zakamensk**	**57.37**	**49**	*e*P		**P**	19 14 57.7	**+0.5**	
	comp=Z,2.0nm,1.4s								
LSA	**Lhasa**	**57.40**	**76**	*e*P		**P**	19 14 57.5	**-0.6**	
LSA				pmax		pmax			
	comp=Z,6.0nm,0.7s								
LSA	**Lhasa**	**57.40**	**76**	*e*P		**P**	19 14 57.5	**-0.6**	
	comp=Z,5.6nm,0.7s								
LSA	**Lhasa**	**57.40**	**76**	*e*P		**P**	19 14 57.5	**-0.6**	
	comp=Z,5.6nm,0.7s								
SCHQ	**Schefferville**	**59.28**	**318**	P		**P**	19 15 11.0	**+0.7**	
	comp=Z,3.2nm,0.7s,baz=88,slow=7.2,SNR=4.7								
SCHQ	**Schefferville**	**59.28**	**318**	P		**P**	19 15 11.0	**+0.7**	
GTA	**Gaotai**	**59.46**	**62**	*e*P		**P**	19 15 18.5	+6.5	
GTA				pP		pP	19 15 22.8	+1.2	
GTA				sP		sP	19 15 26.0	+0.7	
GTA				pmax		pmax			
	comp=Z,4.0nm,0.9s								
TIXI	**Tiksi**	**59.88**	**20**	P		**P**	19 15 15.0	**+0.9**	
TIXI				pmax		pmax			
	comp=Z,2.0nm,1.2s								
TIXI	**Tiksi**	**59.88**	**20**	P		**P**	19 15 15.0	**+0.9**	
	comp=Z,2.0nm,1.2s								
TIXI	**Tiksi**	**59.88**	**20**	*e*P		**P**	19 15 12.6	**-1.5**	
	comp=Z,11nm,2.1s								
SONA1	**Songino Array**	**60.25**	**51**	*e*P		**P**	19 15 19.2	**+2.0**	
SONA1	**Songino Array**	**60.25**	**51**	*e*P		**P**	19 15 19.2	**+2.0**	
SONM	**Songino Array**	**60.25**	**51**	P		**P**	19 15 14.2	**-3.0**	
	comp=Z,0.2nm,0.4s,baz=309,slow=7.3,SNR=2.7								
SONM				LR		LR	19 42 44.5		
	comp=Z,47nm,20.4s,baz=289,slow=38								
ULN	**Ulaanbaatar**	**60.64**	**50**	P		**P**	19 15 20.7	**+0.8**	
ULN				pmax		pmax			
	comp=Z,3.0nm,0.9s								
ULN	**Ulaanbaatar**	**60.64**	**50**	P		**P**	19 15 20.6	**+0.7**	
	comp=Z,2.5nm,0.9s								
ULN	**Ulaanbaatar**	**60.64**	**50**	P		**P**	19 15 20.6	**+0.7**	
	comp=Z,2.5nm,0.9s								
LBTB	**Lobatse**	**62.49**	**176**	P		P	19 15 28.8	-3.6	
LBTB				pmax		pmax			
	comp=Z,7.0nm,1.0s								
LBTB	**Lobatse**	**62.49**	**176**	P		P	19 15 28.8	-3.6	
	comp=Z,6.8nm,1.0s								
LZH	**Lanzhou**	**63.82**	**63**	*e*P		P	19 15 31.8	-10	
LZH				pP		pP	19 15 45.5	-5.6	
LZH				sP		sP	19 15 49.8	-5.0	
LZH				pmax		pmax			
	comp=Z,14nm,1.0s								
YAK	**Yakutsk**	**65.21**	**30**	*e*P		**P**	19 15 48.1	**-1.7**	
YAK				pmax		pmax			
	comp=Z,10.0nm,0.5s								
YAK	**Yakutsk**	**65.21**	**30**	*e*P		**P**	19 15 48.1	**-1.7**	
	comp=Z,10nm,0.5s								
YAK	**Yakutsk**	**65.21**	**30**	*e*P		**P**	19 15 48.1	**-1.7**	
	comp=Z,10nm,0.5s								
CD2	**Chengdu**	**66.32**	**68**	*e*P		**P**	19 15 58.0	**+0.4**	
HHC	**Hu-ho-hao-te**	**66.75**	**56**	*e*P		**P**	19 15 59.3	**-1.0**	
HHC				PMZ					
	comp=Z,15nm,0.6s								
HHC				PMZ					
	comp=Z,59nm,5.9s								
CHTO	**Chiang Mai**	**69.09**	**82**	*e*P		**P**	19 16 13.3	**-1.8**	
CHTO				pmax		pmax			
	comp=Z,3.0nm,0.9s								
CHTO	**Chiang Mai**	**69.09**	**82**	*e*P		**P**	19 16 13.3	**-1.8**	
	comp=Z,3.2nm,0.9s								
CHTO	**Chiang Mai**	**69.09**	**82**	*e*P		**P**	19 16 13.3	**-1.8**	
	comp=Z,3.2nm,0.9s								
CM31	**Chiang Mai Arr**	**69.28**	**82**	P		**P**	19 16 16.1	**-0.3**	
CM31	**Chiang Mai Arr**	**69.28**	**82**	P		**P**	19 16 16.1	**-0.3**	
CMAR	**Chiang Mai Arr**	**69.28**	**82**	P		**P**	19 16 15.9	**-0.4**	
	comp=Z,1.3nm,0.8s,baz=302,slow=8.1,SNR=8.9								
CMAR				LR		LR	19 53 07.7		
	comp=Z,27nm,18.1s,baz=220,slow=42								
CMAR	**Chiang Mai Arr**	**69.28**	**82**	*i* P		**P**	19 16 16.0	**-0.4**	
CMAR				pmax		pmax			
	comp=Z,2.0nm,0.9s								
CM01	**Chiang Mai Arr**	**69.32**	**82**	*e*P		**P**	19 16 16.0	**-0.6**	
CM01	**Chiang Mai Arr**	**69.32**	**82**	*e*P		**P**	19 16 16.0	**-0.6**	
SUR	**Sutherland**	**69.70**	**181**	P		**P**	19 16 17.3	**-1.4**	
SUR	**Sutherland**	**69.70**	**181**	P		**P**	19 16 17.3	**-1.4**	
BILL	**Bilibino**	**71.34**	**13**	*e*P		**P**	19 16 28.5	**+0.3**	
BILL				*e*S		S	19 25 39.5	**-4.0**	
BILL				pmax		pmax			
	comp=Z,5.0nm,1.2s								
BILL	**Bilibino**	**71.34**	**13**	*e*P		**P**	19 16 27.6	**-0.6**	
	comp=Z,2.5nm,0.8s								
BILL	**Bilibino**	**71.34**	**13**	*e*P		**P**	19 16 27.6	**-0.6**	
	comp=Z,2.5nm,0.8s								
SEY	**Seymchan**	**72.35**	**21**	*i* P		**P**	19 16 35.5	**+1.2**	
SEY	**Seymchan**	**72.35**	**21**	*i* P		**P**	19 16 35.5	**+1.2**	
YKA	**Yellowknife Ar**	**74.08**	**340**	P		**P**	19 16 44.2	**-0.3**	
	comp=Z,0.8nm,0.8s,baz=34,slow=5.6,SNR=6.5								
ULM	**Lac du Bonnet**	**76.50**	**324**	P		**P**	19 16 58.8	**+0.2**	
	comp=Z,4.8nm,0.8s,baz=20,slow=2.3,SNR=3.4								
ULM				LR		LR	19 51 42.5		
	comp=Z,62nm,19.1s,baz=42,slow=36								
IM04	**Indian Mountai**	**76.60**	**358**	*e*P		**P**	19 16 59.3	**+0.3**	
IM04	**Indian Mountai**	**76.60**	**358**	*e*P		**P**	19 16 59.3	**+0.3**	
USRK	**Ussuriysk Ar.**	**77.17**	**44**	P		**P**	19 17 00.7	**-1.8**	
	comp=Z,0.7nm,0.5s,baz=299,slow=5.8,SNR=3.5								
ILAR	**Eielson Array**	**77.46**	**355**	P		**P**	19 17 03.9	**0.0**	
	comp=Z,0.5nm,0.8s,baz=349,slow=4.6,SNR=7.8								
ILAR				LR		LR	19 54 50.3		
	comp=Z,33nm,18.7s,baz=341,slow=39								
WRH	**Wood River Hil**	**77.84**	**355**	*e*P		**P**	19 17 06.1	**+0.2**	
	comp=Z,2.6nm,0.9s								
WRH	**Wood River Hil**	**77.84**	**355**	*e*P		**P**	19 17 06.1	**+0.2**	
	comp=Z,2.6nm,0.9s								
KSAR	**Wonju Array Be**	**79.10**	**51**	P		**P**	19 17 10.9	**-2.4**	
KSAR	**Wonju Array Be**	**79.10**	**51**	P		**P**	19 17 10.9	**-2.4**	
KSRS	**Korea Array**	**79.12**	**51**	P		**P**	19 17 10.9	**-2.5**	
	comp=Z,0.7nm,0.6s,baz=306,slow=3.5,SNR=5.8								
KSRS				LR		LR	19 56 57.5		
	comp=Z,29nm,18.7s,baz=215,slow=39								
KSRS	**Korea Array**	**79.12**	**51**	P		**P**	19 17 10.9	**-2.5**	
KSRS				pmax		pmax			
	comp=Z,1.0nm,0.6s								
KSRS				MLR		MLR			
	comp=Z,29nm,18.7s								
YSS	**Yuzh-Sakhalins**	**80.77**	**36**	*e*P		**P**	19 17 22.8	**+0.7**	
YSS				*e*			19 17 29.2		
YSS	**Yuzh-Sakhalins**	**80.77**	**36**	*e*P		**P**	19 17 22.8	**+0.7**	
YSS	**Yuzh-Sakhalins**	**80.77**	**36**	*e*P		**P**	19 17 19.0	**-3.2**	
MJAR	**Matsushiro Arr**	**85.84**	**46**	P		**P**	19 17 48.6	**0.0**	
	comp=Z,0.7nm,0.8s,baz=326,slow=4.1,SNR=2.8								
SWMT	**Swartz Lake**	**86.29**	**331**	*e*P		**P**	19 17 51.8	**+1.1**	
	comp=Z,2.6nm,0.8s								
SWMT	**Swartz Lake**	**86.29**	**331**	*e*P		**P**	19 17 51.8	**+1.1**	
	comp=Z,2.6nm,0.8s								
PDAR	**Pinedale Array**	**88.34**	**326**	P		**P**	19 18 00.7	**-0.1**	
	comp=Z,0.7nm,0.9s,baz=79,slow=9.4,SNR=5.4								
PDAR				LR		LR	19 59 34.0		
	comp=Z,78nm,18.3s,baz=55,slow=37								
WRA	**Warramunga Arr**	**119.84**	**93**	PKP		**PKPdf**	19 24 00.4	**+1.0**	
	comp=Z,0.3nm,0.8s,baz=317,slow=2.3,SNR=2.8								
ASAR	**Alice Springs**	**121.44**	**97**	PKP		**PKPdf**	19 24 02.5	**0.0**	
	comp=Z,0.2nm,0.6s,baz=320,slow=1.7,SNR=3.1								

*ISCJB **29** 19:18:06.4±0.5, 36.84S×0.04×73.78W×0.06, h14km, mb4.2/16, MS3.8/2, Error ellipse: s-maj=6.6km s-min=5.7km az=159.4*
*IDC **29** 19:18:06.8±0.7, 36.91S×73.43W, h0km, mb4.0/10, mb1 4.1/13, mb1mx4.0/36, mbtmp4.0/13, ML3.2/2, MS3.7/4, Ms1 3.7/4, ms1mx3.3/18, Error ellipse: s-maj=24.6km s-min=14.7km az=83.0*
*GUC **29** 19:18:08.4±0.4, 36.85S×73.73W, h10km±1km*
*NEIC **29** 19:18:08.8±4.7, 36.87S×73.58W, h17km±27km, mb4.6/9, Error ellipse: s-maj=19.1km s-min=9.0km az=76.0*

ISC 29 19:18:08.4±0.5, 36.88S±0.04×73.54W±0.06, h14km, n46, σ1ᵍ05/59, mb4.3/16, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.35**	**84**	*e*P		**Pb**	19 18 17.4	**+1.1**
CCSP				*e*S		**Sn**	19 18 24.6	**-1.2**
AGCH	**Angol**	**1.15**	**144**	*e*P		**Pb**	19 18 30.0	**0.0**
AGCH				*e*S		**Sn**	19 18 46.5	**+1.0**
LNCH	**Linares**	**1.87**	**57**	*e*P		**Pb**	19 18 41.3	**-1.1**
LNCH				*e*S		**Sb**	19 19 06.7	**+1.0**
TALC	**Talca**	**2.14**	**47**	*e*P		**Pb**	19 18 45.5	**-1.4**
TALC				*e*S		**Sb**	19 19 13.5	**+0.2**
PLCA	**Paso Flores**	**4.50**	**150**	Pn		**Pn**	19 19 16.9	**+0.6**
	0.3nm,0.3s,baz=328,slow=22,SNR=16							
PLCA				Lg		Lg	19 20 27.9	
	0.5nm,0.3s,baz=52,slow=19,SNR=3.1							
PLCA	**Paso Flores**	**4.50**	**150**	Pn		**Pn**	19 19 16.9	**+0.6**
PLCA				*e*Pg		**Pg**	19 19 32.9	**-1.7**
PLCA				Lg		Lg	19 20 27.9	
PLCA				*e*Sg		**Sg**	19 20 30.0	**-2.9**
CFAA	**Coronel Fontan**	**6.85**	**41**	Pn		**Pn**	19 19 48.6	**+0.1**
	0.4nm,0.3s,baz=211,slow=13,SNR=24							
CFAA				Sn		**Sn**	19 21 07.0	**+0.7**
	0.3nm,0.3s,baz=207,slow=16,SNR=2.3							
CFAA				LR		LR	19 22 37.8	
	comp=Z,102nm,19.3s,baz=224,slow=40							
LCO	**Las Campanas**	**8.20**	**18**	*e*Pn		**Pn**	19 20 05.8	**-1.5**
	20nm,0.6s							
TRQA	**Tornquist**	**9.27**	**101**	*e*Pn		**Pn**	19 20 23.9	**+2.2**
	45nm,1.4s							
LVC	**Limon Verde**	**14.77**	**17**	Pn		**Pn**	19 21 36.3	**-0.9**
	11nm,0.3s,baz=188,slow=15,SNR=2.6							
LVC				LR		LR	19 27 39.8	
	comp=Z,692nm,19.4s,baz=210,slow=39							
CPUP	**Villa Florida**	**17.33**	**57**	*e*Pn		**Pn**	19 22 09.8	**-0.2**
	0.6nm,1.5s							
LPAZ	**La Paz**	**21.07**	**15**	P		**P**	19 22 54.7	**+1.9**
	4.1nm,0.7s,baz=183,slow=7.2,SNR=19							
LPAZ	**La Paz**	**21.07**	**15**	*e*P		**P**	19 22 54.4	**+1.6**
	4.8nm,0.7s							
SIV	**San Ignacio**	**23.57**	**31**	P		**P**	19 23 19.3	**+0.7**
	3.9nm,0.8s,baz=219,slow=10,SNR=8.0							
SIV				LR		LR	19 34 19.6	
	comp=Z,256nm,20.3s,baz=198,slow=41							
SAML	**Samuel**	**29.35**	**21**	P		**P**	19 24 10.9	**0.0**
	2.3nm,0.9s							
BDFB	**Brasilia**	**31.00**	**54**	P		**P**	19 24 25.9	**+0.2**
	2.8nm,0.7s,baz=257,slow=3.2,SNR=4.5							
OTAV	**Otavalo**	**37.21**	**352**	P		**P**	19 25 20.1	**+0.1**
SDV	**Santo Domingo**	**45.60**	**4**	*e*P		**P**	19 26 27.9	**-0.6**
	4.8nm,0.8s							
SNAA	**Sanae**	**49.41**	**157**	P		**P**	19 26 57.6	**+0.3**
	2.6nm,1.2s,baz=279,slow=8.5,SNR=4.9							
SNAA	**Sanae**	**49.41**	**157**	*e*P		P	19 26 53.9	-3.5
	4.4nm,1.0s							
FDF	**Fort de France**	**52.65**	**15**	P		**P**	19 27 21.1	**-1.2**
QSPA	**South Pole Qui**	**53.36**	**180**	P		**P**	19 27 27.8	**+0.7**
	3.6nm,0.8s,baz=149,slow=2.0,SNR=8.4							
QSPA	**South Pole Qui**	**53.36**	**180**	*e*P		**P**	19 27 27.8	**+0.7**
	5.3nm,0.9s							
TEIG	**Tepich**	**58.48**	**344**	*e*P		**P**	19 28 01.8	**-2.2**
	5.1nm,0.8s							
TXAR	**Lajitas Array**	**71.68**	**333**	P		**P**	19 29 30.8	**+0.9**
	0.6nm,0.6s,baz=148,slow=9.5,SNR=8.4							
SUR	**Sutherland**	**74.51**	**119**	P		**P**	19 29 48.8	**+1.9**
	5.2nm,1.1s							
DBIC	**Dimbokro**	**77.26**	**72**	P		**P**	19 30 02.4	**-0.2**
	3.3nm,0.7s,baz=187,slow=6.0,SNR=5.7							
DBIC				LR		LR	20 01 32.9	
	comp=Z,49nm,18.8s,baz=185,slow=34							
TSUM	**Tsumeb**	**79.60**	**106**	*e*P		**P**	19 30 16.2	**+0.5**
	13nm,1.4s							
LBTB	**Lobatse**	**82.20**	**115**	*e*P		**P**	19 30 28.8	**-0.7**
	10.0nm,0.8s							
NVAR	**Mina Array Bea**	**85.57**	**326**	P		**P**	19 30 48.7	**+2.4**
	0.3nm,0.6s,baz=152,slow=6.6,SNR=3.5							
PDAR	**Pinedale Array**	**85.80**	**334**	P		**P**	19 30 48.0	**+0.7**
	0.3nm,0.8s,baz=116,slow=3.3,SNR=2.8							
TOA0	**Toyo Ar. Sit**	**86.33**	**71**	*e*P		**P**	19 30 50.0	**-0.3**
TORD	**Torodi Ar. Bea**	**86.33**	**71**	P		**P**	19 30 50.4	**0.0**
	1.2nm,1.0s,baz=217,slow=5.6,SNR=6.8							
BRTR	**Keskin Array B**	**124.27**	**63**	PKP		**PKPdf**	19 37 07.0	**+0.2**
	0.5nm,0.8s,baz=95,slow=1.4,SNR=3.5							
BILL	**Bilibino**	**134.86**	**333**	*e*PKPpre		PKPpre	19 37 16.3	
ABKAR	**Akbulak array**	**144.38**	**55**	*e*PKPdf		PKPbc	19 37 42.3	+0.2
BVAR	**Borovoye Array**	**150.19**	**46**	PKPbc		**PKPbc**	19 37 59.0	**+0.6**
	2.4nm,0.8s,baz=296,slow=4.8,SNR=15							
BVAR				PKPab		**PKPab**	19 38 05.9	**+1.4**
	2.6nm,0.8s,baz=266,slow=2.4,SNR=8.5							
KKAR	**Karatay Array**	**151.92**	**66**	*e*PKPab		**PKPab**	19 38 11.7	**-0.3**
AAK	**Ala-Archa**	**154.86**	**67**	PKPbc		**PKPbc**	19 38 08.8	**-0.5**
	0.6nm,0.4s,baz=198,slow=13,SNR=2.8							
AAK				PKPab		**PKPab**	19 38 24.6	**-0.1**
	2.2nm,0.6s,baz=219,slow=3.8,SNR=8.3							
AAK	**Ala-Archa**	**154.86**	**67**	PKPbc		**PKPbc**	19 38 08.8	**-0.5**
AAK				PKPab		**PKPab**	19 38 24.6	**-0.1**
AAK				*e*PKPab		**PKPab**	19 38 24.9	**+0.3**
KURBB	**Kurchatov Arra**	**155.77**	**47**	PKP		**PKPdf**	19 38 00.9	**-0.4**
	0.4nm,0.9s,baz=329,slow=3.2,SNR=2.9							
KURBB				PKPab		**PKPab**	19 38 27.1	**-0.9**
	1.3nm,0.8s,baz=290,slow=4.6,SNR=8.2							
KURK	**Kurchatov**	**155.78**	**46**	PKP		**PKPdf**	19 38 00.9	**-0.5**
KURK				PKPab		**PKPab**	19 38 27.1	**-1.0**
ZALV	**Zalesovo Beam**	**157.30**	**34**	PKP		**PKPdf**	19 38 02.9	**-0.4**
	1.2nm,0.8s,baz=315,slow=0.6,SNR=5.6							
ZALV				PKPab		**PKPab**	19 38 34.5	**0.0**
	1.1nm,0.6s,baz=298,slow=6.4,SNR=6.0							
MK31	**Makanchi Array**	**159.52**	**54**	*e*PKPdf		**PKPdf**	19 38 06.3	**0.0**
MK31				*e*PKPab		**PKPab**	19 38 44.4	**0.0**
MKAR	**Makanchi Array**	**159.52**	**54**	PKP		**PKPdf**	19 38 04.9	**-1.4**
	0.7nm,0.9s,baz=79,slow=3.1,SNR=5.0							
MKAR				PKPab		**PKPab**	19 38 44.5	**0.0**
	1.6nm,0.8s,baz=284,slow=4.9,SNR=14							
SONM	**Songino Array**	**169.05**	**0**	PKPab		**PKPab**	19 39 26.8	**+0.5**
	0.3nm,0.7s,baz=322,slow=4.1,SNR=3.5							

*ISCJB **29** 19:27:21.3±0.4, 30.19N±0.04×138.84E±0.08, h421km, mb3.4/11, Error ellipse: s-maj=9.5km s-min=4.8km az=167.7*
*JMA **29** 19:27:21.9±0.2, 30.32N×139.34E, h449km, M3.9*
*IDC **29** 19:27:22.6±1.3, 30.19N×138.67E, h415km±17km, mb3.2/11, mb1 3.3/16, mb1mx3.0/46, mbtmp4.0/16, Error ellipse: s-maj=34.0km s-min=9.7km az=70.0*

ISC 29 19:27:22.3±0.7, 30.24N±0.07×139.0E±0.1, h421km, n31, σ1ᵍ61/40, mb3.5/11, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.90**	**13**	P		**P**	19 28 28.1	**+2.0**
JHJ2	**Mitsune**	**2.94**	**13**	P		**P**	19 28 28.5	**+2.1**
CBIJ	**Chichi jima**	**4.19**	**138**	P		**P**	19 28 37.8	**+0.4**
CBIJ				S		**S**	19 29 37.0	**-1.5**
JCJ	**Chichijima**	**4.19**	**138**	P		**P**	19 28 38.1	**+0.7**
	46nm,0.3s,baz=37,slow=23,SNR=55							
JCJ				S		**S**	19 29 37.3	**-1.2**
	115nm,0.3s,baz=146,slow=21,SNR=19							
JIE	**Ise**	**4.58**	**335**	P		**P**	19 28 43.6	**+2.8**
JKN2	**Miekihoku**	**4.61**	**330**	P		**P**	19 28 43.4	**+2.2**
BSO1	**Boso 1**	**4.70**	**20**	S		**S**	19 29 47.2	**+1.0**
BSO3	**Boso 3**	**4.72**	**15**	P		**P**	19 28 43.1	**+1.2**
BSO3				S		**S**	19 29 48.2	**+1.2**
HMMJ	**Hamamatsu 2**	**4.73**	**347**	P		**P**	19 28 44.6	**+2.3**
BSO4	**Boso 4**	**4.86**	**13**	P		**P**	19 28 44.5	**+1.0**
JOD2	**Odawara 2**	**5.01**	**1**	P		**P**	19 28 46.1	**+1.0**
JHU	**Hanno**	**5.60**	**2**	P		**P**	19 28 51.4	**+0.3**
JHU				S		**S**	19 30 01.0	**-2.9**
JRY	**Ryogami san**	**5.76**	**359**	P		**P**	19 28 54.0	**+1.2**
JRY				S		**S**	19 30 05.6	**-1.4**
JYT	**Yasato**	**6.05**	**9**	P		**P**	19 28 55.6	**-0.2**
JYT				S		**S**	19 30 09.0	**-3.5**
MJAR	**Matsushiro Arr**	**6.32**	**354**	P		**P**	19 28 59.1	**+0.4**
	1.0nm,0.3s,baz=170,slow=12,SNR=17							
MJAR				S		**S**	19 30 14.5	**-3.4**
	0.7nm,0.3s,baz=159,slow=31,SNR=5.2							
MAT	**Matsushiro**	**6.32**	**354**	P		**P**	19 28 59.5	**+0.8**
MAT				S		**S**	19 30 16.2	**-1.7**
JNU	**Nakatsue**	**7.51**	**295**	P		**P**	19 29 13.9	**+1.8**
	0.5nm,0.3s,baz=40,slow=3.8,SNR=7.8							
KSRS	**Korea Array**	**11.69**	**311**	P		**P**	19 29 58.2	**+0.3**
	0.6nm,0.3s,baz=125,slow=11,SNR=29							
ASAJ	**Asahikawa**	**14.14**	**11**	P		**P**	19 30 27.4	**+2.9**
	0.6nm,0.3s,baz=246,slow=9.4,SNR=9.3							
USRK	**Ussuriysk Ar.**	**15.01**	**340**	P		**P**	19 30 34.7	**+0.8**
	1.2nm,0.3s,baz=149,slow=9.9,SNR=18							
SONM	**Songino Array**	**30.53**	**314**	P		**P**	19 32 58.8	**-0.3**
	0.4nm,0.4s,baz=124,slow=8.7,SNR=7.3							
ZALV	**Zalesovo Beam**	**45.30**	**318**	P		**P**	19 34 59.3	**-0.9**
	0.4nm,0.4s,baz=104,slow=6.1,SNR=3.0							
MKAR	**Makanchi Array**	**46.35**	**307**	P		**P**	19 35 07.5	**-1.1**
	0.5nm,0.6s,baz=90,slow=9.6,SNR=7.2							
KURBB	**Kurchatov Arra**	**48.86**	**313**	P		**P**	19 35 26.7	**-0.7**
	1.2nm,0.6s,baz=92,slow=7.6,SNR=29							
WRA	**Warramunga Arr**	**50.10**	**186**	P		**P**	19 35 37.1	**+0.2**
	2.5nm,0.4s,baz=1.7,slow=8.0,SNR=76							
WRA				PcP		**PcP**	19 36 50.6	**+1.2**
	0.3nm,0.3s,baz=358,slow=4.0,SNR=5.3							
AAK	**Ala-Archa**	**52.20**	**303**	P		**P**	19 35 50.8	**-1.6**
	0.7nm,0.6s,baz=227,slow=8.0,SNR=3.7							
ASAR	**Alice Springs**	**53.83**	**186**	P		**P**	19 36 04.4	**+0.4**
	1.4nm,0.5s,baz=358,slow=5.9,SNR=108							
BVAR	**Borovoye Array**	**53.85**	**316**	P		**P**	19 36 03.2	**-0.7**
	1.4nm,0.5s,baz=98,slow=7.9,SNR=9.0							
STKA	**Stephens Creek**	**61.83**	**178**	P		**P**	19 36 59.1	**+0.5**
	4.9nm,1.1s,baz=348,slow=6.7,SNR=3.8							
ARCES	**ARCESS Array B**	**69.65**	**340**	P		**P**	19 37 48.4	**+1.0**
	1.4nm,0.6s,baz=66,slow=8.8,SNR=12							
FINES	**FINESS Array B**	**73.89**	**333**	P		**P**	19 38 12.5	**+0.1**
	0.5nm,0.3s,baz=84,slow=4.9,SNR=15							

*ISCJB **29** 19:46:14.6±0.7, 47.9N±0.1×27.5W±0.2, h10km, mb3.7/9, MS3.2/8, Error ellipse: s-maj=21.0km s-min=14.8km az=18.4*
*IDC **29** 19:46:14.8±0.8, 47.87N×27.55W, h0km, mb3.5/8, mb1 3.7/9, mb1mx3.5/43, mbtmp3.4/9, MS3.2/8, Ms1 3.3/8, ms1mx2.9/44, Error ellipse: s-maj=26.7km s-min=19.6km az=10.0*

**ISC 29 19:46:16.3±0.8, 47.9N±0.2×27.5W±0.1, h10km, n23, σ0ᵍ76/11, mb3

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**22.06**	**350**	P	P	19 58 49.3	0.0
	0.8nm,0.7s,baz=164,slow=11,SNR=3.8						
FINES	**FINESS Array B**	**50.27**	**326**	LR	LR	20 26 33.8	
	comp=Z,28nm,18.8s,baz=236,slow=39						
WRA	**Warramunga Arr**	**66.49**	**135**	P	P	20 04 44.7	0.0
	0.3nm,0.6s,baz=326,slow=6.1,SNR=2.5						
ASAR	**Alice Springs**	**69.13**	**138**	P	P	20 05 01.3	0.0
	0.4nm,0.7s,baz=323,slow=6.2,SNR=4.4						
TORD	**Torodi Ar. Bea**	**82.51**	**281**	P	P	20 06 18.2	+0.1
	0.2nm,0.7s,baz=59,slow=5.2,SNR=2.2						

DJA 29 19:57:52.6±0.8, 2°S±6″×14°0E±°, h10km, M3.6/4, MLv3.6/4, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.81**	**151**	P	Pg	19 58 06.9	-1.4
GENI				S	Sb	19 58 19.4	-0.5
SMPI	**Sarmi**	**1.06**	**264**	P	Pg	19 58 10.6	-2.5
SMPI				S	Sb	19 58 27.2	+0.1
JAY	**Jayapura**	**1.13**	**124**	P	Pb	19 58 12.8	-1.5
WAMI	**Wamena**	**2.25**	**208**	P	Pb	19 58 31.8	-1.6
WAMI				S	Sb	19 59 00.9	-0.5
SRPI	**Serui, Papua**	**3.53**	**270**	P	Pn	19 58 50.6	+3.1
SRPI				S	Sg	19 59 46.7	+0.6

*IDC **29** 19:58:46.3±1.1, 13°.95S×166°.85E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/34, mbtmp3.8/7, ML3.0/1, Error ellipse: s-maj=35.8km s-min=23.6km az=108.0*
*ISCJB **29** 19:58:50.3±1.1, 14°.03S±0°.08×166°.7E±0°.2, h33km, mb3.7/6, Error ellipse: s-maj=28.6km s-min=11.4km az=174.9*

ISC 29 19:58:51.8±1.1, 14°.0S±0°.1×166°.8E±0°.2, h35km, n9, σ0°69/10, mb3.7/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.09**	**182**	Pn	**Pn**	**20 00 47.0**	**+0.1**
	0.2nm,0.3s,baz=90,slow=20,SNR=5.3						
DZM				Sn	**Sn**	**20 02 17.6**	**+0.5**
	baz=90,slow=24,SNR=3.5						
STKA	**Stephens Creek**	**29.14**	**228**	P	**P**	**20 04 48.9**	**-0.8**
	3.6nm,0.9s,baz=19,slow=12,SNR=3.3						
WRA	**Warramunga Arr**	**31.55**	**255**	P	**P**	**20 05 12.5**	**+1.3**
	0.9nm,1.0s,baz=87,slow=9.8,SNR=3.4						
ASAR	**Alice Springs**	**32.51**	**248**	P	**P**	**20 05 18.9**	**-0.7**
	0.4nm,0.8s,baz=74,slow=9.4,SNR=5.9						
QSPA	**South Pole Qui**	**76.08**	**180**	P	**P**	**20 10 35.5**	**-0.2**
	1.8nm,0.8s,baz=279,slow=0.4,SNR=9.6						
ILAR	**Eielson Array**	**85.94**	**18**	P	**P**	**20 11 28.0**	**+0.1**
	0.2nm,0.5s,baz=238,slow=5.4,SNR=6.0						
MKAR	**Makanchi Array**	**96.31**	**317**	P	**P**	**20 12 17.1**	**+0.3**
	0.2nm,0.7s,baz=109,slow=4.4,SNR=3.2						
ARCES	**ARCESS Array B**	**119.38**	**345**	PKP	**PKPdf**	**20 17 36.9**	**-0.1**
	0.9nm,0.6s,baz=69,slow=2.4,SNR=7.7						
FINES	**FINESS Array B**	**124.82**	**338**	PKP	**PKPdf**	**20 17 47.4**	**-0.2**
	1.4nm,0.9s,baz=184,slow=3.1,SNR=4.1						

DJA 29 20:08:48.2±0.4, 8°S±5°×11°6E±°, h11km±3km, M3.4/11, mb3.7/1, MLv3.2/11, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBI	**Singaraja**	**0.73**	**284**	P	Pg	20 09 02.1	-0.3
SRBI				S	Sb	20 09 12.7	-0.4
DNP	**Denpasar**	**0.82**	**240**	P	Pg	20 09 03.3	-0.7
DNP				S	Sg	20 09 15.0	+0.2
IGBI	**Denpasar**	**0.95**	**235**	P	Pg	20 09 04.6	-1.9
ABJI	**Asem Bagus**	**1.74**	**286**	P	Pn	20 09 18.0	-0.4
BSSI	**Bau Bau, Buton**	**4.99**	**65**	P	Pn	20 10 02.4	-0.8
BKSI	**Bulukumba**	**5.09**	**55**	P	Pn	20 10 04.0	-0.5

*IDC **29** 20:17:12.6±5.1, 35°.82N×70°.68E, h80km±44km, mb3.4/7, mb1 3.5/12, mb1mx3.2/42, mbtmp3.7/12, ML3.6/5, Error ellipse: s-maj=32.9km s-min=24.4km az=22.0*
*ISCJB **29** 20:17:13.1±0.5, 35°.84N±0°.03×70°.83E±0°.07, h110km, mb3.5/6, Error ellipse: s-maj=8.2km s-min=4.1km az=157.6*
*NNC **29** 20:17:19.0±3.0, 36°.32N×70°.43E, h142km±25km, mb3.2, mpv3.9, Error ellipse: s-maj=25.5km s-min=14.0km az=172.0*

ISC 29 20:17:14.4±0.8, 35°.88N±0°.07×70°.69E±0°.07, h110km, n43, σ1°83/48, mb3.5/6, 10C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**3.27**	**334**	⇑P	**Pn**	**20 18 02.1**	**-2.0**
	12nm,0.4s						
DZET				⇑S	**Sn**	**20 18 39.0**	**-3.5**
	30nm,0.3s						
SFK	**Sufi-Kurgan**	**4.69**	**27**	⇑P	**Pn**	**20 18 24.7**	**+1.6**
	16nm,0.3s						
SFK				⇑S	**Sn**	**20 19 16.3**	**-0.2**
	7.6nm,0.2s						
DLH	**Dalhousie**	**5.50**	**126**	*e*P	**Pn**	**20 18 32.5**	**-1.6**
DLH				*e*S	**Sn**	**20 19 34.0**	**-2.1**
AML	**Almayashu**	**6.66**	**20**	P	**Pn**	**20 18 49.7**	**-0.3**
	SNR=59						
MNAS	**Manas**	**6.75**	**11**	⇓P	**Pn**	**20 18 50.3**	**-0.6**
	8.6nm,0.7s						
MNAS				⇑S	**Sn**	**20 20 01.2**	**-5.1**
	9.6nm,0.4s						
UCH	**Uchtor**	**7.00**	**24**	P	**Pn**	**20 18 54.5**	**-0.1**
	SNR=15						
KZA	**Kyzart**	**7.13**	**28**	P	**Pn**	**20 18 56.4**	**0.0**
	SNR=12						
EKS2	**Erkin-Say**	**7.18**	**19**	P	**Pn**	**20 18 57.3**	**+0.5**
	SNR=14						
KK31	**Karatay Array**	**7.21**	**359**	⇓P	**Pn**	**20 18 56.1**	**-1.0**
	1.0nm,0.2s,baz=179,slow=13,SNR=106						
KK31				⇑S	**Sn**	**20 20 12.6**	**-4.8**
	8.2nm,0.4s,baz=187,slow=26,SNR=10						
AAK	**Ala-Archa**	**7.36**	**22**	P	**Pn**	**20 18 59.1**	**-0.1**
	SNR=15						
AAK	**Ala-Archa**	**7.36**	**22**	⇓P	**Pn**	**20 18 59.6**	**+0.3**
	5.1nm,0.3s						
AAK				⇓S	**Sn**	**20 20 19.7**	**-1.5**
	5.1nm,0.4s						
AAK	**Ala-Archa**	**7.36**	**22**	P	**Pn**	**20 18 59.3**	**0.0**
	3.3nm,0.3s,baz=185,slow=7.5,SNR=34						
AAK				S	**Sn**	**20 20 19.2**	**-2.0**
	2.0nm,0.3s,baz=118,slow=22,SNR=13						
KBK	**Karagaybulak**	**7.53**	**25**	P	**Pn**	**20 19 02.8**	**+1.3**
	SNR=8.3						
ULHL	**Ulahol**	**7.68**	**32**	P	**Pn**	**20 19 03.9**	**+0.3**
	SNR=5.7						
CHMS	**Chumysh**	**7.77**	**23**	P	**Pn**	**20 19 05.0**	**+0.4**
	SNR=5.5						
USP	**Ospenovka**	**7.94**	**21**	P	**Pn**	**20 19 07.0**	**0.0**
	SNR=5.9						
TKM2	**Tokmak 2**	**7.99**	**27**	P	**Pn**	**20 19 08.0**	**+0.2**
	SNR=7.8						
TKM2	**Tokmak 2**	**7.99**	**27**	⇓P	**Pn**	**20 19 07.1**	**-0.7**
	3.9nm,0.6s						
TKM2				⇑S	**Sn**	**20 20 35.9**	**-0.6**
	5.6nm,0.7s						
KOLN	**Koldanda**	**13.62**	**123**	*e*P	Pn	20 20 20.2	-3.0
	4.6nm,0.3s						
MKAR	**Makanchi Array**	**13.94**	**35**	P	**Pn**	**20 20 26.5**	**-0.5**
	0.1nm,0.3s,baz=224,slow=15,SNR=3.9						
GKN	**Gorkha**	**14.20**	**120**	*e*P	Pn	20 20 27.2	-3.4
	8.0nm,0.3s						
GKN				*e*S	Sn	20 22 54.4	-13
DMN	**Daman**	**14.77**	**120**	*e*P	**Pn**	**20 20 35.8**	**-2.1**
	6.4nm,0.3s						
KKN	**Kakani**	**14.78**	**119**	*e*P	Pn	20 20 35.0	-3.1
	3.7nm,0.2s						
PKIN	**Phulchoki**	**14.99**	**119**	*e*P	**Pn**	**20 20 38.1**	**-2.7**
	9.0nm,0.4s						
PKI	**Pulchoki**	**15.00**	**119**	*e*P	**Pn**	**20 20 38.1**	**-2.9**
	6.6nm,0.3s						
GUN	**Gumba**	**15.14**	**117**	*e*P	**Pn**	**20 20 40.0**	**-2.7**
JIRN	**Jiri**	**15.51**	**118**	*e*P	**Pn**	**20 20 45.3**	**-2.1**
	12nm,0.4s						
AB31	**Akbulak array**	**15.51**	**333**	⇑P	**Pn**	**20 20 45.7**	**-1.2**
	4.0nm,0.3s						
AB31				⇑S	Sn	20 23 24.4	-14
	1.3nm,0.5s						
KURBB	**Kurchatov Arra**	**15.79**	**19**	P	**P**	**20 20 52.6**	**+0.8**
	0.1nm,0.3s,baz=213,slow=10.0,SNR=12						
RAMN	**Ramite**	**16.22**	**119**	*e*P	**Pn**	**20 20 54.1**	**-2.0**
TAPN	**Taplejung**	**16.79**	**116**	*e*P	**Pn**	**20 21 02.2**	**-0.9**
	7.8nm,0.3s						
ODAN	**Odare**	**16.84**	**118**	*e*P	**Pn**	**20 21 02.3**	**-1.4**
	7.0nm,0.5s						
BVA0	**Borovoye Array**	**17.14**	**359**	⇓P	**Pn**	**20 21 08.3**	**+1.4**
	1.3nm,0.7s,baz=184,slow=21,SNR=6.5						
BVAR	**Borovoye Array**	**17.14**	**359**	P	**Pn**	**20 21 08.0**	**+1.1**
	0.3nm,0.3s,baz=157,slow=11,SNR=7.6						
AKTO	**Aktyubinsk**	**17.20**	**332**	⇑P	**Pn**	**20 21 08.9**	**+1.3**
	4.2nm,0.7s						
AKTO				⇓S	Sn	20 24 06.5	-12
	3.9nm,1.0s						
AKTO	**Aktyubinsk**	**17.20**	**332**	P	**Pn**	**20 21 08.9**	**+1.3**
	0.6nm,0.3s,baz=148,slow=14,SNR=13						
AKTO				S	Sn	20 24 08.2	-11
	0.1nm,0.3s,baz=359,slow=17,SNR=4.1						
ZALV	**Zalesovo Beam**	**20.58**	**24**	P	**P**	**20 21 45.1**	**+0.9**
	2.8nm,0.4s,baz=219,slow=11,SNR=20						
FINES	**FINESS Array B**	**37.86**	**327**	P	**P**	**20 24 21.8**	**+1.7**
	0.4nm,0.6s,baz=168,slow=11,SNR=4.4						
ARCES	**ARCESS Array B**	**41.62**	**338**	P	**P**	**20 24 53.3**	**+2.1**
	1.9nm,0.6s,baz=108,slow=7.8,SNR=15						
NOA	**NORSAR Array B**	**44.73**	**323**	P	**P**	**20 25 17.0**	**+0.7**
	0.9nm,0.8s,baz=101,slow=4.2,SNR=3.6						
TORD	**Torodi Ar. Bea**	**65.45**	**269**	P	**P**	**20 27 46.6**	**+0.7**
	0.3nm,0.6s,baz=43,slow=5.5,SNR=3.4						
YKA	**Yellowknife Ar**	**81.87**	**2**	P	**P**	**20 29 23.1**	**+2.1**
	0.2nm,0.5s,baz=353,slow=5.8,SNR=3.5						
WRA	**Warramunga Arr**	**81.88**	**122**	P	**P**	**20 29 23.4**	**+1.7**
	0.4nm,0.9s,baz=325,slow=4.9,SNR=8.4						

IDC 29 20:36:44.8±3.6, 20°.24S×175°.59W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.6/29, mbtmp3.9/2, Error ellipse: s-maj=198.0km s-min=60.6km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.78**	**256**	P	P	20 45 16.9	+0.4
	1.3nm,0.6s,baz=93,slow=7.7,SNR=12						
ASAR				PcP	PcP	20 46 48.4	-1.4
	0.3nm,0.6s,baz=103,slow=3.9,SNR=3.8						
WRA	**Warramunga Arr**	**46.87**	**261**	P	P	20 45 16.9	-0.3
	0.9nm,0.5s,baz=97,slow=7.8,SNR=16						
BRTR	**Keskin Array B**	**148.31**	**314**	PKPbc	PKPbc	20 56 33.6	+0.1
	0.5nm,0.6s,baz=95,slow=3.0,SNR=4.8						

*IDC **29** 20:37:22.3±0.9, 55°.84S×26°.95W, h0km, mb4.2/5, mb1 4.3/5, mb1mx3.9/24, mbtmp4.1/5, Error ellipse: s-maj=36.8km s-min=26.4km az=62.0*
*NEIC **29** 20:37:26.9±0.5, 55°.85S×26°.95W, h35km, mb4.3/7, Error ellipse: s-maj=17.3km s-min=11.3km az=53.0*

ISC 29 20:37:29.0±0.7, 55°.9S±0°.1×27°.6W±0°.1, h35km, n27, σ2°02/21, mb4.3/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.35**	**284**	*e*Pn	**Pn**	**20 38 48.1**	**+1.9**
HOPE				*e*Sn	**Sn**	**20 39 43.9**	**-2.7**
SNAA	**Sanae**	**18.99**	**156**	*e*P	P	20 41 41.6	-5.6
	1.5nm,0.6s						
QSPA	**South Pole Qui**	**34.37**	**180**	*e*P	**P**	**20 44 11.3**	**-1.0**
	2.6nm,0.6s						
CPUP	**Villa Florida**	**36.53**	**312**	P	**P**	**20 44 30.7**	**-0.2**
	0.1nm,1.0s						
LVC	**Limon Verde**	**45.01**	**300**	P	**P**	**20 45 42.2**	**+1.0**
	0.5nm,0.6s,baz=190,slow=3.1,SNR=4.1						
LVC	**Limon Verde**	**45.01**	**300**	*e*P	**P**	**20 45 42.1**	**+1.0**
	14nm,1.2s						
SBA	**Scott Base**	**46.23**	**184**	P	**P**	**20 45 50.5**	**+0.6**
	6.0nm,1.1s						
VNDA	**Vanda**	**46.73**	**183**	P	**P**	**20 45 53.4**	**-0.4**
	0.8nm,0.6s,baz=196,slow=5.5,SNR=10						
VNDA	**Vanda**	**46.73**	**183**	*e*P	**P**	**20 45 53.0**	**-0.8**
	1.7nm,0.7s						
H10S2	**ASCENSION HYDR**	**47.91**	**17**	T	T	21 37 31.4	
	baz=189						
H10S3	**ASCENSION HYDR**	**47.91**	**17**	T	T	21 38 08.2	
	baz=189,slow=74						
H10S1	**ASCENSION HYDR**	**47.92**	**17**	T	T	21 38 09.6	
	baz=189,slow=74						
H10N1	**ASCENSION HYDR**	**49.02**	**17**	T	T	21 39 27.6	
	baz=189,slow=75,SNR=13						
H10N3	**ASCENSION HYDR**	**49.02**	**17**	T	T	21 38 57.4	
	baz=189,slow=75,SNR=24						
H10N2	**ASCENSION HYDR**	**49.04**	**17**	T	T	21 38 56.9	
	baz=189,slow=75,SNR=16						
LPAZ	**La Paz**	**50.09**	**306**	P	**P**	**20 46 22.0**	**+0.9**
	2.2nm,0.4s,baz=96,slow=4.6,SNR=16						
LPAZ	**La Paz**	**50.09**	**306**	*e*P	**P**	**20 46 21.4**	**+0.3**
	2.0nm,0.4s						
SAML	**Samuel**	**54.52**	**315**	*e*P	**P**	**20 46 52.6**	**-0.6**
	1.6nm,0.6s						
TOA0	**Torodi Ar. Sit**	**73.02**	**30**	P	P	20 48 51.1	-3.9
TORD	**Torodi Ar. Bea**	**73.02**	**30**	P	**P**	**20 48 53.4**	**-1.6**
	0.3nm,0.4s,baz=200,slow=5.6,SNR=7.2						
SDV	**Santo Domingo**	**73.73**	**315**	P	**P**	**20 48 58.9**	**-0.5**
KMBO	**Kilima Mbogo**	**75.19**	**69**	P	P	20 49 04.4	-3.7
ASAR	**Alice Springs**	**99.22**	**163**	P	**Pdif**	**20 51 04.5**	**-2.5**
	0.2nm,0.7s,baz=184,slow=6.0,SNR=3.6						
ARCES	**ARCESS Array B**	**130.87**	**22**	PKP	**PKPdf**	**20 56 31.9**	**-2.9**
	0.9nm,0.8s,baz=222,slow=2.4,SNR=4.4						
ILAR	**Eielson Array**	**149.83**	**312**	PKPbc	**PKPdf**	**20 57 11.9**	**+3.1**
	0.7nm,0.7s,baz=141,slow=2.0,SNR=9.7						
ILAR				PKPab	**PKiKP**	**20 57 18.5**	**+3.9**
	1.2nm,0.6s,baz=130,slow=3.2,SNR=12						
SONM	**Songino Array**	**150.95**	**86**	PKPbc	**PKPdf**	**20 57 14.7**	**+3.4**
	0.4nm,0.4s,baz=219,slow=4.0,SNR=5.6						
BPAW	**Bear Paw Mtn.**	**151.45**	**310**	*e*PKPdf	**PKPdf**	**20 57 10.6**	**-0.8**
BPAW				*e*PKPbc	**PKPbc**	**20 57 15.9**	**-1.6**

*IDC **29** 20:47:32.9±2.2, 13°.95S×166°.72E, h16km±12km, mb4.4/17, mb1 4.5/18, mb1mx4.3/32, mbtmp4.5/18, ML4.0/1, MS3.9/14, Ms1 3.9/14, ms1mx3.8/24, Error ellipse: s-maj=22.5km s-min=13.5km az=93.0*
*MOS **29** 20:47:34.8±1.2, 13°.92S×166°.51E, h33km, mb5.0/19, Error ellipse: s-maj=12.3km s-min=9.2km az=33.5*
*ISCJB **29** 20:47:35.3±0.3, 14°.03S±0°.05×166°.54E±0°.07, h43km, mb4.7/33, MS4.0/16, Error ellipse: s-maj=9.2km s-min=6.5km az=167.0*
*BJI **29** 20:47:35.8, 13°.64S×167°.50E, h59km, mb4.8/27, mB5.0/16, Ms4.6/1, Ms7 4.2/1*
*NEIC **29** 20:47:35.4±0.3, 14°.00S×166°.69E, h35km, mb4.8/18, Error ellipse: s-maj=9.8km s-min=7.4km az=101.0*

ISC 29 20:47:36.6±0.4, 14°.00S±0°.06×166°.68E±0°.08, h43km, n170, σ1°28/170, mb4.8/33, MS4.0/16, 19C-17D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.00**	**304**	*e*P	**Pn**	**20 49 28.7**	**-1.7**
HNR				*e*		20 50 57.5	
HNR				pmax	pmax		
	comp=Z,146nm,0.7s						
HNR	**Honiara**	**8.00**	**304**	P	**Pn**	**20 49 31.0**	**+0.6**
HNR				S	Sn	20 50 50.0	-10
HNR	**Honiara**	**8.00**	**304**	*e*Pn	**Pn**	**20 49 28.7**	**-1.7**
	comp=Z,146nm,0.7s						
HNR				*e*Sn	**Sn**	**20 50 57.5**	**-2.2**
DZM	**Mont Dzumac**	**8.04**	**182**	*e*Pn	**Pn**	**20 49 31.0**	**+0.1**
	comp=Z,25nm,0.3s						
DZM				*e*Sn	Sn	20 50 52.3	-8.3
	comp=Z,31nm,0.3s						
DZM				*e*LR	LR	20 51 15.4	
	comp=Z,1μm,23.9s						
DZM	**Mont Dzumac**	**8.04**	**182**	Pn	**Pn**	**20 49 30.1**	**-0.8**
	comp=Z,1.9nm,0.3s,baz=90,slow=24,SNR=22						
DZM				Sn	**Sn**	**20 51 00.7**	**+0.2**
	comp=Z,3.9nm,0.3s,baz=90,slow=24,SNR=3.1						
DZM	**Mont Dzumac**	**8.04**	**182**	*e*P	**Pn**	**20 49 30.8**	**-0.1**
MSVF	**Nonsavu**	**11.55**	**110**	*e*P	Pn	20 50 23.8	+4.7
MSVF				pmax	pmax		
	comp=Z,113nm,1.5s						
MSVF	**Nonsavu**	**11.55**	**110**	*e*Pn	Pn	20 50 23.8	+4.7
	comp=Z,113nm,1.5s						
EIDS	**Eidsvold**	**18.52**	**230**	*e*P	**P**	**20 51 48.3**	**-1.2**
PMG	**Port Moresby**	**19.65**	**281**	⇑*e*P	**Pn**	**20 52 04.2**	**+0.6**
PMG				pmax	pmax		
	comp=Z,111nm,1.2s						
PMG				MLR	MLR		
	comp=Z,4μm,17.0s						
PMG	**Port Moresby**	**19.65**	**281**	*e*P	**P**	**20 52 01.7**	**-0.2**
	comp=Z,43nm,1.1s						
CTA	**Charters Tower**	**20.44**	**250**	P	**P**	**20 52 09.2**	**-1.3**
	comp=Z,7.7nm,1.0s,baz=86,slow=17,SNR=5.7						
CTAO	**Charters Tower**	**20.44**	**250**	*e*P	**P**	**20 52 10.9**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,34nm,1.3s						
CTAO	**Charters Tower**	**20.44**	**250**	*e*P	**P**	**20 52 10.9**	**+0.4**
	comp=Z,34nm,1.3s						
RAO	**Raoul Island**	**20.83**	**139**	LR	LR	20 58 33.2	
	comp=Z,271nm,20.5s,baz=314,slow=32						
URZ	**Urewera**	**25.88**	**161**	P	**P**	**20 53 05.8**	**+1.4**
	comp=Z,7.9nm,0.7s,baz=355,slow=11,SNR=2.0						
URZ				LR	LR	21 02 08.6	
	comp=Z,410nm,18.6s,baz=340,slow=34						
STKA	**Stephens Creek**	**29.05**	**228**	P	**P**	**20 53 34.1**	**+1.2**
	comp=Z,13nm,0.7s,baz=43,slow=8.3,SNR=33						
STKA				LR	LR	21 04 52.5	
	comp=Z,781nm,19.2s,baz=56,slow=36						
STKA	**Stephens Creek**	**29.05**	**228**	*e*P	**P**	**20 53 33.7**	**+0.8**
STKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
STKA	**Stephens Creek**	**29.05**	**228**	*e*P	**P**	**20 53 33.7**	**+0.8**
	comp=Z,2.2nm,0.6s						
RPZ	**Rata Peaks**	**29.86**	**174**	LR	LR	21 03 42.2	
	comp=Z,248nm,19.9s,baz=357,slow=32						
WRAB	**Tennant Creek**	**31.45**	**255**	⇑*e*P	P	20 53 59.9	+5.6
WRAB				pmax	pmax		
	comp=Z,42nm,1.7s						
WRAB				MLR	MLR		
	comp=Z,1μm,16.0s						
WRAB	**Tennant Creek**	**31.45**	**255**	*e*P	**P**	**20 53 53.8**	**-0.5**
	comp=Z,20nm,1.3s						
WRA	**Warramunga Arr**	**31.46**	**255**	P	**P**	**20 53 53.4**	**-1.0**
	comp=Z,3.8nm,0.9s,baz=86,slow=9.4,SNR=15						
AS31	**Alice Springs**	**32.41**	**248**	*e*P	**P**	**20 54 00.8**	**-2.0**
ASAR	**Alice Springs**	**32.41**	**248**	P	**P**	**20 54 01.6**	**-1.1**
	comp=Z,3.6nm,0.6s,baz=74,slow=9.4,SNR=59						
ASAR				PcP	**PcP**	**20 56 49.1**	**-0.4**
	comp=Z,1.4nm,1.0s,baz=73,slow=1.7,SNR=4.1						
ASAR				ScP	**ScP**	**21 00 32.6**	**+2.5**
	comp=Z,0.8nm,0.8s,baz=78,slow=2.9,SNR=4.8						
ASAR				LR	LR	21 06 25.3	
	comp=Z,350nm,20.4s,baz=68,slow=35						
PPT2	**Papeete2**	**42.17**	**101**	*e*S	S	21 01 57.7	+15
	comp=Z,90nm,23.8s						
PPT2				*e*LQ	LQ	21 05 41.2	
	comp=Z,466nm,30.2s						
PPT2				*e*LR	LR	21 07 32.7	
	comp=Z,241nm,23.8s,baz=267						
PPT	**Papeete**	**42.18**	**101**	LR	LR	21 11 53.7	
	comp=Z,99nm,18.0s,baz=266,slow=35						
TBI	**Tubuai**	**42.44**	**109**	*e*LR	LR	21 07 41.1	
	comp=Z,371nm,23.8s,baz=282						
MBWA	**Marble Bar**	**45.19**	**254**	P	**P**	**20 55 50.1**	**+0.4**
	comp=Z,44nm,1.4s						
KKM	**Kota Kinabalu**	**53.89**	**288**	P	**P**	**20 56 58.3**	**+2.1**
	comp=Z,34nm,1.2s						
MJAR	**Matsushiro Arr**	**56.99**	**333**	P	**P**	**20 57 17.2**	**-0.8**
	comp=Z,11nm,1.0s,baz=163,slow=7.0,SNR=22						
MJAR				LR	LR	21 24 44.5	
	comp=Z,28nm,18.0s,baz=205,slow=39						
MAJO	**Matsushiro**	**57.00**	**333**	*c* iP	**P**	**20 57 17.6**	**-0.4**
MAJO				MLR	MLR		
	comp=Z,279nm,17.0s						
MAJO	**Matsushiro**	**57.00**	**333**	*e*PKPdf	**P**	**20 57 17.3**	**-0.8**
MAJO	**Matsushiro**	**57.00**	**333**	*e*P	P	20 57 13.6	-4.4
MAT	**Matsushiro**	**57.00**	**333**	P	**P**	**20 57 17.8**	**-0.2**
KSM	**Kuching**	**57.91**	**281**	P	**P**	**20 57 21.8**	**-3.1**
JNU	**Nakatsue**	**58.00**	**325**	P	**P**	**20 57 25.5**	**+0.3**
	comp=Z,6.9nm,0.7s,baz=153,slow=2.3,SNR=3.0						
ASAJ	**Asahikawa**	**61.86**	**341**	P	**P**	**20 57 52.0**	**+0.6**
	comp=Z,1.6nm,0.4s,baz=172,slow=9.4,SNR=5.2						
KSRS	**Korea Array**	**62.82**	**326**	P	**P**	**20 57 58.2**	**+0.3**
	comp=Z,2.0nm,0.9s,baz=149,slow=5.7,SNR=7.9						
KSAR	**Wonju Array Be**	**62.83**	**326**	P	**P**	**20 57 58.3**	**+0.3**
KSAR	**Wonju Array Be**	**62.83**	**326**	P	**P**	**20 57 58.2**	**+0.3**
VNDA	**Vanda**	**63.58**	**181**	P	**P**	**20 58 02.5**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=9.7,slow=6.3,SNR=10						
VNDA	**Vanda**	**63.58**	**181**	*e*P	**P**	**20 58 02.2**	**-0.2**
VNDA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VNDA	**Vanda**	**63.58**	**181**	*e*P	**P**	**20 58 02.2**	**-0.2**
	comp=Z,3.5nm,0.8s						
SBA	**Scott Base**	**63.87**	**180**	*e*P	**P**	**20 58 04.5**	**+0.2**
SBA				pmax	pmax		
	comp=Z,12nm,0.9s						
SBA	**Scott Base**	**63.87**	**180**	*e*P	**P**	**20 58 04.5**	**+0.2**
	comp=Z,12nm,0.9s						
CASY	**Casey**	**63.99**	**202**	P	**P**	**20 58 04.5**	**-0.8**
	comp=Z,9.6nm,1.1s						
YSS	**Yuzh-Sakhalins**	**64.36**	**342**	⇑*e*P	**P**	**20 58 08.5**	**+0.6**
YSS	**Yuzh-Sakhalins**	**64.36**	**342**	P	**P**	**20 58 08.3**	**+0.5**
	comp=Z,10nm,0.9s						
USRK	**Ussuriysk Ar.**	**65.98**	**333**	P	**P**	**20 58 18.6**	**+0.1**
	comp=Z,12nm,1.0s,baz=141,slow=5.9,SNR=32						
PETK	**Petropavlovsk-**	**67.28**	**354**	LR	LR	21 22 28.5	
	comp=Z,64nm,21.9s,baz=

BILL	**Bilibino**	**81.81**	**360**	⇓	*e*P		**P**	**20 59 50.0**	**-0.6**
BILL					pmax		pmax		
	comp=Z,6.0nm,1.7s								
BILL	**Bilibino**	**81.81**	**360**		*e*P		**P**	**20 59 50.3**	**-0.3**
	comp=Z,1.3nm,0.4s								
MAW	**Mawson**	**82.35**	**202**		LR		LR	21 32 36.5	
	comp=Z,130nm,18.8s,baz=232,slow=33								
ZAK	**Zakamensk**	**84.63**	**325**		*e*P		**P**	**21 00 05.1**	**-0.6**
ZAK					pmax		pmax		
	comp=Z,11nm,1.2s								
MCK	**McKinley**	**84.64**	**18**		*e*P		**P**	**21 00 05.2**	**-0.1**
MCK					pmax		pmax		
	comp=Z,6.0nm,1.1s								
MCK	**McKinley**	**84.64**	**18**		*e*P		**P**	**21 00 05.2**	**-0.1**
	comp=Z,6.3nm,1.1s								
LSA	**Lhasa**	**84.69**	**302**		*e*P		**P**	**21 00 07.6**	**+0.7**
LSA	**Lhasa**	**84.69**	**302**		*e*P		**P**	**21 00 07.6**	**+0.7**
TLY	**Talaya**	**85.07**	**326**		*e*P		**P**	**21 00 08.2**	**+0.4**
TLY					pmax		pmax		
	comp=Z,15nm,1.0s								
TLY	**Talaya**	**85.07**	**326**		*e*P		**P**	**21 00 07.6**	**-0.1**
	comp=Z,11nm,1.0s								
COLA	**College**	**85.79**	**18**	⇓	*i*P		**P**	**21 00 11.4**	**+0.4**
COLA					pmax		pmax		
	comp=Z,20nm,1.0s								
COLA	**College**	**85.79**	**18**		P		**P**	**21 00 10.9**	**0.0**
ILAR	**Eielson Array**	**86.01**	**18**		P		**P**	**21 00 10.6**	**-1.5**
	comp=Z,1.1nm,0.8s,baz=231,slow=4.7,SNR=13								
ILAR					LR		LR	21 33 35.3	
	comp=Z,148nm,20.2s,baz=234,slow=32								
TAPN	**Taplejung**	**86.83**	**299**		*e*P		**P**	**21 00 17.9**	**+0.5**
ODAN	**Odare**	**86.95**	**298**		*e*P		**P**	**21 00 18.3**	**+0.4**
	comp=Z,36nm,1.2s								
RAMN	**Ramite**	**87.66**	**298**		*e*P		**P**	**21 00 21.6**	**+0.3**
JIRN	**Jiri**	**88.21**	**299**		*e*P		**P**	**21 00 24.4**	**+0.3**
GUN	**Gumba**	**88.55**	**299**		*e*P		**P**	**21 00 25.5**	**-0.2**
PKI	**Pulchoki**	**88.85**	**299**		*e*P		**P**	**21 00 27.0**	**-0.1**
PKIN	**Phulchoki**	**88.86**	**299**		*e*P		**P**	**21 00 26.9**	**-0.1**
KKN	**Kakani**	**89.02**	**299**		*e*P		**P**	**21 00 27.8**	**+0.1**
	comp=Z,13nm,0.9s								
DMN	**Daman**	**89.12**	**299**		*e*P		**P**	**21 00 27.9**	**-0.3**
	comp=Z,42nm,1.1s								
TIXI	**Tiksi**	**89.14**	**349**	⇓	*e*P		**P**	**21 00 26.1**	**-0.9**
TIXI					pmax		pmax		
	comp=Z,3.0nm,1.2s								
TIXI	**Tiksi**	**89.14**	**349**		*e*P		**P**	**21 00 25.8**	**-1.2**
	comp=Z,2.7nm,0.1s								
GKN	**Gorkha**	**89.62**	**299**		*e*P		**P**	**21 00 30.1**	**-0.4**
KOLN	**Koldanda**	**90.45**	**298**		*e*P		**P**	**21 00 34.1**	**-0.3**
KRAR	**Krasnoyarsk**	**92.68**	**327**	⇑	*e*P		**P**	**21 00 44.4**	**+0.6**
PDAR	**Pinedale Array**	**94.87**	**47**		LR		LR	21 38 01.9	
	comp=Z,67nm,19.3s,baz=262,slow=32								
MKAR	**Makanchi Array**	**96.28**	**317**		P		**P**	**21 01 01.0**	**+0.4**
	comp=Z,3.7nm,0.9s,baz=97,slow=6.6,SNR=33								
TXAR	**Lajitas Array**	**96.43**	**61**		LR		LR	21 35 43.7	
	comp=Z,66nm,21.7s,baz=0.0,slow=30								
ZALV	**Zalesovo Beam**	**96.47**	**324**		P		**P**	**21 01 00.1**	**-1.1**
	comp=Z,4.2nm,0.8s,baz=108,slow=4.8,SNR=18								
ZALV					LR		LR	21 46 16.1	
	comp=Z,22nm,18.4s,baz=70,slow=36								
ZALV	**Zalesovo Beam**	**96.47**	**324**		*i* P		**P**	**21 01 00.5**	**-0.7**
ZALV					pmax		pmax		
	comp=Z,4.0nm,0.8s								
ARU	**Arti**	**111.56**	**325**		*i* PKIKP		**PKiKP**	**21 06 05.1**	**-1.0**
ARU								21 06 45.5	
ARU								21 12 42.9	
ARCES	**ARCESS Array B**	**119.40**	**345**		PKP		**PKPdf**	**21 06 20.0**	**-0.8**
	comp=Z,1.5nm,0.3s,baz=90,slow=2.2,SNR=54								
KLMR	**Klimovskoe**	**119.78**	**333**		PKIKP		**PKPdf**	**21 06 19.5**	**-2.2**
KLMR					pmax		pmax		
	comp=Z,9.0nm,1.5s								
OBN	**Obninsk**	**123.78**	**328**	⇓	*i* PKIKP		**PKPdf**	**21 06 29.3**	**-0.3**
OBN					*e*			21 08 10.0	
OBN					pmax		pmax		
	comp=Z,4.0nm,0.6s								
KBZ	**Khabaz**	**123.84**	**313**		PKP		**PKPdf**	**21 06 30.1**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=233,slow=20,SNR=3.7								
KIV	**Kislovodsk**	**123.93**	**314**	⇑	*i* PKIKP		**PKPdf**	**21 06 30.8**	**+0.4**
KIV					*e*			21 08 18.2	
KIV					pmax		pmax		
	comp=Z,4.0nm,1.2s								
FINES	**FINESS Array B**	**124.83**	**338**		PKP		**PKPdf**	**21 06 30.8**	**-0.6**
	comp=Z,2.9nm,0.7s,baz=111,slow=2.4,SNR=16								
NB2	**NORSAR Subarra**	**129.77**	**345**		PKPdf		**PKPdf**	**21 06 40.3**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=31,slow=1.9								
NOA	**NORSAR Array B**	**129.77**	**345**		PKP		**PKPdf**	**21 06 40.5**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=35,slow=1.9,SNR=6.4								
NOA					SKPbc		SKPbc	21 10 02.7	+2.8
	comp=Z,1.0nm,0.7s,baz=32,slow=3.2,SNR=5.9								
AKASG	**Malin Array Be**	**129.81**	**326**		PKP		**PKPdf**	**21 06 40.3**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=73,slow=2.4,SNR=7.4								
AKASG	**Malin Array Be**	**129.81**	**326**		*i* PKIKP		**PKPdf**	**21 06 41.4**	**+0.1**
KIEV	**Kiev**	**129.82**	**326**		*i* PKIKP		**PKPdf**	**21 06 41.0**	**-0.3**
BRTR	**Keskin Array B**	**131.60**	**311**		PKP		**PKPdf**	**21 06 45.1**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=132,slow=1.6,SNR=4.7								
BRTR					SKPbc		**SKPab**	**21 10 11.1**	**+3.1**
	comp=Z,0.6nm,0.8s,baz=111,slow=3.3,SNR=4.5								
BRTR					SKP			21 10 19.1	
	comp=Z,1.5nm,0.8s,baz=87,slow=3.6,SNR=9.9								
BUR08	**Bucovina Ar. S**	**133.68**	**324**		*e*PKPdf		**PKPdf**	**21 06 50.1**	**+1.2**
BURAR	**Bucovina Array**	**133.69**	**324**	⇓	PKIKP		**PKPdf**	**21 06 50.9**	**+2.1**
BURAR	**Bucovina Array**	**133.69**	**324**	⇓	*i* P		**PKPdf**	**21 06 50.9**	**+2.1**
BURAR	**Bucovina Array**	**133.69**	**324**	⇑	*i* P		**PKSdf**	**21 10 25.5**	**+0.3**
VRI	**Vrincioaia**	**133.72**	**322**	⇑	*i* P		**PKSdf**	**21 10 24.8**	**-0.3**
MLR	**Muntele Rosu**	**134.38**	**321**	⇑	PKIKP		**PKPdf**	**21 06 50.1**	**-0.2**
MLR	**Muntele Rosu**	**134.38**	**321**	⇑	*i* P		**PKPdf**	**21 06 50.1**	**-0.2**
MLR	**Muntele Rosu**	**134.38**	**321**	⇑	*i* P		**PKSdf**	**21 10 29.0**	**+2.4**
ARR	**Arges**	**135.24**	**322**	⇓	*i* P		**PKPdf**	**21 06 52.8**	**+1.0**
ARR	**Arges**	**135.24**	**322**	⇑	*i* P		**PKSab**	**21 10 28.8**	**+0.6**
HUMR	**Humele**	**135.47**	**321**	⇓	*i* P		**PKPdf**	**21 06 52.0**	**-0.1**
MORC	**Moravsky Berou**	**136.32**	**331**	⇓	PKIKP		**PKPdf**	**21 06 54.2**	**+0.6**
MORC	**Moravsky Berou**	**136.32**	**331**	⇓	*i* P		**PKPdf**	**21 06 54.2**	**+0.6**
PSZ	**Piszkesteto**	**136.40**	**328**	⇑	PKIKP		**PKPdf**	**21 06 54.5**	**+0.6**
PSZ	**Piszkesteto**	**136.40**	**328**	⇑	*i* P		**PKPdf**	**21 06 54.5**	**+0.6**
SIRR	**Siria**	**136.46**	**325**	⇓	*i* P		**PKPdf**	**21 06 56.1**	**+2.1**
SIRR	**Siria**	**136.46**	**325**	⇑	*i* P		**PKSab**	**21 10 35.4**	**+2.0**
BZS	**Buzias**	**136.86**	**324**	⇓	PKIKP		**PKPdf**	**21 06 54.7**	**0.0**
BZS	**Buzias**	**136.86**	**324**	⇓	*i* P		**PKPdf**	**21 06 54.7**	**0.0**
BRG	**Berggiesshubel**	**137.11**	**335**		*e*PKP		**PKPdf**	**21 06 56.0**	**+1.0**
	comp=Z,3.6nm,1.2s								
BRG	**Berggiesshubel**	**137.11**	**335**		*e*PKIKP		**PKPdf**	**21 06 56.0**	**+1.0**
BRG					pmax		pmax		
	comp=Z,4.0nm,1.2s								
CLL	**Collm**	**137.16**	**336**		*e*PKiKP		**PKiKP**	**21 06 57.0**	**+0.1**
	comp=Z,6.0nm,1.2s								
CLL					*e*SKPdf		**SKPdf**	**21 10 28.0**	**+1.3**
	comp=Z,2.0nm,0.7s								
CLL					*e*PKSab		**PKSab**	**21 10 36.0**	**-0.2**
	comp=Z,4.0nm,1.2s								
CLL	**Collm**	**137.16**	**336**		*e*PKIKP		**PKiKP**	**21 06 57.0**	**+0.1**
CLL					pmax		pmax		
	comp=Z,6.0nm,1.2s								
VTS	**Vitosha**	**137.57**	**319**	⇑	PKIKP		**PKPdf**	**21 06 56.3**	**0.0**
VTS	**Vitosha**	**137.57**	**319**	⇑	*i* P		**PKPdf**	**21 06 56.3**	**0.0**
VTS	**Vitosha**	**137.57**	**319**	⇑	*i* P		**PP**	**21 09 43.9**	**+1.5**
PKSM	**Moragy**	**138.14**	**327**	⇓	PKIKP		**PKPdf**	**21 06 56.7**	**-0.3**
PKSM	**Moragy**	**138.14**	**327**	⇓	*i* P		**PKPdf**	**21 06 56.7**	**-0.3**
PKSM	**Moragy**	**138.14**	**327**	⇑	*i* P		**PKSab**	**21 10 39.2**	**-1.6**
DIVS	**Divibare**	**138.69**	**323**	⇓	*i* P		**PKPdf**	**21 06 58.4**	**+0.2**
CEL	**Celeste**	**144.60**	**318**		*e*P		**PKPab**	**21 07 07.1**	**-0.5**
BNI	**Bardonecchia**	**144.70**	**335**		*e*PKIKP		PKPbc	21 07 08.1	+0.2
BNI	**Bardonecchia**	**144.70**	**335**		*e*P		PKPbc	21 07 08.1	+0.2
PLDF	**La Plantade**	**145.07**	**339**		PKP		**PKPbc**	**21 07 07.7**	**-1.3**
AGO	**Saint Agoulin**	**145.16**	**340**		PKP		**PKPbc**	**21 07 07.9**	**-1.3**
AUTN	**L'Aution**	**145.23**	**333**		PKP		**PKPbc**	**21 07 07.4**	**-2.4**
TOUF	**Mont Tournerai**	**145.30**	**334**		PKP		**PKPbc**	**21 07 07.2**	**-2.7**
SSB	**Saint Sauveur**	**145.34**	**338**		*e*PKIKP		**PKPbc**	**21 07 09.8**	**-0.1**
SSB	**Saint Sauveur**	**145.34**	**338**		*e*P		**PKPbc**	**21 07 09.8**	**-0.1**
MVIF	**Mont Vial**	**145.43**	**334**		PKP		**PKPbc**	**21 07 08.0**	**-2.3**
REVF	**Revere**	**145.46**	**333**		PKP		**PKPdf**	**21 07 06.7**	**-3.6**
PYM	**Petit Puy Mans**	**145.47**	**340**		PKP		**PKPdf**	**21 07 09.2**	**-1.1**
LBL	**Lubilhac**	**145.84**	**339**		PKP		**PKPdf**	**21 07 09.8**	**-1.1**
KEST	**Kesra**	**150.29**	**321**		PKPbc		**PKPbc**	**21 07 24.0**	**+0.3**
	comp=Z,8.3nm,1.0s,baz=277,slow=4.5,SNR=12								
PBRG	**Braganca**	**151.71**	**350**		*e*PKPdf		**PKPdf**	**21 07 18.7**	**-1.8**
PBRG	**Braganca**	**151.71**	**350**		PKPbc		**PKPbc**	**21 07 26.0**	**-0.8**
PGAV	**Gavieira, Arco**	**151.79**	**352**		PKPbc		**PKPbc**	**21 07 26.7**	**-0.3**
POLO	**Lamas de Olo**	**152.30**	**351**		*e*PKPdf		**PKPdf**	**21 07 20.7**	**-0.7**
POLO	**Lamas de Olo**	**152.30**	**351**		PKPbc		**PKPbc**	**21 07 28.2**	**0.0**
MVO	**Moncorvo**	**152.38**	**350**		PKPbc		**PKPbc**	**21 07 28.4**	**+0.1**
PVRL	**Vila Real**	**152.38**	**351**		PKPbc		**PKPbc**	**21 07 28.3**	**0.0**
ESDC	**Sonseca Array**	**153.13**	**344**		PKPbc		**PKPbc**	**21 07 29.6**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=31,slow=2.0,SNR=9.0								
ESDC					PKPab		**PKPab**	**21 07 41.0**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=16,slow=4.6,SNR=4.9								
MTE	**Manteigas**	**153.21**	**350**		PKPbc		**PKPbc**	**21 07 30.2**	**0.0**
PMRV	**Marv??o**	**154.13**	**349**		PKPbc		**PKPbc**	**21 07 32.0**	**-0.2**
MESJ	**Messejana**	**155.82**	**350**		PKPdf		**PKPdf**	**21 07 24.7**	**-1.6**
PVAQ	**Vaqueiros**	**156.16**	**349**		*e*PKPdf		**PKPdf**	**21 07 26.9**	**+0.1**
TOA0	**Torodi Ar. Sit**	**165.38**	**268**		P		**PKPdf**	**21 07 35.0**	**-2.4**
TORD	**Torodi Ar. Bea**	**165.38**	**268**		PKP		**PKPdf**	**21 07 36.2**	**-1.1**
	comp=Z,2.1nm,1.0s,baz=58,slow=1.5,SNR=7.7								
TORD					PKPab		**PKPab**	**21 08 35.8**	**+0.3**
	comp=Z,2.2nm,1.1s,baz=46,slow=1.4,SNR=5.2								

*CSEM **29** 21:05:31.1, 42°.58N×13°.24E, h12km±2km, MD1.8/7*
ROM 29 21:05:31.1±0.1, 42°.58N×13°.24E, h12km±2km, Md1.8/7, MI1.0/5, 4C, Error ellipse: s-maj=1.0km s-min=0.7km az=5.0, Central Italy

Code	Station Name	Δ°	AZ°		Phase	ID		Time			Res
					Op		ISC	h	m	s	ISC
SMA1	**SAN MARTINO**	**0.09**	**53**	⇑	*i* Pg		Pg	21	05	34.3	+0.4
SMA1					Sg		Sg	21	05	36.2	+0.3
	253nm,0.2s										
SMA1	**SAN MARTINO**	**0.09**	**53**	⇑	*i* Pg		Pg	21	05	34.3	+0.4
SMA1					Sg		Sg	21	05	36.2	+0.3
	253nm,0.2s										
CAMP	**Campotosto**	**0.13**	**110**		Pg		Pg	21	05	34.8	+0.3
CAMP					Sg		Sg	21	05	37.3	+0.3
	31nm,0.5s										
CAMP	**Campotosto**	**0.13**	**110**		Pg		Pg	21	05	34.8	+0.3
CAMP					Sg		Sg	21	05	37.3	+0.3
	31nm,0.5s										
LNSS	**Leonessa**	**0.15**	**279**	⇑	*i* Pg		Pg	21	05	35.1	+0.3
LNSS					Sg		Sg	21	05	37.9	+0.5
	147nm,0.2s										
LNSS	**Leonessa**	**0.15**	**279**	⇑	*i* Pg		Pg	21	05	35.1	+0.3
LNSS					Sg		Sg	21	05	37.9	+0.5
	147nm,0.2s										
TERO	**Teramo**	**0.27**	**81**		Pg		Pg	21	05	37.0	+0.2
TERO					Sg		Sg	21	05	41.3	+0.7
	19nm,0.2s										
TERO	**Teramo**	**0.27**	**81**		Pg		Pg	21	05	37.0	+0.2
TERO					Sg		Sg	21	05	41.3	+0.7
	19nm,0.2s										
NRCA	**Norcia**	**0.27**	**340**		Pg		Pg	21	05	37.2	+0.4
NRCA					Sg		Sg	21	05	41.5	+0.8
NRCA	**Norcia**	**0.27**	**340**		Pg		Pg	21	05	37.2	+0.4
NRCA					Sg		Sg	21	05	41.5	+0.8
T0106	**Roio Piano**	**0.29**	**159**		Pg		Pb	21	05	38.0	-0.5
	3μm,14.0s										
FIAM	**Fiamignano**	**0.33**	**197**		Pg		Pg	21	05	38.1	+0.3
	13nm,0.8s										
FIAM	**Fiamignano**	**0.33**	**197**		Pg		Pg	21	05	38.1	+0.3
	13nm,0.8s										

*CSEM **29** 21:08:12.9, 38°.80N×27°.85E, h2km, MD2.1*
DDA 29 21:08:12.8, 38°.80N×27°.85E, h2km, MD2.1, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
AKHS	**Akhisar**	**0.08**	**341**	*i* P		Pg	21	08	14.3	-0.2
AKHS				*i* S		Sg	21	08	15.9	+0.2
AKHS	**Akhisar**	**0.08**	**341**	*i* P		Pg	21	08	14.3	-0.2
AKHS				*i* S		Sg	21	08	15.9	+0.3
MANT	**Manisa**	**0.64**	**119**	*i* P		Pg	21	08	25.5	+0.1
MANT				*i* S		Sg	21	08	34.4	+0.5
MANT	**Manisa**	**0.64**	**119**	*i* P		Pg	21	08	25.5	+0.1
MANT				*i* S		Sg	21	08	34.4	+0.5
DEMI	**Demirci**	**0.72**	**70**	*i* P		Pg	21	08	26.5	-0.3
DEMI				*i* S		Sg	21	08	35.9	-0.3
DEMI	**Demirci**	**0.72**	**70**	*i* P		Pg	21	08	26.5	-0.3
DEMI				*i* S		Sg	21	08	35.9	-0.3
DURS	**Dursunbey**	**0.93**	**31**	*i* P		Pb	21	08	31.7	-0.2
DURS				*i* S		Sb	21	08	45.9	+1.0
DURS	**Dursunbey**	**0.93**	**31**	*i* P		Pb	21	08	31.7	-0.2
DURS				*i* S		Sb	21	08	45.9	+1.1
BALY	**Balya**	**0.95**	**349**	*i* P		Pg	21	08	30.7	-0.5
BALY				*i* S		Sb	21	08	44.8	-0.5
BALY	**Balya**	**0.95**	**349**	*i* P		Pg	21	08	30.7	-0.5
BALY				*i* S		Sb	21	08	44.8	-0.5

*CSEM **29** 21:10:02.6±0.1, 42°.58N×13°.22E, h10km, ML2.7/9, Error ellipse: s-maj=1.8km s-min=1.7km az=24.0*
ROM 29 21:10:02.2±0.1, 42°.57N×13°.24E, h11km, Md2.5/20, MI2.2/19, 6C, Error ellipse: s-maj=0.9km s-min=0.8km az=54.0, Central Italy

Code	Station Name	Δ°	AZ°		Phase	ID		Time			Res
					Op		ISC	h	m	s	ISC
SMA1	**SAN MARTINO**	**0.09**	**52**	⇑	*i* Pg		Pg	21	10	05.4	+0.4
SMA1					Sg		Sg	21	10	07.3	+0.3
	5μm,0.2s										
SMA1	**SAN MARTINO**	**0.09**	**52**	⇑	*i* Pg		Pg	21	10	05.4	+0.4
SMA1					Sg		Sg	21	10	07.3	+0.3
	5μm,0.2s										
T0107	**San Pelino (Ca**	**0.10**	**175**		Pg		Pg	21	10	05.5	+0.4
T0107					Sg		Sg	21	10	07.7	+0.6
CAMP	**Campotosto**	**0.13**	**106**		Pg		Pg	21	10	05.9	+0.3
CAMP					Sg		Sg	21	10	08.4	+0.4
	578nm,0.8s										
CAMP	**Campotosto**	**0.13**	**106**		Pg		Pg	21	10	05.9	+0.3
CAMP					Sg		Sg	21	10	08.4	+0.4
	578nm,0.8s										
LNSS	**Leonessa**	**0.15**	**282**	⇑	*i* Pg		Pg	21	10	06.1	+0.3
LNSS					Sg		Sg	21	10	08.8	+0.5
	3μm,0.2s										
LNSS	**Leonessa**	**0.15**	**282**	⇑	*i* Pg		Pg	21	10	06.1	+0.3
LNSS					Sg		Sg	21	10	08.8	+0.5
	3μm,0.2s										
T0104	**Madonna delle**	**0.23**	**160**		Pg		Pb	21	10	07.9	-0.5
AQU	**L'Aquila**	**0.25**	**151**		Pg		Pb	21	10	08.6	-0.3
	131nm,0.5s										
AQU	**L'Aquila**	**0.25**	**151**		Pg		Pb	21	10	08.6	-0.3
	131nm,0.5s										
NRCA	**Norcia**	**0.28**	**341**		Pg		Pg	21	10	08.1	+0.1
NRCA					Sg		Sg	21	10	12.4	+0.6
	845nm,0.1s										
NRCA	**Norcia**	**0.28**	**341**		Pg		Pg	21	10	08.1	+0.1
NRCA					Sg		Sg	21	10	12.4	+0.6
	845nm,0.1s										
TERO	**Teramo**	**0.28**	**80**	⇑	*i* Pg		Pg	21	10	08.1	+0.1
TERO					Sg		Sg	21	10	12.4	+0.6
	189nm,0.3s										
TERO	**Teramo**	**0.28**	**80**	⇑	*i* Pg		Pg	21	10	08.1	+0.1
TERO					Sg		Sg	21	10	12.4	+0.6
	189nm,0.3s										
T0106	**Roio Piano**	**0.29**	**157**		Pg		Pg	21	10	08.6	+0.4
	74nm,0.5s										
FIAM	**Fiamignano**	**0.32**	**196**		Pg		Pg	21	10	09.0	+0.3
FIAM					Sg		Sg	21	10	13.7	+0.6
	109nm,0.4s										
FIAM	**Fiamignano**	**0.32**	**196**		Pg		Pg	21	10	09.0	+0.3
FIAM					Sg		Sg	21	10	13.7	+0.6
	109nm,0.4s										
FAGN	**Fagnano**	**0.40**	**140**		Pg		Pg	21	10	10.6	+0.4
	159nm,0.5s										
FAGN	**Fagnano**	**0.40**	**140**		Pg		Pg	21	10	10.6	+0.4
	159nm,0.5s										
MNS	**Montasola**	**0.45**	**246**		Pg		Pg	21	10	11.2	+0.1
MNS					Sg		Sg	21	10	18.0	+0.8
	131nm,0.2s										
MNS	**Montasola**	**0.45**	**246**		Pg		Pg	21	10	11.2	+0.1
MNS					Sg		Sg	21	10	18.0	+0.8
	131nm,0.2s										
FDMO	**Fiordimonte**	**0.48**	**347**		Pg		Pg	21	10	11.8	+0.2
	62nm,0.2s										
FDMO	**Fiordimonte**	**0.48**	**347**		Pg		Pg	21	10	11.8	+0.2
	62nm,0.2s										
CESX	**Cesi**	**0.48**	**275**		Pg		Pg	21	10	11.7	0.0
CESX					Sg		Sb	21	10	19.2	-0.8
	104nm,0.5s										
CESX	**Cesi**	**0.48**	**275**		Pg		Pg	21	10	11.7	0.0
CESX					Sg		Sb	21	10	19.2	-0.8
	104nm,0.5s										
OFFI	**Offida**	**0.49**	**42**		Pg		Pb	21	10	12.9	0.0
	345nm,0.5s										
OFFI	**Offida**	**0.49**	**42**		Pg		Pb	21	10	12.9	0.0
	345nm,0.5s										
CESI	**CESI - Serrava**	**0.49**	**331**		Pg		Pg	21	10	12.0	0.0
CESI					Sg		Sg	21	10	19.5	+0.8
	26nm,0.3s										
CESI	**CESI - Serrava**	**0.49**	**331**		Pg		Pg	21	10	12.0	0.0
CESI					Sg		Sg	21	10	19.5	+0.8
	26nm,0.3s										
GUMA	**Gualdo di Mace**	**0.71**	**46**		Pg		Pg	21	10	12.4	-3.7
	535nm,0.3s										
SNTG	**Esanatoglia**	**0.71**	**342**		Pg		Pb	21	10	16.5	-0.3
	29nm,0.4s										
SNTG	**Esanatoglia**	**0.71**	**342**		Pg		Pb	21	10	16.5	-0.3
	29nm,0.4s										
CING	**Cingoli**	**0.80**	**358**		Pg		Pg	21	10	17.7	-0.1
	46nm,0.1s										
CING	**Cingoli**	**0.80**	**358**		Pg		Pg	21	10	17.7	-0.1
	46nm,0.1s										
MGAB	**Montegabbione**	**0.89**	**293**		Pg		Pg	21	10	19.2	-0.3
	82nm,0.3s										
MGAB	**Montegabbione**	**0.89**	**293**		Pg		Pg	21	10	19.2	-0.3
	82nm,0.3s										
AOI	**Ancona**	**1.01**	**15**		Pg		Pg	21	10	21.6	-0.2
	32nm,0.5s										
AOI	**Ancona**	**1.01**	**15**		Pg		Pg	21	10	21.6	-0.2
	32nm,0.5s										
NVLJ	**Novalja**	**2.32**	**30**		*e*Pn		Pn	21	10	40.4	+0.1
NVLJ					Sn		Sn	21	11	09.4	+0.6
NVLJ	**Novalja**	**2.32**	**30**		*e*Pn		Pn	21	10	40.3	0.0
NVLJ					Sn		Sn	21	11	09.4	+0.6
UDBI	**Udbina**	**2.68**	**42**		*e*Pn		Pn	21	10	47.6	+2.1
UDBI					Sn		Sn	21	11	20.3	+2.3

*CSEM **29** 21:10:58.0, 42°.57N×13°.24E, h11km, ML1.6/9*
ROM 29 21:10:58.0±0.1, 42°.57N×13°.24E, h11km, MI1.6/9, 4C, Error ellipse: s-maj=1.4km s-min=1.1km az=27.0, Central Italy

Code	Station Name	Δ°	AZ°		Phase	ID		Time			Res
					Op		ISC	h	m	s	ISC
SMA1	**SAN MARTINO**	**0.10**	**50**		Pg		Pg	21	11	01.2	+0.4

MWZ			SN	**Sn**	**21 35 30.3**	**+0.7**
KUZ	**Kuaotunu**	**3.84**	**244**	PN	**Pn**	**21 34 48.3**	**+1.2**
OPRZ	**Ohinepanea**	**3.89**	**225**	*e*PN	**Pn**	**21 34 48.4**	**+0.6**
URZ	**Urewera**	**3.91**	**216**	P	**Pn**	**21 34 48.3**	**+0.2**
	4.5nm,0.3s,baz=267,slow=2.5,SNR=23						
URZ				S	**Sn**	**21 35 29.6**	**-3.0**
	14nm,0.3s,baz=88,slow=22,SNR=12						
URZ	**Urewera**	**3.91**	**216**	PN	**Pn**	**21 34 48.5**	**+0.5**
SNGZ	**Shannon Statio**	**4.24**	**209**	PN	**Pn**	**21 34 53.7**	**+1.0**
KNZ	**Kokohu**	**4.32**	**205**	*e*PN	**Pn**	**21 34 54.3**	**+0.5**
MKAZ	**Moumakai**	**4.39**	**242**	PN	**Pn**	**21 34 56.4**	**+1.6**
BKZ	**Black Stump Fm**	**4.92**	**214**	*e*PN	**Pn**	**21 35 02.7**	**+0.6**
ASAR	**Alice Springs**	**41.42**	**273**	P	**P**	**21 41 32.6**	**-0.9**
	3.9nm,0.5s,baz=115,slow=7.8,SNR=37						
WRA	**Warramunga Arr**	**42.84**	**278**	P	**P**	**21 41 44.0**	**-1.1**
	2.3nm,0.5s,baz=120,slow=7.5,SNR=19						
FINES	**FINESS Array B**	**148.87**	**336**	PKPbc	**PKPdf**	**21 53 29.7**	**+0.4**
	2.2nm,0.9s,baz=63,slow=2.3,SNR=7.3						

IDC 29 21:35:30.0±3.8, 30°09S×136°95E, h0km, mb1 3.3/3, mb1mx3.2/34, mbtmp3.1/3, ML3.1/3, Error ellipse: s-maj=65.6km s-min=20.2km az=49.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**4.37**	**115**	Pn		Pn	Pn	21 36 38.6	+0.9
	0.9nm,0.3s,baz=299,slow=12,SNR=13								
STKA				Sn		Sn	Sn	21 37 27.8	-1.6
	1.6nm,0.3s,baz=31,slow=23,SNR=4.1								
ASAR	**Alice Springs**	**6.95**	**336**	Pn		Pn	Pn	21 37 13.3	+0.1
	0.0nm,0.3s,baz=174,slow=8.2,SNR=5.3								
ASAR				Sn		Sn	Sn	21 38 35.2	+2.2
	0.3nm,0.3s,baz=158,slow=22,SNR=5.9								
ASAR				Lg		Lg	Lg	21 39 11.1	
	0.1nm,0.3s,baz=162,slow=35,SNR=2.9								
WRA	**Warramunga Arr**	**10.37**	**346**	Pn		Pn	Pn	21 37 59.8	-0.4
	0.3nm,0.3s,baz=164,slow=14,SNR=17								
WRA				Sn		Sn	Sn	21 39 56.8	-0.4
	0.1nm,0.3s,baz=165,slow=25,SNR=2.6								

*IDC **29** 21:37:08.3±1.6, 11°.83N×125°.36E, h0km, mb3.7/6, mb1 3.7/6, mb1mx3.5/37, mbtmp3.7/6, Error ellipse: s-maj=174.2km s-min=25.7km az=70.0*
*ISCJB **29** 21:37:12.9±0.7, 11°.93N±0°.05×125°.40E±0°.09, h36km, mb3.6/6, Error ellipse: s-maj=13.1km s-min=7.1km az=2.9*
*MAN **29** 21:37:14, 11°.80N×125°.42E, h32km, mb4.5, ML3.4, MS3.2*
ISC 29 21:37:13.9±0.9, 11°.85N±0°.05×125°.4E±0°.1, h36km, n16, σ1°50/16, mb3.7/6, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.24**	**172**	*e*P		**Pn**	**Pn**	**21 37 22.1**	**0.0**
BESP				*e*S			**Sn**	21 37 27.6	-1.9
PLP	**Palo**	**0.79**	**212**	*e*P			**Pn**	**21 37 27.4**	**-1.2**
PLP				*i* S			**Sn**	**21 37 37.0**	**-2.2**
OCLP	**Ormoc**	**1.11**	**225**	*e*P			**Pn**	**21 37 33.2**	**+0.4**
OCLP				*e*S			**Sn**	**21 37 47.7**	**+0.8**
MSLP	**Maasin**	**1.78**	**197**	*e*P			**Pn**	**21 37 43.5**	**+1.4**
SCPH	**Surigao**	**2.05**	**178**	*e*P			**Pn**	**21 37 48.5**	**+2.7**
PVCP	**Virac**	**2.12**	**325**	*e*P			**Pn**	**21 37 49.2**	**+2.3**
OTRP	**Odiongan**	**3.35**	**279**	*e*P			**Pn**	**21 38 05.3**	**+1.6**
ASAR	**Alice Springs**	**36.26**	**167**	P			**P**	**21 44 13.8**	**-0.2**
	0.1nm,0.3s,baz=346,slow=6.6,SNR=4.8								
SONM	**Songino Array**	**39.26**	**340**	P			**P**	**21 44 39.7**	**+0.6**
	0.2nm,0.5s,baz=158,slow=11,SNR=3.0								
H11N1	**WAKE ISLAND Hy**	**40.60**	**74**	T			T	22 28 18.0	
	baz=265,slow=75,SNR=6.9								
H11N2	**WAKE ISLAND Hy**	**40.61**	**74**	T			T	22 28 10.3	
	baz=265,slow=75,SNR=8.2								
H11N3	**WAKE ISLAND Hy**	**40.62**	**74**	T			T	22 28 21.1	
	baz=265,slow=75,SNR=8.2								
MKAR	**Makanchi Array**	**50.27**	**322**	P			**P**	**21 46 06.5**	**-0.2**
	0.6nm,0.7s,baz=120,slow=9.0,SNR=8.9								
ZALV	**Zalesovo Beam**	**52.84**	**331**	P			**P**	**21 46 25.5**	**-0.3**
	0.4nm,0.5s,baz=140,slow=4.7,SNR=2.8								
ARCES	**ARCESS Array B**	**82.43**	**340**	P			**P**	**21 49 31.8**	**-0.3**
	1.5nm,0.7s,baz=69,slow=6.6,SNR=7.9								
FINES	**FINESS Array B**	**84.11**	**332**	P			**P**	**21 49 39.8**	**-1.1**
	1.3nm,1.0s,baz=66,slow=4.8,SNR=7.3								

*ISCJB **29** 21:50:36.3±0.5, 2°.54N±0°.07×122°.97E±0°.07, h500km, mb3.4/6, Error ellipse: s-maj=9.5km s-min=9.1km az=31.5*
*IDC **29** 21:50:38.4±2.2, 2°.57N×122°.99E, h499km±34km, mb2.9/6, mb1 3.1/8, mb1mx2.8/35, mbtmp3.9/8, Error ellipse: s-maj=33.8km s-min=14.8km az=71.0*
*DJA **29** 21:50:38.0±0.7, 3°N±8°×12°3E±1°, h466km±5km, M4.2/13, mb4.2/11, mB4.6/2, MLv4.2/13, Mw(mB)3.8/2*
ISC 29 21:50:37.5±0.8, 2°.51N±0°.10×123°.0E±0°.1, h500km, n22, σ1°76/25, mb3.4/6, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**2.18**	**152**	P			**P**	**21 51 41.8**	**-1.8**
KMSI				S			**S**	**21 52 33.7**	**-3.5**
MRSI	**Marisa**	**2.26**	**206**	P			**P**	**21 51 42.0**	**-2.0**
MRSI				S			**S**	**21 52 34.0**	**-3.9**
LUWI	**Luwuk**	**3.53**	**183**	P			**P**	**21 51 50.6**	**-1.7**
APSI	**Ampana**	**3.64**	**201**	P			**P**	**21 51 52.4**	**-0.7**
MPSI	**Mapaga**	**3.73**	**235**	P			**P**	**21 51 52.4**	**-1.5**
PCI	**Palu**	**4.60**	**223**	P			**P**	**21 52 00.1**	**-0.9**
TNTI	**Ternate**	**4.74**	**111**	P			**P**	**21 52 00.9**	**-1.3**
TNTI				S			**S**	**21 53 08.4**	**-2.9**
TTSI	**Tana Toraja**	**6.34**	**210**	P			**P**	**21 52 19.0**	**+1.8**
	19nm,0.6s,0.1nm								
NLAI	**Namlea**	**7.06**	**144**	P			**P**	**21 52 25.4**	**+1.0**
	42nm,0.6s,1μm0.2nm								
SPSI	**Sidrap Palu**	**7.17**	**206**	P			**P**	**21 52 26.2**	**+0.7**
	112nm,0.6s,1μm0.4nm								
KAPI	**Kappang**	**8.13**	**203**	P			**P**	**21 52 36.9**	**+1.7**
	1.3nm,0.3s,baz=31,slow=11,SNR=9.7								
BKSI	**Bulukumba**	**8.28**	**200**	P			**P**	**21 52 37.5**	**+0.7**
	8.9nm,0.7s								
KBKI	**Kotabaru**	**8.90**	**230**	P			**P**	**21 52 43.8**	**+0.4**
	12nm,1.1s								
SIJI	**Sorong**	**8.97**	**112**	P			**P**	**21 52 44.4**	**+0.3**
	0.9nm,0.3s,baz=348,slow=19,SNR=3.8								
BNDI	**Bandanaira**	**9.86**	**135**	P			**P**	**21 52 55.0**	**+1.6**
	119nm,0.8s								
MMRI	**Maumere**	**11.09**	**184**	P			**P**	**21 53 07.9**	**+1.4**
	32nm,1.1s								
WRA	**Warramunga Arr**	**24.96**	**154**	P			**P**	**21 55 21.7**	**+1.0**
	1.3nm,0.4s,baz=337,slow=9.6,SNR=27								
ASAR	**Alice Springs**	**28.12**	**158**	P			**P**	**21 55 50.3**	**+1.6**
	0.5nm,0.5s,baz=345,slow=7.0,SNR=7.9								
KSRS	**Korea Array**	**35.08**	**7**	P			**P**	**21 56 48.4**	**+0.5**
	0.8nm,0.5s,baz=180,slow=9.7,SNR=3.7								
SONM	**Songino Array**	**47.36**	**345**	P			**P**	**21 58 26.0**	**+0.3**
	0.6nm,0.8s,baz=157,slow=8.7,SNR=5.4								
MKAR	**Makanchi Array**	**56.47**	**328**	P			**P**	**21 59 32.3**	**+0.9**
	0.9nm,0.5s,baz=126,slow=8.2,SNR=20								
ZALV	**Zalesovo Beam**	**60.02**	**335**	P			**P**	**21 59 55.5**	**+0.3**
	0.5nm,0.3s,baz=132,slow=7.0,SNR=3.3								

*IDC **29** 21:50:56.2±4.2, 33°.37N×141°.52E, h0km, mb3.5/3, mb1 3.6/6, mb1mx3.4/35, mbtmp3.6/6, ML3.6/3, Error ellipse: s-maj=141.4km s-min=19.1km az=64.0*
*ISCJB **29** 21:51:02.0±0.8, 33°.25N±0°.05×141°.04E±0°.08, h48km, mb3.8/4, Error ellipse: s-maj=10.2km s-min=6.2km az=162.9*
*JMA **29** 21:51:03.0±0.3, 33°.37N×140°.94E, h20km, M3.4*
ISC 29 21:51:03.4±1.0, 33°.22N±0°.05×141°.05E±0°.08, h48km, n16, σ1°42/23, mb3.7/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.04**	**264**	P			**Pn**	**21 51 20.9**	**-0.7**
JHJ2				S			**Sn**	**21 51 34.2**	**-0.8**
BSO1	**Boso 1**	**1.43**	**358**	P			**Pn**	**21 51 25.9**	**-0.5**
BSO3	**Boso 3**	**1.64**	**344**	P			**Pn**	**21 51 29.7**	**+0.2**
BSO3				S			**Sn**	**21 51 48.7**	**-0.6**
JIM2	**Oshima 3**	**2.01**	**318**	P			**Pn**	**21 51 33.9**	**-1.0**
JIZS	**Izushimoda**	**2.34**	**310**	P			**Pn**	**21 51 39.3**	**-0.1**
JIZS				S			**Sn**	**21 52 05.1**	**-1.8**
JOD2	**Odawara 2**	**2.61**	**322**	P			**Pn**	**21 51 42.3**	**-0.7**
JOD2				S			**Sn**	**21 52 10.1**	**-3.4**
TK02	**Tokai 2**	**2.84**	**286**	P			**Pn**	**21 51 47.2**	**+1.2**
SHZ3	**Shizuoka 3**	**2.99**	**309**	P			**Pn**	**21 51 49.7**	**+1.4**
MJAR	**Matsushiro Arr**	**4.05**	**326**	Pn			**Pn**	**21 52 02.9**	**0.0**
	2.4nm,0.3s,baz=154,slow=11,SNR=32								
MJAR				Sn			**Sn**	**21 52 47.2**	**-1.9**
	0.8nm,0.3s,baz=162,slow=15,SNR=4.5								
MAT	**Matsushiro**	**4.06**	**326**	P			**Pn**	**21 52 03.7**	**+0.8**
MAT				S			**Sn**	**21 52 47.4**	**-1.7**
JCJ	**Chichijima**	**6.18**	**171**	Pn			**Pn**	**21 52 31.2**	**-0.9**
	4.3nm,0.3s,baz=282,slow=19,SNR=4.7								
JCJ				Sn			**Sn**	**21 53 38.7**	**-2.8**
	4.1nm,0.3s,baz=288,slow=20,SNR=3.1								
KSRS	**Korea Array**	**11.52**	**295**	Pn			**Pn**	**21 53 46.4**	**+1.3**
	0.2nm,0.3s,baz=108,slow=14,SNR=2.7								
SONM	**Songino Array**	**29.83**	**310**	P			**P**	**21 57 06.4**	**+0.4**
	0.2nm,0.6s,baz=115,slow=8.4,SNR=2.6								
MKAR	**Makanchi Array**	**45.98**	**305**	P			**P**	**21 59 22.5**	**+0.7**
	0.3nm,0.7s,baz=82,slow=11,SNR=4.1								
WRA	**Warramunga Arr**	**53.25**	**188**	P			**P**	**22 00 17.9**	**+0.7**
	3.8nm,0.6s,baz=4.2,slow=7.6,SNR=60								
ASAR	**Alice Springs**	**56.98**	**188**	P			**P**	**22 00 45.0**	**+0.9**
	1.3nm,0.6s,baz=9.3,slow=8.9,SNR=19								

*ISCJB **29** 22:14:13.9±0.3, 29°.91N±0°.03×138°.91E±0°.05, h421km, mb3.5/15, Error ellipse: s-maj=6.4km s-min=4.5km az=1.9*
*JMA **29** 22:14:14.8±0.1, 30°.00N×139°.32E, h441km, M3.7*
*IDC **29** 22:14:15.5±1.1, 29°.94N×138°.95E, h430km±12km, mb3.2/15, mb1 3.4/20, mb1mx3.3/34, mbtmp4.1/20, Error ellipse: s-maj=16.1km s-min=11.8km az=73.0*
*BJI **29** 22:14:19.3, 29°.92N×138°.30E, h457km, mb4.5/9, mB4.6/5*
ISC 29 22:14:14.8±0.6, 29°.98N±0°.07×139°.02E±0°.08, h421km, n46, σ1°33/61, mb3.7/15, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.00**	**135**	P			**P**	**22 15 28.2**	**0.0**
CBIJ				S			**S**	**22 16 27.1**	**-0.8**
JCJ	**Chichijima**	**4.00**	**135**	P			**P**	**22 15 28.1**	**-0.1**
	28nm,0.3s,baz=317,slow=21,SNR=25								
JCJ				S			**S**	**22 16 26.1**	**-1.8**
	47nm,0.3s,baz=281,slow=22,SNR=17								
JKN2	**Miekihoku**	**4.84**	**332**	P			**P**	**22 15 39.0**	**+3.0**
BSO1	**Boso 1**	**4.95**	**19**	P			**P**	**22 15 38.5**	**+2.1**
BSO1				S			**S**	**22 16 44.0**	**+0.7**
BSO3	**Boso 3**	**4.97**	**14**	P			**P**	**22 15 38.3**	**+1.3**
BSO3				S			**S**	**22 16 44.2**	**0.0**
HMMJ	**Hamamatsu 2**	**4.98**	**348**	P			**P**	**22 15 39.8**	**+2.4**
BSO4	**Boso 4**	**5.12**	**12**	P			**P**	**22 15 40.5**	**+1.9**
BSO4				S			**S**	**22 16 47.8**	**+0.6**
JOD2	**Odawara 2**	**5.27**	**1**	P			**P**	**22 15 41.6**	**+1.3**
JOD2				S			**S**	**22 16 49.4**	**-0.8**
JHU	**Hanno**	**5.86**	**2**	P			**P**	**22 15 47.0**	**+0.6**
JHU				S			**S**	**22 16 58.0**	**-3.4**
JRY	**Ryogami san**	**6.02**	**359**	P			**P**	**22 15 49.7**	**+1.6**
JRY				S			**S**	**22 17 03.7**	**-0.9**
MJAR	**Matsushiro Arr**	**6.58**	**354**	P			**P**	**22 15 55.2**	**+0.6**
	1.3nm,0.3s,baz=174,slow=12,SNR=16								
MJAR				S			**S**	**22 17 15.2**	**-0.3**
	0.6nm,0.3s,baz=158,slow=19,SNR=5.4								
MAT	**Matsushiro**	**6.58**	**354**	P			**P**	**22 15 55.1**	**+0.6**
MAT				S			**S**	**22 17 15.5**	**-0.1**
JHO	**Hitachi**	**6.74**	**11**	P			**P**	**22 15 56.4**	**+0.2**
JHO				S			**S**	**22 17 15.7**	**-3.0**
JHS	**Saijyo**	**7.06**	**317**	P			**P**	**22 16 01.9**	**+2.1**
JNU	**Nakatsue**	**7.62**	**296**	P			**P**	**22 16 08.0**	**+2.0**
	0.8nm,0.3s,baz=156,slow=0.6,SNR=12								
JMK	**Ichinoseki**	**9.13**	**11**	P			**P**	**22 16 24.1**	**+1.8**
KSRS	**Korea Array**	**11.86**	**312**	P			**P**	**22 16 53.9**	**+1.5**
	1.9nm,0.3s,baz=126,slow=11,SNR=41								
USRK	**Ussuriysk Ar.**	**15.25**	**340**	P			**P**	**22 17 30.1**	**+0.9**
	1.0nm,0.3s,baz=151,slow=9.5,SNR=19								
HHC	**Hu-ho-hao-te**	**24.77**	**303**	*e*P			**P**	**22 19 01.0**	**0.0**
HHC					sP		**sP**	**22 21 06.8**	**+3.1**
HHC					S		**S**	**22 22 49.8**	**-2.4**
HHC					PMZ				
	19nm,1.0s								
HHC					PMZ				
	110nm,8.6s								
SONM	**Songino Array**	**30.71**	**315**	P			**P**	**22 19 53.3**	**0.0**
	1.5nm,0.4s,baz=124,slow=8.9,SNR=23								
CMAR	**Chiang Mai Arr**	**38.13**	**262**	P			**P**	**22 20 55.2**	**-0.9**
	1.0nm,0.5s,baz=63,slow=5.8,SNR=7.9								
TAPN	**Taplejung**	**44.79**	**280**	*e*P			**P**	**22 21 49.4**	**-0.3**
	9.3nm,0.4s								
ODAN	**Odare**	**45.20**	**279**	*e*P			**P**	**22 21 52.5**	**-0.3**
ZALV	**Zalesovo Beam**	**45.49**	**318**	P			**P**	**22 21 53.7**	**-0.6**
	1.9nm,0.4s,baz=106,slow=7.6,SNR=10								
RAMN	**Ramite**	**45.85**	**280**	*e*P			**P**	**22 21 57.5**	**-0.4**
	19nm,0.5s								
JIRN	**Jiri**	**46.01**	**281**	*e*P			**P**	**22 21 59.3**	**+0.1**
	31nm,0.4s								
GUN	**Gumba**	**46.20**	**281**	*e*P			**P**	**22 22 00.7**	**0.0**
	13nm,0.4s								
MKAR	**Makanchi Array**	**46.50**	**308**	P			**P**	**22 22 01.8**	**-0.6**
	0.8nm,0.4s,baz=84,slow=10.0,SNR=18								
MKAR					PcP		**PcP**	**22 23 27.2**	**-1.5**
	0.4nm,0.5s,baz=78,slow=6.1,SNR=5.5								
MKAR					ScP		**ScP**	**22 26 39.4**	**-1.8**
	0.3nm,0.6s,baz=87,slow=4.8,SNR=4.5								
PKI	**Pulchoki**	**46.70**	**281**	*e*P			**P**	**22 22 03.4**	**-1.0**
	4.8nm,0.5s								
PKIN	**Phulchoki**	**46.70**	**281**	*e*P			**P**	**22 22 03.4**	**-1.0**
	3.5nm,0.4s								
KKN	**Kakani**	**46.74**	**281**	*e*P			**P**	**22 22 04.2**	**-0.5**
DMN	**Daman**	**46.94**	**281**	*e*P			**P**	**22 22 05.9**	**-0.3**
	5.8nm,0.4s								
GKN	**Gorkha**	**47.23**	**282**	*e*P			**P**	**22 22 08.0**	**-0.3**
	4.9nm,0.3s								
KOLN	**Koldanda**	**48.18**	**282**	*e*P			**P**	**22 22 15.4**	**-0.1**
	18nm,0.6s								
WRA	**Warramunga Arr**	**49.84**	**186**	P			**P**	**22 22 27.1**	**-0.6**
	0.6nm,0.7s,baz=1.1,slow=7.8,SNR=8.4								
ASAR	**Alice Springs**	**53.56**	**186**	P			**P**	**22 22 54.8**	**0.0**
	0.3nm,0.6s,baz=23,slow=11,SNR=6.4								
ILAR	**Eielson Array**	**56.56**	**30**	P			**P**	**22 23 15.3**	**0.0**
	0.5nm,0.8s,baz=260,slow=4.7,SNR=6.6								
ARCES	**ARCESS Array B**	**69.90**	**340**	P			**P**	**22 24 41.9**	**+0.4**
	2.3nm,0.6s,baz=68,slow=8.5,SNR=26								
YKA	**Yellowknife Ar**	**70.93**	**28**	P			**P**	**22 24 48.5**	**+0.7**
	0.2nm,0.5s,baz=288,slow=6.3,SNR=4.0								
KBZ	**Khabaz**	**74.01**	**311**	P			**P**	**22 25 06.2**	**+0.2**
	2.7nm,0.7s,baz=236,slow=24,SNR=11								
FINES	**FINESS Array B**	**74.13**	**333**	P			**P**	**22 25 06.0**	**-0.3**
	1.6nm,0.4s,baz=79,slow=4.6,SNR=34								
AKASG	**Malin Array Be**	**78.65**	**322**	P			**P**	**22 25 30.9**	**-0.7**
	0.9nm,0.5s,baz=51,slow=5.1,SNR=4.1								
NB2	**NORSAR Subarra**	**79.89**	**337**	P			**P**	**22 25 37.5**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=46,slow=5.1								
NOA	**NORSAR Array B**	**79.89**	**337**	P			**P**	**22 25 36.8**	**-1.3**
	comp=Z,1.2nm,0.6s,baz=46,slow=5.1,SNR=8.5								
NVAR	**Mina Array Bea**	**80.90**	**51**	P			**P**	**22 25 45.5**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=288,slow=5.8,SNR=5.5								
BRTR	**Keskin Array B**	**82.01**	**311**	P			**P**	**22 25 49.6**	**-0.1**
	comp=Z,2.5nm,0.9s,baz=83,slow=3.9,SNR=17								

GUC 29 22:30:17.8±0.3, 34°.80S×71°.74W, h47km±1km, ML3.7, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.47**	**117**	*ip*		P	Pn	22 30 28.2	-0.2
NICH				*i* S		S	Sn	22 30 36.2	+0.2
NICH					AML	AML		22 30 37.0	
	comp=E,10μm,0.3s								
TALC	**Talca**	**0.61**	**172**	*i* P		P	Pn	22 30 30.1	-0.1
TALC				*i* S		S	Sn	22 30 39.4	+0.2
LNV	**Longovilo**	**0.88**	**18**	*i* P		P	Pn	22 30 33.8	-0.1
LNV				*i* S		S	Sn	22 30 46.5	+1.0
CHCH	**Chadas Angostu**	**1.24**	**47**	*i* P		P	Pn	22 30 39.1	+0.3
CHCH				*e*S		S	Sn	22 30 55.3	+0.8
TACH	**Talagante**	**1.32**	**30**	*e*P		P	Pn	22 30 40.8	+0.9
TACH				*e*S		S	Sn	22 30 58.4	+2.1
CLCH	**Cerro Calan**	**1.71**	**36**	*i* P		P	Pn	22 30 46.1	+0.8
CLCH				*i* S		S	Sn	22 31 08.2	+2.1
CLCH					AML	AML		22 31 16.8	
	comp=E,720nm,0.4s								
PEL	**Peldehue**	**1.86**	**28**	*i* P		P	Pn	22 30 48.7	+1.4
PEL				*e*S		S	Sn	22 31 10.5	+0.7
PEL					AML	AML		22 31 16.6	
	comp=E,1μm,0.5s								

IDC 29 22:48:23.4±9.8, 18°.23S×178°.00W, h373km±94km, mb3.1/4, mb1 3.5/4, mb1mx3.1/28, mbtmp3.8/4, Error ellipse: s-maj=128.6km s-min=30.9km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.96**	**260**	P		P	P	22 56 02.6	-0.7
	0.5nm,0.4s,baz=98,slow=6.7,SNR=9.1								
WRA				PcP		PcP	PcP	22 57 37.0	-0.3
	0.2nm,0.4s,baz=90,slow=3.7,SNR=3.1								
ASAR	**Alice Springs**	**45.08**	**255**	P		P	P	22 56 04.5	+0.3
	2.3nm,0.4s,baz=89,slow=8.9,SNR=49								
ASAR				PcP		PcP	PcP	22 57 37.4	-0.4
	0.3nm,0.5s,baz=98,slow=4.1,SNR=4.2								
TXAR	**Lajitas Array**	**85.84**	**57**	P		P	P	23 00 23.1	+0.7
	0.4nm,0.7s,baz=237,slow=4.3,SNR=4.7								
PDAR	**Pinedale Array**	**87.32**	**43**	P		P	P	23 00 28.1	-1.1
	0.4nm,0.7s,baz=232,slow=5.8,SNR=3.4								
BRTR	**Keskin Array B**	**145.29**	**315**	PKPbc		PKPdf	PKPdf	23 07 17.8	+0.1
	0.3nm,0.6s,baz=90,slow=3.7,SNR=4.3								

GUC 30 00:00:31.1±0.3, 36°.62S×73°.21W, h6km±3km, ML4.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.59**	**35**	*e*P		Pb	Pb	00 00 43.2	-0.7
COCH				*e*S		Sb	Sb	00 00 52.2	-0.2
AGCH	**Angol**	**1.26**	**161**	*e*P		Pn	Pn	00 00 53.8	-1.4
AGCH				*e*S		Sg	Sg	00 01 11.6	0.0
LNCH	**Linares**	**1.51**	**60**	*e*P		Pn	Pn	00 00 58.5	-0.2
LNCH				*e*S		Sg	Sg	00 01 19.7	0.0
LNCH					AML	AML		00 01 21.4	
	comp=N,9μm,0.5s								
TALC	**Talca**	**1.76**	**47**	*e*P		Pn	Pn	00 01 02.5	+0.3
TALC				*e*S		Sb	Sb	00 01 26.5	+0.2
NICH	**Los Niches**	**2.28**	**46**	*e*P		Pb	Pb	00 01 11.0	-1.6
NICH				*e*S		Sb	Sb	00 01 41.2	+0.1
NICH					AML	AML		00 01 50.4	
	comp=E,5μm,0.7s								

GUC 30 00:00:05:39.6±0.5, 36°.58S×73°.39W, h27km±4km, ML4.2, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.66**	**47**	*e*P		Pb	Pb	00 05 52.1	-0.5
COCH				*e*S		Sb	Sb	00 06 01.1	-0.3
AGCH	**Angol**	**1.34**	**156**	*e*P		Pn	Pn	00 06 03.0	+0.4
AGCH				*e*S		Sb	Sb	00 06 20.2	-0.6
LNCH	**Linares**	**1.62**	**64**	*e*P		Pn	Pn	00 06 07.4	+1.0
LNCH				*e*S		Sb	Sb	00 06 28.0	-0.8
LNCH					AML	AML		00 06 34.4	
	comp=N,3μm,0.3s								
TALC	**Talca**	**1.85**	**51**	*e*P		Pn	Pn	00 06 10.9	+1.3
TALC				*e*S		Sb	Sb	00 06 34.6	-0.8
TALC					AML	AML		00 06 40.8	
	comp=N,5μm,0.6s								
NICH	**Los Niches**	**2.36**	**49**	*e*S		Sb	Sb	00 06 48.2	-1.8
NICH					AML	AML		00 07 03.6	
	comp=E,2μm,0.3s								
CHCH	**Chadas Angostu**	**3.46**	**41**	*e*P		Pn	Pn	00 06 33.6	+1.8

MAN 30 00:06:40, 17°.90N×122°.39E, h51km, mb4.6, ML3.4, MS3.3, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.47**	**316**	*e*P		Pn	Pn	00 06 52.8	+1.8
CVP	**Callao Caves**	**0.57**	**250**	*ip*		Pn	Pn	00 06 51.1	-1.1
CVP				*i* S		Sn	Sn	00 06 58.7	-2.3
APYP	**Conner**	**1.09**	**268**	*e*P		Pn	Pn	00 07 00.1	+1.1
APYP				*e*S		Sn	Sn	00 07 14.6	+1.6
**

Ms1 3.2/9,ms1mx3.0/29,Error ellipse: s-maj=44.0km s-min=15.5km az=56.0
*BJI **30** 00:24:43.8,33.27N×96.21E,h15km,ML3.4/11,Ms7 3.1/1*
ISC 30 00:24:43.9±0.6,33°29N±0.08×96°27E±0.06,h10km,n31,
σ1§12/29,mb3.9/9,MS3.3/6,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**6.74**	**24**	*e*Pn	Pn	00 26 27.5	+4.4
CD2	**Chengdu**	**6.78**	**108**	Pn	**Pn**	**00 26 25.0**	**+1.4**
CD2				Pg	Pb	00 26 47.8	+5.9
CD2				Sn	**Sn**	**00 27 37.0**	**-3.9**
CD2				Sg	**Sg**	**00 28 21.3**	**-0.3**
CD2				SMN			
	80nm,1.2s						
CD2				SME			
	60nm,1.3s						
TAPN	**Taplejung**	**9.47**	**234**	*e*P	**Pn**	**00 27 00.7**	**0.0**
	16nm,0.4s						
KMI	**Kunming**	**9.91**	**144**	P	**Pn**	**00 27 08.3**	**+1.7**
ODAN	**Odare**	**10.01**	**233**	*e*P	**Pn**	**00 27 07.5**	**-0.5**
	52nm,0.5s						
JIRN	**Jiri**	**10.35**	**240**	*e*P	**Pn**	**00 27 13.1**	**+0.3**
	8.3nm,0.4s						
GUN	**Gumba**	**10.43**	**242**	*e*P	**Pn**	**00 27 13.5**	**-0.4**
	16nm,0.4s						
RAMN	**Ramite**	**10.48**	**235**	*e*P	**Pn**	**00 27 13.9**	**-0.6**
	19nm,0.5s						
KKN	**Kakani**	**10.94**	**243**	*e*P	**Pn**	**00 27 20.7**	**-0.1**
PKI	**Pulchoki**	**10.97**	**242**	*e*P	**Pn**	**00 27 20.2**	**-1.0**
	12nm,0.4s						
PKIN	**Phulchoki**	**10.97**	**242**	*e*P	**Pn**	**00 27 20.4**	**-0.8**
PKIN				*e*S	Sn	00 29 10.5	-14
DMN	**Daman**	**11.17**	**242**	*e*P	**Pn**	**00 27 22.9**	**-1.0**
GKN	**Gorkha**	**11.32**	**245**	*e*P	**Pn**	**00 27 25.7**	**-0.1**
KOLN	**Koldanda**	**12.23**	**247**	*e*P	**Pn**	**00 27 38.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**14.96**	**170**	Pn	**Pn**	**00 28 16.0**	**+0.4**
	0.6nm,0.3s,baz=348,slow=13,SNR=4.3						
SONM	**Songino Array**	**16.42**	**25**	Pn	**Pn**	**00 28 35.6**	**+1.2**
	0.5nm,0.3s,baz=210,slow=14,SNR=19						
SONM				LR	LR	00 35 29.9	
	comp=Z,45nm,21.8s,baz=209,slow=39						
MKAR	**Makanchi Array**	**17.18**	**326**	P	**Pn**	**00 28 42.8**	**-1.2**
	0.2nm,0.3s,baz=133,slow=12,SNR=35						
MKAR				LR	LR	00 36 32.4	
	comp=Z,31nm,21.3s,baz=130,slow=41						
AAK	**Ala-Archa**	**19.50**	**305**	P	**Pn**	**00 29 11.0**	**-1.4**
	0.5nm,0.3s,baz=99,slow=8.2,SNR=6.8						
AAK				LR	LR	00 38 19.3	
	comp=Z,29nm,19.4s,baz=76,slow=42						
KURBB	**Kurchatov Arra**	**21.68**	**328**	P	**P**	**00 29 34.6**	**0.0**
	4.8nm,0.8s,baz=137,slow=11,SNR=17						
ZALV	**Zalesovo Beam**	**22.20**	**342**	P	**P**	**00 29 40.4**	**+0.2**
	2.8nm,0.8s,baz=158,slow=11,SNR=14						
ZALV				LR	LR	00 38 08.8	
	comp=Z,22nm,19.5s,baz=250,slow=36						
MJAR	**Matsushiro Arr**	**34.35**	**73**	LR	LR	00 46 06.5	
	comp=Z,32nm,19.0s,baz=320,slow=37						
BRTR	**Keskin Array B**	**49.85**	**296**	P	**P**	**00 33 37.4**	**-0.1**
	0.6nm,0.8s,baz=106,slow=7.8,SNR=5.0						
AKASG	**Malin Array Be**	**51.00**	**311**	P	**P**	**00 33 45.4**	**-0.4**
	0.5nm,0.4s,baz=72,slow=6.5,SNR=4.6						
FINES	**FINESS Array B**	**52.01**	**325**	P	**P**	**00 33 53.1**	**-0.1**
	3.5nm,1.1s,baz=101,slow=9.9,SNR=4.6						
FINES				LR	LR	00 56 55.1	
	comp=Z,25nm,20.9s,baz=242,slow=37						
ARCES	**ARCESS Array B**	**52.52**	**335**	P	**P**	**00 33 57.6**	**+0.8**
	0.6nm,0.7s,baz=80,slow=6.8,SNR=7.3						
NB2	**NORSAR Subarra**	**59.18**	**326**	P	**P**	**00 34 44.5**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=77,slow=7.4						
NOA	**NORSAR Array B**	**59.18**	**326**	P	**P**	**00 34 44.6**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=76,slow=7.0,SNR=6.3						
NOA				LR	LR	01 01 51.4	
	comp=Z,22nm,19.1s,baz=50,slow=38						
WRA	**Warramunga Arr**	**64.21**	**140**	P	**P**	**00 35 20.8**	**+1.6**
	comp=Z,1.5nm,0.8s,baz=331,slow=7.4,SNR=6.8						
KMBO	**Kilima Mbogo**	**65.14**	**251**	LR	LR	01 01 53.9	
	comp=Z,58nm,21.2s,baz=96,slow=34						
ASAR	**Alice Springs**	**67.04**	**143**	P	**P**	**00 35 37.4**	**0.0**
	comp=Z,0.8nm,0.5s,baz=328,slow=7.0,SNR=13						
DBIC	**Dimbokro**	**95.60**	**282**	LR	LR	01 27 07.7	
	comp=Z,64nm,18.1s,baz=174,slow=39						

*CSEM **30** 00:25:10.6,41.57N×14.16E,h15km,ML1.6/4*
ROM 30 00:25:10.6±0.3,41.57N×14.16E,h15km±5km,MI1.6/4,
Error ellipse: s-maj=3.7km s-min=1.8km az=68.0,
Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIDA	**Miranda**	**0.10**	**45**	Pg	Pg	00 25 14.1	+0.1
MIDA				Sg	Sg	00 25 16.5	+0.3
MIDA	**Miranda**	**0.10**	**45**	Pg	Pg	00 25 14.1	+0.1
MIDA				Sg	Sg	00 25 16.5	+0.3
CERA	**Filignano**	**0.11**	**284**	Pg	Pg	00 25 14.2	+0.1
CERA	**Filignano**	**0.11**	**284**	Pg	Pg	00 25 14.2	+0.1
RNI2	**Rionero Sannit**	**0.13**	**358**	Pg	Pb	00 25 14.9	-0.1
RNI2	**Rionero Sannit**	**0.13**	**358**	Pg	Pb	00 25 14.9	-0.1
VAGA	**Valle Agricola**	**0.17**	**160**	Pg	Pg	00 25 15.0	+0.2
VAGA				Sg	Sb	00 25 18.2	-0.6
VAGA	**Valle Agricola**	**0.17**	**160**	Pg	Pg	00 25 15.0	+0.2
VAGA				Sg	Sb	00 25 18.2	-0.6
SDI	**San Donato**	**0.30**	**298**	Pg	Pg	00 25 16.9	0.0
SDI	**San Donato**	**0.30**	**298**	Pg	Pg	00 25 16.9	0.0

*CSEM **30** 00:25:16.3±0.1,41.57N×14.12E,h8km,ML2.4,Error ellipse: s-maj=3.7km s-min=2.4km az=36.0*
ROM 30 00:25:15.8±0.1,41.57N×14.13E,h10km,MI2.4/4,4C,
Error ellipse: s-maj=1.4km s-min=1.0km az=40.0,
Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CERA	**Filignano**	**0.09**	**288**	Pg	Pg	00 25 19.2	+0.8
CERA				Sg	Sg	00 25 21.1	+0.8
CERA	**Filignano**	**0.09**	**288**	Pg	Pg	00 25 19.2	+0.8
CERA				Sg	Sg	00 25 21.1	+0.8
MIDA	**Miranda**	**0.12**	**53**	↑*i*Pg	Pg	00 25 19.1	+0.3
MIDA				Sg	Sg	00 25 21.5	+0.5
MIDA	**Miranda**	**0.12**	**53**	↑*i*Pg	Pg	00 25 19.1	+0.3
MIDA				Sg	Sg	00 25 21.5	+0.5
RNI2	**Rionero Sannit**	**0.13**	**7**	↑*i*Pg	Pb	00 25 19.9	-0.6
RNI2				Sg	Sg	00 25 22.2	+0.8
RNI2	**Rionero Sannit**	**0.13**	**7**	↑*i*Pg	Pb	00 25 19.9	-0.6
RNI2				Sg	Sg	00 25 22.2	+0.8
VAGA	**Valle Agricola**	**0.17**	**153**	Pg	Pg	00 25 20.0	+0.3
VAGA				Sg	Sg	00 25 23.4	+1.0
VAGA	**Valle Agricola**	**0.17**	**153**	Pg	Pg	00 25 20.0	+0.3
VAGA				Sg	Sg	00 25 23.4	+1.0
SGG	**Gregorio Mates**	**0.26**	**134**	Pg	Pg	00 25 22.0	+0.7
SGG	**Gregorio Mates**	**0.26**	**134**	Pg	Pg	00 25 22.0	+0.7
SDI	**San Donato**	**0.28**	**300**	Pg	Pg	00 25 22.0	+0.5
SDI				Sg	Sb	00 25 26.7	-1.0
SDI	**San Donato**	**0.28**	**300**	Pg	Pg	00 25 22.0	+0.5
SDI				Sg	Sb	00 25 26.7	-1.0
POFI	**Posta Fibreno**	**0.35**	**295**	Pg	Pg	00 25 23.3	+0.5
POFI	**Posta Fibreno**	**0.35**	**295**	Pg	Pg	00 25 23.3	+0.5
BSSO	**Busso**	**0.35**	**94**	Pg	Pg	00 25 23.3	+0.4
BSSO	**Busso**	**0.35**	**94**	Pg	Pg	00 25 23.3	+0.4
PTRJ	**Pietraroja**	**0.36**	**124**	Pg	Pg	00 25 23.4	+0.2
PTRJ	**Pietraroja**	**0.36**	**124**	Pg	Pg	00 25 23.4	+0.2
TRIV	**Trivento**	**0.37**	**58**	Pg	Pg	00 25 23.7	+0.4
TRIV				Sg	Sb	00 25 30.5	+0.1
	364nm,0.6s						
TRIV	**Trivento**	**0.37**	**58**	Pg	Pg	00 25 23.7	+0.4
TRIV				Sg	Sb	00 25 30.5	+0.1
	364nm,0.6s						
MODR	**Mondragone**	**0.47**	**204**	Pg	Pb	00 25 26.2	+0.1
	293nm,0.6s						
MODR	**Mondragone**	**0.47**	**204**	Pg	Pb	00 25 26.2	+0.1
	293nm,0.6s						
INTR	**Introdacqua**	**0.47**	**339**	Pg	Pg	00 25 25.2	0.0
INTR				Sg	Sb	00 25 33.1	-0.3
INTR	**Introdacqua**	**0.47**	**339**	Pg	Pg	00 25 25.2	0.0
INTR				Sg	Sb	00 25 33.1	-0.3
LPEL	**Lama dei Pelig**	**0.48**	**5**	Pg	Pg	00 25 25.4	+0.1
LPEL	**Lama dei Pelig**	**0.48**	**5**	Pg	Pg	00 25 25.4	+0.1
VVLD	**Villa Vallelon**	**0.48**	**308**	Pg	Pg	00 25 25.4	0.0
VVLD				Sg	Sb	00 25 33.1	-0.7
VVLD	**Villa Vallelon**	**0.48**	**308**	Pg	Pg	00 25 25.4	0.0
VVLD				Sg	Sb	00 25 33.1	-0.7
FRES	**Fresagrandinar**	**0.57**	**45**	Pg	Pg	00 25 26.8	-0.1
	241nm,0.6s						
FRES	**Fresagrandinar**	**0.57**	**45**	Pg	Pg	00 25 26.8	-0.1
	241nm,0.6s						
PSB1	**Pescosannita**	**0.62**	**124**	Pg	Pb	00 25 28.4	-0.3
PSB1	**Pescosannita**	**0.62**	**124**	Pg	Pb	00 25 28.4	-0.3
FAGN	**Fagnano**	**0.81**	**330**	Pg	Pg	00 25 30.9	-0.6
FAGN	**Fagnano**	**0.81**	**330**	Pg	Pg	00 25 30.9	-0.6
T0106	**Roio Piano**	**0.92**	**323**	Pg	Pg	00 25 32.7	-1.1
CERT	**Cerreto**	**0.94**	**294**	Pg	Pg	00 25 32.8	-1.2
CERT	**Cerreto**	**0.94**	**294**	Pg	Pg	00 25 32.8	-1.2
MCRV	**Calabrutti - M**	**1.11**	**135**	Pg	Pb	00 25 37.0	-0.2
	74nm,0.6s						
MCRV	**Calabrutti - M**	**1.11**	**135**	Pg	Pb	00 25 37.0	-0.2
	74nm,0.6s						
MS1	**Monte Sant'Ang**	**1.36**	**84**	*e*Pn	Pb	00 25 41.7	+0.2
MS1				Sn	Sg	00 26 01.6	+1.7
CDT	**Castel del Mon**	**1.69**	**106**	*e*Pn	Pb	00 25 46.6	-0.3
CDT				Sn	Sg	00 26 10.6	+0.4
BAI	**Bari**	**2.12**	**102**	*e*Pn	Pn	00 25 49.0	-2.2
BAI				Sn	Sb	00 26 20.0	-0.6
STON	**Ston**	**2.95**	**63**	*e*Pn	Pn	00 26 04.6	+1.9
STON				Sn	Sn	00 26 39.5	+1.4
NVLJ	**Novalja**	**3.04**	**10**	*e*Pn	Pn	00 26 04.4	+0.6
NVLJ				Sn	Sn	00 26 36.0	-4.2
UDBI	**Udbina**	**3.19**	**22**	*e*Pn	Pn	00 26 06.9	+0.9
UDBI				Sn	Sn	00 26 40.4	-3.7

*CSEM **30** 00:25:58.0,41.56N×14.13E,h10km,ML1.6/4*
ROM 30 00:25:58.0±0.1,41.56N×14.13E,h10km±1km,MI1.6/4,
Error ellipse: s-maj=1.9km s-min=1.4km az=59.0,
Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CERA	**Filignano**	**0.09**	**293**	Pg	Pg	00 26 01.1	+0.5
CERA				Sg	Sg	00 26 03.2	+0.8
CERA	**Filignano**	**0.09**	**293**	Pg	Pg	00 26 01.1	+0.5
CERA				Sg	Sg	00 26 03.2	+0.8
MIDA	**Miranda**	**0.12**	**49**	Pg	Pg	00 26 01.2	+0.2
MIDA				Sg	Sg	00 26 03.6	+0.4
MIDA	**Miranda**	**0.12**	**49**	Pg	Pg	00 26 01.2	+0.2
MIDA				Sg	Sg	00 26 03.6	+0.4
RNI2	**Rionero Sannit**	**0.14**	**6**	Pg	Pg	00 26 02.0	+0.6
RNI2				Sg	Sg	00 26 04.2	+0.5
RNI2	**Rionero Sannit**	**0.14**	**6**	Pg	Pg	00 26 02.0	+0.6
RNI2				Sg	Sg	00 26 04.2	+0.5
VAGA	**Valle Agricola**	**0.16**	**152**	Pg	Pg	00 26 02.1	+0.4
VAGA				Sg	Sg	00 26 05.3	+1.1
VAGA	**Valle Agricola**	**0.16**	**152**	Pg	Pg	00 26 02.1	+0.4
VAGA				Sg	Sg	00 26 05.3	+1.1
SGG	**Gregorio Mates**	**0.25**	**133**	Pg	Pg	00 26 03.7	+0.4
SGG	**Gregorio Mates**	**0.25**	**133**	Pg	Pg	00 26 03.7	+0.4
SDI	**San Donato**	**0.28**	**302**	Pg	Pg	00 26 04.1	+0.3
SDI				Sg	Sg	00 26 08.4	+0.7
SDI	**San Donato**	**0.28**	**302**	Pg	Pg	00 26 04.1	+0.3
SDI				Sg	Sg	00 26 08.4	+0.7
POFI	**Posta Fibreno**	**0.35**	**297**	Pg	Pg	00 26 05.8	+0.7
POFI	**Posta Fibreno**	**0.35**	**297**	Pg	Pg	00 26 05.8	+0.7
PTRJ	**Pietraroja**	**0.36**	**123**	Pg	Pb	00 26 06.3	-0.3
PTRJ	**Pietraroja**	**0.36**	**123**	Pg	Pb	00 26 06.3	-0.3
INTR	**Introdacqua**	**0.48**	**339**	Pg	Pg	00 26 07.8	+0.3
INTR				Sg	Sb	00 26 15.8	-0.2
INTR	**Introdacqua**	**0.48**	**339**	Pg	Pg	00 26 07.8	+0.3
INTR				Sg	Sb	00 26 15.8	-0.2
LPEL	**Lama dei Pelig**	**0.49**	**4**	Pg	Pb	00 26 08.9	+0.1
LPEL	**Lama dei Pelig**	**0.49**	**4**	Pg	Pb	00 26 08.9	+0.1
VVLD	**Villa Vallelon**	**0.49**	**309**	Pg	Pg	00 26 07.5	-0.2
VVLD				Sg	Sg	00 26 15.1	+0.7
VVLD	**Villa Vallelon**	**0.49**	**309**	Pg	Pg	00 26 07.5	-0.2
VVLD				Sg	Sg	00 26 15.1	+0.7

*CSEM **30** 00:26:32.3,41.56N×14.14E,h10km,ML1.6/4*
ROM 30 00:26:32.3±0.1,41.56N×14.14E,h10km±1km,MI1.6/4,
Error ellipse: s-maj=1.9km s-min=1.3km az=51.0,
Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CERA	**Filignano**	**0.10**	**293**	Pg	Pg	00 26 35.6	+0.6
CERA				Sg	Sg	00 26 37.5	+0.6
CERA	**Filignano**	**0.10**	**293**	Pg	Pg	00 26 35.6	+0.6
CERA				Sg	Sg	00 26 37.5	+0.6
MIDA	**Miranda**	**0.12**	**46**	Pg	Pg	00 26 35.6	+0.3
MIDA				Sg	Sg	00 26 38.0	+0.5
MIDA	**Miranda**	**0.12**	**46**	Pg	Pg	00 26 35.6	+0.3
MIDA				Sg	Sg	00 26 38.0	+0.5
RNI2	**Rionero Sannit**	**0.14**	**4**	Pg	Pg	00 26 36.4	+0.7
RNI2	**Rionero Sannit**	**0.14**	**4**	Pg	Pg	00 26 36.4	+0.7
VAGA	**Valle Agricola**	**0.16**	**153**	Pg	Pg	00 26 36.5	+0.6
VAGA				Sg	Sg	00 26 39.2	+0.8
VAGA	**Valle Agricola**	**0.16**	**153**	Pg	Pg	00 26 36.5	+0.6
VAGA				Sg	Sg	00 26 39.2	+0.8
SGG	**Gregorio Mates**	**0.25**	**133**	Pg	Pg	00 26 38.1	+0.6
SGG	**Gregorio Mates**	**0.25**	**133**	Pg	Pg	00 26 38.1	+0.6
SDI	**San Donato**	**0.29**	**302**	Pg	Pg	00 26 38.7	+0.5
SDI				Sg	Sg	00 26 43.1	+0.9
SDI	**San Donato**	**0.29**	**302**	Pg	Pg	00 26 38.7	+0.5
SDI				Sg	Sg	00 26 43.1	+0.9
PTRJ	**Pietraroja**	**0.35**	**123**	Pg	Pb	00 26 41.0	+0.2
PTRJ	**Pietraroja**	**0.35**	**123**	Pg	Pb	00 26 41.0	+0.2
POFI	**Posta Fibreno**	**0.36**	**297**	Pg	Pb	00 26 40.4	-0.5
POFI	**Posta Fibreno**	**0.36**	**297**	Pg	Pb	00 26 40.4	-0.5
INTR	**Introdacqua**	**0.48**	**339**	Pg	Pg	00 26 42.3	+0.4
INTR	**Introdacqua**	**0.48**	**339**	Pg	Pg	00 26 42.3	+0.4
VVLD	**Villa Vallelon**	**0.50**	**309**	Pg	Pg	00 26 42.1	0.0
VVLD	**Villa Vallelon**	**0.50**	**309**	Pg	Pg	00 26 42.1	0.0

NNC 30 00:33:55.8±8.5,37.31N×66.21E,h3km±63km,mb3.9,
mpv3.5,7C-6D,Error ellipse: s-maj=76.5km
s-min=68.6km az=176.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.55**	**53**	⇑Pn	Pn	00 34 39.2	+1.1
	26nm,0.4s						
DZET				⇑Sn	Sb	00 35 13.7	-0.5
	101nm,0.5s						
SFK	**Sufi-Kurgan**	**6.31**	**62**	⇓Pn	Pn	00 35 28.2	-1.9
	1.1nm,0.3s						
SFK				⇓Sn	Sn	00 36 40.2	-2.7
	3.6nm,0.4s						
SFK				⇑Lg	Lg	00 37 13.3	
	9.5nm,0.9s						
KK31	**Karatay Array**	**6.66**	**28**	⇑Pn	Pn	00 35 37.0	+2.5
	0.4nm,0.4s,baz=202,slow=13,SNR=6.8						
KK31				⇑Sn	Sn	00 36 47.7	-3.1
	1.4nm,0.6s						
KK31				⇑Lg	Lg	00 37 29.5	
	5.5nm,0.6s,baz=207,slow=27,SNR=7.0						
MNAS	**Manas**	**7.08**	**41**	⇓Pn	Pn	00 35 39.5	-0.9
	2.7nm,0.6s						
MNAS				⇑Sn	Sn	00 36 58.2	-3.4
	1.1nm,0.5s						
MNAS				⇓Lg	Lg	00 37 43.4	
	7.1nm,1.2s						
AAK	**Ala-Archa**	**8.29**	**48**	⇓Pn	Pn	00 35 52.3	-4.7
	1.6nm,0.5s						
AAK				⇓Sn	Sn	00 37 29.3	-2.0
	2.2nm,0.4s						

SKHL 30 00:40:59.8±0.6,44.10N×147.99E,h35km,mb4.4/3,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.87**	**255**	*e*P	Pn	00 41 14.9	-0.6
SHO				AMB	AMB	00 41 16.3	
	60nm,0.1s						
SHO				*e*S	Sn	00 41 25.8	-1.1
SHO				A	A	00 41 27.6	
	290nm,0.2s						
KUR	**Kuril'sk**	**1.14**	**356**	*i* P	Pn	00 41 18.7	-0.5
KUR				AMB	AMB	00 41 19.1	
	10.0nm,0.1s						
KUR				*i* S	Sn	00 41 33.3	-0.2
KUR				A	A	00 41 36.2	
	290nm,0.2s						
KUR				A	A	00 41 36.2	
	200nm,0.2s						
YSS	**Yuzh-Sakhalins**	**4.66**	**310**	*e*P	Pn	00 42 09.1	+1.6
YSS				AMB	AMB	00 42 10.7	
	30nm,0.1s						
YSS				*e*S	Sn	00 43 01.0	+0.7
YSS				A	A	00 43 02.4	
	50nm,0.2s						

*IDC **30** 00:41:13.8±1.3,36.56S×73.29W,h0km,mb3.7/5,*
mb1 3.7/7,mb1mx3.7/23,mbtmp3.6/7,ML3.3/2,Error ellipse: s-maj=35.0km s-min=17.5km az=87.0
*GUC **30** 00:41:13.8±0.3,36.65S×73.45W,h5km±2km,ML4.6*
ISC 30 00:41:17.6±1.1,36.57S±0.07×73.3W±0.1,h27km,n10,
σ1§30/13,mb3.9/4,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGCH	**Angol**	**1.34**	**158**	*i* S	**Sn**	**00 41 56.7**	**-0.7**
TALC	**Talca**	**1.80**	**50**	*i* P	**Pn**	**00 41 48.0**	**+1.1**
TALC				*i* S	**Sb**	**00 42 14.1**	**+2.0**
NICH	**Los Niches**	**2.31**	**48**	*i* P	**Pb**	**00 41 56.3**	**-2.4**
NICH				*i* S	**Sb**	**00 42 28.6**	**+1.8**
NICH				AML	AML	00 42 34.3	
	comp=N,4μm,0.5s						
PLCA	**Paso Flores**	**4.69**	**153**	Pn	**Pn**	**00 42 27.7**	**+1.0**
	comp=N,0.4nm,0.3s,baz=322,slow=11,SNR=5.2						
PLCA				Lg	Lg	00 43 41.4	
	comp=N,1.4nm,0.3s,baz=235,slow=18,SNR=3.0						
CFAA	**Coronel Fontan**	**6.51**	**42**	Pn	**Pn**	**00 42 51.0**	**-0.6**
	comp=N,0.3nm,0.3s,baz=210,slow=13,SNR=17						
CFAA				Sn	**Sn**	**00 44 04.2**	**-0.8**
	comp=N,0.4nm,0.3s,baz=205,slow=18,SNR=3.9						
CFAA				Lg	Lg	00 44 24.5	
	comp=N,0.2nm,0.3s,baz=78,slow=17,SNR=5.2						
LPAZ	**La Paz**	**20.72**	**14**	P	**P**	**00 45 57.2**	**+0.5**
	comp=N,0.8nm,0.8s,baz=175,slow=12,SNR=3.4						
SIV	**San Ignacio**	**23.21**	**31**	P	**P**	**00 46 22.2**	**-0.4**
	comp=N,1.9nm,0.8s,baz=227,slow=6.8,SNR=4.4						
QSPA	**South Pole Qui**	**53.67**	**180**	P	**P**	**00 50 36.9**	**+0.3**
	comp=N,2.5nm,1.0s,baz=135,slow=0.8,SNR=5.8						
TXAR	**Lajitas Array**	**71.49**	**332**	P	**P**	**00 52 36.2**	**+0.4**
	comp=N,0.5nm,0.8s,baz=156,slow=8.3,SNR=4.8						
TORD	**Torodi Ar. Bea**	**86.07**	**71**	P	**P**	**00 53 56.4**	**+0.2**
	comp=N,1.3nm,1.2s,baz=235,slow=5.1,SNR=2.5						

*IDC **30** 00:44:04.3±0.9,36.58S×73.45W,h0km,mb3.9/8,*
mb1 4.1/10,mb1mx4.0/22,mbtmp3.9/10,ML3.7/2,MS3.6/5,
Ms1 3.5/5,ms1mx3.2/22,Error ellipse: s-maj=29.8km s-min=21.4km az=86.0
*ISCJB **30** 00:44:06.5±0.6,36.56S±0.04×73.33W±0.0,h27km,*
mb4.0/8,MS3.6/5,Error ellipse: s-maj=8.9km s-min=6.3km az=3.6
*NEIC **30** 00:44:06.0,36.59S×73.38W,h26km,mb4.2/2,*
ML4.7(GUC),After GUC.
NEIC Felt [III] at Cobquecura, Concepcion and Tome.
*GUC **30** 00:44:06.1±0.6,36.59S×73.38W,h26km±9km,ML4.7*
ISC 30 00:44:08.3±0.7,36.54S±0.05×73.30W±0.08,h27km,n35,
σ1§19/33,mb4.0/8,MS3.5/5,1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.34**	**153**	⇓*e*P	**Pb**	**00 44 13.9**	**-2.2**
CCSP				*e*S	**Sb**	**00 44 18.8**	**-2.6**
CCSP				AML	AML	00 44 19.9	
	comp=E,123μm,0.2s						
LNCH	**Linares**	**1.54**	**64**	*e*P	**Pn**	**00 44 33.6**	**-0.3**
LNCH				*e*S	**Sb**	**00 44 54.5**	**-0.7**
TALC	**Talca**	**1.77**	**50**	*e*P	**Pn**	**00 44 37.0**	**-0.1**
TALC				*e*S	**Sb**	**00 45 02.1**	**+0.4**
NICH	**Los Niches**	**2.28**	**48**	*e*P	**Pn**	**00 44 44.7**	**+0.6**
LNV	**Longovilo**	**3.00**	**32**	*e*P	**Pn**	**00 44 53.5**	**-0.6**
CACH	**El Canelo**	**3.27**	**43**	*e*P	**Pn**	**00 44 58.3**	**+0.3**
CHCH	**Chadas Angostu**	**3.38**	**41**	*e*P	**Pn**	**00 44 59.8**	**+0.4**
CLCH	**Cerro Calan**	**3.87**	**37**	*e*P	**Pn**	**00 45 06.2**	**0.0**
PEL	**Peldehue**	**4.01**	**33**	*e*P	**Pn**	**00 45 08.1**	**+0.1**
ROCH	**El Roble**	**4.03**	**29**	*e*P	**Pn**	**00 45 08.2**	**-0.2**
PLCA	**Paso Flores**	**4.71**	**154**	Pn	**Pn**	**00 45 18.2**	**+0.6**
	comp=E,1.3nm,0.3s,baz=310,slow=17,SNR=4.8						
PLCA				Lg	Lg	00 46 29.8	
	comp=E,8.3nm,0.3s,baz=232,slow=18,SNR=3.7						
PLCA	**Paso Flores**	**4.71**	**154**	*e*Pn	**Pn**	**00 45 17.8**	**+0.1**
PLCA				*e*Pg	Pb	00 45 34.0	+3.8
PLCA				*e*S	**Sb**	**00 46 30.6**	**+4.2**
CFAA	**Coronel Fontan**	**6.47**	**42**	Pn	**Pn**	**00 45 41.4**	**-0.5**
	comp=E,0.5nm,0.3s,baz=228,slow=14,SNR=7.0						
CFAA				Sn	**Sn**	**00 46 54.8**	**0.0**
	comp=E,0.2nm,0.3s,baz=324,slow=17,SNR=2.5						
CFAA				Lg	Lg	00 47 13.2	
	comp=E,0.5nm,0.3s,baz=62,slow=17,SNR=6.3						
CFAA				LR	LR	00 48 30.7	
	comp=E,27nm,21.8s,baz=224,slow=40			

BSO1				S	**S**				
BSO4	**Boso 4**	**4.75**	**17**	P	**P**	**01 04 12.1**	**+0.5**		
BSO4				S	**S**	**01 05 17.1**	**-0.8**		
JHU	**Hanno**	**5.43**	**5**	S	**S**	**01 05 25.1**	**-5.2**		
JRY	**Ryogami san**	**5.57**	**2**	P	**P**	**01 04 20.9**	**+1.1**		
JRY				S	**S**	**01 05 30.2**	**-2.8**		
JYT	**Yasato**	**5.91**	**12**	P	**P**	**01 04 23.1**	**-0.2**		
JYT				S	**S**	**01 05 34.9**	**-4.4**		
JAG	**Ashikaga**	**6.01**	**6**	P	**P**	**01 04 24.0**	**-0.3**		
JAG				S	**S**	**01 05 35.3**	**-5.8**		
MJAR	**Matsushiro Arr**	**6.11**	**356**	P	**P**	**01 04 25.9**	**+0.6**		
	0.4nm,0.3s,baz=168,slow=10,SNR=4.2								
JHO	**Hitachi**	**6.36**	**14**	P	**P**	**01 04 27.9**	**0.0**		
JHO				S	**S**	**01 05 44.2**	**-3.6**		
KSRS	**Korea Array**	**11.35**	**311**	P	**P**	**01 05 22.1**	**-0.1**		
	0.2nm,0.3s,baz=134,slow=12,SNR=5.3								
CMAR	**Chiang Mai Arr**	**37.92**	**261**	P	**P**	**01 09 27.9**	**-0.8**		
	1.4nm,0.3s,baz=61,slow=6.3,SNR=6.0								
MKAR	**Makanchi Array**	**46.01**	**307**	P	**P**	**01 10 32.6**	**0.0**		
	0.1nm,0.4s,baz=97,slow=7.6,SNR=3.5								
WRA	**Warramunga Arr**	**50.26**	**185**	P	**P**	**01 11 04.9**	**+0.1**		
	0.8nm,0.4s,baz=1.2,slow=7.7,SNR=3.6								
ASAR	**Alice Springs**	**53.99**	**185**	P	**P**	**01 11 32.6**	**+0.8**		
	0.3nm,0.3s,baz=358,slow=4.8,SNR=10								
ILAR	**Eielson Array**	**56.30**	**30**	P	**P**	**01 11 49.6**	**+2.1**		
	0.2nm,0.6s,baz=286,slow=7.7,SNR=4.4								
ARCES	**ARCESS Array B**	**69.38**	**340**	P	**P**	**01 13 13.1**	**+0.8**		
	0.6nm,0.4s,baz=68,slow=8.7,SNR=16								
YKA	**Yellowknife Ar**	**70.66**	**28**	P	**P**	**01 13 20.0**	**0.0**		
	0.4nm,0.7s,baz=298,slow=6.0,SNR=4.5								
FINES	**FINESS Array B**	**73.60**	**332**	P	**P**	**01 13 37.6**	**+0.5**		
	0.5nm,0.4s,baz=77,slow=3.8,SNR=10								
HFS	**Hagfors**	**79.14**	**335**	P	**P**	**01 14 07.9**	**0.0**		
	1.1nm,0.6s,baz=99,slow=4.7,SNR=12								
NOA	**NORSAR Array B**	**79.37**	**337**	P	**P**	**01 14 08.9**	**-0.2**		
	0.5nm,0.6s,baz=44,slow=5.3,SNR=3.4								
NVAR	**Mina Array Bea**	**80.83**	**51**	P	**P**	**01 14 20.3**	**+2.7**		
	0.2nm,0.5s,baz=282,slow=5.2,SNR=2.4								
TORD	**Torodi Ar. Bea**	**120.09**	**310**	PKhKP	PKPpre	01 20 48.1			
	0.2nm,0.6s,baz=56,slow=3.8,SNR=3.9								
TORD				PKP	**PKPdf**	**01 20 50.9**	**0.0**		
	0.2nm,0.6s,baz=52,slow=5.9,SNR=4.3								

NNC ***30*** *01:10:19.4±3.4, 36°.97N×71°.04E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=27.8km s-min=11.8km az=172.0*

ISC 30 01:10:18.4±3.5, 36°.9N±0°.2×71°.07E±0°.08, h10km, n13, σ1§45/17, 5C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.64**	**318**	⇓P	**Pn**	**01 11 02.0**	**+0.9**
	16nm,0.3s						
DZET				⇓S	**Sn**	**01 11 35.4**	**+2.2**
	32nm,0.3s						
SFK	**Sufi-Kurgan**	**3.69**	**30**	⇑P	**Pn**	**01 11 17.2**	**+1.5**
	4.2nm,0.3s						
SFK				⇓S	**Sn**	**01 12 03.1**	**+3.7**
	3.7nm,0.2s						
AML	**Almayashu**	**5.65**	**20**	P	**Pn**	**01 11 42.7**	**-0.1**
	SNR=60						
MNAS	**Manas**	**5.74**	**11**	⇓P	**Pn**	**01 11 44.2**	**+0.4**
	2.7nm,0.6s						
MNAS				⇓S	**Sn**	**01 12 49.6**	**-0.2**
	12nm,0.5s						
UCH	**Uchtor**	**6.00**	**25**	P	**Pn**	**01 11 47.1**	**-0.4**
	SNR=10.0						
EKS2	**Erkin-Say**	**6.17**	**19**	P	**Pn**	**01 11 50.2**	**+0.5**
	SNR=11						
KK31	**Karatay Array**	**6.26**	**356**	⇓P	**Pn**	**01 11 51.2**	**+0.3**
	3.9nm,0.3s,baz=176,slow=12,SNR=188						
KK31				⇑S	**Sn**	**01 13 01.8**	**-0.7**
	1.1nm,0.3s,baz=181,slow=21,SNR=6.5						
AAK	**Ala-Archa**	**6.35**	**23**	P	**Pn**	**01 11 52.4**	**+0.2**
	SNR=14						
AAK	**Ala-Archa**	**6.35**	**23**	⇑P	**Pn**	**01 11 52.0**	**-0.1**
	3.3nm,0.3s						
AAK				⇓S	**Sn**	**01 13 03.9**	**-1.0**
	4.0nm,0.5s						
CHMS	**Chumysh**	**6.76**	**24**	P	**Pn**	**01 11 57.7**	**0.0**
	SNR=5.0						
USP	**Ospenovka**	**6.93**	**21**	P	**Pn**	**01 11 59.5**	**-0.5**
	SNR=7.0						
AB31	**Akbulak array**	**14.81**	**330**	⇑P	Pn	01 13 43.4	-4.3
	0.7nm,0.5s,baz=280,slow=67,SNR=11						
AKTO	**Aktyubinsk**	**16.51**	**329**	⇑P	**Pn**	**01 14 07.4**	**-2.5**
	2.3nm,0.6s						

ISN ***30*** *01:10:58.1±1.6, 40°.34N×40°.40E, h0km±318km, ML3.9*
ISK ***30*** *01:11:06.7, 39°.56N×39°.92E, h4km, ML3.5*
CSEM ***30*** *01:11:07.5±0.2, 39°.53N×39°.89E, h2km, MD3.5, Error ellipse: s-maj=4.9km s-min=3.9km az=84.0*
DDA ***30*** *01:11:07.2, 39°.55N×39°.88E, h14km, MD3.5*
IDC ***30*** *01:11:08.5±1.0, 39°.52N×39°.66E, h0km, mb3.6/3, mb1 3.3/8, mb1mx3.2/33, mbtmp3.3/8, ML2.6/2, MS2.6/3, Ms1 2.6/3, ms1mx2.3/31, Error ellipse: s-maj=18.7km s-min=11.1km az=160.0*

ISC 30 01:11:07.7±0.9, 39°.54N±0°.02×39°.91E±0°.02, h7km±8km, n88, σ0§93/97, mb3.6/3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERZN	**Erzincan**	**0.15**	**287**	PG	**Pg**	**01 11 10.6**	**-0.2**
ERZN				SG	**Sg**	**01 11 13.4**	**+0.4**
EUZM	**Uzumlu**	**0.23**	**316**	*i* P	**Pg**	**01 11 12.1**	**-0.2**
EUZM				*i* S	**Sg**	**01 11 15.9**	**+0.4**
EUZM	**Uzumlu**	**0.23**	**316**	*i* P	**Pg**	**01 11 12.1**	**-0.2**
EUZM				*i* S	**Sg**	**01 11 15.9**	**+0.4**
KOPT	**Kop Dagi**	**0.66**	**44**	*i* P	**Pg**	**01 11 20.0**	**-0.5**
KOPT				*i* S	**Sb**	**01 11 30.5**	**-0.7**
KOPT	**Kop Dagi**	**0.66**	**44**	*i* P	**Pg**	**01 11 20.0**	**-0.5**
KOPT				*i* S	**Sb**	**01 11 30.5**	**-0.7**
PTK	**Pertek**	**0.76**	**212**	*e*PG	**Pg**	**01 11 22.1**	**-0.3**
PTK				*e*SG	**Sg**	**01 11 33.2**	**+0.9**
PTK	**Pertek**	**0.76**	**212**	*e*Pg	**Pg**	**01 11 22.1**	**-0.3**
PTK				*e*Sg	**Sg**	**01 11 33.2**	**+0.9**
KELT	**Kelkit**	**0.79**	**321**	*i* P	**Pg**	**01 11 22.1**	**-0.8**
KELT				*i* S	**Sg**	**01 11 33.1**	**0.0**
KELT	**Kelkit**	**0.79**	**321**	*i* P	**Pg**	**01 11 22.1**	**-0.8**
KELT				*i* S	**Sg**	**01 11 33.1**	**0.0**
BINT	**Bingol**	**0.81**	**146**	*e*Pg	**Pg**	**01 11 21.8**	**-1.4**
BINT				*e*Sg	**Sb**	**01 11 34.8**	**-0.5**
BNGB	**Bing¯¶l**	**0.81**	**132**	*e*PG	**Pg**	**01 11 21.8**	**-1.5**
BNGB				*e*SG	**Sb**	**01 11 34.8**	**-0.7**
BAYT	**Ayd¯–ntepe-Bay**	**0.87**	**12**	*e*PG	**Pg**	**01 11 23.6**	**-0.9**
BAYT				*e*SG	**Sg**	**01 11 35.6**	**-0.2**
BAYT	**Ayd¯–ntepe-Bay**	**0.87**	**12**	*e*Pg	**Pg**	**01 11 23.6**	**-0.9**
BAYT				*e*Sg	**Sg**	**01 11 35.6**	**-0.2**
GUMT	**Gumushane**	**0.97**	**341**	*e*PG	**Pg**	**01 11 25.6**	**-0.8**
GUMT	**Gumushane**	**0.97**	**341**	*e*Pg	**Pg**	**01 11 25.6**	**-0.8**
ILIC	**ilic-Erzincan**	**1.04**	**265**	*e*PG	**Pg**	**01 11 27.4**	**-0.3**
ILIC	**ilic-Erzincan**	**1.04**	**265**	*e*Pg	**Pg**	**01 11 27.4**	**-0.3**
BNGL	**BINGOL**	**1.13**	**121**	*i* P	**Pb**	**01 11 28.7**	**-1.0**
BNGL				*i* S	**Sn**	**01 11 45.3**	**-0.8**
EZM	**Erzurum**	**1.18**	**72**	*e*PN	**Pb**	**01 11 29.8**	**-0.9**
SVRC	**Sivrice-ELAZID**	**1.25**	**202**	*e*PN	**Pn**	**01 11 30.1**	**-1.6**
SVRC	**Sivrice-ELAZID**	**1.25**	**202**	*e*Pn	**Pn**	**01 11 30.2**	**-1.6**
VRTB	**Varto-Mus**	**1.26**	**107**	*e*PN	**Pn**	**01 11 31.3**	**-0.6**
VRTB	**Varto-Mus**	**1.26**	**107**	*e*Pn	**Pn**	**01 11 31.3**	**-0.6**
ELZG	**Elazig**	**1.27**	**215**	*i* P	**Pn**	**01 11 30.6**	**-1.4**
ELZG	**Elazig**	**1.27**	**215**	*i* P	**Pn**	**01 11 30.6**	**-1.4**
MACK	**Trabzon**	**1.40**	**356**	*i* P	**Pb**	**01 11 33.6**	**-0.7**
MACK				*i* S	**Sg**	**01 11 54.4**	**+1.5**
MACK	**Trabzon**	**1.40**	**356**	*i* P	**Pb**	**01 11 33.6**	**-0.7**
MACK				*i* S	**Sg**	**01 11 54.4**	**+1.5**
KTUT	**Trabzon**	**1.45**	**356**	*e*PN	**Pn**	**01 11 34.1**	**-0.2**
KTUT	**Trabzon**	**1.45**	**356**	*e*Pn	**Pn**	**01 11 34.2**	**-0.2**
SUSE	**Susehri**	**1.47**	**297**	*i* P	**Pb**	**01 11 35.0**	**-0.5**
SUSE	**Susehri**	**1.47**	**297**	*i* P	**Pb**	**01 11 35.0**	**-0.5**
DYBB	**Diyarbakir**	**1.60**	**173**	*e*PN	**Pb**	**01 11 37.2**	**-0.4**
HOMI	**Horasan**	**1.62**	**71**	*i* P	**Pb**	**01 11 37.6**	**-0.5**
DIYA	**Diyarbakir**	**1.62**	**174**	*i* P	**Pb**	**01 11 38.2**	**+0.1**
DIYA	**Diyarbakir**	**1.62**	**174**	*i* P	**Pb**	**01 11 38.2**	**+0.1**
ESPY	**Espiye-Giresun**	**1.64**	**327**	*e*PN	**Pn**	**01 11 37.2**	**+0.2**
ESPY	**Espiye-Giresun**	**1.64**	**327**	*e*Pn	**Pn**	**01 11 37.2**	**+0.2**
DIY	**Diyarbakir**	**1.66**	**171**	*e*Pn	**Pn**	**01 11 37.2**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.72**	**144**	*e*PN	**Pn**	**01 11 38.3**	**+0.2**
GRSN	**GIRESUNGRSN**	**1.86**	**318**	*i* P	**Pb**	**01 11 41.0**	**-1.1**
GRSN	**GIRESUNGRSN**	**1.86**	**318**	*i* P	**Pb**	**01 11 41.0**	**-1.1**
DDEM	**Demirkent**	**1.95**	**46**	*i* P	**Pb**	**01 11 43.0**	**-0.7**
DDEM	**Demirkent**	**1.95**	**46**	*i* P	**Pb**	**01 11 43.0**	**-0.7**
BEST	**Besiri**	**1.96**	**147**	*i* P	**Pb**	**01 11 43.4**	**-0.5**
BEST				*i* S	**Sg**	**01 12 12.1**	**+1.3**
AKCD	**Akcadag**	**1.99**	**232**	*i* P	**Pn**	**01 11 42.7**	**+0.8**
AKCD	**Akcadag**	**1.99**	**232**	*i* P	**Pn**	**01 11 42.7**	**+0.8**
AKCD				*i* S	**Sg**	**01 12 12.1**	**+0.5**
DBAD	**Bademkaya**	**2.01**	**42**	*i* P	**Pb**	**01 11 43.3**	**-1.4**
DBAD	**Bademkaya**	**2.01**	**42**	*i* P	**Pb**	**01 11 43.3**	**-1.4**
EATA	**Eleskirt**	**2.02**	**80**	*i* P	**Pb**	**01 11 44.9**	**-0.1**
EATA	**Eleskirt**	**2.02**	**80**	*i* P	**Pb**	**01 11 44.9**	**-0.1**
TATV	**Tatvan**	**2.11**	**119**	*i* P	**Pb**	**01 11 47.0**	**+0.6**
TATV	**Tatvan**	**2.11**	**119**	*i* P	**Pb**	**01 11 47.0**	**+0.6**
DARE	**Darende-Malaty**	**2.12**	**244**	*e*PN	**Pn**	**01 11 44.5**	**+0.8**
MAZI	**Mazidag**	**2.12**	**168**	*e*PN	**Pn**	**01 11 44.4**	**+0.7**
MAZI	**Mazidag**	**2.12**	**168**	*e*Pn	**Pn**	**01 11 44.4**	**+0.7**
RSDY	**Resadiye-TOKAT**	**2.16**	**294**	*e*PN	**Pn**	**01 11 45.0**	**+0.9**
RSDY	**Resadiye-TOKAT**	**2.16**	**294**	*e*Pn	**Pn**	**01 11 45.0**	**+0.9**
DAGI	**Agillar**	**2.17**	**44**	*i* P	**Pn**	**01 11 44.8**	**+0.4**
DAGI				*i* S	**Sb**	**01 12 14.8**	**+0.2**
DBOC	**Borcka**	**2.25**	**36**	*i* P	**Pn**	**01 11 46.2**	**+0.8**
DBOC	**Borcka**	**2.25**	**36**	*i* P	**Pn**	**01 11 46.2**	**+0.8**
TUTA	**Tutak**	**2.25**	**93**	*i* P	**Pg**	**01 11 53.4**	**+2.5**
URFA	**Urfa**	**2.26**	**202**	*e*PN	**Pn**	**01 11 46.9**	**+1.3**
URFA	**Urfa**	**2.26**	**202**	*e*Pn	**Pn**	**01 11 46.9**	**+1.3**
SVSK	**Karacayir**	**2.27**	**280**	*e*PN	**Pn**	**01 11 46.8**	**+1.1**
SVSK	**Karacayir**	**2.27**	**280**	*e*Pn	**Pn**	**01 11 46.8**	**+1.1**
BCA	**Borcka**	**2.31**	**34**	*e*PN	**Pn**	**01 11 47.0**	**+0.8**
BCA	**Borcka**	**2.31**	**34**	*e*Pn	**Pn**	**01 11 47.0**	**+0.8**
MARD	**Mardin**	**2.33**	**163**	*i* P	**Pb**	**01 11 48.6**	**-1.5**
TVAN	**Van**	**2.91**	**109**	*i* P	**Pb**	**01 11 59.4**	**-0.6**
AKH	**Akhalkalaki**	**3.31**	**55**	P	**Pg**	**01 12 10.6**	**-0.6**
GNI	**Garni**	**3.77**	**79**	Pn	**Pb**	**01 12 13.4**	**-1.3**
	0.3nm,0.3s,baz=345,slow=6.4,SNR=2.4						
MSL	**Mosul**	**4.03**	**140**	*e*Pn	x	01 12 08.0	
MSL				*e*Sn	x	01 12 56.0	
ONI	**Oni**	**4.06**	**40**	P	**Pb**	**01 12 19.1**	**-0.4**
TBLG	**Delisi**	**4.28**	**58**	P	Pn	01 12 08.0	-5.3
DGRG	**David-gareji**	**4.58**	**64**	P	**Pg**	**01 12 36.8**	**+1.3**
KBZ	**Khabaz**	**4.75**	**27**	Pn	Pn	01 12 24.0	+4.4
	0.3nm,0.3s,baz=236,slow=24,SNR=6.0						
BRTR	**Keskin Array B**	**4.84**	**274**	Pn	**Pn**	**01 12 22.1**	**+0.9**
	0.2nm,0.3s,baz=104,slow=15,SNR=17						
IKRK	**Kirkuk**	**5.43**	**138**	*e*PN	x	01 12 27.0	
IKRK				*e*Sn	x	01 13 29.0	
RTB	**Rutbah**	**6.51**	**177**	*e*PN	x	01 12 48.0	
RTB				*e*PN	x	01 13 40.5	
MMAI	**Mount Meron Ar**	**7.46**	**211**	Pn	**Pn**	**01 12 56.4**	**-0.6**
	0.5nm,0.3s,baz=14,slow=14,SNR=3.1						
MMAI				Lg	Lg	01 15 06.3	
	0.2nm,0.3s,baz=38,slow=24,SNR=2.2						
MMAI				LR	LR	01 16 07.8	
	comp=Z,23nm,19.6s,baz=150,slow=41						
ASF	**Jabal al Asfar**	**7.75**	**199**	Lg	Lg	01 15 16.9	
	0.2nm,0.3s,baz=348,slow=20,SNR=2.8						
IBDR	**Badra**	**8.05**	**141**	*e*PN	x	01 13 04.0	
IBDR				*e*SN	x	01 14 33.8	
EIL	**Elat**	**10.66**	**204**	LR	LR	01 18 00.3	
	comp=Z,33nm,19.3s,baz=260,slow=39						
AKASG	**Malin Array Be**	**13.45**	**330**	Pn	**Pn**	**01 14 19.0**	**+0.1**
	0.5nm,0.3s,baz=135,slow=14,SNR=5.0						
FINES	**FINESS Array B**	**23.53**	**343**	P	**P**	**01 16 21.1**	**+3.0**
	2.0nm,0.9s,baz=158,slow=12,SNR=3.1						
HFS	**Hagfors**	**26.34**	**330**	LR	LR	01 27 47.7	
	comp=Z,29nm,18.4s,baz=271,slow=38						
MKAR	**Makanchi Array**	**31.44**	**63**	P	P	01 17 33.0	+3.3
	0.4nm,0.7s,baz=266,slow=3.5,SNR=4.3						
TORD	**Torodi Ar. Bea**	**42.68**	**243**	P	**P**	**01 19 03.9**	**-1.4**
	1.4nm,1.0s,baz=39,slow=9.6,SNR=6.4						

IDC ***30*** *01:21:24.8±0.6, 13°.73S×166°.49E, h0km, mb4.6/16, mb1 4.7/17, mb1mx4.5/27, mbtmp4.6/17, ML3.6/1, MS3.8/10, Ms1 3.8/10, ms1mx3.6/19, Error ellipse: s-maj=23.6km s-min=14.7km az=98.0*

ISCJB ***30*** *01:21:29.6±0.3, 13°.80S±0°.05×166°.47E±0°.06, h43km, mb4.9/49, MS3.9/14, Error ellipse: s-maj=9.0km s-min=6.8km az=15.4*

MOS ***30*** *01:21:29.9±1.3, 13°.51S×166°.23E, h33km, mb5.1/23, Error ellipse: s-maj=10.4km s-min=8.6km az=40.1*

GCMT ***30*** *01:21:30.0±0.3, 13°.76S×166°.27E, h18km±1km, MW4.9/53, Moment Tensor Solution. s27,c30; s53,c71; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.22±.17; Mθθ0.21±.12; Mϕϕ-2.43±.12; Mrθ0.80±.33; Mϕθ0.12±.08; Mϕr-0.04±.23; Best double couple: M◎2.46600×10¹⁶ NP1:ϕs159.00000°, δ49.00000°, λ64.00000°. NP2: ϕs16.00000°, δ47.00000°, λ117.00000°. Principal axes: T 2.4960, Plg71.0000°, Azm0.0000°; N -0.0640, Plg19.0000°, Azm177.0000°; P -2.4360, Plg1.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***30*** *01:21:30.0±2.9, 13°.74S×166°.50E, h34km±20km, mb5.0/36 Error ellipse: s-maj=9.4km s-min=7.3km az=95.0*

BJI ***30*** *01:21:30.6, 13°.41S×166°.55E, h38km, mb4.8/40, mB5.1/25, Ms5.0/11, Ms7 4.6/9*

ISC 30 01:21:31.0±0.3, 13°.76S±0°.05×166°.44E±0°.08, h43km, h43km:pP-P, n233, σ1§29/247, mb4.9/49, MS3.9/14, 5C-4D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.68**	**303**	*e*P	**Pn**	**01 23 18.4**	**-1.9**
HNR				pmax	pmax		
	comp=Z,290nm,0.8s						
HNR	**Honiara**	**7.68**	**303**	*e*P	**Pn**	**01 23 19.0**	**-1.3**
HNR				*e*S	Sn	01 24 31.0	-15
HNR	**Honiara**	**7.68**	**303**	*e*Pn	**Pn**	**01 23 18.4**	**-1.9**
	comp=Z,290nm,0.8s						
DZM	**Mont Dzumac**	**8.27**	**180**	*e*Pn	**Pn**	**01 23 27.9**	**-0.6**
	comp=Z,8.6nm,0.3s						
DZM				*e*Sn	**Sn**	**01 24 56.8**	**-3.9**
	comp=Z,5.9nm,0.3s						
DZM				eLR	LR	01 25 21.9	
	comp=Z,682nm,23.2s						
DZM	**Mont Dzumac**	**8.27**	**180**	Pn	**Pn**	**01 23 27.5**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=90,slow=24,SNR=9.7						
DZM				Sn	**Sn**	**01 24 59.3**	**-1.4**
	baz=90,slow=20,SNR=2.2						
MSVF	**Nonsavu**	**11.85**	**111**	*e*P	Pn	01 24 24.9	+7.3
MSVF	**Nonsavu**	**11.85**	**111**	*e*Pn	Pn	01 24 24.9	+7.3
PMG	**Port Moresby**	**19.37**	**281**	P	**Pn**	**01 25 54.2**	**-0.5**
PMG				pmax	pmax		
	comp=Z,98nm,1.2s						
CTA	**Charters Tower**	**20.30**	**249**	P	**P**	**01 26 03.7**	**+0.3**
	comp=Z,7.0nm,1.0s,baz=87,slow=12,SNR=3.9						
CTAO	**Charters Tower**	**20.30**	**249**	*e*P	Pn	01 26 06.5	+0.8
CTAO				pmax	pmax		
	comp=Z,18nm,0.9s						
CTAO	**Charters Tower**	**20.30**	**249**	*e*P	Pn	01 26 06.5	+0.8
	comp=Z,18nm,0.9s						
STKA	**Stephens Creek**	**29.03**	**227**	P	**P**	**01 27 27.0**	**-0.1**
	comp=Z,7.6nm,0.7s,baz=37,slow=7.7,SNR=9.1						
STKA				LR	LR	01 39 00.6	
	comp=Z,257nm,18.8s,baz=50,slow=36						
STKA	**Stephens Creek**	**29.03**	**227**	*e*P	**P**	**01 27 28.5**	**+1.4**
STKA				pmax	pmax		
	comp=Z,17nm,1.8s						
STKA	**Stephens Creek**	**29.03**	**227**	*e*P	**P**	**01 27 28.5**	**+1.4**
	comp=Z,17nm,1.8s						
RPZ	**Rata Peaks**	**30.12**	**173**	P	**P**	**01 27 36.1**	**-0.5**
	comp=Z,24nm,0.8s,baz=319,slow=2.5,SNR=9.4						
RPZ	**Rata Peaks**	**30.12**	**173**	*e*P	**P**	**01 27 36.8**	**+0.2**
	comp=Z,31nm,0.9s						
WRA	**Warramunga Arr**	**31.30**	**254**	P	**P**	**01 27 45.9**	**-1.4**
	comp=Z,2.8nm,0.8s,baz=84,slow=8.9,SNR=9.9						
WRA				PcP	**PcP**	**01 30 40.8**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=90,slow=2.2,SNR=7.2						
WRA				LR	LR	01 39 23.9	
	comp=Z,387nm,21.4s,baz=85,slow=34						
WRA	**Warramunga Arr**	**31.30**	**254**	*i* P	**P**	**01 27 48.5**	**+1.2**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AS31	**Alice Springs**	**32.28**	**247**	*e*P	**P**	**01 27 55.1**	**-0.8**
ASAR	**Alice Springs**	**32.28**	**247**	P	**P**	**01 27 54.9**	**-1.1**
	comp=Z,2.3nm,0.8s,baz=77,slow=8.9,SNR=14						
ASAR				LR	LR	01 39 48.9	
	comp=Z,319nm,20.9s,baz=78,slow=34						
FORT	**Forrest**	**39.12**	**238**	*e*P	**P**	**01 28 54.0**	**-0.4**
	comp=Z,23nm,0.9s						
PPT2	**Papeete2**	**42.45**	**101**	*e*S	S	01 35 51.5	+10
	comp=Z,130nm,25.2s						
PPT2				eLR	LR	01 41 11.7	
	comp=Z,472nm,27.8s,baz=268						
PPT	**Papeete**	**42.45**	**101**	LR	LR	01 44 58.3	
	comp=Z,88nm,19.2s,baz=202,slow=33						
TBI	**Tubuai**	**42.74**	**110**	*e*LR	LR	01 41 18.5	
	comp=Z,271nm,25.2s,baz=281						
KKM	**Kota Kinabalu**	**53.59**	**288**	*e*P	**P**	**01 30 49.6**	**+1.2**
	comp=Z,39nm,1.4s						
SBUM	**Sibu**	**56.11**	**282**	*e*P	**P**	**01 31 07.4**	**+0.8**
	comp=Z,5.4nm,0.9s						
MJAR	**Matsushiro Arr**	**56.68**	**333**	P	**P**	**01 31 09.1**	**-1.1**
	comp=Z,3.7nm,0.9s,baz=167,slow=8.8,SNR=11						
MAJO	**Matsushiro**	**56.68**	**333**	*e*P	**P**	**01 31 11.4**	**+1.3**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MAJO	**Matsushiro**	**56.68**	**333**	*e*P	**P**	**01 31 11.4**	**+1.3**
	comp=Z,7.0nm,0.8s						
MAT	**Matsushiro**	**56.68**	**333**	P	**P**	**01 31 10.1**	**0.0**
ERM	**Erimo**	**59.50**	**340**	*i* P	**P**	**01 31 29.7**	**0.0**
ASAJ	**Asahikawa**	**61.56**	**341**	*e*P	**P**	**01 31 45.1**	**+1.4**
	comp=Z,18nm,0.8s						
KSRS	**Korea Array**	**62.49**	**326**	P	**P**	**01 31 50.2**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=144,slow=7.4,SNR=7.3						
KSRS				LR	LR	01 56 36.4	
	comp=Z,24nm,20.9s,baz=150,slow=34						
KSAR	**Wonju Array Be**	**62.50**	**326**	P	**P**	**01 31 50.2**	**0.0**
KSAR	**Wonju Array Be**	**62.50**	**326**	P	**P**	**01 31 50.2**	**0.0**
VNDA	**Vanda**	**63.81**	**181**	P	**P**	**01 31 58.9**	**+0.6**
	comp=Z,7.5nm,1.0s,baz=4.0,slow=7.6,SNR=15						
VNDA				LR	LR	01 56 11.6	
	comp=Z,150nm,18.9s,baz=127,slow=33						
VNDA	**Vanda**	**63.81**	**181**	*e*P	**P**	**01 31 58.7**	**+0.4**
VNDA				pmax	pmax		
	comp=Z,12nm,1.1s						
VNDA	**Vanda**	**63.81**	**181**	*e*P	**P**	**01 31 58.7**	**+0.4**
	comp=Z,12nm,1.1s						
YSS	**Yuzh-Sakhalins**	**64.06**	**342**	||*e*P	**P**	**01 32 01.9**	**+1.6**
YSS	**Yuzh-Sakhalins**	**64.06**	**342**	*e*P	**P**	**01 32 01.2**	**+0.9**
	comp=Z,30nm,0.9s						
SBA	**Scott Base**	**64.10**	**180**	*e*P	**P**	**01 32 01.6**	**+1.4**
SBA				pmax	pmax		
	comp=Z,28nm,1.0s						
SBA	**Scott Base**	**64.10**	**180**	*e*P	**P**	**01 32 01.6**	**+1.4**
	comp=Z,28nm,1.0s						
NJ2	**Nanjing**	**64.42**	**316**	*e*P	**P**	**01 32 04.8**	**+1.8**
NJ2				PMZ			
	comp=Z,20nm,0.9s						
QIZ	**Qiongzhong**	**64.57**	**299**	P	**P**	**01 32 04.5**	**+0.3**
QIZ				S	**S**	**01 40 43.5**	**+2.5**
QIZ				PMZ			
	comp=Z,18nm,2.3s						
USRK	**Ussuriysk Ar.**	**65.66**	**333**	P	**P**	**01 32 11.6**	**+0.8**
	comp=Z,5.8nm,0.9s,baz=144,slow=5.7,SNR=17						
WHN	**Wuhan**	**66.70**	**312**	P	**P**	**01 32 19.0**	**+1.3**
PETK	**Petropavlovsk-**	**67.02**	**354**	P	**P**	**01 32 18.9**	**-0.4**
	comp=Z,5.4nm,0.8s,baz=154,slow=11,SNR=9.8						
MDJ	**Mudanjiang**	**67.05**	**332**	P	**P**	**01 32 21.0**	**+1.3**
MDJ				PMZ			
	comp=Z,9.0nm,1.0s						
MDJ				PMZ			
	comp=Z,56nm,4.0s						
IPM	**Ipoh**	**67.37**

YAK	**Yakutsk**	**80.87**	**343**	*e*P		**P**	**01 33 40.2**	**+0.1**
	comp=Z,28nm,0.6s								
ULN	**Ulaanbaatar**	**80.88**	**324**	*e*P		P	01 33 46.9	+6.2
ULN				pmax	pmax				
	comp=Z,7.0nm,0.9s								
ULN	**Ulaanbaatar**	**80.88**	**324**	*e*P		P	01 33 46.9	+6.2
	comp=Z,7.1nm,0.9s								
SONM	**Songino Array**	**81.24**	**324**	P		**P**	**01 33 43.8**	**+1.2**
	comp=Z,3.4nm,1.0s,baz=140,slow=5.4,SNR=12								
SONA1	**Songino Array**	**81.24**	**324**	*e*P		**P**	**01 33 43.5**	**+0.8**
GTA	**Gaotai**	**81.42**	**314**	*e*P		**P**	**01 33 45.5**	**+1.8**
GTA				pP		**pP**	**01 33 54.8**	**-1.8**
GTA				sP		**sP**	**01 33 59.0**	**-2.5**
GTA				PMZ					
	comp=Z,10.0nm,1.2s								
BILL	**Bilibino**	**81.57**	**360**	*c i*P		**P**	**01 33 43.7**	**0.0**
BILL				pmax	pmax				
	comp=Z,15nm,1.0s								
BILL				MLR	MLR				
	comp=Z,51nm,18.0s								
BILL	**Bilibino**	**81.57**	**360**	*e*P		**P**	**01 33 43.5**	**-0.2**
	comp=Z,12nm,0.9s								
MAW	**Mawson**	**82.48**	**202**	LR		LR	02 08 36.3		
	comp=Z,90nm,18.1s,baz=240,slow=34								
PMR	**Palmer**	**82.86**	**20**	*e*P		**P**	**01 33 50.3**	**-0.2**
PMR	**Palmer**	**82.86**	**20**	*e*P		**P**	**01 33 50.3**	**-0.2**
SCM	**Sheep Creek Mo**	**83.63**	**20**	*e*P		**P**	**01 33 55.2**	**+0.5**
SCM				pmax	pmax				
	comp=Z,19nm,0.9s								
SCM	**Sheep Creek Mo**	**83.63**	**20**	*e*P		**P**	**01 33 55.2**	**+0.5**
	comp=Z,19nm,0.9s								
TRF	**Thorofare Moun**	**83.87**	**18**	*e*P		**P**	**01 33 55.5**	**-0.5**
	comp=Z,6.4nm,0.8s								
RND	**Reindeer**	**84.27**	**19**	*e*P		**P**	**01 33 56.9**	**-1.0**
RND				pmax	pmax				
	comp=Z,17nm,1.1s								
RND	**Reindeer**	**84.27**	**19**	*e*P		**P**	**01 33 56.9**	**-1.0**
	comp=Z,17nm,1.1s								
ZAK	**Zakamensk**	**84.30**	**325**	⇑*i*P		**P**	**01 33 58.7**	**+0.3**
ZAK				pmax	pmax				
	comp=Z,6.0nm,1.4s								
MCK	**McKinley**	**84.49**	**18**	*e*P		**P**	**01 33 58.4**	**-0.5**
MCK				pmax	pmax				
	comp=Z,16nm,1.1s								
MCK	**McKinley**	**84.49**	**18**	*e*P		**P**	**01 33 58.4**	**-0.5**
	comp=Z,16nm,1.1s								
BWN	**Browne**	**84.65**	**18**	*e*P		**P**	**01 34 00.2**	**+0.6**
	comp=Z,34nm,1.1s								
TLY	**Talaya**	**84.74**	**326**	*e*P		**P**	**01 34 00.7**	**+0.2**
TLY				pmax	pmax				
	comp=Z,7.0nm,0.9s								
TLY				MLR	MLR				
	comp=Z,41nm,10.0s								
TLY	**Talaya**	**84.74**	**326**	*e*P		**P**	**01 34 01.2**	**+0.8**
	comp=Z,6.5nm,0.9s								
IM04	**Indian Mountai**	**84.83**	**15**	*e*P		**P**	**01 34 01.1**	**+0.5**
MLY	**Manley**	**84.92**	**17**	*e*P		**P**	**01 34 01.3**	**+0.2**
	comp=Z,7.4nm,1.2s								
WRH	**Wood River Hil**	**85.28**	**18**	*e*P		**P**	**01 34 02.4**	**-0.4**
	comp=Z,9.7nm,0.9s								
YBH	**Yreka Blue Hor**	**85.30**	**45**	*e*P		P	01 34 07.4	+3.8
YBH	**Yreka Blue Hor**	**85.30**	**45**	*e*P		P	01 34 07.4	+3.8
CCB	**Clear Creek Bu**	**85.49**	**18**	*e*P		**P**	**01 34 02.7**	**-1.2**
	comp=Z,6.6nm,0.8s								
MDM	**Murphy Dome**	**85.59**	**18**	*e*P		**P**	**01 34 04.2**	**-0.2**
	comp=Z,13nm,1.0s								
COLA	**College**	**85.64**	**18**	⇓*e*P		**P**	**01 34 04.4**	**-0.2**
COLA				pmax	pmax				
	comp=Z,79nm,1.2s								
COLA	**College**	**85.64**	**18**	*e*P		**P**	**01 34 04.2**	**-0.4**
	comp=Z,15nm,0.9s								
IL1	**Eielson Array**	**85.86**	**18**	*e*P		**P**	**01 34 04.4**	**-1.3**
ILAR	**Eielson Array**	**85.86**	**18**	P		**P**	**01 34 05.0**	**-0.7**
	comp=Z,5.2nm,0.8s,baz=240,slow=5.9,SNR=50								
SCRK	**Sand Creek**	**86.22**	**20**	*e*P		**P**	**01 34 08.1**	**+0.4**
	comp=Z,27nm,1.8s								
TAPN	**Taplejung**	**86.51**	**299**	*e*P		**P**	**01 34 10.7**	**+0.5**
ODAN	**Odare**	**86.64**	**299**	*e*P		**P**	**01 34 11.6**	**+0.9**
	comp=Z,26nm,0.8s								
PLM	**Palomar**	**86.69**	**55**	*e*P		**P**	**01 34 12.1**	**+1.3**
PLM	**Palomar**	**86.69**	**55**	*e*P		**P**	**01 34 12.1**	**+1.3**
COLD	**Coldfoot**	**86.71**	**16**	*e*P		**P**	**01 34 10.9**	**+1.0**
	comp=Z,5.1nm,1.0s								
RAMN	**Ramite**	**87.34**	**298**	*e*P		**P**	**01 34 14.4**	**+0.2**
FYU	**Fort Yukon**	**87.60**	**17**	*e*P		**P**	**01 34 16.1**	**+1.9**
	comp=Z,31nm,0.5s								
EGAK	**Eagle**	**87.68**	**20**	*e*P		**P**	**01 34 14.3**	**-0.3**
	comp=Z,5.8nm,0.9s								
DAWY	**Dawson**	**87.83**	**21**	*e*P		**P**	**01 34 15.4**	**0.0**
JIRN	**Jiri**	**87.89**	**299**	*e*P		**P**	**01 34 17.5**	**+0.6**
	comp=Z,9.9nm,0.7s								
GUN	**Gumba**	**88.22**	**299**	*e*P		**P**	**01 34 19.2**	**+0.7**
	comp=Z,27nm,0.9s								
PKI	**Pulchoki**	**88.53**	**299**	*e*P		**P**	**01 34 19.7**	**-0.2**
	comp=Z,27nm,0.9s								
KKN	**Kakani**	**88.70**	**299**	*e*P		**P**	**01 34 21.1**	**+0.5**
DMN	**Daman**	**88.80**	**299**	*e*P		**P**	**01 34 21.9**	**+0.8**
TIXI	**Tiksi**	**88.86**	**349**	⇓*i*P		**P**	**01 34 20.0**	**0.0**
TIXI				pmax	pmax				
	comp=Z,7.0nm,0.8s								
TIXI	**Tiksi**	**88.86**	**349**	*e*P		**P**	**01 34 20.1**	**0.0**
	comp=Z,7.4nm,0.9s								
GKN	**Gorkha**	**89.31**	**299**	*e*P		**P**	**01 34 23.6**	**+0.2**
	comp=Z,28nm,0.8s								
WMQ	**Urumqi**	**91.48**	**315**	*e*P		**P**	**01 34 34.0**	**+1.0**
WMQ				pP		**pP**	**01 34 44.5**	**-1.5**
WMQ				sP		**sP**	**01 34 48.5**	**-2.3**
WMQ				SKS		**SKSac**	**01 45 01.8**	**-0.4**
WMQ				S		**S**	**01 45 28.0**	**-1.5**
WMQ				sS		sS	01 45 44.8	-6.6
WMQ				SS		**SS**	**01 51 34.8**	**-1.8**
WMQ				PMZ					
	comp=Z,9.0nm,0.4s								
WMQ				PMZ					
	comp=Z,96nm,5.0s								
WMQ				LN					
	comp=Z,30nm,20.0s								
WMQ				LE					
	comp=Z,40nm,22.4s								
FLWY	**Flagg Ranch**	**94.40**	**46**	*e*P		**P**	**01 34 47.5**	**+0.8**
	comp=Z,35nm,2.3s								
SNAA	**Sanae**	**94.47**	**183**	P		P	01 34 40.9	-5.4
SNAA	**Sanae**	**94.47**	**183**	*e*P		P	01 34 40.8	-5.6
SNAA				pmax	pmax				
	comp=Z,20nm,1.1s								
SNAA	**Sanae**	**94.47**	**183**	*e*P		P	01 34 40.8	-5.6
	comp=Z,20nm,1.1s								
PDAR	**Pinedale Array**	**94.88**	**47**	LR		LR	02 13 55.4		
	comp=Z,27nm,18.1s,baz=266,slow=33								
VNA2	**Neumayer--Watz**	**95.42**	**182**	P		**P**	**01 34 51.1**	**+0.5**
	baz=151,slow=4.4								
VNA1	**Neumayer--Stat**	**95.72**	**182**	P		**P**	**01 34 52.1**	**+0.1**
MK01	**Makanchi Array**	**95.94**	**317**	*e*P		**P**	**01 34 53.7**	**+0.3**
MK31	**Makanchi Array**	**95.95**	**317**	*e*P		**P**	**01 34 54.3**	**+0.9**
MK31	**Makanchi Array**	**95.95**	**317**	*e*P		**P**	**01 34 54.3**	**+0.9**
MKAR	**Makanchi Array**	**95.95**	**317**	P		**P**	**01 34 53.4**	**-0.1**
	comp=Z,5.9nm,0.8s,baz=101,slow=6.0,SNR=48								
MKAR	**Makanchi Array**	**95.95**	**317**	*e*P		**P**	**01 34 54.4**	**+0.9**
MKAR	**Makanchi Array**	**95.95**	**317**	*e*P		**P**	**01 34 54.4**	**+0.9**
ZAA0	**Zalesovo Array**	**96.14**	**324**	*e*P		**P**	**01 34 53.5**	**-0.6**
ZALV	**Zalesovo Beam**	**96.14**	**324**	P		**P**	**01 34 53.1**	**-0.9**
	comp=Z,4.7nm,0.8s,baz=115,slow=4.6,SNR=17								
TXAR	**Lajitas Array**	**96.52**	**62**	LR		LR	02 09 20.5		
	comp=Z,30nm,21.9s,baz=0.0,slow=30								
YKA	**Yellowknife Ar**	**97.06**	**27**	P		**P**	**01 34 57.1**	**-0.9**
	comp=Z,1.1nm,1.0s,baz=259,slow=4.5,SNR=6.7								
KSH	**Kashi**	**98.97**	**308**	*e*P		Pdif	01 35 11.8	+4.4
KSH				SKS		**SKSac**	**01 45 46.5**	**+4.1**
KSH				S		**ScS**	**01 46 38.0**	**+3.0**
KSH				sS		sS	01 46 55.5	-1.5
KSH				PMZ					
	comp=Z,52nm,6.6s								
KSH				LN					
	comp=Z,79nm,4.2s								
KSH				LE					
	comp=Z,79nm,6.0s								
KSH				LZ					
	comp=Z,130nm,6.3s								
OTAV	**Otavalo**	**114.41**	**96**	*e*PKP		PKPdf	01 40 08.7	+0.9
ARCES	**ARCESS Array B**	**119.11**	**345**	PKP		**PKPdf**	**01 40 14.4**	**-0.2**
	comp=Z,5.5nm,0.9s,baz=28,slow=2.9,SNR=17								
ARCES				PKKPbc		**PKKPab**	**01 50 28.1**	**-2.0**
	comp=Z,2.5nm,0.9s,baz=205,slow=2.3,SNR=9.1								
KLMR	**Klimovskoe**	**119.46**	**333**	*e*PKIKP		**PKPdf**	**01 40 13.6**	**-1.9**
KLMR				pmax	pmax				
	comp=Z,11nm,1.5s								
CPUP	**Villa Florida**	**121.70**	**133**	*e*PKIKP		**PKPdf**	**01 40 20.5**	**-0.4**
CPUP	**Villa Florida**	**121.70**	**133**	*e*PKPdf		**PKPdf**	**01 40 20.5**	**-0.4**
GNI	**Garni**	**122.90**	**309**	*e*PKIKP		**PKPdf**	**01 40 23.2**	**+0.2**
GNI	**Garni**	**122.90**	**309**	*e*PKPdf		**PKPdf**	**01 40 23.2**	**+0.2**
LPSR	**Galich'ya Gora**	**123.24**	**325**	*e*PKIKP		**PKPdf**	**01 40 23.1**	**+0.1**
LPSR				pmax	pmax				
	comp=Z,7.0nm,1.0s								
LPSR				pmax	pmax				
	comp=N,5.0nm,0.9s								
LPSR				pmax	pmax				
	comp=E,4.0nm,0.7s								
OBN	**Obninsk**	**123.46**	**328**	*i* PKIKP		**PKPdf**	**01 40 23.2**	**-0.1**
OBN				pmax	pmax				
	comp=Z,7.0nm,1.0s								
KIV	**Kislovodsk**	**123.60**	**314**	*i* PKIKP		**PKPdf**	**01 40 25.0**	**+0.9**
KIV				pmax	pmax				
	comp=Z,4.0nm,1.0s								
VSR	**Storozhevoye**	**123.63**	**323**	*e*PKIKP		**PKPdf**	**01 40 23.7**	**-0.1**
VSR				pmax	pmax				
	comp=N,4.0nm,1.0s								
VSR				pmax	pmax				
	comp=Z,5.0nm,1.0s								
VSR				pmax	pmax				
	comp=E,1.0nm,0.7s								
VORD	**Divnogorie**	**123.65**	**323**	*e*PKIKP		**PKPdf**	**01 40 23.1**	**-0.7**
VORD				pmax	pmax				
	comp=E,10.0nm,1.0s								
VORD				pmax	pmax				
	comp=Z,3.0nm,1.0s								
VORD				pmax	pmax				
	comp=N,3.0nm,0.8s								
FINES	**FINESS Array B**	**124.53**	**338**	PKP		**PKPdf**	**01 40 25.4**	**+0.3**
	comp=N,6.3nm,1.0s,baz=48,slow=2.8,SNR=9.4								
FINES	**FINESS Array B**	**124.53**	**338**	*c i*PKIKP		**PKPdf**	**01 40 25.5**	**+0.3**
FINES				pmax	pmax				
	comp=Z,6.0nm,1.0s								
ANN	**Anapa**	**126.97**	**316**	*i* PKIKP		**PKPdf**	**01 40 32.9**	**+2.5**
ANN				pmax	pmax				
	comp=Z,8.0nm,1.0s								
NB2	**NORSAR Subarra**	**129.48**	**345**	PKPdf		**PKPdf**	**01 40 34.7**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=31,slow=1.9								
NOA	**NORSAR Array B**	**129.48**	**345**	PKP		**PKPdf**	**01 40 35.3**	**+0.5**
	comp=Z,3.1nm,0.9s,baz=32,slow=2.0,SNR=11								
AKASG	**Malin Array Be**	**129.48**	**326**	PKP		**PKPdf**	**01 40 35.4**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=52,slow=1.7,SNR=7.4								
KIEV	**Kiev**	**129.50**	**326**	*i* PKIKP		**PKPdf**	**01 40 35.5**	**+0.5**
BRTR	**Keskin Array B**	**131.27**	**311**	PKP		**PKPdf**	**01 40 41.1**	**+2.2**
	comp=Z,0.5nm,0.8s,baz=141,slow=4.1,SNR=3.7								
BUR08	**Bucovina Ar. S**	**133.35**	**324**	*e*PKPdf		**PKPdf**	**01 40 42.3**	**-0.3**
KOLS	**Kolonicke sedl**	**134.20**	**327**	*e*PKIKP		**PKPdf**	**01 40 46.2**	**+2.2**
KOLS	**Kolonicke sedl**	**134.20**	**327**	*e*PKP		**PKPdf**	**01 40 46.2**	**+2.2**
UZH	**Uzhgorod**	**134.37**	**327**	*e*PKHKP		PKPpre	01 40 35.1	
UZH				*e*			01 40 44.3		
OKC	**Ostrava-Krasne**	**135.67**	**331**	*e*PKPdf		**PKPdf**	**01 40 48.7**	**+2.0**
OKC	**Ostrava-Krasne**	**135.67**	**331**	*e*PKIKP		**PKPdf**	**01 40 48.7**	**+2.0**
MORC	**Moravsky Berou**	**136.00**	**331**	*e*PKIKP		**PKPdf**	**01 40 47.0**	**-0.4**
MORC	**Moravsky Berou**	**136.00**	**331**	*e*PKPdf		**PKPdf**	**01 40 47.0**	**-0.4**
PSZ	**Piszkesteto**	**136.07**	**328**	*e*PKIKP		**PKPdf**	**01 40 47.0**	**-0.6**
PSZ	**Piszkesteto**	**136.07**	**328**	*e*PKPdf		**PKPdf**	**01 40 47.0**	**-0.6**
DPC	**Dobruska-Polom**	**136.15**	**333**	*e*PKPdf		**PKPdf**	**01 40 48.7**	**+1.0**
DPC	**Dobruska-Polom**	**136.15**	**333**	*e*PKIKP		**PKPdf**	**01 40 48.7**	**+1.0**
UPC	**Upice**	**136.18**	**333**	*e*PKPdf		**PKPdf**	**01 40 48.0**	**+0.3**
UPC	**Upice**	**136.18**	**333**	*e*PKIKP		**PKPdf**	**01 40 48.0**	**+0.3**
PVCC	**Panska Ves**	**136.79**	**334**	*e*PKPdf		**PKPdf**	**01 40 50.3**	**+1.5**
PVCC	**Panska Ves**	**136.79**	**334**	*e*PKIKP		**PKPdf**	**01 40 50.3**	**+1.5**
BRG	**Berggiesshubel**	**136.79**	**335**	*e*PKP		PKPpre	01 40 40.2	
	comp=Z,2.8nm,1.0s								
BRG	**Berggiesshubel**	**136.79**	**335**	*e*PKHKP		PKPpre	01 40 40.2	
BRG				pmax	pmax				
	comp=Z,3.0nm,1.0s								
CLL	**Collm**	**136.84**	**336**	*e*PKPdf		**PKPdf**	**01 40 49.0**	**+0.2**
	comp=Z,3.0nm,1.1s								
CLL	**Collm**	**136.84**	**336**	*e*PKIKP		**PKPdf**	**01 40 49.0**	**+0.2**
CLL				pmax	pmax				
	comp=Z,3.0nm,1.1s								
PRU	**Pruhonice**	**137.20**	**333**	*e*PKPdf		**PKPdf**	**01 40 50.4**	**+0.8**
PRU	**Pruhonice**	**137.20**	**333**	*e*PKIKP		**PKPdf**	**01 40 50.4**	**+0.8**
TREC	**Trest**	**137.29**	**332**	*e*PKPdf		**PKPdf**	**01 40 50.1**	**+0.3**
TREC	**Trest**	**137.29**	**332**	*e*PKIKP		**PKPdf**	**01 40 50.1**	**+0.3**
CONA	**Conrad Observa**	**138.08**	**330**	⇑*i*PKIKP		**PKiKP**	**01 40 54.1**	**+0.7**
	comp=Z,4.3nm,1.0s								
KHC	**Kasperske Hory**	**138.26**	**333**	*e*PKPdf		**PKPdf**	**01 40 52.2**	**+0.6**
KHC	**Kasperske Hory**	**138.26**	**333**	*e*PKIKP		**PKPdf**	**01 40 52.2**	**+0.6**
GVD	**Gavdhos**	**140.10**	**308**	*e*PKPdf		**PKPdf**	**01 40 54.5**	**-0.9**
ABTA	**Abfaltersbach**	**140.51**	**332**	⇓*i*PKPdf		**PKPdf**	**01 40 55.6**	**-0.3**
	comp=Z,3.9nm,1.0s								
WLF	**Walferdange**	**140.71**	**340**	*e*PKIKP		**PKPdf**	**01 40 53.6**	**-2.4**
WLF	**Walferdange**	**140.71**	**340**	*e*PKPdf		**PKPdf**	**01 40 53.6**	**-2.4**
TUE	**Stuetta**	**142.13**	**334**	*e*PKPdf		**PKPdf**	**01 40 57.9**	**-1.0**
AQU	**L'Aquila**	**143.19**	**326**	*e*PKIKP		**PKPdf**	**01 41 00.7**	**0.0**
AQU	**L'Aquila**	**143.19**	**326**	*e*PKPdf		**PKPdf**	**01 41 00.7**	**0.0**
TIP	**Timpagrande**	**143.19**	**319**	*e*PKPdf		**PKPdf**	**01 41 00.1**	**-0.7**
CEL	**Celeste**	**144.27**	**318**	*e*PKPdf		PKPbc	01 41 01.2	+0.1
BNI	**Bardonecchia**	**144.38**	**335**	*e*PKIKP		PKPbc	01 41 02.3	+1.0
BNI	**Bardonecchia**	**144.38**	**335**	*e*PKPdf		PKPbc	01 41 02.2	+1.0
PLDF	**La Plantade**	**144.76**	**339**	PKP		**PKPdf**	**01 41 03.3**	**-0.1**
AGO	**Saint Agoulin**	**144.86**	**340**	PKP		PKPbc	01 41 03.3	+0.7
AUTN	**L'Aution**	**144.92**	**333**	PKP		PKPbc	01 41 03.7	+0.6
TOUF	**Mont Tournerai**	**144.98**	**333**	PKP		PKPbc	01 41 03.7	+0.4
SSB	**Saint Sauveur**	**145.03**	**337**	PKP		**PKPdf**	**01 41 04.3**	**+0.5**
SSB	**Saint Sauveur**	**145.03**	**337**	*e*PKIKP		**PKPab**	**01 41 03.6**	**+0.4**
SSB	**Saint Sauveur**	**145.03**	**337**	*e*PKPdf		**PKPab**	**01 41 03.6**	**+0.4**
MVIF	**Mont Vial**	**145.12**	**333**	PKP		**PKPab**	**01 41 04.0**	**+0.3**
COLF	**Collangettes**	**145.13**	**339**	PKP		**PKPdf**	**01 41 04.6**	**+0.6**
REVF	**Revere**	**145.15**	**333**	PKP		**PKPab**	**01 41 04.0**	**+0.3**
REVF	**Revere**	**145.15**	**333**	PKP		**PKPdf**	**01 41 04.6**	**+0.5**
PYM	**Petit Puy Mans**	**145.17**	**340**	PKP		**PKPdf**	**01 41 04.7**	**+0.6**
OG26	**St.-Nazaire-De**	**145.33**	**336**	PKP		**PKPdf**	**01 41 05.4**	**+1.0**
LBL	**Lubilhac**	**145.54**	**339**	PKP		**PKPab**	**01 41 06.1**	**+1.0**
VSL	**Villasalto**	**147.36**	**326**	*e*PKPbc		**PKPbc**	**01 41 10.1**	**-0.2**
KEST	**Kesra**	**149.95**	**321**	PKPbc		**PKPbc**	**01 41 18.4**	**+1.2**
	comp=Z,3.8nm,0.9s,baz=292,slow=6.1,SNR=7.6								
KEST	**Kesra**	**149.95**	**321**	*e*PKPbc		**PKPbc**	**01 41 17.4**	**+0.2**
PBRG	**Braganca**	**151.43**	**349**	PKPdf		**PKPdf**	**01 41 13.3**	**-1.1**
PBRG	**Braganca**	**151.43**	**349**	PKPbc		**PKPbc**	**01 41 20.9**	**+0.4**
PGAV	**Gavieira, Arco**	**151.52**	**352**	PKPbc		**PKPbc**	**01 41 21.1**	**+0.3**
PCAB	**Cabril**	**151.74**	**351**	PKPbc		**PKPbc**	**01 41 20.2**	**-1.0**
POLO	**Lamas de Olo**	**152.03**	**351**	PKPbc		**PKPbc**	**01 41 21.4**	**-0.6**
MVO	**Moncorvo**	**152.11**	**349**	PKPbc		**PKPbc**	**01 41 20.8**	**-1.3**
PVRL	**Vila Real**	**152.11**	**351**	PKPbc		**PKPbc**	**01 41 22.7**	**+0.6**
PVIS	**Viseu**	**152.69**	**351**	PKPbc		**PKPbc**	**01 41 23.8**	**+0.4**
ESDC	**Sonseca Array**	**152.84**	**344**	PKPbc		**PKPbc**	**01 41 24.4**	**+0.7**
	comp=Z,4.5nm,0.9s,baz=16,slow=1.7,SNR=22								
MTE	**Manteigas**	**152.94**	**350**	PKPbc		**PKPbc**	**01 41 24.6**	**+0.6**
MTE	**Manteigas**	**152.94**	**350**	*e*PKPbc		**PKPbc**	**01 41 24.4**	**+0.5**
PCAS	**Casmilo, Conde**	**153.43**	**351**	PKPbc		**PKPbc**	**01 41 24.4**	**-0.6**
PCBR	**Castelo Branco**	**153.47**	**349**	PKPbc		**PKPbc**	**01 41 25.7**	**+0.6**
PTOM	**Tomar**	**153.84**	**351**	PKPbc		**PKPbc**	**01 41 26.4**	**+0.5**
PMRV	**Marv??o**	**153.86**	**349**	PKPbc		**PKPbc**	**01 41 26.8**	**+0.9**
PMTG	**Montargil**	**154.35**	**350**	PKPbc		**PKPbc**	**01 41 26.7**	**-0.3**
PMAFR	**Mafra**	**154.62**	**352**	PKPdf		**PKPdf**	**01 41 17.9**	**-1.2**
PMAFR	**Mafra**	**154.62**	**352**	PKPbc		**PKPbc**	**01 41 26.7**	**-0.9**
PBAR	**Barrancos**	**155.00**	**348**	PKPbc		**PKPbc**	**01 41 29.1**	**+0.7**
TOA0	**Torodi Ar. Sit**	**165.15**	**269**	*e*PKPdf		**PKPdf**	**01 41 31.2**	**-0.4**
TORD	**Torodi Ar. Bea**	**165.15**	**269**	PKP		**PKPdf**	**01 41 31.5**	**0.0**
	comp=Z,1.8nm,0.9s,baz=22,slow=0.3,SNR=8.3								

ROM 30 01:23:57.0±0.1, 42°38N×13°51E, h7km±1km, Md1.7/3, Ml0.4/2, Error ellipse: s-maj=1.4km s-min=0.4km az=31.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AQU	**L'Aquila**	**0.09**	**252**	Pg	Pg	01 23 59.5	+0.4
AQU				Sg	Sg	01 24 01.1	+0.5
	22nm,0.3s						
T0106	**Roio Piano**	**0.12**	**233**	Pg	Pg	01 24 00.0	+0.2
T0106				Sg	Sg	01 24 02.3	+0.6
	193nm,3.7s						
FAGN	**Fagnano**	**0.13**	**155**	Pg	Pg	01 24 00.1	+0.3
FAGN				Sg	Sg	01 24 02.5	+0.8
	13nm,0.6s						

GUC 30 01:25:35.2±0.7, 35°81S×73°43W, h43km±5km, ML3.5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.61**	**122**	*i* P	Pn	01 25 46.9	-0.5
COCH				*i* S	Sn	01 25 56.6	+0.4
CCSP	**San Pedro de C**	**1.06**	**166**	*i* P	Pn	01 25 54.3	+0.7
CCSP				*i* S	Sn	01 26 08.1	+0.9
CCSP				AML	AML	01 26 14.6	
	comp=E,2µm,0.4s						
LNCH	**Linares**	**1.48**	**92**	*i* P	Pn	01 26 00.7	+1.3
LNCH				*i* S	Sn	01 26 19.8	+2.2
LNCH				AML	AML	01 26 31.6	
	comp=N,1µm,0.5s						

*BYKL **30** 01:26:07.8±0.3, 55°70N×110°00E, h3km±5km*
*MOS **30** 01:26:08.0±1.2, 55°78N×109°94E, h17km, mb4.2/1, Error ellipse: s-maj=26.7km s-min=18.2km az=74.5*
ISC 30 01:26:07.9±1.0, 55°80N±0°04×110°01E±0°03, h17km±8km, n28, σ1s98/61, 8C-2D, Lake Baikal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.27**	**265**	⇑*i*Pg	**Pg**	**01 26 13.1**	**-0.7**
NIZ				*i* Sg	**Sb**	**01 26 17.7**	**-0.9**
NIZ				*e*		01 26 18.6	
NIZ				Pmax			
	300nm,0.6s						
NIZ				max			
	2µm,0.2s						
KMO	**Kumora**	**0.68**	**82**	⇑*i*Pg	**Pb**	**01 26 20.3**	**-1.0**
KMO				*e*Sg	**Sg**	**01 26 29.6**	**-0.6**
KMO				Pmax			
	92nm,0.3s						
KMO				Smax			
	436nm,0.7s						
YOA	**Uoyan**	**1.02**	**70**	*e*Pg	**Pb**	**01 26 26.5**	**-0.6**
YOA				*e*Sg	**Sb**	**01 26 40.8**	**+0.5**
YOA				Pmax			
	107nm,0.2s						
YOA				Smax			
	697nm,0.4s						
YOA	**Uoyan**	**1.02**	**70**	*e*PG	**Pb**	**01 26 27.0**	**-0.1**
YOA				*e*		01 26 43.4	
YOA				pmax	pmax		
	comp=Z,83nm,0.3s						
YOA				smax	smax		
	comp=N,723nm,0.3s						
YLYR	**Ulyunkhan**	**1.14**	**144**	⇑*i*Pg	**Pn**	**01 26 27.5**	**-1.6**
YLYR				*e*Sg	**Sb**	**01 26 41.8**	**-1.8**
YLYR				*e*Sb	**Sg**	**01 26 46.5**	**+1.8**
YLYR				Pmax			
	comp=N,98nm,0.2s						
YLYR				max			
	comp=N,589nm,0.2s						
YLYR	**Ulyunkhan**	**1.14**	**144**	⇑*i*PG	**Pn**	**01 26 27.5**	**-1.6**
YLYR				*e*		01 26 42.2	
YLYR				pmax	pmax		
	comp=Z,100nm,0.2s						
YLYR				smax	smax		
	comp=N,597nm,0.2s						
SVKR	**Severomuysk**	**2.02**	**79**	*e*Pn	**Pn**	**01 26 42.5**	**+1.2**
SVKR				*e*Pg	**Pb**	**01 26 44.6**	**+0.4**
SVKR				*e*Sg	**Sb**	**01 27 12.0**	**+2.9**
SVKR				Pmax			
	comp=N,103nm,0.4s						
SVKR				Smax			
	comp=N,1µm,0

TUP				*e*Sn	**Sn**	**01 28 36.7**	**-4.3**
TUP				*e*Sg	Sg	01 29 09.9	-6.3
TUP				Pmax			
	comp=E,4.0nm,0.7s						
TUP				Smax			
	comp=E,66nm,1.6s						
ARS	**Arshan**	**5.94**	**232**	*e*Pn	**Pn**	**01 27 35.6**	**+0.5**
ARS				*e*Pg	**Pb**	**01 27 53.0**	**+2.1**
ARS				*e*Sn	**Sn**	**01 28 41.4**	**-1.3**
ARS				*e*Sg	Sg	01 29 10.3	-8.0
ARS				Pmax			
	comp=E,14nm,0.4s						
ARS				Smax			
	comp=E,103nm,0.9s						
MOY	**Mondy**	**6.76**	**236**	⇑*i*Pn	**Pn**	**01 27 48.6**	**+2.1**
MOY				*e*Sn	**Sn**	**01 29 02.8**	**-0.3**
MOY				*e*Sg	Sg	01 29 35.7	-9.1
MOY				Smax			
	comp=E,31nm,1.1s						
ZAK	**Zakamensk**	**6.77**	**220**	*e*Sg	Sg	01 29 35.4	-10
ZAK				Smax			
	comp=E,24nm,0.9s						
ORL	**Orlik**	**6.82**	**246**	⇑*i*Pn	**Pn**	**01 27 49.2**	**+1.9**
ORL				*e*Sn	**Sn**	**01 29 02.7**	**-1.8**
ORL				*e*Sg	Sg	01 29 37.1	-10
ORL				Smax			
	comp=E,24nm,1.1s						
ORL	**Orlik**	**6.82**	**246**	*e*PN	**Pn**	**01 27 48.8**	**+1.5**
ORL				*e*		01 28 10.2	
ORL				*e*S	**Sn**	**01 29 02.8**	**-1.8**
ORL				*e*		01 29 38.5	
ORL				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ORL				smax	smax		
	comp=N,25nm,0.6s						

*NNC **30** 01:36:59.7±5.1, 37°.31N×71°.45E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=43.4km s-min=18.4km az=168.0*
*IDC **30** 01:37:00.2±6.4, 36°.86N×71°.95E, h76km±56km, mb3.3/3, mb1 3.3/8, mb1mx3.1/32, mbtmp3.5/8, ML3.0/6, MS2.8/1, Ms1 2.8/1, ms1mx2.2/21, Error ellipse: s-maj=65.2km s-min=45.8km az=139.0*

ISC 30 01:36:56.0±1.5, **37°.1N**±0°.1×**71°.32E**±0°.08, **h10**km, **n17**, σ2**9**05/21, **mb3.6**/3, **5C-11D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZET	**Dzherino**	**2.64**	**312**	⇓Pn	**Pn**	**01 37 41.7**	**+2.9**
	24nm,0.5s						
DZET				⇑Sn	**Sb**	**01 38 16.8**	**+0.8**
	165nm,0.5s						
SFK	**Sufi-Kurgan**	**3.41**	**29**	⇑Pn	**Pn**	**01 37 51.0**	**+1.4**
	1.8nm,0.4s						
SFK				⇓Pg	**Pb**	**01 37 57.7**	**+0.9**
	8.9nm,0.4s						
SFK				⇑Lg	Lg	01 38 38.1	
	41nm,1.2s						
MNAS	**Manas**	**5.50**	**9**	⇓Pn	**Pn**	**01 38 19.3**	**+1.2**
	3.5nm,0.9s						
MNAS				⇓Sn	**Sn**	**01 39 19.9**	**-1.7**
	2.9nm,0.6s						
MNAS				⇓Lg	Lg	01 39 45.5	
	5.8nm,0.8s						
KK31	**Karatay Array**	**6.08**	**354**	⇑Pn	**Pn**	**01 38 27.2**	**+1.3**
	1.2nm,0.3s,baz=180,slow=13,SNR=42						
KK31				⇑Sn	**Sn**	**01 39 31.7**	**-3.8**
	1.3nm,0.5s,baz=185,slow=24						
KK31				⇓Lg	Lg	01 40 04.4	
	2.5nm,0.6s						
AAK	**Ala-Archa**	**6.08**	**23**	⇓Pn	**Pn**	**01 38 25.9**	**-0.3**
	1.5nm,0.5s						
AAK				⇓Sn	**Sn**	**01 39 39.1**	**+3.2**
	5.9nm,0.9s						
AAK				⇓Lg	Lg	01 40 09.3	
	6.8nm,1.1s						
AAK	**Ala-Archa**	**6.08**	**23**	P	**Pn**	**01 38 28.3**	**+2.2**
	0.4nm,0.3s,baz=176,slow=12,SNR=2.8						
MKAR	**Makanchi Array**	**12.69**	**37**	P	**Pn**	**01 39 55.3**	**-1.2**
	0.0nm,0.3s,baz=225,slow=16,SNR=2.9						
KURBB	**Kurchatov Arra**	**14.52**	**19**	P	**Pn**	**01 40 23.8**	**+2.3**
	0.0nm,0.3s,baz=174,slow=12,SNR=2.7						
AB31	**Akbulak array**	**14.73**	**329**	⇓Pn	**Pn**	**01 40 22.1**	**-2.3**
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**15.99**	**358**	P	**Pn**	**01 40 42.3**	**+1.5**
	0.1nm,0.3s,baz=144,slow=13,SNR=2.1						
AKTO	**Aktyubinsk**	**16.44**	**329**	⇓Pn	**Pn**	**01 40 47.8**	**+1.2**
	3.2nm,0.9s						
AKTO	**Aktyubinsk**	**16.44**	**329**	P	**P**	**01 40 50.6**	**+1.1**
	0.4nm,0.3s,baz=122,slow=8.4,SNR=8.3						
ZALV	**Zalesovo Beam**	**19.30**	**25**	P	**P**	**01 41 17.7**	**-3.3**
	0.5nm,0.3s,baz=218,slow=10,SNR=4.6						
GNI	**Garni**	**20.98**	**287**	LR	LR	01 52 14.1	
	comp=Z,24nm,20.4s,baz=234,slow=42						
ARCES	**ARCESS Array B**	**40.73**	**337**	P	**P**	**01 44 36.8**	**+0.2**
	1.1nm,0.9s,baz=120,slow=8.4,SNR=4.1						
NOA	**NORSAR Array B**	**44.10**	**323**	P	**P**	**01 45 03.7**	**-0.4**
	0.7nm,0.7s,baz=96,slow=8.0,SNR=3.9						
TORD	**Torodi Ar. Bea**	**65.99**	**269**	P	**P**	**01 47 42.1**	**-0.8**
	0.2nm,0.5s,baz=48,slow=5.8,SNR=5.6						

*IDC **30** 02:04:50.8±0.9, 0°.04N×125°.73E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.8/31, mbtmp3.9/9, Error ellipse: s-maj=48.8km s-min=18.0km az=75.0*
*NEIC **30** 02:04:54.0±3.2, 0°.00N×125°.67E, h21km±24km, mb4.3/7, Error ellipse: s-maj=10.4km s-min=9.0km az=71.0*
*ISCJB **30** 02:04:56.2±0.4, 0°.10N±0°.05×125°.92E±0°.06, h49km, mb4.0/15, Error ellipse: s-maj=8.5km s-min=5.8km az=153.3*
*DJA **30** 02:04:57.6±1.0, 0°S±3°×12°6E±3°, h11km±7km, M4.1/13, mb4.4/3, mB6.0/1, MLv3.9/13, Mw(mB)5.6/1*

ISC 30 02:04:57.8±0.6, **0°.02N**±0°.05×**125°.86E**±0°.04, **h49**km, **n33,** σ1**9**62/33, **mb4.1**/15, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.68**	**64**	P	**Pn**	**02 05 26.0**	**+1.2**
TNTI				S	**Sn**	**02 05 48.3**	**+3.1**
TNTI	**Ternate**	**1.68**	**64**	*e*Pn	**Pn**	**02 05 25.2**	**+0.4**
LBMI	**Labuha**	**1.77**	**112**	P	**Pn**	**02 05 28.4**	**+2.4**
LBMI				S	**Sn**	**02 05 49.6**	**+2.2**
KMSI	**Cibinong**	**1.96**	**286**	P	**Pn**	**02 05 30.0**	**+1.4**
KMSI				S	**Sn**	**02 05 55.7**	**+3.7**
SANI	**Sanana**	**2.06**	**176**	P	**Pn**	**02 05 30.2**	**+0.1**
SANI				S	Sn	02 06 01.9	+7.3
LUWI	**Luwuk**	**3.26**	**251**	P	Pn	02 05 50.0	+3.5
LUWI	**Luwuk**	**3.26**	**251**	*e*Pn	Pn	02 05 42.0	-4.6
NLAI	**Namlea**	**3.47**	**159**	P	**Pn**	**02 05 51.1**	**+1.7**
NLAI				S	**Sn**	**02 06 29.9**	**+0.7**
MRSI	**Marisa**	**3.94**	**277**	P	**Pn**	**02 05 57.3**	**+1.4**
MRSI				S	Sn	02 06 46.8	+5.9
MPSI	**Mapaga**	**5.97**	**273**	P	Pn	02 06 27.2	+3.5
	20nm,1.2s,11μm1.0nm						
TTSI	**Tana Toraja**	**6.76**	**243**	P	**Pn**	**02 06 36.7**	**+2.1**
	30nm,0.7s,0.1nm						
SPSI	**Sidrap Palu**	**7.26**	**237**	P	**Pn**	**02 06 43.0**	**+1.6**
KSM	**Kuching**	**15.62**	**275**	*e*Pn	**P**	**02 08 38.8**	**+0.6**
	19nm,1.0s						
WRAB	**Tennant Creek**	**21.51**	**158**	*e*P	**P**	**02 09 42.1**	**-0.7**
	2.9nm,0.6s						
WRA	**Warramunga Arr**	**21.51**	**158**	P	**P**	**02 09 41.1**	**-1.7**
	0.7nm,0.4s,baz=336,slow=11,SNR=4.9						
AS31	**Alice Springs**	**24.81**	**162**	*e*P	**P**	**02 10 15.7**	**+0.1**
ASAR	**Alice Springs**	**24.81**	**162**	P	**P**	**02 10 16.1**	**+0.5**
	0.9nm,0.7s,baz=343,slow=7.2,SNR=14						
KULM	**Kulim**	**25.71**	**282**	*e*P	**P**	**02 10 20.4**	**-3.4**
	12nm,1.2s						
KSAR	**Wonju Array Be**	**37.28**	**3**	P	**P**	**02 12 05.8**	**+0.7**
KSRS	**Korea Array**	**37.29**	**3**	P	**P**	**02 12 05.8**	**+0.6**
	1.7nm,0.7s,baz=178,slow=8.2,SNR=5.6						
MJAR	**Matsushiro Arr**	**38.10**	**16**	P	**P**	**02 12 11.0**	**-1.1**
	0.6nm,0.6s,baz=195,slow=7.6,SNR=3.4						
USRK	**Ussuriysk Ar.**	**44.32**	**6**	P	**P**	**02 13 03.0**	**0.0**
	2.4nm,0.9s,baz=205,slow=8.4,SNR=5.0						
SONM	**Songino Array**	**50.54**	**343**	P	**P**	**02 13 50.1**	**-1.3**
	2.0nm,0.9s,baz=158,slow=8.8,SNR=11						
MK31	**Makanchi Array**	**60.12**	**327**	*e*P	**P**	**02 14 59.8**	**-0.5**
MKAR	**Makanchi Array**	**60.12**	**327**	P	**P**	**02 14 59.7**	**-0.6**
	1.7nm,0.7s,baz=129,slow=7.6,SNR=20						
TKM2	**Tokmak 2**	**61.97**	**320**	*e*P	**P**	**02 15 11.8**	**-1.4**
	1.2nm,0.7s						
EKS2	**Erkin-Say**	**63.03**	**319**	*e*P	**P**	**02 15 19.4**	**-0.7**
	1.4nm,0.8s						
ZALV	**Zalesovo Beam**	**63.50**	**334**	P	**P**	**02 15 21.2**	**-1.6**
	0.6nm,0.4s,baz=92,slow=4.3,SNR=2.3						
KURK	**Kurchatov**	**64.41**	**329**	*e*P	**P**	**02 15 28.4**	**-0.4**
	12nm,1.3s						
ABKAR	**Akbulak array**	**74.47**	**322**	*e*P	**P**	**02 16 30.5**	**-0.6**
ARU	**Arti**	**77.60**	**328**	*e*P	**P**	**02 16 47.6**	**-1.1**
	5.3nm,0.8s						
KBZ	**Khabaz**	**84.89**	**314**	P	**P**	**02 17 28.4**	**+0.8**
	1.7nm,0.8s,baz=236,slow=24,SNR=4.4						
BUR08	**Bucovina Ar. S**	**97.17**	**318**	*e*P	Pdif	02 18 25.5	+0.1

*ISCJB **30** 02:10:48.6±0.5, 31°.86N±0°.02×114°.84W±0°.02, h8km±3km, Error ellipse: s-maj=3.5km s-min=3.1km az=159.3*
*ECX **30** 02:10:51.6±0.4, 31°.85N×114°.95W, h7km, MD3.2, ML3.4*
*NEIC **30** 02:10:51.6, 31°.85N×114°.95W, h7km, MD3.8(MEX), ML3.4(PAS), ML3.5(ECX), After ECX.*
*MEX **30** 02:10:52.8±0.6, 31°.89N×114°.88W, h16km±14km, MD3.8*

ISC 30 02:10:49.1±1.1, **31°.86N**±0°.02×**114°.88W**±0°.02, **h7**km±10km, **n36,** σ1**9**34/79, **2C-4D, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBX	**El Chinero**	**0.42**	**201**	⇓*i*P	**Pg**	**02 10 57.5**	**+0.3**
ECBX				*e*S	**Sg**	**02 11 02.7**	**+0.1**
MBIG	**Mexicali**	**0.61**	**333**	*e*P	**Pb**	**02 11 01.9**	**-0.1**
MBIG				*i* S	**Sg**	**02 11 09.5**	**+0.8**
CPBX	**Cerro Prieto**	**0.66**	**327**	*e*P	**Pb**	**02 11 03.2**	**+0.2**
CPBX	**Cerro Prieto**	**0.66**	**327**	*e*P9	**Pb**	**02 11 03.1**	**+0.2**
CPBX				*e*S	**Sb**	**02 11 12.2**	**-0.1**
YMD	**Yuma Desert**	**0.74**	**22**	⇓*i*P	**Pn**	**02 11 05.2**	**-0.8**
EMSC	**East Mesa**	**0.88**	**354**	⇓*i*P	**Pn**	**02 11 07.1**	**-0.8**
RDX	**Rancho Dawling**	**0.91**	**274**	*e*P	**Pg**	**02 11 06.6**	**0.0**
RDX				*e*S	**Sg**	**02 11 18.0**	**-0.4**
RDX	**Rancho Dawling**	**0.91**	**274**	⇑*e*P	**Pg**	**02 11 06.6**	**0.0**
RDX				*e*S	**Sg**	**02 11 18.0**	**-0.4**
RDX				IAML		02 11 24.6	
	comp=N,994nm,0.3s						
RDX				*e*		02 11 24.6	
SPIG	**San Pedro Mart**	**0.96**	**212**	*e*P	**Pg**	**02 11 08.0**	**+0.5**
SPIG				*i* S	**Sg**	**02 11 20.4**	**+0.4**
SPIG	**San Pedro Mart**	**0.96**	**212**	*e*P	**Pg**	**02 11 08.0**	**+0.5**
SPIG				*i* S	**Sg**	**02 11 20.4**	**+0.4**
SPX	**San Pedro Mart**	**0.96**	**212**	*e*P	**Pg**	**02 11 08.0**	**+0.5**
SPX				*e*S	**Sg**	**02 11 20.6**	**+0.7**
SPX	**San Pedro Mart**	**0.96**	**212**	*e*P	**Pg**	**02 11 08.0**	**+0.5**
SPX				*e*S	**Sg**	**02 11 20.6**	**+0.7**
COA	**Coachella**	**1.02**	**348**	*e*P2	**Pg**	**02 11 08.8**	**+0.2**
GLA	**Glamis**	**1.19**	**2**	*e*Pn	**Pb**	**02 11 11.3**	**-0.6**
GLA				*e*Sg	**Sn**	**02 11 29.1**	**+0.5**
ZAX	**El Zacaton**	**1.24**	**254**	*e*P	**Pn**	**02 11 11.7**	**-1.3**
ZAX				*e*S	**Sb**	**02 11 27.8**	**-1.3**
RMX	**La Rumorosa**	**1.26**	**306**	⇓*e*	**Sn**	**02 11 33.2**	**+2.7**
RMX				IAML		02 11 33.2	
	comp=N,495nm,0.4s						
PBX	**Punta Banda**	**1.58**	**266**	*e*P	**Pn**	**02 11 17.1**	**-0.4**
PBX				*e*S	**Sb**	**02 11 38.1**	**-0.6**
CBX	**Cerro Bola**	**1.58**	**287**	*e*P	**Pn**	**02 11 16.7**	**-0.9**
CBX	**Cerro Bola**	**1.58**	**287**	*e*P	**Pn**	**02 11 17.6**	**-0.1**
CBX				*e*S	**Sb**	**02 11 38.5**	**-0.4**
CBX	**Cerro Bola**	**1.58**	**287**	*e*P	**Pn**	**02 11 17.6**	**-0.1**
CBX				*e*S	**Sb**	**02 11 38.5**	**-0.4**
CBX				⇑*e*		02 11 40.5	
CBX				IAML		02 11 40.5	
	comp=N,821nm,0.4s						
BAR	**Barrett**	**1.73**	**299**	*e*Pn	**Pn**	**02 11 18.7**	**-0.8**
BAR				*e*Pg	**Pg**	**02 11 21.6**	**-0.5**
BAR				*e*Sn	**Sb**	**02 11 42.4**	**-0.7**
BAR	**Barrett**	**1.73**	**299**	*e*P	**Pb**	**02 11 20.1**	**-1.0**
214A	**Organ Pipe Nat**	**1.76**	**86**	*e*Pn	**Pn**	**02 11 19.9**	**-0.1**
214A				*e*Pg	**Pg**	**02 11 24.6**	**+1.8**
214A				*e*Sn	**Sn**	**02 11 41.9**	**-0.8**
PFO	**Pinyon Flats O**	**2.19**	**323**	*e*Pn	**Pn**	**02 11 27.1**	**+1.1**
PFO				*e*Pg	**Pg**	**02 11 33.1**	**+2.1**
PFO				*e*Sn	**Sb**	**02 11 54.7**	**-1.9**
PFO				*e*Sg	**Sg**	**02 12 01.6**	**+2.2**
TUC	**Tucson**	**3.50**	**82**	*e*Pn	**Pn**	**02 11 45.5**	**+1.5**
TUC				*e*Pb	**Pb**	**02 11 49.9**	**-1.5**
TUC				*e*Pg	**Pg**	**02 11 55.7**	**-0.5**
TUC				*e*Sn	**Sn**	**02 12 25.1**	**-0.7**
TUC				*e*Sg	**Sg**	**02 12 39.6**	**-1.9**
PASC	**Pasadena Art C**	**3.61**	**310**	*e*Pn	**Pn**	**02 11 46.8**	**+1.4**
PASC				*e*Pg	**Pg**	**02 11 56.5**	**-1.7**
PASC				*e*Sn	**Sn**	**02 12 29.8**	**+1.5**
PASC				*e*Sg	**Sg**	**02 12 42.1**	**-2.9**
GSC	**Goldstone, Bar**	**3.79**	**335**	*e*Pn	**Pn**	**02 11 48.8**	**+0.8**
GSC				*e*Pg	**Pg**	**02 12 04.2**	**+2.6**
GSC				*e*Sn	**Sn**	**02 12 34.7**	**+1.8**
OSI	**Osito Audit: C**	**4.23**	**311**	*e*Pn	**Pn**	**02 11 55.7**	**+1.7**
OSI				*e*Pg	**Pb**	**02 12 06.2**	**+2.4**
OSI				*e*Sg	**Sg**	**02 13 02.8**	**-2.2**
SHPR	**Sheep Range**	**4.64**	**357**	*e*Pn	**Pn**	**02 12 01.6**	**+1.9**
SHPR				*e*Sg	**Sg**	**02 13 19.4**	**+1.5**
WUAZ	**Wupatki**	**4.67**	**38**	*e*Pn	**Pn**	**02 12 02.4**	**+2.3**
WUAZ				*e*Pg	**Pg**	**02 12 21.1**	**+2.5**
WUAZ				*e*Sn	**Sn**	**02 12 54.7**	**0.0**
WUAZ				*e*Sg	**Sg**	**02 13 19.1**	**+0.1**
ISA	**Isabella, Lake**	**4.83**	**323**	*e*Pn	**Pn**	**02 12 02.8**	**+0.5**
ISA				*e*Pg	**Pg**	**02 12 20.2**	**-1.4**
ISA				*e*Sg	**Sg**	**02 13 20.6**	**-3.6**
121A	**Cookes Peak, D**	**6.05**	**82**	*e*Pn	**Pn**	**02 12 20.2**	**+1.1**
	comp=N,5.0nm,0.5s						
121A				*e*Sg	Sb	02 13 54.2	+6.6
R11A	**Troy Canyon, C**	**6.50**	**355**	*e*Pn	**Pn**	**02 12 25.8**	**+0.6**
R11A				*e*Pg	**Pg**	**02 12 52.8**	**-0.7**
R11A				*e*Sg	Sb	02 14 06.7	+6.3
MVU	**Marysvale**	**6.97**	**17**	*e*Pn	**Pn**	**02 12 32.3**	**+0.4**
	comp=N,3.4nm,0.6s						
MVU				*e*Pg	**Pg**	**02 13 00.5**	**-2.1**
MVU				*e*Sg	**Sg**	**02 14 30.4**	**-2.6**
MVCO	**Mesa Verde**	**7.49**	**43**	*e*Pn	**Pn**	**02 12 39.7**	**+0.7**
MVCO				*e*Pg	**Pg**	**02 13 11.7**	**-0.8**
MVCO				*e*Sg	**Sg**	**02 14 50.4**	**+0.8**
MNTX	**Cornudas Mount**	**8.09**	**89**	*e*Pn	**Pn**	**02 12 46.2**	**-0.7**

JMA 30 02:16:46.8±0.3, **26°.00N**×**128°.48E, h45**km±4km, **M3.5, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**0.66**	**322**	P	Pn	02 16 59.7	-0.1
JNTH				S	Sn	02 17 09.1	-0.1
JJT2	**Tamagusuku 2**	**0.67**	**282**	P	Pn	02 17 00.2	+0.2
JJT2				S	Sn	02 17 10.4	+0.9
JOW	**Kunigami**	**0.85**	**348**	P	Pn	02 17 02.7	+0.3
JOW				S	Sn	02 17 14.0	+0.2
JIH	**Iheya**	**1.13**	**336**	P	Pn	02 17 07.2	+1.0
JIH				S	Sn	02 17 22.0	+1.5
JAGN	**Aguni-jima**	**1.26**	**298**	P	Pn	02 17 08.7	+0.8
JAGN				S	Sn	02 17 25.5	+1.9
JOKE	**Okinoerabujima**	**1.36**	**3**	P	Pn	02 17 10.1	+0.7
JOKE				S	Sn	02 17 26.9	+0.7
JKE	**Kume jima 2**	**1.56**	**282**	P	Pn	02 17 12.1	+0.1
JKE				S	Sn	02 17 31.0	0.0
JTK	**Tokunoshima**	**1.83**	**13**	P	Pn	02 17 16.3	+0.5
JTK				S	Sn	02 17 38.2	+0.5
JAMN	**Amaminishikomi**	**2.32**	**15**	P	Pn	02 17 23.1	+0.6
JMZ	**Minamidaito 2**	**2.48**	**94**	P	Pn	02 17 22.5	-2.1
JMZ				S	Sn	02 17 48.4	-5.2
JAM	**Amami Oshima**	**2.60**	**22**	P	Pn	02 17 26.6	+0.2
JAM				S	Sn	02 17 55.8	-1.0
JZK	**Kikaishima**	**2.66**	**30**	P	Pn	02 17 28.6	+1.4
JZK				S	Sn	02 17 59.7	+1.5
JOGS	**Gusukube**	**3.04**	**247**	P	Pn	02 17 32.6	+0.2
JOGS				S	Sn	02 18 06.7	-0.9
JIKM	**Ikemajima**	**3.11**	**251**	P	Pn	02 17 32.7	-0.7
JIKM				S	Sn	02 18 08.0	-1.3
JTAJ	**Takarajima**	**3.21**	**11**	P	Pn	02 17 35.5	+0.8
JTAJ				S	Sn	02 18 10.6	-1.0
JIRB	**Irabujima**	**3.21**	**249**	P	Pn	02 17 34.1	-0.6
JIRB				S	Sn	02 18 10.0	-1.7
JTJ	**Tarama**	**3.68**	**249**	P	Pn	02 17 40.6	-0.5
JTJ				S	Sn	02 18 20.3	-2.9
JISG	**Ishigakijimahi**	**4.03**	**250**	P	Pn	02 17 44.6	-1.4
JISG				S	Sn	02 18 28.7	-3.2
JIJ	**Ishigaki jima**	**4.25**	**248**	P	Pn	02 17 47.7	-1.4
JIJ				S	Sn	02 18 33.2	-4.3
IRIF	**Iriomote-Funau**	**4.61**	**250**	P	Pn	02 17 53.1	-0.9

*IDC **30** 02:19:49.6±0.5, 5°.33S×123°.43E, h0km, mb4.4/25, mb1 4.5/29, mb1mx4.4/39, mbtmp4.4/29, ML4.5/4, MS3.5/10, Ms1 3.6/10, ms1mx3.3/33, Error ellipse: s-maj=16.0km s-min=11.0km az=67.0*
*BJI **30** 02:19:50.1, 5°.93S×123°.75E, h50km, mb4.7/47, mB5.0/29, Ms4.5/26, Ms7 4.2/24*
*MOS **30** 02:19:52.6±1.0, 5°.32S×123°.48E, h32km, mb5.1/24, Error ellipse: s-maj=13.0km s-min=6.8km az=117.5*
*ISCJB **30** 02:19:53.3±0.4, 5°.35S±0°.02×123°.39E±0°.02, h36km±3km, mb4.6/52, MS3.5/10, Error ellipse: s-maj=4.1km s-min=3.9km az=140.3*
*NEIC **30** 02:19:55.9±0.5, 5°.35S×123°.40E, h43km±5km, mb4.7/24, Error ellipse: s-maj=6.1km s-min=4.4km az=63.0*
*DJA **30** 02:19:55.7±0.4, 5°S±2°×12°3E±3°, h30km±5km, M4.8/31, mb5.0/19, mB5.3/18, MLv4.8/31, Mw(mB)4.7/18*
*KLM **30** 02:19:57.8, 5°.43S×123°.48E, h32km, mb5.0, ML4.5, MS6.0*

ISC 30 02:19:56.5±0.3, **5°.35S**±0°.03×**123°.36E**±0°.04, **h48**km±2km, **h47**km:**pP-P, n178,** σ1**9**77/241, **mb4.7**/52, **MS3.5**/10, **9C-5D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSI	**Bau Bau**	**0.80**	**260**	P	**Pn**	**02 20 08.5**	**-2.9**
BBSI				S	**Sn**	**02 20 20.3**	**-2.0**
KDI	**Kendari**	**1.57**	**332**	P	Pn	02 20 18.4	-3.5
BSSI	**Bau Bau, Buton**	**2.96**	**255**	P	**Pn**	**02 20 38.9**	**-2.1**
BSSI				S	**Sn**	**02 21 13.9**	**-1.5**
BKSI	**Bulukumba**	**3.23**	**270**	P	**Pn**	**02 20 42.3**	**-2.3**
BKSI				S	**Sn**	**02 21 20.3**	**-1.5**
MMRI	**Maumere**	**3.45**	**199**	P	**Pn**	**02 20 46.4**	**-1.3**
MMRI				S	**Sn**	**02 21 28.6**	**+1.3**
MMRI	**Maumere**	**3.45**	**199**	*e*Pn	**Pn**	**02 20 46.1**	**-1.6**
MMRI				*e*S	**Sn**	**02 21 31.0**	**+3.7**
KAPI	**Kappang**	**3.61**	**275**	P	**Pn**	**02 20 48.5**	**-1.4**
	58nm,0.3s,baz=122,slow=6.4,SNR=171						
KAPI				Sn	**Sn**	**02 21 31.5**	**+0.1**
	37nm,0.3s,baz=241,slow=20,SNR=8.4						
KAPI	**Kappang**	**3.61**	**275**	*e*Pn	**Pn**	**02 20 48.1**	**-1.9**
KAPI				*e*S	**Sn**	**02 21 27.7**	**-3.7**
SPSI	**Sidrap Palu**	**3.84**	**291**	P	**Pn**	**02 20 51.2**	**-1.8**
SPSI				S	**Sn**	**02 21 36.6**	**-0.3**
SANI	**Sanana**	**4.20**	**39**	P	**Pn**	**02 20 55.1**	**-2.9**
TTSI	**Tana Toraja**	**4.21**	**303**	P	**Pn**	**02 20 57.5**	**-0.7**
NLAI	**Namlea**	**4.28**	**61**	P	**Pn**	**02 21 00.2**	**+1.1**
NLAI				S	**Sn**	**02 21 48.8**	**+1.0**
LUWI	**Luwuk**	**4.32**	**352**	P	**Pn**	**02 20 57.6**	**-2.1**
LUWI	**Luwuk**	**4.32**	**352**	*e*Pn	**Pn**	**02 20 56.8**	**-2.9**
LUWI				*e*S	**Sn**	**02 21 47.3**	**-1.6**
SOEI	**Soe**	**4.46**	**168**	P	**Pn**	**02 21 03.6**	**+1.8**
SOEI				S	**Sn**	**02 21 57.6**	**+5.1**
SOEI	**Soe**	**4.46**	**168**	*e*Pn	**Pn**	**02 21 03.9**	**+2.1**
SOEI				*e*S	**Sn**	**02 21 56.1**	**+3.6**
APSI	**Ampana**	**4.73**	**339**	P	**Pn**	**02 21 03.7**	**-1.6**
APSI				S	**Sn**	**02 21 59.5**	**+0.5**
AAI	**Ambon**	**5.09**	**71**	P	**Pn**	**02 21 13.0**	**+2.7**
	112nm,1.0s,4μm0.4nm						
BASI	**Baing, Sumba**	**5.57**	**210**	P	**Pn**	**02 21 16.5**	**-0.3**
	514nm,1.3s,7μm1.9nm						
PCI	**Palu**	**5.65**	**321**	P	**Pn**	**02 21 16.7**	**-1.2**
	182nm,1.1s,4μm1.0nm						
MSAI	**Masohi**	**5.90**	**70**	P	**Pn**	**02 21 22.5**	**+1.2**
	18nm,1.0s,3μm0.2nm						
KMSI	**Cibinong**	**5.92**	**6**	P	**Pn**	**02 21 22.9**	**+1.3**
	517nm,1.5s,12μm3.1nm						
MRSI	**Marisa**	**5.96**	**346**	P	**Pn**	**02 21 21.1**	**-1.1**
	100nm,1.0s,2μm0.4nm						
LBMI	**Labuha**	**6.25**	**42**	P	**Pn**	**02 21 26.5**	**+0.4**
	98nm,0.7s,1μm0.5nm						
LBMI				S	**Sn**	**02 22 34.7**	**-1.6**
	98nm,0.7s,1μm0.5nm						
MPSI	**Mapaga**	**6.63**	**328**	P	**Pn**	**02 21 29.4**	**-2.0**
	89nm,0.8s,1μm0.3nm						
TOLI	**Toli-Toli**	**6.92**	**338**	*e*Pn	**Pn**	**02 21 35.5**	**+0.1**
TOLI				*e*S	**Sn**	**02 22 50.5**	**-2.5**
TNTI	**Ternate**	**7.28**	**33**	P	**Pn**	**02 21 43.2**	**+2.9**
	174nm,1.1s,3μm0.7nm						
TNTI	**Ternate**	**7.28**	**33**	*e*Pn	**Pn**	**02 21 40.5**	**+0.1**
SIJI	**Sorong**	**9.06**	**61**	Pn	**Pn**	**02 22 01.9**	**-2.8**
	2.4nm,0.3s,baz=251,slow=5.1,SNR=12						
SI

GYA PMZ
comp=Z,20nm,0.8s
GYA PMZ
comp=Z,120nm,4.8s
GYA LN
comp=Z,520nm,17.6s
GYA LE
comp=Z,420nm,18.0s
GYA LZ
comp=Z,490nm,17.8s
KMI Kunming 36.33 327 P **P** **02 26 57.3 +1.1**
KMI pP **pP** **02 27 07.3 -1.5**
KMI sP **sP** **02 27 11.8 -2.7**
KMI S **S** **02 32 38.3 +4.1**
KMI sS **sS** **02 32 59.0 +3.6**
KMI PMZ
comp=Z,9.0nm,1.1s
KMI PMZ
comp=Z,98nm,5.1s
KMI LN
comp=Z,160nm,17.5s
KMI LE
comp=Z,160nm,22.6s
KMI LZ
comp=Z,150nm,24.2s
WHN Wuhan 36.72 347 P **P** **02 27 01.5 +2.3**
NJ2 Nanjing 37.44 354 *eP* **P** **02 27 05.5 +0.2**
NJ2 PMZ
comp=Z,30nm,0.6s
JNU Nakatsue 38.92 10 LR LR 02 43 12.9
comp=Z,34nm,21.8s,baz=209,slow=36
CD2 Chengdu 40.64 334 *eP* **P** **02 27 35.0 +2.9**
CD2 pP **pP** **02 27 46.5 +1.6**
CD2 sP **sP** **02 27 51.5 +1.0**
CD2 PP **PnPn** **02 29 13.3 +2.5**
CD2 PcS **PcS** **02 33 25.8 +1.5**
CD2 S **S** **02 33 43.0 +4.2**
CD2 sS **sS** **02 34 02.3 +2.1**
CD2 SS **SS** **02 36 40.5 -0.2**
CD2 PMZ
comp=Z,20nm,0.5s
CD2 PMZ
comp=Z,180nm,5.0s
XAN Xi'an 41.49 342 P **P** **02 27 38.5 -0.6**
XAN PMZ
comp=Z,3.0nm,1.1s
KSAR Wonju Array Be 42.78 5 P **P** **02 27 49.7 +0.3**
KSAR Wonju Array Be 42.78 5 P **P** **02 27 49.7 +0.3**
KSRS Korea Array 42.80 5 P **P** **02 27 49.7 +0.1**
comp=Z,2.3nm,1.0s,baz=186,slow=8.9,SNR=9.2
KSRS LR LR 02 46 33.2
comp=Z,24nm,20.1s,baz=221,slow=38
MAJO Matsushiro 43.93 17 P **P** **02 27 58.0 -0.8**
MAJO pmax pmax
comp=Z,131nm,1.6s
MAJO MLR MLR
comp=Z,356nm,22.0s
MAJO Matsushiro 43.93 17 *eP* **P** **02 27 58.3 -0.5**
comp=Z,3.8nm,0.7s
MJAR Matsushiro Arr 43.93 17 P **P** **02 27 58.1 -0.7**
comp=Z,0.6nm,0.4s,baz=196,slow=9.0,SNR=5.4
LZH Lanzhou 45.10 338 *eP* **P** **02 28 11.5 +3.2**
LZH pP **pP** **02 28 23.0 +1.7**
LZH sP **sP** **02 28 28.5 +1.7**
LZH PMZ
comp=Z,13nm,1.0s
BJI Beijing 45.65 352 P **P** **02 28 11.3 -1.1**
BJI S S 02 35 00.0 +8.2
BJI PMZ
comp=Z,19nm,0.5s
BJI LN
comp=Z,310nm,13.1s
BJI LE
comp=Z,190nm,9.6s
BJI LZ
comp=Z,48nm,22.3s
LSA Lhasa 46.59 320 *eP* **P** **02 28 21.8 +1.3**
LSA pmax pmax
comp=Z,14nm,0.8s
LSA Lhasa 46.59 320 *eP* **P** **02 28 21.8 +1.3**
comp=Z,14nm,0.8s
HHC Hu-ho-hao-te 47.23 348 *eP* **P** **02 28 27.5 +2.6**
HHC pP **pP** **02 28 39.0 +1.1**
HHC PP **PP** **02 30 21.0 +4.5**
HHC PcS **PcS** **02 33 52.5 +1.6**
HHC S **S** **02 35 19.5 +4.7**
HHC SS **SS** **02 38 39.8 -3.0**
HHC PMZ
comp=Z,17nm,1.5s
HHC PMZ
comp=Z,140nm,7.5s
HHC LN
comp=Z,260nm,16.2s
HHC LE
comp=Z,290nm,18.7s
HHC LZ
comp=Z,200nm,16.2s
ODAN Odare 47.30 314 *eP* **P** **02 28 26.1 +0.3**
TAPN Taplejung 47.37 315 *eP* **P** **02 28 26.9 +0.5**
RAMN Ramite 47.91 314 *eP* **P** **02 28 30.8 +0.2**
JIRN Jiri 48.63 314 *eP* **P** **02 28 36.1 -0.2**
GUN Gumba 49.00 314 *eP* **P** **02 28 38.9 -0.2**
PKI Pulchoki 49.13 314 *eP* **P** **02 28 39.8 -0.3**
DMN Daman 49.38 314 *eP* **P** **02 28 41.7 -0.2**
GTA Gaotai 49.57 336 *eP* **P** **02 28 44.0 +1.0**
GTA PMZ
comp=Z,11nm,1.2s
HYB Hyderabad 49.70 298 *i P* **P** **02 28 42.0 -2.2**
HYB *epP* **pP** **02 28 58.5 +1.2**
USRK Ussuriysk Ar. 49.94 8 P **P** **02 28 43.9 -1.6**
comp=Z,3.4nm,0.6s,baz=203,slow=9.3,SNR=13
USRK LR LR 02 50 54.3
comp=Z,28nm,19.1s,baz=252,slow=37
GKN Gorkha 49.94 314 *eP* **P** **02 28 46.0 -0.1**
MDJ Mudanjiang 50.06 6 P **P** **02 28 46.0 -0.4**
MDJ pP **pP** **02 28 56.5 -3.0**
MDJ sP **sP** **02 29 02.5 -2.5**
MDJ S S 02 36 04.3 +10
MDJ PMZ
comp=Z,11nm,1.4s
MDJ LN
comp=Z,41nm,28.4s
MDJ LE
comp=Z,20nm,25.6s
MDJ LZ
comp=Z,67nm,26.8s
MDJ Mudanjiang 50.06 6 *eP* **P** **02 28 46.0 -0.4**
comp=Z,3.4nm,0.3s
KOLN Koldanda 50.56 313 *eP* **P** **02 28 50.8 0.0**
comp=Z,20nm,0.8s
ASAJ Asahikawa 52.20 17 P **P** **02 29 02.0 -0.5**
comp=Z,6.3nm,0.9s,baz=230,slow=13,SNR=6.3
ASAJ Asahikawa 52.20 17 *eP* **P** **02 29 03.2 +0.7**
comp=Z,9.6nm,1.3s
HABR Khabarovsk 54.57 10 *eP* **P** **02 29 17.9 -1.9**
HABR *e**PP **pP** **02 29 31.5 -1.5**
HABR *e* 02 30 20.3
HABR *e* 02 31 20.5
HABR *e* 02 32 31.0
HABR *e*S **S** **02 36 54.0 -1.8**
HABR *e*SS **sS** **02 37 17.1 -0.8**
HABR *e* 02 39 02.2
HABR *e*SS **SS** **02 40 37.7 -1.6**
HABR *e*SSS SSS 02 42 42.6
HABR pmax pmax
comp=Z,40nm,2.1s
HABR MLR MLR
comp=Z,36nm,20.0s
KLR Kul'dur 54.85 7 *eP* P 02 29 18.2 -3.6
SONM Songino Array 55.03 346 P **P** **02 29 23.1 -0.2**
comp=Z,2.9nm,0.9s,baz=167,slow=8.2,SNR=22
SONM LR LR 02 53 24.9
comp=Z,67nm,21.6s,baz=138,slow=37
ZAK Zakamensk 58.16 345 *eP* **P** **02 29 44.8 -0.7**
ZAK pmax pmax
comp=Z,3.0nm,1.3s
WMQ Urumqi 58.56 330 P **P** **02 29 49.8 +1.4**
WMQ pP **pP** **02 30 02.5 +0.7**
WMQ sP **sP** **02 30 07.8 +0.6**
WMQ PcP **PcP** **02 30 39.3 +1.0**
WMQ PP **PP** **02 32 01.3 +2.8**
WMQ PcS **PcS** **02 34 39.0 -1.0**
WMQ S **S** **02 37 48.8 -0.2**
WMQ sS **sS** **02 38 10.0 -1.3**
WMQ SS **SS** **02 41 45.0 +2.5**
WMQ PMZ
comp=Z,15nm,1.4s
WMQ PMZ
comp=Z,160nm,5.8s
WMQ LN
comp=Z,53nm,24.2s
WMQ LE
comp=Z,59nm,23.2s
WMQ LZ
comp=Z,60nm,24.8s
MOY Mondy 59.94 344 *eP* **P** **02 29 59.2 +1.4**
KSH Kashi 62.44 320 P **P** **02 30 15.5 +0.5**
KSH sP **sP** **02 30 33.3 -0.6**
KSH PP **PP** **02 32 34.8 +1.9**
KSH PcS **PcS** **02 34 56.5 -1.0**
KSH S **S** **02 38 36.3 -2.6**
KSH ScS **SKSac** **02 39 59.0 -4.6**
KSH PMZ
comp=Z,10.0nm,1.2s
KSH PMZ
comp=Z,71nm,4.3s
KSH LN
comp=Z,180nm,8.8s
KSH LE
comp=Z,88nm,6.9s
KSH LZ
comp=Z,200nm,6.4s
MK31 Makanchi Array 63.36 330 *i P* **P** **02 30 20.9 0.0**
MK31 pmax pmax
comp=Z,8.0nm,0.7s
MK31 Makanchi Array 63.36 330 *eP* **P** **02 30 21.3 +0.5**
MKAR Makanchi Array 63.36 330 P **P** **02 30 21.8 +0.9**
comp=Z,4.3nm,0.7s,baz=129,slow=7.7,SNR=50
MKAR LR LR 03 00 30.4
comp=Z,35nm,21.4s,baz=139,slow=38
MKAR Makanchi Array 63.36 330 *eP* **P** **02 30 21.3 +0.4**
TKM2 Tokmak 2 64.61 323 *eP* **P** **02 30 30.1 +0.7**
TKM2 pmax pmax
comp=Z,36nm,1.9s
TKM2 Tokmak 2 64.61 323 *eP* **P** **02 30 30.1 +0.7**
comp=Z,36nm,1.9s
PETK Petropavlovsk- 65.06 22 P **P** **02 30 32.4 +0.5**
comp=Z,3.0nm,0.9s,baz=207,slow=3.0,SNR=4.4
AAK Ala-Archa 65.11 322 P **P** **02 30 33.4 +0.7**
comp=Z,2.5nm,0.7s,baz=136,slow=4.2,SNR=12
AAK Ala-Archa 65.11 322 *ceP* **P** **02 30 33.3 +0.7**
AAK pmax pmax
comp=Z,31nm,1.7s
AAK Ala-Archa 65.11 322 *eP* **P** **02 30 33.4 +0.7**
comp=Z,46nm,1.9s
EKS2 Erkin-Say 65.57 322 *eP* **P** **02 30 36.6 +1.1**
EKS2 pmax pmax
comp=Z,10.0nm,1.3s
EKS2 Erkin-Say 65.57 322 *eP* **P** **02 30 36.6 +1.1**
comp=Z,10nm,1.3s
KRAR Krasnoyarsk 66.10 342 P **P** **02 30 38.8 +0.4**
KRAR pmax pmax
comp=Z,14nm,0.4s
ZAA0 Zalesovo Array 67.32 336 *eP* **P** **02 30 45.6 -0.7**
ZALV Zalesovo Beam 67.32 336 P **P** **02 30 46.0 -0.3**
comp=Z,6.5nm,0.9s,baz=132,slow=4.4,SNR=17
ZALV LR LR 03 02 00.8
comp=Z,34nm,20.1s,baz=72,slow=38
YAK Yakutsk 67.37 3 *eP* **P** **02 30 43.8 -2.6**
YAK *e**PP **pP** **02 30 56.2 -3.8**
YAK *e* 02 31 13.8
YAK *e*PPP PPP 02 34 50.4
YAK *e*S **S** **02 39 33.5 -4.8**
YAK pmax pmax
comp=Z,17nm,1.3s
YAK pmax pmax
comp=N,9.0nm,1.5s
YAK pmax pmax
comp=E,3.0nm,1.3s
YAK smax smax
comp=N,29nm,2.5s
YAK smax smax
comp=E,45nm,3.0s
KURBB Kurchatov Arra 67.77 331 P **P** **02 30 49.6 +0.4**
comp=E,6.5nm,1.0s,baz=133,slow=5.6,SNR=36
KURK Kurchatov 67.79 331 *eP* **P** **02 30 49.3 0.0**
KURK pmax pmax
comp=Z,21nm,1.0s
KURK Kurchatov 67.79 331 *eP* **P** **02 30 49.2 0.0**
comp=Z,21nm,1.0s
KKAR Karatay Array 67.83 321 *eP* **P** **02 30 50.4 +0.6**
KKAR pmax pmax
comp=Z,2.0nm,0.9s
KKAR Karatay Array 67.83 321 *eP* **P** **02 30 50.4 +0.6**
comp=Z,1.5nm,0.9s
NVS Novosibirsk 68.61 336 *eP* **P** **02 30 52.0 -2.3**
NVS pmax pmax
comp=N,8.0nm,1.4s
NVS pmax pmax
comp=E,9.0nm,1.4s
NVS pmax pmax
comp=Z,16nm,1.4s
IDAH Dahanechah 71.06 307 *eP* **P** **02 31 11.0 +0.7**
SEY Seymchan 71.58 14 P **P** **02 31 11.9 -0.5**
comp=Z,2.5nm,0.7s,baz=229,slow=4.3,SNR=11
SEY Seymchan 71.58 14 *eP* **P** **02 31 12.8 +0.4**
IMYA Miami 72.12 311 *eP* **P** **02 31 17.6 +1.1**
ISRO Mashad 72.58 311 *eP* **P** **02 31 20.7 +1.5**
IMOG Moghan 72.61 310 *eP* **P** **02 31 20.7 +1.1**
IPAY Payeh 72.99 311 *eP* **P** **02 31 23.5 +1.7**
BVAR Borovoye Array 73.24 330 P **P** **02 31 22.1 -0.5**
comp=Z,2.3nm,0.5s,baz=139,slow=9.2,SNR=19
BRVK Borovoye 73.31 330 *c iP* **P** **02 31 23.3 +0.3**
BRVK pmax pmax
comp=Z,35nm,1.7s
BRVK Borovoye 73.31 330 *eP* **P** **02 31 23.0 0.0**
comp=Z,34nm,1.4s
IKRD Kardeh 73.47 311 *eP* **P** **02 31 21.4 -3.1**
VNDA Vanda 74.93 172 P **P** **02 31 31.6 -0.4**
comp=Z,2.5nm,0.8s,baz=325,slow=6.7,SNR=13
VNDA Vanda 74.93 172 *eP* **P** **02 31 32.0 0.0**
VNDA pmax pmax
comp=Z,7.0nm,1.3s
VNDA Vanda 74.93 172 *eP* **P** **02 31 32.0 0.0**
comp=Z,7.2nm,1.3s
IKAZ Kazeroun 76.79 302 *eP* **P** **02 31 43.5 -0.4**
TIXI Tiksi 76.94 2 *eP* **P** **02 31 42.9 -0.5**
TIXI pmax pmax
comp=Z,6.0nm,1.7s
TIXI Tiksi 76.94 2 *eP* **P** **02 31 42.5 -0.9**
comp=Z,6.3nm,1.1s
AB31 Akbulak array 77.18 323 *i P* **P** **02 31 45.3 0.0**
AB31 pmax pmax
comp=Z,6.0nm,0.7s
ABKAR Akbulak array 77.18 323 *eP* **P** **02 31 45.0 -0.3**
comp=Z,8.0nm,1.0s
ISHM Shahmirzad 77.18 308 *eP* **P** **02 31 46.4 +0.5**
IKLH Kolahrood 77.88 306 *eP* **P** **02 31 50.2 +0.3**
IPIR Pirpir 78.28 305 *eP* **P** **02 31 51.0 -1.2**
BILL Bilibino 79.14 15 *eP* **P** **02 31 57.2 +1.5**
BILL pmax pmax
comp=Z,9.0nm,2.4s
ARU Arti 80.88 329 *c iP* **P** **02 32 04.3 -1.1**
ARU S **S** **02 42 09.8 -0.4**
ARU SS **SS** **02 47 20.0 -5.0**
ARU pmax pmax
comp=Z,18nm,1.7s
ARU Arti 80.88 329 *eP* **P** **02 32 04.4 -0.9**
comp=Z,11nm,1.1s
RAYN Ar Rayn 81.06 295 *eP* **P** **02 32 07.1 0.0**
comp=Z,7.0nm,1.3s
QSPA South Pole Qui 84.61 180 P **P** **02 32 24.0 -0.8**
comp=Z,6.3nm,1.2s,baz=8.9,slow=0.4,SNR=1.8
QSPA South Pole Qui 84.61 180 *eP* **P** **02 32 24.0 -0.8**
ZEI Tsey 85.91 313 *eP* **P** **02 32 30.3 -1.5**
ZEI pmax pmax
comp=Z,12nm,1.4s
KMBO Kilima Mbogo 86.02 269 P **P** **02 32 32.9 -0.1**
comp=Z,3.1nm,0.7s,baz=48,slow=3.6,SNR=5.7
KMBO Kilima Mbogo 86.02 269 *eP* **P** **02 32 33.9 +0.8**
KMBO pmax pmax
comp=Z,21nm,1.4s
KMBO Kilima Mbogo 86.02 269 *eP* **P** **02 32 33.9 +0.8**
comp=Z,20nm,1.4s
KBZ Khabaz 86.81 314 P **P** **02 32 35.1 -0.8**
comp=Z,2.3nm,1.0s,baz=237,slow=24,SNR=5.3
GOF Gofitskoye 86.94 316 *eP* **P** **02 32 36.3 -0.3**
GOF pmax pmax
comp=Z,20nm,1.3s
OBN Obninsk 92.51 325 *eP* **P** **02 33 02.0 -0.4**
OBN pmax pmax
comp=Z,15nm,1.7s
BR131 Keskin Array S 93.17 309 *eP* **P** **02 33 05.3 -0.7**
BRTR Keskin Array B 93.17 309 P **P** **02 33 05.0 -1.1**
comp=Z,0.9nm,1.0s,baz=96,slow=5.0,SNR=6.4
LSZ Lusaka 93.58 254 *eP* **P** **02 33 08.3 -0.1**
LSZ pmax pmax
comp=Z,4.0nm,1.2s
LSZ Lusaka 93.58 254 *eP* **P** **02 33 08.3 -0.1**
comp=Z,3.9nm,1.2s
MCK McKinley 93.74 26 *eP* **P** **02 33 08.3 +0.3**
MCK pmax pmax
comp=Z,10.0nm,1.2s
MCK McKinley 93.74 26 *eP* **P** **02 33 08.2 +0.3**
comp=Z,10nm,1.2s
ILAR Eielson Array 94.70 25 P **P** **02 33 10.4 -1.9**
comp=Z,1.0nm,1.0s,baz=262,slow=3.7,SNR=9.0
AKASG Malin Array Be 96.73 320 P **P** **02 33 20.4 -1.4**
comp=Z,0.1nm,0.3s,baz=81,slow=4.4,SNR=6.7
KIEV Kiev 96.74 320 *eP* **P** **02 33 19.6 -2.3**
TORD Torodi Ar. Bea 122.02 282 PKP **PKPdf** **02 38 46.4 -0.4**
comp=Z,2.0nm,1.0s,baz=46,slow=2.2,SNR=9.2
TEIG Tepich 145.89 61 PKPbc **PKPab** **02 39 32.1 0.0**
comp=Z,5.6nm,0.7s,baz=314,slow=12,SNR=3.9
CPUP Villa Florida 148.50 179 *e*PKP2 **PKPbc** **02 39 39.3 +0.6**
CPUP Villa Florida 148.50 179 *e*PKPbc **PKPbc** **02 39 39.3 +0.6**
LVC Limon Verde 149.72 157 PKPbc **PKPbc** **02 39 43.5 +1.2**
comp=Z,22nm,0.9s,baz=267,slow=2.9,SNR=5.0
LVC Limon Verde 149.72 157 *e*PKPdf **PKPdf** **02 39 37.9 +0.3**
LVC *e*PKPbc **PKiKP** **02 39 43.9 +0.6**
LPAZ La Paz 155.68 152 PKPab **PKPab** **02 40 13.7 +0.6**
comp=Z,3.2nm,1.0s,baz=116,slow=2.6,SNR=6.2
LPAZ La Paz 155.68 152 *e*PKIKP **PKPdf** **02 39 48.1 +1.2**
LPAZ La Paz 155.68 152 *e*PKPdf **PKPdf** **02 39 48.1 +1.2**
LPAZ *e*PKPab **PKPab** **02 40 14.6 +1.6**
OTAV Otavalo 157.63 102 *e*PKPdf **PKPdf** **02 39 50.3 +0.9**

MOS ***30*** *02:27:41.1±1.4,34°.75S×71°.61W,h33km,mb5.0/20,Error ellipse: s-maj=17.2km s-min=8.8km az=96.2*
BJI ***30*** *02:27:42.5,34°.99S×70°.86W,h40km,mB5.1/1,Ms4.6/3, Ms7 4.5/3*
IDC ***30*** *02:27:43.9±0.5,34°.86S×71°.53W,h47km±4km,mb4.4/16, mb1 4.5/20,mb1mx4.5/28,mbtmp4.7/20,MS3.6/8, Ms1 3.6/8,ms1mx3.5/15,Error ellipse: s-maj=16.4km s-min=11.6km az=87.0*
ISCJB ***30*** *02:27:43.8±0.3,34°.82S±0°.02×71°.62W±0°.05,h61km±3km, mb4.7/68,Error ellipse: s-maj=7.4km s-min=4.0km az=10.8*
NEIC ***30*** *02:27:43.0,34°.80S×71°.72W,h47km,mb4.6/55,After GUC.*
NEIC Felt [V] at Curico, Longavi, Molina, Rancagua, Rio Claro, San Fernando, Talca and Vichuquen; [IV] at Iloca, Maipo, Pichilemu, Rengo, San Javier and Talagante. Felt in much of central Chile from Valparaiso and Santiago to Concepcion. Also felt at San Martin, Argentina.
GUC ***30*** *02:27:43.7±0.6,34°.80S×71°.72W,h47km±1km,ML5.2*
ISC 30 02:27:43.8±0.4,34°.80S±0°.03×71°.66W±0°.06,h47km±3km, h46km:pP-P,n450,σ0s95/493,mb4.7/68,MS3.8/6, 114C-114D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.41**	**120**	*i*↓*i*P	**Pn**	**02 27 54.6**	**+0.9**
NICH				*i* S	**Sn**	**02 28 02.5**	**+1.8**
TALC	**Talca**	**0.60**	**178**	*i*↑*i*P	**Pn**	**02 27 56.6**	**+0.6**
TALC				*e*S	**Sn**	**02 28 05.9**	**+1.0**
LNV	**Longovilo**	**0.87**	**14**	*i*↓*i*P	**Pn**	**02 28 00.1**	**+0.4**
LNCH	**Linares**	**1.05**	**178**	*e*P	**Pn**	**02 28 02.7**	**+0.6**
LNCH				*e*S	**Sn**	**02 28 16.5**	**+1.0**
CACH	**El Canelo**	**1.11**	**52**	*i*↓*i*P	**Pn**	**02 28 03.9**	**+0.8**
CHCH	**Chadas Angostu**	**1.20**	**44**	*i*↑*i*P	**Pn**	**02 28 05.1**	**+0.9**
TACH	**Talagante**	**1.29**	**28**	*i*↑*i*P	**Pn**	**02 28 06.2**	**+0.8**
PCH	**Pirque**	**1.51**	**39**	*i*↑*i*P	**Pn**	**02 28 09.5**	**+1.1**
SAN	**Santiago**	**1.58**	**32**	*e*P	**Pn**	**02 28 10.3**	**+0.9**
SAN				*e*S	**Sn**	**02 28 30.2**	**+1.7**
SJCH	**San Jose de Ma**	**1.58**	**43**	*e*P	**Pn**	**02 28 09.6**	**+0.2**
SJCH				*e*S	**Sn**	**02 28 30.1**	**+1.3**
LACH	**Col Las Americ**	**1.64**	**35**	*e*P	**Pn**	**02 28 10.7**	**+0.5**
LACH				*e*S	**Sn**	**02 28 31.9**	**+1.8**
CLCH	**Cerro Calan**	**1.68**	**34**	*i*↓*e*P	**Pn**	**02 28 11.8**	**+1.0**
CLCH				*e*S	**Sn**	**02 28 33.0**	**+1.8**
CLCH				AML	AML	02 28 39.5	
	comp=E,44μm,0.8s						
YECH	**El Yeso**	**1.73**	**49**	*i*↓*e*P	**Pn**	**02 28 12.6**	**+1.0**
YECH				*e*S	**Sn**	**02 28 35.6**	**+2.9**
YECH				AML	AML	02 28 39.4	
	comp=N,23μm,0.5s						
IHA	**Instituto Hidr**	**1.77**	**0**	*i*↑*e*P	**Pn**	**02 28 12.6**	**+0.6**
PEL	**Peldehue**	**1.84**	**26**	*e*P	**Pn**	**02 28 14.1**	**+1.2**
PEL				*e*S	**Sn**	**02 28 36.2**	**+1.2**
PEL				AML	AML	02 28 45.2	
	comp=E,34μm,0.8s						
ROCH	**El Roble**	**1.90**	**17**	*i*↑*i*P	**Pn**	**02 28 15.1**	**+1.1**
ROCH				*e*S	**Sn**	**02 28 40.2**	**+3.4**
ROCH				AML	AML	02 28 44.2	
	comp=N,29μm,0.4s						
CFAA	**Coronel Fontan**	**4.29**	**43**	P	**Pn**	**02 28 47.9**	**+1.4**
	comp=N,7.4nm,0.3s,baz=26,slow=1.5,SNR=412						
CFAA				S	Sn	02 29 42.1	+6.9
	comp=N,7.2nm,0.3s,baz=196,slow=3.7,SNR=14						
CFAA				LR	LR	02 30 30.0	
	comp=N,101nm,20.3s,baz=230,slow=39						
LSCH	**La Serena**	**4.89**	**4**	*e*P	**Pn**	**02 28 54.3**	**-0.4**
LCO	**Las Campanas**	**5.83**	**8**	*e*Pn	**Pn**	**02 29 07.1**	**-0.8**
LCO				*e*Sn	**Sn**	**02 30 11.6**	**-2.0**
PLCA	**Paso Flores**	**5.99**	**172**	P	**Pn**	**02 29 10.5**	**+0.6**
	comp=N,7.4nm,0.3s,baz=334,slow=12,SNR=89						
PLCA	**Paso Flores**	**5.99**	**172**	*e*P	**Pn**	**02 29 12.5**	**+2.6**
PLCA	**Paso Flores**	**5.99**	**172**	*e*Pn	**Pn**	**02 29 12.5**	**+2.6**
PLCA				*e*Lg	Lg	02 30 38.7	
TRQA	**Tornquist**	**8.45**	**115**	*e*Pn	**Pn**	**02 29 45.4**	**+1.8**
LVC	**Limon Verde**	**12.38**	**12**	P	**Pn**	**02 30 39.6**	**+2.0**
	comp=N,52nm,0.3s,baz=183,slow=10,SNR=7.5						
LVC				LR	LR	02 36 34.8	
	comp=N,624nm,20.1s,baz=208,slow=43						
LVC	**Limon Verde**	**12.38**	**12**	*e*Pn	**Pn**	**02 30 35.6**	**-2.0**
LVC				*e*Sn	**Sn**	**02 32 52.6**	**-1.6**
LVC				*e*Lg	Lg	02 33 17.9	
CPUP	**Villa Florida**	**14.94**	**59**	*e*P	**Pn**	**02 31 10.2**	**-1.7**
CPUP	**Villa Florida**	**14.94**	**59**	*e*Pn	**Pn**	**02 31 10.2**	**-1.7**
	comp=N,0.4nm,0.9s						
LPAZ	**La Paz**	**18.70**	**11**	P	**Pn**	**02 32 00.6**	**+0.8**
	comp=N,1.1nm,0.3s,baz=180,slow=6.8,SNR=84						
LPAZ	**La Paz**	**18.70**	**11**	*e*P	**Pn**	**02 32 00.2**	**+0.4**
LPAZ				pmax	pmax		
	comp=Z,27nm,0.8s						
LPAZ	**La Paz**	**18.70**	**11**	*e*P	**Pn**	**02 32 00.1**	**+0.4**
	comp=Z,27nm,0.8s						
EFI	**East Falkland**	**19.50**	**154**	*e*P	**P**	**02 32 05.9**	**-0.9**
EFI				pmax	pmax		
	comp=Z,583nm,2.0s						
EFI	**East Falkland**	**19.50**	**154**	*e*P	**P**	**02 32 06.3**	**-0.5**
SIV	**San Ignacio**	**21.00**	**30**	P	**P**	**02 32 22.6**	**-0.8**
	comp=Z,47nm,0.8s,baz=218,slow=10.0,SNR=133						
SIV				LR	LR	02 42 03.3	
	comp=Z,148nm,21.4s,baz=199,slow=41						
SAML	**Samuel**	**26.88**	**19**	*e*P	**P**	**02 33 19.4**	**-0.9**
	comp=Z,6.8nm,0.7s						
ATAH	**Atahualpa**	**28.22**	**346**	LR	LR	02 43 17.1	
	comp=Z,80nm,18.2s,baz=174,slow=33						
BDFB	**Brasilia**	**28.54**	**54**	P	**P**	**02 33 33.3**	**-1.9**
	comp=Z,7.8nm,0.8s,baz=178,slow=4.7,SNR=11						
BDFB				pP	**pP**	**02 33 47.2**	**-0.3**
	comp=Z,6.3nm,0.7s,baz=191,slow=6.0,SNR=6.4						
BDFB	**Brasilia**	**28.54**	**54**	*e*P	**P**	**02 33 33.9**	**-1.4**
BDFB				*PP	**pP**	**02 33 47.2**	**-0.3**
BDFB	**Brasilia**	**28.54**	**54**	*e*P	**P**	**02 33 33.9**	**-1.4**
BDFB				pP	**pP**	**02 33 47.2**	**-0.3**
OTAV	**Otavalo**	**35.43**	**348**	*e*P	**P**	**02 34 35.6**	**-0.4**
	comp=Z,3.6nm,0.6s						
ROSC	**El Rosal**	**39.52**	**356**	P	**P**	**02 35 12.2**	**+1.6**
	comp=Z,12nm,0.5s,baz=160,slow=1.6,SNR=11						
SDV	**Santo Domingo**	**43.46**	**1**	*e*P	**P**	**02 35 41.7**	**-0.8**
	comp=Z,11nm,0.7s						
RCBR	**Riachuelo**	**43.80**	**57**	P	**P**	**02 35 45.3**	**0.0**
	comp=Z,5.5nm,0.5s,baz=233,slow=9.6,SNR=6.0						
RCBR	**Riachuelo**	**43.80**	**57**	*e*P	**P**	**02 35 45.0**	**-0.3**
	comp=Z,4.3nm,0.5s						
BCIP	**Isla Barro Col**	**44.41**	**348**	*e*P	**P**	**02 35 50.3**	**+0.4**
	comp=Z,14nm,0.9s						
GRGR	**Grenville**	**47.63**	**13**	*e*P	**P**	**02 36 14.4**	**-0.9**
	comp=Z,52nm,0.6s						

VNA2 **Neumayer--Watz** 49.15 157 P P 02 36 27.2 +0.7
baz=289,slow=8.6
FDF **Fort de France** 50.26 13 eP P 02 36 34.9 -0.6
FDF pmax pmax
comp=Z,17nm,0.6s
FDF **Fort de France** 50.26 13 eP P 02 36 34.9 -0.6
comp=Z,17nm,0.6s
SNAA **Sanae** 50.73 158 P P 02 36 33.0 -5.5
SNAA **Sanae** 50.73 158 P P 02 36 37.8 -0.7
comp=Z,3.2nm,0.9s,baz=275,slow=6.4,SNR=17
SNAA **Sanae** 50.73 158 eP P 02 36 33.2 -5.3
SNAA pmax pmax
comp=Z,11nm,1.0s
SNAA **Sanae** 50.73 158 eP P 02 36 33.2 -5.3
comp=Z,11nm,1.0s
OBIP **Obispado Ponce** 52.77 6 eP P 02 36 53.0 -1.2
comp=Z,20nm,0.8s
SDDR **Presa de Saban** 53.48 0 eP P 02 36 60.0 +0.5
GTBY **Guantanamo Bay** 54.52 356 eP P 02 37 05.8 -1.1
QSPA **South Pole Qui** 55.44 180 P P 02 37 13.1 -0.2
comp=Z,13nm,0.9s,baz=167,slow=1.0,SNR=31
QSPA **South Pole Qui** 55.44 180 eP P 02 37 14.2 +0.9
comp=Z,12nm,0.9s
QSPA epP pP 02 37 25.7 -0.7
NVL **N'lazarevskaya** 55.46 156 eP P 02 37 11.6 -1.6
NVL pmax pmax
comp=Z,7.0nm,0.7s
TEIG **Tepich** 56.96 341 P P 02 37 24.4 0.0
comp=Z,10nm,0.4s,baz=146,slow=1.0,SNR=24
TEIG **Tepich** 56.96 341 eP P 02 37 24.3 -0.1
comp=Z,20nm,1.0s
VNDA **Vanda** 63.38 191 P P 02 38 07.7 -0.1
comp=Z,0.7nm,0.7s,baz=129,slow=3.6,SNR=3.8
VNDA **Vanda** 63.38 191 eP P 02 38 07.3 -0.4
VNDA pmax pmax
comp=Z,1.0nm,0.7s
VNDA **Vanda** 63.38 191 eP P 02 38 07.3 -0.4
comp=Z,1.1nm,0.7s
SYO **Syowa Base** 65.01 158⇓eP P 02 38 15.0 -3.4
035A **Encino** 66.31 334 ⇓P P 02 38 28.6 +1.3
baz=67
936A **North Padre Is** 66.47 335 ⇓P P 02 38 29.8 +1.4
baz=67
034A **Hebbronville** 66.64 334 ⇑P P 02 38 30.7 +1.3
baz=67
834A **Tilden** 67.55 334 ⇓P P 02 38 36.1 +0.9
baz=68,SNR=6.5
736A **Circle Diamond** 67.80 336 ⇑P P 02 38 38.0 +1.2
baz=68
735A **Kenedy** 67.96 335 ⇑P P 02 38 38.7 +1.0
baz=68
833A **Chaparral WMA,** 68.04 334 ⇓P P 02 38 39.2 +0.9
baz=68
832A **Faith Ranch, C** 68.22 333 ⇓P P 02 38 39.6 +0.3
baz=68,SNR=5.6
636A **Smothers Creek** 68.28 336 ⇑P P 02 38 41.0 +1.2
baz=69
HKT **Hockley** 68.32 338 eP P 02 38 40.2 +0.3
HKT **Hockley** 68.32 338 eP P 02 38 40.2 +0.3
732A **Laxson Ranch,** 68.62 333 ⇑P P 02 38 42.0 +0.2
baz=69,SNR=9.5
439A **Center Grove,** 68.78 339 ⇓P P 02 38 44.0 +1.2
baz=69
535A **Dale** 68.96 336 ⇓P P 02 38 44.7 +0.7
baz=69
LRAL **Lakeview Retre** 69.00 346 eP P 02 38 43.8 -0.3
comp=Z,7.1nm,0.8s
632A **Uvalde** 69.25 334 ⇓P P 02 38 46.2 +0.4
baz=70,SNR=8.3
631A **Perdido Creek** 69.46 333 ⇓P P 02 38 47.6 +0.5
baz=70
338A **Crockett** 69.47 338 ⇓P P 02 38 47.7 +0.6
baz=70
533A **Kerrville** 69.50 335 ⇓P P 02 38 47.9 +0.5
baz=70
532A **Rocksprings** 69.86 334 ⇓P P 02 38 49.9 +0.2
baz=70,SNR=8.2
434A **Burnet** 69.92 336 ⇓P P 02 38 50.2 +0.3
baz=70
336A **Riesel** 69.97 337 ⇓P P 02 38 50.7 +0.5
baz=70
335A **Moody** 70.07 337 ⇑P P 02 38 51.2 +0.4
baz=70
531A **Rocksprings** 70.12 334 ⇓P P 02 38 51.6 +0.4
baz=70,SNR=7.0
433A **Art** 70.14 335 ⇑P P 02 38 51.4 +0.1
baz=70,SNR=6.7
JCT **Junction City** 70.14 334 eP P 02 38 51.6 +0.3
comp=Z,7.9nm,0.8s
JCT **Junction City** 70.14 334 ⇓P P 02 38 51.5 +0.1
baz=70
KMSC **Kings Mountain** 70.17 352 eP P 02 38 50.8 -0.5
KMSC **Kings Mountain** 70.17 352 ⇑P P 02 38 51.4 +0.1
baz=70
237A **Washetta, Mont** 70.22 338 ⇑P P 02 38 52.1 +0.4
baz=70
334A **Lometa** 70.38 336 ⇑P P 02 38 52.9 +0.2
baz=71
530A **J-C Ranch, Com** 70.40 333 ⇓P P 02 38 53.3 +0.3
baz=71,SNR=6.4
139A **Bunkhouse Ranc** 70.44 340 ⇑P P 02 38 53.5 +0.5
baz=71
PPT **Papeete** 70.44 262 LR LR 03 03 45.4
comp=Z,63nm,18.1s,baz=122,slow=31
432A **Menard** 70.50 335 ⇑P P 02 38 53.8 +0.3
baz=71
TXAR **Lajitas Array** 70.58 331 P P 02 38 54.7 +0.6
comp=Z,1.8nm,0.6s,baz=156,slow=8.4,SNR=30
TXAR pP pP 02 39 07.8 +0.2
comp=Z,2.4nm,0.5s,baz=152,slow=8.8,SNR=20
TXAR sP sP 02 39 14.6 +1.7
comp=Z,1.9nm,0.5s,baz=154,slow=8.7,SNR=8.3
TXAR LR LR 03 04 28.6
comp=Z,59nm,21.4s,baz=0.0,slow=31
431A **Sonora** 70.62 334 ⇓P P 02 38 54.1 -0.1
baz=71
333A **Richland Sprin** 70.63 335 ⇓P P 02 38 53.8 -0.4
baz=71
529A **Stev Forest Ra** 70.72 332 ⇓P P 02 38 55.4 +0.6
baz=71,SNR=5.9
WHTX **Lake Whitney,** 70.73 337 eP P 02 38 54.9 +0.1
comp=Z,12nm,0.8s
WHTX **Lake Whitney,** 70.73 337 ⇓P P 02 38 54.7 -0.1
baz=71
137A **Heron Place, G** 70.76 339 ⇑P P 02 38 54.8 -0.2
baz=71
SWET **Sewanee** 70.92 348 eP P 02 38 55.5 -0.4
comp=Z,30nm,0.8s
SWET epP pP 02 39 09.0 -0.5
430A **Baggett Ranch,** 70.94 333 ⇑P P 02 38 56.3 +0.1
baz=71
332A **Millersview** 70.94 335 ⇑P P 02 38 56.2 0.0
baz=71
234A **Clairette** 70.96 336 ⇑P P 02 38 56.2 0.0
baz=71
TKL **Tuckaleechee C** 71.00 350 eP P 02 38 55.3 -1.1
TKL **Tuckaleechee C** 71.00 350 eP P 02 38 55.3 -1.1
429A **Davenport Ranc** 71.04 333 ⇓P P 02 38 56.7 -0.2
baz=71
331A **San Angelo** 71.12 334 ⇓P P 02 38 57.3 0.0
baz=71,SNR=7.1
233A **Rising Star** 71.23 336 ⇑P P 02 38 58.2 +0.3
baz=72
232A **Coleman** 71.37 335 ⇓P P 02 38 58.2 -0.6
baz=72
134A **White-Moore Ra** 71.47 337 ⇑P P 02 38 58.6 -0.7
baz=72
330A **Mertzon** 71.48 334 ⇓P P 02 38 58.7 -0.8
baz=72
231A **Bronte** 71.64 335 ⇑P P 02 39 00.1 -0.3
baz=72,SNR=6.6
133A **Hamilton Ranch** 71.78 336 ⇑P P 02 39 00.9 -0.3
baz=72
329A **Wagon Wheel Ra** 71.85 333 ⇓P P 02 39 01.0 -0.7
baz=72
230A **Sterling City** 71.89 334 ⇑P P 02 39 01.6 -0.3
baz=72
Z35A **Perchaven, San** 71.90 338 ⇓P P 02 39 02.2 +0.3
baz=72
ABTX **Abilene, Hawle** 72.04 335 eP P 02 39 03.1 +0.4
comp=Z,2.9nm,0.7s
ABTX epP pP 02 39 15.9 -0.4
ABTX **Abilene, Hawle** 72.04 335 ⇑P P 02 39 02.8 +0.1
baz=72
Z34A **Collier Ranch,** 72.15 337 ⇓P P 02 39 03.9 +0.5
baz=72
229A **Bryant Ranch,** 72.21 333 ⇑P P 02 39 04.1 +0.2
baz=72

MAW **Mawson** 72.33 163 P P 02 39 03.7 -0.3
comp=Z,8.5nm,0.8s,baz=234,slow=8.3,SNR=5.5
131A **Roby** 72.34 335 ⇓P P 02 39 04.9 +0.3
baz=73
Z33A **Whitaker Ranch** 72.35 336 ⇓P P 02 39 04.1 -0.5
baz=73,SNR=5.1
JSRW **J. Sargeant Re** 72.36 355 eP P 02 39 04.4 -0.1
130A **Snyder** 72.47 334 ⇓P P 02 39 05.2 -0.2
baz=73
X37A **Clayton** 72.51 340 ⇓P P 02 39 05.4 0.0
baz=73
Z32A **Haskell** 72.60 336 ⇓P P 02 39 06.1 0.0
baz=73
228A **UT Block 9, Go** 72.64 333 ⇓P P 02 39 06.6 +0.2
baz=73
Y34A **Reagan Ranch,** 72.64 337 ⇑P P 02 39 06.3 0.0
baz=73
W38A **Poteau** 72.72 341 ⇑P P 02 39 06.3 -0.4
baz=73
X36A **Centrahoma** 72.78 339 ⇑P P 02 39 06.2 -0.9
baz=73,SNR=6.4
X35A **Drake** 72.81 338 ⇓P P 02 39 06.9 -0.3
baz=73
Z31A **Sharp Cattle R** 72.84 335 ⇑P P 02 39 07.7 +0.2
baz=73,SNR=5.3
Y33A **Hilltop Ranch,** 72.96 337 ⇓P P 02 39 08.3 +0.1
baz=73
W37A **Quinton** 73.04 340 ⇑P P 02 39 09.1 +0.5
baz=73
128A **Castleberry Fa** 73.05 333 ⇓P P 02 39 08.9 +0.1
baz=73
Z30A **Sanderson Ranc** 73.16 334 ⇑P P 02 39 09.6 +0.1
baz=74
Y32A **R-V Farms, Ver** 73.23 336 ⇓P P 02 39 10.0 +0.2
baz=74
X34A **Smith Ranch, M** 73.26 338 ⇓P P 02 39 09.7 -0.2
baz=74
PBMO **Poplar Bluff** 73.33 344 eP P 02 39 10.2 0.0
comp=Z,14nm,1.0s
Z29A **Hungry Hill Ra** 73.34 334 ⇑P P 02 39 10.4 -0.1
baz=74
MNTX **Cornudas Mount** 73.36 330 eP P 02 39 10.4 -0.2
comp=Z,3.8nm,0.6s
MNTX epP pP 02 39 23.6 -0.6
MNTX **Cornudas Mount** 73.36 330 ⇓P P 02 39 10.5 -0.2
baz=74
X33A **Lawton** 73.41 337 ⇑P P 02 39 10.1 -0.7
baz=74
W35A **Tecumseh** 73.47 339 ⇑P P 02 39 09.6 -1.5
baz=74
Y30A **Stafford Cattl** 73.61 335 ⇑P P 02 39 11.2 -0.8
baz=74
W34A **Bridge Creek,** 73.83 338 ⇑P P 02 39 12.7 -0.6
baz=74
TUL1 **Leonard** 73.86 340 eP P 02 39 12.9 -0.5
comp=Z,11nm,0.7s
TUL1 **Leonard** 73.86 340 ⇓P P 02 39 13.3 -0.1
baz=74
Y29A **Porterfield Fa** 73.87 334 ⇑P P 02 39 13.2 -0.4
baz=74
WCI **Wyandotte Cave** 73.92 348 eP P 02 39 12.5 -1.3
comp=Z,5.1nm,0.6s
W33A **Caddo, Fort Co** 73.97 337 ⇓P P 02 39 14.1 0.0
baz=74
X31A **McDonald Ranch** 73.98 336 ⇑P P 02 39 13.7 -0.5
baz=74
V35A **Meyer Ranch, C** 74.03 339 ⇑P P 02 39 14.0 -0.4
baz=74
Y28A **McKinney Farm,** 74.12 334 ⇑P P 02 39 13.9 -1.2
baz=74
SUR **Sutherland** 74.17 119 eP P 02 39 15.9 +0.1
comp=Z,2.9nm,0.8s
W32A **Sentinel** 74.19 337 ⇑P P 02 39 15.3 -0.1
baz=74,SNR=5.4
V34A **Guthrie** 74.30 338 ⇓P P 02 39 15.7 -0.3
baz=75
MSTX **Muleshoe** 74.36 334 ⇑P P 02 39 16.5 -0.1
baz=75
X29A **Tulia** 74.40 335 ⇓P P 02 39 16.5 -0.3
baz=75
W31A **Holland Ranch,** 74.47 336 ⇑P P 02 39 17.1 0.0
baz=75
V33A **Lossen Ranch,** 74.52 338 ⇓P P 02 39 17.2 -0.1
baz=75
LIC **Lamto** 74.73 71 eP P 02 39 18.5 -0.5
comp=Z,30nm,0.7s
T37A **Cheneyville 18** 74.76 341 ⇑P P 02 39 18.6 0.0
baz=75
U34A **Anderson Ranch** 74.86 339 ⇓P P 02 39 19.1 -0.2
baz=75
T36A **Boggs Farm, Ca** 74.96 340 ⇓P P 02 39 19.9 +0.1
baz=75
W29A **Amarillo** 75.00 335 ⇑P P 02 39 20.2 0.0
baz=75
TIC **Toumodi** 75.00 71 eP P 02 39 20.2 -0.4
T35A **Sooner Cattle** 75.01 340 ⇑P P 02 39 20.3 +0.2
baz=75
U33A **Lingo Farm, Me** 75.03 338 ⇓P P 02 39 20.1 -0.2
baz=75
KIC **Kosan Boka** 75.04 71 eP P 02 39 20.6 -0.2
comp=Z,74nm,0.9s
121A **Cookes Peak, D** 75.08 329 eP P 02 39 22.2 +1.3
comp=Z,3.0nm,0.8s
121A **Cookes Peak, D** 75.08 329 ⇑P P 02 39 21.1 +0.2
baz=75
DBIC **Dimbokro** 75.14 71 P P 02 39 21.2 -0.2
comp=Z,15nm,0.6s,baz=205,slow=6.0,SNR=31
DBIC LR LR 03 10 59.6
comp=Z,47nm,18.0s,baz=188,slow=35
U32A **Winter Ranch,** 75.26 337 ⇑P P 02 39 22.0 +0.4
baz=76
T34A **McClaskey Farm** 75.30 339 ⇑P P 02 39 21.9 +0.1
baz=76
S36A **Lake Cedric, C** 75.51 341 ⇓P P 02 39 22.8 -0.1
baz=76
S35A **Otter Creek Ra** 75.67 340 ⇓P P 02 39 24.1 +0.2
baz=76
T33A **Patterson Ranc** 75.67 338 ⇑P P 02 39 24.3 +0.4
baz=76
V28A **Channing** 75.77 335 ⇑P P 02 39 24.9 +0.3
baz=76
R37A **Teagarden Farm** 75.86 341 ⇓P P 02 39 25.0 +0.1
baz=76
T32A **Huddler Ranch,** 75.97 338 ⇑P P 02 39 25.9 +0.3
baz=76
LAZ **Ladron** 76.43 330 eP P 02 39 28.8 +0.3
S32A **Newby Ranch, P** 76.46 338 ⇑P P 02 39 29.0 +0.7
baz=77
R34A **Isabella, Hill** 76.51 340 ⇓P P 02 39 28.6 0.0
baz=77
S31A **Mullinville** 76.55 338 ⇑P P 02 39 29.3 +0.4
baz=77
U27A **Thompson Grove** 76.58 335 ⇓P P 02 39 29.8 +0.6
baz=77
ANMO **Albuquerque** 76.63 331⇓eP P 02 39 29.9 +0.2
ANMO pmax pmax
comp=Z,11nm,0.9s
ANMO **Albuquerque** 76.63 331 eP P 02 39 30.4 +0.7
comp=Z,2.7nm,0.9s
T29A **Hunoton** 76.72 336 ⇑P P 02 39 30.6 +0.7
baz=77
T28A **Walsh** 76.96 335 ⇑P P 02 39 31.4 +0.1
baz=77
Q34A **Chapman** 77.00 340 ⇓P P 02 39 31.3 0.0
baz=77
R32A **Long Quarter,** 77.05 338 ⇑P P 02 39 32.1 +0.4
baz=77
S29A **Ulysses** 77.08 336 ⇓P P 02 39 32.0 +0.1
baz=77
P35A **Duane Minner,** 77.31 341 ⇑P P 02 39 33.5 +0.4
baz=78
MMNY **Mt. Morris Dam** 77.37 355 eP P 02 39 33.4 +0.1
comp=Z,20nm,0.6s
Q32A **Meitler Ranch,** 77.53 339 ⇑P P 02 39 34.4 +0.1
baz=78
T25A **Trinidad** 77.79 334 ⇓P P 02 39 36.7 +0.6
baz=78,SNR=8.2
Q31A **Ellis** 77.80 338 ⇓P P 02 39 36.9 +1.0
baz=78
S26A **Kim** 77.88 335 ⇓P P 02 39 37.3 +0.8
baz=78
R28A **Tribune** 77.96 336 ⇑P P 02 39 36.9 0.0
baz=78
Q30A **Quinter** 78.03 338 ⇑P P 02 39 37.5 +0.4
baz=78
W18A **Petrified Fore** 78.13 329 ⇑P P 02 39 38.3 +0.3
baz=78
Q29A **Oakley** 78.19 337 ⇑P P 02 39 38.5 +0.4
baz=78
R27A **Eads** 78.24 335 ⇑P P 02 39 38.6 +0.1
baz=78
P31A **Stockton** 78.27 338 ⇓P P 02 39 38.9 +0.4
baz=79
N35A **Tabor** 78.46 342 ⇑P P 02 39 39.3 -0.1
baz=79
R26A **Arlington** 78.48 335 ⇓P P 02 39 39.9 +0.1
baz=79
Q28A **Sharon Springs** 78.62 336 ⇓P P 02 39 40.7 +0.1
baz=79
O32A **Brockman Farm,** 78.62 340 ⇑P P 02 39 40.6 +0.2
baz=79
N34A **Lincoln** 78.67 341 ⇑P P 02 39 40.3 -0.3
baz=79
TSUM **Tsumeb** 78.69 105 eP P 02 39 41.2 -0.4
comp=Z,10nm,1.0s
SDCO **Great Sand Dun** 78.73 333 ⇑P P 02 39 41.2 -0.2
baz=79,SNR=5.4
Y12C **Blythe** 79.14 325 ⇓P P 02 39 44.1 +0.7
baz=79
WUAZ **Wupatki** 79.17 328 eP P 02 39 44.5 +0.7
comp=Z,4.7nm,0.8s
WUAZ **Wupatki** 79.17 328 ⇑P P 02 39 44.2 +0.4
baz=79
JFWS **Jewell Farm** 79.19 346 eP P 02 39 42.5 -0.9
JFWS pmax pmax
comp=Z,8.0nm,0.8s
JFWS **Jewell Farm** 79.19 346 eP P 02 39 42.5 -0.9
comp=Z,7.8nm,0.8s
S22A **4UR Ranch, Cre** 79.23 332 ⇓P P 02 39 44.5 +0.4
baz=80
CASY **Casey** 79.23 181 eP P 02 39 44.1 +0.6
comp=Z,9.7nm,1.0s
R23A **Moffat** 79.24 333 ⇑P P 02 39 44.6 +0.4
baz=80
MVCO **Mesa Verde** 79.42 331 eP P 02 39 45.8 +0.8
comp=Z,3.2nm,0.7s
MVCO epP pP 02 39 58.8 0.0
BOSA **Boshof** 79.42 117 P P 02 39 44.7 -0.7
comp=Z,25nm,0.8s,baz=240,slow=3.4,SNR=46
BOSA **Boshof** 79.42 117 eP P 02 39 45.3 -0.1
BOSA pmax pmax
comp=Z,18nm,0.8s
BOSA **Boshof** 79.42 117 eP P 02 39 45.3 -0.1
comp=Z,18nm,0.8s
Q24A **Divide** 79.67 334 ⇓P P 02 39 47.2 +0.7
baz=80
IRM **Iron Mountain** 79.78 325 ⇓P P 02 39 47.2 +0.3
baz=80
M31A **Lambtecht Ranc** 79.83 339 ⇓P P 02 39 47.7 +0.8
baz=80
PFO **Pinyon Flats O** 79.96 323 ⇓P P 02 39 49.1 +1.1
baz=80
N27A **Anderson Farm,** 80.43 337 ⇑P P 02 39 50.9 +0.6
baz=81
SCI **San Clemente I** 80.51 322 ⇓P P 02 39 51.5 +0.7
baz=81
GMRC **Granite Mounta** 80.52 325 ⇑P P 02 39 51.9 +0.9
baz=81
SMCO **Snowmass** 80.53 333 eP P 02 39 52.5 +1.2
comp=Z,4.7nm,0.9s
SMCO epP pP 02 40 06.1 +1.1
L31A **Butterfield Fa** 80.55 340 ⇓P P 02 39 51.6 +0.8
baz=81
ISCO **Idaho Springs** 80.58 334 eP P 02 39 52.1 +0.7
ISCO e*PP pP 02 40 06.5 +1.4
ISCO pmax pmax
comp=Z,11nm,1.5s
ISCO **Idaho Springs** 80.58 334 eP P 02 39 52.1 +0.7
comp=Z,11nm,1.5s
ISCO epP pP 02 40 06.5 +1.4
ISCO **Idaho Springs** 80.58 334 ⇓P P 02 39 51.8 +0.4
baz=81
L30A **Spencer Herefo** 80.60 339 ⇑P P 02 39 51.6 +0.5
baz=81
P22A **Eagle** 80.82 333 ⇑P P 02 39 53.3 +0.7
baz=81
HEC **Hector,Ludlow** 80.89 324 ⇓P P 02 39 54.0 +1.2
baz=81
O23A **Lake Granby, G** 81.05 334 ⇓P P 02 39 54.3 +0.4
baz=81
BFSC **Mount Baldy Ra** 81.06 323 ⇓P P 02 39 54.1 +0.2
baz=81
O22A **Kremmling** 81.24 334 ⇓P P 02 39 55.3 +0.4
baz=82
ECSD **EROS Data Cent** 81.41 342 epP pP 02 40 09.0 -0.1
ECSD **EROS Data Cent** 81.41 342 ⇑P P 02 39 55.8 +0.5
baz=82
LBTB **Lobatse** 81.68 115 eP P 02 39 57.1 -0.5
LBTB pmax pmax
comp=Z,21nm,0.9s
LBTB **Lobatse** 81.68 115 eP P 02 39 57.1 -0.5
comp=Z,21nm,0.9s
SHPR **Sheep Range** 81.70 326 eP P 02 39 58.5 +1.2
comp=Z,3.0nm,0.8s
SRU **San Rafael Swe** 81.86 330 eP P 02 39 59.3 +1.2
SRU pmax pmax
comp=Z,4.0nm,0.8s
SRU **San Rafael Swe** 81.86 330 eP P 02 39 59.3 +1.2
comp=Z,4.2nm,0.8s
MSU **Marysvale** 82.04 329 eP P 02 39 59.7 +0.6
MSU pmax pmax
comp=Z,2.0nm,0.8s
MSU **Marysvale** 82.04 329 eP P 02 39 59.7 +0.6
comp=Z,2.0nm,0.8s
MVU **Marysvale** 82.05 329 eP P 02 39 59.9 +0.7
comp=Z,2.1nm,0.8s
J29A **Okreek** 82.11 339 ⇑P P 02 40 00.1 +1.0
baz=82
N20A **Spence Gulch,** 82.46 333 ⇓P P 02 40 02.2 +1.0
baz=83
J27A **Elkhorn Farm,** 82.47 338 ⇑P P 02 40 02.1 +1.0
baz=83
TPNV **Topopah Spring** 82.56 325 ⇓P P 02 40 03.2 +1.5
baz=83
DAC **Darwin (Calif)** 82.66 324 eP P 02 40 00.1 -2.2
DAC pmax pmax
comp=Z,4.0nm,1.0s
DAC **Darwin (Calif)** 82.66 324 eP P 02 40 00.1 -2.2
comp=Z,4.1nm,1.0s
PKM **Mcpherson Peak** 82.67 322 ⇑P P 02 40 03.3 +0.9
baz=83
J26A **Sides Ranch, S** 82.86 337 ⇑P P 02 40 04.2 +1.1
baz=83
K24A **Anderson Ranch** 82.90 336 ⇓P P 02 40 04.2 +0.9
baz=83
I28A **Midland** 82.90 339 ⇑P P 02 40 03.9 +0.7
baz=83
J25A **Sunshine Ranch** 83.16 337 ⇓P P 02 40 04.6 0.0
baz=84
H29A **Onida** 83.20 340 ⇑P P 02 40 05.1 +0.4
baz=84
K23A **Bowen Ranch, D** 83.20 336 ⇑P P 02 40 04.9 0.0
baz=84
J24A **Dixon Ranch, L** 83.39 336 ⇑P P 02 40 06.1 +0.3
baz=84
R11A **Troy Canyon, C** 83.40 327 eP P 02 40 07.1 +1.1
comp=Z,4.5nm,1.0s
R11A e 02 40 20.3
R11A **Troy Canyon, C** 83.40 327 ⇑P P 02 40 07.2 +1.1
baz=84
I25A **Rochford** 83.70 337 ⇓P P 02 40 08.1 +0.6
baz=84
DUG **Dugway, Tooele** 83.72 330 eP P 02 40 08.3 +0.6
DUG pmax pmax
comp=Z,17nm,1.5s
DUG **Dugway, Tooele** 83.72 330 eP P 02 40 08.3 +0.6
comp=Z,17nm,1.5s
DUG **Dugway, Tooele** 83.72 330 ⇑P P 02 40 08.2 +0.6
baz=84
RSSD **Black Hills** 83.89 337 eP P 02 40 08.8 +0.3
RSSD pmax pmax
comp=Z,8.0nm,1.3s
RSSD **Black Hills** 83.89 337 eP P 02 40 08.8 +0.3
comp=Z,7.9nm,1.3s
TPH **Tonopah** 83.93 325 eP P 02 40 10.0 +1.2
TPH e*PP pP 02 40 23.5 +0.9
TPH pmax pmax
comp=Z,3.0nm,0.9s
TPH **Tonopah** 83.93 325 eP P 02 40 09.9 +1.2
comp=Z,3.4nm,0.9s
TPH epP pP 02 40 23.5 +0.9
J22A **Midwest** 84.07 335 ⇑P P 02 40 09.1 -0.3
baz=84
TOA0 **Torodi Ar. Sit** 84.19 70 eP P 02 40 09.4 -1.0
TOA0 **Torodi Ar. Sit** 84.19 70 eP P 02 40 10.2 -0.3

TORD Torodi Ar. Bea 84.19 70 P **P** **02 40 10.1 -0.4**
comp=Z,13nm,0.8s,baz=281,slow=4.8,SNR=78
TORD pP **pP** **02 40 23.1 -1.1**
comp=Z,2.2nm,0.7s,baz=240,slow=4.8,SNR=3.8
TORD LR LR 03 15 58.3
comp=Z,67nm,19.0s,baz=215,slow=34
HWUT Hardware Ranch 84.40 331 *e*P **P** **02 40 11.4 +0.3**
comp=Z,4.0nm,0.8s
I22A 9 Mile Ranch, 84.50 335 ⇓P **P** **02 40 11.4 -0.1**
baz=85
G26A Maurine 84.50 339 ⇓P **P** **02 40 11.7 +0.3**
baz=85
PDAR Pinedale Array 84.62 333 P **P** **02 40 12.2 0.0**
comp=Z,1.6nm,0.8s,baz=146,slow=3.7,SNR=12
H24A Dirks Ranch, A 84.62 337 ⇓P **P** **02 40 12.1 +0.1**
baz=85
G25A Newell 84.66 338 ⇑P **P** **02 40 12.7 +0.5**
baz=85
I21A Big Trails, Te 84.71 335 ⇑P **P** **02 40 12.4 -0.2**
baz=85
NVAR Mina Array Bea 84.72 325 P **P** **02 40 13.9 +1.1**
comp=Z,2.1nm,0.8s,baz=159,slow=5.7,SNR=11
NVAR pP **pP** **02 40 27.6 +0.9**
comp=Z,1.4nm,0.7s,baz=159,slow=4.9,SNR=6.5
J19A Crowheart 84.86 334 ⇑P **P** **02 40 12.8 -0.6**
baz=85,SNR=6.3
HVU Hansel Valley 85.03 330 *e*P **P** **02 40 14.4 +0.1**
HVU pmax pmax
comp=Z,6.0nm,0.9s
HVU Hansel Valley 85.03 330 *e*P **P** **02 40 14.4 +0.1**
comp=Z,6.4nm,0.9s
I20A Worland 85.12 334 ⇓P **P** **02 40 14.7 +0.1**
baz=85,SNR=9.3
H21A Big Horn, Sher 85.34 335 ⇑P **P** **02 40 15.9 +0.2**
baz=86
I19A Meeteetse 85.51 334 ⇑P **P** **02 40 16.7 +0.1**
baz=86
H20A Greybull 85.54 335 ⇑P **P** **02 40 16.2 -0.5**
baz=86,SNR=7.8
F24A Ekalaka 85.57 338 ⇑P **P** **02 40 17.1 +0.3**
baz=86
C30A Mose, Pekin 85.58 342 ⇑P **P** **02 40 16.7 0.0**
baz=86
G22A Birney 85.60 336 ⇑P **P** **02 40 16.7 -0.2**
baz=86
F23A Volborg 85.76 337 ⇓P **P** **02 40 17.9 +0.2**
baz=86
TPAW Teton Pass 85.76 332 *e*P **P** **02 40 18.1 +0.1**
comp=Z,2.6nm,0.8s
E25A Miller Ranch, 85.83 339 ⇑P **P** **02 40 18.6 +0.6**
baz=86
MOOW Moose Ponds 85.91 333 *e*P **P** **02 40 18.7 +0.1**
G21A Lodge Grass 85.92 336 ⇑P **P** **02 40 18.8 +0.3**
baz=86
FXWY Fox Creek 85.92 333 *e*P **P** **02 40 19.1 +0.4**
comp=Z,11nm,1.8s
I17A Pilgrim Ck. 85.99 333 ⇑P **P** **02 40 19.2 +0.2**
baz=86
D26A Manning 86.03 339 ⇑P **P** **02 40 19.6 +0.7**
baz=86
H19A Powell 86.05 334 ⇑P **P** **02 40 18.9 -0.3**
baz=86
F22A Rosebud 86.09 337 ⇑P **P** **02 40 19.4 +0.1**
baz=86
IMW Indian Meadow 86.10 333 *e*P **P** **02 40 19.9 +0.2**
comp=Z,4.0nm,1.0s
E24A Baker 86.16 338 ⇓P **P** **02 40 20.0 +0.4**
baz=86
FLWY Flagg Ranch 86.17 333 *e*P **P** **02 40 20.6 +0.7**
comp=Z,5.3nm,0.8s
B30A Myrvik Farm, E 86.23 343 ⇓P **P** **02 40 20.1 +0.3**
baz=87
G20A Bridger 86.26 335 ⇓P **P** **02 40 19.7 -0.5**
baz=87,SNR=7.5
H18A Shoshone NF, C 86.30 334 ⇑P **P** **02 40 20.1 -0.5**
baz=87,SNR=14
H17A Grant Village 86.39 333 ⇓P **P** **02 40 21.2 +0.1**
baz=87
E23A Ismay 86.42 337 ⇓P **P** **02 40 20.4 -0.5**
baz=87
RLMT Red Lodge 86.54 334 *e*P **P** **02 40 21.8 0.0**
comp=Z,2.8nm,0.5s
D24A Glendive 86.67 338 ⇓P **P** **02 40 21.9 -0.1**
baz=87
A30A Hoffart Farm, 86.68 343 ⇓P **P** **02 40 22.1 0.0**
baz=87
F20A Billings 86.74 335 ⇓P **P** **02 40 22.7 +0.1**
baz=87
B28A Dugan Ranch, T 86.75 341 ⇑P **P** **02 40 22.6 +0.2**
baz=87
LAO LASA Array 86.88 337 *e*P **P** **02 40 23.2 +0.1**
comp=Z,28nm,1.5s
LAO *ep*P **pP** **02 40 36.6 -0.4**
C25A Freed Ranch, W 86.89 339 ⇓P **P** **02 40 23.5 +0.4**
baz=87
A29A Manning Farm, 86.90 342 ⇓P **P** **02 40 23.7 +0.6**
baz=87
D23A Lindsay 86.99 338 ⇓P **P** **02 40 24.1 +0.5**
baz=87
E21A Keefer Ranch, 87.03 336 ⇓P **P** **02 40 24.3 +0.4**
baz=87
F19A Roth Farm, Mol 87.06 335 ⇓P **P** **02 40 24.3 +0.2**
baz=87
C24A Savage 87.07 338 ⇓P **P** **02 40 24.6 +0.6**
baz=87
HLID Hailey 87.19 330 *e*P **P** **02 40 25.5 +0.7**
comp=Z,7.2nm,1.4s
HLID *ep*P **pP** **02 40 39.2 +0.5**
HLID Hailey 87.19 330 ⇑P **P** **02 40 24.9 0.0**
baz=88
B26A Jensen Ranch, 87.19 340 ⇓P **P** **02 40 25.0 +0.4**
baz=88
D22A Cohagen 87.27 337 ⇓P **P** **02 40 25.3 +0.3**
baz=88
E20A Meyer Farm, Mu 87.35 336 ⇓P **P** **02 40 25.1 -0.4**
baz=88,SNR=7.6
E19A Rath Farm, Rou 87.53 335 ⇓P **P** **02 40 25.8 -0.5**
baz=88,SNR=6.3
C23A Lambert 87.54 338 ⇑P **P** **02 40 26.5 +0.2**
baz=88
MCMT McKenzie Canyo 87.62 332 *e*P **P** **02 40 27.7 +0.7**
MCMT *ep*P **pP** **02 40 39.0 -1.9**
DGMT Dagmar 87.84 339 ⇑P **P** **02 40 27.9 +0.2**
baz=88
D20A Manuel Ranch, 87.86 336 ⇓P **P** **02 40 28.2 +0.4**
baz=88
C21A Desert Coulee 88.17 337 ⇓P **P** **02 40 29.2 -0.1**
baz=88
A24A Westby 88.19 339 ⇑P **P** **02 40 29.5 +0.1**
baz=88
B22A Reddig Ranch S 88.24 338 ⇑P **P** **02 40 29.8 +0.2**
baz=88
C20A Veseth Ranch, 88.36 336 ⇓P **P** **02 40 30.5 +0.3**
baz=89
A22A Carney Farms, 88.82 338 ⇓P **P** **02 40 33.0 +0.7**
baz=89
LSZ Lusaka 89.26 108 *e*P **P** **02 40 36.8 +1.4**
LSZ pmax pmax
comp=Z,8.0nm,1.0s
LSZ Lusaka 89.26 108 *e*P **P** **02 40 36.8 +1.4**
comp=Z,7.6nm,1.0s
K05A Summer Lake 89.32 326 *e*P **P** **02 40 36.7 +1.6**
comp=Z,112nm,2.8s
TAM Tamanrasset 92.89 64 *e*P **P** **02 40 52.5 +0.5**
TAM pmax pmax
comp=Z,3.0nm,1.1s
TAM Tamanrasset 92.89 64 *e*P **P** **02 40 52.5 +0.5**
comp=Z,2.7nm,1.1s
FCC Fort Churchill 95.08 348 *e*P **P** **02 41 00.2 -0.8**
FCC Fort Churchill 95.08 348 *e*P **P** **02 41 00.2 -0.8**
ESDC Sonseca Array 96.90 46 P **P** **02 41 09.1 -0.8**
comp=Z,0.1nm,0.4s,baz=260,slow=7.7,SNR=3.8
YKA Yellowknife Ar 102.92 341 Pdiff **Pdif** **02 41 35.2 -0.8**
comp=Z,0.2nm,0.5s,baz=141,slow=4.3,SNR=3.6
ILAR Eielson Array 115.05 333 PKP **PKPdf** **02 46 18.7 0.0**
comp=Z,0.3nm,0.8s,baz=166,slow=0.9,SNR=5.3
ASAR Alice Springs 117.00 206 PKP **PKPdf** **02 46 22.3 -1.6**
comp=Z,0.3nm,0.7s,baz=137,slow=1.5,SNR=3.7
MLR Muntele Rosu 118.71 53 PKP **PKPdf** **02 46 25.2 -1.3**
comp=Z,0.3nm,0.9s,baz=163,slow=15,SNR=3.1
WRA Warramunga Arr 120.21 209 PKP **PKPdf** **02 46 29.1 -1.1**
comp=Z,0.7nm,0.5s,baz=168,slow=1.5,SNR=5.9
WRAB Tennant Creek 120.22 209 *e*PKIKP **PKPdf** **02 46 29.6 -0.5**
WRAB Tennant Creek 120.22 209 *e*PKPdf **PKPdf** **02 46 29.6 -0.5**
MMAI Mount Meron Ar 120.73 69 PKP **PKPdf** **02 46 29.4 -1.3**
comp=Z,1.1nm,0.5s,baz=95,slow=2.7,SNR=4.3
BR131 Keskin Array S 121.94 61 *e*PKPdf **PKPdf** **02 46 32.2 -0.7**
BRTR Keskin Array B 121.94 61 PKP **PKPdf** **02 46 32.4 -0.5**
comp=Z,1.8nm,0.7s,baz=190,slow=3.4,SNR=17
KIEV Kiev 122.48 48 *e*PKIKP **PKPdf** **02 46 32.4 -1.0**
KIEV Kiev 122.48 48 *e*PKPdf **PKPdf** **02 46 32.4 -1.0**
AKASG Malin Array Be 122.50 48 PKP **PKPdf** **02 46 32.5 -0.9**
comp=Z,0.2nm,0.3s,baz=262,slow=2.7,SNR=8.0
AKBB Malin Array Si 122.50 48 *e*PKIKP **PKPdf** **02 46 32.5 -0.9**
AKBB Malin Array Si 122.50 48 *e*PKPdf **PKPdf** **02 46 32.5 -0.9**
ARCES ARCESS Array B 124.61 25 PKP **PKPdf** **02 46 38.4 +1.4**
comp=Z,0.8nm,0.8s,baz=356,slow=3.6,SNR=3.6
H11N3 WAKE ISLAND Hyl 126.50 270 T T 05 05 48.6
baz=121,slow=76,SNR=5.3
H11N1 WAKE ISLAND Hyl 126.52 270 T T 05 05 40.2
baz=121,slow=76,SNR=11
H11N2 WAKE ISLAND Hyl 126.52 270 T T 05 05 50.4
baz=121,slow=76,SNR=10.0
KIV Kislovodsk 129.64 59 *e*PKIKP **PKPdf** **02 46 48.2 +0.8**
KIV pmax pmax
comp=Z,5.0nm,0.9s
KBZ Khabaz 129.74 59 PKP **PKPdf** **02 46 48.0 +0.5**
comp=Z,1.8nm,0.8s,baz=236,slow=24,SNR=4.7
ARU Arti 140.14 41 *i* PKIKP **PKPdf** **02 47 06.1 -0.4**
ARU 02 50 00.9
ARU Arti 140.14 41 *e*PKPdf **PKPdf** **02 47 06.3 -0.2**
AKTO Aktyubinsk 140.60 51 PKhKP PKPpre 02 46 60.0
comp=Z,0.6nm,0.5s,baz=293,slow=2.6,SNR=4.6
AKTO Aktyubinsk 140.60 51 PKHKP PKPpre 02 47 00.0
SEY Seymchan 140.88 330 ⇓ *i* PKIKP **PKPdf** **02 47 08.2 +0.6**
PETK Petropavlovsk- 140.94 313 PKP **PKPdf** **02 47 07.2 -0.8**
comp=Z,3.1nm,1.0s,baz=141,slow=7.6,SNR=3.6
TIXI Tiksi 141.54 350 *i* PKIKP **PKPdf** **02 47 05.6 -3.0**
ABKAR Akbulak array 141.92 53 *e*PKPpre PKPpre 02 47 03.9
ABKAR *e*PKPdf **PKPdf** **02 47 10.5 +0.6**
URV Uravakonda 145.78 117 *e*PKPab **PKPdf** **02 47 17.5 -0.3**
SKHT Srikalahasti 146.72 122 *e*PKPab **PKPbc** **02 47 20.7 -0.3**
KSM Kuching 146.79 184 *e*PKPdf **PKPdf** **02 47 20.4 +0.8**
PSI Prapat 146.98 163 PKPbc **PKPbc** **02 47 21.4 -0.6**
comp=Z,14nm,0.8s,baz=78,slow=1.3,SNR=13
BRVK Borovoye 147.57 44 *e*PKP2 **PKPbc** **02 47 22.7 +0.4**
BRVK Borovoye 147.57 44 *e*PKPbc **PKPbc** **02 47 22.7 +0.4**
BVAR Borovoye Array 147.64 44 PKP **PKPdf** **02 47 20.0 +0.2**
comp=Z,9.4nm,0.8s,baz=284,slow=2.6,SNR=31
BVAR PKPbc **PKPbc** **02 47 22.8 +0.3**
comp=Z,9.3nm,0.8s,baz=280,slow=3.4,SNR=35
HYB Hyderabad 148.31 115 *i* PKP **PKPbc** **02 47 25.0 -0.4**
HYB *ep*PKP **pPKPdf** **02 47 41.0 +4.7**
HYBB Hyderabad (bro 148.31 115 *e*PKiKP **PKPbc** **02 47 25.0 -0.4**
NJS Nagarjunasagar 148.31 118 *e*PKiKP **PKPbc** **02 47 24.6 -0.7**
IPM Ipoh 149.08 166 *e*PKPbc **PKPbc** **02 47 27.2 -0.2**
YAK Yakutsk 149.59 340 *e*PKHKP **PKPdf** **02 47 25.1 +2.6**
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=N,1.0nm,0.7s
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK Yakutsk 149.59 340 *e*PKPdf **PKPbc** **02 47 26.5 -0.6**
KKAR Karatay Array 149.64 63 *e*PKHKP **PKPdf** **02 47 23.7 +0.4**
KKAR Karatay Array 149.64 63 *e*PKPdf **PKPdf** **02 47 23.7 +0.4**
KKAR *e*PKPbc **PKPbc** **02 47 27.4 -0.5**
KULM Kulim 149.78 165 *e*PKPbc **PKPbc** **02 47 28.4 -0.8**
KULM *e*PKPab **PKPab** **02 47 34.2 -0.3**
KKM Kota Kinabalu 150.47 196 *e*PKPbc **PKPbc** **02 47 30.4 -0.5**
YSS Yuzh-Sakhalins 151.52 306 *e*PKIKP **PKPbc** **02 47 31.9 -0.3**
YSS Yuzh-Sakhalins 151.52 306 *e*PKPbc **PKPbc** **02 47 32.6 +0.3**
AML Almayashu 152.04 64 P **PKPbc** **02 47 34.5 +0.3**
SNR=10.0
EKS2 Erkin-Say 152.06 63 P **PKPbc** **02 47 34.3 +0.5**
SNR=13
EKS2 Erkin-Say 152.06 63 *e*PKIKP **PKPdf** **02 47 28.2 +1.0**
EKS2 *e* 02 47 34.3
EKS2 Erkin-Say 152.06 63 *e*PKPdf **PKPdf** **02 47 28.2 +1.0**
EKS2 *e*PKPbc **PKPbc** **02 47 34.3 +0.5**
ASAJ Asahikawa 152.13 300 PKPbc **PKPbc** **02 47 33.4 -0.4**
comp=E,2.4nm,0.6s,baz=215,slow=4.1,SNR=5.3
USP Ospenovka 152.53 62 P **PKPbc** **02 47 35.0 +0.3**
SNR=6.4
AAK Ala-Archa 152.59 63 P **PKPbc** **02 47 35.7 +0.6**
SNR=16
AAK Ala-Archa 152.59 63 PKPbc **PKPbc** **02 47 35.7 +0.6**
comp=E,15nm,0.7s,baz=197,slow=2.8,SNR=52
AAK Ala-Archa 152.59 63 *e*PKIKP **PKPdf** **02 47 28.9 +0.8**
AAK *e* 02 47 35.3
AAK *e* 02 47 45.8
AAK Ala-Archa 152.59 63 *e*PKPdf **PKPdf** **02 47 28.9 +0.8**
AAK *e*PKPbc **PKiKP** **02 47 35.3 0.0**
AAK *e*PKPab **PKPab** **02 47 45.8 0.0**
UCH Uchtor 152.64 64 P **PKPbc** **02 47 36.3 +0.8**
SNR=14
KBK Karagaybulak 152.93 63 P **PKPbc** **02 47 36.3 +0.4**
SNR=6.0
KZA Kyzart 153.20 64 P **PKPbc** **02 47 37.5 +0.7**
SNR=7.0
KURBB Kurchatov Arra 153.22 45 PKPbc **PKPbc** **02 47 36.1 +0.1**
comp=E,3.9nm,0.7s,baz=294,slow=2.7,SNR=23
KURBB pPKPbc **pPKPbc** **02 47 50.4 +0.1**
comp=E,1.7nm,0.6s,baz=296,slow=3.2,SNR=3.8
KURK Kurchatov 153.24 44 *e*PKIKP **PKPbc** **02 47 35.8 -0.2**
KURK 02 47 50.4
KURK Kurchatov 153.24 44 *e*PKPbc **PKPbc** **02 47 35.8 -0.2**
KURK pPKPbc **pPKPbc** **02 47 50.4 +0.1**
TKM2 Tokmak 2 153.37 62 P **PKPbc** **02 47 36.9 +0.1**
SNR=8.6
TKM2 Tokmak 2 153.37 62 *e*PKIKP **PKPdf** **02 47 29.7 +0.4**
TKM2 *e* 02 47 36.7
TKM2 *e* 02 47 48.1
TKM2 Tokmak 2 153.37 62 *e*PKPdf **PKPdf** **02 47 29.7 +0.4**
TKM2 *e*PKPbc **PKPbc** **02 47 36.6 -0.2**
TKM2 *e*PKPab **PKPab** **02 47 48.1 -1.1**
NVS Novosibirsk 153.44 33 *e*PKIKP **PKPbc** **02 47 33.6 -2.7**
NVS pmax pmax
comp=N,2.0nm,1.3s
NVS pmax pmax
comp=Z,9.0nm,1.3s
NVS pmax pmax
comp=E,4.0nm,1.8s
KSH Kashi 153.86 70 PKPbc **PKPbc** **02 47 37.8 -0.1**
KSH pPKP **PKPab** **02 47 48.5 -2.7**
KSH sPKP 02 47 52.3
KSH PKS PKSdf 02 51 10.0 +5.7
KSH PP PP 02 52 00.0 +34
KSH SKS **SKSdf** **02 54 38.0 +5.0**
KSH AMB AMB
comp=Z,100nm,5.4s
KSH LR LR
comp=N,50nm,4.9s
KSH LR LR
comp=E,51nm,4.2s
KSH LR LR
comp=Z,190nm,6.0s
ULHL Ulahol 153.92 64 P **PKPbc** **02 47 38.5 +0.4**
SNR=8.6
ZAA0 Zalesovo Array 154.72 34 *e*PKPbc **PKPbc** **02 47 38.4 -0.6**
ZAA0 *e*PKPab **PKPab** **02 47 53.4 -0.8**
ZALV Zalesovo Beam 154.72 34 PKPbc **PKPbc** **02 47 38.9 -0.2**
comp=Z,3.1nm,0.8s,baz=270,slow=4.0,SNR=6.6
ZALV PKPab **PKPab** **02 47 53.4 -0.8**
comp=Z,2.2nm,0.5s,baz=296,slow=5.3,SNR=6.6
MKAR Makanchi Array 157.04 51 PKP **PKPdf** **02 47 33.5 -0.3**
comp=Z,0.5nm,0.7s,baz=261,slow=2.3,SNR=4.8
MKAR PKPbc PKPbc 02 47 47.8
comp=Z,0.9nm,0.7s,baz=11,slow=1.2,SNR=7.0
MKAR PKPab **PKPab** **02 48 03.6 -0.8**
comp=Z,2.1nm,0.8s,baz=279,slow=2.3,SNR=7.0
MKAR Makanchi Array 157.04 51 *ce*PKIKP PKPdf 02 47 43.4 +10
MKAR pmax pmax
comp=Z,1.0nm,0.7s
KOLN Koldanda 157.76 102 *e*P **PKPab** **02 48 07.3 -1.0**
comp=Z,7.7nm,0.6s
GKN Gorkha 158.69 102 *e*P **PKPab** **02 48 11.6 -0.7**
DMN Daman 158.90 103 *e*P **PKPab** **02 48 13.4 0.0**
comp=Z,28nm,0.8s
KKN Kakani 159.12 103 *e*P **PKPab** **02 48 13.5 -0.8**
PKI Pulchoki 159.12 104 *e*P **PKPab** **02 48 13.7 -0.7**
comp=Z,18nm,0.8s
GUN Gumba 159.65 104 *e*P **PKPab** **02 48 16.3 -0.4**
comp=Z,19nm,1.0s
JIRN Jiri 159.79 105 *e*P **PKPab** **02 48 17.0 -0.4**
comp=Z,20nm,0.8s
RAMN Ramite 159.79 107 *e*P **PKPab** **02 48 17.0 -0.2**
comp=Z,28nm,0.7s
ODAN Odare 160.37 108 *e*P **PKPab** **02 48 19.4 -0.3**
comp=Z,21nm,0.8s
TAPN Taplejung 160.85 107 *e*P **PKPab** **02 48 21.7 -0.2**
WMQ Urumqi 161.70 54 *e*PKP **PKPdf** **02 47 40.0 +0.6**
WMQ PKS **PKSdf** **02 51 11.8 -0.8**
WMQ SKS **SKSdf** **02 54 40.0 -0.4**
WMQ SKKS **SKKSac** **02 58 55.8 +2.8**
WMQ LN
comp=Z,49nm,22.4s
WMQ LE
comp=Z,33nm,21.2s
WMQ LZ
comp=Z,27nm,20.0s
SONM Songino Array 166.90 6 PKPab **PKPab** **02 48 48.0 +0.5**
comp=Z,0.7nm,0.8s,baz=345,slow=4.0,SNR=5.6
SONM Songino Array 166.90 6 PKP2 **PKPab** **02 48 48.0 +0.5**
WHN Wuhan 173.39 232 PKP **PKPdf** **02 47 52.0 +4.0**
HHC Hu-ho-hao-te 173.45 338 *e*PKP **PKPdf** **02 47 48.0 +0.1**
HHC PP **PP** **02 53 13.0 +5.0**
HHC SKS **SKSdf** **02 54 44.8 -2.4**
HHC SKKS **SKKSac** **02 59 54.5 +3.4**
HHC SS SS 03 14 27.5 +7.5
HHC PPMZ
comp=Z,50nm,12.4s
HHC LN
comp=Z,83nm,23.6s
HHC LE
comp=Z,31nm,22.4s
HHC LZ
comp=Z,86nm,18.7s
CD2 Chengdu 174.53 134 PKP **PKPdf** **02 47 48.0 -0.5**
LZH Lanzhou 176.11 69 *e*PKP **PKPdf** **02 47 49.0 +0.1**
LZH pPKP **pPKPdf** **02 47 59.0 -4.4**
LZH sPKP 02 48 03.0
LZH PKPab **PKPab** **02 49 30.3 +1.3**

KMA 30 02:28:41.0±0.3, 38°.80N×126°.05E, h0km, 12C-10D, Error ellipse: s-maj=2.7km s-min=1.3km az=175.0, North Korea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YNCB	**YEONCHEON**	**1.02**	**137**	⇓P	Pg	02 29 00.4	-0.2
YNCB	**YEONCHEON**	**1.02**	**137**	⇓P	Pg	02 29 00.4	-0.2
YNCB				⇑S	Sb	02 29 14.9	-0.6
KSGAH	**Ganghwa**	**1.13**	**164**	⇓P	Pg	02 29 02.5	-0.2
KSGAH				⇑S	Sb	02 29 18.5	-0.2
KSGAH	**Ganghwa**	**1.13**	**164**	⇓P	Pg	02 29 02.5	-0.2
KSGAH				⇑S	Sb	02 29 18.5	-0.2
KSBAR	**Backryungdo**	**1.33**	**232**	⇑P	Pg	02 29 06.2	-0.3
KSBAR				⇑S	Sn	02 29 25.3	+0.1
KSCWO	**Cheorwon**	**1.36**	**121**	⇓P	Pg	02 29 06.5	-0.6
KSCWO	**Cheorwon**	**1.36**	**121**	⇓P	Pg	02 29 06.5	-0.6
KSCWO				⇓S	Sn	02 29 25.8	-0.1
KSDEI	**Deokjeokdo**	**1.54**	**178**	⇓P	Pn	02 29 09.8	+0.1
KSDEI				⇑S	Sg	02 29 31.5	+1.0
KSCHC	**Chuncheon**	**1.72**	**126**	⇑P	Pn	02 29 12.6	+0.3
KSCHC				⇑S	Sg	02 29 36.4	0.0
KSCHC	**Chuncheon**	**1.72**	**126**	⇑P	Pn	02 29 12.6	+0.3
KSCHC				⇑S	Sg	02 29 36.4	0.0
SEHB	**SEOHWA**	**1.81**	**106**	⇓P	Pn	02 29 13.0	-0.4
SEHB				⇑S	Sb	02 29 38.0	-0.2
SEHB	**SEOHWA**	**1.81**	**106**	⇓P	Pn	02 29 13.0	-0.4
SEHB				⇑S	Sb	02 29 38.0	-0.2

*CSEM **30** 02:30:28.7, 41°.56N×14°.16E, h15km, ML1.1/1*
ROM 30 02:30:28.7±0.1, 41°.56N×14°.16E, h15km±2km, MI1.1/1, Error ellipse: s-maj=1.5km s-min=1.0km az=97.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIDA	**Miranda**	**0.11**	**43**	Pg	Pg	02 30 32.3	+0.1
MIDA				Sg	Sg	02 30 34.7	+0.2
MIDA	**Miranda**	**0.11**	**43**	Pg	Pg	02 30 32.3	+0.1
MIDA				Sg	Sg	02 30 34.7	+0.2
CERA	**Filignano**	**0.11**	**289**	Pg	Pg	02 30 32.1	-0.1
CERA				Sg	Sb	02 30 35.0	-0.3
CERA	**Filignano**	**0.11**	**289**	Pg	Pg	02 30 32.1	-0.1
CERA				Sg	Sb	02 30 35.0	-0.3
RNI2	**Rionero Sannit**	**0.14**	**359**	Pg	Pb	02 30 33.1	-0.1
RNI2				Sg	Sb	02 30 36.2	0.0
RNI2	**Rionero Sannit**	**0.14**	**359**	Pg	Pb	02 30 33.1	-0.1
RNI2				Sg	Sb	02 30 36.2	0.0
VAGA	**Valle Agricola**	**0.16**	**159**	Pg	Pg	02 30 33.1	+0.3
VAGA				Sg	Sb	02 30 36.4	-0.3
VAGA	**Valle Agricola**	**0.16**	**159**	Pg	Pg	02 30 33.1	+0.3
VAGA				Sg	Sb	02 30 36.4	-0.3
SDI	**San Donato**	**0.30**	**299**	Pg	Pg	02 30 35.2	+0.1
SDI	**San Donato**	**0.30**	**299**	Pg	Pg	02 30 35.2	+0.1
POFI	**Posta Fibreno**	**0.37**	**295**	Pg	Pg	02 30 36.6	+0.3
POFI	**Posta Fibreno**	**0.37**	**295**	Pg	Pg	02 30 36.6	+0.3
VVLD	**Villa Vallelon**	**0.51**	**308**	Pg	Pg	02 30 38.7	-0.2
	10.0nm,0.5s						
VVLD	**Villa Vallelon**	**0.51**	**308**	Pg	Pg	02 30 38.7	-0.2
	10.0nm,0.5s						

*CSEM **30** 02:30:34.3±0.1, 42°.31N×13°.42E, h10km, ML3.3/11, Error ellipse: s-maj=2.1km s-min=1.8km az=75.0*
ROM 30 02:30:34.3±0.1, 42°.28N×13°.43E, h8km±1km, Md2.9/38, Ml2.6/39, 7D, Error ellipse: s-maj=1.4km s-min=1.2km az=73.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T0106	**Roio Piano**	**0.04**	**305**	⇓*i*Pg	Pg	02 30 36.7	+0.5
T0106				Sg	Sg	02 30 38.1	+0.6
	5μm,0.1s						
AQU	**L'Aquila**	**0.07**	**345**	Pg	Pg	02 30 36.8	+0.3
AQU				Sg	Sg	02 30 38.3	+0.3
AQU	**L'Aquila**	**0.07**	**345**	Pg	Pg	02 30 36.8	+0.3
AQU				Sg	Sg	02 30 38.3	+0.3
T0104	**Madonna delle**	**0.10**	**319**	⇓*i*Pg	Pg	02 30 37.2	+0.3
T0104				Sg	Sg	02 30 39.1	+0.5
FAGN	**Fagnano**	**0.12**	**99**	Pg	Pg	02 30 37.7	+0.6
FAGN				Sg	Sg	02 30 40.2	+1.1
	12μm,0.4s						
FAGN	**Fagnano**	**0.12**	**99**	Pg	Pg	02 30 37.7	+0.6
FAGN				Sg	Sg	02 30 40.2	+1.1
	12μm,0.4s						
FIAM	**Fiamignano**	**0.23**	**266**	⇓*i*Pg	Pg	02 30 39.5	+0.4
FIAM				Sg	Sg	02 30 43.1	+0.7
	2μm,0.5s						
FIAM	**Fiamignano**	**0.23**	**266**	⇓*i*Pg	Pg	02 30 39.5	+0.4
FIAM				Sg	Sg	02 30 43.1	+0.7
	2μm,0.5s						
CAMP	**Campotosto**	**0.25**	**357**	Pg	Pg	02 30 39.5	-0.1
CAMP				Sg	Sg	02 30 43.1	0.0
	947nm,0.5s						
CAMP	**Campotosto**	**0.25**	**357**	Pg	Pg	02 30 39.5	-0.1
CAMP				Sg	Sg	02 30 43.1	0.0
	947nm,0.5s						
PTQR	**Pietraquaria**	**0.26**	**184**	⇓*i*Pg	Pg	02 30 40.3	+0.6
PTQR				Sg	Sg	02 30 44.2	+0.9
	150nm,0.2s						
PTQR	**Pietraquaria**	**0.26**	**184**	⇓*i*Pg	Pg	02 30 40.3	+0.6
PTQR				Sg	Sg	02 30 44.2	+0.9
	150nm,0.2s						
SMA1	**SAN MARTINO**	**0.35**	**349**	Pg	Pg	02 30 41.2	-0.2
SMA1				Sg	Sb	02 30 47.7	-1.1
	916nm,0.4s						
SMA1	**SAN MARTINO**	**0.35**	**349**	Pg	Pg	02 30 41.2	-0.2
SMA1				Sg	Sb	02 30 47.7	-1.1
	916nm,0.4s						
TERO	**Teramo**	**0.36**	**21**	Pg	Pg	02 30 41.1	-0.5
TERO				Sg	Sg	02 30 46.9	+0.5
	1μm,0.6s						
TERO	**Teramo**	**0.36**	**21**	Pg	Pg	02 30 41.1	-0.5
TERO				Sg	Sg	02 30 46.9	+0.5
	1μm,0.6s						
LNSS	**Leonessa**	**0.43**	**318**	Pg	Pg	02 30 42.4	-0.5
	367nm,0.2s						
LNSS	**Leonessa**	**0.43**	**318**	Pg	Pg	02 30 42.4	-0.5
	367nm,0.2s						
VVLD	**Villa Vallelon**	**0.44**	**161**	Pg	Pg	02 30 42.9	-0.1
	284nm,0.5s						
VVLD	**Villa Vallelon**	**0.44**	**161**	Pg	Pg	02 30 42.9	-0.1
	284nm,0.5s						
INTR	**Introdacqua**	**0.45**	**127**	Pg	Pg	02 30 43.3	+0.1
INTR				Sg	Sb	02 30 50.5	-0.9
	912nm,0.7s						
INTR	**Introdacqua**	**0.45**	**127**	Pg	Pg	02 30 43.3	+0.1
INTR				Sg	Sb	02 30 50.5	-0.9
	912nm,0.7s						
CERT	**Cerreto**	**0.47**	**225**	Pg	Pg	02 30 43.7	+0.1

371nm,0.3s
CERT Cerreto 0.47 225 Pg Pg 02 30 43.7 +0.1
371nm,0.3s
MNS Montasola 0.56 281 Pg Pg 02 30 44.9 -0.4
232nm,0.6s
MNS Montasola 0.56 281 Pg Pg 02 30 44.9 -0.4
232nm,0.6s
MTCE Montecelio 0.57 243 Pg Pg 02 30 45.3 -0.1
354nm,0.4s
MTCE Montecelio 0.57 243 Pg Pg 02 30 45.3 -0.1
354nm,0.4s
NRCA Norcia 0.60 337 Pg Pg 02 30 45.4 -0.6
NRCA Norcia 0.60 337 Pg Pg 02 30 45.4 -0.6
LPEL Lama dei Pelig 0.61 113 Pg Pg 02 30 45.9 -0.3
LPEL Sg Sg 02 30 55.1 +0.8
339nm,0.3s
LPEL Lama dei Pelig 0.61 113 Pg Pg 02 30 45.9 -0.3
LPEL Sg Sg 02 30 55.1 +0.8
339nm,0.3s
TRTR Tortoreto Alta 0.64 34 Pg Pb 02 30 47.3 -0.3
736nm,0.5s
TRTR Tortoreto Alta 0.64 34 Pg Pb 02 30 47.3 -0.3
736nm,0.5s
OFFI Offida 0.68 16 Pg Pg 02 30 47.9 +0.5
OFFI Sg Sb 02 30 58.7 +0.8
955nm,0.5s
OFFI Offida 0.68 16 Pg Pg 02 30 47.9 +0.5
CAFR Castel Frentan 0.69 94 Pg Pg 02 30 47.7 +0.1
CAFR Castel Frentan 0.69 94 Pg Pg 02 30 47.7 +0.1
CESX Cesi 0.71 298 Pg Pg 02 30 48.3 +0.3
180nm,0.4s
CESX Cesi 0.71 298 Pg Pg 02 30 48.3 +0.3
180nm,0.4s
RMP Rome, Mte Porz 0.72 229 Pg Pb 02 30 48.9 -0.1
311nm,0.4s
RMP Rome, Mte Porz 0.72 229 Pg Pb 02 30 48.9 -0.1
311nm,0.4s
GIUL Giuliano Di Ro 0.74 190 Pg Pg 02 30 48.7 +0.1
107nm,0.5s
GIUL Giuliano Di Ro 0.74 190 Pg Pg 02 30 48.7 +0.1
107nm,0.5s
RDP Rocca di Papa 0.75 225 Pg Pb 02 30 49.6 0.0
RDP Sg Sg 02 30 58.9 +0.3
489nm,0.4s
RDP Rocca di Papa 0.75 225 Pg Pb 02 30 49.6 0.0
RDP Sg Sg 02 30 58.9 +0.3
489nm,0.4s
MA9 Marino 0.77 228 Pg Pn 02 30 50.7 -0.7
MA9 Sg Sb 02 31 00.7 +0.2
322nm,0.7s
MA9 Marino 0.77 228 Pg Pn 02 30 50.7 -0.7
MA9 Sg Sb 02 31 00.7 +0.2
322nm,0.7s
FDMO Fiordimonte 0.79 342 Pg Pg 02 30 49.0 -0.7
129nm,0.4s
FDMO Fiordimonte 0.79 342 Pg Pg 02 30 49.0 -0.7
129nm,0.4s
LAV9 Lanuvio 0.81 222 Pg Pb 02 30 50.6 -0.1
525nm,0.4s
LAV9 Lanuvio 0.81 222 Pg Pb 02 30 50.6 -0.1
525nm,0.4s
CESI CESI - Serrava 0.82 332 Pg Pg 02 30 49.5 -0.7
CESI CESI - Serrava 0.82 332 Pg Pg 02 30 49.5 -0.7
GUMA Gualdo di Mace 0.86 26 Pg Pg 02 30 49.3 -1.7
GUMA Sg Sg 02 31 00.8 -1.5
509nm,0.3s
GUMA Gualdo di Mace 0.86 26 Pg Pg 02 30 49.3 -1.7
GUMA Sg Sg 02 31 00.8 -1.5
509nm,0.3s
TRIV Trivento 0.98 121 Pg Pg 02 30 52.8 -0.5
154nm,0.9s
TRIV Trivento 0.98 121 Pg Pg 02 30 52.8 -0.5
154nm,0.9s
SNTG Esanatoglia 1.03 340 Pg Pg 02 30 53.4 -0.9
73nm,0.6s
SNTG Esanatoglia 1.03 340 Pg Pg 02 30 53.4 -0.9
73nm,0.6s
TOLF Tolfa 1.08 259 Pg Pg 02 30 54.8 -0.4
68nm,0.5s
TOLF Tolfa 1.08 259 Pg Pg 02 30 54.8 -0.4
68nm,0.5s
CING Cingoli 1.10 351 Pg Pg 02 30 54.7 -0.9
110nm,0.4s
CING Cingoli 1.10 351 Pg Pg 02 30 54.7 -0.9
110nm,0.4s
MGAB Montegabbione 1.16 303 Pg Pn 02 30 56.8 0.0
86nm,0.4s
MGAB Montegabbione 1.16 303 Pg Pn 02 30 56.8 0.0
86nm,0.4s
LATE Laterza 1.25 286 Pg Pn 02 30 57.4 -0.6
59nm,0.4s
LATE Laterza 1.25 286 Pg Pn 02 30 57.4 -0.6
59nm,0.4s
ATFO Monte Foce - G 1.25 330 Pg Pn 02 30 57.9 -0.3
64nm,0.6s
ATFO Monte Foce - G 1.25 330 Pg Pn 02 30 57.9 -0.3
64nm,0.6s
SACS San Casciano d 1.25 297 Pg Pg 02 30 58.6 +0.1
82nm,1.3s
ARVD Arcevia 1.27 344 Pg Pn 02 30 58.0 -0.3
103nm,1.0s
ARVD Arcevia 1.27 344 Pg Pn 02 30 58.0 -0.3
103nm,1.0s
AOI Ancona 1.27 6 Pg Pg 02 30 58.7 -0.1
75nm,0.8s
AOI Ancona 1.27 6 Pg Pg 02 30 58.7 -0.1
75nm,0.8s
ATVO AVT- Monte Val 1.33 326 Pg Pn 02 30 59.0 -0.2
53nm,0.7s
ATVO AVT- Monte Val 1.33 326 Pg Pn 02 30 59.0 -0.2
53nm,0.7s
GATE Gambatesa 1.35 124 Pg Pg 02 31 00.4 +0.2
28nm,0.7s
GATE Gambatesa 1.35 124 Pg Pg 02 31 00.4 +0.2
28nm,0.7s
ATPI Pietralunga - 1.39 327 Pg Pb 02 31 00.5 -0.1
64nm,0.6s
ATPI Pietralunga - 1.39 327 Pg Pb 02 31 00.5 -0.1
64nm,0.6s
ATPC Poggio Castell 1.39 330 Pg Pn 02 31 00.3 +0.2
ATPC Poggio Castell 1.39 330 Pg Pn 02 31 00.3 +0.2
MELA Melanico ??? S 1.39 114 Pg Pg 02 31 00.9 -0.1
80nm,0.7s
MELA Melanico ??? S 1.39 114 Pg Pg 02 31 00.9 -0.1
80nm,0.7s
PIEI Pieia 1.41 333 Pg Pb 02 31 00.7 -0.3
43nm,0.7s
PIEI Pieia 1.41 333 Pg Pb 02 31 00.7 -0.3
43nm,0.7s
FSSB Fossombrone 1.49 342 Pg Pn 02 31 01.6 +0.3
115nm,0.5s
FSSB Fossombrone 1.49 342 Pg Pn 02 31 01.6 +0.3
115nm,0.5s
CAFI Castiglion Fio 1.50 315 Pg Pb 02 31 02.4 0.0
28nm,0.7s
CAFI Castiglion Fio 1.50 315 Pg Pb 02 31 02.4 0.0
28nm,0.7s
NVLJ Novalja 2.51 24 *e*Pn Pn 02 31 15.7 +0.3
NVLJ Sn Sn 02 31 43.8 -2.2
NVLJ Novalja 2.51 24 Sn Sn 02 31 43.8 -2.2
UDBI Udbina 2.82 36 *i* Pn Pn 02 31 21.2 +1.6
UDBI Sn Sn 02 31 51.8 -2.1
UDBI Udbina 2.82 36 *i* Pn Pn 02 31 21.2 +1.5
STON Ston 3.21 78 *e*Pn Pn 02 31 25.5 +0.6
STON Sn Sn 02 32 01.8 -1.5
STON Ston 3.21 78 *e*Pn Pn 02 31 25.5 +0.6
STON Sn Sn 02 32 01.7 -1.6
SKDS Skadanscina 3.29 7 *i* Pn Pn 02 31 26.8 +0.7
SKDS *i* Sn Sn 02 32 05.0 -0.4
BOJS Bojanci 3.48 22 *i* Pn Pn 02 31 30.3 +1.6
BOJS *i* Sn Sn 02 32 11.6 +1.6
BOJS Bojanci 3.48 22 *i* Pn Pn 02 31 30.3 +1.6
JAVS Javornik 3.64 7 *i* Pn Pn 02 31 33.0 +2.0
JAVS Sn Sn 02 32 14.9 +0.7
JAVS Javornik 3.64 7 *i* Sn Sn 02 32 14.9 +0.7
ABTA Abfaltersbach 4.51 352 ⇓*i* Pn Pn 02 31 44.1 +1.2

*IDC **30** 02:31:09.6±0.8,34.°74S×73.°73W,h0km,mb4.0/6, mb1 4.3/9,mb1mx4.1/30,mbtmp4.0/9,ML4.1/3,Error ellipse: s-maj=28.9km s-min=18.4km az=89.0*
*ISCJB **30** 02:31:12.5±0.4,34.°79S±0.°06×73.°71W±0.°08,h33km, mb4.3/26,Error ellipse: s-maj=9.9km s-min=8.9km az=34.8*
*NEIC **30** 02:31:13.5±2.9,34.°76S×73.°69W,h28km±20km,mb4.4/22, Error ellipse: s-maj=12.9km s-min=6.7km az=80.0*

ISC 30 02:31:14.2±0.6,34.°75S±0.°08×73.°8W±0.°1,h35km,n39, σ0s87/39,mb4.3/26,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**5.61**	**58**	Pn	**Pn**	**02 32 34.9**	**-0.4**
	0.8nm,0.3s,baz=225,slow=18,SNR=5.0						
CFAA				Sn	**Sn**	**02 33 40.0**	**+1.5**
	0.8nm,0.3s,baz=132,slow=23,SNR=6.8						
PLCA	**Paso Flores**	**6.50**	**158**	Pn	**Pn**	**02 32 47.1**	**-0.3**
	4.2nm,0.3s,baz=1.2,slow=13,SNR=6.4						
LPAZ	**La Paz**	**19.07**	**17**	P	**Pn**	**02 35 35.0**	**-0.2**
	0.1nm,0.3s,baz=152,slow=7.7,SNR=4.0						
LPAZ	**La Paz**	**19.07**	**17**	*e*P	**Pn**	**02 35 35.1**	**-0.2**
	12nm,1.1s						
SIV	**San Ignacio**	**21.89**	**35**	P	**P**	**02 36 03.1**	**-1.2**
	6.5nm,0.9s,baz=234,slow=16,SNR=4.3						
OTAV	**Otavalo**	**35.08**	**352**	*e*P	**P**	**02 38 03.3**	**-1.3**
	5.9nm,1.0s						
SDV	**Santo Domingo**	**43.50**	**5**	*e*P	**P**	**02 39 13.9**	**-0.6**
	3.9nm,0.9s						
SNAA	**Sanae**	**51.44**	**158**	P	P	02 40 10.4	-5.1
SNAA	**Sanae**	**51.44**	**158**	P	**P**	**02 40 15.8**	**+0.3**
	1.5nm,1.1s,baz=292,slow=7.7,SNR=4.0						
QSPA	**South Pole Qui**	**55.49**	**180**	P	**P**	**02 40 46.2**	**+0.9**
	3.0nm,0.9s,baz=208,slow=2.9,SNR=4.9						
QSPA	**South Pole Qui**	**55.49**	**180**	*e*P	**P**	**02 40 45.2**	**-0.2**
	6.5nm,1.0s						
VNDA	**Vanda**	**63.08**	**192**	*e*P	**P**	**02 41 36.3**	**-1.2**
	1.0nm,0.6s						
JCT	**Junction City**	**69.36**	**336**	*e*P	**P**	**02 42 19.1**	**+0.8**
	2.3nm,0.5s						
TXAR	**Lajitas Array**	**69.70**	**332**	P	**P**	**02 42 21.4**	**+0.8**
	1.6nm,0.6s,baz=158,slow=8.7,SNR=14						
WHTX	**Lake Whitney,**	**70.02**	**339**	*e*P	**P**	**02 42 22.9**	**+0.7**
	5.4nm,0.7s						
ABTX	**Abilene, Hawle**	**71.28**	**337**	*e*P	**P**	**02 42 30.5**	**+0.5**
	5.8nm,0.8s						
MNTX	**Cornudas Mount**	**72.47**	**332**	*e*P	**P**	**02 42 36.7**	**-0.4**
	2.0nm,0.9s						
WMOK	**Wichita Mounta**	**72.98**	**339**	*e*P	**P**	**02 42 40.1**	**0.0**
	2.6nm,0.9s						
TUL1	**Leonard**	**73.24**	**341**	*e*P	**P**	**02 42 41.6**	**+0.1**
	4.0nm,0.7s						
LAZ	**Ladron**	**75.55**	**332**	*e*P	**P**	**02 42 56.2**	**+1.0**
ANMO	**Albuquerque**	**75.77**	**333**	*e*P	**P**	**02 42 57.6**	**+1.1**
	2.9nm,1.1s						
SDCO	**Great Sand Dun**	**77.91**	**335**	*e*P	**P**	**02 43 08.9**	**+0.3**
	2.0nm,0.9s						
WUAZ	**Wupatki**	**78.22**	**329**	*e*P	**P**	**02 43 12.0**	**+1.7**
	3.8nm,0.9s						
MVCO	**Mesa Verde**	**78.54**	**332**	*e*P	**P**	**02 43 12.9**	**+0.8**
	1.6nm,0.6s						
ECSD	**EROS Data Cent**	**80.84**	**343**	*e*P	**P**	**02 43 23.9**	**-0.2**
	6.6nm,1.5s						
BOSA	**Boshof**	**81.00**	**118**	*e*P	**P**	**02 43 26.2**	**+0.5**
	14nm,1.4s						
DUG	**Dugway, Tooele**	**82.81**	**331**	*e*P	**P**	**02 43 35.7**	**+0.9**
	4.2nm,1.0s						
LBTB	**Lobatse**	**83.30**	**116**	*e*P	**P**	**02 43 38.1**	**+0.3**
	3.9nm,0.8s						
HWUT	**Hardware Ranch**	**83.53**	**332**	*e*P	**P**	**02 43 39.0**	**+0.5**
	5.2nm,0.8s						
NVAR	**Mina Array Bea**	**83.69**	**326**	P	**P**	**02 43 41.1**	**+1.7**
	1.1nm,0.7s,baz=141,slow=6.1,SNR=5.6						
PDAR	**Pinedale Array**	**83.79**	**334**	P	**P**	**02 43 40.2**	**+0.4**
	0.6nm,0.7s,baz=145,slow=5.4,SNR=4.5						
TOA0	**Torodi Ar. Sit**	**85.83**	**71**	*e*P	**P**	**02 43 50.0**	**-0.5**
HLID	**Hailey**	**86.29**	**332**	*e*P	**P**	**02 43 53.7**	**+1.4**
	2.6nm,1.0s						
MCMT	**McKenzie Canyo**	**86.77**	**333**	*e*P	**P**	**02 43 56.1**	**+1.4**
	0.8nm,0.7s						
BRTR	**Keskin Array B**	**123.46**	**62**	PKP	**PKPdf**	**02 50 08.2**	**+0.4**
	0.4nm,0.7s,baz=236,slow=1.6,SNR=3.6						
BVAR	**Borovoye Array**	**148.82**	**43**	PKPbc	**PKPbc**	**02 50 58.6**	**+1.1**
	1.6nm,0.6s,baz=299,slow=3.7,SNR=7.0						
KURBB	**Kurchatov Arra**	**154.41**	**43**	PKPbc	**PKPbc**	**02 51 10.6**	**+0.2**
	0.3nm,0.4s,baz=11,slow=0.9,SNR=3.2						
KURK	**Kurchatov**	**154.41**	**43**	PKPbc	**PKPbc**	**02 51 10.6**	**+0.2**
MKAR	**Makanchi Array**	**158.35**	**49**	PKPab	**PKPab**	**02 51 41.3**	**-0.6**
	0.7nm,0.7s,baz=302,slow=4.4,SNR=5.3						

*IDC **30** 02:33:05.8±1.1,37.°18N×106.°74E,h0km,mb3.5/6, mb1 3.7/8,mb1mx3.4/43,mbtmp3.5/8,ML3.7/2,MS3.3/1, Ms1 3.3/1,ms1mx2.4/41,Error ellipse: s-maj=40.5km s-min=16.6km az=64.0*
*BJI **30** 02:33:08.9,37.°03N×106.°29E,h15km,ML3.3/12*

ISC 30 02:33:06.6±0.9,37.°1N±0.°1×106.°9E±0.°2,h10km,n11, σ0s97/10,mb3.7/5,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XAN	**Xi'an**	**3.51**	**151**	Pg	**Pg**	**02 34 12.8**	**-1.0**
XAN				Sg	**Sg**	**02 34 59.0**	**-0.3**
XAN				SMN			
	78nm,0.4s						
XAN				SME			
	22nm,0.6s						
CD2	**Chengdu**	**6.72**	**203**	Pg	Pb	02 35 07.0	+3.5
CD2				Sg	Sb	02 36 29.8	+5.9
CD2				SMN			
	50nm,0.7s						
SONM	**Songino Array**	**10.70**	**358**	Pn	**Pn**	**02 35 40.0**	**0.0**
	0.1nm,0.3s,baz=173,slow=13,SNR=3.2						
SONM				Lg	Lg	02 38 48.2	
	baz=185,slow=30,SNR=4.3						
CMAR	**Chiang Mai Arr**	**19.86**	**203**	P	**Pn**	**02 37 40.1**	**+0.7**
	0.4nm,0.3s,baz=359,slow=8.6,SNR=6.2						
MKAR	**Makanchi Array**	**20.60**	**306**	P	**P**	**02 37 44.6**	**-1.1**
	1.0nm,0.7s,baz=104,slow=13,SNR=4.9						
ZALV	**Zalesovo Beam**	**22.68**	**325**	P	**P**	**02 38 07.6**	**-0.4**
	1.2nm,0.6s,baz=146,slow=13,SNR=3.6						
KURBB	**Kurchatov Arra**	**24.30**	**313**	P	**P**	**02 38 23.4**	**-0.6**
	1.7nm,0.7s,baz=118,slow=9.1,SNR=12						
ASAJ	**Asahikawa**	**27.84**	**64**	LR	LR	02 49 33.0	
	comp=Z,61nm,21.2s,baz=154,slow=35						
BRTR	**Keskin Array B**	**55.91**	**297**	P	**P**	**02 42 44.6**	**-0.2**
	0.8nm,1.1s,baz=102,slow=4.3,SNR=3.9						
WRA	**Warramunga Arr**	**62.40**	**151**	P	**P**	**02 43 30.7**	**+1.0**
	0.9nm,0.8s,baz=343,slow=6.6,SNR=3.3						
ASAR	**Alice Springs**	**65.62**	**153**	P	**P**	**02 43 52.3**	**+1.5**
	0.4nm,0.7s,baz=336,slow=6.7,SNR=7.1						

*IDC **30** 02:46:30.8±1.3,3.°91S×101.°03E,h0km,mb3.8/11, mb1 3.9/11,mb1mx3.7/33,mbtmp3.8/11,MS3.2/2, Ms1 3.3/2,ms1mx2.7/30,Error ellipse: s-maj=40.9km s-min=19.2km az=51.0*
*ISCJB **30** 02:46:32.4±0.7,4.°03S±0.°07×100.°94E±0.°06,h29km, mb4.0/15,MS3.2/2,Error ellipse: s-maj=12.6km s-min=4.8km az=37.7*
*DJA **30** 02:46:34.5±1.8,4.°5S±15.°×10.°1E±1.°9,h99km±56km,M4.1/9, MLv4.1/9*
*NEIC **30** 02:46:36.4±2.1,3.°91S×101.°08E,h38km±17km,mb4.1/5, Error ellipse: s-maj=20.6km s-min=8.6km az=51.0*

ISC 30 02:46:33.8±0.8,4.°10S±0.°07×100.°91E±0.°06,h29km,n38, σ1s15/37,mb4.1/15,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASI	**Maura Aman, Be**	**1.64**	**54**	P	**Pb**	**02 47 03.0**	**-0.4**
MASI				S	**Sb**	**02 47 25.5**	**+1.8**
MNAI	**Manna**	**2.06**	**97**	P	**Pn**	**02 47 08.1**	**+1.5**
MNAI	**Manna**	**2.06**	**97**	*e*Pn	**Pn**	**02 47 07.1**	**+0.5**
LHSI	**Lahat**	**2.63**	**84**	P	**Pn**	**02 47 16.0**	**+1.7**
LHSI				S	**Sb**	**02 47 50.7**	**-1.4**
SDSI	**Sungai Dareh**	**3.19**	**9**	P	**Pn**	**02 47 22.7**	**+0.6**
PDSI	**Padang**	**3.20**	**352**	P	**Pn**	**02 47 21.9**	**-0.3**
PDSI				S	**Sn**	**02 47 57.8**	**-1.6**
MDSI	**Maura Dua**	**3.29**	**97**	P	**Pn**	**02 47 24.3**	**+0.9**
MDSI				S	**Sn**	**02 48 01.0**	**-0.6**
KASI	**Kota Agung**	**3.85**	**112**	P	**Pn**	**02 47 32.6**	**+1.5**
KASI				S	**Sn**	**02 48 13.9**	**-1.5**
KLSI		**3.86**	**99**	P	**Pn**	**02 47 32.7**	**+1.4**
KLSI				S	**Sn**	**02 48 14.7**	**-1.0**
CGJI	**Cibinong**	**5.38**	**118**	P	**Pn**	**02 47 49.8**	**-2.4**
KKM	**Kota Kinabalu**	**18.31**	**57**	*e*P	**P**	**02 50 44.5**	**-1.5**
	4.8nm,0.7s						
KAPI	**Kappang**	**18.81**	**93**	*e*P	**P**	**02 50 51.2**	**-0.1**
CMAR	**Chiang Mai Arr**	**22.50**	**355**	P	**P**	**02 51 29.9**	**-1.3**
	1.3nm,0.4s,baz=178,slow=8.6,SNR=9.0						
CMAR				LR	LR	03 01 45.9	
	comp=Z,54nm,18.7s,baz=185,slow=41						
H08S2	**Diego Garcia H**	**28.48**	**262**	T	T	03 22 08.1	
	baz=84,slow=75,SNR=907						
H08S3	**Diego Garcia H**	**28.48**	**262**	T	T	03 22 11.0	
	baz=84,slow=75,SNR=872						
H08S1	**Diego Garcia H**	**28.49**	**262**	T	T	03 22 11.7	
	baz=84,slow=75,SNR=786						
H01W3	**Cape Leeuwin H**	**33.00**	**160**	T	T	03 27 45.2	
	baz=337,slow=76,SNR=21						
H01W2	**Cape Leeuwin H**	**33.01**	**160**	T	T	03 27 46.7	
	baz=337,slow=76,SNR=29						
H01W1	**Cape Leeuwin H**	**33.01**	**160**	T	T	03 27 44.4	
	baz=337,slow=76,SNR=21						
WRA	**Warramunga Arr**	**36.18**	**119**	P	**P**	**02 53 35.5**	**+1.3**
	0.7nm,0.5s,baz=304,slow=9.2,SNR=5.9						
WRAB	**Tennant Creek**	**36.18**	**119**	*e*P	**P**	**02 53 34.4**	**+0.1**
	5.7nm,1.1s						
ASAR	**Alice Springs**	**37.31**	**125**	P	**P**	**02 53 44.4**	**+0.6**
	0.4nm,0.5s,baz=298,slow=7.6,SNR=5.8						
KSAR	**Wonju Array Be**	**48.35**	**29**	P	**P**	**02 55 12.8**	**-0.2**
KSRS	**Korea Array**	**48.38**	**29**	P	**P**	**02 55 12.8**	**-0.4**
	0.6nm,0.5s,baz=236,slow=8.9,SNR=4.5						
SONM	**Songino Array**	**51.94**	**5**	P	**P**	**02 55 41.2**	**+0.9**
	2.0nm,0.8s,baz=184,slow=8.7,SNR=11						
TKM2	**Tokmak 2**	**52.11**	**337**	*e*P	**P**	**02 55 42.8**	**+1.1**
	1.4nm,0.5s						
EKS2	**Erkin-Say**	**52.64**	**335**	*e*P	**P**	**02 55 46.6**	**+1.1**
	1.1nm,0.7s						
MK31	**Makanchi Array**	**53.28**	**344**	*e*P	**P**	**02 55 50.6**	**+0.6**
MKAR	**Makanchi Array**	**53.28**	**344**	P	**P**	**02 55 50.7**	**+0.7**
	1.4nm,0.6s,baz=151,slow=8.0,SNR=16						
MJAR	**Matsushiro Arr**	**53.35**	**37**	P	**P**	**02 55 49.9**	**-0.9**
	0.9nm,0.8s,baz=206,slow=9.1,SNR=3.3						
USRK	**Ussuriysk Ar.**	**55.59**	**27**	P	**P**	**02 56 06.5**	**-0.3**
	2.6nm,0.9s,baz=224,slow=5.3,SNR=5.6						
KURBB	**Kurchatov Arra**	**57.81**	**343**	P	**P**	**02 56 21.3**	**-1.1**
	1.8nm,0.9s,baz=156,slow=6.7,SNR=8.6						
KURK	**Kurchatov**	**57.87**	**343**	*e*P	**P**	**02 56 22.7**	**-0.1**
	3.8nm,0.9s						
ZALV	**Zalesovo Beam**	**59.39**	**349**	P	**P**	**02 56 32.8**	**-0.6**
	0.9nm,0.3s,baz=151,slow=3.4,SNR=5.4						
ASAJ	**Asahikawa**	**60.84**	**33**	LR	LR	03 24 27.7	
	comp=Z,23nm,18.8s,slow=38						
ABKAR	**Akbulak array**	**63.91**	**331**	*e*P	**P**	**02 57 03.7**	**-0.3**
BRTR	**Keskin Array B**	**75.40**	**313**	P	**P**	**02 58 16.9**	**+1.7**
	0.2nm,0.7s,baz=141,slow=8.0,SNR=2.1						
TXAR	**Lajitas Array**	**145.76**	**40**	PKPbc	**PKPab**	**03 06 12.2**	**+0.8**
	1.5nm,0.9s,baz=273,slow=2.0,SNR=12						

GUC 30 03:15:47.7±0.6,35.°08S×71.°03W,h114km±3km,ML3.6, 6C-3D,Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.18**	**294**	⇑*i*	P*n*	03 16 03.7	+0.1
NICH				*i*	S*n*	03 16 15.8	+0.3
TALC	**Talca**	**0.59**	**237**	⇓*i*	P*n*	03 16 05.7	+0.1
TALC				*i*	S*n*	03 16 19.4	+0.3
LNCH	**Linares**	**0.90**	**211**	⇓*i*	P*n*	03 16 08.1	-0.1
LNCH				*i*	S*n*	03 16 24.2	+0.4
LNV	**Longovilo**	**1.16**	**344**	⇑*i*	P*n*	03 16 11.6	+0.6
LNV				*i*	S*n*	03 16 29.0	+0.4
CHCH	**Chadas Angostu**	**1.18**	**15**	*e*P	P*n*	03 16 11.5	+0.2
CHCH				*i*	S*n*	03 16 29.9	+0.8
TACH	**Talagante**	**1.42**	**3**	⇓*i*	P*n*	03 16 14.3	+0.3
TACH				*i*	S*n*	03 16 34.2	+0.4
PCH	**Pirque**	**1.51**	**16**	⇑*i*	P*n*	03 16 15.7	+0.6
PCH				*i*	S*n*	03 16 36.5	+0.6
SJCH	**San Jose de Ma**	**1.54**	**21**	*i*	P*n*	03 16 14.9	-0.5
SJCH				*i*	S*n*	03 16 36.2	-0.1
CLCH	**Cerro Calan**	**1.73**	**14**	⇑*i*	P*n*	03 16 18.0	+0.4
CLCH				*i*	S*n*	03 16 41.1	+0.7
CLCH				AML	AML	03 16 42.5	
	comp=E,660nm,0.4s						
PEL	**Peldehue**	**1.95**	**8**	⇑*i*	P*n*	03 16 20.7	+0.4
PEL				*i*	S*n*	03 16 45.8	+0.6
PEL				AML	AML	03 16 47.9	
	comp=N,703nm,0.6s						
ROCH	**El Roble**	**2.10**	**0**	*e*P	P*n*	03 16 22.8	+0.3
ROCH				*i*	S*n*	03 16 49.3	+0.3
ROCH				AML	AML	03 16 51.5	
	comp=N,370nm,0.3s						
IHA	**Instituto Hidr**	**2.11**	**346**	⇑*i*	P*n*	03 16 23.1	+0.8

*IDC **30** 03:21:42.7±1.2,46.°87N×153.°89E,h0km,mb3.5/6, mb1 3.7/7,mb1mx3.4/32,mbtmp3.6/7,ML3.3/1,Error ellipse: s-maj=34.1km s-min=26.4km az=140.0*
*SKHL **30** 03:21:44.8±0.4,46.°05N×154.°45E,h55km±5km,mb4.6/5*
*MOS **30** 03:21:50.5±1.7,46.°68N×153.°58E,h78km,mb4.1/2,Error ellipse: s-maj=23.2km s-min=15.5km az=138.9*

ISC 30 03:21:46.3±1.1,46.°9N±0.°1×154.°0E±0.°1,h27km,n19, σ1s18/20,mb3.5/6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**4.09**	**20**	*e*PN	**Pb**	**03 22 55.6**	**-2.0**
SKR				*e*S	**Sb**	**03 23 48.3**	**+1.7**
SKR	**Severo-Kuril's**	**4.09**	**20**	*e*P	**Pb**	**03 22 55.0**	**-2.6**
SKR				AMB	AMB	03 23 05.6	
	30nm,1.0s						
SKR				*e*S	**Sb**	**03 23 48.0**	**+1.4**
SKR				A	A	03 23 56.9	
	160nm,0.7s						
KUR	**Kuril'sk**	**4.53**	**251**	*e*PN	**Pn**	**03 22 53.5**	**+0.4**
KUR				*e*S	**Sn**	**03 23 44.7**	**-0.1**
KUR	**Kuril'sk**	**4.53**	**251**	*i* P	**Pn**	**03 22 53.5**	**+0.4**
KUR				AMB	AMB	03 23 05.2	
	30nm,0.2s						
KUR				AMB	AMB	03 23 05.2	
	10.0nm,0.2s						
KUR				AMB	AMB	03 23 05.2	
	20nm,0.2s						
KUR				AMB	AMB	03 23 05.3	
	70nm,0.2s						
KUR				*e*S	**Sn**	**03 23 44.7**	**-0.1**
KUR				A	A	03 24 09.0	
	160nm,0.8s						
SHO	**Shikotan**	**5.83**	**242**	*e*PN	**Pn**	**03 23 09.9**	**-1.1**
SHO	**Shikotan**	**5.83**	**242**	*e*P	**Pn**	**03 23 09.9**	**-1.1**
SHO				AMB	AMB	03 23 13.3	
	190nm,0.8s						
YSS	**Yuzh-Sakhalins**	**7.67**	**275**	*e*PN	Pn	03 23 41.4	+5.3
YSS	**Yuzh-Sakhalins**	**7.67**	**275**	*e*P	Pn	03 23 41.4	+5.3
YSS				AMB	AMB	03 23 43.2	
	10.0nm,0.1s						
YSS				*e*S	Sn	03 25 10.0	+8.0
JKA	**Kamikawa-asahi**	**8.43**	**255**	*e*P	**Pn**	**03 23 47.5**	**+0.9**
ASAJ	**Asahikawa**	**8.43**	**255**	Pn	**Pn**	**03 23 47.5**	**+0.8**
	0.4nm,0.3s,baz=149,slow=33,SNR=5.1						
TYV	**Tymovskoe**	**8.46**	**302**	*e*P	Pn	03 23 55.5	+8.6
TYV				AMB	AMB	03 23 56.0	
	10.0nm,0.8s						
KSRS	**Korea Array**	**21.37**	**253**	P	**P**	**03 26 31.9**	**+0.4**
	0.7nm,0.8s,baz=59,slow=9.5,SNR=3.6						
MKAR	**Makanchi Array**	**47.40**	**298**	P	**P**	**03 30 17.1**	**-0.9**
	0.2nm,0.4s,baz=66,slow=8.1,SNR=4.1						
ARCES	**ARCESS Array B**	**57.94**	**341**	P	**P**	**03 31 35.6**	**+0.1**
	0.9nm,0.8s,baz=31,slow=7.3,SNR=4.1						
**ARCES

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.19**	**323**	P	**Pn**	**03 28 23.8**	**+0.1**
BSO1				*e*S	**Sn**	**03 28 50.2**	**+0.8**
JHJ2	**Mitsune**	**2.32**	**276**	P	**Pn**	**03 28 25.0**	**-1.0**
BSO2	**Boso 2**	**2.38**	**321**	*e*S	**Sn**	**03 28 54.9**	**+0.4**
BSO3	**Boso 3**	**2.55**	**318**	S	**Sn**	**03 28 59.8**	**+1.1**
JOD2	**Odawara 2**	**3.73**	**310**	S	**Sn**	**03 29 28.0**	**-0.1**
JHU	**Hanno**	**4.00**	**318**	S	**Sn**	**03 29 33.9**	**-1.0**
JHO	**Hitachi**	**4.05**	**337**	P	**Pn**	**03 28 49.4**	**-0.4**
JRY	**Ryogami san**	**4.34**	**317**	P	**Pn**	**03 28 54.3**	**+0.5**
JRY				S	**Sn**	**03 29 42.7**	**-0.5**
JAG	**Ashikaga**	**4.35**	**325**	P	**Pn**	**03 28 53.8**	**-0.1**
JAG				S	**Sn**	**03 29 42.0**	**-1.5**
JFT	**Otama**	**4.95**	**339**	P	**Pn**	**03 29 01.5**	**-0.7**
JFT				S	**Sn**	**03 29 54.9**	**-3.4**
MJAR	**Matsushiro Arr** 0.4nm,0.3s,baz=147,slow=12,SNR=9.0	**5.11**	**317**	Pn	**Pn**	**03 29 05.0**	**+0.7**
MJAR				Sn	**Sn**	**03 30 00.1**	**-2.0**
	0.3nm,0.3s,baz=156,slow=17,SNR=3.6						
JCJ	**Chichijima** 2.2nm,0.3s,baz=6.4,slow=22,SNR=8.8	**5.80**	**183**	Pn	**Pn**	**03 29 13.4**	**-0.4**
JCJ				Sn	**Sn**	**03 30 15.0**	**-4.2**
	1.8nm,0.3s,baz=270,slow=20,SNR=2.6						
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=99,slow=7.5,SNR=4.3	**47.20**	**306**	P	**P**	**03 36 21.1**	**+1.4**
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=6.8,slow=7.7,SNR=5.3	**53.13**	**190**	P	**P**	**03 37 05.4**	**+0.7**

*IDC **30** 03:31:22.4±1.1,53°.57N×163°.06W,h0km,mb3.6/9, mb1 3.8/10,mb1mx3.6/35,mbtmp3.5/10,ML3.4/1,Error ellipse: s-maj=31.0km s-min=16.3km az=5.0*
*ISCJB **30** 03:31:23.3±1.6,53°.47N±0°.05×163°.10W±0°.05, h22km±14km,mb3.6/9,Error ellipse: s-maj=8.9km s-min=5.1km az=170.2*
*NEIC **30** 03:31:25.3,53°.49N×163°.19W,h42km,mb3.5/2, ML3.5(AEIC),After AEIC.*
ISC 30 03:31:23.6±2.2,53°.54N±0°.08×163°.18W±0°.05, h10km±13km,n41,σ0°90/41,mb3.7/9,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.25**	**319**	P	**Pn**	**03 31 47.0**	**-0.2**
WESP	**Westdahl Peak**	**1.32**	**317**	P	**Pn**	**03 31 48.2**	**+0.1**
WESP				S	**Sb**	**03 32 05.2**	**-0.2**
WESN	**West Dahl Nort**	**1.32**	**322**	P	**Pb**	**03 31 48.4**	**-0.1**
FALS	**False Pass**	**1.33**	**354**	P	**Pb**	**03 31 48.4**	**-0.2**
FALS				S	**Sg**	**03 32 06.7**	**+0.4**
ISNN	**Isanotski Nort**	**1.34**	**345**	P	**Pg**	**03 31 49.6**	**+0.2**
SSLW	**Shishaldin Wes**	**1.35**	**336**	P	**Pb**	**03 31 48.8**	**-0.2**
SSLN	**Shishaldin Nor**	**1.36**	**340**	P	**Pg**	**03 31 49.6**	**-0.2**
AKSA	**Akutan Strait**	**1.60**	**293**	P	**Pn**	**03 31 51.6**	**-0.4**
AKSA				S	**Sn**	**03 32 12.8**	**+0.1**
AKUT	**Akutan**	**1.65**	**292**	P	**Pn**	**03 31 52.4**	**-0.2**
AKUT				S	**Sn**	**03 32 13.0**	**-0.7**
DT1	**Dutton Round H**	**1.66**	**18**	P	**Pn**	**03 31 52.6**	**-0.1**
DTNA	**Dutton South F**	**1.70**	**18**	P	**Pn**	**03 31 53.4**	**+0.1**
ZRO	**Akutan Zero**	**1.75**	**290**	P	**Pn**	**03 31 53.8**	**-0.1**
AKGG	**Akutan Green G**	**1.79**	**293**	P	**Pn**	**03 31 54.5**	**0.0**
AKGG				S	**Sn**	**03 32 16.5**	**-0.8**
UNV	**Unalaska Valle**	**2.00**	**280**	P	**Pn**	**03 31 56.5**	**-0.9**
MREP	**Makushin Rep't**	**2.14**	**279**	P	**Pn**	**03 31 59.7**	**+0.3**
MSW	**Makushin Switc**	**2.17**	**281**	P	**Pn**	**03 31 59.5**	**-0.3**
MCIR	**Makushin Cirqu**	**2.24**	**282**	P	**Pn**	**03 32 01.0**	**+0.2**
SDPT	**Sand Point**	**2.41**	**40**	P	**Pn**	**03 32 03.6**	**+0.7**
SDPT				S	**Sn**	**03 32 32.0**	**-0.4**
OKSP	**Okmok Steeple**	**3.07**	**267**	P	**Pn**	**03 32 12.4**	**+0.2**
NIKH	**Nikolski High**	**3.45**	**263**	P	**Pn**	**03 32 16.9**	**-0.5**
RC01	**Rabbit Creek A**	**10.48**	**38**	*e*Pn	**Pn**	**03 33 54.4**	**+0.8**
TRF	**Thorofare Moun**	**11.98**	**29**	*e*Pn	**Pn**	**03 34 14.3**	**-0.1**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=333,slow=12,SNR=5.2	**13.96**	**30**	Pn	**Pn**	**03 34 38.7**	**-2.6**
DOT	**Dot Lake**	**14.14**	**37**	*e*Pn	**Pn**	**03 34 43.2**	**-0.6**
COLD	**Coldfoot** 4.0nm,1.0s	**15.10**	**20**	*e*Pn	**Pn**	**03 34 57.4**	**+0.7**
EGAK	**Eagle** 2.4nm,0.8s	**15.84**	**36**	*e*Pn	**Pn**	**03 35 04.1**	**-2.2**
PETK	**Petropavlovsk-** 1.2nm,0.4s,baz=98,slow=8.9,SNR=2.5	**23.17**	**285**	P	**P**	**03 36 31.1**	**+1.0**
YKA	**Yellowknife Ar** 0.7nm,0.8s,baz=270,slow=9.2,SNR=7.6	**26.62**	**51**	P	**P**	**03 37 03.0**	**+1.2**
NVAR	**Mina Array Bea** 0.4nm,0.6s,baz=284,slow=3.6,SNR=1.9	**34.02**	**98**	P	**P**	**03 38 05.5**	**-2.3**
PDAR	**Pinedale Array** 0.2nm,0.4s,baz=312,slow=6.8,SNR=3.0	**36.53**	**85**	P	**P**	**03 38 29.0**	**-0.3**
H11N2	**WAKE ISLAND Hy** baz=26,slow=76,SNR=59	**40.84**	**226**	T	T	04 23 08.1	
H11N3	**WAKE ISLAND Hy** baz=26,slow=76,SNR=107	**40.84**	**226**	T	T	04 23 04.2	
H11N1	**WAKE ISLAND Hy** baz=26,slow=76,SNR=71	**40.85**	**226**	T	T	04 23 04.3	
H11S1	**WAKE ISLAND Hy** baz=26,slow=75,SNR=55	**42.01**	**225**	T	T	04 24 36.9	
H11S2	**WAKE ISLAND Hy** baz=26,slow=75,SNR=55	**42.02**	**225**	T	T	04 24 37.9	
H11S3	**WAKE ISLAND Hy** baz=26,slow=75,SNR=44	**42.02**	**225**	T	T	04 24 36.2	
KSRS	**Korea Array** 0.8nm,0.7s,baz=66,slow=5.5,SNR=3.4	**48.94**	**280**	P	**P**	**03 40 10.6**	**+0.9**
TXAR	**Lajitas Array** 0.4nm,0.5s,baz=301,slow=5.6,SNR=10	**49.05**	**95**	P	**P**	**03 40 11.7**	**+1.0**
SONM	**Songino Array** 0.2nm,0.5s,baz=44,slow=6.1,SNR=2.6	**53.85**	**303**	P	**P**	**03 40 48.3**	**+1.7**
FINES	**FINESS Array B** 1.7nm,0.9s,baz=25,slow=5.0,SNR=5.4	**65.13**	**355**	P	**P**	**03 42 03.1**	**-0.8**
AKASG	**Malin Array Be** 0.3nm,0.4s,baz=11,slow=5.2,SNR=2.6	**75.61**	**352**	P	**P**	**03 43 07.5**	**-0.6**

*GUC **30** 03:41:26.5±0.5,30°.19S×71°.60W,h46km±5km,ML4.2*
*ISCJB **30** 03:41:27.5±1.0,30°.23S±0°.04×71°.40W±0°.08,h58km±12km, Error ellipse: s-maj=11.1km s-min=7.2km az=175.7*
*SJA **30** 03:41:28.0±1.8,30°.35S×71°.14W,h164km±22km,ML3.5*
ISC 30 03:41:27.9±1.7,30°.20S±0°.05×71°.44W±0°.09,h57km±15km, n17,σ0°88/27,3C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.34**	**30**	⇑*i*P	**Pn**	**03 41 37.7**	**-0.2**
LSCH				*i* S	**Sn**	**03 41 45.3**	**+0.2**
LCO	**Las Campanas**	**1.35**	**29**	*i* P	Pn	03 41 59.0	+8.3
VACH	**Vallenar**	**1.72**	**20**	⇑*i*P	**Pn**	**03 41 55.3**	**-0.3**
VACH				*i* S	**Sn**	**03 42 17.3**	**+0.8**
RTLS	**Leoncito**	**2.43**	**132**	*i* P	**Pn**	**03 42 05.8**	**+0.4**
RTLS				*i* S	**Sn**	**03 42 36.2**	**+2.0**
AMOG	**MOGNA**	**2.64**	**107**	*i* P	**Pn**	**03 42 08.7**	**+0.5**
AMOG				*i* S	**Sn**	**03 42 39.4**	**+0.4**
AUSP	**Uspallata**	**2.67**	**140**	*i* P	**Pn**	**03 42 09.2**	**+0.4**
AUSP				*i* S	**Sn**	**03 42 40.0**	**-0.1**
RTLL	**Cerro Villicun**	**2.79**	**115**	*i* P	**Pn**	**03 42 10.5**	**+0.5**
RTLL				*i* S	**Sn**	**03 42 41.5**	**-1.0**
ROCH	**El Roble**	**2.79**	**173**	*e*P	**Pn**	**03 42 09.9**	**-0.4**
ROCH				AML	AML	03 42 51.8	
	comp=E,490nm,0.3s						
SJA	**San Juan**	**2.81**	**119**	*i* P	**Pn**	**03 42 11.2**	**+0.9**
SJA				AML	AML	03 42 51.4	
	comp=Z,133nm,0.4s						
RTCV	**Cerro Valdivia**	**2.99**	**124**	*i* P	**Pn**	**03 42 13.2**	**+0.4**
RTCV				*i* S	**Sn**	**03 42 46.5**	**-0.9**
PEL	**Peldehue**	**3.00**	**168**	⇑*i*P	**Pn**	**03 42 12.8**	**-0.2**
PEL				*i* S	**Sn**	**03 42 48.0**	**+0.1**
PEL				AML	AML	03 43 02.3	
	comp=N,616nm,0.2s						
CFAA	**Coronel Fontan**	**3.08**	**118**	*i* P	**Pn**	**03 42 14.4**	**+0.3**
CFAA				*i* S	**Sn**	**03 42 49.0**	**-0.9**
ASAL	**Salagasta**	**3.26**	**138**	*i* P	**Pn**	**03 42 18.0**	**+1.4**
CLCH	**Cerro Calan**	**3.28**	**167**	*e*P	**Pn**	**03 42 17.1**	**+0.2**
CLCH				*i* S	**Sn**	**03 42 54.9**	**+0.3**
CLCH				AML	AML	03 43 07.6	
	comp=E,523nm,0.6s						
ARCO	**CERRO ARCO**	**3.39**	**142**	*i* P	**Pn**	**03 42 18.9**	**+0.4**
ARCO				*i* S	**Sn**	**03 42 56.3**	**-1.2**
ARCO				AML	AML	03 43 10.3	
	comp=Z,144nm,0.5s						
AAGR	**Agrelo**	**3.64**	**143**	*i* P	**Pn**	**03 42 21.8**	**0.0**
ACAN	**Cantantal**	**4.18**	**121**	*i* P	**Pn**	**03 42 27.2**	**-2.0**

MAN 30 04:15:21,13°.46N×120°.43E,h46km,mb4.2,ML3.0,MS2.8, 1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.33**	**327**	*e*P	Pn	04 15 32.5	+2.4
PGP	**Puerto Galera**	**0.51**	**85**	⇓*e*P	Pn	04 15 33.8	+1.6
SJMP	**San Jose**	**1.20**	**146**	*e*P	Pn	04 15 42.9	+1.6
SJMP				*e*S	Sn	04 15 58.3	+1.9
ENPP	**El Nido**	**2.44**	**204**	*e*P	Pn	04 15 59.5	+1.1

IDC 30 04:38:51.8±2.2,6°.31S×129°.26E,h0km,mb3.7/1, mb1 3.9/3,mb1mx3.5/24,mbtmp3.7/3,ML3.9/2,Error ellipse: s-maj=151.1km s-min=31.1km az=68.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=342,slow=13,SNR=7.9	**14.42**	**160**	Pn	Pn	04 42 16.7	-0.7
WRA				Sn	Sn	04 44 44.3	-14
	0.9nm,0.3s,baz=342,slow=21,SNR=7.6						
ASAR	**Alice Springs** 0.4nm,0.3s,baz=348,slow=10,SNR=22	**17.83**	**166**	P	Pn	04 43 01.7	+0.2
ASAR				S	Sn	04 46 11.3	-10
	0.3nm,0.3s,baz=2.8,slow=24,SNR=6.2						
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=124,slow=8.0,SNR=6.0	**67.25**	**327**	P	P	04 49 48.2	+0.1

*IDC **30** 04:47:05.5±1.1,32°.74N×142°.61E,h0km,mb3.8/9, mb1 4.0/11,mb1mx3.8/32,mbtmp3.9/11,ML4.1/2,MS2.5/1, Ms1 2.5/1,ms1mx2.0/39,Error ellipse: s-maj=39.0km s-min=20.6km az=75.0*
*NEIC **30** 04:47:06.0±3.8,32°.80N×142°.67E,h3km±23km,mb4.1/3, Error ellipse: s-maj=16.1km s-min=7.3km az=71.0*
*ISCJB **30** 04:47:09.1±0.5,32°.66N±0°.05×142°.1E±0°.1,h33km, mb3.9/12,Error ellipse: s-maj=14.8km s-min=3.8km az=157.5*
*JMA **30** 04:47:10.8±0.3,32°.99N×142°.33E,h111km,M3.3*
ISC 30 04:47:10.9±0.8,32°.74N±0°.08×142°.3E±0°.1,h33km,n30, σ1°36/37,mb3.9/12,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**2.55**	**325**	P	**Pn**	**04 47 49.0**	**-0.6**
BSO3				S	**Sn**	**04 48 19.7**	**+0.4**
BSO4	**Boso 4**	**2.78**	**324**	P	**Pn**	**04 47 52.8**	**-0.2**
BSO4				S	**Sn**	**04 48 24.7**	**-0.7**
JOD2	**Odawara 2**	**3.67**	**314**	P	**Pn**	**04 48 04.2**	**-1.2**
JOD2				S	**Sn**	**04 48 44.0**	**-3.6**
JHU	**Hanno**	**3.99**	**322**	P	**Pn**	**04 48 08.6**	**-1.1**
JHU				S	**Sn**	**04 48 52.6**	**-2.8**
JYN	**Shimob**	**4.16**	**312**	P	**Pn**	**04 48 12.6**	**+0.5**
JRY	**Ryogami san**	**4.32**	**320**	P	**Pn**	**04 48 13.4**	**-0.8**
JRY				S	**Sn**	**04 49 02.6**	**-0.8**
JAG	**Ashikaga**	**4.37**	**328**	P	**Pn**	**04 48 13.7**	**-1.2**
MJAR	**Matsushiro Arr** 2.4nm,0.3s,baz=149,slow=12,SNR=25	**5.08**	**319**	Pn	**Pn**	**04 48 24.8**	**0.0**
MJAR				Sn	**Sn**	**04 49 21.7**	**-0.5**
	1.2nm,0.3s,baz=202,slow=31,SNR=5.7						
MAJO	**Matsushiro** 15nm,0.8s	**5.08**	**319**	*e*Pn	**Pn**	**04 48 25.2**	**+0.4**
MAJO				*e*Sn	**Sn**	**04 49 21.9**	**-0.4**
MAT	**Matsushiro**	**5.08**	**319**	P	**Pn**	**04 48 24.8**	**0.0**
MAT				S	**Sn**	**04 49 19.5**	**-2.8**
CBIJ	**Chichi jima**	**5.62**	**181**	Pn	**Pn**	**04 48 31.8**	**-0.4**
CBIJ				Sn	**Sn**	**04 49 33.2**	**-2.4**
JCJ	**Chichijima** 19nm,0.3s,baz=72,slow=22,SNR=31	**5.62**	**181**	Pn	**Pn**	**04 48 31.8**	**-0.4**
JCJ				Sn	**Sn**	**04 49 33.2**	**-2.4**
	9.6nm,0.3s,baz=302,slow=23,SNR=6.8						
JNU	**Nakatsue** comp=Z,30nm,20.5s,baz=228,slow=36	**9.61**	**275**	LR	LR	04 52 59.7	
ASAJ	**Asahikawa** baz=112,slow=19	**11.37**	**1**	Pn	Pn	04 49 46.0	-4.9
SONM	**Songino Array** 0.5nm,0.5s,baz=94,slow=8.7,SNR=4.5	**30.95**	**310**	P	**P**	**04 53 27.1**	**+2.2**
MK31	**Makanchi Array**	**47.12**	**306**	*e*P	**P**	**04 55 41.1**	**+1.3**
MKAR	**Makanchi Array** 0.7nm,0.6s,baz=91,slow=9.9,SNR=12	**47.12**	**306**	P	**P**	**04 55 41.2**	**+1.4**
KURK	**Kurchatov**	**49.23**	**311**	P	**P**	**04 55 57.3**	**+1.3**
KURBB	**Kurchatov Arra** 1.6nm,0.6s,baz=86,slow=7.4,SNR=15	**49.30**	**311**	P	**P**	**04 55 57.3**	**+0.8**
WRA	**Warramunga Arr** 1.0nm,0.6s,baz=7.6,slow=7.7,SNR=13	**52.93**	**189**	P	**P**	**04 56 23.6**	**-0.4**
AS31	**Alice Springs**	**56.66**	**189**	*e*P	**P**	**04 56 51.6**	**+0.7**
ABKAR	**Akbulak array**	**61.32**	**312**	*e*P	**P**	**04 57 23.5**	**+0.5**
RES	**Resolute Bay** 0.6nm,0.7s	**66.58**	**14**	*e*P	**P**	**04 57 55.6**	**-1.6**
YKA	**Yellowknife Ar** 0.4nm,0.8s,baz=302,slow=6.2,SNR=4.1	**67.17**	**29**	P	**P**	**04 58 00.5**	**-0.7**
NEW	**Newport** 2.3nm,1.0s	**72.72**	**43**	*e*P	P	04 58 33.4	-2.2
FINES	**FINESS Array B** 2.7nm,0.8s,baz=40,slow=9.1,SNR=4.3	**72.96**	**333**	P	**P**	**04 58 37.0**	**+0.3**
KBZ	**Khabaz** 1.0nm,0.7s,baz=236,slow=24,SNR=4.1	**74.28**	**312**	P	**P**	**04 58 45.4**	**+0.6**
AKASG	**Malin Array Be** 0.5nm,0.5s,baz=50,slow=5.3,SNR=5.1	**78.16**	**323**	P	**P**	**04 59 07.0**	**+0.3**
KIEV	**Kiev** 1.2nm,0.7s	**78.17**	**323**	*e*P	**P**	**04 59 06.5**	**-0.2**
NOA	**NORSAR Array B** 0.6nm,0.8s,baz=37,slow=5.2,SNR=4.0	**78.43**	**338**	P	**P**	**04 59 08.6**	**+0.5**

*CRAAG **30** 04:48:30.7,35°.87N×4°.09E,Ml3.4*
*MDD **30** 04:48:32.3±0.5,35°.93N×4°.13E,h0km,mb3.9/5,Error ellipse: s-maj=13.0km s-min=4.1km az=23.0,PRXIMO*
*CSEM **30** 04:48:33.7±0.3,36°.13N×4°.07E,h2km,mb3.9,Error ellipse: s-maj=10.5km s-min=5.7km az=177.0*
ISC 30 04:48:31.7±1.3,35°.94N±0°.05×4°.08E±0°.03,h6km±11km, n54,σ1°15/63,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAF	**Djebel Tarf**	**0.18**	**113**	P	**Pg**	**04 48 34.2**	**-1.1**
ATAF	**Djebel Tarf**	**0.18**	**113**	P	**Pg**	**04 48 34.2**	**-1.1**
ATAF	**Djebel Tarf**	**0.18**	**113**	P	**Pg**	**04 48 34.2**	**-1.1**
AKET	**Djebel Ketaf**	**0.19**	**304**	P	**Pg**	**04 48 35.9**	**+0.3**
AKET	**Djebel Ketaf**	**0.19**	**304**	P	**Pg**	**04 48 35.9**	**+0.3**
AKET	**Djebel Ketaf**	**0.19**	**304**	P	**Pg**	**04 48 35.9**	**+0.3**
ADJB	**Djebel Djouab**	**0.56**	**293**	P	**Pb**	**04 48 43.4**	**-0.6**
ADJB	**Djebel Djouab**	**0.56**	**293**	P	**Pb**	**04 48 43.4**	**-0.6**
ADJB	**Djebel Djouab**	**0.56**	**293**	P	**Pb**	**04 48 43.4**	**-0.6**
SET	**Setif**	**1.10**	**76**	P	**Pg**	**04 48 53.0**	**+0.1**
SET	**Setif**	**1.10**	**76**	P	**Pg**	**04 48 53.0**	**+0.1**
SET	**Setif**	**1.10**	**76**	P	**Pg**	**04 48 53.0**	**+0.1**
DFRA	**Djebel Bou Aff**	**1.57**	**67**	P	**Pg**	**04 49 03.3**	**+1.4**
DFRA	**Djebel Bou Aff**	**1.57**	**67**	P	**Pg**	**04 49 03.3**	**+1.4**
DFRA	**Djebel Bou Aff**	**1.57**	**67**	P	**Pg**	**04 49 03.3**	**+1.4**
CASM	**Ain Smara**	**1.98**	**80**	P	**Pb**	**04 49 09.1**	**+0.9**
CASM	**Ain Smara**	**1.98**	**80**	P	**Pb**	**04 49 09.1**	**+0.9**
CASM	**Ain Smara**	**1.98**	**80**	P	**Pb**	**04 49 09.1**	**+0.9**
EBNR	**Beni Rached**	**2.09**	**280**	P	**Pb**	**04 49 10.2**	**+0.1**
EBNR	**Beni Rached**	**2.09**	**280**	P	**Pb**	**04 49 10.2**	**+0.1**
ECHA	**Ech Chlef**	**2.21**	**276**	P	**Pb**	**04 49 11.9**	**-0.1**
ECHA	**Ech Chlef**	**2.21**	**276**	P	**Pb**	**04 49 11.9**	**-0.1**
ECHF	**Ech Chlef**	**2.23**	**276**	P	**Pb**	**04 49 11.9**	**-0.5**
ECHF	**Ech Chlef**	**2.23**	**276**	P	**Pb**	**04 49 11.9**	**-0.5**
ETRT	**Tiaret**	**2.33**	**257**	P	**Pb**	**04 49 13.9**	**-0.2**
ETRT	**Tiaret**	**2.33**	**257**	P	**Pb**	**04 49 13.9**	**-0.2**
ETRT	**Tiaret**	**2.33**	**257**	P	**Pb**	**04 49 13.9**	**-0.2**
EANR	**'Ain N'Sour**	**2.42**	**271**	P	**Pb**	**04 49 16.1**	**+0.5**
EANR	**'Ain N'Sour**	**2.42**	**271**	P	**Pb**	**04 49 16.1**	**+0.5**
EANR	**'Ain N'Sour**	**2.42**	**271**	P	**Pb**	**04 49 16.1**	**+0.5**
OKGL	**Djebel Kef Gue** 48nm,0.4s,SNR=7.9	**2.79**	**273**	S	**Sn**	**04 49 52.0**	**+1.1**
OKGL	**Djebel Kef Gue** 48nm,0.4s,SNR=7.9	**2.79**	**273**	S	**Sn**	**04 49 52.0**	**+1.1**
EIBI	**Ibiza** 2.2nm,0.2s,SNR=9.0	**3.77**	**326**	P	**Pn**	**04 49 31.0**	**+0.6**
EIBI				S	**Sn**	**04 50 14.8**	**-0.2**
	13nm,1.1s,SNR=7.9						
EIBI	**Ibiza** 2.2nm,0.2s,SNR=9.0	**3.77**	**326**	P	**Pn**	**04 49 31.0**	**+0.6**
EIBI				S	**Sn**	**04 50 14.8**	**-0.2**
	13nm,1.1s,SNR=7.9						
ETOS	**Mallorca** 1.2nm,0.3s,SNR=5.6	**3.95**	**346**	P	**Pn**	**04 49 32.7**	**-0.1**
ETOS				S	**Sn**	**04 50 17.2**	**-2.3**
	4.5nm,1.0s,SNR=7.9						
ETOS	**Mallorca** 1.2nm,0.3s,SNR=5.6	**3.95**	**346**	P	**Pn**	**04 49 32.7**	**-0.1**
ETOS				S	**Sn**	**04 50 17.2**	**-2.3**
	4.5nm,1.0s,SNR=7.9						
EBEN	**Beniarda** 0.2nm,0.2s,SNR=7.9	**4.40**	**310**	P	**Pn**	**04 49 39.9**	**+0.8**
EBEN	**Beniarda** 0.2nm,0.2s,SNR=7.9	**4.40**	**310**	P	**Pn**	**04 49 39.9**	**+0.8**
EMUR	**La Murta** 2.6nm,0.2s,SNR=11	**4.67**	**296**	P	**Pn**	**04 49 43.1**	**+0.4**
EMUR	**La Murta** 2.6nm,0.2s,SNR=11	**4.67**	**296**	P	**Pn**	**04 49 43.1**	**+0.4**
ETOB	**Tobarra** 0.8nm,0.2s,SNR=10.0	**5.23**	**303**	P	**Pn**	**04 49 51.9**	**+1.4**
ETOB				S	**Sn**	**04 50 49.6**	**-1.6**
	1.8nm,0.6s						
ETOB	**Tobarra** 0.8nm,0.2s,SNR=10.0	**5.23**	**303**	P	**Pn**	**04 49 51.9**	**+1.4**
EHUE	**Huescar** 1.2nm,0.2s,SNR=4.0	**5.66**	**291**	P	**Pn**	**04 49 58.6**	**+2.1**
EHUE	**Huescar** 1.2nm,0.2s,SNR=4.0	**5.66**	**291**	P	**Pn**	**04 49 58.6**	**+2.1**
EMOS	**Mosqueruela** 0.6nm,0.3s,SNR=7.9	**5.69**	**322**	P	**Pn**	**04 49 57.6**	**+0.7**
EMOS				S	**Sn**	**04 50 59.0**	**-3.6**
	1.6nm,0.6s,SNR=4.0						
EMOS	**Mosqueruela** 0.6nm,0.3s,SNR=7.9	**5.69**	**322**	P	**Pn**	**04 49 57.6**	**+0.7**
EBER	**Berja** 0.9nm,0.2s,SNR=5.7	**5.70**	**282**	P	**Pn**	**04 49 57.2**	**+0.2**
EBER				S	**Sn**	**04 51 01.6**	**-1.2**
	2.3nm,0.7s,SNR=4.0						
EBER	**Berja** 0.9nm,0.2s,SNR=5.7	**5.70**	**282**	P	**Pn**	**04 49 57.2**	**+0.2**
SESP	**Santiago Espad** 1.7nm,0.2s,SNR=7.9	**5.73**	**294**	P	**Pn**	**04 49 59.2**	**+1.8**
SESP				S	**Sn**	**04 51 01.3**	**-2.2**
	4.1nm,0.4s,SNR=7.9						
SESP	**Santiago Espad** 1.7nm,0.2s,SNR=7.9	**5.73**	**294**	P	**Pn**	**04 49 59.2**	**+1.8**
EQES	**Quesada** 1.6nm,0.2s,SNR=7.9	**6.02**	**290**	P	**Pn**	**04 50 03.0**	**+1.5**
EQES				S	**Sn**	**04 51 09.6**	**-1.2**
	2.3nm,0.5s,SNR=7.9						
EQES	**Quesada** 1.6nm,0.2s,SNR=7.9	**6.02**	**290**	P	**Pn**	**04 50 03.0**	**+1.5**
EMIR	**Miracle** 0.4nm,0.1s,SNR=4.0	**6.29**	**342**	P	**Pn**	**04 50 04.7**	**-0.3**
EMIR	**Miracle** 0.4nm,0.1s,SNR=4.0	**6.29**	**342**	P	**Pn**	**04 50 04.7**	**-0.3**

*NEIC **30** 05:08:01.8,42°.56S×172°.92E,h12km,ML3.9(WEL),After WEL.*
NEIC Felt at Hanmer Springs and Waiau.
WEL 30 05:08:01.8±0.1,42°.58S×172°.92E,h12km,ML3.9/30, 8C-4D,Error ellipse: s-maj=1.2km s-min=1.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.49**	**71**	⇓P*	Pg	05 08 11.2	-0.2
KHZ				S*	Sg	05 08 18.4	+0.5
KHZ				AML	AML	05 08 18.8	
KHZ	**Kahutara**	**0.49**	**71**	*e*Pg	Pg	05 08 11.2	-0.2
KHZ				*e*Sg	Sg	05 08 18.0	+0.1
LTZ	**Lake Taylor**	**0.52**	**246**	⇑P*	Pg	05 08 11.9	-0.2
LTZ				S*	Sg	05 08 19.0	-0.1
LTZ				AML	AML	05 08 19.9	
LTZ	**Lake Taylor**	**0.52**	**246**	⇑P*	Pg	05 08 11.9	-0.2
LTZ				S*	Sg	05 08 19.0	-0.1
THZ	**Tophouse**	**0.81**	**359**	P*	Pg	05 08 16.0	-1.6
THZ				AML	AML	05 08 29.5	
THZ				AML	AML	05 08 29.8	
THZ	**Tophouse**	**0.81**	**359**	P*	Pg	05 08 16.0	-1.6
OXZ	**Oxford**	**0.99**	**220**	⇑P*	Pb	05 08 20.2	-0.7
CRLZ	**Canterbury Las**	**1.02**	**192**	⇓P*	Pb	05 08 20.0	-0.6
CRLZ				AML	AML	05 08 39.2	
CRLZ				AML	AML	05 08 42.5	
CRLZ	**Canterbury Las**	**1.02**	**192**	P*	Pb	05 08 20.9	-0.6
BSWZ	**Blackbirch Sta**	**1.12**	**40**	⇑P*	Pb	05 08 21.8	-1.3
BSWZ				AML	AML	05 08 24.2	
BSWZ				AML	AML	05 08 41.0	
BSWZ	**Blackbirch Sta**	**1.12**	**40**	P*	Pb	05 08 21.8	-1.3
MQZ	**McQueen's Vall**	**1.15**	**190**	⇓P*	Pb	05 08 22.2	-1.4
MQZ				S*	Sb	05 08 37.3	-1.2
MQZ	**McQueen's Vall**	**1.15**	**190**	P*	Pb	05 08 22.2	-1.4
DSZ	**Denniston Nort**	**1.17**	**315**	P*	Pb	05 08 23.4	-0.7
DSZ	**Denniston Nort**	**1.17**	**315**	P*	Pb	05 08 23.1	-1.0
CMWZ	**Cape Campbell**	**1.27**	**50**	PN	Pb	05 08 25.9	+0.2
CMWZ				AML	AML	05 08 32.6	
CMWZ				AML	AML	05 08

TSZ	**Takapari Road**	**3.40**	**43**	PN	Pn	05 08 52.4	-2.3
TSZ				AML	AML	05 09 55.2	
TSZ				AML	AML	05 10 10.5	
TSZ	**Takapari Road**	**3.40**	**43**	Pn	Pn	05 08 52.4	-2.3
PKE	**Pukeiti**	**3.47**	**14**	PN	Pn	05 08 56.9	+1.1
PKE				AML	AML	05 09 41.1	
PKE				AML	AML	05 10 00.0	
PKE	**Pukeiti**	**3.47**	**14**	Pn	Pn	05 08 56.9	+1.1
PNHZ	**Pukenui**	**3.63**	**44**	PN	Pn	05 08 55.3	-2.6
PNHZ	**Pukenui**	**3.63**	**44**	Pn	Pn	05 08 55.3	-2.6
VRZ	**Vera Road**	**3.72**	**23**	PN	Pn	05 08 60.0	+0.9
VRZ				AML	AML	05 10 13.4	
VRZ				AML	AML	05 10 19.5	
VRZ	**Vera Road**	**3.72**	**23**	Pn	Pn	05 08 60.0	+0.9
EAZ	**Earnscleugh**	**3.72**	**223**	PN	Pn	05 08 57.6	-1.5
EAZ	**Earnscleugh**	**3.72**	**223**	Pn	Pn	05 08 57.6	-1.5
PKVZ	**Pokaka**	**3.76**	**30**	PN	Pn	05 08 59.9	+0.2
PKVZ	**Pokaka**	**3.76**	**30**	Pn	Pn	05 08 59.9	+0.2
WNVZ	**Wahianoa**	**3.83**	**33**	PN	Pn	05 09 00.1	-0.7
WNVZ	**Wahianoa**	**3.83**	**33**	Pn	Pn	05 09 00.1	-0.7
TRVZ	**Turoa**	**3.83**	**32**	PN	Pn	05 09 00.4	-0.6
TRVZ				AML	AML	05 10 18.7	
TRVZ				AML	AML	05 10 23.9	
TRVZ	**Turoa**	**3.83**	**32**	Pn	Pn	05 09 00.4	-0.6
WHVZ	**Whangaehu Hut**	**3.86**	**32**	PN	Pn	05 09 00.4	-1.0
FWVZ	**Far West T-bar**	**3.87**	**32**	PN	Pn	05 09 00.8	-0.7
FWVZ				AML	AML	05 10 16.8	
FWVZ				AML	AML	05 10 17.3	
FWVZ	**Far West T-bar**	**3.87**	**32**	Pn	Pn	05 09 00.8	-0.7
TWVZ	**Taurewa**	**3.99**	**29**	PN	Pn	05 09 02.3	-0.6
TWVZ	**Taurewa**	**3.99**	**29**	Pn	Pn	05 09 02.3	-0.6
OTVZ	**Oturere**	**3.99**	**32**	PN	Pn	05 09 02.3	-0.7
OTVZ				AML	AML	05 10 22.8	
OTVZ				AML	AML	05 10 23.9	
OTVZ	**Oturere**	**3.99**	**32**	Pn	Pn	05 09 02.3	-0.7
WTVZ	**West Tongariro**	**4.01**	**31**	PN	Pn	05 09 02.2	-1.0
WTVZ				AML	AML	05 09 21.3	
WTVZ				AML	AML	05 10 19.9	
WTVZ	**West Tongariro**	**4.01**	**31**	Pn	Pn	05 09 02.5	-0.7
KRVZ	**Karewarewa**	**4.04**	**32**	PN	Pn	05 09 03.1	-0.6
KRVZ				AML	AML	05 09 17.1	
KRVZ				AML	AML	05 09 22.5	
KRVZ	**Karewarewa**	**4.04**	**32**	Pn	Pn	05 09 03.1	-0.6
TUZ	**Tuapeka**	**4.12**	**214**	PN	Pn	05 09 02.9	-1.7
TUZ	**Tuapeka**	**4.12**	**214**	Pn	Pn	05 09 02.9	-1.6
HIZ	**Hauiti**	**4.32**	**21**	PN	Pn	05 09 07.4	+0.1
HIZ				AML	AML	05 10 23.5	
HIZ	**Hauiti**	**4.32**	**21**	Pn	Pn	05 09 07.4	+0.1
BKZ	**Black Stump Fm**	**4.35**	**40**	PN	Pn	05 09 04.8	-3.0
WHZ	**Wether Hill Ro**	**4.87**	**225**	*e*Pn	Pn	05 09 12.7	-2.2
WHZ				*e*Sn	Sn	05 10 08.3	-2.9
URZ	**Urewera** 35nm,0.8s	**5.37**	**38**	*e*Pn	Pn	05 09 18.6	-3.1
URZ				*e*Sn	Sn	05 10 18.4	-5.0

*IDC **30** 05:10:19.6±1.0, 13°.71S×166°.43E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.6/45, mbtmp3.8/7, ML3.2/1, Error ellipse: s-maj=36.4km s-min=24.2km az=108.0*
*ISCJB **30** 05:10:24.0±1.0, 13°.8S×0°.1×166°.3E±0°.2, h39km, mb3.7/6, Error ellipse: s-maj=29.8km s-min=17.8km az=2.0*
ISC 30 05:10:25.6±1.0,**13°.8S**±0°.1×**166°.4E**±0°.3,**h39**km,**n8,** σ0°**83**/8,**mb3.8**/6,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.27**	**180**	Pn	**Pn**	**05 12 23.3**	**+0.2**
	0.3nm,0.3s,baz=90,slow=24,SNR=24						
WRA	**Warramunga Arr**	**31.26**	**254**	P	**P**	**05 16 41.4**	**-0.6**
	0.2nm,0.5s,baz=81,slow=7.1,SNR=2.5						
ASAR	**Alice Springs**	**32.25**	**247**	P	**P**	**05 16 50.2**	**-0.4**
	0.4nm,0.6s,baz=74,slow=9.2,SNR=9.6						
QSPA	**South Pole Qui**	**76.27**	**180**	P	**P**	**05 22 10.1**	**+0.1**
	1.6nm,0.8s,baz=332,slow=0.8,SNR=12						
SEY	**Seymchan**	**77.22**	**353**	P	**P**	**05 22 15.4**	**+0.2**
	0.5nm,0.4s,baz=155,slow=5.0,SNR=4.6						
ILAR	**Eielson Array**	**85.87**	**18**	P	**P**	**05 23 00.0**	**-0.8**
	0.3nm,0.6s,baz=236,slow=5.5,SNR=7.6						
MKAR	**Makanchi Array**	**95.92**	**317**	P	**P**	**05 23 49.7**	**+1.4**
	0.5nm,0.6s,baz=97,slow=5.8,SNR=6.7						
ARCES	**ARCESS Array B**	**119.10**	**345**	PKP	**PKPdf**	**05 29 09.1**	**-0.6**
	0.7nm,0.7s,baz=57,slow=2.7,SNR=5.5						

*IDC **30** 05:15:56.9±1.1, 26°.02N×129°.29E, h0km, mb3.7/6, mb1 3.8/8, mb1mx3.6/42, mbtmp3.7/8, ML3.6/2, Error ellipse: s-maj=49.7km s-min=17.3km az=70.0*
*JMA **30** 05:15:58.3±0.1, 26°.10N×129°.44E, h45km, M3.4*
ISC 30 05:15:56.2±1.9,**26°.12N**±0°.05×**129°.42E**±0°.04,**h3**km±12km, **n22,** σ1°**94**/36,**mb3.7**/6,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.25**	**305**	P	**Pg**	**05 16 20.3**	**+0.2**
JOW				S	**Sb**	**05 16 35.6**	**-1.3**
JOW	**Kunigami**	**1.25**	**305**	Pn	**Pg**	**05 16 20.4**	**+0.2**
	14nm,0.3s,baz=128,slow=18,SNR=234						
JOW				Sn	**Sb**	**05 16 35.5**	**-1.4**
	11nm,0.3s,baz=117,slow=29,SNR=14						
JNTH	**Nagotoyohara**	**1.32**	**288**	P	**Pb**	**05 16 20.9**	**-0.6**
JNTH				S	**Sb**	**05 16 36.2**	**-2.6**
JOKE	**Okinoerabujima**	**1.45**	**329**	P	**Pb**	**05 16 23.3**	**-0.6**
JOKE				S	**Sn**	**05 16 40.2**	**-2.7**
JJT2	**Tamagusuku 2**	**1.50**	**271**	P	**Pb**	**05 16 24.1**	**-0.6**
JJT2				S	**Sn**	**05 16 42.2**	**-1.9**
JIH	**Iheya**	**1.59**	**305**	P	**Pb**	**05 16 25.3**	**-0.9**
JIH				S	**Sn**	**05 16 44.2**	**-2.0**
JMZ	**Minamidaito 2**	**1.65**	**100**	P	**Pn**	**05 16 24.9**	**-1.1**
JMZ				S	**Sn**	**05 16 43.5**	**-4.2**
JTK	**Tokunoshima**	**1.71**	**346**	P	**Pn**	**05 16 26.8**	**-0.1**
JTK				S	**Sn**	**05 16 47.0**	**-2.3**
JAGN	**Aguni-jima**	**2.01**	**284**	P	**Pn**	**05 16 31.3**	**+0.3**
JAGN				S	**Sn**	**05 16 54.9**	**-1.7**
JAMN	**Amaminishikomi**	**2.13**	**354**	P	**Pn**	**05 16 32.6**	**0.0**
JAMN				S	**Sn**	**05 16 57.5**	**-2.0**
JZK	**Kikaishima**	**2.24**	**13**	P	**Pn**	**05 16 34.7**	**+0.5**
JZK				S	**Sn**	**05 17 01.3**	**-1.1**
JAM	**Amami Oshima**	**2.29**	**4**	P	**Pn**	**05 16 34.6**	**-0.2**
JAM				S	**Sn**	**05 17 00.8**	**-2.7**
JKE	**Kume jima 2**	**2.38**	**276**	P	**Pn**	**05 16 35.4**	**-0.6**
JKE				S	**Sn**	**05 17 01.9**	**-3.7**
JTAJ	**Takarajima**	**3.03**	**356**	P	**Pn**	**05 16 45.0**	**0.0**
JTAJ				S	**Sn**	**05 17 18.7**	**-3.1**
JNU	**Nakatsue** 1.3nm,0.3s,baz=356,slow=1.8,SNR=10	**7.09**	**10**	Pn	**Pn**	**05 17 42.2**	**+1.3**
JNU				Sn	**Sn**	**05 18 58.0**	**-4.1**
	0.2nm,0.3s,baz=96,slow=19,SNR=2.5						
KSRS	**Korea Array**	**11.37**	**354**	Pn	Pn	05 18 42.4	+2.9
	0.2nm,0.3s,baz=170,slow=15,SNR=3.2						
SONM	**Songino Array**	**28.23**	**326**	P	**P**	**05 21 52.3**	**+1.9**
	0.3nm,0.5s,baz=139,slow=14,SNR=4.1						
WRA	**Warramunga Arr**	**46.03**	**174**	P	**P**	**05 24 21.6**	**+0.4**
	1.9nm,0.8s,baz=353,slow=8.4,SNR=7.7						
ASAR	**Alice Springs**	**49.68**	**175**	P	**P**	**05 24 49.5**	**+0.1**
	0.7nm,0.8s,baz=3.8,slow=14,SNR=9.7						
FINES	**FINESS Array B**	**73.48**	**331**	P	**P**	**05 27 31.5**	**+1.7**
	1.6nm,0.9s,baz=76,slow=5.9,SNR=3.1						
AKASG	**Malin Array Be**	**76.31**	**320**	P	**P**	**05 27 47.7**	**+1.4**
	0.2nm,0.5s,baz=59,slow=6.6,SNR=2.3						
BRTR	**Keskin Array B**	**77.94**	**308**	P	**P**	**05 27 57.5**	**+1.5**
	0.5nm,0.7s,baz=77,slow=3.1,SNR=3.3						

*IDC **30** 05:20:29.0±1.5, 26°.05N×129°.19E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.3/34, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=51.8km s-min=17.0km az=61.0*
*JMA **30** 05:20:30.4±0.1, 26°.09N×129°.44E, h44km, M3.2*
ISC 30 05:20:28.2±1.7,**26°.10N**±0°.05×**129°.42E**±0°.04,**h7**km±11km, **n18,** σ1°**52**/32,**mb3.5**/3,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.26**	**306**	P	**Pg**	**05 20 52.5**	**+0.1**
JOW				S	**Sg**	**05 21 08.4**	**-0.3**
JOW	**Kunigami** 6.6nm,0.3s,baz=107,slow=24,SNR=39	**1.26**	**306**	Pn	**Pg**	**05 20 52.5**	**+0.1**
JOW				Sn	**Sg**	**05 21 07.6**	**-1.1**
	5.7nm,0.3s,baz=142,slow=28,SNR=13						
JNTH	**Nagotoyohara**	**1.32**	**289**	P	**Pn**	**05 20 53.1**	**+0.1**
JNTH				S	**Sb**	**05 21 08.5**	**-1.9**
JOKE	**Okinoerabujima**	**1.47**	**329**	P	**Pn**	**05 20 55.5**	**+0.4**
JOKE				S	**Sn**	**05 21 13.8**	**-0.8**
JJT2	**Tamagusuku 2**	**1.50**	**272**	P	**Pb**	**05 20 56.2**	**-0.2**
JJT2				S	**Sn**	**05 21 14.7**	**-0.6**
JIH	**Iheya**	**1.60**	**306**	P	**Pn**	**05 20 57.4**	**+0.5**
JIH				S	**Sn**	**05 21 16.1**	**-1.7**
JMZ	**Minamidaito 2**	**1.65**	**99**	P	**Pn**	**05 20 57.1**	**-0.5**
JMZ				S	**Sn**	**05 21 15.6**	**-3.4**
JTK	**Tokunoshima**	**1.73**	**346**	P	**Pn**	**05 20 59.1**	**+0.4**
JTK				S	**Sn**	**05 21 19.1**	**-2.0**
JAGN	**Aguni-jima**	**2.01**	**285**	P	**Pn**	**05 21 03.5**	**+0.9**
JAGN				S	**Sn**	**05 21 26.5**	**-1.4**
JAMN	**Amaminishikomi**	**2.15**	**354**	P	**Pn**	**05 21 05.1**	**+0.7**
JAMN				S	**Sn**	**05 21 29.4**	**-1.9**
JZK	**Kikaishima**	**2.26**	**13**	P	**Pn**	**05 21 07.2**	**+1.2**
JZK				S	**Sn**	**05 21 33.8**	**-0.4**
JAM	**Amami Oshima**	**2.31**	**4**	P	**Pn**	**05 21 06.9**	**+0.2**
JAM				S	**Sn**	**05 21 33.1**	**-2.2**
JKE	**Kume jima 2**	**2.37**	**276**	P	**Pn**	**05 21 07.7**	**+0.1**
JKE				S	**Sn**	**05 21 34.7**	**-2.2**
JTAJ	**Takarajima**	**3.05**	**356**	P	**Pn**	**05 21 17.9**	**+1.1**
JTAJ				S	**Sn**	**05 21 50.5**	**-3.1**
JNU	**Nakatsue** 0.9nm,0.3s,baz=214,slow=11,SNR=7.0	**7.11**	**10**	Pn	**Pn**	**05 22 14.8**	**+2.1**
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=116,slow=5.0,SNR=3.1	**42.42**	**312**	P	**P**	**05 28 24.9**	**+1.4**
WRA	**Warramunga Arr** 1.2nm,0.8s,baz=354,slow=8.2,SNR=5.1	**46.02**	**174**	P	**P**	**05 28 53.2**	**+0.7**
ASAR	**Alice Springs** 0.4nm,0.7s,baz=1.1,slow=15,SNR=7.2	**49.66**	**175**	P	**P**	**05 29 22.8**	**+2.0**

*ATH **30** 05:24:01.3, 37°.32N×20°.29E, h18km±1km, MD3.5/25*
*CSEM **30** 05:24:01.0±0.6, 37°.33N×20°.30E, h2km, ML2.5, Error ellipse: s-maj=12.5km s-min=5.9km az=46.0*
*THE **30** 05:24:05.0, 37°.47N×20°.49E, h0km±2km, ML2.5/6, Error ellipse: s-maj=2.8km s-min=1.2km az=234.0*
ISC 30 05:24:02.4±1.7,**37°.38N**±0°.04×**20°.37E**±0°.05,**h0**km±10km, **n91,** σ0°**60**/127,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFD	**Strofades**	**0.54**	**104**	P	**Pb**	**05 24 14.2**	**-0.4**
SFD	**Strofades**	**0.54**	**104**	*e*Pn	**Pg**	**05 24 13.3**	**+0.4**
SFD				*e*Sn	**Sg**	**05 24 20.7**	**+1.1**
SFD	**Strofades**	**0.54**	**104**	*e*Pn	**Pg**	**05 24 13.1**	**+0.4**
SFD	**Strofades**	**0.54**	**104**	P	**Pb**	**05 24 14.2**	**-0.4**
SFD				*e*Sn	**Sg**	**05 24 20.7**	**+1.1**
KFL	**Anninata**	**0.80**	**25**	P	**Pg**	**05 24 17.0**	**-0.8**
KFL				S	**Sg**	**05 24 28.1**	**-0.1**
VLS	**Valsamata**	**0.81**	**12**	*e*PN	**Pg**	**05 24 17.1**	**-1.0**
VLS				*e*SN	**Sb**	**05 24 31.6**	**+0.6**
VLS	**Valsamata**	**0.81**	**12**	*e*Pn	**Pg**	**05 24 17.1**	**-1.0**
VLS				*e*Sn	**Sb**	**05 24 31.6**	**+0.6**
AMT	**Artemida-Makis**	**1.08**	**82**	P	**Pg**	**05 24 23.1**	**0.0**
AMT				S	**Sg**	**05 24 37.5**	**+0.4**
AMT	**Artemida-Makis**	**1.08**	**82**	*e*PN	**Pg**	**05 24 22.8**	**-0.3**
AMT				*e*SN	**Sb**	**05 24 38.9**	**+0.3**
AMT	**Artemida-Makis**	**1.08**	**82**	*e*Pn	**Pg**	**05 24 22.8**	**-0.3**
AMT	**Artemida-Makis**	**1.08**	**82**	P	**Pg**	**05 24 23.1**	**0.0**
AMT				S	**Sg**	**05 24 37.5**	**+0.4**
AMT				*e*Sn	**Sb**	**05 24 38.9**	**+0.3**
RLS	**Riolos of Patr**	**1.10**	**52**	*e*PN	**Pg**	**05 24 23.8**	**+0.2**
RLS	**Riolos of Patr**	**1.10**	**52**	*e*Pn	**Pg**	**05 24 23.8**	**+0.2**
PYL	**PYLOS**	**1.20**	**113**	*e*PN	**Pg**	**05 24 24.6**	**-0.8**
PYL				*e*SN	**Sb**	**05 24 42.2**	**+0.1**
PYL	**PYLOS**	**1.20**	**113**	*e*Pn	**Pg**	**05 24 24.6**	**-0.8**
DRO	**Drossia**	**1.21**	**61**	P	**Pg**	**05 24 25.2**	**-0.4**
DRO				S	**Sg**	**05 24 41.3**	**0.0**
DRO	**Drossia**	**1.21**	**61**	*e*PN	**Pg**	**05 24 25.9**	**+0.3**
DRO				*e*SN	**Sn**	**05 24 43.2**	**-0.5**
DRO	**Drossia**	**1.21**	**61**	P	**Pg**	**05 24 25.2**	**-0.4**
DRO	**Drossia**	**1.21**	**61**	*e*Pn	**Pg**	**05 24 25.9**	**+0.3**
DRO				S	**Sg**	**05 24 41.3**	**0.0**
DRO				*e*Sn	**Sn**	**05 24 43.2**	**-0.5**
ITM	**Ithomi**	**1.26**	**99**	*e*PN	**Pg**	**05 24 26.2**	**-0.4**
ITM				*e*SN	**Sn**	**05 24 44.7**	**-0.2**
ITM	**Ithomi**	**1.26**	**99**	*e*Pn	**Pg**	**05 24 26.2**	**-0.4**
ITM				*e*Sn	**Sn**	**05 24 44.7**	**-0.2**
PDO	**Prodromos**	**1.38**	**28**	P	**Pg**	**05 24 28.9**	**+0.1**
PDO	**Prodromos**	**1.38**	**28**	*e*PN	**Pn**	**05 24 28.8**	**-0.1**
PDO				*e*SN	**Sn**	**05 24 49.8**	**+2.0**
PDO	**Prodromos**	**1.38**	**28**	P	**Pg**	**05 24 28.9**	**+0.1**
PDO				*e*Sn	**Sn**	**05 24 49.8**	**+2.0**
LKD2	**Lefkada island**	**1.43**	**9**	P	**Pb**	**05 24 30.0**	**+0.1**
LKD2	**Lefkada island**	**1.43**	**9**	P	**Pb**	**05 24 30.0**	**+0.1**
PVO	**Paravola**	**1.54**	**36**	P	**Pb**	**05 24 31.6**	**-0.2**
PVO	**Paravola**	**1.54**	**36**	P	**Pb**	**05 24 31.6**	**-0.2**
KLV	**Kalavryta, Ach**	**1.56**	**64**	*e*PN	**Pn**	**05 24 31.2**	**-0.3**
KLV	**Kalavryta, Ach**	**1.56**	**64**	*e*Pn	**Pn**	**05 24 31.2**	**-0.3**
VLX	**Vlachokerasia**	**1.60**	**90**	*e*PN	**Pb**	**05 24 32.8**	**-0.2**
VLX	**Vlachokerasia**	**1.60**	**90**	*e*Pn	**Pb**	**05 24 32.8**	**-0.2**
EFP	**Efpalio**	**1.60**	**49**	P	**Pn**	**05 24 32.1**	**+0.1**
EFP				S	**Sn**	**05 24 53.0**	**-0.4**
EFP	**Efpalio**	**1.60**	**49**	*e*PN	**Pn**	**05 24 32.3**	**+0.3**
EFP	**Efpalio**	**1.60**	**49**	P	**Pn**	**05 24 32.1**	**+0.1**
EFP				S	**Sn**	**05 24 53.0**	**-0.4**
GUR	**Goura**	**1.66**	**70**	P	**Pn**	**05 24 33.1**	**+0.2**
GUR				S	**Sn**	**05 24 54.6**	**-0.4**
GUR	**Goura**	**1.66**	**70**	*e*PN	**Pn**	**05 24 32.6**	**-0.3**
GUR	**Goura**	**1.66**	**70**	*e*Pn	**Pn**	**05 24 32.6**	**-0.3**
GUR	**Goura**	**1.66**	**70**	P	**Pn**	**05 24 33.1**	**+0.2**
GUR				S	**Sn**	**05 24 54.6**	**-0.4**
KALE	**Kalithea**	**1.73**	**54**	P	**Pn**	**05 24 34.3**	**+0.5**
KALE				S	**Sn**	**05 24 56.3**	**-0.3**
KALE	**Kalithea**	**1.73**	**54**	*e*PN	**Pn**	**05 24 33.4**	**-0.4**
KALE				*e*SN	**Sg**	**05 24 58.3**	**+0.3**
KALE	**Kalithea**	**1.73**	**54**	*e*Pn	**Pn**	**05 24 33.4**	**-0.4**
KALE	**Kalithea**	**1.73**	**54**	P	**Pn**	**05 24 34.3**	**+0.5**
KALE				S	**Sn**	**05 24 56.3**	**-0.3**
KALE				*e*Sn	**Sg**	**05 24 58.3**	**+0.3**
DSL	**Palaion Diasel**	**1.84**	**18**	*e*PN	**Pn**	**05 24 35.4**	**+0.1**
DSL				*e*SN	**Sn**	**05 24 58.9**	**-0.5**
DSL	**Palaion Diasel**	**1.84**	**18**	*e*Pn	**Pn**	**05 24 35.4**	**+0.1**
DSL				*e*Sn	**Sn**	**05 24 58.9**	**-0.5**
EVR	**Evrytania**	**1.91**	**36**	*e*PN	**Pb**	**05 24 37.3**	**-0.9**
EVR	**Evrytania**	**1.91**	**36**	*e*Pn	**Pb**	**05 24 37.3**	**-0.9**
DSF	**Desfina**	**2.00**	**58**	P	**Pn**	**05 24 37.6**	**+0.1**
DSF				S	**Sn**	**05 25 02.7**	**-0.4**
DSF	**Desfina**	**2.00**	**58**	*e*PN	**Pn**	**05 24 37.5**	**+0.1**
DSF	**Desfina**	**2.00**	**58**	*e*Pn	**Pn**	**05 24 37.5**	**+0.1**
DSF				S	**Sn**	**05 25 02.7**	**-0.4**
IGT	**Igoumenitsa**	**2.15**	**359**	*e*PN	**Pn**	**05 24 40.0**	**+0.5**
IGT				*e*SN	**Sn**	**05 25 06.3**	**-0.6**
IGT	**Igoumenitsa**	**2.15**	**359**	*e*Pn	**Pn**	**05 24 40.0**	**+0.5**
IGT				*e*Sn	**Sn**	**05 25 06.3**	**-0.6**
LTK	**Loutraki**	**2.16**	**72**	P	**Pn**	**05 24 39.0**	**-0.7**
LTK	**Loutraki**	**2.16**	**72**	*e*PB	**Pn**	**05 24 39.0**	**-0.7**
LTK	**Loutraki**	**2.16**	**72**	P	**Pn**	**05 24 39.0**	**-0.7**
SGD	**Sagiada**	**2.23**	**357**	*e*PB	**Pn**	**05 24 40.3**	**-0.3**
SGD	**Sagiada**	**2.23**	**357**	*e*Pb	**Pn**	**05 24 40.3**	**-0.3**
AGG	**Agios Georgios**	**2.25**	**43**	*e*PB	**Pn**	**05 24 41.1**	**+0.1**
AGG				*e*SN	**Sn**	**05 25 10.8**	**+1.3**
AGG	**Agios Georgios**	**2.25**	**43**	*e*Pb	**Pn**	**05 24 41.1**	**+0.1**
AGG				*e*Sn	**Sn**	**05 25 10.8**	**+1.3**
AXAR	**Agios Charalam**	**2.28**	**52**	*e*PB	**Pn**	**05 24 41.3**	**0.0**
AXAR	**Agios Charalam**	**2.28**	**52**	*e*Pn	**Pn**	**05 24 41.3**	**0.0**
DID	**Didima**	**2.29**	**86**	*e*PB	**Pn**	**05 24 41.3**	**-0.1**
DID	**Didima**	**2.29**	**86**	*e*Pb	**Pn**	**05 24 41.3**	**-0.1**
JAN	**Janina**	**2.31**	**9**	*e*PB	**Pn**	**05 24 42.8**	**+1.1**
JAN	**Janina**	**2.31**	**9**	*e*Pb	**Pn**	**05 24 42.8**	**+1.1**
KEK	**Kerkira**	**2.37**	**349**	*e*PB	**Pn**	**05 24 42.9**	**+0.3**
KEK	**Kerkira**	**2.37**	**349**	*e*Pb	**Pn**	**05 24 42.9**	**+0.3**
KYTH	**Kithira**	**2.41**	**116**	*e*PB	**Pn**	**05 24 43.3**	**+0.2**
KYTH	**Kithira**	**2.41**	**116**	*e*Pb	**Pn**	**05 24 43.3**	**+0.2**
LKR	**Lokris**	**2.44**	**58**	*e*PN	**Pn**	**05 24 43.1**	**-0.3**
LKR	**Lokris**	**2.44**	**58**	*e*Pn	**Pn**	**05 24 43.1**	**-0.3**
VIL2	**Platees**	**2.44**	**69**	*e*PB	**Pn**	**05 24 45.2**	**+1.6**
VILL	**Villia**	**2.46**	**71**	*e*Pb	**Pn**	**05 24 45.2**	**+1.4**
THL	**Klokotos Trika**	**2.54**	**30**	*e*PN	**Pn**	**05 24 44.8**	**0.0**
THL	**Klokotos Trika**	**2.54**	**30**	*e*Pn	**Pn**	**05 24 44.8**	**0.0**
MRKA	**Markates**	**2.87**	**62**	*e*PN	**Pn**	**05 24 49.0**	**-0.4**
MRKA				*e*SN	**Sn**	**05 25 24.7**	**+0.1**
MRKA	**Markates**	**2.87**	**62**	*e*Pn	**Pn**	**05 24 49.0**	**-0.4**
MRKA				*e*Sn	**Sn**	**05 25 24.7**	**+0.1**
NEO	**Neokhori**	**2.96**	**49**	*e*PN	**Pn**	**05 24 49.9**	**-0.7**
NEO	**Neokhori**	**2.96**	**49**	*e*Pn	**Pn**	**05 24 49.9**	**-0.7**
NEST	**Nestorio**	**3.08**	**10**	*e*PN	**Pn**	**05 24 53.0**	**+0.7**
NEST	**Nestorio**	**3.08**	**10**	*e*Pn	**Pn**	**05 24 53.0**	**+0.7**
KZN	**Kozani**	**3.12**	**20**	*e*PN	**Pn**	**05 24 53.7**	**+0.8**
KZN	**Kozani**	**3.12**	**20**	*e*Pn	**Pn**	**05 24 53.7**	**+0.8**
LIT	**Litokhoron**	**3.18**	**31**	*e*PN	**Pn**	**05 24 53.1**	**-0.7**
LIT	**Litokhoron**	**3.18**	**31**	*e*Pn	**Pn**	**05 24 53.1**	**-0.7**
HORT	**Hortiatis**	**3.85**	**33**	*e*PN	**Pn**	**05 25 02.5**	**-0.5**
HORT	**Hortiatis**	**3.85**	**33**	*e*Pn	**Pn**	**05 25 02.5**	**-0.5**
GRG	**Griva**	**3.91**	**23**	*e*PN	**Pn**	**05 25 02.5**	**-1.2**
GRG	**Griva**	**3.91**	**23**	*e*Pn	**Pn**	**05 25 02.5**	**-1.2**
SOH	**Sokhos**	**4.15**	**33**	*e*PN	**Pn**	**05 25 06.7**	**-0.3**
SOH	**Sokhos**	**4.15**	**33**	*e*Pn	**Pn**	**05 25 06.7**	**-0.3**

*NIED **30** 05:32:00.26°.10N×129°.40E, h5km, Mw3.7 Best double couple: M₀3.67000×10¹⁴ NP1:φ₀s34.00000°, δ36.00000°, λ-90.00000°. NP2:φ₀213.00000°, δ54.00000°, λ-90.00000°.*
*IDC **30** 05:32:36.9±1.2, 26°.03N×129°.26E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.6/29, mbtmp3.8/7, ML3.7/1, MS2.7/1, Ms1 2.9/1, ms1mx2.2/34, Error ellipse: s-maj=52.3km s-min=17.7km az=67.0*
*JMA **30** 05:32:38.5±0.1, 26°.09N×129°.44E, h44km, M3.6*
ISC 30 05:32:35.6±1.7,**26°.11N**±0°.04×**129°.43E**±0°.04,**h5**km±11km, **n23,** σ1°**45**/35,**mb3.9**/6,**Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.26**	**305**	P	**Pg**	**05 33 00.5**	**+0.7**
JOW				S	**Sb**	**05 33 15.7**	**-0.8**
JOW	**Kunigami** 14nm,0.3s,baz=138,slow=15,SNR=69	**1.26**	**305**	Pn	**Pg**	**05 33 00.0**	**+0.2**
JOW				Sn	**Sb**	**05 33 15.7**	**-0.8**
	8.4nm,0.3s,baz=133,slow=28,SNR=13						
JNTH	**Nagotoyohara**	**1.33**	**288**	P	**Pg**	**05 33 01.2**	**+0.2**
JNTH				S	**Sb**	**05 33 16.5**	**-1.8**
JOKE	**Okinoerabujima**	**1.47**	**329**	P	**Pg**	**05 33 03.5**	**-0.2**
JOKE				S	**Sn**	**05 33 21.5**	**-0.9**
JJT2	**Tamagusuku 2**	**1.51**	**272**	P	**Pg**	**05 33 04.3**	**-0.2**
JJT2				S	**Sn**	**05 33 22.4**	**-1.0**
JIH	**Iheya**	**1.60**	**306**	P	**Pb**	**05 33 05.2**	**-0.1**
JIH				S	**Sn**	**05 33 24.5**	**-1.2**
JMZ	**Minamidaito 2**	**1.64**	**100**	P	**Pn**	**05 33 05.2**	**+0.1**
JMZ				S	**Sn**	**05 33 23.8**	**-2.8**
JTK	**Tokunoshima**	**1.73**	**346**	P	**Pb**	**05 33 07.1**	**-0.7**
JTK				S	**Sn**	**05 33 27.4**	**-1.4**
JAGN	**Aguni-jima**	**2.02**	**284**	P	**Pb**	**05 33 11.5**	**-1.3**
JAGN				S	**Sn**	**05 33 35.0**	**-1.0**
JAMN	**Amaminishikomi**	**2.14**	**354**	P	**Pn**	**05 33 12.9**	**+0.9**
JAMN				S	**Sn**	**05 33 38.9**	**-0.1**
JZK	**Kikaishima**	**2.25**	**12**	P	**Pb**	**05 33 15.2**	**-1.6**
JZK				S	**Sn**	**05 33 41

s-maj=203.0km s-min=16.7km az=55.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.59**	**352**	P	Pn	06 01 23.5	+0.1
	3.8nm,0.3s,baz=180,slow=7.8,SNR=11						
WRA	**Warramunga Arr**	**18.45**	**133**	P	P	06 04 14.0	-0.8
	0.2nm,0.3s,baz=307,slow=11,SNR=11						
ASAR	**Alice Springs**	**20.74**	**142**	P	P	06 04 37.4	+0.4
	0.9nm,0.5s,baz=316,slow=8.4,SNR=14						
MKAR	**Makanchi Array**	**63.73**	**332**	P	P	06 10 16.6	-0.1
	0.4nm,1.0s,baz=130,slow=5.8,SNR=3.1						

WEL 30 06:13:53.7±0.3, 37.53S×177.14E, h129km±3km, ML3.6/6, 4C-1D, Error ellipse: s-maj=2.7km s-min=2.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.56**	**114**	PN	Pn	06 14 12.6	-0.3
HAZ				SN	Sn	06 14 26.9	-0.6
URZ	**Urewera**	**0.73**	**182**	⇑PN	Pn	06 14 14.0	-0.2
URZ				SN	Sn	06 14 29.7	0.0
URZ				AML	AML	06 14 30.7	
MWZ	**Matawai**	**0.86**	**159**	⇑PN	Pn	06 14 15.0	-0.3
MWZ				SN	Sn	06 14 31.9	+0.2
MWZ				AML	AML	06 14 33.7	
TWGZ	**Tauwhareparae**	**0.92**	**134**	PN	Pn	06 14 16.1	+0.3
MXZ	**Matakaoa Point**	**0.93**	**92**	⇑PN	Pn	06 14 15.8	0.0
MXZ				AML	AML	06 14 36.0	
RAGZ	**Rawiri**	**0.98**	**167**	PN	Pn	06 14 16.4	0.0
RAGZ				SN	Sn	06 14 34.4	+0.6
PUZ	**Puketiti**	**1.04**	**122**	PN	Pn	06 14 16.6	-0.3
PUZ				AML	AML	06 14 33.9	
PUZ				AML	AML	06 14 35.8	
WMGZ	**Waiomatatini S**	**1.05**	**106**	⇑PN	Pn	06 14 17.0	0.0
TKGZ	**Te Karaka**	**1.06**	**149**	PN	Pn	06 14 16.7	-0.4
SNGZ	**Shannon Statio**	**1.26**	**173**	PN	Pn	06 14 18.0	-0.1
RIGZ	**Rimuhau**	**1.27**	**157**	PN	Pn	06 14 19.3	+0.1
CNGZ	**Carnagh Statio**	**1.27**	**139**	PN	Pn	06 14 19.4	+0.2
KUZ	**Kuaotunu**	**1.38**	**304**	PN	Pn	06 14 20.4	+0.1
RAHZ	**Arahi**	**1.38**	**182**	PN	Pn	06 14 20.5	+0.1
PRGZ	**Paritu Road**	**1.51**	**157**	PN	Pn	06 14 21.2	-0.6
KNZ	**Kokohu**	**1.54**	**164**	PN	Pn	06 14 21.6	-0.6
NMHZ	**Naumai**	**1.59**	**189**	PN	Pn	06 14 24.2	+1.4
BKZ	**Black Stump Fm**	**1.71**	**197**	PN	Pn	06 14 23.8	-0.4
GRZ	**Great Barrier**	**1.86**	**313**	⇓PN	Pn	06 14 26.1	+0.2
MCHZ	**McNeill Hill**	**1.94**	**190**	PN	Pn	06 14 26.5	-0.3
OTVZ	**Oturere**	**2.00**	**215**	PN	Pn	06 14 27.8	0.0
KRHZ	**Kereru**	**2.19**	**196**	PN	Pn	06 14 29.1	-0.9
KAHZ	**Kahuranaki**	**2.27**	**185**	PN	Pn	06 14 30.3	-0.7
PNHZ	**Pukenui**	**2.49**	**197**	PN	Pn	06 14 32.4	-1.4
PXZ	**Pawanui**	**2.51**	**185**	AML	AML	06 14 24.1	
PXZ				PN	Pn	06 14 32.6	-1.2
PXZ				AML	AML	06 15 04.0	
TSZ	**Takapari Road**	**2.69**	**200**	PN	Pn	06 14 34.6	-1.6
PRHZ	**Porangahau**	**2.76**	**188**	PN	Pn	06 14 36.0	-1.1
DVHZ	**Dannevirke**	**2.87**	**195**	PN	Pn	06 14 36.5	-2.0
ANWZ	**Angora Road**	**2.97**	**190**	PN	Pn	06 14 38.4	-1.4
POWZ	**Post Office Ro**	**3.05**	**200**	PN	Pn	06 14 38.9	-2.0
PRWZ	**Pori Road**	**3.15**	**196**	PN	Pn	06 14 40.5	-1.8
BFZ	**Birch Farm**	**3.22**	**192**	PN	Pn	06 14 41.0	-2.1
MRZ	**Mangatainoka R**	**3.35**	**201**	PN	Pn	06 14 42.2	-2.7
TIWZ	**Tintock**	**3.38**	**196**	PN	Pn	06 14 42.6	-2.7
TIWZ				AML	AML	06 15 18.2	
HOWZ	**Holdsworth Sta**	**3.59**	**200**	PN	Pn	06 14 44.8	-3.2
OGWZ	**Otaki Gorge**	**3.62**	**204**	PN	Pn	06 14 45.6	-2.7
KIW	**Kapiti Island**	**3.75**	**207**	PN	Pn	06 14 47.0	-3.0
MTW	**Mount Morrison**	**3.84**	**199**	PN	Pn	06 14 47.7	-3.5
CAW	**Cannon Point**	**3.92**	**204**	PN	Pn	06 14 48.9	-3.4
PLWZ	**Palliser**	**4.29**	**199**	PN	Pn	06 14 53.4	-3.8
TCW	**Tory Channel**	**4.29**	**210**	PN	Pn	06 14 53.5	-3.7
TUWZ	**Tuamarina**	**4.61**	**211**	PN	Pn	06 14 57.7	-3.8
QRZ	**Quartz Range**	**4.87**	**226**	PN	Pn	06 15 01.6	-3.3
THZ	**Tophouse**	**5.34**	**216**	PN	Pn	06 15 08.5	-2.9

*IDC **30** 06:15:57.3±0.8, 39.95N×77.12E, h0km, mb3.9/15, mb1 4.1/21, mb1mx3.9/43, mbtmp4.0/21, ML3.9/6, MS3.6/8, Ms1 3.6/8, ms1mx3.2/28, Error ellipse: s-maj=15.5km s-min=13.6km az=161.0*

*ISCJB **30** 06:15:58.4±0.2, 40.02N±0.02×77.33E±0.04, h10km, mb4.2/28, MS3.4/6, Error ellipse: s-maj=4.0km s-min=2.7km az=162.8*

*KRNET **30** 06:15:58.9±0.1, 40.30N×77.33E, h2km, mb5.0*

*BJI **30** 06:16:00.7, 40.17N×77.13E, h10km, mb4.1/13, mB4.2/2, ML4.2/10, Ms3.9/4, Ms7 3.6/3*

*NNC **30** 06:16:02.2±1.6, 40.20N×76.96E, h0km, mb4.7, mpv4.5, Error ellipse: s-maj=16.9km s-min=8.1km az=141.0*

*MOS **30** 06:16:02.3±1.9, 40.08N×77.15E, h35km, mb4.4/12, Error ellipse: s-maj=8.0km s-min=5.0km az=105.8*

*NEIC **30** 06:16:05.0±1.2, 40.17N×77.08E, h47km±9km, mb4.2/8, Error ellipse: s-maj=13.1km s-min=8.0km az=163.0*

ISC 30 06:15:59.1±0.4, 40°21N±0.02×77°24E±0.02, h10km, n162, σ2s 05/150, mb4.2/28, MS3.5/6, 38C-23D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.19**	**235**	Pg	Pg	06 16 29.3	+7.3
KSH				Sg	Sg	06 16 51.8	+14
KSH				SMN			
	3μm,0.5s						
KSH				SME			
	5μm,0.5s						
NRN	**Naryn**	**1.54**	**323**	⇓*i*P	**Pb**	**06 16 27.8**	**-0.2**
	baz=318						
NRN				⇓*e*S	**Sg**	**06 16 49.4**	**+0.6**
	baz=318						
KDJ	**Kajisay**	**1.92**	**359**	*e*P	**Pb**	**06 16 32.8**	**-1.6**
	baz=357						
KDJ				*e*S	**Sg**	**06 16 58.1**	**-2.8**
	baz=357						
ULHL	**Ulahol**	**2.17**	**340**	P	**Pg**	**06 16 39.8**	**-1.0**
	SNR=719						
ULHL	**Ulahol**	**2.17**	**340**	⇑*i*P	**Pg**	**06 16 39.5**	**-1.2**
	baz=337						
ULHL				⇑*i*S	**Sg**	**06 17 08.1**	**-0.8**
	baz=337						
KZA	**Kyzart**	**2.40**	**322**	P	**Pb**	**06 16 42.9**	**+0.3**
	SNR=598						
KZA	**Kyzart**	**2.40**	**322**	⇑*i*P	**Pb**	**06 16 42.9**	**+0.3**
	baz=319						
KZA				⇑*i*S	**Sg**	**06 17 15.6**	**-0.6**
	baz=319						
ANVS	**Anan'yevo**	**2.59**	**7**	*i* P	**Pg**	**06 16 46.6**	**-2.2**
	baz=6.0						
SFK	**Sufi-Kurgan**	**2.87**	**267**	⇓Pn	**Pn**	**06 16 46.9**	**+1.8**
	2.6nm,0.2s						
SFK				⇓Pg	**Pb**	**06 16 50.8**	**+0.2**
	71nm,0.3s						
SFK				⇓Lg	Lg	06 17 26.9	
	960nm,0.7s						
UCH	**Uchtor**	**2.88**	**315**	P	**Pb**	**06 16 49.5**	**-1.4**
	SNR=201						
UCH	**Uchtor**	**2.88**	**315**	⇓*i*P	**Pb**	**06 16 49.4**	**-1.5**
	baz=313						
UCH				⇓*i*S	**Sb**	**06 17 28.5**	**+2.2**
	baz=313						
TKM2	**Tokmak 2**	**2.98**	**336**	P	**Pb**	**06 16 52.0**	**-0.4**
	SNR=294						
TKM2	**Tokmak 2**	**2.98**	**336**	⇓Pn	**Pb**	**06 16 51.9**	**-0.4**
	166nm,0.4s						
TKM2				⇓Lg	Lg	06 17 32.8	
	819nm,0.5s						
TKM2	**Tokmak 2**	**2.98**	**336**	*e*PN	**Pb**	**06 16 52.0**	**-0.4**
TKM2				*e*		06 17 35.1	
TKM2	**Tokmak 2**	**2.98**	**336**	⇑*i*P	**Pb**	**06 16 51.9**	**-0.4**
	baz=334						
TKM2				⇑*i*S	**Sg**	**06 17 33.1**	**-1.7**
	baz=334						
TKM2	**Tokmak 2**	**2.98**	**336**	*e*Pn	**Pb**	**06 16 52.0**	**-0.4**
TKM2				*e*Sg	**Sg**	**06 17 35.1**	**+0.3**
KBK	**Karagaybulak**	**2.99**	**326**	P	**Pb**	**06 16 51.8**	**-0.8**
	SNR=230						
KBK	**Karagaybulak**	**2.99**	**326**	⇑*i*P	**Pb**	**06 16 51.7**	**-0.9**
	baz=324						
KBK				⇑*i*S	**Sg**	**06 17 33.2**	**-2.0**
	baz=324						
KNDC	**Almaty**	**3.02**	**356**	⇑Pn	**Pb**	**06 16 52.3**	**-0.6**
	399nm,0.7s						
KNDC				⇑Lg	Lg	06 17 36.9	
	1μm,0.7s						
AAA	**Alma-Ata**	**3.07**	**356**	*i* PN	**Pg**	**06 16 55.3**	**-2.6**
AAA				*i* S	**Sg**	**06 17 37.0**	**-0.7**
AAA				pmax	pmax		
	comp=Z,695nm,0.8s						
AAA				smax	smax		
	comp=E,5μm,0.9s						
AAK	**Ala-Archa**	**3.18**	**321**	P	**Pb**	**06 16 54.1**	**-1.8**
	SNR=158						
AAK	**Ala-Archa**	**3.18**	**321**	⇑Pn	**Pb**	**06 16 53.9**	**-2.0**
	comp=E,262nm,0.8s						
AAK				⇑Lg	Lg	06 17 38.2	
	comp=E,464nm,0.7s						
AAK	**Ala-Archa**	**3.18**	**321**	Pn	**Pb**	**06 16 53.4**	**-2.5**
	comp=E,35nm,0.3s,baz=136,slow=9.2,SNR=294						
AAK				Lg	Lg	06 17 38.1	
	comp=E,77nm,0.3s,baz=303,slow=20,SNR=12						
AAK	**Ala-Archa**	**3.18**	**321**	*d* PN	**Pb**	**06 16 54.0**	**-1.8**
AAK				*e*S	**Sg**	**06 17 37.7**	**-3.7**
AAK				pmax	pmax		
	comp=Z,277nm,0.6s						
AAK	**Ala-Archa**	**3.18**	**321**	⇑*i*P	**Pb**	**06 16 54.0**	**-1.8**
	baz=318						
AAK				⇑*i*S	**Sb**	**06 17 37.2**	**+2.4**
	baz=318						
AAK	**Ala-Archa**	**3.18**	**321**	Pn	**Pb**	**06 16 53.4**	**-2.5**
AAK				Lg	Lg	06 17 38.1	
AAK				*e*Sg	**Sg**	**06 17 39.3**	**-2.1**
FRU	**Bishkek**	**3.28**	**324**	*e*PN	Pb	06 16 54.0	-3.4
FRU				*e*S	**Sg**	**06 17 40.6**	**-3.9**
FRU				pmax	pmax		
	comp=Z,820nm,1.8s						
FRU				smax	smax		
	comp=E,1μm,1.8s						
FRU	**Bishkek**	**3.28**	**324**	*e*P	Pb	06 16 54.0	-3.4
	baz=322						
FRU				*e*S	**Sb**	**06 17 38.0**	**+0.6**
	baz=322						
AML	**Almayashu**	**3.29**	**307**	P	**Pb**	**06 16 55.2**	**-2.7**
	SNR=675						
AML	**Almayashu**	**3.29**	**307**	⇑*i*P	**Pb**	**06 16 55.4**	**-2.5**
	baz=305						
AML				⇑*i*S	**Sb**	**06 17 40.4**	**+2.2**
	baz=305						
CHMS	**Chumysh**	**3.36**	**327**	P	**Pb**	**06 16 56.6**	**-2.1**
	SNR=318						
CHMS	**Chumysh**	**3.36**	**327**	⇑*i*P	**Pb**	**06 16 56.6**	**-2.1**
	baz=325						
CHMS				⇑*i*S	**Sg**	**06 17 43.0**	**-3.9**
	baz=325						
PDGK	**Podgornoye**	**3.54**	**28**	⇓Pn	**Pb**	**06 16 59.2**	**-2.7**
	comp=E,209nm,0.6s						
PDGK				⇑Lg	Lg	06 17 53.6	
	comp=E,718nm,0.7s						
PDGK	**Podgornoye**	**3.54**	**28**	PN	**Pb**	**06 16 59.1**	**-2.7**
PDGK				pmax	pmax		
	comp=Z,209nm,0.6s						
EKS	**Erkin-Say**	**3.58**	**315**	*i* P	**Pb**	**06 16 59.7**	**-2.8**
	baz=313						
EKS				*e*S	**Sb**	**06 17 48.3**	**+2.3**
	baz=313						
EKS2	**Erkin-Say**	**3.58**	**314**	P	Pb	06 16 59.4	-3.1
	SNR=167						
EKS2	**Erkin-Say**	**3.58**	**314**	*e*PN	Pb	06 16 59.2	-3.3
EKS2	**Erkin-Say**	**3.58**	**314**	⇑*i*P	Pb	06 16 59.6	-2.9
	baz=313						
EKS2				⇑*i*S	**Sb**	**06 17 46.9**	**+0.9**
	baz=313						
EKS2	**Erkin-Say**	**3.58**	**314**	*e*Pn	Pb	06 16 59.2	-3.3
EKS2				*e*Sg	**Sg**	**06 17 52.6**	**-1.3**
USP	**Ospenovka**	**3.68**	**327**	P	Pb	06 17 00.7	-3.5
	SNR=150						
MNAS	**Manas**	**4.23**	**304**	⇓Pn	Pn	06 17 07.3	+3.6
	comp=Z,40nm,0.4s						
MNAS				⇓Pg	**Pg**	**06 17 18.7**	**-1.5**
	comp=Z,182nm,1.2s						
MNAS				⇑Lg	Lg	06 18 10.4	
	comp=Z,339nm,1.0s						
KK31	**Karatay Array**	**5.81**	**302**	⇓Pn	**Pn**	**06 17 27.3**	**+2.0**
	comp=Z,4.3nm,0.5s,baz=119,slow=13,SNR=111						
KK31				⇑Lg	Lg	06 18 57.5	
	comp=Z,53nm,0.5s,baz=124,slow=30						
KK31	**Karatay Array**	**5.81**	**302**	*e*PN	**Pn**	**06 17 27.8**	**+2.5**
KK31				pmax	pmax		
	comp=Z,13nm,0.3s						
KKAR	**Karatay Array**	**5.81**	**302**	*e*PN	**Pn**	**06 17 27.5**	**+2.2**
KKAR	**Karatay Array**	**5.81**	**302**	*e*Pn	**Pn**	**06 17 27.5**	**+2.2**
KKAR				*e*Sg	**Sg**	**06 19 02.0**	**-3.6**
DZET	**Dzherino**	**6.65**	**261**	⇑Pn	**Pn**	**06 17 36.8**	**-0.2**
	comp=Z,164nm,0.6s						
DZET				⇓Sn	**Sn**	**06 18 51.1**	**-1.9**
	comp=Z,123nm,0.7s						
DZET				⇓Lg	Lg	06 19 24.1	
	comp=Z,234nm,1.1s						
DZET	**Dzherino**	**6.65**	**261**	PN	**Pn**	**06 17 36.8**	**-0.2**
DZET				pmax	pmax		
	comp=Z,152nm,0.5s						
CHCP	**Chirah Chowk**	**7.27**	**207**	P	**Pn**	**06 17 47.9**	**+2.5**
MK31	**Makanchi Array**	**7.54**	**27**	⇑Pn	Pn	06 17 53.2	+4.2
	comp=Z,5.3nm,0.7s,baz=200,slow=13,SNR=57						
MK31				⇑Sn	Sb	06 19 24.9	-15
	comp=Z,30nm,1.2s						
MK31				⇑Lg	Lg	06 19 59.4	
	comp=Z,31nm,0.8s,baz=210,slow=24,SNR=4.8						
MK31	**Makanchi Array**	**7.54**	**27**	*e*P	Pn	06 17 53.8	+4.8
MK31	**Makanchi Array**	**7.54**	**27**	*e*Pn	Pn	06 17 53.8	+4.8
MK31				*e*Sg	Sg	06 20 03.6	+2.7
MKAR	**Makanchi Array**	**7.54**	**27**	Pn	Pn	06 17 53.6	+4.5
	comp=Z,1.3nm,0.3s,baz=202,slow=15,SNR=52						
MKAR				Sn	Sn	06 19 19.4	+4.8
	comp=Z,0.7nm,0.3s,baz=196,slow=21,SNR=3.6						
MKAR				Lg	Lg	06 19 58.8	
	comp=Z,1.7nm,0.3s,baz=209,slow=25,SNR=6.4						
MKAR				LR	LR	06 21 12.0	
	comp=Z,284nm,20.5s,baz=221,slow=40						
CEP	**Cherat**	**7.66**	**215**	⇓P	**Pn**	**06 17 52.1**	**+1.2**
CEP				S	**Sn**	**06 19 16.0**	**-1.8**
DLH	**Dalhousie**	**7.72**	**188**	*e*P	**Pn**	**06 17 53.0**	**+1.3**
DLH				*ex*	x	06 19 20.0	
DHRM	**DHARAMSHALA**	**7.98**	**186**	*e*P	**Pn**	**06 17 56.0**	**+0.8**
DHRM				*e*S	Sn	06 19 19.5	-6.2
DHRM				AML	AML	06 19 34.1	
	comp=E,174nm,0.5s						
DHRM				AML	AML	06 19 37.3	
	comp=N,169nm,0.4s						
WMQ	**Urumqi**	**8.58**	**62**	P	Pn	06 18 06.3	+2.9
WMQ				S	**Sn**	**06 19 38.3**	**-1.9**
WMQ				SMN			
	comp=N,41nm,1.2s						
WMQ				SME			
	comp=N,69nm,1.4s						
THW	**Thamme Wali**	**8.62**	**213**	P	**Pn**	**06 18 04.0**	**+0.1**
KBL	**Kabul**	**8.63**	**232**	*e*P	**Pn**	**06 18 05.5**	**+1.3**
KBL	**Kabul**	**8.63**	**232**	*e*Pn	**Pn**	**06 18 05.5**	**+1.3**
OTUK	**Ortayu**	**8.77**	**338**	⇑Lg	Lg	06 20 35.5	
	comp=N,117nm,1.0s						
SMLA	**Simla**	**9.06**	**180**	*e*P	**Pn**	**06 18 11.5**	**+1.6**
SMLA				*e*S	Sn	06 19 45.4	-6.5
SMLA				AML	AML	06 19 59.7	
	comp=N,71nm,0.4s						
SMLA				AML	AML	06 20 02.7	
	comp=E,78nm,0.6s						
JOSI	**Joshimath**	**9.81**	**168**	*e*P	Pn	06 18 25.4	+4.9
JOSI				*e*S	**Sn**	**06 20 10.8**	**0.0**
JOSI				AML	AML	06 20 41.0	
	comp=N,80nm,0.5s						
JOSI				AML	AML	06 20 41.6	
	comp=E,78nm,0.7s						
KURBB	**Kurchatov Arra**	**10.46**	**5**	⇑Pn	Pn	06 18 31.2	+2.2
	comp=E,5.6nm,0.8s						
KURBB				⇓Lg	Lg	06 21 31.3	
	comp=E,118nm,0.8s						
KURBB	**Kurchatov Arra**	**10.46**	**5**	Pn	**Pn**	**06 18 29.0**	**+0.1**
	comp=E,0.2nm,0.3s,baz=188,slow=11,SNR=8.1						
KURBB				Sn	**Sn**	**06 20 29.4**	**+3.3**
	comp=E,0.1nm,0.3s,baz=198,slow=27,SNR=5.3						
KURBB				Lg	Lg	06 21 29.8	
	comp=E,0.4nm,0.3s,baz=191,slow=28,SNR=12						
KURK	**Kurchatov**	**10.55**	**5**	⇑Pn	**Pn**	**06 18 32.0**	**+1.7**
	comp=E,4.4nm,1.0s						
KURK				⇓Lg	Lg	06 21 34.1	
	comp=E,44nm,1.2s						
KURK	**Kurchatov**	**10.55**	**5**	*e*P	Pn	06 18 33.4	+3.1
KURK						06 20 29.5	
KURK	**Kurchatov**	**10.55**	**5**	*e*Pn	Pn	06 18 33.4	+3.1
KURK				Sn	**Sn**	**06 20 29.4**	**+0.9**
KURK				Sn	Sn	06 20 29.5	+1.0
KURK				Lg	Lg	06 21 29.8	
NDI	**New Delhi**	**11.49**	**180**	*e*P	**Pn**	**06 18 42.5**	**-0.8**
NDI				*e*S	Sn	06 20 44.5	-7.2
KHET	**Khetri**	**12.16**	**186**	*e*P	**Pn**	**06 18 50.8**	**-1.6**
KHET				*e*S	Sn	06 20 57.8	-10
KHET				AML	AML	06 21 16.3	
	comp=N,53nm,0.1s						
KHET				AML	AML	06 21 18.3	
	comp=E,60nm,0.2s						
KOLN	**Koldanda**	**13.47**	**155**	*e*P	**Pn**	**06 19 08.8**	**-1.7**
	comp=E,21nm,0.4s						
GKN	**Gorkha**	**13.62**	**151**	*e*P	**Pn**	**06 19 10.1**	**-2.4**
	comp=E,13nm,0.3s						
BVA0	**Borovoye Array**	**13.65**	**342**	⇓Pn	**Pn**	**06 19 13.4**	**+0.8**
	comp=E,17nm,1.0s,baz=154,slow=14,SNR=100						
BVA0				⇓Lg	Lg	06 23 08.7	
	comp=E,92nm,1.3s,baz=140,slow=31,SNR=19						
BVAR	**Borovoye Array**	**13.65**	**342**	Pn	**Pn**	**06 19 14.1**	**+1.5**
	comp=E,1.4nm,0.3s,baz=153,slow=13,SNR=52						
BVAR				Lg	Lg	06 23 10.2	
	comp=E,0.8nm,0.3s,baz=138,slow=25,SNR=14						
BVAR				LR	LR	06 24 38.3	
	comp=E,330nm,19.3s,baz=202,slow=38						
BRVK	**Borovoye**	**13.71**	**342**	⇑Pn	**Pn**	**06 19 14.5**	**+1.1**
	comp=E,26nm,1.0s						
BRVK				⇑Lg	Lg	06 23 10.6	
	comp=E,213nm,2.8s						
BRVK	**Borovoye**	**13.71**	**342**	*d* iP	**Pn**	**06 19 14.8**	**+1.5**
BRVK				pmax	pmax		
	comp=Z,12nm,0.7s						
BRVK	**Borovoye**	**13.71**	**342**	*e*Pn	**Pn**	**06 19 14.8**	**+1.5**
KKN	**Kakani**	**14.06**	**149**	*e*P	Pn	06 19 15.7	-2.8
DMN	**Daman**	**14.15**	**150**	*e*P	**Pn**	**06 19 17.6**	**-2.2**
	comp=Z,12nm,0.4s						
GUN	**Gumba**	**14.19**	**147**	*e*P	**Pn**	**06 19 18.2**	**-2.3**
PKI	**Pulchoki**	**14.30**	**149**	*e*P	**Pn**	**06 19 19.7**	**-2.3**
	comp=Z,18nm,0.5s						
JIRN	**Jiri**	**14.54**	**147**	*e*P	**Pn**	**06 19 23.0**	**-2.3**
	comp=Z,28nm,0.4s						
ZAA0	**Zalesovo Array**	**14.67**	**18**	*e*Pn	P	06 19 28.9	-3.9
ZALV	**Zalesovo Beam**	**14.67**	**18**	Pn	P	06 19 28.9	-4.0
	comp=Z,1.3nm,0.3s,baz=202,slow=11,SNR=7.4						
ZALV				Lg	Lg	06 23 47.8	
	comp=Z,0.1nm,0.3s,baz=204,slow=25,SNR=4.0						
ZALV				LR	LR	06 25 26.7	
	comp=Z,209nm,20.1s,baz=68,slow=38						
ZALV	**Zalesovo Beam**	**14.67**	**18**	*i* P	**P**	**06 19 31.0**	**-1.8**
ZALV				pmax	pmax		
	comp=Z,12nm,0.8s						
IAKL	**Akhelmad**	**14.93**	**262**	*e*P	Pn	06 19 25.2	-5.2
NVS	**Novosibirsk**	**15.18**	**13**	*e*P	**P**	**06 19 37.7**	**-0.8**
NVS				pmax	pmax		
	comp=N,6.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.8s						
NVS				pmax	pmax		
	comp=Z,7.0nm,0.8s						
AB31	**Akbulak array**	**15.23**	**312**	⇑Pn	**Pn**	**06 19 33.3**	**-0.9**
	comp=Z,2.7nm,0.5s						
AB31	**Akbulak array**	**15.23**	**312**	P	**Pn**	**06 19 33.2**	**-0.9**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ABKAR	**Akbulak array**	**15.23**	**312**	*e*Pn	**Pn**	**06 19 34.2**	**+0.1**
	comp=Z,3.0nm,0.5s						
RAMN	**Ramite**	**15.34**	**147**	*e*P	**Pn**	**06 19 32.4**	**-3.5**
	comp=Z,39nm,0.6s						
TAPN	**Taplejung**	**15.48**	**143**	*e*P	**Pn**	**06 19 35.3**	**-2.5**
	comp=Z,4.4nm,0.3s						
ODAN	**Odare**	**15.76**	**145**	*e*P	**Pn**	**06 19 39.1**	**-2.2**
	comp=Z,16nm,0.5s						
AKTO	**Aktyubinsk**	**16.90**	**314**	⇑Pn	**Pn**	**06 19 55.4**	**-0.2**
	comp=Z,9.1nm,0.9s						
AKTO	**Aktyubinsk**	**16.90**	**314**	Pn	**Pn**	**06 19 55.0**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=111,slow=13,SNR=17						
AKTO				LR	LR	06 26 53.0	
	comp=Z,255nm,18.5s,baz=130,slow=38						
AKTO	**Aktyubinsk**	**16.90**	**314**	P	**Pn**	**06 19 55.0**	**-0.6**
ARU	**Arti**	**20.33**	**329**	*d* iP	Pn	06 20 37.7	+0.5
ARU						06 20 52.6	
ARU				S	Sn	06 24 24.9	-1.1
ARU				pmax	pmax		
	comp=Z,16nm,1.2s						
ARU	**Arti**	**20.33**	**329**	*e*P	Pn	06 20 37.9	+0.7
	comp=Z,12nm,0.8s						
ZAK	**Zakamensk**	**20.86**	**52**	*e*P	Pn	06 20 43.9	+0.3
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SONM	**Songino Array**	**22.21**	**60**	P	**P**	**06 20 58.7**	**+3.0**
	comp=Z,3.2nm,0.7s,baz=255,slow=8.7,SNR=20						
IPAR	**Pars**	**22.28**	**250**	*e*P	**P**	**06 20 57.8**	**+1.0**
ULN	**Ulaanbaatar**	**22.66**	**60**	*e*P	P	06 21 05.6	+5.1
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ULN	**Ulaanbaatar**	**22.66**	**60**	*e*P	P	06 21 05.6	+5.1
	comp=Z,5.1nm,0.8s						
IKAZ	**Kazeroun**	**23.19**	**251**	*e*P	**P**	**06 21 06.3**	**-0.1**
CD2	**Chengdu**	**23.41**	**105**	*e*P	**P**	**06 21 09.0**	**+0.7**
CD2				pP	**pP**	**06 21 13.3**	**+2.1**
CD2				sP	**sP**	**06 21 16.0**	**+3.5**
CD2				PP	**PnPn**	**06 21 40.5**	**+6.1**
CD2				S	**S**	**06 25 18.0**	**-3.5**
CD2				SS	**SnSn**	**06 26 04.5**	**+8.0**
CD2				PMZ			
	comp=Z,10.0nm,0.5s						
CD2				LN			
	comp=Z,370nm,7.0s						
CD2	

KOLS	**Kolonicke sedl**	**39.35**	**302**	*eP*	**P**	**06 23 29.2**	**+0.8**
ARCES	**ARCESS Array B**	**39.76**	**334**	P	**P**	**06 23 33.2**	**+1.7**
	comp=Z,2.9nm,0.6s,baz=104,slow=8.7,SNR=34						
ARCES				LR	LR	06 40 32.3	
	comp=Z,105nm,18.5s,baz=100,slow=37						
TIXI	**Tiksi**	**40.49**	**22**	⇑*iP*	**P**	**06 23 39.3**	**+1.7**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TIXI	**Tiksi**	**40.49**	**22**	*eP*	**P**	**06 23 39.4**	**+1.7**
	comp=Z,4.2nm,0.7s						
DPC	**Dobruska-Polom**	**42.93**	**305**	*eP*	P	06 24 03.3	+5.4
DPC	**Dobruska-Polom**	**42.93**	**305**	*eP*	P	06 24 03.3	+5.4
DPC	**Dobruska-Polom**	**42.93**	**305**	*eP*	P	06 24 02.9	+5.0
UPC	**Upice**	**43.09**	**305**	*eP*	P	06 24 04.3	+5.1
UPC	**Upice**	**43.09**	**305**	*eP*	P	06 24 04.3	+5.1
PRU	**Pruhonice**	**44.12**	**305**	*eP*	P	06 24 12.5	+5.1
PRU	**Pruhonice**	**44.12**	**305**	*eP*	P	06 24 12.5	+5.1
BRG	**Berggiesshubel**	**44.31**	**306**	*eP*	P	06 24 14.1	+5.1
	comp=Z,2.7nm,0.9s						
BRG	**Berggiesshubel**	**44.31**	**306**	*eP*	P	06 24 14.1	+5.1
BRG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NB2	**NORSAR Subarra**	**44.51**	**321**	P	**P**	**06 24 10.7**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=88,slow=8.6						
NOA	**NORSAR Array B**	**44.51**	**321**	P	**P**	**06 24 11.0**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=89,slow=8.0,SNR=7.7						
NOA				LR	LR	06 43 41.4	
	comp=Z,61nm,18.2s,baz=100,slow=37						
NOA	**NORSAR Array B**	**44.51**	**321**	P	**P**	**06 24 11.0**	**+0.6**
CLL	**Collm**	**44.80**	**307**	*eP*	**P**	**06 24 14.0**	**+1.1**
	comp=Z,3.0nm,1.0s						
CLL				*e*PP	**PP**	**06 26 02.0**	**+4.7**
CLL	**Collm**	**44.80**	**307**	*eP*	P	06 24 17.5	+4.6
CLL				pmax	pmax		
	comp=Z,76nm,2.7s						
CLL	**Collm**	**44.80**	**307**	*eP*	P	06 24 17.5	+4.6
	comp=Z,76nm,2.7s						
KHC	**Kasperske Hory**	**44.92**	**304**	*eP*	P	06 24 18.6	+4.7
KHC	**Kasperske Hory**	**44.92**	**304**	*eP*	P	06 24 18.6	+4.7
SPITS	**Spitsbergen Ar**	**45.08**	**345**	P	**P**	**06 24 16.7**	**+1.9**
	comp=Z,1.3nm,0.7s,baz=115,slow=12,SNR=4.1						
YSS	**Yuzh-Sakhalins**	**46.70**	**59**	*eP*	**P**	**06 24 29.5**	**+1.6**
DAVOX	**Davos/Dischmat**	**47.95**	**301**	P	**P**	**06 24 37.6**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=196,slow=19,SNR=3.7						
BILL	**Bilibino**	**53.08**	**28***c*	*iP*	P	06 25 18.5	+2.4
BILL				*i*		06 25 25.5	
BILL				pmax	pmax		
	comp=Z,14nm,2.5s						
BILL	**Bilibino**	**53.08**	**28**	*eP*	P	06 25 18.6	+2.4
	comp=Z,4.8nm,0.8s						
ESDC	**Sonseca Array**	**60.05**	**298**	P	**P**	**06 26 05.6**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=68,slow=6.9,SNR=4.1						
COLD	**Coldfoot**	**67.01**	**18**	*eP*	**P**	**06 26 53.6**	**+1.9**
	comp=Z,2.4nm,0.8s						
ILAR	**Eielson Array**	**69.80**	**19**	P	**P**	**06 27 09.5**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=322,slow=5.2,SNR=11						
TORD	**Torodi Ar. Bea**	**70.64**	**271**	P	**P**	**06 27 13.2**	**-1.9**
	comp=Z,1.0nm,0.5s,baz=47,slow=5.3,SNR=16						
YKA	**Yellowknife Ar**	**77.20**	**6**	P	**P**	**06 27 53.4**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=346,slow=5.6,SNR=14						
YKA	**Yellowknife Ar**	**77.20**	**6**	P	**P**	**06 27 53.4**	**+0.7**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KIC	**Kosan Boka**	**79.81**	**270**	*eP*	P	06 28 02.9	-5.0
	comp=Z,179nm,1.6s						
TIC	**Toumodi**	**79.84**	**270**	*eP*	P	06 28 03.8	-4.3
WRA	**Warramunga Arr**	**80.02**	**127**	P	**P**	**06 28 08.9**	**+0.1**
	comp=Z,0.5nm,0.9s,baz=313,slow=7.7,SNR=3.8						
WRA	**Warramunga Arr**	**80.02**	**127**	P	**P**	**06 28 08.9**	**+0.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
LIC	**Lamto**	**80.11**	**270**	*eP*	**P**	**06 28 07.0**	**-2.6**
	comp=Z,83nm,1.4s						

ISCJB ***30*** *06:24:04.1±1.4, 14.˚10N±0.˚10×92.˚20W±0.˚08, h72km±17km, Error ellipse: s-maj=19.3km s-min=6.7km az=35.3*
MEX ***30*** *06:24:07.1±1.4, 14.˚26N×92.˚10W, h70km±24km, MD3.6*
CASC ***30*** *06:24:08.5±2.4, 13.˚94N×91.˚84W, h15km±15km, MD3.5*

ISC 30 06:24:03.6±2.3, 14.˚1N±0.˚1×92.˚3W±0.˚1, h71km±22km, n12, σ1°25/19, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JAT	**Jato**	**0.65**	**66**	*eP*		**Pn**	**06 24 19.7**	**+1.7**
THIG		**0.86**	**359**	*iP*		**Pn**	**06 24 20.3**	**-0.1**
THIG				*iS*		**Sn**	**06 24 31.9**	**-0.9**
FUG	**Fuego 3**	**1.42**	**74**	*eP*		**Pn**	**06 24 28.0**	**+0.3**
PCG	**Pacaya**	**1.63**	**78**	*eP*		**Pn**	**06 24 31.3**	**+0.8**
PCG				*eS*		**Sn**	**06 24 49.3**	**-1.6**
PCIG		**1.90**	**330**	*iP*		**Pn**	**06 24 34.5**	**+0.7**
PCIG				*iS*		**Sn**	**06 24 55.8**	**-1.1**
NBG	**Las Nubes**	**1.92**	**74**	*eP*		**Pn**	**06 24 35.9**	**+1.4**
NBG				*eS*		**Sn**	**06 24 57.9**	**+0.1**
CCIG	**Comitan**	**2.23**	**3**	*iP*		**Pn**	**06 24 39.5**	**+1.0**
CCIG				*eS*		**Sn**	**06 25 05.1**	**0.0**
RBDL	**Robledal**	**2.49**	**88**	*eP*		**Pn**	**06 24 42.5**	**+0.5**
SBLS	**San Blas**	**2.56**	**94**	*eP*		**Pn**	**06 24 44.4**	**+1.4**
SBLS				*eS*		**Sn**	**06 25 11.6**	**-1.7**
SNJE	**San Jose**	**2.57**	**94**	*eP*		**Pn**	**06 24 44.4**	**+1.2**
LFRS	**El Faro**	**3.12**	**97**	*eP*		**Pn**	**06 24 51.6**	**+1.0**
LFRS				*eS*		**Sn**	**06 25 24.9**	**-2.0**
LBRS	**Las Brisas**	**3.13**	**95**	*eP*		**Pn**	**06 24 51.2**	**+0.6**

CSEM ***30*** *06:41:39.9, 41.˚56N×14.˚15E, h9km, MD1.7/4*

ROM 30 06:41:39.9±0.3, 41.˚56N×14.˚15E, h9km±3km, Md1.7/4, Ml0.8/3, Error ellipse: s-maj=1.3km s-min=0.9km az=75.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CERA	**Filignano**	**0.11**	**293**	Pg		Pg	06 41 42.8	+0.2
CERA				Sg		Sg	06 41 44.9	+0.5
	17nm,0.4s							
CERA	**Filignano**	**0.11**	**293**	Pg		Pg	06 41 42.8	+0.2
CERA				Sg		Sg	06 41 44.9	+0.5
	17nm,0.4s							
MIDA	**Miranda**	**0.12**	**43**	Pg		Pg	06 41 42.9	+0.1
MIDA				Sg		Sg	06 41 45.3	+0.5
MIDA	**Miranda**	**0.12**	**43**	Pg		Pg	06 41 42.9	+0.1
MIDA				Sg		Sg	06 41 45.3	+0.5
RNI2	**Rionero Sannit**	**0.15**	**1**	Pg		Pg	06 41 43.9	+0.7
RNI2				Sg		Sg	06 41 46.7	+1.1
	38nm,1.2s							
RNI2	**Rionero Sannit**	**0.15**	**1**	Pg		Pg	06 41 43.9	+0.7
RNI2				Sg		Sg	06 41 46.7	+1.1
	38nm,1.2s							
VAGA	**Valle Agricola**	**0.15**	**155**	Pg		Pg	06 41 43.8	+0.5
VAGA				Sg		Sg	06 41 46.8	+1.1
	42nm,0.4s							
VAGA	**Valle Agricola**	**0.15**	**155**	Pg		Pg	06 41 43.8	+0.5
VAGA				Sg		Sg	06 41 46.8	+1.1
	42nm,0.4s							

ISCJB ***30*** *06:42:28.9±0.6, 51.˚49N±0.˚03×16.˚15E±0.˚03, h0km, Error ellipse: s-maj=4.3km s-min=2.5km az=3.9*
CSEM ***30*** *06:42:29.5±0.3, 51.˚56N×16.˚13E, h2km, ML3.5/11, Error ellipse: s-maj=4.3km s-min=3.8km az=13.0*
VIE ***30*** *06:42:33.1±0.5, 51.˚31N×16.˚10E, h0km, mb2.4/4, ML2.9/4, Error ellipse: s-maj=3.5km s-min=3.0km az=10.0˚ 68 km WNW of Wroclaw Suspected Mining induced.*

ISC 30 06:42:30.1±1.1, 51.˚52N±0.˚05×16.˚12E±0.˚02, h0km, n44, σ0°60/87, 5C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KSP	**Ksiaz**	**0.69**	**171**	*i*Pg		**Pb**	**06 42 44.7**	**-0.2**
KSP				*e*Sg		**Sb**	**06 42 54.2**	**-0.8**
KSP	**Ksiaz**	**0.69**	**171**	⇓*i*Pg		**Pb**	**06 42 44.7**	**-0.2**
KSP				*e*Sg		**Sb**	**06 42 54.2**	**-0.8**
UPC	**Upice**	**1.02**	**184**	*e*PG		**Pb**	**06 42 50.6**	**+0.1**
UPC				*e*SG		**Sb**	**06 43 04.3**	**-0.1**
	comp=Z,70nm,0.2s							
UPC	**Upice**	**1.02**	**184**	Pg		**Pb**	**06 42 50.6**	**+0.1**
UPC				Sg		**Sb**	**06 43 04.3**	**-0.1**
	70nm,0.2s							
DPC	**Dobruska-Polom**	**1.18**	**174**	*e*PG		**Pn**	**06 42 53.5**	**-0.4**
DPC				*e*SG		**Sg**	**06 43 08.5**	**+0.6**
	comp=Z,34nm,0.3s							
DPC	**Dobruska-Polom**	**1.18**	**174**	Pg		**Pn**	**06 42 53.5**	**-0.4**
DPC				Sg		**Sg**	**06 43 08.5**	**+0.6**
	34nm,0.3s							
PVCC	**Panska Ves**	**1.39**	**225**	*e*PG		**Pb**	**06 42 57.0**	**+0.1**
PVCC				*e*SG		**Sn**	**06 43 16.3**	**+0.5**
	comp=Z,204nm,0.3s							
PVCC	**Panska Ves**	**1.39**	**225**	Pg		**Pb**	**06 42 57.0**	**+0.1**
PVCC				Sg		**Sn**	**06 43 16.3**	**+0.5**
	204nm,0.3s							
KRLC	**Kraliky**	**1.51**	**163**	*e*PG		**Pb**	**06 42 58.6**	**-0.3**
KRLC				*e*SG		**Sg**	**06 43 17.6**	**-0.9**
KRLC	**Kraliky**	**1.51**	**163**	Pg		**Pb**	**06 42 58.6**	**-0.3**
KRLC				Sg		**Sg**	**06 43 17.6**	**-0.9**
BRG	**Berggiesshubel**	**1.51**	**245**	PN		**Pn**	**06 42 57.9**	**-0.5**
BRG				PG		**Pg**	**06 42 59.4**	**+0.4**
BRG				SG		**Sn**	**06 43 19.4**	**+0.6**
	68nm,0.4s							
PRA	**Prague**	**1.80**	**217**	*e*SG		**Sg**	**06 43 28.8**	**+0.9**
	comp=Z,40nm,0.5s							
PRA	**Prague**	**1.80**	**217**	Sg		**Sg**	**06 43 28.8**	**+0.9**
	40nm,0.5s							
GOPC	**GO Pecny, Ondr**	**1.82**	**208**	*e*PN		**Pn**	**06 43 02.7**	**+0.1**
GOPC				*e*PG		**Pg**	**06 43 04.7**	**-0.2**
GOPC				*e*SG		**Sg**	**06 43 28.5**	**+0.1**
	comp=Z,19nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.82**	**208**	Pn		**Pn**	**06 43 02.7**	**+0.1**
PRU	**Pruhonice**	**1.83**	**214**	*e*PN		**Pn**	**06 43 02.8**	**0.0**
PRU				*e*PG		**Pg**	**06 43 04.8**	**-0.3**
PRU				*e*SG		**Sg**	**06 43 28.9**	**+0.1**
	comp=Z,36nm,0.3s							
PRU	**Pruhonice**	**1.83**	**214**	Pn		**Pn**	**06 43 02.8**	**0.0**
PRU	**Pruhonice**	**1.83**	**214**	Pg		**Pg**	**06 43 04.8**	**-0.3**
PRU				Sg		**Sg**	**06 43 28.9**	**+0.1**
	36nm,0.3s							
CLL	**Collm**	**1.96**	**265**	*i* Pn		**Pn**	**06 43 03.6**	**-0.9**
	comp=Z,14nm,0.5s							
CLL				*i* Pg		**Pb**	**06 43 06.7**	**+0.1**
CLL				*i*			06 43 09.9	
CLL				*e*Sg		**Sg**	**06 43 33.0**	**0.0**
	comp=Z,26nm,0.5s							
MORC	**Moravsky Berou**	**1.97**	**152**	⇓*iP*		**Pn**	**06 43 04.8**	**+0.1**
MORC	**Moravsky Berou**	**1.97**	**152**	⇓*iP*		**Pn**	**06 43 04.8**	**+0.1**
MORC				*e*Sg		**Sg**	**06 43 32.6**	**-0.6**
OKC	**Ostrava-Krasne**	**2.12**	**142**	*e*PG		**Pg**	**06 43 10.9**	**+0.2**
OKC				*e*SG		**Sg**	**06 43 37.6**	**-0.6**
	comp=Z,36nm,0.5s							
OKC	**Ostrava-Krasne**	**2.12**	**142**	Pg		**Pg**	**06 43 10.9**	**+0.2**
OKC				Sg		**Sg**	**06 43 37.6**	**-0.6**
	comp=Z,36nm,0.5s							
CHZP	**Chorzow**	**2.20**	**123**	*e*Pg		**Pg**	**06 43 13.0**	**+0.8**
VRAC	**Vranov**	**2.24**	**172**	⇑*iP*		**Pn**	**06 43 09.2**	**+0.8**
VRAC	**Vranov**	**2.24**	**172**	*e*Pn		**Pn**	**06 43 09.0**	**+0.6**
VRAC				*e*Sg		**Sg**	**06 43 41.3**	**-0.5**
TREC	**Trest**	**2.26**	**190**	*e*PN		**Pn**	**06 43 09.6**	**+0.8**
TREC				*e*PG		**Pg**	**06 43 13.2**	**-0.2**
TREC				*e*SG		**Sg**	**06 43 42.4**	**-0.4**
TREC	**Trest**	**2.26**	**190**	Pn		**Pn**	**06 43 09.6**	**+0.8**
NKC	**Novy Kostel**	**2.66**	**242**	*e*PN		**Pn**	**06 43 14.4**	**+0.2**
NKC				*e*PG		**Pg**	**06 43 20.9**	**-0.1**
NKC				*e*SG		**Sg**	**06 43 54.7**	**-0.7**
	comp=Z,27nm,0.4s							
NKC	**Novy Kostel**	**2.66**	**242**	Pn		**Pn**	**06 43 14.4**	**+0.2**
NKC	**Novy Kostel**	**2.66**	**242**	Pg		**Pg**	**06 43 20.9**	**-0.1**
NKC				Sg		**Sg**	**06 43 54.7**	**-0.7**
	comp=Z,27nm,0.4s							
OJC	**Ojcow**	**2.67**	**118**	*e*Pg		**Pg**	**06 43 20.5**	**-0.8**
OJC				*e*Sg		**Sg**	**06 43 56.2**	**+0.3**
OJC	**Ojcow**	**2.67**	**118**	*e*Pg		**Pg**	**06 43 20.5**	**-0.8**
OJC				*e*Sg		**Sg**	**06 43 56.2**	**+0.3**
KHC	**Kasperske Hory**	**2.89**	**215**	*e*PN		**Pn**	**06 43 17.4**	**0.0**
KHC				*e*PG		**Pb**	**06 43 23.9**	**+1.4**
KHC				*e*SN		**Sn**	**06 43 52.5**	**-0.4**
KHC				*e*SG		**Sg**	**06 44 01.6**	**-1.3**
	comp=Z,10nm,0.3s							
KHC	**Kasperske Hory**	**2.89**	**215**	Pn		**Pn**	**06 43 17.4**	**0.0**
KHC	**Kasperske Hory**	**2.89**	**215**	Pg		**Pb**	**06 43 23.9**	**+1.4**
KHC				Sn		**Sn**	**06 43 52.5**	**-0.4**
KHC				Sg		**Sg**	**06 44 01.6**	**-1.3**
	comp=Z,10nm,0.3s							
NIE	**Niedzica**	**3.41**	**126**	*e*Pg		**Pg**	**06 43 35.5**	**+0.1**
NIE				*e*Sg		**Sg**	**06 44 20.4**	**+0.9**
CONA	**Conrad Observa**	**3.60**	**183**	⇑*i*Pn		**Pn**	**06 43 27.4**	**+0.3**
CONA				⇑*i*Sg		**Sg**	**06 44 25.4**	**-0.3**
	comp=Z,11nm,0.4s							
CONA	**Conrad Observa**	**3.60**	**183**	Pn		**Pn**	**06 43 27.5**	**+0.3**
CONA				Sg		**Sg**	**06 44 25.4**	**-0.3**
	comp=Z,11nm,0.4s							
MOA	**Molln**	**3.87**	**199**	⇑*i*Pn		**Pn**	**06 43 31.7**	**+0.9**
MOA				⇑*i*Sg		**Sg**	**06 44 34.4**	**+0.2**
	comp=Z,11nm,0.5s							
MOA	**Molln**	**3.87**	**199**	Pn		**Pn**	**06 43 31.7**	**+0.9**
MOA				Sg		**Sg**	**06 44 34.4**	**+0.2**
	comp=Z,11nm,0.5s							
STHS	**Stebnicka Huta**	**3.89**	**121**	*e*PN		**Pn**	**06 43 31.3**	**+0.1**
STHS				*e*PG		**Pg**	**06 43 45.6**	**+0.9**
STHS				*e*SG		**Sg**	**06 44 36.4**	**+1.3**
KECS	**Kecovo**	**4.15**	**135**	*e*PN		**Pn**	**06 43 33.4**	**-1.2**
KOLS	**Kolonicke sedl**	**4.72**	**121**	*e*PN		**Pn**	**06 43 42.2**	**-0.4**
KOLS				*e*PG		**Pg**	**06 44 00.4**	**-0.2**

BUC 30 06:45:55.1±0.5, 45.˚16N×26.˚97E, h14km, MD2.7/3, 16C-10D, Error ellipse: s-maj=6.1km s-min=3.9km az=58.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ISR	**Istrita**	**0.30**	**262**	⇑*iP*		Pb	06 46 02.2	-0.2
ISR	**Istrita**	**0.30**	**262**	⇑*iP*		Pb	06 46 02.2	-0.2
ISR				*i* S		Sb	06 46 08.7	+1.4
PETR	**Petresti**	**0.59**	**18**	⇑*iP*		Pb	06 46 08.0	+0.8
PETR	**Petresti**	**0.59**	**18**	⇑*iP*		Pb	06 46 08.0	+0.8
PETR				*i* S		Sb	06 46 15.6	+0.2
PLOR	**Plostina**	**0.72**	**342**	⇑*iP*		Pg	06 46 09.2	-0.1
PLOR	**Plostina**	**0.72**	**342**	⇑*iP*		Pg	06 46 09.2	-0.1
PLOR				*i* S		Sn	06 46 20.9	-1.0
PLOR	**Plostina**	**0.72**	**342**	S		Sn	06 46 20.9	-1.0
VRI	**Vrincioaia**	**0.72**	**347**	⇓*iP*		Pb	06 46 09.8	+0.3
VRI	**Vrincioaia**	**0.72**	**347**	⇓*iP*		Pb	06 46 09.8	+0.3
VRI				*i* S		Sn	06 46 20.9	-0.9
VRI	**Vrincioaia**	**0.72**	**347**	S		Sn	06 46 20.9	-0.9
MLR	**Muntele Rosu**	**0.79**	**295**	⇓*iP*		Pg	06 46 10.3	-0.4
MLR	**Muntele Rosu**	**0.79**	**295**	⇓*iP*		Pg	06 46 10.3	-0.4
MLR				*i* S		Sb	06 46 22.5	+0.9
CFR	**Carcaliu**	**0.83**	**89**	⇑*iP*		Pb	06 46 11.2	0.0
CFR	**Carcaliu**	**0.83**	**89**	⇑*iP*		Pb	06 46 11.2	0.0
CFR				*i* S		Sn	06 46 23.5	-0.8
HARR	**Harsova**	**0.83**	**124**	⇑*iP*		Pb	06 46 11.6	+0.3
HARR	**Harsova**	**0.83**	**124**	⇑*iP*		Pb	06 46 11.6	+0.3
TLB	**Topalu**	**0.96**	**127**	⇑*iP*		Pb	06 46 13.4	0.0
TLB	**Topalu**	**0.96**	**127**	⇑*iP*		Pb	06 46 13.4	0.0
TLB				*i* S		Sn	06 46 27.8	+0.3
BUC1	**Bucharest**	**1.06**	**220**	S		Sn	06 46 30.3	+0.4
BUC1	**Bucharest**	**1.06**	**220**	*i* S		Sn	06 46 30.3	+0.4
MSAB	**Monastry St. A**	**1.23**	**150**	⇓*iP*		Pb	06 46 18.1	-0.1
MSAB	**Monastry St. A**	**1.23**	**150**	⇓*iP*		Pb	06 46 18.1	-0.1
MSAB				*i* S		Sg	06 46 34.9	-0.1
TIRR	**Tirgusor**	**1.25**	**124**	⇑*iP*		Pn	06 46 17.9	-0.2
TIRR	**Tirgusor**	**1.25**	**124**	⇑*iP*		Pn	06 46 17.9	-0.2
TIRR				*i* S		Sg	06 46 35.1	-0.3
TLCR		**1.31**	**88**	S		Sg	06 46 37.2	-0.1
TLCR		**1.31**	**88**	*i* S		Sg	06 46 37.2	-0.1
TESR	**Tescani**	**1.37**	**351**	⇓*iP*		Pn	06 46 19.6	-0.2
TESR	**Tescani**	**1.37**	**351**	⇓*iP*		Pn	06 46 19.6	-0.2
DOPR	**Dopca**	**1.37**	**306**	S		Sb	06 46 38.5	+0.5
DOPR	**Dopca**	**1.37**	**306**	*i* S		Sb	06 46 38.5	+0.5
VOIR		**1.38**	**282**	⇑*iP*		Pn	06 46 20.1	0.0
VOIR		**1.38**	**282**	⇑*iP*		Pn	06 46 20.1	0.0
VOIR				*i* S		Sg	06 46 39.2	-0.7
ARR	**Arges**	**1.66**	**278**	⇓*iP*		Pb	06 46 24.9	-0.7
ARR	**Arges**	**1.66**	**278**	⇓*iP*		Pb	06 46 24.9	-0.7
ARR				*i* S		Sb	06 46 46.8	+0.4
PSN	**Preselentsi**	**1.72**	**149**	S		Sg	06 46 49.5	-0.9
PSN	**Preselentsi**	**1.72**	**149**	*i* S		Sg	06 46 49.5	-0.9

MEX 30 07:21:46.0±0.8, 31.˚95N×115.˚00W, h16km±17km, MD3.9, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MBIG	**Mexicali**	**0.48**	**340**	*eP*		Pg	07 21 54.1	-1.6
MBIG				*eS*		Sg	07 21 59.9	-2.4
SPIG	**San Pedro Mart**	**0.99**	**204**	*eP*		Pb	07 22 01.2	-4.0
CBX	**Cerro Bola**	**1.46**	**285**	*eP*		Pn	07 22 08.3	-3.5

DJA 30 07:27:28.2±0.6, 1.˚S±6.˚×13.˚3E±˚, h10km, M4.1/6, mb4.4/1, MLv4.0/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SWI	**Sorong**	**1.43**	**256**	P		Pn	07 27 51.7	-2.6
SWI				S		Sb	07 28 13.4	0.0
RKPI	**Ransiki, Papua**	**1.82**	**123**	P		Pn	07 27 58.6	-1.0
RKPI				S		Sn	07 28 23.2	+0.4
FAKI	**Fak Fak**	**2.43**	**190**	P		Pn	07 28 07.4	-0.6
FAKI				S		Sn	07 28 38.6	+0.8
MSAI	**Masohi**	**4.67**	**233**	P		Pn	07 28 38.3	-0.5
MSAI				S		Sn	07 29 35.5	+2.5

ISCJB ***30*** *07:37:00.3±0.3, 37.˚58N±0.˚01×22.˚08E±0.˚02, h7km±2km, mb3.7/10, MS2.7/2, Error ellipse: s-maj=2.2km s-min=2.0km az=155.1*
IDC ***30*** *07:37:00.3±1.0, 37.˚61N×22.˚01E, h0km, mb3.7/11, mb1 3.8/16, mb1mx3.7/36, mbtmp3.6/16, ML3.2/5, MS2.7/3, Ms1 2.7/3, ms1mx2.5/29, Error ellipse: s-maj=17.8km s-min=17.5km az=8.0*
THE ***30*** *07:37:00.9, 37.˚59N×22.˚07E, h1km, ML3.7/15, Error ellipse: s-maj=0.8km s-min=0.2km az=177.0*
ATH ***30*** *07:37:00.8, 37.˚58N×22.˚10E, h15km, MD3.8/51, ML3.6*
CSEM ***30*** *07:37:00.9±0.1, 37.˚58N×22.˚09E, h2km, ML3.6, Error ellipse: s-maj=2.3km s-min=2.1km az=44.0*

ISC 30 07:37:01.1±1.0, 37.˚59N±0.˚01×22.˚09E±0.˚01, h4km±7km, n244, σ0°86/337, mb4.0/10, 12C-12D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
AMT	**Artemida-Makis**	**0.31**	**259**	P		**Pg**	**07 37 06.4**	**-0.6**
AMT				S		**Sg**	**07 37 10.9**	**-0.1**
AMT	**Artemida-Makis**	**0.31**	**259**	*e*PB		**Pg**	**07 37 06.7**	**-0.3**
AMT				*e*SB		**Sg**	**07 37 11.8**	**+0.8**
AMT	**Artemida-Makis**	**0.31**	**259**	P		**Pg**	**07 37 06.6**	**-0.4**
AMT				S		**Sg**	**07 37 10.9**	**-0.1**
AMT				*e*Sb		**Sg**	**07 37 11.8**	**+0.8**
VLX	**Vlachokerasia**	**0.32**	**134**	P		**Pg**	**07 37 07.3**	**0.0**
VLX				S		**Sg**	**07 37 12.1**	**+0.6**
VLX	**Vlachokerasia**	**0.32**	**134**	*e*PB		**Pg**	**07 37 07.5**	**+0.2**
VLX				*e*SB		**Sg**	**07 37 12.0**	**+0.6**
VLX	**Vlachokerasia**	**0.32**	**134**	P		**Pg**	**07 37 07.3**	**0.0**
VLX				S		**Sg**	**07 37 12.1**	**+0.6**
GUR	**Goura**	**0.40**	**30**	P		**Pg**	**07 37 08.6**	**-0.2**
GUR				S		**Sg**	**07 37 14.6**	**+0.6**
GUR	**Goura**	**0.40**	**30**	*e*PB		**Pg**	**07 37 08.7**	**-0.1**
GUR				*e*SB		**Sg**	**07 37 15.4**	**+1.4**
GUR	**Goura**	**0.40**	**30**	P		**Pg**	**07 37 08.6**	**-0.2**
GUR				S		**Sg**	**07 37 14.6**	**+0.6**
GUR				*e*Sb		**Sg**	**07 37 15.4**	**+1.4**
ITM	**Ithomi**	**0.43**	**197**	P		**Pg**	**07 37 09.0**	**-0.4**
ITM				S		**Sg**	**07 37 15.6**	**+0.6**
ITM	**Ithomi**	**0.43**	**197**	*e*PB		**Pg**	**07 37 09.2**	**-0.2**
ITM				*e*SB		**Sg**	**07 37 15.1**	**+0.1**
ITM	**Ithomi**	**0.43**	**197**	P		**Pg**	**07 37 09.0**	**-0.4**
ITM				*e*Sb		**Sg**	**07 37 15.1**	**+0.1**
KLV	**Kalavryta, Ach**	**0.45**	**6**	P		**Pg**	**07 37 09.4**	**-0.4**
KLV				S		**Sg**	**07 37 16.4**	**+0.7**
KLV	**Kalavryta, Ach**	**0.45**	**6**	*e*PB		**Pg**	**07 37 09.7**	**-0.1**
KLV				*e*SB		**Sb**	**07 37 17.4**	**-1.4**
KLV	**Kalavryta, Ach**	**0.45**	**6**	P		**Pg**	**07 37 09.4**	**-0.4**

LKR	**Lokris**	**1.28**	**34**	*e*Pn	**Pg**	07 37 24.2	-1.3		
LKR	**Lokris**	**1.28**	**34**	P	**Pg**	07 37 25.1	-0.4		
LKR				*e*Sn	**Sn**	07 37 43.7	+0.4		
VLS	**Valsamata**	**1.32**	**297**	P	**Pg**	07 37 25.6	-0.8		
VLS				S	**Sb**	07 37 44.1	+0.3		
VLS	**Valsamata**	**1.32**	**297**	*e*PN	**Pg**	07 37 26.0	-0.4		
VLS				*e*SN	**Sn**	07 37 45.3	+0.9		
VLS	**Valsamata**	**1.32**	**297**	P	**Pg**	07 37 25.6	-0.8		
VLS	**Valsamata**	**1.32**	**297**	*e*Pn	**Pg**	07 37 26.0	-0.4		
VLS				S	**Sb**	07 37 44.1	+0.3		
VLS				*e*Sn	**Sn**	07 37 45.3	+0.9		
EVR	**Evrytania**	**1.34**	**351**	P	**Pg**	07 37 25.6	-1.2		
EVR				S	**Sn**	07 37 45.1	+0.1		
EVR	**Evrytania**	**1.34**	**351**	*e*PN	**Pg**	07 37 25.7	-1.1		
EVR				*e*SN	**Sn**	07 37 45.2	+0.2		
EVR	**Evrytania**	**1.34**	**351**	P	**Pg**	07 37 25.6	-1.2		
EVR				*e*Sn	**Sn**	07 37 45.2	+0.2		
ATH	**Athens Observa**	**1.34**	**73**	P	**Pg**	07 37 26.1	-0.7		
ATH	**Athens Observa**	**1.34**	**73**	*e*PN	**Pb**	07 37 27.1	+0.3		
ATH				*e*SN	**Sb**	07 37 44.5	+0.1		
ATH	**Athens Observa**	**1.34**	**73**	P	**Pg**	07 37 26.1	-0.7		
ATH	**Athens Observa**	**1.34**	**73**	*e*Pn	**Pb**	07 37 27.1	+0.3		
ATH				*e*Sn	**Sb**	07 37 44.5	+0.1		
ATHU	**Athens Univers**	**1.40**	**74**	P	**Pn**	07 37 26.9	-0.4		
ATHU	**Athens Univers**	**1.40**	**74**	P	**Pn**	07 37 26.9	-0.4		
AGG	**Agios Georgios**	**1.44**	**8**	P	**Pn**	07 37 27.3	-0.7		
AGG				S	**Sn**	07 37 48.0	+0.6		
AGG	**Agios Georgios**	**1.44**	**8**	*e*PN	**Pg**	07 37 28.4	-0.3		
AGG				*e*SN	**Sn**	07 37 47.9	+0.6		
AGG	**Agios Georgios**	**1.44**	**8**	P	**Pn**	07 37 27.3	-0.7		
AGG	**Agios Georgios**	**1.44**	**8**	*e*Pn	**Pg**	07 37 28.4	-0.3		
AGG				*e*Sn	**Sn**	07 37 47.9	+0.6		
PTL	**Penteli**	**1.48**	**72**	P	**Pn**	07 37 28.2	-0.3		
PTL	**Penteli**	**1.48**	**72**	*e*PN	**Pn**	07 37 28.7	+0.2		
PTL				*e*SN	**Sg**	07 37 47.6	-1.0		
PTL	**Penteli**	**1.48**	**72**	P	**Pn**	07 37 28.2	-0.3		
PTL	**Penteli**	**1.48**	**72**	*e*Pn	**Pn**	07 37 28.7	+0.2		
PTL				*e*Sn	**Sg**	07 37 47.6	-1.0		
KYTH	**Kithira**	**1.51**	**150**	P	**Pn**	07 37 28.8	-0.2		
KYTH	**Kithira**	**1.51**	**150**	*e*PN	**Pg**	07 37 30.0	-0.1		
KYTH	**Kithira**	**1.51**	**150**	P	**Pn**	07 37 28.8	-0.2		
KYTH	**Kithira**	**1.51**	**150**	*e*Pn	**Pg**	07 37 30.0	-0.1		
SMIA	**Simia**	**1.56**	**34**	P	**Pn**	07 37 29.3	-0.3		
SMIA	**Simia**	**1.56**	**34**	*e*PN	**Pn**	07 37 29.9	+0.3		
SMIA				*e*SN	**Sg**	07 37 52.2	+1.1		
SMIA	**Simia**	**1.56**	**34**	P	**Pn**	07 37 29.3	-0.3		
SMIA	**Simia**	**1.56**	**34**	*e*Pn	**Pn**	07 37 29.9	+0.3		
SMIA				*e*Sn	**Sg**	07 37 52.2	+1.1		
MRKA	**Markates**	**1.62**	**46**	P	**Pn**	07 37 30.3	-0.2		
MRKA	**Markates**	**1.62**	**46**	*e*PN	**Pn**	07 37 30.5	0.0		
MRKA				*e*SN	**Sn**	07 37 52.0	+0.1		
MRKA	**Markates**	**1.62**	**46**	*e*Pn	**Pn**	07 37 30.5	0.0		
MRKA				*e*Sn	**Sn**	07 37 52.0	+0.1		
LKD2	**Lefkada island**	**1.64**	**317**	P	**Pn**	07 37 30.2	-0.6		
LKD2	**Lefkada island**	**1.64**	**317**	*e*PN	**Pn**	07 37 30.7	-0.1		
LKD2	**Lefkada island**	**1.64**	**317**	P	**Pn**	07 37 30.2	-0.6		
LKD2	**Lefkada island**	**1.64**	**317**	*e*Pn	**Pn**	07 37 30.7	-0.1		
DSL	**Palaion Diasel**	**1.73**	**333**	*e*PN	**Pb**	07 37 33.4	+0.1		
DSL	**Palaion Diasel**	**1.73**	**333**	*e*Pn	**Pb**	07 37 33.4	+0.1		
NEO	**Neokhori**	**1.93**	**27**	P	**Pn**	07 37 34.3	-0.4		
NEO				S	**Sn**	07 38 00.3	+0.8		
NEO	**Neokhori**	**1.93**	**27**	*e*PN	**Pn**	07 37 34.7	0.0		
NEO				*e*SN	**Sn**	07 37 59.6	+0.1		
NEO	**Neokhori**	**1.93**	**27**	P	**Pn**	07 37 34.3	-0.4		
NEO	**Neokhori**	**1.93**	**27**	*e*Pn	**Pn**	07 37 34.7	0.0		
NEO				*e*Sn	**Sn**	07 37 59.6	+0.1		
NEO				S	**Sn**	07 38 00.3	+0.8		
THL	**Klokotos Trika**	**1.97**	**358**	P	**Pn**	07 37 34.9	-0.3		
THL	**Klokotos Trika**	**1.97**	**358**	*e*PN	**Pb**	07 37 36.6	-0.9		
THL	**Klokotos Trika**	**1.97**	**358**	P	**Pn**	07 37 34.9	-0.3		
THL	**Klokotos Trika**	**1.97**	**358**	*e*Pn	**Pb**	07 37 36.6	-0.9		
XOR	**Xorichti**	**1.97**	**26**	P	**Pn**	07 37 34.8	-0.5		
XOR	**Xorichti**	**1.97**	**26**	*e*PB	**Pn**	07 37 35.1	-0.2		
XOR				*e*SN	**Sb**	07 38 02.0	-0.5		
XOR	**Xorichti**	**1.97**	**26**	P	**Pn**	07 37 34.8	-0.5		
XOR	**Xorichti**	**1.97**	**26**	*e*Pb	**Pn**	07 37 35.1	-0.2		
XOR				*e*Sn	**Sb**	07 38 02.0	-0.5		
ANKY	**Antikythira Is**	**1.98**	**150**	*e*PN	**Pb**	07 37 36.8	-0.8		
ANKY	**Antikythira Is**	**1.98**	**150**	*e*Pn	**Pb**	07 37 36.8	-0.8		
AOS	**Alonnisos**	**2.11**	**41**	P	**Pn**	07 37 36.6	-0.6		
AOS	**Alonnisos**	**2.11**	**41**	*e*PB	**Pn**	07 37 36.9	-0.3		
AOS	**Alonnisos**	**2.11**	**41**	P	**Pn**	07 37 36.6	-0.6		
AOS	**Alonnisos**	**2.11**	**41**	*e*Pn	**Pn**	07 37 36.9	-0.3		
JAN	**Janina**	**2.28**	**335**	*e*PN	**Pb**	07 37 42.2	-0.6		
JAN	**Janina**	**2.28**	**335**	*e*Pn	**Pb**	07 37 42.9	-0.6		
IGT	**Igoumenitsa**	**2.38**	**325**	*e*PN	**Pn**	07 37 42.3	+1.5		
IGT	**Igoumenitsa**	**2.38**	**325**	*e*Pn	**Pn**	07 37 42.3	+1.5		
SGD	**Sagiada**	**2.48**	**325**	*e*PN	**Pn**	07 37 44.2	+1.9		
SGD	**Sagiada**	**2.48**	**325**	*e*Pn	**Pn**	07 37 44.2	+1.9		
LIT	**Litokhoron**	**2.52**	**7**	P	**Pn**	07 37 42.9	0.0		
LIT	**Litokhoron**	**2.52**	**7**	*e*PN	**Pn**	07 37 43.7	+0.8		
LIT	**Litokhoron**	**2.52**	**7**	P	**Pn**	07 37 42.9	0.0		
LIT	**Litokhoron**	**2.52**	**7**	*e*Pn	**Pn**	07 37 43.7	+0.8		
KARN	**Karanos**	**2.64**	**145**	*e*PB	**Pn**	07 37 45.9	+1.5		
KARN	**Karanos**	**2.64**	**145**	*e*Pb	**Pn**	07 37 45.9	+1.5		
PAIG	**Paliouri**	**2.64**	**28**	*e*PN	**Pn**	07 37 44.2	-0.3		
PAIG	**Paliouri**	**2.64**	**28**	*e*Pn	**Pn**	07 37 44.2	-0.3		
KZN	**Kozani**	**2.72**	**355**	*e*PN	**Pn**	07 37 45.4	-0.2		
KZN	**Kozani**	**2.72**	**355**	*e*Pn	**Pn**	07 37 45.4	-0.2		
KEK	**Kerkira**	**2.77**	**320**	*e*PB	**Pn**	07 37 48.0	+1.7		
KEK	**Kerkira**	**2.77**	**320**	*e*Pb	**Pn**	07 37 48.0	+1.7		
APE	**Apeiranthos**	**2.79**	**100**	*e*PN	**Pn**	07 37 46.3	+0.1		
APE				*e*SN	**Sn**	07 38 30.3	-0.5		
APE	**Apeiranthos**	**2.79**	**100**	∥*i*P	**Pg**	07 37 55.2	+0.6		
APE	**Apeiranthos**	**2.79**	**100**	*e*Pn	**Pn**	07 37 46.7	+0.1		
APE				*e*Sn	**Sn**	07 38 20.3	-0.5		
NEST	**Nestorio**	**2.93**	**344**	*e*PB	**Pb**	07 37 51.5	-2.5		
NEST	**Nestorio**	**2.93**	**344**	*e*Pb	**Pb**	07 37 51.5	-2.5		
PLG	**Polygyros**	**2.97**	**20**	*e*PN	**Pn**	07 37 49.5	+0.4		
PLG				*e*SB	**Sn**	07 38 26.2	+1.0		
PLG	**Polygyros**	**2.97**	**20**	*e*Pn	**Pn**	07 37 49.5	+0.4		
PLG				*e*Sb	**Sn**	07 38 26.2	+1.0		
HORT	**Hortiatis**	**3.10**	**14**	*e*PN	**Pn**	07 37 50.8	-0.1		
HORT	**Hortiatis**	**3.10**	**14**	*e*Pn	**Pn**	07 37 50.8	-0.1		
OUR	**Ouranopolis**	**3.11**	**28**	*e*PN	**Pn**	07 37 50.6	-0.3		
OUR				*e*SB	**Sn**	07 38 30.1	+1.6		
OUR	**Ouranopolis**	**3.11**	**28**	*e*Pn	**Pn**	07 37 50.6	-0.3		
OUR				*e*Sb	**Sn**	07 38 30.1	+1.6		
IDI	**Anoyia**	**3.22**	**135**	Pn	**Pn**	07 37 53.7	+1.2		
	3.6nm,0.3s,baz=312,slow=16,SNR=21								
IDI				*e*Sn	**Sn**	07 38 32.3	+0.8		
	2.8nm,0.3s,baz=177,slow=22,SNR=3.5								
CHOS	**Chios island**	**3.23**	**75**	P	**Pn**	07 37 52.7	0.0		
CHOS	**Chios island**	**3.23**	**75**	*e*PN	**Pn**	07 37 53.3	+0.6		
CHOS	**Chios island**	**3.23**	**75**	P	**Pn**	07 37 52.7	0.0		
CHOS	**Chios island**	**3.23**	**75**	*e*Pn	**Pn**	07 37 53.3	+0.6		
FNA	**Florina**	**3.23**	**350**	*e*PB	**Pn**	07 37 54.8	+2.1		
FNA	**Florina**	**3.23**	**350**	*e*Pb	**Pn**	07 37 54.8	+2.1		
LIA	**Limnos Island**	**3.34**	**45**	*e*PN	**Pn**	07 37 54.4	+0.4		
LIA	**Limnos Island**	**3.34**	**45**	*e*Pn	**Pn**	07 37 54.4	+0.4		
GRG	**Griva**	**3.37**	**4**	*e*PN	**Pn**	07 37 56.6	+2.1		
GRG	**Griva**	**3.37**	**4**	*e*Pb	**Pn**	07 37 56.6	+2.1		
SIGR	**SIGRI**	**3.37**	**60**	*e*PN	**Pn**	07 37 54.5	0.0		
SIGR	**SIGRI**	**3.37**	**60**	*e*Pn	**Pn**	07 37 54.5	0.0		
SOH	**Sokhos**	**3.37**	**17**	*e*PN	**Pn**	07 37 54.3	-0.2		
SOH				*e*SN	**Sn**	07 38 36.2	+1.2		
SOH	**Sokhos**	**3.37**	**17**	*e*Pn	**Pn**	07 37 54.3	-0.2		
SOH				*e*Sn	**Sn**	07 38 36.2	+1.2		
SIVA	**Sivas**	**3.38**	**139**	*e*PN	**Pn**	07 37 54.5	-0.1		
SIVA	**Sivas**	**3.38**	**139**	*e*Pn	**Pn**	07 37 54.5	-0.1		
KNT	**Kendrikon**	**3.62**	**10**	*e*PN	**Pn**	07 37 58.3	+0.4		
KNT	**Kendrikon**	**3.62**	**10**	*e*Pn	**Pn**	07 37 58.3	+0.4		
OHR	**Ohrid**	**3.65**	**345**	*e*Pn	Pn	07 38 02.2	+3.7		
OHR				*e*Sn	**Sb**	07 38 48.4	-2.5		
OHR				*e*Lg	Lg	07 38 48.7			
	comp=N,145nm,1.2s								
OHR				*e*Lg	Lg	07 38 49.0			
	comp=E,204nm,1.5s								
OHR	**Ohrid**	**3.65**	**345**	*e*Pn	Pn	07 38 02.1	+3.7		
OHR				*e*Lg	Lg	07 38 48.9			
	comp=E,204nm,1.5s								
LAST	**Lasithi**	**3.66**	**131**	*e*PN	**Pn**	07 37 59.5	+1.0		
LAST	**Lasithi**	**3.66**	**131**	*e*Pn	**Pn**	07 37 59.5	+1.0		
NPS	**Neapolis**	**3.67**	**128**	*e*PN	**Pn**	07 37 58.8	+0.1		
NPS	**Neapolis**	**3.67**	**128**	*e*Pn	**Pn**	07 37 58.8	+0.1		
PRK	**Paraskevi**	**3.68**	**62**	*e*PB	**Pn**	07 38 01.3	+2.6		
PRK	**Paraskevi**	**3.68**	**62**	*e*Pb	**Pn**	07 38 01.3	+2.6		
SRS	**Serrai**	**3.71**	**18**	*e*PN	**Pn**	07 38 00.1	+1.0		
SRS	**Serrai**	**3.71**	**18**	*e*Pn	**Pn**	07 38 00.1	+1.0		
VAY	**Valandovo**	**3.74**	**6**	*e*Pn	**Pn**	07 38 02.2	+2.6		
VAY				*e*Lg	Lg	07 38 48.4			
	comp=N,59nm,1.0s								
VAY				*e*Sn	**Sn**	07 38 48.6	+4.6		
VAY				*e*Lg	Lg	07 38 48.8			
	comp=E,202nm,1.7s								
VAY	**Valandovo**	**3.74**	**6**	*e*Pn	**Pn**	07 38 02.1	+2.6		
VAY				*e*Lg	Lg	07 38 48.8			
	comp=E,202nm,1.7s								
SMG	**Samos**	**3.77**	**87**	*e*PN	**Pn**	07 38 00.0	0.0		
SMG	**Samos**	**3.77**	**87**	*e*Pn	**Pn**	07 38 00.0	0.0		
KAVA	**Kavala**	**3.88**	**28**	*e*PN	**Pn**	07 38 01.1	-0.5		
KAVA	**Kavala**	**3.88**	**28**	*e*Pn	**Pn**	07 38 01.1	-0.5		
SMTH	**Samothraki Isl**	**3.93**	**42**	*e*PN	**Pn**	07 38 01.6	-0.6		
SMTH	**Samothraki Isl**	**3.93**	**42**	*e*Pn	**Pn**	07 38 01.6	-0.6		
NVR	**Nevrokopi**	**4.00**	**20**	*e*PN	**Pn**	07 38 03.6	+0.5		
NVR	**Nevrokopi**	**4.00**	**20**	*e*Pn	**Pn**	07 38 03.6	+0.5		
MMB	**Musomiste**	**4.19**	**17**	⇑*i*P	**Pn**	07 38 07.0	+1.2		
MMB	**Musomiste**	**4.19**	**17**	⇑*i*P	**Pn**	07 38 07.0	+1.2		
RDO	**Rodhopi**	**4.44**	**36**	*e*PN	**Pn**	07 38 09.7	+0.5		
RDO	**Rodhopi**	**4.44**	**36**	*e*Pn	**Pn**	07 38 09.7	+0.5		
ALN	**Alexandroupoli**	**4.51**	**42**	*e*PN	**Pn**	07 38 09.3	-0.8		
ALN	**Alexandroupoli**	**4.51**	**42**	*e*Pn	**Pn**	07 38 09.3	-0.8		
KDZ	**Kurdzhali**	**4.80**	**31**	⇓*i*P	**Pn**	07 38 14.8	+0.7		
KDZ	**Kurdzhali**	**4.80**	**31**	⇓*i*P	**Pn**	07 38 14.8	+0.7		
VTS	**Vitosha**	**5.07**	**9**	⇑*i*P	**Pn**	07 38 18.5	+0.6		
VTS	**Vitosha**	**5.07**	**9**	⇑*i*P	**Pn**	07 38 18.5	+0.6		
BARS	**Barje**	**5.22**	**358**	*e*PN	**Pn**	07 38 21.8	+1.9		
TREB	**Trebinje**	**5.86**	**332**	*e*PN	**Pn**	07 38 30.2	+1.4		
JMB	**Yambol**	**5.96**	**34**	⇑*i*P	**Pn**	07 38 31.1	+1.0		
JMB	**Yambol**	**5.96**	**34**	⇑*i*P	**Pn**	07 38 31.1	+1.0		
IVAS	**Ivanjica**	**6.16**	**347**	*e*Pn	**Pn**	07 38 33.5	+0.7		
STON	**Ston**	**6.25**	**329**	*e*Pn	**Pn**	07 38 33.7	-0.3		
STON				Sn	Sn	07 39 39.5	-6.3		
STON	**Ston**	**6.25**	**329**	*e*Pn	**Pn**	07 38 33.7	-0.3		
DIVS	**Divibare**	**6.69**	**347**	⇓*i*P	**Pn**	07 38 40.8	+0.6		
DIVS	**Divibare**	**6.69**	**347**	⇓*i*P	**Pn**	07 38 40.8	+0.6		
DIVS	**Divibare**	**6.69**	**347**	*e*Pn	**Pn**	07 38 41.4	+1.2		
TEKS	**Tekeris**	**7.21**	**345**	*e*Pn	**Pn**	07 38 47.4	+0.1		
ARR	**Arges**	**8.00**	**13**	⇑*i*P	**Pn**	07 38 59.8	+1.7		
ARR	**Arges**	**8.00**	**13**	⇑*i*P	**Pn**	07 38 59.8	+1.7		
VOIR		**8.14**	**15**	⇓*i*P	**Pn**	07 39 00.4	+0.3		
VOIR		**8.14**	**15**	⇓*i*P	**Pn**	07 39 00.4	+0.3		
TLB	**Topalu**	**8.30**	**31**	⇑*i*P	**Pn**	07 39 04.0	+1.8		
TLB	**Topalu**	**8.30**	**31**	⇑*i*P	**Pn**	07 39 04.0	+1.8		
TIRR	**Tirgusor**	**8.36**	**33**	⇓*i*P	**Pn**	07 39 03.4	+0.5		
TIRR	**Tirgusor**	**8.36**	**33**	⇓*i*P	**Pn**	07 39 03.4	+0.5		
MLR	**Muntele Rosu**	**8.40**	**19**	Pn	**Pn**	07 39 04.2	+0.6		
	comp=E,0.1nm,0.3s,baz=189,slow=9.1,SNR=5.8								
MLR				LR	LR	07 43 02.0			
	comp=E,19nm,20.0s,baz=202,slow=43								
MLR	**Muntele Rosu**	**8.40**	**19**	⇓*i*P	**Pn**	07 39 04.3	+0.6		
PLOR	**Plostina**	**8.93**	**21**	⇑*i*P	**Pn**	07 39 11.3	+0.5		
PLOR	**Plostina**	**8.93**	**21**	⇑*i*P	**Pn**	07 39 11.3	+0.5		
VRI	**Vrincioaia**	**8.96**	**21**	⇓*i*P	**Pn**	07 39 12.9	+1.6		
VRI	**Vrincioaia**	**8.96**	**21**	⇓*i*P	**Pn**	07 39 12.9	+1.6		
BRTR	**Keskin Array B**	**9.28**	**73**	Pn	**Pn**	07 39 17.8	+1.9		
	comp=E,0.4nm,0.3s,baz=252,slow=14,SNR=11								
AKASG	**Malin Array Be**	**14.06**	**19**	Pn	**Pn**	07 40 20.9	0.0		
	comp=E,0.1nm,0.3s,baz=206,slow=12,SNR=3.0								
CLL	**Collm**	**15.15**	**338**	*e*	**P**	07 40 41.0	0.0		
CLL				*i* PP	**PnPn**	07 40 43.9	+0.1		
	comp=Z,7.0nm,1.3s								
KBZ	**Khabaz**	**16.92**	**62**	Pn	**P**	07 41 02.0	+1.3		
	comp=Z,0.1nm,0.3s,baz=233,slow=20,SNR=2.9								
ESDC	**Sonseca Array**	**20.44**	**284**	P	**P**	07 41 38.6	-0.8		
	comp=Z,0.3nm,0.3s,baz=90,slow=11,SNR=5.1								
HFS	**Hagfors**	**23.19**	**349**	P	**P**	07 42 07.8	-0.8		
	comp=Z,3.5nm,0.6s,baz=170,slow=10,SNR=12								
FINES	**FINESS Array B**	**24.00**	**5**	P	**P**	07 42 15.7	-0.9		
	comp=Z,3.9nm,1.1s,baz=182,slow=11,SNR=4.3								
FINES				LR	LR	07 52 38.1			
	comp=Z,63nm,18.3s,baz=186,slow=39								
NB2	**NORSAR Subarra**	**24.45**	**347**	P	**P**	07 42 20.6	-0.2		
	comp=Z,5.4nm,0.8s,baz=159,slow=11								
NB2	**NORSAR Subarra**	**24.45**	**347**	P	**P**	07 42 20.6	-0.2		
	comp=Z,5.4nm,0.8s,SNR=8.8								
NOA	**NORSAR Array B**	**24.45**	**347**	P	**P**	07 42 19.3	-1.5		
	comp=Z,2.4nm,0.7s,baz=135,slow=8.3,SNR=21								
NOA				LR	LR	07 54 49.7			
	comp=Z,9.6nm,18.8s,baz=250,slow=44								
EKA	**Eskdalemuir Ar**	**24.62**	**324**	P	**P**	07 42 22.2	-0.2		
	comp=Z,1.9nm,0.6s,baz=121,slow=9.9,SNR=12								
TORD	**Torodi Ar. Bea**	**30.39**	**222**	P	**P**	07 43 13.6	-0.8		
	comp=Z,0.5nm,0.6s,baz=37,slow=8.9,SNR=7.2								
ARCES	**ARCESS Array B**	**32.05**	**2**	P	**P**	07 43 28.8	+0.2		
	comp=Z,1.9nm,0.9s,baz=188,slow=10,SNR=10.0								
MKAR	**Makanchi Array**	**44.55**	**58**	P	**P**	07 45 13.4	-0.5		
	comp=Z,0.6nm,0.7s,baz=278,slow=7.3,SNR=7.2								
ZALV	**Zalesovo Beam**	**45.16**	**48**	P	**P**	07 45 19.2	+0.5		
	comp=Z,1.1nm,0.3s,baz=308,slow=7.1,SNR=2.5								
YKA	**Yellowknife Ar**	**74.36**	**341**	P	**P**	07 48 38.7	-0.8		
	comp=Z,0.2nm,0.6s,baz=36,slow=5.2,SNR=3.5								
ILAR	**Eielson Array**	**77.60**	**355**	P	**P**	07 48 59.0	+0.9		
	comp=Z,0.5nm,1.0s,baz=351,slow=4.7,SNR=4.8								

IDC 30 07:49:02.9±68.0, 32.96N×96.56E, h0km, mb3.7/1, mb1 3.4/3, mb1mx3.1/31, mbtmpg3.4/3, ML3.0/2, MS4.3/1, Ms1 4.3/1, ms1mx2.7/34, Error ellipse: s-maj=937.0km s-min=86.3km az=172.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**16.62**	**24**	Pn	Pn	07 52 57.5	+0.1
	0.1nm,0.3s,baz=208,slow=11,SNR=3.7						
MKAR	**Makanchi Array**	**17.59**	**326**	Pn	Pn	07 53 07.4	-2.0
	0.0nm,0.3s,baz=132,slow=14,SNR=3.4						
ZALV	**Zalesovo Beam**	**22.58**	**342**	P	P	07 54 04.5	-0.2
	1.1nm,0.3s,baz=172,slow=12,SNR=4.0						
PSI	**Prapat**	**30.09**	**175**	LR	LR	08 07 21.3	
	comp=Z,619nm,21.9s,baz=296,slow=36						

*ISK **30** 07:53:03.6, 40.52N×35.66E, h5km, ML3.4*
*ISCJB **30** 07:53:04.6±0.6, 40.56N±0.02×35.62E±0.02, h1km±4km, Error ellipse: s-maj=3.9km s-min=3.0km az=177.3*
*DDA **30** 07:53:04.3, 40.52N×35.62E, h7km, ML3.5*
*CSEM **30** 07:53:05.2±0.1, 40.56N×35.62E, h2km, ML3.4, Error ellipse: s-maj=3.8km s-min=3.4km az=14.0*

ISC 30 07:53:04.4±1.2, 40.53N±0.02×35.67E±0.02, h4km±11km, n86, σ0 88/108, 15C-9D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAVZ	**Havza**	**0.54**	**4**	*i* Sg	**Sb**	07 53 23.6	-1.1
KVT	**Kavak**	**0.62**	**28**	*e*PG	**Pb**	07 53 17.5	-0.3
KVT				*e*SG	**Sb**	07 53 26.3	-0.6
KVT	**Kavak**	**0.62**	**28**	*e*Pg	**Pb**	07 53 17.5	-0.3
KVT				*e*Sg	**Sb**	07 53 26.3	-0.6
TOKA	**Tokat**	**0.65**	**109**	*i* Pg	**Pb**	07 53 18.1	-0.4
TOKA				*i* Sg	**Sb**	07 53 27.2	-0.7
CTKT	**Corum**	**0.67**	**278**	*i* P	**Pg**	07 53 17.5	+0.1
CTKT				*i* S	**Sg**	07 53 26.4	+0.3
CTKT	**Corum**	**0.67**	**278**	*i* P	**Pg**	07 53 17.5	+0.1
CTKT				*i* S	**Sg**	07 53 26.4	+0.3
CORM	**Corum**	**0.87**	**246**	*e*PG	**Pg**	07 53 20.5	-0.6
CORM				*e*SG	**Sb**	07 53 34.4	+0.2
CORM	**Corum**	**0.87**	**246**	*e*Pg	**Pg**	07 53 20.5	-0.6
CORM				*e*Sg	**Sb**	07 53 34.4	+0.2
YOZ	**Yozgat**	**0.93**	**197**	*e*PG	**Pg**	07 53 22.3	0.0
YOZ	**Yozgat**	**0.93**	**197**	*e*Pg	**Pg**	07 53 22.3	0.0
BOYT	**Boyabat**	**1.06**	**327**	*i* P	**Pb**	07 53 25.1	-0.3
BOYT				*i* S	**Sb**	07 53 39.1	-0.5
BOYT	**Boyabat**	**1.06**	**327**	*i* P	**Pb**	07 53 25.1	-0.3
BOYT				*i* S	**Sb**	07 53 39.1	-0.5
BYBT	**Boyabat**	**1.16**	**324**	*e*PN	**Pg**	07 53 26.5	-0.1
BYBT	**Boyabat**	**1.16**	**324**	*e*Pn	**Pg**	07 53 26.5	-0.1
DIKM	**Dikmen**	**1.16**	**345**	*e*PN	**Pn**	07 53 27.3	-0.1
DIKM	**Dikmen**	**1.16**	**345**	*e*Pn	**Pn**	07 53 27.3	-0.1
SVSK	**Karacayir**	**1.19**	**121**	*e*PN	**Pg**	07 53 26.8	-0.5
RSDY	**Resadiye-TOKAT**	**1.27**	**96**	*e*PN	**Pg**	07 53 29.1	+0.3
RSDY	**Resadiye-TOKAT**	**1.27**	**96**	*e*Pn	**Pg**	07 53 29.1	+0.3
TOS	**Tosya**	**1.34**	**292**	*e*PN	**Pn**	07 53 29.9	-0.2
TOS	**Tosya**	**1.34**	**292**	*e*Pn	**Pn**	07 53 29.9	-0.2
CDAG	**Cicekdag**	**1.35**	**228**	*i* P	**Pn**	07 53 28.9	-1.2
CDAG				*i* S	**Sb**	07 53 47.9	0.0
CDAG	**Cicekdag**	**1.35**	**228**	*i* P	**Pn**	07 53 28.9	-1.2
CDAG				*i* S	**Sb**	07 53 47.9	0.0
CANT	**Cankiri**	**1.56**	**273**	*e*PN	**Pb**	07 53 33.5	-0.5
ILGA	**Ilgaz**	**1.57**	**290**	*i* P	**Pb**	07 53 33.8	-0.4
ILGA				*i* S	**Sn**	07 53 54.2	0.0
ILGA	**Ilgaz**	**1.57**	**290**	*i* P	**Pb**	07 53 33.8	-0.4
ILGA				*i* S	**Sn**	07 53 54.2	0.0
ELDT	**Eldivan**	**1.71**	**269**	*e*P	**Pb**	07 53 35.9	-0.6
ELDT				*e*S	**Sn**	07 53 56.9	-0.7
ELDT	**Eldivan**	**1.71**	**269**	*e*P	**Pb**	07 53 35.9	-0.6
ELDT				*e*S	**Sn**	07 53 56.9

636A	Smothers Creek baz=50	50.02	333	⇑P		P	08 57 06.9	+0.3
833A	Chaparral WMA, baz=50	50.13	330	⇓P		P	08 57 07.5	0.0
732A	Laxson Ranch, baz=51	50.75	329	⇑P		P	08 57 11.9	-0.2
633A	Saathoff Ranch baz=51	50.97	331	⇓P		P	08 57 13.6	-0.2
632A	Uvalde baz=52	51.30	330	⇑P		P	08 57 16.3	0.0
533A	Kerrville baz=52	51.42	331	⇓P		P	08 57 16.6	-0.6
631A	Perdido Creek baz=52	51.61	329	⇑P		P	08 57 18.3	-0.2
532A	Rocksprings baz=52	51.88	330	⇓P		P	08 57 20.6	0.0
531A	Rocksprings baz=52	52.21	330	⇓P		P	08 57 23.1	0.0
WHTX	Lake Whitney, baz=53	52.35	334	⇑P		P	08 57 24.4	+0.4
432A	Menard baz=53,SNR=5.6	52.45	331	⇑P		P	08 57 24.4	-0.5
333A	Richland Sprin baz=53	52.45	332	⇓P		P	08 57 23.9	-0.9
Z38A	Mt. Pleasant baz=53	52.46	337	⇑P		P	08 57 24.6	-0.3
530A	J-C Ranch, Com baz=53	52.59	329	⇑P		P	08 57 25.1	-0.8
234A	Clairette baz=53	52.66	333	⇑P		P	08 57 25.9	-0.4
431A	Sonora baz=53	52.67	330	⇑P		P	08 57 25.9	-0.6
332A	Millersview baz=53,SNR=5.8	52.85	331	⇑P		P	08 57 26.7	-1.0
233A	Rising Star baz=53	53.00	333	⇑P		P	08 57 27.9	-1.0
529A	Stev Forest Ra baz=53	53.01	328	⇓P		P	08 57 28.3	-0.7
430A	Baggett Ranch, baz=53	53.06	330	⇑P		P	08 57 28.6	-0.8
331A	San Angelo baz=53	53.10	331	⇑P		P	08 57 29.0	-0.7
MIAR	Mount Ida 4.6nm,0.8s	53.12	339	*e*P		P	08 57 29.1	-0.5
134A	White-Moore Ra baz=53	53.12	334	⇓P		P	08 57 29.1	-0.5
TXAR	Lajitas Array 0.9nm,0.7s,baz=150,slow=8.3,SNR=15	53.13	326	P		P	08 57 29.2	-0.7
TXAR	0.9nm,0.8s,baz=149,slow=8.8,SNR=6.0			pP		pP	08 57 54.9	-0.1
TXAR	comp=Z,41nm,18.6s,baz=0.0,slow=34			LR		LR	09 18 02.8	
232A	Coleman baz=53,SNR=6.8	53.23	332	⇑P		P	08 57 29.5	-1.0
429A	Davenport Ranc baz=54	53.25	329	⇑P		P	08 57 30.0	-0.8
Z35A	Perchaven, San baz=54	53.43	335	⇑P		P	08 57 31.2	-0.7
133A	Hamilton Ranch baz=54	53.51	333	⇑P		P	08 57 31.9	-0.7
X37A	Clayton baz=54	53.80	337	⇓P		P	08 57 34.2	-0.4
W38A	Poteau baz=54	53.92	338	⇓P		P	08 57 35.8	+0.3
329A	Wagon Wheel Ra baz=54	54.00	329	⇑P		P	08 57 36.1	-0.2
Z33A	Whitaker Ranch baz=54	54.02	334	⇑P		P	08 57 36.3	0.0
131A	Roby baz=54	54.23	332	⇑P		P	08 57 37.5	-0.3
X35A	Drake baz=54	54.25	336	⇓P		P	08 57 37.7	-0.2
229A	Bryant Ranch, baz=54	54.31	330	⇓P		P	08 57 38.2	-0.3
W37A	Quinton baz=54	54.31	338	⇑P		P	08 57 38.3	0.0
WCI	Wyandotte Cave	54.54	347	*e*P		P	08 57 38.2	-1.8
WCI				*e*pP		pP	08 58 04.2	-0.9
W36A	Wetumka baz=55	54.61	337	⇓P		P	08 57 40.2	-0.3
Z31A	Sharp Cattle R baz=55	54.66	332	⇓P		P	08 57 40.1	-0.9
228A	UT Block 9, Go baz=55	54.81	329	⇓P		P	08 57 41.3	-0.8
Y32A	R-V Farms, Ver baz=55	54.93	333	⇓P		P	08 57 42.3	-0.5
X33A	Lawton baz=55	54.99	335	⇓P		P	08 57 42.6	-0.6
Z30A	Sanderson Ranc baz=55	55.08	331	⇓P		P	08 57 43.2	-0.8
TUL1	Leonard baz=55	55.13	338	⇑P		P	08 57 43.5	-0.7
128A	Castleberry Fa baz=55	55.17	330	⇓P		P	08 57 43.4	-1.3
X32A	Elmer baz=55	55.22	334	⇑P		P	08 57 43.9	-1.0
Y31A	Rekieta Farm, baz=56	55.25	333	⇓P		P	08 57 44.7	-0.5
Z29A	Hungry Hill Ra baz=56	55.33	331	⇑P		P	08 57 45.2	-0.6
V35A	Meyer Ranch, C baz=56	55.39	337	⇑P		P	08 57 45.8	-0.3
OLIL	Olney	55.43	346	*e*pP		pP	08 58 10.8	-0.7
W33A	Caddo, Fort Co baz=56	55.51	335	⇑P		P	08 57 46.5	-0.5
X31A	McDonald Ranch baz=56	55.70	333	⇓P		P	08 57 47.4	-0.9
V34A	Guthrie baz=56	55.72	336	⇓P		P	08 57 48.0	-0.4
W32A	Sentinel baz=56	55.80	334	⇑P		P	08 57 48.1	-1.0
MNTX	Cornudas Mount baz=56	55.90	327	⇑P		P	08 57 49.2	-0.7
T37A	Cheneyville 18 baz=56	55.91	339	⇓P		P	08 57 48.7	-1.0
V33A	Lossen Ranch, baz=56	56.01	335	⇑P		P	08 57 49.6	-0.9
Y28A	McKinney Farm, baz=56	56.11	331	⇓P		P	08 57 50.3	-1.1
T35A	Sooner Cattle baz=56	56.29	338	⇑P		P	08 57 52.5	0.0
MSTX	Muleshoe baz=57	56.41	331	⇑P		P	08 57 53.0	-0.5
X28A	Dimmitt baz=57	56.59	331	⇓P		P	08 57 54.4	-0.5
V31A	Spring Creek L baz=57	56.61	334	⇓P		P	08 57 54.3	-0.5
T34A	McClaskey Farm baz=57	56.64	337	⇓P		P	08 57 54.6	-0.4
S36A	Lake Cedric, C baz=57	56.68	339	⇓P		P	08 57 54.7	-0.6
S35A	Otter Creek Ra baz=57	56.90	338	⇓P		P	08 57 56.1	-0.7
R36A	Gordon, Harris baz=57	57.19	339	⇑P		P	08 57 58.1	-0.8
R35A	Emporia Munici baz=58	57.43	339	⇓P		P	08 58 00.2	-0.3
R34A	Isabella, Hill baz=58	57.79	338	⇓P		P	08 58 03.2	+0.1
Q35A	Mercer Eighty, baz=58	57.85	339	⇑P		P	08 58 03.2	-0.3
Q34A	Chapman baz=58	58.23	338	⇑P		P	08 58 05.6	-0.4
T26A	Comanche Natio baz=60	59.42	332	⇑P		P	08 58 14.1	-0.5
S26A	Kim baz=60	59.74	332	⇓P		P	08 58 15.8	-0.9
Q29A	Oakley baz=60	59.74	335	⇓P		P	08 58 16.0	-0.6
T25A	Trinidad baz=60	59.77	331	⇑P		P	08 58 16.3	-0.7
N34A	Lincoln baz=60	59.78	340	⇓P		P	08 58 16.1	-0.8
O32A	Brockman Farm, baz=60	59.89	338	⇓P		P	08 58 17.2	-0.4
SDCO	Great Sand Dun 6.3nm,1.1s	60.77	331	*e*P		P	08 58 24.0	+0.1
SDCO				*e*pP		pP	08 58 50.9	+1.4
SDCO	Great Sand Dun baz=61,SNR=7.3	60.77	331	⇑P		P	08 58 23.5	-0.4
R23A	Moffat baz=62	61.28	331	⇓P		P	08 58 27.1	-0.3
WUAZ	Wupatki 14nm,1.8s	62.04	325	*e*P		P	08 58 33.6	+1.2
ECSD	EROS Data Cent 4.0nm,1.0s	62.43	341	*e*P		P	08 58 33.7	-0.9
ECSD				*e*pP		pP	08 59 00.3	0.0
ECSD	EROS Data Cent	62.43	341	⇑P		P	08 58 34.1	-0.5
K30A	Basset baz=63	62.49	338	⇑P		P	08 58 34.4	-0.7
O22A	Kremmling baz=63	63.19	332	⇓P		P	08 58 39.5	-0.7
J29A	Okreek baz=64	63.38	338	⇓P		P	08 58 40.0	-1.0
J28A	Allard Ranch, baz=64	63.73	338	⇑P		P	08 58 43.1	-0.1
J27A	Elkhorn Farm, baz=64	63.87	337	⇓P		P	08 58 44.3	0.0
SRU	San Rafael Swe	64.28	328	*e*P		P	08 58 53.6	+6.4
G30A	Faulkton baz=65	64.49	340	⇓P		P	08 58 47.9	-0.3
N20A	Spence Gulch, baz=65	64.52	331	⇑P		P	08 58 48.5	-0.2
I27A	Quinn baz=65	64.58	337	⇑P		P	08 58 48.9	0.0
I25A	Rochford baz=65	65.18	336	⇓P		P	08 58 53.1	+0.1
J22A	Midwest baz=66	65.79	334	⇓P		P	08 58 56.9	+0.1
TPNV	Topopah Spring baz=66	65.82	323	⇓P		P	08 58 57.1	0.0
G26A	Maurine baz=66	65.83	338	⇑P		P	08 58 56.3	-0.6
JLU	Jordanelle	65.88	329	*e*P		P	08 58 56.6	-1.0
BSC	Santa Cruz Isl baz=66	65.90	319	⇓P		P	08 58 57.0	-0.6
H24A	Dirks Ranch, A baz=66	66.11	336	⇑P		P	08 58 58.3	-0.5
F27A	Lemmon baz=66	66.12	338	⇓P		P	08 58 59.0	+0.3
J21A	Lysite baz=66	66.15	333	⇓P		P	08 58 59.0	-0.2
I22A	9 Mile Ranch, baz=66	66.19	334	⇓P		P	08 58 58.8	-0.5
DUG	Dugway, Tooele 6.4nm,1.1s	66.26	328	*e*P		P	08 59 00.7	+0.8
DUG	Dugway, Tooele baz=66	66.26	328	⇓P		P	08 58 59.5	-0.4
E28A	Huff baz=66	66.27	340	⇓P		P	08 58 59.5	-0.2
F26A	Lodgepole baz=67	66.34	338	⇓P		P	08 58 60.0	-0.1
AGMN	Agassiz Nation 5.5nm,0.8s	66.35	344	*e*P		P	08 58 59.5	-0.6
AGMN				*e*pP		pP	08 59 26.2	+0.1
AGMN	Agassiz Nation baz=67	66.35	344	⇑P		P	08 58 59.8	-0.3
R11A	Troy Canyon, C baz=67	66.42	325	⇓P		P	08 59 01.0	+0.1
J20A	Shoshoni baz=67	66.44	333	⇓P		P	08 59 01.3	+0.3
I21A	Big Trails, Te baz=67,SNR=5.3	66.46	334	⇓P		P	08 59 00.6	-0.5
PDAR	Pinedale Array 0.5nm,0.7s,baz=138,slow=5.1,SNR=5.9	66.64	332	P		P	08 59 01.5	-0.8
PDAR	0.5nm,0.7s,baz=100,slow=4.2,SNR=3.0			pP		PcP	08 59 29.7	-1.1
F25A	Bowman baz=67	66.69	338	⇑P		P	08 59 02.6	+0.2
D28A	Regan baz=67	66.77	340	⇓P		P	08 59 03.2	+0.3
E26A	Carlson Angus baz=67	66.79	338	⇑P		P	08 59 03.3	+0.3
J19A	Crowheart baz=67	66.80	332	⇓P		P	08 59 03.2	-0.1
I20A	Worland baz=67	66.93	333	⇓P		P	08 59 03.5	-0.5
F24A	Ekalaka baz=67	66.99	337	⇑P		P	08 59 03.9	-0.5
MDND	Maddock baz=67	67.04	341	⇓P		P	08 59 04.4	-0.1
B30A	Myrvik Farm, E baz=67	67.19	342	⇑P		P	08 59 05.0	-0.4
F23A	Volborg baz=68	67.26	336	⇓P		P	08 59 05.2	-0.8
H20A	Greybull baz=68	67.31	334	⇓P		P	08 59 06.0	-0.4
I19A	Meeteetse baz=68	67.38	333	⇓P		P	08 59 06.8	-0.1
HVU	Hansel Valley 49μm,0.8s	67.42	329	*e*P		P	08 59 07.2	0.0
B29A	Wagenman Farm, baz=68	67.51	342	⇑P		P	08 59 08.1	+0.7
E24A	Baker baz=68	67.54	337	⇓P		P	08 59 09.0	+1.2
VNA1	Neumayer--Stat	67.56	161	P		P	08 59 09.4	+2.0
G21A	Lodge Grass baz=68	67.57	335	⇓P		P	08 59 07.8	-0.2
F22A	Rosebud baz=68	67.64	336	⇑P		P	08 59 08.4	0.0
D25A	Fairfield baz=68	67.68	338	⇑P		P	08 59 09.4	+0.7
A29A	Manning Farm, baz=68	67.88	342	⇑P		P	08 59 09.6	-0.2
VNA2	Neumayer--Watz baz=285,slow=6.5	67.92	161	P		P	08 59 10.5	+0.8
FXWY	Fox Creek	67.99	331	*e*P		P	08 59 11.0	+0.1
G20A	Bridger baz=68	67.99	334	⇓P		P	08 59 10.2	-0.5
I17A	Pilgrim Ck. baz=68	68.00	332	⇑P		P	08 59 10.9	0.0
D24A	Glendive baz=68	68.02	338	⇑P		P	08 59 11.1	+0.4
NVAR	Mina Array Bea 0.8nm,0.8s,baz=168,slow=5.7,SNR=5.4	68.02	323	P		P	08 59 11.3	+0.1
C25A	Freed Ranch, W baz=68	68.14	339	⇑P		P	08 59 12.0	+0.5
IMW	Indian Meadow	68.15	332	*e*P		P	08 59 12.2	+0.3
FLWY	Flagg Ranch 3.6nm,0.8s	68.18	332	*e*P		P	08 59 11.8	-0.2
H18A	Shoshone NF, C baz=68	68.18	333	⇑P		P	08 59 11.9	-0.2
D23A	Lindsay baz=69	68.39	337	⇑P		P	08 59 13.6	+0.6
C24A	Savage baz=69	68.40	338	⇓P		P	08 59 13.2	+0.1
F20A	Billings baz=69	68.43	335	⇓P		P	08 59 13.5	+0.2
D22A	Cohagen baz=69,SNR=9.0	68.74	337	⇓P		P	08 59 15.4	+0.2
F19A	Roth Farm, Mol baz=69,SNR=6.0	68.80	334	⇑P		P	08 59 15.1	-0.6
C23A	Lambert baz=69	68.91	338	⇓P		P	08 59 16.5	+0.2
E20A	Meyer Farm, Mu baz=69,SNR=5.4	68.99	335	⇓P		P	08 59 16.4	-0.4
DGMT	Dagmar baz=69	69.11	339	⇓P		P	08 59 17.0	-0.5
A25A	Svangstu Ranch baz=69	69.14	339	⇑P		P	08 59 18.2	+0.6
E19A	Rath Farm, Rou baz=70,SNR=6.9	69.22	335	⇓P		P	08 59 18.2	-0.1
B23A	Brockton baz=70	69.39	338	⇑P		P	08 59 19.8	+0.6
A24A	Westby baz=70	69.43	339	⇑P		P	08 59 20.0	+0.5
D20A	Manuel Ranch, baz=70	69.46	335	⇑P		P	08 59 20.1	+0.4
SNAA	Sanae	69.53	161	P		P	08 59 15.3	-4.6
SNAA	Sanae 21nm,1.4s	69.53	161	*e*P		P	08 59 15.4	-4.6
HLID	Hailey baz=70	69.55	329	⇓P		P	08 59 20.7	+0.2
B22A	Reddig Ranch S baz=70	69.62	337	⇑P		P	08 59 20.9	+0.2
C21A	Desert Coulee baz=70	69.65	336	⇑P		P	08 59 20.5	-0.3
MCMT	McKenzie Canyo	69.74	331	*e*P		P	08 59 22.5	+0.8
D19A	Cripps Ranch, baz=70	69.82	335	⇓P		P	08 59 21.8	-0.2
C20A	Veseth Ranch, baz=70	69.91	336	⇑P		P	08 59 22.1	-0.3
MFID	Camas Ranch	70.15	328	*e*P		P	08 59 24.8	+0.7
A22A	Carney Farms, baz=70	70.17	338	⇓P		P	08 59 24.3	+0.3
C19A	Slack Wire Ran baz=71,SNR=6.3	70.35	335	⇓P		P	08 59 24.9	-0.3
B20A	Solberg Farm, baz=71,SNR=6.9	70.51	336	⇓P		P	08 59 25.6	-0.5
A20A	Cobblestone Ra baz=71	70.83	337	⇓P		P	08 59 28.1	0.0
EGMT	Eagleton 6.9nm,1.3s	70.87	335	*e*P		P	08 59 28.4	+0.1
EGMT	Eagleton baz=71	70.87	335	⇓P		P	08 59 28.1	-0.2
B19A	Brinkman Farms baz=71,SNR=6.6	70.88	336	⇑P		P	08 59 27.6	-0.7
DBIC	Dimbokro 7.3nm,1.1s,baz=232,slow=5.7,SNR=4.4	71.15	77	P		P	08 59 30.0	-0.6
A19A	Klindworth Far baz=71	71.19	336	⇓P		P	08 59 30.6	+0.4
MSO	Missoula baz=72	71.75	332	⇓P		P	08 59 34.3	+0.7
BMO	Blue Mountains 1.1nm,0.8s	71.92	329	*e*P		P	08 59 34.8	0.0
N02D	Trinity Center baz=72	72.24	323	⇓P		P	08 59 36.9	+0.2
M04C	Macdoel baz=72	72.27	324	⇑P		P	08 59 37.0	+0.1
J05D	Fort Rock, OR baz=73	72.91	325	⇑P		P	08 59 41.2	+0.5
J04D	Umpqua Nationa baz=74	73.36	325	⇑P		P	08 59 43.7	+0.2
L02D	Cave Junction, baz=74	73.52	323	⇓P		P	08 59 44.4	+0.3
I05D	Terrebonne, OR baz=74	73.67	326	⇓P		P	08 59 45.6	+0.6
G05D	Wamic, OR baz=74	74.25	327	⇑P		P	08 59 49.2	+0.8
QSPA	South Pole Qui 6.7nm,0.7s	74.95	180	*e*P		P	08 59 53.6	+1.3
EDM	Edmonton 30nm,1.2s	76.36	337	*e*P		P	08 59 59.4	-0.8
TORD	Torodi Ar. Bea 2.1nm,0.7s,baz=257,slow=5.1,SNR=17	79.32	73	P		P	09 00 17.1	-0.4
TORD	2.7nm,0.8s,baz=256,slow=5.5,SNR=4.9			pP		pP	09 00 44.2	0.0
VNDA	Vanda 2.8nm,1.1s,baz=130,slow=3.7,SNR=8.5	82.28	190	P		P	09 00 33.8	+1.7
SYO	Syowa Base	83.80	160	⇑*e*P		P	09 00 39.6	-0.4
YKA	Yellowknife Ar 5.4nm,0.7s,baz=134,slow=5.2,SNR=101	83.94	342	P		P	09 00 40.0	-0.6
ESDC	Sonseca Array 2.0nm,0.8s,baz=251,slow=5.0,SNR=13	84.39	47	P		P	09 00 43.8	+0.2
ESDC	1.3nm,0.7s,baz=249,slow=5.8,SNR=3.8			pP		pP	09 01 11.4	+0.7
SUMG	Summit 17nm,0.9s	90.56	10	*i* P		P	09 01 13.5	+0.6
SUMG	Summit 15nm,0.9s	90.56	10	*e*P		P	09 01 13.5	+0.6
MAW	Mawson 1.4nm,0.3s,baz=225,slow=10.0,SNR=3.0	91.49	165	P		P	09 01 17.8	+0.8
ILAR	Eielson Array 0.3nm,0.7s,baz=142,slow=3.1,SNR=6.0	96.83	336	P		P	09 01 41.0	-0.4
KBZ	Khabaz 2.3nm,0.9s,baz=236,slow=2.5	119.21	48	PKP		PKPdf	09 07 00.5	+0.9
AKTO	Aktyubinsk 1.3nm,0.8s,baz=288,slow=3.2,SNR=6.2	127.42	37	PKP		PKPdf	09 07 16.0	+0.8
ABKAR	Akbulak array	129.04	38	*e*PKPdf		PKPdf	09 07 19.8	+1.5
ASAR	Alice Springs 1.2nm,0.6s,baz=134,slow=2.1,SNR=22	133.12	215	PKP		PKPdf	09 07 26.6	-0.4
WRA	Warramunga Arr 3.7nm,0.7s,baz=145,slow=1.8,SNR=25	135.77	219	PKP		PKPdf	09 07 32.3	+0.3
ZAA0	Zalesovo Array	137.70	19	*e*PKPdf		PKPdf	09 07 35.5	+1.1
ZAA0				*e*pPKPdf		pPKPdf	09 08 02.4	-0.6
ZALV	Zalesovo Beam 3.4nm,0.5s,baz=293,slow=2.8,SNR=11	137.70	19	PKP		PKPdf	09 07 35.3	+0.9
MKAR	Makanchi Array 1.0nm,0.8s,baz=320,slow=2.3,SNR=7.0	142.48	28	PKhKP		PKPpre	09 07 38.6	
KSH	Kashi	143.79	42	*e*PKP		PKPdf	09 07 47.5	+1.4
KSH				pPKP		pPKPdf	09 08 14.0	-0.6
KSH				PP		PP	09 11 09.3	+10
KSH				PKS		PKSdf	09 11 21.5	-0.3
KSH				SKS		SKSdf	09 14 45.3	-1.1
KSH	44nm,3.9s			PPMZ				
KSH	83nm,6.4s			LN				
KSH	62nm,6.9s			LE				
KSH	130nm,7.6s			LZ				
USRK	Ussuriysk Ar. 1.4nm,0.6s,baz=48,slow=2.8,SNR=4.2	144.01	329	PKP		PKPab	09 07 43.9	+0.1
MJAR	Matsushiro Arr 5.6nm,0.8s,baz=122,slow=2.2,SNR=21	144.86	313	PKP		PKPab	09 07 46.4	-0.8
MAT	Matsushiro	144.86	313	PKP		PKPab	09 07 46.4	-0.8
MDJ	Mudanjiang	144.87	331	PKP		PKPab	09 07 46.3	-0.6
WMQ	Urumqi	147.18	26	*e*PKPbc		PKPdf	09 07 51.5	-0.2
SONM	Songino Array 7.6nm,0.7s,baz=343,slow=3.6,SNR=44	147.46	0	PKPbc		PKPdf	09 07 52.9	+0.8
KSRS	Korea Array 1.6nm,0.9s,baz=9.3,slow=1.2,SNR=7.1	150.96	324	PKP		PKPdf	09 07 57.5	-0.2
KSRS	4.9nm,0.8s,baz=3.5,slow=1.9,SNR=19			PKPbc		PKiKP	09 08 04.0	-0.2
KSRS	2.0nm,1.0s,baz=320,slow=0.7,SNR=3.0			pPKPbc		pPKPbc	09 08 32.5	+0.5
KSAR	Wonju Array Be	150.99	324	PKP		PKPdf	09 07 57.5	-0.3
KSAR				PKPbc		PKiKP	09 08 04.0	-0.2
KSAR				pPKPbc		pPKPbc	09 08 32.5	+0.4
HHC	Hu-ho-hao-te	154.11	352	*e*PKPbc		PKPdf	09 08 02.0	-0.5
HHC				PKS		PKSdf	09 11 36.5	-0.3
HHC				PP		PP	09 12 05.0	+6.5
HHC				SKS		SKSdf	09 14 57.0	-3.1
HHC				SS		SS	09 31 32.8	+4.8
HHC	43nm,7.5s			PPMZ				
HHC	130nm,17.4s			LN				
HHC	160nm,18.7s			LE				
HHC	43nm,14.9s			LZ				
LZH	Lanzhou	159.04	7	*e*PKP		PKPdf	09 08 08.0	-1.1
LZH				pPKP		pPKPdf	09 08 35.8	-2.0
LZH				sPKP			09 08 45.8	
LZH				PKPab		PKPab	09 08 48.0	+2.1
CD2	Chengdu	164.13	9	PKP		PKPdf	09 08 12.3	-2.1

*ISCJB **30** 08:48:35.9±0.5,38°41N±0'.04×57°.97E±0'.10,h10km,Error ellipse: s-maj=10.8km s-min=5.4km az=2.1*
*CSEM **30** 08:48:36.5±0.2,38°.35N×58°.04E,h2km,ML3.7,Error ellipse: s-maj=11.1km s-min=5.0km az=91.0*
*TEH **30** 08:48:39.9,38°.18N×57°.99E,h1km,ML3.7*
*NNC **30** 08:48:46.5±8.4,38°.96N×58°.62E,h0km,mb3.9,Error ellipse: s-maj=82.6km s-min=41.7km az=41.0*

ISC 30 08:48:37.5±0.8,38°.34N±0'.05×57°.93E±0'.06,h10km,n29,
σ1§**85**/34,**8C-4D,Iran-Turkmenistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISHV	Shirvan	0.83	193	⇓*e*Pg	Pg	08 48 52.6	-0.8
ISHV				*e*		08 49 03.9	
	comp=E,12μm,0.1s						
ISFR	Sfrayin	1.29	177	⇑*e*Pg	Pn	08 49 00.6	-1.1
ISFR				*e*		08 49 05.4	
	comp=Z,27μm,0.1s						
ISFR				*e*Sg	Sb	08 49 15.2	-3.5
IKRD	Kardeh	1.63	163	*e*Pn	Pg	08 49 11.9	+3.1
IKRD				*e*Sg	Sg	08 49 37.5	+7.4
IKRD	Kardeh	1.63	163	*e*Pn	Pg	08 49 11.9	+3.1
IKRD				*e*Sg	Sg	08 49 37.4	+7.4
IAKL	Akhelmad	1.86	159	*e*		08 49 37.2	
	comp=Z,8μm,0.1s						
IAKL				*e*Pn	Pn	08 49 09.0	-0.6
IAKL	Akhelmad	1.86	159	*e*Pn	Pn	08 49 09.0	-0.6
IPAY	Payeh	2.07	155	*e*Pn	Pn	08 49 12.5	0.0
IPAY				*e*		08 49 42.0	
	comp=Z,7μm,0.1s						
IPAY	Payeh	2.07	155	*e*Pn	Pn	08 49 12.5	0.0
ISRO	Mashad	2.37	148	*e*Pn	Pn	08 49 16.8	+0.2
ISRO				*e*		08 49 49.1	
	comp=Z,9μm,0.3s						
ISRO	Mashad	2.37	148	*e*Pn	Pn	08 49 16.8	+0.2
IMOG	Moghan	2.50	153	⇑*e*Pn	Pn	08 49 18.5	+0.1
IMOG				*e*		08 49 55.4	
	comp=Z,3μm,0.1s						
IMOG	Moghan	2.50	153	⇑*e*Pn	Pn	08 49 18.5	+0.1
IMYA	Miami	2.64	138	*e*Pn	Pn	08 49 20.3	-0.1
IMYA				*e*		08 50 05.7	
	comp=Z,3μm,0.2s						
IMYA	Miami	2.64	138	*e*Pn	Pn	08 49 20.3	-0.1
IGLO	Ghaloghah	3.75	242	*e*Pn	Pn	08 49 36.1	+0.6
IKIA	Kiasar	4.00	239	*e*Pn	Pn	08 49 40.4	+1.3
IKIA				*e*		08 50 01.6	
	comp=Z,241nm,0.2s						
IKIA	Kiasar	4.00	239	*e*Pn	Pn	08 49 40.4	+1.3
KK31	Karatay Array comp=Z,0.9nm,0.5s,baz=245,slow=17,SNR=13	10.66	60	⇓Pn	Pn	08 51 08.0	-2.2

KK31					⇑Sn		Sn		08 53 01.8	-7.9
	comp=Z,0.9nm,0.4s,baz=256,slow=21									
KK31	**Karatay Array**	**10.66**	**60**		Pn		**Pn**		**08 51 08.0**	**-2.2**
	comp=Z,0.9nm,0.5s,SNR=13									
KK31					Sn		Sn		08 53 01.8	-7.9
	comp=Z,0.9nm,0.4s									
AB31	**Akbulak array**	**11.00**	**7**	⇓	Pn		**Pn**		**08 51 15.1**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=188,slow=13,SNR=12									
AB31				⇓	Sn		**Sn**		**08 53 14.2**	**-3.7**
	comp=Z,3.0nm,0.7s,baz=270,slow=66,SNR=3.3									
AB31	**Akbulak array**	**11.00**	**7**		Pn		**Pn**		**08 51 15.1**	**+0.2**
	comp=Z,1.3nm,0.5s,SNR=12									
AB31					Sn		**Sn**		**08 53 14.2**	**-3.7**
	comp=Z,3.0nm,0.7s,SNR=3.3									
AKTO	**Aktyubinsk**	**12.09**	**0**	⇑	Pn		**Pn**		**08 51 29.4**	**-0.3**
	comp=Z,1.7nm,0.3s									
AKTO					⇑Sn		**Sn**		**08 53 45.4**	**+0.9**
	comp=Z,4.2nm,0.7s									
AKTO	**Aktyubinsk**	**12.09**	**0**		Pn		**Pn**		**08 51 29.4**	**-0.3**
	comp=Z,1.7nm,0.3s									
AKTO					Sn		**Sn**		**08 53 45.4**	**+0.9**
	comp=Z,4.2nm,0.7s									
BRVK	**Borovoye**	**17.02**	**26**	⇑	Pn		**Pn**		**08 52 35.3**	**-0.1**
	comp=Z,6.4nm,0.9s									
BRVK	**Borovoye**	**17.02**	**26**		Pn		**Pn**		**08 52 35.3**	**-0.1**
	comp=Z,6.4nm,0.9s									
BVA0	**Borovoye Array**	**17.03**	**26**		Pn		**Pn**		**08 52 35.6**	**+0.1**
	comp=Z,3.7nm,0.9s,baz=306,slow=33,SNR=11									
BVA0	**Borovoye Array**	**17.03**	**26**		Pn		**Pn**		**08 52 35.6**	**+0.1**
	comp=Z,3.7nm,0.9s,SNR=11									
MK31	**Makanchi Array**	**19.77**	**57**	⇑	Pn		**Pn**		**08 53 12.9**	**+3.8**
	comp=Z,0.5nm,0.6s,baz=248,slow=11,SNR=5.9									
MK31	**Makanchi Array**	**19.77**	**57**		Pn		**Pn**		**08 53 12.9**	**+3.8**
	comp=Z,0.5nm,0.6s,SNR=5.9									

IDC 30 08:58:21.1±1.8, 37°43S×73°25W, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.3/15, mbtmp3.1/3, ML2.9/1, Error ellipse: s-maj=75.6km s-min=20.1km az=65.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**3.91**	**148**	Pn	Pn	08 59 21.3	-1.2
	0.2nm,0.3s,baz=325,slow=14,SNR=5.5						
PLCA				Lg	Lg	09 00 26.7	
	2.3nm,0.3s,baz=0.5,slow=7.4,SNR=4.2						
LPAZ	**La Paz**	**21.54**	**14**	P	P	09 03 12.6	-0.2
	0.9nm,0.9s,baz=204,slow=9.4,SNR=2.9						
TXAR	**Lajitas Array**	**72.27**	**332**	P	P	09 09 48.5	+0.2
	0.2nm,0.7s,baz=153,slow=7.0,SNR=2.6						

*ISCJB **30** 09:00:34.7±0.4, 59°92N±0°03×24°85E±0°05, h0km, Error ellipse: s-maj=4.4km s-min=3.1km az=41.5*
*HEL **30** 09:00:36.3±0.1, 59°87N×24°87E, h0km, ML2.0, ML1.4(UPP), Explosion*
*CSEM **30** 09:00:36.1±0.2, 59°88N×24°92E, h2km, ML2.0, Error ellipse: s-maj=5.7km s-min=4.3km az=141.0, Mining explosion.*
*UPP **30** 09:00:36.3, 59°94N×24°96E, h0km, ML1.4, Suspected Mining explosion.*
*IDC **30** 09:00:38.6±2.0, 59°99N×24°76E, h0km, mb1 2.9/3, mb1mx2.8/39, mbtmp2.8/3, ML2.8/3, Error ellipse: s-maj=22.1km s-min=6.4km az=142.0*

ISC 30 09:00:35.5±0.7, 59°87N±0°02×24°83E±0°03, h0km, n48, σ1℘21/69, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**0.41**	**328**	*e*P	**Pg**	**09 00 43.8**	**+0.5**
MEF				*e*S	**Sg**	**09 00 49.3**	**+0.6**
MEF	**Metsahovi**	**0.41**	**328**	P	**Pg**	**09 00 43.8**	**+0.5**
MEF				S	**Sg**	**09 00 49.3**	**+0.6**
PVF	**Pernaja**	**0.85**	**37**	*e*PB	**Pg**	**09 00 51.8**	**+0.1**
PVF				*e*SB	**Sg**	**09 01 03.4**	**+0.7**
PVF	**Pernaja**	**0.85**	**37**	Pb	**Pg**	**09 00 51.8**	**+0.1**
PVF				Sb	**Sg**	**09 01 03.4**	**+0.7**
MTSE	**Matsula**	**1.27**	**205**	*e*P	**Pg**	**09 00 59.0**	**-0.8**
MTSE				*e*S	**Sg**	**09 01 15.5**	**-0.7**
MTSE	**Matsula**	**1.27**	**205**	P	**Pg**	**09 00 59.0**	**-0.8**
MTSE				S	**Sg**	**09 01 15.5**	**-0.7**
VJF	**Virojoki**	**1.52**	**63**	*e*PG	**Pn**	**09 01 03.5**	**-0.4**
VJF				MSG		09 01 21.6	
	comp=Z,15nm,0.2s						
VJF	**Virojoki**	**1.52**	**63**	Pg	**Pn**	**09 01 03.4**	**-0.4**
FIA0	**FINESS Array S**	**1.69**	**21**	*e*PN	**Pb**	**09 01 06.8**	**-0.7**
FIA0				*e*SN	**Sg**	**09 01 30.5**	**+0.7**
FIA0	**FINESS Array S**	**1.69**	**21**	Pn	**Pb**	**09 01 06.8**	**-0.7**
FIA0				Sn	**Sg**	**09 01 30.5**	**+0.7**
FINES	**FINESS Array B**	**1.69**	**21**	Pg	**Pb**	**09 01 07.2**	**-0.3**
	comp=Z,3.4nm,0.3s,baz=200,slow=18,SNR=135						
FINES				Lg	Lg	09 01 28.9	
	comp=Z,3.0nm,0.3s,baz=209,slow=26,SNR=21						
VSU	**Vasula**	**1.72**	**144**	*e*Pn	**Pb**	**09 01 07.3**	**-0.5**
VSU				*e*Sn	**Sg**	**09 01 31.9**	**+1.3**
VSU	**Vasula**	**1.72**	**144**	Pn	**Pb**	**09 01 07.3**	**-0.5**
VSU				Sn	**Sg**	**09 01 31.9**	**+1.3**
RAF	**Rauma**	**1.91**	**309**	*e*PN	**Pb**	**09 01 10.4**	**-0.7**
RAF				MSG		09 01 33.0	
	comp=Z,11nm,0.2s						
RAF	**Rauma**	**1.91**	**309**	Pn	**Pb**	**09 01 10.4**	**-0.7**
KEF	**Keuruu**	**2.31**	**0**	*e*PG	**Pb**	**09 01 17.5**	**-0.4**
KEF				MSG		09 01 44.4	
	comp=Z,6.3nm,0.2s						
KEF				*e*SG	**Sb**	**09 01 47.6**	**+0.8**
KAF	**Kangasniemi**	**2.36**	**17**	*e*PG	**Pb**	**09 01 18.2**	**-0.6**
KAF				MSG		09 01 45.9	
	comp=Z,8.5nm,0.2s						
KAF				*e*SG	**Sb**	**09 01 48.9**	**+0.4**
AAL	**Aland**	**2.45**	**279**	*e*PB	**Pb**	**09 01 19.5**	**-0.8**
AAL				*e*SB	**Sb**	**09 01 49.8**	**-1.1**
SUF	**Sumiainen**	**2.93**	**12**	*e*PB	**Pb**	**09 01 26.2**	**-2.3**
SUF				MSG		09 02 02.2	
	comp=Z,3.0nm,0.2s						
SUF				*e*SB	**Sb**	**09 02 04.8**	**0.0**
NRTU	**Norrtaelje**	**3.14**	**269**	*e*P	**Pn**	**09 01 27.9**	**+1.7**
NRTU				*e*S	**Sn**	**09 02 06.0**	**+1.7**
NRTU	**Norrtaelje**	**3.14**	**269**	P	**Pn**	**09 01 27.8**	**+1.7**
NRTU				S	**Sn**	**09 02 05.9**	**+1.7**
VAF	**Ylistaro**	**3.35**	**343**	*e*PB	**Pb**	**09 01 33.0**	**-2.6**
FORU	**Forsmark**	**3.37**	**282**	*e*P	**Pn**	**09 01 31.0**	**+1.8**
FORU	**Forsmark**	**3.37**	**282**	P	**Pn**	**09 01 31.0**	**+1.8**
FLYU	**Flymyra**	**3.50**	**277**	*e*P	**Pn**	**09 01 32.1**	**+1.1**
FLYU				*e*S	**Sn**	**09 02 14.1**	**+1.0**
FLYU	**Flymyra**	**3.50**	**277**	P	**Pn**	**09 01 32.1**	**+1.1**
FLYU				S	**Sn**	**09 02 14.1**	**+1.0**
NYNU	**Nynaeshamn**	**3.59**	**259**	*e*P	**Pn**	**09 01 34.6**	**+2.2**
NYNU	**Nynaeshamn**	**3.59**	**259**	P	**Pn**	**09 01 34.5**	**+2.2**
IGGU	**Iggoen**	**3.87**	**288**	*e*P	**Pn**	**09 01 36.5**	**+0.5**
IGGU	**Iggoen**	**3.87**	**288**	P	**Pn**	**09 01 36.5**	**+0.5**
OSTU	**Oestervaala**	**3.88**	**279**	*e*P	**Pn**	**09 01 37.6**	**+1.3**
OSTU	**Oestervaala**	**3.88**	**279**	P	**Pn**	**09 01 37.5**	**+1.3**
BACU	**Backbrunna**	**3.90**	**273**	*e*P	**Pn**	**09 01 38.4**	**+1.8**
BACU	**Backbrunna**	**3.90**	**273**	P	**Pn**	**09 01 38.3**	**+1.8**
JOF	**Joensuu**	**4.37**	**43**	*e*P	**Pn**	**09 01 43.7**	**+0.8**
JOF	**Joensuu**	**4.37**	**43**	P	**Pn**	**09 01 43.7**	**+0.8**
VIKU	**Vikbolandet**	**4.40**	**255**	*e*P	**Pn**	**09 01 44.0**	**+0.5**
VIKU	**Vikbolandet**	**4.40**	**255**	P	**Pn**	**09 01 44.0**	**+0.5**
UMAU	**Umeaa**	**4.48**	**336**	*e*PG	**Pb**	**09 01 56.3**	**+1.4**
UMAU				*e*SG	**Sg**	**09 02 56.7**	**-2.5**
VSTU	**Vaestervik**	**4.85**	**246**	*e*P	**Pn**	**09 01 50.8**	**+1.2**
VSTU	**Vaestervik**	**4.85**	**246**	P	**Pn**	**09 01 50.8**	**+1.2**
LNKU	**Linkoeping**	**5.09**	**255**	*e*P	**Pn**	**09 01 54.0**	**+1.1**
LNKU	**Linkoeping**	**5.09**	**255**	P	**Pn**	**09 01 54.0**	**+1.1**
ASKU	**Askersund**	**5.21**	**264**	*e*P	**Pn**	**09 01 55.1**	**+0.6**
ASKU	**Askersund**	**5.21**	**264**	P	**Pn**	**09 01 55.1**	**+0.6**
HFS	**Hagfors**	**5.60**	**278**	Pn	**Pn**	**09 02 00.2**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=106,slow=14,SNR=12						
HFS				Sn	**Sn**	**09 03 03.4**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=92,slow=26,SNR=7.9						
HFS				Lg	Lg	09 03 22.3	
	comp=Z,0.2nm,0.3s,baz=91,slow=29,SNR=3.8						
NOA	**NORSAR Array B**	**6.84**	**286**	Pn	**Pn**	**09 02 16.5**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=106,slow=19,SNR=6.6						
NOA				Sn	**Sn**	**09 03 32.4**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=120,slow=16,SNR=3.1						
NOA				Lg	Lg	09 04 04.4	
	comp=Z,0.2nm,0.3s,baz=150,slow=20,SNR=3.0						
ARCES	**ARCESS Array B**	**9.71**	**1**	Pn	**Pn**	**09 02 56.0**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=180,slow=13,SNR=16						
ARCES				Sn	Sn	09 04 37.2	-8.7
	comp=Z,0.1nm,0.3s,baz=181,slow=23,SNR=2.4						

*TIR **30** 09:10:07.8, 40°49N×19°18E, h7km*
*SKO **30** 09:10:16.7, 40°17N×19°37E, h0km, M2.2, ML2.5*
*ATH **30** 09:10:18.5, 40°19N×19°62E, h8km±1km, MD3.5/19*
*CSEM **30** 09:10:19.9±0.6, 40°13N×19°68E, h0km±1km, ML2.4, Error ellipse: s-maj=10.6km s-min=4.3km az=106.0*
*THE **30** 09:10:20.1, 40°15N×19°74E, h0km±2km, ML2.4/4, Error ellipse: s-maj=3.0km s-min=1.0km az=280.0*

ISC 30 09:10:20.3±1.5, 40°14N±0°03×19°75E±0°06, h3km±10km, n67, σ0℘95/96, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRN	**Sarande**	**0.33**	**143**	*i* PG	**Pg**	**09 10 26.2**	**-0.3**
SRN				*i* SG	**Sg**	**09 10 31.1**	**+0.3**
SRN	**Sarande**	**0.33**	**143**	P	**Pg**	**09 10 26.3**	**-0.3**
SRN				S	**Sg**	**09 10 32.1**	**+1.3**
SRN	**Sarande**	**0.33**	**143**	*i* Pg	**Pg**	**09 10 26.2**	**-0.3**
SRN				*i* Sg	**Sg**	**09 10 31.1**	**+0.3**
KEK	**Kerkira**	**0.43**	**175**	*e*PB	**Pg**	**09 10 28.4**	**-0.1**
KEK				*e*SB	**Sg**	**09 10 34.8**	**+0.7**
KEK	**Kerkira**	**0.43**	**175**	*e*Pb	**Pg**	**09 10 28.4**	**-0.1**
KEK				*e*Sb	**Sg**	**09 10 34.8**	**+0.7**
SGD	**Sagiada**	**0.65**	**144**	P	**Pg**	**09 10 32.4**	**-0.3**
SGD				S	**Sg**	**09 10 42.6**	**+1.5**
SGD	**Sagiada**	**0.65**	**144**	*e*PG	**Pg**	**09 10 32.3**	**-0.4**
SGD				*e*SB	**Sb**	**09 10 43.0**	**-0.7**
SGD	**Sagiada**	**0.65**	**144**	*e*Pg	**Pg**	**09 10 32.3**	**-0.4**
SGD				S	**Sg**	**09 10 42.6**	**+1.5**
SGD				*e*Sb	**Sb**	**09 10 43.0**	**-0.7**
IGT	**Igoumenitsa**	**0.76**	**143**	P	**Pg**	**09 10 34.1**	**-0.7**
IGT				S	**Sg**	**09 10 45.7**	**+1.1**
IGT	**Igoumenitsa**	**0.76**	**143**	*e*PG	**Pg**	**09 10 34.4**	**-0.4**
IGT				*e*SB	**Sb**	**09 10 46.7**	**-0.1**
IGT	**Igoumenitsa**	**0.76**	**143**	*e*Pg	**Pg**	**09 10 34.4**	**-0.4**
IGT				S	**Sg**	**09 10 45.7**	**+1.1**
IGT				*e*Sb	**Sb**	**09 10 46.7**	**-0.1**
KBN	**Korca**	**0.93**	**58**	*i* PG	**Pn**	**09 10 40.1**	**-0.2**
KBN				*i* SG	**Sn**	**09 10 53.0**	**-1.3**
KBN	**Korca**	**0.93**	**58**	*i* Pg	**Pn**	**09 10 40.1**	**-0.2**
KBN				*i* Sg	**Sn**	**09 10 53.0**	**-1.3**
JAN	**Janina**	**0.98**	**119**	*e*PN	**Pg**	**09 10 38.9**	**-0.1**
JAN				*e*SB	**Sb**	**09 10 53.4**	**+0.2**
JAN	**Janina**	**0.98**	**119**	*e*Pn	**Pg**	**09 10 38.9**	**-0.1**
JAN				*e*Sb	**Sb**	**09 10 53.4**	**+0.2**
NEST	**Nestorio**	**1.03**	**74**	P	**Pg**	**09 10 38.9**	**-1.2**
NEST				S	**Sb**	**09 10 54.8**	**-0.1**
NEST	**Nestorio**	**1.03**	**74**	*e*PG	**Pg**	**09 10 39.1**	**-1.0**
NEST				*e*SB	**Sg**	**09 10 54.6**	**+1.1**
NEST	**Nestorio**	**1.03**	**74**	*e*Pg	**Pg**	**09 10 39.1**	**-1.0**
NEST				S	**Sb**	**09 10 54.8**	**-0.1**
OHR	**Ohrid**	**1.26**	**39**	*e*Pn	**Pg**	**09 10 44.3**	**-0.1**
OHR				*e*Lg	Lg	09 11 04.2	
	comp=N,137nm,1.1s						
OHR				*e*Sn	**Sn**	**09 11 04.5**	**+2.1**
OHR				*e*Lg	Lg	09 11 04.6	
	comp=E,53nm,0.5s						
OHR	**Ohrid**	**1.26**	**39**	*e*Pn	**Pg**	**09 10 44.3**	**-0.1**
OHR				*e*Lg	Lg	09 11 04.2	
	comp=E,137nm,1.1s						
OHR				*e*Sn	**Sn**	**09 11 04.4**	**+2.1**
FNA	**Florina**	**1.40**	**62**	P	**Pn**	**09 10 46.0**	**-0.8**
FNA				S	**Sg**	**09 11 07.0**	**+1.8**
FNA	**Florina**	**1.40**	**62**	*e*PB	**Pn**	**09 10 46.1**	**-0.8**
FNA				*e*SB	**Sg**	**09 11 06.5**	**+1.3**
FNA	**Florina**	**1.40**	**62**	P	**Pn**	**09 10 46.0**	**-0.8**
FNA				*e*Sb	**Sg**	**09 11 06.5**	**+1.3**
FNA				S	**Sg**	**09 11 07.0**	**+1.8**
LKD2	**Lefkada island**	**1.52**	**152**	P	**Pb**	**09 10 48.4**	**-0.8**
LKD2				S	**Sg**	**09 11 09.9**	**+0.7**
LKD2	**Lefkada island**	**1.52**	**152**	*e*PB	**Pb**	**09 10 49.1**	**-0.1**
LKD2	**Lefkada island**	**1.52**	**152**	P	**Pb**	**09 10 48.4**	**-0.8**
LKD2	**Lefkada island**	**1.52**	**152**	*e*Pb	**Pb**	**09 10 49.1**	**-0.1**
THL	**Klokotos Trika**	**1.84**	**108**	*e*PN	**Pb**	**09 10 53.6**	**-0.9**
THL				*e*SN	**Sg**	**09 11 19.8**	**+0.5**
THL	**Klokotos Trika**	**1.84**	**108**	*e*Pn	**Pb**	**09 10 53.6**	**-0.9**
THL				*e*Sn	**Sg**	**09 11 19.8**	**+0.5**
PDO	**Prodromos**	**1.90**	**144**	P	**Pn**	**09 10 53.9**	**+0.3**
PDO	**Prodromos**	**1.90**	**144**	*e*PN	**Pb**	**09 10 54.8**	**-0.8**
PDO	**Prodromos**	**1.90**	**144**	P	**Pn**	**09 10 53.9**	**+0.3**
PDO	**Prodromos**	**1.90**	**144**	*e*Pn	**Pb**	**09 10 54.8**	**-0.8**
EVR	**Evrytania**	**2.01**	**127**	*e*PN	**Pb**	**09 10 56.6**	**-0.9**
EVR	**Evrytania**	**2.01**	**127**	*e*Pn	**Pb**	**09 10 56.6**	**-0.9**
VLS	**Valsamata**	**2.07**	**161**	*e*PN	**Pb**	**09 10 56.6**	**-1.9**
VLS	**Valsamata**	**2.07**	**161**	*e*Pn	**Pb**	**09 10 56.6**	**-1.9**
LIT	**Litokhoron**	**2.10**	**90**	*e*PN	**Pb**	**09 10 58.0**	**-1.1**
LIT	**Litokhoron**	**2.10**	**90**	*e*Pn	**Pb**	**09 10 58.0**	**-1.1**
GRG	**Griva**	**2.18**	**67**	*e*PN	**Pb**	**09 10 59.1**	**-1.3**
GRG	**Griva**	**2.18**	**67**	*e*Pn	**Pb**	**09 10 59.1**	**-1.3**
AGG	**Agios Georgios**	**2.29**	**118**	*e*PN	**Pb**	**09 11 00.4**	**-1.8**
AGG	**Agios Georgios**	**2.29**	**118**	*e*Pn	**Pb**	**09 11 00.4**	**-1.8**
EFP	**Efpalio**	**2.40**	**135**	*e*PN	**Pn**	**09 11 01.3**	**+0.9**
EFP	**Efpalio**	**2.40**	**135**	*e*Pn	**Pn**	**09 11 01.3**	**+0.9**
KALE	**Kalithea**	**2.55**	**133**	*e*PB	**Pn**	**09 11 03.3**	**+0.7**
KALE	**Kalithea**	**2.55**	**133**	*e*Pb	**Pn**	**09 11 03.3**	**+0.7**
HORT	**Hortiatis**	**2.60**	**79**	*e*PN	**Pn**	**09 11 04.7**	**+1.3**
HORT	**Hortiatis**	**2.60**	**79**	*e*Pn	**Pn**	**09 11 04.7**	**+1.3**
KNT	**Kendrikon**	**2.60**	**66**	*e*PN	**Pn**	**09 11 04.2**	**+0.9**
KNT	**Kendrikon**	**2.60**	**66**	*e*Pn	**Pn**	**09 11 04.2**	**+0.9**
DRO	**Drossia**	**2.67**	**144**	*e*PB	**Pn**	**09 11 04.9**	**+0.7**
DRO	**Drossia**	**2.67**	**144**	*e*Pb	**Pn**	**09 11 04.9**	**+0.7**
DSF	**Desfina**	**2.76**	**128**	*e*PB	**Pn**	**09 11 06.1**	**+0.5**
DSF	**Desfina**	**2.76**	**128**	*e*Pb	**Pn**	**09 11 06.1**	**+0.5**
XOR	**Xorichti**	**2.77**	**105**	*e*PB	**Pn**	**09 11 06.4**	**+0.8**
XOR	**Xorichti**	**2.77**	**105**	*e*Pb	**Pn**	**09 11 06.4**	**+0.8**
KLV	**Kalavryta, Ach**	**2.81**	**137**	*e*PN	**Pn**	**09 11 06.7**	**+0.5**
KLV	**Kalavryta, Ach**	**2.81**	**137**	*e*Pn	**Pn**	**09 11 06.7**	**+0.5**
PAIG	**Paliouri**	**3.03**	**93**	*e*PN	**Pn**	**09 11 10.4**	**+1.3**
PAIG	**Paliouri**	**3.03**	**93**	*e*Pn	**Pn**	**09 11 10.4**	**+1.3**
MRKA	**Markates**	**3.30**	**115**	*e*PN	**Pn**	**09 11 13.6**	**+0.7**
MRKA	**Markates**	**3.30**	**115**	*e*Pn	**Pn**	**09 11 13.6**	**+0.7**
AOS	**Alonnisos**	**3.33**	**106**	*e*PN	**Pn**	**09 11 13.8**	**+0.5**
AOS	**Alonnisos**	**3.33**	**106**	*e*Pn	**Pn**	**09 11 13.8**	**+0.5**
DID	**Didima**	**3.79**	**133**	*e*PN	**Pn**	**09 11 20.0**	**+0.4**
DID	**Didima**	**3.79**	**133**	*e*Pn	**Pn**	**09 11 20.0**	**+0.4**

MEX 30 09:20:44.2±1.0, 18°46N×103°04W, h30km, MD3.6, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.33**	**240**	*i* P	Pb	09 20 50.5	-1.7
MMIG				*e*S	Sb	09 20 56.3	-1.1
R15V		**1.14**	**309**	*i* P	Pn	09 21 01.1	-3.1
R15V				*e*S	Sn	09 21 15.7	-3.1
EZ5V		**1.15**	**333**	*i* P	Pn	09 21 02.8	-1.8
EZ5V				*i* S	Sn	09 21 16.5	-3.0

*IDC **30** 09:42:01.0±0.9, 37°03N×95°86E, h0km, mb3.5/9, mb1 3.7/12, mb1mx3.6/40, mbtmp3.6/12, ML3.6/3, Error ellipse: s-maj=35.1km s-min=16.4km az=45.0*
*ISCJB **30** 09:42:02.3±0.7, 37°42N±0°09×96°06E±0°09, h10km, mb3.5/9, Error ellipse: s-maj=13.4km s-min=9.9km az=28.5*
*BJI **30** 09:42:06.2, 37°09N×95°78E, h10km, ML3.5/10, Ms3.2/1, Ms7 3.0/1*

ISC 30 09:42:03.2±1.0, 37°3N±0°1×96°03E±0°09, h10km, n16, σ1℘35/16, mb3.6/9, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**3.65**	**54**	Pn	**Pb**	**09 43 07.5**	**-0.3**
GTA				Pg	**Pg**	**09 43 13.0**	**0.0**
GTA				SMN			
	34nm,1.0s						
GTA				SME			
	36nm,0.9s						
CD2	**Chengdu**	**9.04**	**133**	*e*P	Pn	09 44 17.0	+3.2
SONM	**Songino Array**	**12.99**	**33**	Pn	Pn	09 45 14.4	+6.5
	0.6nm,0.3s,baz=220,slow=15,SNR=18						
SONM				Sn	**Sn**	**09 47 30.6**	**-1.9**
	0.3nm,0.3s,baz=224,slow=26,SNR=3.3						
MKAR	**Makanchi Array**	**13.91**	**317**	Pn	**Pn**	**09 45 18.4**	**-1.9**
	1.3nm,0.3s,baz=122,slow=14,SNR=42						
MKAR				Sn	Sn	09 47 45.8	-9.1
	0.1nm,0.3s,baz=132,slow=24,SNR=3.2						
KURBB	**Kurchatov Arra**	**18.27**	**322**	P	**Pn**	**09 46 15.7**	**-0.9**
	0.1nm,0.3s,baz=134,slow=11,SNR=11						
ZALV	**Zalesovo Beam**	**18.36**	**339**	P	**Pn**	**09 46 19.8**	**+2.1**
	0.3nm,0.3s,baz=148,slow=11,SNR=3.4						
BVAR	**Borovoye Array**	**23.77**	**320**	P	**P**	**09 47 15.8**	**+0.2**
	1.4nm,0.6s,baz=115,slow=10.0,SNR=10						
KSRS	**Korea Array**	**25.29**	**80**	P	**P**	**09 47 30.6**	**+0.9**
	0.6nm,0.5s,baz=272,slow=9.0,SNR=3.5						
FINES	**FINESS Array B**	**48.66**	**321**	P	**P**	**09 50 47.5**	**+0.5**
	1.5nm,0.8s,baz=110,slow=12,SNR=5.8						
NB2	**NORSAR Subarra**	**55.79**	**324**	P	**P**	**09 51 40.1**	**0.0**
	comp=Z,0.4nm,0.5s,baz=72,slow=7.4						
NOA	**NORSAR Array B**	**55.79**	**324**	P	**P**	**09 51 40.4**	**+0.3**
	comp=Z,0.6nm,0.9s,baz=77,slow=7.9,SNR=4.4						
ILAR	**Eielson Array**	**67.07**	**24**	P	**P**	**09 52 57.9**	**+1.6**
	comp=Z,0.2nm,0.8s,baz=270,slow=2.7,SNR=3.5						
WRA	**Warramunga Arr**	**67.42**	**141**	P	**P**	**09 52 56.5**	**-2.5**
	comp=Z,0.5nm,0.9s,baz=333,slow=5.8,SNR=4.0						
ASAR	**Alice Springs**	**70.35**	**143**	P	**P**	**09 53 17.0**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=326,slow=6.2,SNR=7.6						
ESDC	**Sonseca Array**	**73.92**	**308**	P	**P**	**09 53 38.8**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=66,slow=5.0,SNR=3.6						
YKA	**Yellowknife Ar**	**77.53**	**14**	P	**P**	**09 53 59.7**	**+0.9**
	comp=Z,0.1nm,0.5s,baz=336,slow=5.0,SNR=3.3						

JMA 30 09:44:56.6±0.2, 37°57N×142°02E, h22km±4km, M1.3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.93**	**258**	*e*S	Sb	09 45 25.9	-0.3
JMM	**Marumori**	**1.02**	**287**	P	Pb	09 45 15.2	-0.3
JMM				*e*S	Sb	09 45 28.1	-0.3
JIO	**Ouri**	**1.03**	**329**	P	Pn	09 45 15.2	-0.5
JIO				*e*S	Sb	09 45 28.9	+0.1
ONAJ	**Iwakimizuishiy**	**1.08**	**245**	*e*S	Sb	09 45 29.3	-1.1
JFT	**Otama**	**1.34**	**268**	*e*S	Sb	09 45 37.6	-0.2

*NIED **30** 09:45:00, 37°80N×142°90E, h8km, Mw3.9 Best double couple: M0 6.77000×10^14 NP1:φ=179.00000°, δ=39.00000°, λ=20.00000°. NP2:φ=74.00000°, δ=78.00000°, λ=127.00000°.*
*IDC **30** 09:45:57.1±0.8, 37°66N×142°82E, h0km, mb3.8/14, mb1 3.9/15, mb1mx3.8/30, mbtmp3.8/15, MS2.8/5, Ms1 2.8/5, ms1mx2.6/41, Error ellipse: s-maj=22.1km s-min=18.3km az=98.0*
*JMA **30** 09:45:57.7±0.2, 37°77N×142°88E, h19km±3km, M4.0*
*ISCJB **30** 09:45:59.3±1.8, 37°80N±0°04×142°86E±0°05, h23km±13km, mb3.7/14, MS3.8/1, Error ellipse: s-maj=7.2km s-min=5.5km az=141.5*

ISC 30 09:46:03.4±0.8, 37°83N±0°07×142°8E±0°1, h38km±3km, n40, σ1℘31/40, mb3.7/14, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**1.27**	**300**	P	**Pn**	**09 46 22.3**	**-2.2**
JIO				*e*S	**Sn**	**09 46 39.9**	**-0.4**
OFUJ	**Ofunato**	**1.51**	**326**	P	**Pn**	**09 46 26.0**	**-1.8**
OFUJ				*e*S	**Sn**	**09 46 46.6**	**+0.4**
JMM	**Marumori**	**1.55**	**272**	P	**Pn**	**09 46 25.8**	**-2.6**
JMM				*e*S	**Sn**	**09 46 46.6**	**-0.7**
JFK	**Kawauchi**	**1.56**	**253**	*e*S	**Sn**	**09 46 47.3**	**-0.3**
JMK	**Ichinoseki**	**1.64**	**313**	P	**Pn**	**09 46 28.2**	**-1.

KSRS Korea Array 11.77 273 LR LR 09 52 50.5
comp=Z,32nm,20.1s,baz=90,slow=35
PETK Petropavlovsk- 18.46 29 LR LR 09 56 52.8
comp=Z,22nm,21.1s,baz=132,slow=35
SEY Seymchan 25.81 10 P **P 09 51 31.3 +0.7**
4.5nm,0.9s,baz=190,slow=7.2,SNR=16
H11N2 WAKE ISLAND Hy 27.68 124 T T 10 20 36.9
baz=316,slow=75,SNR=309
H11N1 WAKE ISLAND Hy 27.68 124 T T 10 20 41.0
baz=316,slow=75,SNR=211
H11N3 WAKE ISLAND Hy 27.69 124 T T 10 20 41.3
baz=316,slow=75,SNR=196
SONM Songino Array 28.24 302 P **P 09 51 53.4 +0.6**
1.0nm,0.8s,baz=116,slow=7.5,SNR=5.0
H11S1 WAKE ISLAND Hy 28.43 126 T T 10 21 36.5
baz=318,slow=76,SNR=94
H11S3 WAKE ISLAND Hy 28.43 126 T T 10 21 36.7
baz=318,slow=76,SNR=113
H11S2 WAKE ISLAND Hy 28.45 126 T T 10 21 31.8
baz=318,slow=76,SNR=99
ZALV Zalesovo Beam 42.17 312 P **P 09 53 52.6 +0.5**
0.7nm,0.3s,baz=91,slow=5.9,SNR=4.1
MKAR Makanchi Array 44.60 302 P **P 09 54 12.2 +0.4**
1.6nm,0.9s,baz=86,slow=8.8,SNR=13
ILAR Eielson Array 48.25 33 P **P 09 54 39.5 -0.7**
0.4nm,0.8s,baz=266,slow=6.1,SNR=6.9
INK Inuvik 53.19 27 LR LR 10 20 23.7
comp=Z,94nm,20.3s,baz=240,slow=39
WRA Warramunga Arr 58.01 189 P **P 09 55 50.2 -2.1**
0.8nm,0.7s,baz=8.5,slow=7.0,SNR=8.2
ASAR Alice Springs 61.74 189 P **P 09 56 16.4 -1.5**
0.3nm,0.7s,baz=9.3,slow=7.7,SNR=6.5
YKA Yellowknife Ar 62.58 31 P **P 09 56 23.1 -0.1**
0.2nm,0.7s,baz=301,slow=6.5,SNR=3.2
FINES FINESS Array B 68.60 333 P **P 09 57 02.4 +0.4**
1.3nm,0.6s,baz=38,slow=9.6,SNR=6.7
KBZ Khabaz 71.19 311 P **P 09 57 18.4 +0.2**
1.1nm,0.7s,baz=56,slow=6.3
NB2 NORSAR Subarra 73.86 338 P **P 09 57 34.5 +0.6**
comp=Z,1.7nm,0.8s,baz=39,slow=6.2
NOA NORSAR Array B 73.86 338 P **P 09 57 34.5 +0.6**
comp=Z,1.0nm,0.7s,baz=38,slow=5.9,SNR=4.9
AKASG Malin Array Be 74.31 323 P **P 09 57 36.7 +0.1**
comp=Z,0.2nm,0.3s,baz=48,slow=5.7,SNR=5.0
PDAR Pinedale Array 76.35 46 P **P 09 57 49.5 +0.7**
comp=Z,0.2nm,0.4s,baz=352,slow=5.5,SNR=3.3
TXAR Lajitas Array 88.79 53 P **P 09 58 53.3 -0.2**
comp=Z,0.3nm,0.9s,baz=242,slow=1.9,SNR=3.2

*IDC **30** 10:02:01.9±2.0, 35.46N×77.42E, h0km, mb3.6/8, mb1 3.8/12, mb1mx3.6/43, mbtmp3.7/12, ML3.6/4, Error ellipse: s-maj=37.4km s-min=23.7km az=150.0*
*ISCJB **30** 10:02:07.3±0.3, 35.79N±0.03×77.67E±0.07, h44km, mb3.6/7, Error ellipse: s-maj=8.1km s-min=3.4km az=159.7*
*NNC **30** 10:02:15.7±4.5, 36.00N×77.32E, h122km±46km, mb3.1, mpv3.6, Error ellipse: s-maj=34.7km s-min=20.3km az=158.0*
ISC 30 10:02:09.1±0.6, 35.77N±0.04×77.57E±0.07, h44km, n41, σ1§93/49, mb3.7/7, 10C-7D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**3.48**	**203**	*eP*	Pn	10 03 05.0	+4.0
DLH				*eS*	**Sn**	**10 03 45.0**	**+3.9**
SDNR	**Sundarnagar**	**4.29**	**187**	*eP*	Pn	10 03 17.0	+5.1
SDNR				*ex*	x	10 04 39.0	
SMLA	**Simla**	**4.64**	**184**	*i P*	Pn	10 03 21.2	+4.5
SMLA				*i S*	**Sn**	**10 04 09.4**	**+0.1**
SMLA				*i S*	**Sn**	**10 04 09.4**	**+0.1**
SMLA				*i S*	**S**	**10 04 09.7**	**+0.4**
SMLA				*i S*	**S**	**10 04 09.7**	**+0.4**
SMLA				AML	AML	10 04 13.8	
	comp=N,135nm,0.2s						
SMLA				AML	AML	10 04 16.3	
	comp=E,151nm,0.3s						
SFK	**Sufi-Kurgan**	**5.32**	**324**	⇑Sn	**Sn**	**10 04 30.2**	**+3.9**
	comp=E,17nm,0.4s						
JOSI	**Joshimath**	**5.46**	**162**	*eP*	Pn	10 03 33.2	+5.1
JOSI				*eS*	**Sn**	**10 04 30.2**	**+0.4**
JOSI				AML	AML	10 04 36.5	
	comp=N,133nm,0.6s						
JOSI				AML	AML	10 04 37.5	
	comp=E,174nm,0.4s						
KALG	**Kalgarh**	**6.32**	**171**	*eP*	Pn	10 03 44.3	+4.5
KALG				*eS*	**Sn**	**10 04 48.6**	**-2.1**
AAK	**Ala-Archa**	**7.26**	**342**	⇓Pn	Pn	10 03 57.0	+4.2
	comp=E,1.8nm,0.6s						
AAK				⇑Sn	**Sn**	**10 05 14.0**	**+0.1**
	comp=E,5.3nm,0.8s						
AAK	**Ala-Archa**	**7.26**	**342**	Pn	Pn	10 03 57.8	+5.0
	comp=E,0.4nm,0.3s,baz=155,slow=18,SNR=3.3						
AAK				Sn	**Sn**	**10 05 13.6**	**-0.3**
	comp=E,0.4nm,0.3s,baz=345,slow=16,SNR=1.9						
AAK				Lg	Lg	10 06 04.8	
	comp=E,0.3nm,0.3s,baz=126,slow=19,SNR=1.9						
SONA	**Sohna**	**7.51**	**183**	*eP*	**Pn**	**10 03 59.0**	**+2.9**
SONA				*eS*	**Sn**	**10 05 15.6**	**-4.3**
SONA				AML	AML	10 05 16.7	
	comp=E,57nm,0.4s						
SONA				AML	AML	10 05 18.2	
	comp=N,26nm,0.2s						
DZET	**Dzherino**	**7.60**	**296**	⇓Pn	**Pn**	**10 03 59.5**	**+2.1**
	comp=N,5.4nm,0.7s						
DZET				⇓Sn	**Sn**	**10 05 18.7**	**-3.6**
	comp=N,19nm,0.5s						
KUDL	**Kundal**	**7.66**	**187**	*eP*	**Pn**	**10 04 01.0**	**+2.9**
KUDL				*eS*	**Sn**	**10 05 21.3**	**-2.2**
KUDL				AML	AML	10 05 22.4	
	comp=E,29nm,0.4s						
KUDL				AML	AML	10 05 28.4	
	comp=N,17nm,0.3s						
PDGK	**Podgornoye**	**7.69**	**10**	⇑Pn	Pn	10 04 03.2	+4.7
	comp=N,2.1nm,0.4s						
PDGK				⇑Sn	**Sn**	**10 05 24.7**	**+0.5**
	comp=N,7.0nm,0.6s						
MNAS	**Manas**	**7.78**	**331**	⇑Pn	**Pn**	**10 04 00.6**	**+0.8**
	comp=N,0.9nm,0.4s						
MNAS				⇓Sn	**Sn**	**10 05 25.5**	**-1.2**
	comp=N,5.4nm,0.5s						
KHET	**Khetri**	**7.82**	**192**	*eP*	**Pn**	**10 04 02.3**	**+2.0**
KHET				*eS*	**Sn**	**10 05 23.3**	**-4.2**
KHET				AML	AML	10 05 25.4	
	comp=E,357nm,0.3s						
KHET				AML	AML	10 05 26.0	
	comp=N,257nm,0.2s						
KK31	**Karatay Array**	**9.13**	**325**	⇓Pn	**Pn**	**10 04 19.7**	**+1.4**
	comp=N,0.6nm,0.3s,baz=138,slow=11,SNR=21						
KK31				⇑Sn	**Sn**	**10 05 55.9**	**-3.8**
	comp=N,2.0nm,0.5s,baz=140,slow=21,SNR=8.9						
KOLN	**Koldanda**	**9.48**	**146**	*eP*	**Pn**	**10 04 24.7**	**+1.4**
	comp=N,17nm,0.2s						
KOLN				*eS*	Sn	10 06 01.1	-7.5
GKN	**Gorkha**	**9.79**	**140**	*eP*	**Pn**	**10 04 29.2**	**+1.7**
	comp=N,15nm,0.2s						
KKN	**Kakani**	**10.30**	**138**	*eP*	**Pn**	**10 04 34.6**	**0.0**
	comp=N,7.1nm,0.2s						
GUN	**Gumba**	**10.54**	**136**	*eP*	**Pn**	**10 04 37.7**	**-0.3**
	comp=N,8.2nm,0.3s						
PKI	**Pulchoki**	**10.55**	**139**	*eP*	**Pn**	**10 04 38.5**	**+0.5**
JIRN	**Jiri**	**10.91**	**135**	*eP*	**Pn**	**10 04 43.7**	**+0.7**
	comp=N,27nm,0.4s						
MK31	**Makanchi Array**	**11.57**	**16**	⇓Pn	Pn	10 04 56.0	+4.4
	comp=N,0.3nm,0.3s,baz=198,slow=13,SNR=31						
MK31				⇑Sn	**Sn**	**10 06 56.7**	**-2.7**
	comp=N,2.8nm,0.8s,baz=191,slow=27,SNR=6.5						
MKAR	**Makanchi Array**	**11.57**	**16**	Pn	Pn	10 04 55.5	+3.9
	comp=N,0.5nm,0.3s,baz=199,slow=13,SNR=20						
MKAR				Sn	**Sn**	**10 06 56.6**	**-2.7**
	comp=N,0.5nm,0.3s,baz=195,slow=27,SNR=6.4						
RAMN	**Ramite**	**11.69**	**136**	*eP*	**Pn**	**10 04 52.8**	**-0.7**
	comp=N,9.4nm,0.2s						
TAPN	**Taplejung**	**12.04**	**131**	*eP*	**Pn**	**10 04 57.4**	**-1.0**
	comp=N,11nm,0.3s						
ODAN	**Odare**	**12.21**	**134**	*eP*	**Pn**	**10 04 59.1**	**-1.6**
	comp=N,7.6nm,0.3s						
KURBB	**Kurchatov Arra**	**14.86**	**2**	Pn	**P**	**10 05 42.0**	**+0.8**
	comp=N,0.1nm,0.3s,baz=192,slow=11,SNR=10						
BVA0	**Borovoye Array**	**17.98**	**346**	⇑Pn	**P**	**10 06 16.4**	**+0.7**
	comp=N,3.4nm,0.6s,baz=224,slow=39,SNR=29						
BVAR	**Borovoye Array**	**17.98**	**346**	P	**P**	**10 06 17.4**	**+1.7**
	comp=N,0.8nm,0.3s,baz=154,slow=12,SNR=25						
BRVK	**Borovoye**	**18.04**	**346**	⇑Pn	**P**	**10 06 17.5**	**+1.2**
	comp=N,9.3nm,0.7s						
AB31	**Akbulak array**	**18.66**	**322**	⇑Pn	**P**	**10 06 22.2**	**-1.0**
	comp=N,0.3nm,0.3s,baz=118,slow=14,SNR=10						
ZALV	**Zalesovo Beam**	**18.87**	**13**	P	**P**	**10 06 26.2**	**+0.7**
	comp=N,0.4nm,0.3s,baz=221,slow=9.7,SNR=5.7						
AKTO	**Aktyubinsk**	**20.37**	**322**	⇓Pn	**P**	**10 06 41.9**	**+0.1**
	comp=N,3.3nm,0.8s						
AKTO	**Aktyubinsk**	**20.37**	**322**	P	**P**	**10 06 42.0**	**+0.1**
	comp=N,2.5nm,0.6s,baz=115,slow=11,SNR=6.4						
SONM	**Songino Array**	**24.48**	**52**	P	**P**	**10 07 25.9**	**+1.7**
	comp=N,1.4nm,0.8s,baz=253,slow=9.7,SNR=8.5						
BRTR	**Keskin Array B**	**34.70**	**290**	P	**P**	**10 08 55.0**	**+0.1**
	comp=N,0.5nm,0.4s,baz=108,slow=7.4,SNR=4.8						
AKASG	**Malin Array Be**	**37.55**	**309**	P	**P**	**10 09 18.1**	**-0.7**
	comp=N,0.2nm,0.3s,baz=82,slow=7.9,SNR=8.2						
FINES	**FINESS Array B**	**41.09**	**325**	P	**P**	**10 09 48.1**	**-0.2**
	comp=N,1.1nm,0.5s,baz=116,slow=11,SNR=14						
ARCES	**ARCESS Array B**	**43.90**	**336**	P	**P**	**10 10 11.4**	**+0.4**
	comp=N,1.0nm,0.6s,baz=109,slow=8.9,SNR=14						
NOA	**NORSAR Array B**	**48.16**	**323**	P	**P**	**10 10 44.0**	**-0.6**
	comp=N,0.3nm,0.4s,baz=91,slow=7.6,SNR=3.0						
TORD	**Torodi Ar. Bea**	**71.05**	**273**	P	**P**	**10 13 21.2**	**-1.7**
	comp=N,0.3nm,0.8s,baz=58,slow=5.5,SNR=3.3						

*NIED **30** 10:03:00, 32.90N×142.50E, h5km, Mw3.7 Best double couple: M₀4.41000×10¹⁴ NP1:φs329.00000°, δ24.00000°, λ-87.00000°. NP2:φs146.00000°, δ66.00000°, λ-91.00000°.*
*IDC **30** 10:03:53.8±2.3, 32.87N×142.83E, h0km, mb3.7/3, mb1 3.8/7, mb1mx3.5/39, mbtmp3.8/7, ML3.8/4, MS2.6/2, Ms1 2.6/2, ms1mx2.2/42, Error ellipse: s-maj=66.4km s-min=20.9km az=72.0*
*ISCJB **30** 10:03:56.7±0.8, 32.96N±0.05×142.61E±0.08, h33km, mb3.7/3, Error ellipse: s-maj=9.8km s-min=6.3km az=152.1*
*JMA **30** 10:03:57.5±0.5, 32.92N×142.55E, h66km, M3.6*
ISC 30 10:03:58.1±1.1, 32.93N±0.07×142.67E±0.09, h33km, n25, σ1§53/34, mb3.9/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.23**	**321**	P	**Pn**	**10 04 32.0**	**-0.2**
BSO1				*eS*	**Sn**	**10 04 58.3**	**0.0**
JHJ2	**Mitsune**	**2.41**	**275**	P	**Pn**	**10 04 33.5**	**-1.7**
JHCJ	**Hachijojimakas**	**2.42**	**274**	P	**Pn**	**10 04 34.4**	**-1.0**
JHCJ				*eS*	**Sn**	**10 05 01.8**	**-2.1**
BSO3	**Boso 3**	**2.59**	**317**	P	**Pn**	**10 04 37.3**	**-0.2**
BSO3				*eS*	**Sn**	**10 05 07.5**	**-0.3**
BSO4	**Boso 4**	**2.83**	**317**	P	**Pn**	**10 04 41.3**	**+0.4**
BSO4				S	**Sn**	**10 05 13.2**	**-0.6**
JOD2	**Odawara 2**	**3.78**	**309**	P	**Pn**	**10 04 52.8**	**-1.3**
JOD2				*eS*	**Sn**	**10 05 35.7**	**-1.7**
JYN	**Shimob**	**4.27**	**308**	P	**Pn**	**10 05 00.8**	**-0.1**
JYN				S	**Sn**	**10 05 49.4**	**-0.3**
JRY	**Ryogami san**	**4.38**	**316**	P	**Pn**	**10 05 01.5**	**-0.9**
JRY				S	**Sn**	**10 05 51.2**	**-1.1**
JAG	**Ashikaga**	**4.38**	**324**	P	**Pn**	**10 05 02.5**	**+0.1**
JAG				S	**Sn**	**10 05 50.4**	**-1.9**
JFT	**Otama**	**4.96**	**338**	P	**Pn**	**10 05 10.8**	**+0.5**
JFT				S	**Sn**	**10 06 03.8**	**-2.8**
MJAR	**Matsushiro Arr**	**5.15**	**316**	Pn	**Pn**	**10 05 12.8**	**-0.1**
	2.6nm,0.3s,baz=147,slow=12,SNR=34						
MJAR				Sn	**Sn**	**10 06 09.3**	**-1.9**
	1.1nm,0.3s,baz=160,slow=18,SNR=6.3						
MAT	**Matsushiro**	**5.15**	**316**	P	**Pn**	**10 05 13.4**	**+0.5**
MAT				S	**Sn**	**10 06 09.1**	**-2.1**
MAT	**Matsushiro**	**5.15**	**316**	P	**Pn**	**10 05 13.5**	**+0.5**
MAT				S	**Sn**	**10 06 09.2**	**-2.0**
JIE	**Ise**	**5.19**	**288**	P	**Pn**	**10 05 12.8**	**-0.6**
JCJ	**Chichijima**	**5.83**	**184**	Pn	**Pn**	**10 05 20.5**	**-1.8**
	18nm,0.3s,baz=343,slow=20,SNR=14						
JCJ				Sn	Sn	10 06 22.2	-5.8
	8.6nm,0.3s,baz=68,slow=19,SNR=2.7						
JMK	**Ichinoseki**	**6.12**	**349**	P	**Pn**	**10 05 26.1**	**-0.2**
JMK				S	**Sn**	**10 06 30.6**	**-4.6**
JNU	**Nakatsue**	**9.91**	**274**	LR	LR	10 09 49.9	
	comp=Z,42nm,20.0s,baz=210,slow=36						
ASAJ	**Asahikawa**	**11.17**	**360**	Pn	**Pn**	**10 06 35.4**	**-0.1**
	0.7nm,0.3s,baz=203,slow=7.7,SNR=5.2						
KSRS	**Korea Array**	**12.88**	**295**	Pn	**Pn**	**10 07 00.3**	**+1.5**
	0.1nm,0.3s,baz=103,slow=13,SNR=3.1						
KSRS				LR	LR	10 11 58.1	
	comp=Z,16nm,18.3s,baz=228,slow=37						
H11N2	**WAKE ISLAND Hy 25.30 115**			T	T	10 36 05.1	
	baz=304,slow=74,SNR=3.1						
H11N1	**WAKE ISLAND Hy 25.31 115**			T	T	10 36 04.6	
	baz=304,slow=74,SNR=3.8						
H11N3	**WAKE ISLAND Hy 25.32 115**			T	T	10 36 06.5	
	baz=304,slow=74,SNR=3.0						
SONM	**Songino Array**	**31.07**	**309**	P	**P**	**10 10 15.2**	**+2.0**
	0.6nm,0.6s,baz=106,slow=9.1,SNR=4.0						
MKAR	**Makanchi Array**	**47.23**	**306**	P	**P**	**10 12 29.8**	**+1.7**
	0.5nm,0.4s,baz=79,slow=6.0,SNR=7.9						
WRA	**Warramunga Arr**	**53.17**	**190**	P	**P**	**10 13 13.3**	**+0.3**
	0.8nm,0.6s,baz=8.0,slow=7.8,SNR=12						

*BJI **30** 10:06:09.9, 53.00N×166.78W, h22km, mb4.8/14, mB4.8/8, Ms4.5/5, Ms7 4.3/2*
*IDC **30** 10:06:09.9±0.8, 52.82N×167.12W, h0km, mb4.2/26, mb1 4.4/27, mb1mx4.2/51, mbtmp4.3/27, ML3.7/1, Error ellipse: s-maj=23.8km s-min=11.6km az=178.0*
*NEIC **30** 10:06:09.9, 52.51N×166.92W, h5km, mb4.3/34, ML3.8(AEIC), After AEIC.*
*ISCJB **30** 10:06:12.6±1.2, 52.61N±0.04×167.06W±0.04, h33km±8km, mb4.4/68, Error ellipse: s-maj=7.6km s-min=4.0km az=166.2*
*MOS **30** 10:06:13.4±0.9, 52.85N×167.11W, h33km, mb4.7/25, Error ellipse: s-maj=13.1km s-min=7.1km az=94.7*
ISC 30 10:06:13.6±0.9, 52.64N±0.07×166.99W±0.04, h27km±5km, n190, σ1§11/196, mb4.4/75, 10C-7D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.95**	**324**	P	**Pn**	**10 06 30.3**	**-0.8**
OKFG				S	**Sb**	**10 06 46.5**	**+3.0**
OKSP	**Okmok Steeple**	**0.99**	**308**	P	**Pn**	**10 06 31.3**	**-0.5**
MREP	**Makushin Rep't**	**1.18**	**7**	P	**Pn**	**10 06 34.4**	**0.0**
NIKH	**Nikolski High**	**1.18**	**287**	P	**Pn**	**10 06 33.2**	**-1.0**
NIKH				S	**Sb**	**10 06 50.2**	**+0.1**
UNV	**Unalaska Valle**	**1.24**	**14**	P	**Pn**	**10 06 34.2**	**-1.0**
UNV				S	**Sb**	**10 06 52.7**	**+0.8**
MSW	**Makushin Switc**	**1.28**	**6**	P	**Pn**	**10 06 35.6**	**-0.1**
MCIR	**Makushin Cirqu**	**1.31**	**3**	P	**Pn**	**10 06 36.4**	**+0.2**
ZRO	**Akutan Zero**	**1.57**	**22**	P	**Pn**	**10 06 39.2**	**-0.5**
AKRB	**Akutan Reef Bi**	**1.59**	**20**	P	**Pn**	**10 06 39.8**	**-0.2**
AKRB				S	**Sb**	**10 07 02.0**	**+0.2**
AKUT	**Akutan**	**1.66**	**26**	P	**Pn**	**10 06 40.2**	**-0.7**
AKGG	**Akutan Green G**	**1.67**	**21**	P	**Pn**	**10 06 40.8**	**-0.2**
WESP	**Westdahl Peak**	**2.29**	**35**	P	**Pn**	**10 06 50.0**	**+0.3**
WESN	**West Dahl Nort**	**2.40**	**36**	P	**Pn**	**10 06 51.5**	**+0.3**
SSLW	**Shishaldin Wes**	**2.73**	**38**	P	**Pn**	**10 06 55.5**	**-0.2**
SSLN	**Shishaldin Nor**	**2.81**	**38**	P	**Pn**	**10 06 57.4**	**+0.7**
FALS	**False Pass**	**3.07**	**42**	P	**Pn**	**10 06 59.7**	**-0.5**
DRIA	**Deer Island**	**3.64**	**48**	P	**Pn**	**10 07 07.8**	**-0.3**
ATKA	**Atka Island**	**4.43**	**267**	P	**Pn**	**10 07 19.4**	**+0.4**
SDPT	**Sand Point**	**4.70**	**52**	P	**Pn**	**10 07 21.9**	**-0.7**
SPIA	**Saint Paul Isl**	**4.92**	**339**	P	**Pn**	**10 07 27.2**	**+1.6**
GSCK	**Great Sitkin C**	**5.66**	**267**	P	**Pn**	**10 07 36.2**	**+0.4**
KIKV	**Kanaga Island**	**6.30**	**267**	P	**Pn**	**10 07 45.5**	**+0.9**
CESW	**Semis' Southwe**	**8.28**	**270**	P	**Pn**	**10 08 12.8**	**+1.0**
AMKA	**Amchitka**	**8.55**	**267**	*e*Pn	**Pn**	**10 08 15.8**	**+0.3**
	103nm,0.5s						
RC01	**Rabbit Creek A**	**12.64**	**41**	*e*Pn	**Pn**	**10 09 12.5**	**+1.2**
PPLA	**Purkeypile**	**12.92**	**32**	*e*Pn	**Pn**	**10 09 18.4**	**+3.1**
TRF	**Thorofare Moun**	**13.93**	**32**	*e*Pn	**Pn**	**10 09 30.6**	**+1.5**
EYAK	**Cordova Ski Ar**	**14.07**	**47**	*e*Pn	**Pn**	**10 09 30.8**	**-0.1**
BPAW	**Bear Paw Mtn.**	**14.17**	**30**	*e*Pn	**Pn**	**10 09 33.5**	**+1.2**
MCK	**McKinley**	**14.56**	**33**	*e*P	**Pn**	**10 09 40.5**	**+2.9**
MCK				pmax	pmax		
	comp=Z,25nm,1.6s						
MCK	**McKinley**	**14.56**	**33**	*e*Pn	**Pn**	**10 09 40.5**	**+2.9**
	comp=Z,25nm,1.6s						
BMRM	**Bremner River**	**14.76**	**47**	*e*Pn	**P**	**10 09 43.2**	**-2.8**
IM04	**Indian Mountai**	**14.92**	**21**	*e*Pn	**P**	**10 09 45.1**	**-2.7**
PAX	**Paxson**	**15.36**	**39**	*e*P	**Pn**	**10 09 47.1**	**-1.2**
PAX				pmax	pmax		
	comp=Z,5.0nm,0.8s						
PAX	**Paxson**	**15.36**	**39**	*e*P	**Pn**	**10 09 47.1**	**-1.2**
	comp=Z,4.6nm,0.8s						
COLA	**College**	**15.68**	**31**	*d iP*	**Pn**	**10 09 52.4**	**+0.1**
COLA				pmax	pmax		
	comp=Z,39nm,1.5s						
COLA	**College**	**15.68**	**31**	*e*P	**Pn**	**10 09 52.6**	**+0.3**
	comp=Z,6.9nm,1.0s						
ILAR	**Eielson Array**	**15.92**	**32**	Pn	**Pn**	**10 09 52.8**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=234,slow=11,SNR=14						
MENT	**Mentasta**	**16.03**	**41**	*e*P	**Pn**	**10 09 57.2**	**+0.4**
DOT	**Dot Lake**	**16.26**	**38**	*e*P	**Pn**	**10 10 00.5**	**+0.7**
	comp=Z,7nm,0.6s						
COLD	**Coldfoot**	**16.77**	**23**	*e*P	**P**	**10 10 07.6**	**-0.7**
	comp=Z,18nm,1.0s						
EGAK	**Eagle**	**17.93**	**37**	*e*P	**Pn**	**10 10 20.1**	**-0.6**
	comp=Z,7.7nm,0.8s						
DAWY	**Dawson**	**18.27**	**41**	*e*P	**P**	**10 10 24.3**	**-0.6**
SKAG	**Skagway**	**18.81**	**56**	*e*P	**Pn**	**10 10 33.0**	**+1.7**
	comp=Z,20nm,0.9s						
BILL	**Bilibino**	**20.05**	**330**	*e*P	**P**	**10 10 44.0**	**-0.3**
BILL				pmax	pmax		
	comp=Z,19nm,1.5s						
BILL	**Bilibino**	**20.05**	**330**	*e*P	**P**	**10 10 44.0**	**-0.3**
	comp=Z,19nm,1.5s						
PEA0B	**Petropavlovsk-**	**21.19**	**285**	*e*P	**P**	**10 10 58.9**	**+2.2**
PETK	**Petropavlovsk-**	**21.19**	**285**	P	**P**	**10 10 55.6**	**-1.0**
	comp=Z,6.9nm,0.6s,baz=86,slow=12,SNR=38						
DLBC	**Dease Lake**	**21.50**	**60**	P	**P**	**10 11 01.7**	**+1.7**
	comp=Z,7.5nm,1.1s,baz=260,slow=10,SNR=7.4						
INK	**Inuvik**	**22.32**	**33**	P	**P**	**10 11 06.1**	**-2.6**
	comp=Z,4.6nm,0.3s,baz=236,slow=12,SNR=12						
SEY	**Seymchan**	**23.56**	**312**	P	**P**	**10 11 19.4**	**-2.0**
	comp=Z,4.5nm,0.7s,baz=105,slow=11,SNR=20						
SEY	**Seymchan**	**23.56**	**312**	*i P*	**P**	**10 11 20.8**	**-0.6**
YKA	**Yellowknife Ar**	**28.96**	**49**	P	**P**	**10 12 10.7**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=275,slow=8.0,SNR=22						
YKA				PcP	**PcP**	**10 15 18.2**	**0.0**
	comp=Z,0.7nm,0.8s,baz=294,slow=2.2,SNR=5.0						
EDM	**Edmonton**	**31.70**	**67**	*e*P	**P**	**10 12 34.4**	**-0.3**
EDM				pmax	pmax		
	comp=Z,5.0nm,0.8s						
EDM	**Edmonton**	**31.70**	**67**	*e*P	**P**	**10 12 34.4**	**-0.3**
	comp=Z,4.7nm,0.8s						
I07A	**Izee**	**32.17**	**86**	*e*P	**P**	**10 12 41.0**	**+2.0**
	comp=Z,37nm,2.6s						
TIXI	**Tiksi**	**33.25**	**329**	*i P*	**P**	**10 12 47.0**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.5s						
TIXI	**Tiksi**	**33.25**	**329**	*e*P	**P**	**10 12 46.9**	**-1.0**
	comp=Z,2.8nm,0.8s						
WVOR	**Wild Horse Val**	**33.61**	**88**	*e*P	**P**	**10 12 54.1**	**+2.5**
WVOR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
WVOR	**Wild Horse Val**	**33.61**	**88**	*e*P	**P**	**10 12 54.1**	**+2.5**
	comp=Z,3.8nm,1.0s						
ASAJ	**Asahikawa**	**33.93**	**276**	*e*P	**P**	**10 12 53.0**	**-1.1**
	comp=Z,6.3nm,1.3s						
ERM	**Erimo**	**34.76**	**273**	*e*P	**P**	**10 13 00.6**	**-0.8**
ERM				pmax	pmax		
	comp=Z,18nm,1.3s						
MCMT	**McKenzie Canyo**	**35.80**	**80**	*e*P	**P**	**10 13 11.3**	**+0.7**
	comp=Z,0.8nm,0.7s						
EGMT	**Eagleton**	**35.99**	**74**	*e*P	**P**	**10 13 12.1**	**+0.1**
	comp=Z,4.7nm,0.8s						
NVAR	**Mina Array Bea**	**36.22**	**93**	P	**P**	**10 13 15.4**	**+1.2**
	comp=Z,2.5nm,0.8s,baz=293,slow=8.7,SNR=23						
R11A	**Troy Canyon, C**	**37.93**	**91**	*e*P	**P**	**10 13 31.1**	**+2.4**
	comp=Z,42nm,3.0s						
DAC	**Darwin (Calif)**	**38.04**	**95**	*e*P	**P**	**10 13 31.1**	**+1.4**
DAC				pmax	pmax		
	comp=Z,2.0nm,0.7s						
DAC	**Darwin (Calif)**	**38.04**	**95**	*e*P	**P**	**10 13 31.1**	**+1.4**
	comp=Z,1.6nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**38.60**	**222**	T	T	10 55 10.7	
	baz=25,slow=76,SNR=82						
H11N3	**WAKE ISLAND Hy**	**38.61**	**222**	T	T	10 55 03.0	
	baz=25,slow=76,SNR=88						
H11N1	**WAKE ISLAND Hy**	**38.62**	**222**	T	T	10 55 19.6	
	baz=25,slow=76,SNR=60						
BW06	**Boulder Array**	**38.92**	**81**	*e*P	**P**	**10 13 37.4**	**+0.3**
	comp=Z,1.8nm,1.0s						
PDAR	**Pinedale Array**	**38.92**	**81**	P	**P**	**10 13 36.9**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=320,slow=3.7,SNR=8.3						
GSC	**Goldstone, Bar**	**39.17**	**96**	*e*P	**P**	**10 13 40.3**	**+1.3**
GSC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GSC	**Goldstone, Bar**	**39.17**	**96**	*e*P	**P**	**10 13 40.2**	**+1.3**
	comp=Z,4.9nm,0.9s						
FCC	**Fort Churchill**	**39.64**	**51**	*e*P	**P**	**10 13 42.6**	**+0.1**
FCC				pmax	pm

comp=Z,4.0nm,0.8s
KURK Kurchatov 63.12 320 *e*P **P 10 16 37.1 -1.3**
comp=Z,4.3nm,0.8s
PRGR Permogore 63.16 343 P **P 10 16 36.9 -1.5**
PRGR pmax pmax
comp=Z,6.0nm,0.6s
KURBB Kurchatov Arra 63.23 320 P **P 10 16 38.2 -0.9**
comp=Z,3.1nm,0.9s,baz=57,slow=7.0,SNR=21
BRVK Borovoye 64.32 326⇑ *e*P **P 10 16 46.7 +0.5**
BRVK pmax pmax
comp=Z,7.0nm,1.4s
WMQ Urumqi 64.49 309 *e*P P 10 16 50.8 +3.2
WMQ pP pP 10 16 55.5 -0.6
WMQ sP sP 10 16 57.8 -1.5
WMQ PcP **PcP 10 17 25.0 +3.3**
WMQ S **S 10 25 27.3 +2.5**
WMQ PMZ
comp=Z,75nm,5.0s
WMQ LN
comp=Z,55nm,20.4s
WMQ LE
comp=Z,69nm,22.8s
MK31 Makanchi Array 64.66 315 *e*P **P 10 16 47.3 -1.3**
MK31 Makanchi Array 64.66 315 *e*P **P 10 16 47.3 -1.3**
MKAR Makanchi Array 64.66 315 *i*P **P 10 16 47.1 -1.5**
comp=Z,2.9nm,0.7s,baz=49,slow=6.3,SNR=34
MKAR Makanchi Array 64.66 315 *i*P **P 10 16 47.4 -1.2**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
ARU Arti 65.02 334 *e*P **P 10 16 50.1 -0.7**
ARU pmax pmax
comp=Z,15nm,1.3s
ARU Arti 65.02 334 *e*P **P 10 16 50.0 -0.7**
comp=Z,15nm,1.3s
CD2 Chengdu 65.66 289 *e*P **P 10 16 57.0 +1.6**
FINES FINESS Array B 65.78 353 P **P 10 16 54.6 -1.0**
comp=Z,6.6nm,0.5s,baz=25,slow=6.3,SNR=36
FINES FINESS Array B 65.78 353 *ce*P **P 10 16 54.5 -1.1**
FINES pmax pmax
comp=Z,7.0nm,0.5s
NB2 NORSAR Subarra 66.66 1 P **P 10 17 00.3 -1.0**
comp=Z,1.3nm,0.6s,baz=1.3,slow=6.2
NOA NORSAR Array B 66.66 1 P **P 10 17 00.5 -0.8**
comp=Z,2.5nm,0.8s,baz=0.8,slow=6.4,SNR=9.5
KONO Kongsberg 68.03 2⇑ *e*P **P 10 17 09.7 -0.2**
VSU Vasula 68.69 352⇑ *e*P **P 10 17 13.6 -0.4**
VSU pmax pmax
comp=Z,41nm,1.2s
TKM2 Tokmak 2 70.61 316 *e*P **P 10 17 25.8 -0.7**
TKM2 pmax pmax
comp=Z,4.0nm,0.9s
TKM2 Tokmak 2 70.61 316 *e*P **P 10 17 25.8 -0.7**
comp=Z,3.9nm,0.9s
OBN Obninsk 70.85 346 *i*P **P 10 17 25.7 -1.6**
OBN *i* 10 17 48.1
OBN pmax pmax
comp=Z,17nm,1.3s
ABKAR Akbulak array 70.95 330 *e*P **P 10 17 27.8 -0.3**
comp=Z,0.7nm,0.4s
AAK Ala-Archa 71.31 317 P **P 10 17 30.6 -0.1**
comp=Z,4.5nm,0.7s,baz=71,slow=3.6,SNR=16
AAK Ala-Archa 71.31 317 *e*P **P 10 17 30.6 -0.1**
AAK pmax pmax
comp=Z,5.0nm,0.8s
KKAR Karatay Array 72.54 320 *e*P **P 10 17 37.6 -0.2**
KKAR pmax pmax
comp=Z,9.0nm,1.3s
KKAR Karatay Array 72.54 320 *e*P **P 10 17 37.6 -0.2**
comp=Z,8.5nm,1.3s
AKSG Malin Array Be 76.12 349 P **P 10 17 57.4 -1.1**
comp=Z,4.9nm,0.7s,baz=12,slow=5.5,SNR=21
AKSG Malin Array Be 76.12 349 *ce*P **P 10 17 57.7 -0.8**
AKSG pmax pmax
comp=Z,3.0nm,0.6s
KIEV Kiev 76.13 349⇓ *e*P **P 10 17 57.8 -0.7**
KIEV Kiev 76.13 349 *e*P **P 10 17 57.0 -1.5**
comp=Z,10nm,1.0s
AK01 Malin Array Si 76.13 349 *e*P **P 10 17 57.4 -1.1**
AK02 Malin Array Si 76.17 349 *e*P **P 10 17 58.0 -0.7**
CLL Collm 76.42 0 *i*P **P 10 17 59.9 -0.2**
comp=Z,4.0nm,1.0s
CLL Collm 76.42 0 *e*P **P 10 18 00.0 -0.2**
CLL *e* 10 18 07.0
CLL pmax pmax
comp=Z,4.0nm,1.0s
BRG Berggiesshubel 76.85 359 *e*P **P 10 18 01.6 -1.0**
comp=Z,2.0nm,0.8s
BRG Berggiesshubel 76.85 359 *e*P **P 10 18 01.6 -1.0**
BRG pmax pmax
comp=Z,2.0nm,0.8s
UPC Upice 77.19 358 *e*P **P 10 18 05.2 +0.6**
UPC Upice 77.19 358 *e*P **P 10 18 05.2 +0.6**
TAPN Taplejung 77.33 298 *e*P **P 10 18 05.8 -0.3**
comp=Z,14nm,0.8s
DPC Dobruska-Polom 77.34 358 *e*P **P 10 18 05.8 +0.3**
DPC *e*PCP **pP 10 18 15.2 +1.1**
DPC Dobruska-Polom 77.34 358 *e*P **P 10 18 05.8 +0.3**
DPC *e* 10 18 15.2
NKC Novy Kostel 77.50 0 *e*P **P 10 18 06.8 +0.5**
NKC Novy Kostel 77.50 0 *e*P **P 10 18 06.8 +0.5**
OKC Ostrava-Krasne 77.80 357 *e*P **P 10 18 08.4 +0.5**
OKC Ostrava-Krasne 77.80 357 *e*P **P 10 18 08.4 +0.5**
GUN Gumba 77.86 300 *e*P **P 10 18 08.7 -0.4**
JIRN Jiri 77.89 300 *e*P **P 10 18 09.3 0.0**
comp=Z,52nm,1.2s
CMAR Chiang Mai Arr 77.97 285 P **P 10 18 09.2 -0.1**
comp=Z,0.8nm,0.4s,baz=30,slow=5.5,SNR=7.2
RAMN Ramite 78.24 299 *e*P **P 10 18 10.8 -0.3**
comp=Z,28nm,0.9s
KKN Kakani 78.27 300 *e*P **P 10 18 11.1 -0.1**
PKI Pulchoki 78.38 300 *e*P **P 10 18 11.7 -0.2**
VRAC Vranov 78.38 358 P **P 10 18 11.4 +0.3**
comp=Z,5.9nm,1.0s,baz=353,slow=7.0,SNR=6.3
GKN Gorkha 78.43 301 *e*P **P 10 18 11.8 -0.2**
KHC Kasperske Hory 78.60 360 *e*P **P 10 18 13.3 +0.8**
KHC *e*PCP **pP 10 18 23.4 +2.3**
KHC Kasperske Hory 78.60 360 *e*P **P 10 18 13.3 +0.8**
KHC *e* 10 18 23.4
PAGF Fort de Pagny 78.99 5 *e*P **P 10 18 14.8 +0.3**
SFTF Sexfontaines 79.30 5 *e*P **P 10 18 16.0 -0.2**
GOF Gofitskoye 79.31 339 *e*P **P 10 18 16.5 +0.1**
GOF pmax pmax
comp=Z,20nm,1.0s
HAU Haudompre 79.57 5 *e*P **P 10 18 17.6 -0.1**
CONA Conrad Observa 79.78 358⇑ *es*P **P 10 18 19.8 +0.9**
comp=Z,10nm,1.3s
HINF Hinteralfeld 79.78 4 *e*P **P 10 18 18.7 -0.2**
comp=Z,15nm,1.1s
LOR Lormes 80.16 6 *e*P **P 10 18 20.8 -0.1**
comp=Z,12nm,1.0s
SSF Saint Saulge 80.34 7 *e*P **P 10 18 21.9 0.0**
comp=Z,23nm,1.4s
KIV Kislovodsk 80.44 339 *e*P **P 10 18 22.1 -0.5**
KIV pmax pmax
comp=Z,8.0nm,1.1s
ARSA Arzberg 80.46 358 *i*P **P 10 18 22.9 +0.3**
comp=Z,7.3nm,1.2s,SNR=5.1
AVF Avril sur Loir 80.60 7 *e*P **P 10 18 23.2 -0.1**
comp=Z,18nm,1.1s
KBZ Khabaz 80.61 339 P **P 10 18 24.0 +0.6**
comp=Z,1.9nm,0.8s,baz=322,slow=20
KBZ Khabaz 80.61 339 P **P 10 18 24.0 +0.6**
KBA Koelnbreinsper 80.66 360⇑ *is*P **P 10 18 24.8 +1.0**
comp=Z,17nm,1.2s,SNR=7.9
FETA Feichten 80.69 2⇑ *i*P **P 10 18 24.7 +0.7**
comp=Z,10nm,1.0s
SMF Signal de Mont 80.78 6 *e*P **P 10 18 24.0 -0.3**
comp=Z,24nm,1.3s
DAVOX Davos/Dischmat 80.92 2 P **P 10 18 25.8 +0.6**
comp=Z,2.6nm,0.8s,baz=45,slow=15,SNR=3.0
ABTA Abfaltersbach 80.99 0 *i*sP **P 10 18 26.8 +1.4**
comp=Z,11nm,1.2s,SNR=5.3
TCF Toulx Ste Croi 81.01 8 *e*P **P 10 18 26.2 +0.6**
SOKA Soboth 81.04 359⇓ *is*P **P 10 18 26.7 +0.9**
comp=Z,13nm,1.2s,SNR=9.7
LFF La Frestale 82.22 9 *e*P **P 10 18 31.3 -0.6**
TIRR Tirgusor 82.37 349 *e*P **P 10 18 32.7 0.0**
TIRR pmax pmax
comp=Z,5.0nm,1.3s
TIRR Tirgusor 82.37 349 *e*P **P 10 18 32.7 0.0**
comp=Z,4.7nm,1.3s
BRTR Keskin Array B 86.28 344 P **P 10 18 53.4 +0.7**
comp=Z,2.0nm,0.8s,baz=76,slow=2.5,SNR=12
BRTR Keskin Array B 86.28 344 *ce*P **P 10 18 53.5 +0.7**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
ESDC Sonseca Array 86.88 13 P **P 10 18 55.5 -0.1**
comp=Z,0.5nm,0.6s,baz=345,slow=4.5,SNR=4.9

*IDC **30** 10:07:00.9±3.7, 53.29N×167.61W, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.7/54, mbtmp4.0/9, Error ellipse: s-maj=96.7km s-min=25.1km az=161.0*
*ISCJB **30** 10:07:04.2±2.9, 53.1N±0.5×167.6W±0.4, h44km, mb4.0/8, Error ellipse: s-maj=73.7km s-min=16.3km az=157.3*
ISC 30 10:07:06.4±3.3, 53.1N±0.5×167.6W±0.2, h44km, n10, σ0s70/10, mb4.1/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILAR	**Eielson Array**	**15.73**	**34**	Pn	**Pn**	**10 10 45.0**	**+0.5**
	0.1nm,0.3s,baz=242,slow=9.0,SNR=4.7						
PETK	**Petropavlovsk-**	**20.72**	**284**	P	**P**	**10 11 42.9**	**+0.1**
	2.6nm,0.6s,baz=84,slow=12,SNR=1.2						
YKA	**Yellowknife Ar**	**28.93**	**50**	P	**P**	**10 13 01.0**	**+0.1**
	0.4nm,0.6s,baz=274,slow=8.0,SNR=2.5						
KSRS	**Korea Array**	**46.39**	**277**	P	**P**	**10 15 28.4**	**+0.3**
	2.2nm,1.1s,baz=56,slow=5.0,SNR=2.4						
ARCES	**ARCESS Array B**	**57.29**	**355**	P	**P**	**10 16 49.8**	**+0.9**
	3.2nm,0.9s,baz=17,slow=6.6,SNR=3.7						
MKAR	**Makanchi Array**	**64.07**	**314**	P	**P**	**10 17 35.0**	**-0.4**
	1.5nm,0.8s,baz=54,slow=8.2,SNR=4.5						
FINES	**FINESS Array B**	**65.27**	**353**	P	**P**	**10 17 42.4**	**-0.6**
	2.5nm,0.6s,baz=21,slow=8.1,SNR=4.8						
NOA	**NORSAR Array B**	**66.19**	**1**	P	**P**	**10 17 48.1**	**-0.8**
	0.7nm,0.7s,baz=357,slow=6.1,SNR=2.2						
AAK	**Ala-Archa**	**70.72**	**316**	P	**P**	**10 18 18.5**	**+0.8**
	1.1nm,0.5s,baz=50,slow=17,SNR=3.0						
AKASG	**Malin Array Be**	**75.59**	**349**	P	**P**	**10 18 45.4**	**-0.7**
	2.2nm,0.7s,baz=18,slow=6.3,SNR=2.8						

IDC 30 10:07:13.7±2.9, 52.74N×167.28W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.5/56, mbtmp3.9/5, Error ellipse: s-maj=87.7km s-min=32.1km az=29.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**51.47**	**91**	P	P	10 16 20.7	-0.1
	0.8nm,0.8s,baz=303,slow=5.1,SNR=2.2						
ARCES	**ARCESS Array B**	**57.68**	**355**	P	P	10 17 05.3	+0.1
	2.3nm,1.0s,baz=26,slow=7.0,SNR=3.1						
MKAR	**Makanchi Array**	**64.47**	**314**	P	P	10 17 51.7	0.0
	0.3nm,0.5s,baz=39,slow=7.4,SNR=2.3						
FINES	**FINESS Array B**	**65.67**	**353**	P	P	10 17 59.1	0.0
	0.9nm,0.4s,baz=14,slow=7.0,SNR=5.8						
HFS	**Hagfors**	**67.47**	**359**	P	P	10 18 10.6	-0.1
	1.0nm,0.4s,baz=10,slow=8.0,SNR=6.4						

DJA 30 10:14:42.7±0.6, 4°S±5°×12°9E±°, h114km±5km, M3.9/10, mb4.6/2, mB5.7/1, MLv3.5/10, Mw(mB)5.2/1, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.35**	**8**	P	Pn	10 15 00.8	+1.6
MSAI				S	Sn	10 15 14.4	+2.8
AAI	**Ambon**	**0.68**	**271**	P	Pn	10 15 02.2	+0.9
AAI				S	Sn	10 15 16.9	+1.6
BNDI	**Bandanaira**	**1.31**	**129**	P	Pn	10 15 08.2	+0.7
BNDI				S	Sn	10 15 27.4	+1.0
NLAI	**Namlea**	**1.83**	**284**	P	Pn	10 15 15.1	+1.3
NLAI				S	Sn	10 15 38.7	+1.2
SANI	**Sanana**	**3.32**	**300**	P	Pn	10 15 31.8	-1.3
SANI				S	Sn	10 16 08.7	-3.3
FAKI	**Fak Fak**	**3.45**	**77**	P	Pn	10 15 34.7	-0.1
FAKI				S	Sn	10 16 13.0	-2.1
RKPI	**Ransiki, Papua**	**5.72**	**68**	P	Pn	10 16 04.4	-1.0
	74nm,0.8s,8µm1.0nm						
RKPI				S	Sn	10 17 07.8	-2.0
	74nm,0.8s,8µm1.0nm						

*TIR **30** 10:19:13.7, 41.62N×20.76E, h5km, ML3.8*
*IDC **30** 10:19:21.4±1.3, 41.33N×20.42E, h0km, mb3.6/8, mb1 3.8/13, mb1mx3.7/37, mbtmp3.6/13, ML3.2/5, MS2.1/3, Ms1 2.1/3, ms1mx2.1/39, Error ellipse: s-maj=25.0km s-min=14.3km az=23.0*
*CSEM **30** 10:19:24.8±0.1, 41.61N×20.75E, h2km, ML3.5, Error ellipse: s-maj=2.4km s-min=1.6km az=50.0*
*LDG **30** 10:19:24.7±0.1, 41.56N×20.74E, h2km, Ml3.9/10, Error ellipse: s-maj=3.2km s-min=1.8km az=27.0*
*BEO **30** 10:19:24.5±0.3, 41.52N×20.78E, h0km, ML3.4/1*
*SKO **30** 10:19:24.1, 41.62N×20.76E, h15km, M3.2, ML3.6*
*ISCJB **30** 10:19:24.0±0.3, 41.61N±0.01×20.71E±0.02, h8km±2km, mb3.5/8, MS2.1/1, Error ellipse: s-maj=2.4km s-min=1.6km az=138.0*
*PDG **30** 10:19:24.0±0.5, 41.61N×20.75E, h6km, MD3.9/6, ML3.9/11, Error ellipse: s-maj=0.4km s-min=0.4km az=0.0*
*THE **30** 10:19:24.7, 41.64N×20.81E, h0km, ML3.5/14, Error ellipse: s-maj=1.1km s-min=0.5km az=308.0*
*ATH **30** 10:19:26.4, 41.52N×20.93E, h19km±2km, MD3.9/30*
*PRU **30** 10:19:27.6, 41.82N×20.88E, h0km*
ISC 30 10:19:24.3±0.9, 41.60N±0.01×20.75E±0.01, h8km±7km, n393, σ1s48/496, mb3.6/8, 64C-13D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHR	**Ohrid**	**0.49**	**176**	*e*Pg	**Pb**	**10 19 35.0**	**-0.1**
OHR				*e*Lg	Lg	10 19 40.7	
	comp=N,5µm,0.9s						
OHR				*e*Sg	**Sg**	**10 19 41.2**	**+1.0**
OHR				*e*Lg	Lg	10 19 41.4	
	comp=E,5µm,0.8s						
OHR	**Ohrid**	**0.49**	**176**	*e*Pg	**Pb**	**10 19 35.0**	**-0.1**
OHR				*e*Lg	Lg	10 19 40.6	
	comp=E,5µm,0.9s						
PRZK	**Prizren**	**0.61**	**0**	P	**Pg**	**10 19 35.5**	**-0.6**
PRZK				S	**Sb**	**10 19 45.1**	**-0.8**
SKO	**Skopje**	**0.63**	**54**	*e*Pg	**Pg**	**10 19 36.1**	**-0.4**
SKO	**Skopje**	**0.63**	**54**	*e*Pg	**Pg**	**10 19 36.6**	**+0.1**
SKO				*e*Sg	**Sb**	**10 19 45.8**	**-0.8**
SKO	**Skopje**	**0.63**	**54**	*e*Pg	**Pg**	**10 19 36.6**	**+0.1**
SKO				*e*Sg	**Sb**	**10 19 45.8**	**-0.8**
TIR	**Tirane**	**0.71**	**250**	*e*Pg	**Pg**	**10 19 37.4**	**-0.6**
TIR				*e*Sg	**Sb**	**10 19 48.0**	**-0.8**
TIR	**Tirane**	**0.71**	**250**	P	**Pg**	**10 19 37.5**	**-0.6**
TIR				*e*Sg	**Sb**	**10 19 48.0**	**-0.8**
PUK	**Puka**	**0.78**	**305**	*i*PG	**Pg**	**10 19 36.5**	**-2.8**
PUK				*i*SG	**Sn**	**10 19 54.8**	**+1.3**
BCI	**Bajram Curri**	**0.92**	**327**	*i*PG	Pg	10 19 36.5	-5.5
BCI				*i*SG	**Sb**	**10 19 54.8**	**0.0**
FNA	**Florina**	**0.94**	**150**	P	**Pg**	**10 19 42.0**	**-0.4**
FNA				S	**Sn**	**10 19 56.9**	**-0.5**
FNA	**Florina**	**0.94**	**150**	*e*PN	**Pg**	**10 19 41.8**	**-0.6**
FNA				*e*SN	**Sg**	**10 19 53.9**	**-0.7**
FNA	**Florina**	**0.94**	**150**	P	**Pg**	**10 19 42.0**	**-0.4**
FNA				*e*Sn	**Sg**	**10 19 53.9**	**-0.7**
FNA				S	**Sn**	**10 19 56.9**	**-0.5**
KBN	**Korca**	**0.98**	**178**	*i*PG	Pg	10 19 33.5	-9.5
KBN				*i*SG	Sg	10 19 46.8	-8.9
GJIK	**Gjilan**	**1.00**	**30**	P	**Pg**	**10 19 43.0**	**-0.5**
GJIK				S	**Sn**	**10 19 59.4**	**+0.5**
PEJK	**Peje**	**1.10**	**341**	P	**Pg**	**10 19 44.5**	**-0.9**
PVY	**Plav**	**1.16**	**330**⇓	*i*Pg	**Pg**	**10 19 45.0**	**-1.5**
PVY				*e*Sg	**Sn**	**10 20 03.8**	**+0.9**
PVY	**Plav**	**1.16**	**330**⇓	*i*Pg	**Pg**	**10 19 45.0**	**-1.5**
PVY				*e*Sg	**Sn**	**10 20 03.8**	**+0.9**
ULC	**Ulcinj**	**1.19**	**288**⇑	Pg	**Pg**	**10 19 45.5**	**-1.5**
ULC				*e*Sg	**Sn**	**10 20 03.9**	**+0.5**
ULC	**Ulcinj**	**1.19**	**288**	P	**Pg**	**10 19 45.5**	**-1.5**
ULC				*e*Sg	**Sn**	**10 20 03.9**	**+0.5**
NEST	**Nestorio**	**1.21**	**169**	P	**Pb**	**10 19 47.1**	**-0.3**
NEST				S	**Sn**	**10 20 05.9**	**+1.9**
NEST	**Nestorio**	**1.21**	**169**	*e*PB	**Pb**	**10 19 46.8**	**-0.6**
NEST				*e*SN	**Sg**	**10 20 02.2**	**-0.9**
NEST	**Nestorio**	**1.21**	**169**	*e*Pb	**Pb**	**10 19 46.8**	**-0.6**
NEST	**Nestorio**	**1.21**	**169**	P	**Pb**	**10 19 47.1**	**-0.3**
NEST				*e*Sn	**Sg**	**10 20 02.2**	**-0.9**
NEST				S	**Sn**	**10 20 05.9**	**+1.9**
SMRK	**Smrekonice**	**1.28**	**6**	P	**Pn**	**10 19 47.7**	**-0.7**
SMRK				S	**Sn**	**10 20 06.2**	**+0.4**
DRME	**Dracevica, Mon**	**1.31**	**297**⇑	*i*Pg	**Pn**	**10 19 47.2**	**-1.6**
DRME				*e*Sg	**Sn**	**10 20 09.1**	**+2.6**
DRME	**Dracevica, Mon**	**1.31**	**297**⇑	*i*Pg	**Pn**	**10 19 47.2**	**-1.6**
DRME				*e*Sg	**Sn**	**10 20 09.1**	**+2.6**
PDG	**Podgorica**	**1.39**	**307**	*e*Pn	**Pg**	**10 19 52.2**	**+1.3**
PDG				*e*Sn	**Sg**	**10 20 11.8**	**+2.8**
PDG	**Podgorica**	**1.39**	**307**⇓	*i*Pg	**Pn**	**10 19 49.0**	**-0.9**
PDG	**Podgorica**	**1.39**	**307**	*e*Pn	**Pg**	**10 19 52.2**	**+1.3**
PDG				*e*Sn	**Sg**	**10 20 11.8**	**+2.8**
TTG	**Podgorica**	**1.39**	**307**⇓	*i*Pg	**Pn**	**10 19 49.0**	**-0.9**
TTG				*e*Sg	**Sg**	**10 20 11.7**	**+2.8**
VAY	**Valandovo**	**1.39**	**101**	P	**Pn**	**10 19 50.0**	**+0.1**
VAY				S	**Sg**	**10 20 09.9**	**+0.8**
VAY	**Valandovo**	**1.39**	**101**	*e*Pg	**Pn**	**10 19 50.2**	**+0.3**
VAY				*e*Sg	**Sb**	**10 20 07.3**	**-1.1**
VAY	**Valandovo**	**1.39**	**101**	*e*Pn	**Pb**	**10 19 50.7**	**+0.2**
VAY				*e*Sn	**Sg**	**10 20 10.3**	**+1.2**
VAY				*e*Lg	Lg	10 20 10.4	
	comp=E,643nm,0.6s						
VAY				*e*Lg	Lg	10 20 10.4	
	comp=N,907nm,0.6s						
VAY	**Valandovo**	**1.39**	**101**	P	**Pn**	**10 19 50.0**	**+0.1**
VAY	**Valandovo**	**1.39**	**101**	*e*Pn	**Pb**	**10 19 50.7**	**+0.2**
VAY				*e*Sg	**Sb**	**10 20 07.3**	**-1.1**
VAY				S	**Sg**	**10 20 09.9**	**+0.8**
VAY				*e*Sn	**Sg**	**10 20 10.2**	**+1.2**
VAY				*e*Lg	Lg	10 20 10.4	
	comp=N,907nm,0.6s						
GRG	**Griva**	**1.40**	**117**	P	**Pn**	**10 19 50.4**	**+0.4**
GRG				S	**Sg**	**10 20 10.2**	**+1.0**
GRG	**Griva**	**1.40**	**117**	*e*PN	**Pn**	**10 19 50.5**	**+0.4**
GRG				*e*SN	**Sb**	**10 20 07.3**	**-1.3**
GRG	**Griva**	**1.40**	**117**	P	**Pn**	**10 19 50.4**	**+0.4**
GRG				*e*Sn	**Sb**	**10 20 07.3**	**-1.3**
GRG				S	**Sg**	**10 20 10.2**	**+1.0**
BEY	**Berane**	**1.42**	**334**	P	**Pn**	**10 19 50.2**	**-0.2**
BEY				*e*Sg	**Sg**	**10 20 12.4**	**+2.4**
IVA	**Berane**	**1.42**	**334**⇓	*i*Pg	**Pn**	**10 19 50.0**	**-0.4**
IVA				*e*Sg	**Sg**	**10 20 12.4**	**+2.4**
BARS	**Barje**	**1.45**	**33**	*e*Pn	**Pn**	**10 19 50.9**	**+0.2**
BARS				*e*Sn	**Sg**	**10 20 12.4**	**+1.5**
BARS	**Barje**	**1.45**	**33**	*e*Pn	**Pn**	**10 19 50.9**	**+0.2**
BARS				*e*Sn	**Sg**	**10 20 12.4**	**+1.5**
KZN	**Kozani**	**1.50**	**149**	P	**Pb**	**10 19 52.8**	**+0.3**
KZN	**Kozani**	**1.50**	**149**	*e*PN	**Pg**	**10 19 53.1**	**0.0**
KZN	**Kozani**	**1.50**	**149**	P	**Pb**	**10 19 52.8**	**+0.3**
KZN	**Kozani**	**1.50**	**149**	*e*Pn	**Pg**	**10 19 53.1**	**0.0**
BUM	**Brajici-Budva**	**1.55**	**297**⇑	*i*Pg	**Pn**	**10 19 52.1**	**-0.1**
BUM				*e*Sg	**Sg**	**10 20 16.8**	**+2.6**
BUM	**Brajici-Budva**	**1.55**	**297**⇑	*i*Pg	**Pn**	**10 19 52.1**	**-0.1**
BUM				*e*Sg	**Sg**	**10 20 16.8**	**+2.6**
SELS	**Selova**	**1.64**	**9**	*e*Pn	**Pb**	**10 19 54.8**	**0.0**
SELS				*e*Sn	**Sg**	**10 20 18.7**	**+1.7**
KNT	**Kendrikon**	**1.67**	**104**	P	**Pn**	**10 19 54.0**	**+0.2**
KNT				S	**Sb**	**10 20 16.8**	**+0.3**
KNT	**Kendrikon**	**1.67**	**104**	*e*PN	**Pn**	**10 19 54.2**	**+0.4**
KNT	**Kendrikon**	**1.67**	**104**	*e*Pn	**Pn**	**10 19 54.2**	**+0.4**
KNT				S	**Sb**	**10 20 16.8**	**+0.3**
SJES	**Sjenica**	**1.76**	**341**	*e*Pn	**Pb**	**10 19 56.9**	**+0.1**
SJES				*e*Sn	**Sb**	**10 20 19.8**	**+0.8**
NKME	**Niksic**	**1.77**	**312**⇑	*i*Pn	**Pn**	**10 19 55.9**	**+0.6**
NKME				*e*Sn	**Sg**	**10 20 21.5**	**+0.2**
NKME	**Niksic**	**1.77**	**312**⇑	*i*Pn	**Pn**	**10 19 55.9**	**+0.6**
NKME				*e*Sn	**Sg**	**10 20 21.5**	**+0.2**
NKY	**Niksic**	**1.78**	**313**⇑	*i*Pn	**Pb**	**10 19 56.5**	**-0.7**
NKY				*e*Sn	**Sg**	**10 20 22.0**	**+0.4**
NKY	**Niksic**	**1.78**	**313**⇑	*i*Pn	**Pb**	**10 19 56.5**	**-0.7**
NKY				*e*Sn	**Sg**	**10 20 22.0**	**+0.4**
HCY	**Herceg Novi**	**1.88**	**297**⇑	*i*Pn	**Pn**	**10 19 57.6**	**+0.9**
HCY				*e*Sn	**Sg**	**10 20 24.4**	**-0.4**
HCY	**Herceg Novi**	**1.88**	**297**⇑	*i*Pn	**Pn**	**10 19 57.6**	**+0.9**
HCY				*e*Sn	**Sg**	**10 20 24.4**	**-0.4**
THE	**Thessaloniki**	**1.93**	**119**	P	**Pn**	**10 19 57.8**	**+0.5**
THE				S	**Sb**	**10 20 23.3**	**-0.6**
THE	**Thessaloniki**	**1.93**	**119**	*e*PN	**Pn**	**10 19 58.2**	**+0.9**
THE	**Thessaloniki**	**1.93**	**119**	P	**Pn**	**10 19 57.8**	**+0.5**
THE	**Thessaloniki**	**1.93**	**119**	*e*Pn	**Pn**	**10 19 58.2**	**+0.9**
THE				S	**Sb**	**10 20 23.3**	**-0.6**
JAN	**Janina**	**1.94**	**178**	*e*PN	**Pb**	**10 20 00.2**	**+0.3**
JAN	**Janina**	**1.94**	**178**	*e*Pn	**Pb**	**10 20 00.2**	**+0.3**
LIT	**Litokhoron**	**2.00**	**138**	P	**Pn**	**10 19 59.0**	**+0.7**
LIT				S	**Sb**	**10 20 25.8**	**0.0**
LIT	**Litokhoron**	**2.00**	**138**	*e*PN	**Pn**	**10 19 59.5**	**+1.2**
LIT	**Litokhoron**	**2.00**	**138**	P	**Pn**	**10 19 59.0**	**+0.7**
LIT	**Litokhoron**	**2.00**	**138**	*e*Pn	**Pn**	**10 19 59.5**	**+1.2**
LIT				S	**Sb**	**10 20 25.8**	**0.0**
PLE	**Pljevlja**	**2.00**	**330**⇓	*i*Pn	**Pb**	**10 20 00.0**	**-1.0**
PLE				*e*Sn	**Sb**	**10 20 26.9**	**+0.8**
PLE	**Pljevlja**	**2.00**	**330**⇓	*i*Pn	**Pb**	**10 20 00.0**	**-1.0**
PLE				*e*Sn	**Sb**	**10 20 26.9**	**+0.8**
KEK	**Kerkira**	**2.02**	**201**	P	**Pb**	**10 20 00.0**	**-1.2**
KEK				S	**Sb**	**10 20 27.6**	**+1.1**
KEK	**Kerkira**	**2.02**	**201**	*e*PN	**Pb**	**10 20 01.1**	**-0.1**
KEK	**Kerkira**	**2.02**	**201**	P	**Pb**	**10 20 00.0**	**-1.2**
KEK	**Kerkira**	**2.02**	**201**	*e*Pn	**Pb**	**10 20 01.1**	**-0.1**
KEK				S	**Sb**	**10 20 27.6**	**+1.1**
IVAS	**Ivanjica**	**2.02**	**348**	*e*Pn	**Pn**	**10 19 59.8**	**+1.1**
IVAS				*e*Sn	**Sg**	**10 20 28.7**	**-0.6**
IVAS	**Ivanjica**	**2.02**	**348**	*e*Pn	**Pn**	**10 19 59.8**	**+1.1**
IVAS				*e*Sn	**Sg**	**10 20 28.7**	**-0.6**
SGD	**Sagiada**	**2.02**	**191**	P	**Pb**	**10 20 00.4**	**-1.0**
SGD	**Sagiada**	**2.02**	**191**	*e*PN	**Pb**	**10 20 01.4**	**+0.1**
SGD	**Sagiada**	**2.02**	**191**	P	**Pb**	**10 20 00.3**	**-1.0**
SGD	**Sagiada**	**2.02**	**191**	*e*Pn	**Pb**	**10 20 01.4**	**+0.1**
HORT	**Hortiatis**	**2.04**	**119**	P	**Pn**	**10 19 59.5**	**+0.6**
HORT				S	**Sb**	**10 20 26.3**	**-0.7**
HORT	**Hortiatis**	**2.04**	**119**	*e*PN	**Pn**	**10 19 59.5**	**+0.6**
HORT	**Hortiatis**	**2.04**	**119**	P	**Pn**	**10 19 59.5**	**+0.6**
HORT				S	**Sb**	**10 20 26.3**	**-0.7**
VTS	**Vitosha**	**2.08**	**61**	*e*Pn	**Pn**	**10 20 00.6**	**+1.1**
VTS	**Vitosha**	**2.08**	**61**⇑	*i*P	**Pn**	**10 20 00.8**	**+1.3**
VTS	**Vitosha**	**2.08**	**61**⇑	*i*P	**Pn**	**10 20 00.8**	**+1.3**
IGT	**Igoumenitsa**	**2.09**	**

PLG	Polygyros	2.38	120	P	Pn	10 20 04.3	+0.8		
PLG	Polygyros	2.38	120	*e*Pb	Pn	10 20 04.9	+1.4		
BOLS	Boljevac	2.40	21	*e*Pn	Pb	10 20 06.6	-1.0		
BOLS	Boljevac	2.40	21	*e*Pn	Pb	10 20 06.6	-1.0		
BBLS	Lazići	2.47	337	*e*Pn	Pn	10 20 06.2	+1.3		
BBLS				*e*Sn	Sb	10 20 39.9	+0.3		
BBLS	Lazići	2.47	337	*e*Pn	Pn	10 20 06.2	+1.3		
BBLS				*e*Sn	Sb	10 20 39.9	+0.3		
DIVS	Divibare	2.56	348	P	Pn	10 20 06.3	+0.2		
DIVS	Divibare	2.56	348	*e*Pn	Pn	10 20 07.2	+1.1		
DIVS	Divibare	2.56	348	⇑*i*P	Pn	10 20 06.2	+0.2		
DIVS	Divibare	2.56	348	S	Sn	10 20 39.0	+1.6		
DIVS	Divibare	2.56	348	P	Pn	10 20 06.3	+0.2		
DIVS	Divibare	2.56	348	*e*Pn	Pn	10 20 07.2	+1.1		
STON	Ston	2.60	300	*e*Pn	Pn	10 20 07.8	+1.3		
STON				Sn	Sb	10 20 42.0	-1.0		
STON	Ston	2.60	300	*e*Pn	Pn	10 20 08.2	+1.7		
STON				*e*Sn	Sb	10 20 41.3	-1.8		
STON	Ston	2.60	300	*e*Pn	Pn	10 20 08.2	+1.7		
STON				*e*Sn	Sb	10 20 41.3	-1.8		
PE1	Pezze di Greco	2.63	254	*e*Pn	Pn	10 20 07.8	+0.8		
SVIS	Svilajnac	2.69	7	*e*Pn	Pb	10 20 10.9	-1.6		
OUR	Ouranopolis	2.75	116	*e*PB	Pn	10 20 10.5	+1.9		
OUR	Ouranopolis	2.75	116	*e*Pb	Pn	10 20 10.5	+1.9		
PAIG	Paliouri	2.78	126	P	Pn	10 20 09.8	+0.8		
PAIG	Paliouri	2.78	126	*e*PN	Pn	10 20 09.6	+0.6		
PAIG	Paliouri	2.78	126	P	Pn	10 20 09.8	+0.8		
EVR	Evrytania	2.80	163	*e*PB	Pb	10 20 12.3	-2.2		
EVR	Evrytania	2.80	163	*e*Pb	Pb	10 20 12.3	-2.2		
LKD2	Lefkada island	2.81	182	P	Pn	10 20 11.1	+1.6		
LKD2	Lefkada island	2.81	182	*e*PN	Pn	10 20 11.6	+2.1		
LKD2	Lefkada island	2.81	182	P	Pn	10 20 11.1	+1.6		
LKD2	Lefkada island	2.81	182	*e*Pn	Pn	10 20 11.6	+2.1		
HAPS	Han Pijesak,BI	2.82	333	*e*Pn	Pn	10 20 11.1	+1.5		
HAPS				*e*Sn	Sb	10 20 48.0	-1.5		
HAPS	Han Pijesak,BI	2.82	333	*e*Pn	Pn	10 20 11.1	+1.5		
HAPS				*e*Sn	Sb	10 20 48.0	-1.5		
TAR1	Taranto	2.83	249	*e*Pn	Pn	10 20 10.1	+0.4		
AGG	Agios Georgios	2.84	154	P	Pn	10 20 11.2	+1.3		
AGG	Agios Georgios	2.84	154	*e*PN	Pn	10 20 11.3	+1.3		
AGG	Agios Georgios	2.84	154	P	Pn	10 20 11.2	+1.3		
KAVA	Kavala	2.90	101	P	Pn	10 20 11.2	+0.6		
KAVA				S	Sn	10 20 47.6	+2.0		
KAVA	Kavala	2.90	101	*e*PN	Pn	10 20 11.5	+0.9		
KAVA	Kavala	2.90	101	P	Pn	10 20 11.2	+0.6		
KAVA	Kavala	2.90	101	*e*Pn	Pn	10 20 11.5	+0.9		
KAVA				S	Sn	10 20 47.6	+2.0		
XOR	Xorichti	2.91	139	P	Pn	10 20 11.4	+0.6		
XOR	Xorichti	2.91	139	*e*PN	Pn	10 20 11.2	+0.4		
XOR	Xorichti	2.91	139	P	Pn	10 20 11.4	+0.6		
BAI	Bari	2.96	262	*e*Pn	Pn	10 20 12.0	+0.6		
NEO	Neokhori	2.97	140	*e*PN	Pn	10 20 12.4	+0.8		
NEO	Neokhori	2.97	140	*e*Pn	Pn	10 20 12.4	+0.8		
PLD	Plovdiv	2.99	79	*e*Pn	Pn	10 20 13.3	+1.4		
PLD	Plovdiv	2.99	79	*e*Pn	Pn	10 20 13.3	+1.4		
PDO	Prodromos	3.02	174	P	Pn	10 20 13.8	+1.5		
PDO	Prodromos	3.02	174	*e*PN	Pn	10 20 14.7	+2.4		
PDO	Prodromos	3.02	174	P	Pn	10 20 13.8	+1.5		
PDO	Prodromos	3.02	174	*e*Pn	Pn	10 20 14.7	+2.4		
SG1	Sgolgore (BA)	3.17	257	*e*Pn	Pn	10 20 14.8	+0.4		
AXAR	Agios Charalam	3.19	152	*e*PN	Pn	10 20 16.4	+1.8		
AXAR	Agios Charalam	3.19	152	*e*Pn	Pn	10 20 16.4	+1.8		
EFP	Efpalio	3.29	164	*e*PB	Pn	10 20 19.2	+3.2		
EFP	Efpalio	3.29	164	*e*Pb	Pn	10 20 19.2	+3.2		
SMIA	Simia	3.31	145	*e*PN	Pn	10 20 17.1	+0.8		
SMIA	Simia	3.31	145	*e*Pn	Pn	10 20 17.1	+0.8		
KALE	Kalithea	3.38	161	*e*PN	Pn	10 20 19.2	+1.9		
KALE	Kalithea	3.38	161	*e*Pn	Pn	10 20 19.2	+1.9		
AOS	Alonnisos	3.41	134	*e*PN	Pn	10 20 18.1	+0.5		
AOS	Alonnisos	3.41	134	*e*Pn	Pn	10 20 18.1	+0.5		
CDT	Castel del Mon	3.41	263	*e*PN	Pn	10 20 18.3	+0.6		
LKR	Lokris	3.41	149	*e*PN	Pn	10 20 19.1	+1.4		
LKR	Lokris	3.41	149	*e*Pn	Pn	10 20 19.1	+1.4		
VLS	Valsamata	3.42	182	*e*PN	Pn	10 20 19.4	+1.5		
VLS	Valsamata	3.42	182	*e*Pn	Pn	10 20 19.4	+1.5		
DSF	Desfina	3.46	156	*e*PN	Pn	10 20 19.7	+1.2		
DSF	Desfina	3.46	156	*e*Pn	Pn	10 20 19.7	+1.2		
KDZ	Kurdzhali	3.50	88	⇑*i*P	Pn	10 20 20.1	+1.2		
KDZ	Kurdzhali	3.50	88	⇑*i*P	Pn	10 20 20.1	+1.2		
SRE	Strehaia	3.55	30	⇑*i*P	Pn	10 20 17.3	-2.3		
SRE	Strehaia	3.55	30	⇑*i*P	Pn	10 20 17.3	-2.3		
MS1	Monte Sant'Ang	3.61	273	*e*Pn	Pn	10 20 20.8	+0.4		
MRKA	Markates	3.62	142	P	Pn	10 20 21.8	+1.3		
MRKA	Markates	3.62	142	*e*PN	Pn	10 20 22.0	+1.5		
MRKA	Markates	3.62	142	P	Pn	10 20 21.8	+1.3		
FGSL	Fruska Gora	3.62	349	*e*Pn	Pn	10 20 21.1	+0.5		
FRGS	Fruska Gora	3.62	349	*e*Pn	Pn	10 20 21.1	+0.5		
KLV	Kalavryta, Ach	3.71	163	P	Pn	10 20 23.5	+1.6		
KLV	Kalavryta, Ach	3.71	163	*e*PN	Pn	10 20 24.6	+2.7		
KLV	Kalavryta, Ach	3.71	163	P	Pn	10 20 23.5	+1.6		
KLV	Kalavryta, Ach	3.71	163	*e*Pn	Pn	10 20 24.6	+2.7		
DRO	Drossia	3.72	168	*e*PN	Pn	10 20 24.3	+2.4		
DRO	Drossia	3.72	168	*e*Pn	Pn	10 20 24.3	+2.4		
LIA	Limnos Island	3.77	115	*e*PN	Pn	10 20 25.0	+2.4		
LIA	Limnos Island	3.77	115	*e*Pn	Pn	10 20 25.0	+2.4		
SMTH	Samothraki Isl	3.79	106	*e*PN	Pn	10 20 25.0	+2.1		
SMTH	Samothraki Isl	3.79	106	*e*Pn	Pn	10 20 25.0	+2.1		
GUR	Goura	3.86	161	*e*PN	Pn	10 20 27.4	+3.4		
GUR	Goura	3.86	161	*e*Pn	Pn	10 20 27.4	+3.4		
VIL2	Platees	3.90	149	*e*PN	Pn	10 20 25.8	+1.4		
VILL	Villia	3.96	149	*e*Pn	Pn	10 20 25.8	+0.6		
LTK	Loutraki	3.96	154	*e*PN	Pn	10 20 26.5	+1.3		
LTK	Loutraki	3.96	154	*e*Pn	Pn	10 20 26.5	+1.3		
ALN	Alexandroupoli	4.05	98	P	Pn	10 20 27.4	+0.9		
ALN	Alexandroupoli	4.05	98	*e*PN	Pn	10 20 27.4	+0.9		
ALN	Alexandroupoli	4.05	98	P	Pn	10 20 27.4	+0.9		
BZS	Buzias	4.06	9	*e*Pn	Pn	10 20 28.9	+2.2		
BZS	Buzias	4.06	9	⇑*i*P	Pn	10 20 26.8	+0.1		
BZS	Buzias	4.06	9	⇑*i*P	Pn	10 20 26.8	+0.1		
BZS	Buzias	4.06	9	*e*Pn	Pn	10 20 28.9	+2.2		
GZR	Gura Zlata	4.07	21	⇑*i*P	Pn	10 20 27.4	+0.6		
GZR	Gura Zlata	4.07	21	⇑*i*P	Pn	10 20 27.4	+0.6		
AMT	Artemida-Makis	4.13	169	*e*PN	Pn	10 20 30.4	+2.8		
AMT	Artemida-Makis	4.13	169	*e*Pn	Pn	10 20 30.4	+2.8		
GADA	Gvkgeada	4.15	108	*e*P	Pn	10 20 28.6	+0.8		
GADA	Gvkgeada	4.15	108	*e*P	Pn	10 20 28.6	+0.8		
HUMR	Humele	4.26	45	⇑*i*P	Pn	10 20 30.7	+1.3		
HUMR	Humele	4.26	45	⇑*i*P	Pn	10 20 30.7	+1.3		
PTL	Penteli	4.28	145	*e*PN	Pn	10 20 31.1	+1.4		
PTL	Penteli	4.28	145	*e*Pn	Pn	10 20 31.1	+1.4		
VLX	Vlachokerasia	4.41	163	*e*PN	Pn	10 20 34.2	+2.7		
VLX	Vlachokerasia	4.41	163	*e*Pn	Pn	10 20 34.2	+2.7		
JMB	Yambol	4.43	77	⇑*i*P	Pn	10 20 33.2	+1.5		
JMB	Yambol	4.43	77	⇑*i*P	Pn	10 20 33.2	+1.5		
ERIK	Erikli-Kesan	4.45	100	*e*P	Pn	10 20 35.2	+3.3		
ERIK	Erikli-Kesan	4.45	100	*e*P	Pn	10 20 35.2	+3.3		
EDRB	Edirne	4.49	85	*e*P	Pn	10 20 34.2	+1.7		
EDRB	Edirne	4.49	85	P	Pn	10 20 33.3	+0.8		
EDRB	Edirne	4.49	85	P	Pn	10 20 33.3	+0.8		
GELI	Tayfur-Gelibol	4.49	104	*e*P	Pn	10 20 34.5	+2.0		
GELI	Tayfur-Gelibol	4.49	104	*e*P	Pn	10 20 34.5	+2.0		
DID	Didima	4.52	154	*e*PN	Pn	10 20 35.8	+2.9		
DID	Didima	4.52	154	*e*Pn	Pn	10 20 35.8	+2.9		
SIGR	SIGRI	4.57	120	*e*PN	Pn	10 20 36.1	+2.5		
SIGR	SIGRI	4.57	120	*e*Pn	Pn	10 20 36.1	+2.5		
UDBI	Udbina	4.68	310	*i* Pn	Pn	10 20 38.1	+2.9		
UDBI				Sn	Sn	10 21 30.8	+1.1		
UDBI	Udbina	4.68	310	*i* Pn	Pn	10 20 38.1	+2.9		
UDBI				Sn	Sn	10 21 30.8	+1.1		
ARR	Arges	4.71	36	⇑*i*P	Pn	10 20 37.3	+1.7		
ARR	Arges	4.71	36	⇑*i*P	Pn	10 20 37.3	+1.7		
LPK	Lapseki	4.71	103	*e*P	Pn	10 20 35.5	0.0		
LPK	Lapseki	4.71	103	*e*P	Pn	10 20 35.5	0.0		
SIRR	Siria	4.71	8	⇑*i*P	Pn	10 20 36.7	+1.1		
SIRR	Siria	4.71	8	⇑*i*P	Pn	10 20 36.7	+1.1		
PYL	PYLOS	4.76	170	*e*PN	Pn	10 20 37.4	+1.1		
PYL	PYLOS	4.76	170	*e*Pn	Pn	10 20 37.4	+1.1		
PRK	Paraskevi	4.82	117	*e*PN	Pn	10 20 39.5	+2.4		
PRK	Paraskevi	4.82	117	*e*Pn	Pn	10 20 39.5	+2.4		
PKSM	Moragy	4.86	342	⇑*i*P	Pn	10 20 38.2	+0.7		
PKSM	Moragy	4.86	342	S	Sn	10 21 31.1	-2.8		
PKSM	Moragy	4.86	342	⇑*i*P	Pn	10 20 38.2	+0.7		
PKSM	Moragy	4.86	342	⇑*e*pn	Pn	10 20 38.2	+0.7		
PKSM				*e*Sn	Sn	10 21 29.6	-4.3		
RKY	Sarkoy-Tekirda	4.94	99	*e*P	Pn	10 20 41.9	+3.2		
RKY	Sarkoy-Tekirda	4.94	99	*e*P	Pn	10 20 41.9	+3.2		
VOIR		4.95	38	⇑*i*P	Pn	10 20 40.7	+1.8		
VOIR		4.95	38	⇑*i*P	Pn	10 20 40.7	+1.8		
CHOS	Chios island	5.18	127	*e*PN	Pn	10 20 44.5	+2.4		
CHOS	Chios island	5.18	127	*e*Pn	Pn	10 20 44.5	+2.4		
NVLJ	Novalja	5.23	306	*e*Pn	Pn	10 20 43.9	+1.3		
NVLJ				Sn	Sn	10 21 43.7	+0.7		
NVLJ	Novalja	5.23	306	*e*Pn	Pn	10 20 43.9	+1.3		
NVLJ				Sn	Sn	10 21 43.7	+0.7		
MRMT	Marmara Adasi	5.26	99	*e*P	Pn	10 20 44.8	+1.6		
MRMT	Marmara Adasi	5.26	99	*e*P	Pn	10 20 44.8	+1.6		
PKS9	Tamasi	5.29	341	⇑*e*Pn	Pn	10 20 44.6	+1.1		
PKS9				*e*Sn	Sn	10 21 41.9	-2.8		
PKS9	Tamasi	5.29	341	⇑*e*	Pn	10 20 44.6	+1.1		
PKS9				*e*		10 21 41.9			
DRGR		5.38	15	⇑*i*P	Pn	10 20 45.0	+0.2		
DRGR		5.38	15	⇑*i*P	Pn	10 20 45.0	+0.2		
MLR	Muntele Rosu	5.42	42	Pn	Pn	10 20 49.4	+4.0		
	comp=N,0.2nm,0.3s,baz=185,slow=13,SNR=17								
MLR				Lg	Lg	10 22 24.5			
	baz=254,slow=19,SNR=2.9								
MLR				LR	LR	10 24 10.0			
	comp=N,6.1nm,20.7s,baz=224,slow=50								
MLR	Muntele Rosu	5.42	42	⇑*i*P	Pn	10 20 47.1	+1.7		
MLR	Muntele Rosu	5.42	42	⇓*i*P	Pn	10 20 47.1	+1.7		
DOPR	Dopca	5.50	36	⇑*i*P	Pn	10 20 47.6	+1.1		
DOPR	Dopca	5.50	36	⇑*i*P	Pn	10 20 47.6	+1.1		
BOJS	Bojanci	5.58	316	*e*Pn	Pn	10 20 50.1	+2.6		
BOJS				*i* Sn	Sn	10 21 51.5	-0.4		
BOJS	Bojanci	5.58	316	*e*Pn	Pn	10 20 50.1	+2.6		
BOJS				*i* Sn	Sn	10 21 51.5	-0.4		
CRES	Cresnjev	5.71	320	*e*Pn	Pn	10 20 51.2	+2.0		
CRES				*i* Sn	Sn	10 21 56.6	+1.7		
CRES	Cresnjev	5.71	320	*e*Pn	Pn	10 20 51.2	+2.0		
CRES				*i* Sn	Sn	10 21 56.6	+1.7		
CTKS	Kestanelik-??a	5.84	91	*e*P	Pn	10 20 52.8	+1.8		
CTKS	Kestanelik-??a	5.84	91	*e*P	Pn	10 20 52.8	+1.8		
APE	Apeiranthos	5.85	139	*e*PN	Pn	10 20 53.5	+2.3		
APE	Apeiranthos	5.85	139	⇑*i*P	Pn	10 20 51.2	0.0		
APE	Apeiranthos	5.85	139	⇑*i*P	Pn	10 20 51.2	0.0		
APE	Apeiranthos	5.85	139	*e*Pn	Pn	10 20 53.5	+2.3		
PSN	Preselentsi	5.86	67	⇑*i*P	Pn	10 20 51.6	+0.3		
PSN	Preselentsi	5.86	67	⇑*i*P	Pn	10 20 51.6	+0.3		
PKST	T``s	5.98	342	*e*Pn	Pn	10 20 54.9	+1.9		
PKST				*e*Sn	Sn	10 22 03.8	+2.1		
PKST	T``s	5.98	342	*e*Pn	Pn	10 20 54.9	+1.9		
PKST				*e*sn	Sn	10 22 03.8	+2.1		
PKSG		6.03	345	*e*Pn	Pn	10 20 56.7	+3.0		
PKSG		6.03	345	*e*Pn	Pn	10 20 56.7	+3.0		
PKSG				*e*sn	Sn	10 22 00.5	-2.3		
ANKY	Antikythira Is	6.06	160	*e*PN	Pn	10 20 56.2	+2.1		
ANKY	Antikythira Is	6.06	160	*e*Pn	Pn	10 20 56.2	+2.1		
VRI	Vrincioaia	6.08	43	⇑*i*P	Pn	10 20 56.0	+1.7		
VRI	Vrincioaia	6.08	43	⇑*i*P	Pn	10 20 56.0	+1.7		
TLB	Topalu	6.11	58	⇑*i*P	Pn	10 20 56.2	+1.4		
TLB	Topalu	6.11	58	⇑*i*P	Pn	10 20 56.2	+1.4		
SKDS	Skadanscina	6.29	311	*i* Pn	Pn	10 20 58.8	+1.6		
SKDS				*i* Sn	Sn	10 22 08.1	-1.1		
SKDS	Skadanscina	6.29	311	*i* Pn	Pn	10 20 58.8	+1.6		
SKDS				*i* Sn	Sn	10 22 08.1	-1.1		
TIRR	Tirgusor	6.30	60	⇑*i*P	Pn	10 20 58.3	+1.0		
TIRR	Tirgusor	6.30	60	⇑*i*P	Pn	10 20 58.3	+1.0		
PSZ	Piszkesteto	6.35	355	⇑*i*P	Pn	10 20 56.5	-1.6		
PSZ	Piszkesteto	6.35	355	*e*Pn	Pn	10 20 59.5	+1.4		
PSZ	Piszkesteto	6.35	355	*e*	Pn	10 20 59.5	+1.4		
PSZ				*e*		10 22 07.9			
JAVS	Javornik	6.47	314	*i* Pn	Pn	10 21 02.2	+2.4		
JAVS				*i* Sn	Sn	10 22 13.6	-0.2		
JAVS	Javornik	6.47	314	*i* Pn	Pn	10 21 02.2	+2.4		
JAVS				*i* Sn	Sn	10 22 13.6	-0.2		
SOKA	Soboth	6.53	323	⇓*i*Pn	Pn	10 21 02.9	+2.3		
	SNR=13								
SOKA	Soboth	6.53	323	Pn	Pn	10 21 02.9	+2.3		
	SNR=13								
OBKA	Obir	6.64	320	⇑*i*Pn	Pn	10 21 04.4	+2.3		
	SNR=6.4								
OBKA	Obir	6.64	320	Pn	Pn	10 21 04.4	+2.3		
	SNR=6.4								
ARSA	Arzberg	6.78	328	⇓*i*Pn	Pn	10 21 04.9	+1.0		
	SNR=10								
ARSA	Arzberg	6.78	328	Pn	Pn	10 21 04.9	+1.0		
	SNR=10								
BURAR	Bucovina Array	6.80	26	⇑*i*P	Pn	10 21 06.0	+1.6		
BURAR	Bucovina Array	6.80	26	⇑*i*P	Pn	10 21 06.0	+1.6		
KECS	Kecovo	6.88	359	*e*PN	Pn	10 21 05.9	+0.5		
KECS				*e*SN	Sn	10 22 19.8	-4.1		
IDI	Anoyia	7.09	151	Pn	Pn	10 21 09.4	+1.1		
	comp=N,0.4nm,0.3s,baz=318,slow=17,SNR=5.3								
IDI				Sn	Sn	10 22 27.1	-1.9		
	comp=N,0.2nm,0.3s,baz=300,slow=20,SNR=1.8								
KOLS	Kolonicke sedl	7.41	8	*e*PN	Pn	10 21 14.7	+2.1		
KBA	Koelnbreinsper	7.63	318	⇑*i*Pn	Pn	10 21 18.2	+2.5		
	SNR=10								
KBA	Koelnbreinsper	7.63	318	Pn	Pn	10 21 18.2	+2.5		
	SNR=10								
MOA	Molln	7.77	326	⇑*i*Pn	Pn	10 21 20.5	+3.0		
	SNR=7.5								
MOA	Molln	7.77	326	Pn	Pn	10 21 20.5	+3.0		
	SNR=7.5								
ABTA	Abfaltersbach	7.84	314	⇑*i*Pn	Pn	10 21 20.0	+1.4		
	SNR=18								
ABTA	Abfaltersbach	7.84	314	Pn	Pn	10 21 20.0	+1.4		
	SNR=18								
VRAC	Vranov	8.24	341	Pn	Pn	10 21 27.2	+3.2		
	comp=N,0.2nm,0.3s,baz=164,slow=12,SNR=3.9								
VRAC				Sn	Sn	10 22 52.3	-5.0		
	comp=N,0.1nm,0.3s,baz=104,slow=18,SNR=2.4								
VRAC				LR	LR	10 24 17.2			
	comp=N,22nm,19.1s,baz=193,slow=35								
WTTA	Wattenberg	8.63	314	⇑*i*Pn	Pn	10 21 31.4	+1.8		
	SNR=14								
WTTA	Wattenberg	8.63	314	Pn	Pn	10 21 31.4	+1.8		
	SNR=14								
WATA	Walderalm	8.71	314	⇓*i*Pn	Pn	10 21 33.1	+2.5		
	SNR=19								
WATA	Walderalm	8.71	314	Pn	Pn	10 21 33.1	+2.5		
	SNR=19								
PGF	Pioggiola	8.79	280	*e*Pn	Pn	10 21 30.8	-0.9		
MOTA	Moosalm	8.97	313	⇓*i*Pn	Pn	10 21 36.3	+2.1		
	SNR=23								
MOTA	Moosalm	8.97	313	Pn	Pn	10 21 36.3	+2.1		
	SNR=23								
FETA	Feichten	9.00	310	⇑*i*Pn	Pn	10 21 36.5	+2.0		
FETA	Feichten	9.00	310	Pn	Pn	10 21 36.5	+2.0		
KHC	Kasperske Hory	9.06	329	*e*Pn	Pn	10 21 39.2	+3.9		
KHC				*e*SN	Sn	10 23 14.7	-2.8		
KHC				AMS	AMS	10 25 10.0			
	comp=N,200nm,7.4s								
KHC	Kasperske Hory	9.06	329	Pn	Pn	10 21 39.2	+3.9		
DPC	Dobruska-Polom	9.28	342	*e*Pn	Pn	10 21 40.7	+2.5		
DPC				AMS	AMS	10 25 50.0			
	comp=N,100nm,8.2s								
DPC	Dobruska-Polom	9.28	342	Pn	Pn	10 21 40.7	+2.5		
DAVOX	Davos/Dischmat	9.37	307	Pn	Pn	10 21 40.7	+1.0		
	comp=N,3.2nm,0.3s,baz=114,slow=12,SNR=37								
DAVOX				Sn	Sn	10 23 23.6	-1.5		
	comp=N,0.6nm,0.3s,baz=150,slow=20,SNR=3.5								
BRTR	Keskin Array B	9.97	97	Pn	Pn	10 21 51.8	+3.9		
	comp=N,0.1nm,0.3s,baz=280,slow=10,SNR=7.2								
SBF	Sospel	10.06	287	*e*Pn	Pn	10 21 48.4	-0.6		
SBF	Sospel	10.06	287	*e*Pn	Pn	10 21 48.4	-0.6		
FRF	La Foret Royal	10.59	285	*e*Pn	Pn	10 21 56.4	+0.2		
FRF	La Foret Royal	10.59	285	*e*Pn	Pn	10 21 56.4	+0.2		
LMR	La Mourre	10.67	284	*e*Pn	Pn	10 21 55.7	-1.5		
MBDF	Montbardon	10.68	292	*e*Pn	Pn	10 21 55.9	-1.7		
MBDF				*e*Sn	Sn	10 23 49.4	-8.0		
	comp=N,7.2nm,0.6s								
AKASG	Malin Array Be	10.83	30	Pn	Pn	10 22 05.1	+5.7		
	baz=219,slow=12,SNR=4.1								
LPG	La Plagne	10.88	296	*e*Pn	Pn	10 21 59.5	-1.0		
LPG				*e*Sn	Sn	10 23 54.6	-7.9		
	comp=N,12nm,0.6s								
LPL	La Plagne	10.90	296	*e*Pn	Pn	10 21 59.5	-1.2		
LPL				*e*Sn	Sn	10 23 54.9	-7.9		
	comp=N,7.6nm,0.4s								
ORIF	Oris-en-Rattie	11.34	292	*e*Pn	Pn	10 22 05.4	-1.2		
ORIF				*e*Sn	Sn	10 24 05.1	-8.4		
	comp=N,3.7nm,0.5s								
CABF	La Chapelle	11.67	300	*e*Pn	Pn	10 22 10.1	-0.9		
HINF	Hinteralfeld	11.67	307	*e*Pn	Pn	10 22 10.7	-0.3		
HINF				*e*Sn	Sn	10 24 13.3	-8.2		
	comp=N,7.2nm,0.7s								
HINF	Hinteralfeld	11.67	307	*e*Pn	Pn	10 22 10.7	-0.3		
CDF	Champ du Feu	11.71	310	*e*Pn	Pn	10 22 10.6	-1.0		
HAU	Haudompre	12.06	307	*e*Pn	Pn	10 22 15.8	-0.5		
HAU				*e*Sn	Sn	10 24 22.6	-8.3		
	comp=N,3.7nm,0.4s								
HAU	Haudompre	12.06	307	*e*Pn	Pn	10 22 15.8	-0.5		
VIVF	Saint-Julien-l	12.17	291	*e*Pn	Pn	10 22 16.0	-1.9		
LASF	Ste Croix	12.65	287	*e*Pn	Pn	10 22 22.7	-1.7		
PAGF	Fort de Pagny	12.68	308	*e*Pn	Pn	10 22 23.4	-1.4		
SFTF	Sexfontaines	12.94	306	*e*Pn	Pn	10 22 26.8	-1.5		
MEZF	Maizieres J'vi	13.06	307	*e*Pn	Pn	10 22 28.5	-1.4		
SMF	Signal de Mont	13.15	298	*e*Pn	Pn	10 22 29.5	-1.7		
LOR	Lormes	13.33	301	*e*Pn	Pn	10 22 32.0	-1.6		
	baz=120								
LOR				*e*Sn	Sn	10 24 52.6	-9.3		
	comp=N,5.4nm,0.6s								
SSF	Saint Saulge	13.49	300	*e*Pn	Pn	10 22 34.0	-1.8		
SSF				*e*Sn	Sn	10 24 56.6	-9.2		
	comp=N,0.9nm,0.2s								
AVF	Avril sur Loir	13.51	298	*e*Pn	Pn	10 22 34.6	-1.5		
BGF	Bois d'Agland	13.79	297	*e*Pn	Pn	10 22 38.2	-1.7		
GIVF	Givet	13.96	313	*e*Pn	Pn	10 22 40.7	-1.5		
TCF	Toulx Ste Croi	14.15	296	*e*Pn	Pn	10 22 43.2	-1.7		
MMAI	Mount Meron Ar	14.45	122	Pn	P	10 22 54.7	-1.3		
	comp=N,0.8nm,0.3s

comp=Z,25nm,0.5s
AAK Ala-Archa 6.33 23 *e*Pn **Pn 10 21 02.9 +2.7**
comp=Z,44nm,0.7s
AAK Sn **Sn 10 22 16.3 +3.6**
ULHL Ulahol 6.68 34 P Pn 10 21 09.6 +4.7
SNR=10
CHMS Chumysh 6.75 23 P **Pn 10 21 08.3 +2.6**
SNR=22
USP Ospenovka 6.92 21 P **Pn 10 21 10.4 +2.4**
SNR=9.3
TKM2 Tokmak 2 6.97 28 P Pn 10 21 12.4 +3.4
SNR=41
TKM2 Tokmak 2 6.97 28 ⇑Pn **Pn 10 21 11.7 +2.8**
comp=Z,18nm,0.6s
TKM2 ⇑Sn **Sn 10 22 29.3 +0.9**
comp=Z,28nm,0.8s
TKM2 Tokmak 2 6.97 28 *e*PN **Pn 10 21 11.9 +3.0**
TKM2 pmax pmax
comp=Z,325nm,0.4s
TKM2 Tokmak 2 6.97 28 *e*Pn **Pn 10 21 11.9 +3.0**
comp=Z,325nm,0.4s
SDNR Sundarnagar 7.17 136 *e*P Pn 10 21 18.0 +6.4
SDNR *ex* x 10 23 14.0
SMLA Simla 7.57 137 *i* P Pn 10 21 20.9 +4.0
SMLA *i* S **Sn 10 22 47.0 +4.2**
SMLA AML AML 10 22 48.7
comp=N,204nm,0.4s
SMLA AML AML 10 22 49.6
comp=E,224nm,0.5s
IMYA Miami 8.91 270 *e*P **Pn 10 21 35.1 -0.4**
PDGK Podgornoye 9.09 42 ⇑Pn Pn 10 21 41.2 +3.4
comp=E,13nm,0.7s
PDGK ⇓Sn **Sn 10 23 21.6 +1.4**
comp=E,23nm,1.1s
PDGK ⇑Lg Lg 10 24 16.9
comp=E,54nm,1.6s
PDGK Podgornoye 9.09 42 P Pn 10 21 41.2 +3.4
PDGK pmax pmax
comp=Z,9.0nm,0.8s
JOSI Joshimath 9.39 129 *e*P Pn 10 21 48.1 +6.0
JOSI *e*S **Sn 10 23 29.7 +1.8**
JOSI AML AML 10 24 39.0
comp=E,199nm,0.3s
JOSI AML AML 10 24 42.1
comp=N,309nm,0.5s
IMOG Moghan 9.55 269 *e*P **Pn 10 21 44.9 +0.4**
KHET Khetri 9.57 155 *e*P **Pn 10 21 45.9 +1.4**
KHET *e*S **Sn 10 23 28.7 -3.5**
KHET AML AML 10 24 46.9
comp=E,116nm,0.6s
KHET AML AML 10 24 46.9
comp=N,98nm,1.8s
NDI New Delhi 9.59 146 *e*P **Pn 10 21 47.0 +2.2**
NDI *ex* x 10 23 34.0
KUDL Kundal 9.76 151 *e*P Pn 10 21 50.5 +3.4
KUDL *e*S **Sn 10 23 34.6 -2.1**
KUDL AML AML 10 24 50.2
comp=N,25nm,1.1s
KUDL AML AML 10 24 56.5
comp=E,23nm,0.9s
IPAY Payeh 9.79 271 *e*P **Pn 10 21 47.2 -0.4**
SONA Sohna 9.91 148 *e*P **Pn 10 21 51.0 +1.9**
SONA *e*S **Sn 10 23 37.1 -3.2**
IAKL Akhelmad 9.96 272 *e*P **Pn 10 21 49.1 -1.0**
IKRD Kardeh 10.14 273 *e*P Pn 10 21 40.4 -12
ISFR Sfrayin 10.54 275 *e*P **Pn 10 21 58.0 0.0**
LGTI Lohaghat 10.59 131 *e*P Pn 10 22 04.1 +5.7
AJM Ajmer 10.74 163 *e*P Pn 10 22 04.0 +3.5
ISHV Shirvan 10.76 278 *e*P **Pn 10 21 59.3 -1.6**
MK31 Makanchi Array 12.94 36 Pn **Pn 10 22 31.8 +1.2**
comp=E,5.6nm,0.7s,baz=221,slow=11,SNR=35
MK31 Makanchi Array 12.94 36 *i* P **Pn 10 22 32.7 +2.1**
MK31 pmax pmax
comp=Z,3.0nm,0.6s
MK31 Makanchi Array 12.94 36 *e*Pn **Pn 10 22 31.3 +0.7**
MKAR Makanchi Array 12.94 36 Pn **Pn 10 22 31.9 +1.3**
comp=Z,0.2nm,0.3s,baz=221,slow=14,SNR=30
MKAR Makanchi Array 12.94 36 *i* P **Pn 10 22 31.8 +1.2**
MKAR pmax pmax
comp=Z,4.0nm,0.7s
KOLN Koldanda 13.86 127 *e*P **Pn 10 22 42.6 -0.7**
comp=Z,20nm,0.5s
GKN Gorkha 14.38 124 *e*P **Pn 10 22 49.1 -1.3**
comp=Z,28nm,0.5s
KURBB Kurchatov Arra 14.76 19 ⇑Pn **Pn 10 22 54.7 -0.6**
comp=Z,5.2nm,0.7s
KURBB Kurchatov Arra 14.76 19 Pn **Pn 10 22 53.0 -2.4**
comp=Z,0.2nm,0.3s,baz=213,slow=12,SNR=8.7
KURBB Lg Lg 10 27 10.0
comp=Z,0.1nm,0.3s,baz=210,slow=29,SNR=3.1
AB31 Akbulak array 14.86 330 ⇓Pn Pn 10 22 53.1 -3.5
comp=Z,1.8nm,0.3s,baz=135,slow=15,SNR=39
AB31 ⇑Sn Sn 10 25 32.5 -8.6
comp=Z,12nm,0.6s,baz=144,slow=24,SNR=11
AB31 Akbulak array 14.86 330 *i* P Pn 10 22 52.6 -4.0
AB31 pmax pmax
comp=Z,4.0nm,0.4s
ABKAR Akbulak array 14.86 330 *e*Pn Pn 10 22 53.2 -3.4
comp=Z,4.1nm,0.4s
ABKAR *e*Sn Sn 10 25 28.2 -13
KURK Kurchatov 14.87 19 ⇑Pn **Pn 10 22 54.9 -1.9**
comp=Z,2.8nm,0.8s
KURK Kurchatov 14.87 19 P **Pn 10 22 54.9 -1.9**
KURK pmax pmax
comp=Z,2.0nm,0.9s
KURK Kurchatov 14.87 19 *e*Pn **Pn 10 22 56.4 -0.5**
comp=Z,3.2nm,0.9s
KURK Lg Lg 10 27 10.0
KKN Kakani 14.95 123 *e*P **Pn 10 22 55.6 -2.6**
comp=Z,16nm,0.4s
DMN Daman 14.95 124 *e*P **Pn 10 22 55.5 -2.8**
comp=Z,18nm,0.4s
PKIN Phulchoki 15.16 123 *e*P **Pn 10 22 59.1 -2.0**
PKI Pulchoki 15.18 123 *e*P **Pn 10 22 58.9 -2.5**
GUN Gumba 15.28 121 *e*P **Pn 10 23 00.6 -2.1**
JIRN Jiri 15.65 121 *e*P **Pn 10 23 04.9 -2.7**
comp=Z,40nm,0.4s
BVA0 Borovoye Array 16.20 358 Pn **Pn 10 23 12.7 -1.4**
comp=Z,8.4nm,0.8s,baz=197,slow=38,SNR=22
BVA0 Borovoye Array 16.20 358 *i* P **Pn 10 23 13.4 -0.8**
BVA0 pmax pmax
comp=Z,8.0nm,0.8s
BVAR Borovoye Array 16.20 358 Pn **Pn 10 23 12.0 -2.2**
comp=Z,0.5nm,0.3s,baz=160,slow=10.0,SNR=9.6
BVAR Lg Lg 10 28 06.3
comp=Z,0.6nm,0.3s,baz=202,slow=26,SNR=3.8
BVAR Borovoye Array 16.20 358 P **Pn 10 23 12.0 -2.2**
BRVK Borovoye 16.23 358 ⇓Pn **Pn 10 23 15.1 +0.5**
comp=Z,25nm,1.2s
BRVK Borovoye 16.23 358 ⇓*i* P **P 10 23 18.2 +0.5**
BRVK pmax pmax
comp=Z,7.0nm,0.7s
BRVK Borovoye 16.23 358 *e*P **P 10 23 17.5 -0.2**
comp=Z,9.0nm,0.8s
RAMN Ramite 16.38 123 *e*P **Pn 10 23 13.9 -3.0**
comp=Z,21nm,0.6s
AKTO Aktyubinsk 16.56 329 ⇓Pn **Pn 10 23 16.3 -2.5**
comp=Z,26nm,1.1s
AKTO ⇓Sn Sn 10 26 14.3 -8.3
comp=Z,26nm,1.1s
AKTO Aktyubinsk 16.56 329 Pn **Pn 10 23 16.5 -2.3**
comp=Z,0.4nm,0.3s,baz=144,slow=13,SNR=14
AKTO Sn Sn 10 26 10.0 -13
comp=Z,0.3nm,0.3s,baz=246,slow=19,SNR=3.7
AKTO LR LR 10 29 59.2
comp=Z,80nm,18.8s,baz=146,slow=38
AKTO Aktyubinsk 16.56 329 P **Pn 10 23 16.2 -2.5**
AKTO S Sn 10 26 14.0 -8.5
AKTO pmax pmax
comp=Z,13nm,0.6s
TAPN Taplejung 16.89 119 *e*P **Pn 10 23 19.0 -4.5**
comp=Z,30nm,0.7s
ZAA0 Zalesovo Array 19.56 25 *e*P **Pn 10 23 56.1 +0.5**
ZALV Zalesovo Beam 19.56 25 P **P 10 23 53.6 -0.7**
comp=Z,1.4nm,0.3s,baz=222,slow=12,SNR=15
ZALV LR LR 10 32 04.9
comp=Z,18nm,20.2s,baz=236,slow=39
ZALV Zalesovo Beam 19.56 25 *i* P **Pn 10 23 55.7 +0.1**
ZALV pmax pmax
comp=Z,6.0nm,0.5s
NVS Novosibirsk 19.82 21 *e*P **Pn 10 23 58.3 -0.5**
NVS pmax pmax
comp=Z,10.0nm,1.1s
NVS pmax pmax
comp=N,5.0nm,1.2s
NVS pmax pmax
comp=E,2.0nm,1.2s
HYB Hyderabad 20.41 159 *i* P Pn 10 24 08.0 +1.9
GNI Garni 20.92 287 P Pn 10 24 11.8 -0.2
comp=E,3.7nm,0.4s,baz=18,slow=20,SNR=3.3
GNI Garni 20.92 287 P Pn 10 24 11.8 -0.2
GNI pmax pmax
comp=Z,4.0nm,0.4s
GNI Garni 20.92 287 *e*P Pn 10 24 11.2 -0.8
comp=Z,24nm,1.1s
SVE Sverdlovsk 21.21 344 *e*P **P 10 24 13.2 +1.0**
SVE pmax pmax
comp=Z,12nm,0.9s
ARU Arti 21.36 341 *e*i P P 10 24 21.4 +7.6
ARU S **S 10 28 05.5 -5.3**
ARU SS **SnSn 10 28 32.2 -1.2**
ARU pmax pmax
comp=Z,9.0nm,0.8s
ARU Arti 21.36 341 *e*P **P 10 24 16.8 +3.0**
comp=Z,7.6nm,0.7s
ZEI Tsey 21.72 294 *e*P **P 10 24 17.4 -0.7**
ZEI pmax pmax
comp=Z,7.0nm,0.7s
KBZ Khabaz 22.57 297 P **P 10 24 29.6 +2.8**
comp=Z,6.0nm,0.8s,baz=142,slow=20
GTA Gaotai 22.65 75 *e*P P 10 24 34.8 +6.8
GTA PMZ
comp=Z,8.0nm,0.9s
GOF Gofitskoye 22.69 300 *e*P **P 10 24 29.4 +1.2**
GOF pmax pmax
comp=Z,10.0nm,0.8s
KIV Kislovodsk 22.75 297 *e*P **P 10 24 29.8 +0.8**
comp=Z,7.0nm,0.8s
RAYN Ar Rayn 25.75 246 *e*P **P 10 25 00.1 +2.6**
comp=Z,10.0nm,1.1s
MOY Mondy 25.78 45 *e*P P 10 25 08.4 +11
ZAK Zakamensk 26.67 49 *e*P P 10 25 10.7 +5.0
ZAK pmax pmax
comp=Z,2.0nm,1.0s
SONM Songino Array 28.04 56 P **P 10 25 19.0 +0.9**
comp=Z,0.3nm,0.5s,baz=245,slow=6.2,SNR=2.3
SONM Songino Array 28.04 56 P **P 10 25 19.0 +0.9**
BRTR Keskin Array B 29.46 287 P **P 10 25 31.8 +1.1**
comp=Z,0.4nm,0.6s,baz=107,slow=9.2,SNR=2.8
BRTR LR LR 10 41 11.3
comp=Z,18nm,19.8s,baz=92,slow=44
CMAR Chiang Mai Arr 30.50 119 P **P 10 25 39.5 -0.5**
comp=Z,0.4nm,0.3s,baz=303,slow=8.5,SNR=2.5
CMAR LR LR 10 41 08.8
comp=Z,36nm,21.4s,baz=210,slow=43
HHC Hu-ho-hao-te 31.53 70 *e*P P 10 25 55.5 +6.5
HHC PP **PP 10 26 58.3 -1.7**
HHC S S 10 30 47.0 -10
HHC sS sS 10 31 25.3 +23
HHC SS **SnSn 10 32 33.3 -8.8**
HHC PMZ
comp=Z,33nm,1.0s
HHC PMZ
comp=Z,73nm,8.6s
HHC LN
comp=Z,92nm,17.3s
HHC LE
comp=Z,650nm,16.3s
HHC LZ
comp=Z,45nm,17.3s
AKASG Malin Array Be 32.84 308 P **P 10 26 01.7 +1.5**
comp=Z,0.2nm,0.3s,baz=81,slow=6.8,SNR=3.0
FINES FINESS Array B 37.28 326 P **P 10 26 38.9 +0.6**
comp=Z,1.6nm,0.7s,baz=151,slow=8.7,SNR=4.6
FINES FINESS Array B 37.28 326*ce*P P 10 26 48.0 +10
FINES pmax pmax
comp=Z,1.0nm,0.6s
ARCES ARCESS Array B 40.88 337 P **P 10 27 08.5 +0.1**
comp=Z,1.5nm,0.8s,baz=108,slow=7.9,SNR=6.6
VRAC Vranov 40.91 305 LR LR 10 48 19.3
comp=Z,25nm,18.4s,baz=128,slow=42
HFS Hagfors 42.88 322 P **P 10 27 24.7 -0.2**
comp=Z,2.6nm,0.5s,baz=106,slow=11,SNR=5.7
NB2 NORSAR Subarra 44.19 323 P **P 10 27 35.2 -0.3**
comp=Z,2.4nm,0.6s,baz=95,slow=8.6
NOA NORSAR Array B 44.19 323 P **P 10 27 34.8 -0.7**
comp=Z,0.8nm,0.7s,baz=96,slow=7.7,SNR=3.8
KSRS Korea Array 44.65 71 LR LR 10 48 48.3
comp=Z,48nm,18.7s,baz=223,slow=40
TIXI Tiksi 45.41 22*de*P P 10 27 49.7 +4.7
TIXI pmax pmax
comp=Z,11nm,2.5s
TIXI Tiksi 45.41 22 *e*P **P 10 27 45.2 +0.2**
comp=Z,4.1nm,0.7s
DAVOX Davos/Dischmat 45.69 303 P P 10 27 52.4 +4.6
comp=Z,7nm,0.6s,baz=102,slow=9.3,SNR=2.6
EKA Eskdalemuir Ar 52.14 316 P **P 10 28 38.9 +2.0**
comp=Z,1.1nm,0.6s,baz=74,slow=6.0,SNR=3.5
ESDC Sonseca Array 57.42 298 P P 10 29 19.7 +4.3
comp=Z,0.8nm,0.7s,baz=62,slow=7.2,SNR=4.6
BILL Bilibino 58.25 26 ⇑*i* P P 10 29 26.4 +5.6
BILL pmax pmax
comp=Z,7.0nm,2.5s
TORD Torodi Ar. Bea 65.86 269 P **P 10 30 12.1 -0.6**
comp=Z,1.1nm,0.7s,baz=46,slow=6.4,SNR=9.6
COLD Coldfoot 71.61 16 *e*P **P 10 30 47.7 -0.1**
comp=Z,2.8nm,1.0s
COLA College 74.12 16 *e*P **P 10 31 02.8 +0.2**
COLA pmax pmax
comp=Z,3.0nm,0.9s
COLA College 74.12 16 *e*P **P 10 31 02.8 +0.2**
comp=Z,3.4nm,0.9s
YKA Yellowknife Ar 80.91 3 P **P 10 31 40.4 -0.2**
comp=Z,0.8nm,0.7s,baz=350,slow=5.5,SNR=14
WRA Warramunga Arr 82.06 122 P **P 10 31 46.2 -1.2**
comp=Z,0.4nm,0.6s,baz=326,slow=4.9,SNR=6.2
ASAR Alice Springs 84.34 125 P **P 10 31 57.7 -1.4**
comp=Z,0.2nm,0.6s,baz=299,slow=4.5,SNR=3.4

IDC 30 10:19:28.8±5.1, 5°09S×146°46E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.3/28, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=220.7km s-min=26.6km az=106.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.89**	**218**	P	P	10 23 50.2	-0.9
	0.1nm,0.3s,baz=40,slow=11,SNR=4.4						
ASAR	**Alice Springs**	**22.08**	**212**	P	P	10 24 26.1	+0.4
	0.1nm,0.3s,baz=38,slow=12,SNR=3.2						
MJAR	**Matsushiro Arr**	**42.13**	**350**	P	P	10 27 22.7	-0.2
	0.7nm,0.8s,baz=172,slow=9.8,SNR=2.7						
TORD	**Torodi Ar. Bea**	**144.34**	**285**	PKP	PKPdf	10 39 07.5	-0.6
	0.3nm,0.7s,baz=74,slow=3.0,SNR=2.8						

KRSC 30 10:27:53.8±1.5, 49°19N×156°83E, h48km±28km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.56**	**343**	*e*P	Pn	10 28 19.9	+0.8
SKR				*e*S	Sn	10 28 39.1	+1.0
PAU	**Pauzhetka**	**2.28**	**360**	*e*S	Sn	10 28 59.6	+3.9
MIPR	**Malaya Ipel'ka**	**3.09**	**359**	*e*P	Pn	10 28 42.3	+2.3
MIPR				*e*S	Sn	10 29 20.1	+4.4
ASAK	**Asacha**	**3.27**	**12**	*e*P	Pn	10 28 46.2	+3.6
ASAK				*e*S	Sn	10 29 25.4	+5.2
MTVR	**Mutnovka**	**3.40**	**14**	*e*P	Pn	10 28 48.1	+3.6
MTVR				*e*S	Sn	10 29 27.7	+3.9
RUS	**Russkaya**	**3.42**	**18**	*e*P	Pn	10 28 47.5	+3.0
RUS				*e*S	Sn	10 29 27.8	+4.1
APC	**Apacha**	**3.74**	**3**	*e*P	Pn	10 28 52.8	+3.8
UGLR	**Uglovaya**	**4.21**	**17**	*e*P	Pn	10 28 59.4	+3.8
AVH	**Avacha**	**4.25**	**16**	*e*P	Pn	10 29 00.6	+4.5
KOK	**Koryaka**	**4.26**	**15**	*e*P	Pn	10 29 01.0	+4.8
SMAR	**Somma**	**4.26**	**16**	*e*P	Pn	10 29 01.5	+5.1
NLC	**Nalytchevo**	**4.29**	**21**	S	Sn	10 29 48.2	+3.1
SDLR	**Sedlovina**	**4.29**	**17**	*e*P	Pn	10 29 00.0	+3.3
SDLR				*e*S	Sn	10 29 48.6	+3.1
KRX	**Arik**	**4.32**	**15**	*e*P	Pn	10 29 01.2	+4.0
SPN	**Mys Shipunski**	**4.40**	**26**	*e*P	Pn	10 29 02.0	+4.1
SPN				*e*S	Sn	10 29 53.4	+5.6
MKZ	**Mys Kozlova**	**6.17**	**28**	P	Pn	10 29 26.2	+4.0

IDC 30 10:39:28.7±6.5, 19°31S×177°89W, h176km±60km, mb3.3/4, mb1 3.6/5, mb1mx3.2/31, mbtmp3.9/5, Error ellipse: s-maj=27.7km s-min=17.3km az=102.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**19.38**	**192**	P	P	10 43 41.0	0.0
	0.4nm,0.3s,baz=333,slow=11,SNR=3.1						
URZ				S	S	10 47 11.4	+0.7
	0.1nm,0.3s,baz=290,slow=15,SNR=2.1						
STKA	**Stephens Creek**	**38.41**	**243**	P	P	10 46 32.9	-0.3
	1.7nm,0.7s,baz=101,slow=5.2,SNR=3.2						
WRA	**Warramunga Arr**	**44.88**	**261**	P	P	10 47 26.0	0.0
	0.7nm,0.7s,baz=96,slow=8.1,SNR=27						
ASAR	**Alice Springs**	**44.90**	**256**	P	P	10 47 25.9	-0.2
	1.1nm,0.6s,baz=88,slow=7.7,SNR=21						
TXAR	**Lajitas Array**	**86.33**	**57**	P	P	10 51 51.3	0.0
	0.3nm,0.9s,baz=213,slow=6.5,SNR=2.5						

*IDC **30** 10:45:59.8±1.7, 52°.85N×167°.11W, h0km, mb3.5/8, mb1 3.8/8, mb1mx3.4/40, mbtmp3.6/8, Error ellipse: s-maj=44.6km s-min=22.0km az=12.0*
*ISCJB **30** 10:46:00.1±0.8, 52°.43N±0°.06×166°.94W±0°.08, h25km, mb3.5/8, Error ellipse: s-maj=8.8km s-min=6.9km az=176.7*
*NEIC **30** 10:46:01.7, 52°.56N×166°.96W, h12km, ML3.0(AEIC), After AEIC.*

ISC 30 10:46:02.6±1.1, 52°60N±0°09×166°97W±0°05, h25km, n26, σ1s97/23, mb3.5/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKFG	**Magadze Ridge**	**0.99**	**325**	P	Pn	**10 46 20.4**	**-0.5**
OKFG				S	Sn	**10 46 36.4**	**+2.2**
OKSP	**Okmok Steeple**	**1.03**	**310**	P	Pb	**10 46 21.7**	**-0.2**
NIKH	**Nikolski High**	**1.20**	**289**	P	Pn	**10 46 23.6**	**-0.2**
NIKH				S	Sb	**10 46 40.2**	**+0.4**
MREP	**Makushin Rep't**	**1.22**	**6**	P	Pb	**10 46 24.4**	**-0.7**
UNV	**Unalaska Valle**	**1.28**	**12**	P	Pn	**10 46 24.2**	**-0.6**
UNV				S	Sb	**10 46 43.4**	**+1.4**
MSW	**Makushin Switc**	**1.32**	**5**	P	Pb	**10 46 25.8**	**-1.0**
MCIR	**Makushin Cirqu**	**1.36**	**2**	P	Pb	**10 46 26.5**	**-0.8**
AKRB	**Akutan Reef Bi**	**1.63**	**19**	P	Pb	**10 46 30.2**	**-1.7**
AKRB				S	Sb	**10 46 52.1**	**+0.1**
AHB	**Akutan Harbor**	**1.67**	**24**	P	Pn	**10 46 30.1**	**-0.2**
WESP	**Westdahl Peak**	**2.33**	**34**	P	Pn	**10 46 39.3**	**0.0**
WESE	**West Dahl East**	**2.36**	**36**	P	Pn	**10 46 40.8**	**+1.1**
SSLW	**Shishaldin Wes**	**2.76**	**37**	P	Pn	**10 46 45.8**	**+0.6**
PETK	**Petropavlovsk-**	**21.21**	**286**	P	P	**10 50 45.9**	**-0.3**
	0.7nm,0.4s,baz=91,slow=11,SNR=8.1						
INK	**Inuvik**	**22.36**	**33**	P	P	**10 50 56.2**	**-2.0**
	0.8nm,0.5s,baz=255,slow=8.0,SNR=6.7						
YKA	**Yellowknife Ar**	**28.98**	**49**	P	P	**10 52 01.2**	**+1.5**
	0.1nm,0.3s,baz=274,slow=10,SNR=4.2						
NVAR	**Mina Array Bea**	**36.21**	**93**	P	P	10 53 05.5	+2.1
	0.4nm,0.7s,baz=312,slow=9.5,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**38.57**	**222**	T	T	11 34 52.1	
	baz=25,slow=76,SNR=13						
H11N3	**WAKE ISLAND Hy**	**38.58**	**222**	T	T	11 34 52.1	
	baz=25,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**38.59**	**222**	T	T	11 34 52.1	
	baz=25,slow=76,SNR=8.6						
H11S1	**WAKE ISLAND Hy**	**39.75**	**221**	T	T	11 36 19.6	
	baz=24,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**39.77**	**221**	T	T	11 36 20.2	
	baz=24,slow=76,SNR=6.9						
H11S3	**WAKE ISLAND Hy**	**39.77**	**221**	T	T	11 36 24.0	
	baz=24,slow=76,SNR=5.0						
TXAR	**Lajitas Array**	**51.28**	**91**	P	P	**10 55 05.4**	**+1.0**
	0.2nm,0.6s,baz=295,slow=4.9,SNR=4.7						
ARCES	**ARCESS Array B**	**57.84**	**355**	P	P	**10 55 50.9**	**-0.4**
	2.2nm,1.0s,baz=27,slow=8.1,SNR=3.3						
MKAR	**Makanchi Array**	**64.70**	**315**	P	P	**10 56 37.4**	**-0.7**
	0.4nm,0.6s,baz=54,slow=7.3,SNR=4.6						
FINES	**FINESS Array B**	**65.83**	**353**	P	P	**10 56 44.5**	**-0.6**
	0.8nm,0.4s,baz=14,slow=7.5,SNR=11						

*ISCJB **30** 10:56:56.7±0.6, 37°.30N±0°.05×74°.47E±0°.08, h10km, mb3.4/10, Error ellipse: s-maj=9.0km s-min=7.2km az=158.9*
*IDC **30** 10:56:56.2±0.9, 37°.32N×74°.43E, h0km, mb3.6/10, mb1 3.7/15, mb1mx3.6/31, mbtmp3.6/15, ML3.2/4, MS3.0/1, Ms1 3.0/1, ms1mx2.4/32, Error ellipse: s-maj=19.7km s-min=18.0km az=49.0*
*NNC **30** 10:56:58.6±3.2, 37°.33N×74°.55E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=24.8km s-min=17.1km az=144.0*
*BJI **30** 10:57:01.4, 37°.56N×74°.77E, h7km, ML3.6/5*

ISC 30 10:56:58.5±0.7, 37°36N±0°05×74°57E±0°06, h10km, n38, σ1s97/39, mb3.6/10, 13C-8D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**2.42**	**27**	Pg	Pn	10 57 30.8	-7.5
KSH				Sg	Sn	10 57 54.0	-14
KSH				SMN			
	250nm,0.8s						
KSH				SME			
	360nm,1.0s						
SFK	**Sufi-Kurgan**	**2.78**	**343**	⇓Pn	**Pn**	**10 57 45.6**	**+2.2**
	56nm,0.8s						
SFK				⇓Sn	**Sb**	**10 58 23.3**	**+0.6**
	313nm,1.0s						
CEP	**Cherat**	**4.14**	**212**	P	Pb	10 58 07.9	-3.7
CEP				S	**Sg**	**10 59 12.0**	**+0.5**
KZA	**Kyzart**	**4.75**	**6**	P	**Pn**	**10 58 12.7**	**+2.2**
	SNR=23						
DZET	**Dzherino**	**4.76**	**289**	⇓Pn	**Pn**	**10 58 11.4**	**+1.0**
	12nm,0.7s						
DZET				⇓Pg	**Pb**	**10 58 24.8**	**+2.7**
	24nm,0.5s						
DZET				⇑Sn	**Sn**	**10 59 09.7**	**+4.0**
	57nm,0.5s						
DZET				⇑Lg	Lg	10 59 26.3	
	88nm,0.7s						
AML	**Almayashu**	**4.82**	**352**	P	**Pn**	**10 58 14.0**	**+2.5**
	SNR=24						
UCH	**Uchtor**	**4.87**	**359**	P	Pn	10 58 15.6	+3.4
	SNR=30						
AAK	**Ala-Archa**	**5.27**	**359**	P	Pn	10 58 22.3	+4.8
	SNR=5.7						
AAK	**Ala-Archa**	**5.27**	**359**	⇓Pn	Pn	10 58 21.3	+3.8
	9.1nm,0.9s						
AAK				⇑Pg	**Pb**	**10 58 32.8**	**+1.9**
	18nm,0.8s						
AAK				⇑Lg	Lg	10 59 42.3	
	23nm,0.9s						
AAK	**Ala-Archa**	**5.27**	**359**	Pn	Pn	10 58 21.0	+3.4
	0.9nm,0.3s,baz=172,slow=9.2,SNR=17						
AAK				Lg	Lg	10 59 40.4	
	0.5nm,0.3s,baz=78,slow=20,SNR=3.0						
KBK	**Karagaybulak**	**5.30**	**3**	P	Pn	10 58 21.9	+3.9
	SNR=8.7						
EKS2	**Erkin-Say**	**5.33**	**354**	P	Pn	10 58 22.3	+4.0
	SNR=11						
MNAS	**Manas**	**5.37**	**343**	⇑Pn	**Pn**	**10 58 20.4**	**+1.6**
	5.8nm,0.5s						
MNAS				⇑Sn	**Sn**	**10 59 21.8**	**+1.0**
	28nm,0.9s						
TKM2	**Tokmak 2**	**5.61**	**8**	P	**Pn**	**10 58 24.8**	**+2.5**
	SNR=37						
TKM2	**Tokmak 2**	**5.61**	**8**	⇑Pn	**Pn**	**10 58 23.9**	**+1.6**
	14nm,0.5s						
TKM2				⇑Sn	**Sn**	**10 59 28.1**	**+1.2**
	31nm,0.8s						
CHMS	**Chumysh**	**5.64**	**1**	P	Pn	10 58 26.7	+4.3
	SNR=6						
KK31	**Karatay Array**	**6.53**	**333**	Pn	**Pn**	**10 58 35.8**	**+1.2**
	1.8nm,0.3s,baz=132,slow=12,SNR=39						
KK31				⇓Sn	**Sn**	**10 59 48.5**	**-0.6**
	4.4nm,0.4s,baz=140,slow=21,SNR=9.2						
MK31	**Makanchi Array**	**11.03**	**29**	⇓Pn	**Pn**	**10 59 37.0**	**+0.7**
	1.5nm,0.8s						
MKAR	**Makanchi Array**	**11.03**	**29**	Pn	**Pn**	**10 59 38.6**	**+2.2**
	0.1nm,0.3s,baz=224,slow=14,SNR=8.0						
KURBB	**Kurchatov Arra**	**13.56**	**11**	Pn	**Pn**	**11 00 10.1**	**-0.8**
	0.1nm,0.3s,baz=198,slow=12,SNR=7.6						
KURBB				Lg	Lg	11 04 03.5	
	0.0nm,0.3s,baz=202,slow=33,SNR=3.6						
AB31	**Akbulak array**	**15.93**	**323**	⇓Pn	**Pn**	**11 00 40.6**	**-2.0**
	3.5nm,1.0s,baz=124,slow=15,SNR=7.4						
AB31				⇑Sn	**Sn**	**11 03 32.5**	**-6.7**
	1.0nm,0.7s,baz=125,slow=28,SNR=3.1						
BVA0	**Borovoye Array**	**15.94**	**351**	⇑Pn	**P**	**11 00 46.5**	**+0.1**
	0.2nm,0.4s,baz=232,slow=42,SNR=13						
BVAR	**Borovoye Array**	**15.94**	**351**	Pn	**P**	**11 00 46.7**	**+0.3**

0.4nm,0.3s,baz=158,slow=9.6,SNR=11
BRVK Borovoye 15.99 351 ⇑Pn **P 11 00 47.0 +0.1**
9.4nm,1.0s
AKTO Aktyubinsk 17.65 323 ⇑Pn **Pn 11 01 02.7 -1.6**
3.5nm,0.9s
AKTO ⇑Sn **Sn 11 04 21.9 +1.1**
2.6nm,1.0s
AKTO Aktyubinsk 17.65 323 P Pn 11 01 03.5 -0.9
0.4nm,0.3s,baz=124,slow=20,SNR=7.8
AKTO S Sn 11 04 13.2 -7.7
0.0nm,0.3s,baz=210,slow=20,SNR=3.1
ZALV Zalesovo Beam 18.04 20 P Pn 11 01 08.8 -0.4
baz=206,slow=13,SNR=3.1
ZALV LR LR 11 08 18.7
comp=Z,45nm,18.6s,baz=70,slow=38
CD2 Chengdu 24.94 96 *eP* **P 11 02 23.8 +1.8**
SONM Songino Array 25.49 56 P P 11 02 28.3 +1.3
0.8nm,0.5s,baz=265,slow=10,SNR=6.9
BRTR Keskin Array B 31.91 287 P P 11 03 24.2 -0.1
0.4nm,0.5s,baz=108,slow=9.3,SNR=2.9
FINES FINESS Array B 38.41 325 P P 11 04 18.7 -1.1
0.8nm,0.7s,baz=125,slow=14,SNR=2.7
ARCES ARCESS Array B 41.48 336 P P 11 04 43.1 -2.2
1.1nm,0.8s,baz=106,slow=8.9,SNR=7.0
HFS Hagfors 44.18 321 P P 11 05 06.2 -1.0
0.7nm,0.6s,baz=104,slow=12,SNR=4.4
NOA NORSAR Array B 45.44 322 P P 11 05 15.4 -1.9
0.2nm,0.4s,baz=93,slow=7.6,SNR=2.7
TORD Torodi Ar. Bea 68.59 270 P P 11 08 00.4 -1.6
0.4nm,0.5s,baz=44,slow=5.2,SNR=8.0
WRA Warramunga Arr 80.06 124 P P 11 09 08.1 -0.5
0.5nm,0.9s,baz=327,slow=5.8,SNR=3.2
YKA Yellowknife Ar 80.22 4 P P 11 09 07.2 -1.6
0.2nm,0.7s,baz=345,slow=5.3,SNR=4.3
ASAR Alice Springs 82.44 127 P P 11 09 21.0 -0.3
0.2nm,0.7s,baz=312,slow=4.7,SNR=4.1

TAP 30 11:02:40.6,21.20N×122.02E,h186km±1km,ML3.5,D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.94**	**333**	P	P	Pn	11 03 08.2	-0.4
	baz=332							
LAY				S	S	Sn	11 03 29.0	-1.3
	baz=332							
TSEB	**Hengchuen, Pin**	**1.25**	**304**	P	P	Pn	11 03 11.3	+0.4
	baz=302							
TSEB				S	S	Sn	11 03 33.7	-0.6
	baz=302							
TWK1	**Hengchun**	**1.35**	**304**	P	P	Pn	11 03 11.7	-0.1
	baz=303							
TWK1				S	S	Sn	11 03 34.6	-1.3
	baz=303							
HEN	**Hengchun**	**1.44**	**304**	*e*P	P	Pn	11 03 13.4	+1.0
	baz=304							
HEN				*e*S	S	Sn	11 03 34.5	-2.7
	baz=304							
TAW	**Tawu**	**1.56**	**318**	*e*S	S	Sn	11 03 37.1	-2.2
	baz=318							
EAST	**Anshuo**	**1.61**	**318**	*e*P	P	Pn	11 03 14.3	+0.2
	baz=317							
EAST				*e*S	S	Sn	11 03 37.8	-2.4
	baz=317							
ECL	**Taimali**	**1.71**	**325**	*e*P	P	Pn	11 03 14.8	-0.3
	baz=324							
ECL				*e*S	S	Sn	11 03 39.3	-2.7
	baz=324							
SCZT	**Fangliau**	**1.75**	**312**	*e*P	P	Pn	11 03 15.6	+0.2
	baz=312							
SCZT				*e*S	S	Sn	11 03 40.6	-2.0
	baz=312							
TWG	**Pinlang**	**1.84**	**332**	*e*P	P	Pn	11 03 15.7	-0.8
	baz=331							
TWG				*e*S	S	Sn	11 03 41.3	-3.1
	baz=331							
CHKT	**Chengkung**	**1.99**	**342**	*e*S	S	Sn	11 03 45.9	-1.2
	baz=342							
SSD	**Sandimen**	**2.01**	**320**	*e*P	P	Pn	11 03 17.6	-0.5
	baz=320							
SSD				*e*S	S	Sn	11 03 45.2	-2.2
	baz=320							
TWF1	**Yuli**	**2.25**	**343**	*e*S	S	Sn	11 03 50.5	-1.7
	baz=342							
SGST	**Jiashian**	**2.30**	**325**	*e*S	S	Sn	11 03 52.9	-0.4
	baz=324							
EHY	**Hungye**	**2.39**	**345**	*e*S	S	Sn	11 03 52.3	-2.8
	baz=344							
CHN1	**Nanshi**	**2.41**	**325**	*e*P	P	Pn	11 03 23.2	+0.5
	baz=325							
CHN1				*e*S	S	Sn	11 03 53.7	-1.9
	baz=325							
WTP	**Ta-pu**	**2.42**	**328**	*e*P	P	Pn	11 03 23.3	+0.5
	baz=327							
WTP				*e*S	S	Sn	11 03 54.0	-1.7
	baz=327							
TWK	**Hsinying**	**2.50**	**326**	*e*S	S	Sn	11 03 55.3	-2.1
	baz=325							
CHN4	**Tsaushan**	**2.52**	**329**	*e*P	P	Pn	11 03 24.3	+0.5
	baz=328							
CHN4				*e*S	S	Sn	11 03 55.7	-2.0
	baz=328							
ALS	**Alishan**	**2.56**	**334**	*e*P	P	Pn	11 03 24.7	0.0
	baz=334							
ALS				*e*S	S	Sn	11 03 57.7	-1.5
	baz=334							
SCLT	**Jiali**	**2.60**	**320**	*e*S	S	Sn	11 03 58.2	-1.0
	baz=319							
CHN5	**Tsauling**	**2.69**	**333**	*e*P	P	Pn	11 03 26.5	+0.5
	baz=332							
CHN5				*e*S	S	Sn	11 03 59.9	-1.6
	baz=332							
TYC	**Yuchr**	**2.90**	**339**	*e*P	P	Pn	11 03 29.0	+0.6
	baz=338							
TYC				*e*S	S	Sn	11 04 04.3	-1.4
	baz=338							
WSF	**Szhu**	**2.94**	**326**	*e*S	S	Sn	11 04 04.9	-1.7
	baz=325							

NNC 30 11:08:05.0±4.2,37.33N×74.51E,h0km,mb3.9,mpv3.5, 8C-6D,Error ellipse: s-maj=33.1km s-min=20.3km az=140.0,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**2.79**	**344**	⇑Pn	P	Pn	11 08 52.0	+0.7
	13nm,0.5s							
SFK				⇓Sn	S	Sb	11 09 29.4	-1.8
	34nm,0.4s							
DZET	**Dzherino**	**4.72**	**290**	⇑Pn	P	Pn	11 09 17.4	-0.3
	1.6nm,0.4s							
DZET				⇓Pg	P	Pb	11 09 29.8	+1.0
	7.2nm,0.4s							
DZET				⇑Sn	S	Sn	11 10 14.4	+1.2
	19nm,0.4s							
DZET				⇑Lg	L	Lg	11 10 33.7	
	14nm,0.5s							
AAK	**Ala-Archa**	**5.30**	**360**	⇑Pn	P	Pn	11 09 26.9	+1.3
	3.3nm,0.9s							
AAK				⇓Pg	P	Pb	11 09 38.3	-0.4
	5.4nm,0.6s							
AAK				⇓Lg	L	Lg	11 10 47.9	
	8.5nm,1.1s							
MNAS	**Manas**	**5.38**	**344**	⇑Pn	P	Pn	11 09 25.9	-0.8
	2.7nm,0.4s							
MNAS				⇓Sn	S	Sn	11 10 27.7	-1.7
	5.9nm,0.6s							
TKM2	**Tokmak 2**	**5.65**	**8**	⇓Pn	P	Pn	11 09 30.7	+0.3
	8.3nm,0.5s							
TKM2				⇑Sn	S	Sn	11 10 34.3	-1.9
	12nm,0.7s							
KK31	**Karatay Array**	**6.53**	**333**	Pn	P	Pn	11 09 41.7	-0.6
	0.9nm,0.5s,baz=132,slow=12,SNR=16							
KK31				⇑Sn	S	Sn	11 10 54.6	-2.9
	2.2nm,0.5s,baz=156,slow=21,SNR=7.0							

*ISN **30** 11:12:32.2±1.3,32.52N×56.40E,h0km±192km,ML4.4*
*IDC **30** 11:12:45.4±0.9,32.48N×55.28E,h0km,mb3.8/14, mb1 4.0/17,mb1mx3.8/33,mbtmp3.9/17,ML3.4/3,MS2.9/3, Ms1 2.9/3,ms1mx2.6/32,Error ellipse: s-maj=23.3km s-min=15.1km az=179.0*
*THR **30** 11:12:47.2±1.6,32.77N×55.31E,h14km±12km,ML4.2*
*CSEM **30** 11:12:47.4±0.1,32.72N×55.32E,h2km,ML4.2,Ms3.7, Error ellipse: s-maj=5.0km s-min=4.6km az=157.0*

*NEIC **30** 11:12:48.0,32.66N×55.34E,h4km,mb3.8/6,ML4.2(THR), MN4.2(TEH),After TEH.*
*TEH **30** 11:12:48.5,32.66N×55.34E,h4km,ML4.2*
*DSN **30** 11:12:53.0±99.0,32.08N×59.26E,h22km,mb3.9/6, Ms3.7/6,Error ellipse: s-maj=9999.0km s-min=254.2km az=23.0*

ISC 30 11:12:48.5±0.7,32.68N±0.04×55.33E±0.03,h14km±4km, n139,σ1s27/151,mb4.0/18,3C-3D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ICHK	**Chekchek**	**0.89**	**241**	*e*Sg		**Sg**	**11 13 15.9**	**-1.7**
ICHK				*e*Pg		**Pg**	**11 13 04.3**	**-1.6**
ICHK				*e*			11 13 17.0	
	comp=Z,54μm,0.1s							
ICHK	**Chekchek**	**0.89**	**241**	*e*Pg		**Pg**	**11 13 04.3**	**-1.6**
ICHK				*e*Sg		**Sg**	**11 13 15.9**	**-1.7**
ICHK	**Chekchek**	**0.89**	**241**	Pg		**Pg**	**11 13 04.2**	**-1.6**
ICHK				Sg		**Sg**	**11 13 15.8**	**-1.7**
IBAF	**Bafgh**	**1.11**	**169**	*e*Sg		**Sg**	**11 13 22.6**	**-1.9**
IBAF				*e*Pg		**Pb**	**11 13 07.9**	**-1.7**
IBAF				*e*			11 13 29.6	
	comp=Z,99μm,0.1s							
IBAF	**Bafgh**	**1.11**	**169**	*e*Pg		**Pb**	**11 13 07.9**	**-1.7**
IBAF				*e*Sg		**Sg**	**11 13 22.6**	**-1.9**
IBAF	**Bafgh**	**1.11**	**169**	Pg		**Pb**	**11 13 07.8**	**-1.7**
IBAF				Sg		**Sg**	**11 13 22.5**	**-1.9**
IMEH	**Mehriz**	**1.43**	**205**	*e*Pn		**Pn**	**11 13 14.5**	**+0.3**
IMEH				*e*			11 13 36.4	
	comp=Z,30μm,0.2s							
IMEH	**Mehriz**	**1.43**	**205**	Pn		**Pn**	**11 13 14.4**	**+0.3**
IMEH	**Mehriz**	**1.43**	**205**	Pn		**Pn**	**11 13 14.4**	**+0.3**
ISAD	**Sadrabad**	**1.59**	**241**	*e*Pn		**Pn**	**11 13 17.0**	**+0.6**
ISAD				*e*Sg		**Sb**	**11 13 38.3**	**+0.5**
ISAD				*e*			11 13 40.8	
	comp=Z,38μm,0.1s							
ISAD	**Sadrabad**	**1.59**	**241**	*e*Pn		**Pn**	**11 13 17.0**	**+0.6**
ISAD				*e*Sg		**Sb**	**11 13 38.3**	**+0.5**
ISAD	**Sadrabad**	**1.59**	**241**	Pn		**Pn**	**11 13 17.0**	**+0.6**
ISAD				Sg		**Sb**	**11 13 38.3**	**+0.5**
TABS	**Tabas**	**1.79**	**57**	*e*Pg		**Pn**	**11 13 18.6**	**-0.4**
TABS					AML	AML	11 13 45.9	
	comp=N,2μm,0.3s							
TABS	**Tabas**	**1.79**	**57**	*e*Pg		**Pn**	**11 13 18.6**	**-0.4**
	comp=N,2μm,0.3s							
NASN	**Na'in**	**2.12**	**274**	*e*Pg		**Pn**	**11 13 25.2**	**+1.4**
NASN				*e*Sg		**Sb**	**11 13 53.4**	**+0.1**
NASN					AML	AML	11 13 54.9	
	comp=N,3μm,0.3s							
NASN					AML	AML	11 13 55.7	
	comp=E,2μm,0.4s							
NASN	**Na'in**	**2.12**	**274**	Pg		**Pn**	**11 13 25.0**	**+1.1**
NASN				Sg		**Sb**	**11 13 53.0**	**-0.3**
NASN	**Na'in**	**2.12**	**274**	Pg		**Pn**	**11 13 25.0**	**+1.1**
NASN				Sg		**Sb**	**11 13 53.0**	**-0.3**
KHGB	**Koh Gabri**	**2.50**	**157**	*e*Pn		**Pn**	**11 13 30.9**	**+1.9**
IZEF	**Zefreh**	**2.53**	**276**	*e*Pn		**Pn**	**11 13 30.1**	**+0.8**
IZEF				*e*			11 14 08.6	
	comp=Z,14μm,0.2s							
IZEF	**Zefreh**	**2.53**	**276**	*e*Pn		**Pn**	**11 13 30.2**	**+0.8**
IZEF	**Zefreh**	**2.53**	**276**	Pn		**Pn**	**11 13 30.5**	**+1.1**
IGAR	**Gharneh**	**2.79**	**265**	*e*Pn		**Pn**	**11 13 33.8**	**+0.9**
IGAR				*e*			11 14 15.6	
	comp=E,916nm,0.2s							
ITEG	**Tejag**	**2.89**	**85**	*e*Pn		**Pn**	**11 13 34.7**	**+0.4**
ITEG				*e*			11 14 26.5	
	comp=Z,12μm,0.3s							
ITEG	**Tejag**	**2.89**	**85**	*e*Pn		**Pn**	**11 13 34.7**	**+0.4**
ITEG	**Tejag**	**2.89**	**85**	Pn		**Pn**	**11 13 34.6**	**+0.4**
TVBK	**TV Kerman**	**2.96**	**155**	*e*Pn		**Pb**	**11 13 40.0**	**-1.1**
KRBR	**Kerman**	**2.96**	**155**	*e*Pn		**Pn**	**11 13 37.6**	**+2.3**
KRBR	**Kerman**	**2.96**	**155**	*e*Pn		**Pn**	**11 13 37.7**	**+2.3**
IKOO	**Kooshah**	**3.12**	**94**	*e*Pn		**Pn**	**11 13 38.1**	**+0.7**
IKOO				*e*			11 14 35.8	
	comp=Z,14μm,0.2s							
IKOO	**Kooshah**	**3.12**	**94**	*e*Pn		**Pn**	**11 13 38.1**	**+0.7**
IKOO	**Kooshah**	**3.12**	**94**	Pn		**Pn**	**11 13 38.1**	**+0.7**
IKLH	**Kolahrood**	**3.21**	**282**	*e*Pn		**Pn**	**11 13 40.6**	**+1.9**
IKLH				*e*			11 14 35.0	
	comp=N,8μm,0.2s							
IKLH	**Kolahrood**	**3.21**	**282**	*e*Pn		**Pn**	**11 13 40.6**	**+1.9**
IKLH	**Kolahrood**	**3.21**	**282**	Pn		**Pn**	**11 13 40.6**	**+1.9**
NGRK	**Negar Kerman**	**3.26**	**158**	*e*Pn		**Pn**	**11 13 41.8**	**+2.3**
NGRK	**Negar Kerman**	**3.26**	**158**	*e*Pn		**Pn**	**11 13 41.8**	**+2.3**
SHRO	**Shahrood**	**3.35**	**10**	*e*Pn		**Pn**	**11 13 40.1**	**-0.4**
SHRO	**Shahrood**	**3.35**	**10**	*e*Pn		**Pn**	**11 13 40.1**	**-0.4**
CHMN	**Cheshme madani**	**3.39**	**145**	*e*Pn		**Pn**	**11 13 43.8**	**+2.5**
CHMN	**Cheshme madani**	**3.39**	**145**	*e*Pn		**Pn**	**11 13 43.8**	**+2.5**
IPAR	**Pars**	**3.44**	**215**	*e*Pn		**Pn**	**11 13 44.2**	**+2.2**
IPAR				*e*			11 14 44.8	
	comp=Z,3μm,0.4s							
IPAR	**Pars**	**3.44**	**215**	Pn		**Pn**	**11 13 44.1**	**+2.2**
IPAR	**Pars**	**3.44**	**215**	Pn		**Pn**	**11 13 44.1**	**+2.2**
IPIR	**Pirpir**	**3.74**	**271**	*e*Pn		**Pn**	**11 13 46.8**	**+0.7**
IPIR				*e*			11 14 51.0	
	comp=Z,4μm,0.2s							
IPIR	**Pirpir**	**3.74**	**271**	*e*Pn		**Pn**	**11 13 46.8**	**+0.7**
IPIR	**Pirpir**	**3.74**	**271**	Pn		**Pn**	**11 13 46.7**	**+0.7**
IVRN	**Varamin**	**3.78**	**309**	*e*Pn		**Pn**	**11 13 47.5**	**+1.1**
IVRN				*e*			11 14 38.0	
	comp=Z,4μm,0.3s							
IVRN	**Varamin**	**3.78**	**309**	*e*Pn		**Pn**	**11 13 47.5**	**+1.1**
IVRN	**Varamin**	**3.78**	**309**	Pn		**Pn**	**11 13 47.4**	**+1.0**
GHVR	**GHOM**	**3.81**	**299**	*e*Pn		**Pn**	**11 13 48.4**	**+1.5**
GHVR	**GHOM**	**3.81**	**299**	*e*Pn		**Pn**	**11 13 48.3**	**+1.5**
IDAH	**Dahanechah**	**3.83**	**88**	*e*Pn		**Pn**	**11 13 47.6**	**+0.4**
IDAH				*e*			11 15 01.8	
	comp=Z,2μm,0.3s							
IDAH	**Dahanechah**	**3.83**	**88**	*e*Pn		**Pn**	**11 13 47.6**	**+0.4**
IDAH	**Dahanechah**	**3.83**	**88**	Pn		**Pn**	**11 13 47.6**	**+0.4**
IDMV	**Damavand**	**3.97**	**317**	*e*Pn		**Pn**	**11 13 50.2**	**+0.9**
IDMV				*e*			11 15 03.0	
	comp=Z,5μm,0.3s							
IDMV	**Damavand**	**3.97**	**317**	*e*Pn		**Pn**	**11 13 50.2**	**+0.9**
IDMV	**Damavand**	**3.97**	**317**	Pn		**Pn**	**11 13 50.1**	**+0.9**
DAMV	**Damavand**	**4.05**	**317**	*e*Pn		**Pn**	**11 13 51.0**	**+0.8**
DAMV					AML	AML	11 15 06.6	
	comp=E,341nm,0.7s							
DAMV	**Damavand**	**4.05**	**317**	*e*Pn		**Pn**	**11 13 51.0**	**+0.8**
	comp=E,341nm,0.7s							
DAMV	**Damavand**	**4.05**	**317**	Pn		**Pn**	**11 13 50.0**	**-0.2**
IKAZ	**Kazeroun**	**4.16**	**227**	*e*Pn		**Pn**	**11 13 53.2**	**+1.4**
IKAZ				*e*			11 15 20.0	
	comp=Z,2μm,0.3s							
IKAZ	**Kazeroun**	**4.16**	**227**	*e*Pn		**Pn**	**11 13 53.2**	**+1.4**
IKAZ	**Kazeroun**	**4.16**	**227**	Pn		**Pn**	**11 13 53.2**	**+1.4**
SHRT	**Shahrakht**	**4.27**	**76**	*e*Pn		**Pn**	**11 13 53.8**	**+0.6**
SHRT	**Shahrakht**	**4.27**	**76**	*e*Pn		**Pn**	**11 13 53.8**	**+0.6**
ASAO	**Ashtian**	**4.80**	**294**	Pn		**Pn**	**11 14 01.0**	**+0.5**
ASAO	**Ashtian**	**4.80**	**294**	Pn		**Pn**	**11 14 01.0**	**+0.5**
MRVT	**Maraveh tapeh**	**5.00**	**7**	*e*Pn		**Pn**	**11 14 03.3**	**+0.1**
MRVT	**Maraveh tapeh**	**5.00**	**7**	*e*Pn		**Pn**	**11 14 03.3**	**+0.1**
BNDS	**Bandar-Abbas**	**5.32**	**172**	*e*Pn		**Pn**	**11 14 09.8**	**+2.2**
BNDS	**Bandar-Abbas**	**5.32**	**172**	Pn		**Pn**	**11 14 09.0**	**+1.4**
BNDS	**Bandar-Abbas**	**5.32**	**172**	Pn		**Pn**	**11 14 09.0**	**+1.4**
IMYA	**Miami**	**5.37**	**46**	*e*Pn		**Pn**	**11 14 09.5**	**+1.2**
IMYA				*e*			11 15 47.3	
	comp=Z,1μm,0.4s							
IMYA	**Miami**	**5.37**	**46**	*e*Pn		**Pn**	**11 14 09.5**	**+1.2**
IMYA	**Miami**	**5.37**	**46**	Pn		**Pn**	**11 14 08.9**	**+0.5**
BANOM	**Banah**	**6.79**	**173**	P		**Pn**	**11 14 29.9**	**+2.2**
BANOM	**Banah**	**6.79**	**173**	⇓P		**Pn**	**11 14 29.9**	**+2.2**
NAZ	**Nazwa, Dubai** SNR=6.2	**7.67**	**178**	P		Pn	11 14 44.9	+5.1
NAZ	**Nazwa, Dubai** SNR=6.2	**7.67**	**178**	⇓P		Pn	11 14 44.9	+5.0
HATD	**Hatta, Dubai** SNR=5.6	**7.86**	**175**	P		**Pn**	**11 14 44.8**	**+2.4**
HATD	**Hatta, Dubai** SNR=5.6	**7.86**	**175**	⇑P		**Pn**	**11 14 44.8**	**+2.4**
IBDR	**Badra**	**7.91**	**276**	*e*Pn		**Pn**	**11 14 44.0**	**+0.9**
IBDR				*e*Sn		**Sn**	**11 16 15.0**	**+2.6**
FAQ	**Al Faqa, Dubai**	**7.91**	**178**	P		Pn	11 14 48.1	+5.0
FAQ	**Al Faqa, Dubai**	**7.91**	**178**	⇑P		Pn	11 14 48.1	+5.0
NSR	**Nassriya**	**7.99**	**260**	*e*Pn		**Pn**	**11 14 43.0**	**-1.1**
NSR				*e*Sn		**Sn**	**11 16 14.0**	**-0.3**
NSR	**Nassriya** SNR=3.0	**7.99**	**260**	*e*Pn		**Pn**	**11 14 43.0**	**-1.1**
NSR	SNR=3.0			*e*Sn		**Sn**	**11 16 14.0**	**-0.3**
ASHO	**Ashiyiah**	**8.00**	**175**	P		**Pn**	**11 14 46.4**	**+2.1**
	SNR=22							
ASHO	**Ashiyiah**	**8.00**	**175**	⇑*e*P		**Pn**	**11 14 46.4**	**+2.1**
	SNR=22							
ASUD	**Al Ashush, Dub**	**8.03**	**180**	P		Pn	11 14 50.7	+6.0
ASUD	**Al Ashush, Dub**	**8.03**	**180**	⇓*e*P		Pn	11 14 50.7	+6.0
IKRK	**Kirkuk**	**9.51**	**290**	*e*P		**Pn**	**11 15 05.0**	**0.0**
IKRK				*e*S		**Sn**	**11 16 54.0**	**+2.3**
RAYN	**Ar Rayn**	**12.58**	**226**	*e*Pn		**Pn**	**11 15 46.6**	**-0.5**
	comp=Z,3.2nm,0.6s							
RAYN	**Ar Rayn**	**12.58**	**226**	*e*Pn		**Pn**	**11 15 46.6**	**-0.5**
	comp=Z,3.2nm,0.6s							
RAYN				*e*Sn		Sn	11 17 59.8	-7.3
KKAR	**Karatay Array**	**15.85**	**45**	*e*P		**Pn**	**11 16 30.8**	**-0.3**
	comp=Z,4.4nm,0.9s							
ABKAR	**Akbulak array**	**16.91**	**10**	*e*P		**P**	**11 16 46.5**	**-0.1**
	comp=Z,1.2nm,0.6s							
ABKAR	**Akbulak array**	**16.91**	**10**	*e*P		**P**	**11 16 46.5**	**-0.1**
	comp=Z,1.2nm,0.6s							
EKS2	**Erkin-Say**	**17.65**	**50**	*e*P		**P**	**11 16 55.8**	**+0.9**
	comp=Z,8.2nm,1.0s							
EKS2	**Erkin-Say**	**17.65**	**50**	*e*P		**P**	**11 16 55.8**	**+0.9**
	comp=Z,8.2nm,1.0s							
AKTO	**Aktyubinsk**	**17.85**	**6**	P		**P**	**11 16 58.4**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=189,slow=11,SNR=16							
AKTO				LR		LR	11 25 17.7	
	comp=Z,19nm,18.8s,baz=146,slow=42							
AAK	**Ala-Archa**	**18.10**	**51**	P		**P**	**11 17 00.9**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=217,slow=10,SNR=11							
AAK				LR		LR	11 25 56.7	
	comp=Z,35nm,18.8s,baz=232,slow=43							
AAK	**Ala-Archa**	**18.10**	**51**	*e*P		**P**	**11 17 00.4**	**+0.4**
	comp=Z,10nm,0.9s							
AAK	**Ala-Archa**	**18.10**	**51**	*e*P		**P**	**11 17 00.4**	**+0.4**
	comp=Z,10nm,0.9s							
BRTR	**Keskin Array B**	**18.84**	**298**	P		**Pn**	**11 17 09.1**	**+0.5**
	comp=Z,0.0nm,0.3s,baz=106,slow=13,SNR=5.2							
BVAR	**Borovoye Array**	**23.04**	**24**	P		**P**	**11 17 53.2**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=201,slow=11,SNR=10.0							
KURBB	**Kurchatov Arra**	**24.77**	**37**	P		**P**	**11 18 10.6**	**+1.1**
	comp=Z,3.3nm,0.9s,baz=236,slow=9.4,SNR=15							
KURK	**Kurchatov**	**24.87**	**37**	*e*P		**P**	**11 18 11.4**	**+0.9**
	comp=Z,4.0nm,0.8s							
KURK	**Kurchatov**	**24.87**	**37**	*e*P		**P**	**11 18 11.4**	**+0.9**
	comp=Z,4.0nm,0.8s							
KOLN	**Koldanda**	**24.88**	**94**	*e*P		**P**	**11 18 11.5**	**+0.4**
MKAR	**Makanchi Array**	**24.92**	**48**	P		**P**	**11 18 11.8**	**+0.8**
	comp=Z,2.1nm,0.8s,baz=230,slow=8.4,SNR=15							
MKAR				LR		LR	11 29 14.3	
	comp=Z,47nm,18.2s,baz=300,slow=39							
IDI	**Anoyia**	**25.32**	**284**	P		**P**	**11 18 13.4**	**-1.4**
	comp=Z,2.7nm,0.7s,baz=62,slow=9.1,SNR=5.2							
GKN	**Gorkha**	**25.68**	**93**	*e*P		**P**	**11 18 19.1**	**+0.8**
	comp=Z,23nm,0.7s							
MLR	**Muntele Rosu**	**25.99**	**308**	P		**P**	**11 18 22.6**	**+1.8**
	comp=Z,0.7nm,0.7s,baz=254,slow=2.3,SNR=6.6							
KKN	**Kakani**	**26.29**	**93**	*e*P		**P**	**11 18 24.7**	**+0.9**
AKASG	**Malin Array Be**	**26.32**	**321**	P		**P**	**11 18 22.6**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=124,slow=8.7,SNR=7.7							
PKIN	**Phulchoki**	**26.45**	**93**	*e*P		**P**	**11 18 26.3**	**+0.9**
	comp=Z,17nm,0.7s							
PKI	**Pulchoki**	**26.46**	**93**	*e*P		**P**	**11 18 26.5**	**+0.9**
	comp=Z,35nm,0.9s							
GUN	**Gumba**	**26.76**	**92**	*e*P		**P**	**11 18 29.3**	**+1.1**
	comp=Z,29nm,0.8s							
JIRN	**Jiri**	**27.09**	**92**	*e*P		**P**	**11 18 32.0**	**+0.7**
	comp=Z,15nm,0.7s							
BUR08	**Bucovina Ar. S**	**27.23**	**312**	*e*P		**P**	**11 18 32.4**	**+0.4**
BUR08	**Bucovina Ar. S**	**27.23**	**312**	*e*P		**P**	**11 18 32.4**	**+0.4**
RAMN	**Ramite**	**27.67**	**94**	*e*P		**P**	**11 18 37.0**	**+0.7**
	comp=Z,16nm,0.8s							
ODAN	**Odare**	**28.36**	**93**	*e*P		**P**	**11 18 44.4**	**+1.9**
TAPN	**Taplejung**	**28.47**	**92**	*e*P		**P**	**11 18 45.2**	**+1.6**
KOLS	**Kolonicke sedl**	**29.52**	**313**	*e*P		**P**	**11 18 53.5**	**+1.2**
ZALV	**Zalesovo Beam**	**29.84**	**36**	P		**P**	**11 18 55.9**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=262,slow=9.9,SNR=2.7							
GTA	**Gaotai**	**36.30**	**66**	*e*P		**P**	**11 19 53.0**	**+1.2**
GTA				pP		**pP**	**11 19 57.0**	**+0.8**
GTA				sP		**sP**	**11 20 00.5**	**+2.6**
GTA				pmax		pmax		
	comp=Z,7.0nm,1.0s							
CHTO	**Chiang Mai**	**41.36**	**99**	*e*P		**P**	**11 20 34.6**	**+0.4**
	comp=Z,6.3nm,0.8s							
CHTO	**Chiang Mai**	**41.36**	**99**	*e*P		**P**	**11 20 34.6**	**+0.4**
	comp=Z,6.4nm,0.8s							
CMAR	**Chiang Mai Arr**	**41.53**	**99**	P		**P**	**11 20 36.1**	**+0.5**
	comp=Z,3.5nm,0.7s,baz=293,slow=8.0,SNR=22							
TORD	**Torodi Ar. Bea**	**52.51**	**261**	P		**P**	**11 22 00.2**	**-1.3**
	comp=Z,2.4nm,0.9s,baz=60,slow=7.2,SNR=11		

DAT	**Datca**	**1.64**	**333**	*e*Pn	**Pn**	11 35 21.6	+0.7
DAT				*e*Sn	**Sn**	11 35 40.0	-1.3
ELL	**Elmali**	**1.86**	**37**	*e*PN	**Pn**	11 35 24.1	+0.2
ELL	**Elmali**	**1.86**	**37**	*e*PN	**Pn**	11 35 24.1	+0.2
YER	**Yerkesik**	**1.87**	**354**	*e*PN	**Pn**	11 35 24.9	+0.9
YER	**Yerkesik**	**1.87**	**354**	*e*Pn	**Pn**	11 35 24.9	+0.9
BDRM	**Kayabasi**	**1.99**	**334**	*i* P	**Pn**	11 35 26.3	+0.7
BDRM	**Kayabasi**	**1.99**	**334**	*i* P	**Pn**	11 35 26.3	+0.7
BDRM				*i* S	**Sn**	11 35 46.9	-2.8
BODT	**Bodrum**	**2.04**	**332**	*e*PN	**Pn**	11 35 25.7	-0.5
BODT	**Bodrum**	**2.04**	**332**	*e*Pn	**Pn**	11 35 25.7	-0.5
GOLH	**Golhisar**	**2.14**	**23**	*i* P	**Pn**	11 35 30.2	+2.5
GOLH				*i* S	**Sn**	11 35 54.5	+1.0
GOLH	**Golhisar**	**2.14**	**23**	*i* P	**Pn**	11 35 30.2	+2.5
GOLH				*i* S	**Sn**	11 35 54.5	+1.0
KORT	**Korkueli**	**2.28**	**40**	*e*Pn	**Pb**	11 35 33.1	-0.9
ANTB	**Antalya**	**2.38**	**46**	*e*PN	**Pn**	11 35 31.5	+0.7
ANTB	**Antalya**	**2.38**	**46**	*e*Pn	**Pn**	11 35 31.5	+0.7
AYDN	**Tasoluk**	**2.44**	**348**	*e*Pn	**Pn**	11 35 33.4	+1.6
AYDN				*e*Sn	**Sn**	11 35 57.3	-3.6
DNZL	**Cakiroluk**	**2.45**	**10**	*e*Pn	**Pn**	11 35 33.2	+1.1
DNZL				*e*Sn	**Sn**	11 36 01.8	+0.4
DENT	**Denizli**	**2.51**	**9**	*e*PN	**Pn**	11 35 33.9	+1.1
DENT	**Denizli**	**2.51**	**9**	*e*Pn	**Pn**	11 35 33.9	+1.1
AYDB	**Zeytinkoy-Aydi**	**2.72**	**350**	*e*PN	**Pn**	11 35 36.2	+0.5
AYDB	**Zeytinkoy-Aydi**	**2.72**	**350**	*e*Pn	**Pn**	11 35 36.2	+0.5
BCK	**Bucak**	**2.75**	**37**	*e*PN	**Pn**	11 35 37.3	+1.2
BCK	**Bucak**	**2.75**	**37**	*e*Pn	**Pn**	11 35 37.3	+1.2
IDI	**Anoyia**	**2.97**	**271**	Pn	**Pn**	11 35 40.5	+1.4
	3.4nm,0.3s,baz=48,slow=10,SNR=29						
IDI				Sn	**Sn**	11 36 13.4	-0.5
	17nm,0.3s,baz=282,slow=16,SNR=7.7						
AKMC	**Akamas**	**3.13**	**93**	⇓P	**Pn**	11 35 42.9	+1.6
	baz=278						
AKMC	**Akamas**	**3.13**	**93**	⇓P	**Pn**	11 35 42.9	+1.6
KHL	**Karahalli**	**3.15**	**15**	*e*PN	**Pn**	11 35 43.6	+2.0
KHL	**Karahalli**	**3.15**	**15**	*e*Pn	**Pn**	11 35 43.6	+2.0
PPCY	**Paphos**	**3.16**	**96**	⇑P	**Pn**	11 35 43.3	+1.6
	baz=281						
PPCY	**Paphos**	**3.16**	**96**	⇑P	**Pn**	11 35 43.3	+1.6
KHAL	**Karahalli**	**3.19**	**14**	*e*Pn	Pb	11 36 05.2	+16
GAZI	**Gazipasa**	**3.24**	**72**	*e*Pn	**Pn**	11 35 43.4	+0.7
GAZI				*e*Sn	**Sn**	11 36 16.9	-3.6
BLCB	**Balcova**	**3.33**	**340**	*e*PN	**Pn**	11 35 44.6	+0.7
BLCB	**Balcova**	**3.33**	**340**	*e*Pn	**Pn**	11 35 44.6	+0.7
ALFC	**Alevga**	**3.34**	**91**	P	**Pn**	11 35 45.8	+1.6
	baz=275						
ALFC				S	**Sn**	11 36 21.8	-1.4
ALFC	**Alevga**	**3.34**	**91**	P	**Pn**	11 35 45.8	+1.6
ALFC				S	**Sn**	11 36 21.8	-1.4
LEF	**Lefka**	**3.58**	**91**	*e*PN	**Pn**	11 35 47.9	+0.4
LEF	**Lefka**	**3.58**	**91**	*e*Pn	**Pn**	11 35 47.9	+0.4
SZAC	**Souni-Zanaja**	**3.62**	**97**	P	**Pn**	11 35 49.8	+1.8
	baz=282						
SZAC				S	**Sn**	11 36 29.2	-0.8
SZAC	**Souni-Zanaja**	**3.62**	**97**	P	**Pn**	11 35 49.8	+1.8
SZAC				S	**Sn**	11 36 29.2	-0.8
AKDN	**Akdeniz- K¨–br**	**3.64**	**88**	*e*PN	**Pn**	11 35 50.3	+2.1
AKDN	**Akdeniz- K¨–br**	**3.64**	**88**	*e*Pn	**Pn**	11 35 50.3	+2.1
AKS	**Akhisar**	**3.65**	**351**	*e*PN	**Pn**	11 35 49.4	+1.1
AKS	**Akhisar**	**3.65**	**351**	*e*Pn	**Pn**	11 35 49.4	+1.1
ERMK	**Ermenek**	**3.82**	**68**	*e*Pn	Pn	11 35 54.4	+3.5
MAMC	**Mammari**	**3.85**	**90**	P	**Pn**	11 35 52.8	+1.7
	baz=275						
MAMC	**Mammari**	**3.85**	**90**	P	**Pn**	11 35 52.8	+1.7
CSS	**Prodhromos**	**3.96**	**93**	P	**Pn**	11 35 54.0	+1.4
	baz=278						
CSS	**Prodhromos**	**3.96**	**93**	P	**Pn**	11 35 54.0	+1.4
KONT	**Konya--Tatoy**	**4.09**	**48**	*e*PN	**Pn**	11 35 56.5	+2.1
KONT	**Konya--Tatoy**	**4.09**	**48**	*e*Pn	**Pn**	11 35 56.5	+2.1
TVSB	**Tavsanli**	**4.24**	**10**	*e*PN	**Pn**	11 35 57.6	+1.0
TVSB	**Tavsanli**	**4.24**	**10**	*e*Pn	**Pn**	11 35 57.6	+1.0
LADK	**Ladik-KONYA**	**4.25**	**45**	*e*PN	**Pn**	11 35 58.9	+2.1
LADK	**Ladik-KONYA**	**4.25**	**45**	*e*Pn	**Pn**	11 35 58.9	+2.1
KIZT	**Kizilcal**	**4.50**	**36**	*e*PN	**Pn**	11 36 01.5	+1.4
KIZT	**Kizilcal**	**4.50**	**36**	*e*Pn	**Pn**	11 36 01.5	+1.4
KIZK	**Mersin**	**4.73**	**74**	*e*Pn	**Pn**	11 36 05.4	+2.2
BRTR	**Keskin Array B**	**6.03**	**41**	Pn	**Pn**	11 36 23.6	+2.4
	0.2nm,0.3s,baz=229,slow=11,SNR=3.6						
BRTR				Sn	**Sn**	11 37 28.1	-1.4
	0.6nm,0.3s,baz=212,slow=25,SNR=10.0						
ARNB	**Al Arnab**	**6.11**	**82**	*e*P	**Pn**	11 36 21.2	-1.0
ARNB				*e*S	Sn	11 37 23.0	-8.3
ARNB				AML	AML	11 37 35.3	
	comp=E,35nm,0.6s						
ARNB				AML	AML	11 37 37.3	
	comp=N,33nm,0.7s						
MMAI	**Mount Meron Ar**	**6.14**	**110**	Pn	**Pn**	11 36 22.8	+0.2
	comp=N,6.9nm,0.3s,baz=312,slow=12,SNR=9.5						
MMAI				Sn	**Sn**	11 37 31.1	-1.0
	comp=N,9.9nm,0.3s,baz=309,slow=26,SNR=5.5						
MMAI				LR	LR	11 39 56.5	
	comp=N,53nm,18.2s,baz=320,slow=49						
HWQ	**Hawqa**	**6.19**	**97**	*e*P	**Pn**	11 36 25.1	+1.6
HWQ	**Hawqa**	**6.19**	**97**	*e*P	**Pn**	11 36 25.0	+1.6
RCY	**Rachaya**	**6.30**	**104**	*e*P	**Pn**	11 36 25.6	+0.6
BIDA	**Albida**	**6.40**	**90**	*e*P	**Pn**	11 36 26.9	+0.7
BIDA				*e*S	Sn	11 37 31.7	-6.8
BIDA				AML	AML	11 37 37.1	
	comp=N,36nm,0.2s						
BIDA				AML	AML	11 37 37.3	
	comp=E,111nm,0.5s						
BRBR	**Barbar**	**6.42**	**105**	*e*P	**Pn**	11 36 27.8	+1.1
BRBR				*e*S	**Sn**	11 37 35.1	-4.2
BRBR				AML	AML	11 37 40.7	
	comp=N,22nm,0.7s						
BRBR				AML	AML	11 37 42.2	
	comp=E,35nm,0.7s						
WRDH	**Warideh**	**6.45**	**86**	*e*P	**Pn**	11 36 25.8	-1.2
WRDH				*e*S	Sn	11 37 32.7	-7.1
WRDH				AML	AML	11 37 38.5	
	comp=E,21nm,0.3s						
WRDH				AML	AML	11 37 40.6	
	comp=N,21nm,0.3s						
BTCH	**Batrach**	**6.51**	**81**	*e*P	**Pn**	11 36 26.2	-1.6
BTCH				*e*S	Sn	11 37 32.8	-8.5
BTCH				AML	AML	11 37 48.8	
	comp=E,55nm,0.4s						
BTCH				AML	AML	11 37 49.6	
	comp=N,28nm,0.3s						
HAWK	**Haweek**	**6.53**	**94**	*e*P	**Pn**	11 36 28.7	+0.7
HAWK				*e*S	**Sn**	11 37 36.4	-5.3
HAWK				AML	AML	11 37 42.7	
	comp=N,45nm,0.3s						
HAWK				AML	AML	11 37 46.1	
	comp=E,25nm,0.6s						
TCHB	**Talchebab**	**6.71**	**111**	*e*P	**Pn**	11 36 31.8	+1.3
TCHB				*e*S	**Sn**	11 37 44.4	-1.8
TCHB				AML	AML	11 37 50.9	
	comp=E,53nm,0.3s						
TCHB				AML	AML	11 37 54.9	
	comp=N,37nm,0.5s						
SALA	**Sala**	**7.29**	**108**	*e*P	**Pn**	11 36 40.8	+2.3
SALA				*e*S	**Sn**	11 37 56.6	-3.9
SALA				AML	AML	11 38 09.1	
	comp=N,12nm,0.6s						
ASF	**Jabal al Asfar**	**7.63**	**112**	Pn	**Pn**	11 36 43.7	+0.5
	comp=N,0.4nm,0.3s,baz=277,slow=8.1,SNR=2.8						
ASF				Sn	**Sn**	11 38 12.9	+3.9
	comp=N,0.3nm,0.3s,baz=90,slow=20,SNR=3.2						
ZALF	**Zalf**	**7.68**	**105**	*e*P	**Pn**	11 36 46.2	+2.4
ZALF				*e*S	**Sn**	11 38 06.7	-3.4
ZALF				AML	AML	11 38 27.5	
	comp=N,5.3nm,0.4s						
ZALF				AML	AML	11 38 29.5	
	comp=E,6.0nm,0.5s						
EIL	**Elat**	**7.79**	**134**	Pn	**Pn**	11 36 46.2	+0.9
	comp=E,1.6nm,0.3s,baz=231,slow=2.7,SNR=22						
EIL				Sn	**Sn**	11 38 09.7	-3.1
	comp=E,4.8nm,0.3s,baz=54,slow=4.5,SNR=8.1						
EIL				LR	LR	11 41 37.7	
	comp=E,41nm,18.9s,baz=255,slow=52						
ESDC	**Sonseca Array**	**26.07**	**289**	P	**P**	11 40 25.2	+0.2
	comp=E,0.7nm,0.5s,baz=84,slow=9.7,SNR=8.6						
AKTO	**Aktyubinsk**	**26.18**	**46**	P	**P**	11 40 27.2	+1.3
	comp=E,0.8nm,0.3s,baz=262,slow=14,SNR=2.7						
FINES	**FINESS Array B**	**26.24**	**357**	P	**P**	11 40 25.8	-0.4
	comp=E,1.3nm,0.8s,baz=168,slow=14,SNR=3.1						
HFS	**Hagfors**	**26.67**	**343**	P	**P**	11 40 28.9	-1.3
	comp=E,1.4nm,0.8s,baz=187,slow=10,SNR=3.2						
TORD	**Torodi Ar. Bea**	**32.73**	**234**	P	**P**	11 41 25.2	+0.9
	comp=E,0.2nm,0.4s,baz=35,slow=8.6,SNR=6.9						
ARCES	**ARCESS Array B**	**34.36**	**358**	P	**P**	11 41 37.8	-0.2
	comp=E,0.6nm,0.6s,baz=191,slow=9.1,SNR=3.8						

MKAR	**Makanchi Array**	**41.42**	**57**	P	**P**	11 42 38.7	+0.9
	comp=E,0.2nm,0.4s,baz=292,slow=6.0,SNR=4.1						
SONM	**Songino Array**	**57.28**	**52**	P	**P**	11 44 40.3	+1.2
	comp=E,0.2nm,0.5s,baz=300,slow=12,SNR=2.6						
CMAR	**Chiang Mai Arr**	**63.83**	**85**	LR	LR	12 20 34.2	
	comp=E,22nm,18.7s,baz=205,slow=43						
YKA	**Yellowknife Ar**	**78.16**	**343**	P	**P**	11 46 49.5	-0.8
	comp=E,0.1nm,0.6s,baz=33,slow=5.6,SNR=3.9						

TIR **30** *11:40:13.7,41.˚18N±0.˚20˚20E,h2km,ML3.9*
BEO **30** *11:40:25.7±0.5,40.˚80N×20.˚17E,h0km,ML3.6/1*
IDC **30** *11:40:26.9±0.8,41.˚05N×20.˚15E,h0km,mb3.7/12, mb1 3.8/18,mb1mx3.7/33,mbtmp3.7/18,ML3.5/6,MS2.7/4, Ms1 2.7/4,ms1mx2.5/38,Error ellipse: s-maj=16.2km s-min=13.2km az=43.0*
ISCJB **30** *11:40:27.6±0.3,41.˚13N±0.˚01×20.˚21E±0.˚02,h5km±2km, mb3.8/9,MS2.5/1,Error ellipse: s-maj=2.5km s-min=1.6km az=139.9*
PRU **30** *11:40:27.3,41.˚01N×20.˚42E,h2km*
LDG **30** *11:40:27.7±0.1,41.˚16N×20.˚31E,h2km,Ml3.9/10,Error ellipse: s-maj=3.7km s-min=2.0km az=29.0*
CSEM **30** *11:40:28.1±0.1,41.˚12N×20.˚17E,h2km,ML3.9,Error ellipse: s-maj=3.0km s-min=2.0km az=47.0*
NEIC **30** *11:40:28.2,41.˚17N×20.˚27E,h0km,ML3.7(THE), ML3.9(TIR).After TIR.*
NEIC Felt at Elbasan and Tirana.
PDG **30** *11:40:28.4±0.3,41.˚13N×20.˚21E,h10km,MD3.9/6, ML3.9/11,Error ellipse: s-maj=0.6km s-min=0.6km az=0.0*
THE **30** *11:40:28.5,41.˚16N×20.˚28E,h0km,ML3.7/17,Error ellipse: s-maj=0.8km s-min=0.3km az=298.0*
ATH **30** *11:40:29.8,41.˚13N×20.˚41E,h21km±2km,MD3.8/39, ML3.8*
SKO **30** *11:40:29.0,41.˚11N×20.˚26E,h4km,M3.1,ML3.5*
ISC 30 11:40:28.1±1.0, 41.˚14N±0.˚01×20.˚24E±0.˚01, h6km±7km, n421,σ1ŝ49/536, mb3.9/9, 34C-30D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.35**	**307**	*i*	PG	**Pn**	**11 40 40.9**	**+1.1**
TIR				*i*	SG	Sb	11 40 51.5	+8.9
TIR	**Tirane**	**0.35**	**307**		P	**Pg**	**11 40 35.4**	**+0.4**
TIR					S	**Sg**	11 40 40.5	+0.9
TIR	**Tirane**	**0.35**	**307**	*e*	Pg	**Pg**	**11 40 35.4**	**+0.4**
TIR	**Tirane**	**0.35**	**307**		P	**Pg**	**11 40 35.4**	**+0.4**
TIR					S	**Sg**	11 40 40.5	+0.9
TIR				*e*	Sg	**Sb**	11 40 42.2	-0.4
TIR	**Tirane**	**0.35**	**307**	*e*	Pg	**Pg**	**11 40 35.1**	**+0.2**
TIR				*e*	Sg	**Sb**	11 40 42.2	-0.4
OHR	**Ohrid**	**0.43**	**93**	*i*	Pg	**Pg**	**11 40 35.8**	**-0.6**
OHR				*i*	Sg	**Sg**	11 40 43.1	+1.1
OHR				*i*	Lg	Lg	11 40 43.2	
	comp=N,4μm,0.3s							
OHR				*i*	Lg	Lg	11 40 43.2	
	comp=E,3μm,0.5s							
OHR	**Ohrid**	**0.43**	**93**	*i*	Pg	**Pg**	**11 40 35.7**	**-0.6**
OHR				*i*	Sg	**Sg**	11 40 43.1	+1.1
OHR				*i*	Lg	Lg	11 40 43.2	
	comp=E,3μm,0.5s							
PHP	**Peshkopia**	**0.57**	**16**	*i*	PG	**Pg**	**11 40 39.4**	**+0.3**
PHP				*i*	SG	**Sg**	11 40 46.4	-0.2
PHP	**Peshkopia**	**0.57**	**16**		P	**Pg**	**11 40 39.0**	**-0.1**
PHP					S	**Sg**	11 40 46.7	+0.2
PHP	**Peshkopia**	**0.57**	**16**		P	**Pg**	**11 40 39.0**	**-0.1**
PHP	**Peshkopia**	**0.57**	**16**	*i*	Pg	**Pg**	**11 40 39.4**	**+0.3**
PHP				*i*	Sg	**Sg**	11 40 46.4	-0.2
PHP	**Peshkopia**	**0.57**	**16**		P	**Pg**	**11 40 39.5**	**+0.4**
PHP					S	**Sb**	11 40 48.3	-0.6
KBN	**Korca**	**0.66**	**141**		P	**Pg**	**11 40 40.7**	**-0.1**
KBN					S	**Sb**	11 40 50.6	-1.0
KBN	**Korca**	**0.66**	**141**		P	**Pg**	**11 40 40.7**	**-0.1**
KBN					S	**Sb**	11 40 50.6	-1.0
KBN	**Korca**	**0.66**	**141**		P	**Pg**	**11 40 41.0**	**+0.2**
KBN					S	**Sb**	11 40 53.0	+1.4
VLO	**Vlora**	**0.87**	**220**		P	**Pb**	**11 40 45.7**	**0.0**
VLO					S	**Sn**	11 40 59.1	-0.8
VLO	**Vlora**	**0.87**	**220**		P	**Pb**	**11 40 45.7**	**0.0**
VLO					S	**Sn**	11 40 59.1	-0.8
FNA	**Florina**	**0.93**	**112**		P	**Pg**	**11 40 45.6**	**-0.4**
FNA					S	**Sb**	11 40 59.4	0.0
FNA	**Florina**	**0.93**	**112**	*e*	PN	**Pg**	**11 40 45.7**	**-0.3**
FNA				*e*	SN	**Sg**	11 40 56.8	-1.3
FNA	**Florina**	**0.93**	**112**		P	**Sb**	**11 40 45.6**	**-0.4**
FNA					S	**Sb**	11 40 59.4	0.0
PUK	**Puka**	**0.94**	**344**	*i*	PG	Pg	11 40 35.3	-11
PUK				*i*	SG	**Sg**	11 40 53.5	-5.0
NEST	**Nestorio**	**0.95**	**139**		P	**Pg**	**11 40 46.1**	**-0.2**
NEST	**Nestorio**	**0.95**	**139**	*e*	PN	**Pg**	**11 40 46.1**	**-0.2**
NEST				*e*	SN	**Sg**	11 40 58.5	-0.2
NEST	**Nestorio**	**0.95**	**139**		P	**Pg**	**11 40 46.1**	**-0.2**
NEST				*e*	Sn	**Sg**	11 40 58.5	-0.2
ULC	**Ulcinj**	**1.11**	**318**	⇓*i*	Pg	**Pg**	**11 40 48.5**	**-1.0**
ULC				*e*	Sg	**Sn**	11 41 06.3	+0.4
ULC	**Ulcinj**	**1.11**	**318**	⇓*i*	Pg	**Pg**	**11 40 48.5**	**-1.0**
ULC				*e*	Sg	**Sn**	11 41 06.3	+0.4
SKO	**Skopje**	**1.23**	**47**		P	**Pn**	**11 40 52.0**	**+0.2**
SKO	**Skopje**	**1.23**	**47**	*e*	Pg	**Pn**	**11 40 52.1**	**+0.2**
SKO				*e*	Sg	**Sn**	11 41 13.0	+4.2
SKO	**Skopje**	**1.23**	**47**	*i*	Pg	**Pn**	**11 40 52.2**	**+0.4**
SKO				*i*	Sg	**Sn**	11 41 08.9	+0.1
SKO	**Skopje**	**1.23**	**47**		P	**Pn**	**11 40 52.0**	**+0.2**
SKO				*i*	Sg	**Sn**	11 41 08.9	+0.1
BCI	**Bajram Curri**	**1.23**	**354**		P	**Pg**	**11 40 51.9**	**0.0**
BCI					S	**Sn**	11 41 09.6	+0.6
BCI	**Bajram Curri**	**1.23**	**354**		P	**Pg**	**11 40 51.9**	**0.0**
BCI					S	**Sn**	11 41 09.6	+0.6
SRN	**Sarande**	**1.27**	**188**		P	**Pn**	**11 40 52.7**	**+0.4**
SRN					S	**Sn**	11 41 12.1	+2.4
SRN	**Sarande**	**1.27**	**188**		P	**Pn**	**11 40 52.7**	**+0.4**
SRN					S	**Sn**	11 41 12.1	+2.4
DRME	**Dracevica, Mon**	**1.31**	**323**	⇓*i*	Pg	**Pn**	**11 40 52.1**	**-0.9**
DRME				*e*	Sg	**Sn**	11 41 12.8	+2.0
DRME	**Dracevica, Mon**	**1.31**	**323**	⇓*i*	Pg	**Pn**	**11 40 52.1**	**-0.9**
DRME				*e*	Sg	**Sn**	11 41 12.8	+2.0
KZN	**Kozani**	**1.43**	**125**		P	**Pn**	**11 40 54.9**	**+0.2**
KZN					S	**Sn**	11 41 15.8	+2.0
KZN	**Kozani**	**1.43**	**125**	*e*	PN	**Pn**	**11 40 54.9**	**+0.2**
KZN				*e*	SN	**Sb**	11 41 13.8	+0.1
KZN	**Kozani**	**1.43**	**125**		P	**Pn**	**11 40 54.9**	**+0.2**
KZN				*e*	Sn	**Sb**	11 41 13.8	+0.1
KZN					S	**Sn**	11 41 15.8	+2.0
KEK	**Kerkira**	**1.46**	**193**		P	**Pg**	**11 40 56.0**	**-0.1**
KEK					S	**Sg**	11 41 16.9	+1.8
KEK	**Kerkira**	**1.46**	**193**	*e*	PN	**Pg**	**11 40 57.5**	**+1.4**
KEK				*e*	SN	**Sg**	11 41 17.6	+2.5
KEK	**Kerkira**	**1.46**	**193**		P	**Pg**	**11 40 56.0**	**-0.1**
KEK	**Kerkira**	**1.46**	**193**	*e*	Pn	**Pg**	**11 40 57.5**	**+1.4**
KEK					S	**Sg**	11 41 16.9	+1.8
KEK				*e*	Sn	**Sg**	11 41 17.6	+2.5
PVY	**Plav**	**1.47**	**352**	⇓*i*	Pg	**Pn**	**11 40 55.5**	**+0.2**
PVY				*e*	Sg	**Sg**	11 41 18.6	+3.2
PVY	**Plav**	**1.47**	**352**	⇓*i*	Pg	**Pn**	**11 40 55.5**	**+0.2**
PVY				*e*	Sg	**Sg**	11 41 18.6	+3.2
PDG	**Podgorica**	**1.49**	**331**		P	**Pn**	**11 40 55.6**	**+0.2**
PDG	**Podgorica**	**1.49**	**331**	*e*	Pn	**Pn**	**11 40 55.6**	**+0.2**
PDG				*e*	Sn	**Sg**	11 41 20.0	+4.1
PDG	**Podgorica**	**1.49**	**331**		P	**Pn**	**11 40 55.6**	**+0.2**
PDG				*e*	Sg	**Sg**	11 41 18.7	+2.8
PDG				*e*	Sn	**Sg**	11 41 20.0	+4.1
TTG	**Podgorica**	**1.49**	**331**	⇑*i*	Pg	**Pn**	**11 40 55.5**	**+0.2**
TTG				*e*	Sg	**Sg**	11 41 18.7	+2.8
SGD	**Sagiada**	**1.52**	**180**		P	**Pg**	**11 40 58.0**	**+0.7**
SGD	**Sagiada**	**1.52**	**180**	*e*	PN	**Pg**	**11 40 58.0**	**+0.7**
SGD	**Sagiada**	**1.52**	**180**		P	**Pb**	**11 40 56.7**	**0.0**
SGD	**Sagiada**	**1.52**	**180**	*e*	Pn	**Pg**	**11 40 58.0**	**+0.7**
BUM	**Brajici-Budva**	**1.54**	**320**	⇓*i*	Pg	**Pn**	**11 40 56.6**	**+0.4**
BUM				*e*	Sg	**Sg**	11 41 19.6	+2.1
BUM	**Brajici-Budva**	**1.54**	**320**	⇓*i*	Pg	**Pn**	**11 40 56.6**	**+0.4**
BUM				*e*	Sg	**Sg**	11 41 19.6	+2.1
JAN	**Janina**	**1.55**	**162**		P	**Pb**	**11 40 57.0**	**-0.3**
JAN					S	**Sg**	11 41 18.9	+0.9
JAN	**Janina**	**1.55**	**162**	*e*	PN	**Pg**	**11 40 57.9**	**0.0**
JAN	**Janina**	**1.55**	**162**		P	**Pb**	**11 40 57.0**	**-0.3**
JAN	**Janina**	**1.55**	**162**	*e*	Pn	**Pg**	**11 40 57.9**	**0.0**
JAN					S	**Sg**	11 41 18.9	+0.9
IGT	**Igoumenitsa**	**1.60**	**177**		P	**Pb**	**11 40 58.0**	**-0.1**
IGT	**Igoumenitsa**	**1.60**	**177**	*e*	PN	**Pg**	**11 40 58.9**	**0.0**
IGT	**Igoumenitsa**	**1.60**	**177**		P	**Pb**	**11 40 58.0**	**-0.1**

IGT	**Igoumenitsa**	**1.60**	**177**	*e*Pn	**Pg**	**11 40 58.9**	**0.0**
GRG	**Griva**	**1.65**	**96**	P	**Pn**	**11 40 57.8**	**+0.2**
GRG				S	**Sb**	11 41 20.0	+0.1
GRG	**Griva**	**1.65**	**96**	*e*PN	**Pn**	**11 40 58.1**	**+0.5**
GRG	**Griva**	**1.65**	**96**	P	**Pn**	**11 40 57.8**	**+0.2**
GRG	**Griva**	**1.65**	**96**	*e*Pn	**Pn**	**11 40 58.1**	**+0.5**
GRG				S	**Sb**	11 41 20.0	+0.1
BEY	**Berane**	**1.75**	**352**	⇑*i*Pn	**Pn**	**11 40 59.9**	**+0.8**
BEY				*e*Sn	**Sg**	11 41 24.9	+0.4
IVA	**Berane**	**1.75**	**352**	⇑*i*Pn	**Pn**	**11 40 59.9**	**+0.8**
IVA				*e*Sn	**Sg**	11 41 24.9	+0.4
VAY	**Valandovo**	**1.77**	**83**	P	**Pn**	**11 40 59.2**	**-0.1**
VAY				S	**Sb**	11 41 22.9	-0.5
VAY	**Valandovo**	**1.77**	**83**	*e*Pn	**Pn**	**11 40 59.6**	**+0.3**
VAY	**Valandovo**	**1.77**	**83**	*i*Pg	**Pn**	**11 41 00.1**	**+0.8**
VAY				*i*Sg	**Sg**	**11 41 25.1**	**+0.1**
VAY				*i*Lg	Lg	11 41 29.2	
	comp=E,377nm,0.7s						
VAY				*i*Lg	Lg	11 41 29.5	
	comp=N,652nm,0.9s						
VAY	**Valandovo**	**1.77**	**83**	P	**Pn**	**11 40 59.2**	**-0.1**
VAY	**Valandovo**	**1.77**	**83**	*e*Pn	**Pn**	**11 40 59.6**	**+0.3**
VAY	**Valandovo**	**1.77**	**83**	*i*Pg	**Pn**	**11 41 00.1**	**+0.8**
VAY				*i*Sg	**Sg**	**11 41 25.1**	**+0.1**
VAY				*i*Lg	Lg	11 41 29.1	
	comp=N,377nm,0.7s						
HCY	**Herceg Novi**	**1.85**	**316**	⇓*i*Pn	**Pb**	**11 41 01.8**	**-0.5**
HCY				*e*Sn	**Sb**	11 41 26.8	+1.1
HCY	**Herceg Novi**	**1.85**	**316**	⇓*i*Pn	**Pb**	**11 41 01.8**	**-0.5**
HCY				*e*Sn	**Sb**	11 41 26.8	+1.1
NKME	**Niksic**	**1.89**	**330**	⇓*i*Pn	**Pb**	**11 41 02.5**	**-0.6**
NKME				*e*Sn	**Sb**	11 41 27.9	+1.0
NKME	**Niksic**	**1.89**	**330**	⇓*i*Pn	**Pb**	**11 41 02.5**	**-0.6**
NKME				*e*Sn	**Sb**	11 41 27.9	+1.0
NKY	**Niksic**	**1.92**	**331**	⇓*i*Pn	**Pb**	**11 41 03.0**	**-0.5**
NKY				*e*Sn	**Sg**	11 41 29.3	-0.4
NKY	**Niksic**	**1.92**	**331**	⇓*i*Pn	**Pb**	**11 41 03.0**	**-0.5**
NKY				*e*Sn	**Sg**	11 41 29.3	-0.4
LIT	**Litokhoron**	**2.00**	**120**	P	**Pn**	**11 41 02.7**	**+0.2**
LIT				S	**Sb**	11 41 29.2	-1.0
LIT	**Litokhoron**	**2.00**	**120**	*e*PN	**Pn**	**11 41 03.0**	**+0.5**
LIT	**Litokhoron**	**2.00**	**120**	P	**Pn**	**11 41 02.7**	**+0.2**
LIT	**Litokhoron**	**2.00**	**120**	*e*Pn	**Pn**	**11 41 03.0**	**+0.5**
LIT				S	**Sb**	11 41 29.2	-1.0
KNT	**Kendrikon**	**2.01**	**88**	P	**Pn**	**11 41 02.7**	**+0.1**
KNT				S	**Sb**	11 41 29.4	-0.9

BBLS	Lazići	2.80	348	*e*Pn	Pb	11 41 16.5	-2.0
XOR	Xorichti	2.87	127	P	Pn	11 41 14.6	+0.1
XOR				S	Sn	11 41 51.2	+1.9
XOR	Xorichti	2.87	127	*e*PN	Pn	11 41 14.5	+0.1
XOR	Xorichti	2.87	127	P	Pn	11 41 14.6	+0.1
XOR				S	Sn	11 41 51.2	+1.9
PAIG	Paliouri	2.89	114	P	Pn	11 41 14.7	+0.1
PAIG	Paliouri	2.89	114	*e*PN	Pn	11 41 14.4	-0.2
PAIG	Paliouri	2.89	114	*e*Pn	Pn	11 41 14.4	-0.2
PAIG	Paliouri	2.89	114	P	Pn	11 41 14.7	+0.1
NEO	Neokhori	2.93	128	*e*PN	Pn	11 41 15.5	+0.3
NEO	Neokhori	2.93	128	*e*Pn	Pn	11 41 15.5	+0.3
OUR	Ouranopolis	2.96	105	P	Pn	11 41 15.7	+0.1
OUR	Ouranopolis	2.96	105	*e*PN	Pn	11 41 16.8	+1.2
OUR	Ouranopolis	2.96	105	P	Pn	11 41 15.7	+0.1
OUR	Ouranopolis	2.96	105	*e*Pn	Pn	11 41 16.8	+1.2
DIVS	Divibare	2.96	357	P	Pn	11 41 16.4	+0.6
DIVS	Divibare	2.96	357	*e*Sn	Sb	11 41 58.2	+0.3
DIVS	Divibare	2.96	357	P	Pn	11 41 16.4	+0.6
VLS	Valsamata	2.97	175	P	Pn	11 41 16.2	+0.4
VLS	Valsamata	2.97	175	*e*PN	Pn	11 41 16.2	+0.4
VLS	Valsamata	2.97	175	P	Pn	11 41 16.2	+0.4
BOLS	Boljevac	2.98	25	*e*Pn	Pn	11 41 17.9	+2.1
BOLS	Boljevac	2.98	25	*e*Pn	Pn	11 41 17.9	+2.1
CDT	Castel del Mon	3.00	270	*e*Pn	Pn	11 41 15.8	-0.3
EFP	Efpalio	3.00	154	*e*PB	Pb	11 41 19.5	-2.4
EFP	Efpalio	3.00	154	*e*Pb	Pb	11 41 19.5	-2.4
AXAR	Agios Charalam	3.01	141	P	Pn	11 41 17.2	+0.8
AXAR	Agios Charalam	3.01	141	*e*PN	Pn	11 41 17.4	+1.0
AXAR	Agios Charalam	3.01	141	*e*Pn	Pn	11 41 17.4	+1.0
KFL	Anninata	3.05	172	P	Pn	11 41 17.7	+0.8
KFL	Anninata	3.05	172	*e*Pn	Pn	11 41 17.7	+0.8
HAPS	Han Pijesak,Bl	3.10	343	*e*PN	Pn	11 41 20.4	+2.8
HAPS	Han Pijesak,Bl	3.10	343	*e*Pn	Pn	11 41 20.4	+2.8
KALE	Kalithea	3.11	151	*e*PB	Pn	11 41 20.2	+2.4
KALE	Kalithea	3.11	151	*e*Pb	Pn	11 41 20.2	+2.4
SMIA	Simia	3.21	134	*e*PN	Pn	11 41 19.0	-0.1
SMIA	Simia	3.21	134	*e*Pn	Pn	11 41 19.0	-0.1
KAVA	Kavala	3.24	91	P	Pn	11 41 20.0	+0.6
KAVA	Kavala	3.24	91	*e*PN	Pn	11 41 19.8	+0.4
KAVA	Kavala	3.24	91	P	Pn	11 41 20.0	+0.6
DSF	Desfina	3.24	146	P	Pn	11 41 20.7	+1.1
DSF	Desfina	3.24	146	*e*PN	Pn	11 41 20.9	+1.3
DSF	Desfina	3.24	146	P	Pn	11 41 20.7	+1.1
LKR	Lokris	3.27	139	*e*PN	Pn	11 41 20.5	+0.6
LKR	Lokris	3.27	139	*e*Pn	Pn	11 41 20.5	+0.6
TIP	Timpagrande	3.31	235	*e*Pn	Pn	11 41 20.3	-0.2
TIP	Timpagrande	3.31	235	*e*Pn	Pn	11 41 20.3	-0.2
DRO	Drossia	3.38	160	P	Pn	11 41 23.0	+1.6
DRO	Drossia	3.38	160	*e*PN	Pn	11 41 23.9	+2.5
DRO	Drossia	3.38	160	P	Pn	11 41 23.0	+1.6
DRO	Drossia	3.38	160	*e*Pn	Pn	11 41 23.9	+2.5
AOS	Alonnisos	3.41	124	*e*PN	Pn	11 41 22.1	+0.2
AOS	Alonnisos	3.41	124	*e*Pn	Pn	11 41 22.1	+0.2
KLV	Kalavryta, Ach	3.42	154	*e*PN	Pn	11 41 24.8	+2.7
KLV	Kalavryta, Ach	3.42	154	*e*Pn	Pn	11 41 24.8	+2.7
TEKS	Tekeris	3.45	352	*e*Pn	Pn	11 41 24.9	+2.5
TEKS				*e*Sn	Sb	11 42 09.3	-2.5
TEKS	Tekeris	3.45	352	*e*Pn	Pn	11 41 24.9	+2.5
TEKS				*e*Sn	Sb	11 42 09.3	-2.5
PLD	Plovdiv	3.48	72	*e*Pn	Pn	11 41 23.3	+0.5
PLD	Plovdiv	3.48	72	*e*Pn	Pn	11 41 23.3	+0.5
MRKA	Markates	3.54	132	*e*PN	Pn	11 41 24.3	+0.7
MRKA	Markates	3.54	132	*e*Pn	Pn	11 41 24.3	+0.7
CUC	Castrocucco	3.56	253	*e*Pn	Pn	11 41 24.1	+0.2
CUC	Castrocucco	3.56	253	*e*Pn	Pn	11 41 24.1	+0.2
GUR	Goura	3.59	152	P	Pn	11 41 25.8	+1.4
GUR	Goura	3.59	152	*e*PN	Pn	11 41 26.4	+2.0
GUR	Goura	3.59	152	P	Pn	11 41 25.8	+1.4
GUR	Goura	3.59	152	*e*Pn	Pn	11 41 26.4	+2.0
VIL2	Platees	3.74	140	*e*PN	Pn	11 41 27.8	+1.4
LTK	Loutraki	3.76	145	*e*PN	Pn	11 41 27.8	+1.2
LTK	Loutraki	3.76	145	*e*Pn	Pn	11 41 27.8	+1.2
AMT	Artemida-Makis	3.78	162	*e*PN	Pn	11 41 29.1	+2.2
AMT	Artemida-Makis	3.78	162	*e*Pn	Pn	11 41 29.1	+2.2
VILL	Villia	3.80	140	*e*Pn	Pn	11 41 27.8	+0.6
KDZ	Kurdzhali	3.93	81	⇑*i*P	Pn	11 41 29.2	+0.2
KDZ	Kurdzhali	3.93	81	⇑*i*P	Pn	11 41 29.2	+0.2
LIA	Limnos Island	3.97	107	*e*PN	Pn	11 41 30.6	+1.1
LIA	Limnos Island	3.97	107	*e*Pn	Pn	11 41 30.6	+1.1
FGSL	Fruska Gora	4.03	356	*e*Pn	Pn	11 41 32.5	+2.1
FRGS	Fruska Gora	4.03	356	*e*Pn	Pn	11 41 32.5	+2.1
SMTH	Samothraki Isl	4.07	98	*e*PN	Pn	11 41 31.4	+0.5
SMTH	Samothraki Isl	4.07	98	*e*Pn	Pn	11 41 31.4	+0.5
VLX	Vlachokerasia	4.11	155	*e*PN	Pn	11 41 34.5	+2.9
VLX	Vlachokerasia	4.11	155	*e*Pn	Pn	11 41 34.5	+2.9
ATH	Athens Observa	4.15	138	*e*PN	Pn	11 41 32.7	+0.7
ATH	Athens Observa	4.15	138	*e*Pn	Pn	11 41 32.7	+0.7
ITM	Ithomi	4.16	161	*e*PN	Pn	11 41 34.5	+2.3
ITM	Ithomi	4.16	161	*e*Pn	Pn	11 41 34.5	+2.3
PTL	Penteli	4.17	137	*e*PN	Pn	11 41 34.7	+2.4
PTL	Penteli	4.17	137	*e*Pn	Pn	11 41 34.7	+2.4
BLY	Banja Luka	4.25	329	*e*Pn	Pn	11 41 35.5	+2.2
BLY	Banja Luka	4.25	329	*e*Pn	Pn	11 41 35.5	+2.2
DID	Didima	4.31	146	P	Pn	11 41 35.3	+1.1
DID	Didima	4.31	146	*e*PN	Pn	11 41 35.7	+1.5
DID	Didima	4.31	146	P	Pn	11 41 35.3	+1.1
DID	Didima	4.31	146	*e*Pn	Pn	11 41 35.7	+1.5
PYL	PYLOS	4.39	164	*e*PN	Pn	11 41 36.1	+0.7
PYL	PYLOS	4.39	164	*e*Pn	Pn	11 41 36.1	+0.7
ALN	Alexandroupoli	4.40	91	P	Pn	11 41 36.3	+0.9
ALN	Alexandroupoli	4.40	91	*e*PN	Pn	11 41 36.5	+1.1
ALN	Alexandroupoli	4.40	91	*e*Pn	Pn	11 41 36.5	+1.1
CEL	Celeste	4.41	231	*e*Pn	Pn	11 41 35.1	-0.6
CEL	Celeste	4.41	231	*e*Pn	Pn	11 41 35.1	-0.6
BZS	Buzias	4.59	12	*e*Pn	Pn	11 41 39.9	+1.9
BZS				*e*Sn	Sn	11 42 37.4	+5.8
BZS	Buzias	4.59	12	⇑*i*P	Pn	11 41 41.6	+3.6
BZS	Buzias	4.59	12	*e*Pn	Pn	11 41 39.9	+1.9
BZS	Buzias	4.59	12	⇑*i*P	Pn	11 41 41.6	+3.6
BZS				S	Sn	11 42 33.6	+2.0
BZS				*e*Sn	Sn	11 42 37.4	+5.8
GZR	Gura Zlata	4.64	23	⇑*i*P	Pn	11 41 41.7	+2.9
GZR	Gura Zlata	4.64	23	⇑*i*P	Pn	11 41 41.7	+2.9
UDBI	Udbina	4.72	317	*i* Pn	Pn	11 42 41.2	+2.2
UDBI				Sn	Sn	11 42 35.0	-0.1
UDBI	Udbina	4.72	317	*i* Pn	Pn	11 41 42.1	+2.2
UDBI				Sn	Sn	11 42 34.9	-0.1
JMB	Yambol	4.93	72	⇑*i*P	Pn	11 41 43.4	+0.7
JMB	Yambol	4.93	72	⇑*i*P	Pn	11 41 43.4	+0.7
PRK	Paraskevi	4.99	110	*e*PN	Pn	11 41 43.5	-0.1
PRK	Paraskevi	4.99	110	*e*Pn	Pn	11 41 43.5	-0.1
LOT	Lotru	5.02	30	⇓*i*P	Pn	11 41 35.8	-8.3
PKSM	Moragy	5.20	348	⇑*e*Pn	Pn	11 41 48.4	+2.0
PKSM				*e*Sn	Sn	11 42 50.2	+3.5
PKSM	Moragy	5.20	348	⇑*e*pPn	Pn	11 41 48.4	+2.0
PKSM				*e*sn	Sn	11 42 50.2	+3.5
NVLJ	Novalja	5.22	313	*e*Pn	Pn	11 41 47.4	+0.6
NVLJ				Sn	Sn	11 42 46.9	-0.4
NVLJ	Novalja	5.22	313	*e*Pn	Pn	11 41 47.3	+0.6
NVLJ				Sn	Sn	11 42 46.8	-0.4
AQU	L'Aquila	5.26	286	*e*Pn	Pn	11 41 47.0	-0.2
AQU	L'Aquila	5.26	286	*e*Pn	Pn	11 41 47.0	-0.2
CHOS	Chios island	5.26	120	*e*PN	Pn	11 41 48.9	+1.6
CHOS	Chios island	5.26	120	*e*Pn	Pn	11 41 48.9	+1.6
ARR	Arges	5.31	36	⇓*i*P	Pn	11 41 50.5	+2.5
ARR	Arges	5.31	36	⇓*i*P	Pn	11 41 50.5	+2.5
VOIR		5.55	38	⇑*i*P	Pn	11 41 53.0	+1.7
VOIR		5.55	38	⇑*i*P	Pn	11 41 53.0	+1.7
BOJS	Bojanci	5.68	322	*i* Pn	Pn	11 41 54.3	+1.3
BOJS				*i* Sn	Sn	11 42 59.6	+1.1
BOJS	Bojanci	5.68	322	Pn	Pn	11 41 54.3	+1.3
BOJS				*i* Sn	Sn	11 42 59.6	+1.1
APE	Apeiranthos	5.78	133	*e*PN	Pn	11 41 55.1	+0.6
APE	Apeiranthos	5.78	133	*e*Pn	Pn	11 41 55.1	+0.6
ANKY	Antikythira Is	5.78	154	*e*PN	Pn	11 41 56.8	+2.4
ANKY	Antikythira Is	5.78	154	*e*Pn	Pn	11 41 56.8	+2.4
MLR	Muntele Rosu	6.02	42	Pn	Pn	11 42 01.6	+3.7
	comp=N,0.2nm,0.3s,baz=267,slow=13,SNR=7.8						
MLR				Sn	Sn	11 43 08.9	+1.7
	comp=N,0.1nm,0.3s,baz=250,slow=18,SNR=2.3						
MLR				LR	LR	11 45 14.3	
	comp=N,26nm,19.8s,baz=228,slow=47						
MLR	Muntele Rosu	6.02	42	⇑*i*P	Pn	11 42 00.5	+2.7
MLR	Muntele Rosu	6.02	42	⇑*i*P	Pn	11 42 00.5	+2.7
ISR	Istrita	6.09	47	⇑*i*P	Pn	11 41 59.9	+1.2
ISR	Istrita	6.09	47	⇑*i*P	Pn	11 41 59.9	+1.2
VISS	Visnje	6.10	322	*e*Pn	Pn	11 41 59.9	+1.1
VISS				*i* Sn	Sn	11 43 09.6	+0.8
VISS	Visnje	6.10	322	*e*Pn	Pn	11 41 59.9	+1.1
VISS				*i* Sn	Sn	11 43 09.6	+0.8
PKST	T"s	6.32	346	*e*pPn	Pn	11 42 05.9	+4.1
PKST				*e*sn	Sn	11 43 18.9	+4.6
PKSG		6.39	349	*e*pPn	Pn	11 42 07.4	+4.6
PKSG				*e*sn	Sn	11 43 22.1	+6.1
PSN	Preselentsi	6.41	64	⇓*i*P	Pn	11 42 03.0	0.0
PSN	Preselentsi	6.41	64	⇓*i*P	Pn	11 42 03.0	0.0
JAVS	Javornik	6.54	319	*i* Pn	Pn	11 42 05.1	+0.2
JAVS				*i* Sn	Sn	11 43 18.4	-1.3
JAVS	Javornik	6.54	319	*i* Pn	Pn	11 42 05.1	+0.2
PERS	Pernice	6.62	328	*i* Pn	Pn	11 42 06.9	+0.9
PERS				*i* Sn	Sn	11 43 25.2	+3.4
PERS	Pernice	6.62	328	*i* Pn	Pn	11 42 06.9	+0.9
PLOR	Plostina	6.63	43	⇑*i*P	Pn	11 42 12.5	+6.4
VRI	Vrincioaia	6.68	43	⇑*i*P	Pn	11 42 08.6	+1.9
VRI	Vrincioaia	6.68	43	⇑*i*P	Pn	11 42 08.6	+1.9
TLB	Topalu	6.69	56	⇓*i*P	Pn	11 42 08.5	+1.6
TLB	Topalu	6.69	56	⇓*i*P	Pn	11 42 08.5	+1.6
SOKA	Soboth	6.69	328	⇓*i*Pn	Pn	11 42 08.3	+1.3
	SNR=7.3						
SOKA	Soboth	6.69	328	Pn	Pn	11 42 08.3	+1.3
	SNR=7.3						
OBKA	Obir	6.76	324	⇑*i*Pn	Pn	11 42 08.6	+0.6
OBKA	Obir	6.76	324	Pn	Pn	11 42 08.6	+0.6
PSZ	Piszkesteto	6.79	358	*e*Pn	Pn	11 42 09.8	+1.6
	comp=N,11nm,0.6s						
PSZ				*e*Sn	Sn	11 43 27.4	+1.6
PSZ	Piszkesteto	6.79	358	*e*Pn	Pn	11 42 09.8	+1.6
	comp=N,11nm,0.6s						
PSZ	Piszkesteto	6.79	358	*e*pPn	Pn	11 42 11.3	+3.1
PSZ				*e*Sn	Sn	11 43 27.4	+1.6
TIRR	Tirgusor	6.87	58	⇑*i*P	Pn	11 42 10.3	+1.0
TIRR	Tirgusor	6.87	58	⇑*i*P	Pn	11 42 10.3	+1.0
TIRR	Tirgusor	6.87	58	Pn	Pn	11 42 12.0	+2.7
TIRR	Tirgusor	6.87	58	Pn	Pn	11 42 12.0	+2.7
IDI	Anoyia	6.89	146	Pn	Pn	11 42 09.4	-0.4
	comp=N,0.6nm,0.3s,baz=314,slow=14,SNR=6.9						
IDI				Sn	Sn	11 43 25.6	-2.9
	comp=N,1.5nm,0.3s,baz=299,slow=22,SNR=4.2						
ARSA	Arzberg	6.99	333	⇓*i*Pn	Pn	11 42 11.1	+0.1
	SNR=8.0						
ARSA	Arzberg	6.99	333	Pn	Pn	11 42 11.1	+0.1
	SNR=8.0						
TRPA	Tarpa	7.18	12	⇓*i*P	Pn	11 42 17.9	+4.3
KECS	Kecovo	7.35	1	*e*PN	Pn	11 42 16.6	+0.7
KECS				*e*SN	Sn	11 43 38.9	-0.7
BURAR	Bucovina Array	7.39	27	⇑*i*P	Pn	11 42 19.6	+3.0
BURAR	Bucovina Array	7.39	27	⇑*i*P	Pn	11 42 19.6	+3.0
BUR08	Bucovina Ar. S	7.41	27	*e*Pn	Pn	11 42 20.3	+3.5
TLCR		7.46	54	⇓*i*P	Pn	11 42 17.9	+0.5
TLCR		7.46	54	⇓*i*P	Pn	11 42 17.9	+0.5
ABTA	Abfaltersbach	7.90	318	⇓*i*Pn	Pn	11 42 24.0	+0.4
ABTA	Abfaltersbach	7.90	318	Pn	Pn	11 42 24.0	+0.4
KOLS	Kolonicke sedl	7.93	10	*e*PN	Pn	11 42 27.0	+3.1
MOA	Molln	7.95	330	⇓*i*Pn	Pn	11 42 25.7	+1.5
MOA	Molln	7.95	330	Pn	Pn	11 42 25.7	+1.5
STHS	Stebnicka Huta	8.31	5	*e*PN	Pn	11 42 31.7	+2.6
PGF	Pioggiola	8.51	283	*e*Pn	Pn	11 42 30.0	-1.9
PGF	Pioggiola	8.51	283	*e*Pn	Pn	11 42 30.0	-1.9
VRAC	Vranov	8.56	344	Pn	Pn	11 42 34.4	+1.8
	comp=N,0.3nm,0.3s,baz=188,slow=12,SNR=3.2						
VRAC				LR	LR	11 46 40.1	
	comp=N,81nm,19.0s,baz=172,slow=43						
WATA	Walderalm	8.77	318	⇑*i*Pn	Pn	11 42 36.4	+0.8
	SNR=18						
WATA	Walderalm	8.77	318	Pn	Pn	11 42 36.4	+0.8
	SNR=18						
MOTA	Moosalm	9.02	317	⇑*i*Pn	Pn	11 42 39.6	+0.7
	SNR=10						
MOTA	Moosalm	9.02	317	Pn	Pn	11 42 39.7	+0.7
	SNR=10						
KHC	Kasperske Hory	9.27	332	*e*PN	Pn	11 42 42.8	+0.5
KHC				*e*SN	Sn	11 44 25.9	-1.0
KHC				AMS	AMS	11 47 00.0	
	comp=N,200nm,8.3s						
KHC	Kasperske Hory	9.27	332	Pn	Pn	11 42 42.8	+0.5
DAVOX	Davos/Dischmat	9.36	311	Pn	Pn	11 42 44.3	+0.7
	comp=N,2.3nm,0.3s,baz=146,slow=7.2,SNR=17						
DAVOX				Sn	Sn	11 44 25.4	-3.8
	comp=N,0.4nm,0.3s,baz=18,slow=20,SNR=2.3						
TUE	Stuetta	9.51	308	*e*Pn	Pn	11 42 44.7	-1.0
TUE	Stuetta	9.51	308	*e*Pn	Pn	11 42 44.6	-1.0
SBF	Sospel	9.84	290	*e*Pn	Pn	11 42 48.1	-2.0
SBF	Sospel	9.84	290	*e*Pn	Pn	11 42 48.1	-2.0
BRTR	Keskin Array B	10.32	93	Pn	Pn	11 42 58.9	+2.1
	comp=N,0.2nm,0.3s,baz=274,slow=13,SNR=5.3						
FRF	La Foret Royal	10.35	288	*e*Pn	Pn	11 42 55.3	-1.7
FRF	La Foret Royal	10.35	288	*e*Pn	Pn	11 42 55.3	-1.7
LMR	La Mourre	10.41	287	*e*Pn	Pn	11 42 56.0	-1.9
LMR	La Mourre	10.41	287	*e*Pn	Pn	11 42 56.0	-1.9
MBDF	Montbardon	10.51	294	*e*Pn	Pn	11 42 57.3	-2.0
MBDF	Montbardon	10.51	294	*e*Pn	Pn	11 42 57.3	-2.0
LPG	La Plagne	10.75	298	*e*Pn	Pn	11 43 00.8	-2.0
LPG				*e*Sn	Sn	11 44 55.2	-8.3
	comp=N,5.3nm,0.5s						
LPG	La Plagne	10.75	298	*e*Pn	Pn	11 43 00.8	-2.0
LPG				*e*Sn	Sn	11 44 55.2	-8.3
	comp=N,2.7nm,0.5s						
LPL	La Plagne	10.77	298	*e*Pn	Pn	11 43 00.9	-2.1
LPL				*e*Sn	Sn	11 44 55.5	-8.3
	comp=N,6.0nm,0.4s						
LPL	La Plagne	10.77	298	*e*Pn	Pn	11 43 00.9	-2.1
LPL				*e*Sn	Sn	11 44 55.5	-8.3
	comp=N,3.0nm,0.4s						
STU	Stuttgart	10.92	318	*e*P	Pn	11 43 03.8	-1.1
	comp=N,16nm,0.8s						
STU	Stuttgart	10.92	318	*e*P	Pn	11 43 03.8	-1.1
	comp=N,16nm,0.8s						
BFO	Black Forest	11.10	314	*e*Pn	Pn	11 43 03.0	-4.4
ORIF	Oris-en-Rattie	11.17	295	*e*Pn	Pn	11 43 06.3	-2.0
ORIF				*e*Sn	Sn	11 45 05.1	-8.4
	comp=N,2.1nm,0.4s						
ORIF	Oris-en-Rattie	11.17	295	*e*Pn	Pn	11 43 06.3	-2.0
ORIF				*e*Sn	Sn	11 45 05.1	-8.4
	comp=N,1.0nm,0.4s						
SMRF	Simiane la Rot	11.18	290	*e*Pn	Pn	11 43 06.4	-2.1
SMRF	Simiane la Rot	11.18	290	*e*Pn	Pn	11 43 06.4	-2.1
AKASG	Malin Array Be	11.42	30	Pn	Pn	11 43 15.7	+4.0
	baz=220,slow=13,SNR=4.2						
CABF	La Chapelle	11.58	303	*e*Pn	Pn	11 43 11.8	-2.2
CABF	La Chapelle	11.58	303	*e*Pn	Pn	11 43 11.8	-2.2
HINF	Hinteralfeld	11.65	309	*e*Pn	Pn	11 43 12.6	-2.3
HINF				*e*Sn	Sn	11 45 16.5	-8.8
	comp=N,4.6nm,0.5s						
HINF	Hinteralfeld	11.65	309	*e*Pn	Pn	11 43 12.6	-2.3
CDF	Champ du Feu	11.73	313	*e*Pn	Pn	11 43 13.9	-2.1
CDF	Champ du Feu	11.73	313	*e*Pn	Pn	11 43 13.9	-2.1
VIVF	Saint-Julien-l	11.99	293	*e*Pn	Pn	11 43 17.4	-2.1
VIVF	Saint-Julien-l	11.99	293	*e*Pn	Pn	11 43 17.4	-2.1
HAU	Haudompre	12.04	309	*e*Pn	Pn	11 43 17.9	-2.3
HAU				*e*Sn	Sn	11 45 25.5	-9.3
	comp=N,5.6nm,0.4s						
HAU	Haudompre	12.04	309	*e*Pn	Pn	11 43 17.9	-2.3
HAU				*e*Sn	Sn	11 45 25.5	-9.3
	comp=N,2.8nm,0.4s						
SFTF	Sexfontaines	12.91	308	*e*Pn	Pn	11 43 29.8	-2.2
SFTF	Sexfontaines	12.91	308	*e*Pn	Pn	11 43 29.8	-2.2
SMF	Signal de Mont	13.04	300	*e*Pn	Pn	11 43 31.7	-2.1
SMF	Signal de Mont	13.04	300	*e*Pn	Pn	11 43 31.7	-2.1
LOR	Lormes	13.24	303	*e*Pn	Pn	11 43 34.4	-2.2
	baz=123						
LOR				*e*Sn	Sn	11 45 54.4	-10
	comp=N,3.8nm,0.4s						
LOR	Lormes	13.24	303	*e*Pn	Pn	11 43 34.4	-2.2
LOR				*e*Sn	Sn	11 45 54.4	-10
	comp=N,1.9nm,0.4s						
SSF	Saint Saulge	13.39	302	*e*Pn	Pn	11 43 36.5	-2.1
SSF				*e*Sn	Sn	11 45 58.1	-10
	comp=N,3.6nm,0.6s						
SSF	Saint Saulge	13.39	302	*e*Pn	Pn	11 43 36.5	-2.1
SSF				*e*Sn	Sn	11 45 58.1	-10
	comp=N,1.8nm,0.6s						
AVF	Avril sur Loir	13.40	301	*e*Pn	Pn	11 43 36.5	-2.2
AVF	Avril sur Loir	13.40	301	*e*Pn	Pn	11 43 36.5	-2.2
BGF	Bois d'Agland	13.66	299	*e*Pn	Pn	11 43 40.0	-2.3
BGF	Bois d'Agland	13.66	299	*e*Pn	Pn	11 43 40.0	-2.3
GIVF	Givet	14.00	315	*e*Pn	Pn	11 43 44.7	-2.2
GIVF	Givet	14.00	315	*e*Pn	Pn	11 43 44.7	-2.2
TCF	Toulx Ste Croi	14.01	298	*e*Pn	Pn	11 43 44.9	-2.2
TCF				*e*Sn	Sn	11 46 12.7	-10
	comp=N,1.7nm,0.2s						
TCF	Toulx Ste Croi	14.01	298	*e*Pn	Pn	11 43 44.9	-2.2
TCF				*e*Sn	Sn	11 46 12.7	-10
	comp=N,0.9nm,0.2s						
MMAI	Mount Meron Ar	14.56	119	LR	LR	11 50 48.3	
	comp=N,42nm,19.2s,baz=200,slow=43						
ASF	Jabal al Asfar	16.07	119	LR	LR	11 51 59.0	
	comp=N,1µm,20.4s,baz=116,slow=43						
KBZ	Khabaz	16.92	74	P	P	11 44 29.9	+2.5
	comp=N,0.1nm,0.3s,baz=323,slow=20,SNR=6.8						
HFS	Hagfors	19.45	350	P	P	11 44 55.2	0.0
	comp=N,0.5nm,0.3s,baz=176,slow=10,SNR=14						
FINES	FINESS Array B	20.64	8	P	P	11 45 07.6	-0.5
	comp=N,1.4nm,0.7s,baz=187,slow=13,SNR=8.9						
NB2	NORSAR Subarra	20.68	348	P	P	11 45 08.4	-0.2
	comp=Z,1.0nm,0.5s,baz=152,slow=11						
NB2	NORSAR Subarra	20.68	348	P	P	11 45 08.4	-0.2
	comp=Z,1.0nm,0.5s,SNR=6.2						
NOA	NORSAR Array B	20.68	348	P	P	11 45 09.2	+0.5
	comp=Z,1.0nm,0.6s,baz=153,slow=11,SNR=6.4						
NOA				LR	LR	11 53 15.6	
	comp=Z,20nm,18.8s,baz=175,slow=37						
EKA	Eskdalemuir Ar	20.94	321	P	P	11 45 12.2	+0.8
	comp=Z,1.7nm,0.7s,baz=113,slow=10,SNR=3.0						
ARCES	ARCESS Array B	28.60	4	P	P	11 46 23.9	-0.8
	comp=Z,0.8nm,0.8s,baz=191,slow=9.2,SNR=4.2						
TORD	Torodi Ar. Bea	32.25	215	P	P	11 46 57.5	+0.1
	comp=Z,2.1nm,0.8s,baz=26,slow=9.2,SNR=12						
ZALV	Zalesovo Beam	43.93	50	P	P	11 48 35.9	+0.4
	comp=Z,2.1nm,0.6s,baz=265,slow=8.8,SNR=5.5						
MKAR	Makanchi Array	44.00	61	P	P	11 48 36.4	+0.2
	comp=Z,0.5nm,0.8s,baz=268,slow=4.3,SNR=3.2						
SONM	Songino Array	58.78	52	P	P	11 50 27.3	+0.3
	comp=Z,0.7nm,0.7s,baz=294,slow=6.3,SNR=5.5						
CMAR	Chiang Mai Arr	69.72	83	P	P	11 51 39.6	+0.5
	comp=Z,0.5nm,0.3s,baz=307,slow=6.8,SNR=5.2						
YKA	Yellowknife Ar	70.54	340	P	P	11 51 42.9	-0.5
	comp=Z,0.4nm,0.9s,baz=34,slow=5.6,SNR=3.0				

ZALV					Lg	Lg	12 37 27.9		
	2.6nm,0.3s,baz=85,slow=20,SNR=5.6								
ZALV					Rg	Rg	12 37 39.5		
	2.5nm,0.3s,baz=74,slow=26,SNR=7.4								
KURK	**Kurchatov**	**6.21**	**238**	⇑Pn	**Pn**	**12 38 16.0**	**+0.8**		
	0.9nm,0.8s								
KURK				⇓Sn	**Sn**	**12 39 28.0**	**+1.8**		
	0.5nm,0.5s								
KURK				⇓Lg	Lg	12 40 01.7			
	4.9nm,1.4s								
KURBB	**Kurchatov Arra**	**6.31**	**238**	⇓Pn	**Pn**	**12 38 17.7**	**+1.0**		
	0.7nm,0.3s								
KURBB				⇑Sn	**Sn**	**12 39 28.6**	**-0.1**		
	2.4nm,0.6s								
KURBB				⇑Lg	Lg	12 40 04.6			
	8.8nm,1.1s								
KURBB	**Kurchatov Arra**	**6.31**	**238**	Pn	**Pn**	**12 38 18.1**	**+1.5**		
	0.2nm,0.3s,baz=56,slow=14,SNR=7.7								
KURBB				Sn	**Sn**	**12 39 29.8**	**+1.1**		
	0.0nm,0.3s,baz=51,slow=20,SNR=3.5								
KURBB				Lg	Lg	12 40 05.1			
	0.1nm,0.3s,baz=51,slow=32,SNR=6.8								
MK31	**Makanchi Array**	**8.05**	**203**	Pn	**Pn**	**12 38 41.9**	**+1.3**		
	0.1nm,0.3s,baz=21,slow=11,SNR=13								
MK31				⇓Sn	**Sn**	**12 40 11.6**	**0.0**		
	0.4nm,0.5s								
MK31				⇓Lg	Lg	12 40 52.7			
	6.6nm,1.4s,baz=23,slow=32,SNR=3.7								
MKAR	**Makanchi Array**	**8.05**	**203**	Pn	**Pn**	**12 38 41.4**	**+0.8**		
	0.2nm,0.3s,baz=27,slow=14,SNR=11								
MKAR				Sn	**Sn**	**12 40 08.3**	**-3.3**		
	0.1nm,0.3s,baz=26,slow=26,SNR=2.7								
MKAR				Lg	Lg	12 40 57.2			
	0.0nm,0.3s,baz=20,slow=34,SNR=4.2								
BVAR	**Borovoye Array**	**9.91**	**270**	Sn	**Sn**	**12 40 54.9**	**-2.4**		
	0.2nm,0.3s,baz=72,slow=32,SNR=4.7								

*SJA **30** 12:40:43.8±0.5,34.70S×74.44W,h40km±24km,ML3.5*
*IDC **30** 12:40:45.0±4.9,35.07S×73.68W,h0km,mb3.6/4, mb1 3.9/6,mb1mx3.8/18,mbtmp3.6/6,ML3.3/2,Error ellipse: s-maj=122.7km s-min=34.2km az=157.0*
*GUC **30** 12:40:48.8±0.3,34.69S×73.77W,h20km±3km,ML4.0*
*ISCJB **30** 12:40:49.9±0.7,34.70S±0.04×73.79W±0.06,h33km, mb3.5/4,Error ellipse: s-maj=6.6km s-min=6.1km az=27.2*
ISC 30 12:40:51.9±1.1,34.75S±0.05×73.75W±0.08,h35km,n23, σ1§23/35,mb3.5/4,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
TALC	**Talca**	**1.85**	**111**	*e*P		**Pn**	**12 41 20.0**	**-1.2**
TALC				*e*S		**Sn**	**12 41 43.6**	**+0.3**
LNCH	**Linares**	**2.07**	**122**	*e*P		**Pn**	**12 41 23.6**	**-0.6**
LNCH				*e*S		**Sn**	**12 41 49.8**	**+1.1**
NICH	**Los Niches**	**2.09**	**98**	*e*P		**Pn**	**12 41 23.6**	**-0.9**
NICH				*e*S		**Sn**	**12 41 49.9**	**+0.7**
CCSP	**San Pedro de C**	**2.15**	**166**	*e*P		**Pn**	**12 41 24.9**	**-0.4**
CACH	**El Canelo**	**2.68**	**77**	*e*P		**Pn**	**12 41 32.1**	**-0.6**
CHCH	**Chadas Angostu**	**2.69**	**73**	*e*P		**Pn**	**12 41 31.6**	**-1.1**
ROCH	**El Roble**	**2.89**	**53**	*e*P		**Pn**	**12 41 34.3**	**-1.4**
ROCH				*e*S		**Sn**	**12 42 09.3**	**0.0**
CLCH	**Cerro Calan**	**2.99**	**64**	*e*P		**Pn**	**12 41 35.8**	**-1.2**
CLCH				*e*S		**Sn**	**12 42 11.3**	**-0.3**
CLCH					AML	AML	12 42 16.1	
	comp=N,326nm,0.4s							
PEL	**Peldehue**	**3.01**	**59**	*e*P		**Pn**	**12 41 35.6**	**-1.6**
PEL				*e*S		**Sn**	**12 42 11.6**	**-0.4**
PEL					AML	AML	12 42 15.6	
	comp=N,445nm,0.3s							
AUSP	**Uspallata**	**4.43**	**57**	*i* P		**Pn**	**12 41 57.3**	**+0.4**
AUSP				*i* S		**Sn**	**12 42 51.2**	**+3.7**
RTLS	**Leoncito**	**4.75**	**53**	*i* P		**Pn**	**12 42 01.4**	**0.0**
RTLS				*i* S		**Sn**	**12 42 57.8**	**+2.4**
RTCV	**Cerro Valdivia**	**5.23**	**58**	*i* P		**Pn**	**12 42 07.2**	**-0.5**
CFAA	**Coronel Fontan**	**5.59**	**57**	Pn		**Pn**	**12 42 12.1**	**-0.5**
	comp=N,0.4nm,0.3s,baz=229,slow=12,SNR=16							
CFAA				Sn		**Sn**	**12 43 15.5**	**-0.1**
	comp=N,0.2nm,0.3s,baz=116,slow=21,SNR=9.9							
CFAA	**Coronel Fontan**	**5.59**	**57**	*i* P		**Pn**	**12 42 11.3**	**-1.3**
CFAA				*i* S		**Sn**	**12 43 17.5**	**+1.9**
RTLL	**Cerro Villicun**	**5.59**	**54**	*i* P		**Pn**	**12 42 11.4**	**-1.2**
RTLL				*i* S		**Sn**	**12 43 17.1**	**+1.4**
AMOG	**MOGNA**	**5.83**	**51**	*i* P		**Pn**	**12 42 15.0**	**-1.0**
AMOG				*i* P		**Pn**	**12 42 15.0**	**-1.0**
ACAN	**Cantantal**	**6.01**	**68**	*i* P		**Pn**	**12 42 18.0**	**-0.5**
AVFE	**Valle Fertil**	**6.69**	**54**	*i* P		**Pn**	**12 42 26.0**	**-1.8**
AVFE					AML	AML	12 43 47.1	
	comp=Z,7.9nm,0.4s							
LPAZ	**La Paz**	**19.07**	**17**	P		**Pn**	**12 45 13.4**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=172,slow=8.1,SNR=6.3							
SIV	**San Ignacio**	**21.88**	**35**	P		**P**	**12 45 40.9**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=224,slow=9.8,SNR=3.7							
TXAR	**Lajitas Array**	**69.72**	**332**	P		**P**	**12 51 58.5**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=162,slow=8.6,SNR=11							
NVAR	**Mina Array Bea**	**83.71**	**326**	P		**P**	**12 53 17.9**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=161,slow=7.3,SNR=3.0							
PDAR	**Pinedale Array**	**83.81**	**334**	P		**P**	**12 53 17.4**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=143,slow=6.5,SNR=3.5							

*IDC **30** 13:12:35.2±3.9,36.44S×177.87E,h146km±26km,mb3.2/3, mb1 3.4/3,mb1mx3.2/16,mbtmp3.6/3,Error ellipse: s-maj=58.6km s-min=22.7km az=46.0*
*ISCJB **30** 13:12:39.2±0.9,37.41S±0.08×177.5E±0.1,h218km±7km, mb3.2/3,Error ellipse: s-maj=16.0km s-min=10.8km az=36.0*
*WEL **30** 13:12:41.9±0.5,37.06S×177.21E,h157km±4km,ML4.0/18, Error ellipse: s-maj=4.0km s-min=3.9km az=0.0*
*NEIC **30** 13:12:41.1,37.02S×177.24E,h163km,MG4.0(WEL), After WEL.*
ISC 30 13:12:41.1±1.0,37.26S±0.09×177.33E±0.08,h187km±7km, n138,σ1§31/135,mb3.3/3,6C,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
HAZ	**Te Kaha**	**0.62**	**144**	⇑PN		**Pn**	**13 13 05.8**	**-1.3**
HAZ				SN		**Sn**	**13 13 23.7**	**-3.7**
MXZ	**Matakaoa Point**	**0.84**	**112**	⇑PN		**Pn**	**13 13 07.1**	**-1.2**
MXZ				SN		**Sn**	**13 13 27.6**	**-1.9**
MXZ					AML	AML	13 13 27.9	
MXZ	**Matakaoa Point**	**0.84**	**112**	Pn		**Pn**	**13 13 07.1**	**-1.2**
MXZ				Sn		**Sn**	**13 13 27.6**	**-1.9**
URZ	**Urewera**	**1.02**	**190**	⇑PN		**Pn**	**13 13 09.0**	**-0.6**
URZ					AML	AML	13 13 30.8	
URZ					AML	AML	13 13 32.8	
URZ	**Urewera**	**1.02**	**190**	P		**Pn**	**13 13 09.0**	**-0.6**
	8.9nm,0.3s,baz=277,slow=4.4,SNR=240							
URZ				S		Sn	13 13 26.4	-5.4
	17nm,0.3s,baz=277,slow=4.8,SNR=11							
URZ	**Urewera**	**1.02**	**190**	Pn		**Pn**	**13 13 09.0**	**-0.6**
WMGZ	**Waiomatatini S**	**1.03**	**123**	⇑PN		**Pn**	**13 13 09.2**	**+0.5**
TWGZ	**Tauwhareparae**	**1.05**	**151**	⇑PN		**Pn**	**13 13 10.2**	**+0.3**
TWGZ				SN		**Sn**	**13 13 31.9**	**-0.5**
MWZ	**Matawai**	**1.09**	**172**	PN		**Pn**	**13 13 09.9**	**-0.3**
MWZ					AML	AML	13 13 33.0	
MWZ					AML	AML	13 13 34.2	
MWZ	**Matawai**	**1.09**	**172**	Pn		**Pn**	**13 13 09.9**	**-0.3**
PUZ	**Puketiti**	**1.10**	**138**	PN		**Pn**	**13 13 09.9**	**-0.3**
PUZ					AML	AML	13 13 32.5	
PUZ					AML	AML	13 13 32.7	
PUZ	**Puketiti**	**1.10**	**138**	Pn		**Pn**	**13 13 09.9**	**-0.3**
TKGZ	**Te Karaka**	**1.25**	**161**	PN		**Pn**	**13 13 11.5**	**+0.1**
KUZ	**Kuaotunu**	**1.38**	**291**	PN		Pn	13 13 10.0	-2.5
KUZ	**Kuaotunu**	**1.38**	**291**	Pn		Pn	13 13 10.0	-2.5
CNGZ	**Carnagh Statio**	**1.41**	**151**	PN		**Pn**	**13 13 13.5**	**+0.8**
CNGZ	**Carnagh Statio**	**1.41**	**151**	Pn		**Pn**	**13 13 13.5**	**+0.8**
PRRZ	**Plateau Road**	**1.44**	**210**	PN		**Pn**	**13 13 13.1**	**+0.1**
RIGZ	**Rimuhau**	**1.49**	**167**	PN		**Pn**	**13 13 14.0**	**+0.5**
ALRZ	**Allen Road**	**1.52**	**210**	PN		**Pn**	**13 13 14.1**	**+0.3**
ALRZ	**Allen Road**	**1.52**	**210**	Pn		**Pn**	**13 13 14.1**	**+0.3**
SNGZ	**Shannon Statio**	**1.52**	**180**	PN		**Pn**	**13 13 14.2**	**+0.4**
RAHZ	**Arahi**	**1.67**	**186**	PN		**Pn**	**13 13 15.9**	**+0.7**
RAHZ	**Arahi**	**1.67**	**186**	Pn		**Pn**	**13 13 15.9**	**+0.7**
PRGZ	**Paritu Road**	**1.72**	**165**	PN		**Pn**	**13 13 16.3**	**+0.6**
PRGZ	**Paritu Road**	**1.72**	**165**	Pn		**Pn**	**13 13 16.3**	**+0.6**
KNZ	**Kokohu**	**1.78**	**171**	⇑PN		**Pn**	**13 13 16.6**	**+0.4**
KNZ	**Kokohu**	**1.78**	**171**	Pn		**Pn**	**13 13 16.6**	**+0.4**
WHHZ	**Waihua**	**1.82**	**182**	PN		**Pn**	**13 13 17.3**	**+0.6**
NMHZ	**Naumai**	**1.88**	**192**	PN		**Pn**	**13 13 18.4**	**+1.0**
NMHZ				SN		**Sn**	**13 13 47.3**	**+1.4**
NMHZ	**Naumai**	**1.88**	**192**	Pn		**Pn**	**13 13 18.4**	**+1.0**
MHGZ	**Mahia Peninsul**	**1.95**	**167**	Pn		**Pn**	**13 13 18.4**	**+0.3**
BKZ	**Black Stump Fm**	**2.02**	**199**	PN		**Pn**	**13 13 18.6**	**-0.2**
BKZ					AML	AML	13 13 54.0	
BKZ					AML	AML	13 14 00.1	
BKZ	**Black Stump Fm**	**2.02**	**199**	Pn		**Pn**	**13 13 18.6**	**-0.2**
ARHZ	**Aropaoanui**	**2.02**	**187**	PN		**Pn**	**13 13 19.5**	**+0.7**
MCHZ	**McNeill Hill**	**2.24**	**193**	PN		**Pn**	**13 13 21.7**	**+0.6**
MCHZ				SN		**Sn**	**13 13 54.2**	**+1.6**
MCHZ	**McNeill Hill**	**2.24**	**193**	Pn		**Pn**	**13 13 21.7**	**+0.6**
MCHZ				Sn		**Sn**	**13 13 54.2**	**+1.6**
KRVZ	**Karewarewa**	**2.27**	**215**	PN		**Pn**	**13 13 22.5**	**+0.9**
OTVZ	**Oturere**	**2.31**	**214**	PN		**Pn**	**13 13 22.4**	**+0.3**
OTVZ	**Oturere**	**2.31**	**214**	Pn		**Pn**	**13 13 22.4**	**+0.3**
HIZ	**Hauiti**	**2.32**	**237**	PN		**Pn**	**13 13 23.2**	**+1.1**
HIZ	**Hauiti**	**2.32**	**237**	Pn		**Pn**	**13 13 23.2**	**+1.1**
NGZ	**Ngauruhoe**	**2.35**	**215**	PN		**Pn**	**13 13 23.3**	**+0.7**
NGZ	**Ngauruhoe**	**2.35**	**215**	Pn		**Pn**	**13 13 23.3**	**+0.7**
COVZ	**Chateau Observ**	**2.39**	**215**	PN		**Pn**	**13 13 23.7**	**+0.7**
WPVZ	**Whakapapa**	**2.40**	**215**	PN		**Pn**	**13 13 23.8**	**+0.8**
WPVZ	**Whakapapa**	**2.40**	**215**	Pn		**Pn**	**13 13 23.8**	**+0.8**
TUVZ	**Tukino**	**2.40**	**213**	PN		**Pn**	**13 13 23.2**	**+0.1**
TUVZ	**Tukino**	**2.40**	**213**	Pn		**Pn**	**13 13 23.2**	**+0.1**
FWVZ	**Far West T-bar**	**2.44**	**214**	PN		**Pn**	**13 13 23.8**	**+0.2**
FWVZ	**Far West T-bar**	**2.44**	**214**	Pn		**Pn**	**13 13 23.8**	**+0.2**
BHHZ	**Black Hill Sta**	**2.44**	**204**	PN		**Pn**	**13 13 23.1**	**-0.4**
BHHZ	**Black Hill Sta**	**2.44**	**204**	Pn		**Pn**	**13 13 23.1**	**-0.4**
WHVZ	**Whangaehu Hut**	**2.44**	**214**	PN		**Pn**	**13 13 23.8**	**+0.1**
TRVZ	**Turoa**	**2.47**	**214**	PN		**Pn**	**13 13 24.2**	**+0.2**
TRVZ	**Turoa**	**2.47**	**214**	Pn		**Pn**	**13 13 24.4**	**+0.4**
WNVZ	**Wahianoa**	**2.48**	**213**	PN		**Pn**	**13 13 23.8**	**-0.1**
WNVZ	**Wahianoa**	**2.48**	**213**	Pn		**Pn**	**13 13 23.8**	**-0.1**
MOVZ	**Moawhango**	**2.48**	**209**	PN		**Pn**	**13 13 23.5**	**-0.4**
MOVZ	**Moawhango**	**2.48**	**209**	Pn		**Pn**	**13 13 23.5**	**-0.4**
KRHZ	**Kereru**	**2.50**	**197**	PN		**Pn**	**13 13 23.9**	**-0.2**
KAHZ	**Kahuranaki**	**2.56**	**188**	PN		**Pn**	**13 13 25.1**	**+0.3**
KAHZ	**Kahuranaki**	**2.56**	**188**	Pn		**Pn**	**13 13 25.1**	**+0.3**
PKVZ	**Pokaka**	**2.56**	**217**	PN		**Pn**	**13 13 25.0**	**+0.1**
PKVZ	**Pokaka**	**2.56**	**217**	Pn		**Pn**	**13 13 25.0**	**+0.1**
MTVZ	**Mangateitei**	**2.58**	**214**	PN		**Pn**	**13 13 25.5**	**+0.5**
MTVZ	**Mangateitei**	**2.58**	**214**	Pn		**Pn**	**13 13 25.5**	**+0.5**
PXZ	**Pawanui**	**2.79**	**187**	PN		**Pn**	**13 13 27.3**	**-0.2**
PXZ					AML	AML	13 14 05.7	
PXZ					AML	AML	13 14 05.8	
PXZ	**Pawanui**	**2.79**	**187**	Pn		**Pn**	**13 13 27.3**	**-0.2**
PNHZ	**Pukenui**	**2.80**	**198**	PN		**Pn**	**13 13 27.2**	**-0.4**
PNHZ	**Pukenui**	**2.80**	**198**	Pn		**Pn**	**13 13 27.2**	**-0.4**
WPHZ	**Waipukurau**	**2.89**	**194**	PN		**Pn**	**13 13 28.2**	**-0.5**
WPHZ	**Waipukurau**	**2.89**	**194**	Pn		**Pn**	**13 13 28.2**	**-0.5**
TSZ	**Takapari Road**	**3.00**	**200**	PN		**Pn**	**13 13 29.3**	**-0.7**
TSZ					AML	AML	13 14 08.9	
TSZ					AML	AML	13 14 09.4	
TSZ	**Takapari Road**	**3.00**	**200**	Pn		**Pn**	**13 13 29.3**	**-0.7**
PRHZ	**Porangahau**	**3.05**	**190**	PN		**Pn**	**13 13 30.4**	**-0.2**
PRHZ	**Porangahau**	**3.05**	**190**	Pn		**Pn**	**13 13 30.4**	**-0.2**
WAZ	**Wanganui**	**3.10**	**216**	PN		**Pn**	**13 13 31.4**	**+0.3**
WAZ	**Wanganui**	**3.10**	**216**	Pn		**Pn**	**13 13 31.4**	**+0.3**
DVHZ	**Dannevirke**	**3.17**	**196**	PN		**Pn**	**13 13 31.1**	**-1.0**
DVHZ	**Dannevirke**	**3.17**	**196**	Pn		**Pn**	**13 13 31.1**	**-1.0**
ANWZ	**Angora Road**	**3.27**	**191**	PN		**Pn**	**13 13 32.9**	**-0.3**
POWZ	**Post Office Ro**	**3.36**	**201**	PN		**Pn**	**13 13 33.4**	**-0.9**
POWZ	**Post Office Ro**	**3.36**	**201**	Pn		**Pn**	**13 13 33.4**	**-0.9**
PRWZ	**Pori Road**	**3.46**	**197**	PN		**Pn**	**13 13 34.9**	**-0.7**
BFZ	**Birch Farm**	**3.52**	**193**	PN		**Pn**	**13 13 35.4**	**-1.0**
BFZ	**Birch Farm**	**3.52**	**193**	Pn		**Pn**	**13 13 35.4**	**-1.0**
MRZ	**Mangatainoka R**	**3.66**	**201**	PN		**Pn**	**13 13 36.7**	**-1.4**
MRZ					AML	AML	13 14 22.5	
MRZ					AML	AML	13 14 22.7	
MRZ	**Mangatainoka R**	**3.66**	**201**	Pn		**Pn**	**13 13 36.7**	**-1.4**
TIWZ	**Tintock**	**3.69**	**197**	PN		**Pn**	**13 13 37.3**	**-1.1**
TIWZ					AML	AML	13 14 24.9	
TIWZ					AML	AML	13 14 25.7	
TIWZ	**Tintock**	**3.69**	**197**	Pn		**Pn**	**13 13 37.3**	**-1.1**
HOWZ	**Holdsworth Sta**	**3.90**	**201**	PN		**Pn**	**13 13 39.5**	**-1.6**
HOWZ	**Holdsworth Sta**	**3.90**	**201**	Pn		**Pn**	**13 13 39.5**	**-1.6**
OGWZ	**Otaki Gorge**	**3.93**	**205**	PN		**Pn**	**13 13 40.0**	**-1.5**
OGWZ	**Otaki Gorge**	**3.93**	**205**	Pn		**Pn**	**13 13 40.0**	**-1.5**
TMWZ	**Te Maipa**	**4.00**	**196**	PN		**Pn**	**13 13 41.1**	**-1.3**
TMWZ	**Te Maipa**	**4.00**	**196**	Pn		**Pn**	**13 13 41.1**	**-1.3**
KIW	**Kapiti Island**	**4.06**	**207**	PN		**Pn**	**13 13 41.3**	**-1.8**
KIW					AML	AML	13 14 30.9	
KIW	**Kapiti Island**	**4.06**	**207**	Pn		**Pn**	**13 13 41.3**	**-1.8**
MTW	**Mount Morrison**	**4.15**	**199**	PN		**Pn**	**13 13 42.2**	**-1.9**
MTW					AML	AML	13 14 32.7	
MTW	**Mount Morrison**	**4.15**	**199**	Pn		**Pn**	**13 13 42.2**	**-1.9**
CAW	**Cannon Point**	**4.23**	**204**	PN		**Pn**	**13 13 43.3**	**-1.9**
CAW					AML	AML	13 14 34.0	
CAW					AML	AML	13 14 35.9	
CAW	**Cannon Point**	**4.23**	**204**	Pn		**Pn**	**13 13 43.3**	**-1.9**
TRWZ	**Traveller**	**4.33**	**197**	PN		**Pn**	**13 13 44.9**	**-1.6**
TRWZ					AML	AML	13 14 36.6	
TRWZ	**Traveller**	**4.33**	**197**	Pn		**Pn**	**13 13 44.9**	**-1.6**
PAWZ	**Paruwai Farm**	**4.38**	**199**	PN		**Pn**	**13 13 45.1**	**-2.0**
PAWZ					AML	AML	13 14 38.0	
PAWZ					AML	AML	13 14 40.1	
PAWZ	**Paruwai Farm**	**4.38**	**199**	Pn		**Pn**	**13 13 45.1**	**-2.0**
DUWZ	**D'Urville Isla**	**4.42**	**216**	PN		**Pn**	**13 13 45.5**	**-2.2**
DUWZ	**D'Urville Isla**	**4.42**	**216**	Pn		**Pn**	**13 13 45.5**	**-2.2**
MSWZ	**Moikau Station**	**4.45**	**201**	PN		**Pn**	**13 13 45.9**	**-2.1**
MSWZ					AML	AML	13 14 42.8	
MSWZ	**Moikau Station**	**4.45**	**201**	Pn		**Pn**	**13 13 46.0**	**-2.1**
WEL	**Wellington**	**4.49**	**205**	PN		**Pn**	**13 13 46.4**	**-2.0**
WEL	**Wellington**	**4.49**	**205**	Pn		**Pn**	**13 13 46.4**	**-2.0**
PLWZ	**Palliser**	**4.60**	**200**	PN		**Pn**	**13 13 47.5**	**-2.4**
PLWZ	**Palliser**	**4.60**	**200**	Pn		**Pn**	**13 13 47.5**	**-2.4**
TCW	**Tory Channel**	**4.61**	**210**	PN		**Pn**	**13 13 47.6**	**-2.3**
TCW					AML	AML	13 14 43.0	
TCW					AML	AML	13 14 43.4	
TCW	**Tory Channel**	**4.61**	**210**	Pn		**Pn**	**13 13 47.6**	**-2.3**
TUWZ	**Tuamarina**	**4.92**	**211**	PN		**Pn**	**13 13 51.6**	**-2.5**
TUWZ					AML	AML	13 14 48.7	
TUWZ					AML	AML	13 14 50.5	
TUWZ	**Tuamarina**	**4.92**	**211**	Pn		**Pn**	**13 13 51.6**	**-2.5**
QRZ	**Quartz Range**	**5.16**	**225**	PN		**Pn**	**13 13 54.4**	**-2.8**
QRZ	**Quartz Range**	**5.16**	**225**	Pn		**Pn**	**13 13 54.4**	**-2.8**
KHZ	**Kahutara**	**5.92**	**208**	PN		**Pn**	**13 14 04.4**	**-2.6**
KHZ					AML	AML	13 15 12.0	
KHZ	**Kahutara**	**5.92**	**208**	Pn		**Pn**	**13 14 04.4**	**-2.6**
CRLZ	**Canterbury Las**	**7.26**	**208**	PN		Pn	13 14 20.7	-3.8
CRLZ	**Canterbury Las**	**7.26**	**208**	Pn		Pn	13 14 20.7	-3.8
OXZ	**Oxford**	**7.28**	**212**	PN		Pn	13 14 21.7	-4.0
MQZ	**McQueen's Vall**	**7.36**	**207**	PN		Pn	13 14 21.6	-4.2
MQZ	**McQueen's Vall**	**7.36**	**207**	Pn		Pn	13 14 21.6	-4.2
FOZ	**Fox Glacier**	**8.58**	**220**	PN		Pn	13 14 37.9	-3.9
FOZ	**Fox Glacier**	**8.58**	**220**	Pn		Pn	13 14 37.9	-3.9
ODZ	**Otahua Downs**	**9.27**	**211**	PN		**Pn**	**13 14 47.9**	**-2.9**
ODZ	**Otahua Downs**	**9.27**	**211**	Pn		**Pn**	**13 14 47.9**	**-2.9**
ASAR	**Alice Springs**	**39.47**	**278**	P		**P**	**13 19 53.6**	**+0.3**
	0.5nm,0.6s,baz=121,slow=8.0,SNR=16							
WRA	**Warramunga Arr**	**41.11**	**283**	P		**P**	**13 20 06.9**	**+0.1**
	0.3nm,0.3s,baz=126,slow=6.4,SNR=18							
QSPA	**South Pole Qui**	**52.87**	**180**	P		P	13 21 42.0	+4.7
	1.0nm,0.7s,baz=210,slow=3.9,SNR=10							
ARCES	**ARCESS Array B**	**144.26**	**343**	PKP		**PKPab**	**13 31 51.9**	**-0.1**
	0.7nm,0.6s,baz=45,slow=2.2,SNR=4.3							
FINES	**FINESS Array B**	**149.86**	**333**	PKPbc		**PKPdf**	**13 32 05.3**	**+2.3**
	1.6nm,0.9s,baz=45,slow=1.4,SNR=2.0							
TORD	**Torodi Ar. Bea**	**155.68**	**190**	PKPab		**PKPab**	**13 32 41.3**	**+1.3**
	0.4nm,0.9s,baz=174,slow=3.9,SNR=4.3							

*BJI **30** 13:53:46.1,36.25N×70.79E,h98km,mb4.5/23,mB4.7/9*
*SZGRF **30** 13:53:47.9,36.17N×71.01E,h33km,mb4.6, Afghanistan-Tajikistan border region*
*MOS **30** 13:53:48.4±1.1,36.21N×71.33E,h80km,mb4.8/30,Error ellipse: s-maj=6.8km s-min=4.2km az=110.0*
*ISCJB **30** 13:53:49.7±0.4,36.23N±0.02×71.39E±0.03,h96km±4km, mb4.4/58,Error ellipse: s-maj=4.2km s-min=2.7km az=150.1*
*IDC **30** 13:53:50.9±0.6,36.19N×71.31E,h104km±5km,mb3.8/20, mb1 4.0/23,mb1mx3.9/31,mbtmp4.2/23,MS3.1/6, Ms1 3.2/6,ms1mx2.7/29,Error ellipse: s-maj=12.9km s-min=10.6km az=19.0*
*NEIC **30** 13:53:51.4±0.4,36.23N×71.40E,mb4.7/22,Error ellipse: s-maj=8.4km s-min=5.5km az=153.0*
*NNC **30** 13:53:52.9±3.0,36.75N×71.05E,h0km,mb4.7,mpv4.6, Error ellipse: s-maj=25.0km s-min=12.6km az=174.0*
ISC 30 13:53:51.2±0.4,36.24N±0.03×71.33E±0.04,h102km±3km, h102km:pP-P,n272,σ1§65/312,mb4.5/58,32C-26D,

Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CEP	**Cherat**	**2.46**	**169**	P		**Pn**	**13 54 32.6**	**+2.6**
CEP				S		**Sn**	**13 55 04.0**	**+4.3**
KBL	**Kabul**	**2.52**	**228**	*e*PN		**Pn**	**13 54 31.1**	**+0.2**
KBL	**Kabul**	**2.52**	**228**	*e*Pn		**Pn**	**13 54 31.1**	**+0.2**
CHCP	**Chirah Chowk**	**3.03**	**148**	P		**Pn**	**13 54 40.6**	**+3.2**
DZET	**Dzherino**	**3.24**	**323**	⇓P		**Pn**	**13 54 38.4**	**-1.9**
	161nm,0.4s							
DZET				⇓S		**Sn**	**13 55 13.2**	**-5.0**
	819nm,0.6s							
DZET	**Dzherino**	**3.24**	**323**	PN		**Pn**	**13 54 38.4**	**-1.9**
DZET				pmax		pmax		
	comp=Z,161nm,0.4s							
THW	**Thamme Wali**	**3.46**	**174**	P		**Pn**	**13 54 45.1**	**+1.9**
SFK	**Sufi-Kurgan**	**4.14**	**24**	⇓P		**Pn**	**13 54 55.2**	**+2.8**
	comp=Z,34nm,0.4s							
SFK				⇓S		**Sn**	**13 55 42.0**	**+2.1**
	comp=Z,136nm,0.5s							
SFK	**Sufi-Kurgan**	**4.14**	**24**	PN		**Pn**	**13 54 54.7**	**+2.2**
SFK				S		**Sn**	**13 55 42.6**	**+2.7**
SFK				pmax		pmax		
	comp=Z,21nm,0.3s							
JMU	**Jammu**	**4.59**	**139**	*ex*		**Sn**	**13 55 47.5**	**-3.0**
KSH	**Kashi**	**4.92**	**47**	P		**Pn**	**13 55 00.5**	**-2.4**
KSH				S		Sn	13 55 50.8	-7.8
KSH				SMN				
	comp=Z,400nm,0.7s							
KSH				SME				
	comp=Z,370nm,0.5s							
DHRM	**DHARAMSHALA**	**5.73**	**133**	*e*P		**Pn**	**13 55 14.7**	**+0.7**
DHRM				*e*S		**Sn**	**13 56 18.8**	**+0.3**
DHRM				AML		AML	13 56 29.1	
	comp=N,705nm,0.4s							
DHRM				AML		AML	13 56 31.9	
	comp=E,772nm,0.7s							
AML	**Almayashu**	**6.16**	**17**	P		**Pn**	**13 55 20.6**	**+0.6**
	SNR=93							
MNAS	**Manas**	**6.30**	**8**	⇓P		**Pn**	**13 55 21.5**	**-0.2**
	comp=E,34nm,0.8s							
MNAS				⇓S		**Sn**	**13 56 29.0**	**-3.3**
	comp=E,246nm,0.7s							
**BHK

WMQ LE
comp=Z,120nm,6.0s
WMQ LZ
comp=Z,26nm,17.0s
PKIN Phulchoki 14.73 122 *e*P **Pn 13 57 13.2 -1.5**
PKI Pulchoki 14.74 122 *e*P **Pn 13 57 13.1 -1.8**
comp=Z,42nm,0.5s
GUN Gumba 14.86 120 *e*P **Pn 13 57 14.0 -2.4**
comp=Z,64nm,0.6s
JIRN Jiri 15.23 120 *e*P **Pn 13 57 19.1 -2.0**
KURBB Kurchatov Arra 15.28 18 ⇓P **P 13 57 23.1 -0.6**
comp=Z,14nm,0.7s
KURBB Kurchatov Arra 15.28 18 P **Pn 13 57 18.7 -2.5**
comp=Z,0.3nm,0.3s,baz=209,slow=11,SNR=39
KURK Kurchatov 15.39 18 ⇓P **P 13 57 24.0 -1.0**
comp=Z,6.3nm,0.8s
KURK Kurchatov 15.39 18 *e*P **P 13 57 24.4 -0.5**
KURK pmax pmax
comp=Z,12nm,0.8s
KURK Kurchatov 15.39 18 *e*Pn **P 13 57 24.4 -0.5**
comp=Z,12nm,0.8s
AB31 Akbulak array 15.44 331 ⇑P **Pn 13 57 19.5 -3.6**
comp=Z,1.4nm,0.2s
AB31 ⇑S Sn 13 59 56.8 -17
comp=Z,14nm,0.6s
AB31 Akbulak array 15.44 331 P **Pn 13 57 20.2 -3.0**
AB31 pmax pmax
comp=Z,4.0nm,0.2s
ABKAR Akbulak array 15.44 331 *e*Pn **Pn 13 57 19.7 -3.4**
RAMN Ramite 15.96 121 *e*P **Pn 13 57 27.4 -2.7**
comp=Z,31nm,0.4s
TAPN Taplejung 16.49 118 *e*P **Pn 13 57 35.2 -1.5**
comp=Z,67nm,0.6s
ODAN Odare 16.56 120 *e*P **Pn 13 57 35.1 -2.4**
comp=Z,35nm,0.5s
BVA0 Borovoye Array 16.79 358 ⇑P **Pn 13 57 37.9 -2.1**
comp=Z,9.0nm,0.8s,baz=167,slow=12,SNR=46
BVA0 ⇓S **Sn 14 00 42.3 -4.0**
comp=Z,7.2nm,0.8s,baz=169,slow=23,SNR=8.3
BVA0 Borovoye Array 16.79 358 *i* P **Pn 13 57 38.0 -2.0**
BVA0 pmax pmax
comp=Z,9.0nm,0.8s
BVAR Borovoye Array 16.79 358 P **Pn 13 57 37.1 -2.9**
comp=Z,0.6nm,0.3s,baz=167,slow=11,SNR=17
BVAR S Sn 14 00 36.9 -9.4
comp=Z,0.5nm,0.3s,baz=166,slow=26,SNR=6.9
BRVK Borovoye 16.83 358 ⇑P **Pn 13 57 38.1 -2.2**
comp=Z,20nm,0.9s
BRVK ⇑S **Sn 14 00 43.2 -3.9**
comp=Z,13nm,0.8s
BRVK Borovoye 16.83 358 ⇑*i*P **P 13 57 41.8 +1.0**
BRVK pmax pmax
comp=Z,6.0nm,0.6s
BRVK Borovoye 16.83 358 *e*Pn **Pn 13 57 38.6 -1.8**
comp=Z,11nm,0.8s
AKTO Aktyubinsk 17.14 330 ⇑P **Pn 13 57 41.8 -2.4**
comp=Z,27nm,0.9s
AKTO ⇓S Sn 14 00 39.1 -15
comp=Z,23nm,0.7s
AKTO Aktyubinsk 17.14 330 P **Pn 13 57 42.4 -1.8**
comp=Z,1.2nm,0.3s,baz=131,slow=12,SNR=31
AKTO S Sn 14 00 43.2 -11
comp=Z,1.1nm,0.3s,baz=227,slow=22,SNR=7.2
AKTO LR LR 14 04 53.4
comp=Z,39nm,22.0s,baz=137,slow=39
POO Poona 17.78 172 *e*P **P 13 57 52.0 +0.4**
RPR Rampur 18.69 156 *e*Pn **Pn 13 58 03.0 0.0**
HYBB Hyderabad (bro 19.81 159 *e*P **P 13 58 14.7 +1.0**
HYBB *e*S **S 14 01 50.0 -1.5**
HYB Hyderabad 19.81 159 *i* P **P 13 58 15.0 +1.2**
HYB *e*S **S 14 01 48.0 -3.5**
ZAA0 Zalesovo Array 20.04 24 *e*P **P 13 58 15.8 -0.1**
ZALV Zalesovo Beam 20.04 24 P **P 13 58 16.2 +0.3**
comp=Z,9.7nm,0.5s,baz=222,slow=11,SNR=55
ZALV Zalesovo Beam 20.04 24 *i* P **P 13 58 16.2 +0.3**
ZALV pmax pmax
comp=Z,10.0nm,0.5s
NVS Novosibirsk 20.33 20 ⇑*i*P **P 13 58 17.9 -1.1**
NVS *i* *PP **pP 13 58 38.8 +0.5**
NVS *e*S **S 14 01 56.9 -4.1**
NVS pmax pmax
comp=N,10.0nm,1.1s
NVS pmax pmax
comp=E,4.0nm,1.1s
NVS pmax pmax
comp=Z,14nm,1.1s
NVS smax smax
comp=N,8.0nm,1.3s
NVS smax smax
comp=E,12nm,1.3s
SHL Shillong 20.56 115 *ex* Pn 13 58 23.6 -1.5
SHL *ex* x 14 01 40.0
DGRG David-gareji 20.84 292 P Pn 13 58 26.8 -1.3
NJS Nagarjunasagar 20.85 158 *e*P **P 13 58 25.6 +0.7**
GNI Garni 21.23 289 P **P 13 58 31.3 +2.3**
comp=E,28nm,0.7s,baz=128,slow=2.3,SNR=23
GNI Garni 21.23 289 P **P 13 58 31.3 +2.3**
GNI pmax pmax
comp=Z,28nm,0.7s
GNI Garni 21.23 289 *e*P **P 13 58 31.7 +2.7**
comp=Z,48nm,0.9s
TBLG Delisi 21.34 293 P **P 13 58 31.4 +1.4**
ADKI Addanki 21.73 157 *e*P **P 13 58 34.1 -0.1**
SVE Sverdlovsk 21.81 344⇑*e*P **P 13 58 34.9 0.0**
SVE *e*S **S 14 02 27.5 -2.3**
SVE pmax pmax
comp=Z,50nm,1.7s
URV Uravakonda 21.86 164 *e*P **P 13 58 36.5 +0.7**
ARU Arti 21.96 341 *d i*P **P 13 58 37.2 +0.8**
ARU 13 59 10.0
ARU S **S 14 02 34.3 +1.9**
ARU SS **SnSn 14 03 10.8 +2.8**
ARU pmax pmax
comp=Z,125nm,1.7s
ARU Arti 21.96 341 *e*P **P 13 58 37.3 +0.8**
comp=Z,57nm,0.9s
ZEI Tsey 22.09 296 *e*P **P 13 58 38.3 +0.1**
ZEI pmax pmax
comp=Z,10.0nm,0.7s
ONI Oni 22.39 295 P **P 13 58 43.0 +1.8**
NCK Nalchik 22.42 297⇓*e*P **P 13 58 41.8 +0.4**
GTA Gaotai 22.68 73 *e*P **P 13 58 47.8 +3.6**
GTA pP **pP 13 59 08.0 +3.8**
GTA sP **sP 13 59 20.0 +3.1**
GTA PMZ
comp=Z,4.0nm,1.0s
KBZ Khabaz 22.96 298 P **P 13 58 46.4 -0.3**
comp=Z,4.7nm,0.8s,baz=146,slow=23,SNR=12
NEY Neytrino 23.01 296⇓*e*P **P 13 58 48.0 +0.5**
GOF Gofitskoye 23.11 301 *e*P **P 13 58 47.8 -0.4**
GOF pmax pmax
comp=Z,20nm,0.8s
KIV Kislovodsk 23.14 298 *e*P **P 13 58 49.3 +0.7**
KIV *e*S **S 14 02 53.2 +1.1**
KIV pmax pmax
comp=Z,11nm,1.0s
KIV MLR MLR
comp=Z,28nm,14.0s
KIV Kislovodsk 23.14 298 *e*P **P 13 58 48.2 -0.4**
comp=Z,13nm,0.6s
SKHT Srikalahasti 23.64 159 *e*P **P 13 58 54.4 +1.2**
SOKR Solikamsk 25.20 343 *d i*P **P 13 59 08.9 +1.9**
SOKR pmax pmax
comp=Z,20nm,0.8s
LZH Lanzhou 26.19 81 *e*P **P 13 59 16.8 +0.4**
LZH pP **pP 13 59 38.0 -0.9**
LZH sP **sP 13 59 50.0 -0.8**
LZH PMZ
comp=Z,13nm,1.0s
VSR Storozhevoye 27.37 313 *e*P **P 13 59 27.2 +0.6**
VSR pmax pmax
comp=N,5.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
CD2 Chengdu 27.46 92 *e*P **P 13 59 28.3 +0.6**
CD2 pP **pP 13 59 50.3 0.0**
CD2 sP **sP 14 00 02.3 +0.1**
CD2 PP **PnPn 14 00 19.8 +1.6**
CD2 S **S 14 03 59.3 -1.6**
CD2 sS **sS 14 04 37.5 -2.9**
CD2 PMZ
comp=Z,10.0nm,0.5s
CD2 PMZ
comp=Z,120nm,5.4s
LPSR Galich'ya Gora 28.02 316 *e*P **P 13 59 31.9 -0.5**
LPSR pmax pmax
comp=Z,20nm,0.9s
LPSR pmax pmax
comp=N,4.0nm,1.0s
LPSR pmax pmax
comp=E,10.0nm,1.0s
SONM Songino Array 28.26 55 P **P 13 59 34.8 0.0**
comp=E,0.3nm,0.6s,baz=218,slow=6.8,SNR=3.0
BRTR Keskin Array B 29.77 288 P **P 13 59 49.4 +1.1**
comp=E,1.3nm,0.8s,baz=66,slow=4.3,SNR=7.0
BRTR pP **pP 14 00 11.1 +0.1**
comp=E,0.8nm,0.7s,baz=104,slow=10,SNR=2.8
BRTR Keskin Array B 29.77 288 *ce*P **P 13 59 50.4 +2.2**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
CMAR Chiang Mai Arr 30.10 119 P **P 13 59 50.5 -0.7**
comp=Z,1.6nm,0.8s,baz=298,slow=8.9,SNR=9.7
CMAR LR LR 14 14 17.9
comp=Z,19nm,19.3s,baz=185,slow=41
CMAR Chiang Mai Arr 30.10 119 *i* P **P 13 59 54.2 +3.0**
CMAR pmax pmax
comp=Z,2.0nm,0.8s
PRGR Permogore 30.11 336 *e*P **P 13 59 50.3 -0.5**
PRGR *PP **pP 14 00 15.5 +1.9**
PRGR pmax pmax
comp=Z,14nm,0.6s
OBN Obninsk 30.31 320 *i* P **P 13 59 52.9 +0.3**
OBN pmax pmax
comp=Z,9.0nm,0.5s
GYA Guiyang 31.57 98 *e*P **P 14 00 04.3 +0.1**
GYA PMZ
comp=Z,10.0nm,0.8s
HHC Hu-ho-hao-te 31.61 69 *e*P **P 14 00 06.0 +1.6**
HHC pP **pP 14 00 29.0 +1.8**
HHC sP **sP 14 00 37.8 -1.2**
HHC PP **PP 14 01 16.3 -1.2**
HHC S **S 14 05 07.8 +1.9**
HHC sS **sS 14 05 45.0 -0.5**
HHC SS **SnSn 14 07 03.5 +1.0**
HHC PMZ
comp=Z,21nm,1.4s
HHC PMZ
comp=Z,110nm,7.5s
HHC LN
comp=Z,300nm,17.4s
HHC LE
comp=Z,230nm,12.5s
HHC LZ
comp=Z,260nm,16.2s
KLMR Klimovskoe 31.84 331 P **P 14 00 04.2 -1.8**
KLMR pmax pmax
comp=Z,10.0nm,0.7s
AKASG Malin Array Be 33.31 309 P **P 14 00 18.8 -0.2**
comp=Z,3.4nm,0.6s,baz=80,slow=7.1,SNR=13
AKASG Malin Array Be 33.31 309 *i* P **P 14 00 19.7 +0.7**
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AK01 Malin Array Si 33.32 309 *e*P **P 14 00 19.6 +0.5**
AK02 Malin Array Si 33.32 309 *e*P **P 14 00 19.1 +0.1**
KIEV Kiev 33.32 309 *e*P **P 14 00 19.8 +0.7**
KIEV pmax pmax
comp=Z,7.0nm,0.7s
KIEV Kiev 33.32 309 *e*P **P 14 00 19.8 +0.7**
comp=Z,6.5nm,0.7s
CFR Carcaliu 33.60 299 ⇑P **P 14 00 23.4 +1.9**
CFR Carcaliu 33.60 299⇑*i*P **P 14 00 23.4 +1.9**
VRI Vrincioaia 34.59 300 ⇓P **P 14 00 32.0 +1.9**
VRI Vrincioaia 34.59 300⇓*i*P **P 14 00 32.0 +1.9**
PLOR Plostina 34.64 300 ⇓P **P 14 00 33.6 +3.0**
PLOR Plostina 34.64 300⇓*i*P **P 14 00 33.6 +3.0**
TESR Tescani 34.65 301⇑*i*P **P 14 00 32.6 +2.0**
MLR Muntele Rosu 35.14 300 ⇑P P 14 00 38.5 +3.5
MLR Muntele Rosu 35.14 300⇑*i*P P 14 00 38.5 +3.5
BURAR Bucovina Array 35.65 303 ⇑P **P 14 00 40.7 +1.4**
BURAR Bucovina Array 35.65 303⇑*i*P **P 14 00 40.7 +1.4**
BUR04 Bucovina Ar. S 35.65 303 *e*P **P 14 00 40.2 +0.9**
BUR08 Bucovina Ar. S 35.66 303 *e*P **P 14 00 40.1 +0.6**
VOIR 35.77 299 ⇑P **P 14 00 42.6 +2.2**
VOIR 35.77 299⇑*i*P **P 14 00 42.5 +2.2**
VSU Vasula 36.55 322⇓*i*P **P 14 00 47.7 +1.0**
VSU pmax pmax
comp=Z,64nm,1.2s
DRGR 37.36 302 ⇑P **P 14 00 56.6 +2.7**
DRGR 37.36 302⇑*i*P **P 14 00 56.5 +2.7**
IDI Anoyia 37.41 283 P **P 14 00 53.4 -1.0**
comp=Z,1.6nm,0.7s,baz=90,slow=18,SNR=2.5
KOLS Kolonicke sedl 37.64 305 *e*P **P 14 00 57.6 +1.5**
KOLS pmax pmax
comp=Z,4.0nm,1.0s
KOLS Kolonicke sedl 37.64 305 *e*P **P 14 00 57.6 +1.5**
FINES FINESS Array B 37.84 326 P **P 14 00 57.3 -0.3**
comp=Z,6.5nm,0.7s,baz=116,slow=11,SNR=23
FINES pP **pP 14 01 21.2 +0.3**
comp=Z,2.4nm,0.7s,baz=126,slow=12,SNR=2.2
FINES LR LR 14 17 37.0
comp=Z,36nm,18.3s,baz=212,slow=38
FINES FINESS Array B 37.84 326 *ce*P **P 14 00 58.0 +0.4**
FINES pmax pmax
comp=Z,7.0nm,0.7s
QIZ Qiongzhong 37.89 106 P **P 14 00 57.8 -0.7**
QIZ S **S 14 06 43.8 +1.2**
QIZ PMZ
comp=Z,9.0nm,1.9s
BZS Buzias 38.17 300 ⇑P **P 14 01 03.1 +2.5**
BZS Buzias 38.17 300⇑*i*P **P 14 01 03.1 +2.5**
STHS Stebnicka Huta 38.33 306 *e*P **P 14 01 02.7 +0.8**
STHS pmax pmax
comp=Z,2.0nm,0.7s
STHS Stebnicka Huta 38.33 306 *e*P **P 14 01 02.7 +0.8**
NJ2 Nanjing 39.25 82 *e*P **P 14 01 10.0 +0.3**
NJ2 PMZ
comp=Z,10.0nm,0.8s
MORC Moravsky Berou 40.73 307 *e*P **P 14 01 22.3 +0.4**
MORC pmax pmax
comp=Z,5.0nm,0.9s
MORC Moravsky Berou 40.73 307⇓*i*P **P 14 01 23.9 +2.1**
MORC Moravsky Berou 40.73 307 *e*P **P 14 01 22.3 +0.4**
comp=Z,5.2nm,0.9s
VRAC Vranov 41.37 306 ⇑P **P 14 01 29.5 +2.5**
VRAC Vranov 41.37 306⇑*i*P **P 14 01 29.5 +2.5**
ARA0 ARCESS Array S 41.48 338 *e*P **P 14 01 28.5 +0.8**
ARCES ARCESS Array B 41.48 338 P **P 14 01 27.7 0.0**
comp=Z,4.2nm,0.6s,baz=111,slow=8.3,SNR=30
ARCES LR LR 14 18 21.5
comp=Z,26nm,21.0s,baz=110,slow=35
DPC Dobruska-Polom 41.50 308 *e*P **P 14 01 30.2 +2.1**
DPC *epP **pP 14 01 53.2 +1.5**
DPC Dobruska-Polom 41.50 308 *e*P **P 14 01 29.9 +1.8**
DPC pmax pmax
comp=Z,36nm,0.9s
DPC Dobruska-Polom 41.50 308 *e*P **P 14 01 29.9 +1.8**
comp=Z,36nm,0.9s
UPC Upice 41.69 308 *e*P **P 14 01 31.7 +2.0**
UPC *epP **pP 14 01 54.4 +1.1**
UPC Upice 41.69 308 *e*P **P 14 01 31.7 +2.0**
UPC *e* 14 01 54.4
PSI Prapat 41.91 136 LR LR 14 20 55.6
comp=Z,100nm,18.5s,baz=177,slow=39
CONA Conrad Observa 41.94 304⇑*i*P **P 14 01 33.0 +1.2**
comp=Z,8.2nm,0.8s
SOKA Soboth 42.63 302⇓*i*P **P 14 01 39.2 +1.7**
comp=Z,6.2nm,0.8s
PRU Pruhonice 42.66 307 *e*P **P 14 01 39.4 +1.9**
PRU Pruhonice 42.66 307 *e*P **P 14 01 39.4 +1.9**
BRG Berggiesshubel 42.99 308 *e*P **P 14 01 41.8 +1.6**
comp=Z,8.7nm,1.0s
BRG Berggiesshubel 42.99 308 *e*P **P 14 01 41.8 +1.6**
BRG pmax pmax
comp=Z,9.0nm,1.0s
KHC Kasperske Hory 43.35 306 *e*P **P 14 01 44.6 +1.5**
KHC *epP **pP 14 02 07.9 +1.0**
KHC Kasperske Hory 43.35 306 *e*P **P 14 01 44.6 +1.5**
KHC *e* 14 02 07.9
CLL Collm 43.56 309 *e*P **P 14 01 46.0 +1.3**
comp=Z,4.0nm,0.8s
CLL Collm 43.56 309 *e*P **P 14 01 46.0 +1.3**
CLL pmax pmax
comp=Z,4.0nm,0.8s
GRB3 Grafenberg Arr 44.48 306 *e*P **P 14 01 54.5 +2.3**
comp=Z,14nm,1.0s
KSAR Wonju Array Be 44.69 71 P **P 14 01 55.4 +1.5**
KSAR Wonju Array Be 44.69 71 P **P 14 01 55.4 +1.5**
KSRS Korea Array 44.71 71 P **P 14 01 55.4 +1.3**
comp=Z,0.5nm,0.6s,baz=279,slow=7.3,SNR=3.5
NB2 NORSAR Subarra 44.75 323 P **P 14 01 53.4 -0.7**
comp=Z,5.9nm,0.6s,baz=97,slow=7.9
NOA NORSAR Array B 44.75 323 P **P 14 01 53.8 -0.3**
comp=Z,6.1nm,0.6s,baz=96,slow=7.8,SNR=34
NOA LR LR 14 21 18.1
comp=Z,14nm,18.6s,baz=60,slow=37
GRF Grafenberg Arr 44.83 307 *e*P **P 14 01 56.8 +1.9**
comp=Z,14nm,1.5s
NBO02 NORSAR Array S 44.92 323 *e*P **P 14 01 55.1 -0.4**
TIXI Tiksi 45.91 22⇓*i*P **P 14 02 04.5 +1.4**
TIXI pmax pmax
comp=Z,6.0nm,2.5s
TIXI Tiksi 45.91 22 *e*P **P 14 02 04.0 +0.9**
comp=Z,5.1nm,0.9s
DAVOX Davos/Dischmat 46.12 303 P **P 14 02 05.9 +0.6**
comp=Z,3.4nm,0.7s,baz=96,slow=7.3,SNR=7.0
CDF Champ du Feu 47.58 306 *e*P **P 14 02 17.7 +1.2**
comp=Z,12nm,1.2s
CDF Champ du Feu 47.58 306 *e*P **P 14 02 17.7 +1.2**
CDF pmax pmax
comp=Z,12nm,1.2s
CDF Champ du Feu 47.58 306 *e*P **P 14 02 17.7 +1.2**
comp=Z,12nm,1.2s
SENIN Lac Senin/Sane 47.95 303 *e*P **P 14 02 20.8 +1.2**
HINF Hinteralfeld 47.96 305 *e*P **P 14 02 20.2 +0.7**
comp=Z,8.0nm,0.8s
HINF Hinteralfeld 47.96 305 *e*P **P 14 02 20.2 +0.7**
HINF pmax pmax
comp=Z,8.0nm,0.8s
HINF Hinteralfeld 47.96 305 *e*P **P 14 02 20.2 +0.7**
comp=Z,8.0nm,0.8s
HAU Haudompre 48.26 305 *e*P **P 14 02 22.6 +0.9**
HAU Haudompre 48.26 305 *e*P **P 14 02 22.6 +0.9**
HAU Haudompre 48.26 305 *e*P **P 14 02 22.6 +0.9**
LPG La Plagne 48.51 302 *e*P **P 14 02 25.2 +1.2**
comp=Z,11nm,0.9s
LPG La Plagne 48.51 302 *e*P **P 14 02 25.2 +1.2**
LPG pmax pmax
comp=Z,11nm,0.9s
LPG La Plagne 48.51 302 *e*P **P 14 02 25.2 +1.2**
comp=Z,11nm,0.9s
LPL La Plagne 48.52 302 *e*P **P 14 02 25.1 +1.1**
LPL La Plagne 48.52 302 *e*P **P 14 02 25.1 +1.1**
LPL La Plagne 48.52 302 *e*P **P 14 02 25.1 +1.1**
MBDF Montbardon 48.67 301 *e*P **P 14 02 25.5 +0.4**
MBDF Montbardon 48.67 301 *e*P **P 14 02 25.5 +0.4**
MBDF Montbardon 48.67 301 *e*P **P 14 02 25.5 +0.4**
CABF La Chapelle 48.72 304 *e*P **P 14 02 26.6 +1.3**
comp=Z,24nm,1.2s
CABF La Chapelle 48.72 304 *e*P **P 14 02 26.6 +1.3**
CABF pmax pmax
comp=Z,24nm,1.2s
CABF La Chapelle 48.72 304 *e*P **P 14 02 26.6 +1.3**
comp=Z,24nm,1.2s
GIVF Givet 48.86 308 *e*P **P 14 02 27.9 +1.6**
GIVF Givet 48.86 308 *e*P **P 14 02 27.9 +1.6**
GIVF Givet 48.86 308 *e*P **P 14 02 27.9 +1.6**
SFTF Sexfontaines 49.08 306 *e*P **P 14 02 30.2 +2.2**
comp=Z,28nm,1.1s
SFTF Sexfontaines 49.08 306 *e*P **P 14 02 30.2 +2.2**
comp=Z,28nm,1.1s
BAIF Baives 49.26 308 *e*P **P 14 02 30.9 +1.6**
comp=Z,15nm,1.0s
BAIF Baives 49.26 308 *e*P **P 14 02 30.9 +1.6**
BAIF pmax pmax
comp=Z,15nm,1.0s
BAIF Baives 49.26 308 *e*P **P 14 02 30.9 +1.6**
comp=Z,15nm,1.0s
SMF Signal de Mont 50.22 304 *e*P **P 14 02 37.5 +0.9**
comp=Z,8.6nm,0.8s
SMF Signal de Mont 50.22 304 *e*P **P 14 02 37.5 +0.9**
SMF pmax pmax
comp=Z,9.0nm,0.8s
SMF Signal de Mont 50.22 304 *e*P **P 14 02 37.5 +0.9**
comp=Z,8.6nm,0.8s
AVF Avril sur Loir 50.51 304 *e*P **P 14 02 39.5 +0.7**
comp=Z,14nm,1.0s
AVF Avril sur Loir 50.51 304 *e*P **P 14 02 39.5 +0.7**
AVF pmax pmax
comp=Z,15nm,1.0s
AVF Avril sur Loir 50.51 304 *e*P **P 14 02 39.5 +0.7**
comp=Z,14nm,1.0s
TCF Toulx Ste Croi 51.40 304 *e*P **P 14 02 47.6 +2.1**
TCF Toulx Ste Croi 51.40 304 *e*P **P 14 02 47.6 +2.1**
TCF Toulx Ste Croi 51.40 304 *e*P **P 14 02 47.6 +2.1**
LDF La Druitiere 52.34 307 *e*P **P 14 02 52.8 +0.4**
comp=Z,48nm,1.3s
LDF La Druitiere 52.34 307 *e*P **P 14 02 52.8 +0.4**
LDF pmax pmax
comp=Z,48nm,1.3s
LDF La Druitiere 52.34 307 *e*P **P 14 02 52.8 +0.4**
comp=Z,48nm,1.3s
FLN La Foliniere 52.53 308 *e*P **P 14 02 54.3 +0.5**
FLN La Foliniere 52.53 308 *e*P **P 14 02 54.3 +0.5**
FLN La Foliniere 52.53 308 *e*P **P 14 02 54.3 +0.5**
GRR Gorron 52.87 307 *e*P **P 14 02 57.7 +1.4**
GRR Gorron 52.87 307 *e*P **P 14 02 57.7 +1.4**
GRR Gorron 52.87 307 *e*P **P 14 02 57.7 +1.4**
ETSF Etsaut 54.27 301 *e*P **P 14 03 08.6 +1.8**
ETSF Etsaut 54.27 301 *e*P **P 14 03 08.6 +1.8**
ETSF Etsaut 54.27 301 *e*P **P 14 03 08.6 +1.8**
ROSF Rostrenen 54.43 308 *e*P **P 14 03 09.8 +2.1**
comp=Z,50nm,1.1s
ROSF Rostrenen 54.43 308 *e*P **P 14 03 09.8 +2.1**
ROSF pmax pmax
comp=Z,50nm,1.1s
ROSF Rostrenen 54.43 308 *e*P **P 14 03 09.8 +2.1**
comp=Z,50nm,1.1s
ESDC Sonseca Array 57.81 298 P **P 14 03 31.8 -0.2**
comp=Z,0.3nm,0.5s,baz=65,slow=7.9,SNR=4.8
ESDC pP **pP 14 03 56.7 -0.2**
comp=Z,0.6nm,0.6s,baz=61,slow=8.2,SNR=3.7
BILL Bilibino 58.72 26 *e*P **P 14 03 39.5 +1.7**
BILL pmax pmax
comp=Z,2.0nm,1.2s
SUMG Summit 61.39 341 *e*P **P 14 03 58.2 +1.8**
SUMG pmax pmax
comp=Z,114nm,2.7s
SUMG Summit 61.39 341 *e*P **P 14 03 58.2 +1.8**
comp=Z,114nm,2.7s
TORD Torodi Ar. Bea 65.98 269 P **P 14 04 24.6 -2.4**
comp=Z,4.2nm,0.8s,baz=46,slow=5.3,SNR=24
TORD pP **pP 14 04 51.8 -0.7**
comp=Z,1.1nm,0.6s,baz=41,slow=5.2,SNR=1.7
COLD Coldfoot 72.15 16 *e*P **P 14 05 05.9 +1.7**
comp=Z,3.3nm,1.2s
INK Inuvik 74.12 9 P **P 14 05 15.8 0.0**
comp=Z,2.1nm,0.3s,baz=360,slow=5.7,SNR=4.4
COLA College 74.65 16 *e*P **P 14 05 19.8 +0.9**
COLA pmax pmax
comp=Z,3.0nm,0.8s
COLA College 74.65 16 *e*P **P 14 05 19.8 +0.9**
comp=Z,2.9nm,0.8s
IL1 Eielson Array 74.95 16 *e*P **P 14 05 19.8 -0.9**
ILAR Eielson Array 74.95 16 P **P 14 05 19.1 -1.7**
comp=Z,1.0nm,0.9s,baz=322,slow=4.7,SNR=12
BOSA Boshof 77.72 220 P **P 14 05 36.5 -0.4**
comp=Z,2.2nm,0.7s,baz=344,slow=3.6,SNR=3.9
YKA Yellowknife Ar 81.49 3 P **P 14 05 56.9 +0.2**
comp=Z,1.1nm,0.6s,baz=350,slow=5.3,SNR=22
YKA pP **pP 14 06 23.7 +0.5**
comp=Z,0.9nm,0.7s,baz=346,slow=5.2,SNR=4.2
YKB5 Yellowknife Ar 81.49 3 *e*P **P 14 05 56.7 -0.1**
WRA Warramunga Arr 81.63 122 P **P 14 05 57.7 -0.4**
comp=Z,0.5nm,0.5s,baz=324,slow=4.8,SNR=10
WRA pP **pP 14 06 24.7 +0.2**
comp=Z,0.7nm,0.6s,baz=325,slow=4.9,SNR=2.9
ASAR Alice Springs 83.89 125 P **P 14 06 08.9 -0.9**
comp=Z,1.0nm,0.9s,baz=313,slow=4.9,SNR=14
ASAR pP **pP 14 06 36.4 0.0**
comp=Z,0.5nm,0.7s,baz=310,slow=5.2,SNR=3.1

ISCJB ***30*** *13:55:20.2±0.8, 30.65S±0.10×179.3W±0.2, h33km, mb3.6/3, Error ellipse: s-maj=22.3km s-min=7.3km az=33.9*
IDC ***30*** *13:55:21.6±2.2, 30.91S×178.22W, h102km±16km, mb3.3/3, mb1 3.5/4, mb1mx3.3/21, mbtmp3.7/4, Error ellipse: s-maj=58.5km s-min=14.6km az=107.0*
ISC 30 13:55:22.1±1.0, 30.6S±0.1×179.3W±0.2, h35km, n6, σ0s71/7, mb3.7/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.76**	**42**	P	**Pn**	**13 55 49.6**	**-0.4**
RAO	19nm,0.3s,baz=72,slow=20,SNR=2.6			S	**Sn**	**13 56 12.0**	**+0.8**
URZ	**Urewera**	**8.23**	**200**	P	**Pn**	**13 57 18.5**	**-0.5**
URZ	0.2nm,0.3s,baz=280,slow=4.4,SNR=8.9			S	**Sn**	**13 58 51.5**	**+0.7**
STKA	**Stephens Creek**	**33.38**	**257**	P	**P**	**14 01 57.8**	**+0.6**
ASAR	1.2nm,0.7s,baz=83,slow=7.4,SNR=2.9 **Alice Springs**	**42.01**	**268**	P	**P**	**14 03 09.9**	**-0.4**
WRA	0.2nm,0.4s,baz=104,slow=7.4,SNR=13 **Warramunga Arr**	**43.02**	**273**	P	**P**	**14 03 18.3**	**-0.2**
FINES	0.4nm,0.3s,baz=111,slow=8.1,SNR=21 **FINESS Array B**	**144.92**	**339**	PKPbc	PKPbc	14 14 46.5	-7.5
	1.3nm,0.8s,baz=62,slow=4.4,SNR=4.2						

IDC 30 14:10:05.7±2.4, 2°.51N×76°.48W, h168km±20km, mb3.0/7, mb1 3.3/8, mb1mx3.2/24, mbtmp3.5/8, Error ellipse: s-maj=26.5km s-min=18.1km az=60.0, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**3.17**	**43**	P	Pn	14 10 56.2	-0.2
ROSC	6.1nm,0.3s,baz=205,slow=7.3,SNR=12			S	Sn	14 11 36.0	+0.1
LPAZ	2.9nm,0.3s,baz=266,slow=21,SNR=4.0 **La Paz**	**20.42**	**156**	P	P	14 14 30.4	-0.3
TXAR	0.5nm,0.5s,baz=2.7,slow=11,SNR=3.4 **Lajitas Array**	**37.14**	**319**	P	P	14 17 00.8	+0.2
PDAR	0.3nm,0.6s,baz=144,slow=8.7,SNR=4.2 **Pinedale Array**	**49.77**	**328**	P	P	14 18 41.7	+0.2
YKA	0.2nm,0.6s,baz=96,slow=4.5,SNR=2.5 **Yellowknife Ar**	**66.21**	**342**	P	P	14 20 34.5	-0.7
ESDC	0.4nm,0.4s,baz=136,slow=6.0,SNR=15 **Sonseca Array**	**74.97**	**50**	P	P	14 21 29.5	+0.7
TORD	0.2nm,0.6s,baz=273,slow=6.1,SNR=3.4 **Torodi Ar. Bea**	**77.92**	**77**	P	P	14 21 45.5	-0.3
ILAR	0.2nm,0.4s,baz=285,slow=4.8,SNR=5.1 **Eielson Array**	**79.46**	**336**	P	P	14 21 53.2	0.0
ASAR	0.4nm,0.5s,baz=107,slow=3.7,SNR=6.4 **Alice Springs**	**143.86**	**232**	PKP	PKPbc	14 29 19.8	-0.3
WRA	0.4nm,0.3s,baz=122,slow=2.6,SNR=19 **Warramunga Arr**	**145.28**	**238**	PKPbc	PKPdf	14 29 24.3	-0.2
	0.4nm,0.5s,baz=109,slow=2.6,SNR=9.1						

IDC 30 14:19:16.8±4.2, 13°.43N×91°.82W, h0km, mb3.2/2, mb1 3.5/5, mb1mx3.4/26, mbtmp3.2/5, ML3.2/3, MS2.7/1, Ms1 2.7/1, ms1mx2.4/11, Error ellipse: s-maj=76.0km s-min=48.2km az=16.0, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**4.69**	**321**	Pn	Pn	14 20 29.6	+0.7
CMIG	0.4nm,0.3s,baz=155,slow=17,SNR=2.8			Sn	Sn	14 21 23.7	-0.4
TEIG	0.7nm,0.3s,baz=203,slow=16,SNR=3.0 **Tepich**	**7.56**	**26**	Pn	Pn	14 21 08.6	+0.3
TXAR	1.4nm,0.3s,baz=108,slow=13,SNR=5.9 **Lajitas Array**	**19.27**	**327**	P	Pn	14 23 43.7	-0.4
LPIG	0.0nm,0.3s,baz=143,slow=11,SNR=2.4 **La Paz**	**20.42**	**304**	LR	LR	14 30 15.3	
YKA	comp=Z,22nm,20.8s,baz=266,slow=32 **Yellowknife Ar**	**51.62**	**347**	P	P	14 28 24.0	-0.8
ILAR	0.4nm,0.7s,baz=157,slow=7.1,SNR=5.0 **Eielson Array**	**63.43**	**337**	P	P	14 29 48.3	+0.2
	0.1nm,0.6s,baz=120,slow=5.5,SNR=3.2						

IDC ***30*** *14:32:32.3±1.4, 1°.64N×126°.30E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/27, mbtmp3.7/3, Error ellipse: s-maj=151.3km s-min=24.3km az=66.0*
ISCJB ***30*** *14:32:38.3±0.8, 1°.64N±0°.06×126°.46E±0°.05, h47km, mb3.7/3, Error ellipse: s-maj=9.8km s-min=6.7km az=28.8*
DJA ***30*** *14:32:38.1±1.0, 2°N±3°×12°6E±°, h11km±8km, M3.9/6, mb3.8/1, MLv3.9/6*
ISC 30 14:32:39.4±1.0, 1°.61N±0°.07×126°.50E±0°.06, h47km, n11, σ1°.43/16, mb3.8/3, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.21**	**134**	P	**Pn**	**14 33 00.1**	**+0.2**
TNTI				S	**Sn**	**14 33 17.2**	**+2.1**
SGSI	**Sangihe**	**2.28**	**335**	P	**Pn**	**14 33 15.2**	**+0.6**
KMSI	**Cibinong**	**2.72**	**248**	P	**Pn**	**14 33 20.2**	**-0.4**
KMSI				S	**Sn**	**14 33 52.0**	**-0.3**
SANI	**Sanana**	**3.67**	**188**	P	**Pn**	**14 33 32.8**	**-0.9**
SANI				S	**Sn**	**14 34 17.5**	**+1.7**
LUWI	**Luwuk**	**4.56**	**235**	P	**Pn**	**14 33 45.5**	**-0.5**
MRSI	**Marisa**	**4.69**	**256**	P	**Pn**	**14 33 47.0**	**-0.7**
APSI	**Ampana**	**5.46**	**243**	P	**Pn**	**14 34 00.9**	**+2.7**
MPSI	**Mapaga**	**6.72**	**259**	P	**Pn**	**14 34 18.1**	**+2.5**
WRA	**Warramunga Arr**	**22.76**	**161**	P	**P**	**14 37 36.9**	**-1.1**
WRA	2.3nm,0.4s,baz=338,slow=11,SNR=48			PcP	**PcP**	**14 41 27.9**	**-0.8**
ASAR	0.3nm,0.6s,baz=340,slow=2.3,SNR=3.7 **Alice Springs**	**26.14**	**164**	P	**P**	**14 38 09.7**	**+0.3**
ASAR	0.6nm,0.5s,baz=346,slow=7.9,SNR=19			PcP	**PcP**	**14 41 35.8**	**-0.2**
MKAR	0.4nm,0.5s,baz=345,slow=2.3,SNR=6.5 **Makanchi Array**	**59.16**	**326**	P	**P**	**14 42 34.3**	**-1.2**
	0.3nm,0.4s,baz=121,slow=7.4,SNR=7.3						

IDC ***30*** *14:39:32.9±0.9, 25°.33S×69°.96E, h0km, mb3.6/9, mb1 3.8/9, mb1mx3.6/26, mbtmp3.7/9, MS3.5/12, Ms1 3.5/12, ms1mx3.3/33, Error ellipse: s-maj=30.3km s-min=23.2km az=19.0*
ISCJB ***30*** *14:39:34.4±0.7, 25°.4S±0°.2×70°.0E±0°.1, h21km, mb3.6/9, MS3.6/12, Error ellipse: s-maj=23.9km s-min=17.6km az=14.6*
ISC 30 14:39:36.2±0.9, 25°.4S±0°.2×70°.0E±0°.2, h21km, n19, σ0°.88/9, mb3.7/9, MS3.5/12, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**17.77**	**8**	T	T	15 01 49.1	
H08S2	baz=189,slow=76,SNR=7.4 **Diego Garcia H**	**17.77**	**8**	T	T	15 01 44.3	
H08S3	baz=189,slow=76,SNR=13 **Diego Garcia H**	**17.79**	**8**	T	T	15 01 45.5	
OPO	baz=189,slow=76,SNR=9.9 **Ambohidratompo**	**22.16**	**283**	P	**P**	**14 44 32.1**	**+1.1**
OPO	2.1nm,0.3s,baz=104,slow=16,SNR=3.2			P			
BOSA	comp=Z,176nm,21.0s,baz=140,slow=30 **Boshof**	**39.80**	**255**	LR	LR	14 50 45.1	
MAW	comp=Z,105nm,19.0s,baz=146,slow=31 **Mawson**	**42.49**	**184**	LR	LR	15 00 19.2	
CMAR	comp=Z,125nm,19.3s,baz=241,slow=33 **Chiang Mai Arr**	**51.88**	**36**	P	**P**	**14 48 44.5**	**+1.1**
CMAR	0.4nm,0.7s,baz=226,slow=6.2,SNR=4.0			LR	LR	15 06 20.7	
ASAR	comp=Z,41nm,21.3s,baz=172,slow=31 **Alice Springs**	**57.70**	**103**	P	**P**	**14 49 25.9**	**+0.2**
WRA	0.6nm,1.1s,baz=254,slow=6.8,SNR=4.3 **Warramunga Arr**	**59.17**	**99**	P	**P**	**14 49 36.2**	**+0.2**
STKA	1.6nm,1.1s,baz=267,slow=5.0,SNR=4.1 **Stephens Creek**	**62.20**	**114**	LR	LR	15 13 20.6	
QSPA	comp=Z,85nm,19.9s,baz=207,slow=33 **South Pole Qui**	**64.78**	**180**	P	**P**	**14 50 12.8**	**-0.3**
MKAR	0.7nm,0.7s,baz=295,slow=9.5,SNR=3.2 **Makanchi Array**	**72.66**	**9**	P	**P**	**14 51 01.7**	**-0.5**
BRTR	0.5nm,0.7s,baz=198,slow=5.4,SNR=6.5 **Keskin Array B**	**73.07**	**331**	P	**P**	**14 51 03.6**	**-1.3**
BRTR	0.5nm,0.7s,baz=138,slow=6.0,SNR=3.1			LR	LR	15 19 27.7	
TORD	comp=Z,8.4nm,21.7s,baz=146,slow=33 **Torodi Ar. Bea**	**76.69**	**292**	P	**P**	**14 51 26.5**	**+0.3**
TORD	0.6nm,1.1s,baz=111,slow=5.2,SNR=2.8			LR	LR	15 22 53.5	
DBIC	comp=Z,20nm,18.4s,baz=215,slow=34 **Dimbokro**	**79.27**	**283**	LR	LR	15 24 04.2	
SONM	comp=Z,59nm,18.6s,baz=140,slow=34 **Songino Array**	**79.87**	**24**	P	**P**	**14 51 43.0**	**-0.2**
SONM	0.1nm,0.4s,baz=193,slow=5.9,SNR=4.2			LR	LR	15 25 38.3	
GUMO	comp=Z,25nm,21.2s,baz=206,slow=35 **Guam**	**82.55**	**71**	LR	LR	15 24 43.7	
	comp=Z,9.5nm,21.8s,baz=15,slow=33						
KSRS	**Korea Array**	**82.87**	**43**	LR	LR	15 25 18.3	
MDT	comp=Z,23nm,21.7s,baz=218,slow=33 **Midelt**	**91.55**	**306**	LR	LR	15 33 11.8	
	comp=Z,35nm,18.0s,slow=35						

MEX 30 15:01:01.5±0.8, 17°.15N×101°.13W, h7km±5km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.56**	**325**	*i* P	Pg	15 01 11.7	-0.6
ZIIG				*i* S	Sg	15 01 19.4	-0.1
CAIG	**El Cayaco**	**0.83**	**97**	*e*P	Pg	15 01 15.6	-1.9
CAIG				*i* S	Sg	15 01 25.9	-2.5
ACP2	**Acapulco**	**1.22**	**103**	*e*P	Pb	15 01 22.7	-2.2
ACP2				*e*S	Sg	15 01 37.3	-3.6
ACX	**Acapulco**	**1.25**	**103**	*e*P	Pn	15 01 23.5	-1.9
ACX				*i* S	Sb	15 01 39.5	-2.3
ARIG	**Puente Sto Nin**	**1.35**	**33**	*i* P	Pn	15 01 23.5	-3.3
ARIG				*i* S	Sb	15 01 39.9	-4.9
MEIG	**Mezcala**	**1.64**	**62**	*e*P	Pn	15 01 28.4	-2.5
MEIG				*e*S	Sn	15 01 48.0	-4.2
PLIG	**Platanillo**	**1.99**	**51**	*e*P	Pn	15 01 32.9	-2.7
PLIG				*e*S	Sn	15 01 56.7	-4.2
MMIG	**Aquila**	**2.40**	**299**	*e*P	Pn	15 01 39.4	-1.8
MMIG				*e*S	Sn	15 02 06.3	-4.5
TLIG	**Tlapa**	**2.48**	**80**	*e*P	Pn	15 01 40.3	-2.2
TLIG				*e*S	Sn	15 02 08.8	-4.5
YAIG	**Yautepec**	**2.60**	**49**	*e*P	Pn	15 01 41.9	-2.3
YAIG				*e*S	Sn	15 02 11.9	-4.3
SFJM	**Santa Fe**	**3.78**	**332**	*e*P	Pn	15 02 03.3	+2.8
SFJM				*e*S	Sg	15 02 59.6	-3.9

IDC 30 15:05:13.3±4.4, 15°.14S×172°.89W, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/35, mbtmp3.8/5, Error ellipse: s-maj=191.8km s-min=31.2km az=137.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**39.18**	**257**	P	P	15 12 43.8	+0.4
STKA	1.8nm,0.5s,baz=75,slow=16,SNR=3.1 **Stephens Creek**	**44.59**	**240**	P	P	15 13 27.7	+0.2
WRA	3.8nm,1.0s,baz=100,slow=7.9,SNR=5.2 **Warramunga Arr**	**50.38**	**257**	P	P	15 14 12.0	-0.8
ASAR	0.4nm,0.9s,baz=88,slow=7.8,SNR=6.0 **Alice Springs**	**50.66**	**252**	P	P	15 14 14.7	-0.2
ILAR	3.1nm,0.7s,baz=90,slow=7.4,SNR=5.7 **Eielson Array**	**82.09**	**11**	P	P	15 17 35.4	+0.1
	0.1nm,0.4s,baz=224,slow=3.8,SNR=3.6						

IDC ***30*** *15:21:09.0±1.2, 11°.59N×92°.50E, h0km, mb3.6/9, mb1 3.7/10, mb1mx3.6/27, mbtmp3.6/10, ML3.8/1, Error ellipse: s-maj=37.9km s-min=18.9km az=57.0*
ISCJB ***30*** *15:21:11.2±1.0, 11°.7N±0°.1×92°.6E±0°.2, h26km, mb3.6/9, Error ellipse: s-maj=23.1km s-min=16.6km az=146.6*
ISC 30 15:21:13.3±1.2, 11°.7N±0°.2×92°.6E±0°.2, h26km, n13, σ0°.99/10, mb3.6/9, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.11**	**41**	Pn	**Pn**	**15 23 22.2**	**-1.0**
H08S3	0.2nm,0.3s,baz=215,slow=12,SNR=4.3 **Diego Garcia H**	**27.72**	**227**	T	T	15 55 29.6	
H08S2	baz=46,slow=76,SNR=39 **Diego Garcia H**	**27.72**	**227**	T	T	15 55 30.0	
H08S1	baz=46,slow=76,SNR=80 **Diego Garcia H**	**27.73**	**227**	T	T	15 55 30.9	
MKAR	baz=46,slow=76,SNR=28 **Makanchi Array**	**36.09**	**348**	P	**P**	**15 28 12.4**	**-0.5**
SONM	0.9nm,0.8s,baz=170,slow=8.0,SNR=6.8 **Songino Array**	**37.87**	**15**	P	**P**	**15 28 29.5**	**+1.4**
KURBB	0.3nm,0.6s,baz=205,slow=6.3,SNR=4.5 **Kurchatov Arra**	**40.53**	**346**	P	**P**	**15 28 49.5**	**-0.6**
KSRS	0.4nm,0.3s,baz=155,slow=7.3,SNR=3.4 **Korea Array**	**40.73**	**45**	P	**P**	**15 28 53.2**	**+1.1**
ZALV	0.5nm,0.5s,baz=246,slow=9.2,SNR=3.9 **Zalesovo Beam**	**42.63**	**353**	P	**P**	**15 29 06.0**	**-1.3**
WRA	0.5nm,0.5s,baz=176,slow=5.9,SNR=3.7 **Warramunga Arr**	**51.71**	**127**	P	**P**	**15 30 18.5**	**-0.1**
ASAR	0.6nm,0.4s,baz=301,slow=10,SNR=22 **Alice Springs**	**53.51**	**131**	P	**P**	**15 30 31.6**	**-0.4**
BRTR	0.3nm,0.6s,baz=306,slow=6.5,SNR=8.7 **Keskin Array B**	**58.85**	**309**	P	**P**	**15 31 10.0**	**-0.1**
ARCES	0.2nm,0.4s,baz=182,slow=6.8,SNR=2.7 **ARCESS Array B**	**71.21**	**340**	P	**P**	**15 32 30.0**	**+0.2**
	1.3nm,1.0s,baz=89,slow=7.3,SNR=2.9						

ISCJB ***30*** *16:05:22.2±0.3, 44°.22N±0°.04×141°.18E±0°.07, h231km±3km, mb3.4/14, Error ellipse: s-maj=8.2km s-min=6.6km az=11.1*
IDC ***30*** *16:05:23.0±1.1, 44°.27N×141°.15E, h221km±12km, mb3.2/14, mb1 3.3/17, mb1mx3.1/44, mbtmp3.7/17, Error ellipse: s-maj=14.4km s-min=11.9km az=128.0*
JMA ***30*** *16:05:23.4±0.2, 44°.23N×141°.11E, h225km±2km, M3.6*
ISC 30 16:05:23.2±0.6, 44°.21N±0°.05×141°.18E±0°.06, h227km±5km, n38, σ0°.75/52, mb3.4/14, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYG	**Yagishiri**	**0.28**	**39**	P	**Pn**	**16 05 52.7**	**-0.1**
JYG				*e*S	**S**	**16 06 15.5**	**-0.6**
JSS	**Shosan**	**0.52**	**68**	P	**Pn**	**16 05 54.1**	**+0.7**
JSS				*e*S	**S**	**16 06 17.4**	**+0.3**
JHR	**Hokuryu**	**0.61**	**140**	P	**Pn**	**16 05 54.6**	**+0.7**
JHR				*e*S	**S**	**16 06 18.5**	**+0.8**
JRR	**Rishiri**	**0.93**	**6**	P	**Pn**	**16 05 55.7**	**+0.4**
JSK	**Shakotan**	**1.00**	**211**	P	**Pn**	**16 05 55.7**	**-0.1**
JSK				*e*S	**S**	**16 06 19.5**	**-1.6**
ASAJ	**Asahikawa**	**1.02**	**95**	P	**Pn**	**16 05 56.0**	**+0.1**
ASAJ	**Asahikawa**	**1.02**	**95**	P	**Pn**	**16 05 55.5**	**-0.4**
	37nm,0.3s,baz=277,slow=8.4,SNR=1050						
JAB	**Ashibetsu**	**1.03**	**133**	P	**Pn**	**16 05 56.7**	**+0.7**
JAB				*e*S	**S**	**16 06 21.0**	**-0.5**
JKK2	**Kamakawa 2**	**1.18**	**106**	P	**Pn**	**16 05 57.2**	**+0.2**
JKK2				*e*S	**S**	**16 06 22.9**	**-0.3**
JWK2	**Keihoku**	**1.22**	**25**	P	**Pn**	**16 05 57.4**	**+0.3**
JWK2				*e*S	**S**	**16 06 23.4**	**-0.3**
JSE	**Soyaes**	**1.25**	**53**	P	**Pn**	**16 05 57.3**	**-0.1**
JSE				*e*S	**S**	**16 06 23.2**	**-0.9**
JEW	**Eniwo**	**1.38**	**172**	P	**Pn**	**16 05 58.9**	**+0.4**
JEW				*e*S	**S**	**16 06 26.7**	**+0.8**
JFR	**Furan**	**1.47**	**135**	P	**Pn**	**16 05 59.2**	**+0.1**
JFR				*e*S	**S**	**16 06 27.7**	**+0.7**
JTKR	**Abashiri--Toko**	**1.98**	**96**	P	**Pn**	**16 06 04.4**	**+0.8**
JTKR				*e*S	**S**	**16 06 34.2**	**-0.8**
JAR	**Ashorobuto**	**2.09**	**115**	P	**Pn**	**16 06 05.5**	**+0.9**
JAR				*e*S	**S**	**16 06 38.4**	**+1.5**
JNBK	**Urakawa-nobuka**	**2.25**	**149**	*e*S	**S**	**16 06 40.3**	**+0.6**
JCH	**Churui**	**2.25**	**134**	P	**Pn**	**16 06 05.5**	**-0.8**
JCH				*e*S	**S**	**16 06 37.5**	**-2.3**
JKB	**Kayabe**	**2.32**	**183**	P	**Pn**	**16 06 06.8**	**-0.2**
JOSM	**Okushiri--Mats**	**2.46**	**211**	P	**Pn**	**16 06 08.3**	**-0.2**
JAK	**Akkeshi**	**2.83**	**114**	P	**Pn**	**16 06 11.7**	**-0.7**
JAK				*e*S	**S**	**16 06 49.4**	**-1.4**
JOT	**Ohata**	**2.83**	**182**	*e*S	**S**	**16 06 51.0**	**+0.1**
MJAR	**Matsushiro Arr**	**7.99**	**197**	P	**Pn**	**16 07 15.7**	**-0.7**
	0.5nm,0.3s,baz=1.1,slow=1.1,SNR=7.9						
PETK	**Petropavlovsk-**	**14.06**	**45**	P	**Pn**	**16 08 32.1**	**-0.6**
	0.6nm,0.3s,baz=217,slow=11,SNR=20						
SEY	**Seymchan**	**19.85**	**15**	P	**P**	**16 09 35.7**	**-1.0**
	0.3nm,0.3s,baz=195,slow=8.3,SNR=21						
SONM	**Songino Array**	**24.30**	**291**	P	**P**	**16 10 20.1**	**+0.1**
	3.1nm,0.7s,baz=80,slow=8.6,SNR=24						
ZALV	**Zalesovo Beam**	**37.25**	**306**	P	**P**	**16 12 12.8**	**-0.1**
	0.5nm,0.5s,baz=95,slow=8.5,SNR=3.2						
MKAR	**Makanchi Array**	**40.52**	**295**	P	**P**	**16 12 40.1**	**0.0**
	0.7nm,0.5s,baz=87,slow=8.9,SNR=10						
KURBB	**Kurchatov Arra**	**41.74**	**302**	P	**P**	**16 12 49.9**	**-0.1**
	2.8nm,0.4s,baz=73,slow=8.9,SNR=50						
CMAR	**Chiang Mai Arr**	**43.61**	**248**	P	**P**	**16 13 05.5**	**+0.1**
	0.5nm,0.8s,baz=44,slow=9.4,SNR=4.1						
ILAR	**Eielson Array**	**43.66**	**36**	P	**P**	**16 13 05.2**	**+0.1**
	0.4nm,0.6s,baz=261,slow=6.2,SNR=8.5						
BVAR	**Borovoye Array**	**45.84**	**307**	P	**P**	**16 13 22.5**	**+0.1**
	1.5nm,0.4s,baz=77,slow=8.9,SNR=18						
YKA	**Yellowknife Ar**	**57.76**	**32**	P	**P**	**16 14 50.7**	**+0.6**
	0.2nm,0.5s,baz=306,slow=6.6,SNR=6.4						
FINES	**FINESS Array B**	**62.43**	**331**	P	**P**	**16 15 21.1**	**-0.6**
	1.5nm,0.8s,baz=60,slow=4.6,SNR=6.9						
WRA	**Warramunga Arr**	**64.14**	**187**	P	**P**	**16 15 33.6**	**+0.2**
	0.2nm,0.4s,baz=1.6,slow=6.8,SNR=5.3						
HFS	**Hagfors**	**67.51**	**335**	P	**P**	**16 15 53.7**	**-0.7**
	1.2nm,0.8s,baz=43,slow=6.9,SNR=5.1						
NOA	**NORSAR Array B**	**67.53**	**336**	P	**P**	**16 15 53.8**	**-0.8**
	0.8nm,0.8s,baz=34,slow=6.4,SNR=3.3						
ASAR	**Alice Springs**	**67.87**	**187**	P	**P**	**16 15 58.1**	**+1.0**
	0.2nm,0.8s,baz=8.0,slow=6.7,SNR=6.2						
PDAR	**Pinedale Array**	**72.82**	**47**	P	**P**	**16 16 28.4**	**+1.1**
	0.3nm,0.5s,baz=0.0,slow=3.3,SNR=3.8						

TAP 30 16:09:46.5, 23°.99N×121°.65E, h11km, ML1.9, 1C, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.04**	**248**	*i* P	Pg	16 09 49.1	+0.5
HWA	baz=240			S	Sg	16 09 50.8	+0.7
TWD	baz=240 **Chiawan**	**0.10**	**332**	*i* P	Pg	16 09 49.6	+0.4
TWD	baz=337			*e*S	Sg	16 09 51.0	-0.2
ESL	baz=337 **Shilin**	**0.26**	**228**	*e*P	Pb	16 09 52.9	-0.3
ESL	baz=226			*e*S	Sb	16 09 57.0	-0.7
WHF	baz=226 **Hehuan Shan**	**0.38**	**294**	P	Pg	16 09 54.7	0.0
WHF	baz=293			*e*S	Sg	16 09 59.4	-0.7
ENA	baz=293 **Nanau**	**0.44**	**11**	⇑*i*P	Pb	16 09 55.9	-0.4
	baz=12						

CSEM ***30*** *16:10:30.1, 42°.65N×13°.30E, h18km, ML2.4/18*
ROM 30 16:10:30.1±0.1, 42°.65N×13°.30E, h18km±1km, MI2.4/18, 7C-2D, Error ellipse: s-maj=1.4km s-min=0.9km az=66.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.03**	**135**	Pg	Pg	16 10 33.6	+0.1
SMA1				Sg	Sg	16 10 36.2	+0.4
SMA1	4µm,0.2s **SAN MARTINO**	**0.03**	**135**	Pg	Pg	16 10 33.6	+0.1
SMA1				Sg	Sg	16 10 36.2	+0.4
CAMP	4µm,0.2s **Campotosto**	**0.14**	**146**	Pg	Pg	16 10 34.5	0.0
CAMP				Sg	Sg	16 10 37.6	+0.2
CAMP	741nm,0.3s **Campotosto**	**0.14**	**146**	Pg	Pg	16 10 34.5	0.0
CAMP				Sg	Sg	16 10 37.6	+0.2
T0107	741nm,0.3s **San Pelino (Ca**	**0.19**	**193**	⇑*i*Pg	Pg	16 10 35.2	+0.2
T0107				Sg	Sg	16 10 39.1	+0.7
LNSS	**Leonessa**	**0.20**	**255**	⇑*i*Pg	Pg	16 10 35.3	0.0
LNSS				Sg	Sg	16 10 39.4	+0.6
LNSS	660nm,0.3s **Leonessa**	**0.20**	**255**	⇑*i*Pg	Pg	16 10 35.3	0.0
LNSS				Sg	Sg	16 10 39.4	+0.6
TERO	660nm,0.3s **Teramo**	**0.22**	**98**	⇓*e*Pg	Pb	16 10 35.3	-0.1
TERO				Sg	Sg	16 10 39.4	+0.2
TERO	917nm,0.1s **Teramo**	**0.22**	**98**	⇓*e*Pg	Pb	16 10 35.3	-0.1
TERO				Sg	Sg	16 10 39.4	+0.2
NRCA	917nm,0.1s **Norcia**	**0.23**	**322**	⇑*e*Pg	Pb	16 10 35.5	0.0
NRCA				Sg	Sg	16 10 39.6	+0.2
NRCA	1µm,0.2s **Norcia**	**0.23**	**322**	⇑*e*Pg	Pb	16 10 35.5	0.0
NRCA				Sg	Sg	16 10 39.6	+0.2
T0104	1µm,0.2s **Madonna delle**	**0.29**	**175**	Pg	Pg	16 10 36.7	0.0
T0104				Sg	Sb	16 10 41.8	+0.3
AQU	**L'Aquila**	**0.31**	**166**	Pg	Pg	16 10 36.7	-0.2
AQU				Sg	Sb	16 10 42.5	+0.6
AQU	257nm,0.2s **L'Aquila**	**0.31**	**166**	Pg	Pg	16 10 36.7	-0.2
AQU				Sg	Sb	16 10 42.5	+0.6
T0106	257nm,0.2s **Roio Piano**	**0.35**	**170**	Pg	Pg	16 10 37.6	-0.1
T0106				Sg	Sb	16 10 43.5	+0.1
OFFI	278nm,0.3s **Offida**	**0.40**	**45**	Pg	Pb	16 10 39.2	+0.5
OFFI	1µm,0.5s **Offida**	**0.40**	**45**	Pg	Pb	16 10 39.2	+0.5
FIAM	1µm,0.5s **Fiamignano**	**0.41**	**200**	⇑*e*Pg	Pg	16 10 38.5	-0.2
FIAM				Sg	Sb	16 10 45.0	0.0
FIAM	118nm,0.5s **Fiamignano**	**0.41**	**200**	⇑*e*Pg	Pg	16 10 38.5	-0.2
FIAM				Sg	Sb	16 10 45.0	0.0
FDMO	118nm,0.5s **Fiordimonte**	**0.41**	**338**	Pg	Pg	16 10 38.3	-0.4
FDMO				Sg	Sg	16 10 44.7	+0.1
FDMO	105nm,0.2s **Fiordimonte**	**0.41**	**338**	Pg	Pg	16 10 38.3	-0.4
FDMO				Sg	Sg	16 10 44.7	+0.1
FAGN	105nm,0.2s **Fagnano**	**0.44**	**152**	Pg	Pg	16 10 39.0	-0.2
FAGN				Sg	Sb	16 10 46.1	+0.3
FAGN	300nm,0.4s **Fagnano**	**0.44**	**152**	Pg	Pg	16 10 39.0	-0.2
FAGN				Sg	Sb	16 10 46.1	+0.3
CESI	300nm,0.4s **CESI - Serrava**	**0.46**	**320**	Pg	Pg	16 10 39.2	-0.4
CESI				Sg	Sb	16 10 46.3	0.0
CESI	73nm,0.4s **CESI - Serrava**	**0.46**	**320**	Pg	Pg	16 10 39.2	-0.4
CESI				Sg	Sb	16 10 46.3	0.0
TRTR	73nm,0.4s **Tortoreto Alta**	**0.48**	**71**	Pg	Pb	16 10 40.5	+0.6
TRTR	**Tortoreto Alta**	**0.48**	**71**	Pg	Pb	16 10 40.5	+0.6
MNS	**Montasola**	**0.53**	**240**	Pg

*PRU **30** 16:10:42.4,44.51N×11.82E,h0km*
ISC 30 16:10:41.6±0.9,44°34N±0.02×11°51E±0.02,h21km±1km, n203,σ1§11/236,10C-13D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTRZ	**Monterenzio**	**0.05**	**318**	⇓*e*Pg	**Pb**	**16 10 45.3**	**-0.2**
MTRZ				Sg	**Sb**	**16 10 49.3**	**+1.2**
MTRZ	**Monterenzio**	**0.05**	**318**	⇓*e*Pg	**Pb**	**16 10 45.3**	**-0.2**
MTRZ				Sg	**Sb**	**16 10 49.3**	**+1.2**
FIU	**Minerbio Fiu**	**0.30**	**357**	Pg	**Pb**	**16 10 47.9**	**-0.4**
FIU				Sg	**Sb**	**16 10 54.4**	**+1.5**
FIU	**Minerbio Fiu**	**0.30**	**357**	Pg	**Pb**	**16 10 47.9**	**-0.4**
FIU				Sg	**Sb**	**16 10 54.4**	**+1.5**
SEI	**Scarperia**	**0.31**	**201**	⇑*i*Pg	**Pb**	**16 10 47.9**	**-0.6**
SEI				Sg	**Sb**	**16 10 53.9**	**+0.7**
SEI	**Scarperia**	**0.31**	**201**	⇑*i*Pg	**Pb**	**16 10 47.9**	**-0.6**
SEI				Sg	**Sb**	**16 10 53.9**	**+0.7**
CMPO	**Campotto Po**	**0.32**	**41**	Pg	**Pb**	**16 10 49.6**	**+1.0**
CMPO				Sg	**Sb**	**16 10 54.1**	**+0.7**
CMPO	**Campotto Po**	**0.32**	**41**	Pg	**Pb**	**16 10 49.6**	**+1.0**
CMPO				Sg	**Sb**	**16 10 54.1**	**+0.7**
FNVD	**Fontana Vidola**	**0.33**	**238**	Pg	**Pb**	**16 10 48.0**	**-0.8**
FNVD				Sg	**Sb**	**16 10 53.4**	**-0.3**
FNVD	**Fontana Vidola**	**0.33**	**238**	Pg	**Pb**	**16 10 48.0**	**-0.8**
FNVD				Sg	**Sb**	**16 10 53.4**	**-0.3**
VMG	**Vicchio**	**0.38**	**176**	⇑*i*Pg	**Pb**	**16 10 49.1**	**-0.5**
VMG	**Vicchio**	**0.38**	**176**	⇑*i*Pg	**Pb**	**16 10 49.1**	**-0.5**
SFI	**Santa Sofia**	**0.50**	**151**	Pg	**Pb**	**16 10 51.3**	**-0.4**
SFI				Sg	**Sb**	**16 10 59.8**	**+1.3**
SFI	**Santa Sofia**	**0.50**	**151**	Pg	**Pb**	**16 10 51.3**	**-0.4**
SFI				Sg	**Sb**	**16 10 59.8**	**+1.3**
RAVA	**Ravarino**	**0.50**	**326**	Pg	**Pn**	**16 10 53.2**	**-0.3**
RAVA	**Ravarino**	**0.50**	**326**	Pg	**Pn**	**16 10 53.2**	**-0.3**
ASQU	**Asqua**	**0.58**	**160**	⇓*i*Pg	**Pb**	**16 10 52.7**	**-0.5**
ASQU				Sg	**Sn**	**16 11 03.0**	**-0.5**
ASQU	**Asqua**	**0.58**	**160**	⇓*i*Pg	**Pb**	**16 10 52.7**	**-0.5**
ASQU				Sg	**Sn**	**16 11 03.0**	**-0.5**
FIR	**Firenze**	**0.60**	**198**	Pg	**Pb**	**16 10 53.9**	**+0.5**
FIR	**Firenze**	**0.60**	**198**	Pg	**Pb**	**16 10 53.9**	**+0.5**
POPM	**Popiglio**	**0.62**	**242**	P	**Pb**	**16 10 52.6**	**-1.2**
GSCL	**Gusciola**	**0.66**	**271**	Pg	**Pb**	**16 10 54.8**	**+0.2**
GSCL	**Gusciola**	**0.66**	**271**	Pg	**Pb**	**16 10 54.8**	**+0.2**
CRMI	**Carmignano**	**0.68**	**215**	Pg	**Pb**	**16 10 54.3**	**-0.5**
CRMI	**Carmignano**	**0.68**	**215**	Pg	**Pb**	**16 10 54.3**	**-0.5**
NOVE	**Novellara**	**0.73**	**309**	Pg	**Pn**	**16 10 57.7**	**+1.1**
NOVE	**Novellara**	**0.73**	**309**	Pg	**Pn**	**16 10 57.7**	**+1.1**
CRE	**Caprese Michel** 451nm,0.7s	**0.79**	**156**	Pg	**Pb**	**16 10 56.6**	**-0.1**
CRE	**Caprese Michel** 451nm,0.7s	**0.79**	**156**	Pg	**Pb**	**16 10 56.6**	**-0.1**
SBPO	**S.Benedetto Po**	**0.82**	**330**	Pg	**Pn**	**16 10 58.7**	**+0.8**
SBPO	**S.Benedetto Po**	**0.82**	**330**	Pg	**Pn**	**16 10 58.7**	**+0.8**
VLC	**Villacollemand**	**0.83**	**258**	Pg	**Pn**	**16 10 57.9**	**-0.1**
VLC	**Villacollemand**	**0.83**	**258**	Pg	**Pn**	**16 10 57.9**	**-0.1**
MAIM	**Mastiano**	**0.85**	**240**	Pg	**Pb**	**16 10 57.7**	**+0.1**
MAIM	**Mastiano**	**0.85**	**240**	P	**Pb**	**16 10 57.0**	**-0.6**
MAIM	**Mastiano**	**0.85**	**240**	Pg	**Pb**	**16 10 57.7**	**+0.1**
PARC	**Parchiule**	**0.87**	**143**	Pg	**Pb**	**16 10 57.9**	**-0.1**
PARC	**Parchiule**	**0.87**	**143**	Pg	**Pb**	**16 10 57.9**	**-0.1**
CSNT	**Castellina Chi**	**0.88**	**190**	⇓*i*Pg	**Pb**	**16 10 58.3**	**+0.1**
CSNT	**Castellina Chi**	**0.88**	**190**	⇓*i*Pg	**Pb**	**16 10 58.3**	**+0.1**
PII	**Pisa**	**0.94**	**229**	Pg	**Pb**	**16 10 59.1**	**-0.1**
PII	**Pisa**	**0.94**	**229**	Pg	**Pb**	**16 10 59.1**	**-0.1**
PRMA	**PARMA**	**0.95**	**297**	Pg	**Pn**	**16 11 01.4**	**+1.7**
PRMA	**PARMA**	**0.95**	**297**	Pg	**Pn**	**16 11 01.4**	**+1.7**
TEOL	**Teolo**	**1.02**	**6**	*e*Pg	**Pn**	**16 11 00.5**	**-0.2**
TEOL				*e*Sg	**Sn**	**16 11 15.0**	**+0.5**
TEOL	**Teolo**	**1.02**	**6**	Pg	**Pn**	**16 11 00.5**	**-0.2**
TEOL	**Teolo**	**1.02**	**6**	Pg	**Pn**	**16 11 00.5**	**-0.2**
TEOL				*e*Sg	**Sn**	**16 11 15.0**	**+0.5**
BACM	**Baccana**	**1.03**	**267**	P	**Pn**	**16 11 00.6**	**-0.3**
BACM				S	**Sb**	**16 11 14.3**	**+0.4**
GRFL	**Gerfalco** 39nm,0.5s	**1.25**	**198**	Pg	**Pn**	**16 11 04.0**	**+0.1**
GRFL	**Gerfalco** 39nm,0.5s	**1.25**	**198**	Pg	**Pn**	**16 11 04.0**	**+0.1**
MARN	**Marana (Italy)**	**1.31**	**351**	*e*Pg	**Pn**	**16 11 04.1**	**-0.6**
MARN	**Marana (Italy)**	**1.31**	**351**	*e*Pg	**Pn**	**16 11 04.1**	**-0.6**
ROVR	**Rover˜¤ Verone**	**1.34**	**347**	Pg	**Pn**	**16 11 04.9**	**-0.3**
ROVR	**Rover˜¤ Verone**	**1.34**	**347**	Pg	**Pn**	**16 11 04.9**	**-0.3**
SC2M	**Scurtabo**	**1.42**	**273**	Pg	**Pb**	**16 11 08.9**	**+1.5**
BALD	**Monte Baldo**	**1.43**	**340**	*e*Pg	**Pn**	**16 11 05.8**	**-0.7**
BALD				*e*Sg	**Sb**	**16 11 26.6**	**+1.1**
BALD	**Monte Baldo**	**1.43**	**340**	*e*Pg	**Pn**	**16 11 05.8**	**-0.7**
BALD				*e*Sg	**Sb**	**16 11 26.6**	**+1.1**
MSSA	**Maissana**	**1.43**	**270**	Pg	**Pb**	**16 11 08.8**	**+1.2**
MSSA	**Maissana**	**1.43**	**270**	Pg	**Pb**	**16 11 08.8**	**+1.2**
ARCI	**Arcidosso**	**1.49**	**181**	Pg	**Pn**	**16 11 07.3**	**+0.1**
ARCI	**Arcidosso**	**1.49**	**181**	Pg	**Pn**	**16 11 07.3**	**+0.1**
DDS	**Dosso del Somm**	**1.56**	**352**	Pg	**Pb**	**16 11 09.3**	**-0.5**
DDS	**Dosso del Somm**	**1.56**	**352**	Pg	**Pb**	**16 11 09.3**	**-0.5**
MAGA	**Magasa**	**1.56**	**337**	Pg	**Pn**	**16 11 07.4**	**-0.9**
MAGA	**Magasa**	**1.56**	**337**	Pg	**Pn**	**16 11 07.4**	**-0.9**
CASP	**Castiglione de**	**1.62**	**197**	Pg	**Pn**	**16 11 09.3**	**+0.4**
CASP	**Castiglione de**	**1.62**	**197**	Pg	**Pn**	**16 11 09.3**	**+0.4**
VARN	**Col Varnada, M**	**1.71**	**14**	⇓*e*Pg	**Pn**	**16 11 09.2**	**-0.9**
VARN	**Col Varnada, M**	**1.71**	**14**	⇓*e*Pg	**Pn**	**16 11 09.2**	**-0.9**
PANI	**Panarotta**	**1.71**	**355**	*e*Pg	**Pn**	**16 11 10.5**	**+0.1**
PANI				*e*Sg	**Sn**	**16 11 32.5**	**+0.8**
PANI	**Panarotta**	**1.71**	**355**	*e*Pg	**Pn**	**16 11 10.5**	**+0.1**
PANI				*e*Sg	**Sn**	**16 11 32.5**	**+0.8**
RNI	**Roncone**	**1.75**	**340**	*e*Pn	**Pn**	**16 11 10.3**	**-0.5**
RNI	**Roncone**	**1.75**	**340**	*e*Pn	**Pn**	**16 11 10.3**	**-0.5**
CAE	**Caneva**	**1.79**	**21**	⇓*e*Pn	**Pn**	**16 11 10.8**	**-0.5**
CAE	**Caneva**	**1.79**	**21**	⇓*e*Pn	**Pn**	**16 11 10.8**	**-0.5**
POLC	**Polcenigo**	**1.82**	**22**	Pg	**Pn**	**16 11 11.4**	**-0.3**
POLC	**Polcenigo**	**1.82**	**22**	*e*Pn	**Pn**	**16 11 11.6**	**-0.1**
MABI	**Malga Bissina**	**1.85**	**338**	Pg	**Pn**	**16 11 11.9**	**-0.4**
MABI	**Malga Bissina**	**1.85**	**338**	Pg	**Pn**	**16 11 11.9**	**-0.4**
TLI	**Talmassons**	**1.94**	**35**	*e*Pn	**Pn**	**16 11 12.7**	**-0.6**
TLI	**Talmassons**	**1.94**	**35**	*e*Pn	**Pn**	**16 11 12.7**	**-0.6**
MLNI	**Malnisio**	**1.97**	**23**	*e*Pn	**Pn**	**16 11 13.1**	**-0.7**
MLNI				*e*Sn	**Sn**	**16 11 37.6**	**-0.2**
MLNI	**Malnisio**	**1.97**	**23**	*e*Pn	**Pn**	**16 11 13.1**	**-0.7**
MLNI				*e*Sn	**Sn**	**16 11 37.6**	**-0.2**
CSO	**Casso**	**2.02**	**16**	*e*Pn	**Pn**	**16 11 13.5**	**-0.9**
CSO	**Casso**	**2.02**	**16**	*e*Pn	**Pn**	**16 11 13.5**	**-0.9**
CIMO	**Cimolais**	**2.08**	**18**	*e*Pn	**Pn**	**16 11 14.3**	**-0.9**
CIMO				*e*Sn	**Sn**	**16 11 39.5**	**-0.9**
CIMO	**Cimolais**	**2.08**	**18**	*e*Pn	**Pn**	**16 11 14.3**	**-0.9**
CIMO				*e*Sn	**Sn**	**16 11 39.5**	**-0.9**
TRI	**Trieste**	**2.10**	**49**	*e*Pn	**Pn**	**16 11 14.4**	**-1.1**
TRI	**Trieste**	**2.10**	**49**	Pg	**Pn**	**16 11 14.3**	**-1.2**
TRI	**Trieste**	**2.10**	**49**	*e*Pn	**Pn**	**16 11 14.4**	**-1.1**
KOSI	**Kohlern**	**2.12**	**358**	*e*Pn	**Pn**	**16 11 16.0**	**0.0**
SKDS	**Skadanscina**	**2.15**	**55**	*i* Pn	**Pn**	**16 11 15.1**	**-1.1**
SKDS				*i* Sn	**Sn**	**16 11 41.3**	**-0.9**
SKDS	**Skadanscina**	**2.15**	**55**	*i* Pn	**Pn**	**16 11 15.1**	**-1.1**
SKDS				*i* Sn	**Sn**	**16 11 41.3**	**-0.9**
BUA	**Buia**	**2.19**	**31**	*e*Pn	**Pn**	**16 11 16.7**	**-0.1**
BUA	**Buia**	**2.19**	**31**	*e*Pn	**Pn**	**16 11 16.7**	**-0.1**
SABO	**M.te Sabotino**	**2.21**	**41**	⇑*e*Pn	**Pn**	**16 11 16.5**	**-0.5**
SABO	**M.te Sabotino**	**2.21**	**41**	⇑*e*Pn	**Pn**	**16 11 16.5**	**-0.5**
COLI	**Coloredo**	**2.23**	**36**	*e*Pn	**Pn**	**16 11 16.5**	**-0.7**
COLI	**Coloredo**	**2.23**	**36**	*e*Pn	**Pn**	**16 11 16.5**	**-0.7**
BAD	**Bernadia**	**2.26**	**32**	*e*Pn	**Pn**	**16 11 16.9**	**-0.8**
BAD	**Bernadia**	**2.26**	**32**	*e*Pn	**Pn**	**16 11 16.9**	**-0.8**
BOO	**Bordano**	**2.27**	**29**	*e*Pn	**Pn**	**16 11 17.2**	**-0.7**
BOO	**Bordano**	**2.27**	**29**	*e*Pn	**Pn**	**16 11 17.2**	**-0.7**
VINO	**Villanova**	**2.29**	**32**	*e*Pn	**Pn**	**16 11 17.2**	**-0.9**
VINO				*e*Sn	**Sb**	**16 11 54.3**	**+4.3**
VINO	**Villanova**	**2.29**	**32**	*e*Pn	**Pn**	**16 11 17.2**	**-0.9**
CSMI	**Casera Mimoias**	**2.31**	**20**	*e*Pn	**Pn**	**16 11 18.3**	**-0.3**
CSMI	**Casera Mimoias**	**2.31**	**20**	*e*Pn	**Pn**	**16 11 18.3**	**-0.3**
FUSE	**Fusea**	**2.32**	**26**	*e*Pn	**Pn**	**16 11 18.4**	**-0.2**
FUSE	**Fusea**	**2.32**	**26**	*e*Pn	**Pn**	**16 11 18.4**	**-0.2**
DRE	**Drenchia**	**2.37**	**39**	*e*Pn	**Pn**	**16 11 18.5**	**-0.8**
DRE	**Drenchia**	**2.37**	**39**	*e*Pn	**Pn**	**16 11 18.5**	**-0.8**
MOSI	**Grossmontoni**	**2.37**	**344**	*e*Pn	**Pn**	**16 11 20.6**	**+1.1**
JAVS	**Javornik**	**2.38**	**48**	*i* Pn	**Pn**	**16 11 18.5**	**-1.0**
JAVS				*i* Sn	**Sn**	**16 11 47.3**	**-0.8**
JAVS	**Javornik**	**2.38**	**48**	*i* Pn	**Pn**	**16 11 18.5**	**-1.0**
JAVS				*i* Sn	**Sn**	**16 11 47.3**	**-0.8**
ABSI	**Aberstueckl**	**2.39**	**357**	⇓*e*Pn	**Pn**	**16 11 19.8**	**+0.1**
NVLJ	**Novalja**	**2.42**	**84**	*e*Pn	**Pn**	**16 11 20.2**	**+0.4**
NVLJ				Sn	**Sn**	**16 11 49.0**	**+0.2**
NVLJ	**Novalja**	**2.42**	**84**	*e*Pn	**Pn**	**16 11 20.2**	**+0.4**
NVLJ				Sn	**Sn**	**16 11 48.9**	**+0.2**
ZOU	**Zoufplan**	**2.44**	**24**	*e*Pn	**Pn**	**16 11 20.0**	**-0.4**
ABTA	**Abfaltersbach**	**2.51**	**16**	⇑*i*Pn	**Pn**	**16 11 21.4**	**+0.2**
ABTA	**Abfaltersbach**	**2.51**	**16**	Pn	**Pn**	**16 11 21.4**	**+0.2**
PGF	**Pioggiola**	**2.56**	**226**	*e*P	**Pn**	**16 11 22.1**	**+0.2**
PGF				*e*Sn	**Sn**	**16 11 47.3**	**-5.2**
	192nm,0.6s						
PGF	**Pioggiola**	**2.56**	**226**	*e*P	**Pn**	**16 11 22.1**	**+0.2**
LSR	**Lussari**	**2.56**	**33**	*e*Pn	**Pn**	**16 11 21.4**	**-0.7**
LSR	**Lussari**	**2.56**	**33**	*e*Pn	**Pn**	**16 11 21.4**	**-0.7**
ACOM	**Acomizza, Ital**	**2.62**	**32**	*e*Pn	**Pn**	**16 11 22.6**	**-0.3**
ACOM	**Acomizza, Ital**	**2.62**	**32**	*e*Pn	**Pn**	**16 11 22.5**	**-0.3**
GBRS	**Gornja Briga**	**2.63**	**62**	*i* Pn	**Pn**	**16 11 22.4**	**-0.4**
GBRS				*i* Sn	**Sn**	**16 11 54.4**	**+0.4**
FETA	**Feichten** SNR=8.0	**2.74**	**349**	*e*Pn	**Pn**	**16 11 25.8**	**+1.4**
FETA	**Feichten** SNR=8.0	**2.74**	**349**	Pn	**Pn**	**16 11 25.8**	**+1.4**
WTTA	**Wattenberg** SNR=16	**2.92**	**2**	*e*Pn	**Pn**	**16 11 29.6**	**+2.6**
WTTA	**Wattenberg** SNR=16	**2.92**	**2**	Pn	**Pn**	**16 11 29.6**	**+2.6**
SBF	**Sospel**	**2.98**	**262**	*e*P	**Pn**	**16 11 27.2**	**-0.4**
SBF				*e*Sn	Sn	16 11 56.2	-6.4
	31nm,0.3s,SNR=1.0						
SBF	**Sospel**	**2.98**	**262**	*e*P	**Pn**	**16 11 27.2**	**-0.4**
WATA	**Walderalm** SNR=15	**3.00**	**1**	⇑*e*Pn	**Pn**	**16 11 29.3**	**+1.4**
WATA	**Walderalm** SNR=15	**3.00**	**1**	Pn	**Pn**	**16 11 29.3**	**+1.4**
MOTA	**Moosalm** SNR=13	**3.02**	**355**	*e*Pn	**Pn**	**16 11 30.0**	**+1.8**
MOTA	**Moosalm** SNR=13	**3.02**	**355**	Pn	**Pn**	**16 11 30.0**	**+1.8**
KBA	**Koelnbreinsper**	**3.02**	**24**	⇓*i*Pn	**Pn**	**16 11 28.7**	**+0.3**
KBA	**Koelnbreinsper**	**3.02**	**24**	Pn	**Pn**	**16 11 28.7**	**+0.3**
UDBI	**Udbina**	**3.05**	**85**	*e*Pn	**Pn**	**16 11 30.4**	**+1.7**
UDBI				Sn	**Sn**	**16 12 04.0**	**-0.6**
UDBI	**Udbina**	**3.05**	**85**	*e*Pn	**Pn**	**16 11 30.3**	**+1.7**
UDBI				Sn	**Sn**	**16 12 03.9**	**-0.6**
DAVA	**Damuels** SNR=7.0	**3.16**	**339**	⇑*i*Pn	**Pn**	**16 11 30.5**	**+0.3**
DAVA	**Damuels** SNR=7.0	**3.16**	**339**	Pn	**Pn**	**16 11 30.5**	**+0.3**
MBDF	**Montbardon** SNR=1.0	**3.41**	**278**	*e*Pn	Pn	16 11 30.0	-3.7
MBDF	**Montbardon** SNR=1.0	**3.41**	**278**	*e*Pg	**Pb**	**16 11 42.9**	**+1.5**
MBDF				*e*Sn	Sn	16 12 07.1	-6.4
	38nm,0.7s,SNR=1.0						
MBDF	**Montbardon** SNR=1.0	**3.41**	**278**	*e*Pn	Pn	16 11 30.0	-3.7
LPG	**La Plagne** SNR=1.0	**3.57**	**291**	*e*P	**Pn**	**16 11 35.2**	**-0.8**
LPG				*e*Sn	Sn	16 12 10.2	-7.5
	12nm,0.5s,SNR=1.0						
LPG	**La Plagne** SNR=1.0	**3.57**	**291**	*e*P	**Pn**	**16 11 35.2**	**-0.8**
LPL	**La Plagne** SNR=1.0	**3.59**	**291**	*e*Pn	Pn	16 11 32.5	-3.7
LPL				*e*Sn	Sn	16 12 10.3	-7.8
	12nm,0.4s						
LPL	**La Plagne** SNR=1.0	**3.59**	**291**	*e*Pn	Pn	16 11 32.5	-3.7
FRF	**La Foret Royal**	**3.60**	**259**	*e*P	**Pn**	**16 11 37.0**	**+0.9**
FRF				*e*Sn	Sn	16 12 11.0	-6.9
	28nm,0.3s,SNR=1.0						
FRF	**La Foret Royal**	**3.60**	**259**	*e*P	**Pn**	**16 11 37.0**	**+0.9**
LMR	**La Mourre**	**3.76**	**256**	*e*P	**Pn**	**16 11 38.9**	**+0.7**
LMR				*e*Sn	Sn	16 12 14.9	-6.9
	28nm,0.4s,SNR=1.0						
LMR	**La Mourre**	**3.76**	**256**	*e*P	**Pn**	**16 11 38.9**	**+0.7**
MOA	**Molln**	**4.00**	**28**	⇑*i*Pn	**Pn**	**16 11 41.9**	**+0.3**
MOA	**Molln**	**4.00**	**28**	Pn	**Pn**	**16 11 41.9**	**+0.3**
ORIF	**Oris-en-Rattie** SNR=1.0	**4.06**	**280**	*e*Pn	Pn	16 11 38.5	-4.0
ORIF				*e*Sn	Sn	16 12 22.3	-7.2
	20nm,0.5s						
ORIF	**Oris-en-Rattie** SNR=1.0	**4.06**	**280**	*e*Pn	Pn	16 11 38.5	-4.0
SMRF	**Simiane la Rot**	**4.29**	**267**	*e*P	**Pn**	**16 11 44.8**	**-0.8**
SMRF				*e*Sn	Sn	16 12 27.5	-7.5
	4.3nm,0.2s						
SMRF	**Simiane la Rot**	**4.29**	**267**	*e*P	**Pn**	**16 11 44.8**	**-0.8**
CABF	**La Chapelle**	**4.44**	**303**	*e*P	**Pn**	**16 11 48.0**	**+0.3**
CABF	**La Chapelle**	**4.44**	**303**	*e*P	**Pn**	**16 11 48.0**	**+0.3**
CONA	**Conrad Observa**	**4.69**	**39**	⇓*i*Pn	**Pn**	**16 11 50.9**	**-0.3**
CONA	**Conrad Observa**	**4.69**	**39**	Pn	**Pn**	**16 11 50.9**	**-0.3**
STON	**Ston**	**4.73**	**106**	*e*Pn	**Pn**	**16 11 53.6**	**+2.0**
STON				Sn	**Sn**	**16 12 46.5**	**+0.8**
STON	**Ston**	**4.73**	**106**	*e*Pn	**Pn**	**16 11 53.6**	**+2.0**
STON				Sn	**Sn**	**16 12 46.5**	**+0.8**
HINF	**Hinteralfeld**	**4.75**	**319**	*e*P	**Pn**	**16 11 51.4**	**-0.6**
HINF				*e*Sn	Sn	16 12 38.4	-8.0
	11nm,0.4s,SNR=1.0						
HINF	**Hinteralfeld**	**4.75**	**319**	*e*P	**Pn**	**16 11 51.4**	**-0.6**
VIVF	**Saint-Julien-l** SNR=1.0	**4.91**	**278**	*e*Pn	**Pn**	**16 11 54.2**	**0.0**
VIVF				*e*Sn	Sn	16 12 42.2	-8.1
	2.8nm,0.4s						
VIVF	**Saint-Julien-l** SNR=1.0	**4.91**	**278**	*e*Pn	**Pn**	**16 11 54.2**	**0.0**
KHC	**Kasperske Hory**	**5.00**	**16**	*e*PN	**Pn**	**16 11 54.1**	**-1.2**
KHC				*ex*	x	16 12 03.0	
KHC				*e*SN	**Sn**	**16 12 48.7**	**-3.7**
KHC				*e*SG	Sb	16 13 23.0	+15
KHC	**Kasperske Hory**	**5.00**	**16**	Pn	**Pn**	**16 11 54.1**	**-1.2**
KHC				Sn	**Sn**	**16 12 48.7**	**-3.7**
CDF	**Champ du Feu**	**5.02**	**326**	*e*P	**Pn**	**16 11 55.2**	**-0.4**
CDF				*e*Sn	Sn	16 12 44.6	-8.4
	7.9nm,0.5s						
CDF	**Champ du Feu**	**5.02**	**326**	*e*P	**Pn**	**16 11 55.2**	**-0.4**
HAU	**Haudompre**	**5.13**	**317**	*e*P	**Pn**	**16 11 56.7**	**-0.4**
HAU				*e*Sn	Sn	16 12 47.4	-8.2
	29nm,0.4s,SNR=1.0						
HAU	**Haudompre**	**5.13**	**317**	*e*P	**Pn**	**16 11 56.7**	**-0.4**
LASF	**Ste Croix** SNR=1.0	**5.51**	**270**	*e*Pn	**Pn**	**16 12 01.9**	**-0.5**
LASF	**Ste Croix** SNR=1.0	**5.51**	**270**	*e*Pn	Pn	16 12 01.9	-0.5
PAGF	**Fort de Pagny** baz=140	**5.81**	**319**	*e*Pn	Pn	16 12 02.4	-4.0
SMF	**Signal de Mont**	**5.86**	**296**	*e*P	**Pn**	**16 12 06.8**	**-0.4**
SMF				*e*Sn	Sn	16 13 05.1	-8.6
	8.0nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**5.86**	**296**	*e*P	**Pn**	**16 12 06.8**	**-0.4**
SFTF	**Sexfontaines** baz=129	**5.92**	**313**	*e*P	**Pn**	**16 12 08.2**	**+0.2**
SFTF	**Sexfontaines**	**5.92**	**313**	*e*P	**Pn**	**16 12 08.2**	**+0.2**
NKC	**Novy Kostel**	**5.93**	**6**	*e*PN	**Pn**	**16 12 07.2**	**-0.9**
NKC	**Novy Kostel**	**5.93**	**6**	Pn	**Pn**	**16 12 07.2**	**-0.9**
GOPC	**GO Pecny, Ondr**	**6.01**	**21**	*e*PN	**Pn**	**16 12 08.6**	**-0.6**
GOPC				*e*SN	**Sn**	**16 13 13.6**	**-3.6**
GOPC	**GO Pecny, Ondr**	**6.01**	**21**	Pn	**Pn**	**16 12 08.6**	**-0.6**
PRU	**Pruhonice**	**6.01**	**19**	*e*PN	**Pn**	**16 12 08.8**	**-0.5**
PRU	**Pruhonice**	**6.01**	**19**	Pn	**Pn**	**16 12 08.8**	**-0.5**
LOR	**Lormes** baz=120	**6.10**	**301**	*e*P	**Pn**	**16 12 10.3**	**-0.1**
LOR				*e*Sn	Sn	16 13 10.5	-9.0
	13nm,0.4s						
LOR	**Lormes**	**6.10**	**301**	*e*P	**Pn**	**16 12 10.3**	**-0.1**
AVF	**Avril sur Loir**	**6.23**	**296**	*e*P	**Pn**	**16 12 12.2**	**0.0**
AVF	**Avril sur Loir**	**6.23**	**296**	*e*P	**Pn**	**16 12 12.2**	**0.0**
SSF	**Saint Saulge**	**6.23**	**299**	*e*P	**Pn**	**16 12 11.7**	**-0.5**
SSF				*e*Sn	Sn	16 13 13.6	-9.2
	7.6nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**6.23**	**299**	*e*P	**Pn**	**16 12 11.7**	**-0.5**
BGF	**Bois d'Agland**	**6.49**	**293**	*e*Pn	Pn	16 12 11.4	-4.3
BGF				*e*Sn	Sn	16 13 19.3	-10
BRG	**Berggiesshubel**	**6.74**	**13**	PN	**Pn**	**16 12 19.7**	**+0.5**
BRG				SN	**Sn**	**16 13 30.0**	**-5.2**
BRG				SG	Sb	16 14 14.1	+16
	5.4nm,0.6s						
MTLF	**Montolieu** SNR=1.0	**6.79**	**265**	*e*Pn	Pn	16 12 15.9	-4.1
MTLF	**Montolieu**	**6.79**	**265**	*e*P	**Pn**	**16 12 21.7**	**+1.7**
MTLF	**Montolieu**	**6.79**	**265**	*e*P	**Pn**	**16 12 21.7**	**+1.7**
DPC	**Dobruska-Polom**	**6.84**	**27**	*e*SN	**Sn**	**16 13 32.7**	**-5.1**
HYF	**Humbligny**	**6.86**	**298**	*e*P	**Pn**	**16 12 21.4**	**+0.6**
HYF	**Humbligny**	**6.86**	**298**	*e*P	**Pn**	**16 12 21.4**	**+0.6**

*ISCJB **30** 16:23:22.2±0.3,27.56N±0.05×127.75E±0.05, h117km±5km,mb3.5/7,Error ellipse: s-maj=10.6km s-min=3.4km az=44.6*
*IDC **30** 16:23:23.0±0.7,27.56N×127.88E,h107km±7km,mb3.3/7, mb1 3.5/9,mb1mx3.3/25,mbtmp3.7/9,MS3.1/1,Ms1 3.1/1, ms1mx2.4/14,Error ellipse: s-maj=30.0km s-min=13.9km az=81.0*
*JMA **30** 16:23:23.9±0.1,27.62N×127.76E,h102km±3km,M3.3*
ISC 30 16:23:23.4±0.8,27°54N±0.05×127°80E±0.05,h116km±7km, n32,σ1§24/52,mb3.5/7,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.52**	**164**	P	**Pn**	**16 23 41.0**	**0.0**
JIH				S	**Sn**	**16 23 53.8**	**-0.4**
JOKE	**Okinoerabujima**	**0.70**	**104**	P	**Pn**	**16 23 42.3**	**0.0**
JOKE				S	**Sn**	**16 23 55.5**	**-1.1**
JOW	**Kunigami**	**0.82**	**149**	P	**Pn**	**16 23 43.7**	**+0.4**
JOW				S	**Sn**	**16 23 58.5**	**+0.1**
JOW	**Kunigami**	**0.82**	**149**	P	**Pn**	**16 23 43.7**	**+0.4**
	28nm,0.3s,baz=87,slow=8.5,SNR=945						
JOW				S	**Sn**	**16 23 57.0**	**-1.4**
	23nm,0.3s,baz=184,slow=29,SNR=40						
JNTH	**Nagotoyohara**	**1.03**	**169**	P	**Pn**	**16 23 46.1**	**+0.7**
JNTH				S	**Sn**	**16 24 02.0**	**0.0**
JTK	**Tokunoshima**	**1.05**	**76**	P	**Pn**	**16 23 45.2**	**-0.3**
JTK				S	**Sn**	**16 24 00.8**	**-1.4**
JAGN	**Aguni-jima**	**1.07**	**208**	P	**Pn**	**16 23 45.9**	**+0.1**
JAGN				S	**Sn**	**16 24 02.4**	**-0.3**
JJT2	**Tamagusuku 2**	**1.40**	**182**	P	**Pn**	**16 23 50.6**	**+1.3**
JJT2				S	**Sn**	**16 24 10.6**	**+1.6**
JAMN	**Amaminishikomi**	**1.40**	**60**	P	**Pn**	**16 23 49.0**	**-0.3**
JAMN				S	**Sn**	**16 24 07.2**	**-1.9**
JKE	**Kume jima 2**	**1.51**	**217**	P	**Pn**	**16 23 50.9**	**+0.2**
JKE				S	**Sn**	**16 24 11.4**	**0.0**
JAM	**Amami Oshima**	**1.81**	**61**	P	**Pn**	**16 23 54.7**	**+0.4**
JAM				S	**Sn**	**16 24 16.9**	**-1.0**
JTAJ	**Takarajima**	**2.03**	**37**	P	**Pn**	**16 23 57.2**	**+0.

QIZ S **S** **16 37 17.0 +0.6**
QIZ PMZ
9.0nm,1.3s
HHC Hu-ho-hao-te 33.60 312 *e*P **P** **16 32 16.8 +1.4**
HHC pP **pP** **16 32 31.8 -0.5**
HHC PP **PP** **16 33 31.5 -1.0**
HHC S **S** **16 37 35.5 +2.5**
HHC PcS **PcS** **16 38 41.5 +1.2**
HHC SS **SnSn** **16 39 45.0 +2.5**
HHC PMZ
29nm,1.2s
HHC PMZ
91nm,6.2s
HHC LN
270nm,13.7s
HHC LE
210nm,16.2s
HHC LZ
200nm,14.9s
GYA Guiyang 34.70 285 *e*P **P** **16 32 25.0 -0.1**
GYA PMZ
10.0nm,0.8s
CD2 Chengdu 37.39 293 *e*P **P** **16 32 48.3 +0.4**
CD2 pP **pP** **16 33 05.0 0.0**
CD2 sP **sP** **16 33 13.5 +0.3**
CD2 PP **PnPn** **16 34 17.8 +2.0**
CD2 S **S** **16 38 30.8 -0.3**
CD2 sS **sS** **16 38 59.5 -0.8**
CD2 PMZ
10.0nm,0.5s
CD2 PMZ
120nm,5.0s
CD2 LE
180nm,14.7s
CD2 LZ
220nm,11.7s
LZH Lanzhou 37.97 301 *e*P **P** **16 32 53.0 0.0**
LZH pP **pP** **16 33 10.0 -0.1**
LZH sP **sP** **16 33 18.8 +0.6**
LZH PMZ
14nm,1.0s
ULN Ulaanbaatar 39.59 320 P P 16 33 03.0 -3.3
ULN pmax pmax
comp=Z,4.0nm,0.9s
ULN Ulaanbaatar 39.59 320 P P 16 33 03.0 -3.3
comp=Z,3.9nm,0.9s
SONM Songino Array 39.97 320 P **P** **16 33 09.1 -0.4**
comp=Z,4.0nm,0.8s,baz=138,slow=8.7,SNR=20
SONM LR LR 16 50 11.0
comp=Z,29nm,19.7s,baz=140,slow=37
SEY Seymchan 41.40 5 P **P** **16 33 21.7 +0.9**
comp=Z,2.6nm,0.7s,baz=174,slow=7.7,SNR=22
YAK Yakutsk 41.41 350 *e*P **P** **16 33 20.8 -0.1**
YAK pmax pmax
comp=Z,10.0nm,0.8s
YAK pmax pmax
comp=E,1.0nm,0.8s
YAK pmax pmax
comp=N,3.0nm,1.2s
YAK Yakutsk 41.41 350 *e*P **P** **16 33 20.3 -0.6**
comp=N,14nm,0.8s
GTA Gaotai 41.74 305 *e*P **P** **16 33 24.3 +0.1**
GTA PMZ
comp=N,5.0nm,0.8s
WRAB Tennant Creek 42.70 194⇑ *i*P **P** **16 33 31.8 0.0**
WRAB pmax pmax
comp=Z,17nm,1.3s
WRA Warramunga Arr 42.71 194 P **P** **16 33 30.9 -1.0**
comp=Z,4.4nm,0.7s,baz=17,slow=8.9,SNR=26
WRA Warramunga Arr 42.71 194 P **P** **16 33 31.0 -1.0**
CM31 Chiang Mai Arr 42.74 274 *e*P **P** **16 33 32.1 -0.3**
comp=Z,1.5nm,0.5s
CMAR Chiang Mai Arr 42.74 274 P **P** **16 33 33.1 +0.7**
comp=Z,2.1nm,0.6s,baz=72,slow=6.5,SNR=20
CMAR PcP **PcP** **16 35 22.1 -0.9**
comp=Z,0.3nm,0.5s,baz=80,slow=1.5,SNR=4.3
CMAR LR LR 16 52 17.6
comp=Z,45nm,19.4s,baz=168,slow=37
ZAK Zakamensk 42.94 322 *e*P **P** **16 33 33.2 -0.5**
ZAK *e* 16 35 10.2
ZAK pmax pmax
comp=Z,4.0nm,1.1s
AS31 Alice Springs 46.40 193 *e*P **P** **16 33 59.9 -1.5**
ASAR Alice Springs 46.40 193 P **P** **16 34 00.1 -1.2**
comp=Z,2.2nm,0.7s,baz=9,1,slow=7.2,SNR=41
BILL Bilibino 48.13 11 *e*P **P** **16 34 15.3 +1.0**
BILL *i* 16 35 44.1
BILL pmax pmax
comp=Z,9.0nm,2.5s
BILL Bilibino 48.13 11 *e*P **P** **16 34 15.1 +0.8**
comp=Z,1.8nm,0.6s
TIXI Tiksi 50.61 354⇓ *i*P **P** **16 34 33.6 +0.5**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
TIXI Tiksi 50.61 354 *e*P **P** **16 34 33.5 +0.4**
comp=Z,4.0nm,0.8s
WMQ Urumqi 51.39 309 P **P** **16 34 40.8 +1.3**
WMQ pP **pP** **16 34 56.5 -0.8**
WMQ sP **sP** **16 35 03.5 -1.8**
WMQ PcP **PcP** **16 35 53.8 +0.5**
WMQ PP **PP** **16 36 39.0 +1.9**
WMQ PcS **PcS** **16 39 51.3 +0.2**
WMQ S **S** **16 41 54.5 +0.5**
WMQ ScS **ScS** **16 44 23.0 -0.5**
WMQ PMZ
comp=Z,12nm,1.0s
WMQ PMZ
comp=Z,84nm,4.6s
WMQ LN
comp=Z,33nm,20.0s
WMQ LE
comp=Z,64nm,22.8s
WMQ LZ
comp=Z,28nm,19.6s
ODAN Odare 51.86 288 *e*P **P** **16 34 43.3 -0.2**
comp=Z,16nm,0.7s
JIRN Jiri 52.82 289 *e*P **P** **16 34 50.9 +0.2**
comp=Z,14nm,0.6s
GUN Gumba 53.06 289 *e*P **P** **16 34 51.6 -0.8**
STKA Stephens Creek 53.50 183 P **P** **16 34 54.7 -0.3**
comp=Z,1.2nm,0.5s,baz=319,slow=13,SNR=3.5
PKI Pulchoki 53.52 289 *e*P **P** **16 34 55.3 -0.5**
PKIN Phulchoki 53.53 289 *e*P **P** **16 34 55.8 0.0**
KKN Kakani 53.60 289 *e*P **P** **16 34 55.4 -0.8**
DMN Daman 53.78 289 *e*P **P** **16 34 57.2 -0.4**
GKN Gorkha 54.14 289 *e*P **P** **16 34 59.8 -0.3**
comp=Z,19nm,0.9s
ZAA0 Zalesovo Array 54.82 321 *e*P **P** **16 35 03.6 -0.8**
ZALV Zalesovo Beam 54.82 321 P **P** **16 35 04.0 -0.4**
comp=Z,7.7nm,0.5s,baz=111,slow=8.2,SNR=42
ZALV LR LR 16 58 15.9
comp=Z,24nm,19.8s,baz=68,slow=36
ZALV Zalesovo Beam 54.82 321 P **P** **16 35 04.0 -0.4**
KOLN Koldanda 55.08 289 *e*P **P** **16 35 06.8 -0.2**
comp=Z,16nm,0.8s
MK31 Makanchi Array 55.46 312 *i* P **P** **16 35 09.2 0.0**
MK31 pmax pmax
comp=Z,6.0nm,0.6s
MK31 Makanchi Array 55.46 312 *e*P **P** **16 35 09.3 +0.2**
MKAR Makanchi Array 55.46 312 P **P** **16 35 09.4 +0.2**
comp=Z,8.6nm,0.6s,baz=90,slow=9.0,SNR=104
MKAR PcP **PcP** **16 36 08.1 -0.5**
comp=Z,2.0nm,0.6s,baz=71,slow=6.6,SNR=6.6
MKAR Makanchi Array 55.46 312 *ce*P **P** **16 35 09.3 +0.1**
MKAR pmax pmax
comp=Z,9.0nm,0.6s
NVS Novosibirsk 55.90 322⇑ *i*P **P** **16 35 10.3 -1.8**
NVS pmax pmax
comp=Z,12nm,1.1s
NVS pmax pmax
comp=N,3.0nm,0.9s
NVS pmax pmax
comp=E,4.0nm,0.9s
PDGK Podgornoye 57.32 308 P **P** **16 35 22.0 -0.4**
PDGK pmax pmax
comp=Z,5.0nm,0.7s
KURK Kurchatov 58.16 317 P **P** **16 35 27.3 -0.9**
KURK pmax pmax
comp=Z,7.0nm,0.6s
KURK Kurchatov 58.16 317 *e*P **P** **16 35 27.9 -0.3**
comp=Z,20nm,0.8s
BPAW Bear Paw Mtn. 59.48 27 *e*P **P** **16 35 37.3 +0.2**
comp=Z,0.9nm,0.8s
TRF Thorofare Moun 59.64 28 *e*P **P** **16 35 38.2 -0.3**
comp=Z,4.8nm,0.9s
KSH Kashi 60.12 304 *e*P **P** **16 35 44.8 +2.7**
KSH *e*PP PP 16 38 00.5 +5.3
KSH PcS **PcS** **16 40 29.8 0.0**
KSH S **S** **16 43 52.3 +2.0**
KSH sS **sS** **16 44 25.5 +4.2**
KSH PMZ
comp=Z,110nm,4.0s
KSH LN
comp=Z,85nm,5.4s
KSH LE
comp=Z,70nm,4.9s
KSH LZ
comp=Z,110nm,6.6s
TKM2 Tokmak 2 60.18 308 *e*P **P** **16 35 43.2 +0.6**
TKM2 pmax pmax
comp=Z,5.0nm,0.6s
TKM2 Tokmak 2 60.18 308 *e*P **P** **16 35 43.2 +0.6**
comp=Z,5.2nm,0.6s
COLD Coldfoot 60.54 24 *e*P **P** **16 35 44.9 +0.6**
comp=Z,2.2nm,0.9s
COLA College 60.97 27 *e*P **P** **16 35 47.6 +0.4**
AAK Ala-Archa 61.01 308 *e*P **P** **16 35 48.4 +0.3**
AAK pmax pmax
comp=Z,2.0nm,0.5s
AAK Ala-Archa 61.01 308 *e*P **P** **16 35 48.4 +0.3**
comp=Z,2.3nm,0.5s
ILAR Eielson Array 61.36 27 P **P** **16 35 48.9 -1.0**
comp=Z,2.0nm,0.8s,baz=261,slow=5.6,SNR=30
EKS2 Erkin-Say 61.53 308 *e*P **P** **16 35 51.4 -0.2**
EKS2 pmax pmax
comp=Z,2.0nm,0.8s
EKS2 Erkin-Say 61.53 308 *e*P **P** **16 35 51.4 -0.2**
comp=Z,2.0nm,0.8s
BVA0 Borovoye Array 63.32 319 *i* P **P** **16 36 02.8 -0.4**
BVA0 pmax pmax
comp=Z,10.0nm,0.5s
BRVK Borovoye 63.38 319 *c i*P **P** **16 36 03.6 0.0**
BRVK pmax pmax
comp=Z,11nm,0.8s
BRVK Borovoye 63.38 319 *e*P **P** **16 36 03.5 -0.1**
comp=Z,12nm,0.8s
KK31 Karatay Array 63.88 308 P **P** **16 36 07.2 +0.1**
KK31 pmax pmax
comp=Z,6.0nm,0.6s
KKAR Karatay Array 63.88 308 *e*P **P** **16 36 07.0 -0.1**
KKAR pmax pmax
comp=Z,9.0nm,0.7s
KKAR Karatay Array 63.88 308 *e*P **P** **16 36 07.0 -0.1**
comp=Z,9.2nm,0.7s
KBL Kabul 66.29 299 *e*P **P** **16 36 22.7 -0.5**
KBL pmax pmax
comp=Z,18nm,0.8s
KBL Kabul 66.29 299 *e*P **P** **16 36 22.7 -0.5**
comp=Z,18nm,0.8s
INK Inuvik 66.95 24 P **P** **16 36 25.9 -0.5**
comp=Z,2.3nm,0.3s,baz=336,slow=4.5,SNR=4.6
URZ Urewera 67.20 153 LR LR 17 05 04.7
comp=Z,64nm,18.6s,baz=4.0,slow=35
SVE Sverdlovsk 68.64 324⇑ *e*P **P** **16 36 37.6 +0.3**
SVE pmax pmax
comp=Z,10.0nm,0.9s
ARU Arti 69.83 324 *c i*P **P** **16 36 44.1 -0.6**
ARU *PP **pP** **16 37 01.2 -2.1**
ARU 16 37 06.3
ARU 16 39 17.2
ARU S **S** **16 45 49.0 +0.4**
ARU SS **SS** **16 50 14.5 -3.4**
ARU pmax pmax
comp=Z,7.0nm,0.6s
ARU Arti 69.83 324 *e*P **P** **16 36 44.0 -0.6**
comp=Z,7.2nm,0.5s
AB31 Akbulak array 70.25 316 P **P** **16 36 46.5 -0.8**
AB31 pmax pmax
comp=Z,3.0nm,0.5s
ABKAR Akbulak array 70.25 316 *e*P **P** **16 36 46.7 -0.7**
comp=Z,7.9nm,0.8s
BBB Bella Bella 71.50 40 LR LR 17 03 44.5
comp=Z,16nm,20.0s,baz=246,slow=32
PRGR Permogore 75.10 331 *e*P **P** **16 37 14.0 -1.8**
PRGR pmax pmax
comp=Z,10.0nm,0.8s
PPT Papeete 75.53 116 LR LR 17 06 32.6
comp=Z,38nm,19.3s,baz=16,slow=32
YKA Yellowknife Ar 75.76 28 P **P** **16 37 19.5 -0.1**
comp=Z,2.3nm,0.8s,baz=291,slow=5.6,SNR=24
RES Resolute Bay 76.64 14 *e*P **P** **16 37 25.1 +0.7**
RES pmax pmax
comp=Z,6.0nm,0.8s
RES Resolute Bay 76.64 14 *e*P **P** **16 37 25.1 +0.7**
comp=Z,6.3nm,0.8s
LVZ Lovozero 77.08 339 *e*P **P** **16 37 27.3 +0.2**
LVZ pmax pmax
comp=Z,8.0nm,1.7s
ARCES ARCESS Array B 79.14 342 P **P** **16 37 37.8 -0.6**
comp=Z,2.4nm,0.7s,baz=71,slow=3.8,SNR=20
ARCES LR LR 17 18 13.7
comp=Z,19nm,18.0s,baz=70,slow=40
ARE0 ARCESS Array S 79.14 342 *e*P **P** **16 37 38.8 +0.4**
WVOR Wild Horse Val 80.44 48 *e*P **P** **16 37 46.5 +0.4**
WVOR *e*PP **pP** **16 38 05.5 +0.3**
WVOR Wild Horse Val 80.44 48 *e*P **P** **16 37 46.5 +0.4**
WVOR *ep*P **pP** **16 38 05.5 +0.3**
MFID Camas Ranch 82.00 46 *e*P **P** **16 37 54.6 +0.3**
comp=Z,1.2nm,0.7s
MFID *ep*P **pP** **16 38 13.4 -0.1**
NVAR Mina Array Bea 82.12 52 P **P** **16 37 55.2 0.0**
comp=Z,1.5nm,0.7s,baz=271,slow=6.5,SNR=14
VSR Storozhevoye 82.31 322 *e*P **P** **16 37 55.1 -0.5**
VSR pmax pmax
comp=N,4.0nm,0.8s
VSR pmax pmax
comp=E,9.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
VORD Divnogorie 82.35 322 *e*P **P** **16 37 54.9 -0.9**
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,5.0nm,0.8s
VORD pmax pmax
comp=Z,10.0nm,0.8s
NCK Nalchik 82.73 314⇑ *e*P **P** **16 37 57.8 -0.2**
ZEI Tsey 82.80 313 *e*P **P** **16 37 57.3 -1.4**
ZEI pmax pmax
comp=Z,11nm,1.0s
KBZ Khabaz 83.11 314 P **P** **16 38 00.2 +0.3**
comp=Z,11nm,0.8s
KIV Kislovodsk 83.15 315 *e*P **P** **16 38 00.2 -0.1**
KIV pmax pmax
comp=Z,8.0nm,1.0s
NEY Neytrino 83.41 314 *e*P **P** **16 38 02.1 +0.3**
FINES FINESS Array B 83.54 335 P **P** **16 38 00.8 -1.0**
comp=Z,6.5nm,0.5s,baz=84,slow=4.8,SNR=82
FINES LR LR 17 17 55.0
comp=Z,34nm,19.6s,baz=188,slow=38
FFC Flin Flon 85.06 32⇑ *e*P **P** **16 38 10.7 +1.1**
SUMG Summit 85.79 1⇑ *i*P **P** **16 38 14.4 +1.0**
comp=Z,8.4nm,0.7s
SUMG Summit 85.79 1⇑ *i*P **P** **16 38 14.4 +1.0**
SUMG pmax pmax
comp=Z,8.0nm,0.7s
SUMG Summit 85.79 1 *e*P **P** **16 38 14.2 +0.8**
comp=Z,7.4nm,0.8s
JLU Jordanelle 86.12 48 *e*P **P** **16 38 15.9 +0.4**
comp=Z,1.9nm,0.4s
JLU *ep*P **pP** **16 38 34.9 +0.1**
PDAR Pinedale Array 86.44 45 P **P** **16 38 16.2 -0.9**
comp=Z,0.4nm,0.6s,baz=321,slow=1.9,SNR=4.8
AKASG Malin Array Be 88.06 325 P **P** **16 38 22.6 -1.7**
comp=Z,0.8nm,0.5s,baz=51,slow=4.4,SNR=6.1
NB2 NORSAR Subarra 89.22 339 P **P** **16 38 27.9 -1.8**
comp=Z,1.1nm,0.7s,baz=54,slow=4.8
NOA NORSAR Array B 89.22 339 P **P** **16 38 27.9 -1.8**
comp=Z,0.5nm,0.7s,baz=51,slow=4.2,SNR=6.6
NOA LR LR 17 21 28.3
comp=Z,7.8nm,20.9s,baz=75,slow=38
BRTR Keskin Array B 91.09 314 P **P** **16 38 37.3 -1.7**
comp=Z,0.5nm,0.7s,baz=69,slow=4.1,SNR=4.7
BRTR Keskin Array B 91.09 314 *ce*P **P** **16 38 38.0 -1.0**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
CLL Collm 95.61 332 *e*P **P** **16 38 58.0 -1.3**
CLL Collm 95.61 332 *e*P **P** **16 38 58.0 -1.3**
TXAR Lajitas Array 97.00 55 P **P** **16 39 08.2 +2.0**
comp=Z,0.1nm,0.4s,baz=306,slow=2.1,SNR=3.3
TORD Torodi Ar. Bea 129.55 310 PKP **PKPdf** **16 44 42.6 -0.8**
comp=Z,0.9nm,0.6s,baz=24,slow=1.8,SNR=8.6
PLCA Paso Flores 144.97 131 PKPbc PKPbc 16 45 10.3 -0.2
comp=Z,2.6nm,0.6s,baz=237,slow=4.7,SNR=4.4
LPAZ La Paz 148.75 86 PKPbc **PKPbc** **16 45 22.3 -0.4**
comp=Z,2.4nm,0.7s,baz=309,slow=1.2,SNR=11
LPAZ La Paz 148.75 86 *e*PKP2 **PKPbc** **16 45 22.6 -0.1**
LPAZ La Paz 148.75 86 *e*PKPbc **PKPbc** **16 45 22.6 -0.1**

IDC 30 16:43:39.2±10.0**, 23.99S**×**178.60W, h505**km±60km**, mb3.0/4, mb1 3.1/6, mb1mx2.9/21, mbtmp4.0/6, Error ellipse: s-maj=154.7km s-min=30.4km az=60.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.90**	**275**	P		P	P	16 46 37.7	-0.4
	0.3nm,0.3s,baz=270,slow=24,SNR=5.6								
DZM				S		S	S	16 48 53.7	-12
	0.2nm,0.3s,baz=270,slow=24,SNR=9.4								
URZ	**Urewera**	**14.69**	**193**	P		P	P	16 46 47.4	+1.4
	1.4nm,0.3s,baz=267,slow=5.0,SNR=10								
URZ				S		S	S	16 49 17.7	-2.2
	0.1nm,0.3s,baz=94,slow=13,SNR=2.8								
RPZ	**Rata Peaks**	**21.44**	**201**	P		P	P	16 47 50.1	-0.4
	10nm,1.0s,baz=22,slow=4.8,SNR=5.7								
STKA	**Stephens Creek**	**35.88**	**248**	P		P	P	16 49 55.4	-0.8
	1.8nm,0.9s,baz=72,slow=3.2,SNR=2.5								
ASAR	**Alice Springs**	**43.28**	**260**	P		P	P	16 50 56.2	+0.1
	0.3nm,0.5s,baz=88,slow=6.6,SNR=15								
WRA	**Warramunga Arr**	**43.68**	**266**	P		P	P	16 50 59.2	+0.1
	1.0nm,0.5s,baz=99,slow=8.4,SNR=21								

*ISCJB **30** 16:53:49.6*±*1.1, 20.6N*±*0.1*×*145.1E*±*0.3, h129km, mb3.1/7, Error ellipse: s-maj=45.2km s-min=19.2km az=175.0*
*IDC **30** 16:54:00.6*±*18.0, 20.50N*×*145.09E, h219km*±*182km, mb2.7/7, mb1 2.9/7, mb1mx2.8/24, mbtmp3.3/7, Error ellipse: s-maj=63.8km s-min=20.2km az=75.0*

ISC 30 16:53:51.0±**1.3, 20.6N**±**0.2**×**145.2E**±**0.3, h129**km**, n7, **σ**0.65/7, mb3.1/7, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**41.44**	**320**	P		P	**P**	**17 01 25.8**	**+0.8**
	0.2nm,0.5s,baz=123,slow=10,SNR=2.4								
WRA	**Warramunga Arr**	**41.63**	**196**	P		P	**P**	**17 01 26.8**	**+0.1**
	0.2nm,0.7s,baz=17,slow=8.7,SNR=3.3								
ASAR	**Alice Springs**	**45.32**	**195**	P		P	**P**	**17 01 56.2**	**0.0**
	0.2nm,0.9s,baz=15,slow=6.6,SNR=5.1								
MKAR	**Makanchi Array**	**56.88**	**313**	P		P	**P**	**17 03 22.1**	**-0.3**
	0.1nm,0.3s,baz=104,slow=6.1,SNR=2.3								
KURBB	**Kurchatov Arra**	**59.66**	**317**	P		P	**P**	**17 03 40.6**	**-1.0**
	0.3nm,0.6s,baz=90,slow=7.4,SNR=4.0								
YKA	**Yellowknife Ar**	**76.57**	**28**	P		P	**P**	**17 05 26.9**	**+0.1**
	0.2nm,0.5s,baz=284,slow=5.8,SNR=2.8								
FINES	**FINESS Array B**	**85.03**	**335**	P		P	**P**	**17 06 11.8**	**0.0**
	0.3nm,0.4s,baz=72,slow=6.2,SNR=6.4								

*ISCJB **30** 17:04:10.5*±*0.6, 36.78N*±*0.05*×*106.35E*±*0.06, h10km, mb3.5/7, MS3.0/3, Error ellipse: s-maj=7.3km s-min=5.7km az=39.3*
*IDC **30** 17:04:11.2*±*0.9, 36.87N*×*106.37E, h0km, mb3.5/8, mb1 3.7/9, mb1mx3.5/26, mbtmp3.5/9, ML3.3/1, MS2.9/4, Ms1 3.0/4, ms1mx2.6/30, Error ellipse: s-maj=41.4km s-min=17.9km az=54.0*
*BJI **30** 17:04:13.8, 37.04N*×*106.31E, h10km, ML3.6/16, Ms3.5/3, Ms7 3.3/2*

ISC 30 17:04:12.5±**0.8, 36.86N**±**0.06**×**106.36E**±**0.05, h10**km**, n16, **σ**19/33/18, mb3.6/7, MS3.0/3, Western Nei Mongol**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**2.17**	**250**	Pn		Pn	**Pb**	**17 04 51.8**	**-0.2**
LZH				Pg		**Pg**	**Pg**	**17 04 53.8**	**-0.3**
LZH				Sg		**Sg**	**Sg**	**17 05 20.8**	**-1.4**
LZH				SMN					
	2μm,0.6s								
LZH				SME					
	1μm,0.8s								
XAN	**Xi'an**	**3.51**	**143**	Pn		Pn		17 05 10.0	+2.9
XAN				Pg		**Pg**		**17 05 18.5**	**-1.2**
XAN				Sg		**Sg**		**17 06 05.0**	**-0.1**
XAN				SMN					
	91nm,0.8s								
XAN				SME					
	30nm,0.6s								
CD2	**Chengdu**	**6.32**	**201**	Pn		Pn		17 05 50.3	+4.5
CD2				Pg		**Pg**		**17 06 11.5**	**-2.0**
CD2				Sn		**Sn**		**17 06 58.5**	**+0.5**
CD2				Sg		**Sg**		**17 07 34.8**	**-0.5**
CD2				SMN					
	60nm,0.6s								
SONM	**Songino Array**	**10.97**	**0**	Pn		**Pn**		**17 06 47.9**	**-1.7**
	0.2nm,0.3s,baz=180,slow=14,SNR=6.2								
SONM				Lg		Lg		17 09 53.2	
	0.1nm,0.3s,baz=183,slow=30,SNR=6.1								
CMAR	**Chiang Mai Arr**	**19.46**	**202**	P		**Pn**		**17 08 44.3**	**+3.7**
	0.1nm,0.3s,baz=4.4,slow=7.7,SNR=3.6								
CMAR				LR		LR		17 16 27.5	
	comp=Z,20nm,18.4s,baz=205,slow=38								
MKAR	**Makanchi Array**	**20.43**	**307**	P		P		**17 08 50.4**	**+0.6**
	1.4nm,0.9s,baz=103,slow=13,SNR=5.7								
ZALV	**Zalesovo Beam**	**22.67**	**326**	P		P		**17 09 14.0**	**+0.1**
	1.3nm,0.6s,baz=129,slow=12,SNR=6.0								
KURBB	**Kurchatov Arra**	**24.19**	**313**	P		P		**17 09 28.7**	**-0.3**
	1.8nm,0.7s,baz=116,slow=9.0,SNR=18								
YAK	**Yakutsk**	**29.08**	**23**	LR		LR		17 21 32.9	
	comp=Z,23nm,19.6s,baz=222,slow=36								
BVAR	**Borovoye Array**	**29.76**	**314**	P		P		**17 10 19.2**	**+0.2**
	0.5nm,0.5s,baz=117,slow=12,SNR=5.1								
PETK	**Petropavlovsk-**	**38.87**	**49**	LR		LR		17 29 48.7	
	comp=Z,18nm,18.1s,baz=68,slow=40								
BRTR	**Keskin Array B**	**55.67**	**297**	P		P		**17 13 49.4**	**+0.4**
	0.2nm,0.5s,baz=97,slow=4.5,SNR=6.7								
NOA	**NORSAR Array B**	**60.87**	**326**	LR		LR		17 42 29.7	
	comp=Z,14nm,18.5s,baz=65,slow=38								
WRA	**Warramunga Arr**	**62.37**	**150**	P		P		**17 14 34.9**	**-0.6**
	0.6nm,0.9s,baz=343,slow=6.7,SNR=3.5								
ILAR	**Eielson Array**	**63.86**	**27**	P		P		**17 14 45.6**	**+0.7**
	0.2nm,0.6s,baz=289,slow=5.5,SNR=3.7								
ASAR	**Alice Springs**	**65.57**	**152**	P		P		**17 14 57.1**	**+0.6**
	0.3nm,0.5s,baz=337,slow=6.7,SNR=11								

*IDC **30** 17:09:19.3*±*2.0, 32.81S*×*178.91W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.7/28, mbtmp4.0/4, ML3.6/1, Error ellipse: s-maj=47.7km s-min=32.6km az=59.0*
*ISCJB **30** 17:09:23.0*±*1.4, 33.06S*±*0.08*×*179.0W*±*0.2, h35km, mb3.9/3, Error ellipse: s-maj=30.1km s-min=10.1km az=13.1*

ISC 30 17:09:24.8±**1.7, 33.0S**±**0.1**×**179.0W**±**0.3, h35**km**, n14, **σ**19/09/18, mb3.9/3, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.07**	**205**	*e*PN		**Pn**	**Pn**	**17 10 39.2**	**+0.9**
MXZ				SN		**Sn**	**Sn**	**17 11 37.1**	**+1.6**
WMGZ	**Waiomatatini S**	**5.26**	**203**	PN		**Pn**	**Pn**	**17 10 40.3**	**-0.6**
HAZ	**Te Kaha**	**5.44**	**208**	PN		**Pn**	**Pn**	**17 10 42.7**	**-0.6**
PUZ	**Puketiti**	**5.55**	**203**	PN		**Pn**	**Pn**	**17 10 43.8**	**-1.0**
PUZ				SN		**Sn**	**Sn**	**17 11 47.0**	**-0.4**
TWGZ	**Tauwhareparae**	**5.73**	**205**	PN		**Pn**	**Pn**	**17 10 46.1**	**-1.3**
TWGZ				SN		**Sn**	**Sn**	**17 11 51.5**	**-0.5**
CNGZ	**Carnagh Statio**	**5.94**	**202**	PN		**Pn**	**Pn**	**17 10 48.2**	**-2.0**
MWZ	**Matawai**	**6.04**	**207**	PN		**Pn**	**Pn**	**17 10 50.2**	**-1.4**
URZ	**Urewera**	**6.14**	**210**	Pn		**Pn**	**Pn**	**17 10 52.7**	**-0.2**
	1.2nm,0.3s,baz=51,slow=18,SNR=44								
URZ				Sn		**Sn**	**Sn**	**17 12 02.0**	**+0.1**
	2.8nm,0.3s,baz=133,slow=19,SNR=5.5								
URZ	**Urewera**	**6.14**	**210**	PN		**Pn**	**Pn**	**17 10 51.6**	**-1.3**
SNGZ	**Shannon Statio**	**6.50**	**206**	*e*PN		**Pn**	**Pn**	**17 10 57.9**	**-0.1**
ASAR	**Alice Springs**	**42.19**	**270**	P		P	**P**	**17 17 14.9**	**+0.5**
	1.2nm,0.7s,baz=107,slow=7.4,SNR=21								
WRA	**Warramunga Arr**	**43.41**	**275**	P		P	**P**	**17 17 24.3**	**0.0**
	1.4nm,0.6s,baz=115,slow=8.0,SNR=16								
QSPA	**South Pole Qui**	**57.13**	**180**	P		P	**P**	**17 19 08.9**	**+1.2**
	2.1nm,1.0s,baz=1.8,slow=3.0,SNR=5.9								
FINES	**FINESS Array B**	**147.24**	**338**	PKPbc		**PKPbc**	**PKPbc**	**17 29 02.6**	**-1.0**
	0.9nm,0.6s,baz=114,slow=2.3,SNR=5.7								

*DDA **30** 17:30:19.8, 35.19N*×*28.35E, h16km, MD3.2*

*ISK **30** 17:30:24.8, 35°.39N × 28°.10E, h13km, MD3.1*
*ATH **30** 17:30:24.1, 35°.36N × 28°.46E, h30km ± 5km, MD3.4/3*
*CSEM **30** 17:30:25.8 ± 0.3, 35°.33N × 28°.55E, h40km, MD3.4, Error ellipse: s-maj=8.5km s-min=4.9km az=6.0*
*NIC **30** 17:30:27.1, 35°.95N × 28°.90E, h39km, ML3.5*

ISC 30 17:30:24.8 ± 1.4, 35°.34N ± 0°.05 × 28°.55E ± 0°.03, h31km ± 13km, n42, σ 1§04/62, 8D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.94**	**338**	*e*PN	**Pn**	**17 30 41.7**	**-0.2**
ARG				*e*SN	**Sb**	**17 30 54.7**	**-0.1**
ARG	**Arkhangelos**	**0.94**	**338**	*e*Pn	**Pn**	**17 30 41.7**	**-0.2**
ARG				*e*Sn	**Sb**	**17 30 54.7**	**-0.1**
KARP	**Karpathos**	**1.16**	**281**	*e*PN	**Pn**	**17 30 44.8**	**-0.1**
KARP				*e*SN	**Sn**	**17 30 59.4**	**-0.3**
KARP	**Karpathos**	**1.16**	**281**	*e*Pn	**Pn**	**17 30 44.8**	**-0.1**
KARP				*e*Sn	**Sn**	**17 30 59.4**	**-0.3**
AKAS	**Kas**	**1.24**	**43**	*i* P	**Pb**	**17 30 47.2**	**-0.4**
AKAS				*i* S	**Sn**	**17 31 01.4**	**-0.4**
AKAS	**Kas**	**1.24**	**43**	*i* P	**Pb**	**17 30 47.2**	**-0.4**
AKAS				*i* S	**Sn**	**17 31 01.4**	**-0.4**
DALY	**Dalyan (Mu¨la**	**1.48**	**3**	*e*PN	**Pb**	**17 30 52.3**	**+0.7**
DALY	**Dalyan (Mu¨la**	**1.48**	**3**	*e*Pn	**Pb**	**17 30 52.3**	**+0.7**
TURN	**Turunc**	**1.53**	**1**	*i* P	**Pn**	**17 30 49.6**	**-0.4**
TURN				*i* S	**Sn**	**17 31 08.3**	**-0.6**
TURN	**Turunc**	**1.53**	**1**	*i* P	**Pn**	**17 30 49.6**	**-0.4**
TURN				*i* S	**Sn**	**17 31 08.3**	**-0.6**
DAT	**Datca**	**1.60**	**331**	*e*PN	**Pn**	**17 30 50.6**	**-0.4**
DAT				*e*SN	**Sn**	**17 31 09.6**	**-1.1**
DAT	**Datca**	**1.60**	**331**	*e*Pn	**Pn**	**17 30 50.7**	**-0.4**
DAT				*e*Sn	**Sn**	**17 31 09.6**	**-1.1**
YER	**Yerkesik**	**1.81**	**353**	*e*PN	**Pn**	**17 30 54.8**	**+0.9**
YER	**Yerkesik**	**1.81**	**353**	*e*Pn	**Pn**	**17 30 54.8**	**+0.9**
BDRM	**Kayabasi**	**1.94**	**333**	*i* P	**Pn**	**17 30 55.9**	**+0.2**
BDRM	**Kayabasi**	**1.94**	**333**	*i* P	**Pn**	**17 30 55.9**	**+0.2**
BODT	**Bodrum**	**1.99**	**330**	*e*PN	**Pn**	**17 30 56.8**	**+0.4**
BODT	**Bodrum**	**1.99**	**330**	*e*Pn	**Pn**	**17 30 56.8**	**+0.4**
GOLH	**Golhisar**	**2.06**	**23**	*i* P	**Pn**	**17 30 59.4**	**+2.0**
GOLH				*i* S	**Sb**	**17 31 25.9**	**-1.0**
GOLH	**Golhisar**	**2.06**	**23**	*i* P	**Pn**	**17 30 59.4**	**+2.0**
GOLH				*i* S	**Sb**	**17 31 25.9**	**-1.0**
LAST	**Lasithi**	**2.52**	**267**	*e*PN	**Pn**	**17 31 04.5**	**+0.8**
LAST	**Lasithi**	**2.52**	**267**	*e*Pn	**Pn**	**17 31 04.5**	**+0.8**
SANT	**Santorini**	**2.72**	**293**	*e*PN	**Pn**	**17 31 06.7**	**+0.3**
SANT	**Santorini**	**2.72**	**293**	*e*Pn	**Pn**	**17 31 06.7**	**+0.3**
AKMC	**Akamas**	**3.11**	**95**	ǁP	**Pn**	**17 31 11.9**	**+0.2**
	baz=289						
AKMC	**Akamas**	**3.11**	**95**	ǁP	**Pn**	**17 31 11.9**	**+0.2**
GAZI	**Gazipasa**	**3.19**	**73**	*i* P	**Pn**	**17 31 12.7**	**-0.1**
GAZI				*i* S	**Sn**	**17 31 48.7**	**-1.1**
GAZI	**Gazipasa**	**3.19**	**73**	*i* P	**Pn**	**17 31 12.7**	**-0.1**
GAZI				*i* S	**Sn**	**17 31 48.7**	**-1.1**
ALFC	**Alevga**	**3.31**	**92**	ǁP	**Pn**	**17 31 14.7**	**+0.1**
	baz=285						
ALFC				S	**Sn**	**17 31 51.1**	**-1.9**
ALFC	**Alevga**	**3.31**	**92**	ǁP	**Pn**	**17 31 14.7**	**+0.1**
ALFC				S	**Sn**	**17 31 51.1**	**-1.9**
SZAC	**Souni-Zanaja**	**3.60**	**98**	ǁP	**Pn**	**17 31 18.9**	**+0.4**
	baz=291						
SZAC				S	**Sn**	**17 32 00.3**	**+0.3**
SZAC	**Souni-Zanaja**	**3.60**	**98**	ǁP	**Pn**	**17 31 18.9**	**+0.4**
SZAC				S	**Sn**	**17 32 00.3**	**+0.3**
GVD	**Gavdhos**	**3.70**	**264**	*e*PN	**Pn**	**17 31 21.0**	**+1.2**
GVD	**Gavdhos**	**3.70**	**264**	*e*Pn	**Pn**	**17 31 21.0**	**+1.2**
ERMK	**Ermenek**	**3.77**	**69**	*i* P	**Pn**	**17 31 24.1**	**+3.1**
ERMK	**Ermenek**	**3.77**	**69**	*i* P	**Pn**	**17 31 24.1**	**+3.1**
KARN	**Karanos**	**3.79**	**272**	*e*PN	**Pn**	**17 31 22.3**	**+1.2**
KARN	**Karanos**	**3.79**	**272**	*e*Pn	**Pn**	**17 31 22.3**	**+1.2**
CSS	**Prodhromos**	**3.93**	**94**	ǁP	**Pn**	**17 31 23.2**	**+0.1**
	baz=286						
CSS	**Prodhromos**	**3.93**	**94**	ǁP	**Pn**	**17 31 23.2**	**+0.1**
KDHN	**Kadinhani**	**4.27**	**41**	*i* P	**Pn**	**17 31 29.8**	**+2.0**
KDHN				*i* S	**Sn**	**17 32 16.2**	**-0.4**
KDHN	**Kadinhani**	**4.27**	**41**	*i* P	**Pn**	**17 31 29.8**	**+2.0**
KDHN				*i* S	**Sn**	**17 32 16.2**	**-0.4**

GUC 30 17:31:47.0 ± 0.3, 34°.98S × 72°.62W, h28km ± 1km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.91**	**118**	*i* P	Pb	17 32 04.2	0.0
TALC				*i* S	Sn	17 32 17.6	+1.5
NICH	**Los Niches**	**1.14**	**92**	*i* P	Pb	17 32 08.5	+0.4
NICH				*i* S	Sb	17 32 24.1	+1.5
NICH				AML	AML	17 32 30.2	
	comp=N,2μm,0.3s						
LNCH	**Linares**	**1.20**	**136**	*i* P	Pb	17 32 08.8	-0.3
LNCH				*i* S	Sb	17 32 25.7	+1.4
LNCH				AML	AML	17 32 26.4	
	comp=N,2μm,0.3s						
LNV	**Longovilo**	**1.43**	**45**	*i* P	Pb	17 32 12.6	-0.4
LNV				*i* S	Sb	17 32 32.4	+1.7
CACH	**El Canelo**	**1.88**	**63**	*i* P	Pb	17 32 26.1	-0.7
CACH				*i* S	Sb	17 32 45.2	+1.2
CHCH	**Chadas Angostu**	**1.93**	**58**	*i* P	Pb	17 32 20.8	-0.8
CHCH				*e*S	Sb	17 32 45.9	+0.6
CLCH	**Cerro Calan**	**2.34**	**48**	*e*P	Pb	17 32 26.6	-2.0
CLCH				*e*S	Sb	17 32 56.5	-0.7
CLCH				AML	AML	17 33 07.8	
	comp=E,338nm,0.6s						
PEL	**Peldehue**	**2.44**	**42**	*e*P	Pb	17 32 27.9	-2.3
PEL				*e*S	Sb	17 32 58.7	-1.2
PEL				AML	AML	17 33 09.6	
	comp=E,445nm,0.5s						

*ISCJB **30** 17:32:54.0 ± 0.8, 52°.1N ± 0°.2 × 32°.0W ± 0°.2, h10km, mb3.3/10, MS3.1/2, Error ellipse: s-maj=25.4km s-min=12.4km az=13.0*
*IDC **30** 17:32:54.1 ± 0.9, 52°.10N × 31°.91W, h0km, mb3.3/10, mb1 3.7/11, mb1mx3.5/42, mbtmp3.4/11, ML4.2/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/24, Error ellipse: s-maj=32.6km s-min=16.3km az=17.0*

ISC 30 17:32:55.7 ± 0.9, 52°.1N ± 0°.2 × 31°.9W ± 0°.1, h10km, n15, σ 0§61/13, mb3.4/10, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EKA	**Eskdalemuir Ar**	**17.24**	**68**	P	**P**	**17 36 57.4**	**-0.4**
	baz=271,slow=9.8,SNR=13						
ESDC	**Sonseca Array**	**22.90**	**112**	P	**P**	**17 38 00.4**	**+0.8**
	0.5nm,0.6s,baz=313,slow=8.9,SNR=6.7						
HFS	**Hagfors**	**26.16**	**54**	LR	LR	17 46 52.5	
	comp=Z,42nm,19.0s,baz=322,slow=32						
FINES	**FINESS Array B**	**32.05**	**50**	LR	LR	17 50 39.1	
	comp=Z,41nm,18.1s,baz=214,slow=33						
YKA	**Yellowknife Ar**	**42.82**	**317**	P	**P**	**17 40 53.1**	**-0.2**
	0.3nm,0.7s,baz=65,slow=8.8,SNR=3.9						
BRTR	**Keskin Array B**	**45.71**	**79**	P	**P**	**17 41 17.3**	**+0.4**
	0.3nm,0.6s,baz=324,slow=7.4,SNR=3.1						
TORD	**Torodi Ar. Bea**	**47.28**	**133**	P	**P**	**17 41 28.7**	**-0.5**
	0.3nm,0.7s,baz=331,slow=7.9,SNR=2.6						
PDAR	**Pinedale Array**	**50.99**	**292**	P	**P**	**17 41 57.1**	**-0.6**
	0.6nm,0.7s,baz=62,slow=10,SNR=7.4						
ILAR	**Eielson Array**	**53.17**	**331**	P	**P**	**17 42 14.0**	**+0.8**
	0.2nm,0.7s,baz=51,slow=4.9,SNR=3.8						
TXAR	**Lajitas Array**	**56.50**	**276**	P	**P**	**17 42 38.7**	**+0.7**
	0.3nm,0.7s,baz=46,slow=8.9,SNR=5.7						
NVAR	**Mina Array Bea**	**58.84**	**294**	P	**P**	**17 42 53.9**	**-0.6**
	0.1nm,0.4s,baz=68,slow=7.3,SNR=2.5						
MKAR	**Makanchi Array**	**66.51**	**43**	P	**P**	**17 43 44.9**	**-0.4**
	0.2nm,0.5s,baz=325,slow=5.9,SNR=4.5						
SONM	**Songino Array**	**74.24**	**28**	P	**P**	**17 44 32.7**	**+0.1**
	0.3nm,0.6s,baz=320,slow=6.4,SNR=3.2						
WRA	**Warramunga Arr**	**146.13**	**24**	PKPbc	**PKPdf**	**17 52 34.8**	**-0.3**
	0.4nm,0.9s,baz=321,slow=5.3,SNR=3.4						
ASAR	**Alice Springs**	**149.58**	**26**	PKPbc	**PKPbc**	**17 52 44.7**	**-0.5**
	0.2nm,0.5s,baz=354,slow=2.5,SNR=6.1						

IDC 30 17:33:15.2 ± 20.0, 2°.35S × 121°.12E, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.5/26, mbtmp4.0/3, Error ellipse: s-maj=528.4km s-min=226.9km az=30.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.74**	**144**	P	P	17 38 08.4	-0.1
	1.8nm,0.4s,baz=324,slow=11,SNR=42						
ASAR	**Alice Springs**	**24.55**	**151**	P	P	17 38 36.8	-0.1
	1.5nm,0.3s,baz=326,slow=8.6,SNR=84						
STKA	**Stephens Creek**	**35.14**	**149**	P	P	17 40 10.8	0.0
	1.2nm,0.5s,baz=314,slow=11,SNR=4.6						

*NEIC **30** 17:37:02.2 ± 0.3, 56°.16S × 27°.51W, h35km, mb5.0/6, Error ellipse: s-maj=11.7km s-min=8.6km az=47.0*
*AWI **30** 17:37:06.5, 56°.57S × 28°.21W*
*ISCJB **30** 17:37:09.4 ± 0.4, 56°.13S ± 0°.06 × 27°.7W ± 0°.1, h112km, mb4.5/25, Error ellipse: s-maj=10.2km s-min=7.2km az=41.1*
*IDC **30** 17:37:11.2 ± 1.4, 56°.12S × 27°.64W, h110km ± 11km, mb4.2/18, mb1 4.3/19, mb1mx4.2/24, mbtmp4.5/19, MS3.6/3, Ms1 3.6/3, ms1mx3.1/24, Error ellipse: s-maj=14.6km s-min=9.7km az=61.0*

ISC 30 17:37:10.9 ± 0.4, 56°.17S ± 0°.07 × 27°.77W ± 0°.08, h112km, n66, σ 0§90/71, mb4.6/24, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.33**	**287**	*e*Pn	**Pn**	**17 38 27.2**	**-0.9**
	109nm,0.6s						
HOPE				*e*Sn	**Sn**	**17 39 26.5**	**-1.8**
VNA1	**Neumayer--Stat**	**16.81**	**157**	P	**Pn**	**17 40 57.9**	**-1.1**
VNA2	**Neumayer--Watz**	**17.20**	**157**	P	**Pn**	**17 41 03.0**	**-0.8**
	baz=314,slow=13						
SNAA	**Sanae**	**18.76**	**156**	P	P	17 41 14.6	-6.2
SNAA	**Sanae**	**18.76**	**156**	P	**P**	**17 41 20.1**	**-0.7**
	3.2nm,0.3s,baz=310,slow=10,SNR=608						
SNAA				S	**Sn**	**17 44 51.8**	**-0.8**
	0.0nm,0.3s,baz=315,slow=13,SNR=2.1						
SNAA				ScP	**ScP**	**17 49 08.5**	**+0.5**
	0.1nm,0.3s,baz=344,slow=7.4,SNR=8.6						
SNAA	**Sanae**	**18.76**	**156**	*e*P	P	17 41 14.5	-6.4
	43nm,0.6s						
SNAA				S	**Sn**	**17 44 51.8**	**-0.8**
USHA	**Ushuaia**	**22.84**	**256**	P	**P**	**17 42 04.0**	**-0.1**
	9.6nm,0.8s,baz=137,slow=0.8,SNR=3.8						
QSPA	**South Pole Qui**	**34.08**	**180**	P	**P**	**17 43 45.4**	**+1.1**
	12nm,0.5s,baz=40,slow=3.1,SNR=121						
QSPA				ScP	**ScP**	**17 49 52.4**	**-0.8**
	2.1nm,0.9s,baz=172,slow=4.9,SNR=7.3						
QSPA	**South Pole Qui**	**34.08**	**180**	*e*P	**P**	**17 43 45.1**	**+0.8**
	13nm,0.6s						
CPUP	**Villa Florida**	**36.65**	**312**	*e*P	**P**	**17 44 05.9**	**-0.5**
	0.4nm,1.0s						
CFAA	**Coronel Fontan**	**37.31**	**294**	P	**P**	**17 44 11.3**	**-0.7**
	1.4nm,0.7s,baz=148,slow=8.1,SNR=13						
MAW	**Mawson**	**40.24**	**144**	P	**P**	**17 44 35.4**	**-0.6**
	3.7nm,0.3s,baz=233,slow=10,SNR=2.8						
BDFB	**Brasilia**	**43.33**	**331**	P	**P**	**17 45 02.5**	**+0.9**
	6.7nm,0.6s,baz=150,slow=2.3,SNR=15						
BDFB				LR	LR	18 01 20.7	
	comp=Z,83nm,21.2s,baz=152,slow=34						
LVC	**Limon Verde**	**45.08**	**301**	P	**P**	**17 45 17.2**	**+1.4**
	44nm,0.4s,baz=153,slow=6.3,SNR=24						
BOSA	**Boshof**	**46.32**	**76**	P	**P**	**17 45 24.2**	**-1.2**
	1.2nm,0.6s,baz=203,slow=16,SNR=3.1						
BOSA				LR	LR	18 01 35.3	
	comp=Z,67nm,18.2s,baz=170,slow=32						
VNDA	**Vanda**	**46.44**	**183**	P	**P**	**17 45 27.3**	**+1.7**
	9.2nm,0.8s,baz=185,slow=6.7,SNR=64						
VNDA				ScP	**ScP**	**17 50 41.9**	**+0.8**
	0.4nm,0.6s,baz=206,slow=4.6,SNR=4.9						
VNDA				PKP2ab		18 17 54.9	
	0.5nm,0.7s,baz=0.0,slow=1.0,SNR=4.0						
SIV	**San Ignacio**	**47.42**	**314**	P	**P**	**17 45 34.2**	**+0.2**
	1.9nm,0.5s,baz=194,slow=8.0,SNR=7.1						
SIV				ScP	**ScP**	**17 50 46.5**	**+0.4**
	1.5nm,0.8s,baz=199,slow=2.4,SNR=3.6						
H10S2	**ASCENSION HYDR**	**48.21**	**18**	T	T	18 38 26.0	
	baz=190,slow=75,SNR=63						
H10S3	**ASCENSION HYDR**	**48.22**	**17**	T	T	18 38 26.2	
	baz=190,slow=75,SNR=54						
H10S1	**ASCENSION HYDR**	**48.23**	**18**	T	T	18 38 27.2	
	baz=190,slow=75,SNR=11						
H10N1	**ASCENSION HYDR**	**49.33**	**17**	T	T	18 39 49.6	
	baz=186						
H10N3	**ASCENSION HYDR**	**49.33**	**17**	T	T	18 39 49.6	
	baz=186						
H10N2	**ASCENSION HYDR**	**49.35**	**17**	T	T	18 39 50.9	
	baz=186						
LBTB	**Lobatse**	**49.36**	**74**	P	**P**	**17 45 48.0**	**-0.9**
	2.2nm,0.6s,baz=231,slow=8.1,SNR=5.9						
LPAZ	**La Paz**	**50.18**	**306**	P	**P**	**17 45 56.8**	**+1.1**
	12nm,0.4s,baz=102,slow=5.3,SNR=73						
LPAZ				LR	LR	18 06 42.3	
	comp=Z,71nm,19.9s,baz=152,slow=35						
LPAZ	**La Paz**	**50.18**	**306**	*e*P	**P**	**17 45 56.2**	**+0.5**
	12nm,0.4s						
RCBR	**Riachuelo**	**50.62**	**350**	P	**P**	**17 45 58.4**	**0.0**
	8.9nm,1.1s,baz=159,slow=8.6,SNR=3.3						
SAML	**Samuel**	**54.66**	**315**	*e*P	**P**	**17 46 27.2**	**-0.9**
	11nm,1.0s						
ATAH	**Atahualpa**	**62.97**	**301**	P	**P**	**17 47 27.4**	**+1.3**
	3.0nm,0.4s,baz=148,slow=9.5,SNR=3.1						
LIC	**Lamto**	**64.94**	**25**	*e*P	**P**	**17 47 38.4**	**0.0**
	16nm,1.0s						
KIC	**Kosan Boka**	**65.14**	**25**	*e*P	**P**	**17 47 39.7**	**0.0**
	85nm,1.8s						
TIC	**Toumodi**	**65.35**	**25**	*e*P	**P**	**17 47 41.0**	**-0.1**
DBIC	**Dimbokro**	**65.42**	**25**	P	**P**	**17 47 41.2**	**-0.2**
	3.9nm,0.6s,baz=176,slow=6.6,SNR=12						
OTAV	**Otavalo**	**69.45**	**304**	*e*P	**P**	**17 48 08.9**	**+1.4**
	12nm,0.9s						
TOA0	**Torodi Ar. Sit**	**73.32**	**30**	*e*P	**P**	**17 48 29.5**	**-0.6**
TOA0	**Torodi Ar. Sit**	**73.32**	**30**	*e*P	**P**	**17 48 28.9**	**-1.2**
TORD	**Torodi Ar. Bea**	**73.32**	**30**	P	**P**	**17 48 30.2**	**+0.1**
	4.8nm,0.3s,baz=200,slow=6.5,SNR=141						
SDV	**Santo Domingo**	**73.87**	**316**	*e*P	**P**	**17 48 32.8**	**-0.8**
	14nm,1.1s						
MDT	**Mideit**	**90.81**	**19**	P	**P**	**17 50 03.1**	**+2.0**
	3.7nm,0.7s,baz=210,slow=4.1,SNR=10						
STKA	**Stephens Creek**	**91.83**	**171**	P	**P**	**17 50 07.2**	**+1.1**
	1.3nm,0.6s,baz=263,slow=2.2,SNR=3.8						
ESDC	**Sonseca Array**	**97.60**	**18**	P	Pdif	17 50 32.9	+0.9
	0.1nm,0.3s,baz=181,slow=5.3,SNR=4.3						
ASAR	**Alice Springs**	**98.97**	**163**	P	**P**	**17 50 38.4**	**-0.4**
	0.4nm,0.5s,baz=190,slow=4.3,SNR=14						
ASAR				PKKP	**PKKPdf**	**18 07 03.2**	**-0.8**
	0.2nm,0.3s,baz=24,slow=2.5,SNR=5.2						
WRA	**Warramunga Arr**	**102.69**	**163**	P	**Pdif**	**17 50 54.1**	**-1.2**
	0.7nm,1.0s,baz=199,slow=4.5,SNR=3.6						
WRA				PKKPbc	**PKKPbc**	**18 06 53.4**	**+2.2**
	0.5nm,0.3s,baz=359,slow=2.8,SNR=46						
PDAR	**Pinedale Array**	**120.13**	**303**	PKP	**PKPdf**	**17 55 48.9**	**+1.0**
	0.3nm,0.5s,baz=97,slow=4.8,SNR=3.5						
NVAR	**Mina Array Bea**	**121.14**	**293**	PKP	**PKPdf**	**17 55 51.0**	**+1.0**
	0.3nm,0.6s,baz=129,slow=2.6,SNR=3.5						
FINES	**FINESS Array B**	**124.64**	**28**	PKP	**PKPdf**	**17 55 55.3**	**-0.3**
	1.5nm,0.4s,baz=216,slow=2.2,SNR=21						
CMAR	**Chiang Mai Arr**	**125.33**	**111**	PKP	**PKPdf**	**17 55 57.6**	**-0.7**
	0.6nm,0.5s,baz=216,slow=2.9,SNR=2.6						
AKTO	**Aktyubinsk**	**127.67**	**54**	PKP	**PKPdf**	**17 56 01.8**	**+0.1**
	1.5nm,0.7s,baz=208,slow=2.3,SNR=3.5						
ARCES	**ARCESS Array B**	**131.18**	**22**	PKP	**PKPdf**	**17 56 07.7**	**-0.1**
	0.6nm,0.4s,baz=203,slow=2.5,SNR=9.8						
BVAR	**Borovoye Array**	**135.12**	**58**	PKP	**PKPdf**	**17 56 16.3**	**+0.6**
	0.6nm,0.3s,baz=270,slow=1.5,SNR=7.2						
YKA	**Yellowknife Ar**	**136.04**	**318**	PKP	**PKPdf**	**17 56 17.1**	**0.0**
	1.5nm,0.4s,baz=135,slow=2.0,SNR=28						
YKA				PP	**PP**	**17 58 57.5**	**-1.4**
	0.4nm,0.6s,baz=118,slow=7.1,SNR=4.3						
YKA				SKPbc	**SKPbc**	**17 59 37.5**	**-0.9**
	0.9nm,0.8s,baz=120,slow=2.0,SNR=8.2						
SPITS	**Spitsbergen Ar**	**136.75**	**12**	PKhKP	PKPpre	17 56 10.8	
	4.9nm,1.1s,baz=151,slow=3.3,SNR=4.3						
SPITS				PKP	**PKiKP**	**17 56 18.4**	**-1.5**
	1.5nm,0.8s,baz=190,slow=4.4,SNR=5.0						
MKAR	**Makanchi Array**	**137.24**	**72**	PKP	**PKPdf**	**17 56 21.5**	**+1.6**
	0.3nm,0.3s,baz=238,slow=1.5,SNR=8.6						
MKAR				SKPbc	**SKPbc**	**17 59 41.7**	**-0.9**
	0.8nm,0.9s,baz=217,slow=3.8,SNR=4.8						
KURBB	**Kurchatov Arra**	**137.65**	**65**	PKP	**PKPdf**	**17 56 20.1**	**-0.4**
	0.6nm,0.8s,baz=244,slow=2.8,SNR=5.7						
KURBB				SKPbc	**SKPbc**	**17 59 43.2**	**-0.4**
	0.5nm,0.6s,baz=234,slow=3.1,SNR=5.8						
KURK	**Kurchatov**	**137.75**	**65**	PKP	**PKPdf**	**17 56 20.1**	**-0.6**
KURK				SKPbc	**SKPbc**	**17 59 43.2**	**-0.7**
ZALV	**Zalesovo Beam**	**142.72**	**64**	PKhKP	PKPpre	17 56 25.1	
	0.9nm,0.4s,baz=231,slow=3.2,SNR=6.7						
ZALV				PKP	**PKPdf**	**17 56 29.2**	**-0.3**
	0.6nm,0.3s,baz=255,slow=5.7,SNR=3.6						
DOT	**Dot Lake**	**148.47**	**310**	*e*PKPbc	**PKPbc**	**17 56 43.2**	**+0.3**
PAX	**Paxson**	**148.89**	**308**	*e*PKPbc	**PKPbc**	**17 56 44.8**	**+0.7**
ILAR	**Eielson Array**	**149.95**	**312**	PKPbc	**PKPbc**	**17 56 46.6**	**+0.1**
	9.6nm,0.7s,baz=128,slow=1.7,SNR=94						
COLA	**College**	**150.38**	**312**	*e*PKPbc	**PKPbc**	**17 56 47.4**	**-0.1**
MCK	**McKinley**	**150.59**	**309**	*e*PKPbc	**PKPbc**	**17 56 48.7**	**+0.7**
SONM	**Songino Array**	**151.06**	**87**	PKPbc	**PKPbc**	**17 56 49.9**	**+0.1**
	2.4nm,0.4s,baz=222,slow=3.5,SNR=33						
BPAW	**Bear Paw Mtn.**	**151.56**	**310**	*e*PKPbc	**PKPbc**	**17 56 50.3**	**0.0**
COLD	**Coldfoot**	**151.68**	**316**	*e*PKPbc	**PKPbc**	**17 56 51.2**	**+0.7**
PPLA	**Purkeypile**	**151.85**	**307**	*e*PKPbc	**PKPbc**	**17 56 51.5**	**+0.4**
IM04	**Indian Mountai**	**152.99**	**313**	*e*PKPbc	**PKPbc**	**17 56 53.8**	**+0.4**

GUC 30 17:38:26.2 ± 0.6, 35°.03S × 72°.67W, h8km ± 3km, ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TALC	**Talca**	**0.92**	**114**	*i* P	Pb	17 38 44.2	-0.2
TALC				*i* S	Sb	17 38 57.5	+0.6
NICH	**Los Niches**	**1.18**	**89**	*i* P	Pb	17 38 48.2	-0.6
NICH				*i* S	Sn	17 39 05.0	-0.2
LNCH	**Linares**	**1.20**	**134**	*i* P	Pb	17 38 48.6	-0.5
LNCH				*i* S	Sn	17 39 05.2	-0.4
LNV	**Longovilo**	**1.49**	**45**	*i* P	Pn	17 38 52.6	-0.6
CLCH	**Cerro Calan**	**2.40**	**48**	*i* P	Pn	17 39 07.8	+1.9
CLCH				*i* S	Sb	17 39 39.3	-0.3
CLCH				AML	AML	17 39 47.8	
	comp=N,316nm,0.6s						
ROCH	**El Roble**	**2.47**	**34**	AML	AML	17 39 50.7	
	comp=N,299nm,0.3s						
PEL	**Peldehue**	**2.50**	**42**	*i* P	Pb	17 39 09.3	-2.0
PEL				*i* S	Sb	17 39 41.9	-0.3
PEL				AML	AML	17 39 49.6	
	comp=E,391nm,0.6s						

*NSSC **30** 18:12:12.5 ± 1.3, 25°.38N × 34°.08E, h98km ± 180km, ML3.8*
*GII **30** 18:12:44.6 ± 0.3, 27°.84N × 34°.60E, h10km, mb4.4/7, MD4.3/7*
*CSEM **30** 18:12:44.4 ± 0.6, 27°.81N × 34°.65E, h15km, ML3.9, Error ellipse: s-maj=13.7km s-min=8.7km az=149.0*
*SGS **30** 18:12:50.1, 28°.09N × 34°.70E, h13km*
*IDC **30** 18:12:50.4 ± 1.9, 28°.46N × 34°.63E, h0km, mb3.5/6, mb1 3.6/10, mb1mx3.4/27, mbtmp3.5/10, ML3.2/4, MS3.0/3, Ms1 3.0/3, ms1mx2.5/30, Error ellipse: s-maj=35.9km s-min=23.1km az=131.0*

ISC 30 18:12:44.6 ± 2.2, 27°.9N ± 0°.1 × 34°.54E ± 0°.08, h3km ± 14km, n91, σ 1§31/98, mb3.5/6, 1D, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDAS	**Al Bad'**	**0.70**	**45**	P	**Pn**	**18 13 00.0**	**-1.5**
BDAS				S	**Sg**	**18 13 07.0**	**-0.2**
BDAS	**Al Bad'**	**0.70**	**45**	P	**Pn**	**18 12 59.9**	**-1.5**
JLOS		**1.16**	**46**	P	**Pb**	**18 13 07.0**	**-0.4**
JLOS				S	**Sb**	**18 13 20.0**	**-3.0**
JLOS		**1.16**	**46**	P	**Pg**	**18 13 07.3**	**+0.4**
HQLS		**1.44**	**19**	P	**Pn**	**18 13 10.0**	**-1.7**
HQLS		**1.44**	**19**	S	**Sn**	**18 13 27.4**	**-3.8**
HQLS		**1.44**	**19**	P	**Pn**	**18 13 09.9**	**-1.7**
EIL	**Elat**	**1.77**	**12**	Pg	**Pn**	**18 13 15.1**	**-1.1**
	16nm,0.3s,baz=206,slow=10,SNR=75						
EIL				Lg	Lg	18 13 37.9	
	184nm,0.3s,baz=127,slow=20,SNR=12						
EIL	**Elat**	**1.77**	**12**	Pn	**Pn**	**18 13 15.0

BIDA	**Albida**	**7.22**	**12**	*e*P		**Pn**	**18 14 33.7**	**+2.5**
BIDA				*e*S		**Sb**	**18 16 14.5**	**-2.9**
BIDA				AML	AML		18 16 48.1	
	comp=N,44nm,0.6s							
BIDA				AML	AML		18 16 55.2	
	comp=E,88nm,0.6s							
AKMC	**Akamas**	**7.32**	**346**	P		**Pn**	**18 14 33.1**	**+0.6**
ALFC	**Alevga**	**7.39**	**348**	P		**Pn**	**18 14 34.6**	**+1.2**
ARNB	**Al Arnab**	**8.00**	**8**	*e*P		**Pn**	**18 14 44.2**	**+2.4**
ARNB				AML	AML		18 17 39.0	
	comp=E,20nm,0.6s							
ARNB				AML	AML		18 17 39.3	
	comp=N,16nm,0.7s							
BTCH	**Batrach**	**8.25**	**11**	*e*P		**Pn**	**18 14 47.0**	**+1.8**
BTCH				*e*S		Sb	18 16 38.4	-8.5
SFNV	**Sufian**	**9.69**	**28**	*e*P		**Pn**	**18 15 05.6**	**+0.6**
SFNV				*e*S		Sn	18 17 10.3	+16
SFNV				AML	AML		18 18 03.3	
	comp=Z,26nm,0.7s							
NPS	**Neapolis**	**10.55**	**316**	*e*PN		**Pn**	**18 15 17.4**	**+0.7**
NPS	**Neapolis**	**10.55**	**316**	*e*Pn		**Pn**	**18 15 17.4**	**+0.7**
LAST	**Lasithi**	**10.56**	**315**	*e*PN		**Pn**	**18 15 17.3**	**+0.3**
LAST				*e*SN		Px	18 15 30.8	
LAST	**Lasithi**	**10.56**	**315**	*e*Pn		**Pn**	**18 15 17.3**	**+0.3**
LAST				*e*Sn		Px	18 15 30.8	
IDI	**Anoyia**	**11.01**	**314**	Pn		**Pn**	**18 15 24.2**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=158,slow=23,SNR=6.8							
IDI				Sn		**Sn**	**18 17 23.1**	**-3.8**
	comp=Z,0.6nm,0.3s,baz=346,slow=19,SNR=2.5							
GVD	**Gavdhos**	**11.27**	**310**	*e*PB		**Pn**	**18 15 27.1**	**+0.5**
GVD	**Gavdhos**	**11.27**	**310**	*e*Pb		**Pn**	**18 15 27.1**	**+0.5**
KARN	**Karanos**	**11.71**	**312**	*e*PN		**Pn**	**18 15 33.1**	**+0.5**
KARN	**Karanos**	**11.71**	**312**	*e*Pn		**Pn**	**18 15 33.1**	**+0.5**
BRTR	**Keskin Array B**	**11.79**	**357**	Pn		**Pn**	**18 15 33.9**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=169,slow=14,SNR=7.5							
ANKY	**Antikythira Is**	**12.39**	**312**	*e*PN		**Pn**	**18 15 42.9**	**+1.0**
ANKY	**Antikythira Is**	**12.39**	**312**	*e*Pn		**Pn**	**18 15 42.9**	**+1.0**
KYTH	**Kithira**	**12.81**	**313**	*e*PN		**Pn**	**18 15 49.0**	**+1.3**
KYTH	**Kithira**	**12.81**	**313**	*e*Pn		**Pn**	**18 15 49.0**	**+1.3**
GNI	**Garni**	**14.82**	**32**	LR		LR	18 22 48.4	
	comp=Z,42nm,18.9s,baz=76,slow=42							
AKASG	**Malin Array Be**	**23.10**	**351**	P		**P**	**18 17 52.5**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=178,slow=7.6,SNR=4.1							
AKTO	**Aktyubinsk**	**28.69**	**32**	LR		LR	18 30 54.0	
	comp=Z,18nm,18.8s,baz=227,slow=38							
TORD	**Torodi Ar. Bea**	**33.96**	**251**	P		P	18 19 39.1	+10
	comp=Z,0.3nm,0.8s,baz=56,slow=9.0,SNR=2.3							
TORD				LR		LR	18 34 49.9	
	comp=Z,41nm,18.4s,baz=190,slow=39							
FINES	**FINESS Array B**	**33.99**	**353**	P		**P**	**18 19 30.6**	**+1.4**
	comp=Z,0.8nm,0.5s,baz=156,slow=11,SNR=12							
MKAR	**Makanchi Array**	**41.65**	**50**	P		P	18 20 37.0	+2.8
	comp=Z,0.3nm,0.7s,baz=276,slow=4.2,SNR=3.7							
ARCES	**ARCESS Array B**	**41.97**	**355**	P		**P**	**18 20 37.0**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=174,slow=8.9,SNR=7.1							
ZALV	**Zalesovo Beam**	**44.76**	**40**	P		P	18 21 01.3	+2.0
	comp=Z,0.4nm,0.4s,baz=262,slow=7.1,SNR=3.0							

IGQ 30 18:22:35±0.7, 3°19S×77°76W, h8km±26km, Mb4.0, 6D, Error ellipse: s-maj=9.5km s-min=2.9km az=91.3, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACE	**Macas**	**1.03**	**335**	⇓P	Pn	18 22 56.6	+0.6
MACE	**Macas**	**1.03**	**335**	⇓S	Sn	18 23 10.9	+0.2
RIOE	**Riobamba**	**1.67**	**329**	P	Pn	18 23 04.1	-1.0
PISA	**Pisayambo**	**2.21**	**344**	⇓S	Sn	18 23 37.4	-3.3
PISA	**Pisayambo**	**2.21**	**344**	⇓P	Pn	18 23 11.2	-1.5
ARNL	**Arenillas**	**2.33**	**261**	P	Pn	18 23 11.4	-2.1
ARNL	**Arenillas**	**2.33**	**261**	S	Sn	18 23 39.6	-2.8
BMOR	**Cotopaxi Volca**	**2.54**	**344**	⇓P	Pn	18 23 16.1	-1.2
MOV1	**Cotopaxi Vol s**	**2.56**	**345**	P	Pn	18 23 17.9	+0.3
TAMB	**Tambo**	**2.56**	**346**	P	Pn	18 23 16.8	-0.7
BTAM	**Cotopaxi Volca**	**2.58**	**346**	P	Pn	18 23 15.2	-2.6
BVC2	**Cotopaxi Volca**	**2.60**	**346**	P	Pn	18 23 16.3	-1.8
BNAS	**Cotopaxi Volca**	**2.61**	**344**	P	Pn	18 23 17.9	-0.2
CAMI	**Rancho Maria**	**2.61**	**343**	P	Pn	18 23 17.8	-0.3
VC1	**Cotopaxi 1**	**2.61**	**346**	P	Pn	18 23 17.4	-0.9
PITA	**Cotopaxi Volc**	**2.70**	**346**	⇓P	Pn	18 23 19.7	+0.3
ANTI	**Antisana**	**2.75**	**352**	P	Pn	18 23 17.9	-2.4

*ISCJB **30** 18:36:09.9±0.5, 29°.94N×0°.04×139°.09E±0°.09, h450km, mb3.0/6, Error ellipse: s-maj=10.7km s-min=5.1km az=172.4*
*IDC **30** 18:36:10.0±0.9, 29°.87N×138°.82E, h430km±18km, mb2.7/6, mb1 2.9/10, mb1mx2.7/26, mbtmp3.6/10, Error ellipse: s-maj=36.1km s-min=12.5km az=67.0*
*JMA **30** 18:36:09.7±0.2, 29°.93N×139°.26E, h467km, M3.6*

ISC 30 18:36:10.2±0.8, 29°93N±0°.07×139°.1E±0°.1, h450km, n26, σ1°73/35, mb3.0/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.93**	**135**	P	**P**	**18 37 25.0**	**+0.2**
CBIJ				*e*S	**S**	**18 38 24.0**	**-1.4**
JCJ	**Chichijima**	**3.93**	**135**	P	**P**	**18 37 25.5**	**+0.7**
	8.3nm,0.3s,baz=308,slow=18,SNR=13						
JCJ				S	**S**	**18 38 24.5**	**-0.9**
	14nm,0.3s,baz=285,slow=22,SNR=9.5						
JWZ	**Kozaga**	**4.60**	**322**	P	**P**	**18 37 32.0**	**+1.3**
JIE	**Ise**	**4.88**	**336**	P	**P**	**18 37 35.9**	**+2.5**
JKN2	**Miekihoku**	**4.91**	**332**	P	**P**	**18 37 35.3**	**+1.7**
BSO1	**Boso 1**	**4.98**	**18**	P	**P**	**18 37 35.4**	**+1.8**
BSO1				*e*S	**S**	**18 38 43.9**	**+2.1**
BSO3	**Boso 3**	**5.01**	**14**	S	**S**	**18 38 42.5**	**-0.3**
HMMJ	**Hamamatsu 2**	**5.04**	**347**	P	**P**	**18 37 37.5**	**+2.6**
JOD2	**Odawara 2**	**5.32**	**0**	P	**P**	**18 37 39.5**	**+1.9**
JNY	**Yasuok**	**5.51**	**350**	P	**P**	**18 37 41.4**	**+1.8**
JHU	**Hanno**	**5.91**	**2**	P	**P**	**18 37 44.2**	**+0.7**
JHU				S	**S**	**18 38 56.5**	**-3.2**
JRY	**Ryogami san**	**6.07**	**359**	P	**P**	**18 37 46.2**	**+1.0**
JRY				S	**S**	**18 39 02.0**	**-0.9**
JYT	**Yasato**	**6.35**	**8**	P	**P**	**18 37 47.7**	**-0.3**
JYT				S	**S**	**18 39 05.0**	**-3.0**
JAG	**Ashikaga**	**6.49**	**3**	P	**P**	**18 37 49.2**	**-0.2**
JAG				S	**S**	**18 39 06.6**	**-4.0**
MJAR	**Matsushiro Arr**	**6.63**	**354**	P	**P**	**18 37 51.3**	**+0.3**
	1.2nm,0.3s,baz=174,slow=12,SNR=13						
MAT	**Matsushiro**	**6.64**	**354**	P	**P**	**18 37 51.1**	**+0.1**
JHO	**Hitachi**	**6.78**	**10**	P	**P**	**18 37 53.7**	**+1.2**
JHO				S	**S**	**18 39 14.5**	**-1.7**
JFK	**Kawauchi**	**7.57**	**11**	P	**P**	**18 38 02.2**	**+1.3**
JFK				S	**S**	**18 39 29.1**	**-2.5**
KSRS	**Korea Array**	**11.94**	**312**	P	**P**	**18 38 45.9**	**-2.4**
	0.1nm,0.3s,baz=134,slow=10,SNR=2.9						
USRK	**Ussuriysk Ar.**	**15.32**	**340**	P	**P**	**18 39 25.6**	**+1.1**
	0.8nm,0.3s,baz=141,slow=9.4,SNR=11						
CMAR	**Chiang Mai Arr**	**38.18**	**262**	P	**P**	**18 42 49.2**	**-0.7**
	0.6nm,0.5s,baz=70,slow=4.7,SNR=8.8						
MKAR	**Makanchi Array**	**46.58**	**308**	P	**P**	**18 43 55.8**	**-0.3**
	0.2nm,0.4s,baz=72,slow=11,SNR=5.5						
WRA	**Warramunga Arr**	**49.79**	**186**	P	**P**	**18 44 21.1**	**+0.6**
	0.4nm,0.6s,baz=2.6,slow=8.1,SNR=12						
ASAR	**Alice Springs**	**53.52**	**186**	P	**P**	**18 44 48.2**	**+0.7**
	0.3nm,0.8s,baz=359,slow=6.2,SNR=8.4						
FINES	**FINESS Array B**	**74.20**	**333**	P	**P**	**18 47 00.3**	**+0.8**
	0.9nm,0.9s,baz=90,slow=4.2,SNR=3.2						
BRTR	**Keskin Array B**	**82.08**	**311**	P	**P**	**18 47 43.7**	**+0.9**
	0.3nm,0.8s,baz=57,slow=5.3,SNR=2.7						

*ATH **30** 19:35:42.6, 35°.17N×22°.98E, h30km±2km, MD3.7/28*
*ISCJB **30** 19:35:43.6±0.9, 35°.22N±0°.05×22°.97E±0°.05, h27km±6km, Error ellipse: s-maj=9.6km s-min=4.4km az=40.8*
*CSEM **30** 19:35:44.2±0.4, 35°.22N×23°.03E, h20km, ML3.0, Error ellipse: s-maj=10.2km s-min=3.5km az=36.0*
*THE **30** 19:35:45.6, 35°.27N×23°.02E, h24km±2km, ML3.0/6, Error ellipse: s-maj=3.1km s-min=1.0km az=76.0*

ISC 30 19:35:43.4±1.4, 35°.18N±0°.05×22°.98E±0°.05, h22km±7km, n96, σ0°83/115, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.73**	**21**	P	**Pb**	**19 35 57.2**	**-0.4**
ANKY				S	**Sb**	**19 36 07.5**	**+0.3**
ANKY	**Antikythira Is**	**0.73**	**21**	*e*PN	**Pb**	**19 35 57.1**	**-0.5**
ANKY				*e*SN	**Sb**	**19 36 07.4**	**+0.3**
ANKY	**Antikythira Is**	**0.73**	**21**	P	**Pb**	**19 35 57.2**	**-0.4**
ANKY				S	**Sb**	**19 36 07.5**	**+0.3**
KARN	**Karanos**	**0.80**	**74**	P	**Pb**	**19 35 59.0**	**+0.3**
KARN	**Karanos**	**0.80**	**74**	*e*PN	**Pb**	**19 35 58.0**	**-0.7**
KARN				*e*SN	**Sn**	**19 36 10.7**	**0.0**
KARN	**Karanos**	**0.80**	**74**	*e*Pn	**Pb**	**19 35 58.0**	**-0.7**
KARN	**Karanos**	**0.80**	**74**	P	**Pb**	**19 35 59.0**	**+0.3**
KARN				*e*Sn	**Sn**	**19 36 10.7**	**0.0**
GVD	**Gavdhos**	**0.97**	**110**	P	**Pn**	**19 36 01.9**	**+0.1**
GVD	**Gavdhos**	**0.97**	**110**	*e*PN	**Pn**	**19 36 01.9**	**+0.1**
GVD				*e*SN	**Sb**	**19 36 14.3**	**+0.3**
GVD	**Gavdhos**	**0.97**	**110**	P	**Pn**	**19 36 01.9**	**+0.1**
GVD				*e*Sn	**Sb**	**19 36 14.3**	**+0.3**
KYTH	**Kithira**	**1.10**	**3**	P	**Pn**	**19 36 03.6**	**0.0**
KYTH	**Kithira**	**1.10**	**3**	*e*PN	**Pn**	**19 36 03.4**	**-0.2**
KYTH	**Kithira**	**1.10**	**3**	P	**Pn**	**19 36 03.6**	**0.0**
SIVA	**Sivas**	**1.51**	**96**	P	**Pb**	**19 36 10.6**	**-0.2**
SIVA	**Sivas**	**1.51**	**96**	*e*PB	**Pn**	**19 36 08.9**	**-0.3**
SIVA	**Sivas**	**1.51**	**96**	*e*Pb	**Pn**	**19 36 08.9**	**-0.3**
SIVA	**Sivas**	**1.51**	**96**	P	**Pb**	**19 36 10.6**	**-0.2**
PYL	**PYLOS**	**1.98**	**330**	P	**Pn**	**19 36 15.3**	**-0.4**
PYL				S	**Sn**	**19 36 39.8**	**-0.1**
PYL	**PYLOS**	**1.98**	**330**	*e*PN	**Pn**	**19 36 15.3**	**-0.4**
PYL	**PYLOS**	**1.98**	**330**	P	**Pn**	**19 36 15.3**	**-0.4**
PYL				S	**Sn**	**19 36 39.8**	**-0.1**
LAST	**Lasithi**	**2.05**	**90**	P	**Pn**	**19 36 18.1**	**+1.4**
LAST	**Lasithi**	**2.05**	**90**	*e*PN	**Pn**	**19 36 17.0**	**+0.3**
LAST	**Lasithi**	**2.05**	**90**	*e*Pn	**Pn**	**19 36 17.0**	**+0.3**
LAST	**Lasithi**	**2.05**	**90**	P	**Pn**	**19 36 18.1**	**+1.4**
NPS	**Neapolis**	**2.16**	**87**	*e*PN	**Pn**	**19 36 18.7**	**+0.6**
NPS	**Neapolis**	**2.16**	**87**	*e*Pn	**Pn**	**19 36 18.7**	**+0.6**
ITM	**Ithomi**	**2.17**	**337**	P	**Pn**	**19 36 19.3**	**+1.0**
ITM	**Ithomi**	**2.17**	**337**	*e*PN	**Pn**	**19 36 18.9**	**+0.6**
ITM	**Ithomi**	**2.17**	**337**	*e*Pn	**Pn**	**19 36 18.9**	**+0.6**
ITM	**Ithomi**	**2.17**	**337**	P	**Pn**	**19 36 19.3**	**+1.0**
VLX	**Vlachokerasia**	**2.24**	**348**	*e*PB	**Pn**	**19 36 21.2**	**+1.9**
VLX	**Vlachokerasia**	**2.24**	**348**	*e*Pb	**Pn**	**19 36 21.2**	**+1.9**
DID	**Didima**	**2.33**	**5**	P	**Pn**	**19 36 20.7**	**+0.2**
DID				S	**Sn**	**19 36 47.5**	**-1.0**
DID	**Didima**	**2.33**	**5**	*e*PN	**Pn**	**19 36 21.1**	**+0.6**
DID	**Didima**	**2.33**	**5**	P	**Pn**	**19 36 20.7**	**+0.2**
DID	**Didima**	**2.33**	**5**	*e*Pn	**Pn**	**19 36 21.1**	**+0.6**
DID				S	**Sn**	**19 36 47.5**	**-1.0**
AMT	**Artemida-Makis**	**2.56**	**337**	P	**Pn**	**19 36 24.4**	**+0.7**
AMT				S	**Sn**	**19 36 53.8**	**-0.4**
AMT	**Artemida-Makis**	**2.56**	**337**	*e*PN	**Pn**	**19 36 25.1**	**+1.4**
AMT	**Artemida-Makis**	**2.56**	**337**	P	**Pn**	**19 36 24.4**	**+0.7**
AMT	**Artemida-Makis**	**2.56**	**337**	*e*Pn	**Pn**	**19 36 25.1**	**+1.4**
AMT				S	**Sn**	**19 36 53.8**	**-0.4**
APE	**Apeiranthos**	**2.80**	**47**	*e*PN	**Pn**	**19 36 27.2**	**+0.3**
APE	**Apeiranthos**	**2.80**	**47**	*e*Pn	**Pn**	**19 36 27.2**	**+0.3**
GUR	**Goura**	**2.80**	**350**	P	**Pn**	**19 36 27.5**	**+0.5**
GUR				S	**Sn**	**19 36 59.3**	**-0.8**
GUR	**Goura**	**2.80**	**350**	*e*PN	**Pn**	**19 36 28.6**	**+1.6**
GUR	**Goura**	**2.80**	**350**	P	**Pn**	**19 36 27.5**	**+0.5**
GUR	**Goura**	**2.80**	**350**	*e*Pn	**Pn**	**19 36 28.6**	**+1.6**
GUR				S	**Sn**	**19 36 59.3**	**-0.8**
LTK	**Loutraki**	**2.84**	**360**	*e*PN	**Pn**	**19 36 28.7**	**+1.2**
LTK	**Loutraki**	**2.84**	**360**	*e*Pn	**Pn**	**19 36 28.7**	**+1.2**
KLV	**Kalavryta, Ach**	**2.93**	**347**	P	**Pn**	**19 36 29.7**	**+0.9**
KLV				S	**Sn**	**19 37 02.9**	**-0.5**
KLV	**Kalavryta, Ach**	**2.93**	**347**	*e*PN	**Pn**	**19 36 30.1**	**+1.3**
KLV	**Kalavryta, Ach**	**2.93**	**347**	P	**Pn**	**19 36 29.7**	**+0.9**
KLV	**Kalavryta, Ach**	**2.93**	**347**	*e*Pn	**Pn**	**19 36 30.1**	**+1.3**
KLV				S	**Sn**	**19 37 02.9**	**-0.5**
PTL	**Penteli**	**2.95**	**14**	*e*PN	**Pn**	**19 36 29.6**	**+0.6**
PTL	**Penteli**	**2.95**	**14**	*e*Pn	**Pn**	**19 36 29.6**	**+0.6**
VILL	**Villia**	**2.99**	**5**	P	**Pn**	**19 36 30.0**	**+0.4**
VILL	**Villia**	**2.99**	**5**	*e*Pn	**Pn**	**19 36 29.9**	**+0.4**
VIL2	**Platees**	**3.04**	**4**	*e*PN	**Pn**	**19 36 29.9**	**-0.3**
RLS	**Riolos of Patr**	**3.12**	**338**	*e*PN	**Pn**	**19 36 32.1**	**+0.8**
RLS	**Riolos of Patr**	**3.12**	**338**	*e*Pn	**Pn**	**19 36 32.1**	**+0.8**
DSF	**Desfina**	**3.25**	**354**	P	**Pn**	**19 36 33.2**	**+0.1**
DSF				S	**Sn**	**19 37 10.8**	**-0.3**
DSF	**Desfina**	**3.25**	**354**	*e*PN	**Pn**	**19 36 33.2**	**+0.1**
DSF	**Desfina**	**3.25**	**354**	P	**Pn**	**19 36 33.2**	**+0.1**
DSF				S	**Sn**	**19 37 10.8**	**-0.3**
KALE	**Kalithea**	**3.27**	**348**	P	**Pn**	**19 36 33.5**	**0.0**
KALE	**Kalithea**	**3.27**	**348**	*e*PN	**Pn**	**19 36 35.2**	**+1.7**
KALE	**Kalithea**	**3.27**	**348**	P	**Pn**	**19 36 33.5**	**0.0**
KALE	**Kalithea**	**3.27**	**348**	*e*Pn	**Pn**	**19 36 35.2**	**+1.7**
EFP	**Efpalio**	**3.35**	**345**	*e*PN	**Pn**	**19 36 36.0**	**+1.5**
EFP	**Efpalio**	**3.35**	**345**	*e*Pn	**Pn**	**19 36 36.0**	**+1.5**
LKR	**Lokris**	**3.46**	**0**	*e*PN	**Pn**	**19 36 36.4**	**+0.4**
LKR	**Lokris**	**3.46**	**0**	*e*Pn	**Pn**	**19 36 36.4**	**+0.4**
MRKA	**Markates**	**3.55**	**8**	*e*PN	**Pn**	**19 36 37.9**	**+0.6**
MRKA	**Markates**	**3.55**	**8**	*e*Pn	**Pn**	**19 36 37.9**	**+0.6**
VLS	**Valsamata**	**3.55**	**328**	*e*PN	**Pn**	**19 36 36.3**	**-1.0**
VLS	**Valsamata**	**3.55**	**328**	*e*Pn	**Pn**	**19 36 36.3**	**-1.0**
AXAR	**Agios Charalam**	**3.59**	**356**	*e*PN	**Pn**	**19 36 38.5**	**+0.7**
AXAR	**Agios Charalam**	**3.59**	**356**	*e*Pn	**Pn**	**19 36 38.5**	**+0.7**
PDO	**Prodromos**	**3.70**	**338**	P	**Pn**	**19 36 40.7**	**+1.4**
PDO	**Prodromos**	**3.70**	**338**	*e*PN	**Pn**	**19 36 40.6**	**+1.3**
PDO	**Prodromos**	**3.70**	**338**	*e*Pn	**Pn**	**19 36 40.6**	**+1.3**
EVR	**Evrytania**	**3.84**	**346**	*e*PN	**Pn**	**19 36 43.1**	**+1.7**
EVR	**Evrytania**	**3.84**	**346**	*e*Pn	**Pn**	**19 36 43.1**	**+1.7**
AGG	**Agios Georgios**	**3.87**	**353**	*e*PN	**Pn**	**19 36 42.2**	**+0.5**
AGG	**Agios Georgios**	**3.87**	**353**	*e*Pn	**Pn**	**19 36 42.2**	**+0.5**
LKD2	**Lefkada island**	**4.05**	**333**	P	**Pn**	**19 36 44.3**	**+0.1**
LKD2	**Lefkada island**	**4.05**	**333**	P	**Pn**	**19 36 44.3**	**+0.1**
XOR	**Xorichti**	**4.18**	**2**	P	**Pn**	**19 36 46.6**	**+0.7**
XOR	**Xorichti**	**4.18**	**2**	*e*PN	**Pn**	**19 36 46.7**	**+0.8**
XOR	**Xorichti**	**4.18**	**2**	P	**Pn**	**19 36 46.6**	**+0.7**
DSL	**Palaion Diasel**	**4.22**	**340**	*e*PN	**Pn**	**19 36 47.3**	**+0.8**
DSL	**Palaion Diasel**	**4.22**	**340**	*e*Pn	**Pn**	**19 36 47.3**	**+0.8**
PAIG	**Paliouri**	**4.77**	**7**	*e*PN	**Pn**	**19 36 53.9**	**-0.1**
PAIG	**Paliouri**	**4.77**	**7**	*e*Pn	**Pn**	**19 36 53.9**	**-0.1**
IGT	**Igoumenitsa**	**4.83**	**335**	*e*PN	**Pn**	**19 36 54.9**	**+0.1**
IGT	**Igoumenitsa**	**4.83**	**335**	*e*Pn	**Pn**	**19 36 54.9**	**+0.1**
SGD	**Sagiada**	**4.93**	**335**	*e*PN	**Pn**	**19 36 57.7**	**+1.5**
SGD	**Sagiada**	**4.93**	**335**	*e*Pn	**Pn**	**19 36 57.7**	**+1.5**

IDC 30 19:50:09.8±2.2, 12°.56S×167°.38E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/19, mbtmp3.8/3, Error ellipse: s-maj=116.2km s-min=36.6km az=140.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.51**	**227**	P	P	19 56 25.0	+0.1
	1.1nm,0.4s,baz=52,slow=8.9,SNR=4.8						
WRA	**Warramunga Arr**	**32.52**	**253**	P	P	19 56 42.8	+0.1
	0.5nm,1.0s,baz=84,slow=8.7,SNR=7.4						
ASAR	**Alice Springs**	**33.60**	**246**	P	P	19 56 51.9	-0.3
	0.8nm,0.6s,baz=74,slow=9.6,SNR=16						
ARCES	**ARCESS Array B**	**118.19**	**346**	PKP	PKPdf	20 08 58.2	-0.3
	1.0nm,0.8s,baz=63,slow=2.0,SNR=4.7						
FINES	**FINESS Array B**	**123.76**	**339**	PKP	PKPdf	20 09 09.2	-0.1
	0.9nm,0.8s,baz=37,slow=1.7,SNR=3.3						

*IDC **30** 19:59:52.8±1.6, 38°.64N×29°.20W, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/27, mbtmp3.7/5, MS3.3/12, Ms1 3.3/12, ms1mx3.1/28, Error ellipse: s-maj=48.2km s-min=30.4km az=34.0*
*PDA **30** 19:59:55.5±1.1, 38°.76N×28°.99W, h9km±7km, MD3.9, ML4.5, Error ellipse: s-maj=8.7km s-min=4.9km az=56.0*

ISC 30 19:59:56.1±1.2, 38°.78N±0°.05×28°.70W±0°.06, h18km±3km, n35, σ1°30/29, mb3.7/5, MS3.3/12, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.15**	**181**	*i* P	**Pb**	**20 00 00.0**	**+0.5**
PCED				*e*S	**Sg**	**20 00 03.7**	**+0.4**
CALA	**Caldeira**	**0.20**	**181**	*e*P	**Pb**	**20 00 01.0**	**+0.1**
CALA				*e*S	**Sg**	**20 00 04.8**	**+0.3**
HOR	**Horta**	**0.26**	**168**	*i* P	**Pb**	**20 00 02.1**	**0.0**
HOR				*e*S	**Sb**	**20 00 06.6**	**+0.5**
PICO	**Pico**	**0.35**	**143**	*i* P	**Pb**	**20 00 04.8**	**+0.9**
PCAN	**Candelaria**	**0.36**	**152**	*i* P	**Pg**	**20 00 03.2**	**-0.5**
PPNO	**Prainha do Nor**	**0.46**	**132**	*e*P	**Pg**	**20 00 05.8**	**+0.3**
PPNO				*e*S	**Sb**	**20 00 14.0**	**+1.8**
PPNO				A	A	20 00 21.6	
	14μm,0.4s						
PMAN	**Manadas**	**0.50**	**107**	*e*P	**Pb**	**20 00 06.7**	**+0.4**
PMAN				*e*S	**Sn**	**20 00 15.5**	**-1.0**
PMAN				A	A	20 00 32.0	
	9μm,0.5s						
PGRA	**Graciosa**	**0.61**	**66**	*e*P	**Pb**	**20 00 08.5**	**+0.3**
PGRA				*e*S	**Sn**	**20 00 18.6**	**-0.7**
PGRA				A	A	20 00 37.5	
	3μm,0.5s						
ADH	**Angra Heroismo**	**1.15**	**96**	*e*P	**Pn**	**20 00 16.3**	**-1.0**
ADH				*e*S	**Sb**	**20 00 31.8**	**-0.2**
ADH				A	A	20 00 34.5	
	2μm,0.3s						
PSET	**Sete Cidades**	**2.53**	**111**	*e*P	**Pn**	**20 00 35.1**	**-1.2**
PSET				*e*S	**Sn**	**20 01 05.0**	**-1.6**
PSET				A	A	20 01 10.1	
	492nm,0.5s						
PDA	**Ponta Delgada**	**2.60**	**112**	*e*P	**Pn**	**20 00 36.5**	**-0.7**
PDA				*e*S	**Sn**	**20 01 06.5**	**-1.8**
PDA				A	A	20 01 09.8	
	268nm,0.2s						
BART	**Pico Bartolome**	**2.95**	**109**	*e*P	**Pn**	**20 00 41.6**	**-0.5**
BART				*e*S	**Sn**	**20 01 15.1**	**-2.0**
BART				A	A	20 01 26.0	
	264nm,0.4s						
PSMA	**Santa Maria**	**3.34**	**121**	*i* P	**Pn**	**20 00 45.9**	**-1.5**
PSMA				A	A	20 01 25.2	
	336nm,0.2s						
PSMN	**Pico do Norte,**	**3.38**	**121**	*e*P	**Pn**	**20 00 46.3**	**-1.6**
PSMN				A	A	20 01 27.9	
	153nm,0.3s						
BORG	**Borgarnes**	**26.37**	**7**	LR	LR	20 13 05.9	
	comp=Z,82nm,21.6s,baz=193,slow=30						
NOA	**NORSAR Array B**	**33.21**	**35**	LR	LR	20 19 11.9	
	comp=Z,42nm,18.6s,baz=240,slow=35						
JMIC	**Jan Mayen**	**33.93**	**12**	LR	LR	20 17 09.2	
	comp=Z,19nm,18.9s,baz=179,slow=30						
HFS	**Hagfors**	**34.01**	**37**	LR	LR	20 19 19.7	
	comp=Z,33nm,18.2s,baz=269,slow=34						
TORD	**Torodi Ar. Bea**	**37.09**	**125**	P	**P**	**20 07 06.9**	**+1.5**
	0.5nm,0.8s,baz=319,slow=9.1,SNR=3.7						
FINES	**FINESS Array B**	**40.21**	**37**	LR	LR	20 23 12.2	
	comp=Z,50nm,18.9s,baz=286,slow=34						
AKASG	**Malin Array Be**	**41.81**	**54**	LR	LR	20 25 14.6	
	comp=Z,25nm,18.7s,baz=185,slow=36						
ARCES	**ARCESS Array B**	**41.87**	**25**	LR	LR	20 22 08.2	
	comp=Z,32nm,20.6s,baz=242,slow=32						
H10N2	**ASCENSION HYDR**	**48.22**	**161**	T	T	20 59 37.1	
	baz=345,slow=75,SNR=109						
H10N3	**ASCENSION HYDR**	**48.23**	**161**	T	T	20 59 36.7	
	baz=345,slow=75,SNR=80						
H10N1	**ASCENSION HYDR**	**48.23**	**161**	T	T	20 59 34.3	
	baz=345,slow=75,SNR=64						
H10S1	**ASCENSION HYDR**	**49.24**	**162**	T	T	21 00 54.2	
	baz=345,slow=75,SNR=24						
H10S3	**ASCENSION HYDR**	**49.25**	**162**	T	T	21 00 54.2	
	baz=345,slow=75,SNR=45						
H10S2	**ASCENSION HYDR**	**49.26**

SMG	Samos	0.75	183	P	Pb	21 15 39.8	-0.1		
SMG				eSn	Sb	21 15 50.9	+0.7		
SMG				S	Sb	21 15 51.6	+1.4		
GCAM	G?zelcaml?	0.81	160	i P	Pb	21 15 40.8	0.0		
GCAM				i S	Sb	21 15 52.2	+0.5		
GCAM	G?zelcaml?	0.81	160	i P	Pb	21 15 40.8	0.0		
GCAM				i S	Sb	21 15 52.2	+0.5		
AKS	Akhisar	0.83	60	ePG	Pg	21 15 40.6	-0.2		
AKS	Akhisar	0.83	60	ePg	Pg	21 15 40.6	-0.2		
AKHS	Akhisar	0.83	60	i P	Pg	21 15 40.7	-0.1		
AKHS				i S	Sb	21 15 52.6	+0.1		
AKHS	Akhisar	0.83	60	i P	Pg	21 15 40.7	-0.1		
AKHS				i S	Sb	21 15 52.6	+0.1		
AYVA	Ayvalik	0.86	349	i P	Pg	21 15 40.9	-0.5		
AYVA				i S	Sn	21 15 54.6	-0.8		
AYVA	Ayvalik	0.86	349	i P	Pg	21 15 40.9	-0.5		
AYVA				i S	Sn	21 15 54.6	-0.8		
PRK	Paraskevi	0.92	328	P	Pg	21 15 42.3	-0.3		
PRK				S	Sn	21 15 56.4	-0.5		
PRK	Paraskevi	0.92	328	ePN	Pg	21 15 42.2	-0.3		
PRK				eSN	Sg	21 15 54.4	-0.2		
PRK	Paraskevi	0.92	328	P	Pg	21 15 42.3	-0.3		
PRK				eSn	Sg	21 15 54.4	-0.2		
PRK				S	Sn	21 15 56.4	-0.5		
AYDB	Zeytinkoy-Aydi	0.94	123	ePG	Pg	21 15 43.1	+0.2		
AYDB	Zeytinkoy-Aydi	0.94	123	ePg	Pg	21 15 43.1	+0.2		
SIGR	SIGRI	1.10	313	ePN	Pg	21 15 46.0	0.0		
SIGR	SIGRI	1.10	313	P	Pb	21 15 45.5	-0.3		
SIGR				S	Sn	21 16 01.3	-0.1		
SIGR	SIGRI	1.10	313	ePN	Pb	21 15 45.6	-0.3		
SIGR				eSN	Sg	21 16 00.2	-0.2		
SIGR	SIGRI	1.10	313	P	Pb	21 15 45.5	-0.3		
SIGR	SIGRI	1.10	313	ePn	Pg	21 15 46.0	0.0		
SIGR				eSn	Sg	21 16 00.2	-0.2		
SIGR				S	Sn	21 16 01.3	-0.1		
AYDN	Tasoluk	1.11	135	i P	Pn	21 15 47.0	+0.6		
AYDN	Tasoluk	1.11	135	i P	Pn	21 15 47.0	+0.6		
KULA	Kula-Manisa	1.39	87	ePN	Pn	21 15 50.5	+0.4		
KULA	Kula-Manisa	1.39	87	P	Pn	21 15 50.3	+0.1		
KULA	Kula-Manisa	1.39	87	ePn	Pn	21 15 50.5	+0.4		
BALY	Balya	1.40	24	i P	Pn	21 15 50.0	-0.2		
BALY	Balya	1.40	24	i P	Pn	21 15 50.0	-0.2		
EZN	Ezine	1.43	342	ePN	Pb	21 15 51.6	+0.1		
EZN	Ezine	1.43	342	ePn	Pb	21 15 51.6	+0.1		
BODT	Bodrum	1.44	167	ePN	Pn	21 15 50.1	-0.6		
BODT	Bodrum	1.44	167	ePn	Pn	21 15 50.2	-0.6		
BDRM	Kayabasi	1.46	162	i P	Pn	21 15 50.9	-0.2		
BDRM	Kayabasi	1.46	162	i P	Pn	21 15 50.9	-0.2		
BOZC	Bozcaada	1.53	335	i S	Sg	21 16 13.3	-0.6		
DEMI	Demirci	1.54	67	i P	Pn	21 15 51.8	-0.5		
DEMI	Demirci	1.54	67	i P	Pn	21 15 51.8	-0.5		
DURS	Dursunbey	1.68	47	i P	Pn	21 15 53.9	-0.2		
DURS	Dursunbey	1.68	47	i P	Pn	21 15 53.9	-0.2		
YER	Yerkesik	1.72	140	ePN	Pn	21 15 54.9	+0.2		
YER	Yerkesik	1.72	140	ePn	Pn	21 15 54.9	+0.2		
APE	Apeiranthos	1.76	218	ePN	Pn	21 15 54.1	-1.1		
APE	Apeiranthos	1.76	218	ePN	Pn	21 15 54.5	-0.8		
APE	Apeiranthos	1.76	218	ePn	Pn	21 15 54.5	-0.8		
DST	Dursunbey	1.76	49	ePN	Pn	21 15 55.9	+0.6		
DST	Dursunbey	1.76	49	ePn	Pn	21 15 55.9	+0.6		
DAT	Datca	1.81	162	ePN	Pn	21 15 55.7	-0.3		
DAT	Datca	1.81	162	ePn	Pn	21 15 55.7	-0.3		
DENT	Denizli	1.83	112	ePN	Pn	21 15 56.5	+0.3		
DENT	Denizli	1.83	112	ePn	Pn	21 15 56.5	+0.3		
DNZL	Cakiroluk	1.86	114	i P	Pn	21 15 57.8	+1.0		
DNZL	Cakiroluk	1.86	114	i P	Pn	21 15 57.8	+1.0		
GADA	Gvkgeada	1.89	336	ePN	Pn	21 15 57.4	+0.4		
GADA	Gvkgeada	1.89	336	ePn	Pn	21 15 57.4	+0.4		
LPK	Lapseki	1.91	357	ePN	Pn	21 15 58.1	+0.8		
LPK	Lapseki	1.91	357	ePn	Pn	21 15 58.1	+0.8		
KRBG	Karabiga-Canak	1.95	9	ePN	Pb	21 15 59.4	-1.0		
KRBG	Karabiga-Canak	1.95	9	ePn	Pb	21 15 59.4	-1.0		
LIA	Limnos Island	1.96	318	P	Pn	21 15 58.2	+0.3		
LIA				S	Sn	21 16 23.0	+0.6		
LIA	Limnos Island	1.96	318	ePB	Pn	21 15 58.2	+0.3		
LIA	Limnos Island	1.96	318	P	Pn	21 15 58.2	+0.3		
LIA				S	Sn	21 16 23.0	+0.6		
GELI	Tayfur-Gelibol	1.96	351	ePN	Pb	21 15 59.4	-1.1		
GELI	Tayfur-Gelibol	1.96	351	ePn	Pb	21 15 59.4	-1.1		
EDC	Edincik	2.03	21	ePN	Pn	21 16 00.2	+1.3		
EDC	Edincik	2.03	21	ePn	Pn	21 16 00.2	+1.3		
KHAL	Karahalli	2.04	92	i P	Sn	21 16 22.3	-2.4		
BNT	Bandirma	2.05	22	ePN	Pb	21 16 01.4	-0.7		
BNT	Bandirma	2.05	22	ePn	Pb	21 16 01.4	-0.7		
KHL	Karahalli	2.07	93	ePN	Pn	21 16 00.0	+0.5		
KHL	Karahalli	2.07	93	ePn	Pn	21 16 00.0	+0.5		
TURN	Turunc	2.09	139	i P	Pn	21 15 59.4	-0.2		
TURN	Turunc	2.09	139	i P	Pn	21 15 59.4	-0.2		
GDZ	Gediz	2.12	72	i P	Pb	21 16 04.3	+1.1		
GDZ	Gediz	2.12	72	i P	Pb	21 16 04.3	+1.1		
KCTX	Karacabey (Bur	2.13	32	ePN	Pn	21 16 01.8	+1.5		
KCTX	Karacabey (Bur	2.13	32	ePn	Pn	21 16 01.8	+1.5		
MRMT	Marmara Adasi	2.21	14	ePN	Pb	21 16 03.7	-1.0		
MRMT	Marmara Adasi	2.21	14	ePn	Pb	21 16 03.7	-1.0		
ERIK	Erikli-Kesan	2.23	353	ePN	Pn	21 16 02.9	+1.3		
ERIK	Erikli-Kesan	2.23	353	ePn	Pn	21 16 02.9	+1.3		
TVSB	Tavsanli	2.23	63	ePN	Pn	21 16 02.9	+1.1		
TVSB	Tavsanli	2.23	63	ePn	Pn	21 16 02.9	+1.1		
RKY	Sarkoy-Tekirda	2.23	6	ePN	Pn	21 16 02.9	+1.1		
RKY	Sarkoy-Tekirda	2.23	6	ePn	Pn	21 16 02.9	+1.1		
SMTH	Samothraki Isl	2.27	333	P	Pn	21 16 02.0	-0.1		
SMTH	Samothraki Isl	2.27	333	ePN	Pn	21 16 02.1	-0.1		
SMTH	Samothraki Isl	2.27	333	ePn	Pn	21 16 02.1	-0.1		
ENEZ	Enez	2.34	346	ePN	Pn	21 16 04.5	+1.3		
ENEZ	Enez	2.34	346	ePn	Pn	21 16 04.5	+1.3		
GOLH	Golhisar	2.44	119	i P	Pb	21 16 07.1	-1.6		
GOLH	Golhisar	2.44	119	i P	Pb	21 16 07.1	-1.6		
ALN	Alexandroupoli	2.52	345	ePN	Pn	21 16 07.1	+1.5		
ALN	Alexandroupoli	2.52	345	P	Pn	21 16 05.8	+0.2		
ALN	Alexandroupoli	2.52	345	ePN	Pn	21 16 04.7	-0.9		
ALN	Alexandroupoli	2.52	345	P	Pn	21 16 05.8	+0.2		
ALN	Alexandroupoli	2.52	345	ePn	Pn	21 16 07.1	+1.5		
ALT	Altintas	2.58	76	ePN	Pn	21 16 08.0	+1.4		
ALT	Altintas	2.58	76	ePn	Pn	21 16 08.0	+1.4		
ARMT	Armutlu	2.59	35	ePN	Pn	21 16 07.6	+0.9		
ARMT	Armutlu	2.59	35	ePn	Pn	21 16 07.6	+0.9		
GEMT	Gemlik	2.65	41	ePN	Pn	21 16 07.5	0.0		
GEMT	Gemlik	2.65	41	ePn	Pn	21 16 07.5	0.0		
IZI	Iznik	2.74	46	ePN	Pn	21 16 10.8	+2.0		
IZI	Iznik	2.74	46	ePn	Pn	21 16 10.8	+2.0		
RDO	Rodhopi	2.88	339	ePN	Pn	21 16 10.5	-0.1		
RDO	Rodhopi	2.88	339	ePn	Pn	21 16 10.5	-0.1		
OUR	Ouranopolis	2.93	311	ePN	Pn	21 16 11.2	-0.1		
OUR	Ouranopolis	2.93	311	ePn	Pn	21 16 11.2	-0.1		
SLVT	Silivri	2.94	20	ePN	Pn	21 16 13.9	+2.4		
SLVT	Silivri	2.94	20	ePn	Pn	21 16 13.9	+2.4		
CTKS	Kestanelik-??a	3.04	24	ePN	Pn	21 16 15.5	+2.7		
CTKS	Kestanelik-??a	3.04	24	ePn	Pn	21 16 15.5	+2.7		
DID	Didima	3.04	253	ePN	Pn	21 16 13.3	+0.4		
DID	Didima	3.04	253	ePn	Pn	21 16 13.3	+0.4		
BGKT	Bogazkoy	3.08	27	ePN	Pn	21 16 15.9	+2.6		
BGKT	Bogazkoy	3.08	27	ePn	Pn	21 16 15.9	+2.6		
KLYT	Kilyos	3.24	30	ePN	Pn	21 16 18.2	+2.7		
KLYT	Kilyos	3.24	30	ePn	Pn	21 16 18.2	+2.7		
EDRB	Edirne	3.38	358	ePN	Pn	21 16 19.5	+2.0		
EDRB	Edirne	3.38	358	ePn	Pn	21 16 19.5	+2.0		
GULT	Gulveren	3.42	54	ePN	Pn	21 16 20.6	+2.4		
GULT	Gulveren	3.42	54	ePn	Pn	21 16 20.6	+2.4		
GUR	Goura	3.62	263	ePN	Pn	21 16 22.4	+1.5		
GUR	Goura	3.62	263	ePn	Pn	21 16 22.4	+1.5		
NVR	Nevrokopi	3.71	322	ePN	Pn	21 16 22.3	+0.2		
NVR	Nevrokopi	3.71	322	ePn	Pn	21 16 22.3	+0.2		
THL	Klokotos Trika	3.96	288	ePN	Pn	21 16 26.1	+0.7		
THL	Klokotos Trika	3.96	288	ePn	Pn	21 16 26.1	+0.7		

IDC 30 21:18:45.3±2.4, 17°.14N×121°.87W, h0km, mb3.5/7, mb1 4.0/7, mb1mx3.8/20, mbtmp3.6/7, MS3.1/5, Ms1 3.1/5, ms1mx2.8/26, Error ellipse: s-maj=52.6km s-min=30.7km az=64.0, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	La Paz	12.85	55	LR		21 25 15.9	
	comp=Z,64nm,18.2s,baz=210,slow=30						
TXAR	Lajitas Array	20.63	51	P		21 23 26.8	+0.1
	1.7nm,0.9s,baz=216,slow=12,SNR=11						
TXAR				LR		21 30 02.2	
	comp=Z,27nm,20.0s,baz=0.0,slow=33						
NVAR	Mina Array Bea	21.44	8	P		21 23 36.7	+1.3
	0.8nm,0.9s,baz=191,slow=8.3,SNR=3.2						
ANMO	Albuquerque	22.45	35	P	P	21 23 45.8	-0.5
	1.1nm,0.8s,baz=209,slow=8.9,SNR=4.7						
YBH	Yreka Blue Hor	24.52	358	LR	LR	21 31 26.5	
	comp=Z,43nm,18.4s,baz=174,slow=31						
PDAR	Pinedale Array	27.62	20	P	P	21 24 34.1	-0.7
	0.6nm,0.9s,baz=188,slow=6.2,SNR=5.2						
PDAR				LR	LR	21 34 27.6	
	comp=Z,32nm,19.5s,baz=216,slow=34						
YKA	Yellowknife Ar	45.59	5	P	P	21 27 06.9	0.0
	1.5nm,0.8s,baz=185,slow=8.4,SNR=15						
ILAR	Eielson Array	50.51	346	P	P	21 27 44.5	-0.4
	0.9nm,1.1s,baz=154,slow=9.0,SNR=5.5						
RES	Resolute Bay	59.42	8	LR	LR	21 54 19.2	
	comp=Z,36nm,18.1s,baz=348,slow=36						
LPAZ	La Paz	62.52	119	P	P	21 29 12.1	+0.1
	1.1nm,0.8s,baz=302,slow=9.1,SNR=4.0						

*DJA **30** 21:25:19.2±2.9, 14°.N±19°×14°.6E±2°.2, h64km±10km, M5.5/6, mb5.1/6, mB5.5/4, MLv5.9/1, Mw(mB)4.9/4*
*ISCJB **30** 21:25:26.5±0.7, 13°.12N±0°.02×145°.19E±0°.02, h55km±6km, mb5.4/233, MS4.0/34, Error ellipse: s-maj=4.1km s-min=3.4km az=171.2*
*MOS **30** 21:25:27.4±0.9, 13°.08N×145°.15E, h67km, mb5.7/67, MS4.2/11, Error ellipse: s-maj=8.6km s-min=5.2km az=109.0*
*BJI **30** 21:25:27.2, 13°.15N×145°.49E, h79km, mb5.2/65, mB5.0/45, Ms4.4/52, Ms7 4.2/54*
*IDC **30** 21:25:28.8±0.7, 13°.08N×145°.31E, h64km±4km, mb4.9/39, mb1 5.0/41, mb1mx4.9/44, mbtmp5.2/41, MS4.0/25, Ms1 4.0/25, ms1mx3.9/27, Error ellipse: s-maj=11.6km s-min=8.3km az=88.0*
*GCMT **30** 21:25:29.4±0.2, 12°.91N×145°.38E, h54km±2km, MW5.0/80, Moment Tensor Solution. s48,c67; s80,c120; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr2.72±.15; Mθθ-1.90±.13; Mϕϕ-0.81±.14; Mrθ2.98±.11; Mrϕ-1.27±.12; Mθϕ0.93±.10; Best double couple: Mϕ4.14600×10^16^ NP1:ϕ68.00000°, δ70.00000°, λ98.00000°. NP2: ϕ226.00000°, δ22.00000°, λ69.00000°. Principal axes: T 4.1970, Plg64.0000°, Azm352.0000°; N -0.0990, Plg8.0000°, Azm246.0000°; P -4.0960, Plg24.0000°, Azm152.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **30** 21:25:29.4±0.8, 13°.10N×145°.21E, h68km±6km, mb5.3/168 Error ellipse: s-maj=4.3km s-min=3.2km az=120.0*
NEIC Felt [III] at Barrigada and Tamuning; [II] at Andersen AFB, Santa Rita and Yigo. Felt throughout Guam.

ISC 30 21:25:30.1±0.3, 13°.13N±0°.04×145°.27E±0°.04, h78km±2km, n690, σ1§26/770, mb5.3/238, 82C-85D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam	0.60	319	P	Pn	21 25 43.3	-1.4
	19μm,0.3s,baz=94,slow=5.1						
GUMO				S	Sn	21 25 55.0	-0.3
	15μm,0.3s,baz=18,slow=20,SNR=48						
CBI	Chichi jima	14.19	349	ePn	Pn	21 28 47.5	+0.2
CBIJ	Chichi jima	14.19	349	ePn	Pn	21 28 47.5	+0.1
JCJ	Chichijima	14.19	349	P	Pn	21 28 47.5	+0.1
	15nm,0.3s,baz=276,slow=20,SNR=6.8						
JAY	Jayapura	16.19	197	P	P	21 29 16.2	+1.3
	59nm,1.2s						
SMPI	Sarmi	16.37	204	P	P	21 29 18.2	+1.4
	77nm,1.1s,2μm						
GENI	Genyem	16.42	198	P	Pn	21 29 15.3	-0.6
SIJI	Sorong	19.66	226	P	P	21 29 53.8	+0.8
	0.8nm,0.3s,baz=30,slow=11,SNR=15						
SIJI				LR	LR	21 36 27.2	
	comp=Z,517nm,21.5s,baz=38,slow=34						
JHJ2	Mitsune	20.50	347	eP	P	21 30 00.4	-1.5
	525nm,1.1s						
FAKI	Fak Fak	20.53	220	P	Pn	21 30 03.9	-1.4
	129nm,1.1s,1μm						
FAKI	Fak Fak	20.53	220	eP	Pn	21 30 03.9	-1.4
	128nm,1.0s						
JOW	Kunigami	20.96	313	P	P	21 30 07.6	+0.6
	6.8nm,0.5s,baz=141,slow=11,SNR=20						
JOW				LR	LR	21 36 52.0	
	comp=Z,54nm,19.5s,baz=118,slow=32						
JOW	Kunigami	20.96	313	eP	P	21 30 08.3	+1.3
	88nm,0.6s						
H11S3	WAKE ISLAND Hy	21.27	73	T	T	21 52 03.1	
	baz=268,slow=74,SNR=6.9						
H11S1	WAKE ISLAND Hy	21.29	73	T	T	21 52 03.6	
	baz=268,SNR=8.1						
H11S2	WAKE ISLAND Hy	21.29	73	T	T	21 52 01.3	
	baz=268,slow=74,SNR=5.4						
CTBH	Cotabato--PC H	21.50	256	i P	P	21 30 13.3	+0.4
TNTI	Ternate	21.57	237	P	P	21 30 16.5	+2.9
	57nm,0.9s,1μm						
TNTI	Ternate	21.57	237	eP	P	21 30 15.5	+1.9
	38nm,0.8s						
H11N1	WAKE ISLAND Hy	21.73	70	T	T	21 53 06.8	
	baz=257,slow=75,SNR=13						
H11N2	WAKE ISLAND Hy	21.74	70	T	T	21 53 09.9	
	baz=257,slow=75,SNR=22						
H11N3	WAKE ISLAND Hy	21.75	70	T	T	21 53 07.8	
	baz=257,slow=75,SNR=18						
PMG	Port Moresby	22.47	175	d iP	P	21 30 20.6	-2.5
PMG				pmax	pmax		
	comp=Z,451nm,1.3s						
PMG				MLR	MLR		
	comp=Z,1μm,20.0s						
PMG	Port Moresby	22.47	175	eP	P	21 30 18.9	-4.2
	comp=Z,83nm,0.9s						
TGY	Tagaytay City	23.67	275	P	P	21 30 35.5	+0.5
	comp=Z,157nm,0.5s,baz=84,slow=6.0,SNR=7.1						
JNU	Nakatsue	23.85	329	P	P	21 30 36.4	+0.1
	comp=Z,34nm,0.6s,baz=108,slow=1.6,SNR=38						
JNU				LR	LR	21 39 38.0	
	comp=Z,119nm,18.6s,baz=146,slow=36						
JNU	Nakatsue	23.85	329	eP	P	21 30 36.0	-0.4
	comp=Z,77nm,0.8s						
MJAR	Matsuhiro Arr	24.16	346	P	P	21 30 37.5	-1.6
	comp=Z,30nm,0.9s,baz=168,slow=9.7,SNR=68						
MJAR				PcP	PcP	21 34 19.1	+0.9
	comp=Z,3.5nm,0.7s,baz=170,slow=3.7,SNR=4.9						
MJAR				LR	LR	21 39 15.0	
	comp=Z,744nm,22.0s,baz=170,slow=34						
MAJO	Matsushiro	24.16	346	d iP	P	21 30 37.9	-1.2
MAJO				pmax	pmax		
	comp=Z,267nm,1.0s						
MAJO				MLR	MLR		
	comp=Z,2μm,21.0s						
MAJO	Matsushiro	24.16	346	eP	P	21 30 38.4	-0.7
	comp=Z,44nm,0.6s						
MAJO				ePcP	PcP	21 34 19.1	+0.9
MAT	Matsushiro	24.16	346	P	P	21 30 37.6	-1.5
MAT				S	S	21 34 53.3	+1.6
SANI	Sanana	24.37	233	P	P	21 30 43.8	+2.7
KMSI	Cibinong	24.51	241	P	P	21 30 45.0	+2.5
YULB	Yu-li	24.91	298	eP	P	21 30 46.0	-0.1
	comp=Z,65nm,1.0s						
TWG	Pinlang	24.92	296	eP	P	21 30 45.1	-1.1
	comp=Z,952nm,1.9s						
NACB	Ninganchiao	24.94	300	eP	P	21 30 45.3	-1.0
	comp=Z,30nm,1.0s						
YHNB	Yeheng	25.31	300	eP	P	21 30 51.0	+1.2
	comp=Z,37nm,1.0s						
SSLB	Suanglung	25.34	298	eP	P	21 30 50.0	0.0
	comp=Z,60nm,0.6s						
MRSI	Marisa	26.32	243	P	P	21 30 59.8	+0.9
LUWI	Luwuk	26.39	239	P	P	21 30 59.7	+0.2
LUWI	Luwuk	26.39	239	eP	P	21 30 59.5	0.0
	comp=Z,132nm,0.9s						
COEN	Coen	26.99	184	eP	P	21 31 04.3	-0.6
	comp=Z,55nm,0.9s						
TOLI	Toli-Toli	27.02	246	eP	P	21 31 04.2	-1.0
	comp=Z,64nm,0.8s						
MPSI	Mapaga	28.18	245	P	P	21 31 15.6	+0.1
TJN	Taejon	28.19	328	‖eP	P	21 31 15.9	+0.5
KSRS	Korea Array	28.76	330	P	P	21 31 19.7	-0.7
	comp=Z,8.8nm,0.4s,baz=150,slow=9.3,SNR=46						
KSRS				PcP	PcP	21 34 30.6	+1.7
	comp=Z,5.4nm,0.8s,baz=161,slow=2.5,SNR=15						
KS15	Wonju Array Si	28.77	330	eP	P	21 31 19.7	-0.8
KS15				ePcP	PcP	21 34 30.6	+1.7
KS01	Wonju Array Si	28.79	330	eP	P	21 31 19.4	-1.3
KS01				ePcP	PcP	21 34 30.5	+1.6
PCI	Palu	28.82	243	P	P	21 31 23.4	+2.1
ERM	Erimo	28.84	357	eP	P	21 31 18.4	-2.7
ERM				pmax	pmax		
	comp=Z,20nm,1.1s						
ERM	Erimo	28.84	357	eP	P	21 31 18.4	-2.7
	comp=Z,20nm,1.1s						
KKM	Kota Kinabalu	29.48	259	⇑P	P	21 31 29.0	+1.7
KKM	Kota Kinabalu	29.48	259	eP	P	21 31 27.0	-0.2
	comp=Z,17nm,0.9s						
NJ2	Nanjing	30.68	312	eP	P	21 31 38.8	+1.3
NJ2				pP	pP	21 31 57.0	+1.3
NJ2				sP	sP	21 32 03.0	-1.8
NJ2				S	S	21 36 37.5	+2.9
NJ2				sS	sS	21 37 06.5	+0.6
NJ2				PMZ			
	comp=Z,30nm,0.6s						
NJ2				PMZ			
	comp=Z,460nm,6.7s						
NJ2				LN			
	comp=Z,550nm,22.0s						
NJ2				LE			
	comp=Z,700nm,23.6s						
NJ2				LZ			
	comp=Z,820nm,24.8s						
SOEI	Soe	30.86	224	eP	P	21 31 39.0	-0.4
	comp=Z,48nm,0.8s						
ASAJ	Asahikawa	30.96	356	eP	P	21 31 39.3	-0.6
	comp=Z,65nm,1.8s						
KAPI	Kappang	31.11	236	P	P	21 31 41.7	+0.3
	comp=Z,4.5nm,0.6s,baz=94,slow=4.9,SNR=5.5						
USRK	Ussuriysk Ar.	32.99	342	P	P	21 31 57.5	-0.1
	comp=Z,7.4nm,0.6s,baz=159,slow=9.0,SNR=39						
USRK				PcP	PcP	21 34 41.4	+1.5
	comp=Z,1.7nm,0.6s,baz=197,slow=5.8,SNR=5.9						
CTA	Charters Tower	33.02	178	P	P	21 31 57.8	-0.3
	comp=Z,14nm,0.8s,baz=354,slow=11,SNR=16						
CTAO	Charters Tower	33.02	178	eP	P	21 31 57.6	-0.6
CTAO				pmax	pmax		
	comp=Z,21nm,0.9s						
CTAO	Charters Tower	33.02	178	eP	P	21 31 57.6	-0.6
	comp=Z,21nm,0.9s						
DL2	Dalian	33.13	325	P	P	21 31 59.8	+0.9
DL2				sP	sP	21 32 28.5	+2.3
DL2				S	S	21 37 13.0	+0.4
DL2				PMZ			
	comp=Z,170nm,0.8s						
DL2				PMZ			
	comp=Z,100nm,4.7s						
BTM	Bintulu	33.31	256	⇓P	P	21 32 02.4	+1.5
WHN	Wuhan	33.37	306	⇓iP	P	21 32 01.5	+0.4
WHN				S	S	21 37 16.0	-0.6
WHN				PMZ			
	comp=Z,48nm,1.2s						
WHN				LZ			
	comp=Z,830nm,23.2s						
MDJ	Mudanjiang	34.12	340	P	P	21 32 06.8	-0.7
MDJ				pP	pP	21 32 23.5	-2.3
MDJ				S	S	21 37 27.3	-0.6
MDJ				PMZ			
	comp=Z,11nm,0.8s						
MDJ				PMZ			
	comp=Z,29nm,2.9s						
MDJ				LN			
	comp=Z,240nm,26.1s						
MDJ				LE			
	comp=Z,220nm,22.4s						
MDJ				LZ			
	comp=Z,420nm,25.2s						
MDJ	Mudanjiang	34.12	340	eP	P	21 32 07.8	+0.4
	comp=Z,22nm,1.3s						
MDJ				ePcP	PcP	21 34 44.5	+1.3
TIA	Tai'an	34.16	317	⇓P	P	21 32 08.5	+0.5
TIA				S	S	21 37 37.5	+8.7
TIA				PMZ			
	comp=Z,20nm,0.9s						
TIA				LN			
	comp=Z,290nm,21.9s						
TIA				LE			
	comp=Z,460nm,23.0s						
TIA				LZ			
	comp=Z,550nm,18.2s						
SNY	Shenyang	34.26	331	⇓P	P	21 32 09.3	+0.6
SNY				pP	pP	21 32 24.0	-3.1
SNY				S	S	21 37 34.5	+4.4
SNY				PMZ			
	comp=Z,12nm,0.5s						
SNY				PMZ			
	comp=Z,90nm,4.8s						
SNY				LN			
	comp=Z,150nm,12.2s						
SNY				LE			
	comp=Z,230nm,21.1s						
SNY				LZ			
	comp=Z,300nm,27.3s						
SBUM	Sibu	34.37	255	⇓P	P	21 32 11.3	+1.2
SBUM	Sibu	34.37	255	eP	P	21 32 11.0	+0.9
	comp=Z,38nm,0.8s						
QIZ	Qiongzhong	34.50	284	P	P	21 32 12.0	+0.9
QIZ				pP	pP	21 32 27.5	-2.0
QIZ				S	S	21 37 35.5	+1.1
QIZ				sS	sS	21 38 04.5	-1.5
QIZ				PMZ			
	comp=Z

BJI LZ
comp=Z,240nm,19.8s
comp=Z,430nm,34.0s
ENH Enshi 37.17 303 *e*P **P** **21 32 33.0 -0.8**
comp=Z,18nm,1.3s
ENH *e*PcP **PcP** **21 34 54.2 +1.6**
AS01 Alice Springs 38.21 197 *e*P **P** **21 32 41.5 -1.1**
AS12 Alice Springs 38.22 197 *e*P **P** **21 32 42.1 -0.6**
AS12 *e*PP **PP** **21 34 09.6 -2.1**
ASAR Alice Springs 38.22 197 P **P** **21 32 42.1 -0.6**
comp=Z,8.4nm,0.7s,baz=19,slow=10,SNR=65
ASAR PP **PP** **21 34 09.6 -2.1**
comp=Z,5.6nm,0.9s,baz=18,slow=11,SNR=4.9
ASAR LR LR 21 48 29.1
comp=Z,281nm,21.9s,baz=358,slow=36
GYA Guiyang 38.52 296 ⇑*i*P **P** **21 32 45.8 +0.5**
GYA pP **pP** **21 33 04.3 +0.3**
GYA sP **sP** **21 33 14.0 +1.1**
GYA PP **PnPn** **21 34 19.5 +2.0**
GYA PcP **PcP** **21 34 58.8 +1.9**
GYA S **S** **21 38 36.5 +0.8**
GYA sS **sS** **21 39 08.0 +0.5**
GYA SS **SS** **21 41 19.3 -9.0**
GYA PMZ
comp=Z,30nm,0.8s
GYA PMZ
comp=Z,140nm,4.8s
GYA LN
comp=Z,720nm,17.4s
GYA LE
comp=Z,520nm,18.2s
GYA LZ
comp=Z,640nm,17.9s
EIDS Eidsvold 38.68 172 *e*P **P** **21 32 45.6 -0.8**
comp=Z,13nm,0.8s
XAN Xi'an 38.99 309 P **P** **21 32 48.5 -0.6**
XAN S **S** **21 38 44.0 +1.6**
XAN PMZ
comp=Z,38nm,0.5s
XAN LN
comp=Z,88nm,21.2s
XAN LE
comp=Z,77nm,23.6s
XAN LZ
comp=Z,72nm,20.0s
UGM Wanagama 40.35 241 *e*P **P** **21 33 01.5 +0.8**
comp=Z,217nm,1.1s
HHC Hu-ho-hao-te 40.37 319 ⇓P **P** **21 33 01.5 +0.9**
HHC pP **pP** **21 33 18.5 -0.8**
HHC sP **sP** **21 33 29.8 +1.5**
HHC PP **PP** **21 34 35.8 +0.9**
HHC S **S** **21 39 05.8 +2.7**
HHC sS **sS** **21 39 38.3 +3.1**
HHC PMZ
comp=Z,35nm,1.1s
HHC PMZ
comp=Z,66nm,5.0s
HHC LN
comp=Z,1μm,21.2s
HHC LE
comp=Z,1μm,18.7s
HHC LZ
comp=Z,1μm,22.4s
DZM Mont Dzumac 40.68 149 *e*P **P** **21 33 03.0 -0.3**
comp=Z,147nm,1.1s
DZM *e*S **S** **21 39 10.1 +2.1**
comp=Z,130nm,32.5s
DZM *e*LR LR 21 44 19.7
comp=Z,833nm,26.9s
DZM Mont Dzumac 40.68 149 P **P** **21 33 03.0 -0.3**
comp=Z,63nm,1.0s,baz=270,slow=20,SNR=35
PEA0 Petropavlovsk- 41.09 11 *e*P **P** **21 33 05.7 -0.5**
PETK Petropavlovsk- 41.09 11 P **P** **21 33 05.7 -0.5**
comp=Z,7.1nm,0.7s,baz=184,slow=10.0,SNR=10
PETK PcP **PcP** **21 35 04.2 -0.2**
comp=Z,8.9nm,0.7s,baz=169,slow=8.3,SNR=8.5
PETK LR LR 21 47 38.6
comp=Z,112nm,21.4s,baz=198,slow=32
PEA2 Petropavlovsk- 41.09 11 *e*P **P** **21 33 05.7 -0.5**
PEA2 *e*PcP **PcP** **21 35 04.2 -0.2**
PET Petropavlovsk 41.20 12 *e*P P 21 33 12.6 +5.6
PET MLR MLR
comp=Z,200nm,21.0s
HIA Hailar 41.72 335 *e*P **P** **21 33 11.4 -0.1**
HIA pmax pmax
comp=Z,35nm,0.8s
HIA Hailar 41.72 335 *e*P **P** **21 33 11.3 -0.1**
comp=Z,35nm,0.8s
KMI Kunming 41.75 293 P **P** **21 33 13.3 +1.0**
KMI pP **pP** **21 33 32.8 +1.7**
KMI sP **sP** **21 33 42.8 +2.8**
KMI PcP **PcP** **21 35 09.0 +1.5**
KMI S **S** **21 39 26.0 +1.8**
KMI SS **SS** **21 42 30.8 -1.9**
KMI PMZ
comp=Z,20nm,1.0s
KMI PMZ
comp=Z,64nm,6.3s
KMI LN
comp=Z,140nm,23.6s
KMI LE
comp=Z,210nm,21.6s
KMI LZ
comp=Z,300nm,25.7s
CD2 Chengdu 42.07 302 *e*P **P** **21 33 14.5 -0.1**
CD2 pP **pP** **21 33 33.3 -0.1**
CD2 sP **sP** **21 33 42.5 +0.2**
CD2 PP **PP** **21 34 56.5 +3.2**
CD2 PcS **PcS** **21 38 59.5 -0.6**
CD2 S **S** **21 39 28.0 -0.4**
CD2 sS **sS** **21 40 00.0 -0.6**
CD2 SS **SS** **21 42 31.8 -6.7**
CD2 PMZ
comp=Z,40nm,0.5s
CD2 PMZ
comp=Z,230nm,7.8s
CD2 LN
comp=Z,390nm,15.6s
CD2 LE
comp=Z,290nm,20.5s
CD2 LZ
comp=Z,300nm,25.0s
MBWA Marble Bar 42.32 217 *e*P **P** **21 33 16.0 -0.5**
comp=Z,21nm,1.0s
LEM Lembang 42.34 244 P **P** **21 33 17.4 +0.3**
comp=Z,34nm,0.8s,baz=24,slow=2.9,SNR=8.5
CISI Cisompet, Garu 42.51 243 *e*P **P** **21 33 16.7 -1.6**
comp=Z,40nm,0.8s
MYKOM Kota Tinggi 42.51 258 ⇓P **P** **21 33 19.1 +0.8**
MYKOM Kota Tinggi 42.51 258 *e*P **P** **21 33 19.0 +0.7**
comp=Z,67nm,0.8s
LZH Lanzhou 43.61 309 P **P** **21 33 28.0 +0.9**
LZH pP **pP** **21 33 46.3 +0.2**
LZH sP **sP** **21 33 57.0 +2.0**
LZH S **S** **21 39 50.0 -1.2**
LZH sS **sS** **21 40 23.3 -0.2**
LZH SS SS 21 43 00.3 -8.5
LZH PMZ
comp=Z,29nm,1.0s
LZH PMZ
comp=Z,94nm,4.0s
LZH LN
comp=Z,140nm,13.4s
LZH LE
comp=Z,110nm,15.2s
LZH LZ
comp=Z,240nm,16.2s
ARMA Armidale 43.73 172 *e*P **P** **21 33 27.5 -0.4**
comp=Z,28nm,0.9s
IPM Ipoh 44.50 263 ⇑P **P** **21 33 35.6 +1.3**
IPM Ipoh 44.50 263 *e*P **P** **21 33 34.9 +0.6**
comp=Z,13nm,0.8s
MSVF Nonsavu 44.58 133 *e*P **P** **21 33 33.3 -1.6**
MSVF pmax pmax
comp=Z,36nm,0.8s
MSVF Nonsavu 44.58 133 *e*P **P** **21 33 33.3 -1.6**
comp=Z,36nm,0.8s
KULM Kulim 44.67 264 *e*P **P** **21 33 36.9 +1.2**
comp=Z,20nm,0.8s
CM01 Chiang Mai Arr 44.79 283 *e*P **P** **21 33 36.6 0.0**
CHTO Chiang Mai 44.80 284 *e*P **P** **21 33 36.8 +0.1**
CHTO pmax pmax
comp=Z,10.0nm,0.8s
CHTO Chiang Mai 44.80 284 *e*P **P** **21 33 36.8 +0.1**
comp=Z,10nm,0.8s
CM31 Chiang Mai Arr 44.80 283 *e*P **P** **21 33 37.5 +0.8**
CM31 *e*PcP **PcP** **21 35 19.6 +2.0**
CMAR Chiang Mai Arr 44.80 283 P **P** **21 33 37.5 +0.8**
comp=Z,32nm,0.7s,baz=84,slow=6.2,SNR=194
CMAR PcP **PcP** **21 35 19.6 +2.0**
comp=Z,9.3nm,0.7s,baz=94,slow=1.9,SNR=16
CMAR LR LR 21 50 24.1
comp=Z,185nm,21.5s,baz=98,slow=33
CMAR Chiang Mai Arr 44.80 283 *i*P **P** **21 33 37.5 +0.8**
CMAR pmax pmax
comp=Z,34nm,0.7s
STKA Stephens Creek 44.89 184 P **P** **21 33 35.9 -1.1**
comp=Z,20nm,0.6s,baz=356,slow=7.4,SNR=54
STKA LR LR 21 53 05.0
comp=Z,303nm,18.8s,baz=18,slow=37
STKA Stephens Creek 44.89 184 *e*P **P** **21 33 36.0 -1.1**
STKA Stephens Creek 44.89 184 *e*P **P** **21 33 36.0 -1.1**
comp=Z,4.6nm,0.7s
MNAI Manna 45.47 250 *e*P **P** **21 33 40.9 -1.1**
comp=Z,924nm,1.7s
SMY Shemya 45.72 24 *e*P **P** **21 33 44.5 +1.2**
SMY Shemya 45.72 24 *e*P **P** **21 33 44.5 +1.2**
XMIS Christmas Isla 45.79 241 *e*P **P** **21 33 42.8 -1.7**
comp=Z,111nm,0.7s
CLNS Chul'man 46.33 345 *e*P **P** **21 33 46.5 -1.7**
CLNS pmax pmax
comp=Z,18nm,0.8s
CLNS pmax pmax
comp=N,14nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,0.9s
BBOO Buckleboo 46.52 191 *e*P **P** **21 33 49.4 -0.5**
comp=E,57nm,0.8s
FORT Forrest 46.69 200 *e*P **P** **21 33 51.3 +0.1**
comp=E,24nm,0.8s
PSI Prapat 46.95 261 P **P** **21 33 53.8 0.0**
comp=E,21nm,0.7s,baz=68,slow=4.0,SNR=25
PSI PcP **PcP** **21 35 25.8 +0.5**
comp=E,7.1nm,0.8s,baz=165,slow=3.2,SNR=4.5
ULN Ulaanbaatar 46.98 325 P P 21 33 59.5 +5.9
SNR=31
ULN Ulaanbaatar 46.98 325 mb 21 34 00.5
SNR=56
AMKA Amchitka 47.01 29 *e*P **P** **21 33 54.5 +1.0**
AMKA *e*PcP **PcP** **21 35 25.2 +0.6**
SONA0 Songino Array 47.33 325 *e*P **P** **21 33 56.9 +0.6**
SONA0 *e*PcP **PcP** **21 35 26.6 +0.6**
SONM Songino Array 47.33 325 P **P** **21 33 56.9 +0.6**
comp=E,27nm,0.8s,baz=138,slow=7.4,SNR=207
SONM PcP **PcP** **21 35 26.6 +0.6**
comp=E,6.4nm,0.6s,baz=150,slow=4.0,SNR=7.9
SONM LR LR 21 54 14.2
comp=E,252nm,20.9s,baz=134,slow=36
SONA1 Songino Array 47.33 325 *e*P **P** **21 33 56.8 +0.5**
SONA1 *e*ScP **ScP** **21 39 15.7 +2.4**
GTA Gaotai 47.77 312 *e*P **P** **21 34 00.3 +0.5**
GTA pP **pP** **21 34 18.5 -0.5**
GTA sP **sP** **21 34 25.5 -2.3**
GTA PcP **PcP** **21 35 29.5 +1.7**
GTA S **S** **21 40 50.0 -0.8**
GTA sS **sS** **21 41 22.3 -1.2**
GTA SS **SS** **21 44 13.8 -6.3**
GTA PMZ
comp=E,14nm,0.9s
GTA PMZ
comp=E,29nm,5.5s
GTA LN
comp=E,150nm,17.1s
GTA LE
comp=E,140nm,17.8s
GTA LZ
comp=E,230nm,23.5s
GSI Gunungsitoli 48.65 260 *e*P **P** **21 34 05.2 -1.6**
comp=E,39nm,0.6s
ADK Adak 49.26 30 *e*P **P** **21 34 11.8 +1.0**
ADK pmax pmax
comp=Z,165nm,1.4s
ADK Adak 49.26 30 *e*P **P** **21 34 11.8 +1.0**
comp=Z,165nm,1.4s
IMP Imphal 49.66 291 *ex* **P** **21 34 13.0 -1.5**
GSTR Great Sitkin T 49.69 30 *e*P **P** **21 34 14.6 +0.4**
SEY Seymchan 49.99 4 LR LR 21 53 20.4
comp=Z,72nm,21.6s,baz=198,slow=33
SEY Seymchan 49.99 4 ⇓*i*P **P** **21 34 15.7 -0.5**
YAK Yakutsk 50.10 350 *e*P **P** **21 34 15.4 -1.6**
YAK *e* 21 35 35.3
YAK *e* 21 36 08.0
YAK *e*S **S** **21 41 20.0 -2.4**
YAK *e**SS sS 21 41 35.2 -20
YAK *e* 21 44 05.7
YAK pmax pmax
comp=E,10.0nm,1.5s
YAK pmax pmax
comp=Z,106nm,1.1s
YAK pmax pmax
comp=N,39nm,1.2s
YAK pmax pmax
comp=Z,10.0nm,0.6s
YAK smax smax
comp=N,5.0nm,1.4s
YAK smax smax
comp=E,5.0nm,1.3s
YAK MLR MLR
comp=E,80nm,18.0s
YAK MLR MLR
comp=Z,142nm,18.0s
YAK MLR MLR
comp=N,99nm,19.0s
YAK Yakutsk 50.10 350 *e*P **P** **21 34 15.0 -2.0**
comp=N,83nm,0.7s
ZAK Zakamensk 50.44 326 ⇑*i*P **P** **21 34 20.3 +0.4**
ZAK pmax pmax
comp=Z,41nm,1.0s
BOD Bodaibo 50.48 339 *e*P **P** **21 34 19.5 -0.5**
BOD pmax pmax
comp=Z,14nm,1.4s
ATKA Atka Island 50.68 31 *e*P **P** **21 34 22.6 +1.0**
comp=Z,21nm,0.7s
IRK Irkutsk 50.94 329 *e*P **P** **21 34 23.0 -0.6**
IRK pmax pmax
comp=Z,69nm,1.4s
TLY Talaya 50.95 328 P **P** **21 34 24.6 +0.9**
comp=Z,312nm,0.8s,SNR=20
TLY Talaya 50.95 328 *e*P **P** **21 34 24.1 +0.4**
TLY *e*S S 21 41 26.7 -8.0
TLY pmax pmax
comp=Z,86nm,1.4s
TLY MLR MLR
comp=Z,91nm,17.0s
TLY Talaya 50.95 328 P **P** **21 34 24.5 +0.8**
SNR=28
TLY Talaya 50.95 328 mb 21 34 25.6
SNR=46
TLY Talaya 50.95 328 *e*P **P** **21 34 24.3 +0.6**
comp=Z,49nm,0.9s
SHL Shillong 51.56 292 *e*P **P** **21 34 28.6 -0.3**
SHL *ex* x 21 39 05.0
MOY Mondy 52.34 327 *e*P **P** **21 34 35.1 +0.9**
MOY pmax pmax
comp=Z,54nm,1.7s
LSA Lhasa 52.55 297 *e*P **P** **21 34 37.5 +1.0**
LSA pmax pmax
comp=Z,24nm,0.8s
LSA Lhasa 52.55 297 *e*P **P** **21 34 37.5 +1.0**
comp=Z,24nm,0.8s
NIKH Nikolski High 53.85 33 *e*P **P** **21 34 45.6 +0.5**
comp=Z,117nm,1.2s
OUZ Omahuta 55.07 152 *e*P **P** **21 34 56.2 +2.1**
comp=Z,9.3nm,0.9s
TAPN Taplejung 55.39 294 *e*P **P** **21 34 57.1 0.0**
comp=Z,66nm,0.8s
SPIA Saint Paul Isl 55.40 28 *e*P **P** **21 34 57.3 +1.1**
comp=Z,144nm,0.6s
UNV Unalaska Valle 55.50 32 *e*P **P** **21 34 57.0 +0.1**
comp=Z,32nm,0.8s
ODAN Odare 55.66 294 *e*P **P** **21 34 58.7 -0.2**
comp=Z,68nm,0.9s
TAU Tasmania Unive 55.80 178 *e*P **P** **21 34 58.0 -1.1**
TAU pmax pmax
comp=Z,668nm,2.7s
TAU Tasmania Unive 55.80 178 *e*P **P** **21 34 58.0 -1.1**
comp=Z,668nm,2.7s
AKUT Akutan 56.02 32 *e*P **P** **21 35 00.9 +0.3**
comp=Z,90nm,1.0s
RAMN Ramite 56.37 294 *e*P **P** **21 35 03.9 -0.1**
comp=Z,88nm,1.0s
BILL Bilibino 56.55 9 *e*P **P** **21 35 03.1 -1.1**
BILL pmax pmax
comp=Z,27nm,0.8s
BILL Bilibino 56.55 9 *e*P **P** **21 35 03.1 -1.1**
comp=Z,27nm,0.8s
JIRN Jiri 56.76 295 *e*P **P** **21 35 06.9 0.0**
comp=Z,61nm,0.7s
BOK Bokaro 56.98 290 *e*P **P** **21 35 08.8 +0.7**
BOK AMB AMB 21 35 09.9
comp=Z,67nm,0.8s
GUN Gumba 57.04 295 *e*P **P** **21 35 09.0 +0.1**
comp=Z,153nm,1.0s
PKI Pulchoki 57.45 294 *e*P **P** **21 35 11.1 -0.6**
PKIN Phulchoki 57.46 294 *e*P **P** **21 35 11.8 +0.1**
KKN Kakani 57.57 295 *e*P **P** **21 35 12.2 -0.2**
comp=Z,57nm,0.9s
DMN Daman 57.72 294 *e*P **P** **21 35 13.3 -0.2**
comp=Z,82nm,1.0s
WMQ Urumqi 57.74 314 P **P** **21 35 14.0 +0.8**
WMQ pP **pP** **21 35 33.5 +0.6**
WMQ sP **sP** **21 35 42.0 +0.4**
WMQ PcP **PcP** **21 36 06.0 +0.8**
WMQ PP **PP** **21 37 23.8 +2.0**
WMQ PcS **PcS** **21 40 05.5 -1.0**
WMQ S **S** **21 43 05.0 -1.3**
WMQ sS **sS** **21 43 38.3 -1.6**
WMQ ScS **ScS** **21 44 53.5 -2.2**
WMQ SS **SS** **21 46 57.5 -0.3**
WMQ PMZ
comp=Z,18nm,0.9s
WMQ PMZ
comp=Z,160nm,3.6s
WMQ LN
comp=Z,110nm,21.6s
WMQ LE
comp=Z,180nm,23.8s
WMQ LZ
comp=Z,210nm,25.4s
GKN Gorkha 58.14 295 *e*P **P** **21 35 16.1 -0.3**
comp=Z,128nm,1.0s
GAMB Gambell 58.76 21 *e*P **P** **21 35 20.1 +0.4**
comp=Z,30nm,1.2s
CHLP Challavanipeta 58.91 284 *e*P **P** **21 35 21.7 +0.1**
CHLP IAmb IAmb 21 35 23.5
comp=Z,83nm,0.7s
KOLN Koldanda 59.05 295 *e*P **P** **21 35 22.6 -0.2**
comp=Z,69nm,0.8s
URZ Urewera 59.18 151 P **P** **21 35 21.2 -1.8**
comp=Z,11nm,0.6s,baz=294,slow=3.9,SNR=6.1
URZ Urewera 59.18 151 *e*P **P** **21 35 22.6 -0.4**
SDPT Sand Point 59.31 33 *e*P **P** **21 35 24.0 +0.3**
comp=Z,143nm,0.8s
TIXI Tiksi 59.33 354 ⇑*i*P **P** **21 35 21.8 -1.8**
TIXI pmax pmax
comp=Z,4.0nm,1.5s
TIXI Tiksi 59.33 354 *e*P **P** **21 35 21.4 -2.2**
comp=Z,5.7nm,0.7s
BKZ Black Stump Fm 59.62 152 *e*P **P** **21 35 25.3 -0.9**
comp=Z,143nm,2.0s
VIS Vishakhapatnam 59.67 283 *e*P **P** **21 35 27.8 +0.9**
VIS AMB AMB 21 35 29.0
comp=Z,46nm,0.9s
SNZO South Karori 60.61 155 *e*P **P** **21 35 31.9 -0.8**
comp=Z,379nm,1.5s
BFZ Birch Farm 60.75 153 *e*P **P** **21 35 33.0 -0.8**
comp=Z,173nm,1.5s
KHZ Kahutara 61.08 156 *e*P **P** **21 35 34.4 -1.5**
comp=Z,40nm,0.9s
TNA Tin City 61.14 20 *e*P **P** **21 35 36.9 +0.9**
comp=Z,18nm,1.0s
RPZ Rata Peaks 61.27 159 P **P** **21 35 35.8 -1.5**
comp=Z,38nm,0.7s,baz=345,slow=1.6,SNR=11
RPZ Rata Peaks 61.27 159 *e*P **P** **21 35 36.6 -0.6**
DCZ Deep Cove 61.60 163 *e*P **P** **21 35 39.0 -0.3**
comp=Z,26nm,0.9s
MK01 Makanchi Array 62.08 316 *e*P **P** **21 35 42.8 0.0**
MK32 Makanchi Array 62.09 316 *e*P **P** **21 35 43.5 +0.6**
MKAR Makanchi Array 62.09 316 P **P** **21 35 43.5 +0.6**
comp=Z,5.9nm,0.3s,baz=91,slow=8.9,SNR=83
MKAR LR LR 22 03 42.7
comp=Z,52nm,19.4s,baz=92,slow=37
MKAR PKP2ab 22 05 11.0
comp=Z,0.9nm,1.0s,baz=240,slow=3.6,SNR=4.2
MKAR Makanchi Array 62.09 316 *i*P **P** **21 35 43.7 +0.8**
MKAR pmax pmax
comp=Z,6.0nm,0.3s
MKAR Makanchi Array 62.09 316 *e*P **P** **21 35 43.4 +0.5**
WHZ Wether Hill Ro 62.21 162 *e*P **P** **21 35 43.0 -0.5**
comp=Z,16nm,0.7s
ZAA0 Zalesovo Array 62.22 324 *e*P **P** **21 35 43.1 -0.4**
ZALV Zalesovo Beam 62.22 324 P **P** **21 35 43.6 0.0**
comp=Z,21nm,0.6s,baz=107,slow=6.3,SNR=91
ZALV LR LR 22 02 15.0
comp=Z,150nm,21.2s,baz=70,slow=35
ZALV Zalesovo Beam 62.22 324 *i*P **P** **21 35 43.7 +0.1**
ZALV pmax pmax
comp=Z,21nm,0.6s
ZAA1 Zalesovo Array 62.23 324 *e*P **P** **21 35 43.6 0.0**
NVS Novosibirsk 63.36 325 ⇑*i*P **P** **21 35 49.9 -1.2**
NVS *e* 21 36 10.7
NVS pmax pmax
comp=Z,116nm,1.1s
NVS pmax pmax
comp=N,36nm,1.3s
NVS pmax pmax
comp=E,80nm,1.3s
RPR Rampur 63.38 285 *e*P **P** **21 35 52.2 +0.3**
RPR IAmb IAmb 21 35 52.8
comp=Z,63nm,1.3s
NGP Nagpur 63.41 287 *e*P **P** **21 35 52.0 0.0**
NGP AMB AMB 21 35 53.2
comp=Z,24nm,0.9s
SKHT Srikalahasti 63.58 279 *e*P **P** **21 35 53.6 +0.4**
SKHT IAmb IAmb 21 35 54.8
comp=Z,62nm,1.0s
NJS Nagarjunasagar 63.61 282 *e*P **P** **21 35 53.8 +0.4**
NJS IAmb IAmb 21 35 54.6
comp=Z,76nm,0.8s
PALK Pallekele 63.68 272 *e*P **P** **21 35 54.4 +0.4**
PALK pmax pmax
comp=Z,71nm,1.9s
PALK Pallekele 63.68 272 *e*P **P** **21 35 54.4 +0.4**
comp=Z,71nm,1.9s
OHAK Old Harbor 63.72 32 *e*P **P** **21 35 54.1 +0.7**
comp=Z,51nm,0.9s
SVW2 Sparrevohn 63.90 28 *e*P **P** **21 35 55.5 +0.9**
DDI Dehra Dun 63.92 297 *e*P **P** **21 35 55.4 0.0**
DDI AMB AMB 21 35 56.8
comp=Z,45nm,0.5s
HYB Hyderabad 64.23 283 *i*P **P** **21 35 57.0 -0.5**
HYB Hyderabad 64.23 283 *e*P **P** **21 35 57.7 +0.2**
HYB AMB AMB 21 35 58.3
comp=Z,66nm,1.1s
HYBB Hyderabad (bro 64.23 283 *e*P **P** **21 35 57.7 +0.2**
HYBB IAmb IAmb 21 35 58.4
comp=Z,74nm,0.7s
KDAK Kodiak Island 64.25 32 P **P** **21 35 57.0 +0.1**
comp=Z,247nm,1.0s,SNR=13
KDAK Kodiak Island 64.25 32 *e*P **P** **21 35 57.7 +0.8**
KDAK pmax pmax
comp=Z,86nm,1.4s
KDAK Kodiak Island 64.25 32 *e*P **P** **21 35 57.7 +0.8**
comp=Z,86nm,1.4s
SMLA Simla 64.68 298 *e*P **P** **21 35 59.8 -0.4**
SMLA AMB AMB 21 36 00.7
comp=Z,26nm,0.9s
BHPL Bhopal 64.76 290 *e*P **P** **21 35 59.9 -1.1**
BHPL AMB AMB 21 36 01.9
comp=Z,14nm,0.6s
RSO Redoubt South 64.98 29 *e*P **P** **21 36 02.2 +0.3**
KURK Kurchatov 65.19 320 P **P** **21 36 03.4 +0.3**
comp=Z,366nm,0.9s,SNR=24
KURK Kurchatov 65.19 320 *e*P **P** **21 36 03.2 +0.1**
KURK pmax pmax
comp=Z,96nm,0.9s
KURK Kurchatov 65.19 320 P **P** **21 36 03.3 +0.3**
SNR=38
KURK Kurchatov 65.19 320 *e*P **P** **21 36 03.2 +0.1**
comp=Z,96nm,0.9s
AKL Akola 65.34 287 *e*P **P** **21 36 05.0 +0.3**
AKL AMB AMB 21 36 06.8
comp=Z,35nm,1.1s
DHRM DHARAMSHALA 65.41 300 *e*P **P** **21 36 04.5 -0.7**
SPU Mount Spurr 65.53 28 *e*P **P** **21 36 05.2 -0.1**
BRLK Bradley Lake 65.67 30 *e*P **P** **21 36 06.0 -0.1**
comp=Z,66nm,0.6s
URV Uravakonda 65.77 281 *e*P **P** **21 36 06.6 -0.9**

URV IAmb IAmb 21 36 08.2
comp=Z,46nm,0.9s
KSH Kashi 65.83 308 P **P** **21 36 10.3 +2.6**
KSH pP **pP** **21 36 30.0 +2.1**
KSH PP PP 21 38 38.8 +5.4
KSH PcS 21 40 43.5
KSH S **S** **21 44 50.5 +1.7**
KSH sS **sS** **21 45 24.5 +1.4**
KSH PMZ
comp=Z,55nm,3.9s
KSH LN
comp=Z,110nm,5.4s
KSH LE
comp=Z,100nm,5.0s
KSH LZ
comp=Z,170nm,9.2s
PPLA Purkeypile 66.02 26 *e*P **P** **21 36 09.2 +0.7**
comp=Z,79nm,0.8s
CAST Castle Rocks 66.24 26 *e*P **P** **21 36 10.7 +1.0**
comp=Z,27nm,0.8s
TKM2 Tokmak 2 66.31 311 *e*P **P** **21 36 11.6 +0.8**
TKM2 pmax pmax
comp=Z,6.0nm,0.8s
TKM2 Tokmak 2 66.31 311 *e*P **P** **21 36 11.6 +0.8**
comp=Z,6.1nm,0.8s
IM04 Indian Mountai 66.44 23 *e*P **P** **21 36 11.0 +0.1**
SEW Seward 66.46 30 *e*P **P** **21 36 11.6 +0.5**
comp=Z,80nm,0.7s
RC01 Rabbit Creek A 66.58 29 *e*P **P** **21 36 11.8 -0.1**
comp=Z,98nm,0.8s
KTH Katshna Hill 66.77 26 *e*P **P** **21 36 13.7 +0.5**
comp=Z,51nm,1.0s
BPAW Bear Paw Mtn. 66.92 25 *e*P **P** **21 36 14.2 +0.2**
comp=Z,18nm,0.8s
PMR Palmer 67.00 28 *e*P **P** **21 36 14.1 -0.4**
PMR pmax pmax
comp=Z,71nm,0.8s
PMR Palmer 67.00 28 *e*P **P** **21 36 14.1 -0.4**
comp=Z,71nm,0.8s
TRF Thorofare Moun 67.01 26 *e*P **P** **21 36 14.1 -0.8**
comp=Z,86nm,1.0s
AAK Ala-Archa 67.11 311 ⇓*i*P **P** **21 36 16.7 +0.9**
AAK Ala-Archa 67.11 311 *e*P **P** **21 36 16.4 +0.5**
comp=Z,7.4nm,0.9s
MLY Manley 67.31 24 *e*P **P** **21 36 16.9 +0.3**
comp=Z,94nm,0.8s
BWN Browne 67.57 25 *e*P **P** **21 36 18.6 +0.5**
comp=Z,218nm,0.9s
RND Reindeer 67.62 26 *e*P **P** **21 36 17.9 -0.6**
RND pmax pmax
comp=Z,73nm,1.0s
RND Reindeer 67.62 26 *e*P **P** **21 36 17.9 -0.6**
comp=Z,73nm,1.0s
EKS2 Erkin-Say 67.64 311 *e*P **P** **21 36 19.8 +0.7**
EKS2 pmax pmax
comp=Z,10.0nm,0.9s
EKS2 Erkin-Say 67.64 311 *e*P **P** **21 36 19.8 +0.7**
comp=Z,9.8nm,0.9s
MCK McKinley 67.67 26 *e*P **P** **21 36 18.6 -0.2**
MCK pmax pmax
comp=Z,97nm,1.4s
MCK McKinley 67.67 26 *e*P **P** **21 36 18.6 -0.2**
comp=Z,97nm,1.4s
MID Middleton Isla 67.83 31 *e*P **P** **21 36 21.3 +1.6**
MID pmax pmax
comp=Z,109nm,0.9s
MID Middleton Isla 67.83 31 *e*P **P** **21 36 21.3 +1.6**
comp=Z,109nm,0.9s
SCM Sheep Creek Mo 67.89 28 *e*P **P** **21 36 20.8 +0.5**
SCM pmax pmax
comp=Z,201nm,1.0s
SCM Sheep Creek Mo 67.89 28 *e*P **P** **21 36 20.8 +0.5**
comp=Z,201nm,1.0s
COLD Coldfoot 68.22 22 *e*P **P** **21 36 23.0 +0.9**
comp=Z,75nm,0.8s
WRH Wood River Hil 68.23 25 *e*P **P** **21 36 21.5 -0.7**
comp=Z,88nm,0.8s
MDM Murphy Dome 68.31 25 *e*P **P** **21 36 22.5 -0.3**
comp=Z,65nm,0.8s
CCB Clear Creek Bu 68.40 25 *e*P **P** **21 36 22.8 -0.5**
comp=Z,84nm,1.2s
COLA College 68.44 25*d i*P **P** **21 36 23.3 -0.2**
COLA pmax pmax
comp=Z,163nm,1.1s
COLA College 68.44 25 *e*P **P** **21 36 23.5 0.0**
comp=Z,45nm,0.7s
DIV Divide 68.46 29 *e*P **P** **21 36 24.6 +0.8**
comp=Z,76nm,1.0s
POO Poona 68.55 285 *e*P **P** **21 36 24.6 -0.6**
POO AMB AMB 21 36 25.8
comp=Z,82nm,1.1s
HDA Harding Lake 68.69 26 *e*P **P** **21 36 24.4 -0.7**
comp=Z,60nm,0.8s
IL1 Eielson Array 68.81 25 *e*P **P** **21 36 24.3 -1.5**
ILAR Eielson Array 68.81 25 P **P** **21 36 24.8 -1.1**
comp=Z,40nm,0.5s,baz=250,slow=6.0,SNR=666
ILAR LR LR 22 04 30.4
comp=Z,157nm,21.2s,baz=273,slow=34
ILB Eielson Array 68.81 25 *e*P **P** **21 36 24.8 -1.1**
RAGM Ragged Mountai 68.84 30 *e*P **P** **21 36 27.0 +0.8**
comp=Z,109nm,1.4s
BMRM Bremner River 68.98 29 *e*P **P** **21 36 28.0 +0.9**
comp=Z,78nm,0.9s
PAX Paxson 69.00 27 *e*P **P** **21 36 27.9 +0.7**
PAX pmax pmax
comp=Z,67nm,0.9s
PAX Paxson 69.00 27 *e*P **P** **21 36 27.9 +0.7**
comp=Z,68nm,0.9s
DOT Dot Lake 69.76 27 *e*P **P** **21 36 31.9 +0.1**
comp=Z,96nm,0.8s
SCRK Sand Creek 69.86 26 *e*P **P** **21 36 32.5 -0.1**
comp=Z,49nm,0.8s
FYU Fort Yukon 69.92 24 *e*P **P** **21 36 33.9 +1.3**
comp=Z,254nm,1.2s
KKAR Karatay Array 70.05 311 *e*P **P** **21 36 34.0 0.0**
KKAR Karatay Array 70.05 311 *e*P **P** **21 36 34.0 0.0**
BVAR Borovoye Array 70.53 322 P **P** **21 36 37.1 +0.5**
comp=Z,38nm,0.5s,baz=101,slow=7.7,SNR=266
BRVK Borovoye 70.59 322 P **P** **21 36 37.7 +0.6**
comp=Z,509nm,0.8s,SNR=28
BRVK Borovoye 70.59 322*d i*P **P** **21 36 37.3 +0.3**
BRVK pmax pmax
comp=Z,51nm,1.0s
BRVK Borovoye 70.59 322 P **P** **21 36 37.6 +0.6**
SNR=30
BRVK Borovoye 70.59 322 *e*P **P** **21 36 37.4 +0.4**
comp=Z,70nm,0.8s
PPT Papeete 71.17 114 LR LR 21 59 39.7
comp=Z,230nm,20.9s,baz=320,slow=29
PPT2 Papeete2 71.17 114 *e*S **S** **21 45 51.3 -1.3**
comp=Z,94nm,25.8s
PPT2 Papeete2 71.17 114 *e*LR LR 21 58 18.7
comp=Z,517nm,25.8s
EGAK Eagle 71.21 26 *e*P **P** **21 36 40.8 +0.2**
comp=Z,57nm,0.7s
KBL Kabul 71.41 302 *e*P **P** **21 36 42.3 -0.3**
KBL pmax pmax
comp=Z,13nm,0.8s
KBL Kabul 71.41 302 *e*P **P** **21 36 42.3 -0.3**
comp=Z,13nm,0.8s
PMOR Pomariorio Ree 71.80 111 *e*T T 22 55 09.0
comp=Z,5.4nm,0.4s
DAWY Dawson 71.87 27 *e*P **P** **21 36 45.5 +0.9**
HYT Haines Junctio 72.40 30 *e*P **P** **21 36 49.3 +1.4**
TBI Tubuai 73.40 119 *e*LR LR 21 58 54.2
comp=Z,318nm,32.5s
TBI Tubuai 73.40 119 *e*T T 22 57 12.0
comp=Z,5.2nm,0.3s
SKAG Skagway 73.41 32 *e*P **P** **21 36 54.8 +1.1**
comp=Z,65nm,1.0s
WRAK Wrangell Islan 74.96 35 *e*P **P** **21 37 04.3 +1.5**
comp=Z,61nm,1.0s
DLBC Dease Lake 76.15 33 P **P** **21 37 11.2 +1.5**
comp=Z,75nm,0.9s,baz=282,slow=4.6,SNR=118
DLBC Dease Lake 76.15 33 *e*P **P** **21 37 11.4 +1.7**
SVE Sverdlovsk 76.19 326*d i*P **P** **21 37 10.2 +0.3**
SVE pmax pmax
comp=Z,93nm,1.1s
SVE MLR MLR
comp=Z,216nm,22.0s
ABKAR Akbulak array 77.14 318 *e*P **P** **21 37 15.8 +0.4**
ARU Arti 77.37 325 P **P** **21 37 16.8 +0.3**
comp=Z,351nm,0.8s,SNR=26
ARU Arti 77.37 325*c i*P **P** **21 37 16.3 -0.2**
ARU 21 40 07.8
ARU S **S** **21 47 06.5 +5.9**
ARU SS **SS** **21 51 56.3 -3.8**

ARU pmax pmax
comp=Z,62nm,1.0s
ARU Arti 77.37 325 *e*P **P** **21 37 16.5 0.0**
comp=Z,51nm,0.9s
BBB Bella Bella 77.68 39 P **P** **21 37 19.3 +1.0**
comp=Z,18nm,1.0s,baz=272,slow=8.3,SNR=4.1
SOKR Solikamsk 78.03 329*c i*P **P** **21 37 20.5 +0.5**
SOKR pmax pmax
comp=Z,80nm,0.9s
IDAH Dahanechah 79.21 301 *e*P **P** **21 37 28.4 +1.0**
IAKL Akhelmad 79.53 305 *e*P **P** **21 37 30.6 +1.4**
ITEG Tejag 80.11 302 *e*P **P** **21 37 33.4 +1.1**
ISHV Shirvan 80.23 306 *e*P **P** **21 37 33.9 +1.1**
NLWA Neilton Lookou 81.04 43 *e*P **P** **21 37 38.5 +1.7**
comp=Z,40nm,1.0s
PGC Sidney 81.11 42 *e*P **P** **21 37 37.6 +0.6**
comp=Z,19nm,0.8s
F03A Seaside 81.50 45 *e*P **P** **21 37 41.1 +1.9**
comp=Z,70nm,1.0s
KBO Bosley Butte 81.68 49 *e*P **P** **21 37 39.4 -0.9**
comp=Z,48nm,1.5s
RNO Roman Nose 81.73 47 *e*P **P** **21 37 42.0 +1.5**
G03D McMinnville, O 81.83 46 ⇓P **P** **21 37 42.3 +1.4**
baz=82
F04D Rainier, OR 81.85 45 ⇑P **P** **21 37 42.5 +1.5**
baz=82
COR Corvallis 81.92 46 *e*P P 21 37 44.6 +3.3
COR pmax pmax
comp=Z,74nm,1.3s
COR Corvallis 81.92 46 *e*P P 21 37 44.6 +3.3
comp=Z,74nm,1.3s
PIER Pier 30 Seattl 82.03 43 *e*P **P** **21 37 40.9 -0.9**
I03D Drain, OR 82.05 47 ⇑P **P** **21 37 43.4 +1.4**
baz=82
L02D Cave Junction, 82.14 49 ⇑P **P** **21 37 44.2 +1.6**
baz=82
FL2 Flat Top 2 82.28 44 P **P** **21 37 45.1 +1.7**
KHMM Horse Mountain 82.28 50 *e*P **P** **21 37 45.8 +2.2**
comp=Z,28nm,1.0s
F04A Amboy 82.28 45 *e*P **P** **21 37 44.6 +1.4**
comp=Z,32nm,0.9s
D05A Enumclaw 82.34 43 *e*P **P** **21 37 45.8 +2.3**
comp=Z,31nm,1.0s
TDL Tradedollar La 82.34 44 P **P** **21 37 45.3 +1.5**
HUMO Hull Mountain 82.53 48 *e*P **P** **21 37 46.4 +1.7**
comp=Z,14nm,0.8s
KCPM Cahto Peak 82.61 51 *e*P **P** **21 37 46.3 +1.0**
comp=Z,29nm,1.2s
H04A Detroit Lake 82.68 46 *e*P **P** **21 37 46.5 +1.1**
comp=Z,20nm,0.6s
WPW White Pass 82.73 44 *e*P **P** **21 37 46.9 +1.2**
M02C Callahan 82.83 49 ⇑P **P** **21 37 47.6 +1.2**
baz=83
YBH Yreka Blue Hor 82.88 49 P **P** **21 37 48.0 +1.4**
comp=Z,11nm,0.9s,baz=273,slow=1.8,SNR=19
YBH LR LR 22 06 58.4
comp=Z,130nm,21.8s,baz=254,slow=30
YBH Yreka Blue Hor 82.88 49 *e*P **P** **21 37 48.4 +1.8**
YBH pmax pmax
comp=Z,15nm,0.8s
YBH Yreka Blue Hor 82.88 49 *e*P **P** **21 37 48.4 +1.8**
comp=Z,15nm,0.8s
HOQ Hoqain 83.02 293 P **P** **21 37 48.4 +0.8**
SNR=11
J04D Umpqua Nationa 83.02 47 ⇑P **P** **21 37 48.0 +0.6**
baz=83
N02D Trinity Center 83.03 50 ⇓P **P** **21 37 48.7 +1.3**
baz=83
VBEM Beaver Butte 83.03 45 P **P** **21 37 48.1 +0.7**
YKA Yellowknife Ar 83.08 27 P **P** **21 37 47.4 +0.3**
comp=Z,40nm,0.7s,baz=287,slow=5.4,SNR=289
YKB5 Yellowknife Ar 83.08 27 *e*P **P** **21 37 47.4 +0.3**
PRGR Permogore 83.09 332 ⇑*i*P **P** **21 37 47.2 +0.1**
PRGR pmax pmax
comp=Z,189nm,0.8s
G05D Wamic, OR 83.18 45 ⇓P **P** **21 37 48.5 +0.6**
baz=83
LTY Liberty 83.20 43 *e*P **P** **21 37 49.0 +0.9**
comp=Z,11nm,0.8s
WDC Whiskeytown Da 83.22 50 *e*P **P** **21 37 49.8 +1.5**
WDC pmax pmax
comp=Z,14nm,1.0s
WDC Whiskeytown Da 83.22 50 *e*P **P** **21 37 49.8 +1.5**
comp=Z,14nm,1.0s
CASY Casey 83.26 193 *e*P **P** **21 37 48.5 +0.8**
comp=Z,24nm,1.4s
I05D Terrebonne, OR 83.34 46 ⇑P **P** **21 37 49.5 +0.6**
baz=83
ETW Entiat 83.36 43 *e*P **P** **21 37 50.0 +1.0**
K04D Chiloquin, OR 83.40 48 ⇓P **P** **21 37 50.2 +0.9**
baz=83
BANOM Banah 83.46 295 ⇑P **P** **21 37 50.3 +0.4**
SNR=5.5
M04C Macdoel 83.50 49 ⇑P **P** **21 37 51.1 +1.2**
baz=84
J05D Fort Rock, OR 83.63 47 ⇓P **P** **21 37 51.1 +0.6**
baz=84
G06A Carlson Farm, 83.65 45 *e*P **P** **21 37 50.8 +0.4**
comp=Z,63nm,2.2s
ALE Alert 83.66 4 P **P** **21 37 50.3 +0.6**
comp=Z,117nm,0.7s,SNR=6.7
ARQ Araqi 83.78 292 P **P** **21 37 52.5 +1.0**
SNR=7.3
HATD Hatta, Dubai 83.83 294 ⇓P **P** **21 37 53.2 +1.5**
SNR=6.1
B08A Colville Reser 83.85 42 *e*P **P** **21 37 52.1 +0.7**
comp=Z,29nm,0.9s
E07A Sunnyside 83.90 44 *e*P P 21 37 55.5 +3.8
ASHO Ashiyiah 83.92 294 ⇓P **P** **21 37 53.8 +1.6**
SNR=9.9
K05A Summer Lake 84.00 48 *e*P **P** **21 37 53.8 +1.4**
comp=Z,24nm,0.6s
HOPEN Hopen 84.02 348 *e*P **P** **21 37 52.7 +1.1**
ISHM Shahmirzad 84.03 305 *e*P **P** **21 37 54.5 +1.6**
HAWA Hanford 84.15 44 *e*P **P** **21 37 54.1 +1.2**
comp=Z,14nm,0.8s
FAQ Al Faqa, Dubai 84.33 294 ⇑P **P** **21 37 54.6 +0.4**
SNR=6.7
ILAS Lasjerd 84.38 305 *e*P **P** **21 37 55.4 +0.8**
D08A Wollman Farm, 84.41 43 *e*P **P** **21 37 55.4 +1.1**
comp=Z,9.9nm,0.6s
OD2 Odessa Site #2 84.48 43 *e*P **P** **21 37 55.4 +0.9**
IFIR Firoozkooh 84.49 305 *e*P **P** **21 37 56.0 +0.9**
SPA0 Spitsbergen Ar 84.56 351 *e*P **P** **21 37 54.6 +0.2**
C09A Chrisman Ranch 84.67 42 *e*P **P** **21 37 56.5 +1.0**
I07A Izee 84.69 46 *e*P **P** **21 37 56.9 +1.1**
comp=Z,8.4nm,0.9s
KBS Kingsbay 84.71 352 *e*P **P** **21 37 55.9 +0.8**
KBS IAmb IAmb 21 37 57.1
comp=Z,40nm,0.9s
KBS Kingsbay 84.71 352 *e*P **P** **21 37 55.8 +0.8**
KBS pmax pmax
comp=Z,38nm,0.9s
KBS Kingsbay 84.71 352 *e*P **P** **21 37 55.8 +0.8**
comp=Z,38nm,0.9s
G08A Pilot Rock 84.79 45 *e*P **P** **21 37 57.3 +1.0**
comp=Z,5.5nm,0.8s
RES Resolute Bay 84.90 13 P **P** **21 37 56.7 +0.6**
comp=Z,23nm,0.8s,baz=316,slow=5.2,SNR=43
RES Resolute Bay 84.90 13 *e*P **P** **21 37 56.3 +0.2**
RES pmax pmax
comp=Z,38nm,1.0s
RES Resolute Bay 84.90 13 *e*P **P** **21 37 56.3 +0.2**
comp=Z,38nm,1.0s
E09A Wood Farm, Sta 85.06 44 *e*P **P** **21 37 58.8 +1.4**
comp=Z,14nm,0.7s
IDMV Damavand 85.08 305 *e*P **P** **21 37 58.9 +0.7**
NEW Newport 85.31 42 P **P** **21 37 59.8 +1.1**
comp=Z,21nm,0.8s,baz=284,slow=3.8,SNR=41
NEW Newport 85.31 42 *e*P **P** **21 37 59.9 +1.1**
NEW pmax pmax
comp=Z,27nm,0.8s
NEW Newport 85.31 42 *e*P **P** **21 37 59.9 +1.1**
comp=Z,27nm,0.8s
NEW Newport 85.31 42 ⇑P **P** **21 37 59.0 +0.3**
baz=85
CMB Columbia Colle 85.39 52 *e*P **P** **21 38 00.6 +1.2**
CMB pmax pmax
comp=Z,14nm,1.1s
CMB Columbia Colle 85.39 52 *e*P **P** **21 38 00.6 +1.2**
comp=Z,14nm,1.1s
IZEF Zefreh 85.42 303 *e*P **P** **21 38 00.9 +1.0**
IVRN Varamin 85.45 305 *e*P **P** **21 38 00.4 +0.7**
LVZ Lovozero 85.46 339 P **P** **21 37 58.0 -1.1**
comp=Z,404nm,1.0s,SNR=10
HSPB Hornsund (broa 85.47 350 *e*P **P** **21 37 59.3 +0.4**

HSPB IAmb IAmb 21 38 00.7
comp=Z,70nm,1.1s
TMCR Tamitsa 85.62 335 *e*P **P** **21 37 59.1 -0.7**
TMCR pmax pmax
comp=Z,145nm,1.3s
WVOR Wild Horse Val 85.69 48 *e*P **P** **21 38 01.7 +0.9**
WVOR pmax pmax
comp=Z,14nm,0.9s
WVOR Wild Horse Val 85.69 48 *e*P **P** **21 38 01.7 +0.9**
comp=Z,14nm,0.9s
F10A Beach Ranch, E 85.81 44 *e*P **P** **21 38 02.3 +1.0**
comp=Z,12nm,0.8s
IKLH Kolahrood 85.94 303 *e*P **P** **21 38 03.3 +0.9**
WAKR Walker 86.02 52 *e*P **P** **21 38 04.2 +1.5**
APA Apatity 86.03 339⇓*i*P **P** **21 38 02.2 +0.4**
APA pmax pmax
comp=Z,108nm,1.2s
APA MLR MLR
comp=Z,100nm,20.0s
BMO Blue Mountains 86.03 45 *e*P **P** **21 38 03.2 +0.7**
BMO pmax pmax
comp=Z,35nm,1.0s
BMO Blue Mountains 86.03 45 *e*P **P** **21 38 03.2 +0.7**
comp=Z,35nm,1.0s
KLMR Klimovskoe 86.14 332 *e*P **P** **21 38 00.4 -2.1**
KLMR *PP **PP** **21 41 20.4 -3.0**
KLMR pmax pmax
comp=Z,41nm,1.1s
KLMR MLR MLR
comp=Z,179nm,21.0s
EDM Edmonton 86.28 36 *e*P **P** **21 38 04.5 +1.0**
EDM Edmonton 86.28 36 *e*P **P** **21 38 04.5 +1.0**
IKAZ Kazeroun 86.51 300 *e*P **P** **21 38 04.3 -1.1**
PKM Mcpherson Peak 86.56 55 ⇑P **P** **21 38 05.8 +0.5**
baz=86
NV01 Mina Array Sit 86.90 51 *e*P **P** **21 38 07.7 +0.7**
NVAR Mina Array Bea 86.90 51 P **P** **21 38 08.1 +1.1**
comp=Z,8.0nm,0.6s,baz=274,slow=5.5,SNR=45
VES Vestal, Richgr 86.92 54 ⇑P **P** **21 38 07.2 +0.3**
baz=87
BSMT Bassoo Peak 86.93 42 *e*P **P** **21 38 08.0 +1.1**
KEV Kevo 87.08 342 *e*P **P** **21 38 07.0 +0.1**
KEV pmax pmax
comp=Z,92nm,1.2s
KEV Kevo 87.08 342 *e*P **P** **21 38 07.0 +0.1**
comp=Z,92nm,1.2s
WALA Waterton Lakes 87.15 40 *e*P **P** **21 38 09.5 +1.6**
comp=Z,20nm,1.0s
BLMT Blacktail Moun 87.16 41 *e*P **P** **21 38 09.3 +1.3**
JTMT Jette 87.28 42 *e*P **P** **21 38 11.1 +2.6**
MFID Camas Ranch 87.43 46 *e*P **P** **21 38 10.7 +1.3**
comp=Z,39nm,0.9s
SWMT Swartz Lake 87.54 42 *e*P **P** **21 38 10.3 +0.6**
ARA0 ARCESS Array S 87.64 342 *e*P **P** **21 38 09.7 0.0**
ARCES ARCESS Array B 87.64 342 P **P** **21 38 09.7 0.0**
comp=Z,60nm,0.9s,baz=69,slow=7.0,SNR=100
ARCES PKiKP **PKiKP** **21 43 11.1 -1.4**
comp=Z,2.1nm,1.0s,baz=0.0,slow=1.3,SNR=5.3
ARCES LR LR 22 21 04.8
comp=Z,42nm,20.0s,baz=60,slow=38
ARE0 ARCESS Array S 87.64 342 *e*P **P** **21 38 09.7 +0.1**
MSO Missoula 87.77 42 *e*P **P** **21 38 11.8 +0.9**
comp=Z,4.7nm,0.9s
MSO *ePP **PP** **21 41 36.5 -0.6**
TPH Tonopah 87.81 52 *e*P **P** **21 38 12.7 +1.3**
TPH pmax pmax
comp=Z,16nm,1.0s
TPH Tonopah 87.81 52 *e*P **P** **21 38 12.7 +1.3**
comp=Z,16nm,1.0s
SLMT Seeley Lake 87.94 42 *e*P **P** **21 38 12.2 +0.5**
DAC Darwin (Calif) 87.98 53 *e*P **P** **21 38 13.4 +1.2**
DAC pmax pmax
comp=Z,10.0nm,1.1s
DAC Darwin (Calif) 87.98 53 *e*P **P** **21 38 13.4 +1.2**
comp=Z,10nm,1.1s
EDW2 Edwards Air Fo 88.02 55 ⇓P **P** **21 38 12.9 +0.7**
baz=88
LRMC Laurel Mtn Rad 88.11 54 ⇑P **P** **21 38 13.2 +0.5**
baz=88,SNR=7.0
MPMC Manual Prospec 88.12 54 ⇓P **P** **21 38 13.3 +0.4**
baz=88,SNR=16
IHRS Heris 88.30 309 *e*P **P** **21 38 13.2 -0.6**
HLID Hailey 88.38 46 ⇑P **P** **21 38 14.7 +0.7**
baz=88
FURC Furnace Creek, 88.50 53 ⇓P **P** **21 38 15.2 +0.8**
baz=88,SNR=5.1
ELK Elko 88.58 49 P **P** **21 38 15.9 +0.9**
comp=Z,16nm,0.7s,baz=274,slow=2.5,SNR=20
ELK Elko 88.58 49 *e*P **P** **21 38 16.6 +1.6**
ELK pmax pmax
comp=Z,15nm,0.6s
ELK Elko 88.58 49 *e*P **P** **21 38 16.6 +1.6**
comp=Z,15nm,0.6s
GSC Goldstone, Bar 88.85 54 *e*P **P** **21 38 17.6 +1.4**
GSC pmax pmax
comp=Z,38nm,1.6s
GSC Goldstone, Bar 88.85 54 *e*P **P** **21 38 17.6 +1.4**
comp=Z,38nm,1.6s
GSC Goldstone, Bar 88.85 54 ⇓P **P** **21 38 16.8 +0.6**
baz=89,SNR=8.5
TPNV Topopah Spring 88.85 52 *e*P **P** **21 38 16.8 +0.5**
TPNV pmax pmax
comp=Z,10.0nm,0.8s
TPNV Topopah Spring 88.85 52 *e*P **P** **21 38 16.8 +0.5**
comp=Z,9.7nm,0.8s
TPNV Topopah Spring 88.85 52 ⇑P **P** **21 38 16.7 +0.4**
baz=89,SNR=18
MOS Moscow 88.91 327 *e*P **P** **21 38 14.5 -1.3**
MOS pmax pmax
comp=Z,71nm,1.0s
R11A Troy Canyon, C 88.98 51 ⇓P **P** **21 38 17.8 +0.9**
baz=89,SNR=6.0
LRM Limekiln Ridge 89.05 43 *e*P **P** **21 38 18.0 +0.9**
MCMT McKenzie Canyo 89.09 44 *e*P **P** **21 38 18.2 +0.9**
DLMT Dillon 89.10 44 *e*P **P** **21 38 18.2 +1.0**
comp=Z,16nm,1.4s
DLMT *ePP **PP** **21 41 48.2 +0.3**
SHOC Shoshone, Teco 89.11 53 ⇑P **P** **21 38 18.2 +0.9**
baz=89
HRY Holter Researc 89.19 42 *e*P **P** **21 38 20.8 +3.2**
IMRD Marand 89.20 310 *e*P **P** **21 38 17.3 -0.6**
GOF Gofitskoye 89.26 316 *e*P **P** **21 38 15.4 -2.4**
GOF pmax pmax
comp=Z,20nm,0.9s
LPSR Galich'ya Gora 89.33 324 *e*P **P** **21 38 17.2 -0.7**
LPSR pmax pmax
comp=Z,120nm,1.6s
LPSR pmax pmax
comp=N,10.0nm,1.3s
LPSR pmax pmax
comp=E,40nm,1.5s
ZEI Tsey 89.35 314 *e*P **P** **21 38 16.7 -1.8**
ZEI pmax pmax
comp=Z,13nm,0.7s
HEC Hector,Ludlow 89.35 54 ⇓P **P** **21 38 20.0 +1.5**
baz=89
NCK Nalchik 89.35 315⇓*i*P **P** **21 38 18.2 -0.1**
TRO Tromso 89.47 344 *e*P **P** **21 38 15.9 -2.3**
TRO IAmb IAmb 21 38 16.3
comp=Z,26nm,0.6s
TUQ Turquoise Moun 89.51 54 ⇑P **P** **21 38 20.3 +0.9**
baz=90,SNR=7.3
PFO Pinyon Flats O 89.58 56 *e*P **P** **21 38 21.1 +1.4**
PFO pmax pmax
comp=Z,8.0nm,1.0s
PFO Pinyon Flats O 89.58 56 *e*P **P** **21 38 21.1 +1.4**
comp=Z,8.2nm,1.0s
PFO Pinyon Flats O 89.58 56 ⇓P **P** **21 38 20.1 +0.4**
baz=90
VSR Storozhevoye 89.69 323 *e*P **P** **21 38 18.1 -1.5**
VSR pmax pmax
comp=N,3.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,50nm,0.8s
VORD Divnogorie 89.70 323 *e*P **P** **21 38 18.1 -1.6**
VORD pmax pmax
comp=N,6.0nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.9s
VORD pmax pmax
comp=Z,30nm,0.9s
OBN Obninsk 89.70 327 P **P** **21 38 19.0 -0.6**
comp=Z,378nm,1.1s,SNR=7.8
OBN Obninsk 89.70 327*c i*P **P** **21 38 18.7 -0.9**

OBN					pmax	pmax			
	comp=Z,49nm,0.8s								
OBN					MLR	MLR			
	comp=Z,178nm,25.0s								
OBN	**Obninsk**	**89.70**	**327**	*eP*		**P**	**21 38 18.0**	**-1.5**
	comp=Z,97nm,1.2s								
KBZ	**Khabaz**	**89.76**	**315**	P		**P**	**21 38 19.9**	**-0.2**
	comp=Z,4.3nm,0.7s,baz=56,slow=12								
KBZ					LR	LR	22 23 19.9		
	comp=Z,83nm,19.9s,baz=327,slow=39								
MONP	**Monument Peak,**	**89.80**	**56**	⇓P		**P**	**21 38 20.5**	**-0.3**
	baz=90								
SHPR	**Sheep Range**	**89.81**	**53**	*eP*		**P**	**21 38 22.3**	**+1.5**
BELC	**Belle Mtn. Jos**	**89.84**	**55**	⇑P		**P**	**21 38 21.0**	**0.0**
	baz=90,SNR=5.9								
KIV	**Kislovodsk**	**89.84**	**315**	P		**P**	**21 38 20.3**	**-0.3**
	comp=Z,109nm,1.0s,SNR=7.5								
KIV	**Kislovodsk**	**89.84**	**315**	*eP*		**P**	**21 38 20.1**	**-0.5**
KIV				*e*			21 48 47.5		
KIV					pmax	pmax			
	comp=Z,20nm,1.1s								
KIV	**Kislovodsk**	**89.84**	**315**	P		**P**	**21 38 19.6**	**-1.0**
	SNR=7.6								
KIV	**Kislovodsk**	**89.84**	**315**	*i* P		**P**	**21 38 20.5**	**-0.1**
	SNR=12								
KIV	**Kislovodsk**	**89.84**	**315**	*eP*		**P**	**21 38 19.8**	**-0.9**
	comp=Z,16nm,0.9s								
GMRC	**Granite Mounta**	**89.90**	**54**	⇓P		**P**	**21 38 21.7**	**+0.5**
	baz=90,SNR=11								
NEY	**Neytrino**	**90.03**	**315**	⇓*i*P		**P**	**21 38 22.3**	**+0.6**
NEY					pmax	pmax			
	comp=Z,2.0nm,0.9s								
QLMT	**Earthquake Lak**	**90.05**	**44**	*eP*		**P**	**21 38 24.1**	**+2.3**
EGMT	**Eagleton**	**90.09**	**40**	*eP*		**P**	**21 38 23.1**	**+1.3**
	comp=Z,43nm,2.0s								
EGMT	**Eagleton**	**90.09**	**40**	⇓P		**P**	**21 38 22.4**	**+0.6**
	baz=90								
IBP	**Imperial Bould**	**90.12**	**57**	⇓P		**P**	**21 38 23.0**	**+0.8**
	baz=90								
YUH	**Yuha Desert**	**90.26**	**56**	*eP*		**P**	**21 38 23.2**	**+0.5**
SWSC	**Sam W. Stewart**	**90.29**	**56**	⇑P		**P**	**21 38 23.1**	**+0.2**
	baz=90								
BC3	**Big Chuckawall**	**90.37**	**55**	⇑P		**P**	**21 38 23.9**	**+0.6**
	baz=90								
A19A	**Klindworth Far**	**90.42**	**39**	⇓P		**P**	**21 38 23.7**	**+0.5**
	baz=90								
B19A	**Brinkman Farms**	**90.45**	**40**	⇓P		**P**	**21 38 24.0**	**+0.7**
	baz=90								
IRM	**Iron Mountain**	**90.47**	**55**	⇑P		**P**	**21 38 24.3**	**+0.6**
	baz=90								
DUG	**Dugway, Tooele**	**90.51**	**49**	⇓P		**P**	**21 38 24.6**	**+0.7**
	baz=90								
C19A	**Slack Wire Ran**	**90.64**	**41**	⇓P		**P**	**21 38 25.0**	**+0.7**
	baz=91,SNR=5.5								
IMW	**Indian Meadow**	**90.68**	**45**	*eP*		**P**	**21 38 26.5**	**+1.6**
	comp=Z,9.8nm,0.8s								
FXWY	**Fox Creek**	**90.70**	**45**	*eP*		**P**	**21 38 26.3**	**+1.4**
	comp=Z,6.5nm,0.5s								
PUL	**Pulkovo**	**90.76**	**333**	⇑*i*P		**P**	**21 38 24.9**	**+0.5**
PUL					pmax	pmax			
	comp=Z,75nm,1.0s								
FLWY	**Flagg Ranch**	**90.78**	**44**	*eP*		**P**	**21 38 27.0**	**+1.8**
	comp=Z,13nm,0.7s								
TPAW	**Teton Pass**	**90.80**	**45**	*eP*		**P**	**21 38 27.0**	**+1.6**
	comp=Z,13nm,1.4s								
MOOW	**Moose Ponds**	**90.86**	**45**	*eP*		**P**	**21 38 27.0**	**+1.4**
	comp=Z,6.3nm,0.8s								
A20A	**Cobblestone Ra**	**90.94**	**39**	⇑P		**P**	**21 38 26.0**	**+0.4**
	baz=91								
D19A	**Cripps Ranch,**	**90.95**	**41**	⇓P		**P**	**21 38 26.2**	**+0.5**
	baz=91,SNR=5.9								
VNDA	**Vanda**	**90.99**	**176**	LR		LR	22 17 43.3		
	comp=Z,28nm,19.0s,baz=334,slow=34								
GLA	**Glamis**	**91.04**	**56**	⇓P		**P**	**21 38 27.3**	**+0.9**
	baz=91								
Y12C	**Blythe**	**91.09**	**55**	⇑P		**P**	**21 38 27.4**	**+0.8**
	baz=91								
E19A	**Rath Farm, Rou**	**91.25**	**42**	⇑P		**P**	**21 38 28.0**	**+0.8**
	baz=91								
C20A	**Veseth Ranch,**	**91.31**	**40**	⇑P		**P**	**21 38 27.8**	**+0.5**
	baz=91,SNR=18								
F19A	**Roth Farm, Mol**	**91.36**	**42**	⇓P		**P**	**21 38 27.9**	**+0.2**
	baz=91								
RLMT	**Red Lodge**	**91.40**	**43**	*eP*		**P**	**21 38 29.8**	**+1.7**
	comp=Z,7.6nm,0.6s								
D20A	**Manuel Ranch,**	**91.45**	**41**	⇓P		**P**	**21 38 28.5**	**+0.5**
	baz=91								
KNB	**Kanab**	**91.46**	**52**	*eP*		**P**	**21 38 30.5**	**+2.0**
KNB					pmax	pmax			
	comp=Z,44nm,1.7s								
KNB	**Kanab**	**91.46**	**52**	*eP*		**P**	**21 38 30.4**	**+2.0**
	comp=Z,44nm,1.7s								
STEI	**Steigen**	**91.59**	**343**	*eP*		**P**	**21 38 28.4**	**+0.2**
STEI				IAmb		IAmb	21 38 28.7		
	comp=Z,55nm,0.9s								
B21A	**Ellsworth Farm**	**91.66**	**39**	⇓P		**P**	**21 38 29.6**	**+0.6**
	baz=92,SNR=5.5								
FIA0	**FINESS Array S**	**91.74**	**335**	*eP*		**P**	**21 38 28.0**	**-0.9**
FIA0	**FINESS Array S**	**91.74**	**335**	*eP*		**P**	**21 38 28.0**	**-0.9**
FINES	**FINESS Array B**	**91.74**	**335**	P		**P**	**21 38 28.0**	**-0.9**
	comp=Z,15nm,0.5s,baz=80,slow=4.3,SNR=175								
FINES					LR	LR	22 23 04.7		
	comp=Z,44nm,19.2s,baz=45,slow=38								
H19A	**Powell**	**91.74**	**43**	⇓P		**P**	**21 38 30.6**	**+1.1**
	baz=92								
C21A	**Desert Coulee**	**91.84**	**40**	⇓P		**P**	**21 38 30.4**	**+0.6**
	baz=92								
F20A	**Billings**	**91.90**	**42**	⇓P		**P**	**21 38 31.0**	**+0.8**
	baz=92								
I19A	**Meeteetse**	**91.96**	**44**	⇑P		**P**	**21 38 31.6**	**+1.0**
	baz=92								
FFC	**Flin Flon**	**91.99**	**32**	*eP*		**P**	**21 38 30.8**	**+0.5**
FFC					pmax	pmax			
	comp=Z,14nm,1.1s								
FFC	**Flin Flon**	**91.99**	**32**	*eP*		**P**	**21 38 30.8**	**+0.5**
	comp=Z,14nm,1.1s								
BW06	**Boulder Array**	**92.01**	**45**	*eP*		**P**	**21 38 30.5**	**-0.4**
BW06				*e*PP		**PP**	**21 42 08.5**	**-2.6**
PD31	**Pinedale Array**	**92.01**	**45**	*eP*		**P**	**21 38 30.7**	**-0.2**
PD31				*e*PP		**PP**	**21 42 08.9**	**-2.2**
PDAR	**Pinedale Array**	**92.01**	**45**	P		**P**	**21 38 30.7**	**-0.2**
	comp=Z,3.2nm,0.6s,baz=277,slow=3.5,SNR=13								
PDAR					PP	**PP**	**21 42 08.9**	**-2.2**
	comp=Z,0.6nm,0.6s,baz=306,slow=5.3,SNR=4.3								
PDAR					LR	LR	22 16 54.0		
	comp=Z,60nm,19.0s,baz=295,slow=34								
G20A	**Bridger**	**92.06**	**43**	⇓P		**P**	**21 38 31.6**	**+0.6**
	baz=92,SNR=8.4								
A22A	**Carney Farms,**	**92.12**	**39**	⇑P		**P**	**21 38 31.0**	**-0.1**
	baz=92								
D21A	**La Casta Ranch**	**92.18**	**41**	⇑P		**P**	**21 38 31.6**	**+0.2**
	baz=92								
J19A	**Crowheart**	**92.18**	**45**	⇑P		**P**	**21 38 32.3**	**+0.6**
	baz=92,SNR=13								
E21A	**Keefer Ranch,**	**92.33**	**41**	⇓P		**P**	**21 38 32.4**	**+0.3**
	baz=92								
B22A	**Reddig Ranch S**	**92.34**	**39**	⇓P		**P**	**21 38 32.5**	**+0.3**
	baz=92,SNR=6.0								
H20A	**Greybull**	**92.47**	**43**	⇓P		**P**	**21 38 33.3**	**+0.5**
	baz=92								
F21A	**Absaloka Mine,**	**92.56**	**42**	⇓P		**P**	**21 38 34.1**	**+0.9**
	baz=92								
I20A	**Worland**	**92.57**	**44**	⇑P		**P**	**21 38 33.8**	**+0.5**
	baz=92								
D22A	**Cohagen**	**92.67**	**40**	⇑P		**P**	**21 38 34.3**	**+0.7**
	baz=93								
G21A	**Lodge Grass**	**92.72**	**42**	⇑P		**P**	**21 38 34.4**	**+0.4**
	baz=93								
J20A	**Shoshoni**	**92.81**	**44**	⇓P		**P**	**21 38 34.9**	**+0.4**
	baz=93								
LAO	**LASA Array**	**92.81**	**41**	*eP*		**P**	**21 38 34.8**	**+0.5**
	comp=Z,32nm,1.0s								
B23A	**Brockton**	**92.89**	**39**	⇑P		**P**	**21 38 34.8**	**+0.1**
	baz=93,SNR=5.2								
214A	**Organ Pipe Nat**	**92.99**	**56**	⇓P		**P**	**21 38 36.4**	**+1.0**
	baz=93								
VSU	**Vasula**	**93.02**	**332**	*d*iP		**P**	**21 38 35.0**	**+0.1**
VSU					pmax	pmax			
	comp=Z,91nm,0.9s								
C23A	**Lambert**	**93.04**	**40**	⇑P		**P**	**21 38 35.8**	**+0.5**
	baz=93,SNR=12								
WUAZ	**Wupatki**	**93.04**	**53**	⇓P		**P**	**21 38 36.9**	**+1.2**
	baz=93								
H21A	**Big Horn, Sher**	**93.05**	**43**	⇓P		**P**	**21 38 36.3**	**+0.7**
	baz=93								
E22A	**Miles City**	**93.08**	**41**	⇑P		**P**	**21 38 36.3**	**+0.7**
	baz=93								
ANN	**Anapa**	**93.09**	**317**	*eP*		**P**	**21 38 33.8**	**-1.7**
ANN					pmax	pmax			
	comp=Z,31nm,0.9s								
F22A	**Rosebud**	**93.14**	**42**	⇓P		**P**	**21 38 35.9**	**0.0**
	baz=93,SNR=6.0								
I21A	**Big Trails, Te**	**93.19**	**44**	⇑P		**P**	**21 38 36.3**	**0.0**
	baz=93								
J21A	**Lysite**	**93.25**	**44**	⇓P		**P**	**21 38 37.1**	**+0.5**
	baz=93								
D23A	**Lindsay**	**93.27**	**40**	⇓P		**P**	**21 38 36.6**	**+0.2**
	baz=93,SNR=12								
STOK	**Stokkvaagen**	**93.32**	**343**	*eP*		**P**	**21 38 37.0**	**+0.9**
G22A	**Birney**	**93.33**	**42**	⇑P		**P**	**21 38 36.5**	**-0.3**
	baz=93								
E23A	**Ismay**	**93.47**	**41**	⇓P		**P**	**21 38 37.7**	**+0.3**
	baz=93								
H22A	**Clearmont**	**93.52**	**43**	⇓P		**P**	**21 38 38.3**	**+0.6**
	baz=94								
RAYN	**Ar Rayn**	**93.56**	**295**	P		**P**	**21 38 37.2**	**-1.1**
	comp=Z,41nm,1.3s,SNR=7.6								
RAYN	**Ar Rayn**	**93.56**	**295**	*eP*		**P**	**21 38 37.8**	**-0.4**
	comp=Z,7.2nm,1.3s								
C24A	**Savage**	**93.62**	**40**	⇓P		**P**	**21 38 38.3**	**+0.3**
	baz=94								
F23A	**Volborg**	**93.71**	**41**	⇑P		**P**	**21 38 38.8**	**+0.3**
	baz=94								
FCC	**Fort Churchill**	**93.79**	**27**	*eP*		**P**	**21 38 38.5**	**+0.1**
FCC					pmax	pmax			
	comp=Z,19nm,1.2s								
FCC	**Fort Churchill**	**93.79**	**27**	*eP*		**P**	**21 38 38.5**	**+0.1**
	comp=Z,19nm,1.2s								
A25A	**Svangstu Ranch**	**93.84**	**38**	⇓P		**P**	**21 38 39.1**	**+0.1**
	baz=94								
O20A	**White River Ci**	**93.84**	**47**	⇑P		**P**	**21 38 40.3**	**+0.9**
	baz=94								
D24A	**Glendive**	**93.84**	**40**	⇓P		**P**	**21 38 40.0**	**+0.9**
	baz=94								
E24A	**Baker**	**94.08**	**40**	⇓P		**P**	**21 38 41.2**	**+1.0**
	baz=94								
SUMG	**Summit**	**94.45**	**1**	*i* P		**P**	**21 38 41.0**	**-0.8**
	comp=Z,8.4nm,0.9s								
SUMG	**Summit**	**94.45**	**1**	*eP*		**P**	**21 38 41.6**	**-0.1**
SUMG					pmax	pmax			
	comp=Z,9.0nm,0.9s								
SUMG	**Summit**	**94.45**	**1**	*eP*		**P**	**21 38 41.6**	**-0.1**
	comp=Z,9.3nm,0.9s								
D25A	**Fairfield**	**94.46**	**40**	⇑P		**P**	**21 38 42.3**	**+0.4**
	baz=94								
A26A	**Wade Farm, Ken**	**94.50**	**38**	⇓P		**P**	**21 38 42.5**	**+0.6**
	baz=94								
TUC	**Tucson**	**94.51**	**56**	*eP*		**P**	**21 38 44.6**	**+2.1**
TUC					pmax	pmax			
	comp=Z,4.0nm,1.3s								
TUC	**Tucson**	**94.51**	**56**	*eP*		**P**	**21 38 44.6**	**+2.1**
	comp=Z,4.3nm,1.3s								
B26A	**Jensen Ranch,**	**94.60**	**38**	⇑P		**P**	**21 38 42.8**	**+0.3**
	baz=94								
H24A	**Dirks Ranch, A**	**94.65**	**42**	⇑P		**P**	**21 38 43.0**	**+0.2**
	baz=95								
E25A	**Miller Ranch,**	**94.67**	**40**	⇓P		**P**	**21 38 43.8**	**+0.9**
	baz=95								
MALT	**Malatya**	**94.75**	**311**	⇑P		**P**	**21 38 43.3**	**-0.2**
MALT	**Malatya**	**94.75**	**311**	⇑*i*P		**P**	**21 38 43.3**	**-0.2**
F25A	**Bowman**	**94.88**	**41**	⇑P		**P**	**21 38 44.4**	**+0.6**
	baz=95								
D26A	**Manning**	**95.06**	**39**	⇑P		**P**	**21 38 45.4**	**+0.8**
	baz=95								
SMCO	**Snowmass**	**95.10**	**48**	*eP*		**P**	**21 38 46.8**	**+1.3**
	comp=Z,4.2nm,0.9s								
N23A	**Red Feather La**	**95.20**	**46**	⇑P		**P**	**21 38 46.7**	**+1.0**
	baz=95								
SIM	**Simferopol'**	**95.21**	**318**	*eP*		**P**	**21 38 44.2**	**-1.1**
SIM							21 42 31.0		
SIM					pmax	pmax			
	comp=Z,10.0nm,0.9s								
RSSD	**Black Hills**	**95.24**	**43**	*eP*		**P**	**21 38 45.7**	**0.0**
RSSD					pmax	pmax			
	comp=Z,7.0nm,0.7s								
RSSD	**Black Hills**	**95.24**	**43**	*eP*		**P**	**21 38 45.7**	**0.0**
	comp=Z,6.7nm,0.7s								
E26A	**Carlson Angus**	**95.28**	**40**	⇓P		**P**	**21 38 46.1**	**+0.5**
	baz=95								
H25A	**Fruitdale**	**95.32**	**42**	⇑P		**P**	**21 38 46.8**	**+0.9**
	baz=95								
C27A	**Sayler Ranch,**	**95.33**	**39**	⇑P		**P**	**21 38 46.2**	**+0.4**
	baz=95								
F26A	**Lodgepole**	**95.41**	**41**	⇓P		**P**	**21 38 46.6**	**+0.3**
	baz=95								
I25A	**Rochford**	**95.48**	**43**	⇑P		**P**	**21 38 46.7**	**-0.1**
	baz=95								
AKASG	**Malin Array Be**	**95.61**	**325**	P		**P**	**21 38 45.5**	**-1.5**
	comp=Z,1.4nm,0.4s,baz=48,slow=4.4,SNR=11								
AKASG					LR	LR	22 25 14.4		
	comp=Z,118nm,18.9s,baz=260,slow=38								
AKASG	**Malin Array Be**	**95.61**	**325**	*i* P		**P**	**21 38 45.7**	**-1.3**
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.5s								
AKBB	**Malin Array Si**	**95.61**	**325**	*eP*		**P**	**21 38 45.5**	**-1.5**
AKBB	**Malin Array Si**	**95.61**	**325**	*eP*		**P**	**21 38 45.5**	**-1.5**
KIEV	**Kiev**	**95.63**	**325**	*eP*		**P**	**21 38 45.7**	**-1.3**
KIEV					pmax	pmax			
	comp=Z,19nm,1.4s								
KIEV	**Kiev**	**95.63**	**325**	*eP*		**P**	**21 38 45.7**	**-1.3**
	comp=Z,19nm,1.4s								
J25A	**Sunshine Ranch**	**95.69**	**43**	⇑P		**P**	**21 38 48.0**	**+0.4**
	baz=96								
G26A	**Maurine**	**95.69**	**41**	⇑P		**P**	**21 38 47.9**	**+0.3**
	baz=96								
F27A	**Lemmon**	**95.81**	**40**	⇓P		**P**	**21 38 48.8**	**+0.7**
	baz=96								
G27A	**Dupree**	**96.08**	**41**	⇑P		**P**	**21 38 49.3**	**-0.1**
	baz=96								
A29A	**Manning Farm,**	**96.14**	**37**	⇑P		**P**	**21 38 49.7**	**+0.3**
	baz=96								
J26A	**Sides Ranch, S**	**96.20**	**43**	⇑P		**P**	**21 38 50.2**	**+0.2**
	baz=96								
H27A	**Howes**	**96.30**	**42**	⇑P		**P**	**21 38 50.3**	**-0.1**
	baz=96								
121A	**Cookes Peak, D**	**96.83**	**54**	⇑P		**P**	**21 38 53.3**	**+0.1**
	baz=97								
ANMO	**Albuquerque**	**97.02**	**52**	P		Pdif	21 38 55.1	+1.0
	comp=Z,0.5nm,0.6s,baz=252,slow=6.8,SNR=3.4								
I28A	**Midland**	**97.17**	**42**	⇓P		Pdif	21 38 55.1	+0.8
	baz=97								
H29A	**Nola**	**97.50**	**41**	⇑P		Pdif	21 38 56.0	+0.2
	baz=97								
NB2	**NORSAR Subarra**	**97.62**	**339**	P		**P**	**21 38 54.9**	**-1.0**
	comp=Z,6.4nm,0.7s,baz=48,slow=4.4								
NB2	**NORSAR Subarra**	**97.62**	**339**	P		**P**	**21 38 54.9**	**-1.0**
	baz=48,slow=4.4								
NB200	**NORSAR Array S**	**97.62**	**339**	*eP*		**P**	**21 38 55.0**	**-1.0**
NB200				*e*PP		**PP**	**21 42 50.6**	**-3.0**
NOA	**NORSAR Array B**	**97.62**	**339**	P		**P**	**21 38 55.0**	**-1.0**
	comp=Z,7.8nm,0.9s,baz=46,slow=4.5,SNR=18								
NOA					PP	**PP**	**21 42 50.7**	**-3.0**
	comp=Z,0.9nm,0.6s,baz=39,slow=7.5,SNR=4.2								
NOA					LR	LR	22 25 09.4		
	comp=Z,64nm,22.0s,baz=50,slow=37								
BR101	**Keskin Array S**	**97.66**	**314**	*eP*		**P**	**21 38 55.6**	**-1.1**
BR101				*e*PP		PP	21 43 03.0	+8.0
BRTR	**Keskin Array B**	**97.66**	**314**	P		**P**	**21 38 55.6**	**-1.1**
	comp=Z,5.3nm,0.9s,baz=72,slow=4.0,SNR=36								
BRTR					PP	PP	21 43 03.0	+8.0	
	comp=Z,1.7nm,0.9s,baz=74,slow=4.4,SNR=4.4								
BRTR					LR	LR	22 27 44.9		
	comp=Z,45nm,20.4s,baz=62,slow=38								
NBO02	**NORSAR Array S**	**97.73**	**339**	*eP*		**P**	**21 38 55.1**	**-1.3**
AKN	**Aaknes**	**98.15**	**342**	*eP*		Pdif	21 38 58.7	+0.4
BR231	**Keskin MP Arra**	**98.22**	**314**	*eP*		**P**	**21 38 56.2**	**-2.9**
CFR	**Carcaliu**	**98.90**	**320**	⇑P		**P**	**21 39 00.9**	**-1.0**
CFR	**Carcaliu**	**98.90**	**320**	⇑*i*P		**P**	**21 39 00.9**	**-1.0**
MNTX	**Cornudas Mount**	**99.03**	**55**	*eP*		**Pdif**	**21 39 03.5**	**+0.6**
	comp=Z,2.8nm,0.8s								
MNTX	**Cornudas Mount**	**99.03**	**55**	⇑Pdiff		**Pdif**	**21 39 02.8**	**-0.1**
	baz=99								
FRB	**Frobisher Bay**	**99.08**	**15**	P		**Pdif**	**21 39 02.1**	**-0.2**
	comp=Z,4.0nm,0.8s,baz=324,slow=18,SNR=3.8								
TESR	**Tescani**	**99.15**	**322**	⇓*i*P		**Pdif**	**21 39 02.4**	**-0.7**
MAW	**Mawson**	**99.16**	**203**	LR		LR	22 19 21.8		
	comp=Z,164nm,20.5s,baz=58,slow=33								
TLB	**Topalu**	**99.24**	**320**	⇓P		**Pdif**	**21 39 02.5**	**-1.0**
TLB	**Topalu**	**99.24**	**320**	⇓*i*P		**Pdif**	**21 39 02.5**	**-1.0**
VRI	**Vrincioaia**	**99.43**	**322**	⇑P		**Pdif**	**21 39 04.5**	**+0.1**
VRI	**Vrincioaia**	**99.43**	**322**	⇑*i*P		**Pdif**	**21 39 04.4**	**+0.1**
BURAR	**Bucovina Array**	**99.43**	**324**	⇑P		**Pdif**	**21 39 04.0**	**-0.4**
BURAR	**Bucovina Array**	**99.43**	**324**	⇑*i*P		**Pdif**	**21 39 04.0**	**-0.4**
BUR04	**Bucovina Ar. S**	**99.44**	**324**	*e*Pdif		**Pdif**	**21 39 03.7**	**-0.7**
PLOR	**Plostina**	**99.48**	**322**	⇓P		**Pdif**	**21 39 04.5**	**-0.1**
PLOR	**Plostina**	**99.48**	**322**	⇓*i*P		**Pdif**	**21 39 04.4**	**-0.1**
CSS	**Prodhromos**	**99.80**	**309**	*e*Pdif		**Pdif**	**21 39 04.0**	**-2.2**
	comp=Z,1.6nm,0.7s								
MLR	**Muntele Rosu**	**100.09**	**321**	⇑P		**Pdif**	**21 39 07.4**	**0.0**
MLR	**Muntele Rosu**	**100.09**	**321**	⇑*i*P		**Pdif**	**21 39 07.4**	**0.0**
KOLS	**Kolonicke sedl**	**100.38**	**326**	*eP*		**Pdif**	**21 39 07.8**	**-0.7**
KOLS					pmax	pmax			
	comp=Z,4.0nm,1.1s								
KOLS	**Kolonicke sedl**	**100.38**	**326**	PDIF		**Pdif**	**21 39 07.8**	**-0.7**
UZH	**Uzhgorod**	**100.54**	**326**	*eP*		**Pdif**	**21 39 08.6**	**-0.5**
STHS	**Stebnicka Huta**	**100.67**	**327**	*eP*		**Pdif**	**21 39 10.1**	**+0.3**
STHS					pmax	pmax			
	comp=Z,2.0nm,0.8s								
STHS	**Stebnicka Huta**	**100.67**	**327**	PDIF		**Pdif**	**21 39 10.1**	**+0.3**
TRPA	**Tarpa**	**100.68**	**325**	⇑*i*P		**Pdif**	**21 39 10.3**	**+0.5**
LTX	**Lajitas**	**101.28**	**56**	*eP*		**Pdif**	**21 39 14.0**	**+0.9**
LTX				*e*			21 43 26.6		
LTX	**Lajitas**	**101.28**	**56**	*e*Pdif		**Pdif**	**21 39 14.0**	**+0.9**
LTX				*e*PP		**PP**	**21 43 26.6**	**+3.8**
TXAR	**Lajitas Array**	**101.28**	**56**	P		**Pdif**	**21 39 14.0**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=270,slow=3.6,SNR=3.2								
TXAR					PP	**PP**	**21 43 26.6**	**+3.8**
	comp=Z,0.2nm,0.8s,baz=306,slow=5.4,SNR=3.7								
TXAR					PKKPbc	**PKKPbc**	**21 55 24.0**	**+1.3**
	comp=Z,0.4nm,0.9s,baz=156,slow=3.7,SNR=3.9								
DRGR		**101.32**	**324**	⇑P		**Pdif**	**21 39 12.7**	**-0.1**
DRGR		**101.32**	**324**	⇑*i*P		**Pdif**	**21 39 12.7**	**-0.1**
KECS	**Kecovo**	**101.61**	**326**	*eP*		**Pdif**	**21 39 13.5**	**-0.5**
KECS					pmax	pmax			
	comp=Z,3.0nm,0.8s								
KECS	**Kecovo**	**101.61**	**326**	PDIF		**Pdif**	**21 39 13.5**	**-0.5**
DPC	**Dobruska-Polom**	**102.65**	**329**	*e*PDIFF		**Pdif**	**21 39 18.1**	**-0.5**
DPC	**Dobruska-Polom**	**102.65**	**329**	*eP*		**Pdif**	**21 39 18.1**	**-0.5**
VTS	**Vitosha**	**103.28**	**320**	⇓P		**Pdif**	**21 39 21.9**	**+0.2**
VTS	**Vitosha**	**103.28**	**320**	⇓*i*P		**Pdif**	**21 39 21.9**	**+0.2**
BRG	**Berggiesshubel**	**103.47**	**331**	*e*PDIF		**Pdif**	**21 39 22.1**	**-0.1**
	comp=Z,7.3nm,1.3s								
BRG	**Berggiesshubel**	**103.47**	**331**	*eP*		**Pdif**	**21 39 22.1**	**-0.1**
BRG					pmax	pmax			
	comp=Z,7.0nm,1.3s								
MMB	**Musomiste**	**103.48**	**319**	⇓P		**Pdif**	**21 39 22.2**	**-0.3**
MMB	**Musomiste**	**103.48**	**319**	⇓*i*P		**Pdif**	**21 39 22.1**	**-0.4**
CLL	**Collm**	**103.63**	**331**	*e*Pdif		**Pdif**	**21 39 23.0**	**+0.2**
CLL				*e*			21 43 27.0		
CLL				*e*PP		**PP**	**21 43 36.0**	**-3.2**
CLL	**Collm**	**103.63**	**331**	*eP*		**Pdif**	**21 39 23.0**	**+0.2**
CLL				*e*			21 43 36.0		
PRU	**Pruhonice**	**103.76**	**330**	*e*PDIFF		**Pdif**	**21 39 23.0**	**-0.5**
PRU	**Pruhonice**	**103.76**	**330**	*eP*		**Pdif**	**21 39 23.0**	**-0.5**
DIVS	**Divibare**	**104.41**	**323**	⇓*i*P		**Pdif**	**21 39 26.6**	**0.0**
KHC	**Kasperske Hory**	**104.80**	**330**	*e*PDIFF		**Pdif**	**21 39 28.4**	**+0.2**
KHC	**Kasperske Hory**	**104.80**	**330**	*eP*		**Pdif**	**21 39 28.4**	**+0.2**
TKL	**Tuckaleechee C**	**112.89**	**42**	PKiKP		**PKiKP**	**21 43 59.2**	**+0.5**
	comp=Z,2.3nm,0.5s,baz=130,slow=6.6,SNR=5.9								
ES19	**SONSECA Array**	**120.12**	**333**	*e*PKPdf		**PKPdf**	**21 44 13.6**	**+1.0**
ESDC	**Sonseca Array**	**120.17**	**333**	PKP		**PKPdf**	**21 44 13.4**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=31,slow=2.4,SNR=7

	7.5nm,0.8s							
DZET				⇑Sn		Sn	22 35 44.0	+2.8
	40nm,0.4s							
SFK	**Sufi-Kurgan**	**3.91**	**34**	⇑Pn		**Pn**	**22 35 35.0**	**+2.9**
	3.6nm,0.4s							
SFK				⇑Lg		Lg	22 36 31.6	
	13nm,0.3s							
AML	**Almayashu**	**5.82**	**23**	P		**Pn**	**22 35 59.8**	**+1.4**
	SNR=16							
MNAS	**Manas**	**5.85**	**14**	⇑Pn		**Pn**	**22 35 60.0**	**+1.4**
	1.2nm,0.4s							
MNAS				⇑Sn		**Sn**	**22 37 03.7**	**-0.6**
	3.2nm,0.9s							
MNAS				⇓Lg		Lg	22 37 34.5	
	9.8nm,0.9s							
UCH	**Uchtor**	**6.18**	**28**	P		**Pn**	**22 36 05.4**	**+1.9**
	SNR=9.3							
KK31	**Karatay Array**	**6.29**	**359**	⇑Pn		**Pn**	**22 36 06.0**	**+1.5**
	1.6nm,0.3s,baz=178,slow=13							
KK31				⇑Sn		**Sn**	**22 37 12.5**	**-2.3**
	5.6nm,0.6s,baz=189,slow=24							
EKS2	**Erkin-Say**	**6.33**	**22**	P		**Pn**	**22 36 07.1**	**+2.1**
	SNR=11							
KZA	**Kyzart**	**6.36**	**33**	P		**Pn**	**22 36 07.1**	**+1.3**
	SNR=7.2							
AAK	**Ala-Archa**	**6.53**	**26**	P		**Pn**	**22 36 10.1**	**+2.1**
	SNR=7.6							
AAK	**Ala-Archa**	**6.53**	**26**	⇑Pn		**Pn**	**22 36 09.3**	**+1.4**
	4.3nm,0.5s							
AAK				⇑Sn		**Sn**	**22 37 21.8**	**+0.7**
	7.2nm,1.0s							
AAK				⇑Lg		Lg	22 37 54.9	
	5.6nm,0.8s							
AAK	**Ala-Archa**	**6.53**	**26**	P		**Pn**	**22 36 10.0**	**+2.1**
	1.5nm,0.3s,baz=210,slow=4.2,SNR=21							
AAK				S		**Sn**	**22 37 21.4**	**+0.3**
	0.1nm,0.3s,baz=173,slow=16,SNR=2.2							
KBK	**Karagaybulak**	**6.72**	**28**	P		**Pn**	**22 36 12.6**	**+2.1**
	SNR=6.2							
CHMS	**Chumysh**	**6.94**	**26**	P		**Pn**	**22 36 14.7**	**+1.3**
	SNR=18							
USP	**Ospenovka**	**7.10**	**23**	P		**Pn**	**22 36 16.5**	**+0.9**
	SNR=8.0							
TKM2	**Tokmak 2**	**7.20**	**30**	P		**Pn**	**22 36 18.6**	**+1.5**
	SNR=9.4							
TKM2	**Tokmak 2**	**7.20**	**30**	⇓Pn		**Pn**	**22 36 18.0**	**+0.9**
	5.4nm,0.5s							
TKM2				⇓Sn		**Sn**	**22 37 40.7**	**+3.3**
	1.7nm,0.8s							
TKM2				⇑Lg		Lg	22 38 17.8	
	1.5nm,0.7s							
MK31	**Makanchi Array**	**13.22**	**37**	⇓Pn		**P**	**22 37 45.1**	**-1.7**
	0.8nm,0.7s,baz=207,slow=9.0,SNR=3.9							
MKAR	**Makanchi Array**	**13.22**	**37**	P		**Pn**	**22 37 38.0**	**-1.1**
	0.2nm,0.3s,baz=224,slow=12,SNR=3.8							
AB31	**Akbulak array**	**14.67**	**331**	Pn		**Pn**	**22 37 57.4**	**-0.9**
	0.2nm,0.3s,baz=270,slow=32,SNR=9.2							
AB31				⇑Sn		Sn	22 40 32.6	-6.9
	0.6nm,0.5s,baz=145,slow=25,SNR=4.5							
KURBB	**Kurchatov Arra**	**14.93**	**20**	⇓Pn		**P**	**22 38 04.4**	**-1.3**
	1.9nm,0.7s							
KURBB	**Kurchatov Arra**	**14.93**	**20**	P		**P**	**22 38 04.2**	**-1.5**
	0.1nm,0.3s,baz=208,slow=10,SNR=6.1							
BVAR	**Borovoye Array**	**16.22**	**359**	P		**Pn**	**22 38 16.9**	**-1.1**
	0.2nm,0.3s,baz=164,slow=13,SNR=3.8							
AKTO	**Aktyubinsk**	**16.37**	**330**	⇑Pn		**P**	**22 38 20.8**	**-0.9**
	1.6nm,0.7s							
AKTO	**Aktyubinsk**	**16.37**	**330**	P		**Pn**	**22 38 18.6**	**-1.3**
	0.2nm,0.3s,baz=144,slow=11,SNR=6.6							
ZALV	**Zalesovo Beam**	**19.76**	**25**	P		**P**	**22 38 57.6**	**-1.2**
	0.6nm,0.3s,baz=218,slow=12,SNR=12							
EIL	**Elat**	**30.56**	**267**	LR		LR	22 54 05.0	
	comp=Z,41nm,18.3s,baz=268,slow=38							
ARCES	**ARCESS Array B**	**40.75**	**338**	P		**P**	**22 42 08.2**	**-0.4**
	1.0nm,0.7s,baz=99,slow=7.7,SNR=5.5							
YKA	**Yellowknife Ar**	**80.95**	**2**	P		**P**	**22 46 42.5**	**+1.0**
	0.1nm,0.4s,baz=7.8,slow=5.0,SNR=3.0							

JMA 30 22:48:43.5±0.3, 31°.23N×139°.16E, h436km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.96**	**16**	P	P	22 49 42.4	0.0
JHJ2				*e*S	S	22 50 29.3	-0.9
TK02	**Tokai 2**	**2.96**	**337**	P	P	22 49 49.4	+0.7
BSO3	**Boso 3**	**3.74**	**17**	S	S	22 50 54.1	+0.8
BSO1	**Boso 1**	**3.74**	**24**	S	S	22 50 54.3	+1.6
HMMJ	**Hamamatsu 2**	**3.81**	**342**	P	P	22 49 56.5	+0.5
BSO4	**Boso 4**	**3.88**	**14**	*e*S	S	22 50 55.7	-0.1
JHU	**Hanno**	**4.61**	**1**	P	P	22 50 04.1	+0.9
JHU				*e*S	S	22 51 06.9	-1.5
JAG	**Ashikaga**	**5.19**	**3**	P	P	22 50 09.4	+0.5
JHO	**Hitachi**	**5.49**	**12**	P	P	22 50 12.9	+1.0

DDA ***30*** *23:04:10.9,41°.43N×42°.68E,h5km,MD3.5,ML3.6*
TIF ***30*** *23:04:11.3,41°.35N×42°.74E,h19km±1km*
MOS ***30*** *23:04:11.0±1.5,41°.30N×42°.44E,h10km,mb4.1/3,Error ellipse: s-maj=5.4km s-min=4.2km az=93.1*
ISK ***30*** *23:04:11.2,41°.44N×42°.72E,h5km,ML3.8*
AZER ***30*** *23:04:12.2±2.4,41°.53N×42°.37E,h2km,Error ellipse: s-maj=43.0km s-min=20.8km az=11.0*
NSSP ***30*** *23:04:13.0,41°.35N×42°.75E,h13km,Ms3.8*
IDC ***30*** *23:04:13.2±1.4,41°.45N×42°.58E,h0km,mb3.4/4, mb1 3.5/7,mb1mx3.4/25,mbtmp3.4/7,ML3.4/2,Error ellipse: s-maj=19.7km s-min=12.0km az=128.0*
ISCJB ***30*** *23:04:13.8±0.6,41°.44N±0°.02×42°.50E±0°.02,h11km±4km, mb3.4/5,Error ellipse: s-maj=2.6km s-min=2.2km az=20.3*
CSEM ***30*** *23:04:14.1±0.1,41°.42N×42°.52E,h10km,ML3.8,Error ellipse: s-maj=4.0km s-min=3.1km az=4.0*
ISC 30 23:04:13.0±0.6, 41°.44N±0°.01×42°.69E±0°.01, h10km±4km, n251, σ1$51/310, mb3.5/5, 67C-37D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKH	**Akhalkalaki**	**0.60**	**93**	*e*PG	**Pg**	**23 04 23.1**	**-1.7**
AKH				*e*SG	**Sg**	**23 04 32.9**	**0.0**
AKH	**Akhalkalaki**	**0.60**	**93**	P	**Pg**	**23 04 23.1**	**-1.7**
AKH				S	**Sg**	**23 04 31.5**	**-1.3**
AKH	**Akhalkalaki**	**0.60**	**93**	*e*PG	**Pg**	**23 04 23.1**	**-1.7**
AKH	**Akhalkalaki**	**0.60**	**93**	P	**Pg**	**23 04 23.1**	**-1.7**
ARTV	**Artvin**	**0.63**	**246**	*i* P	**Pg**	**23 04 24.0**	**-1.2**
ARTV				*i* S	**Sg**	**23 04 32.8**	**-0.7**
ARTV	**Artvin**	**0.63**	**246**	*i* P	**Pg**	**23 04 24.0**	**-1.2**
ARTV				*i* S	**Sg**	**23 04 32.8**	**-0.7**
DAGI	**Agillar**	**0.69**	**238**	*i* P	**Pg**	**23 04 24.9**	**-1.4**
DAGI				*i* S	**Sg**	**23 04 34.8**	**-0.6**
DBOC	**Borcka**	**0.78**	**263**	*i* P	**Pg**	**23 04 26.8**	**-1.2**
DBOC				*i* S	**Sg**	**23 04 37.5**	**-0.6**
DBOC	**Borcka**	**0.78**	**263**	*i* P	**Pg**	**23 04 26.8**	**-1.2**
DBOC				*i* S	**Sg**	**23 04 37.5**	**-0.6**
BCA	**Borcka**	**0.80**	**271**	*e*PG	**Pg**	**23 04 27.5**	**-1.0**
BCA	**Borcka**	**0.80**	**271**	*e*Pg	**Pg**	**23 04 27.5**	**-1.0**
DBAD	**Bademkaya**	**0.86**	**241**	*i* P	**Pg**	**23 04 28.1**	**-1.5**
DBAD				*i* S	**Sg**	**23 04 40.0**	**-0.8**
DBAD	**Bademkaya**	**0.86**	**241**	*i* P	**Pg**	**23 04 28.1**	**-1.5**
DBAD				*i* S	**Sg**	**23 04 40.0**	**-0.8**
KARS	**Kars**	**0.86**	**160**	*e*PG	**Pg**	**23 04 28.4**	**-1.3**
DDEM	**Demirkent**	**0.90**	**233**	*i* P	**Pg**	**23 04 28.6**	**-1.7**
DDEM				*i* S	**Sg**	**23 04 41.6**	**-0.3**
DDEM	**Demirkent**	**0.90**	**233**	*i* P	**Pg**	**23 04 28.6**	**-1.7**
DDEM				*i* S	**Sg**	**23 04 41.6**	**-0.3**
EAK	**Akyaka**	**1.02**	**137**	*i* S	**Sn**	**23 04 47.1**	**-0.9**
EAK	**Akyaka**	**1.02**	**137**	*i* P	Pb	23 04 29.8	-3.1
EAK				*i* S	**Sn**	**23 04 47.1**	**-0.9**
GMRZ	**Gyumri**	**1.07**	**126**	⇑*i*P	Pn	23 04 37.0	+2.9
GMRZ				⇑*i*S	**Sn**	**23 04 51.8**	**+2.7**
NARZ	**Nor Artik**	**1.25**	**141**	⇑*i*P	**Pg**	**23 04 39.2**	**+2.2**
NARZ				⇑*i*S	**Sg**	**23 04 54.9**	**+1.7**
NARZ	**Nor Artik**	**1.25**	**141**	⇑P	**Pg**	**23 04 39.2**	**+2.2**
NARZ				S	**Sg**	**23 04 54.9**	**+1.7**
ONI	**Oni**	**1.28**	**26**	P	**Pn**	**23 04 36.6**	**-0.4**
ONI				S	**Sg**	**23 04 55.2**	**+0.9**
ONI	**Oni**	**1.28**	**26**	*e*PG	**Pn**	**23 04 36.6**	**-0.4**
ONI	**Oni**	**1.28**	**26**	P	**Pn**	**23 04 36.6**	**-0.4**
ONI				S	**Sg**	**23 04 55.2**	**+0.9**
LERZ	**Lernakert**	**1.29**	**132**	⇑*i*P	**Pg**	**23 04 39.7**	**+1.9**
LERZ				⇑*i*S	**Sg**	**23 04 58.1**	**+3.4**
LERZ	**Lernakert**	**1.29**	**132**	⇑P	**Pg**	**23 04 39.7**	**+1.9**
LERZ				S	**Sg**	**23 04 58.1**	**+3.4**
HARI	**Harich**	**1.29**	**130**	⇑*i*P	**Pg**	**23 04 40.0**	**+2.1**
HARI				⇑*i*S	**Sg**	**23 04 56.2**	**+1.5**
HARI	**Harich**	**1.29**	**130**	⇑P	**Pg**	**23 04 40.0**	**+2.1**
HARI				S	**Sg**	**23 04 56.2**	**+1.5**
KZR	**Kazreti**	**1.30**	**92**	P	**Pn**	**23 04 35.4**	**-1.8**
KZR				S	**Sb**	**23 04 53.0**	**-1.3**
KZR	**Kazreti**	**1.30**	**92**	P	**Pn**	**23 04 35.4**	**-1.8**
KZR				S	**Sb**	**23 04 53.0**	**-1.3**
CHVG	**Ch'k'valeri**	**1.35**	**341**	*e*PN	**Pg**	**23 04 39.3**	**+0.3**
CHVG	**Ch'k'valeri**	**1.35**	**341**	P	**Pb**	**23 04 38.6**	**+0.1**
CHVG				S	**Sg**	**23 04 59.2**	**+2.6**
CHVG	**Ch'k'valeri**	**1.35**	**341**	P	**Pb**	**23 04 38.6**	**+0.1**
CHVG	**Ch'k'valeri**	**1.35**	**341**	*e*Pn	**Pg**	**23 04 39.3**	**+0.3**
CHVG				S	**Sg**	**23 04 59.2**	**+2.6**
STEZ	**Stepenevan**	**1.36**	**108**	⇑*i*P	Pn	23 04 34.8	-3.4
STEZ				⇑*i*S	**Sn**	**23 04 53.0**	**-3.3**
STEZ	**Stepenevan**	**1.36**	**108**	⇑*i*P	Pn	23 04 34.5	-3.7
STEZ				⇑S	Sn	23 04 50.5	-5.8
HNAZ	**Hnaberd**	**1.36**	**126**	⇑*i*P	**Pg**	**23 04 41.5**	**+2.3**
HNAZ				⇑*i*S	**Sg**	**23 04 59.3**	**+2.4**
HNAZ	**Hnaberd**	**1.36**	**126**	⇑P	**Pg**	**23 04 41.5**	**+2.3**
HNAZ				S	**Sg**	**23 04 59.3**	**+2.4**
HOMI	**Horasan**	**1.52**	**203**	*i* P	**Pn**	**23 04 39.5**	**-0.9**
HOMI				*i* S	**Sg**	**23 05 04.6**	**+2.9**
CKLZ	**Chkalov**	**1.56**	**108**	⇓*i*P	**Pn**	**23 04 38.5**	**-2.5**
CKLZ				⇓*i*S	**Sn**	**23 04 59.6**	**-1.7**
CKLZ	**Chkalov**	**1.56**	**108**	⇓P	**Pn**	**23 04 38.5**	**-2.5**
TBLG	**Delisi**	**1.56**	**79**	*e*PN	**Pn**	**23 04 40.0**	**-0.8**
TBLG	**Delisi**	**1.56**	**79**	P	**Pn**	**23 04 40.1**	**-0.8**
TBLG				S	**Sn**	**23 05 00.2**	**-1.0**
TBLG	**Delisi**	**1.56**	**79**	*e*PN	**Pn**	**23 04 40.0**	**-0.8**
TBLG	**Delisi**	**1.56**	**79**	P	**Pn**	**23 04 40.1**	**-0.8**
TBLG				S	**Sn**	**23 05 00.2**	**-1.0**
EATA	**Eleskirt**	**1.58**	**186**	*i* P	**Pn**	**23 04 40.8**	**-0.6**
EATA				*i* S	**Sb**	**23 05 02.7**	**0.0**
EATA	**Eleskirt**	**1.58**	**186**	*i* P	**Pn**	**23 04 40.8**	**-0.6**
EATA				*i* S	**Sb**	**23 05 02.7**	**0.0**
DIGR	**Digorskoe uzhe**	**1.60**	**24**	*i* PN	**Pb**	**23 04 42.6**	**-0.2**
DIGR				pmax	pmax		
	comp=Z,225nm,0.4s						
DIGR	**Digorskoe uzhe**	**1.60**	**24**	*i* Pn	**Pb**	**23 04 42.6**	**-0.2**
	comp=Z,225nm,0.4s						
SEAG	**Tbilisi Sea**	**1.62**	**78**	P	**Pn**	**23 04 40.3**	**-1.3**
SEAG				S	**Sn**	**23 05 02.1**	**-0.4**
SEAG	**Tbilisi Sea**	**1.62**	**78**	P	**Pn**	**23 04 40.3**	**-1.3**
SEAG				S	**Sn**	**23 05 02.1**	**-0.4**
ZEI	**Tsey**	**1.62**	**33**	⇓*i*PN	**Pb**	**23 04 43.4**	**+0.3**
DUS	**Dusheti**	**1.64**	**66**	P	**Pb**	**23 04 42.6**	**-0.8**
DUS				S	**Sb**	**23 05 04.7**	**+0.6**
DUS	**Dusheti**	**1.64**	**66**	*e*PN	**Pb**	**23 04 42.7**	**-0.7**
DUS	**Dusheti**	**1.64**	**66**	*e*Pn	**Pb**	**23 04 42.7**	**-0.7**
DUS				S	**Sb**	**23 05 04.7**	**+0.6**
NEY	**Neytrino**	**1.81**	**1**	*i* PN	**Pb**	**23 04 47.0**	**+0.7**
NEY	**Neytrino**	**1.81**	**1**	*i* Pn	**Pb**	**23 04 47.0**	**+0.7**
LACR	**Lac**	**1.83**	**40**	*i* PN	**Pb**	**23 04 46.3**	**-0.3**
LACR				pmax	pmax		
	comp=Z,293nm,0.3s						
LACR	**Lac**	**1.83**	**40**	*i* Pn	**Pb**	**23 04 46.3**	**-0.3**
	comp=Z,293nm,0.3s						
ERZM	**Erzurum**	**1.83**	**214**	*i* S	**Sg**	**23 05 14.1**	**+2.1**
EZM	**Erzurum**	**1.83**	**214**	*e*PN	**Pb**	**23 04 45.8**	**-1.0**
ERE	**Yerevan**	**1.85**	**133**	⇓*i*P	Pn	23 04 40.0	-4.9
ERE				⇓S	**Sn**	**23 05 04.0**	**-4.4**
KORR	**Kora**	**1.94**	**31**	⇑*i*PN	**Pb**	**23 04 49.2**	**+0.8**
KORR				*i* S	**Sg**	**23 05 15.9**	**+0.6**
KORR	**Kora**	**1.94**	**31**	*i* Pn	**Pb**	**23 04 49.2**	**+0.8**
KORR				*i* Sn	**Sg**	**23 05 15.9**	**+0.6**
DGRG	**David-gareji**	**2.02**	**89**	P	**Pb**	**23 04 48.3**	**-1.5**
DGRG				S	**Sg**	**23 05 17.6**	**-0.3**
DGRG	**David-gareji**	**2.02**	**89**	*e*PN	**Pb**	**23 04 48.3**	**-1.5**
DGRG	**David-gareji**	**2.02**	**89**	P	**Pb**	**23 04 48.3**	**-1.5**
DGRG				S	**Sg**	**23 05 17.6**	**-0.3**
LSNR	**Lesken**	**2.02**	**24**	⇓*i*PN	**Pb**	**23 04 49.9**	**+0.1**
LSNR				*e*S	**Sg**	**23 05 17.0**	**-1.0**
GNI	**Garni**	**2.02**	**129**	⇑*i*P	**Pn**	**23 04 47.6**	**+0.4**
GNI				⇑*i*S	**Sb**	**23 05 14.6**	**-0.6**
GNI	**Garni**	**2.02**	**129**	⇑P	**Pn**	**23 04 47.7**	**+0.4**
GNI				S	**Sb**	**23 05 14.6**	**-0.6**
TUTA	**Tutak**	**2.04**	**177**	*i* P	**Pg**	**23 04 52.6**	**+0.5**
TUTA	**Tutak**	**2.04**	**177**	*i* P	**Pg**	**23 04 52.6**	**+0.5**
DYDN	**Diyadin**	**2.04**	**158**	*i* P	**Pn**	**23 04 47.7**	**+0.1**
DYDN	**Diyadin**	**2.04**	**158**	*i* P	**Pn**	**23 04 47.7**	**+0.1**
DYDN				*i* S	**Sg**	**23 05 21.2**	**+2.6**
QZX	**Qazax, Azerbai**	**2.06**	**100**	⇑Pn	**Pn**	**23 04 48.2**	**+0.5**
	SNR=300						
QZX				⇓Sn	**Sb**	**23 05 16.3**	**+0.2**
QZX	**Qazax, Azerbai**	**2.06**	**100**	Pn	**Pn**	**23 04 48.2**	**+0.5**
	SNR=300						
QZX				Sn	**Sb**	**23 05 16.3**	**+0.2**
NCK	**Nalchik**	**2.16**	**18**	*c* PN	**Pb**	**23 04 52.7**	**+0.5**
NCK	**Nalchik**	**2.16**	**18**	*i* Pn	**Pb**	**23 04 52.7**	**+0.5**
STDR	**Stavd-Durt**	**2.18**	**27**	*e*PN	**Pb**	**23 04 52.8**	**+0.3**
STDR				*e*S	**Sg**	**23 05 22.1**	**-1.0**
STDR	**Stavd-Durt**	**2.18**	**27**	*e*Pn	**Pb**	**23 04 52.8**	**+0.3**
STDR				*e*Sn	**Sg**	**23 05 22.1**	**-1.0**
VLKR	**Vladikavkaz**	**2.18**	**42**	*i* PN	**Pb**	**23 04 52.6**	**0.0**
VLKR				*i* S	**Sg**	**23 05 22.5**	**-0.6**
VLKR	**Vladikavkaz**	**2.18**	**42**	*i* Pn	**Pb**	**23 04 52.6**	**0.0**
VLKR				*i* Sn	**Sg**	**23 05 22.5**	**-0.6**
KOPT	**Kop Dagi**	**2.19**	**230**	*i* P	**Pb**	**23 04 51.4**	**-1.4**
KOPT	**Kop Dagi**	**2.19**	**230**	*i* P	**Pb**	**23 04 51.4**	**-1.4**
KOPT				*i* S	**Sg**	**23 05 25.9**	**+2.5**
BAYT	**Ayd¯–ntepe-Bay**	**2.19**	**242**	*e*PN	**Pb**	**23 04 51.4**	**-1.5**
BAYT	**Ayd¯–ntepe-Bay**	**2.19**	**242**	*e*Pn	**Pb**	**23 04 51.4**	**-1.5**
KTUT	**Trabzon**	**2.25**	**259**	*e*PN	**Pn**	**23 04 50.8**	**+0.6**
KTUT	**Trabzon**	**2.25**	**259**	*e*Pn	**Pn**	**23 04 50.8**	**+0.6**
MACK	**Trabzon**	**2.26**	**258**	*i* P	**Pn**	**23 04 51.3**	**+0.9**
MACK				*i* S	**Sb**	**23 05 21.6**	**-0.3**
MACK	**Trabzon**	**2.26**	**258**	*i* P	**Pn**	**23 04 51.3**	**+0.9**
MACK				*i* S	**Sb**	**23 05 21.6**	**-0.3**
SNJR	**Sundja**	**2.27**	**43**	*e*PN	**Pg**	**23 04 55.6**	**-0.8**
SNJR				*e*S	**Sg**	**23 05 26.3**	**+0.5**
SNJR	**Sundja**	**2.27**	**43**	*e*Pn	**Pg**	**23 04 55.6**	**-0.8**
KBZ	**Khabaz**	**2.29**	**4**	Pn	**Pb**	**23 04 53.7**	**-0.7**
	baz=236,slow=7.4						
KBZ				Lg	Lg	23 05 26.8	
	baz=320,slow=20						
BTKR	**Batakoyurt**	**2.37**	**35**	⇑*i*PN	**Pb**	**23 04 55.8**	**0.0**
BTKR				*e*S	**Sg**	**23 05 27.3**	**-1.8**
BTKR	**Batakoyurt**	**2.37**	**35**	*i* Pn	**Pb**	**23 04 55.8**	**0.0**
BTKR				*e*Sn	**Sg**	**23 05 27.3**	**-1.8**
VRTB	**Varto-Mus**	**2.46**	**203**	*e*PN	**Pn**	**23 04 54.6**	**+1.2**
VRTB	**Varto-Mus**	**2.46**	**203**	*e*Pn	**Pn**	**23 04 54.6**	**+1.2**
CLDR	**Caldiran**	**2.48**	**157**	*e*PN	**Pn**	**23 04 54.4**	**+0.8**
CLDR	**Caldiran**	**2.48**	**157**	*e*Pn	**Pn**	**23 04 54.4**	**+0.8**
KIV	**Kislovodsk**	**2.51**	**360**	*e*PN	**Pn**	**23 04 55.2**	**+1.2**
KIV	**Kislovodsk**	**2.51**	**360**	*e*PN	**Pn**	**23 04 55.2**	**+1.2**
KIV	**Kislovodsk**	**2.51**	**360**	*e*Pn	**Pn**	**23 04 55.2**	**+1.2**
PRTR	**Priterechnaya**	**2.59**	**26**	*e*PN	**Pb**	**23 04 57.1**	**-2.4**
PRTR				*e*S	**Sb**	**23 05 31.1**	**-0.3**
PRTR				pmax	pmax		
	comp=Z,96nm,0.5s						
PRTR	**Priterechnaya**	**2.59**	**26**	*e*Pn	**Pb**	**23 04 57.1**	**-2.4**
	comp=Z,96nm,0.5s						
PRTR				*e*Sn	**Sb**	**23 05 31.1**	**-0.3**
GUMT	**Gumushane**	**2.62**	**249**	*e*PN	**Pn**	**23 04 56.6**	**+1.2**
GUMT	**Gumushane**	**2.62**	**249**	*e*Pn	**Pn**	**23 04 56.6**	**+1.2**
VADZ	**Vardenis**	**2.64**	**118**	*e*P	**Pg**	**23 05 04.0**	**+0.3**
VADZ				⇓S	Sg	23 05 50.0	+12
TRKR	**Terskaya**	**2.74**	**33**	⇓*i*PN	**Pg**	**23 05 03.9**	**-1.5**
TRKR				*e*S	**Sg**	**23 05 39.1**	**-1.8**
GANJ	**Ganja**	**2.86**	**105**	⇑Pn	**Pb**	**23 05 01.2**	**-2.9**
	SNR=47						
GANJ				⇑Sn	**Sb**	**23 05 37.6**	**-1.6**
GANJ	**Ganja**	**2.86**	**105**	Pn	**Pb**	**23 05 01.2**	**-2.9**
	SNR=47						
GANJ				Sn	**Sb**	**23 05 37.6**	**-1.6**
EUZM	**Uzumlu**	**2.86**	**234**	*i* P	**Pb**	**23 05 05.4**	**+1.2**
BNGB	**Bing¶ll**	**2.89**	**213**	*e*PN	**Pn**	**23 05 00.1**	**+0.9**
KELT	**Kelkit**	**2.91**	**245**	*i* P	**Pb**	**23 05 03.1**	**-1.9**
KELT	**Kelkit**	**2.91**	**245**	*i* P	**Pb**	**23 05 03.1**	**-1.9**
KELT				*i* S	**Sb**	**23 05 42.7**	**+2.0**
ERZN	**Erzincan**	**2.92**	**232**	*e*PN	**Pn**	**23 05 00.6**	**+1.0**
ZKTA	**Zakatala**	**2.96**	**85**	⇓Pn	Pb	23 05 02.7	-3.1
	SNR=80						
ZKTA				⇓Sn	**Sb**	**23 05 44.6**	**+2.6**
ESPY	**Espiye-Giresun**	**3.04**	**261**	*e*PN	**Pn**	**23 05 01.5**	**+0.5**
ESPY	**Espiye-Giresun**	**3.04**	**261**	*e*Pn	**Pn**	**23 05 01.5**	**+0.5**
EZC	**Erzincan**	**3.05**	**238**	*e*PN	**Pn**	**23 05 00.6**	**-0.8**
BINT	**Bingol**	**3.07**	**214**	*e*Pn	**Pn**	**23 05 00.1**	**-1.5**
SOC	**Sochi**	**3.07**	**315**	*e*PN	**Pn**	**23 05 02.4**	**+0.9**
SOC				*e*		23 05 08.5	
SOC				*i*		23 05 39.9	
SOC						23 05 51.3	
SOC				pmax	pmax		
	comp=Z,54nm,0.2s						
SOC				MLR	MLR		
	comp=Z,275nm,10.0s						
SOC				MLR	MLR		
	comp=N,267nm,10.0s						
SOC				MLR	MLR		
	comp=E,422nm,10.0s						
SOC	**Sochi**	**3.07**	**315**	*e*Pn	**Pn**	**23 05 02.4**	**+0.9**
	comp=E,54nm,0.2s						
SOC	**Sochi**	**3.07**	**315**	*e*Pb	**Pb**	**23 05 08.5**	**+0.9**
SOC				*i* Sn	**Sn**	**23 05 39.9**	**+1.7**
	comp=E,275nm,10.0s						
SOC				Sg	**Sg**	**23 05 51.3**	**-0.2**
	comp=E,267nm,10.0s						
NAX	**Nakhchivan**	**3.12**	**136**	⇓Pn	**Pb**	**23 05 06.7**	**-1.9**
	SNR=4.3						
NAX				⇓Sn	**Sb**	**23 05 49.1**	**+2.5**
NAX	**Nakhchivan**	**3.12**	**136**	Pn	**Pb**	**23 05 06.7**	**-1.9**
	SNR=4.3						
GEVA	**Gevas**	**3.14**	**175**	*i* P	**Pb**	**23 05 09.9**	**+1.0**
MNGR	**Mingechevir, A**	**3.39**	**100**	⇑Pn	Pb	23 05 09.5	-3.6
	SNR=5.2						
MNGR				⇓Sn	**Sb**	**23 05 55.1**	**+0.8**
MNGR	**Mingechevir, A**	**3.39**	**100**	Pn	Pb	23 05 09.5	-3.6
	SNR=5.2						
SEKA	**Sheki**	**3.40**	**92**	⇑Pn	**Pn**	**23 05 08.5**	**+2.3**
	SNR=33						
SEKA				⇓Sn	**Sb**	**23 05 54.8**	**-0.1**
SEKA	**Sheki**	**3.40**	**92**	Pn	**Pn**	**23 05 08.5**	**+2.3**
	SNR=33						
SEKA				Sn	**Sb**	**23 05 54.8**	**-0.1**
PTK	**Pertek**	**3.58**	**226**	*e*PN	**Pn**	**23 05 10.1**	**+1.3**
PTK	**Pertek**	**3.58**	**226**	*e*Pn	**Pn**	**23 05 10.1**	**+1.3**
BRDA	**Brd**	**3.60**	**108**	⇓Pn	**Pb**	**23 05 13.9**	**-2.9**
	SNR=6.5						
BRDA				⇓Sn	**Sb**	**23 06 02.2**	**+1.8**
BRDA	**Brd**	**3.60**	**108**	Pn	**Pb**	**23 05 13.9**	**-2.9**
	SNR=6.5						
GOF	**Gofitskoye**	**3.63**	**4**	*e*PN	Pn	23 05 12.5	+3.3
GOF				*e*S	**Sg**	**23 06 10.5**	**+1.1**
GOF				pmax	pmax		
	comp=Z,60nm,1.3s						
GOF				smax	smax		
	comp=N,120nm,1.1s						
GOF				smax	smax		
	comp=E,120nm,1.1s						
GOF	**Gofitskoye**	**3.63**	**4**	*e*Pn	Pn	23 05 12.5	+3.3
	comp=E,60nm,1.3s						
GOF				*e*Sb	**Sg**	**23 06 10.5**	**+1.1**
MAK	**Makhachkala**	**3.89**	**65**	*e*PN	**Pb**	**23 05 21.1**	**-0.5**
MAK				*e*	

HARR	**Harsova**	**11.27**	**292**	P		**Pn**	**23 06 51.8**	**-2.2**
LPSR	**Galich'ya Gora**	**11.46**	**348**	*e*P		**Pn**	**23 06 56.4**	**-0.1**
LPSR	comp=Z,7.0nm,0.6s			pmax	pmax			
LPSR	comp=N,6.0nm,0.8s			pmax	pmax			
LPSR	comp=E,5.0nm,0.9s			pmax	pmax			
LPSR	**Galich'ya Gora**	**11.46**	**348**	*e*P		**Pn**	**23 06 56.4**	**-0.1**
	comp=E,6.0nm,0.8s							
PGOR	**Pogoanele**	**11.98**	**292** ⇑	*i*P		**Pn**	**23 07 05.6**	**+1.9**
PGOR	**Pogoanele**	**11.98**	**292** ⇑	*i*P		**Pn**	**23 07 05.6**	**+1.9**
ISR	**Istrita**	**12.33**	**293** ⇑	P		**Pn**	**23 07 07.8**	**-0.7**
ISR	**Istrita**	**12.33**	**293** ⇑	*i*P		**Pn**	**23 07 07.8**	**-0.7**
ISR	**Istrita**	**12.33**	**293**	P		**Pn**	**23 07 07.8**	**-0.7**
VRI	**Vrincioaia**	**12.38**	**296** ⇑	P		**Pn**	**23 07 08.7**	**-0.4**
VRI	**Vrincioaia**	**12.38**	**296** ⇑	*i*P		**Pn**	**23 07 08.7**	**-0.4**
VRI	**Vrincioaia**	**12.38**	**296**	P		**Pn**	**23 07 08.7**	**-0.4**
PLOR	**Plostina**	**12.42**	**296** ⇓	P		**Pn**	**23 07 08.9**	**-0.9**
PLOR	**Plostina**	**12.42**	**296** ⇓	*i*P		**Pn**	**23 07 08.9**	**-0.9**
PLOR	**Plostina**	**12.42**	**296**	P		**Pn**	**23 07 08.9**	**-0.9**
SULR		**12.45**	**291** ⇑	*i*P		**Pn**	**23 07 09.0**	**-1.1**
SULR		**12.45**	**291** ⇑	*i*P		**Pn**	**23 07 09.0**	**-1.1**
TESR	**Tescani**	**12.61**	**299** ⇑	*i*P		**Pn**	**23 07 11.5**	**-0.8**
TESR	**Tescani**	**12.61**	**299** ⇑	*i*P		**Pn**	**23 07 11.5**	**-0.8**
SECR		**12.64**	**292** ⇑	*i*P		**Pn**	**23 07 11.5**	**-1.3**
SECR		**12.64**	**292** ⇑	*i*P		**Pn**	**23 07 11.5**	**-1.3**
MLR	**Muntele Rosu**	**12.82**	**294** ⇓	P		**Pn**	**23 07 14.5**	**-0.8**
MLR	**Muntele Rosu**	**12.82**	**294** ⇓	*i*P		**Pn**	**23 07 14.5**	**-0.8**
MLR	**Muntele Rosu**	**12.82**	**294**	P		**Pn**	**23 07 14.5**	**-0.8**
KDZ	**Kurdzhali**	**12.95**	**277** ⇓	P		P	23 07 22.3	-5.3
KDZ	**Kurdzhali**	**12.95**	**277** ⇓	*i*P		P	23 07 22.3	-5.3
AKASG	**Malin Array Be**	**13.14**	**319**	Pn		**Pn**	**23 07 18.4**	**-1.1**
AKASG	comp=E,0.7nm,0.3s,baz=131,slow=15,SNR=3.5			Sn		Sn	23 09 38.2	-7.4
AKASG	**Malin Array Be**	**13.14**	**319**	P		**Pn**	**23 07 18.4**	**-1.1**
AKASG	comp=E,0.5nm,0.3s,baz=129,slow=24,SNR=2.7						23 09 38.2	
AKASG	comp=Z,1.0nm,0.3s			pmax	pmax			
AKASG	comp=N,1.0nm,0.3s			smax	smax			
DOPR	**Dopca**	**13.30**	**296** ⇓	*i*P		Pn	23 07 13.0	-8.8
HUMR	**Humele**	**13.33**	**289** ⇓	*i*P		Pn	23 07 18.7	-3.4
VOIR		**13.42**	**293** ⇑	P		**Pn**	**23 07 22.3**	**-1.2**
VOIR		**13.42**	**293** ⇑	*i*P		**Pn**	**23 07 22.3**	**-1.2**
VOIR		**13.42**	**293**	P		**Pn**	**23 07 22.3**	**-1.2**
BURAR	**Bucovina Array**	**13.90**	**302** ⇑	P		**Pn**	**23 07 32.1**	**+2.1**
BURAR	**Bucovina Array**	**13.90**	**302** ⇑	*i*P		**Pn**	**23 07 32.1**	**+2.1**
BURAR	**Bucovina Array**	**13.90**	**302** ⇑	*i*P		**Pn**	**23 07 32.1**	**+2.1**
APE	**Apeiranthos**	**13.99**	**257**	P		**Pn**	**23 07 31.6**	**+0.3**
APE	comp=Z,13nm,1.3s			pmax	pmax			
APE	**Apeiranthos**	**13.99**	**257**	P		**Pn**	**23 07 31.6**	**+0.3**
	comp=Z,13nm,1.3s							
OBN	**Obninsk**	**14.27**	**346**	*i*P		Pn	23 07 38.0	+3.1
OBN	comp=Z,4.0nm,0.8s			pmax	pmax			
OBN	comp=Z,24nm,17.0s			MLR	MLR			
OBN	**Obninsk**	**14.27**	**346**	*i*P		Pn	23 07 38.0	+3.1
	comp=Z,24nm,17.0s							
LOT	**Lotru**	**14.31**	**293** ⇑	*i*P		**Pn**	**23 07 34.1**	**-1.6**
VTS	**Vitosha**	**14.53**	**281** ⇑	*i*P		**Pn**	**23 07 39.8**	**+1.1**
VTS	**Vitosha**	**14.53**	**281** ⇑	*i*P		**Pn**	**23 07 39.8**	**+1.1**
GZR	**Gura Zlata**	**14.99**	**292** ⇑	*i*P		**Pn**	**23 07 42.8**	**-2.1**
DRGR		**15.30**	**297** ⇑	P		**Pn**	**23 07 46.7**	**-2.3**
DRGR		**15.30**	**297** ⇑	*i*P		**Pn**	**23 07 46.7**	**-2.3**
KOLS	**Kolonicke sedl**	**16.20**	**304**	*e*P		**P**	**23 08 05.1**	**+1.4**
KOLS	**Kolonicke sedl**	**16.20**	**304**	*e*P		**P**	**23 08 05.1**	**+1.4**
KOLS	**Kolonicke sedl**	**16.20**	**304**	*e*P		**P**	**23 08 05.1**	**+1.4**
ARU	**Arti**	**18.20**	**29**	*d iP*		**P**	**23 08 27.2**	**+1.5**
ARU	comp=Z,7.0nm,1.7s			S		**S**	**23 11 53.9**	**+0.1**
ARU	comp=Z,7.0nm,1.7s			pmax	pmax			
ARU	**Arti**	**18.20**	**29**	*i*P		**P**	**23 08 27.2**	**+1.5**
	comp=Z,7.0nm,1.7s							
SVE	**Sverdlovsk**	**19.27**	**31**	*e*P		**Pn**	**23 08 38.5**	**0.0**
SVE	comp=Z,11nm,0.9s			pmax	pmax			
SVE	**Sverdlovsk**	**19.27**	**31**	*e*P		**Pn**	**23 08 38.5**	**0.0**
	comp=Z,11nm,0.9s							
KLMR	**Klimovskoe**	**19.54**	**355**	*e*P		**P**	**23 08 40.6**	**+0.2**
KLMR	comp=Z,19nm,1.4s			pmax	pmax			
KLMR	**Klimovskoe**	**19.54**	**355**	*e*P		**P**	**23 08 40.6**	**+0.2**
	comp=Z,19nm,1.4s							
PRGR	**Permogore**	**20.30**	**4**	*e*P		**P**	**23 08 46.6**	**-2.1**
PRGR	comp=Z,9.0nm,0.9s			pmax	pmax			
FINES	**FINESS Array B**	**22.42**	**339**	P		**P**	**23 09 13.2**	**+1.7**
	comp=Z,1.2nm,0.6s,baz=141,slow=14,SNR=8.1							
FINES	**FINESS Array B**	**22.42**	**339**	P		**P**	**23 09 13.2**	**+1.7**
FINES	comp=Z,1.0nm,0.6s			pmax	pmax			
CLL	**Collm**	**22.59**	**306**	*i* sP		**sP**	**23 09 18.3**	**+0.5**
	comp=Z,7.0nm,1.2s							
CLL				*e*PP		**PnPn**	**23 09 35.0**	**-1.8**
CLL	**Collm**	**22.59**	**306**	*i*P		**sP**	**23 09 18.3**	**+0.5**
CLL	comp=Z,7.0nm,1.2s			pmax	pmax			
MKAR	**Makanchi Array**	**28.71**	**66**	P		**P**	**23 10 12.1**	**+1.9**
	comp=Z,0.2nm,0.7s,baz=289,slow=8.8,SNR=2.6							
ESDC	**Sonseca Array**	**35.16**	**283**	P		P	23 11 09.8	+2.9
	comp=Z,0.5nm,0.7s,baz=64,slow=8.8,SNR=4.7							
TORD	**Torodi Ar. Bea**	**45.43**	**244**	P		**P**	**23 12 34.2**	**+2.2**
	comp=Z,0.3nm,0.7s,baz=29,slow=8.7,SNR=4.9							

*IDC **30** 23:07:35.0±1.2,26°.05N×129°.19E,h0km,mb3.6/5, mb1 3.8/6,mb1mx3.5/26,mbtmp3.6/6,ML3.7/1,MS2.3/1, Ms1 2.3/1,ms1mx2.1/26,Error ellipse: s-maj=49.2km s-min=18.6km az=67.0*

*JMA **30** 23:07:36.1±0.1,26°.12N×129°.46E,h43km,M3.4*

ISC 30 23:07:33.2±1.7,26°.12N±0'.05×129°.44E±0'.04,h0km±11km, n19,σ1$71/28,mb3.6/5,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.26**	**305**	P		**Pg**		**23 07 58.0**	**+0.6**
JOW				S		**Sg**		**23 08 14.0**	**+0.3**
JOW	**Kunigami**	**1.26**	**305**	Pn		**Pg**		**23 07 58.4**	**+1.0**
JOW	15nm,0.3s,baz=133,slow=14,SNR=520			Sn		**Sg**		**23 08 11.8**	**-2.0**
JOW	8.4nm,0.3s,baz=130,slow=27,SNR=14			LR		LR		23 08 39.0	
JOW	comp=Z,20nm,21.6s,baz=102,slow=56								
JNTH	**Nagotoyohara**	**1.33**	**288**	P		**Pg**		**23 07 58.9**	**+0.2**
JNTH				S		**Sg**		**23 08 14.3**	**-1.7**
JOKE	**Okinoerabujima**	**1.46**	**328**	P		**Pn**		**23 08 00.9**	**+0.1**
JOKE				S		**Sg**		**23 08 18.3**	**-1.8**
JJT2	**Tamagusuku 2**	**1.52**	**271**	P		**Pn**		**23 08 02.2**	**+0.6**
JJT2				S		**Sg**		**23 08 20.3**	**-1.7**
JIH	**Iheya**	**1.60**	**305**	P		**Pn**		**23 08 03.4**	**+0.7**
JIH				S		**Sn**		**23 08 22.3**	**-1.8**
JMZ	**Minamidaito 2**	**1.63**	**100**	P		**Pn**		**23 08 02.8**	**-0.3**
JMZ				S		**Sn**		**23 08 21.2**	**-3.6**
JTK	**Tokunoshima**	**1.72**	**345**	P		**Pn**		**23 08 04.6**	**+0.3**
JTK				S		**Sn**		**23 08 24.2**	**-2.7**
JAGN	**Aguni-jima**	**2.02**	**284**	P		**Pn**		**23 08 09.2**	**+0.7**
JAGN				S		**Sn**		**23 08 33.0**	**-1.5**
JAMN	**Amaminishikomi**	**2.13**	**354**	P		**Pn**		**23 08 10.5**	**+0.5**
JAMN				S		**Sn**		**23 08 36.3**	**-0.8**
JAM	**Amami Oshima**	**2.29**	**4**	P		**Pn**		**23 08 12.4**	**+0.3**
JAM				S		**Sn**		**23 08 38.6**	**-2.4**
JKE	**Kume jima 2**	**2.39**	**276**	P		Pn		23 08 12.0	-1.6
JKE				S		**Sn**		**23 08 40.3**	**-3.3**
JNU	**Nakatsue**	**7.09**	**10**	Pn		**Pn**		**23 09 20.4**	**+2.2**
JNU	1.4nm,0.3s,baz=218,slow=6.3,SNR=9.7			Sn		Sn		23 10 34.9	-4.7
JNU	0.2nm,0.3s,baz=198,slow=20,SNR=3.0								
GUMO	**Guam**	**19.11**	**128**	LR		LR		23 18 07.9	
	comp=Z,9.4nm,18.7s,baz=184,slow=33								
MKAR	**Makanchi Array**	**42.42**	**312**	P		**P**		**23 15 30.6**	**+1.1**
	0.2nm,0.5s,baz=100,slow=8.4,SNR=3.3								
WRA	**Warramunga Arr**	**46.03**	**174**	P		**P**		**23 15 59.5**	**+0.9**
	1.1nm,0.7s,baz=347,slow=8.6,SNR=5.3								
ASAR	**Alice Springs**	**49.68**	**175**	P		**P**		**23 16 28.9**	**+2.0**
	0.4nm,0.5s,baz=7.9,slow=15,SNR=7.0								
FINES	**FINESS Array B**	**73.49**	**331**	P		P		23 19 10.2	+2.9
	0.5nm,0.6s,baz=80,slow=7.5,SNR=5.6								
BRTR	**Keskin Array B**	**77.96**	**308**	P		**P**		**23 19 33.4**	**-0.1**
	0.4nm,0.8s,baz=108,slow=4.7,SNR=3.6								

*ISCJB **30** 23:21:58.6±0.6,58°.2S±0'.1×139°.9W±0'.2,h10km,mb4.5/11, MS4.2/14,Error ellipse: s-maj=16.0km s-min=13.4km az=174.9*

*IDC **30** 23:21:58.5±0.6,58°.18S×139°.88W,h0km,mb4.4/8, mb1 4.6/8,mb1mx4.4/20,mbtmp4.4/8,MS4.2/14, Ms1 4.2/14,ms1mx4.2/16,Error ellipse: s-maj=20.8km s-min=15.9km az=140.0*

*GCMT **30** 23:22:00.2±0.3,58°.43S×139°.61W,h12km±1km,MW5.0/79, Moment Tensor Solution. s34,c39; s79,c107; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr3.61±.21; Mθθ-2.07±.17; Mφφ-1.54±.13; Mrθ-1.16±.44; Mθφ-1.91±.10; Mφr0.80±.36; Best double couple: M0.92300×10^16^ NP1:φs247.00000°,δ51.00000°,λ115.00000°. NP2: φs31.00000°,δ45.00000°,λ63.00000°. Principal axes: T 4.0940, Plg71.0000°, Azm222.0000°; N -0.3430, Plg19.0000°, Azm51.0000°; P -3.7510, Plg3.0000°, Azm320.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **30** 23:22:00.2±0.3,58°.23S×139°.86W,h10km,mb5.0/4 Error ellipse: s-maj=15.4km s-min=10.5km az=163.0*

ISC 30 23:22:00.2±0.5,58°.2S±0'.1×139°.8W±0'.1,h10km,n60, σ1$02/39,mb4.7/11,MS4.2/14,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**27.36**	**204**	P		**P**		**23 27 44.6**	**-0.2**
VNDA	3.6nm,1.2s,baz=98,slow=8.7,SNR=5.3			S		**S**		**23 32 26.8**	**+2.5**
VNDA	0.4nm,0.5s,baz=173,slow=16,SNR=3.7			LR		LR		23 35 43.0	
QSPA	**South Pole Qui**	**32.00**	**180**	P		**P**		**23 28 25.0**	**-1.3**
	8.8nm,1.2s,baz=112,slow=3.1,SNR=11								
QSPA	**South Pole Qui**	**32.00**	**180**	*e*P		**P**		**23 28 25.7**	**-0.5**
	117nm,1.9s								
RKT	**Rikitea**	**35.18**	**8**	*e*LR		LR		23 38 03.5	
	975nm,30.5s								
RKT	**Rikitea**	**35.18**	**8**	*e*T		T		00 05 57.2	
	1.6nm,0.3s								
TBI	**Tubuai**	**35.46**	**345**	*e*LR		LR		23 38 25.4	
	1µm,28.0s,baz=172								
TBI	**Tubuai**	**35.46**	**345**	*e*T		T		00 06 29.2	
	12nm,0.3s								
RAO	**Raoul Island**	**39.03**	**301**	LR		LR		23 41 35.7	
	comp=Z,397nm,21.9s,baz=106,slow=30								
PPT2	**Papeete2**	**41.15**	**346**	*e*S		**S**		**23 35 56.0**	**-1.6**
	127nm,29.2s								
PPT2	1µm,25.5s,baz=174			*e*LR		LR		23 41 01.5	
PPT	**Papeete**	**41.17**	**346**	LR		LR		23 42 17.2	
	comp=Z,348nm,18.3s,baz=192,slow=30								
VAH	**Vaihoa**	**43.24**	**349**	*e*T		T		00 16 10.3	
	12nm,0.4s								
PLCA	**Paso Flores**	**46.07**	**99**	P		**P**		**23 30 24.7**	**+0.7**
	4.4nm,1.1s,baz=225,slow=5.4,SNR=3.4								
DZM	**Mont Dzumac**	**52.58**	**290**	*e*S		**S**		**23 38 41.3**	**+0.4**
	244nm,26.4s								
DZM	820nm,25.9s			*e*LR		LR		23 46 22.3	
DZM	**Mont Dzumac**	**52.58**	**290**	LR		LR		23 50 14.5	
	comp=Z,250nm,18.1s,baz=180,slow=32								
MAW	**Mawson**	**53.43**	**191**	P		**P**		**23 31 19.1**	**-0.4**
	2.4nm,0.7s,baz=128,slow=14,SNR=2.6								
MAW	comp=Z,236nm,19.5s,baz=239,slow=34			LR		LR		23 51 54.6	
STKA	**Stephens Creek**	**57.67**	**261**	P		**P**		**23 31 51.5**	**+1.1**
	5.6nm,1.0s,baz=128,slow=12,SNR=3.6								
STKA	comp=Z,130nm,18.1s,baz=77,slow=32			LR		LR		23 53 00.7	
LPAZ	**La Paz**	**66.65**	**83**	P		**P**		**23 32 52.1**	**+0.4**
	2.9nm,0.9s,baz=202,slow=5.7,SNR=9.9								
LPAZ	comp=Z,98nm,21.0s,baz=176,slow=30			LR		LR		23 55 04.7	
ASAR	**Alice Springs**	**68.29**	**260**	P		**P**		**23 33 01.0**	**-0.2**
	20nm,1.2s,baz=142,slow=5.7,SNR=32								
ASAR	comp=Z,144nm,18.7s,baz=106,slow=33			LR		LR		23 59 05.8	
AS31	**Alice Springs**	**68.29**	**260**	*e*P		**P**		**23 33 01.1**	**-0.2**
H01W1	**Cape Leeuwin H**	**68.75**	**238**	T		T		00 48 34.3	
	baz=145,slow=76,SNR=19								
H01W2	**Cape Leeuwin H**	**68.75**	**238**	T		T		00 48 34.7	
	baz=145,slow=76,SNR=18								
H01W3	**Cape Leeuwin H**	**68.76**	**238**	T		T		00 48 35.6	
	baz=145,slow=76,SNR=17								
WRA	**Warramunga Arr**	**71.12**	**263**	P		**P**		**23 33 17.9**	**-0.8**
	9.9nm,1.1s,baz=145,slow=5.6,SNR=14								
WRAB	**Tennant Creek**	**71.12**	**263**	*e*P		**P**		**23 33 19.3**	**+0.6**
	14nm,1.2s								
OTAV	**Otavalo**	**75.49**	**65**	*e*P		**P**		**23 33 46.5**	**+1.5**
	18nm,1.4s								
BDFB	**Brasilia**	**77.81**	**100**	LR		LR		00 05 47.2	
	comp=Z,382nm,18.4s,baz=170,slow=34								
ROSC	**El Rosal**	**81.50**	**66**	LR		LR		00 03 16.9	
	comp=Z,82nm,21.4s,baz=195,slow=30								
SDV	**Santo Domingo**	**86.79**	**68**	*e*P		**P**		**23 34 43.8**	**-1.0**
	5.0nm,0.9s								
TEIG	**Tepich**	**88.95**	**47**	LR		LR		00 08 14.7	
	comp=Z,54nm,20.9s,baz=228,slow=31								
PCRV	**Puerto La Cruz**	**90.88**	**72**	LR		LR		00 11 04.1	
	comp=Z,114nm,20.3s,baz=182,slow=32								
RCBR	**Riachuelo**	**92.37**	**105**	LR		LR		00 13 10.7	
	comp=Z,273nm,20.2s,baz=205,slow=33								
BOSA	**Boshof**	**92.66**	**167**	LR		LR		00 15 06.0	
	comp=Z,129nm,18.0s,baz=174,slow=34								
H10S3	**ASCENSION HYDR**	**99.81**	**125**	T		T		01 27 24.2	
	baz=207,slow=75,SNR=7.0								
H10S2	**ASCENSION HYDR**	**99.82**	**125**	T		T		01 27 25.9	
	baz=207,slow=75,SNR=7.8								
H10S1	**ASCENSION HYDR**	**99.83**	**125**	T		T		01 27 27.1	
	baz=207,slow=75,SNR=9.1								
H10N3	**ASCENSION HYDR**	**100.88**	**125**	T		T		01 28 42.0	
	baz=206,slow=75,SNR=11								
H10N1	**ASCENSION HYDR**	**100.88**	**125**	T		T		01 28 41.4	
	baz=206,slow=75,SNR=9.5								
H10N2	**ASCENSION HYDR**	**100.89**	**125**	T		T		01 28 44.2	
	baz=206,slow=75,SNR=10								
YKA	**Yellowknife Ar**	**121.89**	**13**	PKP		**PKPdf**		**23 40 52.6**	**-0.3**
	1.0nm,1.0s,baz=184,slow=1.2,SNR=8.8								
DAWY	**Dawson**	**121.90**	**0**	*e*PKPdf		**PKPdf**		**23 40 53.9**	**+0.9**
EGAK	**Eagle**	**122.62**	**359**	*e*PKPdf		**PKPdf**		**23 40 53.9**	**-0.4**
ILAR	**Eielson Array**	**122.73**	**356**	PKP		**PKPdf**		**23 40 54.3**	**-0.2**
	6.7nm,1.1s,baz=217,slow=1.4,SNR=26								
IM04	**Indian Mountai**	**124.26**	**353**	*e*PKPdf		**PKPdf**		**23 40 58.4**	**+1.0**
TORD	**Torodi Ar. Bea**	**126.57**	**131**	PKP		**PKPdf**		**23 41 01.8**	**-1.6**
	0.8nm,0.7s,baz=180,slow=3.1,SNR=8.3			PP		PP		23 43 06.0	+6.8
TORD	1.0nm,1.1s,baz=48,slow=2.2,SNR=3.7								
TIXI	**Tiksi**	**143.91**	**327**	*e*PKPdf		PKPbc		23 41 32.0	+0.2
RAYN	**Ar Rayn**	**145.19**	**189**	*e*PKPdf		**PKPbc**		**23 41 36.7**	**-0.5**
ESDC	**Sonseca Array**	**146.38**	**104**	PKPbc		**PKPab**		**23 41 41.6**	**+0.2**
	0.2nm,0.3s,baz=214,slow=5.0,SNR=5.5								
SUMG	**Summit**	**147.14**	**33**	*i* P		**PKPbc**		**23 41 42.8**	**+0.6**
	16nm,1.1s								
SUMG	**Summit**	**147.14**	**33**	*e*PKPbc		**PKPbc**		**23 41 42.8**	**+0.6**
KBL	**Kabul**	**149.53**	**232**	*e*PKPbc		**PKPbc**		**23 41 50.0**	**+0.7**
MK31	**Makanchi Array**	**152.41**	**264**	*e*PKPbc		**PKPbc**		**23 41 55.6**	**+0.2**
MKAR	**Makanchi Array**	**152.41**	**264**	PKPbc		**PKPbc**		**23 41 55.9**	**+0.4**
	1.5nm,0.8s,baz=93,slow=2.4,SNR=11								
AAK	**Ala-Archa**	**153.56**	**249**	*e*PKPab		**PKPab**		**23 42 10.5**	**-0.3**
EKS2	**Erkin-Say**	**153.93**	**248**	*e*PKPbc		**PKPbc**		**23 41 59.3**	**+0.3**
EKS2				*e*PKPab		**PKPab**		**23 42 13.7**	**+1.3**
ZAA0	**Zalesovo Array**	**155.08**	**280**	*e*PKPab		**PKPab**		**23 42 17.3**	**+0.5**
ZALV	**Zalesovo Beam**	**155.08**	**280**	PKPab		**PKPab**		**23 42 15.8**	**-1.0**
	3.6nm,0.9s,baz=116,slow=3.4,SNR=13								
BRTR	**Keskin Array B**	**161.07**	**164**	PKP		**PKPdf**		**23 41 59.6**	**-0.4**
	0.6nm,1.0s,baz=184,slow=2.0,SNR=4.7								
BRTR	0.3nm,0.4s,baz=184,slow=5.7,SNR=4.3			PKPab		**PKPab**		**23 42 42.0**	**-1.2**
BVAR	**Borovoye Array**	**162.27**	**266**	PKPab		**PKPab**		**23 42 46.5**	**-1.6**
	0.2nm,0.3s,baz=131,slow=5.9,SNR=3.0								
AKASG	**Malin Array Be**	**170.18**	**135**	PKPab		**PKPab**		**23 43 21.0**	**-1.9**
	0.2nm,0.3s,baz=222,slow=3.7,SNR=4.7								
FINES	**FINESS Array B**	**172.16**	**59**	PKPab		**PKPab**		**23 43 33.0**	**+1.6**
	2.4nm,0.9s,baz=250,slow=4.0,SNR=4.0								

IDC 30 23:28:12.4±10.0,18°.71S×169°.83E,h0km,mb3.9/4, mb1 4.1/4,mb1mx3.8/19,mbtmp4.0/4,MS4.0/2,Ms1 4.0/2, ms1mx3.2/20,Error ellipse: s-maj=223.5km s-min=36.0km az=37.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.49**	**163**	P		P		23 32 51.9	0.0
	7.8nm,0.3s,baz=345,slow=16,SNR=17								
STKA	**Stephens Creek**	**28.60**	**237**	P		P		23 34 10.4	0.0
	1.9nm,0.8s,baz=78,slow=9.3,SNR=3.2								
WRA	**Warramunga Arr**	**33.48**	**262**	P		P		23 34 54.1	+0.4
	0.4nm,0.3s,baz=92,slow=8.6,SNR=3.6								
ASAR	**Alice Springs**	**33.80**	**255**	P		P		23 34 55.8	-0.6
	0.6nm,0.9s,baz=79,slow=9.4,SNR=3.5								
H11S2	**WAKE ISLAND Hy**	**37.10**	**355**	T		T		00 13 30.3	
	baz=175								
H11S3	**WAKE ISLAND Hy**	**37.10**	**355**	T		T		00 13 29.0	
	baz=175								
H11S1	**WAKE ISLAND Hy**	**37.11**	**355**	T		T		00 13 32.5	
	baz=175								
VNDA	**Vanda**	**58.98**	**182**	LR		LR		00 01 56.5	
	comp=Z,70nm,18.2s,baz=177,slow=34								
PLCA	**Paso Flores**	**98.55**	**138**	LR		LR		00 14 39.0	
	comp=Z,114nm,20.8s,baz=144,slow=28								

IDC 30 23:37:34.4±6.5,29°.91S×177°.99W,h0km,mb3.6/2, mb1 3.9/2,mb1mx3.6/17,mbtmp3.6/2,Error ellipse: s-maj=452.4km s-min=73.0km az=167.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.15**	**266**	P		P		23 45 37.0	0.0
	0.3nm,0.4s,baz=104,slow=7.4,SNR=4.7								
WRA	**Warramunga Arr**	**44.09**	**272**	P		P		23 45 44.4	-0.3
	1.0nm,0.7s,baz=113,slow=7.4,SNR=3.2								
FINES	**FINESS Array B**	**144.69**	**340**	PKP		PKPdf		23 57 11.8	-0.6
	2.5nm,1.1s,baz=49,slow=3.2,SNR=6.3								

*ISCJB **30** 23:43:42.9±1.3,17°.3S±0'.6×178°.9W±0'.4,h600km,mb3.7/7, Error ellipse: s-maj=87.2km s-min=16.6km az=149.6*

*IDC **30** 23:43:48.1±4.1,17°.77S×178°.67W,h665km±48km,mb3.1/7, mb1 3.5/7,mb1mx3.1/24,mbtmp4.2/7,Error ellipse: s-maj=69.3km s-min=20.5km az=148.0*

ISC 30 23:43:43.0±1.2,17°.4S±0'.5×178°.8W±0'.3,h600km,n9, σ1$43/12,mb3.5/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.57**	**241**	P		**P**		**23 50 17.0**	**+0.9**
	3.4nm,0.5s,baz=92,slow=9.6,SNR=14								
STKA	0.4nm,0.4s,baz=129,slow=6.5,SNR=2.1			PcP		**PcP**		**23 52 10.0**	**-2.7**
WRA	**Warramunga Arr**	**44.39**	**259**	P		**P**		**23 51 03.0**	**+1.0**
	1.9nm,0.3s,baz=95,slow=7.3,SNR=27								
WRA	0.4nm,0.3s,baz=91,slow=3.4,SNR=3.8			PcP		**PcP**		**23 52 30.7**	**-1.8**
ASAR	**Alice Springs**	**44.60**	**254**	P		**P**		**23 51 04.8**	**+1.2**
	9.8nm,0.6s,baz=87,slow=8.8,SNR=98								
ASAR	0.5nm,0.4s,baz=104,slow=3.7,SNR=4.1			PcP		**PcP**		**23 52 32.4**	**-0.8**
NVAR	**Mina Array Bea**	**79.31**	**44**	P		**P**		**23 54 48.8**	**+0.9**
	0.6nm,0.7s,baz=224,slow=7.8,SNR=6.5								
ILAR	**Eielson Array**	**85.49**	**13**	P		**P**		**23 55 17.9**	**-0.1**
	0.5nm,0.4s,baz=223,slow=4.3,SNR=7.3								
TXAR	**Lajitas Array**	**86.02**	**58**	P		**P**		**23 55 22.1**	**+0.6**
	0.6nm,0.7s,baz=232,slow=6.2,SNR=4.9								
PDAR	**Pinedale Array**	**87.23**	**44**	P		**P**		**23 55 27.5**	**+0.4**
	0.5nm,0.6s,baz=207,slow=1.0,SNR=4.4								
BRTR	**Keskin Array B**	**144.20**	**315**	PKP		**PKPab**		**00 02 12.2**	**0.0**
	0.4nm,0.6s,baz=64,slow=3.4,SNR=2.5								
MMAI	**Mount Meron Ar**	**145.60**

JOSI AML AML 23 59 17.4
comp=E,225nm,0.8s
JOSI AML AML 23 59 21.7
comp=N,213nm,0.6s
KHET Khetri 10.82 150 *e*P **Pn** **23 56 48.9 +1.8**
KHET *e*S Sn 23 58 40.5 -6.6
KHET AML AML 23 59 03.6
comp=N,62nm,0.6s
KHET AML AML 23 59 05.4
comp=E,100nm,0.6s
NDI New Delhi 10.92 142 *ex* x 23 56 57.0
NDI *ex* x 23 58 58.0
KUDL Kundal 11.04 147 *e*P Pn 23 56 53.4 +3.3
KUDL *e*S Sn 23 58 44.5 -8.1
SONA Sohna 11.22 144 *e*P Pn 23 56 56.2 +3.7
SONA *e*S Sn 23 58 49.6 -7.4
MK31 Makanchi Array 13.10 42 *e*P **Pn** **23 57 16.3 -1.9**
MK31 Makanchi Array 13.10 42 *e*Pn **Pn** **23 57 16.3 -1.9**
MKAR Makanchi Array 13.10 42 Pn **Pn** **23 57 16.7 -1.5**
comp=E,0.5nm,0.3s,baz=232,slow=13,SNR=77
MKAR Lg Lg 00 01 04.6
comp=E,0.1nm,0.3s,baz=242,slow=27,SNR=2.8
ABKAR Akbulak array 13.60 332 *e*Pn Pn 23 57 21.1 -3.9
KURBB Kurchatov Arra 14.47 23 Pn Pn 23 57 32.9 -4.0
comp=E,0.1nm,0.3s,baz=209,slow=12,SNR=29
KURBB Sn **Sn** **00 00 18.1 +1.9**
comp=E,0.0nm,0.3s,baz=201,slow=28,SNR=3.0
KURBB Lg Lg 00 01 46.4
comp=E,0.0nm,0.3s,baz=231,slow=32,SNR=5.0
KURK Kurchatov 14.58 23 *e*P Pn 23 57 34.4 -3.9
KURK 00 00 18.1
KURK Kurchatov 14.58 23 *e*Pn Pn 23 57 34.4 -3.9
KURK Sn **Sn** **00 00 18.1 -0.8**
KURK Lg Lg 00 01 46.4
WMQ Urumqi 15.01 60 P **Pn** **23 57 45.8 +1.6**
WMQ pP pP 23 57 53.3 -4.0
WMQ sP sP 23 57 58.0 -3.1
WMQ S **Sn** **00 00 30.5 +1.0**
WMQ PcS **PcS** **00 06 31.5 +4.8**
WMQ ScS **ScS** **00 10 01.0 -0.2**
WMQ LN
comp=E,500nm,12.2s
WMQ LE
comp=E,360nm,8.0s
WMQ LZ
comp=E,190nm,14.2s
KOLN Koldanda 15.28 126 *e*P **Pn** **23 57 45.6 -2.4**
comp=E,20nm,0.5s
AKTO Aktyubinsk 15.29 331 Pn **Pn** **23 57 44.9 -2.9**
comp=E,0.4nm,0.3s,baz=143,slow=16,SNR=16
AKTO Sn Sn 00 00 26.7 -9.3
comp=E,0.1nm,0.3s,baz=212,slow=19,SNR=1.9
AKTO Lg Lg 00 02 12.7
comp=E,0.1nm,0.3s,baz=204,slow=18,SNR=2.7
BVAR Borovoye Array 15.43 2 Pn **Pn** **23 57 45.6 -4.0**
comp=E,0.2nm,0.3s,baz=172,slow=14,SNR=6.1
BVAR Sn **Sn** **00 00 40.3 +0.9**
comp=E,0.1nm,0.3s,baz=183,slow=14,SNR=2.4
BVAR Lg Lg 00 02 07.4
baz=196,slow=21,SNR=2.8
BRVK Borovoye 15.46 1 *c*e**P** **Pn** **23 57 47.5 -2.5**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
BRVK Borovoye 15.46 1 *e*Pn **Pn** **23 57 50.8 +0.9**
comp=Z,4.3nm,0.6s
GKN Gorkha 15.81 123 *e*P **Pn** **23 57 52.4 -2.4**
comp=Z,18nm,0.6s
KKN Kakani 16.38 122 *e*P **Pn** **23 58 00.2 -1.9**
comp=Z,22nm,0.7s
DMN Daman 16.38 123 *e*P **Pn** **23 57 59.8 -2.4**
PKIN Phulchoki 16.59 123 *e*P **Pn** **23 58 02.9 -2.0**
PKI Pulchoki 16.61 122 *e*P **Pn** **23 58 03.2 -1.9**
comp=Z,71nm,0.7s
GUN Gumba 16.70 121 *e*P **Pn** **23 58 04.7 -1.7**
comp=Z,112nm,1.0s
JIRN Jiri 17.08 121 *e*P **Pn** **23 58 08.2 -2.9**
comp=Z,34nm,0.5s
RAMN Ramite 17.81 122 *e*P **Pn** **23 58 17.3 -2.8**
comp=Z,53nm,0.7s
TAPN Taplejung 18.32 119 *e*P **P** **23 58 24.8 -1.5**
comp=Z,29nm,0.8s
ODAN Odare 18.41 120 *e*P **P** **23 58 24.9 -2.3**
comp=Z,36nm,0.8s
DGRG David-gareji 19.10 289 P **Pn** **23 58 37.4 +1.9**
ZAA0 Zalesovo Array 19.40 28 *e*P **P** **23 58 35.2 -2.4**
ZALV Zalesovo Beam 19.40 28 P **P** **23 58 35.5 -2.1**
comp=Z,0.8nm,0.3s,baz=222,slow=11,SNR=70
LSA Lhasa 19.53 107 *e*P **Pn** **23 58 40.3 -0.9**
LSA pmax pmax
comp=Z,15nm,0.8s
LSA Lhasa 19.53 107 *e*P **Pn** **23 58 40.2 -0.9**
comp=Z,15nm,0.8s
GNI Garni 19.55 285 P **P** **23 58 40.8 +1.2**
comp=Z,0.3nm,0.3s,baz=80,slow=6.1,SNR=3.8
GNI Garni 19.55 285 *e*P **P** **23 58 40.2 +0.7**
GNI pmax pmax
comp=Z,35nm,1.1s
GNI Garni 19.55 285 *e*P **P** **23 58 40.2 +0.7**
comp=Z,35nm,1.1s
NVS Novosibirsk 19.57 24⇑ *i*P **P** **23 58 36.6 -2.8**
NVS pmax pmax
comp=Z,12nm,0.8s
NVS pmax pmax
comp=N,8.0nm,0.8s
NVS pmax pmax
comp=E,6.0nm,0.8s
TBLG Delisi 19.59 290 P **Pn** **23 58 41.5 +0.1**
SVE Sverdlovsk 20.15 346 *e*P **P** **23 58 45.6 -0.1**
SVE pmax pmax
comp=Z,12nm,1.1s
SVE MLR MLR
comp=Z,314nm,12.0s
ARU Arti 20.24 342 *d i*P **P** **23 58 46.8 0.0**
ARU 23 59 05.8
ARU PPP PPP 23 59 18.0
ARU S **S** **00 02 31.5 -0.6**
ARU SS **SnSn** **00 02 49.2 -1.2**
ARU SSS SSS 00 03 05.0
ARU pmax pmax
comp=Z,8.0nm,0.7s
ARU Arti 20.24 342 *e*P **P** **23 58 46.4 -0.4**
comp=Z,11nm,0.8s
ZEI Tsey 20.30 293 *e*P **P** **23 58 47.7 -0.1**
ZEI pmax pmax
comp=Z,7.0nm,0.7s
NCK Nalchik 20.61 295⇑ *i*P **P** **23 58 52.2 +1.2**
ONI Oni 20.61 292 P Pn 23 58 53.8 +0.3
KBZ Khabaz 21.15 295 P **P** **23 58 57.0 +0.4**
comp=Z,7.7nm,0.8s,baz=142,slow=20
NEY Neytrino 21.21 294⇑ *e*P **P** **23 59 01.1 +3.5**
NEY pmax pmax
comp=Z,2.0nm,0.8s
GOF Gofitskoye 21.26 299 *e*P **P** **23 58 59.1 +1.2**
GOF pmax pmax
comp=Z,50nm,1.4s
KIV Kislovodsk 21.33 296 *e*P **P** **23 58 59.0 +0.3**
KIV *e*S **S** **00 02 52.8 -1.2**
KIV pmax pmax
comp=Z,23nm,0.9s
KIV MLR MLR
comp=Z,138nm,14.0s
KIV Kislovodsk 21.33 296 *e*P **P** **23 58 58.8 0.0**
comp=Z,21nm,0.6s
HYB Hyderabad 21.58 156 *i* P **P** **23 59 05.0 +3.4**
CHVG Ch'k'valeri 21.63 292 P P 23 59 08.5 +6.6
SOC Sochi 23.43 294 *e*P **P** **23 59 19.5 -1.2**
SOC *e* 23 59 46.0
SOC *e*S **S** **00 03 26.5 -5.5**
SOC *e*SSS SSS 00 04 31.2
SOC MLR MLR
comp=Z,100nm,10.0s
GTA Gaotai 23.62 76 *e*P **P** **23 59 22.8 0.0**
GTA pP **pP** **23 59 33.0 +1.7**
GTA sP **sP** **23 59 37.8 +2.8**
GTA PMZ
comp=Z,22nm,1.1s
GTA PMZ
comp=Z,48nm,5.9s
GTA LN
comp=Z,270nm,12.6s
GTA LE
comp=Z,330nm,15.4s
GTA LZ
comp=Z,390nm,12.3s
RAYN Ar Rayn 25.00 243 *e*P **P** **23 59 37.0 +1.5**
comp=Z,14nm,0.9s
VORD Divnogorie 25.30 312 *e*P **P** **23 59 39.2 +1.3**
VORD pmax pmax
comp=N,50nm,0.7s
VORD pmax pmax
comp=E,70nm,0.7s
VORD pmax pmax
comp=Z,10.0nm,0.7s
VSR Storozhevoye 25.46 312 *e*P **P** **23 59 38.7 -0.7**
VSR pmax pmax
comp=E,30nm,1.4s
VSR pmax pmax
comp=Z,20nm,1.4s
VSR pmax pmax
comp=N,10.0nm,1.2s
LPSR Galich'ya Gora 26.11 315 *e*P **P** **23 59 45.3 +0.1**
LPSR pmax pmax
comp=Z,9.0nm,0.7s
LPSR pmax pmax
comp=N,3.0nm,0.4s
LPSR pmax pmax
comp=E,8.0nm,0.6s
MOY Mondy 26.12 47 *e*P **P** **23 59 48.5 +3.0**
ZAK Zakamensk 27.10 51 *e*P **P** **23 59 54.0 -0.4**
ZAK pmax pmax
comp=Z,3.0nm,1.3s
TLY Talaya 27.69 49 *e*P **P** **00 00 00.8 +1.3**
TLY pmax pmax
comp=Z,3.0nm,1.0s
TLY MLR MLR
comp=Z,114nm,13.0s
BRTR Keskin Array B 28.09 286 P **P** **00 00 05.3 +2.0**
comp=Z,1.0nm,0.6s,baz=107,slow=9.5,SNR=10
SONM Songino Array 28.62 57 P **P** **00 00 07.8 -0.1**
comp=Z,1.3nm,0.7s,baz=266,slow=9.1,SNR=12
SONM LR LR 00 13 02.8
comp=Z,161nm,19.2s,baz=153,slow=40
ISP Isparta 30.80 283 *i*P **P** **00 00 28.9 +1.5**
AKASG Malin Array Be 31.41 308 P **P** **00 00 31.3 -1.2**
comp=Z,2.9nm,0.6s,baz=80,slow=7.3,SNR=27
AKASG Malin Array Be 31.41 308 *ce*P **P** **00 00 33.0 +0.5**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
CFR Carcaliu 31.77 297⇓ *i*P **P** **00 00 36.8 +1.1**
CMAR Chiang Mai Arr 31.93 119 P **P** **00 00 36.5 -0.8**
comp=Z,2.8nm,0.3s,baz=307,slow=8.2,SNR=9.6
CMAR Chiang Mai Arr 31.93 119 *ce*P P 00 00 43.2 +5.9
CMAR pmax pmax
comp=Z,1.0nm,0.3s
HHC Hu-ho-hao-te 32.40 71 *e*P P 00 00 45.5 +4.1
HHC PP **PP** **00 01 53.0 -1.8**
HHC S **S** **00 05 57.8 +3.8**
HHC sS sS 00 06 05.0 -3.4
HHC PMZ
comp=Z,89nm,7.4s
HHC LN
comp=Z,280nm,12.7s
HHC LE
comp=Z,250nm,13.6s
HHC LZ
comp=Z,230nm,14.8s
TESR Tescani 32.80 300⇑ *i*P **P** **00 00 46.6 +1.9**
PLOR Plostina 32.80 298⇑ *i*P **P** **00 00 47.5 +2.7**
MLR Muntele Rosu 33.31 298⇓ *i*P **P** **00 00 51.8 +2.5**
DOPR Dopca 33.68 299⇓ *i*P **P** **00 00 52.1 -0.3**
BURAR Bucovina Array 33.78 302⇑ *i*P **P** **00 00 55.1 +1.7**
KDZ Kurdzhali 34.03 291⇑ *i*P **P** **00 00 57.4 +1.9**
BOD Bodaibo 35.19 40 *e*P **P** **00 01 04.7 -0.6**
BOD pmax pmax
comp=Z,7.0nm,0.9s
KWP Kalwaria Pacla 35.49 305 *e*P **P** **00 01 09.6 +1.6**
KWP Kalwaria Pacla 35.49 305 *e*P **P** **00 01 09.7 +1.7**
DRGR 35.51 300⇑ *i*P **P** **00 01 10.5 +2.3**
KOLS Kolonicke sedl 35.76 304 *e*P **P** **00 01 11.7 +1.3**
KOLS pmax pmax
comp=Z,3.0nm,0.9s
IDI Anoyia 35.83 280 P **P** **00 01 11.0 -0.2**
comp=Z,0.9nm,0.5s,baz=141,slow=12,SNR=6.1
FINES FINESS Array B 35.96 326 P **P** **00 01 11.6 -0.3**
comp=Z,2.1nm,0.9s,baz=132,slow=11,SNR=6.2
FINES FINESS Array B 35.96 326 *ce*P **P** **00 01 12.1 +0.2**
FINES pmax pmax
comp=Z,2.0nm,0.9s
STHS Stebnicka Huta 36.44 305 *e*P **P** **00 01 17.5 +1.3**
STHS pmax pmax
comp=Z,1.0nm,0.7s
KECS Kecovo 36.95 303 *e*P **P** **00 01 20.7 +0.2**
KECS pmax pmax
comp=Z,2.0nm,1.0s
NIE Niedzica 37.05 305 *e*P **P** **00 01 23.8 +2.5**
NIE Niedzica 37.05 305 *e*P **P** **00 01 23.8 +2.5**
OJC Ojcow 37.38 306 *e*P **P** **00 01 25.5 +1.4**
OJC Ojcow 37.38 306 *e*P **P** **00 01 25.6 +1.4**
WHN Wuhan 37.41 87⇓ P P 00 01 28.3 +3.8
WHN *e*S **S** **00 07 15.8 +4.9**
WHN LZ
comp=Z,360nm,12.3s
DIVS Divibare 37.65 296⇓ *i*P **P** **00 01 28.2 +1.6**
TIA Tai'an 37.67 77⇑ P P **00 01 27.8 +1.1**
TIA PMZ
comp=Z,20nm,0.9s
ARCES ARCESS Array B 39.71 337 P **P** **00 01 43.9 +0.5**
comp=Z,0.9nm,0.5s,baz=113,slow=9.3,SNR=11
NB2 NORSAR Subarra 42.85 322 P **P** **00 02 08.9 -0.4**
comp=Z,0.6nm,0.5s,baz=97,slow=8.6
NOA NORSAR Array B 42.85 322 P **P** **00 02 09.2 -0.2**
comp=Z,1.1nm,0.6s,baz=97,slow=8.1,SNR=5.7
PSI Prapat 43.82 135 P **P** **00 02 17.3 -0.5**
comp=Z,3.4nm,0.6s,baz=284,slow=3.8,SNR=3.6
DAVOX Davos/Dischmat 44.26 302 P **P** **00 02 21.0 0.0**
comp=Z,0.8nm,0.4s,baz=95,slow=7.6,SNR=4.0
TIXI Tiksi 45.16 23 *c i*P **P** **00 02 27.5 -0.1**
TIXI pmax pmax
comp=Z,6.0nm,1.0s
KSAR Wonju Array Be 45.52 72 P **P** **00 02 30.7 -0.3**
KSAR Wonju Array Be 45.52 72 P **P** **00 02 30.7 -0.3**
KSRS Korea Array 45.54 71 P **P** **00 02 30.7 -0.4**
comp=Z,0.4nm,0.4s,baz=240,slow=32,SNR=4.1
KSRS LR LR 00 24 14.2
comp=Z,104nm,18.6s,baz=156,slow=40
USRK Ussuriysk Ar. 46.58 61 LR LR 00 24 21.9
comp=Z,129nm,19.2s,baz=137,slow=39
MJAR Matsushiro Arr 53.55 69 P **P** **00 03 32.0 -0.3**
comp=Z,2.3nm,0.2s,baz=290,slow=8.4,SNR=4.5
MJAR Matsushiro Arr 53.55 69 P **P** **00 03 32.0 -0.3**
ESDC Sonseca Array 55.99 297 P **P** **00 03 50.5 +0.6**
comp=Z,1.0nm,0.7s,baz=63,slow=7.5,SNR=8.9
BILL Bilibino 58.09 26 *e*P **P** **00 04 04.4 +0.1**
BILL pmax pmax
comp=Z,2.0nm,1.0s
TORD Torodi Ar. Bea 64.68 267 P **P** **00 04 49.7 +0.1**
comp=Z,1.4nm,0.8s,baz=50,slow=5.9,SNR=13
COLD Coldfoot 71.19 15 *e*P **P** **00 05 29.3 -0.5**
comp=Z,2.9nm,0.8s
COLA College 73.71 16⇓ *e*P **P** **00 05 45.6 +0.9**
ILAR Eielson Array 74.00 15 P **P** **00 05 46.2 -0.3**
comp=Z,0.7nm,0.8s,baz=319,slow=4.4,SNR=9.9
YKA Yellowknife Ar 80.18 2 P **P** **00 06 21.8 +0.6**
comp=Z,0.9nm,0.8s,baz=349,slow=5.6,SNR=14
SCHQ Schefferville 80.65 336 P **P** **00 06 24.3 +0.4**
comp=Z,1.4nm,0.6s,baz=32,slow=9.4,SNR=3.6
WRA Warramunga Arr 83.49 121 P **P** **00 06 38.6 -0.7**
comp=Z,0.7nm,0.9s,baz=335,slow=6.2,SNR=3.2
ASAR Alice Springs 85.77 124 P **P** **00 06 49.1 -1.6**
comp=Z,0.4nm,0.8s,baz=313,slow=4.7,SNR=3.8
CTA Charters Tower 91.98 114 LR LR 00 51 34.1
comp=Z,69nm,21.9s,baz=28,slow=38
ROSC El Rosal 126.09 314 PKP **PKPdf** **00 13 15.1 +0.5**
comp=Z,3.5nm,0.3s,baz=104,slow=19,SNR=4.8
CFAA Coronel Fontan 145.05 267 PKPbc **PKPbc** **00 13 47.1 -1.0**
comp=Z,0.2nm,0.4s,baz=0.0,slow=1.0,SNR=3.1

*IDC **31** 00:22:05.0±0.6,37.°58N×69.°75E,h0km,mb4.1/21, mb1 4.2/27,mb1mx4.2/37,mbtmp4.1/27,ML3.9/6,MS3.8/16, Ms1 3.8/16,ms1mx3.6/30,Error ellipse: s-maj=11.3km s-min=9.5km az=160.0*
*NNC **31** 00:22:05.4±1.8,37.°56N×69.°64E,h0km,mb4.7,mpv4.4, Error ellipse: s-maj=16.3km s-min=5.8km az=30.0*
*ISCJB **31** 00:22:07.4±0.2,37.°59N±0.°02×69.°81E±0.°02,h27km, mb4.3/58,MS4.0/27,Error ellipse: s-maj=3.3km s-min=2.4km az=20.4*
*BJI **31** 00:22:09.7,37.°95N×70.°16E,h10km,mb4.6/16,mB4.6/12, ML4.3/2,Ms4.3/13,Ms7 4.1/12*
*MOS **31** 00:22:10.5±1.1,37.°79N×69.°77E,h46km,mb4.7/24,Error ellipse: s-maj=6.4km s-min=4.6km az=110.5*
*NEIC **31** 00:22:11.8±0.8,37.°78N×69.°79E,h46km±8km,mb4.7/19, Error ellipse: s-maj=7.2km s-min=5.7km az=178.0*
*TEH **31** 00:22:13.1,37.°82N×69.°70E,h40km,ML4.5*
ISC 31 00:22:09.2±0.3,37.64N±0.03×69.77E±0.03,h27km,n257, σ1§56/260,mb4.4/58,MS4.0/28,36C-15D,
Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		
DZET	**Dzherino**	**1.38**	**328**	⇑P	**Pn**	**00 22 30.9**	**-1.9**
	679nm,0.7s						
DZET				⇑S	**Sb**	**00 22 50.9**	**-0.7**
	3μm,0.7s						
DZET	**Dzherino**	**1.38**	**328**	P	**Pn**	**00 22 30.9**	**-1.9**
DZET				S	**Sb**	**00 22 50.9**	**-0.7**
DZET				pmax	pmax		
	comp=Z,714nm,0.6s						
KBL	**Kabul**	**3.15**	**191**	*e*PN	Pb	00 23 02.2	-2.5
KBL				*e*		00 23 46.0	
KBL	**Kabul**	**3.15**	**191**	*e*Pn	Pb	00 23 02.1	-2.5
KBL				*e*Sn	**Sb**	**00 23 46.0**	**+3.3**
SFK	**Sufi-Kurgan**	**3.76**	**50**	⇓Pn	**Pn**	**00 23 08.7**	**+3.1**
	comp=Z,13nm,0.4s						
SFK				⇑Pg	**Pb**	**00 23 17.1**	**+2.1**
	comp=Z,164nm,0.9s						
SFK				⇓Lg	Lg	00 24 06.7	
	comp=Z,319nm,0.9s						
SFK	**Sufi-Kurgan**	**3.76**	**50**	PN	**Pn**	**00 23 08.2**	**+2.6**
SFK				pmax	pmax		
	comp=Z,78nm,0.5s						
CEP	**Cherat**	**4.19**	**155**	P	Pn	00 23 17.5	+6.0
CEP				S	Sn	00 24 07.0	+7.4
CHCP	**Chirah Chowk**	**4.89**	**143**	P	Pn	00 23 27.2	+6.2
THW	**Thamme Wali**	**5.10**	**161**	P	Pn	00 23 28.1	+4.2
KSH	**Kashi**	**5.21**	**67**	Pn	**Pn**	**00 23 23.0**	**-2.5**
KSH				Sn	**Sn**	**00 24 22.0**	**-2.8**
KSH				smax	smax		
	comp=N,270nm,0.8s						
KSH				smax	smax		
	comp=E,230nm,0.7s						
MNAS	**Manas**	**5.28**	**23**	⇓Pn	**Pn**	**00 23 27.6**	**+1.2**
	comp=E,7.6nm,0.4s						
MNAS				⇑Pg	**Pb**	**00 23 42.7**	**+1.9**
	comp=E,69nm,0.9s						
MNAS				⇓Lg	Lg	00 24 52.6	
	comp=E,128nm,0.8s						
AML	**Almayashu**	**5.41**	**33**	P	**Pn**	**00 23 29.6**	**+1.2**
	SNR=53						
KK31	**Karatay Array**	**5.49**	**6**	Pn	**Pn**	**00 23 29.6**	**+0.5**
	comp=E,7.8nm,0.5s,baz=198,slow=16,SNR=135						
KK31				⇓Pg	**Pb**	**00 23 46.4**	**+2.2**
	comp=E,16nm,0.5s,baz=178,slow=13,SNR=8.2						
KK31				⇓Lg	Lg	00 25 00.5	
	comp=E,122nm,0.8s,baz=193,slow=28,SNR=2.9						
KKAR	**Karatay Array**	**5.49**	**6**	*e*PN	**Pn**	**00 23 29.3**	**+0.1**
KKAR	**Karatay Array**	**5.49**	**6**	*e*Pn	**Pn**	**00 23 29.3**	**+0.1**
KKAR				*e*Sn	Sb	00 25 01.1	+12
UCH	**Uchtor**	**5.86**	**37**	P	**Pn**	**00 23 35.8**	**+1.2**
	SNR=57						
EKS2	**Erkin-Say**	**5.88**	**30**	P	**Pn**	**00 23 37.4**	**+2.7**
	SNR=11						
EKS2	**Erkin-Say**	**5.88**	**30**	*e*PN	**Pn**	**00 23 37.3**	**+2.7**
EKS2	**Erkin-Say**	**5.88**	**30**	*e*Pn	**Pn**	**00 23 37.3**	**+2.7**
KZA	**Kyzart**	**6.12**	**42**	P	**Pn**	**00 23 39.2**	**+1.0**
	SNR=42						
AAK	**Ala-Archa**	**6.16**	**35**	P	**Pn**	**00 23 40.4**	**+1.7**
	SNR=29						
AAK	**Ala-Archa**	**6.16**	**35**	⇑Pn	**Pn**	**00 23 40.5**	**+1.9**
	comp=E,19nm,0.4s						
AAK				⇑Lg	Lg	00 25 25.1	
	comp=E,161nm,1.1s						
AAK	**Ala-Archa**	**6.16**	**35**	Pn	**Pn**	**00 23 40.3**	**+1.7**
	comp=E,14nm,0.3s,baz=206,slow=7.9,SNR=66						
AAK				Sn	**Sn**	**00 24 51.7**	**+3.5**
	comp=E,4.4nm,0.3s,baz=186,slow=12,SNR=3.8						
AAK				Lg	Lg	00 25 21.6	
	comp=E,4.3nm,0.3s,baz=75,slow=18,SNR=3.8						
AAK				LR	LR	00 26 33.7	
	comp=E,459nm,21.0s,baz=210,slow=43						
AAK	**Ala-Archa**	**6.16**	**35**	*c i*PN	**Pn**	**00 23 40.8**	**+2.2**
AAK				pmax	pmax		
	comp=Z,69nm,0.6s						
FRU	**Bishkek**	**6.38**	**34**	*e*PN	**Pn**	**00 23 42.8**	**+1.4**
FRU				pmax	pmax		
	comp=Z,280nm,1.8s						
KBK	**Karagaybulak**	**6.39**	**37**	P	**Pn**	**00 23 43.6**	**+1.8**
	SNR=42						
CHMS	**Chumysh**	**6.57**	**34**	P	**Pn**	**00 23 45.3**	**+1.2**
	SNR=34						
USP	**Ospenovka**	**6.68**	**31**	P	**Pn**	**00 23 46.1**	**+0.6**
	SNR=28						
ULHL	**Ulahol**	**6.77**	**45**	P	**Pn**	**00 23 47.8**	**+0.8**
	SNR=23						
TKM2	**Tokmak 2**	**6.90**	**38**	P	**Pn**	**00 23 49.6**	**+0.8**
	SNR=28						
TKM2	**Tokmak 2**	**6.90**	**38**	⇑Pn	**Pn**	**00 23 50.5**	**+1.7**
	comp=Z,8.3nm,0.5s						
TKM2				⇑Lg	Lg	00 25 46.3	
	comp=Z,99nm,0.9s						
TKM2	**Tokmak 2**	**6.90**	**38**	PN	**Pn**	**00 23 50.5**	**+1.7**
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.4s						
TKM2	**Tokmak 2**	**6.90**	**38**	*e*Pn	**Pn**	**00 23 49.6**	**+0.8**
DLH	**Dalhousie**	**7.19**	**133**	*e*P	Pn	00 24 00.0	+7.2
DLH				*ex*	x	00 25 18.0	
DHRM	**DHARAMSHALA**	**7.59**	**133**	*e*P	Pn	00 24 01.9	+3.5
DHRM				*e*S	**Sn**	**00 25 25.4**	**+1.8**
DHRM				AML	AML	00 26 15.3	
	comp=E,254nm,0.4s						
DHRM				AML	AML	00 26 16.3	
	comp=N,166nm,1.0s						
KNDC	**Almaty**	**7.82**	**42**	⇑Pn	**Pn**	**00 24 02.8**	**+1.6**
	comp=N,64nm,0.8s						
KNDC				⇑Lg	Lg	00 26 14.5	
	comp=N,145nm,1.0s						
IMYA	**Miami**	**7.84**	**263**	*e*P	**Pn**	**00 24 00.8**	**-0.9**
AAA	**Alma-Ata**	**7.85**	**42**	*i* P	**Pn**	**00 24 03.5**	**+1.9**
AAA				*i* S	Sn	00 25 38.4	+8.9
AAA				pmax	pmax		
	comp=Z,100nm,0.1s						
AAA				smax	smax		
	comp=N,100nm,0.7s						
AAA				MLR	MLR		
	comp=Z,4μm,5.0s						
BHK	**Bhakra**	**8.28**	**137**	*ex*	**Pb**	**00 24 31.4**	**-0.6**
ISRO	**Mashad**	**8.35**	**264**	*e*P	**Pn**	**00 24 07.0**	**-1.6**
IMOG	**Moghan**	**8.50**	**263**	*e*P	**Pn**	**00 24 09.5**	**-1.3**
SDNR	**Sundarnagar**	**8.53**	**134**	*e*P	Pn	00 24 18.0	+7.0
SDNR				*e*S	**Sn**	**00 25 46.0**	**-0.4**
IPAY	**Payeh**	**8.69**	**265**	*e*P	**Pn**	**00 24 11.7**	**-1.7**
IAKL	**Akhelmad**	**8.86**	**267**	*e*P	**Pn**	**00 24 13.6**	**-2.1**
SMLA	**Simla**	**8.92**	**135**	*e*P	**Pn**	**00 24 19.1**	**+2.8**
SMLA				*e*S	**Sn**	**00 25 56.4**	**+0.5**
SMLA				AML	AML	00 26 01.9	
	comp=N,1μm,0.4s						
SMLA				AML	AML	00 26 01.9	
	comp=E,792nm,0.4s						
PDGK	**Podgornoye**	**9.33**	**49**	⇑Pn	**Pn**	**00 24 23.3**	**+1.4**
	comp=E,13nm,1.1s						
PDGK				⇓Lg	Lg	00 27 05.4	
	comp=E,37nm,1.1s						
ISFR	**Sfrayin**	**9.39**	**270**	*e*P	**Pn**	**00 24 23.0**	**0.0**
IDAH	**Dahanechah**	**9.46**	**242**	*e*P	**Pn**	**00 24 26.6**	**+2.7**
DDI	**Dehra Dun**	**10.03**	**134**	*e*P	Pn	00 24 38.8	+7.2
DDI				*e*S	**Sn**	**00 26 22.8**	**-0.4**
DDI				AML	AML	00 27 53.9	
	comp=N,65nm,0.0s						
DDI				AML	AML	00 27 55.2	
	comp=E,102nm,0.6s						
IKOO	**Kooshah**	**10.24**	**243**	*e*P	**Pn**	**00 24 37.5**	**+2.8**
KHET	**Khetri**	**10.80**	**150**	*e*P	Pn	00 24 47.2	+5.0
KHET				*e*S	**Sn**	**00 26 40.2**	**-2.0**
KHET				AML	AML	00 26 53.2	
	comp=E,99nm,0.3s						
KHET				AML	AML	00 26 54.1	
	comp=N,96nm,0.4s						
NDI	**New Delhi**	**10.89**	**143**	*ex*	x	00 24 57.0	
NDI				*ex*	**Sn**	**00 26 45.0**	**+0.6**
KUDL	**Kundal**	**11.02**	**147**	*e*P	Pn	00 24 50.0	+4.8
KUDL				*e*S	**Sn**	**00 26 43.9**	**-3.6**
SONA	**Sohna**	**11.20**	**145**	*e*P	Pn	00 24 53.8	+6.3
SONA				*e*S	**Sn**	**00 26 47.6**	**-4.2**
IGLO	**Ghaloghah**	**12.78**	**270**	*e*P	**Pn**	**00 25 08.0**	**-1.4**

MK31 Makanchi Array 13.02 41 P **Pn** **00 25 11.6 -0.7**
comp=N,6.8nm,0.7s,baz=228,slow=12,SNR=52
MK31 Makanchi Array 13.02 41 *i* P **Pn** **00 25 11.6 -0.7**
MK31 pmax pmax
comp=Z,8.0nm,0.7s
MK31 Makanchi Array 13.02 41 *e*Pn **Pn** **00 25 11.8 -0.6**
MKAR Makanchi Array 13.02 41 Pn **Pn** **00 25 12.0 -0.3**
comp=Z,0.4nm,0.3s,baz=230,slow=13,SNR=36
MKAR Lg Lg 00 28 56.5
comp=Z,0.0nm,0.3s,baz=233,slow=22,SNR=2.9
MKAR LR LR 00 29 44.5
comp=Z,58nm,20.2s,baz=230,slow=35
ISHM Shahmirzad 13.35 267 *e*P **Pn** **00 25 16.1 -1.0**
AB31 Akbulak array 13.61 332 ⇓P Pn 00 25 16.9 -3.5
comp=Z,3.5nm,0.3s,baz=144,slow=14,SNR=144
AB31 ⇑S Sn 00 27 40.7 -10
comp=Z,4.6nm,0.5s,baz=91,slow=48,SNR=3.9
AB31 Akbulak array 13.61 332 P Pn 00 25 16.9 -3.5
AB31 pmax pmax
comp=Z,5.0nm,0.3s
ABKAR Akbulak array 13.61 332 *e*Pn Pn 00 25 16.8 -3.6
ABKAR *e*Sn Sn 00 27 40.4 -10
KURBB Kurchatov Arra 14.41 23 ⇑P Pn 00 25 27.5 -3.8
comp=Z,7.8nm,1.1s
KURBB Kurchatov Arra 14.41 23 Pn **Pn** **00 25 28.4 -2.8**
comp=Z,0.1nm,0.3s,baz=210,slow=12,SNR=11
KURK Kurchatov 14.52 23 ⇑P **Pn** **00 25 30.1 -2.6**
comp=Z,4.0nm,1.1s
KURK Kurchatov 14.52 23 *e*P **Pn** **00 25 29.8 -2.9**
KURK Kurchatov 14.52 23 *e*Pn **Pn** **00 25 29.8 -2.9**
WMQ Urumqi 14.92 60 P **Pn** **00 25 37.8 -0.5**
WMQ pP **P** **00 25 45.0 +1.3**
WMQ sP 00 25 49.8
WMQ PMZ
comp=Z,18nm,0.6s
WMQ PMZ
comp=Z,140nm,5.2s
WMQ LN
comp=Z,760nm,12.4s
WMQ LE
comp=Z,560nm,12.0s
WMQ LZ
comp=Z,430nm,18.6s
IZEF Zefreh 15.01 257 *e*P **Pn** **00 25 40.8 +1.0**
KOLN Koldanda 15.23 126 *e*P **Pn** **00 25 41.3 -1.4**
comp=Z,29nm,0.4s
AKTO Aktyubinsk 15.30 330 ⇑P **Pn** **00 25 40.2 -3.1**
comp=Z,45nm,0.8s
AKTO ⇓S Sn 00 28 22.1 -10
comp=Z,27nm,1.2s
AKTO Aktyubinsk 15.30 330 Pn **Pn** **00 25 40.2 -3.1**
comp=Z,0.8nm,0.3s,baz=146,slow=13,SNR=24
AKTO Sn Sn 00 28 21.3 -10
baz=225,slow=20,SNR=2.1
AKTO Lg Lg 00 30 13.6
comp=Z,0.2nm,0.3s,baz=234,slow=19,SNR=2.8
AKTO LR LR 00 33 01.4
comp=Z,84nm,19.6s,baz=145,slow=43
AKTO Aktyubinsk 15.30 330 P **Pn** **00 25 40.1 -3.1**
AKTO pmax pmax
comp=Z,45nm,0.8s
BVA0 Borovoye Array 15.39 1 ⇓P **Pn** **00 25 45.7 +1.3**
comp=Z,7.2nm,0.8s,baz=164,slow=12,SNR=20
BVA0 Borovoye Array 15.39 1 *e*P **Pn** **00 25 44.6 +0.2**
BVA0 pmax pmax
comp=Z,7.0nm,0.8s
BVAR Borovoye Array 15.39 1 Pn **Pn** **00 25 41.6 -2.8**
comp=Z,1.3nm,0.3s,baz=166,slow=12,SNR=11
BVAR Lg Lg 00 30 17.9
comp=Z,0.2nm,0.3s,baz=172,slow=34,SNR=3.8
BRVK Borovoye 15.42 1 *e*P **Pn** **00 25 44.8 0.0**
BRVK pmax pmax
comp=Z,7.0nm,0.6s
BRVK Borovoye 15.42 1 *e*Pn **Pn** **00 25 44.8 0.0**
comp=Z,7.2nm,0.6s
BRVK *e*S **S** **00 28 46.0 -4.2**
GKN Gorkha 15.75 123 *e*P **Pn** **00 25 47.8 -1.6**
comp=Z,92nm,0.6s
IRAZ Razeghan 16.10 268 *e*P **P** **00 25 59.0 +2.0**
KKN Kakani 16.32 123 *e*P **Pn** **00 25 54.7 -2.0**
comp=Z,52nm,0.6s
DMN Daman 16.32 123 *e*P **Pn** **00 25 55.4 -1.4**
comp=Z,84nm,0.8s
PKIN Phulchoki 16.54 123 *e*P **Pn** **00 25 57.8 -1.7**
comp=Z,28nm,0.5s
PKI Pulchoki 16.55 123 *e*P **Pn** **00 25 57.7 -2.0**
comp=Z,53nm,0.7s
GUN Gumba 16.64 121 *e*P **Pn** **00 25 58.0 -3.0**
comp=Z,115nm,0.8s
IKAZ Kazeroun 16.84 248 *e*P **Pn** **00 26 04.0 +0.7**
JIRN Jiri 17.02 121 *e*P **Pn** **00 26 02.9 -2.8**
comp=Z,61nm,0.5s
RAMN Ramite 17.75 122 *e*P **Pn** **00 26 12.7 -2.0**
comp=Z,55nm,0.7s
MAK Makhachkala 17.77 294 *e*P **P** **00 26 19.5 +4.3**
MAK MLR MLR
comp=Z,672nm,14.0s
TAPN Taplejung 18.26 119 *e*P **P** **00 26 18.8 -2.2**
comp=Z,50nm,0.8s
ODAN Odare 18.35 121 *e*P **P** **00 26 20.2 -1.7**
comp=Z,37nm,0.6s
IMRD Marand 18.94 281 *e*P **Pn** **00 26 29.5 +0.4**
DGRG David-gareji 19.17 289 P **Pn** **00 26 31.5 -0.2**
ZAA0 Zalesovo Array 19.32 28 *e*P **P** **00 26 30.6 -1.6**
ZALV Zalesovo Beam 19.32 28 P **P** **00 26 30.8 -1.4**
comp=Z,1.1nm,0.3s,baz=223,slow=11,SNR=39
ZALV LR LR 00 34 34.6
comp=Z,276nm,21.8s,baz=248,slow=39
LSA Lhasa 19.45 108 *e*P **Pn** **00 26 37.0 +1.4**
LSA pmax pmax
comp=Z,18nm,0.9s
LSA Lhasa 19.45 108 *e*Pn **Pn** **00 26 37.0 +1.4**
comp=Z,18nm,0.9s
NVS Novosibirsk 19.50 24 ⇑*i*P **P** **00 26 31.6 -2.5**
NVS *e*S **S** **00 30 10.2 -2.5**
NVS pmax pmax
comp=Z,18nm,1.3s
NVS pmax pmax
comp=N,6.0nm,0.7s
NVS pmax pmax
comp=E,4.0nm,0.7s
NVS smax smax
comp=N,20nm,2.0s
NVS smax smax
comp=E,32nm,1.8s
GNI Garni 19.62 285 P **Pn** **00 26 37.5 +0.3**
comp=E,0.6nm,0.3s,baz=150,slow=3.6,SNR=8.4
GNI LR LR 00 36 08.5
comp=E,174nm,19.4s,baz=80,slow=43
GNI Garni 19.62 285 P **Pn** **00 26 37.5 +0.3**
GNI *e*Pn **P** **00 26 37.7 +1.9**
TBLG Delisi 19.67 290 P **P** **00 26 36.8 +0.8**
SVE Sverdlovsk 20.14 345 *e*P **P** **00 26 39.5 -1.5**
SVE *e*S S 00 30 15.5 -10
SVE pmax pmax
comp=Z,8.0nm,0.9s
SVE MLR MLR
comp=Z,598nm,13.0s
ARU Arti 20.24 342 *d i*P **P** **00 26 41.8 -0.3**
ARU 00 26 59.4
ARU PPP PPP 00 27 09.3
ARU S **S** **00 30 26.2 -1.4**
ARU SSS SSS 00 31 01.7
ARU pmax pmax
comp=Z,16nm,1.0s
ARU MLR MLR
comp=Z,483nm,14.0s
ARU Arti 20.24 342 *e*P **P** **00 26 41.2 -0.9**
comp=Z,15nm,0.8s
ZEI Tsey 20.38 293 *e*P **P** **00 26 43.1 -0.9**
ZEI pmax pmax
comp=Z,15nm,0.7s
RPR Rampur 20.49 153 *e*P Pn 00 26 47.1 -0.3
NCK Nalchik 20.68 295 ⇑*i*P **P** **00 26 47.0 0.0**
ONI Oni 20.68 292 P Pn 00 26 49.1 -0.5
KBZ Khabaz 21.21 295 P **P** **00 26 52.1 -0.6**
comp=Z,20nm,0.8s,baz=322,slow=20
NEY Neytrino 21.28 294 ⇓*i*P **P** **00 26 55.3 +1.6**
NEY pmax pmax
comp=Z,5.0nm,0.8s
GOF Gofitskoye 21.32 299 *e*P **P** **00 26 53.9 0.0**
GOF pmax pmax
comp=Z,89nm,1.3s
KIV Kislovodsk 21.39 296 *e*P **P** **00 26 54.3 -0.5**
KIV pmax pmax
comp=Z,52nm,0.7s
KIV Kislovodsk 21.39 296 *e*P **P** **00 26 54.3 -0.5**
comp=Z,52nm,0.7s
HYBB Hyderabad (bro 21.58 157 *e*P **P** **00 26 59.0 +2.1**
HYB Hyderabad 21.58 157 *i* P **P** **00 26 58.0 +1.1**
CHVG Ch'k'valeri 21.70 292 P P 00 27 02.9 +4.8
SOC Sochi 23.49 294 *e*P **P** **00 27 17.3 +0.6**
SOC *e*PPP PPP 00 27 58.8
SOC *e*S **S** **00 31 26.5 -2.2**
SOC *e*SSS SSS 00 32 20.7
SOC MLR MLR
comp=Z,203nm,13.0s
SOKR Solikamsk 23.50 343 ⇑*i*P P 00 27 21.4 +4.8
SOKR pmax pmax
comp=Z,20nm,1.0s
SOKR MLR MLR
comp=Z,360nm,15.0s
GTA Gaotai 23.53 76 *e*P **P** **00 27 18.5 +1.2**
GTA pP **pP** **00 27 23.0 -1.9**
GTA sP **sP** **00 27 26.0 -2.3**
GTA PMZ
comp=Z,26nm,1.3s
GTA PMZ
comp=Z,120nm,6.2s
GTA LN
comp=Z,410nm,12.6s
GTA LE
comp=Z,570nm,15.7s
GTA LZ
comp=Z,700nm,15.0s
RAYN Ar Rayn 25.09 243 *e*P **P** **00 27 30.2 -1.6**
comp=Z,24nm,0.9s
ANN Anapa 25.23 297 *e*P **P** **00 27 34.3 +1.6**
ANN pmax pmax
comp=Z,26nm,1.1s
ANN MLR MLR
comp=Z,218nm,15.0s
ANN MLR MLR
comp=E,198nm,15.0s
ANN MLR MLR
comp=N,109nm,15.0s
VORD Divnogorie 25.34 311 *e*P **P** **00 27 33.4 -0.3**
VORD pmax pmax
comp=N,30nm,0.9s
VORD pmax pmax
comp=E,40nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD MLR MLR
comp=N,100nm,16.0s
VORD MLR MLR
comp=E,490nm,16.0s
VORD MLR MLR
comp=Z,520nm,16.0s
VSR Storozhevoye 25.50 312 *e*P **P** **00 27 34.4 -0.8**
VSR *e**SP **sP** **00 27 48.1 +1.7**
VSR pmax pmax
comp=N,2.0nm,0.6s
VSR pmax pmax
comp=E,20nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR MLR MLR
comp=N,160nm,15.0s
VSR MLR MLR
comp=E,240nm,15.0s
VSR MLR MLR
comp=Z,390nm,15.0s
MOY Mondy 26.03 47 *e*P **P** **00 27 44.2 +4.1**
LPSR Galich'ya Gora 26.15 315 *e*P **P** **00 27 40.8 -0.2**
LPSR pmax pmax
comp=N,6.0nm,1.1s
LPSR pmax pmax
comp=E,10.0nm,1.1s
LPSR pmax pmax
comp=Z,20nm,1.1s
LPSR MLR MLR
comp=N,290nm,23.0s
LPSR MLR MLR
comp=E,380nm,23.0s
LPSR MLR MLR
comp=Z,330nm,23.0s
ZAK Zakamensk 27.01 51 *e*P **P** **00 27 49.7 +0.7**
ZAK pmax pmax
comp=Z,3.0nm,1.3s
ASF Jabal al Asfar 27.41 268 P **P** **00 27 55.0 +2.3**
comp=Z,1.1nm,0.7s,baz=199,slow=3.3,SNR=3.2
ASF LR LR 00 40 14.7
comp=Z,928nm,21.8s,baz=134,slow=40
SIM Simferopol' 27.59 297 *e*P **P** **00 27 55.7 +1.6**
SIM pmax pmax
comp=Z,23nm,0.8s
SIM MLR MLR
comp=N,130nm,18.7s
BR131 Keskin Array S 28.16 286 *e*P **P** **00 28 00.4 +1.0**
comp=N,1.8nm,0.6s
BRTR Keskin Array B 28.16 286 P **P** **00 28 00.7 +1.2**
comp=N,2.9nm,0.7s,baz=104,slow=9.1,SNR=30
MMAI Mount Meron Ar 28.32 271 P **P** **00 28 02.2 +1.4**
comp=N,0.4nm,0.5s,baz=83,slow=12,SNR=2.8
MMAI LR LR 00 41 39.4
comp=N,75nm,21.6s,baz=100,slow=42
PRGR Permogore 28.33 336 *e*P **P** **00 28 02.9 +2.5**
PRGR pmax pmax
comp=Z,6.0nm,0.8s
OBN Obninsk 28.43 319 *e*P **P** **00 28 01.1 -0.3**
OBN *i* 00 28 11.0
OBN *i* S **S** **00 32 47.3 +0.5**
OBN pmax pmax
comp=Z,5.0nm,1.0s
OBN MLR MLR
comp=Z,269nm,18.0s
SONM Songino Array 28.52 57 P **P** **00 28 02.8 +0.3**
comp=Z,1.7nm,1.0s,baz=266,slow=10,SNR=7.3
SONM LR LR 00 40 33.9
comp=Z,660nm,18.4s,baz=245,slow=39
KLMR Klimovskoe 30.00 330 P **P** **00 28 17.8 +2.5**
KLMR pmax pmax
comp=Z,7.0nm,1.2s
ISP Isparta 30.88 283 *e*P **P** **00 28 24.1 +0.6**
ISP pmax pmax
comp=Z,5.0nm,0.6s
ISP Isparta 30.88 283 ⇑*i*P **P** **00 28 25.0 +1.5**
ISP Isparta 30.88 283 *e*P **P** **00 28 24.1 +0.6**
comp=Z,4.6nm,0.6s
AKASG Malin Array Be 31.46 308 P **P** **00 28 28.4 0.0**
comp=Z,5.2nm,0.6s,baz=81,slow=7.3,SNR=66
AKBB Malin Array Si 31.46 308 *e*P **P** **00 28 28.3 0.0**
AKBB Malin Array Si 31.46 308 *e*P **P** **00 28 28.2 0.0**
AK01 Malin Array Si 31.47 308 *e*P **P** **00 28 28.1 -0.2**
AK02 Malin Array Si 31.47 308 *e*P **P** **00 28 28.2 -0.1**
KIEV Kiev 31.47 308 *e*P **P** **00 28 28.2 -0.2**
KIEV pmax pmax
comp=Z,9.0nm,0.6s
KIEV Kiev 31.47 308 *e*P **P** **00 28 28.2 -0.2**
comp=Z,9.4nm,0.6s
CFR Carcaliu 31.83 297 ⇑*i*P **P** **00 28 32.6 +1.0**
CMAR Chiang Mai Arr 31.87 119 P **P** **00 28 31.7 -0.5**
comp=Z,2.0nm,0.4s,baz=322,slow=6.9,SNR=10.0
CMAR LR LR 00 43 46.1
comp=Z,80nm,19.4s,baz=221,slow=41
HHC Hu-ho-hao-te 32.31 71 *e*P P 00 28 40.8 +4.8
HHC PP **PP** **00 29 48.5 -0.6**
HHC S **S** **00 33 52.8 +4.7**
HHC sS sS 00 34 00.0 -1.3
HHC PMZ
comp=Z,12nm,0.7s
HHC PMZ
comp=Z,67nm,7.4s
HHC LN
comp=Z,250nm,12.9s
HHC LE
comp=Z,250nm,12.6s
HHC LZ
comp=Z,270nm,12.3s
VRI Vrincioaia 32.81 298 ⇑*i*P **P** **00 28 42.3 +2.1**
TESR Tescani 32.86 300 ⇑*i*P **P** **00 28 41.9 +1.3**
PLOR Plostina 32.87 298 ⇑*i*P **P** **00 28 42.8 +2.1**
JMB Yambol 33.13 292 ⇑*i*P **P** **00 28 45.2 +2.1**
MLR Muntele Rosu 33.37 298 ⇑*i*P **P** **00 28 47.9 +2.6**
DOPR Dopca 33.74 299 ⇑*i*P **P** **00 28 50.1 +1.7**
BURAR Bucovina Array 33.84 302 ⇑*i*P **P** **00 28 50.5 +1.2**
BUR08 Bucovina Ar. S 33.85 302 *e*P **P** **00 28 49.9 +0.5**
VOIR 34.00 298 ⇑*i*P **P** **00 28 52.2 +1.5**
LVV L'vov 34.69 305 *e*P **P** **00 28 57.0 +0.5**
LOT Lotru 34.90 298 ⇑*i*P **P** **00 28 59.2 +0.7**
BOD Bodaibo 35.10 40 *e*P **P** **00 28 59.7 -0.3**
BOD pmax pmax
comp=Z,5.0nm,1.0s
MMB Musomiste 35.36 291 ⇑*i*P **P** **00 29 04.0 +1.6**
DRGR 35.56 300 ⇑*i*P **P** **00 29 05.9 +1.7**
TRPA Tarpa 35.65 302 ⇑*i*P **P** **00 29 06.3 +1.6**
KOLS Kolonicke sedl 35.82 304 *e*P **P** **00 29 07.4 +1.2**
KOLS pmax pmax
comp=Z,4.0nm,0.8s
KOLS Kolonicke sedl 35.82 304 *e*P **P** **00 29 07.4 +1.2**
IDI Anoyia 35.91 280 P **P** **00 29 05.5 -1.8**
comp=Z,2.3nm,0.5s,baz=42,slow=11,SNR=11
FINES FINESS Array B 35.99 326 P **P** **00 29 06.8 -0.7**
comp=Z,0.7nm,0.4s,baz=125,slow=10,SNR=9.0
FINES FINESS Array B 35.99 326 *i* P **P** **00 29 07.1 -0.4**
FINES pmax pmax
comp=Z,1.0nm,0.4s
BZS Buzias 36.40 298 ⇑*i*P **P** **00 29 13.1 +1.9**
STHS Stebnicka Huta 36.49 305 *e*P **P** **00 29 12.4 +0.4**
STHS pmax pmax
comp=Z,2.0nm,0.7s
STHS Stebnicka Huta 36.49 305 *e*P **P** **00 29 12.4 +0.4**
GVD Gavdhos 36.67 280 *e*P **P** **00 29 13.6 -0.1**
KECS Kecovo 37.01 303 *e*P **P** **00 29 17.5 +1.1**
KECS pmax pmax
comp=Z,2.0nm,0.7s
KECS Kecovo 37.01 303 *e*P **P** **00 29 17.5 +1.1**
TIA Tai'an 37.57 77 ⇓P **P** **00 29 23.3 +2.0**
TIA PMZ
comp=Z,20nm,1.0s
OKC Ostrava-Krasne 38.50 305 *e*P **P** **00 29 31.7 +2.7**
OKC AMS AMS 00 48 10.0
comp=Z,200nm,20.1s
OKC Ostrava-Krasne 38.50 305 *e*P **P** **00 29 31.7 +2.7**
OKC MLR MLR
comp=Z,200nm,20.1s
VRAC Vranov 39.54 305 ⇑*i*P **P** **00 29 39.3 +1.6**
DPC Dobruska-Polom 39.66 306 *e*P **P** **00 29 40.2 +1.5**
DPC Dobruska-Polom 39.66 306 *e*P **P** **00 29 40.2 +1.5**
ARCES ARCESS Array B 39.71 337 P **P** **00 29 38.9 +0.1**
comp=Z,1.7nm,0.5s,baz=112,slow=7.9,SNR=16
ARCES LR LR 00 47 17.9
comp=Z,112nm,18.6s,baz=96,slow=38
UPC Upice 39.85 307 *e*P **P** **00 29 41.3 +1.0**
UPC Upice 39.85 307 *e*P **P** **00 29 41.3 +1.0**
TREC Trest 40.26 305 *e*P **P** **00 29 45.1 +1.4**
TREC AMS AMS 00 48 50.0
comp=Z,200nm,14.6s
TREC Trest 40.26 305 *e*P **P** **00 29 45.1 +1.4**
TREC MLR MLR
comp=Z,200nm,14.6s
PVCC Panska Ves 40.77 307 AMS AMS 00 50 10.0
comp=Z,300nm,17.4s
PRU Pruhonice 40.82 306 *e*P **P** **00 29 49.6 +1.3**
PRU *ex* x 00 29 53.6
PRU AMS AMS 00 49 40.0
comp=Z,200nm,18.0s
PRU Pruhonice 40.82 306 *e*P **P** **00 29 49.6 +1.3**
PRU MLR MLR
comp=Z,200nm,18.0s
BRG Berggiesshubel 41.15 307 *e*P **P** **00 29 52.1 +1.1**
comp=Z,5.5nm,0.9s
BRG Berggiesshubel 41.15 307 *e*P **P** **00 29 52.1 +1.1**
BRG pmax pmax
comp=Z,6.0nm,0.9s
KHC Kasperske Hory 41.52 305 *e*P **P** **00 29 55.6 +1.5**
KHC AMS AMS 00 50 40.0
comp=Z,100nm,14.6s
KHC Kasperske Hory 41.52 305 *e*P **P** **00 29 55.6 +1.5**
KHC MLR MLR
comp=Z,100nm,14.6s
CUC Castrocucco 41.57 291 *e*P **P** **00 29 55.7 +1.1**
comp=Z,7.1nm,0.8s
CLL Collm 41.71 308 *i* P **P** **00 29 56.3 +0.8**
comp=Z,5.0nm,0.9s
CLL LmV 00 49 00.0
comp=Z,100nm,20.2s
CLL Collm 41.71 308 *i* P **P** **00 29 56.3 +0.8**
CLL pmax pmax
comp=Z,5.0nm,0.9s
NKC Novy Kostel 42.15 306 *e*P **P** **00 30 00.5 +1.3**
NKC AMS AMS 00 50 50.0
comp=Z,200nm,14.9s
NKC Novy Kostel 42.15 306 *e*P **P** **00 30 00.5 +1.3**
NKC MLR MLR
comp=Z,200nm,14.9s
NB2 NORSAR Subarra 42.88 322 P **P** **00 30 03.9 -1.1**
comp=Z,1.6nm,0.5s,baz=97,slow=7.9
NOA NORSAR Array B 42.88 322 P **P** **00 30 04.2 -0.8**
comp=Z,1.9nm,0.6s,baz=98,slow=8.1,SNR=9.2
NOA LR LR 00 51 00.8
comp=Z,136nm,18.9s,baz=210,slow=40
MOTA Moosalm 43.40 302 ⇓*i*P **P** **00 30 09.3 -0.2**
comp=Z,4.4nm,0.8s
PSI Prapat 43.78 135 P **P** **00 30 13.1 +0.2**
comp=Z,3.5nm,0.3s,baz=314,slow=13,SNR=6.5
DAVA Damuels 44.23 302 ⇑*i*P **P** **00 30 16.7 +0.5**
comp=Z,3.8nm,0.6s
GSI Gunungsitoli 44.30 138 P **P** **00 30 16.3 -0.6**
TIXI Tiksi 45.09 23 ⇓*i*P **P** **00 30 22.8 +0.3**
TIXI pmax pmax
comp=Z,5.0nm,1.0s
TIXI Tiksi 45.09 23 *e*P **P** **00 30 22.5 0.0**
comp=Z,5.5nm,0.8s
KSAR Wonju Array Be 45.42 72 P **P** **00 30 26.6 +1.0**
KSAR Wonju Array Be 45.42 72 P **P** **00 30 26.6 +1.0**
KSRS Korea Array 45.45 72 P **P** **00 30 26.6 +0.8**
comp=Z,0.4nm,0.3s,baz=311,slow=4.7,SNR=4.1
KSRS LR LR 00 51 46.1
comp=Z,193nm,20.8s,baz=293,slow=39
HINF Hinteralfeld 46.14 304 *e*P **P** **00 30 31.7 +0.5**
HINF Hinteralfeld 46.14 304 *e*P **P** **00 30 31.7 +0.5**
HINF Hinteralfeld 46.14 304 *e*P **P** **00 30 31.7 +0.5**
HAU Haudompre 46.44 304 *e*P **P** **00 30 34.1 +0.6**
comp=Z,35nm,1.4s
HAU Haudompre 46.44 304 *e*P **P** **00 30 34.1 +0.6**
HAU pmax pmax
comp=Z,35nm,1.4s
HAU Haudompre 46.44 304 *e*P **P** **00 30 34.1 +0.6**
comp=Z,35nm,1.4s
USRK Ussuriysk Ar. 46.48 61 LR LR 00 52 08.8
comp=Z,295nm,18.0s,baz=288,slow=39
LPG La Plagne 46.71 301 *e*P **P** **00 30 35.4 -0.7**
LPG La Plagne 46.71 301 *e*P **P** **00 30 35.4 -0.7**
LPG La Plagne 46.71 301 *e*P **P** **00 30 35.4 -0.7**
MEZF Maizieres J'vi 47.18 305 *e*P **P** **00 30 39.8 +0.5**
MEZF Maizieres J'vi 47.18 305 *e*P **P** **00 30 39.8 +0.5**
KEST Kesra 47.75 287 P **P** **00 30 44.3 +0.3**
comp=Z,1.5nm,0.8s,baz=40,slow=3.4,SNR=4.5
VIVF Saint-Julien-l 48.30 300 *e*P **P** **00 30 48.2 +0.1**
comp=Z,24nm,1.1s
VIVF Saint-Julien-l 48.30 300 *e*P **P** **00 30 48.2 +0.1**
VIVF pmax pmax
comp=Z,24nm,1.1s
VIVF Saint-Julien-l 48.30 300 *e*P **P** **00 30 48.2 +0.1**
comp=Z,24nm,1.1s
SMF Signal de Mont 48.40 303 *e*P **P** **00 30 48.7 -0.1**
comp=Z,12nm,0.9s
SMF Signal de Mont 48.40 303 *e*P **P** **00 30 48.7 -0.1**
SMF pmax pmax
comp=Z,12nm,0.9s
SMF Signal de Mont 48.40 303 *e*P **P** **00 30 48.7 -0.1**
comp=Z,12nm,0.9s
AVF Avril sur Loir 48.69 303 *e*P **P** **00 30 50.9 -0.1**
comp=Z,16nm,1.1s
AVF Avril sur Loir 48.69 303 *e*P **P** **00 30 50.9 -0.1**
AVF pmax pmax
comp=Z,16nm,1.1s
AVF Avril sur Loir 48.69 303 *e*P **P** **00 30 50.9 -0.1**
comp=Z,16nm,1.1s
LASF Ste Croix 49.07 299 *e*P **P** **00 30 54.6 +0.6**
LASF Ste Croix 49.07 299 *e*P **P** **00 30 54.6 +0.6**
TCF Toulx Ste Croi 49.59 303 *e*P **P** **00 30 58.3 +0.4**
comp=Z,9.3nm,0.8s
TCF Toulx Ste Croi 49.59 303 *e*P **P** **00 30 58.3 +0.4**
TCF pmax pmax
comp=Z,9.0nm,0.8s
TCF Toulx Ste Croi 49.59 303 *e*P **P** **00 30 58.3 +0.4**
comp=Z,9.3nm,0.8s
FLN La Foliniere 50.69 306 *e*P **P** **00 31 06.6 +0.4**
FLN La Foliniere 50.69 306 *e*P **P** **00 31 06.6 +0.4**
FLN La Foliniere 50.69 306 *e*P **P** **00 31 06.6 +0.4**
ETSF Etsaut 52.49 299 *e*P **P** **00 31 20.2 +0.3**
comp=Z,23nm,1.0s
ETSF Etsaut 52.49 299 *e*P **P** **00 31 20.2 +0.3**
ETSF pmax pmax

comp=Z,23nm,1.0s
ETSF Etsaut 52.49 299 *e*P **P 00 31 20.2 +0.3**
comp=Z,23nm,1.0s
MJAR Matsushiro Arr 53.46 69 P **P 00 31 27.6 +0.5**
comp=Z,0.8nm,0.5s,baz=290,slow=10,SNR=3.6
MJAR LR LR 00 55 19.8
comp=Z,69nm,19.5s,baz=260,slow=37
ESDC Sonseca Array 56.06 297 P **P 00 31 46.0 +0.2**
comp=Z,1.7nm,0.7s,baz=64,slow=7.5,SNR=13
BILL Bilibino 58.02 26 *e*P **P 00 31 59.0 -0.2**
BILL *i* 00 34 12.9
BILL pmax pmax
comp=Z,2.0nm,1.3s
BILL MLR MLR
comp=Z,102nm,15.0s
TORD Torodi Ar. Bea 64.77 267 P **P 00 32 45.4 -0.2**
comp=Z,2.1nm,0.6s,baz=50,slow=6.0,SNR=46
TORD LR LR 01 05 28.6
comp=Z,65nm,18.1s,baz=100,slow=40
COLD Coldfoot 71.14 15 *e*P **P 00 33 25.0 +0.2**
comp=Z,3.5nm,0.9s
DBIC Dimbokro 73.78 266 LR LR 01 10 44.5
comp=Z,137nm,18.4s,baz=56,slow=40
ILAR Eielson Array 73.95 15 P **P 00 33 40.7 -0.9**
comp=Z,0.5nm,0.8s,baz=326,slow=4.7,SNR=6.1
LIC Lamto 74.19 266 *e*P **P 00 33 43.8 0.0**
comp=Z,32nm,1.4s
LIC Lamto 74.19 266 *e*P **P 00 33 43.8 0.0**
comp=Z,32nm,1.4s
PPLA Purkeypile 74.32 19 *e*P **P 00 33 44.0 -0.1**
comp=Z,3.3nm,0.6s
YKA Yellowknife Ar 80.15 2 P **P 00 34 16.8 +0.3**
comp=Z,0.8nm,0.6s,baz=351,slow=5.4,SNR=10
SCHQ Schefferville 80.66 336 P **P 00 34 18.8 -0.6**
comp=Z,1.5nm,0.6s,baz=339,slow=8.6,SNR=2.8
WRA Warramunga Arr 83.43 121 P **P 00 34 33.5 -0.9**
comp=Z,0.3nm,0.3s,baz=328,slow=4.9,SNR=2.5
ASAR Alice Springs 85.71 124 P **P 00 34 46.2 +0.3**
comp=Z,0.4nm,0.7s,baz=316,slow=5.2,SNR=3.6
PLCA Paso Flores 149.27 252 PKPbc **PKPbc 00 41 55.4 +0.1**
comp=Z,1.7nm,1.0s,baz=160,slow=1.9,SNR=5.6

*IDC **31** 00:34:51.2±0.8, 34.°48N×80.°66E, h0km, mb3.8/11, mb1 3.9/15, mb1mx3.7/29, mbtmp3.7/15, ML3.1/4, Error ellipse: s-maj=30.1km s-min=15.5km az=51.0*
*ISCJB **31** 00:34:54.7±0.6, 34.°6N±0.°1×80.°7E±0.°2, h33km, mb3.7/11, Error ellipse: s-maj=21.0km s-min=10.7km az=147.6*
ISC 31 00:34:56.5±0.8, 34.°5N±0.°1×80.°7E±0.°1, h35km, n16, σ0s83/16, mb3.8/11, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**9.47**	**331**		Op	**Pn**	**00 37 12.3**	**+1.8**
	0.1nm,0.3s,baz=169,slow=5.2,SNR=1.8							
MKAR	**Makanchi Array**	**12.33**	**5**	Pn		**Pn**	**00 37 50.3**	**+0.8**
	0.1nm,0.3s,baz=187,slow=13,SNR=3.3							
ZALV	**Zalesovo Beam**	**19.65**	**7**	P		**P**	**00 39 21.7**	**-0.4**
	0.2nm,0.3s,baz=182,slow=19,SNR=2.9							
BVAR	**Borovoye Array**	**19.93**	**341**	P		**P**	**00 39 25.5**	**+0.5**
	0.1nm,0.3s,baz=157,slow=7.7,SNR=5.7							
CMAR	**Chiang Mai Arr**	**22.77**	**130**	P		**P**	**00 39 56.9**	**+0.9**
	1.3nm,0.3s,baz=313,slow=12,SNR=3.4							
AKTO	**Aktyubinsk**	**22.97**	**321**	P		**P**	**00 39 57.1**	**-0.7**
	0.5nm,0.4s,baz=104,slow=12,SNR=2.9							
BRTR	**Keskin Array B**	**37.57**	**292**	P		**P**	**00 42 08.1**	**+0.4**
	0.4nm,0.6s,baz=133,slow=6.6,SNR=3.8							
FINES	**FINESS Array B**	**43.60**	**325**	P		**P**	**00 42 55.9**	**-1.0**
	1.4nm,0.8s,baz=136,slow=8.8,SNR=4.0							
NB2	**NORSAR Subarra**	**50.71**	**324**	P		**P**	**00 43 51.7**	**-0.7**
	comp=Z,1.7nm,0.9s,baz=89,slow=7.9							
NOA	**NORSAR Array B**	**50.71**	**324**	P		**P**	**00 43 51.9**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=90,slow=7.5,SNR=3.0							
TORD	**Torodi Ar. Bea**	**73.71**	**275**	P		**P**	**00 46 26.7**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=49,slow=5.0,SNR=13							
ILAR	**Eielson Array**	**74.28**	**19**	P		**P**	**00 46 29.3**	**-0.5**
	comp=Z,0.2nm,0.8s,baz=319,slow=2.6,SNR=2.9							
WRA	**Warramunga Arr**	**74.35**	**128**	P		**P**	**00 46 31.3**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=322,slow=5.6,SNR=5.9							
ASAR	**Alice Springs**	**76.78**	**131**	P		**P**	**00 46 45.2**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=315,slow=5.7,SNR=7.9							
YKA	**Yellowknife Ar**	**82.55**	**7**	P		**P**	**00 47 14.9**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=343,slow=4.9,SNR=3.5							
STKA	**Stephens Creek**	**87.38**	**132**	P		**P**	**00 47 39.5**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=324,slow=6.5,SNR=2.7							

IDC 31 00:37:14.7±51.0, 15.°57S×170.°84W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.7/29, mbtmp4.2/3, Error ellipse: s-maj=1011.0km s-min=202.7km az=80.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**46.09**	**241**	P		P	00 45 40.8	0.0
	2.0nm,0.8s,baz=97,slow=11,SNR=6.1							
WRA	**Warramunga Arr**	**52.20**	**257**	P		P	00 46 27.5	-0.3
	1.0nm,0.3s,baz=94,slow=5.8,SNR=5.8							
ASAR	**Alice Springs**	**52.40**	**252**	P		P	00 46 29.2	-0.1
	7.5nm,0.5s,baz=88,slow=8.1,SNR=68							

GUC 31 01:02:00.5±0.4, 33.°94S×72.°09W, h15km±3km, ML3.5, 3C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.56**	**91**	⇓*i*P	Op	Pb	01 02 11.9	-0.1
LNV				*i* S		Sb	01 02 20.1	+0.2
IHA	**Instituto Hidr**	**0.99**	**22**	⇑*i*P		Pb	01 02 17.8	-1.5
IHA				*i* S		Sb	01 02 31.2	-0.9
TACH	**Talagante**	**1.00**	**73**	⇓*i*P		Pb	01 02 18.1	-1.4
TACH				*i* S		Sb	01 02 31.3	-1.3
RCDM	**Rinconada Maip**	**1.16**	**67**	*e*P		Pn	01 02 20.8	-1.4
RCDM				*i* S		Sb	01 02 34.9	-2.3
CHCH	**Chadas Angostu**	**1.19**	**90**	⇑*i*P		Pn	01 02 21.6	-1.1
NICH	**Los Niches**	**1.27**	**146**	⇑*i*P		Pn	01 02 22.5	-1.3
NICH					AML	AML	01 02 48.3	
	comp=E,2μm,0.6s							
SAN	**Santiago**	**1.28**	**68**	*e*P		Pn	01 02 22.6	-1.3
SAN				*i* S		Sb	01 02 39.7	-1.1
PCH	**Pirque**	**1.35**	**77**	*e*P		Pn	01 02 23.7	-1.2
PCH				*i* S		Sn	01 02 41.7	-1.0
AUSP	**Uspallata**	**2.84**	**54**	*i* P		Pn	01 02 37.2	-8.5
ARCO	**CERRO ARCO**	**2.86**	**68**	*i* P		Pn	01 02 38.3	-7.5
ARCO				*i* S		Sg	01 03 35.4	+2.6
ARCO					AML	AML	01 03 38.1	
	comp=Z,35nm,0.5s							

GUC 31 01:19:09.1±0.6, 35.°12S×72.°39W, h19km±5km, ML3.7, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.68**	**115**	⇑*i*P	Op	Pb	01 19 21.8	-0.5
TALC				*i* S		Sb	01 19 30.9	-0.4
NICH	**Los Niches**	**0.96**	**84**	*e*P		Pb	01 19 26.8	-0.3
NICH				*i* S		Sg	01 19 40.1	-0.4
LNCH	**Linares**	**0.97**	**139**	⇑*i*P		Pb	01 19 26.6	-0.8
LNCH				*i* S		Sb	01 19 39.9	0.0
LNV	**Longovilo**	**1.41**	**35**	*e*P		Pn	01 19 52.3	-0.9
LNV				*e*S		Sn	01 19 51.6	-0.3
CACH	**El Canelo**	**1.78**	**56**	*e*P		Pn	01 19 39.8	+0.7
CACH				*i* S		Sb	01 20 03.4	-0.1
CHCH	**Chadas Angostu**	**1.86**	**51**	*e*P		Pn	01 19 40.7	+0.7
CHCH				*i* S		Sn	01 20 03.9	+0.8
RCDM	**Rinconada Maip**	**2.09**	**39**	*e*P		Pn	01 19 43.9	+0.8
CLCH	**Cerro Calan**	**2.30**	**42**	*e*P		Pn	01 19 47.5	+1.3
CLCH				*i* S		Sn	01 20 16.0	+1.9
CLCH					AML	AML	01 20 22.6	
	comp=E,515nm,0.4s							
PEL	**Peldehue**	**2.42**	**36**	⇑*i*P		Pn	01 19 49.1	+1.3
PEL				*e*S		Sn	01 20 18.2	+1.2
PEL					AML	AML	01 20 28.2	
	comp=N,598nm,0.2s							

*IDC **31** 01:40:10.6±0.6, 18.°01S×173.°74W, h0km, mb4.0/12, mb1 4.3/12, mb1mx4.1/22, mbtmp4.0/12, MS3.4/8, Ms1 3.4/8, ms1mx3.2/26, Error ellipse: s-maj=28.3km s-min=17.3km az=136.0*
*ISCJB **31** 01:40:14.6±0.5, 18.°0S±0.°1×173.°8W±0.°1, h37km, mb4.0/14, MS3.5/8, Error ellipse: s-maj=21.6km s-min=10.1km az=42.7*
*NEIC **31** 01:40:15.7±1.9, 18.°09S×173.°70W, h35km±17km, mb4.5/2, Error ellipse: s-maj=22.4km s-min=10.6km az=129.0*
ISC 31 01:40:16.2±0.5, 18.°1S±0.°1×173.°7W±0.°1, h37km, n52, σ1s19/45, mb4.0/14, MS3.5/8, 11C-7D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.56**	**24**	*e*Pn		**Pn**	**01 41 22.2**	**-0.5**
AFI				*e*S		Sn	01 42 05.0	-10
DZM	**Mont Dzumac**	**19.05**	**255**	eLR		LR	01 48 49.4	
	254nm,26.2s							
DZM	**Mont Dzumac**	**19.05**	**255**	P		**Pn**	**01 44 37.0**	**+0.6**
	0.3nm,0.3s,baz=270,slow=24,SNR=5.6							
URZ	**Urewera**	**21.63**	**200**	P		**P**	**01 45 00.5**	**-2.6**
	18nm,0.6s,baz=5.4,slow=3.8,SNR=15							
URZ	**Urewera**	**21.63**	**200**	*e*P		**P**	**01 45 00.5**	**-2.6**
	9.3nm,0.5s							
PAE	**Paea**	**22.96**	**93**	*e*T		T	02 08 21.1	
	2.0nm,0.3s							
PPT2	**Papeete2**	**22.98**	**92**	eLR		LR	01 50 20.4	
	108nm,24.2s							
PPT	**Papeete**	**22.98**	**92**	LR		LR	01 52 05.4	
	comp=Z,65nm,18.7s,baz=205,slow=31							
RPZ	**Rata Peaks**	**28.59**	**203**	P		**P**	**01 46 09.7**	**+0.9**
	6.3nm,0.4s,baz=40,slow=2.2,SNR=7.4							
CTA	**Charters Tower**	**37.83**	**260**	P		**P**	**01 47 28.6**	**-0.9**
	2.7nm,0.6s,baz=102,slow=20,SNR=4.9							
STKA	**Stephens Creek**	**42.48**	**242**	P		**P**	**01 48 08.6**	**+0.7**
	2.0nm,0.9s,baz=69,slow=9.5,SNR=2.7							
WRA	**Warramunga Arr**	**48.99**	**259**	P		**P**	**01 48 58.5**	**-1.0**
	0.7nm,0.3s,baz=97,slow=6.7,SNR=18							
ASAR	**Alice Springs**	**49.04**	**254**	P		**P**	**01 48 59.0**	**-0.9**
	4.1nm,0.7s,baz=86,slow=8.6,SNR=32							
VNDA	**Vanda**	**60.67**	**186**	P		**P**	**01 50 25.0**	**+1.8**
	0.6nm,0.7s,baz=356,slow=4.5,SNR=4.2							
MJAR	**Matsshiro Arr**	**70.81**	**321**	LR		LR	02 17 20.4	
	comp=Z,14nm,20.7s,baz=200,slow=32							
QSPA	**South Pole Qui**	**71.96**	**180**	P		**P**	**01 51 36.0**	**+0.3**
	2.4nm,0.9s,baz=219,slow=0.6,SNR=5.3							
QSPA	**South Pole Qui**	**71.96**	**180**	P		**P**	**01 51 36.0**	**+0.3**
YBH	**Yreka Blue Hor**	**75.92**	**37**	LR		LR	02 16 39.9	
	comp=Z,40nm,21.1s,baz=186,slow=29							
NVAR	**Mina Array Bea**	**76.53**	**42**	P		**P**	**01 52 02.5**	**-0.3**
	0.6nm,0.8s,baz=206,slow=12,SNR=4.0							
KSRS	**Korea Array**	**77.88**	**316**	LR		LR	02 23 19.0	
	comp=Z,23nm,18.1s,baz=202,slow=33							
ELK	**Elko**	**79.80**	**41**	LR		LR	02 20 42.2	
	comp=Z,30nm,20.8s,baz=223,slow=30							
TXAR	**Lajitas Array**	**82.36**	**56**	P		**P**	**01 52 35.1**	**+0.5**
	0.6nm,0.9s,baz=184,slow=5.0,SNR=4.9							
TXAR					LR	LR	02 23 38.6	
	comp=Z,17nm,18.1s,baz=0.0,slow=32							
NEW	**Newport**	**83.09**	**34**	LR		LR	02 22 50.5	
	comp=Z,45nm,18.7s,baz=210,slow=31							
PDAR	**Pinedale Array**	**84.46**	**42**	P		**P**	**01 52 45.0**	**-0.3**
	0.2nm,0.4s,baz=187,slow=4.3,SNR=3.5							
PDAR					LR	LR	02 22 01.6	
	comp=Z,14nm,19.4s,baz=252,slow=30							
COLA	**College**	**85.05**	**11**	*e*P		**P**	**01 52 46.7**	**-0.7**
	2.6nm,0.7s							
ILAR	**Eielson Array**	**85.14**	**11**	P		**P**	**01 52 48.0**	**+0.1**
	0.7nm,0.7s,baz=226,slow=6.0,SNR=11							
YKA	**Yellowknife Ar**	**92.68**	**24**	P		**P**	**01 53 23.9**	**+0.2**
	0.3nm,0.9s,baz=237,slow=4.1,SNR=3.8							
ARCES	**ARCESS Array B**	**127.22**	**352**	PKP		**PKPdf**	**01 59 14.8**	**-1.2**
	2.5nm,0.9s,baz=0.0,slow=3.6,SNR=5.6							
FINES	**FINESS Array B**	**134.50**	**347**	PKP		**PKPdf**	**01 59 30.3**	**+0.3**
	1.8nm,1.0s,baz=152,slow=6.3,SNR=3.2							
MALT	**Malatya**	**145.51**	**312**	⇑*i*P		**PKPab**	**01 59 53.3**	**+2.1**
CLL	**Collm**	**146.44**	**352**	⇓*i*PKPbc		**PKPab**	**01 59 54.6**	**+0.6**
	comp=Z,25nm,1.8s							
BURAR	**Bucovina Array**	**146.73**	**336**	⇑*i*P		**PKPab**	**01 59 57.2**	**+1.7**
BRG	**Berggiesshubel**	**146.74**	**351**	*e*P		**PKPab**	**01 59 55.0**	**-0.2**
	comp=Z,3.2nm,0.8s							
TESR	**Tescani**	**147.05**	**334**	⇓*i*P		**PKPab**	**01 59 55.6**	**-1.0**
MORC	**Moravsky Berou**	**147.13**	**347**	⇑*i*P		**PKPab**	**01 59 55.9**	**-1.0**
TRPA	**Tarpa**	**147.25**	**340**	⇑*i*P		**PKPab**	**01 59 57.6**	**+0.3**
CFR	**Carcaliu**	**147.43**	**331**	⇑*i*P		**PKPab**	**01 59 58.3**	**+0.2**
VRI	**Vrincioaia**	**147.53**	**333**	⇓*i*P		**PKPab**	**01 59 57.9**	**-0.6**
TLB	**Topalu**	**147.92**	**330**	⇓*i*P		**PKPbc**	**01 59 58.0**	**+0.5**
BRTR	**Keskin Array B**	**148.01**	**318**	PKP		**PKPdf**	**01 59 52.6**	**-2.3**
BRTR					PKPbc	**PKiKP**	**01 59 59.5**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=131,slow=3.0,SNR=20							
DRGR		**148.34**	**338**	⇑*i*P		**PKPab**	**02 00 00.7**	**-1.1**
VOIR		**148.58**	**334**	⇑*i*P		**PKPab**	**02 00 01.9**	**-0.9**
CONA	**Conrad Observa**	**149.24**	**347**	⇑*i*PKiKP		**PKiKP**	**02 00 02.7**	**+0.6**
	comp=Z,8.1nm,1.2s							
BZS	**Buzias**	**149.74**	**338**	⇑*i*P		**PKPbc**	**02 00 04.0**	**+1.9**
MOTA	**Moosalm**	**150.57**	**353**	⇓*i*PKiKP		**PKiKP**	**02 00 05.5**	**+0.5**
	comp=Z,5.5nm,1.0s							
CSS	**Prodhromos**	**150.69**	**310**	PKPbc		**PKPbc**	**02 00 05.4**	**+0.6**
ABTA	**Abfaltersbach**	**150.97**	**351**	⇓*i*PKiKP		**PKiKP**	**02 00 05.9**	**+0.1**
	comp=Z,7.9nm,1.0s							
KDZ	**Kurdzhali**	**151.39**	**329**	⇓*i*P		**PKPbc**	**02 00 07.9**	**+1.7**
EIL	**Elat**	**151.46**	**299**	PKPbc		**PKPbc**	**02 00 08.2**	**+1.5**
	comp=Z,3.4nm,0.8s,baz=40,slow=7.9,SNR=4.0							
DIVS	**Divibare**	**151.63**	**339**	⇑*i*P		**PKPbc**	**02 00 08.7**	**+1.9**
MMB	**Musomiste**	**152.24**	**331**	⇑*i*P		**PKPbc**	**02 00 08.7**	**+0.5**
TORD	**Torodi Ar. Bea**	**173.38**	**137**	PKP		**PKPdf**	**02 00 21.0**	**-1.5**
	comp=Z,0.6nm,0.9s,baz=358,slow=2.3,SNR=3.9							
TORD					PKPab	**PKPab**	**02 01 49.8**	**-1.1**
	comp=Z,0.3nm,0.9s,baz=262,slow=4.2,SNR=1.9							

IDC 31 01:40:41.4±9.0, 21.°71S×67.°14W, h211km±60km, mb4.3/1, mb1 3.5/3, mb1mx3.1/24, mbtmp4.2/3, Error ellipse: s-maj=105.2km s-min=39.5km az=30.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.47**	**350**	P		Pn	01 42 02.6	-0.3
	2.2nm,0.3s,baz=150,slow=5.4,SNR=61							
LPAZ					S	S	01 43 07.6	+0.4
	0.1nm,0.3s,baz=14,slow=19,SNR=3.0							
BDFB	**Brasilia**	**19.09**	**75**	P		P	01 44 48.5	0.0
	0.3nm,0.3s,baz=246,slow=8.1,SNR=5.1							
TORD	**Torodi Ar. Bea**	**75.88**	**70**	P		P	01 52 05.1	0.0
	3.2nm,0.3s,baz=258,slow=5.8,SNR=103							

*CSEM **31** 01:47:00.0, 37.°22N×20.°38E, h5km, MD3.1*
ATH 31 01:47:00.0, 37.°22N×20.°38E, h4km±2km, MD3.1/7, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.97**	**10**	*e*P		Pg	01 47 18.2	-0.5
VLS	**Valsamata**	**0.97**	**10**	*e*Pg		Pg	01 47 18.2	-0.5
PDO	**Prodromos**	**1.52**	**25**	*e*P		Pg	01 47 29.0	-0.1
PDO				*e*S		Sg	01 47 49.2	+0.4
PDO	**Prodromos**	**1.52**	**25**	*e*Pn		Pg	01 47 29.0	-0.1
PDO				*e*Sn		Sg	01 47 49.2	+0.4
LKD2	**Lefkada island**	**1.58**	**8**	*e*P		Pb	01 47 29.8	-0.1
LKD2	**Lefkada island**	**1.58**	**8**	*e*Pn		Pb	01 47 29.8	-0.1
KLV	**Kalavryta, Ach**	**1.63**	**59**	*e*P		Pb	01 47 31.0	+0.3
KLV				*e*S		Sg	01 47 53.2	+0.7
KLV	**Kalavryta, Ach**	**1.63**	**59**	*e*Pn		Pb	01 47 31.0	+0.3
KLV				*e*Sn		Sg	01 47 53.2	+0.7
GUR	**Goura**	**1.71**	**65**	*e*PG		Pb	01 47 31.9	-0.4
GUR				*e*SN		Sb	01 47 54.2	-0.1
GUR	**Goura**	**1.71**	**65**	*e*Pg		Pb	01 47 31.9	-0.4
GUR				*e*Sg		Sb	01 47 54.2	-0.1
KALE	**Kalithea**	**1.82**	**49**	*e*PB		Pb	01 47 34.4	+0.4
KALE				*e*SB		Sg	01 47 59.0	+0.3
KALE	**Kalithea**	**1.82**	**49**	*e*Pn		Pb	01 47 34.4	+0.4
KALE				*e*Sn		Sg	01 47 59.0	+0.3

*ATH **31** 01:47:28.5, 38.°14N×23.°17E, h5km±4km, MD2.8/5, ML1.7*
*THE **31** 01:47:28.1, 38.°12N×23.°17E, h10km±1km, ML1.5/6, Error ellipse: s-maj=1.8km s-min=0.4km az=114.0*
CSEM 31 01:47:28.1±0.1, 38.°12N×23.°17E, h5km, MD2.8, Error ellipse: s-maj=2.0km s-min=1.6km az=20.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VIL2	**Platees**	**0.12**	**42**	*e*PG		Pg	01 47 30.6	0.0
VIL2				*e*SG		Sg	01 47 32.9	+0.6
VILL	**Villia**	**0.12**	**71**	P		Pg	01 47 30.6	-0.1
VILL				S		Sg	01 47 33.3	+0.9
VILL	**Villia**	**0.12**	**71**	*e*Pg		Pg	01 47 30.6	-0.1
VILL				*e*Sg		Sg	01 47 32.9	+0.5
VILL				S		Sg	01 47 33.3	+0.9
LTK	**Loutraki**	**0.19**	**237**	P		Pg	01 47 32.1	+0.2
LTK				S		Sg	01 47 35.5	+1.1
LTK	**Loutraki**	**0.19**	**237**	*e*PG		Pg	01 47 32.1	+0.2
LTK				*e*SG		Sg	01 47 35.7	+1.3
LTK	**Loutraki**	**0.19**	**237**	P		Pg	01 47 32.1	+0.2
LTK				S		Sg	01 47 35.5	+1.1
ATH	**Athens Observa**	**0.46**	**109**	*e*PB		Pg	01 47 37.2	+0.2
ATH				*e*SB		Sg	01 47 43.8	+0.8
ATH	**Athens Observa**	**0.46**	**109**	*e*Pb		Pg	01 47 37.2	+0.2
ATH				*e*Sb		Sg	01 47 43.8	+0.8
LKR	**Lokris**	**0.54**	**346**	P		Pg	01 47 38.2	-0.4
LKR				S		Sg	01 47 46.0	+0.4
LKR	**Lokris**	**0.54**	**346**	*e*PB		Pg	01 47 38.7	+0.1
LKR				*e*SB		Sg	01 47 45.9	+0.3
LKR	**Lokris**	**0.54**	**346**	P		Pg	01 47 38.2	-0.4
LKR	**Lokris**	**0.54**	**346**	*e*Pb		Pg	01 47 38.7	+0.1
LKR				S		Sg	01 47 46.0	+0.4
PTL	**Penteli**	**0.56**	**98**	*e*PB		Pg	01 47 38.6	-0.3
PTL				*e*SB		Sg	01 47 46.3	+0.1
PTL	**Penteli**	**0.56**	**98**	*e*Pb		Pg	01 47 38.6	-0.3
PTL				*e*Sb		Sg	01 47 46.3	+0.1
DSF	**Desfina**	**0.58**	**300**	P		Pg	01 47 39.1	-0.3
DSF				S		Sg	01 47 47.9	+0.9
DSF	**Desfina**	**0.58**	**300**	*e*PB		Pg	01 47 39.1	-0.3
DSF				*e*SB		Sg	01 47 47.9	+0.9
DSF	**Desfina**	**0.58**	**300**	*e*Pb		Pg	01 47 39.1	-0.3
DSF				S		Sg	01 47 47.9	+0.9
DID	**Didima**	**0.62**	**175**	P		Pg	01 47 39.8	-0.3
DID				S		Sg	01 47 48.8	+0.6
DID	**Didima**	**0.62**	**175**	*e*PB		Pg	01 47 40.0	-0.1
DID	**Didima**	**0.62**	**175**	P		Pg	01 47 39.8	-0.3
DID				S		Sg	01 47 48.8	+0.6
DID	**Didima**	**0.62**	**175**	*e*Pn		Pg	01 47 40.0	-0.1
MRKA	**Markates**	**0.67**	**30**	P		Pg	01 47 40.9	-0.1
MRKA				S		Sg	01 47 50.7	+0.9
MRKA	**Markates**	**0.67**	**30**	*e*PB		Pg	01 47 41.0	0.0
MRKA				*e*SB		Sg	01 47 50.4	+0.6
MRKA	**Markates**	**0.67**	**30**	P		Pg	01 47 40.9	-0.1
MRKA				*e*Sb		Sg	01 47 50.4	+0.6
GUR	**Goura**	**0.68**	**254**	P		Pg	01 47 41.5	+0.2
GUR				S		Sg	01 47 50.7	+0.5
GUR	**Goura**	**0.68**	**254**	P		Pg	01 47 41.5	+0.2
GUR				S		Sg	01 47 50.7	+0.5
AXAR	**Agios Charalam**	**0.76**	**328**	P		Pg	01 47 42.4	-0.3
AXAR				S		Sb	01 47 53.8	-0.6
AXAR	**Agios Charalam**	**0.76**	**328**	*e*PN		Pg	01 47 42.1	-0.6
AXAR	**Agios Charalam**	**0.76**	**328**	*e*PG		Pg	01 47 42.4	-0.3
AXAR	**Agios Charalam**	**0.76**	**328**	*e*Pg		Pg	01 47 42.4	-0.3
AXAR				S		Sb	01 47 53.8	-0.6
AXAR	**Agios Charalam**	**0.76**	**328**	*e*Pn		Pg	01 47 42.1	-0.6
EFP	**Efpalio**	**1.04**	**287**	*e*PB		Pg	01 47 48.0	0.0
EFP				*e*SB		Sb	01 48 03.0	+0.5
EFP	**Efpalio**	**1.04**	**287**	*e*Pb		Pg	01 47 48.0	0.0
EFP				*e*Sb		Sb	01 48 03.0	+0.5

IDC 31 01:59:07.2±28.0, 23.°14S×173.°73W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/31, mbtmp4.0/4, Error ellipse: s-maj=507.8km s-min=141.9km az=79.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.25**	**267**	P	Op	P	02 06 21.2	+0.3
	2.6nm,0.4s,baz=99,slow=14,SNR=4.2							
STKA	**Stephens Creek**	**40.34**	**248**	P		P	02 06 46.3	-0.4
	0.7nm,0.5s,baz=86,slow=13,SNR=2.4							
ASAR	**Alice Springs**	**47.83**	**258**	P		P	02 07 46.8	-0.3
	0.4nm,0.3s,baz=96,slow=7.4,SNR=4.9							
WRA	**Warramunga Arr**	**48.20**	**263**	P		P	02 07 49.9	-0.1
	1.0nm,0.5s,baz=102,slow=8.2,SNR=16							

MAN 31 02:23:26, 13.°25N×120.°77E, h45km, mb4.0, ML2.8, MS2.5, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.31**	**35**	⇑*i*P	Op	Pn	02 23 37.0	+2.1
PGP				*i* S		Sn	02 23 44.3	+3.2
LUBP	**Lubang**	**0.71**	**314**	*e*P		Pn	02 23 42.7	+3.0
SJMP	**San Jose**	**0.85**	**156**	*e*P		Pn	02 23 43.8	+2.2
SJMP				*e*S		Sn	02 23 56.0	+3.0
BUSP	**Coron**	**1.35**	**

PEL					AML	AML	02 34 10.5		
	comp=N,2μm,0.4s								
ROCH	**El Roble**	**1.92**	**24**	*i* P	**Pn**		**02 33 42.7**	**+1.1**	
ROCH					AML	AML	02 34 12.1		
	comp=N,991nm,0.4s								
ARCO	**CERRO ARCO**	**3.13**	**54**		AML	AML	02 34 50.2		
	comp=Z,61nm,0.5s								
RTLS	**Leoncito**	**3.67**	**38**	*e*P	**Pn**		**02 34 08.3**	**+2.6**	
RTCV	**Cerro Valdivia**	**4.03**	**46**	*e*P	**Pn**		**02 34 12.0**	**+1.5**	
CFAA	**Coronel Fontan**	**4.40**	**46**	*i* P	**Pn**		**02 34 16.6**	**+1.1**	
CFAA				*i* P	**Pn**		**02 34 16.6**	**+1.1**	
RTLL	**Cerro Villicun**	**4.47**	**42**	*e*P	**Pn**		**02 34 17.7**	**+1.2**	
RTLL				*i* S	**Sb**		**02 35 18.0**	**-3.2**	
ACAN	**Cantantal**	**4.66**	**60**	*i* P	**Pn**		**02 34 20.6**	**+1.4**	
AMOG	**MOGNA**	**4.76**	**38**	*e*P	**Pn**		**02 34 21.4**	**+0.8**	
LCO	**Las Campanas**	**5.80**	**11**	*e*P4	**Pn**		**02 34 35.7**	**+0.7**	
SUCO	**SUCO**	**6.01**	**79**	*e*P	**Pn**		**02 34 40.2**	**+2.4**	

IDC 31 02:39:02.3±2.9, 21°02S×179°90E, h0km, mb3.9/3, mb1 4.3/3, mb1mx3.7/24, mbtmp3.9/3, Error ellipse: s-maj=281.3km s-min=35.3km az=162.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.49**	**258**	P	P	02 46 58.7	-0.9
	1.1nm,0.4s,baz=96,slow=7.5,SNR=14						
WRA	**Warramunga Arr**	**42.58**	**263**	P	P	02 47 01.0	+0.6
	1.7nm,0.4s,baz=96,slow=8.4,SNR=42						
TXAR	**Lajitas Array**	**88.99**	**58**	P	P	02 51 59.5	0.0
	0.2nm,0.6s,baz=224,slow=5.0,SNR=3.4						

*ISCJB **31** 02:42:42.2±0.9, 23°.9N±0°.2×94°.9E±0°.2, h124km, mb3.6/4, Error ellipse: s-maj=40.2km s-min=8.6km az=41.2*
*IDC **31** 02:42:46.6±3.7, 23°.82N×94°.88E, h160km±35km, mb3.3/4, mb1 3.4/5, mb1mx3.0/26, mbtmp3.6/5, Error ellipse: s-maj=134.5km s-min=19.3km az=59.0*
ISC 31 02:42:43.6±1.0, 23°.9N±0°.2×94°.9E±0°.2, h124km, n7, σ1°75/9, mb3.6/4, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**1.22**	**315**	*e*P	**Pn**	**02 43 10.0**	**+1.8**
IMP				*e*S	**Sn**	**02 43 26.0**	**-1.0**
SHL	**Shillong**	**3.18**	**301**	*i* PN	**Pn**	**02 43 33.0**	**+0.5**
SHL				*e*SN	**Sn**	**02 44 10.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**6.63**	**144**	P	**Pn**	**02 44 20.4**	**+1.8**
	0.4nm,0.3s,baz=319,slow=13,SNR=6.0						
MKAR	**Makanchi Array**	**24.96**	**339**	P	**P**	**02 47 57.6**	**+2.2**
	0.3nm,0.5s,baz=150,slow=12,SNR=3.0						
WRA	**Warramunga Arr**	**58.13**	**135**	P	**P**	**02 52 23.0**	**-1.5**
	0.2nm,0.5s,baz=323,slow=7.5,SNR=7.0						
ARCES	**ARCESS Array B**	**60.60**	**338**	P	**P**	**02 52 39.1**	**-1.7**
	2.1nm,1.0s,baz=95,slow=10.0,SNR=4.0						
ASAR	**Alice Springs**	**60.60**	**139**	P	**P**	**02 52 40.6**	**-0.9**
	0.7nm,0.7s,baz=326,slow=7.0,SNR=5.4						

IDC 31 02:59:52.0±68.0, 22°.49S×179°.18E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/22, mbtmp3.7/3, Error ellipse: s-maj=1217.0km s-min=162.7km az=85.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**34.57**	**246**	P	P	03 06 41.1	-1.4
	1.8nm,0.9s,baz=95,slow=16,SNR=2.8						
ASAR	**Alice Springs**	**41.53**	**259**	P	P	03 07 40.5	-1.0
	0.6nm,0.7s,baz=92,slow=8.4,SNR=4.5						
WRA	**Warramunga Arr**	**41.76**	**265**	P	P	03 07 44.5	+1.2
	0.8nm,0.5s,baz=95,slow=8.5,SNR=19						

*SKO **31** 03:00:21.4, 41°.45N×20°.28E, h15km, M1.9, ML2.2*
*CSEM **31** 03:00:22.5±0.3, 41°.38N×20°.25E, h15km, ML2.7, Error ellipse: s-maj=7.2km s-min=5.7km az=35.0*
TIR 31 03:00:22.3±0.8, 41°.39N×20°.26E, h7km±48km, ML2.7, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.30**	**262**	*i* PG	Pg	03 00 28.5	+0.2
TIR				*i* SG	Sb	03 00 34.0	-1.3
TIR	**Tirane**	**0.30**	**262**	*i* Pg	Pg	03 00 28.5	+0.2
	SNR=94						
TIR				*i* Sg	Sb	03 00 34.0	-1.3
	SNR=94						
PHP	**Peshkopia**	**0.33**	**24**	*i* PG	Pg	03 00 29.6	+0.8
PHP				*i* SG	Sg	03 00 34.6	+1.4
PHP	**Peshkopia**	**0.33**	**24**	*i* Pg	Pg	03 00 29.5	+0.7
	SNR=95						
PHP				*i* Sg	Sg	03 00 34.6	+1.4
	SNR=95						
OHR	**Ohrid**	**0.49**	**124**	*i* Pg	Pg	03 00 31.9	0.0
OHR				*i* Sg	Sb	03 00 40.9	+0.1
OHR				*e*Lg	Lg	03 00 41.0	
	comp=N,134nm,0.3s						
OHR				*e*Lg	Lg	03 00 41.2	
	comp=E,74nm,0.3s						
OHR	**Ohrid**	**0.49**	**124**	*i* Pg	Pg	03 00 31.9	0.0
OHR				*i* Sg	Sb	03 00 40.8	0.0
OHR				*e*Lg	Lg	03 00 41.0	
	comp=E,134nm,0.3s						
PUK	**Puka**	**0.71**	**337**	*i* PG	Pg	03 00 36.2	+0.1
PUK				*i* SG	Sb	03 00 47.7	+0.5
PUK	**Puka**	**0.71**	**337**	*i* Pg	Pg	03 00 36.2	+0.1
	SNR=93						
PUK				*i* Sg	Sb	03 00 47.7	+0.5
	SNR=93						

*IDC **31** 03:25:13.7±1.3, 35°.71S×73°.67W, h0km, mb3.7/5, mb1 3.9/8, mb1mx3.8/19, mbtmp3.7/8, ML3.5/2, MS3.6/2, Ms1 3.6/2, ms1mx3.0/18, Error ellipse: s-maj=31.5km s-min=20.9km az=70.0*
*GUC **31** 03:25:17.7±0.5, 35°.82S×73°.48W, h47km±2km, ML4.0*
*ISCJB **31** 03:25:18.2±0.8, 35°.68S±0°.05×73°.4W±0°.1, h33km, mb3.6/5, MS3.2/1, Error ellipse: s-maj=12.5km s-min=7.7km az=176.1*
ISC 31 03:25:18.9±0.9, 35°.78S±0°.05×73°.50W±0°.10, h35km, n20, σ1°28/20, mb3.8/5, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COCH	**Cobquecura**	**0.68**	**121**	*i*|P	**Pn**	**03 25 30.7**	**-1.2**
COCH				*i* S	**Sn**	**03 25 40.9**	**-0.5**
CCSP	**San Pedro de C**	**1.11**	**163**	*e*P	**Pn**	**03 25 36.6**	**-1.3**
CCSP				*i* S	**Sn**	**03 25 51.1**	**-0.9**
CCSP				AML	AML	03 25 56.9	
	comp=N,3μm,0.5s						
CCSP				AML	AML	03 25 57.7	
	comp=E,3μm,0.5s						
CCSP				AML	AML	03 25 59.2	
	comp=N,3μm,0.4s						
LNCH	**Linares**	**1.55**	**93**	*e*P	**Pn**	**03 25 43.3**	**-0.6**
TALC	**Talca**	**1.57**	**77**	*e*P	**Pn**	**03 25 43.7**	**-0.5**
CACH	**El Canelo**	**2.91**	**56**	*e*P	**Pn**	**03 26 02.5**	**-0.2**
CHCH	**Chadas Angostu**	**2.98**	**53**	*e*P	**Pn**	**03 26 03.8**	**+0.1**
CLCH	**Cerro Calan**	**3.41**	**47**	*e*P	**Pn**	**03 26 09.0**	**-0.7**
CLCH				AML	AML	03 27 24.5	
	comp=N,518nm,0.5s						
PEL	**Peldehue**	**3.51**	**42**	*e*P	**Pn**	**03 26 10.4**	**-0.6**
PEL				AML	AML	03 27 27.8	
	comp=E,532nm,0.5s						
PLCA	**Paso Flores**	**5.46**	**156**	Pn	**Pn**	**03 26 39.4**	**+1.5**
	comp=E,0.5nm,0.3s,baz=328,slow=12,SNR=13						
PLCA				Lg	Lg	03 28 08.9	
	comp=E,1.7nm,0.3s,baz=70,slow=22,SNR=5.1						
CFAA	**Coronel Fontan**	**6.05**	**48**	Pn	**Pn**	**03 26 45.9**	**0.0**
	comp=E,0.4nm,0.3s,baz=218,slow=11,SNR=52						
CFAA				Sn	**Sn**	**03 27 53.8**	**-0.1**
	baz=18,slow=20,SNR=2.4						
LVC	**Limon Verde**	**13.72**	**18**	Pn	**Pn**	**03 28 28.4**	**-2.7**
	comp=E,7.3nm,0.3s,baz=185,slow=19,SNR=2.2						
LVC				LR	LR	03 33 46.2	
	comp=E,403nm,21.5s,baz=205,slow=37						
LPAZ	**La Paz**	**20.00**	**15**	P	Pn	03 29 52.6	+1.6
	comp=E,0.1nm,0.3s,baz=162,slow=6.2,SNR=9.3						
SIV	**San Ignacio**	**22.62**	**33**	P	**P**	**03 30 17.1**	**+0.3**
	comp=E,3.5nm,1.0s,baz=233,slow=15,SNR=5.8						
SIV				LR	LR	03 38 23.2	
	comp=E,77nm,18.8s,baz=216,slow=35						

BDFB	**Brasilia**		**30.33**	**55**	P	**P**	**03 31 26.7**	**-0.7**	
	comp=E,1.7nm,0.7s,baz=282,slow=4.7,SNR=3.2								
VNA1	**Neumayer--Stat**		**48.52**	**156**	P	P	03 34 01.4	+3.5	
VNA2	**Neumayer--Watz**		**48.85**	**156**	P	**P**	**03 34 02.7**	**+2.2**	
	baz=292,slow=8.0								
SNAA	**Sanae**		**50.41**	**157**	P	P	03 34 08.8	-3.6	
TXAR	**Lajitas Array**		**70.72**	**332**	P	**P**	**03 36 29.6**	**-1.8**	
	comp=E,0.1nm,0.6s,baz=147,slow=12,SNR=2.4								
NVAR	**Mina Array Bea**		**84.57**	**326**	P	**P**	**03 37 50.2**	**+1.1**	
	comp=E,0.3nm,0.8s,baz=205,slow=4.0,SNR=2.3								
TORD	**Torodi Ar. Bea**		**85.94**	**71**	P	**P**	**03 37 57.2**	**+1.6**	
	comp=E,1.1nm,1.0s,baz=214,slow=7.0,SNR=3.8								

*IDC **31** 03:53:41.1±4.5, 20°.76S×179°.14W, h665km±54km, mb2.9/8, mb1 3.2/9, mb1mx3.0/20, mbtmp3.8/9, Error ellipse: s-maj=75.4km s-min=25.0km az=152.0*
ISC 31 03:53:36.7±1.6, 20°.9S±0°.5×178°.8W±0°.3, h619km, n12, σ1°25/12, mb3.5/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.78**	**262**	P	**P**	**03 56 35.1**	**+2.1**
	0.2nm,0.3s,baz=270,slow=20,SNR=2.9						
STKA	**Stephens Creek**	**36.95**	**244**	P	**P**	**03 59 55.5**	**+0.1**
	1.3nm,0.5s,baz=90,slow=12,SNR=4.0						
ASAR	**Alice Springs**	**43.69**	**257**	P	**P**	**04 00 48.6**	**-0.5**
	2.4nm,0.5s,baz=96,slow=8.0,SNR=29						
ASAR				PcP	**PcP**	**04 02 21.1**	**-0.8**
	0.4nm,0.6s,baz=109,slow=3.9,SNR=4.5						
WRA	**Warramunga Arr**	**43.79**	**263**	P	**P**	**04 00 49.0**	**-0.9**
	0.8nm,0.3s,baz=96,slow=6.9,SNR=90						
NVAR	**Mina Array Bea**	**81.81**	**44**	P	**P**	**04 04 54.2**	**+1.4**
	0.1nm,0.5s,baz=224,slow=9.9,SNR=2.0						
ILAR	**Eielson Array**	**88.83**	**13**	P	**P**	**04 05 26.4**	**+0.7**
	0.4nm,0.7s,baz=223,slow=5.1,SNR=4.7						
PDAR	**Pinedale Array**	**89.74**	**44**	P	**P**	**04 05 31.8**	**+1.1**
	0.3nm,0.7s,baz=316,slow=5.0,SNR=3.1						
SONM	**Songino Array**	**95.52**	**319**	P	**P**	**04 05 55.6**	**-1.3**
	0.1nm,0.3s,baz=149,slow=0.8,SNR=2.6						
YKA	**Yellowknife Ar**	**97.15**	**25**	P	Pdif	04 06 03.4	-0.3
	0.1nm,0.7s,baz=245,slow=5.2,SNR=3.3						
ARCES	**ARCESS Array B**	**129.13**	**349**	PKP	**PKPdf**	**04 11 34.0**	**-1.0**
	1.5nm,1.0s,baz=60,slow=5.3,SNR=4.1						
AKASG	**Malin Array Be**	**142.95**	**330**	PKP	**PKPdf**	**04 11 59.7**	**-1.3**
	2.2nm,0.5s,baz=47,slow=4.8,SNR=8.6						
BRTR	**Keskin Array B**	**146.50**	**311**	PKPbc	**PKPbc**	**04 12 09.8**	**-0.5**
	0.6nm,0.6s,baz=142,slow=4.7,SNR=5.6						

*IDC **31** 04:14:29.4±1.3, 1°.23N×126°.23E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/32, mbtmp3.6/4, ML3.8/1, Error ellipse: s-maj=63.6km s-min=23.5km az=58.0*
*ISCJB **31** 04:14:44.2±1.0, 1°.48N±0°.08×127°.4E±0°.1, h150km, mb3.4/3, Error ellipse: s-maj=15.5km s-min=10.8km az=162.6*
*DJA **31** 04:14:45.9±0.8, 1°N±4°×12°7E±°, h132km±6km, M3.8/8, mb3.9/1, mB4.7/1, MLv3.8/8, Mw(mB)4.0/1*
ISC 31 04:14:45.5±1.2, 1°.40N±0°.10×127°.3E±0°.1, h150km, n13, σ1°47/14, mb3.6/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.63**	**175**	P	**Pn**	**04 15 07.8**	**+0.2**
TNTI				S	**Sn**	**04 15 23.9**	**-0.6**
LBMI	**Labuha**	**2.04**	**175**	P	**Pn**	**04 15 22.5**	**+1.4**
LBMI				S	**Sn**	**04 15 50.5**	**+2.0**
KMSI	**Cibinong**	**3.44**	**256**	P	Pn	04 15 46.1	+7.6
SANI	**Sanana**	**3.68**	**201**	P	**Pn**	**04 15 41.1**	**-0.5**
SANI				S	**Sn**	**04 16 22.0**	**-3.2**
SWI	**Sorong**	**4.54**	**120**	P	Pn	04 16 03.5	+11
SIJI	**Sorong**	**4.55**	**120**	Pn	**Pn**	**04 15 51.7**	**-1.3**
	2.7nm,0.3s,baz=255,slow=20,SNR=5.1						
NLAI	**Namlea**	**4.62**	**183**	P	**Pn**	**04 15 55.1**	**+1.2**
NLAI				S	**Sn**	**04 16 46.7**	**-0.5**
LUWI	**Luwuk**	**5.15**	**242**	P	Pn	04 16 07.9	+6.9
MRSI	**Marisa**	**5.45**	**260**	P	**Pn**	**04 16 06.5**	**+1.5**
WRA	**Warramunga Arr**	**22.30**	**162**	P	**P**	**04 19 31.3**	**+0.4**
	0.9nm,0.4s,baz=338,slow=10,SNR=28						
ASAR	**Alice Springs**	**25.73**	**166**	P	**P**	**04 20 03.1**	**+0.9**
	0.2nm,0.3s,baz=341,slow=10.0,SNR=4.8						
MKAR	**Makanchi Array**	**59.79**	**326**	P	**P**	**04 24 34.5**	**-0.4**
	0.4nm,0.5s,baz=123,slow=8.2,SNR=6.2						
TORD	**Torodi Ar. Bea**	**124.17**	**287**	PKP	**PKPdf**	**04 33 27.0**	**-0.5**
	0.2nm,0.6s,baz=24,slow=0.9,SNR=3.9						

*IDC **31** 04:37:53.9±0.6, 27°.47S×177°.08W, h0km, mb4.0/11, mb1 4.2/11, mb1mx4.1/28, mbtmp4.0/11, MS3.6/1, Ms1 3.5/1, ms1mx2.7/22, Error ellipse: s-maj=27.4km s-min=20.8km az=150.0*
*ISCJB **31** 04:38:00.7±0.5, 27°.40S±0°.07×177°.2W±0°.1, h55km, mb4.1/15, MS3.5/1, Error ellipse: s-maj=17.4km s-min=8.5km az=15.3*
*NEIC **31** 04:38:02.4±2.0, 27°.51S×177°.13W, h64km±17km, mb4.1/3, Error ellipse: s-maj=16.7km s-min=16.6km az=115.0*
ISC 31 04:38:01.6±0.5, 27°.43S±0°.08×177°.1W±0°.1, h55km, n47, σ0°93/34, mb4.0/15, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.94**	**201**	Pn	**Pn**	**04 38 33.3**	**+1.0**
	320nm,0.3s,baz=68,slow=10,SNR=22						
RAO				Sn	**Sn**	**04 38 56.0**	**+0.5**
	339nm,0.3s,baz=270,slow=20,SNR=12						
RAO				LR	LR	04 39 13.1	
	comp=Z,230nm,19.1s,baz=55,slow=41						
RAO	**Raoul Island**	**1.94**	**201**	*e*Pn	**Pn**	**04 38 31.5**	**-0.8**
RAO				*e*S	**Sn**	**04 38 56.8**	**+1.2**
URZ	**Urewera**	**11.84**	**203**	Pn	**Pn**	**04 40 48.0**	**+0.3**
	0.5nm,0.3s,baz=345,slow=20,SNR=3.1						
URZ				Sn	Sn	04 42 50.2	-7.9
	0.9nm,0.3s,baz=190,slow=22,SNR=7.9						
DZM	**Mont Dzumac**	**15.86**	**286**	*e*LR	LR	04 45 29.5	
	140nm,25.5s						
TBI	**Tubuai**	**25.29**	**87**	*e*LR	LR	04 49 30.4	
	66nm,25.5s						
TBI	**Tubuai**	**25.29**	**87**	*e*T	T	05 08 32.2	
	8.6nm,0.4s						
PAE	**Paea**	**27.17**	**75**	*e*T	T	05 11 19.0	
	2.9nm,0.3s						
PPT2	**Papeete2**	**27.20**	**75**	*e*LR	LR	04 50 18.4	
	74nm,25.5s						
PPT2	**Papeete2**	**27.20**	**75**	*e*T	T	05 11 22.9	
	3.0nm,0.4s						
VAH	**Vaihoa**	**29.94**	**72**	*e*T	T	05 14 52.2	
	6.2nm,0.3s						
STKA	**Stephens Creek**	**36.00**	**253**	P	**P**	**04 44 57.5**	**0.0**
	0.9nm,0.6s,baz=92,slow=8.7,SNR=3.4						
STKA				LR	LR	04 57 11.5	
	comp=Z,78nm,18.7s,baz=9.2,slow=32						
ASAR	**Alice Springs**	**44.13**	**263**	P	**P**	**04 46 05.1**	**+0.1**
	1.0nm,0.7s,baz=94,slow=6.8,SNR=10						
WRAB	**Tennant Creek**	**44.85**	**269**	*e*P	**P**	**04 46 10.8**	**0.0**
	2.3nm,1.0s						
WRA	**Warramunga Arr**	**44.85**	**269**	P	**P**	**04 46 10.7**	**-0.1**
	2.4nm,0.7s,baz=110,slow=6.5,SNR=22						
VNDA	**Vanda**	**51.11**	**186**	*e*P	**P**	**04 46 55.6**	**-2.7**
	3.7nm,1.6s						
GUMO	**Guam**	**54.98**	**313**	P	**P**	**04 47 26.3**	**-1.2**
	11nm,0.3s,baz=119,slow=10,SNR=2.0						
QSPA	**South Pole Qui**	**62.67**	**180**	*e*P	**P**	**04 48 21.4**	**+1.0**
	0.9nm,0.5s						
MAW	**Mawson**	**75.35**	**200**	P	**P**	**04 49 38.0**	**-0.7**
	3.3nm,0.7s,baz=162,slow=6.4,SNR=5.1						
SNAA	**Sanae**	**81.09**	**178**	P	P	04 50 04.9	-5.7
VNA2	**Neumayer--Watz**	**81.65**	**177**	P	**P**	**04 50 13.8**	**+0.3**
	baz=175,slow=3.4						
KSRS	**Korea Array**	**82.61**	**319**	P	**P**	**04 50 20.1**	**+1.2**
	0.4nm,0.3s,baz=145,slow=8.6,SNR=2.7						
KSAR	**Wonju Array Be**	**82.63**	**319**	P	**P**	**04 50 20.1**	**+1.1**
PETK	**Petropavlovsk-**	**83.15**	**345**	P	**P**	**04 50 21.8**	**+0.5**
	3.4nm,0.8s,baz=140,slow=12,SNR=5.8						
NVAR	**Mina Array Bea**	**85.53**	**42**	P	**P**	**04 50 35.7**	**+1.6**
	0.5nm,0.7s,baz=216,slow=10,SNR=4.3						
TXAR	**Lajitas Array**	**90.13**	**57**	P	**P**	**04 50 55.9**	**-0.2**
	0.2nm,0.8s,baz=185,slow=8.7,SNR=2.8						
SEY	**Seymchan**	**93.28**	**347**	P	**P**	**04 51 10.4**	**+0.7**
	0.9nm,0.4s,baz=143,slow=20,SNR=3.4						
PDAR	**Pinedale Array**	**93.45**	**43**	P	**P**	**04 51 12.7**	**+1.4**
	0.2nm,0.3s,baz=40,slow=7.1,SNR=2.5						
ILAR	**Eielson Array**	**94.87**	**13**	P	**P**	**04 51 15.8**	**-1.3**
	0.4nm,0.9s,baz=209,slow=7.2,SNR=3.9						
MKAR	**Makanchi Array**	**116.44**	**311**	PKP	**PKPdf**	**04 56 38.3**	**-0.7**
	0.4nm,0.7s,baz=360,slow=0.7,SNR=4.4						
KURK	**Kurchatov**	**119.54**	**315**	PKP	**PKPdf**	**04 56 44.6**	**-0.2**
KURBB	**Kurchatov Arra**	**119.58**	**315**	PKP	**PKPdf**	**04 56 44.6**	**-0.3**
	0.5nm,0.6s,baz=119,slow=2.2,SNR=4.9						
BOSA	**Boshof**	**120.29**	**203**	PKP	**PKPdf**	**04 56 48.0**	**+0.7**
	2.9nm,0.9s,baz=194,slow=4.2,SNR=2.9						
SCHQ	**Schefferville**	**123.51**	**41**	PKP	**PKPdf**	**04 56 51.9**	**-0.5**
	2.3nm,0.9s,baz=216,slow=17,SNR=1.8						
BVAR	**Borovoye Array**	**124.80**	**317**	PKP	**PKPdf**	**04 56 55.2**	**+0.3**
	0.5nm,0.6s,baz=129,slow=2.0,SNR=3.5						
ARCES	**ARCESS Array B**	**135.85**	**349**	PKhKP	PKPpre	04 57 12.6	
	2.8nm,1.1s,baz=72,slow=2.9,SNR=4.4						
H10S3	**ASCENSION HYDR**	**140.03**	**152**	T	T	07 34 04.8	
	baz=204						
H10S2	**ASCENSION HYDR**	**140.03**	**152**	T	T	07 34 05.7	
	baz=204						
H10S1	**ASCENSION HYDR**	**140.05**	**152**	T	T	07 34 04.1	
	baz=204						
H10N3	**ASCENSION HYDR**	**141.10**	**152**	T	T	07 35 37.3	
	baz=204						
H10N1	**ASCENSION HYDR**	**141.11**	**152**	T	T	07 35 38.7	
	baz=204						
H10N2	**ASCENSION HYDR**	**141.12**	**152**	T	T	07 35 37.7	
	baz=204						
FINES	**FINESS Array B**	**142.61**	**342**	PKhKP	PKPpre	04 57 24.1	
	0.8nm,0.7s,baz=72,slow=8.2,SNR=4.0						
NB2	**NORSAR Subarra**	**145.93**	**353**	PKP	**PKPdf**	**04 57 34.1**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=10,slow=3.0						
NOA	**NORSAR Array B**	**145.93**	**353**	PKPbc	**PKPbc**	**04 57 34.3**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=11,slow=5.0,SNR=6.1						
AKASG	**Malin Array Be**	**149.34**	**326**	PKPbc	**PKPbc**	**04 57 43.8**	**-0.3**
	comp=Z,2.6nm,0.6s,baz=41,slow=3.7,SNR=12						
BRTR	**Keskin Array B**	**151.74**	**304**	PKPbc	**PKPbc**	**04 57 50.1**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=136,slow=4.1,SNR=6.6						
TORD	**Torodi Ar. Bea**	**165.74**	**175**	PKP	**PKPdf**	**04 57 59.9**	**-1.0**
	comp=Z,0.4nm,0.9s,baz=342,slow=1.5,SNR=3.1						
TORD				PKPab	**PKPab**	**04 59 00.0**	**0.0**
	comp=Z,0.6nm,0.6s,baz=182,slow=4.1,SNR=17						

*IDC **31** 04:38:01.7±1.7, 36°.66N×6°.88E, h0km, mb3.2/2, mb1 3.2/4, mb1mx3.0/41, mbtmp3.1/4, ML3.4/2, Error ellipse: s-maj=33.8km s-min=25.8km az=13.0*
*CRAAG **31** 04:38:03.2, 36°.60N×6°.84E, Ml3.4*
*ISCJB **31** 04:38:04.3±0.6, 36°.67N±0°.05×6°.85E±0°.05, h18km±6km, mb3.2/2, Error ellipse: s-maj=8.6km s-min=5.5km az=29.2*
*CSEM **31** 04:38:04.8±0.3, 36°.62N×6°.85E, h2km, ML3.4, Error ellipse: s-maj=8.7km s-min=7.7km az=12.0*
ISC 31 04:38:04.5±0.8, 36°.61N±0°.04×6°.84E±0°.03, h14km±6km, n33, σ1°17/33, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAEH	**'Ain El Ouahch**	**0.17**	**4**	P	**Pg**	**04 38 08.7**	**+0.1**
CAEH	**'Ain El Ouahch**	**0.17**	**4**	P	**Pg**	**04 38 08.8**	**+0.1**
CKFL	**Kef-Lekhel**	**0.23**	**204**	P	**Pg**	**04 38 09.5**	**-0.1**
CKFL	**Kef-Lekhel**	**0.23**	**204**	P	**Pg**	**04 38 09.5**	**-0.1**
CASM	**Ain Smara**	**0.45**	**219**	P	**Pg**	**04 38 12.2**	**-1.2**
CASM	**Ain Smara**	**0.45**	**219**	P	**Pg**	**04 38 12.2**	**-1.2**
CMAH	**Djebel Manchou**	**0.47**	**88**	P	**Pg**	**04 38 14.2**	**+0.4**
CMAH	**Djebel Manchou**	**0.47**	**88**	P	**Pg**	**04 38 14.2**	**+0.4**
ABSA	**Djebel Ababsia**	**0.62**	**123**	P	**Pg**	**04 38 16.6**	**0.0**
ABSA	**Djebel Ababsia**	**0.62**	**123**	P	**Pg**	**04 38 16.6**	**0.0**
CTEI	**Djebel Teioual**	**0.65**	**212**	P	**Pg**	**04 38 17.5**	**+0.3**
CTEI	**Djebel Teioual**	**0.65**	**212**	P	**Pg**	**04 38 17.5**	**+0.3**
DFRA	**Djebel Bou Aff**	**0.78**	**265**	P	**Pg**	**04 38 19.0**	**-0.6**
DFRA	**Djebel Bou Aff**	**0.78**	**265**	P	**Pg**	**04 38 19.0**	**-0.6**
CKHR	**Kef el Ahmar**	**1.22**	**241**	P	**Pg**	**04 38 29.0**	**+1.0**
CKHR	**Kef el Ahmar**	**1.22**	**241**	P	**Pg**	**04 38 29.0**	**+1.0**
SET	**Setif**	**1.23**	**251**	P	**Pg**	**04 38 29.0**	**+0.8**
SET	**Setif**	**1.23**	**251**	P	**Pg**	**04 38 29.0**	**+0.8**
KEST	**Kesra**	**2.21**	**113**	Pn	**Pn**	**04 38 41.5**	**+0.7**
	2.3nm,0.3s,baz=296,slow=4.8,SNR=56						
KEST				Sn	**Sn**	**04 39 08.7**	**+0.8**
	1.9nm,0.3s,baz=76,slow=17,SNR=6.5						
ETOS	**Mallorca**	**4.47**	**316**	P	**Pn**	**04 39 13.5**	**+1.8**
	6.2nm,0.3s,SNR=7.9						
ETOS				S	**Sn**	**04 40 02.9**	**-0.6**
	1.8nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**4.97**	**301**	P	**Pn**	**04 39 20.5**	**+1.9**
	1.8nm,0.1s,SNR=7.9						
EI

ARCO	**CERRO ARCO**	**2.51**	**63**	*e*P		**Pn**	**05 31 52.4**	**+1.3**
ARCO				*i* S		**Sb**	**05 32 30.2**	**+3.7**
ARCO				AML		AML	05 32 34.0	
	comp=Z,41nm,0.5s							
AUSP	**Uspallata**	**2.56**	**47**	*i* P		**Pn**	**05 31 53.2**	**+1.2**
AUSP				*e*S4		**Sn**	**05 32 25.9**	**+3.4**
ASAL	**Salagasta**	**2.70**	**60**	*i* P		**Pn**	**05 31 54.6**	**+0.9**
ASAL				*i* S		**Sb**	**05 32 33.2**	**+1.1**
RTLS	**Leoncito**	**2.92**	**42**	*i* P4		**Pn**	**05 31 58.5**	**+1.7**
RTLS				*e*S		**Sb**	**05 32 37.3**	**-1.2**
RTCV	**Cerro Valdivia**	**3.33**	**51**	*e*P		**Pn**	**05 32 03.5**	**+1.1**
SJA	**San Juan**	**3.55**	**47**	*i* P		**Pn**	**05 32 05.8**	**+0.5**
CFAA	**Coronel Fontan**	**3.70**	**51**	*i* P		**Pn**	**05 32 07.2**	**-0.2**
CFAA				*i* P		**Pn**	**05 32 07.2**	**-0.2**
RTLL	**Cerro Villicun**	**3.74**	**46**	*e*P		**Pn**	**05 32 08.0**	**0.0**
AMOG	**MOGNA**	**4.02**	**42**	*i* P		**Pn**	**05 32 11.8**	**-0.1**
ACAN	**Cantantal**	**4.08**	**66**	*e*P4		**Pn**	**05 32 12.1**	**-0.5**

MEX 31 05:46:14.2±0.5, 14°60N×93°59W, h16km±65km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.15**	**18**	*e*P	Pn	05 46 31.9	-3.8
PCIG				*i* S	Sb	05 46 46.0	-4.5
THIG		**1.31**	**76**	*e*P	Pn	05 46 34.4	-3.5
THIG				*e*S	Sb	05 46 49.9	-5.3
CCIG	**Comitan**	**2.18**	**40**	*e*P	Pn	05 46 49.1	-0.9
CCIG				*e*S	Sn	05 47 14.6	-2.3
TGIG		**2.21**	**12**	*e*P	Pn	05 46 48.6	-1.8
TGIG				*e*S	Sn	05 47 13.7	-3.7

*MOS **31** 06:09:22.7±1.0, 50°.49N×156°.72E, h133km, mb4.2/5, Error ellipse: s-maj=23.4km s-min=6.1km az=77.3*
*ISCJB **31** 06:09:28.7±0.5, 51°.03N±0°.06×156°.8E±0°.1, h146km±3km, mb3.6/13, Error ellipse: s-maj=13.7km s-min=6.7km az=36.5*
*KRSC **31** 06:09:28.1±2.0, 50°.85N×157°.45E, h125km±21km, ML4.2*
*IDC **31** 06:09:30.9±1.5, 51°.13N×156°.60E, h150km±11km, mb3.3/11, mb1 3.5/13, mb1mx3.3/35, mbtmp3.7/13, MS3.3/1, Ms1 3.3/1, ms1mx2.5/17, Error ellipse: s-maj=21.7km s-min=13.9km az=133.0*

ISC 31 06:09:28.9±0.8, 50°.91N±0°.07×157°.10E±0°.07, h137km±6km, n75, σ1°30/96, mb3.6/13, 4C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**0.59**	**342**	*e*P	**Pn**	**06 09 49.5**	**+0.3**
PAU				*e*S	**Sn**	**06 10 04.3**	**-0.4**
PAU	**Pauzhetka**	**0.59**	**342**	PN	**Pn**	**06 09 49.5**	**+0.3**
PAU				S	**Sn**	**06 10 04.3**	**-0.4**
SKR	**Severo-Kuril's**	**0.67**	**250**	*e*P	**Pn**	**06 09 49.8**	**+0.1**
SKR				*e*S	**Sn**	**06 10 04.8**	**-0.7**
SKR	**Severo-Kuril's**	**0.67**	**250**	⇓*i*PN	Pn	06 09 40.9	-8.8
SKR				*i* S	Sn	06 09 56.0	-9.5
SKR				pmax	pmax		
	comp=N,180nm,0.2s						
SKR				pmax	pmax		
	comp=E,180nm,0.2s						
SKR				pmax	pmax		
	comp=Z,300nm,0.2s						
SKR				smax	smax		
	comp=N,9μm,1.0s						
SKR				smax	smax		
	comp=E,10μm,1.0s						
SKR				smax	smax		
	comp=N,5μm,0.3s						
SKR				smax	smax		
	comp=E,3μm,0.3s						
MIPR	**Malaya Ipel'ka**	**1.39**	**351**	*e*P	**Pn**	**06 09 56.5**	**+0.3**
MIPR				*e*S	**Sn**	**06 10 16.4**	**-0.7**
ASAK	**Asacha**	**1.56**	**18**	*e*P	**Pn**	**06 09 59.0**	**+0.9**
ASAK				*e*S	**Sn**	**06 10 20.6**	**+0.1**
MTVR	**Mutnovka**	**1.71**	**23**	*e*P	**Pn**	**06 10 00.9**	**+1.0**
MTVR				*e*S	**Sn**	**06 10 24.3**	**+0.6**
GRL	**Gorelyy**	**1.75**	**20**	*e*P	**Pn**	**06 10 01.4**	**+1.0**
GRL				*e*S	**Sn**	**06 10 25.3**	**+0.8**
GRL	**Gorelyy**	**1.75**	**20**	PN	**Pn**	**06 10 01.4**	**+1.0**
GRL				S	**Sn**	**06 10 25.3**	**+0.8**
RUS	**Russkaya**	**1.76**	**29**	*e*P	**Pn**	**06 10 00.6**	**+0.3**
RUS				*e*S	**Sn**	**06 10 23.4**	**-1.0**
RUS	**Russkaya**	**1.76**	**29**	PN	**Pn**	**06 10 00.6**	**+0.3**
APC	**Apacha**	**2.02**	**1**	*e*P	**Pn**	**06 10 04.3**	**+1.0**
APC				*e*S	**Sn**	**06 10 29.6**	**-0.3**
APC	**Apacha**	**2.02**	**1**	PN	**Pn**	**06 10 04.3**	**+1.0**
APC				S	**Sn**	**06 10 29.6**	**-0.3**
PETK	**Petropavlovsk-**	**2.23**	**9**	P	**Pn**	**06 10 06.7**	**+0.7**
	comp=E,6.7nm,0.3s,baz=174,slow=14,SNR=62						
PETK				S	**Sn**	**06 10 35.5**	**+1.0**
	comp=E,5.3nm,0.3s,baz=168,slow=17,SNR=7.6						
PETK	**Petropavlovsk-**	**2.23**	**9**	PN	**Pn**	**06 10 06.7**	**+0.7**
PETK				S	**Sn**	**06 10 35.5**	**+1.0**
PETK				pmax	pmax		
	comp=Z,7.0nm,0.3s						
PETK				smax	smax		
	comp=N,5.0nm,0.3s						
PET	**Petropavlovsk**	**2.32**	**24**	*e*P	**Pn**	**06 10 07.7**	**+0.6**
PET				*e*S	**Sn**	**06 10 36.5**	**0.0**
PET	**Petropavlovsk**	**2.32**	**24**	α*i*PN	**Pn**	**06 10 07.6**	**+0.5**
PET				*e*S	**Sn**	**06 10 36.2**	**-0.3**
PET				pmax	pmax		
	comp=Z,69nm,0.4s						
PET				smax	smax		
	comp=N,634nm,0.5s						
PET				smax	smax		
	comp=E,296nm,0.5s						
PET				MLR	MLR		
	comp=Z,200nm,14.0s						
PET				MLR	MLR		
	comp=Z,100nm,7.0s						
UGLR	**Uglovaya**	**2.54**	**24**	*e*P	**Pn**	**06 10 11.3**	**+1.5**
UGLR				*e*S	**Sn**	**06 10 41.2**	**-0.2**
AVH	**Avacha**	**2.56**	**23**	*e*P	**Pn**	**06 10 11.8**	**+1.6**
AVH				*e*S	**Sn**	**06 10 42.6**	**+0.6**
AVH	**Avacha**	**2.56**	**23**	PN	**Pn**	**06 10 11.8**	**+1.6**
AVH				S	**Sn**	**06 10 42.6**	**+0.6**
KOK	**Koryaka**	**2.57**	**21**	*e*P	**Pn**	**06 10 11.9**	**+1.7**
KOK				*e*S	**Sn**	**06 10 43.4**	**+1.3**
KOK	**Koryaka**	**2.57**	**21**	PN	**Pn**	**06 10 11.9**	**+1.7**
KOK				S	**Sn**	**06 10 43.4**	**+1.3**
SMAR	**Somma**	**2.58**	**23**	*e*P	**Pn**	**06 10 11.7**	**+1.2**
SMAR				*e*S	**Sn**	**06 10 42.1**	**-0.5**
SDLR	**Sedlovina**	**2.61**	**24**	*e*P	**Pn**	**06 10 11.7**	**+0.9**
SDLR				*e*S	**Sn**	**06 10 42.0**	**-1.2**
KRX	**Arik**	**2.63**	**21**	*e*P	**Pn**	**06 10 12.4**	**+1.3**
KRX				*e*S	**Sn**	**06 10 41.8**	**-1.8**
NLC	**Nalytchevo**	**2.65**	**31**	*e*P	**Pn**	**06 10 10.9**	**-0.3**
NLC				*e*S	**Sn**	**06 10 40.7**	**-3.2**
NLC	**Nalytchevo**	**2.65**	**31**	PN	**Pn**	**06 10 10.9**	**-0.3**
GNL	**Ganaly**	**2.84**	**10**	*e*P	**Pn**	**06 10 14.4**	**+0.8**
GNL				*e*S	**Sn**	**06 10 47.8**	**-0.5**
GNL	**Ganaly**	**2.84**	**10**	PN	**Pn**	**06 10 14.4**	**+0.8**
GNL				S	**Sn**	**06 10 47.8**	**-0.5**
SPN	**Mys Shipunski**	**2.84**	**38**	*e*P	**Pn**	**06 10 13.9**	**+0.4**
SPN				*e*S	**Sn**	**06 10 45.9**	**-2.2**
SPN	**Mys Shipunski**	**2.84**	**38**	PN	**Pn**	**06 10 13.9**	**+0.4**
MKZ	**Mys Kozlova**	**4.61**	**36**	*e*P	**Pn**	**06 10 36.2**	**-0.5**
MKZ				*e*S	**Sn**	**06 11 24.9**	**-4.6**
MKZ	**Mys Kozlova**	**4.61**	**36**	PN	**Pn**	**06 10 36.2**	**-0.5**
KZV	**Kizimen**	**4.63**	**23**	*e*P	**Pn**	**06 10 38.1**	**+1.0**
KZV				*e*S	**Sn**	**06 11 29.4**	**-0.9**
TUMR	**Tumrok**	**4.75**	**22**	*e*P	**Pn**	**06 10 40.1**	**+1.4**
ESO	**Esso**	**5.11**	**10**	*e*P	**Pn**	**06 10 44.4**	**+0.9**
ESO	**Esso**	**5.11**	**10**	PN	**Pn**	**06 10 44.4**	**+0.9**
KMNR	**Kamenistaya**	**5.21**	**20**	*e*P	**Pn**	**06 10 46.0**	**+1.3**
KPT	**Kopyto**	**5.40**	**19**	*e*P	**Pn**	**06 10 48.8**	**+1.5**
KPT	**Kopyto**	**5.40**	**19**	PN	**Pn**	**06 10 48.8**	**+1.5**
SRDR	**Sredinnyy**	**5.64**	**15**	*e*P	**Pn**	**06 10 51.4**	**+0.9**
KLY	**Klyuchi**	**5.81**	**20**	*e*P	**Pn**	**06 10 54.6**	**+1.9**
KBTR	**Krutoberegovo**	**6.30**	**30**	*e*P	**Pn**	**06 10 59.1**	**-0.2**
BKI	**Bering**	**6.86**	**48**	*e*P	**Pn**	**06 11 06.0**	**-0.8**
BKI				*e*S	Sn	06 12 16.5	-6.9
BKI	**Bering**	**6.86**	**48**	PN	**Pn**	**06 11 06.0**	**-0.8**
BILL	**Bilibino**	**17.76**	**11**	⇑*e*P	**P**	**06 13 24.0**	**-2.0**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.7s						
YAK	**Yakutsk**	**18.63**	**317**	*e*P	**P**	**06 13 32.5**	**-3.0**
YAK				pmax	pmax		
	comp=Z,13nm,0.9s						
MJAR	**Matsushiro Arr**	**19.73**	**231**	P	**P**	**06 13 48.5**	**+0.8**
	baz=23,slow=11,SNR=4.1						
TIXI	**Tiksi**	**24.37**	**339**	*ce*P	**P**	**06 14 31.9**	**-1.8**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.7s						
JCJ	**Chichijima**	**26.36**	**211**	LR	LR	06 26 34.5	
	comp=Z,61nm,20.1s,baz=126,slow=39						
COLA	**College**	**31.26**	**42**	⇓*e*P	**P**	**06 15 36.8**	**+1.7**
COLA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ILAR	**Eielson Array**	**31.67**	**43**	P	**P**	**06 15 39.1**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=262,slow=6.0,SNR=16						
ILAR	**Eielson Array**	**31.67**	**43**	*e*P	**P**	**06 15 39.1**	**+0.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**32.06**	**162**	T	T	06 49 45.3	
	baz=348,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**32.08**	**162**	T	T	06 49 46.2	
	baz=348,slow=76,SNR=28						
H11N1	**WAKE ISLAND Hy**	**32.08**	**162**	T	T	06 49 46.0	
	baz=348,slow=76,SNR=13						
H11S1	**WAKE ISLAND Hy**	**33.22**	**163**	T	T	06 51 07.7	
	baz=348,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**33.23**	**163**	T	T	06 51 11.0	
	baz=348,slow=76,SNR=322						
H11S2	**WAKE ISLAND Hy**	**33.24**	**163**	T	T	06 51 09.1	
	baz=348,slow=76,SNR=21						
INK	**Inuvik**	**36.73**	**36**	P	**P**	**06 16 23.4**	**+1.2**
	comp=Z,2.6nm,0.3s,baz=242,slow=8.9,SNR=3.7						
INK	**Inuvik**	**36.73**	**36**	P	**P**	**06 16 23.4**	**+1.2**
INK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
YKA	**Yellowknife Ar**	**46.02**	**40**	P	**P**	**06 17 39.0**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=296,slow=7.7,SNR=10						
YKA	**Yellowknife Ar**	**46.02**	**40**	P	**P**	**06 17 39.0**	**+1.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**47.44**	**296**	P	**P**	**06 17 47.3**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=57,slow=9.0,SNR=3.7						
ARCES	**ARCESS Array B**	**54.77**	**341**	P	**P**	**06 18 42.6**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=36,slow=9.3,SNR=3.2						
ARCES	**ARCESS Array B**	**54.77**	**341**	P	**P**	**06 18 42.6**	**-1.0**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PDAR	**Pinedale Array**	**60.23**	**58**	P	**P**	**06 19 24.6**	**+2.0**
	comp=Z,0.5nm,0.7s,baz=20,slow=4.7,SNR=5.6						
FINES	**FINESS Array B**	**61.37**	**336**	P	**P**	**06 19 27.2**	**-2.4**
	comp=Z,0.9nm,0.8s,baz=209,slow=26,SNR=3.7						
FINES	**FINESS Array B**	**61.37**	**336**	P	**P**	**06 19 27.2**	**-2.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NB2	**NORSAR Subarra**	**65.10**	**342**	P	**P**	**06 19 52.9**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**65.10**	**342**	P	**P**	**06 19 52.8**	**-1.4**
	comp=Z,0.8nm,0.5s,baz=22,slow=6.4,SNR=4.0						
NOA	**NORSAR Array B**	**65.10**	**342**	*e*P	**P**	**06 19 53.0**	**-1.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**73.22**	**64**	P	**P**	**06 20 47.5**	**+2.6**
	comp=Z,0.2nm,0.7s,baz=300,slow=7.2,SNR=2.8						
WRA	**Warramunga Arr**	**73.34**	**202**	P	**P**	**06 20 45.9**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=19,slow=6.3,SNR=4.3						
ASAR	**Alice Springs**	**77.02**	**202**	P	**P**	**06 21 07.9**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=12,slow=4.9,SNR=6.4						

JMA 31 06:10:44.0±0.3, 44°.09N×145°.75E, h160km±3km, M3.1, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JRA	**Rausu**	**0.48**	**252**	P	Pn	06 11 06.5	+0.2
NEM2	**Nemuro 2**	**0.72**	**180**	P	Pn	06 11 07.5	-0.2
NEM2				*e*S	Sn	06 11 25.8	0.0
JNK	**Nakash**	**0.90**	**236**	P	Pn	06 11 09.4	+0.5
JTKR	**Abashiri--Toko**	**1.33**	**266**	P	Pn	06 11 12.5	-0.1
JTKR				*e*S	Sn	06 11 34.7	+0.1
JAK	**Akkeshi**	**1.33**	**215**	P	Pn	06 11 12.7	0.0
JAK				*e*S	Sn	06 11 35.2	+0.6
JAR	**Ashorobuto**	**1.64**	**242**	P	Pn	06 11 16.3	+0.5
JMP	**Maruseppu**	**1.73**	**268**	P	Pn	06 11 16.4	-0.3
JOB	**Onbets**	**1.83**	**230**	P	Pn	06 11 18.3	+0.5
JOB				*e*S	Sn	06 11 44.0	+0.2
JCH	**Churui**	**2.28**	**231**	P	Pn	06 11 22.9	-0.1
JCH				*e*S	Sn	06 11 51.9	-1.2

*NEIC **31** 06:14:20.0, 38°.57S×175°.78E, h154km, MG4.0(WEL), After WEL.*
WEL 31 06:14:19.9±0.2, 38°.57S×175°.82E, h154km±1km, ML4.0/18, 24C-16D, Error ellipse: s-maj=1.2km s-min=0.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WATZ	**Wairara**	**0.15**	**206**	PN	Pn	06 14 40.4	-0.2
WATZ				SN	Sn	06 14 56.4	-0.2
WATZ	**Wairara**	**0.15**	**206**	Pn	Pn	06 14 40.2	-0.4
RATZ	**Rangitukua**	**0.30**	**187**	⇑PN	Pn	06 14 40.8	-0.2
RATZ	**Rangitukua**	**0.30**	**187**	Pn	Pn	06 14 40.8	-0.2
TLZ	**Tolley Road**	**0.33**	**318**	PN	Pn	06 14 40.8	-0.3
TLZ				SN	Sn	06 14 57.0	-0.2
RITZ	**Rihia Road**	**0.41**	**175**	⇓PN	Pn	06 14 41.6	+0.2
RITZ	**Rihia Road**	**0.41**	**175**	Pn	Pn	06 14 41.6	+0.2
ALRZ	**Allen Road**	**0.41**	**89**	PN	Pn	06 14 41.2	-0.2
ALRZ	**Allen Road**	**0.41**	**89**	Pn	Pn	06 14 41.2	-0.2
KRVZ	**Karewarewa**	**0.54**	**195**	PN	Pn	06 14 42.0	-0.1
KRVZ	**Karewarewa**	**0.54**	**195**	Pn	Pn	06 14 42.0	-0.1
WTVZ	**West Tongariro**	**0.57**	**198**	PN	Pn	06 14 42.1	-0.1
WTVZ	**West Tongariro**	**0.57**	**198**	Pn	Pn	06 14 42.1	-0.1
TWVZ	**Taurewa**	**0.58**	**211**	PN	Pn	06 14 42.1	-0.1
TWVZ	**Taurewa**	**0.58**	**211**	Pn	Pn	06 14 42.1	-0.1
OTVZ	**Oturere**	**0.60**	**191**	PN	Pn	06 14 42.3	-0.2
OTVZ				SN	Sn	06 14 59.6	-0.2
OTVZ	**Oturere**	**0.60**	**191**	Pn	Pn	06 14 41.3	-1.1
NGZ	**Ngauruhoe**	**0.62**	**195**	PN	Pn	06 14 42.4	-0.2
NGZ	**Ngauruhoe**	**0.62**	**195**	Pn	Pn	06 14 42.4	-0.2
COVZ	**Chateau Observ**	**0.66**	**199**	PN	Pn	06 14 42.7	-0.1
WPVZ	**Whakapapa**	**0.67**	**198**	PN	Pn	06 14 42.6	-0.2
WPVZ	**Whakapapa**	**0.67**	**198**	Pn	Pn	06 14 42.6	-0.2
TUVZ	**Tukino**	**0.71**	**190**	⇑PN	Pn	06 14 43.1	0.0
TUVZ	**Tukino**	**0.71**	**190**	Pn	Pn	06 14 43.1	0.0
FWVZ	**Far West T-bar**	**0.71**	**197**	⇓PN	Pn	06 14 43.0	-0.2
FWVZ				SN	Sn	06 15 00.7	-0.4
FWVZ	**Far West T-bar**	**0.71**	**197**	Pn	Pn	06 14 43.0	-0.2
FWVZ				SN	Sn	06 15 00.7	-0.4
WHVZ	**Whangaehu Hut**	**0.73**	**194**	⇓PN	Pn	06 14 43.2	-0.2
HIZ	**Hauiti**	**0.76**	**274**	PN	Pn	06 14 42.8	-0.5
HIZ				SN	Sn	06 15 00.9	-0.1
HIZ	**Hauiti**	**0.76**	**274**	Pn	Pn	06 14 42.2	-1.1
HIZ				Sn	Sn	06 15 00.2	-0.8
TRVZ	**Turoa**	**0.76**	**196**	⇑PN	Pn	06 14 43.5	0.0
TRVZ	**Turoa**	**0.76**	**196**	Pn	Pn	06 14 43.5	0.0
WNVZ	**Wahianoa**	**0.77**	**193**	⇑PN	Pn	06 14 43.5	0.0
WNVZ	**Wahianoa**	**0.77**	**193**	Pn	Pn	06 14 43.5	0.0
BKZ	**Black Stump Fm**	**0.79**	**139**	⇑PN	Pn	06 14 43.5	-0.1
BKZ				SN	Sn	06 15 00.6	-1.1
BKZ				AML	AML	06 15 00.6	
BKZ	**Black Stump Fm**	**0.79**	**139**	Pn	Pn	06 14 43.5	-0.1
BKZ				Sn	Sn	06 15 00.6	-1.1
PKVZ	**Pokaka**	**0.81**	**207**	⇑PN	Pn	06 14 43.6	-0.1
PKVZ	**Pokaka**	**0.81**	**207**	Pn	Pn	06 14 43.6	-0.1
MOVZ	**Moawhango**	**0.83**	**183**	⇑PN	Pn	06 14 43.6	-0.3
MOVZ	**Moawhango**	**0.83**	**183**	Pn	Pn	06 14 43.6	-0.3
MTVZ	**Mangateitei**	**0.85**	**198**	PN	Pn	06 14 44.0	0.0
MTVZ	**Mangateitei**	**0.85**	**198**	Pn	Pn	06 14 44.0	0.0
TOZ	**Tahuroa Road**	**0.88**	**344**	⇓PN	Pn	06 14 43.7	-0.4
TOZ	**Tahuroa Road**	**0.88**	**344**	Pn	Pn	06 14 43.7	-0.4
BHHZ	**Black Hill Sta**	**0.93**	**168**	⇑PN	Pn	06 14 44.4	-0.2
BHHZ	**Black Hill Sta**	**0.93**	**168**	Pn	Pn	06 14 44.4	-0.2
NMHZ	**Naumai**	**0.93**	**124**	PN	Pn	06 14 45.4	+0.7
NMHZ	**Naumai**	**0.93**	**124**	Pn	Pn	06 14 45.4	+0.7
VRZ	**Vera Road**	**0.99**	**236**	⇑PN	Pn	06 14 44.9	-0.1
VRZ	**Vera Road**	**0.99**	**236**	Pn	Pn	06 14 44.9	-0.1
RAHZ	**Arahi**	**1.05**	**109**	⇓PN	Pn	06 14 45.9	+0.4
RAHZ	**Arahi**	**1.05**	**109**	Pn	Pn	06 14 45.9	+0.4
URZ	**Urewera**	**1.06**	**73**	PN	Pn	06 14 44.7	-0.9
URZ				AML	AML	06 15 04.0	
URZ				AML	AML	06 15 05.3	
URZ	**Urewera**	**1.06**	**73**	*e*Pn	Pn	06 14 44.6	-0.9
URZ				*e*Sn	Sn	06 15 03.5	-1.6
MCHZ	**McNeill Hill**	**1.11**	**142**	⇓PN	Pn	06 14 46.9	+0.9
MCHZ	**McNeill Hill**	**1.11**	**142**	Pn	Pn	06 14 46.9	+0.9
ARHZ	**Aropaoanui**	**1.15**	**127**	PN	Pn	06 14 46.9	+0.5
KRHZ	**Kereru**	**1.15**	**158**	PN	Pn	06 14 46.6	+0.2
SNGZ	**Shannon Statio**	**1.21**	**100**	⇓PN	Pn	06 14 47.2	+0.2
WHHZ	**Waihua**	**1.22**	**115**	PN	Pn	06 14 47.2	+0.3
RAGZ	**Rawiri**	**1.26**	**87**	PN	Pn	06 14 47.2	-0.3
MHEZ	**Mangahewa**	**1.27**	**246**	PN	Pn	06 14 47.7	+0.3
MHEZ	**Mangahewa**	**1.27**	**246**	Pn	Pn	06 14 47.7	+0.3
WAZ	**Wanganui**	**1.35**	**208**	PN	Pn	06 14 48.0	-0.2
WAZ	**Wanganui**	**1.35**	**208**	Pn	Pn	06 14 48.1	-0.1
MWZ	**Matawai**	**1.36**	**80**	⇓PN	Pn	06 14 48.0	-0.5
MWZ				AML	AML	06 15 10.9	
MWZ				AML	AML	06 15 10.9	
MWZ				AML	AML	06 15 11.3	
MWZ				AML	AML	06 15 11.4	
MWZ	**Matawai**	**1.36**	**80**	Pn	Pn	06 14 48.0	-0.5
DREZ	**Durham Road**	**1.40**	**243**	PN	Pn	06 14 48.9	+0.1
DREZ	**Durham Road**	**1.40**	**243**	Pn	Pn	06 14 48.9	+0.1
LREZ	**Lake Rotokare**	**1.41**	**231**	⇑PN	Pn	06 14 49.1	+0.3
CKHZ	**Cape Kidnapper**	**1.46**	**138**	PN	Pn	06 14 49.9	+0.5
CKHZ	**Cape Kidnapper**	**1.46**	**138**	Pn	Pn	06 14 49.9	+0.5
KAHZ	**Kahuranaki**	**1.47**	**146**	PN	Pn	06 14 49.9	+0.4
KAHZ	**Kahuranaki**	**1.47**	**146**	Pn	Pn	06 14 49.9	+0.4
TSZ	**Takapari Road**	**1.49**	**176**	PN	Pn	06 14 49.5	-0.2
TSZ				AML	AML	06 15 12.5	
TSZ				AML	AML	06 15 13.3	
TSZ	**Takapari Road**	**1.49**	**176**	Pn	Pn	06 14 49.5	-0.2
NEZ	**North Egmont**	**1.51**	**242**	PN	Pn	06 14 50.2	+0.2
NEZ	**North Egmont**	**1.51**	**242**	Pn	Pn	06 14 50.2	+0.2
KNZ	**Kokohu**	**1.52**	**108**	⇓PN	Pn	06 14 49.9	0.0
KNZ	**Kokohu**	**1.52**	**108**	Pn	Pn	06 14 49.9	0.0
RIGZ	**Rimuhau**	**1.53**	**96**	⇓PN	Pn	06 14 50.1	-0.1
PKE	**Pukeiti**	**1.56**	**246**	PN	Pn	06 14 50.3	-0.1
PKE	**Pukeiti**	**1.56**	**246**	Pn	Pn	06 14 50.3	-0.1
WPHZ	**Waipukurau**	**1.57**	**162**	⇑PN	Pn	06 14 50.4	-0.1
WPHZ				SN	Sn	06 15 12.3	-1.7
WPHZ	**Waipukurau**	**1.57**	**162**	Pn	Pn	06 14 50.4	-0.1
WPHZ				Sn	Sn	06 15 12.3	-1.7
KHEZ	**Kahui Hut**	**1.58**	**242**	⇑PN	Pn	06 14 50.5	-0.1
TKGZ	**Te Karaka**	**1.60**	**86**	⇓PN	Pn	06 14 50.9	+0.1
PRGZ	**Paritu Road**	**1.65**	**103**	PN	Pn	06 14 51.3	-0.1
PRGZ	**Paritu Road**	**1.65**	**103**	Pn	Pn	06 14 51.3	-0.1
PXZ	**Pawanui**	**1.67**	**151**	PN	Pn	06 14 51.5	0.0
PXZ				AML	AML	06 15 16.9	
PXZ				AML	AML	06 15 16.9	
PXZ				AML	AML	06 15 17.0	
PXZ				AML	AML	06 15 17.0	
PXZ	**Pawanui**	**1.67**	**151**	Pn	Pn	06 14 51.5	0.0
NWEZ	**Newall Road**	**1.67**	**245**	PN	Pn	06 14 51.3	-0.3
NWEZ	**Newall Road**	**1.67**	**245**	Pn	Pn	06 14 51.4	-0.2
MMEZ	**Namu Road**	**1.73**	**240**	PN	Pn	06 14 52.0	-0.2
MHGZ	**Mahia Peninsul**	**1.73**	**110**	Pn	Pn	06 14 52.1	-0.2
DVHZ	**Dannevirke**	**1.75**	**171**	PN	Pn	06 14 51.8	-0.6
DVHZ	**Dannevirke**	**1.75**	**171**	Pn	Pn	06 14 51.9	-0.6
TWGZ	**Tauwhareparae**	**1.75**	**78**	PN	Pn	06 14 52.6	+0.1
HAZ	**Te Kaha**	**1.75**	**63**	⇑PN	Pn	06 14 51.0	-1.5
PRHZ	**Porangahau**	**1.81**	**160**	PN	Pn	06 14 53.0	-0.1
PRHZ	**Porangahau**	**1.81**	**160**	Pn	Pn	06 14 53.0	-0.1
POWZ	**Post Office Ro**	**1.82**	**181**	⇑PN	Pn	06 14 52.5	-0.7
POWZ	**Post Office Ro**	**1.82**	**181**	Pn	Pn	06 14 52.5	-0.7
CNGZ	**Carnagh Statio**	**1.88**	**88**	PN	Pn	06 14

JCZ	**Jackson Bay**	**7.64**	**222**	PN	Pn	06 16 02.3 -6.2
JCZ	**Jackson Bay**	**7.64**	**222**	Pn	Pn	06 16 02.3 -6.2
CTZ	**Chatham Island**	**7.69**	**135**	Pn	Pn	06 16 08.2 -0.9
WKZ	**Wanaka**	**8.05**	**217**	PN	Pn	06 16 08.4 -5.6
WKZ	**Wanaka**	**8.05**	**217**	Pn	Pn	06 16 08.4 -5.6
EAZ	**Earnscleugh**	**8.23**	**214**	PN	Pn	06 16 11.0 -5.3
EAZ	**Earnscleugh**	**8.23**	**214**	Pn	Pn	06 16 11.0 -5.3
TUZ	**Tuapeka**	**8.68**	**210**	PN	Pn	06 16 18.2 -4.0
TUZ	**Tuapeka**	**8.68**	**210**	Pn	Pn	06 16 18.2 -4.0
WHZ	**Wether Hill Ro**	**9.35**	**216**	PN	Pn	06 16 25.8 -5.3
WHZ	**Wether Hill Ro**	**9.35**	**216**	Pn	Pn	06 16 25.9 -5.3
SYZ	**Scrubby Hill**	**9.36**	**210**	PN	Pn	06 16 27.3 -3.8
SYZ	**Scrubby Hill**	**9.36**	**210**	Pn	Pn	06 16 27.4 -3.8
DCZ	**Deep Cove**	**9.44**	**220**	PN	Pn	06 16 27.3 -4.9
DCZ	**Deep Cove**	**9.44**	**220**	Pn	Pn	06 16 27.3 -4.9

*IDC **31** 06:18:32.6±3.0, 5°.47S×147°.35E, h198km±28km, mb3.4/5, mb1 3.6/7, mb1mx3.3/30, mbtmp4.0/7, Error ellipse: s-maj=30.4km s-min=12.4km az=115.0*

ISC 31 06:18:29.6±1.1, 5°.4S±0°.1×147°.3E±0°.3, h170km, n8, σ1§04/10, mb3.7/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**14.65**	**184**	P	**P**	**06 21 51.8**	**+1.1**
	0.4nm,0.3s,baz=7.9,slow=11,SNR=4.0						
WRA	**Warramunga Arr**	**19.19**	**220**	P	**P**	**06 22 41.3**	**+0.8**
	1.9nm,0.3s,baz=48,slow=12,SNR=67						
WRA				S	**S**	**06 26 07.7**	**-1.4**
	0.1nm,0.3s,baz=41,slow=20,SNR=5.0						
ASAR	**Alice Springs**	**22.29**	**214**	P	**P**	**06 23 13.8**	**+0.6**
	5.0nm,0.4s,baz=49,slow=8.5,SNR=109						
ASAR				S	**S**	**06 27 05.6**	**-0.4**
	3.5nm,1.1s,baz=29,slow=19,SNR=4.4						
STKA	**Stephens Creek**	**26.89**	**191**	P	**P**	**06 23 53.9**	**-0.9**
	0.8nm,0.4s,baz=354,slow=8.7,SNR=3.9						
VNDA	**Vanda**	**72.50**	**177**	P	**P**	**06 29 36.9**	**-0.4**
	1.3nm,0.5s,baz=335,slow=7.0,SNR=16						
MKAR	**Makanchi Array**	**77.22**	**320**	P	**P**	**06 30 05.9**	**+0.9**
	0.3nm,0.8s,baz=103,slow=4.6,SNR=2.7						
ILAR	**Eielson Array**	**84.81**	**23**	P	**P**	**06 30 44.1**	**-0.5**
	0.3nm,0.6s,baz=250,slow=4.7,SNR=7.7						
TORD	**Torodi Ar. Bea**	**145.22**	**285**	PKPbc	**PKPdf**	**06 37 47.0**	**-1.1**
	0.3nm,0.5s,baz=65,slow=3.6,SNR=6.7						

IDC 31 06:27:34.9±1.9, 47°.26S×120°.98E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/16, mbtmp3.7/3, Error ellipse: s-maj=109.4km s-min=39.1km az=129.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**13.37**	**335**	T	T	06 44 06.4	
	baz=159,slow=74,SNR=17						
H01W2	**Cape Leeuwin H**	**13.37**	**335**	T	T	06 44 01.1	
	baz=159,slow=74,SNR=21						
H01W3	**Cape Leeuwin H**	**13.39**	**335**	T	T	06 44 02.0	
	baz=159,slow=74,SNR=14						
STKA	**Stephens Creek**	**22.00**	**53**	P	P	06 32 29.9	-0.7
	2.9nm,0.9s,baz=204,slow=8.1,SNR=4.4						
ASAR	**Alice Springs**	**25.72**	**28**	P	P	06 33 07.0	+0.1
	0.7nm,0.6s,baz=188,slow=9.4,SNR=8.9						
WRA	**Warramunga Arr**	**29.34**	**26**	P	P	06 33 39.1	-0.3
	0.4nm,0.6s,baz=200,slow=12,SNR=2.1						
TORD	**Torodi Ar. Bea**	**119.34**	**257**	PKP	PKPdf	06 46 25.2	-1.1
	0.2nm,0.7s,baz=96,slow=1.4,SNR=1.6						
PDAR	**Pinedale Array**	**144.50**	**78**	PKP	PKPbc	06 47 11.9	+0.4
	0.5nm,0.6s,baz=138,slow=3.2,SNR=5.0						
YKA	**Yellowknife Ar**	**145.81**	**43**	PKPbc	PKPab	06 47 15.0	-0.1
	0.5nm,0.8s,baz=276,slow=3.2,SNR=13						

IDC 31 07:06:29.6±58.0, 10°.96S×176°.00W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/31, mbtmp3.8/3, MS3.4/1, Ms1 3.4/1, ms1mx2.7/17, Error ellipse: s-maj=1098.0km s-min=204.2km az=71.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**18.28**	**185**	LR	LR	07 16 58.4	
	comp=Z,129nm,20.8s,baz=106,slow=34						
STKA	**Stephens Creek**	**44.26**	**235**	P	P	07 14 42.4	+1.2
	0.5nm,0.4s,baz=85,slow=12,SNR=3.3						
WRA	**Warramunga Arr**	**49.55**	**253**	P	P	07 15 15.6	+0.5
	0.1nm,0.3s,baz=89,slow=7.8,SNR=1.9						
ASAR	**Alice Springs**	**49.23**	**248**	P	P	07 15 18.9	-1.4
	1.9nm,0.4s,baz=85,slow=8.4,SNR=21						

*ISCJB **31** 07:07:00.0±0.5, 33°.67N±0°.03×6°.19W±0°.06, h20km, Error ellipse: s-maj=7.0km s-min=3.9km az=171.2*
*CSEM **31** 07:07:00.0±0.1, 33°.60N×6°.14W, h5km, mb3.6, Error ellipse: s-maj=2.8km s-min=1.8km az=84.0*
*CNRM **31** 07:07:01.8, 33°.57N×6°.08W, h1km, MD2.8*
*MDD **31** 07:07:03.0±2.6, 33°.79N×6°.13W, h0km, mb3.6/5, Error ellipse: s-maj=25.9km s-min=9.2km az=19.0, PRXIMO SIN SOLUCIN*

ISC 31 07:07:00.5±0.9, 33°.62N±0°.04×6°.11W±0°.05, h20km, n20, σ1§37/35, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGT	**Taghat**	**0.99**	**63**	P	**Pn**	**07 07 20.0**	**+0.7**
TGT				S	**Sn**	**07 07 33.0**	**+0.2**
TGT	**Taghat**	**0.99**	**63**	P	**Pn**	**07 07 20.0**	**+0.7**
TGT				S	**Sn**	**07 07 33.0**	**+0.2**
KIB	**El Ksiba**	**1.04**	**177**	P	**Pb**	**07 07 20.0**	**+0.1**
KIB				S	**Sb**	**07 07 33.0**	**-0.2**
KIB	**El Ksiba**	**1.04**	**177**	P	**Pb**	**07 07 20.0**	**+0.1**
KIB				S	**Sb**	**07 07 33.0**	**-0.2**
CZD	**Col de Zad**	**1.07**	**123**	P	**Pn**	**07 07 21.0**	**+0.4**
CZD				S	**Sb**	**07 07 34.0**	**-0.2**
CZD	**Col de Zad**	**1.07**	**123**	P	**Pn**	**07 07 21.0**	**+0.4**
CZD				S	**Sb**	**07 07 34.0**	**-0.2**
TZC	**Tazercounte**	**1.50**	**192**	P	**Pn**	**07 07 27.0**	**+0.5**
TZC				S	**Sb**	**07 07 47.0**	**+0.5**
TZC	**Tazercounte**	**1.50**	**192**	P	**Pn**	**07 07 27.0**	**+0.5**
TZC				S	**Sb**	**07 07 47.0**	**+0.5**
EGRO	**El Granado**	**4.06**	**344**	P	**Pn**	**07 08 03.1**	**+1.6**
	1.0nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**07 08 46.7**	**-1.8**
	1.3nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**4.06**	**344**	P	**Pn**	**07 08 03.1**	**+1.6**
	1.0nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**07 08 46.7**	**-1.8**
	1.3nm,0.3s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.15**	**328**	P	**Pn**	**07 08 03.9**	**+1.2**
	0.7nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.15**	**328**	P	**Pn**	**07 08 03.9**	**+1.2**
	0.7nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.16**	**354**	P	**Pn**	**07 08 04.5**	**+1.6**
	0.3nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**07 08 50.0**	**-1.0**
	1.6nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.16**	**354**	P	**Pn**	**07 08 04.5**	**+1.6**
	0.3nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**07 08 50.0**	**-1.0**
	1.6nm,0.4s,SNR=7.9						
ECAB	**El Cabril**	**4.48**	**7**	P	**Pn**	**07 08 08.7**	**+1.3**
	0.5nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**07 08 56.9**	**-2.0**
	6.4nm,0.2s,SNR=12						
ECAB	**El Cabril**	**4.48**	**7**	P	**Pn**	**07 08 08.6**	**+1.3**
	0.5nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**07 08 56.9**	**-2.0**
	6.4nm,0.2s,SNR=12						
EADA	**Adamuz**	**4.71**	**15**	P	**Pn**	**07 08 12.2**	**+1.8**
	0.3nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**07 09 01.3**	**-3.2**
	1.1nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.71**	**15**	P	**Pn**	**07 08 12.2**	**+1.8**
	0.3nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**5.18**	**352**	S	**Sn**	**07 09 13.8**	**-2.1**
	1.1nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**5.18**	**352**	S	**Sn**	**07 09 13.9**	**-2.1**
	1.1nm,0.2s,SNR=7.9						

*BJI **31** 07:14:08.3, 7°.59S×130°.01E, h31km, mb4.7/21, mB5.0/14, Ms4.7/8, Ms7 4.6/6*
*ISCJB **31** 07:14:26.3±0.2, 6°.80S±0°.02×129°.77E±0°.04, h139km, mb4.2/25, Error ellipse: s-maj=5.3km s-min=3.4km az=178.2*
*IDC **31** 07:14:28.1±2.1, 6°.71S×129°.67E, h137km±19km, mb4.0/17, mb1 4.1/19, mb1mx4.1/30, mbtmp4.4/19, MS3.0/2, Ms1 3.0/2, ms1mx2.6/21, Error ellipse: s-maj=17.0km s-min=9.5km az=76.0*
*NEIC **31** 07:14:29.0±0.8, 6°.76S×129°.70E, h149km±8km, mb4.5/12, Error ellipse: s-maj=8.0km s-min=6.2km az=64.0*
NEIC Felt at Darwin, Australia.
*DJA **31** 07:14:30.7±0.2, 7°.5S±2°×13°.0E±°, h156km±4km, M4.7/19, mB5.2/9, mb4.6/19, MLv4.9/11, Mw(mB)4.6/9*

ISC 31 07:14:27.8±0.3, 6°.86S±0°.04×129°.75E±0°.05, h139km, n89, σ1§93/102, mb4.4/25, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.90**	**126**	P	Pn	07 15 06.6	+5.5
SAUI				S	**Sn**	**07 15 32.1**	**+5.5**
AAI	**Ambon**	**3.51**	**334**	P	**Pn**	**07 15 23.8**	**+2.4**
MSAI	**Masohi**	**3.59**	**347**	P	Pn	07 15 25.7	+3.3
NLAI	**Namlea**	**4.46**	**324**	P	**Pn**	**07 15 36.6**	**+2.7**
FAKI	**Fak Fak**	**4.64**	**33**	P	**Pn**	**07 15 37.2**	**+0.9**
FAKI				S	**Sn**	**07 16 28.0**	**-1.6**
FAKI	**Fak Fak**	**4.64**	**33**	*e*Pb	**Pn**	**07 15 36.3**	**0.0**
SANI	**Sanana**	**6.07**	**322**	P	**Pn**	**07 15 57.8**	**+2.4**
	86nm,1.3s,974nm0.3nm						
SOEI	**Soe**	**6.14**	**242**	P	**Pn**	**07 15 58.4**	**+2.0**
	132nm,0.7s,5μm1.7nm						
SOEI				S	**Sn**	**07 17 06.9**	**+1.3**
	132nm,0.7s,5μm1.7nm						
SOEI	**Soe**	**6.14**	**242**	*e*Pb	**Pn**	**07 15 58.4**	**+2.0**
SIJI	**Sorong**	**6.14**	**14**	P	**Pn**	**07 15 56.6**	**+0.2**
	6.1nm,0.3s,baz=231,slow=22,SNR=11						
SIJI				S	**Sn**	**07 17 00.6**	**-5.1**
	13nm,0.3s,baz=290,slow=6.1,SNR=3.8						
SIJI				LR	LR	07 18 14.8	
	comp=Z,66nm,20.3s,baz=96,slow=38						
SWI	**Sorong**	**6.15**	**14**	P	Pn	07 15 48.0	-8.4
LBMI	**Labuha**	**6.58**	**340**	P	**Pn**	**07 16 04.6**	**+2.4**
	146nm,1.0s,2μm0.6nm						
LBMI				S	**Sn**	**07 17 16.5**	**+0.5**
	146nm,1.0s,2μm0.6nm						
RKPI	**Ransiki, Papua**	**6.91**	**40**	P	**Pn**	**07 16 09.6**	**+2.9**
	133nm,0.5s,21μm2.6nm						
RKPI				S	**Sn**	**07 17 22.8**	**-1.3**
	133nm,0.5s,21μm2.6nm						
TNTI	**Ternate**	**7.95**	**343**	P	**Pn**	**07 16 22.6**	**+2.0**
APSI	**Ampana**	**10.01**	**306**	P	Pn	07 16 51.8	+3.6
	63nm,1.0s,615nm						
SPSI	**Sidrap Palu**	**10.34**	**286**	P	Pn	07 16 58.8	+6.2
	18nm,0.9s						
TTSI	**Tana Toraja**	**10.59**	**290**	P	Pn	07 17 06.0	+10
MRSI	**Marisa**	**10.67**	**313**	P	**Pn**	**07 16 59.6**	**+2.6**
	74nm,0.8s,722nm						
MPSI	**Mapaga**	**12.15**	**306**	P	Pn	07 17 20.2	+3.7
	7.3nm,1.0s,502nm						
WRAB	**Tennant Creek**	**13.74**	**161**	*e*Pn	**Pn**	**07 17 35.9**	**-1.1**
WRAB				*e*Sn	**Sn**	**07 20 04.8**	**-4.1**
WRA	**Warramunga Arr**	**13.75**	**162**	P	**Pn**	**07 17 35.5**	**-1.5**
	7.2nm,0.3s,baz=346,slow=13,SNR=178						
WRA				S	**Sn**	**07 20 04.6**	**-4.5**
	14nm,0.3s,baz=338,slow=23,SNR=9.7						
BBKI	**Banjar Baru**	**15.22**	**282**	P	**P**	**07 17 59.3**	**+1.9**
	115nm,0.9s,3μm						
AS31	**Alice Springs**	**17.18**	**167**	*e*P	**Pn**	**07 18 21.2**	**+1.6**
AS31				*e*S	**S**	**07 21 27.4**	**-3.7**
ASAR	**Alice Springs**	**17.18**	**167**	P	**Pn**	**07 18 20.7**	**+1.2**
	6.8nm,0.3s,baz=347,slow=12,SNR=350						
ASAR				S	**S**	**07 21 25.9**	**-5.2**
	2.5nm,0.3s,baz=326,slow=17,SNR=7.0						
ASAR				LR	LR	07 26 09.5	
	comp=Z,84nm,19.4s,baz=296,slow=40						
MBWA	**Marble Bar**	**17.20**	**213**	*e*P	**Pn**	**07 18 20.5**	**+0.7**
	13nm,0.7s						
MBWA				*e*S	**S**	**07 21 27.1**	**-4.4**
PMG	**Port Moresby**	**17.42**	**100**	*e*P	**Pn**	**07 18 24.5**	**+2.0**
	15nm,1.1s						
SBUM	**Sibu**	**19.79**	**297**	*e*Pn	**P**	**07 18 49.2**	**+1.7**
	12nm,0.7s						
CTA	**Charters Tower**	**20.72**	**131**	P	Pn	07 19 00.2	-1.2
	3.1nm,0.4s,baz=303,slow=15,SNR=5.9						
KSM	**Kuching**	**21.09**	**292**	*e*Pn	**P**	**07 19 02.8**	**+1.3**
	20nm,1.1s						
CISI	**Cisompet, Garu**	**21.77**	**267**	*e*P	**P**	**07 19 07.1**	**-1.7**
	42nm,0.6s						
TPI	**Tanjungpandan**	**22.39**	**279**	P	**P**	**07 19 15.5**	**+0.6**
	22nm,0.8s						
PPBI	**Pangkal Pinang**	**23.99**	**280**	P	**P**	**07 19 29.5**	**-0.3**
STKA	**Stephens Creek**	**27.24**	**158**	P	**P**	**07 20 00.8**	**+1.9**
	2.4nm,0.3s,baz=323,slow=10,SNR=10						
STKA	**Stephens Creek**	**27.24**	**158**	*e*P	**P**	**07 20 00.8**	**+1.9**
	2.5nm,0.9s						
NWAO	**Narrogin (SRO)**	**28.42**	**203**	P	**P**	**07 20 10.3**	**+0.8**
	3.9nm,0.5s,baz=336,slow=2.7,SNR=7.2						
PSI	**Prapat**	**32.23**	**286**	P	**P**	**07 20 43.1**	**-0.2**
	8.0nm,0.6s,baz=119,slow=6.0,SNR=12						
QIZ	**Qiongzhong**	**32.35**	**323**	P	**P**	**07 20 43.0**	**-1.2**
QIZ				S	S	07 25 54.8	+6.6
QIZ				PMZ			
	9.0nm,2.1s						
DZM	**Mont Dzumac**	**38.48**	**117**	P	**P**	**07 21 39.0**	**+2.3**
	2.5nm,0.6s,baz=270,slow=20,SNR=6.5						
CMAR	**Chiang Mai Arr**	**39.45**	**310**	P	**P**	**07 21 44.2**	**-0.5**
	4.8nm,0.6s,baz=141,slow=7.5,SNR=24						
CHTO	**Chiang Mai**	**39.66**	**311**	*e*P	**P**	**07 21 45.8**	**-0.7**
	9.9nm,0.7s						
GYA	**Guiyang**	**39.98**	**327**	*e*P	**P**	**07 21 49.0**	**-0.1**
GYA				PMZ			
	10.0nm,1.0s						
WHN	**Wuhan**	**40.02**	**339**	P	**P**	**07 21 49.5**	**+0.3**
NJ2	**Nanjing**	**40.07**	**346**	*e*P	**P**	**07 21 48.5**	**-1.1**
NJ2				PMZ			
	40nm,0.7s						
MJAR	**Matsushiro Arr**	**43.90**	**10**	P	**P**	**07 22 19.5**	**-1.2**
	1.8nm,0.5s,baz=188,slow=10,SNR=6.1						
KSAR	**Wonju Array Be**	**44.11**	**358**	P	**P**	**07 22 22.2**	**0.0**
KSRS	**Korea Array**	**44.12**	**358**	P	**P**	**07 22 22.2**	**-0.1**
	0.8nm,0.4s,baz=182,slow=11,SNR=4.9						
CD2	**Chengdu**	**45.05**	**328**	*e*P	**P**	**07 22 30.0**	**0.0**
CD2				pP	pP	07 22 39.5	-22
CD2				sP	sP	07 22 43.3	-34
CD2				PP	**PP**	**07 24 16.3**	**-1.9**
CD2				S	S	07 29 06.3	+7.8
CD2				PMZ			
	10.0nm,0.5s						
CD2				PMZ			
	120nm,5.0s						
BJI	**Beijing**	**48.32**	**346**	P	**P**	**07 22 54.0**	**-1.1**
BJI				PMZ			
	24nm,0.7s						
BJI				PMZ			
	83nm,3.8s						
LZH	**Lanzhou**	**49.16**	**332**	*e*P	**P**	**07 23 02.0**	**+0.1**
LZH				pP	pP	07 23 11.8	-22
LZH				sP	sP	07 23 15.5	-34
LZH				PMZ			
	13nm,1.0s						
HHC	**Hu-ho-hao-te**	**50.34**	**342**	*e*P	**P**	**07 23 10.5**	**-0.1**
HHC				pP	pP	07 23 20.8	-22
HHC				S	S	07 30 20.3	+7.3
HHC				sS	sS	07 30 37.3	-31
HHC				ScS	ScS	07 32 59.0	+11
HHC				PMZ			
	31nm,1.6s						
HHC				PMZ			
	120nm,6.2s						
HHC				LN			
	200nm,17.4s						
HHC				LE			
	140nm,18.7s						
HHC				LZ			
	170nm,14.9s						
USRK	**Ussuriysk Ar.**	**50.86**	**2**	P	**P**	**07 23 13.7**	**-0.7**
	2.1nm,0.6s,baz=196,slow=9.9,SNR=5.6						
ODAN	**Odare**	**52.98**	**311**	*e*P	**P**	**07 23 29.4**	**-1.2**
	8.2nm,0.4s						
RAMN	**Ramite**	**53.62**	**311**	*e*P	**P**	**07 23 34.5**	**-0.8**
	13nm,0.4s						
JIRN	**Jiri**	**54.31**	**311**	*e*P	**P**	**07 23 39.3**	**-1.2**
	13nm,0.4s						
GUN	**Gumba**	**54.67**	**311**	*e*P	**P**	**07 23 41.7**	**-1.4**
	20nm,0.5s						
DMN	**Daman**	**55.09**	**311**	*e*P	**P**	**07 23 44.9**	**-1.1**
GKN	**Gorkha**	**55.65**	**311**	*e*P	**P**	**07 23 48.7**	**-1.2**
	16nm,0.3s						
KOLN	**Koldanda**	**56.32**	**310**	*e*P	**P**	**07 23 53.7**	**-1.0**
	8.8nm,0.3s						
ULN	**Ulaanbaatar**	**58.06**	**342**	P	**P**	**07 24 05.5**	**-0.9**
	5.8nm,0.6s						
SONM	**Songino Array**	**58.23**	**342**	P	**P**	**07 24 07.7**	**0.0**
	1.4nm,0.5s,baz=154,slow=7.2,SNR=9.5						
WMQ	**Urumqi**	**63.14**	**327**	*e*P	**P**	**07 24 41.3**	**+0.4**
WMQ				pP	pP	07 24 51.5	-23
WMQ				sP	sP	07 24 55.3	-34
WMQ				PcP	**PcP**	**07 25 19.0**	**+1.8**
WMQ				S	**S**	**07 33 07.0**	**+5.8**
WMQ				PMZ			
	9.0nm,0.6s						
WMQ				PMZ			
	58nm,4.2s						
WMQ				LN			
	39nm,24.4s						
WMQ				LE			
	74nm,24.8s						
PETK	**Petropavlovsk-**	**64.27**	**18**	P	**P**	**07 24 48.5**	**+0.5**
	1.5nm,0.4s,baz=180,slow=2.5,SNR=4.9						
KSH	**Kashi**	**67.75**	**318**	*e*P	**P**	**07 25 11.0**	**+0.3**
KSH				pP	pP	07 25 21.5	-23
KSH				PP	**PP**	**07 27 41.5**	**-0.5**
KSH				PcS		07 29 41.8	
KSH				S	**S**	**07 34 03.3**	**+5.7**
KSH				PMZ			
	85nm,4.6s						
KSH				LN			
	140nm,7.6s						
KSH				LE			
	120nm,5.3s						
KSH				LZ			
	170nm,5.5s						
MK31	**Makanchi Array**	**67.97**	**327**	*e*P	**P**	**07 25 11.4**	**-0.4**
MKAR	**Makanchi Array**	**67.97**	**327**	P	**P**	**07 25 11.4**	**-0.4**
	6.7nm,0.5s,baz=114,slow=8.5,SNR=139						
MKAR	**Makanchi Array**	**67.97**	**327**	*e*P	**P**	**07 25 11.6**	**-0.3**
ZAA0	**Zalesovo Array**	**71.35**	**334**	*e*P	**P**	**07 25 30.9**	**-1.4**
ZALV	**Zalesovo Beam**	**71.35**	**334**	P	**P**	**07 25 31.1**	**-1.2**
	2.8nm,0.4s,baz=119,slow=5.2,SNR=14						
KURK	**Kurchatov**	**72.27**	**329**	*e*P	**P**	**07 25 37.5**	**-0.4**
VNDA	**Vanda**	**72.61**	**173**	P	**P**	**07 25 40.6**	**+1.0**
	1.7nm,0.5s,baz=321,slow=6.4,SNR=18						
KKAR	**Karatay Array**	**73.07**	**319**	*e*P	**P**	**07 25 42.6**	**-0.2**
	0.6nm,0.3s						
MAW	**Mawson**	**74.99**	**201**	P	**P**	**07 25 54.3**	**+0.8**
	3.7nm,0.7s,baz=94,slow=5.4,SNR=6.5						
BRVK	**Borovoye**	**77.89**	**328**	*e*P	**P**	**07 26 09.1**	**-1.0**
	6.7nm,0.9s						
TIXI	**Tiksi**	**78.35**	**360**	*e*P	**P**	**07 26 11.0**	**-1.2**
	7.0nm,0.5s						
ABKAR	**Akbulak array**	**82.25**	**322**	*e*P	**P**	**07 26 32.8**	**-0.7**
ARU	**Arti**	**85.46**	**328**	*e*P	**P**	**07 26 48.3**	**-1.4**
RAYN	**Ar Rayn**	**87.46**	**294**	*e*P	**P**	**07 27 00.1**	**-0.2**
	3.2nm,0.7s						
ILAR	**Eielson Array**	**93.33**	**25**	P	**P**	**07 27 24.6**	**-2.0**
	1.0nm,0.7s,baz=246,slow=4.9,SNR=25						
SNAA	**Sanae**	**95.74**	**194**	P	**P**	**07 27 38.0**	**+0.3**
	0.3nm,0.7s,baz=215,slow=5.7,SNR=5.6						
ARCES	**ARCESS Array B**	**101.36**	**340**	P	**Pdif**	**07 28 01.1**	**-1.6**
	2.0nm,0.9s,baz=57,slow=4.5,SNR=3.8						
YKA	**Yellowknife Ar**	**107.74**	**26**	PKiKP	**PKiKP**	**07 32 37.7**	**-0.5**
	0.3nm,0.6s,baz=290,slow=1.7,SNR=11						
PDAR	**Pinedale Array**	**116.97**	**45**	PKP	**PKPdf**	**07 32 56.5**	**-0.2**
	0.6nm,0.8s,baz=72,slow=0.9,SNR=6.2						
TUC	**Tucson**	**118.47**	**57**	*e*PKPdf	**PKPdf**	**07 32 59.5**	**-0.2**
TXAR	**Lajitas Array**	**125.07**	**59**	PKP	**PKPdf**	**07 33 13.3**	**+0.9**
	0.5nm,0.4s,baz=198,slow=3.2,SNR=13						
TORD	**Torodi Ar. Bea**	**128.54**	**281**	PKP	**PKPdf**	**07 33 18.8**	**-0.6**
	2.0nm,0.6s,baz=62,slow=2.4,SNR=17						
DBIC	**Dimbokro**	**134.33**	**273**	PKP	**PKPdf**	**07 33 31.1**	**-0.4**
	2.5nm,0.5s,baz=33,slow=1.5,SNR=8.8						
LRAL	**Lakeview Retre**	**137.12**	**48**	*e*PKPdf	**PKPdf**	**07 33 34.4**	**-0.6**
LPAZ	**La Paz**	**150.98**	**143**	PKP	**PKPdf**	**07 34 01.8**	**+1.6**
	2.0nm,1.0s,baz=48,slow=3.3,SNR=4.7						
LPAZ				PKPbc	**PKiKP**	**07 34 07.3**	**+0.7**
	4.0nm,0.4s,baz=29,slow=2.6,SNR=56						
LPAZ	**La Paz**	**150.98**	**143**	*e*PKPdf	**PKPdf**	**07 34 01.8**	**+1.6**
LPAZ				PKP	**PKPdf**	**07 34 01.8**	**+1.6**
LPAZ				*e*PKPbc	**PKiKP**	**07 34 07.1**	**+0.5**
LPAZ				PKPbc	**PKiKP**	**07 34 07.3**	**+0.7**
LPAZ				*e*PKPab	**PKPab**	**07 34 14.7**	**+0.9**

*SKHL **31** 07:19:52.8±0.3, 44°.40N×148°.28E, h30km±6km, mb4.4/3*
*JMA **31** 07:19:54.1±0.4, 44°.25N×148°.11E, h82km, M3.5*

ISC 31 07:19:50.0±3.3, 44°.32N±0°.09×148°.5E±0°.2, h65km, n10, σ2§03/15, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.01**	**335**	*i* P	**Pn**	**07 20 08.2**	**-0.2**
KUR				AMB	AMB	07 20 08.7	
	520nm,0.5s						
KUR				*e*S	**Sn**	**07 20 20.0**	**-2.0**
KUR				A	A	07 20 20.4	
	2μm,0.6s						
KUR				A	A	07 20 20.4	
	500nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**1.91**	**262**	*i* P	**Pn**	**07 20 21.4**	**+1.2**
YUK				AMB	AMB	07 20 21.8	
	20nm,0.2s						
YUK				AMB	AMB	07 20 21.8	
	10.0nm,0.2s					

CLCH	**Cerro Calan**	**3.35**	**47**	*e*P	**Pn**	**07 52 55.9**	**+0.7**
CLCH				*e*S	**Sn**	**07 53 34.1**	**+0.4**
CLCH				AML	AML	07 54 02.2	
	comp=N,630nm,0.5s						
ROCH	**El Roble**	**3.41**	**38**	*e*P	**Pn**	**07 52 56.8**	**+0.7**
PEL	**Peldehue**	**3.45**	**43**	*e*P	**Pn**	**07 52 57.2**	**+0.7**
PEL				*e*S	**Sn**	**07 53 36.3**	**+0.3**
PEL				AML	AML	07 53 60.0	
	comp=N,359nm,0.6s						
AUSP	**Uspallata**	**4.86**	**46**	*e*P	**Pn**	**07 53 17.1**	**+1.0**
AUSP				*e*S4	Sx	07 54 39.0	
ASAL	**Salagasta**	**4.95**	**52**	*e*P	**Pn**	**07 53 18.9**	**+1.7**
RTLS	**Leoncito**	**5.23**	**43**	*e*P4	**Pn**	**07 53 22.3**	**+1.2**
RTCV	**Cerro Valdivia**	**5.62**	**48**	*i* P	**Pn**	**07 53 26.7**	**+0.3**
RTCV				*i* S	**Sn**	**07 54 32.4**	**+2.6**
CFAA	**Coronel Fontan**	**5.99**	**48**	*e*P4	**Pn**	**07 53 31.0**	**-0.3**
RTLL	**Cerro Villicun**	**6.04**	**45**	*e*P	**Pn**	**07 53 32.0**	**-0.2**
RTLL				*i* S4	**Sn**	**07 54 39.5**	**-0.7**
AMOG	**MOGNA**	**6.33**	**43**	*e*P	**Pn**	**07 53 35.6**	**-0.4**
AVFE	**Valle Fertil**	**7.13**	**47**	*e*P4	**Pn**	**07 53 45.8**	**-1.3**
AVFE				*i* S4	**Sn**	**07 55 01.9**	**-5.0**
AVFE				AML	AML	07 55 05.6	
	comp=Z,5.3nm,0.5s						

IDC 31 07:53:18.6±2.7, 14°38N×147°12E, h0 km, mb3.3/5, mb1 3.5/6, mb1mx3.3/36, mbtmp3.4/6, ML3.4/1, Error ellipse: s-maj=72.1km s-min=23.9km az=155.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.32**	**250**	Pn	Pn	07 53 59.5	+1.4
	9.9nm,0.3s,baz=8.4,slow=21,SNR=7.9						
GUMO				Sn	Sn	07 54 28.1	+0.7
	14nm,0.3s,baz=199,slow=22,SNR=4.4						
SONM	**Songino Array**	**47.37**	**323**	P	P	08 01 56.4	+1.7
	0.2nm,0.4s,baz=120,slow=5.5,SNR=2.3						
MKAR	**Makanchi Array**	**62.45**	**315**	P	P	08 03 42.0	-1.8
	0.2nm,0.4s,baz=98,slow=7.1,SNR=6.5						
KURBB	**Kurchatov Arra**	**65.44**	**319**	P	P	08 04 02.6	-0.7
	0.5nm,0.3s,baz=100,slow=6.8,SNR=5.7						
ILAR	**Eielson Array**	**66.92**	**25**	P	P	08 04 14.2	+1.6
	0.1nm,0.5s,baz=243,slow=7.7,SNR=3.7						
YKA	**Yellowknife Ar**	**81.15**	**28**	P	P	08 05 34.6	-1.2
	0.1nm,0.6s,baz=286,slow=5.4,SNR=3.2						

*SJA **31** 08:14:00.1±0.9, 36°85S×72°33W, h44 km, ML3.3*
*GUC **31** 08:14:06.3±2.2, 35°.70S±0°.06×73°.4W±0°.1, h14 km±15 km, n12, σ1§55/21, Off coast of central Chile*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.64**	**132**	*e*P	**Pg**	**08 14 19.1**	**+0.2**
COCH				*e*S	**Sb**	**08 14 28.8**	**+0.6**
CCSP	**San Pedro de C**	**1.16**	**169**	*e*P	**Pb**	**08 14 27.9**	**-0.3**
CCSP				*e*S	**Sb**	**08 14 43.7**	**+0.6**
CCSP				AML	AML	08 14 49.2	
	comp=E,2μm,0.5s						
LNCH	**Linares**	**1.46**	**96**	*e*P	**Pn**	**08 14 31.7**	**-0.5**
LNCH				*e*S	**Sn**	**08 14 51.2**	**+0.2**
LNCH				AML	AML	08 14 59.5	
	comp=N,2μm,0.4s						
TALC	**Talca**	**1.46**	**78**	*e*P	**Pn**	**08 14 31.6**	**-0.6**
TALC				*e*S	**Sn**	**08 14 51.0**	**-0.2**
NICH	**Los Niches**	**1.89**	**69**	*e*P	**Pn**	**08 14 38.5**	**+0.2**
NICH				*e*S	**Sn**	**08 15 03.0**	**+1.0**
NICH				AML	AML	08 15 19.5	
	comp=E,2μm,1.0s						
AUSP	**Uspallata**	**4.80**	**45**	*i* P	**Pn**	**08 15 19.6**	**+1.0**
AUSP				*i* P	**Pn**	**08 15 19.6**	**+1.0**
RTLS	**Leoncito**	**5.17**	**42**	*i* P	**Pn**	**08 15 24.2**	**+0.7**
RTLS				*i* S	**Sn**	**08 16 27.4**	**+4.2**
RTCV	**Cerro Valdivia**	**5.56**	**48**	*i* P	**Pn**	**08 15 28.4**	**-0.3**
CFAA	**Coronel Fontan**	**5.92**	**48**	*i* P	**Pn**	**08 15 32.2**	**-1.5**
CFAA				*i* S	**Sn**	**08 16 40.9**	**-0.6**
RTLL	**Cerro Villicun**	**5.99**	**45**	*i* P	**Pn**	**08 15 34.0**	**-0.6**
AMOG	**MOGNA**	**6.27**	**42**	*i* P	**Pn**	**08 15 37.7**	**-0.8**
AVFE	**Valle Fertil**	**7.07**	**46**	*i* P	**Pn**	**08 15 47.0**	**-2.4**
AVFE				*i* S	**Sn**	**08 17 06.8**	**-2.9**
AVFE				AML	AML	08 17 08.9	
	comp=Z,4.4nm,0.8s						

*SJA **31** 08:27:06.3±1.1, 35°.49S×70°.69W, h75 km, ML3.6*
*ISCJB **31** 08:27:07.9±1.4, 34°.14S±0°.03×71°.99W±0°.06, h4 km±9 km, mb3.2/1, Error ellipse: s-maj=8.5km s-min=4.3km az=26.4*
*IDC **31** 08:27:07.3±1.8, 34°.31S×72°.26W, h0 km, mb3.3/1, mb1 3.7/4, mb1mx3.6/18, mbtmp3.4/4, ML3.8/2, MS2.9/2, Ms1 2.9/2, ms1mx2.7/9, Error ellipse: s-maj=48.9km s-min=22.1km az=85.0*
*GUC **31** 08:27:08.4±0.5, 34°.09S×71°.98W, h10 km±3 km, ML3.6*
ISC 31 08:27:08.0±1.7, 34°.18S±0°.04×71°.90W±0°.08, h4 km±10 km, n22, σ1§54/31, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.46**	**62**	*e*P	**Pb**	**08 27 18.2**	**-0.5**
LNV				*e*S	**Sb**	**08 27 25.9**	**0.0**
TACH	**Talagante**	**0.95**	**57**	*e*P	**Pg**	**08 27 26.1**	**-0.2**
TACH				*e*S	**Sg**	**08 27 39.8**	**+1.1**
NICH	**Los Niches**	**0.99**	**146**	*e*P	**Pn**	**08 27 27.9**	**-0.8**
NICH				*e*S	**Sn**	**08 27 43.5**	**+0.3**
NICH				AML	AML	08 27 46.9	
	comp=E,3μm,0.5s						
CHCH	**Chadas Angostu**	**1.06**	**77**	*e*P	**Pb**	**08 27 28.7**	**-0.3**
CHCH				*e*S	**Sn**	**08 27 44.0**	**-1.0**
CACH	**El Canelo**	**1.08**	**87**	*e*P	**Pn**	**08 27 29.9**	**-0.1**
CACH				*e*S	**Sn**	**08 27 46.1**	**+0.6**
TALC	**Talca**	**1.24**	**170**	*e*P	**Pg**	**08 27 32.3**	**+0.5**
TALC				*e*S	**Sn**	**08 27 49.5**	**+0.3**
SAN	**Santiago**	**1.26**	**55**	*e*P	**Pn**	**08 27 31.1**	**-1.3**
SAN				*e*S	**Sb**	**08 27 48.4**	**-0.5**
SAN				AML	AML	08 27 50.7	
	comp=E,2μm,0.5s						
PCH	**Pirque**	**1.28**	**65**	*e*P	**Pn**	**08 27 31.9**	**-0.8**
PCH				*e*S	**Sb**	**08 27 49.8**	**+0.2**
FSR	**Penalolen**	**1.34**	**59**	*e*P	**Pb**	**08 27 33.6**	**-0.1**
FSR				*e*S	**Sg**	**08 27 51.9**	**+0.9**
LACH	**Col Las Americ**	**1.35**	**58**	*e*S	**Sb**	**08 27 50.9**	**-0.6**
LACH				AML	AML	08 27 55.3	
	comp=N,2μm,0.5s						
SJCH	**San Jose de Ma**	**1.39**	**68**	AML	AML	08 27 53.6	
	comp=N,2μm,0.5s						
LNCH	**Linares**	**1.69**	**172**	*e*P	**Pb**	**08 27 39.1**	**-0.5**
LNCH				*e*S	**Sg**	**08 28 02.5**	**+0.3**
RTLS	**Leoncito**	**3.23**	**43**	*i* P	**Pb**	**08 28 06.3**	**+0.3**
RTLS				*i* S	**Sg**	**08 28 49.8**	**-1.9**
RTCV	**Cerro Valdivia**	**3.64**	**52**	*i* P	**Pn**	**08 28 08.2**	**+2.9**
RTCV				*i* P	**Pn**	**08 28 08.2**	**+2.9**
CFAA	**Coronel Fontan**	**4.01**	**51**	Pn	Pn	08 28 14.7	+4.4
	comp=N,0.2nm,0.3s,baz=225,slow=12,SNR=20						
CFAA				Sn	**Sb**	**08 29 03.1**	**-4.9**
	comp=N,0.2nm,0.3s,baz=26,slow=9.6,SNR=3.6						
CFAA				Lg	Lg	08 29 14.6	
	comp=N,0.8nm,0.3s,baz=127,slow=21,SNR=9.5						
CFAA				LR	LR	08 29 51.2	
	comp=N,30nm,20.4s,baz=172,slow=38						
RTLL	**Cerro Villicun**	**4.05**	**46**	*i* P	Pn	08 28 14.2	+3.4
AMOG	**MOGNA**	**4.32**	**43**	*i* P	Pn	08 28 17.9	+3.3
AVFE	**Valle Fertil**	**5.14**	**48**	*i* P	**Pn**	**08 28 27.8**	**+1.9**
AVFE				*i* S	**Sn**	**08 29 28.0**	**+2.4**
AVFE				AML	AML	08 29 53.0	
	comp=Z,29nm,0.5s						
PLCA	**Paso Flores**	**6.63**	**171**	Pn	**Pn**	**08 28 46.9**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=340,slow=6.1,SNR=12						
PLCA				Lg	Lg	08 30 33.0	
	comp=Z,0.6nm,0.3s,baz=35,slow=0.7,SNR=8.2						
LVC	**Limon Verde**	**11.82**	**14**	LR	LR	08 34 10.5	
	comp=Z,266nm,21.2s,baz=203,slow=35						
LPAZ	**La Paz**	**18.13**	**12**	P	**P**	**08 31 23.0**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=166,slow=4.5,SNR=6.6						
TXAR	**Lajitas Array**	**69.94**	**331**	P	**P**	**08 38 20.1**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=161,slow=8.4,SNR=3.7						

IDC 31 08:40:05.2±1.8, 54°.02N×154°.50E, h492 km±23 km, mb2.2/3, mb1 2.5/5, mb1mx2.3/38, mbtmp3.1/5, Error ellipse: s-maj=53.1km s-min=25.5km az=170.0, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**2.12**	**114**	P	P	08 41 10.2	+0.1
	0.7nm,0.3s,baz=127,slow=3.9,SNR=8.6						
SEY	**Seymchan**	**9.00**	**354**	P	P	08 42 11.4	-0.2
	0.1nm,0.3s,baz=59,slow=21,SNR=4.7						
ILAR	**Eielson Array**	**30.55**	**46**	P	P	08 45 37.0	-0.3
	0.2nm,0.8s,baz=283,slow=9.6,SNR=4.8						
YKA	**Yellowknife Ar**	**44.70**	**41**	P	P	08 47 33.1	+0.1
	0.2nm,0.6s,baz=302,slow=7.7,SNR=6.5						
MKAR	**Makanchi Array**	**44.73**	**292**	P	P	08 47 33.3	-0.2
	0.1nm,0.5s,baz=51,slow=9.6,SNR=4.0						

*CSEM **31** 08:57:47.9±0.4, 44°.36N×11°.50E, h31 km±2 km, MD2.2, Error ellipse: s-maj=7.7km s-min=6.4km az=70.0*
*GEN **31** 08:57:48.6, 44°.21N×11°.58E, h10 km, ML2.0*
ROM 31 08:57:47.5±0.1, 44°.36N×11°.50E, h32 km±1 km, Md2.2/3, Error ellipse: s-maj=2.0km s-min=1.0km az=80.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTRZ	**Monterenzio**	**0.03**	**297**	Pg	Pb	08 57 53.0	+0.1
MTRZ				Sg	Sb	08 57 57.2	+0.7
MTRZ	**Monterenzio**	**0.03**	**297**	Pg	Pb	08 57 53.0	+0.1
MTRZ				Sg	Sb	08 57 57.2	+0.7
SEI	**Scarperia**	**0.33**	**199**	Pg	Pb	08 57 55.6	+0.1
SEI				Sg	Sn	08 58 01.6	-0.2
SEI	**Scarperia**	**0.33**	**199**	Pg	Pb	08 57 55.6	+0.1
SEI				Sg	Sn	08 58 01.6	-0.2
FNVD	**Fontana Vidola**	**0.34**	**235**	Pg	Pb	08 57 55.7	0.0
FNVD				Sg	Sn	08 58 01.8	-0.4
FNVD	**Fontana Vidola**	**0.34**	**235**	Pg	Pb	08 57 55.7	0.0
FNVD				Sg	Sn	08 58 01.8	-0.4
VMG	**Vicchio**	**0.40**	**176**	Pg	Pb	08 57 56.8	+0.2
VMG				Sg	Sn	08 58 03.3	-0.4
VMG	**Vicchio**	**0.40**	**176**	Pg	Pb	08 57 56.8	+0.2
VMG				Sg	Sn	08 58 03.3	-0.4
MAIM	**Mastiano**	**0.85**	**239**	P	Pb	08 58 04.3	+0.4
MAIM				S	Sn	08 58 14.3	-0.5

*GEN **31** 08:58:24.8, 44°.22N×11°.53E, h5 km, ML2.3*
*CSEM **31** 08:58:25.2±0.3, 44°.34N×11°.44E, h20 km, MD2.3, Error ellipse: s-maj=7.8km s-min=6.4km az=87.0*
ROM 31 08:58:24.5±0.4, 44°.33N×11°.35E, h29 km±4 km, Md2.3/5, Ml2.1/1, 2C, Error ellipse: s-maj=6.4km s-min=3.2km az=54.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTRZ	**Monterenzio**	**0.10**	**63**	Pg	Pb	08 58 29.3	-0.5
MTRZ				Sg	Sb	08 58 33.9	+0.5
MTRZ	**Monterenzio**	**0.10**	**63**	Pg	Pb	08 58 29.3	-0.5
MTRZ				Sg	Sb	08 58 33.9	+0.5
FNVD	**Fontana Vidola**	**0.23**	**224**	Pg	Pb	08 58 31.6	+0.5
FNVD	**Fontana Vidola**	**0.23**	**224**	Pg	Pb	08 58 31.6	+0.5
SEI	**Scarperia**	**0.28**	**178**	Pg	Pb	08 58 31.1	-0.6
SEI				Sg	Sn	08 58 37.6	-0.4
SEI	**Scarperia**	**0.28**	**178**	Pg	Pb	08 58 31.1	-0.6
SEI				Sg	Sn	08 58 37.6	-0.4
SFI	**Santa Sofia**	**0.56**	**140**	Pg	Pb	08 58 35.3	-0.6
SFI				Sg	Sb	08 58 44.1	+0.4
SFI	**Santa Sofia**	**0.56**	**140**	Pg	Pb	08 58 35.3	-0.6
SFI				Sg	Sb	08 58 44.1	+0.4
ASQU	**Asqua**	**0.62**	**149**	Pg	Pb	08 58 36.9	-0.2
ASQU				Sg	Sn	08 58 46.8	+0.2
ASQU	**Asqua**	**0.62**	**149**	Pg	Pb	08 58 36.9	-0.2
ASQU				Sg	Sn	08 58 46.8	+0.2
MAIM	**Mastiano**	**0.74**	**236**	P	Pn	08 58 39.8	+0.8
MAIM				S	Sn	08 58 50.0	+0.7
CRE	**Caprese Michel**	**0.84**	**148**	Pg	Pb	08 58 41.2	+0.5
	83nm,0.9s						
CRE	**Caprese Michel**	**0.84**	**148**	Pg	Pb	08 58 41.2	+0.5
	83nm,0.9s						
TEOL	**Teolo**	**1.05**	**13**	Pg	Pb	08 58 44.7	+0.5
TEOL	**Teolo**	**1.05**	**13**	Pg	Pb	08 58 44.7	+0.5
SC2M	**Scurtabo**	**1.30**	**274**	P	Pb	08 58 50.6	+2.2
MYKA	**Terra Mystica**	**2.81**	**34**	⇑*i* Pn	Pn	08 59 07.1	-0.4
MYKA				⇑*i* Sn	Sb	08 59 55.6	+7.5
MYKA	**Terra Mystica**	**2.81**	**34**	Pn	Pn	08 59 07.1	-0.4

*NAO **31** 09:10:47.8±1.0, 59°.29N×26°.93E, ML2.1*
*ISCJB **31** 09:10:47.0±0.6, 59°.32N±0°.03×27°.06E±0°.08, h0 km, Error ellipse: s-maj=6.1km s-min=3.7km az=15.0*
*HEL **31** 09:10:47.6±0.3, 59°.27N×27°.16E, h0 km, ML1.8, Explosion*
*CSEM **31** 09:10:47.3±0.4, 59°.33N×27°.13E, h2 km, ML2.1, Error ellipse: s-maj=9.7km s-min=4.9km az=101.0, Mining explosion.*
*BER **31** 09:10:48.7±1.8, 59°.30N×26°.98E, h0 km, ML2.1(NAO), Suspected explosion*
*IDC **31** 09:10:51.2±2.0, 59°.47N×26°.99E, h0 km, mb1 3.0/4, mb1mx2.8/38, mbtmp3.0/4, ML2.7/4, Error ellipse: s-maj=18.9km s-min=11.2km az=123.0*
ISC 31 09:10:47.4±0.9, 59°.32N±0°.02×27°.07E±0°.04, h0 km, n39, σ1§59/57, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.88**	**192**	Pg	**Pg**	**09 11 04.9**	**+0.8**
VSU				Lg	Lg	09 11 14.5	
VSU	**Vasula**	**0.88**	**192**	Pg	**Pg**	**09 11 04.9**	**+0.8**
VSU				Lg	Lg	09 11 14.5	
VSU	**Vasula**	**0.88**	**192**	*e*PB	**Pg**	**09 11 04.2**	**+0.1**
VSU				*e*S	**Sg**	**09 11 15.1**	**-0.4**
VSU	**Vasula**	**0.88**	**192**	Pb	**Pg**	**09 11 04.2**	**+0.1**
VSU	**Vasula**	**0.88**	**192**	Pg	**Pg**	**09 11 04.9**	**+0.8**
VSU				Lg	Lg	09 11 14.5	
VSU				S	**Sg**	**09 11 15.0**	**-0.4**
VJF	**Virojoki**	**1.25**	**11**	*e*P	**Pg**	**09 11 10.9**	**-0.4**
VJF				*e*SB	**Sg**	**09 11 28.1**	**+0.7**
VJF	**Virojoki**	**1.25**	**11**	P	**Pg**	**09 11 10.8**	**-0.4**
VJF				Sb	**Sg**	**09 11 28.1**	**+0.7**
PVF	**Pernaja**	**1.37**	**334**	*e*P	**Pg**	**09 11 13.5**	**-0.2**
PVF				*e*S	**Sg**	**09 11 31.4**	**0.0**
PVF				MSG		09 11 32.1	
	comp=Z,4.2nm,0.2s						
PVF	**Pernaja**	**1.37**	**334**	P	**Pg**	**09 11 13.4**	**-0.2**
PVF				S	**Sg**	**09 11 31.4**	**0.0**
SRPE	**Suurupi**	**1.39**	**277**	*e*P	**Pg**	**09 11 13.6**	**-0.3**
SRPE				*e*SB	**Sg**	**09 11 32.4**	**+0.5**
SRPE	**Suurupi**	**1.39**	**277**	P	**Pg**	**09 11 13.6**	**-0.3**
SRPE				Sb	**Sg**	**09 11 32.3**	**+0.5**
MEF	**Metsahovi**	**1.63**	**305**	*e*PG	**Pn**	**09 11 18.1**	**+0.9**
MEF				*e*SG	**Sn**	**09 11 39.4**	**+0.6**
MEF				MSG		09 11 40.0	
	comp=Z,6.6nm,0.1s						
MTSE	**Matsula**	**1.79**	**252**	*e*P	**Pn**	**09 11 20.2**	**+0.7**
MTSE				*e*SN	**Sb**	**09 11 44.5**	**+0.6**
MTSE	**Matsula**	**1.79**	**252**	P	**Pn**	**09 11 20.2**	**+0.7**
MTSE				Sn	**Sb**	**09 11 44.5**	**+0.6**
FIA0	**FINESS Array S**	**2.19**	**347**	Pn	**Pn**	**09 11 25.7**	**+0.8**
	baz=164,slow=16						
FIA0				Pg	**Pb**	**09 11 27.3**	**-0.5**
	baz=170,slow=18						
FIA0				Lg	Lg	09 11 56.7	
	baz=170,slow=37						
FIA0				Rg	Rg	09 12 09.9	
	baz=166,slow=56						
FIA0	**FINESS Array S**	**2.19**	**347**	Pn	**Pn**	**09 11 25.7**	**+0.8**
	baz=164,slow=16						
FIA0				Pg	**Pb**	**09 11 27.3**	**-0.5**
	baz=170,slow=18						
FIA0				Lg	Lg	09 11 56.7	
	baz=170,slow=37						
FIA0				Rg	Rg	09 12 09.9	
	baz=166,slow=56						
FIA0	**FINESS Array S**	**2.19**	**347**	*e*P	**Pn**	**09 11 25.7**	**+0.8**
FIA0				*e*PB	**Pb**	**09 11 27.2**	**-0.5**
FIA0				*e*SG	**Sb**	**09 11 56.2**	**+0.8**
FIA0				MSG		09 11 56.2	
	comp=Z,1.0nm,0.2s						
FIA0	**FINESS Array S**	**2.19**	**347**	P	**Pn**	**09 11 25.7**	**+0.8**
FIA0	**FINESS Array S**	**2.19**	**347**	Pg	**Pb**	**09 11 27.3**	**-0.5**
FIA0				Sg	**Sb**	**09 11 56.2**	**+0.8**
FINES	**FINESS Array B**	**2.19**	**347**	Pn	**Pn**	**09 11 25.9**	**+1.0**
	comp=Z,2.2nm,0.3s,baz=165,slow=16,SNR=53						
FINES				Pg	**Pb**	**09 11 27.1**	**-0.6**
	comp=Z,2.2nm,0.3s,baz=168,slow=18,SNR=55						
FINES				Lg	Lg	09 11 56.4	
	comp=Z,2.4nm,0.3s,baz=169,slow=29,SNR=19						
KAF	**Kangasniemi**	**2.83**	**353**	*e*P	**Pn**	**09 11 35.4**	**+1.7**
KAF				*e*SG	**Sb**	**09 12 15.9**	**+2.1**
KAF				MSG		09 12 16.5	
	comp=Z,2.3nm,0.2s						
SLIT	**Slitere, Latvi**	**3.03**	**238**	*e*SB	**Sb**	**09 12 20.0**	**+0.4**
SLIT	**Slitere, Latvi**	**3.03**	**238**	Sb	**Sb**	**09 12 19.9**	**+0.4**
KEF	**Keuruu**	**3.06**	**340**	*e*P	**Pn**	**09 11 38.9**	**+2.0**
RAF	**Rauma**	**3.16**	**305**	*e*P	**Pn**	**09 11 40.5**	**+2.2**
RAF	**Rauma**	**3.16**	**305**	P	**Pn**	**09 11 40.4**	**+2.2**
SUF	**Sumiainen**	**3.44**	**353**	*e*P	**Pn**	**09 11 43.7**	**+1.5**
AAL	**Aland**	**3.68**	**287**	*e*SG	**Sb**	**09 12 42.1**	**+3.6**
AAL	**Aland**	**3.68**	**287**	Sg	**Sb**	**09 12 42.0**	**+3.6**
JOF	**Joensuu**	**4.16**	**28**	*e*P	**Pn**	**09 11 52.9**	**+0.9**
JOF	**Joensuu**	**4.16**	**28**	P	**Pn**	**09 11 52.8**	**+0.9**
HFS	**Hagfors**	**6.81**	**283**	Sn	**Sn**	**09 13 41.1**	**-5.5**
	baz=90,slow=28						
HFS				Lg	Lg	09 14 17.1	
	baz=98,slow=37						
HFS	**Hagfors**	**6.81**	**283**	Sn	**Sn**	**09 13 41.1**	**-5.5**
	baz=90,slow=28						
HFS				Lg	Lg	09 14 17.1	
	baz=98,slow=37						
HFS	**Hagfors**	**6.81**	**283**	Pn	**Pn**	**09 12 29.8**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=127,slow=24,SNR=2.5						
HFS				Lg	Lg	09 14 19.8	
	comp=Z,0.3nm,0.3s,baz=90,slow=29,SNR=3.5						
NOA	**NORSAR Array B**	**8.09**	**289**	Pn	**Pn**	**09 12 46.3**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=95,slow=10,SNR=4.5						
NOA				Lg	Lg	09 14 58.9	
	comp=Z,0.3nm,0.3s,baz=207,slow=5.9,SNR=3.2						
ARA0	**ARCESS Array S**	**10.28**	**357**	Pn	**Pn**	**09 13 14.5**	**-1.4**
	baz=173,slow=14						
ARA0	**ARCESS Array S**	**10.28**	**357**	Pn	**Pn**	**09 13 14.5**	**-1.4**
	baz=173,slow=14						
ARA0	**ARCESS Array S**	**10.28**	**357**	Pn	**Pn**	**09 13 14.5**	**-1.4**
	SNR=6.1						
ARCES	**ARCESS Array B**	**10.28**	**357**	Pn	**Pn**	**09 13 14.5**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=173,slow=11,SNR=5.5						

*ISCJB **31** 09:27:41.2±0.7, 32°.14N±0°.03×115°.15W±0°.05, h2 km±8 km, Error ellipse: s-maj=6.8km s-min=4.8km az=157.8*
*ECX **31** 09:27:43.3±0.4, 32°.14N×115°.15W, h10 km, MD2.8, ML3.0*
*MEX **31** 09:27:43.9±0.3, 32°.17N×115°.07W, h10 km±999 km, MD3.9*
ISC 31 09:27:41.0±1.2, 32°.15N±0°.03×115°.14W±0°.04, h6 km±13 km, n17, σ0§57/26, 2C-6D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.31**	**332**	*e*P9	**Pg**	**09 27 46.0**	**-1.1**
CPBX				*e*S	**Sg**	**09 27 50.4**	**-0.7**
CPBX				IAML		09 27 52.4	
	comp=N,8μm,0.2s						
EMSC	**East Mesa**	**0.61**	**12**	⇓*i* P	**Pb**	**09 27 54.5**	**+0.4**
YMD	**Yuma Desert**	**0.65**	**51**	⇓*i* P	**Pb**	**09 27 54.9**	**+0.1**
ECBX	**El Chinero**	**0.68**	**174**	⇓*e*P	**Pg**	**09 27 54.1**	**+0.1**
ECBX				*e*S	**Sg**	**09 28 03.2**	**+0.4**
SGL	**Mount Signal**	**0.71**	**315**	⇓*i* P	**Pb**	**09 27 55.8**	**+0.1**
COA	**Coachella**	**0.72**	**1**	⇓*i* P	**Pb**	**09 27 55.8**	**-0.1**
RDX	**Rancho Dawling**	**0.72**	**253**	*e*P	**Pb**	**09 27 55.8**	**-0.3**
RDX				*e*S	**Sg**	**09 28 05.1**	**+0.9**
RDX				IAML		09 28 06.8	
	comp=N,370nm,0.4s						
RDX				⇑*e*		09 28 06.8	
YUH	**Yuha Desert**	**0.83**	**307**	*e*P2	**Pg**	**09 27 57.7**	**+0.7**
COK	**Cook Ranch**	**0.86**	**325**	*e*P3	**Pg**	**09 27 58.1**	**+0.5**
RMX	**La Rumorosa**	**0.92**	**300**	*e*P	**Pg**	**09 27 59.2**	**+0.5**
RMX				*e*S	**Sg**	**09 28 11.5**	**+0.8**
RMX				IAML		09 28 12.6	
	comp=N,350nm,0.2s						
RMX				⇓*e*		09 28 12.6	
SPIG	**San Pedro Mart**	**1.13**	**195**	*e*P	**Pb**	**09 28 02.7**	**-0.5**
SPX	**San Pedro Mart**	**1.13**	**194**	*e*P	**Pb**	**09 28 02.6**	**-0.6**
SPX				*e*S	**Sg**	**09 28 18.4**	**+1.0**
SPX				⇑*e*		09 28 19.2	
SPX				IAML		09 28 19.2	
	comp=E,224nm,0.3s						
ZAX	**El Zacaton**	**1.16**	**237**	*e*P	**Pb**	**09 28 03.1**	**-0.4**
ZAX				*e*S	**Sg**	**09 28 18.5**	**+0.3**
CBX	**Cerro Bola**	**1.31**	**278**	*e*P	**Pn**	**09 28 05.3**	**-0.6**
CBX				*e*S	Sb	09 28 13.2	-10
CBX	**Cerro Bola**	**1.31**	**278**	*e*P	**Pn**	**09 28 05.4**	**-0.5**
CBX				*e*S	**Sb**	**09 28 23.2**	**0.0**
CBX				IAML		09 28 24.8	
	comp=N,268nm,0.3s						
ECNX	**Esteban Cantu**	**1.34**	**249**	*e*P	**Pn**	**09 28 06.2**	**-0.1**
ECNX				*e*S	**Sg**	**09 28 24.3**	**+0.3**
PBX	**Punta Banda**	**1.41**	**254**	*e*P	**Pn**	**09 28 07.3**	**0.0**
PBX				*e*S	**Sg**	**09 28 26.3**	**-0.1**

*IDC **31** 09:29:05.6±2.1, 3°.65N×123°.95E, h0 km, mb3.6/4, mb1 3.8/4, mb1mx

TALC	**Talca**	**1.54**	**80**	*eP*	**Pn**	**09 49 59.5**	**-1.2**
TALC				*eS*	**Sn**	**09 50 19.1**	**-0.5**
LNCH	**Linares**	**1.54**	**96**	*eP*	**Pn**	**09 49 59.4**	**-1.4**
LNCH				*eS*	**Sn**	**09 50 18.7**	**-0.9**
NICH	**Los Niches**	**1.97**	**70**	*eP*	**Pn**	**09 50 06.1**	**-0.6**
NICH				*eS*	**Sn**	**09 50 30.8**	**+0.7**
NICH				AML	AML	09 50 41.6	
	comp=N,3µm,0.1s						
CANA	**Caviahue**	**2.93**	**139**	*i* P	**Pn**	**09 50 22.2**	**+2.1**
CANA				*i* S	Sn	09 51 06.2	+12
CANA				AML	AML	09 51 11.8	
	comp=N,494nm,0.7s						
CLCH	**Cerro Calan**	**3.34**	**48**	*eP*	**Pn**	**09 50 25.4**	**-0.3**
CLCH				*eS*	**Sn**	**09 51 05.5**	**+1.3**
CLCH				AML	AML	09 51 32.8	
	comp=N,631nm,0.6s						
ROCH	**El Roble**	**3.40**	**38**	*eP*	**Pn**	**09 50 25.6**	**-1.0**
ROCH				*eS*	**Sn**	**09 51 06.0**	**+0.2**
ROCH				AML	AML	09 51 36.3	
	comp=N,317nm,0.8s						
PEL	**Peldehue**	**3.44**	**43**	*eP*	**Pn**	**09 50 26.7**	**-0.3**
PEL				AML	AML	09 51 30.5	
	comp=N,494nm,0.5s						
AAGR	**Agrelo**	**4.65**	**57**	*i* P	**Pn**	**09 50 45.7**	**+2.1**
AAGR				*i* P			
ARCO	**CERRO ARCO**	**4.72**	**54**	*i* P	**Pn**	**09 50 46.1**	**+1.4**
AUSP	**Uspallata**	**4.85**	**46**	*i* P	**Pn**	**09 50 46.8**	**+0.1**
RTLS	**Leoncito**	**5.22**	**43**	*i* P	**Pn**	**09 50 52.1**	**+0.4**
RTCV	**Cerro Valdivia**	**5.62**	**49**	*i* P	**Pn**	**09 50 57.4**	**+0.5**
CFAA	**Coronel Fontan**	**5.98**	**49**	*i* P	**Pn**	**09 51 01.7**	**-0.2**
RTLL	**Cerro Villicun**	**6.04**	**45**	*i* P	**Pn**	**09 51 01.9**	**-0.8**
AMOG	**MOGNA**	**6.32**	**43**	*i* P	**Pn**	**09 51 05.8**	**-0.8**

IDC 31 09:50:52.0±1.0, 34°53N×80°69E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.3/40, mbtmp3.5/4, Error ellipse: s-maj=55.4km s-min=30.2km az=36.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**73.68**	**275**	P	P	10 02 27.9	0.0
	0.4nm,0.8s,baz=47,slow=6.3,SNR=3.8						
WRA	**Warramunga Arr**	**74.39**	**128**	P	P	10 02 31.7	-0.3
	0.6nm,0.8s,baz=324,slow=5.6,SNR=7.9						
ASAR	**Alice Springs**	**76.82**	**131**	P	P	10 02 46.1	+0.3
	0.4nm,0.6s,baz=320,slow=5.7,SNR=11						
YKA	**Yellowknife Ar**	**82.53**	**7**	P	P	10 03 16.3	+0.1
	0.2nm,0.8s,baz=339,slow=5.3,SNR=3.3						

IDC 31 09:58:45.8±1.5, 35°.03N×29°.53E, h0km, mb3.6/3, mb1 3.8/7, mb1mx3.4/38, mbtmp3.7/7, ML3.5/3, MS2.7/2, Ms1 2.7/2, ms1mx2.1/39, Error ellipse: s-maj=35.7km s-min=17.8km az=175.0
ISCJB 31 09:58:50.3±0.4, 35°.19N±0°.04×29°.45E±0°.03, h33km, mb3.4/3, Error ellipse: s-maj=5.3km s-min=3.1km az=4.7
ISK 31 09:58:50.3, 34°.98N×29°.14E, h54km, MD3.5
ATH 31 09:58:51.3, 35°.24N×29°.32E, h40km±18km, MD4.0/19
CSEM 31 09:58:52.0±0.2, 35°.17N×29°.47E, h40km, MD4.0, Error ellipse: s-maj=7.2km s-min=4.1km az=10.0
NIC 31 09:58:53.9, 35°.59N×29°.77E, h50km, mb4.0, ML3.6
THE 31 09:58:54.4, 35°.30N×29°.33E, h25km±15km, ML3.0/2, Error ellipse: s-maj=16.1km s-min=1.5km az=124.0

ISC 31 09:58:51.5±0.9, 35°.16N±0°.04×29°.47E±0°.03, h35km, n83, σ1§20/111, mb3.4/3, 2C-2D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.99**	**5**	*eP*	**Pn**	**09 59 09.4**	**+0.5**
ARG	**Arkhangelos**	**1.52**	**314**	P	**Pn**	**09 59 15.9**	**-0.2**
ARG	**Arkhangelos**	**1.52**	**314**	*eP*	**Pn**	**09 59 14.6**	**-1.5**
ARG	**Arkhangelos**	**1.52**	**314**	*ePb*	**Pn**	**09 59 14.6**	**-1.5**
ARG	**Arkhangelos**	**1.52**	**314**	P	**Pn**	**09 59 15.9**	**-0.2**
DAT	**Datca**	**2.19**	**316**	*ePN*	**Pn**	**09 59 24.9**	**-0.5**
DAT				*eSN*	**Sn**	**09 59 51.2**	**-0.2**
DAT	**Datca**	**2.19**	**316**	*ePn*	**Pn**	**09 59 25.0**	**-0.5**
DAT				*eSn*	**Sn**	**09 59 51.3**	**-0.2**
YER	**Yerkesik**	**2.19**	**334**	*ePN*	**Pn**	**09 59 26.8**	**+1.4**
YER				*eSN*	**Sn**	**09 59 52.6**	**+1.3**
YER	**Yerkesik**	**2.19**	**334**	*ePn*	**Pn**	**09 59 26.8**	**+1.4**
YER				*eSn*	**Sn**	**09 59 52.7**	**+1.3**
AKMC	**Akamas**	**2.35**	**92**	P	**Pn**	**09 59 27.8**	**+0.2**
	baz=285						
AKMC	**Akamas**	**2.35**	**92**	P	**Pn**	**09 59 27.8**	**+0.2**
PPCY	**Paphos**	**2.38**	**96**	⇑P	**Pn**	**09 59 28.8**	**+0.9**
	baz=289						
PPCY	**Paphos**	**2.38**	**96**	⇑P	**Pn**	**09 59 28.8**	**+0.9**
ALFC	**Alevga**	**2.57**	**89**	P	**Pn**	**09 59 30.7**	**+0.1**
	baz=281						
ALFC				S	**Sn**	**09 59 59.1**	**-1.5**
ALFC	**Alevga**	**2.57**	**89**	P	**Pn**	**09 59 30.7**	**+0.1**
ALFC				S	**Sn**	**09 59 59.1**	**-1.5**
BODT	**Bodrum**	**2.58**	**318**	*ePN*	**Pn**	**09 59 30.3**	**-0.4**
BODT				*eSN*	**Sn**	**10 00 00.1**	**-0.8**
BODT	**Bodrum**	**2.58**	**318**	*ePn*	**Pn**	**09 59 30.3**	**-0.4**
BODT				*eSn*	**Sn**	**10 00 00.1**	**-0.8**
ZKR	**Zakros**	**2.66**	**270**	P	**Pn**	**09 59 32.0**	**+0.1**
ZKR				S	**Sn**	**10 00 03.2**	**+0.2**
ZKR	**Zakros**	**2.66**	**270**	P	**Pn**	**09 59 32.0**	**+0.1**
ZKR				S	**Sn**	**10 00 03.2**	**+0.2**
SZAC	**Souni-Zanaja**	**2.83**	**97**	⇓P	**Pn**	**09 59 35.2**	**+0.9**
	baz=289						
SZAC				S	**Sn**	**10 00 07.1**	**-0.1**
SZAC	**Souni-Zanaja**	**2.83**	**97**	⇓P	**Pn**	**09 59 35.2**	**+0.9**
SZAC				S	**Sn**	**10 00 07.1**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**3.06**	**336**	*ePN*	**Pn**	**09 59 39.1**	**+1.8**
AYDB	**Zeytinkoy-Aydi**	**3.06**	**336**	*ePn*	**Pn**	**09 59 39.2**	**+1.8**
NPS	**Neapolis**	**3.16**	**273**	P	**Pn**	**09 59 39.8**	**+1.0**
NPS				S	**Sn**	**10 00 14.9**	**-0.3**
NPS	**Neapolis**	**3.16**	**273**	*eP*	**Pn**	**09 59 39.7**	**+1.0**
NPS	**Neapolis**	**3.16**	**273**	*ePn*	**Pn**	**09 59 39.7**	**+1.0**
NPS				S	**Sn**	**10 00 14.9**	**-0.3**
LAST	**Lasithi**	**3.27**	**271**	P	**Pn**	**09 59 40.8**	**+0.5**
LAST				S	**Sn**	**10 00 17.8**	**-0.2**
LAST	**Lasithi**	**3.27**	**271**	*eP*	**Pn**	**09 59 40.5**	**+0.2**
LAST	**Lasithi**	**3.27**	**271**	*ePn*	**Pn**	**09 59 40.5**	**+0.2**
LAST	**Lasithi**	**3.27**	**271**	P	**Pn**	**09 59 40.8**	**+0.5**
LAST				S	**Sn**	**10 00 17.8**	**-0.2**
SMG	**Samos**	**3.31**	**321**	P	**Pn**	**09 59 40.8**	**0.0**
SMG				S	**Sn**	**10 00 17.0**	**-1.9**
SMG	**Samos**	**3.31**	**321**	*eP*	**Pn**	**09 59 40.6**	**-0.2**
SMG				*eS*	**Sn**	**10 00 17.1**	**-1.9**
SMG	**Samos**	**3.31**	**321**	P	**Pn**	**09 59 40.8**	**0.0**
SMG				S	**Sn**	**10 00 17.0**	**-1.9**
KULA	**Kula-Manisa**	**3.41**	**349**	P	**Pn**	**09 59 42.5**	**+0.3**
KULA				S	**Sn**	**10 00 19.8**	**-1.6**
KULA	**Kula-Manisa**	**3.41**	**349**	P	**Pn**	**09 59 42.5**	**+0.3**
KULA				S	**Sn**	**10 00 19.8**	**-1.6**
APE	**Apeiranthos**	**3.71**	**302**	*ePN*	**Pn**	**09 59 45.9**	**-0.5**
APE	**Apeiranthos**	**3.71**	**302**	P	**Pn**	**09 59 46.2**	**-0.1**
APE				S	**Sn**	**10 00 26.4**	**-2.5**
APE	**Apeiranthos**	**3.71**	**302**	*eP*	**Pn**	**09 59 46.2**	**-0.1**
APE				*eS*	**Sn**	**10 00 27.0**	**-1.9**
APE	**Apeiranthos**	**3.71**	**302**	P	**Pn**	**09 59 46.2**	**-0.1**
APE				S	**Sn**	**10 00 26.4**	**-2.5**
IDI	**Anoyia**	**3.75**	**273**	Pn	**Pn**	**09 59 46.3**	**-0.6**
	12nm,0.3s,baz=47,slow=7.5,SNR=19						
IDI				Sn	**Sn**	**10 00 29.8**	**0.0**
	10nm,0.3s,baz=264,slow=18,SNR=7.0						
BLCB	**Balcova**	**3.76**	**330**	*ePN*	**Pn**	**09 59 47.9**	**+0.9**
BLCB	**Balcova**	**3.76**	**330**	*ePn*	**Pn**	**09 59 47.9**	**+0.9**
SIVA	**Sivas**	**3.82**	**269**	P	**Pn**	**09 59 48.2**	**+0.4**
SIVA	**Sivas**	**3.82**	**269**	*eP*	**Pn**	**09 59 48.0**	**+0.2**
SIVA	**Sivas**	**3.82**	**269**	P	**Pn**	**09 59 48.2**	**+0.4**
CHOS	**Chios island**	**4.23**	**321**	P	**Pn**	**09 59 55.1**	**+1.7**
CHOS				S	**Sn**	**10 00 40.0**	**-1.6**
CHOS	**Chios island**	**4.23**	**321**	*eP*	**Pn**	**09 59 54.9**	**+1.5**
CHOS				*eS*	**Sn**	**10 00 40.0**	**-1.6**
CHOS	**Chios island**	**4.23**	**321**	*ePn*	**Pn**	**09 59 54.9**	**+1.5**
CHOS				S	**Sn**	**10 00 40.0**	**-1.6**
GVD	**Gavdhos**	**4.43**	**267**	*eP*	**Pn**	**09 59 57.2**	**+1.1**
GVD	**Gavdhos**	**4.43**	**267**	*ePn*	**Pn**	**09 59 57.2**	**+1.1**
KARN	**Karanos**	**4.55**	**275**	P	**Pn**	**09 59 58.9**	**+1.1**
KARN	**Karanos**	**4.55**	**275**	*eP*	**Pn**	**09 59 58.9**	**+1.1**
KARN	**Karanos**	**4.55**	**275**	P	**Pn**	**09 59 58.9**	**+1.1**
ANKY	**Antikythira Is**	**5.08**	**280**	*eP*	**Pn**	**10 00 03.4**	**-1.7**
ANKY				*eS*	**Sn**	**10 00 59.2**	**-3.3**
ANKY	**Antikythira Is**	**5.08**	**280**	*ePn*	**Pn**	**10 00 03.4**	**-1.7**
MMAI	**Mount Meron Ar**	**5.37**	**112**	Pn	Pn	10 00 05.6	-3.6
	baz=309,slow=15,SNR=1.3						
MMAI				Sn	**Sn**	**10 01 06.5**	**-3.3**
	17nm,0.3s,baz=302,slow=14,SNR=7.4						
DID	**Didima**	**5.55**	**297**	*eP*	**Pn**	**10 00 12.8**	**+1.3**
DID	**Didima**	**5.55**	**297**	*ePn*	**Pn**	**10 00 12.8**	**+1.3**
BRTR	**Keskin Array B**	**5.63**	**35**	Pn	Pn	10 00 13.7	+0.8
	0.3nm,0.3s,baz=215,slow=13,SNR=6.1						
BRTR				Sn	**Sn**	**10 01 17.2**	**+0.8**
	0.3nm,0.3s,baz=216,slow=27,SNR=3.6						
VILL	**Villia**	**5.78**	**303**	*ePn*	**Pn**	**10 00 15.7**	**+0.9**
VIL2	**Platees**	**5.84**	**303**	*eP*	**Pn**	**10 00 15.7**	**+0.2**
GUR	**Goura**	**6.37**	**298**	P	**Pn**	**10 00 24.2**	**+1.3**
GUR	**Goura**	**6.37**	**298**	*eP*	**Pn**	**10 00 24.0**	**+1.1**
GUR	**Goura**	**6.37**	**298**	*ePn*	**Pn**	**10 00 24.0**	**+1.1**
DSF	**Desfina**	**6.44**	**302**	*eP*	**Pn**	**10 00 25.7**	**+1.8**
DSF	**Desfina**	**6.44**	**302**	*ePn*	**Pn**	**10 00 25.7**	**+1.8**
KLV	**Kalavryta, Ach**	**6.55**	**298**	*eP*	**Pn**	**10 00 25.3**	**-0.1**
KLV	**Kalavryta, Ach**	**6.55**	**298**	*ePn*	**Pn**	**10 00 25.3**	**-0.1**
KALE	**Kalithea**	**6.71**	**301**	*eP*	**Pn**	**10 00 28.6**	**+1.1**
KALE	**Kalithea**	**6.71**	**301**	*ePn*	**Pn**	**10 00 28.6**	**+1.1**
DRO	**Drossia**	**6.84**	**296**	*eP*	**Pn**	**10 00 31.6**	**+2.4**
DRO	**Drossia**	**6.84**	**296**	*ePn*	**Pn**	**10 00 31.6**	**+2.4**
PDO	**Prodromos**	**7.47**	**300**	P	**Pn**	**10 00 39.3**	**+1.4**
PDO	**Prodromos**	**7.47**	**300**	*eP*	**Pn**	**10 00 39.1**	**+1.2**
PDO	**Prodromos**	**7.47**	**300**	*ePn*	**Pn**	**10 00 39.1**	**+1.2**
DSL	**Palaion Diasel**	**7.77**	**303**	*eP*	**Pn**	**10 00 43.5**	**+1.4**
DSL	**Palaion Diasel**	**7.77**	**303**	*ePn*	**Pn**	**10 00 43.5**	**+1.4**
KEST	**Kesra**	**16.41**	**278**	Pn	**Pn**	**10 02 40.0**	**+0.9**
	0.2nm,0.3s,baz=72,slow=7.5,SNR=4.6						
VRAC	**Vranov**	**17.01**	**330**	LR	LR	10 10 57.3	
	comp=Z,20nm,21.1s,baz=164,slow=43						
DAVOX	**Davos/Dischmat**	**18.74**	**314**	LR	LR	10 12 16.7	
	comp=Z,36nm,18.8s,baz=264,slow=43						
ESDC	**Sonseca Array**	**26.84**	**290**	P	**P**	**10 04 27.9**	**-0.7**
	1.8nm,0.4s,baz=84,slow=10,SNR=10						
KURBB	**Kurchatov Arra**	**38.38**	**51**	P	**P**	**10 06 09.3**	**+0.2**
	0.2nm,0.3s,baz=286,slow=6.7,SNR=2.3						
MKAR	**Makanchi Array**	**40.82**	**57**	P	**P**	**10 06 29.6**	**0.0**
	0.2nm,0.5s,baz=264,slow=9.6,SNR=2.8						

SJA 31 10:00:38.0±0.6, 35°.84S×74°.44W, h40km, ML3.4
GUC 31 10:00:47.9±0.9, 35°.63S×73°.37W, h20km±7km, ML4.5
ISCJB 31 10:00:48.2±1.3, 35°.73S±0°.04×73°.5W±0°.1, h33km, Error ellipse: s-maj=12.5km s-min=5.6km az=2.0

ISC 31 10:00:50.1±1.9, 35.80S±0°.05×73.4W±0°.1, h35km, n16, σ1§37/25, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.58**	**124**	*eP*	**Pn**	**10 01 00.8**	**-1.2**
COCH				*eS*	**Sn**	**10 01 10.3**	**+0.1**
CCSP	**San Pedro de C**	**1.06**	**168**	*eP*	**Pn**	**10 01 08.0**	**-0.6**
CCSP				*eS*	**Sn**	**10 01 23.4**	**+1.4**
LNCH	**Linares**	**1.45**	**92**	*eP*	**Pn**	**10 01 13.1**	**-0.8**
LNCH				*eS*	**Sn**	**10 01 31.8**	**+0.2**
TALC	**Talca**	**1.48**	**75**	*eP*	**Pn**	**10 01 12.5**	**-1.8**
NICH	**Los Niches**	**1.93**	**66**	*eP*	**Pn**	**10 01 19.2**	**-1.3**
NICH				*eS*	**Sn**	**10 01 43.8**	**+0.2**
NICH				AML	AML	10 01 55.0	
	comp=E,5µm,0.5s						
CLCH	**Cerro Calan**	**3.36**	**45**	*eP*	**Pn**	**10 01 39.2**	**-1.0**
CLCH				*eS*	**Sn**	**10 02 18.4**	**-0.5**
CLCH				AML	AML	10 02 46.7	
	comp=N,1µm,0.6s						
ROCH	**El Roble**	**3.44**	**35**	*eP*	**Pn**	**10 01 39.6**	**-1.8**
ROCH				*eS*	**Sn**	**10 02 20.3**	**-0.8**
ROCH				AML	AML	10 02 50.3	
	comp=N,576nm,0.5s						
PEL	**Peldehue**	**3.47**	**41**	*eP*	**Pn**	**10 01 41.0**	**-0.7**
PEL				*eS*	**Sn**	**10 02 20.9**	**-0.6**
PEL				AML	AML	10 02 44.3	
	comp=N,1µm,0.8s						
AAGR	**Agrelo**	**4.64**	**56**	*i* P	**Pn**	**10 01 58.8**	**+1.0**
AAGR				*i* P	**Pn**	**10 01 58.8**	**+1.0**
ARCO	**CERRO ARCO**	**4.72**	**53**	*i* P	**Pn**	**10 01 59.9**	**+0.8**
ARCO				*i* S	Sn	10 03 00.6	+8.0
ARCO				AML	AML	10 03 01.6	
	comp=Z,20nm,0.5s						
AUSP	**Uspallata**	**4.88**	**44**	*i* P	**Pn**	**10 02 01.7**	**+0.5**
ASAL	**Salagasta**	**4.95**	**51**	*i* P	**Pn**	**10 02 02.7**	**+0.7**
RTLS	**Leoncito**	**5.25**	**42**	*i* P	**Pn**	**10 02 06.7**	**+0.4**
RTCV	**Cerro Valdivia**	**5.63**	**47**	*i* P	**Pn**	**10 02 11.1**	**-0.3**
CFAA	**Coronel Fontan**	**5.99**	**47**	*i* P	**Pn**	**10 02 15.6**	**-0.8**
CFAA				*i* S	**Sn**	**10 03 28.4**	**+4.6**
RTLL	**Cerro Villicun**	**6.06**	**44**	*i* P	**Pn**	**10 02 16.4**	**-0.9**

KRSC 31 10:04:49.0±2.0, 49°.30N×157°.21E, h15km±36km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**2.19**	**353**	*eP*	Pn	10 05 25.9	+1.2
MIPR	**Malaya Ipel'ka**	**3.00**	**355**	*eP*	Pn	10 05 36.6	+0.7
ASAK	**Asacha**	**3.12**	**8**	*eP*	Pn	10 05 40.7	+3.0
RUS	**Russkaya**	**3.25**	**14**	*eP*	Pn	10 05 41.3	+2.0
RUS				*eS*	Sn	10 06 20.7	+3.1
MTVR	**Mutnovka**	**3.25**	**11**	*eP*	Pn	10 05 42.0	+2.5
MTVR				*eS*	Sb	10 06 22.1	-3.8
UGLR	**Uglovaya**	**4.04**	**14**	*eP*	Pn	10 05 54.8	+4.4
AVH	**Avacha**	**4.09**	**13**	*eP*	Pn	10 05 55.7	+4.8
KOK	**Koryaka**	**4.10**	**12**	*eP*	Pn	10 05 55.6	+4.5
SDLR	**Sedlovina**	**4.12**	**14**	*eP*	Pn	10 05 56.2	+4.7
KRX	**Arik**	**4.17**	**12**	*eP*	Pn	10 05 56.6	+4.5
GNL	**Ganaly**	**4.43**	**6**	*eP*	Pn	10 05 59.8	+4.1
MKZ	**Mys Kozlova**	**5.96**	**26**	*eP*	Pn	10 06 20.7	+4.2

GUC 31 10:05:55.0±0.5, 36°.28S×72°.47W, h40km±2km, ML3.8, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCSP	**San Pedro de C**	**0.77**	**222**	*eP*	Pn	10 06 09.3	0.0
CCSP				*eS*	Sn	10 06 20.5	+0.8
CCSP				AML	AML	10 06 25.1	
	comp=E,8µm,0.2s						
LNCH	**Linares**	**0.82**	**59**	*eP*	Pn	10 06 11.4	+1.2
LNCH				*eS*	Sn	10 06 22.8	+1.6
TALC	**Talca**	**1.11**	**38**	*eP*	Pn	10 06 14.7	+0.6
TALC				*eS*	Sn	10 06 29.7	+1.6
NICH	**Los Niches**	**1.62**	**39**	*eP*	Pn	10 06 22.2	+1.0
NICH				*eS*	Sn	10 06 41.3	+0.5
LNV	**Longovilo**	**2.47**	**21**	*eP*	Pn	10 06 34.0	+1.2
CACH	**El Canelo**	**2.64**	**36**	*eP*	Pn	10 06 36.4	+1.0
CHCH	**Chadas Angostu**	**2.77**	**33**	*eP*	Pn	10 06 37.9	+0.9
CLCH	**Cerro Calan**	**3.28**	**30**	*eP*	Pn	10 06 45.2	+1.1
PEL	**Peldehue**	**3.45**	**26**	*eP*	Pn	10 06 47.6	+1.3
ROCH	**El Roble**	**3.51**	**20**	*eP*	Pn	10 06 48.2	+0.8

SJA 31 10:06:42.5±0.6, 33°.57S×74°.09W, h45km±17km, ML4.6
ISCJB 31 10:06:55.1±1.4, 33°.90S±0°.03×72°.51W±0°.03, h12km±8km, mb4.5/33, MS4.2/3, Error ellipse: s-maj=5.3km s-min=3.8km az=16.2
GUC 31 10:06:56.3±0.8, 33°.93S×72°.37W, h23km±6km, ML4.4
IDC 31 10:06:58.5±0.6, 33°.79S×72°.22W, h27km±3km, mb4.2/13, mb1 4.4/15, mb1mx4.2/31, mbtmp4.4/15, ML4.5/2, MS4.3/4, Ms1 4.2/4, ms1mx3.7/22, Error ellipse: s-maj=17.0km s-min=14.3km az=78.0
NEIC 31 10:07:01.4±0.9, 33°.83S×72°.06W, h48km±8km, mb4.5/19, Error ellipse: s-maj=11.1km s-min=5.7km az=83.0

ISC 31 10:06:58.4±0.6, 33°.87S±0°.04×72°.33W±0°.05, h26km±4km, n301, σ1§05/307, mb4.6/33, MS4.0/3, 109C-115D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.77**	**97**	⇓*eP*	**Pb**	**10 07 12.5**	**-0.6**
IHA	**Instituto Hidr**	**1.02**	**35**	⇑*iP*	**Pn**	**10 07 16.4**	**-0.5**
IHA				*i* S	**Sb**	**10 07 30.1**	**-0.2**
TACH	**Talagante**	**1.18**	**80**	*eP*	**Pn**	**10 07 18.6**	**-0.6**
ROCH	**El Roble**	**1.42**	**51**	*eP*	**Pn**	**10 07 22.7**	**0.0**
ROCH				*eS*	**Sb**	**10 07 44.2**	**+2.1**
SAN	**Santiago**	**1.45**	**74**	⇓*eP*	**Pn**	**10 07 23.1**	**+0.1**
NICH	**Los Niches**	**1.45**	**142**	*eP*	**Pn**	**10 07 22.1**	**-0.8**
NICH				*eS*	**Sn**	**10 07 41.8**	**+0.5**
CACH	**El Canelo**	**1.46**	**100**	*eP*	**Pn**	**10 07 24.1**	**+0.9**
PCH	**Pirque**	**1.53**	**81**	*eP*	**Pn**	**10 07 24.4**	**+0.2**
PEL	**Peldehue**	**1.55**	**63**	⇓*eP*	**Pn**	**10 07 25.1**	**+0.7**
PEL				*eS*	**Sb**	**10 07 46.9**	**+1.1**
PEL				AML	AML	10 08 01.9	
	comp=E,9µm,0.6s						
LACH	**Col Las Americ**	**1.56**	**75**	*eP*	**Pn**	**10 07 24.5**	**0.0**
LACH				*eS*	**Sb**	**10 07 46.0**	**+0.1**
CLCH	**Cerro Calan**	**1.57**	**73**	⇑*eP*	**Pn**	**10 07 25.0**	**+0.4**
CLCH				*eS*	**Sb**	**10 07 47.5**	**+1.3**
CLCH				AML	AML	10 07 59.6	
	comp=N,8µm,0.6s						
TALC	**Talca**	**1.63**	**160**	*eP*	**Pn**	**10 07 24.3**	**-1.1**
TALC				*eS*	**Sn**	**10 07 46.4**	**+0.8**
SJCH	**San Jose de Ma**	**1.66**	**83**	*eP*	**Pn**	**10 07 25.1**	**-0.9**
SJCH				*eS*	**Sn**	**10 07 47.7**	**+1.2**
YECH	**El Yeso**	**1.88**	**85**	*eP*	**Pn**	**10 07 29.9**	**+0.7**
YECH				*eS*	**Sb**	**10 07 55.7**	**+0.2**
YECH				AML	AML	10 08 10.2	
	comp=N,5µm,0.9s						
LNCH	**Linares**	**2.07**	**163**	*eP*	**Pb**	**10 07 36.0**	**+0.8**
AUSP	**Uspallata**	**2.97**	**57**	*i* P	**Pn**	**10 07 46.7**	**+2.7**
ARCO	**CERRO ARCO**	**3.02**	**71**	*i* P	**Pb**	**10 07 50.1**	**-1.5**
ARCO				*i* S	Sb	10 08 39.5	+11
ARCO				AML	AML	10 08 41.6	
	comp=Z,671nm,0.8s						
AAGR	**Agrelo**	**3.03**	**76**	*i* P	**Pb**	**10 07 50.5**	**-1.2**
AAGR				*i* P	**Pb**	**10 07 50.5**	**-1.2**
ASAL	**Salagasta**	**3.19**	**68**	*i* P	Pb	10 07 51.3	-3.2
RTLS	**Leoncito**	**3.28**	**52**	*i* P	**Pn**	**10 07 51.0**	**+2.6**
RTCV	**Cerro Valdivia**	**3.76**	**59**	*i* P	**Pn**	**10 07 57.4**	**+2.5**
CFAA	**Coronel Fontan**	**4.12**	**58**	Pn	**Pn**	**10 08 00.0**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=232,slow=12,SNR=11						
CFAA				Lg	Lg	10 09 06.5	
	comp=Z,3.0nm,0.3s,baz=63,slow=16,SNR=5.1						
RTLL	**Cerro Villicun**	**4.12**	**53**	*i* P	**Pn**	**10 08 01.6**	**+1.9**
LCO	**Las Campanas**	**5.04**	**16**	*ePn*	**Pn**	**10 08 11.6**	**-0.9**
PLCA	**Paso Flores**	**7.00**	**169**	Pn	**Pn**	**10 08 41.8**	**+2.5**
	comp=Z,1.8nm,0.3s,baz=344,slow=16,SNR=2.9						
PLCA				Lg	Lg	10 10 35.6	
	comp=Z,0.4nm,0.3s,baz=40,slow=20,SNR=3.2						
TRQA	**Tornquist**	**9.37**	**119**	*ePn*	Pn	10 09 03.6	-8.2
LVC	**Limon Verde**	**11.61**	**16**	LR	LR	10 14 16.0	
	comp=Z,1µm,18.5s,baz=207,slow=38						
LVC	**Limon Verde**	**11.61**	**16**	*ePn*	**Pn**	**10 09 44.4**	**+1.7**
LPAZ	**La Paz**	**17.91**	**13**	P	**Pn**	**10 11 06.0**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=185,slow=8.6,SNR=27						
LPAZ	**La Paz**	**17.91**	**13**	P	**Pn**	**10 11 06.0**	**-0.3**
LPAZ				*eP*	**P**	**10 11 07.5**	**+0.8**
SIV	**San Ignacio**	**20.49**	**32**	P	**P**	**10 11 34.1**	**-0.3**
	comp=Z,12nm,0.8s,baz=227,slow=11,SNR=15						
SIV				LR	LR	10 21 04.2	
	comp=Z,425nm,18.4s,baz=236,slow=42						
EFI	**East Falkland**	**20.59**	**154**	*eP*	**P**	**10 11 34.1**	**-1.0**
USHA	**Ushuaia**	**21.14**	**174**	P	**P**	**10 11 42.2**	**+1.1**
	comp=Z,5.8nm,0.8s,baz=304,slow=10,SNR=3.9						
SAML	**Samuel**	**26.19**	**21**	*eP*	**P**	**10 12 31.2**	**+0.2**
	comp=Z,4.9nm,0.8s						
BDFB	**Brasilia**	**28.46**	**56**	P	**P**	**10 12 49.3**	**-2.2**
	comp=Z,6.7nm,0.7s,baz=210,slow=8.6,SNR=9.3						
BDFB				LR	LR	10 25 17.4	
	comp=Z,374nm,19.8s,baz=217,slow=39						
VNA2	**Neumayer--Watz**	**50.23**	**157**	P	**P**	**10 15 52.0**	**+0.3**
	baz=290,slow=8.8						
SNAA	**Sanae**	**51.80**	**158**	P	P	10 15 58.1	-5.6
SNAA	**Sanae**	**51.80**	**158**	P	**P**	**10 16 03.8**	**+0.2

430A	Baggett Ranch, baz=70,SNR=6.5	69.86	334	⇑P	P	10 18 06.8	0.0
332A	Millersview baz=70	69.86	335	⇑P	P	10 18 07.2	+0.4
234A	Clairette baz=70,SNR=5.1	69.89	337	⇓P	P	10 18 07.3	+0.3
429A	Davenport Ranc baz=70	69.96	333	⇓P	P	10 18 07.3	-0.1
TKL	Tuckaleechee C comp=Z,3.1nm,0.8s,baz=159,slow=7.6,SNR=6.3	69.99	350	P	P	10 18 06.5	-1.0
331A	San Angelo baz=70	70.03	335	⇓P	P	10 18 08.0	+0.1
233A	Rising Star baz=70	70.15	336	⇓P	P	10 18 08.8	+0.2
232A	Coleman baz=71,SNR=5.8	70.29	336	⇑P	P	10 18 09.3	-0.2
134A	White-Moore Ra baz=71	70.39	337	⇓P	P	10 18 10.1	+0.1
330A	Mertzon baz=71	70.39	334	⇓P	P	10 18 10.2	+0.1
231A	Bronte baz=71	70.56	335	⇓P	P	10 18 10.9	-0.2
133A	Hamilton Ranch baz=71	70.70	336	⇑P	P	10 18 12.2	+0.3
329A	Wagon Wheel Ra baz=71	70.76	333	⇑P	P	10 18 11.8	-0.6
230A	Sterling City baz=71	70.81	334	⇑P	P	10 18 12.6	0.0
Z35A	Perchaven, San baz=71	70.83	338	⇑P	P	10 18 13.1	+0.5
MIAR	Mount Ida comp=Z,7.1nm,1.0s	70.91	342	eP	P	10 18 14.1	+1.0
ABTX	Abilene, Hawle	70.96	336	eP	P	10 18 14.4	+0.9
ABTX	Abilene, Hawle baz=71	70.96	336	⇓P	P	10 18 13.4	-0.1
Z34A	Collier Ranch, baz=72	71.07	338	⇑P	P	10 18 14.4	+0.3
229A	Bryant Ranch, baz=72	71.13	334	⇓P	P	10 18 14.1	-0.5
131A	Roby baz=72	71.26	335	⇓P	P	10 18 15.3	0.0
Z33A	Whitaker Ranch baz=72	71.27	337	⇓P	P	10 18 15.6	+0.3
130A	Snyder baz=72	71.39	335	⇓P	P	10 18 16.4	+0.3
X37A	Clayton baz=72	71.44	340	⇑P	P	10 18 17.7	+1.4
Z32A	Haskell baz=72,SNR=5.7	71.53	336	⇑P	P	10 18 17.6	+0.7
228A	UT Block 9, Go baz=72	71.56	333	⇓P	P	10 18 17.1	-0.1
Y34A	Reagan Ranch, baz=72	71.56	338	⇓P	P	10 18 17.6	+0.5
W38A	Poteau baz=72	71.66	341	⇑P	P	10 18 18.0	+0.4
X36A	Centrahoma baz=72	71.71	339	⇓P	P	10 18 18.6	+0.6
X35A	Drake baz=72	71.73	339	⇑P	P	10 18 18.6	+0.5
129A	Stewart Farms, baz=72	71.75	334	⇑P	P	10 18 17.7	-0.6
Z31A	Sharp Cattle R baz=72	71.76	336	⇑P	P	10 18 18.1	-0.2
128A	Castleberry Fa baz=72	71.97	334	⇓P	P	10 18 19.3	-0.3
W37A	Quinton baz=72	71.97	340	⇓P	P	10 18 20.0	+0.5
Z30A	Sanderson Ranc baz=72	72.07	335	⇓P	P	10 18 20.1	-0.1
Y32A	R-V Farms, Ver baz=72	72.15	337	⇓P	P	10 18 21.1	+0.4
X34A	Smith Ranch, M baz=73	72.18	338	⇑P	P	10 18 21.2	+0.4
W36A	Wetumka baz=73	72.20	340	⇓P	P	10 18 21.2	+0.3
Z29A	Hungry Hill Ra baz=73	72.26	334	⇓P	P	10 18 21.4	0.0
MNTX	Cornudas Mount comp=Z,4.9nm,0.8s	72.28	331	eP	P	10 18 21.4	0.0
MNTX	Cornudas Mount baz=73	72.28	331	⇑P	P	10 18 21.4	0.0
PBMO	Poplar Bluff comp=Z,5.5nm,0.7s	72.28	345	eP	P	10 18 21.6	+0.3
X33A	Lawton baz=73	72.34	338	⇓P	P	10 18 24.6	+2.9
Y31A	Rekieta Farm, baz=73	72.39	336	⇑P	P	10 18 21.9	-0.2
X32A	Elmer baz=73	72.48	337	⇑P	P	10 18 22.6	0.0
Z28A	Tucker Farm, M baz=73	72.53	334	⇓P	P	10 18 23.0	-0.1
WMOK	Wichita Mounta comp=Z,3.5nm,1.0s	72.61	337	eP	P	10 18 24.0	+0.6
W34A	Bridge Creek, baz=73	72.75	338	⇑P	P	10 18 23.5	-0.7
Y29A	Porterfield Fa baz=73	72.78	335	⇑P	P	10 18 24.8	+0.3
TUL1	Leonard comp=Z,7.1nm,0.8s	72.80	340	eP	P	10 18 25.2	+0.7
TUL1	Leonard baz=73	72.80	340	⇑P	P	10 18 25.0	+0.6
W33A	Caddo, Fort Co baz=73	72.89	338	⇓P	P	10 18 25.5	+0.4
X31A	McDonald Ranch baz=73	72.90	336	⇑P	P	10 18 25.4	+0.2
V35A	Meyer Ranch, C baz=73	72.96	339	⇓P	P	10 18 25.8	+0.4
Y28A	McKinney Farm, baz=73	73.03	334	⇑P	P	10 18 25.7	-0.3
X30A	Coker Ranch, T baz=73	73.04	336	⇓P	P	10 18 26.3	+0.4
W32A	Sentinel baz=74	73.11	337	⇑P	P	10 18 26.8	+0.4
V34A	Guthrie baz=74	73.23	339	⇑P	P	10 18 27.8	+0.8
MSTX	Muleshoe	73.28	334	eP	P	10 18 28.1	+0.7
MSTX	Muleshoe baz=74	73.28	334	⇓P	P	10 18 27.7	+0.2
X29A	Tulia baz=74	73.32	335	⇑P	P	10 18 28.0	+0.3
MAW	Mawson comp=Z,4.6nm,0.6s,baz=239,slow=5.1,SNR=8.5	73.38	164	P	P	10 18 27.7	+0.1
W31A	Holland Ranch, baz=74	73.40	337	⇑P	P	10 18 28.1	+0.1
V33A	Lossen Ranch, baz=74	73.45	338	⇓P	P	10 18 29.0	+0.7
V32A	Arapaho baz=74	73.59	338	⇑P	P	10 18 29.7	+0.5
T37A	Cheneyville 18 baz=74	73.70	341	⇓P	P	10 18 31.2	+1.4
AMTX	Amarillo baz=74	73.71	335	⇓P	P	10 18 30.2	+0.2
U34A	Anderson Ranch baz=74	73.79	339	⇓P	P	10 18 31.4	+1.1
T36A	Boggs Farm, Ca baz=74	73.90	341	⇓P	P	10 18 32.1	+1.2
V31A	Spring Creek L baz=74	73.90	337	⇑P	P	10 18 31.9	+0.9
W29A	Amarillo baz=74	73.92	335	⇓P	P	10 18 31.4	+0.2
T35A	Sooner Cattle baz=74	73.94	340	⇑P	P	10 18 32.1	+1.0
121A	Cookes Peak, D comp=Z,7.3nm,0.8s	74.00	329	eP	P	10 18 32.9	+1.1
121A	Cookes Peak, D baz=74	74.00	329	⇓P	P	10 18 31.7	-0.1
V30A	Spur Ranch, Mi baz=75	74.17	336	⇑P	P	10 18 32.7	+0.1
T34A	McClaskey Farm baz=75	74.23	340	⇑P	P	10 18 35.1	+2.2
ACSO	Alum Creek Sta comp=Z,8.9nm,0.7s	74.38	352	eP	P	10 18 33.8	+0.2
S36A	Lake Cedric, C baz=75	74.44	341	⇑P	P	10 18 34.5	+0.5
S35A	Otter Creek Ra baz=75	74.60	340	⇓P	P	10 18 35.5	+0.5
T33A	Patterson Ranc baz=75	74.60	339	⇓P	P	10 18 36.0	+1.0
R37A	Teagarden Farm baz=75	74.80	342	⇓P	P	10 18 39.5	+3.4
U30A	WK&E Inc. Balk baz=75	74.86	337	⇑P	P	10 18 36.6	0.0
V27A	Dan Oppiter Fa baz=75	74.91	335	⇓P	P	10 18 36.7	-0.2
LIC	Lamto comp=Z,243nm,2.5s	74.96	72	eP	P	10 18 38.4	+0.8
T31A	Randall Ranch, baz=76	75.06	338	⇓P	P	10 18 36.1	-1.6
SUR	Sutherland comp=Z,428nm,21.0s,baz=130,slow=31	75.11	119	LR	LR	10 45 24.0	
SFIN	Lafayette baz=76	75.12	348	⇓P	P	10 18 39.7	+1.8
TIC	Toumodi	75.22	71	eP	P	10 18 38.9	-0.3
KIC	Kosan Boka comp=Z,18nm,0.7s	75.27	72	eP	P	10 18 39.0	-0.4
DBIC	Dimbokro comp=Z,5.4nm,0.6s,baz=214,slow=5.3,SNR=12	75.37	71	P	P	10 18 39.1	-0.8
R34A	Isabella, Hill baz=76	75.44	340	⇑P	P	10 18 40.3	+0.5
U27A	Thompson Grove baz=76	75.50	335	⇑P	P	10 18 40.5	+0.2
ANMO	Albuquerque comp=Z,1.7nm,1.0s,baz=164,slow=6.7,SNR=6.4	75.55	332	P	P	10 18 40.8	0.0
ANMO	Albuquerque	75.55	332	eP	P	10 18 41.8	+1.0
T29A	Hugoton baz=76	75.64	336	⇓P	P	10 18 41.6	+0.5
R33A	Olander Ranch, baz=76	75.66	339	⇓P	P	10 18 41.6	+0.5
214A	Organ Pipe Nat baz=76	75.77	325	⇓P	P	10 18 41.2	-0.7
S30A	Montezuma baz=76	75.81	337	⇑P	P	10 18 41.9	-0.1
T28A	Walsh baz=76	75.88	336	⇑P	P	10 18 42.2	-0.3
R32A	Long Quarter, baz=76	75.98	339	⇑P	P	10 18 43.6	+0.7
S29A	Ulysses baz=76	76.00	337	⇑P	P	10 18 43.2	+0.1
T27A	Campo baz=76	76.04	335	⇑P	P	10 18 44.2	+0.8
R31A	Burdett baz=76	76.11	338	⇑P	P	10 18 44.1	+0.4
S28A	Manter baz=77	76.23	336	⇓P	P	10 18 44.7	+0.2
Q32A	Meer Ranch, baz=77	76.46	339	⇑P	P	10 18 46.5	+0.8
O36A	Bolckow baz=77	76.54	342	⇓P	P	10 18 46.0	0.0
Q31A	Ellis baz=77	76.72	339	⇓P	P	10 18 47.4	+0.2
R29A	Marienthal baz=77	76.74	337	⇓P	P	10 18 47.2	-0.2
S26A	Kim baz=77	76.80	335	⇓P	P	10 18 47.4	-0.4
R28A	Tribune baz=77	76.89	337	⇑P	P	10 18 47.9	-0.3
Q30A	Quinter baz=77	76.95	338	⇓P	P	10 18 49.0	+0.5
Q29A	Oakley baz=78	77.11	337	⇑P	P	10 18 49.8	+0.4
R27A	Eads baz=78	77.17	336	⇓P	P	10 18 49.5	-0.3
O33A	Hebron baz=78	77.19	340	⇑P	P	10 18 50.2	+0.5
R26A	Arlington baz=78	77.40	335	⇑P	P	10 18 51.5	+0.4
Q28A	Sharon Springs baz=78	77.54	337	⇓P	P	10 18 52.9	+1.1
SDCO	Great Sand Dun comp=Z,1.7nm,0.7s	77.64	334	eP	P	10 18 54.0	+1.3
SDCO	Great Sand Dun baz=78	77.64	334	⇓P	P	10 18 53.7	+1.0
KSCO	Kaye Shedlock' baz=78	77.76	336	⇑P	P	10 18 54.0	+0.9
WUAZ	Wupatki	78.09	328	eP	P	10 18 55.9	+0.8
WUAZ	Wupatki baz=78	78.09	328	⇑P	P	10 18 54.2	-0.8
S22A	4UR Ranch, Cre baz=78	78.14	333	⇓P	P	10 18 54.4	-1.0
R23A	Moffat baz=79	78.16	334	⇑P	P	10 18 54.8	-0.7
P27A	Ficken Ranch, baz=79	78.24	337	⇓P	P	10 18 55.2	-0.5
MONP	Monument Peak, baz=79	78.28	323	⇓P	P	10 18 54.4	-1.8
MVCO	Mesa Verde baz=79	78.33	331	⇓P	P	10 18 56.0	-0.4
BC3	Big Chuckawall baz=79	78.43	324	⇓P	P	10 18 55.1	-1.8
O28A	Krutsinger Ran baz=79	78.49	337	⇓P	P	10 18 57.1	0.0
Q24A	Divide baz=79	78.59	334	⇓P	P	10 18 56.6	-1.3
PFO	Pinyon Flats O baz=79	78.88	324	⇑P	P	10 18 59.0	-0.4
N27A	Anderson Farm, baz=80	79.35	337	⇓P	P	10 19 03.5	+1.7
GMRC	Granite Mounta baz=80	79.44	325	⇑P	P	10 19 02.8	+0.4
SMCO	Snowmass comp=Z,3.7nm,0.8s	79.45	333	eP	P	10 19 04.5	+1.8
L31A	Butterfield Fa baz=80	79.49	340	⇑P	P	10 19 02.4	0.0
ISCO	Idaho Springs baz=80	79.50	335	⇓P	P	10 19 04.0	+1.1
O23A	Lake Granby, G baz=80	79.97	335	⇓P	P	10 19 06.7	+1.3
TUQ	Turquoise Moun baz=80	80.10	325	⇓P	P	10 19 05.6	-0.4
O22A	Kremmling baz=81	80.16	334	⇑P	P	10 19 08.2	+1.8
K30A	Basset baz=81	80.17	340	⇑P	P	10 19 07.9	+1.8
ECSD	EROS Data Cent comp=Z,9.7nm,1.0s	80.35	342	eP	P	10 19 07.1	+0.1
ECSD	EROS Data Cent baz=81	80.35	342	⇓P	P	10 19 07.6	+0.6
BOSA	Boshof comp=Z,3.0nm,0.6s,baz=263,slow=1.7,SNR=6.6	80.35	118	P	P	10 19 08.2	+0.4
SHPR	Sheep Range comp=Z,4.7nm,0.9s	80.61	326	eP	P	10 19 09.9	+1.1
N22A	Wattenberg Ran baz=81	80.69	334	⇑P	P	10 19 10.3	+1.1
O20A	White River Ci baz=81	80.76	333	⇑P	P	10 19 09.8	+0.3
J29A	Okreek baz=81	81.05	340	⇓P	P	10 19 09.7	-1.1
I30A	Oacoma baz=82	81.26	341	⇓P	P	10 19 11.9	0.0
N20A	Spence Gulch, baz=82	81.38	333	⇓P	P	10 19 13.1	+0.3
J27A	Elkhorn Farm, baz=82	81.40	339	⇑P	P	10 19 14.6	+1.8
TPNV	Topopah Spring baz=82	81.48	326	⇑P	P	10 19 12.3	-1.1
I28A	Midland baz=82	81.83	339	⇓P	P	10 19 16.9	+2.0
H29A	Onida baz=82	82.13	340	⇑P	P	10 19 17.5	+1.0
G30A	Faulkton baz=83	82.31	341	⇓P	P	10 19 18.1	+0.8
R11A	Troy Canyon, C comp=Z,2.6nm,0.9s	82.31	327	eP	P	10 19 19.2	+1.5
R11A	Troy Canyon, C baz=83	82.31	327	⇑P	P	10 19 16.0	-1.8
I25A	Rockford baz=83	82.63	338	⇓P	P	10 19 20.8	+1.5
DUG	Dugway, Tooele comp=Z,6.7nm,1.3s	82.63	330	eP	P	10 19 20.8	+1.4
DUG	Dugway, Tooele baz=83	82.63	330	⇓P	P	10 19 20.8	+1.4
H27A	Howes baz=83	82.68	339	⇓P	P	10 19 19.8	+0.4
G28A	Parade baz=83	82.74	340	⇑P	P	10 19 22.4	+2.8
F29A	Eureka baz=84	83.14	341	⇑P	P	10 19 23.1	+1.5
G27A	Dupree baz=84	83.31	339	⇑P	P	10 19 23.8	+1.2
J20A	Shoshoni baz=84	83.50	335	⇓P	P	10 19 25.0	+1.2
E30A	Jud baz=84	83.52	342	⇓P	P	10 19 25.1	+1.6
PDAR	Pinedale Array comp=Z,0.6nm,0.7s,baz=144,slow=5.5,SNR=4.4	83.53	333	P	P	10 19 23.9	-0.2
PDAR				pP	pP	10 19 32.9	+0.5
G25A	Newell baz=84	83.59	338	⇑P	P	10 19 24.4	+0.3
I21A	Big Trails, Te baz=84	83.63	335	⇑P	P	10 19 24.2	-0.2
NVAR	Mina Array Bea comp=Z,0.7nm,0.7s,baz=157,slow=6.0,SNR=5.6	83.64	325	P	P	10 19 24.6	-0.1
NVAR				pP	pP	10 19 33.2	+0.1
F27A	Lemmon baz=84	83.79	340	⇑P	P	10 19 26.3	+1.2
F26A	Lodgepole baz=84	83.96	339	⇑P	P	10 19 26.3	+0.4
TOA0	Torodi Ar. Sit	84.39	70	eP	P	10 19 28.7	-0.1
TOA0	Torodi Ar. Sit	84.39	70	eP	P	10 19 28.5	-0.3
TORD	Torodi Ar. Bea comp=Z,6.2nm,0.7s,baz=260,slow=4.1,SNR=36	84.39	70	P	P	10 19 28.7	-0.1
TORD				pP	pP	10 19 37.0	-0.2
E26A	Carlson Angus comp=Z,7.8nm,0.8s,baz=258,slow=4.5,SNR=18	84.46	340	⇓P	P	10 19 30.4	+1.9
C30A	Mose, Pekin baz=85	84.52	343	⇑P	P	10 19 32.5	+3.8
F23A	Volborg baz=85	84.69	337	⇓P	P	10 19 33.4	+3.8
D26A	Manning baz=85	84.96	340	⇓P	P	10 19 32.9	+1.9
FLWY	Flagg Ranch comp=Z,2.3nm,0.6s	85.09	333	eP	P	10 19 32.1	+0.2
G20A	Bridger baz=86	85.18	335	⇓P	P	10 19 34.9	+2.7
B30A	Myrvik Farm, E baz=86	85.18	343	⇑P	P	10 19 32.2	+0.2
H18A	Shoshone NF, C baz=86	85.22	334	⇑P	P	10 19 33.6	+1.0
H17A	Grant Village baz=86	85.31	334	⇑P	P	10 19 34.7	+1.6
C27A	Sayler Ranch, baz=86	85.32	341	⇑P	P	10 19 34.8	+2.1
B29A	Wagenman Farm, baz=86	85.45	342	⇓P	P	10 19 36.3	+3.0
A30A	Hoffart Farm, baz=86	85.63	343	⇑P	P	10 19 35.9	+1.7
A29A	Manning Farm, baz=86	85.84	343	⇑P	P	10 19 38.3	+3.0
D23A	Lindsay baz=86	85.92	338	⇑P	P	10 19 38.1	+2.4
E21A	Keefer Ranch, baz=86	85.95	337	⇑P	P	10 19 38.2	+2.2
C24A	Savage baz=86	86.00	339	⇑P	P	10 19 37.9	+1.8
HLID	Hailey baz=86	86.10	331	⇑P	P	10 19 39.8	+2.9
D22A	Cohagen baz=87	86.20	338	⇑P	P	10 19 38.0	+0.9
B25A	Knox Farm, Ray baz=87	86.30	340	⇑P	P	10 19 38.7	+1.2
A27A	Ledoux Ranch, baz=87	86.39	341	⇓P	P	10 19 40.8	+2.9
E19A	Rath Farm, Rou baz=87	86.45	336	⇑P	P	10 19 39.1	+0.6
C23A	Lambert baz=87	86.47	339	⇓P	P	10 19 40.2	+1.7
MCMT	McKenzie Canyo comp=Z,1.5nm,1.0s	86.54	332	eP	P	10 19 39.6	+0.5
DGMT	Dagmar baz=87	86.77	339	⇓P	P	10 19 40.3	+0.4
D20A	Manuel Ranch, baz=87	86.78	336	⇑P	P	10 19 40.7	+0.7
B23A	Brockton baz=87	87.00	339	⇑P	P	10 19 42.1	+1.0
C21A	Desert Coulee baz=88	87.09	337	⇑P	P	10 19 40.8	-0.6
B22A	Reddig Ranch S baz=88	87.16	338	⇑P	P	10 19 43.5	+1.7
C20A	Veseth Ranch, baz=88	87.28	337	⇓P	P	10 19 44.6	+2.2
B21A	Ellsworth Farm baz=88	87.59	338	⇑P	P	10 19 45.5	+1.6
A22A	Carney Farms, baz=88	87.75	339	⇓P	P	10 19 46.3	+1.7
M04C	Macdoel baz=88	87.94	325	⇓P	P	10 19 46.1	+0.3
A20A	Cobblestone Ra baz=89	88.28	337	⇑P	P	10 19 47.9	+0.8
J05D	Fort Rock, OR baz=89	88.83	327	⇓P	P	10 19 51.8	+1.8
BRTR	Keskin Array B comp=Z,1.0nm,0.8s,baz=204,slow=2.4,SNR=5.9	121.98	61	PKP	PKPdf	10 25 49.4	-1.1
BRTR				pPKP	pPKPdf	10 25 58.2	-0.9
AKASG	Malin Array Be comp=Z,0.4nm,0.4s,baz=255,slow=2.8,SNR=4.6	122.28	47	PKP	PKPdf	10 25 48.9	-1.5
AKASG				pPKP	pPKPdf	10 25 58.2	-0.9
H11S2	WAKE ISLAND Hyl baz=119,slow=74,SNR=2.9	125.53	269	T	T	12 44 53.3	
H11S1	WAKE ISLAND Hyl baz=211,slow=74,SNR=3.7	125.54	269	T	T	12 44 53.3	
H11S3	WAKE ISLAND Hyl	125.55	269	T	T	12 44 55.7	

MEX 31 10:11:17.2±0.6, 13°.96N×93°.13W, h20km±150km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
THIG		1.26	42	eP	Pn		10 11 36.9	-2.8
THIG				eS	Sn		10 11 52.0	-4.1
PCIG		1.74	357	eP	Pn		10 11 40.6	-5.7
PCIG				eS	Sn		10 11 57.2	-11
CCIG	Comitan	2.50	23	eP	Pn		10 11 56.1	-1.0
CCIG				eS	Sn		10 12 23.6	-3.6
TGIG		2.80	0	i P	Pn		10 11 58.7	-2.3
TGIG				eS	Sn		10 12 27.1	-7.2

SJA 31 10:14:55.9±1.2, 34°.45S×73°.05W, h36km, ML3.9
GUC 31 10:15:03.9±0.6, 33°.90S×72°.30W, h25km±21km, ML3.7
ISC 31 10:14:60.0±2.4, 33°.97S±0°.06×72°.5W±0°.1, h11km±13km, n17, σ1ş74/29, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
LNV	Longovilo	0.90	89	eP	Pb		10 15 17.4	-0.1
LNV				eS	Sg		10 15 27.9	-1.2
NICH	Los Niches	1.46	135	eP	Pg		10 15 28.4	+0.4
NICH				eS	Sg		10 15 47.0	-0.1
CHCH	Chadas Angostu	1.53	89	eP	Pb		10 15 27.6	-0.8
CHCH				eS	Sn		10 15 45.6	-1.6
CACH	El Canelo	1.58	96	eP	Pb		10 15 29.2	0.0
TALC	Talca	1.59	154	eP	Pg		10 15 31.0	+0.6
ROCH	El Roble	1.59	52	eP	Pn		10 15 28.6	+0.4
ROCH				eS	Sn		10 15 47.9	-1.0
ROCH				AML	AML		10 15 56.5	
	comp=N,2μm,0.7s							
SAN	Santiago	1.61	72	eP	Pb		10 15 28.9	-0.8
SAN				eS	Sn		10 15 47.5	-1.6
PEL	Peldehue	1.72	62	eP	Pb		10 15 30.7	-0.9
PEL				eS	Sn		10 15 50.6	-1.2
PEL				AML	AML		10 15 58.7	
	comp=N,3μm,3.8s							
CLCH	Cerro Calan	1.73	71	eP	Pb		10 15 30.8	-0.9
CLCH				eS	Sn		10 15 51.1	-1.0
CLCH				AML	AML		10 16 00.9	
	comp=N,1μm,0.4s							
SJCH	San Jose de Ma	1.81	80	eP	Pn		10 15 31.1	-0.1
SJCH				eS	Sn		10 15 52.2	-1.9
AUSP	Uspallata	3.14	57	i P	Pb		10 15 55.1	-0.8
AUSP				i S	Sg		10 16 40.4	-0.4
ARCO	CERRO ARCO	3.18	70	i P	Pb		10 15 55.5	-1.1
ARCO				i S	Sb		10 16 38.5	+3.0
ARCO				AML	AML		10 16 44.9	
	comp=Z,175nm,0.7s							
AAGR	Agrelo	3.19	75	i P	Pb		10 15 54.1	-2.5
AAGR				i P	Pb		10 15 54.1	-2.5
ASAL	Salagasta	3.36	67	i P	Pb		10 15 58.1	-1.4
ASAL				i S	Sb		10 16 43.9	+3.5
RTLS	Leoncito	3.45	52	i P	Pb		10 16 01.1	-0.1
RTLS				i S	Sb		10 16 46.9	+3.6
RTCV	Cerro Valdivia	3.93	59	i P	Pb		10 16 06.5	-2.8
RTLL	Cerro Villicun	4.29	53	i P	Pb		10 16 10.5	-5.0

SKHL 31 10:15:02.7±0.7, 44°.27N×148°.70E, h33km±2km, mb3.9/3
JMA 31 10:15:04.0±0.3, 43°.92N×148°.50E, h76km, M2.7
ISC 31 10:15:01.0±4.1, 44°.2N±0°.1×148°.8E±0°.2, h35km, n9, σ1ş39/13, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KUR	Kuril'sk	1.26	328	eP	Pn		10 15 21.6	-0.4
KUR				AMB	AMB		10 15 22.7	
	10.0nm,0.2s							
KUR				AMB	AMB		10 15 22.7	
	20nm,0.2s							

KUR				*i* S		**Sn**	**10 15 36.3 -1.4**
KUR				A	A	10 15 38.2	
	90nm,0.6s						
SHO	**Shikotan**	**1.46**	**259**	*e*P		**Pn**	**10 15 25.5 +0.7**
SHO				AMB	AMB	10 15 31.9	
	110nm,1.2s						
SHO				*e*S		**Sn**	**10 15 42.5 -0.2**
SHO				A	A	10 15 47.9	
	180nm,1.0s						
YUK	**Yuzh-Kuril'sk**	**2.13**	**267**	*i* P		**Pn**	**10 15 35.1 +1.1**
YUK				AMB	AMB	10 15 36.6	
	20nm,0.4s						
YUK				AMB	AMB	10 15 36.6	
	10.0nm,0.4s						
YUK				AMB	AMB	10 15 36.6	
	30nm,0.4s						
YUK				*e*S		**Sn**	**10 15 58.9 -0.3**
YUK				A	A	10 16 02.5	
	50nm,0.5s						
YUK				A	A	10 16 02.5	
	40nm,0.5s						
NEM2	**Nemuro 2**	**2.37**	**251**	P		**Pn**	**10 15 37.6 +0.4**
NEM2				*e*S		**Sn**	**10 16 02.5 -2.5**
JRA	**Rausu**	**2.67**	**266**	P		**Pn**	**10 15 42.4 +1.0**
JNK	**Nakash**	**3.02**	**260**	*e*S		**Sn**	**10 16 19.8 -1.3**
JAK	**Akkeshi**	**3.21**	**250**	P		**Pn**	**10 15 49.0 +0.1**
JAR	**Ashorobuto**	**3.76**	**258**	P		**Pn**	**10 15 57.7 +1.3**
YSS	**Yuzh-Sakhalins**	**5.08**	**305**	*e*P		**Pn**	**10 16 16.7 +2.1**

*MAN **31** 10:15:59,6˚.93N×123˚.88E,h6km,mb6.1,ML5.2,MS5.8*
MAN INTENSITY IV - COTABATO CITY; TACURONG CITY; ISULAN SULTAN KUDARAT; MATUTUM SOUTH COTABATO; PAGADIAN CITY; PIKIT N. COTABATO; LINIK DATU ODIN SINSUAT & DATU BLAH SINSUAT MAGUINDANAO.
*MOS **31** 10:16:00.8±0.9,6˚.99N×123˚.98E,h33km,mb6.1/82, MS5.5/75,Error ellipse: s-maj=7.6km s-min=3.9km az=117.8*
*NEIC **31** 10:16:00.2±0.1,6˚.95N×124˚.03E,h20km,mb5.7/104, ME6.0,MS5.5/156,MW5.9,MW5.8,MW5.9,Error ellipse: s-maj=4.2km s-min=3.4km az=91.0,Moment Tensor Solution. s58 Moment tensor: Scale 10¹⁷Nm; Mrr=2.57; Mθθ2.30; Mφφ0.27; Mrθ-1.47; Mθφ-4.50; Mφr-2.58; Best double couple: M₀5.90000×10¹⁷ NP1:φ₁346.00000°, δ65.00000°,λ-34.00000°. NP2:φ₂92.00000°,δ59.00000°, λ-150.00000°. Principal axes: T 5.9300, Plg3.0000°, Azm39.0000°; N -0.0100, Plg48.0000°, Azm133.0000°; P -5.9100, Plg41.0000°, Azm306.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Felt [V] at Cotabato; [IV PIVS] at Isulan, Linek, Pagadian, Palimbang, Pikit, Surallah and Tacurong; [III PIVS] at Cagayan de Oro, General Santos, Matalam, Ozamiz City and Zamboanga; [II PIVS] at Davao, Dipolog, Iligan, Kidapawan, Makilala and Valencia. Felt in much of Mindanao. Also felt at Dumaguete, Negros and [I PIVS] on Jolo Island.
*ISCJB **31** 10:16:01.4±0.3,6˚.93N±0˚.01×124˚.05E±0˚.02,h40km±2km, mb5.7/218,MS5.5/223 Error ellipse: s-maj=3.0km s-min=2.1km az=7.8*
*BJI **31** 10:16:01.3,6˚.97N×124˚.08E,h39km,mb5.7/82,mB6.0/66, Ms5.8/95,Ms7 5.7/84*
*IDC **31** 10:16:02.3±3.4,6˚.94N×124˚.05E,h33km±25km,mb5.1/32, mb1 5.2/35,mb1mx5.2/38,mbtmp5.3/35,ML5.0/3,MS5.3/34, Ms1 5.3/34,ms1mx5.2/37,Error ellipse: s-maj=13.2km s-min=9.2km az=79.0*
*KLM **31** 10:16:02.7,6˚.99N×124˚.05E,h33km,mb5.9,MS6.6*
*GCMT **31** 10:16:02.4±0.1,6˚.91N×123˚.93E,h26km,MW6.0/129, Moment Tensor Solution. s126,c251; s129,c411; Duration: 2e3 Moment tensor: Scale 10¹⁸Nm; Mrr=0.32±.01; Mθθ0.48±.01; Mφφ-0.16±.01; Mrθ-0.56±.02; Mθφ-0.65±.01; Mφr-0.52±.02; Best double couple: M₀1.05900×10¹⁸ NP1:φ₁82.00000°,δ72.00000°, λ-140.00000°. NP2:φ₂337.00000°,δ52.00000°, λ-23.00000°. Principal axes: T 0.9270, Plg13.0000°, Azm206.0000°; N 0.2620, Plg47.0000°, Azm102.0000°; P -1.1900, Plg40.0000°, Azm307.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **31** 10:16:02.0±0.0,6˚.93N×124˚.00E,h33km,Moment Tensor Solution. s24 Moment tensor: Scale 10¹⁷Nm; Mrr=2.98; Mθθ2.89; Mφφ0.09; Mrθ-5.49; Mθφ-4.91; Mφr-3.98; Best double couple: M₀8.60000×10¹⁷ NP1:φ₁86.00000°, δ73.00000°,λ-132.00000°. NP2:φ₂339.00000°, δ45.00000°,λ-22.00000°. Principal axes: T 7.2200, Plg17.0000°, Azm206.0000°; N 2.6900, Plg41.0000°, Azm100.0000°; P -9.9000, Plg43.0000°, Azm313.0000°;*
*DJA **31** 10:16:05.6±0.3,7˚N±2˚×12˚4E±˚,h47km±4km,M6.0/131, mb5.7/131,mB6.2/121,MLv6.5/8,Mw(mB)6.0/121, Mwp5.9/33*
*NEIC **31** 10:16:14.8±0.0,6˚.67N×124˚.05E,h36km,Moment Tensor Solution. s135 Moment tensor: Scale 10¹⁷Nm; Mrr=4.53; Mθθ4.71; Mφφ-0.18; Mrθ-2.60; Mθφ-6.43; Mφr-0.98; Best double couple: M₀8.10000×10¹⁷ NP1: φ₁341.00000°,δ54.00000°,λ-30.00000°. NP2:φ₂91.00000°, δ65.00000°,λ-139.00000°. Principal axes: T 9.3300, Plg6.0000°, Azm213.0000°; N -2.4000, Plg43.0000°, Azm116.0000°; P -6.9300, Plg45.0000°, Azm310.0000°;*
ISC 31 10:16:02.6±0.3,6˚.94N±0˚.02×123˚.96E±0˚.03,h34km, h34km:pP-P,n1548,σ1§32/1547,mb5.7/223,MS5.5/226, 226C-282D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.40**	**45**	*i* P		**Pb**	**10 16 09.3**	**-2.5**
CTBH				*i* S		**Sb**	**10 16 15.6**	**-2.5**
PAGZ	**Pagadian**	**1.07**	**328**	*e*P		**Pn**	**10 16 19.6**	**-1.7**
PAGZ				*e*S		**Sn**	**10 16 37.6**	**+2.7**
GSPH	**General Santos**	**1.29**	**131**	*e*P		Pb	10 16 28.7	+2.1
GSPH				*i* S		Sb	10 16 48.1	+5.1
BUKP	**Musuan**	**1.44**	**49**	*e*P		**Pn**	**10 16 26.5**	**+0.2**
BUKP				*e*S		**Sb**	**10 16 48.3**	**+1.4**
DAV	**Davao City (W)**	**1.61**	**85**	P		**Pb**	**10 16 29.8**	**-2.0**
	SNR=483							
DAV	**Davao City (W)**	**1.61**	**85**	↑*e*P		**Pn**	**10 16 29.2**	**+0.5**
DAV				↓*i* S		**Sb**	**10 16 54.5**	**+2.7**
DAV	**Davao City (W)**	**1.61**	**85**	*e*Pn		**Pb**	**10 16 29.6**	**-2.2**
IPIL	**Ipil**	**1.62**	**302**	*e*P		**Pn**	**10 16 28.4**	**-0.3**
CGP	**Cagayan de Oro**	**1.67**	**26**	↑*i*P		**Pb**	**10 16 30.4**	**-2.5**
CGP				*i* S		**Sb**	**10 16 53.8**	**+0.2**
DCPH	**Dipolog City**	**1.74**	**340**	↓*i*P		**Pn**	**10 16 30.3**	**-0.2**
ZMPH	**Zamboanga City**	**1.88**	**271**	↑*i*P		**Pn**	**10 16 32.4**	**0.0**
ZMPH				*i* S		**Sn**	**10 16 55.3**	**+0.3**
MATI	**Mati**	**2.28**	**90**	*e*P		**Pn**	**10 16 37.9**	**0.0**
SNPH	**Sibulan**	**2.50**	**343**	*i* S		Sn	10 17 04.6	-5.6
BUTP	**Butuan**	**2.60**	**39**	*e*P		**Pn**	**10 16 43.8**	**+1.4**
BIPH	**Bislig**	**2.68**	**62**	↑*i*P		**Pn**	**10 16 43.8**	**+0.4**
BIPH				*i* S		**Sb**	**10 17 21.3**	**-1.2**
TBP	**Tagbilaran**	**2.74**	**358**	*e*P		**Pn**	**10 16 44.0**	**-0.2**
TBP				*e*S		**Sb**	**10 17 19.2**	**-4.9**
SCPH	**Surigao**	**3.21**	**28**	*e*P		**Pn**	**10 16 51.7**	**+1.1**
SCPH				*e*S		Sn	10 17 13.4	-14
MSLP	**Maasin**	**3.30**	**16**	*e*P		**Pn**	**10 16 52.3**	**+0.5**
GUIM	**Jordan**	**3.91**	**340**	*e*P		**Pn**	**10 17 00.2**	**-0.1**
RCP	**Roxas**	**4.75**	**345**	↑P		**Pn**	10 17 14.7	+2.9
RCP				*e*S		**Sn**	**10 18 10.0**	**+4.3**
KALP	**Kalibo**	**4.98**	**341**	↑*e*P		Pn	10 17 20.8	+5.8
MMPH	**Masbate**	**5.40**	**356**	↑*e*P		Pb	10 17 28.0	-8.2
MMPH				*i* S		Sn	10 17 49.9	-32
PPR	**Puerto Princes**	**5.89**	**299**	↓*e*P		**Pn**	**10 17 27.4**	**-0.2**
PPR				*e*S		**Sn**	**10 18 31.3**	**-2.7**
KMSI	**Cibinong**	**6.32**	**180**	P		**Pn**	**10 17 31.6**	**-1.9**
	6μm,0.9s,59μm86μm118nm							
KMSI				S		**Sn**	**10 18 45.3**	**+0.8**
	6μm,0.9s,59μm86μm118nm							
AUQP	**San Andres**	**6.47**	**349**	*e*P		Pn	10 17 41.5	+5.9
TOLI	**Toli-Toli**	**6.58**	**209**	*e*Pn		**Pn**	**10 17 34.2**	**-2.9**
TSM	**Tawau**	**6.61**	**247**	↑P		**Pn**	**10 17 38.1**	**+0.7**
PVCP	**Virac**	**6.62**	**2**	*e*P		Pn	10 17 39.8	+2.2
MRSI	**Marisa**	**6.73**	**198**	P		**Pn**	**10 17 36.9**	**-2.2**
	1μm,0.7s,27μm19nm							
MRSI				S		**Sn**	**10 18 50.2**	**-4.3**
	1μm,0.7s,27μm19nm							
SDKM	**Sandakan**	**6.85**	**260**	↑P		**Pn**	**10 17 40.6**	**-0.2**
TNTI	**Ternate**	**7.00**	**151**	P		**Pn**	**10 17 43.1**	**+0.2**
	4μm,0.8s,27μm52μm11nm							
TNTI				S		**Sn**	**10 19 02.4**	**+1.1**
	4μm,0.8s,27μm52μm11nm							
TNTI	**Ternate**	**7.00**	**151**	*e*Pn		**Pn**	**10 17 43.0**	**+0.1**
KDM	**Kudat**	**7.08**	**270**	↑P		**Pn**	**10 17 44.2**	**+0.3**
GQP	**Guinayangan**	**7.08**	**348**	↑*i*P		Pn	10 17 46.6	+2.7
PGP	**Puerto Galera**	**7.16**	**336**	↑*i*P		Pn	10 17 46.7	+1.7
LQP	**Lukban**	**7.52**	**342**	↑*e*P		Pb	10 18 07.6	-4.8
LUBP	**Lubang**	**7.68**	**332**	*e*P		**Pn**	**10 17 53.3**	**+1.1**
MPSI	**Mapaga**	**7.71**	**212**	P		**Pn**	**10 17 49.5**	**-3.0**
TGY	**Tagaytay City**	**7.72**	**338**	Pn		**Pn**	**10 17 52.3**	**-0.4**
	88nm,0.3s,baz=225,slow=5.7,SNR=3.7							
TGY				LR		LR	10 21 19.4	
	comp=Z,382nm,19.3s,baz=146,slow=41							
KKM	**Kota Kinabalu**	**7.75**	**264**	*e*Pn		Pn	10 17 54.5	+1.3
LUWI	**Luwuk**	**8.02**	**189**	P		**Pn**	**10 17 56.4**	**-0.3**
	5μm,1.1s,40μm87μm33nm							
LUWI				S		**Sn**	**10 19 29.3**	**+3.0**
	5μm,1.1s,40μm87μm33nm							
LUWI	**Luwuk**	**8.02**	**189**	*e*Pn		**Pn**	**10 17 56.9**	**+0.1**
APSI	**Ampana**	**8.13**	**197**	P		**Pn**	**10 17 58.4**	**+0.1**
	1μm,0.8s,19μm75μm							
APSI				S		**Sn**	**10 19 32.3**	**+3.2**
	1μm,0.8s,19μm75μm							
PCI	**Palu**	**8.81**	**208**	P		**Pn**	**10 18 09.1**	**+1.4**
	342nm,1.4s,6μm138μm							
PCPH	**Palayan**	**9.02**	**342**	↑*i*P		Pn	10 18 13.9	+3.4
BALP	**Baler**	**9.06**	**345**	*e*P		Pn	10 18 13.3	+2.3
SANI	**Sanana**	**9.15**	**167**	P		**Pn**	**10 18 10.5**	**-1.9**
	1μm,1.0s,9μm42μm							
SANI				S		**Sn**	**10 19 54.2**	**-0.1**
	1μm,1.0s,9μm42μm							
BCPH	**Baguio City Da**	**9.95**	**341**	↓*e*P		Pn	10 18 24.9	+1.4
BOLP	**Bolinao**	**10.19**	**337**	*e*P		**Pn**	**10 18 24.7**	**-1.8**
NLAI	**Namlea**	**10.58**	**163**	P		**Pn**	**10 18 30.1**	**-1.9**
	1μm,1.1s,10μm							
NLAI				S		**Sn**	**10 20 25.3**	**-4.1**
	1μm,1.1s,10μm							
SIJI	**Sorong**	**10.64**	**137**	Pn		**Pn**	**10 18 31.6**	**-1.2**
	5.3nm,0.3s,baz=334,slow=12,SNR=47							
SIJI				LR		LR	10 22 56.3	
	comp=Z,36μm,21.0s,baz=310,slow=39							
TTSI	**Tana Toraja**	**10.74**	**203**	P		**Pn**	**10 18 33.2**	**-1.0**
	401nm,0.9s,6μm46μm							
TTSI				S		**Sn**	**10 20 32.1**	**-1.2**
	401nm,0.9s,6μm46μm							
BKB	**Balikpapan**	**10.77**	**221**	P		**Pn**	**10 18 34.9**	**+0.3**
	493nm,1.2s,8μm109μm							
BKB				S		**Sn**	**10 20 30.2**	**-3.8**
	493nm,1.2s,8μm109μm							
CVP	**Callao Caves**	**10.90**	**349**	↓*e*P		Pn	10 18 38.2	+1.9
KDI	**Kendari**	**10.90**	**187**	P		**Pn**	**10 18 35.7**	**-0.7**
	574nm,0.9s,5μm49μm							
SZP	**Santa**	**11.09**	**342**	*e*Pn		**Pn**	**10 18 38.9**	**0.0**
	1μm,1.5s							
MSAI	**Masohi**	**11.36**	**154**	P		**Pn**	**10 18 42.3**	**-0.2**
	139nm,0.9s,2μm							
MSAI				S		**Sn**	**10 20 46.4**	**-1.9**
	139nm,0.9s,2μm							
AAI	**Ambon**	**11.37**	**158**	P		**Pn**	**10 18 41.7**	**-1.0**
	1μm,1.1s,13μm							
BTM	**Bintulu**	**11.45**	**252**	↑P		**Pn**	**10 18 45.0**	**+1.1**
SPSI	**Sidrap Palu**	**11.61**	**201**	P		**Pn**	**10 18 44.4**	**-1.6**
	179nm,0.8s,4μm							
SPSI				S		**Sn**	**10 20 57.5**	**+2.9**
	179nm,0.8s,4μm							
SBUM	**Sibu**	**12.52**	**250**	↑P		Pn	10 19 00.7	+2.2
SBUM	**Sibu**	**12.52**	**250**	*e*Pn		Pn	10 19 00.5	+2.0
KAPI	**Kappang**	**12.59**	**200**	Pn		**Pn**	**10 18 59.7**	**+0.2**
	4.4nm,0.3s,baz=21,slow=11,SNR=36							
KAPI				LR		LR	10 24 02.4	
	comp=Z,16μm,20.0s,baz=42,slow=38							
KAPI	**Kappang**	**12.59**	**200**	P		Pn	10 19 03.7	+4.2
	SNR=23							
KAPI	**Kappang**	**12.59**	**200**	*e*Pn		**Pn**	**10 18 59.5**	**0.0**
BKSI	**Bulukumba**	**12.77**	**198**	P		**Pn**	**10 19 02.4**	**+0.5**
	150nm,1.3s,4μm							
KBKI	**Kotabaru**	**12.80**	**218**	P		Pn	10 19 05.0	+2.6
	27nm,1.2s,6μm39μm							
FAKI	**Fak Fak**	**12.82**	**140**	P		**Pn**	**10 19 02.6**	**0.0**
	579nm,1.6s,13μm25μm							
FAKI	**Fak Fak**	**12.82**	**140**	*e*Pn		**Pn**	**10 19 02.5**	**-0.1**
BNDI	**Bandanaira**	**12.84**	**152**	P		**Pn**	**10 19 00.1**	**-2.7**
	833nm,1.8s,15μm							
RKPI	**Ransiki, Papua**	**13.20**	**129**	P		**Pn**	**10 19 09.3**	**+1.4**
	733nm,1.1s,14μm							
BSSI	**Bau Bau, Buton**	**13.45**	**195**	P		Pn	10 19 12.9	+1.7
	206nm,2.0s,7μm							
BBKI	**Banjar Baru**	**13.77**	**222**	P		Pn	10 19 18.8	+3.2
	499nm,2.0s,13μm							
STKI	**Sintang**	**14.20**	**242**	P		Pn	10 19 24.8	+3.3
	149nm,2.3s							
KSM	**Kuching**	**14.65**	**249**	*e*Pn		**Pn**	**10 19 29.6**	**+2.0**
SRPI	**Serui, Papua**	**15.06**	**125**	P		**P**	**10 19 39.6**	**+1.6**
MMRI	**Maumere**	**15.56**	**186**	P		**P**	**10 19 42.3**	**-1.3**
	706nm,1.6s,10μm31μm							
MMRI	**Maumere**	**15.56**	**186**	*e*Pn		**P**	**10 19 41.7**	**-1.9**
	1μm,1.4s							
PBKI	**Pangkalan Bun**	**15.57**	**232**	P		**P**	**10 19 42.8**	**-0.8**
	638nm,1.4s,12μm							
TWG	**Pinlang**	**16.04**	**350**	*e*Pn		**Pn**	**10 19 46.2**	**+0.5**
	600nm,0.8s							
SAUI	**Saumlaki**	**16.53**	**154**	P		P	10 20 04.3	+10
YULB	**Yu-li**	**16.56**	**351**	*e*Pn		**Pn**	**10 19 52.0**	**-0.3**
	194nm,1.2s							
TPUB	**Ta-pu**	**16.58**	**349**	*e*Pn		**P**	**10 19 53.4**	**-1.4**
	218nm,0.9s							
SOEI	**Soe**	**16.59**	**179**	P		**P**	**10 19 55.2**	**+0.2**
	1μm,2.5s,23μm48μm							
SOEI	**Soe**	**16.59**	**179**	*e*P		**P**	**10 19 55.4**	**+0.4**
	2μm,1.4s							
WSI	**Waingapu**	**16.90**	**193**	P		**P**	**10 19 59.1**	**+0.8**
	1μm,2.6s,49μm							
BWJI	**Bawean**	**16.99**	**222**	P		**P**	**10 20 00.1**	**+0.7**
	516nm,1.2s,9μm							
SSLB	**Suanglung**	**17.00**	**351**	*e*Pn		**Pn**	**10 19 58.0**	**+0.1**
	113nm,0.9s							
KMMI	**Kalianget**	**17.10**	**216**	P		**P**	**10 20 03.7**	**+3.1**
	1μm,1.6s,43μm91μm							
SMPI	**Sarmi**	**17.18**	**121**	P		**P**	**10 20 03.1**	**+1.5**
	258nm,1.3s							
SRBI	**Singaraja**	**17.29**	**210**	P		**P**	**10 20 04.1**	**+1.4**
	413nm,1.5s,12μm41μm							
NACB	**Ninganchiao**	**17.29**	**353**	*e*Pn		**Pn**	**10 20 00.6**	**-0.8**
	204nm,1.3s							
BASI	**Baing, Sumba**	**17.37**	**191**	P		**P**	**10 20 03.8**	**+0.2**
	770nm,1.4s,17μm							
YOJ	**Yonaguni jima**	**17.45**	**357**	*e*P		**P**	**10 20 05.2**	**+0.8**
YOJ				pmax		pmax		
	comp=Z,187nm,1.3s							
YOJ	**Yonaguni jima**	**17.45**	**357**	*e*P		**P**	**10 20 05.2**	**+0.8**
	comp=Z,187nm,1.3s							
ABJI	**Asem Bagus**	**17.56**	**214**	P		**P**	**10 20 07.1**	**+1.4**
	comp=Z,387nm,2.5s,comp=Z,16μm							
DNP	**Denpasar**	**17.80**	**209**	P		**P**	**10 20 10.5**	**+2.2**
	comp=Z,964nm,1.3s,comp=Z,27μm							
YHNB	**Yeheng**	**17.81**	**352**	*e*Pn		**P**	**10 20 07.9**	**-0.6**
	comp=Z,494nm,1.4s							
BLJI	**Banyuglugur**	**17.88**	**216**	P		**P**	**10 20 11.1**	**+1.9**
	comp=Z,540nm,1.2s,comp=Z,13μm							
GRJI	**Gresik**	**17.90**	**220**	P		**P**	**10 20 12.3**	**+2.8**
	comp=Z,435nm,1.2s,comp=Z,9μm							
IGBI	**Denpasar**	**17.95**	**209**	P		**P**	**10 20 11.4**	**+1.4**
	comp=Z,366nm,2.0s,comp=Z,9μm							
HKC	**Hong Kong Obse**	**17.96**	**329**	↓*i*P		**P**	**10 20 10.0**	**0.0**
HKC				*i* S		**S**	**10 23 34.0**	**-0.5**
JAGI	**Jajag, Banyuwa**	**18.16**	**213**	P		**P**	**10 20 14.2**	**+1.8**
	comp=Z,350nm,1.4s,comp=Z,16μmcomp=Z,50μm							
JAGI	**Jajag, Banyuwa**	**18.16**	**213**	*e*P		**P**	**10 20 13.7**	**+1.3**
	comp=Z,349nm,1.0s							
TBJI	**Tambak Boyo**	**18.24**	**222**	P		**P**	**10 20 16.0**	**+2.8**
	comp=Z,713nm,1.4s,comp=Z,29μm							
QIZ	**Qiongzhong**	**18.25**	**313**	P		**P**	**10 20 14.3**	**+1.0**
QIZ				pP		pP	10 20 21.0	-1.3
QIZ				sP		sP	10 20 29.5	+2.8
QIZ				S		**S**	**10 23 38.8**	**-1.7**
QIZ				PMZ				
	comp=Z,350nm,1.9s							
QIZ				PMZ				
	comp=Z,9μm,10.5s							
QIZ				LN				
	comp=Z,16μm,15.8s							
QIZ				LZ				
	comp=Z,20μm,16.4s							
QIZ	**Qiongzhong**	**18.25**	**313**	*e*P		**P**	**10 20 13.3**	**0.0**
	comp=Z,631nm,1.4s							
UWJI	**Ujung Watu**	**18.57**	**225**	P		**Pn**	**10 20 19.9**	**+2.7**
	comp=Z,503nm,1.9s,comp=Z,16μmcomp=Z,34μm							
QZH	**Quanzhou**	**18.63**	**345**	↓*i*P		**Pn**	**10 20 18.0**	**+0.1**
QZH				S		**Sn**	**10 23 44.0**	**-1.3**
QZH				PMZ				
	comp=Z,750nm,1.5s							
QZH				PMZ				
	comp=Z,13μm,4.4s							
QZH				LN				
	comp=Z,40μm,19.3s							
QZH				LE				
	comp=Z,18μm,18.4s							
QZH				LZ				
	comp=Z,57μm,21.5s							
GENI	**Genyem**	**18.74**	**120**	P		**Pn**	**10 20 20.6**	**+1.2**
	comp=Z,2μm,1.5s,comp=Z,24μm							
TPI	**Tanjungpandan**	**18.91**	**240**	P		**Pn**	**10 20 23.2**	**+1.8**
	comp=Z,239nm,1.5s,comp=Z,9μmcomp=Z,39μm							
GZH	**Guangzhou**	**19.03**	**329**	P		**Pn**	**10 20 25.8**	**+3.0**
GZH				pP		pP	10 20 34.8	+3.9
GZH				PP		PnPn	10 20 45.0	+9.1
GZH				LN				
	comp=Z,25μm,16.8s							
GZH				LE				
	comp=Z,19μm,14.4s							
JAY	**Jayapura**	**19.17**	**119**	P		**Pn**	**10 20 24.0**	**-0.6**
	comp=Z,333nm,0.9s,comp=Z,6μm							
PWJI	**Pagerwojo**	**19.18**	**219**	P		**Pn**	**10 20 25.5**	**+0.9**
	comp=Z,382nm,1.8s,comp=Z,11μm							
WOJI	**Wonogiri, Jawa**	**19.61**	**222**	P		**Pn**	**10 20 30.3**	**+0.6**
	comp=Z,831nm,1.7s,comp=Z,16μm							
PCJI	**Pacitan**	**19.71**	**221**	P		**Pn**	**10 20 31.6**	**+0.6**
	comp=Z,462nm,1.2s,comp=Z,13μm							
UGM	**Wanagama**	**19.93**	**222**	P		**Pn**	**10 20 35.1**	**+1.5**
	comp=Z,1μm,1.3s,comp=Z,20μm							
UGM	**Wanagama**	**19.93**	**222**	*e*Pn		**Pn**	**10 20 34.1**	**+0.5**
	comp=Z,2μm,1.3s							
PPBI	**Pangkal Pinang**	**19.96**	**244**	P		**Pn**	**10 20 33.4**	**-0.5**
	comp=Z,281nm,1.1s,comp=Z,11μmcomp=Z,40μm							
JOW	**Kunigami**	**20.21**	**11**	P		**P**	**10 20 34.7**	**+0.1**
	comp=Z,20nm,1.0s,baz=193,slow=8.3,SNR=14							
JOW				LR		LR	10 27 22.7	
	comp=Z,1μm,21.8s,baz=190,slow=34							
JOW	**Kunigami**	**20.21**	**11**	P		**P**	**10 20 34.7**	**+0.1**
JOW				*e*Pn		Pn	10 20 36.2	-0.5
TPRI	**Tanjung Pinang**	**20.28**	**254**	P		Pn	10 20 37.8	0.0
	comp=Z,285nm,1.5s							
MYKOM	**Kota Tinggi**	**20.69**	**257**	*e*Pn		Pn	10 20 41.8	-0.7
	comp=Z,372nm,1.1s							
KGM	**Kluang**	**21.15**	**258**	↑P		**P**	**10 20 47.5**	**+2.6**
LEM	**Lembang**	**21.28**	**230**	P		**P**	**10 20 49.5**	**+3.0**
	comp=Z,542nm,2.3s,comp=Z,14μm							
LEM	**Lembang**	**21.28**	**230**	P		**P**	**10 20 47.5**	**+1.0**
	comp=Z,103nm,1.1s,baz=54,slow=10.0,SNR=11							
CMJI	**Cimerak**	**21.29**	**227**	P		**P**	**10 20 49.1**	**+2.7**
	comp=Z,412nm,0.9s,comp=Z,7μm							
PMBI	**Palembang**	**21.52**	**244**	P		**P**	**10 20 52.2**	**+3.3**
	comp=Z,919nm,1.2s,comp=Z,13μm							
GUMO	**Guam**	**21.60**	**71**	P		**P**	**10 20 48.2**	**-1.5**
	comp=Z,135nm,1.0s,baz=176,slow=1.5,SNR=9.0							
GUMO				LR		LR	10 27 43.7	
	comp=Z,14μm,22.0s,baz=248,slow=33							
GUMO	**Guam**	**21.60**	**71**	P		**P**	**10 20 48.2**	**-1.5**
GUMO				pmax		pmax		
	comp=Z,135nm,1.0s							
GUMO				MLR		MLR		
	comp=Z,14μm,22.0s							
GUMO	**Guam**	**21.60**	**71**	*e*P		**P**	**10 20 49.7**	**0.0**
	comp=Z,83nm,1.3s							
CISI	**Cisompet, Garu**	**21.60**	**228**	P		**P**	**10 20 52.1**	**+2.2**
	comp=Z,656nm,2.3s,comp=Z,14μm							
CISI	**Cisompet, Garu**	**21.60**	**228**	*e*P		**P**	**10 20 52.8**	**+2.9**
	comp=Z,612nm,1.0s							
CBJI	**Citeko**	**21.62**	**233**	P		P	10 20 54.9	+4.9
	comp=Z,579nm,1.1s							
SKNT	**Sakolnakorn**	**21.92**	**299**	P		**P**	**10 20 52.7**	**-0.6**
	comp=Z,364nm,0.9s,comp=Z,9μm							
CNJI	**Cibinong**	**21.96**	**230**	P		**P**	**10 20 55.1**	**+1.5**
	comp=Z,972nm,1.2s,comp=Z,12μm							
JMBI	**JAMBI**	**22.00**	**248**	P		P	10 20 58.6	+4.5
	comp=Z,1μm,1.1s,comp=Z,18μm							
SBJI	**Serang**	**22.02**	**234**	P		**P**	**10 20 56.9**	**+2.6**
	comp=Z,765nm,1.5s,comp=Z,16μm							
CHBT	**CHBT**	**22.07**	**287**	P		**P**	**10 20 55.2**	**+0.3**
	comp=Z,482nm,1.2s,comp=Z,8μm							
BLSI	**Bandar Lampung**	**22.32**	**237**	P		**P**	**10 21 00.1**	**+2.5**
	comp=Z,424nm,0.9s,comp=Z,6μm							
KLI	**Kotabumi**	**22.38**	**239**	P		**P**	**10 20 59.9**	**+1.7**
	comp=Z,325nm,0.9s,comp=Z,5μm							
CGJI	**Cibinong**	**22.66**	**234**	P		**P**	**10 21 02.1**

NJ2 S **S** **10 25 56.0 +3.9**
NJ2 sS **sS** **10 26 09.0 +0.7**
NJ2 PMZ
comp=Z,210nm,0.7s
NJ2 PMZ
comp=Z,3µm,6.5s
NJ2 LN
comp=Z,16µm,22.5s
NJ2 LE
comp=Z,28µm,21.1s
NJ2 LZ
comp=Z,27µm,22.0s
GYA Guiyang 25.46 322 ⇓*i*P **P** **10 21 28.3 +0.5**
GYA pP pP 10 21 39.0 +1.5
GYA PP PnPn 10 22 10.5 +6.5
GYA PcP **PcP** **10 25 02.0 +2.7**
GYA S **S** **10 25 56.8 +4.0**
GYA sS **sS** **10 26 09.5 +0.4**
GYA SS SnSn 10 26 57.0 +10
GYA ScP **ScP** **10 28 36.8 +0.6**
GYA PMZ
comp=Z,140nm,1.0s
GYA PMZ
comp=Z,3µm,11.8s
GYA LN
comp=Z,15µm,19.1s
GYA LE
comp=Z,8µm,19.7s
GYA LZ
comp=Z,17µm,20.7s
SRDT SRDT 25.48 289 P **P** **10 21 28.8 +0.9**
comp=Z,1µm,1.5s,comp=Z,22µm
UTHA Uthaitani 25.50 292 P **P** **10 21 28.6 +0.5**
comp=Z,128nm,1.0s,comp=Z,1µm
TSI Tuntungan 25.52 264 P **P** **10 21 30.2 +1.9**
comp=Z,827nm,1.1s,comp=Z,13µm
KHLT Khaolaem Dam 26.09 290 P **P** **10 21 34.5 +1.0**
comp=Z,167nm,2.3s,comp=Z,3µm
KCSI Kotacane, Aceh 26.30 264 P **P** **10 21 35.3 -0.1**
comp=Z,471nm,1.3s,comp=Z,5µm
LAMP Lampang 26.34 298 P **P** **10 21 36.2 +0.6**
comp=Z,74nm,0.9s,comp=Z,676nm
CRAI Chiangrai 26.41 302 P **P** **10 21 33.9 -2.4**
comp=Z,134nm,1.0s,comp=Z,3µm
KSJJU Jeju 26.47 5 P **P** **10 21 37.6 +0.9**
SNR=8.4
KSJJU Jeju 26.47 5 P **P** **10 21 37.6 +0.9**
SNR=8.4
CBIJ Chichi jima 26.49 39 *e*P **P** **10 21 37.3 +0.4**
comp=Z,167nm,0.9s
JCJ Chichijima 26.49 39 P **P** **10 21 35.4 -1.6**
comp=Z,273nm,0.9s,baz=288,slow=14,SNR=5.2
JCJ LR LR 10 33 25.3
comp=Z,5µm,18.7s,baz=240,slow=40
JNU Nakatsue 26.83 13 P **P** **10 21 38.9 -1.1**
comp=Z,33nm,0.9s,baz=181,slow=1.5,SNR=9.6
JNU LR LR 10 34 39.8
comp=Z,3µm,18.3s,baz=210,slow=42
JNU Nakatsue 26.83 13 *e*P **P** **10 21 39.2 -0.8**
comp=Z,42nm,1.3s
GSI Gunungsitoli 26.90 259 P **P** **10 21 40.8 0.0**
comp=Z,729nm,1.2s,comp=Z,9µm
GSI Gunungsitoli 26.90 259 *e*P **P** **10 21 40.8 0.0**
comp=Z,1µm,1.3s
ENH Enshi 26.90 331 *e*P **P** **10 21 41.1 +0.4**
comp=Z,84nm,0.4s
ENH LR LR
comp=Z,7µm,20.0s
LHMI Lhok Sumawe 26.91 268 P **P** **10 21 42.3 +1.4**
comp=Z,502nm,1.6s,comp=Z,9µm
LHMI Lhok Sumawe 26.91 268 *e*P **P** **10 21 41.5 +0.6**
comp=Z,503nm,1.1s
CM31 Chiang Mai Arr 26.92 298 *e*P **P** **10 21 41.2 +0.3**
comp=Z,70nm,0.9s
CMAR Chiang Mai Arr 26.92 298 P **P** **10 21 41.5 +0.6**
comp=Z,40nm,0.8s,baz=122,slow=7.6,SNR=147
CMAR PcP **PcP** **10 25 03.2 +0.6**
comp=Z,4.1nm,0.4s,baz=86,slow=1.0,SNR=5.0
CMAR LR LR 10 32 33.4
comp=Z,18µm,18.9s,baz=116,slow=37
CMMT Chiang Mai 27.05 298 P **P** **10 21 42.0 -0.1**
comp=Z,139nm,1.2s,comp=Z,5µm
CHTO Chiang Mai 27.05 298 P **P** **10 21 42.1 0.0**
comp=Z,1µm,1.6s,comp=Z,17µm
CHTO Chiang Mai 27.05 298 *e*P **P** **10 21 42.3 +0.2**
CHTO pmax pmax
comp=Z,815nm,2.4s
CHTO MLR MLR
comp=Z,13µm,19.0s
CHTO Chiang Mai 27.05 298 P **P** **10 21 42.7 +0.6**
SNR=50
CHTO Chiang Mai 27.05 298 *e*P **P** **10 21 42.3 +0.2**
comp=Z,815nm,2.4s
CHTO LR LR
comp=Z,13µm,19.0s
KMI Kunming 27.18 314 ⇓P **P** **10 21 45.0 +1.5**
KMI pP **pP** **10 21 55.5 +2.2**
KMI PP PnPn 10 22 34.5 +6.9
KMI S S 10 26 27.8 +7.5
KMI SS **SnSn** **10 27 33.0 +3.6**
KMI PMZ
comp=Z,140nm,1.5s
KMI PMZ
comp=Z,3µm,7.5s
KMI LN
comp=Z,5µm,17.7s
KMI LE
comp=Z,8µm,15.8s
KMI LZ
comp=Z,13µm,17.7s
CMAI Chiengmai2 27.41 301 P **P** **10 21 45.5 0.0**
comp=Z,112nm,1.5s,comp=Z,3µm
KSWAN Wando 27.43 5 P **P** **10 21 45.6 +0.3**
SNR=6.0
KSWAN Wando 27.43 5 P **P** **10 21 45.6 +0.3**
SNR=6.0
KSJDO Jindo 27.48 4 P **P** **10 21 45.7 -0.1**
SNR=15
KSJDO Jindo 27.48 4 P **P** **10 21 45.7 -0.1**
SNR=15
KSHUK Heuksando 27.65 3 P **P** **10 21 47.8 +0.5**
SNR=7.3
KSHUK Heuksando 27.65 3 P **P** **10 21 47.8 +0.5**
SNR=7.3
KSKOH Goheung 27.71 6 P **P** **10 21 48.1 +0.4**
SNR=13
KSKOH Goheung 27.71 6 P **P** **10 21 48.1 +0.4**
SNR=13
MHMT Maesarieng 27.71 296 P **P** **10 21 48.9 +0.9**
comp=Z,108nm,1.2s,comp=Z,2µm
SNSI Sinabang, Aceh 27.90 262 P **P** **10 21 50.5 +0.7**
comp=Z,485nm,1.0s,comp=Z,16µm
KSNAH Namhae 27.98 7 P **P** **10 21 51.2 +1.0**
SNR=7.3
KSNAH Namhae 27.98 7 P **P** **10 21 51.2 +1.0**
SNR=7.3
MBWA Marble Bar 28.23 188 P **P** **10 21 52.7 +0.1**
SNR=9.2
MBWA Marble Bar 28.23 188 *e*P **P** **10 21 52.0 -0.5**
comp=Z,108nm,0.8s
MBWA LR LR
comp=Z,4µm,21.0s
PMG Port Moresby 28.25 125 *c i*P **P** **10 21 54.3 +1.5**
PMG pmax pmax
comp=Z,555nm,1.2s
PMG MLR MLR
comp=Z,38µm,19.0s
PMG Port Moresby 28.25 125 *e*P P 10 21 56.9 +4.1
comp=Z,43nm,1.0s
PMG LR LR
comp=Z,4µm,20.0s
BSI Banda Aceh 28.53 269 P **P** **10 21 55.1 -0.3**
comp=Z,121nm,1.6s,comp=Z,3µm
KSJEU Jeongeup 28.55 5 P **P** **10 21 55.0 -0.2**
SNR=6.7
KSJEU Jeongeup 28.55 5 P **P** **10 21 55.0 -0.2**
SNR=6.7
WRAB Tennant Creek 28.59 159 *c i*P **P** **10 21 54.3 -1.6**
WRAB pmax pmax
comp=Z,184nm,1.2s
WRAB MLR MLR
comp=Z,11µm,23.0s
WRAB Tennant Creek 28.59 159 *e*P **P** **10 21 54.2 -1.6**
comp=Z,156nm,0.9s
WRAB LR LR
comp=Z,4µm,20.0s
WRA Warramunga Arr 28.60 159 P **P** **10 21 54.0 -1.8**
comp=Z,25nm,0.9s,baz=342,slow=9.4,SNR=115
TJN Taejon 29.47 6 ⇓*e*P **P** **10 22 02.6 -0.8**
KSSAJ Sangju 29.58 7 P **P** **10 22 04.8 +0.4**
SNR=6.2
KSSAJ Sangju 29.58 7 P **P** **10 22 04.8 +0.4**
SNR=6.2
KSSES Seosan 29.80 4 P **P** **10 22 05.9 -0.4**
SNR=9.3
KSSES Seosan 29.80 4 P **P** **10 22 05.9 -0.4**
SNR=9.3
TIA Tai'an 29.80 349 ⇓P **P** **10 22 06.0 -0.4**
TIA sP sP 10 22 22.5 +2.1
TIA PP **PP** **10 23 08.3 -5.8**
TIA S **S** **10 27 02.8 +2.0**
TIA PMZ
comp=Z,60nm,0.9s
TIA LN
comp=Z,10µm,21.2s
TIA LE
comp=Z,7µm,20.0s
TIA LZ
comp=Z,13µm,22.3s
CMBY CAMPBELL BAY 29.81 272 *ex* P 10 21 57.9 -8.9
CMBY AMB AMB 10 22 08.4
comp=Z,168nm,2.2s
KSCEA Cheonan 29.90 5 P **P** **10 22 07.2 0.0**
SNR=8.1
KSCHJ Chungju 30.02 6 P **P** **10 22 08.5 +0.2**
SNR=9.5
KSCHJ Chungju 30.02 6 P **P** **10 22 08.5 +0.2**
SNR=9.5
XAN Xi'an 30.34 335 P **P** **10 22 10.5 -0.8**
XAN S **S** **10 27 09.8 +0.3**
XAN PMZ
comp=Z,16nm,1.2s
XAN PMZ
comp=Z,390nm,13.4s
XAN LN
comp=Z,7µm,16.8s
XAN LE
comp=Z,3µm,16.8s
XAN LZ
comp=Z,5µm,15.4s
KSYOW Yeongwol 30.37 7 P **P** **10 22 12.5 +1.1**
SNR=8.1
KSTBA Taebaek 30.39 8 P **P** **10 22 13.5 +1.9**
SNR=29
KSTBA Taebaek 30.39 8 P **P** **10 22 13.5 +1.9**
SNR=29
CD2 Chengdu 30.45 324 ⇓*i*P **P** **10 22 12.5 +0.3**
CD2 pP pP 10 22 22.0 -0.1
CD2 sP **sP** **10 22 26.0 -0.3**
CD2 PP **PnPn** **10 23 13.0 +1.4**
CD2 S **S** **10 27 10.0 -1.2**
CD2 sS **sS** **10 27 27.0 -0.5**
CD2 SS **ScP** **10 28 53.0 +1.6**
CD2 PMZ
comp=Z,170nm,1.0s
CD2 PMZ
comp=Z,2µm,5.3s
CD2 LN
comp=Z,12µm,16.6s
CD2 LE
comp=Z,12µm,16.5s
CD2 LZ
comp=Z,15µm,17.6s
INCN Inchon 30.50 4 PFAKE 10 22 20.0 +7.4
INCN LR LR
comp=Z,9µm,20.0s
KSAR Wonju Array Be 30.57 6 P **P** **10 22 13.5 +0.3**
KSAR Wonju Array Be 30.57 6 P **P** **10 22 13.4 +0.3**
KSRS Korea Array 30.59 6 P **P** **10 22 13.4 +0.2**
comp=Z,23nm,0.8s,baz=182,slow=9.6,SNR=103
KSRS Korea Array 30.59 6 P **P** **10 22 13.5 +0.2**
KSRS pmax pmax
comp=Z,23nm,0.8s
PBA Port Blair 31.15 281 *e*P P 10 22 19.3 +0.8
PBA AMB AMB 10 22 23.1
comp=Z,97nm,1.8s
DGPR DIGLIPUR 31.16 284 *e*P **P** **10 22 17.1 -1.6**
DGPR AMB AMB 10 22 19.7
comp=Z,56nm,0.0s
DL2 Dalian 31.90 357 ⇑*i*P **P** **10 22 25.3 +0.5**
DL2 S **S** **10 27 34.0 +0.5**
DL2 PMZ
comp=Z,110nm,1.3s
DL2 PMZ
comp=Z,1µm,4.1s
DL2 LN
comp=Z,7µm,19.1s
DL2 LE
comp=Z,5µm,19.2s
AS31 Alice Springs 31.93 163 *e*P **P** **10 22 24.5 -0.9**
ASAR Alice Springs 31.93 163 P **P** **10 22 24.4 -0.9**
comp=Z,13nm,0.7s,baz=332,slow=6.9,SNR=139
ASAR PKiKP **PKiKP** **10 32 42.6 -1.4**
comp=Z,1.4nm,0.9s,baz=270,slow=0.5,SNR=4.4
ASAR LR LR 10 36 41.3
comp=Z,5µm,21.9s,baz=345,slow=39
MAJO Matsushiro 32.22 22 *d i*P **P** **10 22 26.3 -1.4**
MAJO pmax pmax
comp=Z,674nm,2.5s
MAJO MLR MLR
comp=Z,41µm,22.0s
MAJO Matsushiro 32.22 22 *e*P **P** **10 22 26.4 -1.3**
comp=Z,36nm,0.8s
MAJO LR LR
comp=Z,6µm,20.0s
MAT Matsushiro 32.22 22 P **P** **10 22 26.3 -1.4**
MAT S **S** **10 27 37.8 -0.8**
MJAR Matsushiro Arr 32.22 22 P **P** **10 22 26.4 -1.3**
comp=Z,30nm,1.0s,baz=196,slow=9.1,SNR=44
MJAR LR LR 10 34 49.0
comp=Z,5µm,20.1s,baz=210,slow=35
TIY Taiyuan 32.38 343 *e*P **P** **10 22 29.5 +0.3**
TIY sP **sP** **10 22 44.0 +0.8**
TIY PP **PnPn** **10 23 36.3 -0.3**
TIY S S 10 27 37.0 -4.2
TIY sS sS 10 28 04.3 +6.7
TIY PMZ
comp=Z,1µm,4.2s
TIY LN
comp=Z,2µm,14.7s
TIY LE
comp=Z,7µm,17.2s
TIY LZ
comp=Z,8µm,16.4s
COCO West Island 32.99 235 PFAKE 10 22 40.0 +5.3
COCO LR LR
comp=Z,3µm,20.0s
BJT Baijiatuau 33.67 349 *e*P **P** **10 22 40.4 0.0**
BJT pmax pmax
comp=Z,166nm,0.9s
BJT MLR MLR
comp=Z,6µm,21.0s
BJT Baijiatuau 33.67 349 *e*P **P** **10 22 40.4 0.0**
comp=Z,166nm,0.9s
BJT LR LR
comp=Z,6µm,21.0s
BJI Beijing 33.69 349 P **P** **10 22 40.5 0.0**
BJI pP pP 10 22 48.0 -2.4
BJI S **S** **10 28 01.5 +0.1**
BJI PMZ
comp=Z,150nm,1.1s
BJI PMZ
comp=Z,2µm,3.5s
BJI LN
comp=Z,4µm,20.8s
BJI LE
comp=Z,7µm,23.0s
BJI LZ
comp=Z,9µm,24.5s
IMP Imphal 33.77 305 *ex* **P** **10 22 40.0 -1.5**
LZH Lanzhou 34.37 330 ⇓P **P** **10 22 48.0 +1.3**
LZH pP pP 10 22 56.3 -0.3
LZH sP **sP** **10 23 02.3 +1.6**
LZH S **S** **10 28 14.5 +2.2**
LZH sS **sS** **10 28 28.0 -0.7**
LZH SS **SnSn** **10 30 24.0 +0.1**
LZH PMZ
comp=Z,250nm,1.1s
LZH PMZ
comp=Z,2µm,4.0s
LZH LN
comp=Z,11µm,14.7s
LZH LE
comp=Z,9µm,15.9s
LZH LZ
comp=Z,17µm,16.5s
CTA Charters Tower 34.67 141 LR LR 10 39 07.9
comp=Z,5µm,19.1s,baz=340,slow=40
CTAO Charters Tower 34.67 141 *e*P **P** **10 22 48.8 -0.5**
CTAO pmax pmax
comp=Z,44nm,0.8s
CTAO MLR MLR
comp=Z,6µm,19.0s
CTAO Charters Tower 34.67 141 *e*P **P** **10 22 48.8 -0.5**
comp=Z,44nm,0.8s
CTAO LR LR
comp=Z,6µm,19.0s
SNY Shenyang 34.75 359 ⇓P **P** **10 22 49.8 +0.2**
SNY S **S** **10 28 18.0 +0.4**
SNY PMZ
comp=Z,1µm,1.4s
SNY PMZ
comp=Z,7µm,9.8s
SNY LN
comp=Z,7µm,16.1s
SNY LE
comp=Z,7µm,19.0s
SNY LZ
comp=Z,7µm,15.7s
HHC Hu-ho-hao-te 35.54 344 ⇓*i*P **P** **10 22 57.3 +0.7**
HHC S **S** **10 28 33.3 +3.2**
HHC PMZ
comp=Z,2µm,7.5s
HHC LN
comp=Z,8µm,18.6s
HHC LE
comp=Z,9µm,19.4s
HHC LZ
comp=Z,7µm,21.1s
BTO Baotou 35.77 342 *e*P **P** **10 22 58.0 -0.6**
SHL Shillong 35.78 305 *i*P **P** **10 22 59.5 +0.5**
SHL AMB AMB 10 23 57.2
comp=Z,82nm,2.0s
SHL *e*S **S** **10 28 35.0 +0.6**
VLA Vladivostok 36.71 10 *d i*P **P** **10 23 07.6 +1.2**
VLA pmax pmax
comp=Z,288nm,1.2s
VLA MLR MLR
comp=Z,5µm,18.0s
CN2 Changchun 36.74 2 *e*P **P** **10 23 06.5 -0.2**
CN2 *e*PP **PP** **10 24 32.5 +1.7**
CN2 *e*S **S** **10 28 48.5 +0.3**
CN2 *e*SS **SnSn** **10 31 16.3 -4.7**
CN2 PMZ
comp=Z,40nm,1.8s
CN2 PMZ
comp=Z,1µm,6.0s
CN2 LN
comp=Z,6µm,20.0s
CN2 LE
comp=Z,2µm,20.0s
CN2 LZ
comp=Z,6µm,20.0s
USRK Ussuriysk Ar. 37.77 9 P **P** **10 23 16.4 +0.9**
comp=Z,53nm,0.8s,baz=197,slow=7.5,SNR=113
USRK LR LR 10 41 01.8
comp=Z,4µm,19.0s,baz=185,slow=40
MDJ Mudanjiang 37.85 7 P **P** **10 23 17.3 +1.2**
MDJ pP pP 10 23 26.3 +0.1
MDJ PP **PnPn** **10 24 44.5 +0.1**
MDJ PcP **PcP** **10 25 33.8 +1.7**
MDJ S **S** **10 29 08.3 +3.2**
MDJ ScS **ScS** **10 33 24.5 -1.6**
MDJ PMZ
comp=Z,310nm,0.9s
MDJ PMZ
comp=Z,1µm,4.3s
MDJ LN
comp=Z,4µm,21.1s
MDJ LE
comp=Z,6µm,22.9s
MDJ LZ
comp=Z,6µm,22.0s
MDJ Mudanjiang 37.85 7 *e*P **P** **10 23 16.7 +0.6**
comp=Z,282nm,0.9s
MDJ LR LR
comp=Z,7µm,21.0s
LSA Lhasa 38.27 310 P **P** **10 23 21.8 +1.3**
LSA PP **PnPn** **10 24 52.0 +1.9**
LSA PMZ
comp=Z,200nm,1.0s
LSA PMZ
comp=Z,1µm,14.0s
LSA LN
comp=Z,3µm,17.0s
LSA LE
comp=Z,3µm,15.0s
LSA LZ
comp=Z,6µm,15.0s
LSA Lhasa 38.27 310 *e*P **P** **10 23 21.6 +1.1**
LSA pmax pmax
comp=Z,385nm,1.4s
LSA MLR MLR
comp=Z,5µm,21.0s
LSA Lhasa 38.27 310 *e*P **P** **10 23 21.6 +1.1**
comp=Z,385nm,1.4s
LSA LR LR
comp=Z,5µm,21.0s
ERM Erimo 38.86 23 *e*P **P** **10 23 25.5 +0.9**
ERM pmax pmax
comp=Z,210nm,1.4s
ERM MLR MLR
comp=Z,4µm,20.0s
ERM Erimo 38.86 23 *e*P **P** **10 23 25.5 +0.9**
comp=Z,210nm,1.4s
ERM LR LR
comp=Z,4µm,20.0s
GTA Gaotai 38.95 330 ⇓P **P** **10 23 26.8 +1.2**
GTA pP pP 10 23 36.8 +1.1
GTA sP **sP** **10 23 40.5 +0.7**
GTA PP **PnPn** **10 24 58.8 +1.0**
GTA ScP **ScP** **10 29 22.0 +0.2**
GTA S **S** **10 29 25.0 +2.8**
GTA sS sS 10 29 41.5 +2.8
GTA SS **SnSn** **10 32 10.3 -4.4**
GTA ScS **ScS** **10 33 31.3 -1.7**
GTA PMZ
comp=Z,170nm,1.2s
GTA PMZ
comp=Z,2µm,7.4s
GTA LN
comp=Z,9µm,17.6s
GTA LE
comp=Z,7µm,16.2s
GTA LZ
comp=Z,14µm,18.3s
HNR Honiara 39.37 114 *e*P **P** **10 23 29.4 +0.1**
HNR pmax pmax
comp=Z,242nm,1.0s
HNR MLR MLR
comp=Z,3µm,22.0s
HNR Honiara 39.37 114 P P 10 23 35.0 +5.7
HNR Honiara 39.37 114 *e*P **P** **10 23 29.4 +0.1**
comp=Z,242nm,1.0s
HNR LR LR
comp=Z,3µm,22.0s
TAPN Taplejung 39.92 305 *e*P **P** **10 23 34.9 +0.8**
comp=Z,539nm,1.1s
ODAN Odare 39.99 304 *e*P **P** **10 23 35.3 +0.7**
comp=Z,408nm,0.9s
NWAO Narrogin (SRO) 40.16 189 PFAKE 10 23 50.0 +14
NWAO LR LR
comp=Z,1.0nm,21.0s
BOK Bokaro 40.18 299 *e*P **P** **10 23 36.4 +0.4**
BOK AMB AMB 10 23 38.9
comp=Z,212nm,1.4s
ASAJ Asahikawa 40.47 21 LR LR 10 40 55.5
comp=Z,3µm,20.8s,baz=220,slow=37
ASAJ Asahikawa 40.47 21 *e*P **P** **10 23 39.3 +1.3**
CHLP Challavanipeta 40.49 290 *e*P **P** **10 23 38.5 -0.1**
CHLP IAmb IAmb 10 23 40.6
comp=Z,241nm,1.1s
CHLP *e*PnPn **PnPn** **10 25 15.5 -0.7**
CHLP *e*S **S** **10 29 49.5 +4.1**
CHLP IVMs_BB IVMs_BB 10 43 46.4
comp=Z,1µm,16.4s
RAMN Ramite 40.67 304 *e*P **P** **10 23 41.2 +0.9**
comp=Z,751nm,1.1s
VIS Vishakhapatnam 41.03 289 *e*P **P** **10 23 42.0 -1.0**

VIS AMB AMB 10 23 46.1
comp=Z,196nm,1.8s
JIRN Jiri 41.28 305 *e*P **P 10 23 46.1 +0.7**
comp=Z,622nm,1.0s
YUK Yuzh-Kuril'sk 41.63 24*c i*P **P 10 23 49.1 +1.6**
YUK *i* 10 25 45.7
YUK *i* S **S 10 30 06.7 +5.1**
YUK *i* SSS SSS 10 33 37.6
YUK pmax pmax
comp=N,106nm,1.9s
YUK pmax pmax
comp=Z,301nm,1.9s
YUK pmax pmax
comp=E,97nm,0.9s
YUK pmax pmax
comp=Z,1µm,6.2s
GUN Gumba 41.63 305 *e*P **P 10 23 49.0 +0.7**
comp=Z,745nm,0.9s
PKI Pulchoki 41.89 304 *e*P **P 10 23 50.4 0.0**
comp=Z,341nm,1.0s
PKIN Phulchoki 41.90 304 *e*P **P 10 23 50.4 0.0**
comp=Z,244nm,1.1s
KKN Kakani 42.08 304 *e*P **P 10 23 52.1 +0.3**
comp=Z,407nm,1.0s
STKA Stephens Creek 42.11 157 P **P 10 23 52.0 +0.4**
comp=Z,99nm,0.9s,baz=330,slow=8.0,SNR=143
STKA LR LR 10 43 49.4
comp=Z,4µm,19.1s,baz=343,slow=40
STKA Stephens Creek 42.11 157 P **P 10 23 52.1 +0.4**
STKA pmax pmax
comp=Z,99nm,0.9s
STKA MLR MLR
comp=Z,4µm,19.2s
STKA Stephens Creek 42.11 157 *e*P **P 10 23 51.5 -0.1**
comp=Z,38nm,1.1s
DMN Daman 42.15 304 *e*P **P 10 23 52.8 +0.4**
comp=Z,456nm,1.0s
HIA Hailar 42.34 356 *e*P **P 10 23 53.7 +0.4**
HIA pmax pmax
comp=Z,199nm,1.2s
HIA MLR MLR
comp=Z,9µm,20.0s
HIA Hailar 42.34 356 *e*P **P 10 23 53.7 +0.4**
comp=Z,199nm,1.2s
HIA LR LR
comp=Z,9µm,20.0s
HABR Khabarovsk 42.45 11*d i*P **P 10 23 53.8 -0.4**
HABR *e*SP 10 24 04.9
HABR *e* 10 25 29.6
HABR *e* 10 25 43.7
HABR *e* 10 26 00.8
HABR *e*S **S 10 30 13.5 -0.1**
HABR *e*SS sS 10 30 27.9 -2.4
HABR *e*SS **SS 10 33 21.7 -2.1**
HABR 10 33 49.7
HABR *e*SSS SSS 10 33 54.8
HABR pmax pmax
comp=E,33nm,2.0s
HABR pmax pmax
comp=N,38nm,1.6s
HABR pmax pmax
comp=Z,109nm,1.6s
HABR pmax pmax
comp=Z,2µm,5.5s
HABR MLR MLR
comp=Z,5µm,19.0s
KLR Kul'dur 42.66 8⇑*i*P P 10 23 52.8 -3.1
KLR *e* 10 25 43.5
KLR pmax pmax
comp=N,45nm,1.6s
KLR pmax pmax
comp=Z,170nm,1.6s
GKN Gorkha 42.68 304 *e*P **P 10 23 56.7 +0.1**
comp=Z,347nm,1.0s
PALK Pallekele 42.92 273 *i* P **P 10 24 00.0 +1.4**
PALK Pallekele 42.92 273 P **P 10 24 00.1 +1.5**
SNR=7.7
PALK Pallekele 42.92 273 ⇓P **P 10 23 59.3 +0.7**
SNR=9.6
PALK Pallekele 42.92 273 *e*P **P 10 23 59.5 +1.0**
comp=Z,64nm,1.2s
YSS Yuzh-Sakhalins 43.01 19 *e*P **P 10 23 57.0 -1.7**
YSS *e* 10 24 07.2
YSS *e* 10 25 40.0
YSS *e*PPP PPP 10 26 11.0
YSS *e*S S 10 30 17.0 -4.9
YSS *e*SSS SSS 10 34 00.0
YSS pmax pmax
comp=Z,800nm,4.0s
YSS smax smax
comp=N,2µm,10.0s
YSS MLR MLR
comp=N,2µm,20.0s
YSS MLR MLR
comp=Z,2µm,20.0s
YSS MLR MLR
comp=E,2µm,18.0s
YSS Yuzh-Sakhalins 43.01 19 *e*P **P 10 23 59.5 +0.8**
comp=E,153nm,1.2s
YSS *e*pP pP 10 24 10.4 +1.5
YSS LR LR
comp=Z,1µm,20.0s
WAKE Wake Island 43.23 69 *e*P **P 10 24 00.8 -0.2**
comp=Z,192nm,1.1s
WAKE *e*pP pP 10 24 09.9 -1.1
WAKE LR LR
comp=Z,3µm,22.0s
ULN Ulaanbaatar 43.26 343 *e*P P 10 24 06.6 +5.6
ULN pmax pmax
comp=Z,116nm,1.2s
ULN MLR MLR
comp=Z,6µm,21.0s
ULN Ulaanbaatar 43.26 343 P P 10 24 06.9 +6.0
SNR=70
ULN Ulaanbaatar 43.26 343 *e*P P 10 24 06.6 +5.6
comp=Z,116nm,1.2s
ULN LR LR
comp=Z,6µm,21.0s
SONM Songino Array 43.42 343 P **P 10 24 02.7 +0.5**
comp=Z,20nm,0.6s,baz=160,slow=9.0,SNR=138
SONM LR LR 10 44 39.8
comp=Z,5µm,18.4s,baz=154,slow=40
KUR Kuril'sk 43.43 25 *e*P P 10 24 06.3 +4.2
KUR pmax pmax
comp=N,155nm,1.7s
KUR pmax pmax
comp=E,121nm,1.7s
KUR pmax pmax
comp=Z,177nm,1.7s
KUR pmax pmax
comp=Z,61nm,0.1s
KUR MLR MLR
comp=N,2µm,16.0s
KUR MLR MLR
comp=E,1µm,16.0s
KUR MLR MLR
comp=Z,140nm,16.0s
KOLN Koldanda 43.45 303 *e*P **P 10 24 03.5 +0.6**
comp=Z,245nm,0.9s
SKHT Srikalahasti 44.00 283 *e*P **P 10 24 07.1 -0.1**
SKHT IAmb IAmb 10 24 09.5
comp=Z,137nm,1.0s
SKHT *e*S **S 10 30 37.6 +0.3**
SKHT IVMs_BB IVMs_BB 10 48 51.2
comp=Z,1µm,19.8s
NJS Nagarjunasagar 44.66 286 *e*P **P 10 24 12.2 -0.3**
NJS IAmb IAmb 10 24 13.8
comp=Z,148nm,1.1s
NJS *e*PP **PcP 10 25 55.5 +0.6**
NJS *e*S **S 10 30 46.6 -0.4**
NJS IVMs_BB IVMs_BB 10 39 07.6
comp=Z,1µm,21.7s
RPR Rampur 44.99 290 *e*P **P 10 24 14.9 -0.2**
RPR IAmb IAmb 10 24 16.5
comp=Z,195nm,1.1s
RPR *e*PP **PP 10 26 01.6 +0.9**
RPR *e*S **S 10 30 55.1 +3.3**
RPR IVMs_BB IVMs_BB 10 46 21.6
comp=Z,2µm,17.6s
HYB Hyderabad 45.48 288⇓*i*P **P 10 24 18.5 -0.6**
comp=Z,100nm,1.0s
HYB *e*PP **PP 10 26 08.0 +2.1**
HYB *e*S S 10 31 06.0 +7.1
HYB Hyderabad 45.48 288 *e*P **P 10 24 19.7 +0.6**
HYB AMB AMB 10 24 20.6
comp=Z,181nm,0.8s

HYBB Hyderabad (bro 45.48 288 *e*P **P 10 24 19.9 +0.7**
HYBB IAmb IAmb 10 24 20.2
comp=Z,149nm,1.1s
HYBB *e*S **S 10 30 59.5 +0.5**
HYBB IVMs_BB IVMs_BB 10 44 02.4
comp=Z,1µm,16.4s
NGP Nagpur 45.63 293 *e*P **P 10 24 20.2 0.0**
NGP AMB AMB 10 24 21.6
comp=Z,220nm,0.0s
CIT Chita 45.76 351 *e*P **P 10 24 21.0 +0.3**
CIT *e* 10 24 38.1
CIT *e* 10 26 13.4
CIT *e* 10 31 01.8
CIT pmax pmax
comp=Z,330nm,3.2s
URV Uravakonda 46.46 284 *e*P **P 10 24 26.3 -0.5**
URV IAmb IAmb 10 24 28.4
comp=Z,114nm,1.0s
URV *e*PP **PP 10 26 15.8 -0.6**
URV *e*S **S 10 31 13.6 +0.5**
URV IVMs_BB IVMs_BB 10 48 30.9
comp=Z,1µm,20.0s
TRD Trivandrum 46.58 275 *e*P **P 10 24 28.7 +0.9**
TRD AMB AMB 10 24 29.7
comp=Z,162nm,0.4s
TRD ⇑*ex* x 10 24 37.2
TRD *ex* x 10 31 41.2
ZAK Zakamensk 46.62 342 *e*P **P 10 24 26.3 -1.3**
ZAK pmax pmax
comp=Z,32nm,2.4s
LGTI Lohaghat 46.80 304 *e*P **P 10 24 30.9 +1.7**
AKL Akola 47.41 292 *e*P **P 10 24 34.5 +0.3**
AKL AMB AMB 10 24 37.1
comp=Z,395nm,1.4s
BHPL Bhopal 47.53 295 *e*P **P 10 24 35.1 0.0**
BHPL AMB AMB 10 24 36.8
comp=Z,253nm,1.3s
TLY Talaya 47.66 343 P **P 10 24 36.3 +0.7**
comp=Z,584nm,0.8s,SNR=47
TLY Talaya 47.66 343*d i*P **P 10 24 36.5 +1.0**
TLY *e* 10 26 27.8
TLY *e*S **S 10 31 30.6 +1.5**
TLY *e*PS 10 31 44.5
TLY *e* 10 34 24.7
TLY *e*SSS SSS 10 36 00.9
TLY pmax pmax
comp=Z,101nm,0.9s
TLY MLR MLR
comp=Z,3µm,16.0s
TLY Talaya 47.66 343 P **P 10 24 36.9 +1.3**
SNR=59
TLY Talaya 47.66 343 *e*P **P 10 24 36.6 +1.0**
comp=Z,82nm,0.8s
TLY LR LR
comp=Z,5µm,22.0s
IRK Irkutsk 47.98 344⇓*i*P **P 10 24 38.4 +0.3**
IRK *e*S **S 10 31 39.1 +5.5**
IRK pmax pmax
comp=Z,251nm,2.6s
CAN Canberra 48.20 152 *e*P **P 10 24 40.8 +0.7**
CAN pmax pmax
comp=Z,100nm,0.9s
CAN MLR MLR
comp=Z,4µm,20.0s
CAN Canberra 48.20 152 *e*P **P 10 24 40.8 +0.7**
comp=Z,100nm,0.9s
CAN LR LR
comp=Z,4µm,20.0s
WMQ Urumqi 48.53 325 P **P 10 24 43.8 +1.2**
WMQ pP pP 10 24 53.8 +1.0
WMQ sP **sP 10 24 57.5 +0.6**
WMQ PcP **PcP 10 26 09.5 +1.4**
WMQ PP **PP 10 26 36.5 +0.9**
WMQ PcS **PcS 10 30 04.0 -0.1**
WMQ S **S 10 31 43.0 +1.2**
WMQ sS **sS 10 31 58.8 +0.1**
WMQ ScS **ScS 10 34 30.3 -2.5**
WMQ SS SS 10 35 06.8 -5.3
WMQ PMZ
comp=Z,130nm,1.4s
WMQ PMZ
comp=Z,3µm,4.0s
WMQ LN
comp=Z,10µm,16.4s
WMQ LE
comp=Z,7µm,18.0s
WMQ LZ
comp=Z,6µm,19.4s
DDI Dehra Dun 48.88 304 *e*P **P 10 24 44.5 -1.0**
DDI AMB AMB 10 24 47.2
comp=Z,294nm,1.3s
NDI New Delhi 49.08 302 *e*P **P 10 24 45.5 -1.4**
NDI *e*S **S 10 31 50.0 +0.2**
CLNS Chul'man 49.77 1 *e*P **P 10 24 52.2 +0.4**
CLNS *e**PP pP 10 25 07.0 +5.0
CLNS *e* 10 26 11.4
CLNS *e* 10 26 41.5
CLNS *e*PPP PPP 10 27 44.3
CLNS *e*S **S 10 31 56.8 -1.9**
CLNS pmax pmax
comp=Z,100nm,0.9s
CLNS pmax pmax
comp=E,26nm,0.8s
CLNS pmax pmax
comp=N,57nm,0.8s
CLNS pmax pmax
comp=N,19nm,0.8s
CLNS pmax pmax
comp=E,14nm,0.9s
CLNS pmax pmax
comp=Z,27nm,1.1s
CLNS smax smax
comp=E,858nm,11.3s
CLNS smax smax
comp=N,909nm,13.5s
CLNS MLR MLR
comp=Z,5µm,21.0s
CLNS MLR MLR
comp=N,3µm,19.0s
CLNS MLR MLR
comp=E,3µm,19.0s
GOA Goa 49.81 284 *e*P **P 10 24 53.2 +0.6**
GOA AMB AMB 10 24 54.6
comp=Z,246nm,1.1s
SMLA Simla 49.87 305 *i* P **P 10 24 54.0 +1.1**
SMLA AMB AMB 10 24 55.3
comp=Z,473nm,2.3s
POO Poona 50.06 288 *e*P **P 10 24 55.0 +0.4**
POO AMB AMB 10 24 56.3
comp=Z,213nm,1.2s
BHK Bhakra 50.57 305 *ex* P 10 25 02.0 +3.8
DZM Mont Dzumac 50.63 126 *e*P P 10 25 04.0 +5.1
comp=Z,189nm,1.2s
DZM *e*S **S 10 32 16.2 +4.5**
comp=Z,4µm,28.8s
DZM *e*LR LR 10 39 32.7
comp=Z,11µm,29.3s
AJM Ajmer 50.71 299 *ex* **P 10 24 59.0 -0.4**
DHRM DHARAMSHALA 50.93 306 *e*P **P 10 25 01.4 +0.3**
DHRM AMB AMB 10 25 02.6
comp=Z,478nm,1.6s
BOM Bombay 51.08 289 *ex* P 10 24 58.2 -4.0
BOM AMB AMB 10 25 00.1
comp=Z,169nm,1.3s
SKR Severo-Kuril's 51.15 26 *e*P P 10 24 54.0 -8.2
SKR *e* 10 26 16.0
SKR *e* 10 26 56.0
SKR *e*S S 10 32 12.0 -5.9
SKR pmax pmax
comp=N,800nm,4.0s
SKR pmax pmax
comp=E,1µm,4.0s
SKR pmax pmax
comp=Z,1µm,4.0s
SKR pmax pmax
comp=Z,30nm,0.6s
SKR pmax pmax
comp=N,1µm,4.0s
SKR pmax pmax
comp=E,1µm,4.0s
SKR pmax pmax
comp=Z,1µm,4.0s
SKR smax smax
comp=N,3µm,14.0s
SKR smax smax
comp=E,4µm,14.0s
SKR MLR MLR
comp=N,2µm,20.0s
SKR MLR MLR
comp=E,2µm,20.0s
SKR MLR MLR
comp=Z,2µm,20.0s
DLH Dalhousie 51.29 306 *e*P **P 10 25 01.0 -2.9**
BOD Bodaibo 51.34 353 *e*P **P 10 25 03.8 +0.3**
BOD pmax pmax
comp=Z,74nm,1.6s
DGAR Diego Garcia 53.31 255 PFAKE 10 25 30.0 +11
DGAR LR LR
comp=Z,3µm,20.0s
MK31 Makanchi Array 53.37 325 *e*P **P 10 25 19.5 +0.7**
MK31 Makanchi Array 53.37 325 *e*P **P 10 25 19.5 +0.7**
MKAR Makanchi Array 53.37 325 P **P 10 25 19.6 +0.9**
comp=Z,23nm,0.6s,baz=123,slow=8.8,SNR=282
MKAR LR LR 10 49 42.8
comp=Z,11µm,18.1s,baz=122,slow=38
MKAR Makanchi Array 53.37 325 *i* P **P 10 25 19.7 +0.9**
MKAR pmax pmax
comp=Z,24nm,0.6s
PEA0B Petropavlovsk- 53.60 25 *e*P **P 10 25 20.7 +0.3**
PETK Petropavlovsk- 53.60 25 P **P 10 25 20.9 +0.6**
comp=Z,20nm,0.8s,baz=197,slow=4.6,SNR=12
PETK LR LR 10 47 23.6
comp=Z,3µm,21.2s,baz=221,slow=35
KSH Kashi 53.84 315 P **P 10 25 24.3 +1.7**
KSH pP pP 10 25 34.3 +1.4
KSH sP **sP 10 25 38.3 +1.3**
KSH PcS **PcS 10 30 27.5 +0.2**
KSH S **S 10 32 55.0 -0.4**
KSH ScS **ScS 10 35 07.3 -2.4**
KSH SS **SKiKP 10 36 35.3 +1.3**
KSH PMZ
comp=Z,230nm,1.4s
KSH PMZ
comp=Z,2µm,3.5s
KSH LN
comp=Z,6µm,17.4s
KSH LE
comp=Z,6µm,15.5s
KSH LZ
comp=Z,7µm,17.3s
PET Petropavlovsk 53.93 25⇑*i*P **P 10 25 22.9 +0.1**
PET *e* 10 27 23.7
PET *e*S **S 10 32 55.3 -0.6**
PET pmax pmax
comp=Z,740nm,0.7s
PET MLR MLR
comp=Z,2µm,17.4s
PET Petropavlovsk 53.93 25 *e*P **P 10 25 22.9 +0.1**
PET LR LR
comp=Z,3µm,22.0s
TAU Tasmania Unive 53.97 159 *e*P **P 10 25 24.2 +1.0**
TAU pmax pmax
comp=Z,124nm,1.5s
TAU MLR MLR
comp=Z,5µm,20.0s
TAU Tasmania Unive 53.97 159 *e*P **P 10 25 24.1 +1.0**
comp=Z,124nm,1.5s
TAU LR LR
comp=Z,5µm,20.0s
BHJ Bhuj 54.56 294 *e*P **P 10 25 29.4 +1.5**
BHJ AMB AMB 10 25 30.4
comp=Z,537nm,1.4s
KRAR Krasnoyarsk 54.78 339*d i*P **P 10 25 27.3 -1.6**
KRAR pmax pmax
comp=Z,228nm,2.5s
KRAR MLR MLR
comp=Z,3µm,16.0s
AAA Alma-Ata 54.81 319 *i* P **P 10 25 30.3 +0.9**
AAA pmax pmax
comp=Z,3µm,2.0s
AAA MLR MLR
comp=Z,5µm,9.0s
ULHL Ulahol 54.81 318 P **P 10 25 31.1 +1.4**
SNR=20
YAK Yakutsk 55.14 3*d i*P **P 10 25 30.9 -0.5**
YAK *e**PP pP 10 25 38.9 -2.9
YAK *e* 10 26 31.3
YAK *e* 10 27 32.3
YAK *e*PPP PPP 10 28 47.7
YAK *e*S **S 10 33 11.1 -0.8**
YAK *e**SS sS 10 33 27.6 -1.3
YAK *e* 10 35 12.1
YAK *e*SS **SS 10 36 54.5 -1.7**
YAK pmax pmax
comp=Z,260nm,1.0s
YAK pmax pmax
comp=E,24nm,1.1s
YAK pmax pmax
comp=N,103nm,1.0s
YAK pmax pmax
comp=Z,697nm,5.1s
YAK pmax pmax
comp=N,636nm,4.9s
YAK pmax pmax
comp=E,77nm,2.8s
YAK smax smax
comp=E,541nm,3.9s
YAK smax smax
comp=N,504nm,3.6s
YAK MLR MLR
comp=E,1µm,17.0s
YAK MLR MLR
comp=Z,5µm,19.0s
YAK MLR MLR
comp=N,3µm,19.0s
YAK Yakutsk 55.14 3 *e*P **P 10 25 31.0 -0.4**
comp=N,233nm,0.9s
YAK LR LR
comp=Z,5µm,20.0s
KZA Kyzart 55.40 317 P **P 10 25 35.9 +1.7**
SNR=104
TKM2 Tokmak 2 55.53 318 P **P 10 25 36.0 +1.1**
SNR=67
TKM2 Tokmak 2 55.53 318 *e*P **P 10 25 35.6 +0.7**
TKM2 pmax pmax
comp=Z,277nm,1.5s
TKM2 MLR MLR
comp=Z,11µm,21.0s
TKM2 Tokmak 2 55.53 318 *e*P **P 10 25 35.6 +0.7**
comp=Z,277nm,1.5s
TKM2 LR LR
comp=Z,11µm,21.0s
SFK Sufi-Kurgan 55.79 314 P **P 10 25 37.7 +0.9**
SFK pmax pmax
comp=Z,246nm,1.5s
KBK Karagaybulak 55.85 318 P **P 10 25 38.5 +1.3**
SNR=50
UCH Uchtor 55.96 317 P **P 10 25 39.8 +1.5**
SNR=197
CHMS Chumysh 56.13 318 P **P 10 25 39.8 +0.9**
SNR=43
AAK Ala-Archa 56.15 318 P **P 10 25 40.5 +1.3**
SNR=41
AAK Ala-Archa 56.15 318 P **P 10 25 40.5 +1.3**
comp=Z,34nm,0.8s,baz=94,slow=6.1,SNR=107
AAK Ala-Archa 56.15 318 P **P 10 25 40.2 +1.0**
AAK pmax pmax
comp=Z,402nm,2.7s
AAK Ala-Archa 56.15 318 P **P 10 25 40.7 +1.5**
SNR=92
AAK Ala-Archa 56.15 318 *e*P **P 10 25 40.5 +1.3**
AAK LR LR
comp=Z,5µm,21.0s
FRU Bishkek 56.15 318⇓*i*P **P 10 25 39.0 -0.1**
FRU *i* 10 28 56.0
FRU *e*S S 10 33 42.0 +16
FRU *e* 10 37 04.0
FRU pmax pmax
comp=Z,700nm,2.4s
FRU MLR MLR
comp=E,8µm,23.0s
USP Ospenovka 56.41 318 P **P 10 25 41.8 +0.9**
SNR=86
AML Almayashu 56.48 317 P **P 10 25 43.4 +1.5**
SNR=141
ZALV Zalesovo Beam 56.50 333 P **P 10 25 41.2 -0.1**
comp=E,29nm,0.7s,baz=132,slow=7.2,SNR=72
ZALV LR LR 10 50 54.0
comp=E,3µm,19.5s,baz=72,slow=37
ZALV PKP2bc 10 55 48.4
comp=E,1.2nm,0.4s,baz=333,slow=1.7,SNR=5.2

EKS2	**Erkin-Say**	**56.64**	**317**	P	**P**	**10 25 44.1**	**+1.5**			
	SNR=100									
EKS2	**Erkin-Say**	**56.64**	**317**	*e*P	**P**	**10 25 43.8**	**+1.1**			
EKS2				pmax	pmax					
	comp=Z,244nm,1.3s									
EKS2				MLR	MLR					
	comp=Z,6μm,20.0s									
EKS2	**Erkin-Say**	**56.64**	**317**	*e*P	**P**	**10 25 43.8**	**+1.1**			
	comp=Z,244nm,1.3s									
EKS2				LR	LR					
	comp=Z,6μm,20.0s									
MNAS	**Manas**	**57.43**	**317**	P	**P**	**10 25 49.4**	**+1.1**			
MNAS				pmax	pmax					
	comp=Z,304nm,1.4s									
KURBB	**Kurchatov Arra**	**57.57**	**327**	P	**P**	**10 25 49.4**	**+0.5**			
	comp=Z,80nm,0.9s,baz=128,slow=5.9,SNR=310									
KURK	**Kurchatov**	**57.57**	**328**	P	**P**	**10 25 49.2**	**+0.3**			
KURK				pmax	pmax					
	comp=Z,231nm,1.4s									
KURK	**Kurchatov**	**57.57**	**328**	P	**P**	**10 25 49.8**	**+0.8**			
	SNR=208									
KURK	**Kurchatov**	**57.57**	**328**	*e*P	**P**	**10 25 49.5**	**+0.6**			
KURK				LR	LR					
	comp=Z,3μm,19.0s									
NVS	**Novosibirsk**	**57.79**	**334**	⇓*i*P	**P**	**10 25 50.1**	**-0.3**			
NVS				*e*S	S	10 33 43.3	-3.8			
NVS				pmax	pmax					
	comp=N,377nm,2.9s									
NVS				pmax	pmax					
	comp=Z,834nm,2.9s									
NVS				pmax	pmax					
	comp=E,405nm,2.8s									
NVS				smax	smax					
	comp=N,478nm,4.6s									
NVS				smax	smax					
	comp=E,801nm,5.1s									
MSVF	**Nonsavu**	**58.76**	**115**	*e*P	**P**	**10 26 00.2**	**+2.3**			
MSVF				pmax	pmax					
	comp=Z,96nm,1.0s									
MSVF				MLR	MLR					
	comp=Z,2μm,20.0s									
MSVF	**Nonsavu**	**58.76**	**115**	*e*P	**P**	**10 26 00.2**	**+2.3**			
	comp=Z,96nm,1.0s									
MSVF				LR	LR					
	comp=Z,2μm,20.0s									
DZET	**Dzherino**	**58.78**	**311**	P	**P**	**10 25 58.0**	**+0.2**			
DZET				pmax	pmax					
	comp=Z,248nm,1.4s									
KKAR	**Karatay Array**	**59.02**	**317**	*e*P	**P**	**10 25 59.8**	**+0.5**			
KKAR	**Karatay Array**	**59.02**	**317**	*e*P	**P**	**10 25 59.8**	**+0.5**			
MIDW	**Midway**	**59.20**	**61**	PFAKE		10 26 10.0	+9.3			
MIDW				LR	LR					
	comp=Z,4μm,20.0s									
SEY	**Seymchan**	**59.59**	**15**	P	**P**	**10 26 03.1**	**+0.3**			
	comp=Z,9.1nm,0.9s,baz=220,slow=4.1,SNR=18									
AIS	**Amsterdam Isla**	**62.02**	**221**	S	S	10 34 35.0	-7.0			
AIS				SS	SS	10 38 33.0	-12			
AIS				R		10 44 00.0				
BVA0	**Borovoye Array**	**63.15**	**327**	P	**P**	**10 26 27.0**	**0.0**			
BVA0				pmax	pmax					
	comp=Z,762nm,1.6s									
BVAR	**Borovoye Array**	**63.15**	**327**	P	**P**	**10 26 27.4**	**+0.4**			
	comp=Z,189nm,1.1s,baz=126,slow=7.5,SNR=235									
BRVK	**Borovoye**	**63.22**	**327**	*d*⇓*i*P	**P**	**10 26 27.8**	**+0.3**			
BRVK				pmax	pmax					
	comp=Z,333nm,1.0s									
BRVK				MLR	MLR					
	comp=Z,3μm,20.0s									
BRVK	**Borovoye**	**63.22**	**327**	P	**P**	**10 26 28.2**	**+0.7**			
	SNR=208									
BRVK	**Borovoye**	**63.22**	**327**	*e*P	**P**	**10 26 27.5**	**0.0**			
	comp=Z,414nm,1.2s									
BRVK				LR	LR					
	comp=Z,3μm,21.0s									
WBK	**Wadi Bani Khal**	**64.30**	**292**	P	**P**	**10 26 35.2**	**0.0**			
	SNR=12									
IDAH	**Dahanechah**	**64.52**	**303**	*e*P	**P**	**10 26 37.9**	**+1.1**			
TIXI	**Tiksi**	**64.72**	**2**	*d*⇓*i*P	**P**	**10 26 35.2**	**-1.8**			
TIXI				pmax	pmax					
	comp=Z,36nm,1.0s									
TIXI				MLR	MLR					
	comp=Z,4μm,20.0s									
TIXI	**Tiksi**	**64.72**	**2**	*e*P	P	10 26 33.0	-3.9			
	comp=Z,83nm,1.1s									
TIXI				LR	LR					
	comp=Z,4μm,20.0s									
DCZ	**Deep Cove**	**64.91**	**148**	*e*P	**P**	**10 26 38.8**	**+0.1**			
	comp=Z,108nm,1.2s									
IMYA	**Miami**	**64.92**	**307**	*e*P	**P**	**10 26 39.7**	**+0.4**			
JMDO	**Jabal Madar**	**65.09**	**291**	P	**P**	**10 26 40.2**	**-0.2**			
	SNR=23									
SMDO	**Samad**	**65.17**	**292**	P	**P**	**10 26 40.6**	**-0.4**			
	SNR=15									
IKOO	**Kooshah**	**65.20**	**302**	*e*P	**P**	**10 26 42.2**	**+1.0**			
ISRO	**Mashad**	**65.41**	**307**	*e*P	**P**	**10 26 43.0**	**+0.7**			
ITEG	**Tejag**	**65.48**	**303**	*e*P	**P**	**10 26 44.3**	**+1.4**			
IMOG	**Moghan**	**65.48**	**306**	*e*P	**P**	**10 26 43.2**	**+0.1**			
HOQ	**Hoqain**	**65.88**	**293**	P	**P**	**10 26 45.4**	**-0.1**			
	SNR=26									
RPZ	**Rata Peaks**	**65.95**	**144**	LR	LR	10 56 05.5				
	comp=Z,3μm,20.4s,baz=304,slow=36									
RPZ	**Rata Peaks**	**65.95**	**144**	*e*P	**P**	**10 26 45.5**	**0.0**			
	comp=Z,88nm,0.9s									
IAKL	**Akhelmad**	**66.03**	**307**	*e*P	**P**	**10 26 47.4**	**+0.8**			
IKRD	**Kardeh**	**66.25**	**307**	*e*P	P	10 26 44.0	-3.9			
RAO	**Raoul Island**	**66.43**	**126**	LR	LR	10 55 07.7				
	comp=Z,391nm,18.6s,baz=288,slow=35									
ARQ	**Araqi**	**66.59**	**292**	P	**P**	**10 26 50.2**	**+0.2**			
	SNR=18									
URZ	**Urewera**	**66.75**	**137**	LR	LR	10 55 25.7				
	comp=Z,4μm,21.5s,baz=314,slow=35									
URZ	**Urewera**	**66.75**	**137**	*e*P	**P**	**10 26 50.7**	**0.0**			
SNZO	**South Karori**	**66.77**	**141**	PFAKE		10 27 00.0	+9.3			
SNZO				LR	LR					
	comp=Z,3μm,19.0s									
BKZ	**Black Stump Fm**	**66.80**	**138**	*e*P	**P**	**10 26 51.1**	**0.0**			
	comp=Z,92nm,1.0s									
HATD	**Hatta, Dubai**	**67.01**	**294**	⇓P	**P**	**10 26 52.5**	**-0.2**			
	SNR=33									
AFI	**Afiamalu**	**67.05**	**108**	PFAKE		10 27 00.0	+6.9			
AFI				LR	LR					
	comp=Z,2μm,22.0s									
BILL	**Bilibino**	**67.21**	**16**	*d*⇓*i*P	**P**	**10 26 52.2**	**-0.9**			
BILL				*i*		10 27 16.3				
BILL				*i*		10 29 16.0				
BILL				*i* SS	SS	10 40 08.6	+3.7			
BILL				pmax	pmax					
	comp=Z,46nm,2.5s									
BILL	**Bilibino**	**67.21**	**16**	*e*P	**P**	**10 26 51.8**	**-1.3**			
	comp=Z,60nm,1.4s									
BILL				LR	LR					
	comp=Z,2μm,20.0s									
NAZ	**Nazwa, Dubai**	**67.45**	**294**	⇓P	**P**	**10 26 55.1**	**-0.3**			
	SNR=6.6									
ATKA	**Atka Island**	**67.49**	**36**	*e*P	**P**	**10 26 57.2**	**+2.1**			
	comp=Z,28nm,0.9s									
FAQ	**Al Faqa, Dubai**	**67.50**	**294**	*i* P	**P**	**10 26 55.5**	**-0.3**			
	SNR=7.5									
FAQ				*i* P	**P**	**10 26 55.7**	**0.0**			
	SNR=10									
ASUD	**Al Ashush, Dub**	**67.73**	**294**	⇓*i*P	**P**	**10 26 57.4**	**+0.2**			
	SNR=7.9									
AB31	**Akbulak array**	**67.94**	**321**	P	**P**	**10 26 58.1**	**0.0**			
AB31				pmax	pmax					
	comp=Z,409nm,1.4s									
ABKAR	**Akbulak array**	**67.94**	**321**	*e*P	**P**	**10 26 58.3**	**+0.2**			
IBAF	**Bafgh**	**68.01**	**301**	*e*P	**P**	**10 26 59.4**	**+0.3**			
RBK	**Rabkut**	**68.68**	**286**	P	**P**	**10 27 04.0**	**+0.7**			
	SNR=38									
IMEH	**Mehriz**	**68.80**	**301**	*e*P	**P**	**10 27 03.8**	**-0.4**			
ICHK	**Chekchek**	**69.05**	**302**	*e*P	**P**	**10 27 05.7**	**0.0**			
MSEY	**Mahe Island**	**69.32**	**262**	*e*P	**P**	**10 27 07.2**	**-0.2**			
MSEY				pmax	pmax					
	comp=Z,363nm,1.9s									
MSEY				MLR	MLR					
	comp=Z,2μm,22.0s									
MSEY	**Mahe Island**	**69.32**	**262**	P	**P**	**10 27 08.2**	**+0.8**			
	SNR=6.5									
MSEY	**Mahe Island**	**69.32**	**262**	⇑*i*P	**P**	**10 27 07.2**	**-0.2**			
	SNR=9.3									
MSEY	**Mahe Island**	**69.32**	**262**	*e*P	**P**	**10 27 07.2**	**-0.2**			
	comp=Z,363nm,1.9s									
MSEY				LR	LR					
	comp=Z,2μm,22.0s									
AKTO	**Aktyubinsk**	**69.45**	**321**	P	**P**	**10 27 07.8**	**+0.3**			
	comp=Z,100nm,0.9s,baz=100,slow=7.2,SNR=186									
ABTO	**Aybut**	**69.54**	**286**	P	**P**	**10 27 09.1**	**+0.4**			
	SNR=48									
ISAD	**Sadrabad**	**69.63**	**301**	*e*P	**P**	**10 27 09.3**	**0.0**			
SVE	**Sverdlovsk**	**69.80**	**328**	*c i*P	**P**	**10 27 09.8**	**+0.3**			
SVE				*e*PPP	PPP	10 31 30.8				
SVE				*e*S	**S**	**10 36 17.3**	**+0.9**			
SVE				*e*		10 37 00.4				
SVE				*e*SS	**SS**	**10 40 52.4**	**+7.1**			
SVE				*e*SSS	SSS	10 43 51.4				
SVE				pmax	pmax					
	comp=Z,304nm,1.3s									
SVE				MLR	MLR					
	comp=Z,3μm,18.0s									
IPAR	**Pars**	**70.03**	**299**	*e*P	**P**	**10 27 12.1**	**+0.2**			
ARU	**Arti**	**70.77**	**328**	*d i*P	**P**	**10 27 15.0**	**-0.4**			
ARU						10 29 50.8				
ARU				PPP	PPP	10 31 35.0				
ARU				S	**S**	**10 36 29.0**	**+1.3**			
ARU				SS	**SS**	**10 41 00.6**	**+0.4**			
ARU				pmax	pmax					
	comp=Z,373nm,2.5s									
ARU				MLR	MLR					
	comp=Z,2μm,18.0s									
ARU	**Arti**	**70.77**	**328**	*e*P	**P**	**10 27 14.9**	**-0.5**			
	comp=Z,273nm,1.4s									
ARU				LR	LR					
	comp=Z,2μm,20.0s									
IZEF	**Zefreh**	**70.85**	**302**	*e*P	**P**	**10 27 15.8**	**-0.9**			
IKAZ	**Kazeroun**	**71.08**	**299**	*e*P	**P**	**10 27 18.2**	**-0.1**			
IKLH	**Kolahrood**	**71.51**	**303**	*e*P	**P**	**10 27 21.6**	**+0.9**			
IPIR	**Pirpir**	**72.04**	**302**	*e*P	**P**	**10 27 22.8**	**-1.2**			
UNV	**Unalaska Valle**	**72.40**	**36**	*e*P	**P**	**10 27 24.3**	**-0.9**			
	comp=Z,94nm,0.9s									
RER	**Riviere de l'E**	**72.49**	**245**	PFAKE		10 27 40.0	+13			
RER				LR	LR					
	comp=Z,3μm,21.0s									
SOKR	**Solikamsk**	**72.59**	**331**	*d i*P	**P**	**10 27 25.8**	**-0.4**			
SOKR						10 30 12.4				
SOKR				PPP	PPP	10 31 52.5				
SOKR				S	**S**	**10 36 48.1**	**-0.4**			
SOKR				pmax	pmax					
	comp=Z,170nm,2.3s									
SOKR				MLR	MLR					
	comp=Z,3μm,15.0s									
GAMB	**Gambell**	**72.63**	**25**	*e*P	**P**	**10 27 26.4**	**-0.1**			
AKUT	**Akutan**	**72.89**	**35**	*e*P	**P**	**10 27 27.0**	**-1.1**			
PAF	**Port-aux-Franc**	**72.95**	**213**	P	P	10 27 20.0	-8.6			
PAF				S	S	10 36 39.0	-14			
PAF				SS	SS	10 41 18.0	-16			
PAF				L	L	10 45 00.0				
PAF				R		10 50 00.0				
CASY	**Casey**	**73.69**	**186**	*e*P	**P**	**10 27 32.2**	**-0.4**			
CASY				LR	LR					
	comp=Z,3μm,22.0s									
MUKL	**Al Mukalla**	**73.75**	**283**	*e*P	**P**	**10 27 34.9**	**+0.9**			
DRV	**Dumont d'Urvil**	**74.33**	**173**	S	**SKiKP**	**10 37 04.0**	**+3.3**			
DRV				SS	SS	10 41 31.0	-24			
DRV				L	L	10 45 00.0				
DRV				R		10 50 00.0				
MAK	**Makhachkala**	**75.40**	**312**	*d i*P	**P**	**10 27 43.6**	**+0.6**			
MAK				*e*		10 27 52.6				
MAK				*e*		10 30 35.2				
MAK				*e*PPP	PPP	10 32 23.1				
MAK				*e*S	**S**	**10 37 22.2**	**+1.5**			
MAK				*e*		10 37 48.2				
MAK				*e*SS	**SS**	**10 42 07.6**	**-3.8**			
MAK				*e*SSS	SSS	10 45 24.3				
MAK				pmax	pmax					
	comp=Z,134nm,1.0s									
MAK				MLR	MLR					
	comp=Z,3μm,18.0s									
RAYN	**Ar Rayn**	**76.71**	**292**	*e*P	**P**	**10 27 50.9**	**-0.1**			
	comp=Z,124nm,1.0s									
RAYN				LR	LR					
	comp=Z,2μm,19.0s									
DGRG	**David-gareji**	**76.89**	**311**	P	**P**	**10 27 53.2**	**+1.5**			
GNI	**Garni**	**77.33**	**309**	*e*P	**P**	**10 27 55.1**	**+0.8**			
GNI				pmax	pmax					
	comp=Z,190nm,1.0s									
GNI				MLR	MLR					
	comp=Z,2μm,22.0s									
GNI	**Garni**	**77.33**	**309**	P	**P**	**10 27 55.8**	**+1.5**			
	SNR=71									
GNI	**Garni**	**77.33**	**309**	P	**P**	**10 27 55.8**	**+1.5**			
	SNR=56									
GNI	**Garni**	**77.33**	**309**	*e*P	**P**	**10 27 55.1**	**+0.8**			
	comp=Z,190nm,1.0s									
GNI				LR	LR					
	comp=Z,2μm,22.0s									
SEAG	**Tbilisi Sea**	**77.33**	**311**	P	**P**	**10 27 53.8**	**-0.3**			
TBLG	**Delisi**	**77.38**	**311**	*e*P	**P**	**10 27 55.2**	**+0.8**			
TBLG	**Delisi**	**77.38**	**311**	P	**P**	**10 27 55.2**	**+0.8**			
DUS	**Dusheti**	**77.42**	**311**	P	**P**	**10 27 55.9**	**+1.2**			
CLDR	**Caldiran**	**77.94**	**308**	*e*P	**P**	**10 27 59.2**	**+1.3**			
ZEI	**Tsey**	**78.03**	**312**	*e*P	P	10 27 53.6	-4.6			
ZEI				*e*		10 30 52.0				
ZEI				*e*S	**S**	**10 37 49.2**	**-0.9**			
ZEI				*e*		10 38 11.0				
ZEI				pmax	pmax					
	comp=Z,29nm,2.4s									
ZEI				pmax	pmax					
	comp=Z,186nm,1.0s									
ZEI				pmax	pmax					
	comp=N,106nm,1.0s									
ZEI				pmax	pmax					
	comp=E,176nm,0.7s									
ZEI				MLR	MLR					
	comp=Z,1μm,16.0s									
CUKT	**Cukurca**	**78.17**	**307**	*e*P	**P**	**10 27 59.4**	**+0.3**			
EAK	**Akyaka**	**78.20**	**310**	*i* P	**P**	**10 28 00.7**	**+1.5**			
DAMY	**Dhamar**	**78.23**	**283**	*e*P	**P**	**10 28 00.4**	**+0.4**			
	comp=Z,620nm,1.9s									
NCK	**Nalchik**	**78.28**	**313**	⇓*i*P	**P**	**10 27 59.6**	**+0.3**			
AKH	**Akhalkalaki**	**78.31**	**311**	*e*P	**P**	**10 28 01.1**	**+1.4**			
AKH	**Akhalkalaki**	**78.31**	**311**	P	**P**	**10 28 01.2**	**+1.4**			
VANB	**Van**	**78.35**	**308**	*e*P	**P**	**10 28 00.6**	**+0.6**			
ONI	**Oni**	**78.36**	**312**	P	**P**	**10 28 00.9**	**+1.0**			
PRGR	**Permogore**	**78.39**	**331**	⇓*i*P	**P**	**10 27 59.0**	**-0.5**			
PRGR				pmax	pmax					
	comp=Z,168nm,1.4s									
XMAS	**Kiritimati**	**78.44**	**89**	PFAKE		10 28 10.0	+9.3			
XMAS				LR	LR					
	comp=Z,4μm,22.0s									
TRBA	**At Turbah**	**78.60**	**282**	*e*P	**P**	**10 28 02.8**	**+0.9**			
GEVA	**Gevas**	**78.61**	**308**	*i* P	**P**	**10 28 02.4**	**+0.9**			
KARS	**Kars**	**78.61**	**310**	*e*P	**P**	**10 28 03.0**	**+1.6**			
AGRB	**Hanur-Agry**	**78.66**	**309**	*e*P	**P**	**10 28 03.3**	**+1.5**			
GOF	**Gofitskoye**	**78.71**	**314**	*e*P	**P**	**10 28 01.2**	**-0.5**			
GOF				pmax	pmax					
	comp=Z,78nm,1.0s									
POHA	**Pohakuloa**	**78.78**	**71**	PFAKE		10 28 10.0	+7.2			
POHA				LR	LR					
	comp=Z,4μm,20.0s									
KBZ	**Khabaz**	**78.79**	**313**	P	**P**	**10 28 02.5**	**+0.4**			
	comp=Z,67nm,0.9s,baz=326,slow=24,SNR=118									
KBZ				LR	LR	11 08 34.9				
	comp=Z,2μm,18.4s,baz=70,slow=40									
TUTA	**Tutak**	**78.80**	**309**	*i* P	P	10 28 08.5	+5.9			
NEY	**Neytrino**	**78.91**	**313**	*i* P	**P**	**10 28 03.5**	**+0.5**			
KIV	**Kislovodsk**	**78.94**	**313**	*e*P	**P**	**10 28 03.4**	**+0.3**			
KIV	**Kislovodsk**	**78.94**	**313**	*e*P	**P**	**10 28 03.2**	**+0.1**			
KIV				*e*		10 31 01.3				
KIV				*e*S	**S**	**10 37 59.7**	**+0.1**			
KIV				pmax	pmax					
	comp=Z,155nm,1.0s									
KIV				MLR	MLR					
	comp=Z,2μm,18.4s									
KIV	**Kislovodsk**	**78.94**	**313**	P	**P**	**10 28 03.5**	**+0.4**			
	SNR=51									
KIV	**Kislovodsk**	**78.94**	**313**	*i* P	**P**	**10 28 03.7**	**+0.6**			
	SNR=61									
KIV	**Kislovodsk**	**78.94**	**313**	*e*P	**P**	**10 28 03.2**	**+0.1**			
	comp=Z,146nm,0.9s									
KIV				LR	LR					
	comp=Z,2μm,19.0s									
EATA	**Eleskirt**	**79.05**	**309**	*i* P	**P**	**10 28 05.1**	**+1.1**			
SIRT	**Sirnak**	**79.10**	**307**	*e*P	**P**	**10 28 04.9**	**+0.8**			
CHVG	**Ch'k'valeri**	**79.37**	**312**	P	**P**	**10 28 05.7**	**+0.3**			
ARTV	**Artvin**	**79.48**	**311**	*i* P	**P**	**10 28 07.3**	**+1.0**			
DAGI	**Agillar**	**79.49**	**310**	*i* P	**P**	**10 28 06.7**	**+0.5**			
DBAD	**Bademkaya**	**79.66**	**310**	*i* P	**P**	**10 28 08.0**	**+0.9**			
BCA	**Borcka**	**79.71**	**311**	*e*P	**P**	**10 28 07.6**	**+0.4**			
ABPO	**Ambohimpanom**	**79.83**	**249**	*e*P	**P**	**10 28 07.6**	**-0.8**			
ABPO				pmax	pmax					
	comp=Z,44nm,1.1s									
ABPO				MLR	MLR					
	comp=Z,3μm,21.0s									
ABPO	**Ambohimpanom**	**79.83**	**249**	*e*P	**P**	**10 28 07.6**	**-0.8**			
	comp=Z,44nm,1.1s									
ABPO				LR	LR					
	comp=Z,3μm,21.0s									
VRTB	**Varto-Mus**	**79.86**	**308**	*e*P	**P**	**10 28 10.2**	**+2.0**			
SVAN	**Silvan-Diyarba**	**80.07**	**307**	*e*P	**P**	**10 28 10.3**	**+1.0**			
MARD	**Mardin**	**80.42**	**307**	*i* P	**P**	**10 28 11.8**	**+0.4**			
BNGB	**Bing˜ll**	**80.46**	**308**	*e*P	**P**	**10 28 12.9**	**+1.4**			
IM04	**Indian Mountai**	**80.55**	**24**	*e*P	**P**	**10 28 10.9**	**-0.3**			
MZRK	**Al-Mazaregh**	**80.57**	**305**	*e*P	**P**	**10 28 14.4**	**+2.5**			
KDAK	**Kodiak Island**	**80.68**	**33**	*e*P	**P**	**10 28 11.8**	**-0.3**			
KDAK				pmax	pmax					
	comp=Z,115nm,1.4s									
KDAK				MLR	MLR					
	comp=Z,3μm,21.0s									
KDAK	**Kodiak Island**	**80.68**	**33**	*e*P	**P**	**10 28 11.8**	**-0.3**			
	comp=Z,115nm,1.4s									
KDAK				LR	LR					
	comp=Z,3μm,21.0s									
MAZI	**Mazidag**	**80.68**	**307**	*e*P	**P**	**10 28 13.2**	**+0.5**			
RSO	**Redoubt South**	**80.69**	**30**	*e*P	**P**	**10 28 11.4**	**-0.9**			
	comp=Z,88nm,0.8s									
BAYT	**Ayd¨–ntepe-Bay**	**80.85**	**310**	*e*P	**P**	**10 28 14.7**	**+1.1**			
DYBB	**Diyarbakir**	**80.91**	**307**	*e*P	**P**	**10 28 14.9**	**+1.0**			
SFNV	**Sufian**	**80.98**	**306**	*e*P	**P**	**10 28 15.3**	**+1.0**			
PPLA	**Purkeypile**	**81.06**	**27**	*e*P	**P**	**10 28 13.8**	**-0.4**			
	comp=Z,34nm,0.9s									
SOC	**Sochi**	**81.10**	**313**	*d i*P	**P**	**10 28 14.0**	**-0.6**			
SOC				*e**PP	**pP**	**10 28 23.4**	**-2.0**			
SOC				*e**SP	**sP**	**10 28 28.1**	**-1.3**			
SOC				*e*		10 31 13.7				
SOC				*e*PPP	PPP	10 33 06.5				
SOC				*i* S	**S**	**10 38 21.8**	**-0.2**			
SOC				pmax	pmax					
	comp=Z,97nm,1.0s									
KTUT	**Trabzon**	**81.12**	**310**	*e*P	**P**	**10 28 15.2**	**+0.4**			
ERZN	**Erzincan**	**81.19**	**309**	*e*P	**P**	**10 28 16.6**	**+1.2**			
KLMR	**Klimovskoe**	**81.28**	**330**	*d i*P	**P**	**10 28 14.6**	**-0.6**			
KLMR				*e*		10 28 21.0				
KLMR				*i* S	S	10 38 20.2	-3.0			
KLMR				pmax	pmax					
	comp=Z,226nm,1.0s									
KLMR				MLR	MLR					
	comp=Z,5μm,16.0s									
VORD	**Divnogorie**	**81.30**	**320**	*d i*P	**P**	**10 28 14.7**	**-0.8**			
VORD				*e*S	S	10 38 20.4	-3.4			
VORD				pmax	pmax					
	comp=N,20nm,1.1s									
VORD				pmax	pmax					
	comp=E,70nm,1.1s									
VORD				pmax	pmax					
	comp=Z,100nm,1.1s									
VORD				smax	smax					
	comp=N,270nm,2.5s									
VORD				smax	smax					
	comp=E,90nm,2.5s									
VORD				smax	smax					
	comp=Z,40nm,2.5s									
VORD				MLR	MLR					
	comp=N,530nm,18.0s									
VORD				MLR	MLR					
	comp=E,2μm,18.0s									
VORD				MLR	MLR					
	comp=Z,2μm,18.0s									
VSR	**Storozhevoye**	**81.38**	**321**	*d i*P	**P**	**10 28 15.0**	**-0.9**			
VSR				*e*S	S	10 38 21.5	-3.1			
VSR				pmax	pmax					
	comp=N,20nm,0.9s									
VSR				pmax	pmax					
	comp=E,90nm,0.9s									
VSR				pmax	pmax					
	comp=Z,120nm,0.9s									
VSR				smax	smax					
	comp=N,170nm,2.4s									
VSR				smax	smax					
	comp=E,90nm,2.4s									
VSR				smax	smax					
	comp=Z,60nm,2.4s									
VSR				MLR	MLR					
	comp=N,1μm,20.0s									
VSR				MLR	MLR					
	comp=E,1μm,20.0s									
VSR				MLR	MLR					
	comp=Z,3μm,20.0s									
LPSR	**Galich'ya Gora**	**81.52**	**322**	*d i*P	**P**	**10 28 16.0**	**-0.6**			
LPSR				*e*		10 31 24.8				
LPSR				*e*PPP	PPP	10 33 12.9				
LPSR				*e*S	**S**	**10 38 23.3**	**-2.7**			
LPSR				pmax	pmax					
	comp=N,10.0nm,1.0s									
LPSR				pmax	pmax					
	comp=E,30nm,1.0s									
LPSR				pmax	pmax					
	comp=Z,110nm,1.0s									
LPSR				pmax	pmax					
	comp=N,60nm,2.2s									
LPSR				pmax	pmax					
	comp=E,150nm,2.2s									
LPSR				pmax	pmax					
	comp=Z,90nm,2.2s									
LPSR				smax	smax					
	comp=N,250nm,2.6s									
LPSR				smax	smax					
	comp=E,140nm,2.6s									
LPSR				smax	smax					
	comp=Z,50nm,2.7s

ANN					MLR	MLR			
	comp=E,2µm,19.0s								
ANN					MLR	MLR			
	comp=Z,2µm,19.0s								
SLMH	**Al Salmeh**	**82.75**	**306**	*e*P	**P**		**10 28 24.8**	**+1.2**	
CRZF	**Crozet Islands**	**82.86**	**222**	P	P		10 28 14.0	-10	
CRZF	**Crozet Islands**	**82.86**	**222**	S	S		10 38 18.0	-22	
CRZF				L	L		10 50 00.0		
CRZF				R			10 54 00.0		
OBN	**Obninsk**	**82.87**	**325***d*	*i*P	**P**		**10 28 22.7**	**-0.9**	
OBN				*i*			10 28 31.7		
OBN				*i*			10 31 35.1		
OBN				pmax	pmax				
	comp=Z,290nm,2.5s								
OBN				MLR	MLR				
	comp=Z,3µm,20.0s								
OBN	**Obninsk**	**82.87**	**325**	*e*P	**P**		**10 28 22.9**	**-0.8**	
	comp=Z,82nm,1.0s								
OBN				*e*pP	**pP**		**10 28 34.2**	**-0.2**	
OBN				LR	LR				
	comp=Z,3µm,19.0s								
DARE	**Darende-Malaty**	**82.97**	**308**	*e*P	**P**		**10 28 25.9**	**+1.2**	
GZT	**Gaziantep**	**82.98**	**307**	*i* P	**P**		**10 28 25.4**	**+0.5**	
COLA	**College**	**83.00**	**25***d*	*i*P	**P**		**10 28 22.9**	**-1.2**	
COLA				pmax	pmax				
	comp=Z,188nm,2.5s								
COLA				MLR	MLR				
	comp=Z,4µm,19.0s								
COLA	**College**	**83.00**	**25**	*e*P	**P**		**10 28 22.8**	**-1.2**	
	comp=Z,22nm,0.9s								
COLA				LR	LR				
	comp=Z,1µm,19.0s								
SVSK	**Karacayir**	**83.27**	**309**	*e*P	**P**		**10 28 27.3**	**+1.3**	
LVZ	**Lovozero**	**83.36**	**338**	P	**P**		**10 28 25.1**	**-0.9**	
	comp=Z,781nm,1.0s,SNR=13								
LVZ	**Lovozero**	**83.36**	**338**	*e*P	**P**		**10 28 25.3**	**-0.7**	
LVZ				pmax	pmax				
	comp=Z,171nm,1.1s								
LVZ				MLR	MLR				
	comp=Z,4µm,20.0s								
LVZ	**Lovozero**	**83.36**	**338**	*e*P	**P**		**10 28 25.3**	**-0.7**	
	comp=Z,171nm,1.1s								
LVZ				LR	LR				
	comp=Z,4µm,20.0s								
ILAR	**Eielson Array**	**83.41**	**26**	P	**P**		**10 28 24.1**	**-2.2**	
	comp=Z,8.7nm,1.1s,baz=247,slow=4.7,SNR=43								
ILAR				PKKPbc	**PKKPbc**		**10 46 44.6**	**-3.4**	
	comp=Z,1.6nm,1.0s,baz=55,slow=1.6,SNR=9.9								
ILAR				LR	LR		11 07 42.6		
	comp=Z,764nm,19.8s,baz=272,slow=37								
ZALF	**Zalf**	**83.45**	**302**	*e*P	**P**		**10 28 29.4**	**+2.2**	
KMRS	**Kahramanmaras**	**83.50**	**307**	*e*P	**P**		**10 28 28.0**	**+0.6**	
PINB	**Pinarbasi**	**83.81**	**308**	*i* P	**P**		**10 28 29.8**	**+0.6**	
APA	**Apatity**	**83.85**	**337**⇑	*i*P	**P**		**10 28 28.4**	**-0.1**	
APA				*i*			10 31 36.0		
APA				*i* S	S		10 38 46.0	-3.3	
APA				*i* PS	PnS		10 39 58.0	+13	
APA				pmax	pmax				
	comp=Z,180nm,1.1s								
APA				MLR	MLR				
	comp=Z,7µm,17.0s								
KVT	**Kavak**	**83.92**	**311**	*e*P	**P**		**10 28 30.2**	**+0.8**	
SALA	**Sala**	**83.97**	**302**	*e*P	**P**		**10 28 32.1**	**+2.0**	
WRDH	**Warideh**	**84.03**	**305**	*e*P	**P**		**10 28 31.5**	**+1.4**	
MARH	**Ras Al Marh**	**84.08**	**303**	*e*P	P		10 28 34.0	+3.2	
DIV	**Divide**	**84.11**	**29**	*e*P	**P**		**10 28 29.6**	**-0.4**	
	comp=Z,79nm,1.2s								
HAWK	**Haweek**	**84.11**	**304**	*e*P	**P**		**10 28 32.1**	**+1.5**	
PAX	**Paxson**	**84.13**	**27**	*e*P	**P**		**10 28 29.6**	**-0.6**	
PAX				*e**PP	**pP**		**10 28 41.5**	**+0.5**	
PAX				pmax	pmax				
	comp=Z,69nm,1.2s								
PAX	**Paxson**	**84.13**	**27**	*e*P	**P**		**10 28 29.6**	**-0.6**	
	comp=Z,69nm,1.2s								
PAX				*e*pP	**pP**		**10 28 41.5**	**+0.5**	
BIDA	**Albida**	**84.14**	**304**	*e*P	**P**		**10 28 31.9**	**+1.1**	
TAHT	**Tahtakopru-Hat**	**84.15**	**306**	*e*P	**P**		**10 28 31.2**	**+0.5**	
YAYL	**Yayladag**	**84.24**	**306**	*i* P	**P**		**10 28 29.3**	**-2.0**	
KOZT	**Kozan**	**84.35**	**307**	*e*P	**P**		**10 28 32.1**	**+0.4**	
CEYT	**Ceyhan**	**84.45**	**307**	*e*P	**P**		**10 28 32.9**	**+0.8**	
DIKM	**Dikmen**	**84.48**	**311**	*e*P	**P**		**10 28 32.1**	**-0.1**	
HWQ	**Hawqa**	**84.51**	**304**	*e*P	**P**		**10 28 33.0**	**+0.3**	
BRBR	**Barbar**	**84.57**	**303**	*e*P	**P**		**10 28 34.7**	**+1.5**	
TCHB	**Talchebab**	**84.62**	**302**	*e*P	**P**		**10 28 34.6**	**+1.5**	
RCY	**Rachaya**	**84.66**	**303**	*e*P	**P**		**10 28 34.2**	**+0.7**	
BMRM	**Bremner River**	**84.69**	**29**	*e*P	**P**		**10 28 32.3**	**-0.6**	
	comp=Z,74nm,1.3s								
DOT	**Dot Lake**	**84.72**	**27**	*e*P	**P**		**10 28 32.0**	**-1.0**	
	comp=Z,51nm,1.2s								
DOT				*e*pP	**pP**		**10 28 44.2**	**+0.4**	
BOYT	**Boyabat**	**84.76**	**311**	*i* P	**P**		**10 28 34.2**	**+0.5**	
BHL	**Bhannes**	**84.78**	**303**	*e*P	**P**		**10 28 34.5**	**+0.5**	
KRTS	**Karatas**	**84.78**	**306**	*e*P	**P**		**10 28 34.8**	**+0.9**	
DQRL	**Deir Qamar**	**84.86**	**303**	*e*P	**P**		**10 28 35.2**	**+0.7**	
CTKT	**Corum**	**84.91**	**310**	*i* P	**P**		**10 28 35.0**	**+0.3**	
MENT	**Mentasta**	**84.93**	**27**	*e*P	**P**		**10 28 33.8**	**-0.3**	
KARA	**Karaisali**	**84.98**	**307**	*e*P	**P**		**10 28 35.2**	**+0.3**	
AVNT	**Avonos**	**85.01**	**308**	*i* P	**P**		**10 28 35.2**	**0.0**	
SIM	**Simferopol'**	**85.05**	**315***d*	*i*P	**P**		**10 28 34.9**	**-0.1**	
SIM				*e*			10 31 56.0		
SIM				*e*S	**S**		**10 39 00.0**	**-2.1**	
SIM				*e*PS	**PnS**		**10 39 51.0**	**-9.3**	
SIM				pmax	pmax				
	comp=Z,93nm,0.9s								
SIM				pmax	pmax				
	comp=Z,100nm,11.9s								
CORM	**Corum**	**85.07**	**310**	*e*P	**P**		**10 28 35.7**	**+0.3**	
MMLI	**Mount Malkishu**	**85.10**	**302**	*e*P	**P**		**10 28 36.5**	**+0.9**	
BZK	**Bozkurt**	**85.39**	**312**	*e*P	**P**		**10 28 36.6**	**-0.1**	
HOPEN	**Hopen**	**85.39**	**347**	*e*P	**P**		**10 28 35.3**	**-0.8**	
HOPEN				*e*SKSac	**SKSac**		**10 38 59.6**	**+1.3**	
MERS	**Mersin**	**85.44**	**306**	*e*P	**P**		**10 28 37.0**	**-0.2**	
HRFI	**Mount Harif**	**85.65**	**300**	*e*P	**P**		**10 28 39.1**	**+0.8**	
EIL	**Elat**	**85.76**	**299**	*e*P	**P**		**10 28 39.7**	**+0.8**	
CANT	**Cankiri**	**85.80**	**310**	*e*P	**P**		**10 28 38.7**	**-0.2**	
MAW	**Mawson**	**85.81**	**200**	P	**P**		**10 28 37.3**	**-0.8**	
	comp=Z,19nm,1.2s,baz=46,slow=7.0,SNR=9.1								
MAW				LR	LR		11 02 51.4		
	comp=Z,645nm,21.9s,baz=60,slow=33								
EREN	**Erenkoy**	**85.85**	**305**	*e*P	**P**		**10 28 39.1**	**-0.1**	
EGAK	**Eagle**	**85.86**	**25**	*e*P	**P**		**10 28 37.9**	**-0.7**	
	comp=Z,45nm,1.1s								
EGAK				*e*pP	**pP**		**10 28 49.1**	**-0.4**	
EGAK				LR	LR				
	comp=Z,2µm,22.0s								
BR131	**Keskin Array S**	**85.87**	**309**	*e*P	**P**		**10 28 38.8**	**-0.6**	
	comp=Z,41nm,0.9s								
BRTR	**Keskin Array B**	**85.87**	**309**	P	**P**		**10 28 38.6**	**-0.8**	
	comp=Z,32nm,0.9s,baz=116,slow=5.6,SNR=84								
BRTR				PP	**PP**		**10 31 57.6**	**-1.5**	
	comp=Z,5.1nm,1.0s,baz=99,slow=7.4,SNR=4.5								
BRTR				LR	LR		11 14 43.2		
	comp=Z,1µm,18.5s,baz=77,slow=41								
KEV	**Kevo**	**85.95**	**340**	*e*P	**P**		**10 28 37.1**	**-1.9**	
KEV				pmax	pmax				
	comp=Z,12nm,0.8s								
KEV				MLR	MLR				
	comp=Z,4µm,19.0s								
KEV	**Kevo**	**85.95**	**340**	*e*P	**P**		**10 28 37.1**	**-1.9**	
	comp=Z,12nm,0.8s								
KEV				LR	LR				
	comp=Z,4µm,19.0s								
KZIT	**Kziot**	**86.11**	**301**	*e*P	**P**		**10 28 40.7**	**+0.1**	
SULT	**Sultanhani-AKS**	**86.11**	**308**	*e*P	**P**		**10 28 40.1**	**-0.5**	
AFSR	**Af˙ar-Bala (A**	**86.33**	**309**	*e*P	**P**		**10 28 41.3**	**-0.4**	
LFK	**Lefkose**	**86.39**	**305**	*e*P	**P**		**10 28 42.0**	**0.0**	
ANTO	**Ankara**	**86.50**	**310**	*e*P	**P**		**10 28 41.9**	**-0.5**	
ANTO	**Ankara**	**86.50**	**310**	*e*P	**P**		**10 28 41.6**	**-0.9**	
ANTO				pmax	pmax				
	comp=Z,68nm,1.3s								
ANTO				MLR	MLR				
	comp=Z,2µm,21.0s								
ANTO	**Ankara**	**86.50**	**310**⇓	*i*P	**P**		**10 28 41.6**	**-0.9**	
ANTO	**Ankara**	**86.50**	**310**	P	**P**		**10 28 42.1**	**-0.3**	
	SNR=32								
ANTO	**Ankara**	**86.50**	**310**	*e*P	**P**		**10 28 41.6**	**-0.9**	
	comp=Z,68nm,1.3s								
ANTO				LR	LR				
	comp=Z,2µm,21.0s								
ARCES	**ARCESS Array B**	**86.50**	**340**	P	**P**		**10 28 40.6**	**-1.1**	
	comp=Z,39nm,0.9s,baz=76,slow=5.1,SNR=49								
ARCES				LR	LR		11 10 19.7		
	comp=Z,2µm,20.9s,baz=82,slow=38								
ARE0	**ARCESS Array S**	**86.50**	**340**	*e*P	P		10 28 34.8	-6.9	
ARE0				*e*SKSac	**SKSac**		**10 39 06.6**	**+1.1**	
ARE0				IVMs_BB	IVMs_BB		11 13 17.4		
	comp=Z,2µm,17.2s								
ARE0	**ARCESS Array S**	**86.50**	**340**	*e*P	**P**		**10 28 40.6**	**-1.2**	
LOD	**Lodumlu**	**86.52**	**310**	*e*P	**P**		**10 28 41.9**	**-0.7**	
CSS	**Prodhromos**	**86.59**	**305**	*e*P	**P**		**10 28 42.8**	**-0.2**	
CSS	**Prodhromos**	**86.59**	**305**	*e*P	**P**		**10 28 42.8**	**-0.2**	
	comp=Z,32nm,0.9s								
CSS				LR	LR				
	comp=Z,376nm,22.0s								
SPA0	**Spitsbergen Ar**	**86.82**	**349**	*e*P	P		10 28 39.5	-3.6	
SPA0				*e*SKSac	**SKSac**		**10 39 06.8**	**-0.4**	
SPA0				IAMs_20	IAMs_20		11 12 27.4		
	comp=Z,5µm,19.3s								
SPITS	**Spitsbergen Ar**	**86.82**	**349**	P	**P**		**10 28 42.8**	**-0.4**	
	comp=Z,4.8nm,0.6s,baz=90,slow=9.2,SNR=26								
KMBO	**Kilima Mbogo**	**86.87**	**268**	P	**P**		**10 28 45.6**	**+0.7**	
	comp=Z,27nm,0.9s,baz=59,slow=6.7,SNR=48								
KMBO				LR	LR		11 06 25.4		
	comp=Z,1µm,20.4s,baz=92,slow=35								
KMBO	**Kilima Mbogo**	**86.87**	**268**	*i* P	**P**		**10 28 45.5**	**+0.5**	
KMBO				pmax	pmax				
	comp=Z,27nm,0.9s								
KMBO	**Kilima Mbogo**	**86.87**	**268**	P	**P**		**10 28 45.5**	**+0.5**	
	SNR=18								
KMBO	**Kilima Mbogo**	**86.87**	**268**	*e*P	**P**		**10 28 45.2**	**+0.3**	
	comp=Z,42nm,1.0s								
LEF	**Lefka**	**86.93**	**305**	*e*P	**P**		**10 28 43.9**	**-0.6**	
VNDA	**Vanda**	**86.94**	**172**	P	**P**		**10 28 43.8**	**+0.1**	
	comp=Z,17nm,1.0s,baz=313,slow=5.7,SNR=55								
VNDA				LR	LR		11 07 41.5		
	comp=Z,1µm,21.1s,baz=334,slow=36								
VNDA	**Vanda**	**86.94**	**172**	P	**P**		**10 28 43.8**	**+0.1**	
VNDA				pmax	pmax				
	comp=Z,17nm,1.0s								
VNDA				MLR	MLR				
	comp=Z,1µm,21.1s								
VNDA	**Vanda**	**86.94**	**172**	*e*P	**P**		**10 28 43.1**	**-0.5**	
	comp=Z,27nm,1.0s								
BCAM	**Yenicaga**	**86.95**	**311**	*i* P	**P**		**10 28 43.4**	**-1.3**	
LADK	**Ladik-KONYA**	**87.01**	**308**	*e*P	**P**		**10 28 43.4**	**-1.7**	
HDMB	**Hadim**	**87.06**	**307**	*e*P	**P**		**10 28 44.6**	**-0.8**	
GAZI	**Gazipasa**	**87.27**	**306**	*i* P	**P**		**10 28 44.9**	**-1.3**	
KIZT	**Kizilcal**	**87.31**	**309**	*e*P	P		10 29 00.6	+14	
HSPB	**Hornsund (broa**	**87.37**	**348**	*e*P	**P**		**10 28 44.8**	**-1.0**	
HSPB				*e*SKSac	**SKSac**		**10 39 10.8**	**+0.2**	
KBS	**Kingsbay**	**87.38**	**350**	*e*P	**P**		**10 28 44.5**	**-1.4**	
KBS				*e*SKSac	**SKSac**		**10 39 08.3**	**-2.2**	
KBS	**Kingsbay**	**87.38**	**350**	PFAKE			10 29 00.0	+14	
KBS				LR	LR				
	comp=Z,3µm,20.0s								
SVRH	**Sivrihisar-ESK**	**87.52**	**309**	*e*P	**P**		**10 28 46.5**	**-1.0**	
AKASG	**Malin Array Be**	**87.68**	**321**	P	**P**		**10 28 46.5**	**-1.3**	
	comp=Z,36nm,0.8s,baz=72,slow=4.4,SNR=68								
AKASG				PP	**PP**		**10 32 11.6**	**-1.7**	
	comp=Z,0.6nm,0.4s,baz=62,slow=7.4,SNR=4.0								
AKASG				LR	LR		11 10 37.9		
	comp=Z,1µm,21.3s,baz=35,slow=37								
AKBB	**Malin Array Si**	**87.68**	**321**	*e*P	**P**		**10 28 46.4**	**-1.4**	
AKBB	**Malin Array Si**	**87.68**	**321**	*e*P	**P**		**10 28 46.4**	**-1.4**	
AK01	**Malin Array Si**	**87.69**	**321**	*e*P	**P**		**10 28 46.7**	**-1.1**	
KIEV	**Kiev**	**87.69**	**321**	*e*P	**P**		**10 28 46.5**	**-1.3**	
KIEV				pmax	pmax				
	comp=Z,52nm,1.0s								
KIEV				MLR	MLR				
	comp=Z,1µm,19.0s								
KIEV	**Kiev**	**87.69**	**321**	*e*P	**P**		**10 28 46.5**	**-1.3**	
	comp=Z,52nm,1.0s								
KIEV				LR	LR				
	comp=Z,1µm,19.0s								
AK02	**Malin Array Si**	**87.70**	**321**	*e*P	**P**		**10 28 46.6**	**-1.3**	
FIA1	**FINESS Array S**	**87.72**	**332**	*e*P	**P**		**10 28 46.5**	**-1.2**	
FINES	**FINESS Array B**	**87.72**	**332**	P	**P**		**10 28 46.6**	**-1.1**	
	comp=Z,15nm,0.5s,baz=72,slow=4.8,SNR=86								
FINES				LR	LR		11 11 36.9		
	comp=Z,4µm,18.3s,baz=72,slow=38								
SBA	**Scott Base**	**87.88**	**172**	*e*P	**P**		**10 28 48.6**	**+0.5**	
SBA				pmax	pmax				
	comp=Z,184nm,1.9s								
SBA				MLR	MLR				
	comp=Z,2µm,19.0s								
SBA	**Scott Base**	**87.88**	**172**	*e*P	**P**		**10 28 48.6**	**+0.5**	
	comp=Z,184nm,1.9s								
SBA				LR	LR				
	comp=Z,2µm,19.0s								
VSU	**Vasula**	**87.91**	**329***d*	*i*P	**P**		**10 28 47.7**	**-1.0**	
VSU				pmax	pmax				
	comp=Z,174nm,1.0s								
MICGM	**Minsk**	**87.93**	**325**⇓	*e*P	**P**		**10 28 47.0**	**-1.9**	
MNK	**Minsk**	**87.96**	**325***d*	*e*P	**P**		**10 28 47.0**	**-2.0**	
MNK				*e*			10 39 14.0		
MNK				*e*S	S		10 39 26.0	-4.0	
MNK				*e*PS	**PnS**		**10 40 28.0**	**-6.9**	
MNK				*e*SS	**SS**		**10 45 14.0**	**-3.6**	
MNK				pmax	pmax				
	comp=Z,260nm,0.8s								
MNK				MLR	MLR				
	comp=Z,6µm,19.0s								
MNK				MLR	MLR				
	comp=Z,9µm,20.0s								
MNK				MLR	MLR				
	comp=E,4µm,18.0s								
SEYT	**Eskypehyr**	**88.03**	**309**	*i* P	**P**		**10 28 48.2**	**-1.7**	
BOLV	**Bolvadin**	**88.06**	**309**	*i* P	**P**		**10 28 48.5**	**-1.6**	
HYT	**Haines Junctio**	**88.14**	**29**	*e*P	**P**		**10 28 49.5**	**-0.5**	
	comp=E,0.6nm,0.9s								
GULT	**Gulveren**	**88.17**	**310**	*e*P	**P**		**10 28 49.1**	**-1.3**	
INK	**Inuvik**	**88.20**	**21**	LR	LR		11 10 48.5		
	comp=E,840nm,21.4s,baz=283,slow=37								
KIS	**Kishinev**	**88.48**	**317**	*e*P	**P**		**10 28 50.0**	**-1.7**	
	comp=E,600nm,12.0s								
KIS	**Kishinev**	**88.48**	**317**	*e*PP	PP		10 32 08.0	-12	
KIS	**Kishinev**	**88.48**	**317**	*e*PPP	PPP		10 34 28.0		
KIS				*i* S	S		10 39 31.0	-4.2	
KIS	**Kishinev**	**88.48**	**317**	*e*P	**P**		**10 28 50.0**	**-1.7**	
KIS				*e*			10 29 07.0		
KIS				*i* S	S		10 39 31.0	-4.2	
KIS				pmax	pmax				
	comp=Z,600nm,12.0s								
NACGM	**Naroch**	**88.49**	**325**	*e*P	P		10 28 48.0	-3.6	
ISP	**Isparta**	**88.50**	**308**	*e*P	**P**		**10 28 50.5**	**-1.7**	
ISP	**Isparta**	**88.50**	**308**	*e*P	**P**		**10 28 50.4**	**-1.8**	
ISP				pmax	pmax				
	comp=Z,43nm,0.9s								
ISP				MLR	MLR				
	comp=Z,1µm,20.0s								
ISP	**Isparta**	**88.50**	**308**⇑	*i*P	**P**		**10 28 50.5**	**-1.7**	
ISP	**Isparta**	**88.50**	**308**	*e*P	**P**		**10 28 50.4**	**-1.8**	
	comp=Z,43nm,0.9s								
ISP				LR	LR				
	comp=Z,1µm,20.0s								
ALT	**Altintas**	**88.66**	**309**	*e*P	**P**		**10 28 51.9**	**-1.0**	
CAVI	**Cavuskoy**	**88.71**	**310**	*e*P	**P**		**10 28 52.1**	**-0.9**	
PPT	**Papeete**	**88.71**	**108**	LR	LR		11 01 23.4		
	comp=Z,639nm,20.4s,baz=270,slow=31								
PPT2	**Papeete2**	**88.72**	**108**	*e*S	**S**		**10 39 38.3**	**-0.3**	
	comp=Z,963nm,29.5s								
PPT2				*e*SS	**SS**		**10 45 29.7**	**-1.2**	
	comp=Z,1µm,27.5s								
PPT2				*e*LQ	LQ		10 53 19.1		
	comp=Z,4µm,33.5s								
PPT2				*e*LR	LR		10 57 03.2		
	comp=Z,6µm,26.5s,baz=292								
TRO	**Tromso**	**88.73**	**340**	*e*	P		10 28 46.0	-6.3	
SILT	**Sile**	**88.73**	**311**	*e*P	**P**		**10 28 51.8**	**-1.2**	
TLCR		**88.75**	**315**⇓	*i*P	**P**		**10 28 53.1**	**+0.1**	
TLCR		**88.75**	**315**⇓	*i*P	**P**		**10 28 53.1**	**+0.1**	
HRT	**Hereke**	**88.75**	**311**	*e*P	**P**		**10 28 51.7**	**-1.5**	
TVSB	**Tavsanli**	**89.11**	**309**	*e*P	**P**		**10 28 53.7**	**-1.2**	
ELL	**Elmali**	**89.13**	**307**	*e*P	**P**		**10 28 54.1**	**-1.1**	
TIRR	**Tirgusor**	**89.14**	**315**	*e*P	**P**		**10 28 54.0**	**-0.9**	
TIRR	**Tirgusor**	**89.14**	**315**	*e*P	**P**		**10 28 52.4**	**-2.5**	
TIRR				pmax	pmax				
	comp=Z,19nm,1.0s								
TIRR	**Tirgusor**	**89.14**	**315**⇑	*i*P	**P**		**10 28 53.7**	**-1.1**	
TIRR	**Tirgusor**	**89.14**	**315**	*e*P	**P**		**10 28 52.4**	**-2.5**	
	comp=Z,19nm,1.0s								
KLYT	**Kilyos**	**89.16**	**311**	*e*P	**P**		**10 28 53.8**	**-1.2**	
ISK	**Istanbul-Kandi**	**89.18**	**311**	*e*P	**P**		**10 28 53.2**	**-1.9**	
CFR	**Carcaliu**	**89.22**	**315**	⇓P	**P**		**10 28 54.4**	**-0.8**	
CFR	**Carcaliu**	**89.22**	**315**⇓	*i*P	**P**		**10 28 54.4**	**-0.8**	
BGKT	**Bogazkoy**	**89.37**	**311**	*e*P	**P**		**10 28 54.5**	**-1.5**	
TLB	**Topalu**	**89.38**	**315**	⇓P	**P**		**10 28 55.1**	**-0.9**	
TLB	**Topalu**	**89.38**	**315**⇓	*i*P	**P**		**10 28 55.1**	**-0.9**	
ARMT	**Armutlu**	**89.40**	**311**	*e*P	**P**		**10 28 54.6**	**-1.5**	
PSN	**Preselentsi**	**89.42**	**314**⇑	P	**P**		**10 28 55.6**	**-0.6**	
PSN	**Preselentsi**	**89.42**	**314**⇑	*i*P	**P**		**10 28 55.6**	**-0.6**	
PSN	**Preselentsi**	**89.42**	**314**	*e*P	**P**		**10 28 55.6**	**-0.6**	
HARR	**Harsova**	**89.44**	**315**⇑	P	**P**		**10 28 56.3**	**0.0**	
HARR	**Harsova**	**89.44**	**315**⇑	*i*P	**P**		**10 28 56.3**	**0.0**	
TBI	**Tubuai**	**89.59**	**113**	*e*SKSac	**SKSac**		**10 39 24.2**	**-1.5**	
	comp=Z,1µm,25.7s								
TBI				*e*SS	**SS**		**10 45 42.5**	**-0.7**	
	comp=Z,1µm,28.8s								
TBI				*e*LQ	LQ		10 53 48.2		
	comp=Z,1µm,27.0s								
TBI				*e*LR	LR		10 57 28.8		
	comp=Z,3µm,29.8s								
MSAB	**Monastry St. A**	**89.61**	**314**⇑	*i*P	**P**		**10 28 56.3**	**-0.8**	
CTYL	**Yal??k??y-??at**	**89.69**	**312**	*e*P	**P**		**10 28 56.0**	**-1.5**	
KULA	**Kula-Manisa**	**89.86**	**309**	*e*P	**P**		**10 28 57.4**	**-1.0**	
GRER		**90.00**	**316**⇑	*i*P	**P**		**10 28 59.9**	**+1.0**	
TESR	**Tescani**	**90.03**	**317**⇑	*i*P	**P**		**10 28 58.2**	**-0.8**	
PRD	**Provadia**	**90.06**	**313**	*e*P	**P**		**10 28 58.5**	**-0.7**	
VRI	**Vrincioaia**	**90.09**	**316**	⇓P	**P**		**10 28 59.0**	**-0.3**	
VRI	**Vrincioaia**	**90.09**	**316**⇓	*i*P	**P**		**10 28 59.0**	**-0.3**	
PLOR	**Plostina**	**90.14**	**316**	⇓P	**P**		**10 28 59.1**	**-0.5**	
PLOR	**Plostina**	**90.14**	**316**⇓	*i*P	**P**		**10 28 59.1**	**-0.5**	
ISR	**Istrita**	**90.34**	**315**⇑	P	**P**		**10 29 00.3**	**-0.2**	
ISR	**Istrita**	**90.34**	**315**⇑	*i*P	**P**		**10 29 00.3**	**-0.3**	
MRMT	**Marmara Adasi**	**90.35**	**311**	*e*P	**P**		**10 28 59.0**	**-1.7**	
YER	**Yerkesik**	**90.37**	**307**	*e*P	**P**		**10 28 59.9**	**-0.9**	
AYDB	**Zeytinkoy-Aydi**	**90.55**	**308**	*e*P	**P**		**10 29 00.9**	**-0.8**	
KRBG	**Karabiga-Canak**	**90.60**	**311**	*e*P	**P**		**10 29 00.2**	**-1.6**	
RKY	**Sarkoy-Tekirda**	**90.64**	**311**	*e*P	**P**		**10 29 00.6**	**-1.5**	
MLR	**Muntele Rosu**	**90.69**	**316**	⇓P	**P**		**10 29 01.7**	**-0.6**	
MLR	**Muntele Rosu**	**90.69**	**316**⇓	*i*P	**P**		**10 29 01.7**	**-0.6**	
SUW	**Suwalki**	**90.73**	**325**	*e*P	**P**		**10 29 01.0**	**-1.0**	
SUW				*e*PP	**PP**		**10 32 39.8**	**+2.4**	
SUW				*e*S	**S**		**10 39 56.0**	**+0.1**	
SUW				LMZ	LR		11 11 40.6		
SUW	**Suwalki**	**90.73**	**325**⇓	*e*P	**P**		**10 29 01.0**	**-1.0**	
SUW				*e*			10 32 39.8		
SUW				*e*S	**S**		**10 39 56.0**	**+0.1**	
SUW				MLR	MLR				
	comp=Z,4µm,19.8s								
SUW	**Suwalki**	**90.73**	**325**	*e*P	**P**		**10 29 01.4**	**-0.7**	
	comp=Z,157nm,0.9s								
EDRB	**Edirne**	**90.77**	**312**	*e*P	**P**		**10 29 01.3**	**-1.3**	
JMB	**Yambol**	**90.78**	**313**	⇓P	**P**		**10 29 01.8**	**-0.8**	
JMB	**Yambol**	**90.78**	**313**⇓	*i*P	**P**		**10 29 01.8**	**-0.8**	
BURAR	**Bucovina Array**	**90.79**	**318**	⇓P	**P**		**10 29 02.2**	**-0.4**	
BURAR	**Bucovina Array**	**90.79**	**318**⇓	*i*P	**P**		**10 29 02.2**	**-0.4**	
BUR08	**Bucovina Ar. S**	**90.79**	**318**	*e*P	**P**		**10 29 02.3**	**-0.4**	
IZM	**Izmir**	**90.96**	**309**	*e*P	**P**		**10 29 02.8**	**-0.8**	
DAT	**Datca**	**90.99**	**307**	*e*P	**P**		**10 29 02.0**	**-1.8**	
DOPR	**Dopca**	**90.99**	**316**⇑	*i*P	**P**		**10 29 03.2**	**-0.3**	
LPK	**Lapseki**	**91.01**	**311**	*e*P	**P**		**10 29 02.3**	**-1.4**	
SZH	**Strazhica**	**91.11**	**314**	*e*P	**P**		**10 29 03.3**	**-0.8**	
**LV

DAG	**Danmarks Havn**	**93.72**	**352**	*i* P	**P**	**10 29 13.4**	**-2.0**
	comp=Z,54nm,1.2s							
	comp=Z,2µm,21.0s							
DAG	**Danmarks Havn**	**93.72**	**352**	*i* P	**P**	**10 29 13.4**	**-2.0**
DAG				pmax	pmax			
	comp=Z,85nm,1.2s							
DAG				MLR	MLR			
	comp=Z,2µm,21.0s							
MRKA	**Markates**	**93.74**	**310**	*e*P	P	10 29 28.5	+12	
KNT	**Kendrikon**	**93.74**	**312**	P	**P**	**10 29 14.5**	**-1.8**	
KNT	**Kendrikon**	**93.74**	**312**	P	**P**	**10 29 14.5**	**-1.8**	
KNT	**Kendrikon**	**93.74**	**312**	P	**P**	**10 29 14.5**	**-1.8**	
ATH	**Athens Observa**	**93.79**	**309**	*e*P	**P**	**10 29 14.5**	**-2.1**	
NEO	**Neokhori**	**93.89**	**310**	*e*P	**P**	**10 29 14.5**	**-2.6**	
XOR	**Xorichti**	**93.90**	**310**	P	P	10 29 14.3	-2.8	
XOR	**Xorichti**	**93.90**	**310**	P	P	10 29 14.3	-2.8	
HFS	**Hagfors**	**93.91**	**332**	LR	LR	11 15 18.1		
	comp=Z,5µm,18.1s,baz=59,slow=38							
SMIA	**Simia**	**93.99**	**310**	*e*P	P	10 29 23.0	+5.5	
KARN	**Karanos**	**94.14**	**306**	*e*P	**P**	**10 29 17.5**	**-0.8**	
LKR	**Lokris**	**94.20**	**310**	*e*P	**P**	**10 29 16.0**	**-2.4**	
PSZ	**Piszkesteto**	**94.22**	**319**	⇓P	**P**	**10 29 17.6**	**-0.8**	
PSZ	**Piszkesteto**	**94.22**	**319**	⇓*i*P	**P**	**10 29 17.6**	**-0.8**	
PSZ	**Piszkesteto**	**94.22**	**319**	*e*P	**P**	**10 29 16.8**	**-1.7**	
	comp=Z,10nm,0.8s							
PSZ				LR	LR			
	comp=Z,2µm,22.0s							
PSZ	**Piszkesteto**	**94.22**	**319**	⇓*e*SKPdf	**P**	**10 29 17.6**	**-0.8**	
DID	**Didima**	**94.25**	**308**	P	P	10 29 15.4	-3.4	
DID	**Didima**	**94.25**	**308**	*e*P	P	10 29 15.5	-3.4	
DID	**Didima**	**94.25**	**308**	P	P	10 29 15.4	-3.4	
LIT	**Litokhoron**	**94.27**	**311**	P	**P**	**10 29 16.5**	**-2.3**	
LIT	**Litokhoron**	**94.27**	**311**	P	**P**	**10 29 16.5**	**-2.3**	
LIT	**Litokhoron**	**94.27**	**311**	P	**P**	**10 29 16.5**	**-2.3**	
GKP	**Gorka Klasztor**	**94.34**	**325**	*e*P	**P**	**10 29 17.9**	**-0.8**	
GKP				LMZ	LR	11 14 06.7		
GKP	**Gorka Klasztor**	**94.34**	**325**	*e*P	**P**	**10 29 18.0**	**-0.8**	
GKP				MLR	MLR			
	comp=Z,6µm,20.0s							
LTK	**Loutraki**	**94.36**	**309**	*e*P	P	10 29 14.0	-5.2	
AXAR	**Agios Charalam**	**94.43**	**310**	*e*P	**P**	**10 29 18.0**	**-1.6**	
ANKY	**Antikythira Is**	**94.54**	**307**	*e*P	**P**	**10 29 19.5**	**-0.6**	
DSF	**Desfina**	**94.61**	**309**	*e*P	P	10 29 15.0	-5.4	
NC602	**NORSAR Array S**	**94.68**	**333**	*e*P	**P**	**10 29 18.0**	**-2.1**	
NC602				*e*SKSac	**SKSac**	**10 39 52.4**	**-0.5**	
NB2	**NORSAR Subarra**	**94.70**	**333**	P	**P**	**10 29 18.4**	**-1.9**	
	comp=Z,30nm,1.1s,baz=66,slow=4.6							
NB2	**NORSAR Subarra**	**94.70**	**333**	P	**P**	**10 29 18.4**	**-1.9**	
	baz=66,slow=4.6							
NOA	**NORSAR Array B**	**94.70**	**333**	P	**P**	**10 29 18.6**	**-1.8**	
	comp=Z,11nm,0.9s,baz=67,slow=4.6,SNR=23							
NOA				PP	PP	10 33 02.7	-5.8	
	comp=Z,1.7nm,0.8s,baz=66,slow=7.9,SNR=3.3							
NOA				LR	LR	11 15 06.3		
	comp=Z,3µm,20.9s,baz=75,slow=37							
KZN	**Kozani**	**94.76**	**311**	*e*P	**P**	**10 29 20.5**	**-0.6**	
OKC	**Ostrava-Krasne**	**94.80**	**321**	*e*P	**P**	**10 29 20.6**	**-0.4**	
OKC				*e*pP	pP	10 29 32.6	+0.7	
OKC				*e*x	x	10 29 47.3		
OKC				*e*PP	**PP**	**10 33 11.8**	**+2.2**	
OKC				*e*SP	SP	10 41 51.4	+3.5	
OKC				AMS	AMS	11 17 20.0		
	comp=Z,2µm,22.6s							
OKC	**Ostrava-Krasne**	**94.80**	**321**	*e*P	**P**	**10 29 20.6**	**-0.4**	
OKC				*e*		10 29 32.6		
OKC				*e*		10 33 11.8		
OKC				*e*SP	SP	10 41 51.4	+3.5	
OKC				MLR	MLR			
	comp=Z,2µm,22.6s							
GUR	**Goura**	**94.86**	**309**	P	P	10 29 18.9	-2.7	
GUR	**Goura**	**94.86**	**309**	*e*P	**P**	**10 29 19.5**	**-2.1**	
GUR	**Goura**	**94.86**	**309**	P	P	10 29 18.9	-2.7	
BUD	**Budapest**	**94.90**	**319**	⇓*e*SKPdf	**P**	**10 29 20.5**	**-0.9**	
KALE	**Kalithea**	**94.91**	**309**	*e*P	P	10 29 19.0	-2.8	
NA001	**NORSAR Array S**	**94.93**	**333**	*e*P	**P**	**10 29 20.0**	**-1.3**	
	comp=Z,13nm,0.9s							
VLX	**Vlachokerasia**	**94.95**	**308**	*e*P	**P**	**10 29 20.0**	**-2.1**	
KLV	**Kalavryta, Ach**	**94.98**	**309**	*e*P	**P**	**10 29 20.0**	**-2.1**	
PKS2	**Kecel**	**95.04**	**318**	⇓*e*SKPdf	**P**	**10 29 21.5**	**-0.6**	
EVR	**Evrytania**	**95.05**	**310**	*e*P	**P**	**10 29 20.5**	**-2.0**	
EFP	**Efpalio**	**95.08**	**310**	*e*P	**P**	**10 29 20.5**	**-2.0**	
DIVS	**Divibare**	**95.13**	**315**	⇑*i*P	**P**	**10 29 22.1**	**-0.6**	
RES	**Resolute Bay**	**95.15**	**10**	*e*P	**P**	**10 29 20.9**	**-1.1**	
RES				pmax	pmax			
	comp=Z,14nm,1.0s							
RES	**Resolute Bay**	**95.15**	**10**	*e*P	**P**	**10 29 20.9**	**-1.1**	
	comp=Z,14nm,1.0s							
MORC	**Moravsky Berou**	**95.20**	**321**	⇓P	**P**	**10 29 22.5**	**-0.3**	
MORC	**Moravsky Berou**	**95.20**	**321**	⇓*i*P	**P**	**10 29 22.5**	**-0.3**	
MORC	**Moravsky Berou**	**95.20**	**321**	*e*P	**P**	**10 29 22.2**	**-0.7**	
	comp=Z,69nm,1.9s							
PKSG		**95.34**	**319**	⇓*e*SKPdf	**P**	**10 29 24.8**	**+1.3**	
DRO	**Drossia**	**95.34**	**309**	P	**P**	**10 29 22.1**	**-1.6**	
DRO	**Drossia**	**95.34**	**309**	*e*P	**P**	**10 29 23.0**	**-0.7**	
ITM	**Ithomi**	**95.34**	**308**	*e*P	**P**	**10 29 22.0**	**-1.8**	
PHP	**Peshkopia**	**95.42**	**313**	P	**P**	**10 29 21.8**	**-2.2**	
PHP	**Peshkopia**	**95.42**	**313**	P	**P**	**10 29 21.8**	**-2.2**	
PHP	**Peshkopia**	**95.42**	**313**	P	**P**	**10 29 21.8**	**-2.2**	
AMT	**Artemida-Makis**	**95.44**	**309**	P	**P**	**10 29 23.7**	**-0.5**	
AMT	**Artemida-Makis**	**95.44**	**309**	*e*P	**P**	**10 29 22.0**	**-2.2**	
PKSM	**Moragy**	**95.50**	**318**	⇓*e*SKPdf	**P**	**10 29 23.3**	**-0.9**	
RLS	**Riolos of Patr**	**95.50**	**309**	*e*P	**P**	**10 29 23.0**	**-1.4**	
DSL	**Palaion Diasel**	**95.54**	**310**	*e*P	**P**	**10 29 22.5**	**-2.1**	
PYL	**PYLOS**	**95.55**	**308**	P	**P**	**10 29 22.4**	**-2.3**	
PYL	**PYLOS**	**95.55**	**308**	*e*P	**P**	**10 29 22.5**	**-2.3**	
PYL	**PYLOS**	**95.55**	**308**	P	**P**	**10 29 22.4**	**-2.3**	
KRLC	**Kraliky**	**95.58**	**322**	*e*P	**P**	**10 29 24.1**	**-0.5**	
KRLC				*e*PP	**PP**	**10 33 18.8**	**+3.2**	
KRLC	**Kraliky**	**95.58**	**322**	*e*P	**P**	**10 29 24.1**	**-0.5**	
KRLC				*e*		10 33 18.8		
PDO	**Prodromos**	**95.60**	**310**	P	**P**	**10 29 23.3**	**-1.6**	
PDO	**Prodromos**	**95.60**	**310**	*e*P	**P**	**10 29 23.5**	**-1.4**	
PKST	**T''s**	**95.61**	**319**	⇓*e*SKPdf	**P**	**10 29 23.8**	**-0.9**	
KSP	**Ksiaz**	**95.64**	**323**	*e*P	**P**	**10 29 24.6**	**-0.2**	
KSP				*e*S	**S**	**10 40 45.5**	**+5.9**	
KSP				LMZ	LR	11 15 01.1		
KSP	**Ksiaz**	**95.64**	**323**	*e*P	**P**	**10 29 24.7**	**-0.1**	
KSP				*e*S	**S**	**10 40 45.5**	**+5.9**	
KSP				MLR	MLR			
	comp=Z,4µm,19.9s							
DPC	**Dobruska-Polom**	**95.77**	**322**	*e*P	**P**	**10 29 25.2**	**-0.3**	
DPC				*e*pP	pP	10 29 37.2	+0.8	
DPC				*e*sP	**sP**	**10 29 41.7**	**+1.4**	
DPC				*e*x	x	10 29 51.4		
DPC				*e*PP	**PP**	**10 33 16.1**	**-1.0**	
DPC				*e*SKS	**SKSac**	**10 39 58.6**	**-0.7**	
DPC				*e*S	**S**	**10 40 41.1**	**+0.2**	
DPC				*e*x	x	10 41 46.5		
DPC				AMS	AMS	11 14 50.0		
	comp=Z,3µm,20.4s							
DPC	**Dobruska-Polom**	**95.77**	**322**	*e*P	**P**	**10 29 25.2**	**-0.3**	
DPC				*e*		10 29 37.2		
DPC				*e*		10 29 41.7		
DPC				*e*		10 33 16.1		
DPC				*e*		10 39 58.6		
DPC				*e*S	**S**	**10 40 41.1**	**+0.2**	
DPC				MLR	MLR			
	comp=Z,3µm,20.4s							
UPC	**Upice**	**95.91**	**322**	*e*P	**P**	**10 29 25.5**	**-0.5**	
UPC				*e*pP	pP	10 29 37.5	+0.5	
UPC				*e*x	x	10 29 54.3		
UPC				*e*PP	**PP**	**10 33 19.6**	**+1.5**	
UPC	**Upice**	**95.91**	**322**	*e*P	**P**	**10 29 25.5**	**-0.5**	
UPC				*e*		10 29 37.5		
UPC				*e*		10 33 19.6		
TIR	**Tirane**	**95.92**	**313**	PFAKE		10 29 40.0	+14	
TIR				LR	LR			
	comp=Z,2µm,20.0s							
VRAC	**Vranov**	**95.93**	**321**	⇓P	**P**	**10 29 26.0**	**-0.1**	
VRAC	**Vranov**	**95.93**	**321**	⇓*i*P	**P**	**10 29 26.0**	**-0.1**	
KONO	**Kongsberg**	**96.00**	**332**	PFAKE		10 29 40.0	+14	
KONO				LR	LR			
	comp=Z,4µm,19.0s							
SFD	**Strofades**	**96.04**	**309**	*e*P	P	10 29 40.0	+13	
VLS	**Valsamata**	**96.15**	**310**	*e*P	**P**	**10 29 26.0**	**-1.4**	
KEK	**Kerkira**	**96.37**	**311**	*e*P	**P**	**10 29 26.0**	**-2.4**	
TREC	**Trest**	**96.62**	**321**	*e*P	**P**	**10 29 29.3**	**0.0**	
TREC				*e*x	x	10 29 54.3		
TREC				*e*PP	**PP**	**10 33 22.3**	**-1.4**	
TREC				*e*SP	SP	10 42 05.2	-2.6	
TREC				AMS	AMS	11 21 00.0		
	comp=Z,3µm,16.4s							
TREC	**Trest**	**96.62**	**321**	*e*P	**P**	**10 29 29.3**	**0.0**	
TREC				*e*		10 33 22.3		
TREC				*e*SP	SP	10 42 05.2	-2.6	
TREC				MLR	MLR			
	comp=Z,3µm,16.4s							
PVCC	**Panska Ves**	**96.78**	**323**	*e*P	**P**	**10 29 30.3**	**+0.4**	
PVCC				*e*x	x	10 29 36.4		
PVCC				*e*pP	pP	10 29 40.1	-0.8	
PVCC				*e*x	x	10 29 57.3		
PVCC				*e*PP	**PP**	**10 33 23.5**	**-1.3**	
PVCC				AMS	AMS	11 17 10.0		
	comp=Z,3µm,17.5s							
PVCC	**Panska Ves**	**96.78**	**323**	*e*P	**P**	**10 29 30.3**	**+0.4**	
PVCC				*e*		10 29 40.1		
PVCC				*e*		10 33 23.5		
PVCC				MLR	MLR			
	comp=Z,3µm,17.5s							
CONA	**Conrad Observa**	**96.81**	**320**	⇓*i*PcP	**PcP**	**10 29 31.4**	**+1.0**	
	comp=Z,9.4nm,1.4s							
QSPA	**South Pole Qui**	**96.82**	**180**	*e*P	**P**	**10 29 29.8**	**-0.1**	
	comp=Z,18nm,1.1s							
QSPA				LR	LR			
	comp=Z,2µm,22.0s							
GOPC	**GO Pecny, Ondr**	**96.85**	**322**	*e*P	**P**	**10 29 30.1**	**-0.2**	
GOPC				*e*pP	pP	10 29 38.3	-3.0	
GOPC				*e*x	x	10 29 56.5		
GOPC				*e*PP	**PP**	**10 33 23.7**	**-1.7**	
GOPC				*e*x	x	10 35 31.1		
GOPC				*e*SKS	**SKSac**	**10 40 03.1**	**-1.8**	
GOPC				*e*S	**S**	**10 40 50.8**	**+0.7**	
GOPC				*e*x	x	10 41 52.1		
GOPC				*e*SP	**SP**	**10 42 10.7**	**+0.4**	
GOPC				AMS	AMS	11 15 40.0		
	comp=Z,3µm,19.7s							
PRU	**Pruhonice**	**96.97**	**322**	*e*P	**P**	**10 29 30.8**	**0.0**	
PRU				*e*pP	pP	10 29 42.5	+0.7	
PRU				*e*x	x	10 29 56.5		
PRU				*e*PP	**PP**	**10 33 24.6**	**-1.7**	
PRU				*e*x	x	10 35 35.2		
PRU				*e*SKS	**SKSac**	**10 40 04.1**	**-1.4**	
PRU				*e*S	**S**	**10 40 51.9**	**+0.8**	
PRU				*e*SP	**SP**	**10 42 11.0**	**-0.6**	
PRU				AMS	AMS	11 15 40.0		
	comp=Z,4µm,19.4s							
PRU	**Pruhonice**	**96.97**	**322**	*e*P	**P**	**10 29 30.8**	**0.0**	
PRU				*e*		10 29 42.5		
PRU				*e*		10 33 24.6		
PRU				*e*		10 35 35.2		
PRU				*e*		10 40 04.1		
PRU				*e*S	**S**	**10 40 51.9**	**+0.8**	
PRU				*e*SP	**SP**	**10 42 11.0**	**-0.6**	
PRU				MLR	MLR			
	comp=Z,4µm,19.4s							
PRA	**Prague**	**97.01**	**322**	*e*P	Pdif	10 29 31.3	+0.2	
PRA				*e*x	x	10 29 56.9		
PRA				*e*PP	**PP**	**10 33 24.2**	**-2.4**	
PRA				*e*SP	SP	10 42 16.0	+4.0	
PRA				AMS	AMS	11 15 40.0		
	comp=Z,4µm,19.6s							
PRA	**Prague**	**97.01**	**322**	*e*P	Pdif	10 29 31.3	+0.2	
PRA				*e*		10 33 24.2		
PRA				*e*SP	SP	10 42 16.0	+4.0	
PRA				MLR	MLR			
	comp=Z,4µm,19.6s							
BRG	**Berggiesshubel**	**97.04**	**323**	*e*P	**P**	**10 29 30.7**	**-0.4**	
	comp=Z,28nm,1.3s							
BRG				*e*		10 29 39.8		
	comp=Z,16nm,1.1s							
BRG				*e*		10 29 57.4		
	comp=Z,48nm,1.5s							
BRG				*e*PP	**PP**	**10 33 26.3**	**-0.4**	
	comp=Z,6.6nm,1.0s							
BRG				SKS	**SKSac**	**10 40 06.0**	**+0.3**	
BRG				S	**S**	**10 40 52.0**	**+0.4**	
	comp=N,993nm,18.4s							
	comp=E,2µm,19.7s							
	comp=Z,2µm,20.2s							
BRG	**Berggiesshubel**	**97.04**	**323**	*e*Pdiff	**P**	**10 29 30.8**	**-0.4**	
BRG	**Berggiesshubel**	**97.04**	**323**	*e*P	**P**	**10 29 30.7**	**-0.4**	
BRG				*e*		10 29 39.8		
BRG				*e*		10 33 26.3		
BRG						10 40 06.0		
BRG				S	**S**	**10 40 52.0**	**+0.4**	
BRG				pmax	pmax			
	comp=Z,28nm,1.3s							
BRG				pmax	pmax			
	comp=Z,7.0nm,1.0s							
BRG				MLR	MLR			
	comp=N,993nm,18.4s							
BRG				MLR	MLR			
	comp=E,2µm,19.7s							
BRG				MLR	MLR			
	comp=Z,2µm,20.2s							
HOMB	**Homborsund**	**97.10**	**331**	*e*P	P	10 29 27.5	-3.7	
HOMB				*e*PP	**PP**	**10 33 30.4**	**+3.4**	
LSZ	**Lusaka**	**97.34**	**256**	*e*P	**P**	**10 29 30.8**	**-2.6**	
LSZ				pmax	pmax			
	comp=Z,48nm,1.8s							
LSZ				MLR	MLR			
	comp=Z,2µm,21.0s							
LSZ	**Lusaka**	**97.34**	**256**	P	**P**	**10 29 32.0**	**-1.4**	
	SNR=5.6							
LSZ	**Lusaka**	**97.34**	**256**	*e*P	**P**	**10 29 30.8**	**-2.6**	
	comp=Z,48nm,1.8s							
LSZ				LR	LR			
	comp=Z,2µm,21.0s							
CLL	**Collm**	**97.44**	**324**	*e*Pdiff	**P**	**10 29 32.2**	**-0.7**	
CLL	**Collm**	**97.44**	**324**	*i* P	**P**	**10 29 31.7**	**-1.2**	
	comp=Z,41nm,1.6s							
CLL				*i* pP	pP	10 29 43.5	-0.4	
CLL				*i* (sP)	**sP**	**10 29 48.5**	**+0.7**	
CLL				*e*		10 32 48.0		
CLL				*i* PP	**PP**	**10 33 33.3**	**+3.5**	
	comp=Z,15nm,1.1s							
CLL				*e*PPP	PPP	10 35 31.0		
CLL				*e*SKSac	**SKSac**	**10 40 11.0**	**+3.2**	
CLL				*e*S	S	10 40 51.0	-4.0	
CLL				*e*SP	**SP**	**10 42 14.0**	**-2.6**	
CLL				*e*PPS	PPS	10 43 07.0		
CLL				*e*		10 43 44.0		
CLL				*e*SS	**SS**	**10 47 36.0**	**+2.4**	
CLL				*e*SSS	SSS	10 51 48.0		
CLL				Lm	MLR	11 15 00.0		
	comp=N,2µm,19.7s							
CLL				Lm	MLR	11 15 00.0		
	comp=E,2µm,21.6s							
CLL				Lm	MLR	11 15 00.0		
	comp=Z,2µm,19.1s							
CLL	**Collm**	**97.44**	**324**	*i* P	**P**	**10 29 31.7**	**-1.2**	
CLL				*i*		10 29 43.5		
CLL				*i*		10 29 48.5		
CLL				*e*		10 40 11.0		
CLL				*e*S	S	10 40 51.0	-4.0	
CLL				pmax	pmax			
	comp=Z,41nm,1.6s							
CLL				MLR	MLR			
	comp=Z,2µm,19.1s							
SUE	**Sulen**	**97.51**	**335**	*e*P	**P**	**10 29 32.8**	**-0.2**	
SUE				*e*PP	PP	10 33 35.3	+5.2	
BLS5	**Blasjo**	**97.54**	**333**	*e*P	P	10 29 28.4	-4.8	
BLS5				*e*PP	**PP**	**10 33 31.9**	**+1.5**	
BER	**Bergen**	**97.59**	**334**	*e*PP	PP	10 33 33.1	+2.4	
PERS	**Pernice**	**97.70**	**319**	*i* PP	PP	10 33 35.2	+3.1	
YKA	**Yellowknife Ar**	**97.71**	**24**	P	**P**	**10 29 32.7**	**-1.1**	
	comp=Z,1.7nm,0.8s,baz=300,slow=4.6,SNR=23							
YKA				PKKPbc	PKKPbc	10 46 06.6	-5.2	
	comp=Z,1.4nm,0.7s,baz=125,slow=2.6,SNR=6.0							
KHC	**Kasperske Hory**	**97.85**	**322**	*e*P	**P**	**10 29 34.3**	**-0.6**	
KHC				*e*pP	**pP**	**10 29 47.8**	**+1.9**	
KHC				*e*x	x	10 30 00.0		
KHC				*e*PP	**PP**	**10 33 32.1**	**-1.1**	
KHC				*e*x	x	10 35 38.2		
KHC				*e*SKS	**SKSac**	**10 40 08.2**	**-1.9**	
KHC				*e*S	S	10 40 54.3	-4.5	
KHC				*e*x	x	10 42 12.3		
KHC				*e*SP	**SP**	**10 42 21.2**	**0.0**	
KHC				AMS	AMS	11 15 40.0		
	comp=Z,3µm,22.2s							
KHC	**Kasperske Hory**	**97.85**	**322**	*e*P	**P**	**10 29 34.3**	**-0.6**	
KHC				*e*		10 29 47.8		
KHC				*e*		10 33 32.1		
KHC				*e*		10 35 38.2		
KHC				*e*		10 40 08.2		
KHC				*e*S	S	10 40 54.3	-4.5	
KHC				*e*SP	**SP**	**10 42 21.2**	**0.0**	
KHC				MLR	MLR			
	comp=Z,3µm,22.2s							
MOA	**Molin**	**97.86**	**320**	⇑*i*PcP	**P**	**10 29 34.8**	**-0.1**	
	comp=Z,13nm,0.9s							
GEC2	**GERESS Array S**	**97.88**	**321**	*e*Pdiff	**P**	**10 29 34.2**	**-0.9**	
BSEG	**Bad Segeberg**	**97.97**	**327**	*e*Pdiff	**P**	**10 29 35.0**	**-0.2**	
TANN	**Tannenbergstha**	**98.08**	**323**	*e*Pdiff	**P**	**10 29 35.3**	**-0.6**	
VISS	**Visnje**	**98.15**	**318**	*e*P	**P**	**10 29 36.3**	**0.0**	
VISS				*e*PP	**PP**	**10 33 39.3**	**+3.8**	
NKC	**Novy Kostel**	**98.15**	**323**	*e*P	**P**	**10 29 36.1**	**-0.1**	
NKC				*e*pP	pP	10 29 47.4	+0.2	
NKC				*e*x	x	10 30 02.8		
NKC				*e*PP	**PP**	**10 33 34.6**	**-0.8**	
NKC				*e*x	x	10 35 42.3		
NKC				*e*SKS	**SKSac**	**10 40 10.3**	**-1.3**	
NKC				*e*S	S	10 40 54.9	-6.3	
NKC				*e*SP	**SP**	**10 42 23.3**	**-1.1**	
NKC				AMS	AMS	11 18 40.0		
	comp=Z,2µm,18.1s							
NKC	**Novy Kostel**	**98.15**	**323**	*e*P	**P**	**10 29 36.1**	**-0.1**	
NKC				*e*		10 29 47.4		
NKC				*e*		10 33 34.6		
NKC				*e*		10 35 42.3		
NKC				*e*		10 40 10.3		
NKC				*e*S	S	10 40 54.9	-6.3	
NKC				*e*SP	**SP**	**10 42 23.3**	**-1.1**	
NKC				MLR	MLR			
	comp=Z,2µm,18.1s							
LJU	**Ljubljana**	**98.28**	**318**	*e*PP	PP	10 33 40.0	+3.5	
LJU				*e*SKSac	**SKSac**	**10 40 10.3**	**-2.0**	
WET	**Wettzell**	**98.28**	**322**	*e*Pdiff	**P**	**10 29 36.5**	**-0.3**	
ROTZ	**Rotzenmuhle**	**98.47**	**322**	*e*Pdiff	**P**	**10 29 37.6**	**0.0**	
MOX	**Moxa**	**98.50**	**323**	*e*Pdiff	**P**	**10 29 37.4**	**-0.3**	
NRDL	**Niedersach Rie**	**98.66**	**326**	*e*Pdiff	Pdif	10 29 38.4	+0.1	
KBA	**Koelnbreinsper**	**98.70**	**320**	⇑*i*Pdiff	**P**	**10 29 36.8**	**-2.1**	
	comp=Z,8.4nm,1.1s							
CLZ	**Clausthal**	**98.77**	**325**	*e*Pdiff	**P**	**10 29 38.9**	**0.0**	
TIP	**Timpagrande**	**98.78**	**311**	PFAKE		10 29 50.0	+11	
TIP				LR	LR			
	comp=Z,687nm,20.0s							
RJOB	**Jochberg**	**98.83**	**320**	*e*PP	PP	10 33 44.2	+3.5	
GRF	**Grafenberg Arr**	**99.09**	**323**	*e*PP	PP	10 33 44.8	+2.2	
CUC	**Castrocucco**	**99.25**	**312**	PFAKE		10 29 50.0	+8.6	
CUC				LR	LR			
	comp=Z,945nm,19.0s							
NLWA	**Neilton Lookou**	**99.58**	**40**	PFAKE		10 29 50.0	+7.3	
NLWA				LR	LR			
	comp=Z,2µm,22.0s							
CEL	**Celeste**	**99.69**	**311**	PFAKE		10 29 50.0	+6.6	
CEL				LR	LR			
	comp=Z,2µm,21.0s							
WTTA	**Wattenberg**	**99.73**	**320**	⇓*i*Pdiff	**Pdif**	**10 29 41.1**	**-2.5**	
	comp=Z,13nm,0.9s							
SUMG	**Summit**	**99.83**	**355**	*i* P	**Pdif**	**10 29 48.4**	**+4.7**	
	comp=Z,11nm,1.1s							
SUMG	**Summit**	**99.83**	**355**	*e*P	**Pdif**	**10 29 48.4**	**+4.7**	
SUMG				pmax	pmax			
	comp=Z,11nm,1.1s							
MOTA	**Moosalm**	**100.04**	**320**	⇓*i*Pdiff	**Pdif**	**10 29 41.9**	**-2.9**	
	comp=Z,9.3nm,0.8s							
IBBN	**Ibbenburen**	**100.05**	**326**	*e*Pdiff	**Pdif**	**10 29 44.8**	**+0.3**	
AQU	**L'Aquila**	**100.25**	**315**	PFAKE		10 30 00.0	+14	
AQU				LR	LR			
	comp=Z,2µm,19.0s							
FETA	**Feichten**	**100.39**	**320**	⇑*i*Pdiff	**Pdif**	**10 29 46.7**	**+0.2**	
	comp=Z,13nm,1.2s							
TNS	**Taunus Mts**	**100.53**	**324**	*e*Pdiff	**Pdif**	**10 29 46.4**	**-0.4**	
G03D	**McMinnville, O**	**100.77**	**42**	⇓Pdiff	**Pdif**	**10 29 47.5**	**-0.4**	
	baz=101							
I03D	**Drain, OR**	**101.25**	**43**	⇓Pdiff	**Pdif**	**10 29 49.1**	**-1.0**	
	baz=101							
BFO	**Black Forest**	**101.38**	**322**	PFAKE		10 30 00.0	+9.4	
BFO				LR	LR			
	comp=Z,3µm,19.0s							
WDD	**Wield Dalam**	**101.44**	**309**	PFAKE		10 30 00.0	+8.9	
WDD				LR	LR			
	comp=Z,686nm,20.0s							
TUE	**Stuetta**	**101.48**	**320**	PFAKE		10 30 00.0	+8.6	
TUE				LR	LR			
	comp=Z,2µm,21.0s							
L02D	**Cave Junction,**	**101.62**	**45**	⇓Pdiff	**Pdif**	**10 29 51.0**	**-0.8**	
	baz=102							
VLC	**Villacollemand**	**101.68**	**318**	PFAKE		10 30 00.0	+7.9	
VLC				LR	LR			
	comp=Z,3µm,22.0s							
CDF	**Champ du Feu**	**101.98**	**323**	*e*P	**Pdif**	**10 29 53.3**	**-0.1**	
CDF	**Champ du Feu**	**101.98**	**323**	*e*P	**Pdif**	**10 29 53.3**	**-0.1**	
CDF	**Champ du Feu**	**101.98**	**323**	*e*P	**Pdif**	**10 29 53.3**	**-0.1**	
G05D	**Wamic, OR**	**102.03**	**41**	⇑Pdiff	**Pdif**	**10 29 52.7**	**-0.9**	
	baz=102							
WLF	**Walferdange**	**102.11**	**324**	PFAKE		10 30 00.0	+6.2	
WLF				LR	LR			
	comp=Z,3µm,19.0s							
ECH	**Echery**	**

MBDF	Montbardon	103.84	319	eP		Pdif		10 30 02.1	+0.3	
MBDF	Montbardon	103.84	319	eP		Pdif		10 30 02.1	+0.3	
MBDF	Montbardon	103.84	319	eP		Pdif		10 30 02.1	+0.3	
BORG	Borgarnes	103.99	345		PFAKE			10 30 10.0	+8.2	
BORG					LR	LR				
	comp=Z,3µm,22.0s									
VSL	Villasalto	104.10	313		PFAKE			10 30 10.0	+7.1	
VSL					LR	LR				
	comp=Z,923nm,20.0s									
ESK	Eskdalemuir	104.15	332		PFAKE			10 30 10.0	+7.3	
ESK					LR	LR				
	comp=Z,3µm,20.0s									
ORIF	Oris-en-Rattie	104.33	320	eP		Pdif		10 30 03.8	-0.1	
ORIF	Oris-en-Rattie	104.33	320	eP		Pdif		10 30 03.8	-0.1	
ORIF	Oris-en-Rattie	104.33	320	eP		Pdif		10 30 03.8	-0.1	
SUR	Sutherland	104.78	238		PFAKE			10 30 20.0	+14	
SUR					LR	LR				
	comp=Z,2µm,20.0s									
BMO	Blue Mountains	104.78	40		PFAKE			10 30 20.0	+14	
BMO					LR	LR				
	comp=Z,1µm,22.0s									
SSF	Saint Saulge	104.86	322	eP		Pdif		10 30 06.9	+0.8	
	comp=Z,22nm,1.4s									
SSF	Saint Saulge	104.86	322	eP		Pdif		10 30 06.9	+0.8	
SSF					pmax	pmax				
	comp=Z,22nm,1.4s									
SSF	Saint Saulge	104.86	322	eP		Pdif		10 30 06.9	+0.8	
	comp=Z,22nm,1.4s									
WVOR	Wild Horse Val	104.93	43		PFAKE			10 30 20.0	+13	
WVOR					LR	LR				
	comp=Z,1µm,21.0s									
SSB	Saint Sauveur	105.03	320		PFAKE			10 34 30.0		
SSB					LR	LR				
	comp=Z,2µm,19.0s									
VIVF	Saint-Julien-l	105.14	320	eP		Pdif		10 30 07.7	+0.3	
	comp=Z,84nm,1.8s									
VIVF	Saint-Julien-l	105.14	320	eP		Pdif		10 30 07.7	+0.3	
VIVF					pmax	pmax				
	comp=Z,84nm,1.8s									
VIVF	Saint-Julien-l	105.14	320	eP		Pdif		10 30 07.7	+0.3	
	comp=Z,84nm,1.8s									
KEST	Kesra	105.47	310		PP	PP		10 34 32.0	+1.1	
	comp=Z,6.4nm,1.1s,baz=322,slow=4.2,SNR=6.5									
MSO	Missoula	105.96	37	⇓PKiKP		PKiKP		10 34 22.0	-1.4	
	baz=106									
SFJD	Kangerlussuaq	106.15	358		PFAKE			10 34 30.0		
SFJD					LR	LR				
	comp=Z,3µm,20.0s									
NVAR	Mina Array Bea	106.77	47		Pdiff	Pdif		10 30 15.0	-0.1	
	comp=Z,3.3nm,0.8s,baz=270,slow=5.0,SNR=21									
NVAR					PKiKP	PKiKP		10 34 26.6	+1.3	
	comp=Z,0.7nm,0.9s,baz=247,slow=4.3,SNR=3.8									
NVAR					PP	PP		10 34 40.4	-0.3	
	comp=Z,1.5nm,0.8s,baz=284,slow=4.2,SNR=5.1									
NVAR					PKKPbc	PKKPbc		10 45 43.9	-0.9	
	comp=Z,1.3nm,0.8s,baz=140,slow=3.8,SNR=10									
HLID	Hailey	107.22	40		PFAKE			10 34 40.0		
HLID					LR	LR				
	comp=Z,896nm,20.0s									
HLID	Hailey	107.22	40	⇑PKiKP		PKiKP		10 34 24.4	-1.5	
	baz=107									
PTCN	Pitcairn Islan	107.33	114		PFAKE			10 34 40.0		
PTCN					LR	LR				
	comp=Z,2µm,19.0s									
FFC	Flin Flon	107.62	26		PFAKE			10 34 40.0		
FFC					LR	LR				
	comp=Z,976nm,20.0s									
TSUM	Tsumeb	107.69	252		PFAKE			10 34 40.0		
TSUM					LR	LR				
	comp=Z,2µm,21.0s									
EGMT	Eagleton	107.79	35	ePKPdf		PKiKP		10 34 26.9	+0.1	
EGMT					LR	LR				
	comp=Z,952nm,22.0s									
EGMT	Eagleton	107.79	35	⇑PKiKP		PKiKP		10 34 26.2	-0.5	
	baz=108									
A19A	Klindworth Far	107.85	33	⇑PKiKP		PKiKP		10 34 26.2	-0.5	
	baz=108									
BOZ	Bozeman (W)	107.94	37		PFAKE			10 34 40.0		
BOZ					LR	LR				
	comp=Z,827nm,19.0s									
B19A	Brinkman Farms	108.00	34	⇓PKiKP		PKiKP		10 34 26.1	-0.9	
	baz=108									
GRAC	Grapevine Rang	108.02	48	⇑PKiKP		PKiKP		10 34 26.6	-0.9	
	baz=108									
MPMC	Manual Prospec	108.31	49	⇑PKiKP		PKiKP		10 34 27.5	-0.6	
	baz=108									
C19A	Slack Wire Ran	108.34	35	⇑PKiKP		PKiKP		10 34 27.3	-0.4	
	baz=108									
EDW2	Edwards Air Fo	108.39	50	⇓PKiKP		PKiKP		10 34 27.7	-0.5	
	baz=108									
B20A	Solberg Farm,	108.52	34	⇓PKiKP		PKiKP		10 34 27.5	-0.5	
	baz=108									
FURC	Furnace Creek,	108.61	48	⇑PKiKP		PKiKP		10 34 28.0	-0.4	
	baz=108									
SCI	San Clemente I	108.67	52	⇓PKiKP		PKiKP		10 34 27.7	-1.0	
	baz=109									
D19A	Cripps Ranch,	108.75	35	⇑PKiKP		PKiKP		10 34 28.7	+0.2	
	baz=109									
R11A	Troy Canyon, C	108.75	46	⇑PKiKP		PKiKP		10 34 28.4	-0.6	
	baz=109									
TPNV	Topopah Spring	108.86	47	⇑PKiKP		PKiKP		10 34 28.4	-0.7	
	baz=109									
BFSC	Mount Baldy Ra	108.89	50	⇓PKiKP		PKiKP		10 34 28.1	-1.1	
	baz=109									
C20A	Veseth Ranch,	108.94	34	⇑PKiKP		PKiKP		10 34 28.2	-0.6	
	baz=109									
B21A	Ellsworth Farm	109.08	33	⇓PKiKP		PKiKP		10 34 28.3	-0.7	
	baz=109									
GSC	Goldstone, Bar	109.12	49	⇑PKiKP		PKiKP		10 34 28.9	-0.7	
	baz=109									
HVU	Hansel Valley	109.12	41	ePKPdf		PKiKP		10 34 28.6	-0.9	
RRX	Edison Barstow	109.14	50	⇓PKiKP		PKiKP		10 34 28.7	-0.8	
	baz=109									
VNA2	Neumayer--Watz	109.21	195	P		PKiKP		10 34 27.5	-1.0	
	baz=67,slow=1.7									
D20A	Manuel Ranch,	109.21	35	⇑PKiKP		PKiKP		10 34 28.6	-0.7	
	baz=109									
LKWY	Lake	109.24	38		PFAKE			10 34 40.0		
LKWY					LR	LR				
	comp=Z,1µm,19.0s									
SHOC	Shoshone, Teco	109.27	48	⇓PKiKP		PKiKP		10 34 29.0	-0.7	
	baz=109									
A22A	Carney Farms,	109.34	32	⇓PKiKP		PKiKP		10 34 28.9	-0.6	
	baz=109									
C21A	Desert Coulee	109.38	34	⇑PKiKP		PKiKP		10 34 28.8	-0.8	
	baz=109									
REDW	Red Top Meadow	109.58	39	ePKPdf		PKiKP		10 34 31.4	+1.0	
SNOW	Snow King Moun	109.59	39	ePKPdf		PKiKP		10 34 30.2	-0.3	
LOHW	Long Hollow	109.61	39	ePKPdf		PKiKP		10 34 30.8	+0.4	
RLMT	Red Lodge	109.63	37		PFAKE			10 34 40.0		
RLMT					LR	LR				
	comp=Z,838nm,21.0s									
AHID	Auburn Hatcher	109.72	40		PFAKE			10 34 40.0		
AHID					LR	LR				
	comp=Z,2µm,22.0s									
DUG	Dugway, Tooele	109.85	43		PFAKE			10 34 40.0		
DUG					LR	LR				
	comp=Z,1µm,19.0s									
F20A	Billings	109.92	36	⇓PKiKP		PKiKP		10 34 29.3	-1.5	
	baz=110									
HWUT	Hardware Ranch	110.00	41	ePKPdf		PKiKP		10 34 30.4	-0.8	
HWUT					LR	LR				
	comp=Z,1µm,22.0s									
PFO	Pinyon Flats O	110.05	51		PFAKE			10 34 40.0		
PFO					LR	LR				
	comp=Z,1µm,20.0s									
PFO	Pinyon Flats O	110.05	51	⇓PKiKP		PKiKP		10 34 30.2	-1.3	
	baz=110									
E21A	Keefer Ranch,	110.13	35	⇓PKiKP		PKiKP		10 34 30.7	-0.4	
	baz=110									
B23A	Brockton	110.14	32	⇓PKiKP		PKiKP		10 34 30.5	-0.5	
	baz=110									
GMRC	Granite Mounta	110.19	49	⇓PKiKP		PKiKP		10 34 31.4	-0.3	
	baz=110									
G20A	Bridger	110.21	37	⇑PKiKP		PKiKP		10 34 30.6	-0.7	
	baz=110									
BELC	Belle Mtn. Jos	110.25	50	⇑PKiKP		PKiKP		10 34 30.7	-1.1	
	baz=110									
D22A	Cohagen	110.28	34	⇓PKiKP		PKiKP		10 34 31.2	-0.2	
	baz=110									
I19A	Meeteetse	110.38	38	⇓PKiKP		PKiKP		10 34 31.0	-0.9	
	baz=110									
A24A	Westby	110.38	32	⇓PKiKP		PKiKP		10 34 31.1	-0.4	
	baz=110									
MSKU	Masuku	110.40	271		PFAKE			10 34 40.0		
MSKU					LR	LR				
	comp=Z,3.0nm,22.0s									
C23A	Lambert	110.44	33	⇑PKiKP		PKiKP		10 34 31.1	-0.5	
	baz=110									
LAO	LASA Array	110.52	34	ePKPdf		PKiKP		10 34 31.9	0.0	
LAO					LR	LR				
	comp=Z,1µm,22.0s									
DGMT	Dagmar	110.56	32		PFAKE			10 34 40.0		
DGMT					LR	LR				
	comp=Z,962nm,21.0s									
DGMT	Dagmar	110.56	32	⇑PKiKP		PKiKP		10 34 32.5	+0.7	
	baz=110									
BW06	Boulder Array	110.70	39		PFAKE			10 34 40.0		
BW06					LR	LR				
	comp=Z,1µm,22.0s									
PDAR	Pinedale Array	110.70	39	PKiKP		PKiKP		10 34 33.2	+0.7	
	comp=Z,1.5nm,1.0s,baz=49,slow=4.5,SNR=5.5									
PDAR					PP	PP		10 35 07.6	-1.4	
	comp=Z,1.8nm,1.0s,baz=320,slow=3.9,SNR=4.4									
PDAR					PKKPbc	PKKPbc		10 45 28.3	-4.2	
	comp=Z,1.5nm,0.9s,baz=116,slow=5.2,SNR=10									
H20A	Greybull	110.74	37	⇓PKiKP		PKiKP		10 34 31.3	-1.1	
	baz=111									
J19A	Crowheart	110.75	39	⇑PKiKP		PKiKP		10 34 31.4	-1.2	
	baz=111									
D23A	Lindsay	110.80	34	⇓PKiKP		PKiKP		10 34 31.7	-0.7	
	baz=111									
E22A	Miles City	110.82	34	⇑PKiKP		PKiKP		10 34 31.4	-1.0	
	baz=111									
SWSC	Sam W. Stewart	110.83	51	⇑PKiKP		PKiKP		10 34 31.6	-1.1	
	baz=111									
I20A	Worland	110.95	38	⇑PKiKP		PKiKP		10 34 32.1	-0.8	
	baz=111									
C24A	Savage	111.01	33	⇑PKiKP		PKiKP		10 34 32.0	-0.7	
	baz=111									
F22A	Rosebud	111.03	35	⇑PKiKP		PKiKP		10 34 32.0	-0.8	
	baz=111									
MSU	Marysvale	111.07	44	ePKiKP		PKiKP		10 34 32.5	-0.8	
MSU	Marysvale	111.07	44	ePKPdf		PKiKP		10 34 32.5	-0.8	
E23A	Ismay	111.15	34	⇑PKiKP		PKiKP		10 34 32.3	-0.7	
	baz=111									
J20A	Shoshoni	111.30	38	⇑PKiKP		PKiKP		10 34 32.5	-1.1	
	baz=111									
G22A	Birney	111.33	36	⇑PKiKP		PKiKP		10 34 32.6	-0.9	
	baz=111									
I21A	Big Trails, Te	111.53	37	⇑PKiKP		PKiKP		10 34 33.2	-0.8	
	baz=111									
F23A	Volborg	111.55	35	⇑PKiKP		PKiKP		10 34 33.4	-0.4	
	baz=111									
H22A	Clearmont	111.65	36	⇓PKiKP		PKiKP		10 34 33.4	-0.7	
	baz=112									
E24A	Baker	111.66	34	⇑PKiKP		PKiKP		10 34 33.4	-0.6	
	baz=112									
J21A	Lysite	111.70	38	⇓PKiKP		PKiKP		10 34 32.8	-1.5	
	baz=112									
SRU	San Rafael Swe	111.92	43	ePKiKP		PKiKP		10 34 34.3	-0.6	
SRU	San Rafael Swe	111.92	43	ePKPdf		PKiKP		10 34 34.3	-0.6	
I22A	9 Mile Ranch,	111.97	37	⇑PKiKP		PKiKP		10 34 33.6	-1.2	
	baz=112									
C26A	Wahner Farm, P	112.06	32	⇓PKiKP		PKiKP		10 34 34.1	-0.5	
	baz=112									
E25A	Miller Ranch,	112.19	33	⇓PKiKP		PKiKP		10 34 34.2	-0.8	
	baz=112									
J22A	Midwest	112.25	37	⇑PKiKP		PKiKP		10 34 34.5	-0.8	
	baz=112									
A28A	Rude Farm, Bot	112.28	30	⇓PKiKP		PKiKP		10 34 34.2	-0.9	
	baz=112									
C27A	Sayler Ranch,	112.44	31	⇓PKiKP		PKiKP		10 34 34.8	-0.6	
	baz=112									
F25A	Bowman	112.52	34	⇑PKiKP		PKiKP		10 34 35.4	-0.2	
	baz=112									
N20A	Spence Gulch,	112.54	40	⇓PKiKP		PKiKP		10 34 35.0	-1.1	
	baz=112									
H24A	Dirks Ranch, A	112.61	35	⇑PKiKP		PKiKP		10 34 34.9	-1.1	
	baz=112									
K22A	Casper	112.64	38	ePKPdf		PKiKP		10 34 35.2	-1.0	
K22A	Casper	112.64	38	⇑PKiKP		PKiKP		10 34 35.1	-1.1	
	baz=112									
E26A	Carlson Angus	112.72	33	⇑PKiKP		PKiKP		10 34 35.0	-1.0	
	baz=113									
A29A	Manning Farm,	112.78	29	⇑PKiKP		PKiKP		10 34 35.1	-0.9	
	baz=113									
O20A	White River Ci	112.92	41	ePKPdf		PKiKP		10 34 36.3	-0.5	
O20A	White River Ci	112.92	41	⇑PKiKP		PKiKP		10 34 35.8	-1.0	
	baz=113									
TAM	Tamanrasset	112.96	298		PFAKE			10 34 50.0		
TAM					LR	LR				
	comp=Z,1µm,20.0s									
G25A	Newell	112.98	34	⇓PKiKP		PKiKP		10 34 35.5	-1.1	
	baz=113									
F26A	Lodgepole	113.00	34	⇓PKiKP		PKiKP		10 34 35.9	-0.6	
	baz=113									
B29A	Wagenman Farm,	113.03	30	⇓PKiKP		PKiKP		10 34 36.4	-0.1	
	baz=113									
WUAZ	Wupatki	113.03	47	ePKPdf		PKiKP		10 34 37.8	+0.8	
WUAZ					LR	LR				
	comp=Z,2µm,22.0s									
WUAZ	Wupatki	113.03	47	⇓PKiKP		PKiKP		10 34 36.3	-0.8	
	baz=113									
I24A	Kuemmerle Ranc	113.09	36	⇓PKiKP		PKiKP		10 34 36.5	-0.4	
	baz=113									
K23A	Bowen Ranch, D	113.13	38	⇑PKiKP		PKiKP		10 34 36.2	-0.8	
	baz=113									
A30A	Hoffart Farm,	113.22	29	⇓PKiKP		PKiKP		10 34 37.1	+0.3	
	baz=113									
E27A	Carson	113.23	32	⇑PKiKP		PKiKP		10 34 36.6	-0.4	
	baz=113									
ESDC	Sonseca Array	113.24	319	PP		PP		10 35 27.9	+0.8	
	comp=Z,1.9nm,0.7s,baz=68,slow=5.9,SNR=6.0									
RSSD	Black Hills	113.28	36	ePKiKP		PKiKP		10 34 35.6	-1.8	
RSSD	Black Hills	113.28	36	ePKPdf		PKiKP		10 34 35.6	-1.8	
MDND	Maddock	113.32	30	⇓PKiKP		PKiKP		10 34 37.2	+0.2	
	baz=113									
G26A	Maurine	113.38	34	⇓PKiKP		PKiKP		10 34 36.7	-0.7	
	baz=113									
I25A	Rochford	113.52	36	⇓PKiKP		PKiKP		10 34 37.3	-0.5	
	baz=113									
B30A	Myrvik Farm, E	113.54	29	⇑PKiKP		PKiKP		10 34 37.0	-0.5	
	baz=113									
PAB	San Pablo	113.56	319		PFAKE			10 34 50.0		
PAB					LR	LR				
	comp=Z,1µm,20.0s									
K24A	Anderson Ranch	113.64	37	⇑PKiKP		PKiKP		10 34 37.2	-0.8	
	baz=114									
G27A	Dupree	113.69	34	⇓PKiKP		PKiKP		10 34 37.3	-0.7	
	baz=114									
H26A	Fairpoint	113.70	35	⇑PKiKP		PKiKP		10 34 37.3	-0.6	
	baz=114									
N22A	Wattenberg Ran	113.71	40	⇑PKiKP		PKiKP		10 34 38.5	+0.1	
	baz=114									
PV01	Paradox Valley	113.73	43	ePKPdf		PKiKP		10 34 38.2	-0.2	
J25A	Sunshine Ranch	113.85	36	⇓PKiKP		PKiKP		10 34 37.3	-1.1	
	baz=114									
PBRG	Braganca	113.85	322	ePP		PP		10 35 32.1	+0.9	
PBRG	Braganca	113.85	322	eLR		LR		11 10 42.4		
	comp=Z,2µm,20.0s									
C30A	Mose, Pekin	113.98	30	⇑PKiKP		PKiKP		10 34 37.4	-0.9	
	baz=114									
N23A	Red Feather La	113.98	39	⇓PKiKP		PKiKP		10 34 38.6	-0.2	
	baz=114									
O22A	Kremmling	114.00	40	⇑PKiKP		PKiKP		10 34 37.9	-1.1	
	baz=114									
F28A	McLaughlin	114.01	33	⇑PKiKP		PKiKP		10 34 38.7	+0.2	
	baz=114									
I26A	New Underwood	114.01	35	⇑PKiKP		PKiKP		10 34 37.1	-1.5	
	baz=114									
H27A	Howes	114.08	34	⇑PKiKP		PKPdf		10 34 38.4	-0.3	
	baz=114									
E29A	Napoleon	114.15	31	⇓PKiKP		PKiKP		10 34 38.5	-0.2	
	baz=114									
P22A	Eagle	114.17	41	⇑PKiKP		PKPdf		10 34 38.2	-1.0	
	baz=114									
D30A	Buchanan	114.24	31	⇓PKiKP		PKiKP		10 34 38.3	-0.6	
	baz=114									
MVCO	Mesa Verde	114.25	44	ePKPdf		PKPdf		10 34 39.3	-0.2	
MVCO					LR	LR				
	comp=Z,3µm,21.0s									
MVCO	Mesa Verde	114.25	44	⇓PKiKP		PKPdf		10 34 38.6	-0.8	
	baz=114									
J26A	Sides Ranch, S	114.32	36	⇑PKiKP		PKiKP		10 34 38.5	-0.7	
	baz=114									
O23A	Lake Granby, G	114.38	40	⇓PKiKP		PKiKP		10 34 39.3	-0.5	
	baz=114									
MVO	Moncorvo	114.39	321	ePKPdf		PKPdf		10 34 39.7	+0.3	
MVO	Moncorvo	114.39	321	ePP		PP		10 35 36.5	+1.4	
MVO	Moncorvo	114.39	321	eLR		LR		11 10 49.8		
	comp=Z,1µm,20.0s									
MVO					eLQ	LQ		11 15 43.7		
G28A	Parade	114.44	33	⇓PKiKP		PKiKP		10 34 38.7	-0.6	
	baz=114									
I27A	Quinn	114.44	35	⇓PKiKP		PKiKP		10 34 38.4	-1.0	
	baz=114									
L25A	Engebretsen Ra	114.48	37	⇑PKiKP		PKiKP		10 34 38.5	-1.1	
	baz=114									
F29A	Eureka	114.54	32	⇓PKiKP		PKiKP		10 34 38.7	-0.8	
	baz=114									
E30A	Jud	114.57	31	⇓PKiKP		PKiKP		10 34 38.5	-1.0	
	baz=114									
K26A	Motz Farm, Whi	114.63	36	⇑PKiKP		PKiKP		10 34 38.3	-1.6	
	baz=114									
H28A	Mission Ridge	114.64	34	⇑PKiKP		PKiKP		10 34 39.1	-0.6	
	baz=114									
PGAV	Gavieira, Arco	114.69	323	ePP		PP		10 35 37.4	+0.2	
PGAV	Gavieira, Arco	114.69	323	eLR		LR		11 11 27.0		
	comp=Z,1µm,18.0s									
PCAB	Cabril	114.69	322	ePP		PP		10 35 38.6	+1.5	
POLO	Lamas de Olo	114.75	322	ePKPdf		PKPdf		10 34 36.4	-3.7	
POLO	Lamas de Olo	114.75	322	ePP		PP		10 35 38.7	+1.1	
POLO	Lamas de Olo	114.75	322	eLR		LR		11 11 27.0		
	comp=Z,866nm,18.0s									
ISCO	Idaho Springs	114.80	40	ePKIKP		PKPdf		10 34 39.7	-0.8	
ISCO					MLR	MLR				
	comp=Z,2µm,22.0s									
ISCO	Idaho Springs	114.80	40	ePKPdf		PKPdf		10 34 39.7	-0.8	
ISCO					LR	LR				
	comp=Z,2µm,22.0s									
ISCO	Idaho Springs	114.80	40	⇑PKiKP		PKiKP		10 34 39.4	-1.1	
	baz=115									
AGMN	Agassiz Nation	114.82	28		PFAKE			10 34 50.0	+10	
AGMN					LR	LR				
	comp=Z,1µm,21.0s									
AGMN	Agassiz Nation	114.82	28	⇓PKiKP		PKiKP		10 34 38.9	-1.1	
	baz=115									
P23A	Jefferson	114.89	41	⇑PKiKP		PKiKP		10 34 39.5	-1.3	
	baz=115									
G29A	Hoven	114.90	33	⇓PKiKP		PKiKP		10 34 39.2	-1.0	
	baz=115									
TUC	Tucson	114.92	50		PFAKE			10 34 50.0	+9.3	
TUC					LR	LR				
	comp=Z,1µm,20.0s									
J27A	Elkhorn Farm,	114.97	35	⇓PKiKP		PKiKP		10 34 39.1	-1.4	
	baz=115									
I28A	Midland	114.99	34	⇑PKiKP		PKiKP		10 34 39.7	-0.8	
	baz=115									
L26A	Underwood Farm	115.08	37	⇓PKiKP		PKiKP		10 34 39.9	-0.8	
	baz=115									
S22A	4UR Ranch, Cre	115.11	43	⇑PKiKP		PKiKP		10 34 39.6	-1.6	
	baz=115									
H29A	Onida	115.11	33	⇓PKiKP		PKiKP		10 34 39.6	-1.0	
	baz=115									
MTE	Manteigas	115.15	321	ePP		PP		10 35 40.3	-0.1	
MTE				i P		PS		10 45 19.5	-1.4	
MTE	Manteigas	115.15	321	eLR		LR		11 10 57.2		
	comp=Z,1µm,20.0s									
MTE				eLQ		LQ		11 14 51.0		
MTE	Manteigas	115.15	321		PFAKE			10 34 50.0	+9.1	
MTE					LR	LR				
	comp=Z,2µm,21.0s									
Q23A	Hartsel	115.15	41	⇓PKiKP		PKiKP		10 34 40.5	-0.8	
	baz=115									
K27A	Flueckinger Fa	115.18	36	⇑PKiKP		PKiKP		10 34 39.8	-1.1	
	baz=115									
J28A	Allard Ranch,	115.31	35	⇓PKiKP		PKiKP		10 34 40.2	-0.9	
	baz=115									
G30A	Faulkton	115.36	32	⇓PKiKP		PKiKP		10 34 40.4	-0.6	
	baz=115									
I29A	Vivian Onida	115.45	34	⇓PKiKP		PKiKP		10 34 40.4	-0.9	
	baz=115									
R23A	Moffat	115.54	42	⇑PKiKP		PKiKP		10 34 41.1	-0.9	
	baz=115									
Q24A	Divide	115.56	41	⇓PKiKP		PKiKP		10 34 41.3	-0.8	
	baz=115									
PMRV	Marv??o	115.60	320	PKPdf		PKPdf		10 34 41.3	-0.4	
PMRV	Marv??o	115.60	320	eLR		LR		11 12 19.1		
	comp=Z,1µm,20.0s									
PMRV				eLQ		LQ		11 18 15.8		
K28A	Ten Mile Ranch	115.68	36	⇓PKiKP		PKiKP		10 34 40.9	-0.9	
	baz=116									
J29A	Okreek	115.83	34	⇓PKiKP		PKiKP		10 34 41.4	-0.7	
	baz=116									
BRSD	Miller	115.92	33	⇓PKiKP		PKiKP		10 34 41.2	-1.0	
	baz=116									
PCAS	Casmilo, Conde	115.95	321	ePP		PP		10 35 47.2

baz=117
S26A Kim 117.41 41 ⇑PKiKP PKPdf 10 34 44.4 -1.0
baz=117
R27A Eads 117.46 40 ⇑PKiKP PKPdf 10 34 44.8 -0.7
baz=117
L31A Butterfield Fa 117.46 35 ⇓PKiKP PKPdf 10 34 44.1 -1.2
baz=117
T26A Comanche Natio 117.58 42 ⇓PKiKP PKPdf 10 34 44.9 -0.9
baz=117
O29A 4D Ranch, Culb 117.61 38 ⇑PKiKP PKPdf 10 34 45.0 -0.7
baz=117
MORF Marmelete 117.61 319 ePKPdf PKPdf 10 34 46.4 +0.7
MORF Marmelete 117.61 319 ePP PP 10 35 59.6 +1.8
MORF Marmelete 117.61 319 eLR LR 11 15 51.3
comp=Z,2μm,18.0s
N30A Hueftle Ranch, 117.61 37 ⇑PKiKP PKPdf 10 34 44.8 -0.8
baz=117
Q28A Sharon Springs 117.62 39 ⇓PKiKP PKPdf 10 34 44.7 -1.1
baz=118
ECSD EROS Data Cent 117.64 32 ePKPdf PKPdf 10 34 43.9 -1.6
ECSD LR LR
comp=Z,996nm,19.0s
ECSD EROS Data Cent 117.64 32 ⇑PKiKP PKPdf 10 34 44.8 -0.7
baz=118
PFVI Vila Bisbo 117.83 318 ePP PP 10 36 01.3 +2.1
PFVI Vila Bisbo 117.83 318 eLR LR 11 13 40.9
comp=Z,1μm,18.0s
P29A Atwood 117.85 38 ⇓PKiKP PKPdf 10 34 45.6 -0.5
baz=118
M31A Lambtecht Ranc 117.92 35 ⇓PKiKP PKPdf 10 34 45.5 -0.6
baz=118
O30A MW Ranch, Wils 118.03 37 ⇑PKiKP PKPdf 10 34 45.6 -0.8
baz=118
R28A Tribune 118.06 40 ⇑PKiKP PKPdf 10 34 46.4 -0.1
baz=118
T27A Campo 118.22 41 ⇓PKiKP PKPdf 10 34 46.3 -0.7
baz=118
Q29A Oakley 118.25 39 ⇓PKiKP PKPdf 10 34 46.2 -0.7
baz=118
P30A Selden 118.31 38 ⇑PKiKP PKPdf 10 34 46.4 -0.6
baz=118
BGNE Belgrade 118.35 35 ePKPdf PKPdf 10 34 45.5 -1.4
BGNE Belgrade 118.35 35 ⇓PKiKP PKPdf 10 34 46.1 -0.9
baz=118
R29A Marienthal 118.44 39 ⇓PKiKP PKPdf 10 34 46.3 -1.0
baz=118
S28A Manter 118.45 40 ⇓PKiKP PKPdf 10 34 46.4 -0.9
baz=118
O31A Woolen Ranch, 118.48 37 ⇓PKiKP PKPdf 10 34 46.5 -0.7
baz=118
SPMN Marine on St. 118.50 29 ePKPdf PKPdf 10 34 46.7 -0.4
SPMN Marine on St. 118.50 29 ⇓PKiKP PKPdf 10 34 46.8 -0.3
baz=118
U27A Thompson Grove 118.51 42 ⇓PKiKP PKPdf 10 34 46.8 -0.7
baz=118
T28A Walsh 118.58 41 ⇓PKiKP PKPdf 10 34 47.0 -0.6
baz=118
Q30A Quinter 118.67 38 ⇑PKiKP PKPdf 10 34 47.2 -0.5
baz=118
N32A Stulken Farm, 118.69 36 ⇓PKiKP PKPdf 10 34 46.8 -0.8
baz=118
P31A Stockton 118.84 37 ⇓PKiKP PKPdf 10 34 47.2 -0.7
baz=119
V27A Dan Oppiter Fa 118.88 43 ⇑PKiKP PKPdf 10 34 47.6 -0.7
baz=119
S29A Ulysses 118.93 40 ⇑PKiKP PKPdf 10 34 47.5 -0.8
baz=119
U28A Mallet 118.93 42 ⇑PKiKP PKPdf 10 34 47.7 -0.6
baz=119
O32A Brockman Farm, 119.03 36 ⇓PKiKP PKPdf 10 34 47.9 -0.4
baz=119
R30A Dighton 119.06 39 ⇓PKiKP PKPdf 10 34 48.3 -0.1
baz=119
T29A Hugoton 119.09 40 ⇑PKiKP PKPdf 10 34 48.1 -0.5
baz=119
Q31A Ellis 119.16 38 ⇑PKiKP PKPdf 10 34 47.9 -0.7
baz=119
P32A Huiting Farm, 119.25 37 ⇑PKiKP PKPdf 10 34 47.9 -0.8
baz=119
MNTX Cornudas Mount 119.25 48 ePKPdf PKPdf 10 34 48.7 -0.3
MNTX LR LR
comp=Z,1μm,20.0s
MNTX Cornudas Mount 119.25 48 ⇑PKiKP PKPdf 10 34 49.6 +0.6
baz=119
TOA0 Torodi Ar. Sit 119.29 289 ePKP1 PKPpre 10 34 40.6
TOA0 Torodi Ar. Sit 119.29 289 ePKPdf PKPdf 10 34 47.5 -1.8
TORD Torodi Ar. Bea 119.29 289 PKP PKPdf 10 34 47.7 -1.7
comp=Z,12nm,0.9s,baz=63,slow=1.6,SNR=42
TORD PP PP 10 36 08.4 -2.0
comp=Z,7.3nm,1.1s,baz=40,slow=4.3,SNR=4.0
TORD PKKPbc PKKPbc 10 45 01.1 -0.8
comp=Z,1.3nm,1.0s,baz=280,slow=2.8,SNR=3.9
V28A Channing 119.29 42 ⇓PKiKP PKPdf 10 34 48.5 -0.6
baz=119
S30A Montezuma 119.33 40 ⇓PKiKP PKPdf 10 34 48.3 -0.7
baz=119
U29A Oasis Ranch, S 119.52 41 ⇑PKiKP PKPdf 10 34 48.6 -0.8
baz=119
R31A Burdett 119.52 38 ⇓PKiKP PKPdf 10 34 48.7 -0.6
baz=119
O33A Hebron 119.55 36 ⇓PKiKP PKPdf 10 34 49.0 -0.3
baz=119
W28A Vega 119.58 43 ⇑PKiKP PKPdf 10 34 48.9 -0.7
baz=119
T30A Plains 119.64 40 ⇓PKiKP PKPdf 10 34 49.0 -0.6
baz=120
N34A Lincoln 119.67 35 ⇑PKiKP PKPdf 10 34 49.1 -0.4
baz=120
Q32A Meitler Ranch, 119.67 37 ⇓PKiKP PKPdf 10 34 48.9 -0.7
baz=120
V29A Stinnett 119.69 42 ⇓PKiKP PKPdf 10 34 49.3 -0.5
baz=120
U30A WK&E Inc. Balk 119.88 41 ⇓PKiKP PKPdf 10 34 49.5 -0.6
baz=120
P33A Williams Farm, 119.90 36 ⇑PKiKP PKPdf 10 34 49.5 -0.5
baz=120
MSTX Muleshoe 119.92 44 ePKPdf PKPdf 10 34 49.8 -0.5
MSTX Muleshoe 119.92 44 ⇑PKiKP PKPdf 10 34 49.6 -0.7
baz=120
R32A Long Quarter, 119.94 38 ⇓PKiKP PKPdf 10 34 49.5 -0.6
baz=120
S31A Mullinville 119.96 39 ⇓PKiKP PKPdf 10 34 49.7 -0.5
baz=120
X28A Dimmitt 120.01 43 ⇑PKiKP PKPdf 10 34 49.8 -0.7
baz=120
W29A Amarillo 120.04 43 ⇑PKiKP PKPdf 10 34 49.9 -0.6
baz=120
Q33A Connelly Farm, 120.10 37 ⇑PKiKP PKPdf 10 34 49.9 -0.4
baz=120
N35A Tabor 120.13 34 ⇑PKiKP PKPdf 10 34 50.1 -0.3
baz=120
AMTX Amarillo 120.15 43 ⇓PKiKP PKPdf 10 34 50.6 -0.1
baz=120
T31A Randall Ranch, 120.16 40 ⇓PKiKP PKPdf 10 34 50.8 +0.3
baz=120
S32A Newby Ranch, P 120.25 39 ⇑PKiKP PKPdf 10 34 50.9 +0.1
baz=120
V30A Spur Ranch, Mi 120.30 41 ⇓PKiKP PKPdf 10 34 51.0 +0.1
baz=120
Y28A McKinney Farm, 120.31 44 ⇑PKiKP PKPdf 10 34 50.7 -0.4
baz=120
X29A Tulia 120.39 43 ⇑PKiKP PKPdf 10 34 50.5 -0.7
baz=120
R33A Olander Ranch, 120.45 38 ⇑PKiKP PKPdf 10 34 51.0 -0.1
baz=120
U31A Nine Bar Ranch 120.49 40 ⇓PKiKP PKPdf 10 34 51.1 -0.2
baz=120
Z28A Tucker Farm, M 120.56 45 ⇓PKiKP PKPdf 10 34 50.5 -1.1
baz=120
T32A Huddler Ranch, 120.58 39 ⇑PKiKP PKPdf 10 34 50.7 -0.7
baz=120
Q34A Chapman 120.68 36 ⇑PKiKP PKPdf 10 34 51.1 -0.4
baz=120
SCIA State Center 120.70 32 PFAKE 10 35 00.0 +8.6
SCIA LR LR
comp=Z,1μm,19.0s
Y29A Porterfield Fa 120.74 44 ⇓PKiKP PKPdf 10 34 51.4 -0.4
baz=121
KSU1 Kansas State U 120.76 36 ePKPdf PKPdf 10 34 50.9 -0.7
KSU1 LR LR
comp=Z,975nm,22.0s
KSU1 Kansas State U 120.76 36 ⇑PKiKP PKPdf 10 34 51.4 -0.3
baz=121
P35A Duane Minner, 120.82 35 ⇓PKiKP PKPdf 10 34 51.1 -0.7
baz=121
V31A Spring Creek L 120.85 41 ⇓PKiKP PKPdf 10 34 52.0 +0.1
baz=121
128A Castleberry Fa 120.86 45 ⇑PKiKP PKPdf 10 34 51.9 -0.2
baz=121
S33A Kaszmaul Farm, 120.90 38 ⇓PKiKP PKPdf 10 34 52.0 +0.1
baz=121
R34A Isabella, Hill 120.90 37 ⇑PKiKP PKPdf 10 34 51.8 -0.1
baz=121
X30A Coker Ranch, T 120.95 43 ⇓PKiKP PKPdf 10 34 51.9 -0.3
baz=121
O36A Bolckow 121.00 34 ⇓PKiKP PKPdf 10 34 51.6 -0.4
baz=121
U32A Winter Ranch, 121.03 40 ⇓PKiKP PKPdf 10 34 52.1 -0.2
baz=121
Z29A Hungry Hill Ra 121.05 44 ⇓PKiKP PKPdf 10 34 52.2 -0.3
baz=121
228A UT Block 9, Go 121.05 46 ⇑PKiKP PKPdf 10 34 52.3 -0.2
baz=121
T33A Patterson Ranc 121.07 39 ⇓PKiKP PKPdf 10 34 52.2 -0.1
baz=121
W31A Holland Ranch, 121.14 42 ⇑PKiKP PKPdf 10 34 52.3 -0.2
baz=121
Q35A Mercer Eighty, 121.25 36 ⇑PKiKP PKPdf 10 34 52.5 -0.1
baz=121
Y30A Stafford Cattl 121.26 43 ⇓PKiKP PKPdf 10 34 52.6 -0.3
baz=121
129A Stewart Farms, 121.29 45 ⇓PKiKP PKPdf 10 34 52.5 -0.4
baz=121
S34A Willow Spring 121.37 38 ⇓PKiKP PKPdf 10 34 52.7 -0.1
baz=121
V32A Arapaho 121.40 41 ⇑PKiKP PKPdf 10 34 52.6 -0.4
baz=121
Z30A Sanderson Ranc 121.44 44 ⇑PKiKP PKPdf 10 34 52.6 -0.6
baz=121
X31A McDonald Ranch 121.44 42 ⇑PKiKP PKPdf 10 34 52.8 -0.3
baz=121
JFWS Jewell Farm 121.45 29 ePKIKP PKPdf 10 34 51.2 -1.6
JFWS MLR MLR
comp=Z,1μm,20.0s
JFWS Jewell Farm 121.45 29 ePKPdf PKPdf 10 34 51.2 -1.6
JFWS LR LR
comp=Z,1μm,20.0s
R35A Emporia Munici 121.51 37 ⇑PKiKP PKPdf 10 34 52.7 -0.4
baz=121
Q36A Arnold C. Orve 121.52 36 ⇑PKiKP PKPdf 10 34 52.7 -0.4
baz=121
U33A Lingo Farm, Me 121.56 39 ⇑PKiKP PKPdf 10 34 53.0 -0.3
baz=121
W32A Sentinel 121.63 41 ⇑PKiKP PKPdf 10 34 53.1 -0.3
baz=122
Y31A Rekieta Farm, 121.64 43 ⇑PKiKP PKPdf 10 34 53.3 -0.2
baz=122
229A Bryant Ranch, 121.69 46 ⇑PKiKP PKPdf 10 34 53.3 -0.4
baz=122
TXAR Lajitas Array 121.72 49 PKP PKPdf 10 34 53.3 -0.5
comp=Z,4.4nm,0.9s,baz=244,slow=1.1,SNR=30
TXAR PKKPbc PKKPbc 10 44 52.4 -0.9
comp=Z,1.2nm,1.0s,baz=116,slow=5.7,SNR=7.7
T34A McClaskey Farm 121.76 38 ⇓PKiKP PKPdf 10 34 53.2 -0.4
baz=122
V33A Lossen Ranch, 121.83 40 ⇓PKiKP PKPdf 10 34 53.4 -0.4
baz=122
329A Wagon Wheel Ra 121.83 46 ⇓PKiKP PKPdf 10 34 53.2 -0.8
baz=122
S35A Otter Creek Ra 121.86 37 ⇓PKiKP PKPdf 10 34 53.1 -0.7
baz=122
U34A Anderson Ranch 121.92 39 ePKPdf PKPdf 10 34 53.5 -0.4
U34A Anderson Ranch 121.92 39 ⇓PKiKP PKPdf 10 34 53.5 -0.4
baz=122
R36A Gordon, Harris 121.92 36 ⇑PKiKP PKPdf 10 34 53.2 -0.6
baz=122
130A Snyder 121.94 45 ⇓PKiKP PKPdf 10 34 53.3 -0.8
baz=122
X32A Elmer 122.02 42 ⇓PKiKP PKPdf 10 34 53.9 -0.3
baz=122
Z31A Sharp Cattle R 122.09 43 ⇓PKiKP PKPdf 10 34 54.3 -0.1
baz=122
W33A Caddo, Fort Co 122.12 41 ⇓PKiKP PKPdf 10 34 53.9 -0.5
baz=122
Q37A Longview Farm, 122.15 35 ⇓PKiKP PKPdf 10 34 53.5 -0.8
baz=122
WMOK Wichita Mounta 122.17 41 ePKIKP PKPdf 10 34 53.1 -1.4
WMOK MLR MLR
comp=Z,2μm,22.0s
WMOK Wichita Mounta 122.17 41 ePKPdf PKPdf 10 34 53.1 -1.4
WMOK LR LR
comp=Z,2μm,22.0s
Y32A R-V Farms, Ver 122.17 42 ⇓PKiKP PKPdf 10 34 53.6 -0.9
baz=122
230A Sterling City 122.23 45 ⇑PKiKP PKPdf 10 34 53.9 -0.8
baz=122
T35A Sooner Cattle 122.24 38 ⇑PKiKP PKPdf 10 34 53.8 -0.8
baz=122
S36A Lake Cedric, C 122.27 37 ⇑PKiKP PKPdf 10 34 53.8 -0.7
baz=122
131A Roby 122.29 44 ⇑PKiKP PKPdf 10 34 54.1 -0.7
baz=122
V34A Guthrie 122.31 40 ePKPdf PKPdf 10 34 54.1 -0.6
V34A Guthrie 122.31 40 ⇑PKiKP PKPdf 10 34 53.9 -0.8
baz=122
R37A Teagarden Farm 122.32 36 ⇓PKiKP PKPdf 10 34 53.9 -0.8
baz=122
429A Davenport Ranc 122.36 47 ⇓PKiKP PKPdf 10 34 54.1 -0.9
baz=122
529A Stev Forest Ra 122.39 48 ⇑PKiKP PKPdf 10 34 54.3 -0.8
baz=122
GLMI Grayling 122.42 24 PFAKE 10 35 00.0 +5.4
GLMI LR LR
comp=Z,965nm,21.0s
330A Mertzon 122.45 46 ⇑PKiKP PKPdf 10 34 54.4 -0.8
baz=122
X33A Lawton 122.47 41 ⇑PKiKP PKPdf 10 34 54.4 -0.7
baz=122
W34A Bridge Creek, 122.52 40 ePKPdf PKPdf 10 34 54.5 -0.6
W34A Bridge Creek, 122.52 40 ⇑PKiKP PKPdf 10 34 54.6 -0.5
baz=122
T36A Boggs Farm, Ca 122.53 37 ⇑PKiKP PKPdf 10 34 54.5 -0.6
baz=122
Z32A Haskell 122.55 43 ⇑PKiKP PKPdf 10 34 54.8 -0.5
baz=122
Y33A Hilltop Ranch, 122.71 42 ⇑PKiKP PKPdf 10 34 54.9 -0.6
baz=123
430A Baggett Ranch, 122.75 47 ⇑PKiKP PKPdf 10 34 55.0 -0.7
baz=123
231A Mote 122.76 45 ⇑PKiKP PKPdf 10 34 54.9 -0.8
baz=123
V35A Meyer Ranch, C 122.78 39 ⇓PKiKP PKPdf 10 34 55.0 -0.6
baz=123
ABTX Abilene, Hawle 122.84 44 ePKPdf PKPdf 10 34 54.8 -1.1
ABTX Abilene, Hawle 122.84 44 ⇓PKiKP PKPdf 10 34 55.0 -0.8
baz=123
X34A Smith Ranch, M 122.87 41 ⇓PKiKP PKPdf 10 34 55.4 -0.4
baz=123
530A J-C Ranch, Com 123.02 47 ⇑PKiKP PKPdf 10 34 55.8 -0.5
baz=123
331A San Angelo 123.04 46 ⇓PKiKP PKPdf 10 34 55.4 -0.9
baz=123
Z33A Whitaker Ranch 123.05 43 ⇓PKiKP PKPdf 10 34 55.4 -0.8
baz=123
T37A Cheneyville 18 123.07 37 ⇓PKiKP PKPdf 10 34 55.7 -0.4
baz=123
W35A Tecumseh 123.14 40 ⇓PKiKP PKPdf 10 34 55.9 -0.5
baz=123
431A Sonora 123.26 46 ⇓PKiKP PKPdf 10 34 55.9 -0.9
baz=123
232A Coleman 123.26 45 ⇑PKiKP PKPdf 10 34 56.1 -0.6
baz=123
Y34A Reagan Ranch, 123.31 41 ⇑PKiKP PKPdf 10 34 56.1 -0.6
baz=123
TUL1 Leonard 123.33 38 ePKPdf PKPdf 10 34 55.9 -0.8
TUL1 Leonard 123.33 38 ⇓PKiKP PKPdf 10 34 56.3 -0.4
baz=123
133A Hamilton Ranch 123.34 43 ⇓PKiKP PKPdf 10 34 56.1 -0.7
baz=123
332A Millersview 123.48 45 ⇓PKiKP PKPdf 10 34 56.6 -0.5
baz=123
X35A Drake 123.55 41 ⇑PKiKP PKPdf 10 34 56.7 -0.4
baz=123
W36A Wetumka 123.56 39 ⇓PKiKP PKPdf 10 34 56.7 -0.5
baz=123
Z34A Collier Ranch, 123.56 42 ⇓PKiKP PKPdf 10 34 56.7 -0.4
baz=123
531A Rocksprings 123.58 47 ⇑PKiKP PKPdf 10 34 56.8 -0.6
baz=123
HDIL Hopedale 123.70 30 ePKPdf PKPdf 10 34 56.0 -1.2
HDIL LR LR
comp=Z,1μm,21.0s
233A Rising Star 123.70 44 ⇓PKiKP PKPdf 10 34 57.0 -0.6
baz=124
432A Menard 123.73 46 ⇑PKiKP PKPdf 10 34 57.0 -0.7
baz=124
X36A Centrahoma 123.84 40 ⇓PKiKP PKPdf 10 34 57.1 -0.5
baz=124
134A White-Moore Ra 123.93 43 ⇓PKiKP PKPdf 10 34 57.6 -0.3
baz=124
JCT Junction City 123.94 46 ePKIKP PKPdf 10 34 57.3 -0.7
JCT MLR MLR
comp=Z,1μm,19.0s
JCT Junction City 123.94 46 ePKPdf PKPdf 10 34 57.3 -0.7
JCT LR LR
comp=Z,1μm,19.0s
JCT Junction City 123.94 46 ⇑PKiKP PKPdf 10 34 57.0 -1.1
baz=124
631A Perdido Creek 123.97 48 ⇓PKiKP PKPdf 10 34 57.2 -0.8
baz=124
Z35A Perchaven, San 124.03 42 ⇓PKiKP PKPdf 10 34 57.4 -0.7
baz=124
333A Richland Sprin 124.04 45 ⇑PKiKP PKPdf 10 34 57.3 -0.9
baz=124
W37A Quinton 124.06 39 ⇓PKiKP PKPdf 10 34 57.5 -0.6
baz=124
532A Rocksprings 124.07 46 ⇑PKiKP PKPdf 10 34 57.2 -1.1
baz=124
234A Clairette 124.23 44 ⇑PKiKP PKPdf 10 34 57.8 -0.7
baz=124
433A Art 124.30 45 ⇓PKiKP PKPdf 10 34 57.8 -0.9
baz=124
135A Vickery Place, 124.39 43 ⇓PKiKP PKPdf 10 34 58.1 -0.7
baz=124
X37A Clayton 124.45 39 ⇑PKiKP PKPdf 10 34 58.2 -0.6
baz=124
632A Uvalde 124.50 47 ⇓PKiKP PKPdf 10 34 58.6 -0.5
baz=124
334A Lometa 124.56 44 ⇓PKiKP PKPdf 10 34 58.3 -0.8
baz=124
W38A Poteau 124.67 38 ⇑PKiKP PKPdf 10 34 58.6 -0.6
baz=124
WHTX Lake Whitney, 124.70 43 ePKPdf PKPdf 10 34 58.8 -0.6
WHTX Lake Whitney, 124.70 43 ⇓PKiKP PKPdf 10 34 58.6 -0.8
baz=125
533A Kerrville 124.72 46 ⇓PKiKP PKPdf 10 34 58.6 -0.9
baz=125
732A Laxson Ranch, 124.79 48 ⇑PKiKP PKPdf 10 34 58.8 -0.8
baz=125
434A Burnet 124.84 45 ⇓PKiKP PKPdf 10 34 58.7 -1.0
baz=125
AAM Ann Arbor 124.90 25 PFAKE 10 35 10.0 +11
AAM LR LR
comp=Z,1μm,22.0s
SFIN Lafayette 124.91 29 ePKPdf PKPdf 10 34 58.5 -1.1
SFIN Lafayette 124.91 29 ⇓PKiKP PKPdf 10 34 58.6 -0.9
baz=125
633A Saathoff Ranch 124.97 47 ⇓PKiKP PKPdf 10 34 59.4 -0.5
baz=125
832A Faith Ranch, C 125.03 48 ⇓PKiKP PKPdf 10 34 59.5 -0.6
baz=125
534A Blanco 125.15 46 ⇓PKiKP PKPdf 10 34 59.3 -1.0
baz=125
PMPST Porto Santo, M 125.18 319 ePKPdf PKPdf 10 35 00.6 +0.3
PMPST Porto Santo, M 125.18 319 ePP PP 10 36 50.7 +1.5
Z37A Pogue Cattle C 125.18 41 ⇑PKiKP PKPdf 10 34 59.7 -0.5
baz=125
733A Divot King Ran 125.29 48 ⇑PKiKP PKPdf 10 35 00.1 -0.5
baz=125
236A Katherine and 125.32 43 ⇓PKiKP PKPdf 10 35 00.2 -0.4
baz=125
435B Jarrell 125.33 44 ⇑PKiKP PKPdf 10 35 00.3 -0.4
baz=125
833A Chaparral WMA, 125.43 48 ⇓PKiKP PKPdf 10 35 00.5 -0.4
baz=125
137A Heron Place, G 125.47 41 ⇓PKiKP PKPdf 10 35 00.7 -0.1
baz=125
336A Riesel 125.48 43 ⇓PKiKP PKPdf 10 35 00.4 -0.5
baz=125
Z38A Mt. Pleasant 125.56 40 ⇑PKiKP PKPdf 10 35 00.5 -0.4
baz=125
MIAR Mount Ida 125.60 38 ePKIKP PKPdf 10 35 00.7 -0.4
MIAR MLR MLR
comp=Z,2μm,22.0s
MIAR Mount Ida 125.60 38 ePKPdf PKPdf 10 35 00.7 -0.4
MIAR LR LR
comp=Z,2μm,22.0s
634A China Grove, S 125.60 46 ⇓PKiKP PKPdf 10 35 01.0 -0.2
baz=126
734A La Parita Cree 125.75 47 ⇓PKiKP PKPdf 10 35 01.3 -0.1
baz=126
535A Dale 125.78 45 ⇓PKiKP PKPdf 10 35 01.0 -0.5
baz=126
237A Washetta, Mont 125.81 42 ⇑PKiKP PKPdf 10 35 01.0 -0.5
baz=126
138A Matatall Enter 125.87 41 ⇑PKiKP PKPdf 10 35 01.4 -0.1
baz=126
436A Wall Ranch, Ga 125.89 44 ⇓PKiKP PKPdf 10 35 01.4 -0.3
baz=126
PMOZ Porto Moniz, M 125.90 319 ePKPdf PKPdf 10 35 02.6 +0.8
PMOZ Porto Moniz, M 125.90 319 ePP PP 10 36 55.4 +1.2
PMOZ Porto Moniz, M 125.90 319 eLR LR 11 14 55.3
comp=Z,644nm,22.0s
933A Laredo 125.91 49 ⇑PKiKP PKPdf 10 35 01.9 +0.1
baz=126
635A Leesville 126.01 46 ⇓PKiKP PKPdf 10 35 02.0 +0.1
baz=126
LONY Lake Ozonia 126.03 16 PFAKE 10 35 10.0 +8.4
LONY LR LR
comp=Z,1μm,22.0s
Z39A Irene McRaven, 126.08 40 ⇓PKiKP PKPdf 10 35 01.9 -0.1
baz=126
536A Bastrop 126.11 45 ⇓PKiKP PKPdf 10 35 01.9 -0.2
baz=126
BLO Bloomington 126.12 29 ePKIKP PKPdf 10 35 00.9 -1.0
BLO Bloomington 126.12 29 ePKPdf PKPdf 10 35 00.9 -1.0
834A Tilden 126.16 48 ⇓PKiKP PKPdf 10 35 02.1 -0.2
baz=126
337A Centerville 126.18 43 ⇑PKiKP PKPdf 10 35 02.1 -0.1
baz=126
238A Jacksonville 126.26 42 ⇑PKiKP PKPdf 10 35 02.1 -0.2
baz=126
735A Kenedy 126.29 46 ⇓PKiKP PKPdf 10 35 02.7 +0.2
baz=126
437A Phantom Ranch, 126.30 43 ⇓PKiKP PKPdf 10 35 02.6 +0.1
baz=126
139A Bunkhouse Ranc 126.31 40 ⇑PKiKP PKPdf 10 35 02.1 -0.3
baz=126
PARMO Parma 126.35 34 ePKPdf PKPdf 10 35 01.4 -1.0
636A Smothers Creek 126.47 45 ⇑PKiKP PKPdf 10 35 03.1 +0.3
baz=126
934A Benavides 126.47 48 ⇓PKiKP PKPdf 10 35 03.2 +0.3
baz=126
338A Crockett 126.54 42 ⇑PKiKP PKPdf 10 35 02.9 0.0
baz=126
835A Beeville 126.60 47 ⇑PKiKP PKPdf 10 35 03.0 -0.1
baz=126
537A Green Hill Far 126.63 44 ⇓PKiKP PKPdf 10 35 03.0 -0.1
baz=126
034A Hebbronville 126.65 49 ⇓PKiKP PKPdf 10 35 02.7 -0.5
baz=126
239A Gary 126.68 41 ⇑PKiKP PKPdf 10 35 03.1 0.0
baz=126
PKME Peaks-Kenny Pk 126.69 12 PFAKE 10 35 10.0 +7.2
PKME LR LR
comp=Z,1μm,21.0s
NCB Newcomb 126.72 16 PFAKE 10 35 10.0 +7.0
NCB LR LR
comp=Z,1μm,21.0s
736A Circle Diamond 126.77 46 ⇓PKiKP PKPdf 10 35 03.5 +0.1
baz=127
438A Sam Houston St 126.80 43 ⇓PKiKP PKPdf 10 35 03.7 +0.3
baz=127
ACSO Alum Creek Sta 126.89 26 ePKPdf PKPdf 10 35 02.7 -0.7
ACSO LR LR
comp=Z,1μm,22.0s
KVTX Kingsville 126.97 48 PFAKE 10 35 10.0 +6.2
KVTX LR LR
comp=Z,840nm,20.0s
WCI Wyandotte Cave 126.97 30 ePKIKP PKPdf 10 35 02.7 -0.9
WCI Wyandotte Cave 126.97 30 ePKPdf PKPdf 10 35 02.7 -0.9
HKT Hockley 127.04 44 ePKIKP PKPdf 10 35 03.6 -0.2
HKT Hockley 127.04 44 ePKPdf PKPdf 10 35 03.6 -0.2
339A Huntington 127.06 42 ⇓PKiKP PKPdf 10 35 04.0 +0.2
baz=127
538A Harpers Horsep 127.11 44 ⇓PKiKP PKPdf 10 35 04.1 +0.1
baz=127
KIC Kosan Boka 127.14 283 ePKP1 PKPdf 10 35 03.6 -0.9
comp=Z,77nm,1.0s
035A Encino 127.15 49 ⇑PKiKP PKPdf 10 35 03.9 -0.2
baz=127
DBIC Dimbokro 127.18 284 PKP PKPdf 10 35 03.1 -1.4
comp=Z,18nm,0.9s,baz=55,slow=2.8,SNR=14

DBIC	**Dimbokro**	**127.18**	**284**	PKP	**PKPdf**	**10 35 03.1**	**-1.4**
DBIC				*e*PKPdf	**PKiKP**	**10 35 03.4**	**-1.7**
439A	**Center Grove,** baz=127	**127.25**	**43**	⇓PKiKP	**PKPdf**	**10 35 04.5**	**+0.2**
TIC	**Toumodi**	**127.34**	**284**	*e*PKP1	**PKPdf**	**10 35 03.8**	**-1.1**
035Z	**Hargill** baz=127	**127.43**	**49**	⇓PKiKP	**PKPdf**	**10 35 04.5**	**-0.2**
340A	**Bronson** baz=127	**127.44**	**41**	⇑PKiKP	**PKPdf**	**10 35 04.2**	**-0.4**
LIC	**Lamto** comp=Z,115nm,1.4s	**127.45**	**283**	*e*PKP1	**PKPdf**	**10 35 02.5**	**-2.6**
936A	**North Padre Is** baz=127	**127.47**	**48**	⇑PKiKP	**PKPdf**	**10 35 04.3**	**-0.4**
BINY	**Binghamton**	**127.82**	**19**	*e*PKPdf	**PKPdf**	**10 35 03.7**	**-1.4**
BINY	comp=Z,2μm,21.0s			LR	LR		
738A	**Farr-Stevens R** baz=128	**127.84**	**45**	⇑PKiKP	**PKPdf**	**10 35 04.9**	**-0.6**
OXF	**Oxford**	**128.09**	**35**	*e*PKIKP	**PKPdf**	**10 35 05.2**	**-0.6**
OXF	**Oxford**	**128.09**	**35**	*e*PKPdf	**PKPdf**	**10 35 05.2**	**-0.6**
SSPA	**Standing Stone**	**128.56**	**21**	*e*PKPdf	**PKPdf**	**10 35 05.2**	**-1.3**
SWET	**Sewanee**	**129.48**	**32**	*e*PKPdf	**PKPdf**	**10 35 07.5**	**-1.0**
SHEL	**Horse Pasture**	**130.01**	**255**	PFAKE		10 35 20.0	+10
SHEL	comp=Z,2μm,19.0s			LR	LR		
TKL	**Tuckaleechee C**	**130.24**	**30**	*e*PKIKP	**PKPdf**	**10 35 09.4**	**-0.5**
TKL	**Tuckaleechee C**	**130.24**	**30**	*e*PKPdf	**PKPdf**	**10 35 09.4**	**-0.5**
BLA	**Blacksburg**	**130.51**	**26**	PFAKE		10 35 20.0	+10
BLA	comp=Z,1μm,20.0s			LR	LR		
LRAL	**Lakeview Retre**	**130.54**	**35**	*e*PKPdf	**PKPdf**	**10 35 10.1**	**-0.4**
CBN	**Corbin Frederi**	**130.89**	**22**	PFAKE		10 35 20.0	+9.0
CBN	comp=Z,2μm,21.0s			LR	LR		
KMSC	**Kings Mountain**	**131.82**	**28**	*e*PKPdf	**PKPdf**	**10 35 12.3**	**-0.6**
KMSC	**Kings Mountain** baz=132	**131.82**	**28**	⇑PKiKP	**PKPdf**	**10 35 11.8**	**-1.1**
BRAL	**Brewton**	**131.99**	**37**	*e*PKPdf	**PKPdf**	**10 35 13.3**	**0.0**
BRAL	comp=Z,1μm,22.0s			LR	LR		
CNNC	**Cliffs of the**	**133.26**	**25**	PFAKE		10 35 30.0	+14
CNNC	comp=Z,1μm,21.0s			LR	LR		
NHSC	**New Hope**	**134.04**	**29**	PFAKE		10 35 30.0	+13
NHSC	comp=Z,1μm,20.0s			LR	LR		
TEIG	**Tepich**	**138.36**	**49**	PFAKE		10 35 40.0	+15
TEIG	comp=Z,907nm,20.0s			LR	LR		
ASCN	**Ascension**	**138.67**	**266**	PFAKE		10 35 40.0	+14
ASCN	comp=Z,1μm,22.0s			LR	LR		
BBSR	**BB Station**	**140.05**	**11**	PFAKE		10 35 40.0	+12
BBSR	comp=Z,660nm,20.0s			LR	LR		
SACV	**Santiago Islan**	**141.18**	**304**	PFAKE		10 35 40.0	+9.3
SACV	comp=Z,860nm,19.0s			LR	LR		
TGUH	**Tegucigalpa,Un**	**142.64**	**56**	PFAKE		10 35 40.0	+6.7
TGUH	comp=Z,938nm,22.0s			LR	LR		
PLCA	**Paso Flores** comp=Z,11nm,0.9s,baz=239,slow=2.6,SNR=13	**143.94**	**161**	PKP	PKPbc	10 35 33.2	+0.4
CVJ	**Coleyville**	**147.21**	**40**	*i* P	**PKPdf**	**10 35 42.1**	**+0.8**
MTDJ	**Mount Denham**	**147.21**	**40**	*e*PKPdf	**PKPdf**	**10 35 41.6**	**+0.3**
MTDJ	comp=Z,933nm,20.0s			LR	LR		
BBJ	**Bamboo Saint A**	**147.26**	**39**	*i* P	**PKPbc**	**10 35 43.2**	**-0.4**
MCJ	**Malvern**	**147.33**	**41**	*i* P	**PKPbc**	**10 35 43.2**	**-0.6**
GTBY	**Guantanamo Bay**	**147.37**	**35**	*e*PKPdf	**PKPdf**	**10 35 39.3**	**-2.1**
GTBY	comp=Z,1μm,22.0s			LR	LR		
STH	**Stony Hill**	**147.78**	**39**	*i* P	**PKPdf**	**10 35 43.5**	**+1.4**
GWJ	**Greenwich**	**147.83**	**39**	*i* P	**PKPbc**	**10 35 45.0**	**-0.2**
HOJ	**Hope**	**147.87**	**39**	*i* P	**PKPbc**	**10 35 44.6**	**-0.6**
GRTK	**Grand Turk**	**148.08**	**27**	PFAKE		10 35 50.0	+1.7
GRTK	comp=Z,1μm,22.0s			LR	LR		
TRQA	**Tornquist**	**148.56**	**171**	*e*PKPdf	**PKPdf**	**10 35 43.4**	**+0.6**
TRQA	comp=Z,1μm,21.0s			LR	LR		
SDDR	**Presa de Saban**	**150.18**	**30**	*e*PKPbc	**PKPbc**	**10 35 50.1**	**-1.0**
SDDR	comp=Z,2μm,20.0s			LR	LR		
SMN1	**Samana, DR**	**150.95**	**26**	*e*PKPbc	**PKPbc**	**10 35 51.9**	**-1.0**
BCIP	**Isla Barro Col**	**151.39**	**56**	*e*PKPdf	**PKPdf**	**10 35 48.2**	**+0.2**
BCIP	comp=Z,879nm,22.0s			LR	LR		
PCDR	**Punta Cana, DR**	**151.93**	**26**	*e*PKPdf	**PKPdf**	**10 35 47.1**	**-1.5**
CFAA	**Coronel Fontan** comp=Z,0.7nm,0.9s,baz=183,slow=2.1,SNR=8.8	**152.94**	**157**	PKP	**PKPdf**	**10 35 50.1**	**+0.3**
CFAA	comp=Z,1.6nm,0.8s,baz=231,slow=3.2,SNR=18			PKPbc	**PKPbc**	**10 35 55.4**	**-1.7**
SJG	**San Juan**	**153.18**	**22**	PFAKE		10 36 00.0	+2.1
SJG	comp=Z,970nm,21.0s			LR	LR		
LCO	**Las Campanas**	**154.05**	**150**	*e*PKPdf	**PKPdf**	**10 35 51.4**	**-0.4**
LCO				*e*PKPbc	**PKPbc**	**10 35 58.9**	**-0.9**
LCO	comp=Z,1μm,19.0s			LR	LR		
ANWB	**Willy Bob**	**154.90**	**13**	PFAKE		10 36 00.0	-1.6
ANWB	comp=Z,1μm,22.0s			LR	LR		
OTAV	**Otavalo**	**156.53**	**73**	*e*PKPdf	**PKPdf**	**10 35 56.2**	**+0.4**
OTAV	comp=Z,826nm,20.0s			LR	LR		
ATAH	**Atahualpa** comp=Z,14nm,0.9s,baz=265,slow=2.4,SNR=13	**157.81**	**92**	PKP	**PKPdf**	**10 35 57.7**	**+0.4**
FDF	**Fort de France**	**157.88**	**13**	PFAKE		10 36 10.0	+13
FDF	comp=Z,1μm,22.0s			LR	LR		
ROSC	**El Rosal** comp=Z,4.5nm,0.3s,baz=119,slow=4.1,SNR=9.3	**158.31**	**58**	PKP	**PKPdf**	**10 35 58.0**	**+0.1**
SDV	**Santo Domingo**	**158.58**	**43**	*e*PKPdf	**PKPdf**	**10 35 56.8**	**-1.2**
SDV	comp=Z,901nm,20.0s			LR	LR		
BBGH	**Gun Hill**	**159.75**	**10**	PFAKE		10 36 10.0	+11
BBGH	comp=Z,2μm,21.0s			LR	LR		
RCBR	**Riachuelo**	**159.96**	**272**	PFAKE		10 36 10.0	+11
RCBR	comp=Z,923nm,20.0s			LR	LR		
LVC	**Limon Verde** comp=Z,7.0nm,0.4s,baz=145,slow=4.2,SNR=4.0	**160.08**	**143**	PKP	**PKPdf**	**10 35 59.9**	**+0.3**
LVC	comp=Z,59nm,0.9s,baz=246,slow=4.1,SNR=7.8			PKPab	**PKPab**	**10 36 40.5**	**+1.1**
LVC	**Limon Verde**	**160.08**	**143**	PKP	**PKPdf**	**10 35 59.9**	**+0.3**
LVC				PKPab	**PKPab**	**10 36 40.5**	**+1.1**
LVC	comp=Z,1μm,20.0s			LR	LR		
GRGR	**Grenville**	**160.25**	**16**	PFAKE		10 36 10.0	+10
GRGR	comp=Z,842nm,19.0s			LR	LR		
LPAZ	**La Paz** comp=Z,15nm,0.9s,baz=34,slow=0.9,SNR=36	**164.95**	**129**	PKP	**PKPdf**	**10 36 04.6**	**-0.4**
LPAZ	comp=Z,24nm,0.9s,baz=214,slow=3.1,SNR=12			PKPab	**PKPab**	**10 37 02.4**	**+1.0**
BDFB	**Brasilia** comp=Z,14nm,1.0s,baz=41,slow=2.8,SNR=8.2	**168.31**	**222**	PKP	**PKPdf**	**10 36 06.0**	**-1.0**
BDFB	**Brasilia**	**168.31**	**222**	PKIKP	**PKPdf**	**10 36 06.0**	**-1.0**
SAML	**Samuel**	**172.65**	**106**	*e*PKPdf	**PKPdf**	**10 36 08.3**	**-0.9**
SAML	comp=Z,1μm,20.0s			LR	LR		

*CNRM **31** 10:17:29.2, 33°.72N×7°.49W, h2km, MD3.4*
*SFS **31** 10:17:31.0, 33°.95N×7°.15W, h0km, ML4.2*
*MDD **31** 10:17:32.1±1.0, 33°.81N×7°.33W, h23km±5km, mb4.3/11, Error ellipse: s-maj=8.3km s-min=4.5km az=70.0, PRXIMO*
*INMG **31** 10:17:33.9±1.0, 33°.88N×7°.13W, h31km, ML2.5, Error ellipse: s-maj=4.0km s-min=3.5km az=33.0*
*CSEM **31** 10:17:34.7±0.2, 34°.00N×7°.06W, h30km, ML3.0/6, Error ellipse: s-maj=5.9km s-min=3.3km az=55.0*

ISC 31 10:17:33.1±1.2, 33°.91N±0°.04×7°.20W±0°.04, h32km±10km, n84, σ1§13/144, 2C-1D, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTC	**Rabat Centre**	**0.29**	**75**	P	**Pb**	**10 17 40.0**	**-0.6**
RTC				S	**Sn**	**10 17 48.0**	**+1.6**
RTC	**Rabat Centre**	**0.29**	**75**	P	**Pb**	**10 17 40.0**	**-0.6**
RTC				*i* S	**Sn**	**10 17 48.0**	**+1.6**
KIB	**El Ksiba**	**1.65**	**144**	P	Pn	10 17 57.0	-2.9
KIB				S	**Sn**	**10 18 19.0**	**-1.0**

MIF	**Mishlifen**	**1.71**	**106**	P	**Pn**	**10 18 02.0**	**+1.0**
MIF				S	**Sb**	**10 18 26.0**	**+0.6**
MIF	**Mishlifen**	**1.71**	**106**	P	**Pn**	**10 18 02.0**	**+1.0**
MIF				S	**Sb**	**10 18 26.0**	**+0.6**
TGT	**Taghat**	**1.79**	**84**	P	**Pn**	**10 18 03.0**	**+1.2**
TGT				S	**Sb**	**10 18 28.0**	**+0.8**
TGT	**Taghat**	**1.79**	**84**	P	**Pn**	**10 18 03.0**	**+1.2**
TGT				*i* S	**Sb**	**10 18 28.0**	**+0.8**
TZC	**Tazercounte**	**1.85**	**161**	P	Pn	10 18 00.2	-2.7
TZC				S	**Sn**	**10 18 21.0**	**-4.3**
CZD	**Col de Zad**	**2.00**	**115**	P	**Pn**	**10 18 04.0**	**-0.9**
CZD				S	**Sn**	**10 18 31.0**	**+2.0**
CZD	**Col de Zad**	**2.00**	**115**	*i* P	**Pn**	**10 18 04.0**	**-0.9**
CZD				S	**Sn**	**10 18 31.0**	**+2.0**
ZFT	**Errachidia**	**3.04**	**127**	P	**Pn**	**10 18 20.0**	**+0.9**
ZFT				S	**Sn**	**10 18 55.0**	**+0.5**
ZFT	**Errachidia**	**3.04**	**127**	P	**Pn**	**10 18 20.0**	**+0.9**
ESPR	**Espera** 3.2nm,0.1s,SNR=7.9	**3.15**	**20**	P	**Pn**	**10 18 21.1**	**+0.7**
ESPR	9.0nm,0.2s,SNR=7.9			S	**Sn**	**10 18 56.8**	**-0.1**
ESPR	**Espera** 3.2nm,0.1s,SNR=7.9	**3.15**	**20**	P	**Pn**	**10 18 21.1**	**+0.7**
ESPR	9.0nm,0.2s,SNR=7.9			S	**Sn**	**10 18 56.8**	**-0.1**
EMIJ	**Mijas** 1.0nm,0.1s,SNR=7.9	**3.31**	**36**	P	**Pn**	**10 18 22.3**	**-0.4**
EMIJ	1.8nm,0.2s,SNR=7.9			S	**Sn**	**10 19 01.6**	**+0.7**
EMIJ	**Mijas** 1.0nm,0.1s,SNR=7.9	**3.31**	**36**	P	**Pn**	**10 18 22.3**	**-0.4**
EMIJ	1.8nm,0.2s,SNR=7.9			S	**Sn**	**10 19 01.6**	**+0.7**
LIJA	**Lijar**	**3.33**	**26**	P	**Pn**	**10 18 23.0**	**0.0**
LIJA				S	**Sn**	**10 19 02.0**	**+0.5**
LIJA	**Lijar**	**3.33**	**26**	P	**Pn**	**10 18 23.0**	**0.0**
LIJA				S	**Sn**	**10 19 02.0**	**+0.5**
PBDV	**Barranco-do-Ve** 6.7nm,0.7s	**3.38**	**350**	*e*Sn	**Sn**	**10 19 04.2**	**+1.5**
PBDV	6.7nm,0.7s			A	A	10 19 06.0	
PBDV	**Barranco-do-Ve** 6.7nm,0.7s	**3.38**	**350**	S	**Sn**	**10 19 04.2**	**+1.5**
PBDV	**Barranco-do-Ve** 6.7nm,0.7s	**3.38**	**350**	*e*Sn	**Sn**	**10 19 04.2**	**+1.5**
PFVI	**Vila Bisbo**	**3.48**	**338**	P	**Pn**	**10 18 25.6**	**+0.6**
PFVI	**Vila Bisbo**	**3.48**	**338**	*e*Pn	**Pn**	**10 18 25.6**	**+0.6**
PFVI				*e*Sn	**Sn**	**10 19 04.5**	**-0.6**
PFVI				S	**Sn**	**10 19 04.7**	**-0.4**
PFVI				A	A	10 19 09.1	
PFVI	**Vila Bisbo** 12nm,1.1s	**3.48**	**338**	P	**Pn**	**10 18 25.5**	**+0.6**
PFVI	0.3nm,0.2s,SNR=7.3			S	**Sn**	**10 19 04.7**	**-0.4**
PFVI	**Vila Bisbo** 7.4nm,0.2s,SNR=7.0	**3.48**	**338**	P	**Pn**	**10 18 25.6**	**+0.6**
PFVI				S	**Sn**	**10 19 04.7**	**-0.4**
PVAQ	**Vaqueiros** 12nm,1.1s	**3.51**	**353**	*e*Pn	**Pn**	**10 18 26.6**	**+1.1**
PVAQ				*e*Sn	**Sn**	**10 19 05.4**	**-0.5**
PVAQ	9.9nm,0.4s			A	A	10 19 13.3	
PVAQ	**Vaqueiros** 9.9nm,0.4s	**3.51**	**353**	P	**Pn**	**10 18 26.6**	**+1.1**
PVAQ				S	**Sn**	**10 19 05.4**	**-0.5**
PVAQ	**Vaqueiros** 9.9nm,0.4s	**3.51**	**353**	P	**Pn**	**10 18 26.6**	**+1.1**
PVAQ				S	**Sn**	**10 19 05.4**	**-0.5**
MORF	**Marmelete** 15nm,0.1s	**3.59**	**341**	*e*Pn	**Pn**	**10 18 27.5**	**+0.9**
MORF				*e*Sn	**Sn**	**10 19 09.2**	**+1.3**
MORF				A	A	10 19 12.1	
MORF	**Marmelete** 15nm,0.1s	**3.59**	**341**	P	**Pn**	**10 18 27.5**	**+0.9**
MORF				S	**Sn**	**10 19 09.2**	**+1.3**
MORF	**Marmelete** 15nm,0.1s	**3.59**	**341**	P	**Pn**	**10 18 27.5**	**+0.9**
MORF				S	**Sn**	**10 19 09.2**	**+1.3**
EGRO	**El Granado** 7.5nm,0.1s,SNR=33	**3.62**	**356**	P	**Pn**	**10 18 27.1**	**+0.1**
EGRO	5.6nm,0.1s,SNR=7.9			S	**Sn**	**10 19 08.3**	**-0.3**
EGRO	**El Granado** 7.5nm,0.1s,SNR=33	**3.62**	**356**	P	**Pn**	**10 18 27.1**	**+0.1**
EGRO	5.6nm,0.1s,SNR=7.9			S	**Sn**	**10 19 08.3**	**-0.3**
PCVE	**Castro Verde** 0.5nm,0.6s	**3.78**	**350**	*e*Pn	**Pn**	**10 18 29.9**	**+0.8**
PCVE				*e*Sn	**Sn**	**10 19 11.8**	**-0.6**
PCVE				A	A	10 19 26.1	
PCVE	**Castro Verde** 0.5nm,0.6s	**3.78**	**350**	P	**Pn**	**10 18 29.9**	**+0.8**
PCVE				S	**Sn**	**10 19 11.8**	**-0.6**
PCVE	**Castro Verde** 0.5nm,0.6s	**3.78**	**350**	P	**Pn**	**10 18 29.9**	**+0.8**
PCVE				S	**Sn**	**10 19 11.8**	**-0.6**
EMIN	**Mina Concepcio** 2.2nm,0.2s,SNR=28	**3.87**	**6**	P	**Pn**	**10 18 30.5**	**+0.1**
EMIN	6.0nm,0.1s,SNR=6.3			S	**Sn**	**10 19 13.9**	**-0.9**
EMIN	**Mina Concepcio** 2.2nm,0.2s,SNR=28	**3.87**	**6**	P	**Pn**	**10 18 30.5**	**+0.1**
EMIN	6.0nm,0.1s,SNR=6.3			S	**Sn**	**10 19 13.9**	**-0.9**
MESJ	**Messejana** 5.1nm,0.5s	**4.01**	**348**	*e*Pn	**Pn**	**10 18 34.1**	**+1.8**
MESJ				*e*Sn	**Sn**	**10 19 19.4**	**+1.3**
MESJ				A	A	10 19 31.4	
MESJ	**Messejana** 5.1nm,0.5s	**4.01**	**348**	P	**Pn**	**10 18 34.1**	**+1.8**
MESJ				S	**Sn**	**10 19 19.4**	**+1.3**
MESJ	**Messejana** 5.1nm,0.5s	**4.01**	**348**	P	**Pn**	**10 18 34.1**	**+1.8**
MESJ				S	**Sn**	**10 19 19.4**	**+1.3**
PBAR	**Barrancos**	**4.26**	**2**	*e*Pn	**Pn**	**10 18 36.2**	**+0.5**
PBAR				*e*Sn	**Sn**	**10 19 22.7**	**-1.6**
PBAR	**Barrancos**	**4.26**	**2**	P	**Pn**	**10 18 36.2**	**+0.5**
PBAR				S	**Sn**	**10 19 22.7**	**-1.6**
PBAR	**Barrancos**	**4.26**	**2**	P	**Pn**	**10 18 36.2**	**+0.5**
PBAR				S	**Sn**	**10 19 22.7**	**-1.6**
PNCL	**Nicolau / Gran** 4.7nm,0.2s	**4.33**	**346**	*e*Pn	**Pn**	**10 18 37.9**	**+1.2**
PNCL				*e*Sn	**Sn**	**10 19 24.8**	**-1.2**
PNCL				A	A	10 19 37.6	
PNCL	**Nicolau / Gran** 4.7nm,0.2s	**4.33**	**346**	*e*Pn	**Pn**	**10 18 37.9**	**+1.2**
PNCL				*e*Sn	**Sn**	**10 19 24.8**	**-1.2**
ECAB	**El Cabril** 3.6nm,0.1s,SNR=37	**4.40**	**19**	P	**Pn**	**10 18 38.0**	**+0.3**
ECAB	4.5nm,0.1s,SNR=7.9			S	**Sn**	**10 19 26.8**	**-1.0**
ECAB	**El Cabril** 3.6nm,0.1s,SNR=37	**4.40**	**19**	P	**Pn**	**10 18 38.0**	**+0.3**
ECAB	4.5nm,0.1s,SNR=7.9			S	**Sn**	**10 19 26.8**	**-1.0**
EBER	**Berja** 1.1nm,0.2s,SNR=7.9	**4.61**	**49**	P	**Pn**	**10 18 40.2**	**-0.5**
EBER	**Berja** 1.1nm,0.2s,SNR=7.9	**4.61**	**49**	P	**Pn**	**10 18 40.2**	**-0.5**
EADA	**Adamuz** 0.4nm,0.3s,SNR=18	**4.75**	**26**	⇑P	**Pn**	**10 18 42.8**	**+0.3**
EADA	5.3nm,0.2s,SNR=7.9			S	**Sn**	**10 19 34.7**	**-1.8**
EADA	**Adamuz** 0.4nm,0.3s,SNR=18	**4.75**	**26**	P	**Pn**	**10 18 42.8**	**+0.3**
EADA	5.3nm,0.2s,SNR=7.9			S	**Sn**	**10 19 34.7**	**-1.8**
EBAD	**Badajoz** 4.1nm,0.2s,SNR=9.8	**4.84**	**2**	P	**Pn**	**10 18 44.9**	**+1.2**
EBAD	1.8nm,0.1s,SNR=7.9			S	**Sn**	**10 19 36.6**	**-2.0**
EBAD	**Badajoz** 4.1nm,0.2s,SNR=9.8	**4.84**	**2**	P	**Pn**	**10 18 44.9**	**+1.2**
EBAD	1.8nm,0.1s,SNR=7.9			S	**Sn**	**10 19 36.6**	**-2.0**
PESTR	**Estremoz** 3.6nm,0.5s	**4.96**	**356**	*e*Pn	**Pn**	**10 18 47.1**	**+1.8**
PESTR				*e*Sn	**Sn**	**10 19 40.8**	**-0.8**
PESTR				A	A	10 19 43.3	
PESTR	**Estremoz** 3.6nm,0.5s	**4.96**	**356**	*e*Pn	**Pn**	**10 18 47.1**	**+1.8**
PESTR				*e*Sn	**Sn**	**10 19 40.8**	**-0.8**
EBAN	**Banos Encina** 3.9nm,0.1s,SNR=7.9	**5.06**	**32**	P	**Pn**	**10 18 46.9**	**+0.1**
EBAN	3.3nm,0.2s,SNR=7.9			S	Sn	10 19 41.9	-2.3
EBAN	**Banos Encina** 3.9nm,0.1s,SNR=7.9	**5.06**	**32**	P	**Pn**	**10 18 46.9**	**+0.1**
EBAN	3.3nm,0.2s,SNR=7.9			S	Sn	10 19 41.9	-2.3
EQES	**Quesada** 0.7nm,0.1s,SNR=7.9	**5.13**	**40**	P	**Pn**	**10 18 48.0**	**+0.2**
EQES	2.6nm,0.2s,SNR=7.9			S	Sn	10 19 43.6	-2.3
EQES	**Quesada** 0.7nm,0.1s,SNR=7.9	**5.13**	**40**	P	**Pn**	**10 18 48.0**	**+0.2**
EQES	2.6nm,0.2s,SNR=7.9			S	Sn	10 19 43.6	-2.3
PMTG	**Montargil**	**5.21**	**351**	*e*Pn	**Pn**	**10 18 50.2**	**+1.4**
PMTG				*e*Sn	**Sn**	**10 19 46.9**	**-1.0**
PMTG	3.8nm,1.0s			A	A	10 20 06.6	
PMTG	**Montargil**	**5.21**	**351**	*e*Pn	**Pn**	**10 18 50.2**	**+1.4**
PMTG				*e*Sn	**Sn**	**10 19 46.9**	**-1.0**
EHUE	**Huescar** 0.7nm,0.1s,SNR=7.9	**5.40**	**43**	P	**Pn**	**10 18 51.8**	**+0.4**
EHUE	0.7nm,0.1s,SNR=7.9			S	**Sn**	**10 19 50.5**	**-2.1**
EHUE	**Huescar** 0.7nm,0.1s,SNR=7.9	**5.40**	**43**	P	**Pn**	**10 18 51.8**	**+0.4**
EHUE	0.7nm,0.1s,SNR=7.9			S	**Sn**	**10 19 50.5**	**-2.1**
PMRV	**Marv??o** 3.2nm,0.6s	**5.51**	**358**	*e*Pn	**Pn**	**10 18 53.8**	**+0.9**
PMRV				*e*Sn	**Sn**	**10 19 53.8**	**-1.4**
PMRV				A	A	10 20 06.7	
PMRV	**Marv??o** 3.2nm,0.6s	**5.51**	**358**	Pn	**Pn**	**10 18 53.8**	**+0.9**
PMRV				Sn	**Sn**	**10 19 53.8**	**-1.4**
PMRV	**Marv??o** 3.2nm,0.6s	**5.51**	**358**	Pn	**Pn**	**10 18 53.8**	**+0.9**
PMRV				*e*Sn	**Sn**	**10 19 53.8**	**-1.4**
SESP	**Santiago Espad** 2.3nm,0.2s,SNR=7.9	**5.64**	**41**	P	**Pn**	**10 18 54.8**	**-0.1**
SESP	2.4nm,0.1s,SNR=7.9			S	Sn	10 19 56.3	-2.4
SESP	**Santiago Espad** 2.3nm,0.2s,SNR=7.9	**5.64**	**41**	P	**Pn**	**10 18 54.8**	**-0.1**
SESP	2.4nm,0.1s,SNR=7.9			S	Sn	10 19 56.3	-2.4
PCBR	**Castelo Branco**	**5.92**	**358**	*e*Pn	**Pn**	**10 19 00.0**	**+1.4**
PCBR				*e*Sn	**Sn**	**10 20 03.6**	**-1.7**
PCBR	2.5nm,0.5s			A	A	10 20 20.1	
PCBR	**Castelo Branco**	**5.92**	**358**	Pn	**Pn**	**10 19 00.0**	**+1.4**
PCBR	1.2nm,0.5s			Sn	**Sn**	**10 20 03.6**	**-1.7**
PCBR	**Castelo Branco**	**5.92**	**358**	Pn	**Pn**	**10 19 00.0**	**+1.4**
PCBR	2.5nm,0.5s			*e*Sn	**Sn**	**10 20 03.6**	**-1.7**
EVIA	**Vianos** 4.2nm,0.1s,SNR=18	**6.05**	**37**	⇓P	**Pn**	**10 19 00.4**	**-0.1**
EVIA	5.0nm,0.1s,SNR=7.9			S	Sn	10 20 06.2	-2.5
EVIA	**Vianos** 4.2nm,0.1s,SNR=18	**6.05**	**37**	P	**Pn**	**10 19 00.4**	**-0.1**
EVIA	5.0nm,0.1s,SNR=7.9			S	Sn	10 20 06.2	-2.5
EPLA	**Plasencia** 1.5nm,0.3s,SNR=12	**6.21**	**8**	P	**Pn**	**10 19 03.1**	**+0.6**
EPLA	1.5nm,0.2s,SNR=7.9			S	**Sn**	**10 20 10.2**	**-2.2**
EPLA	**Plasencia** 1.5nm,0.3s,SNR=12	**6.21**	**8**	P	**Pn**	**10 19 03.1**	**+0.6**
EPLA	1.5nm,0.2s,SNR=7.9			S	**Sn**	**10 20 10.2**	**-2.2**
ESDC	**Sonseca Array** 1.1nm,0.2s,baz=205,slow=14,SNR=5.2	**6.31**	**23**	P	**Pn**	**10 19 05.0**	**+1.0**
ESDC	0.7nm,0.2s,baz=206,slow=23,SNR=4.1			S	Sn	10 20 12.2	-2.8
ESDC	**Sonseca Array** 1.1nm,0.2s,SNR=5.2	**6.31**	**23**	P	**Pn**	**10 19 05.0**	**+1.0**
ESDC	0.7nm,0.2s,SNR=4.1			S	Sn	10 20 12.2	-2.8
ETOB	**Tobarra** 1.1nm,0.1s,SNR=18	**6.56**	**42**	⇑P	**Pn**	**10 19 07.3**	**-0.2**
ETOB	0.6nm,0.2s,SNR=7.9			S	Sn	10 20 17.9	-3.4
ETOB	**Tobarra** 1.1nm,0.1s,SNR=18	**6.56**	**42**	P	**Pn**	**10 19 07.3**	**-0.2**
ETOB	0.6nm,0.2s,SNR=7.9			S	Sn	10 20 17.9	-3.4
GUD	**Guadarrama** 0.0nm,0.1s,SNR=7.9	**7.14**	**19**	P	**Pn**	**10 19 15.3**	**-0.2**
GUD	1.2nm,0.3s,SNR=7.9			S	Sn	10 20 31.2	-4.4
GUD	**Guadarrama** SNR=7.9	**7.14**	**19**	P	**Pn**	**10 19 15.3**	**-0.2**
ETOR	**Torete** 5.0nm,0.2s,SNR=6.2	**8.02**	**29**	P	**Pn**	**10 19 27.3**	**-0.1**
ETOR	3.6nm,0.2s,SNR=7.9			S	Sn	10 20 51.7	-5.3
ETOR	**Torete** 5.0nm,0.2s,SNR=6.2	**8.02**	**29**	P	**Pn**	**10 19 27.3**	**-0.1**

NEIC 31 10:24:11.6±0.7, 19°.78N×72°.99W, h10km, ML3.8, 1C, Error ellipse: s-maj=9.4km s-min=7.8km az=179.0, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSYH	**La Gonave Hosp**	**0.95**	**173**	*i* Pg	Pn	10 24 30.7	-0.4
LGNH	**LØogne**	**1.32**	**164**	*e*Pn	Pn	10 24 36.1	+0.1
PAPH	**Port-au-Prince**	**1.42**	**152**	*e*Pn	Pn	10 24 37.7	+0.3
JAKH	**Jacmel**	**1.60**	**164**	*e*Pn	Pn	10 24 40.1	+0.1
SDDR	**Presa de Saban**	**1.80**	**116**	⇑*e*Pn	Pn	10 24 42.4	-0.4
SDDR				*e*Sn	Sn	10 25 01.6	-4.0
GTBY	**Guantanamo Bay**	**2.00**	**274**	*e*Pn	Pn	10 24 45.3	-0.1
GTBY				*e*Sg	Sn	10 25 09.1	-1.5
GRTK	**Grand Turk**	**2.45**	**45**	*e*Pn	Pn	10 24 52.6	+1.1
GRTK				*e*Sn	Sn	10 25 18.5	-3.0
SMN1	**Samana, DR**	**3.56**	**99**	*e*Pn	Pn	10 25 07.0	+0.1
SMN1				*e*Sg	Sn	10 25 49.5	+0.3
PCDR	**Punta Cana, DR**	**4.54**	**105**	Pn	Pn	10 25 18.9	-1.5
PCDR				*e*Sn	Sn	10 26 12.4	-0.7
MTDJ	**Mount Denham**	**4.57**	**251**	*e*Pn	Pn	10 25 20.4	-0.5
MTDJ				*e*Sn	Sn	10 26 11.1	-3.1
CRPR	**Cabo Rojo, PR**	**5.84**	**107**	*e*Pn	Pn	10 25 39.7	+1.4
CRPR				*e*Sn	Sn	10 26 44.4	-1.0
SDV	**Santo Domingo**	**11.07**	**168**	*e*Pn	Pn	10 26 48.1	-2.3

DDA 31 10:26:30.7, 40°.59N×27°.33E, h7km, MD2.5, Turkey

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

JHU	**Hanno**	**8.25**	**353**	P	**P**	**10 30 25.1 -0.2**
JHU				S	**S**	**10 32 00.7 -1.9**
JRY	**Ryogami san**	**8.46**	**351**	P	**P**	**10 30 28.8 +1.3**
JRY				S	**S**	**10 32 06.0 -0.7**
JYT	**Yasato**	**8.56**	**358**	P	**P**	**10 30 29.5 +1.0**
JYT				S	**S**	**10 32 07.1 -1.4**
JAG	**Ashikaga**	**8.80**	**354**	P	**P**	**10 30 30.7 -0.4**
JAG				S	**S**	**10 32 10.1 -3.1**
JHO	**Hitachi**	**8.94**	**0**	P	**P**	**10 30 34.0 +1.5**
JHO				S	**S**	**10 32 13.9 -2.0**
MJAR	**Matsushiro Arr**	**9.09**	**348**	P	**P**	**10 30 36.1 +1.9**
	1.0nm,0.3s,baz=165,slow=11,SNR=7.4					
JNU	**Nakatsue**	**9.97**	**306**	P	**P**	**10 30 42.9 -0.9**
	0.5nm,0.3s,baz=347,slow=8.5,SNR=5.3					
USRK	**Ussuriysk Ar.**	**17.90**	**340**	P	**P**	**10 32 08.9 +1.9**
	0.4nm,0.3s,baz=155,slow=8.3,SNR=5.1					
WRA	**Warramunga Arr**	**47.69**	**188**	P	**P**	**10 36 19.3 +0.1**
	0.2nm,0.4s,baz=7.3,slow=7.8,SNR=7.3					
MKAR	**Makanchi Array**	**49.00**	**309**	P	**P**	**10 36 27.9 -0.9**
	0.4nm,0.4s,baz=91,slow=10,SNR=5.5					
ASAR	**Alice Springs**	**51.42**	**188**	P	**P**	**10 36 46.5 -0.3**
	0.2nm,0.6s,baz=2.1,slow=5.2,SNR=5.3					
KURBB	**Kurchatov Arra**	**51.62**	**314**	P	**P**	**10 36 47.9 +0.1**
	3.2nm,0.4s,baz=91,slow=8.2,SNR=22					
BVAR	**Borovoye Array**	**56.65**	**317**	P	**P**	**10 37 24.1 +0.7**
	3.5nm,0.4s,baz=92,slow=7.0,SNR=18					
AKTO	**Aktyubinsk**	**64.62**	**315**	P	**P**	**10 38 16.2 -0.1**
	0.9nm,0.7s,baz=66,slow=12,SNR=3.4					
FINES	**FINESS Array B**	**76.81**	**333**	P	**P**	**10 39 28.8 +0.6**
	0.9nm,0.4s,baz=81,slow=4.9,SNR=11					

BUC 31 10:30:41.0±1.0, 45°17N×23°21E, h8km±5km, MD2.3/2, 6C-4D, Error ellipse: s-maj=11.4km s-min=1.7km az=1.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GZR	**Gura Zlata**	**0.38**	**307**	↑*i*P	Pg	10 30 48.9	+0.4
GZR	**Gura Zlata**	**0.38**	**307**	S	Sg	10 30 54.4	+0.8
GZR	**Gura Zlata**	**0.38**	**307**	↑*i*P	Pg	10 30 48.9	+0.4
GZR				*i* S	Sg	10 30 54.4	+0.8
LOT	**Lotru**	**0.49**	**55**	↓*i*P	Pg	10 30 51.0	+0.4
LOT	**Lotru**	**0.49**	**55**	S	Sb	10 30 58.4	-1.1
LOT	**Lotru**	**0.49**	**55**	↓*i*P	Pg	10 30 51.0	+0.4
LOT				*i* S	Sb	10 30 58.4	-1.1
BZS	**Buzias**	**1.21**	**292**	↑*i*P	Pb	10 31 04.1	0.0
BZS	**Buzias**	**1.21**	**292**	↑*i*P	Pb	10 31 04.1	0.0
BZS				*i* S	Sb	10 31 20.3	+0.4
VOIR		**1.33**	**78**	↑*i*P	Pb	10 31 06.4	+0.1
VOIR		**1.33**	**78**	↑*i*P	Pb	10 31 06.4	+0.1
SIRR	**Siria**	**1.54**	**316**	↓*i*P	Pg	10 31 10.4	-0.3
SIRR	**Siria**	**1.54**	**316**	↓*i*P	Pg	10 31 10.4	-0.3

*CSEM **31** 10:31:57.2±0.8, 51°.34N×19°.06E, h10km, Error ellipse: s-maj=11.8km s-min=5.8km az=32.0*
PRU 31 10:31:58.8, 51°.30N×19°.04E, h0km, Belchatow, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**1.18**	**156**	*e*Pg	Pg	10 32 21.6	+0.1
OJC				*e*Sg	Sg	10 32 36.8	-0.1
OKC	**Ostrava-Krasne**	**1.57**	**202**	*e*SG	Sn	10 32 48.4	-0.6
OKC	**Ostrava-Krasne**	**1.57**	**202**	Sg	Sn	10 32 48.4	-0.6
MORC	**Moravsky Berou**	**1.80**	**213**	*e*Sg	Sg	10 32 56.8	0.0
DPC	**Dobruska-Polom**	**1.97**	**242**	*e*PG	Pb	10 32 35.5	-0.1
DPC				*e*SG	Sg	10 33 01.6	-0.6
DPC	**Dobruska-Polom**	**1.97**	**242**	Pg	Pb	10 32 35.5	-0.1
DPC				Sg	Sg	10 33 01.6	-0.6
UPC	**Upice**	**2.08**	**249**	*e*SG	Sg	10 33 05.4	-0.1
UPC	**Upice**	**2.08**	**249**	Sg	Sg	10 33 05.4	-0.1

IDC 31 11:02:34.3±3.8, 6°34S×149°.67E, h0km, mb3.0/2, mb1 3.4/2, mb1mx3.1/22, mbtmp3.1/2, Error ellipse: s-maj=141.4km s-min=46.6km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.11**	**226**	P	P	11 07 08.3	-1.6
	0.2nm,0.5s,baz=52,slow=11,SNR=20						
ASAR	**Alice Springs**	**22.95**	**220**	P	P	11 07 40.8	+0.4
	0.4nm,0.4s,baz=53,slow=8.4,SNR=11						
TORD	**Torodi Ar. Bea**	**147.74**	**285**	PKPbc	PKPbc	11 22 22.0	-0.2
	0.1nm,0.4s,baz=64,slow=3.9,SNR=3.0						

*JMA **31** 11:03:22.8±0.1, 43°.85N×147°.72E, h15km, M3.7*
*SKHL **31** 11:03:24.0±0.5, 44°.25N×147°.69E, h25km±4km, mb4.0/3*
ISC 31 11:03:20.3±3.5, 44°09N±0°.09×148°0E±0°.1, h29km±21km, n11, σ1$47/20, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.88**	**256**	*e*P	**Pn**	**11 03 37.3**	**+0.5**
SHO				AMB	AMB	11 03 37.5	
	170nm,0.3s						
SHO				*e*S	**Sb**	**11 03 47.5**	**-1.0**
SHO				A	A	11 03 47.8	
	540nm,0.3s						
KUR	**Kuril'sk**	**1.15**	**355**	*i* P	**Pn**	**11 03 41.2**	**+0.7**
KUR				AMB	AMB	11 03 44.8	
	10.0nm,0.3s						
KUR				AMB	AMB	11 03 44.8	
	30nm,0.3s						
KUR				*i* S	**Sn**	**11 03 53.6**	**-1.7**
KUR				A	A	11 03 55.0	
	310nm,0.4s						
KUR				A	A	11 03 55.0	
	330nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.56**	**269**	*i* P	**Pn**	**11 03 46.9**	**+0.9**
YUK				AMB	AMB	11 03 49.7	
	30nm,0.2s						
YUK				AMB	AMB	11 03 49.7	
	20nm,0.2s						
YUK				AMB	AMB	11 03 49.7	
	60nm,0.2s						
YUK				*i* S	**Sn**	**11 04 04.3**	**-0.9**
YUK				A	A	11 04 06.3	
	210nm,0.3s						
YUK				A	A	11 04 06.3	
	120nm,0.3s						
NEM2	**Nemuro 2**	**1.80**	**247**	P	**Pn**	**11 03 49.8**	**+0.4**
NEM2				*e*S	**Sn**	**11 04 09.0**	**-2.2**
JRA	**Rausu**	**2.09**	**267**	P	**Pn**	**11 03 55.2**	**+1.8**
JRA				*e*S	**Sn**	**11 04 18.8**	**+0.3**
JNK	**Nakash**	**2.44**	**259**	P	**Pn**	**11 03 59.5**	**+1.3**
JNK				*e*S	**Sn**	**11 04 26.6**	**-0.4**
JAK	**Akkeshi**	**2.65**	**247**	P	**Pn**	**11 04 02.1**	**+1.0**
JAK				*e*S	**Sn**	**11 04 30.8**	**-1.4**
JAR	**Ashorobuto**	**3.18**	**257**	P	**Pn**	**11 04 10.7**	**+2.3**
JAR				*e*S	**Sn**	**11 04 45.6**	**+0.3**
JOB	**Onbets**	**3.27**	**250**	*e*S	**Sn**	**11 04 46.5**	**-0.9**
JCH	**Churui**	**3.70**	**248**	*e*S	**Sn**	**11 04 56.5**	**-1.6**
YSS	**Yuzh-Sakhalins**	**4.68**	**310**	*e*P	**Pn**	**11 04 30.8**	**+1.9**
YSS				*e*S	**Sn**	**11 05 20.5**	**-1.7**
YSS				A	A	11 05 24.0	
	130nm,0.3s						

MAN 31 11:09:49, 6°.89N×123°.93E, h100km, mb4.7, ML3.6, MS3.6, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.45**	**44**	*i* P	Pn	11 09 59.3	-5.1
CTBH				*i* S	Sn	11 10 05.2	-11
PAGZ	**Pagadian**	**1.09**	**330**	*e*P	Pn	11 10 09.5	-1.0
PAGZ				*e*S	Sn	11 10 23.8	-2.9
GSPH	**General Santos**	**1.29**	**128**	*e*P	Pn	11 10 16.0	+3.1
GSPH				*i* S	Sn	11 10 36.7	+5.7
BUKP	**Musuan**	**1.49**	**49**	*e*P	Pn	11 10 16.4	+1.2
CGP	**Cagayan de Oro**	**1.73**	**26**	↑*i*P	Pn	11 10 19.2	+1.1
CGP				*i* S	Sn	11 10 43.7	+3.5
DCPH	**Dipolog City**	**1.77**	**341**	↑*i*P	Pn	11 10 20.2	+1.5
DCPH				*i* S	Sn	11 10 42.9	+1.6
ZMPH	**Zamboanga City**	**1.85**	**272**	↓*i*P	Pn	11 10 21.6	+1.8
ZMPH				*i* S	Sn	11 10 44.1	+1.0
MATI	**Mati**	**2.31**	**89**	*e*P	Pn	11 10 27.7	+2.1
TBP	**Tagbilaran**	**2.78**	**359**	*e*P	Pn	11 10 32.8	+0.9
TBP				*e*S	Sn	11 11 09.6	+4.7

IDC 31 11:28:18.2±47.0, 15°.71S×174°.63W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/35, mbtmp3.9/3, Error ellipse: s-maj=901.8km s-min=169.2km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**42.85**	**240**	P	P	11 36 18.6	+0.2
	0.8nm,0.4s,baz=80,slow=8.4,SNR=6.7						
WRA	**Warramunga Arr**	**48.62**	**257**	P	P	11 37 03.8	-0.4
	0.4nm,0.7s,baz=92,slow=8.3,SNR=10						
ASAR	**Alice Springs**	**48.88**	**252**	P	P	11 37 06.1	-0.2
	3.5nm,0.5s,baz=89,slow=8.0,SNR=76						

IDC 31 11:30:12.4±2.9, 53°.70N×88°.00E, h0km, mb1 3.0/2, mb1mx2.9/41, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=23.8km s-min=16.7km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.91**	**279**	*i*		11 42 20.0	
	baz=96,slow=326,SNR=7.7						
ZALV	**Zalesovo Beam**	**1.91**	**279**	Pn	Pn	11 30 46.2	+0.1
	3.7nm,0.3s,baz=99,slow=15,SNR=28						
ZALV				Lg	Lg	11 31 12.7	
	0.9nm,0.3s,baz=101,slow=27,SNR=3.6						
KURBB	**Kurchatov Arra**	**6.59**	**246**	Pn	Pn	11 31 50.2	-0.3
	0.1nm,0.3s,baz=61,slow=14,SNR=5.7						
KURBB				Sn	Sn	11 33 06.5	+0.3
	0.1nm,0.3s,baz=70,slow=26,SNR=4.4						
KURBB				Lg	Lg	11 33 40.2	
	0.0nm,0.3s,baz=63,slow=32,SNR=6.8						
MKAR	**Makanchi Array**	**7.82**	**210**	Pn	Pn	11 32 08.8	+1.4
	0.1nm,0.3s,baz=27,slow=13,SNR=6.3						
MKAR				Sn	Sn	11 33 36.9	+0.3
	0.1nm,0.3s,baz=35,slow=24,SNR=5.4						
MKAR				Lg	Lg	11 34 20.4	
	0.1nm,0.3s,baz=39,slow=30,SNR=4.1						

NDI 31 11:37:02.0±4.0, 29°.96N×79°.98E, h10km, ML3.6, Northern India

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTH	**Pithoragarh**	**0.46**	**153**	*e*P	Pg	11 36 57.9	-13
PTH				*e*S	Sg	11 37 04.8	-13
LGTI	**Lohaghat**	**0.56**	**155**	*e*P	Pg	11 37 04.6	-8.2
LGTI				*e*S	Sg	11 37 06.6	-14
JOSI	**Joshimath**	**0.70**	**329**	*e*P	Pg	11 37 15.7	-0.1
JOSI				*e*S	Sg	11 37 23.8	-1.5
JOSI				AML	AML	11 37 43.9	
	comp=E,2μm,0.4s						
JOSI				AML	AML	11 37 44.7	
	comp=N,3μm,0.3s						
KALG	**Kalgarh**	**1.15**	**247**	*e*P	Pn	11 37 24.4	+0.2
KALG				*e*S	Sn	11 37 41.4	+1.4
DDI	**Dehra Dun**	**1.70**	**283**	*e*P	Pb	11 37 33.2	-0.3
DDI				*e*S	Sn	11 37 54.4	+0.6
DDI				AML	AML	11 38 06.8	
	comp=N,1μm,0.2s						
DDI				AML	AML	11 38 07.8	
	comp=E,840nm,0.2s						
SMLA	**Simla**	**2.69**	**296**	*e*P	Pn	11 37 46.5	+1.2
SMLA				*e*S	Sn	11 38 17.1	-0.9
SMLA				AML	AML	11 38 37.6	
	comp=E,364nm,0.1s						
SMLA				AML	AML	11 38 38.1	
	comp=N,269nm,0.4s						
NDI	**New Delhi**	**2.72**	**243**	*e*P	Pn	11 37 44.0	-1.8
NDI				*e*S	Sn	11 38 15.0	-3.8
AGRA	**Agra**	**3.25**	**214**	*e*P	Pn	11 37 52.6	-0.4
AGRA				*ex*	x	11 38 17.6	
AGRA				AML	AML	11 38 37.6	
	comp=N,178nm,0.2s						
AGRA				AML	AML	11 38 38.6	
	comp=E,244nm,0.9s						
BHK	**Bhakra**	**3.40**	**296**	*ex*	Pg	11 38 09.0	+1.9
DHRM	**DHARAMSHALA**	**3.90**	**307**	*e*P	Pn	11 38 02.8	+0.6
DHRM				*e*S	Sn	11 38 44.5	-3.8
KHET	**Khetri**	**4.11**	**244**	*e*S	Sn	11 38 50.8	-2.2
DLH	**Dalhousie**	**4.29**	**308**	*e*P	Pn	11 38 08.0	+0.3
DLH				*ex*	Sn	11 39 05.0	+6.9
AJM	**Ajmer**	**5.84**	**235**	*e*P	Sn	11 39 25.0	-11

*IDC **31** 11:38:12.0±2.2, 7°.31N×124°.91E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/37, mbtmp3.5/4, Error ellipse: s-maj=217.0km s-min=24.6km az=64.0*
*MAN **31** 11:38:16, 7°.00N×123°.91E, h53km, mb4.8, ML3.7, MS3.7*
ISC 31 11:38:16.9±1.3, 7°.04N±0°.05×123°.92E±0°.05, h27km±11km, n12, σ1$72/14, mb3.3/4, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.37**	**60**	↓*i*P	**Pb**	**11 38 24.2**	**-0.9**
CTBH				*i* S	**Sb**	**11 38 30.2**	**-0.5**
PAGZ	**Pagadian**	**0.97**	**326**	*e*P	**Pb**	**11 38 34.7**	**-0.4**
PAGZ				*e*S	**Sb**	**11 38 48.5**	**+1.0**
GSPH	**General Santos**	**1.39**	**133**	*e*P	**Pb**	**11 38 42.2**	**0.0**
GSPH				*i* S	**Sb**	**11 39 03.0**	**+3.4**
BUKP	**Musuan**	**1.41**	**53**	*e*P	**Pn**	**11 38 41.6**	**+0.7**
BUKP				*e*S	**Sn**	**11 39 00.4**	**+1.9**
IPIL	**Ipil**	**1.54**	**299**	*e*P	**Pn**	**11 38 43.7**	**+1.1**
CGP	**Cagayan de Oro**	**1.60**	**28**	↑*i*P	Pn	11 38 42.8	-0.8
CGP				*i* S	**Sb**	**11 39 07.4**	**+1.7**
DCPH	**Dipolog City**	**1.64**	**340**	↑*e*P	**Pb**	**11 38 45.9**	**-0.6**
MATI	**Mati**	**2.32**	**92**	*e*P	**Pn**	**11 38 52.9**	**-0.5**
WRA	**Warramunga Arr**	**28.70**	**159**	P	**P**	**11 44 10.1**	**-2.0**
	0.3nm,0.5s,baz=341,slow=9.3,SNR=5.5						
ASAR	**Alice Springs**	**32.03**	**163**	P	**P**	**11 44 39.7**	**-1.8**
	0.4nm,0.8s,baz=347,slow=6.9,SNR=3.8						
STKA	**Stephens Creek**	**42.21**	**157**	P	P	11 46 06.9	-0.9
	1.7nm,0.8s,baz=326,slow=11,SNR=3.9						
MKAR	**Makanchi Array**	**53.27**	**325**	P	P	11 47 35.0	+1.6
	0.1nm,0.4s,baz=123,slow=11,SNR=2.4						

IDC 31 11:38:53.7±52.0, 17°.76S×177°.57W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/33, mbtmp3.9/3, Error ellipse: s-maj=963.7km s-min=172.8km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.40**	**241**	P	P	11 46 25.1	-0.3
	1.8nm,1.0s,baz=90,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	**45.44**	**259**	P	P	11 47 14.5	-0.3
	0.3nm,0.4s,baz=95,slow=7.2,SNR=8.1						
ASAR	**Alice Springs**	**45.60**	**254**	P	P	11 47 16.1	0.0
	2.2nm,0.6s,baz=87,slow=8.7,SNR=52						

IDC 31 11:44:41.9±1.8, 16°.78S×177°.78W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/26, mbtmp3.8/4, Error ellipse: s-maj=164.9km s-min=31.1km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.70**	**240**	P	P	11 52 16.1	-0.1
	0.7nm,0.7s,baz=80,slow=11,SNR=3.3						
WRA	**Warramunga Arr**	**45.43**	**258**	P	P	11 53 03.0	0.0
	0.5nm,0.5s,baz=94,slow=7.7,SNR=25						
ASAR	**Alice Springs**	**45.68**	**253**	P	P	11 53 04.6	-0.3
	2.7nm,0.7s,baz=86,slow=9.1,SNR=48						
TXAR	**Lajitas Array**	**84.89**	**57**	P	P	11 57 19.1	-0.1
	0.3nm,0.7s,baz=216,slow=6.2,SNR=4.8						

*IDC **31** 11:49:45.6±6.1, 39°.66S×176°.90E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.6/15, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=119.7km s-min=21.1km az=119.0*
*ISCJB **31** 11:49:48.3±0.3, 39°.76S±0°.02×177°.07E±0°.04, h53km±4km, mb3.4/3, Error ellipse: s-maj=5.7km s-min=3.0km az=22.7*
*WEL **31** 11:49:50.3±0.1, 39°.68S×177°.02E, h30km, ML4.0/47, Error ellipse: s-maj=1.2km s-min=0.8km az=90.0*
WEL Felt in the Hawke''s Bay region, maximum reported intensity MM 5.
ISC 31 11:49:49.7±1.0, 39°.73S±0°.03×176°.98E±0°.05, h41km±6km, n119, σ1$08/120, mb3.5/3, 14C-9D, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CKHZ	**Cape Kidnapper**	**0.10**	**47**	↑P*	**Pn**	**11 49 55.9**	**-0.5**
CKHZ				S*	**Sn**	**11 50 00.9**	**-0.2**
KAHZ	**Kahuranaki**	**0.11**	**230**	↑P*	**Pn**	**11 49 56.6**	**+0.1**
KAHZ				S*	**Sn**	**11 50 02.3**	**+0.9**
PXZ	**Pawanui**	**0.32**	**197**	P*	**Pn**	**11 49 59.5**	**+1.3**
PXZ				AML	AML	11 50 08.1	
PXZ				AML	AML	11 50 08.2	
PXZ				AML	AML	11 50 11.5	
PXZ				AML	AML	11 50 11.5	
MCHZ	**McNeill Hill**	**0.36**	**322**	↓P*	**Pn**	**11 49 57.4**	**-1.3**
ARHZ	**Aropaoanui**	**0.46**	**1**	↑P*	**Pn**	**11 49 59.2**	**-0.8**
KRHZ	**Kereru**	**0.48**	**280**	P*	**Pn**	**11 49 59.7**	**-0.5**
WPHZ	**Waipukurau**	**0.54**	**231**	↓P*	**Pn**	**11 50 02.4**	**+1.4**
PRHZ	**Porangahau**	**0.60**	**206**	PN	**Pn**	**11 50 03.1**	**+1.3**
NMHZ	**Naumai**	**0.64**	**348**	↑P*	**Pn**	**11 50 01.8**	**-0.6**
BKZ	**Black Stump Fm**	**0.68**	**326**	PN	**Pn**	**11 50 01.9**	**-1.0**
BKZ				AML	AML	11 50 11.3	
BKZ				AML	AML	11 50 12.1	
WHHZ	**Waihua**	**0.68**	**17**	↑P*	**Pn**	**11 50 02.7**	**-0.1**
BHHZ	**Black Hill Sta**	**0.75**	**288**	PN	**Pn**	**11 50 03.5**	**-0.3**
RAHZ	**Arahi**	**0.81**	**6**	PN	**Pn**	**11 50 04.5**	**-0.2**
ANWZ	**Angora Road**	**0.83**	**208**	PN	**Pn**	**11 50 06.1**	**+1.2**
DVHZ	**Dannevirke**	**0.85**	**227**	↓PN	**Pn**	**11 50 06.3**	**+1.1**
TSZ	**Takapari Road**	**0.85**	**247**	PN	**Pn**	**11 50 05.8**	**+0.5**
TSZ				AML	AML	11 50 19.8	
TSZ				AML	AML	11 50 21.1	
KNZ	**Kokohu**	**0.88**	**37**	PN	**Pn**	**11 50 04.8**	**-0.8**
SNGZ	**Shannon Statio**	**0.98**	**16**	PN	**Pn**	**11 50 06.9**	**-0.1**
MOVZ	**Moawhango**	**1.00**	**288**	↑PN	**Pn**	**11 50 07.8**	**+0.4**
MOVZ				AML	AML	11 50 21.0	
MOVZ				AML	AML	11 50 21.8	
PRGZ	**Paritu Road**	**1.06**	**41**	PN	**Pn**	**11 50 08.0**	**-0.1**
HATZ	**Hinemaiaia**	**1.08**	**320**	↑PN	**Pn**	**11 50 08.6**	**+0.2**
HATZ				AML	AML	11 50 24.5	
HATZ				AML	AML	11 50 26.0	
BFZ	**Birch Farm**	**1.11**	**210**	PN	**Pn**	**11 50 09.5**	**+0.8**
TUVZ	**Tukino**	**1.13**	**294**	PN	**Pn**	**11 50 10.0**	**+0.9**
TUVZ				AML	AML	11 50 29.1	
TUVZ				AML	AML	11 50 29.9	
PRWZ	**Pori Road**	**1.14**	**223**	PN	**Pn**	**11 50 10.3**	**+1.3**
WNVZ	**Wahianoa**	**1.14**	**290**	PN	**Pn**	**11 50 10.1**	**+0.8**
POWZ	**Post Office Ro**	**1.15**	**234**	PN	**Pn**	**11 50 10.1**	**+0.9**
RITZ	**Rihia Road**	**1.15**	**310**	↑PN	**Pn**	**11 50 09.9**	**+0.6**
RITZ				AML	AML	11 50 30.6	
RITZ				AML	AML	11 50 31.0	
OTVZ	**Oturere**	**1.17**	**298**	PN	**Pn**	**11 50 10.3**	**+0.6**
OTVZ				AML	AML	11 50 28.0	
OTVZ				AML	AML	11 50 29.2	
WHVZ	**Whangaehu Hut**	**1.17**	**292**	PN	**Pn**	**11 50 10.7**	**+0.9**
RIGZ	**Rimuhau**	**1.19**	**31**	PN	**Pn**	**11 50 09.7**	**-0.1**
DRZ	**Dome Shelter**	**1.19**	**292**	PN	**Pn**	**11 50 11.2**	**+1.1**
DRZ				AML	AML	11 50 29.0	
DRZ				AML	AML	11 50 31.9	
TRVZ	**Turoa**	**1.19**	**291**	PN	**Pn**	**11 50 10.7**	**+0.7**
TRVZ				AML	AML	11 50 26.9	
TRVZ				AML	AML	11 50 28.7	
FWVZ	**Far West T-bar**	**1.20**	**293**	↑PN	**Pn**	**11 50 10.7**	**+0.5**
FWVZ				AML	AML	11 50 28.2	
FWVZ				AML	AML	11 50 33.2	
NGZ	**Ngauruhoe**	**1.20**	**297**	PN	**Pn**	**11 50 10.7**	**+0.6**
NGZ				AML	AML	11 50 29.3	
NGZ				AML	AML	11 50 33.1	
KRVZ	**Karewarewa**	**1.22**	**301**	PN	**Pn**	**11 50 10.8**	**+0.5**
KRVZ				AML	AML	11 50 31.2	
KRVZ				AML	AML	11 50 31.4	
MTVZ	**Mangateitei**	**1.22**	**286**	↓PN	**Pn**	**11 50 11.1**	**+0.9**
MTVZ				AML	AML	11 50 31.9	
MTVZ				AML	AML	11 50 35.5	
WPVZ	**Whakapapa**	**1.23**	**295**	↑PN	**Pn**	**11 50 11.1**	**+0.6**
WPVZ				AML	AML	11 50 29.4	
WPVZ				AML	AML	11 50 31.9	
COVZ	**Chateau Observ**	**1.23**	**295**	↑PN	**Pn**	**11 50 11.0**	**+0.5**
WTVZ	**West Tongariro**	**1.24**	**299**	↓PN	**Pn**	**11 50 11.4**	**+0.8**
WTVZ				AML	AML	11 50 30.8	
WTVZ				AML	AML	11 50 39.0	
KATZ	**Kakaramea**	**1.25**	**306**	PN	**Pn**	**11 50 11.2**	**+0.4**
KATZ				AML	AML	11 50 20.3	
KATZ				AML	AML	11 50 32.6	
ALRZ	**Allen Road**	**1.26**	**337**	PN	**Pn**	**11 50 10.7**	**-0.2**
RATZ	**Rangitukua**	**1.27**	**312**	PN	**Pn**	**11 50 11.2**	**+0.2**
RATZ				AML	AML	11 50 22.2	
RATZ				AML	AML	11 50 38.2	
RAGZ	**Rawiri**	**1.27**	**15**	↑PN	**Pn**	**11 50 10.8**	**-0.3**
PRRZ	**Plateau Road**	**1.31**	**339**	↑PN	**Pn**	**11 50 11.2**	**-0.3**
CPWZ	**Castlepoint**	**1.32**	**207**	PN	**Pn**	**11 50 13.3**	**+1.7**
WHTZ	**Whakaora**	**1.32**	**323**	PN	**Pn**	**11 50 12.0**	**+0.2**
PKVZ	**Pokaka**	**1.34**	**288**	PN	**Pn**	**11 50 12.5**	**+0.6**
PKVZ				AML	AML	11 50 33.3	
PKVZ				AML	AML	11 50 38.1	
TIWZ	**Tintock**	**1.34**	**218**	PN	**Pn**	**11 50 12.8**	**+0.8**
TIWZ				AML	AML	11 50 34.0	
TIWZ				AML	AML	11 50 54.6	
WPRZ	**Whakapapatarin**	**1.36**	**332**	↓PN	**Pn**	**11 50 12.5**	**+0.2**
WATZ	**Wairara**	**1.41**	**316**	PN	**Pn**	**11 50 12.7**	**-0.2**
WATZ				AML	AML	11 50 35.3	
WATZ				AML	AML	11 50 40.0	
MRZ	**Mangatainoka R**	**1.43**	**229**	↓PN	**Pn**	**11 50 13.6**	**+0.5**
MRZ				AML	AML	11 50 33.5	
MRZ				AML	AML	11 50 37.5	
RRRZ	**Republican Roa**	**1.43**	**345**	PN	**Pn**	**11 50 12.9**	**-0.3**
HRRZ	**Handcock Road**	**1.44**	**338**	PN	**Pn**	**11 50 13.3**	**0.0**
TKGZ	**Te Karaka**	**1.45**	**28**	↓PN	**Pn**	**11 50 12.

CAW				AML	AML	11 50 49.1		
LREZ	**Lake Rotokare**	**2.01**	**277**	PN	Pn	11 50 25.0	+3.9	
PAWZ	**Paruwai Farm**	**2.04**	**215**	PN	**Pn**	**11 50 21.4**	**-0.1**	
PAWZ				AML	AML	11 50 48.7		
PAWZ				AML	AML	11 50 48.9		
HIZ	**Hauiti**	**2.05**	**305**	PN	**Pn**	**11 50 21.6**	**-0.1**	
HIZ				AML	AML	11 50 57.6		
HIZ				AML	AML	11 50 58.5		
HAZ	**Te Kaha**	**2.06**	**18**	PN	**Pn**	**11 50 20.6**	**-1.2**	
MSWZ	**Moikau Station**	**2.14**	**218**	⇑PN	**Pn**	**11 50 22.4**	**-0.5**	
MSWZ				AML	AML	11 50 55.0		
MSWZ				AML	AML	11 51 06.1		
MHEZ	**Mangahewa**	**2.16**	**287**	PN	**Pn**	**11 50 25.6**	**+2.4**	
WMGZ	**Waiomatatini S**	**2.21**	**31**	PN	**Pn**	**11 50 23.1**	**-0.7**	
DREZ	**Durham Road**	**2.22**	**283**	*e*PN	**Pn**	**11 50 25.5**	**+1.5**	
PLWZ	**Palliser**	**2.26**	**215**	PN	**Pn**	**11 50 23.9**	**-0.7**	
WEL	**Wellington**	**2.30**	**227**	PN	**Pn**	**11 50 24.8**	**-0.3**	
WEL				AML	AML	11 50 53.5		
WEL				AML	AML	11 50 53.6		
TOZ	**Tahuroa Road**	**2.31**	**329**	PN	**Pn**	**11 50 24.6**	**-0.5**	
BHW	**Baring Head**	**2.33**	**223**	PN	**Pn**	**11 50 24.9**	**-0.5**	
BHW				AML	AML	11 50 53.8		
BHW				AML	AML	11 50 53.9		
PKE	**Pukeiti**	**2.38**	**282**	PN	**Pn**	**11 50 27.9**	**+1.7**	
PKE				AML	AML	11 51 06.9		
PKE				AML	AML	11 51 07.3		
MXZ	**Matakaoa Point**	**2.40**	**26**	PN	**Pn**	**11 50 26.0**	**-0.3**	
MXZ				AML	AML	11 50 59.5		
MXZ				AML	AML	11 51 24.9		
MXZ				AML	AML	11 51 25.0		
NMEZ	**Namu Road**	**2.42**	**276**	*e*PN	Pn	11 50 31.3	+4.6	
TCW	**Tory Channel**	**2.54**	**233**	PN	**Pn**	**11 50 27.9**	**-0.5**	
TCW				AML	AML	11 51 00.7		
TCW				AML	AML	11 51 03.1		
DUWZ	**D'Urville Isla**	**2.58**	**244**	PN	**Pn**	**11 50 28.7**	**-0.2**	
DUWZ				AML	AML	11 51 19.3		
DUWZ				AML	AML	11 51 21.2		
TUWZ	**Tuamarina**	**2.87**	**233**	PN	**Pn**	**11 50 31.7**	**-1.2**	
TUWZ				AML	AML	11 51 10.2		
TUWZ				AML	AML	11 51 10.7		
BSWZ	**Blackbirch Sta**	**3.09**	**229**	PN	**Pn**	**11 50 34.7**	**-1.2**	
QRZ	**Quartz Range**	**3.58**	**251**	PN	**Pn**	**11 50 41.5**	**-1.2**	
THZ	**Tophouse**	**3.71**	**235**	PN	**Pn**	**11 50 43.1**	**-1.4**	
THZ				AML	AML	11 51 31.1		
THZ				AML	AML	11 52 06.2		
KHZ	**Kahutara**	**3.74**	**223**	PN	**Pn**	**11 50 43.2**	**-1.6**	
KHZ				AML	AML	11 51 29.2		
DSZ	**Denniston Nort**	**4.42**	**241**	PN	**Pn**	**11 50 53.5**	**-0.8**	
LTZ	**Lake Taylor**	**4.69**	**228**	PN	**Pn**	**11 50 55.7**	**-2.1**	
LTZ				AML	AML	11 51 49.6		
CRLZ	**Canterbury Las**	**5.05**	**219**	PN	**Pn**	**11 51 01.5**	**-1.2**	
MQZ	**McQueen's Vall**	**5.13**	**218**	PN	**Pn**	**11 51 01.9**	**-2.0**	
OXZ	**Oxford**	**5.17**	**224**	PN	**Pn**	**11 51 02.5**	**-1.9**	
WVZ	**Waitaha Valley**	**5.77**	**233**	PN	**Pn**	**11 51 11.4**	**-1.3**	
RPZ	**Rata Peaks**	**5.96**	**226**	Pn	**Pn**	**11 51 13.7**	**-1.6**	
	1.1nm,0.3s,baz=92,slow=2.6,SNR=6.4							
RPZ				Sn	**Sn**	**11 52 17.1**	**-5.3**	
	6.5nm,0.3s,baz=265,slow=4.0,SNR=22							
CTZ	**Chatham Island**	**6.24**	**132**	PN	**Pn**	**11 51 20.8**	**+1.7**	
FOZ	**Fox Glacier**	**6.67**	**233**	PN	**Pn**	**11 51 22.9**	**-2.2**	
LBZ	**Lake Benmore**	**6.88**	**225**	PN	**Pn**	**11 51 26.5**	**-1.4**	
JCZ	**Jackson Bay**	**7.52**	**232**	PN	**Pn**	**11 51 35.0**	**-1.7**	
TUZ	**Tuapeka**	**8.24**	**219**	PN	**Pn**	**11 51 45.3**	**-1.2**	
SYZ	**Scrubby Hill**	**8.90**	**218**	PN	**Pn**	**11 51 55.2**	**-0.3**	
STKA	**Stephens Creek**	**29.61**	**274**	P	**P**	**11 55 52.6**	**+1.7**	
	0.7nm,0.6s,baz=127,slow=15,SNR=3.8							
ASAR	**Alice Springs**	**39.60**	**281**	P	**P**	**11 57 18.4**	**+1.2**	
	0.4nm,0.7s,baz=135,slow=9.9,SNR=5.3							
WRA	**Warramunga Arr**	**41.45**	**286**	P	**P**	**11 57 33.0**	**+0.5**	
	0.7nm,0.6s,baz=122,slow=7.9,SNR=2.4							

IDC 31 11:50:28.8±2.0, 7°69'S×127°05'E, h0km, mb3.2/1, mb1 3.7/3, mb1mx3.4/23, mbtmp3.5/3, ML3.6/2, Error ellipse: s-maj=283.0km s-min=31.2km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.08**	**151**	Pn	Pn	11 53 48.6	-1.2
	0.3nm,0.3s,baz=326,slow=13,SNR=18						
WRA				Sn	Sn	11 56 11.3	-16
	0.7nm,0.3s,baz=327,slow=22,SNR=6.4						
ASAR	**Alice Springs**	**17.19**	**158**	P	P	11 54 31.6	-0.8
	0.2nm,0.3s,baz=338,slow=11,SNR=23						
MKAR	**Makanchi Array**	**67.23**	**328**	P	P	12 01 25.1	0.0
	0.1nm,0.4s,baz=116,slow=6.6,SNR=2.7						

KRSC 31 12:15:18.0±0.4, 55°13'N×160°37'E, h-2km±4km, ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZV	**Kizimen**	**0.04**	**245**	*e*P	Pg	12 15 19.9	+0.8
TUMR	**Tumrok**	**0.20**	**320**	*e*P	Pg	12 15 23.2	+1.2
KMNR	**Kamenistaya**	**0.63**	**353**	*e*P	Pb	12 15 31.4	-0.6
KMNR				*e*S	Sb	12 15 41.7	+0.2
KOZ	**Kozyrevsk**	**0.97**	**343**	P	Pb	12 15 38.1	+0.4
KOZ				S	Sn	12 15 53.5	+0.1
MKZ	**Mys Kozlova**	**0.98**	**126**	*e*P	Pb	12 15 37.6	-0.1
MKZ				*e*S	Sn	12 15 52.7	-0.7
KII	**Karymskiy**	**1.22**	**206**	P	Pb	12 15 41.8	-0.2
ESO	**Esso**	**1.24**	**311**	P	Pg	12 15 41.3	-0.4
ESO				S	Sb	12 15 58.9	+0.1
SRDR	**Sredinnyy**	**1.24**	**343**	*e*P	Pn	12 15 42.6	-0.1
BDR	**Baidarnaya**	**1.52**	**18**	P	Pg	12 15 48.1	+0.9
SMKR	**Semkarok**	**1.58**	**23**	P	Pg	12 15 48.5	+0.1
SRKR	**Sorokina**	**1.59**	**16**	P	Pn	12 15 46.4	-1.1
KBTR	**Krutoberegovo**	**1.76**	**51**	P	Pn	12 15 50.3	+0.6
GNL	**Ganaly**	**2.02**	**226**	P	Pn	12 15 54.2	+0.8
GNL				S	Sb	12 16 21.4	-0.1
KRX	**Arik**	**2.04**	**210**	P	Pb	12 15 55.0	-1.1
SPN	**Mys Shipunski**	**2.05**	**186**	*e*P	Pn	12 15 54.1	+0.5
SPN				S	Sn	12 16 20.5	+0.6
SDLR	**Sedlovina**	**2.05**	**206**	P	Pn	12 15 54.9	+1.0
NLC	**Nalytchevo**	**2.06**	**197**	P	Pn	12 15 54.7	+1.0
NLC				S	Sb	12 16 23.0	+0.9
SMAR	**Somma**	**2.09**	**207**	P	Pb	12 15 55.8	-1.2
SMAR				S	Sg	12 16 24.8	-0.7
AVH	**Avacha**	**2.10**	**208**	P	Pb	12 15 56.8	-0.2
KOK	**Koryaka**	**2.10**	**210**	P	Pb	12 15 56.1	-1.0
UGLR	**Uglovaya**	**2.13**	**206**	P	Pb	12 15 56.8	-0.8
PET	**Petropavlovsk**	**2.34**	**206**	P	Pb	12 16 00.1	-0.9
APC	**Apacha**	**2.91**	**222**	P	Pn	12 16 06.1	+0.6
RUS	**Russkaya**	**2.92**	**203**	P	Pn	12 16 07.9	+2.3
ASAK	**Asacha**	**3.12**	**209**	P	Pb	12 16 13.8	-0.6

MAN 31 12:18:24, 7°10N×123°89E, h6km, mb4.7, ML3.6, MS3.5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.37**	**71**	*i* P	Pg	12 18 32.1	+0.9
CTBH				*i* S	Sb	12 18 37.8	-1.3
PAGZ	**Pagadian**	**0.90**	**326**	*e*P	Pb	12 18 42.4	+0.3
PAGZ				*e*S	Sn	12 18 56.8	+0.2
BUKP	**Musuan**	**1.39**	**56**	*e*P	Pn	12 18 50.1	0.0
BUKP				*e*S	Sg	12 19 10.0	+1.0

*IDC **31** 12:19:32.5±2.0, 43°.00N×126°.37W, h0km, mb2.8/2, mb1 3.4/9, mb1mx3.3/38, mbtmp3.1/9, ML3.1/7, Error ellipse: s-maj=30.3km s-min=13.5km az=54.0*
*ISCJB **31** 12:19:33.1±1.0, 43°.06N±0°.05×126°.33W±0°.09, h14km, mb2.7/2, Error ellipse: s-maj=10.3km s-min=6.7km az=160.8*
*NEIC **31** 12:19:35.9±1.5, 42°.94N×126°.32W, h25km, ML2.5, Error ellipse: s-maj=19.3km s-min=11.0km az=61.0*
ISC 31 12:19:34.0±1.5, 43°.07N±0°.07×126°.4W±0°.1, h14km, n41, σ1§41/38, 4C-5D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**1.53**	**97**	*e*Pn	**Pn**	**12 19 58.4**	**-2.6**
KBO	**Bosley Butte**	**1.82**	**117**	*e*Pn	**Pn**	**12 20 02.4**	**-2.6**
RNO	**Roman Nose**	**2.12**	**65**	P	**Pn**	**12 20 07.4**	**-1.7**
L02D	**Cave Junction,**	**2.26**	**113**	⇓P	**Pn**	**12 20 09.0**	**-1.9**
	baz=2.2,SNR=18						
L02D				⇑S	**Sn**	**12 20 37.6**	**-1.0**
	baz=2.2						
UMPQ	**Umpqua Communi**	**2.26**	**83**	P	**Pn**	**12 20 09.1**	**-1.8**
I03D	**Drain, OR**	**2.32**	**73**	P	**Pn**	**12 20 09.8**	**-1.9**
	baz=2.3,SNR=84						
I03D				⇓S	**Sn**	**12 20 39.1**	**-0.9**
	baz=2.3						
HUMO	**Hull Mountain**	**2.58**	**99**	*e*Pn	**Pn**	**12 20 14.3**	**-1.0**
COR	**Corvallis**	**2.71**	**55**	*e*Pn	**Pn**	**12 20 19.5**	**+2.4**
BBOR	**Butler Butte**	**2.74**	**92**	P	**Pn**	**12 20 16.7**	**-1.0**
KHMM	**Horse Mountain**	**2.96**	**137**	*e*Pn	**Pn**	**12 20 18.1**	**-2.7**
YBH	**Yreka Blue Hor**	**3.04**	**115**	Pn	**Pn**	**12 20 21.0**	**-0.8**
	0.7nm,0.3s,baz=310,slow=12,SNR=30						
YBH				Sn	**Sn**	**12 20 59.6**	**+1.5**
	0.5nm,0.3s,baz=215,slow=14,SNR=4.5						
HBO	**Huckleberry Mo**	**3.08**	**74**	P	**Pn**	**12 20 21.9**	**-0.4**
G03D	**McMinnville, O**	**3.12**	**45**	⇑P	**Pn**	**12 20 22.9**	**+0.2**
	baz=3.2,SNR=7.4						
G03D				⇓S	**Sn**	**12 20 59.2**	**-0.6**
	baz=3.2						
J04D	**Umpqua Nationa**	**3.15**	**85**	⇓P	**Pn**	**12 20 23.0**	**-0.3**
	baz=3.1,SNR=28						
H04A	**Detroit Lake**	**3.45**	**61**	P	**Pn**	**12 20 27.1**	**-0.3**
J05D	**Fort Rock, OR**	**3.79**	**85**	⇑P	**Pn**	**12 20 31.1**	**-1.0**
	baz=3.7,SNR=5.8						
I05D	**Terrebonne, OR**	**3.89**	**69**	⇑P	**Pn**	**12 20 32.7**	**-0.7**
	baz=3.9,SNR=10.0						
G05D	**Wamic, OR**	**4.26**	**58**	⇓P	**Pn**	**12 20 37.9**	**-0.6**
	baz=4.3,SNR=6.2						
WVOR	**Wild Horse Val**	**5.75**	**94**	*e*Pn	**Pn**	**12 20 58.5**	**-0.6**
HAWA	**Hanford**	**5.92**	**53**	*e*Pn	**Pn**	**12 21 01.1**	**-0.1**
	5.4nm,0.5s						
BMO	**Blue Mountains**	**6.81**	**72**	*e*Pn	**Pn**	**12 21 12.8**	**-0.7**
	2.3nm,0.8s						
NVAR	**Mina Array Bea**	**7.70**	**124**	Pn	**Pn**	**12 21 27.6**	**+1.8**
	0.1nm,0.3s,baz=294,slow=12,SNR=3.1						
NEW	**Newport**	**8.32**	**48**	Pn	Pn	12 21 37.6	+3.4
	0.1nm,0.3s,baz=261,slow=13,SNR=2.8						
NEW	**Newport**	**8.32**	**48**	*e*Pn	**Pn**	**12 21 35.0**	**+0.8**
	3.5nm,0.9s						
ELK	**Elko**	**8.64**	**102**	Pn	**Pn**	**12 21 40.5**	**+1.6**
	0.1nm,0.3s,baz=262,slow=8.0,SNR=4.1						
MCMT	**McKenzie Canyo**	**9.94**	**75**	*e*Pn	**Pn**	**12 21 57.6**	**+1.0**
	1.2nm,0.9s						
BOZ	**Bozeman (W)**	**10.89**	**71**	*e*Pn	**Pn**	**12 22 10.2**	**+0.6**
	1.9nm,0.8s						
TPAW	**Teton Pass**	**11.28**	**83**	*e*Pn	**Pn**	**12 22 16.8**	**+1.8**
	7.6nm,1.3s						
SNOW	**Snow King Moun**	**11.42**	**83**	Pn	**Pn**	**12 22 18.2**	**+1.3**
	5.2nm,0.3s						
PDAR	**Pinedale Array**	**12.36**	**86**	Pn	**Pn**	**12 22 32.0**	**+2.3**
	0.0nm,0.3s,baz=292,slow=12,SNR=4.9						
DLBC	**Dease Lake**	**15.56**	**353**	Pn	**P**	**12 23 16.3**	**-0.8**
	0.0nm,0.3s,baz=168,slow=20,SNR=2.3						
ANMO	**Albuquerque**	**17.47**	**111**	P	**P**	**12 23 38.6**	**+0.1**
	0.1nm,0.3s,baz=305,slow=16,SNR=4.2						
FFC	**Flin Flon**	**19.73**	**45**	*e*P	**Pn**	**12 24 04.9**	**+0.3**
TXAR	**Lajitas Array**	**22.81**	**119**	P	**P**	**12 24 36.8**	**+0.3**
	1.0nm,0.6s,baz=308,slow=10,SNR=3.0						
ILAR	**Eielson Array**	**24.64**	**339**	P	**P**	**12 24 54.1**	**+0.3**
	0.3nm,0.7s,baz=152,slow=7.5,SNR=5.3						
H11N3	**WAKE ISLAND Hy**	**59.90**	**269**	T	T	13 34 17.3	
	baz=51,slow=75,SNR=41						
H11N2	**WAKE ISLAND Hy**	**59.91**	**269**	T	T	13 34 16.2	
	baz=51,slow=75,SNR=32						
H11N1	**WAKE ISLAND Hy**	**59.92**	**269**	T	T	13 34 21.9	
	baz=51,slow=75,SNR=40						
H11S1	**WAKE ISLAND Hy**	**60.82**	**269**	T	T	13 35 25.8	
	baz=50,slow=75,SNR=182						
H11S2	**WAKE ISLAND Hy**	**60.83**	**269**	T	T	13 35 21.2	
	baz=50,slow=75,SNR=170						
H11S3	**WAKE ISLAND Hy**	**60.84**	**269**	T	T	13 35 21.5	
	baz=50,slow=75,SNR=155						

*ISCJB **31** 12:23:40.6±0.8, 10°.35S±0°.07×113°.75E±0°.08, h33km, mb3.7/5, Error ellipse: s-maj=13.2km s-min=8.4km az=147.2*
*DJA **31** 12:23:44.5±0.7, 10°S±9°×11°4E±°, h51km±47km, M4.0/11, MLv4.0/11*
*IDC **31** 12:23:50.7±14.0, 10°.02S×114°.02E, h128km±140km, mb3.4/5, mb1 3.6/5, mb1mx3.2/29, mbtmp3.8/5, Error ellipse: s-maj=101.7km s-min=22.2km az=53.0*
ISC 31 12:23:41.6±1.0, 10°31'S±0°.10×113°76'E±0°.08, h35km, n12, σ1§25/13, mb3.7/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGBI	**Denpasar**	**2.02**	**43**	P	**Pn**	**12 24 14.0**	**+0.9**
ABJI	**Asem Bagus**	**2.54**	**11**	P	**Pn**	**12 24 22.0**	**+1.7**
BLJI	**Banyuglugur**	**2.55**	**356**	P	**Pn**	**12 24 21.4**	**+0.9**
BLJI				S	**Sn**	**12 24 51.0**	**+0.6**
SRBI	**Singaraja**	**2.64**	**33**	P	**Pn**	**12 24 21.9**	**+0.3**
PWJI	**Pagerwojo**	**2.98**	**320**	P	**Pn**	**12 24 27.0**	**+0.6**
PCJI	**Pacitan**	**3.30**	**309**	P	**Pn**	**12 24 31.6**	**+0.8**
UGM	**Wanagama**	**3.98**	**306**	P	**Pn**	**12 24 42.0**	**+1.8**
WRA	**Warramunga Arr**	**22.03**	**118**	P	**P**	**12 28 33.6**	**+0.4**
	1.2nm,0.6s,baz=293,slow=12,SNR=14						
ASAR	**Alice Springs**	**23.36**	**127**	P	**P**	**12 28 47.5**	**+0.3**
	1.0nm,0.8s,baz=302,slow=9.3,SNR=13						
CMAR	**Chiang Mai Arr**	**32.11**	**333**	P	**P**	**12 30 04.8**	**-0.9**
	0.7nm,0.3s,baz=166,slow=8.4,SNR=4.5						
STKA	**Stephens Creek**	**33.51**	**134**	P	**P**	**12 30 18.6**	**+0.7**
	2.3nm,0.8s,baz=299,slow=6.8,SNR=6.5						
MKAR	**Makanchi Array**	**63.42**	**336**	P	**P**	**12 34 05.5**	**-2.2**
	0.2nm,0.3s,baz=146,slow=7.7,SNR=5.5						

IDC 31 12:27:11.5±2.2, 6°33'S×129°88E, h0km, mb3.3/1, mb1 3.7/3, mb1mx3.4/27, mbtmp3.5/3, ML3.7/2, Error ellipse: s-maj=132.2km s-min=30.8km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.21**	**163**	Pn	Pn	12 30 35.0	+0.6
	0.4nm,0.3s,baz=342,slow=11,SNR=18						
WRA				Sn	Sn	12 32 58.8	-14
	0.6nm,0.3s,baz=329,slow=21,SNR=7.4						
ASAR	**Alice Springs**	**17.67**	**168**	P	Pn	12 31 18.8	-0.5
	0.2nm,0.3s,baz=346,slow=11,SNR=14						
MKAR	**Makanchi Array**	**67.60**	**327**	P	P	12 38 10.2	0.0
	0.1nm,0.4s,baz=122,slow=7.3,SNR=3.1						

*SJA **31** 12:58:15.0±1.1, 34°.26S×72°.43W, h50km, ML3.7*
*GUC **31** 12:58:24.0±0.5, 33°.99S×71°.58W, h14km±1km, ML4.1*
*IDC **31** 12:58:26.0±3.1, 34°.07S×71°.78W, h61km±25km, mb3.6/4, mb1 3.7/7, mb1mx3.5/29, mbtmp3.8/7, ML3.6/3, MS2.1/1, Ms1 2.1/1, ms1mx2.1/22, Error ellipse: s-maj=32.1km s-min=17.4km az=110.0*
ISC 31 12:58:22.7±1.1, 33°.99S±0°.03×71°.64W±0°.05, h31km±7km, n36, σ1§50/49, mb3.9/4, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.20**	**80**	*i* P	**Pn**	**12 58 31.3**	**+1.7**
LNV				*i* S	**Sb**	**12 58 34.2**	**+0.9**
TACH	**Talagante**	**0.68**	**61**	⇑*i*P	**Pb**	**12 58 36.7**	**+0.6**
TACH				*i* S	**Sb**	**12 58 45.7**	**+0.5**
CHCH	**Chadas Angostu**	**0.83**	**86**	⇑*i*P	**Pb**	**12 58 38.9**	**+0.3**
CHCH				*i* S	**Sb**	**12 58 49.5**	**+0.1**
CACH	**El Canelo**	**0.88**	**99**	*i* P	**Pn**	**12 58 40.1**	**+1.1**
CACH				⇑*i*S	**Sb**	**12 58 51.9**	**+0.9**
IHA	**Instituto Hidr**	**0.96**	**0**	⇑*i*P	**Pn**	**12 58 41.1**	**+1.0**
IHA				*i* S	**Sn**	**12 58 54.1**	**+1.4**
SAN	**Santiago**	**0.98**	**57**	*e*P	**Pn**	**12 58 40.7**	**+0.4**
SAN				*i* S	**Sb**	**12 58 53.1**	**-0.7**
PCH	**Pirque**	**1.01**	**69**	*e*P	**Pn**	**12 58 41.4**	**+0.5**
PCH				*i* S	**Sb**	**12 58 54.4**	**-0.4**
NICH	**Los Niches**	**1.07**	**161**	*i* P	**Pb**	**12 58 42.7**	**0.0**
NICH				*i* S	**Sn**	**12 58 56.8**	**+1.4**
LACH	**Col Las Americ**	**1.07**	**60**	⇓*i*P	**Pn**	**12 58 42.1**	**+0.4**
CLCH	**Cerro Calan**	**1.10**	**58**	⇓*i*P	**Pn**	**12 58 43.2**	**+1.2**
CLCH				*i* S	**Sb**	**12 58 57.3**	**+0.1**
SJCH	**San Jose de Ma**	**1.13**	**72**	⇑*i*P	**Pn**	**12 58 42.6**	**+0.1**
SJCH				*i* S	**Sn**	**12 58 57.2**	**+0.1**
ROCH	**El Roble**	**1.14**	**28**	*e*P	**Pn**	**12 58 44.0**	**+1.1**
ROCH				*e*S	**Sb**	**12 58 59.8**	**+1.1**
ROCH				AML	AML	12 59 02.8	
	comp=N,7μm,0.4s						
PEL	**Peldehue**	**1.16**	**44**	*e*P	**Pn**	**12 58 44.0**	**+1.0**
PEL				*e*S	**Sn**	**12 58 59.2**	**+1.4**
PEL				AML	AML	12 59 01.8	
	comp=E,8μm,0.3s						
YECH	**El Yeso**	**1.34**	**76**	⇓*i*P	**Pn**	**12 58 44.9**	**-0.7**
YECH				*i* S	**Sn**	**12 59 02.5**	**0.0**
TALC	**Talca**	**1.41**	**180**	*i* P	**Pb**	**12 58 48.4**	**+0.1**
TALC				*i* S	**Sb**	**12 59 06.7**	**+0.8**
LNCH	**Linares**	**1.85**	**179**	*i* P	**Pb**	**12 58 55.1**	**-0.9**
LNCH				*i* S	**Sb**	**12 59 18.9**	**+0.2**
AAGR	**Agrelo**	**2.52**	**70**	*i* P	Pn	12 59 05.2	+3.6
AAGR				*i* P	Pn	12 59 05.2	+3.6
ARCO	**CERRO ARCO**	**2.54**	**64**	*i* P	**Pb**	**12 59 06.7**	**-1.1**
ARCO				*i* S	**Sb**	**12 59 43.7**	**+5.0**
ARCO				AML	AML	12 59 46.8	
	comp=Z,185nm,0.7s						
AUSP	**Uspallata**	**2.59**	**48**	*i* P	**Pb**	**12 59 07.3**	**-1.3**
ASAL	**Salagasta**	**2.73**	**60**	*i* P	Pn	12 59 08.6	+4.0
RTLS	**Leoncito**	**2.94**	**43**	*i* P	Pn	12 59 11.7	+4.0
CCSP	**San Pedro de C**	**3.09**	**202**	AML	AML	13 00 12.1	
	comp=N,576nm,0.5s						
RTCV	**Cerro Valdivia**	**3.36**	**52**	*i* P4	**Pn**	**12 59 15.5**	**+2.3**
CFAA	**Coronel Fontan**	**3.73**	**51**	P	**Pn**	**12 59 21.2**	**+3.0**
	comp=N,0.7nm,0.3s,baz=244,slow=3.0,SNR=37						
CFAA				S	**Sb**	**13 00 08.7**	**-3.9**
	comp=N,1.7nm,0.3s,baz=26,slow=20,SNR=7.9						
CFAA				LR	LR	13 00 59.5	
	comp=N,22nm,18.3s,baz=196,slow=40						
RTLL	**Cerro Villicun**	**3.77**	**46**	*i* P	**Pn**	**12 59 21.5**	**+2.8**
PLCA	**Paso Flores**	**6.79**	**173**	P	**Pn**	**13 00 01.9**	**+1.7**
	comp=N,0.7nm,0.3s,baz=338,slow=12,SNR=18						
LPAZ	**La Paz**	**17.91**	**11**	P	**Pn**	**13 02 31.2**	**+1.1**
	comp=N,0.1nm,0.3s,baz=134,slow=9.5,SNR=3.7						
SIV	**San Ignacio**	**20.30**	**31**	P	**P**	**13 02 55.2**	**-1.0**
	comp=N,1.8nm,0.5s,baz=190,slow=9.2,SNR=9.4						
SNAA	**Sanae**	**51.47**	**158**	P	**P**	**13 07 25.1**	**+0.2**
	comp=N,0.6nm,0.8s,baz=298,slow=6.3,SNR=5.6						
TXAR	**Lajitas Array**	**69.89**	**330**	P	**P**	**13 09 31.3**	**+0.6**
	comp=N,0.2nm,0.5s,baz=152,slow=8.6,SNR=5.8						
TXAR				pP	pP	13 09 43.3	+2.9
	comp=N,0.2nm,0.5s,baz=156,slow=8.9,SNR=5.5						
TORD	**Torodi Ar. Bea**	**83.90**	**70**	P	**P**	**13 10 49.1**	**-0.8**
	comp=N,1.8nm,0.8s,baz=259,slow=4.9,SNR=9.8						
MATP	**Matopo**	**86.80**	**112**	P	**P**	**13 11 04.6**	**0.0**
	comp=N,2.3nm,0.7s,baz=270,slow=6.1,SNR=4.5						
WRA	**Warramunga Arr**	**120.93**	**209**	PKP	**PKPdf**	**13 17 11.2**	**-1.4**
	comp=N,0.4nm,1.0s,baz=160,slow=1.9,SNR=5.2						
BVAR	**Borovoye Array**	**147.05**	**43**	PKPbc	**PKPdf**	**13 18 01.9**	**+2.1**
	comp=N,0.6nm,0.5s,baz=326,slow=2.0,SNR=4.6						
KURBB	**Kurchatov Arra**	**152.64**	**44**	PKPbc	**PKPbc**	**13 18 15.2**	**-0.5**
	comp=N,0.7nm,0.5s,baz=302,slow=3.4,SNR=4.6						
MKAR	**Makanchi Array**	**156.51**	**49**	PKPab	**PKPab**	**13 18 42.5**	**-0.7**
	comp=N,0.2nm,0.5s,baz=324,slow=2.0,SNR=3.4						

IDC 31 12:58:32.0±3.0, 34°73'N×81°51E, h0km, mb3.9/2, mb1 3.8/4, mb1mx3.3/44, mbtmp3.6/4, ML3.2/2, Error ellipse: s-maj=150.4km s-min=27.4km az=68.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**12.06**	**3**	Pn	Pn	13 01 25.5	+0.3
	0.0nm,0.3s,baz=178,slow=11,SNR=3.1						
BVAR	**Borovoye Array**	**19.92**	**340**	P	P	13 03 05.2	0.0
	0.3nm,0.3s,baz=171,slow=12,SNR=3.8						
WRA	**Warramunga Arr**	**73.99**	**129**	P	P	13 10 09.7	0.0
	0.9nm,0.8s,baz=328,slow=5.8,SNR=7.5						
ASAR	**Alice Springs**	**76.44**	**132**	P	P	13 10 23.8	+0.1
	0.7nm,0.6s,baz=316,slow=5.6,SNR=17						

*ISCJB **31** 12:58:46.4±0.7, 0°.35N±0°.10×121°.99E±0°.08, h203km±7km, mb3.4/5, Error ellipse: s-maj=16.2km s-min=13.0km az=28.3*
*IDC **31** 12:58:47.8±9.1, 0°.35N×122°.12E, h200km±92km, mb3.1/5, mb1 3.2/5, mb1mx2.9/43, mbtmp3.6/5, Error ellipse: s-maj=118.7km s-min=16.7km az=66.0*
*DJA **31** 12:58:50

CFAA					LR	LR	13 11 37.2		
	comp=E,177nm,20.1s,baz=225,slow=43								
LCO	**Las Campanas**	**8.86**	**19**	*e*Pn	Pn		13 08 22.9	-3.7	
TRQA	**Tornquist**	**9.46**	**97**	*e*Pn	**Pn**		**13 08 33.6**	**-1.1**	
	comp=E,38nm,1.1s								
LVC	**Limon Verde**	**15.43**	**18**	*e*P	**Pn**		**13 09 57.1**	**+0.9**	
	comp=E,20nm,1.1s								
CPUP	**Villa Florida**	**17.90**	**56**	*e*P	**Pn**		**13 10 27.0**	**-0.1**	
	comp=E,0.6nm,1.1s								
LPAZ	**La Paz**	**21.71**	**15**	P	**P**		**13 11 10.2**	**+0.6**	
	comp=E,11nm,1.0s,baz=169,slow=7.7,SNR=18								
LPAZ	**La Paz**	**21.71**	**15**	*e*P	**P**		**13 11 10.7**	**+1.1**	
SIV	**San Ignacio**	**24.23**	**31**	P	**P**		**13 11 33.2**	**-1.3**	
	comp=E,5.8nm,1.0s,baz=231,slow=13,SNR=8.0								
SAML	**Samuel**	**30.01**	**22**	*e*P	**P**		**13 12 26.0**	**-0.4**	
	comp=E,14nm,1.3s								
BDFB	**Brasilia**	**31.58**	**53**	P	**P**		**13 12 39.3**	**-1.1**	
	comp=E,4.6nm,0.8s,baz=188,slow=11,SNR=3.2								
BDFB					LR	LR	13 25 37.7		
	comp=E,661nm,18.1s,baz=223,slow=37								
SDV	**Santo Domingo**	**46.22**	**4**	P	**P**		**13 14 41.3**	**-1.5**	
VNA1	**Neumayer--Stat**	**47.11**	**156**	P	**P**		**13 14 50.1**	**+1.2**	
VNA2	**Neumayer--Watz**	**47.44**	**156**	P	**P**		**13 14 52.0**	**+0.4**	
	baz=284,slow=8.7								
SNAA	**Sanae**	**48.98**	**157**	P	P		13 14 58.4	-5.1	
SNAA	**Sanae**	**48.98**	**157**	P	**P**		**13 15 03.0**	**-0.5**	
	comp=E,5.1nm,1.0s,baz=284,slow=6.7,SNR=22								
QSPA	**South Pole Qui**	**52.77**	**180**	P	**P**		**13 15 32.5**	**+0.3**	
	comp=E,13nm,1.1s,baz=132,slow=3.5,SNR=17								
QSPA	**South Pole Qui**	**52.77**	**180**	*e*P	**P**		**13 15 32.5**	**+0.3**	
	comp=E,15nm,1.1s								
RKT	**Rikitea**	**53.78**	**267**	*e*LR	LR		13 31 24.6		
	comp=E,554nm,28.8s,baz=134								
TBI	**Tubuai**	**65.09**	**259**	*e*S	S		13 25 54.4	+16	
	comp=E,100nm,25.5s								
TBI	**Tubuai**	**65.09**	**259**	*e*LR	LR		13 36 33.2		
	comp=E,351nm,27.5s,baz=123								
PPT2	**Papeete2**	**68.30**	**264**	*e*S	S		13 26 33.4	+16	
	comp=E,123nm,24.0s								
PPT2	**Papeete2**	**68.30**	**264**	*e*LR	LR		13 38 00.0		
	comp=E,367nm,25.2s,baz=124								
PPT	**Papeete**	**68.31**	**264**	LR	LR		13 39 47.8		
	comp=E,140nm,19.3s,baz=145,slow=29								
LPIG	**La Paz**	**70.17**	**325**	LR	LR		13 42 24.7		
	comp=E,133nm,18.1s,baz=188,slow=31								
MAW	**Mawson**	**70.28**	**164**	LR	LR		13 49 53.9		
	comp=E,462nm,18.1s,baz=236,slow=37								
TXAR	**Lajitas Array**	**72.08**	**333**	P	**P**		**13 17 42.4**	**+0.8**	
	comp=E,1.5nm,0.9s,baz=148,slow=7.9,SNR=8.8								
TXAR					LR	LR	13 43 43.5		
	comp=E,109nm,19.0s,baz=0.0,slow=31								
DBIC	**Dimbokro**	**77.72**	**72**	P	**P**		**13 18 12.8**	**-1.6**	
	comp=E,8.0nm,1.0s,baz=208,slow=6.7,SNR=3.8								
DBIC					LR	LR	13 50 19.8		
	comp=E,84nm,19.0s,baz=210,slow=34								
DBIC	**Dimbokro**	**77.72**	**72**	P	**P**		**13 18 14.4**	**0.0**	
BOSA	**Boshof**	**79.79**	**118**	P	**P**		**13 18 25.6**	**-0.3**	
	comp=E,3.9nm,0.8s,baz=186,slow=7.0,SNR=5.4								
BOSA					LR	LR	13 48 46.3		
	comp=E,99nm,20.3s,baz=189,slow=32								
SMCO	**Snowmass**	**82.12**	**335**	*e*P	**P**		**13 18 39.6**	**+1.5**	
	comp=E,7.3nm,1.3s								
LBTB	**Lobatse**	**82.21**	**115**	P	**P**		**13 18 39.4**	**+0.6**	
	comp=E,4.8nm,0.7s,baz=252,slow=2.9,SNR=5.2								
ECSD	**EROS Data Cent**	**83.42**	**344**	*e*P	**P**		**13 18 44.2**	**0.0**	
	comp=E,8.6nm,1.2s								
HWUT	**Hardware Ranch**	**85.90**	**333**	*e*P	**P**		**13 18 57.9**	**+0.9**	
	comp=E,6.3nm,1.2s								
NVAR	**Mina Array Bea**	**85.90**	**327**	P	**P**		**13 18 58.9**	**+1.7**	
	comp=E,0.4nm,0.7s,baz=160,slow=7.5,SNR=4.1								
PDAR	**Pinedale Array**	**86.21**	**335**	P	**P**		**13 18 59.4**	**+0.8**	
	comp=E,0.4nm,0.8s,baz=172,slow=3.0,SNR=3.7								
PDAR					LR	LR	13 52 51.4		
	comp=E,66nm,19.3s,baz=143,slow=32								
TORD	**Torodi Ar. Bea**	**86.80**	**71**	P	**P**		**13 19 02.3**	**+0.4**	
	comp=E,3.4nm,1.0s,baz=246,slow=3.6,SNR=13								
TORD					LR	LR	13 57 31.5		
	comp=E,112nm,18.4s,baz=225,slow=36								
HLID	**Hailey**	**88.64**	**332**	P	**P**		**13 19 10.3**	**+0.1**	
BRTR	**Keskin Array B**	**124.80**	**64**	PKP	**PKPdf**		**13 25 17.6**	**+0.7**	
	comp=E,1.1nm,1.0s,baz=197,slow=3.9,SNR=4.8								
KSM	**Kuching**	**143.96**	**187**	*e*PKP	PKPbc		13 25 51.2	+0.2	
ABKAR	**Akbulak array**	**144.97**	**55**	*e*PKP	**PKPdf**		**13 25 53.5**	**-0.2**	
BRVK	**Borovoye**	**150.75**	**46**	*e*PKPbc	**PKPbc**		**13 26 09.7**	**+0.9**	
BVAR	**Borovoye Array**	**150.82**	**46**	PKPbc	**PKPbc**		**13 26 09.0**	**0.0**	
	comp=E,5.3nm,1.1s,baz=283,slow=2.6,SNR=18								
AAK	**Ala-Archa**	**155.36**	**68**	*e*PKPbc	PKPbc		13 26 20.9		
AAK				*e*PKPab	**PKPab**		**13 26 35.7**	**-0.3**	
KURBB	**Kurchatov Arra**	**156.39**	**47**	PKPbc	PKPdf		13 26 20.1	+8.8	
	comp=E,0.2nm,0.3s,baz=285,slow=2.7,SNR=4.5								
KURBB				PKPab	**PKPab**		**13 26 39.3**	**-0.6**	
	comp=E,0.6nm,0.4s,baz=294,slow=4.8,SNR=6.9								
KURK	**Kurchatov**	**156.41**	**47**	PKPbc	PKPbc		13 26 20.1		
KURK				PKPab	**PKPab**		**13 26 39.3**	**-0.7**	
MK31	**Makanchi Array**	**160.11**	**55**	PKPdf	**PKPdf**		**13 26 15.9**	**-0.2**	
MKAR	**Makanchi Array**	**160.11**	**55**	PKP	**PKPdf**		**13 26 16.7**	**+0.7**	
	comp=E,1.7nm,1.1s,baz=347,slow=3.7,SNR=6.4								
MKAR				PKPab	**PKPab**		**13 26 56.2**	**0.0**	
	comp=E,1.1nm,0.9s,baz=298,slow=2.6,SNR=4.7								
MKAR				PP	**PP**		**13 30 39.1**	**+0.4**	
	comp=E,0.1nm,0.4s,baz=245,slow=3.0,SNR=3.7								

GUC 31 13:19:38.6±1.0, 36°39′S×71°07′W, h19km±6km, ML4.2, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
LNCH	**Linares**	**0.70**	**321**	*e*P	Pb		13 19 51.7	-0.4
LNCH				*e*S	Sg		13 20 01.9	+0.3
TALC	**Talca**	**1.09**	**335**	*e*P	Pn		13 19 57.9	-1.0
TALC				*e*S	Sb		13 20 11.7	-1.2
NICH	**Los Niches**	**1.40**	**355**	*e*P	Pn		13 20 02.9	-0.2
CCSP	**San Pedro de C**	**1.70**	**254**	*e*S	Sb		13 20 29.8	-0.6
CCSP				AML	AML		13 20 32.9	
	comp=E,2μm,1.0s							
CLCH	**Cerro Calan**	**3.02**	**8**	*e*P	Pn		13 20 27.7	+2.1
CLCH				*e*S	Sn		13 21 04.9	+3.6
CLCH				AML	AML		13 21 13.9	
	comp=E,549nm,0.8s							
PEL	**Peldehue**	**3.26**	**6**	*e*P	Pn		13 20 30.9	+2.1
PEL				*e*S	Sn		13 21 09.9	+2.7
PEL				AML	AML		13 21 18.3	
	comp=N,687nm,0.6s							
ROCH	**El Roble**	**3.41**	**1**	*e*P	Pn		13 20 33.1	+2.0
ROCH				*e*S	Sn		13 21 15.0	+3.7
ROCH				AML	AML		13 21 24.6	
	comp=N,630nm,0.6s							

*IDC **31** 13:26:40.6±4.3, 42°.66N×125°.63W, h0km, mb2.9/2, mb1 3.4/5, mb1mx3.3/35, mbtmp3.0/5, ML3.4/3, MS2.7/2, Ms1 2.7/2, ms1mx2.5/11, Error ellipse: s-maj=63.2km s-min=25.2km az=67.0*

ISC 31 13:26:38.5±1.9, 42°.45N±0°.09×126°.2W±0°.1, h10km, n19, σ1§22/14, 4C-5D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
L02D	**Cave Junction,**	**1.92**	**98**	P	**Pn**		**13 27 11.2**	**-0.2**
	baz=1.5,SNR=55							
L02D				↑S	**Sb**		**13 27 37.5**	**-0.3**
	baz=1.5							
I03D	**Drain, OR**	**2.41**	**58**	P	**Pb**		**13 27 19.3**	**-2.7**
	baz=2.2,SNR=32							
I03D				↓S	**Sb**		**13 27 51.9**	**+0.1**
	baz=2.2							
YBH	**Yreka Blue Hor**	**2.67**	**104**	Pn	**Pn**		**13 27 22.0**	**+0.4**
	0.9nm,0.3s,baz=310,slow=12,SNR=44							
YBH				Lg	Lg		13 27 59.8	
	0.6nm,0.3s,baz=147,slow=17,SNR=6.5							
YBH				LR	LR		13 28 06.7	
	comp=Z,56nm,21.2s,baz=253,slow=37							
M02C	**Callahan**	**2.69**	**112**	↓P	**Pn**		**13 27 21.3**	**-0.6**
	baz=2.3,SNR=14							
M02C				↓S	**Sn**		**13 27 55.1**	**+0.6**
	baz=2.3							
N02D	**Trinity Center**	**2.98**	**118**	↓P	**Pn**		**13 27 25.4**	**-0.5**
	baz=2.6							
J04D	**Umpqua Nationa**	**3.08**	**74**	↑P	Pb		13 27 29.8	-3.8
	baz=2.8,SNR=29							
J04D				↑Sb	**Sg**		**13 28 18.2**	**+0.5**
	baz=2.8							
J05D	**Fort Rock, OR**	**3.72**	**75**	↑P	**Pn**		**13 27 37.9**	**+1.7**
	baz=3.4,SNR=7.8							
I05D	**Terrebonne, OR**	**3.99**	**60**	↓P	Pn		13 27 42.0	+2.2
	baz=3.8							

NVAR	**Mina Array Bea**	**7.21**	**121**	Pn	**Pn**		**13 28 23.9**	**-0.4**	
	0.1nm,0.3s,baz=302,slow=14,SNR=5.0								
ELK	**Elko**	**8.36**	**98**	LR	LR		13 32 20.0		
	comp=Z,177nm,18.1s,baz=286,slow=42								
PDAR	**Pinedale Array**	**12.24**	**83**	Pn	**Pn**		**13 29 33.9**	**+0.7**	
	0.1nm,0.3s,baz=267,slow=10.0,SNR=5.7								
YKA	**Yellowknife Ar**	**21.21**	**15**	P	**P**		**13 31 24.4**	**+0.3**	
	0.7nm,0.8s,baz=204,slow=11,SNR=8.4								
TXAR	**Lajitas Array**	**22.36**	**119**	P	**P**		**13 31 38.7**	**+1.9**	
	0.3nm,0.8s,baz=306,slow=8.6,SNR=5.6								
H11N3	**WAKE ISLAND Hy**	**60.08**	**270**	T	T		14 41 19.9		
	baz=51,slow=75,SNR=16								
H11N2	**WAKE ISLAND Hy**	**60.08**	**270**	T	T		14 41 21.2		
	baz=51,slow=75,SNR=12								
H11N1	**WAKE ISLAND Hy**	**60.09**	**270**	T	T		14 41 23.1		
	baz=51,slow=75,SNR=13								
H11S1	**WAKE ISLAND Hy**	**60.98**	**269**	T	T		14 42 26.3		
	baz=51,slow=75,SNR=10								
H11S2	**WAKE ISLAND Hy**	**60.99**	**269**	T	T		14 42 26.8		
	baz=51,slow=75,SNR=7.2								
H11S3	**WAKE ISLAND Hy**	**61.00**	**269**	T	T		14 42 30.5		
	baz=51,slow=75,SNR=7.6								

MAN 31 13:27:18, 7°.17N×123°.93E, h6km, mb4.1, ML3.0, MS2.7, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
CTBH	**Cotabato--PC H**	**0.32**	**80**	*i* P	Pg		13 27 24.9	+0.7
PAGZ	**Pagadian**	**0.87**	**321**	*e*P	Pb		13 27 35.4	-0.1
PAGZ				*e*S	Sn		13 27 49.6	-0.1
BUKP	**Musuan**	**1.32**	**58**	*e*P	Pn		13 27 42.8	-0.4
BUKP				*e*S	Sn		13 28 01.8	+0.6

GUC 31 13:32:52.8±0.3, 36°.49S×71°.41W, h21km±5km, ML4.0, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
LNCH	**Linares**	**0.66**	**347**	*e*P	Pb		13 33 05.1	-0.6
LNCH				*e*S	Sb		13 33 14.4	0.0
CACH	**El Canelo**	**2.46**	**16**	*e*P	Pn		13 33 33.1	+1.3
CACH				*e*S	Sn		13 34 03.4	+2.0
LNV	**Longovilo**	**2.53**	**0**	*e*P	Pn		13 33 33.7	+1.1
CHCH	**Chadas Angostu**	**2.62**	**14**	*e*P	Pn		13 33 35.3	+1.2
CHCH				*e*S	Sn		13 34 07.4	+2.1
CLCH	**Cerro Calan**	**3.17**	**13**	*e*P	Pn		13 33 44.9	+3.3
CLCH				*e*S	Sb		13 34 22.9	-3.8
CLCH				AML	AML		13 34 28.4	
	comp=E,217nm,0.7s							
PEL	**Peldehue**	**3.39**	**10**	*e*P	Pn		13 33 45.9	+1.4
PEL				*e*S	Sn		13 34 26.1	+1.9
PEL				AML	AML		13 34 32.9	
	comp=N,274nm,0.4s							
ROCH	**El Roble**	**3.52**	**6**	*e*P	Pn		13 33 47.9	+1.3
ROCH				*e*S	Sn		13 34 29.9	+2.0
ROCH				AML	AML		13 34 39.1	
	comp=N,228nm,0.5s							

*CRAAG **31** 13:36:59.5, 35°.94N×4°.11E, Ml3.5*

CSEM 31 13:36:59.5, 35°.95N×4°.11E, h0km, ML3.5, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
ATAF	**Djebel Tarf**	**0.15**	**118**	P	Pg		13 37 03.3	+0.7
ATAF	**Djebel Tarf**	**0.15**	**118**	P	Pg		13 37 03.3	+0.7
AKET	**Djebel Ketaf**	**0.21**	**299**	P	Pg		13 37 04.6	+0.8
AKET	**Djebel Ketaf**	**0.21**	**299**	P	Pg		13 37 04.6	+0.8
ADJB	**Djebel Djouab**	**0.58**	**291**	P	Pb		13 37 12.7	-0.1
ADJB	**Djebel Djouab**	**0.58**	**291**	P	Pb		13 37 12.7	-0.1
EMHD	**Djebel Mahouad**	**0.97**	**286**	P	Pn		13 37 20.5	-0.1
EMHD	**Djebel Mahouad**	**0.97**	**286**	P	Pn		13 37 20.5	-0.1

*BJI **31** 13:40:00.7, 6°.62N×124°.28E, h49km, mb4.7/32, mB4.9/25, Ms4.4/13, Ms7 4.2/13*
*MOS **31** 13:40:00.7±0.9, 6°.96N×124°.13E, h33km, mb5.0/21, Error ellipse: s-maj=14.7km s-min=7.2km az=108.6*
*MAN **31** 13:40:00, 6°.96N×123°.87E, h11km, mb5.3, ML4.3, MS4.6*
MAN INTENSITY II - COTABATO CITY,
*ISCJB **31** 13:40:01.2±0.6, 6°.88N±0°.02×124°.00E±0°.03, h31km±4km, mb4.5/60, MS3.5/10, Error ellipse: s-maj=4.7km s-min=3.3km az=4.2*
*IDC **31** 13:40:04.9±3.9, 6°.90N×124°.09E, h54km±39km, mb3.9/17, mb1 3.9/18, mb1mx3.9/33, mbtmp4.1/18, ML3.5/1, MS3.5/8, Ms1 3.6/8, ms1mx3.3/33, Error ellipse: s-maj=20.0km s-min=12.6km az=82.0*
*DJA **31** 13:40:05.7±0.8, 7°.N±5°×12°.4E±°, h10km, M4.8/10, mb4.9/10, mB5.1/7, MLv5.1/8, Mw(mB)4.4/7*
*NEIC **31** 13:40:05.4±0.8, 6°.89N×124°.02E, h56km±8km, mb4.7/12, Error ellipse: s-maj=7.1km s-min=6.0km az=120.0*
*KLM **31** 13:40:07.4, 6°.73N×123°.89E, h59km, mb4.7, MS6.1*

ISC 31 13:40:02.2±1.0, 6°.95N±0°.03×123°.91E±0°.04, h25km±7km, n136, σ1§68/142, mb4.5/60, MS3.6/10, 13C-14D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
CTBH	**Cotabato--PC H**	**0.43**	**51**	↓*i* P	**Pb**		**13 40 10.2**	**-1.0**
CTBH				*i* S	**Sb**		**13 40 16.3**	**-1.1**
PAGZ	**Pagadian**	**1.03**	**330**	*i* P	**Pb**		**13 40 20.3**	**-1.1**
PAGZ				*e*S	**Sn**		**13 40 34.7**	**-0.1**
GSPH	**General Santos**	**1.34**	**130**	↓*e*P	**Pb**		**13 40 27.2**	**+0.5**
GSPH				*e*S	Sb		13 40 50.7	+7.2
BUKP	**Musuan**	**1.47**	**51**	*e*P	**Pn**		**13 40 27.3**	**+0.2**
BUKP				*e*S	**Sb**		**13 40 47.0**	**-0.2**
DAV	**Davao City (W)**	**1.66**	**86**	*e*P	**Pn**		**13 40 31.3**	**-0.5**
CGP	**Cagayan de Oro**	**1.69**	**27**	↑*i*P	**Pn**		**13 40 30.5**	**+0.5**
CGP				*i* S	**Sb**		**13 40 54.8**	**+1.5**
DCPH	**Dipolog City**	**1.71**	**341**	↑*i*P	**Pn**		**13 40 30.7**	**+0.3**
MATI	**Mati**	**2.33**	**90**	*e*P	**Pn**		**13 40 38.9**	**-0.1**
MATI				*e*S	**Sn**		**13 41 05.0**	**-1.8**
BUTP	**Butuan**	**2.63**	**40**	*e*P	**Pn**		**13 40 44.1**	**+1.1**
BIPH	**Bislig**	**2.72**	**63**	↑*e*P	**Pn**		**13 40 45.4**	**+1.0**
BIPH				*i* S	**Sb**		**13 41 26.9**	**+3.8**
TBP	**Tagbilaran**	**2.72**	**359**	*e*P	**Pn**		**13 40 44.6**	**+0.3**
TBP				*e*S	**Sb**		**13 41 19.5**	**-3.7**
MSLP	**Maasin**	**3.30**	**16**	*e*P	**Pn**		**13 40 52.8**	**+0.5**
GUIM	**Jordan**	**3.88**	**340**	*e*P	Pn		13 41 03.0	+2.7
PLP	**Palo**	**4.32**	**14**	↑*e*P	**Pn**		**13 41 06.5**	**+0.2**
CUYO	**Cuyo Island**	**4.81**	**324**	*e*P	**Pn**		**13 41 14.0**	**+0.9**
PPR	**Puerto Princes**	**5.84**	**299**	*e*P	**Pn**		**13 41 27.7**	**+0.4**
ENPP	**El Nido**	**6.12**	**314**	*e*P	**Pn**		**13 41 31.7**	**+0.6**
KMSI	**Cibinong**	**6.33**	**179**	P	**Pn**		**13 41 34.3**	**+0.3**
	252nm,0.8s,2.3nm							
KMSI				S	**Sn**		**13 42 45.0**	**-0.6**
	252nm,0.8s,2.3nm							
TSM	**Tawau**	**6.56**	**247**	↓P	**Pn**		**13 41 37.1**	**0.0**
MRSI	**Marisa**	**6.72**	**197**	P	**Pn**		**13 41 39.5**	**+0.1**
	71nm,0.6s,2μm0.7nm							
MRSI				S	**Sn**		**13 42 50.7**	**-4.5**
	71nm,0.6s,2μm0.7nm							
SDKM	**Sandakan**	**6.80**	**259**	↑P	Pn		13 41 43.0	+2.6
KDM	**Kudat**	**7.03**	**270**	↑P	Pn		13 41 50.5	+6.9
TNTI	**Ternate**	**7.04**	**151**	P	**Pn**		**13 41 45.4**	**+1.7**
	58nm,1.2s,1μm0.4nm							
TNTI				S	Sn		13 43 09.7	+6.7
	58nm,1.2s,1μm0.4nm							
TNTI	**Ternate**	**7.04**	**151**	*e*P	**Pn**		**13 41 45.0**	**+1.3**
	46nm,0.8s							
MPSI	**Mapaga**	**7.69**	**212**	P	**Pn**		**13 41 52.6**	**-0.1**
	8.4nm,0.6s,451nm0.1nm							
MPSI				S	**Sn**		**13 43 14.4**	**-4.7**
	8.4nm,0.6s,451nm0.1nm							
KKM	**Kota Kinabalu**	**7.70**	**264**	↓P	Pn		13 41 55.5	+2.6
LUWI	**Luwuk**	**8.02**	**188**	P	**Pn**		**13 41 57.6**	**+0.4**
	139nm,1.0s,3μm1.1nm							
LUWI				S	**Sn**		**13 43 26.5**	**-0.6**
	139nm,1.0s,3μm1.1nm							
LUWI	**Luwuk**	**8.02**	**188**	*e*P	**Pn**		**13 41 58.7**	**+1.5**
	150nm,0.8s							
APSI	**Ampana**	**8.13**	**196**	P	**Pn**		**13 41 59.0**	**+0.3**
	63nm,0.8s,663nm0.5nm							
APSI				S	**Sn**		**13 43 31.4**	**+1.6**
	63nm,0.8s,663nm0.5nm							
SANI	**Sanana**	**9.18**	**167**	P	**Pn**		**13 42 13.2**	**+0.1**
	26nm,1.0s							
SANI				S	**Sn**		**13 43 58.1**	**+2.5**
	26nm,1.0s							
NLAI	**Namlea**	**10.61**	**162**	P	**Pn**		**13 42 31.8**	**-0.9**

SIJI	**Sorong**	**10.69**	**136**	P	**Pn**		**13 42 32.1**	**-1.6**	
	0.4nm,0.3s,baz=336,slow=12,SNR=4.3								
BTM	**Bintulu**	**11.41**	**251**	↑P	**Pn**		**13 42 42.4**	**-1.3**	
SBUM	**Sibu**	**12.48**	**250**	↓P	Pn		13 43 02.1	+3.9	
KAPI	**Kappang**	**12.59**	**199**	LR	LR		13 47 48.1		
	comp=Z,407nm,21.2s,baz=68,slow=37								
KSM	**Kuching**	**14.61**	**249**	↓P	**P**		**13 43 33.5**	**-0.1**	
KSM	**Kuching**	**14.61**	**249**	*e*P	**Pn**		**13 43 29.3**	**+1.8**	
	19nm,1.5s								
QIZ	**Qiongzhong**	**18.20**	**313**	P	**P**		**13 44 15.0**	**+1.6**	
QIZ				S	**S**		**13 47 40.0**	**-0.7**	
QIZ				PMZ					
	18nm,1.8s								
JOW	**Kunigami**	**20.20**	**11**	P	**P**		**13 44 35.7**	**+0.4**	
	2.4nm,0.7s,baz=131,slow=3.0,SNR=3.9								
MYKOM	**Kota Tinggi**	**20.64**	**257**	↓P	Pn		13 44 42.8	+0.3	
KTGM	**Kuala Trenggan**	**20.72**	**267**	↓P	Pn		13 44 43.3	-0.1	
KGM	**Kluang**	**21.10**	**258**	↓P	**P**		**13 44 46.8**	**+1.7**	
SKNT	**Sakolnakorn**	**21.87**	**299**	P	P		13 44 57.6	+4.3	
	15nm,0.9s								
IPM	**Ipoh**	**22.90**	**265**	↑P	**P**		**13 45 04.2**	**-0.1**	
IPM	**Ipoh**	**22.90**	**265**	*e*P	**P**		**13 45 05.0**	**+0.6**	
	50nm,1.1s								
KULM	**Kulim**	**23.18**	**267**	↓P	**P**		**13 45 06.8**	**-0.5**	
KULM	**Kulim**	**23.18**	**267**	*e*P	**P**		**13 45 08.3**	**+1.0**	
	66nm,1.3s								
CHAI	**Chaiyaphum**	**23.24**	**294**	P	P		**13 45 08.9**	**+1.1**	
	4.5nm,1.1s								
BKNI	**Bangkinang**	**23.74**	**255**	*e*P	**P**		**13 45 14.8**	**+2.0**	
TRTT	**Trang**	**24.03**	**274**	P	**P**		**13 45 17.6**	**+2.1**	
	29nm,1.2s,541nm								
PBKT	**Sadao Pong**	**24.38**	**295**	P	**P**		**13 45 20.5**	**+1.9**	
	8.5nm,0.9s								
LOEI	**Loei**	**24.46**	**297**	P	**P**		**13 45 20.6**	**+1.2**	
	7.3nm,1.0s								
WHN	**Wuhan**	**25.13**	**340**	P	**P**		**13 45 27.5**	**+2.3**	
WHN				*e*S	**S**		**13 49 52.0**	**+3.3**	
WHN				LZ					
	420nm,18.4s								
PSI	**Prapat**	**25.23**	**262**	P	**P**		**13 45 28.4**	**+1.8**	
	61nm,0.9s,baz=79,slow=4.3,SNR=29								
PKDT	**Phuket**	**25.38**	**274**	P	**P**		**13 45 30.6**	**+2.9**	
	46nm,0.9s								
NJ2	**Nanjing**	**25.42**	**350**	*e*P	**P**		**13 45 31.0**	**+3.2**	
NJ2				PMZ					
	30nm,0.6s								
GYA	**Guiyang**	**25.42**	**322**	*e*P	**P**		**13 45 30.3**	**+2.2**	
GYA				pP	pP		13 45 43.8	+8.3	
GYA				sP	sP		13 45 49.0	+10	
GYA				PP	PnPn		13 46 11.8	+8.0	
GYA				S	**S**		**13 49 52.5**	**-1.2**	
GYA				PMZ					
	10.0nm,0.8s								
GYA				PMZ					
	90nm,4.8s								
GYA				LN					
	580nm,17.4s								
GYA				LE					
	470nm,18.0s								
GYA				LZ					
	530nm,17.8s								
UTHA	**Uthaitani**	**25.45**	**292**	P	**P**		**13 45 31.8**	**+3.5**	
	4.2nm,1.2s								
CRAI	**Chiangrai**	**26.36**	**302**	P	P		**13 45 39.5**	**+2.9**	
	7.8nm,1.1s,3μm								
JNU	**Nakatsue**	**26.84**	**13**	P	**P**		**13 45 40.4**	**-0.3**	
	7.4nm,0.8s,baz=108,slow=7.7,SNR=4.2								
GSI	**Gunungsitoli**	**26.85**	**259**	*e*P	**P**		**13 45 41.6**	**+0.6**	
	68nm,1.1s								
CMAR	**Chiang Mai Arr**	**26.86**	**298**	P	**P**		**13 45 41.8**	**+0.6**	
	0.9nm,0.6s,baz=134,slow=7.1,SNR=7.6								
CMAR				LR	LR		13 58 30.3		
	comp=Z,49nm,18.8s,baz=144,slow=41								
WRAB	**Tennant Creek**	**28.62**	**159**	↑*e*P	**P**		**13 45 56.4**	**-0.4**	
WRAB				p

	comp=N,6.0nm,0.9s							
HABR					pmax	pmax		
	comp=E,5.0nm,0.9s							
HABR					pmax	pmax		
	comp=Z,9.0nm,0.9s							
HABR					MLR	MLR		
	comp=Z,76nm,17.0s							
ULN	**Ulaanbaatar**	**43.23**	**343**	*e*P	P		13 48 05.6	+4.1
ULN					pmax	pmax		
	comp=Z,4.0nm,0.9s							
ULN	**Ulaanbaatar**	**43.23**	**343**	*e*P	P		13 48 05.6	+4.1
	comp=Z,3.5nm,0.9s							
SONM	**Songino Array**	**43.39**	**343**	P	**P**		**13 48 02.7**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=156,slow=8.2,SNR=8.2							
ZAK	**Zakamensk**	**46.59**	**342**	*e*P	**P**		**13 48 27.2**	**-1.0**
ZAK					pmax	pmax		
	comp=Z,2.0nm,1.7s							
TLY	**Talaya**	**47.63**	**343**	*e*P	**P**		**13 48 38.0**	**+1.8**
TLY					pmax	pmax		
	comp=Z,4.0nm,0.8s							
WMQ	**Urumqi**	**48.49**	**325**	*e*P	P		13 48 46.0	+2.9
WMQ					pP	pP	13 48 58.5	+7.8
WMQ					PMZ			
	comp=Z,10.0nm,0.8s							
WMQ					PMZ			
	comp=Z,76nm,4.4s							
WMQ					LN			
	comp=Z,82nm,20.8s							
WMQ					LE			
	comp=Z,170nm,22.4s							
WMQ					LZ			
	comp=Z,65nm,21.0s							
SKR	**Severo-Kuril's**	**51.16**	**26**	P	**P**		**13 49 01.6**	**-1.5**
SKR					S	Px	13 49 15.0	
SKR					pmax	pmax		
	comp=Z,40nm,0.4s							
MK31	**Makanchi Array**	**53.33**	**325**	*i* P	**P**		**13 49 20.3**	**+1.0**
MK31					pmax	pmax		
	comp=Z,1.0nm,0.4s							
MK31	**Makanchi Array**	**53.33**	**325**	*e*P	**P**		**13 49 20.7**	**+1.4**
MKAR	**Makanchi Array**	**53.33**	**325**	P	**P**		**13 49 20.6**	**+1.2**
	comp=Z,4.4nm,0.8s,baz=131,slow=7.8,SNR=34							
PETK	**Petropavlovsk-**	**53.61**	**25**	P	**P**		**13 49 20.2**	**-1.0**
	comp=Z,1.9nm,0.8s,baz=210,slow=8.3,SNR=3.5							
KSH	**Kashi**	**53.80**	**315**	*e*P	P		13 49 26.0	+3.0
KSH					pP	pP	13 49 38.5	+7.7
KSH					PcS	**PcS**	**13 54 28.5**	**+0.5**
KSH					S	**S**	**13 56 57.0**	**+0.5**
KSH					PMZ			
	comp=Z,37nm,4.5s							
KSH					LN			
	comp=Z,88nm,6.9s							
KSH					LE			
	comp=Z,100nm,5.5s							
KSH					LZ			
	comp=Z,150nm,7.6s							
YAK	**Yakutsk**	**55.13**	**3**	*e*P	**P**		**13 49 31.2**	**-0.9**
YAK					pmax	pmax		
	comp=Z,13nm,0.9s							
AAK	**Ala-Archa**	**56.10**	**318**	LR	LR		14 17 06.3	
	comp=Z,40nm,18.6s,baz=96,slow=40							
ZALV	**Zalesovo Beam**	**56.47**	**333**	P	**P**		**13 49 41.8**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=113,slow=7.1,SNR=5.1							
EKS2	**Erkin-Say**	**56.59**	**317**	*e*P	**P**		**13 49 44.6**	**+1.4**
EKS2					pmax	pmax		
	comp=Z,4.0nm,0.7s							
EKS2	**Erkin-Say**	**56.59**	**317**	*e*P	**P**		**13 49 44.6**	**+1.4**
	comp=Z,4.1nm,0.7s							
KURK	**Kurchatov**	**57.53**	**328**	P	**P**		**13 49 48.1**	**-1.4**
KURK					pmax	pmax		
	comp=Z,7.0nm,1.0s							
KURK	**Kurchatov**	**57.53**	**328**	*e*P	**P**		**13 49 49.8**	**+0.3**
	comp=Z,12nm,0.9s							
NVS	**Novosibirsk**	**57.75**	**334**	*e*P	**P**		**13 49 50.0**	**-0.9**
KKAR	**Karatay Array**	**58.98**	**317**	*e*P	**P**		**13 50 00.9**	**+1.1**
KKAR					pmax	pmax		
	comp=Z,3.0nm,0.7s							
KKAR	**Karatay Array**	**58.98**	**317**	*e*P	**P**		**13 50 00.9**	**+1.1**
	comp=Z,2.8nm,0.7s							
BVA0	**Borovoye Array**	**63.11**	**327**	*i* P	**P**		**13 50 27.3**	**-0.3**
BVA0					pmax	pmax		
	comp=Z,9.0nm,0.8s							
BRVK	**Borovoye**	**63.18**	**327**	*ce*P	**P**		**13 50 28.7**	**+0.6**
BRVK					pmax	pmax		
	comp=Z,17nm,1.0s							
TIXI	**Tiksi**	**64.70**	**2**	ǁ*e*P	**P**		**13 50 36.2**	**-1.5**
TIXI					pmax	pmax		
	comp=Z,4.0nm,1.7s							
TIXI	**Tiksi**	**64.70**	**2**	*e*P	**P**		**13 50 36.4**	**-1.4**
	comp=Z,3.4nm,0.8s							
BILL	**Bilibino**	**67.21**	**16**	*i* P	**P**		**13 50 52.7**	**-1.3**
BILL					pmax	pmax		
	comp=Z,6.0nm,1.7s							
AB31	**Akbulak array**	**67.90**	**321**	*i* P	**P**		**13 50 58.9**	**+0.3**
AB31					pmax	pmax		
	comp=Z,4.0nm,0.6s							
ABKAR	**Akbulak array**	**67.90**	**321**	*e*P	**P**		**13 50 59.0**	**+0.3**
	comp=Z,4.2nm,0.6s							
AKTO	**Aktyubinsk**	**69.41**	**321**	P	**P**		**13 51 08.1**	**0.0**
AKTO					pmax	pmax		
	comp=Z,6.0nm,0.7s							
SVE	**Sverdlovsk**	**69.77**	**328**	*e*P	**P**		**13 51 10.8**	**+0.7**
ARU	**Arti**	**70.73**	**328**	*d* P	**P**		**13 51 16.0**	**0.0**
ARU				S	**S**		**14 00 29.7**	**+0.7**
ARU				SS	**SS**		**14 04 56.1**	**-5.1**
ARU				pmax	pmax			
	comp=Z,12nm,2.5s							
RAYN	**Ar Rayn**	**76.65**	**292**	*e*P	**P**		**13 51 52.0**	**+0.4**
	comp=Z,6.9nm,0.9s							
ZEI	**Tsey**	**77.99**	**312**	*e*P	**P**		**13 51 59.2**	**+0.3**
ZEI					pmax	pmax		
	comp=Z,11nm,1.0s							
NCK	**Nalchik**	**78.23**	**313**	ǁ*e*P	**P**		**13 52 01.2**	**+1.2**
PRGR	**Permogore**	**78.35**	**331**	P	**P**		**13 51 59.4**	**-0.8**
PRGR					pmax	pmax		
	comp=Z,4.0nm,0.6s							
KIV	**Kislovodsk**	**78.90**	**313**	*e*P	**P**		**13 52 05.4**	**+1.7**
KIV					pmax	pmax		
	comp=Z,9.0nm,1.1s							
KIV					MLR	MLR		
	comp=Z,36nm,18.0s							
KLMR	**Klimovskoe**	**81.24**	**330**	*e*P	**P**		**13 52 13.3**	**-2.6**
KLMR					pmax	pmax		
	comp=Z,17nm,1.4s							
OBN	**Obninsk**	**82.83**	**325**	ĩ*e*P	**P**		**13 52 25.1**	**+0.8**
OBN					pmax	pmax		
	comp=Z,8.0nm,0.5s							
OBN					MLR	MLR		
	comp=Z,46nm,16.0s							
ILAR	**Eielson Array**	**83.42**	**26**	P	**P**		**13 52 26.4**	**-0.8**
	comp=Z,0.4nm,0.9s,baz=244,slow=5.4,SNR=5.9							
BRTR	**Keskin Array B**	**85.82**	**309**	P	**P**		**13 52 39.5**	**-0.6**
	comp=Z,2.5nm,0.9s,baz=142,slow=6.3,SNR=6.3							
ARCES	**ARCESS Array B**	**86.47**	**340**	P	**P**		**13 52 40.9**	**-1.6**
	comp=Z,2.1nm,0.8s,baz=90,slow=5.3,SNR=5.1							
FINES	**FINESS Array B**	**87.69**	**332**	P	**P**		**13 52 47.7**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=83,slow=4.6,SNR=6.6							
NOA	**NORSAR Array B**	**94.67**	**333**	LR	LR		14 39 22.8	
	comp=Z,25nm,20.0s,baz=245,slow=38							
BRG	**Berggiesshubel**	**97.00**	**323**	*e*P	P		13 53 23.0	-8.8
	comp=Z,2.2nm,0.7s							
BRG	**Berggiesshubel**	**97.00**	**323**	*e*P	P		13 53 23.0	-8.8
BRG					pmax	pmax		
	comp=Z,2.0nm,0.7s							
CLL	**Collm**	**97.40**	**324**	*i* (P)	**P**		**13 53 30.9**	**-2.7**
	comp=Z,5.0nm,0.6s							
CLL					LmV		14 13 00.0	
	comp=Z,100nm,20.1s							
CLL	**Collm**	**97.40**	**324**	*i* P	**P**		**13 53 30.9**	**-2.7**
CLL					pmax	pmax		
	comp=Z,5.0nm,0.6s							
PLCA	**Paso Flores**	**143.96**	**161**	*e*PKIKP	**PKPdf**		**13 59 36.6**	**+0.6**
PLCA	**Paso Flores**	**143.96**	**161**	*e*PKPdf	**PKPdf**		**13 59 36.6**	**+0.6**

*DJA **31** 14:00:58.3±0.3,8.3°S×11.8°E±.°, h10km,M3.7/6,MLv3.7/6*
*ISCJB **31** 14:00:59.5±0.7,8.1°S±0.06×118.30°E±0.07, h33km, mb4.0/2,Error ellipse: s-maj=9.9km s-min=8.6km az=34.4*
*IDC **31** 14:01:00.8±6.5,8.09°S×118.94°E, h0km, mb3.9/2, mb1 3.9/4,mb1mx3.5/37,mbtmp3.7/4,ML3.6/2,Error ellipse: s-maj=154.4km s-min=24.5km az=84.0*
ISC 31 14:01:01.3±1.1,8.10°S±0.07×118.29°E±0.06,h35km,n10, σ0°80/11,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**2.52**	**128**	P	**Pn**	**14 01 40.0**	**+0.2**
BSSI	**Bau Bau, Buton**	**2.92**	**48**	P	**Pn**	**14 01 44.8**	**-0.5**
SRBI	**Singaraja**	**3.05**	**270**	P	**Pn**	**14 01 46.6**	**-0.5**
BKSI	**Bulukumba**	**3.30**	**33**	P	**Pn**	**14 01 50.3**	**-0.2**
KAPI	**Kappang**	**3.39**	**25**	Pn	**Pn**	**14 01 51.8**	**0.0**
	3.7nm,0.3s,baz=230,slow=3.7,SNR=22						
KAPI				Sn	**Sn**	**14 02 31.3**	**+0.6**
	8.7nm,0.3s,baz=108,slow=22,SNR=15						
MMRI	**Maumere**	**3.94**	**98**	P	**Pn**	**14 01 58.9**	**-0.4**
ABJI	**Asem Bagus**	**4.03**	**274**	P	**Pn**	**14 02 00.6**	**0.0**
WRA	**Warramunga Arr**	**19.50**	**129**	P	**P**	**14 05 23.8**	**-1.8**
	0.2nm,0.3s,baz=303,slow=12,SNR=16						
ASAR	**Alice Springs**	**21.53**	**138**	P	**P**	**14 05 47.9**	**+0.2**
	2.7nm,0.6s,baz=313,slow=8.9,SNR=33						
STKA	**Stephens Creek**	**32.09**	**141**	P	**P**	**14 07 26.1**	**+0.8**
	1.6nm,0.5s,baz=335,slow=7.8,SNR=7.5						

*IDC **31** 14:09:54.8±1.1,32.79N×142.70E,h0km,mb3.4/5, mb1 3.6/7,mb1mx3.4/38,mbtmp3.5/7,ML3.7/2,Error ellipse: s-maj=37.8km s-min=19.9km az=79.0*
*ISCJB **31** 14:09:58.0±0.8,33.04N±0.07×142.58E±0.10,h33km, mb3.5/5,Error ellipse: s-maj=13.7km s-min=6.6km az=146.0*
*JMA **31** 14:09:59.8±0.5,33.01N×142.43E,h58km,M3.4*
ISC 31 14:09:59.4±1.2,32.98N±0.08×142.6E±0.1,h33km,n17, σ1°15/23,mb3.5/5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.12**	**322**	P	**Pn**	**14 10 32.9**	**+0.9**
BSO1				S	**Sn**	**14 10 56.4**	**-0.6**
JHJ2	**Mitsune**	**2.30**	**274**	P	**Pn**	**14 10 33.8**	**-1.2**
JHCJ	**Hachijojimakas**	**2.31**	**273**	P	**Pn**	**14 10 35.7**	**+0.5**
BSO3	**Boso 3**	**2.48**	**318**	P	**Pn**	**14 10 37.5**	**+0.2**
BSO3				S	**Sn**	**14 11 04.7**	**-1.6**
BSO4	**Boso 4**	**2.72**	**318**	P	**Pn**	**14 10 41.5**	**+0.8**
BSO4				S	**Sn**	**14 11 13.7**	**+1.4**
JOD2	**Odawara 2**	**3.66**	**309**	P	**Pn**	**14 10 54.0**	**+0.2**
JOD2				S	**Sn**	**14 11 35.4**	**-0.4**
JHU	**Hanno**	**3.94**	**318**	P	**Pn**	**14 10 58.8**	**+1.3**
JHU				S	**Sn**	**14 11 41.3**	**-1.2**
JHO	**Hitachi**	**3.97**	**336**	P	**Pn**	**14 10 57.4**	**-0.6**
JHO				S	**Sn**	**14 11 40.8**	**-2.6**
MJAR	**Matsushiro Arr**	**5.04**	**316**	Pn	**Pn**	**14 11 13.2**	**+0.5**
	0.6nm,0.3s,baz=153,slow=12,SNR=6.5						
MJAR				Sn	**Sn**	**14 12 09.8**	**+0.1**
	0.7nm,0.3s,baz=273,slow=29,SNR=6.7						
MAT	**Matsushiro**	**5.04**	**316**	P	**Pn**	**14 11 14.0**	**+1.3**
MAT				S	**Sn**	**14 12 08.6**	**-1.2**
JCJ	**Chichijima**	**5.87**	**183**	Pn	Pn	14 11 19.4	-4.8
	7.6nm,0.3s,baz=322,slow=19,SNR=5.3						
ASAJ	**Asahikawa**	**11.12**	**0**	Pn	**Pn**	**14 12 34.7**	**-1.3**
	0.4nm,0.3s,baz=236,slow=10.0,SNR=5.6						
SONM	**Songino Array**	**30.95**	**309**	P	P	14 16 16.9	+3.4
	0.2nm,0.4s,baz=101,slow=6.0,SNR=2.5						
MKAR	**Makanchi Array**	**47.14**	**306**	P	**P**	**14 18 29.3**	**+0.8**
	0.4nm,0.6s,baz=88,slow=12,SNR=4.8						
WRA	**Warramunga Arr**	**53.21**	**190**	P	**P**	**14 19 13.7**	**-0.9**
	0.8nm,0.7s,baz=6.8,slow=7.5,SNR=12						
ASAR	**Alice Springs**	**56.93**	**189**	P	**P**	**14 19 41.0**	**-0.4**
	0.4nm,0.8s,baz=4.7,slow=6.4,SNR=6.4						
YKA	**Yellowknife Ar**	**66.86**	**29**	P	**P**	**14 20 48.8**	**+1.1**
	0.1nm,0.4s,baz=291,slow=6.4,SNR=2.8						

IDC 31 14:13:38.1±11.0,17.95S×169.35E,h0km,mb3.5/3, mb1 3.6/4,mb1mx3.4/30,mbtmp3.5/4,ML2.6/1,Error ellipse: s-maj=198.0km s-min=49.1km az=94.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.93**	**213**	Pn	Pn	14 14 54.1	+0.5
	0.3nm,0.3s,baz=270,slow=24,SNR=39						
DZM				Sn	Sn	14 15 52.1	+0.6
	0.6nm,0.3s,baz=90,slow=20,SNR=2.0						
STKA	**Stephens Creek**	**28.64**	**236**	P	P	14 19 37.4	+0.8
	0.5nm,0.6s,baz=73,slow=11,SNR=2.7						
WRA	**Warramunga Arr**	**33.14**	**261**	P	P	14 20 16.1	-0.4
	0.5nm,1.0s,baz=99,slow=8.6,SNR=2.7						
ASAR	**Alice Springs**	**33.56**	**254**	P	P	14 20 19.5	-0.6
	0.4nm,0.5s,baz=83,slow=8.7,SNR=10						

*ISCJB **31** 14:17:53.4±0.6,56.07S±0.09×26.9W±0.2,h63km,mb4.2/7, Error ellipse: s-maj=16.8km s-min=12.0km az=151.1*
*IDC **31** 14:17:57.7±0.8,56.11S×27.07W,h94km±7km,mb3.8/7, mb1 3.8/8,mb1mx3.7/24,mbtmp4.1/8,Error ellipse: s-maj=24.7km s-min=15.5km az=90.0*
*NEIC **31** 14:17:58.0±0.3,56.12S×27.11W,mb4.1/2,Error ellipse: s-maj=11.6km s-min=9.2km az=55.0*
ISC 31 14:17:54.6±0.6,56.1S±0.1×26.8W±0.1,h63km,n22, σ1°51/22,mb4.2/7,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.83**	**284**	*e*Pn	**Pn**	**14 19 19.6**	**+1.2**
VNA1	**Neumayer--Stat**	**16.69**	**158**	P	**P**	**14 21 47.5**	**+2.3**
VNA2	**Neumayer--Watz**	**17.08**	**158**	P	**P**	**14 21 50.0**	**+0.4**
	baz=315,slow=14						
SNAA	**Sanae**	**18.63**	**156**	P	P	14 22 00.4	-6.3
SNAA	**Sanae**	**18.63**	**156**	P	**P**	**14 22 06.1**	**-0.6**
	0.1nm,0.3s,baz=328,slow=13,SNR=22						
SNAA	**Sanae**	**18.63**	**156**	*e*P	**Pn**	**14 22 07.5**	**-0.1**
	6.5nm,0.4s						
QSPA	**South Pole Qui**	**34.17**	**180**	P	**P**	**14 24 33.0**	**-0.5**
	0.7nm,0.4s,baz=27,slow=6.7,SNR=16						
QSPA				pP	pP	14 24 56.0	+7.1
	2.3nm,0.7s,baz=183,slow=2.1,SNR=5.1						
VNDA	**Vanda**	**46.55**	**189**	P	**P**	**14 26 15.6**	**+0.4**
	1.1nm,0.6s,baz=184,slow=7.2,SNR=11						
VNDA	**Vanda**	**46.55**	**183**	*e*P	**P**	**14 26 15.2**	**-0.1**
	1.4nm,0.5s						
LBTB	**Lobatse**	**48.81**	**73**	P	**P**	**14 26 34.4**	**+0.9**
	1.4nm,0.6s,baz=218,slow=11,SNR=3.1						
LPAZ	**La Paz**	**50.57**	**305**	P	**P**	**14 26 46.6**	**-0.9**
	2.2nm,0.4s,baz=151,slow=4.8,SNR=16						
TOA0	**Torodi Ar. Sit**	**72.97**	**29**	*e*P	**P**	**14 29 17.6**	**+0.3**
TORD	**Torodi Ar. Bea**	**72.97**	**29**	P	**P**	**14 29 17.6**	**+0.4**
	1.1nm,0.5s,baz=199,slow=6.7,SNR=24						
TORD				pP	pP	14 29 42.6	+8.2
	0.6nm,0.5s,baz=202,slow=6.5,SNR=3.5						
MDT	**Midelt**	**90.55**	**19**	P	**P**	**14 30 50.1**	**+0.8**
	1.2nm,0.7s,baz=276,slow=4.1,SNR=3.7						
STKA	**Stephens Creek**	**91.83**	**170**	P	**P**	**14 30 55.5**	**0.0**
	1.1nm,0.9s,baz=156,slow=22,SNR=3.0						
FINES	**FINESS Array B**	**124.31**	**28**	PKP	**PKPdf**	**14 36 42.9**	**-1.8**
	0.7nm,0.6s,baz=158,slow=5.6,SNR=4.4						
YKA	**Yellowknife Ar**	**136.34**	**318**	PKP	**PKPdf**	**14 37 05.9**	**-1.5**
	0.3nm,0.6s,baz=122,slow=2.3,SNR=6.2						
ILAR	**Eielson Array**	**150.30**	**312**	PKPbc	**PKPbc**	**14 37 35.6**	**-1.4**
	2.0nm,0.8s,baz=145,slow=3.7,SNR=34						
ILAR				pPKPbc	**pPKPbc**	**14 37 59.5**	**+4.3**
	0.5nm,0.7s,baz=123,slow=2.9,SNR=2.6						
SONM	**Songino Array**	**150.51**	**86**	PKPbc	**PKPbc**	**14 37 37.0**	**-1.2**
	1.2nm,0.5s,baz=224,slow=3.1,SNR=7.9						
MCK	**McKinley**	**150.96**	**309**	*e*PKPbc	**PKPbc**	**14 37 37.6**	**-1.0**
BPAW	**Bear Paw Mtn.**	**151.92**	**309**	*e*PKPbc	**PKPbc**	**14 37 39.3**	**-1.5**
PPLA	**Purkeypile**	**152.23**	**307**	*e*PKPbc	**PKPbc**	**14 37 40.1**	**-1.6**

IDC 31 14:49:09.3±1.6,13.49S×166.38E,h0km,mb3.5/4, mb1 3.7/5,mb1mx3.5/24,mbtmp3.5/5,ML3.4/1,Error ellipse: s-maj=51.6km s-min=28.6km az=126.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.53**	**180**	Pn	Pn	14 51 12.9	-1.4
	0.5nm,0.3s,baz=90,slow=24,SNR=12						
DZM				Sn	Sn	14 52 44.4	-7.2
	baz=90,slow=20,SNR=2.1						
STKA	**Stephens Creek**	**29.17**	**227**	P	P	14 55 14.0	+1.5
	1.3nm,0.7s,baz=76,slow=8.3,SNR=4.0						
WRA	**Warramunga Arr**	**31.32**	**254**	P	P	14 55 31.4	-0.2
	0.2nm,0.7s,baz=82,slow=7.8,SNR=2.9						
ASAR	**Alice Springs**	**32.33**	**247**	P	P	14 55 39.7	-0.9
	0.3nm,0.7s,baz=69,slow=9.2,SNR=5.4						
ILAR	**Eielson Array**	**85.62**	**18**	P	P	15 01 49.5	+0.1
	0.3nm,0.6s,baz=206,slow=5.9,SNR=11						

*DDA **31** 15:01:22.3,37.64N×34.73E,h7km,MD2.6*
*ISK **31** 15:01:22.4,37.63N×34.74E,h18km,MD2.5*
CSEM 31 15:01:22.7±0.2,37.64N×34.72E,h16km±3km,MD2.5, Error ellipse: s-maj=7.1km s-min=4.2km az=82.0, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARA	**Karaisali**	**0.46**	**144**	*e*PG	Pg	15 01 32.0	0.0
KARA				*e*SG	Sg	15 01 38.4	+0.1
KARA	**Karaisali**	**0.46**	**144**	*e*Pg	Pg	15 01 32.0	0.0
KARA				*e*Sg	Sg	15 01 38.4	+0.1
NIG	**Nigde**	**0.48**	**350**	*e*PG	Pg	15 01 32.1	-0.6
NIG				*e*SG	Sb	15 01 40.7	+0.4
NIG	**Nigde**	**0.48**	**350**	*e*Pg	Pg	15 01 32.1	-0.6
NIG				*e*Sg	Sb	15 01 40.7	+0.5
MERS	**Mersin**	**0.78**	**192**	*e*PG	Pg	15 01 38.1	0.0
MERS				*e*SG	Sg	15 01 49.4	+0.8
MERS	**Mersin**	**0.78**	**192**	*e*Pg	Pg	15 01 38.1	0.0
MERS				*e*Sg	Sg	15 01 49.4	+0.9
KOZT	**Kozan**	**0.90**	**100**	*e*PG	Pg	15 01 40.2	+0.1
KOZT	**Kozan**	**0.90**	**100**	*e*Pg	Pg	15 01 40.2	+0.1
SULT	**Sultanhani-AKS**	**1.10**	**301**	*e*PN	Pb	15 01 43.6	0.0
SULT	**Sultanhani-AKS**	**1.10**	**301**	*e*Pn	Pn	15 01 43.6	0.0
AVNT	**Avonos**	**1.15**	**5**	*i* P	Pn	15 01 43.3	-0.4
AVNT				*i* S	Sg	15 02 00.3	0.0
AVNT	**Avonos**	**1.15**	**5**	*i* P	Pn	15 01 44.0	-0.4
AVNT				*i* S	Sg	15 02 00.3	0.0

*ISCJB **31** 15:02:55.1±0.8,37.13N±0.08×27.92E±0.06,h15km±10km, Error ellipse: s-maj=14.5km s-min=6.0km az=156.1*
*ISK **31** 15:02:55.0,37.12N×27.92E,h12km,MD2.2*
*CSEM **31** 15:02:55.5±0.2,37.14N×27.90E,h10km,MD2.2,Error ellipse: s-maj=5.7km s-min=3.8km az=157.0*
*DDA **31** 15:02:57.3,37.34N×27.61E,h7km,MD2.6*
ISC 31 15:02:55.4±1.2,37.13N±0.04×27.89E±0.04,h12km±16km, n10,σ0°26/18,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.32**	**90**	*e*PG	**Pg**	**15 03 02.1**	**+0.3**
YER				*e*SG	**Sg**	**15 03 05.6**	**-0.4**
YER	**Yerkesik**	**0.32**	**90**	*e*Pg	**Pg**	**15 03 02.1**	**+0.3**
YER				*e*Sg	**Sg**	**15 03 05.6**	**-0.5**
BDRM	**Kayabasi**	**0.36**	**259**	*i* P	**Pg**	**15 03 02.8**	**+0.2**
BDRM				*i* S	**Sb**	**15 03 09.2**	**-0.2**
BDRM	**Kayabasi**	**0.36**	**259**	*i* P	**Pg**	**15 03 02.8**	**+0.2**
BDRM				*i* S	**Sb**	**15 03 09.2**	**-0.2**
BODT	**Bodrum**	**0.47**	**261**	*e*PG	**Pg**	**15 03 04.5**	**0.0**
BODT				*e*SG	**Sb**	**15 03 12.7**	**+0.2**
BODT	**Bodrum**	**0.47**	**261**	*e*Pg	**Pg**	**15 03 04.5**	**0.0**
BODT				*e*Sg	**Sb**	**15 03 12.7**	**+0.2**
DAT	**Datca**	**0.47**	**212**	*e*PG	**Pg**	**15 03 04.8**	**+0.1**
DAT	**Datca**	**0.47**	**212**	*e*Pg	**Pg**	**15 03 04.8**	**+0.1**
AYDN	**Tasoluk**	**0.53**	**359**	*i* P	**Pg**	**15 03 05.6**	**-0.1**
AYDN				*i* S	**Sg**	**15 03 12.8**	**+0.2**
AYDN	**Tasoluk**	**0.53**	**359**	*i* P	**Pg**	**15 03 05.6**	**-0.1**
AYDN				*i* S	**Sg**	**15 03 12.8**	**+0.2**

MAN 31 15:12:24,7.16N×123.93E,h6km,mb4.4,ML3.3,MS3.1, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.32**	**79**	*i* P	Pb	15 12 31.6	-0.6
CTBH				*i* S	Sb	15 12 37.4	-0.3
PAGZ	**Pagadian**	**0.87**	**322**	*e*P	Pb	15 12 42.0	+0.4
PAGZ				*e*S	Sn	15 12 56.5	+0.5
BUKP	**Musuan**	**1.33**	**57**	*e*P	Pb	15 12 49.4	-0.1
BUKP				*e*S	Sn	15 13 08.6	+1.2

MAN 31 15:22:50,7.07N×123.90E,h5km,mb4.3,ML3.1,MS2.9, 2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.38**	**67**	ǁ*i* P	Pb	15 22 58.5	-0.7
CTBH				*i* S	Sb	15 23 04.4	-1.0
PAGZ	**Pagadian**	**0.93**	**327**	*e*P	Pb	15 23 08.9	+0.4
PAGZ				*e*S	Sn	15 23 22.8	-0.6
BUKP	**Musuan**	**1.41**	**55**	*e*P	Pn	15 23 16.0	-0.4
BUKP				*e*S	Sg	15 23 36.4	+1.0
CGP	**Cagayan de Oro**	**1.59**	**30**	ǁ*e*P	Pg	15 23 20.3	-0.2

*ISCJB **31** 15:24:41.8±0.6,55.68N±0.05×152.96W±0.06,h22km, mb3.1/1,Error ellipse: s-maj=7.8km s-min=4.3km az=155.4*
*NEIC **31** 15:24:47.8,55.82N×153.14W,h32km,ML3.4(AEIC),After AEIC.*
*IDC **31** 15:25:03.2±2.3,56.72N×150.51W,h0km,mb3.3/2, mb1 3.6/4,mb1mx3.3/27,mbtmp3.3/4,ML3.4/2,Error ellipse: s-maj=46.2km s-min=31.1km az=57.0*
ISC 31 15:24:45.0±1.7,55.81N±0.10×153.08W±0.07,h22km,n47, σ0°96/48,South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**1.42**	**355**	P	**Pn**	**15 25 09.9**	**+0.4**
OHAK				S	**Sb**	**15 25 27.8**	**-0.6**
KDAK	**Kodiak Island**	**2.00**	**8**	P	**Pb**	**15 25 19.2**	**-1.4**
KABR	**Katmai Barrier**	**

*IDC **31** 15:37:25.0±1.6,28°.50N×104°.91E,h0km,mb3.5/2, mb1 3.6/3,mb1mx3.3/31,mbtmp3.4/3,ML3.7/1,MS2.5/1, Ms1 2.7/1,ms1mx2.3/37,Error ellipse: s-maj=89.0km s-min=27.7km az=63.0*

*BJI **31** 15:37:27.7,28°.46N×104°.64E,h16km,ML3.3/12*

ISC 31 15:37:26.3±1.0,28°.45N±0°.06×104°.6E±0°.1,h19km,n7, σ1§79/12,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
CD2	**Chengdu**	**2.57**	**343**	Pn	**Pb**		**15 38 11.0**	**-0.9**
CD2				**Pg**			**15 38 14.3**	**-1.4**
CD2				Sn	**Sn**		**15 38 36.5**	**-1.3**
CD2				Sg	**Sg**		**15 38 47.5**	**-1.6**
CD2				SMN				
	280nm,0.6s							
CD2				SME				
	410nm,0.6s							
GYA	**Guiyang**	**2.67**	**137**	Pn	**Pb**		**15 38 11.8**	**-1.9**
GYA				Sn	**Sn**		**15 38 41.0**	**+0.5**
GYA				Sg	**Sg**		**15 38 50.5**	**-1.9**
GYA				SMN				
	130nm,0.7s							
GYA				SME				
	110nm,0.8s							
XAN	**Xi'an**	**6.67**	**32**	Pn	**Pn**		**15 39 06.0**	**+2.7**
XAN				Sg	**Sg**		**15 40 59.3**	**-1.0**
XAN				SMN				
	39nm,0.9s							
XAN				SME				
	11nm,0.8s							
CMAR	**Chiang Mai Arr**	**11.23**	**209**	LR	LR		15 44 52.7	
	comp=Z,24nm,18.6s,baz=150,slow=39							
SONM	**Songino Array**	**19.40**	**4**	P	**Pn**		**15 41 52.5**	**-0.1**
	0.2nm,0.3s,baz=187,slow=11,SNR=4.6							
MKAR	**Makanchi Array**	**25.33**	**322**	P	**P**		**15 42 54.1**	**+2.3**
	0.6nm,0.8s,baz=122,slow=11,SNR=5.8							
WRA	**Warramunga Arr**	**56.02**	**146**	P	**P**		**15 47 05.0**	**+1.1**
	0.3nm,0.5s,baz=336,slow=8.3,SNR=6.4							

*ISCJB **31** 15:45:12.1±0.3,5°.09S±0°.05×108°.07E±0°.05,h650km, mb3.7/16,Error ellipse: s-maj=7.6km s-min=4.9km az=37.8*

*DJA **31** 15:45:12.0±0.7,5°.5S±5°×10°.8E±°,h670km±10km,M4.0/22, mb4.2/20,mB4.5/9,MLv4.3/22,Mw(mB)3.7/9*

*KLM **31** 15:45:13.0,5°.12S×108°.15E,h650km,mb4.0,ML3.6, MS4.8*

*IDC **31** 15:45:13.1±0.6,4°.94S×108°.27E,h655km±8km,mb3.2/16, mb1 3.3/17,mb1mx3.2/26,mbtmp4.3/17,Error ellipse: s-maj=19.0km s-min=7.2km az=54.0*

ISC 31 15:45:12.7±0.4,5°.06S±0°.08×108°.18E±0°.08,h650km,n69, σ1§02/82,mb3.7/16,2C-3D,Java Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
LEM	**Lembang**	**1.84**	**198**	P		**P**	**15 46 31.5**	**+0.2**
LEM				S		**S**	**15 47 36.8**	**+1.7**
LEM	**Lembang**	**1.84**	**198**	P		**P**	**15 46 31.9**	**+0.6**
	33nm,0.3s,baz=36,slow=2.8,SNR=48							
LEM				S		**S**	**15 47 37.1**	**+2.0**
	6.1nm,0.3s,baz=300,slow=20,SNR=2.1							
CBJI	**Citeko**	**1.89**	**224**	P		**P**	**15 46 31.8**	**+0.6**
TPI	**Tanjungpandan**	**2.35**	**347**	P		**P**	**15 46 33.6**	**+0.5**
CNJI	**Cibinong**	**2.46**	**205**	P		**P**	**15 46 32.3**	**-1.2**
CISI	**Cisompet, Garu**	**2.50**	**188**	P		**P**	**15 46 32.8**	**-1.0**
SKJI	**Sukabumi**	**2.51**	**220**	P		**P**	**15 46 33.2**	**-0.5**
CMJI	**Cimerak**	**2.72**	**174**	P		**P**	**15 46 33.5**	**-1.2**
CMJI				S		**S**	**15 47 38.4**	**-2.9**
CGJI	**Cibinong**	**2.91**	**238**	P		**P**	**15 46 34.7**	**-0.9**
UWJI	**Ujung Watu**	**3.07**	**116**	P		**P**	**15 46 37.0**	**+0.6**
PPBI	**Pangkal Pinang**	**3.53**	**325**	P		**P**	**15 46 39.3**	**+0.2**
UGM	**Wanagama**	**3.67**	**141**	P		**P**	**15 46 39.6**	**-0.3**
KASI	**Kota Agung**	**3.69**	**263**	P		**P**	**15 46 39.1**	**-0.9**
MDSI	**Maura Dua**	**4.03**	**278**	P		**P**	**15 46 41.1**	**-1.0**
LWLI	**Liwa**	**4.10**	**270**	P		**P**	**15 46 41.9**	**-0.8**
LWLI				S		**S**	**15 47 55.6**	**-0.4**
PCJI	**Pacitan**	**4.31**	**136**	P		**P**	**15 46 43.5**	**-0.4**
PCJI				S		**S**	**15 47 56.1**	**-2.2**
PWJI	**Pagerwojo**	**4.65**	**129**	P		**P**	**15 46 45.6**	**-0.7**
STKI	**Sintang**	**6.07**	**33**	P		**P**	**15 46 58.3**	**+1.1**
	84nm,0.8s,4µm0.3nm							
KSM	**Kuching**	**6.83**	**18**	⇓P		**P**	**15 47 04.0**	**+0.4**
BBKI	**Banjar Baru**	**6.83**	**77**	P		**P**	**15 47 04.5**	**+0.9**
	51nm,0.9s,0.3nm							
SRBI	**Singaraja**	**7.61**	**114**	P		**P**	**15 47 11.4**	**+1.0**
	36nm,1.7s,0.2nm							
MTKI	**Muara Teweh, K**	**7.86**	**59**	P		**P**	**15 47 13.8**	**+1.1**
	91nm,0.9s							
MYKOM	**Kota Tinggi**	**8.06**	**327**	⇓P		**P**	**15 47 15.1**	**+0.6**
KBKI	**Kotabaru**	**8.16**	**78**	P		**P**	**15 47 16.6**	**+1.2**
	66nm,0.9s,609nm							
SBUM	**Sibu**	**8.49**	**29**	⇑P		**P**	**15 47 19.3**	**+0.9**
KGM	**Kluang**	**8.54**	**325**	⇓P		**P**	**15 47 19.8**	**+0.9**
BKB	**Balikpapan**	**9.49**	**67**	P		**P**	**15 47 30.9**	**+3.1**
	296nm,0.7s,3µm							
KAPI	**Kappang**	**11.53**	**90**	P		**P**	**15 47 46.9**	**-0.3**
	4.4nm,0.3s,baz=265,slow=16,SNR=13							
SPSI	**Sidrap Palu**	**11.61**	**85**	P		**P**	**15 47 48.0**	**+0.1**
	19nm,1.0s							
TTSI	**Tana Toraja**	**11.79**	**81**	P		**P**	**15 47 50.5**	**+1.0**
	21nm,1.3s							
IPM	**Ipoh**	**11.87**	**323**	⇑P		**P**	**15 47 51.1**	**+0.8**
BKSI	**Bulukumba**	**11.90**	**92**	P		**P**	**15 47 50.7**	**+0.1**
	39nm,0.8s,445nm							
BSSI	**Bau Bau, Buton**	**12.30**	**96**	P		**P**	**15 47 54.6**	**+0.3**
	85nm,0.8s							
PCI	**Palu**	**12.35**	**71**	P		**P**	**15 47 55.9**	**+1.1**
	65nm,1.0s,722nm							
MPSI	**Mapaga**	**12.88**	**66**	P		**P**	**15 48 00.9**	**+1.3**
	69nm,0.7s,565nm							
SNSI	**Sinabang, Aceh**	**13.97**	**302**	P		**P**	**15 48 11.5**	**+1.8**
MMRI	**Maumere**	**14.40**	**105**	P		**P**	**15 48 12.0**	**-1.6**
CMAR	**Chiang Mai Arr**	**25.08**	**339**	P		**P**	**15 49 49.2**	**-0.3**
	2.1nm,0.7s,baz=172,slow=8.1,SNR=16							
CMAR				PcP		**PcP**	**15 52 59.8**	**-0.5**
	0.8nm,0.5s,baz=224,slow=2.2,SNR=8.0							
WRA	**Warramunga Arr**	**29.44**	**122**	P		**P**	**15 50 28.3**	**+0.9**
	0.7nm,0.5s,baz=301,slow=9.0,SNR=22							
WRA				PcP		**PcP**	**15 53 11.4**	**+0.2**
	1.2nm,0.5s,baz=310,slow=2.1,SNR=17							
WRA				S		**S**	**15 54 36.3**	**-2.3**
	2.3nm,1.1s,baz=295,slow=18,SNR=5.1							
ASAR	**Alice Springs**	**30.93**	**129**	P		**P**	**15 50 41.2**	**+1.2**
	2.4nm,0.4s,baz=301,slow=8.0,SNR=65							
ASAR				PcP		**PcP**	**15 53 15.1**	**-0.1**
	1.2nm,0.8s,baz=296,slow=2.0,SNR=10							
ASAR				S		**S**	**15 54 59.8**	**-1.5**
	1.0nm,0.7s,baz=300,slow=16,SNR=7.7							
ODAN	**Odare**	**37.57**	**329**	*eP*		**P**	**15 51 35.1**	**-0.1**
	13nm,0.6s							
TAPN	**Taplejung**	**37.81**	**330**	*eP*		**P**	**15 51 37.4**	**+0.3**
	8.1nm,0.5s							
RAMN	**Ramite**	**38.06**	**328**	*eP*		**P**	**15 51 39.5**	**+0.4**
	5.7nm,0.3s							
JIRN	**Jiri**	**38.85**	**328**	*eP*		**P**	**15 51 45.7**	**+0.2**
	15nm,0.5s							
PKI	**Pulchoki**	**39.19**	**327**	*eP*		**P**	**15 51 47.8**	**-0.5**
PKIN	**Phulchoki**	**39.20**	**327**	*eP*		**P**	**15 51 48.1**	**-0.2**
GUN	**Gumba**	**39.21**	**328**	*eP*		**P**	**15 51 48.5**	**+0.1**
	24nm,0.5s							
DMN	**Daman**	**39.39**	**327**	*eP*		**P**	**15 51 49.5**	**-0.2**
	21nm,0.6s							
KKN	**Kakani**	**39.44**	**327**	*eP*		**P**	**15 51 49.7**	**-0.4**
CTA	**Charters Tower**	**39.92**	**115**	PcP		**PcP**	**15 53 42.9**	**+0.5**
	1.8nm,0.5s,baz=297,slow=6.8,SNR=3.8							
GKN	**Gorkha**	**39.95**	**327**	*eP*		**P**	**15 51 53.8**	**-0.3**
	11nm,0.3s							
KOLN	**Koldanda**	**40.35**	**325**	*eP*		**P**	**15 51 57.1**	**-0.2**
	16nm,0.2s							
STKA	**Stephens Creek**	**41.11**	**135**	P		**P**	**15 52 04.1**	**+1.1**
	4.0nm,0.4s,baz=318,slow=7.6,SNR=17							
STKA				PcP		**PcP**	**15 53 46.7**	**+0.6**
	1.0nm,0.7s,baz=314,slow=4.5,SNR=4.7							
SONM	**Songino Array**	**52.70**	**358**	P		**P**	**15 53 29.3**	**+0.1**
	2.2nm,0.5s,baz=177,slow=8.0,SNR=16							
SONM				PcP		**PcP**	**15 54 27.2**	**-0.5**
	1.1nm,0.4s,baz=181,slow=3.9,SNR=6.6							
MKAR	**Makanchi Array**	**56.49**	**339**	P		**P**	**15 53 55.2**	**-0.3**
	6.1nm,0.6s,baz=149,slow=7.9,SNR=72							
KURBB	**Kurchatov Arra**	**61.06**	**339**	P		**P**	**15 54 25.2**	**-0.5**
	3.0nm,0.6s,baz=152,slow=6.0,SNR=14							
KURBB				PcP		**PcP**	**15 55 00.2**	**-0.5**
	0.9nm,0.6s,baz=144,slow=3.4,SNR=6.4							
KURBB				pP		**pP**	**15 56 29.1**	**-0.4**
	0.1nm,0.5s,baz=152,slow=6.9,SNR=4.1							
ZALV	**Zalesovo Beam**	**61.98**	**345**	P		**P**	**15 54 30.8**	**-0.8**
	2.5nm,0.4s,baz=149,slow=5.5,SNR=16							
BVAR	**Borovoye Array**	**66.07**	**336**	P		**P**	**15 54 57.0**	**-0.4**
	2.4nm,0.7s,baz=143,slow=8.1,SNR=17							
BVAR				PcP		**PcP**	**15 55 20.1**	**-1.3**
	0.4nm,0.6s,baz=294,slow=4.6,SNR=2.5							
MAW	**Mawson**	**69.55**	**197**	P		**P**	**15 55 19.6**	**+1.5**
	1.1nm,0.4s,baz=59,slow=5.9,SNR=2.2							
AKTO	**Aktyubinsk**	**70.08**	**329**	P		**P**	**15 55 21.1**	**-0.5**
	0.6nm,0.4s,baz=107,slow=4.1,SNR=4.5							
PETK	**Petropavlovsk-**	**71.34**	**29**	P		**P**	**15 55 28.7**	**-0.3**
	1.1nm,0.7s,baz=228,slow=3.7,SNR=5.9							
VNDA	**Vanda**	**77.65**	**170**	P		**P**	**15 56 04.7**	**+1.0**
	0.8nm,0.5s,baz=313,slow=6.4,SNR=11							
BRTR	**Keskin Array B**	**81.43**	**311**	P		**P**	**15 56 23.6**	**-0.7**
	2.4nm,0.7s,baz=131,slow=6.6,SNR=11							
AKASG	**Malin Array Be**	**86.92**	**321**	P		**P**	**15 56 49.2**	**-1.4**
	0.3nm,0.3s,baz=81,slow=4.6,SNR=4.0							
FINES	**FINESS Array B**	**90.64**	**332**	P		**P**	**15 57 06.8**	**-0.7**
	0.9nm,0.9s,baz=198,slow=11,SNR=3.2							
YKA	**Yellowknife Ar**	**114.65**	**20**	PKP		PKPdf	16 02 39.9	-0.7
	0.2nm,0.6s,baz=324,slow=1.6,SNR=4.1							
NVAR	**Mina Array Bea**	**126.37**	**45**	PKP		**PKPdf**	**16 03 04.8**	**+0.6**
	0.3nm,0.6s,baz=298,slow=1.9,SNR=3.1							
TXAR	**Lajitas Array**	**141.41**	**48**	PKhKP		PKPpre	16 03 28.4	
	0.4nm,0.7s,baz=272,slow=1.2,SNR=6.0							
BDFB	**Brasilia**	**148.71**	**228**	PKPbc		**PKPbc**	**16 03 50.2**	**+0.4**
	1.2nm,0.3s,baz=297,slow=2.3,SNR=3.6							

*MDD **31** 16:05:01.8±1.7,35°.66N×4°.33E,h0km,mb4.6/22,Error ellipse: s-maj=16.9km s-min=7.5km az=133.0,PRXIMO*

*LDG **31** 16:05:01.9±0.2,35°.88N×4°.07E,h2km,Ml3.3/3,Error ellipse: s-maj=5.2km s-min=2.1km az=154.0*

*IDC **31** 16:05:02.8±1.0,35°.96N×4°.13E,h0km,mb3.5/5,mb1 3.7/9, mb1mx3.5/38,mbtmp3.6/9,ML3.7/4,MS2.6/2,Ms1 2.6/2, ms1mx2.2/34,Error ellipse: s-maj=25.7km s-min=16.9km az=165.0*

*CSEM **31** 16:05:03.9±0.2,35°.84N×4°.14E,h5km,ML4.1*

*CRAAG **31** 16:05:03.2,35°.90N×4°.10E,Ml4.1*

*ISCJB **31** 16:05:04.4±0.6,36°.01N±0°.03×4°.12E±0°.02,h15km±5km, mb3.5/5,Error ellipse: s-maj=5.5km s-min=3.2km az=2.0*

ISC 31 16:05:03.4±1.4,36°.06N±0°.04×4°.18E±0°.03,h3km±10km, n182,σ1§63/192,mb3.4/5,1D,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
ATAF	**Djebel Tarf**	**0.20**	**156**	P		**Pg**	**16 05 06.8**	**-0.5**
ATAF	**Djebel Tarf**	**0.20**	**156**	P		**Pg**	**16 05 06.8**	**-0.5**
ATAF	**Djebel Tarf**	**0.20**	**156**	P		**Pg**	**16 05 06.8**	**-0.5**
AKET	**Djebel Ketaf**	**0.24**	**268**	P		**Pg**	**16 05 08.5**	**+0.4**
AKET	**Djebel Ketaf**	**0.24**	**268**	P		**Pg**	**16 05 08.5**	**+0.4**
AKET	**Djebel Ketaf**	**0.24**	**268**	P		**Pg**	**16 05 08.5**	**+0.4**
ADJB	**Djebel Djouab**	**0.61**	**280**	P		**Pb**	**16 05 16.2**	**-0.5**
ADJB	**Djebel Djouab**	**0.61**	**280**	P		**Pb**	**16 05 16.2**	**-0.5**
ADJB	**Djebel Djouab**	**0.61**	**280**	P		**Pb**	**16 05 16.2**	**-0.5**
SET	**Setif**	**1.00**	**81**	P		**Pn**	**16 05 26.0**	**+1.6**
SET	**Setif**	**1.00**	**81**	P		**Pn**	**16 05 26.0**	**+1.6**
SET	**Setif**	**1.00**	**81**	P		**Pn**	**16 05 26.0**	**+1.6**
EMHD	**Djebel Mahouad**	**1.00**	**279**	P		**Pb**	**16 05 24.0**	**+0.5**
EMHD	**Djebel Mahouad**	**1.00**	**279**	P		**Pb**	**16 05 24.0**	**+0.5**
EMHD	**Djebel Mahouad**	**1.00**	**279**	P		**Pb**	**16 05 24.0**	**+0.5**
CKHR	**Kef el Ahmar**	**1.08**	**92**	P		**Pn**	**16 05 26.3**	**+0.8**
CKHR	**Kef el Ahmar**	**1.08**	**92**	P		**Pn**	**16 05 26.3**	**+0.8**
CKHR	**Kef el Ahmar**	**1.08**	**92**	P		**Pn**	**16 05 26.3**	**+0.8**
ABA	**Alger-Bouzarea**	**1.18**	**309**	P		**Pg**	**16 05 26.4**	**+0.3**
ABA	**Alger-Bouzarea**	**1.18**	**309**	P		**Pg**	**16 05 26.4**	**+0.3**
ABA	**Alger-Bouzarea**	**1.18**	**309**	P		**Pg**	**16 05 26.4**	**+0.3**
DFRA	**Djebel Bou Aff**	**1.46**	**70**	P		**Pg**	**16 05 32.3**	**+1.0**
DFRA	**Djebel Bou Aff**	**1.46**	**70**	P		**Pg**	**16 05 32.3**	**+1.0**
DFRA	**Djebel Bou Aff**	**1.46**	**70**	P		**Pg**	**16 05 32.3**	**+1.0**
CTEI	**Djebel Teioual**	**1.81**	**89**	P		**Pn**	**16 05 36.6**	**+1.1**
CTEI	**Djebel Teioual**	**1.81**	**89**	P		**Pn**	**16 05 36.6**	**+1.1**
CTEI	**Djebel Teioual**	**1.81**	**89**	P		**Pn**	**16 05 36.6**	**+1.1**
CASM	**Ain Smara**	**1.88**	**83**	P		**Pn**	**16 05 37.4**	**+0.9**
CASM	**Ain Smara**	**1.88**	**83**	P		**Pn**	**16 05 37.4**	**+0.9**
CASM	**Ain Smara**	**1.88**	**83**	P		**Pn**	**16 05 37.4**	**+0.9**
CKFL	**Kef-Lekhel**	**2.08**	**80**	P		**Pn**	**16 05 40.3**	**+1.0**
CKFL	**Kef-Lekhel**	**2.08**	**80**	P		**Pn**	**16 05 40.3**	**+1.0**
CKFL	**Kef-Lekhel**	**2.08**	**80**	P		**Pn**	**16 05 40.3**	**+1.0**
EBNR	**Beni Rached**	**2.15**	**277**	P		**Pg**	**16 05 44.7**	**0.0**
CAEH	**'Ain El Ouahch**	**2.27**	**71**	P		**Pn**	**16 05 42.8**	**+1.0**
CAEH	**'Ain El Ouahch**	**2.27**	**71**	P		**Pn**	**16 05 42.8**	**+1.0**
CAEH	**'Ain El Ouahch**	**2.27**	**71**	P		**Pn**	**16 05 42.8**	**+1.0**
ECHA	**Ech Chlef**	**2.28**	**273**	P		**Pn**	**16 05 45.0**	**-0.1**
ECHF	**Ech Chlef**	**2.30**	**273**	P		**Pn**	**16 05 45.0**	**-0.5**
ECHF	**Ech Chlef**	**2.30**	**273**	P		**Pb**	**16 05 45.0**	**-0.5**
ETRT	**Tiaret**	**2.44**	**255**	P		**Pn**	**16 05 43.6**	**-0.5**
ETRT	**Tiaret**	**2.44**	**255**	P		**Pn**	**16 05 43.6**	**-0.5**
ETRT	**Tiaret**	**2.44**	**255**	P		**Pn**	**16 05 43.6**	**-0.5**
EANR	**'Ain N'Sour**	**2.50**	**268**	P		**Pn**	**16 05 44.0**	**-1.0**
EANR	**'Ain N'Sour**	**2.50**	**268**	P		**Pn**	**16 05 44.0**	**-1.0**
EANR	**'Ain N'Sour**	**2.50**	**268**	P		**Pn**	**16 05 44.0**	**-1.0**
CMAH	**Djebel Manchou**	**2.68**	**77**	P		**Pn**	**16 05 48.3**	**+0.9**
CMAH	**Djebel Manchou**	**2.68**	**77**	P		**Pn**	**16 05 48.3**	**+0.9**
CMAH	**Djebel Manchou**	**2.68**	**77**	P		**Pn**	**16 05 48.3**	**+0.9**
ABSA	**Djebel Ababsia**	**2.68**	**84**	P		**Pn**	**16 05 48.0**	**+0.5**
ABSA	**Djebel Ababsia**	**2.68**	**84**	P		**Pn**	**16 05 48.0**	**+0.5**
CABS	**Djebel Ababsia**	**2.68**	**84**	P		**Pn**	**16 05 48.0**	**+0.5**
CABS	**Djebel Ababsia**	**2.68**	**84**	P		**Pn**	**16 05 48.0**	**+0.5**
OJGS	**Djebel Guires**	**2.84**	**260**	P		**Pn**	**16 05 48.0**	**-1.7**
OJGS	**Djebel Guires**	**2.84**	**260**	P		**Pn**	**16 05 48.0**	**-1.7**
OJGS	**Djebel Guires**	**2.84**	**260**	P		**Pn**	**16 05 48.0**	**-1.7**
OKGL	**Djebel Kef Gue**	**2.87**	**271**	P		**Pn**	**16 05 48.0**	**-2.0**
OKGL	**Djebel Kef Gue**	**2.87**	**271**	P		**Pn**	**16 05 50.1**	**+0.1**
	112nm,0.3s,SNR=7.9							
OKGL	**Djebel Kef Gue**	**2.87**	**271**	P		**Pn**	**16 05 50.1**	**+0.1**
	112nm,0.3s,SNR=7.9							
ODJA	**Bouhanifia**	**3.60**	**260**	P		Pn	16 05 47.0	-13
ODJA	**Bouhanifia**	**3.60**	**260**	P		Pn	16 05 47.0	-13
EIBI	**Ibiza**	**3.72**	**324**	⇓P		**Pn**	**16 06 03.5**	**+1.8**
	16nm,0.5s,SNR=18							
EIBI				S		**Sn**	**16 06 46.7**	**+0.6**
	15nm,0.4s,SNR=7.9							
EIBI	**Ibiza**	**3.72**	**324**	P		**Pn**	**16 06 03.5**	**+1.8**
	16nm,0.5s,SNR=18							
EIBI				S		**Sn**	**16 06 46.7**	**+0.6**
	15nm,0.4s,SNR=7.9							
USTO	**Oran**	**3.85**	**267**	P		Pg	16 06 22.0	+4.8
USTO	**Oran**	**3.85**	**267**	P		Pg	16 06 22.0	+4.8
ETOS	**Mallorca**	**3.86**	**344**	P		**Pn**	**16 06 05.6**	**+2.0**
	10nm,0.3s,SNR=16							
ETOS				S		**Sn**	**16 06 50.0**	**+0.5**
	10nm,0.3s,SNR=7.9							
ETOS	**Mallorca**	**3.86**	**344**	P		**Pn**	**16 06 05.6**	**+2.0**
	10nm,0.3s,SNR=16							
ETOS				S		**Sn**	**16 06 50.0**	**+0.5**
	10nm,0.3s,SNR=7.9							
KEST	**Kesra**	**4.21**	**93**	Pn		**Pn**	**16 06 09.9**	**+1.4**
	1.5nm,0.3s,baz=267,slow=3.8,SNR=27							
KEST				Sn		**Sn**	**16 07 00.7**	**+2.5**
	1.4nm,0.3s,baz=189,slow=19,SNR=3.0							
EBEN	**Beniarda**	**4.39**	**308**	P		**Pn**	**16 06 11.9**	**+0.9**
	3.4nm,0.4s,SNR=8.1							
EBEN	**Beniarda**	**4.39**	**308**	P		**Pn**	**16 06 11.9**	**+0.9**
	3.4nm,0.4s,SNR=8.1							
EMUR	**La Murta**	**4.69**	**294**	P		**Pn**	**16 06 15.7**	**+0.6**
	13nm,0.2s,SNR=17							
EMUR				S		**Sn**	**16 07 10.8**	**+0.8**
	5.6nm,0.2s,SNR=7.9							
EMUR	**La Murta**	**4.69**	**294**	P		**Pn**	**16 06 15.7**	**+0.6**
	13nm,0.2s,SNR=17							
EMUR				S		**Sn**	**16 07 10.8**	**+0.8**
	5.6nm,0.2s,SNR=7.9							
ENIJ	**Nijar**	**5.22**	**282**	P		**Pn**	**16 06 22.0**	**-0.4**
	16nm,0.4s,SNR=7.9							
ENIJ				S		**Sn**	**16 07 24.4**	**+1.3**
	15nm,0.3s,SNR=7.9							
ENIJ	**Nijar**	**5.22**	**282**	P		**Pn**	**16 06 22.0**	**-0.4**
	16nm,0.4s,SNR=7.9							
ENIJ				S		**Sn**	**16 07 24.4**	**+1.3**
	15nm,0.3s,SNR=7.9							
ETOB	**Tobarra**	**5.24**	**301**	P		**Pn**	**16 06 24.7**	**+2.0**
	3.8nm,0.2s,SNR=20							
ETOB				S		**Sn**	**16 07 24.9**	**+1.3**
	7.1nm,0.4s,SNR=7.9							
ETOB	**Tobarra**	**5.24**	**301**	P		**Pn**	**16 06 24.7**	**+2.0**
	3.8nm,0.2s,SNR=20							
ETOB				S		**Sn**	**16 07 24.9**	**+1.3**
	7.1nm,0.4s,SNR=7.9							
EMOS	**Mosqueruela**	**5.65**	**321**	P		**Pn**	**16 06 30.8**	**+2.5**
	2.2nm,0.1s,SNR=7.7							
EMOS				S		**Sn**	**16 07 31.8**	**-2.0**
	13nm,0.7s,SNR=7.9							
EMOS	**Mosqueruela**	**5.65**	**321**	P		**Pn**	**16 06 30.8**	**+2.5**
	2.2nm,0.1s,SNR=7.7							
EHUE	**Huescar**	**5.70**	**290**	P		**Pn**	**16 06 31.8**	**+2.8**
	8.1nm,0.3s,SNR=7.9							
EHUE				S		**Sn**	**16 07 37.1**	**+2.1**
	3.4nm,0.4s,SNR=7.9							
EHUE	**Huescar**	**5.70**	**290**	P		**Pn**	**16 06 31.8**	**+2.8**
	8.1nm,0.3s,SNR=7.9							
EHUE				S		**Sn**	**16 07 37.1**	**+2.1**
	3.4nm,0.4s,SNR=7.9							
SESP	**Santiago Espad**	**5.76**	**293**	P		**Pn**	**16 06 32.0**	**+2.2**
	12nm,0.2s,SNR=7.9							
SESP				S		**Sn**	**16 07 37.6**	**+1.2**
	12nm,0.3s,SNR=7.9							
SESP	**Santiago Espad**	**5.76**	**293**	P		**Pn**	**16 06 32.0**	**+2.2**
	12nm,0.2s,SNR=7.9							
SESP				S		**Sn**	**16 07 37.6**	**+1.2**
	12nm,0.3s,SNR=7.9							
EBER	**Berja**	**5.76**	**280**	P		**Pn**	**16 06 29.7**	**-0.1**
	8.6nm,0.4s,SNR=18							
EBER				S		**Sn**	**16 07 36.5**	**0.0**
	6.7nm,0.3s,SNR=7.9							
EBER	**Berja**	**5.76**	**280**	P		**Pn**	**16 06 29.7**	**-0.1**
	8.6nm,0.4s,SNR=18							
EBER				S		**Sn**	**16 07 36.5**	**0.0**
	6.7nm,0.3s,SNR=7.9							
EPOB	**Poblet**	**5.82**	**336**	P		**Pn**	**16 06 33.2**	**+2.6**
	5.3nm,0.5s,SNR=7.9							
EPOB				S		**Sn**	**16 07 34.4**	**-3.4**
	1.6nm,0.2s,SNR=7.9							
EPOB	**Poblet**	**5.82**	**336**	P		**Pn**	**16 06 33.2**	**+2.6**
	5.3nm,0.5s,SNR=7.9							
CFON	**Fontmartina**	**5.86**	**347**	P		**Pn**	**16 06 33.4**	**+2.2**
	6.3nm,0.2s,SNR=11							
CFON				S		**Sn**	**16 07 39.8**	**+1.0**
	7.4nm,0.3s,SNR=7.9							
CFON	**Fontmartina**	**5.86**	**347**	P		**Pn**	**16 06 33.4**	**+2.2**
	6.3nm,0.2s,SNR=11							
EVIA	**Vianos**	**5.91**	**298**	P		**Pn**	**16 06 33.1**	**+1.2**
	14nm,0.2s,SNR=8.9							
EVIA				S		**Sn**	**16 07 41.8**	**+1.6**
	12nm,0.3s,SNR=7.9							
EVIA	**Vianos**	**5.91**	**298**	P		**Pn**	**16 06 33.1**	**+1.2**
	14nm,0.2s,SNR=8.9							
EVIA				S		**Sn**	**16 07 41.8**	**+1.6**
	12nm,0.3s,SNR=7.9							
EQES	**Quesada**	**6.06**	**289**	P		**Pn**	**16 06 36.6**	**+2.6**
	21nm,0.3s,SNR=34							
EQES				S		**Sn**	**16 07 45.4**	**+1.5**
	50nm,1.0s,SNR=7.9							
EQES	**Quesada**	**6.06**	**289**	P		**Pn**	**16 06 36.6**	**+2.6**
	21nm,0.3s,SNR=34							
EQES				S		**Sn**	**16 07 45.4**	**+1.5**
	50nm,1.0s,SNR

VIVF	**Saint-Julien-l**	**8.80**	**2**	P		**Pn**	**16 07 09.9**	**-1.5**
VIVF				S		**Sn**	**16 08 45.6**	**-5.5**
	2.6nm,0.6s							
VIVF	**Saint-Julien-l**	**8.80**	**2**	*e*P		Pn	16 07 15.3	+3.9
EMIN	**Mina Concepcio**	**8.86**	**284**	P		**Pn**	**16 07 12.9**	**+0.7**
	0.4nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**8.86**	**284**	P		**Pn**	**16 07 12.9**	**+0.7**
	0.4nm,0.2s,SNR=7.9							
MBDF	**Montbardon**	**8.88**	**12**	*e*Pn		**Pn**	**16 07 11.4**	**-1.3**
MBDF	**Montbardon**	**8.88**	**12**	P		**Pn**	**16 07 11.4**	**-1.3**
ORIF	**Oris-en-Rattie**	**8.95**	**8**	*e*Pn		**Pn**	**16 07 12.1**	**-1.4**
ORIF	**Oris-en-Rattie**	**8.95**	**8**	P		**Pn**	**16 07 12.1**	**-1.4**
CAF	**Calviac**	**9.00**	**350**	*e*Pn		**Pn**	**16 07 12.6**	**-1.7**
CAF	**Calviac**	**9.00**	**350**	*e*P		Pn	16 07 18.5	+4.2
CAF	**Calviac**	**9.00**	**350**	P		**Pn**	**16 07 12.6**	**-1.7**
CAF	**Calviac**	**9.00**	**350**	*e*P		Pn	16 07 18.5	+4.2
KIB	**El Ksiba**	**9.14**	**251**	P		**Pn**	**16 07 17.0**	**+0.8**
KIB	**El Ksiba**	**9.14**	**251**	*e*P		**Pn**	**16 07 17.0**	**+0.8**
LFF	**La Frestale**	**9.25**	**345**	*e*Pn		**Pn**	**16 07 15.7**	**-1.9**
LFF	**La Frestale**	**9.25**	**345**	P		**Pn**	**16 07 15.7**	**-1.9**
LPG	**La Plagne**	**9.63**	**11**	*e*Pn		**Pn**	**16 07 21.8**	**-1.3**
LPG	**La Plagne**	**9.63**	**11**	P		**Pn**	**16 07 21.8**	**-1.3**
LPL	**La Plagne**	**9.64**	**11**	*e*Pn		**Pn**	**16 07 21.8**	**-1.4**
LPL	**La Plagne**	**9.64**	**11**	P		**Pn**	**16 07 21.8**	**-1.4**
TZC	**Tazercounte**	**9.67**	**249**	P		**Pn**	**16 07 25.0**	**+1.5**
EARI	**Arriondas**	**10.23**	**318**	P		Pn	16 07 34.8	+3.8
	3.2nm,0.5s,SNR=6.8							
EARI	**Arriondas**	**10.23**	**318**	P		Pn	16 07 34.8	+3.8
	3.2nm,0.5s,SNR=6.8							
ECAL	**Calabor**	**10.32**	**308**	P		Pn	16 07 35.9	+3.5
	4.2nm,0.3s,SNR=4.9							
ECAL	**Calabor**	**10.32**	**308**	P		Pn	16 07 35.9	+3.5
	4.2nm,0.3s,SNR=4.9							
BGF	**Bois d'Agland**	**10.54**	**355**	*e*Pn		**Pn**	**16 07 33.6**	**-1.7**
BGF	**Bois d'Agland**	**10.54**	**355**	P		**Pn**	**16 07 33.6**	**-1.7**
AVF	**Avril sur Loir**	**10.74**	**357**	*e*Pn		**Pn**	**16 07 36.4**	**-1.6**
AVF	**Avril sur Loir**	**10.74**	**357**	P		**Pn**	**16 07 36.4**	**-1.6**
IDI	**Anoyia**	**16.85**	**87**	Pn		**P**	**16 09 01.9**	**-0.5**
	0.3nm,0.3s,baz=300,slow=14,SNR=2.7							
MLR	**Muntele Rosu**	**18.94**	**53**	LR		LR	16 17 31.0	
	comp=Z,12nm,18.4s,baz=240,slow=39							
TORD	**Torodi Ar. Bea**	**22.92**	**186**	P		**P**	**16 10 06.9**	**-1.7**
	2.5nm,0.9s,baz=360,slow=9.9,SNR=11							
AKASG	**Malin Array Be**	**23.21**	**43**	P		**P**	**16 10 11.3**	**0.0**
	0.4nm,0.4s,baz=239,slow=10,SNR=4.2							
MKAR	**Makanchi Array**	**57.28**	**53**	P		**P**	**16 14 52.6**	**+0.3**
	0.6nm,0.5s,baz=290,slow=5.4,SNR=10							
YKA	**Yellowknife Ar**	**70.25**	**334**	P		**P**	**16 16 17.7**	**+0.2**
	0.1nm,0.4s,baz=54,slow=6.4,SNR=3.0							
TXAR	**Lajitas Array**	**86.06**	**304**	P		**P**	**16 17 46.7**	**+0.9**
	0.1nm,0.3s,baz=64,slow=4.1,SNR=2.5							

IDC ***31*** *16:19:35.1±0.6,56°.39N×152°.70W,h0km,mb4.2/30, mb1 4.3/32,mb1mx4.2/53,mbtmp4.2/32,ML4.0/2,MS3.6/5, Ms1 3.6/5,ms1mx3.1/31,Error ellipse: s-maj=18.9km s-min=10.5km az=21.0*

BJI ***31*** *16:19:35.3,56°.50N×152°.40W,h23km,mb4.6/7,mB4.8/4, Ms4.9/2,Ms7 4.5/2*

MOS ***31*** *16:19:36.7±0.9,56°.45N×152°.63W,h21km,mb4.7/22, Error ellipse: s-maj=13.4km s-min=5.1km az=91.5*

NEIC ***31*** *16:19:38.2,56°.23N×152°.55W,h26km,mb4.4/16, ML4.0(AEIC),After AEIC.*

ISC 31 16:19:38.7±0.7,56°.43N±0°.05×152°.62W±0°.05,h23km±3km, h23km:pP-P,n188,σ1°15/198,mb4.4/59,MS3.5/6,7C-4D, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**0.87**	**336**	P	**Pn**	**16 19 55.3**	**-0.2**
KDAK	**Kodiak Island**	**1.35**	**1**	P	**Pb**	**16 20 03.2**	**-0.1**
KDAK				S	**Sb**	**16 20 20.3**	**+0.1**
KDAK	**Kodiak Island**	**1.35**	**1**	P	**Pb**	**16 20 03.2**	**-0.1**
KDAK				S	**Sb**	**16 20 20.3**	**+0.1**
KABR	**Katmai Barrier**	**2.13**	**324**	P	**Pn**	**16 20 13.2**	**+0.4**
KCE	**Katmai Mt Cerb**	**2.29**	**324**	P	**Pb**	**16 20 16.9**	**-2.3**
KAKN	**Katmai Knife C**	**2.29**	**326**	P	**Pn**	**16 20 16.1**	**+1.0**
KBM	**Katmai Bkd Mtn**	**2.32**	**324**	P	**Pb**	**16 20 16.9**	**-2.9**
PLK3	**Peulik 3**	**2.35**	**304**	P	**Pn**	**16 20 16.0**	**+0.1**
KVTA	**Katmai Vly 10**	**2.43**	**325**	P	**Pn**	**16 20 17.5**	**+0.5**
KELA	**Mount Kelaz**	**2.62**	**321**	P	**Pn**	**16 20 20.1**	**+0.4**
MCNL	**McNeil River**	**2.91**	**342**	P	**Pn**	**16 20 25.3**	**+1.8**
AUI	**Augustine Isla**	**2.94**	**352**	P	**Pn**	**16 20 25.6**	**+1.6**
AUI				S	**Sb**	**16 21 02.1**	**-3.8**
AUW	**Augustine West**	**2.98**	**352**	P	**Pn**	**16 20 26.4**	**+1.9**
OPT	**Oil Point**	**3.25**	**355**	P	**Pn**	**16 20 29.9**	**+1.7**
HOM	**Homer**	**3.28**	**9**	P	**Pn**	**16 20 29.3**	**+0.7**
HOM				S	**Sn**	**16 21 09.4**	**+2.6**
PDB	**Pedro Bay**	**3.47**	**347**	P	**Pn**	**16 20 32.4**	**+1.2**
PDB	**Pedro Bay**	**3.47**	**347**	P	**Pn**	**16 20 32.4**	**+1.2**
ILS	**Iliamna Low So**	**3.54**	**356**	P	**Pn**	**16 20 33.7**	**+1.4**
VNSG	**Veniaminof 6**	**3.62**	**268**	P	**Pn**	**16 20 32.5**	**-0.8**
VNHG	**Veniaminof 1**	**3.65**	**269**	P	**Pn**	**16 20 33.5**	**-0.3**
RSO	**Redoubt South**	**4.04**	**359**	*e*Pn	**Pn**	**16 20 40.0**	**+0.7**
SEW	**Seward**	**4.05**	**23**	P	**Pn**	**16 20 37.4**	**-1.7**
RDN	**Redoubt North**	**4.09**	**359**	P	**Pn**	**16 20 40.9**	**+0.9**
NCT	**North Crescent**	**4.14**	**358**	P	**Pn**	**16 20 41.5**	**+0.9**
NCT				S	**Sn**	**16 21 30.8**	**+2.5**
DFR	**Drift River**	**4.17**	**360**	P	**Pn**	**16 20 41.8**	**+0.9**
SLKM	**Skilak Lake**	**4.28**	**16**	P	**Pn**	**16 20 41.6**	**-0.7**
SLKM	**Skilak Lake**	**4.28**	**16**	P	**Pn**	**16 20 41.6**	**-0.7**
SDPT	**Sand Point**	**4.55**	**259**	P	**Pn**	**16 20 44.5**	**-1.6**
CKL	**Chakachamna La**	**4.78**	**2**	P	**Pn**	**16 20 49.7**	**+0.4**
SPBG	**Spurr Blockage**	**4.84**	**1**	P	**Pn**	**16 20 51.1**	**+0.9**
RC01	**Rabbit Creek A**	**4.91**	**17**	P	**Pn**	**16 20 49.9**	**-1.0**
SVW2	**Sparrevohn**	**4.92**	**343**	P	**Pn**	**16 20 52.2**	**+1.0**
STLK	**Strandline Lak**	**5.10**	**4**	P	**Pn**	**16 20 53.9**	**+0.3**
SUA	**Susitna One**	**5.14**	**10**	P	**Pn**	**16 20 53.5**	**-0.8**
GLI	**Glacier Island**	**5.31**	**31**	P	**Pn**	**16 20 54.9**	**-1.6**
EYAK	**Cordova Ski Ar**	**5.48**	**38**	P	**Pn**	**16 20 57.4**	**-1.3**
PMR	**Palmer**	**5.48**	**18**	P	**Pn**	**16 20 57.5**	**-1.3**
PMR	**Palmer**	**5.48**	**18**	P	**Pn**	**16 20 57.5**	**-1.3**
SKT	**Skwentna**	**5.59**	**5**	P	**Pn**	**16 21 00.4**	**0.0**
JPK	**Jack Peak**	**5.60**	**32**	P	**Pn**	**16 20 59.0**	**-1.4**
VLZ	**Valdez**	**5.74**	**32**	P	**Pn**	**16 21 01.1**	**-1.2**
RAGM	**Ragged Mountai**	**5.76**	**43**	P	**Pn**	**16 21 01.1**	**-1.6**
GOAT	**Goat Mountain**	**5.87**	**42**	P	**Pn**	**16 21 02.6**	**-1.6**
DIV	**Divide**	**5.91**	**34**	P	**Pn**	**16 21 03.2**	**-1.5**
SUCK	**Suckling Hills**	**5.93**	**48**	P	**Pn**	**16 21 03.7**	**-1.3**
SCM	**Sheep Creek Mo**	**6.06**	**25**	P	**Pn**	**16 21 06.2**	**-0.7**
SCM	**Sheep Creek Mo**	**6.06**	**25**	P	**Pn**	**16 21 06.2**	**-0.7**
BERG	**Berg Lake**	**6.14**	**46**	P	**Pn**	**16 21 06.5**	**-1.4**
BMRM	**Bremner River**	**6.17**	**39**	P	**Pn**	**16 21 07.1**	**-1.3**
GRIN	**Grindle Hills**	**6.23**	**48**	P	**Pn**	**16 21 08.0**	**-1.1**
FALS	**False Pass**	**6.31**	**260**	P	**Pn**	**16 21 08.3**	**-1.8**
PPLA	**Purkeypile**	**6.49**	**2**	*e*Pn	**Pn**	**16 21 12.9**	**+0.1**
	38nm,0.8s						
BARK	**Barkley Ridge**	**6.64**	**49**	P	**Pn**	**16 21 14.2**	**-0.7**
TT01	**Tatalina**	**6.72**	**347**	P	**Pn**	**16 21 16.4**	**+0.6**
VRDI	**Verde Repeater**	**6.76**	**41**	P	**Pn**	**16 21 15.0**	**-1.6**
BAGL	**Bagley Icefiel**	**6.86**	**49**	P	**Pn**	**16 21 16.7**	**-1.0**
MCARA	**McCarthy VSAT**	**7.02**	**41**	P	**Pn**	**16 21 19.5**	**-0.5**
RKAV	**Rock Avalanche**	**7.08**	**52**	P	**Pn**	**16 21 20.1**	**-0.9**
TRF	**Thorofare Moun**	**7.14**	**8**	P	**Pn**	**16 21 21.3**	**-0.4**
TABL	**Table Mountain**	**7.24**	**52**	P	**Pn**	**16 21 21.7**	**-1.5**
RND	**Reindeer**	**7.25**	**14**	P	**Pn**	**16 21 22.5**	**-0.6**
RND	**Reindeer**	**7.25**	**14**	P	**Pn**	**16 21 22.5**	**-0.6**
SAMH	**Samovar Hills**	**7.26**	**54**	P	**Pn**	**16 21 23.4**	**+0.1**
BARN	**Barnard Glacie**	**7.35**	**46**	P	**Pn**	**16 21 23.4**	**-1.2**
PAX	**Paxson**	**7.49**	**26**	*e*P	**Pn**	**16 21 26.7**	**+0.3**
PAX				pmax	pmax		
	comp=Z,19nm,0.8s						
PAX	**Paxson**	**7.49**	**26**	*e*Pn	**Pn**	**16 21 26.7**	**+0.3**
	comp=Z,19nm,0.8s						
LOGN	**Logan Glacier**	**7.49**	**49**	P	**Pn**	**16 21 25.1**	**-1.4**
MCK	**McKinley**	**7.55**	**13**	*e*P	**Pn**	**16 21 27.3**	**0.0**
MCK	**McKinley**	**7.55**	**13**	*e*Pn	**Pn**	**16 21 27.2**	**0.0**
BPAW	**Bear Paw Mtn.**	**7.74**	**5**	P	**Pn**	**16 21 28.9**	**-0.8**
RIDG	**Independ'e Rid**	**8.29**	**25**	P	**Pn**	**16 21 37.2**	**-0.2**
UNV	**Unalaska Valle**	**8.36**	**258**	P	**Pn**	**16 21 36.0**	**-2.3**
CCB	**Clear Creek Bu**	**8.57**	**14**	P	**Pn**	**16 21 40.3**	**-0.9**
MLY	**Manley**	**8.68**	**5**	P	**Pn**	**16 21 41.6**	**-1.0**
COLA	**College**	**8.79**	**13**	*i*P	**Pn**	**16 21 42.7**	**-1.4**
COLA	**College**	**8.79**	**13**	P	**Pn**	**16 21 43.2**	**-0.8**
ILAR	**Eielson Array**	**8.82**	**16**	Pn	**Pn**	**16 21 42.7**	**-1.9**
	comp=Z,2.0nm,0.3s,baz=202,slow=13,SNR=125						
ILAR				Sn	**Sn**	**16 23 17.8**	**-5.5**
	comp=Z,1.8nm,0.3s,baz=199,slow=30,SNR=9.1						
HYT	**Haines Junctio**	**9.02**	**55**	*e*Pn	**Pn**	**16 21 46.6**	**-0.9**
IM04	**Indian Mountai**	**9.59**	**357**	*e*Pn	**Pn**	**16 21 54.8**	**-0.4**
EGAK	**Eagle**	**10.07**	**29**	*e*Pn	**Pn**	**16 22 02.4**	**+0.7**
	comp=Z,7.1nm,0.8s						
COLD	**Coldfoot**	**10.89**	**5**	*e*Pn	**Pn**	**16 22 12.0**	**-0.9**
	comp=Z,4.6nm,0.5s						
DLBC	**Dease Lake**	**12.32**	**71**	Pn	**Pn**	**16 22 33.9**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=217,slow=5.9,SNR=3.9						
INK	**Inuvik**	**14.75**	**29**	Pn	**Pn**	**16 23 07.1**	**+1.7**
	comp=Z,0.9nm,0.3s,baz=226,slow=11,SNR=8.8						
INK				LR	LR	16 29 26.1	
	comp=Z,174nm,21.6s,baz=232,slow=40						
YKA	**Yellowknife Ar**	**20.01**	**57**	P	**P**	**16 24 09.6**	**+0.3**
	comp=Z,3.9nm,0.6s,baz=268,slow=11,SNR=31						
YKA				PcP	**PcP**	**16 28 23.5**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=279,slow=1.4,SNR=3.7						
BILL	**Bilibino**	**21.89**	**318**	*c iP*	**P**	**16 24 29.9**	**+0.3**
BILL				pmax	pmax		
	comp=Z,32nm,1.7s						
BILL				MLR	MLR		
	comp=Z,216nm,18.0s						
BILL	**Bilibino**	**21.89**	**318**	*e*P	**P**	**16 24 29.5**	**-0.1**
	comp=Z,15nm,1.0s						
NEW	**Newport**	**22.95**	**96**	P	**P**	**16 24 40.9**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=330,slow=6.0,SNR=4.4						
YBH	**Yreka Blue Hor**	**24.24**	**115**	P	**P**	**16 24 54.1**	**+0.3**
	comp=Z,3.5nm,0.8s,baz=79,slow=0.9,SNR=8.5						
YBH				LR	LR	16 31 58.7	
	comp=Z,92nm,19.7s,baz=322,slow=31						
BSMT	**Bassoo Peak**	**24.48**	**94**	P	**P**	**16 24 55.7**	**-0.3**
	comp=Z,1.8nm,0.8s						
JTMT	**Jette**	**24.82**	**94**	*e*P	**P**	**16 24 56.5**	**-2.5**
	comp=Z,1.6nm,0.7s						
WVOR	**Wild Horse Val**	**25.84**	**108**	*e*P	**P**	**16 25 08.3**	**0.0**
WVOR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
WVOR	**Wild Horse Val**	**25.84**	**108**	*e*P	**P**	**16 25 08.3**	**0.0**
	comp=Z,8.2nm,0.9s						
SEY	**Seymchan**	**27.73**	**306**	P	**P**	**16 25 23.9**	**-0.9**
	comp=Z,2.4nm,0.7s,baz=87,slow=9.7,SNR=19						
SEY	**Seymchan**	**27.73**	**306**	P	**P**	**16 25 24.0**	**-0.9**
RES	**Resolute Bay**	**28.30**	**28**	P	**P**	**16 25 30.4**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=266,slow=12,SNR=4.3						
PETK	**Petropavlovsk-**	**28.34**	**284**	P	**P**	**16 25 29.7**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=94,slow=13,SNR=6.3						
ELK	**Elko**	**28.84**	**107**	P	**P**	**16 25 35.1**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=305,slow=7.7,SNR=7.7						
NVAR	**Mina Array Bea**	**28.95**	**114**	P	**P**	**16 25 36.2**	**0.0**
	comp=Z,2.0nm,0.8s,baz=308,slow=8.9,SNR=20						
R11A	**Troy Canyon, C**	**30.41**	**111**	*e*P	**P**	**16 25 49.1**	**-0.1**
	comp=Z,2.5nm,0.9s						
PDAR	**Pinedale Array**	**30.52**	**98**	P	**P**	**16 25 50.2**	**0.0**
	comp=Z,0.9nm,0.7s,baz=327,slow=5.3,SNR=9.2						
MSU	**Marysvale**	**32.08**	**107**	*e*P	**P**	**16 26 04.8**	**+0.9**
MSU				pmax	pmax		
	comp=Z,7.0nm,1.4s						
MSU	**Marysvale**	**32.08**	**107**	*e*P	**P**	**16 26 04.8**	**+0.9**
	comp=Z,6.8nm,1.4s						
O20A	**White River Ci**	**33.04**	**100**	*e*P	**P**	**16 26 11.3**	**-1.0**
	comp=Z,3.2nm,0.7s						
PFO	**Pinyon Flats O**	**33.66**	**117**	LR	LR	16 36 45.8	
	comp=Z,52nm,21.7s,baz=340,slow=31						
PV01	**Paradox Valley**	**34.29**	**103**	P	**P**	**16 26 22.6**	**-0.6**
	comp=Z,248nm,1.1s						
TIXI	**Tiksi**	**34.54**	**327**	*i*P	**P**	**16 26 25.2**	**+0.5**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TIXI	**Tiksi**	**34.54**	**327**	*e*P	**P**	**16 26 24.6**	**0.0**
	comp=Z,2.8nm,0.6s						
ANMO	**Albuquerque**	**37.80**	**105**	*e*P	**P**	**16 26 51.5**	**-1.7**
ANMO				pmax	pmax		
	comp=Z,7.0nm,1.2s						
YAK	**Yakutsk**	**37.90**	**311**	*e*P	**P**	**16 26 52.2**	**-1.2**
YAK				pmax	pmax		
	comp=Z,13nm,0.8s						
ASAJ	**Asahikawa**	**41.64**	**281**	LR	LR	16 45 54.2	
	comp=Z,473nm,18.6s,baz=85,slow=38						
HABR	**Khabarovsk**	**42.87**	**291**	*e*P	**P**	**16 27 33.8**	**-0.9**
HABR				*e*PP	**pP**	**16 27 43.4**	**+1.5**
HABR						16 29 14.2	
HABR				*e*		16 29 23.5	
HABR				*e*		16 29 46.8	
HABR				S	**S**	**16 33 57.8**	**+0.2**
HABR				*e*		16 37 47.5	
HABR				pmax	pmax		
	comp=Z,38nm,1.7s						
HABR				MLR	MLR		
	comp=Z,375nm,18.0s						
SUMG	**Summit**	**43.59**	**23**	*i* P	**P**	**16 27 41.8**	**+1.1**
	comp=Z,11nm,1.1s						
SUMG	**Summit**	**43.59**	**23**	*i* P	**P**	**16 27 41.8**	**+1.1**
SUMG				pmax	pmax		
	comp=Z,11nm,1.1s						
SUMG	**Summit**	**43.59**	**23**	*e*P	**P**	**16 27 41.5**	**+0.8**
	comp=Z,6.1nm,0.6s						
TXAR	**Lajitas Array**	**43.63**	**107**	P	**P**	**16 27 41.5**	**+0.2**
	comp=Z,1.7nm,1.0s,baz=312,slow=5.8,SNR=14						
TXAR				PcP	**PcP**	**16 29 29.5**	**+1.2**
	comp=Z,0.5nm,0.9s,baz=259,slow=0.9,SNR=2.8						
TXAR				LR	LR	16 43 38.7	
	comp=Z,41nm,18.7s,baz=0.0,slow=33						
DAG	**Danmarks Havn**	**43.92**	**14**	*i*P	**P**	**16 27 43.1**	**+0.2**
	comp=Z,6.9nm,0.7s						
DAG	**Danmarks Havn**	**43.92**	**14**	*i*P	**P**	**16 27 43.1**	**+0.2**
DAG				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KLR	**Kul'dur**	**44.08**	**294**	*e*P	P	16 27 41.2	-3.3
JCT	**Junction City**	**44.81**	**103**	*e*P	**P**	**16 27 50.4**	**-0.2**
JCT				pmax	pmax		
	comp=Z,3.0nm,0.6s						
JCT	**Junction City**	**44.81**	**103**	*e*P	**P**	**16 27 50.4**	**-0.2**
	comp=Z,2.5nm,0.6s						
SCHQ	**Schefferville**	**45.43**	**54**	P	**P**	**16 27 55.4**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=309,slow=11,SNR=2.5						
SPITS	**Spitsbergen Ar**	**45.48**	**3**	P	**P**	**16 27 56.0**	**+0.7**
	comp=Z,5.5nm,0.7s,baz=34,slow=5.4,SNR=4.9						
BOD	**Bodaibo**	**46.77**	**313**	*e*P	**P**	**16 28 05.6**	**-0.1**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**47.38**	**236**	T	T	17 19 12.0	
	baz=29,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**47.39**	**236**	T	T	17 19 12.4	
	baz=29,slow=76,SNR=15						
H11N1	**WAKE ISLAND Hy**	**47.40**	**236**	T	T	17 19 13.2	
	baz=29,slow=76,SNR=13						
H11S1	**WAKE ISLAND Hy**	**48.54**	**236**	T	T	17 20 31.5	
	baz=28,slow=76,SNR=41						
H11S2	**WAKE ISLAND Hy**	**48.55**	**236**	T	T	17 20 32.5	
	baz=28,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**48.55**	**236**	T	T	17 20 32.8	
	baz=28,slow=76,SNR=23						
MAJO	**Matsushiro**	**49.30**	**277**	*d iP*	**P**	**16 28 25.8**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,116nm,2.5s						
MJAR	**Matsushiro Arr**	**49.30**	**277**	P	**P**	**16 28 25.2**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=42,slow=6.5,SNR=6.9						
CN2	**Changchun**	**50.95**	**293**	*e*P	**P**	**16 28 38.3**	**+0.4**
CN2				*e*pP	**pP**	**16 28 48.3**	**+3.1**
KSRS	**Korea Array**	**54.24**	**285**	P	**P**	**16 29 02.7**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=50,slow=6.4,SNR=8.8						
KSAR	**Wonju Array Be**	**54.27**	**285**	P	**P**	**16 29 02.7**	**+0.2**
KSAR	**Wonju Array Be**	**54.27**	**285**	P	**P**	**16 29 02.7**	**+0.2**
ARCES	**ARCESS Array B**	**54.33**	**1**	P	**P**	**16 29 02.9**	**+0.3**
	comp=Z,2.8nm,0.6s,baz=6.9,slow=7.7,SNR=19						
ARCES				PcP	**PcP**	**16 30 06.3**	**+0.1**
	comp=Z,3.3nm,0.9s,baz=4.3,slow=4.9,SNR=3.9						
ARE0	**ARCESS Array S**	**54.33**	**1**	*e*P	**P**	**16 29 02.6**	**0.0**
TLY	**Talaya**	**55.35**	**313**	*e*P	**P**	**16 29 11.1**	**+0.9**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SONM	**Songino Array**	**57.10**	**308**	P	**P**	**16 29 23.3**	**+0.4**
	comp=Z,6.0nm,0.8s,baz=47,slow=6.2,SNR=38						
HHC	**Hu-ho-hao-te**	**60.06**	**299**	*e*P	**P**	**16 29 43.5**	**-0.1**
HHC				PP	**PP**	**16 31 57.5**	**+1.8**
HHC				S	**S**	**16 37 51.5**	**-3.4**
HHC				sS	**sS**	**16 38 08.3**	**+1.2**
HHC				PMZ			
	comp=Z,20nm,1.0s						
HHC				PMZ			
	comp=Z,110nm,9.9s						
HHC				LN			
	comp=Z,410nm,15.7s						
HHC				LE			
	comp=Z,440nm,14.4s						
HHC				LZ			
	comp=Z,410nm,16.0s						
NVS	**Novosibirsk**	**60.13**	**326**	*e*P	**P**	**16 29 43.1**	**-0.6**
ZAA0	**Zalesovo Array**	**60.40**	**325**	*e*P	**P**	**16 29 46.1**	**+0.6**
ZAA0				*e*		16 29 53.6	
ZALV	**Zalesovo Beam**	**60.40**	**325**	P	**P**	**16 29 46.0**	**+0.5**
	comp=Z,4.6nm,0.7s,baz=30,slow=6.4,SNR=21						
ZALV	**Zalesovo Beam**	**60.40**	**325**	*i* P	**P**	**16 29 46.2**	**+0.6**
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.7s						
PRGR	**Permogore**	**61.40**	**350**	P	**P**	**16 29 52.1**	**-0.1**
PRGR				*PP	**pP**	**16 29 59.3**	**-0.3**
PRGR						16 30 35.8	
PRGR				pmax	pmax		
	comp=Z,4.0nm,0.4s						
NB2	**NORSAR Subarra**	**62.18**	**9**	P	**P**	**16 29 58.0**	**+0.4**
	comp=Z,5.0nm,0.8s,baz=350,slow=6.9						
NOA	**NORSAR Array B**	**62.18**	**9**	P	**P**	**16 29 58.2**	**+0.6**
	comp=Z,3.3nm,0.7s,baz=350,slow=6.7,SNR=18						
FINES	**FINESS Array B**	**62.46**	**1**	P	**P**	**16 30 00.0**	**+0.7**
	comp=Z,5.6nm,0.9s,baz=355,slow=4.7,SNR=19						
KLMR	**Klimovskoe**	**62.66**	**353**	*e*P	**P**	**16 29 59.5**	**-1.2**
KLMR				*PP	**pP**	**16 30 05.3**	**-2.8**
KLMR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HFS	**Hagfors**	**63.27**	**8**	P	**P**	**16 30 04.9**	**+0.1**
	comp=Z,4.8nm,0.8s,baz=33,slow=5.5,SNR=11						
ARU	**Arti**	**64.70**	**341**	*e*P	**P**	**16 30 14.1**	**-0.1**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ARU	**Arti**	**64.70**	**341**	*e*P	**P**	**16 30 14.1**	**-0.1**
	comp=Z,4.5nm,0.8s						
KURK	**Kurchatov**	**65.11**	**327**	*e*P	**P**	**16 30 17.0**	**0.0**
KURK				*e*		16 30 24.6	
KURK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KURK	**Kurchatov**	**65.11**	**327**	*e*P	**P**	**16 30 17.0**	**0.0**
	comp=Z,4.4nm,1.0s						
KURK				*e*		16 30 24.6	
BRVK	**Borovoye**	**65.33**	**333**	*e*P	**P**	**16 30 19.4**	**+1.0**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BVAR	**Borovoye Array**	**65.33**	**333**	P	**P**	**16 30 18.6**	**+0.1**
	comp=Z,3.8nm,0.7s,baz=38,slow=7.5,SNR=15						
VSU	**Vasula**	**65.45**	**0**	*i* P	**P**	**16 30 20.6**	**+1.5**
VSU				pmax	pmax		
	comp=Z,29nm,1.0s						
EKA	**Eskdalemuir Ar**	**65.86**	**19**	P	**P**	**16 30 21.7**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=337,slow=5.2,SNR=5.0						
MK31	**Makanchi Array**	**67.37**	**322**	*e*P	**P**	**16 30 31.6**	**0.0**
MK31	**Makanchi Array**	**67.37**	**322**	*e*P	**P**	**16 30 31.6**	**0.0**
MKAR	**Makanchi Array**	**67.37**	**322**	P	**P**	**16 30 31.8**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=45,slow=6.7,SNR=21						
OBN	**Obninsk**	**68.56**	**354**	*i* P	**P**	**16 30 38.9**	**+0.1**
OBN				*i*		16 31 05.6	
OBN				pmax	pmax		
	comp=Z,9.

0.6nm,0.6s,baz=165,slow=8.5,SNR=4.1
ILAR Eielson Array 85.87 18 P **P** 16 39 17.7 +0.3
0.3nm,0.5s,baz=238,slow=4.8,SNR=7.6
ARCES ARCESS Array B 119.12 345 PKP **PKPdf** 16 45 25.5 -0.8
1.4nm,0.8s,baz=55,slow=1.7,SNR=6.6

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*ISCJB **31** 16:29:04.0±0.5,59.85N±0.03×24.84E±0.06,h0km, Error ellipse: s-maj=5.3km s-min=3.4km az=39.2*
*HEL **31** 16:29:05.9±0.1,59.85N×24.80E,h0km,ML1.8, Explosion*
*IDC **31** 16:29:08.2±2.5,60.00N×24.73E,h0km,mb1 3.1/3, mb1mx2.8/46,mbtmp3.0/3,ML2.9/2, Error ellipse: s-maj=27.8km s-min=7.6km az=146.0*
ISC 31 16:29:04.9±0.8,59.86N±0.03×24.83E±0.04,h0km,n17, σ1s33/32,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**0.42**	**329**	*e*P	**Pg**	**16 29 13.5**	**+0.6**
MEF				*e*S	**Sg**	**16 29 18.8**	**+0.6**
SRPE	**Suurupi**	**0.46**	**210**	*e*P	**Pg**	**16 29 14.0**	**+0.3**
SRPE				*e*S	**Sg**	**16 29 19.5**	**-0.2**
PVF	**Pernaja**	**0.86**	**37**	*e*P	**Pg**	**16 29 21.7**	**+0.3**
PVF				*e*S	**Sg**	**16 29 32.7**	**+0.3**
VJF	**Virojoki**	**1.52**	**62**	*e*P	**Pn**	**16 29 33.5**	**+0.1**
VJF				*e*S	**Sb**	**16 29 53.0**	**-0.8**
VJF				MSG		16 29 58.8	
	comp=Z,4.3nm,0.1s						
FIA0	**FINESS Array S**	**1.70**	**21**	*e*P	**Pn**	**16 29 36.7**	**+0.8**
FIA0				*e*S	**Sn**	**16 29 58.1**	**-0.2**
FINES	**FINESS Array B**	**1.70**	**21**	Pg	**Pn**	**16 29 36.8**	**+1.0**
	comp=Z,3.3nm,0.3s,baz=201,slow=16,SNR=119						
FINES				Lg	Lg	16 29 57.8	
	comp=Z,0.4nm,0.3s,baz=203,slow=26,SNR=4.3						
RAF	**Rauma**	**1.91**	**309**	*e*P	**Pn**	**16 29 39.8**	**+1.1**
RAF				*e*S	**Sn**	**16 30 04.2**	**+0.7**
KEF	**Keuruu**	**2.31**	**1**	*e*PG	**Pb**	**16 29 47.1**	**-0.3**
KEF				*e*SB	**Sb**	**16 30 16.4**	**-0.1**
KEF				MSG		16 30 18.0	
	comp=Z,5.2nm,0.2s						
KAF	**Kangasniemi**	**2.37**	**17**	*e*PB	**Pb**	**16 29 47.7**	**-0.7**
KAF				*e*S	**Sn**	**16 30 16.3**	**+1.5**
KAF				MSG		16 30 19.2	
	comp=Z,5.2nm,0.2s						
AAL	**Aland**	**2.45**	**280**	*e*PG	**Pb**	**16 29 49.1**	**-0.6**
AAL				*e*S	**Sn**	**16 30 17.3**	**+0.7**
SLIT	**Slitere, Latvi**	**2.60**	**212**	*e*PB	**Pn**	**16 29 50.3**	**+2.2**
SLIT				*e*SG	**Sb**	**16 30 24.7**	**-0.1**
SUF	**Sumiainen**	**2.94**	**12**	*e*PB	**Pb**	**16 29 56.5**	**-1.5**
SUF				*e*SB	**Sb**	**16 30 33.9**	**-0.6**
VAF	**Ylistaro**	**3.35**	**343**	*e*PG	**Pb**	**16 30 06.7**	**+1.6**
VAF				*e*S	**Sn**	**16 30 39.0**	**+0.1**
JOF	**Joensuu**	**4.37**	**43**	*e*P	**Pn**	**16 30 14.0**	**+1.5**
JOF				*e*S	**Sn**	**16 31 03.6**	**-0.5**
HFS	**Hagfors**	**5.59**	**278**	Pn	**Pn**	**16 30 30.2**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=96,slow=12,SNR=6.0						
HFS				Sn	**Sn**	**16 31 31.7**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=93,slow=23,SNR=3.3						
NOA	**NORSAR Array B**	**6.84**	**286**	Pn	**Pn**	**16 30 45.9**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=107,slow=14,SNR=3.8						
NOA				Sn	**Sn**	**16 32 00.1**	**-4.7**
	comp=Z,0.1nm,0.3s,baz=152,slow=20,SNR=2.6						
ARCES	**ARCESS Array B**	**9.72**	**1**	Pn	**Pn**	**16 31 25.4**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=181,slow=13,SNR=13						

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*NIED **31** 16:34:00,30.60N×142.30E,h5km,Mw4.7 Best double couple: M0 1.18000×10^16 NP1:φs201.00000°,δ27.00000°, λ122.00000°. NP2:φs346.00000°,δ68.00000°,λ75.00000°.*
*IDC **31** 16:34:55.5±0.4,30.52N×142.01E,h0km,mb4.7/31, mb1 4.8/36,mb1mx4.8/38,mbtmp4.7/36,ML3.1/3, MS4.0/21, Ms1 4.0/21,ms1mx3.9/26, Error ellipse: s-maj=12.9km s-min=9.9km az=93.0*
*JMA **31** 16:34:56.7±0.2,30.62N×142.30E,h45km,M5.0*
*ISCJB **31** 16:34:57.9±0.1,30.52N±0.02×141.89E±0.02,h23km, mb4.8/185,MS4.2/28, Error ellipse: s-maj=2.7km s-min=2.1km az=16.0*
*BJI **31** 16:34:58.9,30.60N×141.96E,h42km,mb4.9/69,mB4.9/47, Ms4.5/68,Ms7 4.2/67*
*MOS **31** 16:34:59.2±0.9,30.56N×141.91E,h33km,mb5.2/57, MS4.1/12, Error ellipse: s-maj=8.3km s-min=4.3km az=115.2*
*NEIC **31** 16:35:02.0±0.1,30.54N×141.90E,mb4.9/116, MW4.7(NIED), Error ellipse: s-maj=3.7km s-min=2.8km az=157.0*
ISC 31 16:34:59.3±0.3,30.55N±0.03×142.01E±0.04,h23km, h23km:pP-P,n696,σ1s20/730,mb4.9/187,MS4.2/28, 133C-124D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**3.14**	**324**	P	**Pn**	**16 35 46.0**	**-1.3**
JHCJ				S	**Sn**	**16 36 23.0**	**-1.1**
JHJ2	**Mitsune**	**3.16**	**324**	P	**Pn**	**16 35 46.5**	**-1.1**
JHJ2				S	**Sn**	**16 36 23.2**	**-1.4**
JHJ2	**Mitsune**	**3.16**	**324**	*e*Pn	**Pn**	**16 35 46.5**	**-1.1**
CBIJ	**Chichi jima**	**3.45**	**177**	P	**Pn**	**16 35 50.4**	**-1.2**
CBIJ				S	**Sn**	**16 36 29.3**	**-2.4**
CBIJ	**Chichi jima**	**3.45**	**177**	*e*Pn	**Pn**	**16 35 49.2**	**-2.4**
CBIJ				Sn	**Sn**	**16 36 27.9**	**-3.9**
JCJ	**Chichijima**	**3.45**	**177**	Pn	**Pn**	**16 35 49.9**	**-1.7**
	79nm,0.3s,baz=2.9,slow=17,SNR=26						
JCJ				Sn	**Sn**	**16 36 27.9**	**-3.9**
	194nm,0.3s,baz=266,slow=23,SNR=8.7						
JHHJ	**Haha-jima-NKT**	**3.91**	**178**	P	**Pn**	**16 35 58.2**	**+0.2**
JHHJ				S	**Sn**	**16 36 41.4**	**-1.8**
BSO1	**Boso 1**	**4.18**	**348**	P	**Pn**	**16 36 00.3**	**-0.9**
BSO1				S	**Sn**	**16 36 46.7**	**-2.3**
JKO	**Kozu shima**	**4.36**	**327**	P	**Pn**	**16 36 04.2**	**0.0**
JKO				S	**Sn**	**16 36 55.6**	**+1.3**
BSO3	**Boso 3**	**4.42**	**344**	P	**Pn**	**16 36 04.0**	**-0.7**
JIZS	**Izushimoda**	**4.92**	**328**	⇑P	**Pn**	**16 36 11.6**	**-0.2**
AJI	**Ajiro2**	**5.11**	**332**	P	**Pn**	**16 36 14.5**	**+0.1**
JOD2	**Odawara 2**	**5.30**	**333**	P	**Pn**	**16 36 16.5**	**-0.6**
TTO1	**TONANKAI O.B.S**	**5.39**	**306**	P	**Pn**	**16 36 20.0**	**+2.0**
HMMJ	**Hamamatsu 2**	**5.61**	**321**	P	**Pn**	**16 36 21.8**	**+0.5**
JYZW	**Yoshizawa**	**5.71**	**322**	P	**Pn**	**16 36 23.0**	**+0.3**
JIE	**Ise**	**5.89**	**312**	P	**Pn**	**16 36 26.5**	**+1.3**
JNY	**Yasuok**	**5.92**	**325**	P	**Pn**	**16 36 26.6**	**+0.9**
JRY	**Ryogami san**	**6.04**	**335**	P	**Pn**	**16 36 27.8**	**+0.6**
JRY				S	**Sn**	**16 37 35.4**	**-0.2**
JKN2	**Miekihoku**	**6.09**	**309**	P	**Pn**	**16 36 29.4**	**+1.6**
JWZ	**Kozaga**	**6.11**	**301**	P	**Pn**	**16 36 28.9**	**+0.7**
JAG	**Ashikaga**	**6.23**	**341**	P	**Pn**	**16 36 29.2**	**-0.7**
ONAJ	**Iwakimizuishiy**	**6.61**	**352**	P	**Pn**	**16 36 32.3**	**-2.8**
JHE	**Heguri**	**6.72**	**309**	P	**Pn**	**16 36 38.7**	**+2.1**
MJAR	**Matsushiro Arr**	**6.76**	**333**	Pn	**Pn**	**16 36 36.5**	**-0.7**
	29nm,0.3s,baz=160,slow=11,SNR=308						
MJAR				Sn	**Sn**	**16 37 52.2**	**-1.2**
	1.9nm,0.3s,baz=166,slow=21,SNR=4.6						
MJAR				LR	LR	16 39 26.6	
	comp=Z,1μm,19.3s,baz=160,slow=40						
MAJO	**Matsushiro**	**6.76**	**333**	*e*P	**Pn**	**16 36 37.6**	**+0.4**
MAJO				pmax	pmax		
	comp=Z,178nm,0.6s						
MAJO	**Matsushiro**	**6.76**	**333**	*e*Pn	**Pn**	**16 36 37.6**	**+0.4**
	comp=Z,178nm,0.6s						
MAT	**Matsushiro**	**6.76**	**333**	P	**Pn**	**16 36 38.3**	**+1.1**
MAT				S	**Sn**	**16 37 52.7**	**-0.8**
MAT	**Matsushiro**	**6.76**	**333**	P	**Pn**	**16 36 37.9**	**+0.7**
JHK	**Hiroka**	**7.13**	**340**	P	**Pn**	**16 36 41.3**	**-0.8**
JJN	**Nakama**	**7.27**	**335**	P	**Pn**	**16 36 44.2**	**+0.1**
JSD	**Sado**	**8.08**	**338**	P	**Pn**	**16 36 53.4**	**-1.8**
JTO	**Tosashimizu**	**8.18**	**289**	P	**Pn**	**16 36 58.2**	**+1.7**
JMK	**Ichinoseki**	**8.40**	**356**	P	**Pn**	**16 36 57.0**	**-2.6**
JMK				S	Sn	16 38 24.7	-9.1
JHS	**Saijyo**	**8.70**	**303**	P	Pn	16 37 06.9	+3.1
JTH	**Tanohata**	**9.37**	**359**	P	**Pn**	**16 37 09.8**	**-3.0**
JNU	**Nakatsue**	**9.81**	**288**	Pn	**Pn**	**16 37 18.1**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=71,slow=15,SNR=1.9						
JNU				LR	LR	16 41 06.5	
	comp=Z,1μm,18.8s,baz=96,slow=38						
JNU	**Nakatsue**	**9.81**	**288**	P	Pn	16 37 22.5	+3.6
	comp=Z,20nm,1.0s						
JIW	**Iwasaki**	**10.15**	**351**	P	**Pn**	**16 37 21.4**	**-2.2**
JTM	**Tenmabayashi**	**10.24**	**356**	P	**Pn**	**16 37 22.3**	**-2.5**
JOT	**Ohata**	**10.84**	**356**	P	**Pn**	**16 37 30.7**	**-2.2**
JOT				S	Sn	16 39 25.4	-8.0
JKB	**Kayabe**	**11.34**	**356**	P	**Pn**	**16 37 37.3**	**-2.5**
JKB				S	Sn	16 39 37.4	-8.4

ERM	**Erimo**	**11.48**	**4**	⇑*i*P	Pn	16 37 38.4	-3.3
ERM				pmax	pmax		
	comp=Z,42nm,1.2s						
ERM	**Erimo**	**11.48**	**4**	*e*Pn	Pn	16 37 37.3	-4.4
	comp=Z,38nm,0.7s						
JOW	**Kunigami**	**12.61**	**256**	Pn	**Pn**	**16 37 56.1**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=54,slow=17,SNR=1.9						
JOW				LR	LR	16 42 43.7	
	comp=Z,76nm,18.2s,baz=91,slow=37						
KSDGY	**Daegwallycong**	**13.13**	**306**	P	P	16 38 10.6	-3.8
	SNR=7.9						
KSJMJ	**Jumunjin**	**13.17**	**307**	P	Pn	16 38 09.2	+4.3
	SNR=15						
KSKWJ	**Gwangju**	**13.43**	**294**	P	**P**	**16 38 20.2**	**+2.5**
	SNR=9.9						
ASAJ	**Asahikawa**	**13.55**	**2**	Pn	Pn	16 38 05.8	-4.2
	comp=Z,3.8nm,0.3s,baz=214,slow=8.6,SNR=29						
ASAJ	**Asahikawa**	**13.55**	**2**	P	Pn	16 38 05.8	-4.2
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ	**Asahikawa**	**13.55**	**2**	*e*Pn	Pn	16 38 05.5	-4.5
	comp=Z,7.6nm,0.5s						
KSRS	**Korea Array**	**13.55**	**304**	Pn	**Pn**	**16 38 09.9**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=111,slow=12,SNR=20						
KSRS				LR	LR	16 43 25.9	
	comp=Z,561nm,18.4s,baz=110,slow=38						
KSRS	**Korea Array**	**13.55**	**304**	P	**Pn**	**16 38 09.9**	**-0.2**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS				MLR	MLR		
	comp=Z,561nm,18.4s						
KSJEU	**Jeongeup**	**13.57**	**295**	P	**P**	**16 38 21.0**	**+1.7**
	SNR=8.8						
KSAR	**Wonju Array Be**	**13.58**	**304**	P	**Pn**	**16 38 09.9**	**-0.6**
KSAR	**Wonju Array Be**	**13.58**	**304**	Pn	**Pn**	**16 38 09.9**	**-0.6**
SEHB	**SEOHWA**	**13.71**	**308**	P	Pn	16 38 16.0	+3.7
	SNR=13						
YUK	**Yuzh-Kuril'sk**	**13.80**	**12**	*c i*P	Pn	16 38 06.6	-6.8
YUK				pmax	pmax		
	comp=Z,32nm,1.0s						
YUK				pmax	pmax		
	comp=N,30nm,0.5s						
YUK				pmax	pmax		
	comp=E,14nm,0.3s						
KSGUS	**GUNSAN**	**13.86**	**297**	P	**P**	**16 38 23.4**	**+1.0**
	SNR=7.2						
KSSWO	**Suwon**	**14.16**	**302**	P	**P**	**16 38 25.6**	**-0.2**
	SNR=14						
KSSEO	**Seoul**	**14.29**	**303**	P	**P**	**16 38 27.2**	**+0.1**
	SNR=9.8						
INCN	**Inchon**	**14.50**	**303**	P	**Pn**	**16 38 24.7**	**+1.6**
	comp=E,66nm,0.8s						
YNCB	**YEONCHEON**	**14.52**	**305**	P	**P**	**16 38 29.5**	**-0.3**
	SNR=11						
KSMUS	**Musan**	**14.57**	**304**	P	**P**	**16 38 30.0**	**-0.3**
	SNR=8.7						
KSGAH	**Ganghwa**	**14.72**	**303**	P	**P**	**16 38 31.7**	**-0.3**
	SNR=12						
KUR	**Kuril'sk**	**15.36**	**16**	*e*P	**Pn**	**16 38 30.3**	**-4.2**
KUR				pmax	pmax		
	comp=N,4.0nm,0.8s						
KUR				pmax	pmax		
	comp=E,7.0nm,0.8s						
KUR				pmax	pmax		
	comp=Z,12nm,0.8s						
KUR				pmax	pmax		
	comp=Z,2μm,0.6s						
KUR				pmax	pmax		
	comp=N,97nm,3.8s						
KUR				pmax	pmax		
	comp=E,262nm,3.8s						
USRK	**Ussuriysk Ar.**	**15.76**	**333**	Pn	**Pn**	**16 38 36.2**	**-3.5**
	comp=E,0.5nm,0.3s,baz=141,slow=11,SNR=20						
USRK				LR	LR	16 44 39.6	
	comp=E,384nm,19.1s,baz=134,slow=37						
YSS	**Yuzh-Sakhalins**	**16.39**	**2**	*e*P	**Pn**	**16 38 44.0**	**-3.7**
YSS				*e*		16 41 57.0	
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				MLR	MLR		
	comp=E,500nm,14.0s						
YSS				MLR	MLR		
	comp=Z,400nm,14.0s						
YSS	**Yuzh-Sakhalins**	**16.39**	**2**	*e*P	**Pn**	**16 38 44.7**	**-3.0**
	comp=Z,41nm,0.8s						
GUMO	**Guam**	**17.09**	**170**	P	**Pn**	**16 38 55.6**	**-1.1**
	comp=Z,4.2nm,0.3s,baz=314,slow=4.2,SNR=15						
GUMO	**Guam**	**17.09**	**170**	*e*P	**Pn**	**16 38 57.5**	**+0.7**
GUMO				pmax	pmax		
	comp=Z,61nm,1.4s						
GUMO	**Guam**	**17.09**	**170**	*e*P	**Pn**	**16 38 57.5**	**+0.7**
	comp=Z,62nm,1.4s						
MDJ	**Mudanjiang**	**17.11**	**329**	P	**Pn**	**16 38 55.3**	**-1.6**
MDJ				S	**Sn**	**16 42 07.3**	**+0.8**
MDJ				PMZ			
	comp=Z,66nm,0.9s						
MDJ				PMZ			
	comp=Z,84nm,4.9s						
MDJ				LN			
	comp=Z,360nm,19.8s						
MDJ				LE			
	comp=Z,660nm,15.2s						
MDJ				LZ			
	comp=Z,830nm,17.5s						
MDJ	**Mudanjiang**	**17.11**	**329**	*e*P	**Pn**	**16 38 55.1**	**-1.9**
	comp=Z,94nm,1.1s						
SSE	**Sheshan**	**17.89**	**277**	P	**P**	**16 39 07.5**	**+0.3**
SSE				pP	**pP**	**16 39 18.0**	**+4.5**
SSE				sP	sP	16 39 23.5	+7.0
SSE				S	**Sn**	**16 42 24.5**	**-1.1**
SSE				PMZ			
	comp=Z,46nm,0.6s						
SSE				PMZ			
	comp=Z,230nm,8.8s						
SSE				LN			
	comp=Z,540nm,17.3s						
SSE				LE			
	comp=Z,260nm,17.3s						
SSE				LZ			
	comp=Z,710nm,17.5s						
UGL	**Uglegorsk**	**18.50**	**0**	*e*P	**Pn**	**16 39 13.9**	**-0.1**
UGL				*e*S	**Sn**	**16 42 41.0**	**+1.0**
SNY	**Shenyang**	**18.61**	**312**	⇓P	**P**	**16 39 14.5**	**-0.5**
SNY				S	**Sn**	**16 42 41.8**	**-1.0**
SNY				PMZ			
	comp=Z,16nm,0.7s						
SNY				PMZ			
	comp=Z,190nm,7.8s						
SNY				LN			
	comp=Z,650nm,12.0s						
SNY				LE			
	comp=Z,660nm,15.7s						
SNY				LZ			
	comp=Z,750nm,16.5s						
CN2	**Changchun**	**18.64**	**320**	*e*P	**P**	**16 39 14.0**	**-1.3**
CN2				*e*PP	**PnPn**	**16 39 30.8**	**+3.1**
CN2				*e*S	**Sn**	**16 42 36.8**	**-6.5**
CN2				*e*SS	**SnSn**	**16 43 01.8**	**+4.5**
CN2				PMZ			
	comp=Z,50nm,1.1s						
CN2				PMZ			
	comp=Z,200nm,3.0s						
CN2				LN			
	comp=Z,600nm,16.0s						
CN2				LE			
	comp=Z,500nm,16.0s						
CN2				LZ			
	comp=Z,600nm,14.0s						
HABR	**Khabarovsk**	**18.67**	**345**	*e*P	**P**	**16 39 14.6**	**-1.0**
HABR				*e*S	**Sn**	**16 42 43.6**	**-0.4**
HABR				pmax	pmax		
	comp=E,28nm,1.6s						
HABR				pmax	pmax		
	comp=Z,51nm,1.6s						
HABR				pmax	pmax		
	comp=N,29nm,1.6s						
HABR				MLR	MLR		
	comp=Z,350nm,17.0s						
DL2	**Dalian**	**18.68**	**302**	P	**Pn**	**16 39 16.5**	**+0.2**
DL2				pP	**pP**	**16 39 24.8**	**+2.6**
DL2				S	**Sn**	**16 42 40.5**	**-4.1**
DL2				PMZ			
	comp=Z,39nm,1.0s						
DL2				LE			
	comp=Z,430nm,15.8s						
DL2				LZ			
	comp=Z,590nm,15.6s						

TATO	**Taipei**	**18.98**	**258**	*e*P	**Pn**	**16 39 19.9**	**-0.1**
	comp=Z,72nm,0.8s						
YHNB	**Yeheng**	**19.19**	**257**	*e*P	**P**	**16 39 21.4**	**-0.2**
	comp=Z,53nm,0.6s						
NACB	**Ninganchiao**	**19.20**	**256**	*e*P	**P**	**16 39 20.1**	**-1.5**
	comp=Z,32nm,0.6s						
YULB	**Yu-li**	**19.77**	**254**	*e*P	**P**	**16 39 28.1**	**+0.2**
	comp=Z,70nm,0.8s						
NJ2	**Nanjing**	**19.84**	**280**	*e*P	**Pn**	**16 39 30.5**	**+0.3**
NJ2				S	**S**	**16 43 10.5**	**-0.3**
NJ2				PMZ			
	comp=Z,30nm,0.8s						
NJ2				LN			
	comp=Z,670nm,18.2s						
NJ2				LE			
	comp=Z,1μm,18.0s						
NJ2				LZ			
	comp=Z,1μm,19.7s						
SSLB	**Suanglung**	**19.89**	**255**	*e*P	**P**	**16 39 29.8**	**+0.6**
	comp=Z,189nm,1.3s						
TWG	**Pinlang**	**20.21**	**253**	P	Pn	16 39 34.4	-0.3
	comp=Z,134nm,0.6s						
KLR	**Kul'dur**	**20.21**	**340**	*e*P	**P**	**16 39 28.0**	**-4.5**
TPUB	**Ta-pu**	**20.37**	**254**	*e*P	**P**	**16 39 34.4**	**+0.1**
	comp=Z,45nm,0.7s						
TIA	**Tai'an**	**21.51**	**292**	⇑P	**P**	**16 39 46.0**	**-0.6**
TIA				PMZ			
	comp=Z,30nm,0.9s						
TIA				LN			
	comp=Z,500nm,14.0s						
TIA				LE			
	comp=Z,900nm,15.2s						
TIA				LZ			
	comp=Z,1μm,16.8s						
BJT	**Baijiatuau**	**23.05**	**301**	*e*P	**P**	**16 40 01.3**	**-1.6**
BJT				*e*		16 40 12.8	
BJT				pmax	pmax		
	comp=Z,38nm,0.4s						
BJT	**Baijiatuau**	**23.05**	**301**	*e*P	**P**	**16 40 01.3**	**-1.6**
	comp=Z,38nm,0.4s						
BJT				*e*		16 40 12.8	
BJI	**Beijing**	**23.05**	**301**	P	**P**	**16 40 00.5**	**-2.4**
BJI				pP	**pP**	**16 40 12.5**	**+3.1**
BJI				S	**S**	**16 44 09.5**	**-2.9**
BJI				PMZ			
	comp=Z,69nm,0.6s						
BJI				PMZ			
	comp=Z,210nm,8.1s						
BJI				LN			
	comp=Z,310nm,18.8s						
BJI				LE			
	comp=Z,1μm,16.1s						
BJI				LZ			
	comp=Z,570nm,17.2s						
WHN	**Wuhan**	**23.80**	**277**	⇑*i*P	**P**	**16 40 08.8**	**-1.6**
WHN				pP	**pP**	**16 40 19.8**	**+2.6**
WHN				PMZ			
	comp=Z,38nm,0.6s						
WHN				LN			
	comp=Z,630nm,15.2s						
WHN				LE			
	comp=Z,2μm,16.7s						
WHN				LZ			
	comp=Z,2μm,19.3s						
H11N2	**WAKE ISLAND Hy**	**24.92**	**110**	T	T	17 06 26.7	
	baz=295,slow=74,SNR=6.3						
H11N1	**WAKE ISLAND Hy**	**24.92**	**110**	T	T	17 06 26.0	
	baz=295,slow=74,SNR=5.2						
H11N3	**WAKE ISLAND Hy**	**24.94**	**110**	T	T	17 06 27.2	
	baz=295,slow=74,SNR=5.2						
HIA	**Hailar**	**25.16**	**324**	*e*P	**P**	**16 40 23.0**	**+0.2**
HIA				pmax	pmax		
	comp=Z,92nm,1.0s						
HIA	**Hailar**	**25.16**	**324**	*e*P	**P**	**16 40 23.0**	**+0.2**
	comp=Z,92nm,1.0s						
PETK	**Petropavlovsk-**	**25.28**	**22**	P	**P**	**16 40 23.8**	**+0.1**
	comp=Z,4.6nm,1.0s,baz=179,slow=6.1,SNR=5.8						
PETK				LR	LR	16 55 39.7	
	comp=Z,91nm,18.1s,baz=221,slow=49						
H11S3	**WAKE ISLAND Hy**	**25.40**	**113**	T	T	17 07 07.5	
	baz=308						
H11S1	**WAKE ISLAND Hy**	**25.40**	**112**	T	T	17 07 06.9	
	baz=308,slow=74,SNR=17						
H11S2	**WAKE ISLAND Hy**	**25.41**	**112**	T	T	17 07 06.9	
	baz=308,slow=74,SNR=14						
PET	**Petropavlovsk**	**25.53**	**24**	*e*P	P	16 40 34.4	+8.4
PET				pmax	pmax		
	comp=Z,27nm,1.0s						
PET				MLR	MLR		
	comp=Z,200nm,19.0s						
PET	**Petropavlovsk**	**25.53**	**24**	*e*P	**P**	**16 40 26.1**	**+0.1**
	comp=Z,17nm,0.8s						
HHC	**Hu-ho-hao-te**	**26.65**	**301**	⇓P	**P**	**16 40 37.5**	**+1.0**
HHC				pP	pP	16 40 48.8	+5.5
HHC				sP	sP	16 40 56.5	+10
HHC				S	**S**	**16 45 11.0**	**+0.6**
HHC				sS	**sS**	**16 45 25.0**	**+3.2**
HHC				PMZ			
	comp=Z,31nm,1.4s						
HHC				LN			
	comp=Z,2μm,16.2s						
HHC				LE			
	comp=Z,1μm,16.4s						
HHC				LZ			
	comp=Z,1μm,17.4s						
XAN	**Xi'an**	**28.12**	**286**	P	**P**	**16 40 47.5**	**-2.1**
XAN				sP	**sP**	**16 40 59.8**	**+0.5**
XAN				PP	**PnPn**	**16 41 37.5**	**0.0**
XAN				PMZ			
	comp=Z,12nm,0.8s						
XAN				PMZ			
	comp=Z,35nm,7.9s						
XAN				LN			
	comp=Z,210nm,17.8s						
XAN				LE			
	comp=Z,67nm,13.6s						
XAN				LZ			
	comp=Z,80nm,22.9s						
CIT	**Chita**	**29.96**	**324**	*e*P	**P**	**16 41 04.3**	**-1.5**
CIT				*e*		16 41 10.2	
CIT				*e*		16 41 21.6	
CIT				*e*		16 42 01.9	
CIT				*e*		16 42 13.1	
CIT				pmax	pmax		
	comp=Z,42nm,0.8s						
GYA	**Guiyang**	**31.25**	**271**	*e*P	**P**	**16 41 18.0**	**+0.5**
GYA				pP	pP	16 41 30.3	+5.9
GYA				sP	sP	16 41 35.5	+8.3
GYA				PP	**PnPn**	**16 42 22.8**	**+3.0**
GYA				S	**S**	**16 46 19.5**	**-3.4**
GYA				SS	**SnSn**	**16 48 06.0**	**-0.2**
GYA				PMZ			
	comp=Z,10.0nm,0.8s						
GYA				PMZ			
	comp=Z,90nm,4.9s						
GYA				LN			
	comp=Z,580nm,17.4s						
GYA				LE			
	comp=Z,470nm,18.2s						
GYA				LZ			
	comp=Z,530nm,16.8s						
QIZ	**Qiongzhong**	**31.27**	**256**	P	**P**	**16 41 16.5**	**-1.1**
QIZ				S	**S**	**16 46 21.0**	**-2.1**
QIZ				PMZ			
	comp=Z,12nm,2.9s						
QIZ				LZ			
	comp=Z,270nm,19.2s						
ULN	**Ulaanbaatar**	**31.79**	**313**	*e*P	P	16 41 27.6	+5.6
ULN				pmax	pmax		
	comp=Z,17nm,0.6s						
ULN	**

LZH LN
comp=Z,710nm,15.6s
LZH LE
comp=Z,440nm,14.5s
LZH LZ
comp=Z,450nm,16.2s
YAK Yakutsk 32.50 349 *e*P **P** **16 41 27.0 -0.9**
YAK *e**PP **pP** **16 41 34.3 -0.5**
YAK *e* 16 42 32.7
YAK *e* 16 44 11.8
YAK *e*S **S** **16 46 39.1 -2.3**
YAK *e* 16 46 51.3
YAK *e*SS **SnSn** **16 48 34.0 -1.6**
YAK *e*SSS SSS 16 48 55.1
YAK *e* 16 51 52.9
YAK pmax pmax
comp=Z,12nm,0.9s
YAK pmax pmax
comp=Z,26nm,3.0s
YAK pmax pmax
comp=E,23nm,2.3s
YAK pmax pmax
comp=N,39nm,2.3s
YAK smax smax
comp=E,60nm,3.8s
YAK MLR MLR
comp=N,250nm,15.0s
YAK MLR MLR
comp=Z,180nm,13.0s
YAK MLR MLR
comp=E,129nm,15.0s
YAK Yakutsk 32.50 349 *e*P **P** **16 41 27.4 -0.5**
comp=E,25nm,0.8s
TNTI Ternate 32.72 208 P **P** **16 41 29.7 -0.6**
comp=E,28nm,1.0s
TNTI Ternate 32.72 208 *e*P **P** **16 41 30.0 -0.3**
comp=E,31nm,1.0s
CD2 Chengdu 32.78 281 *e*P **P** **16 41 30.8 0.0**
CD2 pP **pP** **16 41 42.3 +4.6**
CD2 sP sP 16 41 47.3 +6.7
CD2 PP **PnPn** **16 42 40.5 +1.1**
CD2 S **S** **16 46 42.5 -4.0**
CD2 sS **sS** **16 47 02.0 +4.0**
CD2 SS **SnSn** **16 48 41.5 -1.6**
CD2 PMZ
comp=E,30nm,0.6s
CD2 PMZ
comp=E,160nm,5.2s
CD2 LN
comp=E,620nm,14.2s
CD2 LE
comp=E,520nm,19.6s
CD2 LZ
comp=E,460nm,16.6s
SIJI Sorong 32.88 200 P **P** **16 41 31.0 -0.7**
comp=E,9.8nm,0.6s,baz=5.3,slow=14,SNR=13
SEY Seymchan 33.08 9 P **P** **16 41 33.2 +0.3**
comp=E,7.1nm,0.6s,baz=192,slow=8.8,SNR=53
BOD Bodaibo 33.40 333 *e*P **P** **16 41 36.0 +0.2**
BOD pmax pmax
comp=Z,19nm,1.0s
KMSI Cibinong 34.38 213 P P 16 41 54.7 +10
ZAK Zakamensk 34.98 316⇑ *i*P **P** **16 41 50.3 +0.6**
ZAK pmax pmax
comp=Z,2.0nm,1.4s
IRK Irkutsk 35.08 319⇓ *i*P **P** **16 41 50.8 +0.3**
IRK pmax pmax
comp=Z,73nm,1.1s
TLY Talaya 35.22 318 *e*P **P** **16 41 53.1 +1.3**
TLY *e* 16 42 05.1
TLY pmax pmax
comp=Z,47nm,1.0s
TLY Talaya 35.22 318 *e*P **P** **16 41 53.0 +1.3**
comp=Z,47nm,1.0s
TLY *e* 16 42 05.0
GTA Gaotai 35.42 296 *e*P **P** **16 41 52.8 -0.9**
GTA pP **pP** **16 42 04.5 +3.8**
GTA sP sP 16 42 10.0 +6.5
GTA S **S** **16 47 23.3 -4.1**
GTA sS sS 16 47 44.5 +5.7
GTA SS **SnSn** **16 49 43.5 -3.6**
GTA PMZ
comp=Z,15nm,1.0s
GTA PMZ
comp=Z,110nm,5.9s
GTA LN
comp=Z,270nm,17.3s
GTA LE
comp=Z,620nm,16.9s
GTA LZ
comp=Z,730nm,16.9s
MRSI Marisa 35.47 216 P **P** **16 41 53.5 -0.7**
comp=Z,30nm,0.7s,comp=Z,880nm
SANI Sanana 35.84 208 P **P** **16 41 55.1 -2.2**
comp=Z,40nm,0.6s,comp=Z,472nm
LUWI Luwuk 36.37 214 P **P** **16 41 59.7 -2.2**
comp=Z,32nm,0.6s,comp=Z,501nm
LUWI Luwuk 36.37 214 *e*P **P** **16 41 59.7 -2.2**
comp=Z,17nm,0.5s
NLAI Namlea 36.49 206 P P 16 42 14.7 +12
MPSI Mapaga 36.66 219 P P 16 42 00.4 -4.0
comp=Z,7.6nm,0.7s
MOY Mondy 36.77 317 *e*P **P** **16 42 05.9 +0.8**
MOY pmax pmax
comp=Z,28nm,1.6s
APSI Ampana 36.81 215 P **P** **16 42 04.3 -1.3**
comp=Z,48nm,1.0s
SKNT Sakolnakorn 37.15 257 P **P** **16 42 08.1 -0.5**
comp=Z,22nm,1.5s
NONG Nongkai 37.36 260 P **P** **16 42 10.1 -0.2**
comp=Z,10nm,1.2s
PCI Palu 37.74 218 P **P** **16 42 11.5 -2.0**
comp=Z,28nm,1.4s,comp=Z,472nm
CRAI Chiangrai 38.80 265 P P 16 42 19.0 -3.5
comp=Z,6.5nm,1.1s
LOEI Loei 39.20 260 P P 16 42 21.8 -4.1
comp=Z,29nm,0.7s
CHAI Chaiyaphum 39.34 257 P **P** **16 42 26.4 -0.6**
comp=Z,14nm,0.7s
UTTA Uttaradit 39.70 261 P **P** **16 42 29.5 -0.5**
comp=Z,5.0nm,0.7s,comp=Z,56nm
PBKT Sadao Pong 39.88 259 P **P** **16 42 31.1 -0.4**
comp=Z,23nm,0.7s
BILL Bilibino 40.14 14*c i*P **P** **16 42 33.4 +0.3**
BILL *i* 16 42 47.2
BILL pmax pmax
comp=Z,3.0nm,0.6s
BILL MLR MLR
comp=Z,152nm,19.0s
BILL Bilibino 40.14 14 *e*P **P** **16 42 32.6 -0.4**
comp=Z,7.3nm,0.8s
LAMP Lampang 40.15 263 P **P** **16 42 34.4 +0.6**
comp=Z,5.3nm,0.6s
CMMT Chiang Mai 40.61 264 P **P** **16 42 36.2 -1.4**
comp=Z,17nm,0.8s
CHTO Chiang Mai 40.61 264 P **P** **16 42 36.3 -1.3**
comp=Z,45nm,0.8s
CHTO Chiang Mai 40.61 264 *e*P **P** **16 42 35.6 -2.0**
CHTO *e* 16 42 48.2
CHTO pmax pmax
comp=Z,10.0nm,0.8s
CHTO Chiang Mai 40.61 264 *e*P **P** **16 42 35.6 -2.0**
comp=Z,10nm,0.8s
CHTO *e* 16 42 48.2
CM31 Chiang Mai Arr 40.77 263 *e*P **P** **16 42 37.1 -1.7**
comp=Z,4.9nm,0.6s
CMAR Chiang Mai Arr 40.77 263 P **P** **16 42 37.8 -1.1**
comp=Z,2.7nm,0.7s,baz=61,slow=6.2,SNR=27
CMAR PcP **PcP** **16 44 40.0 0.0**
comp=Z,5.4nm,0.9s,baz=65,slow=0.9,SNR=12
CMAR ScP **ScP** **16 48 31.0 +2.8**
comp=Z,0.5nm,1.0s,baz=1.7,slow=3.0,SNR=3.5
CMAR LR LR 17 00 38.0
comp=Z,233nm,19.0s,baz=86,slow=38
KAPI Kappang 41.28 215 P **P** **16 42 42.1 -1.0**
comp=Z,10nm,1.0s,baz=90,slow=7.1,SNR=3.8
UTHA Uthaitani 41.65 259 P **P** **16 42 47.0 +0.9**
comp=Z,5.1nm,0.7s
KSM Kuching 41.70 232 *e*P **P** **16 42 45.8 -0.8**
comp=Z,7.4nm,0.6s
TIXI Tiksi 41.77 354⇓ *e*P **P** **16 42 46.5 +0.1**
TIXI pmax pmax
comp=Z,4.0nm,1.0s
TIXI Tiksi 41.77 354 *e*P **P** **16 42 46.0 -0.4**
comp=Z,3.8nm,0.5s
STKI Sintang 41.96 229 P **P** **16 42 51.3 +2.6**

SRDT SRDT 42.51 257 P **P** **16 42 54.6 +1.4**
comp=Z,60nm,1.3s
KRAR Krasnoyarsk 42.65 321⇓ *i*P **P** **16 42 52.5 -1.3**
KRAR pmax pmax
comp=Z,34nm,1.0s
LSA Lhasa 43.69 282 *e*P **P** **16 43 03.2 0.0**
LSA pmax pmax
comp=Z,3.0nm,0.6s
LSA Lhasa 43.69 282 *e*P **P** **16 43 03.2 0.0**
comp=Z,2.5nm,0.6s
WMQ Urumqi 44.50 303 P **P** **16 43 09.5 +0.5**
WMQ pP pP 16 43 22.0 +5.9
WMQ sP sP 16 43 27.3 +8.4
WMQ PP **PP** **16 44 54.8 +1.9**
WMQ S **S** **16 49 39.3 -3.8**
WMQ sS sS 16 50 00.5 +5.8
WMQ ScS **SS** **16 53 01.5 -1.2**
WMQ PMZ
comp=Z,38nm,1.2s
WMQ PMZ
comp=Z,160nm,3.8s
WMQ LN
comp=Z,270nm,16.6s
WMQ LE
comp=Z,430nm,15.8s
WMQ LZ
comp=Z,170nm,17.4s
PKDT Phuket 46.60 250 P **P** **16 43 27.4 +1.6**
comp=Z,21nm,1.2s
ZAA0 Zalesovo Array 46.82 317 *e*P **P** **16 43 26.0 -1.1**
ZAA0 *e* 16 43 38.8
ZALV Zalesovo Beam 46.82 317 P **P** **16 43 26.9 -0.2**
comp=Z,6.4nm,0.7s,baz=101,slow=7.7,SNR=23
ZALV PcP **PcP** **16 44 60.0 +0.1**
comp=Z,12nm,0.4s,baz=106,slow=3.5,SNR=28
ZALV LR LR 17 04 02.2
comp=Z,417nm,18.1s,baz=70,slow=37
TAPN Taplejung 47.24 280 *e*P **P** **16 43 29.8 -1.3**
comp=Z,12nm,0.7s
ODAN Odare 47.66 280 *e*P **P** **16 43 32.9 -1.4**
comp=Z,25nm,0.6s
NVS Novosibirsk 47.84 318 *e*P **P** **16 43 34.2 -0.7**
NVS *e* 16 45 02.2
NVS pmax pmax
comp=Z,18nm,1.0s
NVS pmax pmax
comp=E,14nm,1.1s
MK31 Makanchi Array 48.21 307 *e*P **P** **16 43 38.2 +0.1**
MK31 *e* 16 43 50.2
MK31 Makanchi Array 48.21 307 *e*P **P** **16 43 38.2 +0.1**
MK31 *e* 16 43 50.1
MKAR Makanchi Array 48.21 307 P **P** **16 43 38.0 0.0**
comp=E,13nm,0.6s,baz=91,slow=9.5,SNR=164
MKAR LR LR 17 04 54.7
comp=E,159nm,19.7s,baz=64,slow=37
RAMN Ramite 48.30 280 *e*P **P** **16 43 38.1 -1.2**
comp=E,40nm,0.7s
JIRN Jiri 48.44 281 *e*P **P** **16 43 39.6 -0.9**
comp=E,44nm,0.5s
GUN Gumba 48.62 282 *e*P **P** **16 43 41.0 -0.9**
comp=E,37nm,0.6s
PKI Pulchoki 49.12 281 *e*P **P** **16 43 44.1 -1.6**
comp=E,11nm,0.6s
PKIN Phulchoki 49.13 281 *e*P **P** **16 43 44.4 -1.3**
comp=E,5.2nm,0.5s
KKN Kakani 49.17 282 *e*P **P** **16 43 44.5 -1.4**
DMN Daman 49.37 282 *e*P **P** **16 43 46.3 -1.2**
comp=E,9.1nm,0.4s
GKN Gorkha 49.65 282 *e*P **P** **16 43 48.1 -1.4**
comp=E,14nm,0.5s
LEM Lembang 49.67 227 P **P** **16 43 50.0 +0.3**
comp=E,104nm,0.9s
KURK Kurchatov 50.50 313 P **P** **16 43 54.8 -0.6**
KURK pmax pmax
comp=Z,26nm,0.9s
KURK Kurchatov 50.50 313 *e*P **P** **16 43 55.2 -0.2**
comp=Z,53nm,0.9s
CTAO Charters Tower 50.51 175 *e*P **P** **16 43 55.4 -0.4**
CTAO pmax pmax
comp=Z,8.0nm,0.6s
CTAO Charters Tower 50.51 175 *e*P **P** **16 43 55.4 -0.4**
comp=Z,7.6nm,0.6s
KOLN Koldanda 50.59 282 *e*P **P** **16 43 55.7 -1.0**
comp=Z,18nm,0.6s
WRAB Tennant Creek 50.73 189*d i*P **P** **16 43 56.5 -0.9**
WRAB pmax pmax
comp=Z,94nm,0.7s
WRAB Tennant Creek 50.73 189 *e*P **P** **16 43 56.6 -0.8**
comp=Z,45nm,0.8s
WRA Warramunga Arr 50.74 189 P **P** **16 43 56.7 -0.8**
comp=Z,72nm,0.7s,baz=5.9,slow=7.6,SNR=378
WRA PcP **PcP** **16 45 14.8 +0.4**
comp=Z,1.8nm,0.4s,baz=2.3,slow=4.0,SNR=2.1
WRA ScP **ScP** **16 49 11.6 +2.4**
comp=Z,0.9nm,0.8s,baz=2.0,slow=4.2,SNR=3.4
GSI Gunungsitoli 51.15 244 *e*P **P** **16 44 00.5 -0.3**
comp=Z,22nm,0.6s
KDAK Kodiak Island 51.73 38*ce*P **P** **16 44 05.3 +0.8**
RSO Redoubt South 51.80 35 *e*P **P** **16 44 05.1 -0.2**
comp=Z,16nm,0.9s
IM04 Indian Mountai 52.04 28 *e*P **P** **16 44 07.2 +0.4**
BPAW Bear Paw Mtn. 52.96 30 *e*P **P** **16 44 14.2 +0.5**
comp=Z,0.9nm,1.0s
TRF Thorofare Moun 53.21 31 *e*P **P** **16 44 15.7 +0.1**
comp=Z,12nm,1.3s
TKM2 Tokmak 2 53.36 303 P **P** **16 44 17.9 +0.8**
SNR=23
TKM2 Tokmak 2 53.36 303 P **P** **16 44 17.6 +0.5**
TKM2 pmax pmax
comp=Z,23nm,0.8s
TKM2 Tokmak 2 53.36 303 *e*P **P** **16 44 17.6 +0.5**
comp=Z,49nm,1.2s
PMR Palmer 53.63 34 *e*P **P** **16 44 18.1 -0.4**
PMR pmax pmax
comp=Z,9.0nm,1.1s
PMR Palmer 53.63 34 *e*P **P** **16 44 18.1 -0.4**
comp=Z,9.2nm,1.1s
COLD Coldfoot 53.64 27 P **P** **16 44 19.6 +1.1**
comp=Z,5.9nm,1.2s
KSH Kashi 53.73 299 P P 16 44 23.5 +3.7
KSH pP pP 16 44 36.0 +9.0
KSH sP sP 16 44 41.3 +11
KSH PP PP 16 46 26.8 +6.1
KSH S **S** **16 51 54.5 +1.6**
KSH PMZ
comp=Z,35nm,0.7s
KSH LN
comp=Z,94nm,6.5s
KSH LE
comp=Z,170nm,9.4s
KSH LZ
comp=Z,330nm,15.8s
KZA Kyzart 53.76 302 P **P** **16 44 21.8 +1.4**
SNR=22
MCK McKinley 53.83 31 *e*P **P** **16 44 20.1 +0.1**
MCK pmax pmax
comp=Z,12nm,1.1s
MCK McKinley 53.83 31 *e*P **P** **16 44 20.1 +0.1**
comp=Z,12nm,1.1s
KBK Karagaybulak 53.88 303 P **P** **16 44 21.7 +0.8**
SNR=18
CHMS Chumysh 53.96 303 P **P** **16 44 22.1 +0.7**
SNR=12
FRU Bishkek 54.09 303 *i* P **P** **16 44 22.0 -0.3**
FRU pmax pmax
comp=Z,90nm,2.0s
USP Ospenovka 54.09 304 P **P** **16 44 22.5 +0.2**
SNR=14
AAK Ala-Archa 54.21 303 P **P** **16 44 23.8 +0.4**
SNR=13
AAK Ala-Archa 54.21 303*c i*P **P** **16 44 23.2 -0.1**
AAK pmax pmax
comp=Z,72nm,1.7s
AAK Ala-Archa 54.21 303 *e*P **P** **16 44 23.4 0.0**
comp=Z,19nm,0.7s
AAK *e* 16 44 35.6
UCH Uchtor 54.27 302 P **P** **16 44 25.3 +1.1**
SNR=30
COLA College 54.37 30⇑ *e*P **P** **16 44 23.5 -0.4**
COLA pmax pmax
comp=Z,24nm,0.8s
COLA College 54.37 30 *e*P **P** **16 44 23.9 0.0**
comp=Z,5.7nm,0.8s
AS31 Alice Springs 54.47 189 *e*P **P** **16 44 24.1 -1.0**
ASAR Alice Springs 54.47 189 P **P** **16 44 24.4 -0.7**
comp=Z,11nm,0.5s,baz=359,slow=5.0,SNR=414

ASAR LR LR 17 06 50.1
comp=Z,179nm,20.9s,baz=0.0,slow=35
EKS2 Erkin-Say 54.73 303 P **P** **16 44 27.2 +0.2**
SNR=9.7
EKS2 Erkin-Say 54.73 303 *e*P **P** **16 44 27.2 +0.2**
EKS2 pmax pmax
comp=Z,10.0nm,0.8s
EKS2 Erkin-Say 54.73 303 *e*P **P** **16 44 27.1 +0.2**
comp=Z,9.9nm,0.8s
ILAR Eielson Array 54.78 30 P **P** **16 44 26.4 -0.5**
comp=Z,4.9nm,0.8s,baz=262,slow=6.2,SNR=76
ILAR LR LR 17 10 22.6
comp=Z,39nm,18.8s,baz=291,slow=39
AML Almayashu 54.89 302 P **P** **16 44 29.5 +1.0**
SNR=34
DIV Divide 55.24 34 P **P** **16 44 30.8 +0.4**
comp=Z,7.6nm,1.1s
BVA0 Borovoye Array 55.43 316 P **P** **16 44 31.7 -0.1**
BVA0 pmax pmax
comp=Z,9.0nm,0.5s
BVAR Borovoye Array 55.43 316 P **P** **16 44 31.8 0.0**
comp=Z,8.1nm,0.5s,baz=97,slow=7.9,SNR=49
SFK Sufi-Kurgan 55.48 300 P **P** **16 44 32.5 -0.2**
SFK pmax pmax
comp=Z,54nm,0.7s
BRVK Borovoye 55.49 316 P **P** **16 44 32.4 +0.2**
BRVK pmax pmax
comp=Z,20nm,0.9s
BRVK Borovoye 55.49 316 *e*P **P** **16 44 32.5 +0.2**
comp=Z,7.7nm,0.6s
MNAS Manas 55.68 303 P **P** **16 44 34.0 0.0**
MNAS pmax pmax
comp=Z,22nm,1.2s
MBWA Marble Bar 55.70 205 *e*P **P** **16 44 33.2 -0.7**
comp=Z,42nm,1.3s
BMRM Bremner River 55.82 34 *e*P **P** **16 44 35.0 +0.6**
comp=Z,10nm,0.9s
DOT Dot Lake 56.00 31 *e*P **P** **16 44 35.1 -0.7**
comp=Z,5.2nm,0.8s
KK31 Karatay Array 56.98 304 *i* P **P** **16 44 43.3 +0.2**
KK31 pmax pmax
comp=Z,7.0nm,0.4s
KKAR Karatay Array 56.98 304 *e*P **P** **16 44 43.7 +0.6**
KKAR *e* 16 44 55.0
KKAR pmax pmax
comp=Z,17nm,0.6s
KKAR Karatay Array 56.98 304 *e*P **P** **16 44 43.7 +0.6**
comp=Z,17nm,0.6s
KKAR *e* 16 44 55.0
EGAK Eagle 57.23 30 *e*P **P** **16 44 44.2 -0.3**
comp=Z,4.4nm,0.8s
DZM Mont Dzumac 57.35 153 P **P** **16 44 46.2 +0.4**
comp=Z,14nm,0.6s,baz=270,slow=24,SNR=22
NJS Nagarjunasagar 58.49 271 *e*P **P** **16 44 52.7 -1.3**
HYB Hyderabad 58.77 273 *i* P **P** **16 44 55.0 -0.9**
HYBB Hyderabad (bro 58.77 273 *e*P **P** **16 44 55.0 -0.9**
HYT Haines Junctio 59.28 34 *e*P **P** **16 44 59.8 +0.8**
comp=Z,3.8nm,0.6s
DZET Dzherino 59.29 300 P **P** **16 44 59.5 +0.1**
DZET pmax pmax
comp=Z,68nm,0.7s
INK Inuvik 59.97 25 P **P** **16 45 03.6 +0.2**
comp=Z,3.1nm,0.3s,baz=288,slow=7.4,SNR=7.3
INK Inuvik 59.97 25 P **P** **16 45 03.6 +0.2**
INK pmax pmax
comp=Z,3.0nm,0.3s
INK Inuvik 59.97 25 *e*P **P** **16 45 03.4 0.0**
comp=Z,7.3nm,0.8s
KBL Kabul 60.39 295 *e*P **P** **16 45 07.0 -0.1**
KBL pmax pmax
comp=Z,36nm,0.9s
KBL Kabul 60.39 295 *e*P **P** **16 45 07.0 -0.1**
comp=Z,36nm,0.9s
SVE Sverdlovsk 60.42 321⇓ *e*P **P** **16 45 07.5 +0.8**
SVE pmax pmax
comp=Z,48nm,1.2s
ARU Arti 61.62 321*c i*P **P** **16 45 15.1 +0.2**
ARU **16 45 57.8**
ARU **16 47 28.1**
ARU S **S** **16 53 36.6 +1.0**
ARU SS **SS** **16 57 35.0 -1.5**
ARU pmax pmax
comp=Z,41nm,1.0s
ARU MLR MLR
comp=Z,230nm,18.0s
ARU Arti 61.62 321 *e*P **P** **16 45 14.9 0.0**
comp=Z,52nm,1.0s
SOKR Solikamsk 61.83 325⇑ *i*P **P** **16 45 14.7 -1.5**
SOKR pmax pmax
comp=Z,10.0nm,1.1s
SOKR MLR MLR
comp=Z,440nm,23.0s
STKA Stephens Creek 62.09 180 P **P** **16 45 17.8 -0.4**
comp=Z,8.8nm,0.6s,baz=353,slow=7.2,SNR=39
STKA Stephens Creek 62.09 180 P **P** **16 45 17.8 -0.4**
STKA pmax pmax
comp=Z,9.0nm,0.6s
STKA Stephens Creek 62.09 180 *e*P **P** **16 45 17.5 -0.7**
comp=Z,1.9nm,0.6s
AB31 Akbulak array 62.60 313 *e*P **P** **16 45 21.6 0.0**
AB31 pmax pmax
comp=Z,9.0nm,0.4s
ABKAR Akbulak array 62.60 313 *e*P **P** **16 45 21.6 +0.1**
comp=Z,12nm,0.5s
DLBC Dease Lake 63.49 36 P **P** **16 45 27.8 +0.3**
comp=Z,1.9nm,0.7s,baz=287,slow=11,SNR=5.1
PRGR Permogore 66.51 329 *e*P **P** **16 45 47.4 +0.6**
PRGR *e**PP **pP** **16 45 57.7 +3.5**
PRGR SP 16 46 02.6
PRGR 16 46 15.5
PRGR pmax pmax
comp=Z,18nm,0.9s
IAKL Akhelmad 67.55 300 *e*P **P** **16 45 55.7 +1.4**
ISFR Sfrayin 67.94 301 *e*P **P** **16 45 58.2 +1.4**
IDAH Dahanechah 68.18 296 *e*P **P** **16 45 59.3 +1.0**
TMCR Tamitsa 68.69 333 *e*P **P** **16 46 01.5 +0.9**
TMCR pmax pmax
comp=Z,25nm,1.0s
RES Resolute Bay 68.75 14 P **P** **16 46 00.6 -0.2**
comp=Z,2.9nm,0.7s,baz=341,slow=5.4,SNR=10
APA Apatity 68.81 337 *e*P **P** **16 46 00.0 -1.3**
APA MLR MLR
comp=Z,200nm,16.0s
IKOO Kooshah 68.98 296 *e*P **P** **16 46 04.2 +0.9**
ITEG Tejag 68.99 296 *e*P **P** **16 46 04.3 +1.1**
YKA Yellowknife Ar 69.19 29 P **P** **16 46 03.5 -0.2**
comp=Z,4.1nm,0.7s,baz=293,slow=6.3,SNR=44
KLMR Klimovskoe 69.53 329*c i*P **P** **16 46 06.1 +0.3**
KLMR *PP **pP** **16 46 16.4 +3.2**
KLMR *e* 16 48 37.5
KLMR S **S** **16 55 14.4 +2.3**
KLMR pmax pmax
comp=Z,14nm,0.7s
ARCES ARCESS Array B 70.24 340 P **P** **16 46 10.6 +0.5**
comp=Z,4.8nm,0.6s,baz=59,slow=8.1,SNR=20
ARCES LR LR 17 22 39.6
comp=Z,143nm,18.3s,baz=68,slow=41
ARE0 ARCESS Array S 70.24 340 *e*P **P** **16 46 10.3 +0.2**
IGLO Ghaloghah 71.24 302 *e*P **P** **16 46 17.7 +0.7**
IANJ Anjilo 71.60 301 *e*P **P** **16 46 20.4 +1.1**
IBAF Bafgh 71.98 296 *e*P **P** **16 46 22.1 +0.5**
G03D McMinnville, O 72.09 48⇓ P **P** **16 46 22.4 +0.7**
baz=72
DAG Danmarks Havn 72.26 355 *i* P **P** **16 46 22.6 +0.4**
comp=Z,15nm,1.0s
DAG *i* 16 47 01.8
DAG Danmarks Havn 72.26 355 *i* P **P** **16 46 22.6 +0.4**
DAG pmax pmax
comp=Z,15nm,1.0s
ICHK Chekchek 72.59 297 *e*P **P** **16 46 25.9 +0.6**
I03D Drain, OR 72.69 49⇓ P **P** **16 46 26.0 +0.7**
baz=73
MOS Moscow 72.79 325 *e*P P 16 46 37.2 +12
MOS *e* 16 46 50.8
MOS pmax pmax
comp=Z,34nm,0.7s
IMEH Mehriz 72.80 297 *e*P **P** **16 46 26.5 0.0**
IDMV Damavand 72.95 301 *e*P **P** **16 46 28.4 +1.0**
L02D Cave Junction, 73.19 51⇑ P **P** **16 46 29.3 +0.9**
baz=73
ISAD Sadrabad 73.29 297 *e*P **P** **16 46 30.2 +0.7**
G05D Wamic, OR 73.31 47⇑ P **P** **16 46 29.9 +0.9**
baz=73
OBN Obninsk 73.62 325*c i*P **P** **16 46 30.6 +0.1**
OBN *i* 16 46 35.8

OBN *i* 16 46 43.1
OBN pmax pmax
comp=Z,43nm,1.7s
OBN MLR MLR
comp=Z,302nm,18.0s
LPSR Galich'ya Gora 73.64 322 *e*P **P 16 46 30.9 +0.2**
LPSR pmax pmax
comp=N,6.0nm,1.3s
LPSR pmax pmax
comp=E,9.0nm,1.3s
LPSR pmax pmax
comp=Z,10.0nm,1.3s
J04D Umpqua Nationa 73.70 49 ⇓P **P 16 46 32.1 +0.6**
baz=74
I05D Terrebonne, OR 73.70 48 ⇑P **P 16 46 32.3 +0.9**
baz=74
IZEF Zefreh 73.89 299 *e*P **P 16 46 34.0 +1.0**
IGZV Ghazvin 73.92 303 *e*P **P 16 46 34.1 +1.1**
YBH Yreka Blue Hor 73.98 51 P **P 16 46 33.5 +0.4**
comp=Z,4.9nm,0.7s,baz=289,slow=4.5,SNR=16
YBH Yreka Blue Hor 73.98 51 *e*P **P 16 46 34.2 +1.1**
YBH pmax pmax
comp=Z,4.0nm,0.7s
YBH Yreka Blue Hor 73.98 51 *e*P **P 16 46 34.2 +1.1**
comp=Z,3.7nm,0.7s
M02C Callahan 74.03 51 ⇑P **P 16 46 34.8 +1.3**
baz=74
EDM Edmonton 74.16 37 *e*P **P 16 46 34.3 +0.4**
EDM pmax pmax
comp=Z,13nm,0.7s
EDM Edmonton 74.16 37 *e*P **P 16 46 34.2 +0.4**
comp=Z,13nm,0.7s
VSR Storozhevoye 74.18 320 *e*P **P 16 46 33.7 -0.2**
VSR pmax pmax
comp=N,5.0nm,0.7s
VSR pmax pmax
comp=E,6.0nm,0.7s
VSR pmax pmax
comp=Z,10.0nm,0.7s
VORD Divnogorie 74.23 320 *e*P **P 16 46 34.3 +0.1**
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
J05D Fort Rock, OR 74.25 49 ⇑P **P 16 46 35.5 +0.7**
baz=74
IKLH Kolahrood 74.27 300 *e*P **P 16 46 35.7 +0.6**
N02D Trinity Center 74.32 52 ⇓P **P 16 46 35.9 +0.8**
baz=74
NEW Newport 74.48 43 *e*P **P 16 46 36.2 +0.4**
NEW pmax pmax
comp=Z,12nm,1.1s
NEW Newport 74.48 43 *e*P **P 16 46 36.2 +0.4**
comp=Z,12nm,1.1s
NEW Newport 74.48 43 ⇓P **P 16 46 36.4 +0.6**
baz=74
HATD Hatta, Dubai 74.48 290 *i*P **P 16 46 37.4 +1.2**
SNR=15
M04C Macdoel 74.54 50 ⇑P **P 16 46 37.2 +0.8**
baz=74
IRAZ Razeghan 74.56 302 *e*P **P 16 46 37.4 +0.7**
IPAR Pars 74.69 296 *e*P **P 16 46 38.4 +0.6**
FIA1 FINESS Array S 74.79 333 *e*P **P 16 46 37.7 +0.4**
FINES FINESS Array B 74.79 333 P **P 16 46 37.5 +0.2**
comp=Z,7.4nm,0.5s,baz=72,slow=5.1,SNR=78
FINES LR LR 17 22 21.7
comp=Z,86nm,18.1s,baz=54,slow=38
GOF Gofitskoye 74.84 314 *e*P **P 16 46 36.1 -1.8**
FAQ Al Faqa, Dubai 74.96 290 *e*P **P 16 46 39.4 +0.4**
SNR=11
IPIR Pirpir 75.07 299 *e*P **P 16 46 39.3 -0.6**
NCK Nalchik 75.22 312 ⇑*e*P **P 16 46 40.4 +0.2**
IHRS Heris 75.31 306 *e*P **P 16 46 41.6 +0.6**
ZEI Tsey 75.36 311 *e*P **P 16 46 40.6 -0.6**
ZEI pmax pmax
comp=Z,12nm,0.6s
KBZ Khabaz 75.56 312 P **P 16 46 42.6 +0.6**
comp=Z,20nm,0.8s,baz=143,slow=20,SNR=40
KBZ LR LR 17 22 34.9
comp=Z,135nm,19.0s,baz=60,slow=38
KIV Kislovodsk 75.59 313 *e*P **P 16 46 43.0 +0.6**
KIV *e* 16 46 55.1
KIV *e* 16 49 32.0
KIV *e*S **S 16 56 20.3 -1.8**
KIV pmax pmax
comp=Z,33nm,1.1s
KIV MLR MLR
comp=Z,144nm,18.0s
KIV Kislovodsk 75.59 313 P **P 16 46 44.5 +2.1**
SNR=5.6
KIV Kislovodsk 75.59 313 P **P 16 46 44.4 +2.1**
comp=Z,21nm,0.7s
IKAZ Kazeroun 75.66 296 *e*P **P 16 46 43.0 -0.3**
WALA Waterton Lakes 75.94 41 *e*P **P 16 46 45.2 +0.8**
comp=Z,17nm,0.6s
WALA *e* 16 46 57.8
BMO Blue Mountains 76.01 46 *e*P **P 16 46 45.0 +0.2**
comp=Z,5.1nm,0.9s
GNI Garni 76.04 308 *e*P **P 16 46 46.4 +1.2**
GNI pmax pmax
comp=Z,33nm,1.0s
GNI Garni 76.04 308 *e*P **P 16 46 46.4 +1.2**
comp=Z,32nm,1.0s
BSMT Bassoo Peak 76.05 43 *e*P **P 16 46 46.1 +1.0**
comp=Z,3.9nm,0.8s
IMRD Marand 76.06 307 *e*P **P 16 46 46.2 +0.9**
VSU Vasula 76.31 331 *ce*P **P 16 46 46.7 +0.7**
VSU pmax pmax
comp=Z,48nm,1.0s
WVOR Wild Horse Val 76.33 49 *e*P **P 16 46 47.2 +0.5**
WVOR pmax pmax
comp=Z,26nm,1.8s
WVOR Wild Horse Val 76.33 49 *e*P **P 16 46 47.1 +0.5**
comp=Z,26nm,1.8s
JTMT Jette 76.39 42 *e*P **P 16 46 47.8 +0.8**
comp=Z,13nm,0.7s
YBMT Yellow Bay 76.49 42 *e*P **P 16 46 48.4 +0.9**
comp=Z,8.1nm,0.8s
IBZA Bozab 76.50 302 *e*P **P 16 46 48.7 +0.7**
SWMT Swartz Lake 76.68 43 *e*P **P 16 46 49.1 +0.5**
comp=Z,13nm,0.9s
MSO Missoula 77.06 43 ⇑P **P 16 46 51.2 +0.5**
baz=77
SLMT Seeley Lake 77.11 43 *e*P **P 16 46 51.3 +0.3**
comp=Z,10nm,0.7s
SUMG Summit 77.15 0 *i*P **P 16 46 52.4 +1.4**
comp=Z,9.9nm,0.7s
SUMG Summit 77.15 0 *e*P **P 16 46 52.5 +1.4**
SUMG pmax pmax
comp=Z,13nm,0.9s
SUMG Summit 77.15 0 *e*P **P 16 46 52.5 +1.4**
comp=Z,13nm,0.9s
CMB Columbia Colle 77.28 53 *e*P **P 16 46 52.4 +0.4**
CMB pmax pmax
comp=Z,8.0nm,0.6s
CMB Columbia Colle 77.28 53 *e*P **P 16 46 52.4 +0.4**
comp=Z,7.8nm,0.6s
CHMT Chamberlain Mo 77.42 43 *e*P **P 16 46 52.9 +0.1**
comp=Z,3.7nm,0.8s
IDHR Dehrash 77.47 303 *e*P **P 16 46 52.5 -0.8**
SOC Sochi 77.64 313 *e*P **P 16 46 52.0 -1.9**
SOC *e*PPP PPP 16 51 40.0
SOC *e*S **S 16 56 42.3 -2.0**
SOC MLR MLR
comp=Z,275nm,18.0s
MFID Camas Ranch 77.65 47 *e*P **P 16 46 54.7 +0.6**
comp=Z,6.7nm,0.8s
HRY Holter Researc 78.36 42 *e*P **P 16 46 58.6 +0.7**
comp=Z,16nm,0.6s
ANN Anapa 78.43 315 *e*P P 16 46 51.5 -6.7
ANN pmax pmax
comp=Z,39nm,1.4s
HLID Hailey 78.45 46 *e*P **P 16 46 59.3 +0.7**
comp=Z,4.0nm,0.9s
HLID Hailey 78.45 46 ⇓P **P 16 46 59.4 +0.7**
baz=78
LRM Limekiln Ridge 78.47 43 *e*P **P 16 46 59.3 +0.5**
comp=Z,217nm,0.7s
NVAR Mina Array Bea 78.52 52 P **P 16 46 59.6 +0.5**
comp=Z,11nm,0.6s,baz=295,slow=5.9,SNR=135
DLMT Dillon 78.62 44 P **P 16 47 00.1 +0.6**
comp=Z,9.9nm,0.8s
MCMT McKenzie Canyo 78.75 44 *e*P **P 16 47 00.6 +0.3**
comp=Z,1.2nm,0.8s
EGMT Eagleton 78.83 41 *e*P **P 16 47 00.9 +0.4**
comp=Z,13nm,1.0s
EGMT Eagleton 78.83 41 ⇑P **P 16 47 00.8 +0.3**
baz=79,SNR=6.1
A19A Klindworth Far 78.89 39 ⇓P **P 16 47 01.5 +0.7**
baz=79,SNR=6.0
FFC Flin Flon 78.90 32 *e*P **P 16 47 00.6 0.0**
FFC pmax pmax
comp=Z,7.0nm,0.8s
FFC Flin Flon 78.90 32 *e*P **P 16 47 00.6 0.0**
comp=Z,7.3nm,0.8s
B19A Brinkman Farms 79.05 40 ⇑P **P 16 47 02.0 +0.4**
baz=79,SNR=22
BOZ Bozeman (W) 79.05 43 *e*P **P 16 47 02.5 +0.7**
BOZ pmax pmax
comp=Z,5.0nm,0.7s
BOZ Bozeman (W) 79.05 43 *e*P **P 16 47 02.5 +0.7**
comp=Z,5.1nm,0.7s
PKM Mcpherson Peak 79.21 56 ⇑P **P 16 47 03.5 +0.6**
baz=79
VES Vestal, Richgr 79.26 55 ⇑P **P 16 47 03.2 +0.3**
baz=79
A20A Cobblestone Ra 79.36 39 ⇓P **P 16 47 03.7 +0.3**
baz=79
C19A Slack Wire Ran 79.39 41 ⇓P **P 16 47 04.5 +0.9**
baz=79,SNR=17
TPH Tonopah 79.43 52 *e*P **P 16 47 03.9 -0.2**
TPH pmax pmax
comp=Z,4.0nm,0.7s
TPH Tonopah 79.43 52 *e*P **P 16 47 03.9 -0.2**
comp=Z,4.0nm,0.7s
B20A Solberg Farm, 79.56 40 ⇓P **P 16 47 04.8 +0.3**
baz=79
QLMT Earthquake Lak 79.61 44 *e*P **P 16 47 06.0 +1.0**
comp=Z,1.3nm,0.7s
AKASG Malin Array Be 79.75 323 P **P 16 47 05.4 +0.1**
comp=Z,1.9nm,0.4s,baz=48,slow=5.8,SNR=14
AKASG PP **PP 16 50 05.5 -0.5**
comp=Z,0.4nm,0.3s,baz=47,slow=8.2,SNR=7.1
AKASG LR LR 17 25 12.4
comp=Z,338nm,19.4s,baz=60,slow=38
AKBB Malin Array Si 79.75 323 *e*P **P 16 47 05.3 0.0**
AKBB Malin Array Si 79.75 323 *e*P **P 16 47 05.3 0.0**
AK01 Malin Array Si 79.76 323 *e*P **P 16 47 05.0 -0.3**
KIEV Kiev 79.76 323 *e*P **P 16 47 05.3 -0.1**
KIEV pmax pmax
comp=Z,7.0nm,0.6s
KIEV Kiev 79.76 323 *e*P **P 16 47 05.2 -0.1**
comp=Z,7.3nm,0.6s
ISA Isabella, Lake 79.78 55 ⇑P **P 16 47 05.7 -0.2**
baz=80
AK02 Malin Array Si 79.79 323 *e*P **P 16 47 05.3 -0.2**
D19A Cripps Ranch, 79.80 41 ⇓P **P 16 47 06.5 +0.7**
baz=80,SNR=10
A21A Bergtoll Ranch 79.84 39 ⇓P **P 16 47 06.3 +0.3**
baz=80
GRAC Grapevine Rang 79.87 53 ⇑P **P 16 47 06.8 +0.4**
baz=80
C20A Veseth Ranch, 79.98 40 ⇑P **P 16 47 07.4 +0.7**
baz=80,SNR=12
B21A Ellsworth Farm 80.12 39 ⇑P **P 16 47 07.6 +0.2**
baz=80
E19A Rath Farm, Rou 80.25 41 ⇑P **P 16 47 08.8 +0.5**
baz=80,SNR=20
D20A Manuel Ranch, 80.26 41 ⇓P **P 16 47 09.1 +0.8**
baz=80,SNR=8.0
MPMC Manual Prospec 80.27 54 ⇓P **P 16 47 08.9 +0.2**
baz=80,SNR=7.0
H17A Grant Village 80.35 44 *e*P **P 16 47 11.8 +2.7**
comp=Z,14nm,0.8s
H17A Grant Village 80.35 44 ⇑P **P 16 47 11.5 +2.4**
baz=80,SNR=5.1
NB2 NORSAR Subarra 80.36 338 P **P 16 47 08.5 0.0**
comp=Z,7.2nm,0.6s,baz=40,slow=5.6
NOA NORSAR Array B 80.36 338 P **P 16 47 08.5 0.0**
comp=Z,8.4nm,0.8s,baz=41,slow=5.3,SNR=29
NOA LR LR 17 28 50.0
comp=Z,84nm,18.1s,baz=60,slow=40
A22A Carney Farms, 80.38 38 ⇑P **P 16 47 09.2 +0.3**
baz=80,SNR=5.8
R11A Troy Canyon, C 80.40 51 *e*P **P 16 47 09.6 +0.3**
comp=Z,5.1nm,1.1s
R11A Troy Canyon, C 80.40 51 ⇑P **P 16 47 09.7 +0.3**
baz=80
IMW Indian Meadow 80.41 45 *e*P **P 16 47 10.5 +1.1**
comp=Z,13nm,0.8s
C21A Desert Coulee 80.42 40 ⇓P **P 16 47 09.8 +0.7**
baz=80,SNR=6.0
HVU Hansel Valley 80.42 47 *e*P **P 16 47 09.4 +0.1**
HVU pmax pmax
comp=Z,8.0nm,0.7s
HVU Hansel Valley 80.42 47 *e*P **P 16 47 09.4 +0.1**
comp=Z,7.5nm,0.7s
LRMC Laurel Mtn Rad 80.42 55 ⇓P **P 16 47 09.8 +0.3**
baz=80
FLWY Flagg Ranch 80.45 44 *e*P **P 16 47 11.3 +1.7**
comp=Z,13nm,0.8s
FURC Furnace Creek, 80.50 53 ⇑P **P 16 47 10.5 +0.9**
baz=80
F19A Roth Farm, Mol 80.50 42 ⇑P **P 16 47 10.1 +0.5**
baz=80,SNR=6.6
EDW2 Edwards Air Fo 80.52 55 ⇑P **P 16 47 10.5 +0.6**
baz=80
MOOW Moose Ponds 80.61 45 *e*P **P 16 47 11.1 +0.7**
comp=Z,3.0nm,0.7s
TPAW Teton Pass 80.62 45 *e*P **P 16 47 11.9 +1.3**
comp=Z,11nm,0.7s
TPNV Topopah Spring 80.67 53 ⇑P **P 16 47 11.4 +0.6**
baz=81,SNR=16
BGU Big Grassy Mou 80.72 48 *e*P **P 16 47 11.8 +0.9**
comp=Z,4.7nm,1.1s
RLMT Red Lodge 80.72 43 *e*P **P 16 47 12.1 +1.1**
comp=Z,7.4nm,0.6s
RLMT *e* 16 47 24.2
H18A Shoshone NF, C 80.74 43 ⇑P **P 16 47 12.2 +1.1**
baz=81,SNR=8.9
B22A Reddig Ranch S 80.75 39 ⇓P **P 16 47 11.5 +0.7**
baz=81
REDW Red Top Meadow 80.75 45 *e*P **P 16 47 12.3 +1.1**
comp=Z,13nm,1.3s
SNOW Snow King Moun 80.76 45 *e*P **P 16 47 12.6 +1.3**
comp=Z,5.2nm,0.6s
LOHW Long Hollow 80.77 45 *e*P **P 16 47 12.3 +1.0**
comp=Z,17nm,1.5s
AHID Auburn Hatcher 80.93 46 *e*P **P 16 47 12.4 +0.3**
comp=Z,4.8nm,0.4s
F20A Billings 80.99 42 ⇑P **P 16 47 12.9 +0.6**
baz=81
SCI San Clemente I 81.08 57 ⇑P **P 16 47 13.1 +0.3**
baz=81
GSC Goldstone, Bar 81.13 54 ⇓P **P 16 47 13.7 +0.5**
baz=81
H19A Powell 81.14 43 ⇑P **P 16 47 14.1 +0.9**
baz=81,SNR=5.5
B23A Brockton 81.19 38 ⇓P **P 16 47 13.4 +0.2**
baz=81,SNR=5.8
MALT Malatya 81.20 309 ⇑*i*P **P 16 47 15.5 +2.0**
DUG Dugway, Tooele 81.25 48 *e*P **P 16 47 13.8 0.0**
DUG pmax pmax
comp=Z,3.0nm,0.5s
DUG Dugway, Tooele 81.25 48 *e*P **P 16 47 13.8 0.0**
comp=Z,3.2nm,0.5s
DUG Dugway, Tooele 81.25 48 ⇓P **P 16 47 14.5 +0.7**
baz=81,SNR=12
HWUT Hardware Ranch 81.28 47 *e*P **P 16 47 14.7 +0.7**
comp=Z,12nm,0.9s
G20A Bridger 81.28 42 ⇑P **P 16 47 13.9 +0.1**
baz=81
PPT Papeete 81.31 116 LR LR 17 17 23.7
comp=Z,35nm,21.5s,baz=336,slow=31
D22A Cohagen 81.32 40 ⇓P **P 16 47 14.6 +0.7**
baz=81,SNR=7.1
PPT2 Papeete2 81.33 116 *e*LR LR 17 12 17.2
comp=Z,112nm,24.2s
PPT2 Papeete2 81.33 116 *e*LR LR 16 46 43.2
comp=Z,74nm,25.5s
A24A Westby 81.44 38 ⇓P **P 16 47 14.9 +0.4**
baz=81
C23A Lambert 81.48 39 ⇓P **P 16 47 15.0 +0.3**
baz=81
I19A Meeteetse 81.50 44 ⇑P **P 16 47 15.5 +0.4**
baz=81
DGMT Dagmar 81.61 38 ⇓P **P 16 47 15.7 +0.3**
baz=81
TCUT Toone Canyon 81.64 47 *e*P **P 16 47 16.9 +0.9**
comp=Z,12nm,1.0s
SHPR Sheep Range 81.65 53 *e*P **P 16 47 16.7 +0.7**
comp=Z,7.7nm,1.1s
TUQ Turquoise Moun 81.68 54 ⇑P **P 16 47 16.7 +0.5**
baz=82,SNR=5.7
HEC Hector,Ludlow 81.71 55 ⇑P **P 16 47 16.7 +0.5**
baz=82
MURC Murrieta 81.73 56 ⇓P **P 16 47 16.8 +0.4**
baz=82
H20A Greybull 81.83 43 ⇓P **P 16 47 17.7 +1.0**
baz=82
D23A Lindsay 81.84 39 ⇓P **P 16 47 17.4 +0.8**
baz=82
G21A Lodge Grass 81.86 42 ⇑P **P 16 47 17.2 +0.3**
baz=82
E22A Miles City 81.87 40 ⇓P **P 16 47 17.5 +0.7**
baz=82
BW06 Boulder Array 81.87 45 *e*P **P 16 47 17.3 +0.2**
comp=Z,6.7nm,0.9s
PDAR Pinedale Array 81.87 45 P **P 16 47 17.4 +0.2**
comp=Z,5.7nm,0.6s,baz=329,slow=2.4,SNR=53
PDAR LR LR 17 22 40.8
comp=Z,39nm,18.5s,baz=292,slow=35
J19A Crowheart 81.90 44 ⇑P **P 16 47 18.3 +1.1**
baz=82,SNR=21
JLU Jordanelle 81.90 47 *e*P **P 16 47 18.1 +0.8**
comp=Z,11nm,1.0s
C24A Savage 82.05 39 ⇑P **P 16 47 18.3 +0.5**
baz=82
I20A Worland 82.06 43 ⇓P **P 16 47 18.8 +0.8**
baz=82
F22A Rosebud 82.08 41 ⇑P **P 16 47 18.2 +0.3**
baz=82
MPU Maple Canyon 82.10 48 *e*P **P 16 47 19.1 +0.7**
comp=Z,5.0nm,0.6s
E23A Ismay 82.19 40 ⇓P **P 16 47 19.2 +0.7**
baz=82
GMRC Granite Mounta 82.21 54 ⇓P **P 16 47 19.4 +0.5**
baz=82,SNR=8.7
PFO Pinyon Flats O 82.26 56 *e*P **P 16 47 19.3 +0.1**
PFO pmax pmax
comp=Z,9.0nm,0.8s
PFO Pinyon Flats O 82.26 56 *e*P **P 16 47 19.3 +0.1**
comp=Z,9.4nm,0.8s
PFO Pinyon Flats O 82.26 56 ⇑P **P 16 47 19.2 +0.1**
baz=82,SNR=9.2
H21A Big Horn, Sher 82.31 42 ⇑P **P 16 47 19.8 +0.6**
baz=82,SNR=5.1
D24A Glendive 82.36 39 ⇓P **P 16 47 19.8 +0.4**
baz=82
BELC Belle Mtn. Jos 82.38 55 ⇑P **P 16 47 19.6 -0.2**
baz=82,SNR=16
G22A Birney 82.39 41 ⇓P **P 16 47 19.9 +0.2**
baz=82
J20A Shoshoni 82.43 44 ⇓P **P 16 47 20.5 +0.5**
baz=82,SNR=6.9
A26A Wade Farm, Ken 82.48 37 ⇑P **P 16 47 20.2 +0.3**
baz=82
MVU Marysvale 82.56 50 *e*P **P 16 47 21.4 +0.6**
comp=Z,4.3nm,1.0s
F23A Volborg 82.60 41 ⇓P **P 16 47 20.9 +0.2**
baz=82
I21A Big Trails, Te 82.63 43 ⇓P **P 16 47 21.0 0.0**
baz=82,SNR=6.8
MONP Monument Peak, 82.66 56 ⇑P **P 16 47 21.7 +0.3**
baz=83,SNR=6.9
H22A Clearmont 82.72 42 ⇑P **P 16 47 21.6 +0.2**
baz=83
TMUT Trail Mountain 82.77 48 *e*P **P 16 47 22.5 +0.5**
comp=Z,4.4nm,0.7s
J21A Lysite 82.81 44 ⇓P **P 16 47 22.0 0.0**
baz=83
IRM Iron Mountain 82.89 55 ⇓P **P 16 47 22.8 +0.4**
baz=83,SNR=6.7
BC3 Big Chuckawall 82.94 55 ⇓P **P 16 47 23.1 +0.3**
baz=83,SNR=11
IBP Imperial Bould 83.01 56 ⇑P **P 16 47 23.4 +0.3**
baz=83,SNR=5.9
I22A 9 Mile Ranch, 83.06 43 ⇓P **P 16 47 24.1 +0.9**
baz=83,SNR=7.8
SWSC Sam W. Stewart 83.08 56 ⇓P **P 16 47 23.5 +0.2**
baz=83
SRU San Rafael Swe 83.32 48 *e*P **P 16 47 24.8 +0.1**
SRU pmax pmax
comp=Z,11nm,0.7s
SRU San Rafael Swe 83.32 48 *e*P **P 16 47 24.8 +0.1**
comp=Z,11nm,0.7s
J22A Midwest 83.35 43 ⇑P **P 16 47 25.5 +0.7**
baz=83,SNR=16
A28A Rude Farm, Bot 83.38 36 ⇑P **P 16 47 24.9 +0.2**
baz=83
C27A Sayler Ranch, 83.50 37 ⇓P **P 16 47 25.6 +0.4**
baz=83
PDMCI Parker Dam,Lak 83.53 54 ⇓P **P 16 47 26.0 +0.4**
baz=83
Y12C Blythe 83.55 55 ⇓P **P 16 47 26.3 +0.6**
baz=83
BR131 Keskin Array S 83.55 313 *e*P **P 16 47 26.3 +0.5**
comp=Z,7.5nm,0.7s
BRTR Keskin Array B 83.55 313 P **P 16 47 26.3 +0.5**
comp=Z,11nm,0.9s,baz=100,slow=3.8,SNR=44
BRTR LR LR 17 28 51.8
comp=Z,69nm,18.3s,baz=63,slow=39
F25A Bowman 83.56 40 ⇑P **P 16 47 25.7 +0.1**
baz=83
B28A Dugan Ranch, T 83.62 36 ⇑P **P 16 47 26.2 +0.4**
baz=83
RAYN Ar Rayn 83.63 293 *e*P **P 16 47 27.4 +1.0**
comp=Z,81nm,0.9s
RAYN *e* 16 47 39.0
TESR Tescani 83.65 321 ⇓*i*P **P 16 47 26.4 +0.4**
H24A Dirks Ranch, A 83.66 41 ⇓P **P 16 47 26.2 -0.1**
baz=84
KWP Kalwaria Pacla 83.70 325 *e*P **P 16 47 27.2 +1.0**
KWP Kalwaria Pacla 83.70 325 *e*P **P 16 47 27.2 +1.0**
GLA Glamis 83.71 55 ⇑P **P 16 47 26.9 +0.2**
baz=84
BUR08 Bucovina Ar. S 83.71 323 *e*P **P 16 47 26.9 +0.4**
BURAR Bucovina Array 83.72 323 ⇑*i*P **P 16 47 27.0 +0.5**
E26A Carlson Angus 83.77 39 ⇓P **P 16 47 26.9 +0.2**
baz=84
K22A Casper 83.77 44 *e*P **P 16 47 27.2 +0.2**
comp=Z,17nm,1.2s
K22A Casper 83.77 44 ⇓P **P 16 47 27.3 +0.4**
baz=84
N20A Spence Gulch, 83.77 46 ⇑P **P 16 47 27.7 +0.7**
baz=84,SNR=44
D27A Center 83.87 38 ⇑P **P 16 47 27.4 +0.2**
baz=84
ANTO Ankara 84.00 313 *e*P **P 16 47 28.3 +0.2**
ANTO pmax pmax
comp=Z,10.0nm,0.6s
ANTO Ankara 84.00 313 ⇓*i*P **P 16 47 29.1 +1.0**
ANTO Ankara 84.00 313 *e*P **P 16 47 28.3 +0.2**
comp=Z,9.8nm,0.6s
VRI Vrincioaia 84.01 321 ⇑*i*P **P 16 47 29.0 +1.1**
F26A Lodgepole 84.04 39 ⇑P **P 16 47 28.0 0.0**
baz=84
PLOR Plostina 84.06 321 ⇑*i*P **P 16 47 29.4 +1.2**
TLB Topalu 84.06 319 ⇑*i*P **P 16 47 28.8 +0.7**
O20A White River Ci 84.19 46 *e*P **P 16 47 29.0 -0.1**
comp=Z,14nm,0.9s
O20A White River Ci 84.19 46 ⇓P **P 16 47 29.5 +0.3**
baz=84,SNR=10
K23A Bowen Ranch, D 84.24 43 ⇑P **P 16 47 29.2 -0.1**
baz=84
A30A Hoffart Farm, 84.34 35 ⇓P **P 16 47 29.8 +0.2**
baz=84
KOLS Kolonicke sedl 84.37 325 *e*P **P 16 47 30.1 +0.4**
KOLS pmax pmax
comp=Z,3.0nm,1.0s
KOLS Kolonicke sedl 84.37 325 *e*P **P 16 47 30.1 +0.4**
F27A Lemmon 84.38 39 ⇓P **P 16 47 30.0 +0.2**
baz=84
G26A Maurine 84.42 40 ⇑P **P 16 47 30.1 +0.1**
baz=84
J24A Dixon Ranch, L 84.46 42 ⇑P **P 16 47 30.5 +0.1**
baz=84
MSAB Monastry St. A 84.49 319 ⇑*i*P **P 16 47 31.7 +1.4**
STHS Stebnicka Huta 84.56 326 *e*P **P 16 47 32.2 +1.6**
STHS pmax pmax
comp=Z,3.0nm,0.8s
STHS Stebnicka Huta 84.56 326 *e*P **P 16 47 32.2 +1.6**
I25A Rochford 84.57 41 ⇓P **P 16 47 30.8 -0.2**
baz=84
MLR Muntele Rosu 84.67 321 ⇓*i*P **P 16 47 31.8 +0.4**
DOPR Dopca 84.67 321 ⇑*i*P **P 16 47 32.3 +1.1**
G27A Dupree 84.74 39 ⇓P **P 16 47 31.7 +0.1**
baz=85
H26A Fairpoint 84.75 40 ⇓P **P 16 47 31.8 +0.1**

baz=85
WUAZ Wupatki 84.76 52 eP P 16 47 32.8 +0.7
comp=Z,12nm,1.0s
WUAZ Wupatki 84.76 52 ⇓P P 16 47 32.7 +0.7
baz=85,SNR=8.1
TRPA Tarpa 84.77 324 ⇓iP P 16 47 32.0 +0.4
PV04 Paradox Valley 84.77 48 eP P 16 47 32.2 +0.1
TBI Tubuai 84.79 121 eLR LR 17 14 01.3
comp=Z,104nm,26.8s
TBI Tubuai 84.79 121 eLR LR 16 47 03.8
comp=Z,64nm,26.5s
N22A Wattenberg Ran 84.90 45 ⇑P P 16 47 33.4 +0.6
baz=85
H27A Howes 85.12 40 ⇓P P 16 47 33.8 +0.2
baz=85
PV01 Paradox Valley 85.13 48 eP P 16 47 34.3 +0.3
N23A Red Feather La 85.16 45 ⇓P P 16 47 34.9 +0.8
baz=85,SNR=11
VOIR 85.19 321 ⇓iP P 16 47 34.5 +0.6
O22A Kremmling 85.22 46 ⇑P P 16 47 34.9 +0.4
baz=85,SNR=14
J26A Sides Ranch, S 85.38 42 ⇓P P 16 47 35.0 0.0
baz=85
P22A Eagle 85.43 46 ⇓P P 16 47 36.4 +1.0
baz=85,SNR=16
I27A Quinn 85.49 41 ⇓P P 16 47 35.8 +0.3
baz=85
SMCO Snowmass 85.54 47 eP P 16 47 36.6 +0.3
comp=Z,14nm,1.1s
KECS Kecovo 85.55 325 eP P 16 47 36.5 +0.9
KECS pmax pmax
comp=Z,2.0nm,1.1s
KECS Kecovo 85.55 325 eP P 16 47 36.5 +0.9
ASF Jabal al Asfar 85.57 305 P P 16 47 36.6 +0.5
comp=Z,5.7nm,0.8s,baz=0.1,slow=4.7,SNR=7.9
O23A Lake Granby, G 85.58 45 ⇓P P 16 47 37.4 +1.2
baz=85,SNR=9.1
F29A Eureka 85.58 38 ⇓P P 16 47 36.3 +0.5
baz=85
H28A Mission Ridge 85.68 40 ⇓P P 16 47 36.7 +0.3
baz=86
MVCO Mesa Verde 85.71 49 ⇓P P 16 47 37.2 +0.3
baz=86
214A Organ Pipe Nat 85.73 55 eP P 16 47 37.5 +0.7
comp=Z,15nm,1.4s
214A Organ Pipe Nat 85.73 55 ⇓P P 16 47 37.6 +0.7
baz=86
OKC Ostrava-Krasne 85.74 327 AMS AMS 17 33 50.0
comp=Z,200nm,12.5s
AGMN Agassiz Nation 85.98 35 ⇑P P 16 47 37.3 -0.4
baz=86
F30A Leola 86.01 38 ⇑P P 16 47 37.9 -0.1
baz=86
ISCO Idaho Springs 86.02 46 eP P 16 47 39.4 +0.9
ISCO pmax pmax
comp=Z,5.0nm,1.0s
ISCO Idaho Springs 86.02 46 eP P 16 47 39.4 +0.9
comp=Z,5.2nm,1.0s
ISCO Idaho Springs 86.02 46 ⇑P P 16 47 38.8 +0.4
baz=86
I28A Midland 86.03 40 ⇑P P 16 47 38.2 +0.1
baz=86
J27A Elkhorn Farm, 86.03 41 ⇓P P 16 47 38.6 +0.4
baz=86
MORC Moravsky Berou 86.07 328 ⇑iP P 16 47 38.6 +0.4
W18A Petrified Fore 86.09 51 ⇓P P 16 47 38.9 +0.1
baz=86
P23A Jefferson 86.13 46 ⇑P P 16 47 40.2 +1.1
baz=86
MMAI Mount Meron Ar 86.15 306 P P 16 47 39.1 +0.2
comp=Z,3.6nm,0.7s,baz=58,slow=6.3,SNR=6.1
H29A Onida 86.16 39 ⇓P P 16 47 38.9 +0.2
baz=86
DPC Dobruska-Polom 86.22 329 eP P 16 47 39.5 +0.6
DPC epP pP 16 47 51.4 +5.0
DPC Dobruska-Polom 86.22 329 eP P 16 47 39.5 +0.6
DPC e 16 47 51.4
UPC Upice 86.24 329 eP P 16 47 39.9 +0.9
UPC Upice 86.24 329 eP P 16 47 39.9 +0.9
J28A Allard Ranch, 86.36 41 ⇓P P 16 47 40.4 +0.7
baz=86
G30A Faulkton 86.41 38 ⇓P P 16 47 40.0 +0.1
baz=86
Q23A Hartsel 86.42 46 ⇓P P 16 47 41.4 +1.0
baz=86
S22A 4UR Ranch, Cre 86.48 48 ⇑P P 16 47 41.5 +0.8
baz=86
I29A Vivian Onida 86.50 40 ⇑P P 16 47 40.6 +0.2
baz=86
Q24A Divide 86.81 46 ⇓P P 16 47 43.0 +0.6
baz=87
VRAC Vranov 86.83 328 ⇑iP P 16 47 42.2 +0.3
R23A Moffat 86.85 47 ⇑P P 16 47 43.6 +1.0
baz=87
J29A Okreek 86.88 40 ⇓P P 16 47 42.7 +0.4
baz=87
TUC Tucson 86.96 54 eP P 16 47 43.1 +0.1
TUC pmax pmax
comp=Z,2.0nm,0.8s
TUC Tucson 86.96 54 eP P 16 47 43.1 +0.1
comp=Z,1.7nm,0.8s
CLL Collm 86.97 331 e(P) P 16 47 46.0 +3.5
CLL Collm 86.97 331 eP P 16 47 46.0 +3.5
I30A Oacoma 87.05 39 ⇑P P 16 47 43.4 +0.3
baz=87
GOPC GO Pecny, Ondr 87.22 329 AMS AMS 17 37 40.0
comp=Z,200nm,11.5s
PRU Pruhonice 87.27 329 AMS AMS 17 35 50.0
comp=Z,200nm,15.5s
SDCO Great Sand Dun 87.32 47 eP P 16 47 45.5 +0.6
comp=Z,3.1nm,0.9s
SDCO Great Sand Dun 87.32 47 ⇓P P 16 47 44.6 -0.2
baz=87
J30A Dallas 87.40 40 ⇑P P 16 47 45.1 +0.3
baz=87
R26A Arlington 88.27 46 ⇓P P 16 47 49.2 +0.1
baz=88
KHC Kasperske Hory 88.33 329 eP P 16 47 50.6 +1.5
KHC ex x 16 47 53.7
KHC epP pP 16 48 00.6 +3.9
KHC Kasperske Hory 88.33 329 eP P 16 47 50.6 +1.5
KHC e 16 48 00.6
ANMO Albuquerque 88.38 50 ⇓eP P 16 47 49.6 -0.2
ANMO pmax pmax
comp=Z,12nm,1.2s
T25A Trinidad 88.38 47 ⇑P P 16 47 49.9 +0.1
baz=88
GERES GERESS Array B 88.48 329 P P 16 47 49.3 -0.7
comp=Z,0.4nm,0.5s,baz=39,slow=7.9,SNR=3.9
GERES LR LR 17 30 19.1
comp=Z,136nm,19.7s,baz=46,slow=38
L31A Butterfield Fa 88.51 40 ⇓P P 16 47 50.4 +0.3
baz=88
S26A Kim 88.67 46 ⇑P P 16 47 50.8 -0.3
baz=88
ECSD EROS Data Cent 88.69 38 eP P 16 47 50.7 -0.2
comp=Z,4.7nm,0.9s
ECSD EROS Data Cent 88.69 38 ⇓P P 16 47 50.7 -0.2
baz=88
N30A Hueftle Ranch, 88.69 42 ⇓P P 16 47 51.0 0.0
baz=88
T26A Comanche Natio 88.87 47 ⇓P P 16 47 52.1 0.0
baz=89
121A Cookes Peak, D 88.91 52 ⇓P P 16 47 52.2 -0.2
baz=89
SOKA Soboth 89.45 327 ⇑iPcP P 16 47 54.5 -0.1
comp=Z,7.2nm,0.9s
SPMN Marine on St. 89.62 35 eP P 16 47 55.4 +0.2
P31A Stockton 89.94 43 ⇑P P 16 47 56.4 -0.5
baz=90
P33A Williams Farm, 90.97 42 ⇑P P 16 48 00.9 -0.8
baz=91
MNTX Cornudas Mount 91.04 52 ⇑P P 16 48 02.1 0.0
baz=91
FETA Feichten 91.17 329 ⇑iPcP P 16 48 03.0 +0.4
comp=Z,5.7nm,1.1s
SCHQ Schefferville 91.41 16 P P 16 48 03.0 -0.3
comp=Z,3.4nm,0.8s,baz=118,slow=0.6,SNR=4.1
O35A Humboldt 91.43 40 ⇓P P 16 48 03.1 -0.6
baz=91
AMTX Amarillo 91.51 47 ⇑P P 16 48 04.4 +0.1
baz=91
X29A Tulia 91.78 48 ⇑P P 16 48 05.6 +0.1
baz=92
KSU1 Kansas State U 91.82 42 ⇑P P 16 48 05.5 -0.1
baz=92
Y29A Porterfield Fa 92.16 48 ⇓P P 16 48 06.7 -0.7
baz=92
Q35A Mercer Eighty, 92.31 42 ⇑P P 16 48 07.9 0.0
baz=92
W31A Holland Ranch, 92.41 46 ⇓P P 16 48 09.0 +0.6
baz=92
128A Castleberry Fa 92.41 50 ⇓P P 16 48 08.7 +0.2
baz=92
Z29A Hungry Hill Ra 92.52 49 ⇑P P 16 48 09.3 +0.3
baz=92
Y30A Stafford Cattl 92.65 48 ⇓P P 16 48 09.0 -0.5
baz=92
X31A McDonald Ranch 92.75 47 ⇑P P 16 48 10.2 +0.2
baz=93
Z30A Sanderson Ranc 92.88 48 ⇓P P 16 48 10.6 0.0
baz=93
T34A McClaskey Farm 92.88 43 ⇓P P 16 48 10.5 0.0
baz=93
W32A Sentinel 92.89 46 ⇓P P 16 48 10.7 +0.1
baz=93
S35A Otter Creek Ra 92.95 43 ⇓P P 16 48 11.0 +0.2
baz=93
R36A Gordon, Harris 92.98 42 ⇓P P 16 48 11.2 +0.2
baz=93
Y31A Rekieta Farm, 93.00 47 ⇑P P 16 48 11.5 +0.4
baz=93
U34A Anderson Ranch 93.07 44 ⇑P P 16 48 11.4 0.0
baz=93
229A Bryant Ranch, 93.27 50 ⇑P P 16 48 12.9 +0.5
baz=93
X32A Elmer 93.32 47 ⇑P P 16 48 12.8 +0.2
baz=93
S36A Lake Cedric, C 93.34 42 ⇓P P 16 48 12.8 +0.2
baz=93
T35A Sooner Cattle 93.35 43 ⇓P P 16 48 12.7 0.0
baz=93
R37A Teagarden Farm 93.38 41 ⇓P P 16 48 12.2 -0.5
baz=93
130A Snyder 93.42 49 ⇑P P 16 48 12.3 -0.9
baz=93
329A Wagon Wheel Ra 93.46 50 ⇑P P 16 48 13.9 +0.6
baz=93
Z31A Sharp Cattle R 93.49 48 ⇑P P 16 48 13.8 +0.3
baz=93
Y32A R-V Farms, Ver 93.49 47 ⇑P P 16 48 13.8 +0.4
baz=93
T36A Boggs Farm, Ca 93.63 43 ⇑P P 16 48 14.0 +0.1
baz=94
TXAR Lajitas Array 93.65 53 P P 16 48 15.2 +0.8
comp=Z,5.7nm,0.7s,baz=308,slow=2.7,SNR=80
TXAR LR LR 17 30 43.8
comp=Z,65nm,18.0s,baz=0.0,slow=36
W34A Bridge Creek, 93.72 45 ⇑P P 16 48 14.9 +0.5
baz=94
230A Sterling City 93.78 50 ⇓P P 16 48 15.3 +0.4
baz=94
LOR Lormes 93.86 333 eP P 16 48 14.2 -0.6
LOR Lormes 93.86 333 eP P 16 48 14.2 -0.6
LOR Lormes 93.86 333 eP P 16 48 14.2 -0.6
Z32A Haskell 93.92 48 ⇑P P 16 48 15.8 +0.3
baz=94
Y33A Hilltop Ranch, 94.00 47 ⇓P P 16 48 16.1 +0.4
baz=94
330A Mertzon 94.04 50 ⇑P P 16 48 16.1 +0.1
baz=94
429A Davenport Ranc 94.06 51 ⇑P P 16 48 16.6 +0.4
baz=94
LPL La Plagne 94.09 330 eP P 16 48 15.7 -0.5
LPL La Plagne 94.09 330 eP P 16 48 15.7 -0.5
LPL La Plagne 94.09 330 eP P 16 48 15.7 -0.5
LPG La Plagne 94.09 330 eP P 16 48 15.9 -0.4
comp=Z,8.7nm,0.8s
LPG La Plagne 94.09 330 eP P 16 48 15.9 -0.4
LPG pmax pmax
comp=Z,9.0nm,0.8s
LPG La Plagne 94.09 330 eP P 16 48 15.9 -0.4
comp=Z,8.7nm,0.8s
T37A Cheneyville 18 94.15 42 ⇓P P 16 48 16.6 +0.3
baz=94
529A Stev Forest Ra 94.15 51 ⇓P P 16 48 17.0 +0.5
baz=94
SSF Saint Saulge 94.16 333 eP P 16 48 15.8 -0.4
SSF Saint Saulge 94.16 333 eP P 16 48 15.8 -0.4
SSF Saint Saulge 94.16 333 eP P 16 48 15.8 -0.4
LDF La Druitiere 94.24 336 eP P 16 48 16.1 -0.4
LDF La Druitiere 94.24 336 eP P 16 48 16.1 -0.4
LDF La Druitiere 94.24 336 eP P 16 48 16.1 -0.4
ABTX Abilene, Hawle 94.26 48 ⇓P P 16 48 17.4 +0.5
baz=94
231A Bronte 94.27 49 ⇑P P 16 48 17.1 +0.1
baz=94
W35A Tecumseh 94.32 45 ⇑P P 16 48 17.3 +0.1
baz=94
Z33A Whitaker Ranch 94.39 47 ⇓P P 16 48 17.7 +0.2
baz=94
430A Baggett Ranch, 94.39 50 ⇓P P 16 48 17.9 +0.2
baz=94
AVF Avril sur Loir 94.45 333 eP P 16 48 17.1 -0.4
comp=Z,9.7nm,0.9s
AVF Avril sur Loir 94.45 333 eP P 16 48 17.1 -0.4
AVF pmax pmax
comp=Z,10.0nm,0.9s
AVF Avril sur Loir 94.45 333 eP P 16 48 17.1 -0.4
comp=Z,9.7nm,0.9s
TUL1 Leonard 94.46 44 ⇓P P 16 48 18.1 +0.3
baz=94
331A San Angelo 94.59 50 ⇓P P 16 48 18.4 -0.2
baz=94
W36A Wetumka 94.72 44 ⇑P P 16 48 19.3 +0.3
baz=95
530A J-C Ranch, Com 94.73 51 ⇓P P 16 48 19.4 +0.2
baz=95
133A Hamilton Ranch 94.73 48 ⇓P P 16 48 19.5 +0.3
baz=95
X35A Drake 94.77 45 ⇑P P 16 48 19.3 +0.1
baz=95
431A Sonora 94.88 50 ⇑P P 16 48 20.0 +0.2
baz=95
332A Millersview 95.00 49 ⇑P P 16 48 20.6 +0.2
baz=95
X36A Centrahoma 95.03 45 ⇓P P 16 48 20.8 +0.3
baz=95
233A Rising Star 95.13 48 ⇓P P 16 48 21.2 +0.2
baz=95
W37A Quinton 95.21 44 ⇑P P 16 48 21.3 0.0
baz=95
531A Rocksprings 95.25 51 ⇓P P 16 48 22.0 +0.4
baz=95
432A Menard 95.29 50 ⇓P P 16 48 22.0 +0.3
baz=95
134A White-Moore Ra 95.29 47 ⇓P P 16 48 22.0 +0.3
baz=95
333A Richland Sprin 95.53 49 ⇑P P 16 48 23.0 +0.2
baz=95
JCT Junction City 95.54 50 eP P 16 48 22.7 -0.2
JCT pmax pmax
comp=Z,5.0nm,0.6s
JCT Junction City 95.54 50 eP P 16 48 22.7 -0.2
comp=Z,4.7nm,0.6s
JCT Junction City 95.54 50 ⇑P P 16 48 22.9 0.0
baz=95
X37A Clayton 95.61 44 ⇓P P 16 48 23.0 -0.1
baz=95
234A Clairette 95.63 48 ⇓P P 16 48 23.2 -0.1
baz=96
532A Rocksprings 95.70 50 ⇑P P 16 48 23.8 +0.1
baz=96
631A Perdido Creek 95.71 51 ⇓P P 16 48 24.0 +0.3
baz=96
433A Art 95.83 49 ⇑P P 16 48 24.5 +0.3
baz=96
334A Lometa 96.00 48 ⇑P P 16 48 25.1 +0.2
baz=96
434A Burnet 96.32 49 ⇑P P 16 48 26.6 +0.1
baz=96
732A Laxson Ranch, 96.55 51 ⇑P P 16 48 27.9 +0.5
baz=96
534A Blanco 96.70 49 ⇑P P 16 48 28.3 +0.1
baz=97
436A Wall Ranch, Ga 97.30 48 ⇑P P 16 48 30.3 -0.5
baz=97
TORD Torodi Ar. Bea 122.17 313 PKP PKPdf 16 53 52.5 -0.4
comp=Z,1.5nm,0.5s,baz=33,slow=1.1,SNR=23
TORD PP PP 16 55 23.0 -4.1
comp=Z,1.5nm,1.0s,baz=53,slow=6.4,SNR=4.9
TORD PKKPbc PKKPbc 17 03 48.1 -0.3
comp=Z,1.1nm,1.0s,baz=226,slow=3.9,SNR=4.1
DBIC Dimbokro 131.24 314 PKP PKPdf 16 54 10.3 +0.1
comp=Z,2.8nm,0.6s,baz=53,slow=1.9,SNR=4.1
SAML Samuel 148.15 53 ePKPbc PKPbc 16 54 44.1 +0.2
LPAZ La Paz 149.03 70 PKPbc PKPdf 16 54 44.5 +1.8
comp=Z,5.3nm,0.8s,baz=317,slow=4.0,SNR=17
LPAZ La Paz 149.03 70 PKIKP PKPdf 16 54 44.6 +1.8
LPAZ pmax pmax
comp=Z,5.0nm,0.8s
LPAZ La Paz 149.03 70 ePKPdf PKPdf 16 54 44.0 +1.2
LPAZ PKPbc **PKPdf 16 54 44.5 +1.8**
LPAZ ePKPbc **PKiKP 16 54 47.5 -0.6**
PLCA Paso Flores 151.80 120 PKPbc PKPbc 16 54 52.0 -0.1
comp=Z,2.4nm,0.6s,baz=243,slow=2.6,SNR=10

MAN 31 16:44:22.1±0.3, 12.63N×124.93E, h27km, mb4.8, ML3.7, MS3.8, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**1.46**	**178**	⇓eP		Pn 16 44 46.5	-0.1
PLP				eS		Sn 16 45 04.1	-0.8

MAN 31 17:05:49.1±0.3, 18.31N×120.76E, h21km, mb4.6, ML3.5, MS3.4, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.13**	**277**	⇓iP		Pb 17 05 54.7	-0.6
APYP	**Conner**	**0.64**	**134**	eP		Pn 17 06 02.3	-0.6
APYP				eS		Sn 17 06 13.0	+0.7
ABRA	**Dolores**	**0.66**	**184**	eP		Pb 17 06 01.9	0.0
SGCP	**Mt. Cagua**	**1.23**	**93**	eP		Pn 17 06 10.6	-0.3
CAUP	**Cauayan**	**1.69**	**143**	eP		Pb 17 06 19.8	+0.4

*CSEM **31** 17:07:17.1±0.1, 37.64N×21.76E, h10km, MD2.8, Error ellipse: s-maj=3.3km s-min=2.0km az=79.0*
*ATH **31** 17:07:17.2, 37.62N×21.73E, h13km±1km, MD2.8/12*
THE 31 17:07:17.5, 37.65N×21.75E, h6km±2km, ML1.9/3, Error ellipse: s-maj=2.9km s-min=0.3km az=255.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMT	**Artemida-Makis**	**0.12**	**196**	P		Pg 17 07 20.1	0.0
AMT				S		Sg 17 07 21.8	0.0
AMT	**Artemida-Makis**	**0.12**	**196**	ePG		Pg 17 07 20.1	0.0
AMT				eSG		Sg 17 07 22.4	+0.6
AMT	**Artemida-Makis**	**0.12**	**196**	P		Pg 17 07 20.1	0.0
AMT				S		Sg 17 07 21.8	0.0
AMT				eSg		Sg 17 07 22.4	+0.6
DRO	**Drossia**	**0.31**	**354**	P		Pg 17 07 23.3	-0.3
DRO				S		Sg 17 07 28.1	+0.3
DRO	**Drossia**	**0.31**	**354**	ePG		Pg 17 07 23.4	-0.2
DRO				eSB		Sg 17 07 28.4	+0.6
DRO	**Drossia**	**0.31**	**354**	ePg		Pg 17 07 23.4	-0.2
DRO				S		Sg 17 07 28.1	+0.3
RLS	**Riolos of Patr**	**0.47**	**332**	P		Pg 17 07 26.0	-0.6
RLS				S		Sg 17 07 33.6	+0.8
RLS	**Riolos of Patr**	**0.47**	**332**	ePB		Pg 17 07 26.8	+0.2
RLS				eSB		Sg 17 07 33.7	+0.9
RLS	**Riolos of Patr**	**0.47**	**332**	P		Pg 17 07 26.0	-0.6
RLS	**Riolos of Patr**	**0.47**	**332**	ePb		Pg 17 07 26.8	+0.2
RLS				S		Sg 17 07 33.6	+0.8
ITM	**Ithomi**	**0.48**	**163**	P		Pg 17 07 26.7	-0.2
ITM				S		Sg 17 07 34.1	+0.8
ITM	**Ithomi**	**0.48**	**163**	ePB		Pg 17 07 26.8	-0.1
ITM				eSB		Sg 17 07 33.5	+0.2
ITM	**Ithomi**	**0.48**	**163**	P		Pg 17 07 26.7	-0.2
ITM				eSb		Sg 17 07 33.5	+0.2
ITM				S		Sb 17 07 34.1	-1.7
KLV	**Kalavryta, Ach**	**0.51**	**38**	P		Pg 17 07 26.9	-0.6
KLV				S		Sg 17 07 35.0	+0.8
KLV	**Kalavryta, Ach**	**0.51**	**38**	ePB		Pg 17 07 26.9	-0.6
KLV				eSB		Sb 17 07 35.7	-1.0
KLV	**Kalavryta, Ach**	**0.51**	**38**	P		Pg 17 07 26.9	-0.6
KLV				S		Sg 17 07 35.0	+0.8
GUR	**Goura**	**0.55**	**58**	P		Pg 17 07 27.6	-0.7
GUR				S		Sg 17 07 35.8	+0.1
GUR	**Goura**	**0.55**	**58**	ePB		Pg 17 07 27.6	-0.7
GUR				eSB		Sb 17 07 37.0	-1.0
GUR	**Goura**	**0.55**	**58**	P		Pg 17 07 27.6	-0.7
GUR				S		Sg 17 07 35.8	+0.1
GUR				eSb		Sb 17 07 37.0	-1.0
VLX	**Vlachokerasia**	**0.57**	**119**	P		Pg 17 07 28.6	-0.1
VLX	**Vlachokerasia**	**0.57**	**119**	ePG		Pg 17 07 28.0	-0.7
VLX	**Vlachokerasia**	**0.57**	**119**	ePg		Pg 17 07 28.0	-0.7
VLX	**Vlachokerasia**	**0.57**	**119**	P		Pg 17 07 28.6	-0.1
PYL	**PYLOS**	**0.75**	**181**	P		Pg 17 07 31.2	-0.7
PYL				S		Sb 17 07 42.5	-0.9
PYL	**PYLOS**	**0.75**	**181**	ePB		Pg 17 07 31.2	-0.7
PYL	**PYLOS**	**0.75**	**181**	P		Pg 17 07 31.2	-0.7
PYL				S		Sg 17 07 42.5	-0.9
EFP	**Efpalio**	**0.79**	**9**	ePG		Pg 17 07 32.6	-0.1
EFP				eSB		Sb 17 07 44.2	-0.4
EFP	**Efpalio**	**0.79**	**9**	ePg		Pg 17 07 32.6	-0.1
EFP				eSb		Sb 17 07 44.2	-0.4
KALE	**Kalithea**	**0.81**	**22**	ePG		Pg 17 07 32.5	-0.6
KALE				eSB		Sb 17 07 45.2	0.0
KALE	**Kalithea**	**0.81**	**22**	ePg		Pg 17 07 32.5	-0.6
KALE				eSb		Sb 17 07 45.2	0.0
PDO	**Prodromos**	**1.05**	**335**	ePG		Pg 17 07 37.2	-0.5
PDO				eSB		Sb 17 07 52.8	+0.7
PDO	**Prodromos**	**1.05**	**335**	ePg		Pg 17 07 37.2	-0.5
PDO				eSb		Sb 17 07 52.8	+0.7
DID	**Didima**	**1.19**	**96**	ePB		Pg 17 07 39.8	-0.6
DID	**Didima**	**1.19**	**96**	ePb		Pg 17 07 39.8	-0.6

IDC 31 17:38:03.6±10.0, 5.45S×153.97E, h309km±91km, mb2.8/3, mb1 3.1/3, mb1mx2.7/22, mbtmp3.4/3, Error ellipse: s-maj=139.3km s-min=39.2km az=126.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.91**	**231**	P	P	17 42 50.4	-0.1
	0.6nm,0.7s,baz=56,slow=8.7,SNR=13						
ASAR	**Alice Springs**	**26.48**	**225**	P	P	17 43 13.5	0.0
	0.3nm,0.4s,baz=59,slow=9.4,SNR=14						
ASAR				PcP	PcP	17 46 29.3	-0.4
	0.3nm,0.7s,baz=65,slow=3.9,SNR=4.7						
ILAR	**Eielson Array**	**82.33**	**22**	P	P	17 49 50.9	0.0
	0.3nm,0.7s,baz=241,slow=4.7,SNR=4.2						
TORD	**Torodi Ar. Bea**	**151.61**	**288**	PKPbc	PKPbc	17 57 22.4	-0.1
	0.3nm,0.6s,baz=88,slow=2.1,SNR=3.5						

*ISCJB **31** 17:44:49.5±0.9, 12.12N±0.06×88.68W±0.07, h48km±9km, mb3.8/7, MS3.4/1, Error ellipse: s-maj=15.4km s-min=4.5km az=139.0*
*CASC **31** 17:44:49.8±1.8, 12.16N×88.67W, h30km±13km, MD4.2, ML3.6*
*IDC **31** 17:45:00.7±7.8, 12.80N×88.38W, h100km±54km, mb3.4/7, mb1 3.8/8, mb1mx3.5/27, mbtmp3.8/8, MS3.2/2, Ms1 3.1/2, ms1mx2.7/14, Error ellipse: s-maj=57.1km s-min=36.4km az=173.0*
ISC 31 17:44:51.2±1.3, 12.18N±0.07×88.65W±0.08, h39km±12km, n27, σ1s18/37, mb3.7/7, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VSM	**San Miguel**	**1.29**	**17**	eP		Pn 17 45 12.8	-0.3
VSM				eS		Sn 17 45 29.4	+0.1
BLLM	**Bellamira**	**1.32**	**18**	eP		Pn 17 45 12.9	-0.3
CNCH	**Conchagua**	**1.35**	**36**	eP		Pn 17 45 12.9	-0.7
SNVI	**San Vicente**	**1.43**	**353**	eP		Pn 17 45 14.3	-0.5
SNVI				eS		Sn 17 45 32.9	+0.4
LFRS	**El Faro**	**1.49**	**345**	eP		Pn 17 45 14.4	-1.2
LFRS				eS		Sn 17 45 34.6	+0.8
SNET	**Serv Nac Est T**	**1.60**	**339**	AML	AML	17 45 55.9	
	comp=Z,739nm,0.4s						
CAHU	**Cacacuatique**	**1.64**	**15**	eP		Pn 17 45 18.2	+0.5
BOQS	**Boqueron**	**1.66**	**338**	eP		Pn 17 45 17.0	-1.0
BOQS				eS		Sn 17 45 39.0	+0.8
RTR	**El Retiro**	**1.96**	**331**	eP		Pn 17 45 21.7	-0.5
RBDL	**Robledal**	**2.17**	**332**	eP		Pn 17 45 24.9	-0.1
RBDL				eS		Sn 17 45 52.1	+1.5
VCR	**Vista de Mar**	**3.60**	**124**	eP		Pn 17 45 42.9	-1.8
VCR				eS		Sn 17 46 34.9	+8.9
JCR	**Jicaral**	**4.18**	**123**	eP		Pn 17 45 50.6	-1.9

JCR				*e*S		**Sn**	17 46 39.6	**-0.6**
CGA2	**Cerro Gallo 2**	**4.64**	**117**	*e*P		**Pn**	17 45 58.7	**-0.3**
CGA2				*e*S		**Sn**	17 46 53.1	**+1.4**
URSC	**Urasca**	**5.33**	**116**	*e*P		**Pn**	17 46 09.7	**+1.2**
URSC				*e*S		**Sn**	17 47 11.1	**+2.5**
CMIG	**Matias Romero**	**7.75**	**310**	P		**Pn**	17 46 41.9	**+0.3**
	baz=90,slow=12							
TEIG	**Tepich**	**8.01**	**3**	P		**Pn**	17 46 46.4	**+1.3**
	comp=Z,0.7nm,0.3s,baz=225,slow=20,SNR=5.0							
TEIG				LR		LR	17 49 58.8	
	comp=Z,92nm,21.6s,baz=269,slow=40							
TXAR	**Lajitas Array**	**22.05**	**323**	P		**P**	17 49 43.9	**+1.1**
	comp=Z,1.8nm,0.8s,baz=146,slow=11,SNR=21							
TKL	**Tuckaleechee C**	**23.79**	**10**	P		**P**	17 49 57.9	**-2.4**
	comp=Z,7.7nm,0.9s,baz=184,slow=12,SNR=9.4							
PDAR	**Pinedale Array**	**35.46**	**333**	P		**P**	17 51 44.9	**+0.7**
	comp=Z,0.2nm,0.3s,baz=137,slow=8.1,SNR=2.8							
PDAR				PcP		**PcP**	17 54 13.8	**+0.6**
	comp=Z,0.5nm,0.9s,baz=162,slow=0.3,SNR=3.3							
NVAR	**Mina Array Bea**	**37.14**	**320**	P		**P**	17 51 59.0	**+0.5**
	comp=Z,1.0nm,0.9s,baz=132,slow=8.8,SNR=4.9							
NVAR				PcP		**PcP**	17 54 18.9	**+0.6**
	comp=Z,0.6nm,0.7s,baz=117,slow=2.8,SNR=5.0							
SCHQ	**Schefferville**	**45.88**	**17**	P		**P**	17 53 07.4	**-2.2**
	comp=Z,3.0nm,0.5s,baz=219,slow=7.9,SNR=8.6							
SCHQ				LR		LR	18 11 34.5	
	comp=Z,50nm,21.0s,baz=94,slow=35							
YKA	**Yellowknife Ar**	**53.56**	**345**	P		**P**	17 54 06.9	**-1.0**
	comp=Z,0.8nm,0.6s,baz=142,slow=7.5,SNR=17							
YKA				PcP		**PcP**	17 55 14.6	**+0.5**
	comp=Z,0.2nm,0.5s,baz=149,slow=3.2,SNR=3.0							
ILAR	**Eielson Array**	**65.79**	**336**	P		**P**	17 55 32.2	**+0.1**
	comp=Z,0.5nm,1.0s,baz=116,slow=5.0,SNR=4.9							
MKAR	**Makanchi Array**	**120.73**	**7**	PKP		**PKPdf**	18 03 40.3	**+1.0**
	comp=Z,0.1nm,0.4s,baz=320,slow=1.6,SNR=3.2							
WRA	**Warramunga Ar**	**138.06**	**254**	PKP		**PKPdf**	18 04 14.2	**+1.5**
	comp=Z,0.4nm,0.8s,baz=84,slow=2.4,SNR=4.7							
ASAR	**Alice Springs**	**138.08**	**248**	PKP		**PKPdf**	18 04 14.2	**+1.5**
	comp=Z,0.3nm,0.6s,baz=105,slow=3.6,SNR=5.3							
CMAR	**Chiang Mai Arr**	**148.65**	**346**	PKPbc		**PKPbc**	18 04 35.0	**0.0**
	comp=Z,0.9nm,0.6s,baz=334,slow=2.8,SNR=9.9							

IDC 31 17:46:44.7±2.5, 8°22'S×116°54'E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.3/21, mbtmp3.4/4, Error ellipse: s-maj=209.5km s-min=23.5km az=51.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.81**	**126**	P	P	17 51 27.7	-0.2
	1.0nm,0.4s,baz=300,slow=12,SNR=18						
ASAR	**Alice Springs**	**22.65**	**135**	P	P	17 51 47.5	-0.1
	0.8nm,0.8s,baz=308,slow=9.2,SNR=12						
STKA	**Stephens Creek**	**33.12**	**139**	P	P	17 53 22.9	+0.2
	0.4nm,0.5s,baz=317,slow=11,SNR=3.0						
MKAR	**Makanchi Array**	**62.67**	**334**	P	P	17 57 11.2	0.0
	0.2nm,0.6s,baz=150,slow=6.1,SNR=3.0						

KRSC 31 18:00:43.4±1.3, 50°44'N×157°44'E, h40km±21km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.88**	**287**	*e*P	Pn	18 00 59.6	+0.4
SKR				*e*S	Sn	18 01 10.3	-0.5
PAU	**Pauzhetka**	**1.10**	**339**	*e*P	Pn	18 01 04.3	+2.0
PAU				*e*S	Sn	18 01 18.0	+1.6
MIPR	**Malaya Ipel'ka**	**1.89**	**347**	*e*P	Pn	18 01 15.7	+2.6
ASAK	**Asacha**	**1.97**	**8**	*e*P	Pn	18 01 16.9	+2.6
ASAK				*e*S	Sn	18 01 40.2	+2.4
MTVR	**Mutnovka**	**2.10**	**12**	*e*P	Pn	18 01 18.9	+2.7
MTVR				*e*S	Sn	18 01 43.2	+2.0
RUS	**Russkaya**	**2.11**	**18**	*e*P	Pn	18 01 18.2	+2.1
RUS				*e*S	Sn	18 01 42.7	+1.7
APC	**Apacha**	**2.50**	**356**	*e*P	Pn	18 01 24.1	+2.7
PET	**Petropavlovsk**	**2.70**	**16**	*e*P	Pn	18 01 27.1	+2.9
PET				*e*S	Sn	18 01 58.8	+3.3
UGLR	**Uglovaya**	**2.90**	**17**	*e*P	Pn	18 01 30.9	+3.7
AVH	**Avacha**	**2.94**	**15**	*e*P	Pn	18 01 31.8	+4.1
KOK	**Koryaka**	**2.95**	**14**	*e*P	Pn	18 01 32.2	+4.4
KOK				*e*S	Sn	18 02 07.0	+4.9
SMAR	**Somma**	**2.95**	**16**	*e*P	Pn	18 01 32.2	+4.2
SDLR	**Sedlovina**	**2.98**	**17**	*e*P	Pn	18 01 31.4	+3.1
KRX	**Arik**	**3.02**	**14**	*e*P	Pn	18 01 32.8	+4.0
KRX				S	Sn	18 02 07.9	+4.1
SPN	**Mys Shipunski**	**3.11**	**30**	*e*P	Pn	18 01 33.0	+3.2
SPN				S	Sn	18 02 09.6	+3.9
GNL	**Ganaly**	**3.28**	**5**	*e*P	Pn	18 01 36.1	+3.8
MKZ	**Mys Kozlova**	**4.88**	**31**	P	Pn	18 01 57.3	+3.1

IDC 31 19:01:07.2±5.6, 7°86'S×125°09'E, h250km±59km, mb2.6/1, mb1 2.8/3, mb1mx2.6/36, mbtmp3.4/3, Error ellipse: s-maj=159.3km s-min=17.2km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.98**	**144**	P	Pn	19 04 27.8	+0.4
	0.2nm,0.3s,baz=318,slow=12,SNR=9.2						
WRA				S	S	19 07 04.8	-8.0
	0.2nm,0.3s,baz=324,slow=23,SNR=8.5						
ASAR	**Alice Springs**	**17.84**	**153**	P	P	19 04 58.2	-0.1
	0.2nm,0.3s,baz=331,slow=12,SNR=18						
ASAR				S	S	19 08 10.8	+0.5
	0.0nm,0.3s,baz=331,slow=24,SNR=1.9						
MKAR	**Makanchi Array**	**66.38**	**329**	P	P	19 11 29.4	0.0
	0.1nm,0.4s,baz=130,slow=6.8,SNR=2.8						

*ISCJB **31** 19:04:35.0±1.0, 4°4S±0°1×153°6E±0°2, h85km, mb3.6/11, Error ellipse: s-maj=34.3km s-min=15.6km az=10.2*
*IDC **31** 19:04:40.0±0.8, 4°37S×153°48E, h113km±6km, mb3.5/11, mb1 3.7/11, mb1mx3.5/40, mbtmp3.9/11, Error ellipse: s-maj=29.5km s-min=14.6km az=97.0*

ISC 31 19:04:37.7±0.9, 4°5S±0°1×153°4E±0°3, h85km, n12, σ1f95/16, mb3.6/11, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.08**	**229**	P	**P**	**19 09 46.3**	**+0.8**
	5.0nm,0.6s,baz=54,slow=9.8,SNR=32						
WRA				PcP	**PcP**	19 13 24.4	**-0.7**
	0.9nm,0.9s,baz=57,slow=2.6,SNR=4.9						
ASAR	**Alice Springs**	**26.78**	**223**	P	**P**	**19 10 09.9**	**0.0**
	0.8nm,0.8s,baz=55,slow=7.5,SNR=8.5						
ASAR				pP	pP	19 10 37.2	+7.9
	0.8nm,0.7s,baz=57,slow=8.0,SNR=4.2						
ASAR				PcP	**PcP**	**19 13 30.7**	**-0.5**
	0.3nm,0.7s,baz=64,slow=2.2,SNR=4.4						
STKA	**Stephens Creek**	**29.43**	**201**	P	**P**	**19 10 33.3**	**-0.1**
	2.7nm,0.6s,baz=29,slow=12,SNR=14						
CMAR	**Chiang Mai Arr**	**58.22**	**295**	P	**P**	**19 14 23.8**	**+0.1**
	1.3nm,0.9s,baz=111,slow=5.6,SNR=8.7						
SONM	**Songino Array**	**66.32**	**327**	P	**P**	**19 15 17.9**	**+0.4**
	0.3nm,0.6s,baz=152,slow=6.5,SNR=3.4						
VNDA	**Vanda**	**73.16**	**178**	P	**P**	**19 15 58.7**	**-0.1**
	0.6nm,0.8s,baz=335,slow=6.5,SNR=10.0						
VNDA				pP	pP	19 16 28.6	+7.7
	1.0nm,0.9s,baz=302,slow=5.2,SNR=3.2						
MKAR	**Makanchi Array**	**80.42**	**319**	P	**P**	**19 16 40.3**	**+0.1**
	0.7nm,0.9s,baz=99,slow=7.5,SNR=4.9						
ZALV	**Zalesovo Beam**	**81.17**	**326**	P	**P**	**19 16 42.1**	**-1.8**
	0.4nm,0.5s,baz=90,slow=1.6,SNR=2.7						
ILAR	**Eielson Array**	**81.63**	**22**	P	**P**	**19 16 44.0**	**-2.2**
	0.4nm,1.0s,baz=251,slow=4.0,SNR=4.9						
ILAR				pP	**pP**	**19 17 13.2**	**+4.5**
	0.2nm,0.7s,baz=235,slow=6.2,SNR=2.1						
KURBB	**Kurchatov Arra**	**83.86**	**322**	P	**P**	**19 16 57.6**	**-0.4**
	0.6nm,0.9s,baz=90,slow=4.1,SNR=6.2						
BVAR	**Borovoye Array**	**89.29**	**323**	P	**P**	**19 17 23.2**	**-1.2**
	1.1nm,0.8s,baz=120,slow=8.5,SNR=6.1						
TORD	**Torodi Ar. Bea**	**150.71**	**289**	PKPbc	**PKPbc**	**19 24 19.9**	**-1.4**
	1.9nm,0.8s,baz=67,slow=1.9,SNR=12						
TORD				pPKPbc	**pPKPbc**	**19 24 48.9**	**+4.0**
	0.9nm,0.7s,baz=46,slow=1.6,SNR=4.2						

MEX 31 19:06:12.5±0.7, 17°18N×95°28W, h106km±5km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.39**	**103**	*i* P	Pn	19 06 27.1	-1.2
CMIG				*i* S	Sn	19 06 38.5	-1.6
VHO	**Vista Hermosa**	**1.39**	**266**	*i* P	Pn	19 06 37.0	-1.1
VHO				*e*S	Sn	19 06 55.2	-2.2
HUIG	**Huatulco**	**1.61**	**210**	*e*P	Pn	19 06 36.1	-4.4
HUIG				*e*S	Sn	19 06 55.2	-6.5
TGIG		**2.10**	**101**	*i* P	Pn	19 06 45.2	-1.6
TGIG				*e*P	Pn	19 06 45.2	-1.5
CCIG	**Comitan**	**3.14**	**106**	*e*P	Pn	19 06 59.6	-0.9

IDC 31 19:15:17.0±5.8, 6°39S×145°38E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.2/19, mbtmp3.4/3, ML3.7/1, Error ellipse: s-maj=134.3km s-min=41.3km az=136.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.22**	**217**	P	Pn	19 19 19.3	+0.3
	0.3nm,0.3s,baz=38,slow=12,SNR=33						
ASAR	**Alice Springs**	**20.41**	**212**	P	P	19 19 54.6	-1.3
	0.8nm,0.6s,baz=49,slow=8.1,SNR=5.6						
ASAR				S	S	19 23 46.7	+1.2
	0.6nm,0.8s,baz=36,slow=22,SNR=3.9						
STKA	**Stephens Creek**	**25.60**	**187**	P	P	19 20 48.8	+0.7
	0.6nm,0.6s,baz=17,slow=11,SNR=3.9						

MEX 31 19:35:39.3±0.5, 17°90N×101°32W, h46km±13km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.32**	**205**	*i* P	Pn	19 35 46.7	-1.6
ZIIG				*i* S	Sn	19 35 53.0	-1.7
ARIG	**Puente Sto Nin**	**1.00**	**68**	*e*P	Pn	19 35 55.9	-1.1
ARIG				*e*S	Sn	19 36 07.6	-2.4
MEIG	**Mezcala**	**1.62**	**89**	*e*P	Pn	19 36 04.3	-1.2
MEIG				*e*S	Sn	19 36 23.1	-2.3

MEX 31 19:36:20.9±0.9, 19°14N×104°30W, h20km, MD3.6, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
R15V		**0.30**	**84**	*i* P	Pb	19 36 26.1	-1.6
R15V				*e*S	Sb	19 36 31.3	-0.9
EZ5V		**0.74**	**62**	*e*P	Pb	19 36 32.6	-2.8
EZ5V				*e*S	Sb	19 36 42.9	-2.4
MMIG	**Aquila**	**1.23**	**133**	*e*P	Pn	19 36 42.3	-0.7
MMIG				*e*S	Sn	19 36 59.9	+0.8
ANIG	**Ahuacatlan**	**1.92**	**354**	*i* P	Pn	19 36 50.0	-2.6
ANIG				*e*S	Sn	19 37 12.5	-3.8
ARIG	**Puente Sto Nin**	**3.84**	**102**	*e*P	Pb	19 37 26.0	-2.0

KRSC 31 19:37:40.5±2.9, 49°47N×156°91E, h15km±7km, ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.32**	**338**	*e*P	Pn	19 38 02.4	-1.9
SKR				*e*S	Sb	19 38 18.2	-3.4
PAU	**Pauzhetka**	**2.00**	**358**	*e*S	Sn	19 38 39.9	+1.4
MIPR	**Malaya Ipel'ka**	**2.81**	**358**	*e*P	Pn	19 38 27.0	+2.1
ASAK	**Asacha**	**2.99**	**12**	*e*P	Pb	19 38 31.4	-2.1
MTVR	**Mutnovka**	**3.13**	**14**	*e*P	Pb	19 38 33.1	-2.8
MTVR				*e*S	Sb	19 39 10.7	-3.3
RUS	**Russkaya**	**3.14**	**18**	*e*P	Pn	19 38 32.1	+2.8
RUS				*e*S	Sb	19 39 11.0	-3.0
AVH	**Avacha**	**3.97**	**16**	*e*P	Pb	19 38 46.2	-4.1
KOK	**Koryaka**	**3.98**	**15**	*e*P	Pb	19 38 46.0	-4.4
SDLR	**Sedlovina**	**4.01**	**17**	*e*P	Pn	19 38 45.4	+3.9
KRX	**Arik**	**4.05**	**15**	*e*P	Pn	19 38 46.2	+4.2
GNL	**Ganaly**	**4.28**	**8**	*e*P	Pn	19 38 49.0	+3.8
MKZ	**Mys Kozlova**	**5.90**	**28**	*e*P	Pn	19 39 09.5	+2.2

IDC 31 19:37:40.8±2.0, 5°67S×154°36E, h0km, mb3.0/2, mb1 3.3/2, mb1mx3.1/25, mbtmp3.1/2, Error ellipse: s-maj=141.1km s-min=42.4km az=131.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.08**	**232**	P	P	19 42 58.4	+0.2
	0.4nm,1.0s,baz=59,slow=9.7,SNR=4.4						
WRA				PcP	PcP	19 46 40.5	+0.5
	0.2nm,0.4s,baz=57,slow=2.4,SNR=6.8						
ASAR	**Alice Springs**	**26.60**	**226**	P	P	19 43 21.0	-0.1
	0.1nm,0.5s,baz=61,slow=8.7,SNR=3.3						
ASAR				PcP	PcP	19 46 45.9	+0.3
	0.2nm,0.5s,baz=70,slow=3.0,SNR=3.2						
TORD	**Torodi Ar. Bea**	**152.04**	**287**	PKPbc	PKPbc	19 57 37.9	-1.3
	0.2nm,0.6s,baz=48,slow=2.3,SNR=3.5						

IDC 31 19:38:37.5±7.9, 19°09S×177°86W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/26, mbtmp3.4/3, Error ellipse: s-maj=342.9km s-min=40.1km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.94**	**261**	P	P	19 46 55.2	+0.5
	0.1nm,0.3s,baz=95,slow=7.2,SNR=5.4						
ASAR	**Alice Springs**	**44.98**	**255**	P	P	19 46 54.1	-0.9
	0.3nm,0.6s,baz=104,slow=8.3,SNR=5.0						
ILAR	**Eielson Array**	**86.92**	**13**	P	P	19 51 23.9	0.0
	0.2nm,0.4s,baz=224,slow=6.1,SNR=4.8						

IDC 31 19:42:17.7±4.3, 30°29N×141°66E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.2/27, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=171.2km s-min=25.1km az=72.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**6.87**	**336**	Pn	Pn	19 43 57.7	-2.1
	0.5nm,0.3s,baz=160,slow=12,SNR=6.2						
MKAR	**Makanchi Array**	**48.13**	**307**	P	P	19 51 00.2	+0.7
	0.1nm,0.5s,baz=70,slow=8.3,SNR=2.5						
WRA	**Warramunga Arr**	**50.44**	**189**	P	P	19 51 16.9	-0.4
	0.4nm,0.4s,baz=5.5,slow=7.5,SNR=10						
ASAR	**Alice Springs**	**54.16**	**189**	P	P	19 51 44.8	-0.2
	0.1nm,0.6s,baz=11,slow=6.6,SNR=2.9						

*BJI **31** 19:51:43.1, 10°93N×93°55E, h121km, mb6.2/84, mB6.7/61*
*NEIC **31** 19:51:45.9±0.1, 11°13N×93°47E, h112km, mb6.1/169, ME6.1, MW6.4, MW6.4, MW6.4, Error ellipse: s-maj=4.8km s-min=3.1km az=210.0, Moment Tensor Solution. s110 Moment tensor: Scale 10¹⁸Nm; M_{rr}2.43; $M_{\theta\theta}$-2.42; $M_{\phi\phi}$-0.01; $M_{r\theta}$-3.69; $M_{\theta\phi}$1.74; $M_{\phi r}$-2.05; Best double couple: $M_0$5.20000×10¹⁸ NP1:φs258.00000°, δ75.00000°, λ63.00000°. NP2:φs142.00000°, δ31.00000°, λ150.00000°. Principal axes: T 5.6500, Plg51.0000°, Azm136.0000°; N -1.1600, Plg26.0000°, Azm265.0000°; P -4.4900, Plg25.0000°, Azm9.0000°; Broadband fault plane solution: P waves. NP1:φs148.00000°, δ31.00000°, λ161.00000°. NP2:φs255.00000°, δ80.00000°, λ60.00000°. Principal axes: T Plg47.0000°, Azm134.0000°; N Plg0.0000°, Azm0.0000°; P Plg29.0000°, Azm9.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] at Port Blair and [II] at Calcutta and Visakhapatnam. Also felt at Bhubaneswar, Haora, Kataka and Madras. Felt at Chittagong and Dhaka, Bangladesh.
*ISCJB **31** 19:51:47.0±0.2, 11°18N±0°02×93°60E±0°01, h134km±2km, mb5.8/325 Error ellipse: s-maj=2.6km s-min=1.8km az=23.8*
*MOS **31** 19:51:47.2±1.8, 11°14N×93°73E, h139km, mb6.1/119, MS5.8/32, Error ellipse: s-maj=9.4km s-min=3.9km az=130.2*
*NEIC **31** 19:51:48.0±0.0, 11°12N×93°70E, h127km, Moment Tensor Solution. s53 Moment tensor: Scale 10¹⁸Nm; M_{rr}2.01; $M_{\theta\theta}$-3.35; $M_{\phi\phi}$1.35; $M_{r\theta}$-3.20; $M_{\theta\phi}$1.91; $M_{\phi r}$-1.96; Best double couple: $M_0$5.10000×10¹⁸ NP1:φs253.00000°, δ75.00000°, λ53.00000°. NP2:φs144.00000°, δ38.00000°, λ156.00000°. Principal axes: T 5.2500, Plg46.0000°, Azm125.0000°; N -0.2500, Plg35.0000°, Azm263.0000°; P -4.9900, Plg21.0000°, Azm9.0000°;*
*IDC **31** 19:51:48.7±0.4, 11°22N×93°61E, h138km±3km, mb5.5/25, mb1 5.6/26, mb1mx5.6/26, mbtmp5.9/26, MS5.6/28, Ms1 5.6/28, ms1mx5.5/39 Error ellipse: s-maj=7.2km s-min=5.9km az=50.0*
*DJA **31** 19:51:48.9±0.3, 11°N±2°×9°4E±°, h122km±3km, M6.5/78, mb6.2/78, mB6.7/76, MLv6.7/3, Mw(mB)6.6/76, Mwp6.4/46*
*KLM **31** 19:51:49.6, 11°18N×93°76E, h112km, mb6.4, MS6.8*
*BKK **31** 19:51:50.0±0.3, 11°N±2°×9°4E±°, h136km±3km, M6.7/69, mb6.2/69, mB6.8/68, MLv6.3/15, Mw(mB)6.7/68, Mwp6.7/39*
*SZGRF **31** 19:51:50.5, 12°08N×94°22E, h133km, mb6.1, Andaman Islands, India, region*
*GCMT **31** 19:51:55.5±0.1, 11°16N×93°70E, h128km, MW6.5/137, Moment Tensor Solution. s137,c352; s130,c531; Duration: 4s2 Moment tensor: Scale 10¹⁸Nm; M_{rr}2.33±.03; $M_{\theta\theta}$-4.03±.03; $M_{\phi\phi}$1.70±.03; $M_{r\theta}$-4.21±.02; $M_{\theta\phi}$2.66±.03; $M_{\phi r}$-1.88±.03; Best double couple: $M_0$6.37200×10¹⁸ NP1:φs256.00000°, δ76.00000°, λ54.00000°. NP2:φs148.00000°, δ39.00000°, λ158.00000°. Principal axes: T 6.2950, Plg46.0000°, Azm128.0000°; N 0.1530, Plg35.0000°, Azm265.0000°; P -6.4480, Plg23.0000°, Azm13.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **31** 19:52:01.7±0.0, 11°34N×93°56E, h112km, Moment Tensor Solution. s138 Moment tensor: Scale 10¹⁸Nm; M_{rr}2.41; $M_{\theta\theta}$-3.69; $M_{\phi\phi}$1.28; $M_{r\theta}$-3.62; $M_{\theta\phi}$2.26; $M_{\phi r}$-1.38; Best double couple: $M_0$5.50000×10¹⁸ NP1:φs258.00000°, δ74.00000°, λ56.00000°. NP2:φs146.00000°, δ37.00000°, λ153.00000°. Principal axes: T 5.3500, Plg49.0000°, Azm130.0000°; N 0.3600, Plg32.0000°, Azm269.0000°; P -5.7100, Plg21.0000°, Azm13.0000°;*

ISC 31 19:51:47.7±0.2, 11°21N±0°02×93°65E±0°02, h132km±1km, h132km:pP-P,n2584,σ1f67/2991, mb6.0/329, 307C-549D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**0.99**	**296**	*e*P	Pn	19 52 10.6	-0.1
PBA				*e*S	Sn	19 52 26.4	-1.7
PBA				AML	AML	19 52 33.7	
	comp=E,521μm,0.4s						
PBA				AML	AML	19 52 33.8	
	comp=N,1216μm,0.6s						
DGPR	**DIGLIPUR**	**2.08**	**340**	*e*P	**Pn**	**19 52 22.8**	**0.0**
DGPR				*e*S	**Sn**	**19 52 46.2**	**-3.4**
DGPR				AML	AML	19 52 50.4	
	comp=N,222μm,0.5s						
DGPR				AML	AML	19 52 51.4	
	comp=E,308μm,0.4s						
CMBY	**CAMPBELL BAY**	**4.18**	**176**	*e*P	**Pn**	**19 52 49.4**	**-0.6**
CMBY				*e*S	Sn	19 53 31.5	-6.8
CMBY				AML	AML	19 53 50.5	
	comp=E,50μm,0.5s						
CMBY				AML	AML	19 53 50.8	
	comp=N,46μm,0.2s						
PKDT	**Phuket**	**5.67**	**125**	P	**Pn**	**19 53 10.6**	**+0.7**
	comp=N,4μm,1.3s,comp=N,165μmcomp=N,19nm						
BSI	**Banda Aceh**	**5.91**	**164**	P	**Pn**	**19 53 12.1**	**-0.9**
	comp=N,3μm,1.1s,comp=N,89μmcomp=N,803μmcomp=N,29nm						
BSI				S	**Sn**	**19 54 16.3**	**-3.3**
	comp=N,3μm,1.1s,comp=N,89μmcomp=N,803μmcomp=N,29nm						
KHLT	**Khaolaem Dam**	**5.99**	**53**	P	**Pn**	**19 53 14.6**	**+0.5**
	comp=N,3μm,1.1s,comp=N,71μmcomp=N,16nm						
SRDT	**SRDT**	**6.18**	**59**	P	**Pn**	**19 53 17.4**	**+0.7**
	comp=N,7μm,1.9s,comp=N,463μmcomp=N,63nm						
LHMI	**Lhok Sumawe**	**6.78**	**151**	P	**Pn**	**19 53 23.9**	**-0.9**
LHMI				S	**Sn**	**19 54 38.8**	**-1.9**
LHMI	**Lhok Sumawe**	**6.78**	**151**	*e*P	**Pn**	**19 53 26.0**	**+1.3**
	comp=N,5μm,1.0s						
TRTT	**Trang**	**6.83**	**119**	P	**Pn**	**19 53 25.8**	**+0.3**
	comp=N,1μm,1.7s,comp=N,62μmcomp=N,12nm						
UTHA	**Uthaitani**	**7.10**	**52**	P	**Pn**	**19 53 29.5**	**+0.4**
	comp=N,589nm,1.1s,comp=N,5μmcomp=N,1.7nm						
PATY	**Pattaya**	**7.26**	**76**	P	**Pn**	**19 53 32.4**	**+1.2**
	comp=N,208nm,1.1s,comp=N,5μmcomp=N,1.3nm						
MHMT	**Maesariang**	**8.07**	**30**	P	**Pn**	**19 53 42.5**	**+0.4**
	comp=N,2μm,1.9s,comp=N,65μmcomp=N,13nm						
CHBT	**CHBT**	**8.63**	**79**	P	**Pn**	**19 53 50.8**	**+1.2**
	comp=N,972nm,1.4s,comp=N,13μmcomp=N,3.4nm						
CM31	**Chiang Mai Arr**	**8.83**	**35**	*e*P	**Pn**	**19 53 53.7**	**+1.3**
	comp=N,8μm,1.3s						
CMAR	**Chiang Mai Arr**	**8.83**	**35**	P	**Pn**	**19 53 53.9**	**+1.4**
	comp=N,35nm,0.3s,baz=224,slow=13,SNR=1056						
CMAR				LR	LR	19 57 01.7	
	comp=N,62μm,20.5s,baz=218,slow=35						
CMAR				ScP	**ScP**	**20 03 27.4**	**+1.4**
	comp=N,0.1nm,0.3s,baz=241,slow=2.5,SNR=10						
CMAR				ScS	**ScS**	**20 07 01.3**	**+0.9**
	baz=6.2,slow=28,SNR=4.5						
CMAR				P3KPbc		20 30 52.2	
	comp=N,0.0nm,0.3s,baz=22,slow=5.9,SNR=6.0						
CMAR				P3KP		20 31 14.7	
	comp=N,0.1nm,0.3s,baz=8.0,slow=3.9,SNR=13						
CMAR				PKPPKP	**P'P'df**	**20 31 52.5**	**-1.7**
	comp=N,0.0nm,0.3s,baz=5.0,slow=2.1,SNR=2.9						
CMAR	**Chiang Mai Arr**	**8.83**	**35**	*i* P	**Pn**	**19 53 53.5**	**+1.1**
CMAR				pmax	pmax		
	comp=Z,2μm,1.0s						
PBKT	**Sadao Pong**	**8.88**	**52**	P	**Pn**	**19 53 53.8**	**+0.8**
	comp=Z,5μm,1.4s,comp=Z,74μmcomp=Z,17nm						
TSI	**Tuntungan**	**9.08**	**147**	P	**Pn**	**19 53 55.0**	**-0.7**
TSI				S	**Sn**	**19 55 34.6**	**-1.7**
KULM	**Kulim**	**9.09**	**130**	⇑P	**Pn**	**19 53 56.7

BKNI Bangkinang 13.07 145 *e*P **Pn** **19 54 45.6 -2.9**
comp=Z,3μm,1.1s
MDRS Chennai 13.24 279 *e*P **Pn** **19 54 52.7 +2.0**
PALK Pallekele 13.37 254 *e*P **Pn** **19 54 52.8 +0.4**
PALK pmax pmax
comp=Z,85nm,0.6s
PALK Pallekele 13.37 254 P **P** **19 54 56.3 -0.9**
SNR=20
PALK Pallekele 13.37 254⇓ *e*P **P** **19 54 54.9 -2.3**
SNR=20
PALK Pallekele 13.37 254 *e*P **Pn** **19 54 52.8 +0.4**
comp=Z,85nm,0.6s
IMP Imphal 13.50 1 *ex* **Pn** **19 54 52.0 -2.1**
IMP *ex* x 19 57 13.0
SKHT Srikalahasti 13.85 282 *e*P **Pn** **19 55 00.1 +1.6**
SKHT IAmb IAmb 19 55 04.1
comp=Z,1μm,0.9s
SKHT *e*Sn Sn 19 57 20.0 -12
ADKI Addanki 14.08 291 *e*P **Pn** **19 55 02.1 +0.7**
ADKI IAmb IAmb 19 55 04.1
comp=Z,7μm,2.3s
ADKI *e*Sn Sn 19 57 26.6 -11
SDSI Sungai Dareh 14.33 147 P **Pn** **19 55 01.9 -2.7**
SHL Shillong 14.38 354 *e*P **Pn** **19 55 04.5 -0.9**
BOK Bokaro 14.54 330 *e*P **Pn** **19 55 08.1 +0.9**
TPRI Tanjung Pinang 14.87 133 P **Pn** **19 55 11.1 -0.4**
NJS Nagarjunasagar 14.90 292 *e*P **P** **19 55 13.1 -1.1**
NJS IAmb IAmb 19 55 19.5
comp=Z,1μm,1.0s
NJS *e*sP 19 55 47.2
NJS *e*Sn Sn 19 57 48.7 -8.3
RPR Rampur 15.81 300 *e*P **P** **19 55 24.9 +0.7**
RPR *e* 19 58 06.1
RPR *e*Sn **Sn** **19 58 13.5 -5.3**
HYB Hyderabad 15.87 295⇑ *i*P **P** **19 55 25.0 0.0**
comp=Z,480nm,1.0s
HYB *e*sP sP 19 55 56.0 -8.8
HYB *e*S Sn 19 58 12.0 -8.4
HYB LR LR
comp=Z,60nm,16.0s
HYB Hyderabad 15.87 295 *e*P **P** **19 55 25.9 +0.9**
HYB Hyderabad 15.87 295 *e*P **P** **19 55 25.0 0.0**
HYB *e*S **S** **19 58 26.0 +2.5**
HYB Hyderabad 15.87 295 *e*P **P** **19 55 25.0 0.0**
HYB *e*S **S** **19 58 26.0 +2.5**
HYBB Hyderabad (bro 15.88 295 *e*P **P** **19 55 25.0 0.0**
HYBB IAmb IAmb 19 55 29.4
comp=Z,11μm,2.2s
HYBB *e*pP pP 19 55 42.2 -5.9
HYBB *e*sP sP 19 55 56.8 -8.0
HYBB *e* 19 58 10.6
HYBB *e*Sn **Sn** **19 58 16.9 -3.5**
HYBB *e*S **S** **19 58 23.4 -0.1**
DSRI Dabo 15.90 136 P **P** **19 55 26.8 +1.5**
JMBI JAMBI 16.17 141 P **Pn** **19 55 27.1 -0.5**
KMI Kunming 16.30 31⇓ P **P** **19 55 32.0 +2.1**
KMI PP **pP** **19 55 53.5 +0.5**
KMI S **Sn** **19 58 30.8 0.0**
KMI ScP **ScP** **20 03 37.8 +0.2**
KMI ScS **ScS** **20 07 17.0 0.0**
KMI PMZ
comp=Z,3μm,1.4s
KMI PMZ
comp=Z,69μm,7.8s
KMI LN
comp=Z,56μm,17.0s
KMI LE
comp=Z,34μm,13.6s
KMI LZ
comp=Z,48μm,15.7s
URV Uravakonda 16.39 285 *e*P **Pn** **19 55 29.3 -1.0**
URV IAmb IAmb 19 55 37.2
comp=Z,1μm,1.5s
URV *e*pP **pP** **19 55 49.5 -4.5**
URV *e*sPn sPn 19 55 59.4 -7.2
URV *e* 19 58 21.0
URV *e*S **Sn** **19 58 33.5 +0.6**
ODAN Odare 16.65 340 *e*P **P** **19 55 34.2 +0.5**
comp=Z,3μm,0.4s
TRD Trivandrum 16.66 262 *e*P **P** **19 55 35.8 +2.0**
TAPN Taplejung 17.00 342 *e*P **Pn** **19 55 38.1 +0.2**
comp=Z,3μm,0.4s
RAMN Ramite 17.01 338 *e*P **Pn** **19 55 38.9 +1.0**
comp=Z,6μm,0.6s
QIZ Qiongzhong 17.45 62 P **Pn** **19 55 43.3 +0.2**
QIZ sP **sP** **19 56 19.8 -2.4**
QIZ S **Sn** **19 58 58.0 -0.2**
QIZ PMZ
comp=Z,15μm,9.2s
QIZ LZ
comp=Z,47μm,14.2s
QIZ Qiongzhong 17.45 62 *e*P **Pn** **19 55 44.8 +1.7**
comp=Z,398nm,0.9s
JIRN Jiri 17.80 338 *e*P **Pn** **19 55 48.2 +0.6**
LHSI Lahat 17.88 146 P **P** **19 55 44.5 -2.6**
comp=Z,950nm,0.7s,comp=Z,29μmcomp=Z,133μm
PMBI Palembang 17.88 141 P **P** **19 55 46.5 -0.6**
PKI Pulchoki 18.02 336 *e*P **Pn** **19 55 50.3 +0.1**
MNAI Manna 18.03 149 P **P** **19 55 46.7 -2.0**
comp=Z,2μm,0.9s,comp=Z,35μmcomp=Z,190μm
MNAI Manna 18.03 149 *e*P **P** **19 55 46.0 -2.7**
comp=Z,767nm,0.6s
GUN Gumba 18.14 337 *e*P **Pn** **19 55 51.3 -0.4**
DMN Daman 18.18 335 *e*P **Pn** **19 55 51.9 -0.1**
comp=Z,4μm,0.7s
PPBI Pangkal Pinang 18.18 136 P **Pn** **19 55 51.4 -0.5**
comp=Z,7μm,1.1s,comp=Z,86μmcomp=Z,132μm
KKN Kakani 18.27 336 *e*P **Pn** **19 55 52.6 -0.4**
comp=Z,1μm,0.4s
MNGI Mangalore 18.49 277 *i* x P 19 55 44.0 -10
MNGI *i* x x 19 58 55.3
LSA Lhasa 18.54 353 P **Pn** **19 55 56.0 -0.5**
LSA S **S** **19 59 19.5 -0.3**
LSA PMZ
comp=Z,4μm,1.0s
LSA LN
comp=Z,7μm,15.0s
LSA LE
comp=Z,18μm,15.0s
LSA LZ
comp=Z,15μm,14.0s
LSA Lhasa 18.54 353 *e*P **P** **19 55 55.4 +0.6**
LSA Lhasa 18.54 353 *e*P **P** **19 55 55.4 +0.6**
comp=Z,16μm,1.5s
GKN Gorkha 18.72 334 *e*P **Pn** **19 55 57.8 -0.5**
comp=Z,4μm,0.5s
MDSI Maura Dua 18.79 146 P **P** **19 55 54.3 -2.7**
comp=Z,734nm,0.9s,comp=Z,15μmcomp=Z,120μm
KOLN Koldanda 18.98 332 *e*P **Pn** **19 56 00.6 -0.8**
comp=Z,5μm,0.7s
KSM Kuching 19.16 119⇓ P **Pn** **19 56 02.9 -0.4**
KSM Kuching 19.16 119 *e*P **P** **19 56 02.1 +1.0**
comp=Z,2μm,1.0s
LWLI Liwa 19.16 147 P **P** **19 55 58.8 -2.4**
comp=Z,926nm,1.0s,comp=Z,14μm
KLI Kotabumi 19.48 144 P **P** **19 56 04.3 -0.2**
comp=Z,743nm,1.4s,comp=Z,22μm
GYA Guiyang 19.51 37⇓ *i*P **Pn** **19 56 06.5 -1.0**
GYA pP **pP** **19 56 31.8 +3.3**
GYA sP **sP** **19 56 49.5 +4.4**
GYA S **S** **19 59 38.0 -0.4**
GYA ScP **ScP** **20 03 46.8 +2.6**
GYA PMZ
comp=Z,4μm,1.0s
GYA PMZ
comp=Z,22μm,7.8s
GYA LN
comp=Z,25μm,7.2s
GYA LE
comp=Z,41μm,12.7s
GYA LZ
comp=Z,68μm,13.7s
BHPL Bhopal 19.55 310 *e*P **Pn** **19 56 08.6 +0.6**
TPI Tanjungpandan 19.66 134 P **P** **19 56 07.5 +1.0**
comp=Z,6μm,1.2s,comp=Z,78μmcomp=Z,269μm
GOA Goa 19.75 285 *e*P **Pn** **19 56 11.2 +0.9**
KASI Kota Agung 19.82 146 P **P** **19 56 04.4 -3.8**
comp=Z,1μm,0.9s,comp=Z,16μmcomp=Z,123μm
SBUM Sibu 20.37 114⇑ P Pn 19 56 16.6 -0.9
POO Poona 20.46 293 *e*P Pn 19 56 17.7 -0.9
BTM Bintulu 20.84 111⇓ P Pn 19 56 22.1 -1.1
STKI Sintang 20.89 121 P **P** **19 56 21.0 +1.3**
comp=Z,3μm,1.3s,comp=Z,47μmcomp=Z,104μm
SBJI Serang 21.23 144 P **P** **19 56 24.1 +0.8**
comp=Z,1μm,1.1s,comp=Z,16μm

CGJI Cibinong 21.38 145 P **P** **19 56 20.8 -4.2**
comp=Z,412nm,0.5s,comp=Z,12μmcomp=Z,111μm
TNG Tangerang 21.57 143 P **P** **19 56 29.8 +2.8**
comp=Z,5μm,1.5s,comp=Z,65μm
CD2 Chengdu 21.73 24⇓ *i*P **P** **19 56 29.0 +0.4**
CD2 pP **pP** **19 56 54.5 +1.8**
CD2 PP **PnPn** **19 57 01.0 +3.4**
CD2 sP **sP** **19 57 10.5 +1.3**
CD2 S **S** **20 00 17.5 -3.3**
CD2 sS **sS** **20 00 59.8 -2.3**
CD2 SS **SnSn** **20 01 06.5 +7.0**
CD2 PMZ
comp=Z,4μm,0.9s
CD2 PMZ
comp=Z,30μm,5.6s
CD2 LN
comp=Z,23μm,12.2s
CD2 LE
comp=Z,35μm,15.7s
CD2 LZ
comp=Z,31μm,13.7s
LGTI Lohaghat 22.04 327 *ex* P 19 56 38.1 +6.4
LGTI *ex* Sn 20 00 50.1 +2.6
PTH Pithoragarh 22.13 327 *e*P **P** **19 56 35.3 +2.3**
PTH *ex* x 20 00 18.2
GZH Guangzhou 22.18 55 P P 19 56 39.5 +6.2
GZH pP pP 19 56 48.8 -8.8
GZH sP sP 19 56 52.3 -22
GZH PP **PnPn** **19 57 05.8 +2.1**
GZH S S 20 00 39.3 +11
GZH SS SnSn 20 01 21.3 +11
GZH LR LR
comp=N,67μm,12.7s
GZH LR LR
comp=E,24μm,12.2s
SKJI Sukabumi 22.19 144 P **P** **19 56 28.8 -4.6**
HKC Hong Kong Obse 22.50 58⇓ *i*P **P** **19 56 38.0 +1.5**
HKC *i* S **S** **20 00 38.0 +4.2**
PBKI Pangkalan Bun 22.64 127 P **P** **19 56 39.0 +1.1**
comp=E,8μm,1.4s,comp=E,149μmcomp=E,148μm
LEM Lembang 22.68 142 P **P** **19 56 35.4 -3.0**
comp=E,693nm,1.0s,comp=E,33μmcomp=E,200μm
LEM Lembang 22.68 142 P **P** **19 56 34.7 -3.7**
comp=E,228nm,0.9s,baz=25,slow=7.8,SNR=33
LEM ScP **ScP** **20 03 51.0 -1.3**
comp=E,48nm,1.0s,baz=351,slow=4.9,SNR=4.2
LEM LR LR 20 06 03.3
comp=E,23μm,21.5s,baz=304,slow=38
LEM ScS **ScS** **20 07 35.9 -2.4**
comp=E,99nm,1.1s,baz=342,slow=23,SNR=5.7
CNJI Cibinong 22.77 143 P **P** 19 56 33.6 -5.5
KKM Kota Kinabalu 22.88 101⇓ P **P** **19 56 42.6 +2.2**
KKM Kota Kinabalu 22.88 101 *e*P **P** **19 56 41.9 +1.6**
comp=E,8μm,1.8s
NDI New Delhi 23.20 321 *e*P **P** **19 56 45.0 +1.9**
NDI *ex* **S** **20 00 48.0 +3.0**
KDM Kudat 23.28 99⇓ P **P** **19 56 46.2 +2.3**
CISI Cisompet, Garu 23.37 142 P **P** **19 56 42.0 -2.8**
comp=E,510nm,0.8s,comp=E,19μmcomp=E,146μm
CISI Cisompet, Garu 23.37 142 *e*P **P** **19 56 40.8 -4.0**
comp=E,617nm,1.0s
COCO West Island 23.46 172 *e*P **P** **19 56 46.2 +0.7**
COCO pmax pmax
comp=Z,2μm,1.1s
COCO West Island 23.46 172 P **P** **19 56 46.5 +1.0**
SNR=15
COCO West Island 23.46 172 *e*P **P** **19 56 46.2 +0.7**
comp=Z,2μm,1.1s
AJM Ajmer 23.49 313 *ex* **P** **19 56 48.0 +2.2**
DDI Dehra Dun 23.91 325 *e*P **P** **19 56 51.8 +2.3**
CMJI Cimerak 23.93 141 P **P** **19 56 53.0 +3.2**
comp=Z,294nm,1.3s,comp=Z,17μm
ENH Enshi 24.01 35 *e*P **P** **19 56 50.5 +0.1**
comp=Z,468nm,0.7s
MTKI Muara Teweh, K 24.33 118 P **P** **19 56 54.6 +1.2**
comp=Z,8μm,0.9s,comp=Z,94μm
UWJI Ujung Watu 24.56 135 P **P** **19 56 57.8 +2.3**
comp=Z,3μm,1.4s,comp=Z,61μmcomp=Z,94μm
PPR Puerto Princes 24.70 91⇑ *i*P **P** **19 56 57.4 +0.6**
SMLA Simla 25.02 325 *i* P **P** **19 57 02.2 +2.7**
SMLA *i* x x 20 01 48.3
ENPP El Nido 25.28 87 *e*P **P** **19 57 03.5 +1.4**
UGM Wanagama 25.35 138 P **P** **19 57 03.2 +0.5**
comp=Z,1μm,1.3s,comp=Z,28μmcomp=Z,148μm
SDNR Sundarnagar 25.41 325 *e*P **P** **19 57 05.0 +1.9**
SDNR *ex* x 20 01 55.0
TBJI Tambak Boyo 25.47 134 P **P** **19 57 07.3 +3.6**
comp=Z,3μm,0.9s,comp=Z,72μm
BBKI Banjar Baru 25.63 122 P **P** **19 57 07.6 +2.3**
comp=Z,6μm,1.1s,comp=Z,75μm
BHK Bhakra 25.66 324 *e*P **P** **19 57 08.5 +3.1**
BHK *ex* x 20 02 06.0
BHJ Bhuj 25.81 301 *e*P **P** **19 57 10.7 +3.9**
SCZP Santa Cruz 25.92 77 *e*P **P** **19 57 09.1 +1.2**
GRJI Gresik 25.99 133 P **P** **19 57 11.2 +2.8**
comp=Z,467nm,1.2s,comp=Z,10μm
PCJI Pacitan 25.99 137 P **P** **19 57 11.3 +2.8**
comp=Z,444nm,1.3s,comp=Z,16μm
BKB Balikpapan 26.22 117 P **P** **19 57 12.6 +2.0**
comp=Z,2μm,1.2s,comp=Z,53μmcomp=Z,136μm
PWJI Pagerwojo 26.29 136 P **P** **19 57 14.2 +3.0**
comp=Z,438nm,1.0s,comp=Z,11μm
DHRM DHARAMSHALA 26.35 325 *e*P **P** **19 57 13.0 +1.2**
LZH Lanzhou 26.43 19⇓ P **P** **19 57 13.5 +1.1**
LZH pP **pP** **19 57 37.0 -3.4**
LZH sP **sP** **19 57 55.0 -0.7**
LZH S **S** **20 01 38.0 +1.5**
LZH SS SnSn 20 03 04.0 +10
LZH PMZ
comp=Z,5μm,1.8s
LZH PMZ
comp=Z,14μm,4.0s
LZH LN
comp=Z,25μm,14.8s
LZH LE
comp=Z,21μm,13.4s
LZH LZ
comp=Z,46μm,15.8s
BCPH Baguio City Da 26.64 76⇓ *e*P **P** **19 57 15.0 +0.5**
KBKI Kotabaru 26.64 121 P **P** **19 57 16.2 +1.9**
comp=Z,780nm,1.4s,comp=Z,21μmcomp=Z,75μm
XAN Xi'an 26.67 29 P **P** **19 57 14.0 -0.4**
XAN sP **sP** **19 57 57.3 -0.5**
XAN PP **PnPn** **19 58 10.5 +6.8**
XAN S **S** **20 01 33.3 -6.8**
XAN PMZ
comp=Z,180nm,1.5s
XAN PMZ
comp=Z,2μm,6.4s
XAN LN
comp=Z,15μm,25.2s
XAN LE
comp=Z,6μm,21.0s
XAN LZ
comp=Z,4μm,11.6s
SZP Santa 26.70 73 *e*P **P** **19 57 16.8 +2.0**
comp=Z,410nm,0.9s
DLH Dalhousie 26.75 325 *ex* P 19 57 09.0 -6.4
DLH *ex* x 20 02 31.0
TGY Tagaytay City 26.77 81 P **P** **19 57 17.7 +2.2**
comp=Z,1μm,1.1s,baz=263,slow=5.2,SNR=27
TGY S **S** **20 01 45.5 +3.4**
comp=Z,63nm,0.3s,baz=205,slow=7.9,SNR=1.3
TGY ScS **ScS** **20 07 54.7 -0.2**
comp=Z,167nm,0.3s,baz=190,slow=14,SNR=2.6
TGY LR LR 20 08 32.7
comp=Z,28nm,18.4s,baz=264,slow=37
CUYO Cuyo Island 26.86 88 *e*P **P** **19 57 18.2 +1.9**
SJMP San Jose 26.91 85 *e*P P 19 57 21.8 +5.0
WHN Wuhan 27.19 42⇓ *i*P **P** **19 57 19.8 +0.8**
WHN sP **sP** **19 58 00.0 -2.4**
WHN S **S** **20 01 48.0 -0.2**
WHN PMZ
comp=Z,2μm,1.4s
WHN PMZ
comp=Z,10μm,4.3s
WHN LN
comp=Z,40μm,12.3s
WHN LE
comp=Z,55μm,16.4s
WHN LZ
comp=Z,81μm,13.9s
QZH Quanzhou 27.30 57⇓ *i*P **P** **19 57 22.0 +1.9**
QZH pP **pP** **19 57 49.0 +0.8**
QZH S **S** **20 01 49.3 -0.7**

QZH PMZ
comp=Z,560nm,0.9s
QZH LN
comp=Z,38μm,7.6s
QZH LE
comp=Z,25μm,6.1s
QZH LZ
comp=Z,54μm,19.7s
LQP Lukban 27.35 81⇑ *i*P **P** **19 57 23.1 +2.2**
BLJI Banyuglugur 27.36 133 P **P** **19 57 21.6 +0.9**
comp=Z,928nm,1.2s,comp=Z,25μmcomp=Z,115μm
OTRP Odiongan 27.79 85 *e*P **P** **19 57 28.4 +3.7**
ABJI Asem Bagus 27.86 132 P **P** **19 57 26.8 +1.7**
comp=Z,1μm,2.3s,comp=Z,43μmcomp=Z,114μm
DGAR Diego Garcia 28.06 230 P **P** **19 57 29.3 +2.4**
DGAR pmax pmax
comp=Z,1μm,1.5s
DGAR Diego Garcia 28.06 230 P **P** **19 57 29.3 +2.4**
comp=Z,1μm,1.5s
H08S3 Diego Garcia H 28.18 229 P **P** **19 57 30.8 +3.1**
baz=28,slow=14,SNR=9.3
H08S3 T T 20 24 47.3
baz=50,slow=75,SNR=252
H08S2 Diego Garcia H 28.18 229 P **P** **19 57 30.8 +3.1**
baz=28,slow=14,SNR=9.3
H08S2 T T 20 24 45.4
baz=50,slow=75,SNR=515
H08S1 Diego Carcia H 28.20 229 P P 19 57 32.3 +4.4
baz=28,slow=14,SNR=7.9
H08S1 T T 20 24 53.4
baz=50,slow=75,SNR=243
MPSI Mapaga 28.22 111 P **P** **19 57 29.9 +1.5**
comp=Z,820nm,1.2s,comp=Z,15μmcomp=Z,62μm
SGCP Mt. Cagua 28.31 72 *e*P **P** **19 57 31.2 +2.1**
TPUB Ta-pu 28.37 61 *e*P **P** **19 57 32.3 +2.6**
comp=Z,437nm,1.6s
GUIM Jordan 28.41 88 *e*P **P** **19 57 32.3 +2.2**
H08N1 Diego Carcia H 28.49 233 P P 19 57 35.5 +5.1
baz=67,slow=8.1,SNR=4.5
H08N1 T T 20 26 48.9
baz=64,slow=76,SNR=39
H08N2 Diego Garcia H 28.49 233 P P 19 57 36.3 +5.8
baz=67,slow=8.1,SNR=6.8
H08N2 T T 20 26 53.8
baz=64,slow=76,SNR=76
H08N3 Diego Garcia H 28.51 233 P P 19 57 37.2 +6.6
baz=67,slow=8.1,SNR=10
H08N3 T T 20 26 40.2
baz=64,slow=76,SNR=126
TWG Pinlang 28.59 63 *e*P P 19 57 35.3 +3.6
comp=Z,3μm,1.3s
GTA Gaotai 28.61 10⇓ P **P** **19 57 33.3 +1.5**
GTA pP **pP** **19 57 57.3 -2.8**
GTA sP **sP** **19 58 10.8 -4.5**
GTA S **S** **20 02 10.8 +0.1**
GTA ScP **ScP** **20 04 10.0 +1.1**
GTA ScS **ScS** **20 08 02.0 -0.5**
GTA PMZ
comp=Z,660nm,1.6s
GTA PMZ
comp=Z,13μm,5.7s
GTA LN
comp=Z,10μm,16.6s
GTA LE
comp=Z,8μm,14.2s
GTA LZ
comp=Z,12μm,17.6s
PCI Palu 28.68 113 P **P** **19 57 33.5 +1.0**
comp=Z,2μm,1.1s,comp=Z,25μm
BBP Basco 28.70 68 *e*P **P** **19 57 34.9 +2.3**
SRBI Singaraja 28.77 131 P **P** **19 57 34.0 +0.7**
SSLB Suanglung 28.82 61 *e*P **P** **19 57 35.9 +2.1**
comp=Z,348nm,1.1s
YULB Yu-li 28.98 62 *e*P **P** **19 57 38.0 +2.9**
comp=Z,753nm,1.3s
IGBI Denpasar 29.21 132 P **P** **19 57 36.6 -0.5**
DCPH Dipolog City 29.37 92⇑ *e*P **P** **19 57 40.6 +2.0**
YHNB Yeheng 29.50 59 *e*P **P** **19 57 42.2 +2.4**
comp=Z,589nm,1.1s
PAGZ Pagadian 29.50 94 *e*P **P** **19 57 42.3 +2.5**
NACB Ninganchiao 29.50 60 *e*P P 19 57 43.1 +3.4
comp=Z,165nm,1.1s
TTSI Tana Toraja 29.64 117 P **P** **19 57 42.2 +1.2**
TATO Taipei 29.71 59 P P 19 57 45.5 +4.0
SNR=7.0
TATO Taipei 29.71 59 *e*P **P** **19 57 44.5 +3.0**
comp=Z,638nm,1.2s
PVCP Virac 29.88 82 *e*P **P** **19 57 43.9 +0.8**
SPSI Sidrap Palu 30.04 119 P **P** **19 57 45.3 +0.7**
MRSI Marisa 30.05 109 P **P** **19 57 45.7 +1.0**
APSI Ampana 30.32 112 P **P** **19 57 48.5 +1.4**
CNP Catarman 30.37 84 *e*P **P** **19 57 49.5 +2.0**
OCLP Ormoc 30.37 87 *e*P **P** **19 57 49.4 +1.9**
CTBH Cotabato--PC H 30.45 95 *i* P **P** **19 57 49.6 +1.5**
KAPI Kappang 30.57 120 ScP **ScP** **20 04 14.2 -1.3**
comp=Z,94nm,1.0s,baz=251,slow=3.7,SNR=8.2
KAPI ScS **ScS** **20 08 11.2 -1.1**
comp=Z,13nm,1.0s,baz=121,slow=22,SNR=7.2
KAPI LR LR 20 12 44.5
comp=Z,13μm,18.8s,baz=292,slow=41
KAPI Kappang 30.57 120 P **P** **19 57 50.9 +1.7**
SNR=84
KAPI Kappang 30.57 120 *e*P **P** **19 57 50.4 +1.1**
comp=Z,2μm,1.0s
KAPI ScP **ScP** **20 04 14.2 -1.3**
KAPI ScS **ScS** **20 08 11.2 -1.1**
MSLP Maasin 30.68 89 *e*P **P** **19 57 51.9 +1.7**
CGP Cagayan de Oro 30.70 92⇑ *e*P **P** **19 57 51.3 +0.9**
PLP Palo 30.73 87⇑ *e*P **P** **19 57 51.4 +0.8**
YOJ Yonaguni jima 30.82 61 *e*P **P** **19 57 52.7 +1.4**
YOJ pmax pmax
comp=Z,33nm,0.4s
YOJ Yonaguni jima 30.82 61 *e*P **P** **19 57 52.7 +1.4**
comp=Z,34nm,0.4s
BKSI Bulukumba 31.04 121 P **P** **19 57 54.6 +1.2**
BUKP Musuan 31.14 93 *e*P **P** **19 57 56.9 +2.5**
NJ2 Nanjing 31.14 44 *e*P **P** **19 57 55.8 +1.7**
NJ2 pP **pP** **19 58 23.5 +1.0**
NJ2 sP **sP** **19 58 37.5 -0.2**
NJ2 S **S** **20 02 52.5 +2.3**
NJ2 sS **sS** **20 03 41.0 +1.0**
NJ2 PMZ
comp=Z,550nm,0.8s
NJ2 PMZ
comp=Z,3μm,9.6s
NJ2 LN
comp=Z,33μm,21.0s
NJ2 LE
comp=Z,50μm,24.2s
NJ2 LZ
comp=Z,50μm,22.9s
TIY Taiyuan 31.31 29 *e*P **P** **19 57 56.3 +0.7**
TIY PP **PP** **19 59 10.0 +1.1**
TIY S **S** **20 02 49.5 -3.4**
TIY sS **sS** **20 03 43.0 +0.3**
TIY SS **SnSn** **20 04 56.3 +4.4**
TIY PMZ
comp=Z,1μm,2.1s
TIY PMZ
comp=Z,2μm,7.6s
TIY LN
comp=Z,22μm,14.5s
TIY LE
comp=Z,5μm,8.4s
TIY LZ
comp=Z,16μm,21.8s
GSPH General Santos 31.34 97 *e*P P 19 57 59.7 +3.5
LUWI Luwuk 31.40 111 P **P** **19 57 57.7 +1.2**
LUWI Luwuk 31.40 111 *e*P **P** **19 57 57.7 +1.2**
comp=Z,4μm,1.1s
BSSI Bau Bau, Buton 31.79 122 P **P** **19 58 00.7 +0.8**
KMSI Cibinong 31.92 107 P **P** **19 58 02.6 +1.5**
SSE Sheshan 32.26 48⇓ P **P** **19 58 05.3 +1.4**
SSE pP **pP** **19 58 33.3 +0.9**
SSE sP **sP** **19 58 48.8 +1.2**
SSE PP **PP** **19 59 20.3 +0.9**
SSE S **S** **20 03 10.5 +2.8**
SSE sS **sS** **20 04 00.3 +2.7**
SSE PMZ
comp=Z,280nm,1.4s
SSE PMZ
comp=Z,2μm,5.9s
SSE LN
comp=Z,24μm,20.0s
SSE LE

comp=Z,12µm,20.0s
SSE LZ
comp=Z,19µm,16.6s
KSH Kashi 32.27 334 P **P** 19 58 04.0 0.0
KSH pP **pP** 19 58 31.3 -1.2
KSH PP **PnPn** 19 59 14.3 -1.4
KSH S **S** 20 03 03.8 -4.1
KSH sS sS 20 03 51.5 -6.3
KSH PMZ
comp=Z,540nm,0.7s
KSH PMZ
comp=Z,8µm,3.9s
KSH LN
comp=Z,11µm,9.6s
KSH LE
comp=Z,11µm,14.6s
KSH LZ
comp=Z,20µm,26.9s
KBL Kabul 32.28 320 *e*P **P** 19 58 05.6 +1.3
KBL Kabul 32.28 320 *e*P **P** 19 58 05.6 +1.3
comp=Z,12nm,0.7s
MATI Mati 32.46 95 *e*P **P** 19 58 07.7 +1.8
KDI Kendari 32.52 116 P **P** 19 58 07.5 +1.1
comp=Z,900nm,1.2s,comp=Z,19µm
TIA Tai'an 32.71 37 ⇓P **P** 19 58 08.5 +0.8
TIA pP **pP** 19 58 35.5 -0.8
TIA sP **sP** 19 58 51.3 -0.1
TIA PP **PP** 19 59 25.5 +1.2
TIA S **S** 20 03 14.8 +0.3
TIA sS **sS** 20 04 05.0 +0.6
TIA ScP **ScP** 20 04 25.3 +3.0
TIA SS **SnSn** 20 05 24.0 -1.4
TIA PMZ
comp=Z,540nm,1.5s
TIA PMZ
comp=Z,7µm,7.4s
TIA LN
comp=Z,23µm,13.0s
TIA LE
comp=Z,24µm,13.5s
TIA LZ
comp=Z,30µm,13.6s
WMQ Urumqi 32.90 352 P **P** 19 58 11.5 +2.1
WMQ pP **pP** 19 58 38.5 +0.6
WMQ sP **sP** 19 58 53.8 +0.7
WMQ PP **PP** 19 59 26.3 -0.1
WMQ PcP **PcP** 20 00 53.0 +2.2
WMQ S **S** 20 03 20.5 +3.1
WMQ sS **sS** 20 04 07.0 -0.4
WMQ PcS **PcS** 20 04 37.0 +0.7
WMQ SS **SnSn** 20 05 28.5 -1.5
WMQ ScS **ScS** 20 08 22.5 -0.7
WMQ PMZ
comp=Z,2µm,1.5s
WMQ PMZ
comp=Z,24µm,3.6s
WMQ LN
comp=Z,10µm,17.2s
WMQ LE
comp=Z,16µm,13.6s
WMQ LZ
comp=Z,18µm,24.8s
HHC Hu-ho-hao-te 33.48 25 *e*P **P** 19 58 15.0 +0.5
HHC pP **pP** 19 58 41.0 -2.1
HHC PP **PP** 19 59 33.3 +0.4
HHC S **S** 20 03 26.8 +0.2
HHC sS **sS** 20 04 15.5 -1.1
HHC SS **SnSn** 20 05 42.5 -1.6
HHC PMZ
comp=Z,490nm,2.1s
HHC PMZ
comp=Z,7µm,3.1s
HHC LN
comp=Z,13µm,11.8s
HHC LE
comp=Z,19µm,13.1s
HHC LZ
comp=Z,15µm,14.9s
WSI Waingapu 33.65 127 P **P** 19 58 14.2 -1.9
ULHL Ulahol 34.46 337 P **P** 19 58 25.9 +2.8
SNR=13
MMRI Maumere 34.60 124 P **P** 19 58 22.8 -1.6
MMRI Maumere 34.60 124 *e*P **P** 19 58 22.6 -1.8
comp=Z,7µm,1.9s
KZA Kyzart 34.71 336 P **P** 19 58 27.7 +2.2
SNR=16
SANI Sanana 34.75 110 P **P** 19 58 25.5 -0.2
BJT Baijiatuau 34.94 31 *e*P **P** 19 58 28.4 +1.4
BJT pmax pmax
comp=Z,789nm,1.2s
BJT Baijiatuau 34.94 31 *e*P **P** 19 58 28.4 +1.4
comp=Z,789nm,1.2s
BJI Beijing 34.96 31 P **P** 19 58 28.5 +1.4
BJI pP **pP** 19 58 57.0 +1.1
BJI PP **PP** 19 59 52.8 +3.8
BJI S **S** 20 03 50.5 +1.4
BJI sS **sS** 20 04 40.0 +0.7
BJI PMZ
comp=Z,580nm,1.6s
BJI PMZ
comp=Z,11µm,3.9s
WBK Wadi Bani Khal 34.98 293 P P 19 58 32.1 +4.5
SNR=22
TNTI Ternate 35.05 105 P **P** 19 58 27.5 -0.8
TNTI Ternate 35.05 105 *e*P **P** 19 58 27.1 -1.1
comp=Z,754nm,1.0s
AAA Alma-Ata 35.08 339 *i* P **P** 19 58 29.9 +1.7
AAA *i* S **S** 20 03 53.5 +2.4
AAA smax smax
comp=E,25µm,2.3s
AAA MLR MLR
comp=Z,11µm,9.0s
UCH Uchtor 35.13 335 P **P** 19 58 30.8 +1.6
SNR=23
TKM2 Tokmak 2 35.28 337 P **P** 19 58 32.1 +2.0
SNR=22
TKM2 Tokmak 2 35.28 337 *i* P **P** 19 58 31.2 +1.1
TKM2 pmax pmax
comp=Z,2µm,1.9s
TKM2 Tokmak 2 35.28 337 *e*P **P** 19 58 31.4 +1.3
comp=Z,123nm,0.7s
KBK Karagaybulak 35.31 336 P **P** 19 58 32.5 +2.2
SNR=405
AML Almayashu 35.40 334 P **P** 19 58 33.1 +1.7
SNR=585
AAK Ala-Archa 35.48 335 P **P** 19 58 33.5 +1.7
SNR=591
AAK Ala-Archa 35.48 335 ScS ScS 20 08 37.3 +0.1
comp=Z,44nm,1.2s,baz=234,slow=19,SNR=1.6
AAK LR LR 20 14 11.0
comp=Z,21µm,21.8s,baz=142,slow=38
AAK P3KPbc 20 29 18.4
comp=Z,0.5nm,0.4s,baz=278,slow=3.4,SNR=3.8
AAK PKPPKP P'P'df 20 31 01.1 -36
comp=Z,0.6nm,0.3s,baz=221,slow=5.8,SNR=4.5
AAK Ala-Archa 35.48 335 *e*P **P** 19 58 33.4 +1.7
AAK 20 08 37.3
AAK pmax pmax
comp=Z,4µm,1.8s
AAK Ala-Archa 35.48 335 P **P** 19 58 33.9 +2.1
SNR=720
AAK Ala-Archa 35.48 335 *e*P **P** 19 58 33.4 +1.7
comp=Z,4µm,1.8s
AAK ScS ScS 20 08 37.3 +0.1
AAK *e* 20 29 18.4
AAK P'P' 20 31 01.1
FRU Bishkek 35.60 336 ⇓*i*P **P** 19 58 33.0 +0.4
FRU *e* 19 59 59.0
FRU *i* S **S** 20 03 58.0 -0.9
FRU pmax pmax
comp=Z,1µm,2.0s
FRU smax smax
comp=E,12µm,8.0s
CHMS Chumysh 35.68 336 P **P** 19 58 35.1 +1.8
SNR=44
JMDO Jabal Madar 35.70 293 P P 19 58 37.9 +4.1
SNR=21
EKS2 Erkin-Say 35.80 335 P **P** 19 58 36.2 +1.8
SNR=533
EKS2 Erkin-Say 35.80 335 *e*P **P** 19 58 36.1 +1.6
EKS2 pmax pmax
comp=Z,173nm,0.7s
EKS2 Erkin-Say 35.80 335 *e*P **P** 19 58 36.1 +1.6
comp=Z,172nm,0.7s
SMDO Samad 35.90 294 P P 19 58 39.8 +4.2
SNR=40
USP Ospenovka 36.01 336 P **P** 19 58 37.8 +1.6
SNR=37
JOW Kunigami 36.08 60 *e*P **P** 19 58 38.1 +1.2
comp=Z,66nm,0.6s
NLAI Namlea 36.24 111 P **P** 19 58 40.0 +1.6
HOQ Hoqain 36.68 294 P P 19 58 46.2 +4.1
SNR=44
MK31 Makanchi Array 36.75 347 *e*P **P** 19 58 42.9 +0.6
MK31 Makanchi Array 36.75 347 *e*P **P** 19 58 42.9 +0.6
MKAR Makanchi Array 36.75 347 P **P** 19 58 42.9 +0.6
comp=Z,305nm,0.8s,baz=172,slow=6.6,SNR=679
MKAR PcP **PcP** 20 01 03.8 +1.8
comp=Z,49nm,0.6s,baz=211,slow=3.7,SNR=4.6
MKAR S **S** 20 04 13.2 -3.2
comp=Z,19nm,0.8s,baz=173,slow=11,SNR=1.3
MKAR ScS **ScS** 20 08 43.5 -0.3
comp=Z,4.4nm,0.8s,baz=174,slow=6.1,SNR=3.8
MKAR LR LR 20 17 32.2
comp=Z,7µm,18.9s,baz=161,slow=42
MKAR P3KPbc 20 29 09.4
comp=Z,0.7nm,0.7s,baz=354,slow=2.1,SNR=7.5
MKAR PKPPKP P'P'df 20 31 13.4 -22
comp=Z,2.9nm,1.1s,baz=50,slow=2.3,SNR=5.0
SOEI Soe 36.89 123 P **P** 19 58 42.2 -1.8
SOEI Soe 36.89 123 *e*P **P** 19 58 41.5 -2.5
comp=Z,643nm,1.0s
DL2 Dalian 37.16 37 ⇓*i*P **P** 19 58 47.5 +1.6
DL2 pP **pP** 19 59 17.0 +2.1
DL2 sP **sP** 19 59 28.8 -1.2
DL2 S **S** 20 04 24.8 +2.0
DL2 sS **sS** 20 05 14.8 +1.5
DL2 ScS **ScS** 20 08 43.0 -3.3
DL2 PMZ
comp=Z,1µm,1.1s
DL2 PMZ
comp=Z,8µm,4.8s
KSHUK Heuksando 37.19 46 P **P** 19 58 47.9 +1.7
SNR=8.0
KSHUK Heuksando 37.19 46 P **P** 19 58 47.5 +1.3
SNR=12
KSSGP Seogwipo 37.24 49 P **P** 19 58 49.4 +2.7
SNR=12
KSSGP Seogwipo 37.24 49 P **P** 19 58 49.2 +2.5
SNR=5.9
ARQ Araqi 37.34 294 P P 19 58 51.6 +4.0
SNR=25
KSJJU Jeju 37.36 48 P **P** 19 58 49.7 +2.0
SNR=31
KSJJU Jeju 37.36 48 P **P** 19 58 49.7 +2.0
SNR=31
SHAO Shalim 37.36 285 P P 19 58 53.1 +5.2
SNR=7.2
KKAR Karatay Array 37.60 332 *e*P **P** 19 58 50.5 +0.9
KKAR Karatay Array 37.60 332 *e*P **P** 19 58 50.5 +0.9
comp=Z,0.1nm,0.5s
KSJDO Jindo 37.70 47 P **P** 19 58 51.7 +1.1
SNR=47
KSJDO Jindo 37.70 47 P **P** 19 58 52.0 +1.5
SNR=22
KSJDO Jindo 37.70 47 P **ScP** 20 04 41.0 +0.5
SNR=10
KSJDO Jindo 37.70 47 P **ScP** 20 04 41.0 +0.5
SNR=10
KSWAN Wando 37.93 47 P **P** 19 58 53.5 +1.0
SNR=22
KSWAN Wando 37.93 47 P **P** 19 58 54.0 +1.6
SNR=13
MSAI Masohi 37.96 110 P **P** 19 58 54.2 +1.2
HATD Hatta, Dubai 38.02 296 P **P** 19 58 56.5 +3.1
SNR=135
SONM Songino Array 38.05 14 P **P** 19 58 54.0 +0.7
comp=Z,87nm,0.6s,baz=196,slow=5.9,SNR=376
SONM PP **PnPn** 20 00 26.6 +0.6
comp=Z,151nm,1.1s,baz=190,slow=7.3,SNR=2.3
SONM ScP **ScP** 20 04 42.1 +0.4
comp=Z,120nm,1.0s,baz=205,slow=3.0,SNR=12
SONM ScS **ScS** 20 08 50.4 -0.9
comp=Z,2.9nm,1.0s,baz=324,slow=2.5,SNR=1.5
SONM P3KPbc 20 29 05.1
comp=Z,1.7nm,1.0s,baz=10,slow=5.4,SNR=7.6
SONM PKPPKP P'P'df 20 30 56.6 -37
comp=Z,0.4nm,0.3s,baz=331,slow=1.8,SNR=7.7
SONM PKP2ab 20 32 58.8
comp=Z,1.4nm,1.1s,baz=21,slow=2.5,SNR=4.2
BANOM Banah 38.15 298 P P 19 58 58.5 +4.0
SNR=21
BANOM Banah 38.15 298 *e*P P 19 58 57.8 +3.2
SNR=71
ULN Ulaanbaatar 38.23 15 *e*P P 19 58 59.8 +4.8
ULN pmax pmax
comp=Z,1µm,1.9s
ULN Ulaanbaatar 38.23 15 P P 19 59 00.4 +5.4
SNR=228
ULN Ulaanbaatar 38.23 15 *e*P P 19 58 59.8 +4.8
comp=Z,1µm,1.9s
IBND Bandar-abas 38.38 300 *e*P P 19 59 00.3 +4.0
IBND *e*P P 19 59 00.9 +4.6
KSKOH Goheung 38.45 47 P **P** 19 58 58.2 +1.4
SNR=12
KSKOH Goheung 38.45 47 P **P** 19 58 58.2 +1.4
SNR=12
KSGWJ Gwangju-acc 38.46 46 P **P** 19 58 58.5 +1.7
SNR=16
KSGWJ Gwangju-acc 38.46 46 P **P** 19 58 58.2 +1.4
SNR=25
KSGWJ Gwangju-acc 38.46 46 P **ScP** 20 04 43.7 +0.4
SNR=9.1
KSGWJ Gwangju-acc 38.46 46 P **ScP** 20 04 43.7 +0.4
SNR=9.1
FAQ Al Faqa, Dubai 38.48 296 ⇑*e*P **P** 19 59 00.0 +2.8
SNR=12
KSBAR Backryungdo 38.51 41 P **P** 19 58 58.0 +0.8
SNR=57
KSBAR Backryungdo 38.51 41 P **P** 19 58 58.0 +0.8
SNR=57
KSKWJ Gwangju 38.52 46 P **P** 19 58 59.0 +1.6
SNR=41
KSKWJ Gwangju 38.52 46 P **P** 19 58 59.0 +1.6
SNR=30
KSJEU Jeongeup 38.65 46 P **P** 19 59 00.0 +1.6
SNR=34
KSJEU Jeongeup 38.65 46 P **P** 19 59 00.0 +1.6
SNR=34
KSJEU Jeggeup 38.65 46 P **ScP** 20 04 43.7 -0.4
SNR=10
KSJEU Jeongeup 38.65 46 P **ScP** 20 04 43.7 -0.4
SNR=10
RBK Rabkut 38.67 284 P P 19 59 02.6 +3.7
SNR=7.6
ASUD Al Ashush, Dub 38.68 295 P P 19 59 02.7 +3.8
SNR=78
KSGUS GUNSAN 38.82 45 P **P** 19 59 01.3 +1.4
SNR=24
KSGUS GUNSAN 38.82 45 P **P** 19 59 01.1 +1.2
SNR=35
KSGUS GUNSAN 38.82 45 P **ScP** 20 04 44.4 -0.3
SNR=9.0
KSGUS GUNSAN 38.82 45 P **ScP** 20 04 44.4 -0.3
SNR=9.0
KSSES Seosan 38.99 44 P **P** 19 59 01.6 +0.3
SNR=167
KSSES Seosan 38.99 44 P **P** 19 59 01.6 +0.3
SNR=167
KSSES Seosan 38.99 44 P **ScP** 20 04 45.2 -0.1
SNR=8.5
KSSES Seosan 38.99 44 P **ScP** 20 04 45.2 -0.1
SNR=8.5
KSNAH Namhae 39.02 47 P **P** 19 59 03.5 +1.9
SNR=43
KSJEO Jeonju 39.13 45 P **P** 19 59 03.8 +1.3
SNR=28
KSJEO Jeonju 39.13 45 P **ScP** 20 04 46.4 +0.5
SNR=5.4
KSJEO Jeonju 39.13 45 P **ScP** 20 04 46.4 +0.5
SNR=5.4
KSJIN Jinju 39.26 47 P **P** 19 59 05.2 +1.6
SNR=10
SIJI Sorong 39.27 105 ScP **ScP** 20 04 45.5 -1.3
comp=Z,121nm,1.0s,baz=315,slow=2.9,SNR=13
SIJI S **S** 20 04 55.1 0.0
comp=Z,20nm,1.0s,baz=162,slow=22,SNR=1.5
SIJI ScS **ScS** 20 08 59.3 0.0
comp=Z,12nm,0.9s,baz=17,slow=23,SNR=9.3
KSKOJ Gongju 39.30 45 P **P** 19 59 04.8 +1.0
SNR=46
BNDI Bandanaira 39.31 111 P **P** 19 59 05.7 +1.4
TJN Taejon 39.40 45 *i* P **P** 19 59 05.4 +0.7
KSTEJ Daejeon 39.40 45 P **P** 19 59 05.7 +1.1
SNR=61
KSGAH Ganghwa 39.48 42 P **P** 19 59 05.8 +0.4
SNR=40
INCN Inchon 39.48 43 P **P** 19 59 06.2 +0.8
SNR=51
INCN Inchon 39.48 43 *e*P **P** 19 59 05.9 +0.4
comp=Z,2µm,1.7s
ABTO Aybut 39.52 284 P P 19 59 10.1 +4.0
SNR=12
KSCEA Cheonan 39.56 44 P **P** 19 59 07.1 +1.1
SNR=61
KSCEA Cheonan 39.56 44 P **ScP** 20 04 47.6 0.0
SNR=7.8
KSCEA Cheonan 39.56 44 P **ScP** 20 04 47.6 0.0
SNR=7.8
KSCEJ CHEONGJU 39.58 45 P **P** 19 59 07.2 +1.1
SNR=32
KSSWO Suwon 39.59 43 P **P** 19 59 07.1 +0.8
SNR=39
KSSEO Seoul 39.68 43 P **P** 19 59 07.6 +0.7
SNR=81
KSSEO Seoul 39.68 43 P **ScP** 20 04 48.1 +0.1
SNR=5.9
KSSEO Seoul 39.68 43 P **ScP** 20 04 48.1 +0.1
SNR=5.9
KSCPR CHUPUNGNYEONG 39.74 45 P **P** 19 59 08.8 +1.2
SNR=19
KSCPR CHUPUNGNYEONG 39.74 45 P **ScP** 20 04 48.4 +0.1
SNR=6.0
KSCPR CHUPUNGNYEONG 39.74 45 P **ScP** 20 04 48.4 +0.1
SNR=6.0
KSBON Boeun 39.76 45 P **P** 19 59 08.8 +1.0
SNR=39
KSBON Boeun 39.76 45 P **ScP** 20 04 48.4 0.0
SNR=7.5
KSBON Boeun 39.76 45 P **ScP** 20 04 48.4 0.0
SNR=7.5
KSMUS Musan 39.79 42 P **P** 19 59 08.6 +0.7
SNR=121
ZAK Zakamensk 39.85 10 ⇑*i*P **P** 19 59 08.7 +0.3
ZAK pmax pmax
comp=Z,260nm,2.3s
KSICN Icheon 39.91 44 P **P** 19 59 09.5 +0.6
SNR=62
KSICN Icheon 39.91 44 P **ScP** 20 04 48.9 0.0
SNR=5.9
KSSAJ Sangju 39.97 45 P **P** 19 59 10.6 +1.3
SNR=41
KSSAJ Sangju 39.97 45 P **ScP** 20 04 49.1 -0.1
SNR=6.4
YNCB YEONCHEON 39.98 42 P **P** 19 59 09.9 +0.4
SNR=191
KSDDC Dongducheon 39.99 43 P **P** 19 59 10.2 +0.6
SNR=31
KSCHJ Chungju 40.08 45 P **P** 19 59 11.6 +1.3
SNR=17
KSBUS Busan 40.09 48 P **P** 19 59 11.9 +1.6
SNR=13
KSDAG Daegu 40.18 47 P **P** 19 59 12.9 +1.8
SNR=6.7
SNY Shenyang 40.19 35 ⇓P **P** 19 59 12.0 +0.9
SNY pP **pP** 19 59 39.0 -1.5
SNY PP **PP** 20 00 48.0 +1.7
SNY PMZ
comp=Z,610nm,1.5s
SNY PMZ
comp=Z,8µm,3.3s
SNY LN
comp=Z,10µm,15.7s
SNY LE
comp=Z,24µm,13.7s
SNY LZ
comp=Z,18µm,13.7s
KSAR Wonju Array Be 40.31 44 P **P** 19 59 12.7 +0.5
KSAR *PP **pP** 19 59 41.3 -0.2
KSAR S **S** 20 05 11.9 +1.9
KSAR 20 09 02.8
KSAR Wonju Array Be 40.31 44 P **P** 19 59 12.7 +0.5
KSAR pP **pP** 19 59 41.3 -0.2
KSAR ScP **ScP** 20 04 50.2 -0.2
KSAR S **S** 20 05 11.9 +1.9
KSAR ScS **ScS** 20 09 02.8 -1.8
KSEUS ULSEONG 40.31 46 P **P** 19 59 13.4 +1.2
SNR=25
KSYOC YEONGCHEON 40.31 46 P **P** 19 59 13.9 +1.7
SNR=25
KSYOC YEONGCHEON 40.31 46 P **ScP** 20 04 51.6 +1.1
SNR=5.0
IAKL Akhelmad 40.34 315 *e*P **P** 19 59 14.4 +1.7
KSRS Korea Array 40.34 44 P **P** 19 59 12.7 +0.3
comp=Z,102nm,0.6s,baz=240,slow=8.3,SNR=311
KSRS pP **pP** 19 59 41.3 -0.5
comp=Z,26nm,0.8s,baz=247,slow=8.0,SNR=2.1
KSRS ScP **ScP** 20 04 50.2 -0.3
comp=Z,15nm,0.8s,baz=244,slow=3.2,SNR=9.2
KSRS S **S** 20 05 11.9 +1.4
comp=Z,8.0nm,1.1s,baz=240,slow=13,SNR=7.3
KSRS ScS **ScS** 20 09 02.8 -2.0
comp=Z,0.3nm,0.3s,baz=312,slow=54,SNR=1.6
KSRS LR LR 20 18 03.1
comp=Z,20µm,18.4s,baz=238,slow=39
KSRS Korea Array 40.34 44 P **P** 19 59 12.7 +0.3
KSRS *PP **pP** 19 59 41.3 -0.5
KSRS S **S** 20 05 11.9 +1.4
KSRS 20 09 02.8
KSRS pmax pmax
comp=Z,102nm,0.6s
KSRS smax smax
comp=N,8.0nm,1.1s
KSRS MLR MLR
comp=Z,20µm,18.4s
KSCWO Cheorwon 40.40 43 P **P** 19 59 13.8 +0.9
SNR=104
KSCWO Cheorwon 40.40 43 P **ScP** 20 04 51.5 +0.7
SNR=6.2
KSWJU Wonju 40.40 44 P **P** 19 59 14.1 +1.2
SNR=36
KSWJU Wonju 40.40 44 P **ScP** 20 04 51.1 +0.2
SNR=5.3
KSCHC Chuncheon 40.44 43 P **P** 19 59 14.0 +0.7
SNR=44
KSCHC Chuncheon 40.44 43 P **ScP** 20 04 50.8 -0.2
SNR=10
KSCHC Chuncheon 40.44 43 P **ScP** 20 04 50.8 -0.2
SNR=10
JNU Nakatsue 40.48 51 *e*P **P** 19 59 14.6 +0.9
comp=Z,168nm,1.2s
IBAF Bafgh 40.56 306 *e*P **P** 19 59 16.9 +2.4
KSYOW Yeongwol 40.56 45 P **P** 19 59 15.7 +1.4
SNR=16
KSPHA Pohang 40.72 46 P **P** 19 59 17.7 +2.1
SNR=22
KSIJA INJE 40.74 43 P **P** 19 59 17.0 +1.2
SNR=53
MOY Mondy 40.78 7 *e*P **P** 19 59 17.3 +1.3
MOY pmax pmax
comp=Z,1µm,3.4s
KSJES JEONGSEON 40.83 44 P **P** 19 59 17.8 +1.3
SNR=21
KSTBA Taebaek 40.88 45 P **P** 19 59 18.1 +1.1
SNR=22
FAKI Fak Fak 40.88 108 P **P** 19 59 17.8 +0.6
FAKI Fak Fak 40.88 108 *e*P **P** 19 59 17.1 -0.1
comp=Z,2µm,1.5s
KSDGY Daegwallyeong 40.97 44 P **P** 19 59 18.7 +1.0
SNR=46
SEHB SEOHWA 40.99 43 P **P** 19 59 18.7 +0.9
SNR=79
KSULJ Uljin 40.99 46 P **P** 19 59 19.0 +1.3
SNR=18
OTUK Ortayu 41.00 338 *i* P **P** 19 59 19.2 +1.4
OTUK pmax pmax
comp=Z,1µm,1.4s
ISFR Sfrayin 41.09 315 *e*P **P** 19 59 21.6 +2.7
KSJMJ Jumunjin 41.13 44 P **P** 19 59 19.9 +1.0
SNR=47
MBWA Marble Bar 41.13 141 P **P** 19 59 18.7 -0.4
SNR=56
MBWA Marble Bar 41.13 141 *e*P **P** 19 59 17.4 -1.7
comp=Z,1µm,1.6s
MSEY Mahe Island 41.13 249 *e*P P 19 59 23.0 +3.7
MSEY pmax pmax
comp=Z,1µm,1.6s
MSEY Mahe Island 41.13 249 P P 19 59 23.7 +4.4
SNR=23
MSEY Mahe Island 41.13 249 ⇓P P 19 59 23.1 +3.7

SNR=21
MSEY Mahe Island 41.13 249 *e*P P 19 59 23.0 +3.7
comp=Z,1µm,1.6s
TLY Talaya 41.17 9 P **P** **19 59 20.5 +1.4**
comp=Z,1µm,1.5s
TLY Talaya 41.17 9 *d i*P **P** **19 59 20.9 +1.8**
TLY *e* 19 59 56.4
TLY *e* 20 01 04.1
TLY *e*S **S** **20 05 18.3 -4.2**
TLY *e* 20 06 09.5
TLY pmax pmax
comp=Z,617nm,1.9s
TLY MLR MLR
comp=Z,7µm,18.0s
TLY Talaya 41.17 9 P **P** **19 59 21.1 +2.0**
SNR=216
TLY Talaya 41.17 9 *e*P **P** **19 59 20.7 +1.7**
comp=Z,1µm,1.9s
KSSKC Sokcho 41.18 43 P **P** **19 59 20.5 +1.2**
SNR=53
KSSKC Sokcho 41.18 43 P **ScP** **20 04 54.4 +0.6**
SNR=5.7
KSSKC Sokcho 41.18 43 P **ScP** **20 04 54.2 +0.3**
SNR=6.5
KURBB Kurchatov Arra 41.22 345 ScP **ScP** **20 04 54.8 +1.1**
comp=Z,31nm,0.9s,baz=167,slow=3.7,SNR=5.7
KURBB S **S** **20 05 21.6 -1.5**
comp=Z,14nm,1.1s,baz=50,slow=52,SNR=1.9
KURBB ScS **ScS** **20 09 07.0 -2.6**
comp=Z,2.8nm,0.9s,baz=267,slow=17,SNR=1.6
KURBB P3KPbc 20 28 50.8
comp=Z,0.6nm,0.8s,baz=332,slow=4.3,SNR=5.9
KURBB PKPPKP P'P'df 20 31 06.5 -24
comp=Z,3.5nm,1.0s,baz=283,slow=3.0,SNR=7.5
IMEH Mehriz 41.25 305 *e*P **P** **19 59 21.6 +1.3**
ASHT Ashkhabad 41.27 316 *i* P P 19 59 23.6 +3.5
ASHT pmax pmax
comp=Z,3µm,1.4s
KURK Kurchatov 41.28 346 P **P** **19 59 20.8 +0.9**
SNR=825
KURK Kurchatov 41.28 346 ScP **ScP** **20 04 54.8 +0.8**
KURK S **S** **20 05 21.6 -2.5**
KURK ScS **ScS** **20 09 07.0 -3.0**
KURK *e* 20 28 50.8
KURK P'P' 20 31 06.5
ISHV Shirvan 41.53 315 *e*P P 19 59 25.8 +3.3
ICHK Chekchek 41.71 306 *e*P **P** **19 59 25.9 +1.8**
IRK Irkutsk 41.81 10‖ *i*P **P** **19 59 25.4 +1.1**
IRK *e* 20 01 05.6
IRK *e* 20 09 10.8
IRK pmax pmax
comp=Z,1µm,2.3s
IPAR Pars 42.02 302 *e*P **P** **19 59 28.4 +1.7**
SAUI Saumlaki 42.03 115 P **P** **19 59 28.1 +1.5**
ISAD Sadrabad 42.17 306 *e*P **P** **19 59 29.8 +1.9**
RKPI Ransiki, Papua 42.23 105 P **P** **19 59 28.6 +0.4**
KSULL Ulleungdo 42.40 46 P **P** **19 59 31.6 +2.3**
SNR=22
KSULL Ulleungdo 42.40 46 P **ScP** **20 04 59.6 +0.8**
SNR=5.8
CN2 Changchun 42.52 34 *e*P **P** **19 59 31.0 +0.9**
CN2 *es*P **sP** **20 00 14.0 -0.6**
CN2 *ep*P **PP** **20 01 11.5 +0.2**
CN2 ScP **ScP** **20 04 57.0 -2.1**
CN2 *e*SS **SS** **20 08 54.8 -2.5**
CN2 LN
comp=Z,13µm,12.0s
CN2 LE
comp=Z,9µm,12.0s
CN2 LZ
comp=Z,2µm,13.0s
IKAZ Kazeroun 43.01 302 *e*P **P** **19 59 36.1 +1.4**
I46RU ZALESOVO INFRA 43.21 352 P **P** **19 59 37.0 +1.6**
baz=176,slow=9.1,SNR=1.0
ZAA0 Zalesovo Array 43.21 352 *e*P **P** **19 59 36.5 +1.1**
ZALV Zalesovo Beam 43.21 352 P **P** **19 59 36.2 +0.8**
comp=Z,738nm,0.5s,baz=174,slow=8.8,SNR=604
ZALV ScP **ScP** **20 05 00.7 -1.0**
comp=Z,29nm,0.9s,baz=199,slow=4.0,SNR=3.6
ZALV S **S** **20 05 53.3 +1.0**
comp=Z,51nm,0.9s,baz=161,slow=9.4,SNR=5.1
ZALV ScS **ScS** **20 09 17.7 -4.0**
comp=Z,15nm,1.0s,baz=210,slow=4.8,SNR=4.2
ZALV LR LR 20 22 10.2
comp=Z,7µm,18.1s,baz=166,slow=42
ZALV PKPPKP P'P'df 20 31 10.2 -18
comp=Z,5.5nm,1.1s,baz=260,slow=2.7,SNR=6.9
ZALV PKP2bc 20 32 08.4
comp=Z,2.4nm,0.9s,baz=262,slow=3.0,SNR=3.7
ZALV Zalesovo Beam 43.21 352 *i* P **P** **19 59 36.2 +0.8**
ZALV pmax pmax
comp=Z,750nm,0.5s
MUKL Al Mukalla 43.57 279 *e*P **P** **19 59 41.5 +2.5**
IZEF Zefreh 43.59 306 *e*P **P** **19 59 40.8 +1.6**
HIA Hailar 43.68 25 *e*P **P** **19 59 40.0 +0.5**
HIA pmax pmax
comp=Z,2µm,2.0s
HIA Hailar 43.68 25 *e*P **P** **19 59 40.0 +0.5**
comp=Z,2µm,2.0s
CIT Chita 43.78 18 *e*P **P** **19 59 41.0 +0.8**
CIT *e* 20 00 30.9
CIT *e* 20 01 24.5
CIT *e* 20 05 59.8
CIT *e* 20 09 24.2
CIT pmax pmax
comp=Z,1µm,2.2s
IFIR Firoozkooh 44.26 310 *e*P **P** **19 59 46.7 +2.1**
NVS Novosibirsk 44.29 351‖ *i*P **P** **19 59 44.6 +0.5**
NVS *e*PP **pP** **20 00 13.8 -0.2**
NVS *i* 20 01 31.3
NVS *i* S **S** **20 06 05.0 -3.0**
NVS *e* 20 09 20.5
NVS pmax pmax
comp=N,3µm,2.1s
NVS pmax pmax
comp=Z,3µm,2.1s
NVS pmax pmax
comp=E,987nm,1.9s
NVS smax smax
comp=E,1µm,1.8s
SRPI Serui, Papua 44.30 104 P **P** **19 59 44.8 0.0**
IKLH Kolahrood 44.32 307 *e*P **P** **19 59 46.5 +1.4**
IPIR Pirpir 44.66 305 *e*P **P** **19 59 48.2 +0.4**
KRAR Krasnoyarsk 44.70 359 *d i*P **P** **19 59 46.9 -0.4**
KRAR pmax pmax
comp=Z,3µm,1.7s
IDMV Damavand 44.78 310 *e*P **P** **19 59 51.3 +2.5**
IVRN Varamin 44.80 309 *e*P **P** **19 59 51.0 +2.4**
MDJ Mudanjiang 45.37 36 P **P** **19 59 54.0 +1.1**
MDJ pP **pP** **20 00 24.5 +1.7**
MDJ sP **sP** **20 00 34.8 -2.8**
MDJ PP **PP** **20 01 42.0 +0.4**
MDJ ScP **ScP** **20 05 10.5 -0.2**
MDJ S **S** **20 06 25.5 +1.6**
MDJ sS **sS** **20 07 15.0 -0.7**
MDJ PMZ
comp=Z,170nm,2.3s
MDJ PMZ
comp=Z,4µm,7.6s
MDJ LN
comp=Z,12µm,16.8s
MDJ LE
comp=Z,8µm,14.0s
MDJ LZ
comp=Z,9µm,16.8s
MDJ Mudanjiang 45.37 36 *e*P **P** **19 59 53.6 +0.7**
comp=Z,1µm,2.3s
BVAR Borovoye Array 45.70 341 ScP **ScP** **20 05 12.8 +0.9**
comp=Z,31nm,0.9s,baz=134,slow=4.3,SNR=5.5
BVAR S **S** **20 06 26.7 -1.7**
comp=Z,91nm,0.8s,baz=149,slow=21,SNR=20
BVAR ScS **ScS** **20 09 36.3 -1.4**
comp=Z,3.8nm,1.0s,baz=67,slow=28,SNR=1.3
BVAR LR LR 20 22 12.6
comp=Z,6µm,19.9s,baz=140,slow=40
BVAR PKPPKP P'P'df 20 31 03.1 -22
comp=Z,0.2nm,0.3s,baz=130,slow=2.3,SNR=2.3
BRVK Borovoye 45.76 340 *d i*P **P** **19 59 56.3 +0.5**
BRVK pmax pmax
comp=Z,739nm,1.3s
BRVK Borovoye 45.76 340 P **P** **19 59 56.5 +0.6**
SNR=280
BRVK Borovoye 45.76 340 *e*P **P** **19 59 56.1 +0.3**
comp=Z,640nm,0.9s
IMHD Mahdasht 45.85 309 *e*P **P** **19 59 59.0 +2.0**

VLA Vladivostok 45.90 39 *c i*P **P** **19 59 56.7 -0.4**
VLA *i* *PP **pP** **20 00 26.3 -0.8**
VLA *i* 20 01 47.1
VLA *e*S **S** **20 06 31.8 +0.2**
VLA pmax pmax
comp=Z,245nm,1.5s
IRAZ Razeghan 46.32 309 *e*P **P** **20 00 02.9 +2.1**
IGZV Ghazvin 46.45 310 *e*P **P** **20 00 03.7 +1.9**
USRK Ussuriysk Ar. 46.55 38 P **P** **20 00 02.2 +0.1**
comp=Z,54nm,0.9s,baz=242,slow=4.1,SNR=124
USRK pP **pP** **20 00 33.8 +1.6**
comp=Z,20nm,0.9s,baz=237,slow=6.6,SNR=2.5
USRK PP **PP** **20 01 52.1 -1.3**
comp=Z,54nm,1.0s,baz=242,slow=8.0,SNR=11
USRK ScP **ScP** **20 05 14.6 -1.0**
comp=Z,10nm,0.8s,baz=267,slow=2.9,SNR=4.2
USRK S **S** **20 06 40.2 -0.6**
comp=Z,0.9nm,0.5s,baz=173,slow=28,SNR=1.8
SMPI Sarmi 46.69 104 P **P** **20 00 04.4 +0.8**
BDHA Al Bayda' 46.95 279‖ *e*P P 20 00 09.7 +3.7
BDHA AMb AMB 20 00 11.5
comp=Z,1µm,1.1s
ABKAR Akbulak array 47.10 330 *e*P **P** **20 00 07.3 +0.9**
comp=Z,45nm,1.8s
MAJO Matsushiro 47.35 50 *e*P **P** **20 00 09.0 +0.5**
MAJO pmax pmax
comp=Z,862nm,1.8s
MAJO Matsushiro 47.35 50 *e*P **P** **20 00 09.0 +0.5**
comp=Z,862nm,1.8s
MAJO *e*pP **pP** **20 00 34.9 -3.7**
MAT Matsushiro 47.35 50 P **P** **20 00 09.1 +0.6**
MAT S **S** **20 06 54.0 +1.6**
MJAR Matsushiro Arr 47.35 50 P **P** **20 00 08.7 +0.2**
comp=Z,49nm,1.0s,baz=250,slow=6.4,SNR=89
MJAR pP **pP** **20 00 38.1 -0.6**
comp=Z,48nm,1.2s,baz=266,slow=8.5,SNR=3.6
MJAR PcP **PcP** **20 01 39.1 +1.8**
comp=Z,28nm,0.9s,baz=244,slow=3.2,SNR=5.7
MJAR ScP **ScP** **20 05 18.7 -0.6**
comp=Z,48nm,0.9s,baz=237,slow=3.4,SNR=12
MJAR S **S** **20 06 53.8 +1.4**
comp=Z,1.8nm,0.8s,baz=207,slow=34,SNR=1.5
MJAR LR LR 20 19 50.7
comp=Z,7µm,21.9s,baz=230,slow=36
MJAR PKP2ab 20 32 23.4
comp=Z,1.9nm,0.9s,baz=348,slow=1.1,SNR=5.8
RAYN Ar Rayn 47.35 292 *e*P **P** **20 00 10.3 +1.5**
comp=Z,54nm,0.7s
IBZA Bozab 47.62 307 *e*P **P** **20 00 11.1 +0.1**
IKOM Komasi 47.81 306 *e*P **P** **20 00 12.0 -0.2**
DAMY Dhamar 48.06 280 *e*P P 20 00 18.4 +3.7
comp=Z,482nm,0.9s
GENI Genyem 48.25 104 P **P** **20 00 15.3 -0.5**
TRBA At Turbah 48.40 278‖ *e*P P 20 00 20.5 +3.4
JAY Jayapura 48.74 103 P **P** **20 00 20.3 +0.7**
HAJJ Hajjah 48.80 281‖ *e*P P 20 00 23.9 +3.8
AKTO Aktyubinsk 48.82 330 ScP **ScP** **20 05 25.3 +0.2**
comp=Z,88nm,0.9s,baz=150,slow=8.9,SNR=4.0
AKTO S **S** **20 07 11.3 -1.4**
comp=Z,59nm,0.8s,baz=42,slow=23,SNR=18
AKTO ScS **ScS** **20 09 57.1 -1.3**
comp=Z,21nm,1.0s,baz=309,slow=22,SNR=6.1
AKTO LR LR 20 24 52.1
comp=Z,6µm,19.2s,baz=139,slow=41
AKTO PKPPKP P'P'df 20 30 51.9 -30
comp=Z,0.2nm,0.3s,baz=235,slow=6.9,SNR=4.1
IDHR Dehrash 48.85 307 *e*P **P** **20 00 20.0 -0.3**
BOD Bodaibo 49.04 14 *e*P **P** **20 00 21.3 +0.2**
BOD *e* 20 00 56.4
BOD *e*S **S** **20 07 12.6 -3.0**
BOD pmax pmax
comp=Z,348nm,1.8s
RER Riviere de l'E 49.21 229 *e*P **P** **20 00 25.7 +2.7**
comp=Z,700nm,1.0s
KLR Kul'dur 49.30 32⇑ *i*P **P** **20 00 20.8 -2.5**
KLR *e* 20 00 49.0
KLR *e* 20 03 23.4
KLR pmax pmax
comp=N,200nm,2.0s
KLR pmax pmax
comp=E,780nm,2.0s
KLR pmax pmax
comp=Z,1µm,2.0s
NWAO Narrogin (SRO) 49.33 154 ScP **ScP** **20 05 26.2 -1.3**
comp=Z,40nm,1.0s,baz=329,slow=13,SNR=3.1
NWAO LR LR 20 18 49.5
comp=Z,63nm,21.6s,baz=330,slow=33
IHRS Heris 49.50 311 *e*P **P** **20 00 26.1 +0.9**
H01W3 Cape Leeuwin H 49.78 158 P **P** **20 00 28.2 +1.5**
baz=344,slow=5.9,SNR=3.6
H01W2 Cape Leeuwin H 49.80 158 P **P** **20 00 28.4 +1.6**
baz=344,slow=5.9,SNR=6.9
H01W1 Cape Leeuwin H 49.80 158 P **P** **20 00 28.3 +1.5**
baz=344,slow=5.9,SNR=4.2
IFTB Fath-abad 49.88 311 *e*P **P** **20 00 27.3 -0.8**
GUMO Guam 50.01 82 S **S** **20 07 29.7 -0.5**
comp=Z,38nm,1.1s,baz=356,slow=20,SNR=1.7
GUMO Guam 50.01 82 *e*P **P** **20 00 29.0 -0.1**
GUMO S **S** **20 07 29.7 -0.5**
GUMO Guam 50.01 82 *e*P **P** **20 00 29.0 -0.1**
comp=Z,44nm,1.1s
GUMO S **S** **20 07 29.7 -0.5**
IAZR Azarshahr 50.08 310 *e*P **P** **20 00 31.3 +1.6**
ITBZ Tabriz 50.13 311 *e*P **P** **20 00 30.6 +0.7**
IMRD Marand 50.62 311 *e*P **P** **20 00 35.4 +1.7**
WRA Warramunga Arr 50.62 127 P **P** **20 00 32.8 -0.8**
comp=Z,525nm,0.8s,baz=302,slow=10.0,SNR=795
WRA pP **pP** **20 01 06.5 +2.3**
comp=Z,121nm,0.9s,baz=308,slow=8.0,SNR=2.1
WRA PP **PP** **20 02 30.9 0.0**
comp=Z,45nm,0.9s,baz=309,slow=10,SNR=4.9
WRA ScP **ScP** **20 05 32.0 -1.4**
comp=Z,22nm,0.8s,baz=316,slow=3.9,SNR=5.0
WRA S **S** **20 07 34.9 -3.7**
comp=Z,24nm,0.9s,baz=306,slow=15,SNR=6.8
WRA LR LR 20 21 42.1
comp=Z,8µm,21.5s,baz=295,slow=35
WRA PKPPKP P'P'df 20 30 53.0 -26
comp=Z,2.2nm,1.0s,baz=183,slow=2.8,SNR=7.2
WRA PKP2bc 20 31 28.8
comp=Z,3.6nm,1.1s,baz=121,slow=1.9,SNR=4.8
WRA PKP2ab 20 32 04.8
comp=Z,3.1nm,1.0s,baz=138,slow=2.0,SNR=5.2
WRA P4KPbc 20 38 04.7
comp=Z,0.6nm,0.9s,baz=320,slow=3.5,SNR=4.6
WRA Warramunga Arr 50.62 127 *i* P **P** **20 00 32.7 -0.9**
WRA pmax pmax
comp=Z,317nm,0.4s
WRAB Tennant Creek 50.62 127 *c i*P **P** **20 00 33.5 -0.2**
WRAB pmax pmax
comp=Z,6µm,2.5s
WRAB Tennant Creek 50.62 127 *e*P **P** **20 00 33.1 -0.5**
comp=Z,468nm,0.4s
HABR Khabarovsk 50.66 35 *d i*P **P** **20 00 33.6 +0.2**
HABR *e*PP **pP** **20 01 01.9 -2.1**
HABR *e*SP 20 01 16.4
HABR *e* 20 01 47.2
HABR *e* 20 02 28.9
HABR *e* 20 03 30.0
HABR *e*S **S** **20 07 38.5 +0.2**
HABR *e* 20 08 31.0
HABR *e* 20 10 08.9
HABR *e*SS **SS** **20 11 14.3 +0.1**
HABR pmax pmax
comp=N,61nm,1.3s
HABR pmax pmax
comp=E,155nm,1.3s
HABR pmax pmax
comp=Z,370nm,1.3s
HABR pmax pmax
comp=Z,6µm,6.8s
HABR MLR MLR
comp=Z,7µm,19.0s
MAK Makhachkala 50.94 317 *d i*P **P** **20 00 37.4 +1.8**
MAK *e*PP **pP** **20 01 07.3 +1.1**
MAK *e*SP **sP** **20 01 22.2 +1.4**
MAK *e* 20 01 50.9
MAK *e* 20 02 34.1
MAK *e*PPP PPP 20 03 32.6
MAK *e*S **S** **20 07 43.8 +1.5**
MAK *e*SS **sS** **20 08 38.2 +3.1**
MAK *e* 20 10 10.1
MAK *e*SS **SS** **20 11 18.3 -0.5**
MAK pmax pmax
comp=Z,1µm,2.2s
MAK MLR MLR
comp=Z,10µm,19.0s
AIS Amsterdam Isla 51.03 196 P P 20 00 14.0 -22
AIS S **S** **20 07 38.0 -5.5**
AIS SS **SS** **20 11 23.0 +2.4**
AIS L L 20 13 00.0
AIS R 20 15 00.0
HKR Hakkari 51.73 309 *e*P **P** **20 00 42.7 +0.8**
CUKT Cukurca 51.74 309 *e*P **P** **20 00 42.4 +0.4**
HAKT HAKKARI 51.75 309 *i*P **P** **20 00 43.6 +1.4**
GNI Garni 51.80 313 S **S** **20 07 58.1 +3.4**
comp=Z,24nm,0.8s,baz=241,slow=23,SNR=10
GNI PKP2ab 20 31 56.8
comp=Z,0.9nm,0.3s,baz=32,slow=19,SNR=3.0
GNI Garni 51.80 313 *e*P **P** **20 00 44.4 +2.0**
GNI S **S** **20 07 58.1 +3.4**
GNI pmax pmax
comp=Z,1µm,1.2s
GNI Garni 51.80 313 P **P** **20 00 44.9 +2.5**
SNR=295
GNI Garni 51.80 313⇑P **P** **20 00 44.7 +2.3**
SNR=268
GNI Garni 51.80 313 *e*P **P** **20 00 44.4 +2.0**
comp=Z,1µm,1.2s
GNI S **S** **20 07 58.1 +3.4**
GNI P'P'ab P'P'ab 20 31 56.8 -5.6
DGRG David-gareji 51.81 314 P **P** **20 00 44.8 +2.5**
DGRG David-gareji 51.81 314 P **S** **20 07 53.1 -1.4**
CLDR Caldiran 52.08 311 *e*P **P** **20 00 46.4 +1.9**
SVE Sverdlovsk 52.15 338 *c i*P **P** **20 00 45.6 +1.2**
SVE *e*PPP PPP 20 03 59.5
SVE *e*S **S** **20 07 57.5 -1.0**
SVE *e*SS **SS** **20 11 40.9 +3.4**
SVE pmax pmax
comp=Z,2µm,1.5s
VANB Van 52.30 310 *e*P **P** **20 00 46.7 +0.6**
SEAG Tbilisi Sea 52.32 315 P **P** **20 00 46.8 +0.7**
TBLG Delisi 52.36 315 *e*P **P** **20 00 48.4 +2.1**
TBLG Delisi 52.36 315 P **P** **20 00 47.9 +1.6**
TBLG Delisi 52.36 315 P **S** **20 07 58.6 -3.3**
DYDN Diyadin 52.37 312 *i*P **P** **20 00 49.0 +2.3**
AS31 Alice Springs 52.45 132 *e*P **P** **20 00 46.5 -0.7**
ASAR Alice Springs 52.45 132 P **P** **20 00 46.2 -0.9**
comp=Z,221nm,0.8s,baz=306,slow=7.7,SNR=449
ASAR pP **pP** **20 01 17.9 -0.1**
comp=Z,67nm,0.7s,baz=307,slow=6.9,SNR=3.7
ASAR ScP **ScP** **20 05 39.2 -2.1**
comp=Z,36nm,0.9s,baz=306,slow=4.1,SNR=7.2
ASAR S **S** **20 08 00.6 -3.0**
comp=Z,22nm,0.9s,baz=298,slow=12,SNR=12
ASAR ScS **ScS** **20 10 21.6 -2.7**
comp=Z,4.0nm,0.9s,baz=1.3,slow=36,SNR=2.4
ASAR LR LR 20 23 25.1
comp=Z,8µm,21.4s,baz=302,slow=36
ASAR PKPPKP P'P'df 20 30 50.5 -26
comp=Z,0.6nm,0.9s,baz=170,slow=5.7,SNR=4.1
ASAR PKP2bc 20 31 27.5
comp=Z,2.5nm,0.9s,baz=128,slow=1.9,SNR=5.3
ASAR PKP2ab 20 31 54.7
comp=Z,2.0nm,1.0s,baz=120,slow=3.3,SNR=2.9
ASAR P4KPbc 20 38 14.2
comp=Z,0.8nm,0.9s,baz=308,slow=4.5,SNR=6.7
GEVA Gevas 52.47 310 *i*P **P** **20 00 49.4 +2.0**
DUS Dusheti 52.51 315 P **P** **20 00 49.9 +2.4**
ARU Arti 52.65 336 *c i*P **P** **20 00 48.5 +0.3**
ARU *PP **pP** **20 01 18.5 -0.4**
ARU 20 01 58.3
ARU 20 02 51.0
ARU S **S** **20 08 03.5 -1.9**
ARU *SS **sS** **20 08 57.2 -1.3**
ARU 20 10 21.4
ARU SS **SS** **20 11 39.4 -6.1**
ARU pmax pmax
comp=Z,1µm,1.7s
ARU Arti 52.65 336 *e*P **P** **20 00 48.0 -0.1**
comp=Z,2µm,1.8s
SIRT Sirnak 52.70 309 *e*P **P** **20 00 49.6 +0.6**
EAK Akyaka 52.80 313 *i*P **P** **20 00 52.8 +3.0**
ERM Erimo 52.87 45 *e*P **P** **20 00 51.9 +1.9**
ERM pmax pmax
comp=Z,77nm,1.0s
ERM Erimo 52.87 45 *e*P **P** **20 00 51.9 +1.9**
comp=Z,77nm,1.0s
AGRB Hanur-Agry 52.89 311 *e*P **P** **20 00 52.5 +2.0**
AKH Akhalkalaki 53.12 314 *e*P **P** **20 00 54.4 +2.3**
AKH Akhalkalaki 53.12 314 P **P** **20 00 54.0 +1.9**
AKH Akhalkalaki 53.12 314 P **S** **20 08 11.1 -1.5**
KARS Kars 53.16 313 *e*P **P** **20 00 54.6 +2.2**
ASAJ Asahikawa 53.26 43 *e*P **P** **20 00 54.2 +1.3**
comp=Z,308nm,1.6s
ZEI Tsey 53.31 316 *e*P P 20 00 49.8 -3.7
ZEI *e* 20 02 52.6
ZEI *e*S **S** **20 08 17.6 +2.3**
ZEI *e* 20 10 27.3
ZEI pmax pmax
comp=Z,3µm,7.7s
ZEI pmax pmax
comp=Z,376nm,1.0s
ZEI pmax pmax
comp=N,311nm,0.9s
ZEI pmax pmax
comp=E,728nm,1.1s
EATA Eleskirt 53.35 312 *i*P **P** **20 00 56.1 +2.2**
ONI Oni 53.55 315 P **P** **20 00 57.1 +2.0**
ONI Oni 53.55 315 P **S** **20 08 24.2 +6.0**
BTMT Batman 53.62 309 *e*P **P** **20 00 57.1 +1.5**
MZRK Al-Mazaregh 53.67 306 *e*P **P** **20 00 58.6 +2.6**
NCK Nalchik 53.78 316 *d i*P **P** **20 00 57.9 +1.2**
SVAN Silvan-Diyarba 53.83 309 *e*P **P** **20 00 58.1 +1.0**
HOMI Horasan 53.83 312 *i*P **P** **20 00 59.4 +2.0**
VRTB Varto-Mus 53.91 311 *e*P **P** **20 00 59.5 +1.6**
KBSD Kabsdagh 54.04 308 *e*P **P** **20 01 00.8 +2.2**
FURI Furi 54.12 273 P P 20 01 04.9 +5.0
FURI S **S** **20 08 29.3 +2.2**
DAGI Agillar 54.14 313 *i*P **P** **20 01 01.4 +2.0**
ARTV Artvin 54.16 313 *i*P **P** **20 01 01.7 +2.0**
ERZM Erzurum 54.19 311 *i*P P 20 01 03.4 +3.4
EZM Erzurum 54.19 311 *e*P **P** **20 01 02.0 +1.9**
DDEM Demirkent 54.20 313 *i*P **P** **20 01 01.9 +2.0**
MAZI Mazidag 54.22 308 *e*P **P** **20 01 00.9 +0.8**
DBAD Bademkaya 54.28 313 *i*P **P** **20 01 02.5 +2.0**
NEY Neytrino 54.29 316 *i*P **P** **20 01 02.6 +2.0**
NEY pmax pmax
comp=Z,356nm,2.5s
KBZ Khabaz 54.34 316 P **P** **20 01 01.9 +1.3**
comp=Z,190nm,1.1s,baz=146,slow=24,SNR=291
KBZ ScP **ScP** **20 05 51.0 +1.9**
comp=Z,45nm,0.9s,baz=144,slow=23,SNR=4.5
KBZ S **S** **20 08 30.9 +2.5**
comp=Z,13nm,0.9s,baz=53,slow=22,SNR=9.8
KBZ PKP2ab 20 31 51.1
comp=Z,1.5nm,0.9s,baz=326,slow=23,SNR=4.4
DBOC Borcka 54.40 313 *i*P **P** **20 01 03.4 +2.1**
BNGB Bing˜‖ 54.44 310 *e*P **P** **20 01 03.2 +1.5**
BCA Borcka 54.47 313 *e*P **P** **20 01 03.2 +1.5**
YSS Yuzh-Sakhalins 54.49 40‖ *i*P **P** **20 01 02.0 +0.3**
YSS *e*PP **pP** **20 01 30.0 -2.7**
YSS *e* 20 03 08.0
YSS *e*PPP PPP 20 04 19.0
YSS *i* S **S** **20 08 30.0 -0.5**
YSS *e*SS **SS** **20 12 10.0 -4.9**
YSS pmax pmax
comp=Z,760nm,1.6s
YSS pmax pmax
comp=Z,3µm,5.0s
YSS smax smax
comp=N,8µm,10.0s
YSS MLR MLR
comp=N,6µm,15.0s
YSS MLR MLR
comp=E,7µm,15.0s
YSS MLR MLR
comp=Z,6µm,15.0s
YSS Yuzh-Sakhalins 54.49 40 *e*P **P** **20 01 02.6 +0.9**
comp=Z,921nm,1.7s
CHVG Ch'k'valeri 54.55 315 *e*P **P** **20 01 04.3 +2.1**
CHVG Ch'k'valeri 54.55 315 P **P** **20 01 04.3 +2.1**
CHVG Ch'k'valeri 54.55 315 P **S** **20 08 33.0 +1.5**
KIV Kislovodsk 54.56 316 *e*P **P** **20 01 04.2 +1.8**
KIV Kislovodsk 54.56 316 *e*P **P** **20 01 03.9 +1.5**
KIV *e*PP **pP** **20 01 35.1 +1.8**
KIV *e* 20 02 05.4
KIV *e* 20 03 08.5

KIV eS S 20 08 33.3 +1.6
KIV eSS SS 20 12 15.5 -0.7
KIV pmax pmax
comp=Z,849nm,1.1s
KIV pmax pmax
comp=Z,1μm,3.7s
KIV Kislovodsk 54.56 316 P P 20 01 04.1 +1.8
SNR=336
KIV Kislovodsk 54.56 316 ⇓P P 20 01 04.2 +1.8
SNR=343
KIV Kislovodsk 54.56 316 eP P 20 01 03.4 +1.0
comp=Z,1μm,1.1s
DYBB Diyarbakir 54.58 309 eP P 20 01 03.7 +1.0
DIYA Diyarbakir 54.59 309 iP P 20 01 04.4 +1.7
GOF Gofitskoye 54.72 318⇓iP P 20 01 05.2 +1.8
GOF i 20 01 36.8
GOF iS S 20 08 36.5 +2.8
GOF pmax pmax
comp=Z,548nm,1.3s
GOF smax smax
comp=N,82nm,1.2s
GOF smax smax
comp=E,154nm,1.2s
ABPO Ambohimpanom 54.74 237 eP P 20 01 06.1 +2.0
ABPO pmax pmax
comp=Z,2μm,1.7s
ABPO Ambohimpanom 54.74 237 eP P 20 01 06.1 +2.0
comp=Z,2μm,1.7s
KSRV Kasrt alli 54.99 306 eP P 20 01 06.8 +1.2
BAYT Ayd¨–ntepe-Bay 55.23 312 eP P 20 01 09.1 +1.7
ERZN Erzincan 55.32 311 eP P 20 01 09.4 +1.4
SVRC Sivrice-ELAZID 55.32 309 eP P 20 01 08.8 +0.7
EUZM Uzumlu 55.37 311 iP P 20 01 10.5 +2.1
PTK Pertek 55.39 310 eP P 20 01 09.4 +0.8
JHLN Al Jahlan 55.39 306 eP P 20 01 10.1 +1.6
YUK Yuzh-Kuril'sk 55.43 44diP P 20 01 09.6 +1.1
YUK i*PP pP 20 01 37.6 -1.9
YUK i 20 03 10.2
YUK iS S 20 08 44.7 +1.6
YUK iSS SS 20 12 34.6 +5.0
YUK pmax pmax
comp=N,46nm,1.5s
YUK pmax pmax
comp=E,130nm,1.5s
YUK pmax pmax
comp=Z,425nm,1.5s
YUK pmax pmax
comp=Z,2μm,2.6s
YUK MLR MLR
comp=N,4μm,20.0s
YUK MLR MLR
comp=E,11μm,20.0s
YUK MLR MLR
comp=Z,12μm,20.0s
URFA Urfa 55.48 308 eP P 20 01 10.0 +0.9
SOKR Solikamsk 55.56 338diP P 20 01 09.9 +0.8
SOKR S S 20 08 41.9 -2.3
SOKR i 20 10 44.8
SOKR pmax pmax
comp=Z,800nm,1.2s
ELZG Elazig 55.60 309 iP P 20 01 11.4 +1.4
KTUT Trabzon 55.67 312 eP P 20 01 11.5 +1.2
GUMT Gumushane 55.73 312 eP P 20 01 12.5 +1.6
ZALF Zalf 55.80 302 eP P 20 01 14.6 +3.2
SLMH Al Salmeh 55.91 306 eP P 20 01 10.5 -1.6
MALT Malatya 55.98 309 eP P 20 01 13.9 +1.2
MALT Malatya 55.98 309⇓iP P 20 01 13.6 +0.9
MALT Malatya 55.98 309⇑iP ScS 20 10 49.0 -0.3
ROOS tl_alroos 56.04 304 eP P 20 01 16.0 +2.8
ASF Jabal al Asfar 56.05 301 S S 20 08 57.3 +5.3
comp=Z,1.1nm,0.5s,baz=74,slow=10,SNR=3.8
ASF ScS ScS 20 10 50.0 +0.1
comp=Z,1.0nm,0.5s,baz=142,slow=20,SNR=0.9
ASF LR LR 20 28 31.0
comp=Z,3μm,20.8s,baz=45,slow=39
ASF PKPPKP P'P'df 20 31 11.6 -1.2
comp=Z,0.8nm,0.5s,baz=276,slow=6.0,SNR=3.2
ASF PKP2bc 20 31 22.5
comp=Z,0.8nm,0.4s,baz=182,slow=6.9,SNR=3.7
ASF PKP2ab 20 31 37.2
comp=Z,1.7nm,0.7s,baz=178,slow=1.0,SNR=3.4
ILIC ilic-Erzincan 56.15 310 eP P 20 01 15.4 +1.5
RABH Abou Rabah 56.15 304 eP P 20 01 17.4 +3.4
SALA Sala 56.26 302 eP P 20 01 15.4 +0.5
AKCD Akcadag 56.36 309 iP P 20 01 16.9 +1.4
ESPY Espiye-Giresun 56.41 312 eP P 20 01 16.8 +1.2
GZT Gaziantep 56.43 307 iP P 20 01 17.7 +1.7
SOC Sochi 56.47 315diP P 20 01 16.5 +0.6
SOC i*PP pP 20 01 46.9 -0.1
SOC e*SP sP 20 02 01.8 +0.3
SOC e 20 02 11.7
SOC e 20 03 22.8
SOC ePPP PPP 20 04 42.0
SOC iS S 20 08 55.5 -1.4
SOC pmax pmax
comp=Z,439nm,0.9s
GRSN GIRESUNGRSN 56.74 312 iP P 20 01 19.3 +1.4
DARE Darende-Malaty 56.76 309 eP P 20 01 19.1 +0.9
HAWK Haweek 56.82 304 eP P 20 01 20.6 +1.9
TCHB Talchebab 56.89 302 eP P 20 01 19.0 -0.2
BIDA Albida 56.97 304 eP P 20 01 21.6 +1.8
KMRS Kahramanmaras 56.98 308 eP P 20 01 20.4 +0.7
WRDH Warideh 56.98 305 eP P 20 01 22.5 +2.7
YAK Yakutsk 57.01 19diP P 20 01 19.0 -0.4
YAK e*PP pP 20 01 48.9 -1.7
YAK e 20 02 14.3
YAK e 20 03 26.3
YAK eS S 20 09 00.7 -2.7
YAK e 20 10 49.5
YAK eSS SS 20 12 52.0 -1.9
YAK pmax pmax
comp=E,58nm,1.1s
YAK pmax pmax
comp=N,47nm,1.2s
YAK pmax pmax
comp=Z,155nm,1.0s
YAK pmax pmax
comp=E,510nm,1.9s
YAK pmax pmax
comp=Z,746nm,2.7s
YAK pmax pmax
comp=N,390nm,2.1s
YAK smax smax
comp=E,5μm,3.8s
YAK smax smax
comp=N,1μm,1.8s
YAK Yakutsk 57.01 19 eP P 20 01 18.7 -0.7
comp=N,824nm,1.4s
PMG Port Moresby 57.02 109ciP P 20 01 20.7 +0.5
PMG pmax pmax
comp=Z,5μm,2.5s
PMG Port Moresby 57.02 109 eP P 20 01 20.9 +0.7
comp=Z,1μm,1.5s
BRBR Barbar 57.02 303 eP P 20 01 20.8 +0.5
RSDY Resadiye-TOKAT 57.30 311 eP P 20 01 23.1 +1.1
MMLI Mount Malkishu 57.32 301 P P 20 01 23.4 +1.2
TAHT Tahtakopru-Hat 57.32 306 eP P 20 01 23.2 +1.1
HRFI Mount Harif 57.36 298 P P 20 01 24.0 +1.5
KMBO Kilima Mbogo 57.38 261⇑iP P 20 01 26.2 +3.1
KMBO Kilima Mbogo 57.38 261 P P 20 01 25.5 +2.3
comp=Z,82nm,1.0s,baz=67,slow=7.4,SNR=86
KMBO ScP ScP 20 06 04.1 +0.7
comp=Z,40nm,1.0s,baz=44,slow=4.9,SNR=9.0
KMBO S S 20 09 12.3 +2.0
comp=Z,1.1nm,0.4s,baz=312,slow=22,SNR=8.6
KMBO ScS ScS 20 11 01.1 +0.6
comp=Z,0.5nm,0.2s,baz=240,slow=22,SNR=0.9
KMBO PKP2bc 20 31 22.8
comp=Z,0.6nm,0.3s,baz=216,slow=7.6,SNR=5.0
KMBO PKP2ab 20 31 53.4
comp=Z,0.9nm,0.3s,baz=231,slow=1.9,SNR=3.6
KMBO Kilima Mbogo 57.38 261 P P 20 01 26.3 +3.1
SNR=67
KMBO Kilima Mbogo 57.38 261 eP P 20 01 25.7 +2.6
comp=Z,1μm,2.0s
KMBO ScP ScP 20 06 04.1 +0.7
KMBO S S 20 09 12.3 +2.0
KMBO ScS ScS 20 11 01.1 +0.6
KMBO ⇑e 20 31 22.8
KMBO P'P'ab P'P'ab 20 31 53.4 +13
EIL Elat 57.40 298 P P 20 01 24.1 +1.3
EIL Elat 57.40 298 S S 20 09 09.9 +0.2
comp=Z,5.8nm,0.9s,baz=339,slow=23,SNR=4.3
EIL LR LR 20 27 21.0
comp=Z,4μm,21.5s,baz=98,slow=37
EIL PKP2bc 20 31 22.0
comp=Z,1.0nm,0.5s,baz=64,slow=1.1,SNR=7.7
MMAI Mount Meron Ar 57.41 302 S S 20 09 10.7 +0.8
comp=Z,2.3nm,0.5s,baz=260,slow=39,SNR=0.7
MMAI ScS ScS 20 10 59.1 -0.8
comp=Z,1.2nm,0.6s,baz=56,slow=49,SNR=1.5
ANDN Andirin 57.43 307 iP P 20 01 24.0 +1.0
SVSK Karacayir 57.44 310 eP P 20 01 24.0 +1.2
CEYT Ceyhan 57.79 307 eP P 20 01 26.6 +1.3
ERBA Erbaa 57.80 311 iP P 20 01 26.4 +0.9
KOZT Kozan 57.81 307 eP P 20 01 26.2 +0.7
KRTS Karatas 58.00 306 eP P 20 01 28.5 +1.7
KZIT Kziot 58.00 299 P P 20 01 27.9 +0.9
KARA Karaisali 58.38 307 eP P 20 01 30.3 +0.8
ANN Anapa 58.40 316diP P 20 01 28.8 -0.6
ANN e*PP pP 20 02 00.6 -0.1
ANN e 20 03 41.9
ANN ePPP PPP 20 05 06.5
ANN iS S 20 09 19.3 -2.7
ANN eSSS SSS 20 15 53.0
ANN pmax pmax
comp=Z,280nm,1.4s
ANN pmax pmax
comp=N,65nm,1.5s
ANN pmax pmax
comp=E,55nm,1.5s
ANN pmax pmax
comp=N,492nm,4.6s
ANN pmax pmax
comp=Z,2μm,4.6s
ANN pmax pmax
comp=E,532nm,4.6s
ANN smax smax
comp=Z,1μm,3.3s
ANN smax smax
comp=N,3μm,3.3s
ANN smax smax
comp=E,4μm,3.3s
ANN MLR MLR
comp=E,3μm,16.0s
ANN MLR MLR
comp=N,2μm,16.0s
ANN MLR MLR
comp=Z,4μm,16.0s
KVT Kavak 58.41 311 eP P 20 01 30.8 +1.1
HAVZ Havza 58.65 311 iP P 20 01 32.7 +1.3
MERS Mersin 58.73 306 eP P 20 01 32.6 +0.6
EREN Erenkoy 58.79 305 eP P 20 01 32.8 +0.5
NIG Nigde 58.88 308 eP P 20 01 33.9 +0.6
DIKM Dikmen 59.12 312 eP P 20 01 35.3 +0.8
VORD Divnogorie 59.26 323 eP P 20 01 35.9 +0.7
VORD eS S 20 09 31.2 -1.8
VORD pmax pmax
comp=N,170nm,0.7s
VORD pmax pmax
comp=E,260nm,0.7s
VORD pmax pmax
comp=Z,350nm,0.7s
VORD smax smax
comp=N,2μm,1.7s
VORD smax smax
comp=E,7μm,1.7s
VORD smax smax
comp=Z,2μm,1.7s
VORD MLR MLR
comp=N,3μm,19.0s
VORD MLR MLR
comp=E,5μm,19.0s
VORD MLR MLR
comp=Z,7μm,19.0s
CORM Corum 59.27 310 eP P 20 01 36.3 +0.6
LFK Lefkose 59.27 304 eP P 20 01 36.4 +0.6
BOYT Boyabat 59.33 312 iP P 20 01 37.1 +1.1
CDAG Cicekdag 59.35 309 iP P 20 01 36.8 +0.5
CSS Prodhromos 59.39 304 eP P 20 01 36.8 +0.2
CSS Prodhromos 59.39 304 P P 20 01 36.7 +0.2
CSS Prodhromos 59.39 304 P P 20 01 36.2 -0.3
CSS Prodhromos 59.39 304 eP P 20 01 35.8 -0.8
comp=Z,104nm,1.4s
VSR Storozhevoye 59.43 324deP P 20 01 36.4 0.0
VSR eS S 20 09 32.6 -2.6
VSR pmax pmax
comp=N,240nm,1.4s
VSR pmax pmax
comp=E,880nm,1.4s
VSR pmax pmax
comp=Z,1μm,1.4s
VSR pmax pmax
comp=N,20nm,0.6s
VSR pmax pmax
comp=E,110nm,0.6s
VSR pmax pmax
comp=Z,270nm,0.6s
VSR smax smax
comp=N,3μm,2.3s
VSR smax smax
comp=E,8μm,2.3s
VSR smax smax
comp=Z,3μm,2.3s
BYBT Boyabat 59.44 312 eP P 20 01 37.1 +0.4
MAMC Mammari 59.51 304 P P 20 01 38.1 +0.8
VOR Voronezh 59.60 324⇓iP P 20 01 35.0 -2.6
VOR pmax pmax
comp=Z,2μm,1.4s
SZAC Souni-Zanaja 59.73 304 P P 20 01 39.5 +0.6
SULT Sultanhani-AKS 59.74 308 eP P 20 01 39.8 +0.8
LEF Lefka 59.77 304 eP P 20 01 39.9 +0.8
KAMT Kaman 59.80 309 eP P 20 01 39.3 -0.1
BR131 Keskin Array S 59.92 309 eP P 20 01 39.9 -0.3
comp=Z,136nm,0.7s
BRTR Keskin Array B 59.92 309 P P 20 01 39.6 -0.6
comp=Z,114nm,0.7s,baz=129,slow=7.0,SNR=434
BRTR ScP ScP 20 06 14.2 +0.1
comp=Z,29nm,0.9s,baz=123,slow=4.5,SNR=4.9
BRTR S S 20 09 37.5 -4.8
comp=Z,3.1nm,0.8s,baz=142,slow=4.2,SNR=1.8
BRTR ScS ScS 20 11 15.9 -2.4
comp=Z,2.0nm,0.9s,baz=134,slow=3.6,SNR=3.6
BRTR PKPPKP P'P'df 20 31 00.2 -6.3
comp=Z,0.2nm,0.5s,baz=23,slow=4.7,SNR=2.7
BRTR PKP2bc 20 31 14.8
comp=Z,0.7nm,0.9s,baz=335,slow=1.8,SNR=4.0
ERMK Ermenek 59.97 306 iP P 20 01 41.8 +1.2
ALFC Alevga 60.01 304 P P 20 01 40.7 -0.1
LPSR Galich'ya Gora 60.09 325diP P 20 01 41.4 +0.5
LPSR e 20 03 51.9
LPSR eS S 20 09 42.2 -1.4
LPSR pmax pmax
comp=N,180nm,1.5s
LPSR pmax pmax
comp=E,1μm,1.5s
LPSR pmax pmax
comp=Z,1μm,1.5s
LPSR pmax pmax
comp=N,30nm,1.1s
LPSR pmax pmax
comp=E,390nm,1.1s
LPSR pmax pmax
comp=Z,580nm,1.1s
LPSR pmax pmax
comp=N,560nm,2.5s
LPSR pmax pmax
comp=E,3μm,2.5s
LPSR pmax pmax
comp=Z,1μm,2.5s
LPSR smax smax
comp=N,6μm,2.5s
LPSR smax smax
comp=E,14μm,2.5s
LPSR smax smax
comp=Z,3μm,2.5s
BZK Bozkurt 60.10 312 eP P 20 01 42.1 +0.9
CANT Cankiri 60.11 310 eP P 20 01 42.0 +0.7
ILGA Ilgaz 60.12 311 iP P 20 01 43.3 +1.6
PPCY Paphos 60.18 304 P P 20 01 41.9 0.0
AKMC Akamas 60.21 304 P P 20 01 42.0 -0.2
BBAL Bala 60.28 309 iP P 20 01 42.7 0.0
AFSR Af˙ar-Bala (A 60.30 309 eP P 20 01 42.9 +0.1
HDMB Hadim 60.35 306 eP P 20 01 43.2 -0.1
GAZI Gazipasa 60.38 305 iP P 20 01 43.9 +0.6
CTA Charters Tower 60.39 121 ScP ScP 20 06 15.1 -1.2
comp=Z,39nm,1.0s,baz=302,slow=5.1,SNR=5.1
CTA S S 20 09 48.2 -0.2
comp=Z,9.4nm,1.1s,baz=85,slow=24,SNR=1.5
CTAO Charters Tower 60.39 121 eP P 20 01 43.5 0.0
CTAO pmax pmax
comp=Z,1μm,1.9s
CTAO Charters Tower 60.39 121 eP P 20 01 43.5 0.0
comp=Z,1μm,1.9s
ANTO Ankara 60.59 309 eP P 20 01 44.9 +0.2
ANTO Ankara 60.59 309 eP P 20 01 44.4 -0.3
ANTO pmax pmax
comp=Z,350nm,1.3s
ANTO Ankara 60.59 309⇓iP P 20 01 44.7 0.0
ANTO Ankara 60.59 309 P P 20 01 45.0 +0.2
SNR=72
ANTO Ankara 60.59 309 eP P 20 01 44.4 -0.3
comp=Z,350nm,1.3s
KONT Konya--Tatoy 60.60 307 eP P 20 01 45.1 +0.4
LOD Lodumlu 60.62 310 eP P 20 01 44.8 0.0
LADK Ladik-KONYA 60.64 308 eP P 20 01 44.8 -0.3
SIM Simferopol' 60.71 315diP P 20 01 46.3 +1.0
SIM *SP 20 03 58.0
SIM eS S 20 09 51.0 -0.8
SIM eSS SS 20 13 47.0 -5.6
SIM pmax pmax
comp=Z,359nm,0.9s
SAFT Safranbolu 60.92 311 eP P 20 01 47.6 +0.8
PRGR Permogore 61.11 336⇓iP P 20 01 48.0 +0.3
PRGR e*PP pP 20 02 19.0 -0.2
PRGR e 20 02 30.9
PRGR *PP PP 20 04 03.2 -0.5
PRGR iS S 20 09 54.5 -1.8
PRGR i 20 11 25.4
PRGR pmax pmax
comp=Z,424nm,0.9s
KIZT Kizilcal 61.12 308 eP P 20 01 47.9 -0.5
SVRH Sivrihisar-ESK 61.48 309 eP P 20 01 50.7 0.0
ANTB Antalya 61.80 306 eP P 20 01 52.0 -0.8
BOLV Bolvadin 61.81 308 iP P 20 01 53.4 +0.4
BCK Bucak 61.92 306 eP P 20 01 52.6 -1.1
MOS Moscow 62.01 326kiP P 20 01 54.2 +0.4
MOS e*PP pP 20 02 24.6 -0.8
MOS e 20 02 32.9
MOS e 20 04 12.8
MOS ePPP PPP 20 05 43.0
MOS iS S 20 10 05.1 -2.7
MOS e 20 11 30.5
MOS pmax pmax
comp=Z,4μm,2.3s
MOS pmax pmax
comp=E,2μm,2.8s
MOS pmax pmax
comp=N,1μm,3.2s
MOS pmax pmax
comp=Z,1μm,1.5s
MOS pmax pmax
comp=E,384nm,1.2s
MOS pmax pmax
comp=N,165nm,1.4s
MOS smax smax
comp=E,16μm,3.7s
MOS smax smax
comp=N,10μm,4.0s
ESKT Eskisehir 62.01 309 eP P 20 01 54.0 -0.3
ISP Isparta 62.02 307 eP P 20 01 54.1 -0.3
ISP Isparta 62.02 307 P P 20 01 53.9 -0.5
ISP Isparta 62.02 307 eP P 20 01 53.8 -0.6
ISP pmax pmax
comp=Z,511nm,1.3s
ISP Isparta 62.02 307⇑iP P 20 01 53.9 -0.6
ISP Isparta 62.02 307⇑iP S 20 10 02.8 -6.1
ISP Isparta 62.02 307 eP P 20 01 53.8 -0.6
comp=Z,510nm,1.3s
BTAS Taskesti 62.06 310 iP P 20 01 54.8 +0.2
OBN Obninsk 62.33 327diP P 20 01 56.3 +0.4
OBN i*PP pP 20 02 28.8 +1.2
OBN pmax pmax
comp=Z,2μm,1.9s
OBN MLR MLR
comp=Z,7μm,18.0s
OBN Obninsk 62.33 327 eP P 20 01 55.6 -0.3
comp=Z,1μm,1.4s
BORA Eskisehir 62.37 309 iP P 20 01 56.4 -0.2
ELL Elmali 62.37 306 eP P 20 01 56.9 +0.1
GULT Gulveren 62.41 310 eP P 20 01 56.7 -0.2
ALT Altintas 62.51 308 eP P 20 01 57.5 -0.1
ALT Altintas 62.51 308 P P 20 01 55.6 -2.0
ALT Altintas 62.51 308 P P 20 01 55.6 -2.0
AKAS Kas 62.56 305 iP P 20 01 57.9 -0.1
KSL Kastellorizon 62.57 305 eP P 20 01 58.0 +0.1
SPNC Sapanca-Adapaz 62.60 310 eP P 20 01 57.6 -0.5
GOLH Golhisar 62.71 306 iP P 20 01 59.4 +0.4
STKA Stephens Creek 62.76 135 P P 20 01 58.9 -0.3
comp=Z,98nm,0.5s,baz=313,slow=6.7,SNR=178
STKA PP PP 20 04 16.9 -2.2
comp=Z,56nm,0.9s,baz=358,slow=5.3,SNR=3.2
STKA ScS ScS 20 11 35.2 -4.3
comp=Z,6.7nm,1.1s,baz=100,slow=21,SNR=2.0
STKA LR LR 20 28 53.2
comp=Z,5μm,20.9s,baz=293,slow=35
STKA PKPPKP P'P'df 20 30 57.0 -3.5
comp=Z,2.1nm,0.9s,baz=302,slow=6.9,SNR=3.3
STKA PKP2bc 20 31 07.7
comp=Z,6.6nm,1.1s,baz=100,slow=0.5,SNR=6.4
STKA Stephens Creek 62.76 135 eP P 20 01 59.1 -0.1
comp=Z,55nm,1.1s
STKA PP PP 20 04 16.9 -2.2
STKA ScS ScS 20 11 35.2 -4.3
STKA P'P' 20 30 57.0
STKA ⇑e 20 31 07.7
CAVI Cavuskoy 62.88 309 eP P 20 01 59.9 -0.1
ADVT Abdulvahap 62.99 310 eP P 20 02 00.6 -0.1
GDZ Gediz 63.00 308 iP P 20 02 01.4 +0.4
TVSB Tavsanli 63.06 309 eP P 20 02 01.5 +0.2
HRT Hereke 63.10 310 eP P 20 02 01.3 -0.2
SILT Sile 63.17 310 eP P 20 02 01.5 -0.3
IZI Iznik 63.18 310 eP P 20 02 02.0 0.0
DENT Denizli 63.18 307 eP P 20 02 02.7 +0.7
KLMR Klimovskoe 63.27 334diP P 20 02 02.4 +0.3
KLMR i*PP pP 20 02 34.3 +0.5
KLMR e 20 02 40.0
KLMR SP 20 02 48.0
KLMR e 20 04 21.5
KLMR e 20 05 53.1
KLMR iS S 20 10 21.6 -1.8
KLMR i 20 11 39.9
KLMR iSSS SSS 20 17 18.0
KLMR pmax pmax
comp=Z,1μm,1.7s
GEMT Gemlik 63.41 310 eP P 20 02 03.3 -0.1
BUY Buyukada 63.52 310 iP P 20 02 05.0 +0.9
KULA Kula-Manisa 63.56 307 eP P 20 02 04.6 0.0
KULA Kula-Manisa 63.56 307 P P 20 02 02.6 -2.0
KULA Kula-Manisa 63.56 307 P P'P'df 20 31 02.5 +1.8
KULA Kula-Manisa 63.56 307 P P 20 02 02.6 -2.0
ISK Istanbul-Kandi 63.59 310 eP P 20 02 04.7 +0.1
ISK Istanbul-Kandi 63.59 310 P P'P'bc 20 31 03.4 -3.7
MBAR Mbarara 63.59 264⇑iP P 20 02 06.3 +1.0
KLYT Kilyos 63.63 311 eP P 20 02 05.0 +0.2
ARMT Armutlu 63.67 310 eP P 20 02 04.7 -0.5
YER Yerkesik 63.71 306 eP P 20 02 05.2 -0.4
DSTI Dursunbey 63.73 309 eP P 20 02 05.2 -0.5
PAF Port-aux-Franc 63.73 197 P P 20 01 48.0 -17
PAF S S 20 10 15.0 -14
PAF L L 20 17 00.0
PAF R 20 21 00.0
ARG Arkhangelos 63.75 305 P P 20 02 04.5 -1.2
ARG Arkhangelos 63.75 305 eP P 20 02 06.0 +0.3
ARG Arkhangelos 63.75 305 P P 20 02 04.5 -1.2
ARG Arkhangelos 63.75 305 P P 20 02 04.5 -1.2
BGKT Bogazkoy 63.83 310 eP P 20 02 06.2 +0.1
DURS Dursunbey 63.84 309 iP P 20 02 06.2 -0.2
KCTX Karacabey (Bur 64.02 309 eP P 20 02 07.2 -0.3
CTKS Kestanelik-??a 64.03 310 eP P 20 02 07.2 -0.3
SKR Severo-Kuril's 64.05 39 eP P 20 01 58.0 -9.4
SKR e 20 02 30.0
SKR e 20 04 30.0
SKR eS S 20 10 23.0 -10
SKR pmax pmax
comp=Z,250nm,1.4s
SKR pmax pmax
comp=N,1μm,4.0s
SKR pmax pmax
comp=E,2μm,4.0s
SKR pmax pmax
comp=Z,3μm,4.0s

SKR					smax	smax			
	comp=N,4µm,8.0s								
SKR					smax	smax			
	comp=E,11µm,10.0s								
SKR					MLR	MLR			
	comp=N,2µm,20.0s								
SKR					MLR	MLR			
	comp=Z,9µm,20.0s								
SKR					MLR	MLR			
	comp=E,6µm,18.0s								
TIXI	**Tiksi**	**64.08**	**12**	⇓ *e*P	**P**		**20 02 06.6**	**-0.6**	
TIXI				pmax	pmax				
	comp=Z,1µm,2.5s								
TIXI	**Tiksi**	**64.08**	**12**	*e*P	**P**		**20 02 06.6**	**-0.6**	
	comp=Z,1µm,1.4s								
AYDB	**Zeytinkoy-Aydi**	**64.10**	**307**	*e*P	**P**		**20 02 08.6**	**+0.4**	
CTYL	**Yal??k??y-??at**	**64.23**	**311**	*e*P	**P**		**20 02 08.8**	**0.0**	
DAT	**Datca**	**64.23**	**305**	*e*P	**P**		**20 02 08.8**	**-0.2**	
SLVT	**Silivri**	**64.25**	**310**	*e*P	**P**		**20 02 09.2**	**+0.2**	
AKS	**Akhisar**	**64.27**	**308**	*e*P	**P**		**20 02 09.1**	**0.0**	
MANR	**Mangalia**	**64.36**	**313**	⇓ *i*P	**P**		**20 02 09.5**	**-0.1**	
BDRM	**Kayabasi**	**64.37**	**306**	*i* P	**P**		**20 02 09.7**	**-0.1**	
EDC	**Edincik**	**64.40**	**309**	*e*P	**P**		**20 02 09.9**	**0.0**	
TLCR		**64.43**	**315**	⇓ *i*P	**P**		**20 02 10.2**	**+0.2**	
BODT	**Bodrum**	**64.48**	**306**	*e*P	**P**		**20 02 10.3**	**-0.2**	
TIRR	**Tirgusor**	**64.59**	**314**	P	**P**		**20 02 11.3**	**+0.2**	
TIRR	**Tirgusor**	**64.59**	**314**	*e*P	**P**		**20 02 11.0**	**0.0**	
TIRR				pmax	pmax				
	comp=Z,178nm,0.9s								
TIRR	**Tirgusor**	**64.59**	**314**	⇓ *i*P	**P**		**20 02 11.2**	**+0.2**	
TIRR	**Tirgusor**	**64.59**	**314**	⇓ *i*P	**S**		**20 10 36.8**	**-3.5**	
TIRR	**Tirgusor**	**64.59**	**314**	*e*P	**P**		**20 02 11.0**	**0.0**	
	comp=Z,178nm,0.9s								
CRLT	**Corlu**	**64.59**	**310**	*e*P	**P**		**20 02 11.6**	**+0.4**	
GCAM	**G?zelcaml?**	**64.60**	**306**	*i* P	**P**		**20 02 13.0**	**+1.7**	
PSN	**Preselentsi**	**64.63**	**313**	⇓ *i*P	**P**		**20 02 11.8**	**+0.5**	
PSN	**Preselentsi**	**64.63**	**313**	⇑ *i*P	**S**		**20 10 39.5**	**-1.3**	
PSN	**Preselentsi**	**64.63**	**313**	*i* P	**P**		**20 02 11.6**	**+0.3**	
MRMT	**Marmara Adasi**	**64.63**	**310**	*e*P	**P**		**20 02 11.5**	**0.0**	
IZM	**Izmir**	**64.64**	**307**	*e*P	**P**		**20 02 12.2**	**+0.6**	
TKR	**Tekirdag**	**64.73**	**310**	*e*P	**P**		**20 02 12.3**	**+0.3**	
KIS	**Kishinev**	**64.76**	**317**	*i* P	**P**		**20 02 11.0**	**-1.1**	
	comp=Z,800nm,2.2s								
KIS				*i* pP	**pP**		**20 02 44.0**	**0.0**	
KIS	**Kishinev**	**64.76**	**317**	*e*PP	PP		20 04 48.0	+12	
KIS	**Kishinev**	**64.76**	**317**	*i* PPP	PPP		20 06 10.0		
KIS				*i* S	**S**		**20 10 39.0**	**-3.3**	
	comp=Z,3µm,2.0s								
KIS	**Kishinev**	**64.76**	**317**	*i* P	**P**		**20 02 11.0**	**-1.1**	
KIS				*i* *SP	sP		20 02 44.0	-14	
KIS				*i* S	**S**		**20 10 39.0**	**-3.3**	
KIS				*i* PS	**PnS**		**20 11 19.0**	**-2.2**	
KIS				*i*			20 11 50.0		
KIS				*i* SS	**SS**		**20 14 54.0**	**-1.8**	
KIS				pmax	pmax				
	comp=Z,1.0nm,2.2s								
KIS				pmax	pmax				
	comp=E,1.0nm,2.2s								
KIS				pmax	pmax				
	comp=Z,2µm,7.5s								
KIS				pmax	pmax				
	comp=E,1µm,3.0s								
KIS				pmax	pmax				
	comp=Z,2µm,14.0s								
KIS				smax	smax				
	comp=N,3.0nm,2.0s								
KIS				smax	smax				
	comp=E,2.0nm,2.0s								
KIS				smax	smax				
	comp=N,5µm,14.0s								
KIS				smax	smax				
	comp=E,9µm,14.0s								
KIS				MLR	MLR				
	comp=N,1µm,18.0s								
KIS				MLR	MLR				
	comp=E,4µm,19.0s								
KIS				MLR	MLR				
	comp=Z,6µm,19.0s								
BLCB	**Balcova**	**64.81**	**307**	*e*P	**P**		**20 02 13.1**	**+0.5**	
PHSR	**Pinarhisar**	**64.82**	**311**	*e*P	**P**		**20 02 12.9**	**+0.4**	
KRBG	**Karabiga-Canak**	**64.83**	**309**	*e*P	**P**		**20 02 12.6**	**-0.1**	
TLB	**Topalu**	**64.87**	**314**	⇓ *i*P	**P**		**20 02 13.1**	**+0.2**	
TLB	**Topalu**	**64.87**	**314**	⇑ *i*P	**S**		**20 10 41.3**	**-2.4**	
CFR	**Carcaliu**	**64.90**	**315**	⇑ *i*P	**P**		**20 02 13.3**	**+0.3**	
CFR	**Carcaliu**	**64.90**	**315**	⇑ *i*P	**S**		**20 10 42.2**	**-1.9**	
SMG	**Samos**	**64.91**	**306**	P	**P**		**20 02 12.9**	**-0.4**	
SMG	**Samos**	**64.91**	**306**	P	S		20 10 35.1	-9.4	
SMG	**Samos**	**64.91**	**306**	P	**P'P'df**		**20 30 57.6**	**-0.8**	
SMG	**Samos**	**64.91**	**306**	*e*P	**P**		**20 02 13.5**	**+0.2**	
SMG	**Samos**	**64.91**	**306**	P	**P**		**20 02 12.9**	**-0.4**	
MSAB	**Monastry St. A**	**64.95**	**313**	⇓ *i*P	**P**		**20 02 13.8**	**+0.4**	
RKY	**Sarkoy-Tekirda**	**64.96**	**310**	*e*P	**P**		**20 02 13.4**	**-0.2**	
HARR	**Harsova**	**64.97**	**314**	⇑ *i*P	**P**		**20 02 13.8**	**+0.3**	
LEOM	**Leova**	**65.05**	**316**	⇓ *i*P	**P**		**20 02 14.4**	**+0.4**	
PRO	**Provadia**	**65.12**	**312**	*i* P	**P**		**20 02 14.8**	**+0.3**	
LPK	**Lapseki**	**65.24**	**309**	*e*P	**P**		**20 02 16.0**	**+0.7**	
AKASG	**Malin Array Be**	**65.27**	**321**	P	**P**		**20 02 14.4**	**-0.9**	
	comp=Z,70nm,0.8s,baz=88,slow=4.8,SNR=249								
AKASG				pP	**PcP**		**20 02 46.8**	**+0.2**	
	comp=Z,66nm,0.7s,baz=88,slow=5.1,SNR=7.1								
AKASG				PP	PP		20 04 34.1	-6.3	
	comp=Z,28nm,1.0s,baz=87,slow=6.3,SNR=3.2								
AKASG				PPP	PPP		20 06 16.9		
	comp=Z,9.1nm,0.8s,baz=87,slow=8.4,SNR=5.6								
AKASG				S	**S**		**20 10 44.1**	**-4.3**	
	comp=Z,15nm,1.1s,baz=99,slow=11,SNR=10								
AKASG				PKPPKP	P'P'df		20 30 51.2	-5.8	
	comp=Z,0.3nm,0.3s,baz=269,slow=3.2,SNR=5.0								
AKBB	**Malin Array Si**	**65.27**	**321**	*e*P	**P**		**20 02 14.8**	**-0.5**	
AKBB	**Malin Array Si**	**65.27**	**321**	*e*P	**P**		**20 02 14.8**	**-0.5**	
AK02	**Malin Array Si**	**65.27**	**321**	*e*P	**P**		**20 02 15.1**	**-0.2**	
AK01	**Malin Array Si**	**65.27**	**321**	*e*P	**P**		**20 02 15.1**	**-0.3**	
KIEV	**Kiev**	**65.28**	**321**	*d* iP	**P**		**20 02 14.8**	**-0.5**	
AMRR	**Amara**	**65.37**	**314**	⇑ *i*P	**P**		**20 02 17.1**	**+1.0**	
TMCR	**Tamitsa**	**65.39**	**337**	*e*P	**P**		**20 02 16.0**	**+0.2**	
TMCR				*e*S	**S**		**20 10 49.8**	**+0.4**	
TMCR				pmax	pmax				
	comp=Z,598nm,1.4s								
EDRB	**Edirne**	**65.42**	**311**	*e*P	**P**		**20 02 16.7**	**+0.2**	
EDRB	**Edirne**	**65.42**	**311**	P	**P**		**20 02 14.0**	**-2.5**	
EDRB	**Edirne**	**65.42**	**311**	P	**P'P'bc**		**20 31 01.4**	**-0.8**	
EDRB	**Edirne**	**65.42**	**311**	P	**P**		**20 02 14.0**	**-2.5**	
ERIK	**Erikli-Kesan**	**65.46**	**310**	*e*P	**P**		**20 02 17.2**	**+0.5**	
GELI	**Tayfur-Gelibol**	**65.46**	**309**	*e*P	**P**		**20 02 17.1**	**+0.4**	
PRK	**Paraskevi**	**65.50**	**308**	P	**P**		**20 02 16.9**	**-0.1**	
PRK	**Paraskevi**	**65.50**	**308**	P	**S**		**20 10 47.0**	**-4.6**	
PRK	**Paraskevi**	**65.50**	**308**	*e*P	**P**		**20 02 17.5**	**+0.5**	
PRK	**Paraskevi**	**65.50**	**308**	*e*P	**S**		**20 10 49.0**	**-2.6**	
PRK	**Paraskevi**	**65.50**	**308**	P	**P**		**20 02 16.9**	**-0.1**	
PRK	**Paraskevi**	**65.50**	**308**	P	**P**		**20 02 16.9**	**-0.1**	
EZN	**Ezine**	**65.51**	**309**	*e*P	**P**		**20 02 17.4**	**+0.3**	
CHOS	**Chios island**	**65.59**	**307**	*e*P	**P**		**20 02 18.6**	**+0.9**	
CHOS	**Chios island**	**65.59**	**307**	P	**P**		**20 02 17.1**	**-0.6**	
CHOS	**Chios island**	**65.59**	**307**	P	**P'P'df**		**20 30 55.3**	**-2.0**	
CHOS	**Chios island**	**65.59**	**307**	*e*P	**P**		**20 02 18.0**	**+0.3**	
CHOS	**Chios island**	**65.59**	**307**	*e*P	**S**		**20 10 48.0**	**-4.9**	
CHOS	**Chios island**	**65.59**	**307**	P	**P**		**20 02 17.1**	**-0.6**	
PEA0B	**Petropavlovsk-**	**65.61**	**37**	*e*P	**P**		**20 02 18.9**	**+1.4**	
PETK	**Petropavlovsk-**	**65.61**	**37**	P	**P**		**20 02 17.2**	**-0.3**	
	comp=Z,5.3nm,0.5s,baz=210,slow=4.5,SNR=13								
PETK				pP	**PcP**		**20 02 47.9**	**-0.1**	
	comp=Z,4.9nm,0.6s,baz=238,slow=14,SNR=3.1								
PETK				PKPPKP	**P'P'df**		**20 30 51.9**	**-4.4**	
	comp=Z,3.0nm,0.9s,baz=120,slow=10,SNR=3.9								
PETK				PKP2bc			20 30 58.2		
	comp=Z,33nm,1.0s,baz=87,slow=9.1,SNR=13								
PETK				LR	LR		20 34 50.3		
	comp=Z,8µm,18.0s,baz=236,slow=39								
JMB	**Yambol**	**65.62**	**312**	P	**P**		**20 02 18.1**	**+0.4**	
JMB	**Yambol**	**65.62**	**312**	P	**S**		**20 10 49.3**	**-3.7**	
JMB	**Yambol**	**65.62**	**312**	P	**P'P'bc**		**20 31 00.2**	**-1.4**	
JMB	**Yambol**	**65.62**	**312**	P	**P**		**20 02 18.1**	**+0.4**	
JMB	**Yambol**	**65.62**	**312**	⇓ *i*P	**P**		**20 02 18.5**	**+0.8**	
JMB	**Yambol**	**65.62**	**312**	⇓ *i*P	**S**		**20 10 54.9**	**+1.9**	
JMB	**Yambol**	**65.62**	**312**	*i* P	**P**		**20 02 18.3**	**+0.6**	
JMB	**Yambol**	**65.62**	**312**	P	**P**		**20 02 18.1**	**+0.4**	
PETR	**Petresti**	**65.62**	**315**	⇑ *i*P	**P**		**20 02 18.9**	**+1.2**	
IAS	**Iasi**	**65.64**	**317**	⇓ *i*P	**P**		**20 02 17.8**	**0.0**	
PGOR	**Pogoanele**	**65.67**	**314**	⇓ *i*P	**P**		**20 02 20.4**	**+2.4**	
NPS	**Neapolis**	**65.71**	**304**	P	**P**		**20 02 17.7**	**-0.8**	
NPS	**Neapolis**	**65.71**	**304**	P	**S**		**20 10 51.9**	**-2.5**	
NPS	**Neapolis**	**65.71**	**304**	*e*P	**P**		**20 02 19.5**	**+1.0**	
NPS	**Neapolis**	**65.71**	**304**	P	**P**		**20 02 17.7**	**-0.8**	
NPS	**Neapolis**	**65.71**	**304**	P	**P**		**20 02 17.7**	**-0.8**	
ENEZ	**Enez**	**65.74**	**310**	*e*P	**P**		**20 02 18.9**	**+0.4**	
GRER		**65.74**	**315**	⇓ *i*P	**P**		**20 02 20.5**	**+2.0**	
GRER		**65.74**	**315**	⇓ *i*P	**S**		**20 10 57.5**	**+3.1**	
ODBI	**Odobesti**	**65.75**	**315**	⇑ *i*P	P		20 02 25.8	+7.3	
SIGR	**SIGRI**	**65.81**	**308**	*e*P	**P**		**20 02 19.2**	**+0.1**	
SIGR	**SIGRI**	**65.81**	**308**	P	**P**		**20 02 18.3**	**-0.8**	
SIGR	**SIGRI**	**65.81**	**308**	*e*P	**P**		**20 02 20.0**	**+0.9**	
SIGR	**SIGRI**	**65.81**	**308**	P	**P**		**20 02 18.3**	**-0.8**	
ALN	**Alexandroupoli**	**65.84**	**310**	*e*P	**P**		**20 02 19.4**	**+0.3**	
ALN	**Alexandroupoli**	**65.84**	**310**	P	**P**		**20 02 18.4**	**-0.8**	
ALN	**Alexandroupoli**	**65.84**	**310**	P	**S**		**20 10 53.2**	**-2.5**	
ALN	**Alexandroupoli**	**65.84**	**310**	P	**P'P'df**		**20 30 55.6**	**-1.1**	
ALN	**Alexandroupoli**	**65.84**	**310**	*e*P	**P**		**20 02 19.5**	**+0.3**	
ALN	**Alexandroupoli**	**65.84**	**310**	*e*P	**S**		**20 10 52.0**	**-3.7**	
ALN	**Alexandroupoli**	**65.84**	**310**	P	**P**		**20 02 18.4**	**-0.8**	
ALN	**Alexandroupoli**	**65.84**	**310**	P	**P**		**20 02 18.4**	**-0.8**	
GADA	**Gvkgeada**	**65.88**	**309**	*e*P	**P**		**20 02 19.7**	**+0.3**	
APE	**Apeiranthos**	**65.90**	**306**	*e*P	**P**		**20 02 19.2**	**-0.5**	
APE	**Apeiranthos**	**65.90**	**306**	P	**P**		**20 02 17.7**	**-2.0**	
APE	**Apeiranthos**	**65.90**	**306**	P	S		20 10 44.7	-12	
APE	**Apeiranthos**	**65.90**	**306**	P	**P'P'df**		**20 30 54.7**	**-2.2**	
APE	**Apeiranthos**	**65.90**	**306**	*e*P	**P**		**20 02 19.0**	**-0.7**	
APE	**Apeiranthos**	**65.90**	**306**	*d* iP	**P**		**20 02 18.8**	**-0.9**	
APE				pmax	pmax				
	comp=Z,257nm,2.5s								
APE	**Apeiranthos**	**65.90**	**306**	⇓ *i*P	**P**		**20 02 19.0**	**-0.7**	
APE	**Apeiranthos**	**65.90**	**306**	⇑ *i*P	S		20 10 43.5	-13	
APE	**Apeiranthos**	**65.90**	**306**	P	**P**		**20 02 17.7**	**-2.0**	
SANT	**Santorini**	**65.91**	**305**	P	**P**		**20 02 18.9**	**-0.9**	
SANT	**Santorini**	**65.91**	**305**	*e*P	**P**		**20 02 19.5**	**-0.3**	
SANT	**Santorini**	**65.91**	**305**	*e*P	**P**		**20 02 18.7**	**-1.1**	
	comp=Z,149nm,0.6s								
SANT				*e*S	S		20 10 49.8	-6.9	
VRI	**Vrincioaia**	**65.99**	**315**	⇑ *i*P	**P**		**20 02 21.1**	**+1.0**	
VRI	**Vrincioaia**	**65.99**	**315**	⇓ *i*P	**S**		**20 10 56.6**	**-0.8**	
PLOR	**Plostina**	**66.04**	**315**	⇓ *i*P	**P**		**20 02 21.4**	**+0.9**	
PLOR	**Plostina**	**66.04**	**315**	⇑ *i*P	**S**		**20 10 56.8**	**-1.3**	
SEY	**Seymchan**	**66.12**	**25**	S	**S**		**20 10 54.4**	**-4.0**	
	comp=Z,2.6nm,0.8s,baz=18,slow=20,SNR=9.5								
SEY				ScS	**SKSac**		**20 11 59.4**	**-4.5**	
	comp=Z,1.0nm,0.5s,baz=150,slow=23,SNR=1.5								
SEY				PKPPKP	P'P'df		20 30 47.9	-7.0	
	comp=Z,0.9nm,0.4s,baz=74,slow=4.7,SNR=7.7								
SEY				PKP2bc			20 30 57.2		
	comp=Z,8.2nm,1.0s,baz=74,slow=3.2,SNR=6.9								
SEY				LR	LR		20 34 40.9		
	comp=Z,5µm,20.6s,baz=242,slow=39								
TESR	**Tescani**	**66.14**	**316**	⇓ *i*P	**P**		**20 02 21.4**	**+0.3**	
TESR	**Tescani**	**66.14**	**316**	⇓ *i*P	**S**		**20 10 57.6**	**-1.6**	
PET	**Petropavlovsk**	**66.15**	**37**	*de*P	**P**		**20 02 19.9**	**-1.0**	
PET				*e**PP	**PcP**		**20 02 47.4**	**-2.8**	
PET				*e*			20 04 49.5		
PET				*e*S	**S**		**20 10 56.7**	**-2.2**	
PET				*e*			20 11 47.9		
PET				*e*SS	**SS**		**20 15 16.6**	**-0.4**	
PET				pmax	pmax				
	comp=Z,2µm,5.2s								
PET				pmax	pmax				
	comp=Z,1µm,15.8s								
PET				pmax	pmax				
	comp=Z,45nm,0.8s								
PET				MLR	MLR				
	comp=Z,11µm,19.0s								
PET				MLR	MLR				
	comp=Z,9µm,19.0s								
PET	**Petropavlovsk**	**66.15**	**37**	*e*P	**P**		**20 02 20.0**	**-0.8**	
	comp=Z,46nm,1.0s								
SULR		**66.15**	**314**	⇑ *i*P	**P**		**20 02 22.2**	**+1.1**	
SMTH	**Samothraki Isl**	**66.18**	**309**	P	**P**		**20 02 19.6**	**-1.8**	
SMTH	**Samothraki Isl**	**66.18**	**309**	*e*P	**P**		**20 02 21.5**	**+0.1**	
SMTH	**Samothraki Isl**	**66.18**	**309**	*e*P	**S**		**20 10 57.0**	**-2.9**	
SMTH	**Samothraki Isl**	**66.18**	**309**	P	**P**		**20 02 19.6**	**-1.8**	
SZH	**Strazhica**	**66.19**	**312**	*i* P	**P**		**20 02 21.3**	**-0.1**	
RDO	**Rodhopi**	**66.25**	**310**	P	**P**		**20 02 21.9**	**+0.2**	
RDO	**Rodhopi**	**66.25**	**310**	P	S		20 10 52.0	-8.6	
RDO	**Rodhopi**	**66.25**	**310**	*e*P	**P**		**20 02 22.0**	**+0.2**	
RDO	**Rodhopi**	**66.25**	**310**	*e*P	**S**		**20 10 57.5**	**-3.1**	
RDO	**Rodhopi**	**66.25**	**310**	P	**P**		**20 02 21.9**	**+0.2**	
BUC1	**Bucharest**	**66.26**	**314**	⇑ *i*P	**P**		**20 02 23.6**	**+1.8**	
IDI	**Anoyia**	**66.31**	**304**	S	S		20 10 51.1	-11	
	comp=Z,4.8nm,0.9s,baz=92,slow=8.8,SNR=3.9								
SECR		**66.33**	**314**	⇓ *i*P	**P**		**20 02 23.7**	**+1.4**	
PLAR	**PLOIESTI**	**66.34**	**314**	⇑ *i*P	**P**		**20 02 22.5**	**+0.2**	
KDZ	**Kurdzhali**	**66.39**	**311**	⇑ *i*P	**P**		**20 02 23.2**	**+0.5**	
KDZ	**Kurdzhali**	**66.39**	**311**	⇓ *i*P	**S**		**20 11 01.1**	**-1.3**	
KDZ	**Kurdzhali**	**66.39**	**311**	*i* P	**P**		**20 02 23.1**	**+0.4**	
LIA	**Limnos Island**	**66.39**	**309**	P	**P**		**20 02 21.7**	**-1.0**	
LIA	**Limnos Island**	**66.39**	**309**	*e*P	**P**		**20 02 23.0**	**+0.3**	
LIA	**Limnos Island**	**66.39**	**309**	P	**P**		**20 02 21.7**	**-1.0**	
MLR	**Muntele Rosu**	**66.48**	**315**	S	**S**		**20 11 02.0**	**-1.6**	
	comp=Z,3.6nm,0.9s,baz=185,slow=22,SNR=15								
MLR				PKPPKP	**P'P'df**		**20 30 52.9**	**-2.6**	
	comp=Z,0.5nm,0.8s,baz=311,slow=7.3,SNR=5.2								
MLR				LR	LR		20 36 32.5		
	comp=Z,2µm,19.8s,baz=91,slow=40								
MLR	**Muntele Rosu**	**66.48**	**315**	⇓ *i*P	**P**		**20 02 24.1**	**+0.7**	
MLR	**Muntele Rosu**	**66.48**	**315**	⇓ *i*P	**S**		**20 11 01.8**	**-1.8**	
PRAR	**RASCA**	**66.56**	**317**	⇓ *i*P	**P**		**20 02 23.7**	**0.0**	
ZIMR		**66.65**	**313**	⇑ *i*P	**P**		**20 02 25.8**	**+1.5**	
RZN	**Rozhen**	**66.91**	**311**	*i* P	**P**		**20 02 25.8**	**-0.5**	
DOPR	**Dopca**	**66.93**	**315**	⇑ *i*P	**P**		**20 02 26.5**	**+0.4**	
DOPR	**Dopca**	**66.93**	**315**	⇓ *i*P	**S**		**20 11 10.1**	**+1.3**	
MICGM	**Minsk**	**66.94**	**325**	⇓ *i*P	**P**		**20 02 24.0**	**-1.9**	
PLD	**Plovdiv**	**66.96**	**311**	P	**P**		**20 02 26.4**	**+0.1**	
PLD	**Plovdiv**	**66.96**	**311**	P	**P'P'bc**		**20 02 57.9**	**+0.1**	
PLD	**Plovdiv**	**66.96**	**311**	P	**P**		**20 02 26.4**	**+0.1**	
PLD	**Plovdiv**	**66.96**	**311**	P	**P**		**20 02 26.4**	**+0.1**	
KAVA	**Kavala**	**67.00**	**310**	P	**P**		**20 02 24.8**	**-1.8**	
KAVA	**Kavala**	**67.00**	**310**	P	**P'P'bc**		**20 30 54.9**	**-2.8**	
KAVA	**Kavala**	**67.00**	**310**	*e*P	**P**		**20 02 26.5**	**-0.1**	
KAVA	**Kavala**	**67.00**	**310**	P	**P**		**20 02 24.8**	**-1.8**	
HUMR	**Humele**	**67.03**	**314**	⇑ *i*P	**P**		**20 02 27.0**	**+0.3**	
HUMR	**Humele**	**67.03**	**314**	⇓ *i*P	**S**		**20 11 09.7**	**-0.3**	
GOLR		**67.08**	**314**	⇑ *i*P	**P**		**20 02 28.6**	**+1.6**	
PUL	**Pulkovo**	**67.08**	**331**	*de*P	**P**		**20 02 27.5**	**+0.8**	
PUL				pmax	pmax				
	comp=Z,423nm,0.5s								
VOIR		**67.09**	**315**	⇑ *i*P	**P**		**20 02 27.0**	**-0.2**	
VOIR		**67.09**	**315**	⇓ *i*P	**S**		**20 11 07.2**	**-3.7**	
BURAR	**Bucovina Array**	**67.28**	**317**	⇑ *i*P	**P**		**20 02 29.1**	**+0.7**	
BURAR	**Bucovina Array**	**67.28**	**317**	⇑ *i*P	S		20 11	+6.3	
PTL	**Penteli**	**67.28**	**307**	P	**P**		**20 02 29.0**	**+0.5**	
PTL	**Penteli**	**67.28**	**307**	P	**P'P'bc**		**20 30 56.9**	**-0.2**	
PTL	**Penteli**	**67.28**	**307**	*e*P	**P**		**20 02 28.2**	**-0.3**	
PTL	**Penteli**	**67.28**	**307**	P	**P**		**20 02 29.0**	**+0.5**	
BUR08	**Bucovina Ar. S**	**67.30**	**317**	*e*P	**P**		**20 02 29.0**	**+0.6**	
ATHU	**Athens Univers**	**67.34**	**306**	P	**P**		**20 02 29.3**	**+0.5**	
ATHU	**Athens Univers**	**67.34**	**306**	P	**P'P'bc**		**20 30 54.1**	**-2.8**	
ATHU	**Athens Univers**	**67.34**	**306**	P	**P**		**20 02 29.3**	**+0.5**	
AOS	**Alonnisos**	**67.34**	**308**	*e*P	**P**		**20 02 28.7**	**-0.1**	
AOS	**Alonnisos**	**67.34**	**308**	P	**P**		**20 02 29.8**	**+1.0**	
AOS	**Alonnisos**	**67.34**	**308**	*e*P	**P**		**20 02 28.5**	**-0.3**	
AOS	**Alonnisos**	**67.34**	**308**	P	**P**		**20 02 29.8**	**+1.0**	
OUR	**Ouranopolis**	**67.35**	**309**	*e*P	**P**		**20 02 28.9**	**+0.2**	
OUR	**Ouranopolis**	**67.35**	**309**	P	**P**		**20 02 30.4**	**+1.6**	
OUR	**Ouranopolis**	**67.35**	**309**	P	P'P'df		20 30 46.1	-8.1	
OUR	**Ouranopolis**	**67.35**	**309**	*e*P	**P**		**20 02 29.5**	**+0.7**	
OUR	**Ouranopolis**	**67.35**	**309**	P	**P**		**20 02 30.4**	**+1.6**	
OUR	**Ouranopolis**	**67.35**	**309**	P	**P**		**20 02 30.4**	**+1.6**	
ARR	**Arges**	**67.38**	**315**	⇑ *i*P	**S**		**20 11 10.6**	**-3.6**	
ATH	**Athens Observa**	**67.39**	**306**	P	**P**		**20 02 30.2**	**+1.1**	
ATH	**Athens Observa**	**67.39**	**306**	*e*P	**P**		**20 02 28.5**	**-0.6**	
ATH	**Athens Observa**	**67.39**	**306**	P	**P**		**20 02 30.2**	**+1.1**	
ATH	**Athens Observa**	**67.39**	**306**	P	**P**		**20 02 30.2**	**+1.1**	
PGB	**Panagyurishte**	**67.40**	**311**	*i* P	**P**		**20 02 29.1**	**-0.1**	
NVR	**Nevrokopi**	**67.52**	**310**	P	**P**		**20 02 30.2**	**+0.3**	
NVR	**Nevrokopi**	**67.52**	**310**	P	S		20 11 01.8	-14	
NVR	**Nevrokopi**	**67.52**	**310**	P	P'P'df		20 30 46.2	-7.7	
NVR	**Nevrokopi**	**67.52**	**310**	*e*P	**P**		**20 02 30.0**	**+0.1**	
NVR	**Nevrokopi**	**67.52**	**310**	*e*P	**S**		**20 11 12.5**	**-3.6**	
NVR	**Nevrokopi**	**67.52**	**310**	P	**P**		**20 02 30.2**	**+0.3**	
MRKA	**Markates**	**67.54**	**307**	P	**P**		**20 02 30.4**	**+0.3**	
MRKA	**Markates**	**67.54**	**307**	P	**P'P'ab**		**20 30 56.1**	**-1.9**	
MRKA	**Markates**	**67.54**	**307**	*e*P	**P**		**20 02 29.5**	**-0.6**	
PAIG	**Paliouri**	**67.55**	**309**	P	**P**		**20 02 28.8**	**-1.3**	
PAIG	**Paliouri**	**67.55**	**309**	P	**P'P'bc**		**20 30 54.8**	**-1.4**	
PAIG	**Paliouri**	**67.55**	**309**	*e*P	**P**		**20 02 30.5**	**+0.4**	
PAIG	**Paliouri**	**67.55**	**309**	P	**P**		**20 02 28.8**	**-1.3**	
PAIG	**Paliouri**	**67.55**	**309**	P	**P**		**20 02 28.8**	**-1.3**	
NAIG	**Nisos Aigina**	**67.56**	**306**	*e*P	**P**		**20 02 29.5**	**-0.7**	
ANKY	**Antikythira Is**	**67.62**	**304**	P	**P**		**20 02 29.3**	**-1.3**	
ANKY	**Antikythira Is**	**67.62**	**304**	P	**P'P'df**		**20 30 53.7**	**-0.2**	
ANKY	**Antikythira Is**	**67.62**	**304**	*e*P	**P**		**20 02 31.0**	**+0.4**	
ANKY	**Antikythira Is**	**67.62**	**304**	P	**P**		**20 02 29.3**	**-1.3**	
MMB	**Musomiste**	**67.64**	**310**	⇑ *i*P	**P**		**20 02 30.1**	**-0.6**	
MMB	**Musomiste**	**67.64**	**310**	⇓ *i*P	**S**		**20 11 15.1**	**-2.4**	
MMB	**Musomiste**	**67.64**	**310**	*i* P	**P**		**20 02 30.2**	**-0.5**	
MDB	**Medias**	**67.65**	**315**	⇓ *i*P	**P**		**20 02 32.8**	**+2.2**	
NACGM	**Naroch**	**67.65**	**325**	*e*P	**P**		**20 02 28.0**	**-2.4**	
SRS	**Serrai**	**67.71**	**310**	P	P		20 02 27.6	-3.5	
SRS	**Serrai**	**67.71**	**310**	P	S		20 11 03.1	-15	
SRS	**Serrai**	**67.71**	**310**	P	**P'P'df**		**20 30 51.3**	**-2.3**	
SRS	**Serrai**	**67.71**	**310**	*e*P	**P**		**20 02 30.5**	**-0.6**	
SRS	**Serrai**	**67.71**	**310**	*e*P	**S**		**20 11 13.0**	**-5.2**	
SRS	**Serrai**	**67.71**	**310

APA				*i*			20 05 10.0	
APA				*i* PPP	PPP		20 06 54.0	
APA				*i* S	**S**		**20 11 26.0**	**-1.6**
APA				*i*			20 12 14.0	
APA				pmax	pmax			
	comp=Z,375nm,1.1s							
APA				MLR	MLR			
	comp=Z,12µm,19.0s							
GRG	**Griva**	**68.59 310**	*e*P	**P**		**20 02 36.0**	**-0.6**	
GRG	**Griva**	**68.59 310**	P	**P**		**20 02 34.8**	**-1.8**	
GRG	**Griva**	**68.59 310**	P	S		20 11 18.1	-11	
GRG	**Griva**	**68.59 310**	P	**P'P'ab**		**20 30 52.1**	**-1.8**	
GRG	**Griva**	**68.59 310**	*e*P	**P**		**20 02 36.0**	**-0.6**	
GRG	**Griva**	**68.59 310**	*e*P	**S**		**20 11 24.0**	**-4.8**	
GRG	**Griva**	**68.59 310**	P	**P**		**20 02 34.8**	**-1.8**	
GRG	**Griva**	**68.59 310**	P	**P**		**20 02 34.8**	**-1.8**	
KLV	**Kalavryta, Ach**	**68.63 306**	P	**P**		**20 02 33.9**	**-3.1**	
KLV	**Kalavryta, Ach**	**68.63 306**	P	S		20 11 17.6	-12	
KLV	**Kalavryta, Ach**	**68.63 306**	P	**P'P'df**		**20 30 50.0**	**-2.2**	
KLV	**Kalavryta, Ach**	**68.63 306**	*e*P	**P**		**20 02 36.0**	**-1.0**	
KLV	**Kalavryta, Ach**	**68.63 306**	*e*P	S		20 11 16.5	-13	
KLV	**Kalavryta, Ach**	**68.63 306**	P	**P**		**20 02 33.9**	**-3.1**	
DEV	**Deva**	**68.64 315**⇑	*i*P	**P**		**20 02 37.7**	**+0.9**	
KALE	**Kalithea**	**68.66 307**	P	**P**		**20 02 34.6**	**-2.5**	
KALE	**Kalithea**	**68.66 307**	P	S		20 11 17.3	-12	
KALE	**Kalithea**	**68.66 307**	P	**P'P'bc**		**20 30 51.8**	**-1.2**	
KALE	**Kalithea**	**68.66 307**	*e*P	**P**		**20 02 36.0**	**-1.1**	
KALE	**Kalithea**	**68.66 307**	P	**P**		**20 02 34.6**	**-2.5**	
GZR	**Gura Zlata**	**68.68 314**⇑	*i*P	**P**		**20 02 37.2**	**+0.1**	
GZR	**Gura Zlata**	**68.68 314**⇑	*i*P	**S**		**20 11 27.1**	**-2.6**	
ITM	**Ithomi**	**68.78 306**	P	**P**		**20 02 36.8**	**-1.0**	
ITM	**Ithomi**	**68.78 306**	P	S		20 11 22.4	-8.6	
ITM	**Ithomi**	**68.78 306**	P	P'P'df		20 30 45.9	-6.1	
ITM	**Ithomi**	**68.78 306**	*e*P	**P**		**20 02 37.0**	**-0.8**	
ITM	**Ithomi**	**68.78 306**	*e*P	S		20 11 22.5	-8.6	
ITM	**Ithomi**	**68.78 306**	P	**P**		**20 02 36.8**	**-1.0**	
THL	**Klokotos Trika**	**68.81 308**	P	**P**		**20 02 35.3**	**-2.6**	
THL	**Klokotos Trika**	**68.81 308**	P	S		20 11 18.0	-13	
THL	**Klokotos Trika**	**68.81 308**	*e*P	**P**		**20 02 36.0**	**-1.9**	
THL	**Klokotos Trika**	**68.81 308**	*e*P	S		20 11 25.0	-6.3	
EFP	**Efpalio**	**68.84 307**	P	**P**		**20 02 36.2**	**-1.9**	
EFP	**Efpalio**	**68.84 307**	P	**P'P'ab**		**20 30 54.7**	**+1.7**	
EFP	**Efpalio**	**68.84 307**	*e*P	**P**		**20 02 37.5**	**-0.7**	
EFP	**Efpalio**	**68.84 307**	*e*P	S		20 11 23.5	-8.2	
DRGR		**68.87 316**⇓	*i*P	**P**		**20 02 38.9**	**+0.6**	
DRGR		**68.87 316**⇑	*i*P	S		20 11 10.6	-21	
PYL	**PYLOS**	**68.92 305**	P	**P**		**20 02 36.2**	**-2.5**	
PYL	**PYLOS**	**68.92 305**	P	S		20 11 17.5	-15	
PYL	**PYLOS**	**68.92 305**	P	P'P'df		20 30 46.5	-5.2	
PYL	**PYLOS**	**68.92 305**	*e*P	**P**		**20 02 37.5**	**-1.2**	
PYL	**PYLOS**	**68.92 305**	*e*P	S		20 11 16.5	-16	
PYL	**PYLOS**	**68.92 305**	P	**P**		**20 02 36.2**	**-2.5**	
EVR	**Evrytania**	**68.94 307**	P	**P**		**20 02 37.1**	**-1.8**	
EVR	**Evrytania**	**68.94 307**	P	S		20 11 22.9	-10	
EVR	**Evrytania**	**68.94 307**	*e*P	**P**		**20 02 37.5**	**-1.4**	
EVR	**Evrytania**	**68.94 307**	*e*P	**S**		**20 11 28.0**	**-5.1**	
EVR	**Evrytania**	**68.94 307**	P	**P**		**20 02 37.1**	**-1.8**	
AMT	**Artemida-Makis**	**68.96 306**	P	**P**		**20 02 37.1**	**-1.9**	
AMT	**Artemida-Makis**	**68.96 306**	P	S		20 11 25.1	-8.2	
AMT	**Artemida-Makis**	**68.96 306**	P	**P'P'ab**		**20 30 52.7**	**0.0**	
AMT	**Artemida-Makis**	**68.96 306**	*e*P	**P**		**20 02 38.5**	**-0.5**	
AMT	**Artemida-Makis**	**68.96 306**	*e*P	**S**		**20 11 30.0**	**-3.3**	
DRO	**Drossia**	**68.98 306**	P	**P**		**20 02 37.6**	**-1.4**	
DRO	**Drossia**	**68.98 306**	P	S		20 11 21.7	-12	
DRO	**Drossia**	**68.98 306**	P	**P'P'ab**		**20 30 51.3**	**-1.3**	
DRO	**Drossia**	**68.98 306**	*e*P	**P**		**20 02 39.0**	**0.0**	
DRO	**Drossia**	**68.98 306**	*e*P	S		20 11 27.0	-6.4	
KZN	**Kozani**	**69.03 309**	P	**P**		**20 02 37.5**	**-1.9**	
KZN	**Kozani**	**69.03 309**	P	**S**		**20 11 29.2**	**-4.9**	
KZN	**Kozani**	**69.03 309**	*e*P	**P**		**20 02 39.0**	**-0.4**	
KZN	**Kozani**	**69.03 309**	P	**P**		**20 02 37.5**	**-1.9**	
KZN	**Kozani**	**69.03 309**	P	**P**		**20 02 37.5**	**-1.9**	
HNR	**Honiara**	**69.04 105**	*e*P	**P**		**20 02 40.0**	**+0.2**	
HNR			pmax	pmax				
	comp=Z,2µm,1.6s							
HNR	**Honiara**	**69.04 105**	*e*P	**P**		**20 02 40.0**	**+0.2**	
	comp=Z,2µm,1.6s							
TRPA	**Tarpa**	**69.13 317**⇓	*i*P	**P**		**20 02 40.3**	**+0.6**	
TRPA	**Tarpa**	**69.13 317**⇓	*e*P	**P**		**20 02 40.5**	**+0.8**	
TRPA	**Tarpa**	**69.13 317**⇓	*e*PKPPKPbc	**P'P'ab**		**20 30 50.0**	**-1.4**	
RLS	**Riolos of Patr**	**69.17 306**	P	**P**		**20 02 39.9**	**-0.3**	
RLS	**Riolos of Patr**	**69.17 306**	P	S		20 11 24.8	-11	
RLS	**Riolos of Patr**	**69.17 306**	*e*P	**P**		**20 02 40.0**	**-0.3**	
RLS	**Riolos of Patr**	**69.17 306**	P	**P**		**20 02 39.9**	**-0.3**	
KWP	**Kalwaria Pacla**	**69.20 319**	*i* P	**P**		**20 02 40.9**	**+0.7**	
KWP			*e*PcP	**pP**		**20 03 13.9**	**+1.4**	
KWP			*e*PP	**PP**		**20 05 18.8**	**+4.1**	
KWP			*e*S	**S**		**20 11 33.2**	**-2.4**	
KWP			*e*SKSac	**SKKSac**		**20 12 28.1**	**+0.2**	
KWP	**Kalwaria Pacla**	**69.20 319**⇓	*i*P	**P**		**20 02 40.9**	**+0.7**	
KWP			*e*			20 03 14.0		
KWP			*e*			20 05 18.8		
KWP			*e*S	**S**		**20 11 33.2**	**-2.4**	
KWP			*e*			20 12 28.1		
UZH	**Uzhgorod**	**69.35 318***c*	*i*P	**P**		**20 02 41.2**	**+0.1**	
UZH			*e*PP	**PcP**		**20 03 07.2**	**+3.5**	
UZH			*e*			20 03 11.0		
UZH			*i*			20 05 25.8		
UZH			*i* PPP	PPP		20 07 05.8		
UZH			*i* S	**S**		**20 11 37.2**	**-0.2**	
UZH			*i* PS	**SPn**		**20 11 59.0**	**-2.9**	
UZH			*i*			20 12 18.7		
FNA	**Florina**	**69.36 309**	*e*P	**P**		**20 02 40.4**	**-1.0**	
FNA	**Florina**	**69.36 309**	P	**P**		**20 02 38.9**	**-2.5**	
FNA	**Florina**	**69.36 309**	P	**P'P'ab**		**20 30 49.9**	**-1.2**	
FNA	**Florina**	**69.36 309**	*e*P	**P**		**20 02 40.5**	**-0.9**	
FNA	**Florina**	**69.36 309**	P	**P**		**20 02 38.9**	**-2.5**	
FNA	**Florina**	**69.36 309**	P	**P**		**20 02 38.9**	**-2.5**	
SKO	**Skopje**	**69.38 311**	P	**P'P'ab**		**20 30 51.2**	**+0.3**	
SKO	**Skopje**	**69.38 311**	*i* P	**P**		**20 02 40.8**	**-0.6**	
VTN	**Vitinika**	**69.39 306**	P	**P**		**20 02 40.4**	**-1.1**	
KOLS	**Kolonicke sedl**	**69.40 318**	*e*P	**P**		**20 02 42.0**	**+0.6**	
KOLS			pmax	pmax				
	comp=Z,1µm,3.2s							
KOLS	**Kolonicke sedl**	**69.40 318**	*e*P	**P**		**20 02 42.0**	**+0.6**	
KOLS			*e*pP	**pP**		**20 03 09.0**	**-4.7**	
KOLS			*e*PP	**PP**		**20 05 19.6**	**+3.2**	
PDO	**Prodromos**	**69.42 307**	P	**P**		**20 02 39.9**	**-1.8**	
PDO	**Prodromos**	**69.42 307**	P	S		20 11 31.4	-7.1	
PDO	**Prodromos**	**69.42 307**	*e*P	**P**		**20 02 41.0**	**-0.7**	
PDO	**Prodromos**	**69.42 307**	*e*P	S		20 11 27.0	-11	
DSL	**Palaion Diasel**	**69.50 308**	P	**P**		**20 02 39.9**	**-2.4**	
DSL	**Palaion Diasel**	**69.50 308**	P	S		20 11 26.7	-13	
DSL	**Palaion Diasel**	**69.50 308**	P	**P'P'bc**		**20 30 48.8**	**-1.5**	
DSL	**Palaion Diasel**	**69.50 308**	*e*P	**P**		**20 02 41.0**	**-1.3**	
DSL	**Palaion Diasel**	**69.50 308**	P	**P**		**20 02 39.9**	**-2.4**	
SFD	**Strofades**	**69.51 306**	*e*P	**P**		**20 02 42.0**	**-0.3**	
BZS	**Buzias**	**69.51 315**	P	**P**		**20 02 42.2**	**+0.1**	
BZS	**Buzias**	**69.51 315**⇓	*i*P	**P**		**20 02 42.3**	**+0.1**	
BZS	**Buzias**	**69.51 315**⇑	*i*P	S		20 11 32.5	-6.9	
SIRR	**Siria**	**69.54 315**⇑	*i*P	**P**		**20 02 43.0**	**+0.7**	
FIA1	**FINESS Array S**	**69.56 332**	*e*P	**P**		**20 02 42.1**	**0.0**	
FINES	**FINESS Array B**	**69.56 332**	P	**P**		**20 02 42.1**	**0.0**	
	comp=Z,68nm,0.4s,baz=107,slow=6.0,SNR=815							
FINES			S	**S**		**20 11 37.5**	**-1.7**	
	comp=Z,18nm,0.9s,baz=99,slow=9.8,SNR=9.0							
FINES			PKP2bc			20 30 48.4		
	comp=Z,4.2nm,0.9s,baz=214,slow=8.9,SNR=7.3							
FINES			LR	LR		20 35 26.6		
	comp=Z,6µm,21.1s,baz=108,slow=38							
NEST	**Nestorio**	**69.59 309**	P	**P'P'df**		**20 30 50.7**	**+0.2**	
NEST	**Nestorio**	**69.59 309**	*e*P	**P**		**20 02 42.0**	**-0.9**	
KFL	**Anninata**	**69.71 307**	P	**P**		**20 02 43.2**	**-0.3**	
KFL	**Anninata**	**69.71 307**	P	S		20 11 34.4	-7.6	
JAN	**Janina**	**69.71 308**	P	**P**		**20 02 43.2**	**-0.3**	
JAN	**Janina**	**69.71 308**	P	S		20 11 28.7	-13	
JAN	**Janina**	**69.71 308**	*e*P	**P**		**20 02 43.0**	**-0.5**	
JAN	**Janina**	**69.71 308**	*e*P	**S**		**20 11 37.5**	**-4.5**	
JAN	**Janina**	**69.71 308**	P	**P**		**20 02 43.2**	**-0.3**	
JAN	**Janina**	**69.71 308**	P	**P**		**20 02 43.2**	**-0.3**	
KBN	**Korca**	**69.80 309**	P	**P'P'df**		**20 30 47.9**	**-2.2**	
OHR	**Ohrid**	**69.81 310**	*i* P	**P**		**20 02 41.9**	**-2.2**	
CAN	**Canberra**	**69.82 134**	*e*P	**P**		**20 02 44.3**	**+0.1**	
CAN			pmax	pmax				
	comp=Z,196nm,1.1s							
CAN	**Canberra**	**69.82 134**	*e*P	**P**		**20 02 44.3**	**+0.1**	
	comp=Z,196nm,1.1s							
BANR	**Banloc**	**69.83 314**⇓	*i*P	**P**		**20 02 45.0**	**+0.9**	
LKD2	**Lefkada island**	**69.83 307**	P	**P**		**20 02 42.5**	**-1.8**	
LKD2	**Lefkada island**	**69.83 307**	P	S		20 11 31.8	-12	
LKD2	**Lefkada island**	**69.83 307**	P	**P'P'df**		**20 30 50.0**	**-0.1**	
LKD2	**Lefkada island**	**69.83 307**	*e*P	**P**		**20 02 43.5**	**-0.8**	
LKD2	**Lefkada island**	**69.83 307**	*e*P	S		20 11 31.5	-12	
LKD2	**Lefkada island**	**69.83 307**	P	**P**		**20 02 42.5**	**-1.8**	
VLS	**Valsamata**	**69.87 307**	P	**P**		**20 02 43.5**	**-1.0**	
VLS	**Valsamata**	**69.87 307**	P	S		20 11 34.2	-10	
VLS	**Valsamata**	**69.87 307**	*e*P	**P**		**20 02 44.0**	**-0.5**	
VLS	**Valsamata**	**69.87 307**	P	**P**		**20 02 43.5**	**-1.0**	
VLS	**Valsamata**	**69.87 307**	P	**P**		**20 02 43.5**	**-1.0**	
LSZ	**Lusaka**	**69.96 249**⇑	*i*P	**P**		**20 02 47.0**	**+1.4**	
IGT	**Igoumenitsa**	**70.11 308**	*e*P	**P**		**20 02 44.9**	**-1.0**	
IGT	**Igoumenitsa**	**70.11 308**	P	**P**		**20 02 43.5**	**-2.4**	
IGT	**Igoumenitsa**	**70.11 308**	P	S		20 11 14.8	-32	
IGT	**Igoumenitsa**	**70.11 308**	P	**P'P'bc**		**20 30 43.8**	**-4.5**	
IGT	**Igoumenitsa**	**70.11 308**	*e*P	**P**		**20 02 44.5**	**-1.4**	
IGT	**Igoumenitsa**	**70.11 308**	*e*P	S		20 11 35.0	-12	
IGT	**Igoumenitsa**	**70.11 308**	P	**P**		**20 02 43.5**	**-2.4**	
IGT	**Igoumenitsa**	**70.11 308**	P	**P**		**20 02 43.5**	**-2.4**	
PHP	**Peshkopia**	**70.11 310**	P	**P**		**20 02 43.8**	**-2.2**	
PHP	**Peshkopia**	**70.11 310**	P	**P**		**20 02 43.8**	**-2.2**	
PHP	**Peshkopia**	**70.11 310**	P	**P**		**20 02 43.8**	**-2.2**	
STHS	**Stebnicka Huta**	**70.13 319**	*e*P	**P**		**20 02 46.4**	**+0.5**	
STHS			pmax	pmax				
	comp=Z,65nm,1.1s							
STHS	**Stebnicka Huta**	**70.13 319**	*e*P	**P**		**20 02 46.4**	**+0.5**	
STHS			*e*			20 03 19.8		
SGD	**Sagiada**	**70.19 308**	P	**P**		**20 02 44.1**	**-2.3**	
SGD	**Sagiada**	**70.19 308**	P	S		20 11 13.3	-34	
SGD	**Sagiada**	**70.19 308**	*e*P	**P**		**20 02 45.5**	**-0.9**	
SRN	**Sarande**	**70.37 308**	P	**P**		**20 02 45.2**	**-2.3**	
SRN	**Sarande**	**70.37 308**	P	S		20 11 34.4	-15	
SRN	**Sarande**	**70.37 308**	P	**P**		**20 02 45.2**	**-2.3**	
WAKE	**Wake Island**	**70.47 73**	*e*P	**P**		**20 02 50.2**	**+1.8**	
PVY	**Plav**	**70.51 311**⇓	*i*P	**P**		**20 02 47.6**	**-0.9**	
KEK	**Kerkira**	**70.52 308**	P	**P**		**20 02 46.3**	**-2.2**	
KEK	**Kerkira**	**70.52 308**	P	S		20 11 22.5	-29	
KEK	**Kerkira**	**70.52 308**	P	**P'P'ab**		**20 30 44.8**	**-2.0**	
KEK	**Kerkira**	**70.52 308**	*e*P	**P**		**20 02 47.5**	**-1.0**	
KEK	**Kerkira**	**70.52 308**	*e*P	S		20 11 40.0	-11	
KEK	**Kerkira**	**70.52 308**	P	**P**		**20 02 46.3**	**-2.2**	
TIR	**Tirane**	**70.53 310**	*e*P	**P**		**20 02 47.5**	**-0.9**	
TIR			pmax	pmax				
	comp=Z,88nm,0.8s							
TIR	**Tirane**	**70.53 310**	*e*P	**P**		**20 02 47.5**	**-0.9**	
	comp=Z,88nm,0.8s							
KECS	**Kecovo**	**70.53 318**	*e*P	**P**		**20 02 48.9**	**+0.6**	
KECS			pmax	pmax				
	comp=Z,57nm,0.9s							
KECS	**Kecovo**	**70.53 318**	*e*P	**P**		**20 02 48.9**	**+0.6**	
KECS			*e*pP	**pP**		**20 03 17.2**	**-3.5**	
KECS			*e*PP	**PP**		**20 05 30.0**	**+3.9**	
DIVS	**Divibare**	**70.56 313**	P	**P**		**20 02 48.4**	**-0.3**	
DIVS	**Divibare**	**70.56 313**	P	**P'P'ab**		**20 30 43.5**	**-3.0**	
DIVS	**Divibare**	**70.56 313**⇓	*i*P	**P**		**20 02 48.7**	**0.0**	
IVA	**Berane**	**70.57 312**	*e*P	**P**		**20 02 48.6**	**-0.2**	
H11S3	**WAKE ISLAND Hy**	**70.57 74**	P	**P**		**20 02 51.4**	**+2.5**	
	baz=218							
H11S1	**WAKE ISLAND Hy**	**70.58 74**	P	P		20 02 52.4	+3.4	
	baz=218							
H11S2	**WAKE ISLAND Hy**	**70.59 74**	P	**P**		**20 02 52.0**	**+3.0**	
	baz=218							
H11N1	**WAKE ISLAND Hy**	**70.65 73**	P	**P**		**20 02 52.4**	**+3.1**	
	baz=234							
H11N2	**WAKE ISLAND Hy**	**70.65 73**	P	P		20 02 52.5	+3.2	
	baz=234							
H11N3	**WAKE ISLAND Hy**	**70.67 73**	P	P		20 02 53.3	+3.9	
	baz=234							
BEL	**Belsk**	**70.68 321**	*i* P	**P**		**20 02 49.8**	**+0.7**	
BEL			*e*PPP	PPP		20 07 14.5		
BEL			*e*S	**S**		**20 11 50.6**	**-2.1**	
BEL			*e*SKSac	**ScS**		**20 12 41.7**	**+1.4**	
BEL	**Belsk**	**70.68 321**⇓	*i*P	**P**		**20 02 49.8**	**+0.7**	
BEL			*e*PPP	PPP		20 07 14.5		
BEL			*e*S	**S**		**20 11 50.6**	**-2.1**	
BEL			*e*			20 12 41.7		
BEL			pmax	pmax				
	comp=Z,3µm,3.9s							
MSNA	**Messina**	**70.70 242**⇑	*i*P	**P**		**20 02 51.3**	**+1.5**	
MSNA			AMB	AMB		20 02 52.4		
	comp=Z,479nm,2.5s							
NIE	**Niedzica**	**70.73 318**	*e*P	**P**		**20 02 50.7**	**+1.2**	
NIE			*e*PcP	**pP**		**20 03 17.9**	**-4.0**	
NIE			*e*PP	**PP**		**20 05 33.0**	**+5.2**	
NIE			*i* PPP	PPP		20 07 15.8		
NIE			*e*S	**S**		**20 11 53.2**	**-0.3**	
NIE			*e*SKSac	**ScS**		**20 12 40.5**	**-0.5**	
NIE	**Niedzica**	**70.73 318**⇓	*e*P	**P**		**20 02 50.8**	**+1.2**	
NIE			*e*			20 05 33.0		
NIE			*i* PPP	PPP		20 07 15.8		
NIE			*e*S	**S**		**20 11 53.2**	**-0.3**	
NIE			*e*			20 12 40.6		
PSZ	**Piszkesteto**	**70.88 317**	*e*P	**P**		**20 02 50.7**	**+0.1**	
PSZ			pmax	pmax				
	comp=Z,571nm,1.5s							
PSZ	**Piszkesteto**	**70.88 317**⇓	*i*P	**P**		**20 02 50.9**	**+0.3**	
PSZ	**Piszkesteto**	**70.88 317**	*e*P	**P**		**20 02 50.6**	**+0.1**	
	comp=Z,571nm,1.5s							
PSZ	**Piszkesteto**	**70.88 317**⇓	*e*P	**P**		**20 02 51.1**	**+0.5**	
PSZ	**Piszkesteto**	**70.88 317**⇓	*e*PKPPKPbc	**P'P'bc**		**20 30 45.1**	**-0.4**	
PLE	**Pljevlja**	**70.96 312**⇓	*i*P	**P**		**20 02 50.7**	**-0.5**	
ULC	**Ulcinj**	**71.01 311**	*e*P	**P**		**20 02 50.7**	**-0.7**	
PDG	**Podgorica**	**71.02 311**	P	**P**		**20 02 50.0**	**-1.4**	
TTG	**Podgorica**	**71.02 311**⇓	*i*P	**P**		**20 02 50.9**	**-0.5**	
TTG	**Podgorica**	**71.02 311**	P	**P**		**20 02 50.0**	**-1.4**	
TTG	**Podgorica**	**71.02 311**	P	**P**		**20 02 50.0**	**-1.4**	
OJC	**Ojcow**	**71.14 319**	*e*P	**P**		**20 02 52.5**	**+0.5**	
OJC			*e*PcP	**pP**		**20 03 19.5**	**-4.9**	
OJC			*e*PP	**PP**		**20 05 35.3**	**+4.0**	
OJC			*e*PPP	PPP		20 07 17.7		
OJC			*e*S	**S**		**20 11 56.7**	**-1.4**	
OJC			*e*SKSac	**SKSac**		**20 12 42.2**	**-0.2**	
OJC	**Ojcow**	**71.14 319**⇓	*e*P	**P**		**20 02 52.5**	**+0.5**	
OJC			*e*			20 03 19.6		
OJC			*e*			20 05 35.4		
OJC			*e*PPP	PPP		20 07 17.7		
OJC			*e*S	**S**		**20 11 56.7**	**-1.4**	
OJC			*e*			20 12 42.3		
OJC			pmax	pmax				
	comp=Z,2µm,9.8s							
NKY	**Niksic**	**71.23 311**⇓	*i*P	**P**		**20 02 52.8**	**0.0**	
PKS2	**Kecel**	**71.25 315**⇓	*e*P	**P**		**20 02 53.5**	**+0.8**	
PKS2	**Kecel**	**71.25 315**⇓	*e*PKPPKPdf	**P'P'bc**		**20 30 44.4**	**+0.2**	
NKME	**Niksic**	**71.25 311**⇓	*i*P	**P**		**20 02 52.5**	**-0.4**	
LANS	**Liptovska Anna**	**71.26 318**	*e*P	**P**		**20 02 54.3**	**+1.5**	
BUM	**Brajici-Budva**	**71.28 311**⇓	*i*P	**P**		**20 02 52.8**	**-0.3**	
UPM	**Unac-Piva**	**71.31 312**⇓	*i*P	**P**		**20 02 53.0**	**-0.4**	
BUD	**Budapest**	**71.44 316**⇓	*e*P	**P**		**20 02 54.1**	**+0.3**	
BUD	**Budapest**	**71.44 316**⇓	*e*PKPPKPdf	**P'P'ab**		**20 30 42.5**	**-0.4**	
KEV	**Kevo**	**71.55 340**	*e*P	**P**		**20 02 54.7**	**+0.7**	
KEV			pmax	pmax				
	comp=Z,890nm,1.4s							
KEV	**Kevo**	**71.55 340**	*e*P	**P**		**20 02 54.7**	**+0.7**	
	comp=Z,890nm,1.4s							
BRY	**Bratogost**	**71.56 312**⇓	*i*P	**P**		**20 02 54.3**	**-0.6**	
HCY	**Herceg Novi**	**71.58 311**⇓	*i*P	**P**		**20 02 54.2**	**-0.6**	
PKSM	**Moragy**	**71.63 315**⇓	*e*P	**P**		**20 02 55.1**	**+0.2**	
PKSM	**Moragy**	**71.63 315**⇓	*e*	**P'P'bc**		**20 30 42.0**	**-1.1**	
PKSG		**71.86 316**⇓	*e*P	**P**		**20 02 56.7**	**+0.4**	
PKSG		**71.86 316**⇓	*e*PKPPKPdf	**P'P'ab**		**20 30 41.9**	**+0.6**	
PKS9	**Tamasi**	**71.89 315**⇓	*e*P	**P**		**20 02 56.7**	**+0.1**	
PKS9	**Tamasi**	**71.89 315**⇓	*e*PKPPKPdf	**P'P'df**		**20 30 43.5**	**-2.5**	
ARCES	**ARCESS Array B**	**71.98 340**	P	**P**		**20 02 57.4**	**+0.7**	
	comp=Z,99nm,0.4s,baz=91,slow=5.8,SNR=1059							
ARCES			pP	**pP**		**20 03 29.9**	**+0.8**	
	comp=Z,37nm,0.7s,baz=76,slow=5.1,SNR=2.8							
ARCES			S	**S**		**20 12 07.5**	**+0.3**	
	comp=Z,7.0nm,1.0s,baz=125,slow=7.6,SNR=6.0							
ARCES			LR	LR		20 38 27.7		
	comp=Z,10µm,18.9s,baz=108,slow=39							
ARE0	**ARCESS Array S**	**71.98 340**⇓	*i*P	**P**		**20 02 57.8**	**+1.1**	
ARE0			*e*S	**S**		**20 12 06.7**	**-0.5**	
ARE0	**ARCESS Array S**	**71.98 340**	*e*P	**P**		**20 02 57.4**	**+0.8**	
PKST	**T``s**	**72.10 316**⇓	*e*P	**P**		**20 02 58.0**	**+0.2**	
PKST	**T``s**	**72.10 316**⇓	*e*	P'P'df		20 30 40.0	-5.7	
RAC	**Raciborz**	**72.15 319**	*e*P	**P**		**20 02 59.3**	**+1.3**	
RAC			*e*			20 03 17.4		
RAC			*e*S	**S**		**20 12 05.0**	**-4.7**	
RAC			MLR	MLR				
	comp=Z,4µm,18.9s							
OKC	**Ostrava-Krasne**	**72.17 319**⇓	*e*P	**P**		**20 02 58.6**	**+0.5**	
OKC			*e*PCP	**PcP**		**20 03 15.4**	**-0.3**	
OKC			*e*pP	**pP**		**20 03 26.2**	**-4.4**	
OKC			*e*PP	PP		20 05 45.3	+5.2	
OKC			*e*x	x		20 06 09.9		
OKC			*e*x	x		20 07 26.8		
OKC			*e*x	x		20 07 52.0		
OKC			*e*S	**S**		**20 12 04.9**	**-5.0**	
OKC			*e*x	x		20 12 34.4		
OKC			*e*PKPPKP	**P'P'df**		**20 30 40.5**	**-4.9**	
OKC			AMS	AMS		20 40 10.0		
	comp=Z,2µm,16.3s							
OKC	**Ostrava-Krasne**	**72.17 319**	*e*P	**P**		**20 02 58.6**	**+0.5**	
OKC			*e*			20 03 15.4		
OKC			*e*			20 05 45.3		
OKC			*e*			20 07 26.8		
OKC			*e*S	**S**		**20 12 04.9**	**-5.0**	
OKC			*e*			20 12 34.4		
OKC			MLR	MLR				
	comp=Z,2µm,16.3s							
STON	**Ston**	**72.18 311**	P	**P**		**20 02 56.5**	**-1.8**	
MORC	**Moravsky Berou**	**72.56 319**	*e*P	**P**		**20 03 00.9**	**+0.4**	
MORC			pmax	pmax				
	comp=Z,281nm,1.2s							
MORC	**Moravsky Berou**	**72.56 319**⇓	*i*P	**P**		**20 03 01.2**	**+0.7**	
MORC	**Moravsky Berou**	**72.56 319**	*e*P	**P**		**20 03 00.9**	**+0.4**	
	comp=Z,281nm,1.2s							
SMOL	**Smolenice**	**72.56 317**	*e*P	**P**		**20 03 01.3**	**+0.8**	
SMOL	**Smolenice**	**72.56 317**	*e*P	**P**		**20 03 01.3**	**+0.8**	
SMOL			*e*pP	**pP**		**20 03 29.5**	**-3.5**	
KTK1	**Kautokeino**	**72.62 339**	*e*P	**P**		**20 03 01.7**	**+1.3**	
TAU	**Tasmania Unive**	**72.78 142**	*e*P	**P**		**20 03 02.1**	**+0.4**	
TAU			pmax	pmax				
	comp=Z,138nm,0.9s							
TAU	**Tasmania Unive**	**72.78 142**	*e*P	**P**		**20 03 02.1**	**+0.4**	
	comp=Z,138nm,0.9s							
TIP	**Timpagrande**	**72.87 308**	P	**P**		**20 03 02.7**	**+0.1**	
TIP	**Timpagrande**	**72.87 308**	*e*P	**P**		**20 03 02.5**	**-0.2**	
	comp=Z,73nm,0.9s							
TIP			*e*S	**S**		**20 12 14.5**	**-4.1**	
BEHE	**Becsehely**	**72.93 315**⇓	*e*P	**P**		**20 03 03.8**	**+1.1**	
BEHE	**Becsehely**	**72.93 315**⇓	*e*PKPPKPdf	P'P'df		20 30 35.2	-9.0	
GKP	**Gorka Klasztor**	**72.97 322**	*e*P	**P**		**20 03

WDLM AMB AMB 20 03 14.2
comp=Z,294nm,2.5s
BSD Bornholm Skovb 74.44 324 *i* P **P 20 03 09.0 -2.3**
comp=Z,83nm,0.8s
BSD *e* 20 03 35.8
BSD *i* S **S 20 12 31.6 -3.7**
BSD *i* 20 12 56.8
comp=Z,6µm,18.0s
BSD Bornholm Skovb 74.44 324 *i* P **P 20 03 09.0 -2.3**
BSD *i* S **S 20 12 31.6 -3.7**
BSD *i* 20 12 56.8
BSD pmax pmax
comp=Z,83nm,0.8s
BSD MLR MLR
comp=Z,6µm,18.0s
OBKA Obir 74.47 315⇓ *i* P **P 20 03 12.5 +0.7**
comp=Z,2µm,3.1s,SNR=36
LJU Ljubljana 74.48 315⇓ *i* P **P 20 03 12.6 +0.8**
LJU *e* 20 03 40.9
LJU *e* 20 03 46.2
LJU *e* PP **PP 20 05 59.9 0.0**
LJU *i* pPP 20 06 24.0
LJU *e* 20 08 19.3
LJU *e* S **S 20 12 31.1 -5.1**
LJU *e* pS pS 20 13 06.5 -9.2
PVCC Panska Ves 74.50 319⇓ *e* P **P 20 03 12.2 +0.4**
PVCC *e* PCP **PcP 20 03 25.2 -0.4**
PVCC *e* pP **pP 20 03 40.6 -3.8**
PVCC *e* PP **PP 20 06 01.7 +1.9**
PVCC *e* x x 20 06 33.8
PVCC *e* x x 20 07 48.1
PVCC *e* x x 20 08 17.9
PVCC *e* S **S 20 12 31.2 -5.0**
PVCC *e* x x 20 13 01.8
PVCC AMS AMS 20 42 40.0
comp=Z,4µm,16.5s
PVCC Panska Ves 74.50 319 *e* P **P 20 03 12.2 +0.4**
PVCC *e* 20 03 25.2
PVCC *e* 20 06 01.7
PVCC *e* 20 07 48.1
PVCC *e* S **S 20 12 31.2 -5.0**
PVCC *e* 20 13 01.8
PVCC MLR MLR
comp=Z,4µm,16.5s
PRU Pruhonice 74.50 319⇓ *e* P **P 20 03 12.6 +0.8**
PRU *e* PCP **PcP 20 03 28.3 +2.6**
PRU *e* pP **pP 20 03 40.3 -4.2**
PRU *e* PP **PP 20 06 02.2 +2.3**
PRU *e* x x 20 06 33.6
PRU *e* x x 20 07 48.2
PRU *e* x x 20 08 18.4
PRU *e* S **SKiKP 20 12 30.3 +5.4**
PRU *e* SKS **SKSac 20 13 04.2 -3.6**
PRU AMS AMS 20 41 50.0
comp=Z,3µm,17.7s
PRU Pruhonice 74.50 319 *e* P **P 20 03 12.6 +0.8**
PRU *e* 20 03 28.3
PRU *e* 20 06 02.2
PRU *e* 20 07 48.2
PRU *e* S **SKiKP 20 12 30.3 +5.4**
PRU *e* 20 13 04.2
PRU MLR MLR
comp=Z,3µm,17.7s
PRA Prague 74.58 319⇓ *e* P **P 20 03 13.2 +1.0**
PRA *e* PCP **PcP 20 03 28.5 +2.5**
PRA *e* pP **pP 20 03 41.4 -3.5**
PRA *e* PP **PP 20 06 02.5 +2.0**
PRA *e* x x 20 06 34.8
PRA *e* x x 20 07 49.4
PRA *e* x x 20 08 18.7
PRA *e* S **S 20 12 31.1 -5.9**
PRA *e* x x 20 13 04.8
PRA AMS AMS 20 41 40.0
comp=Z,4µm,17.7s
PRA Prague 74.58 319 *e* P **P 20 03 13.2 +1.0**
PRA *e* 20 03 28.5
PRA *e* 20 06 02.5
PRA *e* 20 07 49.4
PRA *e* S **S 20 12 31.1 -5.9**
PRA *e* 20 13 04.8
PRA MLR MLR
comp=Z,4µm,17.7s
PRYS Parys 74.62 238⇑ *i* P **P 20 03 14.0 +0.9**
PRYS AMB AMB 20 03 15.1
comp=Z,254nm,2.5s
MOA Molln 74.66 317⇓ *i* P **P 20 03 13.0 +0.2**
comp=Z,1µm,3.9s,SNR=45
BRG Berggiesshubel 74.90 320⇓ *i* P **P 20 03 15.0 +0.9**
comp=Z,163nm,1.0s
BRG pP **pP 20 03 43.0 -3.8**
BRG *i* sP **sP 20 03 59.6 -1.3**
comp=Z,432nm,1.6s
BRG PP **PP 20 06 00.0 -3.2**
BRG S **S 20 12 35.0 -5.6**
BRG SS **SS 20 17 28.0 -3.4**
comp=N,5µm,16.8s
comp=E,3µm,16.9s
comp=Z,5µm,16.8s
BRG Berggiesshubel 74.90 320 *e* P **P 20 03 14.8 +0.7**
comp=Z,163nm,1.0s
BRG eS **S 20 12 39.4 -1.2**
BRG Berggiesshubel 74.90 320⇓ *i* P **P 20 03 15.0 +0.9**
BRG 20 06 00.0
BRG S **S 20 12 35.0 -5.6**
BRG SS **SS 20 17 28.0 -3.4**
BRG pmax pmax
comp=Z,163nm,1.0s
BRG MLR MLR
comp=N,5µm,16.8s
BRG MLR MLR
comp=E,3µm,16.9s
BRG MLR MLR
comp=Z,5µm,16.8s
SEK Senekal 74.91 237⇑ *i* P **P 20 03 15.9 +1.2**
SEK AMB AMB 20 03 16.8
comp=Z,496nm,2.5s
TRI Trieste 75.02 314 *e* P **P 20 03 14.6 -0.2**
TRI pmax pmax
comp=Z,666nm,1.8s
TRI Trieste 75.02 314 *e* P **P 20 03 14.6 -0.2**
comp=Z,666nm,1.8s
RUE Ruedersdorf 75.03 321 eS **S 20 12 38.6 -3.3**
RUE eScS **SKKSac 20 13 12.6 +0.8**
RUE Ruedersdorf 75.03 321 *e* P **P 20 03 15.2 +0.4**
comp=Z,302nm,0.8s
GEC2 GERESS Array S 75.04 318 *e* P **P 20 03 15.8 +0.7**
comp=Z,166nm,1.0s
GEC2 *e* PP **PP 20 06 09.5 +4.9**
GEC2 eS **S 20 12 40.1 -2.4**
GEC2 eScS **ScS 20 13 14.3 -1.3**
GERES GERESS Array B 75.04 318 P **P 20 03 15.3 +0.2**
comp=Z,82nm,0.8s,baz=86,slow=5.6,SNR=331
GERES pP **pP 20 03 44.2 -3.6**
comp=Z,22nm,0.6s,baz=88,slow=6.0,SNR=2.2
GERES S **S 20 12 41.5 -1.0**
comp=Z,1.7nm,1.0s,baz=59,slow=5.1,SNR=1.6
GERES LR LR 20 43 59.4
comp=Z,3µm,18.1s,baz=80,slow=42
MYKA Terra Mystica 75.09 315⇓ *i* P **P 20 03 15.6 +0.2**
comp=Z,1µm,2.9s,SNR=30
KHC Kasperske Hory 75.12 318⇓ *e* P **P 20 03 15.5 0.0**
KHC *e* PCP **PcP 20 03 25.4 -3.0**
KHC *e* pP **pP 20 03 43.8 -4.4**
KHC *e* sP **sP 20 04 00.5 -1.8**
KHC *e* PP **PP 20 06 08.4 +3.2**
KHC *e* x x 20 06 38.9
KHC *e* x x 20 08 22.8
KHC *e* S **S 20 12 41.5 -1.8**
KHC *e* SKS **SKSac 20 13 12.1 -0.5**
KHC AMS AMS 20 37 50.0
comp=Z,4µm,22.2s
KHC Kasperske Hory 75.12 318 *e* P **P 20 03 15.5 0.0**
KHC *e* 20 03 25.4
KHC *e* 20 04 00.5
KHC *e* 20 06 08.4
KHC *e* S **S 20 12 41.5 -1.8**
KHC *e* 20 13 12.1
KHC MLR MLR
comp=Z,4µm,22.2s
BJO Bjornoya 75.12 344⇓ *i* P **P 20 03 15.9 +1.0**
BJO IAmb IAmb 20 03 17.8
comp=Z,213nm,0.9s
BJO eS **S 20 12 43.4 +1.1**

FBE Freiberg 75.27 320 *e* P **P 20 03 17.4 +1.2**
KBA Koelnbreinsper 75.29 316 *i* P **P 20 03 16.5 -0.2**
comp=Z,950nm,3.5s,SNR=20
STEI Steigen 75.33 338 *e* P **P 20 03 17.1 +1.0**
RGN Rugen 75.34 324 eS **S 20 12 44.5 -0.8**
HFS Hagfors 75.35 329 S **S 20 12 42.0 -3.3**
comp=Z,18nm,1.1s,baz=96,slow=11,SNR=3.8
AQU L'Aquila 75.36 311 *e* P **P 20 03 15.8 -1.2**
AQU pmax pmax
comp=Z,470nm,1.5s
AQU L'Aquila 75.36 311 *e* P **P 20 03 15.8 -1.2**
comp=Z,470nm,1.5s
SMY Shemya 75.38 38 *e* P **P 20 03 17.0 +0.2**
SMY pmax pmax
comp=Z,350nm,1.0s
SMY Shemya 75.38 38 *e* P **P 20 03 17.0 +0.2**
comp=Z,350nm,1.0s
LBTB Lobatse 75.44 240⇑ *i* P **P 20 03 18.9 +1.1**
LBTB AMB AMB 20 03 19.6
comp=Z,450nm,2.5s
LBTB Lobatse 75.44 240 *e* P **P 20 03 18.8 +1.1**
LBTB pmax pmax
comp=Z,563nm,1.4s
LBTB Lobatse 75.44 240 *e* P **P 20 03 18.8 +1.1**
comp=Z,563nm,1.4s
MOR8 Moi Rana 75.46 336⇓ *i* P **P 20 03 16.8 -0.2**
MOR8 IAmb IAmb 20 03 18.9
comp=Z,250nm,1.0s
CLL Collm 75.50 320 *e* P **P 20 03 17.8 +0.3**
comp=Z,241nm,1.6s
CLL eS **S 20 12 43.6 -3.6**
CLL Collm 75.50 320⇓ *i* P **P 20 03 17.8 +0.3**
comp=Z,240nm,1.6s
CLL *i* pP **pP 20 03 45.6 -4.6**
CLL *i* pPmax 20 03 49.5
CLL *i* 20 04 02.8
CLL *i* 20 04 13.7
CLL *e* PP **PP 20 06 09.0 +0.8**
CLL *e* pPP 20 06 36.0
CLL *e* sPP 20 06 50.0
CLL *e* PPP PPP 20 07 54.0
CLL *e* sPPP 20 08 28.0
CLL eS **S 20 12 46.0 -1.2**
comp=N,3µm,21.4s
CLL eS **S 20 12 46.0 -1.2**
comp=E,4µm,21.3s
CLL *e* SKSac **SKSac 20 13 12.0 -3.1**
CLL *e* ScS **SKKSac 20 13 16.0 +0.5**
CLL *e* (PS) 20 13 37.0
CLL *e* SS SS 20 17 51.0 +11
CLL *e* sSS 20 18 36.0
CLL *e* SSS SSS 20 21 03.0
CLL *e* 20 22 06.0
CLL *e* 20 22 54.0
CLL *e* SKPPKPbc 20 34 01.0
comp=Z,58nm,2.0s
CLL LmV 20 42 00.0
comp=Z,3µm,20.5s
CLL Collm 75.50 320⇓ *i* P **P 20 03 17.8 +0.3**
CLL *i* 20 03 49.5
CLL eS **S 20 12 46.0 -1.2**
CLL *e* 20 13 16.0
CLL pmax pmax
comp=Z,240nm,1.6s
WET Wettzell 75.58 318 *e* P **P 20 03 18.7 +0.6**
comp=Z,247nm,1.6s
WET *e* PP **PP 20 06 13.0 +3.9**
WET eS **S 20 12 43.6 -4.7**
WET eScS **ScS 20 13 21.0 +1.2**
RJOB Jochberg 75.66 317 *e* P **P 20 03 18.5 -0.1**
comp=Z,201nm,1.6s
RJOB *e* PP PP 20 06 15.5 +5.7
RJOB eS **S 20 12 43.5 -5.7**
TANN Tannenbergstha 75.84 319 *e* P **P 20 03 20.0 +0.4**
comp=Z,171nm,1.6s
TANN eS **S 20 12 49.6 -1.6**
NKC Novy Kostel 75.85 319⇓ *e* P **P 20 03 20.5 +0.9**
NKC *e* PCP **PcP 20 03 29.7 -1.8**
NKC *e* pP **pP 20 03 47.6 -4.8**
NKC *e* PP **PP 20 06 14.1 +2.8**
NKC *e* x x 20 06 44.8
NKC *e* x x 20 08 00.4
NKC *e* x x 20 08 29.9
NKC eS **S 20 12 48.1 -3.1**
NKC eSKS **SKSac 20 13 17.9 0.0**
NKC AMS AMS 20 42 40.0
comp=Z,3µm,21.1s
NKC Novy Kostel 75.85 319 *e* P **P 20 03 20.5 +0.9**
NKC *e* 20 03 29.7
NKC *e* 20 06 14.1
NKC *e* 20 08 00.4
NKC eS **S 20 12 48.1 -3.1**
NKC *e* 20 13 17.9
NKC MLR MLR
comp=Z,3µm,21.1s
ABTA Abfaltersbach 75.87 316⇓ *i* P **P 20 03 19.2 -0.6**
comp=Z,720nm,2.9s,SNR=23
COP Copenhagen 75.88 325 *i* P **P 20 03 20.4 +0.9**
comp=Z,89nm,1.2s
COP *i* pP **pP 20 03 47.3 -5.0**
COP *i* S **S 20 12 49.3 -1.8**
comp=Z,2µm,17.0s
COP Copenhagen 75.88 325 *i* P **P 20 03 20.4 +0.9**
COP *i* S **S 20 12 49.3 -1.8**
COP pmax pmax
comp=Z,89nm,1.2s
COP MLR MLR
comp=Z,2µm,17.0s
FLOS Flostrand 75.90 336 *e* P **P 20 03 20.8 +1.3**
FLOS eS **S 20 12 50.3 -0.7**
LOF Lofoten 75.98 338 *e* P **P 20 03 20.5 +0.6**
LOF epP **pP 20 03 49.7 -3.0**
LOF eS **S 20 12 50.3 -1.6**
LLD Lille Linde 76.00 324 *i* P **P 20 03 20.9 +0.7**
LLD Lille Linde 76.00 324 *i* P **P 20 03 20.9 +0.7**
ROTZ Rotzenmuhle 76.01 319 *e* P **P 20 03 21.7 +1.2**
comp=Z,238nm,1.4s
ROTZ epP **pP 20 03 55.0 +1.7**
ROTZ *e* PP **PP 20 06 17.0 +4.3**
ROTZ eS **S 20 12 51.7 -1.3**
ROTZ eScS **ScS 20 13 25.1 +1.9**
KONS Konsvik 76.02 336 *e* P **P 20 03 20.9 +0.8**
KONS eS **S 20 12 51.8 -0.4**
PLN Plauen 76.04 319 *e* P **P 20 03 21.0 +0.4**
STOK Stokkvaagen 76.04 336 *e* P **P 20 03 20.0 -0.2**
STOK eS **S 20 12 52.0 -0.6**
MANZ Manzenberg 76.07 319 *e* P **P 20 03 21.8 +0.9**
MANZ *e* PP **PP 20 06 18.2 +5.0**
MANZ eS **S 20 12 52.7 -1.0**
NEUB Neuenburg 76.27 320 *e* P **P 20 03 22.3 +0.4**
NEUB eS **S 20 12 52.8 -2.9**
NEUB eScS **SKKSac 20 13 23.2 +1.9**
NSS Namsos 76.38 334⇓ *i* P **P 20 03 22.2 0.0**
NSS IAmb IAmb 20 03 24.4
comp=Z,226nm,0.9s
NSS eS **S 20 12 55.1 -1.2**
MOX Moxa 76.38 320 *e* P **P 20 03 23.1 +0.6**
comp=Z,214nm,1.6s
MOX eS **S 20 12 53.6 -3.3**
MOX eScS **ScS 20 13 26.5 +0.4**
SWZ Schweizer 76.40 238 *e* P **P 20 03 22.8 -0.4**
SWZ AMB AMB 20 03 25.7
comp=Z,52nm,1.4s
NC602 NORSAR Array S 76.44 330⇓ *i* P **P 20 03 22.6 0.0**
NC602 IAmb IAmb 20 03 24.6
comp=Z,136nm,0.8s
NC602 eS **S 20 12 54.2 -3.0**
NC602 eSKSac **SKSac 20 13 20.5 -1.3**
WTTA Wattenberg 76.45 316⇓ *i* P **P 20 03 22.9 -0.4**
comp=Z,1µm,2.8s,SNR=47
HSPB Hornsund (broa 76.47 347⇑ *i* P **P 20 03 23.6 +1.0**
HSPB eS **S 20 12 56.4 -0.7**
WATA Walderalm 76.49 316⇓ *i* P **P 20 03 22.9 -0.6**
comp=Z,130nm,1.2s,SNR=42
SPA0 Spitsbergen Ar 76.49 348⇓ *i* P **P 20 03 23.7 +1.0**
SPA0 IAmb IAmb 20 03 25.7
comp=Z,701nm,1.0s
SPA0 eS **S 20 12 55.9 -1.4**
SPITS Spitsbergen Ar 76.49 348 S **S 20 12 55.7 -1.6**
comp=Z,66nm,1.3s,baz=119,slow=25,SNR=5.5
NB2 NORSAR Subarra 76.61 330 P **P 20 03 23.5 -0.2**
comp=Z,189nm,1.1s,baz=92,slow=5.9
NB2 NORSAR Subarra 76.61 330 P **P 20 03 23.5 -0.2**
baz=92,slow=5.9
NOA NORSAR Array B 76.61 330 P **P 20 03 23.3 -0.4**
comp=Z,56nm,0.8s,baz=90,slow=5.9,SNR=152
NOA pP **pP 20 03 56.3 -0.2**
comp=Z,42nm,0.8s,baz=90,slow=5.8,SNR=4.0
NOA S **S 20 12 55.2 -3.9**
comp=Z,1.2nm,0.8s,baz=16,slow=11,SNR=2.9
NOA LR LR 20 40 19.4
comp=Z,4µm,20.0s,baz=100,slow=38
GRF Grafenberg Arr 76.65 319 *e* PP PP 20 06 23.5 +5.4
GRF eS **S 20 12 59.0 -1.0**
GRFO Grafenberg 76.66 319 *e* P **P 20 03 25.2 +1.1**
GRFO Grafenberg 76.66 319 *e* P **P 20 03 24.8 +0.7**
GRFO pmax pmax
comp=Z,469nm,1.5s
GRFO Grafenberg 76.66 319 *e* P **P 20 03 24.8 +0.7**
comp=Z,469nm,1.5s
FUR Furstenfeldbru 76.67 317 *e* P **P 20 03 24.4 +0.2**
comp=Z,156nm,1.1s
FUR eS **S 20 12 54.4 -5.8**
NAO01 NORSAR Array S 76.77 330 *e* P **P 20 03 24.2 -0.3**
comp=Z,71nm,0.8s
MOTA Moosalm 76.81 316⇓ *i* P **P 20 03 24.8 -0.5**
comp=Z,128nm,1.1s,SNR=59
OSL Oslo 76.84 329 *e* P **P 20 03 26.2 +1.3**
OSL eS **S 20 12 57.6 -3.9**
OSL eSKSac **SKSac 20 13 24.4 -0.2**
BOSA Boshof 76.96 237⇑ *i* P **P 20 03 27.1 +0.8**
BOSA AMB AMB 20 03 28.4
comp=Z,535nm,2.5s
BOSA Boshof 76.96 237 P **P 20 03 27.1 +0.8**
comp=Z,186nm,0.9s,baz=76,slow=5.5,SNR=91
BOSA pP **pP 20 03 59.5 +0.3**
comp=Z,68nm,0.9s,baz=68,slow=4.5,SNR=2.7
BOSA S **S 20 13 03.2 -1.0**
comp=Z,9.1nm,1.0s,baz=184,slow=20,SNR=7.7
BOSA LR LR 20 31 52.4
comp=Z,6µm,21.9s,baz=70,slow=31
RETA Reutte 77.04 316⇓ *i* P **P 20 03 26.3 -0.1**
comp=Z,808nm,2.2s,SNR=66
FETA Feichten 77.08 316⇓ *i* P **P 20 03 26.8 0.0**
comp=Z,1µm,3.3s,SNR=53
TBLU Trondheim 77.09 333⇓ *i* P **P 20 03 26.4 +0.1**
TBLU eS **S 20 13 01.4 -2.8**
BSEG Bad Segeberg 77.11 323 *e* P **P 20 03 27.4 +0.9**
comp=Z,300nm,1.2s
BSEG *e* PP **PP 20 06 24.8 +3.1**
BSEG eS **S 20 13 03.0 -1.6**
CLZ Clausthal 77.13 321 *e* P **P 20 03 27.5 +0.7**
comp=Z,168nm,1.0s
CLZ eS **S 20 13 02.1 -3.0**
NRDL Niedersach Rie 77.27 321 *e* P **P 20 03 28.3 +0.9**
comp=Z,739nm,1.9s
NRDL eS **S 20 13 04.1 -2.3**
UBBA Unterbreizbach 77.40 320 *e* P **P 20 03 28.5 +0.4**
comp=Z,610nm,2.7s
UBBA eS **S 20 13 04.0 -3.8**
KONO Kongsberg 77.41 329⇓ *i* P **P 20 03 28.3 +0.2**
KONO eS **S 20 13 05.8 -1.9**
KONO eSKSac **SKSac 20 13 28.0 -0.8**
KONO Kongsberg 77.41 329 *e* P **P 20 03 28.2 +0.1**
KONO pmax pmax
comp=Z,156nm,1.2s
KONO Kongsberg 77.41 329 *e* P **P 20 03 28.1 +0.1**
comp=Z,156nm,1.2s
HVD Gariep Dam 77.47 235⇑ *i* P **P 20 03 30.5 +1.3**
HVD AMB AMB 20 03 32.8
comp=Z,636nm,1.6s
VLC Villacollemand 77.47 313 *e* P **P 20 03 29.0 +0.2**
comp=Z,424nm,1.4s
KBS Kingsbay 77.47 349⇓ *i* P **P 20 03 28.7 +0.6**
KBS epP **pP 20 04 01.6 +0.5**
KBS eS **S 20 13 08.1 +0.2**
KBS Kingsbay 77.47 349 *e* P **P 20 03 28.4 +0.3**
KBS pmax pmax
comp=Z,79nm,1.2s
KBS Kingsbay 77.47 349 *e* P **P 20 03 28.4 +0.3**
comp=Z,79nm,1.2s
DOMB Dombas 77.64 331 *e* P **P 20 03 30.3 +0.9**
DAVA Damuels 77.64 316⇓ *i* P **P 20 03 30.1 +0.2**
comp=Z,428nm,1.5s,SNR=44
GRM Grahamstown 77.67 232 *e* P **P 20 03 31.2 +1.2**
GRM AMB AMB 20 03 32.6
comp=Z,467nm,2.5s
DAVOX Davos/Dischmat 77.67 316 S **S 20 13 05.6 -5.9**
comp=Z,8.6nm,1.0s,baz=222,slow=19,SNR=13
MUD Monsted U'grnd 77.70 326⇓ *i* P **P 20 03 30.8 +1.1**
comp=Z,186nm,1.1s
MUD Monsted U'grnd 77.70 326⇓ *i* P **P 20 03 30.8 +1.1**
MUD pmax pmax
comp=Z,190nm,1.1s
HOMB Homborsund 78.00 327⇓ *i* P **P 20 03 31.8 +0.5**
HOMB epP pP 20 03 58.9 -5.4
STU Stuttgart 78.02 318 *e* P **P 20 03 32.1 +0.4**
comp=Z,406nm,1.9s
STU eP PP **PP 20 06 34.6 +5.1**
STU eS **S 20 13 11.0 -3.8**
STU Stuttgart 78.02 318 *e* P **P 20 03 32.3 +0.6**
STU pmax pmax
comp=Z,70nm,0.8s
STU Stuttgart 78.02 318 *e* P **P 20 03 32.3 +0.6**
comp=Z,70nm,0.8s
TUE Stuetta 78.06 315 *e* P **P 20 03 32.1 -0.1**
comp=Z,592nm,0.4s
SOE Somerset East 78.19 233 *e* P **P 20 03 34.5 +1.5**
SOE AMB AMB 20 03 35.5
comp=Z,384nm,2.5s
CASY Casey 78.28 173 *e* P **P 20 03 32.2 -0.4**
MOL Molde 78.34 332 *e* P **P 20 03 34.3 +1.1**
MOL eS **S 20 13 18.4 +0.8**
TNS Taunus Mts 78.42 319 *e* P **P 20 03 34.6 +0.6**
comp=Z,184nm,1.6s
TNS eS **S 20 13 16.7 -2.4**
NOUC Port Laguerre 78.52 115 *e* P **P 20 03 33.4 -1.5**
HLG Helgoland 78.53 323 eS **S 20 13 17.9 -2.0**
PGF Pioggiola 78.60 311⇓ *i* P **P 20 03 35.3 +0.1**
comp=Z,346nm,1.2s
PGF epP pP 20 04 02.4 -5.7
PGF Pioggiola 78.60 311⇓ *i* P **P 20 03 35.3 +0.1**
PGF pmax pmax
comp=Z,346nm,1.2s
PGF Pioggiola 78.60 311⇓ *i* P **P 20 03 35.3 +0.1**
comp=Z,346nm,1.2s
PGF epP pP 20 04 02.4 -5.7
AKN Aaknes 78.61 331⇓ *i* P **P 20 03 35.5 +0.8**
AKN epP **pP 20 04 07.6 -0.1**
AKN eS **S 20 13 20.9 +0.3**
BFO Black Forest 78.62 317 *e* P **P 20 03 35.0 -0.1**
comp=Z,134nm,1.6s
BFO eP PP **PP 20 06 39.6 +5.0**
BFO eS S 20 13 14.8 -6.5
BFO eSS SS 20 18 41.2 +14
BFO Black Forest 78.62 317 *i* P **P 20 03 35.2 +0.1**
BFO Black Forest 78.62 317 *e* P **P 20 03 34.9 -0.2**
comp=Z,92nm,1.1s
AMKA Amchitka 78.63 40 *e* P **P 20 03 35.3 +0.3**
comp=Z,111nm,1.2s
DZM Mont Dzumac 78.63 115 *e* P **P 20 03 37.0 +1.3**
comp=Z,238nm,1.8s
DZM epP **pP 20 04 07.8 -0.9**
comp=Z,160nm,1.4s
DZM eS **S 20 13 16.4 -5.9**
comp=Z,10µm,24.6s
DZM Mont Dzumac 78.63 115 eLR LR 20 27 41.8
comp=Z,19µm,40.2s
DZM Mont Dzumac 78.63 115 *e* P **P 20 03 35.7 0.0**
SNART Snartemo 78.68 328 *e* P **P 20 03 36.3 +1.2**
IBBN Ibbenburen 78.72 321 *e* P **P 20 03 36.4 +0.9**
comp=Z,298nm,1.1s
IBBN eS **S 20 13 18.8 -3.2**
ODD1 Odda 78.90 329 *e* P **P 20 03 38.6 +2.3**
LANF Langenberg 78.92 318⇓ *e* P **P 20 03 37.0 +0.3**
KEST Kesra 78.96 304 P **P 20 03 37.8 +0.6**
comp=Z,78nm,0.8s,baz=30,slow=0.6,SNR=136
KEST pP **pP 20 04 07.9 -2.4**
comp=Z,38nm,0.7s,baz=17,slow=3.1,SNR=4.3
KEST S **S 20 13 20.0 -5.4**
comp=Z,8.1nm,1.3s,baz=227,slow=21,SNR=12
KEST LR LR 20 41 57.2
comp=Z,550nm,21.6s,baz=31,slow=38
BLS5 Blasjo 79.02 329⇓ *i* P **P 20 03 37.7 +0.7**
BLS5 eS **S 20 13 21.3 -3.7**
HYA Hoyanger 79.05 330 *e* P **P 20 03 37.7 +0.6**
HYA eS **S 20 13 23.7 -1.4**
BUG Bochum--Univer 79.08 320 *e* P **P 20 03 38.2 +0.8**

BUG eS **S** **20 13 24.3 -1.6**
CDF **Champ du Feu** 79.32 317 ↓ *i*P **P** **20 03 38.8 -0.2**
comp=Z,101nm,0.9s
CDF **Champ du Feu** 79.32 317 ↓ *i*P **P** **20 03 38.8 -0.2**
CDF pmax pmax
comp=Z,101nm,0.9s
CDF **Champ du Feu** 79.32 317 ↓ *i*P **P** **20 03 38.8 -0.2**
comp=Z,101nm,0.9s
WTSB **Winterswijk** 79.33 321 *e*P **P** **20 03 39.4 +0.6**
comp=Z,577nm,1.6s
WTSB epP **pP** **20 04 07.9 -4.0**
BUFB **Buffelsbos** 79.35 232 *e*P **P** **20 03 40.5 +1.3**
BUFB AMB AMB 20 03 41.3
comp=Z,9.8nm,2.7s
ECH **Echery** 79.41 317 ↓ *e*P **P** **20 03 39.3 -0.2**
ECH **Echery** 79.41 317 *e*P **P** **20 03 39.2 -0.2**
ECH pmax pmax
comp=Z,164nm,1.6s
ECH **Echery** 79.41 317 *e*P **P** **20 03 39.2 -0.2**
comp=Z,164nm,1.6s
MOF **Molkenrain** 79.46 317 ↓ *e*P **P** **20 03 39.6 -0.1**
RUND **Rundenannen** 79.50 330 *e*P **P** **20 03 40.4 +0.8**
BER **Bergen** 79.52 330 *e*P **P** **20 03 39.6 0.0**
BER epP **pP** **20 04 12.5 -0.1**
BER eS **S** **20 13 29.7 -0.4**
FOO **Floro** 79.57 331 *e*P **P** **20 03 40.2 +0.4**
ASK **Askoy** 79.58 330 *e*P **P** **20 03 42.0 +2.0**
AUTN **L'Aution** 79.61 313 *e*P **P** **20 03 40.5 -0.3**
SBF **Sospel** 79.62 313 ↓ *i*P **P** **20 03 40.8 +0.1**
comp=Z,430nm,1.0s
SBF **Sospel** 79.62 313 ↓ *i*P **P** **20 03 40.8 +0.1**
SBF pmax pmax
comp=Z,430nm,1.0s
SBF **Sospel** 79.62 313 ↓ *i*P **P** **20 03 40.8 +0.1**
comp=Z,430nm,1.0s
KMY **Karmoy** 79.65 328 *e*P **P** **20 03 41.0 +0.7**
KMY epP **pP** **20 04 11.3 -2.1**
KMY eS **S** **20 13 32.9 +1.3**
HINF **Hinteralfeld** 79.65 317 ↓ *i*P **P** **20 03 40.4 -0.3**
HINF **Hinteralfeld** 79.65 317 ↓ *i*P **P** **20 03 40.4 -0.3**
HINF **Hinteralfeld** 79.65 317 ↓ *i*P **P** **20 03 40.4 -0.3**
REVF **Revere** 79.68 313 ↓ *e*P **P** **20 03 40.6 -0.4**
LOMF **Lomont** 79.71 316 ↓ *e*P **P** **20 03 41.0 -0.1**
TOUF **Mont Tournerai** 79.74 313 *e*P **P** **20 03 41.2 -0.3**
SUE **Sulen** 79.75 330 ↓ *i*P **P** **20 03 41.1 +0.3**
SUE eS **S** **20 13 32.4 -0.2**
MVIF **Mont Vial** 79.82 313 ↓ *e*P **P** **20 03 42.1 +0.3**
OG01 **Vacheresse** 79.91 315 ↓ *e*P **P** **20 03 42.6 +0.4**
WLF **Walferdange** 79.94 319 P **P** **20 03 43.3 +1.1**
comp=Z,140nm,2.3s
WLF **Walferdange** 79.94 319 *e*P **P** **20 03 43.1 +0.9**
comp=Z,525nm,2.0s
WLF epP **pP** **20 04 15.9 +0.6**
WLF eS **S** **20 13 33.1 -2.0**
WLF **Walferdange** 79.94 319 *e*P **P** **20 03 43.6 +1.4**
WLF pmax pmax
comp=Z,319nm,1.4s
WLF **Walferdange** 79.94 319 *e*P **P** **20 03 43.6 +1.4**
comp=Z,319nm,1.4s
LPG **La Plagne** 79.94 314 ↓ *i*P **P** **20 03 43.0 +0.3**
comp=Z,365nm,0.7s
LPG **La Plagne** 79.94 314 ↓ *i*P **P** **20 03 43.0 +0.3**
LPG pmax pmax
comp=Z,365nm,0.7s
LPG **La Plagne** 79.94 314 ↓ *i*P **P** **20 03 43.0 +0.3**
comp=Z,365nm,0.7s
MEM **Membach** 79.95 320 P **P** **20 03 42.5 +0.4**
LPL **La Plagne** 79.95 315 ↓ *i*P **P** **20 03 43.0 +0.4**
comp=Z,383nm,0.7s
LPL **La Plagne** 79.95 315 ↓ *i*P **P** **20 03 43.0 +0.4**
LPL pmax pmax
comp=Z,383nm,0.7s
LPL **La Plagne** 79.95 315 ↓ *i*P **P** **20 03 43.0 +0.4**
comp=Z,383nm,0.7s
HAU **Haudompre** 79.97 317 ↓ *i*P **P** **20 03 42.3 -0.1**
comp=Z,314nm,1.0s
HAU *e*R
comp=Z,3µm,19.5s
HAU **Haudompre** 79.97 317 ↓ *i*P **P** **20 03 42.3 -0.1**
HAU pmax pmax
comp=Z,314nm,1.0s
HAU **Haudompre** 79.97 317 ↓ *i*P **P** **20 03 42.3 -0.1**
comp=Z,314nm,1.0s
HGN **Heimansgroeve** 79.98 320 *e*P **P** **20 03 42.6 +0.3**
comp=Z,352nm,1.9s
HGN epP pP 20 04 07.6 -7.8
HGN *e*PP **PP** **20 06 46.1 +0.4**
HGN eS S **20 13 35.9 +0.5**
HGN eSS SS 20 18 56.0 +8.3
SURF **Saint Ours** 80.00 313 ↓ *e*P **P** **20 03 43.5 +0.6**
MBDF **Montbardon** 80.01 314 ↓ *i*P **P** **20 03 42.4 -0.4**
comp=Z,166nm,0.8s
MBDF **Montbardon** 80.01 314 ↓ *i*P **P** **20 03 42.4 -0.4**
MBDF pmax pmax
comp=Z,166nm,0.8s
MBDF **Montbardon** 80.01 314 ↓ *i*P **P** **20 03 42.4 -0.4**
comp=Z,166nm,0.8s
CALN **Calern** 80.02 313 ↓ *e*P **P** **20 03 43.2 +0.3**
BNI **Bardonecchia** 80.04 314 *e*P **P** **20 03 43.5 +0.5**
BNI pmax pmax
comp=Z,327nm,1.2s
BNI **Bardonecchia** 80.04 314 *e*P **P** **20 03 43.5 +0.5**
comp=Z,328nm,1.2s
BEBN **Eben Emael** 80.14 320 P **P** **20 03 43.8 +0.6**
THEF **They Montfort** 80.19 317 ↓ *e*P **P** **20 03 43.6 0.0**
UPI **Upington** 80.20 238 *e*P **P** **20 03 45.0 +1.0**
UPI AMB AMB 20 03 46.7
comp=Z,397nm,2.5s
FRF **La Foret Royal** 80.22 313 ↓ *i*P **P** **20 03 44.2 +0.4**
comp=Z,640nm,1.1s
FRF epP pP 20 04 11.3 -5.6
FRF **La Foret Royal** 80.22 313 ↓ *i*P **P** **20 03 44.2 +0.4**
FRF pmax pmax
comp=Z,640nm,1.1s
FRF **La Foret Royal** 80.22 313 ↓ *i*P **P** **20 03 44.2 +0.4**
comp=Z,640nm,1.1s
FRF epP pP 20 04 11.3 -5.6
CABF **La Chapelle** 80.29 316 ↓ *i*P **P** **20 03 44.7 +0.5**
comp=Z,280nm,1.0s
CABF epP pP 20 04 11.8 -5.5
CABF **La Chapelle** 80.29 316 ↓ *i*P **P** **20 03 44.7 +0.5**
CABF pmax pmax
comp=Z,281nm,1.0s
CABF **La Chapelle** 80.29 316 ↓ *i*P **P** **20 03 44.7 +0.5**
comp=Z,280nm,1.0s
CABF epP pP 20 04 11.8 -5.5
PAGF **Fort de Pagny** 80.33 318 ↓ *i*P **P** **20 03 44.6 +0.3**
comp=Z,21nm,1.0s
PAGF **Fort de Pagny** 80.33 318 ↓ *i*P **P** **20 03 44.6 +0.3**
comp=Z,21nm,1.0s
LMR **La Mourre** 80.34 312 ↓ *i*P **P** **20 03 44.8 +0.3**
comp=Z,338nm,1.1s
LMR **La Mourre** 80.34 312 ↓ *i*P **P** **20 03 44.8 +0.3**
LMR pmax pmax
comp=Z,338nm,1.1s
LMR **La Mourre** 80.34 312 ↓ *i*P **P** **20 03 44.8 +0.3**
comp=Z,338nm,1.1s
ABSA **Djebel Ababsia** 80.41 305 P **P** **20 03 46.7 +1.6**
CMAH **Djebel Manchou** 80.41 306 P **P** **20 03 46.5 +1.4**
BCLA **Clavier** 80.41 320 P **P** **20 03 45.4 +0.7**
comp=Z,64nm,2.0s
GDM **Grand'Maison** 80.42 314 ↓ *e*P **P** **20 03 45.5 +0.5**
ORIF **Oris-en-Rattie** 80.62 314 ↓ *i*P **P** **20 03 46.5 +0.5**
comp=Z,131nm,0.9s
ORIF *e*R
comp=Z,4µm,22.5s
ORIF **Oris-en-Rattie** 80.62 314 ↓ *i*P **P** **20 03 46.5 +0.5**
ORIF pmax pmax
comp=Z,131nm,0.9s
ORIF **Oris-en-Rattie** 80.62 314 ↓ *i*P **P** **20 03 46.5 +0.5**
comp=Z,131nm,0.9s
GRN **Grenoble** 80.67 314 ↓ *e*P **P** **20 03 47.0 +0.7**
GIVF **Givet** 80.75 319 ↓ *i*P **P** **20 03 46.8 +0.3**
comp=Z,194nm,1.2s
GIVF epP pP 20 04 13.9 -5.7
GIVF **Givet** 80.75 319 ↓ *i*P **P** **20 03 46.8 +0.3**
GIVF pmax pmax
comp=Z,194nm,1.2s
GIVF **Givet** 80.75 319 ↓ *i*P **P** **20 03 46.8 +0.3**
comp=Z,194nm,1.2s
GIVF epP pP 20 04 13.9 -5.7
MEZF **Maizieres J'vi** 80.78 318 ↓ *i*P **P** **20 03 46.9 +0.2**
MEZF **Maizieres J'vi** 80.78 318 ↓ *i*P **P** **20 03 46.9 +0.2**
TSUM **Tsumeb** 80.79 248 ↓ *i*P **P** **20 03 49.2 +1.8**
comp=Z,882nm,2.1s
SFTF **Sexfontaines** 80.82 317 ↓ *i*P **P** **20 03 47.0 +0.1**
comp=Z,437nm,1.2s
SFTF epP pP 20 04 14.1 -6.0
SFTF **Sexfontaines** 80.82 317 ↓ *i*P **P** **20 03 47.0 +0.1**
comp=Z,437nm,1.2s
SFTF epP pP 20 04 14.1 -6.0
CAEH **'Ain El Ouahch** 80.84 306 P **P** **20 03 48.3 +1.0**
DOU **Dourbes** 80.90 319 P **P** **20 03 47.9 +0.6**
SMRF **Simiane la Rot** 80.94 313 ↓ *i*P **P** **20 03 48.6 +0.9**
comp=Z,260nm,1.0s
SMRF epP **pP** **20 04 15.8 -5.1**
SMRF **Simiane la Rot** 80.94 313 ↓ *i*P **P** **20 03 48.6 +0.9**
comp=Z,260nm,1.0s
SMRF epP **pP** **20 04 15.8 -5.1**
UCC **Uccle** 80.97 320 P **P** **20 03 47.6 0.0**
CKFL **Kef-Lekhel** 81.00 305 P **P** **20 03 49.6 +1.3**
SNF **Seneffe** 81.05 320 P **P** **20 03 48.6 +0.5**
OG26 **St.-Nazaire-De** 81.06 314 ↓ *e*P **P** **20 03 49.2 +0.8**
BAIF **Baives** 81.15 319 ↓ *i*P **P** **20 03 49.1 +0.5**
comp=Z,308nm,1.1s
BAIF **Baives** 81.15 319 ↓ *i*P **P** **20 03 49.1 +0.5**
BAIF pmax pmax
comp=Z,308nm,1.1s
BAIF **Baives** 81.15 319 ↓ *i*P **P** **20 03 49.1 +0.5**
comp=Z,308nm,1.1s
CASM **Ain Smara** 81.20 305 P **P** **20 03 50.2 +1.0**
CTEI **Djebel Teioual** 81.29 305 P **P** **20 03 51.2 +1.4**
VIVF **Saint-Julien-l** 81.48 314 ↓ *i*P **P** **20 03 50.8 +0.3**
comp=Z,290nm,1.1s
VIVF **Saint-Julien-l** 81.48 314 ↓ *i*P **P** **20 03 50.8 +0.3**
VIVF pmax pmax
comp=Z,290nm,1.1s
VIVF **Saint-Julien-l** 81.48 314 ↓ *i*P **P** **20 03 50.8 +0.3**
comp=Z,290nm,1.1s
SSB **Saint Sauveur** 81.52 314 ↓ *e*P **P** **20 03 50.9 +0.2**
SSB **Saint Sauveur** 81.52 314 *e*P **P** **20 03 50.6 -0.1**
SSB pmax pmax
comp=Z,118nm,1.1s
SSB **Saint Sauveur** 81.52 314 *e*P **P** **20 03 50.6 -0.1**
comp=Z,118nm,1.1s
DFRA **Djebel Bou Aff** 81.65 306 P **P** **20 03 53.9 +2.2**
MAW **Mawson** 81.69 191 P **P** **20 03 51.8 +0.9**
comp=Z,152nm,1.2s,baz=19,slow=6.8,SNR=53
MAW S **S** **20 13 51.4 -0.8**
comp=Z,1.0nm,0.4s,baz=174,slow=18,SNR=2.2
MAW PKKPbc **PKKPbc** **20 22 24.1 -1.9**
comp=Z,1.8nm,0.6s,baz=224,slow=6.3,SNR=3.6
MAW LR LR 20 36 29.3
comp=Z,1µm,18.4s,baz=22,slow=33
LOR **Lormes** 81.73 317 ↓ *i*P **P** **20 03 51.7 -0.1**
comp=Z,418nm,1.1s
LOR *e*R
comp=Z,3µm,22.8s
LOR **Lormes** 81.73 317 ↓ *i*P **P** **20 03 51.7 -0.1**
LOR pmax pmax
comp=Z,418nm,1.1s
LOR **Lormes** 81.73 317 ↓ *i*P **P** **20 03 51.7 -0.1**
comp=Z,418nm,1.1s
SMF **Signal de Mont** 81.82 316 ↓ *i*P **P** **20 03 52.1 -0.2**
comp=Z,247nm,0.9s
SMF **Signal de Mont** 81.82 316 ↓ *i*P **P** **20 03 52.1 -0.2**
SMF pmax pmax
comp=Z,247nm,0.9s
SMF **Signal de Mont** 81.82 316 ↓ *i*P **P** **20 03 52.1 -0.2**
comp=Z,247nm,0.9s
SUR **Sutherland** 81.84 235 ↑ *i*P **P** **20 03 54.7 +2.0**
SUR AMB AMB 20 03 57.1
comp=Z,391nm,3.2s
SSF **Saint Saulge** 82.00 316 ↓ *i*P **P** **20 03 53.3 +0.2**
comp=Z,171nm,1.0s
SSF epP pP 20 04 20.4 -6.0
SSF **Saint Saulge** 82.00 316 ↓ *i*P **P** **20 03 53.3 +0.2**
SSF pmax pmax
comp=Z,171nm,1.0s
SSF **Saint Saulge** 82.00 316 ↓ *i*P **P** **20 03 53.3 +0.2**
comp=Z,171nm,1.0s
SSF epP pP 20 04 20.4 -6.0
CKHR **Kef el Ahmar** 82.02 305 P **P** **20 03 55.2 +1.6**
PLDF **La Plantade** 82.06 315 *e*P **P** **20 03 52.8 -0.8**
COLF **Collangettes** 82.08 315 ↓ *e*P **P** **20 03 54.2 +0.5**
SET **Setif** 82.08 305 P **P** **20 03 56.0 +2.1**
AVF **Avril sur Loir** 82.14 316 ↓ *i*P **P** **20 03 53.8 -0.1**
comp=Z,291nm,1.1s
AVF epP pP 20 04 20.9 -6.2
AVF **Avril sur Loir** 82.14 316 ↓ *i*P **P** **20 03 53.8 -0.1**
AVF pmax pmax
comp=Z,291nm,1.1s
AVF **Avril sur Loir** 82.14 316 ↓ *i*P **P** **20 03 53.8 -0.1**
comp=Z,291nm,1.1s
AVF epP pP 20 04 20.9 -6.2
LASF **Ste Croix** 82.16 313 ↓ *i*P **P** **20 03 54.8 +0.7**
comp=Z,492nm,1.4s
LASF epP pP 20 04 21.9 -5.4
LASF **Ste Croix** 82.16 313 ↓ *i*P **P** **20 03 54.8 +0.7**
comp=Z,492nm,1.4s
LASF epP pP 20 04 21.9 -5.4
MENF **Mencas** 82.39 320 ↓ *e*P **P** **20 03 55.6 +0.5**
AGO **Saint Agoulin** 82.39 315 ↓ *e*P **P** **20 03 54.4 -0.8**
LBL **Lubilhac** 82.43 315 *e*P **P** **20 03 54.8 -0.7**
BGF **Bois d'Agland** 82.51 316 ↓ *i*P **P** **20 03 56.2 +0.3**
comp=Z,334nm,1.2s
BGF epP pP 20 04 23.4 -5.7
BGF **Bois d'Agland** 82.51 316 ↓ *i*P **P** **20 03 56.2 +0.3**
BGF pmax pmax
comp=Z,334nm,1.2s
BGF **Bois d'Agland** 82.51 316 ↓ *i*P **P** **20 03 56.2 +0.3**
comp=Z,334nm,1.2s
BGF epP pP 20 04 23.4 -5.7
PYM **Petit Puy Mans** 82.52 315 ↓ *e*P **P** **20 03 55.1 -0.9**
HYF **Humbligny** 82.55 317 ↓ *i*P **P** **20 03 56.6 +0.6**
HYF **Humbligny** 82.55 317 ↓ *i*P **P** **20 03 56.6 +0.6**
YEL1 **Yell** 82.65 330 *e*P **P** **20 03 56.6 +0.4**
LRW **Lerwick** 82.77 330 *e*P **P** **20 03 57.3 +0.5**
LRW AMB AMB 20 03 58.6
comp=Z,168nm,1.7s
SAN1 **Sandwick** 82.82 330 *e*P **P** **20 03 58.0 +0.9**
WAL1 **Walls** 82.96 330 *e*P **P** **20 03 58.8 +0.9**
TCF **Toulx Ste Croi** 82.99 316 ↓ *i*P **P** **20 03 58.8 +0.4**
comp=Z,219nm,1.1s
TCF **Toulx Ste Croi** 82.99 316 ↓ *i*P **P** **20 03 58.8 +0.4**
TCF pmax pmax
comp=Z,219nm,1.1s
TCF **Toulx Ste Croi** 82.99 316 ↓ *i*P **P** **20 03 58.8 +0.4**
comp=Z,219nm,1.1s
LRDF **Laroque-de-Fa** 83.28 312 ↓ *e*P **P** **20 04 00.4 +0.5**
CAF **Calviac** 83.30 314 ↓ *i*P **P** **20 04 00.6 +0.6**
comp=Z,171nm,1.1s
CAF epP pP 20 04 27.8 -5.5
CAF **Calviac** 83.30 314 ↓ *i*P **P** **20 04 00.6 +0.6**
CAF pmax pmax
comp=Z,171nm,1.1s
CAF **Calviac** 83.30 314 ↓ *i*P **P** **20 04 00.6 +0.6**
comp=Z,171nm,1.1s
CAF epP pP 20 04 27.8 -5.5
FILF **Fillols** 83.32 312 ↓ *e*P **P** **20 04 00.4 +0.2**
TNA **Tin City** 83.35 24 *e*P **P** **20 04 01.5 +1.8**
CER **Ceres** 83.36 234 ↑ *i*P **P** **20 04 02.2 +1.8**
CER AMB AMB 20 04 04.7
comp=Z,574nm,1.5s
JMIC **Jan Mayen** 83.41 341 *e*P **P** **20 04 01.7 +1.7**
JMIC eSKSac **S** **20 14 10.3 +0.4**
JMIC **Jan Mayen** 83.41 341 S **S** **20 14 07.0 -2.9**
comp=Z,16nm,0.3s,baz=116,slow=16,SNR=1.7
MTLF **Montolieu** 83.44 313 ↓ *i*P **P** **20 04 01.2 +0.5**
comp=Z,238nm,1.1s
MTLF **Montolieu** 83.44 313 ↓ *i*P **P** **20 04 01.2 +0.5**
MTLF pmax pmax
comp=Z,238nm,1.1s
MTLF **Montolieu** 83.44 313 ↓ *i*P **P** **20 04 01.2 +0.5**
comp=Z,238nm,1.1s
LMK **Market Rasen** 83.45 323 *e*P **P** **20 03 60.0 -0.5**
HMNX **Herstmonceux** 83.48 320 *e*P **P** **20 04 01.1 +0.4**
HMNX AMB AMB 20 04 03.2
comp=Z,184nm,1.7s
HMNX AMS AMS 20 49 01.6
comp=Z,4µm,17.9s
CARF **Carcanieres** 83.62 312 ↓ *e*P **P** **20 04 02.0 +0.2**
RJF **Les Rejaudoux** 83.62 315 ↓ *i*P **P** **20 04 02.2 +0.6**
comp=Z,357nm,1.2s
RJF epP pP 20 04 29.5 -5.4
RJF *e*R
comp=Z,2µm,23.0s
RJF **Les Rejaudoux** 83.62 315 ↓ *i*P **P** **20 04 02.2 +0.6**
RJF pmax pmax
comp=Z,357nm,1.2s
RJF **Les Rejaudoux** 83.62 315 ↓ *i*P **P** **20 04 02.2 +0.6**
comp=Z,357nm,1.2s
RJF epP pP 20 04 29.5 -5.4
VALF **Valcebollere** 83.74 312 ↓ *e*P **P** **20 04 03.3 +0.9**
KOMG **Komaggas** 83.78 238 ↑ *i*P **P** **20 04 04.2 +1.6**
KOMG AMB AMB 20 04 06.7
comp=Z,632nm,1.5s
LCP **Cassop** 83.89 324 *e*P **P** **20 04 03.2 +0.5**
DRUM **Mains of Drumt** 84.03 327 *e*P **P** **20 04 03.7 +0.3**
DRUM AMB AMB 20 04 05.9
comp=Z,188nm,1.8s
DRUM *e* 20 14 10.3
DRUM AMS AMS 20 47 54.4
comp=Z,3µm,18.5s
TAM **Tamanrasset** 84.03 292 *e*P **P** **20 04 05.7 +1.4**
TAM pmax pmax
comp=Z,299nm,1.5s
TAM **Tamanrasset** 84.03 292 *e*P **P** **20 04 05.7 +1.4**
comp=Z,299nm,1.5s
EMHD **Djebel Mahouad** 84.04 306 P **P** **20 04 06.0 +2.0**
HPK **Haverah Park** 84.12 324 *e*P **P** **20 04 04.7 +0.8**
HPK *e* 20 14 11.2
HPK AMS AMS 20 42 20.4
comp=Z,3µm,17.8s
DAG **Danmarks Havn** 84.13 348 ↓ *i*P **P** **20 04 03.5 0.0**
comp=Z,55nm,0.5s
DAG *i* 20 04 28.3
DAG *i* S S 20 14 08.0 -9.0
comp=Z,9µm,30.0s
DAG **Danmarks Havn** 84.13 348 ↓ *i*P **P** **20 04 03.5 0.0**
DAG *i* S S 20 14 08.0 -9.0
DAG pmax pmax
comp=Z,39nm,0.5s
LDF **La Druitiere** 84.17 318 ↓ *i*P **P** **20 04 04.5 +0.2**
comp=Z,369nm,1.1s
LDF epP pP 20 04 31.6 -6.1
LDF **La Druitiere** 84.17 318 ↓ *i*P **P** **20 04 04.5 +0.2**
LDF pmax pmax
comp=Z,369nm,1.1s
LDF **La Druitiere** 84.17 318 ↓ *i*P **P** **20 04 04.5 +0.2**
comp=Z,369nm,1.1s
LDF epP pP 20 04 31.6 -6.1
MME1 **Meikle Cairn** 84.21 327 *e*P **P** **20 04 04.5 +0.2**
LFF **La Frestale** 84.23 315 ↓ *i*P **P** **20 04 05.3 +0.7**
comp=Z,250nm,1.2s
LFF **La Frestale** 84.23 315 ↓ *i*P **P** **20 04 05.3 +0.7**
LFF pmax pmax
comp=Z,251nm,1.2s
LFF **La Frestale** 84.23 315 ↓ *i*P **P** **20 04 05.3 +0.7**
comp=Z,250nm,1.2s
SALF **Salau** 84.28 312 *e*P **P** **20 04 05.7 +0.6**
ESY **Stoneypath** 84.30 326 *e*P **P** **20 04 05.5 +0.7**
MCD **Coleburn Disti** 84.31 327 *e*P **P** **20 04 05.4 +0.7**
MLS **Moulis** 84.32 313 ↓ *e*P **P** **20 04 05.0 -0.2**
LHO **Holmfirth** 84.33 323 *e*P **P** **20 04 05.5 +0.5**
WOL **Wolverton** 84.37 321 *e*P **P** **20 04 05.9 +0.7**
WOL AMB AMB 20 04 07.0
comp=Z,345nm,1.6s
FLN **La Foliniere** 84.37 318 ↓ *i*P **P** **20 04 05.5 +0.2**
comp=Z,409nm,1.2s
FLN *e*R
comp=Z,5µm,23.0s
FLN **La Foliniere** 84.37 318 ↓ *i*P **P** **20 04 05.5 +0.2**
FLN pmax pmax
comp=Z,409nm,1.2s
FLN **La Foliniere** 84.37 318 ↓ *i*P **P** **20 04 05.5 +0.2**
comp=Z,409nm,1.2s
MFF **Saint Martin d** 84.54 316 ↓ *i*P **P** **20 04 06.3 +0.1**
comp=Z,282nm,1.1s
MFF **Saint Martin d** 84.54 316 ↓ *i*P **P** **20 04 06.3 +0.1**
MFF pmax pmax
comp=Z,282nm,1.1s
MFF **Saint Martin d** 84.54 316 ↓ *i*P **P** **20 04 06.3 +0.1**
comp=Z,282nm,1.1s
EBL **Broad Law** 84.56 326 *e*P **P** **20 04 06.7 +0.6**
MELF **Melles** 84.58 312 *e*P **P** **20 04 07.1 +0.5**
STNC **Stoke** 84.62 323 *e*P **P** **20 04 06.9 +0.4**
STNC AMB AMB 20 04 08.5
comp=Z,182nm,1.8s
DRV **Dumont d'Urvil** 84.69 163 P P 20 03 21.0 -45
DRV PP PP 20 07 12.0 -12
DRV S S 20 13 53.0 -30
DRV SS SS 20 19 41.0 -16
DRV L L 20 25 00.0
DRV R 20 30 00.0
GRR **Gorron** 84.69 318 ↓ *i*P **P** **20 04 07.2 +0.3**
comp=Z,192nm,1.3s
GRR **Gorron** 84.69 318 ↓ *i*P **P** **20 04 07.2 +0.3**
GRR pmax pmax
comp=Z,192nm,1.3s
GRR **Gorron** 84.69 318 ↓ *i*P **P** **20 04 07.2 +0.3**
comp=Z,192nm,1.3s
SWN1 **Swindon** 84.69 321 *e*P **P** **20 04 07.5 +0.7**
SWN1 AMB AMB 20 04 09.4
comp=Z,292nm,2.3s
EKA **Eskdalemuir Ar** 84.72 325 PKKPbc PKKPbc 20 22 16.4 -1.1
comp=Z,0.9nm,0.5s,baz=256,slow=2.2,SNR=5.0
MVH1 **Achvaich** 84.72 328 *e*P **P** **20 04 07.2 +0.3**
ECK **Cauldkaine Hil** 84.73 325 *e*P **P** **20 04 07.3 +0.3**
ESK **Eskdalemuir** 84.75 325 *e*P **P** **20 04 07.6 +0.6**
ESK AMB AMB 20 04 09.6
comp=Z,161nm,1.6s
ESK *e* 20 14 12.2
ESK AMS AMS 20 45 09.2
comp=Z,3µm,18.6s
ESK **Eskdalemuir** 84.75 325 *e*P **P** **20 04 07.8 +0.8**
ESK pmax pmax
comp=Z,125nm,0.9s
ESK **Eskdalemuir** 84.75 325 *e*P **P** **20 04 07.8 +0.8**
comp=Z,124nm,0.9s
EPF **Esparros** 84.85 313 ↓ *i*P **P** **20 04 07.5 -0.4**
comp=Z,32nm,0.8s
EPF **Esparros** 84.85 313 ↓ *i*P **P** **20 04 07.5 -0.4**
EPF pmax pmax
comp=Z,32nm,0.8s
EPF **Esparros** 84.85 313 ↓ *i*P **P** **20 04 07.5 -0.4**
comp=Z,32nm,0.8s
STRD **Stroud** 84.86 322 *e*P **P** **20 04 07.9 +0.3**
STRD AMB AMB 20 04 09.1
comp=Z,232nm,1.6s
RESF **Ens** 84.89 312 ↓ *e*P **P** **20 04 09.0 +0.8**
MDO **Dochfour** 84.92 327 *e*P **P** **20 04 08.2 +0.3**
LABF **Labassere** 85.04 313 ↓ *e*P **P** **20 04 09.3 +0.5**
VIEF **Viey** 85.10 313 ↓ *e*P **P** **20 04 09.9 +0.7**
OLDB **Oldbury-Upon-S** 85.12 322 *e*P **P** **20 04 09.3 +0.4**
HLM1 **Long Mynd** 85.14 322 *e*P **P** **20 04 09.7 +0.6**
HLM1 AMB AMB 20 04 10.9
comp=Z,127nm,1.6s
HLM1 *e* 20 14 18.4
HLM1 AMS AMS 20 48 19.7
comp=Z,3µm,21.8s
EBNR **Beni Rached** 85.15 306 P **P** **20 04 08.0 -1.6**
EAB **Aberfoyle** 85.19 326 *e*P **P** **20 04 09.9 +0.7**
MONM **Monmouth** 85.24 322 *e*P **P** **20 04 09.4 -0.1**
MONM AMB AMB 20 04 10.9
comp=Z,165nm,1.6s
FOEL **Foel Wylfa** 85.25 323 *e*P **P** **20 04 10.4 +0.7**
FOEL AMB AMB 20 04 11.7
comp=Z,124nm,1.4s
FOEL *e* 20 14 20.1
FOEL AMS AMS 20 51 27.2
comp=Z,3µm,16.7s
GCD **Castle Douglas** 85.26 325 *e*P **P** **20 04 09.9 +0.3**
ECHA **Ech Chlef** 85.31 306 P **P** **20 04 12.0 +1.8**
MCH1 **Michaelchurch** 85.32 322 *e*P **P** **20 04 10.3 +0.3**
MCH1 AMB AMB 20 04 12.9
comp=Z,117nm,2.6s
PGBU **Glenifferbraes** 85.35 326 *e*P **P** **20 04 09.8 -0.2**
PGBU AMB AMB 20 04 12.1
comp=Z,187nm,1.6s
REYF **Montagne du Re** 85.37 313 ↓ *e*P **P** **20 04 10.7 +0.2**
JSA **Saint Aubin** 85.38 319 *e*P **P** **20 04 10.2 -0.1**
JSA AMB AMB 20 04 11.7
comp=Z,128nm,1.5s
JSA AMS AMS 20 51 21.0
comp=Z,3µm,17.1s
KAC **Achnashellach** 85.40 328 *e*P **P** **20 04 10.8 +0.5**
ETRT **Tiaret** 85.50 305 P **P** **20 04 14.0 +2.6**
ETSF **Etsaut** 85.52 313 ↓ *i*P **P** **20 04 11.9 +0.6**
comp=Z,133nm,0.8s
ETSF **Etsaut** 85.52 313 ↓ *i*P **P** **20 04 11.9 +0.6**
ETSF pmax pmax
comp=Z,133nm,0.8s

ETSF	**Etsaut**	**85.52**	**313**	⇓*i*	*e*P	**P**	**20 04 11.9**	**+0.6**
	comp=Z,133nm,0.8s								
KSB	**Sheil Bridge**	**85.53**	**327**		*e*P	**P**	**20 04 11.6**	**+0.7**
EANR	**'Ain N'Sour**	**85.56**	**306**		P	**P**	**20 04 13.5**	**+1.9**
ATE	**Arette**	**85.59**	**313**	⇓	*e*P	**P**	**20 04 11.9**	**+0.4**
WPM1	**Penmaenmawr**	**85.59**	**323**		*e*P	**P**	**20 04 11.9**	**+0.7**
GAL1	**Galloway**	**85.69**	**325**		*e*P	**P**	**20 04 12.5**	**+0.8**
GAL1					AMB	AMB	20 04 13.8		
	comp=Z,146nm,1.5s								
GAL1					*e*		20 14 17.6		
ALE	**Alert**	**85.77**	**357**		P	**P**	**20 04 12.1**	**+0.4**
	comp=Z,941nm,1.0s,SNR=30								
YLL	**Llanberis**	**85.77**	**323**		*e*P	**P**	**20 04 12.9**	**+0.8**
WME	**Myndd Eilian**	**85.79**	**324**		*e*P	**P**	**20 04 13.2**	**+1.0**
LARF	**Larrau**	**85.80**	**313**	⇓	*e*P	**P**	**20 04 13.4**	**+0.8**
SGMF	**Saint Gilles**	**85.83**	**318**	⇓	*i*P	**P**	**20 04 12.9**	**+0.4**
	comp=Z,198nm,1.1s								
SGMF					*e*pP	pP	20 04 40.2	-5.8	
SGMF	**Saint Gilles**	**85.83**	**318**	⇓	*i*P	**P**	**20 04 12.9**	**+0.4**
SGMF					pmax	pmax			
	comp=Z,198nm,1.1s								
SGMF	**Saint Gilles**	**85.83**	**318**	⇓	*i*P	**P**	**20 04 12.9**	**+0.4**
	comp=Z,198nm,1.1s								
SGMF					*e*pP	pP	20 04 40.2	-5.8	
WLF1	**Llynfaes**	**85.87**	**323**		*e*P	**P**	**20 04 13.4**	**+0.8**
WLF1					AMB	AMB	20 04 14.7		
	comp=Z,172nm,1.5s								
LPW	**Lampeter**	**85.94**	**322**		*e*P	**P**	**20 04 13.7**	**+0.7**
LPW					AMB	AMB	20 04 15.0		
	comp=Z,147nm,1.6s								
OSSF	**Osses**	**85.96**	**313**	⇓	*e*P	**P**	**20 04 13.5**	**+0.2**
YRE	**Yr Eifl**	**85.96**	**323**		*e*P	**P**	**20 04 13.6**	**+0.5**
SJPF	**Ste Jean**	**85.96**	**313**	⇓	*i*P	**P**	**20 04 14.1**	**+0.7**
	comp=Z,191nm,1.1s								
SJPF	**Ste Jean**	**85.96**	**313**	⇓	*i*P	**P**	**20 04 14.1**	**+0.7**
SJPF					pmax	pmax			
	comp=Z,191nm,1.1s								
SJPF	**Ste Jean**	**85.96**	**313**	⇓	*i*P	**P**	**20 04 14.1**	**+0.7**
	comp=Z,191nm,1.1s								
YRC	**Rhoscolyn**	**85.98**	**323**		*e*P	**P**	**20 04 14.7**	**+1.5**
DYA	**Yadsworthy**	**86.23**	**321**		*e*P	**P**	**20 04 15.0**	**+0.5**
DYA					AMB	AMB	20 04 16.2		
	comp=Z,164nm,1.5s								
DYA					*e*		20 14 25.4		
DYA					AMS	AMS	20 46 39.7		
	comp=Z,4µm,16.0s								
ROSF	**Rostrenen**	**86.28**	**318**	⇓	*i*P	**P**	**20 04 15.0**	**+0.2**
	comp=Z,263nm,1.2s								
ROSF	**Rostrenen**	**86.28**	**318**	⇓	*i*P	**P**	**20 04 15.0**	**+0.2**
ROSF					pmax	pmax			
	comp=Z,263nm,1.2s								
ROSF	**Rostrenen**	**86.28**	**318**	⇓	*i*P	**P**	**20 04 15.0**	**+0.2**
	comp=Z,263nm,1.2s								
QUIF	**Quistinic**	**86.30**	**318**	⇓	*i*P	**P**	**20 04 14.9**	**+0.1**
	comp=Z,196nm,1.1s								
QUIF	**Quistinic**	**86.30**	**318**	⇓	*i*P	**P**	**20 04 14.9**	**+0.1**
QUIF					pmax	pmax			
	comp=Z,196nm,1.1s								
QUIF	**Quistinic**	**86.30**	**318**	⇓	*i*P	**P**	**20 04 14.9**	**+0.1**
	comp=Z,196nm,1.1s								
HTL	**Hartland**	**86.45**	**321**		*e*P	**P**	**20 04 16.3**	**+0.8**
HTL					AMB	AMB	20 04 17.5		
	comp=Z,134nm,1.5s								
HTL					*e*		20 14 21.3		
HTL					AMS	AMS	20 46 45.3		
	comp=Z,3µm,17.2s								
GMM	**Mts of Mourne**	**86.54**	**325**		*e*P	**P**	**20 04 16.4**	**+0.5**
DSB	**Dublin**	**87.04**	**324**		*e*P	**P**	**20 04 19.1**	**+0.8**
	comp=Z,19nm,0.7s								
JCZ	**Jackson Bay**	**87.26**	**136**		PN	**P**	**20 04 19.4**	**-0.3**
WHZ	**Wether Hill Ro**	**87.29**	**138**		*e*P	**P**	**20 04 18.9**	**-0.8**
	comp=Z,81nm,0.9s								
APZ	**The Paps**	**87.63**	**139**		PN	**P**	**20 04 21.4**	**+0.1**
MSVF	**Nonsavu**	**88.12**	**108**		*e*P	**P**	**20 04 26.0**	**+1.7**
MSVF					pmax	pmax			
	comp=Z,98nm,1.0s								
MSVF	**Nonsavu**	**88.12**	**108**		*e*P	**P**	**20 04 26.0**	**+1.7**
	comp=Z,98nm,1.0s								
SYO	**Syowa Base**	**88.44**	**197**	⇓	*i*P	**P**	**20 04 24.4**	**-0.1**
ESDC	**Sonseca Array**	**88.71**	**310**		P	**P**	**20 04 27.0**	**+0.3**
	comp=Z,22nm,0.8s,baz=59,slow=4.5,SNR=109								
ESDC					pP	**pP**	**20 04 55.9**	**-4.5**	
	comp=Z,20nm,0.9s,baz=58,slow=4.8,SNR=5.5								
ESDC					PP	**PP**	**20 07 58.9**	**+1.8**	
	comp=Z,3.1nm,0.8s,baz=60,slow=5.8,SNR=2.8								
ESDC					S	**SKSac**	**20 14 41.8**	**-2.4**	
	comp=Z,1.7nm,0.9s,baz=47,slow=7.0,SNR=4.7								
ESDC					PKKPbc	**PKKPbc**	**20 22 08.0**	**+0.5**	
	comp=Z,0.2nm,0.4s,baz=289,slow=2.0,SNR=5.1								
ESLA	**Sonseca Array**	**88.71**	**310**		*e*P	**P**	**20 04 27.6**	**+0.9**
	comp=Z,37nm,1.4s								
ESLA					*e*pP	**pP**	**20 04 55.5**	**-4.9**	
RPZ	**Rata Peaks**	**88.73**	**135**		*e*P	**P**	**20 04 26.0**	**-0.5**
	comp=Z,236nm,1.3s								
IM04	**Indian Mountai**	**88.73**	**22**		*e*P	**P**	**20 04 26.7**	**+0.5**
PAB	**San Pablo**	**89.03**	**310**		*e*P	**P**	**20 04 29.0**	**+0.8**
PAB					pmax	pmax			
	comp=Z,84nm,1.3s								
PAB	**San Pablo**	**89.03**	**310**		*e*P	**P**	**20 04 29.0**	**+0.8**
	comp=Z,84nm,1.3s								
PAB					*e*pP	**pP**	**20 04 56.9**	**-5.1**	
TOA0	**Torodi Ar. Sit**	**89.37**	**283**		*e*P	**P**	**20 04 29.0**	**-1.1**
TOA0	**Torodi Ar. Sit**	**89.37**	**283**		*e*P	**P**	**20 04 31.1**	**+1.0**
TOA0					*e*pP	pP	20 04 58.0	-5.8	
TORD	**Torodi Ar. Bea**	**89.37**	**283**		P	**P**	**20 04 31.1**	**+0.9**
	comp=Z,31nm,0.8s,baz=84,slow=4.3,SNR=125								
TORD					pP	**pP**	**20 05 02.0**	**-1.9**	
	comp=Z,96nm,1.3s,baz=81,slow=3.8,SNR=5.7								
TORD					PP	**PP**	**20 08 05.0**	**+2.1**	
	comp=Z,14nm,0.9s,baz=76,slow=6.6,SNR=5.9								
TORD					S	**SKSac**	**20 14 46.4**	**-2.4**	
	comp=Z,3.1nm,1.0s,baz=80,slow=4.0,SNR=3.9								
TORD					PKKPbc	**PKKPbc**	**20 22 06.4**	**+1.4**	
	comp=Z,1.8nm,0.5s,baz=308,slow=2.1,SNR=24								
TORD					PKKPab	PKKPab	20 22 48.8		
	comp=Z,2.2nm,0.9s,baz=310,slow=2.5,SNR=4.6								
TORD					LR	LR	20 43 54.0		
	comp=Z,3µm,19.7s,baz=70,slow=35								
TOA1	**Torodi Ar. Sit**	**89.37**	**283**		*e*P	**P**	**20 04 29.0**	**-1.2**
COLD	**Coldfoot**	**89.45**	**20**		*e*P	**P**	**20 04 30.1**	**+0.6**
	comp=Z,342nm,1.3s								
VAL	**Valentia**	**89.67**	**323**		*e*P	**P**	**20 04 29.4**	**-1.3**
VAL	**Valentia**	**89.67**	**323**	⇑	*i*S	**SKSac**	**20 14 46.3**	**-2.7**
KHZ	**Kahutara**	**90.13**	**133**		*e*P	**P**	**20 04 34.1**	**+1.1**
	comp=Z,109nm,1.1s								
BORG	**Borgarnes**	**90.19**	**337**		*e*P	P	20 04 36.8	+3.9	
BORG					pmax	pmax			
	comp=Z,228nm,1.6s								
BORG	**Borgarnes**	**90.19**	**337**		*e*P	P	20 04 36.8	+3.9	
	comp=Z,228nm,1.6s								
PBRG	**Braganca**	**90.23**	**313**		*e*P	**P**	**20 04 34.4**	**+0.7**
PBRG					*e*pP	**pP**	**20 05 03.1**	**-4.4**	
PBRG	**Braganca**	**90.23**	**313**		*e*PP	PP	20 08 09.7	+0.6	
PBRG					*e*SKSac	**SKSac**	**20 14 52.0**	**-0.9**	
PBRG					*e*S	**S**	**20 15 16.1**	**-0.8**	
PBRG	**Braganca**	**90.23**	**313**		*e*LR	LR	20 32 09.1		
MVO	**Moncorvo**	**90.61**	**312**		*e*P	**P**	**20 04 36.0**	**+0.5**
MVO					*e*pP	**pP**	**20 05 05.3**	**-4.0**	
MVO	**Moncorvo**	**90.61**	**312**		*e*PP	PP	20 08 14.8	+2.7	
MVO					*e*SKSac	**SKSac**	**20 14 55.3**	**+0.1**	
MVO					*e*S	**S**	**20 15 18.3**	**-2.1**	
MVO	**Moncorvo**	**90.61**	**312**		*e*LR	LR	20 35 51.6		
BPAW	**Bear Paw Mtn.**	**90.63**	**23**		*e*P	**P**	**20 04 35.6**	**+0.5**
	comp=Z,46nm,1.3s								
SUMG	**Summit**	**90.80**	**347**		*i*P	**P**	**20 04 37.1**	**+0.9**
	comp=Z,197nm,1.2s								
SUMG	**Summit**	**90.80**	**347**		*i*S	**SKSac**	**20 14 54.1**	**-1.7**
SUMG					*i*		20 15 18.5		
SUMG	**Summit**	**90.80**	**347**		*i*P	**P**	**20 04 37.1**	**+0.9**
SUMG					*i*S	**SKSac**	**20 14 54.1**	**-1.7**
SUMG					*i*		20 15 18.5		
SUMG					pmax	pmax			
	comp=Z,200nm,1.2s								
SUMG	**Summit**	**90.80**	**347**		*e*P	**P**	**20 04 36.6**	**+0.5**
	comp=Z,189nm,1.1s								
PVRL	**Vila Real**	**91.08**	**312**		*e*P	**P**	**20 04 39.0**	**+1.3**
PVRL					*e*pP	pP	20 05 03.3	-8.1	
POLO	**Lamas de Olo**	**91.11**	**312**		*e*P	**P**	**20 04 38.9**	**+1.0**
POLO					*e*pP	**pP**	**20 05 07.4**	**-4.2**	
POLO					*e*SKSac	**SKSac**	**20 14 57.5**	**-0.6**	
POLO					*e*S	**S**	**20 15 23.8**	**-1.2**	
POLO	**Lamas de Olo**	**91.11**	**312**		*e*LR	LR	20 35 05.4		
PCAB	**Cabril**	**91.18**	**313**		*e*P	**P**	**20 04 38.5**	**+0.4**
PCAB					*e*pP	**pP**	**20 05 07.2**	**-4.7**	
PCAB	**Cabril**	**91.18**	**313**		*e*PP	PP	20 08 14.5	-2.1	
MTE	**Manteigas**	**91.19**	**311**		*e*P	**P**	**20 04 37.8**	**-0.4**
MTE					*e*pP	**pP**	**20 05 08.0**	**-4.0**	
MTE	**Manteigas**	**91.19**	**311**		*e*PP	PP	20 08 19.6	+2.9	
MTE					*e*SKSac	**SKSac**	**20 14 58.4**	**-0.1**	
MTE					*e*S	**S**	**20 15 24.6**	**-1.1**	
MTE	**Manteigas**	**91.19**	**311**		*e*LR	LR	20 35 49.1		
MTE	**Manteigas**	**91.19**	**311**		*e*P	**P**	**20 04 39.8**	**+1.6**
	comp=Z,158nm,1.0s								
TRF	**Thorofare Moun**	**91.21**	**24**		*e*P	**P**	**20 04 39.3**	**+1.3**
	comp=Z,280nm,1.0s								
PGAV	**Gavieira, Arco**	**91.29**	**313**		*e*P	**P**	**20 04 39.3**	**+0.6**
PGAV					*e*pP	**pP**	**20 05 08.3**	**-4.2**	
PGAV	**Gavieira, Arco**	**91.29**	**313**		*e*PP	PP	20 08 17.8	+0.3	
PGAV					*e*SKSac	**SKSac**	**20 14 59.5**	**+0.4**	
PGAV					*e*S	**S**	**20 15 25.8**	**-0.8**	
PGAV	**Gavieira, Arco**	**91.29**	**313**		*e*LR	LR	20 34 54.9		
PCBR	**Castelo Branco**	**91.29**	**311**		*e*P	**P**	**20 04 39.9**	**+1.3**
PCBR					*e*pP	**pP**	**20 05 07.5**	**-4.9**	
PCBR	**Castelo Branco**	**91.29**	**311**		*e*PP	PP	20 08 16.4	-1.0	
PMRV	**Marv??o**	**91.34**	**311**		*e*P	**P**	**20 04 40.0**	**+1.1**
PMRV					*e*pP	**pP**	**20 05 08.1**	**-4.6**	
PMRV	**Marv??o**	**91.34**	**311**		*e*PP	PP	20 08 18.4	+0.6	
PMRV					*e*SKSac	**SKSac**	**20 14 59.3**	**0.0**	
PMRV					*e*S	**S**	**20 15 26.1**	**-0.9**	
PMRV	**Marv??o**	**91.34**	**311**		*e*LR	LR	20 35 45.4		
PVIS	**Viseu**	**91.36**	**312**		*e*P	**P**	**20 04 40.5**	**+1.5**
PVIS					*e*pP	**pP**	**20 05 09.0**	**-3.8**	
PVIS	**Viseu**	**91.36**	**312**		*e*PP	PP	20 08 17.2	-0.8	
PBAR	**Barrancos**	**91.41**	**309**		*e*P	**P**	**20 04 40.3**	**+1.1**
PBAR					*e*pP	**pP**	**20 05 08.7**	**-4.3**	
PBAR					*e*SKSac	**SKSac**	**20 14 58.8**	**-0.9**	
PBAR					*e*S	**S**	**20 15 27.1**	**-0.5**	
PBAR	**Barrancos**	**91.41**	**309**		*e*LR	LR	20 35 58.0		
COLA	**College**	**91.44**	**22**	*d*	*i*P	**P**	**20 04 38.8**	**+0.1**
COLA					pmax	pmax			
	comp=Z,223nm,2.5s								
COLA	**College**	**91.44**	**22**		*e*P	**P**	**20 04 39.5**	**+0.7**
	comp=Z,253nm,1.9s								
RSO	**Redoubt South**	**91.54**	**27**		*e*P	**P**	**20 04 40.0**	**+0.4**
	comp=Z,50nm,0.6s								
MCK	**McKinley**	**91.61**	**23**		*e*P	**P**	**20 04 39.9**	**+0.3**
MCK					pmax	pmax			
	comp=Z,370nm,1.5s								
MCK	**McKinley**	**91.61**	**23**		*e*P	**P**	**20 04 39.9**	**+0.3**
	comp=Z,370nm,1.5s								
PESTR	**Estremoz**	**91.64**	**310**		*e*P	**P**	**20 04 42.1**	**+1.8**
PESTR	**Estremoz**	**91.64**	**310**		*e*SKSac	**SKSac**	**20 15 00.6**	**-0.4**
PESTR					*e*S	**S**	**20 15 28.8**	**-0.9**
PESTR	**Estremoz**	**91.64**	**310**		*e*LR	LR	20 35 34.9		
URZ	**Urewera**	**91.78**	**129**		*e*PN	**P**	**20 04 40.3**	**-0.6**
URZ	**Urewera**	**91.78**	**129**		*e*P	**P**	**20 04 40.2**	**-0.7**
	comp=Z,29nm,0.7s								
ILAR	**Eielson Array**	**91.85**	**22**		P	**P**	**20 04 39.5**	**-1.2**
	comp=Z,11nm,0.8s,baz=289,slow=3.8,SNR=52								
ILAR					PP	**PP**	**20 08 21.4**	**+0.4**	
	comp=Z,5.1nm,0.8s,baz=315,slow=4.6,SNR=3.6								
ILAR					S	**SKSac**	**20 14 56.1**	**-5.0**	
	comp=Z,1.2nm,0.8s,baz=280,slow=18,SNR=5.9								
ILAR					PKKPbc	**PKKPdf**	**20 21 56.3**	**-0.2**	
	comp=Z,5.9nm,1.0s,baz=172,slow=2.0,SNR=12								
ILAR					PKPPKP	P'P'df	20 30 02.2	-6.4	
	comp=Z,0.8nm,0.9s,baz=166,slow=18,SNR=4.6								
ILAR					LR	LR	20 50 16.1		
	comp=Z,2µm,21.1s,baz=312,slow=38								
PCAS	**Casmilo, Conde**	**91.99**	**311**		*e*P	**P**	**20 04 43.1**	**+1.2**
PCAS					*e*pP	**pP**	**20 05 10.9**	**-4.7**	
PCAS	**Casmilo, Conde**	**91.99**	**311**		*e*PP	PP	20 08 23.6	+0.7	
PCAS					*e*SKSac	**SKSac**	**20 15 01.6**	**-1.3**	
PCAS					*e*S	**S**	**20 15 28.7**	**-4.0**	
PCAS	**Casmilo, Conde**	**91.99**	**311**		*e*LR	LR	20 35 10.7		
PTOM	**Tomar**	**92.05**	**311**		*e*P	**P**	**20 04 43.5**	**+1.4**
PTOM					*e*pP	**pP**	**20 05 12.2**	**-3.7**	
PTOM	**Tomar**	**92.05**	**311**		*e*PP	PP	20 08 22.8	-0.6	
EVO	**Evora**	**92.05**	**310**		*e*P	**P**	**20 04 43.8**	**+1.6**
EVO	comp=Z,147nm,1.3s				*e*R				
	comp=Z,2µm,21.8s								
EVO	**Evora**	**92.05**	**310**		*e*P	**P**	**20 04 43.4**	**+1.2**
EVO					*e*pP	**pP**	**20 05 12.0**	**-3.9**	
EVO	**Evora**	**92.05**	**310**		*e*PP	PP	20 08 22.4	-1.0	
PMTG	**Montargil**	**92.06**	**310**		*e*P	**P**	**20 04 42.8**	**+0.6**
PMTG					*e*pP	**pP**	**20 05 11.2**	**-4.8**	
PMTG	**Montargil**	**92.06**	**310**		*e*PP	PP	20 08 25.4	+1.9	
PMTG					*e*SKSac	**SKSac**	**20 15 04.0**	**+0.7**	
PMTG					*e*S	**S**	**20 15 31.5**	**-1.9**	
PMTG	**Montargil**	**92.06**	**310**		*e*LR	LR	20 35 47.5		
MWZ	**Matawai**	**92.12**	**129**		PN	**P**	**20 04 42.9**	**+0.4**
PVAQ	**Vaqueiros**	**92.13**	**309**		*e*P	**P**	**20 04 43.8**	**+1.2**
PVAQ					*e*pP	**pP**	**20 05 12.4**	**-3.9**	
PVAQ	**Vaqueiros**	**92.13**	**309**		*e*PP	PP	20 08 24.5	+0.4	
PVAQ					*e*SKSac	**SKSac**	**20 15 03.4**	**-0.4**	
PVAQ					*e*S	**S**	**20 15 33.7**	**-0.4**	
PVAQ	**Vaqueiros**	**92.13**	**309**		*e*LR	LR	20 35 43.3		
EVOP	**Sao Brissos**	**92.13**	**310**		*e*P	**P**	**20 04 43.8**	**+1.3**
EVOP					pmax	pmax			
	comp=Z,147nm,1.3s								
EVOP	**Sao Brissos**	**92.13**	**310**		*e*P	**P**	**20 04 43.8**	**+1.3**
	comp=Z,147nm,1.3s								
HAZ	**Te Kaha**	**92.19**	**128**		*e*PN	**P**	**20 04 42.8**	**+0.1**
PCVE	**Castro Verde**	**92.31**	**309**		*e*P	**P**	**20 04 44.3**	**+0.9**
PCVE					*e*pP	pP	20 05 11.7	-5.5	
PCVE					*e*SKSac	**SKSac**	**20 15 04.7**	**-0.1**	
PCVE					*e*S	**S**	**20 15 34.5**	**-1.2**	
PCVE	**Castro Verde**	**92.31**	**309**		*e*LR	LR	20 36 06.4		
PBDV	**Barranco-do-Ve**	**92.34**	**309**		*e*P	**P**	**20 04 45.4**	**+1.8**
PBDV					*e*pP	**pP**	**20 05 13.6**	**-3.7**	
PBDV	**Barranco-do-Ve**	**92.34**	**309**		*e*PP	PP	20 08 26.3	+0.5	
PBDV					*e*SKSac	**SKSac**	**20 15 05.6**	**+0.6**
PBDV					*e*S	**S**	**20 15 34.7**	**-1.3**
PBDV	**Barranco-do-Ve**	**92.34**	**309**		*e*LR	LR	20 36 16.9		
MESJ	**Messejana**	**92.40**	**309**		*e*P	**P**	**20 04 45.1**	**+1.3**
MESJ					AMb	AMB	20 04 47.5		
	comp=Z,105nm,1.4s								
MESJ					*e*PP	**PP**	**20 08 27.7**	**+1.6**	
MESJ					*e*S	**SKSac**	**20 15 04.6**	**-0.6**	
MESJ	**Messejana**	**92.40**	**309**		*e*P	**P**	**20 04 44.3**	**+0.5**
MESJ					*e*pP	**pP**	**20 05 13.6**	**-3.9**	
MESJ	**Messejana**	**92.40**	**309**		*e*PP	PP	20 08 25.3	-0.9	
MESJ	**Messejana**	**92.40**	**309**		*e*P	**P**	**20 04 45.1**	**+1.3**
MESJ					*e*		20 08 27.7		
MESJ					pmax	pmax			
	comp=Z,105nm,1.4s								
KULLO	**Kullorsuaq**	**92.47**	**353**	⇓	*i*P	**P**	**20 04 44.1**	**+0.7**
	comp=Z,344nm,1.0s								
	comp=Z,8µm,30.0s								
PNCL	**Nicolau / Gran**	**92.56**	**309**		*e*P	**P**	**20 04 45.2**	**+0.7**
PNCL					*e*pP	**pP**	**20 05 14.3**	**-4.0**	
PNCL	**Nicolau / Gran**	**92.56**	**309**		*e*PP	PP	20 08 26.6	-0.8	
PNCL					*e*SKSac	**SKSac**	**20 15 06.6**	**+0.5**
PNCL					*e*S	**S**	**20 15 38.1**	**+0.3**
PNCL	**Nicolau / Gran**	**92.56**	**309**		*e*LR	LR	20 35 41.2		
RC01	**Rabbit Creek A**	**92.56**	**26**		*e*P	**P**	**20 04 44.7**	**+0.6**
	comp=Z,70nm,0.4s								
PACT	**Alcochete**	**92.60**	**310**		*e*P	**P**	**20 04 46.9**	**+2.2**
PACT					*e*pP	**pP**	**20 05 15.2**	**-3.2**	
PACT	**Alcochete**	**92.60**	**310**		*e*PP	PP	20 08 31.0	+3.3	
KDAK	**Kodiak Island**	**92.79**	**29**		*i*P	**P**	**20 04 47.4**	**+2.3**
LIS	**Lisbon**	**92.85**	**310**		*e*P	**P**	**20 04 47.4**	**+1.6**
LIS					AMb	AMB	20 04 49.8		
	comp=Z,151nm,1.9s								
LIS					*e*PP	**PP**	**20 08 32.3**	**+2.6**
LIS					*e*S	**SKSac**	**20 15 07.7**	**0.0**
LIS	**Lisbon**	**92.85**	**310**		*e*P	**P**	**20 04 47.4**	**+1.6**
LIS					*e*		20 08 32.2		
LIS					*e*S	**SKSac**	**20 15 07.7**	**0.0**
LIS					pmax	pmax			
	comp=Z,151nm,1.9s								
PTEO	**Sao Teotonio**	**92.86**	**309**		*e*P	**P**	**20 04 48.6**	**+2.7**
PTEO					*e*pP	**pP**	**20 05 16.2**	**-3.5**	
PTEO	**Sao Teotonio**	**92.86**	**309**		*e*PP	PP	20 08 28.4	-1.4	
PMST	**Lisbon--Monsan**	**92.87**	**310**		*e*P	P	20 04 41.9	-4.0	
PMST					*e*pP	pP	20 05 14.2	-5.5	
PMST	**Lisbon--Monsan**	**92.87**	**310**		*e*PP	PP	20 08 31.2	+1.4	
MORF	**Marmelete**	**92.87**	**309**		*e*P	**P**	**20 04 47.6**	**+1.5**
MORF					AMb	AMB	20 04 50.6		
	comp=Z,94nm,1.4s								
MORF					*e*PP	**PP**	**20 08 31.6**	**+1.6**
MORF					*e*S	**SKSac**	**20 15 07.7**	**-0.3**
MORF	**Marmelete**	**92.87**	**309**		*e*P	**P**	**20 04 47.3**	**+1.2**
MORF					*e*pP	**pP**	**20 05 15.9**	**-3.9**	
MORF	**Marmelete**	**92.87**	**309**		*e*PP	PP	20 08 29.7	-0.3	
MORF					*e*SKSac	**SKSac**	**20 15 08.5**	**+0.5**
MORF					*e*S	**ScS**	**20 15 42.5**	**0.0**
MORF	**Marmelete**	**92.87**	**309**		*e*LR	LR	20 35 39.1		
MORF	**Marmelete**	**92.87**	**309**		*e*P	**P**	**20 04 47.5**	**+1.5**
MORF					*e*		20 08 31.5		
MORF					*e*S	**SKSac**	**20 15 07.7**	**-0.3**
MORF					pmax	pmax			
	comp=Z,94nm,1.5s								
PMAFR	**Mafra**	**92.88**	**310**		*e*P	**P**	**20 04 47.7**	**+1.7**
PMAFR					*e*pP	**pP**	**20 05 15.6**	**-4.2**	
PMAFR	**Mafra**	**92.88**	**310**		*e*PP	PP	20 08 30.2	+0.2	
PMAFR					*e*SKSac	**SKSac**	**20 15 08.3**	**+0.4**
PMAFR					*e*S	**S**	**20 15 39.6**	**-1.1**
PMAFR	**Mafra**	**92.88**	**310**		*e*LR	LR	20 36 12.7		
PFVI	**Vila Bisbo**	**93.06**	**309**		*e*P	**P**	**20 04 47.8**	**+1.0**
PFVI					*e*pP	**pP**	**20 05 16.7**	**-3.9**	
PFVI	**Vila Bisbo**	**93.06**	**309**		*e*PP	PP	20 08 31.4	0.0	
PFVI					*e*SKSac	**SKSac**	**20 15 08.5**	**-0.4**
PFVI					*e*S	**S**	**20 15 41.5**	**-0.8**
PFVI	**Vila Bisbo**	**93.06**	**309**		*e*LR	LR	20 35 39.1		
SEW	**Seward**	**93.16**	**27**		*e*P	**P**	**20 04 47.2**	**+0.4**
	comp=Z,288nm,1.5s								
PAX	**Paxson**	**93.34**	**23**		*e*P	**P**	**20 04 47.9**	**+0.2**
PAX					pmax	pmax			
	comp=Z,23nm,1.0s								
PAX	**Paxson**	**93.34**	**23**		*e*P	**P**	**20 04 47.9**	**+0.2**
	comp=Z,24nm,1.0s								
DOT	**Dot Lake**	**93.50**	**22**		*e*P	**P**	**20 04 48.7**	**+0.3**
	comp=Z,29nm,0.8s								
EGAK	**Eagle**	**93.88**	**21**		*e*P	**P**	**20 04 50.6**	**+0.6**
	comp=Z,263nm,0.9s								
INK	**Inuvik**	**93.94**	**16**		S	**SKSac**	**20 15 09.9**	**-2.5**
	comp=Z,1.9nm,0.2s,baz=150,slow=31,SNR=31								
INK					PKKP	**PKKPdf**	**20 21 52.6**	**-0.2**	
	comp=Z,3.0nm,0.3s,baz=176,slow=2.6,SNR=10								
RES	**Resolute Bay**	**94.11**	**2**		*e*P	**P**	**20 04 51.8**	**+0.9**
RES					pmax	pmax			
	comp=Z,27nm,0.7s								
RES	**Resolute Bay**	**94.11**	**2**		*e*P	**P**	**20 04 51.8**	**+0.9**
	comp=Z,27nm,0.7s								
DIV	**Divide**	**94.20**	**25**		*e*P	**P**	**20 04 52.9**	**+1.2**
	comp=Z,16nm,0.8s								
BMRM	**Bremner River**	**94.77**	**25**		*e*P	**P**	**20 04 55.4**	**+1.1**
	comp=Z,19nm,0.8s								
DAWY	**Dawson**	**94.93**	**21**		*e*P	**P**	**20 04 55.7**	**+0.8**
	comp=Z,0.5nm,0.8s								
ILULI	**Ilulissat**	**96.06**	**348**	⇓	*i*P	**P**	**20 05 01.4**	**+1.5**
	comp=Z,79nm,1.2s								
	comp=Z,8µm,23.0s								

baz=114
F04D ⇓SKSac SKSac 20 16 48.2 +1.7
baz=114
G03D McMinnville, O 114.70 28 ⇑PKiKP PKPdf 20 10 13.8 +1.0
baz=115
NEW Newport 114.81 22 ePKiKP PKPdf 20 10 13.7 +0.7
NEW Newport 114.81 22 ePKiKP PKPdf 20 10 13.7 +0.7
NEW Newport 114.81 22 ⇑PKiKP PKPdf 20 10 13.7 +0.7
baz=115
G05D Wamic, OR 115.55 27 ⇑PKiKP PKPdf 20 10 14.9 +0.4
baz=116
I03D Drain, OR 115.81 29 ⇓PKiKP PKPdf 20 10 16.0 +1.1
baz=116
BSMT Bassoo Peak 116.00 21 ePKPdf PKPdf 20 10 16.8 +1.4
I05D Terrebonne, OR 116.25 27 ⇓PKiKP PKiKP 20 10 16.4 +0.5
baz=116
YBMT Yellow Bay 116.25 20 ePKPdf PKPdf 20 10 15.8 -0.1
J04D Umpqua Nationa 116.74 29 ⇓PKiKP PKiKP 20 10 18.3 +1.3
baz=117
HUMO Hull Mountain 116.82 30 ePKPdf PKPdf 20 10 18.6 +1.6
L02D Cave Junction, 116.84 30 ⇓PKiKP PKiKP 20 10 18.6 +1.6
baz=117
A19A Klindworth Far 116.94 16 ⇑PKiKP PKiKP 20 10 17.6 +0.5
baz=117
SLMT Seeley Lake 116.97 20 ePKPdf PKPdf 20 10 18.1 +0.8
J05D Fort Rock, OR 117.11 28 ⇑PKiKP PKiKP 20 10 18.7 +0.9
baz=117
MSO Missoula 117.17 21 ⇓PKiKP PKiKP 20 10 18.5 +0.8
baz=117
A20A Cobblestone Ra 117.21 16 ⇑PKiKP PKiKP 20 10 18.7 +1.1
baz=117
B19A Brinkman Farms 117.31 17 ⇓PKiKP PKiKP 20 10 19.0 +1.1
baz=117
CHMT Chamberlain Mo 117.33 20 ePKPdf PKPdf 20 10 18.1 0.0
A21A Bergtoll Ranch 117.37 15 ⇓PKiKP PKiKP 20 10 19.3 +1.4
baz=117
K04D Chiloquin, OR 117.38 29 ⇑PKiKP PKiKP 20 10 19.3 +1.1
baz=117
EGMT Eagleton 117.47 17 ePKPdf PKPdf 20 10 19.2 +1.0
EGMT Eagleton 117.47 17 ⇓PKiKP PKPdf 20 10 19.1 +1.0
baz=117
BMO Blue Mountains 117.56 24 ePKIKP PKPdf 20 10 18.4 0.0
BMO Blue Mountains 117.56 24 ePKPdf PKPdf 20 10 18.4 0.0
YBH Yreka Blue Hor 117.60 30 ePKIKP PKPdf 20 10 20.7 +2.1
YBH Yreka Blue Hor 117.60 30 ePKPdf PKPdf 20 10 20.7 +2.1
A22A Carney Farms, 117.62 14 ⇓PKiKP PKiKP 20 10 19.8 +1.4
baz=118
KHMM Horse Mountain 117.73 31 ePKPdf PKPdf 20 10 21.1 +2.2
M02C Callahan 117.78 30 ⇓PKiKP PKiKP 20 10 20.0 +1.0
baz=118
B21A Ellsworth Farm 117.86 15 ⇓PKiKP PKiKP 20 10 19.9 +1.0
baz=118
A23A Redstone 117.90 14 ⇓PKiKP PKiKP 20 10 20.1 +1.1
baz=118
C19A Slack Wire Ran 117.94 17 ⇑PKiKP PKiKP 20 10 20.5 +1.4
baz=118
M04C Macdoel 117.98 29 ⇓PKiKP PKiKP 20 10 20.5 +1.0
baz=118
A24A Westby 118.13 13 ⇑PKiKP PKiKP 20 10 20.9 +1.5
baz=118
N02D Trinity Center 118.17 31 ⇑PKiKP PKiKP 20 10 21.0 +1.2
baz=118
B22A Reddig Ranch S 118.24 15 ⇑PKiKP PKiKP 20 10 20.2 +0.6
baz=118
C20A Veseth Ranch, 118.25 16 ⇓PKiKP PKiKP 20 10 20.4 +0.7
baz=118
A25A Svangstu Ranch 118.31 12 ⇓PKiKP PKiKP 20 10 20.6 +0.9
baz=118
B23A Brockton 118.33 14 ⇓PKiKP PKiKP 20 10 21.0 +1.2
baz=118
C21A Desert Coulee 118.40 16 ⇓PKiKP PKiKP 20 10 21.3 +1.3
baz=118
D19A Cripps Ranch, 118.50 17 ⇑PKiKP PKiKP 20 10 21.0 +0.8
baz=118
DGMT Dagmar 118.51 13 ePKPdf PKPdf 20 10 21.7 +1.6
DGMT Dagmar 118.51 13 ⇓PKiKP PKiKP 20 10 21.5 +1.4
baz=118
WDC Whiskeytown Da 118.55 31 ePKIKP PKPdf 20 10 21.7 +1.3
WDC Whiskeytown Da 118.55 31 ePKPdf PKPdf 20 10 21.6 +1.3
LRM Limekiln Ridge 118.56 21 ePKPdf PKPdf 20 10 21.8 +1.2
A26A Wade Farm, Ken 118.57 12 ⇓PKiKP PKiKP 20 10 21.9 +1.7
baz=118
KIPM Iron Peak 118.64 32 ePKPdf PKPdf 20 10 23.6 +2.9
PPT2 Papeete2 118.66 104 ePP PP 20 11 35.8 -5.0
comp=Z,2µm,26.0s
PPT2 eSdif Sdif 20 19 12.4 -5.8
comp=Z,904nm,27.3s
PPT2 Papeete2 118.66 104 ePS PS 20 21 29.5 -0.4
comp=Z,4µm,27.8s
PPT2 eSS SS 20 27 47.5 -2.1
comp=Z,7µm,26.8s
PPT2 Papeete2 118.66 104 eLR LR 20 46 30.4
comp=Z,12µm,41.5s
A27A Ledoux Ranch, 118.67 11 ⇓PKiKP PKiKP 20 10 21.6 +1.3
baz=118
KCPM Cahto Peak 118.68 32 ePKPdf PKPdf 20 10 23.0 +2.2
D20A Manuel Ranch, 118.78 17 ⇓PKiKP PKiKP 20 10 21.8 +1.0
baz=119
A28A Rude Farm, Bot 118.89 10 ⇓PKiKP PKiKP 20 10 22.2 +1.3
baz=119
C23A Lambert 118.91 14 ⇓PKiKP PKiKP 20 10 22.6 +1.7
baz=119
DLMT Dillon 118.91 21 ePKPdf PKPdf 20 10 22.8 +1.7
B25A Knox Farm, Ray 118.93 13 ⇑PKiKP PKiKP 20 10 22.6 +1.7
baz=119
TBI Tubuai 118.94 110 ePP PP 20 11 39.7 -2.8
comp=Z,1µm,26.5s
TBI Tubuai 118.94 110 ePS PS 20 21 32.4 +0.3
comp=Z,4µm,29.8s
TBI eSS SS 20 27 50.8 -2.0
comp=Z,4µm,28.5s
TBI Tubuai 118.94 110 eLQ LQ 20 41 31.9
comp=Z,5µm,33.8s
TBI eLR LR 20 46 22.1
comp=Z,8µm,36.5s
WVOR Wild Horse Val 118.96 27 ePKIKP PKPdf 20 10 22.2 +0.9
WVOR Wild Horse Val 118.96 27 ePKPdf PKPdf 20 10 22.2 +0.9
BOZ Bozeman (W) 118.99 20 ePKIKP PKPdf 20 10 22.9 +1.7
BOZ Bozeman (W) 118.99 20 ePKPdf PKPdf 20 10 22.9 +1.7
B26A Jensen Ranch, 119.03 12 ⇓PKiKP PKiKP 20 10 22.2 +1.1
baz=119
A29A Manning Farm, 119.06 10 ⇑PKiKP PKiKP 20 10 22.1 +1.0
baz=119
D21A La Casta Ranch 119.12 16 ⇑PKiKP PKiKP 20 10 22.8 +1.4
baz=119
E19A Rath Farm, Rou 119.17 18 ⇑PKiKP PKiKP 20 10 22.6 +1.1
baz=119
A30A Hoffart Farm, 119.19 9 ⇑PKiKP PKiKP 20 10 22.9 +1.5
baz=119
B27A Peters Farms, 119.19 11 ⇑PKiKP PKiKP 20 10 22.6 +1.2
baz=119
D22A Cohagen 119.26 15 ⇑PKiKP PKiKP 20 10 23.3 +1.6
baz=119
MCMT McKenzie Canyo 119.28 21 ePKPdf PKPdf 20 10 23.5 +1.5
B28A Dugan Ranch, T 119.32 11 ⇑PKiKP PKiKP 20 10 22.6 +1.0
baz=119
C24A Savage 119.34 14 ⇑PKiKP PKiKP 20 10 22.9 +1.2
baz=119
MFID Camas Ranch 119.35 24 ePKPdf PKPdf 20 10 24.3 +2.3
C25A Freed Ranch, W 119.44 13 ⇑PKiKP PKiKP 20 10 23.5 +1.5
baz=119
B29A Wagenman Farm, 119.48 10 ⇓PKiKP PKiKP 20 10 22.9 +1.0
baz=119
D23A Lindsay 119.49 15 ⇓PKiKP PKiKP 20 10 23.7 +1.6
baz=119
C26A Wahner Farm, P 119.58 12 ⇑PKiKP PKiKP 20 10 23.6 +1.4
baz=119
E21A Keefer Ranch, 119.58 16 ⇓PKiKP PKiKP 20 10 23.9 +1.6
baz=120
B30A Myrvik Farm, E 119.66 9 ⇑PKiKP PKiKP 20 10 23.5 +1.2
baz=120
F19A Roth Farm, Mol 119.67 18 ⇓PKiKP PKiKP 20 10 23.7 +1.2
baz=120
D24A Glendive 119.75 14 ⇓PKiKP PKiKP 20 10 23.7 +1.1
baz=120
HLID Hailey 119.78 23 ePKPdf PKPdf 20 10 24.6 +1.8
HLID Hailey 119.78 23 ⇑PKiKP PKiKP 20 10 24.5 +1.5
baz=120
C27A Sayler Ranch, 119.81 12 ⇓PKiKP PKiKP 20 10 24.2 +1.5
baz=120
F20A Billings 119.95 17 ⇑PKiKP PKiKP 20 10 24.0 +0.9
baz=120
D25A Fairfield 119.95 13 ⇓PKiKP PKiKP 20 10 24.4 +1.3
baz=120
E22A Miles City 119.98 16 ⇑PKiKP PKiKP 20 10 24.4 +1.3
baz=120
C28A Hausauer Farms 120.02 11 ⇑PKiKP PKiKP 20 10 23.8 +0.8
baz=120
MDND Maddock 120.03 10 ePKPdf PKPdf 20 10 24.6 +1.6
MDND Maddock 120.03 10 ⇓PKiKP PKiKP 20 10 24.0 +0.9
baz=120
PQI Presque Isle 120.09 346 ePKPdf PKPdf 20 10 23.5 +0.5
E23A Ismay 120.09 15 ⇑PKiKP PKiKP 20 10 24.5 +1.2
baz=120
AGMN Agassiz Nation 120.16 7 ePKPdf PKPdf 20 10 24.2 +1.0
AGMN Agassiz Nation 120.16 7 ⇑PKiKP PKiKP 20 10 24.9 +1.7
baz=120
RLMT Red Lodge 120.22 19 ePKPdf PKPdf 20 10 26.2 +2.5
F21A Absaloka Mine, 120.23 17 ⇓PKiKP PKiKP 20 10 24.5 +0.9
baz=120
D26A Manning 120.27 13 ⇑PKiKP PKiKP 20 10 24.6 +1.0
baz=120
E24A Baker 120.28 14 ⇑PKiKP PKiKP 20 10 24.7 +1.1
baz=120
YFT Old Faithful 120.31 20 ePKPdf PKPdf 20 10 27.9 +4.0
LKWY Lake 120.36 20 ePKIKP PKPdf 20 10 27.9 +3.8
LKWY Lake 120.36 20 ePKPdf PKPdf 20 10 27.9 +3.8
C30A Mose, Pekin 120.36 9 ⇓PKiKP PKiKP 20 10 24.6 +0.9
baz=120
D27A Center 120.38 12 ⇓PKiKP PKiKP 20 10 24.5 +0.7
baz=120
H17A Grant Village 120.45 20 ePKPdf PKPdf 20 10 28.1 +3.9
H17A Grant Village 120.45 20 ⇓PKiKP PKiKP 20 10 25.5 +1.1
baz=120
G20A Bridger 120.46 18 ⇓PKiKP PKiKP 20 10 25.0 +0.8
baz=120
D28A Regan 120.49 11 ⇑PKiKP PKiKP 20 10 25.1 +1.1
baz=120
H18A Shoshone NF, C 120.50 19 ⇑PKiKP PKiKP 20 10 24.9 +0.5
baz=120
F22A Rosebud 120.51 16 ⇓PKiKP PKiKP 20 10 25.1 +0.9
baz=120
E25A Miller Ranch, 120.55 14 ⇑PKiKP PKiKP 20 10 24.9 +0.7
baz=120
FLWY Flagg Ranch 120.68 20 ePKPdf PKPdf 20 10 27.4 +2.8
H19A Powell 120.72 19 ⇑PKiKP PKiKP 20 10 25.5 +0.8
baz=121
G21A Lodge Grass 120.75 17 ⇓PKiKP PKiKP 20 10 25.5 +0.8
baz=121
IMW Indian Meadow 120.76 20 ePKPdf PKPdf 20 10 26.9 +2.0
F23A Volborg 120.79 15 ⇓PKiKP PKiKP 20 10 25.2 +0.5
baz=121
E26A Carlson Angus 120.79 13 ⇓PKiKP PKiKP 20 10 25.6 +0.9
baz=121
D29A Pettibone, Tap 120.80 11 ⇑PKiKP PKiKP 20 10 25.1 +0.5
baz=121
I17A Pilgrim Ck. 120.87 20 ⇑PKiKP PKiKP 20 10 25.8 +0.6
baz=121
D30A Buchanan 120.89 10 ⇑PKiKP PKiKP 20 10 25.4 +0.6
baz=121
F24A Ekalaka 120.92 15 ⇑PKiKP PKiKP 20 10 25.6 +0.6
baz=121
EYMN Ely 120.93 4 ePKPdf PKPdf 20 10 25.2 +0.5
MOOW Moose Ponds 120.96 20 ePKPdf PKPdf 20 10 26.9 +1.7
G22A Birney 121.01 16 ⇑PKiKP PKiKP 20 10 25.9 +0.7
baz=121
E27A Carson 121.02 12 ⇓PKiKP PKiKP 20 10 26.0 +0.9
baz=121
E28A Huff 121.06 12 ⇑PKiKP PKiKP 20 10 25.8 +0.7
baz=121
F25A Bowman 121.08 14 ⇑PKiKP PKiKP 20 10 25.9 +0.6
baz=121
TPAW Teton Pass 121.12 21 ePKPdf PKPdf 20 10 27.4 +1.8
LOHW Long Hollow 121.13 20 ePKPdf PKPdf 20 10 27.6 +2.1
H20A Greybull 121.19 18 ⇑PKiKP PKiKP 20 10 26.1 +0.5
baz=121
BMN Battle Mountai 121.20 27 ePKIKP PKPdf 20 10 26.3 +0.6
BMN Battle Mountai 121.20 27 ePKPdf PKPdf 20 10 26.3 +0.6
SNOW Snow King Moun 121.21 21 ePKPdf PKPdf 20 10 28.1 +2.3
E29A Napoleon 121.26 11 ⇑PKiKP PKiKP 20 10 27.3 +1.8
baz=121
REDW Red Top Meadow 121.26 21 ePKPdf PKPdf 20 10 27.1 +1.3
I19A Meeteetse 121.28 19 ⇓PKiKP PKiKP 20 10 27.2 +1.3
baz=121
F26A Lodgepole 121.33 13 ⇑PKiKP PKiKP 20 10 26.4 +0.6
baz=121
H21A Big Horn, Sher 121.34 17 ⇑PKiKP PKiKP 20 10 26.5 +0.6
baz=121
G24A Alzada 121.41 15 ⇓PKiKP PKiKP 20 10 26.6 +0.7
baz=121
F27A Lemmon 121.45 13 ⇑PKiKP PKiKP 20 10 26.8 +0.9
baz=121
E30A Jud 121.46 10 ⇑PKiKP PKiKP 20 10 26.7 +0.8
baz=121
CMB Columbia Colle 121.57 31 ePKIKP PKPdf 20 10 27.8 +1.5
CMB Columbia Colle 121.57 31 ePKPdf PKPdf 20 10 27.8 +1.5
H22A Clearmont 121.57 17 ⇑PKiKP PKiKP 20 10 27.1 +0.8
baz=121
I20A Worland 121.63 18 ⇓PKiKP PKiKP 20 10 27.5 +1.0
baz=122
WAKR Walker 121.68 30 ePKPdf PKPdf 20 10 27.8 +1.1
AHID Auburn Hatcher 121.70 21 ePKPdf PKPdf 20 10 28.0 +1.4
F28A McLaughlin 121.73 12 ⇑PKiKP PKiKP 20 10 27.1 +0.6
baz=122
G25A Newell 121.78 14 ⇑PKiKP PKiKP 20 10 27.7 +1.1
baz=122
ELK Elko 121.81 26 ePKIKP PKPdf 20 10 28.9 +1.9
ELK Elko 121.81 26 ePKPdf PKPdf 20 10 28.9 +1.9
H23A Tabaugh Cattl 121.86 16 ⇓PKiKP PKiKP 20 10 27.5 +0.6
baz=122
G26A Maurine 121.87 13 ⇓PKiKP PKiKP 20 10 27.4 +0.6
baz=122
H24A Dirks Ranch, A 121.91 15 ⇑PKiKP PKiKP 20 10 27.6 +0.6
baz=122
F29A Eureka 121.94 11 ⇑PKiKP PKiKP 20 10 27.9 +1.0
baz=122
G27A Dupree 121.94 13 ⇓PKiKP PKiKP 20 10 27.8 +0.8
baz=122
J19A Crowheart 121.96 19 ⇓PKiKP PKiKP 20 10 28.0 +0.7
baz=122
I21A Big Trails, Te 122.01 18 ⇑PKiKP PKiKP 20 10 27.8 +0.5
baz=122
F30A Leola 122.08 10 ⇓PKiKP PKiKP 20 10 28.0 +0.8
baz=122
I22A 9 Mile Ranch, 122.18 17 ⇑PKiKP PKiKP 20 10 28.6 +1.0
baz=122
J20A Shoshoni 122.19 19 ⇑PKiKP PKiKP 20 10 29.3 +1.6
baz=122
BW06 Boulder Array 122.23 20 ePKPdf PKPdf 20 10 28.8 +1.1
PDAR Pinedale Array 122.23 20 PKP PKPdf 20 10 28.1 +0.4
comp=Z,12nm,0.8s,baz=29,slow=3.4,SNR=50
PDAR SKP SKPdf 20 13 51.2 +0.1
comp=Z,11nm,0.9s,baz=45,slow=2.3,SNR=4.9
PDAR S SKSac 20 17 15.8 -0.4
comp=Z,1.9nm,1.0s,baz=18,slow=4.2,SNR=5.1
PDAR PKKPbc PKKPbc 20 20 23.1 -2.3
comp=Z,5.5nm,0.8s,baz=111,slow=5.5,SNR=14
H25A Fruitdale 122.27 15 ⇓PKiKP PKiKP 20 10 28.3 +0.6
baz=122
NVAR Mina Array Bea 122.29 29 PKP PKPdf 20 10 29.8 +1.8
comp=Z,16nm,0.7s,baz=293,slow=2.0,SNR=53
NVAR SKP SKPdf 20 13 52.7 +1.4
comp=Z,28nm,0.9s,baz=289,slow=1.6,SNR=8.4
NVAR S SKSac 20 17 19.2 +2.7
comp=Z,0.6nm,0.8s,baz=236,slow=1.0,SNR=2.3
NVAR PKKPbc PKKPbc 20 20 24.6 -0.4
comp=Z,22nm,1.0s,baz=152,slow=5.0,SNR=28
NVAR SKKPbc SKKPbc 20 24 00.1 -0.7
comp=Z,2.8nm,0.9s,baz=150,slow=5.0,SNR=4.3
J21A Lysite 122.39 18 ⇑PKiKP PKiKP 20 10 28.5 +0.4
baz=122
I23A Meade Ranch, G 122.40 16 ⇓PKiKP PKiKP 20 10 28.2 +0.1
baz=122
G28A Parade 122.45 12 ⇑PKiKP PKiKP 20 10 28.6 +0.7
baz=122
WVL Waterville 122.46 346 ePKPdf PKPdf 20 10 28.2 +0.5
H26A Fairpoint 122.47 14 ⇓PKiKP PKiKP 20 10 28.7 +0.6
baz=122
G29A Hoven 122.53 11 ⇑PKiKP PKiKP 20 10 28.6 +0.5
baz=122
BGU Big Grassy Mou 122.56 24 ePKPdf PKPdf 20 10 29.6 +1.3
J22A Midwest 122.62 17 ⇑PKiKP PKiKP 20 10 28.7 +0.2
baz=122
H27A Howes 122.62 13 ⇑PKiKP PKiKP 20 10 28.7 +0.4
baz=122
RSSD Black Hills 122.63 15 ePKIKP PKPdf 20 10 29.6 +1.2
RSSD Black Hills 122.63 15 ePKPdf PKPdf 20 10 29.6 +1.2
MLAC Mammoth, Mammt 122.66 30 ⇑PKiKP PKiKP 20 10 29.4 +0.6
baz=123
I24A Kuemmerle Ranc 122.72 16 ⇓PKiKP PKiKP 20 10 28.8 +0.1
baz=123
G30A Faulkton 122.74 11 ⇑PKiKP PKiKP 20 10 29.0 +0.5
baz=123
I25A Rochford 122.80 15 ⇓PKiKP PKiKP 20 10 29.4 +0.5
baz=123
H28A Mission Ridge 122.81 12 ⇑PKiKP PKiKP 20 10 29.3 +0.6
baz=123
J23A Dilts Ranch, B 122.89 17 ⇑PKiKP PKiKP 20 10 29.7 +0.7
baz=123
I26A New Underwood 123.01 14 ⇑PKiKP PKiKP 20 10 29.7 +0.5
baz=123
H29A Onida 123.02 12 ⇓PKiKP PKiKP 20 10 29.7 +0.6
baz=123
TPH Tonopah 123.09 29 ePKIKP PKPdf 20 10 30.5 +1.1
TPH Tonopah 123.09 29 ePKPdf PKPdf 20 10 30.4 +1.1
I27A Quinn 123.16 13 ⇑PKiKP PKiKP 20 10 30.1 +0.7
baz=123
J24A Dixon Ranch, L 123.20 16 ⇑PKiKP PKiKP 20 10 30.2 +0.6
baz=123
CTU Camp Tracy 123.26 23 ePKPdf PKPdf 20 10 31.1 +1.5
DUG Dugway, Tooele 123.27 24 ePKIKP PKPdf 20 10 31.3 +1.7
DUG Dugway, Tooele 123.27 24 ePKPdf PKPdf 20 10 31.3 +1.7
DUG Dugway, Tooele 123.27 24 ⇑PKiKP PKiKP 20 10 30.8 +0.9
baz=123
K22A Casper 123.30 18 ePKPdf PKPdf 20 10 31.1 +1.5
K22A Casper 123.30 18 ⇓PKiKP PKiKP 20 10 30.3 +0.4
baz=123
J25A Sunshine Ranch 123.37 15 ⇓PKiKP PKiKP 20 10 30.4 +0.5
baz=123
TIN Tinemaha, Big 123.41 30 ⇑PKiKP PKiKP 20 10 31.6 +1.4
baz=123
LONY Lake Ozonia 123.42 350 ePKPdf PKPdf 20 10 29.7 +0.1
I28A Midland 123.42 13 ⇓PKiKP PKiKP 20 10 30.6 +0.7
baz=123
BRSD Miller 123.44 11 ePKPdf PKPdf 20 10 30.6 +1.0
BRSD Miller 123.44 11 ⇓PKiKP PKiKP 20 10 30.9 +1.0
baz=123
JLU Jordanelle 123.45 23 ePKPdf PKPdf 20 10 32.5 +2.4
K23A Bowen Ranch, D 123.47 17 ⇓PKiKP PKiKP 20 10 30.7 +0.5
baz=123
RCTC Rector, Farmer 123.47 32 ⇓PKiKP PKiKP 20 10 31.0 +0.8
baz=123
SPMN Marine on St. 123.53 5 ePKPdf PKPdf 20 10 30.3 +0.5
SPMN Marine on St. 123.53 5 ⇓PKiKP PKiKP 20 10 30.7 +0.7
baz=123
I29A Vivian Onida 123.58 12 ⇑PKiKP PKiKP 20 10 31.0 +0.8
baz=123
J26A Sides Ranch, S 123.63 15 ⇓PKiKP PKiKP 20 10 31.5 +1.1
baz=124
R11A Troy Canyon, C 123.63 27 ePKPdf PKPdf 20 10 32.4 +2.0
R11A Troy Canyon, C 123.63 27 ⇓PKiKP PKiKP 20 10 31.5 +0.8
baz=124
K24A Anderson Ranch 123.73 16 ⇑PKiKP PKPdf 20 10 30.6 +0.1
baz=124
MDV Middlebury 123.76 349 ePKPdf PKPdf 20 10 30.7 +0.4
NLU North Lily Min 123.77 24 ePKPdf PKPdf 20 10 32.5 +1.8
SMMC Simmler 123.84 33 ⇓PKiKP PKiKP 20 10 31.9 +0.9
baz=124
I30A Oacoma 123.86 11 ⇓PKiKP PKiKP 20 10 31.3 +0.5
baz=124
HNH Hanover 123.86 348 ePKPdf PKPdf 20 10 31.8 +1.4
GRAC Grapevine Rang 123.88 30 ⇑PKiKP PKiKP 20 10 32.1 +1.1
baz=124
VES Vestal, Richgr 123.92 32 ⇓PKiKP PKiKP 20 10 31.3 +0.3
baz=124
J27A Elkhorn Farm, 123.94 14 ⇓PKiKP PKiKP 20 10 31.5 +0.4
baz=124
J28A Allard Ranch, 123.96 13 ⇓PKiKP PKiKP 20 10 31.5 +0.5
baz=124
CWC Cottonwood Cre 123.97 31 ⇑PKiKP PKiKP 20 10 32.4 +1.0
baz=124
NCB Newcomb 123.98 349 ePKPdf PKPdf 20 10 31.6 +0.9
K25A Mack Ranch, Ha 124.08 16 ⇑PKiKP PKiKP 20 10 32.0 +0.6
baz=124
J29A Okreek 124.17 12 ⇑PKiKP PKiKP 20 10 32.1 +0.7
baz=124
K26A Motz Farm, Whi 124.18 15 ⇓PKiKP PKiKP 20 10 32.0 +0.5
baz=124
GLMI Grayling 124.21 359 ePKPdf PKPdf 20 10 31.8 +0.7
PKM Mcpherson Peak 124.25 33 ⇓PKiKP PKiKP 20 10 33.0 +1.0
baz=124
DAC Darwin (Calif) 124.34 31 ePKIKP PKPdf 20 10 32.9 +1.0
DAC Darwin (Calif) 124.34 31 ePKPdf PKPdf 20 10 32.9 +1.0
ISA Isabella, Lake 124.37 32 ⇑PKiKP PKiKP 20 10 33.0 +1.0
baz=124
N20A Spence Gulch, 124.39 20 ⇑PKiKP PKiKP 20 10 33.1 +0.9
baz=124
K27A Flueckinger Fa 124.41 14 ⇑PKiKP PKiKP 20 10 32.1 +0.1
baz=124
J30A Dallas 124.42 12 ⇓PKiKP PKiKP 20 10 32.4 +0.5
baz=124
ACCN Adirondack Com 124.45 349 ePKPdf PKPdf 20 10 31.7 +0.1
TPNV Topopah Spring 124.46 29 ⇑PKiKP PKiKP 20 10 33.1 +0.7
baz=124
L25A Engebretsen Ra 124.48 16 ⇑PKiKP PKiKP 20 10 32.9 +0.7
baz=124
ECSD EROS Data Cent 124.53 9 ⇓PKiKP PKiKP 20 10 32.9 +0.8
baz=124
FURC Furnace Creek, 124.55 30 ⇓PKiKP PKiKP 20 10 33.5 +1.2
baz=124
MPMC Manual Prospec 124.56 31 ⇓PKiKP PKiKP 20 10 33.5 +0.9
baz=124
ARVC Arvin 124.60 32 ⇑PKiKP PKiKP 20 10 33.6 +1.2
baz=125
K28A Ten Mile Ranch 124.60 13 ⇓PKiKP PKiKP 20 10 33.3 +1.0
baz=124
SBC Santa Barbara 124.65 34 ⇑PKiKP PKiKP 20 10 33.6 +1.1
baz=125
TMUT Trail Mountain 124.68 23 ePKPdf PKPdf 20 10 35.4 +2.8
K29A Lazy Trails An 124.79 13 ⇓PKiKP PKiKP 20 10 33.2 +0.5
baz=125
L26A Underwood Farm 124.83 15 ⇑PKiKP PKiKP 20 10 33.4 +0.6
baz=125
HRV Adam Dziewonsk 124.85 347 ePKIKP PKPdf 20 10 33.6 +1.3
HRV Adam Dziewonsk 124.85 347 ePKPdf PKPdf 20 10 33.6 +1.3
PHWY Pilot Hill 124.86 17 ePKPdf PKPdf 20 10 34.1 +1.2
LRMC Laurel Mtn Rad 124.91 31 ⇓PKiKP PKiKP 20 10 34.0 +0.7
baz=125
MVU Marysvale 124.96 25 ePKPdf PKPdf 20 10 34.8 +1.8
MSU Marysvale 124.96 25 ePKIKP PKPdf 20 10 34.5 +1.5
MSU Marysvale 124.96 25 ePKPdf PKPdf 20 10 34.5 +1.5
L27A T5 Ranch, Ells 124.97 14 ⇓PKiKP PKiKP 20 10 33.6 +0.4
baz=125
N22A Wattenberg Ran 125.01 19 ⇓PKiKP PKiKP 20 10 34.3 +0.8
baz=125
K30A Basset 125.02 12 ⇑PKiKP PKiKP 20 10 34.0 +0.9
baz=125
BSC Santa Cruz Isl 125.03 34 ⇑PKiKP PKiKP 20 10 33.3 0.0
baz=125
O20A White River Ci 125.03 20 ePKPdf PKPdf 20 10 30.8 -2.3
O20A White River Ci 125.03 20 ⇓PKiKP PKiKP 20 10 33.9 +0.5
baz=125
OSI Osito Audit: C 125.05 33 ⇓PKiKP PKiKP 20 10 34.6 +1.2
baz=125
TRY Troy 125.08 349 ePKPdf PKPdf 20 10 34.5 +1.7
N23A Red Feather La 125.08 18 ⇓PKiKP PKiKP 20 10 34.0 +0.4
baz=125
M25A Palm-Egli Farm 125.13 16 ⇑PKiKP PKiKP 20 10 34.4 +0.8
baz=125
EDW2 Edwards Air Fo 125.22 32 ⇑PKiKP PKiKP 20 10 35.0 +1.3
baz=125
L28A Connealy Angus 125.24 14 ⇑PKiKP PKiKP 20 10 34.3 +0.6
baz=125
BLG Laguna Peak, P 125.25 33 ⇑PKiKP PKiKP 20 10 34.9 +1.1
baz=125
SHOC Shoshone, Teco 125.28 30 ⇓PKiKP PKiKP 20 10 34.9 +1.1
baz=125
SHPR Sheep Range 125.33 28 ePKPdf PKPdf 20 10 35.7 +2.0
M26A McRoberts Ranc 125.35 15 ⇓PKiKP PKPdf 20 10 33.7 +0.1
baz=125
L29A Maesberg Ranch 125.42 13 ⇓PKiKP PKiKP 20 10 33.9 -0.1
baz=125
M27A Reverse DX Ran 125.48 15 ⇓PKiKP PKiKP 20 10 34.0 -0.1
baz=125
GSC Goldstone, Bar 125.50 31 ePKIKP PKPdf 20 10 36.1 +2.1
GSC Goldstone, Bar 125.50 31 ePKPdf PKPdf 20 10 36.1 +2.1
GSC Goldstone, Bar 125.50 31 ⇓PKiKP PKiKP 20 10 35.1 +0.7
baz=125
DECC Green Verdugo 125.53 33 ⇑PKiKP PKiKP 20 10 34.9 +0.5
baz=126
O22A Kremmling 125.56 19 ⇓PKiKP PKiKP 20 10 34.8 +0.2
baz=126
L31A Butterfield Fa 125.65 11 ⇑PKiKP PKiKP 20 10 34.7 +0.3
baz=126
L30A Spencer Herefo 125.69 12 ⇓PKiKP PKiKP 20 10 34.5 0.0
baz=126
O23A Lake Granby, G 125.72 18 ⇓PKiKP PKiKP 20 10 35.4 +0.5
baz=126
RRX Edison Barstow 125.73 31 ⇑PKiKP PKiKP 20 10 35.6 +0.9
baz=126
TUQ Turquoise Moun 125.83 30 ⇓PKiKP PKiKP 20 10 35.9 +0.9

	baz=126								
M28A	Bar X Bar Ranc	125.85	14	⇑PKiKP	PKiKP	20 10 34.9	0.0		
	baz=126								
BFSC	Mount Baldy Ra	125.89	32	⇓PKiKP	PKiKP	20 10 35.6	+0.3		
	baz=126								
N26A	Koester Ranch,	125.92	16	⇓PKiKP	PKiKP	20 10 35.2	+0.2		
	baz=126								
FMP	Fort Macarthur	125.96	33	⇓PKiKP	PKiKP	20 10 35.7	+0.5		
	baz=126								
M29A	Burnside Ranch	125.97	13	⇑PKiKP	PKiKP	20 10 35.2	+0.1		
	baz=126								
P22A	Eagle	126.01	19	⇓PKiKP	PKiKP	20 10 35.8	+0.4		
	baz=126								
BINY	Binghamton	126.01	350	ePKPdf	PKPdf	20 10 35.1	+0.4		
JFWS	Jewell Farm	126.02	4	ePKIKP	PKPdf	20 10 33.8	-0.8		
JFWS	Jewell Farm	126.02	4	ePKPdf	PKPdf	20 10 33.8	-0.8		
M30A	Dale-Ortello V	126.06	13	⇓PKiKP	PKiKP	20 10 35.5	+0.2		
	baz=126								
HEC	Hector,Ludlow	126.11	31	⇑PKiKP	PKiKP	20 10 36.3	+0.8		
	baz=126								
OGNE	Ogallala	126.12	15	⇓PKiKP	PKiKP	20 10 35.7	+0.3		
	baz=126								
N27A	Anderson Farm,	126.12	15	⇑PKiKP	PKiKP	20 10 35.7	+0.3		
	baz=126								
CIS	Catalina Islan	126.14	33	⇓PKiKP	PKiKP	20 10 36.0	+0.5		
	baz=126								
ISCO	Idaho Springs	126.19	18	ePKIKP	PKPdf	20 10 37.3	+1.8		
ISCO	Idaho Springs	126.19	18	ePKPdf	PKPdf	20 10 37.3	+1.8		
ISCO	Idaho Springs	126.19	18	⇓PKiKP	PKiKP	20 10 36.3	+0.4		
	baz=126								
BBRC	Big Bear Solar	126.26	31	⇑PKiKP	PKiKP	20 10 36.1	+0.1		
	baz=126								
SMCO	Snowmass	126.31	20	ePKPdf	PKPdf	20 10 37.4	+1.5		
SCI	San Clemente I	126.39	34	⇓PKiKP	PKiKP	20 10 36.5	+0.5		
	baz=126								
M31A	Lambtecht Ranc	126.43	12	⇓PKiKP	PKiKP	20 10 36.1	+0.1		
	baz=126								
O26A	Horse Wrangler	126.44	16	⇑PKiKP	PKiKP	20 10 36.4	+0.2		
	baz=126								
GMRC	Granite Mounta	126.48	30	⇑PKiKP	PKiKP	20 10 37.5	+1.2		
	baz=126								
N28A	Pribbeno Ranch	126.48	14	⇑PKiKP	PKiKP	20 10 36.3	+0.2		
	baz=126								
P23A	Jefferson	126.50	19	⇑PKiKP	PKiKP	20 10 37.0	+0.4		
	baz=126								
BGNE	Belgrade	126.52	11	ePKPdf	PKPdf	20 10 37.0	+1.3		
BGNE	Belgrade	126.52	11	⇑PKiKP	PKiKP	20 10 36.0	-0.2		
	baz=126								
N29A	Votaw Ranch, W	126.57	13	⇓PKiKP	PKiKP	20 10 36.5	+0.2		
	baz=126								
MURC	Murrieta	126.63	32	⇓PKiKP	PKiKP	20 10 37.5	+0.9		
	baz=127								
AAM	Ann Arbor	126.69	358	ePKIKP	PKPdf	20 10 36.4	+0.5		
AAM	Ann Arbor	126.69	358	ePKPdf	PKPdf	20 10 36.4	+0.5		
N30A	Hueftle Ranch,	126.72	13	⇓PKiKP	PKiKP	20 10 36.9	+0.3		
	baz=127								
O27A	Beecher Island	126.72	15	⇓PKiKP	PKiKP	20 10 36.8	+0.1		
	baz=127								
SCIA	State Center	126.77	6	ePKPdf	PKPdf	20 10 36.2	+0.1		
N31A	Bailey Ranch,	126.93	12	⇑PKiKP	PKiKP	20 10 36.9	-0.1		
	baz=127								
BELC	Belle Mtn. Jos	126.93	31	⇑PKiKP	PKiKP	20 10 38.2	+0.8		
	baz=127								
Q23A	Hartsel	126.93	19	⇑PKiKP	PKiKP	20 10 37.6	+0.2		
	baz=127								
O28A	Krutsinger Ran	126.96	15	⇓PKiKP	PKiKP	20 10 37.3	+0.2		
	baz=127								
PFO	Pinyon Flats O	127.01	32	ePKIKP	PKPdf	20 10 40.0	+3.0		
PFO	Pinyon Flats O	127.01	32	ePKPdf	PKPdf	20 10 40.0	+3.0		
PFO	Pinyon Flats O	127.01	32	⇓PKiKP	PKiKP	20 10 37.9	+0.5		
	baz=127								
P26A	Davis Ranch, A	127.07	16	⇓PKiKP	PKiKP	20 10 37.6	+0.1		
	baz=127								
ALLY	Alegheny Colle	127.09	354	ePKPdf	PKPdf	20 10 37.8	+1.1		
Q24A	Divide	127.09	18	⇓PKiKP	PKPdf	20 10 37.1	-0.1		
	baz=127								
N32A	Stulken Farm,	127.12	11	⇑PKiKP	PKiKP	20 10 37.2	-0.1		
	baz=127								
O29A	4D Ranch, Culb	127.19	14	⇑PKiKP	PKPdf	20 10 37.3	+0.2		
	baz=127								
IRM	Iron Mountain	127.23	30	⇓PKiKP	PKiKP	20 10 38.6	+0.8		
	baz=127								
109C	Camp Elliot, M	127.23	33	⇑PKiKP	PKiKP	20 10 38.2	+0.5		
	baz=127								
P27A	Ficken Ranch,	127.28	16	⇓PKiKP	PKiKP	20 10 37.7	-0.1		
	baz=127								
O30A	MW Ranch, Wils	127.31	13	⇑PKiKP	PKPdf	20 10 37.4	+0.1		
	baz=127								
N34A	Lincoln	127.37	10	⇓PKiKP	PKiKP	20 10 37.6	-0.2		
	baz=127								
BC3	Big Chuckawall	127.48	31	⇑PKiKP	PKiKP	20 10 39.3	+0.9		
	baz=127								
N35A	Tabor	127.48	9	⇑PKiKP	PKiKP	20 10 38.3	+0.3		
	baz=127								
P28A	Saint Francis	127.48	15	⇑PKiKP	PKPdf	20 10 38.0	+0.3		
	baz=127								
O31A	Woolen Ranch,	127.50	13	⇑PKiKP	PKiKP	20 10 38.1	0.0		
	baz=127								
MVCO	Mesa Verde	127.53	22	ePKPdf	PKPdf	20 10 39.4	+1.4		
MVCO	Mesa Verde	127.53	22	⇑PKiKP	PKiKP	20 10 39.1	+0.5		
	baz=127								
R23A	Moffat	127.59	19	⇑PKiKP	PKiKP	20 10 38.9	+0.2		
	baz=128								
MONP	Monument Peak,	127.59	32	⇑PKiKP	PKiKP	20 10 39.5	+0.8		
	baz=128								
PDMCI	Parker Dam,Lak	127.61	29	⇓PKiKP	PKiKP	20 10 39.7	+1.2		
	baz=128								
O32A	Brockman Farm,	127.61	12	⇑PKiKP	PKiKP	20 10 38.3	0.0		
	baz=128								
Q26A	Hugo	127.62	17	⇓PKiKP	PKiKP	20 10 38.6	0.0		
	baz=128								
S22A	4UR Ranch, Cre	127.65	21	⇓PKiKP	PKiKP	20 10 39.7	+0.8		
	baz=128								
P29A	Atwood	127.66	14	⇑PKiKP	PKiKP	20 10 38.5	0.0		
	baz=128								
KSCO	Kaye Shedlock'	127.78	16	⇑PKiKP	PKiKP	20 10 38.9	0.0		
	baz=128								
SSPA	Standing Stone	127.83	352	ePKPdf	PKPdf	20 10 38.6	+0.5		
WUAZ	Wupatki	127.85	26	ePKPdf	PKPdf	20 10 40.5	+1.9		
WUAZ	Wupatki	127.85	26	⇑PKiKP	PKiKP	20 10 39.6	+0.5		
	baz=128								
Y12C	Blythe	127.86	30	⇑PKiKP	PKiKP	20 10 39.9	+0.9		
	baz=128								
SWSC	Sam W. Stewart	127.87	32	⇓PKiKP	PKiKP	20 10 39.9	+0.9		
	baz=128								
P30A	Selden	127.88	14	⇓PKiKP	PKiKP	20 10 39.1	+0.1		
	baz=128								
O33A	Hebron	127.92	11	⇑PKiKP	PKPdf	20 10 38.6	+0.3		
	baz=128								
IBP	Imperial Bould	127.94	32	⇑PKiKP	PKiKP	20 10 40.2	+0.9		
	baz=128								
Q28A	Sharon Springs	127.94	15	⇓PKiKP	PKiKP	20 10 39.3	+0.2		
	baz=128								
S23A	Nye Farm, Mont	127.97	20	⇑PKiKP	PKiKP	20 10 39.5	+0.1		
	baz=128								
O35A	Humboldt	128.02	9	⇑PKiKP	PKiKP	20 10 39.1	-0.1		
	baz=128								
P31A	Stockton	128.09	13	⇓PKiKP	PKiKP	20 10 39.6	+0.2		
	baz=128								
SDCO	Great Sand Dun	128.10	19	ePKPdf	PKPdf	20 10 41.0	+1.9		
SDCO	Great Sand Dun	128.10	19	⇓PKiKP	PKiKP	20 10 39.8	0.0		
	baz=128								
P32A	Huiting Farm,	128.16	12	⇑PKiKP	PKiKP	20 10 39.3	-0.1		
	baz=128								
R26A	Arlington	128.22	17	⇓PKiKP	PKiKP	20 10 39.9	+0.1		
	baz=128								
GLA	Glamis	128.28	31	ePKIKP	PKPdf	20 10 42.0	+2.7		
GLA	Glamis	128.28	31	ePKPdf	PKPdf	20 10 42.0	+2.7		
GLA	Glamis	128.28	31	⇓PKiKP	PKiKP	20 10 40.5	+0.6		
	baz=128								
O36A	Bolckow	128.30	8	⇑PKiKP	PKiKP	20 10 39.5	-0.2		
	baz=128								
Q29A	Oakley	128.32	15	⇑PKiKP	PKiKP	20 10 40.0	+0.2		
	baz=128								
R27A	Eads	128.41	17	⇓PKiKP	PKiKP	20 10 40.0	-0.1		
	baz=128								
Q30A	Quinter	128.42	14	⇓PKiKP	PKPdf	20 10 39.6	+0.2		
	baz=128								
HDIL	Hopedale	128.42	3	ePKPdf	PKPdf	20 10 40.4	+1.2		
P33A	Williams Farm,	128.52	11	⇑PKiKP	PKiKP	20 10 40.0	-0.2		
	baz=128								
Q31A	Ellis	128.58	13	⇑PKiKP	PKiKP	20 10 40.2	-0.2		
	baz=128								
R28A	Tribune	128.63	16	⇑PKiKP	PKiKP	20 10 40.3	-0.3		
	baz=128								
SFIN	Lafayette	128.67	1	ePKPdf	PKPdf	20 10 40.0	+0.2		
SFIN	Lafayette	128.67	1	⇑PKiKP	PKiKP	20 10 40.2	-0.1		
	baz=128								
R29A	Marienthal	128.72	15	⇓PKiKP	PKiKP	20 10 41.1	+0.4		
	baz=129								
ACSO	Alum Creek Sta	128.72	357	ePKPdf	PKPdf	20 10 40.9	+1.0		
P35A	Duane Minner,	128.73	10	⇓PKiKP	PKiKP	20 10 40.6	+0.1		
	baz=129								
Q32A	Meitler Ranch,	128.78	12	⇓PKiKP	PKiKP	20 10 40.6	-0.1		
	baz=129								
S26A	Kim	128.84	17	⇑PKiKP	PKiKP	20 10 40.9	-0.1		
	baz=129								
W18A	Petrified Fore	128.88	25	ePKPdf	PKPdf	20 10 43.7	+3.2		
W18A	Petrified Fore	128.88	25	⇑PKiKP	PKiKP	20 10 41.9	+0.7		
	baz=129								
Q33A	Connelly Farm,	128.92	12	⇓PKiKP	PKiKP	20 10 41.0	0.0		
	baz=129								
S27A	Las Animas	128.95	17	⇓PKiKP	PKPdf	20 10 40.9	+0.3		
	baz=129								
T25A	Trinidad	129.00	19	⇓PKiKP	PKiKP	20 10 41.2	-0.2		
	baz=129								
KSU1	Kansas State U	129.04	10	ePKPdf	PKPdf	20 10 42.2	+1.7		
KSU1	Kansas State U	129.04	10	⇑PKiKP	PKiKP	20 10 41.0	-0.2		
	baz=129								
R30A	Dighton	129.07	14	⇑PKiKP	PKiKP	20 10 41.3	0.0		
	baz=129								
Q34A	Chapman	129.16	11	⇑PKiKP	PKiKP	20 10 41.5	0.0		
	baz=129								
T26A	Comanche Natio	129.22	18	⇑PKiKP	PKiKP	20 10 42.0	+0.1		
	baz=129								
R31A	Burdett	129.24	13	⇑PKiKP	PKiKP	20 10 41.8	+0.1		
	baz=129								
R32A	Long Quarter,	129.29	13	⇑PKiKP	PKiKP	20 10 41.6	-0.2		
	baz=129								
S28A	Manter	129.31	16	⇑PKiKP	PKiKP	20 10 41.8	-0.1		
	baz=129								
Q36A	Arnold C. Orve	129.37	9	⇑PKiKP	PKPdf	20 10 41.5	+0.4		
	baz=129								
Q35A	Lee Eighty,	129.38	10	⇑PKiKP	PKiKP	20 10 41.6	-0.3		
	baz=129								
S29A	Ulysses	129.49	15	⇑PKiKP	PKiKP	20 10 42.0	-0.2		
	baz=129								
R33A	Olander Ranch,	129.55	12	⇓PKiKP	PKiKP	20 10 42.3	+0.1		
	baz=129								
T27A	Campo	129.58	17	⇑PKiKP	PKiKP	20 10 42.6	0.0		
	baz=130								
Q37A	Longview Farm,	129.60	8	⇓PKiKP	PKPdf	20 10 41.7	+0.1		
	baz=129								
S30A	Montezuma	129.63	15	⇑PKiKP	PKiKP	20 10 42.5	0.0		
	baz=130								
T28A	Walsh	129.69	16	⇓PKiKP	PKiKP	20 10 42.4	-0.3		
	baz=130								
R34A	Isabella, Hill	129.70	11	⇑PKiKP	PKiKP	20 10 42.4	-0.2		
	baz=130								
R35A	Emporia Munici	129.87	10	⇓PKiKP	PKiKP	20 10 42.8	-0.1		
	baz=130								
RCBR	Riachuelo	129.87	272	SKPbc	SKPab	20 13 53.0	0.0		
	comp=Z,82nm,0.7s,baz=47,slow=2.8,SNR=46								
RCBR	Riachuelo	129.87	272	ePKPdf	PKPdf	20 10 43.5	+0.7		
RCBR				SKPbc	SKPab	20 13 53.0	0.0		
T29A	Hugoton	129.88	16	⇓PKiKP	PKiKP	20 10 43.0	-0.1		
	baz=130								
S31A	Mullinville	129.89	14	⇓PKiKP	PKiKP	20 10 43.0	0.0		
	baz=130								
S32A	Newby Ranch, P	129.94	13	⇑PKiKP	PKiKP	20 10 43.0	-0.1		
	baz=130								
R36A	Gordon, Harris	129.99	9	⇑PKiKP	PKiKP	20 10 42.9	-0.2		
	baz=130								
R37A	Teagarden Farm	130.10	9	⇓PKiKP	PKPdf	20 10 42.7	+0.2		
	baz=130								
U27A	Thompson Grove	130.14	17	⇑PKiKP	PKiKP	20 10 43.5	-0.2		
	baz=130								
214A	Organ Pipe Nat	130.16	30	ePKPdf	PKPdf	20 10 44.3	+1.4		
214A	Organ Pipe Nat	130.16	30	⇓PKiKP	PKiKP	20 10 44.9	+1.2		
	baz=130								
T30A	Plains	130.18	15	⇑PKiKP	PKiKP	20 10 43.5	-0.1		
	baz=130								
S33A	Kaszmaul Farm,	130.24	12	⇑PKiKP	PKiKP	20 10 43.6	0.0		
	baz=130								
OLIL	Olney	130.29	2	ePKPdf	PKPdf	20 10 44.9	+2.1		
S34A	Willow Spring	130.31	11	⇓PKiKP	PKiKP	20 10 43.9	+0.1		
	baz=130								
T31A	Randall Ranch,	130.34	14	⇑PKiKP	PKiKP	20 10 44.0	+0.1		
	baz=130								
U28A	Mallet	130.35	17	⇑PKiKP	PKiKP	20 10 43.9	-0.2		
	baz=130								
T32A	Huddler Ranch,	130.44	13	⇑PKiKP	PKiKP	20 10 44.3	+0.2		
	baz=130								
S35A	Otter Creek Ra	130.47	10	⇓PKiKP	PKiKP	20 10 44.1	-0.1		
	baz=130								
LAZ	Ladron	130.53	23	ePKPdf	PKPdf	20 10 45.8	+2.1		
U29A	Oasis Ranch, S	130.55	16	⇓PKiKP	PKiKP	20 10 44.1	-0.3		
	baz=130								
S36A	Lake Cedric, C	130.56	10	⇓PKiKP	PKPdf	20 10 43.9	+0.4		
	baz=130								
U30A	WK&E Inc. Balk	130.64	15	⇓PKiKP	PKiKP	20 10 44.8	+0.2		
	baz=130								
T33A	Patterson Ranc	130.68	13	⇑PKiKP	PKiKP	20 10 44.6	0.0		
	baz=130								
V27A	Dan Oppiter Fa	130.76	18	⇑PKiKP	PKiKP	20 10 45.0	+0.1		
	baz=131								
LPM	Los Pinos Moun	130.80	22	ePKPdf	PKPdf	20 10 45.8	+1.6		
LENM	Lemitar	130.80	23	ePKPdf	PKPdf	20 10 46.4	+2.2		
WCI	Wyandotte Cave	130.82	360	ePKIKP	PKPdf	20 10 44.4	+0.4		
WCI	Wyandotte Cave	130.82	360	ePKPdf	PKPdf	20 10 44.4	+0.4		
Y22D	IRIS PASSCAL I	130.90	23	⇑PKiKP	PKiKP	20 10 45.6	+0.3		
	baz=131								
V28A	Channing	130.94	17	⇓PKiKP	PKPdf	20 10 44.6	+0.3		
	baz=131								
T34A	McClaskey Farm	130.95	11	⇓PKiKP	PKiKP	20 10 45.0	-0.1		
	baz=131								
U31A	Nine Bar Ranch	130.99	14	⇑PKiKP	PKiKP	20 10 45.1	-0.2		
	baz=131								
V29A	Stinnett	131.03	16	⇑PKiKP	PKiKP	20 10 45.4	0.0		
	baz=131								
T36A	Boggs Farm, Ca	131.16	10	⇓PKiKP	PKiKP	20 10 45.6	+0.1		
	baz=131								
T35A	Sooner Cattle	131.18	11	⇑PKiKP	PKiKP	20 10 45.4	-0.2		
	baz=131								
U32A	Winter Ranch,	131.19	14	⇑PKiKP	PKiKP	20 10 45.6	-0.1		
	baz=131								
T37A	Cheneyville 18	131.25	9	⇓PKiKP	PKiKP	20 10 45.4	-0.3		
	baz=131								
U33A	Lingo Farm, Me	131.33	13	⇓PKiKP	PKiKP	20 10 46.0	0.0		
	baz=131								
V30A	Spur Ranch, Mi	131.35	16	⇓PKiKP	PKiKP	20 10 46.0	0.0		
	baz=131								
W28A	Vega	131.41	17	⇑PKiKP	PKiKP	20 10 46.3	0.0		
	baz=131								
VWCC	Virginia Weste	131.43	353	ePKPdf	PKPdf	20 10 46.0	+0.9		
U34A	Anderson Ranch	131.45	12	⇓PKiKP	PKiKP	20 10 46.4	+0.3		
	baz=131								
V31A	Spring Creek L	131.56	15	⇑PKiKP	PKiKP	20 10 46.9	+0.5		
	baz=131								
W29A	Amarillo	131.70	17	⇓PKiKP	PKiKP	20 10 46.9	+0.1		
	baz=132								
V32A	Arapaho	131.81	14	⇑PKiKP	PKiKP	20 10 46.9	-0.1		
	baz=132								
V33A	Lossen Ranch,	131.88	13	⇑PKiKP	PKiKP	20 10 47.2	+0.2		
	baz=132								
AMTX	Amarillo	131.91	17	⇑PKiKP	PKiKP	20 10 47.1	-0.2		
	baz=132								
121A	Cookes Peak, D	131.92	25	ePKPdf	PKPdf	20 10 48.3	+1.9		
121A				eSKP		20 14 01.3			
121A	Cookes Peak, D	131.92	25	⇓PKiKP	PKiKP	20 10 47.9	+0.5		
	baz=132								
W30A	Crocket Farms	131.93	16	⇑PKiKP	PKiKP	20 10 47.6	+0.4		
	baz=132								
V34A	Guthrie	132.03	12	ePKPdf	PKPdf	20 10 47.7	+1.5		
V34A	Guthrie	132.03	12	⇓PKiKP	PKiKP	20 10 47.5	+0.2		
	baz=132								
W31A	Holland Ranch,	132.09	15	⇓PKiKP	PKiKP	20 10 47.6	+0.1		
	baz=132								
X28A	Dimmitt	132.10	18	⇑PKiKP	PKiKP	20 10 47.8	+0.2		
	baz=132								
V35A	Meyer Ranch, C	132.24	12	⇓PKiKP	PKiKP	20 10 47.8	0.0		
	baz=132								
TUL1	Leonard	132.29	10	ePKPdf	PKPdf	20 10 48.1	+1.4		
TUL1	Leonard	132.29	10	⇑PKiKP	PKiKP	20 10 47.9	0.0		
	baz=132								
X29A	Tulia	132.31	17	⇑PKiKP	PKiKP	20 10 48.1	0.0		
	baz=132								
W32A	Sentinel	132.33	14	⇓PKiKP	PKiKP	20 10 47.7	-0.3		
	baz=132								
MSTX	Muleshoe	132.43	19	ePKPdf	PKPdf	20 10 49.2	+1.9		
MSTX	Muleshoe	132.43	19	⇓PKiKP	PKiKP	20 10 48.1	-0.3		
	baz=132								
W33A	Caddo, Fort Co	132.48	13	⇓PKiKP	PKiKP	20 10 48.4	+0.1		
	baz=132								
X30A	Coker Ranch, T	132.55	16	⇑PKiKP	PKiKP	20 10 48.3	-0.2		
	baz=132								
W34A	Bridge Creek,	132.56	13	ePKPdf	PKPdf	20 10 49.0	+1.7		
W34A				eSKP		20 14 02.4			
W34A	Bridge Creek,	132.56	13	⇓PKiKP	PKiKP	20 10 48.4	0.0		
	baz=132								
X31A	McDonald Ranch	132.61	15	⇓PKiKP	PKiKP	20 10 48.4	-0.2		
	baz=132								
Y28A	McKinney Farm,	132.65	18	⇓PKiKP	PKiKP	20 10 48.5	-0.3		
	baz=132								
WMOK	Wichita Mounta	132.81	14	ePKIKP	PKPdf	20 10 49.2	+1.4		
WMOK	Wichita Mounta	132.81	14	ePKPdf	PKPdf	20 10 49.2	+1.4		
WMOK				eSKP		20 14 03.2			
W35A	Tecumseh	132.82	12	⇓PKiKP	PKiKP	20 10 48.6	-0.3		
	baz=133								
Y29A	Porterfield Fa	132.87	17	⇑PKiKP	PKiKP	20 10 49.2	+0.1		
	baz=133								
W36A	Wetumka	132.96	11	⇑PKiKP	PKiKP	20 10 49.4	+0.2		
	baz=133								
X32A	Elmer	132.99	15	⇓PKiKP	PKiKP	20 10 49.3	0.0		
	baz=133								
X33A	Lawton	133.06	14	⇑PKiKP	PKiKP	20 10 49.3	-0.1		
	baz=133								
Y30A	Stafford Cattl	133.07	17	⇑PKiKP	PKiKP	20 10 49.2	-0.3		
	baz=133								
W37A	Quinton	133.11	10	⇓PKiKP	PKiKP	20 10 49.6	+0.1		
	baz=133								
X34A	Smith Ranch, M	133.16	13	⇑PKiKP	PKiKP	20 10 49.9	+0.2		
	baz=133								
Y31A	Rekieta Farm,	133.17	16	⇑PKiKP	PKiKP	20 10 49.4	-0.3		
	baz=133								
Z28A	Tucker Farm, M	133.18	19	⇓PKiKP	PKiKP	20 10 49.6	-0.3		
	baz=133								
TKL	Tuckaleechee C	133.32	357	PKP	PKPdf	20 10 50.1	+1.4		
	comp=Z,38nm,0.8s,baz=332,slow=3.5								
TKL				PP	PP	20 13 15.1	-0.7		
	comp=Z,40nm,1.2s,baz=351,slow=4.9,SNR=5.1								
TKL				SKPbc	SKPbc	20 14 04.5	-0.5		
	comp=Z,44nm,0.7s,baz=106,slow=2.2,SNR=14								
TKL				SKKPbc	SKKPbc	20 23 17.8	-4.6		
	comp=Z,3.7nm,1.0s,baz=153,slow=4.5,SNR=3.0								
TKL	Tuckaleechee C	133.32	357	ePKPdf	PKPdf	20 10 49.6	+0.9		
TKL				PKP	PKPdf	20 10 50.1	+1.4		
TKL				PP	PP	20 13 15.1	-0.7		
TKL				eSKP	SKPbc	20 14 03.6	-1.4		
TKL				SKPbc	SKPbc	20 14 04.5	-0.5		
TKL				SKKPbc	SKKPbc	20 23 17.8	-4.6		
W38A	Poteau	133.33	9	⇓PKiKP	PKiKP	20 10 49.8	-0.1		
	baz=133								
Y32A	R-V Farms, Ver	133.34	15	⇓PKiKP	PKiKP	20 10 49.7	-0.3		
	baz=133								
Z29A	Hungry Hill Ra	133.42	18	⇓PKiKP	PKiKP	20 10 50.3	0.0		
	baz=133								
X36A	Centrahoma	133.49	11	⇓PKiKP	PKiKP	20 10 50.0	-0.3		
	baz=133								
X35A	Drake	133.53	12	⇑PKiKP	PKiKP	20 10 50.1	-0.3		
	baz=133								
Y33A	Hilltop Ranch,	133.54	14	⇑PKiKP	PKiKP	20 10 50.4	-0.1		
	baz=133								
Z30A	Sanderson Ranc	133.56	17	⇑PKiKP	PKiKP	20 10 50.4	-0.2		
	baz=134								
MNTX	Cornudas Mount	133.60	23	ePKPdf	PKPdf	20 10 51.1	+1.8		
MNTX				eSKP		20 14 05.9			
MNTX	Cornudas Mount	133.60	23	⇓PKiKP	PKiKP	20 10 50.5	-0.1		
	baz=134								
X37A	Clayton	133.65	10	⇓PKiKP	PKiKP	20 10 50.5	-0.1		
	baz=134								
KMSC	Kings Mountain	133.66	354	ePKPdf	PKPdf	20 10 50.5	+1.2		
KMSC	Kings Mountain

238A	Jacksonville	136.22	11	⇓PKiKP	PKiKP	20 10 55.8	-0.1
	baz=136						
239A	Gary	136.32	10	⇑PKiKP	PKiKP	20 10 55.5	-0.6
	baz=136						
TXAR	Lajitas Array	136.36	22	PKhKP	PKPpre	20 10 45.2	
	comp=Z,1.0nm,0.6s,baz=308,slow=1.0,SNR=4.7						
TXAR				PKP	PKiKP	20 10 56.0	-0.4
	comp=Z,11nm,0.8s,baz=198,slow=0.5,SNR=23						
TXAR				PP	PP	20 13 38.0	+2.6
	comp=Z,7.3nm,1.0s,baz=0.0,slow=0.9,SNR=3.9						
TXAR				SKPbc	SKPbc	20 14 15.2	+0.2
	comp=Z,80nm,0.9s,baz=293,slow=1.6,SNR=25						
TXAR				SKKPbc	SKKPbc	20 23 12.8	+1.6
	comp=Z,3.6nm,1.1s,baz=153,slow=8.1,SNR=4.1						
530A	J-C Ranch, Com	136.42	19	⇓PKiKP	PKiKP	20 10 56.3	-0.1
	baz=136						
335A	Moody	136.43	14	⇑PKiKP	PKiKP	20 10 55.8	-0.5
	baz=136						
336A	Riesel	136.47	13	⇑PKiKP	PKiKP	20 10 56.3	-0.1
	baz=136						
433A	Art	136.52	16	⇑PKiKP	PKiKP	20 10 55.8	-0.8
	baz=136						
NATX	Nacogdoches	136.54	10	⇑PKiKP	PKiKP	20 10 55.9	-0.7
	baz=136						
JCT	Junction City	136.58	17	ePKiKP	PKPdf	20 10 57.3	+2.3
JCT	Junction City	136.58	17	ePKPdf	PKPdf	20 10 57.3	+2.3
JCT				eSKP		20 14 15.3	
JCT	Junction City	136.58	17	⇓PKiKP	PKiKP	20 10 56.4	-0.4
	baz=136						
531A	Rocksprings	136.65	18	⇑PKiKP	PKiKP	20 10 56.4	-0.5
	baz=137						
434A	Burnet	136.68	15	⇓PKiKP	PKiKP	20 10 56.2	-0.7
	baz=137						
337A	Centerville	136.74	12	⇓PKiKP	PKiKP	20 10 56.3	-0.7
	baz=137						
338A	Crockett	136.81	11	⇑PKiKP	PKiKP	20 10 56.4	-0.7
	baz=137						
435B	Jarrell	136.87	14	⇑PKiKP	PKPdf	20 10 56.4	+0.9
	baz=137						
532A	Rocksprings	136.88	17	⇑PKiKP	PKiKP	20 10 56.7	-0.7
	baz=137						
339A	Huntington	136.97	10	⇓PKiKP	PKiKP	20 10 57.1	-0.4
	baz=137						
340A	Bronson	137.00	9	⇑PKiKP	PKiKP	20 10 56.9	-0.6
	baz=137						
436A	Wall Ranch, Ga	137.07	13	⇓PKiKP	PKiKP	20 10 57.1	-0.5
	baz=137						
437A	Phantom Ranch,	137.16	12	⇓PKiKP	PKiKP	20 10 57.3	-0.5
	baz=137						
533A	Kerrville	137.18	16	⇑PKiKP	PKiKP	20 10 57.3	-0.6
	baz=137						
631A	Perdido Creek	137.34	18	⇓PKiKP	PKiKP	20 10 57.5	-0.7
	baz=137						
534A	Blanco	137.37	16	⇓PKiKP	PKPdf	20 10 57.3	+0.9
	baz=137						
438A	Sam Houston St	137.37	12	⇓PKiKP	PKiKP	20 10 58.0	-0.2
	baz=137						
439A	Center Grove,	137.46	11	⇓PKiKP	PKiKP	20 10 58.2	-0.2
	baz=137						
632A	Uvalde	137.50	17	⇓PKiKP	PKiKP	20 10 58.2	-0.4
	baz=137						
TIGA	Tifton	137.51	357	ePKPdf	PKPdf	20 10 57.9	+1.3
TIGA	Tifton	137.51	357	⇓PKiKP	PKiKP	20 10 58.5	-0.1
	baz=137						
535A	Dale	137.60	14	⇓PKiKP	PKiKP	20 10 58.5	-0.3
	baz=138						
536A	Bastrop	137.68	14	⇓PKiKP	PKiKP	20 10 58.4	-0.5
	baz=138						
633A	Saathoff Ranch	137.72	17	⇑PKiKP	PKiKP	20 10 58.7	-0.3
	baz=138						
LPIG	La Paz	137.81	34	SKPbc	SKPbc	20 14 19.8	+0.5
	comp=Z,27nm,0.3s,baz=353,slow=3.0,SNR=6.8						
537A	Green Hill Far	137.84	13	⇓PKiKP	PKiKP	20 10 58.8	-0.5
	baz=138						
538A	Harpers Horsep	137.88	12	⇓PKiKP	PKiKP	20 10 59.3	0.0
	baz=138						
634A	China Grove, S	138.01	16	⇓PKiKP	PKiKP	20 10 59.0	-0.6
	baz=138						
HKT	Hockley	138.07	12	ePKiKP	PKPdf	20 10 58.8	+1.2
HKT	Hockley	138.07	12	ePKPdf	PKPdf	20 10 58.8	+1.2
539A	Cross D Ranch,	138.14	11	⇑PKiKP	PKiKP	20 10 59.6	-0.3
	baz=138						
635A	Leesville	138.16	15	⇓PKiKP	PKiKP	20 10 59.1	-0.8
	baz=138						
732A	Laxson Ranch,	138.17	18	⇑PKiKP	PKiKP	20 10 59.0	-0.9
	baz=138						
636A	Smothers Creek	138.25	14	⇓PKiKP	PKiKP	20 10 59.8	-0.3
	baz=138						
733A	Divot King Ran	138.38	17	⇑PKiKP	PKiKP	20 11 00.0	-0.3
	baz=138						
734A	La Parita Cree	138.47	16	⇓PKiKP	PKiKP	20 11 00.1	-0.5
	baz=138						
832A	Faith Ranch, C	138.58	18	⇑PKiKP	PKiKP	20 11 00.3	-0.5
	baz=138						
735A	Kenedy	138.66	15	⇑PKiKP	PKiKP	20 11 00.7	-0.3
	baz=139						
833A	Chaparral WMA,	138.72	18	⇑PKiKP	PKiKP	20 11 00.7	-0.4
	baz=139						
736A	Circle Diamond	138.75	14	⇑PKiKP	PKiKP	20 11 00.7	-0.4
	baz=139						
834A	Tilden	139.15	17	⇑PKiKP	PKiKP	20 11 01.3	-0.7
	baz=139						
738A	Farr-Stevens R	139.18	13	⇑PKiKP	PKiKP	20 11 02.0	0.0
	baz=139						
835A	Beeville	139.19	16	⇓PKiKP	PKiKP	20 11 01.9	-0.2
	baz=139						
933A	Laredo	139.42	18	⇓PKiKP	PKiKP	20 11 02.2	-0.4
	baz=139						
934A	Benavides	139.65	17	⇓PKiKP	PKiKP	20 11 02.7	-0.3
	baz=140						
034A	Hebbronville	140.11	17	⇑PKiKP	PKiKP	20 11 03.6	-0.4
	baz=140						
936A	North Padre Is	140.15	15	⇓PKiKP	PKiKP	20 11 03.4	-0.7
	baz=140						
035A	Encino	140.40	17	⇑PKiKP	PKiKP	20 11 03.9	-0.6
	baz=140						
CHRN	Cochrane	142.38	195	eP	PKPdf	20 11 07.3	+2.4
BDFB	Brasilia	142.49	259	PKhKP	PKPpre	20 11 02.9	
	comp=Z,28nm,0.8s,baz=118,slow=3.9,SNR=14						
BDFB				SKPbc	SKPbc	20 14 31.0	-1.0
	comp=Z,65nm,0.9s,baz=130,slow=6.3,SNR=7.6						
BDFB				SKKPbc	SKKPab	20 22 48.5	+0.1
	comp=Z,5.9nm,0.8s,baz=331,slow=10,SNR=3.1						
H05N1	Guadeloupe/Mar	142.93	317	PKP	PKPdf	20 11 03.7	-3.1
	SNR=11						
SSG	Sans Toucher	143.51	318	eP	PKPdf	20 11 07.5	-0.4
DOG	Dongo Capester	143.51	317	eP	PKPbc	20 11 06.0	+0.5
ECG	Echelle	143.53	317	eP	PKPdf	20 11 07.5	-0.5
TAG	Tarade	143.53	318	eP	PKPdf	20 11 08.3	+0.4
LZG	Guadaloupe-1	143.53	318	eP	PKPbc	20 11 06.5	+1.0
PHG	Guadaloupe-2	143.54	317	eP	PKPdf	20 11 07.1	-0.9
MLG	Mont-d'or	143.55	318	eP	PKPbc	20 11 06.8	+1.2
TBG	Guadaloupe-3	143.66	317	eP	PKPdf	20 11 07.3	-0.7
BBL	Barber's Block	143.77	317	eP	PKPdf	20 11 07.9	-0.4
STVI	Saint Thomas	143.82	324	ePKPdf	PKPbc	20 11 06.8	+0.6
SVN	Savane Anatole	144.05	316	eP	PKPdf	20 11 08.8	0.0
MVM	Montagne Vaucl	144.06	315	eP	PKPdf	20 11 08.7	-0.1
LPMF	Morne Lapointe	144.09	315	eP	PKPdf	20 11 08.5	-0.4
H05S1	Guadeloupe/Mar	144.11	315	PKP	PKPdf	20 11 08.6	-0.2
	SNR=63						
FDF	Fort de France	144.11	315	eP	PKPdf	20 11 09.1	+0.2
FDF	Fort de France	144.11	315	ePKIKP	PKPbc	20 11 08.0	+0.8
FDF	Fort de France	144.11	315	ePKPdf	PKPbc	20 11 08.0	+0.7
ZAM	Aeronautique	144.14	315	eP	PKPdf	20 11 09.3	+0.5
TRMF	Trois Ilets	144.18	315	eP	PKPdf	20 11 09.1	+0.2
CDVI	St. Croix	144.19	323	ePKPdf	PKPdf	20 11 08.8	-0.1
BIM	Bigot	144.21	315	eP	PKPdf	20 11 09.8	+0.7
GRTK	Grand Turk	144.21	335	ePKPdf	PKPdf	20 11 08.4	-0.4
MCLT	Moule a Chique	144.67	314	e	PKPbc	20 11 09.3	+0.3
SJG	San Juan	144.69	325	ePKIKP	PKPdf	20 11 09.6	-0.2
SJG	San Juan	144.69	325	ePKPdf	PKPdf	20 11 09.6	-0.2
AGPR	Aguadilla, PR	144.93	327	ePKPdf	PKPdf	20 11 11.3	+1.1
OBIP	Obispado Ponce	145.00	326	ePKPdf	PKPdf	20 11 10.7	+0.4
ICMP	Isla Caja de M	145.09	326	ePKPdf	PKPdf	20 11 10.9	+0.4
SVV	Soufriere Volc	145.13	314	e	PKPdf	20 11 12.2	+1.5
SVB	Belmont	145.19	314	e	PKPdf	20 11 11.8	+1.0
FCV	Fort Charlotte	145.26	314	e	PKPab	20 11 13.0	+2.0
CRPR	Cabo Rojo, PR	145.31	327	ePKPdf	PKPab	20 11 12.2	+1.1
SMN1	Samana, DR	145.42	331	ePKPdf	PKPab	20 11 12.9	+1.4
TRQA	Tornquist	145.50	215	eP	PKPbc	20 11 11.1	+0.1
TRQA	Tornquist	145.50	215	ePKPdf	PKPbc	20 11 11.1	+0.1
PCDR	Punta Cana, DR	145.55	329	ePKPdf	PKPab	20 11 13.6	+1.6
TOSP	Speyside	145.97	310	e	PKPab	20 11 13.5	-0.2
GRW	Mount Saint Ca	146.23	313	e	PKPab	20 11 16.0	+1.2
GRGR	Grenville	146.25	313	ePKPdf	PKPab	20 11 14.5	-0.2
SDDR	Presa de Saban	146.52	334	ePKPdf	PKPab	20 11 15.5	-0.3
HUNY	Huinay	146.65	199	eP	PKPbc	20 11 14.4	+0.2
TBH	Brigand Hill	146.89	310	e	PKPbc	20 11 15.4	-0.3
TRN	Trinidad (W)	147.04	310	e	PKPab	20 11 18.6	+0.7
GTBY	Guantanamo Bay	147.14	340	ePKPbc	PKPbc	20 11 17.0	+0.8
TPP	Pointe-a-Pierr	147.29	310	e	PKPab	20 11 19.4	+0.5
PLCA	Paso Flores	147.46	203	PKPbc	PKPdf	20 11 15.3	+1.4
	comp=Z,193nm,0.9s,baz=48,slow=0.7,SNR=59						
PLCA				PP	PP	20 14 43.6	+1.0
	comp=Z,17nm,1.1s,baz=134,slow=3.6,SNR=3.5						
PLCA	Paso Flores	147.46	203	eP	PKPdf	20 11 15.4	+1.4
TEIG	Tepich	148.70	3	PKPbc	PKPbc	20 11 18.6	-1.8
	comp=Z,118nm,0.8s,baz=80,slow=1.5,SNR=7.3						
TEIG				pPKPbc	pPKPbc	20 11 55.2	-0.2
	comp=Z,148nm,0.9s,baz=337,slow=7.3,SNR=4.0						
TEIG	Tepich	148.70	3	ePKPdf	PKPdf	20 11 18.3	+1.8
TEIG				PKPbc	PKPbc	20 11 18.6	-1.8
TEIG				pPKPbc	pPKPbc	20 11 55.2	-0.2
CPUP	Villa Florida	148.78	237	ePKIKP	PKPdf	20 11 17.3	+0.9
CPUP	Villa Florida	148.78	237	ePKPdf	PKPdf	20 11 17.3	+0.9
BBJ	Bamboo Saint A	149.26	343	i P	PKPbc	20 11 24.0	+2.1
GWJ	Greenwich	149.39	342	i P	PKPbc	20 11 24.1	+1.8
STH	Stony Hill	149.41	342	i P	PKPbc	20 11 24.6	+2.3
HOJ	Hope	149.46	342	i P	PKPbc	20 11 24.5	+2.1
CVJ	Coleyville	149.48	343	i P	PKPbc	20 11 23.8	+1.2
MTDJ	Mount Denham	149.48	343	ePKPdf	PKPdf	20 11 19.2	+1.3
PCRV	Puerto La Cruz	149.71	314	PKP	PKPdf	20 11 18.0	-0.3
	comp=Z,17nm,0.5s,baz=1.4,slow=5.8,SNR=6.1						
PCRV				PKPbc	PKPbc	20 11 22.6	-0.5
	comp=Z,110nm,0.6s,baz=63,slow=1.6,SNR=38						
PCRV				pPKP	pPKPdf	20 11 53.0	-0.7
	comp=Z,58nm,0.7s,baz=6.2,slow=7.7,SNR=2.6						
MCJ	Malvern	149.81	343	i P	PKPbc	20 11 25.2	+1.9
CMIG	Matias Romero	150.64	17	PKP	PKPdf	20 11 21.0	+1.4
	comp=Z,10nm,1.1s,baz=348,slow=3.1,SNR=1.5						
CMIG				PKPbc	PKiKP	20 11 26.5	+0.7
	comp=Z,77nm,0.8s,baz=340,slow=2.9,SNR=6.7						
CMIG				pPKP	pPKPdf	20 11 53.4	-1.6
	comp=Z,58nm,0.8s,baz=356,slow=5.0,SNR=4.0						
CFAA	Coronel Fontan	153.69	217	PKP	PKPdf	20 11 25.0	+1.1
	comp=Z,5.2nm,0.9s,baz=206,slow=0.6,SNR=51						
CFAA				PKPbc	PKiKP	20 11 32.5	+0.7
	comp=Z,12nm,0.9s,baz=119,slow=4.3,SNR=30						
CFAA				PKPab	PKPab	20 11 45.4	+0.5
	comp=Z,19nm,0.8s,baz=133,slow=3.7,SNR=16						
ROCH	El Roble	154.16	211	eP	PKPdf	20 11 26.6	+1.9
SDV	Santo Domingo	154.64	321	ePKPdf	PKPdf	20 11 26.1	+0.3
TGUH	Tegucigalpa,Ún	154.88	2	ePKPdf	PKPdf	20 11 27.3	+1.5
SIV	San Ignacio	154.99	256	PKP	PKPdf	20 11 26.9	+0.8
	comp=Z,17nm,1.1s,baz=87,slow=1.3,SNR=30						
SIV				PKPbc	PKPbc	20 11 36.2	+1.3
	comp=Z,23nm,1.1s,baz=140,slow=2.4,SNR=11						
SIV				PKPab	PKPab	20 11 52.4	+1.5
	comp=Z,44nm,1.0s,baz=119,slow=9.3,SNR=12						
SIV				PP	PP	20 15 27.4	-0.2
	comp=Z,7.1nm,0.8s,baz=93,slow=9.1,SNR=2.4						
TLL	Tololo Astrono	156.24	215	eP	PKPdf	20 11 30.7	+3.1
LCO	Las Campanas	157.04	217	eP	PKPdf	20 11 30.7	+2.0
LCO	Las Campanas	157.04	217	ePKPdf	PKPdf	20 11 29.9	+1.1
SAML	Samuel	157.08	274	ePKPdf	PKPdf	20 11 29.2	+0.4
BCIP	Isla Barro Col	158.75	342	ePKPdf	PKPdf	20 11 31.2	+0.4
LVC	Limon Verde	159.85	234	PKP	PKPdf	20 11 33.7	+1.4
	comp=Z,78nm,0.9s,baz=112,slow=3.8,SNR=24						
LVC				PKPab	PKPab	20 12 13.5	+1.5
	comp=Z,436nm,0.9s,baz=132,slow=1.7,SNR=23						
LVC				PP	PP	20 15 55.9	+2.0
	comp=Z,116nm,1.3s,baz=132,slow=6.6,SNR=8.6						
LVC	Limon Verde	159.85	234	PKP	PKPdf	20 11 33.7	+1.4
LVC				ePKPdf	PKPdf	20 11 33.8	+1.6
LVC				PKPab	PKPab	20 12 13.5	+1.5
LVC				PP	PP	20 15 55.9	+2.0
ROSC	El Rosal	160.05	323	PKP	PKPdf	20 11 34.1	+1.2
	comp=Z,30nm,0.9s,baz=98,slow=3.4,SNR=25						
ROSC				PKPab	PKPab	20 12 14.3	+1.2
	comp=Z,50nm,1.0s,baz=88,slow=11,SNR=8.4						
PB06	IPOC Station P	160.32	232	eP	PKPab	20 12 15.2	+1.3
PB06	IPOC Station P	160.32	232	eP	PKPdf	20 11 34.6	+2.0
PB04	IPOC Station P	160.49	234	eP	PKPab	20 12 17.9	+3.5
PB09	IPOC Station P	160.53	235	eP	PKPab	20 12 16.7	+1.8
PB09	IPOC Station P	160.53	235	eP	PKPdf	20 11 35.3	+2.4
PB10	IPOC Station P	160.61	229	eP	PKPab	20 12 17.3	+2.4
PB10	IPOC Station P	160.61	229	eP	PKPdf	20 11 37.1	+4.4
PB07	IPOC Station P	161.08	234	eP	PKPab	20 12 16.6	-0.7
PB07	IPOC Station P	161.08	234	eP	PKPdf	20 11 36.0	+2.5
PB01	IPOC Station P	161.10	237	eP	PKPab	20 12 15.7	-1.6
PB01	IPOC Station P	161.10	237	eP	PKPdf	20 11 35.3	+1.9
LPAZ	La Paz	161.60	252	PKP	PKPdf	20 11 35.4	+0.6
	comp=Z,28nm,0.9s,baz=54,slow=1.8,SNR=67						
LPAZ				PKPab	PKPab	20 12 16.9	-3.3
	comp=Z,33nm,1.1s,baz=14,slow=7.8,SNR=7.6						
LPAZ				PP	PP	20 16 06.2	+1.8
	comp=Z,7.5nm,1.1s,baz=86,slow=5.8,SNR=3.5						
LPAZ	La Paz	161.60	252	eP	PKPdf	20 11 35.6	+0.9
PATCX	Punta Patache	161.75	236	eP	PKPab	20 12 17.8	-2.3
PATCX	Punta Patache	161.75	236	eP	PKPdf	20 11 37.1	+3.0
PB11	IPOC Station P	161.82	240	eP	PKPdf	20 11 35.8	+1.5
PSGC	Pisagua	162.29	240	eP	PKPab	20 12 18.0	-4.5
OTAV	Otavalo	166.18	325	ePKPdf	PKPdf	20 11 39.7	+0.9
NNA	Nana	170.65	264	PKP	PKPdf	20 11 41.8	+0.6
	comp=Z,42nm,0.9s,baz=293,slow=2.5,SNR=14						
NNA				PKPab	PKPab	20 13 01.2	+1.6
	comp=Z,36nm,1.0s,baz=139,slow=1.9,SNR=5.0						
NNA	Nana	170.65	264	PKiKP	PKPdf	20 11 41.8	+0.6
NNA						20 13 01.2	
NNA				pmax	pmax		
	comp=Z,42nm,0.9s						
NNA				pmax	pmax		
	comp=Z,36nm,1.0s						
NNA	Nana	170.65	264	ePKPdf	PKPdf	20 11 39.9	-1.3
NNA				PKP		20 11 41.8	
NNA				PKPab	PKPab	20 13 01.2	+1.6
ATAH	Atahualpa	171.17	297	PKP	PKPdf	20 11 43.2	+1.3
	comp=Z,20nm,0.9s,baz=22,slow=2.0,SNR=22						
ATAH				PKPab	PKPab	20 13 03.5	+1.2
	comp=Z,39nm,1.0s,baz=79,slow=2.5,SNR=6.4						

*CSEM **31** 20:24:58.5, 43°.22N×20°.88E, h0km, ML1.5*

BEO 31 20:24:58.5±0.3, 43°.22N×20°.88E, h0km, ML1.5/6, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SELS	Selova	0.17	90	eP	g	Pg	Pg	20 25 00.8	-1.1
SELS				eS	g	Sg	Sg	20 25 03.5	-0.8
SELS	Selova	0.17	90	eP	g	Pg	Pg	20 25 00.8	-1.1
SELS				eS	g	Sg	Sg	20 25 03.5	-0.8
IVAS	Ivanjica	0.64	304	eP	g	Pg	Pg	20 25 09.0	-1.9
IVAS				eS	g	Sg	Sg	20 25 18.0	-1.3
IVAS	Ivanjica	0.64	304	eP	g	Pg	Pg	20 25 09.0	-1.9
IVAS				eS	g	Sg	Sg	20 25 18.0	-1.3
SJES	Sjenica	0.66	274	eS	g	Sg	Sg	20 25 18.8	-1.4
BARS	Barje	0.80	120	eP	g	Pg	Pg	20 25 13.3	-0.5
BARS				eS	g	Sg	Sg	20 25 24.6	+0.4
BARS	Barje	0.80	120	eP	g	Pg	Pg	20 25 13.3	-0.5
BARS				eS	g	Sg	Sg	20 25 24.6	+0.4
DIVS	Divibare	1.09	324	eP	g	Pg	Pg	20 25 18.9	-0.7
DIVS				eS	g	Sg	Sg	20 25 33.2	-0.6
DIVS	Divibare	1.09	324	eP	g	Pg	Pg	20 25 18.9	-0.7
DIVS				eS	g	Sg	Sg	20 25 33.2	-0.6
BBLS	Lazići	1.25	302	eS	g	Sg	Sg	20 25 39.0	0.0
BBLS	Lazići	1.25	302	eS	g	Sg	Sg	20 25 39.0	0.0
ZAPS	Zavoj	1.28	87	eP	g	Pg	Pg	20 25 21.8	-1.4
ZAPS				eS	g	Sg	Sg	20 25 39.2	-0.7

*ISCJB **31** 20:54:13.2±1.3, 15°.90S±0°.09×168°.1E±0°.2, h177km, mb3.8/8, Error ellipse: s-maj=28.5km s-min=12.2km az=175.7*

*IDC **31** 20:54:18.1±4.7, 16°.09S×167°.98E, h200km±36km, mb3.5/8, mb1 3.7/9, mb1mx3.4/28, mbtmp4.1/9, MS3.9/1, Ms1 3.9/1, ms1mx3.5/19, Error ellipse: s-maj=40.6km s-min=20.2km az=43.0*

ISC 31 20:54:15.3±1.6, 15°.9S±0°.1×168°.1E±0°.2, h177km, n9, σ1812/10, mb3.6/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.29	194	P		P	Pn	20 55 46.9	+0.8
	1.4nm,0.3s,baz=270,slow=24,SNR=9.6								
DZM				S		S	Sn	20 56 57.9	+0.3
	0.0nm,0.3s,baz=270,slow=24,SNR=1.3								
DZM				LR		LR		20 57 12.5	
	comp=Z,983nm,18.3s,baz=180,slow=28								
CTA	Charters Tower	21.14	256	P		P	P	20 58 48.2	+1.6
	7.6nm,0.6s,baz=86,slow=13,SNR=11								
RPZ	Rata Peaks	27.80	175	P		P	P	20 59 47.4	-0.3
	5.3nm,0.6s,baz=349,slow=5.2,SNR=4.2								
STKA	Stephens Creek	28.82	232	P		P	P	20 59 55.6	-1.4
	1.3nm,0.8s,baz=30,slow=7.9,SNR=4.0								
WRA	Warramunga Arr	32.30	258	P		P	P	21 00 26.5	-1.2
	0.8nm,0.7s,baz=87,slow=8.4,SNR=11								
ASAR	Alice Springs	32.98	251	P		P	P	21 00 33.0	-0.7
	8.3nm,0.5s,baz=78,slow=8.9,SNR=131								
VNDA	Vanda	61.67	182	P		P	P	21 04 13.7	-0.3
	0.6nm,0.9s,baz=40,slow=5.4,SNR=6.2								
CMAR	Chiang Mai Arr	76.14	294	P		P	P	21 05 45.2	+1.0
	0.4nm,0.6s,baz=126,slow=4.7,SNR=5.3								
SONM	Songino Array	83.92	323	P		P	P	21 06 25.5	+0.1
	0.4nm,0.7s,baz=139,slow=5.2,SNR=3.8								

*ISCJB **31** 21:10:40.8±0.8, 31°.45S±0°.03×70°.06W±0°.04, h124km±8km, Error ellipse: s-maj=6.1km s-min=4.7km az=27.2*

*SJA **31** 21:10:40.8±1.6, 31°.44S×69°.97W, h128km±11km, ML3.6*

*GUC **31** 21:10:42.2±0.7, 31°.48S×70°.24W, h115km±10km, ML3.8*

ISC 31 21:10:40.0±1.7, 31°.44S±0°.04×70°.05W±0°.04, h137km±14km, n22, σ0992/40, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RTLS	Leoncito	0.73	119	i P		P	Pn	21 11 01.7	+0.1
RTLS				i S		S	Sn	21 11 19.5	+1.4
AUSP	Uspallata	0.96	144	i P		P	Pn	21 11 04.0	+0.4
AUSP				i S		S	Sn	21 11 20.1	-1.3
SJA	San Juan	1.28	94	i P		P	Pn	21 11 06.5	+0.2
SJA				i S		S	Sn	21 11 25.5	-0.8
SJA				AML		AML		21 11 27.0	
	comp=Z,1μm,0.3s								
RTLL	Cerro Villicun	1.35	86	i P		P	Pn	21 11 07.2	+0.2
RTLL				i S		S	Sn	21 11 26.3	-1.3
RTCV	Cerro Valdivia	1.35	108	i P		P	Pn	21 11 07.5	+0.5
RTCV				i S		S	Sn	21 11 27.1	-0.6
AMOG	MOGNA	1.43	70	i P		P	Pn	21 11 08.5	+0.6
AMOG				i P		P	Pn	21 11 08.5	+0.6
TLL	Tololo Astrono	1.43	333	eP		P	Pn	21 11 09.0	+0.9
TLL				eS		S	Sn	21 11 29.2	-0.3
TLL				AML		AML		21 11 32.3	
	comp=E,3μm,0.5s								
ASAL	Salagasta	1.54	138	i P		P	Pn	21 11 10.0	+0.8
ASAL				i S		S	Sn	21 11 30.8	-0.6
CFAA	Coronel Fontan	1.56	96	i P		P	Pn	21 11 09.4	+0.2
CFAA				i S		S	Sn	21 11 30.7	-0.8
ARCO	CERRO ARCO	1.69	146	i P		P	Pn	21 11 12.2	+1.4
ARCO				i S		S	Sn	21 11 34.8	+0.3
ARCO				AML		AML		21 11 39.9	
	comp=Z,510nm,0.2s								
ROCH	El Roble	1.73	208	eP		P	Pn	21 11 11.6	+0.2
ROCH				eS		S	Sn	21 11 34.1	-1.3
ROCH				AML		AML		21 11 36.9	
	comp=N,834nm,1.1s								
PEL	Peldehue	1.78	197	eP		P	Pn	21 11 12.1	+0.4
PEL				eS		S	Sn	21 11 34.6	-1.6
PEL				AML		AML		21 11 39.2	
	comp=E,1μm,0.1s								
LSCH	La Serena	1.84	326	eP		P	Pn	21 11 13.5	+0.9
LSCH				eS		S	Sn	21 11 36.8	-0.6
LSCH				AML		AML		21 11 39.0	
	comp=N,464nm,3.0s								
AAGR	Agrelo	1.94	148	i P		P	Pn	21 11 15.1	+1.4
CLC

KYTH	Kithira	1.33	78	P	Pn	21 30 29.0	+0.2
KYTH	Kithira	1.33	78	*e*PG	Pn	21 30 29.0	+0.2
KYTH	Kithira	1.33	78	P	Pn	21 30 29.0	+0.2
AMT	Artemida-Makis	1.52	8	P	Pg	21 30 33.0	-0.1
AMT				S	Sg	21 30 53.6	+0.8
AMT	Artemida-Makis	1.52	8	*e*PB	Pg	21 30 33.0	-0.1
AMT	Artemida-Makis	1.52	8	P	Pg	21 30 33.0	-0.1
AMT				S	Sg	21 30 53.6	+0.8
ANKY	Antikythira Is	1.53	95	P	Pg	21 30 33.5	+0.4
ANKY				S	Sg	21 30 53.4	+0.4
ANKY	Antikythira Is	1.53	95	*e*PB	Pg	21 30 33.5	+0.4
ANKY	Antikythira Is	1.53	95	P	Pg	21 30 33.5	+0.4
ANKY				S	Sg	21 30 53.4	+0.4
VLX	Vlachokerasia	1.55	29	P	Pn	21 30 32.2	+0.3
VLX				S	Sg	21 30 53.7	+0.1
VLX	Vlachokerasia	1.55	29	*e*PG	Pn	21 30 32.3	+0.3
VLX				*e*SB	Sg	21 30 53.6	0.0
VLX	Vlachokerasia	1.55	29	P	Pn	21 30 32.2	+0.3
VLX				*e*Sb	Sg	21 30 53.6	0.0
DRO	Drossia	1.94	7	P	Pb	21 30 39.7	+0.2
DRO				S	Sb	21 31 04.1	+0.2
DRO	Drossia	1.94	7	*e*PN	Pb	21 30 39.5	0.0
DRO	Drossia	1.94	7	*e*Pn	Pb	21 30 39.5	0.0
DRO				S	Sb	21 31 04.1	+0.2
RLS	Riolos of Patr	2.03	1	*e*PG	Pb	21 30 41.4	+0.4
RLS	Riolos of Patr	2.03	1	*e*Pg	Pb	21 30 41.4	+0.4
GUR	Goura	2.05	21	P	Pb	21 30 40.3	-1.1
GUR	Goura	2.05	21	*e*PN	Pb	21 30 41.2	-0.2
GUR	Goura	2.05	21	P	Pb	21 30 40.3	-1.1
GUR	Goura	2.05	21	*e*Pn	Pb	21 30 41.2	-0.2
DID	Didima	2.08	44	P	Pn	21 30 40.0	+0.9
DID	Didima	2.08	44	*e*PB	Pn	21 30 40.0	+0.9
DID	Didima	2.08	44	P	Pn	21 30 40.0	+0.9
KLV	Kalavryta, Ach	2.10	16	P	Pb	21 30 41.6	-0.6
KLV	Kalavryta, Ach	2.10	16	*e*PN	Pb	21 30 41.6	-0.6
KLV	Kalavryta, Ach	2.10	16	P	Pb	21 30 41.6	-0.6
VLS	Valsamata	2.25	343	*e*PN	Pb	21 30 43.8	-1.0
VLS	Valsamata	2.25	343	*e*Pn	Pb	21 30 43.8	-1.0
LTK	Loutraki	2.35	31	P	Pn	21 30 44.5	+1.7
LTK	Loutraki	2.35	31	*e*PN	Pb	21 30 45.7	-0.7
LTK	Loutraki	2.35	31	P	Pn	21 30 44.5	+1.7
LTK	Loutraki	2.35	31	*e*Pn	Pb	21 30 45.7	-0.7
NAIG	Nisos Aigina	2.39	43	*e*PG	Pb	21 30 47.6	+0.4
NAIG	Nisos Aigina	2.39	43	*e*Pg	Pb	21 30 47.6	+0.4
EFP	Efpalio	2.43	9	*e*PB	Pn	21 30 45.8	+1.9
EFP	Efpalio	2.43	9	*e*Pn	Pn	21 30 45.8	+1.9
KALE	Kalithea	2.43	13	P	Pb	21 30 46.3	-1.6
KALE	Kalithea	2.43	13	*e*PN	Pb	21 30 46.3	-1.6
KALE	Kalithea	2.43	13	P	Pb	21 30 46.3	-1.6
DSF	Desfina	2.54	20	P	Pn	21 30 46.7	+1.2
DSF	Desfina	2.54	20	*e*PB	Pn	21 30 47.3	+1.8
DSF	Desfina	2.54	20	P	Pn	21 30 46.7	+1.2
DSF	Desfina	2.54	20	*e*Pb	Pn	21 30 47.3	+1.8
PDO	Prodromos	2.58	356	*e*PN	Pb	21 30 48.9	-1.5
PDO	Prodromos	2.58	356	*e*Pn	Pb	21 30 48.9	-1.5
VILL	Villia	2.62	35	*e*Pn	Pb	21 30 49.0	-2.0
VIL2	Platees	2.63	33	*e*PN	Pn	21 30 49.0	+2.2
ATH	Athens Observa	2.67	43	*e*PN	Pb	21 30 49.9	-2.1
ATH	Athens Observa	2.67	43	*e*Pn	Pb	21 30 49.9	-2.1
PTL	Penteli	2.81	43	*e*PB	Pn	21 30 51.7	+2.5
PTL	Penteli	2.81	43	*e*Pn	Pn	21 30 51.7	+2.5
LKD2	Lefkada island	2.83	348	*e*PN	Pb	21 30 52.4	-2.3
LKD2	Lefkada island	2.83	348	*e*Pn	Pb	21 30 52.4	-2.3
EVR	Evrytania	2.91	6	*e*PN	Pb	21 30 53.7	-2.3
EVR	Evrytania	2.91	6	*e*Pn	Pb	21 30 53.7	-2.3
LKR	Lokris	2.91	25	*e*PB	Pn	21 30 51.4	+0.9
LKR	Lokris	2.91	25	*e*Pb	Pn	21 30 51.4	+0.9
AXAR	Agios Charalam	2.91	19	*e*PB	Pn	21 30 52.4	+1.9
AXAR	Agios Charalam	2.91	19	*e*Pb	Pn	21 30 52.4	+1.9
DSL	Palaion Diasel	3.12	355	*e*PN	Pn	21 30 56.3	+2.9
DSL	Palaion Diasel	3.12	355	*e*Pn	Pn	21 30 56.3	+2.9
MRKA	Markates	3.18	32	*e*PB	Pb	21 30 57.9	-2.8
MRKA	Markates	3.18	32	*e*Pb	Pb	21 30 57.9	-2.8
SMIA	Simia	3.18	26	*e*PN	Pn	21 30 56.7	+2.4
SMIA	Simia	3.18	26	*e*Pn	Pn	21 30 56.7	+2.4
THL	Klokotos Trika	3.57	7	*e*PN	Pn	21 31 01.9	+2.4
THL	Klokotos Trika	3.57	7	*e*Pn	Pn	21 31 01.9	+2.4
NEO	Neokhori	3.58	23	*e*PN	Pn	21 31 02.7	+3.0
NEO	Neokhori	3.58	23	*e*Pn	Pn	21 31 02.7	+3.0
BARS	Barje	6.79	2	*e*Pn	Pn	21 31 45.0	+1.1
STON	Ston	7.42	338	*e*Pn	Pn	21 31 53.3	+0.8
STON				Sn	Sn	21 33 10.6	-6.3
STON	Ston	7.42	338	*e*Pn	Pn	21 31 53.3	+0.8
IVAS	Ivanjica	7.61	353	*e*Pn	Pn	21 31 54.8	-0.3
DIVS	Divibare	8.14	353	*e*Pn	Pn	21 32 02.0	-0.4

*ISCJB **31** 21:31:40.5±0.4, 15°.52N±0°.05×146°.15E±0°.08, h100km, mb4.2/30, Error ellipse: s-maj=11.9km s-min=6.3km az=16.9*

*IDC **31** 21:31:41.4±1.8, 15°.51N×146°.10E, h93km±18km, mb3.8/19, mb1 3.9/20, mb1mx3.8/40, mbtmp4.1/20, Error ellipse: s-maj=20.1km s-min=13.0km az=90.0*

*NEIC **31** 21:31:42.1±1.3, 15°.49N×146°.15E, h101km±12km, mb4.7/12, Error ellipse: s-maj=11.1km s-min=7.3km az=91.0*

ISC 31 21:31:42.0±0.6, 15°.50N±0°.08×146°.1E±0°.1, h100km, n51, σ1§00/45, mb4.2/30, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.26	213	P	Pn	21 32 17.9	-0.1
	115nm,0.3s,baz=344,slow=3.3,SNR=95						
GUMO				S	Sn	21 32 44.8	-0.7
	291nm,0.3s,baz=164,slow=22,SNR=37						
H11S3	WAKE ISLAND Hy	19.88	78	T	T	21 57 02.0	
	baz=265,slow=75,SNR=42						
H11S1	WAKE ISLAND Hy	19.89	78	T	T	21 57 03.4	
	baz=265,slow=75,SNR=22						
H11S2	WAKE ISLAND Hy	19.90	78	T	T	21 57 03.8	
	baz=265,slow=75,SNR=44						
JOW	Kunigami	20.08	307	P	Pn	21 36 09.9	-0.4
	1.9nm,0.9s,baz=117,slow=4.5,SNR=5.2						
JOW	Kunigami	20.08	307	*e*P	Pn	21 36 08.9	-1.4
	9.2nm,0.9s						
H11N1	WAKE ISLAND Hy	20.22	75	T	T	21 57 23.5	
	baz=263,slow=75,SNR=36						
H11N2	WAKE ISLAND Hy	20.23	75	T	T	21 57 25.5	
	baz=263,slow=75,SNR=24						
H11N3	WAKE ISLAND Hy	20.24	75	T	T	21 57 24.2	
	baz=263,slow=75,SNR=40						
MJAR	Matsushiro Arr	22.11	343	P	P	21 36 28.4	-0.8
	0.9nm,0.7s,baz=8.6,slow=2.5,SNR=4.3						
JNU	Nakatsue	22.33	324	P	P	21 36 31.4	-0.2
	10nm,0.9s,baz=153,slow=17,SNR=3.9						
JNU	Nakatsue	22.33	324	*e*P	P	21 36 31.4	-0.2
	236nm,2.8s						
SSLB	Suanglung	25.07	293	*e*P	P	21 36 58.6	+1.2
	91nm,2.0s						
KSRS	Korea Array	27.17	327	P	P	21 37 15.9	-0.1
	2.8nm,0.8s,baz=146,slow=10,SNR=12						
KS15	Wonju Array Si	27.18	327	*e*P	P	21 37 15.9	-0.2
KSAR	Wonju Array Be	27.18	327	P	P	21 37 15.9	-0.2
ASAJ	Asahikawa	28.68	355	*e*P	P	21 37 26.3	-3.1
	119nm,2.2s						
USRK	Ussurivsk Ar.	31.03	340	P	P	21 37 49.9	-0.3
	1.3nm,0.8s,baz=126,slow=8.3,SNR=4.3						
WRAB	Tennant Creek	37.07	199	*e*P	P	21 38 42.1	-0.6
	2.9nm,0.6s						
WRA	Warramunga Arr	37.08	199	P	P	21 38 42.4	-0.3
	3.2nm,0.8s,baz=22,slow=9.6,SNR=23						
PETK	Petropavlovsk-	38.62	11	P	P	21 38 56.0	+0.7
	1.2nm,0.4s,baz=190,slow=4.0,SNR=5.2						
PEA2	Petropavlovsk-	38.62	11	*e*P	P	21 38 56.0	+0.7
AS01	Alice Springs	40.71	197	P	P	21 39 12.7	-0.3
AS12	Alice Springs	40.72	197	*e*P	P	21 39 13.0	-0.1
ASAR	Alice Springs	40.72	197	P	P	21 39 13.0	-0.1
	0.6nm,0.6s,baz=20,slow=9.6,SNR=12						
ASAR				pP	pP	21 39 36.0	-0.3
	0.4nm,0.7s,baz=35,slow=8.6,SNR=2.5						
CM01	Chiang Mai Arr	45.12	281	*e*P	P	21 39 49.8	+1.0
CM31	Chiang Mai Arr	45.13	281	*e*P	P	21 39 50.4	+1.5
CMAR	Chiang Mai Arr	45.13	281	P	P	21 39 50.4	+1.5
	0.8nm,0.6s,baz=73,slow=5.2,SNR=6.7						
SONA0	Songino Array	45.91	323	*e*P	P	21 39 55.2	+0.4
SONM	Songino Array	45.91	323	P	P	21 39 55.2	+0.4
	1.2nm,0.8s,baz=140,slow=10,SNR=8.7						
SEY	Seymchan	47.58	4	P	P	21 40 07.3	0.0
	2.5nm,0.6s,baz=158,slow=9.9,SNR=5.8						
BBOO	Buckleboo	48.99	191	*e*P	P	21 40 18.7	+0.2
	86nm,2.2s						
LSA	Lhasa	52.25	296	*e*P	P	21 40 45.7	+1.9
	3.0nm,0.5s						
UNV	Unalaska Valle	53.07	33	*e*P	P	21 40 49.6	+0.8
	60nm,1.4s						
BILL	Bilibino	54.09	9	*e*P	P	21 40 56.2	+0.1
	4.9nm,0.8s						
ZAA0	Zalesovo Array	60.81	324	*e*P	P	21 41 42.1	-1.3
ZALV	Zalesovo Beam	60.81	324	P	P	21 41 42.6	-0.8
	1.9nm,0.5s,baz=118,slow=6.8,SNR=11						
MK31	Makanchi Array	60.99	315	*e*P	P	21 41 45.1	+0.2
MKAR	Makanchi Array	60.99	315	P	P	21 41 45.2	+0.3
	2.0nm,0.6s,baz=92,slow=9.0,SNR=30						
MKAR	Makanchi Array	60.99	315	*e*P	P	21 41 45.4	+0.5
KURK	Kurchatov	63.93	319	*e*P	P	21 42 03.9	-0.5
	8.9nm,0.7s						
ILAR	Eielson Array	66.33	26	P	P	21 42 18.7	-0.9
	1.5nm,0.5s,baz=250,slow=6.1,SNR=21						
KKAR	Karatay Array	69.14	311	*e*P	P	21 42 38.1	+0.4
	2.2nm,0.8s						
DLBC	Dease Lake	73.72	33	P	P	21 43 06.0	+1.0
	1.8nm,0.5s,baz=293,slow=8.0,SNR=5.5						
ABKAR	Akbulak array	75.96	318	*e*P	P	21 43 17.0	-1.0
	0.8nm,0.5s						
YKA	Yellowknife Ar	80.61	28	P	P	21 43 43.4	+0.1
	1.0nm,0.5s,baz=286,slow=5.2,SNR=10.0						
RES	Resolute Bay	82.42	14	P	P	21 43 52.8	+0.2
	3.3nm,0.7s,baz=310,slow=6.3,SNR=5.0						
NVAR	Mina Array Bea	84.78	52	P	P	21 44 07.4	+1.6
	1.0nm,0.5s,baz=267,slow=5.6,SNR=10.0						
ELK	Elko	86.40	49	P	P	21 44 15.0	+1.2
	1.1nm,0.8s,baz=264,slow=9.0,SNR=5.0						
FINES	FINESS Array B	89.95	335	P	P	21 44 27.6	-2.3
	0.5nm,0.6s,baz=72,slow=6.2,SNR=3.1						
BRTR	Keskin Array B	96.63	314	P	P	21 44 59.6	-1.7
	0.3nm,0.6s,baz=37,slow=4.9,SNR=3.7						

*IDC **31** 21:36:00.8±3.4, 55°.70N×152°.86W, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/37, mbtmp3.5/5, ML3.8/1, MS4.2/1, Ms1 4.2/1, ms1mx3.3/32, Error ellipse: s-maj=70.0km s-min=29.9km az=152.0*

*ISCJB **31** 21:36:03.5±0.8, 56°.32N±0°.05×152°.12W±0°.09, h22km, mb3.7/3, MS4.1/1, Error ellipse: s-maj=8.7km s-min=6.4km az=140.0*

*NEIC **31** 21:36:08.0, 56°.44N×152°.78W, h11km, ML3.1(AEIC), After AEIC.*

ISC 31 21:36:05.2±1.5, 56°.3N±0°.1×152°.26W±0°.06, h22km, n50, σ1§55/55, mb3.8/3, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	1.07	328	*e*Pn	Pn	21 36 23.7	-1.1
OHAK				*e*Sn	Sn	21 36 41.5	+2.4
KDAK	Kodiak Island	1.48	353	*e*Pn	Pn	21 36 30.8	+0.3
KDAK				*e*Sn	Sn	21 36 49.1	-0.1
KABR	Katmai Barrier	2.34	322	*e*Pn	Pn	21 36 41.6	-0.8
MCNL	McNeil River	3.09	340	*e*Pn	Pn	21 36 53.9	+1.3
AUI	Augustine Isla	3.09	349	*e*Pn	Pn	21 36 54.2	+1.6
AUI				*e*Sn	Sn	21 37 30.3	+1.4
OPT	Oil Point	3.39	352	*e*Pn	Pn	21 36 58.4	+1.7
CHGN	Chignik	3.43	272	*e*Pn	Pn	21 36 54.7	-2.5
CHGN				*e*Sn	Sn	21 37 32.1	-5.1
BRLK	Bradley Lake	3.53	11	*e*Pn	Pn	21 36 59.0	+0.3
BRLK				*e*Sn	Sn	21 37 36.5	-3.4
ILW	Iliamna West	3.78	353	*e*Pn	Pn	21 37 03.3	+1.0
SEW	Seward	4.08	20	*e*Pn	Pn	21 37 09.6	+3.4
SEW				*e*Sn	Sn	21 37 49.6	-3.5
RSO	Redoubt South	4.17	357	*e*Pn	Pn	21 37 08.9	+1.2
RSO				*e*Sn	Sn	21 37 56.1	+0.5
NCT	North Crescent	4.27	356	*e*Pn	Pn	21 37 10.1	+1.1
DFR	Drift River	4.29	357	*e*Pn	Pn	21 37 10.3	+1.1
SDPT	Sand Point	4.73	262	*e*Pn	Pn	21 37 13.3	-1.9
SDPT				*e*Sn	Sn	21 37 59.6	-10
SPU	Mount Spurr	4.88	1	*e*Pn	Pn	21 37 18.5	+1.2
SPU				*e*Sn	Sn	21 38 11.2	-1.9
CKL	Chakachamna La	4.90	360	*e*Pn	Pn	21 37 18.4	+0.8
RC01	Rabbit Creek A	4.96	14	*e*Pn	Pn	21 37 18.8	+0.4
RC01				*e*Sn	Sn	21 38 14.6	-0.5
SVW2	Sparrevohn	5.10	342	*e*Pn	Pn	21 37 20.7	+0.5
STLK	Strandline Lak	5.20	2	*e*Pn	Pn	21 37 22.4	+0.7
SUA	Susitna One	5.22	8	*e*Pn	Pn	21 37 22.2	+0.2
RAGM	Ragged Mountai	5.71	41	*e*Pn	Pn	21 37 29.6	+0.9
RAGM				*e*Sn	Sn	21 38 31.5	-1.9
DIV	Divide	5.89	32	*e*Pn	Pn	21 37 32.2	+1.1
DIV				*e*Sn	Sn	21 38 36.9	-1.0
SCM	Sheep Creek Mo	6.09	23	*e*Pn	Pn	21 37 34.8	+0.9
BMRM	Bremner River	6.14	37	*e*Pn	Pn	21 37 35.9	+1.3
BARK	Barkley Ridge	6.57	47	*e*Pn	Pn	21 37 42.4	+1.9
PPLA	Purkeypile	6.60	0	*e*Pn	Pn	21 37 40.2	-0.8
TT01	Tatalina	6.88	345	*e*Pn	Pn	21 37 45.0	+0.3
TRF	Thorofare Moun	7.23	7	*e*Pn	Pn	21 37 50.2	+0.7
RND	Reindeer	7.32	12	*e*Pn	Pn	21 37 52.3	+1.6
RND				*e*Sn	Sn	21 39 13.2	+0.2
WRH	Wood River Hil	8.44	12	*e*Pn	Pn	21 38 06.3	+0.3
HDA	Harding Lake	8.53	16	*e*Pn	Pn	21 38 07.4	+0.2
CCB	Clear Creek Bu	8.64	13	*e*Pn	Pn	21 38 08.8	+0.1
SCRK	Sand Creek	8.71	25	*e*Pn	Pn	21 38 09.8	-0.1
MLY	Manley	8.78	4	*e*Pn	Pn	21 38 09.9	-0.8
ILAR	Eielson Array	8.88	15	Pn	Pn	21 38 13.7	+1.6
	0.3nm,0.3s,baz=200,slow=14,SNR=19						
ILAR				Sn	Sn	21 39 49.0	-2.3
	0.2nm,0.3s,baz=216,slow=23,SNR=5.2						
ILB	Eielson Array	8.88	15	*e*Pn	Pn	21 38 13.7	+1.6
ILB				*e*Sn	Sn	21 39 49.0	-2.3
IL1	Eielson Array	8.88	15	*e*Pn	Pn	21 38 13.5	+1.4
MDM	Murphy Dome	8.89	11	*e*Pn	Pn	21 38 12.1	-0.2
IM04	Indian Mountai	9.72	356	*e*Pn	Pn	21 38 24.0	+0.4
YKA	Yellowknife Ar	19.90	56	P	Pn	21 40 40.5	+4.0
	0.4nm,0.6s,baz=267,slow=12,SNR=4.8						
PFO	Pinyon Flats O	33.42	118	LR	LR	21 54 05.4	
	comp=Z,380nm,20.8s,baz=112,slow=32						
H11N2	WAKE ISLAND Hy	47.49	237	T	T	22 35 36.5	
	baz=29,slow=76,SNR=4.1						
H11N3	WAKE ISLAND Hy	47.49	237	T	T	22 35 35.8	
	baz=29,slow=76,SNR=4.4						
H11N1	WAKE ISLAND Hy	47.51	237	T	T	22 35 37.1	
	baz=29,slow=76,SNR=4.1						
H11S1	WAKE ISLAND Hy	48.64	236	T	T	22 37 03.1	
	baz=28,slow=76,SNR=6.7						
H11S2	WAKE ISLAND Hy	48.65	236	T	T	22 37 03.8	
	baz=28,slow=76,SNR=4.7						
H11S3	WAKE ISLAND Hy	48.66	236	T	T	22 37 02.6	
	baz=28,slow=76,SNR=4.7						
SONM	Songino Array	57.33	308	P	P	21 45 52.2	+0.9
	0.6nm,0.7s,baz=38,slow=7.3,SNR=5.2						
ZALV	Zalesovo Beam	60.61	325	P	P	21 46 14.6	+0.9
	0.5nm,0.6s,baz=31,slow=6.7,SNR=2.6						
MKAR	Makanchi Array	67.59	323	P	P	21 46 59.9	+0.2
	0.2nm,0.5s,baz=21,slow=6.0,SNR=4.0						

*ISCJB **31** 21:46:10.1±1.0, 4°.7S±0°.1×101°.8W±0°.1, h10km, mb4.5/42, MS4.1/2, Error ellipse: s-maj=21.9km s-min=11.7km az=143.9*

*IDC **31** 21:46:12.2±1.0, 4°.49S×102°.33W, h0km, mb3.9/8, mb1 4.3/8, mb1mx3.9/32, mbtmp3.9/8, MS4.1/2, Ms1 4.1/2, ms1mx3.6/25, Error ellipse: s-maj=53.8km s-min=23.3km az=80.0*

*NEIC **31** 21:46:14.2±0.6, 4°.45S×102°.01W, h10km, mb4.6/35, Error ellipse: s-maj=16.8km s-min=11.1km az=100.0*

ISC 31 21:46:14.0±0.7, 4°.4S±0°.1×102°.1W±0°.2, h10km, n263, σ0§78/257, mb4.6/42, 95C-101D, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	22.56	18	P	P	21 51 15.5	+0.9
	3.6nm,0.8s,baz=200,slow=8.9,SNR=4.6						
NNA	Nana	26.10	108	LR	LR	21 59 15.6	
	comp=Z,450nm,19.9s,baz=270,slow=30						
035Z	Hargill	30.97	7	⇑P	P	21 52 33.3	+1.7
	baz=31						
035A	Encino	31.44	7	⇓P	P	21 52 37.7	+2.1
	baz=32						
034A	Hebbronville	31.50	6	⇓P	P	21 52 37.5	+1.3
	baz=32						
933A	Laredo	31.98	5	⇑P	P	21 52 41.8	+1.3
	baz=33						
834A	Tilden	32.56	6	⇑P	P	21 52 47.1	+1.6
	baz=33						
833A	Chaparral WMA,	32.68	4	⇑P	P	21 52 47.8	+1.2
	baz=33						
LTX	Lajitas	33.61	358	*e*P	P	21 52 55.5	+0.7
LTX				*e*PcP	PcP	21 55 35.5	+0.3
TX31	Lajitas Ar. Si	33.61	358	*e*P	P	21 52 55.4	+0.5
TXAR	Lajitas Array	33.61	358	P	P	21 52 55.5	+0.7
	1.4nm,0.9s,baz=172,slow=10,SNR=8.7						
TXAR				PcP	PcP	21 55 35.5	+0.3
	0.4nm,0.7s,baz=169,slow=5.1,SNR=5.8						
631A	Perdido Creek	33.69	2	⇓P	P	21 52 56.4	+0.9
	baz=34						
PTCN	Pitcairn Islan	33.80	230	*e*P	P	21 52 56.5	0.0
	800nm,1.4s						
633A	Saathoff Ranch	33.83	5	⇑P	P	21 52 57.5	+0.9
	baz=34						
632A	Uvalde	33.83	4	⇑P	P	21 52 57.2	+0.6
	baz=34						
636A	Smothers Creek	34.08	8	⇑P	P	21 52 60.0	+1.2
	baz=34						
529A	Stev Forest Ra	34.37	360	⇑P	P	21 53 02.1	+0.8
	baz=35,SNR=6.0						
530A	J-C Ranch, Com	34.40	1	⇑P	P	21 53 02.0	+0.4
	baz=35						
532A	Rocksprings	34.44	3	⇓P	P	21 53 02.3	+0.3
	baz=35						
531A	Rocksprings	34.44	2	⇑P	P	21 53 02.3	+0.3
	baz=35						
533A	Kerrville	34.44	5	⇑P	P	21 53 02.3	+0.3
	baz=35						
534A	Blanco	34.45	6	⇓P	P	21 53 02.6	+0.5
	baz=35						
537A	Green Hill Far	34.77	9	⇑P	P	21 53 05.8	+1.0
	baz=35						
JCT	Junction City	34.79	4	⇓P	P	21 53 05.5	+0.5
	baz=35						
429A	Davenport Ranc	34.87	0	⇑P	P	21 53 06.5	+0.8
	baz=35						
431A	Sonora	34.95	2	⇓P	P	21 53 07.2	+0.7
	baz=35						
433A	Art	35.12	5	⇑P	P	21 53 08.3	+0.5
	baz=35						
432A	Menard	35.19	3	⇑P	P	21 53 09.5	+1.0
	baz=35						
434A	Burnet	35.25	6	⇑P	P	21 53 08.8	-0.2
	baz=35						
331A	San Angelo	35.59	2	⇓P	P	21 53 11.9	+0.1
	baz=36						
330A	Mertzon	35.66	1	⇓P	P	21 53 12.2	-0.2
	baz=36						
333A	Richland Sprin	35.69	5	⇑P	P	21 53 12.9	+0.2
	baz=36						
332A	Millersview	35.70	3	⇓P	P	21 53 12.7	-0.1
	baz=36						
329A	Wagon Wheel Ra	35.73	0	⇓P	P	21 53 13.7	+0.6
	baz=36						
334A	Lometa	35.77	6	⇓P	P	21 53 13.8	+0.4
	baz=36						
335A	Moody	35.80	7	⇑P	P	21 53 14.2	+0.6
	baz=36						
336A	Riesel	35.98	8	⇓P	P	21 53 15.7	+0.5
	baz=36						
337A	Centerville	36.05	9	⇓P	P	21 53 16.8	+1.0
	baz=36						
MNTX	Cornudas Mount	36.07	355	*e*P	P	21 53 16.4	+0.4
	3.2nm,1.0s						
MNTX	Cornudas Mount	36.07	355	⇓P	P	21 53 16.0	+0.1
	baz=36						
232A	Colman	36.20	4	⇓P	P	21 53 17.1	0.0
	baz=36,SNR=5.3						
231A	Bronte	36.22	3	⇓P	P	21 53 17.3	0.0
	baz=36						
233A	Rising Star	36.39	5	⇓P	P	21 53 18.8	+0.1
	baz=37						
234A	Clairette	36.44	6	⇓P	P	21 53 19.4	+0.2
	baz=37						
WHTX	Lake Whitney,	36.50	7	*e*P	P	21 53 18.8	-0.9
	12nm,0.8s						
WHTX	Lake Whitney,	36.50	7	⇓P	P	21 53 20.0	+0.3
	baz=37						
NATX	Nacogdoches	36.70	11	⇑P	P	21 53 22.0	+0.7
	baz=37						
ABTX	Abilene, Hawle	36.94	3	⇑P	P	21 53 23.7	+0.4
	baz=37						
131A	Roby	36.95	2	⇓P	P	21 53 23.3	-0.2
	baz=37						
133A	Hamilton Ranch	36.97	5	⇑P	P	21 53 24.1	+0.5
	baz=37,SNR=5.4						
134A	White-Moore Ra	37.01	6	⇑P	P	21 53 24.5	+0.6
	baz=37						
135A	Vickery Place,	37.07	7	⇑P	P	21 53 25.1	+0.6
	baz=37						
121A	Cookes Peak, D	37.16	352	⇑P	P	21 53 25.9	+0.4
	baz=37

	36nm,1.4s								
T31A	**Randall Ranch,**	41.39	3	⇓P		P	21 54 00.8	+0.2	
	baz=42								
T25A	**Trinidad**	41.42	357	*e*P		P	21 54 03.0	+2.0	
	9.9nm,1.1s								
T25A	**Trinidad**	41.42	357	⇓P		P	21 54 02.1	+1.0	
	baz=42								
T26A	**Comanche Natio**	41.42	358	⇓P		P	21 54 01.6	+0.5	
	baz=42								
T35A	**Sooner Cattle**	41.48	7	⇑P		P	21 54 01.1	-0.1	
	baz=42								
T34A	**McClaskey Farm**	41.51	6	⇓P		P	21 54 02.2	+0.7	
	baz=42								
T32A	**Huddler Ranch,**	41.51	4	⇓P		P	21 54 01.6	0.0	
	baz=42								
T36A	**Boggs Farm, Ca**	41.70	8	⇓P		P	21 54 03.0	0.0	
	baz=42,SNR=11								
S28A	**Manter**	41.82	0	⇑P		P	21 54 04.3	+0.1	
	baz=42								
MVCO	**Mesa Verde**	41.86	352	⇑P		P	21 54 05.0	+0.3	
	baz=42								
S26A	**Kim**	41.87	358	⇑P		P	21 54 05.2	+0.6	
	baz=42								
EDW2	**Edwards Air Fo**	41.87	340	⇑P		P	21 54 06.4	+1.8	
	baz=42								
GSC	**Goldstone, Bar**	41.87	342	*e*P		P	21 54 06.7	+2.1	
	7.5nm,1.0s								
GSC	**Goldstone, Bar**	41.87	342	⇑P		P	21 54 06.1	+1.5	
	baz=42								
T37A	**Cheneyville 18**	41.89	9	⇑P		P	21 54 04.7	0.0	
	baz=42								
S34A	**Willow Spring**	42.19	6	⇓P		P	21 54 07.0	0.0	
	baz=42								
S22A	**4UR Ranch, Cre**	42.20	354	⇑P		P	21 54 07.6	+0.1	
	baz=42								
S35A	**Otter Creek Ra**	42.25	7	⇓P		P	21 54 07.9	+0.3	
	baz=42								
SHOC	**Shoshone, Teco**	42.27	343	⇓P		P	21 54 09.0	+1.2	
	baz=42								
LRMC	**Laurel Mtn Rad**	42.31	341	⇑P		P	21 54 10.0	+1.7	
	baz=43								
ARVC	**Arvin**	42.38	340	⇓P		P	21 54 10.8	+2.1	
	baz=43								
S36A	**Lake Cedric, C**	42.39	8	⇑P		P	21 54 08.9	+0.3	
	baz=43								
PBMO	**Poplar Bluff**	42.44	14	*e*P		P	21 54 09.3	+0.2	
	14nm,1.1s								
R27A	**Eads**	42.52	359	⇓P		P	21 54 10.0	+0.2	
	baz=43								
PKM	**Mcpherson Peak**	42.53	338	⇑P		P	21 54 11.9	+1.9	
	baz=43								
R26A	**Arlington**	42.54	358	⇓P		P	21 54 10.5	+0.4	
	baz=43								
R30A	**Dighton**	42.54	2	⇑P		P	21 54 10.7	+0.7	
	baz=43								
R23A	**Moffat**	42.55	356	⇑P		P	21 54 10.6	+0.3	
	baz=43								
R28A	**Tribune**	42.57	0	⇓P		P	21 54 10.5	+0.2	
	baz=43								
R31A	**Burdett**	42.58	3	⇓P		P	21 54 10.7	+0.3	
	baz=43								
BAKC	**Calstate**	42.67	339	*e*P		P	21 54 16.0	+5.0	
R33A	**Olander Ranch,**	42.71	5	⇑P		P	21 54 11.8	+0.5	
	baz=43								
ISA	**Isabella, Lake**	42.74	340	⇓P		P	21 54 13.4	+1.7	
	baz=43								
R32A	**Long Quarter,**	42.76	4	⇓P		P	21 54 11.9	+0.1	
	baz=43								
R34A	**Isabella, Hill**	42.77	6	⇓P		P	21 54 11.8	0.0	
	baz=43								
MPMC	**Manual Prospec**	42.78	342	⇑P		P	21 54 13.4	+1.3	
	baz=43,SNR=5.3								
R35A	**Emporia Munici**	42.90	7	⇑P		P	21 54 13.0	+0.1	
	baz=43								
CPCT	**Cooper Cave**	42.99	21	*e*P		P	21 54 13.7	+0.1	
R36A	**Gordon, Harris**	42.99	8	⇓P		P	21 54 14.0	+0.5	
	baz=43								
DAC	**Darwin (Calif)**	43.02	342	*e*P		P	21 54 15.7	+1.6	
	7.7nm,1.2s								
R37A	**Teagarden Farm**	43.07	8	⇑P		P	21 54 14.8	+0.5	
	baz=43								
Q29A	**Oakley**	43.13	1	⇑P		P	21 54 14.7	0.0	
	baz=43								
Q33A	**Connelly Farm,**	43.40	5	⇑P		P	21 54 17.2	+0.3	
	baz=44								
Q34A	**Chapman**	43.41	6	⇑P		P	21 54 17.4	+0.4	
	baz=44								
Q35A	**Mercer Eighty,**	43.45	7	⇓P		P	21 54 17.8	+0.5	
	baz=44								
Q36A	**Arnold C. Orve**	43.62	8	⇓P		P	21 54 18.8	+0.2	
	baz=44								
KSU1	**Kansas State U**	43.62	6	*e*P		P	21 54 19.2	+0.5	
	20nm,0.9s								
KSU1	**Kansas State U**	43.62	6	⇑P		P	21 54 19.0	+0.3	
	baz=44								
Q37A	**Longview Farm,**	43.68	9	⇑P		P	21 54 19.8	+0.6	
	baz=44								
P30A	**Selden**	43.80	2	⇓P		P	21 54 20.5	+0.3	
	baz=44								
P31A	**Stockton**	43.82	3	⇓P		P	21 54 20.9	+0.6	
	baz=44								
P33A	**Williams Farm,**	43.85	5	⇓P		P	21 54 20.7	+0.2	
	baz=44								
P32A	**Huiting Farm,**	43.97	4	⇑P		P	21 54 21.8	+0.3	
	baz=44								
P35A	**Duane Minner,**	44.11	7	⇓P		P	21 54 23.2	+0.5	
	baz=44								
ISCO	**Idaho Springs**	44.14	356	⇓P		P	21 54 23.5	+0.4	
	baz=44								
R11A	**Troy Canyon, C**	44.37	345	⇓P		P	21 54 26.5	+1.6	
	baz=45								
O27A	**Beecher Island**	44.41	360	⇑P		P	21 54 25.7	+0.5	
	baz=45								
O22A	**Kremmling**	44.57	355	⇑P		P	21 54 27.4	+0.7	
	baz=45								
O35A	**Humboldt**	44.85	7	⇓P		P	21 54 28.4	-0.1	
	baz=45								
OLIL	**Olney**	44.88	16	*e*P		P	21 54 28.6	-0.1	
	18nm,1.2s								
N27A	**Anderson Farm,**	45.03	360	⇑P		P	21 54 30.4	+0.4	
	baz=45								
NV01	**Mina Array Sit**	45.22	342	*e*P		P	21 54 33.5	+1.8	
NVAR	**Mina Array Bea**	45.22	342	P		P	21 54 32.1	+0.4	
	1.1nm,0.8s,baz=167,slow=10,SNR=7.2								
N34A	**Lincoln**	45.35	6	⇑P		P	21 54 33.0	+0.5	
	baz=46								
DUG	**Dugway, Tooele**	45.49	349	*e*P		P	21 54 33.4	-0.3	
	10.6nm,1.6s								
DUG	**Dugway, Tooele**	45.49	349	⇓P		P	21 54 34.7	+0.9	
	baz=46								
PLCA	**Paso Flores**	45.93	146	P		P	21 54 38.3	+1.1	
	1.9nm,0.9s,baz=298,slow=11,SNR=2.8								
PLCA	**Paso Flores**	45.93	146	*e*P		P	21 54 38.3	+1.1	
	98nm,2.8s								
HWUT	**Hardware Ranch**	46.63	350	*e*P		P	21 54 43.8	+1.0	
	7.7nm,1.2s								
HVU	**Hansel Valley**	47.02	349	*e*P		P	21 54 46.8	+1.0	
	5.6nm,1.2s								
K22A	**Casper**	47.04	356	⇑P		P	21 54 46.1	+0.1	
	baz=47								
K23A	**Bowen Ranch, D**	47.08	356	⇓P		P	21 54 46.0	-0.3	
	baz=47								
BW06	**Boulder Array**	47.47	353	*e*P		P	21 54 48.3	-1.0	
	31nm,2.8s								
PD31	**Pinedale Array**	47.47	353	*e*P		P	21 54 48.9	-0.5	
PDAR	**Pinedale Array**	47.47	353	P		P	21 54 48.9	-0.5	
	0.6nm,0.6s,baz=138,slow=6.9,SNR=5.7								
PDAR					PcP	PcP	21 56 18.0	-1.6	
	0.3nm,0.5s,baz=132,slow=2.6,SNR=3.0								
J26A	**Sides Ranch, S**	47.54	359	⇑P		P	21 54 49.8	0.0	
	baz=48								
J30A	**Dallas**	47.60	3	⇓P		P	21 54 50.3	+0.2	
	baz=48								
J25A	**Sunshine Ranch**	47.63	358	⇓P		P	21 54 50.9	+0.4	
	baz=48								
URVA	**University of**	47.65	27	*e*P		P	21 54 48.2	-2.3	
J29A	**Okreek**	47.65	2	⇑P		P	21 54 50.7	+0.1	
	baz=48								
J22A	**Midwest**	47.80	356	⇓P		P	21 54 51.9	+0.1	
	baz=48								
J20A	**Shoshoni**	47.88	354	⇓P		P	21 54 52.2	-0.2	
	baz=48								
ECSD	**EROS Data Cent**	48.21	5	⇑P		P	21 54 54.0	-0.8	
	baz=48								
I21A	**Big Trails, Te**	48.26	355	⇓P		P	21 54 55.4	0.0	
	baz=48								
I25A	**Rochford**	48.26	358	⇑P		P	21 54 55.3	-0.1	
	baz=48								
I29A	**Vivian Onida**	48.27	2	⇓P		P	21 54 55.2	-0.1	
	baz=48								
I22A	**9 Mile Ranch,**	48.27	356	⇓P		P	21 54 55.2	-0.3	
	baz=48								
I27A	**Quinn**	48.29	0	⇓P		P	21 54 55.3	-0.2	
	baz=48								
RSSD	**Black Hills**	48.37	358	*e*P		P	21 54 56.8	+0.5	
	7.2nm,1.1s								
WDC	**Whiskeytown Da**	48.56	339	*e*P		P	21 54 57.8	+0.3	
	5.5nm,1.1s								
I17A	**Pilgrim Ck.**	48.74	352	⇓P		P	21 54 59.1	-0.1	
	baz=49								
BRSD	**Miller**	48.74	3	*e*P		P	21 54 59.0	+0.1	
	20nm,0.9s								
BRSD	**Miller**	48.74	3	⇑P		P	21 54 59.0	+0.1	
	baz=49								
H26A	**Fairpoint**	48.84	359	⇑P		P	21 54 59.9	+0.1	
	baz=49								
H27A	**Howes**	48.85	0	⇑P		P	21 54 60.0	+0.2	
	baz=49								
H25A	**Fruitdale**	48.86	359	⇑P		P	21 55 00.0	+0.1	
	baz=49								
H29A	**Onida**	48.88	2	⇑P		P	21 54 59.9	0.0	
	baz=49								
H28A	**Mission Ridge**	48.90	1	⇓P		P	21 55 00.0	-0.2	
	baz=49								
N02D	**Trinity Center**	48.97	339	⇑P		P	21 55 02.5	+1.7	
	baz=49								
H20A	**Greybull**	48.99	354	⇓P		P	21 55 01.0	0.0	
	baz=49								
WVOR	**Wild Horse Val**	49.01	344	*e*P		P	21 55 02.4	+1.3	
	12nm,1.4s								
H24A	**Dirks Ranch, A**	49.02	358	⇓P		P	21 55 01.1	0.0	
	baz=49,SNR=5.5								
HLID	**Hailey**	49.05	348	*e*P		P	21 55 02.6	+1.1	
	5.4nm,1.3s								
HLID	**Hailey**	49.05	348	⇑P		P	21 55 02.2	+0.7	
	baz=49								
H18A	**Shoshone NF, C**	49.36	353	⇓P		P	21 55 03.9	-0.1	
	baz=50								
M02C	**Callahan**	49.39	339	⇓P		P	21 55 05.6	+1.6	
	baz=50								
M04C	**Macdoel**	49.39	341	⇓P		P	21 55 04.8	+0.7	
	baz=50,SNR=5.8								
G30A	**Faulkton**	49.42	3	⇓P		P	21 55 03.7	-0.4	
	baz=50								
G25A	**Newell**	49.43	359	⇓P		P	21 55 03.7	-0.5	
	baz=50								
G27A	**Dupree**	49.60	0	⇓P		P	21 55 05.4	-0.1	
	baz=50								
YBH	**Yreka Blue Hor**	49.64	340	*e*P		P	21 55 06.4	+0.5	
	35nm,2.0s								
G20A	**Bridger**	49.74	354	⇓P		P	21 55 06.7	0.0	
	baz=50								
K05A	**Summer Lake**	49.94	342	*e*P		P	21 55 10.0	+1.7	
	8.0nm,1.0s								
F27A	**Lemmon**	50.09	0	⇓P		P	21 55 09.0	-0.3	
	baz=50								
SPMN	**Marine on St.**	50.14	9	⇑P		P	21 55 09.1	-0.5	
	baz=50								
L02D	**Cave Junction,**	50.33	339	⇓P		P	21 55 12.7	+1.7	
	baz=51								
F19A	**Roth Farm, Mol**	50.44	354	⇓P		P	21 55 11.9	-0.1	
	baz=51								
J05D	**Fort Rock, OR**	50.55	342	⇑P		P	21 55 13.8	+0.9	
	baz=51								
E26A	**Carlson Angus**	50.69	360	⇑P		P	21 55 14.0	+0.2	
	baz=51								
E25A	**Miller Ranch,**	50.73	359	⇓P		P	21 55 14.1	-0.1	
	baz=51								
E23A	**Ismay**	50.80	357	⇓P		P	21 55 14.7	+0.1	
	baz=51								
E19A	**Rath Farm, Rou**	51.02	354	⇓P		P	21 55 15.6	-0.7	
	baz=51								
D25A	**Fairfield**	51.38	359	⇓P		P	21 55 18.9	-0.1	
	baz=52								
D23A	**Lindsay**	51.47	357	⇓P		P	21 55 19.7	+0.1	
	baz=52								
D22A	**Cohagen**	51.49	356	⇑P		P	21 55 19.6	-0.2	
	baz=52								
I05D	**Terrebonne, OR**	51.54	342	⇑P		P	21 55 21.1	+0.9	
	baz=52								
D20A	**Manuel Ranch,**	51.59	355	⇑P		P	21 55 20.3	-0.2	
	baz=52								
I03D	**Drain, OR**	51.60	340	⇑P		P	21 55 22.1	+1.6	
	baz=52								
D19A	**Cripps Ranch,**	51.73	354	⇑P		P	21 55 21.4	-0.2	
	baz=52,SNR=7.6								
C30A	**Mose, Pekin**	52.02	3	⇓P		P	21 55 23.8	+0.1	
	baz=52								
C20A	**Veeth Ranch,**	52.19	355	⇑P		P	21 55 24.4	-0.6	
	baz=52								
C21A	**Desert Coulee**	52.23	356	⇓P		P	21 55 24.6	-0.7	
	baz=52								
C19A	**Slack Wire Ran**	52.31	354	⇑P		P	21 55 25.4	-0.5	
	baz=53								
EGMT	**Eagleton**	52.67	354	*e*P		P	21 55 28.8	+0.2	
	17nm,1.6s								
EGMT	**Eagleton**	52.67	354	⇑P		P	21 55 28.5	-0.1	
	baz=53								
DGMT	**Dagmar**	52.72	358	⇑P		P	21 55 29.0	+0.1	
	baz=53								
AGMN	**Agassiz Nation**	52.80	5	⇓P		P	21 55 29.3	-0.2	
	baz=53								
B21A	**Ellsworth Farm**	52.82	356	⇓P		P	21 55 29.2	-0.4	
	baz=53								
EYMN	**Ely**	53.00	9	*e*P		P	21 55 30.1	-0.8	
	8.0nm,0.9s								
A28A	**Rude Farm, Bot**	53.16	2	⇑P		P	21 55 32.1	0.0	
	baz=53								
A29A	**Manning Farm,**	53.20	2	⇓P		P	21 55 32.2	-0.2	
	baz=53								
A22A	**Carney Farms,**	53.32	357	⇓P		P	21 55 33.5	+0.2	
	baz=54								
A19A	**Klindworth Far**	53.46	355	⇓P		P	21 55 34.0	-0.4	
	baz=54								
F04D	**Rainier, OR**	53.62	342	⇓P		P	21 55 37.0	+1.5	
	baz=54								
NEW	**Newport**	54.11	348	*e*P		P	21 55 39.1	0.0	
	59nm,2.8s								
NEW	**Newport**	54.11	348	⇓P		P	21 55 39.3	+0.2	
	baz=54								
B08A	**Colville Reser**	54.70	346	*e*P		P	21 55 43.2	-0.2	
	4.1nm,1.0s								
EDM	**Edmonton**	58.23	352	*e*P		P	21 56 08.6	+0.2	
	17nm,1.1s								
YKA	**Yellowknife Ar**	67.43	354	P		P	21 57 08.8	-0.7	
	4.9nm,0.8s,baz=162,slow=6.2,SNR=34								
YKB5	**Yellowknife Ar**	67.43	354	*e*P		P	21 57 07.8	-1.7	
INK	**Inuvik**	75.82	348	*e*P		P	21 58 00.6	+0.7	
	15nm,1.4s								
RND	**Reindeer**	76.18	340	*e*P		P	21 58 02.9	+0.6	
	8.0nm,1.0s								
IL1	**Eielson Array**	76.47	342	*e*P		P	21 58 03.2	-0.6	
ILAR	**Eielson Array**	76.47	342	P		P	21 58 03.5	-0.3	
	1.7nm,0.7s,baz=147,slow=5.1,SNR=27								
ILB	**Eielson Array**	76.47	342	*e*P		P	21 58 03.5	-0.3	
WRH	**Wood River Hil**	76.65	341	*e*P		P	21 58 05.6	+0.8	
	3.7nm,1.0s								
MLY	**Manley**	77.87	341	*e*P		P	21 58 12.1	+0.4	
	3.9nm,1.0s								
RES	**Resolute Bay**	79.12	2	*e*P		P	21 58 17.9	-0.4	
	7.1nm,1.0s								
COLD	**Coldfoot**	79.14	343	*e*P		P	21 58 20.1	+1.5	
	4.4nm,1.0s								
H11N3	**WAKE ISLAND Hy**	92.39	289	T		T	23 41 54.5		
	baz=89								
H11N2	**WAKE ISLAND Hy**	92.40	289	T		T	23 41 52.2		
	baz=89								
H11N1	**WAKE ISLAND Hy**	92.41	289	T		T	23 41 57.7		
	baz=89								
H11S2	**WAKE ISLAND Hy**	92.50	288	T		T	23 41 58.2		
	baz=94,slow=75,SNR=4.9								
H11S1	**WAKE ISLAND Hy**	92.50	288	T		T	23 41 58.0		
	baz=94,slow=75,SNR=3.7								
H11S3	**WAKE ISLAND Hy**	92.52	288	T		T	23 42 00.9		
	baz=94,slow=75,SNR=4.6								
PETK	**Petropavlovsk-**	99.65	323	LR		LR	22 36 29.6		
	comp=Z,80nm,21.5s,baz=67,slow=30								
WRA	**Warramunga Arr**	119.48	244	PKP		PKPdf	22 05 04.1	-0.9	
	0.8nm,0.9s,baz=106,slow=2.2,SNR=4.9								
BRTR	**Keskin Array B**	126.86	42	PKP		PKPdf	22 05 18.2	-0.5	
	0.5nm,0.7s,baz=351,slow=4.8,SNR=4.1								
MKAR	**Makanchi Array**	137.64	356	PKP		PKPdf	22 05 38.0	-0.7	
	1.7nm,1.0s,baz=42,slow=4.2,SNR=6.8								
CMAR	**Chiang Mai Arr**	155.14	306	PKPbc		PKPbc	22 06 16.6		
	0.9nm,0.9s,baz=67,slow=0.5,SNR=4.9								
CMAR					PKPab	PKPab	22 06 32.8	-0.3	
	0.8nm,0.7s,baz=36,slow=3.6,SNR=5.3								

IDC **31** *21:46:23.3±1.6,* **12°.11N×88°.14W,h0**^{km}**,mb3.7**/4,
mb1 4.0/4**,mb1mx3.5**/34**,mbtmp3.7**/4**, Error ellipse: s-maj=244.1km s-min=21.2km az=54.0, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	22.42	322	P	P	21 51 23.7	-0.2
	1.6nm,0.8s,baz=137,slow=11,SNR=13						
LPAZ	**La Paz**	34.46	145	P	P	21 53 13.7	-0.1
	0.5nm,0.4s,baz=315,slow=5.7,SNR=3.1						
PDAR	**Pinedale Array**	35.76	333	P	P	21 53 24.3	0.0
	0.6nm,0.9s,baz=126,slow=7.1,SNR=3.9						
SIV	**San Ignacio**	38.69	136	P	P	21 53 49.0	-0.2
	1.7nm,0.8s,baz=303,slow=9.8,SNR=3.7						

CSEM **31** *21:49:19.6±0.9,37°.69N×20°.32E,h20*^{km}*,MD2.8, Error ellipse: s-maj=24.0km s-min=6.7km az=73.0*

ATH 31 21:49:20.9,37°.82N×20°.29E,h21^{km}**±6**^{km}**,MD2.8**/3**, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	0.43	33	*e*PB	Pb	21 49 30.5	+0.8
VLS				*e*SB	Sb	21 49 36.6	+0.9
VLS	**Valsamata**	0.43	33	*e*Pb	Pb	21 49 30.5	+0.8
VLS				*e*Sb	Sb	21 49 36.6	+0.9
LKD2	**Lefkada island**	1.01	17	*e*PN	Pn	21 49 40.2	+0.3
LKD2				*e*SN	Sn	21 49 54.4	+0.9
LKD2	**Lefkada island**	1.01	17	*e*Pn	Pn	21 49 40.2	+0.3
LKD2				*e*Sn	Sn	21 49 54.4	+0.9
PDO	**Prodromos**	1.05	42	*e*PN	Pn	21 49 40.7	+0.3
PDO				*e*SN	Sn	21 49 55.8	+1.4
PDO	**Prodromos**	1.05	42	*e*Pn	Pn	21 49 40.7	+0.3
PDO				*e*Sn	Sn	21 49 55.8	+1.4

NEIC **31** *21:58:19.2±0.5,32°.52N×104°.61W,h5*^{km}*,ML4.0, Error ellipse: s-maj=7.3km s-min=5.6km az=219.0*

ISC 31 21:58:18.2±1.3,32°.54N±0°.02×104°.61W±0°.02,h1^{km}**±10**^{km}**, n87,σ1s22**/112**,39C-29D,New Mexico**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDL2	**Guadalupe Moun**	0.40	149	*e*Pg	Pg	21 58 26.4	+0.5
GDL2				*e*Sg	Sb	21 58 39.1	+4.2
CLNB	**Carlsbad**	0.68	114	*e*Pg	Pg	21 58 31.6	+0.4
CLNB				*e*Sg	Sn	21 58 44.3	-2.1
CPRX	**Cap Rock**	0.79	52	*e*Pg	Pg	21 58 33.0	-0.4
CPRX				*e*Sg	Sg	21 58 44.6	+1.0
MNTX	**Cornudas Mount**	1.07	218	*e*Pg	Pg	21 58 38.1	-0.7
MNTX				*e*Sg	Sg	21 58 51.1	-1.5
MNTX	**Cornudas Mount**	1.07	218	⇓P	Pg	21 58 38.0	-0.7
	baz=1.1						
MNTX				⇑S	Sg	21 58 52.2	-0.4
	baz=1.1						
MNTX				⇑S	Sg	21 58 52.2	-0.4
	baz=1.1						
228A	**UT Block 9, Go**	1.76	103	⇓P	Pn	21 58 50.0	0.0
	baz=1.8						
228A				⇓S	Sb	21 59 13.5	-0.5
	baz=1.8						
128A	**Castleberry Fa**	1.79	87	⇑P	Pn	21 58 50.4	-0.1
	baz=1.8,SNR=265						
128A				⇓S	Sb	21 59 14.2	-0.8
	baz=1.8						
Z28A	**Tucker Farm, M**	2.01	68	⇑P	Pn	21 58 53.6	+0.1
	baz=2.0,SNR=34						
Z28A				⇓Sb	Sb	21 59 21.4	+0.1
	baz=2.0						
MSTX	**Muleshoe**	2.09	47	*e*Pn	Pn	21 58 54.9	+0.3
MSTX				*e*Sn	Sb	21 59 23.1	-0.6
MSTX	**Muleshoe**	2.09	47	⇑P	Pn	21 58 54.8	+0.2
	baz=2.1,SNR=47						
MSTX				⇑Sb	Sb	21 59 23.5	-0.2
	baz=2.1						
129A	**Stewart Farms,**	2.31	87	⇓P	Pn	21 58 58.7	+1.1
	baz=2.3,SNR=38						
129A				⇑Sb	Sb	21 59 31.0	+0.9
	baz=2.3						
BNM	**Barren Site**	2.33	314	*e*Pn	Pn	21 58 58.2	+0.2
BNM				*e*Sn	Sn	21 59 28.8	+1.4
Y28A	**McKinney Farm,**	2.40	55	⇓P	Pn	21 58 59.0	+0.2
	baz=2.4,SNR=78						
Y28A				⇓Sb	Sb	21 59 32.5	0.0
	baz=2.4						
229A	**Bryant Ranch,**	2.44	103	⇑P	Pn	21 59 00.7	+1.3
	baz=2.4,SNR=9.6						
229A				⇑Sb	Sb	21 59 34.7	+1.2
	baz=2.4						
LPM	**Los Pinos Moun**	2.44	317	*e*Pn	Pn	21 58 59.7	+0.2
LPM				*e*Sn	Sn	21 59 30.0	-0.2
Y22D	**IRIS PASSCAL I**	2.47	309	⇓P	Pn	21 59 00.5	+0.7
	baz=2.5						
Y22D				⇑Sb	Sb	21 59 35.6	+1.1
	baz=2.5						
329A	**Wagon Wheel Ra**	2.47	115	⇑P	Pn	21 59 00.6	+0.8
	baz=2.5						
329A				⇓Sb	Sb	21 59 35.5	+1.1
	baz=2.5						
Z29A	**Hungry Hill Ra**	2.54	73	⇑P	Pn	21 59 00.6	-0.2
	baz=2.5,SNR=109						
Z29A				⇑Sb	Sb	21 59 37.1	+0.5
	baz=2.5						
LENM	**Lemitar**	2.56	310	*e*Pn	Pn	21 59 01.9	+0.8
LENM				*e*Sn	Sn	21 59 34.2	+1.3
121A	**Cookes Peak, D**	2.69	271	⇑P

131A	**Roby**	**3.56**	**87**	⇓P		**Pn**	**21 59 15.1**	**+0.3**
	baz=3.5							
X30A	**Coker Ranch, T**	**3.65**	**58**	⇓P		**Pn**	**21 59 15.5**	**-0.5**
	baz=3.6,SNR=9.9							
530A	**J-C Ranch, Com**	**3.68**	**130**	⇑P		**Pn**	**21 59 16.6**	**+0.3**
	baz=3.7							
231A	**Bronte**	**3.69**	**98**	⇓P		**Pn**	**21 59 16.7**	**+0.2**
	baz=3.7							
V28A	**Channing**	**3.76**	**31**	⇑P		**Pn**	**21 59 17.4**	**-0.1**
	baz=3.7							
331A	**San Angelo**	**3.76**	**108**	⇓P		**Pn**	**21 59 17.6**	**+0.1**
	baz=3.8							
331A				⇓S		**Sn**	**22 00 01.4**	**-1.1**
	baz=3.8							
Z31A	**Sharp Cattle R**	**3.83**	**77**	⇑P		**Pn**	**21 59 18.4**	**-0.1**
	baz=3.8							
431A	**Sonora**	**3.88**	**117**	⇑P		**Pn**	**21 59 19.7**	**+0.5**
	baz=3.9							
Y31A	**Rekieta Farm,**	**3.91**	**68**	⇑P		**Pn**	**21 59 19.3**	**-0.1**
	baz=3.9							
U27A	**Thompson Grove**	**4.14**	**20**	⇑P		**Pn**	**21 59 23.1**	**+0.3**
	baz=4.1							
ABTX	**Abilene, Hawle**	**4.19**	**88**	*e*Pn		**Pn**	**21 59 23.3**	**-0.1**
ABTX				*e*Sn		**Sn**	**22 00 11.2**	**-1.9**
ABTX	**Abilene, Hawle**	**4.19**	**88**	⇑P		**Pn**	**21 59 23.2**	**-0.1**
	baz=4.2,SNR=8.5							
V29A	**Stinnett**	**4.19**	**37**	⇓P		**Pn**	**21 59 23.6**	**+0.2**
	baz=4.2							
531A	**Rocksprings**	**4.21**	**123**	⇑P		**Pn**	**21 59 24.2**	**+0.6**
	baz=4.2							
232A	**Coleman**	**4.25**	**98**	⇓P		**Pn**	**21 59 24.0**	**-0.3**
	baz=4.2							
332A	**Millersview**	**4.29**	**104**	⇓P		**Pn**	**21 59 25.0**	**+0.2**
	baz=4.3							
X31A	**McDonald Ranch**	**4.39**	**60**	⇑P		**Pn**	**21 59 25.8**	**-0.3**
	baz=4.4,SNR=5.3							
432A	**Menard**	**4.43**	**111**	⇑P		**Pn**	**21 59 26.3**	**-0.3**
	baz=4.4							
T25A	**Trinidad**	**4.59**	**2**	*e*Pn		**Pn**	**21 59 32.0**	**+3.0**
T25A				*e*Sn		**Sn**	**22 00 24.4**	**+1.3**
JCT	**Junction City**	**4.59**	**115**	*e*Pn		**Pn**	**21 59 30.7**	**+1.8**
JCT				*e*Sn		**Sn**	**22 00 24.6**	**+1.7**
JCT	**Junction City**	**4.59**	**115**	⇑P		**Pn**	**21 59 29.6**	**+0.7**
	baz=4.6							
532A	**Rocksprings**	**4.69**	**120**	⇑P		**Pn**	**21 59 30.3**	**0.0**
	baz=4.7							
W18A	**Petrified Fore**	**4.98**	**302**	*e*Pn		**Pn**	**21 59 34.6**	**+0.2**
W32A	**Sentinel**	**5.15**	**59**	⇓P		**Pn**	**21 59 36.1**	**-0.4**
	baz=5.1,SNR=7.9							
TUC	**Tucson**	**5.23**	**269**	*e*Pn		**Pn**	**21 59 37.5**	**-0.2**
TUC				*e*Sn		**Sn**	**22 00 35.1**	**-3.7**
SDCO	**Great Sand Dun**	**5.24**	**352**	*e*Pn		Pb	21 59 45.6	-5.2
SDCO				*e*Pg		Pg	21 59 52.6	-6.1
SDCO				*e*Sn		**Sn**	**22 00 36.9**	**-2.4**
WMOK	**Wichita Mounta**	**5.33**	**64**	*e*Pn		**Pn**	**21 59 38.6**	**-0.5**
WMOK				*e*Sn		**Sn**	**22 00 41.2**	**+0.1**
MVCO	**Mesa Verde**	**5.65**	**327**	*e*Pn		**Pn**	**21 59 41.8**	**-1.9**
WHTX	**Lake Whitney,**	**6.08**	**93**	*e*Pn		**Pn**	**21 59 48.8**	**-0.6**
WHTX				*e*Lg		Lg	22 01 34.5	
WUAZ	**Wupatki**	**6.35**	**300**	*e*Pn		**Pn**	**21 59 54.1**	**+0.9**
PV01	**Paradox Valley**	**6.45**	**331**	*e*Pn		Pn	21 59 50.1	-4.5
PV05	**Paradox Valley**	**6.63**	**328**	*e*Pn		**Pn**	**21 59 58.5**	**+1.4**
PV05				*e*Pg		Pb	22 00 19.1	+4.6
PV05				*e*Sg		Sb	22 01 43.9	+10
PV10	**Paradox Valley**	**6.85**	**329**	*e*Pg		Pb	22 00 23.9	+5.6
SMCO	**Snowmass**	**6.89**	**344**	*e*Pg		Pb	22 00 24.9	+5.8
PV09	**Paradox Valley**	**6.99**	**329**	*e*Pg		Pb	22 00 24.7	+4.0
ISCO	**Idaho Springs**	**7.29**	**354**	*e*Pg		Pb	22 00 32.5	+6.8
ISCO				*e*Sg		Sg	22 02 06.2	-6.1
TUL1	**Leonard**	**8.03**	**63**	*e*Pg		Pb	22 00 45.2	+6.9
SRU	**San Rafael Swe**	**8.12**	**325**	*e*Pg		Pb	22 00 46.0	+6.1
GMRC	**Granite Mounta**	**9.48**	**287**	*e*Pn		Pn	22 00 44.9	+8.8
GMRC				*e*Sn		**Sn**	**22 02 27.5**	**+4.1**
YUH	**Yuha Desert**	**9.55**	**274**	*e*Pn		Pn	22 00 42.7	+5.8
JLU	**Jordanelle**	**9.74**	**328**	*e*Pn		Pn	22 00 45.4	+5.6
HWB	**Hans Werner Br**	**10.41**	**276**	*e*Pn		Pn	22 00 42.8	-5.9
EL2	**El Mirage 2**	**10.98**	**284**	*e*Pn		Pn	22 00 52.8	-3.8
BFSC	**Mount Baldy Ra**	**11.04**	**282**	*e*Pn		Pn	22 01 06.8	+9.3
BFSC				*e*Sn		**Sn**	**22 03 00.1**	**-1.7**
LRRC	**Littlerock Res**	**11.37**	**284**	*e*Pn		Pn	22 01 09.5	+7.6
LRRC				*e*Sn		Sn	22 03 21.6	+12
WASM	**Alta Sierra Ca**	**11.99**	**289**	*e*Lg		Lg	22 04 55.3	
BAKC	**Calstate**	**12.36**	**287**	*e*Pn		**Pn**	**22 01 17.3**	**+1.9**
MARC	**Maricopa**	**12.50**	**285**	*e*Pn		Pn	22 01 08.9	-8.4
CARC	**Carrizo Plain**	**12.95**	**286**	*e*Pn		**Pn**	**22 01 21.6**	**-2.0**

*CASC **31** 22:11:50.7±1.5, 14°.40N×91°.61W, h109km±8km, MD4.0, ML4.0*
*ISCJB **31** 22:11:51.0±0.6, 14°.39N±0°.08×91°.61W±0°.05, h111km±4km, mb4.0/7, Error ellipse: s-maj=15.0km s-min=4.1km az=29.0*
*MEX **31** 22:11:52.1±0.9, 14°.33N×91°.53W, h96km±21km, MD3.5*
*IDC **31** 22:11:53.7±1.0, 14°.56N×91°.25W, h110km±8km, mb3.7/7, mb1 3.9/9, mb1mx3.5/38, mbtmp4.1/9, Error ellipse: s-maj=23.2km s-min=15.6km az=87.0*

ISC 31 22:11:52.4±0.7, 14°.48N±0°.07×91°.55W±0°.04, h100km±6km, n31, σ1s14/44, mb4.0/7, 1C, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
JAT	**Jato**	**0.18**	**208**	*e*P	**Pn**	**22 12 05.9**			**-0.7**
FUG	**Fuego 3**	**0.69**	**92**	*e*P	**Pn**	**22 12 09.4**			**-0.5**
THIG		**0.81**	**302**	*e*P	**Pn**	**22 12 10.4**			**-0.5**
THIG				*e*S	**Sn**	**22 12 24.1**			**-0.7**
PCG	**Pacaya**	**0.92**	**95**	*e*P	**Pn**	**22 12 12.1**			**-0.2**
PCG				*e*S	**Sn**	**22 12 29.2**			**+2.1**
IXG	**Ixpaco**	**1.10**	**106**	⇑*e*P	**Pn**	**22 12 13.2**			**-1.0**
NBG	**Las Nubes**	**1.17**	**84**	*e*P	**Pn**	**22 12 15.8**			**+0.8**
NBG				*e*S	Sn	22 12 41.4			+9.3
RBDL	**Robledal**	**1.84**	**101**	*e*P	**Pn**	**22 12 22.5**			**-0.7**
MRL	**Marmol**	**1.89**	**72**	*e*P	**Pn**	**22 12 25.1**			**+1.3**
MRL				*e*S	**Sn**	**22 12 48.8**			**+1.1**
RTR	**El Retiro**	**1.94**	**107**	*e*P	**Pn**	**22 12 24.0**			**-0.4**
RTR				*e*S	**Sn**	**22 12 49.7**			**+1.0**
SBLS	**San Blas**	**1.97**	**108**	*e*P	**Pn**	**22 12 24.0**			**-0.9**
SBLS				*e*S	**Sn**	**22 12 51.2**			**+1.5**
SNJE	**San Jose**	**1.98**	**108**	*e*P	**Pn**	**22 12 24.4**			**-0.6**
PCIG		**2.02**	**307**	*e*P	**Pn**	**22 12 25.7**			**+0.4**
PCIG				*e*S	**Sn**	**22 12 49.9**			**-0.5**
BOQS	**Boqueron**	**2.32**	**108**	*e*P	**Pn**	**22 12 29.2**			**-0.3**
BOQS				*e*S	**Sn**	**22 12 58.3**			**+0.5**
SNET	**Serv Nac Est T**	**2.38**	**109**	AML	AML	22 13 05.9			
	comp=Z,1um,0.2s								
LBRS	**Las Brisas**	**2.54**	**106**	*e*P	**Pn**	**22 12 31.6**			**-0.6**
LFRS	**El Faro**	**2.56**	**109**	*e*P	**Pn**	**22 12 32.0**			**-0.5**
LFRS				*e*S	**Sn**	**22 13 04.5**			**+1.3**
TGIG		**2.74**	**327**	*e*P	**Pn**	**22 12 35.8**			**+1.0**
TGIG				*e*S	**Sn**	**22 13 09.3**			**+1.8**
CNCH	**Conchagua**	**3.80**	**108**	*e*P	**Pn**	**22 12 49.9**			**+0.8**
CMIG	**Matias Romero**	**4.13**	**309**	P	**Pn**	**22 12 53.7**			**+0.3**
	comp=Z,4.8nm,0.3s,baz=124,slow=9.0,SNR=25								
CMIG				S	**Sn**	**22 13 41.8**			**+1.1**
	comp=Z,9.1nm,0.3s,baz=74,slow=16,SNR=4.3								
TEIG	**Tepich**	**6.52**	**28**	P	**Pn**	**22 13 25.4**			**-0.4**
	comp=Z,67nm,0.3s,baz=169,slow=0.9,SNR=69								
TEIG				S	**Sn**	**22 14 36.3**			**-2.4**
	baz=343,slow=19,SNR=6.5								
TXAR	**Lajitas Array**	**18.55**	**325**	P	**Pn**	**22 16 03.7**			**+0.8**
	comp=Z,0.2nm,0.3s,baz=150,slow=11,SNR=19								
TKL	**Tuckaleechee C**	**22.22**	**17**	P	**P**	**22 16 41.5**			**+0.7**
	comp=Z,4.8nm,0.7s,baz=174,slow=9.2,SNR=7.6								
TKL				pP	**pP**	**22 17 00.2**			**-0.1**
	comp=Z,2.6nm,0.7s,baz=150,slow=6.9,SNR=2.6								
NVAR	**Mina Array Bea**	**33.58**	**320**	P	**P**	**22 18 25.6**			**+2.3**
	comp=Z,3.2nm,0.7s,baz=129,slow=8.3,SNR=12								
NVAR				PcP	**PcP**	**22 21 02.7**			**+1.1**
	comp=Z,1.0nm,0.7s,baz=124,slow=4.5,SNR=4.9								
SIV	**San Ignacio**	**42.70**	**134**	P	**P**	**22 19 39.5**			**-0.4**
	comp=Z,1.1nm,0.6s,baz=315,slow=8.6,SNR=4.5								
SIV				pP	**pP**	**22 20 03.0**			**-0.2**
	comp=Z,3.3nm,0.8s,baz=317,slow=10.0,SNR=7.0								
SCHQ	**Schefferville**	**44.63**	**20**	P	**P**	**22 19 52.9**			**-1.9**
	comp=Z,3.9nm,0.6s,baz=209,slow=7.8,SNR=7.1								
YKA	**Yellowknife Ar**	**50.67**	**346**	P	**P**	**22 20 40.0**			**-1.3**
	comp=Z,1.0nm,0.7s,baz=148,slow=7.5,SNR=8.8								
FRB	**Frobisher Bay**	**51.76**	**13**	P	**P**	**22 20 46.8**			**-2.6**
	comp=Z,0.5nm,0.3s,baz=220,slow=7.9,SNR=3.3								
ILAR	**Eielson Array**	**62.58**	**337**	P	**P**	**22 22 05.0**			**-0.6**
	comp=Z,0.5nm,0.6s,baz=177,slow=4.8,SNR=9.6								
WRA	**Warramunga Arr**	**135.93**	**256**	PKP	**PKPdf**	**22 31 03.0**			**+0.5**
	comp=Z,0.4nm,0.7s,baz=80,slow=2.0,SNR=5.3								
ASAR	**Alice Springs**	**136.23**	**251**	PKP	**PKPdf**	**22 31 04.1**			**+1.0**
	comp=Z,0.4nm,0.7s,baz=90,slow=2.8,SNR=3.8								
CMAR	**Chiang Mai Arr**	**145.68**	**342**	PKPbc	**PKPdf**	**22 31 19.8**			**-0.3**
	comp=Z,3.1nm,0.8s,baz=334,slow=3.2,SNR=20								
CMAR				pPKPbc	pPKPbc	22 31 49.7			+2.0
	comp=Z,0.3nm,0.4s,baz=350,slow=3.7,SNR=1.7								

*ISCJB **31** 22:18:12.5±2.9, 34°.97S±0°.09×72°.7W±0°.1, h17km±24km, mb3.5/2, Error ellipse: s-maj=23.0km s-min=10.9km az=31.3*
*IDC **31** 22:18:12.2±1.8, 35°.14S×73°.49W, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.5/26, mbtmp3.4/4, ML3.6/2, Error ellipse: s-maj=61.9km s-min=31.9km az=68.0*
*GUC **31** 22:18:13.9±0.4, 34°.90S×72°.58W, h22km±2km, ML3.5*

ISC 31 22:18:14.4±2.6, 34°.88S±0°.06×72°.5W±0°.1, h7km±16km, n9, σ2s02/13, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
TALC	**Talca**	**0.89**	**126**	*e*P	**Pg**	**22 18 30.2**			**-1.2**
TALC				*e*S	**Sg**	**22 18 42.6**			**-0.4**
NICH	**Los Niches**	**1.06**	**97**	*e*P	**Pb**	**22 18 33.5**			**-1.6**
NICH				*e*S	**Sg**	**22 18 48.5**			**-0.1**
LNCH	**Linares**	**1.22**	**143**	*e*P	**Pg**	**22 18 40.8**			**+3.0**
LNCH				*e*S	**Sn**	**22 18 57.2**			**+2.5**
ROCH	**El Roble**	**2.27**	**34**	*e*P	**Pn**	**22 18 52.4**			**-0.1**
ROCH				*e*S	**Sn**	**22 19 21.6**			**+0.7**
ROCH				AML	AML	22 19 31.2			
	comp=N,229nm,0.6s								
PEL	**Peldehue**	**2.30**	**42**	*e*P	**Pn**	**22 18 52.8**			**0.0**
PEL				*e*S	**Sn**	**22 19 22.0**			**+0.7**
PEL				AML	AML	22 19 33.4			
	comp=N,520nm,0.4s								
PLCA	**Paso Flores**	**6.05**	**166**	Pn	**Pn**	**22 19 42.8**			**-1.5**
	comp=N,0.4nm,0.3s,baz=342,slow=14,SNR=7.3								
PLCA				Lg	Lg	22 21 13.7			
	baz=68,slow=19,SNR=2.2								
LPAZ	**La Paz**	**18.92**	**13**	P	**Pn**	**22 22 40.1**			**+3.1**
	comp=N,0.1nm,0.3s,baz=196,slow=12,SNR=4.4								
TXAR	**Lajitas Array**	**70.31**	**331**	P	**P**	**22 29 26.6**			**-2.0**
	comp=N,0.2nm,0.5s,baz=164,slow=7.5,SNR=4.2								
TORD	**Torodi Ar. Bea**	**84.88**	**70**	P	P	22 30 53.5			+3.3
	comp=N,0.4nm,0.8s,baz=225,slow=5.4,SNR=2.9								

*ISCJB **31** 22:20:17.3±0.3, 17°.53N±0°.03×95°.28W±0°.04, h122km±3km, mb4.4/49, Error ellipse: s-maj=6.8km s-min=4.7km az=139.2*
*IDC **31** 22:20:17.8±0.5, 17°.65N×95°.29W, h104km±5km, mb3.8/16, mb1 4.0/19, mb1mx3.9/35, mbtmp4.2/19, Error ellipse: s-maj=20.3km s-min=10.1km az=63.0*
*NEIC **31** 22:20:18.9, 17°.47N×95°.52W, h114km, mb4.5/56, MD4.4(MEX), After MEX.*
*MEX **31** 22:20:19.0±1.2, 17°.47N×95°.52W, h113km±11km, MD4.4*

ISC 31 22:20:17.2±0.5, 17°.62N±0°.03×95°.49W±0°.03, h105km±5km, n256, σ1s63/271, mb4.5/49, 64C-72D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
CMIG	**Matias Romero**	**0.78**	**132**	*i* P	**Pn**	**22 20 36.5**			**+0.7**
CMIG				*e*S	**Sn**	**22 20 49.8**			**0.0**
CMIG	**Matias Romero**	**0.78**	**132**	P	**Pn**	**22 20 36.2**			**+0.4**
	698nm,0.3s,baz=308,slow=9.8,SNR=4473								
CMIG				S	**Sn**	**22 20 49.8**			**0.0**
	853nm,0.3s,baz=168,slow=20,SNR=95								
VHO	**Vista Hermosa**	**1.30**	**246**	*i* P	**Pn**	**22 20 42.4**			**+0.8**
VHO				*e*S	**Sn**	**22 21 00.4**			**+0.4**
VHO	**Vista Hermosa**	**1.30**	**246**	*e*Pn	**Pn**	**22 20 42.4**			**+0.8**
VHO				*e*Sn	**Sn**	**22 21 00.4**			**+0.4**
HUIG	**Huatulco**	**1.93**	**198**	*e*P	**Pn**	**22 20 48.0**			**-1.1**
HUIG				*i* S	**Sn**	**22 21 09.0**			**-4.4**
HUIG	**Huatulco**	**1.93**	**198**	*e*Pn	**Pn**	**22 20 48.0**			**-1.1**
HUIG				*e*Sn	**Sn**	**22 21 09.0**			**-4.4**
TPIG	**Tehuac#an**	**1.95**	**294**	*i* P	**Pn**	**22 20 51.5**			**+2.0**
TPIG				*i* S	**Sn**	**22 21 15.1**			**+1.0**
TPIG	**Tehuac#an**	**1.95**	**294**	*e*Pn	**Pn**	**22 20 51.5**			**+2.0**
TPIG				*e*Sn	**Sn**	**22 21 15.1**			**+1.0**
LVIG	**Laguna Verde**	**2.27**	**337**	*i* P	**Pn**	**22 20 53.1**			**-0.4**
LVIG				*e*S	**Sn**	**22 21 20.1**			**-1.1**
LVIG	**Laguna Verde**	**2.27**	**337**	*e*Pn	**Pn**	**22 20 53.1**			**-0.4**
LVIG				*e*Sn	**Sn**	**22 21 20.1**			**-1.1**
PNIG	**Pinotepa**	**2.80**	**245**	*i* P	**Pn**	**22 20 58.6**			**-1.8**
PNIG				*i* S	**Sn**	**22 21 32.0**			**-1.7**
PNIG	**Pinotepa**	**2.80**	**245**	*e*Pn	**Pn**	**22 20 58.6**			**-1.8**
PNIG				*e*Sn	**Sn**	**22 21 32.0**			**-1.7**
PCIG		**2.89**	**131**	*i* P	**Pn**	**22 21 02.0**			**+0.3**
PCIG				*i* S	**Sn**	**22 21 35.4**			**-0.4**
PCIG		**2.89**	**131**	*e*Pn	**Pn**	**22 21 02.0**			**+0.3**
PCIG				*e*Sn	**Sn**	**22 21 35.4**			**-0.4**
CCIG	**Comitan**	**3.48**	**112**	*e*P	**Pn**	**22 21 10.5**			**+0.9**
CCIG				*e*S	Sn	22 21 39.5			-11
CCIG	**Comitan**	**3.48**	**112**	*e*Pn	**Pn**	**22 21 10.5**			**+0.9**
CCIG				*e*Sn	Sn	22 21 39.5			-11
YAIG	**Yautepec**	**3.62**	**291**	*i* P	**Pn**	**22 21 13.8**			**+2.3**
YAIG				*i* S	Sn	22 21 39.7			-14
CAIG	**El Cayaco**	**4.60**	**264**	*i* P	**Pn**	**22 21 23.5**			**-1.0**
CAIG	**El Cayaco**	**4.60**	**264**	*e*Pn	**Pn**	**22 21 23.5**			**-1.0**
ARIG	**Puente Sto Nin**	**4.67**	**279**	*i* P	**Pn**	**22 21 27.4**			**+1.9**
TEIG	**Tepich**	**7.31**	**68**	P	**Pn**	**22 21 60.0**			**-1.3**
	38nm,0.3s,baz=271,slow=1.6,SNR=122								
TEIG				S	**Sn**	**22 23 17.3**			**-5.4**
	26nm,0.3s,baz=2.6,slow=19,SNR=10								
035A	**Encino**	**9.59**	**346**	⇑S	**Sn**	**22 24 15.6**			**-2.4**
	baz=9.8								
834A	**Tilden**	**10.83**	**345**	⇑S	**Sn**	**22 24 48.2**			**-0.2**
	baz=11								
833A	**Chaparral WMA,**	**11.24**	**342**	⇑P	Pn	22 22 58.1			+3.4
	baz=11								
832A	**Faith Ranch, C**	**11.39**	**340**	⇑P	**Pn**	**22 22 59.5**			**+2.9**
	baz=12								
633A	**Saathoff Ranch**	**12.26**	**345**	⇓P	Pn	22 23 11.7			+3.4
	baz=12								
633A				⇓S	**Sn**	**22 25 19.5**			**-3.6**
	baz=12								
633A				⇓S	**Sn**	**22 25 19.5**			**-3.6**
	baz=12								
HKT	**Hockley**	**12.28**	**359**	*e*Pn	**Pn**	**22 23 09.6**			**+1.2**
537A	**Green Hill Far**	**12.43**	**357**	⇓P	**Pn**	**22 23 11.0**			**+0.5**
	baz=13								
632A	**Uvalde**	**12.47**	**342**	⇓P	Pn	22 23 14.7			+3.7
	baz=13								
632A				⇓S	**Sn**	**22 25 25.6**			**-2.6**
	baz=13								
632A				⇓S	**Sn**	**22 25 25.6**			**-2.6**
	baz=13								
534A	**Blanco**	**12.65**	**348**	⇑P	Pn	22 23 17.3			+3.9
	baz=13,SNR=12								
534A				⇓S	**Sn**	**22 25 28.2**			**-4.4**
	baz=13								
534A				⇓S	**Sn**	**22 25 28.2**			**-4.4**
	baz=13								
533A	**Kerrville**	**12.81**	**346**	⇓P	Pn	22 23 19.2			+3.7
	baz=13								
533A				⇓S	**Sn**	**22 25 34.1**			**-2.5**
	baz=13								
533A				⇓S	**Sn**	**22 25 34.1**			**-2.5**
	baz=13								
532A	**Rocksprings**	**13.09**	**343**	⇓P	**P**	**22 23 23.8**			**-1.6**
	baz=13,SNR=6.3								
531A	**Rocksprings**	**13.31**	**341**	⇓P	**P**	**22 23 27.3**			**-0.6**
	baz=14								
434A	**Burnet**	**13.38**	**350**	⇓P	**Pn**	**22 23 25.6**			**+2.7**
	baz=14								
JCT	**Junction City**	**13.39**	**344**	⇓P	**P**	**22 23 27.3**			**-1.5**
	baz=14								
433A	**Art**	**13.48**	**347**	⇑P	**P**	**22 23 27.9**			**-1.9**
	baz=14								
530A	**J-C Ranch, Com**	**13.57**	**338**	⇓P	**P**	**22 23 30.6**			**-0.2**
	baz=14								
337A	**Centerville**	**13.64**	**359**	⇑P	**Pn**	**22 23 27.6**			**+1.3**
	baz=14								
338A	**Crockett**	**13.68**	**1**	⇓P	**Pn**	**22 23 29.6**			**+2.8**
	baz=14								
339A	**Huntington**	**13.68**	**3**	⇑P	**Pn**	**22 23 28.0**			**+1.1**
	baz=14,SNR=7.1								
336A	**Riesel**	**13.76**	**355**	⇓P	**P**	**22 23 32.2**			**-0.7**
	baz=14								
432A	**Menard**	**13.77**	**344**	⇓P	**P**	**22 23 34.4**			**+1.4**
	baz=14,SNR=11								
340A	**Bronson**	**13.82**	**6**	⇑P	**Pn**	**22 23 30.7**			**+2.2**
	baz=14								
431A	**Sonora**	**13.82**	**341**	⇓P	**P**	**22 23 35.5**			**+2.0**
	baz=14,SNR=5.4								
LTX	**Lajitas**	**13.86**	**329**	*e*Pn	**P**	**22 23 32.8**			**-1.2**
TXAR	**Lajitas Array**	**13.86**	**329**	P	**P**	**22 23 32.8**			**-1.2**
	0.4nm,0.3s,baz=155,slow=11,SNR=19								
TX31	**Lajitas Ar. Si**	**13.86**	**329**	*e*P	**P**	**22 23 34.5**			**+0.5**
334A	**Lometa**	**13.88**	**350**	⇑P	**Pn**	**22 23 31.8**			**+2.3**
	baz=14								
529A	**Stev Forest Ra**	**13.88**	**335**	⇑P	**P**	**22 23 36.4**			**+2.1**
	baz=14								
333A	**Richland Sprin**	**14.01**	**348**	⇓P	**P**	**22 23 35.1**			**-0.5**
	baz=14								
NATX	**Nacogdoches**	**14.10**	**3**	⇓P	**Pn**	**22 23 33.2**			**+1.0**
	baz=14								
430A	**Baggett Ranch,**	**14.11**	**339**	⇑P	**P**	**22 23 39.5**			**+2.6**
	baz=14,SNR=6.1								
429A	**Davenport Ranc**	**14.20**	**337**	⇓P	**P**	**22 23 39.9**			**+2.1**
	baz=14								
332A	**Millersview**	**14.24**	**345**	⇓P	**P**	**22 23 38.3**			**+0.2**
	baz=14								
331A	**San Angelo**	**14.35**	**343**	⇓P	**P**	**22 23 41.6**			**+2.2**
	baz=14,SNR=5.8								
WHTX	**Lake Whitney,**	**14.42**	**353**	*e*P	**P**	**22 23 42.5**			**+2.3**
WHTX	**Lake Whitney,**	**14.42**	**353**	⇓P	**P**	**22 23 40.1**			**0.0**
	baz=15								
234A	**Clairette**	**14.52**	**351**	⇑P	**P**	**22 23 41.3**			**0.0**
	baz=15								
330A	**Mertzon**	**14.66**	**340**	⇑P	**P**	**22 23 44.4**			**+1.4**
	baz=15								
233A	**Rising Star**	**14.67**	**348**	⇓P	**P**	**22 23 44.6**			**+1.7**
	baz=15,SNR=6.0								
232A	**Coleman**	**14.70**	**346**	⇑P	**P**	**22 23 45.5**			**+2.2**
	baz=15,SNR=16								
231A	**Bronte**	**14.91**	**344**	⇓P	**P**	**22 23 47.5**			**+1.9**
	baz=15,SNR=6.8								
138A	**Matatall Enter**	**14.98**	**1**	⇓P	**P**	**22 23 46.4**			**0.0**
	baz=15								
329A	**Wagon Wheel Ra**	**15.01**	**338**	⇑P	**P**	**22 23 48.6**			**+1.8**
	baz=15								
134A	**White-Moore Ra**	**15.07**	**352**	⇑P	**P**	**22 23 48.4**			**+0.9**
	baz=15								
133A	**Hamilton Ranch**	**15.24**	**349**	⇓P	**P**	**22 23 49.9**			**+0.6**
	baz=15								
ABTX	**Abilene, Hawle**	**15.40**	**347**	*e*Pn	**P**	**22 23 54.1**			**+3.0**
	23nm,1.1s								
ABTX	**Abilene, Hawle**	**15.40**	**347**	⇓P	**P**	**22 23 53.1**			**+2.0**
	baz=16,SNR=7.5								
Z37A	**Pogue Cattle C**	**15.52**	**360**	⇓P	**Pn**	**22 23 51.8**			**+1.6**
	baz=16								
131A	**Roby**	**15.63**	**345**	⇑P	**P**	**22 23 54.9**			**+1.3**
	baz=16								
130A	**Snyder**	**15.71**	**343**	⇑P	**P**	**22 23 55.7**			**+1.2**
	baz=16								
Z35A	**Perchaven, San**	**15.73**	**355**	⇓P	**P**	**22 23 56.7**			**+2.1**
	baz=16								
Z34A	**Collier Ranch,**	**15.84**	**353**	⇑P	**P**	**22 23 56.1**			**+0.2**
	baz=16								
Z33A	**Whitaker Ranch**	**15.88**	**350**	⇓P	**P**	**22 23 56.5**			**+0.1**
	baz=16								
Z32A	**Haskell**	**16.03**	**348**	⇓P	**P**	**22 24 00.9**			**+2.9**

UTMT	University of 53nm,0.6s	19.55	16	*e*P	P	22 24 36.1	-0.5		
PBMO	Poplar Bluff 28nm,0.4s	19.60	12	*e*P	P	22 24 37.8	+0.6		
T32A	Huddler Ranch, baz=20	19.72	352	⇑P	P	22 24 39.5	+1.0		
T31A	Randall Ranch, baz=20	19.75	350	⇑P	P	22 24 40.5	+1.7		
U27A	Thompson Grove baz=20	19.82	342	⇓P	Pn	22 24 42.4	+0.1		
ANMO	Albuquerque 0.3nm,0.3s,baz=145,slow=12,SNR=5.8	19.84	333	P	P	22 24 42.0	+2.0		
ANMO	Albuquerque 46nm,2.7s	19.84	333	*e*P	P	22 24 42.0	+2.0		
T30A	Plains baz=20	19.86	348	⇑P	P	22 24 41.5	+1.5		
S35A	Otter Creek Ra baz=20,SNR=7.8	20.00	358	⇑P	P	22 24 41.9	+0.4		
S36A	Lake Cedric, C baz=20	20.03	360	⇓P	P	22 24 42.4	+0.5		
S34A	Willow Spring baz=20	20.06	356	⇓P	P	22 24 41.7	-0.4		
S32A	Newby Ranch, P baz=20	20.23	352	⇑P	P	22 24 44.6	+0.5		
CPCT	Cooper Cave	20.27	27	*e*P	P	22 24 43.4	-1.0		
S29A	Ulysses baz=21	20.53	347	⇑P	P	22 24 48.8	+1.5		
RGRS	Roger Stewart	20.53	39	*e*P	P	22 24 46.4	-0.9		
R36A	Gordon, Harris baz=21,SNR=6.8	20.63	360	P	P	22 24 48.5	+0.3		
CSU	Charleston Sou	20.66	39	*e*P	P	22 24 49.4	+0.7		
R34A	Isabella, Hill baz=21	20.66	356	⇓P	P	22 24 47.8	-0.9		
R33A	Olander Ranch, baz=21	20.73	354	⇓P	P	22 24 50.0	+0.6		
T26A	Comanche Natio baz=21	20.75	341	⇓P	Pn	22 24 52.4	-0.7		
TKL	Tuckaleechee C 8.5nm,0.6s,baz=182,slow=9.4,SNR=23	20.77	28	P	P	22 24 49.8	0.0		
TKL	Tuckaleechee C	20.77	28	*e*P	P	22 24 48.5	-1.3		
JSC	Jenkinsville 22nm,1.2s	20.92	35	*e*P	P	22 24 50.3	-1.1		
R32A	Long Quarter, baz=21	20.92	353	⇑P	P	22 24 49.5	-1.9		
T25A	Trinidad 17nm,1.3s	20.98	340	*e*P	P	22 24 55.4	+3.2		
T25A	Trinidad baz=21	20.98	340	⇓P	P	22 24 54.7	+2.4		
R30A	Dighton baz=21	21.01	349	⇑P	P	22 24 54.5	+2.1		
S26A	Kim baz=21	21.13	342	⇑P	P	22 24 55.9	+2.1		
Q35A	Mercer Eighty, baz=21	21.17	359	⇑P	P	22 24 55.0	+1.0		
Q37A	Longview Farm, baz=21	21.20	2	⇓P	P	22 24 55.0	+0.7		
Q34A	Chapman baz=22	21.27	357	⇑P	P	22 24 55.4	+0.3		
Q36A	Arnold C. Orve baz=22	21.27	0	⇑P	P	22 24 55.5	+0.4		
R28A	Tribune baz=22	21.38	346	⇑P	P	22 24 59.2	+2.9		
KSU1	Kansas State U baz=22	21.43	358	⇑P	P	22 24 57.5	+0.7		
Q32A	Meitler Ranch, baz=22	21.46	353	⇑P	P	22 24 58.8	+1.5		
KMSC	Kings Mountain 18nm,1.0s	21.53	33	*e*P	P	22 24 57.4	-0.6		
KMSC				*e*pP	pP	22 25 10.0	-8.0		
KMSC	Kings Mountain baz=22,SNR=8.8	21.53	33	P	P	22 24 57.5	-0.4		
R27A	Eads baz=22	21.56	344	⇑P	P	22 25 00.6	+2.2		
TZTN	Tazewell 33nm,1.2s	21.61	27	*e*P	P	22 24 58.4	-0.3		
Q29A	Oakley baz=22	21.73	348	⇑P	P	22 25 03.1	+3.0		
R26A	Arlington baz=22	21.75	343	⇑P	P	22 25 03.2	+2.8		
P35A	Duane Minner, baz=22	21.84	359	⇑P	P	22 25 02.1	+0.9		
SDCO	Great Sand Dun 8.9nm,1.3s	21.89	338	*e*P	P	22 25 05.3	+3.2		
SDCO	Great Sand Dun baz=22,SNR=5.9	21.89	338	⇑P	P	22 25 04.3	+2.2		
OLIL	Olney 40nm,1.1s	22.01	16	*e*P	P	22 25 02.5	-0.5		
WCI	Wyandotte Cave 37nm,1.0s	22.06	20	*e*P	P	22 25 02.3	-1.3		
Q26A	Hugo baz=23	22.35	343	⇓P	P	22 25 09.3	+2.5		
R23A	Moffat baz=23,SNR=11	22.41	338	⇑P	P	22 25 09.8	+2.3		
O35A	Humboldt baz=23	22.57	359	⇓P	P	22 25 09.1	+0.3		
WUAZ	Wupatki baz=23	22.74	325	⇑P	P	22 25 13.4	+2.7		
BLO	Bloomington	22.85	18	*e*P	P	22 25 11.2	-0.4		
N35A	Tabor baz=23	23.16	360	⇑P	P	22 25 14.9	+0.3		
O27A	Beecher Island baz=24	23.29	346	⇓P	P	22 25 15.7	-0.2		
P23A	Jefferson baz=24,SNR=8.9	23.47	340	⇑P	P	22 25 20.1	+2.3		
BLA	Blacksburg 42nm,1.4s	23.60	31	*e*P	P	22 25 17.5	-1.2		
ISCO	Idaho Springs baz=24	23.79	340	⇓P	P	22 25 22.3	+1.7		
SFIN	Lafayette 37nm,1.3s	23.82	16	*e*P	P	22 25 19.9	-0.5		
SFIN	Lafayette baz=24,SNR=8.6	23.82	16	P	P	22 25 20.0	-0.5		
M31A	Lambtecht Ranc baz=24	23.84	353	⇓P	P	22 25 21.6	+0.9		
SCIA	State Center 27nm,0.6s	24.29	4	*e*P	P	22 25 24.7	0.0		
ACSO	Alum Creek Sta 15nm,0.8s	25.00	23	*e*P	P	22 25 30.0	-1.2		
JSRW	J. Sargeant Re	25.28	34	*e*P	P	22 25 32.7	-1.1		
URVA	University of	25.38	35	*e*P	P	22 25 34.2	-0.4		
JFWS	Jewell Farm 22nm,0.5s	25.61	9	*e*P	P	22 25 36.6	-0.1		
ECSD	EROS Data Cent 89nm,3.0s	26.05	358	*e*P	P	22 25 41.4	+0.7		
ECSD	EROS Data Cent baz=26	26.05	358	⇓P	P	22 25 41.3	+0.5		
ALLY	Alegheny Colle 25nm,0.5s	27.33	26	*e*P	P	22 25 51.3	-0.9		
SSPA	Standing Stone 62nm,2.0s	27.51	30	*e*P	P	22 25 52.5	-1.3		
SPMN	Marine on St. 12nm,0.6s	27.62	4	*e*P	P	22 25 54.8	0.0		
SPMN	Marine on St. baz=28	27.62	4	⇓P	P	22 25 52.6	-2.1		
PD31	Pinedale Array	27.78	337	*e*P	P	22 25 58.0	+1.4		
PDAR	Pinedale Array 0.5nm,0.5s,baz=149,slow=6.9,SNR=4.8	27.78	337	P	P	22 25 58.0	+1.4		
HVU	Hansel Valley 5.8nm,1.0s	28.27	332	*e*P	P	22 26 03.2	+2.4		
ELK	Elko 1.2nm,0.8s,baz=151,slow=9.4,SNR=4.1	28.65	328	P	P	22 26 05.8	+1.5		
ELK	Elko 25nm,2.6s	28.65	328	*e*P	P	22 26 05.8	+1.5		
NV01	Mina Array Sit	28.76	321	*e*P	P	22 26 08.0	+2.8		
NVAR	Mina Array Bea 2.5nm,0.9s,baz=137,slow=9.4,SNR=10	28.76	321	P	P	22 26 07.9	+2.6		
NVAR				pP	pP	22 26 29.4	+0.9		
SNOW	0.1nm,0.3s,baz=224,slow=43,SNR=1.6 Snow King Moun 15nm,1.1s	28.82	337	*e*P	P	22 26 08.2	+2.4		
LOHW	Long Hollow 6.0nm,1.1s	28.90	337	*e*P	P	22 26 08.5	+2.1		
TPAW	Teton Pass 5.7nm,1.0s	28.92	336	*e*P	P	22 26 08.9	+2.2		
MMNY	Mt. Morris Dam 21nm,0.7s	29.16	27	*e*P	P	22 26 07.6	-0.9		
BRNJ	Basking Ridge 26nm,1.6s	29.22	34	*e*P	P	22 26 08.2	-0.8		
H18A	Shoshone NF, C baz=30	29.49	339	⇑P	P	22 26 12.2	+0.6		
BINY	Binghamton 133nm,2.6s	29.62	30	*e*P	P	22 26 11.8	-0.8		
RLMT	Red Lodge 64nm,2.6s	29.75	340	*e*P	P	22 26 16.0	+2.0		
D26A	Manning baz=30	29.89	350	⇓P	P	22 26 14.4	-0.5		
SADO	Sadowa 2.0nm,0.3s,baz=224,slow=5.8,SNR=5.7	30.35	23	P	P	22 26 17.5	-1.4		
HLID	Hailey 3.4nm,0.9s	30.42	332	*e*P	P	22 26 21.7	+1.9		
HLID	Hailey baz=31,SNR=6.8	30.42	332	⇓P	P	22 26 21.7	+1.9		
EYMN	Ely 4.7nm,0.6s	30.43	5	*e*P	P	22 26 19.1	-0.5		
AGMN	Agassiz Nation 24nm,1.5s	30.60	360	*e*P	P	22 26 21.2	+0.1		
AGMN	Agassiz Nation baz=31	30.60	360	⇑P	P	22 26 20.7	-0.4		
E19A	Rath Farm, Rou baz=31	30.80	342	⇑P	P	22 26 24.3	+1.3		
WVOR	Wild Horse Val 8.9nm,1.3s	31.63	326	*e*P	P	22 26 32.6	+2.2		
LONY	Lake Ozonia 9.1nm,0.6s	32.14	29	*e*P	P	22 26 33.4	-1.3		
BMO	Blue Mountains 7.7nm,1.4s	32.73	331	*e*P	P	22 26 41.8	+1.8		
MSO	Missoula 4.9nm,1.0s	32.88	336	*e*P	P	22 26 45.5	+4.2		
F10A	Beach Ranch, E	33.55	332	*e*P	P	22 26 48.5	+1.3		
H04A	Detroit Lake 12nm,1.3s	35.05	326	*e*P	P	22 27 02.2	+2.2		
EDM	Edmonton 92nm,2.8s	38.17	343	*e*P	P	22 27 29.8	+3.5		
LPAZ	La Paz 2.0nm,0.7s,baz=288,slow=6.4,SNR=4.9	43.15	140	P	P	22 28 07.8	-0.6		
LPAZ				pP	pP	22 28 32.3	-0.4		
SCHQ	1.3nm,0.8s,baz=347,slow=9.7,SNR=2.6 Schefferville 3.9nm,0.7s,baz=227,slow=7.8,SNR=9.3	43.15	24	P	P	22 28 06.1	-1.2		
SCHQ	Schefferville 192nm,2.5s	43.15	24	*e*P	P	22 28 06.1	-1.2		
YKA	Yellowknife Ar 1.3nm,0.4s,baz=154,slow=7.4,SNR=21	46.78	348	P	P	22 28 36.0	+0.2		
YKB5	Yellowknife Ar	46.78	348	*e*P	P	22 28 36.0	+0.2		
SIV	San Ignacio 5.5nm,0.7s,baz=312,slow=11,SNR=11	47.60	133	P	P	22 28 43.9	+1.0		
FRB	Frobisher Bay 1.0nm,0.4s,baz=224,slow=11,SNR=3.8	49.65	15	P	P	22 28 56.9	-0.9		
INK	Inuvik 1.8nm,0.3s,baz=137,slow=8.1,SNR=3.5	56.05	344	P	P	22 29 45.4	+0.5		
INK	Inuvik 10nm,1.3s	56.05	344	*e*P	P	22 29 45.4	+0.5		
BDFB	Brasilia 3.6nm,0.8s,baz=315,slow=8.9,SNR=3.6	57.29	122	P	P	22 29 54.3	-0.2		
IL1	Eielson Array	58.21	337	*e*P	P	22 30 00.6	+0.5		
ILAR	Eielson Array 0.8nm,0.8s,baz=115,slow=5.5,SNR=11	58.21	337	P	P	22 30 00.7	+0.6		
ILB	Eielson Array	58.21	337	*e*P	P	22 30 00.7	+0.6		
RND	Reindeer 12nm,1.3s	58.35	335	*e*P	P	22 30 03.2	+2.0		
BPAW	Bear Paw Mtn. 1.1nm,1.2s	59.50	335	*e*P	P	22 30 10.1	+0.9		
MLY	Manley 5.7nm,1.2s	59.79	336	*e*P	P	22 30 12.4	+1.2		
PLCA	Paso Flores 3.5nm,0.8s,baz=323,slow=11,SNR=6.9	62.51	159	P	P	22 30 29.7	-0.1		
PLCA	Paso Flores 98nm,2.6s	62.51	159	*e*P	P	22 30 29.7	-0.1		
ESDC	Sonseca Array 1.3nm,0.9s,baz=287,slow=6.2,SNR=6.0	80.12	52	P	P	22 32 16.2	+0.2		
ESDC				pP	pP	22 32 43.2	+0.3		
ES19	1.2nm,1.0s,baz=291,slow=4.6,SNR=2.9 SONSECA Array	80.16	52	*e*P	P	22 32 16.5	+0.3		
NOA	NORSAR Array B 1.7nm,0.9s,baz=297,slow=5.4,SNR=4.2	82.57	28	pP	pP	22 32 56.8	+1.2		
ARA0	ARCESS Array S	83.75	18	*e*P	P	22 32 34.7	+0.4		
ARCES	ARCESS Array B 1.5nm,0.8s,baz=297,slow=5.3,SNR=6.4	83.75	18	P	P	22 32 34.7	+0.4		
STKA	Stephens Creek 1.3nm,0.7s,baz=124,slow=3.6,SNR=3.3	126.80	243	PKP	PKPdf	22 39 09.0	-0.1		
WRA	Warramunga Arr 0.3nm,0.5s,baz=84,slow=2.8,SNR=9.5	132.90	259	PKP	PKPdf	22 39 20.9	-0.1		
ASAR	Alice Springs 0.4nm,0.8s,baz=66,slow=2.2,SNR=3.2	133.56	254	PKP	PKPdf	22 39 22.3	+0.1		

*ISCJB **31** 22:21:50.6±0.7, 6.97N±0.07×73.14W±0.09, h166km, mb3.4/1, Error ellipse: s-maj=14.5km s-min=6.3km az=35.1*

*FUNV **31** 22:21:51.1, 6.82N×73.22W, h165km, MW3.4*
*IDC **31** 22:21:52.1±7.0, 6.68N×76.03W, h116km±77km, mb3.3/1, mb1 3.7/2, mb1mx3.0/28, mbtmp3.9/2, ML2.9/1, Error ellipse: s-maj=139.6km s-min=37.2km az=78.0*

ISC 31 22:21:51.2±1.0, 6.92N±0.07×73.11W±0.09, h166km, n14, σ0s88/18, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CAPV	Capacho	1.22	40	*e*P		Pn	22 22 20.4	+0.7
CAPV				*e*S		Sn	22 22 41.0	-0.6
ROSC	El Rosal 57nm,0.3s,baz=321,slow=3.5,SNR=211	2.38	211	P		Pn	22 22 32.1	-0.1
ROSC				S		Sn	22 23 03.3	-0.6
VIGV	El Vigia 55nm,0.3s,baz=105,slow=22,SNR=6.9	2.57	42	*e*P		Pn	22 22 34.7	+0.7
VIGV				*e*S		Sn	22 23 07.2	-0.1
SOCV	Socops	2.61	59	*e*P		Pn	22 22 35.1	+0.6
SOCV				*e*S		Sn	22 23 07.6	-0.4
ELOV	Elorza	3.60	89	*e*P		Pn	22 22 46.6	-0.2
VIRV	Villa del Rosa	3.62	11	*e*P		Pn	22 22 47.1	0.0
VIRV				*e*S		Sn	22 23 28.3	-2.4
QARV	Quebrada Arrib	4.15	38	*e*P		Pn	22 22 54.6	+0.8
CURV	Curarigua	4.37	45	*e*P		Pn	22 22 57.1	+0.3
SIQV	Siquisique	4.94	41	*e*P		Pn	22 23 04.0	0.0
MAPV	Macapo	5.43	58	*e*P		Pn	22 23 09.9	-0.8
LPAZ	La Paz 1.4nm,0.8s,baz=352,slow=10,0,SNR=3.9	23.58	168	pP		pP	22 27 19.2	-0.2
YKA	Yellowknife Ar 0.3nm,0.5s,baz=135,slow=7.0,SNR=4.1	63.17	340	P		P	22 32 02.5	+1.3
ASAR	Alice Springs 1.1nm,0.7s,baz=113,slow=3.7,SNR=9.9	149.18	234	PKPbc		PKPbc	22 41 20.2	-0.7
WRA	Warramunga Arr 0.6nm,0.5s,baz=109,slow=2.5,SNR=18	150.40	241	PKPbc		PKPbc	22 41 23.5	-0.4

*ISCJB **31** 22:31:43.3±1.1, 36.08N±0.05×21.74E±0.06, h1km±10km, Error ellipse: s-maj=11.2km s-min=4.8km az=44.4*
*ATH **31** 22:31:44.6, 36.07N×21.75E, h24km, MD3.7/21, ML3.4*
*CSEM **31** 22:31:44.9±0.4, 36.11N×21.81E, h5km, ML3.6, Error ellipse: s-maj=8.6km s-min=4.4km az=40.0*
*THE **31** 22:31:47.0, 36.15N×21.87E, h12km±1km, ML3.6/4, Error ellipse: s-maj=2.3km s-min=0.7km az=238.0*

ISC 31 22:31:45.0±1.8, 36.08N±0.06×21.76E±0.05, h10km±10km, n103, σ0s57/130, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PYL	PYLOS	0.81	359	P		Pg	22 32 01.4	+0.6
PYL				S		Sb	22 32 12.1	-0.3
PYL	PYLOS	0.81	359	*e*PN		Pg	22 32 01.3	+0.5
PYL				*e*SN		Sb	22 32 12.1	-0.3
PYL	PYLOS	0.81	359	P		Pg	22 32 01.4	+0.6
PYL				S		Sb	22 32 12.1	-0.3
KYTH	Kithira	1.05	79	P		Pg	22 32 05.1	-0.1
KYTH	Kithira	1.05	79	*e*PN		Pg	22 32 05.2	0.0
KYTH	Kithira	1.05	79	P		Pg	22 32 05.1	-0.1
ITM	Ithomi	1.11	7	P		Pg	22 32 05.5	-0.8
ITM				S		Sb	22 32 21.1	+0.3
ITM	Ithomi	1.11	7	*e*PN		Pg	22 32 05.4	-0.8
ITM				*e*SN		Sg	22 32 20.7	0.0
ITM	Ithomi	1.11	7	P		Pg	22 32 05.5	-0.8
ITM				*e*Sn		Sg	22 32 20.7	0.0
ITM				S		Sb	22 32 21.1	+0.3
ANKY	Antikythira Is	1.27	99	P		Pn	22 32 08.6	-0.2
ANKY				S		Sb	22 32 25.7	+0.3
ANKY	Antikythira Is	1.27	99	*e*PN		Pn	22 32 08.6	-0.2
ANKY				*e*SN		Sb	22 32 26.2	+0.8
ANKY	Antikythira Is	1.27	99	P		Pn	22 32 08.6	-0.2
ANKY				S		Sb	22 32 25.7	+0.3
ANKY				*e*Sn		Sb	22 32 26.2	+0.8
SFD	Strofades	1.31	333	*e*PN		Pn	22 32 08.7	-0.8
SFD	Strofades	1.31	333	*e*Pn		Pn	22 32 08.7	-0.8
VLX	Vlachokerasia	1.38	21	P		Pn	22 32 10.0	-0.5
VLX				S		Sb	22 32 27.9	-0.9
VLX	Vlachokerasia	1.38	21	*e*PN		Pn	22 32 10.4	-0.1
VLX				*e*SN		Sn	22 32 29.0	+0.1
VLX	Vlachokerasia	1.38	21	P		Pn	22 32 10.0	-0.5
VLX	Vlachokerasia	1.38	21	*e*Pn		Pn	22 32 10.4	-0.1
VLX				S		Sb	22 32 27.9	-0.9
VLX				*e*Sn		Sn	22 32 29.0	+0.1
AMT	Artemida-Makis	1.45	358	P		Pn	22 32 11.2	-0.2
AMT				S		Sn	22 32 30.1	-0.4
AMT	Artemida-Makis	1.45	358	*e*PN		Pn	22 32 11.1	-0.3
AMT				*e*SN		Sb	22 32 31.3	+0.5
AMT	Artemida-Makis	1.45	358	P		Pn	22 32 11.2	-0.2
AMT				S		Sn	22 32 30.1	-0.4
AMT				*e*Sn		Sb	22 32 31.3	+0.5
DID	Didima	1.85	39	P		Pn	22 32 16.4	-0.5
DID	Didima	1.85	39	*e*PB		Pn	22 32 16.8	-0.1
DID				*e*SN		Sn	22 32 41.1	+0.7
DID	Didima	1.85	39	P		Pn	22 32 16.4	-0.5
DID	Didima	1.85	39	*e*Pb		Pn	22 32 16.8	-0.1
DID				*e*Sn		Sn	22 32 41.1	+0.7
DRO	Drossia	1.87	359	P		Pn	22 32 17.3	+0.1
DRO				S		Sn	22 32 40.8	-0.1
DRO	Drossia	1.87	359	*e*PN		Pn	22 32 17.1	-0.1
DRO	Drossia	1.87	359	P		Pn	22 32 17.3	+0.1
DRO				S		Sn	22 32 40.8	-0.1
KARN	Karanos	1.88	110	P		Pn	22 32 16.7	-0.6
KARN	Karanos	1.88	110	P		Pn	22 32 16.7	-0.6
GUR	Goura	1.91	14	P		Pn	22 32 18.1	+0.3
GUR	Goura	1.91	14	*e*PN		Pn	22 32 17.9	+0.1
GUR	Goura	1.91	14	*e*Pn		Pn	22 32 17.9	+0.1
KLV	Kalavryta, Ach	1.99	9	P		Pn	22 32 19.2	+0.4
KLV				S		Sn	22 32 42.9	-0.9
KLV	Kalavryta, Ach	1.99	9	*e*PN		Pn	22 32 19.3	+0.4
KLV	Kalavryta, Ach	1.99	9	P		Pn	22 32 19.2	+0.4
KLV				S		Sn	22 32 42.9	-0.9
RLS	Riolos of Patr	1.99	353	P		Pn	22 32 19.4	+0.6
RLS				S		Sn	22 32 44.1	+0.4
RLS	Riolos of Patr	1.99	353	*e*PN		Pn	22 32 19.4	+0.6
RLS	Riolos of Patr	1.99	353	P		Pn	22 32 19.4	+0.6
RLS				S		Sn	22 32 44.1	+0.4
LTK	Loutraki	2.17	26	P		Pn	22 32 20.8	-0.4
LTK	Loutraki	2.17	26	*e*PN		Pn	22 32 21.6	+0.4
LTK	Loutraki	2.17	26	P		Pn	22 32 20.8	-0.4
LTK	Loutraki	2.17	26	*e*Pb		Pn	22 32 21.6	+0.4
NAIG	Nisos Aigina	2.17	39	*e*PN		Pn	22 32 21.7	+0.4
NAIG	Nisos Aigina	2.17	39	*e*Pn		Pn	22 32 21.7	+0.4
VLS	Valsamata	2.29	336	*e*PN		Pn	22 32 23.1	+0.1
VLS	Valsamata	2.29	336	*e*Pn		Pn	22 32 23.1	+0.1
KALE	Kalithea	2.33	7	*e*PN		Pn	22 32 23.7	+0.2
KALE	Kalithea	2.33	7	*e*Pn		Pn	22 32 23.7	+0.2
EFP	Efpalio	2.35	3	*e*PB		Pn	22 32 24.7	+1.0
EFP	Efpalio	2.35	3	*e*Pb		Pn	22 32 24.7	+1.0
DSF	Desfina	2.41	14	*e*PB		Pn	22 32 25.6	+1.0
DSF	Desfina	2.41	14	*e*Pb		Pn	22 32 25.6	+1.0
VILL	Villia	2.42	30	P		Pn	22 32 24.4	-0.4
VILL	Villia	2.42	30	P		Pn	22 32 24.4	-0.4
VIL2	Platees	2.45	29	*e*PN		Pn	22 32 24.2	-0.9
ATH	Athens Observa	2.45	39	*e*PN		Pn	22 32 25.6	+0.5
ATH	Athens Observa	2.45	39	*e*Pn		Pn	22 32 25.6	+0.5
PDO	Prodromos	2.56	350	*e*PB		Pn	22 32 27.8	+1.2
PDO	Prodromos	2.56	350	*e*Pb		Pn	22 32 27.8	+1.2
PTL	Penteli	2.59	40	*e*PN		Pn	22 32 27.1	+0.1
PTL	Penteli	2.59	40	*e*Pn		Pn	22 32 27.1	+0.1
LKR	Lokris	2.75	21	P		Pn	22 32 29.2	0.0
LKR	Lokris	2.75	21	*e*PB		Pn	22 32 30.5	+1.3
LKR	Lokris	2.75	21	P		Pn	22 32 29.2	0.0
LKR	Lokris	2.75	21	*e*Pb		Pn	22 32 30.5	+1.3
AXAR	Agios Charalam	2.78	15	*e*PN		Pn	22 32 30.5	+0.9
AXAR	Agios Charalam	2.78	15	*e*Pn		Pn	22 32 30.5	+0.9
EVR	Evrytania	2.83	1	*e*PN		Pn	22 32 31.7	+1.2
EVR	Evrytania	2.83	1	*e*Pb		Pn	22 32 31.7	+1.2
LKD2	Lefkada island	2.84	342	*e*PN		Pn	22 32 31.3	+0.7
LKD2	Lefkada island	2.84	342	*e*Pn		Pn	22 32 31.3	+0.7
AGG	Agios Georgios	2.97	9	*e*PN		Pn	22 32 33.3	+1.0
AGG	Agios Georgios	2.97	9	*e*Pn		Pn	22 32 33.3	+1.0
MRKA	Markates	3.00	28	*e*PN		Pn	22 32 32.3	-0.4
MRKA	Markates	3.00	28	*e*Pn		Pn	22 32 32.3	-0.4
SMIA	Simia	3.02	22	*e*PN		Pn	22 32 33.0	0.0
SMIA	Simia	3.02	22	*e*Pn		Pn	22 32 33.0	0.0
DSL	Palaion Diasel	3.10	350	P		Pn	22 32 34.7	+0.7
DSL	Palaion Diasel	3.10	350	*e*PN		Pn	22 32 34.8	+0.7
DSL	Palaion Diasel	3.10	350	P		Pn	22 32 34.7	+0.7
NEO	Neokhori	3.42	19	*e*PN		Pn	22 32 38.3	-0.2
NEO	Neokhori	3.42	19	*e*Pn		Pn	22 32 38.3	-0.2
THL	Klokotos Trika	3.49	3	*e*PN		Pn	22 32 39.2	-0.1
THL	Klokotos Trika	3.49	3	*e*Pn		Pn	22 32 39.2	-0.1
IGT	Igoumenitsa	3.63	342	*e*PN		Pn	22 32 40.7	-0.6
IGT	Igoumenitsa	3.63	342	*e*Pn		Pn	22 32 40.7	-0.6
JAN	Janina	3.64	349	*e*PN		Pn	22 32 41.9	+0.3
JAN	Janina	3.64	349	*e*Pn		Pn	22 32 41.9	+0.3
KEK	Kerkira	3.95	337	*e*PN		Pn	22 32 45.7	0.0
KEK	Kerkira	3.95	337	*e*Pn		Pn	22 32 45.7	0.0
LIT	Litokhoron	4.06	8	*e*PN		Pn	22 32 47.7	+0.5
LIT	Litokhoron	4.06	8	*e*Pn		Pn	22 32 47.7	+0.5
CHOS	Chios island	4.13	55	*e*PN		Pn	22 32 48.5	+0.3
CHOS	Chios island	4.13	55	*e*Pn		Pn	22 32 48.5	+0.3
KZN	Kozani	4.22	0	*e*PN		Pn	22 32 50.0	+0.5
KZN	Kozani	4.22	0	*e*Pn		Pn	22 32 50.0	+0.5
NEST	Nestorio	4.37	353	*e*PN		Pn	22 32 52.0	+0.5
NEST	Nestorio	4.37	353	*e*Pn		Pn	22 32 52.0	+0.5
FNA	Florina	4.71	356	*e*PN		Pn	22 32 56.5	+0.3
FNA	Florina	4.71	356	*e*Pn		Pn	22 32 56.5	+0.3
SOH	Sokhos	4.90	14	*e*PN		Pn	22 32 59.0	+0.2
SOH	Sokhos	4.90	14	*e*Pn		Pn	22 32 59.0	+0.2

WEL 31 22:34:53.6±0.1, 40.72S×175.54E, h33km, ML3.5/25, 6C-6D, Error ellipse: s-maj=1.4km s-min=1.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC

DUWZ				AML	AML	22 35 34.4			
KRHZ	**Kereru**	**1.25**	**31**	PN	Pn	22 35 13.8	-1.0		
BHHZ	**Black Hill Sta**	**1.29**	**18**	⇓PN	Pn	22 35 14.7	-0.7		
MOVZ	**Moawhango**	**1.32**	**7**	PN	Pn	22 35 15.5	-0.3		
MOVZ				AML	AML	22 35 34.7			
MOVZ				AML	AML	22 35 34.9			
MTVZ	**Mangateitei**	**1.33**	**358**	PN	Pn	22 35 16.1	+0.1		
MTVZ				AML	AML	22 35 38.0			
MTVZ				AML	AML	22 35 38.5			
KAHZ	**Kahuranaki**	**1.38**	**48**	PN	Pn	22 35 15.5	-1.0		
WNVZ	**Wahianoa**	**1.39**	**2**	PN	Pn	22 35 16.7	-0.2		
TUWZ	**Tuamarina**	**1.40**	**239**	PN	Pn	22 35 16.1	-0.8		
TUWZ				AML	AML	22 35 40.8			
TUWZ				AML	AML	22 35 42.4			
TRVZ	**Turoa**	**1.42**	**0**	PN	Pn	22 35 17.5	+0.1		
TRVZ				AML	AML	22 35 40.2			
TRVZ				AML	AML	22 35 40.8			
WHVZ	**Whangaehu Hut**	**1.44**	**1**	PN	Pn	22 35 17.7	+0.1		
TUVZ	**Tukino**	**1.45**	**3**	PN	Pn	22 35 17.9	+0.1		
TUVZ				AML	AML	22 35 39.3			
TUVZ				AML	AML	22 35 40.9			
FWVZ	**Far West T-bar**	**1.46**	**0**	PN	Pn	22 35 18.0	0.0		
FWVZ				AML	AML	22 35 40.0			
FWVZ				AML	AML	22 35 42.1			
LREZ	**Lake Rotokare**	**1.53**	**325**	PN	Pn	22 35 19.5	+0.9		
MCHZ	**McNeill Hill**	**1.55**	**35**	PN	Pn	22 35 17.9	-1.0		
OTVZ	**Oturere**	**1.56**	**3**	PN	Pn	22 35 19.5	+0.3		
OTVZ				AML	AML	22 35 44.3			
OTVZ				AML	AML	22 35 47.0			
BSWZ	**Blackbirch Sta**	**1.60**	**231**	PN	Pn	22 35 19.4	-0.2		
VRZ	**Vera Road**	**1.70**	**339**	PN	Pn	22 35 21.2	+0.2		
VRZ				AML	AML	22 35 47.1			
VRZ				AML	AML	22 35 47.8			
BKZ	**Black Stump Fm**	**1.71**	**25**	⇓PN	Pn	22 35 19.8	-1.4		
BKZ				AML	AML	22 35 55.9			
BKZ				AML	AML	22 35 57.9			
NMEZ	**Namu Road**	**1.83**	**315**	PN	Pn	22 35 23.9	+1.2		
DREZ	**Durham Road**	**1.84**	**325**	PN	Pn	22 35 24.0	+1.1		
MHEZ	**Mangahewa**	**1.89**	**330**	PN	Pn	22 35 24.7	+1.2		
THZ	**Tophouse**	**2.25**	**241**	AML	AML	22 35 22.8			
THZ				PN	Pn	22 35 27.4	-1.1		
THZ				AML	AML	22 36 04.0			
HIZ	**Hauiti**	**2.27**	**346**	PN	Pn	22 35 29.3	+0.6		
HIZ				AML	AML	22 35 59.1			
HIZ				AML	AML	22 35 59.8			
KHZ	**Kahutara**	**2.27**	**221**	PN	Pn	22 35 27.3	-1.4		
QRZ	**Quartz Range**	**2.29**	**266**	PN	Pn	22 35 28.3	-0.7		

*IDC **31** 22:37:56.6±2.2, 39°06S×176°73E, h64km±15km, mb3.3/2, mb1 3.6/3, mb1mx3.3/26, mbtmp3.6/3, Error ellipse: s-maj=52.4km s-min=22.5km az=128.0*

*ISCJB **31** 22:37:57.6±0.3, 38°91S±0°02×176°46E±0°03, h79km±4km, mb3.6/2, Error ellipse: s-maj=4.9km s-min=3.5km az=37.5*

*WEL **31** 22:37:59.5±0.1, 38°85S×176°45E, h62km±1km, ML4.3/19, Error ellipse: s-maj=0.8km s-min=0.6km az=90.0*

WEL Felt from Bay of Plenty to Wellington, maximum reported intensity MM 4.

*NEIC **31** 22:37:59.3, 38°86S×176°46E, h64km, ML4.1(WEL), After WEL.*

NEIC Felt at Te Pohue.

ISC 31 22:37:57.7±0.9, 38°91S±0°03×176°45E±0°03, h75km±5km, n177, σ1°26/180, 11C-17D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKZ	**Black Stump Fm**	**0.26**	**173**	⇑P*	**Pn**	**22 38 09.7**	**+0.4**
BKZ				S*	**Sn**	**22 38 17.3**	**-0.5**
BKZ				AML	AML	22 38 18.5	
BKZ	**Black Stump Fm**	**0.26**	**173**	P*	**Pn**	**22 38 09.6**	**+0.4**
BKZ				S*	**Sn**	**22 38 17.3**	**-0.5**
HATZ	**Hinemaiaia**	**0.28**	**273**	P*	**Pn**	**22 38 09.5**	**+0.2**
HATZ				S*	**Sn**	**22 38 16.9**	**-1.0**
NMHZ	**Naumai**	**0.34**	**125**	⇑PN	**Pn**	**22 38 10.9**	**+1.2**
NMHZ	**Naumai**	**0.34**	**125**	Pn	**Pn**	**22 38 10.9**	**+1.2**
ALRZ	**Allen Road**	**0.35**	**346**	P*	**Pn**	**22 38 09.8**	**-0.1**
ALRZ				S*	**Sn**	**22 38 17.5**	**-1.2**
ALRZ	**Allen Road**	**0.35**	**346**	P*	**Pn**	**22 38 08.7**	**-1.1**
ALRZ				S*	**Sn**	**22 38 16.7**	**-2.0**
PRRZ	**Plateau Road**	**0.41**	**353**	P*	**Pn**	**22 38 10.0**	**-0.2**
PRRZ				S*	**Sn**	**22 38 18.4**	**-1.1**
PRRZ	**Plateau Road**	**0.41**	**353**	P*	**Pn**	**22 38 09.8**	**-0.4**
PRRZ				S*	**Sn**	**22 38 18.4**	**-1.1**
WPRZ	**Whakapapaterin**	**0.45**	**330**	P*	**Pn**	**22 38 10.4**	**-0.2**
RITZ	**Rihia Road**	**0.47**	**261**	P*	**Pn**	**22 38 11.6**	**+0.9**
RAHZ	**Arahi**	**0.49**	**91**	⇓PN	**Pn**	**22 38 12.0**	**+1.1**
RAHZ	**Arahi**	**0.49**	**91**	Pn	**Pn**	**22 38 12.0**	**+1.1**
HRRZ	**Handcock Road**	**0.53**	**346**	P*	**Pn**	**22 38 11.2**	**-0.1**
HRRZ	**Handcock Road**	**0.53**	**346**	P*	**Pn**	**22 38 11.2**	**-0.1**
RATZ	**Rangitukua**	**0.53**	**274**	P*	**Pn**	**22 38 11.9**	**+0.5**
ARHZ	**Aropaoanui**	**0.55**	**130**	PN	**Pn**	**22 38 13.0**	**+1.5**
RRRZ	**Republican Roa**	**0.57**	**5**	⇓P*	**Pn**	**22 38 11.5**	**-0.2**
RRRZ	**Republican Roa**	**0.57**	**5**	P*	**Pn**	**22 38 11.5**	**-0.2**
MCHZ	**McNeill Hill**	**0.57**	**161**	PN	**Pn**	**22 38 13.6**	**+2.0**
MCHZ	**McNeill Hill**	**0.57**	**161**	Pn	**Pn**	**22 38 13.2**	**+1.6**
WATZ	**Wairara**	**0.60**	**289**	P*	**Pn**	**22 38 12.3**	**+0.4**
HSRZ	**Hossack Road**	**0.62**	**345**	P*	**Pn**	**22 38 12.3**	**+0.1**
WHHZ	**Waihua**	**0.63**	**106**	PN	**Pn**	**22 38 13.4**	**+1.1**
BHHZ	**Black Hill Sta**	**0.66**	**207**	⇑P*	**Pn**	**22 38 13.8**	**+1.2**
BHHZ	**Black Hill Sta**	**0.66**	**207**	P*	**Pn**	**22 38 13.1**	**+0.5**
OTVZ	**Oturere**	**0.67**	**247**	⇓P*	**Pn**	**22 38 13.9**	**+1.1**
OTVZ	**Oturere**	**0.67**	**247**	P*	**Pn**	**22 38 13.9**	**+1.1**
TARZ	**Mount Tarawera**	**0.67**	**4**	P*	**Pn**	**22 38 12.9**	**+0.1**
TARZ	**Mount Tarawera**	**0.67**	**4**	P*	**Pn**	**22 38 12.2**	**-0.6**
SNGZ	**Shannon Statio**	**0.70**	**80**	⇓PN	**Pn**	**22 38 14.0**	**+1.0**
TUVZ	**Tukino**	**0.72**	**240**	⇓P*	**Pn**	**22 38 14.6**	**+1.3**
TUVZ	**Tukino**	**0.72**	**240**	P*	**Pn**	**22 38 14.6**	**+1.3**
KRHZ	**Kereru**	**0.74**	**185**	⇑PN	**Pn**	**22 38 15.2**	**+1.8**
MOVZ	**Moawhango**	**0.74**	**227**	⇓P*	**Pn**	**22 38 14.6**	**+1.1**
MOVZ	**Moawhango**	**0.74**	**227**	P*	**Pn**	**22 38 14.6**	**+1.1**
COVZ	**Chateau Observ**	**0.77**	**247**	⇓P*	**Pn**	**22 38 15.0**	**+1.1**
WPVZ	**Whakapapa**	**0.77**	**247**	P*	**Pn**	**22 38 15.1**	**+1.2**
WPVZ	**Whakapapa**	**0.77**	**247**	P*	**Pn**	**22 38 15.1**	**+1.2**
WHVZ	**Whangaehu Hut**	**0.77**	**241**	⇓P*	**Pn**	**22 38 15.2**	**+1.2**
FWVZ	**Far West T-bar**	**0.78**	**243**	⇓P*	**Pn**	**22 38 15.3**	**+1.2**
FWVZ	**Far West T-bar**	**0.78**	**243**	P*	**Pn**	**22 38 15.3**	**+1.2**
DRZ	**Dome Shelter**	**0.78**	**242**	⇑P*	**Pn**	**22 38 15.4**	**+1.2**
DRZ	**Dome Shelter**	**0.78**	**242**	P*	**Pn**	**22 38 15.4**	**+1.2**
WNVZ	**Wahianoa**	**0.79**	**237**	⇓P*	**Pn**	**22 38 15.4**	**+1.3**
WNVZ	**Wahianoa**	**0.79**	**237**	P*	**Pn**	**22 38 15.4**	**+1.3**
TRVZ	**Turoa**	**0.81**	**241**	⇓P*	**Pn**	**22 38 15.6**	**+1.2**
TRVZ	**Turoa**	**0.81**	**241**	P*	**Pn**	**22 38 15.6**	**+1.2**
URZ	**Urewera**	**0.83**	**39**	P*	**Pn**	**22 38 14.3**	**0.0**
URZ				AML	AML	22 38 26.4	
URZ				AML	AML	22 38 26.6	
URZ				AML	AML	22 38 27.0	
URZ				AML	AML	22 38 27.7	
URZ	**Urewera**	**0.83**	**39**	P	**Pn**	**22 38 14.3**	**0.0**
	594nm,0.3s,baz=238,slow=9.0,SNR=3369						
URZ				S	**Sn**	**22 38 25.7**	**-1.0**
	681nm,0.3s,baz=338,slow=19,SNR=58						
URZ	**Urewera**	**0.83**	**39**	P*	**Pn**	**22 38 13.7**	**-0.6**
EDRZ	**Edgecumbe**	**0.83**	**16**	⇓P*	**Pn**	**22 38 14.5**	**0.0**
EDRZ	**Edgecumbe**	**0.83**	**16**	P*	**Pn**	**22 38 14.5**	**0.0**
RAGZ	**Rawiri**	**0.86**	**62**	⇓P*	**Pn**	**22 38 15.4**	**+0.6**
CKHZ	**Cape Kidnapper**	**0.89**	**147**	PN	**Pn**	**22 38 16.9**	**+1.7**
CKHZ	**Cape Kidnapper**	**0.89**	**147**	Pn	**Pn**	**22 38 16.9**	**+1.7**
KARZ	**Kaharoa**	**0.90**	**349**	P*	**Pn**	**22 38 15.5**	**+0.2**
KARZ	**Kaharoa**	**0.90**	**349**	P*	**Pn**	**22 38 15.5**	**+0.2**
MTVZ	**Mangateitei**	**0.90**	**238**	⇓P*	**Pn**	**22 38 16.7**	**+1.4**
MTVZ	**Mangateitei**	**0.90**	**238**	P*	**Pn**	**22 38 16.7**	**+1.4**
TLZ	**Tolley Road**	**0.92**	**309**	⇑P*	**Pn**	**22 38 16.2**	**+0.6**
MARZ	**Manawahe**	**0.94**	**11**	P*	**Pn**	**22 38 15.7**	**0.0**
MARZ	**Manawahe**	**0.94**	**11**	P*	**Pn**	**22 38 15.8**	**0.0**
PKVZ	**Pokaka**	**0.94**	**246**	P*	**Pn**	**22 38 17.1**	**+1.3**
KAHZ	**Kahuranaki**	**0.95**	**160**	PN	**Pn**	**22 38 17.5**	**+1.7**
KAHZ	**Kahuranaki**	**0.95**	**160**	Pn	**Pn**	**22 38 17.5**	**+1.7**
KNZ	**Kokohu**	**0.96**	**97**	PN	**Pn**	**22 38 16.7**	**+0.8**
KNZ	**Kokohu**	**0.96**	**97**	Pn	**Pn**	**22 38 16.7**	**+0.8**
MWZ	**Matawai**	**1.02**	**56**	P*	**Pn**	**22 38 17.2**	**+0.5**
MWZ				AML	AML	22 38 36.1	
MWZ				AML	AML	22 38 36.9	
MWZ	**Matawai**	**1.02**	**56**	P*	**Pn**	**22 38 16.9**	**+0.2**
RIGZ	**Rimuhau**	**1.04**	**79**	PN	**Pn**	**22 38 17.7**	**+0.7**
OPRZ	**Ohinepanea**	**1.06**	**4**	P*	**Pn**	**22 38 17.1**	**-0.1**
OPRZ	**Ohinepanea**	**1.06**	**4**	P*	**Pn**	**22 38 17.1**	**-0.1**
WPHZ	**Waipukurau**	**1.16**	**180**	⇑PN	**Pn**	**22 38 19.7**	**+1.3**
WPHZ	**Waipukurau**	**1.16**	**180**	Pn	**Pn**	**22 38 19.7**	**+1.3**
MHGZ	**Mahia Peninsul**	**1.16**	**103**	Pn	**Pn**	**22 38 19.1**	**+0.7**
PXZ	**Pawanui**	**1.17**	**164**	PN	**Pn**	**22 38 19.8**	**+1.3**
PXZ				AML	AML	22 38 37.4	
PXZ				AML	AML	22 38 46.4	
PXZ	**Pawanui**	**1.17**	**164**	Pn	**Pn**	**22 38 19.8**	**+1.3**
TKGZ	**Te Karaka**	**1.19**	**67**	PN	**Pn**	**22 38 20.2**	**+1.4**
TSZ	**Takapari Road**	**1.21**	**198**	⇑PN	**Pn**	**22 38 20.6**	**+1.4**
TSZ				AML	AML	22 38 41.4	
TSZ				AML	AML	22 38 42.7	
TSZ	**Takapari Road**	**1.21**	**198**	Pn	**Pn**	**22 38 20.6**	**+1.4**
HIZ	**Hauiti**	**1.31**	**287**	⇑PN	**Pn**	**22 38 21.7**	**+1.4**
HIZ	**Hauiti**	**1.31**	**287**	Pn	**Pn**	**22 38 21.7**	**+1.4**
VRZ	**Vera Road**	**1.34**	**260**	P*	**Pn**	**22 38 22.3**	**+1.7**
VRZ	**Vera Road**	**1.34**	**260**	P*	**Pn**	**22 38 22.3**	**+1.7**
PRHZ	**Porangahau**	**1.37**	**174**	PN	**Pn**	**22 38 22.1**	**+1.0**
PRHZ	**Porangahau**	**1.37**	**174**	Pn	**Pn**	**22 38 22.1**	**+1.0**
TOZ	**Tahuroa Road**	**1.39**	**327**	P*	**Pn**	**22 38 22.3**	**+0.9**
TOZ	**Tahuroa Road**	**1.39**	**327**	P*	**Pn**	**22 38 22.3**	**+0.9**
TWGZ	**Tauwhareparae**	**1.40**	**59**	PN	**Pn**	**22 38 22.9**	**+1.3**
DVHZ	**Dannevirke**	**1.41**	**189**	PN	**Pn**	**22 38 22.4**	**+0.8**
DVHZ	**Dannevirke**	**1.41**	**189**	Pn	**Pn**	**22 38 22.4**	**+0.8**
WAZ	**Wanganui**	**1.42**	**233**	⇓PN	**Pn**	**22 38 24.3**	**+2.5**
WAZ	**Wanganui**	**1.42**	**233**	Pn	**Pn**	**22 38 24.2**	**+2.5**
CNGZ	**Carnagh Statio**	**1.44**	**73**	PN	**Pn**	**22 38 23.4**	**+1.5**
CNGZ	**Carnagh Statio**	**1.44**	**73**	Pn	**Pn**	**22 38 23.4**	**+1.5**
WIZ	**White Island**	**1.49**	**23**	P*	**Pn**	**22 38 23.2**	**+0.5**
WIZ	**White Island**	**1.49**	**23**	P*	**Pn**	**22 38 23.7**	**+1.0**
ANWZ	**Angora Road**	**1.55**	**179**	⇑PN	**Pn**	**22 38 24.4**	**+0.9**
HAZ	**Te Kaha**	**1.56**	**43**	P*	**Pn**	**22 38 23.3**	**-0.2**
POWZ	**Post Office Ro**	**1.57**	**199**	PN	**Pn**	**22 38 24.8**	**+1.0**
POWZ	**Post Office Ro**	**1.57**	**199**	Pn	**Pn**	**22 38 24.8**	**+1.0**
PUZ	**Puketiti**	**1.64**	**60**	PN	**Pn**	**22 38 25.4**	**+0.7**
PUZ				AML	AML	22 38 56.4	
PUZ				AML	AML	22 38 56.4	
PUZ	**Puketiti**	**1.64**	**60**	Pn	**Pn**	**22 38 25.4**	**+0.7**
MHEZ	**Mangahewa**	**1.67**	**263**	PN	**Pn**	**22 38 28.0**	**+3.0**
MHEZ	**Mangahewa**	**1.67**	**263**	Pn	**Pn**	**22 38 28.0**	**+3.0**
LREZ	**Lake Rotokare**	**1.69**	**250**	PN	**Pn**	**22 38 27.5**	**+2.2**
PRWZ	**Pori Road**	**1.69**	**193**	PN	**Pn**	**22 38 26.2**	**+0.9**
DREZ	**Durham Road**	**1.78**	**260**	PN	**Pn**	**22 38 29.1**	**+2.6**
DREZ	**Durham Road**	**1.78**	**260**	Pn	**Pn**	**22 38 29.1**	**+2.6**
BFZ	**Birch Farm**	**1.78**	**185**	PN	**Pn**	**22 38 26.8**	**+0.3**
BFZ	**Birch Farm**	**1.78**	**185**	Pn	**Pn**	**22 38 26.2**	**-0.3**
NEZ	**North Egmont**	**1.87**	**258**	PN	**Pn**	**22 38 30.9**	**+3.1**
NEZ	**North Egmont**	**1.87**	**258**	Pn	Pn	22 38 31.0	+3.2
MRZ	**Mangatainoka R**	**1.88**	**201**	⇑PN	**Pn**	**22 38 28.3**	**+0.5**
MRZ				AML	AML	22 39 04.7	
MRZ				AML	AML	22 39 05.5	
MRZ	**Mangatainoka R**	**1.88**	**201**	Pn	**Pn**	**22 38 28.2**	**+0.5**
WMGZ	**Waiomatatini S**	**1.89**	**55**	PN	**Pn**	**22 38 28.5**	**+0.6**
TIWZ	**Tintock**	**1.92**	**193**	PN	**Pn**	**22 38 28.9**	**+0.5**
TIWZ				AML	AML	22 38 53.3	
TIWZ				AML	AML	22 38 54.2	
TIWZ	**Tintock**	**1.92**	**193**	Pn	**Pn**	**22 38 28.9**	**+0.5**
MXZ	**Matakaoa Point**	**1.98**	**48**	P*	**Pn**	**22 38 30.2**	**+1.0**
MXZ				AML	AML	22 39 05.0	
MXZ				AML	AML	22 39 06.0	
MXZ	**Matakaoa Point**	**1.98**	**48**	P*	**Pn**	**22 38 30.3**	**+1.1**
CPWZ	**Castlepoint**	**2.01**	**185**	PN	**Pn**	**22 38 30.3**	**+0.8**
NMEZ	**Namu Road**	**2.06**	**255**	PN	**Pn**	**22 38 33.0**	**+2.7**
HOWZ	**Holdsworth Sta**	**2.12**	**200**	PN	**Pn**	**22 38 30.9**	**-0.1**
HOWZ	**Holdsworth Sta**	**2.12**	**200**	Pn	**Pn**	**22 38 30.9**	**-0.1**
OGWZ	**Otaki Gorge**	**2.15**	**207**	PN	**Pn**	**22 38 31.9**	**+0.5**
OGWZ	**Otaki Gorge**	**2.15**	**207**	Pn	**Pn**	**22 38 31.9**	**+0.5**
TMWZ	**Te Maipa**	**2.24**	**191**	PN	**Pn**	**22 38 32.7**	**+0.1**
TMWZ	**Te Maipa**	**2.24**	**191**	Pn	**Pn**	**22 38 32.7**	**+0.1**
KIW	**Kapiti Island**	**2.29**	**211**	PN	**Pn**	**22 38 33.6**	**+0.4**
KIW				AML	AML	22 39 12.2	
KIW				AML	AML	22 39 12.3	
KIW	**Kapiti Island**	**2.29**	**211**	Pn	**Pn**	**22 38 33.6**	**+0.4**
MTW	**Mount Morrison**	**2.36**	**198**	PN	**Pn**	**22 38 33.8**	**-0.5**
MTW				AML	AML	22 39 17.7	
MTW				AML	AML	22 39 25.2	
MTW	**Mount Morrison**	**2.36**	**198**	Pn	**Pn**	**22 38 33.8**	**-0.5**
CAW	**Cannon Point**	**2.44**	**205**	PN	**Pn**	**22 38 35.4**	**0.0**
CAW	**Cannon Point**	**2.44**	**205**	Pn	**Pn**	**22 38 35.4**	**0.0**
TRWZ	**Traveller**	**2.56**	**193**	PN	**Pn**	**22 38 36.3**	**-0.6**
TRWZ				AML	AML	22 39 06.9	
TRWZ				AML	AML	22 39 35.2	
TRWZ	**Traveller**	**2.56**	**193**	Pn	**Pn**	**22 38 36.3**	**-0.6**
MSWZ	**Moikau Station**	**2.67**	**200**	PN	**Pn**	**22 38 37.7**	**-0.8**
MSWZ				AML	AML	22 39 29.1	
MSWZ				AML	AML	22 39 32.7	
MSWZ	**Moikau Station**	**2.67**	**200**	Pn	**Pn**	**22 38 37.7**	**-0.8**
WEL	**Wellington**	**2.70**	**208**	PN	**Pn**	**22 38 38.5**	**-0.4**
WEL				AML	AML	22 39 24.4	
WEL				AML	AML	22 39 28.4	
WEL	**Wellington**	**2.70**	**208**	Pn	**Pn**	**22 38 38.5**	**-0.4**
DUWZ	**D'Urville Isla**	**2.72**	**225**	PN	**Pn**	**22 38 39.2**	**+0.1**
DUWZ	**D'Urville Isla**	**2.72**	**225**	Pn	**Pn**	**22 38 39.2**	**+0.1**
BHW	**Baring Head**	**2.78**	**205**	PN	**Pn**	**22 38 39.1**	**-0.8**
BHW				AML	AML	22 39 30.6	
BHW				AML	AML	22 39 34.8	
BHW	**Baring Head**	**2.78**	**205**	Pn	**Pn**	**22 38 39.1**	**-0.8**
PLWZ	**Palliser**	**2.81**	**199**	PN	**Pn**	**22 38 39.5**	**-0.9**
PLWZ	**Palliser**	**2.81**	**199**	Pn	**Pn**	**22 38 39.5**	**-0.9**
TCW	**Tory Channel**	**2.84**	**215**	PN	**Pn**	**22 38 40.3**	**-0.5**
TCW				AML	AML	22 39 27.5	
TCW				AML	AML	22 39 27.5	
TCW	**Tory Channel**	**2.84**	**215**	Pn	**Pn**	**22 38 40.3**	**-0.5**
TUWZ	**Tuamarina**	**3.17**	**217**	PN	**Pn**	**22 38 44.5**	**-0.7**
TUWZ				AML	AML	22 39 34.5	
TUWZ				AML	AML	22 39 38.5	
TUWZ	**Tuamarina**	**3.17**	**217**	Pn	**Pn**	**22 38 44.5**	**-0.7**
BSWZ	**Blackbirch Sta**	**3.43**	**214**	PN	**Pn**	**22 38 47.8**	**-0.9**
BSWZ				AML	AML	22 39 50.3	
BSWZ				AML	AML	22 39 51.2	
BSWZ	**Blackbirch Sta**	**3.43**	**214**	Pn	**Pn**	**22 38 47.8**	**-0.9**
QRZ	**Quartz Range**	**3.58**	**236**	⇓PN	**Pn**	**22 38 50.4**	**-0.4**
QRZ	**Quartz Range**	**3.58**	**236**	Pn	**Pn**	**22 38 50.4**	**-0.4**
THZ	**Tophouse**	**3.94**	**222**	⇓PN	**Pn**	**22 38 54.8**	**-0.9**
THZ	**Tophouse**	**3.94**	**222**	Pn	**Pn**	**22 38 54.8**	**-0.9**
KHZ	**Kahutara**	**4.15**	**211**	PN	**Pn**	**22 38 57.1**	**-1.4**
KHZ				AML	AML	22 39 45.8	
KHZ	**Kahutara**	**4.15**	**211**	Pn	**Pn**	**22 38 57.1**	**-1.4**
DSZ	**Denniston Nort**	**4.55**	**230**	PN	**Pn**	**22 39 02.4**	**-1.6**
DSZ	**Denniston Nort**	**4.55**	**230**	Pn	**Pn**	**22 39 02.4**	**-1.6**
LTZ	**Lake Taylor**	**5.00**	**218**	PN	**Pn**	**22 39 08.1**	**-2.2**
LTZ	**Lake Taylor**	**5.00**	**218**	Pn	**Pn**	**22 39 08.1**	**-2.2**
OXZ	**Oxford**	**5.53**	**216**	Pn	Pn	22 39 14.2	-3.2
MQZ	**McQueen's Vall**	**5.58**	**210**	PN	Pn	22 39 14.3	-3.7
MQZ	**McQueen's Vall**	**5.58**	**210**	Pn	Pn	22 39 14.3	-3.7
RPZ	**Rata Peaks**	**6.29**	**218**	P	**Pn**	**22 39 25.5**	**-2.3**
	1.2nm,0.3s,baz=58,slow=13,SNR=8.6						
RPZ				S	**Sn**	**22 40 32.5**	**-5.7**
	3.8nm,0.3s,baz=285,slow=23,SNR=13						
CTZ	**Chatham Island**	**7.10**	**135**	PN	**Pn**	**22 39 39.0**	**+0.2**
CTZ	**Chatham Island**	**7.10**	**135**	Pn	**Pn**	**22 39 38.1**	**-0.7**
LBZ	**Lake Benmore**	**7.21**	**219**	PN	Pn	22 39 37.4	-2.9
ODZ	**Otahua Downs**	**7.50**	**213**	PN	**Pn**	**22 39 41.7**	**-2.6**
JCZ	**Jackson Bay**	**7.74**	**226**	PN	**Pn**	**22 39 45.6**	**-2.1**
WKZ	**Wanaka**	**8.11**	**221**	PN	Pn	22 39 49.6	-3.0
ASAR	**Alice Springs**	**39.04**	**280**	P	**P**	**22 45 19.8**	**+2.6**
	1.1nm,0.8s,baz=119,slow=8.1,SNR=8.4						
WRA	**Warramunga Arr**	**40.84**	**285**	P	**P**	**22 45 33.5**	**+1.4**
	0.5nm,0.8s,baz=124,slow=7.7,SNR=3.8						
ARCES	**ARCESS Array B**	**145.63**	**342**	PKPbc	**PKPdf**	**22 57 26.8**	**+0.7**
	0.7nm,0.5s,baz=48,slow=4.1,SNR=12						
FINES	**FINESS Array B**	**150.98**	**331**	PKPbc	**PKPbc**	**22 57 40.6**	**-0.2**
	0.5nm,0.6s,baz=45,slow=2.4,SNR=3.7						

*DDA **31** 22:40:28.0, 41°41N×42°70E, h3km, MD2.8*

*ISK **31** 22:40:28.0, 41°45N×42°72E, h4km, MD3.6*

*TIF **31** 22:40:28.2, 41°35N×42°75E, h19km±1km*

*CSEM **31** 22:40:29.0±0.2, 41°40N×42°70E, h2km, MD3.6, Error ellipse: s-maj=4.0km s-min=3.0km az=171.0*

*NSSP **31** 22:40:30.6, 41°30N×42°65E, h8km, Ms2.8*

ISC 31 22:40:28.7±1.1, 41°42N±0°02×42°71E±0°01, h3km±10km, n67, σ0°99/100, 1C-2D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKH	**Akhalkalaki**	**0.59**	**91**	*e*PG	**Pg**	**22 40 39.7**	**-0.2**
AKH				*e*SG	**Sg**	**22 40 48.2**	**+0.6**
AKH	**Akhalkalaki**	**0.59**	**91**	P	**Pg**	**22 40 39.8**	**-0.2**
AKH				S	**Sg**	**22 40 48.4**	**+0.8**
AKH	**Akhalkalaki**	**0.59**	**91**	P	**Pg**	**22 40 39.8**	**-0.2**
AKH				*e*Sg	**Sg**	**22 40 48.2**	**+0.6**
ARTV	**Artvin**	**0.64**	**248**	*i* P	**Pg**	**22 40 40.7**	**-0.2**
ARTV				*i* S	**Sg**	**22 40 49.5**	**+0.4**
ARTV	**Artvin**	**0.64**	**248**	*i* P	**Pg**	**22 40 40.7**	**-0.2**
ARTV				*i* S	**Sg**	**22 40 49.5**	**+0.4**
DAGI	**Agillar**	**0.69**	**240**	*i* P	**Pg**	**22 40 41.7**	**-0.3**
DAGI				*i* S	**Sg**	**22 40 51.7**	**+0.7**
DBOC	**Borcka**	**0.79**	**265**	*i* P	**Pg**	**22 40 43.4**	**-0.4**
DBOC				*i* S	**Sg**	**22 40 54.0**	**-0.1**
DBOC	**Borcka**	**0.79**	**265**	*i* P	**Pg**	**22 40 43.4**	**-0.4**
DBOC				*i* S	**Sg**	**22 40 54.0**	**-0.1**
BCA	**Borcka**	**0.82**	**272**	*e*PG	**Pg**	**22 40 44.1**	**-0.3**
BCA				*e*SG	**Sg**	**22 40 55.4**	**+0.4**
BCA	**Borcka**	**0.82**	**272**	*e*Pg	**Pg**	**22 40 44.1**	**-0.3**
BCA				*e*Sg	**Sg**	**22 40 55.4**	**+0.4**
KARS	**Kars**	**0.84**	**161**	*e*PG	**Pg**	**22 40 44.7**	**-0.1**
KARS	**Kars**	**0.84**	**161**	*e*Pg	**Pg**	**22 40 44.7**	**-0.1**
DBAD	**Bademkaya**	**0.87**	**243**	*i* P	**Pg**	**22 40 44.6**	**-0.7**
DBAD				*i* S	**Sg**	**22 40 56.1**	**-0.4**
DBAD	**Bademkaya**	**0.87**	**243**	*i* P	**Pg**	**22 40 44.6**	**-0.7**
DBAD				*i* S	**Sg**	**22 40 56.1**	**-0.4**
DDEM	**Demirkent**	**0.90**	**234**	*i* P	**Pg**	**22 40 45.2**	**-0.7**
DDEM				*i* S	**Sg**	**22 40 58.0**	**+0.5**
DDEM	**Demirkent**	**0.90**	**234**	*i* P	**Pg**	**22 40 45.2**	**-0.7**
DDEM				*i* S	**Sg**	**22 40 58.0**	**+0.5**
EAK	**Akyaka**	**1.00**	**137**	*i* P	**Pg**	**22 40 46.5**	**-1.3**
EAK				*i* S	**Sg**	**22 41 00.3**	**-0.5**
EAK	**Akyaka**	**1.00**	**137**	*i* P	**Pg**	**22 40 46.5**	**-1.3**
EAK				*i* S	**Sg**	**22 41 00.3**	**-0.5**
GMRZ	**Gyumri**	**1.04**	**125**	*e*	Pg	22 40 44

DPC				*e*SG	**Sg**	**23 17 55.9**	**+0.1**
	comp=Z,8.2nm,0.3s							
PVCC	**Panska Ves**	**1.35**	**224**	*e*PG	**Pg**	**23 17 43.8**	**-0.3**
PVCC				*e*SG	**Sb**	**23 18 02.2**	**0.0**
	comp=Z,22nm,0.2s							
BRG	**Berggiesshubel**	**1.46**	**245**	PG	**Pn**	**23 17 46.0**	**0.0**
BRG				SG	**Sn**	**23 18 05.8**	**-0.1**
	8.9nm,0.4s							
KRLC	**Kraliky**	**1.50**	**162**	*e*PG	**Pn**	**23 17 46.4**	**-0.2**
KRLC				*e*SG	**Sg**	**23 18 06.2**	**-0.4**
GOPC	**GO Pecny, Ondr**	**1.78**	**207**	*e*PG	**Pb**	**23 17 51.5**	**-0.3**
GOPC				*e*SG	**Sg**	**23 18 15.6**	**+0.2**
	comp=Z,3.2nm,0.2s							
PRU	**Pruhonice**	**1.79**	**213**	*e*PG	**Pb**	**23 17 51.6**	**-0.4**
PRU				*e*SG	**Sg**	**23 18 15.9**	**+0.1**
	comp=Z,5.4nm,0.3s							
CLL	**Collm**	**1.92**	**265**	*e*Pg	**Pb**	**23 17 54.0**	**-0.1**
CLL				*e*Sg	**Sb**	**23 18 19.0**	**+0.5**
	comp=Z,6.0nm,0.6s							
OKC	**Ostrava-Krasne**	**2.14**	**140**	*e*PG	**Pb**	**23 17 57.7**	**-0.2**
OKC				*e*SG	**Sg**	**23 18 26.8**	**-0.1**
	comp=Z,5.4nm,0.4s							
NKC	**Novy Kostel**	**2.61**	**242**	*e*PN	**Pn**	**23 18 01.7**	**0.0**
NKC				*e*PG	**Pb**	**23 18 06.3**	**+0.4**
NKC				*e*SG	**Sg**	**23 18 42.2**	**+0.1**
	comp=Z,4.3nm,0.3s							
KHC	**Kasperske Hory**	**2.85**	**215**	*e*PN	**Pn**	**23 18 04.9**	**-0.2**
KHC				*e*PG	**Pb**	**23 18 10.6**	**+0.5**
KHC				*e*SN	**Sn**	**23 18 39.8**	**-0.3**
KHC				*e*SG	**Sg**	**23 18 49.7**	**-0.2**
	comp=Z,2.1nm,0.5s							

*IDC **31** 23:18:42.9±1.2,35°.11N×23°.71E, h0km, mb3.5/4, mb1 3.5/8, mb1mx3.3/35, mbtmp3.4/8, ML3.3/4, Error ellipse: s-maj=25.8km s-min=10.9km az=176.0*
*ISCJB **31** 23:18:43.6±0.9,34°.98N±0°.04×23°.69E±0°.03, h5km±6km, mb3.3/4, Error ellipse: s-maj=7.4km s-min=3.7km az=20.6*
*CSEM **31** 23:18:46.4±0.5,35°.06N×23°.75E, h2km, ML3.1, Error ellipse: s-maj=13.0km s-min=3.9km az=21.0*
*THE **31** 23:18:46.2,35°.08N×23°.78E, h4km±1km, ML3.1/4, Error ellipse: s-maj=1.3km s-min=0.6km az=26.0*
*ATH **31** 23:18:46.0,35°.10N×23°.78E, h18km±2km, MD3.8/15, ML3.2*

ISC 31 23:18:44.7±1.5,**35°.00N**±0°.05×**23°.74E**±0°.03,**h8**km±9km, **n108**,σ1§**27**/131,**mb3.5**/4,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARN	**Karanos**	**0.43**	**20**	P	**Pg**	**23 18 52.8**	**-0.3**
KARN				S	**Sg**	**23 18 57.9**	**-0.8**
SIVA	**Sivas**	**0.88**	**88**	P	**Pg**	**23 19 01.9**	**+0.3**
SIVA				S	**Sb**	**23 19 14.8**	**+0.7**
SIVA	**Sivas**	**0.88**	**88**	P	**Pg**	**23 19 01.9**	**+0.3**
SIVA				S	**Sb**	**23 19 14.8**	**+0.7**
ANKY	**Antikythira Is**	**0.94**	**338**	P	**Pg**	**23 19 02.5**	**-0.2**
ANKY				S	**Sb**	**23 19 16.1**	**+0.4**
ANKY	**Antikythira Is**	**0.94**	**338**	*e*PN	**Pg**	**23 19 02.7**	**0.0**
ANKY				*e*SN	**Sg**	**23 19 14.8**	**-0.1**
ANKY	**Antikythira Is**	**0.94**	**338**	P	**Pg**	**23 19 02.5**	**-0.2**
ANKY				*e*Sn	**Sg**	**23 19 14.8**	**-0.1**
ANKY				S	**Sb**	**23 19 16.1**	**+0.4**
IDI	**Anoyia**	**0.99**	**73**	Pg	**Pg**	**23 19 02.6**	**-1.1**
	13nm,0.3s,baz=265,slow=16,SNR=111						
IDI				Lg	Lg	23 19 15.6	
	68nm,0.3s,baz=311,slow=20,SNR=41						
KYTH	**Kithira**	**1.40**	**336**	P	**Pn**	**23 19 10.5**	**0.0**
KYTH	**Kithira**	**1.40**	**336**	*e*PN	**Pn**	**23 19 10.8**	**+0.3**
KYTH	**Kithira**	**1.40**	**336**	P	**Pn**	**23 19 10.5**	**0.0**
KYTH	**Kithira**	**1.40**	**336**	*e*Pn	**Pn**	**23 19 10.8**	**+0.3**
LAST	**Lasithi**	**1.44**	**83**	P	**Pn**	**23 19 11.0**	**-0.1**
LAST				S	**Sn**	**23 19 30.8**	**+0.6**
LAST	**Lasithi**	**1.44**	**83**	P	**Pn**	**23 19 11.0**	**-0.1**
LAST				S	**Sn**	**23 19 30.8**	**+0.6**
NPS	**Neapolis**	**1.56**	**80**	P	**Pn**	**23 19 13.3**	**+0.6**
NPS				S	**Sn**	**23 19 33.0**	**-0.1**
NPS	**Neapolis**	**1.56**	**80**	*e*PN	**Pn**	**23 19 14.5**	**+0.7**
NPS	**Neapolis**	**1.56**	**80**	P	**Pn**	**23 19 13.3**	**+0.6**
NPS	**Neapolis**	**1.56**	**80**	*e*Pn	**Pb**	**23 19 14.5**	**+0.7**
NPS				S	**Sn**	**23 19 33.0**	**-0.1**
THR5	**Thira Island,**	**1.93**	**42**	*e*PN	**Pn**	**23 19 19.1**	**+1.3**
SANT	**Santorini**	**1.96**	**45**	P	**Pn**	**23 19 18.6**	**+0.4**
SANT				S	**Sn**	**23 19 43.0**	**0.0**
SANT	**Santorini**	**1.96**	**45**	*e*PN	**Pn**	**23 19 18.8**	**+0.6**
SANT	**Santorini**	**1.96**	**45**	*e*Pn	**Pn**	**23 19 18.8**	**+0.6**
SANT				S	**Sn**	**23 19 43.0**	**0.0**
PYL	**PYLOS**	**2.49**	**320**	P	**Pn**	**23 19 25.1**	**-0.4**
PYL				S	**Sn**	**23 19 57.0**	**+1.0**
PYL	**PYLOS**	**2.49**	**320**	*e*PB	**Pn**	**23 19 27.7**	**+2.2**
PYL	**PYLOS**	**2.49**	**320**	P	**Pn**	**23 19 25.1**	**-0.4**
PYL	**PYLOS**	**2.49**	**320**	*e*Pb	**Pn**	**23 19 27.7**	**+2.2**
PYL				S	**Sn**	**23 19 57.0**	**+1.0**
APE	**Apeiranthos**	**2.53**	**35**	*e*PN	**Pn**	**23 19 27.9**	**+1.9**
APE	**Apeiranthos**	**2.53**	**35**	P	**Pn**	**23 19 26.1**	**+0.1**
APE				S	**Sn**	**23 19 56.3**	**-0.7**
APE	**Apeiranthos**	**2.53**	**35**	*e*PB	**Pn**	**23 19 26.2**	**+0.2**
APE				*e*SN	**Sn**	**23 19 57.8**	**+0.8**
APE	**Apeiranthos**	**2.53**	**35**	P	**Pn**	**23 19 26.1**	**+0.1**
APE				S	**Sn**	**23 19 56.3**	**-0.7**
APE				*e*Sn	**Sn**	**23 19 57.8**	**+0.8**
DID	**Didima**	**2.54**	**351**	P	**Pn**	**23 19 25.8**	**-0.3**
DID				S	**Sn**	**23 19 57.4**	**+0.2**
DID	**Didima**	**2.54**	**351**	*e*PN	**Pn**	**23 19 27.1**	**+1.0**
DID	**Didima**	**2.54**	**351**	P	**Pn**	**23 19 25.8**	**-0.3**
DID	**Didima**	**2.54**	**351**	*e*Pn	**Pn**	**23 19 27.1**	**+1.0**
DID				S	**Sn**	**23 19 57.4**	**+0.2**
VLX	**Vlachokerasia**	**2.61**	**336**	*e*PB	**Pn**	**23 19 29.0**	**+1.8**
VLX	**Vlachokerasia**	**2.61**	**336**	*e*Pb	**Pn**	**23 19 29.0**	**+1.8**
ITM	**Ithomi**	**2.62**	**327**	P	**Pn**	**23 19 27.9**	**+0.6**
ITM				S	**Sn**	**23 20 00.3**	**+0.9**
ITM	**Ithomi**	**2.62**	**327**	*e*PN	**Pn**	**23 19 28.4**	**+1.1**
ITM	**Ithomi**	**2.62**	**327**	P	**Pn**	**23 19 27.9**	**+0.6**
ITM	**Ithomi**	**2.62**	**327**	*e*Pn	**Pn**	**23 19 28.4**	**+1.1**
ITM				S	**Sn**	**23 20 00.3**	**+0.9**
ATH	**Athens Observa**	**2.97**	**360**	*e*PN	**Pn**	**23 19 32.9**	**+0.9**
ATH	**Athens Observa**	**2.97**	**360**	*e*Pn	**Pn**	**23 19 32.9**	**+0.9**
AMT	**Artemida-Makis**	**3.01**	**328**	*e*PB	**Pn**	**23 19 35.1**	**+2.4**
AMT	**Artemida-Makis**	**3.01**	**328**	*e*Pb	**Pn**	**23 19 35.1**	**+2.4**
PTL	**Penteli**	**3.05**	**2**	*e*PN	**Pn**	**23 19 33.2**	**+0.1**
PTL	**Penteli**	**3.05**	**2**	*e*Pn	**Pn**	**23 19 33.2**	**+0.1**
LTK	**Loutraki**	**3.08**	**349**	P	**Pn**	**23 19 34.1**	**+0.5**
LTK	**Loutraki**	**3.08**	**349**	*e*PN	**Pn**	**23 19 35.2**	**+1.6**
LTK	**Loutraki**	**3.08**	**349**	P	**Pn**	**23 19 34.1**	**+0.5**
LTK	**Loutraki**	**3.08**	**349**	*e*Pn	**Pn**	**23 19 35.2**	**+1.6**
GUR	**Goura**	**3.14**	**339**	P	**Pn**	**23 19 34.9**	**+0.4**
GUR	**Goura**	**3.14**	**339**	*e*PB	**Pn**	**23 19 36.8**	**+2.3**
GUR	**Goura**	**3.14**	**339**	P	**Pn**	**23 19 34.9**	**+0.4**
GUR	**Goura**	**3.14**	**339**	*e*Pb	**Pn**	**23 19 36.8**	**+2.3**
KLV	**Kalavryta, Ach**	**3.30**	**338**	P	**Pn**	**23 19 37.4**	**+0.8**
KLV	**Kalavryta, Ach**	**3.30**	**338**	*e*PN	**Pn**	**23 19 38.6**	**+2.0**
KLV	**Kalavryta, Ach**	**3.30**	**338**	P	**Pn**	**23 19 37.4**	**+0.8**
KLV	**Kalavryta, Ach**	**3.30**	**338**	*e*Pn	**Pn**	**23 19 38.6**	**+2.0**
DRO	**Drossia**	**3.37**	**332**	*e*PN	**Pn**	**23 19 39.5**	**+1.9**
DRO	**Drossia**	**3.37**	**332**	*e*Pn	**Pn**	**23 19 39.5**	**+1.9**
DSF	**Desfina**	**3.54**	**344**	*e*PN	**Pn**	**23 19 41.7**	**+1.7**
DSF	**Desfina**	**3.54**	**344**	*e*Pn	**Pn**	**23 19 41.7**	**+1.7**
BODT	**Bodrum**	**3.55**	**54**	*e*PN	**Pn**	**23 19 41.9**	**+1.8**
RLS	**Riolos of Patr**	**3.56**	**330**	*e*PN	**Pn**	**23 19 41.5**	**+1.4**
RLS	**Riolos of Patr**	**3.56**	**330**	*e*Pn	**Pn**	**23 19 41.5**	**+1.4**
DAT	**Datca**	**3.57**	**60**	*e*PN	**Pn**	**23 19 42.1**	**+1.7**
KALE	**Kalithea**	**3.62**	**340**	*e*PN	**Pn**	**23 19 42.8**	**+1.7**
KALE	**Kalithea**	**3.62**	**340**	*e*Pn	**Pn**	**23 19 42.8**	**+1.7**
SMG	**Samos**	**3.69**	**42**	*e*PN	**Pn**	**23 19 42.9**	**+1.0**
SMG	**Samos**	**3.69**	**42**	*e*Pn	**Pn**	**23 19 42.9**	**+1.0**
LKR	**Lokris**	**3.69**	**351**	P	**Pn**	**23 19 42.7**	**+0.7**
LKR	**Lokris**	**3.69**	**351**	*e*PN	**Pn**	**23 19 42.9**	**+0.9**
LKR	**Lokris**	**3.69**	**351**	P	**Pn**	**23 19 42.7**	**+0.7**
MRKA	**Markates**	**3.70**	**358**	*e*PN	**Pn**	**23 19 42.4**	**+0.2**
MRKA	**Markates**	**3.70**	**358**	*e*Pn	**Pn**	**23 19 42.4**	**+0.2**
EFP	**Efpalio**	**3.73**	**337**	*e*PN	**Pn**	**23 19 45.2**	**+2.8**
EFP	**Efpalio**	**3.73**	**337**	*e*Pn	**Pn**	**23 19 45.2**	**+2.8**
ARG	**Arkhangelos**	**3.78**	**70**	*e*PN	**Pn**	**23 19 45.1**	**+1.9**
ARG	**Arkhangelos**	**3.78**	**70**	*e*Pn	**Pn**	**23 19 45.1**	**+1.9**
AXAR	**Agios Charalam**	**3.86**	**347**	*e*PN	**Pn**	**23 19 45.7**	**+1.4**
AXAR	**Agios Charalam**	**3.86**	**347**	*e*Pn	**Pn**	**23 19 45.7**	**+1.4**
CHOS	**Chios island**	**3.86**	**28**	*e*PN	**Pn**	**23 19 47.1**	**+2.7**
SMIA	**Simia**	**3.90**	**354**	*e*PN	**Pn**	**23 19 45.8**	**+1.0**
SMIA	**Simia**	**3.90**	**354**	*e*Pn	**Pn**	**23 19 45.8**	**+1.0**
PDO	**Prodromos**	**4.14**	**331**	*e*PN	**Pn**	**23 19 50.3**	**+2.2**
PDO	**Prodromos**	**4.14**	**331**	*e*Pn	**Pn**	**23 19 50.3**	**+2.2**
EVR	**Evrytania**	**4.21**	**339**	*e*PN	**Pn**	**23 19 51.9**	**+2.8**
EVR	**Evrytania**	**4.21**	**339**	*e*Pn	**Pn**	**23 19 51.9**	**+2.8**
NEO	**Neokhori**	**4.32**	**355**	*e*PN	**Pn**	**23 19 51.1**	**+0.4**
NEO	**Neokhori**	**4.32**	**355**	*e*Pn	**Pn**	**23 19 51.1**	**+0.4**
DALY	**Dalyan (Mu˘la**	**4.38**	**64**	*e*PN	**Pn**	**23 19 53.8**	**+2.3**
AYDB	**Zeytinkoy-Aydi**	**4.46**	**47**	*e*PN	**Pn**	**23 19 55.0**	**+2.3**
DSL	**Palaion Diasel**	**4.64**	**334**	*e*PN	**Pn**	**23 19 55.3**	**+0.3**
DSL	**Palaion Diasel**	**4.64**	**334**	*e*Pn	**Pn**	**23 19 55.3**	**+0.3**
THL	**Klokotos Trika**	**4.76**	**344**	*e*PN	**Pn**	**23 19 57.1**	**+0.4**
THL	**Klokotos Trika**	**4.76**	**344**	*e*Pn	**Pn**	**23 19 57.1**	**+0.4**
ELL	**Elmali**	**5.31**	**69**	*e*P	**Pn**	**23 20 06.7**	**+2.4**
PLG	**Polygyros**	**5.37**	**358**	*e*PN	**Pn**	**23 20 05.9**	**+0.8**
PLG	**Polygyros**	**5.37**	**358**	*e*Pn	**Pn**	**23 20 05.9**	**+0.8**
SGD	**Sagiada**	**5.39**	**330**	*e*PN	**Pn**	**23 20 05.1**	**-0.1**
SGD	**Sagiada**	**5.39**	**330**	*e*Pn	**Pn**	**23 20 05.1**	**-0.1**
BRTR	**Keskin Array B**	**9.19**	**56**	Pn	**Pn**	**23 20 59.0**	**+1.5**
	0.1nm,0.3s,baz=249,slow=15,SNR=2.7						
MMAI	**Mount Meron Ar**	**9.88**	**98**	Pn	**Pn**	**23 21 05.0**	**-2.1**
	0.4nm,0.3s,baz=294,slow=11,SNR=4.2						
MMAI				Sn	Sn	23 22 51.4	-6.8
	0.3nm,0.3s,baz=271,slow=26,SNR=2.6						
EIL	**Elat**	**10.87**	**116**	Pn	**Pn**	**23 21 20.4**	**-0.1**
	0.2nm,0.3s,baz=332,slow=15,SNR=4.2						
EIL				Sn	Sn	23 23 13.3	-9.0
	0.2nm,0.3s,baz=90,slow=19,SNR=3.1						
GERES	**GERESS Array B**	**15.70**	**335**	Pn	**Pn**	**23 22 25.9**	**-0.3**
	0.1nm,0.3s,baz=144,slow=14,SNR=2.9						
ESDC	**Sonseca Array**	**22.47**	**290**	P	**P**	**23 23 43.8**	**-0.5**
	0.2nm,0.6s,baz=85,slow=10,SNR=4.5						
HFS	**Hagfors**	**25.99**	**349**	P	**P**	**23 24 15.3**	**-2.3**
	2.6nm,0.9s,baz=156,slow=11,SNR=7.7						
TORD	**Torodi Ar. Bea**	**29.50**	**228**	P	**P**	**23 24 49.5**	**+0.1**
	0.4nm,0.5s,baz=33,slow=8.4,SNR=8.0						
MKAR	**Makanchi Array**	**44.84**	**56**	P	**P**	**23 26 58.0**	**-1.2**
	0.2nm,0.4s,baz=266,slow=7.7,SNR=4.4						

*IDC **31** 23:20:20.6±11.0, 20°.38S×178°.28W, h573km±101km, mb2.5/4, mb1 2.8/4, mb1mx2.6/21, mbtmp3.5/4, Error ellipse: s-maj=145.9km s-min=44.4km az=134.0*
*ISCJB **31** 23:20:23.6±4.1, 20°.5±1°×178°.8W±0°.9, h602km, mb3.1/4, Error ellipse: s-maj=169.4km s-min=28.4km az=140.6*

ISC 31 23:20:23.5±2.9,**19°.9S**±0°.7×**178°.7W**±0°.6,**h602**km,**n7**, σ1§**51**/8,**mb3.1**/4,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.50**	**243**	P	**P**	**23 26 47.8**	**+0.1**
	0.6nm,0.4s,baz=86,slow=15,SNR=3.0						
ASAR	**Alice Springs**	**44.06**	**256**	P	**P**	**23 27 40.6**	**+0.8**
	0.3nm,0.4s,baz=110,slow=8.2,SNR=3.3						
ASAR				PcP	**PcP**	**23 29 11.8**	**+0.3**
	0.3nm,0.6s,baz=98,slow=4.8,SNR=3.1						
WRA	**Warramunga Arr**	**44.08**	**262**	P	**P**	**23 27 40.3**	**+0.4**
	0.3nm,0.7s,baz=96,slow=7.7,SNR=7.2						
ILAR	**Eielson Array**	**87.88**	**13**	P	**P**	**23 32 11.1**	**+1.6**
	0.1nm,0.3s,baz=226,slow=6.1,SNR=3.7						
AKASG	**Malin Array Be**	**142.20**	**331**	PKP	**PKPdf**	**23 38 46.1**	**-2.0**
	1.4nm,0.5s,baz=42,slow=4.4,SNR=7.5						
BRTR	**Keskin Array B**	**145.99**	**313**	PKPbc	**PKPab**	**23 38 58.4**	**-1.1**
	0.3nm,0.4s,baz=114,slow=4.8,SNR=3.5						
MMAI	**Mount Meron Ar**	**146.99**	**300**	PKPbc	**PKPab**	**23 39 01.9**	**-1.7**
	0.9nm,0.4s,baz=90,slow=4.9,SNR=5.2						

*CSEM **31** 23:23:07.1, 67°.82N×20°.20E, h1km, ML0.9, Mining explosion.*
*NAO **31** 23:23:08.3±2.4, 67°.88N×20°.41E, ML1.8*

UPP 31 23:23:07.1, 67°.82N×20°.20E, h1km, ML0.9, Mining explosion., Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**21**	P	Pg	23 23 09.9	0.0
KUA				S	Sg	23 23 12.1	+0.3
NIKU	**Nikkaluokta**	**0.45**	**277**	P	Pg	23 23 15.5	-0.2
LANU	**Lannavaara**	**0.71**	**70**	P	Pg	23 23 20.4	-0.4
DUNU	**Dundret**	**0.72**	**169**	P	Pg	23 23 20.3	-0.6
MASU	**Masugnsbyn**	**0.78**	**117**	P	Pg	23 23 21.8	-0.3
SALU	**Saltoluokta**	**0.79**	**237**	P	Pg	23 23 21.9	-0.3
KIF	**Kilpisjarvi**	**1.21**	**10**	Pg	Pg	23 23 30.3	+0.1
KIF				Lg	Lg	23 23 47.8	
KIF	**Kilpisjarvi**	**1.21**	**10**	Pg	Pg	23 23 30.3	+0.1
KIF				Lg	Lg	23 23 47.8	
KIF	**Kilpisjarvi**	**1.21**	**10**	Pg	Pg	23 23 30.3	+0.1
	SNR=90						
ERTU	**Ertsjaerv**	**1.49**	**148**	P	Pn	23 23 34.0	-1.0
ARA0	**ARCESS Array S**	**2.59**	**46**	Pn	Pn	23 23 51.0	+0.8
	baz=233,slow=14						
ARA0				Lg	Lg	23 24 26.6	
	baz=228,slow=28						
ARA0	**ARCESS Array S**	**2.59**	**46**	Pn	Pn	23 23 51.0	+0.8
	baz=233,slow=14						
ARA0				Lg	Lg	23 24 26.6	
	baz=228,slow=28						
ARA0	**ARCESS Array S**	**2.59**	**46**	Pn	Pn	23 23 51.0	+0.8
	SNR=50						
ARA0				Lg	Lg	23 24 26.5	
	SNR=25						
KEV	**Kevo**	**3.15**	**49**	Sn	Sn	23 24 36.6	+0.8
KEV				Lg	Lg	23 24 45.8	
KEV	**Kevo**	**3.15**	**49**	Sn	Sn	23 24 36.6	+0.8
KEV				Lg	Lg	23 24 45.8	
KEV	**Kevo**	**3.15**	**49**	Sn	Sn	23 24 36.6	+0.8
	SNR=50						
FIA0	**FINESS Array S**	**6.88**	**156**	Lg	Lg	23 26 45.6	
	baz=340,slow=28						
FIA0	**FINESS Array S**	**6.88**	**156**	Lg	Lg	23 26 45.6	
	baz=340,slow=28						

*CSEM **31** 23:23:10.7±0.2, 67°.84N×20°.22E, h1km, ML1.6, Error ellipse: s-maj=5.3km s-min=4.5km az=123.0, Mining explosion.*
*UPP **31** 23:23:11.2, 67°.83N×20°.20E, h2km, ML1.3, Mining explosion.*
*BER **31** 23:23:12.5±3.1, 67°.93N×20°.50E, h0km, ML2.1, ML1.8(NAO), Suspected explosion*

HEL 31 23:23:11.6±0.1,**67°.83N×20°.22E, h0**km,**ML1.6, ML1.3**(UPP)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.13**	**20**	*i* P	Pg	23 23 13.9	-0.3
KUA				*i* S	Sg	23 23 15.8	-0.2
KUA	**Kurravaara**	**0.13**	**20**	P	Pg	23 23 13.9	-0.3
KUA				S	Sg	23 23 15.8	-0.1
NIKU	**Nikkaluokta**	**0.45**	**275**	*i* P	Pg	23 23 19.5	-0.8
NIKU	**Nikkaluokta**	**0.45**	**275**	P	Pg	23 23 19.4	-0.8
LANU	**Lannavaara**	**0.70**	**71**	*e*P	Pg	23 23 24.2	-0.9
LANU				*e*S	Sg	23 23 32.7	-1.6
LANU	**Lannavaara**	**0.70**	**71**	P	Pg	23 23 24.4	-0.8
LANU				S	Sg	23 23 32.7	-1.6
DUNU	**Dundret**	**0.72**	**169**	*i* P	Pg	23 23 24.5	-1.0
DUNU	**Dundret**	**0.72**	**169**	P	Pg	23 23 24.5	-1.0
MASU	**Masugnsbyn**	**0.78**	**118**	*i* P	Pg	23 23 25.8	-0.8
MASU	**Masugnsbyn**	**0.78**	**118**	P	Pg	23 23 25.7	-0.8
SALU	**Saltoluokta**	**0.80**	**236**	*i* P	Pg	23 23 25.9	-1.0
SALU	**Saltoluokta**	**0.80**	**236**	P	Pg	23 23 25.9	-1.0
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P	Pg	23 23 34.2	-0.4
KIF				*e*S	Sg	23 23 49.4	-0.7
KIF				MSG		23 23 53.2	
	comp=Z,8.1nm,0.1s						
KIF	**Kilpisjarvi**	**1.20**	**10**	P	Pg	23 23 34.1	-0.5
KIF				S	Sg	23 23 49.4	-0.7
HEF	**Hetta**	**1.42**	**64**	*e*P	Pn	23 23 37.1	-1.5
HEF				*e*S	Sg	23 23 54.4	-2.7
HEF				MSG		23 24 01.8	
	comp=Z,4.3nm,0.1s						
HEF	**Hetta**	**1.42**	**64**	P	Pn	23 23 37.1	-1.5
HEF				S	Sg	23 23 54.3	-2.8
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*P	Pn	23 23 38.3	-1.4
ERTU				*e*S	Sg	23 23 57.3	-2.3
ERTU	**Ertsjaerv**	**1.50**	**148**	P	Pn	23 23 38.2	-1.5
ERTU				S	Sg	23 23 57.3	-2.3
KTK1	**Kautokeino**	**1.63**	**42**	*e*P	Pn	23 23 37.0	-4.5
KTK1	**Kautokeino**	**1.63**	**42**	*e*P	Pn	23 23 37.0	-4.5
	SNR=50						
KALU	**Kalix**	**2.34**	**146**	*e*P	Pn	23 23 51.1	-0.1
KALU				*e*S	Sn	23 24 19.7	-0.8
KALU	**Kalix**	**2.34**	**146**	P	Pn	23 23 51.0	-0.2
KALU				S	Sn	23 24 19.6	-0.9
SGF	**Sodankyl**	**2.44**	**96**	*e*P	Pn	23 23 53.0	+0.3
SGF				*e*S	Sn	23 24 22.1	-1.1
SGF	**Sodankyl**	**2.44**	**96**	P	Pn	23 23 52.9	+0.2
SGF				S	Sn	23 24 22.1	-1.1
RNF	**Rovaniemi**	**2.57**	**116**	*e*P	Pn	23 23 54.8	+0.4
RNF				*e*S	Sn	23 24 24.9	-1.3
RNF	**Rovaniemi**	**2.57**	**116**	P	Pn	23 23 54.7	+0.3
RNF				S	Sn	23 24 24.9	-1.4
ARE0	**ARCESS Array S**	**2.58**	**46**	*e*P	Pn	23 23 54.8	+0.2
ARE0				*e*S	Sn	23 24 25.7	-1.0
ARE0	**ARCESS Array S**	**2.58**	**46**	P	Pn	23 23 54.7	+0.1
ARE0				S	Sn	23 24 25.6	-1.1
MOR8	**Moi Rana**	**2.81**	**236**	*e*S	Sn	23 24 30.4	-2.0
MOR8				IAML		23 24 35.8	
	comp=Z,18nm,0.4s						
MOR8	**Moi Rana**	**2.81**	**236**	*e*S	Sn	23 24 30.4	-2.0
	SNR=50						

*ISCJB **31** 23:25:46.5±0.4, 51°.55N±0°.02×16°.05E±0°.03, h0km, Error ellipse: s-maj=2.9km s-min=2.7km az=8.3*
*CSEM **31** 23:25:48.0±0.2, 51°.56N×16°.05E, h2km, ML3.6/12, Error ellipse: s-maj=3.9km s-min=2.8km az=89.0, Suspected Mining explosion.*
*IDC **31** 23:25:49.1±0.7, 51°.60N×15°.79E, h0km, mb1 3.2/7, mb1mx3.1/38, mbtmp3.1/7, ML2.9/7, Error ellipse: s-maj=12.5km s-min=6.2km az=104.0*
*VIE **31** 23:25:51.2±0.5, 51°.34N×16°.03E, h0km, mb2.2/5, ML3.0/5, Error ellipse: s-maj=3.1km s-min=2.7km az=9.0 73 km WNW of Wroclaw Suspected Mining induced.*
*UPP **31** 23:25:52.4, 51°.81N×15°.53E, h0km, ML2.0, Suspected Mining explosion.*

ISC 31 23:25:47.0±0.7,**51°.63N**±0°.03×**16°.04E**±0°.02,**h0**km,**n61**, σ1§**37**/111,**4C-1D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.81**	**168**	*e*Pg	**Pg**	**23 26 03.0**	**+0.6**
KSP				*i* Sg	**Sg**	**23 26 12.5**	**-0.3**
KSP				*e*		23 26 16.4	
KSP	**Ksiaz**	**0.81**	**168**	*e*Pg	**Pg**	**23 26 03.0**	**+0.6**
KSP				*i* Sg	**Sg**	**23 26 12.5**	**-0.3**
UPC	**Upice**	**1.12**	**181**	*e*PG	**Pg**	**23 26 08.6**	**+0.1**
UPC				*e*SG	**Sg**	**23 26 21.6**	**-1.4**
	comp=Z,96nm,0.3s						
UPC	**Upice**	**1.12**	**181**	Pg	**Pg**	**23 26 08.6**	**+0.1**
UPC				Sg	**Sg**	**23 26 21.6**	**-1.4**
	96nm,0.3s						
DPC	**Dobruska-Polom**	**1.29**	**172**	*e*PG	**Pg**	**23 26 11.7**	**0.0**
DPC				*e*SG	**Sg**	**23 26 26.6**	**-1.9**
	comp=Z,92nm,0.3s						
DPC	**Dobruska-Polom**	**1.29**	**172**	Pg	**Pg**	**23 26 11.7**	**0.0**
DPC				Sg	**Sg**	**23 26 26.6**	**-1.9**
	92nm,0.3s						
PVCC	**Panska Ves**	**1.44**	**221**	*e*PG	**Pg**	**23 26 15.0**	**+0.4**
PVCC				*e*SG	**Sg**	**23 26 33.6**	**+0.4**
	comp=Z,193nm,0.2s						
PVCC	**Panska Ves**	**1.44**	**221**	Pg	**Pg**	**23 26 15.0**	**+0.4**
PVCC				Sg	**Sg**	**23 26 33.6**	**+0.4**
	193nm,0.2s						
BRG	**Berggiesshubel**	**1.52**	**241**	PN	**Pn**	**23 26 15.8**	**+0.4**
BRG

BJUU	**Bjuv**	**4.80**	**339**	P	**Pn**	**23 27 01.2**	**+0.8**
KOLS	**Kolonicke sedl**	**4.82**	**122**	*e*PN	**Pn**	**23 27 01.7**	**+0.9**
KOLS				*e*SG	**Sg**	**23 28 20.3**	**-1.5**
DEL	**Delary**	**5.01**	**346**	P	**Pn**	**23 27 04.7**	**+1.4**
DEL	**Delary**	**5.01**	**346**	P	**Pn**	**23 27 04.7**	**+1.4**
DEL				S	**Sn**	**23 27 60.0**	**-2.0**
VXJU	**Vaexsjoe**	**5.34**	**354**	P	**Pn**	**23 27 10.1**	**+2.3**
VXJU	**Vaexsjoe**	**5.34**	**354**	P	**Pn**	**23 27 10.1**	**+2.3**
VXJU				S	**Sn**	**23 28 07.6**	**-2.4**
DAVOX	**Davos/Dischmat**	**6.31**	**222**	Lg	Lg	23 29 08.3	
	comp=Z,0.2nm,0.3s,baz=198,slow=19,SNR=2.4						
AKASG	**Malin Array Be**	**8.34**	**91**	Pn	**Pn**	**23 27 49.4**	**+0.3**
	comp=Z,1.2nm,0.3s,baz=278,slow=12,SNR=3.8						
HFS	**Hagfors**	**8.62**	**352**	Pn	**Pn**	**23 27 52.3**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=170,slow=13,SNR=2.3						
HFS				Sn	**Sn**	**23 29 27.0**	**-3.8**
	comp=Z,0.0nm,0.3s,baz=154,slow=31,SNR=2.4						
FINES	**FINESS Array B**	**11.27**	**25**	Pn	**Pn**	**23 28 28.5**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=209,slow=12,SNR=5.4						
FINES				Sn	**Sn**	**23 30 30.8**	**-4.9**
	comp=Z,0.2nm,0.3s,baz=213,slow=22,SNR=4.3						
EKA	**Eskdalemuir Ar**	**12.01**	**295**	Pn	**Pn**	**23 28 39.1**	**-0.2**
	baz=99,slow=14,SNR=3.1						
ARCES	**ARCESS Array B**	**18.51**	**10**	Pn	**P**	**23 30 02.7**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=202,slow=14,SNR=2.7						

IDC 31 23:28:51.5±1.7, 17.57S×173.99W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/24, mbtmp3.9/4, Error ellipse: s-maj=59.6km s-min=29.9km az=122.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**22.04**	**199**	P	P	23 33 47.6	-0.1
	8.3nm,0.7s,baz=343,slow=7.8,SNR=4.8						
WRA	**Warramunga Arr**	**48.83**	**259**	P	P	23 37 38.7	-0.4
	0.5nm,0.4s,baz=96,slow=7.4,SNR=9.0						
ASAR	**Alice Springs**	**48.93**	**254**	P	P	23 37 40.0	+0.1
	1.6nm,0.5s,baz=89,slow=8.7,SNR=30						
ILAR	**Eielson Array**	**84.67**	**11**	P	P	23 41 26.5	-0.2
	0.3nm,0.9s,baz=201,slow=4.8,SNR=3.1						
BRTR	**Keskin Array B**	**147.44**	**318**	PKPbc	PKPbc	23 48 37.3	-0.6
	0.2nm,0.6s,baz=111,slow=4.7,SNR=2.6						

JMA 31 23:58:49.9±0.1, 25.84N×130.20E, h41km, M3.5, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMZ	**Minamidaito 2**	**0.92**	**91**	P	Pn	23 59 06.6	+0.2
JMZ				*e*S	Sn	23 59 17.8	-0.6
JOW	**Kunigami**	**1.99**	**300**	P	Pn	23 59 22.2	+1.1
JOW				S	Sn	23 59 45.1	+0.3
JNTH	**Nagotoyohara**	**2.07**	**290**	P	Pn	23 59 23.0	+0.8
JNTH				*e*S	Sn	23 59 46.0	-0.7
JOKE	**Okinoerabujima**	**2.10**	**316**	P	Pn	23 59 24.2	+1.6
JOKE				*e*S	Sn	23 59 48.0	+0.4
JJT2	**Tamagusuku 2**	**2.23**	**278**	P	Pn	23 59 25.6	+1.3
JJT2				*e*S	Sn	23 59 51.8	+1.2
JTK	**Tokunoshima**	**2.24**	**330**	P	Pn	23 59 26.1	+1.6
JTK				*e*S	Sn	23 59 51.3	+0.4
JIH	**Iheya**	**2.33**	**301**	P	Pn	23 59 27.1	+1.4
JIH				*e*S	Sn	23 59 53.5	+0.4
JAMN	**Amaminishikomi**	**2.56**	**339**	P	Pn	23 59 30.5	+1.6
JAMN				*e*S	Sn	23 59 58.9	0.0
JAM	**Amami Oshima**	**2.62**	**348**	P	Pn	23 59 31.4	+1.7
JAM				*e*S	Sn	00 00 01.0	+0.8
JAGN	**Aguni-jima**	**2.76**	**286**	P	Pn	23 59 32.9	+1.3
JAGN				*e*S	Sn	00 00 03.8	+0.1
JKE	**Kume jima 2**	**3.11**	**280**	P	Pn	23 59 37.2	+0.8
JKE				*e*S	Sn	00 00 10.6	-1.7

ISC Computed Locations for May 2010

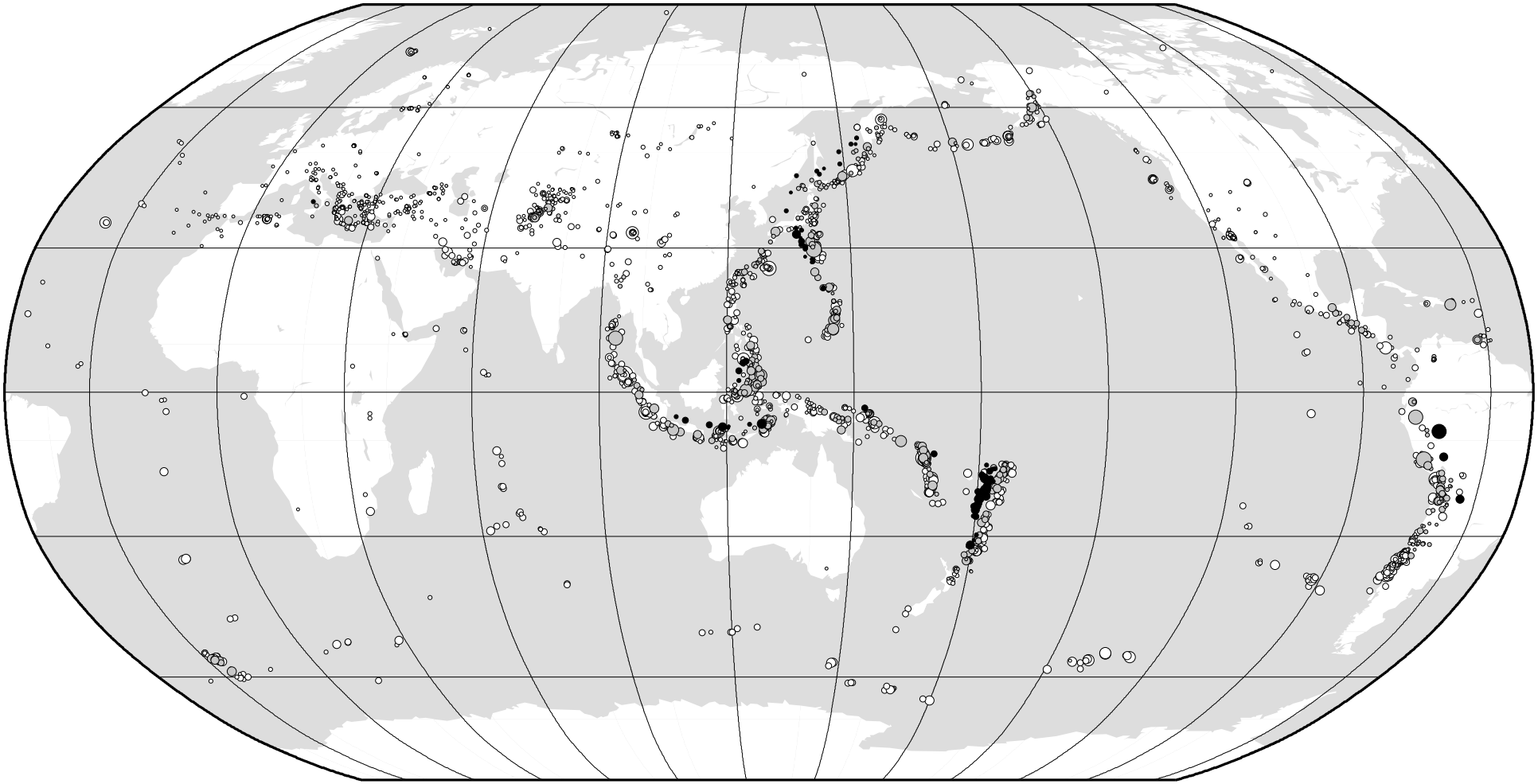

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

2733 Events